ISSN 0020-8671

ACKNOWLEDGEMENTS

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

MEMBERS

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

SPONSORS

Munich Reinsurance Company.

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

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

Printed in Wales by Cambrian Printers, Aberystwyth

Addendum

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

From data-month October 2002, a new location program ISCloc has been used in operations. Also, the IASPEI standard seismic phase list has been adopted by the ISC (Storchak,D.A., J.Schweitzer, P.Bormann (2003) The IASPEI Standard Seismic Phase List, Seismological Research Letters 74, 6, 761-772).

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21.70S×179.55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21.76S×179.70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:43.1±2.7,22.3S±0.2×179.6W±0.3,h613km±42km,
n22,σt§15/21,mb4.4/9,1C,South of Fiji Islands

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

Epicentral Estimates

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

Observational Data

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

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

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

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

*ISK **01** 00:20:27.7, 37.84N×26.75E, h30^{km}, MD3.0*
*CSEM **01** 00:20:27.0±0.1, 37.81N×26.78E, h21^{km}±1^{km}, MD3.0, Error ellipse: s-maj=3.5km s-min=2.1km az=97.0*
*ATH **01** 00:20:28.0, 37.77N×26.70E, h7^{km}, MD2.9/3*
ISC 01 00:20:27.7±0.6, **37.79N**±0.02×**26.76E**±0.05, **h10**^{km}±4^{km}, **n16**, σ**1^{s}07**/26, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMG	**Samos**	**0.10**	**142**	*e*PG	**Pg**	**00 20 30.8**	**+0.4**
SMG				*e*SG	**Sg**	**00 20 32.9**	**+0.7**
URLA	**Izmir**	**0.58**	**347**	*i* P	**Pg**	**00 20 38.7**	**-0.8**
URLA				*i* S	**Sg**	**00 20 47.7**	**+0.3**
BLCB	**Balcova**	**0.64**	**21**	PG	**Pg**	**00 20 39.9**	**-0.6**
IZM	**Izmir**	**0.73**	**33**	PG	**Pg**	**00 20 41.5**	**-0.8**
IZM				SG	**Sg**	**00 20 52.0**	**0.0**
KDAG	**Bornova**	**0.73**	**33**	*i* P	**Pb**	**00 20 41.7**	**-0.3**
KDAG				*i* S	**Sb**	**00 20 52.0**	**+0.2**
BODT	**Bodrum**	**0.85**	**149**	PG	**Pg**	**00 20 44.9**	**+0.2**
BODT				SG	**Sg**	**00 20 56.6**	**+0.5**
AYDN	**Tasoluk**	**0.90**	**98**	*i* P	**Pb**	**00 20 44.4**	**-0.6**
AYDN				*i* S	**Sb**	**00 20 56.6**	**-0.1**
BDRM	**Kayabasi**	**0.91**	**143**	*i* P	**Pb**	**00 20 45.6**	**+0.5**
BDRM				*i* S	**Sb**	**00 20 57.3**	**+0.3**
MLSB	**Milas**	**0.95**	**121**	*e*PG	**Pg**	**00 20 45.9**	**-0.8**
APE	**Apeiranthos**	**1.21**	**234**	*e*PN	**Pn**	**00 20 49.5**	**-1.2**
APE	**Apeiranthos**	**1.21**	**234**	*e*Pb	**Pb**	**00 20 50.0**	**-0.3**
AKS	**Akhisar**	**1.37**	**37**	*e*PN	**Pn**	**00 20 50.8**	**-2.1**
YER	**Yerkesik**	**1.38**	**118**	*e*PN	**Pn**	**00 20 51.8**	**-1.3**
PRK	**Paraskevi**	**1.50**	**345**	*e*PB	**Pb**	**00 20 56.7**	**+1.4**
PRK				*e*SB	**Sb**	**00 21 16.9**	**+2.6**
MANT	**Manisa**	**1.58**	**63**	*i* P	**Pn**	**00 20 58.4**	**+2.4**
MANT				*i* S	**Sb**	**00 21 15.8**	**-0.8**
DNZL	**Cakiroluk**	**1.82**	**92**	*i* P	**Pn**	**00 21 02.7**	**+3.3**
DNZL				*i* S	**Sn**	**00 21 26.1**	**+3.5**

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*NEIC **01** 00:43:24.9, 36.39S×177.86E, h235^{km}, MG4.5(WEL), After WEL.*
WEL 01 00:43:25.6±0.3, **36.34S×177.88E, h221**^{km}±3^{km}, **ML4.4**/18, **2C, Error ellipse: s-maj=4.2km s-min=3.0km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.27**	**165**	P	P	00 43 59.7	0.0
MXZ				S	S	00 44 26.6	+0.5
MXZ	**Matakaoa Point**	**1.27**	**165**	⇑PN	P	00 43 59.6	-0.1
MXZ				SN	S	00 44 25.7	-0.4
MYRZ	**Mayor Island**	**1.62**	**234**	PN	P	00 44 02.5	-0.1
PUZ	**Puketiti**	**1.76**	**170**	P	P	00 44 03.7	-0.1
PUZ				S	S	00 44 32.9	-0.3
PUZ	**Puketiti**	**1.76**	**170**	⇑PN	P	00 44 03.7	-0.1
PUZ				SN	S	00 44 32.8	-0.5
PUZ				SN	S	00 44 32.9	-0.3
MARZ	**Manawahe**	**1.91**	**210**	P	P	00 44 02.8	-2.4
MARZ	**Manawahe**	**1.91**	**210**	PN	P	00 44 05.3	+0.1
EDRZ	**Edgecumbe**	**1.99**	**207**	P	P	00 44 06.1	+0.2
EDRZ	**Edgecumbe**	**1.99**	**207**	PN	P	00 44 06.1	+0.2
MWZ	**Matawai**	**2.01**	**188**	P	P	00 44 05.9	-0.3
MWZ	**Matawai**	**2.01**	**188**	PN	P	00 44 05.9	-0.3
MWZ				SN	S	00 44 37.3	-0.1
URZ	**Urewera**	**2.02**	**198**	P	P	00 44 05.7	-0.5
URZ	**Urewera**	**2.02**	**198**	PN	P	00 44 05.7	-0.5
URZ				SN	S	00 44 36.4	-1.0
LIRZ	**Lichensteins R**	**2.05**	**215**	PN	P	00 44 07.2	+0.7
TAZ	**Tarawera**	**2.19**	**210**	P	P	00 44 08.6	+0.6
TAZ	**Tarawera**	**2.19**	**210**	PN	P	00 44 08.4	+0.4
PATZ	**Paeroa**	**2.42**	**212**	P	P	00 44 10.9	+0.5
PATZ	**Paeroa**	**2.42**	**212**	PN	P	00 44 10.6	+0.2
KNZ	**Kokohu**	**2.68**	**183**	P	P	00 44 12.4	-0.9
KNZ	**Kokohu**	**2.68**	**183**	PN	P	00 44 12.4	-0.8
KNZ				SN	S	00 44 48.4	-1.8
BKZ	**Black Stump Fm**	**3.03**	**201**	P	P	00 44 15.6	-1.6
BKZ	**Black Stump Fm**	**3.03**	**201**	PN	P	00 44 15.4	-1.8
BKZ				SN	S	00 44 54.2	-3.0
KRVZ	**Karewarewa**	**3.28**	**212**	PN	P	00 44 18.8	-1.2
OTVZ	**Oturere**	**3.33**	**211**	PN	P	00 44 19.4	-1.2
TWVZ	**Taurewa**	**3.35**	**215**	P	P	00 44 19.8	-1.1
TWVZ	**Taurewa**	**3.35**	**215**	PN	P	00 44 19.6	-1.3
NGZ	**Ngauruhoe**	**3.36**	**212**	P	P	00 44 19.7	-1.4
NGZ	**Ngauruhoe**	**3.36**	**212**	PN	P	00 44 19.7	-1.4
CNZ	**Chateau**	**3.40**	**212**	PN	P	00 44 20.5	-1.0
TUVZ	**Tukino**	**3.42**	**210**	P	P	00 44 20.2	-1.5
TUVZ	**Tukino**	**3.42**	**210**	PN	P	00 44 20.1	-1.7
TUVZ				*e*SN	S	00 44 58.1	-7.1
FWVZ	**Far West T-bar**	**3.45**	**212**	P	P	00 44 20.6	-1.5
FWVZ	**Far West T-bar**	**3.45**	**212**	PN	P	00 44 20.6	-1.5
WNVZ	**Wahianoa**	**3.49**	**211**	P	P	00 44 20.8	-1.8
WNVZ	**Wahianoa**	**3.49**	**211**	PN	P	00 44 20.8	-1.8
MOVZ	**Moawhango**	**3.50**	**208**	P	P	00 44 20.3	-2.4
MOVZ	**Moawhango**	**3.50**	**208**	PN	P	00 44 20.2	-2.5
MOVZ				SN	S	00 45 03.0	-3.9
PKVZ	**Pokaka**	**3.57**	**214**	PN	P	00 44 21.7	-1.8
MTVZ	**Mangateitei**	**3.59**	**211**	PN	P	00 44 22.0	-1.8
PWZ	**Pawanui**	**3.77**	**192**	P	P	00 44 23.7	-2.3
PWZ	**Pawanui**	**3.77**	**192**	PN	P	00 44 23.7	-2.3
TSZ	**Takapari Road**	**4.01**	**202**	P	P	00 44 25.9	-3.0
TSZ	**Takapari Road**	**4.01**	**202**	PN	P	00 44 26.0	-2.9
TSZ				SN	S	00 45 14.8	-3.2
WAZ	**Wanganui**	**4.11**	**213**	*e*P	P	00 44 27.8	-2.3
WAZ	**Wanganui**	**4.11**	**213**	PN	P	00 44 27.8	-2.3
BFZ	**Birch Farm**	**4.52**	**196**	P	P	00 44 32.0	-3.2
BFZ	**Birch Farm**	**4.52**	**196**	PN	P	00 44 32.0	-3.2
BFZ				SN	S	00 45 24.8	-4.4
MRZ	**Mangatainoka R**	**4.68**	**202**	P	P	00 44 33.4	-3.8
MRZ	**Mangatainoka R**	**4.68**	**202**	PN	P	00 44 33.3	-3.9
MRZ				SN	S	00 45 27.3	-5.5
KIW	**Kapiti Island**	**5.08**	**206**	P	P	00 44 38.1	-4.1
KIW	**Kapiti Island**	**5.08**	**206**	PN	P	00 44 38.1	-4.2
KIW				SN	S	00 45 35.7	-6.1
MTW	**Mount Morrison**	**5.16**	**200**	P	P	00 44 38.6	-4.6
MTW	**Mount Morrison**	**5.16**	**200**	PN	P	00 44 38.6	-4.6
CAW	**Cannon Point**	**5.25**	**204**	P	P	00 44 39.8	-4.5
CAW	**Cannon Point**	**5.25**	**204**	PN	P	00 44 39.6	-4.7
TRWZ	**Traveller**	**5.34**	**198**	PN	P	00 44 41.3	-4.1
TRWZ				SN	S	00 45 41.8	-5.7
PAWZ	**Paruwai Farm**	**5.39**	**200**	PN	P	00 44 41.9	-4.3
DUWZ	**D'Urville Isla**	**5.43**	**214**	PN	P	00 44 42.0	-4.7
MSWZ	**Moikau Station**	**5.47**	**201**	P	P	00 44 42.7	-4.5
MSWZ	**Moikau Station**	**5.47**	**201**	PN	P	00 44 42.5	-4.7
MRW	**Makara Radio**	**5.48**	**206**	PN	P	00 44 42.9	-4.4
SNZO	**South Karori**	**5.55**	**206**	P	P	00 44 43.3	-4.9
SNZO	**South Karori**	**5.55**	**206**	PN	P	00 44 43.3	-4.9
SNZO				SN	S	00 45 46.2	-6.1
BHW	**Baring Head**	**5.58**	**204**	P	P	00 44 43.6	-5.0
BHW	**Baring Head**	**5.58**	**204**	PN	P	00 44 43.6	-5.0
TCW	**Tory Channel**	**5.62**	**209**	P	P	00 44 44.3	-4.8
TCW	**Tory Channel**	**5.62**	**209**	PN	P	00 44 44.3	-4.9
TCW				SN	S	00 45 47.0	-7.1
TUWZ	**Tuamarina**	**5.94**	**210**	PN	P	00 44 48.0	-5.2
NNZ	**Nelson**	**6.01**	**214**	*e*P	P	00 44 49.0	-5.0
NNZ	**Nelson**	**6.01**	**214**	PN	P	00 44 48.3	-5.7
BSWZ	**Blackbirch Sta**	**6.21**	**209**	P	P	00 44 51.4	-5.2
BSWZ	**Blackbirch Sta**	**6.21**	**209**	PN	P	00 44 51.4	-5.2
THZ	**Tophouse**	**6.66**	**214**	*e*P	P	00 44 57.8	-4.5
THZ	**Tophouse**	**6.66**	**214**	*e*PN	P	00 44 56.7	-5.6
KHZ	**Kahutara**	**6.94**	**208**	P	P	00 45 00.5	-5.5
KHZ	**Kahutara**	**6.94**	**208**	*e*PN	P	00 45 00.5	-5.4
LTZ	**Lake Taylor**	**7.76**	**212**	*e*P	P	00 45 10.7	-5.8
LTZ	**Lake Taylor**	**7.76**	**212**	PN	P	00 45 10.6	-5.9
MQZ	**McQueen's Vall**	**8.38**	**207**	*e*P	P	00 45 18.1	-6.5
MQZ	**McQueen's Vall**	**8.38**	**207**	PN	P	00 45 18.1	-6.5
MQZ				*e*SN	S	00 46 47.8	-10
ODZ	**Otahua Downs**	**10.28**	**210**	*e*P	P	00 45 44.1	-4.9
ODZ	**Otahua Downs**	**10.28**	**210**	*e*PN	P	00 45 44.0	-5.0

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*NIED **01** 00:49:00, 35.70N×141.10E, h14^{km}, Mw3.4 Best double couple: $M_0$1.58×10^{14} NP1:ϕ_s337°, δ47°, λ-93°. NP2: ϕ_s161°, δ43°, λ-87°.*
*JMA **01** 00:49:43.5±0.1, 35.65N×140.97E, h17^{km}±1^{km}, M3.4*
JMA Felt I J1.
ISC 01 00:49:42.5±1.3, **35.67N**±0.04×**141.06E**±0.10, **h22**^{km}±7^{km}, **n9**, σ**0^{s}76**/14, **1C-3D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.17**	**281**	⇓P	**Pb**	**00 49 47.0**	**-0.4**
CHOJ				S	**Sb**	**00 49 49.5**	**-1.3**
JCN	**Nagara**	**0.74**	**250**	⇑P	**Pb**	**00 49 57.1**	**+0.5**
JCN				S	**Sb**	**00 50 07.7**	**+1.4**
KTR	**Katsuura**	**0.80**	**230**	S	**Sb**	**00 50 08.1**	**+0.1**
JYT	**Yasato**	**0.90**	**309**	P	**Pb**	**00 49 59.3**	**+0.1**
JYT				S	**Sb**	**00 50 10.4**	**-0.3**
BSO4	**Boso 4**	**0.90**	**221**	P	**Pb**	**00 49 59.7**	**+0.4**
BSO3	**Boso 3**	**0.98**	**208**	⇓P	**Pb**	**00 50 00.7**	**+0.1**
BSO1	**Boso 1**	**1.02**	**184**	⇓P	**Pb**	**00 50 00.8**	**-0.5**
JHO	**Hitachi**	**1.02**	**337**	P	**Pb**	**00 50 02.0**	**+0.7**
JHO				S	**Sb**	**00 50 15.3**	**+1.1**
MAT	**Matsushiro**	**2.47**	**291**	P	**Pn**	**00 50 21.0**	**-1.2**
MAT				*e*S	**Sn**	**00 50 51.3**	**-0.7**

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*IDC **01** 01:34:10.5±7.8, 16.85S×179.36W, h474^{km}±85^{km}, mb3.2/8, mb1 3.4/8, mb1mx3.3/16, mbtmp4.0/8, Error ellipse: s-maj=54.3km s-min=20.8km az=142.0*
*NEIC **01** 01:34:12.9±6.7, 16.76S×179.45W, h500^{km}±72^{km}, Error ellipse: s-maj=34.6km s-min=19.0km az=126.0*
ISC 01 01:34:12.2±0.7, **16.7S**±0.2×**179.5W**±0.2, **h500**^{km}, **n14**, σ**0^{s}89**/10, **mb3.5**/8, **2C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.86**	**258**	P	**P**	**01 41 36.2**	**+1.1**
	0.4nm,1.1s,mb2.8,baz=94,slow=7.8,SNR=5.9						
NWAO	**Narrogin (SRO)**	**58.88**	**241**	P	**P**	**01 43 21.3**	**-3.0**
	2.4nm,0.3s,mb4.1,baz=19,slow=20,SNR=5.0						
YBH	**Yreka Blue Hor**	**78.25**	**40**	P	**P**	**01 45 20.4**	**-0.4**
	1.2nm,0.5s,mb3.5,baz=252,slow=6.4,SNR=3.1						
NVAR	**Mina Array Bea**	**79.27**	**44**	P	**P**	**01 45 26.6**	**+0.3**
	0.6nm,0.5s,mb3.4,baz=218,slow=8.4,SNR=6.3						
MAW	**Mawson**	**84.64**	**200**	P	**P**	**01 45 53.5**	**+0.6**
	0.9nm,0.5s,mb3.6,baz=125,slow=9.4,SNR=4.7						
ILAR	**Eielson Array**	**84.95**	**13**	P	**P**	**01 45 53.8**	**-0.6**
	0.3nm,0.4s,mb3.3,baz=227,slow=5.4,SNR=4.9						
TXAR	**Lajitas Array**	**86.22**	**58**	P	**P**	**01 46 02.5**	**+1.1**
	0.5nm,0.7s,mb3.2,baz=214,slow=7.7,SNR=6.5						
PDAR	**Pinedale Array**	**87.19**	**44**	P	**P**	**01 46 05.4**	**-0.2**
	0.8nm,0.5s,mb3.7,baz=206,slow=4.0,SNR=8.9						
VNA3	**Neumayer Olymp**	**92.00**	**177**	⇑*i*	**P**	**01 46 27.3**	**0.0**
VNA2	**Neumayer--Watz**	**92.43**	**177**	⇑*i*	**P**	**01 46 28.7**	**-0.6**
ARCES	**ARCESS Array B**	**124.95**	**350**	PKP	PKPdf	01 52 15.6	+1.4
	0.4nm,0.4s,slow=1.2,SNR=7.2						
BRTR	**Keskin Array B**	**143.21**	**315**	PKP	PKPdf	01 52 50.0	+1.3
	1.2nm,1.0s,baz=342,slow=3.9,SNR=4.6						
CLL	**Collm**	**144.06**	**347**	*e*PKIKP	PKPdf	01 52 51.0	+1.2
	logA/T=0.8						
GERES	**GERESS Array B**	**146.18**	**344**	PKPbc	PKPbc	01 52 57.8	+2.5
	0.3nm,0.5s,baz=63,slow=3.0,SNR=4.1						

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*BJI **01** 01:37:14.4, 0.65N×97.18E, h30^{km}, mB4.5, mb4.5, Ms4.3, Msz4.2*
*IDC **01** 01:37:19.4±1.5, 1.47N×97.43E, mb4.0/7, mb1 4.2/8, mb1mx3.9/19, mbtmp4.0/8, ML4.2/1, Error ellipse: s-maj=56.0km s-min=25.8km az=54.0*
*NEIC **01** 01:37:22.7±1.0, 1.37N×97.16E, h30^{km}, mb4.2/4, Error ellipse: s-maj=20.2km s-min=17.2km az=64.0*
ISC 01 01:37:21.0±1.1, **1.4N**±0.1×**97.2E**±0.2, **h30**^{km}, **n17**, σ**1^{s}09**/18, **mb4.1**/13, **MS4.2**/1, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.21**	**42**	*e*Pn	**Pn**	**01 38 39.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**17.06**	**6**	Pn	**P**	**01 41 18.2**	**-1.0**
	0.3nm,0.3s,baz=208,slow=11,SNR=11						
KMI	**Kunming**	**24.20**	**12**	P	**P**	**01 42 37.7**	**+1.3**
KMI				AP		01 42 44.9	
KMI				XP		01 42 49.7	
KMI				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.3						
KMI				AMB	AMB		
	comp=Z,75nm,4.3s						
KMI				LR	LR		
	comp=N,428nm,13.8s,MS4.2						
KMI				LR	LR		
	comp=E,267nm,12.9s,MS4.2						
KMI				LR	LR		
	comp=Z,459nm,13.0s,MS4.2						
KMI	**Kunming**	**24.20**	**12**	P	**P**	**01 42 37.7**	**+1.3**
	comp=Z,13nm,1.1s,mb4.3						
KMI				pP		01 42 44.9	
KMI				sP		01 42 49.7	
KMI				PP	PP	01 43 21.9	+11
KMI				S	**S**	**01 47 06.3**	**+17**
KMI				sS		01 47 26.3	
KMI				LR	LR		
	comp=Z,460nm,13.0s,MS4.2						
GYA	**Guiyang**	**26.55**	**19**	P	**P**	**01 42 59.7**	**+1.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
ENH	**Enshi**	**31.02**	**21**	*e*P	**P**	**01 43 36.8**	**-1.7**
	comp=Z,9.8nm,0.8s,mb4.7						
XAN	**Xi'an**	**34.30**	**17**	P	**P**	**01 44 05.0**	**-2.0**
XAN				AP	pP	01 44 11.6	-4.3
XAN				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**42.16**	**122**	P	**P**	**01 45 12.7**	**-0.2**
	comp=Z,1.1nm,0.7s,mb3.6,baz=304,slow=9.0,SNR=9.7						
SONM	**Songino Array**	**46.95**	**8**	P	**P**	**01 45 51.4**	**+0.4**
	comp=Z,2.5nm,0.7s,mb4.2,baz=188,slow=8.7,SNR=14						
MKAR	**Makanchi Array**	**47.06**	**346**	P	**P**	**01 45 52.3**	**+0.4**
	comp=Z,1.3nm,0.6s,mb4.1,baz=159,slow=8.5,SNR=17						
ULN	**Ulaanbaatar**	**47.08**	**9**	*e*P	**P**	**01 45 52.7**	**+0.5**
	comp=Z,1.1nm,0.6s,mb4.0						
ZAL	**Zalesovo**	**53.37**	**351**	P	**P**	**01 46 40.7**	**+0.7**
	comp=Z,2.5nm,0.5s,mb4.4,baz=290,slow=4.3,SNR=12						
ZAL	**Zalesovo**	**53.37**	**351**	P	**P**	**01 46 40.7**	**+0.7**
ZRNK	**Zerenda**	**56.47**	**340**	*e*P	**P**	**01 47 00.9**	**-1.7**
	comp=Z,1.7nm,0.9s,mb4.1						
BRTR	**Keskin Array B**	**68.97**	**312**	P	**P**	**01 48 29.6**	**+3.7**
	comp=Z,0.5nm,0.7s,mb3.5,baz=119,slow=8.0,SNR=4.0						
FINES	**FINESS Array B**	**79.82**	**332**	P	**P**	**01 49 28.0**	**0.0**
	comp=Z,0.9nm,0.9s,mb3.7,baz=63,slow=3.1,SNR=3.9						
ARCES	**ARCESS Array B**	**82.35**	**340**	P	**P**	**01 49 41.5**	**+0.4**
	comp=Z,0.9nm,0.8s,mb3.8,baz=79,slow=6.2,SNR=5.7						

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*NIED **01** 01:43:00, 21.20N×120.80E, h56^{km}, Mw4.3 Best double couple: $M_0$3.15×10^{15} NP1:ϕ_s82°, δ60°, λ119°. NP2:ϕ_s213°, δ41°, λ50°.*
*BJI **01** 01:43:21.4, 20.64N×120.40E, h33^{km}, mB4.6, mb4.1, Ms4.1, Msz4.0*
*IDC **01** 01:43:25.8±0.8, 21.30N×120.25E, mb3.8/12, mb1 4.1/12, mb1mx3.9/19, mbtmp3.9/12, MS3.2/4, Ms1 3.3/4, ms1mx3.1/18, Error ellipse: s-maj=28.5km s-min=16.7km az=65.0*
*MAN **01** 01:43:28.2, 21.11N×120.38E, h1^{km}, mb4.3, ML3.1, MS2.9*
*NEIC **01** 01:43:29.7±3.5, 21.29N×120.25E, h26^{km}±25^{km}, mb4.3/2, Error ellipse: s-maj=12.1km s-min=8.4km az=69.0*
ISC 01 01:43:28.8±0.9, **21.28N**±0.03×**120.31E**±0.10, **h33**^{km}±10^{km}, **n28**, σ**0^{s}84**/32, **mb3.8**/14, **MS3.1**/3, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.12**	**22**	*e*Pn	**P**	**01 44 17.7**	**+0.9**
NACB				*e*Sn	**S**	**01 44 53.9**	**+0.6**
SGCP	**Mt. Cagua**	**3.44**	**151**	*e*P	**P**	**01 44 20.4**	**-0.9**
SGCP				*e*S	**S**	**01 45 00.8**	**-0.6**
APYP	**Conner**	**3.51**	**165**	*e*P	**P**	**01 44 21.8**	**-0.5**
APYP				*e*S	**S**	**01 45 02.7**	**-0.6**
YHNB	**Yeheng**	**3.52**	**16**	*e*Pn	**P**	**01 44 22.2**	**-0.3**
YHNB				*e*Sn	**S**	**01 45 01.3**	**-2.2**
CVP	**Callao Caves**	**3.83**	**158**	*e*P	**P**	**01 44 27.0**	**+0.1**
CVP				*e*S	**S**	**01 45 10.5**	**-1.0**
CAUP	**Cauayan**	**4.54**	**161**	*e*P	**P**	**01 44 39.0**	**+1.9**
BOLP	**Bolinao**	**4.88**	**184**	*e*P	**P**	**01 44 43.2**	**+1.3**
BOLP				*e*S	**P**	**01 44 53.1**	**+11**
BALP	**Baler**	**5.64**	**167**	*e*P	**P**	**01 44 53.4**	**+1.0**
BALP				*e*S	**S**	**01 45 57.6**	**+0.7**
GZH	**Guangzhou**	**6.70**	**287**	P	**P**	**01 45 02.8**	**-4.6**
JNU	**Nakatsue**	**15.07**	**36**	LR	LR	01 54 14.6	
	comp=Z,56nm,18.3s,baz=199,slow=43						
CMAR	**Chiang Mai Arr**	**20.29**	**266**	P	**P**	**01 48 03.6**	**-0.9**
	1.6nm,0.8s,baz=78,slow=8.3,SNR=3.8						
CMAR				LR	LR	01 56 52.0	
	comp=Z,170nm,18.1s,MS3.4,baz=80,slow=40						
CBIJ	**Chichi jima**	**20.77**	**70**	LR	LR	01 55 42.0	
	comp=Z,36nm,19.4s,MS2.8,baz=159,slow=35						
JHJ	**Hachijo jima 2**	**20.92**	**52**	LR	LR	01 56 54.5	
	comp=Z,89nm,18.9s,MS3.2,baz=55,slow=38						
MJAR	**Matsushiro Arr**	**21.78**	**42**	P	**P**	**01 48 20.6**	**+1.0**
	0.8nm,0.3s,mb3.6,baz=243,slow=8.2,SNR=4.2						
GTA	**Gaotai**	**25.18**	**320**	*e*P	**P**	**01 48 53.7**	**+0.9**
GTA				AP	pP	01 48 58.1	-4.1
GTA				XP	sP	01 49 01.3	-4.7
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb3.9						
SONM	**Songino Array**	**28.77**	**340**	P	**P**	**01 49 24.5**	**-1.1**
	comp=Z,0.2nm,0.4s,mb3.2,baz=141,slow=9.2,SNR=3.4						
MKAR	**Makanchi Array**	**39.92**	**319**	P	**P**	**01 51 01.3**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.5,baz=111,slow=10,SNR=7.9						
ZAL	**Zalesovo**	**42.28**	**329**	P	**P**	**01 51 21.2**	**+0.5**
	comp=Z,1.0nm,0.3s,mb4.0,baz=36,slow=7.0,SNR=5.2						
WRAB	**Tennant Creek**	**43.20**	**161**	P	**P**	**01 51 28.2**	**-0.5**
	comp=Z,9.0nm,0.8s,mb4.5						
WRAB				*e*		01 51 33.9	
WRA	**Warramunga Arr**	**43.20**	**161**	P	**P**	**01 51 28.0**	**-0.8**
	comp=Z,1.7nm,0.7s,mb3.9,baz=341,slow=8.9,SNR=8.3						
CTA	**Charters Tower**	**48.31**	**147**	P	**P**	**01 52 10.1**	**+0.8**
	comp=Z,2.1nm,0.8s,mb4.2,baz=358,slow=12,SNR=3.8						
ZRNK	**Zerenda**	**50.20**	**322**	P	**P**	**01 52 22.6**	**-0.8**
	comp=Z,1.0nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**56.65**	**158**	P	**P**	**01 53 11.6**	**+0.3**
	comp=Z,1.6nm,0.7s,mb4.2,baz=326,slow=6.2,SNR=4.3						
STKA	**Stephens Creek**	**56.65**	**158**	P	**P**	**01 53 11.6**	**+0.3**
ARCES	**ARCESS Array B**	**71.92**	**338**	P	**P**	**01 54 50.1**	**-0.1**
	comp=Z,1.5nm,0.7s,mb4.0,baz=68,slow=13,SNR=5.4						
ILAR	**Eielson Array**	**72.16**	**27**	P	**P**	**01 54 52.2**	**+0.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=284,slow=7.6,SNR=5.5						
FINES	**FINESS Array B**	**73.54**	**330**	P	**P**	**01 55 00.1**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.7,baz=45,slow=7.9,SNR=4.5						
NOA	**NORSAR Array B**	**80.40**	**332**	P	**P**	**01 55 38.1**	**-0.2**
	comp=Z,0.3nm,0.7s,mb3.4,baz=16,slow=3.4,SNR=3.0						

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*IDC **01** 01:47:09.6±8.8, 21.13N×120.14E, h78^{km}±89^{km}, mb3.2/5, mb1 3.5/5, mb1mx3.3/18, mbtmp3.6/5, Error ellipse: s-maj=28.3km s-min=27.0km az=91.0*
ISC 01 01:47:01.3±6.4, **21.1N**±0.2×**120.2E**±0.1, **h17**^{km}±50^{km}, **n7**, σ**1^{s}26**/8, **mb3.4**/4, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBP	**Basco**	**1.82**	**111**	*e*P	**Pn**	**01 47 31.6**	**-0.6**
BBP				*e*S	**Sn**	**01 47 55.5**	**+0.4**
CVP	**Callao Caves**	**3.73**	**155**	*e*P	**Pn**	**01 48 11.0**	**+12**
CMAR	**Chiang Mai Arr**	**20.13**	**266**	P	**P**	**01 51 38.8**	**+1.4**
	0.8nm,0.3s,baz=80,slow=8.2,SNR=4.1						
MJAR	**Matsushiro Arr**	**22.01**	**42**	P	**P**	**01 51 57.4**	**+0.9**
	0.7nm,0.4s,mb3.4,baz=227,slow=8.7,SNR=4.0						
MKAR	**Makanchi Array**	**39.95**	**319**	P	**P**	**01 54 34.9**	**-1.5**
	0.3nm,0.6s,mb3.2,baz=110,slow=8.1,SNR=3.2						
WRA	**Warramunga Arr**	**43.09**	**160**	P	**P**	**01 55 01.9**	**-0.5**
	0.8nm,0.8s,mb3.5,baz=342,slow=9.1,SNR=4.6						
ILAR	**Eielson Array**	**72.38**	**27**	P	**P**	**01 58 27.9**	**-0.1**
	0.4nm,0.8s,mb3.4,baz=295,slow=6.7,SNR=4.2						

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*IDC **01** 01:49:59.9±1.5, 52.45N×31.59W, mb3.7/10, mb1 3.9/11, mb1mx3.7/29, mbtmp3.8/11, ML4.2/1, MS3.0/9, Ms1 3.0/9, ms1mx2.8/33, Error ellipse: s-maj=43.4km s-min=19.1km az=5.0*
*NEIC **01** 01:50:01.1±0.9, 52.43N×31.64W, h10^{km}, mb3.8/2, Error ellipse: s-maj=21.5km s-min=10.2km az=189.0*
*CSEM **01** 01:50:01.1±0.2, 52.43N×31.64W, h10^{km}, mb3.8/2, Error ellipse: s-maj=9.7km s-min=5.8km az=21.0, After NEIC*
ISC 01 01:49:59.5±1.0, **52.5N**±0.2×**31.7W**±0.1, **h10**^{km}, **n21**, σ**0^{s}96**/16, **mb3.6**/9, **MS2.9**/9, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESK	**Eskdalemuir**	**16.96**	**69**	*e*P	**P**	**01 53 57.8**	**-0.3**
	6.9nm,0.8s						
EKA	**Eskdalemuir Ar**	**16.98**	**69**	Pn	**P**	**01 53 59.1**	**+0.7**
	0.5nm,0.3s,baz=266,slow=10,SNR=19						
SUMG	**Summit**	**20.36**	**354**	*e*P	**P**	**01 54 38.8**	**+0.4**
	5.2nm,0.9s						
SCHQ	**Schefferville**	**20.82**	**290**	P	**P**	**01 54 42.1**	**-1.3**
	1.5nm,0.7s,baz=63,slow=11,SNR=4.5						
SCHQ				LR	LR	02 01 09.2	
	comp=Z,37nm,21.6s,MS2.7,baz=96,slow=32						
ESDC	**Sonseca Array**	**22.94**	**113**	P	**P**	**01 55 05.4**	**+0.7**
	0.1nm,0.3s,mb2.7,baz=319,slow=8.2,SNR=3.8						
NOA	**NORSAR Array B**	**24.59**	**53**	LR	LR	02 03 24.6	
	comp=Z,19nm,18.2s,MS2.6,baz=280,slow=33						
HFS	**Hagfors**	**25.83**	**55**	P	**P**	**01 55 34.1**	**+1.9**
	2.1nm,0.8s,mb3.7,baz=135,slow=2.1,SNR=5.3						
HFS				LR	LR	02 04 36.2	
	comp=Z,18nm,21.9s,MS2.5,baz=278,slow=34						
DAVOX	**Davos**	**27.22**	**85**	LR	LR	02 06 19.9	
	comp=Z,16nm,18.3s,MS2.6,baz=258,slow=36						
GERES	**GERESS Array B**	**28.62**	**79**	P	**P**	**01 55 57.3**	**-0.5**
	0.8nm,0.9s,mb3.5,baz=288,slow=8.4,SNR=7.3						
GERES				LR	LR	02 06 14.3	
	comp=Z,20nm,18.6s,MS2.7,baz=80,slow=34						
ARCES	**ARCESS Array B**	**30.98**	**35**	P	**P**	**01 56 18.1**	**-0.4**
	1.1nm,0.9s,mb3.7,baz=254,slow=8.8,SNR=4.3						
FINES	**FINESS Array B**	**31.70**	**51**	P	**P**	**01 56 24.1**	**-0.9**
	2.2nm,1.0s,mb4.0,baz=225,slow=16,SNR=3.6						
FINES				LR	LR	02 08 43.3	
	comp=Z,32nm,18.1s,MS3.0,baz=146,slow=35						
SADO	**Sadowa**	**31.81**	**275**	LR	LR	02 07 44.6	
	comp=Z,40nm,20.0s,MS3.1,baz=276,slow=33						
AKASG	**Malin Array Be**	**36.89**	**68**	P	**P**	**01 57 08.5**	**-1.1**
	0.8nm,0.6s,mb3.8,baz=296,slow=8.9,SNR=4.8						
AKASG	**Malin Array Be**	**36.89**	**68**	P	**P**	**01 57 08.5**	**-1.1**
YKA	**Yellowknife Ar**	**42.62**	**317**	LR	LR	02 13 41.4	
	comp=Z,30nm,20.1s,MS3.2,baz=130,slow=33						
BRTR	**Keskin Array B**	**45.52**	**79**	P	**P**	**01 58 19.8**	**-0.9**
	1.1nm,0.8s,mb3.8,baz=297,slow=8.3,SNR=4.4						
INK	**Inuvik**	**46.52**	**330**	LR	LR	02 15 46.7	
	comp=Z,43nm,20.6s,MS3.4,baz=167,slow=33						
PDAR	**Pinedale Array**	**50.95**	**292**	P	**P**	**01 59 04.3**	**+1.5**
	0.2nm,0.5s,mb3.4,baz=34,slow=6.5,SNR=3.4						
PDAR	**Pinedale Array**	**50.95**	**292**	P	**P**	**01 59 04.3**	**+1.5**
MKAR	**Makanchi Array**	**66.14**	**43**	P	**P**	**02 00 49.2**	**+0.5**
	1.1nm,0.6s,mb4.1,baz=333,slow=5.4,SNR=13						
MKAR	**Makanchi Array**	**66.14**	**43**	P	**P**	**02 00 49.2**	**+0.5**

WEL 01 02:12:11.3±0.4, **37.42S**×**176.49E, h317**^{km}±4^{km}, **ML3.6**/8, **1C, Error ellipse: s-maj=12.9km s-min=7.8km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.97**	**150**	PN	P	02 12 53.2	-0.3
URZ				SN	S	02 13 25.9	-0.7
MXZ	**Matakaoa Point**	**1.45**	**96**	PN	P	02 12 56.1	0.0
MXZ				*e*SN	S	02 13 30.3	-0.8
BKZ	**Black Stump Fm**	**1.74**	**180**	⇑PN	P	02 12 58.1	+0.1
BKZ				SN	S	02 13 34.1	-0.4
TUVZ	**Tukino**	**1.96**	**199**	PN	P	02 12 59.6	+0.1
TSZ	**Takapari Road**	**2.67**	**189**	PN	P	02 13 04.9	-0.6
TSZ				SN	S	02 13 47.4	-0.4
MRZ	**Mangatainoka R**	**3.31**	**192**	PN	P	02 13 10.5	-1.2
MRZ				SN	S	02 13 57.5	-1.5
KIW	**Kapiti Island**	**3.65**	**199**	PN	P	02 13 13.6	-1.5
KIW				SN	S	02 14 03.0	-2.1
MTW	**Mount Morrison**	**3.81**	**191**	*e*PN	P	02 13 14.9	-1.9
TCW	**Tory Channel**	**4.16**	**204**	PN	P	02 13 18.8	-1.7
TCW				*e*SN	S	02 14 11.8	-3.0
TUWZ	**Tuamarina**	**4.46**	**205**	PN	P	02 13 22.0	-1.9

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*TRN **01** 02:22:28.4, 15.79N×61.53W, h19^{km}, MD3.9, M3.7(FDF), Md3.2(FDF)*
*IDC **01** 02:22:28.8±1.0, 15.76N×61.57W, mb3.8/4, mb1 4.1/5, mb1mx3.7/24, mbtmp3.8/5, ML5.8/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/20, Error ellipse: s-maj=18.3km s-min=14.1km az=106.0*
*NEIC **01** 02:22:29.4, 15.76N×61.25W, h34^{km}, mb3.7/1, MD3.9(TRN), After TRN.*
ISC 01 02:22:30.4±0.3, **15.80N**±0.03×**61.56W**±0.06, **h18**^{km}±4^{km}, **n33**, σ**0^{s}89**/46, **mb3.7**/5, **2C-9D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TBG	**Guadaloupe-3**	**0.10**	**302**	⇑*i*P	**Pb**	**02 22 32.8**	**-1.3**
PHG	**Guadaloupe-2**	**0.23**	**339**	⇓*i*P	**Pb**	**02 22 35.5**	**-0.3**
DOG	**Dongo Capester**	**0.24**	**346**	⇓*i*P	**Pb**	**02 22 35.6**	**-0.4**
MGG	**Marie-Galante**	**0.26**	**62**	⇑*i*P	**Pb**	**02 22 36.1**	**-0.2**
SCG	**Saint Claude**	**0.26**	**332**	⇓*i*P	**Pb**	**02 22 35.9**	**-0.5**
BBL	**Barber's Block**	**0.28**	**163**	⇓*i*P	**Pb**	**02 22 36.3**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCG	**Bois Riant Cap**	**0.29**	**348**	*e*P	**Pb**	**02 22 36.4**	**-0.5**
DWS	**Wesley**	**0.33**	**134**	*e*P	**Pb**	**02 22 37.4**	**0.0**
DWS				*e*S	**Sb**	**02 22 42.5**	**+0.2**
LZG	**Guadaloupe-1**	**0.40**	**328**	⇓*i*P	**Pb**	**02 22 38.1**	**-0.6**
MDN	**Morne-Daniel**	**0.50**	**162**	⇓*i*P	**Pb**	**02 22 41.2**	**+0.8**
MDN				*e*S	**Sb**	**02 22 48.0**	**+0.8**
MDN	**Morne-Daniel**	**0.50**	**162**	*e*S	**Sb**	**02 22 48.0**	**+0.8**
DBCT	**Belle View Cho**	**0.56**	**159**	*e*P	**Pb**	**02 22 42.3**	**+0.9**
DBCT				*e*S	**Sb**	**02 22 50.0**	**+1.1**
SEG	**Port Louis**	**0.60**	**5**	⇓*e*P	**Pb**	**02 22 41.7**	**-0.4**
SEG				*e*S	**Sb**	**02 22 50.5**	**+0.4**
DSHT	**Scott's Head**	**0.61**	**163**	*e*P	**Pb**	**02 22 43.0**	**+0.9**
DSHT				*e*S	**Sb**	**02 22 51.4**	**+1.2**
DEG	**La Desirade**	**0.70**	**43**	⇓*e*P	**Pb**	**02 22 42.9**	**-0.9**
FDF	**Fort de France**	**1.13**	**160**	⇓*e*P	**Pb**	**02 22 50.2**	**-0.9**
FDF				*e*S	**Sb**	**02 23 04.9**	**-0.4**
CRM	**Caravelle**	**1.21**	**149**	*e*P	**Pb**	**02 22 51.6**	**-0.8**
CRM				*e*S	**Sb**	**02 23 08.0**	**+0.4**
BPA	**Boggy Peak**	**1.27**	**347**	*e*P	**Pn**	**02 22 53.7**	**+0.2**
BPA				*e*S	**Sb**	**02 23 10.6**	**+1.1**
BIM	**Bigot**	**1.36**	**160**	*e*P	**Pn**	**02 22 53.5**	**-1.1**
MVM	**Montagne Vaucl**	**1.39**	**153**	*e*P	**Pn**	**02 22 54.7**	**-0.4**
MVM				*e*S	**Sb**	**02 23 13.0**	**+0.1**
CPB	**Codrington**	**1.85**	**352**	*e*P	**Pn**	**02 23 01.7**	**0.0**
CPB				*e*S	**Sn**	**02 23 25.7**	**+0.9**
SKI	**Saint Kitts**	**1.90**	**324**	*e*P	**Pn**	**02 23 04.0**	**+1.5**
SKI				*e*S	**Sn**	**02 23 31.0**	**+4.9**
SKDB	**Saint Kitts 2**	**1.99**	**323**	*e*P	**Pn**	**02 23 06.0**	**+2.2**
STAT	**Sint Eustatius**	**2.17**	**321**	*e*P	**Pn**	**02 23 06.7**	**+0.4**
STAT				*e*S	**Sn**	**02 23 34.1**	**+1.2**
SJG	**San Juan**	**4.96**	**298**	Pn	**Pn**	**02 23 44.3**	**-1.7**
	8.0nm,0.3s,baz=151,slow=10,SNR=12						
SJG				Sn	**Sn**	**02 24 37.6**	**-6.0**
	13nm,0.3s,baz=72,slow=21,SNR=12						
SJG	**San Juan**	**4.96**	**298**	*e*Pn	**Pn**	**02 23 44.2**	**-1.7**
	13nm,0.4s						
SJG				*e*Sn	**Sn**	**02 24 37.5**	**-6.1**
SDV	**Santo Domingo**	**11.21**	**233**	LR	LR	02 28 57.7	
	comp=Z,28nm,21.6s,baz=329,slow=35						
SAML	**Samuel**	**24.64**	**184**	*e*P	**P**	**02 27 49.4**	**-2.0**
	1.7nm,0.8s,mb3.6						
SIV	**San Ignacio**	**31.59**	**179**	P	**P**	**02 28 53.4**	**-1.1**
	3.2nm,0.6s,mb4.3,baz=13,slow=9.0,SNR=24						
TXAR	**Lajitas Array**	**40.93**	**297**	P	**P**	**02 30 14.1**	**+0.5**
	0.3nm,0.8s,mb3.0,baz=141,slow=8.0,SNR=3.6						
PDAR	**Pinedale Array**	**48.90**	**313**	P	**P**	**02 31 16.8**	**-0.5**
	0.8nm,0.6s,mb3.9,baz=111,slow=9.7,SNR=8.9						
NB2	**NORSAR Subarra**	**67.97**	**30**	P	**P**	**02 33 29.9**	**-0.3**
	0.6nm,0.8s,mb3.7,baz=259,slow=6.2						
NOA	**NORSAR Array B**	**67.97**	**30**	P	**P**	**02 33 29.1**	**-1.1**
	0.6nm,0.7s,mb3.8,baz=262,slow=6.3,SNR=3.9						

ISC 01 02:22:36.5±0.9**, 39.33N**±0.05×**38.27E**±0.07**, h10**km**, n6, σ0ˢ74**/10**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.97**	**116**	PG	**Pg**	**02 22 55.4**	**-0.6**
PTK				SG	**Sg**	**02 23 09.1**	**0.0**
ELZG	**Elazig**	**1.00**	**146**	*i* P	**Pb**	**02 22 55.4**	**-0.1**
ELZG				*i* S	**Sb**	**02 23 10.0**	**+1.6**
MYA	**Malataya**	**1.01**	**173**	*e*PG	**Pg**	**02 22 55.9**	**-0.8**
MALT	**Malatya**	**1.02**	**173**	*e*PG	**Pg**	**02 22 56.4**	**-0.6**
SVST	**Sivas**	**1.11**	**294**	*i* P	**Pb**	**02 22 58.2**	**+0.8**
SVST				*i* S	**Sb**	**02 23 17.6**	**+5.9**
KELT	**Kelkit**	**1.12**	**42**	*i* P	**Pb**	**02 22 56.9**	**-0.6**
KELT				*i* S	**Sb**	**02 23 12.2**	**+0.3**

GUC 01 02:31:28.5±0.9**, 27.10S×69.03W, h90**km**, ML3.8, 3C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.20**	**257**	⇑*i*P	P	02 31 50.9	-0.2
CPCH				*i* S	S	02 32 07.7	-0.1
CPCH				AMP		02 32 09.4	
	comp=E,12μm,0.1s						
CRCH	**Chaqaral**	**1.61**	**298**	⇓*i*P	P	02 31 56.5	+0.4
CRCH				*i* S	S	02 32 16.6	+0.1
CRCH				AMP		02 32 18.1	
	comp=E,939nm,0.3s						
VACH	**Vallenar**	**2.12**	**226**	*e*P	P	02 32 03.1	+0.2
VACH				*i* S	S	02 32 29.1	+0.8
VACH				AMP		02 32 30.3	
	comp=N,2μm,0.1s						
LCO	**Las Campanas**	**2.41**	**217**	⇑*i*P	P	02 32 07.2	+0.3
LCO				*i* S	S	02 32 36.2	+0.7
LCO				AMP		02 32 39.1	
	comp=E,233nm,0.1s						
CPN1	**Cerro Paranal**	**2.76**	**333**	⇑*i*P	P	02 32 11.6	-0.1
CPN1				*i* S	S	02 32 41.4	-2.7
CPN1				AMP		02 32 47.3	
	comp=E,153nm,0.4s						

CASC 01 02:34:37.0±2.2**, 8.33N×82.82W, h22**km±7km**, MD3.6, 1C-3D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.38**	**74**	⇓*i*P	Pb	02 34 44.4	-0.7
DVD				*e*S	Sb	02 34 50.4	-0.1
PTP1	**Petroterminal**	**0.41**	**108**	⇑*i*P	Pb	02 34 41.2	-4.2
PTP1				*e*S	Sb	02 34 46.2	-5.0
ACR	**Cerro Adams**	**0.47**	**313**	⇓*e*P	Pb	02 34 45.0	-1.6
ACR				*e*S	Sb	02 34 53.2	+0.1
SVTC	**San Vito de Co**	**0.47**	**343**	*e*P	Pb	02 34 46.5	-0.1
SVTC				*e*S	Sb	02 34 54.1	+1.0
BRU2	**Volcan**	**0.48**	**15**	⇓*e*P	Pb	02 34 47.0	+0.4
BRU2				*e*S	Sb	02 34 55.0	+1.8
URSC	**Urasca**	**1.77**	**328**	*e*P	Pn	02 35 06.1	-0.7
URSC				*e*S	Sn	02 35 31.2	+2.3
PRS1	**Puriscal**	**2.21**	**318**	*e*P	Pn	02 35 11.9	-1.2
PRS1				*e*S	Sn	02 35 39.4	-0.6

*MOS **01** 02:46:19.8±1.9, 49.95N×156.27E, h97km, mb4.0/8, Error ellipse: s-maj=27.8km s-min=8.3km az=65.0*
*KRSC **01** 02:46:21.7±0.7, 49.95N×156.15E, h79km±10km, ML4.5*
*NEIC **01** 02:46:22.5±1.9, 50.35N×155.17E, h127km±15km, mb4.1/10, Error ellipse: s-maj=15.3km s-min=11.3km az=162.0*
*IDC **01** 02:46:23.6±3.3, 50.40N×155.22E, h132km±31km, mb3.5/7, mb1 3.9/9, mb1mx3.5/23, mbtmp4.0/9, Error ellipse: s-maj=36.1km s-min=16.9km az=148.0*
ISC 01 02:46:22.7±0.6**, 50.35N**±0.08×**155.4E**±0.1**, h139**km±4km**, n64, σ1ˢ10**/87**, mb3.8**/16**, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**0.53**	**10**	*i* P	**P**	**02 46 42.8**	**-0.7**
ALID				*e*S	**S**	**02 46 58.3**	**-1.0**
SKR	**Severo-Kuril's**	**0.57**	**54**	⇓*i*PN	**P**	**02 46 37.1**	**-6.6**
SKR				*e*S	**S**	**02 46 48.3**	**-11**
SKR				pmax	pmax		
	comp=N,280nm,0.3s						
SKR				pmax	pmax		
	comp=E,140nm,0.3s						
SKR				pmax	pmax		
	comp=Z,500nm,0.3s						
SKR				smax			
	comp=N,200nm,0.3s						
SKR				smax			
	comp=E,3μm,0.3s						
SKR				smax			
	comp=N,4μm,1.6s						
SKR				smax			
	comp=E,6μm,1.6s						
SKR	**Severo-Kuril's**	**0.57**	**54**	*i* P	**P**	**02 46 37.1**	**-6.6**
SKR				*e*S	**S**	**02 46 48.3**	**-11**
PAU	**Pauzhetka**	**1.43**	**38**	*e*P	**P**	**02 46 50.8**	**-0.3**
PAU				*e*S	**S**	**02 47 12.3**	**-0.5**
MIPR	**Malaya Ipel'ka**	**2.11**	**23**	*i* P	**P**	**02 46 59.2**	**+0.3**
MIPR				*e*S	**S**	**02 47 26.5**	**-0.1**
GRL	**Gorelyy**	**2.77**	**36**	*e*P	**P**	**02 47 08.4**	**+1.0**
GRL				*e*S	**S**	**02 47 42.2**	**+0.7**
APC	**Apacha**	**2.80**	**22**	*e*P	**P**	**02 47 07.9**	**+0.1**
APC				*e*S	**S**	**02 47 41.7**	**-0.5**
APC				Smax			
	comp=E,30nm,0.8s						
RUS	**Russkaya**	**2.86**	**42**	P	**P**	**02 47 07.4**	**-1.1**
RUS				S	**S**	**02 47 42.1**	**-1.4**
RUS	**Russkaya**	**2.86**	**42**	*i* P	**P**	**02 47 07.4**	**-1.1**
RUS				*e*S	**S**	**02 47 41.6**	**-1.9**
PET	**Petropavlovsk**	**3.36**	**36**	P	**P**	**02 47 14.8**	**-0.3**
PET				S	**S**	**02 47 54.4**	**-0.8**
PET	**Petropavlovsk**	**3.36**	**36**	*e*P	**P**	**02 47 14.9**	**-0.2**
PET				*e*S	**S**	**02 47 54.5**	**-0.7**
KOK	**Koryaka**	**3.57**	**33**	*i* P	**P**	**02 47 19.8**	**+1.9**
KOK				*e*S	**S**	**02 48 02.6**	**+2.5**
UGLR	**Uglovaya**	**3.57**	**35**	*i* P	**P**	**02 47 19.4**	**+1.5**
UGLR				*e*S	**S**	**02 48 01.7**	**+1.6**
AVH	**Avacha**	**3.58**	**34**	*e*P	**P**	**02 47 19.9**	**+1.8**
AVH				*e*S	**S**	**02 48 02.0**	**+1.6**
SMAR	**Somma**	**3.60**	**35**	*i* P	**P**	**02 47 19.9**	**+1.6**
SMAR				*e*S	**S**	**02 48 01.4**	**+0.5**
SDLR	**Sedlovina**	**3.65**	**35**	*i* P	**P**	**02 47 19.7**	**+0.8**
SDLR				*e*S	**S**	**02 48 01.6**	**-0.3**
GNL	**Ganaly**	**3.70**	**24**	*e*P	**P**	**02 47 20.7**	**+1.1**
GNL				*e*S	**S**	**02 48 04.0**	**+0.7**
NLC	**Nalytchevo**	**3.74**	**39**	P	**P**	**02 47 19.0**	**-1.2**
NLC				S	**S**	**02 48 01.2**	**-3.0**
NLC	**Nalytchevo**	**3.74**	**39**	*i* P	**P**	**02 47 19.0**	**-1.2**
NLC				*e*S	**S**	**02 48 01.1**	**-3.1**
SPN	**Mys Shipunski**	**3.98**	**44**	P	**P**	**02 47 22.3**	**-1.0**
SPN				S	**S**	**02 48 06.8**	**-3.1**
SPN	**Mys Shipunski**	**3.98**	**44**	*e*P	**P**	**02 47 22.3**	**-1.0**
SPN				*e*S	**S**	**02 48 06.6**	**-3.3**
TUMR	**Tumrok**	**5.72**	**28**	*e*P	**P**	**02 47 48.1**	**+1.6**
TUMR				*e*S	**S**	**02 48 50.4**	**-1.1**
MKZ	**Mys Kozlova**	**5.72**	**40**	P	**P**	**02 47 44.9**	**-1.6**
MKZ				S	**S**	**02 48 44.3**	**-7.2**
MKZ	**Mys Kozlova**	**5.72**	**40**	*e*P	**P**	**02 47 45.0**	**-1.5**
MKZ				*e*S	**S**	**02 48 45.9**	**-5.6**
KMNR	**Kamenistaya**	**6.15**	**26**	*e*P	**P**	**02 47 53.8**	**+1.5**
KMNR				*e*S	**S**	**02 49 00.4**	**-1.5**
KBTR	**Krutoberegovo**	**7.36**	**34**	*e*P	**P**	**02 48 08.1**	**-0.6**
BKI	**Bering**	**8.04**	**49**	P	**P**	**02 48 14.6**	**-3.2**
BKI				*e*S	**S**	**02 49 36.4**	**-11**
BKI				Smax			
	comp=E,90nm,0.3s						
ASAJ	**Asahikawa**	**10.70**	**239**	PN	**P**	**02 48 53.8**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.70**	**239**	P	**P**	**02 48 53.8**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=94,slow=14,SNR=4.3						
FX1	**Attu Island--F**	**11.33**	**70**	PN	**P**	**02 49 01.8**	**+0.6**
FX1				S	**S**	**02 50 58.4**	**-7.2**
FX1				pmax	pmax		
	comp=Z,4.0nm,0.3s						
FX1	**Attu Island--F**	**11.33**	**70**	P	**P**	**02 49 01.8**	**+0.6**
	comp=Z,4.4nm,0.3s,baz=332,slow=22,SNR=38						
FX1				S	**S**	**02 50 58.4**	**-7.2**
	comp=Z,5.9nm,0.3s,baz=341,slow=23,SNR=10						
FX1	**Attu Island--F**	**11.33**	**70**	*e*Pn	**P**	**02 49 02.0**	**+0.8**
BILL	**Bilibino**	**18.54**	**13**	*e*P	**P**	**02 50 29.0**	**-1.7**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BILL	**Bilibino**	**18.54**	**13**	*e*P	**P**	**02 50 29.0**	**-1.7**
	comp=Z,3.0nm,0.4s						
ILAR	**Eielson Array**	**32.82**	**42**	P	**P**	**02 52 43.5**	**-1.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**32.82**	**42**	P	**P**	**02 52 43.5**	**-1.0**
	comp=Z,0.9nm,0.7s,mb3.6,baz=265,slow=8.0,SNR=11						
MKAR	**Makanchi Array**	**46.70**	**295**	P	**P**	**02 54 37.5**	**-1.3**
	comp=Z,0.3nm,0.5s,mb3.2,baz=72,slow=3.8,SNR=4.0						
YKA	**Yellowknife Ar**	**47.15**	**39**	P	**P**	**02 54 42.4**	**+0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**47.15**	**39**	P	**P**	**02 54 42.4**	**+0.3**
	comp=Z,1.2nm,0.8s,mb3.5,baz=298,slow=7.4,SNR=4.5						
WVOR	**Wild Horse Val**	**56.66**	**62**	*e*P	**P**	**02 55 54.0**	**+0.6**
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
WVOR	**Wild Horse Val**	**56.66**	**62**	*e*P	**P**	**02 55 54.0**	**+0.6**
	comp=Z,2.2nm,0.9s,mb4.0						
BOZ	**Bozeman (W)**	**58.41**	**55**	*e*P	**P**	**02 56 05.9**	**+0.4**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
BOZ	**Bozeman (W)**	**58.41**	**55**	*e*P	**P**	**02 56 05.9**	**+0.3**
	comp=Z,1.2nm,0.7s,mb3.8						
NVAR	**Mina Array Bea**	**59.49**	**65**	P	**P**	**02 56 13.9**	**+0.8**
	comp=Z,1.0nm,0.6s,mb3.8,baz=309,slow=5.8,SNR=9.0						
RRI2	**Red Ridge**	**60.10**	**57**	*e*P	**P**	**02 56 17.6**	**+0.3**
	comp=Z,2.9nm,0.7s,mb4.2						
MOOW	**Moose Ponds**	**60.14**	**56**	*e*P	**P**	**02 56 17.6**	**+0.1**
	comp=Z,1.3nm,0.8s,mb3.8						
HWUT	**Hardware Ranch**	**61.15**	**59**	*e*P	**P**	**02 56 24.5**	**+0.1**
	comp=Z,1.3nm,0.6s,mb3.9						
BW06	**Boulder Array**	**61.45**	**57**	*e*P	**P**	**02 56 26.0**	**-0.3**
	comp=Z,3.6nm,1.2s,mb4.1						
PDAR	**Pinedale Array**	**61.45**	**57**	P	**P**	**02 56 26.8**	**+0.4**
	comp=Z,1.2nm,0.5s,mb4.0,baz=338,slow=2.8,SNR=14						
RSSD	**Black Hills**	**63.38**	**52**	*e*P	**P**	**02 56 38.5**	**-0.6**
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
RSSD	**Black Hills**	**63.38**	**52**	*e*P	**P**	**02 56 38.5**	**-0.6**
	comp=Z,1.7nm,0.6s,mb4.0						
SRU	**San Rafael**	**63.45**	**60**	*e*P	**P**	**02 56 39.6**	**-0.1**
WRA	**Warramunga Arr**	**72.41**	**201**	P	**P**	**02 57 34.4**	**-1.0**
	comp=Z,0.2nm,0.5s,mb3.1,baz=16,slow=6.3,SNR=4.9						
WMOK	**Wichita Mounta**	**73.04**	**56**	*e*P	**P**	**02 57 38.3**	**-0.6**
WMOK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
WMOK	**Wichita Mounta**	**73.04**	**56**	*e*P	**P**	**02 57 38.2**	**-0.6**
	comp=Z,1.2nm,0.8s,mb3.7						
LTX	**Lajitas**	**74.45**	**63**	*e*P	**P**	**02 57 47.1**	**0.0**
LTX				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
LTX	**Lajitas**	**74.45**	**63**	*e*P	**P**	**02 57 47.1**	**0.0**
	comp=Z,2.0nm,0.5s,mb4.1						
TXAR	**Lajitas Array**	**74.45**	**63**	P	**P**	**02 57 47.8**	**+0.7**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TXAR	**Lajitas Array**	**74.45**	**63**	P	**P**	**02 57 47.8**	**+0.6**
	comp=Z,2.0nm,0.8s,mb3.9,baz=300,slow=4.6,SNR=32						
CPUP	**Villa Florida**	**145.33**	**59**	PKIKP	PKPdf	03 05 45.3	+1.7
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CPUP	**Villa Florida**	**145.33**	**59**	PKPbc	PKPbc	03 05 45.3	+1.1
	comp=Z,0.8nm,0.4s,baz=48,slow=4.3,SNR=7.2						
PLCA	**Paso Flores**	**146.89**	**91**	*e*PKP2	PKPab	03 05 49.2	-2.6
PLCA	**Paso Flores**	**146.89**	**91**	PKPbc	PKPbc	03 05 50.0	+2.5
	comp=Z,2.5nm,0.8s,baz=97,slow=23,SNR=4.5						
TRQA	**Tornquist**	**150.84**	**80**	*e*PKPbc	PKPdf	03 05 59.2	+7.1

IDC 01 03:30:13.0±2.3**, 3.02N×65.47E, mb4.0**/3**, mb1 4.1**/3**, mb1mx3.5**/19**, mbtmp4.0**/3**, Error ellipse: s-maj=88.4km s-min=39.2km az=50.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**56.84**	**32**	P	P	03 40 00.3	-1.5
	0.3nm,0.3s,baz=207,slow=9.7,SNR=3.5						
WRA	**Warramunga Arr**	**71.28**	**112**	P	P	03 41 34.6	-2.3
	1.3nm,0.7s,baz=290,slow=5.5,SNR=5.9						
ARCES	**ARCESS Array B**	**71.44**	**346**	P	P	03 41 33.7	-3.3
	0.8nm,0.7s,baz=112,slow=6.5,SNR=5.8						
TXAR	**Lajitas Array**	**146.18**	**343**	PKPbc	PKPbc	03 49 57.0	+0.9
	0.7nm,0.9s,baz=34,slow=4.5,SNR=6.6						

*IDC **01** 03:33:19.7±0.9, 7.18N×93.53E, mb4.0/9, mb1 4.2/10, mb1mx4.0/20, mbtmp4.0/10, ML4.0/1, Error ellipse: s-maj=39.1km s-min=20.3km az=68.0*
*NEIC **01** 03:33:24.3±0.6, 7.29N×93.68E, h30km, mb4.3/3, Error ellipse: s-maj=16.0km s-min=9.9km az=53.0*
ISC 01 03:33:22.5±0.7**, 7.3N**±0.1×**93.7E**±0.1**, h30**km**, n16, σ0ˢ88**/16**, mb4.0**/12**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.15**	**106**	*e*Pn	**Pn**	**03 35 07.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**12.19**	**24**	Pn	**P**	**03 36 16.8**	**-0.4**
	0.3nm,0.3s,baz=214,slow=15,SNR=7.2						
LSA	**Lhasa**	**22.41**	**354**	*e*P	**P**	**03 38 21.1**	**+0.9**
	10nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**40.56**	**348**	P	**P**	**03 41 02.8**	**+1.9**
	0.4nm,0.5s,mb3.3,baz=158,slow=9.0,SNR=3.3						
ULN	**Ulaanbaatar**	**41.98**	**13**	*e*P	**P**	**03 41 11.5**	**-1.1**
	0.7nm,0.5s,mb3.5						
ZAL	**Zalesovo**	**47.06**	**353**	P	**P**	**03 41 53.6**	**+0.3**
	2.2nm,0.4s,mb4.4,baz=241,slow=5.7,SNR=4.9						
WRA	**Warramunga Arr**	**48.25**	**125**	P	**P**	**03 42 03.8**	**+0.7**
	1.3nm,0.5s,mb4.2,baz=304,slow=8.6,SNR=12						
WRAB	**Tennant Creek**	**48.26**	**125**	*e*P	**P**	**03 42 03.8**	**+0.7**
	3.4nm,0.6s,mb4.5						
BRTR	**Keskin Array B**	**62.51**	**311**	P	**P**	**03 43 45.2**	**-0.6**
	0.8nm,0.9s,mb3.9,baz=108,slow=3.9,SNR=4.1						
FINES	**FINESS Array B**	**73.03**	**332**	P	**P**	**03 44 50.8**	**-0.5**
	1.7nm,0.6s,mb4.1,baz=87,slow=5.4,SNR=12						
KAF	**Kangasniemi**	**73.12**	**333**	*e*p	**P**	**03 44 50.3**	**-1.5**
ARCES	**ARCESS Array B**	**75.67**	**340**	P	**P**	**03 45 05.9**	**-0.5**
	0.5nm,0.5s,mb3.7,baz=90,slow=4.9,SNR=8.7						
MAW	**Mawson**	**77.90**	**192**	P	**P**	**03 45 18.1**	**-0.7**
	2.7nm,0.7s,mb4.3,baz=231,slow=19,SNR=9.4						
GERES	**GERESS Array B**	**77.99**	**318**	P	**P**	**03 45 20.9**	**+1.2**
	0.5nm,0.5s,mb3.7,baz=79,slow=6.8,SNR=7.3						
NB2	**NORSAR Subarra**	**80.03**	**331**	P	**P**	**03 45 30.6**	**+0.1**
	1.1nm,0.8s,mb3.8,baz=92,slow=5.3						
NOA	**NORSAR Array B**	**80.03**	**331**	P	**P**	**03 45 30.5**	**0.0**
	0.7nm,0.9s,mb3.6,baz=97,slow=5.6,SNR=3.3						

*NEIC **01** 03:36:30.3, 17.41N×95.59W, h52km, MD4.2(MEX), After MEX.*
MEX 01 03:36:30.2±0.7**, 17.40N×95.59W, h54**km±14km**, MD4.2, MW3.5, 2D, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.74**	**114**	⇓*i*P	P	03 36 43.0	-1.7
CMIG				*i* S	S	03 36 53.7	-1.8
EVV	**El Vigia**	**1.07**	**12**	*i* P	P	03 36 46.2	-3.1
OXX	**Oaxaca**	**1.13**	**254**	*i* P	P	03 36 48.5	-1.5
OXX				*i* S	S	03 37 01.8	-3.0
VHO	**Vista Hermosa**	**1.14**	**254**	⇓*i*P	P	03 36 48.5	-1.7
VHO				*i* S	S	03 37 03.1	-1.9
TUIG	**Tuzandepetl**	**1.28**	**60**	*i* P	P	03 36 50.1	-2.1
TUIG				*i* S	S	03 37 05.8	-2.7
HUIG	**Huatulco**	**1.70**	**197**	*e*P	P	03 36 55.7	-2.3
HUIG				*i* S	S	03 37 16.8	-1.9
HUIG	**Huatulco**	**1.70**	**197**	*e*P	P	03 36 55.4	-2.6
HUIG				*i* S	S	03 37 16.8	-1.9
IISM	**Ciudad Serdan**	**2.32**	**313**	*i* P	P	03 37 03.7	-3.1
PNIG	**Pinotepa**	**2.63**	**248**	*i* P	P	03 37 07.9	-3.3
PNIG				*i* S	S	03 37 38.5	-3.5
PPM	**Popocatepetl**	**3.33**	**300**	*i* P	P	03 37 20.4	-0.7
PPM				*i* S	S	03 37 56.5	-3.2
PPM	**Popocatepetl**	**3.33**	**300**	*i* P	P	03 37 19.8	-1.3
PPM				*i* P		03 37 20.4	
PPM				*i* S	S	03 37 56.5	-3.2
CCIG	**Comitan**	**3.49**	**108**	*e*P	P	03 37 21.0	-2.3
CCIG				*i* S	S	03 38 01.3	-2.5
PLIG	**Platanillo**	**3.85**	**285**	*i* P	P	03 37 26.4	-2.1
PLIG				*i* S	S	03 38 08.3	-4.6
ACX	**Acapulco**	**4.17**	**263**	*i* P	P	03 37 28.0	-5.0

*NEIC **01** 03:38:24.3, 19.45N×65.27W, h5km, MD3.7(RSPR), After RSPR.*
RSPR 01 03:38:24.3, 19.45N×65.27W, h5km±31km**, MD3.7**/15**, MD3.7**/15**, 8C-7D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.13**	**165**	⇓*e*P	Pb	03 38 43.7	-2.2
STVI				*e*S	Sb	03 38 58.4	-2.3
TBVI	**Tortola**	**1.21**	**149**	⇑*e*P	Pb	03 38 45.1	-2.1
TBVI				*e*S	Sb	03 38 59.9	-3.1
CBYP	**Canovanas**	**1.30**	**206**	⇓*e*P	Pb	03 38 44.9	-4.0
CBYP				*e*S	Sb	03 39 03.0	-2.6
MTP	**Monte Pirata**	**1.38**	**192**	⇓*e*P	Pb	03 38 46.7	-3.5
MTP				*e*S	Sb	03 39 03.9	-4.0
HUMP	**Col San Antoni**	**1.41**	**203**	⇓*e*P	Pn	03 38 46.6	-4.2
HUMP				*e*S	Sb	03 39 05.5	-3.5
CPD	**Cerro la Pandu**	**1.53**	**204**	⇓*e*P	Pn	03 38 48.4	-4.0
CPD				*e*S	Sb	03 39 09.4	-3.0
SJG	**San Juan**	**1.57**	**212**	⇑*e*P	Pn	03 38 49.6	-3.4
SJG				*e*S	Sb	03 39 10.5	-3.1
SJG	**San Juan**	**1.57**	**212**	⇓*e*P	Pn	03 38 48.9	-4.2
SJG				*e*S	Sb	03 39 10.1	-3.5
CDVI	**St. Croix**	**1.75**	**164**	⇑*e*P	Pn	03 38 53.1	-2.5
CDVI				*e*S	Sn	03 39 15.0	-3.5
LRS	**Lares**	**1.89**	**233**	⇑*e*P	Pn	03 38 54.4	-3.1
LRS				*e*S	Sn	03 39 17.8	-4.2
ICM	**Isla Caja Muer**	**1.95**	**218**	⇑*e*P	Pn	03 38 55.7	-2.8
ICM				*e*S	Sn	03 39 19.1	-4.5
AGPR	**Aguadilla, PR**	**2.00**	**241**	⇑*e*P	Pn	03 38 56.8	-2.4
AGPR				*e*S	Sn	03 39 19.9	-5.0
LSP	**Las Mesas**	**2.14**	**234**	⇑*e*P	Pn	03 38 58.6	-2.5
LSP				*e*S	Sn	03 39 24.6	-3.7
MGP	**Maguayo**	**2.25**	**231**	⇓*e*P	Pn	03 38 59.1	-3.6
CRPR	**Cabo Rojo, PR**	**2.26**	**231**	⇑*e*P	Pn	03 38 59.1	-3.7
CRPR				*e*S	Sn	03 39 26.2	-5.2

*BGS **01** 03:48:20.6±1.4, 35.65N×72.08E, h63km, mb5.3, mb5.5(NEIC)*
*DHMR **01** 03:48:22.0±3.0, 36.60N×71.43E, h10km, mb5.5*
*HRVD **01** 03:48:28.7±0.2, 36.79N×71.06E, h100km±1km, MW5.6/63, Centroid moment Tensor Solution. LP body waves: s61,c119;Mantle waves: s63,c132; Half duration: 1ˢ5 Moment tensor: Scale 10^17Nm; Mrr-0.12±.04; Mθθ-0.57±.05; Mϕϕ0.69±.05; Mrθ0.82±.04; Mθϕ-2.46±.05; Mϕr-0.20±.04; Best double couple: M0 2.675×10^17 NP1: ϕs187°, δ72°, λ1°. NP2:ϕs97°, δ89°, λ162°. Principal axes: T 2.755, Plg13°, Azm51°; N -.159, Plg72°, Azm276°; P -2.595, Plg12°, Azm144°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **01** 03:48:28.9, 36.81N×71.11E, h79km, mB5.5, mb5.6, Ms5.3, Msz4.9*
*NEIC **01** 03:48:28.7±0.5, 36.57N×71.32E, h63km±5km, mb5.4/178, MW5.5, Error ellipse: s-maj=4.0km s-min=2.3km az=203.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^17 Nm; Mrr-0.05; Mθθ0.21; Mϕϕ-0.16; Mrθ0.81; Mθϕ-1.81; Mϕr-0.28; Best double couple: M0 2×10^17 NP1:ϕs179°, δ67°, λ6°. NP2:ϕs86°, δ84°, λ157°. Principal axes: T 2.13, Plg20°, Azm40°; N -.27, Plg67°, Azm253°; P -1.86, Plg12°, Azm135°;*
NEIC Felt at Kabul. Also felt at Chitral, Dir and Peshawar, Pakistan.
*MOS **01** 03:48:29.5±0.9, 36.61N×71.27E, h83km, mb5.4/115 Error ellipse: s-maj=5.5km s-min=3.0km az=131.2*
*CRAAG **01** 03:48:29.0, 36.69N×71.29E, Mb5.4*
*IDC **01** 03:48:32.2±2.4, 36.63N×71.26E, h92km±21km, mb5.0/31, mb1 5.1/32, mb1mx5.1/32, mbtmp5.3/32, MS4.5/19, Ms1 4.5/19, ms1mx4.3/33, Error ellipse: s-maj=10.8km s-min=9.4km az=10.0*
*NNC **01** 03:48:34.4±3.0, 36.90N×70.76E, h160km±28km, mpv6.2, Error ellipse: s-maj=24.3km s-min=20.2km az=43.0*
ISC 01 03:48:29.1±0.3**, 36.59N**±0.02×**71.24E**±0.02**, h78**km±3km**, h82**km±1.7km**:pP-P, n911, σ1ˢ00**/940**, mb5.4**/250**, 81C-68D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.81**	**169**	⇓P	**P**	**03 49 15.7**	**+2.8**
CHCP	**Chirah Chowk**	**3.36**	**150**	P	**P**	**03 49 23.8**	**+3.3**
THW	**Thamme Wali**	**3.81**	**174**	⇑P	**P**	**03 49 28.3**	**+1.6**
SBDP	**Sheikh Budin**	**4.29**	**185**	⇑P	**P**	**03 49 34.5**	**+1.1**
KSH	**Kashi**	**4.74**	**50**	⇑*i*P	**P**	**03 49 43.1**	**+3.4**
KSH				*e*XP		03 50 02.6	
KSH				*e*S	**S**	**03 50 37.6**	**+3.8**
KSH				LR	LR		
	comp=N,78μm,4.3s						
KSH				LR	LR		
	comp=E,110μm,3.4s						
DRP	**Derazinda**	**4.91**	**190**	⇑P	**P**	**03 49 42.8**	**+0.8**
TAS	**Tashkent**	**4.97**	**343**	*e*PN	**P**	**03 49 42.0**	**-0.8**
THN	**Thein Dam**	**5.55**	**137**	*e*P	**P**	**03 49 51.5**	**+0.8**
THN				*e*		03 50 59.1	
AML	**Almayashu**	**5.85**	**18**	P	**P**	**03 49 56.1**	**+1.2**
PONG	**Pong**	**6.04**	**139**	*e*P	**P**	**03 49 58.0**	**+0.4**
PONG				*e*		03 51 05.0	
UCH	**Uchtor**	**6.17**	**23**	P	**P**	**03 50 00.7**	**+1.2**
	SNR=5504						
KZA	**Kyzart**	**6.30**	**28**	P	**P**	**03 50 02.2**	**+1.0**
	SNR=8410						
KK31	**Karatay Array**	**6.53**	**355**	⇑Pn	**P**	**03 50 03.8**	**-0.7**
	comp=E,1μm,0.5s,baz=179,slow=12						

KK31 ⇑Sn S 03 51 14.5 -3.7
comp=E,1μm,0.6s,baz=190,slow=26
KKAR Karatay Array 6.53 355 *i* PN P 03 50 03.5 -0.9
KKAR pmax pmax
comp=Z,2μm,0.6s
AAK Ala-Archa 6.54 22 P P 03 50 05.8 +1.2
SNR=2539
AAK Ala-Archa 6.54 22 P P 03 50 06.1 +1.6
AAK ⇑S S 03 51 20.1 +1.8
AAK Ala-Archa 6.54 22⇑ *e*PN P 03 50 04.6 +0.1
AAK pmax pmax
comp=Z,4μm,0.5s
AAK Ala-Archa 6.54 22⇑ *e*P P 03 50 04.6 0.0
comp=Z,4μm,0.5s
KBK Karagaybulak 6.70 24 P P 03 50 08.1 +1.3
SNR=1022
BHK Bhakra 6.71 139 *e* P 03 50 11.5 +4.6
BHK *e* 03 51 03.3
FRU Bishkek 6.76 22⇑ *i*PN P 03 50 08.5 +0.9
FRU pmax pmax
comp=Z,7μm,3.0s
ULHL Ulahol 6.85 33 P P 03 50 09.9 +1.0
SNR=210
CHMS Chumysh 6.95 22 P P 03 50 10.8 +0.6
SNR=5308
SDNR Sundarnagar 6.95 135 *e*P P 03 50 09.0 -1.3
SDNR *e* 03 51 21.0
USP Ospenovka 7.12 20 P P 03 50 12.8 +0.1
SNR=393
TKM2 Tokmak 2 7.16 27 P P 03 50 13.9 +0.8
SNR=9177
AAA Alma-Ata 7.98 32*c i*PN P 03 50 25.5 +1.1
AAA pmax pmax
comp=Z,2μm,4.0s
KKR Kurukshetra 8.09 143 *e*P P 03 50 24.3 -1.5
DDI Dehra Dun 8.45 136⇓ *i*P P 03 50 29.1 -1.6
KHET Khetri 9.32 154 *e* P 03 50 40.4 -2.2
KHET *e* 03 52 20.1
KHET AML AML 03 52 22.2
comp=E,2μm,0.6s
KHET AML AML 03 52 22.5
comp=N,1μm,0.4s
NDI New Delhi 9.35 146 *e* P 03 50 39.0 -4.0
NDI *e* 03 52 20.0
BISR Bishrakh 9.55 145 *e*P P 03 50 43.3 -2.4
ASOR Ausora 9.55 143 *e*P P 03 50 43.4 -2.3
JASL Jaisalmer 9.64 182 *e* P 03 50 44.9 -2.0
SONA Sohna 9.66 148 *e*P P 03 50 43.8 -3.5
SONA *e* 03 52 27.3
SONA AML AML 03 52 38.1
comp=E,2μm,0.4s
SONA AML AML 03 52 38.7
comp=N,727nm,0.6s
PTH Pithoragarh 10.29 130 *e*P P 03 50 55.0 -0.7
PTH *e* 03 52 47.0
LGTI Lohaghat 10.38 131 *e*P P 03 50 54.7 -2.2
LGTI *e* 03 52 30.7
AJM Ajmer 10.48 163 *e* P 03 50 56.5 -1.9
AJM *e* 03 50 59.2
AJM *i* 03 52 45.9
AJM AML AML 03 53 48.7
comp=N,447nm,0.7s
AJM AML AML 03 53 49.4
comp=E,2μm,0.7s
MK31 Makanchi Array 13.11 35 P P 03 51 31.6 -1.7
comp=E,90nm,0.9s,baz=225,slow=14,SNR=7331
MKAR Makanchi Array 13.11 35 *i* P P 03 51 31.5 -1.8
MKAR pmax pmax
comp=Z,90nm,0.9s
MKAR Makanchi Array 13.11 35 P P 03 51 32.4 -0.9
comp=Z,33nm,0.3s,baz=223,slow=12,SNR=498
KOLN Koldanda 13.66 127 *e*P P 03 51 37.2 -3.3
comp=Z,2μm,0.8s
KOLN *e*S S 03 53 59.1 -12
GKN Gorkha 14.19 123 *e*P P 03 51 43.8 -3.6
comp=Z,9μm,0.9s
GKN Gorkha 14.19 123 *e*S S 03 54 10.0 -13
BHPL Bhopal 14.33 156 *e*P P 03 51 46.4 -3.0
BHPL *e* 03 54 18.4
ALBI Allahabad 14.43 138 *e* P 03 51 45.5 -5.1
WMQ Urumqi 14.49 55 P P 03 51 53.1 +1.9
WMQ AP 03 52 05.0
WMQ PP PP 03 52 06.8 +3.4
WMQ XP 03 52 16.0
WMQ S S 03 54 32.2 +2.0
WMQ XS 03 54 49.5
WMQ AMB AMB
comp=Z,592nm,0.9s
WMQ LR LR
comp=N,13μm,10.8s
WMQ LR LR
comp=E,13μm,8.0s
WMQ LR LR
comp=Z,9μm,10.0s
WMQ Urumqi 14.49 55 Pn P 03 51 49.8 -1.4
DMN Daman 14.76 123 *e*P P 03 51 51.5 -3.3
KKN Kakani 14.76 122 *e*P P 03 51 51.0 -3.8
comp=Z,1μm,0.6s
KKN *e*S S 03 54 24.3 -12
KKN Kakani 14.76 122 *e*P P 03 51 51.0 -3.8
KKN pmax pmax
comp=Z,565nm,0.6s
BHV Bhavnagar 14.81 177 *e*P P 03 51 55.0 -0.5
PKI Pulchoki 14.99 123 *e*P P 03 51 53.8 -3.9
comp=Z,1μm,0.6s
PKI *e*S S 03 54 30.0 -12
PKI Pulchoki 14.99 123 *e*P P 03 51 53.8 -3.9
PKI pmax pmax
comp=Z,603nm,0.6s
GUN Gumba 15.09 121 *e*P P 03 51 55.3 -3.8
comp=Z,1μm,1.0s
GUN *e*S x 03 54 10.0
AB31 Akbulak array 15.10 330⇓ P P 03 51 54.8 -4.2
comp=Z,74nm,0.4s,baz=147,slow=12
AB31 ⇓S S 03 54 33.5 -11
comp=Z,260nm,0.7s
VOSK Vostochnaya 16.14 359 ⇑P P 03 52 09.3 -2.8
comp=Z,344nm,0.8s
VOSK ⇑S S 03 55 04.4 -3.9
comp=Z,301nm,1.4s
VOSK Vostochnaya 16.14 359 *i* P P 03 52 09.2 -2.9
ZRNK Zerenda 16.44 355 ⇓P P 03 52 13.1 -2.8
comp=Z,368nm,0.8s
ZRNK ⇑S S 03 55 11.2 -4.0
comp=Z,397nm,1.5s
ZRNK Zerenda 16.44 355 *i* P P 03 52 13.1 -2.8
BVA0 Borovoye Array 16.45 358 ⇓P P 03 52 13.3 -2.7
comp=Z,65nm,0.9s,baz=165,slow=14
BVA0 ⇓S S 03 55 11.0 -4.3
comp=Z,70nm,1.4s,baz=165,slow=30,SNR=3.7
BVAR Borovoye Array 16.45 358 P P 03 52 13.6 -2.4
comp=Z,8.0nm,0.3s,baz=168,slow=14,SNR=91
BANOM Banah 16.60 234 P P 03 52 17.6 -0.5
SNR=80
AKL Akola 16.61 161⇑ *i* P 03 52 21.1 +2.9
AKL *i* 03 55 13.7
BLSP Bilaspur 17.23 144 *e* P 03 52 20.1 -5.9
BLSP *e* 03 55 23.7
BIDO Bidbid 17.25 225 P P 03 52 25.6 -0.7
SNR=26
WBK Wadi Bani Khal 17.52 221 P P 03 52 30.0 +0.3
SNR=23
SLGI Shiliguri 17.61 119 *e* P 03 52 31.8 +1.1
ASHO Ashiyiah 17.62 232 P P 03 52 31.1 +0.2
SNR=187
SMDO Samad 17.66 224 P P 03 52 31.8 +0.4
SNR=28
HOQ Hoqain 17.67 227 P P 03 52 31.9 +0.4
SNR=57
BOM Bombay 17.68 175 *e*P P 03 52 32.6 +1.0
BOM *e* 03 52 36.4
BOM *e*S S 03 55 42.6 -0.6
LSA Lhasa 18.01 107 P P 03 52 34.2 -1.4
LSA AMB AMB
comp=Z,220nm,0.8s
LSA LR LR
comp=N,4μm,15.9s
LSA LR LR
comp=E,4μm,15.9s
LSA LR LR
comp=Z,2μm,12.9s
POO Poona 18.14 172⇓ *i*P P 03 52 36.0 -1.1
comp=Z,600nm,1.0s
POO *i* S S 03 55 52.0 -1.5
JMDO Jabal Madar 18.18 222 P P 03 52 38.8 +1.2
SNR=74
BSY Bisya 18.39 225 P P 03 52 40.9 +0.8
SNR=72
LATR Latur 18.70 164 *e* P 03 52 43.0 -0.7
LATR *e* 03 55 22.3
MAK Makhachkala 19.29 297*c i*P P 03 52 48.0 -2.1
MAK *i* S S 03 56 20.0 +1.3
MAK pmax pmax
comp=Z,3μm,8.0s
MAK smax
comp=N,4μm,10.0s
MAK smax
comp=E,6μm,10.0s
MAK MLR MLR
comp=N,5μm,10.0s
MAK MLR MLR
comp=E,5μm,10.0s
MAK MLR MLR
comp=Z,8μm,10.0s
KAD Karad 19.38 172 *e*P P 03 52 51.1 -0.1
KAD AMb AMB 03 52 58.6
comp=Z,526nm,1.0s
ZAL Zalesovo 19.74 24 P P 03 52 53.9 -0.9
ZAL pmax pmax
comp=Z,94nm,0.3s
ZAL Zalesovo 19.74 24 P P 03 52 53.9 -0.9
comp=Z,94nm,0.3s,baz=252,slow=9.5,SNR=1089
NVS Novosibirsk 20.03 21⇑ *i*P P 03 52 55.7 -2.2
NVS *i* PPP PPP 03 53 24.9 -4.7
NVS *i* S S 03 56 33.9 +0.2
NVS *i* SS SS 03 57 06.0 -0.5
NVS pmax pmax
comp=Z,1μm,1.0s
NVS pmax pmax
comp=N,540nm,0.9s
NVS pmax pmax
comp=E,386nm,1.0s
NVS smax
comp=N,570nm,1.6s
NVS smax
comp=E,220nm,1.8s
HYB Hyderabad 20.16 159⇓ *i*P P 03 52 59.0 -0.5
HYB *e*S S 03 56 40.0 +3.6
HYB pmax pmax
comp=Z,639nm,0.5s
HYB Hyderabad 20.16 159⇓ *i*P P 03 52 59.0 -0.5
comp=Z,639nm,0.5s
HYB *e*S S 03 56 40.0 +3.6
HYB Hyderabad 20.16 159⇓ *i*P P 03 52 59.0 -0.5
comp=Z,639nm,0.5s
HYB *e* 03 56 28.0
HYB *e*S S 03 56 40.0 +3.6
CAL Calcutta 20.37 129⇓ *i* P 03 53 03.4 +1.8
CAL *e* 03 56 54.7
DGRG David-gareji 20.65 292 P P 03 53 04.5 +0.2
SHL Shillong 20.77 116 *e* P 03 53 05.0 -0.7
SHL *e* 03 56 42.0
GNI Garni 21.05 288 P P 03 53 10.5 +2.1
GNI pmax pmax
comp=Z,338nm,0.6s
GNI Garni 21.05 288 P P 03 53 10.5 +2.1
comp=Z,338nm,0.6s,mb5.8,baz=8.6,slow=1.1,SNR=247
KBD Kabd 21.08 256 *e*P P 03 53 08.4 -0.4
KBD AMb AMB 03 53 16.0
comp=Z,1μm,0.5s
MTA Mtatsminda 21.10 292 P P 03 53 09.3 +0.4
MTA S rx 03 53 57.8
QRN Al-Qurain 21.10 255 *e*P P 03 53 08.8 -0.2
QRN AMb AMB 03 53 13.2
comp=Z,590nm,1.0s,mb5.8
TI2 Plekhanov 21.14 292 *i* P P 03 53 10.6 +1.3
TI2 *i* S rx 03 53 45.6
TI2 MLR MLR
comp=N,4μm,7.0s
TI2 MLR MLR
comp=E,3μm,7.0s
TI2 MLR MLR
comp=Z,4μm,7.0s
TBLG Delisi 21.15 292 P P 03 53 09.9 +0.6
TBLG S rx 03 57 42.1
DUS Dusheti 21.21 293 P P 03 53 10.2 +0.2
RDF Al-Radifah 21.31 256 *e*P P 03 53 10.8 -0.2
RDF AMb AMB 03 53 16.6
comp=Z,999nm,0.9s,mb6.2
AGT Agartala 21.37 121⇑ *i* P 03 53 10.0 -1.8
AGT *i* 03 54 39.0
NAY Al-Naaiem 21.40 257 *e*P P 03 53 11.8 -0.2
NAY AMb AMB 03 53 14.2
comp=Z,435nm,0.8s,mb5.8
SVE Sverdlovsk 21.46 344⇓ *i*P P 03 53 11.7 -0.7
SVE *e* 03 53 36.0
SVE *e*S S 03 57 00.0 -0.7
SVE *e* 03 57 36.0
SVE pmax pmax
comp=Z,240nm,1.2s,mb5.4
SVE pmax pmax
comp=N,2μm,11.0s
SVE pmax pmax
comp=E,900nm,11.0s
SVE pmax pmax
comp=Z,2μm,11.0s
SVE MLR MLR
comp=N,4μm,11.0s
SVE MLR MLR
comp=E,4μm,11.0s
SVE MLR MLR
comp=Z,6μm,11.0s
VIS Vishakhapatnam 21.61 147 *e* P 03 53 14.8 +0.7
VIS AMb AMB 03 53 21.4
comp=Z,871nm,1.4s,mb5.9
VIS *e* 03 53 21.8
ARU Arti 21.61 341*c i*P P 03 53 13.6 -0.3
ARU pmax pmax
comp=Z,191nm,0.9s,mb5.4
ARU MLR MLR
comp=Z,2μm,14.0s
ARU Arti 21.61 341 *e*P P 03 53 12.8 -1.1
comp=Z,409nm,0.9s,mb5.8
GOR Gori 21.64 293 P P 03 53 15.8 +1.5
GOR S rx 03 54 05.3
CLDR Caldiran 21.70 285 P P 03 53 16.0 +1.1
ZEI Tsey 21.88 295 *e*P P 03 53 15.4 -1.2
ZEI *i* *PP 03 53 39.3
ZEI pmax pmax
comp=Z,43nm,1.0s,mb4.7
HKR Hakkari 21.94 281 P P 03 53 19.1 +1.8
TVAN Van 22.12 283 *i* P P 03 53 22.8 +3.8
VANB Van 22.13 284 *e*P P 03 53 22.6 +3.4
ONI Oni 22.18 294 P P 03 53 20.8 +1.2
ONI Oni 22.18 294 P P 03 53 21.1 +1.5
KARS Kars 22.32 289 P P 03 53 24.2 +3.3
GTA Gaotai 22.65 74 ⇑P P 03 53 26.1 +1.9
GTA AP 03 53 43.3
GTA XP 03 53 52.4
GTA PP PP 03 54 00.8 +5.8
GTA S S 03 57 29.7 +7.5
GTA SCP 04 00 42.4
GTA PCS 04 00 50.8
GTA AMB AMB
comp=Z,644nm,1.2s,mb5.8
GTA AMB AMB
comp=Z,2μm,6.1s
GTA LR LR
comp=N,4μm,13.0s
GTA LR LR
comp=E,1μm,12.2s
GTA LR LR
comp=Z,2μm,15.7s
IMP Imphal 22.73 115⇑ *i* P 03 53 25.0 0.0
IMP *i* 03 54 24.0
IMP *e* 03 57 31.0
GOF Gofitskoye 22.88 300⇓ *i*P P 03 53 25.5 -0.8
GOF *i* S S 03 57 33.5 +7.5
GOF pmax pmax
comp=Z,244nm,1.0s,mb5.5
GOF smax
comp=N,975nm,1.7s
KIV Kislovodsk 22.92 298*d i*P P 03 53 26.9 +0.2
KIV pmax pmax
comp=Z,72nm,0.7s,mb5.1
KIV MLR MLR
comp=Z,2μm,20.0s
KIV Kislovodsk 22.92 298 *e*P P 03 53 26.8 0.0
comp=Z,651nm,1.3s,mb5.8
BCA Borcka 23.46 291 P P 03 53 34.2 +2.3
ERZM Erzurum 23.65 287 *i* P P 03 53 37.2 +3.5
EZM Erzurum 23.65 287 P P 03 53 37.6 +3.8
BTMT Batman 23.65 283 P P 03 53 36.2 +2.4
MNGI Mangalore 23.76 171 *i* P P 03 53 31.6 -3.5
MNGI *i* 03 58 18.8
BEST Besiri 23.85 282 *i* P P 03 53 38.3 +2.5
MARD Mardin 24.31 281 *i* P P 03 53 41.8 +1.5
RYDS Riyadh 24.48 247 S S 03 57 52.3 -1.5
RYDS P 03 53 39.0
SOKR Solikamsk 24.83 342*c i*P P 03 53 45.9 +0.8
SOKR S S 03 58 00.2 +0.9
SOKR pmax pmax
comp=Z,450nm,0.9s,mb5.9
SOKR MLR MLR
comp=Z,2μm,18.0s
SOC Sochi 25.01 296 *e*P P 03 53 46.6 -0.3
SOC *e*S S 03 57 59.9 -2.6
SOC pmax pmax
comp=N,19nm,0.7s
SOC pmax pmax
comp=E,55nm,0.7s
SOC pmax pmax
comp=Z,166nm,0.7s,mb5.6
SOC MLR MLR
comp=N,281nm,18.0s
SOC MLR MLR
comp=E,737nm,18.0s
SOC MLR MLR
comp=Z,917nm,18.0s
GUMT Gumushane 25.08 289 P P 03 53 49.7 +2.1
PTK Pertek 25.23 285 P P 03 53 51.0 +1.9
KELT Kelkit 25.26 288 *i* P P 03 53 51.9 +2.6
ELZG Elazig 25.58 284 *i* P P 03 53 53.7 +1.3
MZLS Mizel 25.64 248 P P 03 53 53.3 +0.3
URFA Urfa 25.84 282 *e*P P 03 53 55.7 +0.9
MALT Malatya 26.04 284 P P 03 53 56.8 +0.2
MALT Malatya 26.04 284 *e*P P 03 53 57.6 +1.0
MALT pmax pmax
comp=Z,106nm,1.2s,mb5.2
MALT Malatya 26.04 284 *e*P P 03 53 57.6 +1.0
comp=Z,106nm,1.2s,mb5.2
MYA Malataya 26.04 284 P P 03 53 58.4 +1.8
ARSS Ar Rass 26.13 254 P P 03 53 56.9 -0.6
LZH Lanzhou 26.20 81 ⇑P P 03 54 00.0 +1.9
LZH AP pP 03 54 18.5 +2.5
LZH XP sP 03 54 29.2 +3.7
LZH PP PP 03 54 45.4 +2.7
LZH *e*S S 03 58 23.6 +1.3
LZH XS 03 58 56.8
LZH SS SS 03 59 37.5 +1.6
LZH AMB AMB
comp=Z,173nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,1μm,6.2s
LZH LR LR
comp=N,3μm,10.5s
LZH LR LR
comp=Z,5μm,13.9s
LZH Lanzhou 26.20 81 ⇑P P 03 54 00.0 +1.9
comp=Z,173nm,1.2s,mb5.4
LZH pP pP 03 54 18.5 +2.5
LZH sP sP 03 54 29.2 +3.7
LZH PP PP 03 54 45.4 +2.7
LZH *e*S S 03 58 23.6 +1.3
LZH sS 03 58 56.8
LZH SS SS 03 59 37.5 +1.6
LZH *e*SSS SSS 03 59 57.1 -12
ANN pmax pmax
comp=Z,112nm,1.0s,mb5.3
ANN MLR MLR
comp=N,2μm,21.0s
ANN MLR MLR
comp=E,2μm,21.0s
ANN MLR MLR
comp=Z,2μm,21.0s
ANN Anapa 26.77 298 *e*P P 03 54 06.0 +2.8
ZAK Zakamensk 26.79 49⇓ *i*P P 03 54 03.6 +0.2
ZAK pmax pmax
comp=Z,159nm,1.0s,mb5.5
GZT Gaziantep 26.84 282 *i* P P 03 54 05.4 +1.4
GAZ Gaziantep 27.15 282 *e*P P 03 54 08.1 +1.2
VOR Voronezh 27.25 314 *e*P P 03 54 06.5 -1.1
VOR *e**PP pP 03 54 24.5 -1.1
VOR pmax pmax
comp=N,150nm,1.6s
VOR pmax pmax
comp=Z,200nm,1.6s,mb5.4
VOR pmax pmax
comp=E,150nm,1.3s
TOKT Tokat 27.32 289 *e*P pP 03 54 25.1 -1.4
TLY Talaya 27.44 46⇑ *i*P P 03 54 10.0 +0.7
TLY *e* 03 55 08.9
TLY *e*S S 03 58 41.4 -0.9
TLY pmax pmax
comp=Z,45nm,0.8s,mb5.0
TLY MLR MLR
comp=Z,1μm,21.0s
TLY Talaya 27.44 46 *e*P P 03 54 09.6 +0.3
CD2 Chengdu 27.54 92⇑ *i*P P 03 54 12.1 +1.6
CD2 AMB AMB
comp=Z,70nm,0.8s,mb5.2
BNN Bunyan 27.99 285 *e*P P 03 54 18.8 +4.4
IRK Irkutsk 28.00 46 *e*P P 03 54 14.3 -0.1
IRK *e* 03 55 22.5
IRK pmax pmax
comp=Z,220nm,2.0s,mb5.3
SONM Songino Array 28.12 55 P P 03 54 16.1 +0.5
comp=Z,89nm,0.9s,mb5.3,baz=262,slow=8.7,SNR=201
SONM LR LR 04 07 04.2
comp=Z,3μm,18.8s,baz=264,slow=40
KAMS Al Khamasin 28.37 242 P P 03 54 16.6 -1.5
QURS Qurayyt al Mil 28.51 270 P P 03 54 20.3 +1.1
ULN Ulaanbaatar 28.57 55 *e*P P 03 54 20.0 +0.5
ULN pmax pmax
comp=Z,56nm,0.8s,mb5.2
ULN Ulaanbaatar 28.57 55 *e*P P 03 54 20.0 +0.5
comp=Z,56nm,0.8s,mb5.2
ASF Jabal al Asfar 28.59 271 P P 03 54 21.0 +1.1
comp=Z,5.9nm,0.9s,baz=336,slow=5.7,SNR=8.0
ASF LR LR 04 09 23.3
comp=Z,605nm,18.0s,baz=123,slow=44
CTKT Corum 28.64 289 *i* P P 03 54 20.9 +0.7
AVNT Avonos 28.76 286 *i* P P 03 54 21.3 -0.1
CORM Corum 28.79 288 *e*P P 03 54 21.7 +0.1
CDAG Cicekdag 29.04 287 *i* P P 03 54 23.2 -0.6
SIM Simferopol' 29.13 298*ce*P P 03 54 24.1 -0.4
SIM *e*S S 03 59 10.0 +0.6
SIM *e*S S 03 59 12.0 +2.6
SIM *e*SS SS 04 00 47.0 +2.4
SIM pmax pmax
comp=Z,19nm,0.7s,mb4.8
BZK Bozkurt 29.16 292 *e*P P 03 54 25.1 +0.2
TOS Tosya 29.19 290 *e*P P 03 54 25.6 +0.4
KSHT Keshet 29.22 273 P P 03 54 26.6 +1.1
KMI Kunming 29.23 104 P P 03 54 28.2 +2.6
KMI AP pP 03 54 47.1 +3.2
KMI XP sP 03 54 57.0 +3.9
KMI PP PP 03 55 25.0 +2.0
KMI PPP PPP 03 55 38.5 +2.2
KMI S S 03 59 12.9 +1.7
KMI XS 03 59 44.7
KMI SS SS 04 00 48.8 +1.6
KMI SSS SSS 04 01 09.8 +0.2
KMI AMB AMB
comp=Z,22nm,0.8s,mb4.8
KMI AMB AMB
comp=Z,121nm,3.1s
KMI LR LR
comp=N,2μm,22.1s
KMI LR LR
comp=E,1μm,15.6s
KMI LR LR
comp=Z,892nm,17.0s
KMI Kunming 29.23 104 P P 03 54 28.2 +2.6
comp=Z,22nm,0.8s,mb4.8
KMI pP pP 03 54 47.1 +3.2

KMI sP sP 03 54 57.0 +3.9
KMI PP PP 03 55 25.0 +2.0
KMI PPP PPP 03 55 38.5 +2.2
KMI S **S** **03 59 12.9 +1.7**
KMI sS 03 59 44.7
KMI SS SS 04 00 48.8 +1.6
KMI SSS SSS 04 01 09.8 +0.2
KMI LR LR
comp=Z,890nm,17.0s
KBRS Khaybar 29.28 258 P **P** **03 54 26.9 +0.9**
BR131 Keskin Array S 29.59 288 *e*P **P** **03 54 28.8 +0.1**
comp=Z,22nm,0.7s,mb4.9
BRTR Keskin Array B 29.59 288 P **P** **03 54 29.0 +0.3**
BRTR pmax pmax
comp=Z,19nm,0.7s
BRTR Keskin Array B 29.59 288 P **P** **03 54 28.9 +0.2**
comp=Z,19nm,0.7s,mb4.8,baz=98,slow=8.7,SNR=107
MUKL Al Mukalla 29.63 228 *e*P **P** **03 54 28.8 -0.5**
BALT Daday 29.64 291 *i*P **P** **03 54 29.4 +0.3**
TATS Tathlith 29.66 243 P **P** **03 54 28.4 -1.1**
MEST Erdemli 29.67 281 *i*P **P** **03 54 29.6 +0.1**
ELDT Eldivan 29.68 289 *i*P **P** **03 54 30.1 +0.6**
MMLI Mount Malkishu 29.70 273 P **P** **03 54 30.8 +1.1**
HNTI Hanita 29.70 274 P **P** **03 54 30.8 +1.0**
MOS Moscow 29.72 321 *e*P **P** **03 54 29.1 -0.5**
MOS *e* pP 03 54 28.8 -1.1
MOS *e* 03 54 56.8
MOS *e* 03 55 29.4
MOS *e* 03 57 28.6
MOS *e*SS SS 04 01 00.8 +2.3
MOS *e* 04 05 04.3
MOS pmax pmax
comp=Z,176nm,1.2s,mb5.6
MOS pmax pmax
comp=Z,300nm,1.7s,mb5.7
MKRJ Makawir 29.80 271 P **P** **03 54 31.6 +0.9**
OBN Obninsk 30.00 319 *d*iP **P** **03 54 31.5 -0.7**
OBN *e**PP pP 03 54 49.9 -0.6
OBN *i* *SP sP 03 54 58.4 -1.3
OBN *i* 03 55 26.8
OBN *i* 03 55 44.3
OBN *i* S **S** **03 59 20.2 -2.9**
OBN pmax pmax
comp=Z,100nm,0.5s,mb5.7
OBN pmax pmax
comp=Z,73nm,0.6s,mb5.5
OBN MLR MLR
comp=Z,800nm,15.0s
OBN Obninsk 30.00 319 *i*P **P** **03 54 31.4 -0.8**
OBN LR LR
comp=Z,800nm,15.0s
CHG Chiang Mai 30.09 119 ⇓P **P** **03 54 33.3 0.0**
comp=Z,58nm,0.9s,mb5.2
SAFT Safranbolu 30.19 291 *e*P **P** **03 54 34.3 +0.3**
ANTO Ankara 30.23 288 *e*P **P** **03 54 34.0 -0.3**
ANTO Ankara 30.23 288 ⇑P **P** **03 54 35.3 +1.0**
CM31 Chiang Mai Arr 30.32 119 *e*P **P** **03 54 36.0 +0.6**
comp=Z,107nm,0.9s,mb5.5
CMAR Chiang Mai Arr 30.32 119 P **P** **03 54 35.9 +0.5**
CMAR pmax pmax
comp=Z,57nm,0.9s
CMAR MLR MLR
comp=Z,542nm,19.5s
CMAR Chiang Mai Arr 30.32 119 P **P** **03 54 35.9 +0.4**
comp=Z,57nm,0.9s,mb5.2,baz=300,slow=8.3,SNR=90
CMAR LR LR 04 08 16.4
comp=Z,542nm,19.5s,baz=305,slow=39
TBKS Tabuk 30.33 264 P **P** **03 54 37.1 +1.7**
BTO Baotou 30.40 70 *e*P **P** **03 54 36.4 +0.5**
BTO AMB AMB
comp=Z,242nm,0.7s,mb5.9
BTO LR LR
comp=N,2μm,7.8s
BTO LR LR
comp=E,954nm,8.4s
PALK Pallekele 30.43 161 *e*P **P** **03 54 37.2 +0.8**
comp=E,252nm,1.3s,mb5.7
ZFRI Zfri 30.52 269 P **P** **03 54 38.2 +1.1**
ERMK Ermenek 30.63 282 *i*P **P** **03 54 47.5 +10**
SGKT Sivrigoynuk 30.72 290 *i*P **P** **03 54 39.4 +0.7**
XAN Xi'an 30.73 83 P **P** **03 54 38.9 +0.1**
XAN S **S** **03 59 28.6 -6.1**
XAN AMB AMB
comp=Z,82nm,0.7s,mb5.6
XAN LR LR
comp=N,1μm,10.3s
XAN LR LR
comp=E,854nm,10.6s
XAN LR LR
comp=Z,1μm,14.2s
PRNI Paran 30.74 269 P **P** **03 54 40.1 +1.2**
BLJS Baljurashi 30.80 245 P **P** **03 54 39.3 -0.2**
DJNS Zahran al Janu 30.83 240 P **P** **03 54 39.6 -0.3**
HDMB Hadim 30.90 283 *e*P **P** **03 54 40.5 +0.2**
KDHN Kadinhani 30.92 286 *i*P **P** **03 54 40.7 +0.2**
LEF Lefka 30.99 279 *e*P **P** **03 54 38.6 -2.4**
MBH Mount Berech 31.02 268 P **P** **03 54 42.3 +0.9**
EIL Elat 31.03 268 *e*P **P** **03 54 42.1 +0.5**
comp=Z,56nm,1.1s,mb5.2
EIL Elat 31.03 268 P **P** **03 54 42.2 +0.7**
KIZT Kizilcal 31.05 286 *e*P **P** **03 54 41.6 0.0**
JMOS Jabal al Moall 31.10 267 P **P** **03 54 42.7 +0.6**
HAQS Haql 31.29 267 P **P** **03 54 44.9 +1.1**
NANT Nan 31.35 116 ⇓P **P** **03 54 45.0 +0.6**
comp=Z,425nm,0.5s,mb6.4
LTHS Al Lith 31.43 247 P **P** **03 54 45.2 +0.1**
TAYS Tayyib Ism 31.54 266 P **P** **03 54 46.2 +0.2**
HHC Hu-ho-hao-te 31.55 70 *e*P **P** **03 54 46.7 +0.8**
HHC AP pP 03 55 03.4 -1.0
HHC XP sP 03 55 12.7 -1.1
HHC PP PP 03 55 54.7 +2.3
HHC PCP PcP 03 57 36.6 -0.4
HHC S **S** **03 59 50.8 +3.2**
HHC XS 04 00 22.0
HHC SCP 04 01 13.5
HHC SS SS 04 01 45.9 +4.8
HHC SCS ScS 04 05 07.3 -1.1
HHC AMB AMB
comp=Z,37nm,1.3s,mb5.0
HHC AMB AMB
comp=Z,625nm,3.9s
HHC LR LR
comp=N,2μm,13.2s
HHC LR LR
comp=E,1μm,10.8s
HHC LR LR
comp=Z,2μm,20.4s
HENT Hendek 31.57 290 *i*P **P** **03 54 45.1 -1.0**
GYA Guiyang 31.68 98 ⇑*i*P **P** **03 54 48.4 +1.2**
GYA AP pP 03 55 09.2 +3.4
GYA XP sP 03 55 20.0 +4.9
GYA PP PP 03 55 58.3 +4.0
GYA S **S** **03 59 51.0 +1.2**
GYA XS 04 00 29.8
GYA SS SS 04 01 50.2 +5.8
GYA AMB AMB
comp=Z,40nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,240nm,4.5s
GYA LR LR
comp=N,2μm,14.4s
GYA LR LR
comp=E,920nm,14.1s
GYA LR LR
comp=Z,690nm,12.3s
ESKT Eskisehir 31.76 288 *i*P **P** **03 54 47.5 -0.2**
ISP Isparta 32.29 285 *e*P **P** **03 54 51.0 -1.4**
ISP Isparta 32.29 285 P **P** **03 54 52.3 -0.1**
ISP pmax pmax
comp=Z,12nm,0.8s,mb4.7
ISP Isparta 32.29 285 P **P** **03 54 52.3 -0.1**
comp=Z,12nm,0.8s,mb4.7
TKTP Tekketepe 32.40 285 *i*P **P** **03 54 58.8 +5.5**
LBOS 32.44 233 ⇓*e*P **P** **03 54 53.9 0.0**
LBOS AMb AMB 03 54 57.1
comp=Z,134nm,1.9s,mb5.3
DHBB Dhamar BB 32.47 235 *e*P **P** **03 54 54.2 0.0**
HRT Hereke 32.50 290 *e*P **P** **03 54 54.0 -0.3**
TIY Taiyuan 32.67 75 ⇓P **P** **03 54 55.6 -0.1**
TIY S **S** **04 00 06.0 +1.0**
TIY LR LR
comp=N,2μm,15.0s
TIY LR LR
comp=Z,909nm,6.0s

YLV Yalova 32.75 290 *e*P **P** **03 54 55.5 -0.9**
GDZ Gediz 32.87 287 *i*P **P** **03 54 56.5 -0.9**
KIS Kishinev 32.93 302 *b*iP **P** **03 54 56.0 -1.9**
KIS *i* *PP pP 03 55 17.0 +0.5
KIS *i* 03 56 10.0
KIS *i* PPP PPP 03 56 27.0 +0.4
KIS *i* S **S** **04 00 06.0 -3.1**
KIS *i* SS SS 04 02 13.0 -0.1
KIS pmax pmax
comp=Z,150nm,1.2s,mb5.7
KHL Karahalli 32.97 286 *e*P **P** **03 54 57.6 -0.7**
ELL Elmali 32.97 283 *e*P **P** **03 54 58.9 +0.5**
ULDT Uludag 32.98 289 *i*P **P** **03 54 58.6 +0.2**
AKASG Malin Array Be 33.04 309 P **P** **03 54 58.1 -0.7**
AKASG pmax pmax
comp=Z,61nm,0.7s
AKASG Malin Array Be 33.04 309 P **P** **03 54 58.0 -0.8**
comp=Z,61nm,0.7s,mb5.5,baz=80,slow=7.2,SNR=211
KIEV Kiev 33.05 309 P **P** **03 54 58.0 -0.9**
KIEV P 03 55 03.9
NST Nakhon Sawan 33.05 121 P **P** **03 55 00.0 +0.7**
comp=Z,100nm,0.7s,mb5.8
GOLH Golhisar 33.14 284 *i*P **P** **03 54 59.8 0.0**
TIRR Tirgusor 33.18 297 ⇑P **P** **03 54 59.8 -0.3**
AKAS Kas 33.32 282 *i*P **P** **03 54 58.8 -2.7**
CFR Carcaliu 33.37 299 ⇓P **P** **03 55 01.6 -0.1**
CIT Chita 33.45 49 ⇑*i*P **P** **03 55 02.1 -0.2**
CIT *e* pP 03 55 23.9 +2.9
CIT *e* 03 55 34.1
CIT pmax pmax
comp=Z,389nm,1.4s,mb6.0
BNT Bandirma 33.88 290 *e*P **P** **03 55 06.7 +0.5**
PRD Provadia 33.97 295 *e*P **P** **03 55 05.0 -1.9**
PRD Provadia 33.97 295 *e*P **P** **03 55 05.0 -1.9**
BALB Balikesir 34.01 289 *e*P **P** **03 55 07.0 -0.3**
MRMT Marmara Adasi 34.09 290 *e*P **P** **03 55 02.2 -5.7**
AKS Akhisar 34.19 287 *e*P **P** **03 55 06.2 -2.6**
VRI Vrincioaia 34.35 300 ⇓P **P** **03 55 11.2 +1.1**
KKTK Khon Kaen 34.49 117 ⇓P **P** **03 55 12.7 +1.1**
comp=Z,2μm,0.5s
ARG Arkhangelos 34.49 283 *e*P **P** **03 55 11.5 +0.1**
MLSB Milas 34.52 285 *e*P **P** **03 55 13.4 +1.7**
MNK Minsk 34.60 315 *e*P **P** **03 55 06.0 -6.2**
JMB Yambol 34.63 294 *e*P **P** **03 55 12.0 -0.6**
JMB Yambol 34.63 294 *e*P **P** **03 55 12.0 -0.6**
KDAG Bornova 34.70 287 *i*P **P** **03 55 12.8 -0.4**
IZM Izmir 34.70 287 *e*P **P** **03 55 12.9 -0.3**
MLR Muntele Rosu 34.91 299 ⇑P **P** **03 55 16.5 +1.6**
BODT Bodrum 34.94 284 *e*P **P** **03 55 13.2 -2.0**
PUL Pulkovo 34.96 325 ⇑*e*P **P** **03 55 20.8 +5.7**
PUL pmax pmax
comp=E,349nm,0.9s
PUL pmax pmax
comp=Z,187nm,0.9s,mb5.9
NNT Nongplab 35.00 126 P **P** **03 55 18.0 +2.0**
SZH Strazhica 35.04 295 *e*P **P** **03 55 16.0 0.0**
SZH Strazhica 35.04 295 *e*P **P** **03 55 16.0 0.0**
BOD Bodaibo 35.16 39 *e*P **P** **03 55 17.0 +0.1**
BOD pmax pmax
comp=Z,105nm,1.0s,mb5.6
SMG Samos 35.16 286 *e*P **P** **03 55 18.0 +0.9**
ALN Alexandroupoli 35.22 291 *e*P **P** **03 55 17.6 +0.1**
URLA Izmir 35.22 287 *i*P **P** **03 55 16.1 -1.5**
PRK Paraskevi 35.30 288 *e*P **P** **03 55 18.8 +0.5**
BURAR Bucovina Array 35.40 303 ⇓P **P** **03 55 19.7 +0.6**
BURAR Bucovina Array 35.40 303 ⇓P **P** **03 55 19.7 +0.6**
IDID Didziasalis 35.41 316 *i*P **P** **03 55 18.8 -0.2**
IDID AMb AMB 03 55 27.5
comp=Z,38nm,1.5s,mb5.0
KARP Karpathos 35.42 282 *e*P **P** **03 55 19.5 +0.2**
DIM Dimitrovgrad 35.45 293 *e*P **P** **03 55 19.0 -0.5**
DIM Dimitrovgrad 35.45 293 *e*P **P** **03 55 19.0 -0.5**
PVL Pavlikeni 35.48 295 *e*P **P** **03 55 21.0 +1.2**
PVL Pavlikeni 35.48 295 *e*P **P** **03 55 21.0 +1.2**
VOIR 35.54 299 ⇑P **P** **03 55 20.9 +0.6**
RDO Rodhopi 35.56 292 *e*P **P** **03 55 21.0 +0.5**
ATD Arta Tunnel 35.73 233 P **P** **03 55 23.0 +0.9**
comp=Z,17nm,0.8s,mb5.0,baz=199,slow=8.0,SNR=4.0
ATD Arta Tunnel 35.73 233 P **P** **03 55 23.0 +0.9**
IZAR Zarasai 35.78 317 *i*P **P** **03 55 22.1 0.0**
IZAR AMb AMB 03 55 30.7
comp=Z,49nm,1.5s,mb5.2
ISAL Salakas 35.80 317 *e*P **P** **03 55 22.3 -0.1**
WHN Wuhan 36.19 87 P **P** **03 55 27.0 +1.1**
WHN AP pP 03 55 40.6 -4.2
WHN S **S** **04 00 59.7 +0.2**
WHN LR LR
comp=Z,2μm,17.0s
LVV L'vov 36.27 307 *d*iP **P** **03 55 26.3 -0.1**
LVV *e*S **S** **04 00 53.6 -6.9**
APE Apeiranthos 36.32 285 *e*P **P** **03 55 26.5 -0.5**
APE Apeiranthos 36.32 285 P **P** **03 55 27.1 +0.1**
PGB Panagyurishte 36.40 294 *i*P **P** **03 55 28.0 +0.4**
PGB Panagyurishte 36.40 294 *i*P **P** **03 55 28.0 +0.4**
SANT Santorini 36.54 284 *e*P **P** **03 55 27.4 -1.5**
comp=Z,117nm,1.2s,mb5.7
NPS Neapolis 36.71 282 *e*P **P** **03 55 30.0 -0.3**
XRY Khrisi 36.75 281 *e*P **P** **03 55 30.0 -0.6**
UBT Ubonrachathani 36.79 116 P **P** **03 55 32.7 +1.6**
SRS Serrai 37.02 292 *e*P **P** **03 55 33.3 +0.5**
VTS Vitosha 37.10 294 *i*P **P** **03 55 34.0 +0.6**
VTS Vitosha 37.10 294 *i*P **P** **03 55 34.0 +0.6**
VTS Vitosha 37.10 294 P **P** **03 55 34.5 +1.1**
KWP Kalwaria 37.12 306 *e*P **P** **03 55 34.0 +0.5**
KWP *e**PP pP 03 55 54.3 +1.9
KWP *e* 03 56 57.1
KWP pmax pmax
comp=Z,100nm,1.1s,mb5.7
KWP Kalwaria 37.12 306 *e*P **P** **03 55 34.0 +0.5**
comp=Z,100nm,1.1s,mb5.7
KWP *e*pP pP 03 55 54.3 +1.9
KWP *e*PP PP 03 56 57.1 -4.5
KWP MLR MLR 04 09 18.4
comp=Z,1μm,33.6s
DRGR 37.12 301 ⇑P **P** **03 55 34.6 +1.1**
PAIG Paliouri 37.15 290 *e*P **P** **03 55 34.3 +0.4**
SUW Suwalki 37.20 313 *e*P **P** **03 55 33.4 -0.7**
SUW *e**PP pP 03 55 52.6 -0.4
SUW *e*S **S** **04 01 20.2 +5.6**
SUW MLR MLR
comp=Z,800nm,32.8s
SUW Suwalki 37.20 313 *e*P **P** **03 55 33.4 -0.7**
SUW *e* 03 55 39.4
SUW *e*pP pP 03 55 52.6 -0.4
SUW *e*S **S** **04 01 20.2 +5.6**
SUW Suwalki 37.20 313 *e*P **P** **03 55 33.4 -0.7**
SUW *e* 03 55 39.4
SUW *e*pP pP 03 55 52.6 -0.4
SUW *e*S **S** **04 01 20.2 +5.6**
SUW MLR MLR 04 09 42.6
comp=Z,800nm,32.8s
SOH Sokhos 37.25 292 *e*P **P** **03 55 35.1 +0.5**
PLG Polygyros 37.25 291 *e*P **P** **03 55 35.5 +0.8**
UZH Uzhgorod 37.37 304 *c*iP **P** **03 55 37.0 +1.4**
UZH *e*S **S** **04 01 18.0 +0.7**
KOLS Kolonicke sedl 37.39 305 *i*P **P** **03 55 36.4 +0.7**
LVZ Lovozero 37.45 338 *c*iP **P** **03 55 36.0 -0.1**
LVZ *i* S **S** **04 01 09.8 -8.5**
LVZ pmax pmax
comp=N,48nm,0.8s
LVZ pmax pmax
comp=Z,148nm,0.8s,mb6.0
LVZ pmax pmax
comp=E,45nm,1.0s
LVZ MLR MLR
comp=Z,2μm,13.0s
LVZ MLR MLR
comp=E,553nm,11.0s
MPAR Parnis Oros 37.47 287 *e*P **P** **03 55 37.5 +1.0**
FINES FINESS Array B 37.52 326 P **P** **03 55 36.5 -0.2**
FINES pmax pmax
comp=Z,19nm,0.5s
FINES MLR MLR
comp=Z,1μm,20.8s
FINES FINESS Array B 37.52 326 P **P** **03 55 36.5 -0.2**
comp=Z,19nm,0.5s,mb5.2,baz=106,slow=9.3,SNR=49
FINES LR LR 04 11 17.9
comp=Z,1μm,20.8s,baz=127,slow=36
KNT Kendrikon 37.53 292 *e*P **P** **03 55 37.6 +0.6**
THE Thessaloniki 37.57 291 *e*P **P** **03 55 36.8 -0.5**
XOR Xorichti 37.63 289 *e*P **P** **03 55 38.0 +0.1**
APA Apatity 37.63 337 ⇓*i*P **P** **03 55 36.8 -0.8**

APA *i* 03 56 03.0
APA *i* 03 57 06.0
APA *i* 03 57 32.0
APA *i* 03 57 47.8
APA *i* S **S** **04 01 19.0 -2.1**
APA pmax pmax
comp=Z,97nm,1.2s,mb5.5
APA MLR MLR
comp=Z,3μm,8.0s
KAF Kangasniemi 37.66 327 *e*p **P** **03 55 37.3 -0.6**
comp=Z,21nm,0.9s,mb5.0,baz=111,slow=8.4
KAF Kangasniemi 37.66 327 *e*P **P** **03 55 37.3 -0.6**
KAF pmax pmax
comp=Z,21nm,0.9s,mb5.0
NSAL Nisos Salamina 37.73 287 *e*P **P** **03 55 39.0 +0.3**
NAIG Nisos Aigina 37.74 287 *e*P **P** **03 55 38.5 -0.3**
VAY Valandovo 37.75 292 *e*P **P** **03 55 42.8 +4.0**
VAY *i* pP 03 55 59.0 +1.2
VAM Vamos 37.78 283 *e*P **P** **03 55 39.5 +0.3**
BOLS Boljevac 37.86 297 ⇓*i*P **P** **03 55 40.4 +0.6**
MGER Gerania Oros 37.87 287 *e*P **P** **03 55 38.5 -1.4**
CRVS Cervenica-Dubn 37.92 305 *e*P **P** **03 55 42.5 +2.3**
CRVS *e*PP PP 03 57 07.3 -3.4
CRVS *e* 04 04 00.1
GRG Griva 37.94 292 *e*P **P** **03 55 40.6 +0.3**
LIT Litokhoron 38.02 291 *e*P **P** **03 55 41.2 +0.1**
QIZ Qiongzhong 38.06 107 *e*P **P** **03 55 46.2 +4.6**
QIZ S **S** **04 01 29.1 +1.1**
QIZ AMB AMB
comp=Z,31nm,1.2s,mb5.0
QIZ LR LR
comp=N,903nm,14.2s
QIZ LR LR
comp=E,787nm,16.0s
QIZ LR LR
comp=Z,598nm,14.9s
WAR Warsaw 38.31 310 *e*P **P** **03 55 44.1 +0.7**
WAR MLR MLR 04 11 00.5
comp=Z,1μm,33.9s
SVIS Svilajnac 38.34 297 ⇓*i*P **P** **03 55 43.9 +0.2**
AGG Agios Georgios 38.35 289 *e*P **P** **03 55 43.9 0.0**
VLI Veliai 38.42 285 *e*P **P** **03 55 43.0 -1.5**
KYTH Kithira 38.46 284 *e*P **P** **03 55 44.5 -0.3**
SKO Skopje 38.48 294 *i*P **P** **03 55 45.3 +0.4**
KECS Kecovo 38.57 304 *i*P **P** **03 55 46.1 +0.5**
GZH Guangzhou 38.62 98 P **P** **03 55 47.0 +0.8**
GZH S **S** **04 01 37.0 +0.5**
GZH LR LR
comp=N,2μm,24.6s
GZH LR LR
comp=E,935nm,24.9s
GZH LR LR
comp=Z,1μm,11.8s
NIE Niedzica 38.67 306 ⇓*i*P **P** **03 55 47.9 +1.5**
FNA Florina 38.73 292 *e*P **P** **03 55 47.0 0.0**
GRUS Gruza 38.75 297 ⇓*i*P **P** **03 55 47.6 +0.5**
EVR Evrytania 38.77 289 *e*P **P** **03 55 47.5 +0.1**
PSZ Piszkesteto 38.99 303 *e*P **P** **03 55 49.1 +0.1**
PSZ pmax pmax
comp=Z,32nm,0.9s,mb5.2
PSZ Piszkesteto 38.99 303 *e*P **P** **03 55 49.1 0.0**
comp=Z,32nm,0.9s,mb5.2
OJC Ojcow 39.01 307 ⇓*i*P **P** **03 55 49.3 +0.1**
OJC *e* 03 57 18.1
OJC *e*S **S** **04 01 42.1 0.0**
OJC MLR MLR
comp=Z,300nm,18.6s
OJC Ojcow 39.01 307 ⇓*i*P **P** **03 55 49.3 +0.1**
OJC MLR MLR 03 15 15.8
comp=Z,500nm,18.5s
OJC *e*PP PP 03 57 18.1 -5.4
OJC *e*S **S** **04 01 42.1 0.0**
OJC MLR MLR 04 16 44.1
comp=Z,300nm,18.6s
MEV Metsovon 39.03 290 *e*P **P** **03 55 50.1 +0.6**
DIVS Divcibare 39.24 297 ⇑*i*P **P** **03 55 51.6 +0.4**
NJ2 Nanjing 39.27 82 *e*P **P** **03 55 52.9 +1.3**
NJ2 AP pP 03 56 14.8 +4.2
NJ2 PP PP 03 57 28.9 +2.3
NJ2 S **S** **04 01 51.0 +4.8**
NJ2 AMB AMB
comp=Z,120nm,0.8s,mb5.8
NJ2 AMB AMB
comp=Z,306nm,4.2s
NJ2 LR LR
comp=N,5μm,17.2s
NJ2 LR LR
comp=E,1μm,19.9s
NJ2 LR LR
comp=Z,7μm,18.8s
JAN Janina 39.34 290 *e*P **P** **03 55 53.0 +0.9**
DL2 Dalian 39.50 71 P **P** **03 55 54.5 +1.1**
DL2 XP sP 03 56 20.5 -1.1
DL2 PP PP 03 57 34.5 +5.5
DL2 S **S** **04 01 52.1 +2.5**
DL2 AMB AMB
comp=Z,190nm,0.7s,mb6.0
DL2 AMB AMB
comp=Z,630nm,4.1s
DL2 LR LR
comp=E,460nm,17.4s
DL2 LR LR
comp=Z,540nm,22.0s
VYHS Vyhne 39.67 304 *i*P **P** **03 55 54.8 +0.1**
VYHS *e* 03 56 28.4
VYHS *e* 04 01 46.0
VYHS *e* 04 04 24.9
SNG Songkhla 39.68 130 P **P** **03 55 57.0 +1.9**
BBLS Bajina Basta - 39.69 297 ⇓*i*P **P** **03 55 55.3 +0.4**
VLS Valsamata 39.87 288 *e*P **P** **03 55 55.6 -0.9**
PKSM Moragy 39.96 301 ⇓P **P** **03 55 58.0 +0.9**
RAC Raciborz 40.04 307 *e*P **P** **03 55 58.9 +1.1**
RAC MLR MLR
comp=Z,500nm,18.5s
SRO Srobarova 40.06 303 *e*P **P** **03 55 59.3 +1.4**
SRO *e* 03 56 34.3
OKC Ostrava-Krasne 40.08 306 ⇓*e*P **P** **03 55 58.4 +0.3**
OKC *e*pP pP 03 56 18.4 +1.3
OKC *e*PP PP 03 57 25.8 -9.3
OKC AMS AMS 04 15 40.0
comp=Z,700nm,16.1s
SRO1 Iza 40.12 303 *e*P **P** **03 56 00.0 +1.6**
SRO1 *e* 03 56 36.7
SNY Shenyang 40.37 66 ⇑P **P** **03 55 59.1 -1.5**
SNY PP PP 03 57 38.9 +0.8
SNY S **S** **04 01 59.6 -3.0**
SNY AMB AMB
comp=Z,30nm,0.6s,mb5.3
SNY AMB AMB
comp=Z,330nm,4.2s
SNY LR LR
comp=E,1μm,13.0s
SNY LR LR
comp=Z,1μm,15.7s
MORC Moravsky Berou 40.47 306 *e*P **P** **03 56 01.7 +0.4**
MORC pmax pmax
comp=Z,59nm,0.9s,mb5.4
MORC Moravsky Berou 40.47 306 *e*P **P** **03 56 01.7 +0.4**
comp=Z,59nm,0.9s,mb5.4
SMOL Smolenice 40.60 304 *e*P **P** **03 56 03.6 +1.2**
CLNS Chul'man 40.71 43 *e*P **P** **03 56 02.8 -0.4**
CLNS pmax pmax
comp=Z,104nm,0.8s,mb5.7
CLNS pmax pmax
comp=N,21nm,0.6s
CLNS pmax pmax
comp=E,44nm,0.6s
CLNS MLR MLR
comp=Z,1μm,13.0s
CLNS MLR MLR
comp=N,1μm,14.0s
CLNS MLR MLR
comp=E,1μm,13.0s
KEV Kevo 40.79 338 *e*p **P** **03 56 03.0 -0.8**
comp=E,59nm,0.7s,mb5.5
KEV Kevo 40.79 338 *e*P **P** **03 56 03.0 -0.8**
KEV pmax pmax
comp=Z,59nm,0.7s,mb5.5
ZST Bratislava 40.84 304 *e*P **P** **03 56 05.1 +0.7**
ZST *e*PP PP 03 57 39.9 -2.9
ZST *e*PCP PcP 03 58 03.4 -1.2
ZST *e* 04 04 57.2
VRAC Vranov 41.11 306 P **P** **03 56 07.6 +1.1**
ARE0 ARCESS Array S 41.14 337 *e*P **P** **03 56 07.0 +0.4**

ARCES ARCESS Array B 41.14 337 P **P** **03 56 06.9 +0.3**
ARCES pmax pmax
comp=Z,89nm,0.9s
ARCES pmax pmax
comp=Z,17nm,1.0s
ARCES MLR MLR
comp=Z,2µm,18.8s
ARCES ARCESS Array B 41.14 337 P **P** **03 56 06.9 +0.3**
comp=Z,89nm,0.8s,mb5.6,baz=111,slow=8.2,SNR=378
ARCES ScP 04 01 47.3
comp=Z,17nm,1.0s,baz=108,slow=3.8,SNR=5.0
ARCES LR LR 04 13 42.3
comp=Z,2µm,18.8s,baz=122,slow=37
KULM Kulim 41.19 132 *eP* **P** **03 56 07.5 -0.1**
DPC Dobruska-Polom 41.23 307⇓*iP* **P** **03 56 08.6 +1.0**
DPC *epP* pP 03 56 28.6 +2.0
DPC *ePP* PP 03 57 45.1 -1.8
DPC *eS* **S** **04 02 17.2 +1.9**
DPC AMS AMS 04 15 50.0
comp=Z,500nm,20.5s
KSP Ksiaz 41.24 308⇓*eP* **P** **03 56 08.0 +0.4**
KSP *eS* **S** **04 02 12.0 -3.3**
KSP *eSS* SS 04 05 15.0 -1.5
KSP Ksiaz 41.24 308⇓*eP* **P** **03 56 08.0 +0.4**
KSP *e* 03 56 13.1
KSP *ePP* PP 03 57 38.0 -8.9
KSP *eS* **S** **04 02 12.0 -3.3**
KSP *eSS* SS 04 05 15.0 -1.5
KSP Ksiaz 41.24 308 *eP* **P** **03 56 08.1 +0.5**
comp=Z,200nm,2.7s,mb5.5
KSP *ePP* PP 03 57 46.8 -0.1
KSP *eS* **S** **04 02 18.4 +3.1**
KSP MLR MLR 04 11 36.8
comp=Z,1µm,34.9s
SOP Sopron 41.25 303⇓*eP* **P** **03 56 08.5 +0.8**
VKA Vienna 41.36 304⇓*iP* **P** **03 56 09.7 +1.1**
CN2 Changchun 41.39 63 *eP* **P** **03 56 08.3 -0.6**
CN2 *eAP* pP 03 56 31.1 +3.1
CN2 *eXP* sP 03 56 42.6 +5.4
CN2 *eS* **S** **04 02 15.0 -2.7**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.9
CN2 AMB AMB
comp=Z,400nm,8.0s
CN2 LR LR
comp=N,850nm,18.0s
CN2 LR LR
comp=E,1µm,18.0s
CN2 LR LR
comp=Z,2µm,19.0s
UPC Upice 41.43 308⇓*eP* **P** **03 56 09.6 +0.5**
UPC *ePP* PP 03 57 49.7 +0.7
SSE Sheshan 41.47 83 P **P** **03 56 11.3 +1.6**
SSE AP pP 03 56 32.7 +4.0
SSE XP sP 03 56 42.9 +5.0
SSE PP PP 03 57 48.6 -1.1
SSE S **S** **04 02 19.4 +0.4**
SSE XS 04 02 57.4
SSE SS SS 04 05 27.2 +6.3
SSE ScS ScS 04 06 05.1 +1.8
SSE AMB AMB
comp=Z,130nm,0.9s,mb5.8
SSE AMB AMB
comp=Z,305nm,6.6s
SSE LR LR
comp=N,940nm,25.4s
SSE LR LR
comp=E,419nm,25.4s
SSE LR LR
comp=Z,527nm,23.2s
SSE Sheshan 41.47 83 P **P** **03 56 11.3 +1.6**
comp=Z,130nm,0.9s,mb5.8
SSE pP pP 03 56 32.7 +4.0
SSE sP sP 03 56 42.9 +5.0
SSE PP PP 03 57 48.6 -1.1
SSE sS 04 02 57.4
SSE SS SS 04 05 27.2 +6.3
SSE ScS ScS 04 06 05.1 +1.8
SSE LR LR
comp=Z,530nm,23.2s
KTK1 Kautokeino 41.62 336⇑*iP* **P** **03 56 11.5 +1.1**
QZH Quanzhou 41.93 92⇓*iP* **P** **03 56 14.7 +1.1**
QZH S **S** **04 02 28.0 +2.1**
QZH AMB AMB
comp=Z,180nm,0.8s,mb5.8
QZH AMB AMB
comp=Z,610nm,3.4s
QZH LR LR
comp=N,1µm,7.1s
QZH LR LR
comp=E,1µm,6.1s
QZH LR LR
comp=Z,1µm,13.5s
IPM Ipoh 41.98 132 P **P** **03 56 15.7 +1.6**
ARSA Árzberg 41.99 303⇓*iP* **P** **03 56 13.6 -0.1**
comp=Z,121nm,3.3s
BSD Bornholm Skovb 42.09 314⇑*iP* **P** **03 56 13.6 -0.8**
BSD pmax pmax
comp=Z,72nm,1.0s,mb5.4
BSD Bornholm Skovb 42.09 314⇑*iP* **P** **03 56 13.6 -0.8**
comp=Z,72nm,1.0s,mb5.3
PVCC Panska Ves 42.35 308 ⇓AMS AMS 04 16 40.0
comp=Z,600nm,16.5s
BOJS Bojanci 42.40 300⇓*iP* **P** **03 56 17.9 +0.8**
BOJS *e* 04 01 49.1
PRU Pruhonice 42.40 307⇓*iP* **P** **03 56 17.7 +0.6**
PRU *epP* pP 03 56 37.3 +1.2
PRU *ePP* PP 03 57 58.6 -0.6
PRU AMS AMS 04 17 10.0
comp=Z,700nm,14.1s
TIP Timpagrande 42.54 291 *eP* **P** **03 56 18.6 +0.2**
BRG Berggiesshubel 42.72 308 *iP* **P** **03 56 20.5 +0.8**
BRG *PP pP 03 56 40.0 +1.2
BRG *i* 03 56 50.9
BRG 03 58 05.0
BRG S **S** **04 02 40.0 +2.9**
BRG pmax pmax
comp=Z,42nm,0.9s,mb5.2
BRG pmax pmax
comp=Z,89nm,1.1s,mb5.4
BRG pmax pmax
comp=Z,36nm,1.0s,mb5.1
BRG pmax pmax
comp=Z,63nm,1.0s,mb5.3
BRG MLR MLR
comp=N,400nm,16.2s
BRG MLR MLR
comp=E,702nm,16.2s
BRG MLR MLR
comp=Z,701nm,15.4s
BRG Berggiesshubel 42.72 308 *iP* **P** **03 56 20.5 +0.8**
comp=Z,42nm,0.9s,mb5.2
BRG *i* 03 56 25.7
BRG pP pP 03 56 40.0 +1.2
BRG *i* 03 56 50.9
BRG PP PP 03 58 05.0 +2.5
BRG S **S** **04 02 40.0 +2.9**
BRG SS SS 04 05 52.0 +8.6
BRG LR LR
comp=Z,700nm,15.4s
OBKA Obir 42.74 302⇓*iP* **P** **03 56 20.9 +1.0**
comp=Z,179nm,3.1s
RUE Ruedersdorf 42.75 311 *eP* **P** **03 56 19.8 -0.2**
comp=Z,56nm,0.8s,mb5.3
MOA Molln 42.77 304⇑*iP* **P** **03 56 20.5 +0.3**
comp=Z,113nm,2.0s,mb5.2
LJU Ljubljana 42.82 301⇓*iP* **P** **03 56 21.6 +1.0**
LJU *e* 04 02 41.9
LJU Ljubljana 42.82 301⇓*iP* **P** **03 56 21.6 +1.0**
LJU *e* 04 01 52.6
LJU *e* 04 02 41.9
CEY Cerknica 42.94 301⇓*iP* **P** **03 56 22.2 +0.7**
RGN Rugen 43.00 314 *eP* **P** **03 56 22.3 +0.4**
comp=Z,276nm,0.9s,mb6.0
GEC2 GERESS Array S 43.04 305 P **P** **03 56 22.9 +0.6**
GEC2 pmax pmax
comp=Z,18nm,0.9s,mb4.8
GEC2 GERESS Array S 43.04 305 *eP* **P** **03 56 22.9 +0.6**
comp=Z,18nm,0.9s,mb4.8
GERES GERESS Array B 43.04 305 P **P** **03 56 22.8 +0.5**
GERES pmax pmax
comp=Z,8.0nm,0.8s
GERES MLR MLR
comp=Z,392nm,20.1s
GERES GERESS Array B 43.04 305 P **P** **03 56 22.8 +0.4**
comp=Z,7.9nm,0.8s,mb4.5,baz=79,slow=6.8,SNR=45
GERES LR LR 04 17 01.9
comp=Z,392nm,20.1s,baz=84,slow=40
KHC Kasperske Hory 43.09 306⇓*eP* **P** **03 56 22.8 0.0**
KHC *epP* pP 03 56 43.5 +1.6
KHC *ePP* PP 03 58 10.9 +4.7
KHC *eS* **S** **04 02 38.6 -3.9**
KHC AMS AMS 04 16 30.0
comp=Z,500nm,15.5s
VOY Vojsko 43.26 301 *eP* **P** **03 56 24.7 +0.5**
VOY *e* pP 03 56 44.8 +1.5
VOY *e* 03 57 08.2
TRO Tromso 43.27 336 *eP* **P** **03 56 22.8 -1.1**
TRO LR LR
comp=Z,632µm,17.3s
TRO Tromso 43.27 336 *eP* **P** **03 56 22.8 -1.1**
TRO *eS* **S** **04 02 43.0 -1.8**
TRO *eSS* SS 04 05 50.0 -3.0
TRO AMS AMS 04 15 12.6
comp=Z,632nm,17.3s
CLL Collm 43.29 309⇓*iP* **P** **03 56 24.3 0.0**
CLL *i* *SP sP 03 56 54.4 +1.8
CLL *eS* **S** **04 02 46.0 +0.6**
CLL *e*SS 04 03 20.0
CLL pmax pmax
comp=Z,24nm,0.8s,mb5.0
CLL Collm 43.29 309⇓*iP* **P** **03 56 24.3 0.0**
comp=Z,24nm,0.8s,mb5.0
CLL *i* 03 56 29.7
CLL *i* sP sP 03 56 54.4 +1.8
CLL *eS* **S** **04 02 46.0 +0.6**
CLL *eSS* 04 03 20.0
CLL Collm 43.29 309 ⇓*iP* **P** **03 56 24.3 0.0**
comp=Z,logA/T=1.5,mb5.0
CLL *i* 03 56 29.7
CLL *i* *SP sP 03 56 54.4 +1.8
CLL *i* 03 57 11.1
CLL *ePP PP 03 58 11.0 +2.9
CLL *e*PPP 03 58 23.0
CLL *e*SPP 03 58 37.0
CLL *ePPP PPP 03 58 52.0 +7.3
CLL *eS* **S** **04 02 46.0 +0.6**
CLL *eSPP 04 03 09.0
CLL *e*SS 04 03 20.0
CLL *eSS SS 04 06 06.0 +12
KBA Koelnbreinsper 43.49 303⇑*iP* **P** **03 56 26.5 +0.5**
comp=Z,98nm,3.1s
KBA Koelnbreinsper 43.49 303⇑*iP* **P** **03 56 26.5 +0.5**
KBA pmax pmax
comp=Z,98nm,3.1s
COP Copenhagen 43.52 315 *iP* **P** **03 56 26.6 +0.5**
COP *i* 03 58 13.9
COP *iS* **S** **04 02 54.0 +5.4**
COP pmax pmax
comp=Z,37nm,0.6s,mb5.3
COP MLR MLR
comp=Z,280nm,18.0s
COP Copenhagen 43.52 315 *iP* **P** **03 56 26.6 +0.5**
comp=Z,37nm,0.6s,mb5.3
COP *i* 03 56 32.1
COP *i* 03 58 13.9
COP *iS* **S** **04 02 54.0 +5.4**
COP *i* 04 05 42.4
comp=Z,280nm,18.0s
WET Wettzell 43.55 306 P **P** **03 56 26.5 0.0**
WET pmax pmax
comp=Z,21nm,1.6s,mb4.6
WET Wettzell 43.55 306 *eP* **P** **03 56 26.5 0.0**
comp=Z,21nm,1.6s,mb4.6
WET *eS* **S** **04 02 50.9 +1.7**
INCN Inchon 43.67 71 *eP* **P** **03 56 28.1 +0.4**
comp=Z,66nm,0.7s,mb5.5
NKC Novy Kostel 43.72 307⇓*iP* **P** **03 56 28.4 +0.5**
NKC *epP* pP 03 56 48.4 +1.4
NKC AMS AMS 04 17 40.0
comp=Z,700nm,16.7s
YAK Yakutsk 43.78 35 *eP* **P** **03 56 27.1 -1.1**
YAK pmax pmax
comp=Z,274nm,0.8s,mb6.0
YAK Yakutsk 43.78 35 *eP* **P** **03 56 27.1 -1.1**
comp=Z,274nm,0.8s,mb6.0
MOR8 Moi Rana 43.84 331⇑*iP* **P** **03 56 28.0 -0.6**
comp=Z,262nm,0.8s,mb6.0
MOR8 Moi Rana 43.84 331⇑*iP* **P** **03 56 28.0 -0.6**
MOR8 AMb AMB 03 56 36.4
comp=Z,263nm,0.8s,mb6.0
MDJ Mudanjiang 44.19 61 P **P** **03 56 31.3 -0.4**
MDJ AP pP 03 56 50.7 -0.2
MDJ XP sP 03 57 01.2 +1.3
MDJ PP PP 03 58 15.4 -1.9
MDJ PCS 04 02 07.6
MDJ S **S** **04 02 58.6 +0.1**
MDJ XS 04 03 29.8
MDJ SS SS 04 06 13.4 +3.7
MDJ AMB AMB
comp=Z,24nm,0.9s,mb4.9
MDJ AMB AMB
comp=Z,170nm,4.5s
MDJ LR LR
comp=N,2µm,17.6s
MDJ LR LR
comp=E,444nm,17.6s
MDJ LR LR
comp=Z,1µm,15.8s
MOX Moxa 44.22 308 *eP* **P** **03 56 32.2 +0.4**
MOX pmax pmax
comp=Z,87nm,1.5s,mb5.3
MOX MLR MLR
comp=Z,600nm,16.0s
MOX Moxa 44.22 308 *eP* **P** **03 56 32.2 +0.4**
comp=Z,87nm,1.5s,mb5.3
MOX *ePP PP 03 58 29.0 +12
MOX *eSS SS 04 06 12.0 +1.9
MOX LR LR
comp=Z,600nm,16.0s
MOX Moxa 44.22 308 *iP* **P** **03 56 32.2 +0.4**
comp=Z,logA/T=1.8,mb5.3
MOX PP PP 03 58 29.0 +12
MOX SS SS 04 06 12.0 +1.9
MOX L 04 19 44.0
MELSS Ber_school_2 44.28 331 *eP* **P** **03 56 32.0 -0.2**
AQU L'Aquila 44.28 296 *eP* **P** **03 56 33.1 +0.6**
AQU pmax pmax
comp=Z,84nm,1.0s,mb5.4
AQU L'Aquila 44.28 296 *eP* **P** **03 56 33.1 +0.6**
comp=Z,84nm,1.0s,mb5.4
YHNB Yeheng 44.30 91 *eP* **P** **03 56 34.3 +1.5**
NB2 NORSAR Subarra 44.43 323 P **P** **03 56 32.7 -0.7**
comp=Z,50nm,0.6s,mb5.4,baz=96,slow=7.9
NB2 NORSAR Subarra 44.43 323 P **P** **03 56 32.7 -0.7**
baz=96,slow=7.9
NOA NORSAR Array B 44.43 323 P **P** **03 56 32.8 -0.6**
NOA pmax pmax
comp=Z,46nm,0.7s
NOA MLR MLR
comp=Z,486nm,19.5s
NOA NORSAR Array B 44.43 323 P **P** **03 56 32.8 -0.6**
comp=Z,46nm,0.7s,mb5.3,baz=96,slow=7.9,SNR=306
NOA LR LR 04 17 17.6
comp=Z,486nm,19.5s,baz=100,slow=39
STOK Stokkvaagen 44.44 331 *eP* **P** **03 56 33.1 -0.3**
NSS Namsos 44.53 328 *eP* **P** **03 56 31.7 -2.5**
NSS AMS AMS 04 16 44.6
comp=Z,713nm,13.9s
GRA1 Grafenberg Arr 44.56 307 *eP* **P** **03 56 35.9 +1.3**
comp=Z,123nm,1.5s,mb5.4
GRA1 *eS* **S** **04 03 05.6 +1.8**
GRF Grafenberg Arr 44.56 307 P **P** **03 56 35.9 +1.3**
GRF pmax pmax
comp=Z,123nm,1.5s,mb5.4
GRF Grafenberg Arr 44.56 307 *eP* **P** **03 56 35.9 +1.3**
GRF *eS* **S** **04 03 05.6 +1.8**
GRF pmax pmax
comp=Z,123nm,1.5s,mb5.4
GRF Grafenberg Arr 44.56 307 *eP* **P** **03 56 35.9 +1.3**
comp=Z,123nm,1.5s,mb5.4
GRF *eS* **S** **04 03 05.6 +1.8**
NAO01 NORSAR Array S 44.57 323 *eP* **P** **03 56 33.6 -0.9**
comp=Z,0.3nm,0.9s
OSL Oslo 44.59 321 *eP* **P** **03 56 34.5 -0.2**
comp=Z,73nm,0.8s,mb5.5
OSL Oslo 44.59 321 *eP* **P** **03 56 34.5 -0.2**
OSL AMb AMB 03 56 41.0
comp=Z,73nm,0.8s,mb5.5
WTTA Wattenberg 44.61 303⇓*iP* **P** **03 56 34.7 -0.4**
comp=Z,64nm,1.2s,mb5.2
WTTA Wattenberg 44.61 303⇓*iP* **P** **03 56 34.7 -0.4**
WTTA pmax pmax
comp=Z,64nm,1.2s,mb5.2
WATA Walderalm 44.64 303⇓*iP* **P** **03 56 34.8 -0.5**
comp=Z,18nm,1.0s,mb4.8
WATA Walderalm 44.64 303⇓*iP* **P** **03 56 34.8 -0.5**
WATA pmax pmax
comp=Z,19nm,1.0s,mb4.8
LOF Lofoten 44.66 333 *eP* **P** **03 56 35.0 -0.2**
comp=Z,112nm,1.9s,mb5.3
LOF Lofoten 44.66 333 *eP* **P** **03 56 35.0 -0.2**
LOF AMb AMB 03 56 43.2
comp=Z,112nm,1.9s,mb5.3
NACB Ninganchiao 44.71 91 *eP* **P** **03 56 36.6 +0.5**
FUR Furstenfeldbru 44.72 305 P **P** **03 56 36.4 +0.5**
FUR pmax pmax
comp=Z,116nm,1.6s,mb5.4
FUR Furstenfeldbru 44.72 305 *eP* **P** **03 56 36.4 +0.5**
comp=Z,116nm,1.6s,mb5.4
BSEG Bad Segeberg 44.78 313 P **P** **03 56 36.9 +0.6**
BSEG pmax pmax
comp=Z,91nm,0.8s,mb5.6
BSEG Bad Segeberg 44.78 313 *eP* **P** **03 56 36.9 +0.6**
CLZ Clausthal 44.89 310 P **P** **03 56 37.5 +0.3**
CLZ pmax pmax
comp=Z,89nm,1.2s,mb5.4
CLZ Clausthal 44.89 310 *eP* **P** **03 56 37.5 +0.3**
comp=Z,89nm,1.2s,mb5.4
SQTA Sankt Quirin 44.91 303⇑*iP* **P** **03 56 37.1 -0.3**
comp=Z,19nm,1.0s,mb4.8
SQTA Sankt Quirin 44.91 303⇑*iP* **P** **03 56 37.1 -0.3**
SQTA pmax pmax
comp=Z,19nm,1.0s,mb4.8
KLR Kul'dur 44.94 54 *eP* **P** **03 56 34.0 -3.6**
KLR *e* 03 58 20.0
KLR *eS* **S** **04 03 06.5 -2.7**
KLR MLR MLR
comp=E,1µm,10.5s
KLR MLR MLR
comp=Z,2µm,10.5s
KONO Kongsberg 45.14 321 *eP* **P** **03 56 38.1 -1.0**
KONO pmax pmax
comp=Z,81nm,1.0s,mb5.4
KONO Kongsberg 45.14 321 *eP* **P** **03 56 38.1 -1.0**
comp=Z,81nm,1.0s,mb5.4
MUD Monsted U'grnd 45.34 316 *iP* **P** **03 56 46.5 +5.8**
MUD *i* 03 58 23.5
MUD *iS* **S** **04 03 14.5 -0.4**
MUD *i* 04 06 45.8
MUD pmax pmax
comp=Z,85nm,1.2s,mb5.3
MUD MLR MLR
comp=Z,540nm,23.0s
MUD Monsted U'grnd 45.34 316 *iP* **P** **03 56 46.5 +5.8**
comp=Z,85nm,1.2s,mb5.3
MUD *i* pP 03 57 00.9 +1.0
MUD *i* 03 58 23.5
MUD *iS* **S** **04 03 14.5 -0.4**
MUD *i* 04 06 45.8
comp=Z,540nm,23.0s
HDH Heidenheim 45.37 305 *eP* **P** **03 56 41.3 +0.2**
KGM Kluang 45.39 132 P **P** **03 56 43.1 +1.4**
DOMB Dombas 45.54 324 *eP* **P** **03 56 42.0 -0.2**
comp=Z,158nm,1.7s,mb5.5
DOMB Dombas 45.54 324 *eP* **P** **03 56 42.0 -0.2**
DOMB AMb AMB 03 56 50.6
comp=Z,158nm,1.7s,mb5.5
UBR Uberruh 45.57 304 *eP* **P** **03 56 42.8 +0.1**
TIXI Tiksi 45.62 22*c iP* **P** **03 56 41.8 -0.9**
TIXI pmax pmax
comp=Z,119nm,1.0s,mb5.6
TIXI MLR MLR
comp=Z,700nm,17.0s
TIXI Tiksi 45.62 22⇑*iP* **P** **03 56 41.9 -0.8**
SIND Sindeldorf 45.65 306 *eP* **P** **03 56 43.8 +0.5**
DAVA Damuels 45.79 304⇑*iP* **P** **03 56 44.3 -0.1**
comp=Z,71nm,0.9s,mb5.4
BUCH Bad Urach 45.95 305 *eP* **P** **03 56 46.3 +0.6**
STU Stuttgart 46.00 306 *eP* **P** **03 56 46.6 +0.5**
STU pmax pmax
comp=Z,35nm,0.8s,mb5.1
STU Stuttgart 46.00 306 *eP* **P** **03 56 46.6 +0.6**
comp=Z,35nm,0.8s,mb5.1
MAIM 46.02 299 P **P** **03 56 45.0 -1.3**
SARO Sassorosso 46.03 299 P **P** **03 56 46.6 +0.3**
TOD Tromm 46.13 307 *eP* **P** **03 56 47.3 +0.2**
GUT Gutenstein 46.17 305 *eP* **P** **03 56 47.5 +0.1**
GRAM 46.20 300 P **P** **03 56 48.5 +0.8**
VINC Vinca 46.21 299 P **P** **03 56 49.1 +1.3**
BACM 46.24 299 P **P** **03 56 48.6 +0.7**
TNS Taunus Mts 46.28 308 P **P** **03 56 48.4 +0.2**
TNS pmax pmax
comp=Z,38nm,1.2s,mb5.0
TNS Taunus Mts 46.28 308 *eP* **P** **03 56 48.4 +0.2**
comp=Z,38nm,1.2s,mb5.0
MOL Molde 46.28 325 *eP* **P** **03 56 50.2 +2.2**
comp=Z,120nm,1.9s,mb5.3
MOL Molde 46.28 325 *eP* **P** **03 56 50.2 +2.2**
MOL AMb AMB 03 56 59.1
comp=Z,120nm,1.9s,mb5.3
LBG Lerchenberg 46.28 306 *eP* **P** **03 56 48.8 +0.5**
SNART Snartemo 46.37 319 *eP* **P** **03 56 48.8 0.0**
comp=Z,101nm,1.4s,mb5.4
SNART Snartemo 46.37 319 *eP* **P** **03 56 48.8 0.0**
SNART AMb AMB 03 56 57.2
comp=Z,101nm,1.4s,mb5.4
CODM 46.37 300 P **P** **03 56 49.8 +0.8**
SPAK Spaichingen 46.38 305 *eP* **P** **03 56 49.2 +0.1**
BFO Black Forest 46.64 305 P **P** **03 56 50.8 -0.3**
BFO pmax pmax
comp=Z,23nm,0.9s,mb4.9
BFO Black Forest 46.64 305 *eP* **P** **03 56 50.8 -0.3**
comp=Z,23nm,0.9s,mb4.9
BLS5 Blasjo 46.74 321 *eP* **P** **03 56 53.2 +1.4**
LANF Langenberg 46.88 306 *eP* **P** **03 56 53.6 +0.6**
ABH Alteburg 46.90 307 *eP* **P** **03 56 53.5 +0.4**
FELD Feldberg 46.94 305 *eP* **P** **03 56 53.1 -0.4**
FELD Feldberg 46.94 305⇓*eP* **P** **03 56 53.3 -0.2**
KIZ Kirchzarten 46.98 305 *eP* **P** **03 56 53.4 -0.4**
WTSB Winterswijk 47.07 310 *eP* **P** **03 56 57.7 +3.2**
HSP Hornsund 47.10 345 *eP* **P** **03 56 55.2 +0.8**
STAV Stavanger 47.14 320 *eP* **P** **03 56 54.8 0.0**
comp=Z,100nm,1.2s,mb5.4
STAV Stavanger 47.14 320 *eP* **P** **03 56 54.8 0.0**
STAV AMb AMB 03 57 01.8
comp=Z,100nm,1.2s,mb5.4
RUP Ruppelstein 47.24 307⇓*eP* **P** **03 56 56.2 +0.4**
PCP Pian Castagno 47.25 300 P **P** **03 56 55.3 -0.6**
WLS Welschbruch 47.27 305 *eP* **P** **03 56 57.0 +0.9**
BER Bergen 47.29 322 *eP* **P** **03 56 56.3 +0.2**
BER AMb AMB 03 57 03.3
comp=Z,127nm,1.8s,mb5.4
BER *e* 04 03 39.5
BER *eSS* SS 04 07 10.1 +5.6
BER AMS AMS 04 21 21.0
comp=Z,624nm,17.4s
CDF Champ du Feu 47.32 305 *eP* **P** **03 56 56.0 -0.5**
comp=Z,39nm,0.8s,mb4.9
CDF Champ du Feu 47.32 305 *eP* **P** **03 56 56.0 -0.5**
CDF pmax pmax
comp=Z,19nm,0.8s,mb4.9
BBS Basel-Blauen 47.34 304 *eP* **P** **03 56 55.3 -1.3**
BBS Basel-Blauen 47.34 304 *eP* **P** **03 56 56.0 -0.6**
ORX Oropa 47.40 302 P **P** **03 56 55.6 -1.5**
PGF Pioggiola 47.40 297 *eP* **P** **03 56 56.7 -0.5**
comp=Z,88nm,0.7s,mb5.3
PGF Pioggiola 47.40 297 *eP* **P** **03 56 56.7 -0.5**
PGF pmax pmax
comp=Z,44nm,0.7s,mb5.3
BOLP Bolinao 47.42 102 *eP* **P** **03 56 56.7 -1.0**
ECH Echery 47.43 305 *eP* **P** **03 56 58.8 +1.5**
MOF Molkenrain 47.52 305 *eP* **P** **03 56 57.7 -0.3**
FIN Finale Ligure 47.56 300 P **P** **03 56 57.2 -1.2**
TRAV 47.58 302 P **P** **03 56 57.2 -1.4**
HINF Hinteralfeld 47.71 305 *eP* **P** **03 56 59.1 -0.4**
comp=Z,65nm,0.9s,mb5.2
HINF Hinteralfeld 47.71 305 *eP* **P** **03 56 59.1 -0.4**
HINF pmax pmax
comp=Z,32nm,0.9s,mb5.2
ROB Roburent 47.77 300 P **P** **03 57 00.2 +0.1**

HGN **Heimansgroeve 47.78 309** *e*P **P** **03 56 59.8 -0.2**
comp=Z,17nm,0.8s,mb4.9
HGN *e*PP PP 03 59 12.2 +20
HGN *e*S **S** **04 03 52.9 +3.3**
comp=Z,5.2nm,0.2s
LOMF Lomont 47.82 304 *e*P **P** **03 56 59.9 -0.5**
WLF Walferdange 47.83 307 *e*P **P** **03 57 01.1 +0.7**
WLF pmax pmax
comp=Z,62nm,0.8s,mb5.5
WLF Walferdange 47.83 307 *e*P **P** **03 57 01.1 +0.7**
comp=Z,62nm,0.8s,mb5.5
IMI Imperia 47.85 299 P **P** **03 57 00.6 -0.1**
MONE Monesi 47.91 300 P **P** **03 57 00.5 -0.6**
RSP Reno Superiore 48.00 301 P **P** **03 57 00.2 -1.6**
LSD Ceresole Reale 48.00 302 P **P** **03 57 02.3 +0.5**
HAU Haudompre 48.01 305 *e*P **P** **03 57 01.5 -0.3**
comp=Z,53nm,0.9s,mb5.1
HAU *e*R
comp=Z,527nm,22.8s
HAU Haudompre 48.01 305 *e*P **P** **03 57 01.5 -0.3**
HAU pmax pmax
comp=Z,27nm,0.9s,mb5.1
HAU MLR MLR
comp=Z,530nm,22.8s
BHB Bricherasio 48.07 301 P **P** **03 57 00.8 -1.6**
SAOF Saorge 48.07 300 *e*P **P** **03 57 02.6 +0.2**
ENR Entracque 48.10 300 P **P** **03 57 02.9 +0.3**
AUTN L'Aution 48.16 300 *e*P **P** **03 57 03.1 +0.1**
FENE Fenestrelle 48.16 301 P **P** **03 57 01.9 -1.2**
STV2 Anna di Valdie 48.17 300 P **P** **03 57 02.0 -1.1**
STV Sta Anna Valdi 48.17 300 P **P** **03 57 02.2 -0.9**
SBF Sospel 48.18 299 *e*P **P** **03 57 03.2 0.0**
comp=Z,167nm,0.9s,mb5.6
SBF Sospel 48.18 299 *e*P **P** **03 57 03.2 0.0**
SBF pmax pmax
comp=Z,84nm,0.9s,mb5.6
THEF They Montfort 48.20 305 *e*P **P** **03 57 03.3 0.0**
LPG La Plagne 48.27 302 *e*P **P** **03 57 04.1 +0.2**
comp=Z,60nm,0.8s,mb5.2
LPG La Plagne 48.27 302 *e*P **P** **03 57 04.1 +0.2**
LPG pmax pmax
comp=Z,30nm,0.8s,mb5.2
LPL La Plagne 48.28 302 *e*P **P** **03 57 04.1 +0.2**
comp=Z,101nm,1.0s,mb5.3
LPL La Plagne 48.28 302 *e*P **P** **03 57 04.1 +0.2**
LPL pmax pmax
comp=Z,51nm,1.0s,mb5.3
TOUF Mont Tournerai 48.28 300 *e*P **P** **03 57 04.0 0.0**
MVIF Mont Vial 48.37 300 *e*P **P** **03 57 04.0 -0.7**
RRL Cesana Torines 48.38 301 P **P** **03 57 05.0 +0.3**
JNU Nakatsue 48.38 76 P **P** **03 57 05.2 +0.3**
comp=Z,136nm,0.7s,mb5.9,baz=300,slow=1.4,SNR=18
JNU LR LR 04 20 30.7
comp=Z,727nm,18.4s,baz=173,slow=40
MBDF Montbardon 48.44 301 *e*P **P** **03 57 04.7 -0.5**
comp=Z,90nm,0.7s,mb5.4
MBDF Montbardon 48.44 301 *e*P **P** **03 57 04.7 -0.5**
MBDF pmax pmax
comp=Z,45nm,0.7s,mb5.4
SURF Saint Ours 48.47 300 *e*P **P** **03 57 05.9 +0.5**
CABF La Chapelle 48.47 303 *e*P **P** **03 57 05.3 -0.1**
comp=Z,100nm,0.9s,mb5.4
CABF La Chapelle 48.47 303 *e*P **P** **03 57 05.3 -0.1**
CABF pmax pmax
comp=Z,50nm,0.9s,mb5.3
KBS Kingsbay 48.57 347 *e*P **P** **03 57 07.8 +2.0**
KBS LR LR
comp=Z,333µm,15.9s
KBS Kingsbay 48.57 347 *e*P **P** **03 57 06.3 +0.5**
KBS AMb AMB 03 57 14.9
comp=Z,128nm,1.9s,mb5.5
KBS *e*S **S** **04 04 03.5 +3.2**
KBS *e*SS SS 04 07 35.5 +8.9
KBS AMS AMS 04 21 33.6
comp=Z,333nm,15.9s
CALN Calern 48.59 299 *e*P **P** **03 57 06.3 -0.1**
GIVF Givet 48.60 308 *e*P **P** **03 57 06.6 +0.3**
comp=Z,120nm,1.3s,mb5.4
GIVF Givet 48.60 308 *e*P **P** **03 57 06.6 +0.3**
GIVF pmax pmax
comp=Z,60nm,1.3s,mb5.4
MEZF Maizieres J'vi 48.76 306 *e*P **P** **03 57 07.8 +0.2**
comp=Z,116nm,0.9s,mb5.5
GDM Grand'Maison 48.77 301 *e*P **P** **03 57 07.3 -0.5**
FRF La Foret Royal 48.81 299 *e*P **P** **03 57 07.6 -0.5**
comp=Z,112nm,0.9s,mb5.5
FRF La Foret Royal 48.81 299 *e*P **P** **03 57 07.6 -0.5**
FRF pmax pmax
comp=Z,56nm,0.9s,mb5.5
LMR La Mourre 48.97 299 *e*P **P** **03 57 09.4 +0.1**
comp=Z,12nm,0.8s,mb4.6
LMR La Mourre 48.97 299 *e*P **P** **03 57 09.4 +0.1**
LMR pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BAIF Baives 48.99 308 *e*P **P** **03 57 09.7 +0.3**
comp=Z,184nm,1.0s,mb5.7
BAIF Baives 48.99 308 *e*P **P** **03 57 09.7 +0.3**
BAIF pmax pmax
comp=Z,92nm,1.0s,mb5.7
ORIF Oris-en-Rattie 49.00 301 *e*P **P** **03 57 08.6 -0.9**
comp=Z,26nm,0.8s,mb4.9
ORIF *e*R
comp=Z,619nm,23.0s
GRN Grenoble 49.02 302 *e*P **P** **03 57 09.6 0.0**
KMBO Kilima Mbogo 49.03 228 P **P** **03 57 10.8 +0.6**
KMBO pmax pmax
comp=Z,11nm,0.7s
KMBO Kilima Mbogo 49.03 228 P **P** **03 57 10.8 +0.6**
comp=Z,11nm,0.7s,mb4.9,baz=38,slow=12,SNR=31
KMBO Kilima Mbogo 49.03 228 P **P** **03 57 10.8 +0.6**
TAVF Tavernes 49.21 299 *e*P **P** **03 57 11.2 0.0**
STOF St-Etienne Org 49.22 300 *e*P **P** **03 57 11.6 +0.4**
VILF Villemus 49.39 300 *e*P **P** **03 57 13.8 +1.3**
SMRF Simiane la Rot 49.45 300 *e*P **P** **03 57 12.8 -0.2**
comp=Z,43nm,0.9s,mb5.1
PUYF Puyloubier 49.48 299 *e*P **P** **03 57 13.3 0.0**
TREF Trevaresse 49.68 300 *e*P **P** **03 57 15.1 +0.3**
GELF Grande-Etoile 49.72 299 *e*P **P** **03 57 14.9 -0.2**
PRAF Pradon 49.78 300 *e*P **P** **03 57 15.7 +0.1**
LOR Lormes 49.81 305 *e*P **P** **03 57 14.9 -0.8**
comp=Z,30nm,1.0s,mb4.9
LOR *e*R
comp=Z,493nm,21.5s
LOR Lormes 49.81 305 *e*P **P** **03 57 14.9 -0.8**
LOR pmax pmax
comp=Z,15nm,1.0s,mb4.9
LOR MLR MLR
comp=Z,490nm,21.5s
VIVF Saint-Julien-l 49.85 301 *e*P **P** **03 57 15.9 -0.2**
comp=Z,105nm,0.8s,mb5.5
VIVF Saint-Julien-l 49.85 301 *e*P **P** **03 57 15.9 -0.2**
VIVF pmax pmax
comp=Z,52nm,0.8s,mb5.5
SMF Signal de Mont 49.97 304 *e*P **P** **03 57 16.5 -0.5**
comp=Z,128nm,0.9s,mb5.6
SMF Signal de Mont 49.97 304 *e*P **P** **03 57 16.5 -0.5**
SMF pmax pmax
comp=Z,64nm,0.9s,mb5.5
SSF Saint Saulge 50.09 304 *e*P **P** **03 57 17.2 -0.7**
SSF pmax pmax
comp=Z,28nm,1.1s,mb5.1
SSF Saint Saulge 50.09 304 *e*P **P** **03 57 17.2 -0.7**
comp=Z,28nm,1.1s,mb5.1
KSM Kuching 50.22 125 *e*P **P** **03 57 19.3 0.0**
CMAH Djebel Manchou 50.35 290 P **P** **03 57 20.0 0.0**
HYF Humbligny 50.62 305 *e*P **P** **03 57 21.8 -0.1**
LASF Ste Croix 50.62 301 *e*P **P** **03 57 21.9 -0.1**
comp=Z,175nm,1.0s,mb5.7
BGF Bois d'Agland 50.65 304 *e*P **P** **03 57 21.5 -0.7**
comp=Z,40nm,0.9s,mb5.2
BGF Bois d'Agland 50.65 304 *e*P **P** **03 57 21.5 -0.7**
BGF pmax pmax
comp=Z,20nm,0.9s,mb5.2
SJMP San Jose 50.66 105 *e*P **P** **03 57 24.1 +1.5**
CKFL Kef-Lekhel 50.95 290 P **P** **03 57 24.0 -0.6**
KKM Kota Kinabalu 51.07 115 *e*P **P** **03 57 26.4 +0.6**
KKM Kota Kinabalu 51.07 115 P **P** **03 57 29.1 +3.4**
TCF Toulx Ste Croi 51.15 304 *e*P **P** **03 57 25.7 -0.2**
comp=Z,120nm,1.0s,mb5.6
TCF Toulx Ste Croi 51.15 304 *e*P **P** **03 57 25.7 -0.2**
TCF pmax pmax
comp=Z,60nm,1.0s,mb5.6
CASM Ain Smara 51.18 290 P **P** **03 57 26.0 -0.3**
CTEI Djebel Teioual 51.31 290 P **P** **03 57 30.0 +2.7**
OTRP Odiongan 51.43 104 *e*P **P** **03 57 23.6 -4.8**

DFRA Djebel Bou Aff 51.54 291 P **P** **03 57 29.0 0.0**
OWE Westray 51.59 321⇑ *e*P **P** **03 57 28.4 -0.6**
CAF Calviac 51.62 302 *e*P **P** **03 57 29.4 -0.1**
comp=Z,92nm,1.0s,mb5.5
CAF Calviac 51.62 302 *e*P **P** **03 57 29.4 -0.1**
CAF pmax pmax
comp=Z,46nm,1.0s,mb5.5
OBR Brabster 51.76 320⇑ *e*P **P** **03 57 29.6 -0.7**
SKP1 Kophill 51.76 311⇑ *e*P **P** **03 57 29.7 -0.7**
EJON La Jonquera 51.77 299 P **P** **03 57 29.8 -0.9**
comp=Z,12nm,0.7s,mb5.0
RJF Les Rejaudoux 51.88 303 *e*P **P** **03 57 31.4 0.0**
comp=Z,55nm,0.9s,mb5.3
RJF *e*R
comp=Z,485nm,20.2s
RJF Les Rejaudoux 51.88 303 *e*P **P** **03 57 31.4 0.0**
RJF pmax pmax
comp=Z,27nm,0.9s,mb5.3
RJF MLR MLR
comp=Z,490nm,20.3s
MTLF Montolieu 51.97 300 *e*P **P** **03 57 31.8 -0.3**
comp=Z,76nm,0.9s,mb5.4
MTLF Montolieu 51.97 300 *e*P **P** **03 57 31.8 -0.3**
MTLF pmax pmax
comp=Z,38nm,0.9s,mb5.4
CKHR Kef el Ahmar 52.00 290 P **P** **03 57 32.0 -0.5**
SET Setif 52.02 291 P **P** **03 57 33.0 +0.4**
ORE Reay 52.08 320⇑ *e*P **P** **03 57 32.4 -0.4**
FLN La Foliniere 52.27 307 *e*P **P** **03 57 33.3 -1.0**
comp=Z,68nm,0.8s,mb5.5
FLN *e*R
comp=Z,437nm,23.0s
FLN La Foliniere 52.27 307 *e*P **P** **03 57 33.3 -1.0**
FLN pmax pmax
comp=Z,34nm,0.8s,mb5.4
FLN MLR MLR
comp=Z,440nm,23.0s
LPEF Le Peyrat 52.31 300 *e*P **P** **03 57 34.5 -0.2**
PVCP Virac 52.37 102 *e*P **P** **03 57 26.9 -8.6**
ESK Eskdalemuir 52.39 316 *e*P **P** **03 57 33.9 -1.2**
ESK pmax pmax
comp=Z,53nm,1.0s,mb5.5
ESK Eskdalemuir 52.39 316 *e*P **P** **03 57 33.9 -1.2**
comp=Z,53nm,1.0s,mb5.5
VALF Valcebollere 52.40 299 *e*P **P** **03 57 35.2 -0.2**
SWN1 Swindon 52.41 311⇑ *e*P **P** **03 57 35.1 -0.2**
LFF La Frestale 52.51 302 *e*P **P** **03 57 36.0 -0.2**
comp=Z,119nm,0.9s,mb5.6
LFF La Frestale 52.51 302 *e*P **P** **03 57 36.0 -0.2**
LFF pmax pmax
comp=Z,59nm,0.9s,mb5.6
JMIC Jan Mayen 52.59 336 *e* sP 03 58 01.4 -3.4
JMIC *e*S **S** **04 04 58.6 +2.8**
JMIC AMS AMS 04 20 02.8
comp=Z,248nm,15.0s
GRR Gorron 52.61 307 *e*P **P** **03 57 35.8 -1.0**
comp=Z,84nm,0.8s,mb5.5
GRR Gorron 52.61 307 *e*P **P** **03 57 35.8 -1.0**
GRR pmax pmax
comp=Z,42nm,0.8s,mb5.5
YSS Yuzh-Sakhalins 52.62 55⇑ *i*P **P** **03 57 35.4 -1.5**
YSS *e* pP 03 57 53.0 -3.6
YSS *SP sP 03 58 03.0 -2.3
YSS *e* 03 58 52.0
YSS *e*S **S** **04 04 52.0 -4.5**
YSS *e*PS PS 04 05 02.0 -17
YSS *e* 04 05 26.0
YSS *e* 04 07 12.0
YSS pmax pmax
comp=Z,140nm,1.0s,mb6.0
YSS pmax pmax
comp=E,50nm,0.9s
YSS MLR MLR
comp=Z,1µm,17.0s
YSS MLR MLR
comp=E,900nm,16.0s
YSS Yuzh-Sakhalins 52.62 55 *e*P **P** **03 57 35.2 -1.7**
comp=E,132nm,0.9s,mb6.0
MFF Saint Martin d 52.63 305 *e*P **P** **03 57 36.0 -1.0**
comp=E,92nm,1.0s,mb5.5
MFF Saint Martin d 52.63 305 *e*P **P** **03 57 36.0 -1.0**
MFF pmax pmax
comp=Z,46nm,1.0s,mb5.5
ETOS Mallorca 52.69 296 P **P** **03 57 37.6 0.0**
comp=Z,16nm,0.7s,mb5.2
MBAR Mbarara 52.72 235 *e*P **P** **03 57 36.6 -1.5**
MBAR pmax pmax
comp=Z,60nm,0.7s,mb5.7
MBAR Mbarara 52.72 235 *e*P **P** **03 57 36.6 -1.6**
comp=Z,60nm,0.7s,mb5.7
HAE Alders End 52.74 312⇑ *i*P **P** **03 57 37.0 -0.7**
HAE AMb AMB 03 57 37.9
comp=Z,123nm,1.3s,mb5.8
MAJO Matsushiro 52.74 69 *e*P **P** **03 57 36.3 -1.7**
MAJO pmax pmax
comp=Z,50nm,0.8s,mb5.6
MAJO MLR MLR
comp=Z,359nm,21.0s
MAJO Matsushiro 52.74 69 *e*P **P** **03 57 36.3 -1.7**
comp=Z,50nm,0.8s,mb5.6
MAJO LR LR
comp=Z,359nm,21.0s
MAT Matsushiro 52.74 69 *e*P **P** **03 57 36.0 -2.0**
MAT S **S** **04 04 54.0 -4.3**
MAT pmax pmax
comp=Z,25nm,0.9s,mb5.2
MAT MLR MLR
comp=Z,350nm,20.0s
MAT Matsushiro 52.74 69 *e*P **P** **03 57 36.0 -2.0**
comp=Z,25nm,0.9s,mb5.2
MAT S **S** **04 04 54.0 -4.3**
MAT LR LR
comp=Z,350nm,20.0s
MAT Matsushiro 52.74 69 P **P** **03 57 36.1 -1.9**
MAT *e*S **S** **04 04 53.6 -4.7**
MJAR Matsushiro Arr 52.74 69 P **P** **03 57 36.9 -1.1**
MJAR pmax pmax
comp=Z,22nm,1.0s
MJAR MLR MLR
comp=Z,237nm,21.2s
MJAR Matsushiro Arr 52.74 69 P **P** **03 57 36.9 -1.1**
comp=Z,22nm,0.9s,mb5.2,baz=288,slow=9.9,SNR=42
MJAR LR LR 04 22 18.8
comp=Z,237nm,21.2s,baz=315,slow=38
SWK Warminster 52.77 311⇑ *e*P **P** **03 57 37.4 -0.6**
MLS Moulis 52.87 300 *e*P **P** **03 57 38.1 -0.8**
EMIR Miracle 52.90 299 P **P** **03 57 38.9 -0.2**
comp=Z,29nm,0.7s,mb5.4
GUIM Jordan 52.92 106 *e*P **P** **03 57 41.0 +1.3**
SSP1 Stoney Pound 52.98 312⇑ *e*P **P** **03 57 38.9 -0.7**
HGH Gray Hill 52.99 311⇑ *e*P **P** **03 57 38.6 -1.1**
HGH AMb AMB 03 57 39.8
comp=Z,51nm,1.1s,mb5.5
MCH1 Michaelchurch 53.02 312⇑ *e*P **P** **03 57 38.9 -0.9**
KAC Achnashellach 53.08 319⇑ *e*P **P** **03 57 39.6 -0.7**
HTR Trewern Hill 53.16 312⇑ *i*P **P** **03 57 40.1 -0.8**
HTR AMb AMB 03 57 40.6
comp=Z,84nm,0.7s,mb5.9
KSB Sheil Bridge 53.21 319⇑ *e*P **P** **03 57 40.5 -0.7**
RRR Rubha Reidh 53.28 319⇑ *i*P **P** **03 57 40.8 -0.9**
EPF Esparros 53.37 300 *e*P **P** **03 57 41.1 -1.5**
comp=Z,31nm,0.7s,mb5.1
EPF Esparros 53.37 300 *e*P **P** **03 57 41.1 -1.5**
EPF pmax pmax
comp=Z,15nm,0.7s,mb5.1
EPOB Poblet 53.40 298 P **P** **03 57 41.6 -1.3**
comp=Z,32nm,0.9s,mb5.3
RESF Ens 53.45 300 *e*P **P** **03 57 43.1 -0.1**
TSM Tawau 53.47 116 P **P** **03 57 45.3 +1.6**
KAR1 Arisaig 53.49 318⇑ *e*P **P** **03 57 42.9 -0.3**
EBIE Bielsa 53.62 300 P **P** **03 57 44.2 -0.2**
comp=Z,19nm,0.5s,mb5.4
VIEF Viey 53.64 300 *e*P **P** **03 57 44.4 -0.2**
EGRA Graus 53.66 299 P **P** **03 57 44.3 -0.4**
comp=Z,19nm,0.7s,mb5.2
GMK Mull of Kintyr 53.72 316⇑ *e*P **P** **03 57 44.0 -0.9**
RRH Rhenigidale 53.72 320 *e*P **P** **03 57 44.2 -0.8**
SGMF Saint Gilles 53.73 307 *e*P **P** **03 57 44.3 -0.9**
comp=Z,104nm,1.1s,mb5.5
SGMF Saint Gilles 53.73 307 *e*P **P** **03 57 44.3 -0.9**
SGMF pmax pmax
comp=Z,52nm,1.1s,mb5.5
EMHD Djebel Mahouad 53.86 291 P **P** **03 57 46.0 -0.3**
EBR Ebro Roquetas 54.00 298 *e*P **P** **03 57 42.5 -4.7**
EIBI Ibiza 54.01 295 P **P** **03 57 48.1 +0.7**

comp=Z,35nm,0.9s,mb5.4
ETSF Etsaut 54.04 300 *e*P **P** **03 57 47.3 -0.2**
comp=Z,98nm,0.6s,mb5.7
ETSF Etsaut 54.04 300 *e*P **P** **03 57 47.3 -0.2**
ETSF pmax pmax
comp=Z,49nm,0.6s,mb5.7
ERTA Horta de San J 54.06 298 P **P** **03 57 47.5 -0.2**
comp=Z,34nm,0.9s,mb5.4
ROSF Rostrenen 54.17 308 *e*P **P** **03 57 47.3 -1.0**
comp=Z,79nm,0.8s,mb5.5
ROSF Rostrenen 54.17 308 *e*P **P** **03 57 47.3 -1.0**
ROSF pmax pmax
comp=Z,39nm,0.8s,mb5.5
MA2 Magadan 54.17 38 *c i*P **P** **03 57 46.9 -1.3**
MA2 pmax pmax
comp=Z,57nm,1.7s,mb5.3
MA2 MLR MLR
comp=Z,400nm,17.0s
MA2 Magadan 54.17 38 *e*P **P** **03 57 46.4 -1.9**
comp=Z,26nm,0.8s,mb5.3
GMM Mts of Mourne 54.19 315 *e*P **P** **03 57 47.4 -1.0**
QUIF Quistinic 54.22 307 *e*P **P** **03 57 47.6 -1.1**
comp=Z,53nm,0.8s,mb5.3
QUIF Quistinic 54.22 307 *e*P **P** **03 57 47.6 -1.1**
QUIF pmax pmax
comp=Z,27nm,0.8s,mb5.3
LARF Larrau 54.29 301 *e*P **P** **03 57 48.8 -0.5**
ESAC San Caprasio 54.37 299 P **P** **03 57 49.0 -0.9**
comp=Z,55nm,0.7s,mb5.7
SJPF Ste Jean 54.43 301 *e*P **P** **03 57 50.0 -0.3**
comp=Z,30nm,0.7s,mb5.1
SJPF Ste Jean 54.43 301 *e*P **P** **03 57 50.0 -0.3**
SJPF pmax pmax
comp=Z,15nm,0.7s,mb5.1
EALK Alkurruntz 54.59 301 P **P** **03 57 51.3 -0.2**
comp=Z,19nm,0.7s,mb5.2
CSA1 St Austell 54.60 310 *e*P **P** **03 57 50.5 -0.9**
DAG Danmarks Havn 54.70 344⇓ *i*P **P** **03 57 51.8 -0.1**
DAG pmax pmax
comp=Z,130nm,0.7s,mb6.1
DAG Danmarks Havn 54.70 344⇓ *i*P **P** **03 57 51.8 -0.1**
comp=Z,125nm,0.7s,mb6.0
DAG *i* pP pP 03 57 57.6 -14
DLF Lyons Farm 54.76 314⇑ *i*P **P** **03 57 51.0 -1.6**
CMA1 Manaccan 54.83 310 *e*P **P** **03 57 52.2 -0.9**
CRQ2 Rosemanowes 2 54.83 310 *e*P **P** **03 57 52.0 -1.1**
EMOS Mosqueruela 54.84 297 P **P** **03 57 53.7 +0.3**
comp=Z,27nm,1.0s,mb5.2
CCA1 Carnmenellis 54.86 310 *e*P **P** **03 57 52.3 -1.0**
CGH1 Goonhilly 54.86 310 *e*P **P** **03 57 51.9 -1.5**
CGW Gweek 54.88 310 *e*P **P** **03 57 52.5 -1.0**
EBNR Beni Rached 54.89 292 P **P** **03 57 54.0 +0.2**
MSLP Maasin 54.98 105 *e*P **P** **03 57 54.4 -0.3**
ECHA Ech Chlef 55.06 292 P **P** **03 57 55.0 0.0**
DCN Croghan 55.18 314⇑ *i*P **P** **03 57 54.7 -0.9**
PAGZ Pagadian 55.26 108 *e*P **P** **03 57 57.5 +0.8**
EBEN Beniarda 55.27 295 P **P** **03 57 55.4 -1.1**
comp=Z,14nm,0.7s,mb5.1
EANR 'Ain N'Sour 55.34 292 P **P** **03 57 56.5 -0.5**
ETRT Tiaret 55.41 291 P **P** **03 57 57.5 -0.1**
ECHE Chera 55.48 297 P **P** **03 57 58.4 +0.4**
ECHE pmax pmax
comp=Z,16nm,0.7s,mb5.2
ECHE Chera 55.48 297 P **P** **03 57 58.4 +0.4**
comp=Z,16nm,0.7s,mb5.2
ECRI Cripan 55.49 301 P **P** **03 57 58.0 0.0**
ECRI pmax pmax
comp=Z,13nm,0.6s,mb5.1
ECRI Cripan 55.49 301 P **P** **03 57 58.0 0.0**
comp=Z,13nm,0.6s,mb5.1
ELAN Lanestosa 55.91 302 P **P** **03 58 00.5 -0.5**
comp=Z,66nm,0.7s,mb5.8
ETOB Tobarra 56.25 296 P **P** **03 58 03.5 -0.1**
comp=Z,23nm,0.7s,mb5.3
CART Cartagena 56.26 295 *e*P **P** **03 58 02.5 -1.1**
comp=Z,40nm,0.8s,mb5.5
EMUR La Murta 56.34 295 P **P** **03 58 03.5 -0.7**
comp=Z,16nm,1.1s,mb5.0
EVIA Vianos 56.94 296 P **P** **03 58 08.4 -0.1**
EVIA pmax pmax
comp=Z,13nm,0.6s,mb5.1
EVIA Vianos 56.94 296 P **P** **03 58 08.4 0.0**
comp=Z,13nm,0.6s,mb5.1
SCO Scoresbysund 57.05 336 *e*P **P** **03 58 06.0 -2.8**
SCO Scoresbysund 57.05 336 *i*P **P** **03 58 06.0 -2.8**
EARI Arriondas 57.10 302 P **P** **03 58 07.1 -2.4**
comp=Z,21nm,0.9s,mb5.2
EHUE Huescar 57.33 295 P **P** **03 58 11.0 -0.2**
EHUE pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
EHUE Huescar 57.33 295 P **P** **03 58 11.0 -0.2**
comp=Z,7.8nm,0.6s,mb4.9
ENIJ Nijar 57.38 294 P **P** **03 58 10.8 -0.8**
ENIJ pmax pmax
comp=Z,65nm,1.1s,mb5.6
ENIJ Nijar 57.38 294 P **P** **03 58 10.8 -0.8**
comp=Z,65nm,1.1s,mb5.6
ESDC Sonseca Array 57.59 298 P **P** **03 58 12.3 -0.7**
comp=Z,29nm,0.8s,mb5.3,baz=60,slow=7.4,SNR=69
ESDC Sonseca Array 57.59 298 P **P** **03 58 12.3 -0.7**
comp=Z,16nm,0.6s,mb5.2
ESLA Sonseca Array 57.59 298 *e*P **P** **03 58 12.2 -0.8**
comp=Z,10nm,1.0s,mb4.8
EQES Quesada 57.68 296 P **P** **03 58 13.1 -0.6**
comp=Z,25nm,0.7s,mb5.3
EBER Berja 57.91 294 P **P** **03 58 14.8 -0.5**
comp=Z,5.9nm,0.4s,mb5.0
EBAN Banos Encina 58.06 296 P **P** **03 58 15.9 -0.4**
EBAN pmax pmax
comp=Z,19nm,0.6s,mb5.3
EBAN Banos Encina 58.06 296 P **P** **03 58 15.9 -0.4**
comp=Z,19nm,0.6s,mb5.3
ECOG Cogollos-Vega 58.26 295 P **P** **03 58 16.5 -1.2**
ECOG pmax pmax
comp=Z,1.0nm,0.2s,mb4.5
ECOG Cogollos-Vega 58.26 295 P **P** **03 58 16.5 -1.1**
comp=Z,1.3nm,0.2s,mb4.6
EPON Pontenova 58.40 303 P **P** **03 58 17.5 -1.1**
comp=Z,28nm,0.7s,mb5.4
BILL Bilibino 58.44 26⍺ *i*P **P** **03 58 17.6 -0.9**
BILL *e* pP 03 58 39.8 +1.2
BILL *i* 04 00 35.4
BILL pmax pmax
comp=Z,60nm,1.2s,mb5.5
BILL MLR MLR
comp=Z,700nm,16.0s
BILL Bilibino 58.44 26⇑ *i*P **P** **03 58 17.5 -1.0**
ERON Agron 58.54 295 P **P** **03 58 18.7 -0.9**
comp=Z,12nm,0.6s,mb5.1
EADA Adamuz 58.63 296 P **P** **03 58 19.1 -1.1**
comp=Z,14nm,0.7s,mb5.1
ECAL Calabor 58.65 301 P **P** **03 58 19.3 -1.0**
comp=Z,21nm,0.8s,mb5.2
ERUA La Rua 58.76 302 P **P** **03 58 20.0 -1.1**
ERUA pmax pmax
comp=Z,12nm,0.6s,mb5.1
ERUA La Rua 58.76 302 P **P** **03 58 19.9 -1.1**
comp=Z,12nm,0.6s,mb5.1
OPO Ambohidratompo 59.38 207 P **P** **03 58 25.6 0.0**
comp=Z,31nm,0.9s,mb5.4,baz=15,slow=6.7,SNR=29
STS Santiago 59.52 303 P **P** **03 58 25.2 -1.1**
STS pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
STS Santiago 59.52 303 P **P** **03 58 25.2 -1.1**
comp=Z,2.7nm,0.5s,mb4.5
ELOB Lobios 59.59 302 P **P** **03 58 25.8 -1.0**
comp=Z,39nm,0.8s,mb5.5
PVRL Vila Real 59.59 301 *e*P **P** **03 58 26.5 -0.3**
comp=Z,33nm,1.3s,mb5.2
EMAZ Mazaricos 59.78 303 P **P** **03 58 27.0 -1.1**
comp=Z,23nm,0.7s,mb5.3
MTE Manteigas 59.83 300 *e*P **P** **03 58 27.9 -0.6**
comp=Z,51nm,0.9s,mb5.5
MTE Manteigas 59.83 300 *e*P **P** **03 58 28.6 +0.1**
comp=Z,70nm,0.9s,mb5.7
MTE *e*S **S** **04 06 38.7 +6.6**
MTE *e*LQ 04 13 00.5
MTE *e*LR LR 04 19 06.8
comp=Z,154nm,16.0s
EZAM Zamans 59.91 302 P **P** **03 58 27.9 -1.1**
EZAM pmax pmax
comp=Z,16nm,0.6s,mb5.2
EZAM Zamans 59.91 302 P **P** **03 58 27.9 -1.1**
comp=Z,16nm,0.6s,mb5.2
PVIS Viseu 59.94 300 *e*P **P** **03 58 29.3 +0.1**
comp=Z,73nm,1.0s,mb5.7

PCBR **Castelo Branco** 60.01 299 *e*P P 03 58 29.8 +0.1
comp=Z,16nm,1.0s,mb5.0
ESPR **Espera** 60.09 296 P P 03 58 29.1 -1.2
comp=Z,9.8nm,0.6s,mb5.0
EBAD **Badajoz** 60.13 298 P P 03 58 29.4 -1.2
comp=Z,44nm,0.6s,mb5.7
EMIN **Mina Concepcio** 60.30 297 P P 03 58 31.1 -0.7
comp=Z,9.6nm,0.7s,mb4.9
PET **Petropavlovsk** 60.34 44 *e*P P 03 58 30.7 -1.1
PET *e* 04 00 43.0
PET *e*S S 04 06 33.8 -4.6
PET *e*PS PS 04 06 52.6 -13
PET *e**SS 04 07 12.8
PET pmax pmax
comp=Z,100nm,15.3s
PET pmax pmax
comp=Z,100nm,12.1s
PET pmax pmax
comp=Z,100nm,13.0s
PTOM **Tomar** 60.75 299 *e*P P 03 58 34.9 +0.1
comp=Z,53nm,1.2s,mb5.4
EVO **Evora** 60.93 298 ⇓*i*P P 03 58 36.0 0.0
comp=Z,28nm,1.0s,mb5.0
EVO *e*R
comp=Z,193nm,19.5s
EGRO **El Granado** 60.98 297 P P 03 58 35.7 -0.7
comp=Z,19nm,0.7s,mb5.2
PBEJ **Beja** 61.04 298 *e*P P 03 58 36.6 -0.2
comp=Z,37nm,1.2s,mb5.3
SUMG **Summit** 61.04 341 *e*P P 03 58 36.6 +0.3
comp=Z,161nm,0.8s,mb6.1
PLOU **Loures** 61.59 299 *e*P P 03 58 40.4 0.0
comp=Z,84nm,0.9s,mb5.8
PTEO **Sao Teotonio** 61.86 297 *e*P P 03 58 42.2 -0.1
comp=Z,64nm,0.8s,mb5.7
SFJD **Kangerlussuaq** 67.75 339 ⇑*i*P P 03 59 19.4 -0.3
SFJD *i*S S 04 08 13.4 +3.5
SFJD pmax pmax
comp=Z,56nm,0.8s,mb5.5
SFJD MLR MLR
comp=Z,240nm,21.0s
SFJD **Kangerlussuaq** 67.75 339 ⇑*i*P P 03 59 19.4 -0.3
comp=Z,56nm,0.8s,mb5.4
SFJD *i* 03 59 24.9
SFJD *i*S S 04 08 13.4 +3.5
comp=Z,230nm,21.0s
FX1 **Attu Island--F** 68.20 40 *e*P P 03 59 21.6 -1.2
RES **Resolute Bay** 68.63 356 *e*P P 03 59 25.0 -0.1
RES pmax pmax
comp=Z,21nm,0.9s,mb5.0
RES **Resolute Bay** 68.63 356 *e*P P 03 59 25.0 -0.1
comp=Z,21nm,0.9s,mb5.0
GUMO **Guam** 68.95 88 *e*P P 03 59 27.4 -0.7
GUMO pmax pmax
comp=Z,222nm,1.1s,mb5.9
GUMO **Guam** 68.95 88 *e*P P 03 59 27.4 -0.7
comp=Z,222nm,1.1s,mb5.9
IMA **Indian Mountai** 71.98 18 P P 03 59 45.6 +0.1
IMA pmax pmax
comp=Z,380nm,1.0s,mb6.2
IMA **Indian Mountai** 71.98 18 *e*P P 03 59 42.7 -2.8
MBWA **Marble Bar** 73.44 133 *e*P P 03 59 53.4 -1.4
comp=Z,87nm,1.3s,mb5.4
INK **Inuvik** 73.79 9 P P 03 59 55.7 -0.3
INK pmax pmax
comp=Z,25nm,0.6s
INK MLR MLR
comp=Z,209nm,19.5s
INK **Inuvik** 73.79 9 P P 03 59 55.7 -0.3
comp=Z,25nm,0.6s,mb5.1,baz=358,slow=7.6
INK LR LR 04 36 59.9
comp=Z,209nm,19.5s,baz=175,slow=39
INK **Inuvik** 73.79 9 *e*P P 03 59 55.8 -0.2
comp=Z,56nm,0.8s,mb5.3
TTA **Tatalina** 73.87 20 *e*P P 03 59 56.3 -0.3
ILAR **Eielson Array** 74.64 16 P P 03 59 59.7 -1.3
ILAR 04 02 55.1
ILAR pmax pmax
comp=Z,13nm,0.9s
ILAR pmax pmax
comp=Z,10.0nm,0.9s
ILAR MLR MLR
comp=Z,292nm,20.0s
ILAR **Eielson Array** 74.64 16 P P 03 59 59.7 -1.3
comp=Z,13nm,0.9s,mb4.7,baz=316,slow=5.0,SNR=92
ILAR PP PP 04 02 55.1 +4.5
comp=Z,10nm,0.9s,baz=317,slow=6.1,SNR=4.2
ILAR LR LR 04 33 54.8
comp=Z,292nm,20.0s,baz=354,slow=36
FITZ **Fitzroy Crossi** 74.79 127 P P 04 00 03.3 +0.6
comp=Z,24nm,0.8s,mb5.0,baz=349,slow=4.2,SNR=15
LBTB **Lobatse** 74.87 222 *e*P P 04 00 03.1 0.0
LBTB pmax pmax
comp=Z,70nm,0.9s,mb5.4
LBTB **Lobatse** 74.87 222 *e*P P 04 00 03.1 0.0
comp=Z,70nm,0.9s,mb5.4
DBIC **Dimbokro** 74.90 267 P P 04 00 01.6 -1.9
DBIC pmax pmax
comp=Z,17nm,0.8s
DBIC MLR MLR
comp=Z,439nm,18.9s
DBIC **Dimbokro** 74.90 267 P P 04 00 01.6 -1.8
comp=Z,16nm,0.8s,mb4.8,baz=34,slow=6.5,SNR=17
DBIC LR LR 04 37 27.1
comp=Z,439nm,18.9s,baz=31,slow=39
DBIC **Dimbokro** 74.90 267 *e*P P 04 00 01.9 -1.5
comp=Z,31nm,1.0s,mb5.0
TSUM **Tsumeb** 75.12 232 *e*P P 04 00 04.3 -0.3
comp=Z,16nm,0.8s,mb4.8
SVW2 **Sparrevohn** 75.45 21 *e*P P 04 00 05.9 +0.2
KAKA **Kakadu** 75.60 118 *e*P P 04 00 06.8 -0.6
comp=Z,21nm,0.6s,mb5.0
THY **Trims Highway** 76.07 16 *e*P P 04 00 07.8 -1.3
SPU **Mount Spurr** 76.39 20 *e*P P 04 00 09.4 -1.6
PWA **Palmer West** 76.58 19 *e*P P 04 00 10.7 -1.3
RSO **Redoubt South** 76.79 21 *e*P P 04 00 13.6 +0.4
PMR **Palmer** 76.82 19 *e*P P 04 00 12.4 -1.0
SML **Sawmill** 76.84 18 *e*P P 04 00 12.5 -1.0
UNV **Unalaska Valle** 77.08 31 *e*P P 04 00 12.9 -2.1
comp=Z,54nm,0.8s,mb5.3
SLKM **Skilak Lake** 77.45 20 *e*P P 04 00 15.3 -1.6
BOSA **Boshof** 77.94 220 *e*P P 04 00 19.8 -0.4
BOSA pmax pmax
comp=Z,57nm,0.8s,mb5.3
BOSA **Boshof** 77.94 220 P P 04 00 20.1 -0.2
comp=Z,41nm,0.8s,mb5.2,baz=36,slow=5.7,SNR=32
BOSA LR LR 04 35 19.7
comp=Z,171nm,18.8s,baz=45,slow=36
BOSA **Boshof** 77.94 220 *e*P P 04 00 19.8 -0.5
comp=Z,57nm,0.8s,mb5.4
DIV **Divide** 78.06 17 *e*P P 04 00 19.5 -0.7
comp=Z,109nm,0.9s,mb5.6
EYAK **Cordova Ski Ar** 78.57 18 *e*P P 04 00 23.1 +0.1
MUN **Mundaring** 80.14 142 *e*P P 04 00 31.1 -1.1
comp=Z,13nm,0.8s,mb4.8
MUN **Mundaring** 80.14 142 *e*P P 04 00 31.1 -1.1
MUN pmax pmax
comp=Z,13nm,0.8s,mb4.8
KLBR **Kellerberrin** 80.60 141 *e*P P 04 00 34.3 -0.3
comp=Z,92nm,1.5s,mb5.4
YKW3 **Yellowknife Ar** 81.08 3 *e*P P 04 00 36.4 -0.2
YKA **Yellowknife Ar** 81.15 3 P P 04 00 36.8 -0.1
YKA 04 19 14.4
YKA pmax pmax
comp=Z,24nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA **Yellowknife Ar** 81.15 3 P P 04 00 36.8 0.0
comp=Z,24nm,0.7s,mb5.1,baz=348,slow=5.2,SNR=110
YKA PKKPbc 04 19 14.4
comp=Z,0.5nm,0.6s,baz=158,slow=2.3,SNR=5.1
YKA LR LR 04 42 14.7
comp=Z,227nm,18.8s,baz=300,slow=40
YKA **Yellowknife Ar** 81.15 3 P P 04 00 36.9 0.0
YKA PKKPbc 04 19 14.4
YKA LR LR 04 42 14.7
NWAO **Narrogin (SRO)** 81.42 142 P P 04 00 39.6 +0.7
NWAO pmax pmax
comp=Z,12nm,0.6s
NWAO **Narrogin (SRO)** 81.42 142 P P 04 00 39.6 +0.7
comp=Z,12nm,0.6s,mb4.9,baz=330,slow=5.7,SNR=9.3
WRA **Warramunga Arr** 81.87 122 P P 04 00 40.7 -0.8
WRA pmax pmax
comp=Z,10.0nm,0.4s
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA **Warramunga Arr** 81.87 122 P P 04 00 40.7 -0.8
comp=Z,10nm,0.4s,mb5.0,baz=324,slow=4.9,SNR=244
WRA PKKPbc 04 19 14.2
comp=Z,2.0nm,0.8s,baz=134,slow=2.3,SNR=8.8
WRAB **Tennant Creek** 81.87 122 *e*P P 04 00 40.5 -1.0
WRAB pmax pmax
comp=Z,64nm,0.8s,mb5.5
WRAB **Tennant Creek** 81.87 122 *e*P P 04 00 40.5 -1.0
comp=Z,64nm,0.8s,mb5.5
WB2 **Warramunga Arr** 81.88 122 ⇑*i*P P 04 00 40.5 -1.0
WB2 *e*sP sP 04 01 21.3 +10
WB2 *e*S S 04 10 44.4 -2.8
SCHQ **Schefferville** 82.09 337 P P 04 00 42.4 +0.4
comp=Z,31nm,0.9s,mb5.1,baz=33,slow=5.3,SNR=38
SCHQ **Schefferville** 82.09 337 *e*P P 04 00 42.2 +0.3
comp=Z,42nm,0.9s,mb5.3
WAKE **Wake Island** 82.93 71 *e*P P 04 00 46.8 -0.1
comp=Z,115nm,1.0s,mb5.7
SUR **Sutherland** 83.25 221 LR LR 04 39 03.8
comp=Z,226nm,18.5s,baz=272,slow=36
SUR **Sutherland** 83.25 221 *e*P P 04 00 49.2 +0.9
comp=Z,20nm,0.7s,mb5.1
DLBC **Dease Lake** 83.67 11 P P 04 00 50.6 +0.9
comp=Z,20nm,1.0s,mb4.9,baz=351,slow=4.8,SNR=19
DLBC LR LR 04 40 36.5
comp=Z,234nm,18.2s,baz=143,slow=37
DLBC **Dease Lake** 83.67 11 *e*P P 04 00 50.1 +0.4
SIT **Sitka** 84.05 14 *e*P P 04 00 52.1 +0.4
SIT pmax pmax
comp=Z,43nm,1.0s,mb5.2
SIT **Sitka** 84.05 14 *e*P P 04 00 52.0 +0.4
comp=Z,43nm,1.0s,mb5.2
PMG **Port Moresby** 84.44 106 *e*P P 04 00 55.0 +0.4
PMG pmax pmax
comp=Z,33nm,0.9s
PMG **Port Moresby** 84.44 106 P P 04 00 55.8 +1.2
comp=Z,34nm,0.9s,mb5.2,baz=322,slow=6.2,SNR=7.2
PMG **Port Moresby** 84.44 106 *e*P P 04 00 55.0 +0.4
comp=Z,33nm,0.9s,mb5.2
FORT **Forrest** 85.58 134 *e*P P 04 00 59.7 -0.3
comp=Z,51nm,0.7s,mb5.6
FFC **Flin Flon** 88.87 356 *e*P P 04 01 15.8 +0.6
FFC pmax pmax
comp=Z,92nm,1.1s,mb5.7
FFC **Flin Flon** 88.87 356 *e*P P 04 01 15.8 +0.6
comp=Z,92nm,1.1s,mb5.7
BBB **Bella Bella** 90.00 12 LR LR 04 48 14.0
comp=Z,179nm,18.0s,baz=355,slow=40
CTAO **Charters Tower** 90.40 115 *e*P P 04 01 22.5 -0.7
CTAO pmax pmax
comp=Z,27nm,0.7s,mb5.5
CTAO **Charters Tower** 90.40 115 *e*P P 04 01 22.5 -0.7
comp=Z,27nm,0.7s,mb5.5
EDM **Edmonton** 90.47 3 *e*P P 04 01 23.6 +0.8
ULM **Lac du Bonnet** 92.79 352 P P 04 01 33.5 0.0
comp=Z,27nm,1.0s,mb5.5,baz=358,slow=4.9,SNR=10.0
ULM LR LR 04 44 13.3
comp=Z,277nm,21.2s,baz=20,slow=36
ULM **Lac du Bonnet** 92.79 352 *e*P P 04 01 33.4 -0.2
comp=Z,59nm,1.1s,mb5.8
PNT **Penticton** 93.93 7 P P 04 01 39.3 +0.6
CMW **Cultus Mountai** 94.53 9 P P 04 01 42.5 +1.0
STKA **Stephens Creek** 94.68 126 *e*P P 04 01 41.9 -0.7
comp=Z,2.1nm,0.5s,mb4.8
STKA **Stephens Creek** 94.68 126 P P 04 01 42.0 -0.6
comp=Z,2.6nm,0.5s,mb4.9,baz=347,slow=8.3,SNR=6.9
SADO **Sadowa** 94.70 339 P P 04 01 43.7 +1.3
comp=Z,8.7nm,0.8s,mb5.2,baz=20,slow=5.1,SNR=3.0
SADO PP PP 04 05 28.8 -4.9
comp=Z,8.6nm,0.9s,baz=34,slow=4.5,SNR=3.8
SADO **Sadowa** 94.70 339 P P 04 01 43.7 +1.3
SADO PP PP 04 05 28.8 -4.9
JCW **Jim Creek** 94.78 9 P P 04 01 43.5 +0.8
NLW **Nelson Butte** 95.08 8 P P 04 01 45.0 +1.0
NEW **Newport** 95.20 6 P P 04 01 45.7 +1.1
NEW 04 05 32.3
NEW pmax pmax
comp=Z,13nm,0.8s
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW MLR MLR
comp=Z,205nm,18.2s
NEW **Newport** 95.20 6 P P 04 01 45.7 +1.1
comp=Z,13nm,0.8s,mb5.4,baz=330,slow=3.4,SNR=11
NEW PP PP 04 05 32.3 -5.0
comp=Z,8.9nm,1.0s,baz=358,slow=6.4,SNR=4.1
NEW LR LR 04 47 02.7
comp=Z,204nm,18.2s,baz=360,slow=37
NEW **Newport** 95.20 6 *e*P P 04 01 45.0 +0.4
comp=Z,17nm,0.9s,mb5.5
DGMT **Dagmar** 95.22 357 *e*P P 04 01 45.3 +0.7
comp=Z,59nm,1.0s,mb6.0
RMW **Rattlesnake Mo** 95.52 9 P P 04 01 47.3 +1.3
BSMT **Bassoo Peak** 95.77 4 P P 04 01 48.7 +1.6
FMW **Mount Fremont** 96.05 9 P P 04 01 49.3 +0.9
CHMT **Chamberlain Mo** 96.78 3 P P 04 01 52.5 +0.8
MSO **Missoula** 96.83 4 *e*P P 04 01 51.6 -0.4
comp=Z,9.4nm,1.3s,mb5.1
HRY **Holter Researc** 97.03 2 *e*P P 04 01 53.8 +0.9
LAO **LASA Array** 97.07 358 *e*P P 04 01 55.0 +1.9
comp=Z,42nm,0.9s,mb5.9
BOZ **Bozeman (W)** 98.10 2 *e*P P 04 01 58.7 +0.9
BOZ pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
BOZ **Bozeman (W)** 98.10 2 *e*P P 04 01 58.7 +0.9
comp=Z,7.5nm,0.9s,mb5.2
MCMT **McKenzie Canyo** 98.88 3 P P 04 02 02.8 +1.4
RSSD **Black Hills** 99.56 357 *e*P P 04 02 05.4 +0.9
RSSD pmax pmax
comp=Z,7.0nm,0.8s,mb5.3
RSSD **Black Hills** 99.56 357 *e*Pdif P 04 02 05.4 +0.9
comp=Z,7.1nm,0.8s,mb5.3
IMW **Indian Meadow** 99.87 2 *e*Pdif P 04 02 07.9 +2.0
comp=Z,14nm,1.3s,mb5.4
MOOW **Moose Ponds** 100.02 1 *e*Pdif P 04 02 07.0 +0.4
HLID **Hailey** 100.06 4 *e*Pdif P 04 02 07.7 +0.9
comp=Z,3.4nm,1.1s
LOHW **Long Hollow** 100.16 1 *e*Pdif P 04 02 08.2 +1.0
comp=Z,1.1nm,0.5s
RRI2 **Red Ridge** 100.41 2 *e*Pdif P 04 02 09.0 +0.6
BW06 **Boulder Array** 101.02 1 *e*Pdif P 04 02 12.1 +1.0
comp=Z,2.4nm,0.8s
PDAR **Pinedale Array** 101.02 1 P P 04 02 11.8 +0.6
comp=Z,2.0nm,0.8s,slow=3.0,SNR=7.1
PDAR PP PP 04 06 13.6 -9.4
comp=Z,2.9nm,0.9s,baz=34,slow=5.3,SNR=5.2
MOD **Modoc** 101.18 9 *e*Pdif P 04 02 12.7 +0.9
comp=Z,3.4nm,0.7s
HWUT **Hardware Ranch** 102.14 2 *e*Pdif Pdif 04 02 16.7 +0.6
comp=Z,9.1nm,0.8s
ELK **Elko** 102.81 5 *e*P Pdif 04 02 19.7 +0.6
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK **Elko** 102.81 5 Pdiff Pdif 04 02 24.7 +5.6
comp=Z,2.5nm,0.9s,baz=348,slow=6.1,SNR=7.9
ELK **Elko** 102.81 5 *e*Pdif Pdif 04 02 19.7 +0.6
comp=Z,4.1nm,1.0s
DAU **Daniels Canyon** 103.34 2 *e*P Pdif 04 02 24.2 +2.8
CCM **Cathedral Cave** 103.98 346 *e*P Pdif 04 02 24.8 +0.5
CCM pmax pmax
comp=Z,4.0nm,0.8s
CCM **Cathedral Cave** 103.98 346 *e*Pdif Pdif 04 02 24.8 +0.5
comp=Z,3.9nm,0.8s
MAW **Mawson** 104.06 183 *e*P Pdif 04 02 25.5 +1.6
MAW pmax pmax
comp=Z,4.0nm,1.3s
MAW **Mawson** 104.06 183 PP PP 04 06 41.7 -3.0
comp=Z,6.0nm,1.1s,baz=0.3,slow=9.2,SNR=7.2
MAW **Mawson** 104.06 183 *e*Pdif Pdif 04 02 25.5 +1.6
comp=Z,4.4nm,1.3s
NVAR **Mina Array Bea** 104.84 8 Pdiff Pdif 04 02 31.1 +3.0
comp=Z,0.9nm,0.8s,baz=24,slow=2.3,SNR=5.0
NVAR PP PP 04 06 47.9 -3.8
comp=Z,1.3nm,0.7s,baz=20,slow=2.8,SNR=4.1
WVT **Waverly** 105.08 343 *e*P Pdif 04 02 29.4 +0.2
WVT pmax pmax
comp=Z,4.0nm,0.8s
WVT **Waverly** 105.08 343 *e*Pdif Pdif 04 02 29.4 +0.2
comp=Z,4.2nm,0.8s
TUC **Tucson** 111.44 2 *e*PKIKP PKPdf 04 06 56.1 +2.1
MNTX **Cornudas Mount** 112.00 357 *e*PKP PKPdf 04 06 57.2 +2.1
TXAR **Lajitas Array** 114.25 355 PKIKP PKPdf 04 07 02.4 +2.7
TXAR 04 17 38.8
TXAR **Lajitas Array** 114.25 355 PKhKP
comp=Z,0.7nm,0.8s,baz=27,slow=2.8,SNR=3.9
TXAR PKP PKPdf 04 07 02.4 +2.8
comp=Z,2.1nm,0.9s,baz=90,slow=1.3,SNR=7.0
TXAR PP PP 04 07 41.8 -19
comp=Z,2.3nm,0.8s,baz=12,slow=4.1,SNR=4.6
TXAR PKKPbc 04 17 38.8
comp=Z,0.4nm,0.8s,baz=180,slow=6.3,SNR=4.1
TXAR PKKP PKKP 04 17 49.2 -2.5
comp=Z,2.1nm,0.9s,baz=196,slow=9.1,SNR=9.5
TXAR **Lajitas Array** 114.25 355 PKP PKPdf 04 07 02.4 +2.7
TXAR PP PP 04 07 41.8 -19
TXAR PKKPbc 04 17 38.8
TXAR PKKP PKKP 04 17 49.2 -2.5
SNAA **Sanae** 119.55 200 PKIKP PKPdf 04 07 08.9 0.0
SNAA pmax pmax
comp=Z,1.0nm,0.8s
SNAA **Sanae** 119.55 200 PKP PKPdf 04 07 08.9 0.0
comp=Z,1.2nm,0.8s,baz=26,slow=1.0,SNR=7.4
SNAA **Sanae** 119.55 200 ⇑*i*PKPdf PKPdf 04 07 08.5 -0.4
SNAA *e*PKPdf PKPdf 04 07 10.6 +1.7
SNAA *e* 04 07 32.2
SNAA *e* 04 07 41.9
SNAA *e* 04 07 48.1
SNAA *e* 04 17 20.6
SNAA *e* 04 17 24.7
SNAA *e* 04 17 51.2
VNA2 **Neumayer--Watz** 120.55 202 ⇑*i*PKPdf PKPdf 04 07 11.0 +0.1
VNA2 *e* 04 07 34.4
VNA2 *e* 04 07 43.0
VNA2 *e* 04 07 50.7
VNA2 *e* 04 08 32.7
VNA2 *e* 04 10 38.5
VNA2 *e* 04 17 17.0
VNA2 *e* 04 17 20.6
VNA2 *e* 04 17 49.1
VNA1 **Neumayer--Stat** 120.71 202 PKPdf PKPdf 04 07 11.4 +0.2
VNA1 *e* 04 07 35.3
VNA1 *e* 04 07 43.1
VNA1 *e* 04 07 51.3
VNA3 **Neumayer Olymp** 121.36 202 ⇑*i*PKPdf PKPdf 04 07 12.4 -0.1
VNA3 *e* 04 07 35.5
VNA3 *e* 04 07 43.9
VNA3 *e* 04 07 51.9
VNA3 *e* 04 08 34.5
VNA3 *e* 04 10 40.0
VNA3 *e* 04 17 13.9
VNA3 *e* 04 17 18.2
VNA3 *e* 04 17 46.0
BDFB **Brasilia** 122.55 274 PKIKP PKPdf 04 07 16.8 +0.9
BDFB pmax pmax
comp=Z,1.0nm,0.4s
BDFB **Brasilia** 122.55 274 PKP PKPdf 04 07 16.8 +0.9
comp=Z,1.1nm,0.4s,baz=299,slow=1.9,SNR=4.6
VNDA **Vanda** 125.53 164 *e*PKIKP PKPdf 04 07 19.8 -0.4
VNDA **Vanda** 125.53 164 PKP PKPdf 04 07 20.1 -0.2
comp=Z,2.1nm,0.8s,baz=276,slow=7.0,SNR=5.7
QSPA **South Pole Qui** 126.38 180 *e*P PKPdf 04 07 21.9 +0.1
ROSC **El Rosal** 127.71 315 PKP PKPdf 04 07 29.2 +3.1
comp=Z,15nm,0.8s,baz=81,slow=8.2,SNR=13
SAML **Samuel** 130.42 292 *e*PKPdf PKPdf 04 07 31.9 +0.7
OTAV **Otavalo** 133.82 316 *e*PKPdf PKPdf 04 07 40.2 +2.5
CPUP **Villa Florida** 135.41 268 *e*PKIKP PKPdf 04 07 40.0 -0.3
CPUP **Villa Florida** 135.41 268 PKP PKPdf 04 07 40.6 +0.4
comp=Z,7.2nm,0.7s,baz=72,slow=15,SNR=27
LPAZ **La Paz** 138.77 288 PKIKP PKPdf 04 07 48.5 +1.9
LPAZ pmax pmax
comp=Z,3.0nm,1.0s
LPAZ **La Paz** 138.77 288 PKP PKPdf 04 07 48.5 +1.8
comp=Z,3.0nm,0.9s,baz=20,slow=13,SNR=7.4
LPAZ **La Paz** 138.77 288 *e*PKPdf PKPdf 04 07 47.9 +1.3
ARE **Arequipa** 141.42 291 *e*PKIKP PKPdf 04 07 49.0 -2.4
NNA **Nana** 142.28 302 *e*PKPdf PKPdf 04 07 52.5 -0.4
LVC **Limon Verde** 142.93 281 *e*PKPdf PKPdf 04 07 50.9 -2.9
TRQA **Tornquist** 143.07 253 *e*PKPdf PKPdf 04 07 53.0 -0.7
USHA **Ushuaia** 147.04 223 PKPbc PKPdf 04 08 04.5 +4.6
comp=Z,12nm,0.8s,baz=33,slow=5.8,SNR=8.1
PLCA **Paso Flores** 150.04 250 PKIKP PKPdf 04 08 10.8 +5.6
PLCA **Paso Flores** 150.04 250 PKPbc PKPdf 04 08 10.0 +4.8
comp=Z,32nm,0.9s,baz=93,slow=2.5,SNR=12
PLCA **Paso Flores** 150.04 250 *e*PKPbc PKPdf 04 08 11.5 +6.3

MAN 01 04:12:33.0, 15.97N×122.25E, h4km, mb4.0, ML2.8, MS2.5, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALP	**Baler**	**0.68**	**251**	*e*P		Pg 04 12 46.2	-0.5
BALP				*e*S		Sg 04 12 56.5	+0.8
CAUP	**Cauayan**	**1.05**	**337**	*e*P		Pb 04 12 52.8	-0.6
CAUP				*e*S		Sb 04 13 07.0	-0.2
PCPH	**Palayan**	**1.18**	**250**	⇑*e*P		Pb 04 12 54.9	-0.6
PCPH				*i*S		Sb 04 13 13.6	+2.6
POLP	**Polilio Island**	**1.27**	**194**	*e*P		Pb 04 12 57.3	+0.3
POLP				*e*S		Sb 04 13 14.2	+0.6
BCPH	**Baguio City Da**	**1.65**	**285**	⇑*e*P		Pn 04 13 02.2	-0.7
BCPH				*e*S		Sb 04 13 24.8	+0.1
CVP	**Callao Caves**	**1.77**	**347**	*e*P		Pn 04 13 04.0	-0.6
APYP	**Conner**	**2.11**	**333**	*e*P		Pn 04 13 07.8	-1.7
APYP				*e*S		Sn 04 13 33.8	-2.7

JMA 01 04:16:37.4±0.1, 42.18N×139.27E, h16km±1km, M3.8, 1C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**0.18**	**122**	⇓P		Pb 04 16 41.8	-0.2
JOSM				S		Sb 04 16 44.6	-0.4
JSH	**Shimam**	**0.74**	**51**	P		Pb 04 16 51.1	-0.3
JSH				*e*S		Sb 04 17 00.9	-0.1
JYM2	**Yakumo 2**	**0.82**	**94**	P		Pb 04 16 53.0	+0.2
JYM2				S		Sb 04 17 04.2	+0.8
JSR	**Shiriuchi**	**1.08**	**127**	⇑P		Pb 04 16 57.0	-0.1
JSR				*e*S		Sb 04 17 11.3	+0.5
JNB	**Noboribetsu**	**1.34**	**77**	P		Pn 04 17 00.5	-1.1
JNB				*e*S		Sb 04 17 17.8	-0.7
JKB	**Kayabe**	**1.34**	**102**	P		Pn 04 17 01.1	-0.6
JKB				*e*S		Sb 04 17 18.9	+0.3
JSI2	**Shiura 2**	**1.41**	**142**	P		Pn 04 17 01.3	-1.3

*BJI **01** 04:31:03.0, 34.90N×59.10E, h30km, mB4.9, mb4.6, Ms4.3, Msz4.2*
*MOS **01** 04:31:06.7±1.0, 34.64N×59.87E, h33km, mb4.7/37, Error ellipse: s-maj=8.1km s-min=5.2km az=125.0*
*CSEM **01** 04:31:06.2±0.1, 34.67N×59.83E, h30km, mb4.5/32, ML4.3/3, Error ellipse: s-maj=2.3km s-min=1.8km az=2.0*
*THR **01** 04:31:06.7±0.4, 34.48N×59.66E, h14km±8km, ML4.0*
*TEH **01** 04:31:07.5, 34.70N×59.83E, h10km, Mn4.2*
*NEIC **01** 04:31:07.5, 34.70N×59.83E, h10km, mb4.5/33, ML4.2(TEH), After TEH.*
*NNC **01** 04:31:09.4±3.4, 35.09N×60.11E, Error ellipse: s-maj=41.6km s-min=24.7km az=20.0*
*IDC **01** 04:31:10.4±4.1, 34.64N×59.79E, h52km±37km, mb4.0/26, mb1 4.1/28, mb1mx4.1/31, mbtmp4.3/28, ML4.9/1, MS3.3/4, Ms1 3.3/4, ms1mx3.1/26, Error ellipse: s-maj=13.9km s-min=11.7km az=170.0*

ISC 01 04:31:05.8±0.2, 34.63N±0.03×59.88E±0.03, h28km, h28km±3.4km: pP-P, n232, σ1°04/238, mb4.4/63, MS3.8/6, 7C-9D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMOG	**Moghan**	**1.54**	**343**	Pn	**Pn**	**04 31 33.5**	**+1.7**
MHI	**Mashhad**	**1.71**	**349**	Pn	**Pn**	**04 31 36.4**	**+2.2**
IMYA	**Miamay**	**1.72**	**6**	Pn	**Pn**	**04 31 36.4**	**+2.1**
IPAY	**Payeh**	**1.95**	**339**	Pn	**Pn**	**04 31 39.6**	**+1.9**
IQHU	**Quchan**	**2.66**	**336**	Pn	**Pn**	**04 31 50.4**	**+2.6**
ISFR	**Esferayen**	**2.85**	**328**	Pn	**Pn**	**04 31 54.5**	**+4.0**
IEMG	**Emamqoli**	**2.95**	**341**	Pn	**Pn**	**04 31 54.0**	**+2.1**
IBAF	**Bafgh**	**4.72**	**231**	Pn	**Pn**	**04 32 18.3**	**+1.2**
ZHSF	**Zahedan**	**5.06**	**171**	*e*PN	**Pn**	**04 32 22.8**	**+1.0**
ZHSF				*e*SG	**Sn**	**04 33 40.0**	**+20**
ZHSF				AML	AML	04 33 60.0	
	comp=N,43nm,0.8s						
ZHSF	**Zahedan**	**5.06**	**171**	*e*Pn	**Pn**	**04 32 22.8**	**+0.9**
	SNR=52						
ZHSF				*e*Sg	**Sn**	**04 33 40.0**	**+20**
	comp=N,43nm,0.8s,SNR=90						
ICHK	**Chekchek**	**5.16**	**244**	Pn	**Pn**	**04 32 23.8**	**+0.6**
KRBR	**Kerman**	**5.33**	**211**	*e*PN	**Pn**	**04 32 25.5**	**-0.2**
KRBR				*e*SG	**Sn**	**04 33 45.2**	**+18**

KRBR AML AML 04 34 13.9
comp=N,125nm,0.4s
KRBR Kerman 5.33 211 *e*Pn **Pn 04 32 25.5 -0.2**
SNR=52
KRBR *e*Sg **Sn 04 33 45.2 +18**
comp=N,125nm,0.4s,SNR=90
IMEH Mehriz 5.48 235 Pn **Pn 04 32 28.5 +0.7**
IFIR Firoozkooh 5.93 282 Pn **Pn 04 32 33.7 -0.4**
NASN Na'in 6.17 255 *e*PN **Pn 04 32 36.8 -0.8**
NASN *e*SG Sn 04 34 10.7 +23
NASN AML AML 04 34 40.6
comp=N,62nm,1.0s
NASN Na'in 6.17 255 *e*Pn **Pn 04 32 36.8 -0.7**
SNR=52
NASN *e*Sg Sn 04 34 10.7 +23
comp=N,62nm,1.0s,SNR=90
IDMV Damavand 6.50 281 Pn **Pn 04 32 41.6 -0.6**
IZEF Zefreh 6.52 257 Pn **Pn 04 32 42.1 -0.4**
DAMV Damavand 6.56 281 *e*PN **Pn 04 32 43.1 +0.2**
IVRN Varamin 6.72 275 Pn **Pn 04 32 44.0 -1.2**
IKLH Kalahroud 7.02 262 Pn **Pn 04 32 42.5 -7.0**
THKV Tehran--Karaj 7.47 282 *e*PN **Pn 04 32 56.0 +0.2**
IPIR Pirpir 7.74 258 Pn **Pn 04 32 57.5 -2.1**
IGZV Gazvin 8.07 285 Pn **P 04 33 03.2 -1.0**
ASAO Ashtian 8.13 272 *e*PN **P 04 33 04.4 -0.6**
IRAZ Razeghan 8.20 278 Pn **P 04 33 18.0 +12**
KK31 Karatay Array 11.83 41 P **P 04 33 51.9 -3.8**
comp=N,6.5nm,0.7s,baz=229,slow=15,SNR=42
KK31 ⇑S **S 04 36 02.3 -5.5**
comp=N,13nm,0.8s,baz=228,slow=24,SNR=3.5
KKAR Karatay Array 11.83 41 *i* P **P 04 33 51.9 -3.8**
KKAR pmax pmax
comp=Z,3.0nm,0.4s
AML Almayashu 13.16 51 P **P 04 34 09.3 -4.2**
SNR=20
GNI Garni 13.23 299 P **P 04 34 19.4 +5.0**
GNI pmax pmax
comp=Z,1.0nm,0.3s
GNI MLR MLR
comp=Z,46nm,18.1s
GNI Garni 13.23 299 P **P 04 34 19.4 +5.0**
comp=Z,0.6nm,0.3s,baz=351,slow=19,SNR=2.4
GNI LR LR 04 40 53.9
comp=Z,46nm,18.1s,baz=344,slow=44
UCH Uchtor 13.74 52 P **P 04 34 16.4 -4.6**
SNR=20
AAK Ala-Archa 13.93 51 P **P 04 34 23.5 0.0**
SNR=9.5
AAK Ala-Archa 13.93 51 ⇑P **P 04 34 22.9 -0.6**
comp=Z,16nm,0.7s
AAK Ala-Archa 13.93 51 P **P 04 34 22.9 -0.6**
AAK pmax pmax
comp=Z,6.0nm,0.5s
AAK Ala-Archa 13.93 51 *e*Pn **P 04 34 20.2 -3.3**
comp=Z,20nm,0.8s
AAK Ala-Archa 13.93 51 *e*Pn **P 04 34 20.2 -3.3**
comp=Z,20nm,0.8s
AAK Ala-Archa 13.93 51 P **P 04 34 22.9 -0.6**
comp=Z,6.0nm,0.5s
FRU Bishkek 14.11 50 ⇓ *i* P **P 04 34 24.5 -1.3**
FRU *e* 04 36 55.5
FRU pmax pmax
comp=Z,108nm,1.5s
FRU Bishkek 14.11 50 *i* P **P 04 34 24.5 -1.3**
comp=Z,108nm,1.5s
KBK Karagaybulak 14.23 51 P **P 04 34 22.7 -4.8**
SNR=17
USP Ospenovka 14.26 48 P **P 04 34 26.0 -1.9**
SNR=11
CHMS Chumysh 14.27 50 P **P 04 34 26.4 -1.7**
SNR=9.4
AB31 Akbulak array 14.61 0 ⇓P **P 04 34 30.2 -2.3**
comp=Z,12nm,0.9s
AB31 Akbulak array 14.61 0 P **P 04 34 27.5 -5.0**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
TKM2 Tokmak 2 14.77 51 P **P 04 34 32.2 -2.4**
SNR=20
ZEI Tsey 14.88 308 *e*P **P 04 34 32.1 -3.8**
KIV Kislovodsk 16.22 310 P **P 04 34 55.0 +1.7**
MALT Malatya 17.64 288 *e*P **P 04 35 11.8 +0.7**
MALT pmax pmax
comp=Z,4.0nm,0.8s
MALT Malatya 17.64 288 *e*P **P 04 35 11.8 +0.7**
comp=Z,4.2nm,0.8s
MALT Malatya 17.64 288 *e*P **P 04 35 11.8 +0.7**
comp=Z,4.2nm,0.8s
ASF Jabal al Asfar 19.34 269 P **P 04 35 31.3 -0.5**
baz=331,slow=3.4,SNR=5.2
ZRNK Zerenda 19.43 17 ⇓P **P 04 35 31.1 -1.6**
comp=Z,4.7nm,0.8s
ZRNK Zerenda 19.43 17 P **P 04 35 31.1 -1.6**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s
ZRNK Zerenda 19.43 17 *e*P **P 04 35 30.6 -2.1**
comp=Z,7.4nm,0.8s
VOSK Vostochnaya 19.74 20 ⇑P **P 04 35 36.3 +0.1**
comp=Z,12nm,0.9s
VOSK Vostochnaya 19.74 20 P **P 04 35 36.2 0.0**
VOSK pmax pmax
comp=Z,11nm,0.9s
VOSK Vostochnaya 19.74 20 P **P 04 35 36.2 0.0**
comp=Z,11nm,0.9s
BVA0 Borovoye Array 19.85 19 P **P 04 35 36.4 -0.9**
comp=Z,0.7nm,0.5s,baz=196,slow=11,SNR=55
BVAR Borovoye Array 19.85 19 P **P 04 35 36.4 -1.0**
comp=Z,3.2nm,0.3s,baz=198,slow=11,SNR=46
BVAR S **S 04 39 08.1 -5.7**
comp=Z,0.2nm,0.3s,baz=193,slow=19,SNR=3.8
ANN Anapa 19.98 307 *e*P **P 04 35 39.0 +0.2**
ANN *e*S **S 04 39 23.2 +6.7**
ANN pmax pmax
comp=Z,37nm,0.6s
ANN Anapa 19.98 307 *e*P **P 04 35 39.0 +0.2**
comp=Z,37nm,0.6s
MK31 Makanchi Array 20.80 48 ⇑P **P 04 35 47.3 0.0**
comp=Z,7.9nm,1.1s
MKAR Makanchi Array 20.80 48 P **P 04 35 47.0 -0.3**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 20.80 48 P **P 04 35 47.0 -0.3**
comp=Z,3.0nm,0.8s,baz=238,slow=14,SNR=15
MKAR Makanchi Array 20.80 48 P **P 04 35 47.0 -0.3**
KOLN Koldanda 21.38 102 *e*P **P 04 35 53.0 -0.3**
BR131 Keskin Array S 21.48 291 *e*P **P 04 35 53.8 -0.4**
comp=Z,9.6nm,0.9s,mb4.1
BR131 Keskin Array S 21.48 291 *e*P **P 04 35 53.8 -0.5**
comp=Z,9.6nm,0.9s,mb4.1
BRTR Keskin Array B 21.48 291 P **P 04 35 53.8 -0.5**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 21.48 291 P **P 04 35 53.8 -0.5**
comp=Z,6.5nm,0.8s,mb4.0,baz=108,slow=12,SNR=18
EIL Elat 21.66 264 P **P 04 35 55.4 -0.7**
comp=Z,3.6nm,0.7s,mb3.9,baz=346,slow=32,SNR=4.6
EIL Elat 21.66 264 *e*P **P 04 35 56.5 +0.4**
comp=Z,9.4nm,1.1s,mb4.1
EIL Elat 21.66 264 *e*P **P 04 35 56.5 +0.4**
comp=Z,9.4nm,1.1s,mb4.1
ARU Arti 21.82 358 ⇓ *i* P **P 04 35 57.7 +0.2**
ARU *e* 04 36 19.7
ARU *e*S **S 04 39 54.7 +2.6**
ARU *e*SSS SSS 04 40 34.3 -10
ARU pmax pmax
comp=Z,38nm,1.2s,mb4.7
ARU Arti 21.82 358 *e*P **P 04 35 57.6 +0.1**
comp=Z,33nm,1.0s,mb4.7
ARU Arti 21.82 358 *e*P **P 04 35 57.6 +0.1**
comp=Z,33nm,1.0s,mb4.7
GKN Gorkha 22.13 101 *e*P **P 04 36 00.5 -0.3**
comp=Z,47nm,0.9s,mb4.9
SVE Sverdlovsk 22.20 1 *e*P **P 04 36 00.0 -1.3**
SIM Simferopol' 22.23 305 P **P 04 36 02.2 +0.5**
SIM pmax pmax
comp=Z,52nm,0.8s,mb5.0
SIM Simferopol' 22.23 305 P **P 04 36 02.2 +0.5**
comp=Z,52nm,0.8s,mb5.0
DMN Daman 22.66 101 *e*P **P 04 36 06.8 +0.7**
comp=Z,19nm,0.7s,mb4.7
KKN Kakani 22.73 100 *e*P **P 04 36 06.8 0.0**
comp=Z,58nm,1.3s,mb4.8
KKN Kakani 22.73 100 *e*P **P 04 36 06.8 0.0**
KKN pmax pmax
comp=Z,29nm,1.3s,mb4.5
PKI Pulchoki 22.93 101 *e*P **P 04 36 09.8 +1.1**
comp=Z,21nm,0.8s,mb4.6
PKI Pulchoki 22.93 101 *e*P **P 04 36 09.8 +1.1**
PKI pmax pmax
comp=Z,11nm,0.8s,mb4.3
GUN Gumba 23.17 100 *e*P **P 04 36 13.1 +2.1**
comp=Z,33nm,0.7s,mb4.9
WMQ Urumqi 23.33 59 *e*P **P 04 36 11.9 -0.5**
WMQ S **S 04 40 19.1 -0.3**
WMQ AMB AMB
comp=Z,9.0nm,0.7s,mb4.3
WMQ AMB AMB
comp=Z,50nm,4.1s
WMQ LR LR
comp=N,321nm,10.1s
WMQ LR LR
comp=E,277nm,9.8s
WMQ LR LR
comp=Z,517nm,10.6s,MS4.3
NVS Novosibirsk 25.92 32 *e*P **P 04 36 35.5 -1.6**
ZAL Zalesovo 26.05 35 P **P 04 36 39.0 +0.7**
ZAL pmax pmax
comp=Z,4.0nm,0.3s
ZAL Zalesovo 26.05 35 P **P 04 36 39.0 +0.7**
comp=Z,3.5nm,0.3s,mb4.4,baz=214,slow=12,SNR=7.9
OBN Obninsk 26.09 329 *e*P **P 04 36 40.4 +1.8**
OBN 04 37 22.0
OBN pmax pmax
comp=Z,28nm,1.2s,mb4.7
OBN Obninsk 26.09 329 *e*P **P 04 36 40.4 +1.8**
comp=Z,28nm,1.2s,mb4.7
AKASG Malin Array Be 27.42 315 P **P 04 36 50.6 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 27.42 315 P **P 04 36 50.5 -0.3**
comp=Z,2.1nm,0.6s,mb3.9,baz=114,slow=8.0,SNR=10
VRI Vrincioaia 27.49 304 ⇓P **P 04 36 55.7 +4.1**
ATD Arta Tunnel 27.74 218 LR LR 04 49 31.3
comp=Z,140nm,18.2s,MS3.6,baz=42,slow=40
MLR Muntele Rosu 27.95 303 ⇑P **P 04 36 58.3 +2.5**
IDI Anoyia 28.60 281 P **P 04 37 01.0 -0.7**
comp=Z,1.6nm,0.4s,mb4.1,baz=336,slow=18,SNR=3.4
BURAR Bucovina Array 28.90 307 ⇓P **P 04 37 04.7 +0.4**
BURAR Bucovina Array 28.90 307 ⇓P **P 04 37 04.7 +0.4**
DRGR 30.40 305 ⇓P **P 04 37 18.5 +0.8**
CRVS Cervenica-Dubn 31.64 309 *e*P **P 04 37 31.4 +2.8**
GTA Gaotai 32.05 70 *e*P **P 04 37 34.9 +2.6**
GTA AP pP 04 37 39.5 -1.0
GTA XP sP 04 37 42.5 -1.7
GTA AMB AMB
comp=Z,4.0nm,0.4s,mb4.6
PSZ Piszkesteto 32.48 306 *e*P **P 04 37 36.4 +0.5**
PSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
PSZ Piszkesteto 32.48 306 *e*P **P 04 37 36.4 +0.5**
comp=Z,5.1nm,0.8s,mb4.4
PSZ Piszkesteto 32.48 306 *e*P **P 04 37 36.4 +0.5**
comp=Z,5.1nm,0.8s,mb4.4
NIE Niedzica 32.48 309 *e*P **P 04 37 37.2 +1.3**
OJC Ojcow 32.98 311 *e*P **P 04 37 40.2 0.0**
VYHS Vyhne 33.27 307 *e*P **P 04 37 43.1 +0.3**
MORC Moravsky Berou 34.32 309 *e*P **P 04 37 52.0 +0.1**
MORC pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
MORC Moravsky Berou 34.32 309 *e*P **P 04 37 52.0 +0.1**
comp=Z,1.8nm,0.5s,mb4.3
MORC Moravsky Berou 34.32 309 *e*P **P 04 37 52.0 +0.1**
comp=Z,1.8nm,0.5s,mb4.3
ZST Bratislava 34.37 306 *e*P **P 04 37 53.0 +0.7**
FINES FINESS Array B 34.38 332 P **P 04 37 51.7 -0.5**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES MLR MLR
comp=Z,39nm,20.4s
FINES FINESS Array B 34.38 332 P **P 04 37 51.7 -0.5**
comp=Z,1.2nm,0.5s,mb4.1,baz=124,slow=6.9,SNR=12
FINES LR LR 04 54 40.1
comp=Z,39nm,20.4s,MS3.1,baz=52,slow=41
FINES FINESS Array B 34.38 332 P **P 04 37 51.7 -0.5**
FINES LR LR 04 54 40.1
KAF Kangasniemi 34.68 333 *e*p **P 04 37 52.2 -2.6**
GERES GERESS Array B 36.69 307 P **P 04 38 12.2 +0.2**
GERES 04 40 32.4
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 36.69 307 P **P 04 38 12.2 +0.3**
comp=Z,2.1nm,0.6s,mb4.2,baz=99,slow=8.3,SNR=19
GERES PcP PcP 04 40 32.4 -2.3
comp=Z,0.5nm,0.6s,baz=135,slow=1.9,SNR=4.9
GERES GERESS Array B 36.69 307 PcP PcP 04 40 32.4 -2.3
BRG Berggiesshubel 36.77 310 *e*P **P 04 38 14.5 +1.9**
BRG pmax pmax
comp=Z,8.0nm,1.3s,mb4.4
BRG Berggiesshubel 36.77 310 P **P 04 38 14.5 +1.8**
comp=Z,8.1nm,1.3s,mb4.4
BRG Berggiesshubel 36.77 310 P **P 04 38 14.5 +1.9**
comp=Z,8.1nm,1.3s,mb4.4
KHC Kasperske Hory 36.80 308 ⇓ *i* P **P 04 38 12.2 -0.7**
KHC Kasperske Hory 36.80 308 *i* P **P 04 38 12.2 -0.7**
SONM Songino Array 36.83 55 P **P 04 38 14.2 +1.0**
comp=Z,0.7nm,0.6s,mb3.7,baz=280,slow=7.5,SNR=5.1
ULN Ulaanbaatar 37.28 55 P **P 04 38 17.9 +1.0**
ULN pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
ULN Ulaanbaatar 37.28 55 P **P 04 38 17.9 +1.0**
comp=Z,1.2nm,0.5s,mb4.0
ULN Ulaanbaatar 37.28 55 P **P 04 38 17.9 +1.0**
comp=Z,1.2nm,0.5s,mb4.0
CMAR Chiang Mai Arr 38.21 105 P **P 04 38 25.9 +0.9**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 38.21 105 P **P 04 38 25.9 +0.8**
comp=Z,2.4nm,0.6s,mb4.1,baz=299,slow=8.6,SNR=12
HFS Hagfors 39.15 325 P **P 04 38 32.3 -0.2**
comp=Z,2.3nm,0.7s,mb4.0,baz=98,slow=10,SNR=9.7
HFS Hagfors 39.15 325 P **P 04 38 32.4 -0.1**
DAVOX Davos 39.18 304 P **P 04 38 32.4 -0.4**
comp=Z,5.7nm,0.7s,mb4.4,baz=62,slow=1.1,SNR=5.5
KEV Kevo 39.52 343 *e*p **P 04 38 33.8 -1.7**
ARCES ARCESS Array B 39.74 342 P **P 04 38 37.1 -0.2**
ARCES 04 40 42.2
ARCES pmax pmax
comp=Z,3.0nm,1.0s
ARCES pmax pmax
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 39.74 342 P **P 04 38 37.1 -0.2**
comp=Z,2.5nm,1.0s,mb3.9,baz=139,slow=11,SNR=8.7
ARCES PcP PcP 04 40 42.2 -1.8
comp=Z,1.2nm,0.8s,baz=90,slow=1.2,SNR=3.9
ARCES ARCESS Array B 39.74 342 P **P 04 38 37.1 -0.2**
ARCES PcP PcP 04 40 42.2 -1.8
PGF Pioggiola 40.04 297 *e*P **P 04 38 39.9 -0.1**
comp=Z,147nm,1.6s,mb5.2
PGF Pioggiola 40.04 297 *e*P **P 04 38 39.9 -0.1**
PGF pmax pmax
comp=Z,74nm,1.6s,mb5.2
XAN Xi'an 40.17 76 P **P 04 38 42.6 +1.4**
XAN AMB AMB
comp=Z,6.0nm,1.0s,mb4.3
NB2 NORSAR Subarra 40.60 326 P **P 04 38 43.4 -1.1**
comp=Z,1.9nm,0.6s,mb3.9,baz=107,slow=7.9
NOA NORSAR Array B 40.60 326 P **P 04 38 43.6 -0.9**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 40.60 326 P **P 04 38 43.6 -0.9**
comp=Z,1.6nm,0.6s,mb3.9,baz=110,slow=8.0,SNR=18
HHC Hu-ho-hao-te 40.85 66 *e*P **P 04 38 46.1 -0.6**
HHC AMB AMB
comp=Z,12nm,1.0s,mb4.5
CDF Champ du Feu 40.93 306 *e*P **P 04 38 46.4 -0.9**
comp=Z,4.2nm,0.5s,mb4.0
CDF Champ du Feu 40.93 306 *e*P **P 04 38 46.4 -0.9**
CDF pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
SBF Sospel 41.05 299 *e*P **P 04 38 48.7 +0.4**
comp=Z,69nm,1.0s,mb5.0
SBF Sospel 41.05 299 *e*P **P 04 38 48.7 +0.4**
SBF pmax pmax
comp=Z,34nm,1.0s,mb4.9
LPG La Plagne 41.40 302 *e*P **P 04 38 51.4 +0.2**
LPL La Plagne 41.41 302 *e*P **P 04 38 51.5 +0.2**
comp=Z,13nm,0.8s,mb4.3
LPL La Plagne 41.41 302 *e*P **P 04 38 51.5 +0.2**
LPL pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
KMBO Kilima Mbogo 41.41 216 LR LR 04 57 51.4
comp=Z,58nm,18.8s,MS3.5,baz=286,slow=39
MBDF Montbardon 41.45 301 *e*P **P 04 38 51.5 0.0**
comp=Z,35nm,1.0s,mb4.6
MBDF Montbardon 41.45 301 *e*P **P 04 38 51.5 0.0**
MBDF pmax pmax
comp=Z,18nm,1.0s,mb4.7
HAU Haudompre 41.56 306 *e*P **P 04 38 51.6 -0.8**
FRF La Foret Royal 41.65 299 *e*P **P 04 38 53.0 -0.2**
LMR La Mourre 41.77 298 *e*P **P 04 38 54.1 -0.1**
comp=Z,12nm,0.8s,mb4.2
LMR La Mourre 41.77 298 *e*P **P 04 38 54.1 -0.1**
LMR pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
CABF La Chapelle 41.79 303 *e*P **P 04 38 54.4 +0.1**
comp=Z,33nm,0.9s,mb4.7
CABF La Chapelle 41.79 303 *e*P **P 04 38 54.4 +0.1**
CABF pmax pmax
comp=Z,17nm,0.9s,mb4.7
ORIF Oris-en-Rattie 42.06 301 *e*P **P 04 38 56.3 -0.3**
SMRF Simiane la Rot 42.37 300 *e*P **P 04 38 58.7 -0.4**
VIVF Saint-Julien-l 42.92 301 *e*P **P 04 39 03.4 -0.2**
comp=Z,27nm,1.1s,mb4.6
VIVF Saint-Julien-l 42.92 301 *e*P **P 04 39 03.4 -0.2**
VIVF pmax pmax
comp=Z,13nm,1.1s,mb4.6
LOR Lormes 43.27 305 *e*P **P 04 39 05.6 -0.8**
comp=Z,6.9nm,0.7s,mb4.2
LOR Lormes 43.27 305 *e*P **P 04 39 05.6 -0.8**
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
SMF Signal de Mont 43.33 304 *e*P **P 04 39 06.5 -0.4**
comp=Z,14nm,0.7s,mb4.5
SMF Signal de Mont 43.33 304 *e*P **P 04 39 06.5 -0.4**
SMF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
SSF Saint Saulge 43.53 304 *e*P **P 04 39 07.4 -1.1**
LASF Ste Croix 43.59 300 *e*P **P 04 39 09.0 0.0**
BGF Bois d'Agland 44.02 304 *e*P **P 04 39 12.2 -0.3**
TCF Toulx Ste Croi 44.49 303 *e*P **P 04 39 16.2 -0.1**
comp=Z,6.9nm,0.7s,mb4.2
TCF Toulx Ste Croi 44.49 303 *e*P **P 04 39 16.2 -0.1**
TCF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
CAF Calviac 44.75 301 *e*P **P 04 39 18.1 -0.3**
comp=Z,23nm,1.0s,mb4.7
CAF Calviac 44.75 301 *e*P **P 04 39 18.1 -0.3**
CAF pmax pmax
comp=Z,12nm,1.0s,mb4.7
MTLF Montolieu 44.87 299 *e*P **P 04 39 19.4 0.0**
comp=Z,20nm,0.7s,mb4.8
MTLF Montolieu 44.87 299 *e*P **P 04 39 19.4 0.0**
MTLF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
EPF Esparros 46.28 299 *e*P **P 04 39 29.8 -0.7**
ETSF Etsaut 46.95 299 *e*P **P 04 39 35.9 0.0**
comp=Z,17nm,0.9s,mb4.7
ETSF Etsaut 46.95 299 *e*P **P 04 39 35.9 0.0**
ETSF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ROSF Rostrenen 47.95 307 *e*P **P 04 39 43.0 -0.6**
NJ2 Nanjing 48.72 76 *e*P **P 04 39 54.2 +4.4**
NJ2 AP pP 04 40 04.4 +6.0
NJ2 XP sP 04 40 08.3 +6.6
NJ2 PP PP 04 41 47.2 +4.4
NJ2 S **S 04 46 54.0 +4.4**
NJ2 XS 04 47 10.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
NJ2 AMB AMB
comp=Z,404nm,6.2s
ESDC Sonseca Array 50.19 296 P **P 04 40 00.2 -0.8**
comp=Z,1.9nm,0.5s,mb4.4,baz=62,slow=8.1,SNR=12
ESLA Sonseca Array 50.19 296 *e*P **P 04 40 00.2 -0.8**
comp=Z,1.8nm,0.9s,mb4.1
ESLA Sonseca Array 50.19 296 *e*P **P 04 40 00.2 -0.8**
comp=Z,1.8nm,0.9s,mb4.1
YAK Yakutsk 50.72 35 *e*P **P 04 40 06.4 +1.7**
YAK pmax pmax
comp=Z,16nm,0.7s,mb5.1
YAK Yakutsk 50.72 35 *e*P **P 04 40 06.4 +1.7**
comp=Z,16nm,0.7s,mb5.1
SSE Sheshan 50.92 76 P **P 04 40 07.1 +0.4**
SSE AP pP 04 40 16.1 +0.8
SSE XP sP 04 40 20.0 +1.4
SSE PP PP 04 42 00.4 -3.5
SSE S **S 04 47 19.3 -0.8**
SSE XS 04 47 35.8
SSE SS SS 04 50 54.2 +1.5
SSE AMB AMB
comp=Z,19nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,87nm,7.2s
SSE LR LR
comp=N,167nm,18.5s,MS4.2
SSE LR LR
comp=E,111nm,18.6s,MS4.2
SSE LR LR
comp=Z,178nm,18.9s,MS4.1
SSE Sheshan 50.92 76 P **P 04 40 07.1 +0.4**
comp=Z,19nm,0.8s,mb5.1
SSE pP pP 04 40 16.1 +0.8
SSE sP sP 04 40 20.0 +1.4
SSE PP PP 04 42 00.4 -3.5
SSE S **S 04 47 19.3 -0.8**
SSE sS 04 47 35.8
SSE SS SS 04 50 54.2 +1.5
SSE LR LR
comp=Z,180nm,18.9s,MS4.1
TIXI Tiksi 50.93 22 *e*P **P 04 40 05.0 -1.2**
TIXI pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
TIXI Tiksi 50.93 22 *e*P **P 04 40 05.0 -1.2**
comp=Z,2.0nm,0.9s,mb4.0
PVRL Vila Real 52.51 299 *e*P **P 04 40 18.5 -0.1**
MTE Manteigas 52.63 297 *e*P **P 04 40 19.6 +0.1**
PCBR Castelo Branco 52.74 297 *e*P **P 04 40 20.7 +0.4**
PVIS Viseu 52.80 298 *e*P **P 04 40 20.8 +0.1**
PTOM Tomar 53.50 297 *e*P **P 04 40 26.3 +0.4**
EVO Evora 53.54 295 *e*P **P 04 40 25.3 -0.9**
comp=Z,16nm,1.0s,mb4.6
PBEJ Beja 53.59 295 *e*P **P 04 40 29.1 +2.6**
MATP Matopo 62.35 213 P **P 04 41 27.9 -0.4**
comp=Z,5.5nm,0.6s,mb4.9,baz=26,slow=7.5,SNR=21
MATP Matopo 62.35 213 P **P 04 41 27.9 -0.4**
BILL Bilibino 64.11 24 *e*P **P 04 41 39.5 +0.3**
BILL *e* pP 04 41 48.8 +0.9
BILL MLR MLR
comp=Z,100nm,17.0s,MS4.1
DBIC Dimbokro 65.49 261 P **P 04 41 47.5 -1.5**
DBIC pmax pmax
comp=Z,5.0nm,0.6s
DBIC Dimbokro 65.49 261 P **P 04 41 47.5 -1.5**
comp=Z,5.1nm,0.6s,mb4.7,baz=15,slow=7.4,SNR=12
LBTB Lobatse 67.65 214 P **P 04 42 01.8 -0.7**
LBTB pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
LBTB Lobatse 67.65 214 P **P 04 42 01.8 -0.8**
comp=Z,3.3nm,0.7s,mb4.5,baz=22,slow=13,SNR=4.0
LBTB Lobatse 67.65 214 P **P 04 42 01.8 -0.8**
BOSA Boshof 70.91 212 P **P 04 42 21.9 -0.6**
BOSA pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BOSA Boshof 70.91 212 P **P 04 42 21.9 -0.6**
comp=Z,4.4nm,0.8s,mb4.4,baz=156,slow=7.1,SNR=4.4
INK Inuvik 76.89 5 *e*P **P 04 42 57.1 +0.7**
INK pmax pmax
comp=Z,4.0nm,0.6s
INK Inuvik 76.89 5 P **P 04 42 57.2 +0.8**
comp=Z,3.6nm,0.6s,mb4.5,baz=31,slow=5.3,SNR=8.4
INK Inuvik 76.89 5 *e*P **P 04 42 57.1 +0.7**
comp=Z,3.9nm,0.6s,mb4.5
ILAR Eielson Array 78.72 11 P **P 04 43 07.4 +0.8**
ILAR pmax pmax
comp=Z,2.0nm,1.1s
ILAR Eielson Array 78.72 11 P **P 04 43 07.3 +0.8**
comp=Z,1.5nm,1.1s,mb3.9,baz=342,slow=4.3,SNR=9.9
SCHQ Schefferville 79.85 332 P **P 04 43 11.8 -1.1**
comp=Z,1.0nm,0.6s,mb4.0,baz=40,slow=17,SNR=3.2
FITZ Fitzroy Crossi 81.53 119 P **P 04 43 23.1 +0.6**
comp=Z,5.3nm,0.7s,mb4.6,baz=181,slow=15,SNR=5.4
YKA Yellowknife Ar 83.11 357 P **P 04 43 30.7 +0.9**
YKA pmax pmax
comp=Z,2.0nm,1.0s
YKA Yellowknife Ar 83.11 357 P **P 04 43 30.7 +0.9**
comp=Z,2.4nm,1.0s,mb4.2,baz=0.4,slow=5.8,SNR=8.7

YKA	**Yellowknife Ar**	**83.11**	**357**	P	**P**	**04 43 30.7**	**+0.9**
NWAO	**Narrogin (SRO)**	**86.09**	**135**	P	**P**	**04 43 45.5**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,22nm,1.1s						
NWAO	**Narrogin (SRO)**	**86.09**	**135**	P	**P**	**04 43 45.5**	**+0.1**
	comp=Z,22nm,1.1s,mb5.3,baz=266,slow=6.3,SNR=3.0						
WRA	**Warramunga Arr**	**89.08**	**115**	P	**P**	**04 44 00.2**	**+0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**89.08**	**115**	P	**P**	**04 44 00.2**	**+0.2**
	comp=Z,1.2nm,0.7s,mb4.3,baz=317,slow=4.2,SNR=6.9						
WRAB	**Tennant Creek**	**89.08**	**115**	*e*P	**P**	**04 44 00.5**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**89.08**	**115**	*e*P	**P**	**04 44 00.5**	**+0.5**
	comp=Z,2.3nm,0.6s,mb4.7						
FFC	**Flin Flon**	**89.64**	**350**	*e*P	**P**	**04 44 03.1**	**+1.2**
FFC				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.6						
FFC	**Flin Flon**	**89.64**	**350**	*e*P	**P**	**04 44 03.1**	**+1.2**
	comp=Z,1.6nm,0.6s,mb4.5						
SNAA	**Sanae**	**114.65**	**198**	PKIKP	PKPdf	04 49 45.1	-2.5
SNAA				*e*		04 49 58.5	
VNA2	**Neumayer--Watz**	**115.44**	**200**	⇑ *i*PKPdf	PKPdf	04 49 44.7	-4.4
VNA2				*e*		04 49 59.9	
VNA3	**Neumayer Olymp**	**116.24**	**200**	⇑ *i*PKPdf	PKPdf	04 49 46.0	-4.7
VNA3				*e*		04 50 01.8	

*ATH **01** 04:35:47.1, 37.75N×26.75E, h17^{km}±9^{km}, MD3.0/3*
*ISK **01** 04:35:47.8, 37.84N×26.87E, h30^{km}, MD2.9*
*CSEM **01** 04:35:47.5±0.2, 37.76N×27.00E, h12^{km}, MD3.0, Error ellipse: s-maj=5.1km s-min=3.7km az=111.0*
ISC 01 04:35:46.8±0.9, **37.77N**±0.03×**26.75E**±0.06, **h2**^{km}±7^{km}, **n13**, σ**1^{s}03**/23, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMG	**Samos**	**0.09**	**131**	*e*PB	**Pb**	**04 35 50.5**	**-0.4**
SMG				*e*SB	**Sb**	**04 35 52.9**	**-0.6**
URLA	**Izmir**	**0.60**	**348**	*i* P	**Pg**	**04 35 58.4**	**-0.5**
URLA				*i* S	**Sg**	**04 36 10.0**	**+3.0**
BLCB	**Balcova**	**0.66**	**20**	PG	**Pg**	**04 35 59.9**	**0.0**
IZM	**Izmir**	**0.75**	**32**	PG	**Pg**	**04 36 01.2**	**-0.5**
IZM				SG	**Sg**	**04 36 10.6**	**-1.1**
KDAG	**Bornova**	**0.75**	**32**	*i* P	**Pg**	**04 36 01.8**	**0.0**
KDAG				*i* S	**Sg**	**04 36 11.2**	**-0.7**
BODT	**Bodrum**	**0.83**	**148**	PG	**Pg**	**04 36 03.9**	**+0.5**
BDRM	**Kayabasi**	**0.89**	**142**	*i* P	**Pg**	**04 36 05.5**	**+0.9**
BDRM				*i* S	**Sg**	**04 36 17.2**	**+0.7**
AYDN	**Tasoluk**	**0.90**	**96**	*i* P	**Pg**	**04 36 04.2**	**-0.6**
AYDN				*i* S	**Sg**	**04 36 17.6**	**+0.9**
APE	**Apeiranthos**	**1.20**	**235**	*e*PN	**Pn**	**04 36 10.2**	**-0.3**
APE				*e*SN	**Sn**	**04 36 27.5**	**0.0**
APE	**Apeiranthos**	**1.20**	**235**	*e*PN	**Pn**	**04 36 09.2**	**-1.3**
APE				*e*SN	**Sn**	**04 36 26.5**	**-1.0**
YER	**Yerkesik**	**1.37**	**117**	*e*PN	**Pn**	**04 36 10.9**	**-2.1**
PRK	**Paraskevi**	**1.52**	**346**	*e*PN	**Pn**	**04 36 16.0**	**+0.9**
PRK				*e*SN	**Sn**	**04 36 36.7**	**+1.0**
DNZL	**Cakiroluk**	**1.82**	**92**	*i* P	**Pn**	**04 36 22.5**	**+3.2**
DNZL				*i* S	**Sn**	**04 36 47.5**	**+4.2**

*IDC **01** 04:41:53.9±0.7, 0.40S×98.13E, mb4.3/15, mb1 4.3/16, mb1mx4.2/22, mbtmp4.2/16, ML4.3/1, MS3.9/8, Ms1 3.9/8, ms1mx3.7/25, Error ellipse: s-maj=22.5km s-min=16.4km az=55.0*
*BJI **01** 04:41:56.6, 0.58S×98.26E, h33^{km}, mB5.0, mb4.6, Ms4.5, Msz4.5*
*MOS **01** 04:41:57.3±1.2, 0.28S×98.20E, h33^{km}, mb4.8/6, Error ellipse: s-maj=20.6km s-min=11.3km az=99.1*
*NEIC **01** 04:41:58.4±0.4, 0.46S×98.06E, h30^{km}, mb4.6/4, Error ellipse: s-maj=11.8km s-min=9.4km az=56.0*
ISC 01 04:41:57.0±0.5, **0.43S**±0.07×**98.12E**±0.08, **h33**^{km}, **h33**^{km}±5.9^{km}**:pP-P**, **n52**, σ**1^{s}11**/40, **mb4.4**/28, **MS4.0**/8, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.22**	**24**	*e*Pn	**Pn**	**04 43 29.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**18.78**	**2**	P	**P**	**04 46 15.9**	**-0.3**
	0.4nm,0.3s,baz=194,slow=10,SNR=21						
CMAR				LR	LR	04 54 21.7	
	comp=Z,358nm,21.2s,baz=180,slow=40						
KKM	**Kota Kinabalu**	**19.18**	**70**	P	**P**	**04 46 21.8**	**+0.9**
SHL	**Shillong**	**26.53**	**347**	*e*P	**P**	**04 47 33.8**	**0.0**
GYA	**Guiyang**	**27.97**	**17**	P	**P**	**04 47 47.9**	**+1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
LSA	**Lhasa**	**30.69**	**348**	P	**P**	**04 48 12.6**	**+1.5**
FITZ	**Fitzroy Crossi**	**32.25**	**125**	P	**P**	**04 48 24.5**	**-0.5**
	comp=Z,6.2nm,0.9s,mb4.4,baz=195,slow=7.1,SNR=3.6						
XAN	**Xi'an**	**35.75**	**15**	P	**P**	**04 48 54.9**	**-0.1**
XAN				AP	pP	04 49 09.0	+4.3
XAN				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
XAN				LR	LR		
	comp=N,309nm,15.3s,MS4.3						
XAN				LR	LR		
	comp=E,216nm,14.7s,MS4.3						
XAN				LR	LR		
	comp=Z,603nm,17.5s,MS4.4						
GTA	**Gaotai**	**39.67**	**2**	*e*P	**P**	**04 49 28.9**	**+1.1**
GTA				AP	pP	04 49 36.0	-1.6
GTA				XP	sP	04 49 39.5	-2.2
GTA				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.2						
WRA	**Warramunga Arr**	**40.41**	**121**	P	**P**	**04 49 34.0**	**0.0**
	comp=Z,2.9nm,0.7s,mb4.1,baz=300,slow=9.0,SNR=17						
WRAB	**Tennant Creek**	**40.41**	**121**	*e*P	**P**	**04 49 34.3**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
WRAB	**Tennant Creek**	**40.41**	**121**	*e*P	**P**	**04 49 34.3**	**+0.2**
	comp=Z,5.8nm,0.7s,mb4.4						
WMQ	**Urumqi**	**45.03**	**349**	*e*P	**P**	**04 50 13.2**	**+1.7**
WMQ				AP	pP	04 50 23.1	+1.8
WMQ				XP	sP	04 50 27.0	+1.7
SONM	**Songino Array**	**48.60**	**7**	P	**P**	**04 50 39.7**	**+0.2**
	comp=Z,4.4nm,1.1s,mb4.4,baz=197,slow=6.3,SNR=9.4						
ULN	**Ulaanbaatar**	**48.72**	**8**	*e*P	**P**	**04 50 42.5**	**+2.1**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**48.72**	**8**	*e*P	**P**	**04 50 42.5**	**+2.1**
	comp=Z,5.8nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**49.03**	**346**	P	**P**	**04 50 43.6**	**+0.8**
	comp=Z,7.4nm,0.8s,mb4.8,baz=153,slow=8.1,SNR=24						
CN2	**Changchun**	**50.35**	**26**	*e*P	**P**	**04 50 53.3**	**+0.3**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
ZAK	**Zakamensk**	**50.81**	**4**	*e*P	**P**	**04 50 56.8**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
CTA	**Charters Tower**	**50.97**	**116**	LR	LR	05 15 29.6	
	comp=Z,188nm,20.9s,MS4.1,baz=134,slow=40						
STKA	**Stephens Creek**	**51.59**	**132**	P	**P**	**04 51 03.1**	**+0.5**
	comp=Z,2.6nm,0.7s,mb4.3,baz=226,slow=4.5,SNR=3.3						
MJAR	**Matsushiro Arr**	**52.29**	**41**	P	**P**	**04 51 05.5**	**-2.3**
	comp=Z,1.2nm,0.3s,mb4.2,baz=222,slow=7.4,SNR=10						
MDJ	**Mudanjiang**	**52.85**	**28**	P	**P**	**04 51 10.5**	**-1.3**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,51nm,3.8s						
ZAL	**Zalesovo**	**55.29**	**350**	P	**P**	**04 51 30.5**	**+0.9**
	comp=Z,3.9nm,0.6s,mb4.6,baz=303,slow=6.7,SNR=13						
NVS	**Novosibirsk**	**56.43**	**350**	*e*P	**P**	**04 51 35.3**	**-2.5**
KLR	**Kul'dur**	**57.30**	**26**	*e*P	**P**	**04 51 41.8**	**-2.3**
KLR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
BVAR	**Borovoye Array**	**58.08**	**341**	P	**P**	**04 51 48.2**	**-1.2**
	comp=Z,2.6nm,0.8s,mb4.3,baz=149,slow=8.6,SNR=11						
ZRNK	**Zerenda**	**58.48**	**340**	*e*P	**P**	**04 51 50.3**	**-2.0**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
ZRNK	**Zerenda**	**58.48**	**340**	*e*P	**P**	**04 51 50.3**	**-1.9**
	comp=Z,1.9nm,0.9s,mb4.1						
YSS	**Yuzh-Sakhalins**	**61.18**	**33**	*e*P	**P**	**04 52 11.0**	**+0.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4						
MALT	**Malatya**	**66.89**	**312**	P	**P**	**04 52 48.1**	**-0.3**
MALT				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
MALT	**Malatya**	**66.89**	**312**	P	**P**	**04 52 48.1**	**-0.3**
	comp=Z,7.9nm,1.2s,mb4.6						
MATP	**Matopo**	**70.78**	**249**	P	**P**	**04 53 13.2**	**+0.5**
	comp=Z,5.1nm,0.9s,mb4.4,baz=83,slow=7.0,SNR=6.0						
BRTR	**Keskin Array B**	**70.88**	**313**	P	**P**	**04 53 11.7**	**-1.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=117,slow=9.7,SNR=3.6						
MAW	**Mawson**	**71.35**	**193**	LR	LR	05 19 37.2	
	comp=Z,122nm,19.6s,MS4.2,baz=257,slow=32						
TIXI	**Tiksi**	**74.62**	**10**	*e*P	**P**	**04 53 32.2**	**-2.2**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
BOSA	**Boshof**	**74.78**	**241**	P	**P**	**04 53 37.7**	**+1.5**
	comp=Z,2.2nm,0.6s,mb4.2,baz=32,slow=12,SNR=5.3						
BOSA	**Boshof**	**74.78**	**241**	P	**P**	**04 53 37.7**	**+1.5**
IDI	**Anoyia**	**76.59**	**306**	P	**P**	**04 53 46.4**	**0.0**
	comp=Z,1.7nm,0.5s,mb4.2,baz=98,slow=5.9,SNR=2.4						
AKASG	**Malin Array Be**	**77.10**	**323**	P	**P**	**04 53 48.7**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=89,slow=4.9,SNR=4.1						
FINES	**FINESS Array B**	**81.85**	**332**	P	**P**	**04 54 14.4**	**+0.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=135,slow=8.1,SNR=4.1						
FINES				LR	LR	05 37 30.8	
	comp=Z,40nm,20.0s,MS3.8,baz=318,slow=41						
ARCES	**ARCESS Array B**	**84.36**	**340**	P	**P**	**04 54 26.6**	**-0.2**
	comp=Z,1.3nm,0.9s,mb4.0,baz=90,slow=4.9,SNR=4.4						
ARCES				LR	LR	05 35 28.1	
	comp=Z,79nm,19.9s,MS4.1,baz=136,slow=38						
HFS	**Hagfors**	**87.58**	**330**	LR	LR	05 37 13.7	
	comp=Z,40nm,18.5s,MS3.9,baz=92,slow=38						
NOA	**NORSAR Array B**	**88.86**	**331**	LR	LR	05 38 02.9	
	comp=Z,41nm,20.9s,MS3.8,baz=105,slow=38						
JMIC	**Jan Mayen**	**95.78**	**342**	LR	LR	05 43 35.6	
	comp=Z,59nm,18.9s,MS4.1,baz=249,slow=39						
PPT	**Papeete**	**111.09**	**109**	*e*LR	LR	04 57 09.5	
	comp=Z,225nm,26.0s						
CPUP	**Villa Florida**	**144.39**	**220**	PKP	PKPdf	05 01 32.2	-3.8
	comp=Z,7.2nm,1.0s,baz=108,slow=16,SNR=15						
CPUP	**Villa Florida**	**144.39**	**220**	*e*PKPdf	PKPdf	05 01 32.2	-3.8
TXAR	**Lajitas Array**	**144.53**	**34**	PKP	PKPdf	05 01 33.0	-3.1
	comp=Z,2.6nm,0.9s,baz=293,slow=1.5,SNR=28						
CPCT	**Cooper Cave**	**145.07**	**4**	*e*PKPdf	PKPdf	05 01 33.2	-3.8
PLAL	**Pickwick Lake**	**145.14**	**9**	*e*PKPbc	PKPbc	05 01 33.0	+1.0
SWET	**Sewanee**	**145.18**	**6**	*e*PKPdf	PKPdf	05 01 33.2	-4.0

*ATH **01** 04:43:56.0, 38.89N×26.32E, h26^{km}±3^{km}, MD3.2/5*
*NEIC **01** 04:43:56.0, 38.89N×26.32E, h26^{km}, MD3.2(ATH), MD3.2(ISK), After ATH.*
*CSEM **01** 04:43:57.2±0.2, 38.95N×26.01E, h10^{km}, MD3.2, Error ellipse: s-maj=5.0km s-min=2.4km az=58.0*
*ISK **01** 04:43:58.4, 38.99N×25.87E, h30^{km}, MD3.3*
ISC 01 04:43:57.4±1.1, **39.01N**±0.03×**25.99E**±0.06, **h8**^{km}±7^{km}, **n21**, σ**0^{s}76**/29, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.32**	**42**	*e*PB	**Pb**	**04 44 04.5**	**-0.4**
PRK				*e*SB	**Sb**	**04 44 09.6**	**-0.4**
AYVA	**Ayvalik**	**0.62**	**61**	*i* P	**Pg**	**04 44 09.4**	**-0.4**
AYVA				*i* S	**Sg**	**04 44 18.1**	**0.0**
URLA	**Izmir**	**0.80**	**144**	*i* P	**Pb**	**04 44 13.0**	**-0.2**
URLA				*i* S	**Sb**	**04 44 25.8**	**+1.9**
EZN	**Ezine**	**0.85**	**17**	PG	**Pg**	**04 44 15.3**	**+0.8**
LIA	**Limnos Island**	**1.09**	**325**	*e*PN	**Pn**	**04 44 20.3**	**+1.4**
IZM	**Izmir**	**1.17**	**121**	PN	**Pn**	**04 44 19.6**	**-0.4**
KDAG	**Bornova**	**1.17**	**121**	*i* P	**Pb**	**04 44 17.8**	**-1.6**
KDAG				*i* S	**Sb**	**04 44 34.4**	**-0.1**
CANB	**Canakkale**	**1.30**	**39**	PN	**Pn**	**04 44 22.4**	**+0.4**
CANB				SN	**Sn**	**04 44 39.4**	**-0.3**
AKS	**Akhisar**	**1.42**	**95**	PN	**Pn**	**04 44 24.2**	**+0.5**
AKS				SN	**Sn**	**04 44 43.1**	**+0.3**
SMG	**Samos**	**1.46**	**153**	*e*PN	**Pn**	**04 44 19.5**	**-4.7**
SMG				*e*SN	**Sn**	**04 44 36.6**	**-7.0**
BALB	**Balikesir**	**1.59**	**66**	*e*PN	**Pn**	**04 44 26.2**	**+0.1**
BTOK	**Tokmak**	**1.75**	**64**	*i* P	**Pn**	**04 44 28.5**	**+0.2**
BTOK				*i* S	**Sn**	**04 44 50.4**	**-0.7**
APE	**Apeiranthos**	**1.97**	**191**	*e*PN	**Pn**	**04 44 30.4**	**-1.1**
APE	**Apeiranthos**	**1.97**	**191**	*e*Pn	**Pn**	**04 44 29.5**	**-2.0**
BNT	**Bandirma**	**2.00**	**47**	*e*PN	**Pn**	**04 44 32.2**	**+0.2**
MRMT	**Marmara Adasi**	**2.01**	**37**	*e*PN	**Pn**	**04 44 32.8**	**+0.7**
DST	**Dursunbey**	**2.13**	**73**	*e*PN	**Pn**	**04 44 34.3**	**+0.5**
RDO	**Rodhopi**	**2.16**	**351**	*e*PB	**Pb**	**04 44 35.3**	**-1.2**
KCT	**Karacabey**	**2.21**	**55**	*e*PN	**Pn**	**04 44 34.7**	**-0.3**
ORLT	**Orhaneli**	**2.47**	**64**	*e*PN	**Pn**	**04 44 39.0**	**+0.3**
YLV	**Yalova**	**3.03**	**58**	*e*PN	**Pn**	**04 44 47.0**	**+0.3**

*IDC **01** 05:05:28.6±4.6, 18.88S×177.61W, h494^{km}±52^{km}, mb3.3/11, mb1 3.6/12, mb1mx3.6/17, mbtmp4.2/12, Error ellipse: s-maj=21.3km s-min=18.2km az=46.0*
*NEIC **01** 05:05:29.8±3.3, 18.89S×177.64W, h509^{km}±36^{km}, mb3.9/4, Error ellipse: s-maj=18.1km s-min=13.5km az=76.0*
ISC 01 05:05:26.7±4.8, **18.9S**±0.1×**177.6W**±0.2, **h482**^{km}±53^{km}, **n26**, σ**0^{s}67**/19, **mb3.7**/15, **3D**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.83**	**192**	P	**P**	**05 09 24.4**	**-0.9**
	3.1nm,0.3s,baz=358,slow=3.0,SNR=21						
CTA	**Charters Tower**	**34.02**	**262**	P	**P**	**05 11 31.1**	**+0.4**
	3.1nm,0.6s,mb3.9,baz=83,slow=8.1,SNR=4.4						
STKA	**Stephens Creek**	**38.81**	**242**	P	**P**	**05 12 11.4**	**+1.2**
	3.1nm,0.6s,mb3.9,baz=68,slow=6.7,SNR=5.4						
WRAB	**Tennant Creek**	**45.17**	**260**	P	**P**	**05 13 01.0**	**-0.2**
	2.0nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**45.18**	**260**	P	**P**	**05 13 01.5**	**+0.3**
	0.8nm,0.3s,mb3.6,baz=97,slow=7.5,SNR=2.3						
FITZ	**Fitzroy Crossi**	**53.59**	**261**	P	**P**	**05 14 03.9**	**-0.1**
	4.2nm,0.8s,mb3.8,baz=135,slow=5.7,SNR=3.1						
VNDA	**Vanda**	**59.53**	**185**	P	**P**	**05 14 44.4**	**+0.4**
	0.9nm,0.6s,mb3.4,baz=2.5,slow=4.8,SNR=12						
VNDA	**Vanda**	**59.53**	**185**	P	**P**	**05 14 44.4**	**+0.4**
CASY	**Casey**	**65.55**	**205**	*e*P	**P**	**05 15 22.7**	**-0.3**
	2.5nm,0.8s,mb3.9						
MJAR	**Matsushiro Arr**	**69.13**	**323**	P	**P**	**05 15 44.5**	**-0.9**
	2.5nm,0.6s,mb4.0,baz=160,slow=6.1,SNR=6.0						
QSPA	**South Pole Qui**	**71.17**	**180**	*e*P	**P**	**05 15 57.1**	**+0.3**
	6.0nm,0.8s,mb4.2						
NVAR	**Mina Array Bea**	**79.63**	**43**	P	**P**	**05 16 44.6**	**+0.2**
	0.5nm,0.6s,mb3.2,baz=212,slow=6.7,SNR=8.3						
MAW	**Mawson**	**83.18**	**200**	P	**P**	**05 17 01.4**	**-0.5**
	0.6nm,0.5s,mb3.4,baz=129,slow=8.1,SNR=5.8						
TXAR	**Lajitas Array**	**85.91**	**57**	P	**P**	**05 17 17.6**	**+1.5**
	1.8nm,0.7s,mb3.8,baz=219,slow=6.7,SNR=27						
ILAR	**Eielson Array**	**86.68**	**13**	P	**P**	**05 17 17.7**	**-1.2**
	0.7nm,0.5s,mb3.6,baz=221,slow=4.6,SNR=9.3						
PDAR	**Pinedale Array**	**87.57**	**43**	P	**P**	**05 17 23.9**	**+0.3**
	0.8nm,0.8s,mb3.5,baz=210,slow=2.1,SNR=6.8						
SNAA	**Sanae**	**89.60**	**178**	*e*P	**P**	**05 17 31.9**	**-0.6**
	0.7nm,0.6s,mb3.7						
VNA3	**Neumayer Olymp**	**89.72**	**176**	⇓ *i*	**P**	**05 17 32.9**	**-0.1**
VNA2	**Neumayer--Watz**	**90.16**	**177**	⇓ *i*	**P**	**05 17 35.4**	**+0.3**
ARCES	**ARCESS Array B**	**127.41**	**350**	PKP	PKPdf	05 23 34.7	-0.7
	0.9nm,0.4s,baz=26,slow=1.5,SNR=9.5						
FINES	**FINESS Array B**	**134.33**	**344**	PKP	PKPdf	05 23 49.4	+0.8
	0.6nm,0.5s,baz=90,slow=3.8,SNR=4.6						
NOA	**NORSAR Array B**	**137.43**	**354**	PKP	PKPdf	05 23 55.4	+1.0
	0.2nm,0.6s,baz=38,slow=2.1,SNR=3.5						
NOA	**NORSAR Array B**	**137.43**	**354**	PKP	PKPdf	05 23 55.4	+1.0
BRTR	**Keskin Array B**	**145.99**	**314**	PKPbc	PKPbc	05 24 11.7	+0.2
	0.8nm,0.6s,baz=146,slow=4.5,SNR=4.0						
CLL	**Collm**	**146.58**	**348**	⇓ *i*PKP1	PKPbc	05 24 13.6	+1.1
CLL				*i* PKP2	PKPab	05 24 15.4	-2.4
GERES	**GERESS Array B**	**148.75**	**345**	PKPbc	PKPdf	05 24 19.0	+4.9
	1.1nm,0.5s,baz=45,slow=1.9,SNR=9.8						

*IDC **01** 05:09:07.7±0.7, 1.88N×97.89E, mb4.5/15, mb1 4.7/16, mb1mx4.5/21, mbtmp4.5/16, ML4.6/1, MS3.6/4, Ms1 3.6/4, ms1mx3.2/24, Error ellipse: s-maj=31.8km s-min=13.9km az=52.0*
*MOS **01** 05:09:11.3±1.1, 1.96N×98.07E, h33^{km}, mb5.0/22, Error ellipse: s-maj=16.5km s-min=7.7km az=113.9*
*NEIC **01** 05:09:12.2±0.3, 1.78N×97.85E, h30^{km}, mb4.8/22, Error ellipse: s-maj=10.3km s-min=6.0km az=47.0*
*BJI **01** 05:09:14.3, 2.38N×97.99E, h30^{km}, mb5.1, Ms4.2, Msz4.0*
ISC 01 05:09:10.2±0.4, **1.76N**±0.06×**97.84E**±0.05, **h29**^{km}, **h29**^{km}±4.8^{km}**:pP-P**, **n94**, σ**1^{s}07**/91, **mb4.7**/44, **MS3.7**/4, **1C-3D**, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.24**	**49**	P	**Pn**	**05 10 16.4**	**+1.8**
KULM	**Kulim**	**4.50**	**39**	*e*Pn	**Pn**	**05 10 19.6**	**+1.4**
KGM	**Kluang**	**5.48**	**87**	P	**Pn**	**05 10 34.7**	**+2.5**
SNG	**Songkhla**	**6.06**	**27**	P	**Pn**	**05 10 40.0**	**-0.3**
	106nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.63**	**4**	Pn	**P**	**05 13 02.8**	**-0.4**
	0.8nm,0.3s,baz=196,slow=13,SNR=34						
CMAR				LR	LR	05 20 02.7	
	comp=Z,116nm,18.9s,baz=185,slow=40						
CHG	**Chiang Mai**	**16.99**	**4**	⇓P	**P**	**05 13 07.3**	**-0.3**
	12nm,0.8s						
NANT	**Nan**	**17.17**	**9**	P	**P**	**05 13 11.0**	**+1.1**
KKM	**Kota Kinabalu**	**18.82**	**76**	P	**P**	**05 13 31.0**	**+0.7**
TSM	**Tawau**	**20.16**	**82**	P	**P**	**05 13 45.2**	**-0.2**
SHL	**Shillong**	**24.36**	**347**	*e*P	**P**	**05 14 25.5**	**-1.7**
HYB	**Hyderabad**	**24.52**	**311**	*e*P	**P**	**05 14 32.0**	**+3.2**
HYB	**Hyderabad**	**24.52**	**311**	*i* P	**P**	**05 14 32.0**	**+3.2**
PKI	**Pulchoki**	**28.30**	**336**	*e*P	**P**	**05 15 04.1**	**+0.5**
	21nm,0.6s,mb4.9						
PKI	**Pulchoki**	**28.30**	**336**	*e*P	**P**	**05 15 04.1**	**+0.5**
PKI				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.7						
GUN	**Gumba**	**28.41**	**337**	*e*P	**P**	**05 15 04.7**	**+0.1**
	comp=Z,49nm,0.7s,mb5.2						
DMN	**Daman**	**28.45**	**336**	*e*P	**P**	**05 15 06.1**	**+1.1**
	comp=Z,17nm,0.6s,mb4.8						
KKN	**Kakani**	**28.54**	**336**	*e*P	**P**	**05 15 05.8**	**0.0**
	comp=Z,23nm,0.5s,mb5.1						
KKN	**Kakani**	**28.54**	**336**	*e*P	**P**	**05 15 05.8**	**0.0**
KKN				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.8						
GKN	**Gorkha**	**28.99**	**335**	*e*P	**P**	**05 15 09.8**	**0.0**
	comp=Z,52nm,0.9s,mb5.3						
KOLN	**Koldanda**	**29.24**	**334**	*e*P	**P**	**05 15 12.4**	**+0.3**
	comp=Z,60nm,0.8s,mb5.4						
LGTI	**Lohaghat**	**32.23**	**330**	*e*P	**P**	**05 15 39.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**33.74**	**127**	*e*P	**P**	**05 15 50.6**	**-1.1**
	comp=Z,7.7nm,1.2s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.74**	**127**	P	**P**	**05 15 50.4**	**-1.3**
	comp=Z,5.8nm,0.7s,mb4.6,baz=214,slow=2.7,SNR=5.8						
FITZ				PcP	PcP	05 18 31.5	+0.6
	comp=Z,6.2nm,1.0s,baz=343,slow=1.8,SNR=4.6						
GTA	**Gaotai**	**37.52**	**3**	*e*P	**P**	**05 16 23.5**	**-0.1**
GTA				AP	pP	05 16 28.3	-3.8
GTA				XP	sP	05 16 31.5	-4.2
GTA				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.9						
HHC	**Hu-ho-hao-te**	**40.85**	**16**	*e*P	**P**	**05 16 53.4**	**+2.2**
HHC				AP	pP	05 17 03.3	+3.5
HHC				XP	sP	05 17 06.9	+3.6
HHC				PP	PP	05 18 30.6	+2.1
HHC				PCP	PcP	05 18 58.2	+5.9
HHC				SCP		05 22 43.1	
HHC				S	**S**	**05 22 58.6**	**-1.8**
HHC				XS		05 23 13.0	
HHC				SS	SS	05 25 50.9	-6.6
HHC				AMB	AMB		
	comp=Z,11nm,1.7s,mb4.2						
HHC				LR	LR		
	comp=N,134nm,16.7s						
HHC				LR	LR		
	comp=E,212nm,22.7s						
HHC				LR	LR		
	comp=Z,165nm,16.7s,MS4.0						
WRA	**Warramunga Arr**	**41.79**	**123**	P	**P**	**05 16 58.6**	**-0.6**
	comp=Z,7.9nm,0.6s,mb4.5,baz=302,slow=9.1,SNR=51						
WRA				PcP	PcP	05 18 56.1	+0.4
	comp=Z,2.8nm,0.8s,baz=315,slow=2.7,SNR=7.9						
WRAB	**Tennant Creek**	**41.80**	**123**	*e*P	**P**	**05 16 58.9**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**41.80**	**123**	*e*P	**P**	**05 16 58.9**	**-0.4**
	comp=Z,15nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**41.80**	**123**	⇓*i*P	**P**	**05 16 59.1**	**-0.2**
WMQ	**Urumqi**	**42.85**	**349**	*e*P	**P**	**05 17 07.5**	**-0.1**
WMQ				AP	pP	05 17 17.4	+1.2
ULHL	**Ulahol**	**44.73**	**337**	P	**P**	**05 17 23.6**	**+0.7**
	SNR=9.6						
UCH	**Uchtor**	**45.41**	**336**	P	**P**	**05 17 29.4**	**+1.2**
	SNR=14						
TKM2	**Tokmak 2**	**45.55**	**337**	P	**P**	**05 17 30.0**	**+0.6**
	SNR=9.8						
KBK	**Karagaybulak**	**45.59**	**336**	P	**P**	**05 17 31.3**	**+1.6**
	SNR=6.1						
AML	**Almayashu**	**45.67**	**335**	P	**P**	**05 17 31.4**	**+1.0**
	SNR=13						
AAK	**Ala-Archa**	**45.75**	**336**	*e*P	**P**	**05 17 30.0**	**-1.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**45.75**	**336**	*e*P	**P**	**05 17 30.0**	**-1.0**
	comp=Z,4.8nm,0.8s,mb4.5						
USP	**Ospenovka**	**46.28**	**336**	P	**P**	**05 17 35.5**	**+0.4**
	SNR=22						
SONM	**Songino Array**	**46.49**	**8**	P	**P**	**05 17 35.6**	**-1.2**
	comp=Z,8.6nm,0.8s,mb4.7,baz=189,slow=8.8,SNR=40						
SONM				PcP	PcP	05 19 10.8	-0.6
	comp=Z,2.2nm,0.7s,baz=189,slow=4.4,SNR=5.7						
SONM				LR	LR	05 39 18.6	
	comp=Z,62nm,20.1s,MS3.6,baz=29,slow=39						
ULN	**Ulaanbaatar**	**46.62**	**9**	*e*P	**P**	**05 17 37.1**	**-0.6**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**46.62**	**9**	*e*P	**P**	**05 17 37.1**	**-0.7**
	comp=Z,7.2nm,1.0s,mb4.6						
MKAR	**Makanchi Array**	**46.86**	**345**	P	**P**	**05 17 39.3**	**-0.4**
	comp=Z,12nm,0.5s,mb5.1,baz=162,slow=7.7,SNR=130						
MKAR				PcP	PcP	05 19 12.0	-0.7
	comp=Z,0.7nm,0.6s,baz=135,slow=4.1,SNR=1.7						
MKAR				LR	LR	05 39 45.1	
	comp=Z,52nm,19.2s,MS3.5,baz=64,slow=39						
ZAK	**Zakamensk**	**48.67**	**5**	⇓*e*P	**P**	**05 17 52.5**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
TLY	**Talaya**	**49.99**	**5**	*e*P	**P**	**05 18 03.3**	**-0.6**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
TLY	**Talaya**	**49.99**	**5**	*e*P	**P**	**05 18 03.3**	**-0.5**
	comp=Z,5.6nm,0.8s,mb4.7						
MJAR	**Matsushiro Arr**	**50.85**	**42**	P	**P**	**05 18 08.0**	**-2.7**
	comp=Z,0.7nm,0.4s,mb3.9,baz=225,slow=7.1,SNR=4.4						
CTA	**Charters Tower**	**52.18**	**117**	P	**P**	**05 18 20.8**	**-0.1**
	comp=Z,4.6nm,0.7s,mb4.5,baz=309,slow=9.0,SNR=5.5						
CTAO	**Charters Tower**	**52.18**	**117**	*e*P	**P**	**05 18 21.2**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CTAO	**Charters Tower**	**52.18**	**117**	*e*P	**P**	**05 18 21.2**	**+0.2**
	comp=Z,4.8nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**53.11**	**350**	P	**P**	**05 18 27.1**	**-0.3**
	comp=Z,19nm,0.4s,mb5.3,baz=312,slow=5.6,SNR=57						
STKA	**Stephens Creek**	**53.26**	**133**	P	**P**	**05 18 29.1**	**+0.3**
	comp=Z,2.0nm,0.6s,mb4.2,baz=156,slow=11,SNR=5.4						
VOSK	**Vostochnaya**	**55.49**	**341**	P	**P**	**05 18 43.2**	**-1.7**
VOSK				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
BVA0	**Borovoye Array**	**55.94**	**340**	P	**P**	**05 18 46.7**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**56.35**	**339**	P	**P**	**05 18 49.4**	**-1.7**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
ZRNK	**Zerenda**	**56.35**	**339**	*e*P	**P**	**05 18 49.2**	**-1.8**
	comp=Z,12nm,0.9s,mb4.9						
AB31	**Akbulak array**	**57.33**	**331**	*i* P	**P**	**05 18 56.7**	**-1.4**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
YSS	**Yuzh-Sakhalins**	**59.53**	**34**	*e*P	**P**	**05 19 11.6**	**-1.9**
YSS				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
YSS	**Yuzh-Sakhalins**	**59.53**	**34**	*e*P	**P**	**05 19 11.6**	**-1.9**
	comp=Z,17nm,0.8s,mb5.1						
SVE	**Sverdlovsk**	**62.41**	**338**	*e*P	**P**	**05 19 30.2**	**-2.6**
SVE				*e*		05 19 46.0	
SVE				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
KIV	**Kislovodsk**	**64.31**	**319**	*e*P	**P**	**05 19 45.5**	**0.0**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
BRTR	**Keskin Array B**	**69.21**	**312**	P	**P**	**05 20 15.6**	**-1.1**
	comp=Z,2.1nm,0.7s,mb4.2,baz=130,slow=7.2,SNR=11						
MA2	**Magadan**	**70.56**	**26**	*e*P	**P**	**05 20 23.5**	**-1.0**
MA2				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
MA2	**Magadan**	**70.56**	**26**	*e*P	**P**	**05 20 23.5**	**-1.0**
	comp=Z,9.4nm,0.7s,mb4.8						
TIXI	**Tiksi**	**72.53**	**10**	⇑*i*P	**P**	**05 20 32.0**	**-4.1**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
AKASG	**Malin Array Be**	**75.21**	**322**	P	**P**	**05 20 50.9**	**-1.1**
	comp=Z,4.7nm,0.6s,mb4.6,baz=86,slow=5.2,SNR=22						

AKASG	Malin Array Be	75.21	322	P	P	05 20 50.9	-1.1
BOSA	Boshof	75.61	240	LR	LR	05 49 18.5	
	comp=Z,54nm,19.8s,MS3.9,baz=221,slow=32						
FINES	FINESS Array B	79.81	332	P	P	05 21 17.1	-0.1
	comp=Z,3.0nm,0.4s,mb4.6,baz=103,slow=5.6,SNR=43						
KAF	Kangasniemi	79.88	333	*e*p	P	05 21 17.1	-0.5
	comp=Z,4.9nm,0.5s,mb4.7,baz=101,slow=5.0						
KAF	Kangasniemi	79.88	333	*e*P	P	05 21 17.1	-0.5
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
KEV	Kevo	81.79	341	*e*p	P	05 21 27.2	-0.3
	comp=Z,3.6nm,0.8s,mb4.3						
KEV	Kevo	81.79	341	*e*P	P	05 21 27.2	-0.3
KEV				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ARCES	ARCESS Array B	82.23	340	P	P	05 21 30.0	+0.1
	comp=Z,1.7nm,0.5s,mb4.3,baz=99,slow=4.9,SNR=42						
GERES	GERESS Array B	84.82	319	P	P	05 21 44.6	+1.2
	comp=Z,0.6nm,0.3s,mb4.2,baz=113,slow=10,SNR=7.8						
GERES	GERESS Array B	84.82	319	P	P	05 21 44.6	+1.2
NB2	NORSAR Subarra	86.83	331	P	P	05 21 52.8	-0.3
	comp=Z,4.0nm,0.7s,mb4.8,baz=94,slow=4.8						
NOA	NORSAR Array B	86.83	331	P	P	05 21 52.8	-0.3
	comp=Z,3.9nm,0.7s,mb4.7,baz=94,slow=4.9,SNR=21						
LPG	La Plagne	89.53	315	*e*P	P	05 22 07.5	+1.1
	comp=Z,9.2nm,0.8s,mb4.8						
LPG	La Plagne	89.53	315	*e*P	P	05 22 07.5	+1.1
LPG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
LPL	La Plagne	89.54	315	*e*P	P	05 22 07.5	+1.1
	comp=Z,12nm,0.9s,mb4.9						
LPL	La Plagne	89.54	315	*e*P	P	05 22 07.5	+1.1
LPL				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.9						
CABF	La Chapelle	89.94	316	*e*P	P	05 22 09.2	+0.9
BAIF	Baives	91.00	320	*e*P	P	05 22 14.3	+1.2
	comp=Z,12nm,0.8s,mb5.0						
BAIF	Baives	91.00	320	*e*P	P	05 22 14.3	+1.2
BAIF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0						
LOR	Lormes	91.43	317	*e*P	P	05 22 16.0	+0.9
	comp=Z,10nm,0.7s,mb5.0						
LOR	Lormes	91.43	317	*e*P	P	05 22 16.0	+0.9
LOR				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb5.0						
SMF	Signal de Mont	91.49	317	*e*P	P	05 22 16.1	+0.7
	comp=Z,9.2nm,0.7s,mb4.9						
SMF	Signal de Mont	91.49	317	*e*P	P	05 22 16.1	+0.7
SMF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb5.0						
BGF	Bois d'Agland	92.18	317	*e*P	P	05 22 19.8	+1.2
ILAR	Eielson Array	98.94	23	P	P	05 22 49.9	+1.0
	comp=Z,0.2nm,0.7s,mb3.8,baz=284,slow=3.7,SNR=4.0						
ILAR	Eielson Array	98.94	23	P	P	05 22 49.9	+1.0
NVAR	Mina Array Bea	127.96	36	PKP	PKPdf	05 28 17.1	-1.9
	comp=Z,1.1nm,0.8s,baz=323,slow=0.2,SNR=7.6						
TXAR	Lajitas Array	142.86	32	PKhKP		05 28 39.5	
	comp=Z,0.6nm,0.8s,slow=1.8,SNR=4.6						
TXAR				PKP	PKPdf	05 28 45.2	-1.5
	comp=Z,0.8nm,0.6s,baz=177,slow=0.7,SNR=9.9						
CPUP	Villa Florida	145.84	222	PKPbc	PKPbc	05 28 50.2	+2.3
	comp=Z,3.3nm,0.7s,baz=98,slow=2.7,SNR=13						

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*NEIC **01** 05:13:43.9, 8.40N×82.88W, MD4.1(CASC), After CASC.*

CASC 01 05:13:45.3±2.5**, 8.50N×82.87W, h1**^{km}±4^{km}**, MD4.2, 5C-7D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVTC	San Vito de Co	0.30	342	⇓*e*P	Pg	05 13 54.1	+2.9
ACR	Cerro Adams	0.33	297	⇓*i*P	Pg	05 13 53.3	+1.3
ACR				*e*S	Sg	05 13 58.2	+1.8
ACR	Cerro Adams	0.33	297	⇓*i*P	Pg	05 13 53.3	+1.3
ACR				*e*S	Sg	05 13 59.4	+2.9
DVD	David	0.42	99	⇓*i*P	Pg	05 13 53.2	-0.4
BRU	Baru	0.43	45	⇓*e*P	Pg	05 13 55.5	+1.7
PTP1	Petroterminal	0.52	124	⇑*i*P	Pg	05 13 51.2	-4.6
PTP1				*e*S	Sg	05 13 58.5	-4.3
CNI	Changuinola	0.97	21	⇑*e*P	Pb	05 14 04.5	-0.1
BUS	Buena Vista	1.37	320	*e*P	Pb	05 14 10.2	-1.3
BUS				*e*S	Sb	05 14 33.5	+4.2
BUS	Buena Vista	1.37	320	*e*P	Pb	05 14 11.3	-0.1
BUS				*e*S	Sb	05 14 31.6	+2.3
URSC	Urasca	1.60	326	*e*P	Pn	05 14 13.8	-1.1
URSC	Urasca	1.60	326	⇑*e*P	Pn	05 14 13.8	-1.1
URSC				*e*S	Sb	05 14 35.6	-0.5
SJS	Escuela Geolog	1.85	321	*e*P	Pn	05 14 18.4	-0.1
SJS				*e*S	Sn	05 14 43.5	+0.7
SJS	Escuela Geolog	1.85	321	*e*P	Pn	05 14 18.4	0.0
SJS				*e*S	Sn	05 14 43.5	+0.7
PRS1	Puriscal	2.05	316	*e*P	Pn	05 14 19.8	-1.6
PRS1				*e*S	Sn	05 14 49.8	+1.8
PRS1	Puriscal	2.05	316	⇓*e*P	Pn	05 14 19.6	-1.7
PRS1				*e*S	Sn	05 14 48.1	+0.2
TRTC	Tortuguero	2.22	338	*e*P	Pn	05 14 23.4	-0.4
TRTC				*e*S	Sn	05 14 54.2	+1.8
TRTC	Tortuguero	2.22	338	⇑*e*P	Pn	05 14 23.4	-0.4
TRTC				*e*S	Sn	05 14 52.1	-0.2
FORC	Fortuna	2.64	318	*e*P	Pn	05 14 31.2	+1.3
FORC				*e*S	Sn	05 15 07.0	+4.0
FORC	Fortuna	2.64	318	⇓*e*P	Pn	05 14 28.3	-1.5
AZU	Azuero	2.66	105	*e*P	Pn	05 14 28.1	-2.0
AZU				*e*S	Sn	05 15 05.3	+1.9
JTS	JuntasAbangare	2.72	311	*e*Pn	Pn	05 14 29.6	-1.4
JTS				*e*Sg	Sg	05 15 12.7	-3.2
AZU2	Pedas	2.97	109	*e*P	Pn	05 14 33.4	-1.2
AZU2	Pedas	2.97	109	⇑*e*P	Pn	05 14 33.5	-1.0
ZANG	Zanguenga, Cho	3.00	81	*e*P	Pn	05 14 35.1	+0.2
ACLA	Agua Clara, Si	3.24	74	*e*P	Pn	05 14 38.1	-0.2

KRSC 01 05:40:09.3±0.7**, 53.29N×161.13E, h36**^{km}±6^{km}**, ML4.1, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.69	254	*i* P	P	05 40 22.8	+0.2
SPN				*e*S	S	05 40 32.6	+0.3
NLC	Nalytchevo	1.08	264	*i* P	P	05 40 28.2	+0.1
NLC				*i* S	S	05 40 42.1	0.0
KII	Karymskiy	1.25	307	P	P	05 40 30.4	-0.1
KII				*e*S	S	05 40 45.7	-0.7
MKZ	Mys Kozlova	1.32	15	*i* P	P	05 40 30.8	-0.8
MKZ				*e*S	S	05 40 46.8	-1.4
SDLR	Sedlovina	1.35	270	*i* P	P	05 40 32.5	+0.5
SDLR				*e*S	S	05 40 49.4	+0.5
UGLR	Uglovaya	1.39	268	*i* P	P	05 40 33.3	+0.7
UGLR				*e*S	S	05 40 51.1	+1.2
SMAR	Somma	1.40	270	*i* P	P	05 40 33.2	+0.5
SMAR				*e*S	S	05 40 50.2	0.0
AVH	Avacha	1.44	270	*i* P	P	05 40 34.0	+0.7
AVH				*e*S	S	05 40 51.9	+0.8
KOK	Koryaka	1.50	271	*i* P	P	05 40 34.7	+0.6
KOK				*e*S	S	05 40 52.9	+0.2
PET	Petropavlovsk	1.52	261	*e*P	P	05 40 34.7	+0.3
PET				*e*S	S	05 40 53.3	+0.2
RUS	Russkaya	1.80	243	*e*P	P	05 40 38.9	+0.4
RUS				*e*S	S	05 41 00.9	+0.5
GNL	Ganaly	1.95	283	*i* P	P	05 40 41.2	+0.7
GNL				*e*S	S	05 41 04.6	+0.6
GRL	Gorelyy	1.99	249	*e*P	P	05 40 42.3	+1.1
GRL				*e*S	S	05 41 06.4	+1.3
TUMR	Tumrok	2.08	344	*e*P	P	05 40 43.2	+0.8
TUMR				*e*S	S	05 41 07.5	+0.2
APC	Apacha	2.42	263	*e*P	P	05 40 49.2	+1.9
APC				*e*S	S	05 41 18.5	+2.4
APC				Smax			
	90nm,0.8s						
KMNR	Kamenistaya	2.53	348	*i* P	P	05 40 50.0	+1.2
KMNR				*e*S	S	05 41 19.9	+1.2
KPT	Kopyto	2.73	349	*e*P	P	05 40 52.3	+0.5
KPT				*e*S	S	05 41 24.2	+0.2
ZLN	Zelenaya	2.74	356	*e*P	P	05 40 52.1	+0.2
ZLN				*e*S	S	05 41 23.7	-0.4
LGNR	Loginova	2.81	355	*e*P	P	05 40 54.5	+1.6
LGNR				*e*S	S	05 41 27.8	+1.9
CIRR	Tsirk	2.84	356	*e*P	P	05 40 55.3	+2.0
CIRR				*e*S	S	05 41 28.9	+2.2
MIPR	Malaya Ipel'ka	2.84	251	*e*P	P	05 40 55.0	+1.7
MIPR				*e*S	S	05 41 28.6	+1.9
KOZ	Kozyrevsk	2.87	346	*e*P	P	05 40 54.4	+0.7
KOZ				*e*S	S	05 41 27.6	+0.2
KRSR	Krestovskiy	2.95	354	*e*P	P	05 40 55.4	+0.5
KRSR				*e*S	S	05 41 29.4	-0.1
ESO	Esso	3.00	333	*i* P	P	05 40 55.9	+0.4
ESO				*e*S	S	05 41 30.0	-0.6
ESO				Smax			
	40nm,0.6s						
KLY	Klyuchi	3.04	355	P	P	05 40 56.5	+0.3
KLY				*e*S	S	05 41 31.1	-0.7
KBTR	Krutoberegovo	3.08	18	*e*P	P	05 40 56.1	-0.7
KBTR				*e*S	S	05 41 30.3	-2.6
SRDR	Sredinnyy	3.14	345	*e*P	P	05 40 57.3	-0.3
SRDR				*e*S	S	05 41 32.7	-1.7
PAU	Pauzhetka	3.21	237	P	P	05 41 01.7	+3.1
PAU				Smax			
	80nm,0.4s						
BKI	Bering	3.43	54	*i* P	P	05 41 00.4	-1.2
BKI				*e*S	S	05 41 35.4	-6.2
BKI				Smax			
	50nm,0.4s						
ALID	Alaid	4.21	237	*e*P	P	05 41 13.2	+0.4
ALID				*e*S	S	05 41 59.7	-1.7

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*NEIC **01** 05:47:35.8±0.6, 15.70S×177.89W, h400^{km}, mb4.0/1, Error ellipse: s-maj=33.6km s-min=18.7km az=120.0*

*IDC **01** 05:47:37.3±8.3, 15.89S×177.74W, h417^{km}±92^{km}, mb3.2/6, mb1 3.6/6, mb1mx3.4/16, mbtmp3.9/6, Error ellipse: s-maj=42.8km s-min=25.0km az=166.0*

ISC 01 05:47:35.0±0.8**, 15.7S**±0.2×**177.9W**±0.2**, h400**^{km}**, n10, σ1**^{s}**07**/7**, mb3.7**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	22.86	190	P	P	05 52 05.0	-1.7
	3.5nm,0.3s,mb4.3,baz=139,slow=20,SNR=8.9						
WRA	Warramunga Arr	45.55	257	P	P	05 55 19.3	+0.6
	0.2nm,0.3s,mb3.0,baz=84,slow=6.7,SNR=20						
QSPA	South Pole Qui	74.30	180	*e*P	P	05 58 32.2	+1.6
	2.2nm,0.5s,mb4.0						
NVAR	Mina Array Bea	77.53	44	P	P	05 58 49.2	-0.1
	0.9nm,0.7s,mb3.5,baz=224,slow=7.1,SNR=6.5						
ILAR	Eielson Array	83.68	13	P	P	05 59 19.4	-1.3
	1.7nm,0.5s,mb4.0,baz=229,slow=6.2,SNR=27						
TXAR	Lajitas Array	84.43	58	P	P	05 59 26.2	+0.9
	0.3nm,0.5s,mb3.2,baz=215,slow=7.2,SNR=5.6						
PDAR	Pinedale Array	85.45	43	P	P	05 59 29.8	-0.1
	0.5nm,0.5s,mb3.5,baz=215,slow=2.5,SNR=7.2						
ARCES	ARCESS Array B	124.28	350	PKP	PKPdf	06 05 46.8	+0.2
	0.8nm,0.7s,slow=2.4,SNR=6.8						
BRTR	Keskin Array B	143.58	317	PKP	PKPdf	06 06 23.1	+0.2
	3.3nm,0.8s,baz=90,slow=2.5,SNR=15						
GERES	GERESS Array B	145.65	346	PKPbc	PKPbc	06 06 28.2	+0.9
	0.4nm,0.3s,baz=27,slow=3.0,SNR=6.8						

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*MDD **01** 05:48:43.6±2.4, 36.77N×9.72W, h20^{km}±54^{km}, mb4.1/5, Error ellipse: s-maj=62.5km s-min=13.5km az=46.0, PRXIMO*

*NEIC **01** 05:48:43.5, 36.87N×9.58W, MN2.7(MDD), After MDD.*

*CSEM **01** 05:48:44.7±0.4, 36.92N×9.55W, h100^{km}±6^{km}, mb2.7, Error ellipse: s-maj=9.1km s-min=5.8km az=43.0*

INMG 01 05:48:44.8±0.9**, 36.77N×9.64W, h15**^{km}±17^{km}**, ML2.3, Error ellipse: s-maj=16.5km s-min=2.8km az=51.0, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.06	43	*e*Sn	Sn	05 49 17.9	-1.7
	27nm,0.1s						
EGRO	El Granado	1.88	65	P	Pn	05 49 14.7	-2.1
	0.6nm,0.1s,SNR=9.2						
EGRO				S	Sn	05 49 37.3	-3.0
	6.0nm,0.1s,SNR=11						
EGRO	El Granado	1.88	65	P	Pn	05 49 14.7	-2.1
	0.6nm,0.1s,SNR=9.2						
EGRO				S	Sn	05 49 37.3	-3.1
	6.0nm,0.1s,SNR=11						
PBEJ	Beja	1.89	48	*e*Pn	Pn	05 49 14.7	-2.2
PBEJ				*e*Sn	Sn	05 49 36.9	-3.6
	12nm,0.1s						
MOE	Montemor	2.02	30	*e*Pn	Pn	05 49 16.3	-2.6
MOE				*e*Sn	Sn	05 49 40.8	-3.2
PLOU	Loures	2.15	10	*e*Pn	Pn	05 49 18.3	-2.3
PLOU				*e*Sn	Sn	05 49 43.9	-3.2
	26nm,0.1s						
EMIN	Mina Concepcio	2.57	66	P	Pn	05 49 23.8	-2.8
	0.3nm,0.1s,SNR=6.8						
EMIN				S	Sn	05 49 53.3	-4.5
	5.3nm,0.2s,SNR=5.0						
EMIN	Mina Concepcio	2.57	66	P	Pn	05 49 23.8	-2.8
	0.3nm,0.1s,SNR=6.8						
EMIN				S	Sn	05 49 53.3	-4.5
	5.3nm,0.2s,SNR=5.0						
EBAD	Badajoz	2.87	46	P	Pn	05 49 28.1	-2.9
	0.9nm,0.1s,SNR=11						
EBAD				S	Sn	05 50 01.0	-4.5
	5.2nm,0.1s,SNR=7.9						
EBAD	Badajoz	2.87	46	P	Pn	05 49 28.1	-2.9
	0.9nm,0.1s,SNR=11						
EBAD				S	Sn	05 50 01.0	-4.5
	5.2nm,0.1s,SNR=7.9						
PTOM	Tomar	3.00	18	*e*Pn	Pn	05 49 30.2	-2.6
PTOM				*e*Sn	Sn	05 50 03.6	-5.2
	13nm,0.1s						
ESPR	Espera	3.04	87	P	Pn	05 49 30.4	-2.9
	4.1nm,0.1s,SNR=6.8						
ESPR				S	Sn	05 50 04.7	-5.0
	18nm,0.2s,SNR=5.0						
ESPR	Espera	3.04	87	P	Pn	05 49 30.4	-2.9
	4.1nm,0.1s,SNR=6.8						
ESPR				S	Sn	05 50 04.7	-5.0
	18nm,0.2s,SNR=5.0						
PCBR	Castelo Branco	3.50	28	*e*Pn	Pn	05 49 37.2	-2.7
PCBR				*e*Sn	Sn	05 50 15.7	-5.8
	3.6nm,0.2s						
ECAB	El Cabril	3.60	68	P	Pn	05 49 38.5	-2.8
	0.4nm,0.1s,SNR=7.9						
ECAB				S	Sn	05 50 17.8	-6.2
	2.7nm,0.2s,SNR=7.9						
ECAB	El Cabril	3.60	68	P	Pn	05 49 38.5	-2.8
	0.4nm,0.1s,SNR=7.9						
ECAB				S	Sn	05 50 17.8	-6.2
	2.7nm,0.2s,SNR=7.9						
MTE	Manteigas	3.98	24	*e*Pn	Pn	05 49 42.8	-3.9
MTE				*e*Sn	Sn	05 50 27.2	-6.3
	3.5nm,0.1s						
PVIS	Viseu	4.17	19	*e*Pn	Pn	05 49 45.8	-3.6
PVIS				*e*Sn	Sn	05 50 31.7	-6.6
	8.1nm,0.1s						
EADA	Adamuz	4.26	69	P	Pn	05 49 47.4	-3.3
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	05 50 34.1	-6.6
	2.0nm,0.1s,SNR=7.9						
EADA	Adamuz	4.26	69	P	Pn	05 49 47.4	-3.3
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	05 50 34.1	-6.6
	2.0nm,0.1s,SNR=7.9						
PVRL	Vila Real	4.74	18	*e*Pn	Pn	05 49 53.6	-3.9
PVRL				*e*Sn	Sn	05 50 45.5	-7.3
	12nm,0.1s						
ELOB	Lobios	5.23	13	P	Pn	05 50 00.2	-4.3
	1.5nm,0.3s,SNR=7.9						
ELOB				S	Sn	05 50 56.7	-8.6
	2.1nm,0.2s,SNR=7.9						
ELOB	Lobios	5.23	13	P	Pn	05 50 00.2	-4.3
	1.5nm,0.3s,SNR=7.9						
ELOB				S	Sn	05 50 56.7	-8.5
	2.1nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	5.33	55	P	Pn	05 50 02.1	-3.7
	2.1nm,0.1s,baz=240,slow=13,SNR=4.7						
ESDC				S	Sn	05 51 00.8	-6.7
	1.5nm,0.1s,baz=241,slow=23,SNR=8.3						
ESDC	Sonseca Array	5.33	55	P	Pn	05 50 02.0	-3.8
ESDC				S	Sn	05 51 00.8	-6.7
	1.5nm,0.1s,baz=241,slow=23,SNR=8.3						
EQES	Quesada	5.34	77	S	Sn	05 51 00.7	-7.1
	1.4nm,0.2s,SNR=7.9						
EQES	Quesada	5.34	77	S	Sn	05 51 00.7	-7.1
	1.4nm,0.2s,SNR=7.9						
ECAL	Calabor	5.63	23	P	Pn	05 50 06.2	-3.9
	1.3nm,0.2s,SNR=7.9						
ECAL				S	Sn	05 51 07.1	-8.1
	1.9nm,0.2s,SNR=7.9						
ECAL	Calabor	5.63	23	P	Pn	05 50 06.2	-3.9
	1.3nm,0.2s,SNR=7.9						
ECAL				S	Sn	05 51 07.1	-8.1
	1.9nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	6.19	5	P	Pn	05 50 12.3	-5.6
	1.1nm,0.1s,SNR=7.9						
EMAZ				S	Sn	05 51 19.4	-10
	2.2nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	6.19	5	P	Pn	05 50 12.4	-5.6
EMAZ				S	Sn	05 51 19.4	-10
	2.2nm,0.2s,SNR=7.9						

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*IDC **01** 05:48:54.9±1.0, 16.03S×172.60W, mb4.0/7, mb1 4.3/7, mb1mx4.1/17, mbtmp4.0/7, MS3.5/5, Ms1 3.5/5, ms1mx3.3/21, Error ellipse: s-maj=62.3km s-min=22.5km az=142.0*

*NEIC **01** 05:49:01.5±0.6, 16.02S×172.66W, h45^{km}, Error ellipse: s-maj=42.2km s-min=15.0km az=142.0*

ISC 01 05:48:58.6±0.8**, 15.9S**±0.3×**172.8W**±0.3**, h33**^{km}**, n15, σ0**^{s}**24**/9**, mb4.0**/7**, MS3.5**/5**, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.20	26	*e*Pn	Pn	05 49 25.7	-7.9
PPT	Papeete	22.28	98	*e*LQ		05 57 50.3	
	215nm,25.8s						
PPT				*e*LR	LR	05 58 47.2	
	74nm,23.5s						
TBI	Tubuai	23.16	112	*e*LR	LR	05 59 18.6	
	106nm,24.5s						
HNR	Honiara	27.35	280	LR	LR	06 02 46.8	
	comp=Z,29nm,20.9s,MS2.8,baz=214,slow=30						
STKA	Stephens Creek	44.31	241	P	P	05 57 07.1	-0.3
	4.0nm,0.9s,mb4.2,baz=111,slow=11,SNR=3.4						
STKA	Stephens Creek	44.31	241	P	P	05 57 07.1	-0.3
WRA	Warramunga Arr	50.31	257	P	P	05 57 54.6	+0.1
	0.4nm,0.4s,mb3.8,baz=92,slow=6.8,SNR=5.9						
NVAR	Mina Array Bea	74.30	42	P	P	06 00 34.6	0.0
	2.3nm,1.1s,mb4.0,baz=226,slow=8.4,SNR=8.3						
NVAR				LR	LR	06 28 47.9	
	comp=Z,21nm,19.2s,MS3.5,baz=295,slow=32						
TXAR	Lajitas Array	80.39	56	P	P	06 01 08.3	-0.4
	2.0nm,1.1s,mb4.0,baz=233,slow=6.3,SNR=10						
PDAR	Pinedale Array	82.23	42	P	P	06 01 18.4	+0.3
	1.0nm,1.0s,mb3.7,baz=225,slow=2.1,SNR=5.4						
PDAR				LR	LR	06 28 45.9	
	comp=Z,37nm,21.0s,MS3.7,baz=250,slow=29						
ILAR	Eielson Array	82.81	11	P	P	06 01 20.6	+0.1
	0.5nm,0.7s,mb3.6,baz=219,slow=5.8,SNR=4.5						
MAW	Mawson	87.52	198	P	P	06 01 44.0	+0.2
	2.5nm,0.9s,mb4.4,baz=113,slow=7.3,SNR=6.0						
YKA	Yellowknife Ar	90.31	23	LR	LR	06 35 20.6	
	comp=Z,32nm,21.2s,MS3.7,baz=255,slow=31						
ULM	Lac du Bonnet	93.94	39	LR	LR	06 36 34.4	
	comp=Z,51nm,20.0s,MS4.0,baz=215,slow=30						
BRTR	Keskin Array B	146.91	321	PKPbc	PKPbc	06 08 41.1	+3.6
	0.4nm,0.5s,baz=63,slow=3.2,SNR=3.5						

IDC 01 05:51:05.6±4.0**, 10.45N×91.59E, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/19**, mbtmp3.6**/3**, Error ellipse: s-maj=148.1km s-min=28.6km az=64.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	37.07	349	P	P	05 58 17.5	-1.8
	0.7nm,0.7s,baz=169,slow=7.3,SNR=7.2						
SONM	Songino Array	39.30	16	P	P	05 58 36.2	-1.7
	0.4nm,0.5s,baz=207,slow=9.7,SNR=3.5						
WRA	Warramunga Arr	51.80	126	P	P	06 00 15.6	-2.1
	0.7nm,0.5s,baz=305,slow=8.5,SNR=14						

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*NEIC **01** 05:56:27.5±0.9, 19.54S×69.21W, h106^{km}±10^{km}, mb4.0/4, Error ellipse: s-maj=15.7km s-min=10.0km az=93.0*

*GUC **01** 05:56:27.2±0.5, 19.55S×69.46W, h99^{km}±3^{km}, ML4.6*

*IDC **01** 05:56:29.4±3.0, 19.53S×69.24W, h121^{km}±27^{km}, mb3.5/4, mb1 3.7/5, mb1mx3.4/18, mbtmp3.9/5, Error ellipse: s-maj=38.8km s-min=22.2km az=89.0*

ISC 01 05:56:25.5±0.9**, 19.48S**±0.07×**69.2W**±0.1**, h103**^{km}±14^{km}**, n15, σ0**^{s}**85**/15**, mb3.8**/3**, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	3.13	175	*e*Pn	P	05 57 14.8	+0.7
LVC				*e*Sn	S	05 57 43.1	-7.6
LPAZ	La Paz	3.34	18	P	P	05 57 21.6	+4.5
	4.5nm,0.3s,baz=184,slow=6.4,SNR=172						
ARE	Arequipa	3.71	324	*e*P	P	05 57 23.0	+1.0
ARE				*e*S	S	05 58 04.0	-0.9
SIV	San Ignacio	8.50	67	P	P	05 58 26.6	-0.8
	3.4nm,0.3s,baz=265,slow=10.0,SNR=124						
SAML	Samuel	11.99	30	*e*Pn	P	05 59 14.2	0.0
	1.2nm,0.5s						
TRQA	Tornquist	19.55	163	*e*P	P	06 00 45.9	-1.6
	8.8nm,0.8s						
BDFB	Brasilia	20.57	83	P	P	06 00 59.1	+1.0
	3.4nm,0.5s,baz=252,slow=10,SNR=15						
PLCA	Paso Flores	21.21	183	P	P	06 01 05.0	+0.6
	3.6nm,0.8s,mb3.7,baz=356,slow=13,SNR=5.9						
PLCA	Paso Flores	21.21	183	*e*P	P	06 01 04.1	-0.3
	5.5nm,0.9s,mb3.9						
SNAA	Sanae	64.27	161	P	P	06 06 51.3	-0.4
	0.6nm,0.7s,mb3.5,baz=263,slow=5.2,SNR=9.1						
SNAA	Sanae	64.27	161	*e*P	P	06 06 51.2	-0.4
	2.2nm,0.8s,mb4.0						
YKA	Yellowknife Ar	89.20	341	P	P	06 09 11.1	+0.7
	0.7nm,0.7s,mb3.8,baz=134,slow=4.0,SNR=4.4						
YKA				pP	pP	06 09 38.2	+0.4
	0.8nm,0.6s,baz=130,slow=4.7,SNR=4.3						
YKA	Yellowknife Ar	89.20	341	P	P	06 09 11.2	+0.7
YKA				pP	pP	06 09 38.2	+0.4
WRA	Warramunga Arr	134.53	212	PKP	PKPdf	06 15 33.7	+1.1
	0.4nm,0.5s,baz=140,slow=1.6,SNR=5.9						
SONM	Songino Array	151.50	6	PKPbc	PKPdf	06 16 09.3	+8.3
	0.9nm,0.5s,baz=290,slow=1.3,SNR=7.4						
SONM				pPKPbc		06 16 37.9	
	0.4nm,0.7s,slow=1.2,SNR=3.3						

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*MOS **01** 06:31:29.4±3.2, 52.31N×90.89E, h15^{km}, mb4.2/1, Error ellipse: s-maj=31.9km s-min=24.5km az=57.5*

*NNC **01** 06:31:30.5±10.0, 52.14N×90.95E, mpv3.8, Error ellipse: s-maj=123.8km s-min=49.6km az=88.0*

ISC 01 06:31:28.0±1.7**, 52.24N**±0.06×**91.5E**±0.2**, h15**^{km}**, n10, σ1**^{s}**50**/16**, 2C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERR	Cheremushki	0.62	354	*i* PG	Pg	06 31 40.8	+0.1
CERR				*i* S	Sb	06 31 50.0	+1.7
TASR	Tashtagol	2.29	285	*e*PN	Pn	06 32 06.0	+0.1
TASR				*e*S	Sn	06 32 33.4	-0.7
AKAR	Aktash	3.12	234	*e*PN	Pn	06 32 17.6	-0.1
AKAR				*e*		06 32 21.3	
AKAR				*e*S	Sn	06 32 57.3	+2.3
ELT	Yel'tsovka	3.38	290	*e*PN	Pn	06 32 21.3	-0.1
ELT				*e*		06 32 51.8	
ELT				*e*S	Sn	06 33 00.7	-0.8
ELDR	Elanda	3.53	255	*i* PN	Pn	06 32 27.7	+4.1
ELDR				*e*S	Sn	06 33 08.7	+3.2
NVS	Novosibirsk	5.59	301	*e*PN	Pn	06 33 02.5	+10
NVS				*e*S	Sn	06 34 11.1	+14
MK31	Makanchi Array	8.11	231	⇓Pn	P	06 33 25.2	-3.0
	3.1nm,0.6s,baz=52,slow=15,SNR=22						
MK31				⇓Lg		06 35 36.7	
	8.8nm,0.7s,baz=48,slow=33,SNR=7.7						
VOSK	Vostochnaya	12.54	280	⇑Pn	P	06 34 25.9	-2.7
	3.5nm,1.7s						
BVA0	Borovoye Array	12.86	282	Pn	P	06 34 27.9	-5.0
	0.3nm,0.7s,baz=92,slow=14,SNR=7.1						
ZRNK	Zerenda	13.70	282	⇑Pn	P	06 34 42.5	-1.5
	1.4nm,0.7s						

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*BJI **01** 06:36:03.4, 9.20S×153.20E, h48^{km}, mB5.0, mb4.9*

*MOS **01** 06:36:04.0±1.4, 8.90S×153.17E, h33^{km}, mb5.0/8, Error ellipse: s-maj=16.2km s-min=14.5km az=36.1*

*NEIC **01** 06:36:06.9±1.8, 9.19S×153.22E, h59^{km}±17^{km}, mb4.7/13, Error ellipse: s-maj=11.9km s-min=9.4km az=50.0*

*IDC **01** 06:36:06.2±4.2, 9.17S×153.19E, h50^{km}±37^{km}, mb4.2/11, mb1 4.3/13, mb1mx4.3/16, mbtmp4.4/13, ML3.2/2, MS3.9/13, Ms1 3.9/13, ms1mx3.7/21, Error ellipse: s-maj=23.7km*

s-min=18.1km az=71.0

ISC 01 06:36:03.9±2.2,**9.17S**±0.08×**153.20E**±0.07,**h46**^{km}±20^{km}, **n52**,σ0.**94**/47,**mb4.6**/23,**MS3.9**/11,**3C-4D, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.97**	**267**	eP	**P**	**06 37 34.6**	**+2.8**
PMG				S	**S**	**06 38 39.7**	**-0.1**
PMG				pmax	pmax		
	comp=Z,51nm,0.8s						
PMG	**Port Moresby**	**5.97**	**267**	P	**P**	**06 37 33.2**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=31,slow=12,SNR=2.4						
PMG				S	**S**	**06 38 39.7**	**-0.1**
	comp=Z,2.0nm,0.3s,baz=289,slow=18,SNR=1.8						
PMG				Lg		06 39 04.7	
	comp=Z,3.2nm,0.3s,baz=328,slow=20,SNR=3.1						
PMG				LR	LR	06 39 26.9	
	comp=Z,283nm,19.4s,baz=351,slow=34						
PMG	**Port Moresby**	**5.97**	**267**	ePn	**P**	**06 37 34.6**	**+2.8**
	comp=Z,51nm,0.8s						
PMG				S	**S**	**06 38 39.7**	**-0.1**
PMG				Lg		06 39 04.8	
PMG				LR	LR	06 39 26.9	
HNR	**Honiara**	**6.67**	**93**	LR	LR	06 39 56.4	
	comp=Z,570nm,18.1s,baz=273,slow=34						
NOUC	**Port Laguerre**	**18.00**	**137**	eP	**P**	**06 40 11.2**	**-1.3**
NOUC	**Port Laguerre**	**18.00**	**137**	eP	**P**	**06 40 11.2**	**-1.3**
DZM	**Mont Dzumac**	**18.07**	**137**	P	**P**	**06 40 14.2**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=322,slow=6.8,SNR=5.2						
DZM				LR	LR	06 46 23.5	
	comp=Z,884nm,18.5s,baz=213,slow=34						
KAKA	**Kakadu**	**20.68**	**258**	eP	**P**	**06 40 41.5**	**-1.1**
	comp=Z,19nm,0.6s						
WRAB	**Tennant Creek**	**21.13**	**237**	eP	**P**	**06 40 49.3**	**+2.2**
WRAB	**Tennant Creek**	**21.13**	**237**	eP	**P**	**06 40 46.7**	**-0.4**
	comp=Z,16nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**21.13**	**237**	eP	**P**	**06 40 47.1**	**-0.1**
WRA	**Warramunga Arr**	**21.14**	**237**	P	**P**	**06 40 47.1**	**-0.2**
	comp=Z,8.8nm,0.7s,mb4.2,baz=62,slow=10,SNR=24						
STKA	**Stephens Creek**	**25.04**	**204**	⇓iP	**P**	**06 41 24.7**	**-0.7**
	comp=Z,8.6nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**25.04**	**204**	P	**P**	**06 41 24.8**	**-0.7**
	comp=Z,10nm,0.7s,mb4.5,baz=13,slow=9.9,SNR=25						
STKA				LR	LR	06 51 44.7	
	comp=Z,294nm,18.6s,MS3.8,baz=29,slow=38						
FITZ	**Fitzroy Crossi**	**28.18**	**249**	⇓iP	**P**	**06 41 53.5**	**-1.0**
	comp=Z,10.0nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**28.18**	**249**	P	**P**	**06 41 53.3**	**-1.2**
	comp=Z,5.3nm,0.5s,mb4.4,baz=79,slow=5.2,SNR=10						
URZ	**Urewera**	**36.08**	**147**	LR	LR	06 54 46.1	
	comp=Z,153nm,21.7s,MS3.7,baz=132,slow=31						
RPZ	**Rata Peaks**	**37.77**	**159**	LR	LR	06 56 07.2	
	comp=Z,426nm,21.3s,MS4.2,baz=342,slow=32						
MJAR	**Matsushiro Arr**	**47.60**	**344**	P	**P**	**06 44 35.4**	**-1.9**
	comp=Z,2.5nm,0.7s,mb4.4,baz=170,slow=9.9,SNR=7.3						
MJAR				LR	LR	07 01 25.8	
	comp=Z,116nm,21.4s,MS3.8,baz=165,slow=32						
MAT	**Matsushiro**	**47.60**	**344**	P	**P**	**06 44 35.0**	**-2.3**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
MAT	**Matsushiro**	**47.60**	**344**	P	**P**	**06 44 35.0**	**-2.3**
	comp=Z,8.4nm,0.9s,mb4.8						
MAT	**Matsushiro**	**47.60**	**344**	P	**P**	**06 44 35.3**	**-2.0**
PPT	**Papeete**	**56.13**	**105**	LR	LR	07 06 35.3	
	comp=Z,105nm,19.9s,MS3.9,baz=269,slow=33						
TBI	**Tubuai**	**56.49**	**112**	eS	Sx	06 53 54.4	
TBI				eLR	LR	07 02 20.7	
	comp=Z,93nm,24.2s,baz=278						
ENH	**Enshi**	**57.45**	**315**	eP	**P**	**06 45 49.7**	**-1.1**
	comp=Z,7.5nm,0.7s,mb4.8						
KMI	**Kunming**	**59.80**	**306**	P	**P**	**06 46 07.4**	**+0.2**
KMI				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
KMI				MLR	MLR		
	comp=Z,40nm,22.6s,MS3.5						
KMI	**Kunming**	**59.80**	**306**	P	**P**	**06 46 07.4**	**+0.2**
	comp=Z,13nm,1.2s,mb4.8						
KMI				LR	LR		
	comp=Z,40nm,22.6s,MS3.5						
CMAR	**Chiang Mai Arr**	**60.15**	**297**	P	**P**	**06 46 09.8**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.3,baz=125,slow=5.0,SNR=8.3						
CMAR				LR	LR	07 12 44.8	
	comp=Z,54nm,18.7s,MS3.7,baz=64,slow=37						
LZH	**Lanzhou**	**64.65**	**317**	⇑P	**P**	**06 46 39.7**	**+0.3**
LZH				AP	pP	06 46 51.5	-1.1
LZH				XP	sP	06 46 55.1	-2.6
LZH				AMB	AMB		
	comp=Z,39nm,1.3s,mb5.3						
LZH	**Lanzhou**	**64.65**	**317**	⇑P	**P**	**06 46 39.7**	**+0.3**
	comp=Z,39nm,1.3s,mb5.3						
LZH				pP	pP	06 46 51.5	-1.1
LZH				sP	sP	06 46 55.1	-2.6
GTA	**Gaotai**	**69.13**	**318**	eP	**P**	**06 47 08.5**	**+0.9**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
CIT	**Chita**	**69.79**	**335**	eP	**P**	**06 47 12.3**	**+0.9**
ULN	**Ulaanbaatar**	**69.90**	**329**	eP	**P**	**06 47 12.6**	**+0.5**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ULN	**Ulaanbaatar**	**69.90**	**329**	eP	**P**	**06 47 12.6**	**+0.5**
	comp=Z,2.8nm,0.7s,mb4.3						
MIR	**Mirnyy**	**70.03**	**202**	eP	**P**	**06 47 17.0**	**+4.4**
MIR				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
SONM	**Songino Array**	**70.22**	**329**	P	**P**	**06 47 14.6**	**+0.5**
	comp=Z,6.6nm,0.8s,mb4.6,baz=143,slow=4.6,SNR=43						
UNV	**Unalaska Valle**	**71.41**	**24**	eP	**P**	**06 47 21.0**	**-0.2**
	comp=Z,16nm,0.6s,mb5.1						
ZAK	**Zakamensk**	**73.41**	**329**	⇑iP	**P**	**06 47 33.4**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
BILL	**Bilibino**	**77.58**	**5**κ	iP	**P**	**06 47 57.5**	**+1.0**
BILL				e		06 48 03.5	
BILL				e	pP	06 48 07.7	-2.2
BILL				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
BILL	**Bilibino**	**77.58**	**5**	eP	**P**	**06 47 56.7**	**+0.2**
	comp=Z,2.7nm,0.5s,mb4.4						
QSPA	**South Pole Qui**	**80.82**	**180**	eP	**P**	**06 48 14.1**	**+0.2**
	comp=Z,8.4nm,1.1s,mb4.6						
MAW	**Mawson**	**81.72**	**203**	eP	**P**	**06 48 19.5**	**+0.7**
MAW				e		06 48 24.7	
MAW				pmax	pmax		
	comp=Z,11nm,1.3s						
MAW	**Mawson**	**81.72**	**203**	P	**P**	**06 48 19.4**	**+0.7**
	comp=Z,2.0nm,0.9s,mb4.0,baz=106,slow=6.7,SNR=6.7						
MAW				LR	LR	07 23 32.0	
	comp=Z,72nm,18.0s,MS4.1,baz=238,slow=35						
MAW	**Mawson**	**81.72**	**203**	eP	**P**	**06 48 19.5**	**+0.7**
	comp=Z,11nm,1.3s,mb4.6						
MAW				ePcP	PcP	06 48 24.7	-0.1
MAW				LR	LR	07 23 32.0	
TIXI	**Tiksi**	**82.25**	**352**	eP	**P**	**06 48 20.5**	**-0.9**
MKAR	**Makanchi Array**	**83.86**	**319**	P	**P**	**06 48 30.6**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.6,baz=105,slow=5.8,SNR=40						
ZAL	**Zalesovo**	**84.99**	**327**	P	**P**	**06 48 36.2**	**+0.6**
	comp=Z,1.4nm,0.3s,mb4.6,baz=180,slow=12,SNR=7.6						
ZAL				LR	LR	07 27 04.2	
	comp=Z,40nm,18.7s,MS3.8,baz=77,slow=36						
ILAR	**Eielson Array**	**86.03**	**22**	P	**P**	**06 48 40.4**	**-0.1**
	comp=Z,1.4nm,0.8s,mb4.2,baz=249,slow=5.5,SNR=17						
ILAR				LR	LR	07 22 00.4	
	comp=Z,67nm,19.5s,MS4.0,baz=182,slow=32						
NVAR	**Mina Array Bea**	**94.45**	**52**	P	**P**	**06 49 21.9**	**+1.3**
	comp=Z,1.4nm,0.9s,mb4.4,baz=250,slow=4.5,SNR=8.6						
YKA	**Yellowknife Ar**	**99.08**	**28**	LR	LR	07 30 45.7	
	comp=Z,39nm,19.9s,MS3.9,baz=260,slow=33						
BDFB	**Brasilia**	**147.61**	**139**	PKPbc	PKPdf	06 55 46.1	+4.6
	comp=Z,9.0nm,0.6s,baz=239,slow=2.1,SNR=20						
BAO	**Brasilia Array**	**147.63**	**139**	P	PKPdf	06 55 45.0	+3.4

*NEIC **01** 06:36:11.3,33.22S×70.43W,h104^{km},MD3.3(GUC),After GUC.*

GUC 01 06:36:11.3±0.9,**33.22S**×**70.43W**,**h104**^{km}±2^{km},**MD3.3, ML3.5,14C-9D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.16**	**132**	⇓iP	P	06 36 26.7	+0.7
FCH				iS	S	06 36 38.1	+1.1
FCH				AMP		06 36 38.8	
	comp=N,5µm,0.2s						
CLCH	**Cerro Calan**	**0.20**	**208**	⇑iP	P	06 36 26.6	+0.5
CLCH				iS	S	06 36 37.8	+0.5
CLCH				AMP		06 36 38.8	
	comp=E,5µm,0.4s						
CLCH				AMP		06 36 39.4	
	comp=E,6µm,0.3s						
DSCH	**Colegio Aleman**	**0.21**	**214**	⇓iP	P	06 36 26.7	+0.5
DSCH				iS	S	06 36 37.7	+0.4
DSCH				AMP		06 36 39.0	
	comp=E,3µm,0.2s						
PEL	**Peldehue**	**0.23**	**290**	⇓iP	P	06 36 26.6	+0.4
PEL				iS	S	06 36 37.8	+0.4
PEL				iS	S	06 36 38.2	+0.8
FSR	**Penalolen**	**0.27**	**198**	⇓iP	P	06 36 26.8	+0.4
FSR				iS	S	06 36 38.2	+0.5
FSR				AMP		06 36 39.0	
	comp=E,5µm,0.3s						
STL	**Santa Lucia**	**0.28**	**220**	⇑iP	P	06 36 25.8	-0.6
STL				iS	S	06 36 36.9	-0.9
STL				AMP		06 36 37.7	
	comp=N,1µm,0.3s						
SAN	**Santiago**	**0.30**	**220**	⇑iP	P	06 36 26.8	+0.3
SAN				iS	S	06 36 38.0	0.0
SAN				AMP		06 36 38.9	
	comp=N,4µm,0.1s						
PUEX	**Pudahuel**	**0.35**	**232**	eP	P	06 36 27.8	+1.0
PUEX				iS	S	06 36 40.0	+1.6
PUEX				AMP		06 36 44.8	
	comp=E,2µm,0.4s						
ANTU	**Antumapu**	**0.39**	**206**	eP	P	06 36 27.3	+0.3
ANTU				iS	S	06 36 39.1	+0.3
ANTU				AMP		06 36 40.1	
	comp=E,1µm,0.4s						
PCH	**Pirque**	**0.40**	**190**	⇑iP	P	06 36 27.5	+0.4
PCH				iS	S	06 36 39.1	+0.2
SJCH	**San Jose de Ma**	**0.42**	**171**	⇑iP	P	06 36 27.1	-0.1
SJCH				iS	S	06 36 39.5	+0.3
SJCH				AMP		06 36 39.7	
	comp=N,1µm,0.2s						
ROCH	**El Roble**	**0.55**	**297**	⇓iP	P	06 36 28.6	+0.5
ROCH				iS	S	06 36 41.6	+1.0
JACH	**Jahuel**	**0.56**	**346**	⇓iP	P	06 36 28.5	+0.4
JACH				iS	S	06 36 41.8	+1.0
TACH	**Talagante**	**0.60**	**225**	⇓iP	P	06 36 28.6	+0.1
TACH				iS	S	06 36 41.2	-0.2
LMEL	**Las Melosas**	**0.65**	**163**	⇓iP	P	06 36 29.2	+0.3
LMEL				iS	S	06 36 43.4	+1.3
LMEL				AMP		06 36 45.1	
	comp=N,1µm,0.2s						
CHCH	**Chadas Angostu**	**0.73**	**195**	⇑iP	P	06 36 29.7	0.0
CHCH				iS	S	06 36 43.5	+0.1
CACH	**El Canelo**	**0.90**	**189**	⇑iP	P	06 36 31.9	+0.6
CACH				iS	S	06 36 47.5	+1.1
LCCH	**Las Cruces**	**0.99**	**255**	⇓iP	P	06 36 32.6	+0.4
LCCH				iS	S	06 36 48.2	+0.3
IHA	**Instituto Hidr**	**1.04**	**281**	⇑iP	P	06 36 33.1	+0.4
IHA				iS	S	06 36 49.5	+0.6
PACH	**Papudo**	**1.09**	**309**	⇑iP	P	06 36 33.5	+0.1
PACH				iS	S	06 36 49.5	-0.4
CICH	**Cipreses**	**1.09**	**180**	⇑iP	P	06 36 33.6	+0.3
LNV	**Longovilo**	**1.10**	**228**	⇑iP	P	06 36 32.9	-0.6
SFDO	**San Fernando**	**1.47**	**199**	⇑iP	P	06 36 37.7	-0.2
SFDO				iS	S	06 36 57.7	0.0
ILCH	**Illapel**	**1.70**	**338**	⇑iP	P	06 36 41.0	+0.3
ILCH				iS	S	06 37 03.0	+0.3
ILCH				AMP		06 37 04.0	
	comp=N,662nm,0.2s						
CMCH	**Combarbala**	**2.10**	**346**	⇑iP	P	06 36 45.5	-0.4
CMCH				iS	S	06 37 11.8	+0.1
CMCH				AMP		06 37 14.4	
	comp=N,659nm,0.5s						

*STR **01** 07:04:35.7±0.1,43.13N×0.71W,h10^{km}±1^{km},Ml2.6,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **01** 07:04:35.7,43.13N×0.71W,h10^{km},ML2.6(STR), ML2.4(LDG),MN2.0(MDD),After STR.*
*LDG **01** 07:04:36.5±0.0,43.13N×0.71W,h2^{km},Md2.6/2,Ml2.4/8, Error ellipse: s-maj=0.7km s-min=0.7km az=136.0*
*CSEM **01** 07:04:37.0±0.1,43.14N×0.68W,h5^{km},ML2.5/8,Error ellipse: s-maj=1.2km s-min=0.9km az=170.0*

MDD 01 07:04:36.7±0.2,**43.15N**×**0.71W**,**h8**^{km}±2^{km},**mbLg1.9**/15, **1C-1D,Error ellipse: s-maj=2.8km s-min=1.4km az=14.0, PRXIMO,Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.07**	**176**	P	Pg	07 04 39.0	+0.3
ATE				S	Sg	07 04 40.9	+0.9
ORDF	**Ordiarp**	**0.18**	**290**	Pg	Pg	07 04 40.8	+0.2
ORDF				Sg	Sg	07 04 43.9	+0.8
ORDF	**Ordiarp**	**0.18**	**290**	P	Pg	07 04 40.9	+0.3
ORDF				S	Sg	07 04 44.0	+0.8
LARF	**Larrau**	**0.23**	**241**	Pg	Pg	07 04 41.3	-0.3
LARF				Sg	Sg	07 04 45.1	+0.2
LARF	**Larrau**	**0.23**	**241**	P	Pg	07 04 41.4	-0.3
LARF				S	Sg	07 04 44.7	-0.2
REYF	**Montagne du Re**	**0.24**	**110**	Pg	Pg	07 04 41.3	-0.5
REYF				Sg	Sg	07 04 45.2	0.0
REYF	**Montagne du Re**	**0.24**	**110**	P	Pg	07 04 41.3	-0.5
REYF				S	Sg	07 04 45.2	0.0
ETSF	**Etsaut**	**0.28**	**157**	ePg	Pg	07 04 41.6	-0.8
ETSF				eSg	Sg	07 04 44.9	-1.3
	148nm,0.2s						
FDAF	**Les Forges d'A**	**0.35**	**163**	P	Pg	07 04 42.7	-1.1
SJPF	**Ste Jean**	**0.38**	**264**	ePg	Pg	07 04 43.7	-0.8
SJPF				eSg	Sg	07 04 49.0	-0.6
	70nm,0.2s						
OSSF	**Osses**	**0.42**	**285**	Pg	Pg	07 04 44.2	-1.0
OSSF				Sg	Sg	07 04 49.4	-1.5
OSSF	**Osses**	**0.42**	**285**	P	Pg	07 04 44.2	-1.0
OSSF				S	Sg	07 04 49.4	-1.4
LABF	**Labassere**	**0.58**	**100**	P	Pg	07 04 47.5	-0.9
LABF				S	Sg	07 04 55.9	-0.3
EALK	**Alkurruntz**	**0.59**	**277**	Pg	Pg	07 04 47.2	-1.4
EALK				Lg		07 04 54.5	
EALK	**Alkurruntz**	**0.59**	**277**	⇑Pg	Pg	07 04 47.2	-1.4
	1.6nm,0.1s,SNR=18						
EALK				Lg		07 04 54.5	
	19nm,0.1s,SNR=18						
IPRE	**Itoiz**	**0.59**	**234**	Pg	Pg	07 04 48.8	+0.2
	1.9nm,0.1s,SNR=7.9						
IPRE				Lg		07 04 56.3	
	6.0nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.59**	**234**	Pg	Pg	07 04 48.8	+0.2
	1.9nm,0.1s,SNR=7.9						
VIEF	**Viey**	**0.60**	**116**	Pg	Pg	07 04 47.3	-1.5
VIEF				Sg	Sg	07 04 54.8	-2.0
VIEF	**Viey**	**0.60**	**116**	P	Pg	07 04 47.4	-1.4
VIEF				S	Sg	07 04 55.0	-1.8
EPF	**Esparros**	**0.78**	**99**	ePg	Pg	07 04 50.9	-1.4
EPF				eSg	Sg	07 05 01.3	-1.4
	14nm,0.2s						
EBIE	**Bielsa**	**0.78**	**126**	⇓Pg	Pg	07 04 50.6	-1.7
	4.9nm,0.1s,SNR=18						
EBIE				Lg		07 05 00.0	
	26nm,0.1s,SNR=6.7						
EBIE	**Bielsa**	**0.78**	**126**	Pg	Pg	07 04 50.6	-1.7
	4.9nm,0.1s,SNR=18						
MELF	**Melles**	**1.11**	**104**	Pg	Pg	07 04 57.3	-1.6
MELF	**Melles**	**1.11**	**104**	P	Pb	07 04 57.4	-0.3
MELF				S	Sb	07 05 10.9	-1.3
EGRA	**Graus**	**1.22**	**141**	Pg	Pg	07 04 59.9	-1.2
	0.9nm,0.1s,SNR=5.6						
EGRA				Lg		07 05 17.3	
	3.4nm,0.2s,SNR=6.4						
ECRI	**Cripan**	**1.43**	**248**	Pg	Pg	07 05 03.6	-1.7
	4.4nm,0.2s,SNR=7.9						
ECRI				Lg		07 05 22.4	
	8.4nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.44**	**173**	Pg	Pg	07 05 03.8	-1.7
	8.1nm,0.3s,SNR=7.1						
ESAC				Sn	Sn	07 05 21.5	-0.9
	23nm,0.2s,SNR=12						
ESAC	**San Caprasio**	**1.44**	**173**	Pg	Pg	07 05 03.8	-1.7
	8.1nm,0.3s,SNR=7.1						
SALF	**Salau**	**1.45**	**105**	Pg	Pg	07 05 03.2	-2.4
SALF	**Salau**	**1.45**	**105**	P	Pn	07 05 03.5	+0.2
SALF				S	Sb	07 05 22.1	+0.1
ELAN	**Lanestosa**	**2.00**	**273**	Pg	Pg	07 05 14.1	-2.5
ELAN				Lg		07 05 37.8	
ELAN	**Lanestosa**	**2.00**	**273**	Pg	Pg	07 05 14.1	-2.5
	0.7nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	07 05 36.7	+0.1
	4.8nm,0.3s,SNR=4.0						
ELAN	**Lanestosa**	**2.00**	**273**	Pg	Pg	07 05 14.1	-2.5
	SNR=7.9						
EMIR	**Miracle**	**2.06**	**126**	Pg	Pg	07 05 14.7	-3.2
	2.1nm,0.2s,SNR=7.0						
EMIR				Lg		07 05 41.8	
	4.4nm,0.1s,SNR=4.9						
EMIR	**Miracle**	**2.06**	**126**	Pg	Pg	07 05 14.7	-3.2
	2.1nm,0.2s,SNR=7.0						
LFF	**La Frestale**	**2.07**	**30**	ePn	Pn	07 05 10.8	-1.4
LFF				ePg	Pg	07 05 15.2	-2.9
LFF				eSg	Sg	07 05 42.4	-3.2
	7.3nm,0.3s						
MTLF	**Montolieu**	**2.15**	**84**	ePn	Pn	07 05 11.3	-2.0
MTLF				ePg	Pg	07 05 16.4	-3.2
MTLF				eSn	Sn	07 05 37.2	-3.2
MTLF				eSg	Sg	07 05 44.4	-3.8
	3.1nm,0.3s						
EPOB	**Poblet**	**2.23**	**143**	Pg	Pg	07 05 17.4	-4.0
EPOB				Sn	Sn	07 05 45.8	+3.2
EPOB	**Poblet**	**2.23**	**143**	Pg	Pg	07 05 17.4	-4.0
	0.8nm,0.2s,SNR=7.9						
EPOB				Lg		07 05 45.8	
	2.5nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.23**	**143**	Pg	Pg	07 05 17.4	-3.9
	0.8nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.33**	**160**	Pg	Pg	07 05 19.5	-3.7
ERTA				Sn	Sn	07 05 47.3	+2.3
ERTA	**Horta de San J**	**2.33**	**160**	Pg	Pg	07 05 19.5	-3.7
	0.6nm,0.1s,SNR=7.9						
ERTA				Lg		07 05 47.3	
	4.5nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.33**	**160**	Pg	Pg	07 05 19.5	-3.7
	0.6nm,0.1s,SNR=7.9						
CAF	**Calviac**	**2.67**	**47**	ePn	Pn	07 05 19.0	-1.8
CAF				eSn	Sn	07 05 50.0	-3.7
CAF				eSg	Sg	07 06 01.0	-4.7
	1.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.68**	**36**	ePn	Pn	07 05 19.2	-1.8
RJF				ePg	Pg	07 05 26.4	-3.8
RJF				eSn	Sn	07 05 50.1	-3.9
RJF				eSg	Sg	07 06 01.3	-4.7
	3.2nm,0.3s						
EJON	**La Jonquera**	**2.74**	**104**	Pg	Pg	07 05 26.8	-4.6
	0.1nm,0.4s,SNR=4.0						
EJON				Sn	Sn	07 05 55.2	-0.2
	0.7nm,0.2s,SNR=4.0						
EJON				Lg		07 06 02.1	
	0.7nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.79**	**176**	Sn	Sn	07 05 55.7	-1.0
	0.4nm,0.1s,SNR=7.9						
EMOS				Lg		07 06 01.6	
	0.9nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**3.44**	**73**	ePn	Pn	07 05 29.4	-2.4
LASF				eSg	Sg	07 06 24.6	-6.7
	1.6nm,0.3s						
MFF	**Saint Martin d**	**3.47**	**6**	ePn	Pn	07 05 30.0	-2.2
MFF				eSg	Sg	07 06 26.2	-6.2
	1.9nm,0.3s						
BGF	**Bois d'Agland**	**4.24**	**35**	eSg	Sg	07 06 50.2	-7.7
	7.0nm,0.4s						

*JMA **01** 07:07:43.5±0.2,34.04N×140.86E,h52^{km}±3^{km},M3.4*
*IDC **01** 07:07:45.2±2.8,33.95N×140.79E,h61^{km}±23^{km},mb3.5/2, mb1 3.9/4,mb1mx3.4/23,mbtmp4.0/4,ML3.6/2,Error ellipse: s-maj=33.9km s-min=9.3km az=82.0*

ISC 01 07:07:42.5±0.8,**34.01N**±0.03×**140.91E**±0.07,**h60**^{km}±8^{km}, **n17**,σ0.**77**/27,**mb3.8**/2,**5D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.65**	**5**	P	**P**	**07 07 56.2**	**0.0**
BSO1				eS	**S**	**07 08 05.8**	**-0.6**
BSO3	**Boso 3**	**0.86**	**338**	P	**P**	**07 07 59.5**	**+0.6**
BSO4	**Boso 4**	**1.09**	**335**	P	**P**	**07 08 02.7**	**+0.7**
KTR	**Katsuura**	**1.24**	**337**	eS	**S**	**07 08 20.2**	**+0.1**
JHJ2	**Mitsune**	**1.27**	**226**	P	**P**	**07 08 05.5**	**+0.9**
JHJ2				eS	**S**	**07 08 21.6**	**+0.7**
JHJ	**Hachijo jima 2**	**1.29**	**227**	P	**P**	**07 08 05.6**	**+0.8**
	84nm,0.3s,baz=91,slow=22,SNR=40						
JHJ				S	**S**	**07 08 20.6**	**-0.8**
	224nm,0.3s,baz=360,slow=22,SNR=11						
TATJ	**Tateyama 2**	**1.32**	**321**	P	**P**	**07 08 05.9**	**+0.5**
TATJ				eS	**S**	**07 08 22.7**	**+0.4**
JIM2	**Oshima 3**	**1.41**	**301**	⇓P	**P**	**07 08 06.3**	**-0.3**
JKO	**Kozu shima**	**1.48**	**277**	⇓P	**P**	**07 08 07.8**	**+0.3**
KTJJ	**Kamata 2**	**1.78**	**302**	⇓P	**P**	**07 08 11.2**	**-0.4**
KTJJ				eS	**S**	**07 08 31.2**	**-1.8**
JIZS	**Izushimoda**	**1.82**	**294**	⇓P	**P**	**07 08 12.4**	**+0.2**
JIZS				eS	**S**	**07 08 34.3**	**+0.2**
JOD2	**Odawara 2**	**1.95**	**310**	⇓P	**P**	**07 08 14.0**	**0.0**
JOD2				eS	**S**	**07 08 36.4**	**-0.9**
MJAR	**Matsushiro Arr**	**3.36**	**320**	P	**P**	**07 08 34.6**	**+0.8**
	10nm,0.3s,baz=146,slow=13,SNR=59						
MJAR				S	**S**	**07 09 12.9**	**+0.2**
	6.4nm,0.3s,baz=147,slow=23,SNR=13						
MAT	**Matsushiro**	**3.36**	**320**	P	**P**	**07 08 33.8**	**-0.1**
MAT				S	**S**	**07 09 12.0**	**-0.8**
CBIJ	**Chichi jima**	**6.98**	**171**	P	**P**	**07 09 22.4**	**-2.0**
	2.6nm,0.3s,baz=283,slow=18,SNR=2.8						
CBIJ				S	**S**	**07 10 34.4**	**-8.7**
	4.8nm,0.3s,baz=288,slow=19,SNR=2.8						
MKAR	**Makanchi Array**	**45.43**	**305**	P	**P**	**07 15 58.3**	**+1.3**
	0.6nm,0.6s,mb3.6,baz=98,slow=8.9,SNR=4.6						
WRA	**Warramunga Arr**	**54.01**	**188**	P	**P**	**07 17 02.3**	**-0.7**
	0.8nm,0.4s,mb4.0,baz=2.0,slow=7.6,SNR=27						

*JMA **01** 07:21:10.5±0.1,35.71N×140.69E,h47^{km}±1^{km},M2.9*
*IDC **01** 07:21:10.8±5.1,35.58N×140.85E,h45^{km}±39^{km},mb3.0/2, mb1 3.2/4,mb1mx3.1/23,mbtmp3.3/4,ML3.1/2,Error ellipse: s-maj=55.1km s-min=9.3km az=67.0*

ISC 01 07:21:09.6±0.9,**35.66N**±0.05×**140.80E**±0.10,**h53**^{km}±8^{km}, **n15**,σ0.**98**/19,**mb3.3**/2,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.07**	**47**	P	**P**	**07 21 18.0**	**+0.3**
JCN	**Nagara**	**0.54**	**244**	P	**P**	**07 21 22.2**	**+0.6**
JYT	**Yasato**	**0.75**	**319**	P	**P**	**07 21 23.6**	**-0.7**
JYT				eS	**S**	**07 21 32.3**	**-2.8**
BSO4	**Boso 4**	**0.76**	**210**	P	**P**	**07 21 25.4**	**+1.0**
BSO3	**Boso 3**	**0.89**	**196**	P	**P**	**07 21 26.9**	**+0.9**
JHO	**Hitachi**	**0.97**	**349**	P	**P**	**07 21 27.3**	**+0.1**
BSO1	**Boso 1**	**1.01**	**172**	P	**P**	**07 21 29.0**	**+1.2**
JAG	**Ashikaga**	**1.33**	**306**	P	**P**	**07 21 31.6**	**-0.9**
JOD2	**Odawara 2**	**1.45**	**255**	P	**P**	**07 21 33.5**	**-0.6**
JIM2	**Oshima 3**	**1.46**	**230**	P	**P**	**07 21 33.3**	**-0.9**
MJAR	**Matsushiro Arr**	**2.27**	**294**	P	**P**	**07 21 46.5**	**+0.9**
	5.0nm,0.3s,baz=98,slow=14,SNR=27						
MJAR				S	**S**	**07 22 14.4**	**+1.9**
	3.6nm,0.3s,baz=142,slow=14,SNR=8.5						
MAT	**Matsushiro**	**2.28**	**294**	P	**P**	**07 21 46.4**	**+0.7**
MAT				eS	**S**	**07 22 12.6**	**+0.1**
JHJ	**Hachijo jima 2**	**2.67**	**199**	P	**P**	**07 21 50.4**	**-0.8**
	8.9nm,0.3s,baz=59,slow=19,SNR=5.3						
JHJ				S	**S**	**07 22 20.9**	**-1.5**
	11nm,0.3s,baz=270,slow=20,SNR=3.4						
MKAR	**Makanchi Array**	**44.44**	**303**	P	**P**	**07 29 16.7**	**-0.2**
	0.3nm,0.6s,mb3.2,baz=83,slow=9.8,SNR=4.5						
WRA	**Warramunga Arr**	**55.63**	**187**	P	**P**	**07 30 42.5**	**-0.1**
	0.1nm,0.3s,mb3.3,baz=1.7,slow=7.8,SNR=6.7						

CASC 01 07:29:57.3±1.9,**8.35N**×**82.84W**,**h26**^{km}±8^{km},**MD3.5, 2C-2D,Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.40**	**77**	⇓iP	Pb	07 30 05.8	-0.1
DVD				eS	Sb	07 30 12.1	+0.4
PTP1	**Petroterminal**	**0.43**	**109**	⇑iP	Pb	07 30 02.3	-4.2
PTP1				eS	Sb	07 30 07.0	-5.6
ACR	**Cerro Adams**	**0.44**	**313**	eP	Pb	07 30 05.0	-1.5
SVTC	**San Vito de Co**	**0.45**	**345**	⇓eP	Pb	07 30 06.3	-0.4
BRU	**Baru**	**0.54**	**32**	eP	Pb	07 30 08.2	+0.2
URSC	**Urasca**	**1.74**	**328**	⇑eP	Pn	07 30 26.3	-0.1
URSC				eS	Sn	07 30 48.6	+0.6
PRS1	**Puriscal**	**2.18**	**318**	eP	Pn	07 30 32.2	-0.5
PRS1				eS	Sn	07 30 58.8	-0.2

IDC 01 08:00:49.0±3.1**,53.05N**×**34.10E,mb1 3.6**/2**, mb1mx3.3**/20**,mbtmp3.5**/2**,ML3.2**/3**,Error ellipse: s-maj=41.4km s-min=11.2km az=109.0,Low Confidence, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	Malin Array Be	3.83	234	Pn	Pn	08 01 48.8	-1.7
	1.3nm,0.3s,baz=57,slow=15,SNR=4.2						
AKASG				Sn	Sn	08 02 32.1	-4.8
	1.9nm,0.3s,baz=50,slow=20,SNR=4.0						
AKASG				Lg		08 02 49.7	
	3.1nm,0.3s,baz=68,slow=30,SNR=5.9						
FINES	FINESS Array B	9.46	336	Pn	P	08 03 00.5	-9.1
	0.1nm,0.3s,baz=119,slow=26,SNR=3.1						
FINES				Sn	Sn	08 04 46.5	-11
	0.1nm,0.3s,baz=174,slow=28,SNR=2.8						
ARCES	ARCESS Array B	17.02	350	Pn	P	08 04 42.8	-6.8
	0.3nm,0.3s,baz=162,slow=12,SNR=10						

WEL 01 08:00:53.8±0.3**,38.59S**×**175.83E,h173**km±2km**,ML3.6**/15**, 5C-5D,Error ellipse: s-maj=3.0km s-min=2.9km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGZ	Ngauruhoe	0.61	197	⇑PN	P	08 01 18.7	0.0
CNZ	Chateau	0.65	200	⇑PN	P	08 01 18.7	-0.1
WPVZ	Whakapapa	0.66	200	PN	P	08 01 18.7	-0.1
TUVZ	Tukino	0.69	192	⇓PN	P	08 01 19.1	0.0
TUVZ				SN	S	08 01 38.5	-0.1
FWVZ	Far West T-bar	0.70	198	PN	P	08 01 18.9	-0.2
FWVZ				SN	S	08 01 38.7	+0.1
TRVZ	Turoa	0.74	197	PN	P	08 01 19.4	0.0
WNVZ	Wahianoa	0.76	194	⇓PN	P	08 01 19.4	0.0
WNVZ				SN	S	08 01 38.9	-0.3
BKZ	Black Stump Fm	0.77	139	⇓PN	P	08 01 19.7	+0.2
BKZ				SN	S	08 01 38.5	-0.8
PKVZ	Pokaka	0.80	208	PN	P	08 01 19.2	-0.4
MOVZ	Moawhango	0.82	184	⇓PN	P	08 01 19.4	-0.4
MOVZ				SN	S	08 01 38.1	-1.8
MTVZ	Mangateitei	0.85	199	PN	P	08 01 19.7	-0.2
MTVZ				SN	S	08 01 40.4	+0.3
VRZ	Vera Road	1.00	237	PN	P	08 01 20.3	-0.6
URZ	Urewera	1.05	72	⇑PN	P	08 01 21.2	-0.3
URZ				SN	S	08 01 41.4	-1.3
WAZ	Wanganui	1.34	209	⇓PN	P	08 01 23.2	-0.8
WAZ				SN	S	08 01 46.4	-1.0
MWZ	Matawai	1.35	80	⇑PN	P	08 01 24.1	-0.1
MWZ				SN	S	08 01 46.6	-1.0
TSZ	Takapari Road	1.47	176	⇑PN	P	08 01 24.7	-0.6
TSZ				SN	S	08 01 47.6	-1.9
PUZ	Puketiti	1.97	76	PN	P	08 01 30.0	-0.4
PUZ				SN	S	08 01 56.9	-1.8
MRZ	Mangatainoka R	2.08	185	PN	P	08 01 30.0	-1.7
MRZ				SN	S	08 01 57.6	-3.2
BFZ	Birch Farm	2.12	171	PN	P	08 01 30.8	-1.3
BFZ				SN	S	08 01 58.9	-2.6
MXZ	Matakaoa Point	2.20	63	PN	P	08 01 32.6	-0.5
MXZ				SN	S	08 02 02.0	-1.4
KIW	Kapiti Island	2.38	197	PN	P	08 01 32.8	-2.5
KIW				SN	S	08 02 02.4	-4.7
MTW	Mount Morrison	2.58	186	PN	P	08 01 34.9	-2.7

*ATH **01** 08:06:59.0,37.54N×24.08E,h6km,MD3.6/8,ML3.3*
*NEIC **01** 08:06:59.0,37.54N×24.08E,h6km,ML3.3(ATH),After ATH.*
*CSEM **01** 08:07:02.6±0.1,37.71N×23.89E,h5km,ML3.3,Error ellipse: s-maj=3.3km s-min=2.8km az=88.0*
*THE **01** 08:07:03.5,37.75N×23.96E,h8km*
ISC 01 08:07:01.3±0.6**,37.75N**±0.04×**23.96E**±0.06**,h5**km**,n16,** σ**1ˢ01**/20**,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATH	Athens Observa	0.29	320	*e*PB	Pb	08 07 09.5	+0.8
NAIG	Nisos Aigina	0.37	272	*e*PB	Pb	08 07 08.5	-1.5
NSAL	Nisos Salamina	0.42	292	*e*PB	Pb	08 07 10.0	-0.9
NSAL				*e*SB	Sb	08 07 19.5	+2.2
MPAR	Parnis Oros	0.44	336	*e*PB	Pb	08 07 12.0	+0.8
MGER	Gerania Oros	0.60	293	*e*PB	Pb	08 07 13.0	-0.9
VLI	Veliai	1.31	219	*e*PB	Pb	08 07 22.0	-4.1
AOS	Alonnisos	1.42	358	*e*Pg	Pg	08 07 28.6	-1.1
AOS				*e*Sg	Sg	08 07 48.0	-0.7
AOS	Alonnisos	1.42	358	*e*Pg	Pg	08 07 28.6	-1.1
AOS				*e*Sg	Sg	08 07 48.0	-0.7
ITM	Ithomi	1.71	251	*e*PN	Pn	08 07 32.0	-0.1
XOR	Xorichti	1.72	340	*e*Pb	Pb	08 07 33.0	-0.2
THR5	Thira Island,	1.73	140	*e*Pb	Pb	08 07 32.7	-0.6
THR5				*e*Sb	Sb	08 07 56.1	+0.8
AGG	Agios Georgios	1.80	315	*e*Pb	Pb	08 07 33.8	-0.7
EVR	Evrytania	2.05	305	*e*PN	Pn	08 07 39.0	+2.1
PAIG	Paliouri	2.19	354	*e*Pn	Pn	08 07 39.2	+0.3
OUR	Ouranopolis	2.58	0	*e*Pn	Pn	08 07 44.8	+0.3
KNT	Kendrikon	3.51	347	*e*Pn	Pn	08 07 58.1	+0.5

*ATH **01** 08:47:30.2,36.75N×25.27E,h32km,MD3.2/3*
*NEIC **01** 08:47:30.3,36.64N×25.76E,h21km,MD3.1(ATH),After ATH.*
*CSEM **01** 08:47:30.6±0.2,36.63N×25.68E,h8km,MD3.1,Error ellipse: s-maj=5.4km s-min=3.0km az=120.0*
*THE **01** 08:47:32.0,36.59N×25.50E,h15km*
ISC 01 08:47:30.5±0.6**,36.65N**±0.03×**25.63E**±0.08**,h8**km**,n12,** σ**0ˢ85**/21**,1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR4	Thira Island,	0.26	225	*e*Pg	Pg	08 47 36.2	+0.3
THR3	Thira Island,	0.30	218	*e*Pg	Pg	08 47 36.0	-0.6
THR3				*e*Sg	Sg	08 47 39.7	-1.0
SANT	Santorini	0.30	206	*e*Pg	Pg	08 47 36.3	-0.4
SANT				*e*Sg	Sg	08 47 41.5	+0.6
SANT	Santorini	0.30	206	*e*Pg	Pg	08 47 36.3	-0.4
SANT				*e*Sg	Sg	08 47 41.5	+0.6
THR1	Thera Island	0.30	206	*e*Pg	Pg	08 47 36.6	-0.2
THR1				*e*Sg	Sg	08 47 41.2	+0.3
THR5	Thira Island,	0.32	225	*e*Pg	Pg	08 47 37.3	+0.3
APE	Apeiranthos	0.43	350	⇑*e*PB	Pb	08 47 39.4	-0.5
APE				*e*SB	Sb	08 47 46.0	-0.2
APE	Apeiranthos	0.43	350	*e*Pb	Pb	08 47 39.4	-0.5
APE				*e*Sb	Sb	08 47 46.7	+0.5
NPS	Neapolis	1.38	180	*e*PN	Pn	08 47 56.6	+0.5
NPS				*e*SN	Sn	08 48 15.8	+1.1
SMG	Samos	1.44	42	*e*PN	Pn	08 47 57.7	+0.8
SMG				*e*SN	Sn	08 48 18.0	+1.9
SMG	Samos	1.44	42	*e*Pn	Pn	08 47 57.3	+0.4
SMG				*e*Sn	Sn	08 48 15.2	-0.9
KARP	Karpathos	1.66	131	*e*Pb	Pb	08 47 58.3	-2.6

*ORF **01** 09:35:57.3,31.84N×139.25E,h30km,mb5.6*
*NIED **01** 09:36:00,31.80N×139.40E,h185km,Mw5.5 Best double couple: $M_0 2.35\times10^{17}$ NP1:ϕ_s10°,δ82°,λ-60°. NP2:ϕ_s113°,δ30°,λ-165°.*
*MOS **01** 09:36:13.6±0.9,31.91N×139.08E,h194km,mb5.5/118, Error ellipse: s-maj=6.9km s-min=3.7km az=105.7*
*JMA **01** 09:36:14.5±0.4,31.83N×139.42E,h210km±3km,M5.3*
JMA Felt I J1.
*BJI **01** 09:36:14.1,31.97N×139.36E,h226km,mB5.6,mb5.2*
*HRVD **01** 09:36:16.4±0.1,31.90N×139.30E,h200km,MW5.5/76, Centroid moment Tensor Solution. LP body waves: s68,c124;Mantle waves: s76,c169; Half duration: 1ˢ4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.21±.03; $M_{\theta\theta}$-0.17±.03; $M_{\phi\phi}$0.38±.03; $M_{r\theta}$-0.62±.03; $M_{\theta\phi}$-0.97±.03; $M_{\phi r}$-1.86±.03; Best double couple: $M_0 2.192\times10^{17}$ NP1: ϕ_s106°,δ27°,λ-175°. NP2:ϕ_s11°,δ88°,λ-63°. Principal axes: T 2.029, Plg37°, Azm77°; N .326, Plg27°, Azm190°; P -2.355, Plg41°, Azm307°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 09:36:16.4±0.1,31.92N×139.06E,mb5.2/155, MW5.5(NIED) Error ellipse: s-maj=3.7km s-min=2.7km az=162.0*
NEIC Recorded [1 JMA] on Hachijo-jima and in Fukushima and Tochigi Prefectures, Honshu.
*IDC **01** 09:36:16.4±0.3,31.94N×139.19E,h205km±2km,mb4.9/31, mb1 5.0/34,mb1mx4.9/35,mbtmp5.4/34,Error ellipse: s-maj=8.2km s-min=6.2km az=82.0*
*BGS **01** 09:36:23.3±1.8,32.89N×137.16E,h206km,mb5.1*
ISC 01 09:36:14.6±0.1**,31.84N**±0.02×**139.19E**±0.02**,h204**km**,** **h204**km±1.9km**:pP-P,n810,**σ**1ˢ09**/831**,mb5.1**/219**, 108C-101D,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	1.37	21	P	P	09 36 47.9	0.0
	2µm,0.3s,baz=191,slow=8.4,SNR=510						
JHJ				S	S	09 37 12.9	-0.7
	2µm,0.3s,baz=263,slow=21,SNR=6.7						
JHJ2	Mitsune	1.37	22	⇓P	P	09 36 47.8	-0.1
JHJ2				*e*S	S	09 37 13.5	-0.1
JMY	Miyakejima3	2.24	7	P	P	09 36 56.7	+0.4
JKO	Kozu shima	2.34	359	⇑P	P	09 36 57.7	+0.3
JKO				*e*S	S	09 37 31.4	+0.9
TK01	Tokai 1	2.35	325	P	P	09 36 58.4	+0.9
TK02	Tokai 2	2.42	330	⇑P	P	09 36 59.6	+1.3
TK03	Tokai 3	2.54	336	P	P	09 37 01.1	+1.5
NJJJ	Nii jima 2	2.56	2	P	P	09 37 00.3	+0.5
TK04	Tokai 4	2.77	337	⇑P	P	09 37 03.7	+1.5
JIM2	Oshima 3	2.88	4	P	P	09 37 03.7	+0.2
JIM2				*e*S	S	09 37 41.8	+0.5
JIZS	Izushimoda	2.88	355	⇑P	P	09 37 03.9	+0.4
BSO3	Boso 3	3.15	20	P	P	09 37 05.1	-1.6
BSO1	Boso 1	3.18	28	P	P	09 37 05.0	-2.1
HMMJ	Hamamatsu 2	3.25	338	⇓P	P	09 37 08.7	+0.8
JAA	Atsumi	3.27	329	⇓P	P	09 37 09.3	+1.1
JIE	Ise	3.29	321	⇓P	P	09 37 09.8	+1.4
JIE				S	S	09 37 52.2	+2.2
SHZ3	Shizuoka 3	3.32	346	⇓P	P	09 37 09.6	+0.8
JWZ	Kozaga	3.38	301	⇑P	P	09 37 10.9	+1.4
JWZ				S	S	09 37 54.8	+2.8
JOD2	Odawara 2	3.42	359	⇑P	P	09 37 10.4	+0.5
JKN2	Miekihoku	3.42	315	⇓P	P	09 37 11.3	+1.3
JNY	Yasuok	3.68	343	⇓P	P	09 37 14.2	+1.0
TSUJ	Tsu 2	3.69	322	⇓P	P	09 37 14.8	+1.6
JYN	Shimob	3.69	352	⇓P	P	09 37 13.8	+0.5
JAO	Obara	3.78	335	⇓P	P	09 37 15.6	+1.2
JWM	Minabe	3.80	303	P	P	09 37 16.3	+1.6
JWM				S	S	09 38 03.4	+2.3
JWY	Kouya	3.84	309	P	P	09 37 17.1	+1.9
JWY				*e*S	S	09 38 05.9	+3.9
TOK	Tokyo	3.87	7	P	P	09 37 15.0	-0.4
JEG	Eigenji	4.04	325	P	P	09 37 19.7	+2.1
JHE	Heguri	4.06	315	⇓P	P	09 37 19.5	+1.6
JRY	Ryogami san	4.17	357	⇓P	P	09 37 19.1	-0.2
JRY				*e*S	S	09 38 07.9	-1.5
JGM	Miyama	4.37	332	⇓P	P	09 37 23.1	+1.4
JAJ2	Tsuna	4.44	307	P	P	09 37 24.5	+1.9
JAI	Aioi	4.44	297	⇓P	P	09 37 24.4	+1.7
JAI				S	S	09 38 18.8	+3.4
MRT2	Murotomisaki 2	4.53	291	⇓P	P	09 37 25.6	+1.8
MRT2				S	S	09 38 21.7	+4.2
JFM	Mihama	4.55	325	⇓P	P	09 37 25.7	+1.7
JMIK	Miki	4.56	312	⇓P	P	09 37 26.2	+2.1
JGN	Niukaw	4.64	341	⇓P	P	09 37 26.3	+1.1
JNG	Nsakai	4.64	349	⇓P	P	09 37 25.5	+0.3
JWT	Wachi	4.67	318	⇓P	P	09 37 27.1	+1.6
MJAR	Matsushiro Arr	4.76	350	P	P	09 37 26.1	-0.6
MJAR				S	S	09 38 21.4	-1.2
MJAR				pmax	pmax		
	comp=Z,56nm,0.3s						
MJAR	Matsushiro Arr	4.76	350	P	P	09 37 26.1	-0.6
	comp=Z,56nm,0.3s,baz=158,slow=11,SNR=264						
MJAR				S	S	09 38 21.4	-1.2
	comp=Z,44nm,0.3s,baz=123,slow=15,SNR=7.6						
MAJO	Matsushiro	4.76	350	*e*P	P	09 37 26.0	-0.7
MAT	Matsushiro	4.76	350	*e*P	P	09 37 26.0	-0.7
MAT				S	S	09 38 21.0	-1.7
MAT	Matsushiro	4.76	350	P	P	09 37 26.2	-0.5
MAT				*e*S	S	09 38 21.4	-1.3
MAT	Matsushiro	4.76	350	P	P	09 37 26.1	-0.6
JKS	Kasai	4.80	312	P	P	09 37 28.9	+1.7
JMN	Monobe	4.86	294	⇓P	P	09 37 29.9	+2.0
JKG	Kaga	5.02	333	⇓P	P	09 37 31.6	+1.6
JJS	Sakaide	5.09	301	⇓P	P	09 37 32.3	+1.4
JKY	Yasaka	5.09	319	⇓P	P	09 37 32.4	+1.5
JAD	Aida	5.22	308	⇓P	P	09 37 33.9	+1.4
JKSM	Kasumi	5.31	316	⇓P	P	09 37 35.2	+1.5
JJN	Nakama	5.32	351	P	P	09 37 32.9	-0.9
JKU	Kubokawa	5.38	287	⇓P	P	09 37 36.8	+2.2
JKU				S	S	09 38 41.1	+4.3
CBIJ	Chichi jima	5.40	150	P	P	09 37 30.1	-4.7
	comp=Z,354nm,0.3s,baz=338,slow=5.6,SNR=148						
CBIJ				S	S	09 38 30.3	-7.0
	comp=Z,921nm,0.3s,baz=263,slow=23,SNR=20						
JTO	Tosashimizu	5.50	282	P	P	09 37 38.3	+2.1
JTO				*e*S	S	09 38 44.4	+4.7
JET	Tanbara	5.52	292	P	P	09 37 38.6	+2.1
JKR	Kurayoshi	5.71	310	P	P	09 37 40.6	+1.8
UWA2	Uwa jima 2	5.71	286	P	P	09 37 41.2	+2.3
JJG	Jouge	5.78	301	⇓P	P	09 37 42.5	+2.7
JNA	Nagahama	5.91	289	P	P	09 37 43.8	+2.3
JHS	Saijyo	5.98	303	⇓P	P	09 37 44.2	+1.9
JHM	Kurahashi	6.05	294	⇓P	P	09 37 45.4	+2.1
JHT	Toyohira	6.33	298	⇓P	P	09 37 48.7	+1.8
SAI	Saigo	6.52	313	P	P	09 37 51.1	+1.7
JKD	Kudamatsu	6.54	292	⇓P	P	09 37 51.9	+2.3
JGT	Gotsu	6.56	301	⇓P	P	09 37 52.0	+2.2
JOU	Okura	6.62	10	⇑P	P	09 37 47.9	-2.8
JHIK	Hikimi	6.65	296	P	P	09 37 52.9	+1.8
JIU2	Izumi 2	7.14	278	P	P	09 38 00.5	+3.1
JNU	Nakatsue	7.14	283	P	P	09 38 00.1	+2.7
	comp=Z,4.2nm,0.3s,baz=88,slow=14,SNR=82						
JNU				S	S	09 39 21.4	+3.7
	baz=240,slow=8.1,SNR=1.1						
JMK	Ichinoseki	7.29	13	P	P	09 37 55.8	-3.5
JFA	Akaike	7.32	287	P	P	09 38 01.8	+2.1
JFI	Itaya	7.59	284	P	P	09 38 05.9	+2.6
JSJ	Shimokoshiki	8.07	271	P	P	09 38 11.9	+2.3
JTU	Tsushima	8.63	291	P	P	09 38 18.7	+1.8
JMZ	Minamidaito 2	9.21	231	P	P	09 38 25.7	+1.4
JOW	Kunigami	10.75	245	P	P	09 38 45.6	+1.3
	baz=62,slow=9.5						
JOW				S	S	09 40 44.5	+2.8
	comp=Z,1.2nm,0.3s,baz=313,slow=19,SNR=1.6						
JOW				ScP		09 47 42.9	
	comp=Z,0.7nm,0.3s,baz=331,slow=4.4,SNR=4.9						
KS15	Wonju Array Si	10.86	304	*e*P	P	09 38 47.4	+1.8
INCN	Inchon	11.77	302	*e*P	P	09 38 58.9	+1.6
	comp=Z,233nm,0.8s						
ASAJ	Asahikawa	12.54	11	P	P	09 39 03.6	-3.4
ASAJ				S	S	09 41 17.4	-5.6
ASAJ				pmax	pmax		
	comp=Z,22nm,0.3s						
ASAJ				pmax	pmax		
	comp=N,1.0nm,0.3s						
ASAJ	Asahikawa	12.54	11	P	P	09 39 03.5	-3.4
	comp=N,22nm,0.3s,baz=216,slow=7.1,SNR=58						
ASAJ				S	S	09 41 17.4	-5.6
	comp=N,10.0nm,0.3s,baz=100,slow=28,SNR=6.4						
ASAJ				ScP		09 47 44.0	
	comp=N,0.6nm,0.3s,baz=155,slow=6.0,SNR=4.2						
YUK	Yuzh-Kuril'sk	13.26	21	⇑*i*P	P	09 39 13.7	-2.2
YUK				pmax	pmax		
	comp=Z,5µm,2.0s						
YUK				pmax	pmax		
	comp=E,2µm,1.6s						
YUK				pmax	pmax		
	comp=N,4µm,2.2s						
YUK				pmax	pmax		
	comp=Z,420nm,0.4s						
YUK				pmax	pmax		
	comp=N,540nm,0.7s						
YUK				MLR	MLR		
	comp=Z,3µm,15.0s						
MDJ	Mudanjiang	14.80	332	P	P	09 39 34.1	-1.1
MDJ				XP		09 40 25.8	
MDJ				S	S	09 42 12.7	-1.2
MDJ				SCP		09 47 45.3	
MDJ				PCS		09 48 04.8	
MDJ				SCS	ScS	09 51 20.8	-1.7
MDJ				AMB	AMB		
	comp=Z,168nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,1µm,4.9s						
MDJ				LR	LR		
	comp=N,863nm,11.0s						
MDJ				LR	LR		
	comp=E,236nm,10.6s						
MDJ				LR	LR		
	comp=Z,755nm,13.2s						
MDJ	Mudanjiang	14.80	332	*e*P	P	09 39 34.1	-1.0
	comp=Z,119nm,0.6s						
KUR	Kuril'sk	14.98	24	⇓*i*P	P	09 39 35.2	-2.2
KUR				*e*S	S	09 42 11.4	-6.5
KUR				pmax	pmax		
	comp=N,100nm,1.0s						
KUR				pmax	pmax		
	comp=E,1.0nm,1.0s						
KUR				pmax	pmax		
	comp=Z,240nm,1.0s						
KUR				smax			
	comp=N,170nm,0.8s						
KUR				smax			
	comp=E,90nm,0.8s						
KUR				smax			
	comp=N,2µm,2.0s						
KUR				smax			
	comp=Z,3µm,2.0s						
KUR				smax			
	comp=N,5µm,3.0s						
KUR				smax			
	comp=E,6µm,3.0s						
YSS	Yuzh-Sakhalins	15.34	9	⇑*i*P	P	09 39 39.0	-2.8
YSS				*e*S	S	09 42 19.0	-6.9
YSS				pmax	pmax		
	comp=N,300nm,1.0s						
YSS				pmax	pmax		
	comp=Z,370nm,1.0s						
YSS				pmax	pmax		
	comp=N,600nm,2.0s						
YSS				pmax	pmax		
	comp=Z,600nm,2.0s						
YSS				smax			
	comp=E,100µm,1.2s						
YSS				smax			
	comp=N,140nm,1.2s						
YSS				pmax	pmax		
	comp=N,1µm,2.2s						
YSS				pmax	pmax		
	comp=N,4µm,4.0s						
YSS				MLR	MLR		
	comp=Z,900nm,17.0s						
YSS				MLR	MLR		
	comp=N,900nm,18.0s						
YSS				MLR	MLR		
	comp=E,1µm,18.0s						
YSS	Yuzh-Sakhalins	15.34	9	*e*P	P	09 39 39.3	-2.4
	comp=E,416nm,0.9s						
SSE	Sheshan	15.39	272	P	P	09 39 43.4	+0.9
SSE				S	S	09 42 31.3	+4.2
SSE				AMB	AMB		
	comp=Z,231nm,1.0s						
SSE				AMB	AMB		
	comp=Z,2µm,7.7s						
SSE				LR	LR		
	comp=N,1µm,15.8s						
SSE				LR	LR		
	comp=E,866nm,15.8s						
SSE				LR	LR		
	comp=Z,1µm,15.4s						
SSE	Sheshan	15.39	272	P	P	09 39 43.4	+0.9
	comp=Z,231nm,1.0s						
SSE				sP		09 40 34.1	
SSE				S	S	09 42 31.3	+4.2
DL2	Dalian	15.96	301	PR		09 39 47.8	
DL2				SCS	ScS	09 51 24.5	-1.1
DL2				AMB	AMB		
	comp=Z,610nm,0.6s						
DL2				AMB	AMB		
	comp=Z,1µm,3.9s						
CN2	Changchun	16.11	322	*e*P	P	09 39 49.5	-1.7
CN2				*e*S	S	09 42 40.4	-2.9
CN2				AMB	AMB		
	comp=Z,30nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,2µm,11.0s						
CN2				LR	LR		
	comp=E,760nm,11.0s						
CN2				LR	LR		
	comp=Z,2µm,13.0s						
TATO	Taipei	17.00	251	*e*P	P	09 40 02.5	+0.7
	comp=Z,752nm,0.6s						
YHNB	Yeheng	17.23	250	*e*P	P	09 40 04.4	0.0
NJ2	Nanjing	17.27	276	*e*P	P	09 40 05.0	+0.3
NJ2				XP		09 41 01.3	
NJ2				S	S	09 43 10.0	+1.5
NJ2				PCP	PcP	09 44 35.6	-0.8
NJ2				AMB	AMB		
	comp=Z,460nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,3µm,6.2s						
NJ2				LR	LR		
	comp=N,4µm,15.6s						
NJ2				LR	LR		
	comp=E,1µm,22.0s						
NJ2				LR	LR		
	comp=Z,1µm,13.8s						
NACB	Ninganchiao	17.30	248	*e*P	P	09 40 04.2	-0.9
UGL	Uglegorsk	17.36	6	*i* P	P	09 40 05.5	0.0
UGL				*i* S	S	09 43 14.5	+4.3
UGL				pmax	pmax		
	comp=N,1µm,4.0s						
UGL				pmax	pmax		
	comp=E,900nm,4.0s						
UGL				pmax	pmax		
	comp=Z,2µm,4.0s						
UGL				pmax	pmax		
	comp=Z,459nm,0.9s						
UGL				pmax	pmax		
	comp=N,241nm,0.8s						
UGL				pmax	pmax		
	comp=E,494nm,0.9s						
UGL				smax			
	comp=N,7µm,7.0s						
UGL				smax			
	comp=E,6µm,7.0s						
UGL				smax			
	comp=Z,4µm,6.0s						
UGL				smax			
	comp=N,490nm,1.6s						
UGL				smax			
	comp=E,690nm,1.6s						
KLR	Kul'dur	18.25	344	*e*P	P	09 40 09.0	-6.0
KLR				*e*S	S	09 43 24.5	-3.8
KLR				pmax	pmax		
	comp=N,900nm,6.0s						
KLR				pmax	pmax		
	comp=Z,1µm,6.0s						
KLR				smax			
	comp=N,2µm,9.0s						
KLR				smax			
	comp=E,2µm,9.0s						
KLR				MLR	MLR		
	comp=N,1µm,12.0s						
KLR				MLR	MLR		
	comp=Z,1µm,12.0s						
GUMO	Guam	18.90	163	*e*P	P	09 40 21.9	+0.1
GUMO				pmax	pmax		
	comp=Z,361nm,1.1s						
GUMO	Guam	18.90	163	*e*P	P	09 40 21.9	0.0
	comp=Z,361nm,1.1s						
BBP	Basco	19.16	238	*e*P	P	09 40 26.0	+1.5
QZH	Quanzhou	19.37	254	⇑*i*P	P	09 40 23.0	-3.6
QZH				S	S	09 43 51.0	+1.2
QZH				AMB	AMB		
	comp=Z,740nm,1.5s						
QZH				AMB	AMB		
	comp=Z,3µm,3.7s						
QZH				LR	LR		
	comp=N,1µm,10.8s						
QZH				LR	LR		
	comp=E,1µm,9.7s						
QZH				LR	LR		
	comp=Z,2µm,12.2s						
CVP	Callao Caves	21.10	232	*e*P	P	09 40 46.0	+2.0
WHN	Wuhan	21.28	273	PR		09 40 46.2	
WHN				PP	PP	09 41 21.0	+4.2
WHN				S	S	09 44 30.0	+5.3
WHN				AMB	AMB		
	comp=Z,4µm,6.0s						
WHN				LR	LR		

comp=N,710nm,9.2s
WHN LR LR
comp=E,3µm,13.6s
WHN LR LR
comp=Z,3µm,12.2s
APYP Conner 21.38 234 *e*P **P 09 40 44.4 -2.3**
CAUP Cauayan 21.64 231 *e*P **P 09 40 51.0 +1.7**
BALP Baler 22.68 229 *e*P **P 09 41 01.2 +1.8**
TIY Taiyuan 22.71 292 PR 09 40 58.0
TIY S **S 09 44 50.0 +0.7**
TIY LR LR
comp=N,1µm,13.0s
TIY LR LR
comp=Z,320nm,9.0s
HIA Hailar 22.72 326 *e*P **P 09 40 58.3 -1.3**
HIA pmax pmax
comp=Z,140nm,0.8s
HIA Hailar 22.72 326 *e*P **P 09 40 58.3 -1.3**
comp=Z,140nm,0.8s,mb5.5
PVCP Virac 22.80 221 *e*P **P 09 41 03.0 +2.3**
PCPH Palayan 23.12 230⇑ *e*P **P 09 41 05.3 +1.6**
SCZP Santa Cruz 23.75 232 *e*P **P 09 41 10.1 +0.5**
HHC Hu-ho-hao-te 23.92 300⇓ *i*P **P 09 41 10.2 -0.8**
HHC AP 09 41 48.4
HHC PP PP 09 41 58.0 +5.2
HHC PCP PcP 09 44 40.7 -8.2
HHC SCP 09 48 01.1
HHC AMB AMB
comp=Z,101nm,1.8s,mb5.2
HHC AMB AMB
comp=Z,1µm,6.0s
HHC LR LR
comp=N,2µm,17.9s
HHC LR LR
comp=E,1µm,13.8s
HHC LR LR
comp=Z,1µm,15.6s
BOAC Boac 24.25 225 *e*P **P 09 41 14.6 +0.3**
GZH Guangzhou 24.49 256 P **P 09 41 12.3 -4.2**
GZH LR LR
comp=N,1µm,21.1s
GZH LR LR
comp=E,894nm,11.8s
GZH LR LR
comp=Z,908nm,12.3s
BTO Baotou 25.02 299 *e*P **P 09 41 19.4 -1.9**
BTO S **S 09 45 18.2 -10**
BTO LR LR
comp=N,2µm,17.3s
BTO LR LR
comp=E,1µm,14.7s
PET Petropavlovsk 25.43 28 *i*P **P 09 41 24.7 -0.2**
PET Petropavlovsk 25.43 28 *i*P **P 09 41 24.7 -0.2**
XAN Xi'an 25.46 283 P **P 09 41 23.5 -1.9**
XAN AMB AMB
comp=Z,103nm,0.7s,mb5.6
XAN LR LR
comp=N,591nm,12.4s
XAN LR LR
comp=E,585nm,11.9s
XAN LR LR
comp=Z,571nm,14.2s
ENH Enshi 25.46 274 *e*P **P 09 41 24.4 -1.2**
comp=Z,45nm,0.7s,mb5.2
CLNS Chuĭman 26.89 343 *e*P **P 09 41 37.8 -0.5**
CLNS *e*PPP pP 09 42 19.3 +0.4
CLNS *e*S **S 09 46 01.1 +2.9**
CLNS pmax pmax
comp=N,123nm,0.7s
CLNS pmax pmax
comp=E,66nm,0.7s
CLNS pmax pmax
comp=Z,203nm,0.7s,mb5.9
CLNS pmax pmax
comp=N,26nm,0.9s
CLNS pmax pmax
comp=Z,57nm,0.9s,mb5.2
CLNS pmax pmax
comp=E,13nm,0.7s
CLNS smax
comp=N,65nm,1.7s
CLNS smax
comp=Z,21nm,1.2s
CLNS smax
comp=E,47nm,1.6s
CLNS MLR MLR
comp=N,600nm,16.0s
CLNS MLR MLR
comp=Z,700nm,16.0s
CLNS MLR MLR
comp=E,200nm,13.0s
CIT Chita 27.51 325 *e*P **P 09 41 42.8 -1.2**
CIT pmax pmax
comp=Z,275nm,2.2s,mb5.5
MA2 Magadan 28.80 12 *i*P **P 09 41 54.8 -0.6**
MA2 Magadan 28.80 12 *i*P **P 09 41 54.8 -0.6**
GYA Guiyang 28.84 268 P **P 09 41 55.1 -1.0**
GYA AP pP 09 42 36.6 -0.8
GYA XP sP 09 43 01.4 +0.1
GYA PCP PcP 09 44 57.8 -2.6
GYA S **S 09 46 30.6 +0.9**
GYA XS 09 47 44.8
GYA SCP 09 48 17.9
GYA AMB AMB
comp=Z,30nm,0.7s,mb5.0
GYA AMB AMB
comp=Z,220nm,6.9s
GYA LR LR
comp=N,1µm,14.4s
GYA LR LR
comp=E,1µm,14.4s
GYA LR LR
comp=Z,1µm,13.8s
ULN Ulaanbaatar 29.14 313 *i*P **P 09 41 58.7 +0.1**
ULN Ulaanbaatar 29.14 313 *e*P **P 09 41 58.3 -0.2**
QIZ Qiongzhong 29.31 251 P **P 09 42 02.2 +1.9**
QIZ PP PP 09 43 03.8 0.0
QIZ S **S 09 46 38.7 +1.5**
QIZ SS SS 09 48 27.8 +0.1
QIZ AMB AMB
comp=Z,22nm,1.1s,mb4.7
QIZ Qiongzhong 29.31 251 *e*P **P 09 42 00.3 0.0**
comp=Z,11nm,0.5s,mb4.8
LZH Lanzhou 29.52 288⇑ P **P 09 41 59.9 -2.1**
LZH AP pP 09 42 41.5 -2.0
LZH PP PP 09 43 04.0 -2.3
LZH PCP PcP 09 45 01.2 -0.8
LZH S **S 09 46 37.5 -2.8**
LZH SCP 09 48 22.5
LZH SS SS 09 48 28.5 -3.9
LZH SCS ScS 09 52 16.0 -0.8
LZH AMB AMB
comp=Z,49nm,1.1s,mb5.0
LZH AMB AMB
comp=Z,471nm,6.4s
LZH LR LR
comp=N,879nm,11.6s
LZH LR LR
comp=Z,2µm,13.8s
LZH Lanzhou 29.52 288⇑ P **P 09 41 59.9 -2.1**
LZH *PP pP 09 42 41.5 -2.0
LZH 09 43 04.0
LZH *SP sP 09 43 05.4 -1.9
LZH 09 45 01.2
LZH S **S 09 46 37.5 -2.8**
LZH *SS 09 47 51.2
LZH SS SS 09 48 28.5 -3.9
LZH 09 52 16.0
LZH pmax pmax
comp=Z,49nm,1.1s,mb5.0
LZH MLR MLR
comp=Z,2µm,13.8s
LZH Lanzhou 29.52 288⇑ P **P 09 41 59.9 -2.1**
comp=Z,49nm,1.1s,mb5.0
LZH pP pP 09 42 41.5 -2.0
LZH PP PP 09 43 04.0 -2.3
LZH sP sP 09 43 05.4 -1.9
LZH PcP PcP 09 45 01.2 -0.8
LZH S **S 09 46 37.5 -2.8**
LZH sS 09 47 51.2
LZH SS SS 09 48 28.5 -3.9
LZH ScS ScS 09 52 16.0 -0.8
LZH LR LR
comp=Z,2µm,13.8s
SONM Songino Array 29.55 312 P **P 09 42 01.6 -0.6**
comp=Z,69nm,0.6s,mb5.5,baz=111,slow=8.0,SNR=316
SONM pP pP 09 42 43.2 -0.4
comp=Z,1.6nm,0.5s,baz=229,slow=36,SNR=0.9
SONM PcP PcP 09 45 01.7 -0.3
comp=Z,7.2nm,0.5s,baz=102,slow=1.3,SNR=16
SONM S **S 09 46 41.5 +1.0**
comp=Z,1.2nm,0.8s,baz=90,slow=12,SNR=2.5
SONM ScP 09 48 23.4
comp=Z,7.6nm,0.7s,baz=139,slow=3.1,SNR=17
SONM ScS ScS 09 52 19.7 +2.9
comp=Z,1.1nm,1.0s,baz=157,slow=9.4,SNR=3.9
CD2 Chengdu 30.19 278 P **P 09 42 05.8 -2.1**
CD2 AP pP 09 42 47.2 -2.4
CD2 S **S 09 46 46.1 -4.7**
CD2 AMB AMB
comp=Z,20nm,0.4s,mb5.1
CD2 AMB AMB
comp=Z,570nm,5.3s
CD2 LR LR
comp=E,1µm,13.2s
CD2 LR LR
comp=Z,2µm,12.0s
YAK Yakutsk 30.83 351 *e*P **P 09 42 11.1 -2.1**
YAK pmax pmax
comp=Z,245nm,0.5s,mb6.1
YAK Yakutsk 30.83 351 *e*P **P 09 42 11.1 -2.1**
comp=Z,245nm,0.5s,mb6.1
BOD Bodaibo 31.17 334 *e*P **P 09 42 14.4 -1.8**
BOD pmax pmax
comp=Z,61nm,0.7s,mb5.3
FX1 Attu Island--F 32.29 39 *e*P **P 09 42 26.9 +0.9**
ZAK Zakamensk 32.37 315⇑ *i*P **P 09 42 25.5 -1.2**
ZAK pmax pmax
comp=Z,38nm,1.4s,mb4.7
IRK Irkutsk 32.53 319 *e*P **P 09 42 27.0 -1.1**
IRK *e* 09 43 48.0
IRK pmax pmax
comp=Z,153nm,1.9s,mb5.2
KMI Kunming 32.62 268 P **P 09 42 28.2 -1.0**
KMI PP PP 09 43 47.3 +1.6
KMI S **S 09 47 27.4 -1.4**
KMI PCS 09 48 54.4
KMI SS SS 09 49 46.3 +3.3
KMI SSS SSS 09 50 01.1 -19
KMI AMB AMB
comp=Z,9.0nm,1.2s,mb4.2
KMI AMB AMB
comp=Z,305nm,6.8s
KMI LR LR
comp=N,904nm,20.8s
KMI LR LR
comp=E,462nm,19.9s
KMI LR LR
comp=Z,549nm,22.4s
KMI Kunming 32.62 268 P **P 09 42 28.2 -1.0**
KMI *PP pP 09 43 08.1 -3.3
KMI *SP sP 09 43 28.3 -6.7
KMI 09 43 47.3
KMI S **S 09 47 27.4 -1.4**
KMI *SS 09 48 39.3
KMI SS SS 09 49 46.3 +3.3
KMI pmax pmax
comp=Z,9.0nm,1.2s,mb4.2
KMI MLR MLR
comp=Z,550nm,22.4s
KMI Kunming 32.62 268 P **P 09 42 28.2 -1.0**
comp=Z,9.0nm,1.2s,mb4.2
KMI pP pP 09 43 08.1 -3.3
KMI sP sP 09 43 28.3 -6.7
KMI PP PP 09 43 47.3 +1.6
KMI S **S 09 47 27.4 -1.4**
KMI ScP 09 48 35.9
KMI sS 09 48 39.3
KMI PcS 09 48 54.4
KMI SS SS 09 49 46.3 +3.3
KMI SSS SSS 09 50 01.1 -19
KMI LR LR
comp=Z,550nm,22.4s
TLY Talaya 32.65 318 *e*P **P 09 42 28.9 -0.2**
TLY *e* 09 43 33.8
TLY *e*S **S 09 47 24.5 -4.5**
TLY pmax pmax
comp=Z,41nm,0.9s,mb5.0
TLY MLR MLR
comp=Z,566nm,14.0s
TLY Talaya 32.65 318 *e*P **P 09 42 28.9 -0.2**
comp=Z,58nm,0.7s,mb5.2
TLY *e*PcP PcP 09 45 09.9 -0.3
GTA Gaotai 32.69 294 *e*P **P 09 42 27.5 -2.1**
GTA AP pP 09 43 10.0 -1.8
GTA PP PP 09 43 43.2 -3.2
GTA PCP PcP 09 45 11.1 +0.7
GTA S **S 09 47 26.4 -3.3**
GTA SCS ScS 09 52 32.0 -0.4
GTA AMB AMB
comp=Z,18nm,1.8s,mb4.3
GTA AMB AMB
comp=Z,517nm,9.6s
GTA LR LR
comp=N,1µm,19.9s
GTA LR LR
comp=E,714nm,13.8s
GTA LR LR
comp=Z,797nm,15.2s
KKM Kota Kinabalu 33.47 225 *e*P **P 09 42 37.2 +0.7**
KKTK Khon Kaen 36.41 254 P **P 09 43 02.0 +0.7**
comp=Z,1µm,0.5s
NANT Nan 36.95 259⇓ P **P 09 43 05.0 -0.8**
comp=Z,462nm,0.4s
CHG Chiang Mai 38.41 260⇓ P **P 09 43 17.5 -0.5**
comp=Z,29nm,0.8s,mb4.9
CM31 Chiang Mai Arr 38.58 260 *e*P **P 09 43 19.8 +0.4**
CMAR Chiang Mai Arr 38.58 260 P **P 09 43 19.0 -0.3**
CMAR *PP pP 09 44 03.7 +1.0
CMAR 09 44 55.5
CMAR 09 45 28.6
CMAR 09 48 57.6
CMAR pmax pmax
comp=Z,12nm,0.6s
CMAR pmax pmax
comp=Z,5.0nm,0.6s
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR pmax pmax
comp=N,4.0nm,1.0s
CMAR Chiang Mai Arr 38.58 260 P **P 09 43 19.0 -0.3**
comp=N,12nm,0.6s,mb4.6,baz=50,slow=7.4,SNR=30
CMAR pP pP 09 44 03.7 +1.0
comp=N,4.8nm,0.6s,baz=55,slow=7.9,SNR=1.2
CMAR PP PP 09 44 55.5 +1.6
comp=N,2.2nm,0.7s,baz=49,slow=8.3,SNR=3.3
CMAR PcP PcP 09 45 28.6 +0.6
comp=N,3.0nm,0.6s,baz=42,slow=2.5,SNR=4.7
CMAR ScP 09 48 57.5
comp=N,3.6nm,1.0s,baz=35,slow=3.1,SNR=8.8
BILL Bilibino 39.51 16*d i*P **P 09 43 26.3 -0.3**
BILL pmax pmax
comp=Z,77nm,1.0s,mb5.1
BILL Bilibino 39.51 16 *e*P **P 09 43 26.0 -0.6**
comp=Z,50nm,0.7s,mb5.0
TIXI Tiksi 40.25 355 *e*P **P 09 43 29.6 -3.0**
TIXI *e* 09 45 07.0
TIXI *e*S **S 09 49 16.9 -7.3**
TIXI *e**SS 09 50 30.5
TIXI *e*SS 09 52 24.7 -0.3
TIXI pmax pmax
comp=Z,70nm,0.6s,mb5.3
TIXI Tiksi 40.25 355 *i*P **P 09 43 31.6 -1.0**
KSM Kuching 40.68 228 *e*P **P 09 43 37.9 +1.2**
KSM *e*pP pP 09 44 24.6 +4.2
LSA Lhasa 41.07 280 P **P 09 43 41.0 +1.2**
LSA Lhasa 41.07 280 *e*P **P 09 43 40.3 +0.5**
LSA pmax pmax
comp=Z,20nm,0.6s,mb4.7
LSA Lhasa 41.07 280 *e*P **P 09 43 40.3 +0.6**
comp=Z,20nm,0.6s,mb4.7
SHL Shillong 41.71 274 *e*P **P 09 43 44.5 -0.5**
SHL *e* 09 48 35.5
PMG Port Moresby 41.71 168 P **P 09 43 45.7 +0.5**
PMG pmax pmax
comp=Z,20nm,0.7s
PMG Port Moresby 41.71 168 P **P 09 43 45.7 +0.5**
comp=Z,20nm,0.7s,mb4.7,baz=357,slow=9.9,SNR=7.3
PMG Port Moresby 41.71 168 *e*P **P 09 43 45.1 0.0**
comp=Z,18nm,0.7s,mb4.6
WMQ Urumqi 41.78 302 P **P 09 43 46.1 +0.8**
WMQ AP pP 09 44 30.0 +0.9
WMQ XP sP 09 44 53.1 +0.3
WMQ PP PP 09 45 28.8 +1.5
WMQ S **S 09 49 47.0 +0.2**
WMQ XS 09 51 04.1
WMQ AMB AMB
comp=Z,92nm,1.3s,mb5.0
WMQ AMB AMB
comp=Z,688nm,4.1s
WMQ LR LR
comp=N,1µm,22.5s
WMQ LR LR
comp=E,429nm,16.5s
WMQ LR LR
comp=Z,617nm,15.0s
UNV Unalaska Valle 44.18 44 *e*P **P 09 44 03.0 -1.5**
comp=Z,48nm,0.6s,mb5.0
ZAL Zalesovo 44.24 316 P **P 09 44 05.0 0.0**
ZAL *PP pP 09 44 52.1 +3.0
ZAL 09 45 45.9
ZAL 09 53 37.9
ZAL pmax pmax
comp=Z,22nm,0.4s
ZAL pmax pmax
comp=Z,6.0nm,0.6s
ZAL pmax pmax
comp=Z,19nm,0.5s
ZAL pmax pmax
comp=N,4.0nm,0.6s
ZAL pmax pmax
comp=N,1.0nm,0.4s
ZAL Zalesovo 44.24 316 P **P 09 44 05.0 0.0**
comp=N,22nm,0.4s,mb4.8,baz=9.4,slow=6.6,SNR=32
ZAL pP pP 09 44 52.1 +3.0
comp=N,6.0nm,0.6s,baz=46,slow=9.8,SNR=1.8
ZAL PcP PcP 09 45 45.9 -0.4
comp=N,19nm,0.5s,baz=19,slow=5.6,SNR=7.3
ZAL ScP 09 49 17.6
comp=N,3.8nm,0.6s,baz=7.9,slow=3.8,SNR=3.7
ZAL ScS ScS 09 53 37.9 -0.8
comp=N,1.1nm,0.4s,baz=249,slow=23,SNR=19
AKUT Akutan 44.64 43 *e*P **P 09 44 06.6 -1.6**
KULM Kulim 44.69 242 *e*P **P 09 44 08.7 -0.4**
NVS Novosibirsk 45.26 318⇓ *i*P **P 09 44 11.3 -1.8**
NVS *i* 09 45 48.4
NVS *i*S **S 09 50 33.5 -3.4**
NVS *e* 09 53 43.5
NVS pmax pmax
comp=E,131nm,2.0s
NVS pmax pmax
comp=Z,161nm,2.0s,mb5.0
NVS smax
comp=E,32nm,1.9s
MKAR Makanchi Array 45.51 306 P **P 09 44 14.3 -0.9**
MKAR 09 45 50.4
MKAR pmax pmax
comp=Z,116nm,0.6s
MKAR pmax pmax
comp=Z,8.0nm,0.5s
MKAR pmax pmax
comp=Z,11nm,0.7s
MKAR pmax pmax
comp=N,9.0nm,0.6s
MKAR Makanchi Array 45.51 306 P **P 09 44 14.3 -0.9**
comp=N,116nm,0.6s,mb5.4,baz=89,slow=9.9,SNR=661
MKAR pP pP 09 45 01.9 +2.4
comp=N,8.3nm,0.5s,baz=79,slow=10,SNR=1.5
MKAR PcP PcP 09 45 50.4 -0.4
comp=N,11nm,0.7s,baz=81,slow=6.0,SNR=3.2
MKAR ScP 09 49 22.8
comp=N,8.5nm,0.6s,baz=80,slow=5.8,SNR=10
MKAR Makanchi Array 45.51 306 P **P 09 44 14.3 -0.9**
MKAR pP pP 09 45 01.9 +2.4
MKAR PcP PcP 09 45 50.4 -0.4
MKAR ScP 09 49 22.8
GUN Gumba 46.02 279 *e*P **P 09 44 19.1 -0.3**
comp=N,164nm,0.5s,mb5.6
TNA Tin City 46.28 27 *e*P **P 09 44 21.7 +0.7**
comp=N,71nm,1.1s,mb4.9
PKI Pulchoki 46.52 279 *e*P **P 09 44 22.2 -1.1**
comp=N,46nm,0.6s,mb5.0
PKI Pulchoki 46.52 279 *e*P **P 09 44 22.2 -1.1**
PKI pmax pmax
comp=Z,23nm,0.6s,mb4.7
KKN Kakani 46.56 280 *e*P **P 09 44 22.8 -0.8**
comp=Z,77nm,0.6s,mb5.2
KKN Kakani 46.56 280 *e*P **P 09 44 22.8 -0.8**
KKN pmax pmax
comp=Z,39nm,0.6s,mb4.9
DMN Daman 46.76 279 *e*P **P 09 44 24.3 -0.9**
comp=Z,67nm,0.7s,mb5.1
GKN Gorkha 47.03 280 *e*P **P 09 44 26.3 -0.9**
comp=Z,68nm,0.5s,mb5.3
BOK Bokaro 47.43 274 *e*P **P 09 44 29.7 -0.7**
BOK AMb AMB 09 44 34.0
comp=Z,63nm,1.0s,mb4.9
SDPT Sand Point 47.81 42 *e*P **P 09 44 31.9 -1.1**
KOLN Koldanda 47.97 280 *e*P **P 09 44 33.9 -0.7**
LGTI Lohaghat 50.23 284 *e*P **P 09 44 53.0 +1.2**
LGTI *e* 09 46 08.0
ULHL Ulahol 50.28 301 P **P 09 44 51.9 -0.1**
SNR=15
TKM2 Tokmak 2 50.64 302 P **P 09 44 54.4 -0.3**
SNR=90
TTA Tatalina 50.75 32 *e*P **P 09 44 55.6 +0.4**
SVW2 Sparrevohn 50.79 35 *e*P **P 09 44 56.2 +0.7**
KZA Kyzart 51.04 301 P **P 09 44 58.1 +0.5**
SNR=75
KBK Karagaybulak 51.15 301 P **P 09 44 58.0 -0.5**
SNR=41
CHMS Chumysh 51.23 302 P **P 09 44 58.2 -1.0**
SNR=16
FITZ Fitzroy Crossi 51.33 197 P **P 09 44 59.7 -0.5**
comp=Z,15nm,0.3s,mb4.9,baz=196,slow=16,SNR=4.7
FITZ pP pP 09 45 47.0 +1.4
comp=Z,23nm,0.7s,baz=352,slow=7.6,SNR=1.5
FITZ ScP 09 49 50.1
comp=Z,17nm,1.0s,baz=11,slow=4.8,SNR=3.5
FRU Bishkek 51.36 302 *e*P **P 09 44 59.0 -1.1**
FRU pmax pmax
comp=Z,112nm,1.5s,mb5.1
USP Ospenovka 51.37 302 P **P 09 44 59.1 -1.1**
SNR=71
AAK Ala-Archa 51.49 301 P **P 09 45 00.2 -0.8**
SNR=31
AAK Ala-Archa 51.49 301 *i*P **P 09 45 00.2 -0.8**
AAK pmax pmax
comp=Z,66nm,0.7s,mb5.2
AAK Ala-Archa 51.49 301 *e*P **P 09 44 59.0 -2.0**
comp=Z,52nm,0.6s,mb5.1
UCH Uchtor 51.55 301 P **P 09 45 01.6 +0.2**
SNR=76
WRAB Tennant Creek 51.69 186⇓ *i*P **P 09 45 01.7 -1.1**
WRAB Tennant Creek 51.69 186 *e*P **P 09 45 01.6 -1.2**
comp=Z,67nm,1.1s,mb5.0
WB2 Warramunga Arr 51.70 186 *e*P **P 09 45 02.1 -0.7**
WB2 *e*pP pP 09 45 48.2 -0.1
WB2 *e*SCP 09 49 49.7
WB2 *e*S **S 09 52 03.7 -3.3**
WB2 *e*SCS ScS 09 54 34.1 +5.5
WRA Warramunga Arr 51.70 186 P **P 09 45 01.8 -1.0**
WRA *PP pP 09 45 48.2 -0.1
WRA 09 46 15.7
WRA S **S 09 52 06.1 -0.9**
WRA pmax pmax
comp=Z,8.0nm,0.4s
WRA pmax pmax
comp=Z,19nm,0.8s
WRA pmax pmax
comp=Z,10.0nm,0.7s
WRA pmax pmax
comp=N,5.0nm,0.8s
WRA smax
comp=N,1.0nm,0.8s
WRA Warramunga Arr 51.70 186 P **P 09 45 01.8 -1.1**
comp=N,7.5nm,0.4s,mb4.4,baz=4.6,slow=7.5,SNR=53
WRA pP pP 09 45 48.2 -0.2
comp=N,19nm,0.8s,baz=5.9,slow=7.7,SNR=4.0
WRA PcP PcP 09 46 15.7 +2.1
comp=N,9.6nm,0.7s,baz=8.1,slow=8.3,SNR=5.3
WRA ScP 09 49 49.9
comp=N,4.9nm,0.8s,baz=1.0,slow=4.2,SNR=9.9

WRA S **S** **09 52 06.1 -0.8**
comp=N,1.1nm,0.8s,baz=355,slow=12,SNR=6.2
CTA Charters Tower 52.07 172 P **P**
CTA *PP pP 09 45 51.6 +0.4
CTA pmax pmax
comp=Z,6.0nm,0.7s
CTA pmax pmax
comp=Z,14nm,0.9s
CTA Charters Tower 52.07 172 P **P** **09 45 05.0 -0.7**
comp=Z,5.7nm,0.7s,mb4.1,baz=21,slow=7.2,SNR=6.4
CTA pP pP 09 45 51.5 +0.4
comp=Z,14nm,0.9s,baz=342,slow=5.7,SNR=5.3
CTAO Charters Tower 52.07 172 *e*P **P** **09 45 04.4 -1.2**
CTAO pmax pmax
comp=Z,16nm,1.1s,mb4.4
CTAO Charters Tower 52.07 172 *e*P **P** **09 45 04.3 -1.3**
comp=Z,16nm,1.1s,mb4.4
IMA Indian Mountai 52.10 28 *e*P **P** **09 45 04.9 -0.3**
RSO Redoubt South 52.15 36 *e*P **P** **09 45 05.6 0.0**
AML Almayashu 52.16 301 P **P** **09 45 06.2 +0.2**
SNR=173
VOSK Vostochnaya 52.49 315 *i*P **P** **09 45 06.8 -1.5**
ASOR Ausora 52.50 284 *e*P **P** **09 45 07.7 -1.0**
ASOR AMb AMB 09 45 19.3
comp=Z,345nm,0.2s
SPU Mount Spurr 52.51 35 *e*P **P** **09 45 08.7 +0.4**
DLH Dalhousie 52.78 289 *e*P **P** **09 45 09.0 -1.7**
BVA0 Borovoye Array 52.82 315 *i*P **P** **09 45 09.3 -1.4**
BVA0 pmax pmax
comp=Z,24nm,1.8s,mb4.3
BVAR Borovoye Array 52.82 315 P **P** **09 45 09.3 -1.5**
comp=Z,34nm,0.6s,mb5.0,baz=105,slow=7.4,SNR=170
BVAR PcP PcP 09 46 17.0 -0.3
comp=Z,20nm,0.5s,baz=92,slow=2.9,SNR=7.0
BVAR ScP 09 49 53.6
comp=Z,4.3nm,0.5s,baz=92,slow=5.6,SNR=4.3
BVAR S **S** **09 52 20.6 -1.2**
comp=Z,1.4nm,0.7s,baz=90,slow=13,SNR=4.4
BISR Bishrakh 52.84 284 *e*P **P** **09 45 09.7 -1.5**
BISR AMb AMB 09 45 11.7
comp=Z,343nm,0.7s,mb5.9
AGRA Agra 52.88 282 *e*P **P** **09 45 09.1 -2.5**
AGRA AMb AMB 09 45 11.1
comp=Z,132nm,0.4s,mb5.7
KKR Kurukshetra 52.89 285 *e*P **P** **09 45 10.2 -1.4**
NDI New Delhi 52.98 284 *e*P **P** **09 45 10.0 -2.3**
THN Thein Dam 53.01 289 *e*P **P** **09 45 10.0 -2.4**
AYAN Aya Nagar 53.13 284 *e*P **P** **09 45 12.0 -1.3**
SONA Sohna 53.24 283 *e*P **P** **09 45 11.8 -2.4**
SONA AMb AMB 09 45 13.9
comp=Z,94nm,0.4s,mb5.6
SLKM Skilak Lake 53.40 36 *e*P **P** **09 45 13.2 -1.7**
ZRNK Zerenda 53.66 315 *e*P **P** **09 45 15.3 -1.6**
ZRNK *e* 09 46 19.5
ZRNK *e* 09 47 17.4
ZRNK pmax pmax
comp=Z,21nm,0.5s,mb4.9
ZRNK Zerenda 53.66 315 *e*P **P** **09 45 15.3 -1.7**
comp=Z,21nm,0.5s,mb4.9
ZRNK *e*PcP PcP 09 46 19.4 -1.1
ZRNK *e*PP PP 09 47 17.4 -3.7
PMR Palmer 53.91 34 *e*P **P** **09 45 17.1 -1.5**
KKAR Karatay Array 54.26 303 *i*P **P** **09 45 19.9 -1.5**
KKAR pmax pmax
comp=Z,105nm,0.6s,mb5.5
SML Sawmill 54.29 34 *e*P **P** **09 45 20.5 -0.8**
KHET Khetri 54.36 284 *e*P **P** **09 45 20.1 -2.3**
BHPL Bhopal 54.81 277 *e*P **P** **09 45 23.4 -2.2**
BHPL *e*P 09 45 23.6
BHPL AMb AMB 09 45 26.2
comp=Z,92nm,1.2s,mb5.2
BHPL AMb AMB 09 45 27.7
comp=Z,92nm,2.1s,mb5.0
ILAR Eielson Array 54.88 30 P **P** **09 45 24.2 -1.3**
ILAR S **S** **09 52 53.7 +4.6**
ILAR pmax pmax
comp=Z,29nm,0.8s
ILAR pmax pmax
comp=Z,7.0nm,0.7s
ILAR smax
comp=N,1.0nm,1.1s
ILAR Eielson Array 54.88 30 P **P** **09 45 24.2 -1.3**
comp=N,29nm,0.8s,mb4.9,baz=275,slow=5.8,SNR=345
ILAR pP pP 09 46 13.2 +1.8
comp=N,6.7nm,0.7s,baz=266,slow=7.3,SNR=2.9
ILAR S **S** **09 52 53.7 +4.7**
comp=N,0.5nm,1.1s,baz=277,slow=14,SNR=3.1
THY Trims Highway 55.42 32 *e*P **P** **09 45 29.2 -0.2**
DIV Divide 55.55 35 *e*P **P** **09 45 30.5 +0.1**
comp=N,366nm,1.2s,mb5.8
EYAK Cordova Ski Ar 55.61 35 *e*P **P** **09 45 30.9 +0.1**
MBWA Marble Bar 55.90 202 *e*P **P** **09 45 31.5 -1.9**
comp=N,12nm,0.5s,mb4.7
AJM Ajmer 55.90 282⇓ *i*P **P** **09 45 31.0 -2.4**
HYB Hyderabad 56.32 271 *e*P **P** **09 45 35.0 -1.4**
HYB Hyderabad 56.32 271 *i*P **P** **09 45 35.0 -1.4**
SVE Sverdlovsk 57.90 321⇓ *i*P **P** **09 45 45.5 -1.5**
SVE *e* pP 09 46 28.8 -4.8
SVE *e* 09 47 58.2
SVE *e* 09 49 30.0
SVE *e*S **S** **09 53 27.0 -2.0**
SVE *e*PS tx 09 53 50.0
SVE *e* 09 55 08.0
SVE pmax pmax
comp=Z,160nm,2.7s,mb5.2
SVE MLR MLR
comp=N,100nm,15.0s
SVE MLR MLR
comp=E,200nm,15.0s
SVE MLR MLR
comp=Z,400nm,15.0s
JASL Jaisalmer 58.83 284 *e*P **P** **09 45 52.5 -1.5**
ARU Arti 59.10 320*d* *i*P **P** **09 45 53.6 -1.8**
ARU pmax pmax
comp=Z,57nm,0.7s,mb5.3
ARU MLR MLR
comp=Z,200nm,18.0s
ARU Arti 59.10 320 *e*P **P** **09 45 53.4 -2.0**
comp=Z,74nm,0.6s,mb5.5
SOKR Solikamsk 59.39 324*d* *i*P **P** **09 45 55.5 -1.8**
SOKR S **S** **09 53 48.5 +0.2**
SOKR SSS SSS 10 00 19.4 -6.3
SOKR pmax pmax
comp=Z,30nm,1.0s,mb4.9
SOKR MLR MLR
comp=Z,230nm,17.0s
PALK Pallekele 59.52 259 *e*P **P** **09 45 58.7 -0.1**
comp=Z,28nm,1.1s,mb4.8
POO Poona 59.82 274⇑ *i*P **P** **09 46 01.0 +0.2**
comp=Z,130nm,1.0s,mb5.5
INK Inuvik 59.84 25 *e*P **P** **09 45 59.4 -0.9**
INK pmax pmax
comp=Z,39nm,0.8s
INK Inuvik 59.84 25 *e*P **P** **09 45 59.4 -0.8**
comp=Z,39nm,0.8s,mb5.1
BHUJ Bhuj 61.33 281 *e*P **P** **09 46 09.1 -1.7**
BHUJ AMb AMB 09 46 10.0
comp=Z,138nm,1.4s,mb5.4
SIT Sitka 61.55 38 *e*P **P** **09 46 12.2 +0.3**
SIT pmax pmax
comp=Z,41nm,1.2s,mb4.9
SIT Sitka 61.55 38 *e*P **P** **09 46 12.2 +0.3**
comp=Z,41nm,1.2s,mb4.9
FORT Forrest 63.17 191 *e*P **P** **09 46 21.8 -1.2**
comp=Z,30nm,0.5s,mb5.2
CRAG Craig 63.18 40 *e*P **P** **09 46 23.4 +0.7**
STKA Stephens Creek 63.41 178 *e*P **P** **09 46 23.2 -1.3**
comp=Z,7.8nm,0.6s,mb4.5
STKA *e*pP pP 09 47 12.2 +0.2
STKA Stephens Creek 63.41 178 P **P** **09 46 23.8 -0.7**
comp=Z,8.7nm,0.5s,mb4.6,baz=347,slow=6.4,SNR=35
STKA pP pP 09 47 12.4 +0.5
comp=Z,14nm,0.8s,baz=342,slow=8.8,SNR=4.5
DLBC Dease Lake 63.87 36 *e*P **P** **09 46 27.7 +0.6**
KBS Kingsbay 65.45 350 *e*P **P** **09 46 36.9 -0.1**
KBS pmax pmax
comp=Z,46nm,0.9s,mb5.1
KBS Kingsbay 65.45 350 *e*P **P** **09 46 36.9 -0.1**
comp=Z,46nm,0.9s,mb5.1
KBS Kingsbay 65.45 350 *e*P **P** **09 46 37.5 +0.5**
KBS *e*S S 09 55 08.5 +5.1
KBS AMS AMS 10 17 57.7
comp=Z,104nm,18.9s
LVZ Lovozero 66.11 336⇓ *i*P **P** **09 46 36.5 -4.7**
LVZ *e* 09 47 40.6
LVZ *i*S S 09 55 02.2 -9.3
LVZ pmax pmax
comp=Z,44nm,1.4s,mb4.9
LVZ pmax pmax
comp=N,4.0nm,0.5s
LVZ pmax pmax
comp=E,5.0nm,0.5s
LVZ smax
comp=N,89nm,3.1s
LVZ smax
comp=E,207nm,3.6s
HSP Hornsund 66.13 348 *e*P **P** **09 46 41.0 -0.3**
APA Apatity 66.68 336⇑ *i*P **P** **09 46 43.4 -1.5**
APA *e* 09 47 50.0
APA *i*S S 09 55 15.0 -3.4
APA *i* 09 56 16.0
APA pmax pmax
comp=Z,59nm,0.6s,mb5.4
APA MLR MLR
comp=Z,300nm,15.0s
KEV Kevo 67.65 340 *e*p **P** **09 46 49.3 -1.6**
comp=Z,49nm,0.6s,mb5.3
KEV Kevo 67.65 340 *e*P **P** **09 46 49.3 -1.6**
KEV pmax pmax
comp=Z,49nm,0.6s,mb5.3
NWAO Narrogin (SRO) 67.67 200 P **P** **09 46 51.8 +0.1**
NWAO *PP pP 09 47 38.5 -1.2
NWAO pmax pmax
comp=Z,11nm,0.5s
NWAO pmax pmax
comp=Z,19nm,0.8s
NWAO Narrogin (SRO) 67.67 200 P **P** **09 46 51.8 +0.1**
comp=Z,11nm,0.5s,mb4.7,baz=28,slow=4.9,SNR=12
NWAO pP pP 09 47 38.5 -1.2
comp=Z,19nm,0.8s,baz=43,slow=4.6,SNR=3.2
RES Resolute Bay 68.07 13 *e*P **P** **09 46 53.0 -0.4**
RES pmax pmax
comp=Z,64nm,0.9s,mb5.2
RES Resolute Bay 68.07 13 *e*P **P** **09 46 53.0 -0.5**
comp=Z,64nm,0.9s,mb5.2
ARCES ARCESS Array B 68.21 340 P **P** **09 46 53.7 -0.7**
ARCES pmax pmax
comp=Z,68nm,0.5s
ARCES ARCESS Array B 68.21 340 P **P** **09 46 53.7 -0.7**
comp=Z,68nm,0.5s,mb5.5,baz=70,slow=8.8,SNR=712
ARCES ARCESS Array B 68.21 340 P **P** **09 46 53.7 -0.7**
ARE0 ARCESS Array S 68.21 340⇓ *i*P **P** **09 46 53.6 -0.8**
KTK1 Kautokeino 69.17 340⇓ *i*P **P** **09 47 00.4 +0.1**
YKW3 Yellowknife Ar 69.19 28 *e*P **P** **09 46 59.3 -1.1**
YKA Yellowknife Ar 69.22 28 P **P** **09 47 00.0 -0.6**
comp=Z,12nm,0.7s,mb4.7,baz=294,slow=5.9,SNR=58
YKA pP pP 09 47 47.5 -1.4
comp=Z,3.5nm,0.9s,baz=302,slow=6.3,SNR=1.7
TRO Tromso 70.03 341 *e*P **P** **09 47 03.4 -2.1**
TRO LR LR
comp=Z,188µm,19.7s
TRO Tromso 70.03 341 *e*P **P** **09 47 03.4 -2.1**
TRO *e*S S 09 55 57.1 -0.8
TRO AMS AMS 10 24 13.6
comp=Z,188nm,19.7s
MAK Makhachkala 70.24 309*c* *i*P **P** **09 47 06.0 -1.2**
MAK *e**PP pP 09 47 52.0 -3.5
MAK *e**SP sP 09 48 14.0 -3.1
MAK *e* 09 49 40.0
MAK *e*S S 09 56 07.5 +6.6
MAK *e*SP SP 09 56 46.0 +17
MAK *e*PS PS 09 57 05.0 +5.1
MAK pmax pmax
comp=Z,600nm,2.0s,mb5.9
MAK smax
comp=N,400nm,8.0s
MAK MLR MLR
comp=Z,700nm,12.0s
MOS Moscow 70.34 324 *e*P **P** **09 47 06.3 -1.2**
MOS *e**PP pP 09 47 57.1 +1.2
MOS *e* 09 49 43.4
MOS *e*PPP PPP 09 51 31.7 +2.5
MOS *e*S S 09 56 00.0 -1.8
MOS *e*SS SS 10 00 37.5 -1.2
MOS pmax pmax
comp=Z,400nm,2.2s,mb5.7
MOS pmax pmax
comp=Z,118nm,1.2s,mb5.4
WBK Wadi Bani Khal 70.47 285 P **P** **09 47 08.8 -0.1**
SNR=11
BIDO Bidbid 70.75 286 P **P** **09 47 10.6 0.0**
SNR=16
DAG Danmarks Havn 70.77 355⇑ *i*P **P** **09 47 09.7 -0.1**
DAG pmax pmax
comp=Z,47nm,0.7s,mb5.2
DAG Danmarks Havn 70.77 355⇑ *i*P **P** **09 47 09.7 -0.1**
comp=Z,46nm,0.7s,mb5.2
BANOM Banah 71.15 289 P **P** **09 47 12.7 -0.2**
SNR=19
OBN Obninsk 71.17 324*k* *i*P **P** **09 47 11.2 -1.3**
OBN 09 47 26.0
OBN *e* pP 09 48 01.8 +0.9
OBN *e* 09 48 21.5
OBN *e* 09 49 50.8
OBN *i*S S 09 56 09.7 -1.6
OBN *e* 09 56 57.9
OBN pmax pmax
comp=Z,189nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,400nm,17.0s
OBN Obninsk 71.17 324 *i*P **P** **09 47 11.3 -1.2**
OBN LR LR
comp=Z,400nm,17.0s
OOW Octopus West 71.27 45 P **P** **09 47 15.3 +2.1**
OCWA Octopus Mounta 71.27 45 *e*P **P** **09 47 14.6 +1.4**
comp=Z,26nm,1.1s,mb4.8
JMDO Jabal Madar 71.30 285 P **P** **09 47 13.2 -0.6**
SNR=13
PGC Sidney 71.30 44⇑ *e*P **P** **09 47 14.2 +0.8**
comp=Z,102nm,0.8s,mb5.5
HOQ Hoqain 71.39 287 P **P** **09 47 13.9 -0.4**
SNR=11
OSD Olympics--Snow 71.52 45 P **P** **09 47 16.6 +1.9**
PUL Pulkovo 71.73 330⇓ *e*P **P** **09 47 15.8 0.0**
PUL *e* 09 48 19.3
PUL *e*PPP PPP 09 51 37.8 -4.4
PUL pmax pmax
comp=Z,101nm,0.6s,mb5.6
PUL pmax pmax
comp=N,35nm,0.5s
BSY Bisya 71.87 286 P **P** **09 47 16.6 -0.7**
SNR=24
ASHO Ashiyiah 71.91 288 P **P** **09 47 16.8 -0.7**
SNR=32
KAF Kangasniemi 72.08 333 *e*p **P** **09 47 16.0 -1.8**
comp=N,52nm,0.4s,mb5.5,baz=53,slow=5.6
KAF Kangasniemi 72.08 333 *e*P **P** **09 47 16.0 -1.8**
KAF pmax pmax
comp=Z,52nm,0.4s,mb5.5
GOF Gofitskoye 72.20 312⇑ *i*P **P** **09 47 17.5 -1.4**
GOF pmax pmax
comp=Z,134nm,0.8s,mb5.6
DGRG David-gareji 72.33 308 P **P** **09 47 19.0 -0.6**
DUS Dusheti 72.48 309 P **P** **09 47 20.1 -0.5**
LOF Lofoten 72.49 341 *e*P **P** **09 47 19.0 -1.2**
FINES FINESS Array B 72.55 332 P **P** **09 47 19.5 -1.0**
FINES S S 09 56 25.0 -1.8
FINES pmax pmax
comp=Z,98nm,0.5s
FINES FINESS Array B 72.55 332 P **P** **09 47 19.5 -1.0**
comp=Z,98nm,0.5s,mb5.7,baz=67,slow=5.7,SNR=980
FINES S S 09 56 25.0 -1.8
comp=Z,3.5nm,0.9s,baz=49,slow=18,SNR=6.4
FINES FINESS Array B 72.55 332 P **P** **09 47 19.5 -1.0**
FINES S S 09 56 25.0 -1.8
MTA Mtatsminda 72.60 309 P **P** **09 47 20.3 -1.0**
TI2 Plekhanov 72.61 309⇓ *i*P **P** **09 47 21.4 +0.1**
TI2 *e*S S 09 56 29.0 +1.1
TBLG Delisi 72.62 309 P **P** **09 47 21.6 +0.2**
ZEI Tsey 72.70 310 *e*P **P** **09 47 17.7 -4.1**
ZEI pmax pmax
comp=Z,57nm,0.7s,mb5.3
KIV Kislovodsk 72.94 311 *i*P **P** **09 47 23.1 -0.1**
KIV Kislovodsk 72.94 311 *i*P **P** **09 47 23.1 -0.1**
ONI Oni 73.08 310 P **P** **09 47 23.4 -0.7**
PNT Penticton 73.21 42 P **P** **09 47 24.8 +0.1**
MELSS Ber_school_2 73.32 340 *e*P **P** **09 47 24.1 -0.8**
GNI Garni 73.35 307 P **P** **09 47 26.9 +1.2**
GNI pmax pmax
comp=Z,18nm,0.5s
GNI Garni 73.35 307 P **P** **09 47 26.9 +1.2**
comp=Z,18nm,0.5s,mb5.0,baz=325,slow=3.7,SNR=19
GNI Garni 73.35 307 *e*P **P** **09 47 25.6 0.0**
comp=Z,29nm,0.5s,mb5.2
KEBM Edson Butte 73.42 50⇓ *i*P **P** **09 47 27.8 +1.8**
MOR8 Moi Rana 73.58 340⇓ *i*P **P** **09 47 24.6 -1.9**
comp=Z,206nm,0.8s,mb5.8
MOR8 Moi Rana 73.58 340⇓ *i*P **P** **09 47 24.6 -1.9**
MOR8 AMb AMB 09 47 26.1
comp=Z,206nm,0.8s,mb5.8
SSOR Sweet Springs 73.67 47 P **P** **09 47 29.0 +1.6**
TBM Table Mountain 73.69 44 P **P** **09 47 28.6 +1.2**
KBO Bosley Butte 73.80 50 *e*P **P** **09 47 30.0 +1.8**
STOK Stokkvaagen 73.89 340 *e*P **P** **09 47 27.5 -0.8**
VSU Vasula 74.00 330 *i*P **P** **09 47 28.3 -0.7**
VSU Vasula 74.00 330 *i*P **P** **09 47 28.3 -0.7**
MXC Moxie City 74.16 45 P **P** **09 47 31.5 +1.3**
CLDR Caldiran 74.38 306 P **P** **09 47 31.7 0.0**
HUMO Hull Mountain 74.44 49 *e*P **P** **09 47 33.4 +1.5**
comp=Z,51nm,1.4s,mb5.0
BBOR Butler Butte 74.48 49 P **P** **09 47 33.7 +1.5**
EDM Edmonton 74.58 37 *e*P **P** **09 47 32.1 -0.3**
EDM *e**PP pP 09 48 18.5 -2.7
WRD Warden 74.73 44 P **P** **09 47 33.8 +0.3**
KHMM Horse Mountain 74.77 51 *e*P **P** **09 47 34.6 +0.8**
KHMM *e*pP pP 09 48 17.5 -5.1
BCA Borcka 74.82 309 P **P** **09 47 32.7 -1.3**
JMIC Jan Mayen 74.92 350 P **P** **09 47 35.5 +1.5**
comp=Z,42nm,0.7s,mb5.2,baz=261,slow=7.9,SNR=5.0
JMIC Jan Mayen 74.92 350 *e*P **P** **09 47 34.7 +0.6**
JMIC *e*S S 09 56 59.3 +6.5
SOC Sochi 75.00 312*d* *i*P **P** **09 47 34.4 -0.7**
SOC *e*PPP PPP 09 52 10.9 -2.7
SOC *e*S S 09 56 46.8 -7.5
SOC *e* 09 57 23.2
SOC *e*SS SS 10 01 50.0 0.0
SOC pmax pmax
comp=N,20nm,0.8s
SOC pmax pmax
comp=E,10.0nm,0.8s
SOC pmax pmax
comp=Z,117nm,0.8s,mb5.6
VANB Van 75.01 306 P **P** **09 47 32.4 -2.9**
YBH Yreka Blue Hor 75.02 50⇑ *i*P **P** **09 47 36.0 +0.8**
YBH pmax pmax
comp=Z,41nm,1.0s
YBH Yreka Blue Hor 75.02 50⇑ *i*P **P** **09 47 36.0 +0.7**
comp=Z,141nm,1.0s,mb5.3
NEW Newport 75.16 42 *e*P **P** **09 47 35.2 -0.7**
NEW pmax pmax
comp=Z,20nm,0.7s
NEW Newport 75.16 42 *e*P **P** **09 47 35.2 -0.7**
comp=Z,20nm,0.7s,mb4.8
HKR Hakkari 75.25 305 P **P** **09 47 34.8 -1.8**
HOG Hogback Mounta 75.42 49 P **P** **09 47 39.3 +1.8**
WDC Whiskeytown Da 75.70 51⇑ *i*P **P** **09 47 39.6 +0.5**
WDC *e**PP pP 09 48 24.4 -3.6
WDC pmax pmax
comp=Z,52nm,1.3s,mb5.0
WDC Whiskeytown Da 75.70 51⇑ *i*P **P** **09 47 39.6 +0.6**
comp=Z,52nm,1.3s,mb5.0
WDC *e*pP pP 09 48 24.4 -3.6
EZM Erzurum 75.74 308 P **P** **09 47 39.4 +0.1**
MNK Minsk 75.78 326 *e*P **P** **09 47 33.0 -6.2**
IZAR Zarasai 75.80 328 *e*P **P** **09 47 39.1 -0.2**
IZAR AMb AMB 09 47 40.7
comp=Z,34nm,0.8s,mb5.0
ANN Anapa 75.81 314*d* *i*P **P** **09 47 38.7 -0.9**
ANN *e* 09 47 56.1
ANN *e* 09 50 32.7
ANN *e*PPP PPP 09 52 22.7 +1.1
ANN *e*S S 09 57 01.0 -2.1
ANN pmax pmax
comp=Z,275nm,1.3s,mb5.7
ANN MLR MLR
comp=E,240nm,19.0s
ANN MLR MLR
comp=Z,341nm,19.0s
IDID Didziasalis 75.82 327 *i*P **P** **09 47 38.9 -0.5**
IDID AMb AMB 09 47 40.9
comp=Z,36nm,0.8s,mb5.0
SUMG Summit 75.85 359 *e*P **P** **09 47 40.4 +1.1**
comp=Z,59nm,0.7s,mb5.3
ISAL Salakas 75.95 327 *e*P **P** **09 47 39.8 -0.3**
ISAL AMb AMB 09 47 41.2
comp=Z,44nm,0.6s,mb5.3
IIGN Ignalina 76.04 327 *e*P **P** **09 47 40.6 0.0**
KBD Kabd 76.40 296 *e*P **P** **09 47 42.7 -0.5**
MOD Modoc 76.50 49⇑ *i*P **P** **09 47 44.1 +0.7**
comp=Z,36nm,0.9s,mb5.0
RDF Al-Radifah 76.63 296 *e*P **P** **09 47 44.1 -0.4**
NSHM Saint Helena R 76.68 53 *e*P **P** **09 47 45.3 +0.8**
GUMT Gumushane 76.72 309 P **P** **09 47 44.6 0.0**
HASS Wahat al Ahsa' 76.76 291 P **P** **09 47 44.9 -0.3**
RBK Rabkut 76.83 282 P **P** **09 47 44.7 -1.1**
SNR=9.0
BMO Blue Mountains 76.84 45⇑ *i*P **P** **09 47 45.7 +0.4**
comp=Z,38nm,0.9s,mb5.0
BMO *e*pP pP 09 48 30.8 -3.6
WHFO Wadi Hawf 76.98 283 P **P** **09 47 45.3 -1.3**
SNR=14
SCO Scoresbysund 77.07 354 *i*P **P** **09 47 47.1 +1.1**
SCO pmax pmax
comp=Z,53nm,0.7s,mb5.3
SCO Scoresbysund 77.07 354 *i*P **P** **09 47 47.1 +1.1**
comp=Z,53nm,0.7s,mb5.3
AKASG Malin Array Be 77.27 322 P **P** **09 47 46.6 -0.9**
AKASG *PP pP 09 48 37.7 +1.0
AKASG S S 09 57 23.7 +4.9
AKASG pmax pmax
comp=Z,96nm,0.5s
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 77.27 322 P **P** **09 47 46.6 -0.9**
comp=Z,96nm,0.5s,mb5.7,baz=51,slow=5.7,SNR=427
AKASG pP pP 09 48 37.7 +1.0
comp=Z,5.6nm,0.7s,baz=52,slow=5.3,SNR=1.2
AKASG S S 09 57 23.7 +4.9
comp=Z,0.2nm,0.3s,baz=105,slow=23,SNR=4.5
WVOR Wild Horse Val 77.28 48 P **P** **09 47 48.6 +0.8**
BEKR Beckwourth 77.50 51⇑ *i*P **P** **09 47 49.3 +0.3**
comp=Z,78nm,1.0s,mb5.3
PTK Pertek 77.57 308 P **P** **09 47 49.2 -0.2**
ABTO Aybut 77.66 283 P **P** **09 47 49.5 -0.8**
SNR=10
SIM Simferopol' 77.74 315*de* P **P** **09 47 50.3 +0.1**
SIM *e*S S 09 57 27.0 +3.2
SIM pmax pmax
comp=Z,75nm,0.7s,mb5.4
MSO Missoula 77.75 42⇑ *i*P **P** **09 47 50.5 +0.3**
comp=Z,18nm,1.2s,mb4.6
HFS Hagfors 78.05 335 P **P** **09 47 50.6 -1.0**
HFS 09 50 48.0
HFS S S 09 57 24.7 -2.1
HFS pmax pmax
comp=Z,68nm,0.6s
HFS pmax pmax
comp=Z,12nm,0.7s
HFS Hagfors 78.05 335 P **P** **09 47 50.6 -0.9**
comp=Z,68nm,0.6s,mb5.5,baz=90,slow=3.0,SNR=246
HFS PP PP 09 50 48.0 -4.3
comp=Z,12nm,0.7s,baz=68,slow=8.0,SNR=5.1
HFS S S 09 57 24.7 -2.1
comp=Z,3.4nm,0.9s,baz=72,slow=14,SNR=5.9
CHMT Chamberlain Mo 78.10 42 *e*P **P** **09 47 52.2 0.0**
WCN Washoe City 78.19 51⇑ *i*P **P** **09 47 53.6 +0.8**
WCN pmax pmax
comp=Z,152nm,1.7s,mb5.3
WCN Washoe City 78.19 51⇑ *i*P **P** **09 47 53.6 +0.8**
comp=Z,152nm,1.7s,mb5.3
DOMB Dombas 78.20 338⇓ *i*P **P** **09 47 52.0 -0.4**
comp=Z,96nm,0.5s,mb5.7
DOMB Dombas 78.20 338⇓ *i*P **P** **09 47 52.0 -0.4**
DOMB AMb AMB 09 47 53.6
comp=Z,96nm,0.5s,mb5.7
PAHR Pah Rah Range 78.23 51 *e*P **P** **09 47 53.5 +0.5**
comp=Z,24nm,1.0s,mb4.8
NB2 NORSAR Subarra 78.25 337 P **P** **09 47 52.0 -0.6**
comp=Z,69nm,0.6s,mb5.5,baz=42,slow=5.3
NB2 NORSAR Subarra 78.25 337 P **P** **09 47 52.0 -0.6**
baz=42,slow=5.3
NOA NORSAR Array B 78.25 337 P **P** **09 47 51.8 -0.8**
NOA *PP pP 09 48 41.5 -0.4
NOA 09 50 50.8
NOA pmax pmax

comp=Z,64nm,0.6s
NOA pmax pmax
comp=Z,9.0nm,1.0s
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA NORSAR Array B 78.25 337 P P **09 47 51.8 -0.8**
comp=Z,64nm,0.6s,mb5.4,baz=46,slow=5.7,SNR=442
NOA pP pP 09 48 41.5 -0.4
comp=Z,8.6nm,1.0s,baz=37,slow=5.3,SNR=1.6
NOA PP PP 09 50 50.8 -3.1
comp=Z,4.4nm,0.7s,baz=46,slow=8.6,SNR=4.9
SUW Suwalki 78.26 327 *eP* **P 09 47 52.8 0.0**
MOL Molde 78.27 339⇓ *iP* **P 09 47 54.1 +1.4**
comp=Z,78nm,1.6s,mb5.1
MOL Molde 78.27 339⇓ *iP* **P 09 47 54.1 +1.4**
MOL AMb AMB 09 47 55.8
comp=Z,78nm,1.6s,mb5.1
SAO San Andreas Ge 78.36 54⇑ *iP* **P 09 47 54.0 +0.2**
SAO pmax pmax
comp=Z,36nm,1.2s,mb4.9
SAO San Andreas Ge 78.36 54⇑ *iP* **P 09 47 54.0 +0.2**
comp=Z,36nm,1.2s,mb4.9
CMB Columbia Colle 78.43 52⇑ *iP* **P 09 47 54.4 +0.3**
CMB pmax pmax
comp=Z,98nm,1.1s,mb5.3
CMB Columbia Colle 78.43 52⇑ *iP* **P 09 47 54.4 +0.3**
comp=Z,98nm,1.1s,mb5.3
NAO01 NORSAR Array S 78.50 337 *eP* **P 09 47 52.9 -1.1**
comp=Z,27nm,0.6s,mb5.0
MYA Malataya 78.51 308 P **P 09 47 55.1 +0.5**
MALT Malataya 78.52 308 P **P 09 47 53.3 -1.3**
MALT Malataya 78.52 308⇓ *iP* **P 09 47 55.1 +0.5**
MALT pmax pmax
comp=Z,55nm,1.1s,mb5.1
MALT Malataya 78.52 308⇓ *iP* **P 09 47 55.1 +0.5**
comp=Z,55nm,1.1s,mb5.1
TOKT Tokat 78.70 310 P **P 09 47 55.5 0.0**
URFA Urfa 78.71 307 P **P 09 47 55.5 -0.6**
LRV Little Rabbit 78.83 54 *eP* **P 09 47 57.5 +1.2**
HRY Holter Researc 79.02 42 *eP* **P 09 47 57.5 +0.4**
FFC Flin Flon 79.07 31⇑ *iP* **P 09 47 57.5 +0.3**
FFC *e**PP pP 09 48 44.0 -2.6
FFC pmax pmax
comp=Z,31nm,0.8s,mb5.0
FFC Flin Flon 79.07 31⇑ *iP* **P 09 47 57.5 +0.2**
comp=Z,31nm,0.8s,mb5.0
FFC *ep*P pP 09 48 44.0 -2.6
BMN Battle Mountai 79.25 49⇑ *iP* **P 09 47 59.5 +1.0**
BMN pmax pmax
comp=Z,70nm,1.2s,mb5.2
BMN Battle Mountai 79.25 49⇑ *iP* **P 09 47 59.5 +1.0**
comp=Z,70nm,1.2s,mb5.2
HLID Hailey 79.29 45⇑ *iP* **P 09 47 59.5 +0.8**
comp=Z,25nm,0.9s,mb4.8
MCMT McKenzie Canyo 79.51 44 *eP* **P 09 48 00.7 +0.9**
OMM Old Mammoth Mi 79.59 52⇑ *iP* **P 09 48 01.2 +0.9**
OMM *ep*P pP 09 48 46.6 -3.2
NVAR Mina Array Bea 79.62 51 P **P 09 48 01.4 +1.0**
comp=Z,21nm,0.7s,mb4.9,baz=305,slow=3.9,SNR=174
NVAR pP pP 09 48 50.3 +0.3
comp=Z,5.0nm,0.8s,baz=324,slow=3.1,SNR=2.3
NVAR PP PP 09 51 04.0 -1.4
comp=Z,2.3nm,1.1s,baz=291,slow=7.7,SNR=3.5
NVAR Mina Array Bea 79.62 51 P **P 09 48 01.4 +1.0**
NVAR pP pP 09 48 50.3 +0.3
NVAR PP PP 09 51 04.0 -1.4
KIS Kishinev 79.64 319 *eP* **P 09 48 00.0 -0.4**
KIS *e* 09 48 05.0
RYDS Riyadh 79.67 292 P **P 09 47 59.5 -1.6**
MNV Mina 79.71 51⇑ *iP* **P 09 48 01.7 +0.7**
MNV pmax pmax
comp=Z,33nm,1.2s,mb4.8
MNV Mina 79.71 51⇑ *iP* **P 09 48 01.7 +0.7**
comp=Z,33nm,1.2s,mb4.8
BOZ Bozeman (W) 79.75 42⇑ *iP* **P 09 48 01.7 +0.7**
BOZ pmax pmax
comp=Z,24nm,0.8s,mb4.9
BOZ Bozeman (W) 79.75 42⇑ *iP* **P 09 48 01.7 +0.7**
comp=Z,24nm,0.8s,mb4.9
KONO Kongsberg 79.82 337 *eP* **P 09 48 00.5 -0.6**
KONO *eS* S 09 57 46.5 +1.0
TOS Tosya 79.93 312 P **P 09 48 02.4 +0.3**
BNN Bunyan 79.95 310 P **P 09 48 02.9 +0.7**
CORM Corum 80.01 311 P **P 09 47 59.5 -3.1**
MTUM Tungsten Hills 80.02 52 *eP* **P 09 48 03.8 +1.2**
QLMT Earthquake Lak 80.33 43 *eP* **P 09 48 05.5 +1.3**
ELK Elko 80.34 48⇑ *iP* **P 09 48 05.3 +1.0**
ELK pmax pmax
comp=Z,35nm,0.8s
ELK Elko 80.34 48⇑ *iP* **P 09 48 05.3 +1.0**
comp=Z,35nm,0.8s,mb5.0
TPH Tonopah 80.52 51⇑ *iP* **P 09 48 06.2 +0.9**
TPH pmax pmax
comp=Z,82nm,1.2s,mb5.2
TPH Tonopah 80.52 51⇑ *iP* **P 09 48 06.2 +0.9**
comp=Z,82nm,1.2s,mb5.2
BER Bergen 80.64 339 *eP* **P 09 47 58.7 -6.7**
BER AMS AMS 10 29 16.4
comp=Z,199nm,15.9s
SAFT Safranbolu 80.65 313 P **P 09 48 06.0 +0.1**
GCMT Greycliff 80.78 41 *eP* **P 09 48 07.6 +1.1**
YNR Norris Junctio 80.83 43 *eP* **P 09 48 09.3 +2.5**
MZLS Mizel 80.88 293 P **P 09 48 08.2 +0.7**
YFT Old Faithful 80.90 43 *eP* **P 09 48 09.8 +2.6**
BR131 Keskin Array S 80.90 311 *eP* **P 09 48 07.0 -0.2**
comp=Z,43nm,0.6s,mb5.3
BRTR Keskin Array B 80.90 311 P **P 09 48 07.3 0.0**
BRTR *PP pP 09 48 57.8 +0.9
BRTR pmax pmax
comp=Z,51nm,0.6s
BRTR pmax pmax
comp=Z,12nm,1.0s
BRTR Keskin Array B 80.90 311 P **P 09 48 07.2 0.0**
comp=Z,51nm,0.6s,mb5.3,baz=108,slow=4.1,SNR=171
BRTR pP pP 09 48 57.8 +0.9
comp=Z,12nm,0.9s,baz=90,slow=3.7,SNR=2.5
BLS5 Blasjo 81.03 338 *eP* **P 09 48 08.1 +0.6**
comp=Z,30nm,0.8s,mb5.0
BLS5 Blasjo 81.03 338 *eP* **P 09 48 08.1 +0.6**
BLS5 AMb AMB 09 48 09.8
comp=Z,30nm,0.8s,mb4.9
LKWY Lake 81.08 43⇑ *iP* **P 09 48 10.9 +2.8**
LKWY pmax pmax
comp=Z,47nm,0.9s,mb5.1
LKWY Lake 81.08 43⇑ *iP* **P 09 48 10.9 +2.7**
comp=Z,48nm,0.9s,mb5.1
CFR Carcaliu 81.09 318 P **P 09 48 08.0 -0.2**
CFR Carcaliu 81.09 318⇑ *iP* **P 09 48 07.7 -0.5**
CFR Carcaliu 81.09 318⇑ *iP* **P 09 48 07.7 -0.5**
IMW Indian Meadow 81.16 43⇑ *iP* **P 09 48 10.3 +1.7**
comp=Z,44nm,0.9s,mb5.1
BURAR Bucovina Array 81.22 321⇓ *iP* **P 09 48 08.9 +0.1**
BURAR Bucovina Array 81.22 321⇓ *iP* **P 09 48 08.9 +0.1**
DAC Darwin (Calif) 81.25 53⇑ *iP* **P 09 48 09.6 +0.4**
DAC pmax pmax
comp=Z,19nm,0.6s,mb4.9
DAC Darwin (Calif) 81.25 53⇑ *iP* **P 09 48 09.6 +0.4**
comp=Z,19nm,0.6s,mb4.9
KWP Kalwaria 81.25 324⇓ *eP* **P 09 48 09.3 +0.4**
RRI2 Red Ridge 81.26 44⇑ *iP* **P 09 48 10.4 +1.3**
comp=Z,31nm,0.8s,mb5.0
HVU Hansel Valley 81.29 46 *iP* **P 09 48 10.8 +1.5**
ANTO Ankara 81.36 312 P **P 09 48 10.1 +0.4**
TIRR Tirgusor 81.36 317⇓ *iP* **P 09 48 09.2 -0.4**
TPAW Teton Pass 81.39 44⇑ *iP* **P 09 48 11.6 +1.8**
comp=Z,37nm,0.8s,mb5.1
TRCR Troy Canyon 81.45 50 *eP* **P 09 48 10.9 +0.7**
ARSS Ar Rass 81.47 295 P **P 09 48 09.9 -0.6**
VRI Vrincioaia 81.47 319 P **P 09 48 11.2 +1.1**
VRI Vrincioaia 81.47 319⇓ *iP* **P 09 48 10.3 +0.2**
VRI Vrincioaia 81.47 319⇓ *iP* **P 09 48 10.3 +0.2**
HARR Harsova 81.50 318 P **P 09 48 10.7 +0.4**
HARR Harsova 81.50 318⇓ *iP* **P 09 48 09.9 -0.4**
HARR Harsova 81.50 318⇓ *iP* **P 09 48 09.9 -0.4**
LOHW Long Hollow 81.53 44⇑ *iP* **P 09 48 11.8 +1.4**
comp=Z,24nm,1.0s,mb4.8
SNOW Snow King Moun 81.53 44⇑ *iP* **P 09 48 11.8 +1.4**
comp=Z,36nm,1.0s,mb5.0
REDW Red Top Meadow 81.53 44⇑ *iP* **P 09 48 11.7 +1.2**
comp=Z,39nm,1.2s,mb4.9
BGU Big Grassy Mou 81.62 47 *eP* **P 09 48 12.0 +1.0**
AHID Auburn Hatcher 81.73 44⇑ *iP* **P 09 48 12.1 +0.6**
comp=Z,17nm,0.8s,mb4.7
SPUT South Promonto 81.76 46⇑ *iP* **P 09 48 12.9 +1.2**
HILS Ha'il 81.80 297 P **P 09 48 12.3 +0.1**

KOLS Kolonicke sedl 81.92 324 *eP* **P 09 48 11.9 -0.4**
PSN Preselentsi 81.96 317 *eP* **P 09 48 13.0 +0.4**
PSN Preselentsi 81.96 317 *eP* **P 09 48 13.0 +0.4**
MWC Mount Wilson 82.05 55⇑ *iP* **P 09 48 13.7 +0.4**
DGMT Dagmar 82.06 37 *eP* **P 09 48 13.2 +0.2**
comp=Z,31nm,0.9s,mb4.9
LAO LASA Array 82.12 39⇑ *eP* **P 09 48 14.3 +0.9**
comp=Z,68nm,1.1s,mb5.2
LAO *ep*P pP 09 49 01.2 -1.9
HWUT Hardware Ranch 82.13 46⇑ *iP* **P 09 48 14.9 +1.4**
comp=Z,67nm,0.9s,mb5.3
MLR Muntele Rosu 82.14 319 P **P 09 48 14.2 +0.7**
MLR Muntele Rosu 82.14 319⇓ *iP* **P 09 48 13.4 -0.1**
MLR Muntele Rosu 82.14 319⇓ *iP* **P 09 48 13.4 -0.1**
OJC Ojcow 82.30 326 *eP* **P 09 48 14.2 0.0**
OJC *eS* S 09 58 05.5 -5.5
OJC MLR MLR 10 27 57.2
comp=Z,300nm,21.1s
NOQ North Oquirrh 82.34 47⇑ *iP* **P 09 48 15.7 +1.0**
CRVS Cervenica-Dubn 82.35 324 *eP* **P 09 48 15.5 +1.0**
CRVS *eS* S 09 58 12.0 +0.5
SNX Sinaia 82.46 319⇑ *iP* **P 09 48 16.4 +1.2**
KIZT Kizilcal 82.50 311 P **P 09 48 15.5 -0.1**
TCUT Toone Canyon 82.51 46⇑ *eP* **P 09 48 16.7 +1.1**
CTU Camp Tracy 82.55 46⇑ *eP* **P 09 48 17.0 +1.5**
NIE Niedzica 82.58 325⇓ *eP* **P 09 48 16.2 +1.0**
BW06 Boulder Array 82.64 44⇑ *iP* **P 09 48 16.4 +0.3**
comp=Z,27nm,1.1s,mb4.9
PDAR Pinedale Array 82.64 44 P **P 09 48 17.4 +1.2**
comp=Z,12nm,0.8s,mb4.7,baz=281,slow=3.4,SNR=112
PDAR pP pP 09 49 07.0 +0.9
comp=Z,3.9nm,0.9s,baz=349,slow=7.6,SNR=2.8
PDAR PP PP 09 51 25.6 -4.7
comp=Z,1.0nm,0.8s,baz=288,slow=5.7,SNR=2.7
VOIR 82.66 320⇑ *iP* **P 09 48 16.8 +0.6**
PRD Provadia 82.70 317 *eP* **P 09 48 16.0 -0.5**
PRD Provadia 82.70 317 *eP* **P 09 48 16.0 -0.5**
KONT Konya--Tatoy 82.73 310 *eP* **P 09 48 16.3 -0.4**
HRT Hereke 82.76 314 *eP* **P 09 48 17.0 +0.1**
NLU North Lily Min 82.78 47⇑ *iP* **P 09 48 18.6 +1.6**
ESKT Eskisehir 82.79 312 *eP* **P 09 48 16.8 -0.2**
JLU Jordanelle 82.79 46⇑ *iP* **P 09 48 18.0 +1.0**
IKL Isikli 82.82 308 P **P 09 48 15.5 -1.7**
ASF Jabal al Asfar 82.85 303 P **P 09 48 18.4 +0.9**
comp=Z,8.8nm,0.7s,mb4.6,baz=279,slow=3.4,SNR=19
QURS Qurayyt al Mil 82.97 303 P **P 09 48 18.3 +0.1**
MPU Maple Canyon 83.02 47⇑ *eP* **P 09 48 19.3 +1.1**
DAU Daniels Canyon 83.02 46 *eP* **P 09 48 19.7 +1.5**
DRGR 83.07 322 P **P 09 48 18.7 +0.4**
DRGR 83.07 322⇓ *iP* **P 09 48 18.4 +0.1**
DRGR 83.07 322⇓ *iP* **P 09 48 18.4 +0.1**
YLV Yalova 83.09 314 *eP* **P 09 48 17.6 -0.9**
KECS Kecovo 83.11 324 *eP* **P 09 48 18.3 -0.2**
KECS *ePP* PP 09 51 26.4 -7.5
RAC Raciborz 83.16 326 *eP* **P 09 48 19.4 +0.7**
ARUT Antelope Range 83.16 50 *eP* **P 09 48 20.0 +1.0**
KSDI Kefar Szold 83.16 305 P **P 09 48 19.3 +0.2**
KSHT Keshet 83.17 305 P **P 09 48 19.5 +0.4**
HDMB Hadim 83.20 309 *eP* **P 09 48 17.2 -2.0**
KAMS Al Khamasin 83.29 290 P **P 09 48 20.0 +0.1**
OKC Ostrava-Krasne 83.35 326⇓ *iP* **P 09 48 19.4 -0.2**
OKC *eS* S 09 58 19.7 -1.9
OKC AMS AMS 10 28 40.0
comp=Z,300nm,18.9s
LIKS Likavka 83.42 325 *eP* **P 09 48 20.6 +0.6**
NEN Nelson 83.46 52 *eP* **P 09 48 21.0 +0.5**
NEN *ep*P pP 09 49 06.3 -4.1
RUE Ruedersdorf 83.47 330 *eP* **P 09 48 19.9 -0.3**
comp=Z,58nm,0.8s,mb5.4
PFO Pinyon Flat Ob 83.50 54⇑ *iP* **P 09 48 21.4 +0.6**
PFO pmax pmax
comp=Z,98nm,1.0s,mb5.5
PFO Pinyon Flat Ob 83.50 54⇑ *iP* **P 09 48 21.4 +0.6**
comp=Z,98nm,1.0s,mb5.5
SZH Strazhica 83.51 318 *eP* **P 09 48 21.0 +0.4**
SZH Strazhica 83.51 318 *eP* **P 09 48 21.0 +0.4**
KSP Ksiaz 83.52 328⇓ *eP* **P 09 48 20.6 +0.2**
KSP *e*SKS SKS 09 58 17.5 -1.8
KSP *e* 09 59 47.5
KSP *e*SS SS 10 03 48.0 -9.3
KSP Ksiaz 83.52 328⇓ *eP* **P 09 48 20.8 +0.4**
MVU Marysvale 83.54 48⇑ *iP* **P 09 48 22.4 +1.5**
comp=Z,47nm,1.0s,mb5.2
MSU Marysvale 83.56 48 *eP* **P 09 48 22.5 +1.6**
HNTI Hanita 83.56 305 P **P 09 48 21.0 -0.1**
LDFC Landfair 83.60 53 *eP* **P 09 48 21.7 +0.5**
JMB Yambol 83.62 317 *eP* **P 09 48 21.0 -0.2**
JMB Yambol 83.62 317 *eP* **P 09 48 21.0 -0.2**
MORC Moravsky Berou 83.67 326 P **P 09 48 21.6 +0.4**
MORC Moravsky Berou 83.67 326⇓ *iP* **P 09 48 21.1 -0.2**
comp=Z,41nm,0.6s,mb5.3
TMUT Trail Mountain 83.71 47 *eP* **P 09 48 23.3 +1.6**
MMLI Mount Malkishu 83.75 304 P **P 09 48 22.2 +0.2**
CSS Prodhromos 83.78 307 *eP* **P 09 48 20.9 -1.2**
comp=Z,73nm,0.6s,mb5.6
PSZ Piszkesteto 83.78 324⇓ *iP* **P 09 48 21.7 -0.1**
comp=Z,34nm,0.8s,mb5.1
PSZ Piszkesteto 83.78 324⇓ *iP* **P 09 48 22.0 +0.2**
BSEG Bad Segeberg 83.83 332 P **P 09 48 21.7 -0.2**
BSEG pmax pmax
comp=Z,128nm,0.8s,mb5.7
BSEG Bad Segeberg 83.83 332 *eP* **P 09 48 21.7 -0.2**
DPC Dobruska-Polom 83.85 327⇓ *iP* **P 09 48 22.4 +0.3**
DPC *eS* S 09 58 25.3 -1.2
DPC AMS AMS 10 29 10.0
comp=Z,400nm,17.4s
BAR Barrett 83.87 55⇑ *iP* **P 09 48 22.9 +0.3**
BAR *ep*P pP 09 49 11.1 -1.4
BAR *eP*P PP 09 51 39.6 -0.6
UPC Upice 83.88 327⇓ *iP* **P 09 48 22.3 +0.1**
UPC *eS* S 09 58 26.1 -0.7
EDRB Edirne 83.91 316 *eP* **P 09 48 23.0 +0.4**
VYHS Vyhne 83.92 325 *eP* **P 09 48 22.7 +0.2**
VYHS *e* 09 51 34.4
VYHS *eS* S 09 58 24.1 -3.1
VYHS Vyhne 83.92 325 *eP* **P 09 48 22.7 +0.2**
VYHS *e* 09 48 27.2
VYHS *eP*P PP 09 51 34.4 -5.9
VYHS *eS* S 09 58 24.1 -3.1
OFRI 'Ofer 83.95 305 P **P 09 48 22.8 -0.2**
ISP Isparta 83.98 311 *eP* **P 09 48 21.7 -1.3**
ISP Isparta 83.98 311 P **P 09 48 23.2 +0.1**
ISP Isparta 83.98 311 *iP* **P 09 48 22.1 -1.0**
LEF Lefka 83.98 308 *eP* **P 09 48 22.4 -0.8**
KOLL Kolacno 84.08 325 *eP* **P 09 48 23.9 +0.6**
KOLL *e* 09 48 26.6
MKRJ Makawir 84.08 303 P **P 09 48 23.9 +0.2**
BNT Bandirma 84.11 314 *eP* **P 09 48 24.7 +1.1**
SLTI Sal'it 84.12 304 P **P 09 48 23.9 0.0**
MRMT Marmara Adasi 84.16 315 *eP* **P 09 48 19.2 -4.6**
MFT Murefte 84.23 315 *eP* **P 09 48 23.1 -1.2**
SRU San Rafael 84.24 47⇑ *eP* **P 09 48 25.1 +0.8**
VRAC Vranov 84.45 326 P **P 09 48 25.7 +0.6**
PVCC Panska Ves 84.52 328⇓ *iP* **P 09 48 25.5 +0.1**
PVCC AMS AMS 10 31 20.0
comp=Z,300nm,16.2s
BRG Berggiesshubel 84.55 329 *i* P **P 09 48 25.6 0.0**
BRG *SP sP 09 49 33.0 -4.0
BRG 09 51 45.1
BRG S S 09 58 28.0 -5.3
BRG PS PS 09 59 59.0 +0.8
BRG SS SS 10 04 09.0 -3.3
BRG pmax pmax
comp=Z,50nm,0.7s,mb5.3
BRG pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
BRG pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
BRG MLR MLR
comp=Z,356nm,13.6s
BRG MLR MLR
comp=N,180nm,13.5s
BRG Berggiesshubel 84.55 329 *i* P **P 09 48 25.6 0.0**
comp=N,50nm,0.7s,mb5.3
BRG *i* 09 48 40.6
BRG sP sP 09 49 33.0 -4.0
BRG PP PP 09 51 45.1 -0.1
BRG *e* 09 55 25.4
BRG S S 09 58 28.0 -5.3
BRG PS PS 09 59 59.0 +0.8
BRG SS SS 10 04 09.0 -3.3
BRG LR LR

comp=Z,360nm,13.6s
KBRS Khaybar 84.56 297 P **P 09 48 26.6 +0.4**
TATS Tathlith 84.57 289 P **P 09 48 26.7 +0.3**
SMOL Smolenice 84.60 325 *eP* **P 09 48 26.7 +0.8**
CLL Collm 84.65 329⇓ *iP* **P 09 48 25.7 -0.4**
CLL *eS* S 09 58 25.0 -9.3
CLL *e**SS 09 59 59.0
CLL pmax pmax
comp=Z,79nm,0.7s,mb5.5
CLL Collm 84.65 329⇓ *iP* **P 09 48 25.7 -0.4**
comp=Z,79nm,0.7s,mb5.5
CLL *i* pP pP 09 49 19.4 +3.3
CLL *eS* S 09 58 25.0 -9.3
CLL *es*S 09 59 59.0
CLL Collm 84.65 329⇓ *iP* **P 09 48 25.7 -0.4**
comp=Z,logA/T=2.1,mb5.6
CLL *i* *PP pP 09 49 19.4 +3.3
CLL *e**SP sP 09 49 36.0 -1.5
CLL *e*PP PP 09 51 42.0 -4.0
CLL *e**SPP 09 52 54.0
CLL *e*PPP PPP 09 53 37.0 -5.9
CLL *e* 09 58 25.0
CLL *eS* S 09 58 33.0 -1.3
CLL *e**SS 09 59 59.0
CLL *eSS* SS 10 04 13.0 -0.7
CLL *e**SSS 10 05 36.0
RWWY Rawlins 84.68 44⇑ *iP* **P 09 48 27.2 +0.7**
comp=Z,61nm,1.1s,mb5.2
CANB Canakkale 84.84 314 *eP* **P 09 48 26.0 -1.3**
ULM Lac du Bonnet 84.86 32 P **P 09 48 27.3 +0.2**
comp=Z,2.9nm,0.4s,mb4.4,baz=292,slow=5.5,SNR=5.4
ULM Lac du Bonnet 84.86 32 *eP* **P 09 48 26.1 -1.0**
comp=Z,31nm,1.3s,mb4.9
MLA1 Latheron 84.89 341 *eP* **P 09 48 26.7 -0.3**
PRU Pruhonice 84.92 328⇓ *iP* **P 09 48 27.1 -0.3**
PRU *e* 09 58 37.0
PRU MLR MLR
comp=Z,300nm,16.6s
PRU Pruhonice 84.92 328⇓ *iP* **P 09 48 27.1 -0.3**
PRU *ep*P pP 09 49 19.8 +2.4
PRU *eS* S 09 58 37.0 +0.1
PRU AMS AMS 10 29 40.0
comp=Z,300nm,16.6s
RSSD Black Hills 84.94 40⇑ *eP* **P 09 48 28.2 +0.5**
RSSD *e* 09 51 47.2
RSSD pmax pmax
comp=Z,39nm,1.3s,mb5.0
RSSD Black Hills 84.94 40⇑ *eP* **P 09 48 28.2 +0.5**
comp=Z,38nm,1.3s,mb5.0
RSSD *ePP* PP 09 51 47.2 -1.3
ZST Bratislava 84.97 325 *eP* **P 09 48 27.8 +0.1**
ZST *eS* S 09 58 34.0 -3.5
ELL Elmali 85.01 310 *eP* **P 09 48 28.0 -0.3**
RZN Rozhen 85.20 317 *eP* **P 09 48 29.0 0.0**
RZN Rozhen 85.20 317 *eP* **P 09 48 29.0 0.0**
PRNI Paran 85.20 303 P **P 09 48 28.9 -0.4**
TBKS Tabuk 85.26 300 P **P 09 48 29.5 -0.2**
CLZ Clausthal 85.37 331 P **P 09 48 29.4 -0.2**
CLZ pmax pmax
comp=Z,127nm,1.5s,mb5.4
CLZ Clausthal 85.37 331 *eP* **P 09 48 29.4 -0.2**
comp=Z,127nm,1.5s,mb5.4
CLZ *ep*P pP 09 49 22.4 +2.7
JMQS Jabal Moqyreh 85.39 301 P **P 09 48 29.7 -0.6**
MVH1 Achvaich 85.44 341 *eP* **P 09 48 29.4 -0.4**
MCD Coleburn Disti 85.48 341 *eP* **P 09 48 29.6 -0.4**
DJNS Zahran al Janu 85.48 288 P **P 09 48 31.7 +0.8**
VTS Vitosha 85.49 318 P **P 09 48 31.4 +1.0**
VTS Vitosha 85.49 318 *eP* **P 09 48 30.0 -0.4**
VTS Vitosha 85.49 318 *eP* **P 09 48 30.0 -0.4**
MBH Mount Berech 85.58 302 P **P 09 48 30.6 -0.6**
EIL Elat 85.62 302⇓ *iP* **P 09 48 30.4 -1.0**
comp=Z,132nm,1.9s,mb5.3
EIL Elat 85.62 302 P **P 09 48 30.6 -0.8**
MME1 Meikle Cairn 85.62 340 *eP* **P 09 48 30.2 -0.5**
NKC Novy Kostel 85.67 329⇓ *iP* **P 09 48 30.6 -0.5**
NKC *eS* S 09 58 41.7 -2.5
IZM Izmir 85.70 313 *eP* **P 09 48 31.2 -0.4**
MOX Moxa 85.73 330 *eP* **P 09 48 31.6 +0.2**
MOX MLR MLR
comp=Z,200nm,21.0s
MOX Moxa 85.73 330 *eP* **P 09 48 31.6 +0.2**
MOX *ePP* PP 09 51 52.0 -2.6
MOX *eS* S 09 58 28.0 -17
MOX *eLQ* 10 10 36.0
MOX LR LR
comp=Z,200nm,21.0s
MOX Moxa 85.73 330 *iP* **P 09 48 31.6 +0.2**
MOX PP PP 09 51 52.0 -2.6
MOX S S 09 58 28.0 -17
MOX LQ 10 10 36.0
MOX L 10 27 25.0
JMOS Jabal al Moall 85.79 302 P **P 09 48 32.0 -0.3**
YER Yerkesik 85.83 312 *eP* **P 09 48 30.5 -1.7**
MMB Musomiste 85.83 317 *eP* **P 09 48 31.0 -1.1**
MMB Musomiste 85.83 317 *eP* **P 09 48 31.0 -1.1**
BLJS Baljurashi 85.89 291 P **P 09 48 33.2 +0.3**
MDO Dochfour 85.91 341 *eP* **P 09 48 31.8 -0.3**
PHWY Pilot Hill 85.95 43⇑ *iP* **P 09 48 33.7 +1.0**
KHC Kasperske Hory 85.97 328⇓ *iP* **P 09 48 32.1 -0.5**
KHC *eS* S 09 58 44.9 -2.1
KHC AMS AMS 10 30 30.0
comp=Z,300nm,15.8s
HAQS Haql 85.98 302 P **P 09 48 32.2 -0.9**
KKB Krupnik 86.03 318 *eP* **P 09 48 32.0 -1.1**
KKB Krupnik 86.03 318 *eP* **P 09 48 32.0 -1.1**
GRUS Gruza 86.03 320⇓ *iP* **P 09 48 25.2 -7.8**
MLSB Milas 86.05 312 *eP* **P 09 48 32.3 -1.0**
GEC2 GERESS Array S 86.12 327 P **P 09 48 32.5 -0.8**
GEC2 pmax pmax
comp=Z,18nm,0.9s,mb4.8
GEC2 GERESS Array S 86.12 327 *eP* **P 09 48 32.5 -0.8**
comp=Z,18nm,0.9s,mb4.8
GERES GERESS Array B 86.12 327 P **P 09 48 32.8 -0.5**
GERES *PP pP 09 49 24.7 +1.2
GERES 09 51 57.3
GERES pmax pmax
comp=Z,21nm,0.8s
GERES pmax pmax
comp=Z,3.0nm,0.6s
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 86.12 327 P **P 09 48 32.8 -0.5**
comp=Z,20nm,0.8s,mb4.9,baz=34,slow=4.8,SNR=57
GERES pP pP 09 49 24.7 +1.2
comp=Z,2.6nm,0.6s,baz=53,slow=6.7,SNR=1.7
GERES PP PP 09 51 57.3 -0.5
comp=Z,1.1nm,0.5s,baz=72,slow=9.3,SNR=3.7
WET Wettzell 86.28 328 P **P 09 48 33.5 -0.6**
WET pmax pmax
comp=Z,167nm,2.8s,mb5.3
WET Wettzell 86.28 328 *eP* **P 09 48 33.5 -0.6**
comp=Z,167nm,2.8s,mb5.3
WET *ePP* PP 09 51 57.7 -1.5
DIVS Divcibare 86.28 321⇑ *iP* **P 09 48 30.3 -3.9**
TAYS Tayyib Ism 86.31 301 P **P 09 48 34.4 -0.4**
UMJS Umm Lajj 86.34 297 P **P 09 48 35.5 +0.5**
ARSA Arzberg 86.40 325⇑ *iP* **P 09 48 34.3 -0.4**
comp=Z,185nm,2.9s,mb5.3
MOA Molln 86.57 326⇓ *iP* **P 09 48 35.2 -0.3**
comp=Z,227nm,3.7s
GRA1 Grafenberg Arr 86.61 329 *eP* **P 09 48 35.6 -0.1**
comp=Z,132nm,1.8s,mb5.4
GRA1 *ePP* PP 09 52 00.4 -1.8
GRF Grafenberg Arr 86.61 329 P **P 09 48 35.6 -0.1**
GRF pmax pmax
comp=Z,132nm,1.8s,mb5.4
GRF Grafenberg Arr 86.61 329 *eP* **P 09 48 35.6 -0.1**
GRF *e* 09 52 00.4
GRF pmax pmax
comp=Z,132nm,1.8s,mb5.4
GRF Grafenberg Arr 86.61 329 *eP* **P 09 48 35.6 -0.1**
comp=Z,132nm,1.8s,mb5.4
GRF *ePP* PP 09 52 00.4 -1.8
LTHS Al Lith 86.63 292 P **P 09 48 36.3 -0.1**
BBLS Bajina Basta - 86.75 321⇑ *iP* **P 09 48 35.8 -0.7**
ISCO Idaho Springs 86.81 44⇑ *iP* **P 09 48 38.3 +1.4**
ISCO pmax pmax
comp=Z,18nm,0.9s,mb4.8
ISCO Idaho Springs 86.81 44⇑ *iP* **P 09 48 38.2 +1.3**
comp=Z,18nm,0.9s,mb4.8
SKO Skopje 86.89 319 *iP* **P 09 48 37.7 +0.5**
EKA Eskdalemuir Ar 87.38 340 P **P 09 48 39.7 +0.5**

EKA *PP pP 09 49 31.2 +1.8
EKA 09 52 08.7
EKA pmax pmax
comp=Z,10.0nm,0.5s
EKA pmax pmax
comp=Z,3.0nm,0.8s
EKA pmax pmax
comp=Z,3.0nm,0.8s
EKA Eskdalemuir Ar 87.38 340 P **P 09 48 39.6 +0.5**
comp=Z,10nm,0.5s,mb4.8,baz=34,slow=4.8,SNR=45
EKA pP pP 09 49 31.2 +1.8
comp=Z,3.0nm,0.8s,baz=45,slow=5.9,SNR=2.1
EKA PP PP 09 52 08.7 +0.2
comp=Z,3.2nm,0.8s,baz=45,slow=7.1,SNR=5.3
TNS Taunus Mts 87.39 331 P **P 09 48 39.1 -0.3**
TNS pmax pmax
comp=Z,13nm,0.7s,mb4.8
TNS Taunus Mts 87.39 331 *eP* **P 09 48 39.1 -0.3**
comp=Z,13nm,0.7s,mb4.8
OBKA Obir 87.39 325⇓ *iP* **P 09 48 39.7 +0.2**
comp=Z,66nm,2.1s,mb5.0
ESK Eskdalemuir 87.40 340 *eP* **P 09 48 39.7 +0.4**
ESK pmax pmax
comp=Z,19nm,0.8s,mb4.9
ESK Eskdalemuir 87.40 340 *eP* **P 09 48 39.7 +0.4**
comp=Z,19nm,0.8s,mb4.9
BBH Bruntsheil 87.48 339 *eP* **P 09 48 40.2 +0.5**
KBA Koelnbreinsper 87.56 326⇓ *iP* **P 09 48 39.9 -0.4**
comp=Z,85nm,2.4s,mb5.2
KBA Koelnbreinsper 87.56 326⇓ *iP* **P 09 48 39.9 -0.4**
KBA pmax pmax
comp=Z,85nm,2.4s,mb5.2
BTA Talkin 87.60 339 *eP* **P 09 48 40.9 +0.6**
BHH Howats Hill 87.60 339 *eP* **P 09 48 39.7 -0.6**
TOD Tromm 87.71 330 *eP* **P 09 48 41.2 +0.3**
LJU Ljubljana 87.74 325 *eP* **P 09 48 40.5 -0.7**
BOJS Bojanci 87.76 324 *eP* **P 09 48 41.3 0.0**
BBO1 Bothel 87.91 339 *eP* **P 09 48 42.6 +0.9**
ABH Alteburg 88.03 331 *eP* **P 09 48 42.3 -0.1**
GMK Mull of Kintyr 88.07 341 *eP* **P 09 48 42.8 +0.3**
JAVS Javornik 88.07 325 *eP* **P 09 48 41.5 -1.2**
TUC Tucson 88.14 53⇑ *iP* **P 09 48 44.4 +1.0**
TUC *e* 09 52 12.7
TUC pmax pmax
comp=Z,13nm,1.3s,mb4.6
TUC Tucson 88.14 53⇑ *iP* **P 09 48 44.4 +1.0**
comp=Z,13nm,1.3s,mb4.6
TUC *e*PP PP 09 52 12.7 -2.4
SDCO Great Sand Dun 88.19 46⇑ *iP* **P 09 48 44.7 +1.3**
comp=Z,15nm,0.9s,mb4.8
SDCO *e*pP pP 09 49 34.5 +0.7
WATA Walderalm 88.19 327⇑ *iP* **P 09 48 43.2 0.0**
comp=Z,5.6nm,0.7s,mb4.5
WATA Walderalm 88.19 327⇑ *iP* **P 09 48 43.2 0.0**
WATA pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
WTTA Wattenberg 88.22 327⇑ *iP* **P 09 48 42.8 -0.6**
comp=Z,143nm,2.9s,mb5.3
WTTA Wattenberg 88.22 327⇑ *iP* **P 09 48 42.8 -0.6**
WTTA pmax pmax
comp=Z,143nm,2.9s,mb5.3
GAL1 Galloway 88.23 340 *eP* **P 09 48 42.8 -0.5**
RUP Ruppelstein 88.36 331 *eP* **P 09 48 44.2 +0.2**
SQTA Sankt Quirin 88.45 327⇓ *iP* **P 09 48 43.9 -0.5**
comp=Z,7.0nm,0.7s,mb4.6
SQTA Sankt Quirin 88.45 327⇓ *iP* **P 09 48 43.9 -0.5**
SQTA pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
GCL Cushendall 88.45 341 *eP* **P 09 48 44.8 +0.6**
WLF Walferdange 88.76 332 *eP* **P 09 48 46.5 +0.6**
WLF pmax pmax
comp=Z,22nm,0.9s,mb5.0
WLF Walferdange 88.76 332 *eP* **P 09 48 46.5 +0.7**
comp=Z,22nm,0.9s,mb5.0
BFO Black Forest 88.89 330 P **P 09 48 46.0 -0.5**
BFO pmax pmax
comp=Z,24nm,0.8s,mb5.1
BFO Black Forest 88.89 330 *eP* **P 09 48 46.0 -0.5**
comp=Z,24nm,0.8s,mb5.1
GIVF Givet 88.95 333 *eP* **P 09 48 46.3 -0.4**
DAVA Damuels 89.00 328⇓ *iP* **P 09 48 46.7 -0.3**
comp=Z,39nm,1.6s,mb5.0
IDI Anoyia 89.12 312 P **P 09 48 47.3 -0.6**
comp=Z,6.8nm,0.4s,mb4.8,baz=31,slow=9.6,SNR=9.6
GMM Mts of Mourne 89.14 340 *eP* **P 09 48 47.5 0.0**
BAIF Baives 89.22 333 *eP* **P 09 48 47.7 -0.3**
WLS Welschbruch 89.24 330 *eP* **P 09 48 48.3 +0.2**
CDF Champ du Feu 89.28 330 *eP* **P 09 48 47.5 -0.8**
comp=Z,40nm,0.7s,mb5.1
CDF Champ du Feu 89.28 330 *eP* **P 09 48 47.5 -0.8**
CDF pmax pmax
comp=Z,20nm,0.7s,mb5.1
ANMO Albuquerque 89.36 48⇑ *eP* **P 09 48 50.2 +1.2**
ANMO *e* 09 52 21.5
ANMO pmax pmax
comp=Z,9.0nm,1.0s
ANMO Albuquerque 89.36 48⇑ *eP* **P 09 48 50.2 +1.2**
comp=Z,9.2nm,1.0s,mb4.6
ANMO *e*PP PP 09 52 21.5 -3.2
FELD Feldberg 89.38 330 *eP* **P 09 48 48.9 +0.1**
DAVOX Davos 89.38 328 P **P 09 48 48.7 -0.2**
comp=Z,54nm,0.6s,mb5.6,baz=340,slow=1.9,SNR=78
DAVOX Davos 89.38 328 P **P 09 48 48.7 -0.2**
ECH Echery 89.48 330 *eP* **P 09 48 49.1 -0.1**
SBD1 Bryn Du 89.48 338 *eP* **P 09 48 49.1 0.0**
SBD1 AMb AMB 09 48 50.9
comp=Z,56nm,1.8s,mb5.1
HLM1 Long Mynd 89.70 338 *eP* **P 09 48 49.8 -0.3**
MOF Molkenrain 89.77 330 *eP* **P 09 48 50.3 -0.3**
SSP1 Stoney Pound 89.86 338 *eP* **P 09 48 51.0 +0.1**
BBS Basel-Blauen 89.91 330 *eP* **P 09 48 50.0 -1.3**
HINF Hinteralfeld 89.92 330 *eP* **P 09 48 50.0 -1.3**
comp=Z,18nm,0.7s,mb4.7
HINF Hinteralfeld 89.92 330 *eP* **P 09 48 50.0 -1.3**
HINF pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
THEF They Montfort 89.96 331 *eP* **P 09 48 51.6 +0.1**
HAU Haudompre 89.98 331 *eP* **P 09 48 50.5 -1.1**
comp=Z,21nm,0.5s,mb4.9
HAU *e*R
comp=Z,180nm,17.2s
HAU Haudompre 89.98 331 *eP* **P 09 48 50.5 -1.1**
HAU pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
HAU MLR MLR
comp=Z,180nm,17.3s
HAE Alders End 90.00 338 *eP* **P 09 48 51.5 -0.1**
HAE AMb AMB 09 48 53.0
comp=Z,52nm,0.8s,mb5.4
MEZF Maiziers J'vi 90.13 331 *eP* **P 09 48 51.8 -0.5**
DSB Dublin 90.13 340 *eP* **P 09 48 51.7 -0.5**
comp=Z,18nm,0.6s,mb5.1
MCH1 Michaelchurch 90.18 338 *eP* **P 09 48 52.1 -0.3**
MCH1 AMb AMB 09 48 53.5
comp=Z,53nm,0.6s,mb5.5
HTR Trewern Hill 90.20 338 *eP* **P 09 48 52.7 +0.1**
HTR AMb AMB 09 48 57.3
comp=Z,47nm,1.7s,mb5.0
HGH Gray Hill 90.42 337 *eP* **P 09 48 52.9 -0.7**
HGH AMb AMB 09 48 55.9
comp=Z,45nm,1.6s,mb5.0
SCHQ Schefferville 90.82 15 P **P 09 48 56.2 +0.9**
comp=Z,3.5nm,0.6s,mb4.5,baz=1,3,slow=7.1,SNR=7.0
SCHQ Schefferville 90.82 15 *eP* **P 09 48 55.9 +0.5**
comp=Z,9.2nm,1.0s,mb4.7
CBKS Cedar Bluff 90.89 42 *eP* **P 09 48 56.4 +0.4**
CBKS pmax pmax
comp=Z,48nm,1.1s,mb5.3
CBKS Cedar Bluff 90.89 42 *eP* **P 09 48 56.4 +0.4**
comp=Z,48nm,1.1s,mb5.3
AQU L'Aquila 90.95 323 *eP* **P 09 48 55.5 -0.7**
AQU pmax pmax
comp=Z,22nm,0.8s,mb5.1
AQU L'Aquila 90.95 323 *eP* **P 09 48 55.5 -0.8**
comp=Z,22nm,0.8s,mb5.1
CABF La Chapelle 91.18 330 *eP* **P 09 48 56.3 -0.9**
comp=Z,26nm,0.7s,mb5.0
CABF La Chapelle 91.18 330 *eP* **P 09 48 56.3 -0.9**
CABF pmax pmax
comp=Z,13nm,0.7s,mb5.0
TIP Timpagrande 91.40 319 *eP* **P 09 48 58.0 -0.4**
LOR Lormes 91.59 331 *eP* **P 09 48 58.2 -0.9**
comp=Z,57nm,1.0s,mb5.2
LOR *e*R
comp=Z,192nm,19.5s
LOR Lormes 91.59 331 *eP* **P 09 48 58.2 -0.9**
LOR pmax pmax
comp=Z,29nm,1.0s,mb5.2
LOR MLR MLR
comp=Z,190nm,19.5s
LPL La Plagne 91.76 329 *eP* **P 09 48 59.2 -0.7**
comp=Z,65nm,0.6s,mb5.5
LPL La Plagne 91.76 329 *eP* **P 09 48 59.2 -0.7**
LPL pmax pmax
comp=Z,32nm,0.6s,mb5.4
LPG La Plagne 91.76 329 *eP* **P 09 48 59.4 -0.6**
comp=Z,87nm,0.6s,mb5.6
LPG La Plagne 91.76 329 *eP* **P 09 48 59.4 -0.6**
LPG pmax pmax
comp=Z,44nm,0.6s,mb5.6
SSF Saint Saulge 91.90 331 *eP* **P 09 48 59.8 -0.8**
SSF pmax pmax
comp=Z,20nm,0.7s,mb5.2
SSF Saint Saulge 91.90 331 *eP* **P 09 48 59.8 -0.8**
comp=Z,20nm,0.7s,mb5.2
FLN La Foliniere 92.05 335 *eP* **P 09 49 00.1 -1.1**
comp=Z,67nm,0.7s,mb5.4
FLN *e*R
comp=Z,247nm,20.2s
FLN La Foliniere 92.05 335 *eP* **P 09 49 00.1 -1.1**
FLN pmax pmax
comp=Z,33nm,0.7s,mb5.4
FLN MLR MLR
comp=Z,250nm,20.3s
HYF Humbligny 92.09 332 *eP* **P 09 49 01.1 -0.3**
SMF Signal de Mont 92.10 331 *eP* **P 09 49 00.5 -1.0**
comp=Z,46nm,0.6s,mb5.3
SMF Signal de Mont 92.10 331 *eP* **P 09 49 00.5 -1.0**
SMF pmax pmax
comp=Z,23nm,0.6s,mb5.3
MNTX Cornudas Mount 92.12 50⇑ *iP* **P 09 49 02.4 +0.4**
comp=Z,28nm,1.2s,mb5.1
MNTX *e*PP PP 09 52 45.3 -1.5
AVF Avril sur Loir 92.19 331 *eP* **P 09 49 01.1 -0.8**
comp=Z,95nm,0.7s,mb5.5
AVF Avril sur Loir 92.19 331 *eP* **P 09 49 01.1 -0.8**
AVF pmax pmax
comp=Z,48nm,0.7s,mb5.5
MBDF Montbardon 92.36 328 *eP* **P 09 49 01.2 -1.5**
comp=Z,41nm,0.6s,mb5.2
MBDF Montbardon 92.36 328 *eP* **P 09 49 01.2 -1.5**
MBDF pmax pmax
comp=Z,21nm,0.6s,mb5.2
AMTX Amarillo 92.39 46⇑ *iP* **P 09 49 04.5 +1.3**
comp=Z,57nm,0.9s,mb5.5
AMTX *e*pP pP 09 49 52.6 -1.2
KSU1 Kansas State U 92.43 40 *eP* **P 09 49 03.7 +0.4**
GRR Gorron 92.50 335 *eP* **P 09 49 02.5 -0.8**
comp=Z,109nm,0.6s,mb5.7
GRR Gorron 92.50 335 *eP* **P 09 49 02.5 -0.8**
GRR pmax pmax
comp=Z,55nm,0.6s,mb5.7
BGF Bois d'Agland 92.58 332 *eP* **P 09 49 02.9 -0.8**
comp=Z,52nm,0.8s,mb5.3
BGF Bois d'Agland 92.58 332 *eP* **P 09 49 02.9 -0.8**
BGF pmax pmax
comp=Z,26nm,0.8s,mb5.3
ORIF Oris-en-Rattie 92.60 329 *eP* **P 09 49 02.8 -1.1**
comp=Z,32nm,0.6s,mb5.2
ORIF *e*R
comp=Z,293nm,17.2s
SBF Sospel 92.72 327 *eP* **P 09 49 02.6 -1.8**
comp=Z,53nm,0.6s,mb5.4
SBF Sospel 92.72 327 *eP* **P 09 49 02.6 -1.8**
SBF pmax pmax
comp=Z,27nm,0.6s,mb5.5
TCF Toulx Ste Croi 93.06 332 *eP* **P 09 49 05.4 -0.5**
comp=Z,60nm,0.6s,mb5.5
TCF Toulx Ste Croi 93.06 332 *eP* **P 09 49 05.4 -0.5**
TCF pmax pmax
comp=Z,30nm,0.6s,mb5.5
COLF Collangettes 93.07 330 *eP* **P 09 49 06.1 +0.1**
VIVF Saint-Julien-l 93.18 329 *eP* **P 09 49 04.4 -2.1**
comp=Z,40nm,0.7s,mb5.2
VIVF Saint-Julien-l 93.18 329 *eP* **P 09 49 04.4 -2.1**
VIVF pmax pmax
comp=Z,20nm,0.7s,mb5.3
SGMF Saint Gilles 93.22 336 *eP* **P 09 49 05.9 -0.7**
comp=Z,53nm,0.6s,mb5.4
SGMF Saint Gilles 93.22 336 *eP* **P 09 49 05.9 -0.7**
SGMF pmax pmax
comp=Z,27nm,0.6s,mb5.5
FRF La Foret Royal 93.32 328 *eP* **P 09 49 05.3 -1.9**
comp=Z,26nm,0.6s,mb5.1
FRF La Foret Royal 93.32 328 *eP* **P 09 49 05.3 -1.9**
FRF pmax pmax
comp=Z,13nm,0.6s,mb5.1
ROSF Rostrenen 93.40 336 *eP* **P 09 49 06.9 -0.5**
comp=Z,61nm,0.9s,mb5.3
ROSF Rostrenen 93.40 336 *eP* **P 09 49 06.9 -0.5**
ROSF pmax pmax
comp=Z,31nm,0.9s,mb5.3
SMRF Simiane la Rot 93.48 328 *eP* **P 09 49 06.8 -1.1**
comp=Z,14nm,0.6s,mb4.8
LMR La Mourre 93.56 327 *eP* **P 09 49 06.6 -1.6**
comp=Z,17nm,0.6s,mb5.0
LMR La Mourre 93.56 327 *eP* **P 09 49 06.6 -1.6**
LMR pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
FRNF Fournols 93.64 331 *eP* **P 09 49 09.1 +0.5**
QUIF Quistinic 93.72 336 *eP* **P 09 49 08.0 -0.9**
comp=Z,13nm,0.6s,mb4.8
QUIF Quistinic 93.72 336 *eP* **P 09 49 08.0 -0.9**
QUIF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
MFF Saint Martin d 93.72 333 *eP* **P 09 49 08.4 -0.5**
comp=Z,78nm,0.8s,mb5.5
MFF Saint Martin d 93.72 333 *eP* **P 09 49 08.4 -0.5**
MFF pmax pmax
comp=Z,39nm,0.8s,mb5.5
RJF Les Rejaudoux 94.14 332 *eP* **P 09 49 10.4 -0.4**
comp=Z,81nm,0.8s,mb5.5
RJF *e*R
comp=Z,185nm,20.5s
RJF Les Rejaudoux 94.14 332 *eP* **P 09 49 10.4 -0.4**
RJF pmax pmax
comp=Z,40nm,0.8s,mb5.5
RJF MLR MLR
comp=Z,190nm,20.5s
LASF Ste Croix 94.15 329 *eP* **P 09 49 10.1 -0.8**
comp=Z,42nm,0.8s,mb5.2
CAF Calviac 94.22 331 *eP* **P 09 49 11.0 -0.2**
comp=Z,47nm,0.7s,mb5.3
CAF Calviac 94.22 331 *eP* **P 09 49 11.0 -0.2**
CAF pmax pmax
comp=Z,23nm,0.7s,mb5.3
WMOK Wichita Mounta 94.24 44⇑ *eP* **P 09 49 11.9 +0.4**
WMOK *e*PP pP 09 50 01.6 -0.5
WMOK *e* 09 53 02.4
WMOK pmax pmax
comp=Z,18nm,1.2s,mb5.0
WMOK Wichita Mounta 94.24 44⇑ *eP* **P 09 49 11.9 +0.3**
comp=Z,18nm,1.2s,mb5.0
WMOK *e*pP pP 09 50 01.6 -0.5
WMOK *e*PP PP 09 53 02.4 -1.0
LFF La Frestale 94.75 332 *eP* **P 09 49 13.2 -0.4**
comp=Z,54nm,0.6s,mb5.5
LFF La Frestale 94.75 332 *eP* **P 09 49 13.2 -0.4**
LFF pmax pmax
comp=Z,27nm,0.6s,mb5.5
LTX Lajitas 94.77 51 *eP* **P 09 49 15.5 +1.4**
LTX *e*PP pP 09 50 02.2 -2.5
LTX *e* 09 53 11.8
LTX pmax pmax
comp=Z,42nm,1.0s,mb5.5
LTX Lajitas 94.77 51 *eP* **P 09 49 15.4 +1.3**
comp=Z,42nm,1.0s,mb5.5
LTX *e*pP pP 09 50 02.2 -2.5
LTX *e*PP PP 09 53 11.8 +4.7
TXAR Lajitas Array 94.77 51 P **P 09 49 15.5 +1.4**
TXAR *e*PP pP 09 50 05.9 +1.2
TXAR 09 53 12.7
TXAR pmax pmax
comp=Z,28nm,0.9s
TXAR pmax pmax
comp=Z,11nm,0.8s
TXAR pmax pmax
comp=Z,3.0nm,1.0s
TXAR Lajitas Array 94.77 51 P **P 09 49 15.5 +1.4**
comp=Z,28nm,0.8s,mb5.4,baz=292,slow=3.3,SNR=217
TXAR pP pP 09 50 05.8 +1.2
comp=Z,11nm,0.8s,baz=297,slow=2.8,SNR=6.6
TXAR PP PP 09 53 12.7 +5.5
comp=Z,3.3nm,1.0s,baz=297,slow=5.6,SNR=5.6
MTLF Montolieu 95.45 330 *eP* **P 09 49 15.2 -1.7**
CCM Cathedral Cave 96.07 38⇑ *eP* **P 09 49 20.0 +0.2**
CCM pmax pmax
comp=Z,13nm,1.2s,mb5.0
CCM Cathedral Cave 96.07 38⇑ *eP* **P 09 49 19.9 +0.2**
comp=Z,13nm,1.2s,mb5.0
ETSF Etsaut 96.97 331 *eP* **P 09 49 23.5 -0.3**
comp=Z,27nm,0.7s,mb5.3
ETSF Etsaut 96.97 331 *eP* **P 09 49 23.5 -0.3**
ETSF pmax pmax
comp=Z,13nm,0.7s,mb5.3
SJPF Ste Jean 97.06 332 *eP* **P 09 49 23.9 -0.3**
comp=Z,12nm,0.8s,mb4.9
SJPF Ste Jean 97.06 332 *eP* **P 09 49 23.9 -0.3**
SJPF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
MAW Mawson 114.07 204 PKIKP PKPdf 09 54 30.8 +2.2
MAW pmax pmax
comp=Z,1.0nm,0.7s
MAW Mawson 114.07 204 PKP PKPdf 09 54 30.8 +2.2
comp=Z,1.4nm,0.7s,baz=344,slow=4.4,SNR=4.3
QSPA South Pole Qui 121.59 180 *eP* PKPdf 09 54 43.9 +0.9
LBTB Lobatse 122.00 259 *e*PKIKP PKPdf 09 54 46.4 +1.4
BOSA Boshof 123.62 255 PKP PKPdf 09 54 49.7 +1.6
comp=Z,3.0nm,0.6s,baz=292,slow=1.5,SNR=3.1
BOSA Boshof 123.62 255 *e*PKPdf PKPdf 09 54 50.1 +2.0
TSUM Tsumeb 126.39 269 *e*PKPdf PKPdf 09 54 55.4 +1.8
DBIC Dimbokro 128.60 312 PKIKP PKPdf 09 54 59.3 +1.3
DBIC pmax pmax
comp=Z,10.0nm,0.7s
DBIC Dimbokro 128.60 312 PKP PKPdf 09 54 59.2 +1.2
comp=Z,10.0nm,0.7s,baz=8.5,slow=1.8,SNR=14
SDV Santo Domingo 130.47 40 *e*PKPdf PKPdf 09 55 02.6 +1.0
SDV *e*SKPbc 09 58 07.4
SNAA Sanae 135.26 196⇑ *iP* PKPdf 09 55 10.3 +1.3
SNAA Sanae 135.26 196 *e* PKPdf 09 55 11.7 +2.7
SNAA Sanae 135.26 196 PKHKP 09 55 01.6
SNAA *i* 09 55 10.3
SNAA *e* 09 56 03.6
VNA2 Neumayer--Watz 136.83 195 *e* PKPdf 09 55 06.7 -5.2
VNA2 Neumayer--Watz 136.83 195 P PKPdf 09 55 14.7 +2.8
VNA2 Neumayer--Watz 136.83 195 *e* PKPdf 09 55 16.2 +4.3
VNA3 Neumayer Olymp 137.09 194 *e* PKPdf 09 55 07.6 -4.8
VNA3 Neumayer Olymp 137.09 194⇑ *iP* PKPdf 09 55 14.1 +1.7
VNA3 Neumayer Olymp 137.09 194 *e* PKPdf 09 55 15.5 +3.1
VNA1 Neumayer--Stat 137.23 195 *e* PKPdf 09 55 09.4 -3.2
VNA1 Neumayer--Stat 137.23 195⇑ *iP* PKPdf 09 55 13.4 +0.8
VNA1 Neumayer--Stat 137.23 195 *e* PKPdf 09 55 14.9 +2.3
NNA Nana 141.42 67 *e*PKPpre 09 55 16.1
ARE Arequipa 148.23 68 *e*PKP2 PKPab 09 55 40.0 -2.6
SAML Samuel 149.17 47 *e*PKPdf PKPdf 09 55 37.0 +2.2
SAML *e*PKPbc PKPdf 09 55 41.1 +6.3
LPAZ La Paz 150.75 64 PKPbc PKPdf 09 55 46.0 +8.8
comp=Z,20nm,0.8s,baz=10,slow=6.0,SNR=87
LPAZ pPKPbc 09 56 38.9
comp=Z,21nm,0.8s,slow=2.7,SNR=5.0
LPAZ La Paz 150.75 64 *e*PKPdf PKPdf 09 55 40.6 +3.5
LPAZ *e*PKPbc PKPdf 09 55 45.6 +8.5
LPAZ PKPbc PKPdf 09 55 46.0 +8.8
LPAZ pPKPbc 09 56 38.9
LVC Limon Verde 153.44 77 *e*PKPbc PKPdf 09 55 51.6 +11
LVC *e*PKPab PKPab 09 56 05.4 +1.2
PLCA Paso Flores 154.53 119 PKIKP PKPdf 09 55 54.0 +12
PLCA 09 56 46.6
PLCA pmax pmax
comp=Z,2.0nm,0.6s
PLCA pmax pmax
comp=Z,5.0nm,0.7s
PLCA pmax pmax
comp=Z,4.0nm,1.0s
PLCA Paso Flores 154.53 119 PKPbc PKPdf 09 55 54.0 +12
comp=Z,1.6nm,0.6s,baz=353,slow=4.2,SNR=4.6
PLCA PKPab PKPab 09 56 09.3 +1.0
comp=Z,4.8nm,0.7s,baz=226,slow=5.1,SNR=8.2
PLCA pPKPbc 09 56 46.5
comp=Z,3.9nm,1.0s,baz=203,slow=3.6,SNR=2.4
PLCA Paso Flores 154.53 119 PKPbc PKPdf 09 55 54.0 +12
PLCA PKPab PKPab 09 56 09.3 +1.0
PLCA pPKPbc 09 56 46.5
BDFB Brasilia 162.59 24 PKP2 PKPab 09 56 43.8 +0.2
BDFB pmax pmax
comp=Z,3.0nm,0.5s
BDFB Brasilia 162.59 24 PKPab PKPab 09 56 43.8 +0.1
comp=Z,2.5nm,0.5s,baz=255,slow=1.8,SNR=5.4
CPUP Villa Florida 164.55 73 PKP2 PKPab 09 56 51.7 -0.2
CPUP pmax pmax
comp=Z,5.0nm,0.8s
CPUP Villa Florida 164.55 73 PKPab PKPab 09 56 51.7 -0.2
comp=Z,4.9nm,0.8s,baz=342,slow=4.8,SNR=11

*CSEM **01** 09:45:32.7±0.1,38.57N×26.75E,h2km,MD3.2,Error ellipse: s-maj=4.1km s-min=3.3km az=28.0*
*ISK **01** 09:45:34.8,38.26N×27.22E,h24km,MD3.2*
*ATH **01** 09:45:36.8,38.09N×27.23E,h33km,MD3.2/3*
ISC 01 09:45:35.3±0.5,38.22N±0.03×27.30E±0.04,h14km±4km, n24,σ1℘02/36,1C,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.18**	**350**	*i*	PG	**Pg**	**09 45 39.9**	**+0.3**
IZM				*i*	SG	**Sg**	**09 45 43.2**	**+0.7**
KDAG	**Bornova**	**0.18**	**352**	*i*	P	**Pg**	**09 45 39.8**	**+0.1**
KDAG				*i*	S	**Sg**	**09 45 42.5**	**-0.2**
BLCB	**Balcova**	**0.26**	**309**	*i*	PG	**Pg**	**09 45 41.1**	**0.0**
BLCB				*i*	SG	**Sg**	**09 45 44.7**	**-0.2**
URLA	**Izmir**	**0.57**	**284**	*i*	P	**Pb**	**09 45 45.9**	**-0.7**
URLA				*i*	S	**Sb**	**09 45 54.3**	**0.0**
SMG	**Samos**	**0.63**	**216**⇑	*i*	PB	**Pb**	**09 45 47.7**	**+0.1**
SMG				*e*	SB	**Sb**	**09 45 55.5**	**-0.4**
AYDN	**Tasoluk**	**0.72**	**141**	*i*	P	**Pb**	**09 45 49.0**	**-0.2**
AYDN				*i*	S	**Sb**	**09 45 57.6**	**-1.0**
AKS	**Akhisar**	**0.77**	**31**	*i*	PG	**Pg**	**09 45 50.7**	**-0.2**
MLSB	**Milas**	**1.00**	**158**		PG	**Pg**	**09 45 54.4**	**-1.0**
MANT	**Manisa**	**1.02**	**74**	*i*	P	**Pb**	**09 45 54.8**	**+0.5**
MANT				*i*	S	**Sb**	**09 46 06.4**	**-1.1**
BODT	**Bodrum**	**1.16**	**180**		PN	**Pn**	**09 45 56.9**	**-0.2**
BDRM	**Kayabasi**	**1.16**	**174**	*i*	P	**Pb**	**09 45 57.3**	**+0.7**
BDRM				*i*	S	**Sb**	**09 46 12.6**	**+1.2**
AYVA	**Ayvalik**	**1.19**	**336**	*i*	P	**Pb**	**09 45 57.5**	**+0.5**
AYVA				*i*	S	**Sb**	**09 46 13.5**	**+1.4**
PRK	**Paraskevi**	**1.30**	**322**	*e*	PN	**Pn**	**09 46 01.6**	**+2.4**
YER	**Yerkesik**	**1.33**	**144**		PN	**Pn**	**09 45 59.8**	**+0.2**
DNZL	**Cakiroluk**	**1.48**	**110**	*i*	P	**Pn**	**09 46 03.0**	**+1.3**
DNZL				*i*	S	**Sb**	**09 46 21.3**	**+0.7**
DST	**Dursunbey**	**1.73**	**36**	*e*	PN	**Pn**	**09 46 04.9**	**-0.4**
CANB	**Canakkale**	**1.80**	**354**	*e*	PN	**Pn**	**09 46 04.7**	**-1.6**
APE	**Apeiranthos**	**1.81**	**231**		PN	**Pn**	**09 46 04.4**	**-2.1**
APE	**Apeiranthos**	**1.81**	**231**	*e*	PN	**Pn**	**09 46 06.2**	**-0.3**
KCT	**Karacabey**	**2.20**	**22**	*e*	PN	**Pn**	**09 46 10.5**	**-1.5**
TKTP	**Tekketepe**	**2.39**	**93**	*i*	P	**Pn**	**09 46 16.4**	**+1.7**
TKTP				*i*	S	**Sn**	**09 46 54.8**	**+11**
MRMT	**Marmara Adasi**	**2.39**	**5**	*e*	PN	**Pn**	**09 46 13.0**	**-1.7**
ULDT	**Uludag**	**2.39**	**36**	*i*	P	**Pn**	**09 46 18.1**	**+3.3**
ULDT				*i*	S	**Sn**	**09 46 48.5**	**+4.4**
YLV	**Yalova**	**2.84**	**34**	*e*	PN	**Pn**	**09 46 20.0**	**-1.2**

*CSEM **01** 09:50:17.2±0.1,34.17N×25.87E,h10km,ML3.2,Error ellipse: s-maj=3.8km s-min=1.6km az=89.0*
*HLW **01** 09:50:19.3,34.35N×25.72E,h21km,Mb3.2*
*ATH **01** 09:50:25.8,35.00N×25.92E,h10km,MD3.4/3*
ISC 01 09:50:17.0±0.8,34.22N±0.05×25.9E±0.1,h10km,n11, σ0℘96/14,4C-2D,Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.68**	**346**	*e*	PG	**Pg**	**09 50 30.5**	**-0.1**
NPS	**Neapolis**	**1.07**	**348**	*e*	PB	**Pb**	**09 50 32.6**	**-4.5**
KARP	**Karpathos**	**1.69**	**38**	*e*	PB	**Pb**	**09 50 47.5**	**-0.3**
SLUM		**2.77**	**192**⇓	*e*	P	**Pn**	**09 51 03.1**	**+0.8**
SLUM					S	**Sn**	**09 51 35.1**	**-1.1**
HMAT	**Matruh**	**3.27**	**162**⇑	*e*	P	**Pn**	**09 51 10.9**	**+1.4**
HMAT					S	**Sn**	**09 51 48.5**	**-0.4**
DABA	**Dabaa**	**3.78**	**147**⇑	*i*	P	**Pn**	**09 51 18.2**	**+1.6**
HBRG	**Burj al 'Arab**	**4.93**	**136**⇑	*e*	P	**Pn**	**09 51 33.4**	**+0.4**
SWA1		**4.94**	**182**		P	**Pn**	**09 51 32.9**	**-0.1**
SWA1					S	**Sn**	**09 52 27.0**	**-4.0**
SWA2		**4.97**	**184**⇓	*e*	P	**Pn**	**09 51 33.4**	**-0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLL	Jalalah	6.77	131	⇑iP	Pn	09 51 58.9	0.0
AMAG	Maghara	7.14	118	P	Pn	09 52 02.2	-1.9

*NEIC **01** 09:50:45.4±0.4, 34.91N×72.39E, mb3.7/1, Error ellipse: s-maj=10.9km s-min=4.2km az=50.0*
*IDC **01** 09:50:45.6±1.6, 34.97N×72.38E, h16km±6km, mb4.0/10, mb1 4.2/12, mb1mx4.0/23, mbtmp4.1/12, ML3.7/2, MS4.1/1, Ms1 4.1/1, ms1mx3.1/16, Error ellipse: s-maj=31.7km s-min=20.5km az=29.0*
*MOS **01** 09:50:46.3±0.9, 34.95N×72.53E, h33km, mb4.3/9, Error ellipse: s-maj=18.2km s-min=9.7km az=103.0*
*NDI **01** 09:50:49.1±7.2, 34.98N×72.32E, h33km, ML3.5, mb3.7(NEIC)*
*NNC **01** 09:50:54.7±7.7, 35.29N×72.10E, h67km±176km, mpv4.4, Error ellipse: s-maj=96.9km s-min=60.2km az=113.0*
ISC 01 09:50:46.7±0.4**, 35.00N**±0.03×**72.60E**±0.06**, h33km, n58, σ1ˢ16**/67**, mb4.0**/10**, MS4.1**/1**, 2C-6D, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	1.30	206	⇓P	P	09 51 09.0	+0.3
CEP				S	Sx	09 51 57.0	
CHCP	Chirah Chowk	1.44	157	⇓P	P	09 51 14.7	+4.0
THW	Thamme Wali	2.31	198	⇑P	P	09 51 25.5	+2.4
SBDP	Sheikh Budin	3.08	210	⇓P	P	09 51 35.9	+1.8
THN	Thein Dam	3.64	134	eP	P	09 51 47.2	+5.1
THN				e		09 52 45.9	
DLH	Dalhousie	3.72	130	eP	P	09 51 49.0	+5.8
DLH				e		09 52 34.0	
PONG	Pong	4.13	136	eP	P	09 51 53.0	+4.0
PONG				e		09 52 45.0	
SDNR	Sundarnagar	5.05	132	eP	P	09 52 04.6	+2.4
SDNR				e		09 53 28.0	
SMLA	Simla	5.44	134	⇑iP	P	09 52 07.3	-0.2
SMLA				i		09 53 10.8	
AML	Almayashu	7.18	7	P	P	09 52 33.8	+1.8
	SNR=22						
KZA	Kyzart	7.37	16	P	P	09 52 36.5	+1.9
	SNR=9.3						
UCH	Uchtor	7.37	11	P	P	09 52 36.4	+1.7
	SNR=16						
NDI	New Delhi	7.42	147	eP	P	09 52 37.0	+1.7
NDI				e		09 54 00.0	
KHET	Khetri	7.42	158	eP	P	09 52 34.5	-0.9
KHET				iS	S	09 53 54.5	-4.8
KHET				AML	AML	09 53 59.3	
	comp=E,51nm,0.2s						
KHET				AML	AML	09 54 00.0	
	comp=N,57nm,1.4s						
AYAN	Aya Nagar	7.55	148	iP	P	09 52 34.4	-2.7
BISR	Bishrakh	7.61	146	e	P	09 52 55.9	+18
SONA	Sohna	7.73	149	eP	P	09 52 40.0	+0.3
SONA				e		09 54 03.6	
SONA				AML	AML	09 54 11.3	
	comp=E,64nm,0.3s						
SONA				e		09 54 11.6	
SONA				AML	AML	09 54 11.6	
	comp=N,43nm,0.3s						
AAK	Ala-Archa	7.77	10	P	P	09 52 42.6	+2.4
	comp=N,5.2nm,0.5s						
AAK				⇓S	S	09 54 07.0	-1.0
	comp=N,36nm,1.1s						
AAK	Ala-Archa	7.77	10	eP	P	09 52 39.9	-0.3
AAK				e		09 54 07.6	
AAK				pmax	pmax		
	comp=Z,9.0nm,0.4s						
AAK	Ala-Archa	7.77	10	ePn	Pn	09 52 39.9	-0.5
	comp=Z,8.7nm,0.4s						
AAK				eSn	Sn	09 54 07.6	-0.5
TKM2	Tokmak 2	8.25	16	P	P	09 52 48.3	+1.4
	SNR=6.6						
KK31	Karatay Array	8.26	349	⇓P	P	09 52 46.8	-0.2
	comp=Z,12nm,0.3s,baz=173,slow=13,SNR=255						
KK31				S	S	09 54 16.2	-3.9
	comp=Z,20nm,0.5s,baz=183,slow=25,SNR=10						
USP	Ospenovka	8.39	10	P	P	09 52 49.5	+0.7
	SNR=5.2						
LGTI	Lohaghat	8.51	128	eP	P	09 52 50.5	0.0
LGTI				e		09 54 28.0	
AGRA	Agra	8.99	148	e	S	09 54 37.2	-1.2
AGRA				e		09 55 39.2	
AGRA				AML	AML	09 55 39.7	
	comp=N,76nm,0.4s						
AGRA				e		09 55 39.8	
KOLN	Koldanda	11.83	124	eP	P	09 53 35.7	-0.4
	comp=N,19nm,0.3s						
KOLN				eS	S	09 55 43.0	-5.0
GKN	Gorkha	12.41	121	eP	P	09 53 42.6	-1.2
	comp=N,28nm,0.3s						
GKN				eS	S	09 55 56.2	-5.6
DMN	Daman	12.97	121	eP	P	09 53 50.7	-0.7
	comp=N,19nm,0.4s						
DMN				eS	S	09 56 10.5	-5.0
KKN	Kakani	12.99	120	eP	P	09 53 50.9	-0.7
	comp=N,26nm,0.4s						
KKN	Kakani	12.99	120	eP	P	09 53 50.9	-0.7
KKN				pmax	pmax		
	comp=Z,13nm,0.4s						
PKI	Pulchoki	13.21	121	eP	P	09 53 53.6	-0.9
	comp=Z,19nm,0.3s						
PKI				eS	S	09 56 16.1	-5.1
PKI	Pulchoki	13.21	121	eP	P	09 53 53.6	-0.9
PKI				eS	S	09 56 16.1	-5.1
PKI				pmax	pmax		
	comp=Z,9.0nm,0.3s						
GUN	Gumba	13.35	118	eP	P	09 53 55.4	-0.9
	comp=Z,24nm,0.4s						
MKAR	Makanchi Array	13.86	29	Pn	P	09 54 03.6	+0.6
	comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=3.9						
AB31	Akbulak array	17.03	331	⇓P	P	09 54 42.6	-1.1
	comp=Z,1.9nm,0.5s,baz=354,slow=10.0,SNR=53						
BVAR	Borovoye Array	18.09	356	P	P	09 54 55.9	-1.0
	comp=Z,0.6nm,0.3s,baz=173,slow=9.2,SNR=7.5						
BVAR				pP		09 55 01.2	
	comp=Z,0.8nm,0.3s,baz=153,slow=8.3,SNR=5.7						
ZRNK	Zerenda	18.13	353	eP	P	09 54 56.6	-0.9
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZRNK	Zerenda	18.13	353	eP	P	09 54 56.6	-0.9
	comp=Z,5.2nm,0.9s						
ZAL	Zalesovo	20.79	21	P	P	09 55 27.3	0.0
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.4s						
ZAL	Zalesovo	20.79	21	P	P	09 55 27.2	0.0
	comp=Z,8.8nm,0.4s,baz=256,slow=7.6,SNR=11						
ZAK	Zakamensk	27.05	46	eP	P	09 56 29.0	+1.2
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s,mb3.4						
SONM	Songino Array	28.17	53	P	P	09 56 39.5	+1.5
	comp=Z,0.9nm,0.4s,mb3.8,baz=248,slow=9.2,SNR=5.5						
SONM				pP	pP	09 56 44.2	-3.2
	comp=Z,0.9nm,0.4s,baz=256,slow=9.4,SNR=8.2						
AKASG	Malin Array Be	34.91	310	P	P	09 57 35.8	-1.2
	comp=Z,0.5nm,0.3s,mb3.9,baz=80,slow=7.9,SNR=4.6						
FINES	FINESS Array B	39.45	327	P	P	09 58 14.3	-0.8
	comp=Z,1.5nm,0.5s,mb4.0,baz=119,slow=9.4,SNR=10.0						
FINES	FINESS Array B	39.45	327	P	P	09 58 14.3	-0.8
KAF	Kangasniemi	39.59	328	ep	P	09 58 09.3	-6.9
KEV	Kevo	42.68	338	ep	P	09 58 40.8	-0.7
ARCES	ARCESS Array B	43.03	338	P	P	09 58 44.0	-0.4
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ARCES				MLR	MLR		
	comp=Z,231nm,19.9s						
ARCES	ARCESS Array B	43.03	338	P	P	09 58 44.0	-0.4
	comp=Z,3.5nm,0.5s,mb4.3,baz=115,slow=8.5,SNR=47						
ARCES				LR	LR	10 20 08.8	
	comp=Z,231nm,19.9s,MS4.1,baz=69,slow=41						
HFS	Hagfors	45.05	323	P	P	09 58 59.8	-1.0
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HFS	Hagfors	45.05	323	P	P	09 58 59.9	-0.9
HFS	Hagfors	45.05	323	P	P	09 58 59.8	-0.9
	comp=Z,1.8nm,0.4s,mb4.2,baz=92,slow=10.0,SNR=9.2						
NB2	NORSAR Subarra	46.36	324	P	P	09 59 09.5	-1.7
	comp=Z,1.4nm,0.5s,mb4.2,baz=98,slow=7.9						
NOA	NORSAR Array B	46.36	324	P	P	09 59 09.9	-1.2
	comp=Z,1.1nm,0.5s,mb4.1,baz=97,slow=7.7,SNR=9.7						
ILAR	Eielson Array	75.86	16	P	P	10 02 30.4	-0.4
	comp=Z,0.6nm,0.5s,mb3.8,baz=301,slow=4.9,SNR=15						
ILAR				pP	pP	10 02 35.7	-5.4
	comp=Z,0.3nm,0.6s,baz=292,slow=4.8,SNR=4.2						
WRA	Warramunga Arr	80.09	123	P	P	10 02 56.0	+0.9
	comp=Z,0.7nm,0.6s,mb3.8,baz=323,slow=5.0,SNR=8.6						
YKA	Yellowknife Ar	82.68	3	P	P	10 03 07.9	+0.2
	comp=Z,1.9nm,0.6s,mb4.3,baz=351,slow=5.4,SNR=18						
YKA	Yellowknife Ar	82.68	3	P	P	10 03 07.9	+0.2

*NEIC **01** 10:01:12.6, 32.29S×70.91W, h77km, MD3.9(GUC), After GUC.*
GUC 01 10:01:12.6±0.7**, 32.29S**×**70.91W, h77km**±3km**, MD3.9, ML3.7, 7C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JACH	Jahuel	0.48	146	⇑iP	P	10 01 26.1	+0.1
JACH				iS	S	10 01 36.4	+0.5
PACH	Papudo	0.51	241	⇓iP	P	10 01 26.7	+0.3
PACH				iS	S	10 01 37.0	+0.5
ILCH	Illapel	0.69	341	⇓iP	P	10 01 28.4	+0.3
ILCH				iS	S	10 01 40.2	+0.7
ILCH				AMP		10 01 40.8	
	comp=N,5µm,0.1s						
ROCH	El Roble	0.69	187	⇑iP	P	10 01 28.3	+0.2
PEL	Peldehue	0.88	168	eP	P	10 01 30.4	+0.2
PEL				iS	S	10 01 43.7	+0.3
IHA	Instituto Hidr	0.96	220	eP	P	10 01 31.1	-0.1
CMCH	Combarbala	1.11	356	⇓iP	P	10 01 33.1	0.0
CMCH				iS	S	10 01 48.8	+0.3
CMCH				AMP		10 01 50.1	
	comp=E,5µm,0.4s						
DSCH	Colegio Aleman	1.15	166	eP	P	10 01 33.8	+0.2
DSCH				iS	S	10 01 49.7	+0.4
DSCH				AMP		10 01 51.9	
	comp=N,4µm,0.6s						
CLCH	Cerro Calan	1.15	164	⇑iP	P	10 01 33.9	+0.3
CLCH				iS	S	10 01 49.8	+0.4
CLCH				AMP		10 01 51.4	
	comp=N,1µm,0.7s						
FCH	Farellones	1.16	154	⇑iP	P	10 01 34.6	+0.8
FCH				iS	S	10 01 51.1	+1.5
FCH				AMP		10 01 52.7	
	comp=E,5µm,0.3s						
STL	Santa Lucia	1.17	169	⇑iP	P	10 01 33.3	-0.6
STL				iS	S	10 01 49.8	0.0
ANTU	Antumapu	1.30	170	eP	P	10 01 35.6	-0.1
ANTU				iS	S	10 01 53.3	+0.5
ANTU				AMP		10 01 54.9	
	comp=N,2µm,0.4s						
TACH	Talagante	1.36	181	iP	P	10 01 36.4	-0.1
PCH	Pirque	1.37	166	⇓iP	P	10 01 36.8	+0.1
PCH				iS	S	10 01 54.5	+0.1
SJCH	San Jose de Ma	1.43	161	eP	P	10 01 37.2	-0.2
SJCH				iS	S	10 01 56.6	+0.9
SJCH				AMP		10 01 57.7	
	comp=N,645nm,0.4s						
CHCH	Chadas Angostu	1.66	173	⇓iP	P	10 01 40.2	-0.2
CHCH				iS	S	10 02 01.3	+0.4
LMEL	Las Melosas	1.67	159	⇑iP	P	10 01 41.1	+0.6
LMEL				iS	S	10 02 03.1	+2.0
LMEL				AMP		10 02 06.6	
	comp=N,1µm,0.1s						
CACH	El Canelo	1.84	172	⇓iP	P	10 01 43.3	+0.4
ZON	Zonda	2.03	69	⇑iP	P	10 01 46.5	+1.0
ZON				eS	S	10 02 11.5	+1.8
CICH	Cipreses	2.07	169	iP	P	10 01 46.1	+0.2
CICH				iS	S	10 02 11.0	+0.3
TLL	Tololo Astrono	2.11	2	eP	P	10 01 47.0	+0.5
TLL				iS	S	10 02 13.2	+1.5
TLL				AMP		10 02 15.3	
	comp=N,947nm,0.5s						

*NIED **01** 11:05:00, 41.60N×142.10E, h56km, Mw3.7 Best double couple: Mo4.39×10^14 NP1:φs19°, δ71°, λ104°. NP2:φs161°, δ23°, λ54°.*
*MOS **01** 11:05:34.7±1.2, 41.57N×142.31E, h86km, mb3.9/5, Error ellipse: s-maj=26.5km s-min=12.2km az=83.2*
*JMA **01** 11:05:34.3±0.1, 41.57N×142.07E, h62km±3km, M3.5 Broadband fault plane solution: P waves. NP1:φs234°, δ19°, λ123°. NP2:φs19°, δ74°, λ79°. Principal axes: T Plg60°, Azm274°; N Plg10°, Azm22°; P Plg28°, Azm118°;*
JMA Felt I J1.
*IDC **01** 11:05:36.6±2.3, 41.55N×142.19E, h82km±21km, mb3.5/8, mb1 3.6/10, mb1mx3.4/23, mbtmp3.7/10, MS3.5/1, Ms1 3.5/1, ms1mx2.4/28 Error ellipse: s-maj=26.0km s-min=17.8km az=100.0*
*NEIC **01** 11:05:37.0±1.1, 41.58N×142.21E, h84km±10km, mb4.0/1, Error ellipse: s-maj=19.5km s-min=10.2km az=107.0*
ISC 01 11:05:33.8±0.4**, 41.55N**±0.04×**142.09E**±0.05**, h67km**±4km**, n33, σ0ˢ74**/39**, mb3.7**/9**, 2C-8D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOT	Ohata	0.80	258	⇓P	P	11 05 50.0	+0.2
JKB	Kayabe	0.86	293	⇓P	P	11 05 50.4	-0.1
JNBK	Urakawa-nobuka	0.88	34	⇑P	P	11 05 50.6	-0.3
JEM	Erimo	0.93	60	⇑P	P	11 05 51.6	+0.2
JEM				eS	S	11 06 04.4	-0.2
JTM	Tenmabayashi	1.08	225	⇓P	P	11 05 54.0	+0.5
JTM				eS	S	11 06 08.1	0.0
JNB	Noboribetsu	1.20	320	⇓P	P	11 05 54.8	-0.3
JNB				eS	S	11 06 09.7	-1.3
JBT2	Biratori 2	1.24	9	⇓P	P	11 05 56.2	+0.5
JSR	Shiriuchi	1.25	270	P	P	11 05 55.7	-0.1
JANG	Nango	1.25	200	P	P	11 05 55.9	+0.1
JANG				eS	S	11 06 11.6	-0.5
JEW	Eniwo	1.37	340	⇓P	P	11 05 57.8	+0.3
JEW				eS	S	11 06 15.3	+0.3
JCH	Churui	1.43	41	P	P	11 05 59.0	+0.8
JFR	Furan	1.66	13	P	P	11 06 01.6	+0.3
JOSM	Okushiri--Mats	2.02	286	⇓P	P	11 06 06.0	-0.3
JOSM				eS	S	11 06 30.1	-0.3
ASAJ	Asahikawa	2.59	8	P	P	11 06 15.3	+0.9
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ	Asahikawa	2.59	8	P	P	11 06 15.3	+0.9
	comp=Z,6.4nm,0.3s,baz=249,slow=7.3,SNR=35						
YUK	Yuzh-Kuril'sk	3.73	47	⇓iP	P	11 06 28.5	-1.8
YUK				eS	S	11 07 08.8	-4.4
YUK				pmax	pmax		
	comp=Z,140nm,0.4s						
YUK				smax			
	comp=E,400nm,0.5s						
YUK				smax			
	comp=N,310nm,0.4s						
YUK				smax			
	comp=N,2µm,0.6s						
YUK				smax			
	comp=E,2µm,0.7s						
YSS	Yuzh-Sakhalins	5.42	5	P	P	11 06 54.2	+0.3
MJAR	Matsushiro Arr	5.84	212	P	P	11 07 02.6	+2.9
	comp=E,0.4nm,0.3s,baz=20,slow=14,SNR=5.0						
JHJ	Hachijo jima 2	8.61	193	LR	LR	11 11 08.3	
	comp=E,326nm,19.3s,baz=95,slow=38						
SONM	Songino Array	25.97	296	P	P	11 11 02.3	+0.8
	comp=E,0.8nm,0.5s,mb3.4,baz=83,slow=7.9,SNR=7.7						
ZAL	Zalesovo	39.40	308	P	P	11 12 59.4	+1.2
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	Zalesovo	39.40	308	P	P	11 12 59.4	+1.2
	comp=Z,1.0nm,0.4s,mb4.0,baz=56,slow=7.7,SNR=4.3						
MKAR	Makanchi Array	42.31	298	P	P	11 13 22.4	+0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	Makanchi Array	42.31	298	P	P	11 13 22.4	+0.2
	comp=Z,1.4nm,0.9s,mb3.7,baz=82,slow=8.6,SNR=8.8						
ILAR	Eielson Array	45.45	35	P	P	11 13 47.4	+0.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	Eielson Array	45.45	35	P	P	11 13 47.4	+0.2
	comp=Z,0.9nm,0.9s,mb3.5,baz=272,slow=6.9,SNR=12						
ZRNK	Zerenda	48.83	310	eP	P	11 14 14.0	+0.1
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	Zerenda	48.83	310	eP	P	11 14 13.9	+0.1
	comp=Z,1.0nm,0.6s,mb3.9						
WRA	Warramunga Arr	61.60	188	P	P	11 15 45.0	-1.6
	comp=Z,0.3nm,0.3s,mb3.7,baz=6.1,slow=6.8,SNR=13						
FINES	FINESS Array B	65.08	332	P	P	11 16 08.1	-0.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	65.08	332	P	P	11 16 08.1	-0.7
	comp=Z,1.1nm,0.6s,mb3.9,baz=27,slow=4.3,SNR=7.0						
NOA	NORSAR Array B	70.23	337	P	P	11 16 40.4	-0.6
	comp=Z,0.4nm,0.5s,mb3.5,baz=41,slow=5.9,SNR=2.8						
AKASG	Malin Array Be	71.06	322	P	P	11 16 45.9	-0.2
	comp=Z,0.2nm,0.3s,mb3.4,baz=46,slow=6.1,SNR=4.2						

*IDC **01** 11:25:22.4±9.4, 2.18S×102.55E, h249km±90km, mb3.5/9, mb1 3.6/9, mb1mx3.3/18, mbtmp4.1/9, Error ellipse: s-maj=47.3km s-min=12.6km az=65.0*
*NEIC **01** 11:25:25.4±6.5, 2.18S×102.59E, h282km±63km, mb4.0/1, Error ellipse: s-maj=39.2km s-min=11.4km az=64.0*
ISC 01 11:25:20.1±1.3**, 2.3S**±0.2×**102.4E**±0.3**, h250km, n13, σ0ˢ48**/11**, mb3.8**/10**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	27.68	126	P	P	11 30 47.7	+0.2
	2.4nm,0.5s,mb4.1,baz=338,slow=6.7,SNR=7.6						
WRA	Warramunga Arr	35.78	122	P	P	11 31 57.2	-0.3
	2.0nm,0.4s,mb4.0,baz=299,slow=10.0,SNR=60						
WRAB	Tennant Creek	35.79	122	eP	P	11 31 57.5	-0.1
	1.6nm,0.3s,mb4.0						
WB2	Warramunga Arr	35.80	122	eP	P	11 31 57.4	-0.2
STKA	Stephens Creek	47.18	133	P	P	11 33 30.1	+0.4
	2.4nm,0.4s,mb3.9,baz=288,slow=7.8,SNR=19						
SONM	Songino Array	50.01	3	P	P	11 33 52.3	+1.2
	3.4nm,0.6s,mb3.9,baz=185,slow=9.4,SNR=24						
MJAR	Matsushiro Arr	50.99	37	P	P	11 33 58.1	-0.4
	1.1nm,0.5s,mb3.6,baz=205,slow=7.8,SNR=4.4						
MKAR	Makanchi Array	51.97	343	P	P	11 34 05.1	-0.5
	0.6nm,0.4s,mb3.4,baz=148,slow=8.2,SNR=9.4						
ZAL	Zalesovo	57.90	348	P	P	11 34 48.0	0.0
	0.8nm,0.3s,mb3.8,baz=36,slow=9.6,SNR=3.9						
BVAR	Borovoye Array	61.29	339	P	P	11 35 10.5	-0.5
	0.5nm,0.5s,mb3.4,baz=156,slow=11,SNR=4.2						
ARCES	ARCESS Array B	87.55	340	P	P	11 37 40.8	+0.4
	0.6nm,0.7s,mb3.5,baz=117,slow=5.4,SNR=6.2						
TXAR	Lajitas Array	143.40	40	PKP	PKPdf	11 44 26.2	+1.0
	0.8nm,0.5s,baz=56,slow=0.5,SNR=22						
CPUP	Villa Florida	145.49	213	PKPbc	PKPbc	11 44 32.8	+2.9
	0.5nm,0.4s,baz=158,slow=5.4,SNR=3.1						

MAN 01 11:49:16.7, 12.81N×122.98E, h15km, mb4.2, ML3.0, MS2.7, 1D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AUQP	San Andres	0.59	330	eP	Pb	11 49 28.3	+0.2
AUQP				eS	Sb	11 49 40.6	+4.8
OTRP	Odiongan	1.04	244	eP	Pb	11 49 35.5	-0.3
OTRP				eS	Sb	11 49 49.0	0.0
GQP	Guinayangan	1.20	335	⇓eP	Pb	11 49 38.0	-0.7
GQP				eS	Sb	11 49 55.8	+2.0
RCP	Roxas	1.27	190	eP	Pb	11 49 49.2	+9.5
BOAC	Boac	1.28	300	eP	Pb	11 49 38.6	-1.3
BOAC				eS	Sb	11 49 56.6	+0.7
PVCP	Virac	1.38	56	eP	Pn	11 49 40.9	-0.7
PVCP				eS	Sb	11 49 58.0	-1.0
CNP	Catarman	1.67	100	eP	Pn	11 49 44.5	-1.2
CNP				eS	Sn	11 50 07.2	+0.2
SJMP	San Jose	1.85	259	eP	Pn	11 49 48.1	-0.1
SJMP				eS	Sn	11 50 10.5	-1.0
POLP	Polilio Island	2.15	332	eP	Pn	11 49 52.2	-0.4
POLP				eS	Sn	11 50 23.4	+4.2
GUIM	Jordan	2.21	190	eP	Pn	11 49 53.5	+0.2

*KNET **01** 12:21:59.9±0.7, 42.31N×76.59E, h11km±2km, ml2.5, Error ellipse: s-maj=4.5km s-min=3.2km az=82.0*
*NNC **01** 12:22:00.1±1.2, 42.49N×76.65E, mpv2.9, Error ellipse: s-maj=22.3km s-min=6.0km az=174.0*
ISC 01 12:21:58.4±1.2**, 42.23N**±0.09×**76.79E**±0.07**, h11km, n12, σ0ˢ99**/21**, 15C-4D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	0.41	272	P	Pg	12 22 05.5	-1.3
	94nm,0.1s,SNR=809						
ULHL				⇑S	Sg	12 22 10.4	-2.0
	461nm,0.2s						
TKM2	Tokmak 2	1.12	308	⇑P	Pb	12 22 18.6	-0.7
	17nm,0.1s,SNR=75						
TKM2				⇑S	Sb	12 22 32.8	-0.9
	173nm,0.1s						
KZA	Kyzart	1.16	263	⇑P	Pb	12 22 19.1	-0.8
	21nm,0.2s,SNR=38						
KBK	Karagaybulak	1.43	288	P	Pn	12 22 24.2	-0.1
	19nm,0.1s,SNR=38						
KBK				⇑S	Sb	12 22 43.1	+0.5
	62nm,0.2s						
CHMS	Chumysh	1.69	298	⇓P	Pn	12 22 28.4	+0.3
	12nm,0.2s,SNR=15						
CHMS				⇑S	Sn	12 22 49.9	+0.1
	59nm,0.2s						
UCH	Uchtor	1.69	271	⇓P	Pn	12 22 28.4	+0.3
	6.8nm,0.2s,SNR=23						
UCH				⇑S	Sn	12 22 50.4	+0.6
	25nm,0.3s						
AAK	Ala-Archa	1.75	284	⇑P	Pn	12 22 28.4	-0.4
	10nm,0.2s						
AAK				⇑S	Sn	12 22 51.7	+0.5
	34nm,0.2s						
AAK	Ala-Archa	1.75	284	⇑P	Pn	12 22 29.3	+0.5
	3.3nm,0.3s						
AAK				⇑S	Sn	12 22 51.3	0.0
	6.4nm,0.3s						
USP	Ospenovka	1.98	302	⇑P	Pn	12 22 33.5	+1.3
	20nm,0.2s,SNR=32						
USP				⇑S	Sn	12 22 58.4	+1.2
	73nm,0.2s						
AML	Almayashu	2.30	269	⇑P	Pn	12 22 39.5	+2.7
	11nm,0.2s,SNR=30						
AML				⇓S	Sn	12 23 09.9	+4.5
	36nm,0.3s						
KK31	Karatay Array	4.71	283	⇑Pg	Pg	12 23 23.0	-9.5
	1.0nm,0.6s,baz=99,slow=16,SNR=16						
KK31				Lg		12 24 23.0	
	3.2nm,0.4s,baz=98,slow=30,SNR=9.3						
MK31	Makanchi Array	6.02	39	Pn	Pn	12 23 28.7	-0.9
	0.7nm,0.5s,baz=198,slow=41,SNR=2.6						
MK31				⇓Lg		12 25 06.8	
	2.0nm,0.7s,baz=217,slow=27,SNR=3.5						

*MAN **01** 12:40:26.4, 4.47N×125.64E, h5km, mb4.5, ML3.3, MS3.2*
*IDC **01** 12:40:29.2±1.9, 4.36N×125.74E, h118km±16km, mb4.0/16, mb1 4.1/16, mb1mx4.0/23, mbtmp4.4/16, MS3.3/2, Ms1 3.3/2, ms1mx2.9/24, Error ellipse: s-maj=26.1km s-min=9.6km az=74.0*
*NEIC **01** 12:40:30.8±2.0, 4.41N×125.93E, h135km±20km, mb4.3/9, Error ellipse: s-maj=15.1km s-min=7.4km az=76.0*
*BJI **01** 12:40:30.0, 4.40N×125.90E, h135km, mB4.9, mb4.6*
ISC 01 12:40:27.3±0.9**, 4.41N**±0.05×**125.85E**±0.09**, h116km**±8km**, n42, σ1ˢ25**/45**, mb4.3**/22**, 2D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	Mati	2.55	9	eP	P	12 41 08.2	-0.3
BUKP	Musuan	3.54	347	eP	P	12 41 22.3	+0.6
BUKP				eS	S	12 42 03.4	+0.4
PAGZ	Pagadian	4.21	324	eP	P	12 41 30.2	-0.5
PAGZ				eS	S	12 42 15.4	-3.8
ZMPH	Zamboanga City	4.54	304	⇓iP	P	12 41 34.1	-1.1
ZMPH				iS	S	12 42 22.1	-5.1
KKM	Kota Kinabalu	9.73	280	ePn	P	12 42 47.7	+2.1
KSM	Kuching	15.79	260	eP	P	12 44 08.4	+3.9
KAKA	Kakadu	18.22	159	eP	P	12 44 32.0	-2.1
	9.1nm,0.5s						
YHNB	Yeheng	20.60	348	eP	P	12 44 58.6	-0.5
FITZ	Fitzroy Crossi	22.37	181	eP	P	12 45 17.2	+0.6
	11nm,0.3s,mb4.7						
FITZ	Fitzroy Crossi	22.37	181	P	P	12 45 17.3	+0.6
	12nm,0.3s,mb4.7,baz=7.3,slow=7.7,SNR=53						
JOW	Kunigami	22.42	6	P	P	12 45 19.4	+2.3
	20nm,0.5s,mb4.7,baz=221,slow=8.5,SNR=9.4						
KULM	Kulim	25.12	273	eP	P	12 45 45.9	+2.5
PMG	Port Moresby	25.29	123	LR	LR	12 55 08.1	
	comp=Z,78nm,21.3s,baz=209,slow=35						
WRAB	Tennant Creek	25.59	161	eP	P	12 45 47.0	-0.6
	16nm,0.6s,mb4.6						
WRA	Warramunga Arr	25.60	161	P	P	12 45 47.2	-0.4
	13nm,0.6s,mb4.5,baz=341,slow=10,SNR=83						
WRA				S	S	12 50 04.9	+0.2

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
	0.6nm,0.6s,baz=341,slow=15,SNR=3.5						
WRA				ScP		12 52 45.9	
	0.4nm,0.8s,baz=341,slow=2.8,SNR=5.5						
WB2	Warramunga Arr	25.60	161	eP	P	12 45 47.2	-0.5
MBWA	Marble Bar	26.11	193	P	P	12 45 52.4	+0.1
	2.9nm,0.5s,mb4.0						
JNU	Nakatsue	28.95	9	P	P	12 46 18.2	+0.2
	8.6nm,0.8s,mb4.4,baz=217,slow=14,SNR=5.0						
CMAR	Chiang Mai Arr	29.77	300	P	P	12 46 25.6	+0.1
	2.1nm,0.8s,mb3.8,baz=109,slow=7.3,SNR=13						
CMAR				ScP		12 52 59.5	
	1.5nm,1.0s,baz=151,slow=2.1,SNR=6.4						
MJAR	Matsushiro Arr	33.94	18	P	P	12 47 01.6	+0.1
	1.3nm,0.5s,mb4.1,baz=195,slow=9.2,SNR=6.4						
SHL	Shillong	38.77	306	eP	P	12 47 43.0	+0.8
STKA	Stephens Creek	39.07	159⇓	iP	P	12 47 45.6	+0.9
	6.1nm,0.8s,mb4.5						
STKA	Stephens Creek	39.07	159	P	P	12 47 45.8	+1.1
	6.8nm,0.6s,mb4.7,baz=324,slow=6.6,SNR=19						
MDJ	Mudanjiang	40.18	4	P	P	12 47 55.0	+1.3
MDJ				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,19nm,3.3s						
MDJ	Mudanjiang	40.18	4	eP	P	12 47 55.5	+1.8
	comp=Z,7.1nm,0.6s,mb4.7						
ASAJ	Asahikawa	42.21	18	P	P	12 48 11.9	+1.5
	comp=Z,6.8nm,0.8s,mb4.4,baz=237,slow=17,SNR=4.9						
SONM	Songino Array	46.38	342	P	P	12 48 43.6	-0.1
	comp=Z,0.8nm,0.6s,mb3.6,baz=159,slow=8.8,SNR=6.9						
SONM				PcP	PcP	12 50 17.8	+0.5
	comp=Z,2.8nm,0.7s,baz=158,slow=3.1,SNR=17						
SONM				LR	LR	13 11 13.4	
	comp=Z,31nm,19.1s,baz=74,slow=40						
WMQ	Urumqi	51.67	325	eP	P	12 49 26.8	+2.3
MKAR	Makanchi Array	56.50	325	P	P	12 49 58.2	-1.5
	comp=Z,1.6nm,0.5s,mb4.3,baz=128,slow=7.9,SNR=14						
MKAR				PcP	PcP	12 50 54.0	-0.9
	comp=Z,1.5nm,0.5s,baz=124,slow=3.9,SNR=5.2						
MKAR				ScP		12 54 43.0	
	comp=Z,0.7nm,0.5s,baz=118,slow=5.1,SNR=6.2						
MKAR	Makanchi Array	56.50	325	P	P	12 49 58.2	-1.5
MKAR				PcP	PcP	12 50 54.0	-0.9
MKAR				ScP		12 54 43.0	
YAK	Yakutsk	57.56	2	eP	P	12 50 06.7	-0.3
	comp=Z,48nm,0.8s,mb5.6						
ZAL	Zalesovo	59.59	333	P	P	12 50 18.9	-2.2
	comp=Z,1.2nm,0.4s,mb4.3,baz=21,slow=4.5,SNR=3.0						
BVAR	Borovoye Array	66.28	327	P	P	12 51 03.4	-1.9
	comp=Z,0.8nm,0.4s,mb3.9,baz=140,slow=12,SNR=7.2						
ZRNK	Zerenda	67.00	327	eP	P	12 51 07.5	-2.4
	comp=Z,2.4nm,0.5s,mb4.3						
CASY	Casey	71.38	186	eP	P	12 51 36.8	+0.4
	comp=Z,0.9nm,0.5s,mb3.9						
VNDA	Vanda	84.20	173	P	P	12 52 48.6	+2.2
	comp=Z,0.6nm,0.4s,mb3.7,baz=305,slow=10,SNR=7.3						
VNDA	Vanda	84.20	173	eP	P	12 52 48.2	+1.7
	comp=Z,0.8nm,0.6s,mb3.7						
ARCES	ARCESS Array B	89.51	340	P	P	12 53 11.9	-0.3
	comp=Z,1.3nm,0.7s,mb4.2,baz=79,slow=6.2,SNR=7.5						
FINES	FINESS Array B	90.82	332	P	P	12 53 17.7	-0.9
	comp=Z,0.9nm,0.8s,mb4.0,slow=1.9,SNR=5.5						
FINES	FINESS Array B	90.82	332	P	P	12 53 17.7	-0.9
NB2	NORSAR Subarra	97.79	333	P	P	12 53 49.1	-1.3
	comp=Z,0.6nm,0.6s,mb4.3,baz=66,slow=4.5						
NOA	NORSAR Array B	97.79	333	P	P	12 53 49.5	-0.8
	comp=Z,0.6nm,0.7s,mb4.3,baz=66,slow=4.6,SNR=4.7						

IDC 01 12:52:11.8±3.8**,29.73N×81.98E,mb3.4**/2**,mb1 3.6**/4**, mb1mx3.3**/22**,mbtmp3.5**/4**,ML3.7**/2**,Error ellipse: s-maj=86.4km s-min=32.5km az=52.0,Nepal**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LGTI	Lohaghat	1.54	260	eP	Pn	12 52 45.5	+4.9
LGTI				eS	Sb	12 53 12.2	+11
MKAR	Makanchi Array	17.04	1	Pn	P	12 56 10.9	-2.0
	0.2nm,0.3s,baz=175,slow=11,SNR=8.1						
CMAR	Chiang Mai Arr	19.10	122	P	P	12 56 36.5	-2.2
	0.1nm,0.3s,baz=311,slow=11,SNR=5.3						
BVAR	Borovoye Array	24.78	343	P	P	12 57 35.0	-1.4
	0.3nm,0.4s,baz=135,slow=12,SNR=2.9						
SONM	Songino Array	26.07	39	P	P	12 57 46.8	-1.8
	0.4nm,0.4s,baz=230,slow=10.0,SNR=4.5						

*IDC **01** 13:08:07.3±2.9, 1.34N×99.25E, mb4.1/6, mb1 4.2/6, mb1mx3.8/20, mbtmp4.1/6, Error ellipse: s-maj=114.1km s-min=21.8km az=52.0*
*NEIC **01** 13:08:10.1±1.1, 1.00N×98.77E, h30^{km}, mb4.1/1, Error ellipse: s-maj=31.4km s-min=12.2km az=62.0*
ISC 01 13:08:08.0±1.2**,1.0N**±0.1×**98.7E**±0.2**,h30^{km},n9,σ0^{s}78**/9**, mb4.2**/7**,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KULM	Kulim	4.68	24	Pn	Pn	13 09 19.1	+0.6
WRA	Warramunga Arr	40.65	123	P	P	13 15 47.0	-0.4
	1.6nm,0.4s,mb4.0,baz=303,slow=9.1,SNR=17						
WRAB	Tennant Creek	40.66	123	eP	P	13 15 48.1	+0.6
	1.8nm,0.4s,mb4.0						
WB2	Warramunga Arr	40.66	123	eP	P	13 15 48.3	+0.8
SONM	Songino Array	47.12	7	P	P	13 16 37.9	-1.5
	0.6nm,0.4s,mb3.9,baz=189,slow=9.7,SNR=6.2						
MKAR	Makanchi Array	47.81	345	P	P	13 16 45.3	+0.5
	0.7nm,0.3s,mb4.1,baz=159,slow=8.2,SNR=8.0						
PMG	Port Moresby	49.34	103	P	P	13 16 55.9	-1.1
	11nm,0.9s,mb4.9,baz=282,slow=9.3,SNR=3.2						
ZAL	Zalesovo	54.00	350	P	P	13 17 32.0	+0.5
	1.9nm,0.4s,mb4.4,baz=335,slow=4.7,SNR=4.8						
BVAR	Borovoye Array	56.94	340	P	P	13 17 52.7	-0.2
	0.5nm,0.5s,mb3.8,baz=141,slow=9.2,SNR=4.8						

*THR **01** 13:25:42.5±0.8, 31.76N×50.79E, h14^{km}±9^{km}, ML2.6*
*KISR **01** 13:25:43.0±1.0, 31.69N×50.99E, h37^{km}±999^{km}, ML2.7*
*CSEM **01** 13:25:43.1±0.1, 31.79N×50.86E, h16^{km}, ML2.7, Error ellipse: s-maj=6.0km s-min=2.7km az=124.0*
ISC 01 13:25:41.3±0.7**,31.91N**±0.05×**50.78E**±0.06**,h10^{km},n7, σ0^{s}80**/13**,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SHGO	Shushtar	1.69	277	ePg	Pg	13 26 14.1	-1.0
SHGO				AML	AML	13 26 49.0	
	comp=N,67nm,0.6s						
NASN	Na'in	1.93	62	ePg	Pg	13 26 18.7	-1.2
NASN				eSg	Sg	13 26 46.1	+0.4
NASN				AML	AML	13 27 01.2	
	comp=N,26nm,0.3s						
ASAO	Ashtian	2.71	347	ePn	Pn	13 26 30.1	+4.4
ASAO				eSg	Sg	13 27 11.8	+0.3
ASAO				AML	AML	13 27 21.4	
	comp=N,44nm,0.6s						
ASAO	Ashtian	2.71	347	ePn	Pn	13 26 30.0	+4.3
	SNR=52						
ASAO				eSg	Sg	13 27 11.8	+0.4
	SNR=90						
KBD	Kabd	3.81	225	eP	Pn	13 26 41.8	+0.4
KBD				eS	Sn	13 27 26.7	-0.1
QRN	Al-Qurain	4.01	219	eP	Pn	13 26 45.0	+0.8
QRN				eS	Sn	13 27 30.8	-1.1
QRN				AML	AML	13 27 32.5	
	comp=Z,13nm,0.3s						
RDF	Al-Radifah	4.08	224	eP	Pn	13 26 46.3	+1.1
RDF				eS	Sn	13 27 33.8	+0.2
RDF				AML	AML	13 27 35.9	
	comp=Z,9.3nm,0.4s						

*CSEM **01** 13:34:55.8±0.1, 46.69N×7.06E, h5^{km}, ML2.7/15, Error ellipse: s-maj=2.3km s-min=1.6km az=102.0*
*NEIC **01** 13:34:56.1, 46.70N×7.00E, h7^{km}, ML2.7(LDG), ML2.3(STR), ML2.1(ZUR), After ZUR.*
*LDG **01** 13:34:56.3±0.1, 46.71N×7.05E, h7^{km}, Md2.6/1, Ml2.7/16, Error ellipse: s-maj=2.5km s-min=1.8km az=118.0*
*STR **01** 13:34:58.5±0.6, 46.81N×7.11E, h10^{km}±1^{km}, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ZUR 01 13:34:56.1,46.71N×7.03E,h7^{km},ML2.1/15**,5C-6D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TORNY	Torny	0.08	321⇓	iP	Pg	13 34 58.1	0.0
TORNY				iS	Sg	13 34 59.8	+0.4
AIGLE	Aigle	0.38	188	eS	Sg	13 35 08.9	+0.1
AIGLE	Aigle	0.38	188⇑	eP	Pg	13 35 03.5	-0.2
SENIN	Lac Senin	0.40	152	eS	Sg	13 35 10.2	+0.7
SENIN	Lac Senin	0.40	152⇑	iP	Pg	13 35 03.9	-0.2
WIMIS	Wimmis	0.41	97⇓	iP	Pg	13 35 04.5	+0.1
WIMIS				iS	Sg	13 35 10.6	+0.6
BRANT	Les Verrieres	0.44	301	iS	Sg	13 35 12.1	+1.1
BRANT	Les Verrieres	0.44	301⇓	iP	Pg	13 35 05.1	+0.1
GRYON	Gryon	0.47	173	iS	Sg	13 35 11.6	-0.2
GIMEL	Gimel	0.56	251⇓	iP	Pg	13 35 07.3	0.0
SALAN	Lac Salanfe	0.57	184	eP	Pg	13 35 07.2	-0.4
SALAN				eS	Sg	13 35 14.6	-0.6
LOMF	Lomont	0.65	348	Pg	Pg	13 35 09.7	+0.5
CABF	La Chapelle	0.66	261	ePg	Pg	13 35 08.8	-0.5
CABF				eSg	Sg	13 35 16.4	-1.7
	22nm,0.2s						
EMV	Vieux Emosson	0.66	188	eP	Pg	13 35 08.7	-0.6
BOURR	Bourrignon	0.69	11⇓	iP	Pg	13 35 09.8	-0.2
BALST	Balsthal	0.77	36⇑	iP	Pb	13 35 11.1	-0.3
HASLI	Hasliberg	0.77	86	eS	Sb	13 35 21.8	-0.1
BBS	Basel-Blauen	0.82	23	Pg	Pg	13 35 12.1	-0.4
MMK	Mattmark	0.93	135⇓	iP	Pb	13 35 14.1	0.0
SULZ	Sulz-Cheisache	1.10	42⇑	iP	Pb	13 35 17.3	+0.2
SULZ				iS	Sb	13 35 32.6	+1.2
HINF	Hinteralfeld	1.11	354	ePg	Pg	13 35 17.3	-1.0
HINF				eSg	Sg	13 35 31.6	-1.5
HINF				eSn	Sn	13 35 32.8	-0.8
	31nm,0.2s						
MOF	Molkenrain	1.14	4	Pg	Pg	13 35 18.0	-0.9
MOF				Sg	Sg	13 35 33.6	-0.5
FUSIO	Fusio	1.16	102⇑	iP	Pb	13 35 18.3	+0.3
LPL	La Plagne	1.22	190	ePg	Pg	13 35 19.9	-0.5
LPL				eSg	Sg	13 35 36.1	-0.5
	21nm,0.4s						
LPG	La Plagne	1.23	189	ePn	Pn	13 35 19.9	+0.2
LPG				eSg	Sg	13 35 36.7	-0.5
	13nm,0.3s						
FELD	Feldberg	1.34	29	Pg	Pg	13 35 21.7	-1.2
FELD				Sg	Sg	13 35 39.3	-1.4
HAU	Haudompre	1.37	341	ePn	Pn	13 35 21.1	-0.6
HAU				ePg	Pg	13 35 22.0	-1.5
HAU				eSn	Sn	13 35 38.8	-1.5
HAU				eSg	Sg	13 35 39.6	-2.2
	45nm,0.3s						
SLE	Schleitheim	1.45	43	iP	Pn	13 35 21.3	-1.5
ECH	Echery	1.50	3	Pn	Pn	13 35 23.8	+0.2
CDF	Champ du Feu	1.71	6	ePn	Pn	13 35 25.3	-1.2
CDF				ePg	Pg	13 35 27.8	-2.4
CDF				eSn	Sn	13 35 46.9	-1.9
CDF				eSg	Sg	13 35 50.1	-2.9
	7.3nm,0.2s						
WLS	Welschbruch	1.71	7	Pn	Pn	13 35 25.3	-1.3
WLS				Sg	Sg	13 35 50.7	-2.5
ORIF	Oris-en-Rattie	1.97	205	ePn	Pn	13 35 29.9	-0.3
ORIF				eSg	Sg	13 35 59.1	-2.5
	12nm,0.4s						
MBDF	Montbardon	2.00	185	ePg	Pg	13 35 34.5	-1.5
MBDF				eSg	Sg	13 36 00.4	-2.2
	4.7nm,0.4s						
SFTF	Sexfontaines	2.01	319	ePn	Pn	13 35 29.7	-1.2
	baz=142						
SFTF				ePg	Pg	13 35 33.6	-2.7
	baz=139						
SFTF				eSg	Sg	13 35 59.6	-3.5
	14nm,0.2s,baz=145						
SMF	Signal de Mont	2.20	269	ePn	Pn	13 35 32.1	-1.4
SMF				ePg	Pg	13 35 37.5	-2.5
SMF				eSn	Sn	13 35 58.0	-3.2
SMF				eSg	Sg	13 36 04.3	-4.9
	6.8nm,0.2s						
MEZF	Maizieres J'vi	2.23	324	eSg	Sg	13 36 07.1	-3.4
	11nm,0.3s						
LOR	Lormes	2.24	285	ePn	Pn	13 35 32.7	-1.4
LOR				ePg	Pg	13 35 37.6	-3.2
	baz=104						
LOR				eSg	Sg	13 36 05.7	-5.0
	9.2nm,0.3s						
SSF	Saint Saulge	2.44	279	ePg	Pg	13 35 41.4	-3.4
SSF				eSg	Sg	13 36 12.2	-5.2
	2.8nm,0.2s						
VIVF	Saint-Julien-l	2.48	222	ePn	Pn	13 35 36.0	-1.6
VIVF				ePg	Pg	13 35 42.7	-3.0
VIVF				eSg	Sg	13 36 14.2	-4.6
	4.7nm,0.2s						
BGF	Bois d'Agland	2.89	268	ePn	Pn	13 35 41.7	-1.7
BGF				eSg	Sg	13 36 26.5	-5.7
	9.8nm,0.4s						
LASF	Ste Croix	3.46	221	ePn	Pn	13 35 49.7	-1.8
LASF				eSg	Sg	13 36 45.8	-5.4
	6.3nm,0.6s						

JMA 01 13:37:06.6±0.2**,28.07N×141.03E,h181^{km},M3.5,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.41	133	P	P	13 37 38.2	0.0
CBIJ				eS	S	13 38 01.6	-1.0
JHHJ	Haha-jima-NKT	1.76	144	P	P	13 37 41.2	-0.4
JOD2	Odawara 2	7.36	347	P	P	13 38 52.7	+0.4
JAG	Ashikaga	8.44	351	P	P	13 39 04.0	-2.5
JAG				eS	S	13 40 28.3	-12
JHO	Hitachi	8.53	357	P	P	13 39 06.1	-1.5
JHO				S	S	13 40 34.8	-7.4

*MAN **01** 13:38:14.6, 21.28N×120.29E, h3^{km}, mb4.5, ML3.4, MS3.3*
*IDC **01** 13:38:14.7±1.5, 21.23N×120.57E, mb3.2/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.3/3, MS3.4/2, Ms1 3.5/2, ms1mx2.9/12, Error ellipse: s-maj=40.6km s-min=36.6km az=98.0*
ISC 01 13:38:13.3±5.2**,21.3N**±0.1×**120.3E**±0.1**,h1^{km}**±34^{km}**,n9, σ1^{s}50**/9**,mb3.6**/2**,MS3.2**/2**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BBP	Basco	1.79	117	eP	Pn	13 38 46.1	+0.4
BBP				eS	Sn	13 39 10.0	+0.7
ABRA	Dolores	3.62	173	eP	Pn	13 39 09.6	-2.1
CVP	Callao Caves	3.83	157	eP	Pn	13 39 16.5	+1.7
CAUP	Cauayan	4.54	161	eP	Pn	13 39 22.7	-2.2
BALP	Baler	5.63	167	eP	Pn	13 39 41.7	+1.5
CMAR	Chiang Mai Arr	20.24	266	P	P	13 42 54.9	+1.9
	0.7nm,0.7s,baz=70,slow=8.3,SNR=4.8						
CMAR				LR	LR	13 50 33.4	
	comp=Z,91nm,21.0s,MS3.1,baz=139,slow=36						
JHJ	Hachijo jima 2	20.96	52	LR	LR	13 50 14.1	
	comp=Z,149nm,21.4s,MS3.3,baz=86,slow=35						
WRA	Warramunga Arr	43.20	160	P	P	13 46 16.6	-1.3
	1.1nm,0.6s,mb3.8,baz=341,slow=9.0,SNR=5.6						
ILAR	Eielson Array	72.19	27	P	P	13 49 40.5	-1.0
	0.2nm,0.7s,mb3.4,baz=250,slow=4.9,SNR=5.4						

*MOS **01** 13:57:25.3±0.8, 4.45S×144.45E, h166^{km}, mb4.2/10, Error ellipse: s-maj=22.1km s-min=11.8km az=101.9*
*NEIC **01** 13:57:26.6±1.1, 4.41S×144.51E, h163^{km}±10^{km}, mb4.5/15, Error ellipse: s-maj=10.9km s-min=6.7km az=99.0*
*IDC **01** 13:57:27.7±2.0, 4.50S×144.36E, h171^{km}±21^{km}, mb4.1/11, mb1 4.2/13, mb1mx4.1/17, mbtmp4.6/13, Error ellipse: s-maj=20.7km s-min=9.9km az=91.0*
*BJI **01** 13:57:33.2, 3.73S×143.57E, h182^{km}, mB4.7, mb4.8*
ISC 01 13:57:25.7±1.4**,4.44S**±0.05×**144.49E**±0.10**,h170^{km}**±15^{km}**, n46,σ0^{s}79**/48**,mb4.3**/23**,4C,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PMG	Port Moresby	5.60	152	eP	P	13 58 48.0	-0.1
PMG						13 59 48.9	
PMG				pmax	pmax		
	comp=Z,36nm,0.6s						
PMG	Port Moresby	5.60	152	P	P	13 58 50.4	+2.4
	comp=Z,9.7nm,0.3s,baz=58,slow=4.9,SNR=51						
PMG				S	S	13 59 51.7	-0.4
	comp=Z,9.2nm,0.3s,baz=334,slow=23,SNR=11						
PMG	Port Moresby	5.60	152	ePn	P	13 58 48.0	0.0
	comp=Z,36nm,0.6s						
PMG				Sn	S	13 59 48.9	-3.2
KAKA	Kakadu	14.47	235	eP	P	14 00 45.2	+1.5
	comp=Z,39nm,0.4s						
WRAB	Tennant Creek	18.30	212	eP	P	14 01 28.5	-0.8
WRAB				pmax	pmax		
	comp=Z,33nm,0.5s						
WRAB	Tennant Creek	18.30	212	eP	P	14 01 28.5	-0.8
	comp=Z,33nm,0.5s						
WB2	Warramunga Arr	18.30	212⇑	iP	P	14 01 28.9	-0.5
WB2				eS	S	14 04 45.3	+0.7
WRA	Warramunga Arr	18.31	212	P	P	14 01 29.0	-0.5
	comp=Z,5.6nm,0.3s,baz=32,slow=11,SNR=342						
WRA				S	S	14 04 44.0	-0.7
	comp=Z,0.3nm,0.3s,baz=25,slow=21,SNR=5.9						
FITZ	Fitzroy Crossi	22.90	232⇑	iP	P	14 02 15.6	0.0
	comp=Z,26nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	22.90	232	P	P	14 02 15.7	+0.1
	comp=Z,22nm,0.4s,mb4.9,baz=44,slow=6.6,SNR=50						
STKA	Stephens Creek	27.43	185	eP	P	14 02 58.5	+0.8
	comp=Z,4.2nm,1.3s,mb3.9						
STKA	Stephens Creek	27.43	185	P	P	14 02 58.3	+0.6
	comp=Z,1.9nm,0.6s,mb3.9,baz=109,slow=5.9,SNR=8.4						
MBWA	Marble Bar	29.23	233	eP	P	14 03 12.6	-1.3
	comp=Z,3.9nm,0.4s,mb4.5						
FORT	Forrest	30.43	209⇑	iP	P	14 03 24.6	+0.1
	comp=Z,30nm,0.6s,mb5.2						
JOW	Kunigami	34.82	334	P	P	14 04 02.2	0.0
	comp=Z,16nm,0.6s,mb4.8,baz=157,slow=6.6,SNR=8.0						
JNU	Nakatsue	39.52	342	P	P	14 04 41.1	-0.3
	comp=Z,5.1nm,0.7s,mb4.3,baz=97,slow=30,SNR=4.9						
CMAR	Chiang Mai Arr	50.32	298	P	P	14 06 07.7	+0.4
	comp=Z,4.9nm,0.7s,mb4.2,baz=116,slow=6.3,SNR=28						
YSS	Yuzh-Sakhalins	51.20	358	eP	P	14 06 14.8	+1.2
ULN	Ulaanbaatar	61.56	332	eP	P	14 07 27.4	+0.3
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
ULN	Ulaanbaatar	61.56	332	eP	P	14 07 27.4	+0.4
	comp=Z,1.5nm,0.6s,mb4.0						
SONM	Songino Array	61.85	332	P	P	14 07 28.2	-0.8
	comp=Z,0.7nm,0.4s,mb3.8,baz=149,slow=5.9,SNR=7.7						
MA2	Magadan	64.01	4	P	P	14 07 42.5	-0.5
MA2				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
MA2	Magadan	64.01	4	P	P	14 07 42.5	-0.5
	comp=Z,6.4nm,0.8s,mb4.5						
ZAK	Zakamensk	65.09	332	iP	P	14 07 49.8	-0.4
ZAK				e	pP	14 08 34.1	+3.5
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
CASY	Casey	66.11	194	eP	P	14 07 56.0	-0.4
	comp=Z,4.5nm,0.7s,mb4.4						
WMQ	Urumqi	69.99	320	eP	P	14 08 21.5	+0.7
VNDA	Vanda	73.61	176	eP	P	14 08 42.3	+0.7
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
VNDA	Vanda	73.61	176	P	P	14 08 42.8	+1.1
	comp=Z,3.2nm,0.7s,mb4.2,baz=325,slow=5.6,SNR=27						
VNDA	Vanda	73.61	176	eP	P	14 08 42.3	+0.7
	comp=Z,7.3nm,1.3s,mb4.2						
BILL	Bilibino	73.92	8	eP	P	14 08 43.7	+0.2
BILL				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
BILL	Bilibino	73.92	8	eP	P	14 08 43.7	+0.2
	comp=Z,1.5nm,0.4s,mb4.1						
MKAR	Makanchi Array	74.72	321	P	P	14 08 48.5	0.0
	comp=Z,4.5nm,0.8s,mb4.2,baz=112,slow=6.5,SNR=31						
ZAL	Zalesovo	76.38	328	P	P	14 08 57.9	+0.2
	comp=Z,1.9nm,0.5s,mb4.0,baz=8.1,slow=4.8,SNR=8.8						
NVS	Novosibirsk	77.61	329	eP	P	14 09 01.8	-2.6
NVS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
NVS				pmax	pmax		
	comp=N,8.0nm,1.8s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.3s						
MAW	Mawson	82.72	202	eP	P	14 09 31.6	+0.3
MAW				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MAW	Mawson	82.72	202	P	P	14 09 31.9	+0.6
	comp=Z,3.8nm,0.6s,mb4.3,baz=93,slow=6.5,SNR=17						
MAW	Mawson	82.72	202	eP	P	14 09 31.6	+0.3
	comp=Z,4.7nm,0.7s,mb4.3						
VOSK	Vostochnaya	83.62	324	P	P	14 09 36.1	-0.1
VOSK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
BVA0	Borovoye Array	84.05	324	iP	P	14 09 38.4	+0.1
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.7						
BVAR	Borovoye Array	84.05	324	P	P	14 09 38.5	+0.3
	baz=104,slow=5.9						
ZRNK	Zerenda	84.84	324	eP	P	14 09 41.8	-0.4
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
ZRNK	Zerenda	84.84	324	eP	P	14 09 41.8	-0.4
	comp=Z,1.6nm,0.6s,mb3.9						
ILAR	Eielson Array	85.05	24	P	P	14 09 42.6	-0.4
	comp=Z,6.0nm,0.7s,mb4.5,baz=256,slow=5.0,SNR=98						
ILAR				pP	pP	14 10 27.4	+1.9
	comp=Z,0.5nm,0.8s,baz=253,slow=4.0,SNR=4.3						
QSPA	South Pole Qui	85.52	180⇑	iP	P	14 09 46.4	+1.4
	comp=Z,12nm,0.7s,mb4.7						
DBIC	Dimbokro	149.41	276	PKPbc	PKPdf	14 16 57.4	+6.6
	comp=Z,3.9nm,0.5s,baz=65,slow=8.1,SNR=11						
DBIC	Dimbokro	149.41	276	PKPbc	PKPdf	14 16 57.4	+6.6

*ATH **01** 14:35:05.1, 37.01N×27.83E, h72^{km}±7^{km}*
*ISK **01** 14:35:05.9, 36.90N×27.64E, h10^{km}, MD3.1*
*CSEM **01** 14:35:05.9±0.1, 36.92N×27.64E, h12^{km}, MD3.1, Error ellipse: s-maj=2.3km s-min=1.9km az=54.0*
ISC 01 14:35:06.5±0.6**,36.91N**±0.03×**27.64E**±0.04**,h5^{km}**±6^{km}**, n12,σ0^{s}79**/20**,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.22	316	iP	Pg	14 35 10.9	-0.1
BDRM				iS	Sg	14 35 14.4	+0.5
BODT	Bodrum	0.30	300	iPG	Pg	14 35 12.3	-0.3
BODT				iSG	Sg	14 35 17.5	+0.8
MLSB	Milas	0.40	16	PG	Pg	14 35 14.4	-0.2
MLSB				SG	Sg	14 35 20.6	+0.6
YER	Yerkesik	0.56	66	PG	Pg	14 35 17.4	-0.4
AYDN	Tasoluk	0.78	14	iP	Pb	14 35 21.2	-0.8
AYDN				iS	Sb	14 35 32.4	-0.1
ARG	Arkhangelos	0.80	150	eP	Pb	14 35 21.8	-0.6
ARG				eS	Sb	14 35 35.2	+2.0
DALT	Dalyan (Mudla)	0.81	100	ePG	Pg	14 35 22.0	-0.8
SMG	Samos	1.02	322	eP	Pb	14 35 25.4	-0.8
SMG				eS	Sb	14 35 40.0	+0.3
FETY	Fethiye	1.19	103	ePN	Pn	14 35 29.2	-0.5
DNZL	Cakiroluk	1.37	55	iP	Pb	14 35 33.0	+0.8
DNZL				iS	Sb	14 35 53.0	+3.2
KARP	Karpathos	1.41	196	eP	Pn	14 35 32.2	-0.7
KARP				eS	Sb	14 35 51.3	+0.2
IZM	Izmir	1.52	349	ePN	Pn	14 35 33.8	-0.5

*NEIC **01** 14:56:42.5±9.6, 51.21N×19.16E, h5^{km}, MG2.5(WAR), Error ellipse: s-maj=113.0km s-min=15.2km az=209.0*
*PRU **01** 14:56:43.5, 51.14N×18.97E*
WAR 01 14:56:42,51.24N×19.27E,ML2.5,Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
OJC	Ojcow	1.07	161	ePG	Pg	14 57 03.0	-0.4
OJC				eSG	Sg	14 57 18.0	+0.3
OKC	Ostrava-Krasne	1.57	207	ePG	Pg	14 57 10.2	-3.2
MORC	Moravsky Berou	1.83	218	ePn	Pn	14 57 13.8	-1.1
MORC				eSn	Sn	14 57 37.0	-2.2
KSP	Ksiaz	1.92	259	ePG	Pg	14 57 17.0	-3.3
KSP				eSG	Sg	14 57 42.0	-3.9
NIE	Niedzica	1.94	159	ePG	Pg	14 57 19.0	-1.7
NIE				eS	Sn	14 57 44.0	+2.1
DPC	Dobruska-Polom	2.07	246	ePG	Pg	14 57 16.9	-6.4
DPC				eSG	Sg	14 57 43.0	-7.9
UPC	Upice	2.19	252	eSG	Sg	14 57 46.5	-8.3
VYHS	Vyhne	2.76	186	eSG	Sg	14 58 07.4	-6.5
KECS	Kecovo	2.87	164	eSG	Sg	14 58 12.8	-4.6
KHC	Kasperske Hory	4.22	242	eSG	Sg	14 58 51.4	-11

*BJI **01** 14:59:27.3, 2.21N×124.69E, h285^{km}, mB4.3, mb4.2*
*NEIC **01** 14:59:28.9±1.2, 2.34N×124.46E, h273^{km}±11^{km}, mb4.6/28,*

Error ellipse: s-maj=10.1km s-min=5.1km az=66.0
*MOS **01** 14:59:29.4±1.0, 2.40N×124.51E, h298km, mb4.5/14, Error ellipse: s-maj=17.3km s-min=8.3km az=109.0*
*IDC **01** 14:59:29.6±1.6, 2.26N×124.40E, h280km±15km, mb3.9/18, mb1 4.0/18, mb1mx4.0/22, mbtmp4.5/18, Error ellipse: s-maj=17.7km s-min=6.9km az=78.0*
ISC 01 14:59:27.9±1.1**, 2.35N**±0.04×**124.51E**±0.07**, h281**km±11km**, n95, σ1ˢ00**/94**, mb4.3**/50**, 2C-4D, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TSM	**Tawau**	**6.91**	**286**	P	**P**	**15 01 07.6**	**-0.8**
KKM	**Kota Kinabalu**	**9.05**	**294**	*e*Pn	**P**	**15 01 34.8**	**-0.5**
KKM	**Kota Kinabalu**	**9.05**	**294**	P	**P**	**15 01 35.1**	**-0.1**
KSM	**Kuching**	**14.22**	**267**	*e*Pn	**P**	**15 02 39.0**	**-0.2**
KAKA	**Kakadu**	**16.90**	**152**	*e*P	**P**	**15 03 08.8**	**-0.7**
	42nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.35**	**177**	*e*P	**P**	**15 03 43.4**	**-0.8**
	36nm,0.3s						
FITZ				*e*S	**S**	**15 07 12.6**	**+1.4**
FITZ	**Fitzroy Crossi**	**20.35**	**177**	P	**P**	**15 03 43.6**	**-0.7**
	45nm,0.3s,baz=1.5,slow=7.8,SNR=148						
FITZ				S	**S**	**15 07 13.5**	**+2.3**
	9.5nm,0.7s,baz=184,slow=21,SNR=2.9						
KGM	**Kluang**	**21.18**	**270**	P	**P**	**15 03 54.6**	**+2.1**
IPM	**Ipoh**	**23.55**	**276**	P	**P**	**15 04 16.5**	**+1.3**
MBWA	**Marble Bar**	**23.82**	**191**	*e*P	**P**	**15 04 16.4**	**-1.2**
	15nm,0.8s,mb4.4						
KULM	**Kulim**	**23.99**	**278**	*e*P	**P**	**15 04 19.9**	**+0.6**
WRAB	**Tennant Creek**	**24.15**	**157**	*e*P	**P**	**15 04 20.5**	**-0.2**
WRAB				*e*S	**S**	**15 08 14.9**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**24.15**	**157**	*e*P	**P**	**15 04 20.5**	**-0.2**
	comp=Z,12nm,0.6s,mb4.4						
WRAB				*e*S	**S**	**15 08 14.9**	**-1.2**
WRA	**Warramunga Arr**	**24.16**	**157**	P	**P**	**15 04 19.8**	**-0.9**
	comp=Z,6.0nm,0.5s,mb4.2,baz=333,slow=11,SNR=55						
WRA				S	**S**	**15 08 15.9**	**-0.3**
	comp=Z,17nm,1.0s,baz=334,slow=16,SNR=14						
WB2	**Warramunga Arr**	**24.16**	**157**	*e*P	**P**	**15 04 21.0**	**+0.3**
WB2				*e*S	**S**	**15 08 15.0**	**-1.2**
GYA	**Guiyang**	**29.47**	**326**	P	**P**	**15 05 09.8**	**+1.3**
GYA				PCP	PcP	15 08 07.3	+0.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
CMAR	**Chiang Mai Arr**	**29.74**	**304**	P	**P**	**15 05 11.2**	**+0.3**
	comp=Z,2.2nm,1.0s,mb3.7,baz=106,slow=6.7,SNR=9.3						
CMAR				PcP	PcP	15 08 08.0	+0.7
	comp=Z,2.5nm,0.8s,baz=164,slow=1.3,SNR=14						
NJ2	**Nanjing**	**30.02**	**350**	*e*P	**P**	**15 05 11.8**	**-1.5**
NJ2				PP	PP	15 06 22.1	-2.5
NJ2				S	**S**	**15 09 50.0**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
NJ2				LR	LR		
	comp=N,4μm,20.2s						
NJ2				LR	LR		
	comp=E,1μm,17.9s						
NJ2				LR	LR		
	comp=Z,6μm,19.8s						
FORT	**Forrest**	**33.11**	**174**⇓	*i*P	**P**	**15 05 39.6**	**-0.4**
	comp=Z,45nm,0.4s,mb5.3						
KLBR	**Kellerberrin**	**34.36**	**190**	*e*P	**P**	**15 05 49.6**	**-0.9**
	comp=Z,12nm,0.4s,mb4.8						
MUN	**Mundaring**	**35.03**	**192**	*e*P	**P**	**15 05 55.5**	**-0.7**
	comp=Z,16nm,0.5s,mb4.8						
MUN	**Mundaring**	**35.03**	**192**	*e*P	**P**	**15 05 55.5**	**-0.7**
MUN				pmax	pmax		
	comp=Z,16nm,0.5s,mb4.8						
NWAO	**Narrogin (SRO)**	**35.75**	**191**	P	**P**	**15 06 01.9**	**-0.3**
	comp=Z,12nm,0.5s,mb4.7,baz=12,slow=7.6,SNR=42						
MAJO	**Matsushiro**	**36.30**	**19**	*e*P	**P**	**15 06 06.8**	**0.0**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
MAJO	**Matsushiro**	**36.30**	**19**	*e*P	**P**	**15 06 06.8**	**0.0**
	comp=Z,10nm,0.8s,mb4.4						
MAT	**Matsushiro**	**36.30**	**19**	*e*P	**P**	**15 06 06.0**	**-0.8**
MAT				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.5						
MAT	**Matsushiro**	**36.30**	**19**	*e*P	**P**	**15 06 06.0**	**-0.8**
	comp=Z,13nm,0.9s,mb4.5						
MAT	**Matsushiro**	**36.30**	**19**	P	**P**	**15 06 06.0**	**-0.8**
MJAR	**Matsushiro Arr**	**36.30**	**19**	P	**P**	**15 06 07.1**	**+0.3**
	comp=Z,11nm,0.8s,mb4.5,baz=195,slow=9.9,SNR=28						
STKA	**Stephens Creek**	**37.70**	**156**	*e*P	**P**	**15 06 19.5**	**+1.0**
	comp=Z,3.6nm,0.7s,mb3.9						
STKA				*e*S	**S**	**15 11 48.0**	**+0.5**
STKA	**Stephens Creek**	**37.70**	**156**	P	**P**	**15 06 19.6**	**+1.1**
	comp=Z,4.7nm,0.4s,mb4.2,baz=341,slow=8.7,SNR=34						
STKA				PcP	PcP	15 08 30.1	+0.2
	comp=Z,5.4nm,0.5s,baz=334,slow=6.6,SNR=6.0						
LSA	**Lhasa**	**41.74**	**314**	P	**P**	**15 06 53.4**	**+1.6**
LSA	**Lhasa**	**41.74**	**314**	*e*P	**P**	**15 06 53.4**	**+1.6**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.0						
LSA	**Lhasa**	**41.74**	**314**	*e*P	**P**	**15 06 53.4**	**+1.6**
	comp=Z,6.0nm,0.6s,mb4.0						
MDJ	**Mudanjiang**	**42.33**	**5**	P	**P**	**15 06 56.9**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,41nm,3.3s						
GTA	**Gaotai**	**43.20**	**332**	*e*P	**P**	**15 07 04.6**	**+1.3**
GTA				PCP	PcP	15 08 48.7	+0.9
GTA				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.2						
PALK	**Pallekele**	**43.91**	**278**	P	**P**	**15 07 08.8**	**-0.5**
	comp=Z,18nm,1.1s,mb4.2						
CNB	**Canberra Magne**	**44.10**	**150**	*e*P	**P**	**15 07 13.1**	**+2.5**
	comp=Z,35nm,1.5s,mb4.4						
TOO	**Toolangi**	**44.22**	**156**	*e*P	**P**	**15 07 13.8**	**+2.3**
	comp=Z,4.1nm,0.4s,mb4.0						
TOO	**Toolangi**	**44.22**	**156**	*e*P	**P**	**15 07 13.8**	**+2.3**
TOO				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.0						
ASAJ	**Asahikawa**	**44.58**	**19**	P	**P**	**15 07 15.8**	**+1.6**
	comp=Z,13nm,0.8s,mb4.2,baz=241,slow=15,SNR=13						
GUN	**Gumba**	**44.79**	**308**	*e*P	**P**	**15 07 17.1**	**+1.0**
	comp=Z,60nm,0.7s,mb4.9						
PKI	**Pulchoki**	**45.01**	**308**	*e*P	**P**	**15 07 18.4**	**+0.6**
KKN	**Kakani**	**45.21**	**308**	*e*P	**P**	**15 07 19.8**	**+0.4**
	comp=Z,45nm,1.0s,mb4.6						
KKN	**Kakani**	**45.21**	**308**	*e*P	**P**	**15 07 19.8**	**+0.4**
KKN				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.4						
DMN	**Daman**	**45.27**	**308**	*e*P	**P**	**15 07 20.3**	**+0.5**
	comp=Z,41nm,0.9s,mb4.6						
GKN	**Gorkha**	**45.81**	**308**	*e*P	**P**	**15 07 24.2**	**+0.1**
	comp=Z,64nm,1.1s,mb4.9						
KOLN	**Koldanda**	**46.53**	**307**	*e*P	**P**	**15 07 30.4**	**+0.6**
	comp=Z,83nm,0.8s,mb5.1						
YSS	**Yuzh-Sakhalins**	**47.18**	**17**	*e*P	**P**	**15 07 37.0**	**+2.5**
ULN	**Ulaanbaatar**	**47.79**	**344**	*e*P	**P**	**15 07 39.3**	**+0.1**
ULN	**Ulaanbaatar**	**47.79**	**344**	*e*P	**P**	**15 07 39.9**	**+0.7**
	comp=Z,4.3nm,1.0s,mb3.7						
SONM	**Songino Array**	**47.94**	**344**	P	**P**	**15 07 39.8**	**-0.6**
	comp=Z,2.8nm,0.9s,mb3.6,baz=162,slow=7.8,SNR=17						
SONM				PcP	PcP	15 09 03.9	-0.4
	comp=Z,2.0nm,0.8s,baz=169,slow=4.4,SNR=9.1						
SONM				ScP		15 12 32.3	
	comp=Z,0.3nm,0.7s,baz=135,slow=4.1,SNR=2.6						
ZAK	**Zakamensk**	**51.13**	**343**	*e*P	**P**	**15 08 03.2**	**-1.1**
ZAK				*e*		15 09 15.3	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.0						
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.6						
WMQ	**Urumqi**	**52.62**	**327**	*e*P	**P**	**15 08 16.1**	**+0.8**
MKAR	**Makanchi Array**	**57.46**	**327**	P	**P**	**15 08 49.2**	**-0.5**
	comp=Z,5.7nm,0.5s,mb4.2,baz=122,slow=8.5,SNR=66						
MKAR				PcP	PcP	15 09 39.3	-0.9
	comp=Z,3.1nm,0.6s,baz=125,slow=4.5,SNR=12						
MKAR				ScP		15 13 12.9	
	comp=Z,0.5nm,0.8s,baz=104,slow=5.0,SNR=3.5						
YAK	**Yakutsk**	**59.67**	**3**	*e*P	**P**	**15 09 04.6**	**-0.2**
YAK				pmax	pmax		
	comp=Z,24nm,0.7s,mb4.8						
YAK	**Yakutsk**	**59.67**	**3**	*e*P	**P**	**15 09 04.6**	**-0.2**
	comp=Z,24nm,0.7s,mb4.8						
AAK	**Ala-Archa**	**59.92**	**319**	*e*P	**P**	**15 09 05.8**	**-1.0**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
MA2	**Magadan**	**60.59**	**15***d*	*i*P	**P**	**15 09 12.4**	**+1.4**
MA2				*i* *PP	pP	15 10 18.4	+4.5
MA2				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.7						
MA2	**Magadan**	**60.59**	**15**	*e*P	**P**	**15 09 11.9**	**+0.9**
	comp=Z,18nm,0.7s,mb4.7						
KKAR	**Karatay Array**	**62.76**	**318**	*i* P	**P**	**15 09 25.6**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
VOSK	**Vostochnaya**	**66.83**	**328**	P	**P**	**15 09 49.7**	**-1.7**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
BVA0	**Borovoye Array**	**67.29**	**328**	*i* P	**P**	**15 09 53.6**	**-0.7**
BVAR	**Borovoye Array**	**67.29**	**328**	P	**P**	**15 09 53.6**	**-0.7**
	comp=Z,3.0nm,0.8s,mb4.1,baz=135,slow=8.4,SNR=18						
ZRNK	**Zerenda**	**67.99**	**327**	*e*P	**P**	**15 09 57.5**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**67.99**	**327**	*e*P	**P**	**15 09 57.5**	**-1.1**
	comp=Z,5.8nm,0.8s,mb4.4						
CASY	**Casey**	**69.20**	**186**	*e*P	**P**	**15 10 05.9**	**+0.1**
	comp=Z,10nm,0.8s,mb4.6						
TIXI	**Tiksi**	**69.26**	**1**⇓	*i*P	**P**	**15 10 05.6**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.7						
AB31	**Akbulak array**	**71.83**	**321**	P	**P**	**15 10 19.9**	**-2.1**
SVE	**Sverdlovsk**	**73.99**	**329**	*e*P	**P**	**15 10 34.0**	**-0.5**
SVE				*e*		15 10 50.0	
ARU	**Arti**	**74.93**	**328**⇓	*i*P	**P**	**15 10 38.1**	**-1.7**
ARU				*e*		15 13 29.0	
ARU				*e*PPP	PPP	15 15 18.1	-1.7
ARU				*e*S	S	15 19 54.5	+1.9
ARU				*e*SS	SS	15 24 50.0	+0.6
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
OPO	**Ambohidratompo**	**78.75**	**251**	P	**P**	**15 11 00.9**	**-0.7**
	comp=Z,2.8nm,0.7s,mb4.1,baz=85,slow=5.5,SNR=4.1						
MAW	**Mawson**	**81.70**	**200**	*e*P	**P**	**15 11 16.8**	**+0.7**
MAW				pmax	pmax		
	comp=Z,14nm,1.2s						
MAW	**Mawson**	**81.70**	**200**	P	**P**	**15 11 17.0**	**+0.9**
	comp=Z,4.2nm,0.6s,mb4.4,baz=63,slow=5.3,SNR=28						
MAW	**Mawson**	**81.70**	**200**	*e*P	**P**	**15 11 16.8**	**+0.7**
	comp=Z,14nm,1.2s,mb4.6						
VNDA	**Vanda**	**82.35**	**172**	*e*P	**P**	**15 11 20.0**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,15nm,1.4s						
VNDA	**Vanda**	**82.35**	**172**	P	**P**	**15 11 20.2**	**+0.9**
	comp=Z,2.9nm,0.7s,mb4.1,baz=323,slow=5.8,SNR=27						
VNDA	**Vanda**	**82.35**	**172**	*e*P	**P**	**15 11 20.0**	**+0.7**
	comp=Z,15nm,1.4s,mb4.5						
MALT	**Malatya**	**85.48**	**308**	*e*P	**P**	**15 11 36.1**	**+0.3**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
MALT	**Malatya**	**85.48**	**308**	*e*P	**P**	**15 11 36.1**	**+0.3**
	comp=Z,2.4nm,0.8s,mb4.1						
ILAR	**Eielson Array**	**87.30**	**25**	P	**P**	**15 11 43.5**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.8,baz=246,slow=4.8,SNR=5.1						
KMBO	**Kilima Mbogo**	**87.31**	**269**	P	**P**	**15 11 45.5**	**+0.4**
	comp=Z,2.9nm,0.9s,mb4.1,baz=71,slow=6.1,SNR=4.8						
ARCES	**ARCESS Array B**	**90.97**	**340**	P	**P**	**15 11 59.9**	**-1.1**
	comp=Z,1.6nm,0.7s,mb4.0,baz=45,slow=3.4,SNR=7.1						
AKASG	**Malin Array Be**	**91.56**	**321**	P	**P**	**15 12 02.9**	**-1.2**
	comp=Z,0.3nm,0.3s,mb3.7,baz=68,slow=4.9,SNR=4.4						
FINES	**FINESS Array B**	**91.99**	**332**	P	**P**	**15 12 05.1**	**-0.8**
	comp=Z,0.9nm,0.6s,mb3.9,baz=90,slow=3.8,SNR=5.0						
QSPA	**South Pole Qui**	**92.26**	**180**⇑	*i*P	**P**	**15 12 08.5**	**+1.7**
	comp=Z,51nm,2.3s,mb5.0						
ANMO	**Albuquerque**	**119.58**	**47**⇑	*i*P	Pdif	15 14 10.7	+1.4
SCHQ	**Schefferville**	**122.25**	**8**	PKP	PKPdf	15 17 51.8	+2.3
	comp=Z,3.8nm,0.6s,baz=332,slow=2.8,SNR=9.2						
TXAR	**Lajitas Array**	**124.19**	**52**	PKP	PKPdf	15 17 56.6	+2.7
	comp=Z,0.7nm,0.6s,baz=270,slow=1.3,SNR=5.5						
DBIC	**Dimbokro**	**128.67**	**280**	PKP	PKPdf	15 18 04.3	+1.2
	comp=Z,2.3nm,0.6s,baz=41,slow=10,SNR=4.1						
PLCA	**Paso Flores**	**139.43**	**162**	PKP	PKPdf	15 18 24.9	+2.6
	comp=Z,2.0nm,0.7s,baz=220,slow=0.6,SNR=4.8						
CFAA	**Coronel Fontan**	**148.51**	**159**	PKPbc	PKPdf	15 18 44.7	+6.6
	comp=Z,2.8nm,0.6s,baz=207,slow=2.8,SNR=35						
CFAA	**Coronel Fontan**	**148.51**	**159**	PKPbc	PKPdf	15 18 44.7	+6.6
LPAZ	**La Paz**	**161.38**	**139**	PKP	PKPdf	15 19 00.3	+4.8
	comp=Z,0.6nm,0.2s,baz=19,slow=6.5,SNR=8.5						
SIV	**San Ignacio**	**165.37**	**158**	PKP	PKPdf	15 19 01.9	+2.5
	comp=Z,1.6nm,0.8s,baz=126,slow=1.1,SNR=8.5						
SIV				PKPab	PKPab	15 20 01.4	+0.5
	comp=Z,1.4nm,0.5s,baz=209,slow=3.4,SNR=10						

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*IDC **01** 15:06:28.7±3.1, 18.58S×71.30W, mb3.9/1, mb1 3.8/3, mb1mx3.6/17, mbtmp3.8/3, ML3.1/1, MS3.4/2, Ms1 3.3/2, ms1mx2.6/22, Error ellipse: s-maj=86.7km s-min=26.7km az=141.0*
NEIC 01 15:06:30.0±2.0**, 18.49S**×**71.28W, h10**km**, Error ellipse: s-maj=34.3km s-min=19.6km az=119.0, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.72**	**54**	Pn	Pn	15 07 29.6	+0.7
	1.0nm,0.3s,baz=233,slow=12,SNR=29						
LPAZ				Pg	Pg	15 07 37.9	-6.4
	3.6nm,0.3s,baz=252,slow=4.7,SNR=26						
LPAZ				Lg		15 08 29.0	
	0.6nm,0.3s,baz=27,slow=24,SNR=1.5						
LPAZ	**La Paz**	**3.72**	**54**	*e*Pn	Pn	15 07 29.2	+0.3
LPAZ				*e*Pg	Pg	15 07 39.5	-4.9
LPAZ				Lg		15 08 29.0	
LVC	**Limon Verde**	**4.66**	**152**	*e*Pn	Pn	15 07 41.1	-1.1
SIV	**San Ignacio**	**10.07**	**77**	Pn	P	15 08 52.9	-5.0
	0.7nm,0.3s,baz=256,slow=11,SNR=7.7						
SAML	**Samuel**	**12.32**	**41**	*e*P	P	15 09 34.5	+5.9
	4.7nm,0.8s						
BDFB	**Brasilia**	**22.42**	**86**	P	P	15 11 30.3	-0.2
	2.0nm,0.4s,baz=260,slow=9.5,SNR=2.6						
BDFB				LR	LR	15 20 15.8	
	comp=Z,21nm,21.2s,baz=278,slow=37						
JMIC	**Jan Mayen**	**98.95**	**17**	LR	LR	15 59 20.1	
	comp=Z,73nm,19.9s,baz=342,slow=32						
WRA	**Warramunga Arr**	**134.28**	**215**	PKP	PKPdf	15 25 48.6	-3.5
	0.6nm,1.0s,baz=148,slow=1.8,SNR=6.4						

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*IDC **01** 15:11:23.3±4.1, 7.74N×92.01E, mb3.8/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.8/3, Error ellipse: s-maj=143.8km s-min=29.6km az=63.0*
*NEIC **01** 15:11:26.2±1.1, 7.56N×91.66E, h30km, mb4.0/2, Error ellipse: s-maj=28.0km s-min=14.4km az=70.0*
ISC 01 15:11:24.6±1.5**, 7.6N**±0.2×**91.7E**±0.3**, h30**km**, n6, σ0ˢ37**/6**, mb3.9**/5**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.88**	**32**	Pn	**P**	**15 14 28.4**	**-0.1**
	0.1nm,0.3s,baz=61,slow=27,SNR=3.9						
MKAR	**Makanchi Array**	**39.89**	**350**	P	**P**	**15 18 57.9**	**+0.4**
	1.1nm,0.7s,mb3.7,baz=164,slow=8.8,SNR=11						
SONM	**Songino Array**	**42.00**	**15**	P	**P**	**15 19 15.0**	**+0.2**
	1.0nm,0.6s,mb3.6,baz=193,slow=8.3,SNR=9.6						
ZRNK	**Zerenda**	**48.87**	**342**	*e*P	**P**	**15 20 09.0**	**-0.4**
	1.5nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**50.06**	**124**	P	**P**	**15 20 19.0**	**-0.1**
	1.2nm,1.1s,mb3.9,baz=306,slow=8.1,SNR=7.3						
WRAB	**Tennant Creek**	**50.07**	**124**	P	**P**	**15 20 19.2**	**+0.1**
	0.7nm,0.5s,mb4.0						

IDC 01 15:24:18.2±12.0**, 21.28S**×**177.26W, h422**km±93km**, mb3.1**/4**, mb1 3.4**/5**, mb1mx3.1**/16**, mbtmp4.0**/5**, Error ellipse: s-maj=202.1km s-min=45.6km az=147.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.17**	**264**	P	P	15 27 33.3	-0.4
	0.8nm,0.3s,baz=87,slow=22,SNR=7.7						
CTA	**Charters Tower**	**34.11**	**265**	P	P	15 30 26.8	-0.4
	1.2nm,0.5s,baz=82,slow=12,SNR=4.4						
WB2	**Warramunga Arr**	**45.17**	**263**	*e*P	P	15 31 54.6	-2.7
WRA	**Warramunga Arr**	**45.19**	**263**	P	P	15 31 54.5	-2.8
	0.4nm,0.3s,baz=96,slow=7.5,SNR=44						
ILAR	**Eielson Array**	**88.92**	**13**	P	P	15 36 24.1	-2.6
	0.4nm,0.6s,baz=230,slow=5.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**91.03**	**289**	P	P	15 36 36.8	-0.8
	0.8nm,0.8s,baz=117,slow=3.2,SNR=4.4						
MKAR	**Makanchi Array**	**112.24**	**313**	PKiKP		15 42 04.5	
	0.4nm,0.5s,baz=253,slow=1.3,SNR=7.2						
ARCES	**ARCESS Array B**	**129.81**	**350**	PKP	PKPdf	15 42 37.8	0.0
	0.6nm,0.5s,baz=45,slow=1.7,SNR=9.2						
FINES	**FINESS Array B**	**136.72**	**344**	PKP	PKPdf	15 42 52.8	+1.9
	0.7nm,0.8s,baz=45,slow=5.4,SNR=4.0						
AKASG	**Malin Array Be**	**144.03**	**331**	PKP	PKPdf	15 43 01.9	-2.1
	0.9nm,0.4s,baz=44,slow=4.4,SNR=16						
BRTR	**Keskin Array B**	**147.88**	**312**	PKPbc	PKPdf	15 43 15.1	+4.3
	1.3nm,0.7s,baz=138,slow=4.7,SNR=6.6						
GERES	**GERESS Array B**	**151.14**	**345**	PKPbc	PKPdf	15 43 23.2	+7.6
	1.8nm,0.8s,baz=45,slow=1.9,SNR=14						

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*ATH **01** 16:18:32.9, 35.83N×21.46E, h30km±7km, MD3.8/5*
*NEIC **01** 16:18:32.9, 35.83N×21.46E, h30km, MD3.8(ATH), After ATH.*
*CSEM **01** 16:18:33.8±0.1, 35.80N×21.49E, h20km, MD3.8, Error ellipse: s-maj=3.2km s-min=1.5km az=74.0*
*IDC **01** 16:18:37.7±6.7, 35.85N×21.56E, h63km±42km, mb3.2/4, mb1 3.2/6, mb1mx3.1/25, mbtmp3.4/6, ML2.6/1, MS3.3/1, Ms1 3.3/1, ms1mx2.2/19, Error ellipse: s-maj=109.4km s-min=28.5km az=29.0*
*HLW **01** 16:18:39.4, 35.79N×21.86E, h21km, Mb3.3*
ISC 01 16:18:33.6±0.7**, 35.81N**±0.04×**21.41E**±0.07**, h30**km**, n22, σ1ˢ03**/29**, mb3.4**/4**, MS3.3**/1**, 3C-1D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	**Ithomi**	**1.43**	**17**	*e*PN	**Pn**	**16 18 58.2**	**+0.3**
ITM				*e*SN	**Sn**	**16 19 17.6**	**+1.8**
VLI	**Veliai**	**1.53**	**53**	*e*PB	**Pb**	**16 18 59.3**	**-1.9**
VLI				*e*SN	**Sn**	**16 19 19.0**	**+0.6**
VAM	**Vamos**	**2.31**	**99**	*e*PN	**Pn**	**16 19 11.0**	**+0.5**
VLS	**Valsamata**	**2.45**	**345**	*e*PN	**Pn**	**16 19 13.4**	**+0.9**
VLS				*e*SN	**Sn**	**16 19 42.1**	**+0.3**
IDI	**Anoyia**	**2.88**	**99**	P	**Pn**	**16 19 19.2**	**+0.5**
	0.9nm,0.3s,baz=312,slow=16,SNR=12						
IDI				S	**Sn**	**16 19 52.8**	**0.0**
	5.3nm,0.3s,baz=340,slow=20,SNR=7.7						
IDI	**Anoyia**	**2.88**	**99**	P	**Pn**	**16 19 19.1**	**+0.4**
IDI				S	**Sn**	**16 19 52.8**	**0.0**
EVR	**Evrytania**	**3.12**	**6**	*e*PN	**Pn**	**16 19 22.4**	**+0.4**
NEO	**Neokhori**	**3.77**	**22**	*e*PN	**Pn**	**16 19 31.2**	**-0.1**
SLUM		**5.35**	**143**⇑	*e*P	**Pn**	**16 19 54.4**	**+0.7**
SLUM				S	**Sn**	**16 20 49.1**	**-5.9**
SLUM		**5.35**	**143**	P	**Pn**	**16 19 54.3**	**+0.7**
HMAT	**Matruh**	**6.69**	**133**⇑	*e*P	**Pn**	**16 20 12.7**	**+0.2**
HMAT				S	**Sn**	**16 21 19.9**	**-8.5**
HMAT	**Matruh**	**6.69**	**133**	P	**Pn**	**16 20 12.6**	**+0.1**
SWA2		**7.38**	**151**⇓	*e*P	**Pn**	**16 20 22.7**	**+0.4**
SWA1		**7.47**	**150**⇑	*e*P	**Pn**	**16 20 24.2**	**+0.7**
SWA1				S	**Sn**	**16 21 40.9**	**-7.1**
BRTR	**Keskin Array B**	**10.44**	**64**	P	**P**	**16 21 03.1**	**-1.3**
	baz=264,slow=14,SNR=2.9						
HFS	**Hagfors**	**24.84**	**351**	P	**P**	**16 23 54.1**	**-0.4**
	1.1nm,0.6s,mb3.5,baz=166,slow=12,SNR=9.7						
NB2	**NORSAR Subarra**	**26.07**	**349**	P	**P**	**16 24 06.5**	**+0.5**
	0.1nm,0.5s,mb2.6,baz=157,slow=10						
NOA	**NORSAR Array B**	**26.07**	**349**	P	**P**	**16 24 05.2**	**-0.9**
	0.3nm,0.6s,mb3.0,baz=152,slow=7.5,SNR=3.3						
ARCES	**ARCESS Array B**	**33.85**	**3**	P	**P**	**16 25 12.8**	**-2.4**
	0.5nm,0.5s,mb3.7,baz=192,slow=11,SNR=7.8						
KMBO	**Kilima Mbogo**	**39.61**	**155**	LR	LR	16 44 29.2	
	comp=Z,41nm,18.4s,MS3.3,baz=87,slow=39						
MKAR	**Makanchi Array**	**45.97**	**57**	P	**P**	**16 26 53.2**	**-2.4**
	0.4nm,0.4s,mb3.7,baz=270,slow=7.7,SNR=9.5						
MKAR	**Makanchi Array**	**45.97**	**57**	P	**P**	**16 26 53.2**	**-2.4**

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*NEIC **01** 16:23:37.4, 17.95N×67.91W, h43km, MD3.5(RSPR), After RSPR.*
RSPR 01 16:23:37.4, 17.95N×**67.91W, h43**km±4km**, MD3.5**/15**, MD3.5**/15**, 7C-7D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**0.76**	**86**⇑	*e*P	P	16 23 50.6	-1.3
CRPR				*e*S	S	16 24 01.0	-1.4
MGP	**Maguayo**	**0.78**	**86**⇑	*i*P	P	16 23 51.0	-1.1
MGP				*e*S	S	16 24 01.5	-1.4
LSP	**Las Mesas**	**0.82**	**74**⇓	*e*P	P	16 23 51.7	-0.9
LSP				*e*S	S	16 24 03.1	-0.6
AGPR	**Aguadilla, PR**	**0.92**	**56**⇓	*e*P	P	16 23 53.1	-0.9
AGPR				*e*S	S	16 24 05.0	-1.3
LRS	**Lares**	**1.07**	**71**⇓	*i*P	P	16 23 55.0	-1.1
LRS				*e*S	S	16 24 08.7	-1.4
PORP	**Portuguez**	**1.22**	**85**⇓	*e*P	P	16 23 57.2	-1.0
ICM	**Isla Caja Muer**	**1.32**	**92**⇑	*e*P	P	16 23 59.2	-0.7
ICM				*e*S	S	16 24 14.3	-2.3
SJG	**San Juan**	**1.68**	**84**⇑	*e*P	P	16 24 03.8	-1.1
SJG				*e*S	S	16 24 22.9	-2.5
SJG	**San Juan**	**1.68**	**84**⇑	*e*P	P	16 24 03.4	-1.5
SJG	**San Juan**	**1.68**	**84**⇑	*e*P	P	16 24 03.4	-1.5
CPD	**Cerro la Pandu**	**1.90**	**87**⇑	*e*P	P	16 24 05.9	-2.1
CPD				*e*S	S	16 24 28.5	-2.3
HUMP	**Col San Antoni**	**1.97**	**84**⇑	*e*P	P	16 24 07.3	-1.7
HUMP				*e*S	S	16 24 31.2	-1.4
CBYP	**Canovanas**	**1.98**	**80**⇓	*e*P	P	16 24 08.1	-1.0
CBYP				*e*S	S	16 24 30.1	-2.7
MTP	**Monte Pirata**	**2.24**	**86**⇓	*e*P	P	16 24 11.1	-1.8
MTP				*e*S	S	16 24 38.1	-1.5
STVI	**Saint Thomas**	**2.83**	**81**⇓	*e*P	P	16 24 20.5	-0.8
STVI				*e*S	S	16 24 51.8	-2.7

IDC 01 16:38:38.5±14.0**, 5.01N**×**94.43E, h104**km±119km**, mb3.0**/3**, mb1 3.2**/4**, mb1mx3.0**/18**, mbtmp3.4**/4**, ML3.4**/1**, Error ellipse: s-maj=134.0km s-min=25.0km az=61.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.07**	**18**	P	P	16 41 53.4	-1.0
	0.1nm,0.3s,baz=210,slow=14,SNR=4.3						
MKAR	**Makanchi Array**	**42.93**	**348**	P	P	16 46 27.2	-1.4
	0.2nm,0.4s,baz=174,slow=9.5,SNR=4.4						
SONM	**Songino Array**	**43.89**	**12**	P	P	16 46 34.5	-1.9
	0.4nm,0.8s,baz=188,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**46.41**	**124**	P	P	16 46 55.0	-1.8
	0.8nm,0.5s,baz=300,slow=9.3,SNR=14						

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*NEIC **01** 16:40:49.7±0.4, 8.23S×74.23W, mb4.3/3, Error ellipse: s-maj=10.9km s-min=6.8km az=53.0*
*IDC **01** 16:40:49.8±1.0, 8.33S×74.32W, h154km±8km, mb3.4/7, mb1 3.6/10, mb1mx3.5/19, mbtmp3.8/10, Error ellipse: s-maj=40.0km s-min=14.2km az=46.0*
ISC 01 16:40:48.5±0.6**, 8.20S**±0.08×**74.24W**±0.09**, h153**km**, h153**km±3.3km**:pP-P, n19, σ0ˢ79**/17**, mb3.6**/7**, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	**Nana**	**4.55**	**214**	*e*Pn	**P**	**16 41 57.0**	**+0.1**
OTAV	**Otavalo**	**9.37**	**333**	*e*Pn	**P**	**16 43 01.8**	**+0.8**
	8.5nm,0.9s						
LPAZ	**La Paz**	**10.01**	**144**	P	**P**	**16 43 10.8**	**+1.3**
	0.3nm,0.3s,baz=353,slow=12,SNR=5.5						
LPAZ	**La Paz**	**10.01**	**144**	*e*Pn	**P**	**16 43 09.8**	**+0.3**
SAML	**Samuel**	**10.96**	**95**	*e*Pn	**P**	**16 43 21.2**	**-0.8**
	7.7nm,0.6s						
SIV	**San Ignacio**	**15.02**	**122**	P	**P**	**16 44 15.0**	**+0.8**
	1.0nm,0.3s,baz=298,slow=14,SNR=16						
LVC	**Limon Verde**	**15.22**	**161**	P	**P**	**16 44 21.0**	**+4.3**
	0.4nm,0.3s,baz=17,slow=12,SNR=4.1						
SDV	**Santo Domingo**	**17.35**	**12**	P	**P**	**16 44 44.9**	**+2.1**
	0.8nm,0.3s,baz=243,slow=8.6,SNR=3.8						
SDV	**Santo Domingo**	**17.35**	**12**	*e*P	**P**	**16 44 42.4**	**-0.5**
	3.2nm,0.3s						
CPUP	**Villa Florida**	**24.15**	**140**	P	**P**	**16 45 51.1**	**-0.7**
	2.7nm,0.8s,mb3.8,baz=356,slow=9.5,SNR=8.9						
BDFB	**Brasilia**	**26.68**	**109**	pP	pP	16 46 49.1	+2.1
	3.2nm,0.7s,baz=281,slow=12,SNR=2.7						
BDFB				sP	sP	16 47 07.1	+2.3
	4.7nm,0.8s,baz=236,slow=8.5,SNR=3.7						
TXAR	**Lajitas Array**	**46.86**	**324**	P	**P**	**16 49 05.5**	**+0.3**
	0.8nm,0.6s,mb3.5,baz=146,slow=9.0,SNR=8.5						
TXAR				pP	pP	16 49 38.3	-1.3
	0.9nm,0.6s,baz=149,slow=9.2,SNR=5.3						
TXAR	**Lajitas Array**	**46.86**	**324**	P	**P**	**16 49 05.5**	**+0.3**
TXAR				pP	pP	16 49 38.3	-1.3
ANMO	**Albuquerque**	**52.62**	**327**	P	**P**	**16 49 49.2**	**+0.2**
	0.5nm,0.3s,mb3.6,baz=117,slow=5.7,SNR=4.1						
ANMO				pP	pP	16 50 24.4	+0.2
	1.4nm,0.6s,baz=162,slow=6.4,SNR=2.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PDAR	Pinedale Array	60.07	331	P	P	16 50 41.1	-0.7
	0.2nm,0.6s,mb3.1,baz=119,slow=11,SNR=2.3						
PDAR				pP	pP	16 51 18.2	+0.3
	0.6nm,0.9s,baz=166,slow=6.1,SNR=3.5						
NVAR	Mina Array Bea	61.90	322	P	P	16 50 52.9	-1.3
	0.3nm,0.5s,mb3.3,baz=153,slow=6.6,SNR=3.5						
NVAR				pP	pP	16 51 29.9	-0.7
	0.7nm,0.9s,baz=126,slow=7.8,SNR=2.4						
DBIC	Dimbokro	70.74	80	P	P	16 51 50.0	-0.5
	1.9nm,0.3s,mb4.3,baz=235,slow=4.0,SNR=8.0						
ESDC	Sonseca Array	80.34	47	P	P	16 52 44.5	+0.2
	0.2nm,0.3s,mb3.2,baz=247,slow=6.4,SNR=6.8						
WRA	Warramunga Arr	140.33	225	pPKP		17 00 43.8	
	0.6nm,0.6s,baz=140,slow=1.6,SNR=3.3						

IDC ***01*** *16:51:17.4±9.2, 28.70N×139.72E, h427km±86km, mb3.2/3, mb1 3.1/4, mb1mx2.9/20, mbtmp3.9/4, Error ellipse: s-maj=154.7km s-min=92.9km az=80.0*
JMA ***01*** *16:51:18.4±0.1, 28.81N×140.09E, h450km, M3.6*
ISC 01 16:51:17.3±0.8**, 28.73N**±0.06×**140.0E**±0.2**, h463**km±13km**, n20, σ0ˢ80**/26**, mb3.6**/4**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.50	130	P	P	16 52 22.6	+0.2
CBIJ				eS	S	16 53 13.6	-0.3
JHHJ	Haha-jima-NKT	2.82	137	P	P	16 52 24.9	+0.3
JHHJ				S	S	16 53 17.3	-0.5
BSO1	Boso 1	5.96	7	P	P	16 52 53.4	+0.8
BSO1				eS	S	16 54 08.7	+0.8
BSO3	Boso 3	6.07	4	eS	S	16 54 09.6	-0.3
JIE	Ise	6.32	334	P	P	16 52 57.3	+1.0
JKN2	Miekihoku	6.37	331	P	P	16 52 57.7	+0.9
JHU	Hanno	7.13	355	S	S	16 54 25.5	-4.5
JRY	Ryogami san	7.33	353	P	P	16 53 06.3	-0.6
JWT	Wachi	7.63	330	P	P	16 53 10.3	+0.1
JAG	Ashikaga	7.69	356	P	P	16 53 10.0	-0.8
JAG				S	S	16 54 36.3	-4.5
JNG	Nsakai	7.83	348	P	P	16 53 12.3	0.0
JHO	Hitachi	7.87	3	P	P	16 53 13.5	+0.7
JHO				eS	S	16 54 43.1	-1.2
MJAR	Matsushiro Arr	7.94	349	P	P	16 53 11.6	-2.0
	0.5nm,0.3s,baz=173,slow=11,SNR=6.5						
MJAR				S	S	16 54 45.3	-0.3
	0.4nm,0.3s,baz=28,slow=21,SNR=4.0						
MAT	Matsushiro	7.94	349	P	P	16 53 12.8	-0.8
JFK	Kawauchi	8.64	4	P	P	16 53 22.3	+1.1
JMM	Marumori	9.13	4	P	P	16 53 27.9	+1.3
SONM	Songino Array	32.23	316	P	P	16 57 07.4	+0.2
	1.0nm,0.5s,mb3.5,baz=124,slow=8.5,SNR=13						
MKAR	Makanchi Array	47.98	309	P	P	16 59 13.6	-0.6
	0.7nm,0.5s,mb3.3,baz=94,slow=9.6,SNR=10						
FITZ	Fitzroy Crossi	48.59	198	eP	P	16 59 14.8	-4.4
	6.3nm,1.3s,mb3.8						
BVAR	Borovoye Array	55.56	317	P	P	17 00 09.3	-0.1
	1.4nm,0.4s,mb3.7,baz=91,slow=8.1,SNR=10						

IDC ***01*** *16:57:24.1±4.1, 37.16N×73.59E, mb3.5/2, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=67.2km s-min=38.7km az=6.0*
MOS ***01*** *16:57:27.2±0.3, 37.32N×73.36E, h33km, mb3.9/1, Error ellipse: s-maj=52.2km s-min=17.9km az=84.8*
NNC ***01*** *16:57:31.7±4.3, 37.36N×73.09E, h66km±123km, mpv3.6, Error ellipse: s-maj=37.7km s-min=33.1km az=99.0*
NEIC ***01*** *16:57:41.2±2.2, 38.14N×73.75E, h100km, mb3.4/1, Error ellipse: s-maj=29.9km s-min=19.7km az=192.0*
ISC 01 16:57:26.2±0.8**, 37.24N**±0.06×**73.3E**±0.1**, h33**km**, n12, σ1ˢ10**/15**, mb3.3**/2**, 4C-1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.46	9	⇑P	P	16 58 50.2	+2.9
	6.3nm,0.6s						
AAK				⇑S	S	16 59 50.6	+0.7
	42nm,1.2s						
AAK	Ala-Archa	5.46	9	ePn	Pn	16 58 47.7	+0.2
KK31	Karatay Array	6.25	341	⇓P	P	16 58 58.1	-0.3
	3.5nm,0.7s,baz=163,slow=13,SNR=25						
KK31				⇑S	S	17 00 07.9	-1.6
	16nm,0.7s,baz=151,slow=22,SNR=9.8						
SMLA	Simla	6.87	151	⇑iP	P	16 59 07.0	-0.1
	160nm,0.4s						
SMLA				iS	S	17 00 24.5	-0.5
MKAR	Makanchi Array	11.63	32	Pn	P	17 00 10.8	-1.9
	0.1nm,0.3s,baz=209,slow=15,SNR=4.6						
AB31	Akbulak array	15.45	325	P	P	17 01 02.8	-0.3
	0.8nm,0.5s,baz=80,slow=7.2,SNR=16						
BVAR	Borovoye Array	15.92	353	Pn	P	17 01 08.8	-0.3
	0.3nm,0.3s,baz=168,slow=10,SNR=11						
ZRNK	Zerenda	16.00	350	eP	P	17 01 10.3	+0.1
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZRNK	Zerenda	16.00	350	eP	P	17 01 10.2	+0.1
	comp=Z,1.6nm,0.6s						
SONM	Songino Array	26.37	56	P	P	17 03 01.6	+0.6
SONM				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SONM	Songino Array	26.37	56	P	P	17 03 01.6	+0.5
	comp=Z,0.6nm,0.7s,mb3.2,baz=256,slow=9.8,SNR=5.6						
NOA	NORSAR Array B	44.93	322	P	P	17 05 41.3	+2.1
	comp=Z,0.3nm,0.5s,mb3.4,baz=94,slow=7.8,SNR=3.5						

BJI ***01*** *16:57:42.9, 0.90N×97.78E, h19km, mB4.9, mb4.7, Ms4.2, Msz4.0*
NEIC ***01*** *16:57:44.9±0.4, 0.93N×97.42E, mb4.6/9, Error ellipse: s-maj=12.6km s-min=8.2km az=56.0*
IDC ***01*** *16:57:45.0±0.6, 0.96N×97.41E, h20km±3km, mb4.2/16, mb1 4.2/17, mb1mx4.2/20, mbtmp4.3/17, ML4.4/1, MS3.6/3, Ms1 3.7/3, ms1mx3.3/15, Error ellipse: s-maj=24.6km s-min=11.3km az=51.0*
ISC 01 16:57:43.2±0.5**, 0.89N**±0.06×**97.37E**±0.07**, h22**km**, h22**km±1.0km**: pP-P, n46, σ0ˢ98**/44**, mb4.4**/27**, MS3.9**/4**, 1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	Ipoh	5.17	45	P	Pn	16 59 02.7	+1.3
KULM	Kulim	5.46	37	ePn	Pn	16 59 05.8	+0.3
KGM	Kluang	6.05	79	P	Pn	16 59 14.8	+1.0
CMAR	Chiang Mai Arr	17.53	5	P	P	17 01 46.7	-1.4
	0.5nm,0.3s,baz=193,slow=12,SNR=21						
CMAR				LR	LR	17 09 28.1	
	comp=Z,212nm,18.8s,baz=195,slow=40						
CHG	Chiang Mai	17.88	5	⇓P	P	17 01 52.8	+0.3
	10nm,0.8s						
KKM	Kota Kinabalu	19.49	74	eP	P	17 02 10.5	-1.4
KKM	Kota Kinabalu	19.49	74	P	P	17 02 13.6	+1.7
TSM	Tawau	20.76	80	P	P	17 02 25.4	0.0
KMI	Kunming	24.65	12	P	P	17 03 05.1	+1.3
KMI				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,98nm,3.8s						
KMI				LR	LR		
	comp=N,222nm,13.0s,MS4.0						
KMI				LR	LR		
	comp=E,226nm,13.0s,MS4.0						
KMI				LR	LR		
	comp=Z,298nm,11.0s,MS4.0						
KMI	Kunming	24.65	12	P	P	17 03 05.1	+1.3
	comp=Z,16nm,1.0s,mb4.5						
KMI				pP		17 03 23.9	
KMI				sP		17 03 33.6	
KMI				PP	PP	17 03 57.4	+17
KMI				S	S	17 07 40.2	+19
KMI				sS		17 08 13.0	
KMI				LR	LR		
	comp=Z,300nm,11.0s,MS4.0						
SHL	Shillong	25.10	348	eP	P	17 03 09.0	+0.9
GYA	Guiyang	26.95	19	P	P	17 03 25.1	-0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
LSA	Lhasa	29.26	349	P	P	17 03 47.8	+1.7
LSA	Lhasa	29.26	349	eP	P	17 03 47.1	+1.0
	comp=Z,11nm,0.8s,mb4.6						
ENH	Enshi	31.41	20	eP	P	17 04 02.8	-2.3
	comp=Z,8.0nm,0.4s,mb4.9						
FITZ	Fitzroy Crossi	33.61	126	P	P	17 04 23.0	-1.4
	comp=Z,7.9nm,0.9s,mb4.7,baz=352,slow=19,SNR=6.6						
FITZ				pP	pP	17 04 30.5	-0.6
	comp=Z,5.4nm,0.6s,baz=204,slow=3.7,SNR=2.6						
XAN	Xi'an	34.71	17	P	P	17 04 32.5	-1.3
XAN				AP	pP	17 04 39.6	-0.8
XAN				AMB	AMB		
	comp=Z,19nm,0.7s,mb5.1						
NJ2	Nanjing	37.04	31	eP	P	17 04 48.0	-5.5
NJ2				LR	LR		
	comp=N,260nm,15.5s,MS4.3						
NJ2				LR	LR		
	comp=E,270nm,14.5s,MS4.3						
NJ2				LR	LR		
	comp=Z,240nm,21.6s						
WRA	Warramunga Arr	41.73	122	P	P	17 05 32.5	-0.2
	comp=Z,2.3nm,0.5s,mb4.1,baz=304,slow=9.2,SNR=29						
WRA				pP	pP	17 05 38.8	-0.6
	comp=Z,1.8nm,0.5s,baz=303,slow=9.0,SNR=6.8						
WRAB	Tennant Creek	41.73	122	eP	P	17 05 32.4	-0.2
	comp=Z,4.0nm,0.6s,mb4.2						
WB2	Warramunga Arr	41.74	122	eP	P	17 05 32.4	-0.3
WMQ	Urumqi	43.61	350	eP	P	17 05 48.2	+0.5
WMQ				AP	pP	17 05 58.1	+3.7
WMQ				XP	sP	17 06 02.0	+4.8
SONM	Songino Array	47.41	8	P	P	17 06 18.5	+0.6
	comp=Z,3.4nm,0.6s,mb4.5,baz=190,slow=10,SNR=37						
SONM				PcP	PcP	17 07 48.5	-0.2
	comp=Z,1.3nm,0.7s,baz=189,slow=3.9,SNR=4.7						
MKAR	Makanchi Array	47.58	346	P	P	17 06 19.8	+0.5
	comp=Z,10nm,0.5s,mb5.1,baz=159,slow=8.0,SNR=127						
MKAR				LR	LR	17 30 15.9	
	comp=Z,42nm,20.7s,MS3.4,baz=273,slow=41						
MKAR	Makanchi Array	47.58	346	P	P	17 06 19.8	+0.5
MKAR				LR	LR	17 30 15.9	
PMG	Port Moresby	50.62	103	P	P	17 06 43.3	+0.2
	comp=Z,8.1nm,0.7s,mb4.8,baz=304,slow=7.3,SNR=2.6						
MJAR	Matsushiro Arr	51.81	42	P	P	17 06 50.9	-0.9
	comp=Z,1.5nm,0.6s,mb4.1,baz=222,slow=7.4,SNR=5.6						
MJAR				pP	pP	17 06 57.9	-0.8
	comp=Z,1.0nm,0.5s,baz=229,slow=6.5,SNR=3.7						
STKA	Stephens Creek	53.02	132	P	P	17 07 01.6	+0.6
	comp=Z,2.7nm,0.8s,mb4.2,baz=319,slow=23,SNR=5.8						
STKA				pP	pP	17 07 08.7	+0.8
	comp=Z,1.5nm,0.5s,baz=309,slow=16,SNR=2.1						
BVAR	Borovoye Array	56.60	341	P	P	17 07 25.8	-1.0
	comp=Z,3.5nm,0.7s,mb4.5,baz=149,slow=8.6,SNR=15						
BVAR				pP	pP	17 07 32.3	-1.4
	comp=Z,1.5nm,0.5s,baz=136,slow=9.3,SNR=5.6						
ZRNK	Zerenda	57.00	340	eP	P	17 07 28.3	-1.3
	comp=Z,3.5nm,0.8s,mb4.4						
KMBO	Kilima Mbogo	60.15	268	pP	pP	17 07 59.5	+0.4
	comp=Z,1.6nm,0.7s,baz=61,slow=14,SNR=3.3						
YSS	Yuzh-Sakhalins	60.51	34	eP	P	17 07 50.4	-3.7
	comp=Z,5.8nm,0.7s,mb4.8						
YAK	Yakutsk	65.67	16	eP	P	17 08 26.2	-1.7
	comp=Z,11nm,0.8s,mb4.9						
BRTR	Keskin Array B	69.45	312	P	P	17 08 51.4	-0.6
	comp=Z,0.6nm,0.7s,mb3.7,baz=135,slow=12,SNR=3.6						
MAW	Mawson	72.45	193	P	P	17 09 10.8	+1.1
	comp=Z,1.0nm,0.8s,mb3.8,baz=321,slow=14,SNR=3.1						
AKASG	Malin Array Be	75.61	322	P	P	17 09 27.6	-0.7
	comp=Z,1.8nm,0.7s,mb4.1,baz=90,slow=4.2,SNR=7.4						
AKASG				pP	pP	17 09 34.8	-0.5
	comp=Z,0.6nm,0.5s,baz=88,slow=5.1,SNR=3.1						
FINES	FINESS Array B	80.35	333	P	P	17 09 54.5	+0.4
	comp=Z,1.4nm,0.6s,mb4.1,baz=94,slow=5.6,SNR=14						
FINES				pP	pP	17 10 00.5	-0.8
	comp=Z,0.9nm,0.6s,baz=104,slow=7.9,SNR=2.6						
KAF	Kangasniemi	80.44	333	ep	P	17 09 53.9	-0.6
	comp=Z,2.5nm,0.6s,mb4.3,baz=103,slow=5.0						
KEV	Kevo	82.45	341	ep	P	17 10 05.7	+0.8
	comp=Z,1.3nm,0.3s,mb4.3						
ARCES	ARCESS Array B	82.89	340	P	P	17 10 07.8	+0.6
	comp=Z,0.8nm,0.4s,mb4.1,baz=108,slow=4.9,SNR=10						
ARCES				pP	pP	17 10 13.7	-0.7
	comp=Z,0.8nm,0.6s,baz=90,slow=4.9,SNR=2.7						
ARCES				LR	LR	17 51 32.1	
	comp=Z,38nm,18.7s,MS3.8,baz=81,slow=39						
GERES	GERESS Array B	85.16	319	P	P	17 10 20.5	+1.4
	comp=Z,1.3nm,0.8s,mb4.1,baz=90,slow=4.0,SNR=9.5						
GERES				pP	pP	17 10 27.4	+1.1
	comp=Z,0.3nm,0.4s,baz=104,slow=5.5,SNR=3.4						
HFS	Hagfors	86.08	330	P	P	17 10 23.4	0.0
	comp=Z,1.3nm,0.5s,mb4.4,baz=108,slow=4.7,SNR=9.3						
HFS				pP	pP	17 10 30.2	-0.4
	comp=Z,0.7nm,0.5s,baz=135,slow=4.2,SNR=2.5						
NB2	NORSAR Subarra	87.36	331	P	P	17 10 30.1	+0.5
	comp=Z,1.0nm,0.7s,mb4.2,baz=95,slow=4.8						
NOA	NORSAR Array B	87.36	331	P	P	17 10 30.5	+0.8
	comp=Z,1.5nm,0.8s,mb4.3,baz=94,slow=4.9,SNR=7.7						
NOA				pP	pP	17 10 37.6	+0.7
	comp=Z,0.2nm,0.5s,baz=93,slow=5.2,SNR=1.6						
TXAR	Lajitas Array	143.84	32	PKP	PKPdf	17 17 17.6	-4.2
	comp=Z,0.3nm,0.5s,baz=207,slow=2.8,SNR=5.2						
CPUP	Villa Florida	144.89	222	PKPbc	PKPbc	17 17 27.6	+8.1
	comp=Z,5.8nm,0.9s,baz=118,slow=5.0,SNR=12						

IDC 01 17:11:16.7±3.7**, 0.39N**×**98.77E, mb3.5**/3**, mb1 3.6**/4**, mb1mx3.4**/17**, mbtmp3.4**/4**, ML3.4**/1**, Error ellipse: s-maj=130.0km s-min=28.2km az=61.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.96	1	P	P	17 15 29.2	-0.4
	0.0nm,0.3s,baz=190,slow=11,SNR=4.2						
WRA	Warramunga Arr	40.28	122	P	P	17 18 55.8	-1.7
	0.4nm,0.5s,baz=304,slow=9.0,SNR=6.6						
SONM	Songino Array	47.72	7	P	P	17 19 55.7	-1.5
	0.5nm,0.5s,baz=187,slow=9.6,SNR=6.9						
MKAR	Makanchi Array	48.41	345	P	P	17 19 59.8	-2.9
	0.4nm,0.5s,baz=162,slow=7.7,SNR=3.6						

NAO ***01*** *17:11:23.8±1.0, 67.24N×20.82E, ML2.1*
IDC ***01*** *17:11:23.9±0.9, 67.21N×20.76E, mb1 2.8/4, mb1mx2.8/21, mbtmp2.8/4, ML2.6/4, Error ellipse: s-maj=14.3km s-min=6.2km az=118.0*
HEL ***01*** *17:11:25.1±0.2, 67.22N×20.61E, ML2.4, ML2.3(BER), ML2.1(NAO), Explosion*
BER ***01*** *17:11:26.3±5.3, 67.25N×20.65E, ML2.3, ML2.1(NAO), Suspected explosion*
ISC 01 17:11:22.2±0.4**, 67.19N**±0.03×**20.53E**±0.06**, n29, σ1ˢ48**/46**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.83	3	eP	Pn	17 11 56.8	+1.7
KIF				eS	Sn	17 12 21.7	+2.3
KTK1	Kautokeino	2.10	28	eP	Pn	17 12 01.8	+2.9
KTK1				eSG	Sg	17 12 29.1	-2.9
KTK1				AML	AML	17 12 31.0	
	comp=Z,55nm,0.7s						
SGF	Sodankyl	2.34	81	eP	Pn	17 12 03.2	+0.8
SGF				eS	Sn	17 12 33.7	+1.4
TRO	Tromso	2.53	347	eSG	Sg	17 12 42.9	-3.4
MOR8	Moi Rana	2.63	250	eSG	Sg	17 12 41.8	-7.8
MOR8				AML	AML	17 12 47.2	
	comp=Z,39nm,0.5s						
MELSS	Ber_school_2	2.69	266	eSg	Sg	17 12 51.4	-0.3
LOF	Lofoten	2.83	293	eSG	Sg	17 12 56.2	-0.3
LOF				AML	AML	17 13 07.5	
	comp=Z,13nm,0.6s						
ARA0	ARCESS Array S	3.00	36	Pn	Pn	17 12 11.2	-0.6
	baz=213,slow=14						
ARA0				Sn	Sn	17 12 48.5	-0.4
	baz=212,slow=22						
ARA0				Lg		17 12 53.5	
	baz=216,slow=28						
ARA0	ARCESS Array S	3.00	36	eP	Pn	17 12 11.2	-0.6
ARA0				eS	Sn	17 12 48.5	-0.4
ARA0				eSB		17 12 53.5	
ARCES	ARCESS Array B	3.00	36	Pn	Pn	17 12 12.7	+0.9
	comp=Z,0.3nm,0.3s,baz=215,slow=13,SNR=12						
ARCES				Sn	Sn	17 12 48.0	-0.9
	comp=Z,1.2nm,0.3s,baz=215,slow=23,SNR=6.5						
ARCES				Lg		17 12 54.0	
	comp=Z,1.3nm,0.3s,baz=221,slow=30,SNR=9.9						
OUL	Oulu	3.04	132	eP	Pn	17 12 14.8	+2.4
OUL				eS	Sn	17 12 52.1	+2.2
STOK	Stokkvaagen	3.10	257	e	Sg	17 13 06.5	+1.2
STOK				AML	AML	17 13 08.8	
	comp=Z,24nm,0.6s						
STOK	Stokkvaagen	3.10	257	eSg	Sg	17 13 06.5	+1.2
STOK				AML	AML	17 13 08.8	
	comp=Z,24nm,0.6s						
KEV	Kevo	3.52	40	eP	Pn	17 12 19.2	+0.1
KEV				eS	Sn	17 12 59.9	-2.2
KEV				eSG	Sg	17 13 12.1	-7.1
KEV				MSG		17 13 16.8	
	comp=Z,11nm,0.6s						
MSF	Maaselka	3.64	107	ePG	Pg	17 12 28.8	-5.9
MSF				eSG	Sg	17 13 15.3	-7.9
MSF				MSG		17 13 17.8	
	comp=Z,8.8nm,0.5s						
KU4	Liikasenvaara	3.68	99	eP	Pn	17 12 22.8	+1.3
KU4				eS	Sn	17 13 04.7	-1.5
KJN	Kajaani	4.31	133	eS	Sn	17 13 22.4	+0.3
KJN				eSG	Sg	17 13 37.7	-7.8
NSS	Namsos	4.41	237	eSG	Sg	17 13 43.8	-5.3
NSS				AML	AML	17 13 49.3	
	comp=Z,18nm,0.5s						
APA0	Apatity Array	4.83	79	Lg		17 13 52.6	
	baz=286,slow=37						
APA0	Apatity Array	4.83	79	eSG		17 13 52.6	
APA0	Apatity Array	4.83	79	Lg		17 13 52.6	
	baz=286,slow=37						
FIA0	FINESS Array S	6.25	155	Pn	Pn	17 12 58.0	+0.1
	baz=336,slow=16						
FIA0				Sn	Sn	17 14 09.3	-1.6
	baz=341,slow=28						
FIA0				Lg		17 14 39.0	
	baz=347,slow=37						
FIA0	FINESS Array S	6.25	155	eP	Pn	17 12 58.0	+0.1
FIA0				eS	Sn	17 14 09.3	-1.6
FIA0				eSG		17 14 39.0	
FINES	FINESS Array B	6.25	155	Pn	Pn	17 12 57.5	-0.4
	comp=Z,0.2nm,0.3s,baz=344,slow=14,SNR=8.1						
FINES				Sn	Sn	17 14 08.0	-3.0
	comp=Z,0.5nm,0.3s,baz=340,slow=22,SNR=8.7						
FINES				Lg		17 14 39.7	
	comp=Z,0.6nm,0.3s,baz=348,slow=27,SNR=8.8						
NB2	NORSAR Subarra	7.39	218	eP	Pn	17 13 13.8	-0.1
NB2				eS	Sn	17 14 39.4	0.0
NB2				e		17 15 19.5	
NOA	NORSAR Array B	7.39	218	Pn	Pn	17 13 13.1	-0.8
	comp=Z,0.2nm,0.3s,baz=27,slow=12,SNR=3.2						
NOA				Sn	Sn	17 14 35.2	-4.3
	comp=Z,0.3nm,0.3s,baz=23,slow=18,SNR=4.5						
NOA				Lg		17 15 16.1	
	comp=Z,0.6nm,0.3s,baz=117,slow=22,SNR=6.3						
HFS	Hagfors	7.70	206	Pn	Pn	17 13 16.5	-1.8
	baz=30,slow=16						
HFS				Sn	Sn	17 14 43.4	-3.9
	baz=19,slow=22						
HFS				Lg		17 15 21.3	
	baz=32,slow=28						
HFS	Hagfors	7.70	206	eP	Pn	17 13 16.5	-1.8
HFS				eS	Sn	17 14 43.4	-3.9
HFS				eSG		17 15 21.3	
HFS	Hagfors	7.70	206	Pn	Pn	17 13 16.2	-2.1
	comp=Z,0.0nm,0.3s,baz=31,slow=17,SNR=5.1						
HFS				Sn	Sn	17 14 41.1	-6.1
	comp=Z,0.1nm,0.3s,baz=27,slow=23,SNR=8.0						
HFS				Lg		17 15 24.0	
	comp=Z,0.1nm,0.3s,baz=33,slow=30,SNR=5.8						

NIED ***01*** *17:33:00, 31.60N×132.10E, h11km, Mw3.7 Best double couple: $M_0$3.47×10[14] NP1: ϕ_s198°, δ61°, λ-68°. NP2: ϕ_s338°, δ36°, λ-124°.*
JMA ***01*** *17:33:08.8±0.1, 31.63N×132.06E, h40km±2km, M3.5*
ISC 01 17:33:08.3±1.6**, 31.65N**±0.06×**132.09E**±0.08**, h32**km±10km**, n7, σ0ˢ43**/12**, 5C, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNAR	Kushima--Naru	0.71	260	⇑P	Pn	17 33 22.1	0.0
JNAR				S	Sb	17 33 31.6	-0.1
JTSN	Tsuno	0.78	320	⇑P	Pn	17 33 23.3	+0.3
JTSN				S	Sb	17 33 33.3	-0.3
JTZ	Takazaki	0.89	287	⇑P	Pn	17 33 24.5	-0.2
JTZ				S	Sn	17 33 36.4	-0.1
JTO	Tosashimizu	1.35	26	⇑P	Pn	17 33 31.5	+0.2
JTO				S	Sn	17 33 47.4	-0.8
JTN	Tanegashima 3	1.37	224	P	Pn	17 33 31.6	0.0
JTN				S	Sn	17 33 48.3	-0.5
JIU2	Izumi 2	1.40	310	⇑P	Pn	17 33 33.0	+1.0
MAT	Matsushiro	7.04	44	P	Pn	17 34 52.3	+0.4

NEIC ***01*** *17:41:06.5±0.6, 34.58N×111.09W, h5km, ML3.4, Error ellipse: s-maj=9.4km s-min=7.2km az=224.0*
IDC ***01*** *17:41:06.1±1.3, 34.51N×111.15W, mb1 3.4/4, mb1mx3.3/22, mbtmp2.9/4, ML3.5/3, Error ellipse: s-maj=21.8km s-min=11.0km az=42.0*
ISC 01 17:41:05.4±0.6**, 34.60N**±0.05×**111.08W**±0.06**, h5**km**, n27, σ0ˢ78**/28**, Eastern Arizona**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUC	Tucson	2.30	174	ePn	Pn	17 41 45.2	+0.7
NEN	Nelson	3.26	290	ePn	Pn	17 41 57.9	-0.3
LDFC	Landfair	3.35	279	Pn	Pn	17 41 58.6	-0.9
ARUT	Antelope Range	3.71	330	Pn	Pn	17 42 05.4	+0.7
ANMO	Albuquerque	3.81	83	Pn	Pn	17 42 06.0	-0.1
	baz=273,slow=12,SNR=6.0						
ANMO				Pg	Pg	17 42 15.3	-6.3
	baz=265,slow=15,SNR=54						
ANMO				Lg		17 43 01.4	
	baz=355,slow=23,SNR=15						
ANMO	Albuquerque	3.81	83	Pn	Pn	17 42 06.0	-0.1
ANMO				Pg	Pg	17 42 15.3	-6.3
ANMO				Lg		17 43 01.4	
MVU	Marysvale	4.00	347	ePn	Pn	17 42 09.4	+0.7
MSU	Marysvale	4.00	348	ePn	Pn	17 42 09.7	+1.0
SRU	San Rafael	4.52	5	ePn	Pn	17 42 15.2	-1.0
TMUT	Trail Mountain	4.69	359	ePn	Pn	17 42 19.1	+0.6
NLU	North Lily Min	5.40	352	Pn	Pn	17 42 29.1	+0.5
MPU	Maple Canyon	5.42	355	Pn	Pn	17 42 29.2	+0.3
SDCO	Great Sand Dun	5.49	54	ePn	Pn	17 42 28.4	-1.5
DAC	Darwin (Calif)	5.58	289	Pn	Pn	17 42 31.3	+0.2
MNTX	Cornudas Mount	5.58	120	ePn	Pn	17 42 30.9	-0.2
DAU	Daniels Canyon	5.80	359	Pn	Pn	17 42 35.1	+0.9
JLU	Jordanelle	6.00	357	Pn	Pn	17 42 36.9	-0.1
TPH	Tonopah	6.05	307	Pn	Pn	17 42 36.6	-1.1
CTU	Camp Tracy	6.11	355	Pn	Pn	17 42 37.9	-0.6
NVAR	Mina Array Bea	6.96	305	Pn	Pn	17 42 51.2	+0.6
	0.3nm,0.3s,baz=127,slow=14,SNR=5.4						
NVAR				Lg		17 44 45.5	
	0.3nm,0.3s,baz=49,slow=3.1,SNR=4.9						
NVAR	Mina Array Bea	6.96	305	Pn	Pn	17 42 51.2	+0.6
NVAR				Lg		17 44 45.5	
ELK	Elko	6.96	333	Lg		17 44 41.1	
	0.4nm,0.3s,baz=92,slow=21,SNR=4.3						
ELK	Elko	6.96	333	Pn	Pn	17 42 49.4	-1.2
RWWY	Rawlins	7.70	22	Pn	Pn	17 43 04.9	+3.9
TXAR	Lajitas Array	8.19	128	Pn	P	17 43 08.0	+0.2
	0.1nm,0.3s,baz=305,slow=13,SNR=4.6						
TXAR				Lg		17 45 25.2	
	0.4nm,0.3s,baz=310,slow=29,SNR=10						
TXAR	Lajitas Array	8.19	128	Pn	P	17 43 08.0	+0.2
TXAR				Lg		17 45 25.2	
PDAR	Pinedale Array	8.24	8	Pn	P	17 43 12.7	+4.3
	0.2nm,0.3s,baz=169,slow=15,SNR=5.1						
PDAR				Lg		17 45 27.5	
	0.5nm,0.3s,baz=186,slow=34,SNR=6.0						

WEL 01 17:50:59.1±0.4**, 45.10S**×**167.45E, h119**km±3km**, ML3.9**/6**, 5C-1D, Error ellipse: s-maj=4.4km s-min=2.0km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MLZ	Mavora Lakes	0.56	116	⇑PN	P	17 51 17.1	-0.4
MLZ				SN	S	17 51 30.8	-0.7
WHZ	Wether Hill Ro	0.86	157	⇑PN	P	17 51 19.5	-0.6
WHZ				SN	S	17 51 34.9	-0.9
WKZ	Wanaka	1.14	77	⇑PN	P	17 51 22.8	-0.1
WKZ				SN	S	17 51 40.3	-0.4
EAZ	Earnscleugh	1.32	96	⇑PN	P	17 51 24.5	-0.4
EAZ				SN	S	17 51 42.5	-1.9
JCZ	Jackson Bay	1.39	43	⇑PN	P	17 51 24.9	-0.7
JCZ				SN	S	17 51 44.3	-1.5
TUZ	Tuapeka	1.75	120	⇓PN	P	17 51 29.4	-0.5
TUZ				SN	S	17 51 50.7	-2.6
LBZ	Lake Benmore	2.07	71	PN	P	17 51 32.2	-1.7
LBZ				SN	S	17 51 57.3	-2.9
FOZ	Fox Glacier	2.22	47	PN	P	17 51 34.7	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FOZ				SN	S	17 52 02.2	-1.5
RPZ	**Rata Peaks**	**2.93**	**63**	PN	P	17 51 42.5	-2.8
RPZ				SN	S	17 52 15.9	-4.4
LTZ	**Lake Taylor**	**4.18**	**58**	PN	P	17 51 58.2	-3.9

*NEIC **01** 18:20:42.5±0.5, 23.86S×66.54W, h210km±9km, mb3.6/2, Error ellipse: s-maj=10.9km s-min=8.3km az=93.0*
*GUC **01** 18:20:42.8±0.8, 24.00S×66.85W, h200km, ML3.9*
*IDC **01** 18:20:42.3±1.1, 23.87S×66.60W, h205km±14km, mb1 3.1/6, mb1mx3.1/19, mbtmp3.6/6, Error ellipse: s-maj=21.1km s-min=17.9km az=27.0*
ISC 01 18:20:41.1±0.6**, 23.92S**±0.05×**66.7W**±0.1**, h222**km±21km**, n17, σ1s15**/24**, 3C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.44**	**302**	⇑iP	**P**	**18 21 27.1**	**+1.0**
LVC				iS	**S**	**18 22 00.0**	**-1.1**
LVC				AMP		18 22 04.3	
	comp=E,111nm,0.2s						
LVC	**Limon Verde**	**2.44**	**302**	P	**P**	**18 21 27.3**	**+1.1**
	comp=E,33nm,0.3s,baz=131,slow=6.5,SNR=301						
LVC				S	**S**	**18 22 01.1**	**0.0**
	comp=E,24nm,0.3s,baz=260,slow=20,SNR=17						
LVC	**Limon Verde**	**2.44**	**302**	⇑ePn	**P**	**18 21 27.2**	**+1.0**
LVC				S	**S**	**18 22 01.1**	**0.0**
ANCH	**Antofagasta**	**3.44**	**273**	eP	**P**	**18 21 40.1**	**+2.6**
ANCH				iS	**S**	**18 22 21.9**	**+0.7**
ANCH	**Antofagasta**	**3.44**	**273**	⇑iP	**P**	**18 21 40.2**	**+2.8**
ANCH				iS	**S**	**18 22 22.1**	**+0.9**
CPN1	**Cerro Paranal**	**3.48**	**258**	iP	**P**	**18 21 38.9**	**+0.9**
CPN1				iS	**S**	**18 22 21.4**	**-0.8**
CPN1				AMP		18 22 23.6	
	comp=E,423nm,0.5s						
CRCH	**Chaqaral**	**4.32**	**235**	iS	**S**	**18 22 38.3**	**-2.0**
LPAZ	**La Paz**	**7.72**	**349**	P	**P**	**18 22 31.7**	**+0.3**
	comp=E,0.6nm,0.3s,baz=188,slow=9.8,SNR=8.3						
LPAZ				S	**S**	**18 23 56.6**	**-1.1**
	comp=E,0.1nm,0.3s,baz=262,slow=18,SNR=2.3						
LPAZ	**La Paz**	**7.72**	**349**	ePn	**P**	**18 22 31.8**	**+0.3**
LPAZ				S	**S**	**18 23 56.6**	**-1.1**
CFAA	**Coronel Fontan**	**7.78**	**190**	P	**P**	**18 22 33.4**	**+1.2**
	comp=E,0.1nm,0.3s,baz=245,slow=7.3,SNR=8.9						
CFAA				S	**S**	**18 23 56.8**	**-2.4**
	comp=E,0.3nm,0.3s,baz=210,slow=14,SNR=12						
CPUP	**Villa Florida**	**8.79**	**108**	P	**P**	**18 22 45.0**	**-0.4**
	comp=E,0.1nm,0.3s,baz=296,slow=13,SNR=7.0						
SIV	**San Ignacio**	**9.48**	**35**	P	**P**	**18 22 53.7**	**-0.4**
	comp=E,0.2nm,0.3s,baz=208,slow=16,SNR=3.0						
TRQA	**Tornquist**	**14.65**	**165**	Pn	**P**	**18 24 00.0**	**+0.9**
	comp=E,2.1nm,0.6s						
SAML	**Samuel**	**15.26**	**13**	eP	**P**	**18 24 05.8**	**-1.0**
	comp=E,1.3nm,0.7s						
BDFB	**Brasilia**	**19.37**	**68**	P	**P**	**18 24 52.3**	**+0.5**
	comp=E,0.3nm,0.3s,baz=256,slow=8.5,SNR=4.8						
WRA	**Warramunga Arr**	**131.84**	**207**	PKP	PKPdf	18 39 32.0	+3.4
	comp=E,0.6nm,1.0s,baz=155,slow=1.9,SNR=6.2						
MKAR	**Makanchi Array**	**146.27**	**40**	PKPbc	PKPbc	18 39 57.5	+2.5
	comp=E,0.5nm,0.5s,baz=317,slow=2.9,SNR=9.0						

IDC 01 18:34:20.7±3.1**, 4.78N**×**93.63E, mb3.5**/2**, mb1 3.7**/3**, mb1mx3.3**/19**, mbtmp3.5**/3**, ML3.8**/1**, Error ellipse: s-maj=106.2km s-min=31.4km az=60.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.55**	**20**	Pn	P	18 37 49.2	-0.9
	0.1nm,0.3s,baz=213,slow=13,SNR=7.3						
MKAR	**Makanchi Array**	**42.99**	**349**	P	P	18 42 21.7	-1.8
	0.5nm,0.5s,baz=165,slow=7.7,SNR=9.9						
WRA	**Warramunga Arr**	**46.95**	**123**	P	P	18 42 53.4	-2.1
	0.1nm,0.3s,baz=306,slow=8.4,SNR=5.7						

*ATH **01** 18:37:32.8, 37.60N×23.96E, h26km±2km, MD3.3/7, ML3.0*
*NEIC **01** 18:37:32.8, 37.60N×23.96E, h26km, ML3.0(ATH), After ATH.*
*CSEM **01** 18:37:33.5±0.1, 37.58N×23.94E, h12km, ML3.0, Error ellipse: s-maj=4.3km s-min=2.2km az=49.0*
ISC 01 18:37:33.0±2.2**, 37.60N**±0.04×**23.95E**±0.06**, h10**km±15km**, n13, σ0s78**/17**, Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NAIG	**Nisos Aigina**	**0.40**	**294**	ePB	**Pb**	**18 37 41.0**	**-0.7**
ATH	**Athens Observa**	**0.42**	**334**	ePB	**Pb**	**18 37 42.2**	**+0.2**
ATH				eSB	**Sb**	**18 37 48.0**	**0.0**
MPAR	**Parnis Oros**	**0.58**	**343**	ePN	**Pn**	**18 37 45.0**	**-1.9**
MGER	**Gerania Oros**	**0.67**	**306**	ePN	**Pn**	**18 37 47.0**	**-1.3**
VLI	**Veliai**	**1.20**	**223**	ePN	**Pn**	**18 37 55.3**	**-0.5**
VLI				eSN	**Sn**	**18 38 12.0**	**-0.1**
LKR	**Lokris**	**1.29**	**325**	ePN	**Pn**	**18 37 57.3**	**+0.2**
LKR				eSN	**Sn**	**18 38 14.8**	**+0.2**
APE	**Apeiranthos**	**1.37**	**112**	ePN	**Pn**	**18 37 58.8**	**+0.6**
APE				eSN	**Sn**	**18 38 16.2**	**-0.3**
AOS	**Alonnisos**	**1.57**	**358**	eP	**Pn**	**18 38 01.6**	**+0.4**
ITM	**Ithomi**	**1.67**	**256**	ePN	**Pn**	**18 38 03.2**	**+0.7**
XOR	**Xorichti**	**1.86**	**342**	eP	**Pn**	**18 38 04.9**	**-0.4**
AGG	**Agios Georgios**	**1.91**	**319**	eP	**Pn**	**18 38 06.7**	**+0.7**
LIT	**Litokhoron**	**2.75**	**336**	eP	**Pn**	**18 38 18.3**	**+0.3**
IGT	**Igoumenitsa**	**3.43**	**305**	eP	**Pn**	**18 38 29.4**	**+1.7**

WEL 01 19:01:19.7±0.3**, 45.33S**×**166.77E, h5**km**, ML3.8**/6**, 2D, Error ellipse: s-maj=3.1km s-min=1.7km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**0.99**	**92**	⇓P*	Pb	19 01 37.5	-1.5
MLZ				S*	Sb	19 01 50.9	-1.3
WHZ	**Wether Hill Ro**	**1.00**	**125**	⇓P*	Pb	19 01 38.5	-0.6
WHZ				S*	Sb	19 01 52.7	+0.2
WKZ	**Wanaka**	**1.67**	**73**	ePN	Pn	19 01 49.1	-0.8
WKZ				SN	Sn	19 02 10.7	-1.2
EAZ	**Earnscleugh**	**1.80**	**88**	PN	Pn	19 01 51.1	-0.5
EAZ				eSN	Sn	19 02 14.0	-1.1
JCZ	**Jackson Bay**	**1.90**	**49**	ePN	Pn	19 01 50.0	-3.0
JCZ				SN	Sn	19 02 17.7	+0.1
TUZ	**Tuapeka**	**2.11**	**108**	PN	Pn	19 01 54.9	-1.1
LBZ	**Lake Benmore**	**2.61**	**70**	PN	Pn	19 02 01.3	-1.9
FOZ	**Fox Glacier**	**2.74**	**51**	ePN	Pn	19 02 02.0	-3.1
RPZ	**Rata Peaks**	**3.47**	**64**	PN	Pn	19 02 12.7	-2.8
LTZ	**Lake Taylor**	**4.71**	**59**	ePN	Pn	19 02 29.7	-3.5
DSZ	**Denniston Nort**	**5.12**	**47**	PN	Pn	19 02 33.8	-5.1
THZ	**Tophouse**	**5.71**	**54**	PN	Pn	19 02 43.9	-3.3
QRZ	**Quartz Range**	**6.17**	**45**	ePN	Pn	19 02 47.8	-5.9

MAN 01 19:14:23.5, 13.72N×**120.62E, h114**km**, mb3.7, ML2.4, MS2.0, Mindoro**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.36**	**273**	eP	P	19 14 41.9	+1.8
LUBP				eS	S	19 14 54.9	+2.2
PGP	**Puerto Galera**	**0.39**	**123**	eP	P	19 14 41.5	+1.2
SJMP	**San Jose**	**1.34**	**159**	eP	P	19 14 49.6	+0.4
SJMP				eS	S	19 15 09.4	+0.9
BUSP	**Coron**	**1.75**	**194**	eP	P	19 14 54.5	+0.4
BUSP				eS	S	19 15 17.3	+0.3
OTRP	**Odiongan**	**1.92**	**134**	eP	P	19 14 56.0	-0.1
CAUP	**Cauayan**	**3.41**	**20**	eP	P	19 15 14.3	-1.8

*IDC **01** 19:43:50.5±1.5, 11.71N×94.16E, mb3.7/4, mb1 3.6/5, mb1mx3.4/20, mbtmp3.5/5, ML2.9/1, Error ellipse: s-maj=47.5km s-min=27.3km az=51.0*
*NEIC **01** 19:43:55.2±1.0, 11.79N×94.29E, h30km, mb3.9/1, Error ellipse: s-maj=21.5km s-min=17.9km az=53.0*
ISC 01 19:43:53.3±1.3**, 11.8N**±0.2×**94.3E**±0.2**, h30**km**, n6, σ0s76**/6**, mb3.7**/5**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.95**	**33**	Pn	**Pn**	**19 45 49.4**	**-0.4**
	0.0nm,0.3s,baz=222,slow=15,SNR=2.7						
MKAR	**Makanchi Array**	**36.31**	**346**	P	**P**	**19 50 56.5**	**+0.2**
	0.6nm,0.5s,mb3.8,baz=158,slow=8.7,SNR=10						
BVAR	**Borovoye Array**	**45.35**	**340**	P	**P**	**19 52 11.2**	**+0.6**
	0.6nm,0.5s,mb3.6,baz=143,slow=7.4,SNR=6.4						
ZRNK	**Zerenda**	**45.77**	**339**	eP	**P**	**19 52 14.3**	**+0.4**
	1.0nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**50.46**	**128**	P	**P**	**19 52 51.0**	**+0.1**
	0.4nm,0.6s,mb3.6,baz=307,slow=8.6,SNR=5.0						
BRTR	**Keskin Array B**	**60.06**	**309**	P	**P**	**19 53 59.1**	**-1.0**
	0.6nm,0.6s,mb3.8,baz=112,slow=7.8,SNR=3.5						

*NAO **01** 19:44:10.7±1.0, 67.33N×20.84E, ML2.3*
*IDC **01** 19:44:12.7±0.8, 67.17N×20.89E, mb1 2.9/4, mb1mx2.8/22, mbtmp2.8/4, ML2.7/4, Error ellipse: s-maj=14.3km s-min=6.1km az=117.0*
*BER **01** 19:44:15.2±9.1, 67.25N×20.71E, ML2.4, ML2.3(NAO), Suspected explosion*
HEL 01 19:44:14.0±0.3**, 67.27N**×**20.78E, ML2.5, ML2.4**(BER)**, ML2.3**(NAO)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.74**	**0**	eS	Sn	19 45 07.0	-2.0
KTK1	**Kautokeino**	**1.98**	**27**	eP	Pn	19 44 46.8	-2.3
KTK1				eSG	Sg	19 45 17.7	-2.1
KTK1				AML	AML	19 45 19.9	
	comp=Z,79nm,0.5s						
SGF	**Sodankyl**	**2.23**	**83**	eP	Pn	19 44 51.5	-1.2
SGF				eS	Sn	19 45 20.5	-0.9
MOR8	**Moi Rana**	**2.75**	**249**	eSB	Sb	19 45 32.2	-6.0
MOR8				AML	AML	19 45 35.1	
	comp=Z,49nm,0.5s						
ARA0	**ARCESS Array S**	**2.87**	**35**	eP	Pn	19 44 57.5	-4.3
ARA0				eS	Sn	19 45 38.0	+0.5
ARA0	**ARCESS Array S**	**2.87**	**35**	P	Pn	19 44 57.5	-4.3
	baz=211,slow=16						
ARA0				S	Sn	19 45 38.0	+0.5
	baz=212,slow=22						
ARCES	**ARCESS Array B**	**2.87**	**35**	Pn	Pn	19 45 00.9	-0.9
	comp=Z,0.7nm,0.3s,baz=216,slow=14,SNR=15						
ARCES				Sn	Sn	19 45 37.9	+0.3
	comp=Z,1.4nm,0.3s,baz=216,slow=23,SNR=8.8						
ARCES				Lg		19 45 42.9	
	comp=Z,2.7nm,0.3s,baz=227,slow=32,SNR=12						
LOF	**Lofoten**	**2.89**	**291**	eSG	Sg	19 45 44.1	-6.2
LOF				AML	AML	19 45 53.3	
	comp=Z,15nm,0.6s						
OUL	**Oulu**	**3.02**	**134**	eP	Pn	19 45 03.2	-0.8
OUL				eS	Sn	19 45 38.9	-2.6
STOK	**Stokkvaagen**	**3.21**	**257**	eP	Pn	19 45 05.9	-0.9
STOK				eSG	Sg	19 45 55.8	-5.3
STOK				AML	AML	19 45 57.6	
	comp=Z,33nm,0.6s						
KEV	**Kevo**	**3.39**	**40**	eP	Pn	19 45 07.8	-1.4
KEV				eS	Sn	19 45 48.4	-2.3
KEV				eSG	Sg	19 45 58.0	-8.8
KEV				MSG		19 46 05.6	
	comp=Z,16nm,0.5s						
MSF	**Maaselka**	**3.57**	**109**	eP	Pn	19 45 10.5	-1.3
MSF				eS	Sn	19 45 52.6	-2.7
MSF				eSG	Sg	19 46 04.3	-8.4
MSF				MSG		19 46 06.7	
	comp=Z,7.8nm,0.4s						
NSS	**Namsos**	**4.54**	**237**	eSG	Sg	19 46 32.4	-13
NSS				AML	AML	19 46 33.8	
	comp=Z,24nm,0.5s						
APA0	**Apatity Array**	**4.72**	**80**	eS	Sn	19 46 19.2	-5.2
APA0				eSG		19 46 41.2	
APA0	**Apatity Array**	**4.72**	**80**	Sn	Sn	19 46 19.2	-5.2
	baz=277,slow=22						
APA0				Lg		19 46 41.2	
	baz=184,slow=37						
FIA0	**FINESS Array S**	**6.28**	**156**	Pn	Pn	19 45 46.2	-4.0
	baz=350,slow=14						
FIA0				Sn	Sn	19 46 56.5	-7.2
	baz=343,slow=28						
FIA0				Lg		19 47 27.9	
	baz=345,slow=37						
FIA0	**FINESS Array S**	**6.28**	**156**	eP	Pn	19 45 46.2	-4.0
FIA0				eS	Sn	19 46 56.5	-7.2
FIA0				eSG		19 47 27.9	
FINES	**FINESS Array B**	**6.28**	**156**	Pn	Pn	19 45 45.4	-4.8
	comp=Z,0.2nm,0.3s,baz=342,slow=13,SNR=12						
FINES				Sn	Sn	19 46 55.7	-8.0
	comp=Z,0.7nm,0.3s,baz=342,slow=24,SNR=9.7						
FINES				Lg		19 47 27.2	
	comp=Z,0.9nm,0.3s,baz=345,slow=30,SNR=10.0						
NB2	**NORSAR Subarra**	**7.51**	**218**	Pn	Pn	19 46 02.4	-5.1
	baz=27,slow=12						
NB2				Sn	Sn	19 47 28.1	-6.4
NB2				Lg		19 48 08.0	
	baz=27,slow=37						
NB2	**NORSAR Subarra**	**7.51**	**218**	eP	Pn	19 46 02.4	-5.1
NB2				eS	Sn	19 47 28.1	-6.4
NB2				eSG		19 48 08.0	
NOA	**NORSAR Array B**	**7.51**	**218**	Pn	Pn	19 46 02.4	-5.1
	comp=Z,0.2nm,0.3s,baz=27,slow=12,SNR=2.6						
NOA				Sn	Sn	19 47 22.6	-12
	comp=Z,0.5nm,0.3s,baz=40,slow=18,SNR=4.2						
NOA				Lg		19 48 06.7	
	comp=Z,0.9nm,0.3s,baz=41,slow=23,SNR=5.5						
HFS	**Hagfors**	**7.82**	**207**	Pn	Pn	19 46 05.0	-6.8
	baz=27,slow=12						
HFS				Sn	Sn	19 47 32.0	-10
	baz=26,slow=22						
HFS				Lg		19 48 15.8	
	baz=20,slow=37						
HFS	**Hagfors**	**7.82**	**207**	eP	Pn	19 46 05.0	-6.8
HFS				eS	Sn	19 47 32.0	-10
HFS				eSG		19 48 15.8	
HFS	**Hagfors**	**7.82**	**207**	Pn	Pn	19 46 04.9	-6.9
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=7.9						
HFS				Sn	Sn	19 47 29.7	-12
	comp=Z,0.1nm,0.3s,baz=27,slow=23,SNR=10						
HFS				Lg		19 48 12.9	
	comp=Z,0.2nm,0.3s,baz=34,slow=29,SNR=6.0						

WEL 01 20:10:25.0±0.1**, 37.51S**×**175.73E, h5**km**, ML3.5**/5**, 1C-1D, Error ellipse: s-maj=1.5km s-min=1.0km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOZ	**Tahuroa Road**	**0.28**	**220**	⇓PG	Pg	20 10 30.7	0.0
TOZ				SG	Sg	20 10 34.6	0.0
MYRZ	**Mayor Island**	**0.47**	**60**	PG	Pg	20 10 34.5	+0.1
TGRZ	**Tauranga**	**0.47**	**118**	PG	Pg	20 10 34.0	-0.5
TGRZ				SG	Sg	20 10 40.6	-0.3
MKAZ	**Moumakai**	**0.60**	**311**	P*	Pb	20 10 36.9	-0.7
LIRZ	**Lichensteins R**	**0.71**	**134**	P*	Pb	20 10 38.1	-1.4
UTU	**Utuhina**	**0.76**	**151**	P*	Pb	20 10 39.6	-0.7
KUZ	**Kuaotunu**	**0.77**	**359**	⇑P*	Pb	20 10 39.9	-0.5
KUZ				S*	Sb	20 10 49.7	-1.2
MARZ	**Manawahe**	**0.88**	**123**	P*	Pb	20 10 41.7	-0.7
TAZ	**Tarawera**	**0.94**	**140**	P*	Pb	20 10 43.4	-0.1
PATZ	**Paeroa**	**0.96**	**155**	P*	Pb	20 10 43.8	0.0
MTAZ	**Motutapu**	**0.98**	**318**	P*	Pb	20 10 44.1	0.0
WTAZ	**Waiatarua**	**1.09**	**302**	eP*	Pb	20 10 46.2	+0.2
HIZ	**Hauiti**	**1.22**	**214**	P*	Pb	20 10 47.0	-1.1
HIZ				S*	Sb	20 11 03.4	-0.6
URZ	**Urewera**	**1.32**	**125**	eP*	Pb	20 10 48.7	-1.2
KATZ	**Kakaramea**	**1.46**	**181**	PN	Pn	20 10 50.2	-2.0
TWVZ	**Taurewa**	**1.57**	**188**	PN	Pn	20 10 53.7	0.0
WTVZ	**West Tongariro**	**1.60**	**184**	PN	Pn	20 10 54.8	+0.6
NGZ	**Ngauruhoe**	**1.66**	**184**	PN	Pn	20 10 55.9	+0.9
CNZ	**Chateau**	**1.69**	**185**	PN	Pn	20 10 56.5	+1.0
FWVZ	**Far West T-bar**	**1.75**	**185**	PN	Pn	20 10 57.2	+1.0
TUVZ	**Tukino**	**1.75**	**182**	ePN	Pn	20 10 58.3	+2.0
DRZ	**Dome Shelter**	**1.77**	**184**	PN	Pn	20 10 57.7	+1.2
VRZ	**Vera Road**	**1.78**	**205**	PN	Pn	20 10 55.2	-1.6
WNVZ	**Wahianoa**	**1.82**	**183**	ePN	Pn	20 10 58.6	+1.4

MAN 01 20:18:54.2, 13.68N×**120.59E, h102**km**, mb3.9, ML2.6, MS2.2, Mindoro**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.34**	**280**	eP	P	20 19 11.3	+1.9
LUBP				eS	S	20 19 22.8	+2.0
PGP	**Puerto Galera**	**0.39**	**116**	eP	P	20 19 11.1	+1.5
BOAC	**Boac**	**1.23**	**100**	eP	P	20 19 18.0	+0.2
SJMP	**San Jose**	**1.31**	**157**	eP	P	20 19 19.3	+0.6
POLP	**Polilio Island**	**1.67**	**51**	eP	P	20 19 24.7	+1.5
BUSP	**Coron**	**1.71**	**193**	eP	P	20 19 23.8	+0.2
BUSP				eS	S	20 19 45.9	+0.4
OTRP	**Odiongan**	**1.91**	**133**	eP	P	20 19 26.3	+0.1
AUQP	**San Andres**	**2.05**	**100**	eP	P	20 19 32.4	+4.3
SCZP	**Santa Cruz**	**2.19**	**343**	eP	P	20 19 27.8	-2.1
ENPP	**El Nido**	**2.71**	**205**	eP	P	20 19 37.3	+0.3
ENPP				eS	S	20 20 14.1	+5.0
BOLP	**Bolinao**	**2.77**	**346**	eP	P	20 19 39.2	+1.3
BOLP				eS	S	20 20 10.5	-0.2
CUYO	**Cuyo Island**	**2.84**	**172**	eP	P	20 19 38.3	-0.5
CUYO				eS	S	20 20 11.5	-0.8

MAN 01 20:35:30.9, 9.49N×**125.62E, h32**km**, mb3.6, ML2.3, MS1.7, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.32**	**336**	eP	Pb	20 35 40.5	+1.7
SCPH				eS	Sb	20 35 46.9	+2.6
BUTP	**Butuan**	**0.52**	**180**	eP	Pb	20 35 42.3	+0.6
BUKP	**Musuan**	**1.69**	**199**	eP	Pn	20 35 59.9	+1.1
BUKP				eS	Sn	20 36 24.1	+4.5
PAGZ	**Pagadian**	**2.75**	**234**	eP	Pn	20 36 12.4	-1.5
PAGZ				eS	Sn	20 36 49.4	+3.0

*ATH **01** 20:36:10.8, 39.08N×26.00E, h19km±8km, MD3.0/3*
*NEIC **01** 20:36:10.8, 39.08N×26.00E, h19km, MD3.2(ISK), MD3.0(ATH), After ATH.*
*CSEM **01** 20:36:12.9±0.2, 39.20N×26.05E, h18km±1km, MD3.0, Error ellipse: s-maj=4.7km s-min=2.1km az=36.0*
*THE **01** 20:36:13.7, 39.15N×25.93E, h9km*
*ISK **01** 20:36:13.9, 39.24N×26.23E, h12km, MD3.0*
ISC 01 20:36:12.5±0.6**, 39.17N**±0.03×**25.99E**±0.04**, h16**km±6km**, n21, σ1s05**/34**, 1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.23**	**72**	⇑iPB	**Pb**	**20 36 17.6**	**-0.3**
PRK				eSB	**Sb**	**20 36 20.6**	**-1.0**
AYVA	**Ayvalik**	**0.56**	**76**	iP	**Pb**	**20 36 23.8**	**+0.2**
AYVA				iS	**Sb**	**20 36 32.1**	**+1.0**
URLA	**Izmir**	**0.94**	**149**	iP	**Pb**	**20 36 30.1**	**+0.2**
URLA				iS	**Sb**	**20 36 42.4**	**+0.4**
URLA	**Izmir**	**0.94**	**149**	iP	**Pb**	**20 36 30.3**	**+0.4**
URLA				iS	**Sb**	**20 36 41.8**	**-0.2**
LIA	**Limnos Island**	**0.95**	**320**	ePN	**Pn**	**20 36 31.4**	**+0.2**
LIA				eSN	**Sn**	**20 36 44.6**	**+0.2**
LOS	**Limnos**	**1.03**	**318**	ePg	**Pb**	**20 36 33.3**	**+1.8**
LOS				eSg	**Sb**	**20 36 47.1**	**+2.5**
KDAG	**Bornova**	**1.26**	**127**	iP	**Pb**	**20 36 36.3**	**+0.8**
KDAG				iS	**Sb**	**20 36 55.2**	**+3.9**
IZM	**Izmir**	**1.26**	**127**	PN	**Pn**	**20 36 36.1**	**+0.5**
IZM				SN	**Sn**	**20 36 53.4**	**+1.1**
LPK	**Lapseki**	**1.34**	**26**	PN	**Pn**	**20 36 37.1**	**+0.4**
AKS	**Akhisar**	**1.45**	**101**	PN	**Pn**	**20 36 38.4**	**+0.1**
BALB	**Balikesir**	**1.54**	**72**	ePN	**Pn**	**20 36 39.5**	**0.0**
BALB				eSN	**Sn**	**20 36 57.1**	**-2.2**
SMG	**Samos**	**1.61**	**155**	ePN	**Pn**	**20 36 39.3**	**-1.2**
SMG				eSN	**Sn**	**20 37 00.9**	**-0.1**
AOS	**Alonnisos**	**1.64**	**271**	ePg	**Pn**	**20 36 41.0**	**+0.1**
BTOK	**Tokmak**	**1.69**	**69**	iP	**Pn**	**20 36 46.6**	**+4.9**
BTOK				iS	**Sn**	**20 37 03.0**	**-0.1**
ALN	**Alexandroupoli**	**1.72**	**2**	ePb	**Pb**	**20 36 42.3**	**-1.0**
ALN				eSb	**Sb**	**20 37 06.1**	**+1.5**
MRMT	**Marmara Adasi**	**1.89**	**40**	ePN	**Pn**	**20 36 44.5**	**-0.1**
OUR	**Ouranopolis**	**1.93**	**308**	ePb	**Pb**	**20 36 45.0**	**-1.8**
PAIG	**Paliouri**	**1.94**	**294**	ePb	**Pb**	**20 36 45.6**	**-1.3**
RDO	**Rodhopi**	**2.00**	**350**	ePB	**Pb**	**20 36 46.3**	**-1.7**
APE	**Apeiranthos**	**2.13**	**190**	ePB	**Pb**	**20 36 45.9**	**-4.4**
ULDT	**Uludag**	**2.62**	**67**	iP	**Pn**	**20 37 02.2**	**+7.2**
ULDT				iS	**Sn**	**20 37 37.5**	**+11**

*IDC **01** 20:47:32.7±1.2, 16.88N×123.01E, mb3.8/6, mb1 4.0/7, mb1mx3.7/19, mbtmp3.9/7, ML3.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/31, Error ellipse: s-maj=61.5km s-min=24.3km az=72.0*
*MAN **01** 20:47:37.4, 16.68N×122.43E, h21km, mb4.5, ML3.4, MS3.3*
*NEIC **01** 20:47:37.9±0.7, 16.93N×123.16E, h35km, mb4.3/1, Error ellipse: s-maj=22.7km s-min=14.2km az=87.0*
ISC 01 20:47:36.8±1.0**, 16.71N**±0.03×**122.48E**±0.04**, h30**km±7km**, n28, σ0s97**/42**, mb3.7**/7**, 3D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.67**	**290**	eP	**Pb**	**20 47 49.0**	**-1.1**
CAUP				eS	**Sb**	**20 47 57.6**	**-1.6**
CVP	**Callao Caves**	**1.17**	**327**	⇓iP	**Pn**	**20 47 58.0**	**+0.6**
BALP	**Baler**	**1.30**	**222**	eP	**Pn**	**20 47 58.9**	**-0.4**
BALP				eS	**Sn**	**20 48 14.8**	**-1.0**
SGCP	**Mt. Cagua**	**1.58**	**345**	eP	**Pn**	**20 48 04.5**	**+1.2**
APYP	**Conner**	**1.65**	**314**	eP	**Pn**	**20 48 04.7**	**+0.5**
APYP				eS	**Sn**	**20 48 25.6**	**+1.0**
PCPH	**Palayan**	**1.76**	**230**	eP	**Pn**	**20 48 06.5**	**+0.7**
PCPH				eS	**Sn**	**20 48 29.0**	**+1.7**
BCPH	**Baguio City Da**	**1.85**	**260**	⇓iP	**Pn**	**20 48 07.0**	**-0.2**
BCPH				iS	**Sn**	**20 48 28.9**	**-0.9**
ABRA	**Dolores**	**1.93**	**299**	eP	**Pn**	**20 48 07.9**	**-0.4**
ABRA				eS	**Sn**	**20 48 31.7**	**-0.1**
POLP	**Polilio Island**	**2.04**	**195**	eP	**Pn**	**20 48 09.9**	**0.0**
POLP				eS	**Sn**	**20 48 34.4**	**-0.2**
BOLP	**Bolinao**	**2.49**	**263**	eP	**Pn**	**20 48 17.2**	**+1.0**
SCZP	**Santa Cruz**	**2.64**	**250**	eP	**Pn**	**20 48 19.7**	**+1.3**
SCZP				eS	**Sn**	**20 49 01.8**	**+12**
GQP	**Guinayangan**	**2.79**	**181**	⇓eP	**Pn**	**20 48 22.2**	**+1.6**
GQP				eS	**Sn**	**20 48 53.9**	**+0.3**
BOAC	**Boac**	**3.29**	**191**	eP	**Pn**	**20 48 29.1**	**+1.4**
BOAC				eS	**Sn**	**20 49 05.6**	**-0.7**
PVCP	**Virac**	**3.49**	**152**	eP	**Pn**	**20 48 30.9**	**+0.4**
PVCP				eS	**Sn**	**20 49 10.8**	**-0.5**
LUBP	**Lubang**	**3.67**	**216**	eP	**Pn**	**20 48 36.6**	**+3.7**
OTRP	**Odiongan**	**4.35**	**186**	eP	**Pn**	**20 48 43.1**	**+0.4**
OTRP				eS	**Sn**	**20 49 30.3**	**-2.7**
SJMP	**San Jose**	**4.43**	**198**	eP	**Pn**	**20 48 46.9**	**+3.1**
SJMP				eS	**Sn**	**20 49 15.8**	**-19**
CNP	**Catarman**	**4.68**	**153**	eP	**Pn**	**20 48 47.5**	**+0.1**
CNP				eS	**Sn**	**20 49 40.9**	**-0.5**
BUSP	**Coron**	**5.18**	**206**	eP	**Pn**	**20 48 54.9**	**+0.5**
JOW	**Kunigami**	**11.41**	**27**	Pn	**P**	**20 50 11.8**	**-9.3**
	0.8nm,0.3s,baz=176,slow=16,SNR=4.4						
JOW				LR	LR	20 54 12.1	
	comp=Z,59nm,20.3s,baz=283,slow=36						
SONM	**Songino Array**	**33.74**	**340**	P	**P**	**20 54 16.8**	**-1.0**
	0.4nm,0.6s,mb3.5,baz=151,slow=7.5,SNR=3.0						
WRA	**Warramunga Arr**	**38.24**	**162**	P	**P**	**20 54 54.8**	**-1.4**
	0.5nm,0.5s,mb3.5,baz=344,slow=9.1,SNR=6.6						
MKAR	**Makanchi Array**	**44.72**	**321**	P	**P**	**20 55 49.0**	**-0.2**
	0.5nm,0.6s,mb3.5,baz=115,slow=9.7,SNR=9.5						
ZRNK	**Zerenda**	**55.07**	**324**	eP	**P**	**20 57 07.5**	**-0.7**
	2.0nm,0.7s,mb4.3						
ARCES	**ARCESS Array B**	**76.90**	**339**	P	**P**	**20 59 26.9**	**-0.6**
	1.2nm,0.8s,mb3.9,baz=59,slow=7.1,SNR=4.6						
FINES	**FINESS Array B**	**78.51**	**331**	P	**P**	**20 59 35.8**	**-0.7**
	0.5nm,0.6s,mb3.6,baz=117,slow=4.3,SNR=5.8						
NB2	**NORSAR Subarra**	**85.39**	**333**	P	**P**	**21 00 11.8**	**-0.5**
	0.1nm,0.6s,mb3.1,baz=70,slow=5.6						
NOA	**NORSAR Array B**	**85.39**	**333**	P	**P**	**21 00 12.2**	**-0.1**
	0.8nm,0.7s,mb4.0,baz=64,slow=5.0,SNR=5.3						

*IDC **01** 20:52:56.5±1.6, 26.67S×176.53W, mb4.2/2, mb1 4.4/3, mb1mx3.9/13, mbtmp4.3/3, MS3.9/5, Ms1 3.9/5, ms1mx3.2/30, Error ellipse: s-maj=56.0km s-min=28.5km az=109.0*
*NEIC **01** 20:52:59.5±9.6, 26.72S×176.49W, h20km±63km, mb4.7/2, Error ellipse: s-maj=36.6km s-min=26.8km az=55.0*
ISC 01 20:52:57.1±6.6**, 26.6S**±0.1×**176.3W**±0.3**, h23**km±45km**, n16, σ0s77**/8**, mb4.3**/4**, MS4.0**/5**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.95**	**208**	Pn	**Pn**	**20 53 44.1**	**+0.4**
	69nm,0.3s,baz=92,slow=23,SNR=5.9						
RAO				Sn	**Sn**	**20 54 18.6**	**-0.2**
	52nm,0.3s,baz=88,slow=22,SNR=8.0						
RAO	**Raoul Island**	**2.95**	**208**	Pn	**Pn**	**20 53 43.4**	**-0.3**
RAO				eSn	**Sn**	**20 54 19.1**	**+0.3**
PMG	**Port Moresby**	**38.53**	**290**	LR	LR	21 13 25.3	

comp=Z,864nm,18.6s,MS4.6,baz=105,slow=32
WRAB Tennant Creek 45.56 268 *e*P **P** **21 01 17.6 +0.4**
3.3nm,0.6s,mb4.4
WRA Warramunga Arr 45.57 268 P **P** **21 01 17.0 -0.3**
2.5nm,0.6s,mb4.3,baz=107,slow=7.6,SNR=21
CASY Casey 59.14 207 *e*P **P** **21 02 57.0 -0.9**
11nm,1.0s,mb4.8
MAW Mawson 76.33 200 P **P** **21 04 46.2 +0.7**
0.8nm,0.8s,mb3.7,baz=117,slow=4.5,SNR=4.0
MAW LR LR 21 36 50.1
comp=Z,59nm,18.2s,MS3.9,baz=64,slow=34
ASAJ Asahikawa 79.82 331 LR LR 21 35 56.8
comp=Z,56nm,19.6s,MS3.9,baz=219,slow=32
PDAR Pinedale Array 92.40 43 LR LR 21 39 32.8
comp=Z,22nm,20.1s,MS3.6,baz=71,slow=30
DLBC Dease Lake 93.10 22 LR LR 21 40 06.6
comp=Z,38nm,19.0s,MS3.9,baz=328,slow=30
ARCES ARCESS Array B 135.21 349 PKP PKPdf 21 12 16.9 -1.8
1.3nm,0.9s,SNR=4.2
FINES FINESS Array B 142.06 343 PKP PKPdf 21 12 30.4 -0.8
0.2nm,0.6s,baz=117,slow=3.1,SNR=3.0
NB2 NORSAR Subarra145.23 354 PKPabc PKPdf 21 12 35.2 -1.5
14nm,1.7s,baz=18,slow=4.0
NOA NORSAR Array B 145.23 354 PKPbc PKPbc 21 12 34.9 +2.3
1.0nm,0.8s,baz=7.9,slow=2.3,SNR=4.0
AKASG Malin Array Be 149.06 328 PKPbc PKPdf 21 12 45.0 +1.7
0.5nm,0.5s,baz=38,slow=3.5,SNR=5.8
AKASG Malin Array Be 149.06 328 PKPbc PKPdf 21 12 45.0 +1.7

IDC 01 20:54:53.6±6.5**,20.80S**×**66.61W,h215**km±42km**,**
mb1 3.4/2**,mb1mx3.1**/16**,mbtmp3.7**/2**,Error ellipse:**
s-maj=198.4km s-min=22.4km az=55.0,Southern
Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.71**	**342**	P	P	20 56 05.6	+0.1
	1.5nm,0.3s,baz=164,slow=12,SNR=23						
LPAZ				S	S	20 57 02.6	+1.4
	0.6nm,0.3s,baz=275,slow=24,SNR=9.1						
CPUP	**Villa Florida**	**10.13**	**125**	P	P	20 57 14.3	-0.9
	0.4nm,0.3s,baz=307,slow=15,SNR=6.8						
MKAR	**Makanchi Array**	**143.80**	**37**	PKP	PKPdf	21 14 02.5	-0.3
	1.1nm,0.7s,baz=324,slow=2.9,SNR=12						

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*ORF **01** 20:57:41.2,19.56S×177.46E,h30km,mb5.8*
*HRVD **01** 20:58:27.5±0.3,20.67S×177.95W,h535km±2km, MW5.4/44,Centroid moment Tensor Solution. LP body waves: s44,c75; Half duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr0.03±.04; Mθθ0.17±.07; Mφφ-0.19±.06; Mrθ-0.78±.06; Mθφ-0.01±.06; Mφr-1.33±.05; Best double couple: M0 1.55×10^17 NP1:φs314°,δ6°,λ14°. NP2:φs211°, δ89°,λ96°. Principal axes: T 1.507, Plg46°, Azm126°; N .086, Plg6°, Azm30°; P -1.592, Plg43°, Azm295°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **01** 20:58:27.5±0.1,20.68S×178.23W,mb4.9/68 Error ellipse: s-maj=5.5km s-min=3.5km az=149.0*
*BJI **01** 20:58:27.6,20.00S×178.46W,h503km,mB4.6,mb4.9*
*IDC **01** 20:58:27.6±0.5,20.72S×178.22W,h525km±4km,mb4.3/29, mb1 4.4/31,mb1mx4.4/32,mbtmp5.2/31,Error ellipse: s-maj=9.8km s-min=7.7km az=153.0*
*BGS **01** 20:58:30.3±2.4,20.68S×178.23W,h526km*
*MOS **01** 20:58:35.7±2.2,19.27S×179.41W,h545km,mb5.4/6, Error ellipse: s-maj=19.8km s-min=14.6km az=38.1*
ISC 01 20:58:26.4±0.2**,20.75S**±0.03×**178.26W**±0.04**,h524**km**,**
h524km±3.1km**:pP-P,n429,**σ**0s91**/208**,mb4.8**/95**,54C-44D,**
Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 8.47 178 P **P** **21 00 27.7 -1.4**
123nm,0.3s,baz=113,slow=23,SNR=7.2
RAO S **S** **21 02 07.2 +0.3**
122nm,0.3s,baz=70,slow=23,SNR=6.9
RAO Raoul Island 8.47 178 P **P** **21 00 25.5 -3.7**
1µm,0.5s
AFI Afiamalu 9.19 43 *e*P **P** **21 00 32.0 -4.7**
242nm,0.5s
DZM Mont Dzumac 14.31 262 P **P** **21 01 31.0 +1.6**
5.5nm,0.3s,baz=83,slow=16,SNR=46
DZM S **S** **21 04 01.1 +4.4**
baz=161,slow=5.1,SNR=5.3
NOUC Port Laguerre 14.45 262 *e*S **S** **21 04 05.8 +6.6**
NOUC Port Laguerre 14.45 262⇓*e*P **P** **21 01 32.5 +1.9**
RAR Rarotonga 17.27 95 *e*P **P** **21 01 58.2 -0.3**
392nm,1.6s
MWZ Matawai 17.90 191 PN **P** **21 02 04.6 0.0**
URZ Urewera 17.91 192 P **P** **21 02 01.5 -3.1**
15nm,0.3s,baz=3.5,slow=7.1,SNR=73
URZ S **S** **21 05 02.0 +1.4**
1.4nm,0.3s,baz=236,slow=22,SNR=4.9
URZ Urewera 17.91 192 PN **P** **21 02 02.9 -1.7**
NGZ Ngauruhoe 19.11 195 *e*PN **P** **21 02 16.1 0.0**
TUVZ Tukino 19.19 195 PN **P** **21 02 17.0 +0.2**
TSZ Takapari Road 19.87 193 *e*PN **P** **21 02 22.6 -0.7**
SNZO South Karori 21.35 195 P **P** **21 02 36.0 -1.0**
QRZ Quartz Range 21.50 199 PN **P** **21 02 38.3 -0.1**
TUWZ Tuamarina 21.65 196 *e*PN **P** **21 02 37.8 -1.9**
THZ Tophouse 22.25 198 PN **P** **21 02 44.4 -0.8**
THZ *e*SN **S** **21 06 08.8 -4.2**
KHZ Kahutara 22.68 196 *e*PN **P** **21 02 47.3 -1.8**
LTZ Lake Taylor 23.37 198 *e*PN **P** **21 02 53.3 -1.9**
HNR Honiara 23.83 295 P **P** **21 02 59.2 -0.5**
27nm,0.4s,mb5.2,baz=193,slow=14,SNR=2.4
HNR Honiara 23.83 295 P **P** **21 02 58.7 -1.0**
RPZ Rata Peaks 24.58 199 P **P** **21 03 05.1 -1.1**
11nm,0.6s,mb4.7,baz=29,slow=7.6,SNR=7.2
PPT Papeete 27.26 88 P **P** **21 03 28.4 -1.7**
41nm,0.4s,mb5.4,baz=220,slow=7.2,SNR=6.6
CNB Canberra Magne 31.89 236⇓*i*P **P** **21 04 11.2 +1.4**
78nm,0.6s,mb5.4
CTA Charters Tower 33.23 265⇓*i*P **P** **21 04 22.2 +1.0**
75nm,0.6s,mb5.4
CTA *e*S **S** **21 09 04.7 -0.4**
CTA *e*SCP 21 09 45.0
CTA Charters Tower 33.23 265⇓*i*P **P** **21 04 22.2 +1.0**
CTA *e*S **S** **21 09 04.7 -0.4**
CTA pmax pmax
comp=Z,75nm,0.6s
CTA Charters Tower 33.23 265 P **P** **21 04 21.9 +0.7**
comp=Z,76nm,0.5s,mb5.5,baz=96,slow=10,SNR=225
CTA ScP 21 09 43.5
comp=Z,5.3nm,0.9s,baz=199,slow=0.6,SNR=5.5
CTAO Charters Tower 33.23 265 *e*P **P** **21 04 21.8 +0.6**
CTAO pmax pmax
comp=Z,94nm,0.6s,mb5.5
CTAO Charters Tower 33.23 265 *e*P **P** **21 04 21.8 +0.7**
comp=Z,94nm,0.6s,mb5.5
PMG Port Moresby 35.17 283*d i*P **P** **21 04 38.0 +0.6**
PMG Port Moresby 35.17 283 P **P** **21 04 37.7 +0.3**
comp=Z,81nm,0.6s,mb5.5,baz=82,slow=6.0,SNR=40
PMG Port Moresby 35.17 283 *e*P **P** **21 04 37.6 +0.2**
comp=Z,143nm,0.8s,mb5.5
TOO Toolangi 35.56 234⇓*i*P **P** **21 04 41.6 +1.2**
comp=Z,52nm,1.0s,mb5.0
STKA Stephens Creek 37.47 244⇓*i*P **P** **21 04 57.4 +1.2**
comp=Z,47nm,1.4s,mb4.8
STKA *e*SCP 21 10 01.7
STKA Stephens Creek 37.47 244 P **P** **21 04 56.8 +0.6**
comp=Z,33nm,0.7s,mb5.0,baz=90,slow=9.0,SNR=81
STKA ScP 21 09 60.0
comp=Z,7.7nm,0.9s,baz=118,slow=2.9,SNR=4.2
WB2 Warramunga Arr 44.32 262⇓*i*P **P** **21 05 50.9 -0.3**
WB2 *e*S **S** **21 11 44.3 -3.1**
WB2 *e*SCS ScS 21 14 53.3 +3.7
WRAB Tennant Creek 44.32 262*d i*P **P** **21 05 50.9 -0.3**
WRAB Tennant Creek 44.32 262 *e*P **P** **21 05 49.5 -1.7**
comp=Z,266nm,1.1s,mb5.7
WRA Warramunga Arr 44.33 262 P **P** **21 05 50.4 -0.9**
WRA PP PcP 21 07 24.6 +0.1
WRA S **S** **21 11 45.2 -2.3**
WRA Warramunga Arr 44.33 262 P **P** **21 05 50.4 -0.9**
comp=Z,93nm,0.9s,mb5.3,baz=96,slow=7.6,SNR=728
WRA PcP PcP 21 07 24.6 0.0
comp=Z,7.8nm,1.0s,baz=100,slow=3.5,SNR=6.7
WRA ScP 21 10 28.2
comp=Z,7.8nm,1.3s,baz=97,slow=5.1,SNR=5.7
WRA S **S** **21 11 45.2 -2.4**
comp=Z,4.6nm,1.0s,baz=97,slow=13,SNR=6.7
KAKA Kakadu 47.74 272⇓*i*P **P** **21 06 17.1 -0.4**
comp=Z,94nm,0.6s,mb5.5
KAKA *e*SCP 21 10 42.4
FORT Forrest 48.98 247⇓*i*P **P** **21 06 26.0 -0.6**
comp=Z,39nm,1.1s,mb4.8
GUMO Guam 49.78 310 *e*P **P** **21 06 32.0 -0.8**
comp=Z,344nm,1.4s,mb5.6
FITZ Fitzroy Crossi 52.76 263⇓*i*P **P** **21 06 54.3 -0.1**
comp=Z,88nm,1.3s,mb4.9
FITZ *e*PCP PcP 21 07 37.2 -18
FITZ Fitzroy Crossi 52.76 263 P **P** **21 06 54.1 -0.3**
comp=Z,42nm,0.5s,mb5.0,baz=120,slow=2.4,SNR=50
MBWA Marble Bar 57.57 258 *e*P **P** **21 07 26.5 -1.4**
comp=Z,173nm,1.3s,mb5.1
SBA Scott Base 57.61 184 *e*P **P** **21 07 28.6 +1.2**
comp=Z,90nm,1.3s,mb4.8
VNDA Vanda 57.64 185 P **P** **21 07 28.4 +0.7**
comp=Z,5.5nm,0.5s,mb4.1,baz=359,slow=7.3,SNR=34
VNDA ScP 21 11 23.2
comp=Z,5.6nm,1.1s,baz=348,slow=5.9,SNR=5.2
VNDA Vanda 57.64 185 *e*P **P** **21 07 28.2 +0.5**
comp=Z,28nm,1.3s,mb4.3
VNDA *e*ScP 21 11 24.0
KLBR Kellerberrin 57.73 245⇓*i*P **P** **21 07 28.4 -0.5**
comp=Z,114nm,1.1s,mb5.0
MUN Mundaring 59.00 244 *e*P **P** **21 07 37.7 +0.3**
comp=Z,35nm,1.1s,mb4.5
BUKP Musuan 62.53 291 *e*P **P** **21 08 00.9 +0.1**
CASY Casey 63.64 205 *e*P **P** **21 08 06.0 -1.1**
CASY *e*PCP PcP 21 08 30.1 -7.9
CASY *e*S **S** **21 15 58.0 -2.0**
MSLP Maasin 63.78 293 *e*P **P** **21 08 08.2 -0.7**
PAGZ Pagadian 63.98 290 *e*P **P** **21 08 10.4 +0.2**
JHJ Hachijo jima 2 66.89 322 P **P** **21 08 27.6 -0.4**
comp=Z,90nm,0.4s,mb5.7,baz=146,slow=3.1,SNR=6.0
TSM Tawau 67.37 284 P **P** **21 08 32.3 +1.0**
QSPA South Pole Qui 69.32 180⇑*i*P **P** **21 08 43.0 +1.0**
comp=Z,47nm,0.8s,mb5.1
KKM Kota Kinabalu 69.59 285⇓*i*P **P** **21 08 44.7 +0.1**
KKM Kota Kinabalu 69.59 285 P **P** **21 08 45.7 +1.1**
JOW Kunigami 70.14 310 P **P** **21 08 47.2 -0.5**
comp=Z,22nm,0.7s,mb4.8,baz=124,slow=7.4,SNR=8.6
MJAR Matsushiro Arr 70.27 324 P **P** **21 08 47.4 -0.8**
comp=Z,5.7nm,0.5s,mb4.4,baz=158,slow=6.8,SNR=21
MAJO Matsushiro 70.27 324 *e*P **P** **21 08 47.3 -1.0**
comp=Z,62nm,1.5s,mb4.9
MAT Matsushiro 70.27 324 *e*P **P** **21 08 47.0 -1.3**
comp=Z,63nm,1.4s,mb5.0
MAT S S 21 17 35.0 +17
MAT Matsushiro 70.27 324 P **P** **21 08 46.6 -1.7**
MAT *e*S S 21 17 34.6 +16
APYP Conner 70.64 299 *e*P **P** **21 08 50.4 -0.4**
JNU Nakatsue 72.29 317 P **P** **21 08 59.1 -1.0**
comp=Z,74nm,1.2s,mb5.0,baz=63,slow=6.8,SNR=9.2
KSM Kuching 73.21 278⇓*i*P **P** **21 09 06.3 +0.5**
KSM *e*pP pP 21 10 59.1 +1.9
NACB Ninganchiao 73.62 304 *e*P **P** **21 09 06.8 -1.0**
FX1 Attu Island--F 73.70 355 *e*P **P** **21 09 06.5 -1.2**
ASAJ Asahikawa 73.83 332 P **P** **21 09 09.8 +1.2**
comp=Z,38nm,0.5s,mb5.1,baz=216,slow=5.7,SNR=67
YHNB Yeheng 74.05 305 *e*P **P** **21 09 09.4 -0.9**
SKR Severo-Kuril's 74.63 343 *e*P **P** **21 09 07.9 -5.1**
YSS Yuzh-Sakhalins 76.01 334⇓*i*P **P** **21 09 21.0 +0.3**
YSS *e* 21 09 27.8
YSS *PP pP 21 11 18.0 +4.9
YSS S S 21 18 24.0 +3.0
YSS pmax pmax
comp=Z,100nm,1.1s,mb5.2
YSS smax
comp=N,400nm,8.0s
YSS Yuzh-Sakhalins 76.01 334⇓*i*P **P** **21 09 21.1 +0.5**
comp=N,90nm,1.1s,mb5.1
PET Petropavlovsk 76.15 346 *e*P **P** **21 09 19.6 -1.7**
comp=N,19nm,0.6s,mb4.7
QZH Quanzhou 76.35 304⇑*i*P **P** **21 09 24.0 +1.0**
QZH S S 21 18 27.4 +2.3
QZH AMB AMB
comp=Z,140nm,1.2s,mb5.3
SDPT Sand Point 77.29 10 *e*P **P** **21 09 25.8 -1.6**
SSE Sheshan 77.67 310 P **P** **21 09 28.7 -1.3**
SSE S S 21 18 32.7 -6.1
SSE AMB AMB
comp=Z,14nm,0.8s,mb4.3
SSE AMB AMB
comp=Z,81nm,8.6s
SSE Sheshan 77.67 310 P **P** **21 09 28.7 -1.3**
comp=Z,14nm,0.8s,mb4.3
SSE pP pP 21 11 33.5 +10
SSE S S 21 18 32.7 -6.1
SSE ScS ScS 21 18 52.4 -5.8
SSE sS 21 22 15.4
SSE LR LR
comp=Z,160nm,19.9s
CMB Columbia Colle 79.81 43⇑*i*P **P** **21 09 40.9 -0.2**
comp=Z,10nm,1.0s,mb4.1
NJ2 Nanjing 79.85 310 *e*P **P** **21 09 41.1 -0.4**
NJ2 PP PP 21 12 52.2 -0.4
NJ2 S S 21 18 56.0 -5.4
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,204nm,8.4s
KGM Kluang 79.90 276 P **P** **21 09 43.5 +1.4**
WDC Whiskeytown Da 80.02 40 *e*P **P** **21 09 42.6 +0.4**
comp=Z,7.2nm,0.6s,mb4.2
OMM Old Mammoth Mi 80.46 44 *e*P **P** **21 09 44.8 +0.3**
MDJ Mudanjiang 80.58 325 P **P** **21 09 46.0 +1.0**
MDJ AP pP 21 11 32.2 -6.9
MDJ XP sP 21 12 23.8 -8.1
MDJ PP PP 21 12 58.8 +0.1
MDJ S S 21 19 14.3 +5.8
MDJ AMB AMB
comp=Z,34nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,103nm,3.2s
MDJ Mudanjiang 80.58 325⇓*i*P **P** **21 09 45.9 +0.8**
comp=Z,161nm,1.6s,mb5.2
YBH Yreka Blue Hor 80.63 39 P **P** **21 09 46.2 +0.8**
comp=Z,22nm,0.6s,mb4.7,baz=207,slow=1.3,SNR=47
YBH Yreka Blue Hor 80.63 39⇑*i*P **P** **21 09 46.1 +0.7**
comp=Z,20nm,0.6s,mb4.7
LBCM Butte Creek Ri 80.89 40 P **P** **21 09 47.3 +0.6**
BEKR Beckwourth 80.91 41⇑*i*P **P** **21 09 46.9 0.0**
comp=Z,22nm,1.2s,mb4.5
WCN Washoe City 80.95 42⇑*i*P **P** **21 09 47.6 +0.6**
comp=Z,8.0nm,0.8s,mb4.2
HUMO Hull Mountain 81.04 38⇑*i*P **P** **21 09 48.1 +0.7**
comp=Z,19nm,1.2s,mb4.4
MAW Mawson 81.25 200⇑*i*P **P** **21 09 48.5 +0.5**
comp=Z,3.2nm,0.6s,mb3.9
MAW *e*S S 21 19 15.3 +0.5
MAW Mawson 81.25 200 P **P** **21 09 48.6 +0.6**
comp=Z,3.2nm,0.5s,mb4.0,baz=121,slow=6.7,SNR=22
MAW pP pP 21 11 42.4 +0.2
comp=Z,4.5nm,0.7s,baz=140,slow=8.5,SNR=5.7
NVAR Mina Array Bea 81.37 43 P **P** **21 09 49.6 +0.4**
comp=Z,9.7nm,0.8s,mb4.3,baz=211,slow=7.0,SNR=70
NVAR pP pP 21 11 43.5 +0.1
comp=Z,2.2nm,0.6s,baz=211,slow=6.8,SNR=5.6
MNV Mina 81.47 44⇑*i*P **P** **21 09 49.8 +0.1**
comp=Z,38nm,1.3s,mb4.7
MNV *e*pP pP 21 11 44.2 +0.2
LDFC Landfair 81.65 48 *e*P **P** **21 09 50.8 +0.1**
DL2 Dalian 81.75 317 P **P** **21 09 51.7 +0.6**
DL2 S S 21 19 19.1 -1.2
DL2 AMB AMB
comp=Z,20nm,1.0s,mb4.5
DL2 AMB AMB
comp=Z,160nm,5.9s
TPH Tonopah 81.87 44⇑*i*P **P** **21 09 52.0 +0.3**
comp=Z,28nm,1.2s,mb4.6
MOD Modoc 82.16 40 P **P** **21 09 53.6 +0.6**
HBO Huckleberry Mo 82.17 37 P **P** **21 09 53.6 +0.5**
CN2 Changchun 82.35 323 *e*P **P** **21 09 53.2 -0.8**
CN2 *e*AP pP 21 11 45.0 -3.6
CN2 *e*S S 21 19 31.2 +5.1
CN2 AMB AMB
comp=Z,50nm,1.1s,mb4.9
CN2 AMB AMB
comp=Z,800nm,3.0s
WHN Wuhan 82.40 307 P **P** **21 09 55.5 +1.0**
KLR Kul'dur 82.62 330 *e*P **P** **21 09 53.0 -2.3**
IPM Ipoh 82.96 278 P **P** **21 09 58.9 +1.2**
BMN Battle Mountai 83.20 42⇑*i*P **P** **21 09 58.5 +0.2**
comp=Z,13nm,1.0s,mb4.4
TUC Tucson 83.32 52 *e*P **P** **21 09 59.9 +0.7**
comp=Z,12nm,0.8s,mb4.5
WVOR Wild Horse Val 83.47 40⇑*i*P **P** **21 09 59.9 +0.2**
comp=Z,8.4nm,0.9s,mb4.3
RSO Redoubt South 83.53 12 *e*P **P** **21 09 58.9 -0.6**
KULM Kulim 83.57 278 *e*P **P** **21 10 01.6 +0.7**
SVW2 Sparrevohn 83.59 11 *e*P **P** **21 09 59.1 -0.7**
OSR Olympics--Salm 83.60 34 P **P** **21 10 01.4 +1.2**
OOW Octopus West 83.63 33 P **P** **21 10 01.8 +1.4**
MA2 Magadan 83.96 345 *e*P **P** **21 10 01.4 -0.3**
MA2 *e* 21 13 23.4
MA2 *i* S S 21 19 35.7 -5.7
MA2 pmax pmax
comp=Z,20nm,0.9s,mb4.7
MA2 Magadan 83.96 345 *e*P **P** **21 10 01.3 -0.3**
comp=Z,25nm,0.8s,mb4.8
SLKM Skilak Lake 84.10 14 *e*P **P** **21 10 01.5 -0.9**
SPU Mount Spurr 84.33 12 *e*P **P** **21 10 02.1 -1.3**
ELK Elko 84.62 43 P **P** **21 10 05.4 0.0**
comp=Z,3.5nm,0.7s,mb4.0,baz=102,slow=23,SNR=28
ELK Elko 84.62 43⇑*i*P **P** **21 10 05.3 -0.1**
BBB Bella Bella 84.73 28 P **P** **21 10 05.6 0.0**
comp=Z,6.0nm,0.6s,mb4.3,baz=196,slow=7.4,SNR=3.6
TTA Tatalina 85.23 10 *e*P **P** **21 10 07.9 +0.1**
MSU Marysvale 85.45 46 *e*P **P** **21 10 10.0 +0.6**
MSU *e*pP pP 21 12 06.7 +1.7
BMO Blue Mountains 85.66 39⇑*i*P **P** **21 10 10.2 -0.1**
comp=Z,10nm,0.8s,mb4.5
SML Sawmill 85.68 14 *e*P **P** **21 10 09.5 -0.5**
DIV Divide 85.69 15 *e*P **P** **21 10 09.4 -0.6**
comp=Z,75nm,1.0s,mb5.3
ENH Enshi 85.98 304 *e*P **P** **21 10 13.2 +1.0**
comp=Z,210nm,1.5s,mb5.5
ENH *e*pP pP 21 12 11.4 +3.5
OD2 Odessa Site #2 86.33 36 P **P** **21 10 14.0 +0.6**
SYO Syowa Base 86.43 193 ⇑P **P** **21 10 11.0 -2.4**
SYO Syowa Base 86.43 193 ⇓P **P** **21 10 14.0 +0.6**
SEY Seymchan 86.56 347 *i* P **P** **21 10 14.2 +0.1**
SEY 21 13 45.8
SEY *e*PPP PPP 21 15 47.4 -0.1
SEY 21 19 48.9
SEY *e*S S 21 20 04.7 -1.2
SEY *e*SP SP 21 21 01.1 -12
SEY *e*SS SS 21 25 49.1 -17
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY pmax pmax
comp=Z,60nm,0.8s,mb5.3
SEY pmax pmax
comp=E,8.0nm,0.6s
SEY smax
comp=N,160nm,6.0s
SEY smax
comp=E,190nm,8.5s
GYA Guiyang 86.56 300 P **P** **21 10 15.7 +0.6**
GYA AP pP 21 12 02.9 -8.0
GYA PP PP 21 13 46.4 -1.0
GYA S S 21 20 10.1 +3.3
GYA AMB AMB
comp=Z,20nm,1.2s,mb4.6
GYA AMB AMB
comp=Z,90nm,3.2s
HLID Hailey 86.67 41⇑*e*P **P** **21 10 15.7 +0.5**
comp=Z,7.4nm,0.8s,mb4.4
HLID *e*pP pP 21 12 10.6 -0.4
SRU San Rafael 86.87 46⇑*i*P **P** **21 10 16.3 +0.2**
SRU *e*pP pP 21 12 13.4 +1.3
PNT Penticton 86.99 34 P **P** **21 10 16.7 +0.2**
MNTX Cornudas Mount 87.09 55⇑*i*P **P** **21 10 17.6 +0.2**
comp=Z,41nm,1.4s,mb4.9
MNTX *e*pP pP 21 12 14.3 +0.9
TCUT Toone Canyon 87.29 44 *e*P **P** **21 10 18.3 +0.2**
LTX Lajitas 87.39 57⇑*e*P **P** **21 10 19.5 +0.6**
comp=Z,70nm,1.9s,mb5.0
TXAR Lajitas Array 87.39 57 P **P** **21 10 19.6 +0.7**
comp=Z,6.3nm,0.7s,mb4.4,baz=218,slow=6.9,SNR=94
TXAR pP pP 21 12 13.9 -1.0
comp=Z,1.1nm,0.8s,baz=219,slow=8.0,SNR=5.1
TXAR PKKPbc 21 28 06.3
comp=Z,0.5nm,0.9s,baz=102,slow=2.3,SNR=5.1
TXAR Lajitas Array 87.39 57 P **P** **21 10 19.6 +0.7**
TXAR pP pP 21 12 13.9 -1.0
TXAR PKKPbc 21 28 06.3
HWUT Hardware Ranch 87.44 44 *e*P **P** **21 10 17.9 -0.8**
comp=Z,3.6nm,0.8s,mb4.0
NEW Newport 87.71 36 P **P** **21 10 19.4 -0.5**
comp=Z,4.9nm,0.8s,mb4.3,baz=226,slow=3.6,SNR=7.0
NEW Newport 87.71 36 *e*P **P** **21 10 19.2 -0.7**
comp=Z,2.5nm,0.7s,mb4.0
ANMO Albuquerque 87.75 51*c i*P **P** **21 10 20.6 +0.2**
ANMO Albuquerque 87.75 51 P **P** **21 10 20.2 -0.2**
comp=Z,4.8nm,0.7s,mb4.3,baz=239,slow=4.4,SNR=15
ANMO pP pP 21 12 16.2 -0.4
comp=Z,1.0nm,0.7s,baz=165,slow=3.0,SNR=2.6
ANMO Albuquerque 87.75 51⇑*i*P **P** **21 10 20.5 +0.1**
comp=Z,16nm,1.4s,mb4.6
ANMO *e*pP pP 21 12 16.4 -0.2
SNAA Sanae 87.77 179⇑*i*P **P** **21 10 19.7 0.0**
SNAA Sanae 87.77 179⇑*i* **P** **21 10 21.0 +1.3**
SNAA Sanae 87.77 179 *e*P **P** **21 10 19.4 -0.2**
comp=Z,4.8nm,0.5s,mb4.5
VNA3 Neumayer Olymp 87.91 176⇑*i*P **P** **21 10 20.8 +0.5**
VNA3 Neumayer Olymp 87.91 176⇑*i* **P** **21 10 22.1 +1.8**
VNA3 Neumayer Olymp 87.91 176 S S 21 20 25.5 +7.5
XAN Xi'an 88.09 307 P **P** **21 10 23.3 +1.2**
XAN AMB AMB
comp=Z,40nm,1.3s,mb5.0
MCMT McKenzie Canyo 88.30 40 *e*P **P** **21 10 23.2 +0.5**
VNA2 Neumayer--Watz 88.35 177⇑*i*P **P** **21 10 23.4 +1.0**
VNA2 Neumayer--Watz 88.35 177⇑*i* **P** **21 10 24.6 +2.2**
DLBC Dease Lake 88.37 23 P **P** **21 10 22.4 -0.3**
comp=Z,4.6nm,0.7s,mb4.3,baz=229,slow=6.4,SNR=5.5
DLBC Dease Lake 88.37 23 P **P** **21 10 22.4 -0.3**
RRI2 Red Ridge 88.48 42⇑*i*P **P** **21 10 24.0 +0.4**
comp=Z,65nm,1.5s,mb5.1
IMA Indian Mountai 88.53 10 *e*P **P** **21 10 23.1 -0.2**
NANT Nan 88.56 291 ⇓P **P** **21 10 26.0 +1.4**
comp=Z,38nm,0.9s,mb5.2
VNA1 Neumayer--Stat 88.58 177⇑*i*P **P** **21 10 24.6 +1.1**
VNA1 Neumayer--Stat 88.58 177⇑*i* **P** **21 10 26.6 +3.1**
ILAR Eielson Array 88.61 13 P **P** **21 10 22.6 -1.1**
comp=Z,3.6nm,0.4s,mb4.5,baz=232,slow=5.5,SNR=48
HIA Hailar 88.76 325 *e*P **P** **21 10 24.8 0.0**
comp=Z,6.5nm,0.4s,mb4.8
REDW Red Top Meadow 88.78 42⇑*i*P **P** **21 10 25.2 +0.1**
comp=Z,45nm,1.5s,mb5.1
TPAW Teton Pass 88.78 42⇑*i*P **P** **21 10 25.7 +0.6**
comp=Z,42nm,1.6s,mb5.0
SNOW Snow King Moun 88.89 42⇑*i*P **P** **21 10 25.9 +0.3**
comp=Z,26nm,1.0s,mb5.0
MOOW Moose Ponds 89.04 42⇑*e*P **P** **21 10 26.4 +0.1**
comp=Z,16nm,1.4s,mb4.7
LOHW Long Hollow 89.06 42⇑*i*P **P** **21 10 26.4 +0.1**
comp=Z,8.2nm,0.6s,mb4.7
CHMT Chamberlain Mo 89.16 38 *e*P **P** **21 10 26.3 -0.4**
KMI Kunming 89.25 297 P **P** **21 10 29.5 +1.8**
KMI AP pP 21 12 19.7 -4.5
KMI PP PP 21 14 12.2 +3.1
KMI SKS SKS 21 20 09.2 +2.3
KMI S S 21 20 35.8 +4.6
KMI PS PS 21 22 54.1 -1.7
KMI XS 21 23 48.9
KMI AMB AMB
comp=Z,28nm,1.4s,mb4.9
KMI AMB AMB
comp=Z,112nm,3.3s
KMI Kunming 89.25 297 P **P** **21 10 29.5 +1.8**
comp=Z,28nm,1.4s,mb4.9
KMI pP pP 21 12 19.7 -4.5
KMI sP sP 21 13 05.0 -11
KMI PP PP 21 14 12.2 +3.1
KMI SKS SKS 21 20 09.2 +2.3
KMI S S 21 20 35.8 +4.6
KMI PS PS 21 22 54.1 -1.7
KMI sS 21 23 48.9
KMI SS SS 21 26 47.1 +2.2
KMI SSS SSS 21 30 26.3 +1.3
BILL Bilibino 89.26 354*d i*P **P** **21 10 26.5 -0.2**
BILL pmax pmax
comp=Z,24nm,2.0s,mb4.7
BILL Bilibino 89.26 354 *e*P **P** **21 10 25.7 -1.0**
comp=Z,3.9nm,0.6s,mb4.4
BW06 Boulder Array 89.31 43⇑*i*P **P** **21 10 27.1 -0.5**
comp=Z,5.3nm,0.6s,mb4.5
PDAR Pinedale Array 89.31 43 P **P** **21 10 27.2 -0.3**
comp=Z,8.1nm,0.6s,mb4.7,baz=219,slow=3.0,SNR=98

HHC Hu-ho-hao-te 89.36 314 *e*P **P** **21 10 28.4 +0.6**
HHC SKS SKS 21 20 06.6 -0.6
HHC S S 21 20 38.9 +7.2
HHC AMB AMB
comp=Z,27nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,75nm,8.4s
BOZ Bozeman (W) 89.46 40 *e*P **P** **21 10 28.4 +0.2**
comp=Z,14nm,1.1s,mb4.7
SDCO Great Sand Dun 89.70 49 *e*P **P** **21 10 29.3 -0.1**
comp=Z,5.0nm,0.8s,mb4.4
HRY Holter Researc 89.88 39 *e*P **P** **21 10 30.4 +0.3**
CM31 Chiang Mai Arr 89.97 290 *e*P **P** **21 10 31.9 +0.8**
comp=Z,15nm,0.8s,mb4.9
CMAR Chiang Mai Arr 89.97 290 P **P** **21 10 33.0 +1.9**
comp=Z,16nm,1.0s,mb4.8,baz=111,slow=3.2,SNR=59
CMAR PP PP 21 14 14.4 -0.5
comp=Z,1.9nm,1.1s,baz=180,slow=3.6,SNR=3.4
CMAR PKKPbc 21 27 58.9
comp=Z,1.0nm,0.6s,baz=273,slow=4.4,SNR=13
CHG Chiang Mai 90.10 290 ⇓P **P** **21 10 33.3 +1.6**
YAK Yakutsk 92.25 338 ⇓*i*P **P** **21 10 39.8 -0.8**
YAK *i* 21 14 30.6
YAK pmax pmax
comp=Z,45nm,1.1s,mb5.4
YAK Yakutsk 92.25 338 *e*P **P** **21 10 40.0 -0.6**
comp=Z,21nm,0.6s,mb5.3
LZH Lanzhou 92.73 308 ⇓P **P** **21 10 44.7 +1.3**
LZH AP pP 21 12 33.5 -7.0
LZH SKS SKS 21 20 32.1 +5.7
LZH S S 21 21 07.6 +6.3
LZH AMB AMB
comp=Z,41nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,84nm,6.3s
LZH Lanzhou 92.73 308 ⇓P **P** **21 10 44.7 +1.3**
comp=Z,41nm,1.5s,mb5.2
LZH pP pP 21 12 33.5 -7.0
LZH sP sP 21 13 21.2 -11
LZH PP PP 21 14 47.8 +12
LZH SKS SKS 21 20 32.1 +5.7
LZH S S 21 21 07.6 +6.3
LZH sS 21 24 18.7
RSSD Black Hills 93.50 44 *e*P **P** **21 10 46.0 -0.8**
comp=Z,14nm,1.3s,mb4.8
INK Inuvik 94.58 15 P **P** **21 10 49.9 -1.2**
comp=Z,4.0nm,1.0s,mb4.5,baz=222,slow=9.1,SNR=6.9
INK Inuvik 94.58 15 *e*P **P** **21 10 50.0 -1.1**
comp=Z,8.1nm,1.2s,mb4.7
CFAA Coronel Fontan 95.14 126 P **P** **21 10 54.5 -0.1**
comp=Z,0.6nm,0.6s,mb3.9,baz=241,slow=4.6,SNR=8.0
CFAA PP PP 21 14 46.6 -7.5
comp=Z,0.2nm,0.5s,baz=60,slow=9.8,SNR=3.1
ULN Ulaanbaatar 95.39 319 ⇓*i*P **P** **21 10 55.5 +0.2**
ULN Ulaanbaatar 95.39 319 *e*P **P** **21 10 56.0 +0.7**
comp=Z,2.5nm,0.6s,mb4.5
SONM Songino Array 95.78 319 P **P** **21 10 56.6 -0.4**
comp=Z,1.2nm,0.4s,mb4.5,baz=131,slow=4.1,SNR=16
SONM PP PP 21 14 50.4 -8.3
comp=Z,1.8nm,1.1s,baz=124,slow=4.5,SNR=4.9
GTA Gaotai 96.95 309 *e*P **P** **21 11 03.6 +1.0**
GTA AP pP 21 12 58.2 -1.6
GTA XP sP 21 13 48.2 -3.0
GTA AMB AMB
comp=Z,6.0nm,1.1s,mb4.7
GTA AMB AMB
comp=Z,78nm,8.2s
ZAK Zakamensk 98.67 321 *e*P **P** **21 11 08.9 -1.1**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.4
TIXI Tiksi 98.93 345 *e*P **P** **21 11 09.5 -1.2**
TIXI *i* 21 15 21.5
TIXI pmax pmax
comp=Z,8.0nm,1.6s,mb4.8
TLY Talaya 98.94 322 *e*P **P** **21 11 10.5 -0.7**
comp=Z,2.3nm,0.6s,mb4.7
LPAZ La Paz 102.19 113 P Pdif 21 11 29.1 +2.7
comp=Z,1.1nm,0.6s,baz=239,slow=3.7,SNR=7.8
LPAZ La Paz 102.19 113 *e*Pdif Pdif 21 11 29.2 +2.8
comp=Z,4.0nm,1.3s
TZTN Tazewell 105.70 56 *e*Pdif Pdif 21 11 42.4 +0.9
FWV Forest Hill 108.07 56 *e*Pdif Pdif 21 11 50.1 -1.8
MKAR Makanchi Array 111.19 313 Pdiff Pdif 21 12 06.9 +1.5
comp=Z,0.5nm,0.5s,baz=86,slow=5.9,SNR=11
MKAR PKIKP 21 15 59.9
comp=Z,1.4nm,0.7s,baz=164,slow=0.2,SNR=20
MKAR PKKPbc 21 26 58.2
comp=Z,1.0nm,0.6s,baz=275,slow=3.5,SNR=16
MKAR Makanchi Array 111.19 313 Pdif Pdif 21 12 06.9 +1.5
MKAR PKPdf PKPdf 21 15 59.9 0.0
MKAR PKKPbc 21 26 58.2
VOSK Vostochnaya 118.78 320 PKIKP PKPdf 21 16 14.5 -0.1
VOSK pmax pmax
comp=Z,4.0nm,0.8s
BVA0 Borovoye Array 119.12 320 *i* PKIKP PKPdf 21 16 15.5 +0.3
BVAR Borovoye Array 119.12 320 PKP PKPdf 21 16 15.5 +0.3
comp=Z,3.8nm,0.4s,baz=133,slow=1.2,SNR=46
BVAR SKP 21 19 02.5
comp=Z,1.7nm,1.0s,baz=90,slow=3.0,SNR=3.8
BVAR PKKPbc 21 26 34.1
comp=Z,0.6nm,0.6s,baz=249,slow=2.3,SNR=6.4
ZRNK Zerenda 119.96 320 PKIKP PKPdf 21 16 16.9 +0.1
ZRNK pmax pmax
comp=Z,3.0nm,0.7s
ZRNK Zerenda 119.96 320 *e*PKPdf PKPdf 21 16 17.0 +0.2
SVE Sverdlovsk 124.06 325 *e*PKIKP PKPdf 21 16 25.3 +0.7
SVE *e* 21 18 15.5
SVE pmax pmax
comp=Z,20nm,1.4s
ARU Arti 125.27 325 *i* PKIKP PKPdf 21 16 27.4 +0.5
ARU *i* 21 18 22.7
BOSA Boshof 125.93 206 PKP PKPdf 21 16 30.6 +1.5
comp=Z,2.5nm,0.7s,baz=180,slow=22,SNR=8.3
BOSA Boshof 125.93 206 *e*PKPdf PKPdf 21 16 31.0 +2.0
AB31 Akbulak array 126.10 316 *i* PKIKP PKPdf 21 16 29.5 +0.7
AB31 pmax pmax
comp=Z,1.0nm,0.5s
KEV Kevo 128.67 349 *e*pkp PKPdf 21 16 33.0 -0.2
LBTB Lobatse 128.94 208 *e*PKPdf PKPdf 21 16 36.7 +1.8
ARCES ARCESS Array B 129.12 349 PKP PKPdf 21 16 34.4 +0.3
comp=Z,3.4nm,0.5s,baz=65,slow=1.1,SNR=28
ARCES PP PP 21 19 06.0 +13
comp=Z,17nm,1.2s,baz=18,slow=3.8,SNR=15
ARCES PKKPbc 21 25 49.2
comp=Z,0.9nm,0.9s,baz=252,slow=3.8,SNR=4.0
ARCES ARCESS Array B 129.12 349 PKP PKPdf 21 16 34.4 +0.3
ARCES PP PP 21 19 06.0 +13
ARCES PKKPbc 21 25 49.2
KAF Kangasniemi 135.32 344 *e*pkp PKPdf 21 16 44.2 -1.6
LSZ Lusaka 135.77 218 *e*PKPdf PKPdf 21 16 50.7 +2.8
FINES FINESS Array B 135.94 343 PKHKP 21 16 36.0
comp=Z,0.5nm,0.4s,baz=69,slow=2.5,SNR=9.2
FINES PKP PKPdf 21 16 46.5 -0.5
comp=Z,2.6nm,0.6s,baz=90,slow=4.2,SNR=12
FINES SKP 21 19 31.6
comp=Z,12nm,1.0s,baz=63,slow=4.3,SNR=25
FINES FINESS Array B 135.94 343 PKP 21 16 36.0
FINES PKP PKPdf 21 16 46.5 -0.5
FINES SKP 21 19 31.6
OBN Obninsk 136.86 331 *i* PKIKP PKPdf 21 16 49.6 +0.8
OBN *e* 21 19 40.7
OBN *e* 21 23 17.1
OBN pmax pmax
comp=Z,16nm,1.4s
GNI Garni 138.67 308 *e*PKPdf PKPdf 21 16 54.6 +2.1
KMBO Kilima Mbogo 139.01 242 PKP PKPdf 21 16 56.5 +2.7
comp=Z,0.9nm,0.8s,baz=47,slow=20,SNR=4.4
KMBO SKP 21 19 40.7
comp=Z,4.1nm,0.9s,baz=77,slow=1.1,SNR=6.5
KMBO SKPab 21 19 53.1
comp=Z,4.0nm,1.0s,baz=116,slow=1.3,SNR=4.7
KMBO Kilima Mbogo 139.01 242 PKP PKPdf 21 16 56.5 +2.7
KMBO SKP 21 19 40.7
KMBO SKPab 21 19 53.1
NB2 NORSAR Subarra 139.20 353 PKPabc PKPdf 21 16 45.1 -7.8
comp=Z,0.3nm,0.6s,baz=20,slow=3.5
NOA NORSAR Array B 139.20 353 PKHKP 21 16 45.4
comp=Z,1.5nm,0.7s,baz=8.5,slow=2.3,SNR=11
NOA SKPbc 21 19 40.4
comp=Z,8.7nm,1.0s,baz=16,slow=4.4,SNR=11
NOA NORSAR Array B 139.20 353 PKP PKPdf 21 16 45.4 -7.5
NOA SKPbc 21 19 40.4
BTMT Batman 141.62 306 *e*P PKPdf 21 16 55.3 -2.6
ANN Anapa 142.05 318 ⇑*i*PKHKP 21 16 55.6
ANN pmax pmax
comp=Z,24nm,1.7s
MARD Mardin 142.39 305 *i* P PKPdf 21 16 57.6 -1.6
BLJS Baljurashi 142.68 276 P PKPdf 21 17 01.0 +0.9
KELT Kelkit 142.68 310 *i* P PKPdf 21 16 59.3 -0.3
SUW Suwalki 142.99 339 *e*PKP PKPdf 21 16 58.8 -0.8
SUW *e* 21 19 51.6
SUW Suwalki 142.99 339 *e*PKP PKPdf 21 16 58.8 -0.8
SUW *e* 21 19 51.6
PTK Pertek 142.99 308 *e*P PKPdf 21 17 00.7 +0.6
AKASG Malin Array Be 143.12 331 PKhKP 21 16 58.1
comp=Z,11nm,0.3s,baz=42,slow=4.3,SNR=253
ELZG Elazig 143.42 307 *i* P PKPbc 21 17 02.2 +2.3
LTHS Al Lith 143.84 276 P PKPbc 21 17 04.1 +2.4
URFA Urfa 143.86 306 *e*P PKPbc 21 17 03.2 +2.0
MYA Malataya 143.89 307 *e*P PKPbc 21 17 01.4 +0.1
MALT Malatya 143.89 307 *e*P PKPbc 21 17 03.5 +2.2
MALT Malatya 143.89 307 *e*PKPdf PKPdf 21 17 03.2 +1.5
MALT *e*SKPbc 21 19 54.3
MUD Monsted U'grnd 143.92 353 ⇓*i*PKHKP 21 17 01.3
MUD pmax pmax
comp=Z,62nm,0.8s
MUD Monsted U'grnd 143.92 353 ⇓*i*P PKPbc 21 17 01.3 +0.5
comp=Z,62nm,0.8s
SIM Simferopol' 144.03 320 *d i*PKHKP 21 17 03.0
SIM pmax pmax
comp=Z,103nm,1.0s
COP Copenhagen 144.21 350 ⇓*i*PKHKP 21 17 02.3
COP pmax pmax
comp=Z,35nm,0.7s
COP Copenhagen 144.21 350 ⇓*i*P PKPdf 21 17 02.3 +0.6
comp=Z,35nm,0.7s
BSD Bornholm Skovb 144.28 347 ⇓*i*PKHKP 21 17 02.2
BSD pmax pmax
comp=Z,150nm,0.7s
BSD Bornholm Skovb 144.28 347 ⇓*i*P PKPdf 21 17 02.2 +0.4
comp=Z,149nm,0.7s
SVST Sivas 144.47 310 *i* P PKPdf 21 17 05.8 +3.1
MBAR Mbarara 144.58 237 *d i*PKHKP 21 17 05.1
MBAR Mbarara 144.58 237 *e*PKPdf PKPdf 21 17 05.0 +1.4
GZT Gaziantep 144.84 306 *i* P PKPdf 21 17 06.2 +2.8
GAZ Gaziantep 145.16 306 *e*P PKPdf 21 17 07.4 +3.4
WAR Warsaw 145.18 339 *e*PKP PKPdf 21 17 07.0 +3.5
WAR Warsaw 145.18 339 *e*PKP PKPdf 21 17 07.0 +3.5
BOYT Boyabat 145.22 314 *i* P PKPdf 21 17 06.8 +2.8
KBRS Khaybar 145.25 286 P PKPdf 21 17 08.2 +3.7
KAHT Ahir Dag 145.27 307 *i* P PKPdf 21 17 07.2 +3.1
BZK Bozkurt 145.58 315 *e*P PKPdf 21 17 07.6 +3.0
BNN Bunyan 145.61 309 *e*P PKPdf 21 17 08.5 +3.8
CTKT Corum 145.65 313 *i* P PKPdf 21 17 08.1 +3.4
KIS Kishinev 145.81 326 *e*PKHKP 21 17 05.0
KIS pmax pmax
comp=Z,200nm,1.0s
CORM Corum 145.95 312 *e*P PKPdf 21 17 09.8 +4.6
COBT Iskenderun 146.09 305 *i* P PKPdf 21 17 09.8 +4.2
BALT Daday 146.19 315 *i* P PKPdf 21 17 09.6 +4.1
BSEG Bad Segeberg 146.23 351 *e*PKPbc PKPbc 21 17 08.8 +1.8
BSEG *e*PKPab PKPab 21 17 10.7 -1.3
WIM Isle of Man 146.30 7 *e*P PKPdf 21 17 08.4 +3.1
WIM AMb AMB 21 17 12.2
comp=Z,63nm,1.8s
HTY Hatay 146.31 304 *e*P PKPdf 21 17 10.7 +4.7
IAS Iasi 146.32 328 PKIKP PKPdf 21 17 09.8 +4.2
AVNT Avonos 146.35 310 *i* P PKPdf 21 17 10.0 +4.1
CDAG Cicekdag 146.36 311 *i* P PKPdf 21 17 09.7 +3.8
CANT Cankiri 146.46 313 *e*P PKPdf 21 17 09.6 +3.6
ELDT Eldivan 146.64 313 *i* P PKPdf 21 17 11.0 +4.7
KWP Kalwaria 146.71 335 *e*PKIKP PKPdf 21 17 10.1 +4.0
KWP *e* 21 19 15.5
KWP Kalwaria 146.71 335 *e*PKP PKPdf 21 17 10.1 +4.0
KWP *e* 21 17 13.7
KWP *e* 21 19 15.5
KWP Kalwaria 146.71 335 *e*PKP PKPdf 21 17 10.1 +4.0
KWP *e* 21 17 13.7
KWP *e* 21 19 15.5
SAFT Safranbolu 146.79 315 *e*P PKPdf 21 17 11.5 +5.0
BR131 Keskin Array S 146.83 312 *e*PKPbc PKPbc 21 17 10.8 +2.0
BRTR Keskin Array B 146.83 312 PKPbc PKPbc 21 17 10.8 +1.9
comp=Z,12nm,0.8s,baz=131,slow=3.2,SNR=62
BRTR pPKPbc 21 19 12.7
comp=Z,1.4nm,0.7s,baz=90,slow=4.3,SNR=2.8
BRTR PP PP 21 20 25.9 -16
comp=Z,5.8nm,1.1s,baz=108,slow=3.9,SNR=6.8
BRTR Keskin Array B 146.83 312 PKPbc PKPbc 21 17 10.8 +1.9
BRTR pPKPbc 21 19 12.7
BRTR PP PP 21 20 25.9 -16
DSB Dublin 146.97 9 *e*PKPbc PKPbc 21 17 09.8 +1.1
TLCR 146.97 324 ⇓P PKPdf 21 17 11.5 +4.8
RUE Ruedersdorf 146.98 346 *e*PKPbc PKPbc 21 17 10.7 +1.9
UMJS Umm Lajj 147.02 285 P PKPdf 21 17 12.8 +5.4
WCB1 Church Bay 147.07 7 *e*P PKPdf 21 17 10.0 +3.4
WCB1 AMb AMB 21 17 11.1
comp=Z,40nm,0.8s
WME Myndd Eilian 147.08 7 *e*P PKPdf 21 17 10.7 +4.1
BURAR Bucovina Array 147.16 330 ⇑P PKPdf 21 17 12.3 +5.4
BURAR Bucovina Array 147.16 330 ⇑P PKPdf 21 17 12.3 +5.4
WLF1 Llynfaes 147.18 7 *e*P PKPdf 21 17 10.6 +3.8
WLF1 AMb AMB 21 17 11.2
comp=Z,34nm,0.7s
YRC Rhoscolyn 147.19 7 *e*P PKPdf 21 17 10.3 +3.5
YRC AMb AMB 21 17 14.6
comp=Z,46nm,1.0s
OJC Ojcow 147.31 338 *e*PKP PKPdf 21 17 11.6 +4.6
YLL Llanberis 147.35 7 *e*P PKPdf 21 17 10.7 +3.7
CFR Carcaliu 147.35 324 PKIKP PKPdf 21 17 12.1 +4.8
CFR Carcaliu 147.35 324 ⇓P PKPdf 21 17 11.9 +4.6
ANKO Ankara 147.35 313 *e*P PKPdf 21 17 12.9 +5.5
KOLS Kolonicke sedl 147.43 335 *e*PKP PKPdf 21 17 12.9 +5.6
KOLS *e* 21 19 12.0
YRE Yr Eifl 147.48 7 *e*P PKPdf 21 17 11.0 +3.8
KSDI Kefar Szold 147.48 300 P PKPdf 21 17 13.4 +5.5
SGKT Sivrigoynuk 147.53 314 *i* P PKPdf 21 17 12.3 +4.6
TBKS Tabuk 147.55 290 P PKPdf 21 17 14.2 +6.1
VRI Vrincioaia 147.64 327 PKIKP PKPdf 21 17 12.8 +5.1
VRI Vrincioaia 147.64 327 ⇓P PKPdf 21 17 12.7 +5.0
TIRR Tirgusor 147.65 323 ⇓P PKPdf 21 17 12.5 +4.7
UZH Uzhgorod 147.67 334 *e*PKIKP PKPdf 21 17 14.0 +6.3
WIT Witteveen 147.77 354 *i* PKP PKPdf 21 17 13.7 +6.0
comp=Z,254nm,1.1s
HARR Harsova 147.77 324 PKIKP PKPdf 21 17 13.9 +5.9
HARR Harsova 147.77 324 ⇑P PKPdf 21 17 13.7 +5.7
CRVS Cervenica-Dubn 147.78 335 *e*PKP PKPdf 21 17 13.9 +6.1
CRVS *e* 21 17 19.6
CRVS *e* 21 19 20.8
NIE Niedzica 147.79 337 ⇓*i*PKP PKPdf 21 17 13.6 +5.8
MMLI Mount Malkishu 147.85 298 P PKPdf 21 17 14.4 +5.9
MKRJ Makawir 147.85 297 P PKPdf 21 17 14.3 +5.8
KSP Ksiaz 147.86 343 *e*PKIKP PKPdf 21 17 13.7 +5.8
KSP *e* 21 17 18.3
KSP *e* 21 19 17.2
KSP Ksiaz 147.86 343 *e*PKP PKPdf 21 17 13.9 +6.0
KSP *e* 21 17 18.4
HNTI Hanita 147.90 300 P PKPdf 21 17 14.0 +5.4
JMQS Jabal Moqyreh 148.06 292 P PKPdf 21 17 15.4 +6.5
MZDA Masada 148.13 296 P PKPdf 21 17 14.9 +5.9
IKL Isikli 148.15 306 *e*P PKPdf 21 17 10.7 +1.9
HENT Hendek 148.17 315 *i* P PKPdf 21 17 14.2 +5.4
OKC Ostrava-Krasne 148.18 340 ⇑*e*PKPBC PKPdf 21 17 13.9 +5.4
OKC *e*PKPAB PKPab 21 17 19.4 -0.4
SLTI Sal'it 148.20 298 P PKPdf 21 17 15.1 +6.0
UPIC Upice 148.24 343 ⇑*e*PKPBC PKPdf 21 17 14.3 +5.8
UPIC *e*PKPAB PKPab 21 17 19.7 -0.3
UPIC *e*pPKP 21 19 18.2
CLZ Clausthal 148.25 350 *e*PKPbc PKPdf 21 17 14.2 +5.7
CLL Collm 148.25 347 ⇓*i*PKIKP PKPdf 21 17 14.2 +5.7
CLL *i* 21 17 18.4
CLL *e* 21 19 17.0
CLL pmax pmax
comp=Z,57nm,1.1s
CLL pmax pmax
comp=Z,33nm,0.8s
CLL Collm 148.25 347 ⇓*i*PKP1 PKPdf 21 17 14.2 +5.7
CLL *i* PKP2 PKPab 21 17 18.4 -1.7
CLL *e* 21 17 27.0
CLL *e**PPKP 21 19 17.0
CLL *e* 21 19 25.0
CLL *e*PP PP 21 20 51.0 +1.7
PSN Preselentsi 148.25 322 *e*P PKPdf 21 17 14.0 +5.2
PSN Preselentsi 148.25 322 *e*P PKPdf 21 17 14.0 +5.2
DPC Dobruska-Polom 148.29 342 ⇑*e*PKPBC PKPdf 21 17 14.8 +6.2
DPC *e*PKPAB PKPab 21 17 19.3 -1.0
DPC *e*pPKP 21 19 17.1
MLR Muntele Rosu 148.30 327 PKIKP PKPdf 21 17 14.4 +5.6
MLR Muntele Rosu 148.30 327 ⇑P PKPdf 21 17 13.9 +5.1
ZFRI Zfri 148.42 295 P PKPdf 21 17 15.7 +6.2
KIZT Kizilcal 148.43 312 *e*P PKPdf 21 17 15.3 +6.1
MORC Moravsky Berou 148.43 340 PKIKP PKPdf 21 17 15.3 +6.4
MORC Moravsky Berou 148.43 340 *e*PKPbc PKPdf 21 17 14.5 +5.6
BRG Berggiesshubel 148.44 345 *e*PKHKP 21 17 10.4
BRG *i* 21 17 14.6
BRG *i* 21 17 19.7
BRG 21 19 22.6
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG pmax pmax
comp=Z,25nm,0.9s
BRG pmax pmax
comp=Z,28nm,0.9s
BRG pmax pmax
comp=Z,20nm,1.6s
BRG Berggiesshubel 148.44 345 *e*PKP PKPdf 21 17 10.4 +1.6
BRG *i* 21 17 14.6
BRG *i* 21 17 19.7
BRG pPKP 21 19 22.6
KECS Kecovo 148.50 336 *i* PKP PKPdf 21 17 15.4 +6.4
KECS *e* 21 17 20.7
KECS *e* 21 19 19.4
ERMK Ermenek 148.58 307 *i* P PKPdf 21 17 16.6 +7.0
WTSB Winterswijk 148.59 354 *i* PKP PKPdf 21 17 14.9 +5.9
WTSB *i* x x 21 17 19.7
comp=Z,18nm,0.9s
PRNI Paran 148.60 294 P PKPdf 21 17 16.2 +6.4
PVCC Panska Ves 148.60 344 ⇑*e*PKPBC PKPdf 21 17 15.5 +6.4
PVCC *e*PKPAB PKPab 21 17 20.0 -1.5
JMOS Jabal al Moall 148.69 292 P PKPdf 21 17 16.6 +6.7
EIL Elat 148.76 293 *e*PKPbc PKPdf 21 17 16.2 +6.1
EIL Elat 148.76 293 P PKPdf 21 17 16.4 +6.4
MBH Mount Berech 148.77 293 P PKPdf 21 17 16.5 +6.4
VOIR 148.79 327 ⇓P PKPdf 21 17 16.2 +6.6
VOIR 148.79 327 ⇓P PKPdf 21 17 16.2 +6.6
CSS Prodhromos 148.84 304 *e*PKPbc PKPdf 21 17 15.7 +5.7
ESKT Eskisehir 148.84 313 *e*P PKPdf 21 17 16.1 +6.2
ESKT Eskisehir 148.84 313 *i* P PKPdf 21 17 15.7 +5.8
HAQS Haql 148.87 292 P PKPdf 21 17 16.8 +6.6
KMTI Karmit 148.88 294 P PKPdf 21 17 16.5 +6.3
DRGR 148.91 332 PKIKP PKPdf 21 17 16.2 +6.5
TAYS Tayyib Ism 148.98 291 P PKPdf 21 17 17.2 +6.7
PRD Provadia 149.00 322 *e*P PKPdf 21 17 16.0 +6.0
PRD Provadia 149.00 322 *e*P PKPdf 21 17 16.0 +6.0
KZIT Kziot 149.02 296 P PKPdf 21 17 17.0 +6.6
VYHS Vyhne 149.10 338 *i* PKP PKPdf 21 17 16.6 +6.6
VYHS *e* 21 17 23.6
VYHS *e* 21 19 20.4
PRU Pruhonice 149.11 344 ⇑*e*PKPBC PKPdf 21 17 15.9 +6.0
PRU *e*PKPAB PKPab 21 17 22.7 -0.9
PRU *e*pPKP 21 19 23.8
MOX Moxa 149.17 348 *e*PKIKP PKPdf 21 17 16.5 +6.5
MOX *e* 21 17 22.6
MOX pmax pmax
comp=Z,38nm,1.5s
MOX Moxa 149.17 348 *e*PKP PKPdf 21 17 16.5 +6.5
MOX *e*PKPab PKPab 21 17 22.6 -1.2
MOX *e*pPKP 21 19 20.0
MOX Moxa 149.17 348 PKP2 PKPab 21 17 23.0 -0.8
MOX pPKP 21 19 20.0
KOLL Kolacno 149.18 338 *i* PKP PKPdf 21 17 16.9 +6.8
KOLL *e* 21 17 23.7
PSZ Piszkesteto 149.19 336 PKIKP PKPdf 21 17 17.0 +6.8
PSZ Piszkesteto 149.19 336 *e*PKPbc PKPdf 21 17 16.6 +6.5
PSZ Piszkesteto 149.19 336 ⇑*i*PKP/p PKPdf 21 17 17.1 +6.9
NKC Novy Kostel 149.38 346 ⇑*e*PKPBC PKPdf 21 17 17.3 +6.9
NKC *e*PKPAB PKPab 21 17 23.5 -1.2
NKC *e*pPKP 21 19 21.9
ULDT Uludag 149.68 316 *i* P PKPdf 21 17 17.9 +6.8
HGN Heimansgroeve 149.87 355 PKP PKPdf 21 17 17.4 +6.2
HGN *ex* x 21 17 20.5
HGN *i* x x 21 17 25.5
comp=Z,19nm,1.1s
TKTP Tekketepe 149.90 311 *i* P PKPdf 21 17 18.2 +6.6
JMB Yambol 149.93 322 *e*P PKPdf 21 17 18.0 +6.5
JMB Yambol 149.93 322 *e*P PKPdf 21 17 18.0 +6.5
ZST Bratislava 149.95 339 *e*PKP PKPdf 21 17 18.9 +7.5
ZST *e* 21 17 27.5
TNS Taunus Mts 150.11 351 *e*PKPbc PKPdf 21 17 18.6 +7.1
TNS *e*PKPab PKPab 21 17 26.5 -1.2
TNS *e*pPKPbc 21 19 26.8
KHC Kasperske Hory 150.14 344 ⇑*e*PKPDF PKPdf 21 17 12.6 +1.0
KHC ⇑*e*PKPB PKPdf 21 17 18.8 +7.2
KHC *e*PKPAB PKPab 21 17 26.8 -1.1
KHC *e*pPKP 21 19 23.4
GRA1 Grafenberg Arr 150.15 348 *e*PKPbc PKPdf 21 17 18.9 +7.3
GRF Grafenberg Arr 150.15 348 *e*PKP PKPdf 21 17 18.9 +7.3
GEC2 GERESS Array S 150.38 344 *e*PKPbc PKPdf 21 17 19.1 +7.1
GEC2 *e*PKPab PKPab 21 17 28.2 -0.7
GERES GERESS Array B 150.38 344 PKP PKPdf 21 17 11.9 -0.1
comp=Z,1.1nm,0.8s,slow=1.3,SNR=7.6
GERES PKPbc PKPdf 21 17 19.4 +7.4
comp=Z,6.9nm,0.6s,baz=26,slow=2.4,SNR=49
GERES PKPab PKPab 21 17 28.2 -0.7
comp=Z,2.0nm,0.5s,baz=27,slow=4.7,SNR=11
GERES pPKPbc 21 19 22.2
comp=Z,1.9nm,0.7s,baz=27,slow=2.2,SNR=6.4
BTOK Tokmak 150.60 316 *i* P PKPdf 21 17 19.7 +7.1
GIVF Givet 150.61 356 *e*PKP1 PKPdf 21 17 19.6 +7.3
comp=Z,39nm,0.8s
BAIF Baives 150.69 357 *e*PKP1 PKPdf 21 17 19.9 +7.5
comp=Z,49nm,1.1s
DIM Dimitrovgrad 150.79 322 *e*P PKPdf 21 17 20.0 +7.2
DIM Dimitrovgrad 150.79 322 *e*P PKPdf 21 17 20.0 +7.2
WLF Walferdange 150.94 354 *e*PKPbc PKPdf 21 17 20.8 +8.0
WLF *e*PKPab PKPab 21 17 30.0 -1.2
DNZL Cakiroluk 150.95 311 *i* P PKPdf 21 17 21.7 +8.5
KDZ Kurdzhali 151.12 321 *e*P PKPdf 21 17 21.0 +7.7
KDZ Kurdzhali 151.12 321 *e*P PKPdf 21 17 21.0 +7.7
MOA Molln 151.13 342 ⇑*i*P PKPdf 21 17 20.5 +7.4
MOA *i* 21 17 32.0
RZN Rozhen 151.50 322 *e*P PKPdf 21 17 21.0 +7.1
RZN Rozhen 151.50 322 *e*P PKPdf 21 17 21.0 +7.1
FUR Furstenfeldbru 151.59 347 *e*PKPab PKPab 21 17 33.5 -0.5
FUR *e*pPKPbc 21 19 30.4
VTS Vitosha 151.73 325 *e*P PKPdf 21 17 27.0 +13
VTS Vitosha 151.73 325 *e*P PKPdf 21 17 27.0 +13
BFO Black Forest 151.98 351 *e*PKPab PKPab 21 17 34.3 -1.3
FLN La Foliniere 151.99 3 *e*PKP1 PKPdf 21 17 22.2 +7.9
comp=Z,42nm,0.9s
CDF Champ du Feu 152.04 352 *e*PKP1 PKPdf 21 17 22.7 +8.3
comp=Z,9.1nm,0.7s
MMB Musomiste 152.12 323 *e*P PKPdf 21 17 22.0 +7.3
MMB Musomiste 152.12 323 *e*P PKPdf 21 17 22.0 +7.3
ROSF Rostrenen 152.18 7 *e*PKP1 PKPdf 21 17 22.4 +7.8
comp=Z,11nm,0.7s
MEZF Maizieres J'vi 152.19 355 *e*PKP1 PKPdf 21 17 23.3 +8.7
comp=Z,26nm,0.9s
KKB Krupnik 152.29 324 *e*P PKPdf 21 17 24.0 +9.0
KKB Krupnik 152.29 324 *e*P PKPdf 21 17 24.0 +9.0
URLA Izmir 152.29 315 *i* P PKPdf 21 17 23.3 +8.3
WATA Walderalm 152.30 346 ⇓*i*P PKPdf 21 17 23.4 +8.6
WATA *i* 21 17 36.7
SGMF Saint Gilles 152.34 6 *e*PKP1 PKPdf 21 17 22.9 +8.1
comp=Z,23nm,0.7s
GRR Gorron 152.35 4 *e*PKP1 PKPdf 21 17 23.2 +8.4
comp=Z,19nm,0.6s
WTTA Wattenberg 152.36 345 ⇑*i*P PKPdf 21 17 23.5 +8.6
WTTA *i* 21 17 37.0
SQTA Sankt Quirin 152.50 346 ⇑*i*P PKPdf 21 17 24.0 +8.9
SQTA *i* 21 17 37.6
PDKS Podkum 152.51 340 *e*PKPbc PKPdf 21 17 23.8 +8.7
PDKS *e* 21 17 36.8
HAU Haudompre 152.56 353 *e*PKP1 PKPdf 21 17 23.7 +8.6
comp=Z,11nm,0.7s
HINF Hinteralfeld 152.68 352 *e*PKP1 PKPdf 21 17 23.8 +8.5
comp=Z,5.5nm,0.6s
DAVA Damuels 152.72 348 ⇑*i*P PKPdf 21 17 25.4 +10
DAVA *i* 21 17 38.6
BOJS Bojanci 152.92 339 *e*PKPbc PKPdf 21 17 25.0 +9.3
SKO Skopje 153.10 326 *e*PKP PKPdf 21 17 25.0 +8.9
SKO *e* 21 17 40.0
LOR Lormes 153.49 357 *e*PKP1 PKPdf 21 17 25.9 +9.5
comp=Z,14nm,0.8s
SSF Saint Saulge 153.71 357 *e*PKP1 PKPdf 21 17 26.4 +10
comp=Z,8.5nm,0.9s
CABF La Chapelle 153.96 353 *e*PKP1 PKPdf 21 17 27.5 +10
comp=Z,7.6nm,0.9s
SMF Signal de Mont 154.11 357 *e*PKP1 PKPdf 21 17 26.7 +9.5

MFF	Saint Martin d	154.17	3	ePKP1	PKPdf	21 17 27.1	+10
	comp=Z,14nm,0.9s						
BGF	Bois d'Agland	154.24	358	ePKP1	PKPdf	21 17 27.4	+10
TCF	Toulx Ste Croi	154.52	359	ePKP1	PKPdf	21 17 27.9	+10
RJF	Les Rejaudoux	155.51	0	ePKP1	PKPdf	21 17 28.9	+10
TIP	Timpagrande	157.55	328	ePKPab	PKPab	21 17 59.0	-0.6
ESDC	Sonseca Array	160.51	13	PKPab	PKPab	21 18 11.6	-0.7
	comp=Z,1.3nm,0.6s,baz=353,slow=4.9,SNR=10						
DBIC	Dimbokro	164.61	155	PKP	PKPdf	21 17 31.0	+0.8
	comp=Z,4.7nm,0.8s,baz=81,slow=8.6,SNR=5.9						
DBIC				PKPab	PKPab	21 18 30.1	-0.8
	comp=Z,6.4nm,0.7s,baz=183,slow=9.2,SNR=9.8						

*NEIC **01** 21:26:00.5, 16.58N×94.52W, h64km, MD3.7(MEX), After MEX.*

MEX 01 21:25:58.6±1.3**, 16.55N×94.49W, h94km**±16km**, MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.65	325	i P	P	21 26 13.9	-1.4
CMIG				i S	S	21 26 20.9	-6.7
CMIG	Matias Romero	0.65	325	i P	P	21 26 13.8	-1.5
CMIG				i S	S	21 26 25.7	-1.9
HUIG	Huatulco	1.74	244	i P	P	21 26 25.5	-2.5
HUIG				i S	S	21 26 48.6	-1.1
OXX	Oaxaca	2.20	284	eP	P	21 26 33.0	-1.2
OXX				eS	S	21 26 57.0	-3.6
VHO	Vista Hermosa	2.21	284	i P	P	21 26 33.2	-1.1
VHO				i S	S	21 26 58.6	-2.2
CCIG	Comitan	2.28	96	eP	P	21 26 35.0	-0.3
CCIG				eS	S	21 26 59.0	-3.5
CCIG	Comitan	2.28	96	eP	P	21 26 35.0	-0.3
CCIG				i S	S	21 27 00.3	-2.2

*IDC **01** 21:40:26.4±0.8, 15.92N×61.47W, mb4.1/8, mb1 4.3/9, mb1mx3.9/25, mbtmp4.1/9, ML5.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/38, Error ellipse: s-maj=16.9km s-min=14.2km az=112.0*
*TRN **01** 21:40:27.2, 15.85N×61.60W, h26km, MD4.0, M3.7(FDF), Md3.0(FDF)*
*NEIC **01** 21:40:28.8, 15.82N×61.44W, h37km, mb3.6/1, MD4.1(TRN), After TRN.*

ISC 01 21:40:28.9±0.4**, 15.84N**±0.03×**61.64W**±0.06**, h28km**±3km**, n37, σ1^{s}00**/50**, mb4.0**/9**, 7C-3D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TBG	Guadaloupe-3	0.01	349	⇓ iP	Pn	21 40 31.5	-1.7
PHG	Guadaloupe-2	0.18	0	eP	Pb	21 40 33.9	-0.7
SCG	Saint Claude	0.19	349	eP	Pb	21 40 34.1	-0.7
DOG	Dongo Capester	0.20	7	eP	Pb	21 40 34.0	-0.8
BCG	Bois Riant Cap	0.25	5	eP	Pb	21 40 34.8	-0.7
MGG	Marie-Galante	0.32	76	⇑ iP	Pb	21 40 35.7	-0.8
LZG	Guadaloupe-1	0.33	337	eP	Pb	21 40 36.4	-0.2
BBL	Barber's Block	0.35	152	eP	Pb	21 40 36.5	-0.4
DWS	Wesley	0.42	130	⇓ iP	Pb	21 40 38.3	+0.4
DWS				eS	Sb	21 40 44.2	+0.2
MDN	Morne-Daniel	0.57	155	⇑ iP	Pb	21 40 41.3	+1.0
MDN				eS	Sb	21 40 49.3	+1.2
SEG	Port Louis	0.58	13	eP	Pb	21 40 40.3	-0.1
DBCT	Belle View Cho	0.63	153	⇓ iP	Pb	21 40 42.3	+1.0
DBCT				eS	Sb	21 40 50.1	+0.2
DSHT	Scott's Head	0.67	157	⇑ eP	Pb	21 40 43.0	+1.0
DSHT				eS	Sb	21 40 51.3	+0.2
DEG	La Desirade	0.73	50	eP	Pb	21 40 42.0	-1.0
FDF	Fort de France	1.20	157	⇑ eP	Pn	21 40 49.8	-0.3
FDF				eS	Sn	21 41 05.6	+0.1
BPA	Boggy Peak	1.22	350	eP	Pn	21 40 52.3	+1.9
BPA				eS	Sn	21 41 06.7	+0.6
CRM	Caravelle	1.29	147	⇑ eP	Pn	21 40 51.5	+0.1
CRM				eS	Sn	21 41 07.7	-0.1
BIM	Bigot	1.43	157	eP	Pn	21 40 53.3	0.0
BIM				eS	Sn	21 41 11.0	-0.3
MVM	Montagne Vaucl	1.47	150	⇑ eP	Pn	21 40 54.2	+0.3
MVM				eS	Sn	21 41 09.3	-3.1
CPB	Codrington	1.80	354	⇑ iP	Pn	21 41 00.6	+1.9
CPB				eS	Sn	21 41 21.8	+1.0
SKI	Saint Kitts	1.82	325	eP	Pn	21 41 02.0	+3.0
SKI				eS	Sn	21 41 25.2	+3.8
SLW	Petit Monier	1.93	159	eP	Pn	21 41 00.2	-0.3
SLW				eS	Sn	21 41 24.1	-0.1
STMA	St. Maarten, A	2.60	328	eS	Sn	21 41 45.9	+4.6
GRW	Mount Saint Ca	3.66	180	eP	Pn	21 41 28.2	+3.1
GRW				eS	Sn	21 42 05.7	-2.2
SJG	San Juan	4.87	298	Pn	Pn	21 41 42.3	0.0
	5.3nm,0.3s,baz=288,slow=20,SNR=4.8						
SJG				Sn	Sn	21 42 35.3	-3.2
	5.1nm,0.3s,baz=81,slow=21,SNR=5.6						
SDV	Santo Domingo	11.17	233	LR	LR	21 47 27.2	
	comp=Z,38nm,19.2s,baz=247,slow=37						
SAML	Samuel	24.67	184	P	P	21 45 49.5	+0.4
	1.4nm,0.7s,mb3.6						
SIV	San Ignacio	31.63	179	P	P	21 46 51.7	-0.5
	1.3nm,0.6s,mb4.0,baz=21,slow=7.7,SNR=8.8						
PDAR	Pinedale Array	48.81	313	P	P	21 49 14.2	+0.4
	1.7nm,0.8s,mb4.1,baz=109,slow=8.7,SNR=14						
YKA	Yellowknife Ar	59.38	334	P	P	21 50 29.7	-1.2
	2.8nm,0.7s,mb4.4,baz=106,slow=7.4,SNR=8.7						
DLBC	Dease Lake	65.34	327	P	P	21 51 11.2	+0.4
	1.4nm,0.7s,mb4.1,baz=104,slow=8.3,SNR=3.4						
NB2	NORSAR Subarra	67.97	30	P	P	21 51 28.7	+1.3
	0.4nm,0.6s,mb3.6,baz=261,slow=6.5						
NOA	NORSAR Array B	67.97	30	P	P	21 51 28.1	+0.7
	1.0nm,0.9s,mb3.9,baz=262,slow=6.3,SNR=3.7						
INK	Inuvik	68.71	338	P	P	21 51 31.2	-0.7
	2.5nm,0.7s,mb4.2,baz=105,slow=6.7,SNR=7.8						
INK	Inuvik	68.71	338	P	P	21 51 31.2	-0.7
ILAR	Eielson Array	73.78	334	P	P	21 52 01.8	-0.5
	0.7nm,0.4s,mb4.0,baz=82,slow=5.0,SNR=12						
FINES	FINESS Array B	75.15	30	P	P	21 52 09.3	-0.9
	1.0nm,0.9s,mb3.8,baz=270,slow=2.8,SNR=4.5						

*PRU **01** 21:52:20.9, 51.29N×19.04E*

WAR 01 21:52:22, 51.24N×19.26E, ML2.7, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	Ojcow	1.08	161	ePG	Pg	21 52 43.0	-0.5
OJC				eSG	Sg	21 52 58.0	+0.2
OKC	Ostrava-Krasne	1.57	207	eSG	Sg	21 53 11.7	-2.6
KSP	Ksiaz	1.91	259	ePG	Pg	21 52 57.0	-3.2
KSP				eSG	Sg	21 53 21.0	-4.7
DPC	Dobruska-Polom	2.06	246	ePG	Pg	21 52 56.7	-6.5
DPC				eSG	Sg	21 53 23.0	-7.7

*IDC **01** 21:56:48.9±4.2, 28.44N×55.92E, mb3.6/7, mb1 3.7/9, mb1mx3.5/24, mbtmp3.6/9, ML3.4/2, Error ellipse: s-maj=88.8km s-min=22.0km az=175.0*
*CSEM **01** 21:56:49.8±0.2, 28.39N×55.96E, h20km, mb3.8/1, Error ellipse: s-maj=5.7km s-min=5.1km az=131.0*
*NEIC **01** 21:56:50.4, 28.38N×56.02E, h15km, mb3.8/1, ML3.7(THR), After THR.*
*THR **01** 21:56:50.4±1.3, 28.38N×56.02E, h15km±12km, ML3.7*
*KISR **01** 21:56:50.4±0.8, 28.71N×55.87E, h33km, ML3.7*

ISC 01 21:56:48.4±1.2**, 28.43N**±0.08×**55.88E**±0.06**, h8km**±10km**, n29, σ1^{s}14**/35**, mb3.4**/7**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	1.05	166	ePg	Pg	21 57 08.0	-1.5
BNDS	Bandar-Abbas	1.05	166	ePg	Pg	21 57 08.7	-0.9
BNDS				AML	AML	21 57 29.6	
	comp=N,2μm,0.5s						
KRBR	Kerman	1.73	26	ePg	Pg	21 57 21.0	-2.0
KRBR	Kerman	1.73	26	ePg	Pg	21 57 21.6	-1.4
KRBR				AML	AML	21 57 59.0	
	comp=N,884nm,0.6s						
KRBR	Kerman	1.73	26	ePg	Pg	21 57 21.6	-1.4
	SNR=90						
GHIR	Ghir-Karzin	2.55	268	ePn	Pn	21 57 35.1	+4.3
GHIR	Ghir-Karzin	2.55	268	ePn	Pn	21 57 35.0	+4.1
ZHSF	Zahedan	4.45	73	ePn	Pn	21 57 59.0	+1.2
ZHSF	Zahedan	4.45	73	ePn	Pn	21 57 59.1	+1.3
NASN	Na'in	5.10	329	ePn	Pn	21 58 10.0	+3.0
NASN	Na'in	5.10	329	ePn	Pn	21 58 10.5	+3.5
KBD	Kabd	7.22	278	eP	Pn	21 58 38.5	+1.6
KBD				eS	Sn	21 59 59.1	-1.0
KBD	Kabd	7.22	278	eP	Pn	21 58 38.5	+1.6
KBD				eS	Sn	21 59 59.1	-1.0
RDF	Al-Radifah	7.33	276	eP	Pn	21 58 40.1	+1.6
RDF				eS	Sn	22 00 02.0	-0.9
RDF				AML	AML	22 00 02.9	
	comp=Z,16nm,0.2s						
MIB	Mutribah	7.60	282	eP	Pn	21 58 43.3	+1.1
MIB				AML	AML	22 00 04.7	
	comp=Z,10nm,0.5s						
MIB				eS	Sn	22 00 07.7	-1.7
MIB	Mutribah	7.60	282	eP	Pn	21 58 43.3	+1.1
MIB				eS	Sn	22 00 07.7	-1.7
NAY	Al-Naaiem	7.62	278	eP	Pn	21 58 43.2	+0.6
NAY				AML	AML	22 00 06.0	
	comp=Z,6.1nm,0.5s						
ASF	Jabal al Asfar	16.81	287	Pn	P	22 00 45.3	-0.6
	comp=Z,0.3nm,0.3s,baz=328,slow=12,SNR=2.4						
ASF				Sn	S	22 03 46.6	-5.4
	comp=Z,0.1nm,0.3s,baz=198,slow=16,SNR=2.2						
EIL	Elat	18.34	279	P	P	22 01 05.2	+0.2
	comp=Z,0.1nm,0.3s,baz=83,slow=4.9,SNR=1.8						
BR131	Keskin Array S	21.54	307	eP	P	22 01 41.7	+1.6
	comp=Z,2.2nm,0.6s,mb3.8						
BR131	Keskin Array S	21.54	307	eP	P	22 01 41.7	+1.5
BRTR	Keskin Array B	21.54	307	P	P	22 01 41.2	+1.0
	comp=Z,2.9nm,0.6s,mb3.9,baz=130,slow=13,SNR=19						
BVAR	Borovoye Array	26.82	20	P	P	22 02 30.5	-0.4
	comp=Z,0.6nm,0.6s,mb3.3,baz=225,slow=10,SNR=5.2						
MKAR	Makanchi Array	27.62	41	P	P	22 02 36.8	-1.4
	comp=Z,0.4nm,0.6s,mb3.2,baz=226,slow=8.1,SNR=5.3						
GERES	GERESS Array B	38.12	314	P	P	22 04 09.2	-0.4
	comp=Z,0.2nm,0.4s,mb3.2,baz=117,slow=6.0,SNR=4.2						
FINES	FINESS Array B	38.51	337	P	P	22 04 12.3	-0.4
	comp=Z,0.7nm,0.7s,mb3.5,baz=135,slow=12,SNR=3.8						
FINES	FINESS Array B	38.51	337	P	P	22 04 12.3	-0.4
HFS	Hagfors	42.56	330	P	P	22 04 46.0	0.0
	comp=Z,0.7nm,0.4s,mb3.7,baz=129,slow=9.5,SNR=10.0						
SONM	Songino Array	43.34	49	P	P	22 04 53.1	+0.5
	comp=Z,0.3nm,0.6s,mb3.2,baz=281,slow=7.3,SNR=2.6						

*NEIC **01** 22:03:38.5±0.7, 51.55N×16.15E, h5km, ML2.8(SZGRF), Error ellipse: s-maj=7.5km s-min=5.6km az=212.0*
*CSEM **01** 22:03:39.6±0.1, 51.51N×16.09E, h1km, ML2.2/2, Error ellipse: s-maj=2.7km s-min=1.2km az=18.0*
*IPEC **01** 22:03:39.8±0.3, 51.52N×16.20E, h8km±1km, ML2.2/2, Error ellipse: s-maj=2.2km s-min=0.9km az=33.0*
*PRU **01** 22:03:40.3, 51.47N×16.11E*

WAR 01 22:03:40.0, 51.52N×16.11E, h1km, ML2.9, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	170	ePg	Pg	22 03 52.5	-1.2
KSP				eSg	Sg	22 04 01.7	-1.1
KSP	Ksiaz	0.69	170	ePG	Pg	22 03 52.0	-1.7
KSP				eSG	Sg	22 04 02.0	-0.8
KSP	Ksiaz	0.69	170	ePg	Pg	22 03 52.6	-1.1
KSP				eSg	Sg	22 04 01.6	-1.2
UPC	Upice	1.01	184	ePG	Pg	22 03 58.5	-1.7
DPC	Dobruska-Polom	1.18	173	ePG	Pg	22 04 01.3	-2.2
DPC				eSG	Sg	22 04 15.9	-3.3
	25nm,0.3s						
DPC	Dobruska-Polom	1.18	173	ePg	Pg	22 04 01.3	-2.2
DPC				eSg	Sg	22 04 16.2	-3.0
PVCC	Panska Ves	1.39	225	ePg	Pg	22 04 05.0	-2.7
PVCC				eSg	Sg	22 04 25.1	-1.2
BRG	Berggiesshubel	1.51	246	Pn	Pn	22 04 07.0	-1.3
BRG				Pg	Pg	22 04 07.6	-2.5
BRG				Sg	Sg	22 04 28.0	-2.3
BRG	Berggiesshubel	1.51	246	Pg	Pg	22 04 07.6	-2.5
PRU	Pruhonice	1.83	214	ePg	Pg	22 04 12.9	-3.6
PRU				eSg	Sg	22 04 37.0	-3.9
PRU	Pruhonice	1.83	214	ePG	Pg	22 04 12.9	-3.6
PRU				eSG	Sg	22 04 37.0	-3.9
PRU	Pruhonice	1.83	214	ePn	Pn	22 04 11.8	-1.0
PRU	Pruhonice	1.83	214	ePg	Pg	22 04 12.9	-3.6
PRU				eSg	Sg	22 04 37.0	-3.9
RAC	Raciborz	1.95	137	eP	Pn	22 04 17.0	+2.4
RAC				eS	Sn	22 04 43.0	+2.9
CLL	Collm	1.96	265	ePn	Pn	22 04 13.0	-1.7
CLL				ePg	Pg	22 04 16.0	-3.1
CLL				i Sg	Sg	22 04 42.8	-2.4
CLL	Collm	1.96	265	ePN	Pn	22 04 13.0	-1.7
CLL				ePG	Pg	22 04 16.0	-3.1
CLL				i		22 04 19.6	
CLL				i SG	Sg	22 04 42.8	-2.4
MORC	Moravsky Berou	1.97	152	ePn	Pn	22 04 12.6	-2.2
MORC				eSg	Sg	22 04 40.3	-5.2
MORC	Moravsky Berou	1.97	152	ePn	Pn	22 04 12.6	-2.2
MORC				eSg	Sg	22 04 40.3	-5.2
OKC	Ostrava-Krasne	2.12	142	ePg	Pg	22 04 19.0	-3.4
OKC				eSg	Sg	22 04 46.2	-4.5
OKC	Ostrava-Krasne	2.12	142	ePg	Pg	22 04 19.0	-3.4
OKC				Sg	Sg	22 04 46.2	-4.5
VRAC	Vranov	2.23	172	ePn	Pn	22 04 17.8	-0.8
VRAC				eSg	Sg	22 04 49.4	-5.0
KRUC	Moravsky	2.47	176	ePn	Pn	22 04 21.0	-1.0
KRUC	Moravsky	2.47	176	ePg	Pg	22 04 24.9	-4.3
NKC	Novy Kostel	2.65	242	ePn	Pn	22 04 23.2	-1.4
NKC				ePg	Pg	22 04 29.7	-3.3
NKC	Novy Kostel	2.65	242	Pg	Pg	22 04 29.7	-3.3
OJC	Ojcow	2.67	118	ePG	Pg	22 04 30.0	-3.4
OJC				eSG	Sg	22 05 05.0	-4.0
OJC	Ojcow	2.67	118	ePg	Pg	22 04 30.1	-3.3
OJC				eSg	Sg	22 05 04.6	-4.4
KHC	Kasperske Hory	2.89	215	ePN	Pn	22 04 26.0	-2.0
KHC				ePG	Pg	22 04 31.7	-6.0
KHC	Kasperske Hory	2.89	215	ePn	Pn	22 04 25.9	-2.1
KHC	Kasperske Hory	2.89	215	ePg	Pg	22 04 32.2	-5.5
MOX	Moxa	2.97	255	ePn	Pn	22 04 27.4	-1.7
MOX				ePg	Pg	22 04 35.4	-3.8
MOX				eSn	Sn	22 05 02.9	-3.0
MOX				eSg	Sg	22 05 15.9	-2.9
MOX	Moxa	2.97	255	i P	Pn	22 04 27.4	-1.7
MOX				Pg	Pg	22 04 35.0	-4.2
MOX				S	Sn	22 05 02.0	-3.9
MOX				Sg	Sg	22 05 16.0	-2.8
GERES	GERESS Array B	3.09	211	Pn	Pn	22 04 29.6	-1.3
	0.5nm,0.3s,baz=31,slow=11,SNR=21						
GERES				Pg	Pg	22 04 35.7	-6.0
	1.2nm,0.3s,baz=27,slow=15,SNR=29						
GERES				Lg		22 05 03.4	
	2.9nm,0.3s,baz=23,slow=17,SNR=17						
GERES	GERESS Array B	3.09	211	Pg	Pg	22 04 35.7	-6.0
WET	Wettzell	3.15	222	ePn	Pn	22 04 29.8	-2.0
CLZ	Clausthal	3.59	277	ePn	Pn	22 04 36.4	-1.5
BSD	Bornholm Skovb	3.67	349	i P	Pn	22 04 34.5	-4.7

*IDC **01** 22:03:54.2±0.8, 50.95N×14.38E, mb1 3.2/5, mb1mx3.1/23, mbtmp3.2/5, ML3.1/4, Error ellipse: s-maj=21.7km s-min=7.6km az=101.0*
*NEIC **01** 22:04:04.5±0.6, 51.65N×16.09E, h5km, ML3.4(VIE), ML2.7(BRG), Error ellipse: s-maj=8.9km s-min=6.6km az=85.0*
*PRU **01** 22:04:07.6, 51.49N×16.14E*
*IPEC **01** 22:04:07.8±0.2, 51.51N×16.16E, h9km±1km, ML2.6/3, Error ellipse: s-maj=1.3km s-min=0.6km az=28.0*
*CSEM **01** 22:04:07.1±0.2, 51.53N×16.14E, h2km, ML3.4/5, Error ellipse: s-maj=2.7km s-min=2.0km az=29.0*

WAR 01 22:04:07.4, 51.52N×16.11E, h1km, ML3.0, 2C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	170	ePg	Pg	22 04 20.0	-1.1
KSP				eSg	Sg	22 04 28.6	-1.7
KSP	Ksiaz	0.69	170	ePG	Pg	22 04 20.0	-1.1
KSP				eSG	Sg	22 04 29.0	-1.3
KSP	Ksiaz	0.69	170	ePg	Pg	22 04 20.6	-0.5
KSP				eSg	Sg	22 04 28.9	-1.4
UPC	Upice	1.02	184	ePG	Pg	22 04 26.3	-1.4
DPC	Dobruska-Polom	1.18	173	ePG	Pg	22 04 28.9	-2.0
DPC				eSG	Sg	22 04 44.7	-2.0
	36nm,0.2s						
DPC	Dobruska-Polom	1.18	173	Pg	Pg	22 04 28.9	-2.0
DPC				eSg	Sg	22 04 43.7	-3.0
PVCC	Panska Ves	1.39	225	eSg	Sg	22 04 52.8	-0.9
BRG	Berggiesshubel	1.51	245	Pg	Pg	22 04 35.3	-2.2
BRG				Sg	Sg	22 04 55.7	-2.0
BRG	Berggiesshubel	1.51	245	Pg	Pg	22 04 35.3	-2.2
BRG				eSg	Sg	22 04 55.3	-2.4
RUE	Ruedersdorf	1.73	305	ePn	Pn	22 04 34.1	-4.7
RUE	Ruedersdorf	1.73	305	ePn	Pn	22 04 34.1	-4.8
RUE				eSg	Sg	22 05 02.7	-2.4
PRU	Pruhonice	1.83	214	eSG	Sg	22 05 06.0	-2.3
PRU	Pruhonice	1.83	214	eSg	Sg	22 05 06.0	-2.3
RAC	Raciborz	1.95	137	eP	Pn	22 04 42.0	0.0
RAC				eS	Sn	22 05 06.0	-1.5
CLL	Collm	1.96	265	i SG	Sg	22 05 09.6	-3.0
CLL	Collm	1.96	265	eSg	Sg	22 05 09.3	-3.3
MORC	Moravsky Berou	1.97	152	eSg	Sg	22 05 08.6	-4.3
	35nm,0.4s						
OKC	Ostrava-Krasne	2.12	142	eSG	Sg	22 05 13.1	-5.0
OKC	Ostrava-Krasne	2.12	142	eSg	Sg	22 05 13.4	-4.7
OKC	Ostrava-Krasne	2.12	142	eSg	Sg	22 05 13.1	-5.0
VRAC	Vranov	2.24	172	eSg	Sg	22 05 17.8	-4.0
	37nm,0.5s						
KRUC	Moravsky	2.47	176	ePg	Pg	22 04 52.2	-4.5
KRUC				eSg	Sg	22 05 25.0	-4.6
	27nm,0.5s						
NKC	Novy Kostel	2.65	242	ePg	Pg	22 04 56.9	-3.5
NKC				Sg	Sg	22 05 32.3	-3.5
NKC	Novy Kostel	2.65	242	eSg	Sg	22 05 32.3	-3.5
OJC	Ojcow	2.67	118	ePg	Pg	22 04 57.6	-3.2
OJC				eSg	Sg	22 05 32.1	-4.3
KHC	Kasperske Hory	2.89	215	ePG	Pg	22 04 59.1	-6.0
KHC				eSG	Sg	22 05 40.1	-3.5
MOX	Moxa	2.97	255	eSg	Sg	22 05 42.1	-4.1
VKA	Vienna	3.26	178	⇓ iPG	Pg	22 05 07.8	-4.7
VKA				i SG	Sg	22 05 51.9	-4.1
ZST	Bratislava	3.39	169	eSG	Sg	22 05 54.3	-5.9
NIE	Niedzica	3.41	126	eP	Pg	22 05 13.8	-1.7
NIE				eS	Sg	22 05 56.7	-4.2
VYHS	Vyhne	3.50	149	eSG	Sg	22 05 56.3	-7.7
BSD	Bornholm Skovb	3.67	349	i S	Pn	22 05 02.7	-3.8
MOA	Molln	3.87	199	⇑ iPN	Pn	22 05 07.3	-2.0
MOA				i SG	Sg	22 06 10.8	-5.3
	18nm,0.5s						
ARSA	Arzberg	4.29	185	⇑ iPN	Pn	22 05 13.1	-2.2
ARSA				i SG	Sg	22 06 21.5	-8.8
	13nm,0.6s						
CRVS	Cervenica-Dubn	4.32	125	ePG	Pg	22 05 28.1	-5.6
AKASG	Malin Array Be	8.30	91	Pn	P	22 06 06.8	-4.9
	1.1nm,0.3s,baz=278,slow=12,SNR=4.8						
HFS	Hagfors	8.74	352	Pn	P	22 06 07.0	-11
	0.0nm,0.3s,baz=180,slow=19,SNR=4.2						
HFS				Sn	Sn	22 07 45.5	-13
	0.0nm,0.3s,baz=170,slow=25,SNR=3.2						
HFS	Hagfors	8.74	352	Sn	Sn	22 07 45.5	-13
FINES	FINESS Array B	11.35	25	Pn	P	22 06 47.3	-6.4
	0.1nm,0.3s,baz=219,slow=11,SNR=3.8						
FINES				Sn	S	22 08 47.6	-15
	0.2nm,0.3s,baz=217,slow=20,SNR=5.4						
ARCES	ARCESS Array B	18.61	10	P	P	22 08 20.6	-7.2
	0.1nm,0.3s,baz=195,slow=14,SNR=4.1						

*MDD **01** 22:14:30.6±0.7, 34.98N×2.55W, mb3.7/9, Error ellipse: s-maj=6.1km s-min=4.1km az=134.0, PRXIMO*
*CSEM **01** 22:14:30.5±0.2, 34.99N×2.61W, h25km, MD3.5, Error ellipse: s-maj=6.0km s-min=3.2km az=116.0*
*CNRM **01** 22:14:31.1, 34.94N×2.56W, h5km, MD3.5*
*NEIC **01** 22:14:33.5, 35.18N×2.57W, h1km, MG3.5(MDD), After MDD.*

ISC 01 22:14:29.3±0.7**, 35.03N**±0.03×**2.52W**±0.04**, h10km, n42, σ1^{s}29**/74**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAI	Zaio	0.19	253	P	Pg	22 14 33.0	-0.5
ZAI				S	Sg	22 14 36.5	+0.2
EMLI	Melilla	0.44	308	P	Pg	22 14 39.7	+1.4
	397nm,0.1s,SNR=25						
EMEL	Melilla	0.45	308	P	Pg	22 14 39.7	+1.2
	397nm,0.1s,SNR=25						
EMEL				S	Sg	22 14 44.3	-0.3
	820nm,0.2s,SNR=15						
EALB	Alboran	1.00	336	P	Pb	22 14 49.1	+0.8
EALB				S	Sb	22 15 00.6	-0.7
EALB	Alboran	1.00	336	P	Pb	22 14 49.1	+0.8
	25nm,0.2s,SNR=21						
EALB				S	Sb	22 15 03.2	+1.9
	85nm,0.2s,SNR=7.1						
EALB	Alboran	1.00	336	P	Pb	22 14 49.1	+0.8
	25nm,0.2s,SNR=21						
EALB				S	Sb	22 15 00.6	-0.8
	139nm,0.2s,SNR=7.1						
TOU	Touzarine	1.01	267	i P	Pb	22 14 49.0	+0.5
TOU				i S	Sb	22 15 03.0	+1.4
MPAL	Palemas	1.18	280	eP	Pb	22 14 52.0	+0.7
MPAL				i S	Sb	22 15 07.0	+0.5
TZK	Tazeka	1.66	236	i P	Pn	22 14 59.5	+0.8
TZK				i S	Sn	22 15 18.0	-2.2
EBER	Berja	1.89	351	P	Pn	22 15 04.2	+2.2
EBER				S	Sn	22 15 23.5	-2.6
EBER	Berja	1.89	351	P	Pn	22 15 04.2	+2.2
	3.6nm,0.3s,SNR=5.1						
EBER				S	Sn	22 15 24.5	-1.6
	41nm,0.7s,SNR=4.6						
EBER	Berja	1.89	351	P	Pn	22 15 04.2	+2.2
	3.6nm,0.3s,SNR=5.1						
EBER				S	Sn	22 15 23.5	-2.6
	41nm,0.7s,SNR=4.6						
ENIJ	Nijar	1.96	7	P	Pn	22 15 03.7	+0.7
	2.4nm,0.2s,SNR=7.9						
ENIJ				S	Sn	22 15 26.9	-0.9
	4.3nm,0.2s,SNR=7.9						
EMIJ	Mijas	2.39	311	P	Pn	22 15 08.3	-0.8
	1.4nm,0.2s,SNR=7.2						
EMIJ				S	Sn	22 15 34.7	-4.0
	11nm,0.3s						
ELOJ	Sierra Loja	2.50	329	P	Pn	22 15 12.2	+1.6
	0.7nm,0.2s,SNR=7.9						
ELOJ				S	Sn	22 15 45.3	+3.9
	2.4nm,0.4s,SNR=7.9						
EQES	Quesada	2.81	351	P	Pn	22 15 16.5	+1.4
	1.9nm,0.1s,SNR=18						
EQES				S	Sn	22 15 48.9	-0.5
	12nm,0.3s						
EQES	Quesada	2.81	351	P	Pn	22 15 16.5	+1.4
	1.9nm,0.1s,SNR=18						
EQES				S	Sn	22 15 48.9	-0.4
	12nm,0.3s						
CZD	Col de Zad	2.89	227	eP	Pn	22 15 15.0	-1.2
CZD				i S	Sn	22 15 48.0	-3.4
ELUQ	Luque	2.90	331	P	Pn	22 15 18.2	+1.8
	2.0nm,0.4s,SNR=7.9						
ELUQ				S	Sn	22 15 50.5	-1.1
	2.1nm,0.2s,SNR=7.9						
EMUR	La Murta	3.00	20	P	Pn	22 15 19.7	+1.9
	4.5nm,0.2s,SNR=7.9						
EMUR				S	Sn	22 15 51.4	-2.7
	4.6nm,0.4s,SNR=7.9						
EMUR	La Murta	3.00	20	P	Pn	22 15 19.7	+1.9
	4.5nm,0.2s,SNR=7.9						
EMUR				S	Sn	22 15 51.4	-2.7
	4.6nm,0.4s,SNR=7.9						
ESPR	Espera	3.27	305	P	Pn	22 15 23.0	+1.3
	0.5nm,0.1s,SNR=7.9						
ESPR				S	Sn	22 16 00.2	-0.9
	4.1nm,0.3s,SNR=7.9						
ESPR	Espera	3.27	305	P	Pn	22 15 23.0	+1.3
	0.5nm,0.1s,SNR=7.9						
ESPR				S	Sn	22 16 00.2	-0.9
	4.1nm,0.3s,SNR=7.9						
EBAN	Banos Encina	3.29	342	S	Sn	22 16 00.7	-1.0
	1.7nm,0.2s,SNR=7.9						
ZFT	Errachidia	3.35	208	P	Pn	22 15 22.0	-0.9
ZFT				S	Sn	22 15 58.0	-5.2
ZFT	Errachidia	3.35	208	eP	Pn	22 15 22.0	-0.9
EADA	Adamuz	3.54	333	P	Pn	22 15 25.9	+0.3
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	22 16 04.0	-4.0
	1.5nm,0.2s,SNR=7.9						
EADA	Adamuz	3.54	333	P	Pn	22 15 25.9	+0.3
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	22 16 04.0	-4.0
	1.5nm,0.2s,SNR=7.9						
ETOB	Tobarra	3.70	12	P	Pn	22 15 28.9	+1.2
	1.3nm,0.2s,SNR=7.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ETOB				S	Sn	22 16 09.5	-2.3
	0.5nm,0.2s,SNR=7.9						
ETOB	Tobarra	3.70	12	P	Pn	22 15 28.9	+1.2
	1.3nm,0.2s,SNR=7.9						
ETOB				S	Sn	22 16 09.5	-2.4
	0.5nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	4.32	310	P	Pn	22 15 35.5	-1.2
	1.2nm,0.2s,SNR=7.9						
EMIN				S	Sn	22 16 21.5	-6.3
	1.3nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	4.32	310	P	Pn	22 15 35.5	-1.2
ECHE	Chera	4.72	15	P	Pn	22 15 41.1	-1.2
	0.4nm,0.3s,SNR=4.0						
EGRO	El Granado	4.72	303	P	Pn	22 15 41.2	-1.2
	2.7nm,0.1s,SNR=7.9						
EGRO				S	Sn	22 16 31.7	-6.2
	3.0nm,0.2s,SNR=7.9						
EGRO	El Granado	4.72	303	P	Pn	22 15 41.2	-1.2
EGRO				S	Sn	22 16 31.7	-6.2
ESDC	Sonseca Array	4.78	347	P	Pn	22 15 43.9	+0.8
	1.7nm,0.2s,baz=171,slow=12,SNR=4.5						
ESDC	Sonseca Array	4.78	347	P	Pn	22 15 43.9	+0.8
EBAD	Badajoz	5.18	317	P	Pn	22 15 47.7	-1.1
EBAD				S	Sn	22 16 42.4	-6.9
EBAD	Badajoz	5.18	317	P	Pn	22 15 47.7	-1.1
	0.9nm,0.2s,SNR=7.9						
EBAD				S	Sn	22 16 42.7	-6.6
	3.4nm,0.2s,SNR=7.9						
EBAD	Badajoz	5.18	317	P	Pn	22 15 47.7	-1.1
ERTA	Horta de San J	6.34	20	P	Pn	22 16 06.0	+0.9
	0.2nm,0.2s,SNR=7.9						
ERTA	Horta de San J	6.34	20	P	Pn	22 16 06.0	+0.9

*NEIC **01** 22:19:52.8, 19.65N×69.31W, h22km, MD4.1(RSPR), After RSPR.*

RSPR 01 22:19:52.8, 19.65N×69.31W, h22km±35km, MD4.1/15, MD4.1/15, 13C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STDO	Santo Domingo	1.33	206⇑	eP	Pn	22 20 13.2	-3.0
AGPR	Aguadilla, PR	2.39	119⇑	eP	Pn	22 20 28.6	-2.8
AGPR				eS	Sn	22 20 56.5	-3.7
LSP	Las Mesas	2.56	124⇑	eP	Pn	22 20 30.5	-3.4
LSP				eS	Sn	22 21 01.3	-3.4
CRPR	Cabo Rojo, PR	2.65	128⇓	eP	Pn	22 20 32.3	-2.8
CRPR				eS	Sn	22 21 02.1	-4.7
MGP	Maguayo	2.66	127⇑	eP	Pn	22 20 31.9	-3.4
MGP				eS	Sn	22 21 03.7	-3.5
LRS	Lares	2.69	120⇑	eP	Pn	22 20 33.5	-2.2
LRS				eS	Sn	22 21 03.5	-4.5
PORP	Portuguez	2.98	122⇑	eP	Pn	22 20 36.7	-3.3
PORP				eS	Sn	22 21 11.9	-3.5
ICM	Isla Caja Muer	3.17	123⇑	eP	Pn	22 20 39.9	-2.6
ICM				eS	Sn	22 21 15.7	-4.3
SJG	San Juan	3.36	117⇑	eP	Pn	22 20 42.3	-2.9
SJG				eS	Sn	22 21 20.0	-4.9
SJG	San Juan	3.36	117⇑	eP	Pn	22 20 42.4	-2.8
SJG				eS	Sn	22 21 20.3	-4.6
CBYP	Canovanas	3.54	112⇓	eP	Pn	22 20 44.5	-3.3
CBYP				eS	Sn	22 21 25.8	-3.7
CPD	Cerro la Pandu	3.59	116⇑	eP	Pn	22 20 45.4	-3.1
CPD				eS	Sn	22 21 25.5	-5.3
HUMP	Col San Antoni	3.60	114⇑	eP	Pn	22 20 45.6	-3.1
HUMP				eS	Sn	22 21 27.0	-4.0
MTP	Monte Pirata	3.87	113⇑	eP	Pn	22 20 49.1	-3.5
MTP				eS	Sn	22 21 33.2	-4.7
TBVI	Tortola	4.61	105⇑	eP	Pn	22 20 59.7	-3.3
SDV	Santo Domingo	10.77	187	eP	P	22 22 25.7	-3.3

*STR **01** 22:34:52.7±0.4, 43.48N×0.54W, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **01** 22:34:53.3±0.1, 43.47N×0.57W, h11km, Md2.4/2, Ml2.4/7, Error ellipse: s-maj=1.3km s-min=0.8km az=132.0*
*CSEM **01** 22:34:53.3±0.1, 43.47N×0.57W, h10km, ML2.5/6, Error ellipse: s-maj=1.2km s-min=0.7km az=130.0*

MDD 01 22:34:53.7±0.4, 43.46N×0.56W, h10km, mbLg1.6/14, Error ellipse: s-maj=3.1km s-min=2.3km az=1.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORDF	Ordiarp	0.37	228	Pg	Pg	22 35 00.6	-0.7
ORDF				Sg	Sg	22 35 07.0	+0.6
ORDF	Ordiarp	0.37	228	P	Pg	22 35 00.6	-0.7
ORDF				S	Sg	22 35 07.0	+0.7
ATE	Arette	0.39	195	P	Pg	22 35 00.4	-1.3
ATE				S	Sg	22 35 06.9	-0.1
REYF	Montagne du Re	0.41	163	Pg	Pg	22 35 00.7	-1.4
REYF				Sg	Sg	22 35 07.6	-0.1
REYF	Montagne du Re	0.41	163	P	Pg	22 35 01.2	-0.9
REYF				S	Sg	22 35 07.7	0.0
LARF	Larrau	0.53	217	Pg	Pg	22 35 03.4	-1.0
LARF				Sg	Sg	22 35 11.1	-0.4
LARF	Larrau	0.53	217	P	Pg	22 35 03.3	-1.1
LARF				S	Sg	22 35 11.3	-0.2
OSSF	Osses	0.55	248	Pg	Pg	22 35 03.8	-1.0
OSSF	Osses	0.55	248	P	Pg	22 35 03.7	-1.1
OSSF				S	Sg	22 35 12.0	-0.3
ETSF	Etsaut	0.56	180	ePg	Pg	22 35 03.6	-1.5
ETSF				eSg	Sg	22 35 11.2	-1.5
	28nm,0.3s						
SJPF	Ste Jean	0.60	235	ePg	Pg	22 35 04.5	-1.3
SJPF				eSg	Sg	22 35 12.2	-1.6
	7.7nm,0.2s						
LABF	Labassere	0.62	132	P	Pb	22 35 05.7	-0.5
LABF				S	Sb	22 35 14.7	+0.1
FDAF	Les Forges d'A	0.64	180	P	Pb	22 35 05.0	-1.5
FDAF				S	Sb	22 35 14.1	-1.2
VIEF	Viey	0.72	143	Pg	Pg	22 35 07.1	-1.0
VIEF	Viey	0.72	143	P	Pb	22 35 06.4	-1.4
VIEF				S	Sb	22 35 16.7	-0.7
EALK	Alkurruntz	0.73	251	Pg	Pg	22 35 07.1	-1.3
	2.6nm,0.2s,SNR=17						
EALK				Lg		22 35 17.6	
	21nm,0.4s,SNR=18						
EPF	Esparros	0.79	123	ePg	Pg	22 35 08.7	-0.8
EPF				eSn	Sn	22 35 20.1	-2.2
	34nm,0.3s						
IPRE	Itoiz	0.88	222	Lg		22 35 22.3	
	4.0nm,0.3s,SNR=4.0						
EBIE	Bielsa	0.93	146	Pg	Pg	22 35 10.3	-2.0
	0.5nm,0.1s,SNR=12						
EBIE				Lg		22 35 23.4	
	6.6nm,0.3s,SNR=10						
EBIE	Bielsa	0.93	146	Pg	Pg	22 35 10.4	-2.0
	0.5nm,0.1s,SNR=12						
EGRA	Graus	1.42	153	Pg	Pg	22 35 20.2	-1.9
	0.7nm,0.2s,SNR=5.7						
EGRA				Lg		22 35 39.8	
	2.7nm,0.3s,SNR=8.4						
ECRI	Cripan	1.66	240	Pg	Pg	22 35 23.7	-3.3
	1.1nm,0.1s,SNR=7.9						
ECRI				Lg		22 35 46.2	
	2.5nm,0.3s,SNR=7.9						
ESAC	San Caprasio	1.74	178	Pg	Pg	22 35 25.2	-3.3
	6.4nm,0.1s,SNR=4.9						
ESAC				Lg		22 35 48.8	
	50nm,0.4s,SNR=7.9						
ESAC	San Caprasio	1.74	178	Pg	Pg	22 35 25.2	-3.3
	6.4nm,0.1s,SNR=4.9						
LFF	La Frestale	1.75	32	ePg	Pg	22 35 26.7	-1.9
LFF				eSg	Sg	22 35 48.3	-3.7
	6.7nm,0.4s						
MTLF	Montolieu	2.03	92	eP	Pn	22 35 27.7	-0.6
MTLF				ePg	Pg	22 35 30.8	-3.4
MTLF				eSg	Sg	22 35 57.2	-4.1
	3.1nm,0.3s						
ELAN	Lanestosa	2.11	265	Pg	Pg	22 35 32.5	-3.3
	1.2nm,0.2s,SNR=7.9						
ELAN				Lg		22 36 00.4	
	4.1nm,0.3s,SNR=7.9						
ELAN	Lanestosa	2.11	265	Pg	Pg	22 35 32.5	-3.3
	1.2nm,0.2s,SNR=7.9						
EMIR	Miracle	2.18	134	Pg	Pg	22 35 33.8	-3.4
	0.7nm,0.2s,SNR=7.9						
EMIR	Miracle	2.18	134	Pg	Pg	22 35 33.8	-3.5
	0.7nm,0.2s,SNR=7.9						
RJF	Les Rejaudoux	2.37	38	ePg	Pg	22 35 37.2	-3.8
RJF				eSn	Sn	22 35 57.8	-4.7
RJF				eSg	Sg	22 36 07.7	-4.9
	6.1nm,0.4s						
CAF	Calviac	2.39	51	ePn	Pn	22 35 30.9	-2.6
CAF				eSn	Sn	22 35 58.4	-4.6
CAF				eSg	Sg	22 36 08.4	-4.9
	3.2nm,0.3s						
EPOB	Poblet	2.43	150	Lg		22 36 09.6	
	0.5nm,0.1s,SNR=7.9						
ERTA	Horta de San J	2.59	165	Pg	Pg	22 35 41.0	-4.4
	0.4nm,0.2s,SNR=7.9						
ERTA				Lg		22 36 14.4	
	0.9nm,0.2s,SNR=7.9						
ERTA	Horta de San J	2.59	165	Pg	Pg	22 35 41.0	-4.4
	0.4nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	3.10	179	Pg	Pg	22 35 51.0	-4.5
	0.7nm,0.3s,SNR=7.9						
EMOS				Lg		22 36 33.7	
	0.4nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	3.10	179	Pg	Pg	22 35 51.0	-4.5
	0.7nm,0.3s,SNR=7.9						
MFF	Saint Martin d	3.15	5	ePg	Pg	22 35 51.7	-5.0
MFF				eSg	Sg	22 36 32.3	-6.4
	2.2nm,0.3s						
BGF	Bois d'Agland	3.93	37	eSg	Sg	22 36 56.4	-8.0
	10nm,0.4s						

*CNRM **01** 22:40:15.2, 32.51N×0.10W, h30km, MD4.0*
*CSEM **01** 22:40:16.2±0.3, 32.63N×0.20W, h30km, MD4.0, Error ellipse: s-maj=7.2km s-min=4.2km az=135.0*
*MDD **01** 22:40:20.9±1.7, 32.86N×0.62W, mb4.0/5, Error ellipse: s-maj=19.6km s-min=9.6km az=134.0, PRXIMO*
*CRAAG **01** 22:40:23.0, 33.44N×0.14W, Ml3.8*

ISC 01 22:40:21.0±1.2, 33.05N±0.06×0.65W±0.08, h10km, n33, σ1.54/55, Northern Algeria

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAI	Zaio	2.59	318	iP	Pn	22 41 05.0	+1.3
ZAI				iS	Sn	22 41 44.0	+8.5
ETRT	Tiaret	2.83	34	P	Pn	22 41 08.5	+1.3
TZK	Tazeka	3.13	290	iP	Pn	22 41 12.0	+0.6
TZK				iS	Sn	22 41 54.5	+5.3
TOU	Touzarine	3.21	307	eP	Pn	22 41 14.0	+1.5
TOU				iS	Sn	22 41 56.0	+4.8
EANR	'Ain N'Sour	3.23	26	P	Pn	22 41 14.0	+1.2
ZFT	Errachidia	3.29	253	iP	Pn	22 41 11.0	-2.7
ZFT				iS	Sn	22 41 51.0	-2.3
ECHF	Ech Chlef	3.50	27	P	Pn	22 41 24.0	+7.3
ECHA	Ech Chlef	3.51	28	P	Pn	22 41 24.0	+7.3
CZD	Col de Zad	3.69	271	eP	Pn	22 41 19.0	-0.4
CZD				iS	Sn	22 42 06.0	+2.5
EBNR	Beni Rached	3.69	28	P	Pn	22 41 25.0	+5.6
MIF	Mishlifen	3.86	277	iP	Pn	22 41 21.0	-0.7
MIF				iS	Sn	22 42 12.0	+4.4
ENIJ	Nijar	4.12	342	P	Pn	22 41 23.6	-1.8
	3.1nm,0.2s,SNR=9.4						
ENIJ				S	Sn	22 42 12.7	-1.5
	4.9nm,0.4s,SNR=7.9						
ENIJ	Nijar	4.12	342	P	Pn	22 41 23.6	-1.8
	3.1nm,0.2s,SNR=9.4						
ENIJ				S	Sn	22 42 07.3	-6.9
	4.9nm,0.4s,SNR=7.9						
EBER	Berja	4.26	335	P	Pn	22 41 28.5	+1.1
	2.1nm,0.2s,SNR=7.9						
EBER				S	Sn	22 42 18.4	+0.7
	5.4nm,0.3s,SNR=7.9						
EBER	Berja	4.26	335	P	Pn	22 41 28.5	+1.1
	2.1nm,0.2s,SNR=7.9						
EBER				S	Sn	22 42 12.0	-5.7
	5.4nm,0.3s,SNR=7.9						
EMHD	Djebel Mahouad	4.32	42	P	Pn	22 41 42.0	+14
KIB	El Ksiba	4.57	265	iP	Pn	22 41 31.0	-0.8
KIB				iS	Sn	22 42 25.0	-0.6
EMUR	La Murta	4.80	354	P	Pn	22 41 36.3	+1.1
	0.7nm,0.2s,SNR=4.0						
EMUR				S	Sn	22 42 31.2	-0.4
	4.2nm,0.4s,SNR=4.0						
EMUR	La Murta	4.80	354	P	Pn	22 41 30.3	-4.9
	0.5nm,0.2s,SNR=4.0						
EMUR				S	Sn	22 42 21.7	-10
	1.7nm,0.2s,SNR=7.9						
EMIJ	Mijas	4.88	317	P	Pn	22 41 37.7	+1.5
	0.5nm,0.2s,SNR=7.9						
EMIJ				S	Sn	22 42 28.3	-5.1
	1.5nm,0.3s,SNR=4.0						
EQES	Quesada	5.14	338	P	Pn	22 41 39.7	-0.2
	1.1nm,0.2s,SNR=5.7						
EQES				S	Sn	22 42 40.0	0.0
	3.4nm,0.3s,SNR=5.1						
EQES	Quesada	5.14	338	P	Pn	22 41 39.7	-0.2
	1.1nm,0.2s,SNR=5.7						
EQES				S	Sn	22 42 40.0	0.0
	3.4nm,0.3s,SNR=5.1						
ETOB	Tobarra	5.63	353	P	Pn	22 41 43.7	-3.1
	1.2nm,0.2s,SNR=7.8						
ETOB				S	Sn	22 42 51.4	-0.9
	6.3nm,0.5s,SNR=7.9						
ETOB	Tobarra	5.63	353	P	Pn	22 41 43.7	-3.1
	1.2nm,0.2s,SNR=7.8						
ETOB				S	Sn	22 42 46.8	-5.5
	6.3nm,0.5s,SNR=7.9						
EVIA	Vianos	5.78	345	S	Sn	22 42 53.7	-2.2
	2.5nm,0.3s,SNR=7.9						
EADA	Adamuz	6.03	329	P	Pn	22 41 56.5	+4.2
	0.8nm,0.3s,SNR=7.9						
EADA				S	Sn	22 43 06.4	+4.2
	0.8nm,0.2s,SNR=4.0						
EADA	Adamuz	6.03	329	P	Pn	22 41 56.5	+4.1
	0.8nm,0.3s,SNR=7.9						
EIBI	Ibiza	6.18	15	P	Pn	22 41 48.3	-6.3
	1.1nm,0.2s,SNR=4.0						
EIBI				S	Sn	22 42 53.1	-13
	1.8nm,0.3s,SNR=7.9						
EIBI	Ibiza	6.18	15	P	Pn	22 41 48.3	-6.2
	1.1nm,0.2s,SNR=4.0						
EIBI				S	Sn	22 42 53.1	-13
	1.8nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	6.81	315	P	Pn	22 42 02.9	-0.5
	0.1nm,0.2s,SNR=4.0						
EGRO	El Granado	7.16	311	P	Pn	22 42 10.2	+1.8
	2.3nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	7.30	1	P	Pn	22 42 04.6	-5.7
	0.4nm,0.2s,SNR=4.0						
EMOS				S	Sn	22 43 29.9	-4.2
	0.3nm,0.3s,SNR=7.9						
EPOB	Poblet	8.40	9	P	P	22 42 17.9	-7.8
	0.7nm,0.2s,SNR=4.0						

IDC 01 23:15:21.5±7.2, 7.93S×126.38E, h320km±88km, mb3.2/3, mb1 3.2/5, mb1mx3.1/14, mbtmp3.8/5, Error ellipse: s-maj=77.8km s-min=30.9km az=50.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.13	184	P	P	23 17 42.3	+0.2
	0.6nm,0.3s,baz=3.3,slow=8.0,SNR=5.1						
FITZ				S	S	23 19 33.4	+0.3
	0.7nm,0.3s,baz=343,slow=19,SNR=2.5						
WRA	Warramunga Arr	14.21	148	P	P	23 18 28.5	-2.9
	0.1nm,0.3s,baz=327,slow=12,SNR=2.8						
WRA				S	S	23 21 07.8	+5.2
	0.2nm,0.3s,baz=324,slow=21,SNR=3.4						
CMAR	Chiang Mai Arr	37.69	314	P	P	23 22 07.2	-1.5
	1.4nm,0.5s,baz=135,slow=6.4,SNR=7.5						
SONM	Songino Array	58.27	344	P	P	23 24 42.6	-2.6
	0.1nm,0.3s,baz=162,slow=6.4,SNR=4.3						
MKAR	Makanchi Array	67.09	329	P	P	23 25 41.5	-1.2
	1.2nm,0.6s,baz=128,slow=7.7,SNR=16						

*ISK **01** 23:25:41.4, 38.17N×26.59E, h23km, MD3.0*
*ATH **01** 23:25:42.7, 38.11N×26.58E, h20km±1km, MD3.2/3*
*NEIC **01** 23:25:42.7, 38.11N×26.58E, h20km, MD3.2(ATH), MD3.0(ISK), After ATH.*
*CSEM **01** 23:25:43.4±0.1, 38.14N×26.83E, h20km, MD3.2, Error ellipse: s-maj=3.5km s-min=2.0km az=75.0*

ISC 01 23:25:42.4±0.8, 38.11N±0.03×26.68E±0.05, h9km±5km, n18, σ0.93/30, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.26	345	iP	Pg	23 25 47.9	+0.1
URLA				iS	Sg	23 25 51.6	+0.3
SMG	Samos	0.42	163⇑	iPB	Pb	23 25 52.2	+0.6
SMG				eSB	Sb	23 25 58.4	+0.6
IZM	Izmir	0.54	58	PG	Pg	23 25 53.0	-0.3
KDAG	Bornova	0.54	58	iP	Pg	23 25 52.6	-0.8
KDAG				iS	Sg	23 26 00.4	-0.3
AYDN	Tasoluk	1.05	115	iP	Pb	23 26 03.2	+0.9
AYDN				iS	Sb	23 26 16.9	+0.9
BODT	Bodrum	1.16	154	PN	Pn	23 26 04.8	0.0
BODT				SN	Sn	23 26 19.9	-1.0
AKS	Akhisar	1.17	49	PN	Pn	23 26 03.4	-1.6
AKS				SN	Sn	23 26 19.0	-2.1
PRK	Paraskevi	1.18	344	ePN	Pn	23 26 04.9	-0.1
PRK				eSN	Sn	23 26 20.8	-0.4
AYVA	Ayvalik	1.19	0	iP	Pb	23 26 05.1	+0.3
AYVA				iS	Sb	23 26 22.8	+2.7
MLSB	Milas	1.19	133	ePN	Pn	23 26 05.0	-0.3
BDRM	Kayabasi	1.21	150	iP	Pb	23 26 05.6	+0.5
BDRM				iS	Sb	23 26 25.4	+4.8
APE	Apeiranthos	1.39	222	ePN	Pn	23 26 05.4	-2.6
APE	Apeiranthos	1.39	222	ePn	Pn	23 26 08.1	+0.1
MANT	Manisa	1.52	75	iP	Pn	23 26 10.4	+0.4
MANT				iS	Sb	23 26 30.8	+1.0
YER	Yerkesik	1.60	127	ePN	Pn	23 26 10.4	-0.7
DNZL	Cakiroluk	1.92	102	iP	Pn	23 26 19.8	+4.2
DNZL				iS	Sn	23 26 45.8	+5.7
LIA	Limnos Island	2.13	327	ePN	Pn	23 26 18.9	+0.2
ULDT	Uludag	2.78	43	iP	Pn	23 26 35.6	+7.6
ULDT				iS	Sn	23 27 10.2	+8.2

*NEIC **01** 23:40:50.4±0.8, 19.86S×68.92W, h109km±11km, Error ellipse: s-maj=14.9km s-min=11.2km az=48.0*
*IDC **01** 23:40:51.5±1.6, 20.05S×68.84W, h121km±17km, mb3.5/2, mb1 3.7/6, mb1mx3.4/18, mbtmp4.0/6, Error ellipse: s-maj=29.7km s-min=14.9km az=108.0*

ISC 01 23:40:49.9±0.9, 19.97S±0.08×69.0W±0.1, h126km±15km, n9, σ1.18/9, mb4.2/1, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.63	179	P	P	23 41 33.4	+1.0
	30nm,0.3s,baz=9.2,slow=9.7,SNR=110						
LVC				S	S	23 42 04.0	-0.5
	57nm,0.3s,baz=124,slow=19,SNR=30						
LPAZ	La Paz	3.74	12	P	P	23 41 49.5	+2.4
	2.5nm,0.3s,baz=199,slow=7.5,SNR=79						
LPAZ	La Paz	3.74	12	P	P	23 41 49.5	+2.4
ARE	Arequipa	4.24	325	eP	P	23 41 52.0	-1.8
SIV	San Ignacio	8.47	63	P	P	23 42 50.1	-0.8
	2.8nm,0.3s,baz=262,slow=9.9,SNR=62						
CPUP	Villa Florida	12.42	123	P	P	23 43 43.5	+0.3
	0.3nm,0.3s,baz=321,slow=15,SNR=8.9						
BDFB	Brasilia	20.39	81	P	P	23 45 17.8	-0.9
	0.8nm,0.4s,baz=297,slow=6.8,SNR=2.1						
YKA	Yellowknife Ar	89.73	341	P	P	23 53 35.3	+0.8
	1.2nm,0.6s,mb4.2,baz=130,slow=5.0,SNR=6.9						
SONM	Songino Array	151.94	7	PKPbc	PKPdf	00 00 33.1	+10
	0.5nm,0.4s,baz=334,slow=1.6,SNR=5.2						

*GUC **01** 23:41:39.4±0.7, 20.00S×69.24W, h101km±4km, MD4.4, ML4.9*
*IDC **01** 23:41:42.0±2.8, 19.85S×68.89W, h124km±24km, mb3.8/10, mb1 4.1/13, mb1mx3.9/21, mbtmp4.3/13, MS3.1/2, Ms1 3.1/2, ms1mx2.7/18, Error ellipse: s-maj=26.8km s-min=15.0km az=57.0*
*NEIC **01** 23:41:42.6±1.6, 19.85S×68.82W, h128km±14km, mb4.1/5, Error ellipse: s-maj=18.0km s-min=9.3km az=57.0*

ISC 01 23:41:37.6±1.5, 19.85S±0.08×68.97W±0.10, h98km±14km, n36, σ0.69/27, mb4.0/12, 1C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.75	179	iS	S	23 42 53.4	+0.1
LVC				AMP		23 43 01.5	
	comp=N,2μm,0.4s						
LVC	Limon Verde	2.75	179	S	S	23 42 53.3	+0.1
	comp=N,124nm,0.3s,baz=136,slow=22,SNR=7.9						
LVC	Limon Verde	2.75	179	eSn	S	23 42 53.3	0.0
LPAZ	La Paz	3.63	13	P	P	23 42 39.0	+6.1
	comp=N,11nm,0.3s,baz=191,slow=7.6,SNR=44						
LPAZ	La Paz	3.63	13	ePn	P	23 42 39.3	+6.4
SIV	San Ignacio	8.44	64	P	P	23 43 39.1	+0.4
	comp=N,16nm,0.3s,baz=257,slow=11,SNR=106						
CPUP	Villa Florida	12.50	123	P	P	23 44 32.8	-0.3
	comp=N,0.7nm,0.3s,baz=316,slow=15,SNR=17						
CPUP				LR	LR	23 49 55.0	
	comp=N,68nm,18.9s,baz=180,slow=40						
CPUP	Villa Florida	12.50	123	ePn	P	23 44 32.3	-0.8
	comp=N,29nm,1.1s						
TRQA	Tornquist	19.13	163	eP	P	23 45 51.4	-4.0
	comp=N,4.3nm,0.8s						
BDFB	Brasilia	20.39	81	P	P	23 46 08.9	+0.2
	comp=N,4.7nm,0.4s,baz=259,slow=11,SNR=12						
BDFB				LR	LR	23 55 03.4	
	comp=N,59nm,18.5s,baz=262,slow=40						
BAO	Brasilia Array	20.41	81	P	P	23 46 09.5	+0.5
TXAR	Lajitas Array	59.25	325	P	P	23 51 30.0	-1.2
	comp=N,0.6nm,0.8s,mb3.7,baz=149,slow=7.3,SNR=7.7						
VNA3	Neumayer Olymp	61.65	162		P	23 51 47.2	+0.2
VNA3	Neumayer Olymp	61.65	162		pP	23 52 14.2	+2.7
VNA3	Neumayer Olymp	61.65	162		sP	23 52 25.8	+3.2
VNA2	Neumayer--Watz	62.22	161⇓	i	P	23 51 50.7	-0.1
VNA2	Neumayer--Watz	62.22	161		pP	23 52 17.0	+1.6
VNA2	Neumayer--Watz	62.22	161		sP	23 52 28.6	+2.2
SNAA	Sanae	63.85	161		pP	23 52 26.4	+0.2
SNAA	Sanae	63.85	161		sP	23 52 37.9	+0.8
SNAA	Sanae	63.85	161	P	P	23 52 00.3	-1.1
	comp=N,1.3nm,1.0s,mb3.7,baz=295,slow=7.1,SNR=11						
SNAA	Sanae	63.85	161⇑	iP	P	23 52 01.0	-0.4
	comp=N,0.1nm,0.6s,mb2.8						
SADO	Sadowa	64.97	352	P	P	23 52 07.8	-1.4
	comp=N,4.6nm,0.6s,mb4.5,baz=135,slow=1.4,SNR=4.2						
SDCO	Great Sand Dun	66.81	329	eP	P	23 52 21.2	+0.2
DBIC	Dimbokro	68.33	74	P	P	23 52 30.1	-0.6
	comp=N,4.9nm,0.7s,mb4.5,baz=211,slow=2.2,SNR=8.5						
QSPA	South Pole Qui	70.33	180	eP	P	23 52 42.2	+0.2
	comp=N,29nm,1.8s,mb4.8						
PDAR	Pinedale Array	72.66	330	P	P	23 52 56.4	-0.1
	comp=N,0.4nm,0.6s,mb3.4,baz=112,slow=8.0,SNR=4.5						
PDAR				PcP	PcP	23 53 12.9	-0.6
	comp=N,0.4nm,0.6s,baz=124,slow=5.3,SNR=3.7						
NVAR	Mina Array Bea	74.17	322	P	P	23 53 06.0	+0.6
	comp=N,1.3nm,0.8s,mb3.7,baz=147,slow=7.7,SNR=8.5						
HLID	Hailey	75.62	328	eP	P	23 53 14.7	+1.2
	comp=N,2.5nm,1.1s,mb3.9						
BMO	Blue Mountains	78.01	327	eP	P	23 53 27.2	+0.4
	comp=N,1.0nm,0.8s,mb3.6						
VNDA	Vanda	78.46	190	P	P	23 53 29.6	+0.9
	comp=N,0.7nm,0.8s,mb3.4,baz=165,slow=7.0,SNR=3.4						
YBH	Yreka Blue Hor	78.88	322	P	P	23 53 31.2	-0.5
	comp=N,2.3nm,0.8s,mb4.0,baz=146,slow=3.6,SNR=3.6						
YKA	Yellowknife Ar	89.62	341	P	P	23 54 25.4	+0.4
	comp=N,5.6nm,0.7s,mb4.8,baz=134,slow=4.6,SNR=30						
YKA				pP	pP	23 54 52.8	+1.5
	comp=N,1.3nm,0.8s,baz=134,slow=5.0,SNR=2.9						
MKAR	Makanchi Array	144.32	35	PKP	PKPdf	00 01 02.1	+0.1
	comp=N,0.5nm,0.6s,baz=301,slow=1.9,SNR=6.3						
MKAR				sPKP		00 01 43.1	
	comp=N,1.2nm,0.7s,baz=299,slow=2.6,SNR=5.5						
MJAR	Matsushiro Arr	150.99	311	PKPbc	PKPdf	00 01 20.8	+7.6
	comp=N,1.2nm,0.5s,baz=82,slow=0.9,SNR=6.2						
SONM	Songino Array	151.83	7	PKPbc	PKPdf	00 01 22.8	+8.7
	comp=N,2.5nm,0.5s,baz=314,slow=1.1,SNR=16						
SONM				pPKPbc		00 01 51.6	
	comp=N,0.7nm,0.5s,baz=318,slow=2.2,SNR=3.2						

*NEIC **02** 00:19:08.9, 31.32S×71.65W, h25km, ML3.7(GUC), After GUC.*

GUC 02 00:19:08.9±0.5, 31.32S×71.65W, h25km±2km, MD3.9, ML3.7, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ILCH	Illapel	0.52	128⇑	iP	Pb	00 19 19.5	+0.1
ILCH				iS	Sb	00 19 27.1	+0.6
ILCH				AMP		00 19 27.3	
	comp=E,7μm,0.1s						
CMCH	Combarbala	0.58	76⇑	iP	Pb	00 19 20.2	-0.1
CMCH				iS	Sb	00 19 28.6	+0.5
CMCH				AMP		00 19 29.2	
	comp=E,10μm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PACH	Papudo	1.23	171	⇑iP	Pn	00 19 30.5	-0.2
PACH				iS	Sn	00 19 46.4	-0.2
TLL	Tololo Astrono	1.36	33	⇓iP	Pn	00 19 32.9	+0.3
TLL				iS	Sn	00 19 51.0	+1.0
TLL				AMP		00 19 53.8	
	comp=N,2µm,0.4s						
JACH	Jahuel	1.63	147	⇓iP	Pn	00 19 37.0	+0.5
JACH				iS	Sn	00 19 58.0	+1.2
ROCH	El Roble	1.73	162	⇑iP	Pn	00 19 38.8	+0.8
ROCH				iS	Sn	00 20 01.6	+2.1
DSCH	Colegio Aleman	2.27	156	eP	Pn	00 19 46.1	+0.5
DSCH				iS	Sn	00 20 14.3	+1.2
DSCH				AMP		00 20 24.9	
	comp=E,1µm,0.5s						
CLCH	Cerro Calan	2.28	156	⇑iP	Pn	00 19 46.4	+0.7
CLCH				iS	Sn	00 20 14.9	+1.6
CLCH				AMP		00 20 26.1	
	comp=E,682nm,0.5s						
FCH	Farellones	2.31	150	eP	Pn	00 19 47.6	+1.3
TACH	Talagante	2.41	166	⇓iP	Pn	00 19 47.8	+0.2
LCO	Las Campanas	2.44	20	eP	Pn	00 19 48.7	+0.6
LCO				iS	Sn	00 20 17.3	-0.3
LCO				AMP		00 20 28.2	
	comp=E,382nm,0.4s						
ZON	Zonda	2.55	96	eP	Pn	00 19 53.0	+3.3
ZON				eS	Sn	00 20 30.0	+10
VACH	Vallenar	2.84	16	iS	Sn	00 20 28.4	+0.8

JMA ***02*** *00:31:46.9±0.2, 39.51N×143.43E, h40km, M5.5*
JMA Felt III J1.
IDC ***02*** *00:31:47.8±2.1, 39.47N×143.31E, h19km±12km, mb4.4/19, mb1 4.6/23, mb1mx4.6/25, mbtmp4.6/23, ML4.6/4, MS4.9/25, Ms1 4.9/25, ms1mx4.8/31, Error ellipse: s-maj=15.8km s-min=10.1km az=148.0*
MOS ***02*** *00:31:50.6±0.9, 39.67N×143.07E, h43km, mb5.3/77, MS5.3/43, Error ellipse: s-maj=7.8km s-min=4.1km az=109.1*
BJI ***02*** *00:31:50.5, 39.57N×142.87E, h42km, mB5.8, mb5.1, Ms5.5, Msz5.3*
HRVD ***02*** *00:31:51.1±0.2, 39.57N×143.34E, h18km, MW5.3/73, Centroid moment Tensor Solution. LP body waves: s54,c115; Mantle waves: s73,c155; Half duration: 1.1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.39±.01; $M_{\theta\theta}$0.07±.01; $M_{\phi\phi}$-0.45±.01; $M_{r\theta}$0.46±.03; $M_{\theta\phi}$-0.13±.01; $M_{\phi r}$0.99±.02; Best double couple: $M_0$1.178×10^{17} NP1:ϕ_s176°,δ12°,λ62°. NP2:ϕ_s24°,δ79°,λ96°. Principal axes: T 1.139, Plg55°, Azm301°; N .077, Plg6°, Azm203°; P -1.216, Plg34°, Azm110°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***02*** *00:31:51.1±0.7, 39.51N×143.13E, h42km±6km, mb5.1/88, MS5.3/9, MW5.3(NIED) Error ellipse: s-maj=5.9km s-min=4.2km az=142.0*
NEIC Felt at Misawa. Recorded [3 JMA] in Iwate, [2 JMA] in Miyagi and [1 JMA] in Akita, Aomori and Yamagata Prefectures.
NIED ***02*** *00:32:00, 39.50N×143.50E, h23km, Mw5.3 Best double couple: $M_0$9.95×10^{16} NP1:ϕ_s26°,δ67°,λ104°. NP2:ϕ_s174°, δ27°,λ61°.*

ISC 02 00:31:50.5±0.2**, 39.49N**±0.02×**143.13E**±0.03**, h49km, h49km**±2.2km**:pP-P, n491, σ1.04**/510**, mb5.0**/138**, MS5.2**/75**, 71C-17D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.01	275	P	P	00 32 08.5	-0.1
JTH	Tanohata	1.07	295	⇑P	P	00 32 09.1	-0.3
JTH				eS	S	00 32 25.2	+1.7
OFUJ	Ofunato	1.20	251	⇑P	P	00 32 11.2	0.0
JOM	Ohasama	1.42	270	⇑P	P	00 32 14.3	-0.1
JOM				eS	S	00 32 34.9	+2.8
JKZ	Kuzumaki	1.47	290	⇑P	P	00 32 15.4	+0.3
JANG	Nango	1.52	306	⇑P	P	00 32 14.5	-1.4
JMK	Ichinoseki	1.57	251	⇑P	P	00 32 16.7	+0.1
JMK				eS	S	00 32 38.8	+2.9
JIO	Ouri	1.73	234	⇑P	P	00 32 18.0	-0.7
JIO				eS	S	00 32 39.8	+0.2
JAH	Hinai	2.04	291	⇑P	P	00 32 23.5	+0.4
JTM	Tenmabayashi	2.04	310	⇑P	P	00 32 22.4	-0.7
JYK	Kaneyama	2.22	256	eS	S	00 32 53.3	+1.2
JMM	Marumori	2.44	229	⇑P	P	00 32 27.6	-1.2
JMM				eS	S	00 32 57.9	+0.3
JOT	Ohata	2.47	321	⇑P	P	00 32 27.4	-1.8
JNBK	Urakawa-nobuka	2.80	354	⇑P	P	00 32 30.6	-3.4
JKB	Kayabe	2.88	327	P	P	00 32 34.7	-0.4
JKB				eS	S	00 33 09.5	+0.8
JFY	Yanaizu	3.40	233	⇑P	P	00 32 42.2	-0.2
JHO	Hitachi	3.51	216	⇑P	P	00 32 41.0	-3.0
JSD	Sado	4.07	251	⇑P	P	00 32 51.6	-0.3
JAG	Ashikaga	4.21	225	⇑P	P	00 32 52.7	-1.2
JJN	Nakama	4.57	240	P	P	00 33 00.0	+1.0
ASAJ	Asahikawa	4.64	355	P	P	00 32 56.8	-3.2
ASAJ				pmax	pmax		
	comp=Z,13nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,17µm,18.4s						
ASAJ	Asahikawa	4.64	355	Pn	P	00 32 56.8	-3.2
	comp=Z,13nm,0.3s,baz=221,slow=10,SNR=68						
ASAJ				LR	LR	00 35 41.0	
	comp=Z,17µm,18.4s,baz=188,slow=50						
JRY	Ryogami san	4.82	225	⇑P	P	00 33 01.0	-1.4
MJAR	Matsushiro Arr	4.87	234	P	P	00 33 03.1	-0.1
MJAR				pmax	pmax		
	comp=Z,29nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,4µm,21.7s						
MJAR	Matsushiro Arr	4.87	234	Pn	P	00 33 03.1	0.0
	comp=Z,29nm,0.3s,baz=44,slow=11,SNR=379						
MJAR				LR	LR	00 34 52.5	
	comp=Z,4µm,21.7s,baz=60,slow=37						
MAJO	Matsushiro	4.87	234	⇑eP	P	00 33 03.4	+0.2
MAT	Matsushiro	4.87	234	eP	P	00 33 03.0	-0.2
MAT				S	S	00 34 00.0	+1.1
MAT	Matsushiro	4.87	234	P	P	00 33 03.3	+0.1
MAT				eS	S	00 33 59.7	+0.8
MAT	Matsushiro	4.87	234	P	P	00 33 03.4	+0.2
BSO4	Boso 4	5.01	207	P	P	00 33 03.0	-2.1
JNG	Nsakai	5.02	234	P	P	00 33 05.4	+0.1
JYN	Shimob	5.40	224	P	P	00 33 09.8	-0.7
JNY	Yasuok	5.88	227	P	P	00 33 16.5	-0.6
SHZ3	Shizuoka 3	5.90	223	P	P	00 33 16.3	-1.2
JGF	Kuroka	6.00	232	P	P	00 33 18.8	-0.1
JAO	Obara	6.29	230	P	P	00 33 22.2	-0.8
JHJ	Hachijo jima 2	6.90	204	Pn	P	00 33 28.1	-3.5
	comp=Z,210nm,0.3s,baz=232,slow=7.6,SNR=29						
JHJ				Sn	S	00 34 40.7	-8.9
	comp=Z,138nm,0.3s,baz=244,slow=24,SNR=9.2						
JHJ				LR	LR	00 36 20.2	
	comp=Z,5µm,20.6s,baz=66,slow=39						
JKY	Yasaka	7.44	241	P	P	00 33 39.1	0.0
JWT	Wachi	7.44	238	P	P	00 33 40.0	+0.9
YSS	Yuzh-Sakhalins	7.47	358	αeP	P	00 33 35.0	-4.4
YSS				eS	S	00 34 56.4	-7.2
YSS				pmax	pmax		
	comp=N,50nm,0.8s						
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS				pmax	pmax		
	comp=N,600nm,5.0s						
YSS				pmax	pmax		
	comp=Z,500nm,5.0s						
YSS				smax			
	comp=E,2µm,14.0s						
YSS				MLR	MLR		
	comp=N,10µm,15.0s						
YSS				MLR	MLR		
	comp=Z,9µm,15.0s						
YSS				MLR	MLR		
	comp=E,5µm,16.0s						
YSS	Yuzh-Sakhalins	7.47	358	eP	P	00 33 35.7	-3.8
	comp=E,276nm,1.3s						
JKS	Kasai	7.99	238	P	P	00 33 47.4	+0.8
JAD	Aida	8.46	240	P	P	00 33 53.6	+0.4
UGL	Uglegorsk	9.62	356	eP	P	00 34 02.8	-6.2
UGL				e		00 36 02.0	
UGL				MLR	MLR		
	comp=Z,6µm,16.0s						
UGL				MLR	MLR		
	comp=N,9µm,17.0s						
UGL				MLR	MLR		
	comp=E,6µm,20.0s						
MDJ	Mudanjiang	11.29	301	P	P	00 34 30.3	-1.5
MDJ				PP	PP	00 34 39.7	-0.8
MDJ				XP		00 34 43.2	
MDJ				S	S	00 36 36.2	-1.2
MDJ				PCP	PcP	00 40 21.7	-1.6
MDJ				SCP		00 43 51.3	
MDJ				PCS		00 43 55.8	
MDJ				SCS	ScS	00 47 26.4	+1.7
MDJ				AMB	AMB		
	comp=Z,51nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,1µm,5.8s						
MDJ				LR	LR		
	comp=N,6µm,13.2s						
MDJ				LR	LR		
	comp=E,12µm,16.4s						
MDJ				LR	LR		
	comp=Z,17µm,16.1s						
MDJ	Mudanjiang	11.29	301	eP	P	00 34 30.7	-1.1
	comp=Z,256nm,1.1s						
JNU	Nakatsue	11.74	241	Pn	P	00 34 33.8	-4.1
	comp=Z,1.9nm,0.3s,baz=78,slow=17,SNR=7.9						
JNU				Sn	S	00 36 49.1	+0.8
	comp=Z,0.2nm,0.3s,baz=221,slow=26,SNR=1.5						
JNU				LR	LR	00 39 28.9	
	comp=Z,12µm,19.2s,baz=236,slow=39						
KS15	Wonju Array Si	12.12	265	eP	P	00 34 40.6	-2.4
CBIJ	Chichi jima	12.38	184	LR	LR	00 39 16.4	
	comp=Z,2µm,19.3s,baz=170,slow=36						
KLR	Kul'dur	12.68	324	d iP	P	00 34 43.5	-6.9
KLR				e		00 37 15.5	
KLR				pmax	pmax		
	comp=N,800nm,11.0s						
KLR				pmax	pmax		
	comp=E,800nm,11.0s						
KLR				pmax	pmax		
	comp=Z,1µm,11.0s						
KLR				MLR	MLR		
	comp=N,11µm,14.0s						
KLR				MLR	MLR		
	comp=Z,14µm,14.0s						
CN2	Changchun	13.90	294	eP	P	00 35 05.0	-1.4
CN2				eXP		00 35 21.0	
CN2				eS	S	00 37 37.7	-2.3
CN2				AMB	AMB		
	comp=Z,20nm,1.4s						
CN2				AMB	AMB		
	comp=Z,1µm,9.0s						
CN2				LR	LR		
	comp=N,5µm,16.0s						
CN2				LR	LR		
	comp=E,9µm,16.0s						
CN2				LR	LR		
	comp=Z,10µm,18.0s						
SKR	Severo-Kuril's	14.45	35	eP	P	00 35 07.4	-6.1
SKR				MLR	MLR		
	comp=N,3µm,16.0s						
SKR				MLR	MLR		
	comp=E,6µm,16.0s						
SKR				MLR	MLR		
	comp=Z,6µm,16.0s						
SKR				MLR	MLR		
	comp=Z,6µm,16.0s						
SNY	Shenyang	15.02	285	⇑P	P	00 35 20.0	-1.0
SNY				AMB	AMB		
	comp=Z,40nm,2.4s						
SNY				AMB	AMB		
	comp=Z,1µm,13.2s						
SNY				LR	LR		
	comp=N,4µm,13.8s						
SNY				LR	LR		
	comp=E,10µm,15.0s						
SNY				LR	LR		
	comp=Z,12µm,16.2s						
DL2	Dalian	16.68	275	⇑P	P	00 35 41.3	-0.8
DL2				AP		00 35 49.5	
DL2				S	S	00 38 43.9	-0.9
DL2				AMB	AMB		
	comp=Z,30nm,1.4s						
DL2				AMB	AMB		
	comp=Z,830nm,4.1s						
DL2				LR	LR		
	comp=N,3µm,14.2s						
DL2				LR	LR		
	comp=E,3µm,16.4s						
DL2				LR	LR		
	comp=Z,4µm,17.2s						
PET	Petropavlovsk	17.23	33	⇑iP	P	00 35 50.0	+1.1
PET				pmax	pmax		
	comp=Z,100nm,19.8s						
PET				pmax	pmax		
	comp=Z,50nm,1.2s						
PET				pmax	pmax		
	comp=Z,400nm,3.4s						
PET				MLR	MLR		
	comp=Z,2µm,17.0s						
PET				MLR	MLR		
	comp=Z,3µm,14.0s						
PET	Petropavlovsk	17.23	33	eP	P	00 35 49.5	+0.6
	comp=Z,45nm,0.9s						
HIA	Hailar	19.29	308	eP	P	00 36 09.7	-4.1
HIA				pmax	pmax		
	comp=Z,43nm,0.6s						
HIA	Hailar	19.29	308	eP	P	00 36 09.7	-4.2
	comp=Z,43nm,0.6s						
SSE	Sheshan	19.73	252	eP	P	00 36 16.3	-2.5
SSE				AP		00 36 26.0	
SSE				XP		00 36 33.8	
SSE				S	S	00 39 55.0	+1.7
SSE				AMB	AMB		
	comp=Z,97nm,1.6s						
SSE				LR	LR		
	comp=N,4µm,16.1s						
SSE				LR	LR		
	comp=E,1µm,16.1s						
SSE				LR	LR		
	comp=Z,5µm,13.5s						
SSE	Sheshan	19.73	252	eP	P	00 36 16.3	-2.5
	comp=Z,97nm,1.6s						
SSE				pP		00 36 26.0	
SSE				sP		00 36 33.8	
SSE				S	S	00 39 55.0	+1.7
SSE				sS		00 40 14.8	
MA2	Magadan	20.68	11	eP	P	00 36 26.3	-2.2
MA2				pmax	pmax		
	comp=Z,44nm,0.8s						
MA2	Magadan	20.68	11	eP	P	00 36 26.3	-2.2
	comp=Z,44nm,0.8s						
TIA	Tai'an	20.77	269	eP	P	00 36 26.3	-3.3
TIA				AMB	AMB		
	comp=Z,143nm,1.2s						
TIA				LR	LR		
	comp=N,3µm,13.0s,MS5.4						
TIA				LR	LR		
	comp=E,10µm,13.0s,MS5.4						
NJ2	Nanjing	21.01	257	eP	P	00 36 29.8	-2.2
NJ2				AP		00 36 41.0	
NJ2				XP		00 36 46.6	
NJ2				PP	PP	00 36 53.9	-1.9
NJ2				S	S	00 40 20.0	+1.8
NJ2				AMB	AMB		
	comp=Z,100nm,1.1s,mb5.1						
NJ2				LR	LR		
	comp=N,9µm,15.3s,MS5.3						
NJ2				LR	LR		
	comp=E,8µm,18.0s,MS5.3						
NJ2				LR	LR		
	comp=Z,5µm,17.8s,MS5.0						
CLNS	Chul'man	21.08	331	eP	P	00 36 30.6	-2.0
CLNS				e		00 36 42.6	
CLNS				ePPP	PPP	00 36 52.8	-13
CLNS				eS	S	00 40 19.8	+0.4
CLNS				eSS	SS	00 40 55.3	+0.8
CLNS				pmax	pmax		
	comp=Z,78nm,1.4s,mb4.8						
CLNS				pmax	pmax		
	comp=N,58nm,1.1s						
CLNS				pmax	pmax		
	comp=E,19nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,64nm,0.8s,mb5.0						
CLNS				pmax	pmax		
	comp=N,62nm,1.0s						
CLNS				pmax	pmax		
	comp=E,48nm,0.9s						
CLNS				smax			
	comp=N,655nm,12.8s						
CLNS				smax			
	comp=E,103nm,13.3s						
CLNS				smax			
	comp=Z,695nm,13.3s						
CLNS				MLR	MLR		
	comp=Z,6µm,13.0s,MS5.2						
CLNS				MLR	MLR		
	comp=N,6µm,17.0s,MS5.1						
CLNS				MLR	MLR		
	comp=E,700nm,13.0s,MS5.1						
YHNB	Yeheng	23.54	238	eP	P	00 36 55.2	-1.8
NACB	Ninganchiao	23.74	236	eP	P	00 36 56.9	-2.1
CIT	Chita	23.96	311	eP	P	00 36 59.0	-1.8
CIT				e		00 37 15.2	
CIT				e		00 41 13.9	
CIT				pmax	pmax		
	comp=Z,439nm,2.1s,mb5.5						
TIY	Taiyuan	24.00	276	⇑P	P	00 37 00.0	-1.3
TIY				LR	LR		
	comp=N,5µm,15.0s						
TIY				LR	LR		
	comp=Z,917nm,15.0s,MS4.4						
YAK	Yakutsk	24.02	344	c iP	P	00 36 59.6	-1.7
YAK				iPPP	PPP	00 37 32.0	-15
YAK				eS	S	00 41 13.7	+1.7
YAK				iSSS	SSS	00 42 01.2	-22
YAK				pmax	pmax		
	comp=Z,28nm,0.9s,mb4.7						
YAK				pmax	pmax		
	comp=N,21nm,1.2s						
YAK				pmax	pmax		
	comp=E,11nm,1.4s						
YAK				pmax	pmax		
	comp=N,46nm,0.9s						
YAK				pmax	pmax		
	comp=Z,51nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=E,16nm,1.1s						
YAK				smax			
	comp=E,25nm,1.3s						
YAK				smax			
	comp=N,22nm,1.1s						
YAK				smax			
	comp=Z,14nm,1.1s						
YAK				MLR	MLR		
	comp=N,2µm,15.0s,MS4.7						
YAK				MLR	MLR		
	comp=E,709nm,15.0s,MS4.7						
YAK				MLR	MLR		
	comp=Z,2µm,15.0s,MS4.7						
YAK	Yakutsk	24.02	344	eP	P	00 36 59.3	-2.0
	comp=Z,116nm,0.8s,mb5.4						
HHC	Hu-ho-hao-te	24.09	283	⇑P	P	00 37 00.6	-1.7
HHC				AP		00 37 12.3	
HHC				XP		00 37 16.8	
HHC				PP	PP	00 37 38.4	+0.5
HHC				S	S	00 41 16.4	+2.9
HHC				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.4						
HHC				LR	LR		
	comp=N,2µm,14.4s,MS5.4						
HHC				LR	LR		
	comp=E,9µm,15.2s,MS5.4						
HHC				LR	LR		
	comp=Z,11µm,15.3s,MS5.5						
SEY	Seymchan	24.13	10	iP	P	00 37 01.9	-0.5
SEY						00 37 40.5	
SEY				e		00 40 40.3	
SEY				eS	S	00 41 19.8	+5.9
SEY				SS	SS	00 42 20.2	+12
SEY				pmax	pmax		
	comp=Z,110nm,1.3s,mb5.1						
SEY				pmax	pmax		
	comp=N,30nm,1.2s						
SEY				pmax	pmax		
	comp=E,30nm,1.2s						
SEY				smax			
	comp=N,4µm,14.3s						
SEY				smax			
	comp=E,3µm,15.6s						
SEY				MLR	MLR		
	comp=N,3µm,16.0s,MS5.0						
SEY				MLR	MLR		
	comp=Z,4µm,16.0s,MS5.0						
SEY				MLR	MLR		
	comp=E,2µm,18.0s,MS5.0						
FX1	Attu Island--F	24.52	47	eP	P	00 37 07.2	+0.8
WHN	Wuhan	25.12	258	⇑P	P	00 37 12.6	+0.3
WHN				S	S	00 41 36.0	+5.1
WHN				LR	LR		
	comp=N,4µm,12.7s,MS5.5						
WHN				LR	LR		
	comp=E,11µm,15.6s,MS5.5						
WHN				LR	LR		
	comp=Z,9µm,16.7s,MS5.4						
QZH	Quanzhou	25.22	242	⇑iP	P	00 37 13.2	0.0
QZH				S	S	00 41 41.0	+8.4
QZH				AMB	AMB		
	comp=Z,1µm,3.1s						
QZH				LR	LR		
	comp=N,7µm,15.5s,MS5.3						
QZH				LR	LR		
	comp=E,4µm,14.5s,MS5.3						
QZH				LR	LR		
	comp=Z,8µm,13.3s,MS5.4						
BTO	Baotou	25.29	283	eP	P	00 37 11.9	-1.9
BTO				LR	LR		
	comp=N,3µm,12.7s,MS5.5						
BTO				LR	LR		
	comp=E,11µm,15.5s,MS5.5						
BOD	Bodaibo	26.26	324	eP	P	00 37 21.3	-1.3
BOD				pmax	pmax		
	comp=Z,56nm,1.3s,mb4.9						
ULN	Ulaanbaatar	27.20	300	eP	P	00 37 31.6	+0.2
ULN				pmax	pmax		
	comp=Z,128nm,1.3s,mb5.3						
ULN	Ulaanbaatar	27.20	300	eP	P	00 37 31.6	+0.2
	comp=Z,128nm,1.3s,mb5.3						
SONM	Songino Array	27.64	300	P	P	00 37 35.7	+0.3
	comp=Z,16nm,0.6s,mb4.8,baz=100,slow=7.5,SNR=172						
SONM				S	S	00 42 19.1	+7.1
	comp=Z,0.5nm,0.8s,baz=50,slow=33,SNR=1.9						
SONM				LR	LR	00 49 13.7	
	comp=Z,9µm,18.4s,MS5.4,baz=94,slow=38						
XAN	Xi'an	27.83	270	P	P	00 37 35.7	-1.6
XAN				AP	pP	00 37 46.2	-3.7
XAN				PP	PP	00 38 26.5	-1.0
XAN				SS	SS	00 43 30.4	-7.8
XAN				AMB	AMB		
	comp=Z,46nm,1.5s,mb4.9						
XAN				LR	LR		
	comp=N,3µm,14.1s,MS5.2						
XAN				LR	LR		
	comp=E,4µm,16.6s,MS5.2						
XAN				LR	LR		
	comp=Z,5µm,15.6s,MS5.2						
ENH	Enshi	28.95	262	eP	P	00 37 46.4	-0.9
	comp=Z,196nm,1.3s,mb5.7						
IRK	Irkutsk	29.54	309	eP	P	00 37 51.4	-0.9
IRK				pmax	pmax		
	comp=Z,85nm,2.6s,mb5.0						
TLY	Talaya	29.83	307	eP	P	00 37 54.4	-0.5
TLY				e		00 39 00.3	
TLY				eS	S	00 42 44.4	-2.5
TLY				eSS	SS	00 44 22.8	-2.2
TLY				pmax	pmax		
	comp=Z,49nm,1.5s,mb5.0						
TLY				MLR	MLR		
	comp=Z,4µm,16.0s,MS5.1						
TLY	Talaya	29.83	307	eP	P	00 37 54.5	-0.4
	comp=Z,39nm,1.1s,mb5.0						
ZAK	Zakamensk	29.90	305	⇓iP	P	00 37 55.0	-0.5
ZAK				e		00 40 58.7	
ZAK				pmax	pmax		
	comp=Z,26nm,1.2s,mb4.8						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.0						
GZH	Guangzhou	30.07	246	P	P	00 37 53.7	-3.6
GZH				S	S	00 42 48.2	-2.8
GZH				LR	LR		
	comp=N,3µm,14.9s,MS5.2						
GZH				LR	LR		
	comp=E,3µm,15.0s,MS5.2						

GZH LR LR
comp=Z,5μm,13.1s,MS5.4
LZH Lanzhou 31.06 276 ⇑P **P** **00 38 05.2 -0.8**
LZH AP pP 00 38 17.7 -1.1
LZH XP sP 00 38 23.2 -1.8
LZH PP PP 00 39 08.1 -1.3
LZH *e*S **S** **00 43 05.0 -1.5**
LZH XS 00 43 26.3
LZH SS SS 00 44 51.6 -1.9
LZH AMB AMB
comp=Z,119nm,1.4s,mb5.5
LZH AMB AMB
comp=Z,317nm,5.5s
LZH LR LR
comp=N,4μm,12.9s
LZH LR LR
comp=Z,7μm,16.7s,MS5.4
LZH Lanzhou 31.06 276 ⇑P **P** **00 38 05.2 -0.8**
comp=Z,119nm,1.4s,mb5.5
LZH pP pP 00 38 17.7 -1.1
LZH sP sP 00 38 23.2 -1.8
LZH PP PP 00 39 08.1 -1.3
LZH *e*S **S** **00 43 05.0 -1.5**
LZH sS 00 43 26.3
LZH SS SS 00 44 51.6 -1.9
LZH LR LR
comp=Z,7μm,16.7s,MS5.4
BILL Bilibino 31.30 17 *e*P **P** **00 38 05.7 -2.0**
BILL pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
BILL Bilibino 31.30 17 *e*P **P** **00 38 05.7 -2.1**
comp=Z,8.8nm,0.8s,mb4.6
MOY Mondy 31.47 307 *e*P **P** **00 38 09.3 -0.1**
MOY pmax pmax
comp=Z,93nm,3.1s
GYA Guiyang 33.01 258 ⇑*i*P **P** **00 38 22.7 -0.4**
GYA AP pP 00 38 35.4 -0.6
GYA XP sP 00 38 40.6 -1.6
GYA PP PP 00 39 34.8 +0.2
GYA PPP PPP 00 39 51.6 +0.8
GYA S **S** **00 43 38.3 +1.3**
GYA XS 00 43 58.8
GYA AMB AMB
comp=Z,30nm,1.1s,mb5.1
GYA AMB AMB
comp=Z,630nm,5.7s
GYA LR LR
comp=N,2μm,17.1s,MS5.2
GYA LR LR
comp=E,4μm,20.6s,MS5.2
GYA LR LR
comp=Z,3μm,18.2s,MS5.0
TIXI Tiksi 33.04 352 *e*P **P** **00 38 18.0 -4.9**
TIXI *e* 00 39 26.8
TIXI *e*S **S** **00 43 30.4 -6.6**
TIXI pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
TIXI MLR MLR
comp=Z,1μm,14.0s,MS4.8
CD2 Chengdu 33.08 267 P **P** **00 38 22.8 -0.8**
CD2 AP pP 00 38 34.3 -2.3
CD2 XP sP 00 38 40.6 -2.2
CD2 S **S** **00 43 36.6 -1.4**
CD2 XS 00 43 56.9
CD2 SS SS 00 45 40.0 -0.7
CD2 AMB AMB
comp=Z,40nm,0.8s,mb5.4
CD2 AMB AMB
comp=Z,580nm,4.7s
CD2 LR LR
comp=N,6μm,14.7s
CD2 LR LR
comp=Z,8μm,14.3s,MS5.5
GTA Gaotai 33.21 284 P **P** **00 38 24.7 0.0**
GTA AP pP 00 38 36.8 -0.8
GTA XP sP 00 38 42.0 -1.8
GTA PP PP 00 39 39.5 +2.6
GTA S **S** **00 43 39.9 0.0**
GTA XS 00 43 58.8
GTA PCS 00 44 52.3
GTA SS SS 00 45 43.0 -0.6
GTA SCS ScS 00 48 50.2 +5.5
GTA AMB AMB
comp=Z,74nm,1.3s,mb5.5
GTA AMB AMB
comp=Z,629nm,8.4s
GTA LR LR
comp=N,3μm,17.6s,MS5.6
GTA LR LR
comp=E,10μm,17.2s,MS5.6
GTA LR LR
comp=Z,12μm,18.3s,MS5.6
QIZ Qiongzhong 35.19 244 P **P** **00 38 42.7 +0.9**
QIZ AP pP 00 38 56.8 +1.9
QIZ XP sP 00 39 00.2 -0.9
QIZ PP PP 00 40 03.1 +1.3
QIZ PPP PPP 00 40 20.9 +0.6
QIZ *e*S **S** **00 44 12.7 +1.9**
QIZ XS 00 44 32.4
QIZ SS SS 00 46 31.0 +1.8
QIZ AMB AMB
comp=Z,290nm,11.0s
QIZ LR LR
comp=N,2μm,15.1s,MS5.2
QIZ LR LR
comp=E,2μm,16.0s,MS5.2
QIZ LR LR
comp=Z,4μm,15.3s,MS5.2
KMI Kunming 36.70 259 ⇑P **P** **00 38 55.0 +0.4**
KMI AP pP 00 39 07.4 -0.3
KMI XP sP 00 39 15.1 +1.3
KMI PP PP 00 40 19.2 -1.3
KMI PCP PcP 00 41 17.2 +0.4
KMI S **S** **00 44 35.9 +1.9**
KMI XS 00 44 56.7
KMI SS SS 00 47 01.4 -1.8
KMI SCS ScS 00 49 06.7 +3.1
KMI AMB AMB
comp=Z,63nm,1.6s,mb5.2
KMI AMB AMB
comp=Z,549nm,3.6s
KMI LR LR
comp=N,3μm,14.5s,MS5.3
KMI LR LR
comp=E,3μm,17.4s,MS5.3
KMI LR LR
comp=Z,3μm,18.4s,MS5.0
KMI Kunming 36.70 259 ⇑P **P** **00 38 55.0 +0.4**
comp=Z,63nm,1.6s,mb5.2
KMI pP pP 00 39 07.4 -0.3
KMI sP sP 00 39 15.1 +1.3
KMI PP PP 00 40 19.2 -1.3
KMI PcP PcP 00 41 17.2 +0.4
KMI S **S** **00 44 35.9 +1.9**
KMI sS 00 44 56.7
KMI SS SS 00 47 01.4 -1.8
KMI ScS ScS 00 49 06.7 +3.1
KMI LR LR
comp=Z,3μm,18.4s,MS5.0
WMQ Urumqi 40.99 295 P **P** **00 39 31.4 +1.3**
WMQ AP pP 00 39 43.7 +0.5
WMQ XP sP 00 39 49.1 -0.1
WMQ PP PP 00 41 09.5 +1.5
WMQ S **S** **00 45 39.5 +1.0**
WMQ XS 00 45 59.5
WMQ AMB AMB
comp=Z,17nm,1.5s,mb4.5
WMQ LR LR
comp=N,574nm,16.3s,MS4.6
WMQ LR LR
comp=E,411nm,15.4s,MS4.6
WMQ LR LR
comp=Z,902nm,17.7s,MS4.7
KKTK Khon Kaen 41.95 248 P **P** **00 39 39.0 +0.7**
NVS Novosibirsk 42.17 312 *e*P **P** **00 39 38.7 -0.8**
NVS *e* 00 41 21.0
NVS *e*S **S** **00 45 52.0 -3.7**
NVS pmax pmax
comp=Z,104nm,2.2s,mb5.1
NVS pmax pmax
comp=N,27nm,1.9s
NVS pmax pmax
comp=E,88nm,2.2s
NVS smax
comp=N,33nm,1.8s
NVS smax
comp=E,43nm,2.2s
CHG Chiang Mai 43.22 255 ⇑P **P** **00 39 49.2 +0.6**
comp=E,15nm,0.8s,mb4.8
LSA Lhasa 43.37 274 P **P** **00 39 50.5 +0.8**
LSA AP pP 00 40 00.1 -2.8
LSA XP sP 00 40 03.9 -4.9
LSA PP PP 00 41 34.6 +1.7
LSA SCP 00 45 24.7
LSA PCS 00 45 28.4
LSA S **S** **00 46 20.2 +6.6**
LSA XS 00 46 37.4
LSA SCS ScS 00 49 46.5 +3.8
LSA AMB AMB
comp=Z,40nm,1.6s,mb4.9
LSA LR LR
comp=N,1μm,15.8s,MS5.4
LSA LR LR
comp=E,4μm,18.5s,MS5.4
LSA LR LR
comp=Z,5μm,16.7s,MS5.5
LSA Lhasa 43.37 274 *e*P **P** **00 39 49.7 0.0**
LSA pmax pmax
comp=Z,87nm,1.3s,mb5.3
LSA Lhasa 43.37 274 *e*P **P** **00 39 49.7 0.0**
comp=Z,87nm,1.3s,mb5.3
CMAR Chiang Mai Arr 43.44 254 P **P** **00 39 50.4 0.0**
CMAR S **S** **00 46 19.4 +4.6**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR MLR MLR
comp=Z,1μm,18.4s
CMAR Chiang Mai Arr 43.44 254 P **P** **00 39 50.4 -0.1**
comp=Z,3.0nm,0.6s,mb4.2,baz=43,slow=8.4,SNR=14
CMAR S **S** **00 46 19.4 +4.6**
comp=Z,0.5nm,0.4s,baz=184,slow=28,SNR=3.1
CMAR LR LR 00 59 44.8
comp=Z,1μm,18.4s,MS4.9,baz=55,slow=38
IMA Indian Mountai 43.89 32 *e*P **P** **00 39 53.4 -0.1**
IMA pmax pmax
comp=Z,117nm,1.0s,mb5.6
IMA Indian Mountai 43.89 32 *e*P **P** **00 39 53.4 -0.1**
comp=Z,117nm,1.0s,mb5.6
MKAR Makanchi Array 44.00 300 P **P** **00 39 54.8 +0.2**
comp=Z,13nm,0.5s,mb4.9,baz=84,slow=9.1,SNR=173
MKAR S **S** **00 46 28.3 +5.7**
MKAR pmax pmax
comp=Z,13nm,0.5s
MKAR MLR MLR
comp=Z,4μm,19.9s
MKAR Makanchi Array 44.00 300 P **P** **00 39 54.8 +0.2**
comp=Z,13nm,0.5s,mb4.9,baz=84,slow=9.1,SNR=173
MKAR S **S** **00 46 28.3 +5.7**
comp=Z,0.6nm,0.8s,baz=78,slow=13,SNR=2.3
MKAR LR LR 00 59 02.7
comp=Z,4μm,19.9s,MS5.3,baz=92,slow=37
RSO Redoubt South 44.15 40 P **P** **00 39 56.0 +0.4**
SPU Mount Spurr 44.47 39 P **P** **00 39 58.9 +0.7**
SHL Shillong 44.81 268 *e*P **P** **00 40 01.5 +0.1**
NNT Nongplab 46.67 247 P **P** **00 40 36.3 +20**
ILAR Eielson Array 46.71 34 P **P** **00 40 14.3 -1.5**
ILAR *e*S **S** **00 47 01.5 +0.5**
ILAR pmax pmax
comp=Z,5.0nm,0.7s
ILAR Eielson Array 46.71 34 P **P** **00 40 14.3 -1.6**
comp=Z,4.7nm,0.7s,mb4.5,baz=263,slow=6.5,SNR=38
ILAR S **S** **00 47 01.5 +0.5**
comp=Z,0.2nm,0.7s,baz=293,slow=6.1,SNR=3.2
JIRN Jiri 48.17 274 *e*P **P** **00 40 29.4 +1.6**
comp=Z,8.9nm,0.5s,mb5.1
KSM Kuching 48.22 227 *e*P **P** **00 40 28.7 +0.4**
GUN Gumba 48.28 274 *e*P **P** **00 40 29.6 +0.9**
comp=Z,202nm,0.5s
AAA Alma-Ata 48.63 297*c i*P **P** **00 40 32.0 +0.8**
AAA S **S** **00 47 42.0 +13**
AAA MLR MLR
comp=Z,4μm,15.0s,MS5.5
KKN Kakani 48.81 275 *e*P **P** **00 40 33.2 +0.5**
comp=Z,203nm,0.6s
KKN Kakani 48.81 275 *e*P **P** **00 40 33.2 +0.5**
KKN pmax pmax
comp=Z,101nm,0.6s,mb6.0
PKI Pulchoki 48.81 274 *e*P **P** **00 40 33.1 +0.3**
comp=Z,85nm,0.8s,mb5.8
PKI Pulchoki 48.81 274 *e*P **P** **00 40 33.1 +0.3**
PKI pmax pmax
comp=Z,42nm,0.8s,mb5.5
DMN Daman 49.03 274 *e*P **P** **00 40 35.0 +0.6**
comp=Z,58nm,0.5s,mb5.9
GKN Gorkha 49.20 275 *e*P **P** **00 40 35.9 +0.2**
comp=Z,80nm,0.5s,mb6.0
ULHL Ulahol 49.47 296 P **P** **00 40 38.1 +0.4**
SNR=9.2
VOSK Vostochnaya 49.68 311 P **P** **00 40 38.7 -0.4**
VOSK pmax pmax
comp=Z,83nm,1.5s,mb5.5
TKM2 Tokmak 2 49.68 297 P **P** **00 40 40.3 +1.0**
SNR=55
BVA0 Borovoye Array 49.95 311 *i* P **P** **00 40 40.9 -0.3**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BVAR Borovoye Array 49.95 311 S **S** **00 47 51.9 +5.2**
comp=Z,0.7nm,0.8s,baz=72,slow=9.4,SNR=3.9
KOLN Koldanda 50.11 276 *e*P **P** **00 40 43.2 +0.4**
KZA Kyzart 50.22 296 P **P** **00 40 44.6 +1.2**
SNR=26
KBK Karagaybulak 50.22 297 P **P** **00 40 44.0 +0.6**
SNR=19
CHMS Chumysh 50.24 297 P **P** **00 40 43.8 +0.2**
SNR=6.3
USP Ospenovka 50.32 298 P **P** **00 40 44.3 +0.2**
SNR=18
FRU Bishkek 50.39 297 *e*P **P** **00 40 45.0 +0.3**
FRU *e* 00 48 07.0
FRU pmax pmax
comp=Z,176nm,2.0s,mb5.7
AAK Ala-Archa 50.54 297 P **P** **00 40 46.2 +0.3**
SNR=7.4
AAK Ala-Archa 50.54 297 P **P** **00 40 46.0 +0.1**
AAK pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
AAK Ala-Archa 50.54 297 *e*P **P** **00 40 44.8 -1.0**
comp=Z,34nm,1.2s,mb5.2
KSH Kashi 50.67 293 *e*P **P** **00 40 48.1 +1.2**
KSH *e*AP pP 00 41 01.4 +1.1
KSH *e*XP sP 00 41 07.0 +1.0
KSH *e*PCP PcP 00 42 05.6 +1.7
KSH *e*PP PP 00 42 46.1 +2.2
KSH *e*SCP 00 45 54.0
KSH *e*PCS 00 46 00.0
KSH *e*S **S** **00 47 59.1 +2.3**
KSH *e*XS 00 48 20.8
KSH *e*SCS ScS 00 50 31.0 +0.9
KSH AMB AMB
comp=Z,370nm,1.7s,mb6.0
KSH AMB AMB
comp=Z,640nm,3.2s
KSH LR LR
comp=N,1μm,10.1s,MS5.7
KSH LR LR
comp=E,4μm,14.2s,MS5.7
UCH Uchtor 50.68 297 P **P** **00 40 47.8 +0.9**
SNR=8.4
ZRNK Zerenda 50.78 311 *e*P **P** **00 40 47.3 -0.2**
AML Almayashu 51.28 297 P **P** **00 40 52.4 +0.9**
SNR=30
INK Inuvik 51.59 28 P **P** **00 40 52.7 -0.7**
INK pmax pmax
comp=Z,3.0nm,0.4s
INK Inuvik 51.59 28 P **P** **00 40 52.7 -0.7**
comp=Z,3.1nm,0.4s,mb4.5,baz=276,slow=4.4,SNR=26
INK Inuvik 51.59 28 *e*P **P** **00 40 52.4 -1.1**
comp=Z,13nm,0.9s,mb4.8
LGTI Lohaghat 51.87 279 *e*P **P** **00 40 58.0 +2.0**
KAKA Kakadu 52.87 193 *e*P **P** **00 41 03.2 -0.5**
comp=Z,18nm,0.9s,mb5.0
KKAR Karatay Array 53.09 299 *i* P **P** **00 41 04.2 -0.8**
KKAR pmax pmax
comp=Z,142nm,2.1s,mb5.5
DDI Dehra Dun 53.12 281 *e*P **P** **00 41 05.0 -0.4**
SMLA Simla 53.41 283 ⇓*i*P **P** **00 41 03.8 -3.7**
SMLA *i* 00 41 29.4
THN Thein Dam 53.88 285 *e*P **P** **00 41 08.9 -2.1**
BLSP Bilaspur 54.19 270 *e*P **P** **00 41 12.7 -0.6**
BLSP AMb AMB 00 41 14.4
comp=Z,56nm,0.7s,mb5.6
SVE Sverdlovsk 54.22 318 ⇑*i*P **P** **00 41 13.1 0.0**
SVE *e* 00 43 11.8
SVE *e*S **S** **00 48 40.0 -5.0**
SVE pmax pmax
comp=Z,180nm,2.0s,mb5.7
SVE MLR MLR
comp=N,4μm,14.0s,MS5.9
SVE MLR MLR
comp=E,6μm,14.0s,MS5.9
SVE MLR MLR
comp=Z,11μm,14.0s,MS6.1
NDI New Delhi 54.55 280 *e*P **P** **00 41 14.5 -1.4**
SOKR Solikamsk 55.23 322*c i*P **P** **00 41 19.9 -0.5**
SOKR S **S** **00 49 02.1 +3.6**
SOKR pmax pmax
comp=Z,50nm,1.6s,mb5.3
SOKR MLR MLR
comp=Z,2μm,16.0s,MS5.4
ARU Arti 55.43 318 ⇑*i*P **P** **00 41 21.5 -0.4**
ARU *e* 00 42 21.9
ARU *e* 00 43 26.0
ARU *e*PPP PPP 00 44 39.1 -3.0
ARU *e*S **S** **00 49 05.3 +4.0**
ARU *e* 00 51 05.6
ARU pmax pmax
comp=Z,102nm,1.6s,mb5.6
ARU MLR MLR
comp=Z,5μm,16.0s,MS5.7
ARU MLR MLR
comp=N,2μm,15.0s,MS5.6
ARU MLR MLR
comp=E,4μm,16.0s,MS5.6
VIS Vishakhapatnam 55.76 265 AMb AMB 00 40 55.4
comp=Z,217nm,1.6s,mb5.9
DLBC Dease Lake 55.87 39 *e*P **P** **00 41 25.0 0.0**
BHPL Bhopal 57.22 274 *e*P **P** **00 41 34.2 -1.0**
BHPL AMb AMB 00 41 37.3
comp=Z,65nm,1.2s,mb5.5
AB31 Akbulak array 57.41 309 P **P** **00 41 35.3 -0.8**
AB31 pmax pmax
comp=Z,12nm,0.6s,mb5.1
AJM Ajmer 57.64 279 *e*P **P** **00 41 37.6 -0.5**
AJM AMb AMB 00 41 40.5
comp=Z,56nm,1.2s,mb5.5
KBS Kingsbay 58.47 350 *e*P **P** **00 41 43.2 0.0**
KBS LR LR
comp=Z,278μm,17.9s
KBS Kingsbay 58.47 350 *e*P **P** **00 41 43.2 0.0**
KBS *e*S **S** **00 49 45.2 +4.1**
KBS AMS AMS 01 10 10.0
comp=Z,278nm,17.9s,MS4.4
FITZ Fitzroy Crossi 59.57 199 *e*P **P** **00 41 51.5 -0.1**
comp=Z,12nm,0.8s,mb5.0
HYB Hyderabad 59.63 268 *e*P **P** **00 42 01.5 +10**
WRAB Tennant Creek 59.67 190 *e*P **P** **00 41 54.0 +1.7**
WRAB Tennant Creek 59.67 190 *e*P **P** **00 41 50.2 -2.1**
comp=Z,24nm,0.8s,mb5.3
WB2 Warramunga Arr 59.68 190 *e*P **P** **00 41 51.1 -1.2**
WRA Warramunga Arr 59.69 190 P **P** **00 41 49.7 -2.7**
WRA pmax pmax
comp=Z,9.0nm,0.9s
WRA Warramunga Arr 59.69 190 P **P** **00 41 49.7 -2.6**
comp=Z,8.7nm,0.9s,mb4.8,baz=7.5,slow=7.1,SNR=21
RES Resolute Bay 59.89 15 *e*P **P** **00 41 51.3 -1.8**
RES pmax pmax
comp=Z,21nm,1.0s,mb5.1
RES Resolute Bay 59.89 15 *e*P **P** **00 41 51.3 -1.8**
comp=Z,21nm,1.0s,mb5.1
LVZ Lovozero 60.43 336 *e*P **P** **00 41 56.4 -0.4**
LVZ *e* 00 44 07.1
LVZ *e*S **S** **00 50 07.2 +0.7**
LVZ *e*SS SS 00 54 02.2 -3.9
LVZ pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
LVZ smax
comp=N,86nm,4.4s
LVZ MLR MLR
comp=Z,2μm,18.0s,MS5.2
LVZ MLR MLR
comp=N,944nm,17.0s,MS5.3
LVZ MLR MLR
comp=E,2μm,17.0s,MS5.3
APA Apatity 61.01 336 ⇓*e*P **P** **00 41 59.6 -1.2**
APA *e* 00 44 14.0
APA *e*S **S** **00 50 18.0 +4.1**
APA *e*SS SS 00 54 14.0 -1.4
APA MLR MLR
comp=Z,2μm,17.0s,MS5.3
YKA Yellowknife Ar 61.01 31 P **P** **00 41 58.5 -2.3**
YKA *e*S **S** **00 50 17.7 +3.7**
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA MLR MLR
comp=Z,372nm,18.5s
YKA Yellowknife Ar 61.01 31 P **P** **00 41 58.5 -2.4**
comp=Z,2.0nm,0.6s,mb4.4,baz=302,slow=6.5,SNR=11
YKA S **S** **00 50 17.6 +3.6**
comp=Z,0.3nm,0.6s,baz=167,slow=11,SNR=2.8
YKA LR LR 01 13 30.9
comp=Z,372nm,18.4s,MS4.6,baz=265,slow=41
KEV Kevo 61.63 339 *e*p **P** **00 42 01.9 -3.0**
comp=Z,12nm,0.8s,mb5.1
KEV Kevo 61.63 339 *e*P **P** **00 42 01.9 -3.0**
KEV pmax pmax
comp=Z,12nm,0.8s,mb5.1
ARCES ARCESS Array B 62.18 339 P **P** **00 42 07.6 -1.0**
ARCES *e*S **S** **00 50 32.0 +3.3**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES MLR MLR
comp=Z,1μm,20.9s
ARCES ARCESS Array B 62.18 339 P **P** **00 42 07.6 -1.0**
comp=Z,3.9nm,0.8s,mb4.6,baz=45,slow=7.0,SNR=34
ARCES S **S** **00 50 32.0 +3.3**
comp=Z,1.2nm,0.9s,baz=321,slow=25,SNR=2.3
ARCES LR LR 01 12 21.4
comp=Z,1μm,20.9s,MS5.0,baz=38,slow=39
ARE0 ARCESS Array S 62.18 339 *e*P **P** **00 42 07.3 -1.3**
KAD Karad 63.07 271 *e*P **P** **00 42 15.3 +0.1**
KAD AMb AMB 00 42 17.5
comp=Z,42nm,1.0s,mb5.5
DAG Danmarks Havn 63.45 355 ⇓*e*P **P** **00 42 15.7 -1.2**
DAG pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
DAG Danmarks Havn 63.45 355 ⇓*e*P **P** **00 42 15.7 -1.2**
comp=Z,8.0nm,1.0s,mb4.8
DAG Danmarks Havn 63.45 355 ⇓*i*P **P** **00 42 15.7 -1.2**
comp=Z,8.0nm,1.0s,mb4.8
TRO Tromso 63.83 341 *e*P **P** **00 42 17.5 -1.9**
TRO LR LR
comp=Z,942μm,18.7s
TRO Tromso 63.83 341 *e*P **P** **00 42 17.5 -1.9**
TRO *e*S **S** **00 50 50.5 +1.3**
TRO AMS AMS 01 15 16.3
comp=Z,942nm,18.7s,MS5.0
MOS Moscow 66.09 323 *e*P **P** **00 42 32.3 -1.8**
MOS *e* pP 00 42 48.0 -0.1
MOS *e* 00 43 03.5
MOS *e* 00 44 54.6
MOS *e*S S 00 51 19.7 +2.6
MOS pmax pmax
comp=Z,300nm,2.5s,mb5.9
MOS pmax pmax
comp=Z,99nm,1.9s,mb5.5
MOS MLR MLR
comp=N,3μm,15.0s,MS5.7
MOS MLR MLR
comp=E,2μm,15.0s,MS5.7
MOS MLR MLR
comp=Z,4μm,15.0s,MS5.7
KAF Kangasniemi 66.75 333 *e*p **P** **00 42 36.7 -1.5**
comp=Z,8.7nm,0.6s,mb5.0,baz=47,slow=6.1
KAF Kangasniemi 66.75 333 *e*P **P** **00 42 36.7 -1.5**
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
PUL Pulkovo 66.77 329 *e*P **P** **00 42 38.6 +0.3**
PUL *e*S S 00 51 28.8 +3.5
PUL pmax pmax
comp=Z,44nm,0.4s,mb5.8
PUL smax
comp=N,137nm,0.6s
PUL MLR MLR
comp=Z,2μm,17.0s,MS5.4
PUL MLR MLR
comp=N,1μm,15.0s,MS5.4

PUL MLR MLR
comp=E,2µm,18.0s,MS5.4
OBN Obninsk 66.94 323 *c iP* **P 00 42 39.1 -0.4**
OBN *eS* S 00 51 33.6 +6.2
OBN *eSS* SS 00 55 50.0 +1.7
OBN pmax pmax
comp=Z,80nm,1.8s,mb5.5
OBN MLR MLR
comp=Z,3µm,14.0s,MS5.7
OBN Obninsk 66.94 323 *eP* **P 00 42 38.1 -1.4**
comp=Z,16nm,0.5s,mb5.3
MELSS Ber_school_2 67.19 341 *eP* **P 00 42 40.1 -0.8**
FINES FINESS Array B 67.27 332 P **P 00 42 40.8 -0.7**
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES MLR MLR
comp=Z,2µm,18.1s
FINES FINESS Array B 67.27 332 P **P 00 42 40.8 -0.7**
comp=Z,8.7nm,0.6s,mb5.0,baz=45,slow=8.1,SNR=111
FINES LR LR 01 14 48.6
comp=Z,2µm,18.1s,MS5.5,baz=207,slow=38
MOR8 Moi Rana 67.53 340 *eP* **P 00 42 41.3 -1.7**
comp=Z,34nm,1.3s,mb5.2
MOR8 Moi Rana 67.53 340 *eP* **P 00 42 41.3 -1.7**
MOR8 AMb AMB 00 42 43.3
comp=Z,34nm,1.5s,mb5.2
VOR Voronezh 67.66 319 P **P 00 42 43.0 -1.1**
VOR pmax pmax
comp=Z,70nm,2.0s,mb5.3
JMIC Jan Mayen 67.96 350 *eP* **P 00 42 46.8 +1.1**
JMIC LR LR
comp=Z,380µm,20.4s
JMIC Jan Mayen 67.96 350 *eP* **P 00 42 46.8 +1.1**
JMIC *eS* S 00 51 45.0 +5.5
JMIC AMS AMS 01 17 42.0
comp=Z,380nm,20.4s,MS4.6
MAK Makhachkala 68.01 308 *eP* **P 00 42 46.5 +0.1**
MAK *e* pP 00 42 58.0 -2.5
MAK *ePPP* PPP 00 46 54.0 -1.9
MAK *eS* S 00 51 45.0 +4.5
MAK *ePS* PS 00 52 10.0 -1.9
MAK pmax pmax
comp=Z,500nm,4.0s
MAK MLR MLR
comp=Z,3µm,13.0s,MS5.7
MAK MLR MLR
comp=N,2µm,15.0s,MS5.7
MAK MLR MLR
comp=E,3µm,15.0s,MS5.7
SUMG Summit 68.23 1 *eP* **P 00 42 46.3 -1.0**
comp=E,17nm,0.8s,mb5.1
VSU Vasula 69.02 330 *c iP* **P 00 42 52.5 +0.1**
BMO Blue Mountains 69.29 49 *eP* **P 00 42 54.3 0.0**
comp=E,11nm,1.3s,mb4.6
NSS Namsos 69.46 340 *eP* **P 00 42 53.1 -2.0**
NSS AMS AMS 01 20 20.1
comp=Z,1µm,15.6s,MS5.3
GOF Gofitskoye 69.47 312⇑ *iP* **P 00 42 55.8 +0.4**
GOF *i* 00 43 04.3
GOF pmax pmax
comp=Z,60nm,1.3s,mb5.4
WVOR Wild Horse Val 69.90 51 *eP* **P 00 42 58.5 +0.4**
WVOR pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
WVOR Wild Horse Val 69.90 51 *eP* **P 00 42 58.5 +0.5**
comp=Z,9.8nm,1.3s,mb4.6
MSO Missoula 70.03 45 *eP* **P 00 42 59.1 +0.4**
comp=Z,7.9nm,1.4s,mb4.5
DGRG David-gareji 70.17 308 P **P 00 42 57.4 -2.3**
ZEI Tsey 70.30 309 *eP* **P 00 42 58.0 -2.5**
ZEI *i* *PP pP 00 43 09.1 -5.5
ZEI *i* 00 45 33.9
ZEI pmax pmax
comp=Z,22nm,1.4s,mb4.9
KIV Kislovodsk 70.32 311⇑ *iP* **P 00 43 01.1 +0.5**
KIV *e* 00 43 21.8
KIV *eS* S 00 52 16.8 +9.1
KIV pmax pmax
comp=Z,127nm,1.4s,mb5.7
KIV MLR MLR
comp=Z,2µm,15.0s,MS5.5
BEKR Beckwourth 70.32 54 *eP* **P 00 43 01.3 +0.6**
comp=Z,9.2nm,1.1s,mb4.6
MTA Mtatsminda 70.39 308 P **P 00 43 01.0 -0.1**
TBLG Delisi 70.40 308 P **P 00 43 01.7 +0.6**
ONI Oni 70.68 310 P **P 00 43 03.9 +1.1**
FFC Flin Flon 70.92 34 *eP* **P 00 43 02.3 -1.7**
FFC pmax pmax
comp=Z,16nm,1.1s,mb4.9
FFC Flin Flon 70.92 34 *eP* **P 00 43 02.3 -1.8**
comp=Z,16nm,1.1s,mb4.8
STKA Stephens Creek 71.02 181 P **P 00 43 05.5 +0.5**
comp=Z,0.9nm,0.4s,mb4.0,baz=328,slow=16,SNR=2.8
STKA LR LR 01 13 43.0
comp=Z,413nm,18.5s,MS4.7,baz=18,slow=35
MNK Minsk 71.24 326 *eP* **P 00 43 01.0 -5.0**
HRY Holter Researc 71.26 45 *eP* **P 00 43 06.5 +0.3**
GNI Garni 71.32 307⇑ *iP* **P 00 43 07.9 +1.2**
GNI pmax pmax
comp=Z,41nm,1.4s
GNI MLR MLR
comp=Z,1µm,17.0s
GNI Garni 71.32 307 LR LR 01 17 32.3
comp=Z,1µm,19.4s,MS5.2,baz=68,slow=38
GNI Garni 71.32 307 *eP* **P 00 43 07.4 +0.7**
comp=Z,57nm,1.4s,mb5.3
CMB Columbia Colle 71.36 56 *eP* **P 00 43 07.9 +0.9**
CMB pmax pmax
comp=Z,18nm,1.3s,mb4.8
CMB Columbia Colle 71.36 56 *eP* **P 00 43 07.9 +0.9**
comp=Z,18nm,1.3s,mb4.8
HLID Hailey 71.73 48 *eP* **P 00 43 09.7 +0.6**
comp=Z,13nm,0.6s,mb5.0
BOZ Bozeman (W) 72.02 45 *eP* **P 00 43 10.5 -0.3**
BOZ pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BOZ Bozeman (W) 72.02 45 *eP* **P 00 43 10.5 -0.3**
comp=Z,7.7nm,0.9s,mb4.6
SOC Sochi 72.26 312 *eP* **P 00 43 11.3 -0.9**
SOC *e* pP 00 43 25.9 -0.4
SOC *e* 00 45 47.8
SOC *eS* S 00 52 29.8 -0.4
SOC *e* 00 53 08.6
SOC *eSS* SS 00 57 08.0 -2.6
SOC pmax pmax
comp=N,7.0nm,0.6s
SOC pmax pmax
comp=Z,22nm,0.6s,mb5.3
SOC pmax pmax
comp=E,8.0nm,0.7s
SOC MLR MLR
comp=Z,1µm,17.0s,MS5.3
SOC MLR MLR
comp=N,1µm,18.0s,MS5.3
SOC MLR MLR
comp=E,668nm,17.0s,MS5.3
HFS Hagfors 72.40 336 LR LR 01 18 14.7
comp=E,2µm,19.2s,MS5.3,baz=32,slow=38
NB2 NORSAR Subarra 72.44 338 P **P 00 43 12.6 -0.4**
comp=E,18nm,0.7s,mb5.1,baz=38,slow=5.8
NB2 NORSAR Subarra 72.44 338 P **P 00 43 12.6 -0.4**
NB2 pmax pmax
comp=Z,18nm,0.7s,mb5.1
NB2 NORSAR Subarra 72.44 338 P **P 00 43 12.6 -0.4**
baz=38,slow=6.2
NOA NORSAR Array B 72.44 338 P **P 00 43 12.7 -0.3**
NOA pmax pmax
comp=Z,9.0nm,0.6s
NOA MLR MLR
comp=Z,1µm,19.1s
NOA NORSAR Array B 72.44 338 P **P 00 43 12.7 -0.2**
comp=Z,9.3nm,0.6s,mb4.9,baz=38,slow=6.0,SNR=97
NOA LR LR 01 20 36.5
comp=Z,1µm,19.1s,MS5.2,baz=20,slow=40
NVAR Mina Array Bea 72.45 55 P **P 00 43 12.6 -0.9**
comp=Z,3.5nm,1.0s,mb4.3,baz=307,slow=4.6,SNR=16
NVAR LR LR 01 12 20.5
comp=Z,254nm,18.2s,MS4.5,baz=270,slow=34
MNV Mina 72.55 54 *eP* **P 00 43 14.5 +0.5**
MNV pmax pmax
comp=Z,15nm,1.4s,mb4.7
MNV Mina 72.55 54 *eP* **P 00 43 14.4 +0.5**
comp=Z,15nm,1.4s,mb4.7
NAO01 NORSAR Array S 72.69 338 *eP* **P 00 43 13.9 -0.5**
comp=Z,9.3nm,0.8s,mb4.8
ANN Anapa 72.80 314⇓ *iP* **P 00 43 14.0 -1.3**
ANN *i* 00 43 33.3
ANN *i* 00 45 56.6
ANN *i* PPP PPP 00 47 41.2 -1.5
ANN *eS* S 00 52 38.5 +2.3
ANN *e* 00 53 17.7
ANN *eSS* SS 00 57 21.3 +2.2
ANN pmax pmax
comp=Z,44nm,1.4s,mb5.2
ANN MLR MLR
comp=N,2µm,18.0s,MS5.6
ANN MLR MLR
comp=E,949nm,18.0s,MS5.6
ANN MLR MLR
comp=Z,1µm,18.0s,MS5.3
AKASG Malin Array Be 73.18 323 P **P 00 43 17.1 -0.3**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 73.18 323 P **P 00 43 17.1 -0.4**
comp=Z,5.0nm,0.5s,mb4.7,baz=41,slow=6.1,SNR=47
ERZM Erzurum 73.54 308 *i P* **P 00 43 21.0 +1.2**
SUW Suwalki 73.54 328‖ *eP* **P 00 43 18.7 -0.8**
SUW MLR MLR 01 18 03.3
comp=Z,2µm,18.0s,MS5.4
RRI2 Red Ridge 73.63 47 *eP* **P 00 43 20.6 +0.3**
comp=Z,18nm,1.1s,mb4.9
MOOW Moose Ponds 73.70 46 *eP* **P 00 43 21.3 +0.6**
comp=Z,8.6nm,1.1s,mb4.6
KONO Kongsberg 74.04 337 *d iP* **P 00 43 22.1 -0.2**
KONO Kongsberg 74.04 337 *eP* **P 00 43 15.0 -7.3**
KONO *e* 00 52 49.7
KONO *eS* S 00 52 53.7 +3.9
SIM Simferopol' 74.52 316 *c iP* **P 00 43 25.6 +0.2**
SIM *ePPP* PPP 00 48 02.0 +2.7
SIM *iS* S 00 52 58.0 +2.6
SIM *ePS* PS 00 53 47.0 +10
SIM pmax pmax
comp=Z,16nm,1.6s,mb4.7
SIM MLR MLR
comp=Z,2µm,17.0s,MS5.4
HWUT Hardware Ranch 74.59 49 *eP* **P 00 43 25.9 0.0**
comp=Z,7.1nm,1.1s,mb4.5
BER Bergen 74.63 340 *eP* **P 00 43 27.2 +1.5**
BER LR LR
comp=Z,1069µm,17.2s
BER Bergen 74.63 340 *eP* **P 00 43 27.2 +1.5**
BER *eS* S 00 52 59.8 +3.4
BER AMS AMS 01 20 55.5
comp=Z,1µm,17.2s,MS5.2
BW06 Boulder Array 75.00 47 *eP* **P 00 43 28.5 +0.3**
comp=Z,4.1nm,0.9s,mb4.4
PDAR Pinedale Array 75.00 47 P **P 00 43 28.2 0.0**
comp=Z,1.1nm,0.6s,mb4.0,baz=271,slow=2.2,SNR=12
PDAR LR LR 01 11 59.5
comp=Z,201nm,21.7s,MS4.4,baz=100,slow=32
WAR Warsaw 75.72 327 *eP* **P 00 43 33.2 +1.1**
WAR MLR MLR 01 19 21.7
comp=Z,2µm,17.8s,MS5.4
ELZG Elazig 75.86 308 *i P* **P 00 43 34.8 +1.6**
KIS Kishinev 75.90 320 *eP* **P 00 43 31.0 -2.2**
KIS *e* pP 00 43 45.0 -2.4
KIS *e* 00 46 22.0
KIS *eS* S 00 53 09.0 -1.6
KIS *e* 00 53 40.0
KIS *e* 00 53 54.0
BSD Bornholm Skovb 75.92 332 *i P* **P 00 43 32.6 -0.5**
BSD *i* 00 43 54.8
BSD pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BSD Bornholm Skovb 75.92 332 *i P* **P 00 43 32.6 -0.5**
comp=Z,10nm,0.9s,mb4.8
BSD *i* 00 43 54.8
MSU Marysvale 76.19 51 *eP* **P 00 43 35.7 +0.7**
MALT Malatya 76.32 308 *eP* **P 00 43 37.3 +1.5**
MALT pmax pmax
comp=Z,28nm,1.3s,mb5.0
MALT Malatya 76.32 308 *eP* **P 00 43 37.3 +1.5**
comp=Z,28nm,1.3s,mb5.0
COP Copenhagen 76.33 334 *i P* **P 00 43 36.0 +0.5**
COP *i* 00 46 25.1
COP *iS* S 00 53 18.1 +2.9
COP pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
COP MLR MLR
comp=Z,1µm,18.0s,MS5.3
COP Copenhagen 76.33 334 *i P* **P 00 43 36.0 +0.5**
comp=Z,7.9nm,0.5s,mb4.9
COP *i* 00 46 25.1
COP *iS* S 00 53 18.1 +2.9
comp=Z,1µm,18.0s
IAS Iasi 76.38 321 P **P 00 43 36.5 +0.6**
BOYT Boyabat 76.38 313 *i P* **P 00 43 37.0 +0.9**
ULM Lac du Bonnet 76.72 34 P **P 00 43 37.0 -0.8**
comp=Z,3.0nm,0.6s,mb4.4,baz=328,slow=4.0,SNR=3.0
ULM Lac du Bonnet 76.72 34 P **P 00 43 37.0 -0.8**
MUD Monsted U'grnd 76.79 336 *i P* **P 00 43 38.4 +0.4**
comp=Z,13nm,0.9s,mb4.8
MUD *i* 00 48 19.5
MUD *iS* S 00 53 25.8 +5.7
comp=Z,1µm,17.0s
SRU San Rafael 76.80 50 *eP* **P 00 43 38.5 0.0**
KWP Kalwaria 76.92 325‖ *eP* **P 00 43 39.7 +0.8**
KWP MLR MLR 01 20 51.4
comp=Z,4µm,15.6s,MS5.9
CTKT Corum 76.97 312 *i P* **P 00 43 40.1 +0.6**
RWWY Rawlins 77.02 46 P **P 00 43 36.2 -3.4**
comp=Z,11nm,0.7s,mb4.9
RSSD Black Hills 77.11 43 *eP* **P 00 43 39.9 -0.2**
RSSD pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
RSSD Black Hills 77.11 43 *eP* **P 00 43 39.9 -0.2**
comp=Z,3.9nm,0.6s,mb4.5
BALT Daday 77.17 314 *i P* **P 00 43 41.8 +1.3**
BURAR Bucovina Array 77.22 322‖ P **P 00 43 41.6 +1.0**
BURAR Bucovina Array 77.22 322‖ P **P 00 43 41.6 +1.0**
GZT Gaziantep 77.45 308 *i P* **P 00 43 42.9 +0.8**
CFR Carcaliu 77.50 319 P **P 00 43 42.9 +0.7**
CFR Carcaliu 77.50 319‖ P **P 00 43 42.8 +0.6**
CFR Carcaliu 77.50 319‖ P **P 00 43 42.8 +0.6**
KOLS Kolonicke sedl 77.62 325 *eP* **P 00 43 43.3 +0.5**
KOLS *e* 00 46 39.4
KOLS Kolonicke sedl 77.62 325 *eP* **P 00 43 43.3 +0.5**
KOLS *e* 00 44 11.8
KOLS *ePP* PP 00 46 39.4 -0.6
VRI Vrincioaia 77.72 320⇑ P **P 00 43 45.3 +1.8**
OJC Ojcow 77.75 327 *i P* **P 00 43 44.1 +0.6**
OJC *eS* S 00 53 31.0 +0.4
OJC MLR MLR 01 20 54.4
comp=Z,2µm,17.7s,MS5.5
ELDT Eldivan 77.84 313 *i P* **P 00 43 44.6 +0.4**
CDAG Cicekdag 77.87 312 *i P* **P 00 43 45.0 +0.6**
CRVS Cervenica-Dubn 78.00 325 *eP* **P 00 43 43.0 -1.9**
CRVS *es* P sP 00 43 59.2 -5.4
NIE Niedzica 78.12 326⇑ *eP* **P 00 43 46.6 +1.0**
BR131 Keskin Array S 78.22 312 *eP* **P 00 43 46.5 +0.2**
comp=Z,3.1nm,0.7s,mb4.3
BRTR Keskin Array B 78.23 312 P **P 00 43 47.1 +0.7**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 78.23 312 P **P 00 43 47.1 +0.7**
comp=Z,3.0nm,0.7s,mb4.3,baz=90,slow=3.7,SNR=25
MLR Muntele Rosu 78.38 320 P **P 00 43 48.3 +1.2**
MLR Muntele Rosu 78.38 320 LR LR 01 22 46.7
comp=Z,1µm,19.0s,MS5.3,baz=284,slow=39
MLR Muntele Rosu 78.38 320⇑ P **P 00 43 47.4 +0.4**
MLR Muntele Rosu 78.38 320⇑ P **P 00 43 47.4 +0.3**
BSEG Bad Segeberg 78.47 334 *eP* **P 00 43 47.8 +0.4**
RAC Raciborz 78.52 327 *eP* **P 00 43 49.0 +1.2**
RAC MLR MLR 01 21 26.4
comp=Z,2µm,19.5s,MS5.5
SGKT Sivrigoynuk 78.56 314 *i P* **P 00 43 47.8 -0.4**
KSP Ksiaz 78.72 329‖ *eP* **P 00 43 49.5 +0.7**
KSP *e* 00 43 56.8
KSP *e* 00 46 43.5
KSP *eS* S 00 53 43.0 +2.0
KSP MLR MLR
comp=Z,4µm,17.8s,MS5.8
KSP Ksiaz 78.72 329‖ *eP* **P 00 43 49.5 +0.7**
KSP MLR MLR 01 21 29.1
comp=Z,3µm,17.8s,MS5.7
OKC Ostrava-Krasne 78.73 327⇑ *iP* **P 00 43 49.6 +0.7**
OKC AMS AMS 01 21 30.0
comp=Z,2µm,18.3s
KECS Kecovo 78.75 325 *eP* **P 00 43 49.1 +0.1**
DRGR 78.99 323 P **P 00 43 51.6 +1.2**
DRGR 78.99 323‖ P **P 00 43 51.2 +0.8**
DRGR 78.99 323‖ P **P 00 43 51.2 +0.8**
MORC Moravsky Berou 79.03 328 P **P 00 43 51.5 +0.9**
MORC Moravsky Berou 79.03 328 *eP* **P 00 43 50.7 +0.1**
comp=Z,30nm,1.3s,mb5.1
DPC Dobruska-Polom 79.09 329⇑ *iP* **P 00 43 52.0 +1.1**
DPC *es* P sP 00 44 11.0 +0.4
DPC AMS AMS 01 21 50.0
comp=Z,2µm,16.2s
UPC Upice 79.09 329⇑ *iP* **P 00 43 51.6 +0.7**
UPC *ep* P pP 00 44 06.4 +1.3
PSZ Piszkesteto 79.44 325 P **P 00 43 53.9 +1.1**
PSZ Piszkesteto 79.44 325 *eP* **P 00 43 52.7 -0.1**
comp=Z,32nm,1.4s,mb5.1
PSZ Piszkesteto 79.44 325‖ *i* **P 00 43 54.2 +1.4**
VYHS Vyhne 79.46 326 *i P* **P 00 43 53.8 +0.9**
VYHS *ePP* PP 00 46 53.2 -1.9
BRG Berggiesshubel 79.62 330 *eP* **P 00 43 54.2 +0.5**
BRG *e* pP 00 44 11.3 +3.3
BRG 00 46 57.0
BRG S S 00 53 58.0 +7.5
BRG pmax pmax
comp=Z,33nm,1.7s,mb5.0
BRG pmax pmax
comp=Z,11nm,0.8s,mb4.8
BRG MLR MLR
comp=N,990nm,14.5s,MS5.3
BRG MLR MLR
comp=Z,2µm,14.5s,MS5.6
BRG MLR MLR
comp=E,530nm,14.8s,MS5.3
BRG Berggiesshubel 79.62 330 *eP* **P 00 43 54.2 +0.4**
comp=E,33nm,1.7s,mb5.0
BRG *e* pP 00 44 11.3 +3.3
BRG PP PP 00 46 57.0 +0.8
BRG S S 00 53 58.0 +7.5
BRG LR LR
comp=Z,2µm,14.5s,MS5.6
CLL Collm 79.63 331⇑ *iP* **P 00 43 53.9 +0.1**
CLL *i* *PP pP 00 44 05.0 -3.0
CLL *eS* S 00 53 57.0 +6.4
CLL pmax pmax
comp=Z,51nm,1.7s,mb5.2
CLL MLR MLR
comp=Z,2µm,16.5s,MS5.5
CLL Collm 79.63 331⇑ *iP* **P 00 43 53.9 +0.1**
comp=Z,51nm,1.7s,mb5.2
CLL *i* pP pP 00 44 05.0 -3.0
CLL *eS* S 00 53 57.0 +6.4
CLL LR LR
comp=Z,2µm,16.5s,MS5.5
CLL Collm 79.63 331⇑ P **P 00 43 53.9 +0.1**
comp=Z,logA/T=1.5,mb5.2
CLL *i* *PP pP 00 44 05.0 -3.0
CLL *i* *SP sP 00 44 11.1 -2.4
CLL *i* 00 44 28.0
CLL *ePP* PP 00 46 56.0 -0.3
CLL *eS* S 00 53 57.0 +6.4
PVCC Panska Ves 79.65 330⇑ *iP* **P 00 43 54.7 +0.8**
PVCC AMS AMS 01 22 10.0
comp=Z,2µm,17.3s
VRAC Vranov 79.79 328 P **P 00 43 55.9 +1.2**
ESKT Eskisehir 79.95 313 *i P* **P 00 43 55.9 +0.1**
SMOL Smolenice 80.05 327 *eP* **P 00 43 57.1 +1.0**
PRU Pruhonice 80.08 329⇑ *iP* **P 00 43 56.8 +0.6**
PRU *ep* P pP 00 44 13.6 +3.1
PRU AMS AMS 01 22 20.0
comp=Z,2µm,17.0s
CLZ Clausthal 80.17 332 *eP* **P 00 43 57.2 +0.6**
CLZ pmax pmax
comp=Z,40nm,1.5s,mb5.1
CLZ Clausthal 80.17 332 *eP* **P 00 43 57.2 +0.6**
comp=Z,40nm,1.5s,mb5.1
SRO Srobarova 80.21 326 *eP* **P 00 43 58.3 +1.3**
SRO1 Iza 80.28 326 *eP* **P 00 43 58.9 +1.6**
ZST Bratislava 80.43 327 *eP* **P 00 43 59.5 +1.4**
ULDT Uludag 80.47 315 *i P* **P 00 43 59.1 +0.6**
MOX Moxa 80.69 331 *eP* **P 00 43 59.8 +0.4**
MOX *e* *PP pP 00 44 11.7 -2.0
MOX *eS* S 00 54 09.0 +7.4
MOX pmax pmax
comp=Z,39nm,1.9s,mb5.0
MOX MLR MLR
comp=Z,1µm,17.0s,MS5.3
MOX Moxa 80.69 331 *eP* **P 00 43 59.8 +0.4**
comp=Z,39nm,1.9s,mb5.0
MOX *ep* P pP 00 44 11.7 -2.0
MOX *eS* S 00 54 09.0 +7.4
MOX LR LR
comp=Z,1µm,17.0s,MS5.3
MOX Moxa 80.69 331 *i P* **P 00 43 59.8 +0.4**
comp=Z,logA/T=1.3,mb5.0
MOX pP pP 00 44 12.0 -1.7
MOX S S 00 54 09.0 +7.4
MOX L 01 23 00.0
NKC Novy Kostel 80.70 330⇑ *iP* **P 00 44 00.1 +0.6**
NKC *ep* P pP 00 44 15.9 +2.1
NKC AMS AMS 01 25 30.0
comp=Z,1µm,16.1s
MZLS Mizel 80.85 293 P **P 00 44 02.0 +1.1**
GDZ Gediz 81.02 314 *i P* **P 00 44 01.3 -0.2**
TUC Tucson 81.07 55 P **P 00 44 01.7 -0.1**
HILS Ha'il 81.11 298 P **P 00 44 03.4 +1.3**
KHC Kasperske Hory 81.15 329⇑ *iP* **P 00 44 02.6 +0.7**
KHC *ep* P pP 00 44 18.0 +1.8
KHC *ex* x 00 47 02.0
KHC AMS AMS 01 23 10.0
comp=Z,2µm,18.4s
ASF Jabal al Asfar 81.25 305 LR LR 01 24 41.0
comp=Z,695nm,18.9s,MS5.0,baz=285,slow=39
WTSB Winterswijk 81.30 334 P **P 00 43 58.6 -4.0**
GEC2 GERESS Array S 81.33 329 *eP* **P 00 44 03.1 +0.3**
GEC2 pmax pmax
comp=Z,23nm,1.7s,mb4.8
GEC2 GERESS Array S 81.33 329 *eP* **P 00 44 03.1 +0.3**
comp=Z,23nm,1.7s,mb4.8
GERES GERESS Array B 81.33 329 P **P 00 44 03.0 +0.2**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES MLR MLR
comp=Z,1µm,18.1s
GERES GERESS Array B 81.33 329 P **P 00 44 03.0 +0.2**
comp=Z,1.9nm,0.6s,mb4.2,baz=34,slow=5.7,SNR=20
GERES LR LR 01 24 30.6
comp=Z,1µm,18.1s,MS5.3,baz=14,slow=39
WET Wettzell 81.41 330 *eP* **P 00 44 04.0 +0.7**
WET pmax pmax
comp=Z,27nm,1.4s,mb5.0
WET Wettzell 81.41 330 *eP* **P 00 44 04.0 +0.7**
comp=Z,27nm,1.4s,mb5.0
QURS Qurayyt al Mil 81.49 304 P **P 00 44 05.5 +1.4**
GRA1 Grafenberg Arr 81.61 331 *eP* **P 00 44 05.2 +0.9**
comp=Z,38nm,1.2s,mb5.2
GRA1 *ep* P pP 00 44 21.9 +3.3
GRA1 *eS* S 00 54 16.0 +4.8
GRA1 LR LR
comp=Z,1µm,19.1s,MS5.2
GRF Grafenberg Arr 81.61 331 *eP* **P 00 44 05.2 +0.9**
GRF *e* *PP pP 00 44 21.9 +3.3
GRF *eS* S 00 54 16.0 +4.8
GRF pmax pmax
comp=Z,38nm,1.2s,mb5.2
GRF MLR MLR
comp=Z,1µm,19.1s,MS5.2
GRF Grafenberg Arr 81.61 331 *eP* **P 00 44 05.2 +0.9**
GRF *e* *PP pP 00 44 21.9 +3.3
GRF *eS* S 00 54 16.0 +4.8
GRF pmax pmax
comp=Z,38nm,1.2s,mb5.2
GRF MLR MLR
comp=Z,1µm,19.1s,MS5.2
GRF Grafenberg Arr 81.61 331 *eP* **P 00 44 05.2 +0.9**
comp=Z,38nm,1.2s,mb5.2
GRF *ep* P pP 00 44 21.9 +3.3
GRF *eS* S 00 54 16.0 +4.8
GRF LR LR
comp=Z,1µm,19.1s,MS5.2
RZN Rozhen 81.73 318 *eP* **P 00 44 06.0 +0.9**
RZN Rozhen 81.73 318 *eP* **P 00 44 06.0 +0.9**
VTS Vitosha 81.83 320 *eP* **P 00 44 07.0 +1.4**
VTS Vitosha 81.83 320 *eP* **P 00 44 07.0 +1.4**
VTS Vitosha 81.83 320 P **P 00 44 07.0 +1.4**
ARSA Arzberg 81.84 327⇑ *iP* **P 00 44 06.4 +0.9**
comp=Z,76nm,2.1s,mb5.3

MOA	**Molln**	**81.89**	**328**	⇑*i*P	**P**	**00 44 06.5**	**+0.7**
	comp=Z,188nm,4.0s						
ANMO	**Albuquerque**	**81.98**	**51**	*e*P	**P**	**00 44 07.0**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ANMO	**Albuquerque**	**81.98**	**51**	*e*P	**P**	**00 44 07.0**	**+0.5**
	comp=Z,7.4nm,1.0s,mb4.6						
GRUS	**Gruza**	**82.09**	**322**	⇓*i*P	**P**	**00 44 07.4**	**+0.5**
TNS	**Taunus Mts**	**82.19**	**333**	*e*P	**P**	**00 44 07.8**	**+0.5**
TNS				pmax	pmax		
	comp=Z,40nm,1.8s,mb5.0						
TNS	**Taunus Mts**	**82.19**	**333**	*e*P	**P**	**00 44 07.8**	**+0.5**
	comp=Z,40nm,1.8s,mb5.0						
DIVS	**Divcibare**	**82.27**	**322**	⇑*i*P	**P**	**00 44 05.9**	**-2.0**
MMB	**Musomiste**	**82.31**	**319**	*e*P	**P**	**00 44 09.0**	**+0.9**
MMB	**Musomiste**	**82.31**	**319**	*e*P	**P**	**00 44 09.0**	**+0.9**
KKB	**Krupnik**	**82.43**	**319**	*e*P	**P**	**00 44 10.0**	**+1.3**
KKB	**Krupnik**	**82.43**	**319**	*e*P	**P**	**00 44 10.0**	**+1.3**
GROS	**Grobnik**	**82.47**	**326**	*i* P	**P**	**00 44 09.1**	**+0.4**
PERS	**Pernice**	**82.50**	**327**	*e*P	**P**	**00 44 09.6**	**+0.7**
TOD	**Tromm**	**82.58**	**332**	*e*P	**P**	**00 44 09.7**	**+0.5**
SCHQ	**Schefferville**	**82.61**	**17**	P	**P**	**00 44 10.7**	**+1.4**
	comp=Z,3.0nm,0.9s,mb4.3,baz=20,slow=6.1,SNR=3.6						
SCHQ				LR	LR	01 23 28.9	
	comp=Z,232nm,19.4s,MS4.6,baz=21,slow=38						
HGN	**Heimansgroeve**	**82.61**	**334**	P	**P**	**00 44 09.4**	**0.0**
	comp=Z,28nm,2.1s,mb4.9						
HGN				*e*PP	PP	00 47 28.6	+7.5
FUR	**Furstenfeldbru**	**82.83**	**330**	*e*P	**P**	**00 44 11.3**	**+0.7**
FUR				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.2						
FUR	**Furstenfeldbru**	**82.83**	**330**	*e*P	**P**	**00 44 11.3**	**+0.7**
	comp=Z,21nm,0.9s,mb5.2						
VAY	**Valandovo**	**83.09**	**319**	⇑*i*P	**P**	**00 44 13.1**	**+1.0**
RUP	**Ruppelstein**	**83.12**	**333**	*e*P	**P**	**00 44 12.5**	**+0.5**
SKO	**Skopje**	**83.17**	**320**	*i* P	**P**	**00 44 13.6**	**+1.1**
VISS	**Visnje**	**83.27**	**326**	*e*P	**P**	**00 44 13.1**	**+0.2**
BOJS	**Bojanci**	**83.33**	**326**	*e*P	**P**	**00 44 13.4**	**+0.2**
ROBS	**Robic**	**83.48**	**327**	*e*P	**P**	**00 44 13.4**	**-0.5**
GIVF	**Givet**	**83.54**	**334**	*e*P	**P**	**00 44 13.1**	**-1.0**
BAIF	**Baives**	**83.78**	**335**	*e*P	**P**	**00 44 14.4**	**-0.9**
BFO	**Black Forest**	**83.81**	**332**	*e*P	**P**	**00 44 16.2**	**+0.7**
BFO				pmax	pmax		
	comp=Z,58nm,1.8s,mb5.4						
BFO	**Black Forest**	**83.81**	**332**	*e*P	**P**	**00 44 16.2**	**+0.7**
	comp=Z,58nm,1.8s,mb5.4						
KBRS	**Khaybar**	**83.86**	**298**	P	**P**	**00 44 17.9**	**+1.6**
DLF	**Lyons Farm**	**83.94**	**342**	⇑*i*P	**P**	**00 44 15.5**	**-0.5**
DCN	**Croghan**	**84.06**	**343**	⇑*i*P	**P**	**00 44 15.2**	**-1.4**
JMQS	**Jabal Moqyreh**	**84.08**	**303**	P	**P**	**00 44 18.6**	**+1.3**
TBKS	**Tabuk**	**84.08**	**302**	P	**P**	**00 44 18.5**	**+1.2**
DAVA	**Damuels**	**84.09**	**330**	⇑*i*P	**P**	**00 44 17.6**	**+0.7**
	comp=Z,90nm,1.9s,mb5.6						
WLS	**Welschbruch**	**84.10**	**332**	*e*P	**P**	**00 44 17.7**	**+0.8**
CDF	**Champ du Feu**	**84.13**	**332**	*e*P	**P**	**00 44 16.4**	**-0.7**
	comp=Z,62nm,1.6s,mb5.2						
CDF	**Champ du Feu**	**84.13**	**332**	*e*P	**P**	**00 44 16.4**	**-0.7**
CDF				pmax	pmax		
	comp=Z,31nm,1.6s,mb5.2						
EIL	**Elat**	**84.16**	**304**	LR	LR	01 24 52.2	
	comp=Z,237nm,21.9s,MS4.5,baz=220,slow=38						
EIL	**Elat**	**84.16**	**304**	*e*P	**P**	**00 44 17.1**	**-0.6**
	comp=Z,45nm,1.4s,mb5.4						
FELD	**Feldberg**	**84.31**	**331**	*e*P	**P**	**00 44 18.4**	**+0.4**
ECH	**Echery**	**84.33**	**332**	*e*P	**P**	**00 44 18.4**	**+0.3**
JMOS	**Jabal al Moall**	**84.39**	**303**	P	**P**	**00 44 20.1**	**+1.2**
DAVOX	**Davos**	**84.51**	**330**	LR	LR	01 27 49.0	
	comp=Z,2µm,18.9s,MS5.4,baz=118,slow=40						
PPT	**Papeete**	**84.55**	**118**	*e*S	S	00 54 40.7	-0.8
	comp=Z,135nm,24.5s						
PPT				*e*SS	SS	00 59 59.1	-17
	comp=Z,173nm,21.0s						
PPT				*e*LQ		01 06 25.5	
	comp=Z,105nm,24.0s						
PPT				*e*LR	LR	01 09 59.2	
	comp=Z,1µm,22.5s,baz=316						
PPT	**Papeete**	**84.55**	**118**	LR	LR	01 14 31.6	
	comp=Z,771nm,20.7s,MS5.1,baz=289,slow=30						
HAQS	**Haql**	**84.58**	**303**	P	**P**	**00 44 21.1**	**+1.2**
MOF	**Molkenrain**	**84.65**	**332**	*e*P	**P**	**00 44 20.3**	**+0.6**
THEF	**They Montfort**	**84.74**	**333**	*e*P	**P**	**00 44 20.6**	**+0.4**
HINF	**Hinteralfeld**	**84.78**	**332**	*e*P	**P**	**00 44 19.5**	**-0.9**
HAU	**Haudompre**	**84.80**	**332**	*e*P	**P**	**00 44 19.5**	**-1.0**
HAU				*e*R			
	comp=Z,1µm,17.2s						
MEZF	**Maizieres J'vi**	**84.83**	**333**	*e*P	**P**	**00 44 20.2**	**-0.4**
	comp=Z,96nm,1.5s,mb5.4						
BBS	**Basel-Blauen**	**84.84**	**332**	*e*P	**P**	**00 44 21.4**	**+0.8**
TATS	**Tathlith**	**84.94**	**291**	P	**P**	**00 44 23.3**	**+1.5**
TAYS	**Tayyib Ism**	**84.96**	**303**	P	**P**	**00 44 22.8**	**+1.1**
LOMF	**Lomont**	**85.18**	**332**	*e*P	**P**	**00 44 23.4**	**+1.0**
TAOE	**Nuku Hiva Isla**	**85.48**	**105**	*e*S	S	00 54 34.8	-16
	comp=Z,922nm,32.9s						
TAOE				*e*LR	LR	01 10 22.2	
	comp=Z,3µm,21.0s,baz=322						
UMJS	**Umm Lajj**	**85.55**	**299**	P	**P**	**00 44 26.5**	**+1.7**
DJNS	**Zahran al Janu**	**86.06**	**290**	P	**P**	**00 44 29.4**	**+2.0**
BLJS	**Baljurashi**	**86.07**	**292**	P	**P**	**00 44 28.1**	**+0.7**
CABF	**La Chapelle**	**86.08**	**332**	*e*P	**P**	**00 44 25.5**	**-1.3**
LOR	**Lormes**	**86.31**	**334**	*e*P	**P**	**00 44 27.1**	**-0.8**
	comp=Z,160nm,1.7s,mb5.7						
LOR				*e*R			
	comp=Z,1µm,18.2s						
LOR	**Lormes**	**86.31**	**334**	*e*P	**P**	**00 44 27.1**	**-0.8**
LOR				pmax	pmax		
	comp=Z,80nm,1.7s,mb5.7						
LOR				MLR	MLR		
	comp=Z,1µm,18.3s,MS5.3						
FLN	**La Foliniere**	**86.41**	**337**	*e*P	**P**	**00 44 27.8**	**-0.5**
	comp=Z,73nm,1.3s,mb5.5						
FLN				*e*R			
	comp=Z,1µm,18.5s						
FLN	**La Foliniere**	**86.41**	**337**	*e*P	**P**	**00 44 27.8**	**-0.5**
FLN				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.4						
FLN				MLR	MLR		
	comp=Z,1µm,18.5s,MS5.3						
SSF	**Saint Saulge**	**86.61**	**334**	*e*P	**P**	**00 44 28.7**	**-0.6**
SSF				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.2						
SSF	**Saint Saulge**	**86.61**	**334**	*e*P	**P**	**00 44 28.7**	**-0.6**
	comp=Z,16nm,1.1s,mb5.2						
WMOK	**Wichita Mounta**	**86.61**	**47**	*e*P	**P**	**00 44 30.6**	**+0.9**
WMOK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.7						
WMOK	**Wichita Mounta**	**86.61**	**47**	*e*P	**P**	**00 44 30.6**	**+0.9**
	comp=Z,5.9nm,1.2s,mb4.7						
LTHS	**Al Lith**	**86.66**	**293**	P	**P**	**00 44 31.5**	**+1.3**
HYF	**Humbligny**	**86.72**	**334**	*e*P	**P**	**00 44 29.8**	**-0.1**
CII	**Carovilli**	**86.75**	**324**	P	**P**	**00 44 28.4**	**-1.8**
LPL	**La Plagne**	**86.77**	**331**	*e*P	**P**	**00 44 29.9**	**-0.3**
	comp=Z,17nm,1.0s,mb4.9						
LPL	**La Plagne**	**86.77**	**331**	*e*P	**P**	**00 44 29.9**	**-0.3**
LPL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
LPG	**La Plagne**	**86.78**	**331**	*e*P	**P**	**00 44 30.0**	**-0.2**
	comp=Z,32nm,1.2s,mb5.1						
SMF	**Signal de Mont**	**86.85**	**333**	*e*P	**P**	**00 44 30.1**	**-0.5**
	comp=Z,80nm,1.4s,mb5.4						
SMF	**Signal de Mont**	**86.85**	**333**	*e*P	**P**	**00 44 30.1**	**-0.5**
SMF				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.5						
GRR	**Gorron**	**86.85**	**337**	*e*P	**P**	**00 44 30.0**	**-0.5**
	comp=Z,43nm,1.1s,mb5.3						
GRR	**Gorron**	**86.85**	**337**	*e*P	**P**	**00 44 30.0**	**-0.5**
GRR				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.3						
BGF	**Bois d'Agland**	**87.27**	**334**	*e*P	**P**	**00 44 31.9**	**-0.7**
TXAR	**Lajitas Array**	**87.57**	**53**	P	**P**	**00 44 35.1**	**+0.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**87.57**	**53**	P	**P**	**00 44 35.1**	**+0.6**
	comp=Z,0.6nm,0.5s,mb4.1,baz=294,slow=3.3,SNR=10						
ROSF	**Rostrenen**	**87.61**	**338**	*e*P	**P**	**00 44 34.2**	**0.0**
	comp=Z,135nm,1.6s,mb5.6						
ROSF	**Rostrenen**	**87.61**	**338**	*e*P	**P**	**00 44 34.2**	**0.0**
ROSF				pmax	pmax		
	comp=Z,68nm,1.6s,mb5.6						
TCF	**Toulx Ste Croi**	**87.72**	**334**	*e*P	**P**	**00 44 34.6**	**-0.2**
	comp=Z,73nm,1.5s,mb5.4						
TCF	**Toulx Ste Croi**	**87.72**	**334**	*e*P	**P**	**00 44 34.6**	**-0.2**
TCF				pmax	pmax		
	comp=Z,37nm,1.5s,mb5.4						
SBF	**Sospel**	**87.89**	**330**	*e*P	**P**	**00 44 34.5**	**-1.1**
	comp=Z,30nm,1.0s,mb5.2						
SBF	**Sospel**	**87.89**	**330**	*e*P	**P**	**00 44 34.5**	**-1.1**
SBF				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.2						
VIVF	**Saint-Julien-l**	**88.09**	**332**	*e*P	**P**	**00 44 36.1**	**-0.5**
CCM	**Cathedral Cave**	**88.11**	**40**	*e*P	**P**	**00 44 36.5**	**-0.4**
CCM				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.1						
CCM	**Cathedral Cave**	**88.11**	**40**	*e*P	**P**	**00 44 36.5**	**-0.4**
	comp=Z,9.9nm,0.8s,mb5.1						
MFF	**Saint Martin d**	**88.22**	**336**	*e*P	**P**	**00 44 36.8**	**-0.3**
	comp=Z,6.3nm,0.7s,mb4.7						
MFF	**Saint Martin d**	**88.22**	**336**	*e*P	**P**	**00 44 36.8**	**-0.3**
MFF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.7						
TBI	**Tubuai**	**88.65**	**122**	*e*S	S	00 54 59.2	-21
	comp=Z,299nm,23.8s						
TBI				*e*SS	SS	01 00 28.0	-48
	comp=Z,125nm,42.0s						
TBI				*e*LQ		01 08 01.4	
	comp=Z,108nm,30.2s						
TBI				*e*LR	LR	01 11 56.8	
	comp=Z,577nm,22.5s,baz=313						
LMR	**La Mourre**	**88.70**	**330**	*e*P	**P**	**00 44 38.6**	**-0.9**
	comp=Z,108nm,1.6s,mb5.6						
LMR	**La Mourre**	**88.70**	**330**	*e*P	**P**	**00 44 38.6**	**-0.9**
LMR				pmax	pmax		
	comp=Z,54nm,1.6s,mb5.6						
RJF	**Les Rejaudoux**	**88.82**	**334**	*e*P	**P**	**00 44 39.9**	**-0.1**
RJF				*e*R			
	comp=Z,1µm,18.2s						
CAF	**Calviac**	**88.96**	**333**	*e*P	**P**	**00 44 40.7**	**0.0**
	comp=Z,19nm,1.1s,mb5.0						
CAF	**Calviac**	**88.96**	**333**	*e*P	**P**	**00 44 40.7**	**0.0**
CAF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.1						
LFF	**La Frestale**	**89.40**	**334**	*e*P	**P**	**00 44 42.7**	**-0.1**
ATD	**Arta Tunnel**	**90.55**	**285**	LR	LR	01 30 24.2	
	comp=Z,411nm,20.2s,MS4.9,baz=46,slow=39						
RKT	**Rikitea**	**98.45**	**113**	*e*S	S	00 55 50.8	-55
	comp=Z,161nm,23.8s						
RKT				*e*SS	SS	01 03 41.1	+6.2
	comp=Z,179nm,24.2s						
RKT				*e*LR	LR	01 16 30.3	
	comp=Z,776nm,22.5s,baz=308						
CASY	**Casey**	**108.39**	**193**	PKP		00 50 13.4	
DBIC	**Dimbokro**	**125.36**	**320**	PKIKP	PKPdf	00 50 47.5	+1.0
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DBIC	**Dimbokro**	**125.36**	**320**	PKP	PKPdf	00 50 47.5	+0.9
	comp=Z,2.6nm,0.7s,baz=48,slow=5.6,SNR=3.6						
DBIC	**Dimbokro**	**125.36**	**320**	PKP	PKPdf	00 50 47.5	+0.9
SNAA	**Sanae**	**143.49**	**197**	*e*	PKPbc	00 51 21.8	+4.9
SNAA	**Sanae**	**143.49**	**197**	*e*	PKPbc	00 51 34.3	+17
SNAA	**Sanae**	**143.49**	**197**	*e*	PKPbc	00 51 39.0	+22
SNAA	**Sanae**	**143.49**	**197**	⇑*i*PKPdf	PKPdf	00 51 16.6	-1.7
SNAA				*e*		00 51 21.8	
SNAA				*e*		00 51 34.3	
SNAA				*e*		00 51 39.0	
SNAA				*e*		00 54 32.1	
SNAA				*e*		00 54 48.5	
SNAA				*e*		00 54 53.3	
LPAZ	**La Paz**	**144.28**	**59**	*e*PKIKP	PKPdf	00 51 22.3	+1.0
VNA2	**Neumayer--Watz**	**145.05**	**196**	*e*	PKPdf	00 51 22.8	+1.7
VNA2	**Neumayer--Watz**	**145.05**	**196**	*e*	PKPdf	00 51 27.5	+6.4
VNA2	**Neumayer--Watz**	**145.05**	**196**	*e*	PKPdf	00 51 35.8	+15
VNA2	**Neumayer--Watz**	**145.05**	**196**	*e*	PKPdf	00 51 40.8	+20
VNA2	**Neumayer--Watz**	**145.05**	**196**	⇑*i*PKPdf	PKPdf	00 51 22.1	+1.0
VNA2				*e*		00 51 22.8	
VNA2				*e*		00 51 27.5	
VNA2				*e*		00 51 35.8	
VNA2				*e*		00 51 40.8	
VNA2				*e*		00 54 42.5	
VNA2				*e*		00 54 51.8	
VNA2				*e*		00 54 56.1	
VNA2				*e*		00 54 58.8	
VNA3	**Neumayer Olymp**	**145.28**	**195**	*e*	PKPdf	00 51 23.1	+1.6
VNA3	**Neumayer Olymp**	**145.28**	**195**	*e*	PKPdf	00 51 29.0	+7.5
VNA3	**Neumayer Olymp**	**145.28**	**195**	*e*	PKPdf	00 51 34.7	+13
VNA3	**Neumayer Olymp**	**145.28**	**195**	*e*	PKPdf	00 51 40.4	+19
VNA3	**Neumayer Olymp**	**145.28**	**195**	⇑*i*PKPdf	PKPdf	00 51 22.4	+0.9
VNA3				*e*		00 51 23.1	
VNA3				*e*		00 51 29.0	
VNA3				*e*		00 51 34.7	
VNA3				*e*		00 51 40.4	
VNA3				*e*		00 54 42.8	
VNA3				*e*		00 54 53.1	
VNA3				*e*		00 54 56.2	
VNA3				*e*		00 54 58.7	
VNA1	**Neumayer--Stat**	**145.44**	**196**	*e*	PKPdf	00 51 24.0	+2.2
VNA1	**Neumayer--Stat**	**145.44**	**196**	*e*	PKPdf	00 51 28.9	+7.1
VNA1	**Neumayer--Stat**	**145.44**	**196**	*e*	PKPdf	00 51 37.3	+16
VNA1	**Neumayer--Stat**	**145.44**	**196**	*e*	PKPdf	00 51 41.5	+20
VNA1	**Neumayer--Stat**	**145.44**	**196**	⇑*i*PKPdf	PKPdf	00 51 23.3	+1.5
VNA1				*e*		00 51 24.0	
VNA1				*e*		00 51 28.9	
VNA1				*e*		00 51 37.3	
VNA1				*e*		00 51 41.5	
VNA1				*e*		00 54 47.2	
VNA1				*e*		00 54 56.2	
VNA1				*e*		00 55 01.3	
VNA1				*e*		00 55 04.4	

*IDC **02** 01:09:26.9±19.0, 36.69N×71.18E, h255km±121km, mb3.2/4, mb1 3.1/6, mb1mx2.8/22, mbtmp3.7/6, Error ellipse: s-maj=191.1km s-min=45.5km az=2.0*

*NNC **02** 01:09:27.1±2.1, 37.08N×70.95E, h200km±17km, mpv3.6, Error ellipse: s-maj=24.7km s-min=12.9km az=38.0*

ISC 02 01:09:19.0±1.5**, 36.53N**±0.08×**71.2E**±0.2**, h200**km±19km**, n13, σ0^{s}89**/17**, mb3.4**/4**, 5C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.58**	**356**	⇑P	**P**	**01 10 55.0**	**+0.5**
	1.1nm,0.2s,baz=183,slow=13,SNR=116						
KK31				S	**S**	**01 12 04.5**	**-4.6**
	12nm,0.3s,baz=150,slow=15,SNR=19						
AAK	**Ala-Archa**	**6.60**	**22**	⇑P	**P**	**01 10 56.5**	**+1.8**
	2.3nm,0.3s						
AAK				⇑S	**S**	**01 12 08.0**	**-1.4**
	11nm,0.5s						
SMLA	**Simla**	**7.33**	**136**	⇓*i*P	**P**	**01 11 04.5**	**+0.3**
	425nm,0.3s						
SMLA				*i* S	**S**	**01 12 25.5**	**-0.9**
MKAR	**Makanchi Array**	**13.17**	**35**	P	**P**	**01 12 23.0**	**+3.7**
	0.1nm,0.3s,baz=225,slow=8.2,SNR=3.3						
AB31	**Akbulak array**	**15.13**	**331**	P	**P**	**01 12 42.8**	**-0.9**
	1.4nm,0.5s,baz=143,slow=12,SNR=23						
AB31				⇑S	**S**	**01 15 25.3**	**-0.6**
	2.2nm,0.9s,baz=152,slow=26,SNR=4.4						
VOSK	**Vostochnaya**	**16.19**	**360**	⇓P	**P**	**01 12 56.3**	**-0.3**
	1.6nm,0.8s						
ZRNK	**Zerenda**	**16.49**	**355**	⇑P	**P**	**01 13 00.4**	**+0.2**
	2.6nm,1.4s						
BVAR	**Borovoye Array**	**16.50**	**358**	P	**P**	**01 13 01.2**	**+0.8**
	0.4nm,0.3s,baz=162,slow=11,SNR=5.7						
FINES	**FINESS Array B**	**37.55**	**326**	P	**P**	**01 16 15.1**	**0.0**
	0.7nm,0.8s,mb3.2,baz=129,slow=8.9,SNR=4.0						
HFS	**Hagfors**	**43.14**	**322**	P	**P**	**01 17 01.1**	**+0.3**
	1.4nm,0.5s,mb3.6,baz=100,slow=9.0,SNR=13						
NB2	**NORSAR Subarra**	**44.45**	**323**	P	**P**	**01 17 11.0**	**-0.3**
	0.4nm,0.4s,mb3.1,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.45**	**323**	P	**P**	**01 17 11.2**	**-0.1**
	0.7nm,0.5s,mb3.2,baz=96,slow=7.7,SNR=6.2						
YKA	**Yellowknife Ar**	**81.20**	**3**	P	**P**	**01 21 13.1**	**0.0**
	0.4nm,0.5s,mb3.3,baz=353,slow=5.6,SNR=4.2						

*ATH **02** 01:09:22.5, 37.82N×26.76E, h16km±1km, MD4.1/16, ML4.0*

*MOS **02** 01:09:23.1±0.8, 37.82N×26.78E, h10km, mb3.7/7, Error ellipse: s-maj=8.7km s-min=4.4km az=107.1*

*CSEM **02** 01:09:23.8±0.1, 37.80N×26.80E, h10km, mb3.7/5, Error ellipse: s-maj=1.5km s-min=1.1km az=22.0*

*NEIC **02** 01:09:24.5±0.2, 37.77N×26.73E, h10km, mb3.7/3, ML4.0(ATH), Error ellipse: s-maj=3.3km s-min=3.2km az=92.0*

*ISK **02** 01:09:24.3, 37.79N×26.71E, h21km, ML4.3*

*THE **02** 01:09:25.1, 37.81N×26.72E, h2km, ML4.1*

*HLW **02** 01:09:25.6, 37.74N×26.99E, h20km, Mb3.5*

*IDC **02** 01:09:25.5±2.6, 37.80N×26.65E, h14km±22km, mb3.6/5, mb1 3.7/10, mb1mx3.6/26, mbtmp3.7/10, ML3.5/5, Error ellipse: s-maj=21.1km s-min=14.1km az=139.0*

ISC 02 01:09:23.3±0.5**, 37.79N**±0.01×**26.72E**±0.02**, h9**km±4km**, n165, σ1^{s}05**/205**, mb3.6**/7**, 11C-9D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.13**	**131**	*e*PB	**Pg**	**01 09 26.1**	**-0.2**
IZM	**Izmir**	**0.74**	**35**	*i* PG	**Pg**	**01 09 39.2**	**+1.0**
KDAG	**Bornova**	**0.75**	**35**	*i* P	**Pb**	**01 09 35.9**	**-2.2**
KDAG				*i* S	**Sb**	**01 09 48.6**	**+0.5**
BODT	**Bodrum**	**0.87**	**147**	*i* PG	**Pg**	**01 09 41.7**	**+1.0**
BODT				*i* SG	**Sg**	**01 09 54.3**	**+2.0**
BDRM	**Kayabasi**	**0.93**	**141**	*i* P	**Pb**	**01 09 39.5**	**-1.6**
BDRM				*i* S	**Sb**	**01 09 54.2**	**+0.9**
AYDN	**Tasoluk**	**0.93**	**98**	*i* P	**Pb**	**01 09 41.1**	**0.0**
AYDN				*i* S	**Sb**	**01 09 53.7**	**+0.3**
MLSB	**Milas**	**0.98**	**120**	*i* PG	**Pg**	**01 09 42.8**	**-0.1**
APE	**Apeiranthos**	**1.19**	**233**	PN	**Pn**	**01 09 46.4**	**+0.4**
APE	**Apeiranthos**	**1.19**	**233**	⇑*i*Pn	**Pn**	**01 09 46.3**	**+0.3**
APE				*e*Sn	**Sn**	**01 10 03.3**	**+0.9**
APE	**Apeiranthos**	**1.19**	**233**	*e*PN	**Pn**	**01 09 46.2**	**+0.2**
APE				*e*SN	**Sn**	**01 10 03.3**	**+0.9**
APE	**Apeiranthos**	**1.19**	**233**	*e*Pn	**Pn**	**01 09 46.4**	**+0.4**
APE				*e*Sn	**Sn**	**01 10 03.3**	**+0.9**
AKS	**Akhisar**	**1.39**	**38**	PN	**Pn**	**01 09 49.5**	**+0.6**
YER	**Yerkesik**	**1.41**	**117**	PN	**Pn**	**01 09 49.5**	**+0.3**
PRK	**Paraskevi**	**1.49**	**347**	*e*PN	**Pn**	**01 09 50.3**	**-0.1**
PRK				*e*SN	**Sn**	**01 10 10.2**	**+0.1**
AYVA	**Ayvalik**	**1.51**	**359**	*i* P	**Pn**	**01 09 52.4**	**+1.7**
AYVA				*i* S	**Sb**	**01 10 13.6**	**+3.3**
MANT	**Manisa**	**1.61**	**64**	*i* P	**Pn**	**01 09 51.5**	**-0.6**
MANT				*i* S	**Sb**	**01 10 12.6**	**-0.5**
THR3	**Thira Island,**	**1.73**	**218**	*e*Pb	**Pb**	**01 09 55.4**	**+0.5**
THR3				*e*Sb	**Sb**	**01 10 17.8**	**+1.0**
SANT	**Santorini**	**1.74**	**216**	*e*P	**Pn**	**01 09 54.0**	**0.0**
SANT				*e*S	**Sn**	**01 10 22.7**	**+6.3**
SANT	**Santorini**	**1.74**	**216**	*e*P	**Pn**	**01 09 54.0**	**+0.1**
THR1	**Thera Island**	**1.74**	**216**	*e*Pb	**Pb**	**01 09 54.5**	**-0.5**
THR1				*e*Sb	**Sb**	**01 10 19.0**	**+2.2**
THR5	**Thira Island,**	**1.75**	**219**	*e*Pb	**Pb**	**01 09 55.7**	**+0.4**
DENT	**Denizli**	**1.84**	**90**	PN	**Pn**	**01 09 55.4**	**+0.1**
DALT	**Dalyan (Mudla)**	**1.84**	**123**	PN	**Pn**	**01 09 55.8**	**+0.4**
DNZL	**Cakiroluk**	**1.85**	**92**	*i* P	**Pn**	**01 09 55.6**	**+0.1**
DNZL				*i* S	**Sn**	**01 10 20.0**	**+0.8**
ARG	**Arkhangelos**	**1.94**	**144**	⇑*i*Pn	**Pn**	**01 09 56.8**	**+0.1**
ARG				*e*Sn	**Sn**	**01 10 23.5**	**+2.1**
ARG	**Arkhangelos**	**1.94**	**144**	*i* Pn	**Pn**	**01 09 56.8**	**+0.1**
ARG				*e*S	**Sn**	**01 10 23.5**	**+2.1**
EZN	**Ezine**	**2.05**	**352**	PN	**Pn**	**01 09 58.6**	**+0.2**
BALB	**Balikesir**	**2.06**	**26**	PN	**Pn**	**01 09 59.0**	**+0.5**
FETY	**Fethiye**	**2.21**	**121**	PN	**Pn**	**01 10 00.9**	**+0.2**
BTOK	**Tokmak**	**2.22**	**27**	*i* P	**Pn**	**01 10 00.2**	**-0.6**
BTOK				*i* S	**Sn**	**01 10 35.0**	**+6.4**
KARP	**Karpathos**	**2.27**	**171**	*e*PB	**Pb**	**01 10 01.2**	**-2.8**
KARP				*e*SN	**Sn**	**01 10 30.9**	**+1.0**
KHL	**Karahalli**	**2.28**	**76**	PN	**Pn**	**01 10 02.2**	**+0.5**
GOLH	**Golhisar**	**2.33**	**103**	*i* P	**Pn**	**01 10 03.2**	**+0.9**
GOLH				*i* S	**Sg**	**01 10 44.1**	**+3.3**
DST	**Dursunbey**	**2.35**	**39**	PN	**Pn**	**01 10 03.4**	**+0.7**
ATH	**Athens Observa**	**2.38**	**275**	⇓*i*PN	**Pn**	**01 10 03.8**	**+0.7**
MPAR	**Parnis Oros**	**2.38**	**280**	*e*PN	**Pn**	**01 10 04.0**	**+0.9**
LIA	**Limnos Island**	**2.42**	**331**	*e*PN	**Pn**	**01 10 04.0**	**+0.3**
LOS	**Limnos**	**2.49**	**330**	*e*Pn	**Pn**	**01 10 05.9**	**+1.2**
GDZ	**Gediz**	**2.53**	**58**	*i* P	**Pn**	**01 10 04.8**	**-0.5**
GDZ				*i* S	**Sn**	**01 10 43.3**	**+6.9**
NAIG	**Nisos Aigina**	**2.56**	**270**	*e*PN	**Pn**	**01 10 05.5**	**-0.1**
AOS	**Alonnisos**	**2.62**	**303**	*e*Pn	**Pn**	**01 10 06.5**	**0.0**
NPS	**Neapolis**	**2.68**	**200**	*e*PN	**Pn**	**01 10 06.9**	**-0.4**
EDC	**Edincik**	**2.70**	**19**	PN	**Pn**	**01 10 07.6**	**-0.1**
BNT	**Bandirma**	**2.73**	**20**	PN	**Pn**	**01 10 08.3**	**+0.2**
ELL	**Elmali**	**2.75**	**111**	PN	**Pn**	**01 10 08.2**	**-0.2**
AKAS	**Kas**	**2.79**	**123**	*i* P	**Pn**	**01 10 09.6**	**+0.7**
AKAS				*i* S	**Sg**	**01 10 55.4**	**-0.7**
KSL	**Kastellorizon**	**2.82**	**125**	*e*PB	**Pb**	**01 10 10.0**	**-3.5**
ORLT	**Orhaneli**	**2.82**	**36**	PN	**Pn**	**01 10 10.5**	**+1.1**
TKTP	**Tekketepe**	**2.86**	**84**	*i* P	**Pn**	**01 10 10.0**	**+0.1**
TKTP				*i* S	**Sg**	**01 11 02.0**	**+3.4**
MRMT	**Marmara Adasi**	**2.89**	**13**	PN	**Pn**	**01 10 10.2**	**-0.2**
IDI	**Anoyia**	**2.90**	**211**	Pn	**Pn**	**01 10 10.7**	**+0.2**
	6.3nm,0.3s,baz=28,slow=12,SNR=14						
IDI				Pg	**Pg**	**01 10 18.2**	**-3.0**
	16nm,0.3s,baz=40,slow=14,SNR=38						
IDI				Lg		01 10 57.3	
	26nm,0.3s,baz=278,slow=16,SNR=3.8						
IDI	**Anoyia**	**2.90**	**211**	Pg	**Pg**	**01 10 18.2**	**-3.0**
ALT	**Altintas**	**2.95**	**64**	PN	**Pn**	**01 10 11.9**	**+0.7**
ISP	**Isparta**	**3.00**	**88**	PN	**Pn**	**01 10 12.1**	**+0.1**
ULDT	**Uludag**	**3.01**	**38**	*i* P	**Pn**	**01 10 11.7**	**-0.4**
ULDT				*i* S	**Sn**	**01 10 55.3**	**+6.7**
MFT	**Murefte**	**3.02**	**8**	PN	**Pn**	**01 10 11.8**	**-0.5**
XRY	**Khrisi**	**3.03**	**196**	*e*PN	**Pn**	**01 10 13.0**	**+0.7**
LKR	**Lokris**	**3.05**	**287**	*e*PN	**Pn**	**01 10 12.9**	**+0.2**
BCK	**Bucak**	**3.09**	**95**	PN	**Pn**	**01 10 13.1**	**-0.2**
VAM	**Vamos**	**3.12**	**221**	*e*PN	**Pn**	**01 10 13.7**	**0.0**
VAM	**Vamos**	**3.12**	**221**	*e*Pn	**Pn**	**01 10 13.3**	**-0.4**
NEO	**Neokhori**	**3.13**	**300**	*e*PN	**Pn**	**01 10 14.0**	**+0.2**
ALN	**Alexandroupoli**	**3.14**	**351**	*e*Pn	**Pn**	**01 10 13.6**	**-0.4**
ALN				*e*Sn	**Sn**	**01 10 52.5**	**+0.5**
XOR	**Xorichti**	**3.18**	**301**	*e*Pn	**Pn**	**01 10 14.7**	**+0.2**
PAIG	**Paliouri**	**3.19**	**313**	*e*Pn	**Pn**	**01 10 15.0**	**+0.4**
VLI	**Veliai**	**3.20**	**252**	*e*PN	**Pn**	**01 10 14.9**	**+0.1**
VLI	**Veliai**	**3.20**	**252**	*e*Pn	**Pn**	**01 10 14.3**	**-0.5**
ANTB	**Antalya**	**3.26**	**105**	PN	**Pn**	**01 10 16.0**	**+0.3**
OUR	**Ouranopolis**	**3.31**	**321**	*e*Pn	**Pn**	**01 10 16.5**	**+0.1**
YLV	**Yalova**	**3.46**	**36**	PN	**Pn**	**01 10 18.1**	**-0.3**
RDO	**Rodhopi**	**3.47**	**345**	*e*PN	**Pn**	**01 10 18.2**	**-0.4**
CTT	**Catalca**	**3.60**	**21**	PN	**Pn**	**01 10 21.4**	**+0.9**
PLG	**Polygyros**	**3.62**	**316**	*e*PN	**Pn**	**01 10 20.7**	**-0.1**
GVD	**Gavdhos**	**3.63**	**217**	*e*P	**Pn**	**01 10 18.6**	**-2.4**
GVD	**Gavdhos**	**3.63**	**217**	*e*P	**Pn**	**01 10 18.5**	**-2.4**
AGG	**Agios Georgios**	**3.66**	**291**	*e*Pn	**Pn**	**01 10 21.8**	**+0.5**
ESKT	**Eskisehir**	**3.67**	**61**	PN	**Pn**	**01 10 22.0**	**+0.6**
ESKT	**Eskisehir**	**3.67**	**61**	*i* P	**Pn**	**01 10 20.4**	**-1.0**
ESKT				*i* S	**Pn**	**01 10 22.2**	**+0.7**
HRT	**Hereke**	**3.79**	**36**	*e*PN	**Pn**	**01 10 23.3**	**+0.1**
EYL	**Eskiyayla**	**3.85**	**43**	*e*PN	**Pn**	**01 10 24.0**	**0.0**
ITM	**Ithomi**	**3.86**	**262**	*e*PN	**Pn**	**01 10 25.4**	**+1.3**
KDZ	**Kurdzhali**	**3.98**	**346**	*i* P	**Pn**	**01 10 25.0**	**-0.9**
SOH	**Sokhos**	**3.99**	**320**	*e*Pn	**Pn**	**01 10 26.4**	**+0.4**
EVR	**Evrytania**	**4.02**	**288**	*e*PN	**Pn**	**01 10 27.6**	**+1.2**
EVR	**Evrytania**	**4.02**	**288**	*e*Pn	**Pn**	**01 10 27.7**	**+1.3**
LIT	**Litokhoron**	**4.02**	**306**	*e*Pn	**Pn**	**01 10 26.8**	**+0.4**
THE	**Thessaloniki**	**4.07**	**315**	*e*Pn	**Pn**	**01 10 26.9**	**-0.2**
SRS	**Serrai**	**4.11**	**325**	*e*Pn	**Pn**	**01 10 27.8**	**+0.1**
RLS	**Riolos of Patr**	**4.16**	**275**	*e*PN	**Pn**	**01 10 29.0**	**+0.6**
NVR	**Nevrokopi**	**4.18**	**329**	*e*PN	**Pn**	**01 10 28.6**	**-0.1**
RZN	**Rozhen**	**4.18**	**339**	*i* P	**Pn**	**01 10 28.0**	**-0.8**
KIZT	**Kizilcal**	**4.20**	**73**	*e*PN	**Pn**	**01 10 29.6**	**+0.6**
KDHN	**Kadinhani**	**4.32**	**79**	*i* P	**Pn**	**01 10 30.2**	**-0.5**
KDHN				*i* S	**Pg**	**01 10 49.3**	**-0.2**
DIM	**Dimitrovgrad**	**4.35**	**348**	*e*P	**Pn**	**01 10 30.0**	**-1.1**
HENT	**Hendek**	**4.44**	**46**	*i* P	**Pg**	**01 10 45.7**	**-6.1**
HENT				*i* S	**Sg**	**01 11 44.0**	**-7.0**
MMB	**Musomiste**	**4.44**	**330**	*i* P	**Pn**	**01 10 32.0**	**-0.4**
KONT	**Konya--Tatoy**	**4.47**	**86**	*e*PN	**Pn**	**01 10 32.4**	**-0.4**
KNT	**Kendrikon**	**4.48**	**320**	*e*Pn	**Pn**	**01 10 33.5**	**+0.5**
GRG	**Griva**	**4.60**	**315**	*e*Pn	**Pn**	**01 10 35.1**	**+0.4**
HDMB	**Hadim**	**4.67**	**98**	*e*PN	**Pn**	**01 10 35.7**	**0.0**
JMB	**Yambol**	**4.67**	**359**	*i* P	**Pn**	**01 10 34.0**	**-1.7**
KKB	**Krupnik**	**4.94**	**327**	*i* P	**Pn**	**01 10 40.0**	**+0.5**
SGKT	**Sivrigoynuk**	**4.99**	**55**	*i* P	**Pn**	**01 10 44.8**	**+4.5**
SGKT				*i* S	**Pg**	**01 11 07.6**	**+4.6**
ERMK	**Ermenek**	**5.08**	**101**	*i* P	**Pn**	**01 10 42.5**	**+1.1**
ERMK				*i* S	**Pg**	**01 11 09.7**	**+5.1**
ANTO	**Ankara**	**5.18**	**65**	*e*PN	**Pn**	**01 10 43.5**	**+0.6**
PRD	**Provadia**	**5.43**	**5**	*i* P	**Pn**	**01 10 44.0**	**-2.4**
VTS	**Vitosha**	**5.49**	**332**	*i* P	**Pn**	**01 10 48.0**	**+0.7**
BR131	**Keskin Array S**	**5.75**	**68**	*e*P	**Pn**	**01 10 50.1**	**-0.7**
BR131	**Keskin Array S**	**5.75**	**68**	*e*P	**Pn**	**01 10 50.1**	**-0.7**
BRTR	**Keskin Array B**	**5.75**	**68**	Pn	**Pn**	**01 10 50.5**	**-0.3**
	0.8nm,0.3s,baz=251,slow=14,SNR=33						
BRTR				Pg	**Pg**	**01 11 11.9**	**-6.1**
	0.8nm,0.3s,baz=241,slow=18,SNR=14						
BRTR				Lg		01 12 30.1	
	baz=279,slow=16,SNR=2.2						
BRTR	**Keskin Array B**	**5.75**	**68**	Pg	**Pg**	**01 11 11.9**	**-6.1**
SKO	**Skopje**	**5.82**	**317**	*e*Pn	**Pn**	**01 10 55.0**	**+3.1**
ELDT	**Eldivan**	**5.87**	**61**	*i* P	**Pn**	**01 10 53.1**	**+0.5**

ELDT				*i* S	Pg	01 11 22.1	+1.6
CSS	**Prodhromos**	**6.04**	**116**	*e*P	**Pn**	**01 10 52.4**	**-2.6**
CSS	**Prodhromos**	**6.04**	**116**	*e*P	**Pn**	**01 10 52.4**	**-2.6**
CDAG	**Cicekdag**	**6.26**	**71**	*i* P	**Pn**	**01 10 57.6**	**-0.5**
CDAG				*i* S	**Pg**	**01 11 39.0**	**+11**
BALT	**Daday**	**6.36**	**52**	*i* P	**Pn**	**01 10 57.8**	**-1.7**
BALT				*i* S	**Pg**	**01 11 33.2**	**+3.0**
SLUM		**6.41**	**192**	⇑*e*P	**Pn**	**01 10 58.2**	**-2.0**
SLUM				S	**Sn**	**01 12 06.1**	**-8.1**
HMAT	**Matruh**	**6.69**	**177**	⇑*e*P	**Pn**	**01 11 01.4**	**-2.7**
HMAT				S	**Sn**	**01 12 11.4**	**-10**
TIRR	**Tirgusor**	**6.78**	**10**	⇑P	**Pn**	**01 11 03.2**	**-2.3**
CTKT	**Corum**	**6.88**	**63**	*i* P	**Pn**	**01 11 09.6**	**+2.8**
CTKT				*i* S	**Sn**	**01 12 08.3**	**-18**
DABA	**Dabaa**	**6.89**	**169**	⇑*e*P	**Pn**	**01 11 04.0**	**-3.0**
BOLS	**Boljevac**	**7.03**	**331**	⇓*i*Pn	**Pn**	**01 11 08.3**	**-0.6**
BOYT	**Boyabat**	**7.29**	**58**	*i* P	**Pn**	**01 11 11.3**	**-1.2**
BOYT				*i* S	Px	01 11 16.3	
CFR	**Carcaliu**	**7.46**	**8**	⇑P	**Pn**	**01 11 12.4**	**-2.5**
MLR	**Muntele Rosu**	**7.71**	**356**	Pn	**Pn**	**01 11 17.8**	**-0.7**
	0.3nm,0.3s,baz=172,slow=6.1,SNR=6.6						
MLR	**Muntele Rosu**	**7.71**	**356**	⇓P	**Pn**	**01 11 16.8**	**-1.8**
MLR	**Muntele Rosu**	**7.71**	**356**	⇓P	**Pn**	**01 11 16.8**	**-1.7**
TIP	**Timpagrande**	**7.93**	**283**	*e*P	**Pn**	**01 11 20.4**	**-1.1**
TIP	**Timpagrande**	**7.93**	**283**	*e*P	**Pn**	**01 11 20.4**	**-1.2**
VRI	**Vrincioaia**	**8.07**	**0**	⇑P	**P**	**01 11 29.1**	**+5.6**
SWA1		**8.55**	**186**	⇓*e*P	**P**	**01 11 27.7**	**-2.4**
SWA1				S	**Sn**	**01 12 57.0**	**-11**
SWA2		**8.59**	**187**	⇑*e*P	**P**	**01 11 27.6**	**-3.2**
AMAG	**Maghara**	**8.93**	**141**	⇓*e*P	**P**	**01 11 30.9**	**-4.5**
HRSH	**Kfar Ka'horesh**	**8.94**	**138**	⇑*e*P	**P**	**01 11 31.9**	**-3.6**
MALT	**Malatya**	**9.25**	**83**	*e*P	**P**	**01 11 39.4**	**-0.5**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MALT	**Malatya**	**9.25**	**83**	*e*P	**P**	**01 11 39.4**	**-0.6**
	comp=Z,2.7nm,0.8s						
MALT	**Malatya**	**9.25**	**83**	*e*P	**P**	**01 11 39.4**	**-0.5**
	comp=Z,2.7nm,0.8s						
DRGR		**9.47**	**343**	⇓P	**P**	**01 11 53.3**	**+10**
VAE	**Valguarnera**	**9.77**	**272**	Pn	**P**	**01 11 46.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=86,slow=14,SNR=3.3						
BURAR	**Bucovina Array**	**9.88**	**354**	⇓P	**P**	**01 11 47.7**	**-0.7**
BURAR	**Bucovina Array**	**9.88**	**354**	⇓P	**P**	**01 11 47.7**	**-0.8**
HNKL	**Nakhl**	**9.89**	**140**	⇑*e*P	**P**	**01 11 44.6**	**-4.1**
ASF	**Jabal al Asfar**	**10.06**	**121**	Pn	**P**	**01 11 48.1**	**-2.9**
	comp=Z,0.8nm,0.3s,baz=149,slow=1.1,SNR=8.8						
ASF				Sn	**S**	**01 13 35.2**	**-10**
	comp=Z,0.3nm,0.3s,baz=200,slow=11,SNR=2.2						
EIL	**Elat**	**10.61**	**137**	Pn	**P**	**01 11 54.1**	**-4.4**
	comp=Z,0.9nm,0.3s,baz=332,slow=16,SNR=11						
EIL				Sn	**S**	**01 13 46.3**	**-12**
	comp=Z,0.7nm,0.3s,baz=5.2,slow=22,SNR=3.4						
MOX	**Moxa**	**16.76**	**325**	*e*P	**P**	**01 13 26.0**	**+6.4**
FINES	**FINESS Array B**	**23.68**	**359**	P	**P**	**01 14 36.2**	**+0.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**23.68**	**359**	P	**P**	**01 14 36.2**	**+0.6**
	comp=Z,2.5nm,0.9s,mb3.6,baz=169,slow=9.7,SNR=6.1						
HFS	**Hagfors**	**23.85**	**344**	P	**P**	**01 14 37.2**	**-0.1**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**23.85**	**344**	P	**P**	**01 14 37.2**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.4,baz=180,slow=10,SNR=8.2						
NB2	**NORSAR Subarra**	**25.23**	**342**	P	**P**	**01 14 50.3**	**-0.3**
	comp=Z,1.6nm,1.2s,mb3.4,baz=151,slow=9.3						
NB2	**NORSAR Subarra**	**25.23**	**342**	P	**P**	**01 14 50.3**	**-0.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.5						
NOA	**NORSAR Array B**	**25.23**	**342**	P	**P**	**01 14 50.6**	**0.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**25.23**	**342**	P	**P**	**01 14 50.6**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.2,baz=150,slow=11,SNR=3.4						
ZRNK	**Zerenda**	**32.81**	**49**	P	**P**	**01 15 58.7**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**32.81**	**49**	P	**P**	**01 15 58.7**	**-0.1**
	comp=Z,0.6nm,0.6s,mb3.7						
ZRNK	**Zerenda**	**32.81**	**49**	P	**P**	**01 15 58.7**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.9						
VIF	**Vila Franca**	**40.77**	**287**	*e*S	**S**	**01 23 23.6**	**+6.8**
	comp=Z,13nm,0.2s						
LFA	**Lagoa do Fogo**	**40.80**	**287**	*e*S	**S**	**01 23 24.1**	**+6.9**
MKAR	**Makanchi Array**	**41.31**	**59**	P	**P**	**01 17 10.5**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**41.31**	**59**	P	**P**	**01 17 10.5**	**-0.1**
	comp=Z,0.7nm,0.8s,mb3.4,baz=277,slow=9.8,SNR=5.3						
SONM	**Songino Array**	**56.87**	**52**	P	**P**	**01 19 11.2**	**+0.7**
	comp=Z,0.2nm,0.5s,mb3.4,baz=286,slow=6.8,SNR=4.9						
ULN	**Ulaanbaatar**	**57.27**	**52**	P	**P**	**01 19 13.2**	**-0.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**57.27**	**52**	P	**P**	**01 19 13.2**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.9						
ULN	**Ulaanbaatar**	**57.27**	**52**	P	**P**	**01 19 13.2**	**-0.1**
	comp=Z,1.0nm,0.6s,mb4.0						

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*ATH **02** 01:24:37.2, 37.75N×26.75E, h19^{km}±7^{km}, MD3.0/3*
*ISK **02** 01:24:37.5, 37.81N×26.79E, h22^{km}, MD3.2*
*CSEM **02** 01:24:37.2±0.1, 37.81N×26.80E, h19^{km}±1^{km}, MD3.0, Error ellipse: s-maj=3.2km s-min=2.6km az=105.0*
ISC 02 01:24:36.9±0.7**, 37.78N**±0.03×**26.73E**±0.04**, h1**^{km}±5^{km}**, n16,** σ**1^{s}07**/29**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.11**	**127**	*e*PB	**Pb**	**01 24 41.0**	**-0.4**
SMG				*e*SB	**Sb**	**01 24 43.0**	**-1.3**
URLA	**Izmir**	**0.59**	**350**	*i* P	**Pg**	**01 24 48.7**	**0.0**
URLA				*i* S	**Sg**	**01 24 57.6**	**+0.9**
IZM	**Izmir**	**0.75**	**34**	PG	**Pg**	**01 24 51.6**	**-0.3**
KDAG	**Bornova**	**0.76**	**34**	*i* P	**Pg**	**01 24 51.5**	**-0.5**
KDAG				*i* S	**Sg**	**01 25 01.4**	**-0.7**
BODT	**Bodrum**	**0.85**	**147**	PG	**Pg**	**01 24 54.6**	**+0.8**
BODT				SG	**Sg**	**01 25 06.3**	**+1.1**
BDRM	**Kayabasi**	**0.91**	**141**	*i* P	**Pg**	**01 24 54.9**	**-0.2**
BDRM				*i* S	**Sg**	**01 25 07.6**	**+0.4**
AYDN	**Tasoluk**	**0.92**	**97**	*i* P	**Pg**	**01 24 54.4**	**-0.8**
AYDN				*i* S	**Sg**	**01 25 06.7**	**-0.8**
MLSB	**Milas**	**0.96**	**119**	PG	**Pg**	**01 24 55.9**	**-0.2**
MLSB				SG	**Sg**	**01 25 09.4**	**+0.5**
APE	**Apeiranthos**	**1.18**	**234**	PN	**Pn**	**01 24 59.9**	**-0.5**
APE				SN	**Sn**	**01 25 17.3**	**-0.1**
APE	**Apeiranthos**	**1.18**	**234**	*e*PN	**Pn**	**01 25 00.6**	**+0.2**
APE				*e*SN	**Sn**	**01 25 15.7**	**-1.7**
YER	**Yerkesik**	**1.39**	**117**	*e*PN	**Pn**	**01 25 01.8**	**-1.7**
AKS	**Akhisar**	**1.40**	**37**	*e*PN	**Pn**	**01 25 01.3**	**-2.2**
PRK	**Paraskevi**	**1.51**	**347**	*e*PN	**Pn**	**01 25 06.4**	**+1.3**
PRK				*e*SN	**Sn**	**01 25 25.8**	**+0.1**
MANT	**Manisa**	**1.61**	**63**	*i* P	**Pn**	**01 25 08.0**	**+1.4**
MANT				*i* S	**Sb**	**01 25 27.6**	**-0.2**
DNZL	**Cakiroluk**	**1.84**	**92**	*i* P	**Pn**	**01 25 12.8**	**+3.0**
DNZL				*i* S	**Sn**	**01 25 36.9**	**+2.8**
ULDT	**Uludag**	**3.02**	**38**	*i* P	**Pn**	**01 25 32.9**	**+6.2**
ULDT				*i* S	**Sn**	**01 26 08.9**	**+4.9**

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*ISK **02** 01:34:27.9, 38.53N×41.42E, h6^{km}, MD3.7*
*CSEM **02** 01:34:27.9±0.1, 38.53N×41.42E, h6^{km}, MD3.7, Error ellipse: s-maj=2.4km s-min=2.1km az=31.0, After ISK*
ISC 02 01:34:29.2±0.8**, 38.55N**±0.02×**41.43E**±0.04**, h11**^{km}±6^{km}**, n22,** σ**0^{s}89**/33**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTMT	**Batman**	**0.36**	**172**	*i* PG	**Pg**	**01 34 36.0**	**-0.6**
BTMT				*i* SG	**Sg**	**01 34 43.0**	**+1.4**
BEST	**Besiri**	**0.67**	**191**	*i* P	**Pb**	**01 34 41.3**	**-1.1**
BEST				*i* S	**Sg**	**01 34 52.4**	**+0.8**
DIY	**Diyarbakir**	**1.15**	**236**	PN	**Pn**	**01 34 49.9**	**-1.3**
DIY				SN	**Sn**	**01 35 06.4**	**-0.6**
SIRT	**Sirnak**	**1.32**	**142**	PN	**Pn**	**01 34 53.3**	**-0.3**
SIRT				SN	**Sn**	**01 35 12.0**	**+0.8**
MARD	**Mardin**	**1.33**	**203**	*i* P	**Pb**	**01 34 53.6**	**-0.2**
MARD				*i* S	**Sb**	**01 35 11.5**	**+0.7**
ERZM	**Erzurum**	**1.36**	**358**	*i* P	**Pb**	**01 34 53.2**	**-1.0**
ERZM				*i* S	**Sb**	**01 35 11.4**	**0.0**
EZM	**Erzurum**	**1.36**	**358**	*i* PN	**Pn**	**01 34 53.9**	**-0.3**
EZM				*i* SN	**Sn**	**01 35 13.6**	**+1.3**
VANB	**Van**	**1.54**	**88**	PN	**Pn**	**01 34 56.7**	**-0.1**
TVAN	**Van**	**1.55**	**90**	*i* P	**Pn**	**01 34 56.8**	**-0.2**
TVAN				*i* S	**Sb**	**01 35 17.8**	**+0.7**
PTK	**Pertek**	**1.63**	**283**	PN	**Pn**	**01 34 58.4**	**+0.3**
ELZG	**Elazig**	**1.92**	**269**	*i* P	**Pn**	**01 35 01.9**	**-0.3**
ELZG				*i* S	**Sn**	**01 35 28.6**	**+2.1**
CLDR	**Caldiran**	**2.03**	**72**	PN	**Pn**	**01 35 03.4**	**-0.5**
HKR	**Hakkari**	**2.07**	**117**	PN	**Pn**	**01 35 04.2**	**-0.2**
KELT	**Kelkit**	**2.32**	**314**	*i* P	**Pn**	**01 35 11.6**	**+3.6**
KELT				*i* S	**Sg**	**01 35 47.4**	**+0.8**
URFA	**Urfa**	**2.34**	**243**	PN	**Pn**	**01 35 07.5**	**-0.7**
MALT	**Malatya**	**2.37**	**265**	PN	**Pn**	**01 35 08.4**	**-0.3**
MYA	**Malataya**	**2.37**	**266**	PN	**Pn**	**01 35 08.6**	**-0.1**
BCA	**Borcka**	**2.90**	**3**	*e*PN	**Pn**	**01 35 16.5**	**+0.3**
GNI	**Garni**	**3.03**	**57**	*e*PN	**Pn**	**01 35 17.7**	**-0.4**
GZT	**Gaziantep**	**3.28**	**250**	*i* P	**Pn**	**01 35 18.9**	**-2.7**
GZT				*i* S	**Sn**	**01 36 09.4**	**+8.3**
KAHT	**Ahir Dag**	**3.71**	**257**	*i* P	**Pn**	**01 35 34.2**	**+6.5**
KAHT				*i* S	**Sg**	**01 36 26.8**	**-5.9**
COBT	**Iskenderun**	**4.58**	**245**	*i* P	Px	01 35 51.7	
COBT				*i* S	Px	01 35 52.8	

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*PRU **02** 01:39:13.4, 50.16N×19.03E*
WAR 02 01:39:13.2, 50.08N×19.13E, h1^{km}, MW2.3, Mw2.5, Location given by Central Institute of Mining, origin time based upon OJC, MW from OJC, Mw from NIE, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.46**	**71**	*e*Pg	Pg	01 39 22.4	+0.1
OJC				*e*Sg	Sg	01 39 28.7	+0.3
OKC	**Ostrava-Krasne**	**0.68**	**250**	*e*PG	Pg	01 39 26.3	-0.4
OKC				*e*SG	Sg	01 39 35.3	-0.4
	22nm,0.4s						
NIE	**Niedzica**	**1.01**	**130**	*e*Pg	Pg	01 39 32.9	-0.5
NIE				*e*Sg	Sg	01 39 49.4	+2.5
LIKS	**Likavka**	**1.03**	**181**	*e*PN	Pn	01 39 34.6	0.0
LIKS				*e*SN	Sn	01 39 47.4	-2.4
VYHS	**Vyhne**	**1.59**	**187**	*e*PN	Pn	01 39 42.0	-0.7
VYHS				*e*SN	Sn	01 40 02.9	-1.3
DPC	**Dobruska-Polom**	**1.82**	**280**	*e*PG	Pg	01 39 45.1	-4.5
DPC				*e*SG	Sg	01 40 08.9	-4.9
	8.1nm,0.3s						
KECS	**Kecovo**	**1.83**	**150**	*e*PN	Pn	01 39 44.9	-1.1
KECS				*e*SN	Sn	01 40 08.5	-1.6
CRVS	**Cervenica-Dubn**	**1.92**	**127**	*e*PN	Pn	01 39 49.7	+2.3
UPC	**Upice**	**2.04**	**283**	*e*SG	Sg	01 40 15.1	-6.1
PRU	**Pruhonice**	**2.96**	**270**	*e*SG	Sg	01 40 44.4	-7.2
KHC	**Kasperske Hory**	**3.73**	**257**	*e*SN	Sn	01 40 48.0	-10
KHC				*e*SG	Sg	01 41 09.1	-8.3

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*IDC **02** 01:47:27.6±2.4, 38.20N×70.00E, mb3.6/7, mb1 3.8/9, mb1mx3.7/22, mbtmp3.6/9, ML3.5/2, MS4.2/1, Ms1 4.2/1, ms1mx3.0/25, Error ellipse: s-maj=45.0km s-min=20.4km az=170.0*
*MOS **02** 01:47:35.0±1.4, 38.88N×69.74E, h33^{km}, mb4.0/8, Error ellipse: s-maj=15.0km s-min=7.6km az=89.8*
*NNC **02** 01:47:36.7±3.5, 38.98N×69.52E, h16^{km}±15^{km}, mpv4.2, Error ellipse: s-maj=20.1km s-min=16.6km az=163.0*
*NEIC **02** 01:47:41.2±4.8, 39.20N×70.01E, h63^{km}±32^{km}, mb3.8/1, Error ellipse: s-maj=51.2km s-min=17.5km az=192.0*
ISC 02 01:47:37.1±0.8**, 39.04N**±0.07×**69.53E**±0.06**, h33**^{km}**, n46,** σ**1^{s}24**/54**, mb3.5**/9**, MS4.3**/1**, 8C-9D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.12**	**10**	Pn	**Pn**	**01 48 42.1**	**+2.6**
	19nm,0.5s,baz=188,slow=13,SNR=105						
KK31				⇓Sn	**Sn**	**01 49 35.7**	**+8.5**
	26nm,0.6s						
KK31				⇓Lg		01 49 50.7	
	147nm,0.8s,baz=184,slow=30,SNR=4.5						
KKAR	**Karatay Array**	**4.12**	**10**	*e*PN	**Pn**	**01 48 42.0**	**+2.5**
KKAR						01 49 35.6	
KKAR				pmax	pmax		
	comp=Z,13nm,0.5s						
AML	**Almayashu**	**4.42**	**44**	P	**P**	**01 48 43.8**	**+0.2**
	SNR=7.7						
UCH	**Uchtor**	**4.95**	**48**	P	**P**	**01 48 51.9**	**+0.8**
	SNR=34						
AAK	**Ala-Archa**	**5.20**	**45**	P	**P**	**01 48 55.0**	**+0.5**
	SNR=16						
AAK	**Ala-Archa**	**5.20**	**45**	⇓Pn	**Pn**	**01 48 54.8**	**+0.1**
	comp=Z,30nm,0.7s						
AAK				⇑Sn	**Sn**	**01 50 01.1**	**+6.8**
	comp=Z,85nm,1.1s						
AAK	**Ala-Archa**	**5.20**	**45**	PN	**Pn**	**01 48 53.8**	**-0.9**
AAK				pmax	pmax		
	comp=Z,11nm,0.5s						
AAK	**Ala-Archa**	**5.20**	**45**	*e*P	**P**	**01 48 51.9**	**-2.7**
KZA	**Kyzart**	**5.30**	**53**	P	**P**	**01 48 56.3**	**+0.3**
	SNR=79						
FRU	**Bishkek**	**5.40**	**44**	*e*PN	**Pn**	**01 48 57.0**	**-0.5**
FRU				*i*		01 49 15.0	
FRU				*i* S	**S**	**01 50 03.0**	**+3.8**
FRU				*e*		01 50 15.0	
FRU				pmax	pmax		
	comp=Z,80nm,1.6s						
FRU				pmax	pmax		
	comp=E,300nm,1.6s						
KBK	**Karagaybulak**	**5.47**	**47**	P	**P**	**01 48 59.6**	**+1.3**
	SNR=7.6						
CHMS	**Chumysh**	**5.58**	**43**	P	**P**	**01 48 60.0**	**0.0**
	SNR=13						
USP	**Ospenovka**	**5.64**	**40**	P	**P**	**01 49 00.3**	**-0.5**
	SNR=13						
TKM2	**Tokmak 2**	**6.00**	**48**	P	**P**	**01 49 06.9**	**+1.0**
	SNR=8.1						
MK31	**Makanchi Array**	**12.13**	**46**	⇑Pn	**P**	**01 50 28.3**	**-2.1**
	comp=E,1.1nm,0.6s,baz=237,slow=20,SNR=4.8						
MK31				⇓Lg		01 53 59.5	
	comp=E,2.0nm,0.6s						
MKAR	**Makanchi Array**	**12.13**	**46**	Pn	**P**	**01 50 26.6**	**-3.8**
	comp=E,0.1nm,0.3s,baz=225,slow=15,SNR=6.1						
AB31	**Akbulak array**	**12.30**	**329**	⇑Pn	**P**	**01 50 32.4**	**-0.3**
	comp=E,1.9nm,0.4s,baz=164,slow=10,SNR=94						
AB31				⇑Sn	**S**	**01 52 49.8**	**+0.1**
	comp=E,6.1nm,0.6s,baz=151,slow=22,SNR=9.6						
AB31	**Akbulak array**	**12.30**	**329**	P	**P**	**01 50 32.3**	**-0.4**
AB31				*e*S	**S**	**01 52 49.6**	**-0.1**
VOSK	**Vostochnaya**	**13.72**	**4**	⇑Pn	**P**	**01 50 50.6**	**-0.7**
	comp=E,5.8nm,1.4s						
VOSK				⇓Sn	**S**	**01 53 23.9**	**+0.3**
	comp=E,4.3nm,1.4s						
VOSK				⇓Lg		01 54 48.4	
	comp=E,22nm,1.9s						
VOSK	**Vostochnaya**	**13.72**	**4**	P	**P**	**01 50 49.9**	**-1.5**
VOSK						01 53 23.8	
VOSK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
ZRNK	**Zerenda**	**13.92**	**359**	⇓Pn	**P**	**01 50 53.0**	**-0.9**
	comp=Z,2.7nm,0.6s						
ZRNK				⇑Sn	**S**	**01 53 29.0**	**+0.7**
	comp=Z,1.8nm,0.6s						
ZRNK				⇓Lg		01 55 00.5	
	comp=Z,16nm,1.4s						
ZRNK	**Zerenda**	**13.92**	**359**	P	**P**	**01 50 53.0**	**-0.9**
ZRNK						01 53 28.9	
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZRNK	**Zerenda**	**13.92**	**359**	*e*P	**P**	**01 50 51.8**	**-2.2**
	comp=Z,4.5nm,0.7s						
BVA0	**Borovoye Array**	**14.00**	**2**	Pn	**P**	**01 50 55.3**	**+0.3**
	comp=Z,1.0nm,1.1s,baz=186,slow=19,SNR=16						
BVA0				⇑Sn	**S**	**01 53 27.9**	**-2.3**
	comp=Z,1.5nm,1.6s,baz=177,slow=13,SNR=7.8						
BVA0				⇑Lg		01 55 08.0	
	comp=Z,3.1nm,1.6s,baz=33,slow=63,SNR=2.5						
BVA0	**Borovoye Array**	**14.00**	**2**	*i* P	**P**	**01 50 55.3**	**+0.3**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.1s						
BVAR	**Borovoye Array**	**14.00**	**2**	Pn	**P**	**01 50 54.1**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=164,slow=11,SNR=17						
NVS	**Novosibirsk**	**18.31**	**26**	*e*P	**P**	**01 51 46.1**	**-4.0**
ARU	**Arti**	**18.86**	**341**	⇓*i*P	**P**	**01 51 55.6**	**-1.1**
ARU				*e*S	**S**	**01 55 32.2**	**+10**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZEI	**Tsey**	**19.70**	**289**	*i* P	**P**	**01 52 06.1**	**-0.2**
ZAK	**Zakamensk**	**26.30**	**53**	*e*P	**P**	**01 53 07.2**	**-4.1**
ZAK				*e*		01 53 56.1	
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.6						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.3						
SONM	**Songino Array**	**27.95**	**60**	P	**P**	**01 53 21.0**	**-5.3**
	comp=Z,0.3nm,0.3s,mb3.4,baz=280,slow=7.5,SNR=3.3						
AKASG	**Malin Array Be**	**30.48**	**306**	P	**P**	**01 53 49.1**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**30.48**	**306**	P	**P**	**01 53 49.1**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.6,baz=80,slow=7.9,SNR=3.9						
FINES	**FINESS Array B**	**34.74**	**325**	P	**P**	**01 54 25.8**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**34.74**	**325**	P	**P**	**01 54 25.8**	**0.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=104,slow=7.9,SNR=6.6						
ARCES	**ARCESS Array B**	**38.35**	**337**	P	**P**	**01 54 58.1**	**+1.9**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ARCES	**ARCESS Array B**	**38.35**	**337**	P	**P**	**01 54 58.1**	**+1.9**
	comp=Z,1.3nm,0.9s,mb3.7,baz=337,slow=9.2,SNR=7.0						
GERES	**GERESS Array B**	**40.55**	**303**	P	**P**	**01 55 16.1**	**+1.5**
	comp=Z,0.1nm,0.3s,mb3.0,baz=77,slow=13,SNR=2.6						
NB2	**NORSAR Subarra**	**41.66**	**321**	P	**P**	**01 55 23.7**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.6,baz=96,slow=7.9						
NB2	**NORSAR Subarra**	**41.66**	**321**	P	**P**	**01 55 23.7**	**+0.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
NOA	**NORSAR Array B**	**41.66**	**321**	P	**P**	**01 55 23.8**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**41.66**	**321**	P	**P**	**01 55 23.8**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.6,baz=96,slow=8.1,SNR=6.7						
TIXI	**Tiksi**	**43.88**	**23**	*e*P	**P**	**01 55 36.0**	**-5.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
JHJ	**Hachijo jima 2**	**55.81**	**73**	LR	LR	02 22 11.6	
	comp=Z,211nm,18.4s,MS4.3,baz=98,slow=37						
ILAR	**Eielson Array**	**72.65**	**15**	P	**P**	**01 59 00.0**	**-2.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**72.65**	**15**	P	**P**	**01 59 00.0**	**-2.5**
	comp=Z,0.5nm,0.8s,mb3.5,baz=301,slow=3.3,SNR=4.0						

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*IDC **02** 02:07:53.6±3.7, 5.56S×154.57E, h192^{km}±34^{km}, mb3.8/11, mb1 3.9/13, mb1mx3.9/18, mbtmp4.4/13, Error ellipse: s-maj=22.8km s-min=13.4km az=61.0*
*NEIC **02** 02:07:54.6±2.4, 5.58S×154.51E, h202^{km}±21^{km}, mb4.4/2, Error ellipse: s-maj=18.8km s-min=13.2km az=58.0*
ISC 02 02:07:53.9±3.1**, 5.6S**±0.1×**154.4E**±0.1**, h207**^{km}±27^{km}**, n18,** σ**0^{s}88**/19**, mb4.0**/11**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.12**	**242**	P	**P**	**02 09 50.9**	**+1.4**
	0.9nm,0.3s,baz=358,slow=5.4,SNR=2.6						
PMG				S	**S**	**02 11 18.6**	**-1.3**
	0.5nm,0.3s,baz=37,slow=21,SNR=2.1						
CTA	**Charters Tower**	**16.42**	**208**	P	**P**	**02 11 34.6**	**+0.2**
	0.6nm,0.3s,baz=28,slow=14,SNR=13						
DZM	**Mont Dzumac**	**20.06**	**146**	P	**P**	**02 12 12.2**	**-0.6**
	14nm,0.5s,baz=328,slow=21,SNR=13						
WRAB	**Tennant Creek**	**24.15**	**232**	*e*P	**P**	**02 12 52.4**	**-0.2**
	6.0nm,0.4s,mb4.6						
WB2	**Warramunga Arr**	**24.15**	**232**	*e*P	**P**	**02 12 52.6**	**0.0**
WRA	**Warramunga Arr**	**24.16**	**232**	P	**P**	**02 12 53.0**	**+0.3**
	3.8nm,0.5s,mb4.3,baz=57,slow=10,SNR=18						
STKA	**Stephens Creek**	**28.74**	**203**	*e*P	**P**	**02 13 33.2**	**-1.2**
	3.4nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**28.74**	**203**	P	**P**	**02 13 33.1**	**-1.3**
	3.6nm,0.6s,mb4.2,baz=28,slow=14,SNR=12						
RPZ	**Rata Peaks**	**40.66**	**161**	P	**P**	**02 15 15.9**	**+0.5**
	18nm,0.6s,mb4.7,baz=354,slow=2.6,SNR=12						
RPZ	**Rata Peaks**	**40.66**	**161**	P	**P**	**02 15 15.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**59.69**	**295**	P	**P**	**02 17 40.0**	**+0.9**
	4.6nm,0.8s,mb4.2,baz=114,slow=4.9,SNR=18						
SONM	**Songino Array**	**67.89**	**327**	P	**P**	**02 18 32.3**	**+0.3**
	1.2nm,0.5s,mb3.8,baz=142,slow=4.7,SNR=15						
VNDA	**Vanda**	**71.95**	**178**	P	**P**	**02 18 56.8**	**+0.7**
	1.5nm,0.7s,mb3.8,baz=322,slow=5.8,SNR=9.8						
MKAR	**Makanchi Array**	**82.01**	**319**	P	**P**	**02 19 52.7**	**+0.6**
	0.9nm,0.5s,mb3.7,baz=92,slow=7.9,SNR=13						
MKAR	**Makanchi Array**	**82.01**	**319**	P	**P**	**02 19 52.7**	**+0.6**
ILAR	**Eielson Array**	**82.32**	**22**	P	**P**	**02 19 51.9**	**-1.5**
	1.0nm,0.6s,mb3.6,baz=246,slow=5.6,SNR=10.0						
MAW	**Mawson**	**85.43**	**203**	P	**P**	**02 20 09.9**	**+1.0**
	1.3nm,1.0s,mb3.6,baz=73,slow=11,SNR=4.4						
BVAR	**Borovoye Array**	**90.87**	**323**	P	**P**	**02 20 33.6**	**-1.3**
	0.6nm,0.5s,mb3.8,baz=90,slow=4.4,SNR=4.8						

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*BGS **02** 02:16:37.5, 11.79N×88.93W, h33^{km}, mb5.3*
*IDC **02** 02:16:42.7±3.2, 11.59N×85.89W, h14^{km}±19^{km}, mb5.3/21, mb1 5.4/21, mb1mx5.4/21, mbtmp5.4/21, MS6.3/21, Ms1 6.3/21, ms1mx6.2/29, Error ellipse: s-maj=17.5km s-min=12.1km az=61.0*
*MOS **02** 02:16:43.8±1.3, 11.46N×86.17W, h33^{km}, mb5.9/85, MS6.6/44, Error ellipse: s-maj=5.1km s-min=4.1km az=90.3*
*CRAAG **02** 02:16:43.3, 11.15N×86.39W, Mb5.6*
*HRVD **02** 02:16:43.7±0.1, 11.06N×86.70W, h28^{km}, MW6.6/79, Centroid moment Tensor Solution. LP body waves: s77,c217;Mantle waves: s79,c372; Half duration: 4^{s}8 Moment tensor: Scale 10^{19}Nm; M_{rr}0.65±.00; $M_{\theta\theta}$-0.44±.00; $M_{\phi\phi}$-0.20±.00; $M_{r\theta}$0.61±.01; $M_{\theta\phi}$0.42±.00; $M_{\phi r}$-0.41±.01; Best double couple: $M_0$1.013×10^{19} NP1: ϕ_s311°, δ22°, λ96°. NP2:ϕ_s125°, δ68°, λ88°. Principal axes: T .958, Plg67°, Azm30°; N .111, Plg2°, Azm126°; P -1.068, Plg23°, Azm216°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **02** 02:16:43.7±0.1, 11.25N×86.17W, h27^{km}, mb5.6/181, ME6.1, MS6.4/126, MW6.5 Error ellipse: s-maj=4.6km s-min=2.7km az=208.0 Broadband fault plane solution: P waves. NP1:ϕ_s120°, δ70°, λ60°. NP2:ϕ_s359°, δ36°, λ144°. Principal axes: T Plg55°, Azm352°; N Plg0°, Azm0°; P Plg19°, Azm232°; Moment Tensor Solution. s53 Moment tensor: Scale 10^{18} Nm; M_{rr}4.91; $M_{\theta\theta}$1.65; $M_{\phi\phi}$-6.55; $M_{r\theta}$4.23; $M_{\theta\phi}$2.30; $M_{\phi r}$-1.69; Best double couple: $M_0$7.8×10^{18} NP1:ϕ_s15°, δ42°, λ141°. NP2:ϕ_s136°, δ65°, λ55°. Principal axes: T 7.82, Plg56°, Azm1°; N -.02, Plg31°, Azm152°; P -7.8, Plg13°, Azm250°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Managua and San Juan del Sur. Also felt [IV] at Curridabat, San Pedro and Santa Cruz; [III] at Cartago, Escazu and Liberia, Costa Rica. Felt [II] at San Salvador, El Salvador. Felt in much of Costa Rica and Nicaragua.
*BJI **02** 02:16:43.7, 11.20N×86.20W, h28^{km}, mB6.3, Ms6.9, Msz6.5*
*CASC **02** 02:16:44.0±2.8, 10.99N×86.61W, h4^{km}±8^{km}, MD4.6, ML6.1, MW5.6, mb5.6(NEIC)*
ISC 02 02:16:47.7±0.3**, 11.18N**±0.03×**86.38W**±0.02**, h79**^{km}±2^{km}**, h55**^{km}±4.5^{km}**:pP-P, n941,** σ**1^{s}17**/735**, mb5.4**/208**, 104C-37D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APON	**Apoyo**	**0.79**	**23**	⇓*i*P	**P**	**02 17 04.6**	**+0.1**
CRUN	**El Crucero**	**0.80**	**6**	⇓*i*P	**P**	**02 17 04.8**	**+0.2**
MASN	**Masaya**	**0.83**	**16**	⇓*e*P	**P**	**02 17 04.9**	**0.0**
CONN	**Concepcion**	**0.83**	**63**	⇓*i*P	**P**	**02 17 05.2**	**+0.2**
TICN	**Ticuantepe**	**0.86**	**10**	⇑*i*P	**P**	**02 17 05.3**	**+0.1**
XAVN	**Gruta Xavier**	**0.96**	**3**	⇑*i*P	**P**	**02 17 06.5**	**0.0**
MGAN	**Managua**	**0.97**	**8**	⇑*i*P	**P**	**02 17 06.2**	**-0.3**
WILN	**Americas 2**	**0.99**	**11**	⇑*i*P	**P**	**02 17 07.0**	**+0.2**
COPN	**Copaltepe**	**1.01**	**348**	*e*P	**P**	**02 17 06.5**	**-0.5**
APYN	**Apoyeque**	**1.04**	**2**	⇓*i*P	**P**	**02 17 07.5**	**0.0**
MOMJ	**Momotombo**	**1.23**	**353**	⇑*e*P	**P**	**02 17 09.1**	**-0.6**
VCR	**Vista de Mar**	**1.28**	**145**	*e*P	**P**	**02 17 06.8**	**-3.8**
MIRN	**Miramar**	**1.29**	**346**	⇓*i*P	**P**	**02 17 10.0**	**-0.6**
LEON	**Leon**	**1.32**	**338**	*e*P	**P**	**02 17 10.0**	**-1.2**
LEON				⇑*i*P		02 17 10.1	
CNGN	**Cerro Negro**	**1.34**	**347**	⇑*e*P	**P**	**02 17 10.7**	**-0.7**
CNGN				*e*S	**S**	**02 17 34.8**	**+5.8**
PYTN	**Playitas**	**1.38**	**13**	⇑*e*P	**P**	**02 17 12.3**	**+0.4**
BOA	**Boaco**	**1.45**	**27**	⇑*e*P	**P**	**02 17 12.4**	**-0.4**

TEL3 Telica 3 1.45 342⇑ *eP* **P 02 17 12.1 -0.7**
TELN Telica 1.48 343⇑ *iP* **P 02 17 12.5 -0.7**
TELN *eS* **S 02 17 37.0 +4.9**
CRIN San Cristobal 1.64 337⇑ *iP* **P 02 17 14.5 -0.8**
JTS JuntasAbangare 1.66 122 Pn **P 02 17 13.6 -2.0**
905nm,0.3s,baz=318,slow=14,SNR=576
JTS LR LR 02 18 00.2
comp=Z,64µm,20.5s,baz=16,slow=49
JTS JuntasAbangare 1.66 122⇓ *eP* **P 02 17 13.6 -2.1**
FORC Fortuna 1.83 113 *eP* **P 02 17 17.0 -0.8**
FORC ⇓*eP* 02 17 17.4
VPS2 Volcan Poas 2 2.33 115 *eP* **P 02 17 16.0 -8.8**
PRS1 Puriscal 2.36 120 *eP* **P 02 17 24.8 -0.5**
SJS Escuela Geolog 2.60 118 *eP* **P 02 17 30.4 +1.7**
SJS *eP* 02 17 30.5
SJS *eS* **S 02 18 06.9 +7.8**
SJS Escuela Geolog 2.60 118 *eP* **P 02 17 29.1 +0.5**
SJS *eS* **S 02 18 04.0 +4.8**
TRTC Tortuguero 2.69 103⇓ *eP* **P 02 17 28.7 -1.2**
BLLM Bellamira 2.88 321 *eP* **P 02 17 50.0 +17**
BLLM *eS* S 02 18 27.8 +22
URSC Urasca 2.89 117 *eP* **P 02 17 32.0 -0.7**
BUS Buena Vista 3.05 122 *eP* **P 02 17 34.8 0.0**
CAHU Cacacuatique 3.13 325 *eP* **P 02 17 55.3 +19**
CAHU *eS* S 02 18 34.0 +22
LIO Limon 3.49 109 *eP* **P 02 17 43.1 +2.0**
LIO Limon 3.49 109 *eP* **P 02 17 37.9 -3.2**
LBRS Las Brisas 3.63 315 *eP* **P 02 18 00.5 +18**
LBRS *eS* **S 02 18 43.1 +18**
LFU La Fuente 3.69 314⇑ *eP* **P 02 18 01.7 +18**
LFU *eS* **S 02 18 45.4 +19**
ACR Cerro Adams 4.04 128 *eP* **P 02 17 48.8 +0.1**
SVTC San Vito de Co 4.13 125 *eP* **P 02 17 47.6 -2.3**
CNI Changuinola 4.19 114 *eP* **P 02 17 52.9 +2.2**
BRU2 Volcan 4.34 123 *eP* **P 02 17 54.0 +1.2**
BRU Baru 4.44 122 *eP* **P 02 17 56.5 +2.2**
DVD David 4.74 125 *eP* **P 02 17 58.9 +0.6**
PTP1 Petroterminal 4.89 127 *eP* **P 02 17 55.5 -5.0**
UPA Univ. de Panam 7.09 107⇑ *iP* **P 02 18 30.5 -0.4**
CCIG Comitan 7.54 313 *iP* **P 02 18 35.9 -1.2**
CMIG Matias Romero 10.12 306 *iP* **P 02 19 07.6 -4.6**
TUIG Tuzandepetl 10.34 312 *eP* **P 02 19 13.6 -1.6**
HUIG Huatulco 10.50 297 *iP* **P 02 19 13.9 -3.4**
MCJ Malvern 10.76 50⇑ *iP* **P 02 19 23.6 +2.8**
MBJ Montego Bay 10.92 48⇑ *eP* **P 02 19 27.8 +4.7**
CVJ Coleyville 11.05 50⇑ *eP* **P 02 19 28.2 +3.4**
PCJ Portland Cotta 11.06 53⇑ *eP* **P 02 19 28.0 +3.1**
BBJ Bamboo Saint A 11.35 50⇑ *eP* **P 02 19 32.7 +3.9**
STH Stony Hill 11.52 52⇑ *eP* **P 02 19 34.5 +3.4**
HOJ Hope 11.53 53⇑ *eP* **P 02 19 34.5 +3.4**
GWJ Greenwich 11.58 53⇑ *eP* **P 02 19 35.5 +3.6**
VHO Vista Hermosa 11.62 301 *iP* **P 02 19 30.4 -1.9**
YHJ Yallahs 11.66 54⇑ *eP* **P 02 19 36.2 +3.2**
SOR Soroa 11.98 15 *eP* **P 02 19 39.3 +2.1**
baz=186
SOR *eS* **S 02 22 02.6 +13**
comp=N,102µm,1.4s
comp=E,99µm,1.4s
PAYG Puerto Ayora 12.40 198⇓ *eP* **P 02 19 39.8 -3.0**
comp=E,504nm,1.3s
PNIG Pinotepa 12.52 296 *iP* **P 02 19 41.8 -2.6**
OTAV Otavalo 13.43 144⇓ *eP* **P 02 19 56.1 -0.2**
comp=E,894nm,1.5s
OTAV Otavalo 13.43 144⇓ *eP* **P 02 19 57.0 +0.7**
ROSC El Rosal 13.48 117 Pn **P 02 19 58.7 +1.7**
comp=E,1.3nm,0.3s,baz=97,slow=12,SNR=12
ROSC LR LR 02 25 12.0
comp=E,103µm,19.8s,baz=336,slow=38
RCC Rio Carpintero 13.51 48 *eP* **P 02 20 00.1 +2.7**
baz=230
RCC *eSG* S 02 23 10.5 +44
comp=N,28µm,6.8s
comp=E,30µm,7.5s
PPM Popocatepetl 14.18 305 *iP* **P 02 20 06.0 0.0**
PPM *iP* 02 20 06.2
ACX Acapulco 14.29 295 *iP* **P 02 20 06.6 -1.0**
YAIG Yautepec 14.43 303 *iP* **P 02 20 09.1 -0.3**
CIVM Cilcuayo 14.48 304 *iP* **P 02 20 14.0 +3.9**
IIO Organos 14.53 307 *iP* **P 02 20 09.8 -0.9**
PLIG Platanillo 14.56 301 *iP* **P 02 20 10.3 -0.8**
CHVM Chichinautzin 14.61 304 *iP* **P 02 20 11.8 +0.1**
CAIG El Cayaco 14.67 295 *iP* **P 02 20 11.8 -0.7**
IIZ Mezontepec 14.73 304 *iP* **P 02 20 13.5 +0.2**
UNM Universidad Na 14.76 305 *iP* **P 02 20 13.9 +0.3**
PTVM Pico Tres Padr 14.84 306 *iP* **P 02 20 13.4 -1.3**
SZVM Salazar 14.92 304 *iP* **P 02 20 15.3 -0.3**
IIC Rita Coyotepec 15.05 306 *iP* **P 02 20 17.4 0.0**
SDV Santo Domingo 15.68 97 Pn **P 02 20 24.4 -0.9**
comp=E,0.5nm,0.3s,baz=285,slow=6.5,SNR=8.8
SDV Sn **S 02 23 12.8 -3.9**
comp=E,0.1nm,0.3s,baz=101,slow=19,SNR=1.4
SDV Santo Domingo 15.68 97⇑ *eP* **P 02 20 24.4 -1.0**
comp=E,3µm,1.5s
SDV Santo Domingo 15.68 97⇑ *eP* **P 02 20 23.8 -1.5**
SDV *eS* **S 02 23 27.8 +11**
MOIG Morelia 16.57 302 *iP* **P 02 20 36.6 +0.1**
CJM Chamela 19.79 297 *iP* **P 02 21 15.6 +1.3**
SJG San Juan 20.74 68 P **P 02 21 23.4 -0.8**
SJG S **S 02 25 10.2 +4.0**
SJG pmax pmax
comp=Z,156nm,0.7s
SJG smax
comp=E,9.0nm,0.6s
SJG MLR MLR
comp=Z,136µm,22.0s
SJG San Juan 20.74 68 P **P 02 21 23.4 -0.7**
comp=Z,156nm,0.7s,baz=272,slow=6.3,SNR=45
SJG S **S 02 25 10.2 +4.0**
comp=Z,8.5nm,0.6s,baz=339,slow=20,SNR=2.0
SJG LR LR 02 28 37.8
comp=Z,136µm,22.0s,baz=238,slow=36
SJG San Juan 20.74 68⇑ *eP* **P 02 21 23.9 -0.3**
comp=Z,819nm,1.0s
SJG LR LR
comp=Z,137µm,22.0s
LRAL Lakeview Retre 21.75 359 *eP* **P 02 21 35.9 +1.6**
comp=Z,272nm,1.5s,mb5.4
LRAL LR LR
comp=Z,63µm,21.0s
NATX Nacogdoches 21.86 341 *eP* **P 02 21 36.0 +0.7**
comp=Z,5µm,0.9s
NATX LR LR
comp=Z,42µm,19.0s
HBF Harts Bluff 22.34 13 *eP* **P 02 21 41.9 +1.9**
RGRS Roger Stewart 22.36 14 *eP* **P 02 21 41.7 +1.5**
CSU Charleston Sou 22.46 14 *eP* **P 02 21 43.0 +1.9**
MAIG Mactlaan 22.53 305 *iP* **P 02 21 44.2 +2.3**
NHSC New Hope 22.55 14 *eP* **P 02 21 44.2 +2.1**
comp=Z,2µm,1.2s,mb6.4
TWB Tillmans-White 22.58 14 *eP* **P 02 21 44.4 +2.1**
COW Cow Castle Cre 22.70 12 *eP* **P 02 21 45.6 +2.1**
OXF Oxford 23.39 354 P **P 02 21 50.7 +0.6**
OXF pmax pmax
comp=Z,3µm,1.0s
OXF Oxford 23.39 354 *eP* **P 02 21 50.5 +0.4**
comp=Z,3µm,1.0s
OXF LR LR
comp=Z,69µm,22.0s
JSC Jenkinsville 23.46 11 P **P 02 21 49.5 -1.4**
JSC Jenkinsville 23.46 11 *eP* **P 02 21 53.1 +2.2**
STMA St. Maarten, A 23.52 70 *eP* **P 02 21 52.8 +1.3**
SKDB Saint Kitts 2 23.65 72 *eP* **P 02 21 55.4 +2.5**
SKI Saint Kitts 23.70 72 *eP* **P 02 21 55.3 +2.0**
SKTB Turtle Beach 23.79 73 *eP* **P 02 21 56.6 +2.4**
MYNC Murphy 23.87 5 P **P 02 21 57.1 +2.3**
MYNC pmax pmax
comp=Z,360nm,1.2s,mb5.6
MYNC Murphy 23.87 5 *eP* **P 02 21 56.8 +2.0**
comp=Z,363nm,1.2s,mb5.6
MYNC LR LR
comp=Z,126µm,21.0s
SWET Sewanee 23.93 1⇑ *eP* **P 02 21 56.5 +1.2**
MET Memphis--Engin 24.05 353 *eP* **P 02 21 57.0 +0.5**
UALR University of 24.10 348 *eP* **P 02 21 57.2 +0.1**
comp=Z,1µm,0.8s,mb6.3
LTX Lajitas 24.21 321⇑ *eP* **P 02 21 58.8 +0.6**
LTX pmax pmax
comp=Z,456nm,0.8s,mb5.9
LTX MLR MLR
comp=Z,6µm,19.0s
LTX Lajitas 24.21 321⇑ *eP* **P 02 21 58.8 +0.6**
comp=Z,456nm,0.8s,mb5.9
LTX LR LR
comp=Z,6µm,19.0s
TXAR Lajitas Array 24.21 321 P **P 02 21 58.7 +0.5**
comp=Z,250nm,0.7s,mb5.7,baz=138,slow=9.3,SNR=913
TXAR PcP PcP 02 25 40.5 +2.3
comp=Z,46nm,1.0s,baz=135,slow=1.3,SNR=6.0
TXAR S **S 02 26 17.4 +9.4**
comp=Z,9.7nm,0.8s,baz=327,slow=48,SNR=1.8
TXAR ScP 02 29 18.0
comp=Z,9.7nm,1.1s,baz=196,slow=9.1,SNR=5.4
CPCT Cooper Cave 24.22 4⇑ *eP* **P 02 21 59.9 +1.8**
GRW Mount Saint Ca 24.23 85 *eP* **P 02 22 01.3 +2.8**
GRHS Sauteurs 24.25 85 *eP* **P 02 21 59.9 +1.2**
BPA Boggy Peak 24.48 73 *eP* **P 02 22 01.8 +0.9**
TPP Pointe-a-Pierr 24.51 90 *eP* **P 02 22 01.4 +0.1**
TRN Trinidad (W) 24.53 89 *eP* **P 02 22 00.6 -0.9**
HBAR Harrisburg 24.57 352 *eP* **P 02 22 01.8 +0.2**
CPB Codrington 24.62 72 *eP* **P 02 22 01.5 -0.8**
MDN Morne-Daniel 24.66 78 *eP* **P 02 22 04.2 +1.5**
DBCT Belle View Cho 24.70 78 *eP* **P 02 22 05.9 +2.8**
HALT Halls 24.76 354 *eP* **P 02 22 03.2 -0.3**
DWS Wesley 24.77 77 *eP* **P 02 22 05.0 +1.3**
FDF Fort de France 24.84 79⇑ *eP* **P 02 22 04.6 +0.3**
TBH Brigand Hill 24.87 89 *eP* **P 02 22 05.6 +0.9**
GNAR Gosnell 24.89 353 *eP* **P 02 22 04.9 +0.2**
BIM Bigot 24.89 80⇑ *eP* **P 02 22 05.2 +0.3**
CRM Caravelle 25.06 79⇑ *eP* **P 02 22 06.8 +0.3**
MVM Montagne Vaucl 25.07 80⇑ *eP* **P 02 22 07.3 +0.8**
GLAT Glass 25.11 354 *eP* **P 02 22 06.7 -0.1**
TPR Prospect 25.12 87 *eP* **P 02 22 06.2 -0.8**
UTMT University of 25.15 355 *eP* **P 02 22 07.3 +0.2**
comp=Z,4µm,1.4s
BOT Bacolet 25.18 88 *eP* **P 02 22 06.1 -1.5**
TZTN Tazewell 25.38 5 *eP* **P 02 22 09.9 +0.6**
PARMO Parma 25.55 354 *eP* **P 02 22 10.5 -0.4**
WMOK Wichita Mounta 26.03 336⇑ *eP* **P 02 22 13.9 -1.4**
comp=Z,6µm,1.2s
WMOK LR LR
comp=Z,22µm,21.0s
ELN Prospectdale 26.42 10 *eP* **P 02 22 20.1 +1.2**
BLA Blacksburg 26.46 11 PFAKE 02 22 30.0 +11
BLA LR LR
comp=Z,118µm,20.0s
FWV Forest Hill 26.76 10 *eP* **P 02 22 22.7 +0.6**
MNTX Cornudas Mount 26.92 322⇑ *eP* **P 02 22 22.7 -0.9**
comp=Z,249nm,0.9s,mb5.7
FVM French Village 26.93 353 *eP* **P 02 22 22.1 -1.5**
FVM pmax pmax
comp=Z,460nm,1.4s,mb5.8
FVM French Village 26.93 353 *eP* **P 02 22 22.1 -1.6**
comp=Z,460nm,1.4s,mb5.8
SLM Saint Louis 27.55 353 *eP* **P 02 22 28.2 -1.1**
SLM pmax pmax
comp=Z,1µm,1.5s,mb6.2
SLM Saint Louis 27.55 353 *eP* **P 02 22 28.2 -1.1**
comp=Z,1µm,1.5s,mb6.2
BLO Bloomington 27.87 360 *eP* **P 02 22 31.4 -0.8**
BLO pmax pmax
comp=Z,1µm,1.3s,mb6.3
BLO Bloomington 27.87 360 *eP* **P 02 22 31.4 -0.8**
comp=Z,1µm,1.3s,mb6.3
CBN Corbin 28.09 15 *eP* **P 02 22 35.0 +0.8**
comp=Z,425nm,0.7s,mb6.1
CBN LR LR
comp=Z,198µm,20.0s
BBSR BB Station 29.04 40 *eP* **P 02 22 43.2 +0.5**
comp=Z,516nm,1.3s,mb6.0
BBSR LR LR
comp=Z,141µm,21.0s
KSU1 Kansas State U 29.26 344 *eP* **P 02 22 43.1 -1.4**
SDMD Soldier's Deli 29.36 15 *eP* **P 02 22 46.1 +0.6**
ANMO Albuquerque 29.89 326⇑ *eP* **P 02 22 49.5 -0.7**
ANMO *e*PP pP 02 23 02.4 -6.3
ANMO pmax pmax
comp=Z,13nm,0.5s
ANMO MLR MLR
comp=Z,32µm,19.0s
ANMO Albuquerque 29.89 326 P **P 02 22 50.0 -0.2**
comp=Z,142nm,0.8s,mb5.7,baz=144,slow=8.3,SNR=145
ANMO LR LR 02 38 40.1
comp=Z,33µm,19.6s,slow=44
ANMO Albuquerque 29.89 326⇑ *eP* **P 02 22 49.5 -0.7**
comp=Z,13nm,0.5s,mb4.8
ANMO *e*pP pP 02 23 02.4 -6.3
ANMO LR LR
comp=Z,32µm,19.0s
CBKS Cedar Bluff 29.98 339 *eP* **P 02 22 49.6 -1.4**
CBKS pmax pmax
comp=Z,648nm,1.3s,mb6.1
CBKS MLR MLR
comp=Z,41µm,22.0s
CBKS Cedar Bluff 29.98 339 *eP* **P 02 22 49.6 -1.4**
comp=Z,648nm,1.3s,mb6.1
CBKS LR LR
comp=Z,41µm,22.0s
SAML Samuel 30.54 130⇑ *eP* **P 02 22 55.7 -0.4**
comp=Z,5.2nm,0.7s,mb4.4
SAML *e*pP pP 02 23 07.2 -7.4
SAML LR LR
comp=Z,24µm,19.0s
TUC Tucson 30.77 317 *eP* **P 02 22 57.9 -0.1**
TUC pmax pmax
comp=Z,191nm,1.1s,mb5.7
TUC MLR MLR
comp=Z,69µm,19.0s
TUC Tucson 30.77 317 *eP* **P 02 22 57.9 -0.2**
comp=Z,191nm,1.1s,mb5.7
TUC LR LR
comp=Z,69µm,19.0s
ALLY Alegheny Colle 30.84 9 *eP* **P 02 22 58.2 -0.3**
ARE Arequipa 31.17 152 *eP* **P 02 23 04.0 +2.3**
ARE *i* 02 23 14.2
BRNJ Basking Ridge 31.18 18⇑ *eP* **P 02 23 02.8 +1.3**
CPNY Central Park 31.46 18 *eP* **P 02 23 04.3 +0.3**
SDCO Great Sand Dun 31.52 330 *eP* **P 02 23 04.7 +0.2**
comp=Z,7µm,1.1s
SDCO LR LR
comp=Z,45µm,22.0s
PAL Palisades 31.67 18 *eP* **P 02 23 05.7 -0.1**
PAL pmax pmax
comp=Z,241nm,1.1s,mb5.8
PAL Palisades 31.67 18 *eP* **P 02 23 05.7 -0.1**
comp=Z,241nm,1.1s,mb5.8
BINY Binghamton 32.21 15 *eP* **P 02 23 10.9 +0.5**
comp=Z,651nm,0.8s,mb6.4
GENY Geneseo 32.34 12⇑ *eP* **P 02 23 11.7 +0.1**
LPAZ La Paz 32.73 146 P **P 02 23 16.7 +1.4**
comp=Z,11nm,0.7s,mb4.8,baz=339,slow=8.9,SNR=63
LPAZ S **S 02 28 31.5 +6.6**
comp=Z,4.4nm,1.0s,baz=7.8,slow=23,SNR=1.4
LPAZ La Paz 32.73 146⇑ *eP* **P 02 23 16.7 +1.4**
comp=Z,1.8nm,0.4s
LPAZ LR LR
comp=Z,40µm,20.0s
ISCO Idaho Springs 33.21 332⇑ *iP* **P 02 23 19.2 0.0**
ISCO pmax pmax
comp=Z,59nm,0.7s,mb5.5
ISCO MLR MLR
comp=Z,34µm,21.0s
ISCO Idaho Springs 33.21 332⇑ *iP* **P 02 23 19.2 0.0**
comp=Z,59nm,0.7s,mb5.5
ISCO LR LR
comp=Z,34µm,21.0s
BRYW Bryant College 33.26 20 *eP* **P 02 23 19.9 +0.3**
comp=Z,179nm,0.9s,mb5.9
QUA2 Belchertown 33.32 19 *eP* **P 02 23 20.0 -0.1**
comp=Z,366nm,1.2s,mb6.1
PV01 Paradox Valley 33.38 327⇑ *eP* **P 02 23 20.9 +0.2**
WES Weston 33.75 20 *eP* **P 02 23 23.8 0.0**
WES pmax pmax
comp=Z,288nm,1.2s,mb6.0
WES MLR MLR
comp=Z,176µm,20.0s
WES Weston 33.75 20 *eP* **P 02 23 23.8 -0.1**
comp=Z,288nm,1.2s,mb6.0
WES LR LR
comp=Z,176µm,20.0s
HRV Harvard--Oak R 33.78 20 *eP* **P 02 23 24.3 +0.2**
HRV pmax pmax
comp=Z,168nm,1.1s,mb5.8
HRV MLR MLR
comp=Z,145µm,20.0s
HRV Harvard--Oak R 33.78 20 *eP* **P 02 23 24.2 +0.2**
comp=Z,168nm,1.1s,mb5.8
HRV LR LR
comp=Z,145µm,20.0s
PV10 Paradox Valley 33.81 327 *eP* **P 02 23 24.0 -0.4**
ACCN Adirondack Com 33.93 17 *eP* **P 02 23 25.4 0.0**
SADO Sadowa 34.04 9 LR LR 02 37 29.1
comp=Z,69µm,20.3s,baz=203,slow=37
PHWY Pilot Hill 34.37 334 *eP* **P 02 23 29.0 -0.1**
HNH Hanover 34.63 18 *eP* **P 02 23 31.6 +0.3**
comp=Z,16nm,0.9s,mb4.9
BAR Barrett 35.10 312 *eP* **P 02 23 36.3 +0.8**
MSNY Massena 35.12 14 *eP* **P 02 23 35.2 -0.3**
SRU San Rafael 35.14 326 *eP* **P 02 23 36.0 +0.3**
SRU *e* 02 26 07.0
FRNY Flat Rock 35.29 16 *eP* **P 02 23 36.4 -0.5**
LDFC Landfair 35.31 317 *eP* **P 02 23 38.7 +1.5**
PFO Pinyon Flat Ob 35.43 314 *eP* **P 02 23 39.3 +1.1**
PFO pmax pmax
comp=Z,260nm,1.4s,mb5.9
PFO MLR MLR
comp=Z,11µm,21.0s
PFO Pinyon Flat Ob 35.43 314 *eP* **P 02 23 39.3 +1.0**
comp=Z,260nm,1.4s,mb5.9
PFO LR LR
comp=Z,11µm,21.0s
RWWY Rawlins 35.45 333 *eP* **P 02 23 38.8 +0.4**
comp=Z,31nm,0.8s,mb5.2
NEN Nelson 35.47 318 *eP* **P 02 23 39.1 +0.6**
MSU Marysvale 35.65 324 *eP* **P 02 23 40.9 +0.8**
TMUT Trail Mountain 35.65 326 *eP* **P 02 23 40.4 +0.4**
TMUT *e*PcP PcP 02 26 08.5 +1.2
MVU Marysvale 35.66 324 *eP* **P 02 23 41.2 +1.0**
comp=Z,60nm,1.5s,mb5.3
MVU *e*PcP PcP 02 26 08.9 +1.6
MVU *e*ScP 02 29 51.7
MVU LR LR
comp=Z,70µm,19.0s
ARUT Antelope Range 35.91 322 *eP* **P 02 23 43.3 +1.0**
RSSD Black Hills 36.18 338⇑ *eP* **P 02 23 44.9 +0.4**
comp=Z,246nm,0.9s,mb6.1
RSSD LR LR
comp=Z,7µm,20.0s
WVL Waterville 36.24 20 *eP* **P 02 23 45.6 +0.5**
comp=Z,3µm,1.5s
WVL LR LR
comp=Z,404µm,20.0s
MPU Maple Canyon 36.39 326 *eP* **P 02 23 46.9 +0.6**
MPU *e*PcP PcP 02 26 11.5 +2.0
DAU Daniels Canyon 36.47 327 *eP* **P 02 23 47.8 +0.8**
NLU North Lily Min 36.59 326 *eP* **P 02 23 48.4 +0.4**
NLU *e*PcP PcP 02 26 12.0 +1.9
JLU Jordanelle 36.71 327 *eP* **P 02 23 49.5 +0.5**
MWC Mount Wilson 36.88 314 *eP* **P 02 23 51.5 +1.0**
CTU Camp Tracy 36.93 327 *eP* **P 02 23 51.2 +0.4**
TCUT Toone Canyon 37.06 328 *eP* **P 02 23 52.5 +0.6**
NOQ North Oquirrh 37.10 327 *eP* **P 02 23 52.8 +0.5**
BW06 Boulder Array 37.38 331 *eP* **P 02 23 54.1 -0.4**
comp=Z,20nm,0.3s,mb5.5
PDAR Pinedale Array 37.38 331 P **P 02 23 54.4 -0.2**
comp=Z,101nm,0.8s,mb5.8,baz=130,slow=9.9,SNR=335
PDAR PcP PcP 02 26 13.0 +0.5
comp=Z,28nm,0.9s,baz=119,slow=9.3,SNR=4.8
PDAR S **S 02 29 46.6 +10**
comp=Z,9.1nm,1.3s,baz=113,slow=15,SNR=2.0
PDAR ScP 02 30 00.7
comp=Z,18nm,1.1s,baz=124,slow=5.3,SNR=4.9
PDAR LR LR 02 42 11.6
comp=Z,37µm,20.9s,baz=140,slow=41
HWUT Hardware Ranch 37.49 328 PFAKE 02 24 10.0 +14
HWUT LR LR
comp=Z,30µm,19.0s
TRCR Troy Canyon 37.58 321 *eP* **P 02 23 57.4 +1.1**
DAC Darwin (Calif) 37.66 317 *eP* **P 02 23 57.7 +0.8**
DAC pmax pmax
comp=Z,110nm,1.2s,mb5.6
DAC MLR MLR
comp=Z,64µm,22.0s
DAC Darwin (Calif) 37.66 317 *eP* **P 02 23 57.6 +0.7**
comp=Z,110nm,1.2s,mb5.6
DAC LR LR
comp=Z,64µm,22.0s
LVC Limon Verde 37.70 153 SS SS 02 32 32.9 +13
comp=Z,1.2nm,0.5s,baz=359,slow=22,SNR=2.3
LVC LR LR 02 39 15.6
comp=Z,17µm,19.3s,baz=318,slow=36
LVC Limon Verde 37.70 153 *eP* **P 02 24 00.0 +2.6**
comp=Z,202nm,0.9s,mb6.0
LVC LR LR
comp=Z,21µm,21.0s
SPUT South Promonto 37.74 327 *eP* **P 02 23 58.1 +0.5**
BGU Big Grassy Mou 37.78 326 *eP* **P 02 23 58.5 +0.5**
AHID Auburn Hatcher 38.11 330 PFAKE 02 24 10.0 +9.3
AHID LR LR
comp=Z,44µm,20.0s
HVU Hansel Valley 38.25 328 *eP* **P 02 24 02.2 +0.4**
TPH Tonopah 38.44 319 *eP* **P 02 24 04.4 +1.0**
TPH pmax pmax
comp=Z,306nm,1.4s,mb5.9
TPH MLR MLR
comp=Z,52µm,19.0s
TPH Tonopah 38.44 319 *eP* **P 02 24 04.4 +1.0**
comp=Z,306nm,1.4s,mb5.9
TPH LR LR
comp=Z,52µm,19.0s
REDW Red Top Meadow 38.44 331 *eP* **P 02 24 03.9 +0.6**
comp=Z,3µm,1.4s
SNOW Snow King Moun 38.47 331 *eP* **P 02 24 04.3 +0.7**
comp=Z,853nm,1.0s,mb6.5
LOHW Long Hollow 38.52 331 *eP* **P 02 24 04.4 +0.4**
comp=Z,181nm,0.7s,mb6.0
TPAW Teton Pass 38.59 331 *eP* **P 02 24 05.0 +0.4**
comp=Z,842nm,1.1s,mb6.5
PQI Presque Isle 38.64 20 *eP* **P 02 24 05.5 +0.5**
comp=Z,86nm,0.5s,mb5.8
PQI LR LR
comp=Z,346µm,20.0s
RRI2 Red Ridge 38.66 331 *eP* **P 02 24 05.7 +0.6**
comp=Z,1µm,1.4s,mb6.5
MOOW Moose Ponds 38.69 331 *eP* **P 02 24 05.3 0.0**
comp=Z,293nm,0.9s,mb6.1
IMW Indian Meadow 38.89 331 *eP* **P 02 24 07.3 +0.2**
comp=Z,155nm,0.7s,mb5.9
ELK Elko 38.90 324 *eP* **P 02 24 08.1 +0.9**
ELK pmax pmax
comp=Z,303nm,1.0s
ELK Elko 38.90 324 *eP* **P 02 24 08.1 +0.9**
comp=Z,303nm,1.0s,mb6.1
LKWY Lake 39.15 333 PFAKE 02 24 20.0 +11
LKWY LR LR
comp=Z,50µm,19.0s
LAO LASA Array 39.18 338 *eP* **P 02 24 09.1 -0.3**
comp=Z,554nm,1.0s,mb6.3
LAO LR LR
comp=Z,39µm,20.0s
MNV Mina 39.24 319 PFAKE 02 24 20.0 +10
MNV LR LR
comp=Z,52µm,19.0s
YFT Old Faithful 39.27 332 *eP* **P 02 24 11.8 +1.7**
OMM Old Mammoth Mi 39.33 318 *eP* **P 02 24 12.6 +1.8**
NVAR Mina Array Bea 39.34 319 P **P 02 24 12.4 +1.6**
comp=Z,86nm,0.8s,mb5.6,baz=117,slow=7.7,SNR=145
NVAR PcP PcP 02 26 21.3 +2.6
comp=Z,40nm,0.6s,baz=127,slow=4.5,SNR=12
NVAR S **S 02 30 13.9 +8.0**
comp=Z,2.7nm,0.6s,baz=74,slow=31,SNR=6.6
NVAR LR LR 02 42 44.1
comp=Z,44µm,18.1s,baz=115,slow=40
YNR Norris Junctio 39.40 332 *eP* **P 02 24 12.2 +1.0**
YMR Madison River 39.49 332 *eP* **P 02 24 13.1 +1.0**
ULM Lac du Bonnet 39.73 350 P **P 02 24 12.3 -1.7**
comp=Z,387nm,0.9s,mb6.2,baz=167,slow=8.5,SNR=114
ULM PP PP 02 25 43.9 -6.3
comp=Z,43nm,1.0s,baz=186,slow=9.2,SNR=1.2
ULM S **S 02 30 12.4 +0.7**
comp=Z,11nm,0.8s,baz=264,slow=11,SNR=2.8
ULM LR LR 02 43 25.0
comp=Z,22µm,21.5s,baz=161,slow=41
ULM Lac du Bonnet 39.73 350⇑ *eP* **P 02 24 12.3 -1.7**
comp=Z,627nm,1.0s,mb6.4
ULM LR LR
comp=Z,41µm,22.0s
GCMT Greycliff 39.80 334 *eP* **P 02 24 14.2 -0.4**
QLMT Earthquake Lak 39.83 332 *eP* **P 02 24 16.0 +1.1**
BMN Battle Mountai 39.86 322 *eP* **P 02 24 16.4 +1.2**
BMN pmax pmax
comp=Z,715nm,1.3s,mb6.3
BMN MLR MLR
comp=Z,22µm,19.0s
BMN Battle Mountai 39.86 322 *eP* **P 02 24 16.4 +1.2**
comp=Z,715nm,1.3s,mb6.3

BMN LR LR
comp=Z,22µm,19.0s
DGMT Dagmar 40.04 342 *e*P **P 02 24 16.8 +0.1**
comp=Z,1µm,1.0s
DGMT LR LR
comp=Z,41µm,22.0s
LRV Little Rabbit 40.08 315 *e*P **P 02 24 18.9 +1.8**
HLID Hailey 40.36 328 *e*P **P 02 24 19.6 +0.4**
comp=Z,27nm,0.7s,mb5.2
HLID LR LR
comp=Z,59µm,19.0s
CMB Columbia Colle 40.48 317 *e*P **P 02 24 21.1 +0.8**
CMB pmax pmax
comp=Z,229nm,1.4s,mb5.8
CMB MLR MLR
comp=Z,41µm,22.0s
CMB Columbia Colle 40.48 317 *e*P **P 02 24 21.1 +0.8**
comp=Z,229nm,1.4s,mb5.8
CMB LR LR
comp=Z,41µm,22.0s
MCMT McKenzie Canyo 40.49 331 *e*P **P 02 24 21.5 +1.2**
BOZ Bozeman (W) 40.54 333 *e*P **P 02 24 21.0 +0.3**
BOZ pmax pmax
comp=Z,248nm,0.8s,mb6.1
BOZ Bozeman (W) 40.54 333 *e*P **P 02 24 21.0 +0.2**
comp=Z,248nm,0.8s,mb6.1
SAO San Andreas Ge 40.55 315 *e*P **P 02 24 22.5 +1.6**
SAO pmax pmax
comp=Z,86nm,0.9s,mb5.6
SAO MLR MLR
comp=Z,41µm,22.0s
SAO San Andreas Ge 40.55 315 *e*P **P 02 24 22.5 +1.5**
comp=Z,86nm,0.9s,mb5.6
SAO LR LR
comp=Z,41µm,22.0s
PAHR Pah Rah Range 40.76 320 *e*P **P 02 24 23.8 +1.3**
comp=Z,232nm,1.5s,mb5.8
WCN Washoe City 40.77 319 *e*P **P 02 24 24.0 +1.4**
WCN pmax pmax
comp=Z,202nm,1.4s,mb5.8
WCN Washoe City 40.77 319 *e*P **P 02 24 24.0 +1.4**
comp=Z,202nm,1.4s,mb5.8
HRY Holter Researc 41.45 333 *e*P **P 02 24 28.1 0.0**
BEKR Beckwourth 41.47 319 *e*P **P 02 24 29.6 +1.2**
comp=Z,132nm,0.9s,mb5.8
SAC San Andreas 41.63 315 *e*P **P 02 24 30.5 +0.7**
WVOR Wild Horse Val 41.94 324 PFAKE 02 24 40.0 +7.8
WVOR LR LR
comp=Z,35µm,19.0s
CHMT Chamberlain Mo 42.24 333 *e*P **P 02 24 34.4 -0.2**
MSO Missoula 42.49 332 *e*P **P 02 24 36.3 -0.4**
comp=Z,358nm,1.2s,mb6.0
MSO LR LR
comp=Z,21µm,20.0s
MOD Modoc 42.60 322 *e*P **P 02 24 37.6 -0.1**
comp=Z,129nm,1.1s,mb5.6
MOD LR LR
comp=Z,59µm,19.0s
LBCM Butte Creek Ri 42.64 320 P **P 02 24 38.6 +0.6**
BMO Blue Mountains 42.76 327 PFAKE 02 24 50.0 +11
BMO LR LR
comp=Z,51µm,20.0s
HOPS Hopland 42.78 317 *e*P **P 02 24 40.0 +0.7**
comp=Z,206nm,1.2s,mb5.7
HOPS LR LR
comp=Z,31µm,21.0s
WDC Whiskeytown Da 43.26 319 *e*P **P 02 24 41.1 -2.0**
WDC pmax pmax
comp=Z,113nm,1.3s,mb5.4
WDC MLR MLR
comp=Z,18µm,20.0s
WDC Whiskeytown Da 43.26 319 *e*P **P 02 24 41.1 -2.0**
comp=Z,112nm,1.3s,mb5.4
WDC LR LR
comp=Z,18µm,20.0s
YBH Yreka Blue Hor 43.99 320 *e*P **P 02 24 47.5 -1.5**
YBH pmax pmax
comp=Z,43nm,0.8s
YBH MLR MLR
comp=Z,48µm,22.0s
YBH Yreka Blue Hor 43.99 320 S **S 02 31 20.5 +6.1**
comp=Z,2.7nm,0.8s,baz=278,slow=2.8,SNR=2.1
YBH SS SS 02 34 41.7 +17
comp=Z,0.5nm,0.3s,baz=126,slow=20,SNR=1.8
YBH LR LR 02 45 31.5
comp=Z,51µm,21.9s,baz=128,slow=39
YBH Yreka Blue Hor 43.99 320 *e*P **P 02 24 47.5 -1.5**
comp=Z,44nm,0.8s,mb5.2
YBH LR LR
comp=Z,48µm,22.0s
RPN Rapa Nui 44.12 210 P **P 02 24 55.0 +4.8**
comp=Z,26nm,0.3s,mb5.5,baz=138,slow=5.1,SNR=2.5
RPN S **S 02 31 29.6 +13**
comp=Z,30nm,0.3s,baz=329,slow=2.5,SNR=2.3
RPN Rapa Nui 44.12 210 *e*P **P 02 24 51.4 +1.2**
comp=Z,860nm,1.4s,mb6.3
RPN P 02 24 55.0
RPN S **S 02 31 29.6 +13**
RPN LR LR
comp=Z,13µm,19.0s
HUMO Hull Mountain 44.62 321 *e*P **P 02 24 52.5 -1.5**
comp=Z,78nm,1.2s,mb5.3
HUMO LR LR
comp=Z,42µm,20.0s
KRMB Red Mountain 44.63 319 *e*P **P 02 24 54.6 +0.4**
WIFE Three Sisters- 44.77 324 P **P 02 24 55.8 +0.6**
HBO Huckleberry Mo 44.94 323 P **P 02 24 56.7 +0.1**
JATB Jatai 44.96 130*c i*P **P 02 24 57.8 +0.7**
JATB *i* 02 25 09.4
JATB *e* pP 02 25 18.4 +2.0
JATB *e* 02 25 28.9
JATB *e* 02 26 30.0
NEW Newport 45.02 331 *e*P **P 02 24 56.1 -1.0**
NEW pmax pmax
comp=Z,280nm,1.3s
NEW Newport 45.02 331 S **S 02 31 35.2 +6.0**
comp=Z,3.4nm,0.7s,baz=83,slow=20,SNR=2.4
NEW LR LR 02 47 11.1
comp=Z,39µm,18.5s,baz=128,slow=41
NEW Newport 45.02 331 *e*P **P 02 24 56.1 -1.1**
comp=Z,280nm,1.3s,mb5.8
FFC Flin Flon 45.15 347⇑ *e*P **P 02 24 57.3 -0.8**
FFC pmax pmax
comp=Z,378nm,1.0s,mb6.1
FFC MLR MLR
comp=Z,8µm,21.0s
FFC Flin Flon 45.15 347⇑ *e*P **P 02 24 57.3 -0.8**
comp=Z,378nm,1.0s,mb6.1
FFC LR LR
comp=Z,8µm,21.0s
OD2 Odessa Site #2 45.19 329 P **P 02 24 58.8 +0.2**
KBO Bosley Butte 45.20 320 *e*P **P 02 24 58.9 +0.3**
BROR Big Rock Looko 45.26 323 P **P 02 24 58.8 -0.4**
HOOD Mount Hood Mea 45.43 325 P **P 02 25 01.4 +1.0**
EUO Eugene 45.49 323 P **P 02 25 00.4 -0.6**
SSOR Sweet Springs 45.61 324 P **P 02 25 02.0 +0.1**
KEBM Edson Butte 45.62 321 *e*P **P 02 25 02.5 +0.6**
ZON Zonda 45.75 159 *e*P **P 02 25 05.0 +1.8**
COR Corvallis 45.94 323 *e*P **P 02 25 04.7 +0.2**
COR pmax pmax
comp=Z,552nm,1.4s,mb6.1
COR MLR MLR
comp=Z,7µm,20.0s
COR Corvallis 45.94 323 *e*P **P 02 25 04.7 +0.2**
comp=Z,552nm,1.4s,mb6.1
COR LR LR
comp=Z,7µm,20.0s
TWW Teanaway 46.13 328 P **P 02 25 07.2 +1.2**
SCHQ Schefferville 46.20 16 P **P 02 25 03.6 -2.8**
comp=Z,61nm,0.5s,mb5.6,baz=209,slow=6.2,SNR=87
SCHQ PP PP 02 26 56.5 +0.6
comp=Z,18nm,0.8s,baz=263,slow=11,SNR=1.5
SCHQ S **S 02 31 49.1 +3.2**
comp=Z,9.4nm,1.0s,baz=2.4,slow=13,SNR=2.2
SCHQ SS SS 02 35 13.7 +9.0
comp=Z,3.5nm,0.8s,baz=354,slow=6.2,SNR=1.8
SCHQ LR LR 02 44 39.6
comp=Z,85µm,21.8s,baz=208,slow=37
SCHQ Schefferville 46.20 16 *e*P **P 02 25 04.8 -1.6**
comp=Z,455nm,1.1s,mb6.1
SCHQ LR LR
comp=Z,130µm,22.0s
LON Longmire 46.39 327 P **P 02 25 08.0 0.0**
BDFB Brasilia 46.40 124 P **P 02 25 08.9 +0.3**
comp=Z,285nm,0.9s,mb6.0,baz=292,slow=7.7,SNR=277
BDFB S **S 02 31 52.3 +2.9**
comp=Z,8.4nm,0.9s,baz=139,slow=26,SNR=1.8
BDFB SS SS 02 35 23.0 +14
comp=Z,2.9nm,0.9s,baz=218,slow=24,SNR=1.6
BAO Brasilia Array 46.42 124 P **P 02 25 08.0 -0.7**
CPUP Villa Florida 46.78 143 P **P 02 25 11.6 +0.2**
CPUP S **S 02 31 57.7 +3.0**
CPUP 02 35 06.1
CPUP pmax pmax
comp=Z,46nm,0.6s
CPUP MLR MLR
comp=Z,18µm,19.7s
CPUP Villa Florida 46.78 143 P **P 02 25 11.6 +0.2**
comp=Z,46nm,0.6s,mb5.4,baz=353,slow=7.7,SNR=125
CPUP S **S 02 31 57.7 +3.0**
comp=Z,1.9nm,0.8s,baz=36,slow=19,SNR=1.6
CPUP ScS ScS 02 35 06.1 +11
comp=Z,3.0nm,1.2s,baz=143,slow=13,SNR=1.9
CPUP LR LR 02 47 11.0
comp=Z,18µm,19.7s,baz=244,slow=39
CPUP Villa Florida 46.78 143 *e*P **P 02 25 11.5 +0.1**
comp=Z,276nm,1.1s,mb5.9
CPUP LR LR
comp=Z,11µm,20.0s
CLCH Cerro Calan 46.83 162 *e*P **P 02 25 20.8 +9.0**
EDM Edmonton 47.17 338 *e*P **P 02 25 12.9 -1.2**
LMEL Las Melosas 47.35 162⇑ *i*P **P 02 25 19.9 +4.1**
SQM Sequim 47.87 327 P **P 02 25 20.0 +0.4**
OSD Olympics--Snow 48.06 327 P **P 02 25 21.8 +0.6**
NICH Los Niches 48.12 163⇑ *i*P **P 02 25 34.4 +13**
OCWA Octopus Mounta 48.28 326 *e*P **P 02 25 23.0 +0.2**
comp=Z,497nm,1.3s,mb6.2
OCWA LR LR
comp=Z,87µm,21.0s
PGC Sidney 48.44 328 *e*P **P 02 25 23.5 -0.5**
comp=Z,866nm,1.4s,mb6.4
CCHI Chillan 49.40 165⇑ *i*P **P 02 25 42.9 +11**
RCBR Riachuelo 53.00 106 *e*P **P 02 25 58.0 -1.2**
comp=Z,133nm,1.3s,mb5.8
RCBR LR LR
comp=Z,59µm,20.0s
LPA La Plata 53.18 151*ce*P **P 02 26 00.0 -0.2**
LPA *es*P sP 02 26 11.0 -18
LPA *e*PP PP 02 27 58.0 -4.3
LPA *e*S **S 02 33 30.0 +6.8**
LPA *e*SP SP 02 33 35.0 +2.1
LPA PKIKP 02 33 45.0
comp=Z,33µm,22.0s
TRQA Tornquist 54.05 156 *e*P **P 02 26 06.1 -0.4**
comp=Z,1µm,2.0s
TRQA LR LR
comp=Z,10µm,20.0s
YKA Yellowknife Ar 55.10 344 P **P 02 26 11.9 -1.9**
comp=Z,147nm,0.9s,mb6.0,baz=140,slow=7.4,SNR=149
YKA PP PP 02 28 14.2 -4.9
comp=Z,21nm,1.0s,baz=137,slow=8.4,SNR=3.0
YKA S **S 02 33 50.8 +2.2**
comp=Z,1.0nm,0.8s,baz=90,slow=28,SNR=3.0
YKA LR LR 02 51 53.6
comp=Z,24µm,20.5s,baz=145,slow=38
YKA PKPPKP 02 56 14.6
comp=Z,2.4nm,0.9s,baz=348,slow=3.2,SNR=6.5
YKA Yellowknife Ar 55.10 344 P **P 02 26 11.9 -1.9**
YKA PP PP 02 28 14.2 -4.9
YKA S **S 02 33 50.8 +2.2**
YKA LR LR 02 51 53.6
YKA P'P' 02 56 14.6
YKW3 Yellowknife Ar 55.16 345 *e*P **P 02 26 12.0 -2.2**
PTCN Pitcairn Islan 55.80 229 PFAKE 02 26 30.0 +11
PTCN LR LR
comp=Z,33µm,20.0s
CRAG Craig 57.23 330 *e*P **P 02 26 28.1 -1.0**
DLBC Dease Lake 57.49 335 PKPPKP 02 56 12.0
comp=Z,1.2nm,0.7s,baz=172,slow=24,SNR=2.3
DLBC Dease Lake 57.49 335 *e*P **P 02 26 30.7 -0.2**
NRS Narsarsuaq 58.14 22 *i*P **P 02 26 34.1 -1.3**
NRS pmax pmax
comp=Z,21nm,0.6s,mb5.3
NRS Narsarsuaq 58.14 22 *i*P **P 02 26 34.1 -1.3**
comp=Z,21nm,0.6s,mb5.3
NRS *e* 02 30 18.3
SIT Sitka 59.10 331 P **P 02 26 42.2 +0.1**
SIT pmax pmax
comp=Z,180nm,1.3s,mb5.9
SIT Sitka 59.10 331 *e*P **P 02 26 42.1 0.0**
CMLA Cha da Macela 60.25 53 PFAKE 02 27 00.0 +10
CMLA LR LR
comp=Z,8µm,20.0s
SFJD Kangerlussuaq 60.65 15⇑ *i*P **P 02 26 50.1 -2.5**
SFJD *i* 02 30 30.3
SFJD *i* S S 02 35 23.2 +22
SFJD *i* 02 38 59.7
SFJD pmax pmax
comp=Z,79nm,1.1s,mb5.7
SFJD MLR MLR
comp=Z,97µm,21.0s
SFJD Kangerlussuaq 60.65 15⇑ *i*P **P 02 26 50.1 -2.5**
comp=Z,78nm,1.1s,mb5.7
SFJD *i* 02 30 30.3
SFJD *i* S S 02 35 23.2 +22
SFJD *i* 02 38 59.7
comp=Z,97µm,21.0s
RES Resolute Bay 63.66 357 *e*P **P 02 27 10.1 -2.5**
RES pmax pmax
comp=Z,59nm,0.6s,mb5.6
RES Resolute Bay 63.66 357 *e*P **P 02 27 10.1 -2.4**
comp=Z,59nm,0.6s,mb5.6
INK Inuvik 64.72 342⇑ *e*P **P 02 27 18.4 -1.1**
INK pmax pmax
comp=Z,160nm,0.8s
INK Inuvik 64.72 342 LR LR 03 01 21.9
comp=Z,35µm,18.4s,baz=129,slow=42
INK Inuvik 64.72 342⇑ *e*P **P 02 27 18.4 -1.1**
comp=Z,160nm,0.8s,mb5.9
EYAK Cordova Ski Ar 65.50 332 *e*P **P 02 27 24.4 -0.3**
DIV Divide 65.73 333 *e*P **P 02 27 25.5 -0.7**
comp=Z,827nm,1.1s,mb6.5
DIV *e*pP pP 02 27 36.7 -10
DIV LR LR
comp=Z,107µm,21.0s
EGOM La Gomera 66.52 64 P **P 02 27 31.6 -0.1**
comp=Z,34nm,0.7s,mb5.3
THY Trims Highway 66.61 335 *e*P **P 02 27 31.2 -0.4**
POHA Pohakuloa 66.81 287 PFAKE 02 27 50.0 +16
POHA LR LR
comp=Z,206µm,19.0s
CCAN Las Canadas 67.05 64 P **P 02 27 36.9 +1.9**
comp=Z,23nm,0.8s,mb5.1
SML Sawmill 67.12 333 *e*P **P 02 27 34.0 -0.9**
PMR Palmer 67.41 333 *e*P **P 02 27 36.0 -0.7**
HKL Haleakala 67.43 288 *e*P **P 02 27 39.4 +1.9**
HKL *e**PP pP 02 27 49.8 -8.3
SUMG Summit 67.55 14 *e*P **P 02 27 34.4 -3.0**
comp=Z,147nm,1.0s,mb5.8
SLKM Skilak Lake 67.57 331 *e*P **P 02 27 37.0 -0.7**
ILAR Eielson Array 67.59 336 P **P 02 27 36.9 -0.9**
ILAR S S 02 36 30.9 +4.0
ILAR Eielson Array 67.59 336 P **P 02 27 36.9 -0.9**
comp=Z,144nm,1.0s,mb5.8,baz=126,slow=3.4,SNR=309
ILAR PP PP 02 30 00.3 -9.2
comp=Z,3.4nm,0.8s,baz=30,slow=40,SNR=3.5
ILAR S S 02 36 30.9 +4.0
comp=Z,0.3nm,0.8s,baz=148,slow=44,SNR=2.2
ILAR PKPPKP 02 55 54.2
comp=Z,1.4nm,0.9s,baz=300,slow=3.3,SNR=8.6
ILAR LR LR 03 00 09.6
comp=Z,29µm,21.3s,baz=128,slow=39
FIB Fire Island 67.75 332 P **P 02 27 40.8 +2.0**
FIB Fire Island 67.75 332 *e*P **P 02 27 38.4 -0.4**
FIB LR LR
comp=Z,20µm,22.0s
SPU Mount Spurr 68.63 332 *e*P **P 02 27 43.2 -1.0**
PPT Papeete 68.63 246 P **P 02 27 46.0 +1.0**
PPT S S 02 36 54.1 +14
PPT Papeete 68.63 246 P **P 02 27 50.8 +5.8**
comp=Z,16nm,0.6s,mb5.1,baz=225,slow=20,SNR=2.1
PPT S S 02 36 54.1 +14
comp=Z,8.6nm,0.3s,baz=200,slow=12,SNR=1.8
PPT LR LR 02 50 42.9
comp=Z,22µm,18.3s,baz=74,slow=30
PPT Papeete 68.63 246 P **P 02 27 46.0 +1.0**
PPT P 02 27 50.8
PPT S S 02 36 54.1 +14
PPT LR LR 02 50 42.9
RSO Redoubt South 68.76 331 *e*P **P 02 27 44.5 -0.6**
HON Honolulu 69.01 289 *e*P **P 02 27 47.7 +0.4**
KIP Kipapa 69.02 289 *e*P **P 02 27 48.5 +1.2**
KIP *e**PP pP 02 27 59.6 -8.5
KIP pmax pmax
comp=Z,835nm,1.4s,mb6.4
KIP MLR MLR
comp=Z,10µm,19.0s
KIP Kipapa 69.02 289 *e*P **P 02 27 48.5 +1.2**
comp=Z,835nm,1.4s,mb6.4
KIP *e*pP pP 02 27 59.5 -8.5
KIP LR LR
comp=Z,10µm,19.0s
SVW2 Sparrevohn 70.26 331 *e*P **P 02 27 52.9 -1.3**
IMA Indian Mountai 70.70 337 *e*P **P 02 27 56.3 -0.5**
TTA Tatalina 70.88 333 *e*P **P 02 27 56.9 -1.0**
SCO Scoresbysund 71.11 19 *i*P **P 02 27 56.6 -2.6**
SCO pmax pmax
comp=Z,18nm,0.7s,mb5.0
SCO Scoresbysund 71.11 19 *i*P **P 02 27 56.6 -2.6**
comp=Z,18nm,0.7s,mb5.0
SDPT Sand Point 71.83 325 *e*P **P 02 28 04.3 +0.5**
VAL Valentia 72.73 39 *e*P **P 02 28 10.1 +1.0**
EMAZ Mazzricos 73.27 48 P **P 02 28 13.0 +0.6**
comp=Z,23nm,1.3s,mb4.8
EZAM Zamans 73.47 49 P **P 02 28 14.9 +1.2**
EZAM pmax pmax
comp=Z,26nm,0.8s,mb5.1
EZAM Zamans 73.47 49 P **P 02 28 14.9 +1.2**
comp=Z,26nm,0.8s,mb5.1
STS Santiago 73.58 49 P **P 02 28 13.8 -0.5**
STS pmax pmax
comp=Z,29nm,0.9s,mb5.0
STS Santiago 73.58 49 P **P 02 28 13.8 -0.4**
comp=Z,29nm,0.9s,mb5.0
ELOB Lobios 73.95 50 P **P 02 28 16.6 +0.1**
comp=Z,14nm,0.9s,mb4.7
EVO Evora 74.06 53 *e*P **P 02 28 14.8 -2.4**
comp=Z,110nm,1.0s,mb5.2
EVO *e*R
comp=Z,86µm,22.8s
PVIS Viseu 74.09 51 *e*P **P 02 28 17.3 0.0**
DAG Danmarks Havn 74.15 13⇓ *e*P **P 02 28 14.6 -2.4**
DAG pmax pmax
comp=Z,14nm,0.9s,mb4.7
DAG MLR MLR
comp=Z,58µm,22.0s
DAG Danmarks Havn 74.15 13 *e*Pdu 02 28 14.6
comp=Z,14nm,0.9s
DAG LR LR
comp=Z,58µm,22.0s
DAG Danmarks Havn 74.15 13*j i*P **P 02 28 14.6 -2.4**
comp=Z,14nm,0.9s,mb4.7
comp=Z,58µm,22.0s
PBEJ Beja 74.19 54 *e*P **P 02 28 17.7 -0.2**
PVRL Vila Real 74.22 50 *e*P **P 02 28 19.0 +1.0**
MTE Manteigas 74.37 51 *e*P **P 02 28 20.1 +1.2**
comp=Z,53nm,1.3s,mb5.1
MTE Manteigas 74.37 51 *e*P **P 02 28 17.3 -1.6**
MTE *i* S S 02 37 52.4 +6.9
MTE *e*LQ 02 46 33.6
MTE *e*LR LR 02 52 14.5
PCBR Castelo Branco 74.43 52 *e*P **P 02 28 19.1 -0.2**
EGRO El Granado 74.51 54 P **P 02 28 19.1 -0.7**
comp=Z,20nm,0.8s,mb4.9
EPON Pontenova 74.60 48 P **P 02 28 20.0 -0.2**
comp=Z,29nm,1.3s,mb4.8
DCN Croghan 74.61 38⇓ *i*P **P 02 28 20.5 +0.5**
DCN Croghan 74.61 38 *e*P **P 02 28 16.5 -3.5**
DCN ⇓ *i*P 02 28 20.5
ERUA La Rua 74.62 49 P **P 02 28 19.2 -1.1**
ERUA pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
ERUA La Rua 74.62 49 P **P 02 28 19.2 -1.1**
comp=Z,9.3nm,0.6s,mb4.7
AKUT Akutan 74.80 323 *e*P **P 02 28 21.8 +0.7**
EBAD Badajoz 74.83 53 P **P 02 28 22.1 +0.5**
comp=Z,12nm,1.2s,mb4.5
ECAL Calabor 74.94 49 P **P 02 28 23.1 +0.9**
comp=Z,17nm,0.8s,mb4.8
DLF Lyons Farm 75.05 38 *e*P **P 02 28 18.8 -3.7**
EMIN Mina Concepcio 75.14 54 P **P 02 28 22.4 -0.9**
comp=Z,18nm,0.8s,mb4.9
JMIC Jan Mayen 75.54 19 *e*P **P 02 28 24.9 -0.1**
JMIC AMb AMB 02 28 39.5
comp=Z,282nm,1.6s,mb5.8
JMIC *e*S S 02 38 02.2 +4.3
JMIC AMS AMS 02 59 39.1
comp=Z,16µm,20.1s
KSB Sheil Bridge 75.78 34 *e*P **P 02 28 25.6 -1.0**
KSB AMb AMB 02 28 30.8
comp=Z,66nm,1.9s,mb5.0
ESPR Espera 75.84 55 P **P 02 28 27.3 -0.1**
comp=Z,31nm,0.9s,mb5.0
KAC Achnashellach 75.86 33 *e*P **P 02 28 25.6 -1.5**
KAC AMb AMB 02 28 31.9
comp=Z,92nm,1.8s,mb5.2
EARI Arriondas 76.02 48 P **P 02 28 28.1 -0.2**
comp=Z,21nm,1.4s,mb4.7
TNA Tin City 76.39 335 *e*P **P 02 28 30.2 +0.3**
comp=Z,243nm,1.4s,mb5.7
TNA LR LR
comp=Z,15µm,19.0s
HSA Swansea 76.50 39 *e*P **P 02 28 30.1 -0.7**
EMIJ Mijas 76.73 55 P **P 02 28 30.3 -2.1**
comp=Z,33nm,1.1s,mb5.0
HEX Exmoor 76.73 40 *e*P **P 02 28 32.5 +0.4**
EADA Adamuz 76.77 53 P **P 02 28 30.6 -2.0**
comp=Z,15nm,1.0s,mb4.7
EAU Auchinoon 76.87 35 *e*P **P 02 28 31.7 -1.0**
ESK Eskdalemuir 77.01 36 *e*P **P 02 28 32.4 -1.2**
ESK pmax pmax
comp=Z,172nm,1.4s,mb5.6
ESK MLR MLR
comp=Z,6µm,21.0s
ESK Eskdalemuir 77.01 36 *e*P **P 02 28 32.4 -1.2**
comp=Z,172nm,1.4s,mb5.6
ESK LR LR
comp=Z,6µm,21.0s
EDI Edinburgh 77.02 35 *e*P **P 02 28 31.9 -1.7**
EDI AMb AMB 02 28 35.9
comp=Z,78nm,1.7s,mb5.2
EKA Eskdalemuir Ar 77.04 36 P **P 02 28 31.1 -2.6**
comp=Z,8.1nm,0.6s,mb4.7,baz=261,slow=5.7,SNR=39
ESDC Sonseca Array 77.15 52 P **P 02 28 32.8 -1.8**
comp=Z,10nm,0.6s,mb4.7,baz=281,slow=5.5,SNR=28
ESDC S S 02 38 18.9 +2.9
comp=Z,0.8nm,0.7s,baz=295,slow=36,SNR=2.5
ESDC Sonseca Array 77.15 52 P **P 02 28 33.5 -1.2**
comp=Z,36nm,0.8s,mb5.2
ESLA Sonseca Array 77.15 52 *e*P **P 02 28 33.3 -1.3**
comp=Z,14nm,0.9s,mb4.7
ESLA LR LR
comp=Z,306µm,20.0s
ROSF Rostrenen 77.17 43 *e*P **P 02 28 32.7 -1.9**
comp=Z,202nm,1.2s,mb5.4
ROSF Rostrenen 77.17 43 *e*P **P 02 28 32.7 -1.9**
ROSF pmax pmax
comp=Z,101nm,1.2s,mb5.4
ELOJ Sierra Loja 77.18 54 P **P 02 28 35.1 +0.2**
ELOJ pmax pmax
comp=Z,13nm,0.7s,mb4.8
ELOJ Sierra Loja 77.18 54 P **P 02 28 35.1 +0.2**
comp=Z,13nm,0.7s,mb4.8
QUIF Quistinic 77.26 43 *e*P **P 02 28 33.4 -1.7**
comp=Z,322nm,1.3s,mb5.6
QUIF Quistinic 77.26 43 *e*P **P 02 28 33.4 -1.7**
QUIF pmax pmax
comp=Z,161nm,1.3s,mb5.6
ELAN Lanestosa 77.32 48 P **P 02 28 34.0 -1.5**
comp=Z,21nm,1.1s,mb4.8
EBAN Banos Encina 77.39 53 P **P 02 28 36.2 +0.1**
EBAN pmax pmax
comp=Z,19nm,0.8s,mb4.9
EBAN Banos Encina 77.39 53 P **P 02 28 36.2 +0.1**
comp=Z,19nm,0.8s,mb4.9
ERON Agron 77.47 54 P **P 02 28 36.6 +0.1**
comp=Z,12nm,0.6s,mb4.8
PMSA Palmer Station 77.59 170 *e*P **P 02 28 36.3 -0.3**
comp=Z,130nm,1.0s,mb5.6
PMSA LR LR
comp=Z,5µm,20.0s
ECOG Cogollos-Vega 77.64 54 P **P 02 28 38.1 +0.7**
ECOG pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
ECOG Cogollos-Vega 77.64 54 P **P 02 28 38.1 +0.6**
comp=Z,6.9nm,0.8s,mb4.4
SGMF Saint Gilles 77.65 43 *e*P **P 02 28 34.9 -2.4**

comp=Z,331nm,1.7s,mb5.5
SGMF Saint Gilles 77.65 43 *e*P P **02 28 34.9 -2.4**
SGMF pmax pmax
comp=Z,166nm,1.7s,mb5.5
EGUA Guajares 77.67 55 P P **02 28 40.1 +2.4**
comp=Z,1.9nm,0.8s
LHO Holmfirth 77.85 37 *e*P P **02 28 37.4 -0.8**
KWE Weaver Farm 77.88 38 *e*P P **02 28 38.1 -0.3**
HPK Haverah Park 77.97 37 *e*P P **02 28 38.1 -0.8**
HPK AMb AMB 02 28 40.7
comp=Z,93nm,1.8s,mb5.2
EQES Quesada 77.99 54 P P **02 28 38.8 -0.6**
comp=Z,37nm,0.8s,mb5.2
LCP Cassop 78.03 36 *e*P P **02 28 38.7 -0.5**
LCP AMb AMB 02 28 41.1
comp=Z,98nm,1.8s,mb5.2
ECRI Cripan 78.04 49 P P **02 28 39.1 -0.4**
ECRI pmax pmax
comp=Z,24nm,0.7s,mb5.0
ECRI Cripan 78.04 49 P P **02 28 39.1 -0.4**
comp=Z,24nm,0.7s,mb5.0
KBI1 Birley Grange 78.06 38 *e*P P **02 28 38.9 -0.5**
KBI1 AMb AMB 02 28 41.7
comp=Z,77nm,1.6s,mb5.2
EALB Alboran 78.18 55 P P **02 28 42.2 +1.8**
comp=Z,28nm,0.6s,mb5.2
EBER Berja 78.21 54 P P **02 28 39.8 -0.8**
comp=Z,49nm,1.0s,mb5.2
EVIA Vianos 78.36 53 P P **02 28 39.3 -2.1**
EVIA pmax pmax
comp=Z,27nm,0.8s,mb5.0
EVIA Vianos 78.36 53 P P **02 28 39.3 -2.1**
comp=Z,27nm,0.8s,mb5.0
EHUE Huescar 78.36 54 P P **02 28 42.6 +1.2**
EHUE pmax pmax
comp=Z,18nm,0.9s,mb4.8
EHUE Huescar 78.36 54 P P **02 28 42.6 +1.2**
comp=Z,18nm,0.9s,mb4.8
EALK Alkurruntz 78.72 48 P P **02 28 42.7 -0.6**
comp=Z,28nm,1.2s,mb5.0
ENIJ Nijar 78.75 54 P P **02 28 42.9 -0.6**
ENIJ pmax pmax
comp=Z,27nm,1.0s,mb5.0
ENIJ Nijar 78.75 54 P P **02 28 42.9 -0.6**
comp=Z,27nm,1.0s,mb5.0
GRR Gorron 78.77 43 *e*P P **02 28 41.6 -1.8**
comp=Z,190nm,1.0s,mb5.6
GRR Gorron 78.77 43 *e*P P **02 28 41.6 -1.8**
GRR pmax pmax
comp=Z,95nm,1.0s,mb5.6
RAR Rarotonga 78.91 246 PFAKE 02 29 00.0 +15
RAR LR LR
comp=Z,12µm,20.0s
SJPF Ste Jean 78.94 48 *e*P P **02 28 43.3 -1.1**
comp=Z,216nm,1.3s,mb5.5
SJPF Ste Jean 78.94 48 *e*P P **02 28 43.3 -1.1**
SJPF pmax pmax
comp=Z,108nm,1.3s,mb5.5
LCHF La Chataignera 78.98 44 *e*P P **02 28 45.0 +0.4**
FLN La Foliniere 79.00 42 *e*P P **02 28 42.8 -1.8**
comp=Z,207nm,1.1s,mb5.6
FLN *e*R
comp=Z,49µm,18.8s
FLN La Foliniere 79.00 42 *e*P P **02 28 42.8 -1.8**
FLN pmax pmax
comp=Z,104nm,1.1s,mb5.6
FLN MLR MLR
comp=Z,49µm,18.8s
ETOB Tobarra 79.11 53 P P **02 28 45.9 +0.5**
comp=Z,43nm,0.8s,mb5.3
LARF Larrau 79.12 48 *e*P P **02 28 43.9 -1.5**
MFF Saint Martin d 79.40 44 *e*P P **02 28 45.1 -1.8**
comp=Z,199nm,1.2s,mb5.5
MFF Saint Martin d 79.40 44 *e*P P **02 28 45.1 -1.8**
MFF pmax pmax
comp=Z,100nm,1.2s,mb5.5
EMUR La Murta 79.43 53 P P **02 28 46.7 -0.5**
comp=Z,18nm,1.3s,mb4.8
ETSF Etsaut 79.44 48 *e*P P **02 28 46.0 -1.2**
comp=Z,110nm,1.3s,mb5.2
ETSF Etsaut 79.44 48 *e*P P **02 28 46.0 -1.2**
ETSF pmax pmax
comp=Z,55nm,1.3s,mb5.2
ECHE Chera 79.46 52 P P **02 28 48.3 +0.9**
ECHE pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
ECHE Chera 79.46 52 P P **02 28 48.3 +1.0**
comp=Z,10nm,0.8s,mb4.7
REYF Montagne du Re 79.55 48 *e*P P **02 28 47.1 -0.7**
ESAC San Caprasio 79.62 49 P P **02 28 48.1 -0.1**
comp=Z,61nm,0.9s,mb5.4
EMOS Mosqueruela 79.76 51 P P **02 28 48.4 -0.5**
comp=Z,19nm,1.0s,mb4.9
VIEF Viey 79.87 48 *e*P P **02 28 48.8 -0.7**
EBIE Bielsa 79.98 48 P P **02 28 50.5 +0.4**
comp=Z,27nm,0.8s,mb5.1
EPF Esparros 80.09 48 *e*P P **02 28 49.3 -1.4**
comp=Z,342nm,1.5s,mb5.7
EPF Esparros 80.09 48 *e*P P **02 28 49.3 -1.4**
EPF pmax pmax
comp=Z,171nm,1.5s,mb5.7
RESF Ens 80.11 48 *e*P P **02 28 51.4 +0.6**
EBEN Beniarda 80.13 52 P P **02 28 52.4 +1.5**
comp=Z,20nm,0.8s,mb5.0
EGRA Graus 80.16 49 P P **02 28 51.9 +0.8**
comp=Z,52nm,1.2s,mb5.2
LFF La Frestale 80.17 46 *e*P P **02 28 49.4 -1.7**
comp=Z,266nm,1.3s,mb5.6
LFF La Frestale 80.17 46 *e*P P **02 28 49.4 -1.7**
LFF pmax pmax
comp=Z,133nm,1.3s,mb5.6
EBR Ebro Roquetas 80.44 50 *e*P P **02 28 51.9 -0.7**
DBIC Dimbokro 80.45 85 P P **02 28 52.2 -1.0**
DBIC S S 02 38 52.7 +1.1
DBIC pmax pmax
comp=Z,47nm,1.1s
DBIC smax
comp=E,5.0nm,0.9s
DBIC Dimbokro 80.45 85 P P **02 28 52.2 -1.0**
comp=E,46nm,1.1s,mb5.2,baz=263,slow=5.2,SNR=12
DBIC S S 02 38 52.7 +1.1
comp=E,4.7nm,0.9s,baz=186,slow=16,SNR=2.7
DBIC Dimbokro 80.45 85 *e*P P **02 28 51.9 -1.3**
comp=E,161nm,1.5s,mb5.6
RJF Les Rejaudoux 80.68 46 *e*P P **02 28 51.9 -1.9**
comp=E,223nm,1.4s,mb5.5
RJF *e*R
comp=E,84µm,21.8s
RJF Les Rejaudoux 80.68 46 *e*P P **02 28 51.9 -1.9**
RJF pmax pmax
comp=Z,112nm,1.4s,mb5.5
RJF MLR MLR
comp=Z,84µm,21.8s
KBS Kingsbay 80.70 11⇑*i*P P **02 28 51.4 -1.8**
KBS AMS AMS 03 06 20.3
comp=Z,30µm,16.8s
SALF Salau 80.74 48 *e*P P **02 28 53.6 -0.5**
EPOB Poblet 80.82 50 P P **02 28 53.4 -1.1**
comp=Z,17nm,0.9s,mb4.9
TCF Toulx Ste Croi 81.05 45 *e*P P **02 28 53.7 -2.0**
comp=Z,100nm,1.1s,mb5.2
TCF Toulx Ste Croi 81.05 45 *e*P P **02 28 53.7 -2.0**
TCF pmax pmax
comp=Z,50nm,1.1s,mb5.3
GSTR Great Sitkin T 81.08 321 *e*P P **02 28 57.0 +1.3**
EMIR Miracle 81.08 49 P P **02 28 56.2 +0.2**
comp=Z,31nm,0.8s,mb5.2
CAF Calviac 81.11 46 *e*P P **02 28 54.3 -1.7**
comp=Z,178nm,1.4s,mb5.4
CAF Calviac 81.11 46 *e*P P **02 28 54.3 -1.7**
CAF pmax pmax
comp=Z,89nm,1.4s,mb5.4
BER Bergen 81.22 30⇑*i*P P **02 28 55.8 -0.4**
BER AMb AMB 02 29 00.7
comp=Z,84nm,2.2s,mb5.2
BER AMS AMS 03 00 33.8
comp=Z,38µm,19.4s
HYF Humbligny 81.23 44 *e*P P **02 28 55.0 -1.6**
EIBI Ibiza 81.31 52 P P **02 28 56.6 -0.6**
comp=Z,23nm,0.8s,mb5.1
VERF Verneugheol 81.31 45 *e*P P **02 28 57.4 +0.4**
MTLF Montolieu 81.42 48 *e*P P **02 28 55.9 -1.8**
comp=Z,196nm,1.4s,mb5.5
MTLF Montolieu 81.42 48 *e*P P **02 28 55.9 -1.8**
MTLF pmax pmax
comp=Z,98nm,1.4s,mb5.5

BGF Bois d'Agland 81.46 44 *e*P P **02 28 55.8 -2.0**
comp=Z,98nm,0.9s,mb5.3
BGF Bois d'Agland 81.46 44 *e*P P **02 28 55.8 -2.0**
BGF pmax pmax
comp=Z,49nm,0.9s,mb5.3
EANR 'Ain N'Sour 81.51 55 P P **02 29 02.0 +3.7**
ECHA Ech Chlef 81.70 55 P P **02 29 08.0 +8.7**
ETRT Tiaret 81.75 56 P P **02 28 59.0 -0.6**
EBNR Beni Rached 81.81 55 P P **02 29 09.0 +9.1**
SSF Saint Saulge 81.84 44 *e*P P **02 28 57.5 -2.3**
SSF pmax pmax
comp=Z,67nm,1.4s,mb5.3
SSF Saint Saulge 81.84 44 *e*P P **02 28 57.5 -2.3**
comp=Z,67nm,1.4s,mb5.3
BAIF Baives 81.91 41 *e*P P **02 28 58.0 -2.0**
comp=Z,42nm,1.1s,mb4.9
BAIF Baives 81.91 41 *e*P P **02 28 58.0 -2.0**
BAIF pmax pmax
comp=Z,21nm,1.0s,mb4.9
EJON La Jonquera 82.02 48 P P **02 29 01.4 +0.6**
comp=Z,26nm,1.0s,mb5.0
LOR Lormes 82.05 43 *e*P P **02 28 58.9 -2.0**
comp=Z,81nm,1.0s,mb5.2
LOR *e*R
comp=Z,85µm,23.0s
LOR Lormes 82.05 43 *e*P P **02 28 58.9 -2.0**
LOR pmax pmax
comp=Z,41nm,1.0s,mb5.2
LOR MLR MLR
comp=Z,85µm,23.0s
SMF Signal de Mont 82.12 44 *e*P P **02 28 59.0 -2.3**
comp=Z,41nm,0.9s,mb4.9
SMF Signal de Mont 82.12 44 *e*P P **02 28 59.0 -2.3**
SMF pmax pmax
comp=Z,20nm,0.9s,mb5.0
GIVF Givet 82.29 41 *e*P P **02 29 00.3 -1.7**
ETOS Mallorca 82.34 51 P P **02 29 00.8 -1.7**
comp=Z,26nm,1.2s,mb4.9
LASF Ste Croix 82.50 47 *e*P P **02 29 02.1 -1.1**
comp=Z,96nm,1.1s,mb5.2
MEZF Maizieres J'vi 82.67 42 *e*P P **02 29 02.4 -1.6**
comp=Z,104nm,1.0s,mb5.3
HGN Heimansgroeve 82.89 40 *i* P P **02 29 04.6 -0.5**
HGN PP PP 02 31 58.7 -19
HGN S S 02 39 31.4 +16
VIVF Saint-Julien-l 82.96 46 *e*P P **02 29 04.6 -0.9**
comp=Z,286nm,1.6s,mb5.5
VIVF Saint-Julien-l 82.96 46 *e*P P **02 29 04.6 -0.9**
VIVF pmax pmax
comp=Z,143nm,1.6s,mb5.5
EMHD Djebel Mahouad 82.96 55 P P **02 29 22.0 +16**
WIT Witteveen 83.03 38 P P **02 29 07.9 +2.2**
WLF Walferdange 83.21 41 *e*P P **02 29 07.2 +0.5**
WLF pmax pmax
comp=Z,145nm,1.4s,mb5.6
WLF Walferdange 83.21 41 *e*P P **02 29 07.2 +0.5**
comp=Z,144nm,1.4s,mb5.6
WTSB Winterswijk 83.24 38 P P **02 29 07.9 +1.1**
THEF They Montfort 83.33 42 *e*P P **02 29 08.1 +0.8**
KONO Kongsberg 83.45 31⇑*i*P P **02 29 04.9 -2.8**
NSS Namsos 83.56 26 *e*P P **02 29 08.1 -0.1**
NSS AMS AMS 03 04 39.6
comp=Z,25µm,18.5s
HAU Haudompre 83.61 42 *e*P P **02 29 07.0 -1.7**
comp=Z,65nm,1.0s,mb5.1
HAU *e*R
comp=Z,41µm,21.8s
HAU Haudompre 83.61 42 *e*P P **02 29 07.0 -1.7**
HAU pmax pmax
comp=Z,32nm,1.0s,mb5.1
HAU MLR MLR
comp=Z,41µm,21.8s
CABF La Chapelle 83.66 44 *e*P P **02 29 07.6 -1.5**
comp=Z,233nm,1.5s,mb5.5
CABF La Chapelle 83.66 44 *e*P P **02 29 07.6 -1.5**
CABF pmax pmax
comp=Z,116nm,1.5s,mb5.5
SMRF Simiane la Rot 83.73 47 *e*P P **02 29 07.8 -1.7**
RUP Ruppelstein 83.78 41 *e*P P **02 29 10.9 +1.3**
ORIF Oris-en-Rattie 83.80 46 *e*P P **02 29 08.9 -0.9**
comp=Z,97nm,1.4s,mb5.2
ORIF *e*R
comp=Z,69µm,22.0s
MUD Monsted U'grnd 83.83 34⇑*i*P P **02 29 09.2 -0.4**
MUD pmax pmax
comp=Z,18nm,1.2s,mb4.8
MUD Monsted U'grnd 83.83 34⇑*i*P P **02 29 09.2 -0.4**
comp=Z,18nm,1.2s,mb4.8
MUD *i* 02 32 29.7
MUD *e*S S 02 39 57.2 +32
MUD *i* 02 40 55.1
MUD *i* 02 45 13.1
comp=Z,21µm,18.0s
NAO01 NORSAR Array S 83.84 29 *e*P P **02 29 10.7 +1.1**
comp=Z,35nm,1.0s,mb5.1
NAO01 LR LR
comp=Z,31µm,21.0s
NB2 NORSAR Subarra 83.96 29 P P **02 29 09.2 -1.0**
comp=Z,35nm,1.4s,mb5.0,baz=282,slow=5.0
NB2 NORSAR Subarra 83.96 29 P P **02 29 09.2 -1.0**
baz=282,slow=5.3
NOA NORSAR Array B 83.96 29 P P **02 29 09.9 -0.3**
comp=Z,3.5nm,0.8s,baz=28,slow=21,SNR=20
NOA S S 02 39 30.7 +4.5
comp=Z,0.7nm,0.9s,baz=138,slow=11,SNR=2.6
NOA PKKPbc 02 47 26.1
comp=Z,1.0nm,0.8s,baz=95,slow=3.5,SNR=3.9
NOA LR LR 03 03 21.7
comp=Z,32µm,21.4s,baz=290,slow=34
HINF Hinteralfeld 83.97 43 *e*P P **02 29 08.7 -1.9**
comp=Z,100nm,1.2s,mb5.2
HINF Hinteralfeld 83.97 43 *e*P P **02 29 08.7 -1.9**
HINF pmax pmax
comp=Z,50nm,1.2s,mb5.2
LOMF Lomont 84.03 43 *e*P P **02 29 11.4 +0.5**
ABH Alteburg 84.06 40 *e*P P **02 29 12.2 +1.2**
ECH Echery 84.10 42 *e*P P **02 29 08.4 -2.8**
CDF Champ du Feu 84.15 42 *e*P P **02 29 09.8 -1.6**
comp=Z,147nm,1.5s,mb5.3
CDF Champ du Feu 84.15 42 *e*P P **02 29 09.8 -1.6**
CDF pmax pmax
comp=Z,74nm,1.5s,mb5.3
MOF Molkenrain 84.15 43 *e*P P **02 29 12.1 +0.6**
WLS Welschbruch 84.20 42 *e*P P **02 29 12.3 +0.6**
TRIS Tristan da Cun 84.27 129 PFAKE 02 29 20.0 +7.6
TRIS LR LR
comp=Z,12µm,21.0s
LPL La Plagne 84.29 45 *e*P P **02 29 11.5 -0.7**
comp=Z,22nm,0.7s,mb4.8
LPL La Plagne 84.29 45 *e*P P **02 29 11.5 -0.7**
LPL pmax pmax
comp=Z,11nm,0.7s,mb4.8
LPG La Plagne 84.30 45 *e*P P **02 29 11.7 -0.6**
comp=Z,18nm,0.8s,mb4.7
LPG La Plagne 84.30 45 *e*P P **02 29 11.7 -0.6**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
LANF Langenberg 84.39 41 *e*P P **02 29 13.7 +1.1**
LIBD Limburg 84.41 42 *e*P P **02 29 13.7 +0.9**
MBDF Montbardon 84.45 46 *e*P P **02 29 12.5 -0.6**
comp=Z,76nm,1.3s,mb5.1
MBDF Montbardon 84.45 46 *e*P P **02 29 12.5 -0.6**
MBDF pmax pmax
comp=Z,38nm,1.3s,mb5.1
BBS Basel-Blauen 84.47 43 *e*P P **02 29 13.9 +0.8**
LMR La Mourre 84.51 47 *e*P P **02 29 11.8 -1.6**
comp=Z,119nm,1.5s,mb5.3
LMR La Mourre 84.51 47 *e*P P **02 29 11.8 -1.6**
LMR pmax pmax
comp=Z,59nm,1.5s,mb5.3
FRF La Foret Royal 84.57 47 *e*P P **02 29 12.3 -1.4**
TNS Taunus Mts 84.57 40 *e*P P **02 29 14.0 +0.5**
TNS pmax pmax
comp=Z,136nm,1.5s,mb5.7
TNS Taunus Mts 84.57 40 *e*P P **02 29 14.0 +0.5**
comp=Z,136nm,1.5s,mb5.7
DIX Grande Dixence 84.65 44 ⇓P P **02 29 16.0 +2.0**
FELD Feldberg 84.72 42 *e*P P **02 29 15.4 +1.1**
LKBD Leukerbad 84.75 44 ⇑P P **02 29 16.9 +2.4**
TRO Tromso 84.85 20 *e*P P **02 29 12.2 -2.3**
TRO AMb AMB 02 29 26.9
comp=Z,60nm,1.4s,mb5.3
TRO *e*PP PP 02 32 32.9 -0.2
TRO *e*SS SS 02 45 14.4 +2.9
TRO AMS AMS 03 05 46.0

comp=Z,19µm,17.8s
BFO Black Forest 84.85 42 *e*P P **02 29 14.8 -0.2**
BFO pmax pmax
comp=Z,63nm,1.4s,mb5.3
BFO Black Forest 84.85 42 *e*P P **02 29 14.8 -0.2**
comp=Z,63nm,1.4s,mb5.3
MVIF Mont Vial 84.87 46 *e*P P **02 29 16.6 +1.4**
TOD Tromm 84.92 41 *e*P P **02 29 15.6 +0.3**
TOUF Mont Tournerai 84.92 46 *e*P P **02 29 16.9 +1.5**
BSEG Bad Segeberg 84.97 36 *e*P P **02 29 16.1 +0.7**
CKHR Kef el Ahmar 85.04 54 P P **02 29 25.0 +8.8**
MMK Mattmark 85.04 44 ⇓P P **02 29 18.0 +2.0**
SLE Schleitheim 85.07 42 ⇓P P **02 29 16.9 +0.8**
SBF Sospel 85.08 46 *e*P P **02 29 14.7 -1.5**
comp=Z,211nm,1.3s,mb5.6
SBF Sospel 85.08 46 *e*P P **02 29 14.7 -1.5**
SBF pmax pmax
comp=Z,106nm,1.3s,mb5.6
SAOF Saorge 85.14 46 *e*P P **02 29 17.6 +1.1**
SPAK Spaichingen 85.20 42 *e*P P **02 29 17.6 +0.9**
DFRA Djebel Bou Aff 85.23 54 P P **02 29 24.0 +6.8**
MUO Muotathal 85.32 43 ⇓P P **02 29 19.3 +2.0**
STU Stuttgart 85.33 41 *e*P P **02 29 18.0 +0.7**
STU pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
STU Stuttgart 85.33 41 *e*P P **02 29 18.0 +0.6**
comp=Z,8.3nm,0.6s,mb4.8
WILA Wila 85.41 43 ⇓P P **02 29 18.9 +1.1**
CLZ Clausthal 85.44 38 *e*P P **02 29 18.6 +0.8**
CLZ pmax pmax
comp=Z,94nm,1.2s,mb5.6
CLZ Clausthal 85.44 38 *e*P P **02 29 18.6 +0.8**
comp=Z,94nm,1.2s,mb5.6
MIDW Midway 85.66 298 PFAKE 02 29 30.0 +11
MIDW LR LR
comp=Z,6µm,21.0s
CTEI Djebel Teioual 85.74 54 P P **02 29 21.0 +1.3**
CASM Ain Smara 85.77 54 P P **02 29 21.0 +1.2**
COP Copenhagen 85.78 34 *i* P P **02 29 18.7 -0.6**
COP *i* 02 32 40.0
COP *e*S S 02 39 51.1 +7.0
COP *i* 02 41 04.5
COP pmax pmax
comp=Z,13nm,1.0s,mb4.8
COP MLR MLR
comp=Z,13µm,20.0s
COP Copenhagen 85.78 34 *i* P P **02 29 18.7 -0.6**
comp=Z,13nm,1.0s,mb4.8
COP *i* 02 32 40.0
COP *e*S S 02 39 51.1 +7.0
COP *i* 02 41 04.5
COP *i* 02 45 44.4
comp=Z,13µm,20.0s
CKFL Kef-Lekhel 85.93 54 P P **02 29 22.0 +1.4**
CAEH 'Ain El Ouahch 85.96 53 P P **02 29 17.0 -3.7**
BILL Bilibino 86.07 339*c i*P P **02 29 21.9 +1.4**
BILL pmax pmax
comp=Z,285nm,1.5s,mb6.0
BILL MLR MLR
comp=Z,21µm,16.0s
BILL Bilibino 86.07 339 *e*P P **02 29 21.2 +0.7**
comp=Z,207nm,1.1s,mb6.0
BILL *e*pP pP 02 29 32.8 -9.2
BILL LR LR
comp=Z,16µm,21.0s
DAVA Damuels 86.08 43⇑*i*P P **02 29 20.5 -0.6**
comp=Z,1µm,6.4s
DAVOX Davos 86.19 43 P P **02 29 20.1 -1.5**
comp=Z,11nm,1.0s,mb4.8,baz=335,slow=10,SNR=8.0
DAVOX PP PP 02 32 38.2 -6.4
comp=Z,6.6nm,1.1s,baz=260,slow=8.4,SNR=2.7
DAVOX Davos 86.19 43 P P **02 29 20.1 -1.5**
DAVOX PP PP 02 32 38.2 -6.4
GRFO Grafenberg 86.43 40 *e*P P **02 29 23.7 +1.0**
comp=Z,6µm,1.7s
GRA1 Grafenberg Arr 86.43 40 *e*P P **02 29 23.7 +1.0**
comp=Z,220nm,1.7s,mb5.8
GRA1 *e* 02 29 32.8
GRA1 *e* 02 30 09.6
GRA1 *e*PP PP 02 32 40.0 -6.7
GRA1 *e*S S 02 39 54.5 +4.0
GRA1 *e*SS SS 02 46 07.4 +32
GRA1 *e*PKKP PKKP 02 47 21.6 +21
GRA1 *e*P'P' 02 55 25.3
GRA1 LR LR
comp=Z,82µm,20.2s
GRF Grafenberg Arr 86.43 40 *e*P P **02 29 23.7 +1.0**
GRF *e* 02 29 32.8
GRF *e* 02 32 40.0
GRF *e*S S 02 39 54.5 +4.0
GRF pmax pmax
comp=Z,220nm,1.7s,mb5.8
GRF MLR MLR
comp=Z,82µm,20.2s
GRF Grafenberg Arr 86.43 40 *e*P P **02 29 23.7 +1.0**
GRF *e* 02 29 32.8
GRF *e* 02 32 40.0
GRF *e*S S 02 39 54.5 +4.0
GRF pmax pmax
comp=Z,220nm,1.7s,mb5.8
GRF MLR MLR
comp=Z,82µm,20.2s
GRF Grafenberg Arr 86.43 40 *e*P P **02 29 23.7 +1.0**
comp=Z,220nm,1.7s,mb5.8
GRF *e* 02 29 32.8
GRF *e* 02 30 09.6
GRF *e*PP PP 02 32 40.0 -6.7
GRF *e*S S 02 39 54.5 +4.0
GRF *e*SS SS 02 46 07.4 +32
GRF PKKP PKKP 02 47 21.6 +21
GRF P'P' 02 55 25.3
GRF LR LR
comp=Z,82µm,20.2s
CMAH Djebel Manchou 86.44 54 P P **02 29 24.0 +0.9**
PGF Pioggiola 86.46 47 *e*P P **02 29 21.4 -1.6**
comp=Z,25nm,0.6s,mb5.0
PGF Pioggiola 86.46 47 *e*P P **02 29 21.4 -1.6**
PGF pmax pmax
comp=Z,13nm,0.6s,mb5.0
MOX Moxa 86.47 39 *e*P P **02 29 22.9 +0.1**
MOX *e* 02 32 47.0
MOX *e*S S 02 39 56.0 +5.2
MOX pmax pmax
comp=Z,56nm,1.9s,mb5.2
MOX MLR MLR
comp=Z,23µm,22.0s
MOX Moxa 86.47 39 *e*P P **02 29 22.9 +0.1**
comp=Z,56nm,1.9s,mb5.2
MOX *e*pP pP 02 29 53.2 +8.9
MOX *e*PP PP 02 32 47.0 +0.1
MOX *e*S S 02 39 56.0 +5.2
MOX *e*PKKP PKKP 02 47 40.0 +40
MOX *e*P'P' 02 55 40.0
MOX LR LR
comp=Z,23µm,22.0s
MOX Moxa 86.47 39 *i* P P **02 29 22.9 +0.1**
comp=Z,logA/T=1.5,mb5.2
MOX pP pP 02 29 53.0 +8.7
MOX PP PP 02 32 47.0 +0.1
MOX S S 02 39 56.0 +5.2
MOX SS SS 02 46 00.0 +24
MOX PKKP PKKP 02 47 40.0 +40
MOX PKPPKP 02 55 40.0
MOX LR LR 02 57 00.0
MOX L 03 03 04.0
RGN Rugen 86.55 35 P P **02 29 23.4 +0.3**
comp=Z,235nm,1.4s,mb5.9
ABSA Djebel Ababsia 86.55 54 P P **02 29 26.0 +2.4**
FUR Furstenfeldbru 86.81 42 *e*P P **02 29 25.3 +0.7**
FUR pmax pmax
comp=Z,131nm,1.7s,mb5.6
FUR Furstenfeldbru 86.81 42 *e*P P **02 29 25.3 +0.7**
comp=Z,131nm,1.7s,mb5.6
SMY Shemya 86.89 323 *e*P P **02 29 26.7 +1.8**
SQTA Sankt Quirin 86.98 43⇓*i*P P **02 29 26.9 +1.4**
comp=Z,141nm,2.0s,mb5.5
SQTA Sankt Quirin 86.98 43⇓*i*P P **02 29 26.9 +1.4**
SQTA pmax pmax
comp=Z,141nm,2.0s,mb5.5
ARCES ARCESS Array B 87.03 19 P P **02 29 24.6 -0.6**
comp=Z,6.3nm,0.6s,mb4.7,baz=287,slow=4.5,SNR=39
ARCES PP PP 02 32 46.3 -5.2
comp=Z,8.7nm,1.0s,baz=281,slow=6.2,SNR=4.1
ARCES S S 02 39 50.6 -5.2

comp=Z,1.1nm,0.9s,baz=340,slow=36,SNR=2.8
ARCES PKKPbc 02 47 19.6
comp=Z,1.0nm,0.6s,baz=162,slow=2.9,SNR=4.7
ARCES LR LR 03 11 21.4
comp=Z,23µm,18.4s,baz=291,slow=38
ARE0 ARCESS Array S 87.03 19 *e*P **P 02 29 24.1 -1.1**
NKC Novy Kostel 87.08 39 *e*P **P 02 29 24.2 -1.6**
NKC P 02 29 27.7
NKC *e* 02 40 07.9
NKC Novy Kostel 87.08 39 *e*P **P 02 29 24.2 -1.6**
NKC *e*S S 02 40 07.9 +11
NKC AMS AMS 03 04 10.0
comp=Z,50µm,20.4s
BERN Bernov 87.12 39⇑P **P 02 29 23.6 -2.4**
CLL Collm 87.16 38⇓*i*P **P 02 29 27.1 +0.9**
CLL *e**PP pP 02 29 41.0 -6.8
CLL *e*S S 02 40 07.0 +10
CLL pmax pmax
comp=Z,26nm,1.2s,mb5.0
CLL MLR MLR
comp=Z,36µm,18.4s
CLL Collm 87.16 38⇓*i*P **P 02 29 27.1 +0.9**
comp=Z,26nm,1.2s,mb5.0
CLL *e*pP pP 02 29 41.0 -6.8
CLL *e*S S 02 40 07.0 +10
CLL LR LR
comp=Z,36µm,18.4s
CLL Collm 87.16 38⇓P **P 02 29 27.1 +0.9**
comp=Z,logA/T=1.3,mb5.0
CLL *e**PP pP 02 29 36.0 -12
CLL *e* pP 02 29 49.0 +1.2
CLL *i* 02 29 55.0
CLL *i* 02 30 12.2
CLL *e*PP PP 02 32 58.0 +5.0
CLL *e**SPP 02 33 07.0
CLL *e*S S 02 40 07.0 +10
CLL *e*PS PS 02 41 10.0 -0.5
CLL *e* 02 42 30.0
CLL *e*SS SS 02 45 46.0 +0.5
CLL *e*PKKP PKKP 02 47 21.0 +22
CLL *e* 02 47 40.0
CLL *e* 02 49 51.0
CLL *e* 02 55 30.0
WTTA Wattenberg 87.26 42⇑*i*P **P 02 29 26.7 -0.1**
comp=Z,2µm,10.3s
BSD Bornholm Skovb 87.29 34 *e*P **P 02 29 27.8 +1.1**
BSD pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
BSD Bornholm Skovb 87.29 34 *e*P **P 02 29 27.8 +1.1**
comp=Z,7.5nm,1.1s,mb4.5
BSD *i* 02 29 58.1
BSD Bornholm Skovb 87.29 34 *i* P **P 02 29 27.8 +1.1**
comp=Z,7.5nm,1.1s,mb4.5
BSD *i* 02 29 58.1
VSL Villasalto 87.37 50 P **P 02 29 28.8 +1.3**
comp=Z,21nm,0.9s,mb5.1
FX1 Attu Island--F 87.40 323 LR LR 03 14 39.4
comp=Z,202nm,18.2s,baz=265,slow=40
FX1 Attu Island--F 87.40 323 *e*P **P 02 29 28.6 +1.3**
KEV Kevo 87.42 19 *e*p **P 02 29 28.6 +1.6**
WET Wettzell 87.61 40 *e*P **P 02 29 29.6 +1.1**
WET pmax pmax
comp=Z,182nm,1.5s,mb5.9
WET Wettzell 87.61 40 *e*P **P 02 29 29.6 +1.1**
comp=Z,182nm,1.5s,mb5.9
BRG Berggiesshubel 87.84 39*de*P **P 02 29 31.1 +1.6**
BRG 02 32 56.4
BRG S S 02 40 06.0 +2.2
BRG PS PS 02 41 20.0 +1.4
BRG SS SS 02 45 51.0 -4.8
BRG pmax pmax
comp=Z,36nm,1.8s,mb5.1
BRG pmax pmax
comp=Z,56nm,1.8s,mb5.3
BRG MLR MLR
comp=E,16µm,19.9s
BRG Berggiesshubel 87.84 39 *e*P **P 02 29 31.1 +1.6**
comp=E,36nm,1.8s,mb5.1
BRG *i* 02 30 16.3
BRG PP PP 02 32 56.4 -2.1
BRG S S 02 40 06.0 +2.2
BRG PS PS 02 41 20.0 +1.4
BRG SS SS 02 45 51.0 -4.8
BRG PKKP PKKP 02 47 23.3 +26
BRG P'P' 02 55 37.4
BRG LR LR
comp=Z,23µm,21.5s
KHC Kasperske Hory 88.06 40 *e*P **P 02 29 29.5 -1.1**
KHC *e*S S 02 40 11.2 +5.3
KHC AMS AMS 03 06 10.0
comp=Z,60µm,19.4s
GEC2 GERESS Array S 88.21 41 *e*P **P 02 29 32.2 +0.9**
GEC2 pmax pmax
comp=Z,152nm,1.7s,mb5.8
GEC2 GERESS Array S 88.21 41 *e*P **P 02 29 32.2 +0.9**
comp=Z,152nm,1.7s,mb5.8
GERES GERESS Array B 88.21 41 P **P 02 29 31.4 +0.1**
comp=Z,1.9nm,0.6s,baz=270,slow=4.0,SNR=17
GERES ScS ScS 02 40 12.8 +0.7
comp=Z,0.2nm,0.4s,baz=268,slow=36,SNR=2.2
GERES SS SS 02 45 58.6 -2.5
comp=Z,0.6nm,0.9s,baz=188,slow=9.4,SNR=2.5
GERES PKKP PKKP 02 47 12.4 +15
comp=Z,0.5nm,0.8s,baz=104,slow=4.0,SNR=2.6
GERES PKKPbc 02 47 19.0
comp=Z,0.8nm,0.7s,baz=153,slow=3.0,SNR=5.8
GERES PKPPKP 02 55 25.0
comp=Z,1.1nm,0.9s,baz=153,slow=3.0,SNR=7.4
GERES LR LR 03 06 58.9
comp=Z,36µm,19.4s,baz=266,slow=34
AFI Afiamalu 88.25 256 P **P 02 29 35.6 +3.3**
AFI pmax pmax
comp=Z,142nm,1.1s,mb5.9
AFI Afiamalu 88.25 256 P **P 02 29 35.6 +3.3**
comp=Z,142nm,1.1s,mb5.9
PVCC Panska Ves 88.32 39 *e*P **P 02 29 31.0 -0.8**
PVCC *e*S S 02 40 19.5 +11
PVCC AMS AMS 03 05 00.0
comp=Z,29µm,20.3s
PRA Prague 88.36 39 P **P 02 29 31.0 -1.0**
PRA AMS AMS 03 07 00.0
KBA Koelnbreinsper 88.43 42⇑*i*P **P 02 29 31.0 -1.4**
comp=Z,684nm,5.3s
KBA Koelnbreinsper 88.43 42⇑*i*P **P 02 29 31.0 -1.4**
KBA pmax pmax
comp=Z,684nm,5.3s
PRU Pruhonice 88.44 39 *e*P **P 02 29 31.2 -1.2**
PRU *e*S S 02 40 15.2 +5.7
PRU AMS AMS 03 05 10.0
comp=Z,65µm,20.5s
MOA Molln 88.84 41⇑*i*P **P 02 29 33.4 -0.9**
comp=Z,2µm,9.5s
VOJS Vojsko 89.06 43 *i* P **P 02 29 34.4 -1.0**
VOY Vojsko 89.07 43 *e*P **P 02 29 39.5 +4.1**
VOY *e* pP 02 29 56.9 -0.1
VOY Vojsko 89.07 43 *e* **P 02 29 39.5 +4.1**
VOY *e* pP 02 29 56.9 -0.1
UPC Upice 89.21 39 *e*P **P 02 29 34.8 -1.2**
KSP Ksiaz 89.28 38⇑*e*P **P 02 29 35.6 -0.7**
KSP *e**PP pP 02 29 46.1 -12
KSP *e* 02 33 02.0
KSP *e*S S 02 40 21.0 +3.8
KSP *e*SP SP 02 41 29.5 +4.3
KSP *e*SS SS 02 46 14.0 -2.4
KSP MLR MLR
comp=Z,56µm,19.5s
KSP Ksiaz 89.28 38 *e*P **P 02 29 35.8 -0.5**
comp=Z,3µm,11.1s
KSP *e*PP PP 02 33 12.4 +2.4
KSP *e*S S 02 40 21.8 +4.4
KSP *e*SS 02 40 43.8
KSP MLR MLR 03 02 13.2
comp=Z,48µm,25.2s
OBKA Obir 89.38 43⇑*i*P **P 02 29 35.6 -1.3**
comp=Z,517nm,4.8s
DPC Dobruska-Polom 89.44 39 *e*P **P 02 29 36.3 -0.8**
DPC MLR MLR
comp=Z,35µm,20.5s
DPC Dobruska-Polom 89.44 39 *e*P **P 02 29 36.3 -0.8**
DPC P 02 29 39.8
DPC *e* 02 40 11.1
DPC LR LR
comp=Z,35µm,20.5s
DPC Dobruska-Polom 89.44 39 *e*P **P 02 29 36.3 -0.8**
DPC *ex* x 02 40 11.1
DPC AMS AMS 03 05 40.0
comp=Z,35µm,20.5s
LJU Ljubljana 89.49 43 *e*P **P 02 29 36.9 -0.5**
LJU *e*PP PP 02 33 09.5 -2.3
LJU *e*S S 02 40 44.1 +25
LJU *e*SKSac 02 41 47.4
LJU *e*SS SS 02 46 57.9 +38
LJU Ljubljana 89.49 43 *e*P **P 02 29 36.9 -0.5**
LJU *e* 02 30 08.0
LJU *e*PP PP 02 33 09.5 -2.3
LJU *e*S S 02 40 44.1 +25
LJU *e*SKSac 02 41 47.4
LJU *e*SS SS 02 46 57.9 +38
PERS Pernice 89.72 42 *e*P **P 02 29 37.5 -1.0**
VISS Visnje 89.76 43 *e*P **P 02 29 36.5 -2.2**
ARSA Arzberg 89.82 42⇑*i*P **P 02 29 38.1 -0.8**
comp=Z,1µm,10.3s
VKA Vienna 90.05 41 *e*(P) **P 02 29 41.0 +1.1**
VKA Vienna 90.05 41 P **P 02 29 41.0 +1.1**
VKA LR LR
comp=Z,15µm,18.0s
NVLJ Novalja 90.12 45 *i* P **P 02 29 40.2 -0.2**
BOJS Bojanci 90.12 44 *e*P **P 02 29 40.2 -0.2**
BOJS *e*PP PP 02 33 12.1 -4.8
MORC Moravsky Berou 90.36 39 *e*P **P 02 29 41.4 0.0**
MORC pmax pmax
comp=Z,99nm,1.8s,mb5.6
MORC Moravsky Berou 90.36 39 *e*P **P 02 29 41.4 0.0**
comp=Z,99nm,1.8s,mb5.6
KAF Kangasniemi 90.45 26 *e*p **P 02 29 40.9 -0.6**
APA Apatity 90.52 19⇑*e*P **P 02 29 36.5 -5.2**
APA *i* 02 33 18.0
APA *i* PS PS 02 41 52.0 +2.9
APA *i* SSS SSS 02 50 13.0 +2.2
APA pmax pmax
comp=Z,2µm,13.0s
ZST Bratislava 90.57 41 *e*P **P 02 29 42.5 +0.1**
ZST *e*S S 02 40 29.3 +0.4
ZST Bratislava 90.57 41 *e*P **P 02 29 42.5 +0.1**
ZST *e* pP 02 30 08.1 +4.0
ZST *e* 02 33 28.2
ZST *e*S S 02 40 29.3 +0.4
ZST *e* 02 41 53.0
ZST *e* 02 46 57.2
ZST *e*L 03 10 46.6
FINES FINESS Array B 90.64 26 P **P 02 29 42.5 0.0**
comp=Z,10nm,1.0s,mb4.9,baz=296,slow=2.7,SNR=16
FINES PP PP 02 33 14.9 -5.7
comp=Z,3.3nm,0.8s,baz=315,slow=8.1,SNR=3.4
FINES PKKP PKKP 02 47 08.7 +16
comp=Z,0.9nm,0.8s,baz=135,slow=2.0,SNR=3.6
FINES PKKPbc 02 47 12.6
comp=Z,0.8nm,0.6s,baz=90,slow=1.9,SNR=4.7
FINES LR LR 03 06 17.2
comp=Z,38µm,21.9s,baz=272,slow=33
RAC Raciborz 90.67 39 *e*P **P 02 29 43.0 +0.2**
RAC *e*S S 02 40 25.9 -3.8
RAC LMN 03 06 07.7
comp=Z,20µm,21.0s
RAC MLR MLR 03 06 43.1
comp=Z,52µm,20.7s
RAC LME 03 06 48.5
comp=Z,47µm,20.6s
OKC Ostrava-Krasne 90.72 39 *e*P **P 02 29 41.5 -1.6**
OKC *e* 02 40 29.9
OKC Ostrava-Krasne 90.72 39 *e*P **P 02 29 41.5 -1.6**
OKC *e*S S 02 40 29.9 -0.3
OKC AMS AMS 03 06 40.0
comp=Z,49µm,20.3s
LVZ Lovozero 90.75 19*c i*P **P 02 29 41.3 -1.5**
LVZ *e* 02 33 16.4
LVZ *e*S S 02 40 17.1 -13
LVZ pmax pmax
comp=Z,23nm,1.5s,mb5.1
LVZ pmax pmax
comp=N,11nm,1.3s
SRO1 Iza 91.42 41 *e* pP 02 30 09.9 +1.8
SRO Srobarova 91.46 41 *e*P sP 02 30 16.6 +0.2
SRO *e*PP PP 02 33 22.2 -5.3
SRO Srobarova 91.46 41 *e* sP 02 30 16.6 +0.2
SRO *e*PP PP 02 33 22.2 -5.3
VYHS Vyhne 91.57 40 *e*P **P 02 29 46.6 -0.5**
VYHS *e*S S 02 40 39.1 +1.4
VYHS *e* 02 41 52.5
VYHS *e*SS SS 02 46 56.3 +7.1
VYHS Vyhne 91.57 40 *e*P **P 02 29 46.6 -0.5**
VYHS *e* 02 30 15.9
VYHS *e*S S 02 40 39.1 +1.4
VYHS *e* 02 41 52.5
VYHS *e*SS SS 02 46 56.3 +7.1
VYHS Vyhne 91.57 40 *e*S S 02 40 39.1 +1.4
VYHS *e* 02 41 52.5
VYHS *e* 02 46 56.3
OJC Ojcow 91.60 38 *e*P **P 02 29 46.0 -1.2**
OJC *e*PP PP 02 33 28.8 +0.2
OJC *e*S S 02 40 37.3 -0.7
OJC *e*PS PS 02 41 49.1 -13
OJC *e*SS SS 02 46 42.7 -6.9
OJC MLR MLR 03 07 16.3
comp=N,36µm,20.6s
VAE Valguarnera 91.69 51 LR LR 03 02 24.9
comp=N,6µm,21.7s,baz=260,slow=30
NIE Niedzica 92.19 39 *e*P **P 02 29 51.6 +1.7**
SUW Suwalki 92.20 34 *e*P **P 02 29 48.1 -1.7**
comp=N,2µm,13.2s
SUW *e*PP PP 02 33 32.3 -0.9
SUW *e*S S 02 40 51.5 +8.4
SUW MLR MLR 03 07 01.0
comp=N,28µm,22.6s
SUW LME 03 07 05.2
comp=N,26µm,22.6s
SUW LMN 03 07 20.1
comp=N,10µm,22.5s
VSU Vasula 92.21 29⇑*i*P **P 02 29 48.8 -0.9**
PSZ Piszkesteto 92.43 40 *e*P **P 02 29 51.2 +0.2**
PSZ pmax pmax
comp=Z,71nm,1.3s,mb5.7
PSZ Piszkesteto 92.43 40 *e*P **P 02 29 51.2 +0.2**
comp=Z,71nm,1.3s,mb5.7
PSZ Piszkesteto 92.43 40⇑*e*PcP PcP 02 29 53.7 +1.8
PSZ *e*PP PP 02 33 36.5 +1.3
KECS Kecovo 92.61 40 *e*P **P 02 29 58.9 +7.0**
KECS *e* 02 33 36.1
KECS Kecovo 92.61 40 *e* **P 02 29 58.9 +7.0**
KECS *e*PP PP 02 33 36.1 -0.6
CRVS Cervenica-Dubn 93.07 39 *e* sP 02 30 29.3 +5.5
CRVS Cervenica-Dubn 93.07 39 *e*S S 02 40 53.6 +2.8
CRVS *e* 02 42 20.6
CRVS *e* 02 47 05.6
PUL Pulkovo 93.26 27 *e*P **P 02 29 53.7 -0.8**
PUL *e* 02 33 41.0
PUL *e*S S 02 40 27.2 -25
SEY Seymchan 93.52 337 *e*P **P 02 29 57.4 +1.8**
SEY 02 33 39.9
SEY *e* 02 40 30.4
SEY *e* 02 40 59.6
SEY *e* 02 42 14.2
SEY SS SS 02 47 20.2 +3.1
SEY SSS SSS 02 51 05.7 +7.8
SEY pmax pmax
comp=Z,30nm,1.1s,mb5.5
SEY pmax pmax
comp=E,7.0nm,0.9s
SEY MLR MLR
comp=Z,86µm,26.0s
SEY MLR MLR
comp=N,34µm,24.0s
SEY MLR MLR
comp=E,42µm,27.0s
KOLS Kolonicke sedl 93.56 39 *e*P **P 02 29 58.6 +2.4**
KOLS *e* 02 30 27.7
KWP Kalwaria 93.57 38 *e*P **P 02 29 56.0 -0.2**
KWP *e*S S 02 41 03.1 +8.0
KWP Kalwaria 93.57 38 *e*P **P 02 29 56.0 -0.2**
comp=E,2µm,12.3s
KWP *e*S S 02 41 03.1 +8.0
KWP MLR MLR 03 05 10.4
comp=E,26µm,24.2s
DIVS Divcibare 93.77 44⇓*i*P **P 02 29 58.6 +1.4**
TIXI Tiksi 94.07 349 *e*P **P 02 29 55.3 -2.7**
TIXI *e* 02 40 26.2
TIXI *e*PS PS 02 42 22.2 -7.3
TIXI *e*SS SS 02 47 21.4 -3.3
TIXI pmax pmax
comp=Z,23nm,0.7s,mb5.6
TIXI MLR MLR
comp=N,10µm,19.0s
TIXI MLR MLR
comp=Z,13µm,19.0s
TIXI MLR MLR
comp=E,5µm,20.0s
TIXI Tiksi 94.07 349⇑*i*P **P 02 29 58.1 +0.1**
TIXI LR LR
comp=Z,19µm,22.0s
LVV L'vov 94.30 38 *e*P **P 02 29 59.0 -0.4**
GRUS Gruza 94.33 44⇓*i*P **P 02 29 55.3 -4.4**
MNK Minsk 94.49 32 *e*P **P 02 29 55.0 -5.2**
DRGR 94.62 41⇓P **P 02 30 03.1 +2.1**
SKO Skopje 95.48 45 *e*P **P 02 30 08.0 +2.9**
SKO *i* 02 30 40.0
SKO *i* PP PP 02 34 15.0 +16
PET Petropavlovsk 95.54 327*c i*P **P 02 30 06.6 +1.5**
PET *e* 02 33 59.1
PET *e*S S 02 41 15.3 +3.5
PET *e*SS SS 02 47 58.9 +13
PET pmax pmax
comp=Z,2µm,11.3s
PET pmax pmax
comp=N,300nm,15.1s
PET pmax pmax
comp=E,700nm,15.5s
PET pmax pmax
comp=Z,2µm,17.0s
PET pmax pmax
comp=N,500nm,11.2s
PET pmax pmax
comp=Z,2µm,14.0s
PET pmax pmax
comp=E,1µm,15.8s
PET pmax pmax
comp=Z,2µm,10.9s
PET smax
comp=E,2µm,10.4s
PET smax
comp=E,2µm,12.7s
PET smax
comp=N,2µm,19.2s
PET Petropavlovsk 95.54 327 P **P 02 30 06.1 +1.0**
PET LR LR
comp=Z,10µm,20.0s
BURAR Bucovina Array 95.88 39⇑P sP 02 30 36.9 +0.3
BURAR Bucovina Array 95.88 39⇑P sP 02 30 36.9 +0.3
MA2 Magadan 96.03 335*de*P **P 02 30 09.0 +1.9**
MA2 *e* 02 40 43.3
MA2 *e*S S 02 41 20.1 +4.3
MA2 *e*PS PS 02 42 55.9 +4.9
MA2 *e*SS SS 02 48 01.5 +9.2
MA2 pmax pmax
comp=Z,20nm,1.3s,mb5.4
MA2 Magadan 96.03 335⇑*i*P **P 02 30 08.3 +1.2**
MA2 LR LR
comp=Z,10µm,22.0s
VNA3 Neumayer Olymp 96.28 162 *e* **P 02 30 15.0 +7.0**
VNA3 Neumayer Olymp 96.28 162 *e* **P 02 30 21.9 +14**
VNA3 Neumayer Olymp 96.28 162 *e* **P 02 30 28.0 +20**
VNA3 Neumayer Olymp 96.28 162⇑*i*P **P 02 30 09.9 +1.9**
VNA3 *e* 02 30 15.0
VNA3 *e* 02 30 21.9
VNA3 *e* pP 02 30 28.0 -1.8
VNA3 *e* 02 33 49.4
VNA3 *e* 02 34 05.2
VNA3 *e* 02 34 21.9
VAY Valandovo 96.51 46 *e*P **P 02 30 11.7 +2.0**
VNA1 Neumayer--Stat 96.57 161 *e* **P 02 30 16.5 +7.2**
VNA1 Neumayer--Stat 96.57 161 *e* **P 02 30 23.6 +14**
VNA1 Neumayer--Stat 96.57 161 *e* **P 02 30 28.7 +19**
VNA1 Neumayer--Stat 96.57 161 *e*S S 02 41 21.3 +1.2
VNA1 Neumayer--Stat 96.57 161⇑*i*P **P 02 30 11.4 +2.1**
VNA1 *e* 02 30 16.5
VNA1 *e* 02 30 23.6
VNA1 *e* pP 02 30 28.7 -2.4
VNA1 *e* 02 33 52.0
VNA1 *e* 02 34 08.1
VNA1 *e* 02 34 24.7
VNA1 *e* 02 34 33.4
VNA1 *e*S S 02 41 21.3 +1.2
VNA1 *e* 02 46 55.5
VNA1 *e* 02 46 58.2
VNA1 *e* 02 47 07.0
VNA1 *e* 02 47 13.0
VNA1 *e* 02 55 08.2
RAO Raoul Island 96.70 242 S S 02 40 54.9 -27
comp=Z,80nm,0.4s,baz=72,slow=23,SNR=2.4
RAO SP SP 02 42 59.0 +10
comp=Z,158nm,0.4s,baz=39,slow=22,SNR=2.7
RAO Raoul Island 96.70 242 PFAKE 02 30 20.0 +9.1
RAO LR LR
comp=Z,7µm,22.0s
VNA2 Neumayer--Watz 96.91 161 *e* **P 02 30 17.6 +6.7**
VNA2 Neumayer--Watz 96.91 161 *e* **P 02 30 23.9 +13**
VNA2 Neumayer--Watz 96.91 161 *e* **P 02 30 29.5 +19**
VNA2 Neumayer--Watz 96.91 161⇑*i*P **P 02 30 12.5 +1.6**
VNA2 *e* 02 30 17.6
VNA2 *e* 02 30 23.9
VNA2 *e* pP 02 30 29.5 -3.2
VNA2 *e* 02 33 53.9
VNA2 *e* 02 34 08.8
VNA2 *e* 02 34 27.3
VNA2 *e* 02 34 36.2
AKASG Malin Array Be 96.95 35 P **P 02 30 10.6 -0.9**
comp=Z,0.1nm,0.3s,baz=280,slow=4.0,SNR=6.4
AKASG PP PP 02 34 05.8 -4.5
comp=Z,8.5nm,1.0s,baz=298,slow=7.0,SNR=8.9
AKASG S S 02 40 46.1 -38
comp=Z,0.4nm,0.4s,baz=57,slow=26,SNR=4.0
AKASG SP SP 02 42 49.5 -1.4
comp=Z,0.3nm,0.5s,baz=104,slow=12,SNR=3.2
AKASG PKKPbc 02 46 54.7
comp=Z,1.4nm,0.7s,baz=80,slow=2.6,SNR=6.7
MLR Muntele Rosu 97.20 41 P **P 02 30 10.4 -2.4**
comp=Z,1.9nm,0.8s,mb4.6,baz=262,slow=4.0,SNR=2.6
MLR Muntele Rosu 97.20 41 P **P 02 30 10.4 -2.4**
MLR ⇑P 02 30 17.7
MLR Muntele Rosu 97.20 41⇑P **P 02 30 17.7 +4.9**
SKR Severo-Kuril's 98.02 325 *e*P **P 02 30 10.0 -6.4**
SKR *e* 02 40 56.0
SKR *e* 02 43 18.0
SKR pmax pmax
comp=N,780nm,1.5s
SKR pmax pmax
comp=E,780nm,1.5s
SKR pmax pmax
comp=Z,780nm,1.5s
SKR pmax pmax
comp=Z,3µm,12.0s
SKR MLR MLR
comp=N,7µm,22.0s
SKR MLR MLR
comp=E,7µm,22.0s
SKR MLR MLR
comp=Z,7µm,22.0s
KIS Kishinev 98.37 39 *e*P **P 02 30 15.0 -3.0**
KIS *e* 02 34 13.0
KIS *e* 02 40 52.0
KIS *i* PS PS 02 43 15.0 -0.6
KIS MLR MLR
comp=N,33µm,20.0s
KIS MLR MLR
comp=Z,36µm,20.0s
KIS MLR MLR
comp=Z,32µm,20.0s
SNAA Sanae 98.50 161 *e* **P 02 30 24.6 +6.5**
SNAA Sanae 98.50 161 *e* **P 02 30 31.8 +14**
SNAA Sanae 98.50 161 *e* **P 02 30 36.8 +19**
SNAA Sanae 98.50 161 *e* Px 02 34 15.5
SNAA Sanae 98.50 161 *e* Px 02 34 23.7
SNAA Sanae 98.50 161⇑*i*P **P 02 30 19.8 +1.7**
SNAA *e* 02 30 31.8
SNAA *e* pP 02 30 36.8 -3.1
SNAA *e* 02 34 23.7
SNAA Sanae 98.50 161⇑*i*P **P 02 30 19.8 +1.7**
SNAA *e* 02 30 24.6
SNAA *e* 02 30 31.8
SNAA *e* pP 02 30 36.8 -3.1
SNAA *e* 02 34 15.5

SNAA *e* 02 34 23.7
OBN Obninsk 98.56 29c *i*P **P** **02 30 18.0 -0.7**
OBN *e* 02 34 21.3
OBN *i* PS PS 02 43 18.6 +1.0
OBN pmax pmax
comp=Z,14nm,1.4s,mb5.3
OBN MLR MLR
comp=Z,26µm,19.0s
OBN Obninsk 98.56 29⇑ *i*P **P** **02 30 18.0 -0.7**
OBN LR LR
comp=Z,26µm,19.0s
MOS Moscow 98.71 28 *e*P **P** **02 30 16.6 -2.8**
MOS *e* 02 34 17.8
MOS *e*PPP PPP 02 36 27.6 -5.1
MOS *e* 02 40 46.8
MOS *e*PS PS 02 43 10.5 -8.6
MOS MLR MLR
comp=Z,21µm,20.8s
MOS MLR MLR
comp=N,17µm,20.4s
MOS MLR MLR
comp=E,13µm,20.4s
QSPA South Pole Qui 101.16 180 *e*Pdif P 02 30 31.9 +2.0
comp=E,28nm,1.0s
QSPA *e*P 02 30 49.6
QSPA LR LR
comp=Z,14µm,20.0s
YAK Yakutsk 101.77 344 PFAKE 02 30 50.0 +17
YAK LR LR
comp=Z,14µm,20.0s
VOR Voronezh 101.78 31 P P 02 30 39.0 +5.7
VOR pmax pmax
comp=Z,30nm,2.5s
WAKE Wake Island 101.96 293 PFAKE 02 30 50.0 +15
WAKE LR LR
comp=Z,8µm,19.0s
SIM Simferopol' 102.59 39 *e*P Pdif 02 30 37.3 +0.2
SIM *e* 02 34 46.0
SIM *i* PS PS 02 44 02.0 +2.2
SIM pmax pmax
comp=Z,430nm,15.8s
SIM MLR MLR
comp=Z,32µm,17.4s
KWAJ Kwajalein Atol 103.77 282 PFAKE 02 31 00.0 +17
KWAJ LR LR
comp=Z,2µm,19.0s
SNZO South Karori 103.96 230 PFAKE 02 31 00.0 +17
SNZO LR LR
comp=Z,11µm,19.0s
SBA Scott Base 104.40 192 PFAKE 02 31 00.0 +16
SBA LR LR
comp=Z,6µm,19.0s
BR131 Keskin Array S 104.83 44 PFAKE 02 31 00.0 +13
BR131 LR LR
comp=Z,9µm,20.0s
BRTR Keskin Array B 104.83 44 PKiKP 02 35 05.2
comp=Z,0.9nm,0.7s,baz=243,slow=3.2,SNR=2.9
BRTR PKKPbc 02 46 32.9
comp=Z,1.3nm,0.7s,baz=132,slow=2.7,SNR=6.8
VNDA Vanda 105.50 192 PKiKP 02 35 05.8
comp=Z,1.4nm,1.0s,baz=104,slow=4.8,SNR=3.5
VNDA SP SP 02 44 28.2 +9.3
comp=Z,0.6nm,0.7s,baz=126,slow=6.3,SNR=2.3
VNDA Vanda 105.50 192 PKPdf 02 35 05.8
VNDA SP SP 02 44 28.2 +9.3
VNDA LR LR
comp=Z,9µm,19.0s
ARU Arti 106.62 19 *e*P Pdif 02 30 59.0 +4.5
ARU *e*S SKS 02 41 37.8 +12
ARU *i* SP SP 02 44 34.5 +4.0
ARU *i* PS PS 02 44 43.0 +3.0
TSUM Tsumeb 106.67 107 PFAKE 02 35 20.0
TSUM LR LR
comp=Z,19µm,22.0s
RPZ Rata Peaks 106.71 228 SP SP 02 44 44.8 +13
comp=Z,9.0nm,1.0s,baz=16,slow=21,SNR=2.4
SOC Sochi 106.72 38 *e*P Pdif 02 30 52.7 -2.6
SOC *e*PPP PPP 02 37 35.6 -5.8
SOC *e* 02 41 34.8
SOC *e*PS PS 02 44 33.9 -7.4
SOC MLR MLR
comp=N,20µm,20.0s
SOC MLR MLR
comp=E,9µm,20.0s
SOC MLR MLR
comp=Z,21µm,20.0s
YSS Yuzh-Sakhalins 107.42 327 *e*P Pdif 02 31 01.0 +2.7
YSS *e* 02 35 23.0
YSS *e* 02 41 41.0
YSS *e*PS PS 02 44 46.0 -2.1
YSS *e*SS SS 02 50 51.0 +21
YSS pmax pmax
comp=N,500nm,14.0s
YSS pmax pmax
comp=E,500nm,14.0s
YSS pmax pmax
comp=Z,1µm,14.0s
YSS MLR MLR
comp=Z,17µm,24.0s
YSS MLR MLR
comp=N,10µm,23.0s
YSS MLR MLR
comp=E,12µm,23.0s
YSS Yuzh-Sakhalins 107.42 327 PFAKE 02 35 20.0
YSS LR LR
comp=Z,11µm,21.0s
KIV Kislovodsk 108.26 36⇑ *e*P Pdif 02 31 04.1 +2.0
KIV *e*S SKS 02 41 37.8 +4.3
KIV *e*PS PS 02 44 48.0 -8.2
KIV pmax pmax
comp=Z,200nm,17.1s
ONI Oni 109.53 37 P Px 02 35 35.1
ONI S PS 02 45 05.7 -2.4
ZEI Tsey 109.68 37 *e*P Pdif 02 31 06.3 -2.0
ZEI *i* 02 35 38.8
DZM Mont Dzumac 109.92 251 SP SP 02 45 16.2 +13
comp=Z,7.1nm,0.8s,baz=89,slow=20,SNR=2.8
SUR Sutherland 110.37 120 PFAKE 02 35 30.0 +19
SUR LR LR
comp=Z,4µm,21.0s
ASF Jabal al Asfar 110.76 49 SP SP 02 45 17.8 +6.3
comp=Z,0.6nm,0.3s,baz=176,slow=22,SNR=1.7
MAK Makhachkala 111.62 35 *e*P Pdif 02 31 17.0 +0.1
MAK *e* 02 35 52.5
MAK *e* 02 42 26.0
MAK *e*PS PS 02 45 24.0 -4.3
MAK pmax pmax
comp=Z,900nm,5.0s
MAK MLR MLR
comp=N,19µm,20.0s
MAK MLR MLR
comp=E,17µm,20.0s
MAK MLR MLR
comp=Z,8µm,20.0s
GNI Garni 111.77 38 *i* PKIKP PKPdf 02 35 18.6 +5.1
GNI MLR MLR
comp=Z,15µm,18.0s
GNI Garni 111.77 38 PFAKE 02 35 30.0 +16
GNI LR LR
comp=Z,17µm,20.0s
ZRNK Zerenda 112.73 16 PKIKP PKPdf 02 35 16.1 +1.0
ZRNK pmax pmax
comp=Z,5.0nm,0.7s
ZRNK Zerenda 112.73 16 *e*PKP PKPdf 02 35 17.3 +2.2
SYO Syowa Base 112.80 162 ⇑P PKPdf 02 35 08.0 -6.9
SYO Syowa Base 112.80 162 ⇓PP PP 02 36 07.2 -1.5
AB31 Akbulak array 112.92 23 *i* PKIKP PKPdf 02 35 18.7 +3.1
AB31 pmax pmax
comp=Z,5.0nm,0.6s
BVA0 Borovoye Array 113.02 15 *i* PKIKP PKPdf 02 35 19.0 +3.3
BVA0 pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 113.02 15 PKiKP 02 35 19.0
comp=Z,4.7nm,0.6s,SNR=14
BVAR SP SP 02 45 37.1 +4.6
comp=Z,0.4nm,0.5s,baz=140,slow=12,SNR=2.3
BVAR PKKPbc 02 46 05.2
comp=Z,2.1nm,0.8s,baz=162,slow=4.7,SNR=6.1
VOSK Vostochnaya 113.45 15 PKIKP PKPdf 02 35 18.3 +1.8
VOSK pmax pmax
comp=Z,3.0nm,0.7s
VOSK Vostochnaya 113.45 15 *i* PKP PKPdf 02 35 18.4 +1.9
BOSA Boshof 114.20 116 *i* PKIKP PKPdf 02 35 22.1 +3.4
BOSA SP SP 02 45 51.4 +7.4
BOSA pmax pmax
comp=Z,26nm,0.9s
BOSA Boshof 114.20 116 PKiKP 02 35 22.1
comp=Z,26nm,0.9s,baz=252,slow=1.2,SNR=26
BOSA SP SP 02 45 51.4 +7.4
comp=Z,3.4nm,1.1s,baz=340,slow=18,SNR=1.7
BOSA PKKPbc 02 46 04.0
comp=Z,7.9nm,1.2s,baz=89,slow=5.9,SNR=4.1
BOSA Boshof 114.20 116 *e*PKP PKPdf 02 35 21.5 +2.9
BOSA LR LR
comp=Z,23µm,20.0s
LBTB Lobatse 114.47 112 *e*PKIKP PKPdf 02 35 22.4 +3.1
LBTB MLR MLR
comp=Z,20µm,20.0s
HNR Honiara 114.84 265 PFAKE 02 35 40.0 +20
HNR LR LR
comp=Z,10µm,19.0s
HIA Hailar 115.56 341 *e*PKIKP PKPdf 02 35 22.8 +2.0
MDJ Mudanjiang 115.61 332 PKP PKPdf 02 35 22.5 +1.5
MDJ XPKP 02 35 36.2
MDJ PKS PKS 02 38 54.4 -2.4
MDJ SKS SKS 02 42 28.0 +25
MDJ LR LR
comp=N,6µm,30.2s
MDJ LR LR
comp=E,8µm,27.8s
MDJ LR LR
comp=Z,9µm,30.2s
MDJ Mudanjiang 115.61 332 *e*PKP PKPdf 02 35 23.3 +2.3
LSZ Lusaka 116.38 102 *e*PKIKP PKPdf 02 35 26.0 +2.9
LSZ MLR MLR
comp=Z,11µm,22.0s
DRV Dumont d'Urvil 116.51 199 Pdif Pdif 02 31 52.0 +14
MJAR Matsushiro Arr 116.65 321 PKP PKPdf 02 35 25.8 +2.7
comp=Z,6.5nm,0.8s,baz=136,slow=0.8,SNR=10
MJAR PP PP 02 36 32.7 -3.9
comp=Z,3.7nm,0.9s,baz=14,slow=3.1,SNR=3.0
MJAR PKKPbc 02 45 53.9
comp=Z,11nm,1.0s,baz=210,slow=4.5,SNR=7.8
MJAR Matsushiro Arr 116.65 321 PKP PKPdf 02 35 25.8 +2.7
MJAR PP PP 02 36 32.7 -3.9
MJAR PKKPbc 02 45 53.9
MAJO Matsushiro 116.65 321 *e*PKIKP PKPdf 02 35 25.9 +2.7
MAJO MLR MLR
comp=Z,7µm,21.0s
MAT Matsushiro 116.65 321 *e*PKP PKPdf 02 35 25.0 +1.8
MAT LR LR
comp=Z,9µm,21.0s
MAT Matsushiro 116.65 321 PKP PKPdf 02 35 25.4 +2.2
MBAR Mbarara 116.70 85 *e*PKIKP PKPdf 02 35 27.0 +3.2
MBAR MLR MLR
comp=Z,4µm,21.0s
TLY Talaya 116.80 353 *e*P Pdif 02 31 39.7 +0.3
TLY *e* 02 35 24.7
TLY *e*PPS PPS 02 47 25.0 -11
TLY pmax pmax
comp=Z,7.0nm,0.8s
TLY MLR MLR
comp=Z,21µm,26.0s
TLY Talaya 116.80 353 PFAKE 02 35 40.0 +17
TLY LR LR
comp=Z,3µm,21.0s
MOY Mondy 117.08 355 *e*PKIKP PKPdf 02 35 29.2 +5.6
CN2 Changchun 118.08 334 *e*PKP PKPdf 02 35 27.9 +2.2
CN2 *e*XPKP 02 35 43.8
CN2 *e*PP PP 02 36 46.4 -0.1
CN2 *e*SS SS 02 52 53.1 +2.3
CN2 PP PP
comp=Z,1µm,13.0s
CN2 LR LR
comp=N,8µm,19.0s
CN2 LR LR
comp=E,7µm,19.0s
CN2 LR LR
comp=Z,9µm,21.0s
ZAK Zakamensk 118.12 353 *e*PKIKP PKPdf 02 35 28.5 +2.9
ZAK pmax pmax
comp=Z,6.0nm,1.1s
ULN Ulaanbaatar 120.01 350 *e*PKP PKPdf 02 35 32.2 +2.8
ULN LR LR
comp=Z,17µm,21.0s
MAW Mawson 120.08 167 *e*PKP PKPdf 02 35 31.8 +2.7
comp=Z,8.7nm,0.6s
MAW Mawson 120.08 167 PKP PKPdf 02 35 31.7 +2.6
comp=Z,11nm,0.9s,baz=264,slow=5.1,SNR=22
MAW SP SP 02 46 43.0 +6.3
comp=Z,0.6nm,0.4s,baz=342,slow=2.7,SNR=2.1
SONM Songino Array 120.16 350 PKP PKPdf 02 35 32.5 +2.8
comp=Z,17nm,0.7s,baz=230,slow=0.3,SNR=36
SONM PP PP 02 36 56.2 -3.7
comp=Z,8.7nm,1.0s,baz=18,slow=3.9,SNR=3.0
SONM PKKPbc 02 45 41.5
comp=Z,2.1nm,0.7s,baz=187,slow=3.1,SNR=6.4
BLJS Baljurashi 120.21 59 P PKPdf 02 35 34.7 +4.2
SNY Shenyang 120.49 334 ⇑PKP PKPdf 02 35 33.0 +2.5
SNY PP PP 02 36 59.5 -2.9
SNY SKKS 02 43 52.8
SNY PP PP
comp=Z,2µm,13.2s
SNY LR LR
comp=N,6µm,25.2s
SNY LR LR
comp=E,4µm,26.4s
SNY LR LR
comp=Z,13µm,27.0s
MZLS Mizel 121.17 53 P PKPdf 02 35 36.0 +3.8
MKAR Makanchi Array 121.40 9 PKP PKPdf 02 35 33.9 +1.7
comp=Z,5.7nm,0.4s,baz=332,slow=2.7,SNR=48
MKAR PKKPbc 02 45 35.9
comp=Z,0.9nm,0.7s,baz=166,slow=5.0,SNR=3.9
KS15 Wonju Array Si 121.92 328 *e*PKP PKPdf 02 35 36.5 +3.1
TATS Tathlith 121.94 59 P PKPdf 02 35 35.2 +1.4
KAMS Al Khamasin 122.50 57 P PKPdf 02 35 38.7 +3.8
INCN Inchon 122.53 329 *e*PKP PKPdf 02 35 37.1 +2.6
INCN LR LR
comp=Z,11µm,21.0s
DJNS Zahran al Janu 122.82 60 P PKPdf 02 35 39.4 +3.9
USP Ospenovka 123.07 17 P PKPdf 02 35 39.0 +3.5
SNR=26
KMBO Kilima Mbogo 123.17 84 PKP PKPdf 02 35 39.2 +2.8
comp=Z,3.1nm,0.9s,baz=208,slow=21,SNR=3.4
KMBO Kilima Mbogo 123.17 84 PKP PKPdf 02 35 39.2 +2.8
CHMS Chumysh 123.39 17 P PKPdf 02 35 39.2 +3.1
SNR=12
JNU Nakatsue 123.41 323 PP PP 02 37 19.7 -3.3
GUMO Guam 123.52 295 PFAKE 02 35 50.0 +13
GUMO LR LR
comp=Z,3µm,19.0s
AAK Ala-Archa 123.65 17 P PKPdf 02 35 40.4 +3.7
SNR=8.3
AAK Ala-Archa 123.65 17 *e*PKP PKPdf 02 35 39.0 +2.4
AAK LR LR
comp=Z,6µm,21.0s
TKM2 Tokmak 2 123.69 16 P PKPdf 02 35 40.0 +3.3
SNR=23
DL2 Dalian 123.74 334 PKP PKPdf 02 35 39.7 +2.8
DL2 XPKP 02 35 51.6
DL2 PP PP
comp=Z,940nm,8.1s
DL2 LR LR
comp=N,4µm,20.4s
DL2 LR LR
comp=E,3µm,19.4s
DL2 LR LR
comp=Z,7µm,25.9s
KBK Karagaybulak 123.76 17 P PKPdf 02 35 40.6 +3.8
SNR=11
CASY Casey 123.78 188 *e*PKP PKPdf 02 35 39.3 +3.0
AML Almayashu 123.88 18 P PKPdf 02 35 41.2 +4.2
SNR=59
TAU Tasmania Unive 123.88 226 PFAKE 02 35 50.0 +13
TAU LR LR
comp=Z,3µm,20.0s
UCH Uchtor 124.03 17 P PKPdf 02 35 41.8 +4.4
SNR=43
CNB Canberra Magne 124.23 235 *e*PKP PKPdf 02 35 41.7 +3.8
comp=Z,79nm,1.0s
KZA Kyzart 124.38 17 P PKPdf 02 35 42.2 +4.2
SNR=14
ULHL Ulahol 124.49 16 P PKPdf 02 35 42.2 +4.0
SNR=18
WMQ Urumqi 125.00 5 PKP PKPdf 02 35 42.0 +2.8
WMQ PP PP 02 37 35.0 +2.1
WMQ PKS PKS 02 39 17.3 +2.4
WMQ SKS SKS 02 42 48.8 +14
WMQ SKKS 02 44 23.0
WMQ SS SS 02 54 26.0 +6.4
WMQ PP PP
comp=Z,755nm,8.4s
WMQ LR LR
comp=N,22µm,26.0s
WMQ LR LR
comp=E,12µm,20.8s
WMQ LR LR
comp=Z,19µm,22.6s
HHC Hu-ho-hao-te 125.64 343 *e*PKP PKPdf 02 35 43.4 +2.9
HHC XPKP 02 35 56.9
HHC SKS SKS 02 42 49.7 +13
HHC PP PP
comp=Z,2µm,14.4s
HHC LR LR
comp=N,17µm,20.3s
HHC LR LR
comp=E,9µm,20.3s
HHC LR LR
comp=Z,23µm,21.5s
BTO Baotou 126.28 345 *e*PKP PKPdf 02 35 46.6 +4.9
BTO LR LR
comp=N,2µm,15.1s
BTO LR LR
comp=E,532nm,12.7s
TOO Toolangi 126.75 231 *e*PKP PKPdf 02 35 46.4 +3.7
comp=E,53nm,0.9s
KSH Kashi 126.96 17 *e*PKP PKPdf 02 35 47.4 +4.3
KSH *e*XPKP 02 36 01.6
KSH *e*PP PP 02 37 42.1 -3.7
KSH *e*SKS SKS 02 42 54.1 +14
KSH *e*SKKS 02 44 37.0
KSH PP PP
comp=Z,2µm,6.9s
KSH LR LR
comp=N,11µm,17.0s
KSH LR LR
comp=E,18µm,17.4s
PMG Port Moresby 127.35 267 *e*PKP PKPdf 02 35 47.9 +3.4
PMG LR LR
comp=Z,10µm,20.0s
TIA Tai'an 127.91 336 PKP PKPdf 02 35 47.2 +2.2
TIA XPKP 02 35 58.5
TIA PP PP 02 37 49.0 -3.5
TIA LR LR
comp=N,4µm,23.0s
TIA LR LR
comp=E,5µm,23.0s
TIY Taiyuan 128.26 341 ⇓PKP PKPdf 02 35 49.1 +3.4
TIY LR LR
comp=N,18µm,21.0s
TIY LR LR
comp=Z,3µm,22.0s
CTAO Charters Tower 128.72 253 *e*PKP PKPdf 02 35 49.1 +2.2
CTAO LR LR
comp=Z,10µm,19.0s
GTA Gaotai 129.34 354 PKP PKPdf 02 35 50.7 +3.0
GTA PP PP 02 37 59.2 -2.9
GTA PPP PPP 02 40 46.2 -3.0
GTA SKS SKS 02 42 59.7 +13
GTA SKKS 02 44 51.3
GTA PP PP
comp=Z,2µm,12.6s
GTA LR LR
comp=N,13µm,25.2s
GTA LR LR
comp=E,12µm,22.2s
GTA LR LR
comp=Z,21µm,26.8s
SSE Sheshan 130.33 329 ⇑PKP PKPdf 02 35 52.8 +3.0
SSE XPKP 02 36 04.5
SSE PP PP 02 38 06.1 -2.5
SSE SS SS 02 55 30.8 +4.9
SSE PP PP
comp=Z,1µm,12.0s
SSE LR LR
comp=N,7µm,21.0s
SSE LR LR
comp=E,4µm,20.9s
SSE LR LR
comp=Z,9µm,20.0s
NJ2 Nanjing 130.69 331 *e*PKP PKPdf 02 35 53.3 +2.9
NJ2 XPKP 02 36 07.8
NJ2 PP PP 02 38 08.0 -3.1
NJ2 SKS SKS 02 43 02.0 +11
NJ2 SKKS 02 45 01.0
NJ2 SS SS 02 55 38.0 +7.8
NJ2 PP PP
comp=Z,2µm,11.8s
NJ2 LR LR
comp=N,20µm,29.0s
NJ2 LR LR
comp=E,21µm,25.7s
NJ2 LR LR
comp=Z,11µm,26.2s
STKA Stephens Creek 131.31 237 *e*PKP PKPdf 02 35 55.3 +3.7
comp=Z,64nm,1.2s
STKA *e*PP PP 02 38 24.0 +9.0
STKA Stephens Creek 131.31 237 PKP PKPdf 02 35 55.3 +3.7
comp=Z,20nm,0.7s,baz=84,slow=2.4,SNR=13
LZH Lanzhou 132.00 349 ⇓PKP PKPdf 02 35 57.0 +4.2
LZH PP PP 02 38 22.0 +2.9
LZH PKS PKS 02 39 30.0 +1.8
LZH SKKS 02 45 09.1
LZH SS SS 02 55 50.8 +3.9
LZH PP PP
comp=Z,3µm,10.0s
LZH LR LR
comp=N,10µm,18.2s
LZH LR LR
comp=Z,15µm,20.0s
LZH Lanzhou 132.00 349 ⇓PKP PKPdf 02 35 57.0 +4.2
LZH pPKP 02 36 09.7
LZH sPKP 02 36 14.3
LZH PP PP 02 38 22.0 +2.9
LZH PKS PKS 02 39 30.0 +1.8
LZH SKKS 02 45 09.1
LZH SS SS 02 55 50.8 +3.9
LZH LR LR
comp=Z,15µm,20.0s
XAN Xi'an 132.73 343 PKP PKPdf 02 35 57.1 +2.8
XAN PKS PKS 02 39 29.8 +0.2
XAN SKKS 02 45 15.7
XAN PP PP
comp=Z,1µm,18.1s
XAN LR LR
comp=N,7µm,24.3s
XAN LR LR
comp=E,12µm,23.6s
XAN LR LR
comp=Z,15µm,27.0s
THN Thein Dam 133.38 21 *e*P PKPdf 02 35 57.4 +1.9
WHN Wuhan 133.97 335 *e*PKP PKPdf 02 35 59.0 +2.4
WHN LR LR
comp=N,15µm,26.6s
WHN LR LR
comp=E,25µm,21.8s
WHN LR LR
comp=Z,18µm,22.6s
TATO Taipei 134.94 323 PFAKE 02 36 10.0 +11
TATO LR LR
comp=Z,8µm,20.0s
SMLA Simla 135.06 20⇑ *i*P PKPdf 02 35 58.1 -0.6
comp=Z,33nm,0.4s
SMLA *i* 02 39 34.1
ENH Enshi 136.05 340 *e*PKPdf PKPdf 02 36 02.9 +2.4
DDI Dehra Dun 136.10 20 *e* PKPdf 02 35 56.5 -4.1
DDI *e* 02 39 37.0
QZH Quanzhou 136.61 326 PKP PKPdf 02 36 04.0 +2.4
QZH PKS PKS 02 39 35.0 -1.9
QZH SS SS 02 56 49.2 +6.9
QZH PP PP
comp=Z,2µm,8.1s
QZH LR LR
comp=N,10µm,16.2s
QZH LR LR
comp=E,4µm,14.4s
QZH LR LR
comp=Z,15µm,20.0s
NDI New Delhi 137.31 21 *e*P PKPdf 02 36 05.0 +2.2
LGTI Lohaghat 137.59 17 *e* PKPdf 02 36 08.7 +5.3
AJM Ajmer 138.27 26 *i*P PKPdf 02 36 07.0 +2.3
BHJ Bhuj 138.51 34 *e* 02 52 03.4
LSA Lhasa 139.29 3 *e*PKP PKPdf 02 36 09.4 +3.0
SGCP Mt. Cagua 139.48 316 *e*P PKPdf 02 36 10.1 +3.1

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WB2	Warramunga Arr	139.89	252	ePKP	PKPdf	02 36 04.5	-3.2
WRAB	Tennant Creek	139.90	252	ePKP	PKPdf	02 36 02.1	-5.6
WRAB				LR	LR		
	comp=Z,4µm,20.0s						
WRA	Warramunga Arr	139.90	252	PKhKP		02 36 02.4	
	comp=Z,2.4nm,0.8s,baz=91,slow=3.7,SNR=4.9						
WRA				PKP	PKPdf	02 36 11.7	+4.0
	comp=Z,51nm,0.8s,baz=91,slow=1.8,SNR=40						
KOLN	Koldanda	140.08	14	eP	PKPdf	02 36 06.7	-1.2
GKN	Gorkha	140.09	12	eP	PKPdf	02 36 06.6	-1.3
	comp=Z,223nm,0.9s						
APYP	Conner	140.29	316	eP	PKPdf	02 36 02.0	-6.4
GUN	Gumba	140.42	11	eP	PKPdf	02 36 07.8	-0.7
	comp=Z,249nm,0.8s						
KKN	Kakani	140.43	12	eP	PKPdf	02 36 07.1	-1.4
	comp=Z,111nm,0.8s						
GYA	Guiyang	140.49	341⇑	iPKP	PKPdf	02 36 06.2	-2.5
GYA				XPKP		02 36 25.1	
GYA				PKS	PKS	02 39 47.9	+4.4
GYA				PP	PP		
	comp=Z,1µm,10.2s						
GYA				LR	LR		
	comp=N,3µm,27.3s						
GYA				LR	LR		
	comp=E,6µm,22.2s						
GYA				LR	LR		
	comp=Z,10µm,28.5s						
CAUP	Cauayan	140.52	315	eP	PKPdf	02 36 08.6	-0.4
DMN	Daman	140.57	12	eP	PKPdf	02 36 07.2	-1.7
	comp=Z,125nm,0.9s						
PKI	Pulchoki	140.66	12	eP	PKPdf	02 36 07.7	-1.3
	comp=Z,98nm,0.8s						
ABRA	Dolores	140.79	317	eP	PKPdf	02 36 06.8	-2.8
PVCP	Virac	140.97	308	eP	PKPdf	02 36 09.0	-0.9
HKC	Hong Kong	141.09	329	PKPdf	PKPdf	02 36 10.0	+0.1
CNP	Catarman	141.22	306	eP	PKPdf	02 36 10.0	-0.3
KAKA	Kakadu	142.01	264	ePKP	PKPdf	02 36 11.4	-0.3
	comp=Z,72nm,0.7s						
GQP	Guinayangan	142.07	310	eP	PKPdf	02 36 14.0	+2.2
AUQP	San Andres	142.26	309	eP	PKPdf	02 36 10.8	-1.3
BHPL	Bhopal	142.29	25	eP	PKPdf	02 36 15.7	+3.7
BHPL				AMb	AMB	02 36 19.5	
	comp=Z,48nm,1.1s						
BHPL				AMS	AMS	03 36 04.0	
	comp=Z,4µm,25.7s						
BUTP	Butuan	142.39	301	eP	PKPdf	02 36 19.4	+7.0
MSLP	Maasin	142.41	303	eP	PKPdf	02 36 12.7	+0.3
FORT	Forrest	142.62	233	ePKP	PKPdf	02 36 12.1	-0.2
	comp=Z,77nm,0.7s						
SCZP	Santa Cruz	142.65	315	eP	PKPdf	02 36 11.0	-1.7
BOAC	Boac	142.80	310	eP	PKPdf	02 36 14.1	+1.1
KMI	Kunming	142.83	346	PKP	PKPdf	02 36 15.8	+3.0
KMI				PP	PP	02 39 27.9	+2.1
KMI				PKS	PKS	02 39 50.5	+3.0
KMI				SKS	SKS	02 43 19.3	+6.6
KMI				SKKS		02 46 12.0	
KMI				SS	SS	02 57 59.5	+4.4
KMI				PP	PP		
	comp=Z,2µm,11.0s						
KMI				LR	LR		
	comp=N,9µm,26.7s						
KMI				LR	LR		
	comp=E,12µm,22.7s						
KMI				LR	LR		
	comp=Z,14µm,28.0s						
KMI	Kunming	142.83	346	PKP	PKPdf	02 36 15.8	+3.0
KMI				pPKP		02 36 29.7	
KMI				sPKP		02 36 36.0	
KMI				PP	PP	02 39 27.9	+2.1
KMI				PKS	PKS	02 39 50.5	+3.0
KMI				SKS	SKS	02 43 19.3	+6.6
KMI				SKKS		02 46 12.0	
KMI				SS	SS	02 57 59.5	+4.4
KMI				LR	LR		
	comp=Z,14µm,28.0s						
RCP	Roxas	143.29	307⇓	eP	PKPbc	02 36 15.9	+3.7
OTRP	Odiongan	143.36	309	eP	PKPbc	02 36 15.1	+2.7
DAV	Davao City (W)	143.39	298	eP	PKPbc	02 36 16.8	+4.2
BUKP	Musuan	143.43	300	eP	PKPbc	02 36 15.2	+2.5
SHL	Shillong	143.43	3	eP	PKPbc	02 36 16.0	+3.6
SHL				e		02 39 52.0	
TBP	Tagbilaran	143.47	303⇑	eP	PKPbc	02 36 12.6	-0.2
BOM	Bombay	143.75	35	e	PKPbc	02 36 05.2	-8.3
	comp=Z,425nm,18.8s						
GUIM	Jordan	143.96	306	eP	PKPbc	02 36 14.5	+0.2
SJMP	San Jose	143.98	310	eP	PKPbc	02 36 16.7	+2.4
SNPH	Sibulan	144.17	304⇓	eP	PKPbc	02 36 16.3	+1.4
IMP	Imphal	144.25	360	e	PKPbc	02 36 17.0	+2.2
BOK	Bokaro	144.42	12	eP	PKPbc	02 36 16.6	+1.3
BOK				AMb	AMB	02 36 23.6	
	comp=Z,126nm,1.2s						
POO	Poona	144.62	34⇓	iP	PKPbc	02 36 20.0	+4.0
	comp=Z,182nm,1.2s						
PAGZ	Pagadian	144.86	301	eP	PKPdf	02 36 18.7	+2.0
BUSP	Coron	144.96	310	eP	PKPdf	02 36 13.1	-3.7
BLSP	Bilaspur	145.03	19	eP	PKPdf	02 36 17.6	+0.9
BLSP				AMb	AMB	02 36 23.5	
	comp=Z,131nm,0.8s						
CUYO	Cuyo Island	145.06	308	eP	PKPdf	02 36 19.8	+2.8
IPIL	Ipil	145.57	302	eP	PKPdf	02 36 20.6	+2.7
KAD	Karad	145.79	34	eP	PKPdf	02 36 21.3	+3.2
KAD				AMb	AMB	02 36 27.2	
	comp=Z,125nm,1.4s						
QIZ	Qiongzhong	145.98	332	iPKP	PKPdf	02 36 22.7	+4.3
QIZ				APKP		02 36 33.6	
QIZ				PP	PP	02 39 45.4	+0.5
QIZ				SS	SS	02 58 36.8	+5.9
QIZ				PP	PP		
	comp=Z,3µm,14.5s						
QIZ				LR	LR		
	comp=N,12µm,19.7s						
QIZ				LR	LR		
	comp=Z,18µm,19.5s						
QIZ	Qiongzhong	145.98	332	ePKP	PKPdf	02 36 22.3	+3.9
ENPP	El Nido	146.05	310	eP	PKPdf	02 36 23.1	+4.4
CAL	Calcutta	146.09	9	e	PKPdf	02 36 24.2	+5.6
	comp=Z,6µm,0.4s						
CAL				e		02 37 38.9	
LATR	Latur	146.11	30	eP	PKPdf	02 36 22.2	+3.5
PPR	Puerto Princes	147.49	309	eP	PKPdf	02 36 28.3	+7.2
HYB	Hyderabad	147.92	28⇑	eP	PKPdf	02 36 25.0	+3.3
HYB				e		02 39 52.0	
HYB	Hyderabad	147.92	28⇑	iPKP	PKPdf	02 36 25.0	+3.3
HYB				ePP	PP	02 39 52.0	-4.5
HYB				LR	LR	03 41 24.0	
	comp=Z,19nm,24.0s						
FITZ	Fitzroy Crossi	148.30	254	ePKP	PKPdf	02 36 26.0	+3.8
	comp=Z,461nm,1.2s						
FITZ	Fitzroy Crossi	148.30	254	PKP	PKPdf	02 36 26.3	+4.1
	comp=Z,290nm,0.7s,baz=176,slow=3.5,SNR=40						
FITZ				PKPbc	PKPdf	02 36 29.2	+6.9
	comp=Z,290nm,0.7s,baz=177,slow=3.8,SNR=57						
NWAO	Narrogin (SRO)	149.36	221	PKP	PKPdf	02 36 27.4	+3.8
	comp=Z,103nm,0.8s,baz=131,slow=3.0,SNR=27						
NWAO				PKPbc	PKPdf	02 36 33.5	+10
	comp=Z,105nm,0.8s,baz=117,slow=4.8,SNR=27						
NWAO	Narrogin (SRO)	149.36	221	ePKP	PKPdf	02 36 26.9	+3.3
NWAO				LR	LR		
	comp=Z,6µm,20.0s						
VIS	Vishakhapatnam	149.53	20	eP	PKPdf	02 36 27.3	+3.1
VIS				AMS	AMS	03 34 38.0	
	comp=Z,2µm,19.6s						
CHG	Chiang Mai	149.73	350	⇑P	PKPdf	02 36 27.7	+3.2
	comp=Z,38nm,1.1s						
KLBR	Kellerberrin	149.84	224	ePKP	PKPdf	02 36 29.1	+4.7
	comp=Z,388nm,1.2s						
CM31	Chiang Mai Arr	150.08	350	ePKP	PKPdf	02 36 28.7	+3.6
CM31				LR	LR		
	comp=Z,15µm,22.0s						
CMAR	Chiang Mai Arr	150.08	350	PKP	PKPdf	02 36 28.3	+3.2
	comp=Z,42nm,1.0s,baz=310,slow=2.4,SNR=82						
CMAR				PKPbc	PKPdf	02 36 32.6	+7.5
	comp=Z,62nm,0.8s,baz=327,slow=2.5,SNR=53						
MUN	Mundaring	150.63	222	ePKP	PKPdf	02 36 29.5	+3.9
	comp=Z,267nm,0.9s						
TSM	Tawau	151.38	301	P	PKPdf	02 36 30.9	+3.7
UBT	Ubonrachathani	151.42	336	P	PKPdf	02 36 32.0	+4.8
KKM	Kota Kinabalu	151.74	306	ePKP	PKPdf	02 36 31.2	+3.4
KKM	Kota Kinabalu	151.74	306	P	PKPdf	02 36 31.9	+4.1
MDRS	Chennai	152.49	29	eP	PKPdf	02 36 31.0	+2.2
MDRS				e		02 40 27.0	
MDRS				e		02 46 57.0	
MDRS				e		02 59 12.0	
NST	Nakhon Sawan	152.55	346	P	PKPdf	02 36 26.0	-2.8
	comp=Z,108nm,0.8s						
MBWA	Marble Bar	153.07	245	ePKP	PKPdf	02 36 32.0	+2.6
MBWA				LR	LR		
	comp=Z,9µm,22.0s						
NNT	Nongplab	155.61	345	P	PKPdf	02 36 37.8	+4.8
PALK	Pallekele	157.61	36	ePKP	PKPdf	02 36 38.5	+2.9
PALK				LR	LR		
	comp=Z,3µm,21.0s						
DGAR	Diego Garcia	158.78	82	PFAKE		02 36 50.0	+13
DGAR				LR	LR		
	comp=Z,4µm,22.0s						
KSM	Kuching	159.18	306	ePKP	PKPdf	02 36 41.2	+3.6
SNG	Songkhla	160.47	339	P	PKPdf	02 36 43.0	+4.1
	comp=Z,112nm,0.7s						
KULM	Kulim	162.20	336	ePKP	PKPdf	02 36 44.0	+3.3
IPM	Ipoh	162.69	334	P	PKPdf	02 36 45.6	+4.5
KGM	Kluang	163.72	323	P	PKPdf	02 36 46.4	+4.3

*IDC **02** 02:27:56.3±3.6, 11.60N×86.00W, h35^{km}±26^{km}, mb4.6/16, mb1 4.8/16, mb1mx4.7/20, mbtmp4.8/16, Error ellipse: s-maj=25.7km s-min=12.2km az=57.0*

*NEIC **02** 02:27:57.1±0.2, 11.34N×86.47W, mb5.3/38, MD5.0(CASC), Error ellipse: s-maj=7.3km s-min=3.3km az=47.0*

*CASC **02** 02:27:57.0±3.4, 11.17N×86.56W, h20^{km}±8^{km}, MD4.6, MW4.9, mb5.3(NEIC)*

ISC 02 02:27:58.3±0.4**, 11.26N**±0.04×**86.42W**±0.04**, h75^{km}**±2^{km}**, h36^{km}±.8^{km}:pP-P, n202, σ0.95^{s}**/196**, mb5.0**/51**, 6C-15D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CRUN	El Crucero	0.72	9⇑	eP	P	02 28 14.0	-0.1
APON	Apoyo	0.73	28⇓	iP	P	02 28 13.8	-0.3
MASN	Masaya	0.77	20⇓	iP	P	02 28 13.8	-0.7
MASN			⇓	eP		02 28 14.0	
MASN				eS	S	02 28 26.8	+0.2
TICN	Ticuantepe	0.79	13⇓	iP	P	02 28 14.4	-0.3
CONN	Concepcion	0.83	69⇓	eP	P	02 28 14.7	-0.6
XAVN	Gruta Xavier	0.88	6⇓	iP	P	02 28 15.8	0.0
MGAN	Managua	0.89	11⇓	iP	P	02 28 15.8	-0.2
WILN	Americas 2	0.92	14⇓	iP	P	02 28 16.2	-0.1
APYN	Apoyeque	0.97	4⇑	iP	P	02 28 16.9	0.0
MOMJ	Momotombo	1.14	354⇓	eP	P	02 28 18.8	-0.3
MIRN	Miramar	1.20	346⇑	iP	P	02 28 19.7	-0.2
LEON	Leon	1.24	338⇓	iP	P	02 28 19.9	-0.4
LEON				eS	S	02 28 35.1	-1.7
CNGN	Cerro Negro	1.26	347⇓	eP	P	02 28 20.0	-0.6
CNGN				eS	S	02 28 39.5	+2.1
PYTN	Playitas	1.31	16⇓	iP	P	02 28 21.5	0.0
PYTN				eS	S	02 28 41.8	+3.1
TEL3	Telica 3	1.37	342⇓	eP	P	02 28 22.0	-0.2
VCR	Vista de Mar	1.37	146	eP	P	02 28 21.8	-0.4
TELN	Telica	1.39	343⇓	eP	P	02 28 22.3	-0.2
CRIN	San Cristobal	1.56	337⇑	eP	P	02 28 24.4	-0.3
CRIN				eS	S	02 28 44.2	+0.1
JTS	JuntasAbangare	1.73	124	Pn	P	02 28 26.2	-0.9
	406nm,0.3s,baz=326,slow=17,SNR=71						
JTS				Lg		02 28 50.5	
	535nm,0.3s,baz=294,slow=15,SNR=8.4						
JTS	JuntasAbangare	1.73	124	eP	P	02 28 25.6	-1.5
FORC	Fortuna	1.89	114	eP	P	02 28 28.3	-0.8
FORC	Fortuna	1.89	114⇑	eP	P	02 28 28.4	-0.7
SOMN	Somoto	2.15	355⇓	eP	P	02 28 34.7	+1.9
PRS1	Puriscal	2.43	121	eP	P	02 28 36.7	-0.1
SJS	Escuela Geolog	2.67	119	eP	P	02 28 40.7	+0.6
SJS				eS	S	02 29 20.5	+9.1
SJS	Escuela Geolog	2.67	119	eP	P	02 28 40.7	+0.6
SJS				eS	S	02 29 12.7	+1.3
SJS				eS	S	02 29 15.3	+4.0
TRTC	Tortuguero	2.74	104	eP	P	02 28 39.6	-1.5
BLLM	Bellamira	2.80	321	eP	P	02 29 01.2	+19
BLLM				eS	S	02 29 34.6	+20
VSM	San Miguel	2.81	320	eP	Px	02 29 10.8	
VSM				eS	Sx	02 29 42.7	
URSC	Urasca	2.96	118	eP	P	02 28 43.8	-0.4
CAHU	Cacacuatique	3.04	325	eP	P	02 29 05.2	+20
CAHU				eS	S	02 29 39.6	+19
BUS	Buena Vista	3.12	123	eP	P	02 28 47.4	+1.1
SNET	Serv Nac Est T	3.65	312	eP	P	02 29 14.2	+20
SNET				eS	S	02 29 54.5	+19
BOQS	Boqueron	3.72	312	eP	P	02 29 13.6	+19
BOQS				eS	S	02 29 54.4	+17
SBLS	San Blas	4.04	310	eP	P	02 29 18.1	+19
SBLS				eS	S	02 30 04.3	+19
ACR	Cerro Adams	4.12	129	eP	P	02 29 00.3	0.0
SVTC	San Vito de Co	4.20	126	eP	P	02 29 02.2	+0.8
BRU	Baru	4.52	122	eP	P	02 29 07.1	+1.3
DVD	David	4.81	125	eP	P	02 29 11.2	+1.2
IXG	Ixpaco	4.89	307	eP	P	02 29 09.3	-1.6
IXG				eS	S	02 30 03.7	-3.0
PTP1	Petroterminal	4.97	127	eP	P	02 29 08.1	-4.0
TP2	Tecpan 2	5.69	308	eP	P	02 29 22.0	+0.1
TP2				eS	S	02 30 26.6	0.0
UPA	Univ. de Panam	7.15	108	eP	P	02 29 43.4	+1.2
OTAV	Otavalo	13.52	144	eP	P	02 31 09.5	+1.2
SDV	Santo Domingo	15.72	97	Pn	P	02 31 39.5	+2.8
	1.0nm,0.3s,baz=289,slow=6.3,SNR=12						
SDV	Santo Domingo	15.72	97	eP	P	02 31 38.3	+1.6
SJG	San Juan	20.74	68	P	P	02 32 37.9	+2.8
	18nm,0.6s,baz=277,slow=2.5,SNR=9.5						
SJG	San Juan	20.74	68	P	P	02 32 34.5	-0.5
	87nm,1.0s						
SJG				P		02 32 37.9	
LRAL	Lakeview Retre	21.68	359	eP	P	02 32 44.8	+0.5
	180nm,0.8s,mb5.5						
NATX	Nacogdoches	21.77	341	eP	P	02 32 46.0	+0.8
	515nm,0.8s,mb5.9						
RGRS	Roger Stewart	22.29	14	eP	P	02 32 52.2	+1.9
RGRS				e		02 33 03.8	
CSU	Charleston Sou	22.39	14	eP	P	02 32 53.0	+1.6
CSU				e		02 33 05.2	
NHSC	New Hope	22.48	14	eP	P	02 32 54.0	+1.8
	198nm,0.8s,mb5.5						
OXF	Oxford	23.30	354	eP	P	02 33 00.1	-0.1
	165nm,1.0s,mb5.3						
JSC	Jenkinsville	23.39	11	eP	P	02 33 02.7	+1.7
PLAL	Pickwick Lake	23.66	357	eP	P	02 33 04.2	+0.6
	73nm,0.9s,mb5.0						
MYNC	Murphy	23.79	5	eP	P	02 33 06.3	+1.4
	45nm,0.6s,mb5.0						
SWET	Sewanee	23.85	1	eP	P	02 33 06.2	+0.7
UALR	University of	24.02	348	eP	P	02 33 06.7	-0.4
TXAR	Lajitas Array	24.13	321	P	P	02 33 09.8	+1.6
	39nm,0.6s,mb4.9,baz=135,slow=7.6,SNR=171						
TXAR				PcP	PcP	02 36 50.9	+1.9
	11nm,0.9s,baz=135,slow=3.5,SNR=8.6						
TXAR				ScP		02 40 26.6	
	2.1nm,1.1s,baz=135,slow=5.3,SNR=6.6						
TXAR	Lajitas Array	24.13	321	P	P	02 33 09.8	+1.6
TXAR				PcP	PcP	02 36 50.9	+1.9
TXAR				ScP		02 40 26.6	
CPCT	Cooper Cave	24.14	4	eP	P	02 33 09.3	+1.0
HBAR	Harrisburg	24.49	352	eP	P	02 33 11.6	-0.1
GNAR	Gosnell	24.81	353	eP	P	02 33 14.6	-0.2
TZTN	Tazewell	25.30	5	eP	P	02 33 19.3	-0.2
PARMO	Parma	25.47	354	eP	P	02 33 20.5	-0.5
WMOK	Wichita Mounta	25.94	336	eP	P	02 33 24.0	-1.4
	395nm,1.0s,mb5.8						
ELN	Prospectdale	26.35	10	eP	P	02 33 29.5	+0.3
FWV	Forest Hill	26.68	10	P	P	02 33 31.4	-0.9
FVM	French Village	26.85	353	eP	P	02 33 31.5	-2.3
BLO	Bloomington	27.79	360	eP	P	02 33 41.3	-1.1
CBN	Corbin	28.02	15	eP	P	02 33 44.7	+0.3
	102nm,0.7s,mb5.5						
BBSR	BB Station	29.00	40	eP	P	02 33 53.5	+0.3
KSU1	Kansas State U	29.17	344	eP	P	02 33 52.5	-2.2
SDMD	Soldier's Deli	29.30	15	eP	P	02 33 55.8	0.0
ANMO	Albuquerque	29.81	326	P	P	02 34 01.2	+0.8
	18nm,0.8s,mb4.8,baz=135,slow=6.8,SNR=22						
ANMO	Albuquerque	29.81	326	eP	P	02 34 00.2	-0.2
	17nm,0.8s,mb4.7						
SAML	Samuel	30.61	130	eP	P	02 34 05.7	-2.0
	19nm,0.8s,mb4.9						
TUC	Tucson	30.69	317	eP	P	02 34 07.8	-0.4
	21nm,1.2s,mb4.8						
ALLY	Alegheny Colle	30.76	9	eP	P	02 34 08.1	-0.7
BRNJ	Basking Ridge	31.11	18	eP	P	02 34 11.8	0.0
SDCO	Great Sand Dun	31.44	330	eP	P	02 34 14.9	+0.2
	46nm,0.8s,mb5.2						
SDCO				epP	pP	02 34 25.2	-7.5
PAL	Palisades	31.61	18	eP	P	02 34 16.0	-0.1
	24nm,0.7s,mb5.0						
GENY	Geneseo	32.27	12	eP	P	02 34 21.6	-0.3
LPAZ	La Paz	32.81	146	PcP	PcP	02 37 11.8	+1.4
	6.1nm,1.1s,baz=20,slow=6.0,SNR=4.1						
PV01	Paradox Valley	33.30	327	eP	P	02 34 30.1	-0.8
PV10	Paradox Valley	33.73	327	eP	P	02 34 34.1	-0.5
ACCN	Adirondack Com	33.86	17	eP	P	02 34 34.2	-1.4
SADO	Sadowa	33.97	9	P	P	02 34 35.7	-0.9
	24nm,0.6s,mb5.2,baz=226,slow=9.3,SNR=16						
PHWY	Pilot Hill	34.28	334	eP	P	02 34 39.1	-0.1
MSNY	Massena	35.05	14	eP	P	02 34 45.4	-0.4
SRU	San Rafael	35.06	326	eP	P	02 34 45.8	-0.1
RWWY	Rawlins	35.37	333	eP	P	02 34 48.8	+0.3
	53nm,0.8s,mb5.4						
NEN	Nelson	35.39	318	eP	P	02 34 49.4	+0.6
TMUT	Trail Mountain	35.56	326	eP	P	02 34 50.7	+0.5
MSU	Marysvale	35.56	324	eP	P	02 34 51.6	+1.3
MVU	Marysvale	35.58	324	eP	P	02 34 51.0	+0.7
	16nm,1.0s,mb4.9						
ARUT	Antelope Range	35.83	322	eP	P	02 34 53.2	+0.8
MPU	Maple Canyon	36.30	326	eP	P	02 34 56.5	+0.1
DAU	Daniels Canyon	36.38	327	eP	P	02 34 57.8	+0.7
NLU	North Lily Min	36.50	326	eP	P	02 34 58.9	+0.8
JLU	Jordanelle	36.62	327	eP	P	02 34 59.6	+0.4
MWC	Mount Wilson	36.80	313	eP	P	02 35 01.7	+1.0
CTU	Camp Tracy	36.85	327	eP	P	02 35 01.3	+0.3
TCUT	Toone Canyon	36.97	328	eP	P	02 35 02.1	+0.1
NOQ	North Oquirrh	37.02	327	eP	P	02 35 03.1	+0.6
BW06	Boulder Array	37.29	331	eP	P	02 35 04.3	-0.4
	19nm,0.7s,mb5.1						
PDAR	Pinedale Array	37.29	331	P	P	02 35 04.7	-0.1
	22nm,0.7s,mb5.2,baz=128,slow=9.9,SNR=45						
PDAR				PcP	PcP	02 37 23.4	+0.1
	5.4nm,0.9s,baz=133,slow=3.0,SNR=4.9						
TRCR	Troy Canyon	37.49	321	eP	P	02 35 07.7	+1.3
SPUT	South Promonto	37.66	327	eP	P	02 35 08.1	+0.4
BGU	Big Grassy Mou	37.70	326	eP	P	02 35 08.4	+0.3
LVC	Limon Verde	37.79	153	P	P	02 35 12.0	+3.0
	4.1nm,0.8s,mb4.3,baz=327,slow=5.5,SNR=4.1						
LVC				PcP	PcP	02 37 27.1	+2.2
	4.0nm,0.7s,baz=187,slow=8.1,SNR=3.5						
TPH	Tonopah	38.36	319	eP	P	02 35 14.9	+1.3
	8.0nm,0.7s,mb4.7						
REDW	Red Top Meadow	38.36	331	eP	P	02 35 14.0	+0.4
	115nm,0.8s,mb5.8						
SNOW	Snow King Moun	38.39	331	eP	P	02 35 14.1	+0.3
	117nm,0.8s,mb5.8						
LOHW	Long Hollow	38.43	331	eP	P	02 35 14.2	0.0
	26nm,0.6s,mb5.2						
TPAW	Teton Pass	38.50	331	eP	P	02 35 15.0	+0.2
	59nm,0.8s,mb5.5						
RRI2	Red Ridge	38.57	330	eP	P	02 35 15.5	+0.1
	32nm,0.7s,mb5.3						
MOOW	Moose Ponds	38.60	331	eP	P	02 35 15.5	-0.1
	32nm,0.8s,mb5.2						
IMW	Indian Meadow	38.80	331	eP	P	02 35 17.5	+0.2
	22nm,0.8s,mb5.0						
LAO	LASA Array	39.09	338	eP	P	02 35 19.1	-0.5
	36nm,0.7s,mb5.3						
YFT	Old Faithful	39.18	332	eP	P	02 35 21.8	+1.4
NVAR	Mina Array Bea	39.26	319	P	P	02 35 22.6	+1.5
	8.1nm,0.6s,mb4.7,baz=120,slow=8.6,SNR=22						
NVAR				PcP	PcP	02 37 31.3	+1.9
	17nm,0.9s,baz=132,slow=4.8,SNR=16						
YMR	Madison River	39.40	332	eP	P	02 35 23.1	+0.9
ULM	Lac du Bonnet	39.65	350	P	P	02 35 21.9	-2.3
	30nm,0.6s,mb5.3,baz=164,slow=8.9,SNR=21						
ULM	Lac du Bonnet	39.65	350	eP	P	02 35 21.9	-2.3
	92nm,1.1s,mb5.5						
GCMT	Greycliff	39.71	334	eP	P	02 35 24.3	-0.5
QLMT	Earthquake Lak	39.74	332	eP	P	02 35 26.2	+1.2
BMN	Battle Mountai	39.78	322	eP	P	02 35 26.1	+0.7
	74nm,1.3s,mb5.4						
DGMT	Dagmar	39.96	342	eP	P	02 35 26.4	-0.4
	145nm,0.7s,mb5.9						
DGMT				epP	pP	02 35 37.4	-7.8
HLID	Hailey	40.28	328	eP	P	02 35 29.7	+0.2
	16nm,0.7s,mb5.0						
MCMT	McKenzie Canyo	40.41	331	eP	P	02 35 31.9	+1.4
MCMT				epP	pP	02 35 42.5	-6.5
HRY	Holter Researc	41.36	333	eP	P	02 35 38.6	+0.3
MSO	Missoula	42.40	332	eP	P	02 35 46.7	-0.2
	46nm,1.4s,mb5.0						
LTIM	Timbered Crate	42.83	320	P	P	02 35 52.2	+1.7
YBH	Yreka Blue Hor	43.90	320	P	P	02 35 58.9	-0.3
	6.2nm,0.9s,mb4.3,baz=83,slow=1.2,SNR=7.4						
YBH				PcP	PcP	02 37 45.3	+0.6
	6.9nm,1.0s,baz=111,slow=2.3,SNR=4.4						
BUOR	Burton Butte	43.92	321	P	P	02 36 00.5	+1.2
KHMM	Horse Mountain	44.10	319	eP	P	02 36 01.3	+0.5
BBOR	Butler Butte	44.52	322	P	P	02 36 03.7	-0.5
PRW	Prosser	44.83	327	P	P	02 36 06.7	+0.1
NEW	Newport	44.93	331	P	P	02 36 06.4	-0.9
	12nm,0.8s,mb4.7,baz=137,slow=7.6,SNR=9.2						
NEW				PcP	PcP	02 37 48.2	+0.2
	5.1nm,0.6s,baz=70,slow=3.3,SNR=5.0						
SNIWA	Snively Ranch	44.98	328	P	P	02 36 07.9	+0.1
FFC	Flin Flon	45.07	347	eP	P	02 36 07.5	-0.9
OD2	Odessa Site #2	45.10	329	P	P	02 36 08.6	-0.1
KEBM	Edson Butte	45.53	321	eP	P	02 36 13.0	+0.8
EBG	Ellensburg	45.74	327	P	P	02 36 14.7	+0.8
ASR	Mount Adams--S	45.82	326	P	P	02 36 15.4	+0.9
COR	Corvallis	45.86	323	eP	P	02 36 14.5	-0.3
	44nm,1.3s,mb5.0						
CBSW	Chelan Butte S	46.05	329	P	P	02 36 16.4	+0.1
SCHQ	Schefferville	46.13	16	P	P	02 36 15.2	-1.6
	22nm,0.8s,mb5.0,baz=204,slow=5.6,SNR=24						
SCHQ				PcP	PcP	02 37 50.5	-1.7
	5.6nm,0.8s,baz=59,slow=3.3,SNR=2.6						
SCHQ	Schefferville	46.13	16	eP	P	02 36 14.7	-2.0
	28nm,1.2s,mb4.9						
WPW	White Pass	46.13	327	P	P	02 36 17.8	+0.9
LON	Longmire	46.31	327	P	P	02 36 18.5	+0.2
BDFB	Brasilia	46.48	124	P	P	02 36 19.4	-0.6
	31nm,0.8s,mb5.1,baz=299,slow=8.3,SNR=17						
BAO	Brasilia Array	46.49	124	P	P	02 36 19.5	-0.6
CPUP	Villa Florida	46.87	143	P	P	02 36 22.9	-0.1
	30nm,0.9s,mb5.0,baz=348,slow=8.1,SNR=37						
CPUP				PcP	PcP	02 37 56.0	+0.8
	4.6nm,0.7s,baz=339,slow=6.2,SNR=2.9						
CPUP	Villa Florida	46.87	143	eP	P	02 36 22.1	-0.9
	1.5nm,0.5s,mb4.0						
EDM	Edmonton	47.08	338	eP	P	02 36 22.9	-1.4
RPW	Rockport	47.22	329	P	P	02 36 25.0	-0.5
CMW	Cultus Mountai	47.52	328	P	P	02 36 27.1	-0.7
MCW	Mount Constitu	48.05	328	P	P	02 36 31.5	-0.4
TRQA	Tornquist	54.13	156	eP	P	02 37 16.5	-1.6
	89nm,1.6s,mb5.5						
YKA	Yellowknife Ar	55.02	344	P	P	02 37 22.5	-1.6
	13nm,0.7s,mb5.1,baz=143,slow=6.9,SNR=53						
YKA				PcP	PcP	02 38 24.2	-0.5
	2.7nm,0.7s,baz=146,slow=4.0,SNR=6.9						
YKA				PP	PP	02 39 24.8	-4.5
	1.7nm,0.7s,baz=137,slow=8.7,SNR=3.5						
YKA	Yellowknife Ar	55.02	344	P	P	02 37 22.5	-1.6
YKA				PcP	PcP	02 38 24.2	-0.5
YKA				PP	PP	02 39 24.8	-4.5
DLBC	Dease Lake	57.41	334	eP	P	02 37 40.8	-0.4
DLBC				epP	pP	02 37 51.5	-9.1
INK	Inuvik	64.63	342	eP	P	02 38 28.2	-1.7
	17nm,0.9s,mb4.9						
EYAK	Cordova Ski Ar	65.42	332	eP	P	02 38 34.8	-0.2
DIV	Divide	65.65	333	eP	P	02 38 35.7	-0.8
	60nm,1.1s,mb5.3						
PMR	Palmer	67.33	333	eP	P	02 38 45.8	-1.3
PMR				eP		02 38 46.0	
SLKM	Skilak Lake	67.48	331	eP	P	02 38 46.7	-1.4
SUMG	Summit	67.48	14	eP	P	02 38 46.5	-1.4
	20nm,1.0s,mb4.9						
ILAR	Eielson Array	67.51	336	P	P	02 38 46.8	-1.4
	11nm,0.6s,mb4.9,baz=133,slow=4.1,SNR=132						
ILAR				PP	PP	02 41 14.8	-4.9
	3.3nm,0.9s,baz=109,slow=6.9,SNR=5.9						
SPU	Mount Spurr	68.54	332	eP	P	02 38 53.7	-0.9
SVW2	Sparrevohn	70.17	331	eP	P	02 39 03.8	-0.8
TTA	Tatalina	70.79	333	eP	P	02 39 07.4	-0.9
SDPT	Sand Point	71.75	325	eP	P	02 39 14.8	+0.6
ESDC	Sonseca Array	77.13	52	P	P	02 39 43.6	-1.9
	1.7nm,0.8s,mb3.8,baz=284,slow=5.3,SNR=7.9						
NB2	NORSAR Subarra	83.91	29	P	P	02 40 19.6	-1.3
	1.5nm,0.9s,mb3.8,baz=283,slow=5.0						
NOA	NORSAR Array B	83.91	29	P	P	02 40 19.7	-1.2
	0.9nm,0.8s,mb3.6,baz=285,slow=5.0,SNR=5.0						
BILL	Bilibino	85.98	339	eP	P	02 40 31.7	+0.6

	6.2nm,0.6s,mb4.7						
ARCES	**ARCESS Array B**	**86.97**	**19**	P	**P**	**02 40 35.4**	**-0.5**
	1.8nm,0.7s,mb4.1,baz=284,slow=5.0,SNR=9.9						
ARCES				PP	PP	02 43 58.0	-4.0
	2.0nm,0.8s,baz=310,slow=9.5,SNR=4.9						
ARCES	**ARCESS Array B**	**86.97**	**19**	P	**P**	**02 40 35.4**	**-0.5**
ARCES				PP	PP	02 43 58.0	-4.0
CLL	**Collm**	**87.12**	**38**	*e*	pP	02 40 56.0	-1.7
FX1	**Attu Island--F**	**87.31**	**323**	*e*P	**P**	**02 40 39.3**	**+1.4**
AKASG	**Malin Array Be**	**96.90**	**35**	PP	PP	02 45 16.1	-4.8
	0.2nm,0.3s,baz=298,slow=7.0,SNR=4.9						
ASF	**Jabal al Asfar**	**110.74**	**49**	PKiKP		02 46 23.4	
	2.2nm,0.8s,baz=326,slow=3.6,SNR=4.4						
SONM	**Songino Array**	**120.07**	**350**	PKP	PKPdf	02 46 42.4	+1.9
	2.7nm,0.6s,baz=301,slow=1.0,SNR=12						
CTA	**Charters Tower**	**128.71**	**253**	PKP	PKPdf	02 47 01.1	+3.2
	1.7nm,0.6s,baz=247,slow=4.6,SNR=5.1						
STKA	**Stephens Creek**	**131.32**	**237**	PKP	PKPdf	02 47 05.8	+3.1
	4.0nm,0.6s,baz=51,slow=4.3,SNR=8.6						
WB2	**Warramunga Arr**	**139.88**	**252**	*e*P	PKPdf	02 47 22.2	+3.5
WRAB	**Tennant Creek**	**139.89**	**252**	*e*PKP	PKPdf	02 47 21.2	+2.5
WRA	**Warramunga Arr**	**139.90**	**252**	PKhKP		02 47 12.3	
	2.4nm,0.8s,baz=93,slow=2.6,SNR=5.9						
WRA				PKP	PKPdf	02 47 22.1	+3.3
	8.8nm,0.9s,baz=91,slow=1.5,SNR=16						
QIZ	**Qiongzhong**	**145.90**	**332**	*e*PKP	PKPdf	02 47 32.6	+3.3
FITZ	**Fitzroy Crossi**	**148.29**	**254**	⇑*i*P	PKPdf	02 47 40.0	+6.8
	50nm,0.8s						
FITZ	**Fitzroy Crossi**	**148.29**	**254**	PKPbc	PKPdf	02 47 40.2	+7.0
	62nm,0.8s,baz=149,slow=1.2,SNR=27						
NWAO	**Narrogin (SRO)**	**149.40**	**222**	PKPbc	PKPdf	02 47 42.4	+7.8
	9.2nm,0.8s,baz=130,slow=2.7,SNR=6.4						
NWAO	**Narrogin (SRO)**	**149.40**	**222**	*e*PKPbc	PKPdf	02 47 42.0	+7.4
KLBR	**Kellerberrin**	**149.87**	**224**	*e*P	PKPdf	02 47 43.2	+7.8
	34nm,1.0s						
CM31	**Chiang Mai Arr**	**150.00**	**350**	*e*PKP	PKPdf	02 47 39.5	+3.6
CMAR	**Chiang Mai Arr**	**150.00**	**350**	PKP	PKPdf	02 47 39.2	+3.2
	12nm,0.9s,baz=335,slow=2.5,SNR=6.0						
CMAR				PKPbc	PKPdf	02 47 43.1	+7.2
	12nm,0.9s,baz=332,slow=3.1,SNR=21						
MUN	**Mundaring**	**150.67**	**222**	*e*P	PKPdf	02 47 45.4	+8.8
	42nm,1.2s						
KKM	**Kota Kinabalu**	**151.66**	**306**	*e*PKP	PKPdf	02 47 42.7	+4.1

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*IDC **02** 02:36:46.4±0.8, 11.46N×86.13W, mb4.3/11, mb1 4.6/11, mb1mx4.3/20, mbtmp4.3/11, Error ellipse: s-maj=37.0km s-min=17.9km az=64.0*

*NEIC **02** 02:36:51.8±0.4, 11.39N×86.58W, mb4.6/20, MD4.3(CASC), Error ellipse: s-maj=14.2km s-min=4.4km az=47.0*

*CASC **02** 02:36:51.6±3.2, 11.15N×86.63W, h10^{km}±8^{km}, MD4.3, ML4.4, MW4.0, mb4.6(NEIC)*

ISC 02 02:36:53.9±0.5**, 11.27N**±0.05×**86.49W**±0.07**, h75**^{km}±4^{km}**, h28**^{km}±3.3^{km}**:pP-P, n101,** σ**0^{s}95**/111**, mb4.5**/30**, 7C-12D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.74**	**15**	⇑*e*P	**P**	**02 37 09.5**	**-0.2**
APON	**Apoyo**	**0.77**	**33**	⇓*i*P	**P**	**02 37 09.6**	**-0.6**
MASN	**Masaya**	**0.79**	**25**	*e*P	**P**	**02 37 09.2**	**-1.1**
MASN				⇓*e*P		02 37 09.6	
TICN	**Ticuantepe**	**0.80**	**18**	*e*P	**P**	**02 37 09.6**	**-0.9**
XAVN	**Gruta Xavier**	**0.89**	**10**	⇓*i*P	**P**	**02 37 11.2**	**-0.3**
XAVN				*e*S	**S**	**02 37 24.9**	**+0.2**
CONN	**Concepcion**	**0.90**	**71**	⇓*i*P	**P**	**02 37 10.6**	**-1.0**
MGAN	**Managua**	**0.91**	**15**	⇓*i*P	**P**	**02 37 11.5**	**-0.2**
MGAN				*e*S	**S**	**02 37 25.2**	**+0.1**
MGAN				*i*		02 37 27.1	
	comp=N,11μm,0.4s						
WILN	**Americas 2**	**0.94**	**18**	⇓*e*P	**P**	**02 37 11.8**	**-0.3**
WILN				*e*S	**S**	**02 37 26.5**	**+0.8**
APYN	**Apoyeque**	**0.97**	**8**	⇑*e*P	**P**	**02 37 12.3**	**-0.2**
MOMJ	**Momotombo**	**1.14**	**358**	⇑*e*P	**P**	**02 37 14.1**	**-0.5**
MIRN	**Miramar**	**1.19**	**350**	⇑*e*P	**P**	**02 37 15.0**	**-0.3**
LEON	**Leon**	**1.21**	**341**	⇓*e*P	**P**	**02 37 15.0**	**-0.5**
CNGN	**Cerro Negro**	**1.24**	**351**	⇓*e*P	**P**	**02 37 15.7**	**-0.3**
PYTN	**Playitas**	**1.33**	**19**	⇓*e*P	**P**	**02 37 17.2**	**-0.1**
PYTN				*e*S	**S**	**02 37 36.0**	**+1.3**
TEL3	**Telica 3**	**1.34**	**345**	⇑*e*P	**P**	**02 37 17.2**	**-0.2**
TELN	**Telica**	**1.37**	**346**	⇑*e*P	**P**	**02 37 17.6**	**-0.3**
TELN				*e*S	**S**	**02 37 39.0**	**+3.4**
VCR	**Vista de Mar**	**1.41**	**143**	*e*P	**P**	**02 37 19.9**	**+1.5**
CRIN	**San Cristobal**	**1.53**	**339**	⇑*e*P	**P**	**02 37 19.6**	**-0.2**
CRIN				*e*S	**S**	**02 37 38.6**	**-0.5**
JTS	**JuntasAbangare**	**1.80**	**123**	Pn	**P**	**02 37 21.8**	**-1.6**
	comp=N,273nm,0.3s,baz=321,slow=18,SNR=111						
JTS				Lg		02 37 47.5	
	comp=N,299nm,0.3s,baz=214,slow=22,SNR=13						
JTS	**JuntasAbangare**	**1.80**	**123**	*e*P	**P**	**02 37 21.7**	**-1.7**
FORC	**Fortuna**	**1.96**	**114**	*e*P	**P**	**02 37 25.8**	**+0.2**
FORC				*i* P		02 37 25.9	
FORC				*e*S	**S**	**02 37 53.1**	**+4.1**
SOMN	**Somoto**	**2.14**	**357**	⇓*e*P	**P**	**02 37 30.3**	**+2.0**
CNCH	**Conchagua**	**2.39**	**327**	⇓*e*P	**P**	**02 37 50.8**	**+19**
CNCH				*e*S	**S**	**02 38 23.6**	**+24**
PRS1	**Puriscal**	**2.49**	**121**	*e*P	**P**	**02 37 33.4**	**+0.3**
SJS	**Escuela Geolog**	**2.73**	**119**	*e*P	**P**	**02 37 38.1**	**+1.5**
SJS				*e*S	**S**	**02 38 12.3**	**+3.8**
BLLM	**Bellamira**	**2.75**	**322**	*e*P	**P**	**02 37 55.9**	**+19**
BLLM				*e*S	**S**	**02 38 32.2**	**+23**
VSM	**San Miguel**	**2.77**	**321**	*e*P	Px	02 38 06.3	
VSM				*e*S	Sx	02 38 42.1	
TRTC	**Tortuguero**	**2.81**	**104**	*e*P	**P**	**02 37 35.5**	**-2.2**
URSC	**Urasca**	**3.02**	**118**	*e*P	**P**	**02 37 41.4**	**+0.8**
BUS	**Buena Vista**	**3.18**	**122**	*e*P	**P**	**02 37 43.2**	**+0.4**
BUS				*e*S	**S**	**02 38 20.6**	**+0.9**
SNVI	**San Vicente**	**3.27**	**316**	*e*P	**P**	**02 38 04.7**	**+21**
SNVI				*e*S	**S**	**02 38 42.8**	**+21**
LCBS	**La Ceiba**	**3.40**	**315**	⇓*e*P	**P**	**02 38 04.7**	**+19**
LCBS				*e*S	**S**	**02 38 43.3**	**+18**
LFU	**La Fuente**	**3.56**	**314**	*e*P	**P**	**02 38 07.5**	**+20**
LFU				*e*S	**S**	**02 38 48.9**	**+20**
SBLS	**San Blas**	**3.99**	**310**	*e*P	**P**	**02 38 13.6**	**+20**
SBLS				*e*S	**S**	**02 39 00.8**	**+21**
RTR	**El Retiro**	**4.04**	**311**	*e*P	**P**	**02 38 14.2**	**+19**
RTR				*e*S	**S**	**02 39 01.9**	**+21**
ACR	**Cerro Adams**	**4.18**	**128**	*e*P	**P**	**02 37 57.0**	**+0.3**
RBDL	**Robledal**	**4.21**	**313**	*e*P	**P**	**02 38 19.1**	**+22**
RBDL				*e*S	**S**	**02 39 07.7**	**+22**
SVTC	**San Vito de Co**	**4.26**	**125**	*e*P	**P**	**02 37 57.4**	**-0.5**
DVD	**David**	**4.88**	**125**	*e*P	**P**	**02 38 06.0**	**-0.4**
OTAV	**Otavalo**	**13.56**	**143**	*e*P	**P**	**02 40 05.5**	**+1.1**
SDV	**Santo Domingo**	**15.79**	**97**	*e*P	**P**	**02 40 34.4**	**+1.2**
NATX	**Nacogdoches**	**21.75**	**341**	*e*P	**P**	**02 41 41.1**	**+0.5**
	comp=N,166nm,1.3s,mb5.2						
NATX				*e*		02 41 52.8	
OXF	**Oxford**	**23.29**	**354**	*e*P	**P**	**02 41 56.5**	**+0.9**
	comp=N,38nm,0.9s,mb4.7						
JSC	**Jenkinsville**	**23.40**	**11**	*e*P	**P**	**02 41 58.3**	**+1.6**
PLAL	**Pickwick Lake**	**23.65**	**357**	*e*P	**P**	**02 41 59.7**	**+0.5**
	comp=N,19nm,1.2s,mb4.3						
SWET	**Sewanee**	**23.85**	**1**	*e*P	**P**	**02 42 02.2**	**+1.2**
UALR	**University of**	**24.00**	**348**	*e*P	**P**	**02 42 03.1**	**+0.6**
TXAR	**Lajitas Array**	**24.08**	**321**	P	**P**	**02 42 05.0**	**+1.7**
	comp=N,8.4nm,0.9s,mb4.1,baz=142,slow=9.4,SNR=39						
TXAR				PcP	PcP	02 45 46.5	+2.1
	comp=N,2.3nm,0.9s,baz=146,slow=5.2,SNR=7.1						
CPCT	**Cooper Cave**	**24.14**	**4**	*e*P	**P**	**02 42 05.0**	**+1.1**
WMOK	**Wichita Mounta**	**25.91**	**336**	*e*P	**P**	**02 42 20.6**	**-0.2**
	comp=N,88nm,1.0s,mb5.1						
WMOK				*e*pP	pP	02 42 33.8	-4.2
ELN	**Prospectdale**	**26.36**	**10**	*e*P	**P**	**02 42 23.5**	**-1.4**
MNTX	**Cornudas Mount**	**26.79**	**322**	*e*P	**P**	**02 42 26.5**	**-2.4**
	comp=N,17nm,1.5s,mb4.4						
KSU1	**Kansas State U**	**29.15**	**344**	*e*P	**P**	**02 42 48.4**	**-1.7**
ANMO	**Albuquerque**	**29.76**	**326**	P	**P**	**02 42 56.2**	**+0.6**
	comp=N,3.6nm,1.1s,mb3.9,baz=177,slow=8.5,SNR=4.8						
ANMO	**Albuquerque**	**29.76**	**326**	*e*P	**P**	**02 42 55.5**	**-0.1**
	comp=N,3.5nm,0.9s,mb4.0						
SAML	**Samuel**	**30.67**	**130**	*e*P	**P**	**02 43 02.0**	**-1.8**
	comp=N,5.2nm,0.6s,mb4.4						
SDCO	**Great Sand Dun**	**31.40**	**330**	*e*P	**P**	**02 43 10.2**	**+0.2**
SDCO				*e*pP	pP	02 43 18.1	-10
LPAZ	**La Paz**	**32.85**	**146**	PcP	PcP	02 46 07.5	+1.4
	comp=N,0.6nm,0.7s,baz=354,slow=9.7,SNR=3.2						
PV01	**Paradox Valley**	**33.26**	**327**	*e*P	**P**	**02 43 26.1**	**0.0**
PV10	**Paradox Valley**	**33.69**	**327**	*e*P	**P**	**02 43 29.5**	**-0.3**
SADO	**Sadowa**	**33.98**	**9**	P	**P**	**02 43 30.2**	**-2.0**
	comp=N,10nm,0.8s,mb4.7,baz=183,slow=6.2,SNR=8.8						
SRU	**San Rafael**	**35.02**	**326**	*e*P	**P**	**02 43 41.6**	**+0.5**
RWWY	**Rawlins**	**35.33**	**333**	*e*P	**P**	**02 43 44.1**	**+0.3**
	comp=N,7.0nm,0.8s,mb4.5						
MVU	**Marysvale**	**35.53**	**324**	*e*P	**P**	**02 43 46.8**	**+1.2**
	comp=N,6.9nm,1.3s,mb4.4						
RSSD	**Black Hills**	**36.07**	**338**	*e*P	**P**	**02 43 50.1**	**+0.1**
RSSD				*e*pP	pP	02 43 59.1	-9.2
DAU	**Daniels Canyon**	**36.34**	**327**	*e*P	**P**	**02 43 53.3**	**+0.9**
PDAR	**Pinedale Array**	**37.25**	**332**	P	**P**	**02 44 00.2**	**+0.3**
	comp=N,2.6nm,0.7s,mb4.2,baz=131,slow=8.8,SNR=16						
PDAR				PcP	PcP	02 46 19.3	+0.6
	comp=N,1.1nm,0.7s,baz=141,slow=5.0,SNR=5.6						
HWUT	**Hardware Ranch**	**37.37**	**328**	*e*P	**P**	**02 44 01.2**	**+0.2**
DAC	**Darwin (Calif)**	**37.52**	**317**	*e*P	**P**	**02 43 58.9**	**-3.4**
	comp=N,2.5nm,0.7s,mb4.2						
SPUT	**South Promonto**	**37.62**	**327**	*e*P	**P**	**02 44 03.9**	**+0.8**
BGU	**Big Grassy Mou**	**37.66**	**326**	*e*P	**P**	**02 44 04.3**	**+0.9**
AHID	**Auburn Hatcher**	**37.99**	**330**	*e*P	**P**	**02 44 06.1**	**0.0**
REDW	**Red Top Meadow**	**38.32**	**331**	*e*P	**P**	**02 44 09.1**	**+0.3**
	comp=N,32nm,1.1s,mb5.1						
SNOW	**Snow King Moun**	**38.35**	**331**	*e*P	**P**	**02 44 09.4**	**+0.3**
	comp=N,17nm,0.9s,mb4.9						
LOHW	**Long Hollow**	**38.39**	**331**	*e*P	**P**	**02 44 09.9**	**+0.4**
	comp=N,5.4nm,1.0s,mb4.3						
TPAW	**Teton Pass**	**38.46**	**331**	*e*P	**P**	**02 44 09.2**	**-0.8**
	comp=N,9.5nm,0.9s,mb4.6						
RRI2	**Red Ridge**	**38.53**	**331**	*e*P	**P**	**02 44 10.5**	**-0.1**
	comp=N,3.8nm,0.7s,mb4.3						
MOOW	**Moose Ponds**	**38.56**	**331**	*e*P	**P**	**02 44 10.7**	**-0.1**
	comp=N,5.9nm,0.9s,mb4.4						
IMW	**Indian Meadow**	**38.77**	**331**	*e*P	**P**	**02 44 12.5**	**0.0**
	comp=N,2.8nm,0.6s,mb4.3						
MNV	**Mina**	**39.11**	**319**	*e*P	**P**	**02 44 15.7**	**+0.2**
	comp=N,3.1nm,0.9s,mb4.1						
NVAR	**Mina Array Bea**	**39.21**	**319**	P	**P**	**02 44 18.2**	**+2.0**
	comp=N,1.9nm,0.8s,mb4.0,baz=136,slow=6.7,SNR=9.1						
NVAR				PcP	PcP	02 46 27.2	+2.4
	comp=N,3.2nm,0.9s,baz=125,slow=5.1,SNR=9.7						
ULM	**Lac du Bonnet**	**39.63**	**351**	P	**P**	**02 44 17.9**	**-1.8**
	comp=N,7.4nm,0.5s,mb4.8,baz=164,slow=7.5,SNR=9.1						
DGMT	**Dagmar**	**39.93**	**342**	*e*P	**P**	**02 44 21.8**	**-0.3**
	comp=N,26nm,0.8s,mb5.1						
MCMT	**McKenzie Canyo**	**40.37**	**331**	*e*P	**P**	**02 44 26.9**	**+1.0**
WVOR	**Wild Horse Val**	**41.81**	**324**	*e*P	**P**	**02 44 38.0**	**+0.4**
	comp=N,22nm,0.9s,mb4.9						
HUMO	**Hull Mountain**	**44.49**	**321**	*e*P	**P**	**02 44 59.7**	**+0.2**
NEW	**Newport**	**44.89**	**331**	P	**P**	**02 45 02.1**	**-0.6**
	comp=N,1.1nm,0.4s,mb4.0,baz=36,slow=6.4,SNR=2.9						
NEW				PcP	PcP	02 46 43.2	-0.3
	comp=N,1.5nm,0.6s,baz=117,slow=4.5,SNR=2.9						
FFC	**Flin Flon**	**45.05**	**347**	*e*P	**P**	**02 45 02.9**	**-0.9**
SCHQ	**Schefferville**	**46.15**	**16**	P	**P**	**02 45 11.1**	**-1.4**
	comp=N,2.7nm,0.4s,mb4.4,baz=222,slow=5.5,SNR=16						
CPUP	**Villa Florida**	**46.91**	**143**	P	**P**	**02 45 18.4**	**-0.6**
	comp=N,2.7nm,0.7s,mb4.1,baz=342,slow=7.6,SNR=11						
CPUP				PcP	PcP	02 46 51.5	+0.6
	comp=N,1.7nm,0.7s,baz=351,slow=4.8,SNR=4.3						
CPUP	**Villa Florida**	**46.91**	**143**	*e*P	**P**	**02 45 18.0**	**-0.9**
CPUP				*e*pP	pP	02 45 27.4	-10
EDM	**Edmonton**	**47.05**	**338**	*e*P	**P**	**02 45 18.9**	**-0.7**
EDM				*e*pP	pP	02 45 28.7	-10
TRQA	**Tornquist**	**54.16**	**156**	P	**P**	**02 46 13.3**	**-0.6**
YKA	**Yellowknife Ar**	**54.99**	**345**	P	**P**	**02 46 18.0**	**-1.6**
	comp=N,2.0nm,0.7s,mb4.3,baz=136,slow=7.5,SNR=13						
ILAR	**Eielson Array**	**67.48**	**336**	P	**P**	**02 47 42.8**	**-0.8**
	comp=N,2.2nm,0.6s,mb4.2,baz=135,slow=4.5,SNR=25						
SUMG	**Summit**	**67.50**	**14**	*e*P	**P**	**02 47 43.4**	**-0.2**
SUMG				*e*pP	pP	02 47 50.7	-13
SONM	**Songino Array**	**120.06**	**350**	PKP	PKPdf	02 55 37.5	+1.4
	comp=N,0.7nm,0.5s,baz=331,slow=0.8,SNR=6.5						
WRA	**Warramunga Arr**	**139.83**	**252**	PKP	PKPdf	02 56 18.7	+4.5
	comp=N,2.2nm,0.6s,baz=94,slow=2.7,SNR=16						
QIZ	**Qiongzhong**	**145.86**	**332**	*e*PKP	PKPdf	02 56 28.4	+3.6
FITZ	**Fitzroy Crossi**	**148.22**	**254**	PKPbc	PKPdf	02 56 35.7	+7.0
	comp=N,13nm,0.7s,baz=164,slow=5.5,SNR=9.3						
CMAR	**Chiang Mai Arr**	**149.98**	**350**	PKPbc	PKPdf	02 56 39.5	+7.9
	comp=N,1.4nm,0.4s,baz=315,slow=3.1,SNR=11						

CASC 02 02:43:45.0±1.9**, 11.06N**×**86.58W, h6**^{km}±11^{km}**, MD3.8, ML3.6, 1C, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.96**	**17**	*e*P	Pb	02 44 03.9	+0.3
APON	**Apoyo**	**0.99**	**31**	*e*P	Pb	02 44 04.1	-0.1
MASN	**Masaya**	**1.01**	**24**	*e*P	Pb	02 44 04.5	-0.1
TICN	**Ticuantepe**	**1.03**	**19**	*e*P	Pb	02 44 05.1	+0.4
CONN	**Concepcion**	**1.06**	**62**	*e*P	Pb	02 44 04.7	-0.7
XAVN	**Gruta Xavier**	**1.11**	**13**	*e*P	Pb	02 44 05.9	-0.4
MGAN	**Managua**	**1.13**	**17**	*e*P	Pb	02 44 06.0	-0.5
WILN	**Americas 2**	**1.16**	**19**	*e*P	Pb	02 44 06.3	-0.8
APYN	**Apoyeque**	**1.19**	**11**	*e*P	Pb	02 44 07.1	-0.4
MOMJ	**Momotombo**	**1.34**	**2**	*e*P	Pb	02 44 08.7	-1.5
MIRN	**Miramar**	**1.38**	**355**	*e*P	Pb	02 44 09.5	-1.3
LEON	**Leon**	**1.38**	**347**	*e*P	Pb	02 44 09.4	-1.5
CNGN	**Cerro Negro**	**1.44**	**355**	*e*P	Pn	02 44 10.0	-1.7
FORC	**Fortuna**	**1.97**	**107**	*e*P	Pn	02 44 18.3	-0.9
FORC				*i* P		02 44 18.4	
PRS1	**Puriscal**	**2.48**	**115**	*e*P	Pn	02 44 26.5	0.0
TRTC	**Tortuguero**	**2.86**	**99**	*e*P	Pn	02 44 29.5	-2.5
URSC	**Urasca**	**3.01**	**114**	⇑*e*P	Pn	02 44 34.8	+0.6
BUS	**Buena Vista**	**3.15**	**118**	*e*P	Pn	02 44 35.0	-1.2

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*IDC **02** 02:56:50.1±4.7, 11.75N×85.96W, h18^{km}±34^{km}, mb3.5/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=54.4km s-min=21.5km az=53.0*

*CASC **02** 02:56:50.4±2.8, 11.06N×86.60W, h14^{km}±8^{km}, MD4.1, ML4.2*

ISC 02 02:56:51.4±0.9**, 11.04N**±0.06×**86.58W**±0.08**, h54**^{km}±12^{km}**, n30,** σ**0^{s}86**/42**, mb3.6**/4**, 6C-6D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.98**	**16**	*e*P	**P**	**02 57 09.3**	**+0.2**
APON	**Apoyo**	**1.01**	**30**	⇓*e*P	**P**	**02 57 09.1**	**-0.5**
MASN	**Masaya**	**1.03**	**24**	*e*P	**P**	**02 57 09.7**	**-0.2**
MASN				*e*S	**S**	**02 57 21.8**	**-1.9**
TICN	**Ticuantepe**	**1.05**	**19**	⇑*e*P	**P**	**02 57 09.8**	**-0.3**
CONN	**Concepcion**	**1.07**	**61**	*e*P	**P**	**02 57 09.6**	**-0.8**
XAVN	**Gruta Xavier**	**1.13**	**13**	⇓*e*P	**P**	**02 57 11.1**	**-0.1**
XAVN				*e*S	**S**	**02 57 25.6**	**-0.4**
MGAN	**Managua**	**1.15**	**17**	*e*P	**P**	**02 57 11.3**	**-0.2**
MGAN				*e*S	**S**	**02 57 26.6**	**+0.1**
MGAN				*i*		02 57 27.9	
	comp=E,5μm,0.5s						
WILN	**Americas 2**	**1.18**	**19**	⇓*e*P	**P**	**02 57 11.6**	**-0.3**
WILN				*e*S	**S**	**02 57 27.6**	**+0.4**
APYN	**Apoyeque**	**1.21**	**11**	⇑*e*P	**P**	**02 57 12.2**	**-0.1**
APYN				*e*S	**S**	**02 57 28.7**	**+0.8**
MOMJ	**Momotombo**	**1.36**	**2**	⇑*e*P	**P**	**02 57 14.0**	**-0.6**
MOMJ				*e*S	**S**	**02 57 31.9**	**+0.1**
MIRN	**Miramar**	**1.40**	**355**	⇑*e*P	**P**	**02 57 14.8**	**-0.3**
MIRN				*e*S	**S**	**02 57 33.6**	**+0.9**
LEON	**Leon**	**1.40**	**347**	⇑*i*P	**P**	**02 57 14.9**	**-0.2**
CNGN	**Cerro Negro**	**1.46**	**355**	⇓*e*P	**P**	**02 57 15.5**	**-0.4**
CNGN				*e*S	**S**	**02 57 33.6**	**-0.5**
TEL3	**Telica 3**	**1.55**	**350**	*e*P	**P**	**02 57 17.2**	**+0.1**
TEL3				*e*S	**S**	**02 57 38.1**	**+1.9**
TELN	**Telica**	**1.58**	**351**	⇑*e*P	**P**	**02 57 17.4**	**-0.1**
TELN				*e*S	**S**	**02 57 37.0**	**+0.1**
PYTN	**Playitas**	**1.58**	**19**	⇓*e*P	**P**	**02 57 17.2**	**-0.3**
PYTN				*e*S	**S**	**02 57 38.7**	**+1.7**
CRIN	**San Cristobal**	**1.71**	**345**	*e*P	**P**	**02 57 19.2**	**-0.3**
CRIN				*e*S	**S**	**02 57 39.8**	**-0.4**
JTS	**JuntasAbangare**	**1.76**	**115**	Pn	**P**	**02 57 20.1**	**0.0**
	comp=E,38nm,0.3s,baz=323,slow=16,SNR=28						
JTS				Lg		02 57 45.8	
	comp=E,32nm,0.3s,baz=326,slow=20,SNR=5.0						
FORC	**Fortuna**	**1.96**	**106**	*e*P	**P**	**02 57 23.7**	**+0.8**
SOMN	**Somoto**	**2.37**	**359**	⇓*i*P	**P**	**02 57 30.2**	**+1.5**
PRS1	**Puriscal**	**2.47**	**115**	*e*P	**P**	**02 57 30.5**	**+0.5**
TRTC	**Tortuguero**	**2.85**	**99**	*e*P	**P**	**02 57 33.8**	**-1.8**
BLLM	**Bellamira**	**2.89**	**326**	*e*P	Px	02 57 59.1	
BLLM				*e*S	Sx	02 58 32.6	
URSC	**Urasca**	**3.00**	**113**	*e*P	**P**	**02 57 37.5**	**-0.2**
BUS	**Buena Vista**	**3.14**	**118**	*e*P	**P**	**02 57 41.2**	**+1.5**
LCBS	**La Ceiba**	**3.50**	**318**	*e*P	**P**	**02 58 04.4**	**+20**
LCBS				*e*S	**S**	**02 58 43.6**	**+18**
TXAR	**Lajitas Array**	**24.20**	**321**	P	**P**	**03 02 04.6**	**+0.6**
	comp=E,1.9nm,0.7s,mb3.6,baz=136,slow=9.7,SNR=25						
SIV	**San Ignacio**	**36.86**	**136**	P	**P**	**03 03 58.3**	**+1.8**
	comp=E,0.4nm,0.5s,mb3.5,baz=323,slow=13,SNR=3.3						
PDAR	**Pinedale Array**	**37.41**	**332**	P	**P**	**03 03 60.0**	**-1.0**
	comp=E,0.7nm,0.7s,mb3.6,baz=121,slow=8.6,SNR=5.7						
ILAR	**Eielson Array**	**67.65**	**336**	P	**P**	**03 07 42.5**	**-2.0**
	comp=E,0.4nm,0.6s,mb3.6,baz=136,slow=4.3,SNR=6.5						

CASC 02 03:18:17.5±2.5**, 11.04N**×**86.59W, h19**^{km}±9^{km}**, MD3.9, ML3.5, 5C-6D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.98**	**17**	⇑*e*P	Pb	03 18 36.1	+0.6
APON	**Apoyo**	**1.01**	**31**	⇓*e*P	Pb	03 18 35.9	-0.2
APON				*e*S	Sb	03 18 53.0	+4.1
MASN	**Masaya**	**1.03**	**25**	⇑*e*P	Pb	03 18 36.3	-0.2
TICN	**Ticuantepe**	**1.04**	**20**	⇑*e*P	Pb	03 18 36.9	+0.1
CONN	**Concepcion**	**1.08**	**61**	⇓*e*P	Pb	03 18 36.5	-0.8
CONN				*e*S	Sb	03 18 51.9	+1.0
XAVN	**Gruta Xavier**	**1.13**	**13**	⇓*e*P	Pb	03 18 38.0	-0.2
XAVN				*e*S	Sb	03 18 54.7	+2.3
MGAN	**Managua**	**1.15**	**17**	⇓*e*P	Pb	03 18 37.9	-0.5
MGAN				*e*S	Sb	03 18 53.4	+0.5
MGAN				*i*		03 18 54.5	
	comp=E,1μm,0.4s						
WILN	**Americas 2**	**1.18**	**19**	*e*P	Pb	03 18 38.4	-0.6
WILN				*e*S	Sb	03 18 54.3	+0.5
APYN	**Apoyeque**	**1.21**	**11**	⇓*e*P	Pb	03 18 39.1	-0.3
APYN				*e*S	Sb	03 18 54.7	0.0
MIRN	**Miramar**	**1.39**	**355**	⇑*e*P	Pn	03 18 41.6	-0.6
LEON	**Leon**	**1.40**	**348**	⇑*e*P	Pn	03 18 41.8	-0.4
CNGN	**Cerro Negro**	**1.45**	**356**	*e*P	Pn	03 18 41.7	-1.3
TEL3	**Telica 3**	**1.54**	**351**	⇓*e*P	Pn	03 18 44.0	-0.3
TELN	**Telica**	**1.57**	**351**	*e*P	Pn	03 18 44.2	-0.5
PYTN	**Playitas**	**1.57**	**19**	*e*P	Pn	03 18 43.9	-0.9
PYTN				*e*S	Sn	03 19 02.9	-1.8
FORC	**Fortuna**	**1.97**	**107**	*e*P	Pn	03 18 51.3	+0.8
PRS1	**Puriscal**	**2.48**	**115**	*e*P	Pn	03 18 57.2	-0.5
URSC	**Urasca**	**3.02**	**113**	*e*P	Pn	03 19 06.1	+0.7
URSC				*e*S	Sn	03 19 42.2	+0.9
BUS	**Buena Vista**	**3.15**	**118**	*e*P	Pn	03 19 08.2	+0.8

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*NEIC **02** 03:27:22.3±0.2, 19.83S×68.98W, mb4.2/4, Error ellipse: s-maj=8.9km s-min=5.3km az=64.0*

*GUC **02** 03:27:22.1±0.7, 19.99S×69.26W, h104^{km}±4^{km}, MD4.7, ML4.9*

*IDC **02** 03:27:22.9±0.5, 19.92S×68.94W, h105^{km}±4^{km}, mb3.9/11, mb1 4.2/14, mb1mx4.1/16, mbtmp4.4/14, MS3.6/1, Ms1 3.7/1, ms1mx3.3/22, Error ellipse: s-maj=15.0km s-min=9.3km az=88.0*

ISC 02 03:27:21.1±0.3**, 19.81S**±0.04×**68.94W**±0.06**, h105**^{km}**, h105**^{km}±2.9^{km}**:pP-P, n59,** σ**1^{s}09**/56**, mb4.0**/13**, 5C-4D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.79**	**179**	*e*P	**P**	**03 28 04.5**	**-0.6**
LVC				*i* S	**S**	**03 28 37.0**	**-1.2**
LVC				AMP		03 28 43.6	
	comp=N,4μm,0.3s						
LVC	**Limon Verde**	**2.79**	**179**	P	**P**	**03 28 04.5**	**-0.6**
	comp=N,93nm,0.3s,baz=22,slow=12,SNR=339						
LVC				S	**S**	**03 28 36.7**	**-1.5**
	comp=N,269nm,0.3s,baz=246,slow=23,SNR=13						
SPCH	**San Pedro de A**	**3.16**	**167**	*e*P	**P**	**03 28 10.6**	**+0.5**
SPCH				AMP		03 29 35.4	
	comp=E,2μm,0.6s						
SPCH	**San Pedro de A**	**3.16**	**167**	*e*P	**P**	**03 28 11.2**	**+1.0**
SPCH				*i* S	**S**	**03 28 49.5**	**+2.3**
LPAZ	**La Paz**	**3.59**	**13**	P	**P**	**03 28 22.1**	**+6.2**
	comp=E,13nm,0.3s,baz=192,slow=8.1,SNR=371						
LPAZ				LR	LR	03 30 03.9	
	comp=E,708nm,18.4s,baz=275,slow=44						
ANCH	**Antofagasta**	**4.09**	**199**	*e*P	**P**	**03 28 16.9**	**-5.9**
ANCH				*i* S	**S**	**03 28 58.6**	**-11**
ANCH				AMP		03 29 18.7	
	comp=E,2μm,0.5s						
ANCH	**Antofagasta**	**4.09**	**199**	⇑*i*P	**P**	**03 28 18.5**	**-4.3**
ANCH				*i* S	**S**	**03 28 59.4**	**-10**
ARE	**Arequipa**	**4.12**	**324**	⇑*i*P	**P**	**03 28 22.6**	**-0.6**
ARE				*i*		03 28 28.4	
CPN1	**Cerro Paranal**	**4.98**	**196**	*i* P	**P**	**03 28 30.4**	**-4.5**
CRCH	**Chaqaral**	**6.69**	**193**	⇑*i*P	**P**	**03 28 52.4**	**-5.9**
CRCH				*i* S	**S**	**03 30 02.4**	**-11**
SIV	**San Ignacio**	**8.40**	**64**	P	**P**	**03 29 22.3**	**+0.8**
	comp=E,24nm,0.3s,baz=256,slow=12,SNR=865						
SIV				S	**S**	**03 30 54.2**	**-1.1**
	baz=179,slow=23,SNR=2.8						
CFAA	**Coronel Fontan**	**11.76**	**177**	P	**P**	**03 30 00.7**	**-5.9**
	comp=E,0.1nm,0.3s,baz=13,slow=14,SNR=9.5						
CPUP	**Villa Florida**	**12.50**	**123**	P	**P**	**03 30 16.1**	**-0.3**
	comp=E,0.8nm,0.3s,baz=318,slow=12,SNR=63						
TRQA	**Tornquist**	**19.16**	**163**	*e*P	**P**	**03 31 36.2**	**-2.6**
	comp=E,5.7nm,0.5s						
BDFB	**Brasilia**	**20.36**	**82**	P	**P**	**03 31 52.0**	**+0.6**
	comp=E,4.2nm,0.3s,baz=265,slow=12,SNR=14						
BAO	**Brasilia Array**	**20.38**	**82**	P	**P**	**03 31 52.0**	**+0.4**
SDV	**Santo Domingo**	**28.56**	**357**	*e*P	**P**	**03 33 08.2**	**-1.2**
ELN	**Prospectdale**	**57.81**	**349**	*e*P	**P**	**03 37 04.2**	**+0.2**
WVT	**Waverly**	**58.44**	**342**	*e*P	**P**	**03 37 06.4**	**-1.9**
	comp=E,1.8nm,0.5s,mb4.4						
WVT				*e*pP	pP	03 37 30.1	-4.0
TXAR	**Lajitas Array**	**59.23**	**325**	P	**P**	**03 37 13.3**	**-0.6**
	comp=E,0.5nm,0.8s,mb3.6,baz=154,slow=9.3,SNR=6.5						
TXAR	**Lajitas Array**	**59.23**	**325**	P	**P**	**03 37 13.3**	**-0.6**
VNA3	**Neumayer Olymp**	**61.68**	**162**	*e*	**P**	**03 37 31.7**	**+1.7**
VNA3	**Neumayer Olymp**	**61.68**	**162**	*e*	**P**	**03 37 38.0**	**+8.0**
VNA3	**Neumayer Olymp**	**61.68**	**162**	*e*	pP	03 37 57.6	+1.6
VNA3	**Neumayer Olymp**	**61.68**	**162**	⇓*i*P	**P**	**03 37 29.2**	**-0.8**
VNA3				*e*		03 37 31.7	
VNA3				*e*		03 37 38.0	
VNA3				*e*	pP	03 37 57.6	+1.6
VNA1	**Neumayer--Stat**	**61.88**	**161**	*e*	**P**	**03 37 33.6**	**+2.3**
VNA1	**Neumayer--Stat**	**61.88**	**161**	*e*	**P**	**03 37 40.4**	**+9.1**
VNA1	**Neumayer--Stat**	**61.88**	**161**	⇓*i*P	**P**	**03 37 31.2**	**-0.1**
VNA1				*e*		03 37 33.6	
VNA1				*e*		03 37 40.4	
VNA2	**Neumayer--Watz**	**62.25**	**161**	*e*	**P**	**03 37 35.8**	**+2.0**
VNA2	**Neumayer--Watz**	**62.25**	**161**	*e*	**P**	**03 37 41.6**	**+7.8**
VNA2	**Neumayer--Watz**	**62.25**	**161**	*e*	pP	03 38 00.4	+0.5
VNA2	**Neumayer--Watz**	**62.25**	**161**	⇓*i*P	**P**	**03 37 33.4**	**-0.4**
VNA2				*e*		03 37 35.8	
VNA2				*e*		03 37 41.6	
VNA2				*e*	pP	03 38 00.4	+0.5
SNAA	**Sanae**	**63.88**	**161**	⇓*i*	**P**	**03 37 43.8**	**-0.6**
SNAA	**Sanae**	**63.88**	**161**	*e*	**P**	**03 37 46.2**	**+1.8**
SNAA	**Sanae**	**63.88**	**161**	*e*	**P**	**03 37 51.1**	**+6.7**
SNAA	**Sanae**	**63.88**	**161**	*e*	pP	03 38 11.9	+1.2
SNAA	**Sanae**	**63.88**	**161**	⇑*i*P	**P**	**03 37 43.8**	**-0.6**
SNAA				*e*		03 37 46.2	
SNAA				*e*		03 37 51.1	
SNAA				*e*	pP	03 38 11.9	+1.2
SDCO	**Great Sand Dun**	**66.78**	**329**	*e*P	**P**	**03 38 03.3**	**-0.3**
	comp=E,3.1nm,1.0s,mb4.1						
SDCO				*e*pP	pP	03 38 27.1	-2.9
DBIC	**Dimbokro**	**68.29**	**74**	P	**P**	**03 38 13.4**	**0.0**
	comp=E,5.6nm,0.7s,mb4.5,baz=232,slow=7.3,SNR=13						
DBIC				pP	pP	03 38 40.9	+1.0
	comp=E,7.9nm,0.6s,baz=221,slow=6.8,SNR=4.4						
ARUT	**Antelope Range**	**70.94**	**324**	*e*P	**P**	**03 38 30.4**	**+1.3**
PDAR	**Pinedale Array**	**72.64**	**330**	P	**P**	**03 38 39.3**	**+0.2**
	comp=E,0.7nm,0.9s,mb3.5,baz=117,slow=3.3,SNR=3.8						
ULM	**Lac du Bonnet**	**73.70**	**342**	P	**P**	**03 38 44.4**	**-0.8**
	comp=E,2.1nm,0.5s,mb4.1,baz=142,slow=5.0,SNR=4.5						
NVAR	**Mina Array Bea**	**74.15**	**322**	P	**P**	**03 38 49.5**	**+1.5**
	comp=E,1.4nm,0.8s,mb3.8,baz=152,slow=7.4,SNR=8.9						
SCHQ	**Schefferville**	**74.36**	**1**	P	**P**	**03 38 48.8**	**-0.1**
	comp=E,1.9nm,0.7s,mb3.9,baz=212,slow=16,SNR=3.6						
HLID	**Hailey**	**75.60**	**328**	*e*P	**P**	**03 38 57.3**	**+1.1**
	comp=E,1.1nm,0.8s,mb3.6						
SYO	**Syowa Base**	**78.09**	**160**	⇑P	**P**	**03 39 08.5**	**-1.0**
VNDA	**Vanda**	**78.50**	**190**	P	**P**	**03 39 12.9**	**+1.3**
	comp=E,1.2nm,0.8s,mb3.8,baz=112,slow=3.4,SNR=7.4						
FFC	**Flin Flon**	**79.43**	**341**	P	**P**	**03 39 17.2**	**+0.1**
EDM	**Edmonton**	**82.22**	**335**	*e*P	**P**	**03 39 31.2**	**-0.6**
BOSA	**Boshof**	**84.27**	**118**	P	**P**	**03 39 42.9**	**+0.2**
	comp=E,5.0nm,1.2s,mb4.2,baz=321,slow=21,SNR=3.4						
BOSA				pP	pP	03 40 10.0	-0.3
	comp=E,3.2nm,0.9s,baz=251,slow=8.5,SNR=2.7						
BOSA				sP	sP	03 40 23.0	+1.2
	comp=E,7.6nm,1.1s,baz=244,slow=2.7,SNR=3.1						
ESDC	**Sonseca Array**	**84.66**	**45**	pP	pP	03 40 13.6	+1.6
	comp=E,1.1nm,0.9s,baz=239,slow=5.6,SNR=3.2						

MAW	Mawson	85.95	163	P	P	03 39 51.1	+1.0
	comp=E,1.5nm,0.5s,mb4.2,baz=180,slow=5.8,SNR=8.8						
YKA	Yellowknife Ar	89.59	341	P	P	03 40 08.4	+0.8
	comp=E,7.3nm,0.7s,mb4.9,baz=134,slow=4.6,SNR=46						
YKA				pP	pP	03 40 35.4	-0.1
	comp=E,1.1nm,0.6s,baz=137,slow=4.9,SNR=3.0						
YKA				sP	sP	03 40 48.6	+1.8
	comp=E,1.8nm,0.7s,baz=133,slow=4.7,SNR=3.4						
WRA	Warramunga Arr	134.38	211	PKP	PKPdf	03 46 28.9	+1.3
	comp=E,1.8nm,0.6s,baz=152,slow=1.6,SNR=8.8						
MKAR	Makanchi Array	144.28	34	PKP	PKPdf	03 46 45.4	+0.8
	comp=E,0.8nm,0.5s,baz=302,slow=2.8,SNR=15						
MKAR				pPKP		03 47 13.4	
	comp=E,1.0nm,0.7s,baz=319,slow=4.2,SNR=3.8						
MKAR				sPKP		03 47 26.7	
	comp=E,0.3nm,0.3s,baz=335,slow=2.0,SNR=11						
MJAR	Matsushiro Arr	150.98	311	PKPbc	PKPdf	03 47 03.5	+7.6
	comp=E,3.6nm,0.8s,baz=88,slow=1.0,SNR=13						
MJAR				pPKPbc		03 47 31.7	
	comp=E,0.9nm,0.4s,baz=84,slow=1.3,SNR=2.5						
MAT	Matsushiro	150.98	311	*e*PKP	PKPdf	03 47 03.0	+7.1
MAT	Matsushiro	150.98	311	PKP	PKPdf	03 47 03.3	+7.4
SONM	Songino Array	151.79	7	PKP	PKPdf	03 46 59.9	+3.2
	comp=E,0.9nm,0.8s,slow=1.2,SNR=7.6						
SONM				PKPbc	PKPdf	03 47 05.9	+9.2
	comp=E,4.3nm,0.5s,baz=306,slow=1.3,SNR=34						
SONM				pPKPbc		03 47 34.9	
	comp=E,1.1nm,0.5s,baz=285,slow=1.0,SNR=3.7						

CASC 02 03:38:03.6±2.5, 11.02N×86.88W, h5^{km}±13^{km}, MD4.1, ML3.5, 9C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.11	30	⇓*e*P	Pb	03 38 24.9	-0.1
TICN	Ticuantepe	1.19	32	*e*P	Pb	03 38 26.3	-0.1
TICN				*e*S	Sb	03 38 44.5	+2.6
APON	Apoyo	1.20	42	⇓*e*P	Pb	03 38 25.7	-0.8
APON				*e*S	Sb	03 38 44.6	+2.6
MASN	Masaya	1.20	36	*e*P	Pb	03 38 25.6	-0.9
XAVN	Gruta Xavier	1.25	26	⇑*e*P	Pb	03 38 26.6	-0.7
XAVN				*e*S	Sb	03 38 44.5	+0.9
MGAN	Managua	1.28	29	⇑*i*P	Pb	03 38 27.1	-0.8
MGAN				*e*S	Sb	03 38 44.1	-0.4
MGAN				*i*		03 38 45.7	
	comp=N,969nm,0.3s						
APYN	Apoyeque	1.32	23	⇓*e*P	Pb	03 38 27.6	-0.8
APYN				*e*S	Sb	03 38 46.7	+1.2
WILN	Americas 2	1.32	31	⇑*e*P	Pb	03 38 27.2	-1.4
WILN				*e*S	Sb	03 38 46.3	+0.5
CONN	Concepcion	1.34	66	⇑*e*P	Pb	03 38 27.1	-1.8
CONN				*e*S	Sb	03 38 51.0	+4.7
LEON	Leon	1.39	359	⇑*e*P	Pb	03 38 29.0	-0.7
MOMJ	Momotombo	1.42	13	⇓*e*P	Pn	03 38 29.2	-1.1
MIRN	Miramar	1.42	7	⇓*e*P	Pn	03 38 29.7	-0.6
MIRN				*e*S	Sb	03 38 49.6	+0.9
CNGN	Cerro Negro	1.48	7	⇑*e*P	Pn	03 38 30.3	-0.9
CNGN				*e*S	Sb	03 38 50.3	-0.1
TEL3	Telica 3	1.55	1	⇑*e*P	Pn	03 38 31.4	-0.6
TELN	Telica	1.58	2	*e*P	Pn	03 38 30.3	-2.2
CRIN	San Cristobal	1.68	354	⇑*e*P	Pn	03 38 33.7	-0.3
PYTN	Playitas	1.71	28	⇑*e*P	Pn	03 38 32.6	-1.8
PRS1	Puriscal	2.72	112	*e*P	Pn	03 38 49.6	+0.8
TRTC	Tortuguero	3.14	98	*e*P	Pn	03 38 51.7	-3.1
URSC	Urasca	3.27	111	*e*P	Pn	03 38 57.1	+0.5
BUS	Buena Vista	3.40	115	*e*P	Pn	03 39 00.0	+1.6

IDC 02 03:55:28.2±1.6, 7.06N×76.51W, mb3.7/4, mb1 4.0/6, mb1mx3.7/20, mbtmp3.8/6, ML2.4/1, MS3.3/1, Ms1 3.3/1, ms1mx3.3/27, Error ellipse: s-maj=46.5km s-min=22.8km az=61.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	3.08	135	Pn	Pn	03 56 19.5	+0.4
	9.6nm,0.3s,baz=306,slow=3.5,SNR=31						
ROSC				Sn	Sn	03 56 59.8	+2.6
	15nm,0.3s,baz=264,slow=22,SNR=5.2						
ROSC				LR	LR	03 57 09.4	
	comp=Z,565nm,21.6s,baz=102,slow=33						
SDV	Santo Domingo	6.10	72	Pn	Pn	03 56 59.3	-2.5
	5.3nm,0.3s,baz=276,slow=9.7,SNR=12						
SDV				Sn	Sn	03 58 05.5	-7.8
	3.6nm,0.3s,baz=89,slow=23,SNR=2.1						
LPAZ	La Paz	24.64	160	P	P	04 00 50.7	-1.3
	0.5nm,0.6s,baz=324,slow=8.7,SNR=2.6						
YKA	Yellowknife Ar	61.91	341	P	P	04 05 49.8	-2.0
	0.3nm,0.5s,baz=134,slow=6.6,SNR=6.4						
NB2	NORSAR Subarra	82.77	29	P	P	04 07 53.9	-1.4
	0.5nm,0.7s,baz=272,slow=5.0						
NOA	NORSAR Array B	82.77	29	P	P	04 07 54.0	-1.3
	0.9nm,0.8s,baz=274,slow=5.1,SNR=4.8						
GERES	GERESS Array B	84.88	42	P	P	04 08 05.0	-1.2
	0.4nm,0.7s,baz=270,slow=2.9,SNR=4.5						

CASC 02 03:58:57.8±2.2, 11.09N×86.57W, h27^{km}±7^{km}, MD4.0, ML3.6, 5C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	0.93	17	⇓*e*P	Pn	03 59 15.0	-0.1
APON	Apoyo	0.96	31	*e*P	Pn	03 59 14.9	-0.7
APON				*e*S	Sb	03 59 30.7	+2.7
TICN	Ticuantepe	0.99	19	*e*P	Pn	03 59 15.8	-0.3
CONN	Concepcion	1.04	63	*e*P	Pn	03 59 15.4	-1.3
CONN				*e*S	Sb	03 59 28.9	-1.4
XAVN	Gruta Xavier	1.08	13	⇑*e*P	Pn	03 59 16.7	-0.6
XAVN				*e*S	Sn	03 59 32.3	+0.9
MGAN	Managua	1.10	17	⇑*e*P	Pn	03 59 16.9	-0.7
MGAN				*e*S	Sn	03 59 32.4	+0.5
MGAN				*i*		03 59 33.8	
	comp=E,1μm,0.6s						
WILN	Americas 2	1.13	19	⇓*e*P	Pn	03 59 17.4	-0.6
WILN				*e*S	Sn	03 59 33.6	+0.9
APYN	Apoyeque	1.16	11	*e*P	Pn	03 59 18.1	-0.3
APYN				*e*S	Sn	03 59 34.2	+0.8
MIRN	Miramar	1.35	354	⇓*e*P	Pn	03 59 20.6	-0.5
MIRN				*e*S	Sn	03 59 38.5	+0.1
LEON	Leon	1.36	347	⇑*e*P	Pn	03 59 20.4	-0.8
LEON				*e*S	Sn	03 59 40.0	+1.6
CNGN	Cerro Negro	1.41	355	⇑*e*P	Pn	03 59 21.1	-0.9
TEL3	Telica 3	1.50	350	⇓*e*P	Pn	03 59 22.9	-0.3
PYTN	Playitas	1.52	19	⇑*e*P	Pn	03 59 22.6	-1.0
PYTN				*e*S	Sn	03 59 42.0	-0.8
CRIN	San Cristobal	1.67	344	⇓*e*P	Pn	03 59 25.3	-0.4
CRIN				*e*S	Sn	03 59 48.1	+1.7
PRS1	Puriscal	2.48	116	*e*P	Pn	03 59 37.5	+0.2
TRTC	Tortuguero	2.85	100	*e*P	Pn	03 59 41.2	-1.5
URSC	Urasca	3.02	114	*e*P	Pn	03 59 45.8	+0.8
BUS	Buena Vista	3.16	119	*e*P	Pn	03 59 48.7	+1.7

*IDC **02** 04:10:58.7±0.4, 11.59N×86.14W, mb5.1/20, mb1 5.2/20, mb1mx5.2/22, mbtmp5.1/20, MS5.3/16, Ms1 5.3/16, ms1mx5.1/28, Error ellipse: s-maj=21.6km s-min=10.5km az=59.0*

*CASC **02** 04:11:02.1±9.7, 11.08N×87.05W, h41^{km}, MD4.4, ML5.6, MW5.3, mb5.4(NEIC)*

*MOS **02** 04:11:03.0±0.8, 11.58N×86.14W, h33^{km}, mb5.4/49, MS5.5/16, Error ellipse: s-maj=12.2km s-min=5.2km az=115.2*

*CRAAG **02** 04:11:04.3, 11.22N×86.46W, Mb5.3*

*HRVD **02** 04:11:04.1±0.3, 10.86N×86.92W, h36^{km}±1^{km}, MW5.8/68, Centroid moment Tensor Solution. LP body waves: s46,c58;Mantle waves: s68,c133; Half duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}4.70±.31; $M_{\theta\theta}$-3.21±.17; $M_{\phi\phi}$-1.49±.18; $M_{r\theta}$2.56±.16; $M_{\theta\phi}$2.34±.09; $M_{\phi r}$-1.49±.21; Best double couple: $M_0$5.616×10^{17} NP1: ϕ_s308°,δ29°,λ95°. NP2:ϕ_s122°,δ61°,λ87°. Principal axes: T 5.549, Plg74°, Azm26°; N .134, Plg2°, Azm124°; P -5.683, Plg16°, Azm214°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **02** 04:11:04.1±0.5, 11.41N×86.25W, h40^{km}±4^{km}, mb5.4/124, MS5.4/123, MD5.0(CASC) Error ellipse: s-maj=5.3km s-min=3.0km az=223.0*

NEIC Felt in much of Costa Rica and Nicaragua.

*BJI **02** 04:11:04.0, 11.40N×86.30W, h41^{km}, mB5.9, Ms5.9,*

Msz5.5

ISC 02 04:11:05.9±0.3, 11.31N±0.03×86.46W±0.03, h74^{km}±2^{km}, h76^{km}±2.2^{km}:pP-P, n604, σ1s12/438, mb5.2/142, 36C-22D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	0.69	13	⇓*i*P	P	04 11 21.5	+0.3
APON	Apoyo	0.72	32	⇑*i*P	P	04 11 22.0	+0.5
MASN	Masaya	0.74	24	⇓*e*P	P	04 11 22.1	+0.3
TICN	Ticuantepe	0.76	17	⇑*i*P	P	04 11 22.0	+0.1
XAVN	Gruta Xavier	0.85	9	⇑*i*P	P	04 11 23.0	0.0
CONN	Concepcion	0.86	73	⇑*i*P	P	04 11 23.4	+0.3
MGAN	Managua	0.86	14	⇑*e*P	P	04 11 23.4	+0.3
WILN	Americas 2	0.89	17	⇑*i*P	P	04 11 23.8	+0.3
APYN	Apoyeque	0.93	7	⇓*i*P	P	04 11 24.1	+0.1
MOMJ	Momotombo	1.10	356	⇑*e*P	P	04 11 25.4	-0.7
MIRN	Miramar	1.15	348	⇓*i*P	P	04 11 25.9	-0.9
LEON	Leon	1.18	339	⇑*i*P	P	04 11 25.5	-1.6
CNGN	Cerro Negro	1.21	349	⇑*e*P	P	04 11 26.8	-0.8
PYTN	Playitas	1.29	18	⇑*e*P	P	04 11 29.2	+0.6
TEL3	Telica 3	1.31	343	⇑*e*P	P	04 11 27.8	-1.3
TELN	Telica	1.34	344	⇑*e*P	P	04 11 28.2	-1.2
VCR	Vista de Mar	1.43	145	*e*P	P	04 11 27.4	-3.2
CRIN	San Cristobal	1.50	337	⇑*e*P	P	04 11 29.9	-1.6
JTS	JuntasAbangare	1.79	124	Pn	P	04 11 33.1	-2.3
	142nm,0.3s,baz=316,slow=8.5,SNR=371						
JTS				LR	LR	04 12 03.7	
	comp=Z,30μm,21.2s,baz=198,slow=37						
JTS	JuntasAbangare	1.79	124	*e*P	P	04 11 30.7	-4.8
FORC	Fortuna	1.95	115	*e*P	P	04 11 36.5	-1.0
FORC	Fortuna	1.95	115	⇑*e*P	P	04 11 40.0	+2.5
FORC				*e*S	S	04 12 10.5	+10
SOMN	Somoto	2.11	356	⇑*e*P	P	04 11 41.4	+1.7
CNCH	Conchagua	2.37	326	*e*P	P	04 12 02.3	+19
CNCH				*e*S	S	04 12 32.0	+21
VPS2	Volcan Poas 2	2.45	117	*e*P	P	04 11 37.0	-7.6
PRS1	Puriscal	2.49	122	*e*P	P	04 11 44.0	-1.1
SJS	Escuela Geolog	2.73	120	*e*P	P	04 11 48.7	+0.2
SJS				*e*S	S	04 12 32.2	+12
SJS	Escuela Geolog	2.73	120	*e*P	P	04 11 48.7	+0.2
SJS				*e*S	S	04 12 26.9	+6.5
BLLM	Bellamira	2.74	321	*e*P	P	04 12 07.7	+19
BLLM				*e*S	S	04 12 40.2	+20
TRTC	Tortuguero	2.79	105	*e*P	P	04 11 48.5	-0.9
URSC	Urasca	3.02	119	*e*P	P	04 11 52.8	+0.3
URSC	Urasca	3.02	119	*e*P	P	04 11 52.2	-0.3
BUS	Buena Vista	3.18	123	*e*P	P	04 11 55.2	+0.4
LFU	La Fuente	3.55	313	*e*P	P	04 12 17.8	+18
LFU				*e*S	S	04 12 58.0	+17
LIO	Limon	3.61	111	*e*P	P	04 12 01.4	+0.6
BOQS	Boqueron	3.66	312	*e*P	P	04 12 18.9	+17
BOQS				*e*S	S	04 13 01.9	+18
ACR	Cerro Adams	4.18	129	*e*P	P	04 12 07.9	-0.8
SVTC	San Vito de Co	4.26	126	*e*P	P	04 12 10.3	+0.4
CNI	Changuinola	4.31	115	*e*P	P	04 12 12.5	+1.9
BRU2	Volcan	4.47	124	*e*P	P	04 12 14.3	+1.5
BRU	Baru	4.57	123	*e*P	P	04 12 15.7	+1.5
DVD	David	4.87	125	⇓*e*P	P	04 12 18.1	-0.3
PTP1	Petroterminal	5.03	127	*e*P	P	04 12 15.5	-5.0
UPA	Univ. de Panam	7.20	108	*e*P	P	04 12 51.0	+0.4
CCIG	Comitan	7.41	313	*i* P	P	04 12 51.5	-2.0
TEIG	Tepich	9.04	349	Pn	P	04 13 17.0	+1.3
CMIG	Matias Romero	9.99	306	*e*P	P	04 13 18.0	-11
HUIG	Huatulco	10.38	296	*i* P	P	04 13 29.6	-4.4
MCJ	Malvern	10.74	51	⇑*e*P	P	04 13 43.5	+4.6
MBJ	Montego Bay	10.90	49	⇓*e*P	P	04 13 46.5	+5.4
CVJ	Coleyville	11.04	50	⇓*e*P	P	04 13 48.1	+5.3
PCJ	Portland Cotta	11.04	54	⇓*e*P	P	04 13 48.1	+5.1
BBJ	Bamboo Saint A	11.33	51	⇓*e*P	P	04 13 52.0	+5.1
VHO	Vista Hermosa	11.49	301	*i* P	P	04 13 48.4	-0.6
STH	Stony Hill	11.51	53	⇓*e*P	P	04 13 54.4	+5.2
HOJ	Hope	11.51	54	⇓*e*P	P	04 13 54.5	+5.2
GWJ	Greenwich	11.57	53	⇓*e*P	P	04 13 55.5	+5.5
YHJ	Yallahs	11.66	55	⇓*e*P	P	04 13 56.5	+5.3
PNIG	Pinotepa	12.40	295	*i* P	P	04 13 59.7	-1.5
PAYG	Puerto Ayora	12.49	198	⇓*e*P	P	04 13 57.8	-4.6
	254nm,1.5s						
LVIG	Laguna Verde	12.73	312	*i* P	P	04 14 04.9	-0.5
OTAV	Otavalo	13.57	144	⇓*e*P	P	04 14 15.3	-1.3
	161nm,1.3s						
ROSC	El Rosal	13.61	117	Pn	P	04 14 19.7	+2.6
	0.2nm,0.3s,baz=108,slow=13,SNR=5.1						
ROSC				LR	LR	04 19 33.7	
	comp=Z,11μm,18.9s,baz=336,slow=38						
PPM	Popocatepetl	14.04	305	*i* P	P	04 14 21.1	-1.6
ACX	Acapulco	14.17	294	*i* P	P	04 14 22.6	-1.8
YAIG	Yautepec	14.30	303	*i* P	P	04 14 24.4	-1.6
CIVM	Cilcuayo	14.35	304	*e*P	P	04 14 25.9	-0.8
IIO	Organos	14.40	306	*i* P	P	04 14 25.5	-1.8
PLIG	Platanillo	14.44	301	*i* P	P	04 14 27.2	-0.6
CHVM	Chichinautzin	14.48	304	*i* P	P	04 14 27.2	-1.1
CAIG	El Cayaco	14.55	295	*i* P	P	04 14 30.0	+0.7
IIZ	Mezontepec	14.60	304	*i* P	P	04 14 30.2	+0.2
UNM	Universidad Na	14.62	305	*i* P	P	04 14 29.9	-0.3
PTVM	Pico Tres Padr	14.71	306	*i* P	P	04 14 30.2	-1.2
SZVM	Salazar	14.79	304	*i* P	P	04 14 31.9	-0.5
IIC	Rita Coyotepec	14.92	306	*e*P	P	04 14 32.7	-1.4
SDV	Santo Domingo	15.77	97	Pn	P	04 14 45.3	+0.4
	2.4nm,0.3s,baz=281,slow=6.1,SNR=41						
SDV				Sn	S	04 17 46.8	+9.5
	2.6nm,0.3s,baz=12,slow=19,SNR=6.1						
SDV				ScP		04 23 17.5	
	0.3nm,0.3s,baz=66,slow=18,SNR=4.9						
SDV	Santo Domingo	15.77	97	⇑*e*P	P	04 14 44.5	-0.4
	431nm,1.2s						
MOIG	Morelia	16.44	302	*i* P	P	04 14 55.5	+2.1
DWPF	Disney	17.37	15	P	P	04 15 05.1	+0.1
	990nm,1.8s						
CJM	Chamela	19.66	297	*i* P	P	04 15 36.8	+5.3
SJG	San Juan	20.77	69	P	P	04 15 44.2	+1.2
SJG						04 19 51.8	
SJG				pmax	pmax		
	comp=Z,52nm,0.9s						
SJG				pmax	pmax		
	comp=Z,15nm,1.0s						
SJG				MLR	MLR		
	comp=Z,7μm,18.8s						
SJG	San Juan	20.77	69	P	P	04 15 44.2	+1.3
	comp=Z,52nm,0.9s,baz=272,slow=7.2,SNR=18						
SJG				S	S	04 19 38.2	+13
	comp=Z,1.7nm,0.3s,baz=324,slow=23,SNR=1.3						
SJG				PcP	PcP	04 19 51.8	+1.8
	comp=Z,15nm,1.0s,baz=27,slow=15,SNR=3.9						
SJG				LR	LR	04 23 13.9	
	comp=Z,7μm,18.8s,baz=246,slow=36						
LRAL	Lakeview Retre	21.63	359	⇑*e*P	P	04 15 53.1	+1.5
	comp=Z,152nm,0.8s,mb5.4						
LRAL				LR	LR		
	comp=Z,6μm,20.0s						
NATX	Nacogdoches	21.72	341	⇑*e*P	P	04 15 53.0	+0.6
	comp=Z,394nm,0.8s,mb5.8						
NATX				LR	LR		
	comp=Z,4μm,21.0s						
CSU	Charleston Sou	22.36	14	*e*P	P	04 16 00.4	+1.7
MAIG	Mazatlaan	22.40	304	*i* P	P	04 16 01.6	+2.5
NHSC	New Hope	22.45	14	*e*P	P	04 16 01.3	+1.7
	comp=Z,1μm,1.6s,mb6.0						
NHSC				LR	LR		
	comp=Z,11μm,22.0s						
COW	Cow Castle Cre	22.60	13	*e*P	P	04 16 03.0	+1.9
OXF	Oxford	23.26	354	⇑*e*P	P	04 16 07.9	+0.5
	comp=Z,458nm,0.8s,mb5.9						
OXF				*e*pP		04 16 17.3	
OXF				LR	LR		
	comp=Z,7μm,19.0s						
JSC	Jenkinsville	23.36	11	*e*P	P	04 16 10.1	+1.7
PLAL	Pickwick Lake	23.61	357	*e*P	P	04 16 11.7	+0.8
	comp=Z,125nm,0.9s,mb5.2						
PLAL				*e*PcP	PcP	04 19 56.0	+0.4
PLAL				LR	LR		
	comp=Z,5μm,22.0s						
MYNC	Murphy	23.75	5	P	P	04 16 14.8	+2.6
MYNC				pmax	pmax		
	comp=Z,330nm,1.4s,mb5.5						
MYNC	Murphy	23.75	5	*e*P	P	04 16 14.7	+2.5
	comp=Z,326nm,1.4s,mb5.5						
MYNC				LR	LR		
	comp=Z,12μm,22.0s						
SWET	Sewanee	23.81	1	*e*P	P	04 16 14.1	+1.3
MET	Memphis--Engin	23.92	353	*e*P	P	04 16 14.7	+0.9
UALR	University of	23.97	348	*e*P	P	04 16 14.6	+0.3
	comp=Z,236nm,0.8s,mb5.6						
LTX	Lajitas	24.07	321	P	P	04 16 16.3	+1.0
LTX				pmax	pmax		
	comp=Z,120nm,0.8s,mb5.3						
LTX	Lajitas	24.07	321	*e*P	P	04 16 16.1	+0.7
	comp=Z,119nm,0.8s,mb5.3						
LTX				*e*PcP	PcP	04 19 57.8	+1.2
LTX				LR	LR		
	comp=Z,3μm,20.0s						
TXAR	Lajitas Array	24.07	321	P	P	04 16 16.2	+0.9
TXAR						04 19 59.1	
TXAR				pmax	pmax		
	comp=Z,53nm,0.8s						
TXAR				pmax	pmax		
	comp=Z,18nm,0.8s						
TXAR				pmax	pmax		
	comp=E,2.0nm,0.5s						
TXAR	Lajitas Array	24.07	321	P	P	04 16 16.1	+0.8
	comp=E,53nm,0.8s,mb4.9,baz=138,slow=9.3,SNR=338						
TXAR				PcP	PcP	04 19 59.1	+2.5
	comp=E,18nm,0.8s,baz=146,slow=4.5,SNR=9.2						
TXAR				ScP		04 23 36.3	
	comp=E,1.5nm,0.5s,baz=149,slow=4.6,SNR=16						
CPCT	Cooper Cave	24.10	4	*e*P	P	04 16 17.5	+1.9
HBAR	Harrisburg	24.44	352	*e*P	P	04 16 19.9	+0.9
BPA	Boggy Peak	24.52	74	*e*P	P	04 16 20.8	+1.0
TRN	Trinidad (W)	24.61	89	*e*P	P	04 16 22.9	+2.1
HALT	Halls	24.63	354	*e*P	P	04 16 20.9	0.0
CPB	Codrington	24.66	72	*e*P	P	04 16 20.3	-0.9
WVT	Waverly	24.75	357	P	P	04 16 21.6	-0.3
WVT				pmax	pmax		
	comp=Z,77nm,1.1s,mb5.0						
WVT	Waverly	24.75	357	*e*P	P	04 16 21.5	-0.4
	comp=Z,76nm,1.1s,mb5.0						
WVT				LR	LR		
	comp=Z,7μm,21.0s						
GNAR	Gosnell	24.76	353	*e*P	P	04 16 22.8	+0.8
FDF	Fort de France	24.89	79	⇓*e*P	P	04 16 25.0	+1.5
BIM	Bigot	24.95	80	⇓*e*P	P	04 16 25.8	+1.8
UTMT	University of	25.02	355	*e*P	P	04 16 24.9	+0.4
	comp=Z,562nm,1.3s,mb5.8						
CRM	Caravelle	25.12	79	⇓*e*P	P	04 16 27.3	+1.7
MVM	Montagne Vaucl	25.12	80	⇓*e*P	P	04 16 26.8	+1.2
TZTN	Tazewell	25.26	6	*e*P	P	04 16 28.1	+1.3
PARMO	Parma	25.42	354	*e*P	P	04 16 28.6	+0.3
WMOK	Wichita Mounta	25.89	336	P	P	04 16 32.8	+0.2
WMOK				pmax	pmax		
	comp=Z,930nm,1.5s,mb6.0						
WMOK	Wichita Mounta	25.89	336	*e*P	P	04 16 32.7	+0.1
	comp=Z,932nm,1.5s,mb6.0						
WMOK				LR	LR		
	comp=Z,4μm,22.0s						
ELN	Prospectdale	26.32	10	*e*P	P	04 16 37.2	+0.6
BLA	Blacksburg	26.36	11	P	P	04 16 39.5	+2.5
BLA				pmax	pmax		
	comp=Z,360nm,1.5s,mb5.6						
BLA	Blacksburg	26.36	11	*e*P	P	04 16 38.0	+1.1
	comp=Z,360nm,1.5s,mb5.6						
BLA				LR	LR		
	comp=Z,7μm,20.0s						
FWV	Forest Hill	26.65	10	*e*P	P	04 16 39.8	+0.2
FVM	French Village	26.80	353	P	P	04 16 40.3	-0.7
FVM				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.8						
FVM	French Village	26.80	353	*e*P	P	04 16 39.9	-1.1
	comp=Z,24nm,0.8s,mb4.8						
CCM	Cathedral Cave	26.98	352	P	P	04 16 41.6	-1.1
CCM				pmax	pmax		
	comp=Z,110nm,0.9s,mb5.4						
CCM	Cathedral Cave	26.98	352	*e*P	P	04 16 41.5	-1.1
	comp=Z,112nm,0.9s,mb5.4						
CCM				*e*PcP	PcP	04 20 03.7	+0.8
CCM				LR	LR		
	comp=Z,783nm,21.0s						
AMTX	Amarillo	27.25	332	*e*P	P	04 16 44.2	-1.0
	comp=Z,103nm,0.7s,mb5.5						
AMTX				*e*PcP	PcP	04 20 05.5	+1.9
AMTX				LR	LR		
	comp=Z,5μm,22.0s						
SLM	Saint Louis	27.42	354	P	P	04 16 46.4	-0.3
SLM				pmax	pmax		
	comp=Z,89nm,0.9s,mb5.3						
SLM	Saint Louis	27.42	354	*e*P	P	04 16 46.1	-0.6
	comp=Z,89nm,0.8s,mb5.3						
BLO	Bloomington	27.75	360	P	P	04 16 48.9	-0.8
BLO				pmax	pmax		
	comp=Z,160nm,0.8s,mb5.6						
BLO	Bloomington	27.75	360	*e*P	P	04 16 48.8	-0.9
	comp=Z,159nm,0.8s,mb5.6						
CBN	Corbin	27.99	15	*e*P	P	04 16 51.9	0.0
	comp=Z,138nm,0.8s,mb5.5						
CBN				LR	LR		
	comp=Z,12μm,21.0s						
BBSR	BB Station	29.00	40	*e*P	P	04 17 02.6	+1.7
	comp=Z,42nm,0.8s,mb5.1						
BBSR				LR	LR		
	comp=Z,8μm,20.0s						
KSU1	Kansas State U	29.12	344	*e*P	P	04 17 00.2	-1.7
SDMD	Soldier's Deli	29.27	15	*e*P	P	04 17 03.2	0.0
ANMO	Albuquerque	29.75	326	P	P	04 17 08.4	+0.9
ANMO				pmax	pmax		
	comp=Z,28nm,0.7s						
ANMO	Albuquerque	29.75	326	P	P	04 17 07.5	0.0
	comp=Z,30nm,0.8s,mb5.0,baz=141,slow=7.1,SNR=98						
ANMO				PcP	PcP	04 20 12.1	+2.3
	comp=Z,9.7nm,0.7s,baz=122,slow=6.4,SNR=5.4						
ANMO	Albuquerque	29.75	326	*e*P	P	04 17 07.6	+0.1
	comp=Z,784nm,0.9s						
ANMO				*e*PcP	PcP	04 20 11.3	+1.5
ANMO				LR	LR		
	comp=Z,3μm,20.0s						
CBKS	Cedar Bluff	29.84	339	P	P	04 17 08.5	+0.2
CBKS				pmax	pmax		
	comp=Z,65nm,1.0s,mb5.2						
CBKS	Cedar Bluff	29.84	339	*e*P	P	04 17 07.8	-0.6
	comp=Z,65nm,1.0s,mb5.2						
CBKS				*e*PcP	PcP	04 20 11.6	+1.6
CBKS				LR	LR		
	comp=Z,5μm,19.0s						
TUC	Tucson	30.63	317	P	P	04 17 16.1	+0.7
TUC				pmax	pmax		
	comp=Z,49nm,1.4s,mb5.0						
TUC	Tucson	30.63	317	*e*P	P	04 17 15.6	+0.2
	comp=Z,49nm,1.4s,mb5.0						
TUC				*e*PcP	PcP	04 20 13.2	+1.1
TUC				LR	LR		
	comp=Z,8μm,20.0s						
SAML	Samuel	30.67	130	⇑*e*P	P	04 17 15.1	-0.8
	comp=Z,12nm,1.6s,mb4.4						
SAML				*e*pP	pP	04 17 24.5	-9.2
SAML				LR	LR		
	comp=Z,7μm,19.0s						
ALLY	Alegheny Colle	30.73	9	*e*P	P	04 17 16.3	+0.2
BRNJ	Basking Ridge	31.09	18	*e*P	P	04 17 19.6	+0.3
CPNY	Central Park	31.37	18	*e*P	P	04 17 22.6	+0.8
SDCO	Great Sand Dun	31.38	330	⇑*e*P	P	04 17 21.9	0.0
	comp=Z,40nm,0.8s,mb5.2						
SDCO				*e*pP	pP	04 17 33.4	-6.3
SDCO				LR	LR		
	comp=Z,6μm,22.0s						
PAL	Palisades	31.58	18	P	P	04 17 25.0	+1.4
PAL				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.3						
PAL	Palisades	31.58	18	*e*P	P	04 17 24.5	+0.9
	comp=Z,58nm,0.9s,mb5.3						
BINY	Binghamton	32.11	15	PFAKE		04 17 40.0	+12
BINY				LR	LR		
	comp=Z,7μm,20.0s						
GENY	Geneseo	32.23	12	*e*P	P	04 17 29.6	+0.3
LPAZ	La Paz	32.87	146	P	P	04 17 35.4	+0.3
	comp=Z,0.7nm,0.5s,baz=350,slow=19,SNR=5.9						
LPAZ				LR	LR	04 31 15.4	
	comp=Z,6μm,18.3s,baz=170,slow=37						
LPAZ	La Paz	32.87	146	*e*P	P	04 17 35.3	+0.2
	comp=Z,26nm,1.2s,mb4.9						
LPAZ				*e*pP	pP	04 17 45.2	-7.8
LPAZ				LR	LR		
	comp=Z,6μm,19.0s						
ISCO	Idaho Springs	33.07	332	P	P	04 17 37.0	+0.4
ISCO				pmax	pmax		
	comp=Z,59nm,1.3s,mb5.3						
ISCO	Idaho Springs	33.07	332	*e*P	P	04 17 36.5	-0.1
	comp=Z,59nm,1.3s,mb5.2						
ISCO				LR	LR		
	comp=Z,4μm,22.0s						
BRYW	Bryant College	33.17	21	*e*P	P	04 17 37.8	+0.4
	comp=Z,42nm,1.0s,mb5.2						

QUA2 Belchertown 33.23 19 *e*P **P** **04 17 38.2 +0.3**
comp=Z,59nm,0.9s,mb5.4
PV01 Paradox Valley 33.24 327 *e*P **P** **04 17 38.1 +0.1**
WES Weston 33.66 20 PFAKE 04 17 50.0 +8.3
WES LR LR
comp=Z,13µm,21.0s
PV10 Paradox Valley 33.67 327 *e*P **P** **04 17 40.9 -0.8**
PV10 *e*PcP PcP 04 20 22.5 +2.2
HRV Harvard--Oak R 33.69 20 PFAKE 04 17 50.0 +8.1
HRV LR LR
comp=Z,10µm,20.0s
ACCN Adirondack Com 33.83 17 *e*P **P** **04 17 43.9 +0.7**
SADO Sadowa 33.93 9 P **P** **04 17 42.2 -1.7**
comp=Z,78nm,0.7s,mb5.7,baz=202,slow=8.3,SNR=49
SADO S **S** **04 23 11.7 +9.4**
comp=Z,10nm,1.0s,baz=98,slow=7.2,SNR=1.9
PHWY Pilot Hill 34.23 334 *e*P **P** **04 17 47.0 +0.5**
FFD Franklin Falls 34.52 19 *e*P **P** **04 17 45.7 -3.3**
comp=Z,247nm,1.5s,mb5.8
HNH Hanover 34.53 18 *e*P **P** **04 17 49.9 +0.8**
comp=Z,2.2nm,0.6s,mb4.2
BAR Barrett 34.96 312 *e*P **P** **04 17 54.1 +1.2**
SRU San Rafael 35.00 326 P **P** **04 17 53.7 +0.6**
SRU San Rafael 35.00 326 *e*P **P** **04 17 53.2 +0.1**
SRU *e*PcP PcP 04 20 25.8 +1.6
MSNY Massena 35.02 14 *e*P **P** **04 17 53.8 +0.5**
LDFC Landfair 35.17 317 *e*P **P** **04 17 55.6 +1.0**
FRNY Flat Rock 35.19 16 *e*P **P** **04 17 54.0 -0.7**
PFO Pinyon Flat Ob 35.29 314 P **P** **04 17 56.9 +1.2**
PFO pmax pmax
comp=Z,22nm,1.0s,mb4.9
PFO Pinyon Flat Ob 35.29 314 *e*P **P** **04 17 56.4 +0.8**
comp=Z,22nm,0.9s,mb5.0
PFO LR LR
comp=Z,1µm,20.0s
RWWY Rawlins 35.31 333 *e*P **P** **04 17 56.2 +0.5**
comp=Z,106nm,1.3s,mb5.5
RWWY *e*PcP PcP 04 20 26.9 +1.8
NEN Nelson 35.33 318 *e*P **P** **04 17 55.9 0.0**
TMUT Trail Mountain 35.50 326 *e*P **P** **04 17 57.9 +0.5**
MSU Marysvale 35.51 324 P **P** **04 17 58.1 +0.7**
MSU Marysvale 35.51 324 *e*P **P** **04 17 57.7 +0.2**
MSU *e*PcP PcP 04 20 28.1 +2.4
MVU Marysvale 35.52 324 *e*P **P** **04 17 58.0 +0.5**
comp=Z,18nm,0.8s,mb5.1
MVU *e*PcP PcP 04 20 28.0 +2.4
MVU LR LR
comp=Z,7µm,20.0s
ARUT Antelope Range 35.77 322 P **P** **04 18 01.6 +1.9**
ARUT Antelope Range 35.77 322 *e*P **P** **04 18 00.5 +0.8**
RSSD Black Hills 36.04 338 P **P** **04 18 02.7 +0.8**
RSSD pmax pmax
comp=Z,23nm,0.8s,mb5.2
RSSD Black Hills 36.04 338 *e*P **P** **04 18 02.2 +0.3**
comp=Z,23nm,0.8s,mb5.2
RSSD LR LR
comp=Z,860nm,21.0s
WVL Waterville 36.16 21 *e*P **P** **04 18 04.0 +1.1**
comp=Z,759nm,1.6s
WVL LR LR
comp=Z,30µm,21.0s
MPU Maple Canyon 36.24 326 *e*P **P** **04 18 04.1 +0.4**
DAU Daniels Canyon 36.33 327 P **P** **04 18 05.0 +0.6**
DAU Daniels Canyon 36.33 327 *e*P **P** **04 18 04.6 +0.3**
NLU North Lily Min 36.44 326 *e*P **P** **04 18 05.3 -0.1**
JLU Jordanelle 36.56 327 *e*P **P** **04 18 06.6 +0.2**
MWC Mount Wilson 36.75 313 P **P** **04 18 09.8 +1.8**
MWC Mount Wilson 36.75 313 *e*P **P** **04 18 08.4 +0.4**
CTU Camp Tracy 36.79 327 *e*P **P** **04 18 08.7 +0.4**
TCUT Toone Canyon 36.91 328 *e*P **P** **04 18 10.0 +0.7**
NOQ North Oquirrh 36.96 327 *e*P **P** **04 18 09.9 +0.3**
SIV San Ignacio 36.97 137 P **P** **04 18 10.1 +0.1**
comp=Z,65nm,0.9s,mb5.6,baz=316,slow=8.4,SNR=180
SIV PcP PcP 04 20 32.5 +2.3
comp=Z,13nm,0.9s,baz=303,slow=6.8,SNR=3.8
SIV S **S** **04 23 54.9 +5.7**
comp=Z,1.2nm,0.8s,baz=76,slow=22,SNR=2.4
PDAR Pinedale Array 37.23 331 P **P** **04 18 10.4 -1.5**
comp=Z,13nm,0.7s,mb5.0,baz=129,slow=8.8,SNR=84
PDAR PcP PcP 04 20 32.1 +1.3
comp=Z,9.7nm,0.8s,baz=137,slow=4.1,SNR=10
PDAR ScP 04 24 20.0
comp=Z,2.4nm,0.6s,baz=130,slow=7.0,SNR=14
PDAR PKiKP 04 27 48.9
comp=Z,0.7nm,0.7s,baz=108,slow=4.7,SNR=3.9
HWUT Hardware Ranch 37.35 328 *e*P **P** **04 18 12.7 -0.2**
comp=Z,59nm,0.8s,mb5.6
HWUT *e*pP pP 04 18 23.8 -7.3
HWUT LR LR
comp=Z,4µm,22.0s
TRCR Troy Canyon 37.43 321 *e*P **P** **04 18 14.1 +0.4**
DAC Darwin (Calif) 37.52 317 P **P** **04 18 16.0 +1.6**
DAC pmax pmax
comp=Z,16nm,1.2s,mb4.7
DAC Darwin (Calif) 37.52 317 *e*P **P** **04 18 14.2 -0.2**
comp=Z,16nm,1.2s,mb4.7
DAC LR LR
comp=Z,9µm,20.0s
SPUT South Promonto 37.60 327 *e*P **P** **04 18 15.0 0.0**
BGU Big Grassy Mou 37.64 326 *e*P **P** **04 18 15.6 +0.3**
BGU *e*PcP PcP 04 20 33.9 +1.9
LVC Limon Verde 37.84 153 P **P** **04 18 20.8 +3.6**
comp=Z,7.3nm,0.9s,mb4.5,baz=284,slow=8.0,SNR=5.4
LVC LR LR 04 33 46.4
comp=Z,3µm,19.5s,baz=310,slow=36
LVC Limon Verde 37.84 153 *e*P **P** **04 18 19.7 +2.5**
comp=Z,83nm,1.2s,mb5.4
LVC LR LR
comp=Z,4µm,19.0s
AHID Auburn Hatcher 37.97 330 *e*P **P** **04 18 18.0 0.0**
comp=Z,32nm,0.8s,mb5.2
AHID LR LR
comp=Z,4µm,20.0s
HVU Hansel Valley 38.10 328 P **P** **04 18 20.9 +1.7**
HVU Hansel Valley 38.10 328 *e*P **P** **04 18 19.8 +0.6**
HVU *e*PcP PcP 04 20 34.2 +0.8
TPH Tonopah 38.30 319 P **P** **04 18 23.2 +2.4**
TPH pmax pmax
comp=Z,11nm,0.9s,mb4.7
TPH Tonopah 38.30 319 *e*P **P** **04 18 21.8 +1.0**
comp=Z,11nm,0.8s,mb4.7
TPH LR LR
comp=Z,9µm,19.0s
REDW Red Top Meadow 38.30 331 *e*P **P** **04 18 20.9 +0.1**
comp=Z,164nm,1.1s,mb5.8
SNOW Snow King Moun 38.33 331 *e*P **P** **04 18 21.6 +0.6**
comp=Z,148nm,1.2s,mb5.7
LOHW Long Hollow 38.37 331 *e*P **P** **04 18 21.1 -0.3**
comp=Z,50nm,1.0s,mb5.3
LOHW *e*PcP PcP 04 20 34.7 +0.5
LOHW *e*ScP 04 24 22.5
TPAW Teton Pass 38.44 331 *e*P **P** **04 18 22.5 +0.6**
comp=Z,41nm,0.8s,mb5.3
RRI2 Red Ridge 38.51 330 *e*P **P** **04 18 22.7 +0.2**
comp=Z,156nm,1.6s,mb5.6
MOOW Moose Ponds 38.54 331 *e*P **P** **04 18 22.7 -0.1**
comp=Z,29nm,0.9s,mb5.1
PQI Presque Isle 38.56 20 *e*P **P** **04 18 23.6 +0.7**
comp=Z,1µm,2.0s
PQI LR LR
comp=Z,30µm,20.0s
IMW Indian Meadow 38.75 331 *e*P **P** **04 18 24.7 +0.2**
comp=Z,26nm,0.8s,mb5.1
IMW *e*PcP PcP 04 20 37.0 +1.5
ELK Elko 38.75 324 P **P** **04 18 25.5 +0.9**
ELK 04 20 37.9
ELK 04 24 27.2
ELK pmax pmax
comp=Z,18nm,0.8s
ELK pmax pmax
comp=Z,16nm,0.7s
ELK pmax pmax
comp=E,3.0nm,0.9s
ELK Elko 38.75 324 P **P** **04 18 25.5 +0.9**
comp=E,18nm,0.8s,mb5.0,baz=101,slow=0.1,SNR=80
ELK PcP PcP 04 20 37.9 +2.4
comp=E,16nm,0.7s,baz=288,slow=1.1,SNR=15
ELK ScP 04 24 27.2
comp=E,2.9nm,0.9s,baz=127,slow=5.1,SNR=5.1
ELK Elko 38.75 324 *e*P **P** **04 18 24.9 +0.3**
comp=E,26nm,0.9s,mb5.1
ELK *e*PcP PcP 04 20 37.5 +2.0
ELK LR LR
comp=Z,5µm,19.0s
LKWY Lake 39.01 333 PFAKE 04 18 40.0 +13
LKWY LR LR
comp=Z,9µm,19.0s
LAO LASA Array 39.04 338 *e*P **P** **04 18 27.0 +0.1**
comp=Z,40nm,0.7s,mb5.3
LAO LR LR
comp=Z,4µm,21.0s
MNV Mina 39.10 319 P **P** **04 18 29.4 +1.9**
MNV pmax pmax
comp=Z,29nm,0.9s,mb5.1
MNV Mina 39.10 319 *e*P **P** **04 18 28.9 +1.4**
comp=Z,29nm,0.9s,mb5.1
MNV *e*PcP PcP 04 20 38.3 +1.7
MNV LR LR
comp=Z,6µm,20.0s
YFT Old Faithful 39.12 332 *e*P **P** **04 18 28.8 +1.2**
OMM Old Mammoth Mi 39.19 317 *e*P **P** **04 18 28.8 +0.5**
NVAR Mina Array Bea 39.20 319 P **P** **04 18 29.4 +1.1**
comp=Z,18nm,0.8s,mb4.9,baz=121,slow=8.8,SNR=50
NVAR PcP PcP 04 20 39.0 +2.0
comp=Z,55nm,0.7s,baz=125,slow=4.9,SNR=37
NVAR ScP 04 24 28.5
comp=Z,4.1nm,0.9s,baz=116,slow=4.6,SNR=6.2
NVAR Mina Array Bea 39.20 319 P **P** **04 18 29.4 +1.1**
NVAR PcP PcP 04 20 39.0 +2.0
NVAR ScP 04 24 28.5
YMR Madison River 39.35 332 *e*P **P** **04 18 30.5 +1.0**
ULM Lac du Bonnet 39.60 351 P **P** **04 18 29.2 -2.3**
comp=Z,94nm,0.8s,mb5.7,baz=166,slow=8.3,SNR=79
ULM ScP 04 24 27.5
comp=Z,5.1nm,0.6s,baz=169,slow=6.9,SNR=3.6
ULM LR LR 04 36 09.7
comp=Z,2µm,20.2s,baz=268,slow=38
ULM Lac du Bonnet 39.60 351 *e*P **P** **04 18 29.7 -1.8**
comp=Z,143nm,0.8s,mb5.8
ULM LR LR
comp=Z,4µm,20.0s
GCMT Greycliff 39.65 334 *e*P **P** **04 18 32.5 +0.5**
QLMT Earthquake Lak 39.69 332 *e*P **P** **04 18 33.3 +1.0**
BMN Battle Mountai 39.72 322 P **P** **04 18 34.5 +1.9**
BMN pmax pmax
comp=Z,91nm,1.3s,mb5.5
BMN Battle Mountai 39.72 322 *e*P **P** **04 18 33.4 +0.8**
comp=Z,91nm,1.3s,mb5.5
BMN LR LR
comp=Z,3µm,20.0s
DGMT Dagmar 39.90 342 *e*P **P** **04 18 34.0 0.0**
comp=Z,126nm,0.8s,mb5.8
DGMT LR LR
comp=Z,6µm,22.0s
HLID Hailey 40.22 328 *e*P **P** **04 18 37.0 +0.3**
comp=Z,27nm,0.8s,mb5.1
HLID *e*PcP PcP 04 20 41.0 +0.9
HLID LR LR
comp=Z,5µm,20.0s
CMB Columbia Colle 40.34 317 P **P** **04 18 39.7 +1.9**
CMB pmax pmax
comp=Z,14nm,1.0s,mb4.8
CMB Columbia Colle 40.34 317 *e*P **P** **04 18 38.7 +0.9**
comp=Z,14nm,1.0s,mb4.8
CMB LR LR
comp=Z,6µm,22.0s
MCMT McKenzie Canyo 40.35 331 *e*P **P** **04 18 38.9 +1.1**
SAO San Andreas Ge 40.41 315 PFAKE 04 18 50.0 +12
SAO LR LR
comp=Z,5µm,19.0s
PAHR Pah Rah Range 40.62 320 P **P** **04 18 41.7 +1.6**
WCN Washoe City 40.62 319 P **P** **04 18 42.2 +2.1**
WCN pmax pmax
comp=Z,14nm,1.0s,mb4.8
WCN Washoe City 40.62 319 *e*P **P** **04 18 40.1 0.0**
comp=Z,14nm,1.0s,mb4.8
HRY Holter Researc 41.31 333 *e*P **P** **04 18 46.0 +0.4**
BEKR Beckwourth 41.33 319 *e*P **P** **04 18 46.5 +0.7**
comp=Z,19nm,0.8s,mb5.0
WVOR Wild Horse Val 41.79 324 P **P** **04 18 50.3 +0.6**
WVOR pmax pmax
comp=Z,45nm,0.8s,mb5.2
WVOR Wild Horse Val 41.79 324 *e*P **P** **04 18 50.0 +0.3**
comp=Z,45nm,0.8s,mb5.2
WVOR LR LR
comp=Z,5µm,19.0s
CHMT Chamberlain Mo 42.09 333 *e*P **P** **04 18 52.8 +0.7**
MSO Missoula 42.34 332 *e*P **P** **04 18 54.3 +0.1**
comp=Z,16nm,0.9s,mb4.8
MSO LR LR
comp=Z,3µm,21.0s
MOD Modoc 42.46 322 *e*P **P** **04 18 55.6 +0.4**
comp=Z,56nm,1.6s,mb5.0
MOD LR LR
comp=Z,6µm,20.0s
BMO Blue Mountains 42.62 327 *e*P **P** **04 18 55.2 -1.3**
comp=Z,22nm,0.8s,mb5.0
BMO LR LR
comp=Z,6µm,20.0s
HOPS Hopland 42.64 317 PFAKE 04 19 10.0 +13
HOPS LR LR
comp=Z,4µm,20.0s
WDC Whiskeytown Da 43.11 319 PFAKE 04 19 10.0 +9.4
WDC LR LR
comp=Z,3µm,21.0s
YBH Yreka Blue Hor 43.84 320 P **P** **04 19 06.1 -0.4**
YBH 04 20 53.5
YBH pmax pmax
comp=Z,6.0nm,0.8s
YBH pmax pmax
comp=Z,16nm,0.7s
YBH Yreka Blue Hor 43.84 320 P **P** **04 19 06.1 -0.3**
comp=Z,6.3nm,0.8s,mb4.4,baz=103,slow=7.0,SNR=11
YBH PcP PcP 04 20 53.5 +1.3
comp=Z,16nm,0.7s,baz=84,slow=4.7,SNR=20
YBH Yreka Blue Hor 43.84 320 *e*P **P** **04 19 05.8 -0.6**
comp=Z,6.9nm,0.8s,mb4.4
YBH LR LR
comp=Z,6µm,22.0s
RPN Rapa Nui 44.19 210 P **P** **04 19 11.2 +1.8**
comp=Z,38nm,0.3s,mb5.6,baz=27,slow=4.2,SNR=2.6
RPN LR LR 04 32 40.2
comp=Z,6µm,20.4s,baz=211,slow=29
VIPM Ingram Point 44.21 325 P **P** **04 19 10.7 +1.3**
HUMO Hull Mountain 44.48 321 PFAKE 04 19 20.0 +8.5
HUMO LR LR
comp=Z,7µm,19.0s
NEW Newport 44.87 331 P **P** **04 19 14.6 0.0**
NEW pmax pmax
comp=Z,15nm,0.9s
NEW Newport 44.87 331 P **P** **04 19 13.1 -1.6**
comp=Z,8.7nm,0.7s,mb4.6,baz=140,slow=10,SNR=19
NEW PcP PcP 04 20 56.9 +1.3
comp=Z,18nm,1.1s,baz=134,slow=5.6,SNR=5.0
NEW Newport 44.87 331 *e*P **P** **04 19 14.2 -0.4**
comp=Z,15nm,0.9s,mb4.7
FRIS Frissel Point 44.88 324 P **P** **04 19 15.4 +0.7**
FFC Flin Flon 45.02 347 P **P** **04 19 15.2 -0.5**
FFC pmax pmax
comp=Z,45nm,0.8s,mb5.2
FFC Flin Flon 45.02 347 *e*P **P** **04 19 14.7 -1.0**
comp=Z,45nm,0.8s,mb5.2
FFC LR LR
comp=Z,672nm,20.0s
OD2 Odessa Site #2 45.05 329 P **P** **04 19 17.1 +1.1**
JATB Jatai 45.10 130 *c i*P **P** **04 19 17.8 +1.0**
JATB *e* 04 19 26.6
JATB *e* pP 04 19 37.9 +2.7
JATB *e* 04 20 59.4
JATB *i* 04 21 08.1
VFP Flag Point 45.18 325 P **P** **04 19 18.3 +1.2**
COR Corvallis 45.80 323 P **P** **04 19 23.5 +1.5**
COR pmax pmax
comp=Z,250nm,1.7s,mb5.7
COR Corvallis 45.80 323 *e*P **P** **04 19 22.4 +0.3**
comp=Z,253nm,1.7s,mb5.7
COR LR LR
comp=Z,1µm,20.0s
SCHQ Schefferville 46.10 16 P **P** **04 19 22.9 -1.4**
comp=Z,40nm,0.6s,mb5.3,baz=220,slow=6.9,SNR=67
SCHQ PcP PcP 04 20 59.3 -0.5
comp=Z,10.0nm,0.5s,baz=215,slow=4.5,SNR=4.0
SCHQ LR LR 04 39 17.6
comp=Z,4µm,20.8s,baz=209,slow=37
SCHQ Schefferville 46.10 16 *e*P **P** **04 19 23.2 -1.1**
comp=Z,46nm,0.6s,mb5.4
SCHQ LR LR
comp=Z,9µm,22.0s
CFAA Coronel Fontan 46.10 158 P **P** **04 19 26.8 +2.2**
comp=Z,0.2nm,0.5s,baz=296,slow=7.3,SNR=4.0
CFAA S **S** **04 26 08.7 +4.7**
comp=Z,0.1nm,0.5s,baz=142,slow=7.9,SNR=1.9
BDFB Brasilia 46.53 124 P **P** **04 19 27.6 -0.6**
BDFB pmax pmax
comp=Z,63nm,0.9s
BDFB MLR MLR
comp=Z,8µm,18.7s
BDFB Brasilia 46.53 124 P **P** **04 19 27.6 -0.6**
comp=Z,63nm,0.9s,mb5.4,baz=298,slow=8.7,SNR=76
BDFB LR LR 04 39 49.6
comp=Z,8µm,18.7s,baz=314,slow=37
BAO Brasilia Array 46.55 124 P **P** **04 19 28.0 -0.3**
CPUP Villa Florida 46.92 143 P **P** **04 19 32.1 +1.0**
CPUP pmax pmax
comp=Z,42nm,1.1s
CPUP Villa Florida 46.92 143 P **P** **04 19 31.4 +0.3**
comp=Z,14nm,0.9s,mb4.7,baz=351,slow=11,SNR=22
CPUP LR LR 04 39 29.2
comp=Z,2µm,21.9s,baz=346,slow=36
CPUP Villa Florida 46.92 143 *e*P **P** **04 19 31.6 +0.5**
comp=Z,42nm,1.1s,mb5.1
CPUP LR LR
comp=Z,3µm,22.0s
EDM Edmonton 47.03 338 P **P** **04 19 31.0 -0.6**
EDM Edmonton 47.03 338 *e*P **P** **04 19 30.6 -0.9**
OCWA Octopus Mounta 48.14 326 *e*P **P** **04 19 40.9 +0.6**
comp=Z,103nm,1.5s,mb5.4
OCWA LR LR
comp=Z,8µm,20.0s
PGC Sidney 48.29 328 *e*P **P** **04 19 42.2 +0.7**
comp=Z,55nm,1.0s,mb5.3
RCBR Riachuelo 53.11 106 PFAKE 04 20 30.0 +11
RCBR LR LR
comp=Z,8µm,19.0s
TRQA Tornquist 54.19 156 *e*P **P** **04 20 26.5 +0.3**
comp=Z,93nm,1.4s,mb5.6
TRQA LR LR
comp=Z,2µm,20.0s
YKA Yellowknife Ar 54.97 344 P **P** **04 20 28.9 -2.5**
YKA 04 22 32.4
YKA pmax pmax
comp=Z,22nm,0.8s
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA pmax pmax
comp=E,1.0nm,0.6s
YKA MLR MLR
comp=Z,2µm,19.1s
YKA Yellowknife Ar 54.97 344 P **P** **04 20 28.9 -2.5**
comp=Z,22nm,0.8s,mb5.2,baz=140,slow=7.2,SNR=110
YKA PP PP 04 22 32.4 -4.1
comp=Z,2.2nm,0.8s,baz=136,slow=8.9,SNR=2.6
YKA ScP 04 25 31.6
comp=Z,1.2nm,0.6s,baz=145,slow=4.7,SNR=11
YKA LR LR 04 49 21.8
comp=Z,2µm,19.1s,baz=145,slow=42
YKA Yellowknife Ar 54.97 344 P **P** **04 20 28.9 -2.5**
YKA PP PP 04 22 32.5 -4.1
YKA ScP 04 25 31.6
YKA LR LR 04 49 21.8
YKW3 Yellowknife Ar 55.02 345 *e*P **P** **04 20 30.0 -1.9**
PTCN Pitcairn Islan 55.83 229 PFAKE 04 20 50.0 +12
PTCN LR LR
comp=Z,7µm,19.0s
TAOE Nuku Hiva Isla 57.03 252 *e*S **S** **04 28 33.8 0.0**
comp=Z,6µm,24.6s
TAOE *e*LR LR 04 36 23.8
comp=Z,12µm,24.3s,baz=67
DLBC Dease Lake 57.35 334 LR LR 04 50 07.9
comp=Z,4µm,19.7s,baz=284,slow=41
DLBC Dease Lake 57.35 334 *e*P **P** **04 20 48.0 -0.5**
RKT Rikitea 58.52 234 *e*S **S** **04 29 00.8 +7.6**
comp=Z,2µm,28.0s
RKT *e*LQ 04 35 42.5
comp=Z,3µm,32.5s
RKT *e*LR LR 04 38 00.9
comp=Z,4µm,24.5s,baz=46
SIT Sitka 58.96 331 PFAKE 04 21 10.0 +10
SIT LR LR
comp=Z,5µm,21.0s
CMLA Cha da Macela 60.24 53 PFAKE 04 21 20.0 +11
CMLA LR LR
comp=Z,576nm,19.0s
RES Resolute Bay 63.54 358 P **P** **04 21 29.4 -1.0**
RES pmax pmax
comp=Z,16nm,0.7s,mb5.0
RES Resolute Bay 63.54 358 *e*P **P** **04 21 28.7 -1.7**
comp=Z,16nm,0.6s,mb5.0
INK Inuvik 64.58 342 P **P** **04 21 36.4 -0.8**
INK pmax pmax
comp=Z,42nm,0.9s
INK Inuvik 64.58 342 *e*P **P** **04 21 36.2 -1.1**
comp=Z,42nm,0.9s,mb5.3
EYAK Cordova Ski Ar 65.36 332 *e*P **P** **04 21 42.2 -0.1**
DIV Divide 65.59 333 *e*P **P** **04 21 43.2 -0.6**
comp=Z,80nm,1.0s,mb5.5
DIV LR LR
comp=Z,8µm,20.0s
THY Trims Highway 66.47 335 *e*P **P** **04 21 49.8 +0.4**
POHA Pohakuloa 66.71 287 PFAKE 04 22 00.0 +8.4
POHA LR LR
comp=Z,27µm,20.0s
SML Sawmill 66.98 333 P **P** **04 21 52.2 -0.4**
SML Sawmill 66.98 333 *e*P **P** **04 21 51.9 -0.7**
KKH Kailua Kona 67.17 287 P **P** **04 21 54.4 -0.1**
PMR Palmer 67.27 333 *e*P **P** **04 21 53.5 -0.9**
SLKM Skilak Lake 67.43 331 P **P** **04 21 55.8 +0.4**
SLKM Skilak Lake 67.43 331 *e*P **P** **04 21 55.4 0.0**
ILAR Eielson Array 67.45 336 P **P** **04 21 54.6 -0.9**
ILAR pmax pmax
comp=Z,18nm,0.8s
ILAR MLR MLR
comp=Z,4µm,21.1s
ILAR Eielson Array 67.45 336 P **P** **04 21 54.6 -0.9**
comp=Z,18nm,0.8s,mb5.0,baz=117,slow=4.4,SNR=157
ILAR LR LR 04 55 41.9
comp=Z,4µm,21.1s,baz=133,slow=40
SUMG Summit 67.45 14 *e*P **P** **04 21 54.4 -1.0**
comp=Z,76nm,1.3s,mb5.4
FIB Fire Island 67.61 332 PFAKE 04 22 10.0 +13
FIB LR LR
comp=Z,1µm,21.0s
SPU Mount Spurr 68.48 332 *e*P **P** **04 22 01.8 -0.2**
PPT Papeete 68.61 246 *e*S S 04 30 30.8 -28
comp=Z,2µm,27.0s
PPT *e*LQ 04 38 47.2
comp=Z,3µm,29.8s
PPT *e*LR LR 04 42 01.3
comp=Z,5µm,26.8s,baz=57
PPT Papeete 68.61 246 LR LR 04 43 40.9
comp=Z,2µm,21.2s,baz=60,slow=28
RSO Redoubt South 68.62 331 *e*P **P** **04 22 03.1 +0.3**
KIP Kipapa 68.91 289 PFAKE 04 22 20.0 +15
KIP LR LR
comp=Z,2µm,19.0s
SVW2 Sparrevohn 70.12 331 *e*P **P** **04 22 10.4 -1.6**
IMA Indian Mountai 70.56 336 *e*P **P** **04 22 15.2 +0.6**
IMA pmax pmax
comp=Z,41nm,0.8s,mb5.3
IMA Indian Mountai 70.56 336 *e*P **P** **04 22 14.8 +0.2**
TBI Tubuai 70.58 240 *e*S S 04 31 40.0 +18
comp=Z,2µm,26.2s
TBI *e*LQ 04 40 13.8
comp=Z,1µm,28.0s
TBI *e*LR LR 04 43 21.5
comp=Z,5µm,25.8s,baz=72
TTA Tatalina 70.73 333 *e*P **P** **04 22 15.1 -0.6**
SDPT Sand Point 71.69 325 *e*P **P** **04 22 22.1 +0.5**
EZAM Zamans 73.45 49 P pP 04 22 55.1 +2.9
PTEO Sao Teotonio 73.51 54 *e-* pP 04 22 55.4 +2.8
STS Santiago 73.56 49 P pP 04 22 56.2 +3.4
PTOM Tomar 73.70 52 *e-* pP 04 22 54.5 +0.8
ELOB Lobios 73.93 50 P pP 04 22 58.0 +3.0
EVO Evora 74.04 53 *e*P **P** **04 22 33.3 -2.4**
comp=Z,72nm,1.2s,mb5.0
EVO *e*R
comp=Z,5µm,20.0s
DAG Danmarks Havn 74.05 13⇑ *e*P **P** **04 22 32.0 -3.0**
DAG pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
DAG Danmarks Havn 74.05 13⇑ *e*P **P** **04 22 32.0 -3.0**
comp=Z,3.3nm,0.6s,mb4.2
DAG Danmarks Havn 74.05 13⇑ *i*P **P** **04 22 32.0 -3.0**
comp=Z,3.3nm,0.6s,mb4.2
PVIS Viseu 74.08 51 *e-* pP 04 22 56.8 +0.9
PBEJ Beja 74.18 54 *e-* pP 04 22 56.8 +0.3
MTE Manteigas 74.35 51 *e-* pP 04 22 57.1 -0.4

PCBR Castelo Branco 74.42 52 *e-* pP 04 22 58.1 +0.2
EGRO El Granado 74.50 54 P pP 04 22 57.9 -0.5
DCN Croghan 74.56 38 *eP* **P 04 22 36.4 -2.0**
EPON Pontenova 74.58 48 P pP 04 23 04.7 +6.0
ERUA La Rua 74.60 49 P pP 04 23 03.3 +4.4
EBAD Badajoz 74.82 53 P pP 04 23 00.7 +0.4
ECAL Calabor 74.92 49 P pP 04 23 05.7 +5.0
DLF Lyons Farm 75.00 38 *eP* **P 04 22 36.1 -4.8**
EMIN Mina Concepcio 75.13 54 P pP 04 23 02.9 +0.9
ESPR Espera 75.83 55 P pP 04 23 07.1 +1.0
TNA Tin City 76.25 335 PFAKE 04 23 00.0 +12
TNA LR LR
comp=Z,2µm,21.0s
EMIJ Mijas 76.72 55 P pP 04 23 11.9 +0.8
EADA Adamuz 76.76 53 P pP 04 23 10.6 -0.7
ESK Eskdalemuir 76.96 36 P **P 04 22 50.9 -1.0**
ESK pmax pmax
comp=Z,44nm,1.1s,mb5.1
ESK Eskdalemuir 76.96 36 *eP* **P 04 22 50.4 -1.5**
comp=Z,44nm,1.1s,mb5.1
ESK LR LR
comp=Z,553nm,19.0s
ROSF Rostrenen 77.13 43 *eP* **P 04 22 51.0 -2.1**
comp=Z,272nm,1.6s,mb5.4
ESDC Sonseca Array 77.13 52 P **P 04 22 52.5 -0.8**
comp=Z,1.6nm,0.6s,mb4.0,baz=286,slow=5.4,SNR=13
ESDC Sonseca Array 77.13 52 P **P 04 22 52.5 -0.8**
ESDC P pP 04 23 15.0 +1.6
ESLA Sonseca Array 77.13 52 *eP* **P 04 22 52.8 -0.5**
comp=Z,24nm,1.5s,mb4.7
ESLA LR LR
comp=Z,21µm,19.0s
ELOJ Sierra Loja 77.17 54 P pP 04 23 13.4 -0.2
QUIF Quistinic 77.22 43 *eP* **P 04 22 51.7 -1.9**
comp=Z,292nm,1.6s,mb5.5
SGMF Saint Gilles 77.61 43 *eP* **P 04 22 53.6 -2.1**
comp=Z,112nm,1.4s,mb5.1
PMSA Palmer Station 77.73 170 PFAKE 04 23 10.0 +14
PMSA LR LR
comp=Z,3µm,22.0s
EBER Berja 78.20 54 P pP 04 23 19.1 -0.3
EVIA Vianos 78.35 53 P pP 04 23 20.4 +0.3
EHUE Huescar 78.35 54 P pP 04 23 20.4 +0.3
EALK Alkurruntz 78.70 48 P pP 04 23 28.6 +6.7
GRR Gorron 78.74 43 *eP* **P 04 23 00.1 -1.8**
comp=Z,161nm,1.2s,mb5.4
SJPF Ste Jean 78.91 48 *eP* **P 04 23 01.7 -1.3**
comp=Z,118nm,1.3s,mb5.3
FLN La Foliniere 78.96 42 *eP* **P 04 23 01.3 -1.8**
comp=Z,207nm,1.5s,mb5.5
FLN *eR*
comp=Z,4µm,18.5s
ETOB Tobarra 79.09 53 P pP 04 23 28.8 +4.6
MFF Saint Martin d 79.36 44 *eP* **P 04 23 03.5 -1.9**
comp=Z,115nm,1.4s,mb5.2
ETSF Etsaut 79.42 48 *eP* **P 04 23 04.7 -1.0**
comp=Z,218nm,1.8s,mb5.4
ESAC San Caprasio 79.60 49 P pP 04 23 32.5 +5.5
EBIE Bielsa 79.95 48 P pP 04 23 35.2 +6.4
EPF Esparros 80.06 48 *eP* **P 04 23 07.8 -1.4**
comp=Z,312nm,1.8s,mb5.5
EGRA Graus 80.14 49 P pP 04 23 32.4 +2.5
LFF La Frestale 80.15 46 *eP* **P 04 23 07.9 -1.7**
comp=Z,383nm,1.8s,mb5.6
EBR Ebro Roquetas 80.42 50 *eP* **P 04 23 12.3 +1.1**
DBIC Dimbokro 80.52 85 P **P 04 23 13.6 +1.4**
KBS Kingsbay 80.60 11 PFAKE 04 23 20.0 +8.6
KBS LR LR
comp=Z,3µm,20.0s
RJF Les Rejaudoux 80.65 46 *eP* **P 04 23 10.5 -1.8**
comp=Z,305nm,1.8s,mb5.5
RJF *eR*
comp=Z,5µm,23.0s
TCF Toulx Ste Croi 81.02 45 *eP* **P 04 23 12.2 -2.0**
comp=Z,133nm,1.5s,mb5.2
CAF Calviac 81.08 46 *eP* **P 04 23 12.9 -1.6**
comp=Z,248nm,1.9s,mb5.4
HYF Humbligny 81.19 44 *eP* **P 04 23 13.4 -1.7**
MTLF Montolieu 81.39 48 *eP* **P 04 23 14.4 -1.8**
comp=Z,82nm,1.2s,mb5.1
BGF Bois d'Agland 81.42 44 *eP* **P 04 23 14.4 -1.9**
comp=Z,131nm,1.5s,mb5.2
SSF Saint Saulge 81.81 44 *eP* **P 04 23 16.1 -2.2**
comp=Z,145nm,1.9s,mb5.2
BAIF Baives 81.86 41 *eP* **P 04 23 16.5 -2.0**
comp=Z,66nm,1.5s,mb5.0
LOR Lormes 82.02 43 *eP* **P 04 23 17.4 -1.9**
comp=Z,225nm,1.8s,mb5.4
LOR *eR*
comp=Z,5µm,18.0s
SMF Signal de Mont 82.09 44 *eP* **P 04 23 17.6 -2.1**
comp=Z,122nm,1.8s,mb5.1
GIVF Givet 82.25 41 *eP* **P 04 23 18.9 -1.6**
comp=Z,151nm,1.7s,mb5.3
LASF Ste Croix 82.47 47 *eP* **P 04 23 20.6 -1.1**
comp=Z,72nm,1.3s,mb5.1
MEZF Maizieres J'vi 82.63 42 *eP* **P 04 23 20.9 -1.6**
comp=Z,289nm,1.9s,mb5.5
VIVF Saint-Julien-l 82.93 46 *eP* **P 04 23 23.2 -0.9**
comp=Z,235nm,1.7s,mb5.4
WLF Walferdange 83.17 41 P **P 04 23 25.8 +0.6**
comp=Z,28nm,1.1s,mb5.0
THEF They Montfort 83.29 42 *eP* pP 04 23 47.2 +1.0
KONO Kongsberg 83.38 31 PFAKE 04 23 40.0 +14
KONO LR LR
comp=Z,2µm,21.0s
HAU Haudompre 83.57 42 *eP* **P 04 23 25.7 -1.5**
comp=Z,102nm,1.5s,mb5.1
HAU *eR*
comp=Z,3µm,19.5s
CABF La Chapelle 83.62 44 *eP* **P 04 23 26.2 -1.3**
comp=Z,238nm,1.9s,mb5.4
SMRF Simiane la Rot 83.71 47 *eP* **P 04 23 25.5 -2.5**
comp=Z,83nm,1.4s,mb5.1
RUP Ruppelstein 83.74 41 *eP* pP 04 23 50.1 +1.7
ORIF Oris-en-Rattie 83.77 46 *eP* **P 04 23 25.5 -2.8**
comp=Z,97nm,1.8s,mb5.0
ORIF *eR*
comp=Z,4µm,23.0s
NAO01 NORSAR Array S 83.78 29 *eP* **P 04 23 28.2 +0.2**
comp=Z,7.3nm,0.8s,mb4.6
NAO01 LR LR
comp=Z,3µm,21.0s
NB2 NORSAR Subarra 83.89 29 P **P 04 23 28.2 -0.3**
comp=Z,0.7nm,0.8s,baz=286,slow=5.0
NB2 NORSAR Subarra 83.89 29 P pP 04 23 47.3 -1.6
comp=Z,11nm,1.1s,baz=282,slow=5.0
NOA NORSAR Array B 83.89 29 P **P 04 23 27.3 -1.2**
comp=Z,5.0nm,0.8s,mb4.4,baz=284,slow=5.1,SNR=26
NOA LR LR 04 57 58.8
comp=Z,1µm,20.6s,baz=295,slow=34
HINF Hinteralfeld 83.93 43 *eP* **P 04 23 27.4 -1.7**
comp=Z,66nm,1.4s,mb5.0
ABH Alteburg 84.02 40 *eP* pP 04 23 51.2 +1.4
ECH Echery 84.06 42 *eP* pP 04 23 51.1 +1.0
CDF Champ du Feu 84.11 42 *eP* **P 04 23 28.4 -1.5**
comp=Z,151nm,1.8s,mb5.2
MOF Molkenrain 84.11 43 *eP* pP 04 23 51.0 +0.7
WLS Welschbruch 84.16 42 *eP* pP 04 23 51.6 +1.0
LPL La Plagne 84.26 45 *eP* **P 04 23 30.3 -0.4**
comp=Z,109nm,1.8s,mb5.1
LPG La Plagne 84.27 45 *eP* **P 04 23 30.3 -0.5**
comp=Z,73nm,1.6s,mb5.0
MBDF Montbardon 84.42 46 *eP* **P 04 23 31.0 -0.6**
comp=Z,76nm,1.6s,mb5.0
BBS Basel-Blauen 84.43 43 *eP* pP 04 23 53.2 +1.2
LMR La Mourre 84.48 47 *eP* **P 04 23 30.8 -1.1**
comp=Z,124nm,1.6s,mb5.2
TNS Taunus Mts 84.53 40 P **P 04 23 31.4 -0.6**
TNS pmax pmax
comp=Z,132nm,2.3s,mb5.5
TNS Taunus Mts 84.53 40 *eP* **P 04 23 31.4 -0.6**
comp=Z,132nm,2.3s,mb5.5
FRF La Foret Royal 84.54 47 *eP* **P 04 23 31.0 -1.2**
comp=Z,65nm,1.3s,mb5.1
FELD Feldberg 84.69 42 *eP* pP 04 23 54.2 +1.0
BFO Black Forest 84.81 42 P **P 04 23 32.2 -1.2**
BFO pmax pmax
comp=Z,26nm,1.5s,mb4.9
BFO Black Forest 84.81 42 *eP* **P 04 23 32.2 -1.2**
comp=Z,26nm,1.5s,mb4.9
BSEG Bad Segeberg 84.92 36 P **P 04 23 33.5 -0.3**
BSEG pmax pmax
comp=Z,76nm,1.9s,mb5.3
BSEG Bad Segeberg 84.92 36 *eP* **P 04 23 33.5 -0.3**
SBF Sospel 85.05 46 *eP* **P 04 23 33.5 -1.2**
comp=Z,302nm,1.7s,mb5.7
CLZ Clausthal 85.39 38 P **P 04 23 36.0 -0.2**
CLZ pmax pmax
comp=Z,16nm,1.3s,mb4.8
CLZ Clausthal 85.39 38 *eP* **P 04 23 36.0 -0.2**
comp=Z,16nm,1.3s,mb4.8
MIDW Midway 85.53 298 PFAKE 04 23 50.0 +12
MIDW LR LR
comp=Z,1µm,20.0s
CASM Ain Smara 85.76 54 P **P 04 23 40.0 +1.6**
CKFL Kef-Lekhel 85.92 54 P **P 04 23 41.0 +1.8**
BILL Bilibino 85.93 339 *c iP* **P 04 23 39.3 +0.8**
BILL pmax pmax
comp=Z,117nm,2.5s,mb5.4
BILL MLR MLR
comp=Z,2µm,20.0s
BILL Bilibino 85.93 339 *eP* **P 04 23 39.2 +0.7**
comp=Z,27nm,0.8s,mb5.2
BILL LR LR
comp=Z,2µm,20.0s
CAEH 'Ain El Ouahch 85.95 53 P **P 04 23 36.0 -3.3**
GRA1 Grafenberg Arr 86.39 40 *eP* **P 04 23 41.1 -0.1**
comp=Z,76nm,1.6s,mb5.4
GRA1 *e* pP 04 24 02.1 +0.4
GRA1 *e* 04 24 18.1
GRA1 LR LR
comp=Z,5µm,19.6s
GRF Grafenberg Arr 86.39 40 P **P 04 23 41.1 -0.1**
GRF pmax pmax
comp=Z,76nm,1.6s,mb5.4
GRF Grafenberg Arr 86.39 40 *eP* **P 04 23 41.1 -0.1**
comp=Z,76nm,1.6s,mb5.4
GRF *e* pP 04 24 02.1 +0.4
GRF *e* 04 24 18.1
GRF LR LR
comp=Z,5µm,19.6s
MOX Moxa 86.42 39 *eP* **P 04 23 41.4 +0.1**
MOX MLR MLR
comp=Z,2µm,20.0s
MOX Moxa 86.42 39 *eP* **P 04 23 41.4 +0.1**
MOX *ep*P pP 04 24 02.6 +0.8
MOX LR LR
comp=Z,2µm,20.0s
MOX Moxa 86.42 39 *i* P **P 04 23 41.4 +0.1**
MOX pP pP 04 24 03.0 +1.2
MOX L 05 01 27.0
SMY Shemya 86.75 323 PFAKE 04 24 00.0 +17
SMY LR LR
comp=Z,3µm,22.0s
FUR Furstenfeldbru 86.77 42 P **P 04 23 42.6 -0.5**
FUR pmax pmax
comp=Z,28nm,1.5s,mb5.0
FUR Furstenfeldbru 86.77 42 *eP* **P 04 23 42.6 -0.5**
comp=Z,28nm,1.5s,mb5.0
ARCES ARCESS Array B 86.94 19 P **P 04 23 42.8 -0.6**
ARCES 04 27 01.3
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES MLR MLR
comp=Z,2µm,18.2s
ARCES ARCESS Array B 86.94 19 P **P 04 23 42.8 -0.6**
comp=Z,2.2nm,0.7s,mb4.2,baz=289,slow=4.2,SNR=15
ARCES PP PP 04 27 01.3 -8.2
comp=Z,2.0nm,0.8s,baz=298,slow=15,SNR=2.8
ARCES LR LR 05 05 37.9
comp=Z,2µm,18.2s,baz=311,slow=38
ARCES ARCESS Array B 86.94 19 P **P 04 23 42.8 -0.6**
ARCES PP PP 04 27 01.3 -8.2
ARCES LR LR 05 05 37.9
NKC Novy Kostel 87.03 39 *eP* **P 04 23 44.5 +0.2**
NKC MLR MLR
comp=Z,3µm,18.8s
NKC Novy Kostel 87.03 39 *eP* **P 04 23 44.5 +0.2**
NKC *ep*P pP 04 24 06.4 +1.6
NKC AMS AMS 05 00 40.0
comp=Z,3µm,18.8s
CLL Collm 87.11 38 *eP* **P 04 23 45.0 +0.3**
CLL MLR MLR
comp=Z,3µm,19.3s
CLL Collm 87.11 38 *eP* **P 04 23 45.0 +0.3**
CLL *i* pP 04 24 05.8 +0.6
CLL *eS* S 04 34 28.0 +12
CLL LR LR
comp=Z,3µm,19.3s
CLL Collm 87.11 38 P **P 04 23 45.0 +0.3**
CLL *i* *SP sP 04 24 05.8 -7.3
CLL *i* 04 24 20.6
CLL *i* PP PP 04 27 15.0 +3.8
CLL *e* 04 27 32.0
CLL *e* 04 27 50.0
CLL *eS* S 04 34 28.0 +12
CLL *ePS* PS 04 35 19.0 -9.4
CLL *eSS* SS 04 40 18.0 +14
FX1 Attu Island--F 87.25 323 *eP* **P 04 23 47.1 +1.8**
KEV Kevo 87.33 19 *eP* **P 04 23 46.4 +1.1**
KEV LR LR
comp=Z,2µm,20.0s
WET Wettzell 87.57 40 P **P 04 23 46.9 0.0**
WET pmax pmax
comp=Z,82nm,1.7s,mb5.5
WET Wettzell 87.57 40 *eP* **P 04 23 46.9 0.0**
comp=Z,82nm,1.7s,mb5.5
BRG Berggiesshubel 87.80 39 *eP* **P 04 23 48.2 +0.2**
BRG 04 27 18.1
BRG pmax pmax
comp=Z,13nm,1.6s,mb4.7
BRG pmax pmax
comp=Z,13nm,1.3s,mb4.8
BRG pmax pmax
comp=Z,44nm,1.5s,mb5.3
BRG pmax pmax
comp=Z,47nm,1.9s,mb5.2
BRG pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
BRG MLR MLR
comp=Z,2µm,19.2s
BRG MLR MLR
comp=Z,1µm,17.4s
BRG MLR MLR
comp=E,2µm,18.8s
BRG Berggiesshubel 87.80 39 *eP* **P 04 23 48.2 +0.2**
comp=E,13nm,1.6s,mb4.7
BRG *e* pP 04 24 10.0 +1.4
BRG *i* 04 24 24.8
BRG PP PP 04 27 18.1 +1.3
BRG *e* 04 49 01.5
KHC Kasperske Hory 88.02 40 *eP* **P 04 23 49.0 -0.1**
KHC MLR MLR
comp=Z,4µm,19.0s
KHC Kasperske Hory 88.02 40 *eP* **P 04 23 49.0 -0.1**
KHC *ep*P pP 04 24 11.0 +1.4
KHC AMS AMS 05 00 20.0
comp=Z,4µm,19.0s
GEC2 GERESS Array S 88.17 41 P **P 04 23 49.6 -0.2**
GEC2 pmax pmax
comp=Z,49nm,1.7s,mb5.3
GEC2 GERESS Array S 88.17 41 *eP* **P 04 23 49.6 -0.2**
comp=Z,49nm,1.7s,mb5.3
GERES GERESS Array B 88.17 41 P **P 04 23 49.7 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 88.17 41 P **P 04 23 49.7 -0.1**
comp=Z,0.7nm,0.7s,baz=288,slow=4.2,SNR=7.0
AFI Afiamalu 88.21 256 PFAKE 04 24 00.0 +9.3
AFI LR LR
comp=Z,2µm,19.0s
PVCC Panska Ves 88.27 39 *eP* **P 04 23 53.1 +2.9**
PVCC MLR MLR
comp=Z,2µm,18.5s
PVCC Panska Ves 88.27 39 *eP* **P 04 23 53.1 +2.9**
PVCC *ep*P pP 04 24 13.8 +3.0
PVCC AMS AMS 05 01 30.0
comp=Z,2µm,18.5s
PRU Pruhonice 88.40 39 *eP* **P 04 23 45.2 -5.6**
PRU MLR MLR
comp=Z,4µm,19.3s
PRU Pruhonice 88.40 39 *eP* **P 04 23 45.2 -5.6**
PRU *ep*P pP 04 24 13.1 +1.7
PRU AMS AMS 04 59 20.0
comp=Z,4µm,19.3s
VOY Vojsko 89.03 43 *eP* **P 04 23 53.8 -0.1**
UPC Upice 89.16 39 *eP* **P 04 23 55.2 +0.8**
UPC *ep*P pP 04 24 16.3 +1.3
DPC Dobruska-Polom 89.40 39 AMS AMS 05 02 30.0
comp=Z,3µm,19.6s
KAF Kangasniemi 90.38 26 *ep* **P 04 23 54.7 -5.1**
ZST Bratislava 90.52 41 *eP* pP 04 24 23.2 +1.6
ZST *ePP* PP 04 27 41.5 +2.9
ZST Bratislava 90.52 41 *e* pP 04 24 23.2 +1.6
ZST *e* 04 27 41.5
FINES FINESS Array B 90.56 26 P **P 04 23 59.5 -1.3**
comp=Z,2.8nm,0.8s,mb4.5,slow=5.7,SNR=13
FINES LR LR 05 01 07.1
comp=Z,2µm,21.7s,baz=309,slow=33
OKC Ostrava-Krasne 90.67 39 AMS AMS 05 03 00.0
comp=Z,3µm,19.4s
VYHS Vyhne 91.53 40 *es*P sP 04 24 42.7 +8.8
VSU Vasula 92.14 29 *eP* **P 04 24 09.4 +1.3**
VSU Vasula 92.14 29 *eP* **P 04 24 09.5 +1.4**
PSZ Piszkesteto 92.39 40 *eP* **P 04 24 10.1 +0.6**
comp=Z,24nm,1.6s,mb5.2
KECS Kecovo 92.57 40 *e* sP 04 24 47.2 +8.5
CRVS Cervenica-Dubn 93.03 39 *eP* pP 04 24 40.3 +7.1
CRVS Cervenica-Dubn 93.03 39 *e* pP 04 24 40.3 +7.1
KOLS Kolonicke sedl 93.52 39 *eP* pP 04 24 37.2 +1.8
KOLS Kolonicke sedl 93.52 39 *e* pP 04 24 37.2 +1.8
TIXI Tiksi 93.94 349 *c iP* **P 04 24 16.7 +0.7**
TIXI pmax pmax
comp=Z,13nm,0.8s,mb5.3
TIXI MLR MLR
comp=Z,900nm,22.0s
TIXI Tiksi 93.94 349⇑ *iP* **P 04 24 16.8 +0.8**
TIXI LR LR
comp=Z,1µm,21.0s
PET Petropavlovsk 95.40 327 PFAKE 04 24 40.0 +17
PET LR LR
comp=Z,2µm,22.0s
SKO Skopje 95.45 45 *eP* **P 04 24 30.0 +6.4**
SKO *i* 04 25 01.0
MA2 Magadan 95.89 335 PFAKE 04 24 40.0 +15
MA2 LR LR
comp=Z,961nm,21.0s
VNA3 Neumayer Olymp 96.42 162⇑ *iP* **P 04 24 28.9 +1.6**
VNA3 *e* 04 24 38.1
VNA3 *e* pP 04 24 44.8 -3.3
VNA3 *e* 04 28 27.8
VNA3 *e* 04 28 54.2
VNA3 *e* 04 41 14.0
RAO Raoul Island 96.69 242 PFAKE 04 24 40.0 +10
RAO LR LR
comp=Z,2µm,22.0s
VNA1 Neumayer--Stat 96.71 161 P **P 04 24 36.0 +7.3**
VNA1 *e* 04 24 46.9
VNA1 *e* pP 04 24 53.5 +4.1
VNA1 *e* 04 28 56.3
VNA1 *e* 04 41 13.8
AKASG Malin Array Be 96.89 35 PP PP 04 28 24.9 -3.6
comp=Z,1.8nm,0.7s,baz=295,slow=7.2,SNR=13
VNA2 Neumayer--Watz 97.05 161 *e* **P 04 24 40.8 +11**
VNA2 Neumayer--Watz 97.05 161 *e* **P 04 24 46.4 +16**
VNA2 Neumayer--Watz 97.05 161 P **P 04 24 31.9 +1.6**
VNA2 *e* 04 24 40.8
VNA2 *e* 04 24 46.4
VNA2 *e* 04 28 28.8
VNA2 *e* 04 28 55.9
VNA2 *e* 04 41 12.6
OBN Obninsk 98.50 29⇑ *iP* **P 04 24 37.6 +0.5**
OBN *e* 04 28 42.0
OBN pmax pmax
comp=Z,3.0nm,0.4s,mb5.2
OBN MLR MLR
comp=Z,1µm,19.0s
OBN Obninsk 98.50 29⇑ *iP* **P 04 24 37.7 +0.6**
OBN LR LR
comp=Z,1µm,19.0s
SNAA Sanae 98.64 161 *e* **P 04 24 48.2 +11**
SNAA Sanae 98.64 161 *e* **P 04 24 54.0 +17**
SNAA Sanae 98.64 161 PP PP 04 28 44.5 +3.1
comp=Z,0.6nm,1.1s,baz=348,slow=9.3,SNR=2.4
SNAA Sanae 98.64 161⇑ *iP* **P 04 24 39.1 +1.7**
SNAA *e* 04 24 48.2
SNAA *e* 04 24 54.0
SNAA *e* 04 28 56.3
QSPA South Pole Qui 101.28 180 PFAKE 04 25 00.0 +11
QSPA LR LR
comp=Z,1µm,20.0s
YAK Yakutsk 101.63 344 PFAKE 04 25 00.0 +8.9
YAK LR LR
comp=Z,882nm,20.0s
KWAJ Kwajalein Atol 103.67 282 PFAKE 04 25 10.0 +8.8
KWAJ LR LR
comp=Z,374nm,20.0s
SNZO South Karori 103.98 230 PFAKE 04 25 20.0 +18
SNZO LR LR
comp=Z,2µm,19.0s
SBA Scott Base 104.50 192 PFAKE 04 25 20.0 +17
SBA LR LR
comp=Z,1µm,20.0s
BR131 Keskin Array S 104.80 44 PFAKE 04 25 20.0 +14
BR131 LR LR
comp=Z,778nm,19.0s
VNDA Vanda 105.60 192 PFAKE 04 29 30.0
VNDA LR LR
comp=Z,1µm,19.0s
TSUM Tsumeb 106.78 107 PFAKE 04 29 40.0
TSUM LR LR
comp=Z,2µm,20.0s
YSS Yuzh-Sakhalins 107.28 327 PFAKE 04 29 40.0
YSS LR LR
comp=Z,1µm,21.0s
ZEI Tsey 109.63 37 *eP* Pdif 04 25 26.4 -0.4
ZEI *i* 04 29 56.7
SUR Sutherland 110.50 120 PFAKE 04 29 40.0 +10
SUR LR LR
comp=Z,795nm,22.0s
GNI Garni 111.73 38 PFAKE 04 29 50.0 +18
GNI LR LR
comp=Z,1µm,19.0s
ZRNK Zerenda 112.63 16 PKIKP PKPdf 04 29 36.4 +2.8
ZRNK pmax pmax
comp=Z,3.0nm,0.9s
AB31 Akbulak array 112.84 23 *i* PKIKP PKPdf 04 29 37.3 +3.2
AB31 pmax pmax
comp=Z,8.0nm,0.9s
BOSA Boshof 114.32 116 PKP PKPdf 04 29 40.9 +3.2
comp=Z,3.5nm,0.8s,baz=325,slow=1.0,SNR=3.3
BOSA Boshof 114.32 116 PKP PKPdf 04 29 40.9 +3.2
BOSA LR LR
comp=Z,2µm,19.0s
LBTB Lobatse 114.59 112 PFAKE 04 29 50.0 +12
LBTB LR LR
comp=Z,1µm,20.0s
HNR Honiara 114.77 265 PFAKE 04 29 50.0 +11
HNR LR LR
comp=Z,1µm,20.0s
MDJ Mudanjiang 115.47 332 PKP PKPdf 04 29 41.3 +1.9
MDJ XPKP 04 29 57.7
MDJ SS SS 04 46 37.8 +1.8
MDJ LR LR
comp=N,498nm,31.0s
MDJ LR LR
comp=E,733nm,28.7s
MDJ LR LR
comp=Z,616nm,26.4s
LSZ Lusaka 116.47 101 PFAKE 04 30 00.0 +18
LSZ LR LR
comp=Z,1µm,20.0s
MJAR Matsushiro Arr 116.51 321 PKIKP PKPdf 04 29 44.0 +2.4
MJAR pmax pmax
comp=Z,3.0nm,0.6s
MJAR Matsushiro Arr 116.51 321 PKP PKPdf 04 29 44.0 +2.4
comp=Z,3.1nm,0.6s,baz=114,slow=1.3,SNR=8.9
MAJO Matsushiro 116.51 321 PFAKE 04 30 00.0 +18
MAJO LR LR
comp=Z,1µm,22.0s
MAT Matsushiro 116.51 321 *e*PKP PKPdf 04 29 44.0 +2.4
MAT Matsushiro 116.51 321 PKP PKPdf 04 29 43.5 +1.9
TLY Talaya 116.67 353 *i* PKIKP PKPdf 04 29 43.4 +1.9
TLY MLR MLR
comp=Z,800nm,22.0s
TLY Talaya 116.67 353 *e*PKP PKPdf 04 29 43.5 +2.0
TLY LR LR
comp=Z,277nm,20.0s
MBAR Mbarara 116.77 85 PFAKE 04 30 00.0 +17
MBAR LR LR
comp=Z,373nm,20.0s
CN2 Changchun 117.94 334 *e*PKP PKPdf 04 29 47.1 +2.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAK	Zakamensk	117.99	353	ePKIKP	PKPdf	04 29 47.8	+3.7
ZAK				e		04 30 57.6	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s						
ULN	Ulaanbaatar	119.88	350⇑	iPKIKP	PKPdf	04 29 50.2	+2.3
ULN	Ulaanbaatar	119.88	350	ePKP	PKPdf	04 29 51.1	+3.3
ULN				LR	LR		
	comp=Z,2μm,21.0s						
SONM	Songino Array	120.02	350	PKP	PKPdf	04 29 50.8	+2.7
	comp=Z,6.1nm,0.6s,baz=340,slow=1.6,SNR=58						
MAW	Mawson	120.21	167	PKP	PKPdf	04 29 50.5	+2.5
	comp=Z,0.9nm,0.5s,baz=182,slow=2.5,SNR=4.0						
MAW	Mawson	120.21	167	PKP	PKPdf	04 29 50.5	+2.5
MAW				LR	LR		
	comp=Z,298nm,20.0s						
MKAR	Makanchi Array	121.30	9	iPKIKP	PKPdf	04 29 52.7	+2.0
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MKAR	Makanchi Array	121.30	9	PKP	PKPdf	04 29 51.6	+0.9
	comp=Z,3.7nm,0.7s,baz=350,slow=2.1,SNR=44						
KKAR	Karatay Array	121.91	20	iPKIKP	PKPdf	04 29 54.9	+3.0
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INCN	Inchon	122.39	329	PFAKE		04 30 10.0	+17
INCN				LR	LR		
	comp=Z,741nm,22.0s						
USP	Ospenovka	122.97	17	P	PKPdf	04 29 57.0	+3.1
	SNR=19						
FRU	Bishkek	123.41	17	ePKIKP	PKPdf	04 30 03.5	+8.7
FRU				e		04 31 38.0	
AAK	Ala-Archa	123.56	17c	iPKIKP	PKPdf	04 29 57.1	+2.0
AAK	Ala-Archa	123.56	17	ePKP	PKPdf	04 29 57.2	+2.1
AAK				LR	LR		
	comp=Z,314nm,21.0s						
TKM2	Tokmak 2	123.59	16	P	PKPdf	04 29 58.6	+3.4
	SNR=7.6						
DL2	Dalian	123.59	334	PKP	PKPdf	04 29 58.7	+3.4
DL2				eSS	SS	04 48 20.3	-0.6
DL2				PP	PP		
	comp=Z,590nm,9.2s						
DL2				LR	LR		
	comp=N,370nm,21.9s						
DL2				LR	LR		
	comp=E,280nm,18.9s						
DL2				LR	LR		
	comp=Z,500nm,23.8s						
AML	Almayashu	123.79	18	P	PKPdf	04 29 59.5	+3.9
	SNR=28						
CASY	Casey	123.89	188	ePKP	PKPdf	04 29 54.8	-0.4
CASY				LR	LR		
	comp=Z,2μm,19.0s						
UCH	Uchtor	123.94	17	P	PKPdf	04 30 00.0	+4.1
	SNR=28						
KZA	Kyzart	124.28	16	P	PKPdf	04 30 00.6	+4.0
	SNR=7.5						
ULHL	Ulahol	124.39	16	P	PKPdf	04 30 00.4	+3.7
	SNR=18						
WMQ	Urumqi	124.88	5	PKP	PKPdf	04 30 01.1	+3.4
WMQ				PP	PP	04 31 53.7	+2.8
WMQ				PP	PP		
	comp=Z,388nm,10.7s						
WMQ				LR	LR		
	comp=N,958nm,21.1s						
WMQ				LR	LR		
	comp=E,847nm,21.4s						
WMQ				LR	LR		
	comp=Z,1μm,22.3s						
HHC	Hu-ho-hao-te	125.50	343	⇑PKP	PKPdf	04 30 02.9	+4.0
HHC				XPKP		04 30 17.9	
HHC				PP	PP	04 31 52.4	-2.7
HHC				PKS	PKS	04 33 37.7	+3.0
HHC				SKS	SKS	04 37 07.1	+12
HHC				SKKS		04 38 42.8	
HHC				PP	PP		
	comp=Z,1μm,16.8s						
HHC				LR	LR		
	comp=N,1μm,22.7s						
HHC				LR	LR		
	comp=E,858nm,21.5s						
HHC				LR	LR		
	comp=Z,2μm,23.9s						
BTO	Baotou	126.14	344	ePKP	PKPdf	04 30 04.2	+4.0
PMG	Port Moresby	127.28	267	PFAKE		04 30 20.0	+17
PMG				LR	LR		
	comp=Z,1μm,21.0s						
TIA	Tai'an	127.77	336	ePKP	PKPdf	04 30 06.4	+2.9
CTA	Charters Tower	128.68	253	ePKP	PKPdf	04 30 09.7	+4.1
	comp=Z,12nm,1.1s						
CTAO	Charters Tower	128.68	253	PFAKE		04 30 20.0	+14
CTAO				LR	LR		
	comp=Z,1μm,20.0s						
GTA	Gaotai	129.21	354	PKP	PKPdf	04 30 09.4	+3.3
GTA				PP	PP	04 32 19.1	-0.9
GTA				SKS	SKS	04 37 15.7	+10
GTA				SKKS		04 39 06.2	
GTA				SS	SS	04 49 31.6	+0.3
GTA				PP	PP		
	comp=Z,434nm,12.3s						
GTA				LR	LR		
	comp=N,329nm,27.5s						
GTA				LR	LR		
	comp=E,550nm,29.1s						
GTA				LR	LR		
	comp=Z,467nm,31.3s						
SSE	Sheshan	130.18	329	PKP	PKPdf	04 30 10.7	+2.5
SSE				LR	LR		
	comp=N,307nm,22.6s						
SSE				LR	LR		
	comp=E,653nm,22.5s						
SSE				LR	LR		
	comp=Z,726nm,20.3s						
NJ2	Nanjing	130.55	331	ePKP	PKPdf	04 30 11.5	+2.6
NJ2				XPKP		04 30 26.0	
NJ2				PP	PP	04 32 32.0	+3.3
NJ2				SKS	SKS	04 37 18.0	+8.7
NJ2				SKKS		04 39 19.0	
NJ2				SS	SS	04 49 55.0	+7.5
NJ2				PP	PP		
	comp=Z,1μm,10.3s						
NJ2				LR	LR		
	comp=N,3μm,28.0s						
NJ2				LR	LR		
	comp=E,4μm,26.7s						
NJ2				LR	LR		
	comp=Z,6μm,27.2s						
STKA	Stephens Creek	131.31	237	ePKP	PKPdf	04 30 14.2	+3.9
	comp=Z,7.3nm,0.7s						
STKA	Stephens Creek	131.31	237	PKP	PKPdf	04 30 13.7	+3.3
	comp=Z,3.8nm,0.5s,baz=82,slow=2.6,SNR=6.9						
LZH	Lanzhou	131.87	349	⇓PKP	PKPdf	04 30 15.1	+3.8
LZH				XPKP		04 30 30.2	
LZH				PP	PP	04 32 40.1	+3.2
LZH				PKS	PKS	04 33 48.5	+1.9
LZH				SS	SS	04 50 07.5	+3.4
LZH				PP	PP		
	comp=Z,914nm,10.0s						
LZH				LR	LR		
	comp=N,2μm,18.2s						
LZH				LR	LR		
	comp=Z,2μm,20.0s						
LZH	Lanzhou	131.87	349	⇓PKP	PKPdf	04 30 15.1	+3.8
LZH				pPKP		04 30 26.5	
LZH				sPKP		04 30 30.2	
LZH				PP	PP	04 32 40.1	+3.2
LZH				PKS	PKS	04 33 48.5	+1.9
LZH				SKKS		04 40 21.0	
LZH				SS	SS	04 50 07.5	+3.4
LZH				LR	LR		
	comp=Z,2μm,20.0s						
XAN	Xi'an	132.59	343	PKP	PKPdf	04 30 15.1	+2.4
WHN	Wuhan	133.83	335	ePKP	PKPdf	04 30 18.5	+3.4
TATO	Taipei	134.79	323	PFAKE		04 30 30.0	+13
TATO				LR	LR		
	comp=Z,745nm,20.0s						
ENH	Enshi	135.91	340	ePKPdf	PKPdf	04 30 21.8	+2.9
QZH	Quanzhou	136.47	326	ePKP	PKPdf	04 30 23.2	+3.1
QZH				ePP	PP	04 33 06.8	+1.3
QZH				LR	LR		
	comp=N,880nm,12.5s						
QZH				LR	LR		
	comp=E,1μm,20.0s						
QZH				LR	LR		
	comp=Z,2μm,21.6s						
LSA	Lhasa	139.17	3	PKP	PKPdf	04 30 29.0	+4.1
LSA	Lhasa	139.17	3	ePKP	PKPdf	04 30 28.9	+4.0
WB2	Warramunga Arr	139.86	252	ePKP	PKPdf	04 30 29.9	+3.5
WRAB	Tennant Creek	139.86	253	iPKIKP	PKPdf	04 30 29.9	+3.5
WRAB	Tennant Creek	139.86	253	ePKP	PKPdf	04 30 28.4	+2.1
WRAB				LR	LR		
	comp=Z,604nm,22.0s						
WRA	Warramunga Arr	139.87	252	PKHKP		04 30 21.1	
WRA						04 30 30.0	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,11nm,0.8s						
WRA	Warramunga Arr	139.87	252	PKhKP		04 30 21.1	
	comp=Z,1.4nm,0.7s,baz=94,slow=3.0,SNR=6.0						
WRA				PKP	PKPdf	04 30 30.0	+3.6
	comp=Z,11nm,0.8s,baz=92,slow=2.1,SNR=37						
GYA	Guiyang	140.35	341	PKP	PKPdf	04 30 25.1	-2.0
GYA				PKS	PKS	04 34 06.2	+4.2
GYA				PP	PP		
	comp=Z,690nm,8.1s						
GYA				LR	LR		
	comp=N,860nm,26.4s						
GYA				LR	LR		
	comp=E,990nm,22.2s						
GYA				LR	LR		
	comp=Z,1μm,25.8s						
KAKA	Kakadu	141.95	264	ePKP	PKPdf	04 30 34.5	+4.2
	comp=Z,25nm,0.9s						
FORT	Forrest	142.63	233	ePKP	PKPdf	04 30 34.6	+3.6
	comp=Z,16nm,0.7s						
KMI	Kunming	142.70	346	PKP	PKPdf	04 30 34.8	+3.5
KMI				APKP		04 30 46.3	
KMI				XPKP		04 30 50.4	
KMI				PP	PP	04 33 46.5	+2.8
KMI				SKKS		04 40 31.7	
KMI				SS	SS	04 52 15.7	+3.1
KMI				PP	PP		
	comp=Z,930nm,16.9s						
KMI				LR	LR		
	comp=N,776nm,24.1s						
KMI				LR	LR		
	comp=E,784nm,21.8s						
KMI				LR	LR		
	comp=Z,897nm,27.3s						
SHL	Shillong	143.32	3	eP	PKPbc	04 30 31.0	+0.3
QIZ	Qiongzhong	145.84	332	PKP	PKPdf	04 30 41.2	+4.3
QIZ	Qiongzhong	145.84	332	PKPdf	PKPdf	04 30 41.0	+4.1
QIZ	Qiongzhong	145.84	332	ePKP	PKPdf	04 30 41.0	+4.1
HYB	Hyderabad	147.85	28	eP	PKPdf	04 30 43.0	+2.8
HYB	Hyderabad	147.85	28	iPKP	PKPdf	04 30 43.0	+2.8
FITZ	Fitzroy Crossi	148.26	254	ePKP	PKPdf	04 30 44.9	+4.0
	comp=Z,40nm,0.8s						
NWAO	Narrogin (SRO)	149.40	222	PFAKE		04 31 00.0	+18
NWAO				LR	LR		
	comp=Z,770nm,20.0s						
CHG	Chiang Mai	149.60	350	⇓P	PKPdf	04 30 47.3	+4.3
	comp=Z,20nm,1.0s						
KLBR	Kellerberrin	149.87	224	ePKP	PKPdf	04 30 51.3	+8.2
	comp=Z,22nm,0.7s						
CM31	Chiang Mai Arr	149.95	350	PKP	PKPdf	04 30 47.3	+3.7
CM31				LR	LR		
	comp=Z,1μm,20.0s						
CMAR	Chiang Mai Arr	149.95	350	PKHKP		04 30 47.9	
CMAR				pmax	pmax		
	comp=Z,25nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,11nm,0.9s						
CMAR	Chiang Mai Arr	149.95	350	PKP	PKPdf	04 30 47.9	+4.3
	comp=Z,25nm,0.8s,baz=308,slow=2.4,SNR=37						
CMAR				PKPbc	PKPdf	04 30 51.5	+7.9
	comp=Z,11nm,0.9s,baz=322,slow=38,SNR=41						
MUN	Mundaring	150.67	222	ePKP	PKPdf	04 30 53.7	+9.3
	comp=Z,34nm,0.7s						
KKM	Kota Kinabalu	151.60	306	PKP	PKPdf	04 30 49.6	+3.3
MBWA	Marble Bar	153.05	245	PFAKE		04 31 00.0	+12
MBWA				LR	LR		
	comp=Z,1μm,19.0s						
PALK	Pallekele	157.56	35	PFAKE		04 31 10.0	+16
PALK				LR	LR		
	comp=Z,355nm,19.0s						
DGAR	Diego Garcia	158.84	81	PFAKE		04 31 10.0	+14
DGAR				LR	LR		
	comp=Z,476nm,20.0s						
KSM	Kuching	159.04	306	ePKPdf	PKPdf	04 31 00.1	+3.9
KULM	Kulim	162.06	336	ePKP	PKPdf	04 31 02.9	+3.6

CASC 02 04:24:34.1±2.1, 11.08N×86.59W, h18km±6km, MD3.8, ML3.9, 5C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	0.94	17⇑	eP	Pb	04 24 52.4	+0.9
APON	Apoyo	0.97	31⇓	eP	Pb	04 24 52.3	+0.2
MASN	Masaya	1.00	25	eP	Pb	04 24 52.3	-0.2
TICN	Ticuantepe	1.01	20	eP	Pb	04 24 53.0	+0.3
TICN				eS	Sb	04 25 08.4	+2.9
CONN	Concepcion	1.06	63⇓	eP	Pb	04 24 52.9	-0.6
XAVN	Gruta Xavier	1.09	13⇓	eP	Pb	04 24 54.1	0.0
MGAN	Managua	1.11	17⇑	eP	Pb	04 24 53.2	-1.3
MGAN				eS	Sb	04 25 08.6	+0.1
MGAN				i		04 25 10.4	
	comp=E,3μm,0.5s						
WILN	Americas 2	1.14	20	eP	Pb	04 24 54.7	-0.3
WILN				eS	Sb	04 25 09.9	+0.5
APYN	Apoyeque	1.17	11	eP	Pb	04 24 55.4	-0.1
APYN				eS	Sb	04 25 11.2	+1.0
MOMJ	Momotombo	1.32	2	eP	Pn	04 24 57.1	-0.7
MIRN	Miramar	1.36	355⇓	eP	Pn	04 24 58.1	-0.3
LEON	Leon	1.36	347⇑	eP	Pn	04 24 58.0	-0.3
CNGN	Cerro Negro	1.42	356⇑	eP	Pn	04 24 58.7	-0.4
CNGN				eS	Sb	04 25 16.5	-0.8
TEL3	Telica 3	1.50	350⇑	eP	Pn	04 25 00.2	-0.3
TELN	Telica	1.53	351	eP	Pn	04 25 00.5	-0.4
PYTN	Playitas	1.54	20	eP	Pn	04 25 00.2	-0.7
CRIN	San Cristobal	1.67	344	eP	Pn	04 25 02.4	-0.5
CRIN				eS	Sn	04 25 23.9	0.0
FORC	Fortuna	1.98	108	eP	Pn	04 25 07.0	-0.2
PRS1	Puriscal	2.49	116	eP	Pn	04 25 14.8	+0.3
TRTC	Tortuguero	2.87	100	eP	Pn	04 25 17.6	-2.4
URSC	Urasca	3.03	114	eP	Pn	04 25 21.5	-0.7
URSC				eS	Sn	04 25 58.3	0.0
BUS	Buena Vista	3.17	118	eP	Pn	04 25 25.2	+0.9

*SKHL **02** 04:29:54.9±2.2, 42.89N×145.92E, h33km±13km, mb4.7/2*
*JMA **02** 04:29:54.8±0.1, 42.88N×145.50E, h44km±1km, M4.1*
*IDC **02** 04:29:55.5±3.8, 42.67N×145.52E, h59km±28km, mb3.7/6, mb1 3.8/8, mb1mx3.5/24, mbtmp4.0/8, ML3.9/2, MS3.8/1, Ms1 3.8/1, ms1mx3.4/33, Error ellipse: s-maj=31.6km s-min=26.3km az=53.0*
ISC 02 04:29:52.7±1.1, 42.81N±0.07×145.63E±0.08, h47km±7km, n19, σ0.98/26, mb4.0/7, 1C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.56	8	⇑P	P	04 30 05.7	+1.2
NEM2				S	S	04 30 13.3	+0.3
JAK	Akkeshi	0.71	285	⇓P	P	04 30 07.1	+0.6
JAK				eS	S	04 30 15.7	-1.0
JNK	Nakash	1.02	319	P	P	04 30 11.2	+0.4
JNK				eS	S	04 30 22.4	-1.8
JRA	Rausu	1.18	342	⇓P	P	04 30 14.0	+0.9
JRA				eS	S	04 30 28.0	-0.3
YUK	Yuzh-Kuril'sk	1.23	8	iP	P	04 30 13.8	0.0
YUK				AMB	AMB	04 30 14.5	
	810nm,0.4s						
YUK				iS	S	04 30 28.0	-1.5
YUK				A		04 30 29.2	
	4μm,0.5s						
YUK				A		04 30 29.2	
	7μm,0.5s						
YUK				A		04 30 32.0	
	4μm,0.5s						
YUK				A		04 30 32.0	
	3μm,0.5s						
YUK				A		04 30 32.1	
	170nm,0.2s						
JOB	Onbets	1.32	274	⇓P	P	04 30 15.5	+0.3
JAR	Ashorobuto	1.45	290	⇓P	P	04 30 17.2	+0.2
ASAJ	Asahikawa	2.56	302	P	P	04 30 33.8	+1.0
	24nm,0.3s,baz=140,slow=9.0,SNR=42						
ASAJ				S	S	04 31 05.8	+2.8
	16nm,0.3s,baz=7.7,slow=27,SNR=10						
ASAJ				LR	LR	04 31 34.5	
	comp=Z,2μm,20.2s,baz=229,slow=38						
KUR	Kuril'sk	2.91	33	eP	P	04 30 37.0	-0.6
KUR				AMB	AMB	04 30 48.0	
	60nm,0.5s						
KUR				eS	S	04 31 11.6	0.0
KUR				A		04 31 16.8	
	130nm,0.5s						
KUR				A		04 31 16.8	
	90nm,0.5s						
MJAR	Matsushiro Arr	8.48	225	P	P	04 31 53.7	-1.9
	0.8nm,0.3s,baz=30,slow=13,SNR=4.2						
SONM	Songino Array	27.82	294	P	P	04 35 39.5	+0.1
	1.7nm,0.6s,mb3.8,baz=80,slow=7.9,SNR=8.4						
MKAR	Makanchi Array	44.04	298	P	P	04 37 57.3	+0.1
	0.8nm,0.5s,mb3.7,baz=79,slow=8.4,SNR=8.9						
INK	Inuvik	47.77	30	P	P	04 38 27.9	+1.5
	0.4nm,0.4s,mb3.8,baz=285,slow=7.0,SNR=9.2						
KEV	Kevo	59.20	339	ep	P	04 39 49.0	-1.6
KAF	Kangasniemi	64.65	333	ep	P	04 40 26.5	-0.6
	0.9nm,0.4s,mb4.2,baz=44,slow=6.2						
FINES	FINESS Array B	65.20	333	P	P	04 40 30.8	+0.1
	2.3nm,0.5s,mb4.5,baz=43,slow=7.7,SNR=41						
NB2	NORSAR Subarra	70.07	338	P	P	04 41 01.6	+0.5
	2.6nm,0.8s,mb4.2,baz=32,slow=6.2						
NOA	NORSAR Array B	70.07	338	P	P	04 41 01.2	+0.2
	1.2nm,0.7s,mb3.9,baz=35,slow=6.1,SNR=8.7						
AKASG	Malin Array Be	71.67	323	P	P	04 41 11.0	+0.1
	1.3nm,0.5s,mb4.1,baz=42,slow=6.0,SNR=12						

*NEIC **02** 04:46:16.3, 37.52S×175.75E, h4km, ML3.7(WEL), After WEL.*
NEIC Felt at Katikati, Te Aroha West and Waihi.
WEL 02 04:46:16.4±0.1, 37.53S×175.74E, h5km, ML3.9/18, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0, intensity MM 5., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	Tahuroa Road	0.28	223	P	Pg	04 46 21.9	-0.1
TOZ				S	Sg	04 46 25.8	+0.1
TOZ	Tahuroa Road	0.28	223	PG	Pg	04 46 21.9	-0.1
TOZ				SG	Sg	04 46 26.1	+0.3
TOZ				SG	Sg	04 46 26.1	+0.4
TGRZ	Tauranga	0.46	116	P	Pg	04 46 25.2	-0.4
TGRZ	Tauranga	0.46	116	PG	Pg	04 46 25.2	-0.4
TGRZ				SG	Sg	04 46 32.0	+0.2
MYRZ	Mayor Island	0.47	59	PG	Pg	04 46 25.5	-0.3
LIRZ	Lichensteins R	0.70	133	P	Pg	04 46 30.0	-0.4
LIRZ	Lichensteins R	0.70	133	P*	Pb	04 46 29.9	-0.7
UTU	Utuhina	0.74	151	P	Pg	04 46 30.9	-0.3
UTU	Utuhina	0.74	151	P*	Pb	04 46 30.9	-0.5
KUZ	Kuaotunu	0.78	359	P	Pg	04 46 31.0	-1.0
KUZ				S	Sg	04 46 41.4	-1.0
KUZ	Kuaotunu	0.78	359	P*	Pb	04 46 31.0	-1.0
KUZ				S*	Sb	04 46 41.6	-1.1
MKRZ	Makatiti	0.84	137	P	Pb	04 46 32.6	-0.5
MKRZ	Makatiti	0.84	137	P*	Pb	04 46 32.6	-0.4
OTAZ	Otara	0.87	311	P	Pb	04 46 32.9	-0.6
OTAZ	Otara	0.87	311	P*	Pb	04 46 33.0	-0.6
PATZ	Paeroa	0.95	154	P	Pb	04 46 33.9	-1.0
PATZ	Paeroa	0.95	154	P*	Pb	04 46 33.9	-1.0
EDRZ	Edgecumbe	0.98	127	P	Pb	04 46 35.4	-0.1
EDRZ	Edgecumbe	0.98	127	P*	Pb	04 46 35.0	-0.5
MTAZ	Motutapu	0.99	318	P	Pb	04 46 35.3	-0.4
MTAZ	Motutapu	0.99	318	P*	Pb	04 46 35.3	-0.4
KAAZ	Kauri Point	1.08	310	P	Pb	04 46 37.4	+0.1
KAAZ	Kauri Point	1.08	310	P*	Pb	04 46 37.3	0.0
WTAZ	Waiatarua	1.10	302	P	Pb	04 46 36.3	-1.3
WTAZ	Waiatarua	1.10	302	P*	Pb	04 46 37.5	-0.1
WHTZ	Whakaora	1.15	171	P	Pb	04 46 38.6	+0.2
WHTZ	Whakaora	1.15	171	P*	Pb	04 46 38.6	+0.2
WATZ	Wairara	1.18	180	P	Pb	04 46 37.6	-1.3
WATZ	Wairara	1.18	180	P*	Pb	04 46 37.6	-1.3
HIZ	Hauiti	1.21	215	P	Pb	04 46 38.2	-1.2
HIZ	Hauiti	1.21	215	P*	Pb	04 46 38.3	-1.0
URZ	Urewera	1.31	124	eP	Pb	04 46 40.0	-1.1
URZ	Urewera	1.31	124	P*	Pb	04 46 40.0	-1.1
RATZ	Rangitukua	1.34	179	P	Pb	04 46 41.9	+0.3
RATZ	Rangitukua	1.34	179	P*	Pb	04 46 42.0	+0.4
KATZ	Kakaramea	1.45	181	P	Pn	04 46 42.6	-0.7
KATZ	Kakaramea	1.45	181	PN	Pn	04 46 42.6	-0.7
RITZ	Rihia Road	1.45	176	PN	Pn	04 46 43.1	-0.3
TWVZ	Taurewa	1.56	189	PN	Pn	04 46 44.4	-0.5
KRVZ	Karewarewa	1.57	183	PN	Pn	04 46 45.5	+0.4
WTVZ	West Tongariro	1.59	184	P	Pn	04 46 45.8	+0.4
WTVZ	West Tongariro	1.59	184	PN	Pn	04 46 45.9	+0.6
NGZ	Ngauruhoe	1.65	184	P	Pn	04 46 47.2	+1.0
NGZ	Ngauruhoe	1.65	184	PN	Pn	04 46 47.2	+1.0
CNZ	Chateau	1.68	185	P	Pn	04 46 47.6	+1.0
CNZ	Chateau	1.68	185	PN	Pn	04 46 47.6	+1.0
WPVZ	Whakapapa	1.68	185	P	Pn	04 46 47.6	+0.9
WPVZ	Whakapapa	1.68	185	PN	Pn	04 46 47.6	+0.9
FWVZ	Far West T-bar	1.73	185	P	Pn	04 46 48.6	+1.2
FWVZ	Far West T-bar	1.73	185	PN	Pn	04 46 48.3	+0.9
TUVZ	Tukino	1.74	182	P	Pn	04 46 49.1	+1.6
TUVZ				P		04 46 49.8	
TUVZ	Tukino	1.74	182	PN	Pn	04 46 49.9	+2.4
DRZ	Dome Shelter	1.75	184	P	Pn	04 46 49.1	+1.4
DRZ	Dome Shelter	1.75	184	PN	Pn	04 46 49.5	+1.8
VRZ	Vera Road	1.77	206	eP	Pn	04 46 45.8	-2.2
VRZ	Vera Road	1.77	206	PN	Pn	04 46 46.6	-1.4
WNVZ	Wahianoa	1.80	184	P	Pn	04 46 49.7	+1.3
WCZ	Waipu Caves	1.94	324	P	Pn	04 46 48.4	-2.0
RAEZ	Rainy Point	2.05	211	P	Pn	04 46 51.8	-0.2
NEZ	North Egmont	2.17	216	P	Pn	04 46 57.0	+3.4
NRZ	Ngariki Road	2.30	218	P	Pn	04 46 58.1	+2.6
WAZ	Wanganui	2.30	195	eP	Pn	04 46 57.8	+2.2

MAN 02 04:56:11.1, 19.23N×121.16E, h147km, mb3.7, ML2.5, MS2.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	1.29	139	eP	P	04 56 38.9	+0.3
SGCP				eS	S	04 56 57.4	-2.4
APYP	Conner	1.36	177	eP	P	04 56 41.4	+2.0
APYP				eS	S	04 56 59.7	-1.4
BBP	Basco	1.42	32	eP	P	04 56 40.5	+0.5
BBP				eS	S	04 57 02.6	+0.4
ABRA	Dolores	1.63	195	eP	P	04 56 41.8	-0.4
ABRA				eS	S	04 57 08.3	+2.2

*MAN **02** 05:02:14.7, 15.39N×122.78E, h12km, mb4.5, ML3.4, MS3.3*
*IDC **02** 05:02:29.9±5.4, 16.80N×121.30E, mb3.8/5, mb1 4.0/5, mb1mx3.6/18, mbtmp3.8/5, Error ellipse: s-maj=115.9km s-min=52.5km az=152.0*
ISC 02 05:02:13.6±1.4, 15.36N±0.03×122.76E±0.04, h8km±9km, n26, σ1.05/38, mb3.8/5, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	Polilio Island	1.01	232	eP	Pb	05 02 31.0	-2.1
POLP				eS	Sb	05 02 43.1	-3.2
BALP	Baler	1.20	288	eP	Pb	05 02 35.1	-1.2
BALP				eS	Sb	05 02 50.8	-1.1
PCPH	Palayan	1.62	277	eP	Pn	05 02 41.9	-0.8
CAUP	Cauayan	1.81	330	eP	Pn	05 02 46.4	+0.9
CAUP				eS	Sn	05 03 10.5	+1.6
AUQP	San Andres	2.03	182	eP	Pn	05 02 50.6	+2.0
AUQP				eS	Sn	05 03 19.8	+5.4
BOAC	Boac	2.09	205	eP	Pn	05 02 50.2	+0.7
BOAC				eS	Sn	05 03 16.5	+0.6
TGY	Tagaytay City	2.17	235⇑	iP	Pn	05 02 51.8	+1.2
TGY				eS	Sn	05 03 20.3	+2.5
PVCP	Virac	2.21	142	eP	Pn	05 02 51.1	-0.1
PVCP				eS	Sn	05 03 24.3	+5.2
BCPH	Baguio City Da	2.33	296⇓	eP	Pn	05 02 44.8	-8.1
BCPH				eS	Sn	05 03 22.1	0.0
SCZP	Santa Cruz	2.78	279	eP	Pn	05 02 59.5	+0.2
SCZP				eS	Sn	05 03 34.1	+0.7
APYP	Conner	2.88	330	eP	Pn	05 03 00.9	+0.2
APYP				eS	Sn	05 03 36.1	+0.1
BOLP	Bolinao	2.92	291	eP	Pn	05 03 01.4	0.0
LUBP	Lubang	2.92	237	eP	Pn	05 03 02.6	+1.2
SGCP	Mt. Cagua	2.95	347	eP	Pn	05 03 01.5	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGCP				eS	Sn	05 03 36.4	-1.2
ABRA	Dolores	3.01	319	eP	Pn	05 03 03.6	+1.0
OTRP	Odiongan	3.07	194	eP	Pn	05 03 03.0	-0.5
OTRP				eS	Sn	05 03 36.5	-4.2
SJMP	San Jose	3.29	209	eP	Pn	05 03 07.5	+0.9
SJMP				eS	Sn	05 03 45.4	-1.1
CNP	Catarman	3.38	147	eP	Pn	05 03 08.2	+0.3
CNP				eS	Sn	05 03 47.6	-1.1
BUSP	Coron	4.17	217	eP	Pn	05 03 18.3	-0.7
CMAR	Chiang Mai Arr	22.99	281	P	P	05 07 19.3	-0.9
	1.3nm,0.5s,mb3.7,baz=97,slow=7.3,SNR=7.5						
SONM	Songino Array	35.10	341	P	P	05 09 08.8	-0.6
	0.3nm,0.4s,mb3.6,baz=169,slow=7.3,SNR=2.8						
MKAR	Makanchi Array	45.93	322	P	P	05 10 38.4	-0.4
	1.3nm,0.8s,mb3.9,baz=113,slow=9.2,SNR=14						
ZAL	Zalesovo	48.55	331	pP	pP	05 11 05.0	+3.5
	1.0nm,0.4s,baz=7.1,slow=11,SNR=1.8						
BVAR	Borovoye Array	55.56	325	pP	pP	05 11 58.4	+4.2
	0.6nm,0.6s,baz=113,slow=11,SNR=3.7						
ARCES	ARCESS Array B	78.25	339	P	P	05 14 22.3	+7.1
	0.6nm,0.5s,mb3.8,baz=80,slow=7.4,SNR=5.6						
NOA	NORSAR Array B	86.70	333	P	P	05 15 05.2	+6.1
	0.8nm,0.6s,mb4.1,baz=64,slow=4.9,SNR=7.8						

*CNRM **02** 05:03:17.6, 35.63N×3.79W, h1km, MD2.7*
*CSEM **02** 05:03:20.2±0.3, 35.33N×3.86W, h20km, MD2.7, Error ellipse: s-maj=7.8km s-min=5.0km az=107.0*
*MDD **02** 05:03:21.9±0.7, 35.46N×3.95W, mbLg1.7/4, Error ellipse: s-maj=7.2km s-min=3.5km az=102.0, PRXIMO*
ISC 02 05:03:22.3±0.5**, 35.44N**±0.02×**3.87W**±0.04**, h10km, n18, σ1ˢ34**/30**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPAL	Palemas	0.22	195	i P	Pg	05 03 25.0	-2.0
MPAL				i S	Sg	05 03 31.0	+0.8
TOU	Touzarine	0.48	168	i P	Pg	05 03 30.0	-2.1
TOU				i S	Sg	05 03 39.0	+0.3
EMEL	Melilla	0.76	100	P	Pb	05 03 38.5	+1.3
	57nm,0.1s,SNR=5.3						
EMEL				S	Sb	05 03 47.9	+0.6
	200nm,0.2s,SNR=6.0						
EMLI	Melilla	0.77	100	P	Pb	05 03 38.5	+1.2
	57nm,0.1s,SNR=5.3						
EMLI				S	Sb	05 03 47.9	+0.4
	200nm,0.2s,SNR=6.0						
EALB	Alboran	0.85	53	P	Pb	05 03 38.4	-0.2
	18nm,0.2s,SNR=11						
EALB				S	Sb	05 03 49.1	-0.8
	17nm,0.1s,SNR=6.6						
EALB	Alboran	0.85	53	P	Pb	05 03 38.4	-0.3
	18nm,0.2s,SNR=11						
EALB				S	Sb	05 03 49.1	-0.8
	17nm,0.1s,SNR=6.6						
ZAI	Zaio	1.03	116	eP	Pb	05 03 39.0	-2.8
ZAI				i S	Sb	05 03 51.0	-4.2
EMIJ	Mijas	1.34	327	P	Pb	05 03 50.8	+3.6
	1.1nm,0.3s,SNR=7.9						
EMIJ				S	Sb	05 04 02.5	-1.7
	2.1nm,0.2s,SNR=7.1						
EMIJ	Mijas	1.34	327	S	Sb	05 04 03.5	-0.7
	2.1nm,0.2s,SNR=7.1						
TZK	Tazeka	1.37	191	P	Pn	05 03 44.0	-3.5
TZK				S	Sb	05 04 06.0	+1.0
TZK	Tazeka	1.37	191	i P	Pn	05 03 44.0	-3.5
EBER	Berja	1.66	28	S	Sn	05 04 11.9	-1.4
	2.4nm,0.3s,SNR=7.9						
EBER	Berja	1.66	28	S	Sn	05 04 11.9	-1.4
	2.4nm,0.3s,SNR=7.9						
EQES	Quesada	2.45	15	P	Pn	05 04 03.5	+0.5
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	05 04 33.7	+0.4
	2.1nm,0.2s,SNR=7.9						
EQES	Quesada	2.45	15	P	Pn	05 04 04.1	+1.1
	0.3nm,0.1s,SNR=7.9						
EQES				S	Sn	05 04 33.7	+0.4
	2.1nm,0.2s,SNR=7.9						
EADA	Adamuz	2.78	348	P	Pn	05 04 09.7	+1.9
	0.2nm,0.2s,SNR=4.0						
EADA				S	Sn	05 04 40.7	-1.1
	0.3nm,0.2s,SNR=7.9						
EADA	Adamuz	2.78	348	S	Sn	05 04 41.9	+0.1
	0.3nm,0.2s,SNR=7.9						
ECAB	El Cabril	2.91	335	S	Sn	05 04 46.3	+1.3
	0.3nm,0.4s,SNR=7.9						

*NEIC **02** 05:04:27.6±0.9, 53.55N×163.55W, h40km±6km, ML3.5(AEIC), Error ellipse: s-maj=14.1km s-min=4.8km az=158.0*
*IDC **02** 05:04:29.0±3.9, 53.74N×163.48W, h44km±35km, mb3.5/13, mb1 3.7/15, mb1mx3.7/26, mbtmp3.8/15, ML3.4/2, Error ellipse: s-maj=36.6km s-min=17.9km az=5.0*
ISC 02 05:04:26.3±1.1**, 53.5N**±0.1×**163.49W**±0.09**, h46**km±8km**, n38, σ0ˢ96**/40**, mb3.9**/14**, Unimak Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	1.19	328	P	P	05 04 46.6	-0.2
WESN	West Dahl Nort	1.27	330	P	P	05 04 47.9	-0.1
SSLN	Shishaldin Nor	1.38	348	P	P	05 04 49.8	+0.3
AKA	Akutan	1.51	297	P	P	05 04 51.0	-0.3
AKUT	Akutan	1.51	297	P	P	05 04 50.9	-0.4
AKLV	Akutan Long Va	1.62	296	P	P	05 04 52.6	-0.3
AKLV				S	S	05 05 14.1	+1.5
AKGG	Akutan Green G	1.65	297	P	P	05 04 53.6	+0.2
BALA	Baldy Mountain	1.77	13	P	P	05 04 56.3	+1.2
DT1	Dutton Round H	1.79	23	P	P	05 04 55.4	+0.1
DTNA	Dutton South F	1.83	23	P	P	05 04 55.5	-0.4
MNAT	Makushin Natee	1.94	284	P	P	05 04 57.3	-0.1
MTBL	Makushin Table	1.96	286	P	P	05 04 57.9	+0.2
MSW	Makushin Switc	2.01	284	P	P	05 04 58.3	-0.1
HAG	Hague Volcano	2.07	26	P	P	05 04 59.2	-0.1
PVV	Pavlof Volcano	2.15	27	P	P	05 05 01.5	+1.1
BLHA	Black Hill	2.38	20	P	P	05 05 03.8	0.0
SDPT	Sand Point	2.58	42	P	P	05 05 05.8	-0.7
SDPT				S	S	05 05 36.9	+0.1
OKFG	Magazine Ridge	2.65	270	P	P	05 05 07.2	-0.3
OKCD	Okmok Cone D	2.76	271	P	P	05 05 09.2	0.0
OKCE	Okmok Cone E	2.79	271	P	P	05 05 07.8	-1.8
FX1	Attu Island--F	14.00	277	P	P	05 07 45.1	+1.7
	0.7nm,0.3s,baz=291,slow=23,SNR=12						
ILAR	Eielson Array	14.12	30	P	P	05 07 41.6	-3.2
	0.1nm,0.3s,baz=323,slow=9.8,SNR=3.6						
INK	Inuvik	20.49	32	P	P	05 08 59.5	-3.0
	0.6nm,0.6s,baz=269,slow=14,SNR=5.8						
YKA	Yellowknife Ar	26.81	51	P	P	05 10 04.4	+0.8
	0.9nm,0.6s,mb3.5,baz=271,slow=8.9,SNR=7.4						
YKA	Yellowknife Ar	26.81	51	P	P	05 10 04.4	+0.8
PDAR	Pinedale Array	36.73	85	P	P	05 11 31.3	+0.7
	0.2nm,0.6s,mb3.1,baz=315,slow=3.8,SNR=3.2						
TXAR	Lajitas Array	49.23	95	P	P	05 13 12.6	+0.7
	0.5nm,0.6s,mb3.7,baz=299,slow=5.4,SNR=6.4						
SONM	Songino Array	53.73	303	P	P	05 13 45.4	-0.2
	2.5nm,1.0s,mb4.1,baz=51,slow=7.9,SNR=12						
ARCES	ARCESS Array B	57.13	356	P	P	05 14 08.4	-1.5
	1.5nm,0.9s,mb4.0,baz=336,slow=16,SNR=3.1						
BVAR	Borovoye Array	64.79	327	P	P	05 15 01.3	-0.4
	2.1nm,0.7s,mb4.3,baz=45,slow=6.3,SNR=17						
FINES	FINESS Array B	65.18	355	P	P	05 15 03.9	-0.3
	1.6nm,0.8s,mb4.1,baz=18,slow=6.0,SNR=5.7						
MKAR	Makanchi Array	65.55	316	P	P	05 15 05.5	-1.2
	0.9nm,0.8s,mb3.9,baz=53,slow=6.1,SNR=7.8						
NB2	NORSAR Subarra	65.76	3	P	P	05 15 05.9	-2.0
	0.7nm,0.6s,mb3.9,baz=61,slow=4.8						
AKASG	Malin Array Be	75.65	352	P	P	05 16 06.7	-0.9
	1.5nm,0.6s,mb4.1,baz=11,slow=5.7,SNR=7.7						
GRA1	Grafenberg Arr	77.11	4	eP	P	05 16 17.5	+1.6
	5.0nm,1.1s,mb4.4						
GRA1				epP	pP	05 16 29.2	0.0
GERES	GERESS Array B	78.03	2	P	P	05 16 21.1	+0.1
	0.5nm,0.8s,mb3.5,slow=4.0,SNR=5.6						
CMAR	Chiang Mai Arr	79.77	287	P	P	05 16 32.4	+1.3
	1.0nm,0.3s,mb4.2,baz=333,slow=3.2,SNR=4.1						
BRTR	Keskin Array B	86.00	347	P	P	05 17 04.1	+1.7
	1.1nm,0.9s,mb4.1,slow=1.4,SNR=4.5						

*IDC **02** 05:42:02.7±2.6, 15.16N×92.17W, mb3.6/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.6/7, ML4.1/1, Error ellipse: s-maj=155.1km s-min=23.0km az=48.0*
*CASC **02** 05:42:13.7±3.7, 15.34N×93.24W, h10km±999km, MD4.4*
*MEX **02** 05:42:19.2±0.8, 15.41N×93.13W, h94km±18km, MD4.4*
*NEIC **02** 05:42:21.0, 15.65N×93.15W, h87km, MD4.4(MEX), After MEX.*
ISC 02 05:42:17.2±0.7**, 15.42N**±0.07×**93.10W**±0.04**, h98**km±7km**, n27, σ1ˢ14**/27**, mb3.6**/6**, 1C, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.27	47	i P	P	05 42 41.4	+0.4
CCIG				eS	S	05 42 56.8	-1.9
CCIG	Comitan	1.27	47	i P	P	05 42 41.4	+0.4
CCIG				i S	S	05 42 58.7	0.0
SCX	San Cristobal	1.39	19	i P	P	05 42 43.5	+1.1
SCX				i S	S	05 43 02.5	+1.4
CMIG	Matias Romero	2.39	314	eP	P	05 42 54.4	-1.1
CMIG				i S	S	05 43 20.3	-3.8
CMIG	Matias Romero	2.39	314	eP	P	05 42 54.4	-1.1
CMIG				i S	S	05 43 23.6	-0.4
IXG	Ixpaco	2.84	115	eP	P	05 43 00.7	-1.1
IXG				eS	S	05 43 37.0	+1.7
MRL	Marmol	3.31	96⇑	eP	P	05 43 06.3	-1.9
RBDL	Robledal	3.55	111	eP	Px	05 43 34.8	
RBDL				eS	Sx	05 44 19.3	
RTR	El Retiro	3.67	114	eP	Px	05 43 36.0	
RTR				eS	Sx	05 44 21.8	
SBLS	San Blas	3.71	115	eP	Px	05 43 36.7	
SBLS				eS	Sx	05 44 20.2	
SNJE	San Jose	3.72	114	eP	Px	05 43 38.3	
SNJE				eS	Sx	05 44 27.1	
OXX	Oaxaca	3.85	296	eP	P	05 43 16.0	+0.4
VHO	Vista Hermosa	3.86	296	i P	P	05 43 15.2	-0.5
VHO				eS	S	05 43 59.0	-1.1
SCIG		3.98	27	eP	P	05 43 16.4	-0.9
SCIG				i S	S	05 44 02.7	-0.4
BOQS	Boqueron	4.06	114	eP	Px	05 43 42.4	
BOQS				eS	Sx	05 44 33.0	
LFRS	El Faro	4.30	114	eP	Px	05 43 44.5	
LFRS				eS	Sx	05 44 35.1	
LCBS	La Ceiba	4.36	113	eP	Px	05 43 45.1	
LCBS				eS	Sx	05 44 37.8	
SNVI	San Vicente	4.50	113	eP	Px	05 43 51.0	
SNVI				eS	Sx	05 44 44.2	
IISM	Ciudad Serdan	5.41	312	eP	P	05 43 37.5	+0.6
PPM	Popocatepetl	6.41	305	eP	P	05 43 52.0	+1.4
TXAR	Lajitas Array	16.93	327	P	P	05 46 09.9	+0.5
	0.1nm,0.3s,baz=152,slow=11,SNR=8.7						
ANMO	Albuquerque	22.86	331	P	P	05 47 14.9	+2.1
	0.7nm,0.5s,mb3.2,baz=149,slow=13,SNR=3.7						
PDAR	Pinedale Array	30.70	336	P	P	05 48 24.8	-0.2
	0.2nm,0.4s,mb3.2,baz=158,slow=4.9,SNR=2.8						
NVAR	Mina Array Bea	31.91	321	P	P	05 48 36.7	+1.2
	0.5nm,0.6s,mb3.4,baz=124,slow=8.8,SNR=4.7						
YKA	Yellowknife Ar	49.41	347	P	P	05 50 57.1	-1.7
	0.3nm,0.5s,mb3.5,baz=153,slow=7.5,SNR=4.9						
BDFB	Brasilia	54.18	123	P	P	05 51 23.8	-11
	3.3nm,0.6s,mb4.5,baz=252,slow=10,SNR=9.2						
ILAR	Eielson Array	61.13	337	P	P	05 52 22.9	-0.4
	0.4nm,0.6s,mb3.6,baz=123,slow=6.1,SNR=6.2						

*MAN **02** 05:43:08.8, 15.35N×122.67E, h3km, mb4.4, ML3.2, MS3.0*
*IDC **02** 05:43:26.4±6.7, 16.96N×121.20E, mb3.6/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, Error ellipse: s-maj=159.1km s-min=56.9km az=159.0*
ISC 02 05:43:09.5±1.8**, 15.37N**±0.04×**122.70E**±0.05**, h9**km±12km**, n22, σ1ˢ00**/31**, mb3.6**/5**, 1C-3D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GQP	Guinayangan	1.48	190⇑	eP	Pn	05 43 52.0	+15
GQP				eS	Sb	05 44 23.0	+27
PCPH	Palayan	1.56	277⇓	eP	Pn	05 43 36.3	-1.4
PCPH				i S	Sb	05 43 57.1	-0.9
AUQP	San Andres	2.04	181	eP	Pn	05 43 46.0	+1.5
AUQP				eS	Sn	05 44 15.1	+4.8
BOAC	Boac	2.08	204	eP	Pn	05 43 45.1	+0.1
BOAC				eS	Sn	05 44 10.2	-1.2
TGY	Tagaytay City	2.13	234⇓	eP	Pn	05 43 46.8	+1.0
PVCP	Virac	2.26	141	eP	Pn	05 43 46.4	-1.3
PVCP				eS	Sn	05 44 16.4	+0.4
BCPH	Baguio City Da	2.27	296⇓	eP	Pn	05 43 48.4	+0.5
BCPH				eS	Sn	05 44 17.4	+1.0
SCZP	Santa Cruz	2.72	279	eP	Pn	05 43 53.6	-0.7
APYP	Conner	2.84	331	eP	Pn	05 43 55.7	-0.3
APYP				eS	Sn	05 44 30.9	+0.1
BOLP	Bolinao	2.87	291	eP	Pn	05 43 56.4	+0.1
LUBP	Lubang	2.88	236	eP	Pn	05 43 57.7	+1.1
SGCP	Mt. Cagua	2.92	348	eP	Pn	05 43 56.7	-0.4
SGCP				eS	Sn	05 44 32.2	-0.5
ABRA	Dolores	2.96	320	eP	Pn	05 43 58.7	+1.0
ABRA				eS	Sn	05 44 36.9	+3.1
OTRP	Odiongan	3.07	193	eP	Pn	05 43 58.7	-0.5
OTRP				eS	Sn	05 44 30.9	-5.6
SJMP	San Jose	3.28	208	eP	Pn	05 44 02.5	+0.3
CNP	Catarman	3.42	146	eP	Pn	05 44 08.1	+3.8
CMAR	Chiang Mai Arr	22.93	281	P	P	05 48 14.5	-0.8
	0.7nm,0.5s,mb3.4,baz=89,slow=7.6,SNR=5.0						
MKAR	Makanchi Array	45.89	322	P	P	05 51 33.2	-0.9
	1.0nm,0.8s,mb3.8,baz=124,slow=8.7,SNR=7.9						
ARCES	ARCESS Array B	78.22	339	P	P	05 55 16.7	+5.9
	1.1nm,1.0s,mb3.8,baz=79,slow=4.6,SNR=4.1						
FINES	FINESS Array B	79.77	331	P	P	05 55 25.6	+6.2
	0.6nm,0.9s,mb3.5,baz=90,slow=3.8,SNR=3.9						
NB2	NORSAR Subarra	86.67	333	P	P	05 56 02.0	+7.4
	0.3nm,0.7s,mb3.6,baz=65,slow=4.8						
NOA	NORSAR Array B	86.67	333	P	P	05 56 01.1	+6.4
	0.4nm,0.6s,mb3.8,baz=63,slow=5.0,SNR=4.0						

CASC 02 05:54:25.7±1.8**, 11.00N**×**86.66W, h17**km±6km**, MD3.9, ML3.2, 6C-3D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.04	20⇑	eP	Pb	05 54 45.2	+0.3
CRUN				eS	Sb	05 54 59.3	+1.2
APON	Apoyo	1.08	32⇑	eP	Pb	05 54 45.2	-0.4
APON				eS	Sb	05 54 60.0	+0.7
TICN	Ticuantepe	1.11	22	eP	Pb	05 54 46.6	+0.5
TICN				eS	Sb	05 55 01.5	+1.4
CONN	Concepcion	1.16	61⇑	eP	Pb	05 54 45.4	-1.5
XAVN	Gruta Xavier	1.19	16⇓	eP	Pb	05 54 47.4	-0.1
MGAN	Managua	1.21	19⇓	eP	Pb	05 54 47.2	-0.6
MGAN				eS	Sb	05 55 03.7	+0.6
	comp=N,471nm,0.3s						
MGAN				i		05 55 04.8	
	comp=N,488nm,0.7s						
WILN	Americas 2	1.25	22	eP	Pb	05 54 47.6	-0.7
WILN				eS	Sb	05 55 04.5	+0.5
APYN	Apoyeque	1.27	14⇑	eP	Pb	05 54 48.1	-0.7
APYN				eS	Sb	05 55 05.2	+0.6
MOMJ	Momotombo	1.41	5	eP	Pn	05 54 49.4	-1.4
LEON	Leon	1.43	351⇑	eP	Pn	05 54 50.4	-0.7
MIRN	Miramar	1.44	358⇑	eP	Pn	05 54 50.6	-0.6
PYTN	Playitas	1.64	21⇓	eP	Pn	05 54 53.2	-0.9
PYTN				eS	Sn	05 55 15.8	+0.9
CRIN	San Cristobal	1.74	347	eP	Pn	05 54 54.3	-1.1
PRS1	Puriscal	2.52	113	eP	Pn	05 55 07.9	+1.2
TRTC	Tortuguero	2.92	98	eP	Pn	05 55 10.7	-1.7
URSC	Urasca	3.06	112	eP	Pn	05 55 15.6	+1.2

CASC 02 06:28:40.4±2.8**, 11.16N**×**86.64W, h12**km±13km**, MD3.7, ML2.9, 9C-4D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	0.88	22⇑	eP	Pb	06 28 57.5	+0.3
CRUN				eS	Sb	06 29 10.7	+2.0
APON	Apoyo	0.93	37⇓	eP	Pb	06 28 57.7	-0.4
TICN	Ticuantepe	0.95	24⇑	eP	Pb	06 28 58.3	-0.1
XAVN	Gruta Xavier	1.03	17⇑	eP	Pb	06 28 59.3	-0.3
XAVN				eS	Sb	06 29 14.2	+1.4
MGAN	Managua	1.05	21⇓	eP	Pb	06 28 59.5	-0.5
MGAN				eS	Sb	06 29 14.9	+1.3
	comp=E,285nm,0.4s						
CONN	Concepcion	1.07	68⇓	eP	Pb	06 28 59.1	-1.2
WILN	Americas 2	1.08	24⇑	iP	Pb	06 28 60.0	-0.7
WILN				eS	Sb	06 29 14.4	-0.2
APYN	Apoyeque	1.10	15⇑	eP	Pb	06 29 00.2	-0.7
APYN				eS	Sb	06 29 13.7	-1.4
MOMJ	Momotombo	1.24	4⇑	eP	Pb	06 29 02.0	-1.4
LEON	Leon	1.27	349⇓	eP	Pb	06 29 02.7	-1.2
MIRN	Miramar	1.27	357⇑	eP	Pb	06 29 02.6	-1.2
MIRN				eS	Sb	06 29 20.3	+0.2
TEL3	Telica 3	1.42	352	eP	Pn	06 29 05.0	-1.2
TEL3				eS	Sb	06 29 23.0	-1.2
PYTN	Playitas	1.48	22⇑	eP	Pn	06 29 05.3	-1.7
CRIN	San Cristobal	1.58	345⇑	eP	Pn	06 29 07.2	-1.3
CRIN				eS	Sb	06 29 29.7	+0.7
PRS1	Puriscal	2.57	117	eP	Pn	06 29 24.7	+2.1
TRTC	Tortuguero	2.93	101	eP	Pn	06 29 28.6	+0.8
URSC	Urasca	3.10	115	eP	Pn	06 29 30.8	+0.6

IDC 02 06:52:24.8±2.9**, 9.04N**×**94.99E, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.6**/19**, mbtmp3.8**/4**, Error ellipse: s-maj=161.5km s-min=27.4km az=56.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	39.16	346	P	P	06 59 54.1	-1.8
	0.7nm,0.7s,baz=163,slow=8.1,SNR=8.9						
ZAL	Zalesovo	45.52	352	P	P	07 00 45.8	-2.0
	1.0nm,0.3s,baz=225,slow=5.7,SNR=2.9						
WRA	Warramunga Arr	48.27	127	P	P	07 01 07.9	-2.0
	0.5nm,0.8s,baz=306,slow=8.5,SNR=2.7						
FINES	FINESS Array B	72.08	332	P	P	07 03 50.9	-1.8
	0.7nm,0.6s,baz=104,slow=7.9,SNR=3.8						

CASC 02 07:03:18.4±3.9**, 11.10N**×**86.54W, h14**km±15km**, MD3.7, ML3.1, 2C-7D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	0.91	15⇑	eP	Pb	07 03 36.1	+0.6
CRUN				eS	Sb	07 03 54.8	+7.5
APON	Apoyo	0.94	30⇓	eP	Pb	07 03 35.9	-0.1
TICN	Ticuantepe	0.98	18	eP	Pb	07 03 36.9	+0.2
CONN	Concepcion	1.01	63⇓	eP	Pb	07 03 36.7	-0.5
CONN				eS	Sb	07 03 50.9	+0.6
XAVN	Gruta Xavier	1.07	11⇑	eP	Pb	07 03 38.0	-0.2
XAVN				eS	Sb	07 03 53.3	+1.5
MGAN	Managua	1.08	15⇓	eP	Pb	07 03 37.7	-0.7
MGAN				eS	Sb	07 03 52.1	-0.1
MGAN				eS	Sb	07 03 52.7	+0.5
MGAN				i		07 03 53.9	
	comp=E,424nm,0.3s						
WILN	Americas 2	1.11	18	eP	Pb	07 03 38.5	-0.4
WILN				eS	Sb	07 03 53.6	+0.5
APYN	Apoyeque	1.15	9⇓	eP	Pb	07 03 39.3	-0.2
APYN				eS	Sb	07 03 55.3	+1.2
MOMJ	Momotombo	1.30	0⇓	eP	Pb	07 03 41.7	-0.5
MOMJ				eS	Sb	07 03 57.2	-1.5
MIRN	Miramar	1.34	353⇓	eP	Pn	07 03 42.0	-0.9
MIRN				eS	Sb	07 04 02.4	+2.6
LEON	Leon	1.35	345	eP	Pn	07 03 41.9	-1.1
CNGN	Cerro Negro	1.40	354	eP	Pn	07 03 42.8	-1.0
CNGN				eS	Sb	07 04 00.9	-0.6
TEL3	Telica 3	1.50	349⇓	eP	Pn	07 03 44.4	-0.7
PYTN	Playitas	1.51	18	eP	Pn	07 03 42.5	-2.8
PYTN				eS	Sb	07 04 05.4	+0.8
CRIN	San Cristobal	1.67	343	eP	Pn	07 03 46.3	-1.2
CRIN				eS	Sn	07 04 08.8	0.0
CRIN				eS	Sn	07 04 08.8	0.0
PRS1	Puriscal	2.46	117	eP	Pn	07 03 59.9	+1.1
PRS1				eS	Sn	07 04 31.4	+2.5
TRTC	Tortuguero	2.83	100	eP	Pn	07 04 02.8	-1.3
TRTC				eS	Sn	07 04 41.5	+3.1
URSC	Urasca	3.00	115	eP	Pn	07 04 07.2	+0.7

*IDC **02** 07:23:49.9±2.3, 12.15N×85.33W, mb3.5/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.5/3, Error ellipse: s-maj=139.0km s-min=13.5km az=74.0*
*CASC **02** 07:23:51.8±2.6, 11.01N×86.66W, h2km±11km, MD4.1, ML3.7*
ISC 02 07:23:50.5±1.7**, 10.93N**±0.03×**86.78W**±0.05**, h11**km±14km**, n26, σ0ˢ95**/35**, mb3.5**/3**, 9C-5D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.15	24⇓	eP	Pb	07 24 12.9	+0.9
APON	Apoyo	1.21	35⇑	eP	Pb	07 24 12.9	0.0
APON				eS	Sb	07 24 26.5	-1.9
MASN	Masaya	1.22	30⇓	eP	Pb	07 24 13.4	+0.2
MASN				eS	Sb	07 24 28.1	-0.6
TICN	Ticuantepe	1.23	26⇓	eP	Pb	07 24 13.6	+0.4
TICN				eS	Sb	07 24 30.5	+1.6
XAVN	Gruta Xavier	1.29	20⇑	eP	Pb	07 24 14.4	0.0
CONN	Concepcion	1.30	61⇑	eP	Pb	07 24 13.6	-0.8
CONN				eS	Sb	07 24 31.0	+0.1
MGAN	Managua	1.32	23⇑	eP	Pb	07 24 14.8	0.0
MGAN				eS	Sb	07 24 31.2	-0.5
MGAN				i		07 24 33.1	
	comp=E,2µm,0.6s						
WILN	Americas 2	1.36	25⇑	eP	Pb	07 24 15.1	-0.4
WILN				eS	Sb	07 24 32.1	-0.7
APYN	Apoyeque	1.37	18⇓	eP	Pb	07 24 15.6	0.0
APYN				eS	Sb	07 24 33.5	+0.4
LEON	Leon	1.48	356⇑	eP	Pn	07 24 18.0	+0.6
MOMJ	Momotombo	1.49	9	eP	Pn	07 24 17.3	-0.1
MIRN	Miramar	1.51	2⇓	eP	Pn	07 24 18.0	+0.4
MIRN				eS	Sb	07 24 36.5	-0.6
CNGN	Cerro Negro	1.57	3	eP	Pn	07 24 18.5	0.0
CNGN				eS	Sb	07 24 40.9	+2.1
TEL3	Telica 3	1.64	358⇑	eP	Pn	07 24 20.1	+0.6
PYTN	Playitas	1.75	24⇑	eP	Pn	07 24 20.2	-1.0
CRIN	San Cristobal	1.78	351⇑	eP	Pn	07 24 22.5	+0.9
JTS	JuntasAbangare	1.90	109	Pn	Pn	07 24 22.7	-0.6
	comp=E,13nm,0.3s,baz=315,slow=11,SNR=78						
JTS				Lg		07 24 50.5	
	comp=E,43nm,0.3s,baz=292,slow=22,SNR=9.1						
FORC	Fortuna	2.12	102	eP	Pn	07 24 27.6	+1.2
FORC				i S	Sn	07 24 54.4	+1.4
PRS1	Puriscal	2.60	111	eP	Pn	07 24 32.9	-0.4
TRTC	Tortuguero	3.03	96	eP	Pn	07 24 37.2	-2.2
URSC	Urasca	3.14	110	eP	Pn	07 24 40.9	-0.1
BUS	Buena Vista	3.27	114	eP	Pn	07 24 44.5	+1.6
TXAR	Lajitas Array	24.17	322	P	P	07 29 07.3	-0.7
	comp=E,1.7nm,0.7s,mb3.6,baz=135,slow=8.9,SNR=14						
PDAR	Pinedale Array	37.42	332	P	P	07 31 03.2	-2.2
	comp=E,0.5nm,0.6s,mb3.5,baz=128,slow=10,SNR=5.4						
NVAR	Mina Array Bea	39.28	320	PcP	PcP	07 33 29.5	-1.0
	comp=E,0.4nm,0.7s,baz=127,slow=6.9,SNR=4.1						
ILAR	Eielson Array	67.67	336	P	P	07 34 44.9	-4.7
	comp=E,0.3nm,0.7s,mb3.5,baz=104,slow=4.4,SNR=6.3						

*IDC **02** 07:24:37.7±1.2, 28.99N×139.45E, h397km±23km, mb3.0/4, mb1 3.2/6, mb1mx2.9/22, mbtmp3.8/6, Error ellipse: s-maj=59.4km s-min=18.5km az=76.0*
*JMA **02** 07:24:38.1±0.1, 29.10N×140.11E, h433km, M3.7*
ISC 02 07:24:37.8±0.7**, 29.03N**±0.06×**139.8E**±0.3**, h424**km±12km**, n16, σ0ˢ81**/21**, mb3.3**/4**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.85	132	P	P	07 25 42.0	-0.1
	36nm,0.3s,baz=288,slow=23,SNR=19						
CBIJ				S	S	07 26 32.5	-0.3
	71nm,0.3s,baz=286,slow=22,SNR=17						
CBIJ	Chichi jima	2.85	132	P	P	07 25 42.1	0.0
CBIJ				S	S	07 26 32.4	-0.4
JHHJ	Haha-jima-NKT	3.18	138	P	P	07 25 44.7	0.0
JHHJ				S	S	07 26 37.7	+0.2
BSO1	Boso 1	5.70	10	P	P	07 26 09.2	+0.4
BSO1				eS	S	07 27 20.0	-0.3
BSO3	Boso 3	5.79	6	eS	S	07 27 21.7	-0.4
JIE	Ise	5.96	335	P	P	07 26 13.2	+1.7
BSO4	Boso 4	5.96	4	eS	S	07 27 26.7	+1.3
JRY	Ryogami san	7.01	354	P	P	07 26 22.8	-0.2
JAG	Ashikaga	7.38	358	P	P	07 26 25.8	-1.4
JHO	Hitachi	7.59	5	P	P	07 26 29.4	-0.1
JHO				eS	S	07 27 56.8	-0.9
MJAR	Matsushiro Arr	7.62	350	P	P	07 26 29.0	-0.7
	1.1nm,0.3s,baz=177,slow=11,SNR=4.8						
JMK	Ichinoseki	9.97	6	P	P	07 26 57.5	+1.1
MKAR	Makanchi Array	47.63	308	P	P	07 32 33.7	-1.4
	0.3nm,0.3s,mb3.0,baz=89,slow=9.7,SNR=7.4						
WRA	Warramunga Arr	48.97	187	P	P	07 32 45.7	+0.1
	0.6nm,0.4s,mb3.2,baz=2.9,slow=7.7,SNR=6.2						
ARCES	ARCESS Array B	71.03	340	P	P	07 35 13.4	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.6nm,0.5s,mb3.4,baz=63,slow=8.1,SNR=9.3						
FINES	**FINESS Array B**	**75.29**	**333**	P	**P**	**07 35 36.7**	**0.0**
	0.5nm,0.3s,mb3.5,baz=74,slow=4.0,SNR=9.5						

*NEIC **02** 07:39:15.8, 16.24N×99.59W, h17km, MD4.1(MEX), After MEX.*

MEX 02 07:39:14.1±0.8**, 16.23N×99.44W, h16**km±11km**, MD4.2, MW4.1, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.78**	**324**	*i* P	Pb	07 39 26.2	-2.7
ACX				*i* S	Sb	07 39 35.3	-3.7
CAIG	**El Cayaco**	**1.14**	**316**	*e*P	Pb	07 39 32.2	-2.7
CAIG				*i* S	Sb	07 39 45.1	-4.2
CAIG	**El Cayaco**	**1.14**	**316**	*e*P	Pb	07 39 32.0	-2.9
CAIG				*i* S	Sb	07 39 45.1	-4.2
PNIG	**Pinotepa**	**1.27**	**82**	*e*P	Pb	07 39 37.3	+0.1
PNIG				*i* S	Sb	07 39 53.6	+0.5
PNIG	**Pinotepa**	**1.27**	**82**	*i* P	Pb	07 39 33.2	-4.0
PNIG				*i* S	Sb	07 39 47.7	-5.4
PLIG	**Platanillo**	**2.15**	**358**	*e*P	Pn	07 39 50.2	+0.2
PLIG				*i* S	Sn	07 40 13.5	-3.0
PLIG	**Platanillo**	**2.15**	**358**	*e*P	Pn	07 39 47.3	-2.6
PLIG				*i* S	Sn	07 40 12.2	-4.2
YAIG	**Yautepec**	**2.65**	**8**	*e*P	Pn	07 39 56.8	-0.1
YAIG				*i* S	Sn	07 40 28.9	0.0
YAIG	**Yautepec**	**2.65**	**8**	*e*P	Pn	07 39 54.1	-2.8
YAIG				*i* S	Sn	07 40 24.5	-4.4
VHO	**Vista Hermosa**	**2.73**	**72**	*i* P	Pn	07 39 55.3	-2.8
VHO				*i* S	Sn	07 40 26.7	-4.3
OXX	**Oaxaca**	**2.74**	**72**	*e*P	Pn	07 39 55.5	-2.8
PPM	**Popocatepetl**	**2.93**	**15**	*e*P	Pn	07 40 02.1	+1.1
PPM				*i* S	Sn	07 40 39.4	+3.3
PPM	**Popocatepetl**	**2.93**	**15**	*e*P	Pn	07 39 58.0	-3.0
PPM				*i* P		07 39 58.1	
PPM				*i* S	Sn	07 40 31.7	-4.4
UNM	**Universidad Na**	**3.10**	**5**	*e*P	Pn	07 40 07.3	+3.9
UNM				*i* S	Sn	07 40 44.1	+3.8
UNM	**Universidad Na**	**3.10**	**5**	*e*P	Pn	07 40 01.6	-1.7
UNM				*e*P		07 40 04.0	
UNM				*i* S	Sn	07 40 36.1	-4.3
HUIG	**Huatulco**	**3.24**	**98**	*i* P	Pn	07 40 06.8	+1.5
HUIG				*i* S	Sn	07 40 38.6	-5.3
MOIG	**Morelia**	**3.81**	**334**	*e*P	Pn	07 40 10.3	-3.2
MOIG				*i* S	Sn	07 40 54.3	-4.2
CMIG	**Matias Romero**	**4.45**	**78**	*e*P	Pn	07 40 19.9	-2.8
CMIG				*i* S	Sn	07 41 13.9	-0.7

*CSEM **02** 07:42:47.7±0.1, 36.95N×3.39E, h2km, ML3.4/6, Error ellipse: s-maj=2.0km s-min=1.5km az=74.0*
*CRAAG **02** 07:42:48.3, 36.79N×3.31E, Ml3.8*
*NEIC **02** 07:42:48.9±1.9, 36.83N×3.45E, h10km, MG4.1(MDD), Error ellipse: s-maj=23.7km s-min=6.3km az=151.0*
*MDD **02** 07:42:49.1±0.3, 36.86N×3.35E, mb4.1/12, Error ellipse: s-maj=4.8km s-min=3.5km az=53.0, PRXIMO*
*LDG **02** 07:42:52.2±0.3, 36.91N×3.33E, h10km, Ml3.3/8, Error ellipse: s-maj=5.4km s-min=2.9km az=156.0*

ISC 02 07:42:48.6±0.4**, 37.05N**±0.03×**3.30E**±0.03**, h10**km**, n61, σ1^{s}52**/92**, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.33**	**222**	P	**Pg**	**07 42 53.7**	**-1.7**
ABMS	**Boumerdes**	**0.33**	**154**	P	**Pg**	**07 42 51.0**	**-4.4**
EMHD	**Djebel Mahouad**	**0.89**	**199**	P	**Pb**	**07 43 02.0**	**-3.7**
ADJB	**Djebel Djouab**	**0.89**	**173**	P	**Pb**	**07 43 02.0**	**-3.7**
AKET	**Djebel Ketaf**	**1.10**	**155**	P	**Pb**	**07 43 08.3**	**-1.0**
ATAF	**Djebel Tarf**	**1.41**	**146**	P	**Pn**	**07 43 13.1**	**-1.3**
EBNR	**Beni Rached**	**1.61**	**243**	P	**Pn**	**07 43 18.0**	**+0.6**
ECHA	**Ech Chlef**	**1.80**	**241**	P	**Pn**	**07 43 21.0**	**+1.0**
ECHF	**Ech Chlef**	**1.81**	**241**	P	**Pn**	**07 43 21.0**	**+0.8**
SET	**Setif**	**1.89**	**116**	P	**Pn**	**07 43 19.0**	**-2.3**
CKHR	**Kef el Ahmar**	**2.05**	**119**	P	**Pn**	**07 43 39.0**	**+15**
DFRA	**Djebel Bou Aff**	**2.12**	**103**	P	**Pn**	**07 43 25.0**	**+0.3**
EIBI	**Ibiza**	**2.51**	**323**	P	**Pn**	**07 43 32.0**	**+1.7**
	9.4nm,0.2s,SNR=22						
EIBI				S	**Sn**	**07 44 03.1**	**+1.9**
	49nm,0.2s						
EIBI	**Ibiza**	**2.51**	**323**	P	**Pn**	**07 43 32.0**	**+1.8**
	9.4nm,0.2s,SNR=22						
EIBI				S	**Sn**	**07 44 03.1**	**+1.9**
	49nm,0.2s						
CMER	**Merouana**	**2.53**	**123**	P	**Pn**	**07 43 30.0**	**-0.5**
CASM	**Ain Smara**	**2.68**	**106**	P	**Pn**	**07 43 35.0**	**+2.4**
CTEI	**Djebel Teioual**	**2.68**	**111**	P	**Pn**	**07 43 39.5**	**+6.8**
ETOS	**Mallorca**	**2.75**	**352**	P	**Pn**	**07 43 35.6**	**+2.0**
	5.8nm,0.1s,SNR=36						
ETOS				S	**Sn**	**07 44 08.8**	**+1.6**
	9.1nm,0.3s,SNR=4.9						
ETOS	**Mallorca**	**2.75**	**352**	P	**Pn**	**07 43 35.6**	**+2.0**
	5.8nm,0.1s,SNR=36						
ETOS				S	**Sn**	**07 44 08.8**	**+1.7**
	9.1nm,0.3s,SNR=4.9						
CAEH	**'Ain El Ouahch**	**2.85**	**94**	P	**Pn**	**07 43 34.0**	**-1.1**
EBEN	**Beniarda**	**3.25**	**302**	P	**Pn**	**07 43 42.9**	**+2.3**
	1.3nm,0.2s,SNR=4.0						
EBEN				S	**Sn**	**07 44 18.7**	**-1.1**
	6.9nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**3.25**	**302**	P	**Pn**	**07 43 42.9**	**+2.2**
	1.3nm,0.2s,SNR=4.0						
EBEN				S	**Sn**	**07 44 18.7**	**-1.1**
	6.9nm,0.2s,SNR=7.9						
CMAH	**Djebel Manchou**	**3.33**	**96**	P	**Pn**	**07 43 39.0**	**-2.8**
EMUR	**La Murta**	**3.70**	**284**	P	**Pn**	**07 43 46.9**	**-0.3**
EMUR				S	**Sn**	**07 44 30.0**	**-1.3**
EMUR	**La Murta**	**3.70**	**284**	P	**Pn**	**07 43 46.9**	**-0.3**
	2.7nm,0.3s,SNR=4.0						
EMUR				S	**Sn**	**07 44 30.0**	**-1.3**
	6.7nm,0.4s,SNR=5.3						
EMUR	**La Murta**	**3.70**	**284**	P	**Pn**	**07 43 46.9**	**-0.3**
	2.7nm,0.3s,SNR=4.0						
EMUR				S	**Sn**	**07 44 30.0**	**-1.4**
	6.7nm,0.4s,SNR=5.3						
ETOB	**Tobarra**	**4.16**	**294**	P	**Pn**	**07 43 54.7**	**+1.1**
	5.0nm,0.2s,SNR=15						
ETOB				S	**Sn**	**07 44 40.1**	**-2.9**
	3.1nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**4.16**	**294**	P	**Pn**	**07 43 54.7**	**+1.1**
	5.0nm,0.2s,SNR=15						
ECHE	**Chera**	**4.21**	**308**	P	**Pn**	**07 43 56.0**	**+1.6**
	3.5nm,0.2s,SNR=19						
ECHE				S	**Sn**	**07 44 44.1**	**-0.2**
	1.9nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.44**	**319**	P	**Pn**	**07 43 58.8**	**+1.1**
	4.6nm,0.2s,SNR=10						
EMOS				S	**Sn**	**07 44 49.6**	**-0.4**
	4.4nm,0.2s						
EMOS	**Mosqueruela**	**4.44**	**319**	P	**Pn**	**07 43 58.8**	**+1.2**
	4.6nm,0.2s,SNR=10						
EMOS				S	**Sn**	**07 44 49.6**	**-0.4**
	4.4nm,0.2s						
EPOB	**Poblet**	**4.63**	**339**	P	**Pn**	**07 44 02.0**	**+1.5**
	1.6nm,0.2s,SNR=8.1						
EPOB				S	**Sn**	**07 44 53.6**	**-1.4**
	1.5nm,0.3s						
EPOB	**Poblet**	**4.63**	**339**	P	**Pn**	**07 44 02.0**	**+1.6**
	1.6nm,0.2s,SNR=8.1						
EVIA	**Vianos**	**4.86**	**291**	P	**Pn**	**07 44 09.6**	**+6.0**
	1.4nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**07 44 58.7**	**-2.0**
	5.7nm,0.5s,SNR=4.0						
EBER	**Berja**	**4.96**	**270**	P	**Pn**	**07 44 06.5**	**+1.4**
	1.2nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**07 44 59.1**	**-4.1**
	2.8nm,0.3s,SNR=7.9						
EBER	**Berja**	**4.96**	**270**	P	**Pn**	**07 44 06.5**	**+1.5**
	1.2nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.05**	**345**	P	**Pn**	**07 44 09.3**	**+3.0**
EMIR				S	**Sn**	**07 45 05.3**	**-0.2**
EMIR	**Miracle**	**5.05**	**345**	P	**Pn**	**07 44 09.3**	**+3.0**
	8.5nm,0.2s,SNR=6.7						
EMIR				S	**Sn**	**07 45 05.3**	**-0.2**
	9.2nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.05**	**345**	P	**Pn**	**07 44 09.3**	**+3.0**
	8.5nm,0.2s,SNR=6.7						
EMIR				S	**Sn**	**07 45 05.3**	**-0.2**
	9.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.13**	**280**	P	**Pn**	**07 44 07.5**	**+0.1**
	1.6nm,0.2s,SNR=8.3						
EQES				S	**Sn**	**07 45 06.4**	**-1.0**
	5.9nm,0.4s,SNR=10						
EQES	**Quesada**	**5.13**	**280**	P	**Pn**	**07 44 07.5**	**+0.1**
	1.6nm,0.2s,SNR=8.3						
EQES				S	**Sn**	**07 45 06.4**	**-1.0**
	5.9nm,0.4s,SNR=10						
EJON	**La Jonquera**	**5.41**	**357**	P	**Pn**	**07 44 13.1**	**+1.8**
	6.8nm,0.3s,SNR=7.9						
EJON				S	**Sn**	**07 45 12.2**	**-2.2**
	1.7nm,0.3s,SNR=4.0						
EJON	**La Jonquera**	**5.41**	**357**	P	**Pn**	**07 44 13.1**	**+1.8**
	6.8nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**5.51**	**329**	S	**Sn**	**07 45 14.4**	**-2.5**
	13nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**6.13**	**338**	P	**Pn**	**07 44 23.3**	**+1.7**
	0.3nm,0.2s,SNR=7.9						
EBIE				S	**Sn**	**07 45 31.2**	**-1.5**
	0.8nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**6.13**	**338**	P	**Pn**	**07 44 23.3**	**+1.7**
	0.3nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**6.29**	**297**	P	**Pn**	**07 44 26.7**	**+3.0**
	1.2nm,0.1s,baz=111,slow=14,SNR=5.3						
ESDC	**Sonseca Array**	**6.29**	**297**	P	**Pn**	**07 44 26.7**	**+3.0**
MTLF	**Montolieu**	**6.34**	**353**	*e*Pn	**Pn**	**07 44 26.6**	**+2.1**
MTLF				*e*Sn	**Sn**	**07 45 34.6**	**-3.2**
	0.7nm,0.2s						
EPF	**Esparros**	**6.40**	**340**	*e*Pn	**Pn**	**07 44 27.1**	**+1.8**
EPF				*e*Sn	**Sn**	**07 45 36.2**	**-2.9**
	2.2nm,0.3s						
ETSF	**Etsaut**	**6.55**	**334**	*e*Pn	**Pn**	**07 44 28.5**	**+1.0**
ETSF				*e*Sn	**Sn**	**07 45 40.1**	**-3.0**
	1.7nm,0.3s						
LMR	**La Mourre**	**6.74**	**20**	*e*Pn	**Pn**	**07 44 29.2**	**-0.9**
LMR				*e*Sn	**Sn**	**07 45 43.1**	**-4.7**
	5.4nm,0.3s						
FRF	**La Foret Royal**	**6.99**	**20**	*e*Pn	**Pn**	**07 44 32.6**	**-1.0**
FRF				*e*Sn	**Sn**	**07 45 49.8**	**-4.2**
	3.4nm,0.2s						
LASF	**Ste Croix**	**7.04**	**3**	*e*Pn	**Pn**	**07 44 34.5**	**+0.2**
LASF				*e*Sn	**Sn**	**07 45 50.0**	**-5.1**
	9.5nm,0.4s						
SMRF	**Simiane la Rot**	**7.14**	**13**	*e*Pn	**Pn**	**07 44 36.3**	**+0.6**
EALK	**Alkurruntz**	**7.18**	**331**	S	**Sn**	**07 45 56.1**	**-2.7**
	2.6nm,0.3s,SNR=5.0						
SBF	**Sospel**	**7.50**	**24**	*e*Pn	**Pn**	**07 44 40.8**	**0.0**
SBF				*e*Sn	**Sn**	**07 46 01.4**	**-5.4**
	6.4nm,0.3s						
VIVF	**Saint-Julien-l**	**7.87**	**7**	*e*Pn	**Pn**	**07 44 46.4**	**+0.4**
VIVF				*e*Sn	**Sn**	**07 46 12.2**	**-3.8**
	3.3nm,0.3s						
MBDF	**Montbardon**	**8.11**	**18**	*e*Pn	**P**	**07 44 49.4**	**+0.1**
LPG	**La Plagne**	**8.83**	**16**	*e*Pn	**P**	**07 44 59.4**	**+0.1**
BGF	**Bois d'Agland**	**9.51**	**358**	*e*Pn	**P**	**07 45 08.6**	**-0.1**

*NEIC **02** 07:46:07.3, 16.19N×99.45W, h18km, MD4.2(MEX), After MEX.*

MEX 02 07:46:06.4±0.8**, 16.12N×99.45W, h18**km±27km**, MD4.3, MW4.2, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.86**	**329**	*i* P	Pb	07 46 19.8	-2.7
ACX				*i* S	Sb	07 46 30.7	-2.9
CAIG	**El Cayaco**	**1.21**	**320**	*e*P	Pb	07 46 25.5	-2.9
CAIG				*e*S	Sb	07 46 38.6	-4.9
PNIG	**Pinotepa**	**1.30**	**78**	*e*P	Pn	07 46 26.8	-3.1
PNIG				*e*S	Sb	07 46 41.0	-5.2
PNIG	**Pinotepa**	**1.30**	**78**	*e*P	Pn	07 46 26.8	-3.1
PNIG				*i* S	Sb	07 46 41.2	-5.1
PLIG	**Platanillo**	**2.26**	**359**	*e*P	Pn	07 46 40.2	-3.4
PLIG				*e*S	Sn	07 47 07.4	-3.8
YAIG	**Yautepec**	**2.75**	**8**	*e*P	Pn	07 46 50.0	-0.6
YAIG				*e*S	Sn	07 47 20.1	-3.6
YAIG	**Yautepec**	**2.75**	**8**	*e*P	Pn	07 46 48.6	-2.0
YAIG				*e*S	Sn	07 47 20.1	-3.6
VHO	**Vista Hermosa**	**2.77**	**70**	*e*P	Pn	07 46 48.6	-2.3
VHO				*e*S	Sn	07 47 24.3	0.0
VHO	**Vista Hermosa**	**2.77**	**70**	*e*P	Pn	07 46 48.6	-2.3
VHO				*i* S	Sn	07 47 20.9	-3.4
OXX	**Oaxaca**	**2.78**	**70**	*i* P	Pn	07 46 49.2	-1.9
PPM	**Popocatepetl**	**3.03**	**15**	*e*P	Pn	07 46 54.6	0.0
PPM				*e*S	Sn	07 47 35.3	+4.5
PPM	**Popocatepetl**	**3.03**	**15**	*e*P	Pn	07 46 50.8	-3.8
PPM				*e*P		07 46 55.5	
PPM				*i* S	Sn	07 47 28.1	-2.8
UNM	**Universidad Na**	**3.20**	**5**	*e*P	Pn	07 46 58.5	+1.5
UNM				*e*S	Sn	07 47 37.4	+2.4
UNM	**Universidad Na**	**3.20**	**5**	*e*P	Pn	07 46 53.1	-3.9
UNM				*e*P		07 46 56.0	
UNM				*i* S	Sn	07 47 30.6	-4.5
HUIG	**Huatulco**	**3.24**	**96**	*i* S	Sn	07 47 28.9	-7.2
IISM	**Ciudad Serdan**	**3.47**	**34**	*e*P	Pn	07 46 57.5	-3.3
MOIG	**Morelia**	**3.90**	**335**	*e*P	Pn	07 47 01.6	-5.4
MOIG				*i* S	Sn	07 47 47.0	-5.9
CMIG	**Matias Romero**	**4.48**	**77**	*e*P	Pn	07 47 11.5	-3.8
CMIG				*e*S	Sn	07 48 13.7	+6.0
CMIG	**Matias Romero**	**4.48**	**77**	*e*P	Pn	07 47 11.5	-3.8
CMIG				*i* S	Sn	07 48 01.2	-6.4
CCIG	**Comitan**	**7.03**	**88**	*i* S	Sn	07 49 05.3	-6.1

CASC 02 07:59:29.4±2.5**, 11.16N×86.64W, h28**km±7km**, MD4.1, ML3.5, 7D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.89**	**22**	*e*P	Pn	07 59 46.0	0.0
APON	**Apoyo**	**0.94**	**37**	*e*P	Pn	07 59 46.1	-0.7
TICN	**Ticuantepe**	**0.96**	**25**	⇓*e*P	Pn	07 59 46.8	-0.3
TICN				*e*S	Sb	08 00 02.1	+2.6
XAVN	**Gruta Xavier**	**1.03**	**17**	⇓*i*P	Pn	07 59 48.0	-0.1
MGAN	**Managua**	**1.05**	**21**	⇓*e*P	Pn	07 59 48.0	-0.5
MGAN				*e*S	Sn	08 00 02.7	+0.4
MGAN				*i*		08 00 04.1	
	comp=E,973nm,0.5s						
CONN	**Concepcion**	**1.07**	**68**	⇓*e*P	Pn	07 59 47.8	-0.9
WILN	**Americas 2**	**1.09**	**24**	⇓*e*P	Pn	07 59 48.5	-0.5
WILN				*e*S	Sn	08 00 02.1	-1.1
APYN	**Apoyeque**	**1.11**	**15**	*e*P	Pn	07 59 49.3	+0.1
APYN				*e*S	Sn	08 00 04.8	+1.2
MOMJ	**Momotombo**	**1.25**	**5**	*e*P	Pn	07 59 50.8	-0.5
LEON	**Leon**	**1.27**	**349**	⇓*e*P	Pn	07 59 51.5	-0.1
MIRN	**Miramar**	**1.27**	**357**	⇓*e*P	Pn	07 59 51.5	-0.2
MIRN				*e*S	Sn	08 00 08.8	+0.8
TEL3	**Telica 3**	**1.42**	**352**	*e*P	Pn	07 59 53.6	-0.1
PYTN	**Playitas**	**1.48**	**23**	*e*P	Pn	07 59 54.0	-0.7
PYTN				*e*S	Sn	08 00 12.5	-0.7
CRIN	**San Cristobal**	**1.58**	**345**	*e*P	Pn	07 59 55.6	-0.4
PRS1	**Puriscal**	**2.57**	**117**	*e*P	Pn	08 00 11.7	+1.5
TRTC	**Tortuguero**	**2.93**	**101**	*e*P	Pn	08 00 13.6	-1.8
URSC	**Urasca**	**3.11**	**115**	*e*P	Pn	08 00 18.4	+0.6

*NEIC **02** 08:18:13.5±2.5, 15.51S×167.52E, h124km±21km, mb4.3/1, Error ellipse: s-maj=24.8km s-min=23.1km az=150.0*
*IDC **02** 08:18:13.4±6.1, 15.56S×167.78E, h135km±62km, mb3.5/4, mb1 3.8/5, mb1mx3.5/16, mbtmp4.1/5, Error ellipse: s-maj=57.7km s-min=31.6km az=148.0*

ISC 02 08:18:12.5±3.2**, 15.5S**±0.2×**167.5E**±0.2**, h127**km±27km**, n28, σ0^{s}96**/18**, mb3.8**/5**, 3C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.58**	**188**	*e*P	**P**	**08 19 48.2**	**+0.1**
DZM				*e*S	**S**	**08 21 00.5**	**-1.7**
DZM	**Mont Dzumac**	**6.58**	**188**	P	**P**	**08 19 48.3**	**+0.3**
	17nm,0.3s,baz=28,slow=21,SNR=100						
DZM				S	**S**	**08 21 02.8**	**+0.6**
	7.8nm,0.3s,baz=306,slow=24,SNR=6.5						
DZM	**Mont Dzumac**	**6.58**	**188**	*e*P	**P**	**08 19 48.2**	**+0.1**
DZM				*e*S	**S**	**08 21 00.5**	**-1.7**
NOUC	**Port Laguerre**	**6.63**	**189**	*e*P	**P**	**08 19 49.5**	**+0.8**
STKA	**Stephens Creek**	**28.63**	**231**	P	**P**	**08 23 60.0**	**+0.7**
	1.3nm,0.4s,mb3.9,baz=50,slow=9.1,SNR=8.4						
STKA	**Stephens Creek**	**28.63**	**231**	*e*P	**P**	**08 23 58.3**	**-0.9**
WRA	**Warramunga Arr**	**31.83**	**257**	P	**P**	**08 24 26.8**	**-0.7**
	0.5nm,0.4s,mb3.6,baz=83,slow=7.7,SNR=9.1						
MBWA	**Marble Bar**	**45.52**	**255**	*e*P	**P**	**08 26 21.6**	**+0.2**
	4.9nm,0.7s,mb4.3						
SONM	**Songino Array**	**83.25**	**324**	P	**P**	**08 30 27.0**	**+0.9**
	0.8nm,0.5s,mb3.8,baz=135,slow=6.1,SNR=8.1						
ILAR	**Eielson Array**	**87.22**	**18**	P	**P**	**08 30 43.4**	**-1.8**
	0.2nm,0.5s,mb3.3,baz=238,slow=5.0,SNR=6.7						
SNAA	**Sanae**	**92.77**	**183**	⇑*i*	**P**	**08 31 11.3**	**+0.2**
VNA3	**Neumayer Olymp**	**93.43**	**181**	*e*	**P**	**08 31 17.6**	**+3.5**
VNA3	**Neumayer Olymp**	**93.43**	**181**	⇑*i*P	**P**	**08 31 14.2**	**+0.1**
VNA3				*e*		08 31 17.6	
VNA2	**Neumayer--Watz**	**93.70**	**182**	*e*	**P**	**08 31 20.1**	**+4.8**
VNA2	**Neumayer--Watz**	**93.70**	**182**	⇑*i*P	**P**	**08 31 16.0**	**+0.7**
VNA2				*e*		08 31 20.1	
ARCES	**ARCESS Array B**	**121.06**	**345**	PKP	PKPdf	08 36 49.2	-0.5
	1.2nm,0.5s,baz=63,slow=2.0,SNR=14						
CDF	**Champ du Feu**	**143.38**	**338**	*e*PKP1	PKPbc	08 37 35.5	+5.3
CABF	**La Chapelle**	**145.33**	**337**	*e*PKP1	PKPbc	08 37 37.3	+1.5
	31nm,1.1s						
FLN	**La Foliniere**	**145.41**	**346**	*e*PKP1	PKPbc	08 37 37.3	+1.4
	17nm,0.8s						
LOR	**Lormes**	**145.55**	**340**	*e*PKP1	PKPbc	08 37 37.7	+1.4
	14nm,1.0s						
SSF	**Saint Saulge**	**145.84**	**340**	*e*PKP1	PKPbc	08 37 38.8	+1.8
	4.9nm,0.6s						
GRR	**Gorron**	**145.85**	**346**	*e*PKP1	PKPbc	08 37 38.3	+1.3
LPL	**La Plagne**	**145.99**	**335**	*e*PKP1	PKPbc	08 37 39.6	+2.1
	2.3nm,0.4s						
LPG	**La Plagne**	**146.00**	**335**	*e*PKP1	PKPbc	08 37 39.8	+2.3
SMF	**Signal de Mont**	**146.10**	**340**	*e*PKP1	PKPbc	08 37 40.0	+2.3
	7.5nm,0.7s						
SGMF	**Saint Gilles**	**146.34**	**348**	*e*PKP1	PKPbc	08 37 39.6	+1.4
	27nm,1.0s						
BGF	**Bois d'Agland**	**146.50**	**341**	*e*PKP1	PKPbc	08 37 40.4	+1.8
	6.5nm,0.4s						
TCF	**Toulx Ste Croi**	**146.94**	**341**	*e*PKP1	PKPbc	08 37 40.6	+1.0
	8.7nm,1.1s						

CASC 02 08:22:08.6±2.1**, 10.98N×86.63W, h18**km±5km**, MD3.9, ML3.2, 4C-4D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.04**	**18**	*e*P	Pb	08 22 28.3	+0.4
CRUN				*e*S	Sb	08 22 43.9	+2.8
APON	**Apoyo**	**1.08**	**31**	⇑*e*P	Pb	08 22 28.2	-0.2
TICN	**Ticuantepe**	**1.11**	**21**	⇓*e*P	Pb	08 22 29.6	+0.6
TICN				*e*S	Sb	08 22 44.4	+1.3
CONN	**Concepcion**	**1.14**	**60**	⇑*e*P	Pb	08 22 28.3	-1.2
XAVN	**Gruta Xavier**	**1.20**	**14**	⇓*e*P	Pb	08 22 30.1	-0.3
XAVN				*e*S	Sb	08 22 46.5	+1.0
MGAN	**Managua**	**1.22**	**18**	⇓*e*P	Pb	08 22 30.1	-0.6
MGAN				*e*S	Sb	08 22 46.8	+0.8
WILN	**Americas 2**	**1.25**	**20**	*e*P	Pn	08 22 30.3	-0.9
WILN				*e*S	Sb	08 22 47.8	+0.8
APYN	**Apoyeque**	**1.27**	**12**	⇑*e*P	Pn	08 22 31.1	-0.5
APYN				*e*S	Sb	08 22 48.5	+0.8
MOMJ	**Momotombo**	**1.42**	**4**	*e*P	Pn	08 22 33.2	-0.5
MOMJ				*e*S	Sb	08 22 52.4	+0.4
LEON	**Leon**	**1.45**	**350**	⇑*e*P	Pn	08 22 33.5	-0.6
LEON				*e*S	Sn	08 22 53.1	+0.5
MIRN	**Miramar**	**1.45**	**357**	⇓*e*P	Pn	08 22 33.5	-0.7
MIRN				*e*S	Sn	08 22 52.5	-0.3
CNGN	**Cerro Negro**	**1.51**	**357**	*e*P	Pn	08 22 34.4	-0.6
CNGN				*e*S	Sn	08 22 53.8	-0.5
TEL3	**Telica 3**	**1.59**	**352**	*e*P	Pn	08 22 36.0	-0.2
PYTN	**Playitas**	**1.64**	**20**	*e*P	Pn	08 22 35.2	-1.7
PYTN				*e*S	Sn	08 22 59.3	+1.7
PRS1	**Puriscal**	**2.49**	**113**	*e*P	Pn	08 22 49.2	+0.2
TRTC	**Tortuguero**	**2.90**	**98**	*e*P	Pn	08 22 53.6	-1.2
URSC	**Urasca**	**3.03**	**112**	*e*P	Pn	08 22 58.0	+1.2

PRE 02 08:28:24.6±2.1**, 26.35S×27.36E, h2**km**, ML3.7, South Africa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.57**	**180**	*e*P	Pg	08 28 36.4	+0.4
PRYS				*e*S	Sg	08 28 44.0	+0.4
PRYS				AML	AML	08 28 50.6	
	comp=Z,2µm,0.5s						
KSR	**Koster**	**0.65**	**320**	*e*P	Pg	08 28 29.4	-8.2
KSR				*e*S	Sg	08 28 39.0	-7.2
KSR				AML	AML	08 28 44.9	
	comp=Z,2µm,0.1s						
SLR	**Silverton**	**1.03**	**54**	*e*P	Pb	08 28 44.5	-0.4
SLR				*e*S	Sb	08 28 58.7	0.0
SLR				AML	AML	08 29 04.1	
	comp=Z,782nm,0.3s						
SEK	**Senekal**	**1.98**	**173**	*e*P	Pn	08 29 00.6	+1.1
SEK				*e*S	Sn	08 29 25.0	-0.2
SEK				AML	AML	08 29 28.6	
	comp=Z,1µm,0.3s						
NWL	**Newcastle**	**2.68**	**121**	*e*P	Pn	08 29 08.8	-0.8
NWL				*e*S	Sn	08 29 41.7	-1.4
NWL				AML	AML	08 29 51.6	
	comp=Z,908nm,0.4s						
BOSA	**Boshof**	**2.93**	**219**	*e*P	Pn	08 29 12.9	-0.2
BOSA				*e*S	Sn	08 29 48.1	-1.1
POGA	**Pongola**	**3.93**	**106**	*e*P	Pn	08 29 27.5	+0.2
POGA				*e*S	Sn	08 30 14.7	+0.1
POGA				AML	AML	08 30 30.4	
	comp=Z,205nm,0.4s						
MSNA	**Messina**	**4.67**	**32**	*e*P	Pn	08 29 36.9	-0.9
UPI	**Upington**	**5.79**	**248**	*e*P	Pn	08 29 52.5	-1.1
UPI				*e*S	Sn	08 30 59.0	-2.5
CVNA	**Calvinia**	**8.39**	**231**	*e*P	P	08 30 28.1	-2.1
CER	**Ceres**	**9.89**	**223**	*e*P	P	08 30 47.6	-3.3

CASC 02 08:35:22.3±2.4**, 8.38N×82.85W, h26**km±10km**, MD3.6, MW5.3, 2C-3D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.40**	**82**	⇓*i*P	Pb	08 35 31.0	+0.1
DVD				*e*S	Sb	08 35 37.1	+0.4
ACR	**Cerro Adams**	**0.41**	**311**	*e*P	Pb	08 35 29.2	-1.9
SVTC	**San Vito de Co**	**0.42**	**345**	⇓*e*P	Pb	08 35 30.3	-0.8
BRU2	**Volcan**	**0.44**	**21**	*e*P	Pb	08 35 31.8	+0.3
BRU2				*e*S	Sb	08 35 40.0	+2.2
PTP1	**Petroterminal**	**0.45**	**113**	⇑*i*P	Pb	08 35 27.6	-4.1
PTP1				*e*S	Sb	08 35 32.9	-5.2
BRU	**Baru**	**0.51**	**34**	*e*P	Pb	08 35 33.2	+0.5
CNI	**Changuinola**	**1.08**	**18**	⇑*e*P	Pn	08 35 42.5	+0.5
URSC	**Urasca**	**1.71**	**328**	⇓*e*P	Pn	08 35 50.8	-0.1
URSC				*e*S	Sn	08 36 12.7	+0.5
PRS1	**Puriscal**	**2.15**	**318**	*e*P	Pn	08 35 56.0	-1.2
TRTC	**Tortuguero**	**2.34**	**339**	*e*P	Pn	08 36 00.8	+0.8

*KRSC **02** 08:44:57.8±1.0, 55.10N×165.84E, h22km±3km, ML3.9*
*IDC **02** 08:44:57.7±1.7, 55.50N×166.55E, mb3.6/4, mb1 3.9/5, mb1mx3.5/24, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=38.6km s-min=15.0km az=43.0*

ISC 02 08:44:56.6±0.5**, 55.02N**±0.03×**165.86E**±0.05**, h22**km**, n32, σ1^{s}36**/59**, mb3.5**/5**, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.19**	**20**	*i* P	**Pb**	**08 45 01.6**	**-0.3**
BKI				*i* S	**Sb**	**08 45 05.3**	**-0.2**
BKI				Smax			
	31µm,0.2s						
KBTR	**Krutoberegovo**	**2.09**	**306**	*i* P	**Pn**	**08 45 30.1**	**-1.0**
KBTR				*e*S	**Sn**	**08 45 55.0**	**-1.7**
MKZ	**Mys Kozlova**	**2.44**	**261**	*i* P	**Pn**	**08 45 36.9**	**+0.9**
MKZ				*e*S	**Sn**	**08 46 05.1**	**-0.3**
ZLN	**Zelenaya**	**3.04**	**291**	*e*P	**Pn**	**08 45 45.8**	**+1.2**
ZLN				*e*S	**Sn**	**08 46 20.9**	**+0.2**
CIRR	**Tsirk**	**3.10**	**293**	*e*P	**Pn**	**08 45 47.6**	**+2.1**
CIRR				*e*S	**Sn**	**08 46 23.9**	**+1.6**
LGNR	**Loginova**	**3.12**	**292**	*e*P	**Pn**	**08 45 46.3**	**+0.5**
LGNR				*e*S	**Sn**	**08 46 21.7**	**-1.1**
KLY	**Klyuchi**	**3.22**	**296**	*e*P	**Pn**	**08 45 47.3**	**+0.2**
KLY				*e*S	**Sn**	**08 46 23.2**	**-2.1**
KRSR	**Krestovskiy**	**3.23**	**294**	*e*P	**Pn**	**08 45 48.0**	**+0.7**
KRSR				*e*S	**Sn**	**08 46 24.4**	**-1.1**
TUMR	**Tumrok**	**3.29**	**277**	*e*P	**Pn**	**08 45 49.7**	**+1.6**
TUMR				*e*S	**Sn**	**08 46 27.4**	**+0.4**
KMNR	**Kamenistaya**	**3.29**	**285**	*e*P	**Pn**	**08 45 50.0**	**+1.9**
KMNR				*e*S	**Sn**	**08 46 28.0**	**+1.0**
KPT	**Kopyto**	**3.34**	**289**	*e*P	**Pn**	**08 45 49.5**	**+0.6**
KPT				*e*S	**Sn**	**08 46 27.2**	**-1.2**
KOZ	**Kozyrevsk**	**3.56**	**289**	*e*P	**Pn**	**08 45 53.3**	**+1.4**
KOZ				*e*S	**Sn**	**08 46 33.9**	**+0.2**
SRDR	**Sredinnyy**	**3.71**	**293**	*i* P	**Pn**	**08 45 55.9**	**+1.8**
SRDR				*e*S	**Sn**	**08 46 37.8**	**+0.1**
SPN	**Mys Shipunski**	**3.94**	**243**	*e*P	**Pn**	**08 45 57.6**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN				eS	Sn	08 46 41.7	-1.8
ESO	Esso	4.17	285	eP	Pn	08 46 01.6	+0.9
ESO				eS	Sn	08 46 48.0	-1.4
ESO				Smax			
	10.0nm,0.8s						
NLC	Nalytchevo	4.26	247	eP	Pn	08 46 02.4	+0.5
NLC				eS	Sn	08 46 49.3	-2.3
SDLR	Sedlovina	4.46	250	eP	Pn	08 46 06.3	+1.6
SDLR				eS	Sn	08 46 55.1	-1.5
SMAR	Somma	4.51	250	eP	Pn	08 46 06.8	+1.4
SMAR				eS	Sn	08 46 56.1	-1.8
UGLR	Uglovaya	4.52	249	eP	Pn	08 46 07.0	+1.4
UGLR				eS	Sn	08 46 57.3	-0.9
AVH	Avacha	4.54	250	eP	Pn	08 46 07.7	+1.8
AVH				eS	Sn	08 46 58.2	-0.5
KOK	Koryaka	4.58	251	eP	Pn	08 46 08.1	+1.6
KOK				eS	Sn	08 46 58.6	-1.2
PET	Petropavlovsk	4.70	248	eP	Pn	08 46 08.7	+0.6
PET				eS	Sn	08 47 00.0	-2.6
GNL	Ganaly	4.82	257	eP	Pn	08 46 11.5	+1.7
GNL				eS	Sn	08 47 05.4	-0.3
FX1	Attu Island--F	4.82	113	Pn	Pn	08 46 07.6	-2.3
	1.4nm,0.3s,baz=343,slow=9.9,SNR=28						
FX1				Sn	Sn	08 47 00.8	-4.9
	2.2nm,0.3s,baz=175,slow=21,SNR=8.7						
RUS	Russkaya	5.07	242	eP	Pn	08 46 14.2	+0.8
RUS				eS	Sn	08 47 09.2	-2.9
GRL	Gorelyy	5.24	245	eP	Pn	08 46 17.7	+2.0
GRL				eS	Sn	08 47 16.1	-0.1
KAMR	Kamenskoye	7.46	1	i P	Pn	08 46 45.4	-1.6
KAMR				eS	Sn	08 48 04.2	-7.6
ILAR	Eielson Array	25.02	48	P	P	08 50 17.6	-2.3
	0.3nm,0.5s,mb3.1,baz=257,slow=9.3,SNR=9.3						
INK	Inuvik	30.23	40	P	P	08 51 04.6	-2.9
	0.6nm,0.7s,mb3.4,baz=304,slow=4.8,SNR=7.2						
MKAR	Makanchi Array	50.33	298	P	P	08 53 56.7	+3.3
	0.1nm,0.4s,mb3.2,baz=51,slow=7.8,SNR=3.7						
BVAR	Borovoye Array	51.80	310	P	P	08 54 10.5	+6.1
	0.6nm,0.6s,mb3.7,baz=53,slow=7.2,SNR=3.6						
TXAR	Lajitas Array	66.78	72	P	P	08 55 46.9	-1.4
	0.5nm,0.5s,mb3.9,baz=302,slow=5.0,SNR=14						

*NEIC **02** 08:49:53.4±3.8, 8.26S×119.48E, h168^{km}±42^{km}, mb4.2/3, Error ellipse: s-maj=40.7km s-min=21.9km az=51.0*

*IDC **02** 08:49:58.0±3.7, 8.71S×119.27E, h231^{km}±48^{km}, mb3.6/3, mb1 3.7/5, mb1mx3.4/17, mbtmp4.1/5, Error ellipse: s-maj=106.3km s-min=11.7km az=48.0*

ISC 02 08:49:51.4±1.8**, 8.4S**±0.2×**119.4E**±0.2**, h173**^{km}±19^{km}**, n10, σ0^{s}83**/16**, mb4.0**/4**, Flores region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.43	148	eP	P	08 52 32.5	+1.9
	17nm,0.8s						
FITZ				eS	S	08 54 34.4	-1.1
FITZ	Fitzroy Crossi	11.43	148	P	P	08 52 32.2	+1.6
	3.0nm,0.3s,baz=339,slow=10,SNR=28						
FITZ				S	S	08 54 34.3	-1.2
	1.8nm,0.3s,baz=195,slow=14,SNR=6.1						
KAKA	Kakadu	13.56	110	eP	P	08 52 57.5	-0.5
	6.5nm,0.6s						
KAKA				eS	S	08 55 15.5	-9.5
WRA	Warramunga Arr	18.51	130	P	P	08 53 56.7	-0.4
	0.4nm,0.3s,baz=309,slow=11,SNR=10						
WRA				S	S	08 57 14.3	+0.1
	0.5nm,0.3s,baz=308,slow=24,SNR=10						
WRAB	Tennant Creek	18.51	130	eP	P	08 53 57.3	+0.1
	1.9nm,0.6s						
WRAB				e		08 54 10.4	
WRAB				eS	S	08 57 15.6	+1.3
WB2	Warramunga Arr	18.52	130	eP	P	08 53 57.0	-0.2
WB2				eS	S	08 57 13.8	-0.6
MJAR	Matsushiro Arr	48.07	20	P	P	08 58 28.0	+13
	1.3nm,0.4s,mb4.0,baz=225,slow=7.0,SNR=6.4						
SONM	Songino Array	57.13	350	P	P	08 59 22.9	+0.7
	0.8nm,0.5s,mb3.8,baz=169,slow=7.9,SNR=7.0						
MKAR	Makanchi Array	64.07	333	P	P	09 00 09.2	+0.1
	1.5nm,0.5s,mb4.1,baz=145,slow=7.7,SNR=15						
ZAL	Zalesovo	68.59	339	P	P	09 00 36.4	-1.1
	1.4nm,0.4s,mb4.1,baz=275,slow=0.8,SNR=3.3						

CASC 02 08:56:44.8±1.6**, 11.04N**×**86.53W, h28**^{km}±11^{km}**, MD3.6, 4C-2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	0.96	13	eP	Pn	08 57 03.0	+0.5
APON	Apoyo	0.98	27	eP	Pn	08 57 02.5	-0.3
CONN	Concepcion	1.02	60	⇓eP	Pn	08 57 02.9	-0.5
TICN	Ticuantepe	1.03	16	⇑eP	Pn	08 57 03.7	+0.3
TICN				eS	Sn	08 57 17.9	+0.9
XAVN	Gruta Xavier	1.12	10	⇓eP	Pn	08 57 05.1	+0.3
MGAN	Managua	1.13	14	⇑eP	Pn	08 57 04.8	-0.1
MGAN				eS	Sn	08 57 20.0	+0.4
APYN	Apoyeque	1.20	8	⇑eP	Pn	08 57 06.0	+0.2
APYN				eS	Sn	08 57 22.4	+1.1
MIRN	Miramar	1.40	353	⇑eP	Pn	08 57 08.7	-0.1
LEON	Leon	1.41	345	eP	Pn	08 57 09.4	+0.4
CNGN	Cerro Negro	1.46	353	eP	Pn	08 57 09.7	+0.1
CNGN				eS	Sn	08 57 27.8	-0.1
PYTN	Playitas	1.56	17	eP	Pn	08 57 10.4	-0.6

*IDC **02** 09:00:33.4±1.2, 0.87N×97.15E, mb4.1/10, mb1 4.2/11, mb1mx4.0/19, mbtmp4.1/11, ML4.5/1, MS4.1/1, Ms1 4.3/1, ms1mx3.3/25, Error ellipse: s-maj=46.6km s-min=19.0km az=56.0*

*BJI **02** 09:00:34.4, 0.66N×97.40E, h33^{km}, mB4.9, mb4.7, Ms4.4, Msz4.3*

*NEIC **02** 09:00:37.8±0.7, 0.90N×97.24E, h30^{km}, mb4.5/3, Error ellipse: s-maj=19.7km s-min=12.4km az=63.0*

ISC 02 09:00:33.9±3.6**, 0.92N**±0.09×**97.3E**±0.1**, h15**^{km}±22^{km}**, n27, σ1^{s}14**/28**, mb4.2**/15**, MS4.2**/2**, 1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.51	38	eP	Pn	09 01 58.2	+0.8
CMAR	Chiang Mai Arr	17.51	5	P	P	09 04 38.0	-1.4
	0.6nm,0.3s,baz=196,slow=12,SNR=15						
CMAR				LR	LR	09 12 41.7	
	comp=Z,610nm,18.0s,baz=195,slow=42						
CMAR	Chiang Mai Arr	17.51	5	P	P	09 04 38.0	-1.4
CMAR				LR	LR	09 12 41.6	
QIZ	Qiongzhong	21.82	34	P	P	09 05 27.4	-0.3
QIZ				LR	LR		
	comp=E,557nm,14.8s						
QIZ				LR	LR		
	comp=Z,348nm,11.7s,MS4.0						
KMI	Kunming	24.64	12	P	P	09 05 57.4	+2.0
KMI				AP		09 06 04.5	
KMI				XP		09 06 07.9	
KMI				PP	PP	09 06 34.0	+2.2
KMI				S	S	09 10 12.9	-0.3
KMI				XS		09 10 26.3	
KMI				SS	SS	09 11 08.1	-1.4
KMI				AMB	AMB		
	comp=Z,38nm,1.4s,mb4.7						
KMI				AMB	AMB		
	comp=Z,232nm,3.5s						
KMI				LR	LR		
	comp=N,875nm,15.7s,MS4.4						
KMI				LR	LR		
	comp=E,424nm,13.6s,MS4.4						
KMI				LR	LR		
	comp=Z,958nm,16.1s,MS4.4						
KMI	Kunming	24.64	12	P	P	09 05 57.4	+2.0
	comp=Z,38nm,1.4s,mb4.7						
KMI				pP		09 06 04.5	
KMI				sP		09 06 07.9	
KMI				PP	PP	09 06 34.0	+2.2
KMI				S	S	09 10 12.9	-0.3
KMI				sS		09 10 26.3	
KMI				SS	SS	09 11 08.1	-1.4
KMI				LR	LR		
	comp=Z,960nm,16.1s,MS4.4						
SHL	Shillong	25.05	348	eP	P	09 05 59.5	+0.2
GYA	Guiyang	26.96	19	⇑iP	P	09 06 16.5	-0.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.1						
XAN	Xi'an	34.71	17	P	P	09 07 23.8	-1.7
XAN				AP	pP	09 07 29.8	-0.1
XAN				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
GTA	Gaotai	38.38	3	eP	P	09 07 55.7	-0.7
GTA				AP	pP	09 08 03.1	+2.2
GTA				XP	sP	09 08 06.2	+3.4
GTA				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
WRA	Warramunga Arr	41.84	122	P	P	09 08 26.6	+1.4
	comp=Z,1.3nm,0.6s,mb3.8,baz=300,slow=9.3,SNR=8.8						
WRAB	Tennant Creek	41.84	122	eP	P	09 08 24.1	-1.2
WMQ	Urumqi	43.56	350	eP	P	09 08 40.5	+1.5
SONM	Songino Array	47.40	8	P	P	09 09 09.7	+0.1
	comp=Z,2.6nm,0.6s,mb4.3,baz=192,slow=8.8,SNR=16						
SONM				PcP	PcP	09 10 41.0	+0.4
	comp=Z,0.9nm,1.0s,baz=225,slow=3.5,SNR=4.1						
MKAR	Makanchi Array	47.53	346	P	P	09 09 10.9	+0.3
	comp=Z,2.4nm,0.7s,mb4.3,baz=162,slow=7.7,SNR=18						
MJAR	Matsushiro Arr	51.86	42	P	P	09 09 45.6	+1.7
	comp=Z,0.4nm,0.4s,mb3.7,baz=0.4,slow=1.8,SNR=4.3						
STKA	Stephens Creek	53.12	132	P	P	09 09 52.2	-1.3
	comp=Z,3.5nm,0.8s,mb4.3,baz=339,slow=8.6,SNR=2.8						
STKA	Stephens Creek	53.12	132	P	P	09 09 52.2	-1.3
ZAL	Zalesovo	53.84	351	P	P	09 09 57.8	-0.6
	comp=Z,2.5nm,0.8s,mb4.2,baz=283,slow=6.0,SNR=15						
BVAR	Borovoye Array	56.54	341	P	P	09 10 16.8	-1.2
	comp=Z,1.0nm,0.6s,mb4.0,baz=143,slow=7.4,SNR=9.5						
ZRNK	Zerenda	56.94	340	eP	P	09 10 19.2	-1.8
	comp=Z,5.8nm,1.2s,mb4.5						
ARCES	ARCESS Array B	82.82	340	P	P	09 12 59.4	+0.8
	comp=Z,1.1nm,0.8s,mb3.9,baz=104,slow=5.0,SNR=8.5						
ARCES	ARCESS Array B	82.82	340	P	P	09 12 59.4	+0.8
GERES	GERESS Array B	85.06	319	P	P	09 13 11.8	+1.4
	comp=Z,0.6nm,0.8s,mb3.8,baz=90,slow=5.3,SNR=5.4						
NB2	NORSAR Subarra	87.28	331	P	P	09 13 21.7	+0.6
	comp=Z,1.0nm,0.8s,mb4.1,baz=91,slow=4.8						
NOA	NORSAR Array B	87.28	331	P	P	09 13 22.1	+1.0
	comp=Z,0.6nm,0.8s,mb3.9,baz=90,slow=5.8,SNR=3.5						
TXAR	Lajitas Array	143.88	32	PKP	PKPdf	09 20 10.2	-2.8
	comp=Z,0.2nm,0.5s,baz=158,slow=1.6,SNR=4.4						

*BJI **02** 09:10:32.9, 0.95N×97.35E, h32^{km}, mB5.0, mb5.0, Ms4.8, Msz4.6*

*MOS **02** 09:10:34.0±1.0, 1.13N×97.32E, h33^{km}, mb5.0/30, Error ellipse: s-maj=14.2km s-min=6.4km az=105.0*

*HRVD **02** 09:10:34.9±1.0, 1.09N×96.95E, h12^{km}, MW4.9/32, Centroid moment Tensor Solution. LP body waves: s15,c19;Mantle waves: s32,c43; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.97±.17; $M_{\theta\theta}$-0.24±.11; $M_{\phi\phi}$-0.72±.15; $M_{r\theta}$1.49±.35; $M_{\theta\phi}$0.55±.10; $M_{\phi r}$-2.42±.36; Best double couple: $M_0$3.022×10^{16} NP1:ϕ_s325°, δ10°, λ87°. NP2:ϕ_s148°, δ80°, λ91°. Principal axes: T 2.964, Plg55°, Azm59°; N .116, Plg1°, Azm328°; P -3.08, Plg35°, Azm238°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **02** 09:10:34.6±0.5, 1.14N×97.24E, h23^{km}±3^{km}, mb4.3/18, mb1 4.4/19, mb1mx4.4/21, mbtmp4.5/19, ML4.4/1, MS4.1/10, Ms1 4.2/10, ms1mx4.0/22 Error ellipse: s-maj=16.1km s-min=12.9km az=53.0*

*NEIC **02** 09:10:34.9±0.3, 1.10N×97.26E, mb4.9/30, Error ellipse: s-maj=7.3km s-min=6.2km az=48.0*

ISC 02 09:10:33.0±0.3**, 1.09N**±0.05×**97.27E**±0.04**, h25**^{km}**, h25**^{km}±1.0^{km}**:pP-P, n155, σ1^{s}06**/151**, mb4.8**/66**, MS4.4**/22**, 13C-4D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.10	47	P	Pn	09 11 51.4	+1.4
IPM	Ipoh	5.10	47	P	Pn	09 11 51.4	+1.4
KULM	Kulim	5.36	39	eP	Pn	09 11 54.3	+0.7
KGM	Kluang	6.12	81	P	Pn	09 12 06.4	+2.2
SNG	Songkhla	6.90	29	P	Pn	09 12 14.0	-1.3
	154nm,0.8s						
KSM	Kuching	13.04	88	eP	P	09 13 40.2	+0.7
UBT	Ubonrachathani	16.01	28	P	P	09 14 22.5	+4.1
KKTK	Khon Kaen	16.11	20	P	P	09 14 23.0	+3.3
CM31	Chiang Mai Arr	17.33	5	eP	P	09 14 34.3	-0.8
CMAR	Chiang Mai Arr	17.33	5	P	P	09 14 33.8	-1.4
	0.5nm,0.3s,baz=194,slow=13,SNR=25						
CMAR				LR	LR	09 22 04.2	
	comp=Z,600nm,18.3s,baz=190,slow=40						
CHG	Chiang Mai	17.69	5	P	P	09 14 38.7	-0.8
KKM	Kota Kinabalu	19.53	75	P	P	09 15 01.6	-0.2
TSM	Tawau	20.82	81	P	P	09 15 16.3	+0.8
QIZ	Qiongzhong	21.67	34	P	P	09 15 24.4	+0.4
KMI	Kunming	24.47	12	⇑P	P	09 15 53.4	+1.9
KMI				AP		09 15 59.6	
KMI				XP		09 16 03.3	
KMI				PP	PP	09 16 29.9	+2.5
KMI				S	S	09 20 10.1	+2.9
KMI				XS		09 20 22.1	
KMI				SS	SS	09 21 04.4	+1.9
KMI				AMB	AMB		
	comp=Z,118nm,1.4s,mb5.1						
KMI				AMB	AMB		
	comp=Z,447nm,3.1s						
KMI				LR	LR		
	comp=N,2μm,15.8s,MS4.8						
KMI				LR	LR		
	comp=E,827nm,14.5s,MS4.8						
KMI				LR	LR		
	comp=Z,2μm,15.0s,MS4.8						
KMI	Kunming	24.47	12	⇑P	P	09 15 53.4	+1.9
KMI				*SP		09 16 03.3	
KMI						09 16 29.9	
KMI				S	S	09 20 10.1	+2.9
KMI				*SS		09 20 22.1	
KMI				SS	SS	09 21 04.4	+1.9
KMI				pmax	pmax		
	comp=Z,118nm,1.4s,mb5.1						
KMI				MLR	MLR		
	comp=Z,2μm,15.0s,MS4.8						
KMI	Kunming	24.47	12	⇑P	P	09 15 53.4	+1.9
	comp=Z,118nm,1.4s,mb5.1						
KMI				pP		09 15 59.6	
KMI				sP		09 16 03.3	
KMI				PP	PP	09 16 29.9	+2.5
KMI				S	S	09 20 10.1	+2.9
KMI				sS		09 20 22.1	
KMI				SS	SS	09 21 04.4	+1.9
KMI				LR	LR		
	comp=Z,2μm,15.0s,MS4.8						
HYB	Hyderabad	24.54	312	eP	P	09 15 58.0	+5.8
HYB	Hyderabad	24.54	312	i P	P	09 15 58.0	+5.8
SHL	Shillong	24.88	348	⇑iP	P	09 15 55.0	-0.5
SHL				eS	S	09 20 18.0	+3.8
GYA	Guiyang	26.79	19	⇑iP	P	09 16 13.0	-0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.2						
GYA				LR	LR		
	comp=N,980nm,18.0s,MS4.7						
GYA				LR	LR		
	comp=E,2μm,16.5s,MS4.7						
GYA				LR	LR		
	comp=Z,1μm,17.1s,MS4.4						
PKI	Pulchoki	28.68	338	eP	P	09 16 31.5	+1.2
	comp=Z,100nm,1.2s,mb5.4						
PKI	Pulchoki	28.68	338	eP	P	09 16 31.5	+1.2
PKI				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.1						
GUN	Gumba	28.81	339	eP	P	09 16 33.0	+1.5
	comp=Z,119nm,1.0s,mb5.6						
DMN	Daman	28.83	337	eP	P	09 16 32.2	+0.5
	comp=Z,55nm,1.0s,mb5.2						
KKN	Kakani	28.93	338	eP	P	09 16 33.3	+0.8
	comp=Z,166nm,1.3s,mb5.6						
KKN	Kakani	28.93	338	eP	P	09 16 33.3	+0.8
KKN				pmax	pmax		
	comp=Z,83nm,1.3s,mb5.3						
LSA	Lhasa	29.04	349	P	P	09 16 34.4	+0.8
LSA	Lhasa	29.04	349	eP	P	09 16 34.1	+0.5
LSA				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.9						
LSA	Lhasa	29.04	349	eP	P	09 16 34.1	+0.6
	comp=Z,24nm,1.0s,mb4.9						
GKN	Gorkha	29.36	337	eP	P	09 16 37.0	+0.5
	comp=Z,132nm,1.2s,mb5.5						
KOLN	Koldanda	29.58	335	eP	P	09 16 39.3	+0.8
	comp=Z,56nm,0.8s,mb5.3						
CD2	Chengdu	30.29	11	P	P	09 16 41.8	-2.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
ENH	Enshi	31.25	21	eP	P	09 16 51.9	-1.3
	comp=Z,55nm,1.1s,mb5.3						
ENH				epP	pP	09 16 58.5	-2.0
LGTI	Lohaghat	32.53	332	eP	P	09 17 05.3	+0.9
FITZ	Fitzroy Crossi	33.81	126	P	P	09 17 14.4	-1.2
	comp=Z,6.6nm,0.7s,mb4.7,baz=311,slow=0.6,SNR=4.7						
XAN	Xi'an	34.54	17	P	P	09 17 20.5	-1.3
XAN				AP	pP	09 17 27.0	-2.1
XAN				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.9						
LZH	Lanzhou	35.35	9	⇑P	P	09 17 28.3	-0.3
LZH				AP	pP	09 17 35.0	-1.0
LZH				XP	sP	09 17 38.6	-0.5
LZH				AMB	AMB		
	comp=Z,45nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,87nm,5.6s						
LZH				LR	LR		
	comp=N,595nm,14.0s						
LZH				LR	LR		
	comp=Z,789nm,17.2s,MS4.5						
LZH	Lanzhou	35.35	9	⇑P	P	09 17 28.3	-0.3
LZH				*SP	sP	09 17 38.6	-0.5
LZH				pmax	pmax		
	comp=Z,45nm,1.5s,mb5.2						
LZH				MLR	MLR		
	comp=Z,790nm,17.2s,MS4.5						
LZH	Lanzhou	35.35	9	⇑P	P	09 17 28.3	-0.3
	comp=Z,45nm,1.5s,mb5.2						
LZH				pP	pP	09 17 35.0	-1.0
LZH				sP	sP	09 17 38.6	-0.5
LZH				LR	LR		
	comp=Z,790nm,17.2s,MS4.5						
NJ2	Nanjing	36.92	31	eP	P	09 17 41.2	-0.7
NJ2				AP	pP	09 17 51.0	+1.8
NJ2				XP	sP	09 17 54.8	+2.4
NJ2				PP	PP	09 19 07.8	-0.4
NJ2				S	S	09 23 24.0	-0.8
NJ2				XS		09 23 40.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,110nm,10.0s						
NJ2				LR	LR		
	comp=N,1μm,16.4s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,15.6s,MS4.9						
NJ2				LR	LR		
	comp=Z,890nm,14.9s,MS4.7						
SSE	Sheshan	37.46	35	eP	P	09 17 44.8	-1.7
SSE				AP	pP	09 17 54.2	+0.4
SSE				XP	sP	09 17 57.6	+0.7
SSE				PP	PP	09 19 14.3	-0.4
SSE				S	S	09 23 33.8	+0.7
SSE				XS		09 23 53.0	
SSE				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.9						
SSE				AMB	AMB		
	comp=Z,103nm,3.8s						
SSE				LR	LR		
	comp=N,400nm,14.6s,MS4.6						
SSE				LR	LR		
	comp=E,559nm,14.6s,MS4.6						
SSE				LR	LR		
	comp=Z,785nm,15.1s,MS4.6						
SSE	Sheshan	37.46	35	eP	P	09 17 44.8	-1.7
	comp=Z,26nm,1.2s,mb4.9						
SSE				pP	pP	09 17 54.2	+0.4
SSE				sP	sP	09 17 57.6	+0.7
SSE				PP	PP	09 19 14.3	-0.4
SSE				S	S	09 23 33.8	+0.7
SSE				sS		09 23 53.0	
SSE				LR	LR		
	comp=Z,790nm,15.1s,MS4.6						
GTA	Gaotai	38.21	3	P	P	09 17 53.0	+0.3
GTA				AP	pP	09 17 59.7	-0.3
GTA				XP	sP	09 18 02.8	-0.3
GTA				AMB	AMB		
	comp=Z,32nm,1.1s,mb5.0						
GTA				AMB	AMB		
	comp=Z,153nm,6.1s						
GTA				LR	LR		
	comp=N,414nm,17.6s,MS4.4						
GTA				LR	LR		
	comp=E,327nm,15.7s,MS4.4						
GTA				LR	LR		
	comp=Z,596nm,19.5s,MS4.4						
HHC	Hu-ho-hao-te	41.64	16	eP	P	09 18 22.1	+1.0
HHC				AP	pP	09 18 31.7	+3.2
HHC				XP	sP	09 18 35.1	+3.6
HHC				PCP	PcP	09 20 15.6	-2.8
HHC				SCP		09 24 03.0	
HHC				S	S	09 24 42.4	+6.6
HHC				SCS	ScS	09 28 19.0	-1.7
HHC				AMB	AMB		
	comp=Z,28nm,1.4s,mb4.7						
HHC				LR	LR		
	comp=N,714nm,17.9s,MS4.8						
HHC				LR	LR		
	comp=E,888nm,17.9s,MS4.8						
HHC				LR	LR		
	comp=Z,687nm,18.0s,MS4.6						
WRA	Warramunga Arr	41.92	122	P	P	09 18 23.3	-0.4
	comp=Z,6.2nm,0.8s,mb4.3,baz=299,slow=9.1,SNR=30						
WRAB	Tennant Creek	41.92	122	eP	P	09 18 23.8	+0.1
WRAB				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.7						
WRAB	Tennant Creek	41.92	122	eP	P	09 18 23.8	+0.2
	comp=Z,16nm,0.9s,mb4.6						
WB2	Warramunga Arr	41.93	122	eP	P	09 18 23.9	+0.2
WMQ	Urumqi	43.39	350	P	P	09 18 36.5	+1.2
DL2	Dalian	43.74	28	P	P	09 18 39.2	+1.0
DL2				AP	pP	09 18 45.8	+0.2
DL2				S	S	09 25 09.8	+3.3
DL2				XS		09 25 25.7	
DL2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
DL2				AMB	AMB		
	comp=Z,130nm,3.6s						
DL2				LR	LR		
	comp=N,150nm,13.3s,MS4.2						
DL2				LR	LR		
	comp=E,120nm,15.7s,MS4.2						
DL2				LR	LR		
	comp=Z,240nm,13.9s,MS4.3						
UCH	Uchtor	45.77	336	P	P	09 18 55.8	+1.3
	SNR=18						
KS15	Wonju Array Si	45.87	34	eP	P	09 18 55.0	-0.3
KS15				epP	pP	09 19 01.9	-0.8
TKM2	Tokmak 2	45.94	338	P	P	09 18 57.3	+1.5
	SNR=12						
KBK	Karagaybulak	45.97	337	P	P	09 18 58.1	+2.1
	SNR=5.7						
AML	Almayashu	46.03	336	P	P	09 18 58.1	+1.6
	SNR=11						
AAK	Ala-Archa	46.12	337	⇑eP	P	09 18 57.6	+0.3
AAK				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.4						
AAK				MLR	MLR		
	comp=Z,200nm,14.0s,MS4.2						
AAK	Ala-Archa	46.12	337	eP	P	09 18 57.4	+0.1
	comp=Z,8.9nm,0.9s,mb4.7						
FRU	Bishkek	46.24	337	eP	P	09 19 04.0	+5.8
USP	Ospenovka	46.66	337	P	P	09 19 02.1	+0.7
	SNR=23						
SONM	Songino Array	47.23	8	P	P	09 19 05.3	-0.6
	comp=Z,14nm,0.9s,mb4.9,baz=193,slow=8.7,SNR=35						
SONM				PcP	PcP	09 20 37.5	+0.1
	comp=Z,4.3nm,0.8s,baz=188,slow=3.9,SNR=5.5						
SONM				pPcP		09 20 44.7	
	comp=Z,4.0nm,0.9s,baz=178,slow=4.5,SNR=3.9						
ULN	Ulaanbaatar	47.35	9	eP	P	09 19 07.8	+0.9
ULN				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
ULN	Ulaanbaatar	47.35	9	eP	P	09 19 07.8	+0.9
	comp=Z,12nm,0.9s,mb4.8						
MKAR	Makanchi Array	47.36	346	P	P	09 19 07.2	+0.1
	comp=Z,10.0nm,0.7s,mb4.8,baz=153,slow=8.1,SNR=44						
MKAR				LR	LR	09 43 09.3	
	comp=Z,137nm,21.0s,MS3.9,baz=181,slow=41						
MKAR	Makanchi Array	47.36	346	P	P	09 19 07.2	+0.1
MKAR				LR	LR	09 43 09.3	
KKAR	Karatay Array	48.18	334	i P	P	09 19 13.6	+0.1
KKAR				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ZAK	**Zakamensk**	**49.37**	**5**	*e*P	**P**	**09 19 22.4**	**-0.1**
ZAK				*e*		09 22 04.3	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.7						
TLY	**Talaya**	**50.69**	**5**	*e*P	**P**	**09 19 32.5**	**-0.1**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
TLY	**Talaya**	**50.69**	**5**	*e*P	**P**	**09 19 32.8**	**+0.3**
	comp=Z,4.4nm,0.8s,mb4.4						
HIA	**Hailar**	**51.72**	**19**	*e*P	**P**	**09 19 40.2**	**-0.2**
HIA				pmax	pmax		
	comp=Z,16nm,0.9s						
HIA	**Hailar**	**51.72**	**19**	*e*P	**P**	**09 19 40.2**	**-0.2**
	comp=Z,16nm,0.9s,mb5.0						
MJAR	**Matsushiro Arr**	**51.72**	**42**	P	**P**	**09 19 40.4**	**-0.2**
	comp=Z,0.9nm,0.4s,mb4.0,baz=214,slow=7.4,SNR=5.4						
MDJ	**Mudanjiang**	**51.92**	**29**	P	**P**	**09 19 42.5**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,49nm,4.8s						
MDJ	**Mudanjiang**	**51.92**	**29**	*e*P	**P**	**09 19 42.1**	**0.0**
	comp=Z,8.4nm,0.9s,mb4.7						
CIT	**Chita**	**52.56**	**13**	*e*P	**P**	**09 19 47.4**	**+0.7**
CIT				*e*	pP	09 19 54.2	0.0
CIT				pmax	pmax		
	comp=Z,49nm,1.5s,mb5.2						
OPO	**Ambohidratompo**	**52.95**	**246**	P	**P**	**09 19 50.4**	**+0.4**
	comp=Z,6.4nm,1.0s,mb4.5,baz=78,slow=7.0,SNR=5.6						
OPO				pP	pP	09 19 57.8	+0.3
	comp=Z,11nm,1.0s,baz=84,slow=10,SNR=6.4						
STKA	**Stephens Creek**	**53.23**	**132**	*e*P	**P**	**09 19 52.8**	**+0.8**
	comp=Z,8.1nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**53.23**	**132**	P	**P**	**09 19 52.7**	**+0.7**
	comp=Z,10.0nm,0.8s,mb4.8,baz=303,slow=6.8,SNR=14						
STKA				pP	pP	09 19 59.3	-0.2
	comp=Z,12nm,1.0s,baz=303,slow=5.5,SNR=6.8						
ZAL	**Zalesovo**	**53.67**	**351**	P	**P**	**09 19 54.6**	**-0.2**
	comp=Z,12nm,0.9s,mb4.8,baz=291,slow=6.8,SNR=51						
NVS	**Novosibirsk**	**54.79**	**350**	*e*P	**P**	**09 20 01.5**	**-1.6**
NVS				*e*S	**S**	**09 27 36.6**	**-4.0**
NVS				pmax	pmax		
	comp=N,11nm,1.1s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
NVS				smax			
	comp=N,11nm,1.7s						
NVS				smax			
	comp=E,8.0nm,1.7s						
VOSK	**Vostochnaya**	**55.93**	**341**	P	**P**	**09 20 10.1**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,19nm,1.3s,mb5.0						
KLR	**Kul'dur**	**56.32**	**26**	*e*P	**P**	**09 20 11.2**	**-3.0**
KLR				*e*S	**S**	**09 28 00.0**	**-1.1**
KLR				MLR	MLR		
	comp=N,600nm,13.5s						
KLR				MLR	MLR		
	comp=Z,900nm,13.5s,MS5.0						
BVA0	**Borovoye Array**	**56.37**	**341**	*i* P	**P**	**09 20 13.3**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	**56.37**	**341**	P	**P**	**09 20 13.3**	**-1.3**
	comp=Z,7.2nm,0.9s,mb4.7,baz=149,slow=8.6,SNR=30						
ZRNK	**Zerenda**	**56.78**	**340**	P	**P**	**09 20 16.1**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
ZRNK	**Zerenda**	**56.78**	**340**	*e*P	**P**	**09 20 15.9**	**-1.5**
	comp=Z,13nm,1.1s,mb4.9						
AB31	**Akbulak array**	**57.64**	**332**	P	**P**	**09 20 22.3**	**-1.3**
AB31				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
BOD	**Bodaibo**	**58.10**	**10**	*e*P	**P**	**09 20 22.9**	**-3.8**
BOD				*e*		09 20 32.7	
BOD				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
BOD				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
ASAJ	**Asahikawa**	**58.70**	**37**	P	**P**	**09 20 30.9**	**-0.2**
	comp=Z,2.8nm,0.5s,mb4.6,baz=270,slow=6.1,SNR=3.2						
KMBO	**Kilima Mbogo**	**60.05**	**268**	pP	pP	09 20 48.4	-0.1
	comp=Z,2.5nm,0.8s,baz=56,slow=12,SNR=4.5						
KMBO				LR	LR	09 45 18.4	
	comp=Z,172nm,18.5s,MS4.2,baz=93,slow=35						
YSS	**Yuzh-Sakhalins**	**60.40**	**34**⇑	*e*P	**P**	**09 20 42.0**	**-0.7**
YSS				*e*		09 20 56.4	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
YSS	**Yuzh-Sakhalins**	**60.40**	**34**	*e*P	**P**	**09 20 42.7**	**0.0**
	comp=Z,24nm,1.0s,mb5.2						
GNI	**Garni**	**61.42**	**316**	*i* P	**P**	**09 20 48.7**	**-1.1**
GNI	**Garni**	**61.42**	**316**	LR	LR	09 51 31.3	
	comp=Z,92nm,18.1s,MS4.0,baz=345,slow=40						
ARU	**Arti**	**63.31**	**337**⇓	*i*P	**P**	**09 21 00.1**	**-2.0**
ARU				*e*		09 21 34.8	
ARU				*e*		09 23 19.9	
ARU				*e*S	**S**	**09 29 30.9**	**-0.2**
ARU				*e*		09 30 49.9	
ARU				*e*SS	SS	09 33 35.7	-3.9
ARU				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.9						
GOF	**Gofitskoye**	**64.69**	**320**	*e*P	**P**	**09 21 17.0**	**+5.7**
MALT	**Malatya**	**65.25**	**312**	*e*P	**P**	**09 21 15.5**	**+0.4**
MALT				*e**PP	pP	09 21 23.0	+0.2
MALT				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
MALT	**Malatya**	**65.25**	**312**	*e*P	**P**	**09 21 15.4**	**+0.4**
	comp=Z,4.5nm,0.9s,mb4.5						
MALT				*e*pP	pP	09 21 23.0	+0.2
YAK	**Yakutsk**	**65.50**	**16**	*e*P	**P**	**09 21 15.4**	**-0.9**
YAK				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.5						
YAK	**Yakutsk**	**65.50**	**16**	*e*P	**P**	**09 21 15.4**	**-0.9**
	comp=Z,50nm,1.1s,mb5.5						
SOKR	**Solikamsk**	**66.21**	**339***c*	*i*P	**P**	**09 21 20.6**	**-0.2**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
SOC	**Sochi**	**66.25**	**318**	*e*P	**P**	**09 21 19.7**	**-1.6**
SOC				pmax	pmax		
	comp=N,6.0nm,0.7s						
SOC				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
SOC				pmax	pmax		
	comp=E,5.0nm,0.5s						
BRTR	**Keskin Array B**	**69.23**	**312**	P	**P**	**09 21 39.2**	**-0.9**
	comp=E,1.1nm,0.6s,mb3.9,baz=117,slow=8.3,SNR=6.5						
BRTR				pP	pP	09 21 47.0	-0.9
	comp=E,2.9nm,0.9s,baz=127,slow=6.2,SNR=7.1						
BR131	**Keskin Array S**	**69.24**	**312**	*e*P	**P**	**09 21 38.7**	**-1.5**
MATP	**Matopo**	**70.55**	**248**	P	**P**	**09 21 48.7**	**+0.2**
	comp=E,7.4nm,1.0s,mb4.6,baz=87,slow=5.6,SNR=9.4						
MATP				pP	pP	09 21 56.4	+0.2
	comp=E,9.5nm,0.8s,baz=88,slow=5.6,SNR=10						
PET	**Petropavlovsk**	**72.28**	**34**	*e*P	**P**	**09 21 56.5**	**-1.8**
PET				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.5						
MAW	**Mawson**	**72.62**	**193**	pP	pP	09 22 08.5	+0.7
	comp=Z,2.8nm,0.8s,baz=329,slow=9.7,SNR=4.7						
OBN	**Obninsk**	**72.75**	**328**	*i* P	**P**	**09 22 00.9**	**-0.1**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,24.0s,MS4.0						
TIXI	**Tiksi**	**73.28**	**10**	*e*P	**P**	**09 21 59.9**	**-3.9**
TIXI				*e*S	S	09 31 24.2	-5.2
TIXI				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
BOSA	**Boshof**	**74.79**	**240**	P	**P**	**09 22 12.8**	**-0.7**
	comp=Z,2.8nm,0.9s,mb4.2,baz=235,slow=21,SNR=3.0						
BOSA				pP	pP	09 22 20.5	-0.7
	comp=Z,5.2nm,1.0s,baz=117,slow=5.6,SNR=3.1						
BOSA				LR	LR	09 53 04.6	
	comp=Z,150nm,18.4s,MS4.3,baz=281,slow=34						
BOSA	**Boshof**	**74.79**	**240**	P	**P**	**09 22 12.8**	**-0.7**
BOSA				pP	pP	09 22 20.5	-0.7
BOSA				LR	LR	09 53 04.6	
AKASG	**Malin Array Be**	**75.39**	**322**	P	**P**	**09 22 15.3**	**-1.1**
	comp=Z,1.8nm,0.6s,mb4.2,baz=91,slow=4.8,SNR=15						
AKASG				pP	pP	09 22 22.6	-1.5
	comp=Z,2.2nm,0.7s,baz=87,slow=5.1,SNR=5.1						
AKASG	**Malin Array Be**	**75.39**	**322**	P	**P**	**09 22 15.3**	**-1.1**
AKASG				pP	pP	09 22 22.6	-1.5
VRI	**Vrincioaia**	**75.74**	**317** ⇓	P	**P**	**09 22 18.6**	**0.0**
MLR	**Muntele Rosu**	**76.19**	**317** ⇑	P	**P**	**09 22 22.1**	**+1.0**
MLR	**Muntele Rosu**	**76.19**	**317** ⇑	P	**P**	**09 22 22.0**	**+0.9**
BURAR	**Bucovina Array**	**77.15**	**319** ⇓	P	**P**	**09 22 27.4**	**+1.0**
BURAR	**Bucovina Array**	**77.15**	**319** ⇓	P	**P**	**09 22 27.4**	**+1.0**
SUW	**Suwalki**	**79.80**	**325**	P	**P**	**09 22 40.8**	**+0.1**
SUW				pmax	pmax		
	comp=Z,28nm,0.4s,mb5.5						
SUW	**Suwalki**	**79.80**	**325**	P	**P**	**09 22 40.8**	**+0.1**
	comp=Z,28nm,0.4s,mb5.5						
FINES	**FINESS Array B**	**80.13**	**333**	P	**P**	**09 22 41.8**	**-0.6**
	comp=Z,1.6nm,0.7s,mb4.1,baz=101,slow=9.7,SNR=7.2						
FINES				LR	LR	10 05 13.9	
	comp=Z,75nm,18.9s,MS4.1,baz=138,slow=41						
KAF	**Kangasniemi**	**80.21**	**333**	*e*p	**P**	**09 22 42.6**	**-0.2**
	comp=Z,6.0nm,1.1s,mb4.4,baz=103,slow=5.1						
KAF	**Kangasniemi**	**80.21**	**333**	*e*P	**P**	**09 22 42.6**	**-0.2**
KAF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
BILL	**Bilibino**	**81.24**	**21**	*i* P	**P**	**09 22 47.0**	**-1.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
BILL				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.7						
KEV	**Kevo**	**82.22**	**341**	*e*p	**P**	**09 22 52.5**	**-0.7**
	comp=Z,3.3nm,0.8s,mb4.3						
KEV	**Kevo**	**82.22**	**341**	*e*P	**P**	**09 22 52.5**	**-0.7**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ARCES	**ARCESS Array B**	**82.66**	**340**	P	**P**	**09 22 56.1**	**+0.7**
	comp=Z,2.9nm,0.8s,mb4.4,baz=99,slow=4.9,SNR=19						
ARCES				LR	LR	10 03 44.4	
	comp=Z,156nm,19.3s,MS4.4,baz=290,slow=39						
BRG	**Berggiesshubel**	**84.94**	**321**	*e*P	**P**	**09 23 08.8**	**+1.5**
BRG						09 33 27.0	
BRG				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
BRG				smax			
	comp=N,3.0nm,0.9s						
BRG	**Berggiesshubel**	**84.94**	**321**	P	**P**	**09 23 08.8**	**+1.5**
	comp=N,2.3nm,0.9s,mb4.3						
GERES	**GERESS Array B**	**84.94**	**319**	P	**P**	**09 23 08.0**	**+0.6**
	comp=N,2.3nm,0.8s,mb4.3,baz=101,slow=6.8,SNR=15						
KHC	**Kasperske Hory**	**85.04**	**319**	*e*P	**P**	**09 23 08.5**	**+0.6**
CLL	**Collm**	**85.56**	**321**	P	**P**	**09 23 12.0**	**+1.6**
VNDA	**Vanda**	**85.71**	**169**	LR	LR	09 58 45.9	
	comp=N,123nm,19.3s,MS4.3,baz=321,slow=34						
MOX	**Moxa**	**86.40**	**320**	*e*P	**P**	**09 23 16.0**	**+1.4**
GRA1	**Grafenberg Arr**	**86.61**	**320**	*e*P	**P**	**09 23 16.8**	**+1.1**
	comp=N,5.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**86.61**	**320**	P	**P**	**09 23 16.8**	**+1.1**
GRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**86.61**	**320**	*e*P	**P**	**09 23 16.8**	**+1.1**
GRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**86.61**	**320**	*e*P	**P**	**09 23 16.8**	**+1.1**
	comp=Z,5.0nm,1.0s,mb4.7						
NB2	**NORSAR Subarra**	**87.13**	**331**	P	**P**	**09 23 18.0**	**+0.1**
	comp=Z,4.0nm,0.9s,mb4.7,baz=94,slow=4.8						
NB2	**NORSAR Subarra**	**87.13**	**331**	P	**P**	**09 23 18.0**	**+0.1**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.7						
NOA	**NORSAR Array B**	**87.13**	**331**	P	**P**	**09 23 17.9**	**-0.1**
	comp=Z,2.6nm,0.8s,mb4.5,baz=94,slow=4.9,SNR=14						
NOA				LR	LR	10 08 10.1	
	comp=Z,99nm,20.3s,MS4.2,baz=90,slow=40						
LPG	**La Plagne**	**89.59**	**315**	*e*P	**P**	**09 23 28.2**	**-1.9**
	comp=Z,14nm,1.0s,mb4.9						
LPG	**La Plagne**	**89.59**	**315**	*e*P	**P**	**09 23 28.2**	**-1.9**
LPG				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb5.0						
ILAR	**Eielson Array**	**99.77**	**23**	PP	PP	09 28 19.7	-3.5
	comp=Z,0.5nm,1.0s,baz=294,slow=5.5,SNR=4.5						
ILAR				LR	LR	10 15 49.2	
	comp=Z,108nm,18.8s,MS4.4,baz=182,slow=39						
YKA	**Yellowknife Ar**	**112.17**	**15**	PP	PP	09 29 53.5	-2.0
	comp=Z,0.8nm,0.8s,baz=321,slow=6.7,SNR=5.0						
MSO	**Missoula**	**124.98**	**26**	*e*P	PKPdf	09 29 33.6	-2.5
NVAR	**Mina Array Bea**	**128.83**	**36**	PKP	PKPdf	09 29 41.4	-2.4
	comp=Z,0.9nm,0.8s,baz=232,slow=0.7,SNR=7.0						
NVAR				pPKP		09 29 49.3	
	comp=Z,1.4nm,0.9s,baz=255,slow=0.5,SNR=6.2						
PDAR	**Pinedale Array**	**130.11**	**26**	PKP	PKPdf	09 29 43.3	-2.7
	comp=Z,0.4nm,0.7s,SNR=3.9						
PDAR				pPKP		09 29 50.9	
	comp=Z,0.8nm,0.9s,baz=45,slow=2.1,SNR=5.7						
MSU	**Marysvale**	**132.17**	**31**	*e*P	PKPdf	09 29 49.7	-0.4
MNTX	**Cornudas Mount**	**140.95**	**31**	*e*P	PKPdf	09 29 57.8	-8.7
TXAR	**Lajitas Array**	**143.72**	**32**	PKP	PKPdf	09 30 06.8	-4.5
	comp=Z,0.6nm,0.5s,baz=270,slow=2.5,SNR=12						
CPUP	**Villa Florida**	**144.97**	**222**	PKP	PKPdf	09 30 10.8	-2.8
	comp=Z,5.4nm,1.0s,baz=140,slow=3.0,SNR=6.2						
CPUP	**Villa Florida**	**144.97**	**222**	PKP	PKPdf	09 30 10.8	-2.8
NATX	**Nacogdoches**	**145.42**	**18**	*e*P	PKPbc	09 30 11.4	+1.3
NATX				*e*pP		09 30 19.0	
LRAL	**Lakeview Retre**	**145.82**	**6**	*e*P	PKPbc	09 30 12.1	+1.0
LRAL				*e*pP		09 30 19.2	

*IDC **02** 09:22:47.4±1.6, 14.74N×145.92E, mb3.8/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, Error ellipse: s-maj=43.6km s-min=29.3km az=97.0*

*NEIC **02** 09:22:58.8±1.3, 15.13N×145.70E, h70km±11km, Error ellipse: s-maj=46.5km s-min=16.7km az=111.0*

ISC 02 09:22:57.7±1.3**, 15.1N**±0.2×**145.8E**±0.3**, h79**km±10km**, n10,** σ**1**s**06**/10**, mb3.6**/6**, 1C-1D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAPN	**Saipan**	**0.10**	**2**⇑	*i*P	**P**	**09 23 10.7**	**+1.6**
SARN	**Sarigan**	**1.57**	**1**⇓	*e*P	**P**	**09 23 22.9**	**-1.5**
GUMO	**Guam**	**1.74**	**209**	*e*P	**P**	**09 23 25.5**	**-1.2**
WRA	**Warramunga Arr**	**36.60**	**198**	P	**P**	**09 29 52.5**	**-5.8**
	0.6nm,0.8s,mb3.6,baz=20,slow=9.4,SNR=4.9						
CMAR	**Chiang Mai Arr**	**44.84**	**281**	P	**P**	**09 31 07.2**	**+1.0**
	0.6nm,0.3s,mb3.7,baz=93,slow=6.8,SNR=4.1						
SONM	**Songino Array**	**46.00**	**324**	P	**P**	**09 31 15.5**	**+0.6**
	0.6nm,0.6s,mb3.5,baz=104,slow=5.9,SNR=6.9						
MKAR	**Makanchi Array**	**61.00**	**315**	P	**P**	**09 33 05.5**	**+0.3**
	1.0nm,0.6s,mb4.0,baz=98,slow=8.6,SNR=5.5						
MKAR	**Makanchi Array**	**61.00**	**315**	P	**P**	**09 33 05.5**	**+0.3**
ILAR	**Eielson Array**	**66.83**	**25**	P	**P**	**09 33 43.2**	**+0.2**
	0.2nm,0.6s,mb3.1,baz=262,slow=5.7,SNR=5.1						
BVAR	**Borovoye Array**	**69.27**	**321**	P	**P**	**09 33 57.2**	**-1.1**
	0.5nm,0.5s,mb3.6,baz=101,slow=7.3,SNR=4.5						

*PRU **02** 09:30:50.8, 49.22N×6.78E*

*STR **02** 09:30:51.8±0.3, 49.35N×6.78E, h1km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*BGR **02** 09:30:52.1±0.6, 49.30N×6.85E, h1km, ML2.6/2, Error ellipse: s-maj=8.9km s-min=6.7km az=58.0*

*LDG **02** 09:30:52.3±0.1, 49.33N×6.82E, h1km, Md3.1/1, Ml3.2/14, Error ellipse: s-maj=2.4km s-min=2.2km az=4.0, Suspected Mining induced.*

*CSEM **02** 09:30:52.1±0.1, 49.34N×6.82E, h2km, ML3.2/14, Error ellipse: s-maj=2.5km s-min=2.3km az=50.0*

*NEIC **02** 09:30:52.3, 49.33N×6.82E, h1km, ML3.2(LDG), ML2.8(STR), After LDG.*

*BNS **02** 09:30:54.0±0.4, 49.41N×6.74E, h1km, ML2.4*

ISC 02 09:30:50.1±0.2**, 49.32N**±0.01×**6.80E**±0.03**, n48,** σ**1**s**21**/86**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.55**	**310**	*e*Pg	**Pg**	**09 31 03.4**	**+2.4**
WLF	**Walferdange**	**0.55**	**310**	*e*P	**Pg**	**09 31 03.4**	**+2.3**
WLF	**Walferdange**	**0.55**	**310**	*e*P	**Pg**	**09 31 03.3**	**+2.3**
WLF	**Walferdange**	**0.55**	**310**	Pg	**Pg**	**09 31 03.4**	**+2.4**
LANF	**Langenberg**	**0.74**	**116**	Pg	**Pg**	**09 31 06.0**	**+1.0**
ABH	**Alteburg**	**0.75**	**41**	Pg	**Pg**	**09 31 05.7**	**+0.6**
KTD	**Kalmit**	**0.84**	**89**	Pg	**Pg**	**09 31 08.0**	**+1.1**
CDF	**Champ du Feu**	**0.96**	**160**	*e*Pg	**Pg**	**09 31 09.9**	**+0.6**
CDF				*e*Sg	**Sg**	**09 31 21.4**	**-0.6**
	159nm,0.2s						
WLS	**Welschbruch**	**0.98**	**158**	Pg	**Pg**	**09 31 11.3**	**+1.7**
WLS				Sg	**Sg**	**09 31 25.5**	**+2.9**
RFYF	**Reffroy**	**1.11**	**232**	*e*Pg	**Pg**	**09 31 14.1**	**+1.8**
	baz=52						
RFYF				*e*Sg	**Sg**	**09 31 29.9**	**+2.8**
	109nm,0.3s						
ECH	**Echery**	**1.13**	**168**	Pg	**Pg**	**09 31 14.0**	**+1.4**
ECH				Sg	**Sg**	**09 31 29.7**	**+2.1**
THEF	**They Montfort**	**1.22**	**206**	Pg	**Pg**	**09 31 15.1**	**+0.7**
THEF				Sg	**Sg**	**09 31 31.7**	**+1.1**
STB	**Steinbach**	**1.28**	**1**	*e*Pg	**Pg**	**09 31 16.0**	**+0.3**
STB				*e*Sg	**Sg**	**09 31 33.1**	**+0.3**
	78nm,0.7s						
TOD	**Tromm**	**1.34**	**77**	Pn	**Pn**	**09 31 15.7**	**-0.4**
TOD				Sg	**Sg**	**09 31 35.5**	**+0.7**
HAU	**Haudompre**	**1.34**	**193**	*e*Pn	**Pn**	**09 31 15.8**	**-0.4**
HAU				*e*Pg	**Pg**	**09 31 17.3**	**+0.3**
HAU				*e*Sn	**Sn**	**09 31 33.9**	**-1.1**
	110nm,0.3s						
KLL	**Kalltalsperre**	**1.37**	**347**	*e*Pg	**Pg**	**09 31 16.9**	**-0.5**
KLL				*e*Sg	**Sg**	**09 31 34.5**	**-1.2**
MEM	**Membach**	**1.39**	**339**	P	**Pb**	**09 31 17.4**	**+0.7**
MEM				S	**Sb**	**09 31 35.6**	**+0.7**
TNS	**Taunus Mts**	**1.40**	**49**	*e*Pn	**Pn**	**09 31 16.9**	**-0.1**
	SNR=1.7						
TNS				*e*Sg	**Sg**	**09 31 36.6**	**-0.2**
MEZF	**Maizieres J'vi**	**1.41**	**235**	*e*Pn	**Pn**	**09 31 17.8**	**+0.7**
	baz=53						
MEZF	**Maizieres J'vi**	**1.41**	**235**	*e*Pn	**Pn**	**09 31 17.8**	**+0.7**
MEZF				*e*Sn	**Sn**	**09 31 34.4**	**-2.2**
	18nm,0.4s						
BFO	**Black Forest**	**1.42**	**134**	*e*Pn	**Pn**	**09 31 17.7**	**+0.5**
	SNR=1.5						
BFO				*e*Sg	**Sg**	**09 31 36.3**	**-0.9**
MOF	**Molkenrain**	**1.48**	**171**	Pn	**Pn**	**09 31 18.4**	**+0.3**
MOF				Sg	**Sg**	**09 31 40.5**	**+1.0**
HINF	**Hinteralfeld**	**1.50**	**179**	*e*Pg	**Pg**	**09 31 19.8**	**-0.3**
HINF	**Hinteralfeld**	**1.50**	**179**	*e*Sn	**Sn**	**09 31 36.4**	**-2.6**
	125nm,0.3s						
HINF	**Hinteralfeld**	**1.50**	**179**	*e*Pn	**Pn**	**09 31 17.8**	**-0.6**
HINF				*e*Pg	**Pg**	**09 31 19.8**	**-0.3**
HINF				*e*Sn	**Sn**	**09 31 36.4**	**-2.6**
GIVF	**Givet**	**1.50**	**302**	*e*Pn	**Pn**	**09 31 18.8**	**+0.4**
GIVF				*e*Pg	**Pg**	**09 31 19.8**	**-0.3**
GIVF				*e*Sn	**Sn**	**09 31 39.4**	**+0.4**
	36nm,0.3s						
HGN	**Heimansgroeve**	**1.55**	**339**	*e*Pn	**Pn**	**09 31 20.0**	**+0.9**
HGN				*e*Pg	**Pg**	**09 31 21.8**	**+0.7**
HGN				*e*Sg	**Sg**	**09 31 40.6**	**-1.2**
HGN	**Heimansgroeve**	**1.55**	**339**	*e*Pg	**Pg**	**09 31 21.8**	**+0.7**
HGN				*e*Sg	**Sg**	**09 31 40.6**	**-1.2**
SFTF	**Sexfontaines**	**1.61**	**227**	*e*Pg	**Pg**	**09 31 20.9**	**-1.3**
	baz=39						
SFTF				*e*Sg	**Sg**	**09 31 43.7**	**0.0**
	33nm,0.3s						
DOU	**Dourbes**	**1.63**	**299**	P	**Pn**	**09 31 21.3**	**+1.1**
DOU				S	**Sb**	**09 31 42.0**	**+0.2**
FELD	**Feldberg**	**1.65**	**150**	Pn	**Pn**	**09 31 22.1**	**+1.6**
BAIF	**Baives**	**1.84**	**295**	*e*Pn	**Pn**	**09 31 23.3**	**+0.1**
BAIF				*e*Pg	**Pg**	**09 31 26.7**	**-0.1**
BAIF				*e*Sg	**Sg**	**09 31 51.5**	**+0.2**
	36nm,0.5s						
LOMF	**Lomont**	**1.97**	**179**	Pn	**Pn**	**09 31 26.0**	**+1.0**
SNF	**Seneffe**	**2.02**	**307**	P	**Pn**	**09 31 27.1**	**+1.4**
CABF	**La Chapelle**	**2.75**	**190**	*e*Pn	**Pn**	**09 31 36.4**	**+0.2**
CABF				*e*Pg	**Pg**	**09 31 45.5**	**+0.5**
CABF				*e*Sg	**Sg**	**09 32 18.1**	**-3.5**
	23nm,0.5s						
LOR	**Lormes**	**2.84**	**225**	*e*Pn	**Pn**	**09 31 36.9**	**-0.6**
	baz=43						
LOR				*e*Sn	**Sn**	**09 32 10.6**	**-2.3**
LOR				*e*Sg	**Sg**	**09 32 22.7**	**-1.8**
	22nm,0.4s						
SSF	**Saint Saulge**	**3.15**	**226**	*e*Pn	**Pn**	**09 31 41.5**	**-0.5**
SSF				*e*Sn	**Sn**	**09 32 15.6**	**-5.3**
SSF				*e*Sg	**Sg**	**09 32 31.7**	**-3.3**
	16nm,0.4s						
SMF	**Signal de Mont**	**3.33**	**218**	*e*Pn	**Pn**	**09 31 43.5**	**-1.0**
SMF				*e*Sn	**Sn**	**09 32 22.7**	**-2.6**
	6.6nm,0.2s						
MOX	**Moxa**	**3.38**	**65**	*e*Pg	**Pg**	**09 31 54.5**	**-3.2**
MOX				*e*Sg	**Sg**	**09 32 40.7**	**-2.1**
NKC	**Novy Kostel**	**3.78**	**74**	*e*PN	**Pn**	**09 31 49.8**	**-1.1**
NKC				*e*x	x	09 32 49.2	
CLL	**Collm**	**4.45**	**61**	*e*Sg	**Sg**	**09 33 16.0**	**-2.2**
KHC	**Kasperske Hory**	**4.45**	**90**	*e*PN	**Pn**	**09 32 00.1**	**-0.3**
KHC				*e*x	x	09 32 18.2	
KHC				*e*SN	**Sn**	**09 32 49.6**	**-4.1**
KHC				*e*x	x	09 33 12.0	
KHC	**Kasperske Hory**	**4.45**	**90**	*e*Pn	**Pn**	**09 32 00.1**	**-0.3**
KHC				*e*Sn	**Sn**	**09 32 49.6**	**-4.1**
FLN	**La Foliniere**	**4.82**	**266**	*e*Pn	**Pn**	**09 32 05.6**	**-0.1**
	baz=89						
FLN				*e*Sn	**Sn**	**09 32 58.8**	**-4.3**
	7.6nm,0.4s						
BRG	**Berggiesshubel**	**4.86**	**69**	*e*Sg	**Sg**	**09 33 27.0**	**-4.9**
BRG	**Berggiesshubel**	**4.86**	**69**	Sg	**Sg**	**09 33 27.0**	**-4.9**
GRR	**Gorron**	**5.14**	**262**	*e*Pg	**Pg**	**09 32 28.2**	**-4.5**
GRR				*e*Sn	**Sn**	**09 33 04.4**	**-6.7**
	5.0nm,0.3s						
SBF	**Sospel**	**5.47**	**175**	*e*Pn	**Pn**	**09 32 12.1**	**-2.8**

CASC 02 09:46:50.2±2.8**, 8.49N**×**83.08W, h0**km±4km**, MD4.1, ML3.4, MW4.2, 5C-6D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.18**	**332**⇓	*i*P	Pg	09 46 54.7	+0.9
ACR				*e*S	Sg	09 47 00.1	+3.8
SVTC	**San Vito de Co**	**0.32**	**22**⇓	*i*P	Pg	09 46 58.3	+1.8
BRU2	**Volcan**	**0.49**	**52**⇓	*e*P	Pg	09 47 01.9	+2.0
BRU2				*e*S	Sg	09 47 10.6	+4.1
CTCR	**Cotoan**	**0.51**	**38**⇓	*i*P	Pg	09 47 01.5	+1.0
CTCR				*e*S	Sg	09 47 09.0	+1.7
BRU	**Baru**	**0.60**	**59**⇑	*i*P	Pg	09 47 04.4	+2.1
DVD	**David**	**0.63**	**95**⇑	*e*P	Pg	09 47 03.0	+0.3
DVD				*e*S	Sg	09 47 14.8	+3.8
PTP1	**Petroterminal**	**0.71**	**114**⇑	*e*P	Pg	09 46 58.6	-5.7
PTP1				*e*S	Sg	09 47 06.1	-7.6
CNI	**Changuinola**	**1.07**	**31**⇓	*e*P	Pb	09 47 11.8	+0.4
BUS	**Buena Vista**	**1.25**	**328**	*e*P	Pb	09 47 12.9	-1.5
BUS				*e*S	Sb	09 47 35.2	+4.2
URSC	**Urasca**	**1.50**	**333**	*e*P	Pn	09 47 16.7	-1.8
OCM	**Ochomogo**	**1.64**	**328**	*i* P	Pn	09 47 20.0	-0.5
OCM				*e*S	Sb	09 47 44.2	+1.9
OCM				AML	AML	09 47 50.6	
	comp=N,1μm,0.4s						
IRZ2	**Volcan Irazu 2**	**1.68**	**331**⇓	*e*P	Pn	09 47 20.2	-0.8
PICA	**Picada**	**1.68**	**336**	*e*P	Pn	09 47 19.7	-1.2
SJS	**Escuela Geolog**	**1.73**	**326**	*e*P	Pn	09 47 21.3	-0.5
SJS				*e*S	Sb	09 47 46.9	+2.1
PRS1	**Puriscal**	**1.92**	**321**	*e*P	Pn	09 47 22.9	-1.5
PRS1				*e*S	Sn	09 47 49.9	+0.3
POA2	**Poas 2**	**2.04**	**326**⇑	*e*P	Pn	09 47 26.4	+0.3
EPA	**Esparza**	**2.11**	**315**	*e*P	Pn	09 47 27.0	-0.1
EPA				*e*S	Sn	09 47 54.3	-0.2
TRTC	**Tortuguero**	**2.16**	**343**	*e*P	Pn	09 47 27.2	-0.7
CAO	**Cobano**	**2.33**	**301**	*e*P	Pn	09 47 30.0	-0.3
FORC	**Fortuna**	**2.52**	**322**	*e*P	Pn	09 47 34.9	+1.9
VACR	**Volcan Arenal**	**2.52**	**321**	*e*P	Pn	09 47 35.1	+2.0
AZU	**Azuero**	**2.87**	**104**	*e*P	Pn	09 47 38.1	+0.1
AZU				*e*S	Sn	09 48 14.3	+0.7
RIN3	**Volcan Rincon**	**3.22**	**315**⇑	*e*P	Pn	09 47 43.7	+0.7
UPA	**Univ. de Panam**	**3.54**	**82**	*e*S	Sn	09 48 31.4	+0.6

IDC 02 09:50:17.7±2.5**, 0.94N**×**97.03E, mb3.7**/4**, mb1 3.9**/5**, mb1mx3.6**/18**, mbtmp3.7**/5**, ML4.3**/1**, Error ellipse: s-maj=90.0km s-min=29.1km az=59.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.51**	**6**	P	P	09 54 22.9	-2.2
	0.4nm,0.3s,baz=197,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**42.04**	**122**	P	P	09 58 11.4	-1.6
	0.4nm,0.6s,baz=300,slow=9.2,SNR=5.0						
SONM	**Songino Array**	**47.41**	**9**	P	P	09 58 54.0	-1.8
	0.8nm,0.4s,baz=194,slow=9.2,SNR=8.3						
MKAR	**Makanchi Array**	**47.45**	**346**	P	P	09 58 54.9	-1.3
	0.7nm,0.6s,baz=170,slow=8.2,SNR=6.6						
MKAR				pP	pP	09 59 01.9	+5.8
	0.6nm,0.4s,baz=165,slow=8.5,SNR=5.6						
ARCES	**ARCESS Array B**	**82.72**	**340**	P	P	10 02 42.4	-2.0
	0.7nm,0.9s,baz=90,slow=5.4,SNR=4.3						

*IDC **02** 10:01:07.1±0.9, 28.88N×96.09E, mb4.0/11, mb1 4.2/12,*

mb1mx4.1/21, mbtmp4.0/12, ML3.8/1, MS3.4/4, Ms1 3.5/4, ms1mx3.1/21, Error ellipse: s-maj=30.6km s-min=17.6km az=52.0

*MOS **02** 10:01:09.5±0.9, 28.78N×95.94E, h33km, mb4.1/11, Error ellipse: s-maj=27.9km s-min=12.3km az=110.4*

*NEIC **02** 10:01:12.8±0.7, 28.79N×96.09E, h46km±8km, mb4.6/3, Error ellipse: s-maj=8.9km s-min=6.8km az=182.0*

*BJI **02** 10:01:14.5, 29.20N×96.10E, h54km, mB4.7, mb4.9, ML3.9, Ms3.7, Msz3.7*

ISC 02 10:01:09.7±0.9, 28.81N±0.05×95.98E±0.04, h33km±11km, n52, σ1§22/64, mb4.1/12, MS3.3/3, 2C, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKP	Lekhapani	1.47	177	eP	P	10 01 38.0	+3.9
LKP				eS	S	10 02 06.0	+14
LSA	Lhasa	4.32	283	P	P	10 02 19.0	+4.3
LSA				S	S	10 03 11.2	+6.6
LSA				Smax			
	comp=N,60nm,0.8s						
LSA				Smax			
	comp=E,80nm,0.9s						
LSA	Lhasa	4.32	283	eP	P	10 02 19.0	+4.3
IMP	Imphal	4.41	205	i	P	10 02 18.0	+2.0
IMP				i S	S	10 03 06.0	-0.8
SHL	Shillong	4.87	229	ePB	P	10 02 23.5	+0.9
SHL				eS	S	10 03 04.5	-14
GUN	Gumba	8.95	267	ePn	P	10 03 21.1	+1.6
GUN				eSn	S	10 04 57.7	-2.6
	comp=E,95nm,0.6s						
GUN	Gumba	8.95	267	ePn	P	10 03 21.1	+1.6
	comp=E,48nm,0.6s						
GUN				eSn	S	10 04 57.7	-2.6
PKI	Pulchoki	9.41	265	ePn	P	10 03 27.1	+1.1
KKN	Kakani	9.49	266	ePn	P	10 03 28.1	+1.1
KKN				eSn	S	10 05 10.1	-3.6
	comp=E,30nm,0.2s						
KKN	Kakani	9.49	266	ePn	P	10 03 28.1	+1.1
	comp=E,15nm,0.2s						
KKN				eSn	S	10 05 10.1	-3.6
DMN	Daman	9.67	265	ePn	P	10 03 30.1	+0.5
GYA	Guiyang	9.76	101	P	P	10 03 31.4	+0.6
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
LZH	Lanzhou	9.83	40	⇑P	P	10 03 32.0	+0.2
LZH				XP		10 03 43.1	
LZH				AMB	AMB		
	comp=Z,37nm,1.3s						
LZH				AMB	AMB		
	comp=Z,73nm,5.4s						
LZH				LR	LR		
	comp=N,187nm,10.7s						
LZH				LR	LR		
	comp=Z,343nm,13.2s						
LZH	Lanzhou	9.83	40	⇑P	P	10 03 32.0	+0.2
	comp=Z,37nm,1.3s						
LZH				pP		10 03 38.5	
LZH				sP		10 03 43.1	
GKN	Gorkha	10.02	268	ePn	P	10 03 33.4	-1.1
GKN				eSn	S	10 05 19.9	-7.0
	comp=Z,31nm,0.3s						
GKN	Gorkha	10.02	268	ePn	P	10 03 33.4	-1.1
	comp=Z,16nm,0.3s						
GKN				eSn	S	10 05 19.9	-7.0
CMAR	Chiang Mai Arr	10.65	165	Pn	P	10 03 42.5	-0.7
	comp=Z,0.2nm,0.3s,baz=335,slow=13,SNR=10.0						
CMAR				LR	LR	10 08 19.7	
	comp=Z,202nm,19.4s,baz=340,slow=40						
KOLN	Koldanda	10.96	268	ePn	P	10 03 45.0	-2.3
KOLN				eSn	S	10 05 41.1	-8.8
	comp=Z,16nm,0.3s						
KOLN	Koldanda	10.96	268	ePn	P	10 03 45.0	-2.3
	comp=Z,8.1nm,0.3s						
KOLN				eSn	S	10 05 41.1	-8.8
ENH	Enshi	11.85	80	eP	P	10 03 57.4	-2.0
	comp=Z,8.6nm,0.5s						
XAN	Xi'an	12.22	61	P	P	10 04 02.2	-2.0
XAN				AMB	AMB		
	comp=Z,6.0nm,1.2s						
HHC	Hu-ho-hao-te	17.52	43	eP	P	10 05 14.2	+1.3
HHC				AP		10 05 25.1	
HHC				XP		10 05 33.5	
HHC				AMB	AMB		
	comp=Z,10.0nm,1.1s						
HHC				AMB	AMB		
	comp=Z,75nm,12.0s						
SONM	Songino Array	20.64	20	P	P	10 05 47.9	-0.9
	comp=Z,4.9nm,0.7s,baz=206,slow=10,SNR=30						
SONM				LR	LR	10 14 27.3	
	comp=Z,146nm,19.5s,MS3.4,baz=93,slow=39						
ULN	Ulaanbaatar	20.88	21	eP	P	10 05 50.2	-1.0
	comp=Z,7.5nm,0.8s						
MKAR	Makanchi Array	20.91	333	P	P	10 05 51.4	-0.2
MKAR				pmax	pmax		
	comp=Z,11nm,0.8s						
MKAR	Makanchi Array	20.91	333	P	P	10 05 51.2	-0.4
	comp=Z,8.2nm,0.7s,baz=140,slow=14,SNR=29						
MKAR	Makanchi Array	20.91	333	P	P	10 05 51.2	-0.4
KKAR	Karatay Array	24.95	312	i P	P	10 06 34.2	+2.8
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
ZAL	Zalesovo	26.41	345	P	P	10 06 45.0	+0.1
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAL				MLR	MLR		
	comp=Z,47nm,20.9s						
ZAL	Zalesovo	26.41	345	P	P	10 06 45.0	+0.1
	comp=Z,4.3nm,0.6s,mb4.2,baz=311,slow=11,SNR=18						
ZAL				LR	LR	10 19 00.1	
	comp=Z,47nm,20.9s,MS3.0,baz=148,slow=41						
NVS	Novosibirsk	27.60	344	eP	P	10 06 55.7	-0.1
AB31	Akbulak array	34.20	317	i P	P	10 07 55.1	+1.1
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
MJAR	Matsushiro Arr	36.14	67	P	P	10 08 10.3	-0.4
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MJAR	Matsushiro Arr	36.14	67	P	P	10 08 10.3	-0.4
	comp=Z,0.5nm,0.5s,mb3.7,baz=274,slow=8.5,SNR=4.2						
YSS	Yuzh-Sakhalins	40.45	50	eP	P	10 08 48.0	+1.5
AKASG	Malin Array Be	53.83	314	P	P	10 10 31.1	-0.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	53.83	314	P	P	10 10 31.1	-0.3
	comp=Z,0.8nm,0.5s,mb3.9,baz=77,slow=6.5,SNR=7.1						
FINES	FINESS Array B	55.58	327	P	P	10 10 43.9	-0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	55.58	327	P	P	10 10 43.9	-0.1
	comp=Z,0.6nm,0.4s,mb4.0,baz=72,slow=6.0,SNR=5.4						
ARCES	ARCESS Array B	56.50	337	P	P	10 10 51.1	+0.6
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	ARCESS Array B	56.50	337	P	P	10 10 51.0	+0.5
	comp=Z,2.0nm,0.7s,mb4.2,baz=90,slow=7.3,SNR=9.5						
WRA	Warramunga Arr	60.99	138	P	P	10 11 22.5	+0.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	60.99	138	P	P	10 11 22.5	+0.1
	comp=Z,0.9nm,0.6s,mb4.1,baz=326,slow=7.9,SNR=16						
WRAB	Tennant Creek	60.99	138	eP	P	10 11 22.6	+0.3
	comp=Z,5.3nm,0.8s,mb4.7						
NB2	NORSAR Subarra	62.76	327	P	P	10 11 33.7	0.0
	comp=Z,3.3nm,0.6s,mb4.6,baz=80,slow=6.5						
NOA	NORSAR Array B	62.76	327	P	P	10 11 33.5	-0.2
NOA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NOA				MLR	MLR		
	comp=Z,38nm,18.4s						
NOA	NORSAR Array B	62.76	327	P	P	10 11 33.5	-0.2
	comp=Z,2.9nm,0.5s,mb4.6,baz=80,slow=6.5,SNR=26						
NOA				LR	LR	10 40 45.0	
	comp=Z,38nm,18.4s,MS3.6,baz=65,slow=38						
GERES	GERESS Array B	64.04	313	P	P	10 11 43.1	+0.9
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	GERESS Array B	64.04	313	P	P	10 11 43.1	+0.9
	comp=Z,1.0nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=8.8						
STKA	Stephens Creek	74.31	141	eP	P	10 12 42.4	-3.3
ILAR	Eielson Array	74.84	23	P	P	10 12 47.9	-0.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	Eielson Array	74.84	23	P	P	10 12 47.9	-0.1
	comp=Z,1.3nm,0.9s,mb3.9,baz=298,slow=5.7,SNR=17						

CASC 02 10:03:33.1±1.5, 10.86N×86.35W, h69km±39km, MD3.7, ML2.6, 1C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CONN	Concepcion	0.99	45	eP	P	10 03 51.4	-0.3
APON	Apoyo	1.09	15	eP	P	10 03 52.1	-0.9
CRUN	El Crucero	1.12	2	eP	P	10 03 53.5	+0.1
TICN	Ticuantepe	1.17	5	eP	P	10 03 53.8	-0.2
TICN				eS	S	10 04 08.8	-0.9
XAVN	Gruta Xavier	1.28	1	eP	P	10 03 56.7	+1.1
MGAN	Managua	1.28	4	eP	P	10 03 55.2	-0.4
MGAN				eS	S	10 04 12.8	+0.5
MGAN				i		10 04 19.2	
	comp=N,77nm,0.9s						
APYN	Apoyeque	1.37	360	⇑eP	P	10 03 56.4	-0.4
APYN				eS	S	10 04 15.1	+0.8
LEON	Leon	1.64	341	eP	P	10 04 00.1	-0.4

*CASC **02** 10:18:18.4±2.2, 11.10N×86.64W, h17km±10km, MD4.0, ML4.3, mb4.1(NEIC)*

*IDC **02** 10:18:20.8±2.6, 11.47N×86.23W, h48km±26km, mb3.9/11, mb1 4.1/11, mb1mx3.8/20, mbtmp4.1/11, MS3.3/2, Ms1 3.2/2, ms1mx2.8/20, Error ellipse: s-maj=40.7km s-min=15.5km az=57.0*

*NEIC **02** 10:18:22.1±1.6, 11.24N×86.37W, h66km±15km, mb4.1/9, Error ellipse: s-maj=20.3km s-min=8.6km az=50.0*

ISC 02 10:18:21.3±1.0, 11.25N±0.09×86.4W±0.1, h72km±10km, n49, σ1§04/47, mb4.1/20, 1C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MGAN	Managua	0.90	7	⇑eP	P	10 18 38.2	-0.7
MGAN				i		10 18 54.1	
	comp=N,9μm,0.6s						
JTS	JuntasAbangare	1.68	124	P	P	10 18 48.0	-1.2
	comp=N,175nm,0.3s,baz=321,slow=15,SNR=296						
JTS				S	S	10 19 13.9	+4.0
	comp=N,229nm,0.3s,baz=283,slow=21,SNR=26						
FORC	Fortuna	1.84	115	eP	P	10 18 50.9	-0.5
FORC				i P		10 18 53.3	
PRS1	Puriscal	2.38	122	eP	P	10 18 58.8	-0.2
SJS	Escuela Geolog	2.62	120	eP	P	10 19 03.0	+0.6
TRTC	Tortuguero	2.69	104	⇓eP	P	10 19 02.5	-0.8
URSC	Urasca	2.91	119	eP	P	10 19 06.5	+0.1
BUS	Buena Vista	3.07	123	eP	P	10 19 09.2	+0.6
SNVI	San Vicente	3.37	314	eP	P	10 19 34.8	+22
SNVI				eS	S	10 20 12.7	+21
ACR	Cerro Adams	4.07	129	eP	P	10 19 23.0	+0.5
SVTC	San Vito de Co	4.15	126	eP	P	10 19 24.2	+0.4
ROSC	El Rosal	13.50	117	LR	LR	10 26 29.5	
	comp=N,72nm,20.4s,baz=4.2,slow=36						
SDV	Santo Domingo	15.67	97	P	P	10 22 01.5	+2.2
	comp=N,0.2nm,0.3s,baz=259,slow=5.2,SNR=5.0						
SDV	Santo Domingo	15.67	97	P	P	10 22 01.5	+2.2
SDV				eP		10 22 01.6	
NATX	Nacogdoches	21.81	341	eP	P	10 23 09.1	+0.1
	comp=N,20nm,0.6s,mb4.6						
JSC	Jenkinsville	23.40	11	eP	P	10 23 26.5	+2.0
PLAL	Pickwick Lake	23.68	357	eP	P	10 23 27.9	+0.7
	comp=N,4.3nm,0.8s,mb3.8						
SWET	Sewanee	23.86	1	eP	P	10 23 29.4	+0.5
UALR	University of	24.05	348	eP	P	10 23 30.8	+0.1
	comp=N,14nm,0.6s,mb4.5						
CPCT	Cooper Cave	24.15	4	eP	P	10 23 32.9	+1.1
LTX	Lajitas	24.17	321	eP	P	10 23 32.3	+0.2
	comp=N,4.0nm,0.6s,mb3.9						
TXAR	Lajitas Array	24.17	321	P	P	10 23 32.3	+0.2
	comp=N,4.1nm,0.7s,mb3.9,baz=136,slow=9.8,SNR=69						
WMOK	Wichita Mounta	25.98	336	eP	P	10 23 50.1	+1.0
	comp=N,14nm,0.9s,mb4.4						
WMOK				epP	pP	10 23 58.0	-7.8
ANMO	Albuquerque	29.85	325	eP	P	10 24 23.9	-0.2
	comp=N,1.0nm,0.7s,mb3.5						
SAML	Samuel	30.56	130	eP	P	10 24 29.8	-0.9
	comp=N,1.5nm,0.5s,mb4.0						
PV01	Paradox Valley	33.34	327	eP	P	10 24 56.0	+1.4
PV10	Paradox Valley	33.77	327	eP	P	10 24 58.3	0.0
SADO	Sadowa	33.98	9	P	P	10 24 59.0	-1.1
	comp=N,2.6nm,0.5s,mb4.3,baz=170,slow=6.1,SNR=6.9						
SADO	Sadowa	33.98	9	P	P	10 24 59.0	-1.1
DUG	Dugway	37.12	326	P	P	10 25 27.5	+0.8
PDAR	Pinedale Array	37.33	331	P	P	10 25 27.8	-0.6
	comp=N,1.5nm,0.6s,mb4.1,baz=123,slow=9.4,SNR=20						
HWUT	Hardware Ranch	37.45	328	eP	P	10 25 29.9	+0.4
	comp=N,2.6nm,0.7s,mb4.3						
ELK	Elko	38.86	324	eP	P	10 25 42.5	+1.4
NVAR	Mina Array Bea	39.30	319	P	P	10 25 45.0	+0.2
	comp=N,0.7nm,0.6s,mb3.6,baz=135,slow=7.7,SNR=7.4						
NVAR				PcP	PcP	10 27 53.7	+0.7
	comp=N,0.7nm,0.7s,baz=130,slow=5.6,SNR=6.5						
NVAR	Mina Array Bea	39.30	319	P	P	10 25 45.0	+0.2
NVAR				PcP	PcP	10 27 53.7	+0.7
ULM	Lac du Bonnet	39.67	350	P	P	10 25 45.1	-2.7
	comp=N,3.2nm,0.5s,mb4.4,baz=157,slow=7.3,SNR=5.0						
MCMT	McKenzie Canyo	40.45	331	eP	P	10 25 55.2	+0.9
WVOR	Wild Horse Val	41.90	324	eP	P	10 26 05.7	-0.5
	comp=N,2.0nm,0.7s,mb4.0						
SCHQ	Schefferville	46.13	16	P	P	10 26 38.2	-2.0
	comp=N,1.9nm,0.5s,mb4.1,baz=226,slow=7.2,SNR=8.1						
SCHQ				LR	LR	10 46 18.9	
	comp=N,54nm,20.1s,baz=49,slow=37						
BDFB	Brasilia	46.42	124	P	P	10 26 43.2	+0.2
	comp=N,2.4nm,0.4s,mb4.3,baz=276,slow=8.3,SNR=4.2						
CPUP	Villa Florida	46.82	143	P	P	10 26 46.5	+0.4
	comp=N,1.7nm,0.6s,mb3.9,baz=336,slow=7.1,SNR=6.3						
CPUP	Villa Florida	46.82	143	eP	P	10 26 45.6	-0.4
YKA	Yellowknife Ar	55.05	344	P	P	10 27 45.0	-2.7
	comp=N,0.7nm,0.6s,mb3.9,baz=143,slow=7.1,SNR=7.0						
YKA	Yellowknife Ar	55.05	344	P	P	10 27 45.0	-2.7
INK	Inuvik	64.67	342	P	P	10 28 51.7	-1.8
	comp=N,1.7nm,0.9s,mb3.9,baz=140,slow=7.9,SNR=6.8						
ILAR	Eielson Array	67.54	336	P	P	10 29 10.3	-1.5
	comp=N,1.0nm,0.6s,mb3.8,baz=135,slow=4.4,SNR=26						
SONM	Songino Array	120.10	350	PKP	PKPdf	10 37 05.6	+1.6
	comp=N,0.1nm,0.3s,baz=332,slow=1.6,SNR=3.7						
WRA	Warramunga Arr	139.94	252	PKhKP		10 37 39.6	
	comp=N,0.6nm,1.1s,baz=90,slow=3.4,SNR=2.8						
WRA				PKP	PKPdf	10 37 44.9	+2.6
	comp=N,0.7nm,0.6s,baz=91,slow=2.4,SNR=10.0						
CMAR	Chiang Mai Arr	150.03	350	PKPbc	PKPdf	10 38 06.6	+7.1
	comp=N,1.0nm,0.4s,baz=330,slow=3.0,SNR=4.7						

*ISK **02** 10:18:33.4, 38.58N×26.67E, h14km, MD2.9*

*ATH **02** 10:18:36.0, 38.40N×27.06E, h15km, MD3.0/3*

*CSEM **02** 10:18:36.4±0.2, 38.39N×26.95E, h2km, MD2.9, Error ellipse: s-maj=5.7km s-min=3.4km az=75.0*

ISC 02 10:18:36.3±0.6, 38.42N±0.04×26.87E±0.04, h8km±5km, n15, σ1§21/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URLA	Izmir	0.23	256	i P	Pg	10 18 40.7	-0.3
URLA				i S	Sg	10 18 44.3	+0.1
IZM	Izmir	0.31	93	PG	Pg	10 18 43.2	+0.7
KDAG	Bornova	0.31	92	i P	Pg	10 18 42.6	0.0
KDAG				i S	Sg	10 18 47.5	+0.6
SMG	Samos	0.71	182	ePN	Pn	10 18 49.6	-2.6
AKS	Akhisar	0.87	58	PG	Pg	10 18 51.9	-1.8
AKS				SG	Sg	10 19 06.4	+1.1
PRK	Paraskevi	0.95	331	ePN	Pn	10 18 55.8	0.0
PRK				eSN	Sn	10 19 10.4	+0.8
AYDN	Tasoluk	1.09	133	i P	Pb	10 18 56.4	-0.6
AYDN				i S	Sb	10 19 10.7	-0.6
AYDN	Tasoluk	1.09	133	i P	Pb	10 18 56.4	-0.6
AYDN				i S	Sb	10 19 10.7	-0.6
MANT	Manisa	1.32	86	i P	Pb	10 19 02.4	+1.5
MANT				i S	Sb	10 19 16.5	-1.4
MANT	Manisa	1.32	86	i P	Pb	10 19 02.4	+1.5
MANT				i S	Sb	10 19 16.5	-1.4
BODT	Bodrum	1.40	165	PN	Pn	10 19 02.4	+0.3
BODT				SN	Sn	10 19 22.8	+2.0
YER	Yerkesik	1.70	138	ePN	Pn	10 19 07.0	+0.6
APE	Apeiranthos	1.71	219	ePN	Pn	10 19 04.4	-2.3
APE	Apeiranthos	1.71	219	ePn	Pn	10 19 08.7	+2.0
DST	Dursunbey	1.81	48	ePN	Pn	10 19 04.9	-3.2

*IDC **02** 10:19:45.6±1.8, 1.83N×126.44E, mb4.0/4, mb1 4.2/4, mb1mx3.8/17, mbtmp4.0/4, Error ellipse: s-maj=166.5km s-min=23.0km az=66.0*

ISC 02 10:19:49.6±1.3, 1.7N±0.3×125.9E±0.6, h33km, n6, σ0§64/6, mb4.0/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.67	181	eP	P	10 24 18.8	0.0
	7.1nm,1.0s						
WRA	Warramunga Arr	23.03	159	P	P	10 24 52.3	-0.8
	3.9nm,0.4s,mb4.2,baz=340,slow=11,SNR=101						
WB2	Warramunga Arr	23.04	159	eP	P	10 24 53.9	+0.8
MKAR	Makanchi Array	58.77	326	P	P	10 29 46.8	-0.2
	0.9nm,0.4s,mb4.2,baz=127,slow=7.0,SNR=15						
BVAR	Borovoye Array	68.59	328	P	P	10 30 51.4	+0.2
	0.4nm,0.4s,mb3.7,baz=124,slow=5.2,SNR=3.5						
VNDA	Vanda	81.52	173	P	P	10 32 04.9	0.0
	0.6nm,0.5s,mb3.8,baz=316,slow=10,SNR=5.0						

*NEIC **02** 10:27:22.9, 34.60S×70.49W, h121km, MD3.5(GUC), After GUC.*

GUC 02 10:27:22.9±0.6, 34.60S×70.49W, h121km±2km, MD3.0, ML3.4, 11C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	Cipreses	0.29	11	⇑iP	P	10 27 39.8	-0.1
CICH				iS	S	10 27 53.2	+0.3
SFDO	San Fernando	0.44	268	⇓iP	P	10 27 40.9	+0.2
SFDO				iS	S	10 27 54.6	+0.5
CACH	El Canelo	0.49	349	⇑iP	P	10 27 41.2	+0.2
CACH				iS	S	10 27 55.5	+0.8
CHCH	Chadas Angostu	0.68	348	⇑iP	P	10 27 42.4	+0.2
CHCH				iS	S	10 27 56.9	-0.1
LMEL	Las Melosas	0.79	17	⇓iP	P	10 27 43.2	+0.1
LMEL				iS	S	10 27 59.6	+1.1
LMEL				AMP		10 28 08.5	
	comp=N,787nm,0.1s						
PCH	Pirque	0.98	359	⇑iP	P	10 27 45.3	+0.2
PCH				iS	S	10 28 01.8	+0.1
LNV	Longovilo	1.00	310	⇑iP	P	10 27 45.3	-0.1
LNV				iS	S	10 28 01.7	-0.4
TACH	Talagante	1.02	338	⇑iP	P	10 27 45.5	0.0
TACH				iS	S	10 28 02.5	+0.1
ANTU	Antumapu	1.04	353	⇑iP	P	10 27 45.8	+0.1
ANTU				iS	S	10 28 02.9	+0.2
ANTU				AMP		10 28 03.8	
	comp=N,962nm,0.3s						
FSR	Penalolen	1.12	358	⇑iP	P	10 27 46.8	+0.3
FSR				iS	S	10 28 04.7	+0.5
FSR				AMP		10 28 05.5	
	comp=N,1μm,0.3s						
SAN	Santiago	1.16	353	iS	S	10 28 04.9	0.0
SAN				AMP		10 28 05.8	
	comp=E,956nm,0.4s						
STL	Santa Lucia	1.17	354	⇑iP	P	10 27 46.1	-1.0
STL				iS	S	10 28 04.2	-0.9
PUEX	Pudahuel	1.18	349	iS	S	10 28 05.6	+0.3
PUEX				AMP		10 28 06.9	
	comp=E,2μm,0.5s						
DSCH	Colegio Aleman	1.20	357	⇓iP	P	10 27 47.6	+0.1
DSCH				iS	S	10 28 06.0	+0.2
DSCH				AMP		10 28 09.4	
	comp=E,577nm,0.3s						
CLCH	Cerro Calan	1.20	358	⇓iP	P	10 27 47.6	+0.1
CLCH				iS	S	10 28 06.2	+0.3
CLCH				AMP		10 28 10.8	
	comp=E,1μm,0.6s						
CLCH				AMP		10 28 11.0	
	comp=N,593nm,0.5s						
FCH	Farellones	1.28	7	⇑iP	P	10 27 48.9	+0.6
FCH				iS	S	10 28 08.6	+1.2
LCCH	Las Cruces	1.44	321	⇓iP	P	10 27 50.0	-0.1
PEL	Peldehue	1.46	353	iS	S	10 28 11.4	+0.2
ROCH	El Roble	1.68	345	eP	P	10 27 53.3	+0.3
ROCH				iS	S	10 28 16.0	+0.3
JACH	Jahuel	1.92	357	eP	P	10 27 56.0	+0.3
JACH				iS	S	10 28 21.3	+0.6
PACH	Papudo	2.21	339	⇑iP	P	10 27 59.3	-0.3
ILCH	Illapel	3.01	349	eP	P	10 28 10.2	-0.1
CMCH	Combarbala	3.45	353	eP	P	10 28 15.5	-0.6

IGQ 02 10:36:31.1, 1.08S×78.48W, h8km±1km, mb4.0, 15C-7D, Error ellipse: s-maj=1.1km s-min=0.6km az=5.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PISA	Pisayambo	0.10	78	⇓P	Pg	10 36 34.0	+0.5
RUN5	Runtun	0.34	170	⇓P	Pg	10 36 38.3	+0.2
JUIV	Juive	0.34	177	⇓P	Pg	10 36 38.3	+0.2
CUSU	Cusua	0.36	179	⇑P	Pg	10 36 38.6	+0.1
ULBA	Ulba	0.38	168	⇑P	Pg	10 36 38.6	-0.2
CAMI	Rancho Maria	0.40	357	⇑P	Pg	10 36 40.0	+0.8
TAMB	Tambo	0.40	17	⇑P	Pg	10 36 39.9	+0.6
ARRY	Arrayan	0.42	176	⇑P	Pg	10 36 39.6	-0.1
IGUA	Igualata	0.43	201	⇑P	Pg	10 36 40.6	+0.7
VC1	Cotopaxi 1	0.44	11	⇑P	Pg	10 36 40.8	+0.7
QIL1	Quilotoa	0.51	297	⇓P	Pg	10 36 42.6	+1.3
ANTI	Antisana	0.70	27	⇑P	Pg	10 36 44.5	-0.8
JUA2	San Juan 2	0.87	352	⇑P	Pb	10 36 48.5	+0.4
JUA2				S	Sb	10 37 00.6	+0.9
GGP	Refugio Guagua	0.91	353	⇑P	Pb	10 36 49.0	+0.3
GGP				S	Sb	10 37 01.5	+0.7
TERV	Terraza Guagua	0.91	352	⇑P	Pb	10 36 49.3	+0.5
PINO	Pino	0.92	352	⇑P	Pb	10 36 49.5	+0.4
YANA	Yana	0.96	355	⇓P	Pb	10 36 49.9	+0.3
YANA				S	Sb	10 37 03.4	+1.1
CAYR	Refugio Cayamb	1.19	24	⇑P	Pb	10 36 54.9	+1.4
CAYR				S	Sb	10 37 12.4	+3.5
CAYA	Cayambe	1.25	23	⇓P	Pb	10 36 55.6	+1.1
LAV3	Lava3-Reventad	1.30	41	⇓P	Pb	10 36 56.0	+0.6
ECOPE	Copete-Rev Vol	1.30	42	⇑P	Pb	10 36 55.8	+0.4
COTA	Cotacachi	1.41	6	P	Pn	10 36 58.8	+1.5
HOJA	Cerro de Hojas	2.06	271	⇑P	Pn	10 37 07.3	+0.7
HOJA				S	Sn	10 37 34.0	+1.2

IDC 02 10:53:03.4±1.7, 27.36N×143.06E, mb3.5/3, mb1 3.7/3, mb1mx3.3/20, mbtmp3.5/3, Error ellipse: s-maj=32.5km s-min=23.2km az=139.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	0.82	251	Pn	Pn	10 53 22.4	+0.4
	31nm,0.3s,baz=90,slow=20,SNR=38						
CBIJ				Sn	Sn	10 53 35.6	+0.7
	120nm,0.3s,baz=270,slow=20,SNR=23						
SONM	Songino Array	35.06	316	P	P	10 59 58.8	-1.2
	0.2nm,0.4s,baz=127,slow=7.2,SNR=2.4						
WRA	Warramunga Arr	47.78	191	P	P	11 01 42.6	-2.0
	0.5nm,0.5s,baz=11,slow=8.5,SNR=7.2						
FINES	FINESS Array B	78.05	334	P	P	11 05 02.9	-2.2
	0.2nm,0.4s,baz=79,slow=7.1,SNR=4.0						

*IDC **02** 10:55:53.1±0.7, 1.23S×69.59E, mb4.0/13, mb1 4.1/13, mb1mx4.0/21, mbtmp4.0/13, MS3.6/12, Ms1 3.7/12, ms1mx3.6/20, Error ellipse: s-maj=26.0km s-min=19.5km az=84.0*

*NEIC **02** 10:55:56.0±6.5, 1.29S×69.57E, h17km±41km, mb4.5/7, Error ellipse: s-maj=17.9km s-min=11.7km az=95.0*

ISC 02 10:55:52.4±6.7, 1.28S±0.08×69.6E±0.1, h6km±43km, n31, σ1§31/23, mb4.1/19, MS3.7/12, 1D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DGAR	Diego Garcia	6.72	155	eP	Pn	10 57 33.7	-0.5
	311nm,0.6s						
PALK	Pallekele	13.96	52	eP	P	10 59 14.8	+1.5
ATD	Arta Tunnel	29.48	296	LR	LR	11 12 29.4	
	comp=Z,72nm,18.2s,MS3.3,baz=302,slow=34						
CMAR	Chiang Mai Arr	34.89	54	LR	LR	11 16 18.1	
	comp=Z,95nm,20.8s,MS3.5,baz=200,slow=35						
LSZ	Lusaka	43.16	249	eP	P	11 03 56.6	+0.6
	6.2nm,1.0s,mb4.3						
MATP	Matopo	44.42	242	LR	LR	11 22 11.8	
	comp=Z,60nm,19.0s,MS3.5,baz=107,slow=36						
GNI	Garni	47.07	334	P	P	11 04 27.6	+0.6
	4.4nm,0.4s,mb4.8,baz=220,slow=23,SNR=3.7						
MALT	Malatya	48.76	327	eP	P	11 04 40.2	0.0
	8.6nm,1.0s,mb4.7						
MKAR	Makanchi Array	49.16	12	P	P	11 04 40.6	-2.5

	0.4nm,0.8s,mb3.5,baz=207,slow=9.7,SNR=3.1						
MKAR				LR	LR	11 26 29.1	
	comp=Z,64nm,20.4s,MS3.6,baz=220,slow=37						
BOSA	Boshof	50.27	233	P	P	11 04 51.6	-0.3
	1.4nm,0.7s,mb4.1,baz=63,slow=2.3,SNR=3.1						
BOSA				LR	LR	11 25 33.7	
	comp=Z,59nm,18.2s,MS3.6,baz=325,slow=35						
BRTR	Keskin Array B	52.41	325	P	P	11 05 07.7	-0.4
	1.9nm,0.9s,mb4.0,baz=139,slow=10,SNR=2.8						
ZRNK	Zerenda	54.04	360	eP	P	11 05 18.7	-1.1
	3.4nm,0.8s,mb4.3						
BVAR	Borovoye Array	54.11	1	P	P	11 05 18.9	-1.5
	0.3nm,0.5s,mb3.5,baz=153,slow=9.7,SNR=2.7						
FITZ	Fitzroy Crossi	57.45	111	LR	LR	11 24 17.9	
	comp=Z,111nm,20.8s,MS4.0,baz=271,slow=30						
SONM	Songino Array	58.47	28	P	P	11 05 50.2	-1.4
	0.3nm,0.5s,mb3.6,baz=225,slow=7.0,SNR=4.4						
SONM				LR	LR	11 31 20.0	
	comp=Z,142nm,19.9s,MS4.1,baz=76,slow=36						
AKASG	Malin Array Be	62.15	332	P	P	11 06 14.9	-1.9
	1.6nm,0.6s,mb4.3,baz=134,slow=5.3,SNR=3.4						
WRA	Warramunga Arr	65.86	111	P	P	11 06 40.8	-0.8
	0.4nm,0.8s,mb3.5,baz=290,slow=5.9,SNR=5.3						
MAW	Mawson	66.36	183	P	P	11 06 43.6	-0.4
	3.3nm,0.9s,mb4.3,baz=343,slow=6.0,SNR=6.0						
MAW				LR	LR	11 31 12.1	
	comp=Z,58nm,18.8s,MS3.8,baz=17,slow=32						
GERES	GERESS Array B	69.29	324	LR	LR	11 38 14.2	
	comp=Z,33nm,19.0s,MS3.6,baz=163,slow=37						
FINES	FINESS Array B	70.80	339	P	P	11 07 10.4	-1.2
	0.7nm,0.7s,mb3.7,baz=180,slow=6.9,SNR=3.0						
FINES				LR	LR	11 40 50.3	
	comp=Z,30nm,21.6s,MS3.5,baz=132,slow=38						
CLL	Collm	70.84	326	P	P	11 07 14.0	+1.9
KAF	Kangasniemi	71.18	340	ep	P	11 07 16.2	+2.3
	3.5nm,0.7s,mb4.4,baz=133,slow=5.8						
MJAR	Matsushiro Arr	73.71	51	P	P	11 07 31.0	+1.6
	1.0nm,0.8s,mb3.8,baz=225,slow=5.2,SNR=3.1						
NB2	NORSAR Subarra	76.37	335	P	P	11 07 43.0	-1.1
	0.7nm,0.8s,mb3.6,baz=120,slow=5.8						
NOA	NORSAR Array B	76.37	335	P	P	11 07 43.5	-0.6
	1.6nm,0.8s,mb4.0,baz=113,slow=6.3,SNR=6.5						
NOA				LR	LR	11 43 10.6	
	comp=Z,30nm,18.1s,MS3.6,baz=120,slow=37						
KEV	Kevo	76.39	346	ep	P	11 07 46.2	+2.1
	3.6nm,0.8s,mb4.3						
ARCES	ARCESS Array B	76.60	345	P	P	11 07 46.8	+1.5
	1.4nm,0.7s,mb4.0,baz=63,slow=2.7,SNR=5.9						
ARCES				LR	LR	11 44 41.5	
	comp=Z,42nm,18.1s,MS3.8,baz=97,slow=38						
QSPA	South Pole Qui	88.71	180⇓	iP	P	11 08 48.4	+0.9
	3.8nm,0.8s,mb4.8						
PDAR	Pinedale Array	138.69	359	PKP	PKPdf	11 15 22.7	+0.3
	0.1nm,0.5s,slow=2.7,SNR=2.3						
PDAR	Pinedale Array	138.69	359	PKP	PKPdf	11 15 22.7	+0.3
TXAR	Lajitas Array	151.37	348	PKPbc	PKPdf	11 15 49.6	+5.4
	1.4nm,0.8s,baz=35,slow=1.3,SNR=18						

CASC 02 10:59:48.7±3.0**, 11.11N×86.52W, h18**$^{km}\pm9^{km}$**, MD3.9, ML3.2, 2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	0.90	14	eP	Pb	11 00 06.1	+0.6
APON	Apoyo	0.92	29	eP	Pb	11 00 06.1	+0.3
TICN	Ticuantepe	0.96	17	eP	Pb	11 00 07.0	+0.4
TICN				eS	Sb	11 00 22.4	+3.6
CONN	Concepcion	0.99	62⇓	eP	Pb	11 00 06.6	-0.4
XAVN	Gruta Xavier	1.05	10	eP	Pb	11 00 08.1	0.0
XAVN				eS	Sb	11 00 22.5	+1.0
MGAN	Managua	1.07	14	eP	Pb	11 00 07.2	-1.1
MGAN				eS	Sb	11 00 22.6	+0.8
	comp=E,584nm,0.5s						
WILN	Americas 2	1.10	17	eP	Pb	11 00 07.2	-1.6
WILN				eS	Sb	11 00 22.7	0.0
APYN	Apoyeque	1.13	8	eP	Pb	11 00 09.4	-0.1
APYN				eS	Sb	11 00 24.2	+0.4
MIRN	Miramar	1.34	352	eP	Pn	11 00 12.3	-0.5
MIRN				eS	Sb	11 00 30.3	+0.6
LEON	Leon	1.35	344⇓	eP	Pn	11 00 12.3	-0.6
LEON				eS	Sb	11 00 31.4	+1.3
CNGN	Cerro Negro	1.40	353	eP	Pn	11 00 12.5	-1.0
CNGN				eS	Sb	11 00 30.3	-1.1
PYTN	Playitas	1.49	18	eP	Pn	11 00 14.1	-0.9
PYTN				eS	Sn	11 00 35.7	+1.6
PRS1	Puriscal	2.44	117	eP	Pn	11 00 30.0	+1.5
PRS1				eS	Sn	11 00 59.5	+1.3
TRTC	Tortuguero	2.81	101	eP	Pn	11 00 31.7	-2.0
URSC	Urasca	2.98	115	eP	Pn	11 00 37.5	+1.4

*BJI **02** 11:04:28.4, 0.70N×97.40E, h22^{km}, mb4.8, Ms4.0, Msz4.3*
*NEIC **02** 11:04:30.9±0.5, 0.74N×97.38E, mb4.1/4, Error ellipse: s-maj=15.3km s-min=8.3km az=58.0*
*IDC **02** 11:04:31.1±1.1, 0.74N×97.29E, h22$^{km}\pm4^{km}$, mb4.0/12, mb1 4.2/13, mb1mx4.0/20, mbtmp4.2/13, ML4.2/1, MS3.9/1, Ms1 3.8/1, ms1mx3.0/24, Error ellipse: s-maj=48.2km s-min=13.7km az=53.0*
ISC 02 11:04:29.0±0.7**, 0.78N**±0.09×**97.4E**±0.1**, h20**^{km}**, h20**$^{km}\pm1.5^{km}$**:pP-P, n26,** σ0^{s}**84**/25**, mb4.2**/17**, MS3.9**/1**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.53	36	eP	Pn	11 05 53.0	+0.7
CMAR	Chiang Mai Arr	17.63	5	P	P	11 08 34.4	-1.0
	0.3nm,0.3s,baz=193,slow=12,SNR=14						
LSA	Lhasa	29.37	349	eP	P	11 10 33.8	+0.7
	5.1nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	33.52	125	P	P	11 11 08.6	-1.1
	7.5nm,1.1s,mb4.5,baz=315,slow=7.1,SNR=3.2						
XAN	Xi'an	34.80	17	P	P	11 11 19.6	-1.0
XAN				AP	pP	11 11 24.6	-2.0
XAN				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
GTA	Gaotai	38.51	3	eP	P	11 11 52.3	+0.5
GTA				AP	pP	11 11 56.7	-1.2
GTA				XP	sP	11 12 00.1	-0.4
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.3						
WRA	Warramunga Arr	41.64	122	P	P	11 12 18.5	+0.5
	comp=Z,1.6nm,0.5s,mb3.9,baz=302,slow=9.0,SNR=15						
WRA				pP	pP	11 12 25.8	+1.7
	comp=Z,1.2nm,0.5s,baz=304,slow=8.9,SNR=8.9						
WRAB	Tennant Creek	41.65	122	eP	P	11 12 17.7	-0.3
SONM	Songino Array	47.51	8	P	P	11 13 05.5	+0.7
	comp=Z,1.4nm,0.5s,mb4.3,baz=190,slow=9.7,SNR=17						
MKAR	Makanchi Array	47.69	346	P	P	11 13 06.8	+0.6
	comp=Z,4.1nm,0.5s,mb4.7,baz=160,slow=8.4,SNR=43						
MKAR				pP	pP	11 13 13.2	+0.8
	comp=Z,2.9nm,0.6s,baz=161,slow=8.0,SNR=9.4						
STKA	Stephens Creek	52.92	132	P	P	11 13 47.7	+1.3
	comp=Z,1.0nm,0.5s,mb4.0,baz=321,slow=9.8,SNR=3.3						
STKA				LR	LR	11 35 42.1	
	comp=Z,110nm,19.9s,MS3.9,baz=5.7,slow=35						
STKA	Stephens Creek	52.92	132	eP	P	11 13 46.1	-0.3
STKA				LR	LR	11 35 42.1	
ZAL	Zalesovo	53.99	351	P	P	11 13 53.5	-0.3
	comp=Z,3.4nm,0.5s,mb4.5,baz=319,slow=5.7,SNR=16						
ZAL	Zalesovo	53.99	351	P	P	11 13 53.5	-0.4
BVAR	Borovoye Array	56.71	341	P	P	11 14 12.4	-1.2
	comp=Z,1.5nm,0.7s,mb4.1,baz=135,slow=8.4,SNR=12						
BVAR				pP	pP	11 14 19.4	-0.4
	comp=Z,2.1nm,0.7s,baz=149,slow=9.3,SNR=10						
ZRNK	Zerenda	57.11	340	eP	P	11 14 15.6	-0.8
	comp=Z,1.3nm,0.8s,mb4.0						
AKASG	Malin Array Be	75.71	322	P	P	11 16 13.3	-1.6
	comp=Z,1.0nm,0.6s,mb3.9,baz=92,slow=4.4,SNR=7.0						
FINES	FINESS Array B	80.46	333	P	P	11 16 41.1	+0.3
	comp=Z,1.2nm,0.6s,mb4.0,baz=98,slow=4.4,SNR=7.9						
KAF	Kangasniemi	80.55	333	ep	P	11 16 41.1	-0.1
	comp=Z,2.0nm,0.7s,mb4.2,baz=104,slow=5.0						
ARCES	ARCESS Array B	83.00	340	P	P	11 16 55.0	+1.1
	comp=Z,0.9nm,0.5s,mb4.0,baz=104,slow=5.0,SNR=12						
ARCES				pP	pP	11 17 01.9	+1.5
	comp=Z,0.8nm,0.6s,baz=104,slow=5.0,SNR=2.3						
ARCES	ARCESS Array B	83.00	340	P	P	11 16 55.0	+1.1
ARCES				pP	pP	11 17 01.9	+1.5
GERES	GERESS Array B	85.26	319	P	P	11 17 06.9	+1.2
	comp=Z,0.3nm,0.4s,mb3.8,baz=127,slow=6.7,SNR=5.8						
NB2	NORSAR Subarra	87.47	331	P	P	11 17 17.2	+1.0
	comp=Z,0.6nm,0.8s,mb3.9,baz=95,slow=4.8						
NOA	NORSAR Array B	87.47	331	P	P	11 17 16.7	+0.4
	comp=Z,0.9nm,0.8s,mb4.1,baz=96,slow=5.0,SNR=4.9						
NOA	NORSAR Array B	87.47	331	P	P	11 17 16.7	+0.4
TXAR	Lajitas Array	143.91	32	PKP	PKPdf	11 24 04.5	-3.4
	comp=Z,0.4nm,0.8s,baz=127,slow=0.5,SNR=4.4						

*NEIC **02** 11:14:45.6, 16.47N×98.43W, h5^{km}, MD3.7(MEX), After MEX.*
MEX 02 11:14:45.7±0.7**, 16.51N×98.41W, h5**$^{km}\pm12^{km}$**, MD3.7, 2D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.29	113	iP	Pg	11 14 50.8	-0.8
PNIG				eS	Sg	11 14 56.2	+0.6
PNIG	Pinotepa	0.29	113	iP	Pg	11 14 50.8	-0.8
PNIG				iS	Sg	11 14 56.1	+0.5
VHO	Vista Hermosa	1.70	70⇓	iP	Pn	11 15 12.3	-4.0
VHO				eS	Sn	11 15 34.6	-4.1
VHO	Vista Hermosa	1.70	70⇓	iP	Pn	11 15 12.3	-4.0
VHO				iS	Sn	11 15 33.4	-5.3
OXX	Oaxaca	1.71	70	eP	Pn	11 15 14.5	-1.9
CAIG	El Cayaco	1.86	287	eP	Pn	11 15 14.7	-3.9
CAIG				eS	Sn	11 15 37.7	-4.9
PLIG	Platanillo	2.15	331	eP	Pn	11 15 20.8	-1.9
PLIG				eS	Sn	11 15 45.1	-4.8
YAIG	Yautepec	2.42	345	eP	Pn	11 15 25.7	-1.0
YAIG				eS	Sn	11 15 52.6	-4.4
YAIG	Yautepec	2.42	345	iP	Pn	11 15 23.6	-3.0
YAIG				eS	Sn	11 15 52.6	-4.4
PPM	Popocatepetl	2.56	355	eP	Pn	11 15 25.9	-2.5
PPM				eS	Sn	11 15 55.6	-4.7
PPM	Popocatepetl	2.56	355	eP	Pn	11 15 25.0	-3.5
PPM				eP		11 15 25.9	
PPM				eS	Sn	11 15 55.6	-4.7
IISM	Ciudad Serdan	2.66	22	eP	Pn	11 15 26.5	-3.5

*CSEM **02** 11:49:23.8±0.1, 37.84N×26.75E, h19$^{km}\pm1^{km}$, MD3.3, Error ellipse: s-maj=3.2km s-min=2.5km az=100.0*
*ATH **02** 11:49:24.8, 37.77N×26.68E, h6^{km}, MD3.3/3*
*ISK **02** 11:49:24.9, 37.87N×26.73E, h30^{km}, MD3.3*
ISC 02 11:49:24.3±0.6**, 37.84N**±0.03×**26.73E**±0.05**, h19**$^{km}\pm6^{km}$**, n20,** σ0^{s}**89**/28**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMG	Samos	0.15	145	ePG	Pb	11 49 27.8	-1.0
SMG				eSG	Sb	11 49 30.1	-1.6
IZM	Izmir	0.70	37	iPG	Pb	11 49 38.4	+0.7
KDAG	Bornova	0.71	37	iP	Pb	11 49 37.5	-0.4
KDAG				iS	Sb	11 49 47.7	+0.6
BODT	Bodrum	0.90	149	PG	Pb	11 49 42.5	+1.4
AYDN	Tasoluk	0.93	100	iP	Pb	11 49 41.5	-0.1
AYDN				iS	Sb	11 49 53.4	-0.2
BDRM	Kayabasi	0.96	143	iP	Pb	11 49 42.0	0.0
BDRM				iS	Sb	11 49 54.3	0.0
MLSB	Milas	0.99	123	PG	Pb	11 49 43.4	+0.7
MLSB				SG	Sb	11 49 56.7	+1.3
APE	Apeiranthos	1.22	231	PN	Pn	11 49 46.5	-0.1
APE				SN	Sn	11 50 02.7	+0.1
APE	Apeiranthos	1.22	231	ePB	Pb	11 49 46.6	+0.1
AKS	Akhisar	1.35	39	PN	Pn	11 49 48.2	-0.2
YER	Yerkesik	1.42	119	PN	Pn	11 49 49.7	+0.2
PRK	Paraskevi	1.45	346	ePB	Pb	11 49 53.1	+2.6
PRK				eSB	Sb	11 50 13.6	+5.0
MANT	Manisa	1.59	65	iP	Pn	11 49 54.2	+2.4
MANT				iS	Sn	11 50 11.2	-0.7
DENT	Denizli	1.83	92	ePN	Pn	11 49 54.7	-0.6
DALT	Dalyan (Mudla)	1.86	124	ePN	Pn	11 49 55.3	-0.4
BALB	Balikesir	2.02	26	ePN	Pn	11 49 57.3	-0.6
CANB	Canakkale	2.19	7	ePN	Pn	11 49 59.8	-0.7
DST	Dursunbey	2.31	40	ePN	Pn	11 50 01.0	-1.2
BNT	Bandirma	2.68	20	ePN	Pn	11 50 06.9	-0.6
KCT	Karacabey	2.74	27	ePN	Pn	11 50 08.0	-0.3

*CSEM **02** 11:50:42.1±0.3, 37.60N×24.69W, h5$^{km}\pm3^{km}$, ML2.9, Error ellipse: s-maj=10.1km s-min=2.5km az=69.0, After PDA*
*PDA **02** 11:50:42.1±0.9, 37.60N×24.69W, h5$^{km}\pm9^{km}$, MD2.5, ML2.9, Error ellipse: s-maj=10.0km s-min=7.1km az=79.0*
SVSA 02 11:50:42.1±0.9**, 37.60N×24.69W, h5**$^{km}\pm9^{km}$**, MD2.5, ML2.9, Error ellipse: s-maj=10.0km s-min=7.1km az=79.0, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIRA	Miradouro	0.50	292	eP	Pg	11 50 52.0	-0.2
MIRA				eS	Sg	11 50 58.5	-0.4
PFAD	Fenais da Ajud	0.56	296	eP	Pg	11 50 52.9	-0.3
PFAD				eS	Sg	11 50 59.8	-0.9
PCNG	Congro	0.58	287	eP	Pg	11 50 51.8	-2.0
PCNG				eS	Sg	11 50 59.7	-1.9
	289nm,0.2s						
VIF	Vila Franca	0.61	284	eP	Pg	11 50 52.4	-1.9
VIF				eS	Sg	11 51 00.5	-2.0
	269nm,0.2s						
MESC	Monte Escuro	0.63	288	eP	Pg	11 50 52.6	-2.1
MESC				eS	Sg	11 51 00.9	-2.2
PRCH	Ribeira Ch	0.64	282	eP	Pg	11 50 52.7	-2.2
PRCH				eS	Sg	11 51 00.7	-2.7
	574nm,0.2s						
LFA	Lagoa do Fogo	0.65	286	eP	Pg	11 50 53.2	-1.9
PMAT	Coroa da Mata	0.66	290	eP	Pg	11 50 52.9	-2.3
PMAT				eS	Sg	11 51 01.0	-3.0
	130nm,0.1s						
PSMN	Pico do Norte,	0.66	207	eP	Pg	11 50 53.9	-1.5
PSMN				eS	Sg	11 51 01.8	-2.5
CML	Cha da Macela	0.70	285	eS	Sg	11 51 02.3	-3.1
FAC	Faja de Cima	0.78	283	eS	Sg	11 51 04.0	-4.1
PSAN	Santo Antonio	0.86	287	erx		11 51 07.0	
PFET	Feteiras	0.90	284	eP	Pb	11 50 56.7	-3.0
PFET				eS	Sb	11 51 07.4	-4.3
SET2	Ginetes	0.92	286	erx		11 51 07.5	
SET4	Mosteiros	0.92	288	erx		11 51 07.6	
PFAV	Pico das Favas	2.19	301	eS	Sn	11 51 38.9	-8.5
	18nm,0.1s						
RIB2	Ribeirinha	2.23	299	eS	Sn	11 51 39.1	-9.3
	15nm,0.2s						
PVNV	Vila Nova	2.26	302	erx		11 51 40.2	
PPAD	Pico dos Padre	2.32	299	eS	Sn	11 51 41.9	-8.9
	15nm,0.2s						
ASBA	Santa Barbara	2.36	299	erx		11 51 42.9	
PICO	Pico	3.08	288	eP	Pn	11 51 27.1	-5.3
PICO				eS	Sn	11 52 00.2	-10
CALA	Caldeira	3.31	288	eP	Pn	11 51 31.0	-4.6
CALA				eS	Sn	11 52 06.8	-9.1

IDC 02 12:00:42.5±2.5**, 12.17N×85.06W, mb3.6**/4**, mb1 4.1**/4**, mb1mx3.7**/18**, mbtmp3.6**/4**, MS3.4**/1**, Ms1 3.5**/1**, ms1mx2.7**/18**, Error ellipse: s-maj=107.4km s-min=13.2km az=79.0, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTS	JuntasAbangare	1.87	177	Pn	Pn	12 01 15.5	-0.6
	22nm,0.3s,baz=328,slow=14,SNR=68						
JTS				Lg		12 01 42.4	
	32nm,0.3s,baz=306,slow=20,SNR=8.9						
TXAR	Lajitas Array	24.32	317	P	P	12 06 00.8	-2.2
	2.1nm,0.7s,baz=135,slow=9.9,SNR=37						
LPAZ	La Paz	32.86	149	LR	LR	12 20 01.2	
	comp=Z,63nm,19.1s,baz=121,slow=35						
PDAR	Pinedale Array	37.16	330	P	P	12 07 56.1	-0.9
	0.6nm,0.6s,baz=124,slow=10,SNR=8.5						
NVAR	Mina Array Bea	39.47	317	P	P	12 08 16.4	-0.1
	0.4nm,0.5s,baz=135,slow=7.7,SNR=4.3						
ILAR	Eielson Array	67.22	336	P	P	12 11 38.3	-2.3
	0.3nm,0.6s,baz=132,slow=4.1,SNR=11						
WRA	Warramunga Arr	141.43	253	PKP	PKPdf	12 20 14.3	-4.1
	0.3nm,0.6s,baz=94,slow=2.6,SNR=5.1						

KRSC 02 12:15:12.8±0.1**, 53.14N×169.59E, h35**$^{km}\pm19^{km}$**, ML3.8, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	Bering	2.97	316	eP	P	12 15 57.8	-0.8
BKI				eS	S	12 16 30.8	-2.6
BKI				Smax			
	70nm,1.3s						
MKZ	Mys Kozlova	4.87	290	eS	S	12 17 18.1	-3.4
KBTR	Krutoberegovo	4.99	311	eP	P	12 16 26.0	-1.3
SPN	Mys Shipunski	5.76	273	eP	P	12 16 37.6	-0.5
KMNR	Kamenistaya	6.05	299	eP	P	12 16 41.6	-0.6
KMNR				eS	S	12 17 46.5	-4.7
NLC	Nalytchevo	6.17	274	eP	P	12 16 43.2	-0.6
NLC				eS	S	12 17 49.2	-4.8
SDLR	Sedlovina	6.43	276	eP	P	12 16 47.2	-0.4
UGLR	Uglovaya	6.47	275	eP	P	12 16 47.9	-0.3
SMAR	Somma	6.49	275	eP	P	12 16 46.4	-1.9
AVH	Avacha	6.52	275	eP	P	12 16 48.7	-0.2
AVH				eS	S	12 17 58.7	-4.3
KOK	Koryaka	6.58	276	eP	P	12 16 49.2	-0.5
RUS	Russkaya	6.76	268	eP	P	12 16 52.1	-0.1
RUS				eS	S	12 18 04.5	-4.3
ESO	Esso	6.92	298	eP	P	12 16 53.5	-1.0
GNL	Ganaly	6.99	279	eP	P	12 16 55.8	+0.4

*NEIC **02** 12:30:27.0, 18.23N×68.24W, h159^{km}, MD3.9(RSPR), After RSPR.*
RSPR 02 12:30:27.0, 18.23N×68.24W, h159$^{km}\pm1^{km}$**, MD3.9**/15**, MD3.9**/15**, 8C-7D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	1.10	78⇑	eP	P	12 30 53.8	+0.2
AGPR				eS	S	12 31 13.7	-0.4
CRPR	Cabo Rojo, PR	1.10	102⇑	eP	P	12 30 53.1	-0.5
CRPR				eS	S	12 31 13.5	-0.7
LSP	Las Mesas	1.10	93⇓	eP	P	12 30 53.3	-0.3
LSP				eS	S	12 31 13.6	-0.5
MGP	Maguayo	1.12	101⇓	eP	P	12 30 53.4	-0.4
LRS	Lares	1.33	87⇓	eP	P	12 30 55.0	-0.8
LRS				eS	S	12 31 17.9	-0.2
PORP	Portuguez	1.54	96⇑	eP	P	12 30 57.6	-0.3
PORP				eS	S	12 31 21.7	-0.1
ICM	Isla Caja Muer	1.67	101⇑	eP	P	12 30 59.2	-0.1
ICM				eS	S	12 31 24.2	-0.1
SJG	San Juan	2.00	93⇑	eP	P	12 31 02.7	-0.1
SJG	San Juan	2.00	93⇓	eP	P	12 31 02.7	-0.2
SJG				eS	S	12 31 29.9	-0.6
CPD	Cerro la Pandu	2.22	95⇑	eP	P	12 31 05.3	-0.3
CPD				eS	S	12 31 35.7	+0.3
CBYP	Canovanas	2.27	89⇓	eP	P	12 31 05.0	-1.2
CBYP				eS	S	12 31 35.3	-1.1
HUMP	Col San Antoni	2.28	92⇑	eP	P	12 31 06.2	-0.1
HUMP				eS	S	12 31 35.9	-0.6
MTP	Monte Pirata	2.56	93⇓	eP	P	12 31 09.4	-0.4
MTP				eS	S	12 31 42.9	+0.3
STVI	Saint Thomas	3.12	87⇓	eP	P	12 31 16.0	-0.9
STVI				eS	S	12 31 55.5	+0.4
TBVI	Tortola	3.46	86⇑	eP	P	12 31 21.3	+0.1

*CASC **02** 12:37:44.6±2.3, 11.09N×86.64W, h20$^{km}\pm7^{km}$, MD4.4, ML4.2, mb3.8(NEIC)*
*NEIC **02** 12:37:46.3±0.6, 11.79N×85.83W, mb3.8/2, Error ellipse: s-maj=25.3km s-min=8.6km az=47.0*
*IDC **02** 12:37:46.3±0.8, 11.78N×85.81W, h30$^{km}\pm6^{km}$, mb3.7/7, mb1 4.0/8, mb1mx3.7/19, mbtmp3.9/8, ML3.5/1, MS3.4/3, Ms1 3.3/3, ms1mx3.0/18, Error ellipse: s-maj=54.5km s-min=9.9km az=58.0*
ISC 02 12:37:45.8±0.8**, 11.10N**±0.06×**86.57W**±0.08**, h56**$^{km}\pm8^{km}$**, h30**$^{km}\pm.9^{km}$**:pP-P, n44,** σ0^{s}**92**/52**, mb3.8**/9**, MS3.4**/3**, 9C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	0.92	17⇓	eP	P	12 38 02.7	-0.1
APON	Apoyo	0.95	31⇑	eP	P	12 38 02.9	-0.3
MASN	Masaya	0.97	25⇓	eP	P	12 38 03.1	-0.5
MASN				eS	S	12 38 17.1	+0.5
TICN	Ticuantepe	0.98	20	eP	P	12 38 03.6	-0.1
CONN	Concepcion	1.03	63⇑	iP	P	12 38 03.6	-0.8
XAVN	Gruta Xavier	1.07	13⇑	eP	P	12 38 04.8	-0.2
XAVN				eS	S	12 38 19.5	+0.5
MGAN	Managua	1.09	17⇑	iP	P	12 38 04.9	-0.3
MGAN				eS	S	12 38 20.0	+0.5
MGAN				i		12 38 21.0	
	comp=N,6μm,0.7s						
WILN	Americas 2	1.12	19⇑	eP	P	12 38 05.1	-0.5
WILN				eS	S	12 38 19.9	-0.3
APYN	Apoyeque	1.15	11⇓	eP	P	12 38 05.7	-0.2
MOMJ	Momotombo	1.30	1⇓	eP	P	12 38 07.3	-0.9
MIRN	Miramar	1.34	354⇓	iP	P	12 38 08.2	-0.6
LEON	Leon	1.35	346⇑	eP	P	12 38 08.2	-0.7
LEON				eS	S	12 38 27.1	+1.2
CNGN	Cerro Negro	1.40	355⇑	eP	P	12 38 08.9	-0.7
TEL3	Telica 3	1.49	350	eP	P	12 38 10.3	-0.5
PYTN	Playitas	1.51	19⇑	eP	P	12 38 10.5	-0.6
PYTN				eS	S	12 38 30.9	+1.0
TELN	Telica	1.52	350	eS	S	12 38 30.5	+0.5
CRIN	San Cristobal	1.66	344⇑	eP	P	12 38 12.7	-0.4
CRIN				eS	S	12 38 34.6	+1.3
JTS	JuntasAbangare	1.78	117	Pn	P	12 38 14.2	-0.6
	comp=N,102nm,0.3s,baz=325,slow=14,SNR=138						
JTS				Pg	P	12 38 16.3	+1.4
	comp=N,102nm,0.3s,baz=323,slow=14,SNR=137						
JTS				Lg		12 38 41.2	
	comp=N,108nm,0.3s,baz=258,slow=15,SNR=20						
JTS	JuntasAbangare	1.78	117	Pn	P	12 38 14.2	-0.6
JTS				Pg	P	12 38 16.2	+1.4
JTS				Lg		12 38 41.2	
PRS1	Puriscal	2.48	116	eP	P	12 38 25.1	+0.3
PRS1				eS	S	12 38 58.0	+4.1
SJS	Escuela Geolog	2.73	115	eP	P	12 38 30.3	+2.0
BLLM	Bellamira	2.84	325	eP	Px	12 38 57.2	
BLLM				eS	Sx	12 39 29.3	
TRTC	Tortuguero	2.85	100	eP	P	12 38 29.2	-0.8
URSC	Urasca	3.02	114	eP	P	12 38 32.4	0.0
BUS	Buena Vista	3.16	119	eP	P	12 38 35.1	+0.7
LCBS	La Ceiba	3.46	317	eP	P	12 39 02.2	+24
LCBS				eS	S	12 39 40.5	+22
LFRS	El Faro	3.50	316	eP	P	12 39 03.4	+24
LFRS				eS	S	12 39 42.2	+23
ACR	Cerro Adams	4.14	126	eP	P	12 38 48.0	-0.1
SVTC	San Vito de Co	4.24	123	eP	P	12 38 48.8	-0.7
SDV	Santo Domingo	15.85	97	Pn	P	12 41 18.8	-8.1
	comp=N,0.2nm,0.3s,baz=54,slow=18,SNR=3.4						
SWET	Sewanee	24.01	1	eP	P	12 42 55.9	-0.5
LTX	Lajitas	24.16	321	eP	P	12 42 58.9	+1.0
TXAR	Lajitas Array	24.16	321	P	P	12 42 59.1	+1.2
	comp=N,2.5nm,0.7s,mb3.8,baz=137,slow=9.3,SNR=38						
PDAR	Pinedale Array	37.36	332	P	P	12 44 54.4	-0.5
	comp=N,1.0nm,0.7s,mb3.8,baz=125,slow=10,SNR=13						
PDAR				pP	pP	12 45 03.7	-5.6
	comp=N,0.6nm,0.6s,baz=131,slow=9.3,SNR=3.9						
ELK	Elko	38.86	324	eP	P	12 45 08.3	+1.0
	comp=N,1.1nm,0.8s,mb3.6						
NVAR	Mina Array Bea	39.28	319	P	P	12 45 13.6	+2.8
	comp=N,0.4nm,0.6s,mb3.3,baz=140,slow=7.0,SNR=3.4						
NVAR				pP	pP	12 45 22.6	-2.7
	comp=N,0.5nm,0.7s,baz=136,slow=6.9,SNR=3.9						
ULM	Lac du Bonnet	39.78	351	P	P	12 45 11.5	-3.3
	comp=N,2.5nm,0.6s,mb4.1,baz=142,slow=5.0,SNR=3.7						
ULM				LR	LR	13 02 31.6	
	comp=N,18nm,19.9s,MS2.9,baz=39,slow=38						
ULM	Lac du Bonnet	39.78	351	P	P	12 45 11.5	-3.3
ULM				LR	LR	13 02 31.6	
BOZ	Bozeman (W)	40.53	333	eP	P	12 45 21.0	-0.1
	comp=N,1.6nm,0.6s,mb3.8						
BDFB	Brasilia	46.51	124	P	P	12 46 11.2	+1.4
	comp=N,1.6nm,0.4s,mb4.3,baz=252,slow=8.0,SNR=3.5						
BDFB				LR	LR	13 05 27.3	
	comp=N,78nm,18.4s,MS3.7,baz=197,slow=36						
CPUP	Villa Florida	46.82	143	LR	LR	13 05 56.1	
	comp=N,45nm,18.4s,MS3.5,baz=22,slow=36						
YKA	Yellowknife Ar	55.13	345	P	P	12 47 12.6	-1.9
	comp=N,0.6nm,0.8s,mb3.7,baz=150,slow=6.3,SNR=4.7						
ILAR	Eielson Array	67.60	336	P	P	12 48 36.8	-1.6
	comp=N,0.5nm,0.6s,mb3.7,baz=137,slow=4.4,SNR=15						
ILAR				pP	pP	12 48 46.4	-7.6
	comp=N,0.4nm,0.7s,baz=136,slow=5.6,SNR=4.0						
WRA	Warramunga Arr	139.71	252	PKP	PKPdf	12 57 12.2	+3.9
	comp=N,0.7nm,0.9s,baz=94,slow=2.8,SNR=5.4						

*BJI **02** 12:58:04.9, 35.80N×3.50W, h9^{km}, mB4.9, mb4.8*
*MOS **02** 12:58:06.5±1.2, 35.82N×3.37W, h10^{km}, mb4.6/16, Error ellipse: s-maj=8.0km s-min=3.0km az=73.9*

CNRM **02** 12:58:06.2, 35.76N×3.37W, h20km, MD4.4
CRAAG **02** 12:58:06.9, 35.71N×3.37W, Mb4.2
MDD **02** 12:58:07.2±0.3, 35.72N×3.54W, mb5.1/29, Error ellipse: s-maj=2.9km s-min=2.5km az=95.0, PRXIMO II LAGA NERJA
MDD EMS: III MELILLA.
NEIC **02** 12:58:07.9, 35.76N×3.50W, mb4.3/34, MN3.9(MDD), After MDD.
NEIC Felt [III] at Melilla and [II] at Nerja, Torre del Mar and Velez-Malaga, Spain.
ZUR_RM **02** 12:58:07, 35.76N×3.50W, h9km, Mw4.3/15, Moment Tensor Solution. s15 Moment tensor: Scale 10^{15}Nm; M_{rr}2.08; $M_{\theta\theta}$-2.58; $M_{\phi\phi}$0.51; $M_{r\theta}$-1.02; $M_{\theta\phi}$-0.26; $M_{\phi r}$-1.47; Best double couple: $M_0$2.98×10^{15} NP1:ϕ_s239°, δ64°, λ61°. NP2:ϕ_s110°, δ38°, λ135°. Principal axes: T 3.058, Plg60°, Azm105°; N -.157, Plg26°, Azm252°; P -2.9, Plg14°, Azm349°;
SFS **02** 12:58:07.0, 35.76N×3.50W
CSEM **02** 12:58:07.0, 35.73N×3.41W, h20km, mb4.3, ML4.5
LDG **02** 12:58:08.3±0.3, 35.62N×3.41W, h10km, Md4.1/1, Ml4.2/6, ms3.1/6, Error ellipse: s-maj=7.5km s-min=3.6km az=2.0
INMG **02** 12:58:08.2±1.2, 35.74N×3.49W, h4km±5km, ML3.8, Error ellipse: s-maj=3.0km s-min=2.6km az=141.0
IGIL **02** 12:58:10.2, 35.90N×3.40W, h1km, ML4.4
IDC **02** 12:58:11.9±6.7, 35.86N×3.34W, h34km±44km, mb4.1/16, mb1 4.2/19, mb1mx4.1/31, mbtmp4.2/19, ML4.5/4, MS3.5/11, Ms1 3.5/11, ms1mx3.2/28, Error ellipse: s-maj=34.3km s-min=16.1km az=19.0
STR **02** 12:58:19.2±0.0, 36.46N×3.19W, h10km±1km, Ml4.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

ISC 02 12:58:06.6±0.3, **35.74N**±0.01×**3.48W**±0.02, **h18**km±3km, **n361**, σ1ˢ**33**/463, **mb4.3**/40, **MS3.7**/10, **24C-8D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EALB	Alboran	0.42	61	P	Pb	12 58 15.8	+0.7
EALB				S	Sb	12 58 21.4	+0.5
EALB	Alboran	0.42	61	⇑P	Pb	12 58 15.5	+0.3
	11μm,0.2s,SNR=18						
EALB				S	Sb	12 58 21.4	+0.5
	20μm,0.2s						
EALB	Alboran	0.42	61	P	Pb	12 58 15.5	+0.4
	11μm,0.2s,SNR=18						
EALB				S	Sb	12 58 21.4	+0.5
	20μm,0.2s						
EMEL	Melilla	0.61	135	⇓P	Pb	12 58 19.6	+1.1
	14μm,0.2s,SNR=18						
EMEL				S	Sb	12 58 28.0	+1.4
	134μm,0.4s,SNR=26						
EMLI	Melilla	0.61	135	P	Pb	12 58 19.6	+1.1
	14μm,0.2s,SNR=18						
EMLI				S	Sb	12 58 28.0	+1.3
	134μm,0.4s,SNR=26						
MELI	Melilla	0.63	135	eP	Pb	12 58 19.8	+1.0
MELI				iS	Sb	12 58 29.0	+1.9
MPAL	Palemas	0.64	216	iP	Pb	12 58 18.5	-0.4
MPAL				iS	Sb	12 58 29.0	+1.8
TOU	Touzarine	0.81	196	iP	Pb	12 58 22.0	+0.2
TOU				iS	Sb	12 58 32.0	-0.2
ZAI	Zaio	0.97	142	iP	Pb	12 58 23.0	-1.6
ZAI				iS	Sb	12 58 35.0	-2.0
EGUA	Guajares	1.10	356	P	Pb	12 58 27.0	+0.2
	84nm,0.2s,SNR=7.9						
EGUA				S	Sb	12 58 40.6	0.0
	86nm,0.2s,SNR=7.9						
EGUA	Guajares	1.10	356	P	Pb	12 58 27.1	+0.4
EGUA				S	Sb	12 58 40.6	0.0
	86nm,0.2s,SNR=7.9						
EBER	Berja	1.25	22	⇑P	Pn	12 58 29.3	-0.1
	2μm,0.3s,SNR=18						
EBER				S	Sb	12 58 48.0	+2.8
	8μm,0.4s,SNR=12						
EBER	Berja	1.25	22	P	Pn	12 58 29.3	-0.1
	2μm,0.3s,SNR=18						
EBER				S	Sb	12 58 48.0	+2.9
	8μm,0.4s,SNR=12						
ERON	Agron	1.30	349	P	Pn	12 58 30.1	0.0
ERON				S	Sb	12 58 49.4	+2.8
ERON	Agron	1.30	349	⇑P	Pn	12 58 30.2	0.0
	246nm,0.3s,SNR=18						
ERON				S	Sb	12 58 49.4	+2.8
	149nm,0.1s,SNR=4.0						
EMIJ	Mijas	1.33	309	P	Pn	12 58 30.8	+0.2
EMIJ				S	Sb	12 58 48.4	+1.0
EMIJ	Mijas	1.33	309	⇑P	Pn	12 58 31.0	+0.4
	189nm,0.2s,SNR=18						
EMIJ				S	Sb	12 58 48.4	+1.0
	3μm,0.3s,SNR=27						
EMIJ	Mijas	1.33	309	P	Pn	12 58 30.8	+0.3
EMIJ				S	Sb	12 58 48.4	+1.0
	3μm,0.3s,SNR=27						
ELOJ	Sierra Loja	1.51	339	P	Pn	12 58 34.0	+1.0
ELOJ				S	Sn	12 58 53.8	+1.5
ELOJ	Sierra Loja	1.51	339	P	Pn	12 58 33.8	+0.8
	312nm,0.3s,SNR=173						
ELOJ				S	Sn	12 58 53.8	+1.5
	240nm,0.3s,SNR=9.7						
ELOJ	Sierra Loja	1.51	339	P	Pn	12 58 34.0	+1.0
	312nm,0.3s,SNR=173						
ELOJ				S	Sn	12 58 53.8	+1.5
	240nm,0.3s,SNR=9.7						
ECOG	Cogollos-Vega	1.54	357	P	Pn	12 58 35.0	+1.6
ECOG				S	Sn	12 58 54.6	+1.5
ECOG	Cogollos-Vega	1.54	357	⇑P	Pn	12 58 35.0	+1.5
	396nm,0.3s,SNR=18						
ECOG				S	Sn	12 58 54.6	+1.5
	189nm,0.2s,SNR=10						
DKH	Dar Kharkhour	1.55	261	iP	Pn	12 58 32.0	-1.7
DKH				iS	Sn	12 58 52.0	-1.4
REAL	Reales	1.58	299	iP	Pn	12 58 35.1	+1.0
REAL				iS	Sn	12 58 53.1	-1.2
ENIJ	Nijar	1.60	40	⇑P	Pn	12 58 33.5	-0.9
	673nm,0.4s,SNR=18						
ENIJ				S	Sn	12 58 57.1	+2.3
	473nm,0.3s,SNR=5.2						
MDAL	Dalia	1.63	276	iP	Pn	12 58 33.0	-1.8
MDAL				iS	Sn	12 58 54.0	-1.5
TZK	Tazeka	1.74	200	iP	Pn	12 58 35.0	-1.4
TZK				iS	Sn	12 58 55.0	-3.3
OLHC	Oulhaca	1.75	106	P	Pn	12 58 35.0	-1.5
MOMI	Momias	1.91	289	eS	Sn	12 59 06.1	+3.6
ELUQ	Luque	1.93	341	P	Pn	12 58 41.6	+2.6
ELUQ				S	Sn	12 59 03.2	+0.2
ELUQ	Luque	1.93	341	⇑P	Pn	12 58 41.5	+2.5
	242nm,0.2s,SNR=18						
ELUQ				S	Sn	12 59 08.5	+5.5
	510nm,0.4s,SNR=6.0						
ELUQ	Luque	1.93	341	S	Sn	12 59 03.2	+0.2
TSY	Tnine Yamani	2.06	261	iP	Pn	12 58 40.0	-1.0
TSY				iS	Sn	12 59 05.0	-1.4
EQES	Quesada	2.09	9	⇑P	Pn	12 58 43.5	+2.2
EQES				S	Sn	12 59 10.6	+3.5
EQES	Quesada	2.09	9	⇑P	Pn	12 58 43.5	+2.2
	589nm,0.3s,SNR=18						
EQES				S	Sn	12 59 09.7	+2.6
	1μm,0.3s,SNR=7.9						
EQES	Quesada	2.09	9	P	Pn	12 58 43.5	+2.2
	589nm,0.3s,SNR=18						
EQES				S	Sn	12 59 10.6	+3.5
	1μm,0.3s,SNR=7.9						
EHUE	Huescar	2.19	19	P	Pn	12 58 44.7	+1.8
	177nm,0.5s,SNR=93						
EHUE				S	Sn	12 59 11.4	+1.6
	355nm,0.5s,SNR=5.6						
ESPR	Espera	2.23	301	⇓P	Pn	12 58 46.4	+3.1
	110nm,0.6s,SNR=18						
ESPR				S	Sn	12 59 11.0	+0.4
	652nm,0.5s,SNR=9.4						
SFS	San Fernando	2.32	289	eP	Pn	12 58 47.9	+3.2
USTO	Oran	2.38	89	P	Pn	12 58 44.0	-1.6
EBAN	Banos Encina	2.43	354	P	Pn	12 58 47.3	+1.0
	115nm,0.2s,SNR=60						
EBAN				S	Sn	12 59 16.7	+0.9
	620nm,0.6s						
EBAN	Banos Encina	2.43	354	P	Pn	12 58 47.6	+1.3
	115nm,0.2s,SNR=60						
EBAN				S	Sn	12 59 16.7	+0.8
	620nm,0.6s						
EADA	Adamuz	2.58	340	P	Pn	12 58 49.8	+1.4
EADA				S	Sn	12 59 20.8	+1.2
EADA	Adamuz	2.58	340	P	Pn	12 58 49.6	+1.2
	202nm,0.3s,SNR=449						
EADA				S	Sn	12 59 20.8	+1.2
	534nm,0.3s,SNR=6.0						
EADA	Adamuz	2.58	340	P	Pn	12 58 49.6	+1.2
	202nm,0.3s,SNR=449						
EADA				S	Sn	12 59 20.8	+1.2
	534nm,0.3s,SNR=6.0						
CART	Cartagena	2.72	46	eP	Pn	12 58 47.6	-2.7
CART	Cartagena	2.72	46	eP	Pn	12 58 47.6	-2.7
MIF	Mishlifen	2.73	212	iP	Pn	12 58 47.5	-3.1
MIF				iS	Sn	12 59 20.0	-3.5
EMUR	La Murta	2.77	40	P	Pn	12 58 49.7	-1.3
EMUR				S	Sn	12 59 21.6	-2.7
EMUR	La Murta	2.77	40	⇑P	Pn	12 58 49.7	-1.3
	113nm,0.3s,SNR=18						
EMUR				S	Sn	12 59 21.7	-2.6
	430nm,0.4s,SNR=8.3						
EMUR	La Murta	2.77	40	P	Pn	12 58 49.7	-1.3
	113nm,0.3s,SNR=18						
ECAB	El Cabril	2.80	327	⇓P	Pn	12 58 52.7	+1.1
	108nm,0.4s,SNR=18						
ECAB				S	Sn	12 59 25.1	-0.1
	391nm,0.5s,SNR=9.3						
ECAB	El Cabril	2.80	327	P	Pn	12 58 52.7	+1.1
	108nm,0.4s,SNR=18						
ECAB				S	Sn	12 59 25.1	-0.1
	391nm,0.5s,SNR=9.3						
CZD	Col de Zad	2.99	206	iP	Pn	12 58 53.0	-1.2
CZD				iS	Sn	12 59 26.0	-4.0
EVIA	Vianos	3.00	15	P	Pn	12 58 57.8	+3.5
EVIA				S	Sn	12 59 30.6	+0.3
EVIA	Vianos	3.00	15	P	Pn	12 58 55.6	+1.3
	264nm,0.8s,SNR=51						
EVIA				S	Sn	12 59 30.6	+0.3
	687nm,0.5s,SNR=4.0						
EVIA	Vianos	3.00	15	P	Pn	12 58 55.8	+1.4
	264nm,0.8s,SNR=51						
EVIA				S	Sn	12 59 30.6	+0.4
	687nm,0.5s,SNR=4.0						
EMIN	Mina Concepcio	3.27	309	⇑P	Pn	12 58 59.0	+0.8
	21nm,0.2s,SNR=18						
EMIN				S	Sn	12 59 37.3	+0.4
	110nm,0.3s,SNR=5.5						
EMIN	Mina Concepcio	3.27	309	P	Pn	12 58 59.0	+0.8
	21nm,0.2s,SNR=18						
EMIN				S	Sn	12 59 37.3	+0.3
	110nm,0.3s,SNR=5.5						
RTC	Rabat Centre	3.28	239	iP	Pn	12 58 58.5	+0.2
RTC				iS	Sn	12 59 35.5	-1.8
ETOB	Tobarra	3.29	27	P	Pn	12 58 58.8	+0.4
ETOB				S	Sn	12 59 36.6	-0.8
ETOB	Tobarra	3.29	27	P	Pn	12 58 58.9	+0.5
	376nm,0.5s,SNR=679						
ETOB				S	Sn	12 59 36.6	-0.8
	403nm,0.7s						
ETOB	Tobarra	3.29	27	P	Pn	12 58 58.8	+0.4
	376nm,0.5s,SNR=679						
EGRO	El Granado	3.68	300	P	Pn	12 59 04.8	+0.7
	86nm,0.3s,SNR=165						
EGRO				S	Sn	12 59 45.4	-2.1
	218nm,0.4s						
EGRO	El Granado	3.68	300	P	Pn	12 59 04.8	+0.7
	86nm,0.3s,SNR=165						
EGRO				S	Sn	12 59 45.4	-2.1
	218nm,0.4s						
EANR	'Ain N'Sour	3.73	85	P	Pn	12 59 05.5	+0.8
ZFT	Errachidia	3.76	191	iP	Pn	12 59 03.0	-2.2
ZFT				iS	Sn	12 59 45.0	-4.6
KIB	El Ksiba	3.80	215	iP	Pn	12 59 04.0	-1.7
KIB				iS	Sn	12 59 47.0	-3.5
ETRT	Tiaret	3.91	94	P	Pn	12 59 06.0	-1.3
ECHF	Ech Chlef	3.93	82	P	Pn	12 59 06.5	-1.1
EBEN	Beniarda	3.94	40	P	Pn	12 59 07.5	-0.3
EBEN				S	Sn	12 59 53.0	-1.0
EBEN	Beniarda	3.94	40	P	Pn	12 59 07.0	-0.7
	34nm,0.4s,SNR=50						
EBEN				S	Sn	12 59 53.0	-1.0
	68nm,0.4s						
EBEN	Beniarda	3.94	40	P	Pn	12 59 08.2	+0.5
	34nm,0.4s,SNR=50						
ESDC	Sonseca Array	3.95	355	Pn	Pn	12 59 08.9	+1.0
	51nm,0.3s,baz=176,slow=12,SNR=410						
ESDC				Lg		13 00 14.7	
	71nm,0.3s,baz=176,slow=27,SNR=6.3						
ESDC	Sonseca Array	3.95	355	P	Pn	12 59 08.9	+1.1
ESDC				S	Sn	12 59 51.9	-2.3
ESDC	Sonseca Array	3.95	355	P	Pn	12 59 08.9	+1.1
	30nm,0.2s,baz=176,slow=12,SNR=417						
ESDC				S	Sn	12 59 53.9	-0.3
	48nm,0.3s,baz=166,slow=29,SNR=5.1						
ESDC	Sonseca Array	3.95	355	P	Pn	12 59 08.9	+1.1
	30nm,0.2s,SNR=417						
ESDC				S	Sn	12 59 53.9	-0.3
	48nm,0.3s,SNR=5.1						
ESLA	Sonseca Array	3.95	355	eP	Pn	12 59 08.6	+0.8
ESLA	Sonseca Array	3.95	355	eP	Pn	12 59 08.6	+0.8
ECHA	Ech Chlef	3.96	83	P	Pn	12 59 06.5	-1.4
EBNR	Beni Rached	4.10	81	P	Pn	12 59 10.0	0.0
EBAD	Badajoz	4.12	318	P	Pn	12 59 11.2	+0.8
EBAD				S	Sn	12 59 57.4	-1.3
EBAD	Badajoz	4.12	318	P	Pn	12 59 10.6	+0.3
	34nm,0.3s,SNR=142						
EBAD				S	Sn	12 59 57.4	-1.3
	173nm,0.3s,SNR=4.9						
EBAD	Badajoz	4.12	318	P	Pn	12 59 10.6	+0.3
	34nm,0.3s,SNR=142						
EBAD				S	Sn	12 59 57.4	-1.3
	173nm,0.3s,SNR=4.9						
PBEJ	Beja	4.19	304	ePn	Pn	12 59 11.9	+0.6
PBEJ				eSn	Sn	12 59 59.2	-1.2
	69nm,0.7s						
ECHE	Chera	4.33	27	P	Pn	12 59 13.2	-0.1
	14nm,0.3s,SNR=23						
ECHE	Chera	4.33	27	P	Pn	12 59 13.8	+0.5
TZC	Tazercounte	4.37	216	iP	Pn	12 59 12.0	-1.8
EVO	Evora	4.57	309	ePn	Pn	12 59 18.4	+1.7
EVO				eSn	Sn	13 00 10.6	+0.6
	226nm,0.5s						
EVO				eR			
	368nm,17.5s						
PTEO	Sao Teotonio	4.59	295	ePn	Pn	12 59 17.3	+0.4
PTEO				eSn	Sn	13 00 08.9	-1.5
	204nm,0.5s						
MOE	Montemor	4.78	307	ePn	Pn	12 59 20.5	+0.8
MOE				eSn	Sn	13 00 13.0	-2.3
EIBI	Ibiza	5.05	48	P	Pn	12 59 21.7	-1.8
EIBI				S	Sn	13 00 16.0	-6.1
EIBI	Ibiza	5.05	48	P	Pn	12 59 21.7	-1.8
	52nm,0.2s,SNR=79						
EIBI				S	Sn	13 00 16.3	-5.8
	77nm,0.3s,SNR=7.9						
EIBI	Ibiza	5.05	48	P	Pn	12 59 22.0	-1.5
	52nm,0.2s,SNR=79						
PCBR	Castelo Branco	5.17	324	ePn	Pn	12 59 25.5	+0.3
PCBR				eSn	Sn	13 00 20.8	-4.4
	78nm,0.7s						
EMOS	Mosqueruela	5.19	26	P	Pn	12 59 26.1	+0.7
EMOS				S	Sn	13 00 23.3	-2.3
EMOS	Mosqueruela	5.19	26	P	Pn	12 59 25.0	-0.5
	49nm,0.6s,SNR=47						
EMOS				S	Sn	13 00 23.3	-2.3
	145nm,1.2s,SNR=4.0						
EMOS	Mosqueruela	5.19	26	P	Pn	12 59 26.1	+0.6
EMHD	Djebel Mahouad	5.24	83	P	Pn	12 59 31.5	+5.4
ALMR	Almeirim	5.30	312	eP	Pn	12 59 27.5	+0.5
ALMR				eS	Sn	13 00 23.4	-4.8
ALMR				eS	Sn	13 00 23.5	-4.8
ALMR				AML	AML	13 00 43.2	
	comp=N,648nm,0.8s						
LIS	Lisbon	5.41	305	eP	Pn	12 59 29.3	+0.7
LIS				eS	Sn	13 00 27.4	-3.7
LIS				eS	Sn	13 00 27.4	-3.7
LIS				AML	AML	13 00 32.1	
	comp=N,362nm,0.5s						
PTOM	Tomar	5.50	316	ePn	Pn	12 59 30.3	+0.5
PTOM				eSn	Sn	13 00 30.6	-2.8
	comp=N,175nm,0.6s						
PLOU	Loures	5.50	306	ePn	Pn	12 59 30.5	+0.6
PLOU				eSn	Sn	13 00 31.4	-2.0
	comp=N,160nm,0.7s						
MTE	Manteigas	5.65	327	eP	Pn	12 59 31.6	-0.4
	comp=N,53nm,0.6s						
MTE	Manteigas	5.65	327	ePn	Pn	12 59 32.0	+0.1
MTE				eSn	Sn	13 00 32.6	-4.5
	comp=N,168nm,0.5s						
MTE	Manteigas	5.65	327	eP	Pn	12 59 31.6	-0.3
	comp=N,53nm,0.6s						
OUK	Oukaimeden	5.82	220	iP	Pn	12 59 32.5	-1.8
EBR	Ebro Roquetas	5.96	30	ePN	Pn	12 59 36.0	-0.3
CIA	Chichaoua	6.06	228	iP	Pn	12 59 36.0	-1.6
PVIS	Viseu	6.06	326	ePn	Pn	12 59 37.6	-0.1
PVIS				eSn	Sn	13 00 43.1	-4.3
	comp=N,92nm,0.8s						
ETOS	Mallorca	6.41	49	⇑P	Pn	12 59 41.0	-1.6
	comp=N,64nm,0.4s,SNR=18						
ETOS				S	Sn	13 00 50.3	-5.8
	comp=N,28nm,0.6s						
ETOS	Mallorca	6.41	49	P	Pn	12 59 41.0	-1.6
	comp=N,64nm,0.4s,SNR=100						
ESAC	San Caprasio	6.42	21	P	Pn	12 59 43.5	+0.7
ESAC				S	Sn	13 00 53.5	-2.9
ESAC	San Caprasio	6.42	21	P	Pn	12 59 43.5	+0.7
	comp=N,31nm,0.5s,SNR=6.8						
ESAC	San Caprasio	6.42	21	P	Pn	12 59 43.5	+0.7
	comp=N,31nm,0.5s,SNR=6.8						
PVRL	Vila Real	6.45	330	ePn	Pn	12 59 43.2	0.0
PVRL				eSn	Sn	13 00 52.0	-5.1
	comp=N,78nm,0.7s						
EPOB	Poblet	6.65	31	P	Pn	12 59 45.8	-0.2
EPOB				S	Sn	13 00 54.5	-7.5
EPOB	Poblet	6.65	31	P	Pn	12 59 45.5	-0.5
	comp=N,11nm,0.5s,SNR=20						
EPOB	Poblet	6.65	31	P	Pn	12 59 45.8	-0.2
ECAL	Calabor	6.70	339	P	Pn	12 59 46.5	-0.1
ECAL				S	Sn	13 00 57.9	-5.3
ECAL	Calabor	6.70	339	P	Pn	12 59 46.1	-0.6
	comp=N,36nm,0.3s,SNR=80						
ECAL				S	Sn	13 00 57.9	-5.3
	comp=N,60nm,0.4s						
ECAL	Calabor	6.70	339	P	Pn	12 59 46.5	-0.1
ECRI	Cripan	6.90	6	P	Pn	12 59 49.1	-0.5
ECRI				S	Sn	13 01 04.2	-4.2
ECRI	Cripan	6.90	6	P	Pn	12 59 49.1	-0.5
	comp=N,5.9nm,0.4s,SNR=7.9						
ELOB	Lobios	7.09	331	P	Pn	12 59 51.9	-0.3
	comp=N,27nm,0.4s,SNR=33						
ELOB				S	Sn	13 01 07.2	-5.8
	comp=N,43nm,0.5s						
ELOB	Lobios	7.09	331	P	Pn	12 59 51.9	-0.3
	comp=N,27nm,0.4s,SNR=33						
EGRA	Graus	7.09	23	P	Pn	12 59 52.2	0.0
EGRA				S	Sn	13 01 08.9	-4.3
EGRA	Graus	7.09	23	P	Pn	12 59 52.2	0.0
	comp=N,19nm,0.6s,SNR=7.9						
EGRA				S	Sn	13 01 08.6	-4.6
	comp=N,45nm,0.7s,SNR=7.9						
ERUA	La Rua	7.23	338	P	Pn	12 59 54.0	-0.2
	comp=N,19nm,0.3s,SNR=13						
ERUA				S	Sn	13 01 11.6	-5.0
	comp=N,28nm,0.6s						
EMIR	Miracle	7.30	31	P	Pn	12 59 55.5	+0.4
EMIR				S	Sn	13 01 13.2	-5.2
EMIR	Miracle	7.30	31	P	Pn	12 59 55.5	+0.4
	comp=N,8.0nm,0.2s,SNR=9.7						
EMIR	Miracle	7.30	31	P	Pn	12 59 55.5	+0.4
	comp=N,8.0nm,0.2s,SNR=9.7						
ELAN	Lanestosa	7.48	0	P	Pn	12 59 58.5	+0.7
ELAN				S	Sn	13 01 20.0	-3.0
ELAN	Lanestosa	7.48	0	P	Pn	12 59 58.1	+0.4
	comp=N,13nm,0.4s,SNR=14						
ELAN				S	Sn	13 01 15.7	-7.3
	comp=N,15nm,0.5s						
ELAN	Lanestosa	7.48	0	P	Pn	12 59 58.1	+0.4
	comp=N,13nm,0.4s,SNR=14						
EBIE	Bielsa	7.49	21	P	Pn	12 59 57.6	-0.2
EBIE				S	Sn	13 01 20.5	-2.6
EBIE	Bielsa	7.49	21	P	Pn	12 59 57.3	-0.5
	comp=N,28nm,1.0s,SNR=19						
ETSF	Etsaut	7.50	17	ePn	Pn	12 59 58.7	+0.7
ETSF				eSn	Sn	13 01 17.8	-5.6
	comp=N,19nm,0.5s						
SJPF	Ste Jean	7.57	13	ePn	Pn	12 59 59.2	+0.3
SJPF				eSn	Sn	13 01 19.9	-5.2
	comp=N,66nm,0.7s						
EZAM	Zamans	7.58	329	P	Pn	12 59 59.6	+0.5
	comp=N,8.2nm,0.3s,SNR=7.9						
EALK	Alkurruntz	7.63	11	P	Pn	12 59 59.2	-0.5
EALK				S	Sn	13 01 17.6	-9.0
EALK	Alkurruntz	7.63	11	P	Pn	12 59 59.2	-0.5
	comp=N,45nm,0.4s,SNR=62						
EALK				S	Sn	13 01 20.9	-5.6
	comp=N,60nm,0.6s						
VIEF	Viey	7.63	20	P	Pn	12 59 59.5	-0.3
RESF	Ens	7.66	22	P	Pn	13 00 00.3	+0.2
EARI	Arriondas	7.67	351	P	Pn	12 59 59.9	-0.5
	comp=N,37nm,0.5s,SNR=26						
EARI				S	Sn	13 01 22.4	-5.3
	comp=N,14nm,0.5s						
EARI	Arriondas	7.67	351	P	Pn	12 59 59.9	-0.4
	comp=N,37nm,0.5s,SNR=26						
REYF	Montagne du Re	7.70	17	P	Pn	13 00 00.2	-0.6
ORDF	Ordiarp	7.72	14	P	Pn	13 00 01.5	+0.5
MELF	Melles	7.85	23	P	Pn	13 00 03.2	+0.4
MELF	Melles	7.85	23	P	Pn	13 00 00.8	-2.0
MELF	Melles	7.85	23	P	Pn	13 00 00.8	-2.0
EPF	Esparros	7.86	21	ePn	Pn	13 00 02.3	-0.7
EPF				eSn	Sn	13 01 25.5	-6.9
	comp=N,48nm,0.8s						
SALF	Salau	7.89	26	P	Pn	13 00 03.2	-0.2
VALF	Valcebollere	7.91	31	P	Pn	13 00 03.5	-0.1
MLS	Moulis	8.03	25	P	P	13 00 05.2	-0.2
EPON	Pontenova	8.09	341	P	P	13 00 05.7	-0.5
	comp=N,18nm,0.4s,SNR=32						
EPON				S	Sn	13 01 30.5	-7.7
	comp=N,12nm,0.4s,SNR=7.9						
EPON	Pontenova	8.09	341	P	P	13 00 05.7	-0.5
	comp=N,18nm,0.4s,SNR=32						
STS	Santiago	8.15	333	P	P	13 00 07.1	+0.1
STS				S	Sn	13 01 36.6	-2.9
STS	Santiago	8.15	333	P	P	13 00 07.1	+0.1
	comp=N,6.8nm,0.2s,SNR=6.7						
STS				S	Sn	13 01 31.3	-8.3
	comp=N,7.6nm,0.4s						
LPEF	Le Peyrat	8.32	28	P	P	13 00 10.0	+0.6
EJON	La Jonquera	8.33	35	P	P	13 00 07.5	-2.0
EJON	La Jonquera	8.33	35	P	P	13 00 08.6	-0.9
	comp=N,1.7nm,0.3s,SNR=7.9						
EMAZ	Mazaricos	8.36	331	P	P	13 00 08.9	-1.1
EMAZ				S	Sn	13 01 38.4	-6.5
EMAZ	Mazaricos	8.36	331	P	P	13 00 09.9	-0.1
	comp=N,4.2nm,0.2s,SNR=10						
EMAZ				S	Sn	13 01 38.4	-6.5
	comp=N,26nm,0.7s,SNR=7.9						
EMAZ	Mazaricos	8.36	331	P	P	13 00 08.9	-1.1
MTLF	Montolieu	8.77	28	ePn	P	13 00 15.8	+0.1
MTLF				eSn	Sn	13 01 45.5	-10
	comp=N,116nm,1.5s						
LFF	La Frestale	9.74	18	ePn	P	13 00 27.5	-1.4
CAF	Calviac	10.10	23	ePn	P	13 00 32.5	-1.5
RJF	Les Rejaudoux	10.28	20	ePn	P	13 00 35.4	-1.0
RJF				eR			
	comp=N,334nm,20.0s						
SMRF	Simiane la Rot	10.77	37	ePn	P	13 00 41.9	-1.2
LMR	La Mourre	10.81	42	ePn	P	13 00 42.1	-1.6
FRF	La Foret Royal	11.04	42	ePn	P	13 00 44.4	-2.4
MFF	Saint Martin d	11.14	12	ePn	P	13 00 46.2	-1.9
TCF	Toulx Ste Croi	11.38	20	ePn	P	13 00 49.1	-2.3
BGF	Bois d'Agland	11.81	22	ePn	P	13 00 55.1	-2.1
QUIF	Quistinic	12.17	1	ePn	P	13 01 00.5	-1.6
SMF	Signal de Mont	12.21	25	ePn	P	13 01 00.3	-2.3
SSF	Saint Saulge	12.46	23	ePn	P	13 01 03.9	-2.1
SSF				eSn	S	13 03 12.2	-13
	comp=N,1.8nm,0.5s						
SGMF	Saint Gilles	12.53	3	ePn	P	13 01 05.2	-1.6
ROSF	Rostrenen	12.59	1	ePn	P	13 01 05.7	-2.0
LOR	Lormes	12.76	23	ePn	P	13 01 07.6	-2.3
LOR				eR			
	comp=N,304nm,13.2s						
GRR	Gorron	12.79	8	ePn	P	13 01 08.6	-1.8
FLN	La Foliniere	13.20	9	ePn	P	13 01 14.2	-1.6
FLN				eR			
	comp=N,198nm,22.2s						
HAU	Haudompre	14.26	28	ePn	P	13 01 28.6	-1.1
HAU				eR			
	comp=N,136nm,14.5s						
VAE	Valguarnera	14.48	78	Pn	P	13 01 32.8	+0.2
	comp=N,4.3nm,0.3s,baz=266,slow=13,SNR=8.4						
DAVOX	Davos	14.90	38	Pn	P	13 01 46.0	+7.9
	comp=N,0.4nm,0.3s,baz=242,slow=13,SNR=6.9						

DAVOX LR LR 13 06 50.2
comp=N,61nm,19.5s,baz=250,slow=35
CDF Champ du Feu 14.95 29 *e*Pn **P 13 01 38.2 -0.5**
DAVA Damuels 15.25 37⇑*i*P **P 13 01 44.8 +2.2**
comp=N,16nm,1.1s
BFO Black Forest 15.32 31 *e*P **P 13 01 49.3 +5.8**
BAIF Baives 15.37 19 *e*Pn **P 13 01 43.9 -0.3**
DOU Dourbes 15.51 20 P **P 13 01 45.4 -0.6**
SQTA Sankt Quirin 15.87 39⇑*i*P **P 13 01 51.7 +1.0**
comp=N,14nm,1.0s
SQTA Sankt Quirin 15.87 39⇑*i*P **P 13 01 51.7 +1.0**
SQTA pmax pmax
comp=Z,14nm,1.0s
WTTA Wattenberg 16.12 40⇑*i*P **P 13 01 55.2 +1.4**
comp=Z,19nm,1.0s
WTTA Wattenberg 16.12 40⇑*i*P **P 13 01 55.2 +1.4**
WTTA pmax pmax
comp=Z,19nm,1.0s
WATA Walderalm 16.13 39⇑*i*P **P 13 01 55.4 +1.4**
comp=Z,17nm,1.0s
WATA Walderalm 16.13 39⇑*i*P **P 13 01 55.4 +1.4**
WATA pmax pmax
comp=Z,17nm,1.0s
ROBS Robic 16.54 45 *e*P **P 13 02 02.6 +3.4**
CEY Cerknica 16.82 48 *e*P **P 13 02 05.0 +2.3**
VISS Visnje 17.10 48 *e*P **P 13 02 04.0 -2.2**
BOJS Bojanci 17.21 50 *i*P **P 13 02 10.9 +3.2**
GRA1 Grafenberg Arr 17.59 33 *e*P **P 13 02 14.6 +2.2**
comp=Z,18nm,1.1s
GRF Grafenberg Arr 17.59 33 *e*P **P 13 02 14.6 +2.2**
GRF pmax pmax
comp=Z,18nm,1.1s
GRF Grafenberg Arr 17.59 33 *e*P **P 13 02 14.6 +2.2**
GRF pmax pmax
comp=Z,18nm,1.1s
GRF Grafenberg Arr 17.59 33 *e*P **P 13 02 14.6 +2.2**
comp=Z,18nm,1.1s
GERES GERESS Array B 18.20 39 P **P 13 02 18.4 -1.6**
comp=Z,0.3nm,0.3s,baz=223,slow=10,SNR=19
GERES PcP PcP 13 06 53.6 +0.2
comp=Z,0.1nm,0.3s,baz=243,slow=3.0,SNR=5.7
GERES LR LR 13 09 06.0
comp=Z,75nm,20.7s,baz=26,slow=36
ARSA Arzberg 18.25 45⇑*i*P **P 13 02 21.3 +0.7**
comp=Z,6.3nm,0.8s
KHC Kasperske Hory 18.32 38 *e*P **P 13 02 21.6 +0.1**
KHC AMS AMS 13 10 00.0
comp=Z,200nm,11.6s
MOX Moxa 18.47 32 *e*P **P 13 02 24.2 +0.9**
MOX pmax pmax
comp=Z,8.0nm,1.2s
MOX Moxa 18.47 32 *i*P **P 13 02 24.2 +0.9**
comp=Z,logA/T=0.8
MOX L 13 09 50.0
MOX Moxa 18.47 32 *e*P **P 13 02 24.2 +0.9**
comp=Z,6.0nm,1.0s
NKC Novy Kostel 18.53 34 *e*P **P 13 02 25.1 +1.0**
NKC AMS AMS 13 10 00.0
comp=Z,300nm,9.0s
PRU Pruhonice 19.35 37 *e*P **P 13 02 32.4 -1.4**
PRU AMS AMS 13 09 50.0
comp=Z,200nm,12.3s
CLL Collm 19.55 32⇓*i*P **P 13 02 36.7 +0.6**
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 19.55 32⇓*i*P **P 13 02 36.7 +0.6**
comp=Z,15nm,1.0s
CLL Collm 19.55 32 ⇓P **P 13 02 36.7 +0.6**
comp=Z,logA/T=1.2
CLL Collm 19.55 32 *e*P **P 13 02 36.7 +0.6**
comp=Z,15nm,0.9s
EKA Eskdalemuir Ar 19.60 1 P **P 13 02 36.0 -0.6**
comp=Z,0.4nm,0.3s,baz=178,slow=11,SNR=13
BRG Berggiesshubel 19.66 34 *e*P **P 13 02 37.1 -0.3**
BRG pmax pmax
comp=Z,10.0nm,1.2s
BRG Berggiesshubel 19.66 34 *e*P **P 13 02 37.1 -0.3**
comp=Z,9.7nm,1.2s
BRG Berggiesshubel 19.66 34 *e*P **P 13 02 37.5 +0.1**
comp=Z,34nm,2.0s
SKO Skopje 20.34 65 *i*P **P 13 02 43.0 -1.7**
UPC Upice 20.41 38 *e*P **P 13 02 44.3 -1.0**
DPC Dobruska-Polom 20.47 38 *e*P **P 13 02 44.9 -1.0**
DPC AMS AMS 13 11 20.0
comp=Z,200nm,10.4s
BSEG Bad Segeberg 20.59 24 *e*P **P 13 02 47.8 +0.6**
comp=Z,17nm,0.9s
RUE Ruedersdorf 20.74 31 *e*P **P 13 02 48.0 -0.6**
RUE Ruedersdorf 20.74 31 *e*P **P 13 02 49.7 +1.0**
comp=Z,52nm,1.0s
KSP Ksiaz 20.76 37 *e*P **P 13 02 47.9 -1.0**
MORC Moravsky Berou 20.76 41 *e*P **P 13 02 47.5 -1.5**
MORC pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 20.76 41 *e*P **P 13 02 47.5 -1.5**
comp=Z,5.4nm,0.8s
MORC Moravsky Berou 20.76 41 *e*P **P 13 02 47.5 -1.5**
comp=Z,5.4nm,0.8s
VYHS Vyhne 20.80 45 *e*P **P 13 02 48.5 -0.9**
OKC Ostrava-Krasne 21.12 41 *e*P **P 13 02 51.2 -1.4**
OKC Ostrava-Krasne 21.12 41 *e*P **P 13 02 52.1 -0.5**
PSZ Piszkesteto 21.16 48 *e*P **P 13 02 52.1 -0.9**
PSZ pmax pmax
comp=Z,2.0nm,0.7s,mb3.6
PSZ Piszkesteto 21.16 48 *e*P **P 13 02 52.1 -0.9**
comp=Z,2.2nm,0.7s,mb3.6
PSZ Piszkesteto 21.16 48 *e*P **P 13 02 52.1 -0.9**
comp=Z,2.2nm,0.7s,mb3.6
KECS Kecovo 21.76 47 *e*P **P 13 02 59.2 +0.1**
NIE Niedzica 22.11 44 *e*P **P 13 03 03.9 +1.4**
OJC Ojcow 22.23 42 *e*P **P 13 03 03.6 -0.1**
DRGR 22.47 53⇑P **P 13 03 06.8 +0.6**
CRVS Cervenica-Dubn 22.53 47 *e*P **P 13 03 07.9 +1.2**
KOLS Kolonicke sedl 23.02 47 *e*P **P 13 03 12.8 +1.3**
IDI Anoyia 23.07 83 P **P 13 03 13.3 +1.2**
comp=Z,12nm,0.8s,mb4.3,baz=306,slow=13,SNR=6.2
VOIR 23.63 57 ⇓P **P 13 03 19.8 +2.4**
MLR Muntele Rosu 24.25 57 ⇓P **P 13 03 25.2 +1.7**
BURAR Bucovina Array 24.36 52⇑P **P 13 03 25.8 +1.3**
BURAR Bucovina Array 24.36 52⇑P **P 13 03 25.8 +1.3**
VRI Vrincioaia 24.87 57⇑P **P 13 03 30.1 +0.6**
SUW Suwalki 26.04 37 *e*P **P 13 03 38.1 -2.2**
HFS Hagfors 26.82 19 P **P 13 03 47.4 -0.1**
HFS 13 07 09.2
HFS pmax pmax
comp=Z,7.0nm,0.8s
HFS pmax pmax
comp=Z,1.0nm,0.6s
HFS MLR MLR
comp=Z,70nm,18.4s
HFS Hagfors 26.82 19 P **P 13 03 47.4 -0.1**
comp=Z,7.1nm,0.8s,mb4.3,baz=211,slow=8.6,SNR=36
HFS PcP PcP 13 07 09.2 -1.3
comp=Z,1.1nm,0.6s,baz=143,slow=7.4,SNR=4.5
HFS LR LR 13 14 36.8
comp=Z,70nm,18.4s,MS3.2,baz=227,slow=37
HFS Hagfors 26.82 19 PcP PcP 13 07 09.2 -1.3
NB2 NORSAR Subarra 27.00 16 P **P 13 03 49.4 +0.2**
comp=Z,6.7nm,0.8s,mb4.2,baz=206,slow=8.6
NB2 NORSAR Subarra 27.00 16 P **P 13 03 49.4 +0.2**
NB2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
NOA NORSAR Array B 27.00 16 P **P 13 03 49.2 0.0**
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA MLR MLR
comp=Z,106nm,18.2s
NOA NORSAR Array B 27.00 16 P **P 13 03 49.2 0.0**
comp=Z,5.7nm,0.8s,mb4.2,baz=207,slow=9.0,SNR=15
NOA LR LR 13 16 11.0
comp=Z,106nm,18.2s,MS3.4,baz=210,slow=40
DBIC Dimbokro 28.96 183 LR LR 13 16 21.8
comp=Z,88nm,19.6s,MS3.4,baz=269,slow=38
DBIC Dimbokro 28.96 183 P **P 13 04 08.6 +1.3**
FINES FINESS Array B 31.79 27 P **P 13 04 31.1 -0.8**
FINES 13 07 22.5
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 31.79 27 P **P 13 04 31.1 -0.8**
comp=Z,0.9nm,0.6s,mb3.8,baz=210,slow=7.7,SNR=10
FINES PcP PcP 13 07 22.5 -0.6
comp=Z,1.3nm,0.6s,baz=180,slow=1.9,SNR=7.1
FINES FINESS Array B 31.79 27 P **P 13 04 31.1 -0.8**
FINES PcP PcP 13 07 22.5 -0.6
FINES FINESS Array B 31.79 27 PcP PcP 13 07 22.5 -0.6
KAF Kangasniemi 32.31 26 *e*p **P 13 04 34.1 -2.3**
ASF Jabal al Asfar 33.52 84 P **P 13 04 47.2 -0.1**
comp=Z,1.2nm,0.3s,mb4.3,baz=291,slow=4.3,SNR=3.7
ARCES ARCESS Array B 37.38 16 P **P 13 05 19.6 -0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES MLR MLR
comp=Z,68nm,18.9s
ARCES ARCESS Array B 37.38 16 P **P 13 05 19.6 -0.2**
comp=Z,2.1nm,0.4s,mb4.3,baz=207,slow=5.4,SNR=41
ARCES LR LR 13 21 05.6
comp=Z,68nm,18.9s,MS3.5,baz=49,slow=37
ARE0 ARCESS Array S 37.38 16 *e*P **P 13 05 19.7 -0.1**
ARE0 ARCESS Array S 37.38 16 *e*P **P 13 05 19.7 -0.1**
SUMG Summit 40.95 345 *e*P **P 13 05 50.8 +1.4**
SUMG Summit 40.95 345 *e*P **P 13 05 50.8 +1.4**
ZRNK Zerenda 52.33 47 *e*P **P 13 07 18.8 -0.5**
ZRNK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ZRNK Zerenda 52.33 47 *e*P **P 13 07 18.8 -0.5**
comp=Z,2.1nm,0.8s,mb4.1
ZRNK Zerenda 52.33 47 *e*P **P 13 07 18.8 -0.5**
comp=Z,2.1nm,0.8s,mb4.1
KMBO Kilima Mbogo 52.77 125 LR LR 13 30 00.2
comp=Z,52nm,19.8s,MS3.6,baz=88,slow=36
BVAR Borovoye Array 53.13 46 P **P 13 07 25.4 +0.2**
comp=Z,0.4nm,0.5s,mb3.6,baz=297,slow=9.9,SNR=4.4
FWV Forest Hill 60.34 297 *e*P **P 13 08 18.7 +1.9**
FWV Forest Hill 60.34 297 *e*P **P 13 08 18.7 +1.9**
ZAL Zalesovo 61.09 42 P **P 13 08 20.7 -1.0**
ZAL pmax pmax
comp=Z,2.0nm,0.5s
ZAL Zalesovo 61.09 42 P **P 13 08 20.6 -1.0**
comp=Z,1.8nm,0.5s,mb4.4,baz=177,slow=6.7,SNR=10
ZAL Zalesovo 61.09 42 P **P 13 08 20.6 -1.1**
MKAR Makanchi Array 62.37 51 P **P 13 08 30.2 -0.2**
MKAR pmax pmax
comp=Z,15nm,0.6s
MKAR Makanchi Array 62.37 51 P **P 13 08 30.2 -0.2**
comp=Z,15nm,0.6s,mb5.3,baz=289,slow=5.8,SNR=89
ULM Lac du Bonnet 64.91 315 P **P 13 08 47.2 +0.3**
comp=Z,6.3nm,0.8s,mb4.7,baz=54,slow=6.7,SNR=4.9
ULM Lac du Bonnet 64.91 315 P **P 13 08 47.2 +0.3**
FFC Flin Flon 66.18 321 *e*P **P 13 08 55.7 +0.7**
FFC pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
FFC Flin Flon 66.18 321 *e*P **P 13 08 55.6 +0.7**
comp=Z,4.8nm,0.8s,mb4.6
FFC Flin Flon 66.18 321 *e*P **P 13 08 55.7 +0.7**
comp=Z,4.8nm,0.8s,mb4.6
BDFB Brasilia 66.24 228 LR LR 13 37 47.9
comp=Z,31nm,18.9s,MS3.5,baz=34,slow=36
SDV Santo Domingo 66.33 264 *e*P **P 13 08 58.8 +2.2**
comp=Z,5.3nm,0.8s,mb4.6
PLAL Pickwick Lake 66.75 297 *e*P **P 13 08 59.3 +0.3**
comp=Z,6.8nm,0.6s,mb4.8
PLAL Pickwick Lake 66.75 297 *e*P **P 13 08 59.3 +0.3**
comp=Z,6.8nm,0.6s,mb4.8
WMQ Urumqi 67.10 52 *e*P **P 13 09 01.6 +0.5**
CCM Cathedral Cave 67.54 301 *e*P **P 13 09 03.6 -0.4**
CCM pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
CCM Cathedral Cave 67.54 301 *e*P **P 13 09 03.6 -0.4**
comp=Z,4.4nm,0.6s,mb4.7
CCM Cathedral Cave 67.54 301 *e*P **P 13 09 03.6 -0.4**
comp=Z,4.4nm,0.6s,mb4.7
YKA Yellowknife Ar 67.74 332 P **P 13 09 05.3 +0.6**
YKA pmax pmax
comp=Z,5.0nm,0.6s
YKA Yellowknife Ar 67.74 332 P **P 13 09 05.3 +0.6**
comp=Z,5.1nm,0.6s,mb4.8,baz=59,slow=6.5,SNR=35
YKA Yellowknife Ar 67.74 332 P **P 13 09 05.3 +0.6**
BOSA Boshof 69.50 153 LR LR 13 39 01.7
comp=Z,49nm,19.4s,MS3.8,baz=355,slow=35
INK Inuvik 69.81 342 P **P 13 09 16.4 -1.0**
TLY Talaya 72.19 39 *e*P **P 13 09 32.8 +0.7**
TLY pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
TLY Talaya 72.19 39 *e*P **P 13 09 32.8 +0.8**
comp=Z,1.7nm,0.6s,mb4.2
TLY Talaya 72.19 39 *e*P **P 13 09 32.8 +0.7**
comp=Z,1.7nm,0.6s,mb4.2
RSSD Black Hills 72.78 312 *e*P **P 13 09 36.6 +0.9**
RSSD pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
RSSD Black Hills 72.78 312 *e*P **P 13 09 36.6 +0.9**
comp=Z,3.9nm,0.8s,mb4.4
RSSD Black Hills 72.78 312 *e*P **P 13 09 36.6 +0.9**
comp=Z,3.9nm,0.8s,mb4.4
PHWY Pilot Hill 75.22 310 *e*P **P 13 09 51.7 +1.8**
PHWY Pilot Hill 75.22 310 *e*P **P 13 09 51.7 +1.8**
ILAR Eilson Array 75.79 345 P **P 13 09 54.2 +1.6**
comp=Z,0.3nm,0.6s,mb3.4,baz=7.8,slow=4.0,SNR=9.5
ILAR Eilson Array 75.79 345 P **P 13 09 54.2 +1.6**
SONM Songino Array 75.92 41 P **P 13 09 54.7 +1.0**
comp=Z,0.6nm,0.5s,mb3.8,baz=288,slow=4.6,SNR=2.7
SONM LR LR 13 44 56.4
comp=Z,67nm,18.6s,MS4.0,baz=255,slow=37
SONM Songino Array 75.92 41 P **P 13 09 54.7 +1.0**
SONM LR LR 13 44 56.4
RWWY Rawlins 76.07 311 *e*P **P 13 09 56.4 +1.7**
comp=Z,10nm,0.7s,mb4.9
RWWY Rawlins 76.07 311 *e*P **P 13 09 56.4 +1.7**
comp=Z,10nm,0.7s,mb4.9
ISCO Idaho Springs 76.17 309 *e*P **P 13 09 57.2 +1.9**
ISCO pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ISCO Idaho Springs 76.17 309 *e*P **P 13 09 57.2 +1.9**
comp=Z,3.6nm,0.9s,mb4.3
ISCO Idaho Springs 76.17 309 *e*P **P 13 09 57.2 +1.9**
comp=Z,3.6nm,0.9s,mb4.3
BOZ Bozeman (W) 76.31 317 *e*P **P 13 09 58.0 +2.0**
BOZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BOZ Bozeman (W) 76.31 317 *e*P **P 13 09 58.0 +2.0**
comp=Z,3.7nm,0.9s,mb4.3
BOZ Bozeman (W) 76.31 317 *e*P **P 13 09 58.0 +2.0**
comp=Z,3.7nm,0.9s,mb4.3
BW06 Boulder Array 76.85 313 *e*P **P 13 09 59.7 +0.6**
comp=Z,4.3nm,0.8s,mb4.4
BW06 Boulder Array 76.85 313 *e*P **P 13 09 59.7 +0.7**
comp=Z,4.2nm,0.8s,mb4.4
PDAR Pinedale Array 76.85 313 P **P 13 10 00.2 +1.2**
comp=Z,4.2nm,0.7s,mb4.5,baz=56,slow=7.0,SNR=34
PDAR Pinedale Array 76.85 313 P **P 13 10 00.2 +1.2**
LOHW Long Hollow 76.96 315 *e*P **P 13 10 01.6 +2.0**
comp=Z,1.9nm,0.8s,mb4.1
LOHW Long Hollow 76.96 315 *e*P **P 13 10 01.6 +2.0**
comp=Z,1.9nm,0.8s,mb4.1
MOOW Moose Ponds 76.96 315 *e*P **P 13 10 01.1 +1.5**
comp=Z,1.7nm,0.8s,mb4.0
MOOW Moose Ponds 76.96 315 *e*P **P 13 10 01.1 +1.5**
comp=Z,1.7nm,0.8s,mb4.0
IMW Indian Meadow 76.98 315 *e*P **P 13 10 01.9 +2.2**
comp=Z,3.2nm,0.9s,mb4.2
IMW Indian Meadow 76.98 315 *e*P **P 13 10 01.9 +2.2**
comp=Z,3.2nm,0.9s,mb4.2
GTA Gaotai 77.13 51 *e*P **P 13 10 02.2 +1.5**
GTA AP pP 13 10 09.4 +3.1
GTA XP sP 13 10 12.2 +3.9
GTA AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
SDCO Great Sand Dun 77.28 307 *e*P **P 13 10 03.0 +1.5**
comp=Z,1.9nm,0.8s,mb4.1
SDCO Great Sand Dun 77.28 307 *e*P **P 13 10 03.0 +1.5**
comp=Z,1.9nm,0.8s,mb4.1
RRI2 Red Ridge 77.53 315 *e*P **P 13 10 04.9 +2.1**
comp=Z,5.4nm,0.7s,mb4.6
OTAV Otavalo 77.68 261 *e*P **P 13 10 06.5 +2.3**
comp=Z,4.4nm,0.8s,mb4.4
HWUT Hardware Ranch 78.74 313 *e*P **P 13 10 11.1 +1.7**
comp=Z,2.9nm,0.9s,mb4.2
HWUT Hardware Ranch 78.74 313 *e*P **P 13 10 11.1 +1.6**
comp=Z,2.9nm,0.9s,mb4.2
HLID Hailey 79.16 316 *e*P **P 13 10 14.6 +2.9**
comp=Z,2.3nm,0.8s,mb4.2
PV10 Paradox Valley 79.16 310 *e*P **P 13 10 13.9 +2.0**
SRU San Rafael 79.64 311 P **P 13 10 15.9 +1.5**
BGU Big Grassy Mou 80.03 314 *e*P **P 13 10 17.7 +1.3**
BGU Big Grassy Mou 80.03 314 *e*P **P 13 10 17.7 +1.2**
TXAR Lajitas Array 80.92 300 P **P 13 10 23.8 +2.4**
comp=Z,0.7nm,0.7s,mb3.7,baz=75,slow=5.4,SNR=10.0
TXAR LR LR 13 44 40.8
comp=Z,26nm,19.1s,MS3.6,baz=195,slow=34
MSU Marysvale 81.03 311 *e*P **P 13 10 23.6 +1.8**
LZH Lanzhou 81.68 51 *e*P **P 13 10 26.2 +1.0**
LZH *PP pP 13 10 29.5 -1.5
LZH *SP sP 13 10 30.8 -2.0
LZH pmax pmax
comp=Z,19nm,1.5s,mb4.8
LZH MLR MLR
comp=Z,420nm,19.5s,MS4.8
LZH Lanzhou 81.68 51 *e*P **P 13 10 26.2 +1.0**
comp=Z,19nm,1.5s,mb4.8
LZH pP pP 13 10 29.5 -1.5
LZH sP sP 13 10 30.8 -2.0
LZH LR LR
comp=Z,420nm,19.5s,MS4.8
LZH Lanzhou 81.68 51 *e*P **P 13 10 26.2 +1.0**
comp=Z,19nm,1.5s,mb4.8
LZH pP pP 13 10 29.5 -1.5
TUC Tucson 84.01 306 *e*P **P 13 10 39.6 +2.3**
TUC pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
TUC Tucson 84.01 306 *e*P **P 13 10 39.6 +2.3**
comp=Z,2.5nm,0.8s,mb4.4
TUC Tucson 84.01 306 *e*P **P 13 10 39.6 +2.3**
comp=Z,2.5nm,0.8s,mb4.4
CMAR Chiang Mai Arr 89.03 68 P **P 13 11 02.9 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 89.03 68 P **P 13 11 02.9 +0.7**
comp=Z,1.1nm,0.8s,mb4.2,baz=305,slow=5.4,SNR=4.6
MDJ Mudanjiang 89.42 31 P **P 13 11 01.0 -2.4**
MDJ AMB AMB
comp=Z,7.0nm,1.9s,mb4.7
MDJ AMB AMB
comp=Z,47nm,5.1s
NJ2 Nanjing 93.58 46 *e*P **P 13 11 23.0 +0.1**
SSE Sheshan 95.63 45 *e*P **P 13 11 30.1 -2.3**
comp=Z,39nm,0.7s
WRA Warramunga Arr 139.85 78 PKP PKPdf 13 17 36.6 -1.5
comp=Z,0.4nm,0.6s,baz=320,slow=2.1,SNR=5.3
STKA Stephens Creek 150.82 93 PKPbc PKPdf 13 17 59.9 +3.6
comp=Z,7.8nm,0.8s,baz=328,slow=2.6,SNR=9.4
STKA Stephens Creek 150.82 93 *e*PKPbc PKPdf 13 17 59.7 +3.5
STKA Stephens Creek 150.82 93 *e*PKPbc PKPdf 13 17 59.7 +3.4

MAN 02 13:29:09.2, 15.27N×122.64E, h19km, mb4.0, ML2.8, MS2.5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.86**	**232**	*e*P		Pb	13 29 24.5	-0.8
POLP				*e*S		Sb	13 29 35.9	-0.6
BALP	**Baler**	**1.13**	**295**	*e*P		Pb	13 29 28.7	-1.2
BALP				*e*S		Sb	13 29 43.8	-0.4
PCPH	**Palayan**	**1.52**	**281**	*e*P		Pn	13 29 30.7	-5.0
PCPH				*e*S		Sn	13 29 55.3	+0.2
CAUP	**Cauayan**	**1.85**	**335**	*e*P		Pn	13 29 39.9	-0.4
CAUP				*e*S		Sn	13 30 04.5	+1.2
BOAC	**Boac**	**1.96**	**203**	*e*P		Pn	13 29 42.1	+0.2
BOAC				*e*S		Sn	13 30 08.6	+2.5
PVCP	**Virac**	**2.21**	**138**	*e*P		Pn	13 29 45.0	-0.6
PVCP				*e*S		Sn	13 30 14.3	+1.6
BOLP	**Bolinao**	**2.85**	**293**	*e*P		Pn	13 29 55.0	+0.2
APYP	**Conner**	**2.91**	**333**	*e*P		Pn	13 29 54.6	-1.0
APYP				*e*S		Sn	13 30 29.7	-0.7
QTRP	**Odiongan**	**2.95**	**192**	*e*P		Pn	13 29 58.0	+1.9
SJMP	**San Jose**	**3.16**	**208**	*e*P		Pn	13 29 55.8	-3.2

*ISK **02** 13:29:36.2, 40.67N×27.40E, h8km, MD3.2*
*CSEM **02** 13:29:36.4±0.1, 40.67N×27.43E, h8km, MD3.2, Error ellipse: s-maj=1.8km s-min=1.2km az=13.0*
*SOF **02** 13:29:38.6, 40.67N×27.10E, h2km, MD3.0*
*ATH **02** 13:29:39.2, 40.63N×27.26E, h39km, MD3.4/3*
ISC 02 13:29:36.4±0.5, 40.66N±0.03×27.39E±0.03, h3km±4km, n38, σ0°87/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MFT	**Murefte**	**0.16**	**327**	*i*PG		**Pg**	**13 29 39.5**	**-0.1**
MRMT	**Marmara Adasi**	**0.16**	**109**	*i*PG		**Pg**	**13 29 39.5**	**-0.2**
MRMT				*i*SG		**Sg**	**13 29 42.5**	**+0.6**
RKY	**Sarkoy-Tekirda**	**0.17**	**281**	*i*PG		**Pg**	**13 29 40.4**	**+0.6**
TKR	**Tekirdag**	**0.35**	**18**	PG		**Pg**	**13 29 43.8**	**+0.4**
EDC	**Edincik**	**0.47**	**131**	PG		**Pg**	**13 29 46.7**	**+0.8**
BNT	**Bandirma**	**0.50**	**127**	PG		**Pg**	**13 29 46.9**	**+0.5**
CANB	**Canakkale**	**0.69**	**202**	PG		**Pg**	**13 29 50.3**	**+0.2**
KCT	**Karacabey**	**0.83**	**118**	PG		**Pg**	**13 29 52.8**	**-0.2**
CTT	**Catalca**	**0.93**	**58**	PG		**Pg**	**13 29 54.3**	**-0.6**
BALB	**Balikesir**	**1.08**	**160**	PN		**Pn**	**13 29 56.8**	**-1.5**
EZN	**Ezine**	**1.16**	**225**	PN		**Pn**	**13 29 58.8**	**-0.7**
EDRB	**Edirne**	**1.29**	**338**	PN		**Pn**	**13 30 00.9**	**-0.3**
ORLT	**Orhaneli**	**1.30**	**117**	PN		**Pn**	**13 30 02.1**	**+0.7**
BADT	**Buyukada**	**1.32**	**81**	PN		**Pn**	**13 30 01.2**	**-0.6**
ISK	**Istanbul-Kandi**	**1.33**	**72**	PN		**Pn**	**13 30 01.2**	**-0.6**
KLYT	**Kilyos**	**1.38**	**64**	PN		**Pn**	**13 30 01.8**	**-0.8**
DST	**Dursunbey**	**1.41**	**138**	PN		**Pn**	**13 30 03.1**	**+0.1**
DST				SN		**Sn**	**13 30 23.0**	**+0.6**
ULDT	**Uludag**	**1.43**	**111**	*i*P		**Pn**	**13 30 02.7**	**-0.5**
ULDT				*i*S		**Sb**	**13 30 23.1**	**+1.3**
AYVA	**Ayvalik**	**1.45**	**202**	*i*P		**Pn**	**13 30 02.1**	**-1.5**
AYVA				*i*S		**Sb**	**13 30 23.6**	**+1.2**
RDO	**Rodhopi**	**1.49**	**290**	*e*PN		**Pn**	**13 30 03.8**	**-0.3**
YLV	**Yalova**	**1.51**	**93**	*e*PN		**Pn**	**13 30 04.0**	**-0.4**
PRK	**Paraskevi**	**1.65**	**212**	*e*PN		**Pn**	**13 30 06.3**	**-0.1**
HRT	**Hereke**	**1.74**	**84**	*e*PN		**Pn**	**13 30 07.3**	**-0.4**
SILT	**Sile**	**1.78**	**73**	*e*PN		**Pn**	**13 30 07.8**	**-0.4**
KDZ	**Kurdzhali**	**1.79**	**304**	P		**Pn**	**13 30 09.0**	**+0.5**
KDZ				Pg		**Pg**	**13 30 10.8**	**-1.4**
AKS	**Akhisar**	**1.80**	**170**	*e*PN		**Pn**	**13 30 08.9**	**+0.3**
LIA	**Limnos Island**	**1.85**	**247**	*e*PN		**Pn**	**13 30 08.6**	**-0.7**
JMB	**Yambol**	**1.91**	**342**	P		**Pn**	**13 30 12.8**	**+2.7**
DIM	**Dimitrovgrad**	**1.98**	**315**	P		**Pn**	**13 30 13.0**	**+1.9**
RZN	**Rozhen**	**2.27**	**298**	P		**Pn**	**13 30 15.5**	**+0.2**
URLA	**Izmir**	**2.37**	**195**	*i*P		**Pn**	**13 30 22.3**	**+5.5**
URLA				*i*S		**Sn**	**13 30 52.0**	**+5.2**
PLD	**Plovdiv**	**2.49**	**306**	*e*P		**Pn**	**13 30 22.0**	**+3.6**
PRD	**Provadia**	**2.54**	**0**	*e*P		**Pn**	**13 30 23.0**	**+3.8**
ALT	**Altintas**	**2.63**	**127**	*e*PN		**Pn**	**13 30 19.8**	**-0.7**
ESKT	**Eskisehir**	**2.88**	**112**	*e*PN		**Pn**	**13 30 23.9**	**-0.2**
MMB	**Musomiste**	**2.92**	**290**	*e*P		**Pn**	**13 30 26.0**	**+1.4**
PLG	**Polygyros**	**3.02**	**266**	*e*PN		**Pn**	**13 30 24.9**	**-1.1**
VTS	**Vitosha**	**3.69**	**303**	*e*P		**Pn**	**13 30 35.2**	**-0.3**

IDC 02 13:41:37.4±6.0, 19.12S×169.02E, h81km±57km, mb3.6/4, mb1 3.9/5, mb1mx3.6/14, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=74.0km s-min=34.9km az=151.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.81**	**219**	*e*P		P	13 42 35.4	+0.4
DZM				*e*S		S	13 43 16.8	-2.0
DZM	**Mont Dzumac**	**3.81**	**219**	P		P	13 42 35.3	+0.3
	11nm,0.3s,baz=133,slow=20,SNR=141							
DZM				S		S	13 43 17.2	-1.6
	42nm,0.3s,baz=94,slow=22,SNR=15							
STKA	**Stephens Creek**	**27.74**	**237**	P		P	13 47 19.1	-1.4
	1.3nm,0.6s,baz=72,slow=12,SNR=6.4							
WRA	**Warramunga Arr**	**32.67**	**263**	P		P	13 48 01.3	-2.8
	0.3nm,0.4s,baz=91,slow=8.0,SNR=13							
FITZ	**Fitzroy Crossi**	**41.05**	**264**	P		P	13 49 13.9	-0.7
	13nm,1.1s,baz=215,slow=7.0,SNR=6.7							
ILAR	**Eielson Array**	**90.17**	**17**	P		P	13 54 27.8	-1.6
	0.1nm,0.5s,baz=250,slow=4.5,SNR=4.7							
ARCES	**ARCESS Array B**	**124.90**	**345**	PKP		PKPdf	14 00 27.0	-0.6
	0.3nm,0.3s,baz=72,slow=2.9,SNR=8.3							
GERES	**GERESS Array B**	**144.29**	**332**	PKP		PKPdf	14 01 03.1	-0.7
	0.2nm,0.3s,baz=18,slow=6.2,SNR=4.1							

*NEIC **02** 13:48:36.2, 15.69N×93.84W, h40km, MD3.8(MEX), After MEX.*
MEX 02 13:48:35.9±0.8, 15.67N×93.85W, h20km±31km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.73**	**325**	*e*P		Pn	13 49 01.8	-3.5
CMIG				*e*S		Sn	13 49 22.7	-4.3
CMIG	**Matias Romero**	**1.73**	**325**	*i*P		Pn	13 49 02.0	-3.3
CMIG				*i*S		Sn	13 49 22.4	-4.6

CCIG	**Comitan**	**1.76**	**69**	*e*P	Pn	13 49 03.3	-2.4
CCIG				*e*S	Sn	13 49 22.4	-5.3
CCIG	**Comitan**	**1.76**	**69**	*i* P	Pn	13 49 03.3	-2.4
CCIG				*i* S	Sn	13 49 22.4	-5.3
HUIG	**Huatulco**	**2.18**	**273**	*e*P	Pn	13 49 07.9	-3.8
HUIG				*e*S	Sn	13 49 33.9	-4.4
HUIG	**Huatulco**	**2.18**	**273**	*i* P	Pn	13 49 07.9	-3.8
HUIG				*i* S	Sn	13 49 33.9	-4.4
OXX	**Oaxaca**	**3.10**	**297**	*e*P	Pn	13 49 21.2	-3.6
OXX				*i* S	Sn	13 49 57.1	-4.6

*CSEM **02** 13:56:59.8±0.1, 37.99N×27.20E, h2^{km}, MD3.1, Error ellipse: s-maj=4.5km s-min=2.5km az=99.0*
*ISK **02** 13:57:00.7, 37.99N×27.26E, h20^{km}, MD3.1*
*ATH **02** 13:57:02.3, 37.93N×26.89E, h23^{km}, MD3.1/3*
ISC 02 13:57:00.3±0.5**, 37.97N**±0.02×**27.15E**±0.04**, h9**^{km}±6^{km}**, n15,** σ**0**^{s}**88**/23**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.36**	**224**	*e*PB	**Pb**	**13 57 07.4**	**-1.0**
SMG				*e*SB	**Sb**	**13 57 12.7**	**-1.1**
IZM	**Izmir**	**0.44**	**12**	*i* PG	**Pg**	**13 57 09.4**	**+0.2**
KDAG	**Bornova**	**0.44**	**12**	*i* P	**Pg**	**13 57 08.8**	**-0.5**
KDAG				*i* S	**Sg**	**13 57 15.6**	**+0.3**
URLA	**Izmir**	**0.58**	**312**	*i* P	**Pg**	**13 57 11.6**	**-0.5**
URLA				*i* S	**Sg**	**13 57 20.1**	**+0.2**
AYDN	**Tasoluk**	**0.66**	**118**	*i* P	**Pg**	**13 57 13.8**	**+0.3**
AYDN				*i* S	**Sg**	**13 57 21.3**	**-1.0**
MLSB	**Milas**	**0.84**	**143**	PG	**Pg**	**13 57 16.5**	**-0.6**
MLSB				SG	**Sg**	**13 57 29.1**	**+0.8**
BODT	**Bodrum**	**0.92**	**172**	PG	**Pg**	**13 57 19.0**	**+0.4**
BODT				SG	**Sg**	**13 57 32.2**	**+1.3**
BDRM	**Kayabasi**	**0.93**	**165**	*i* P	**Pb**	**13 57 17.3**	**-0.9**
BDRM				*i* S	**Sb**	**13 57 30.9**	**+0.5**
AKS	**Akhisar**	**1.05**	**30**	PG	**Pg**	**13 57 19.8**	**-1.5**
MANT	**Manisa**	**1.23**	**64**	*i* P	**Pb**	**13 57 24.6**	**+1.4**
MANT				*i* S	**Sb**	**13 57 38.5**	**-0.4**
YER	**Yerkesik**	**1.23**	**132**	PN	**Pn**	**13 57 22.9**	**-0.7**
PRK	**Paraskevi**	**1.45**	**332**	*e*PN	**Pn**	**13 57 28.7**	**+1.9**
APE	**Apeiranthos**	**1.57**	**236**	*e*PN	**Pn**	**13 57 30.3**	**+1.8**
APE	**Apeiranthos**	**1.57**	**236**	*e*PN	**Pn**	**13 57 28.2**	**-0.3**
CANB	**Canakkale**	**2.05**	**358**	*e*PN	**Pn**	**13 57 35.5**	**+0.2**

*NIED **02** 14:28:00, 30.10N×131.40E, h32^{km}, Mw4.0 Best double couple: $M_0$1.22×10^{15} NP1:ϕ_s12°, δ86°, λ59°. NP2:ϕ_s276°, δ31°, λ173°.*
*IDC **02** 14:28:05.8±2.0, 29.99N×130.90E, mb3.8/6, mb1 3.8/8, mb1mx3.7/23, mbtmp3.7/8, ML3.1/2, MS3.3/2, Ms1 3.5/2, ms1mx2.9/19, Error ellipse: s-maj=43.4km s-min=32.7km az=158.0*
*NEIC **02** 14:28:07.5±1.1, 30.05N×130.96E, h10^{km}, mb4.0/2, Error ellipse: s-maj=24.6km s-min=14.0km az=159.0*
*JMA **02** 14:28:09.2±0.2, 30.10N×131.37E, h30^{km}±2^{km}, M3.5*
ISC 02 14:28:09.9±1.0**, 30.09N**±0.05×**131.30E**±0.08**, h44**^{km}±8^{km}**, n26,** σ**0**^{s}**90**/30**, mb3.7**/7**, MS3.3**/2**, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.62**	**334**	P	**P**	**14 28 21.6**	**-0.9**
JTN				*e*S	**S**	**14 28 30.9**	**-0.7**
JKC	**Kuchinoerabu**	**1.02**	**291**	P	**P**	**14 28 28.6**	**+0.6**
JKC				*e*S	**S**	**14 28 42.4**	**+1.0**
JTSR	**Tashiro 2**	**1.12**	**343**	P	**P**	**14 28 29.2**	**-0.2**
JTSR				S	**S**	**14 28 44.0**	**+0.1**
JNN	**Nakanoshima**	**1.26**	**259**	P	**P**	**14 28 32.7**	**+1.3**
JNAR	**Kushima--Naru**	**1.43**	**359**	P	**P**	**14 28 33.9**	**0.0**
JSU	**Suzuyama**	**1.59**	**333**	P	**P**	**14 28 35.8**	**-0.3**
JSU				*e*S	**S**	**14 28 56.2**	**+0.7**
JTZ	**Takazaki**	**1.81**	**354**	P	**P**	**14 28 39.3**	**0.0**
JSJ	**Shimokoshiki**	**2.09**	**320**	P	**P**	**14 28 42.6**	**-0.6**
JZO	**Okuchi**	**2.13**	**344**	P	**P**	**14 28 44.2**	**+0.4**
JTSN	**Tsuno**	**2.15**	**5**	P	**P**	**14 28 43.7**	**-0.4**
JTSN				*e*S	**S**	**14 29 09.6**	**-0.2**
JAM	**Amami Oshima**	**2.23**	**222**	P	**P**	**14 28 46.4**	**+1.1**
JNU	**Nakatsue**	**3.04**	**353**	Pn	**P**	**14 28 56.4**	**-0.4**
	2.3nm,0.3s,baz=76,slow=4.5,SNR=8.2						
JNU				Sn	**S**	**14 29 36.2**	**+3.9**
	2.1nm,0.3s,baz=187,slow=39,SNR=3.8						
JOW	**Kunigami**	**4.20**	**220**	Sn	**S**	**14 29 59.8**	**-1.8**
	15nm,0.3s,baz=201,slow=28,SNR=15						
MAJO	**Matsushiro**	**8.65**	**40**	P	**P**	**14 30 10.9**	**-4.3**
MJAR	**Matsushiro Arr**	**8.65**	**40**	Pn	**P**	**14 30 15.2**	**0.0**
	0.4nm,0.3s,baz=225,slow=17,SNR=6.6						
SONM	**Songino Array**	**26.07**	**320**	P	**P**	**14 33 39.8**	**-1.2**
	1.5nm,0.9s,mb3.5,baz=126,slow=11,SNR=4.8						
CMAR	**Chiang Mai Arr**	**31.58**	**256**	LR	LR	14 48 45.3	
	comp=Z,44nm,20.6s,MS3.1,baz=45,slow=40						
ZRNK	**Zerenda**	**50.13**	**316**	*e*P	**P**	**14 37 02.0**	**-0.7**
ILAR	**Eielson Array**	**59.76**	**29**	P	**P**	**14 38 14.5**	**+2.1**
	0.2nm,0.7s,mb3.3,baz=281,slow=4.6,SNR=3.5						
ARCES	**ARCESS Array B**	**67.42**	**338**	LR	LR	15 13 16.8	
	comp=Z,31nm,18.6s,MS3.6,baz=246,slow=40						
KAF	**Kangasniemi**	**70.44**	**331**	*e*p	**P**	**14 39 20.2**	**-0.9**
	1.3nm,0.6s,mb4.0,baz=61,slow=5.7						
FINES	**FINESS Array B**	**70.84**	**331**	P	**P**	**14 39 23.4**	**-0.3**
	1.5nm,0.6s,mb4.1,baz=72,slow=6.0,SNR=16						
BRTR	**Keskin Array B**	**76.79**	**308**	P	**P**	**14 39 58.6**	**0.0**
	0.7nm,0.6s,mb3.8,baz=90,slow=4.9,SNR=4.7						
NB2	**NORSAR Subarra**	**77.04**	**334**	P	**P**	**14 39 59.4**	**-0.2**
	0.5nm,0.5s,mb3.7,baz=47,slow=5.6						
NOA	**NORSAR Array B**	**77.04**	**334**	P	**P**	**14 40 00.1**	**+0.6**
	0.6nm,0.6s,mb3.7,baz=48,slow=5.6,SNR=5.1						
PDAR	**Pinedale Array**	**88.47**	**40**	P	**P**	**14 41 01.8**	**+3.1**
	0.4nm,1.0s,mb3.6,slow=1.5,SNR=3.5						

CASC 02 15:04:28.3±1.7**, 10.93N**×**86.60W, h22**^{km}±5^{km}**, MD3.8, ML3.6, 2C-3D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.09**	**16**	*e*P	Pb	15 04 48.6	+0.3
APON	**Apoyo**	**1.11**	**28**	⇑*e*P	Pb	15 04 48.5	-0.2
MASN	**Masaya**	**1.14**	**23**	*e*P	Pn	15 04 49.3	+0.2
CONN	**Concepcion**	**1.15**	**56**	⇓*e*P	Pn	15 04 48.6	-0.6
TICN	**Ticuantepe**	**1.16**	**18**	⇑*e*P	Pn	15 04 49.4	+0.1
TICN				*e*S	Sb	15 05 05.1	+1.0
XAVN	**Gruta Xavier**	**1.24**	**12**	*e*P	Pn	15 04 50.8	+0.2
XAVN				*e*S	Sb	15 05 07.0	+0.4
MGAN	**Managua**	**1.26**	**16**	*e*S	Sb	15 05 06.8	-0.3
MGAN				*i*		15 05 13.1	
	comp=E,653nm,0.7s						
WILN	**Americas 2**	**1.29**	**18**	*e*P	Pn	15 04 50.8	-0.4
WILN				*e*S	Sb	15 05 08.2	+0.3
WILN				*i*		15 05 09.4	
	comp=N,2μm,0.8s						
APYN	**Apoyeque**	**1.32**	**11**	*e*P	Pn	15 04 51.3	-0.4
APYN				*e*S	Sn	15 05 08.8	+0.1
MOMJ	**Momotombo**	**1.47**	**2**	*e*P	Pn	15 04 53.4	-0.5
MOMJ				*e*S	Sn	15 05 13.7	+1.1
LEON	**Leon**	**1.51**	**349**	*e*P	Pn	15 04 53.9	-0.4
MIRN	**Miramar**	**1.51**	**356**	⇓*e*P	Pn	15 04 53.9	-0.5
MIRN				*e*S	Sn	15 05 13.2	-0.3
CNGN	**Cerro Negro**	**1.57**	**356**	⇓*e*P	Pn	15 04 54.9	-0.3
CNGN				*e*S	Sn	15 05 15.1	+0.1
TEL3	**Telica 3**	**1.65**	**352**	*e*P	Pn	15 04 55.9	-0.6
CRIN	**San Cristobal**	**1.82**	**346**	*e*P	Pn	15 04 58.3	-0.5
CRIN				*e*S	Sn	15 05 22.2	+0.9

*IDC **02** 15:40:24.2±21.0, 18.42S×177.90W, h581^{km}±288^{km}, mb3.1/5, mb1 3.4/5, mb1mx3.1/15, mbtmp4.1/5, Error ellipse: s-maj=123.3km s-min=52.6km az=176.0*
ISC 02 15:40:21.0±1.5**, 18.2S**±0.7×**178.0W**±0.3**, h550**^{km}**, n8,** σ**0**^{s}**21**/8**, mb3.7**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.82**	**242**	*e*P	**P**	**15 47 00.4**	**+0.2**
	2.9nm,1.0s,mb3.8						
STKA	**Stephens Creek**	**38.82**	**242**	P	**P**	**15 47 00.3**	**+0.2**
	2.6nm,0.7s,mb3.9,baz=92,slow=10,SNR=14						
WB2	**Warramunga Arr**	**44.95**	**260**	*e*P	**P**	**15 47 48.8**	**-0.2**
WRA	**Warramunga Arr**	**44.96**	**260**	P	**P**	**15 47 48.9**	**-0.2**
	2.3nm,0.4s,mb4.1,baz=98,slow=7.2,SNR=89						
KAKA	**Kakadu**	**47.97**	**269**	*e*P	**P**	**15 48 12.4**	**+0.3**
	11nm,1.1s,mb4.3						
FITZ	**Fitzroy Crossi**	**53.37**	**261**	P	**P**	**15 48 51.1**	**-0.3**
	2.4nm,0.5s,mb3.8,baz=155,slow=5.1,SNR=9.6						
NVAR	**Mina Array Bea**	**79.38**	**44**	P	**P**	**15 51 31.4**	**+0.1**
	0.4nm,0.6s,mb2.9,baz=236,slow=6.5,SNR=3.5						
TXAR	**Lajitas Array**	**85.83**	**57**	P	**P**	**15 52 03.8**	**-0.1**
	0.5nm,0.7s,mb3.2,baz=225,slow=7.1,SNR=6.2						

CASC 02 15:46:44.8±1.4**, 12.60N**×**88.15W, h49**^{km}±89^{km}**, MD3.7, 3C-4D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.74**	**24**	*e*P	P	15 46 59.3	+0.2
CNCH				*e*S	S	15 47 10.5	+0.9
BLLM	**Bellamira**	**0.84**	**354**	⇓*e*P	P	15 47 00.4	-0.1
BLLM				*e*S	S	15 47 12.6	+0.5
CRIN	**San Cristobal**	**1.08**	**85**	*e*P	P	15 47 04.5	+0.7
CRIN				*e*S	S	15 47 19.2	+1.4
SNVI	**San Vicente**	**1.21**	**326**	*e*P	P	15 47 05.5	-0.2
SNVI				*e*S	S	15 47 21.3	+0.1
LEON	**Leon**	**1.24**	**98**	*e*P	P	15 47 05.5	-0.5
LEON				*e*S	S	15 47 21.4	-0.6
TEL3	**Telica 3**	**1.27**	**91**	⇓*e*P	P	15 47 06.3	-0.2
TEL3				*e*S	S	15 47 23.4	+0.6
LCBS	**La Ceiba**	**1.32**	**322**	⇑*e*P	P	15 47 07.1	-0.3
LCBS				*e*S	S	15 47 23.7	-0.4
LFRS	**El Faro**	**1.35**	**319**	⇓*e*P	P	15 47 07.5	-0.2
LFRS				*e*S	S	15 47 24.5	-0.3
MIRN	**Miramar**	**1.41**	**96**	⇓*i*P	P	15 47 08.2	-0.4
MIRN				*e*S	S	15 47 26.1	-0.1
CNGN	**Cerro Negro**	**1.42**	**94**	⇑*e*P	P	15 47 08.2	-0.5
CNGN				*e*S	S	15 47 26.7	+0.3
LBRS	**Las Brisas**	**1.43**	**323**	*e*P	P	15 47 08.9	0.0
LBRS				*e*S	S	15 47 27.5	+0.8
LFU	**La Fuente**	**1.48**	**321**	*e*P	P	15 47 09.6	0.0
LFU				*e*S	S	15 47 28.8	+0.9
BOQS	**Boqueron**	**1.58**	**316**	*e*P	P	15 47 10.8	-0.1
BOQS				*e*S	S	15 47 30.4	+0.2
MOMJ	**Momotombo**	**1.58**	**97**	⇑*i*P	P	15 47 10.5	-0.5
MOMJ				*e*S	S	15 47 29.7	-0.6
APYN	**Apoyeque**	**1.79**	**101**	*e*P	P	15 47 14.0	+0.1
APYN				*e*S	S	15 47 35.8	+0.2
SBLS	**San Blas**	**1.89**	**311**	*e*P	P	15 47 15.5	+0.2
RTR	**El Retiro**	**1.95**	**312**	*e*P	P	15 47 16.1	0.0
RTR				*e*S	S	15 47 40.4	+1.1
TICN	**Ticuantepe**	**1.96**	**106**	*e*P	P	15 47 17.8	+1.6
TICN				*e*S	S	15 47 38.6	-0.9

*IDC **02** 15:51:31.8±0.7, 9.90N×125.93E, mb4.0/12, mb1 4.2/12, mb1mx4.0/21, mbtmp4.0/12, MS3.4/5, Ms1 3.5/5, ms1mx3.2/25, Error ellipse: s-maj=40.3km s-min=14.7km az=68.0*
*MAN **02** 15:51:37.1, 9.71N×125.70E, h17^{km}, mb5.2, ML4.1, MS4.3*
MAN SURIGAO CITY - INTENSITY II.
*NEIC **02** 15:51:48.8±2.1, 9.71N×125.73E, h142^{km}±21^{km}, mb4.6/11, Error ellipse: s-maj=23.7km s-min=7.4km az=76.0*
ISC 02 15:51:37.8±0.5**, 9.71N**±0.02×**125.72E**±0.04**, h53**^{km}±5^{km}**, n62,** σ**1**^{s}**24**/76**, mb4.3**/22**, MS3.4**/4**, 5C-4D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.24**	**287**	⇓*i*P	**P**	**15 51 44.8**	**-2.0**
SCPH				*e*S	**S**	**15 51 49.4**	**-3.9**
BUTP	**Butuan**	**0.75**	**188**	*e*P	**P**	**15 51 50.7**	**-1.6**
BUTP				*e*S	**S**	**15 52 02.5**	**-0.6**
MSLP	**Maasin**	**0.95**	**296**	*e*P	**P**	**15 51 54.0**	**-1.1**
PLP	**Palo**	**1.62**	**333**	*e*S	**S**	**15 52 24.7**	**+0.4**
LLP	**Lapu-Lapu**	**1.83**	**289**	⇓*i*P	**P**	**15 52 09.2**	**+1.7**
LLP				*i* S	**S**	**15 52 30.4**	**+0.9**
TBP	**Tagbilaran**	**1.83**	**269**	⇑*e*P	**P**	**15 52 06.8**	**-0.7**
TBP				*e*S	**S**	**15 52 29.1**	**-0.5**
BESP	**Borongan**	**1.90**	**352**	*e*P	**P**	**15 52 07.7**	**-0.8**
BESP				*e*S	**S**	**15 52 33.5**	**+2.4**
BUKP	**Musuan**	**1.94**	**200**	*e*P	**P**	**15 52 09.2**	**+0.3**
BUKP				*e*S	**S**	**15 52 34.5**	**+2.4**
DCPH	**Dipolog City**	**2.59**	**245**	⇑*e*P	**P**	**15 52 18.1**	**-0.3**
DCPH				*i* S	**S**	**15 52 46.5**	**-2.4**
KCP	**Kidapawan**	**2.76**	**193**	⇓*e*P	**P**	**15 52 25.9**	**+5.2**
KCP				*e*S	**S**	**15 53 00.3**	**+7.3**
MATI	**Mati**	**2.80**	**169**	*e*P	**P**	**15 52 22.3**	**+1.0**
MATI				*e*S	**S**	**15 52 58.0**	**+4.0**
PAGZ	**Pagadian**	**2.96**	**231**	*e*P	**P**	**15 52 23.9**	**+0.3**
PAGZ				*e*S	**S**	**15 52 57.8**	**-0.3**
CNP	**Catarman**	**2.97**	**340**	*e*P	**P**	**15 52 23.3**	**-0.4**
CNP				*e*S	**S**	**15 53 02.2**	**+4.0**
GUIM	**Jordan**	**3.21**	**287**	*e*P	**P**	**15 52 28.0**	**+0.9**
GUIM				*e*S	**S**	**15 53 07.0**	**+2.5**
RCP	**Roxas**	**3.45**	**302**	⇓*e*P	**P**	**15 52 31.7**	**+1.2**
IPIL	**Ipil**	**3.65**	**239**	*e*P	**P**	**15 52 33.8**	**+0.5**
IPIL				*e*S	**S**	**15 53 15.3**	**-0.2**
PVCP	**Virac**	**4.15**	**338**	*e*P	**P**	**15 52 42.9**	**+2.6**
PVCP				*e*S	**S**	**15 53 28.0**	**-0.1**
OTRP	**Odiongan**	**4.49**	**306**	*e*P	**P**	**15 52 45.1**	**0.0**
AUQP	**San Andres**	**4.67**	**321**	*e*P	**P**	**15 52 53.6**	**+6.0**
CUYO	**Cuyo Island**	**4.76**	**284**	*e*P	**P**	**15 52 50.6**	**+1.7**
CUYO				*e*S	**S**	**15 53 42.1**	**-1.4**
SJMP	**San Jose**	**5.28**	**302**	*e*P	**P**	**15 52 56.4**	**+0.3**
BUSP	**Coron**	**5.88**	**293**	*e*P	**P**	**15 53 04.9**	**+0.5**
POLP	**Polilio Island**	**6.21**	**324**	*e*P	**P**	**15 53 10.9**	**+1.9**
ENPP	**El Nido**	**6.37**	**284**	*e*P	**P**	**15 53 11.1**	**-0.2**
LUBP	**Lubang**	**6.69**	**307**	*e*P	**P**	**15 53 07.4**	**-8.4**
BALP	**Baler**	**7.23**	**326**	*e*P	**P**	**15 53 25.5**	**+2.1**
BALP				*e*S	**S**	**15 54 43.2**	**-1.7**
CAUP	**Cauayan**	**8.13**	**333**	*e*P	**P**	**15 53 33.0**	**-2.7**
APYP	**Conner**	**9.19**	**332**	*e*P	**P**	**15 53 49.1**	**-1.3**
APYP				*e*S	**S**	**15 55 26.7**	**-6.8**
ABRA	**Dolores**	**9.27**	**329**	*e*P	**P**	**15 53 49.9**	**-1.6**
NACB	**Ninganchiao**	**14.91**	**345**	P	**P**	**15 55 14.6**	**+7.6**
YHNB	**Yeheng**	**15.44**	**345**	P	**P**	**15 55 18.4**	**+4.6**
JOW	**Kunigami**	**17.20**	**8**	LR	LR	16 01 10.0	
	comp=Z,111nm,20.1s,baz=288,slow=34						
CBIJ	**Chichi jima**	**23.25**	**40**	LR	LR	16 03 45.7	
	comp=Z,96nm,20.6s,MS3.2,baz=157,slow=32						
KAKA	**Kakadu**	**23.26**	**163**	*e*P	**P**	**15 56 43.2**	**+1.7**
	7.7nm,0.5s,mb4.4						
CMAR	**Chiang Mai Arr**	**27.36**	**291**	P	**P**	**15 57 20.5**	**+0.2**
	1.0nm,0.9s,mb3.3,baz=103,slow=7.8,SNR=5.4						
FITZ	**Fitzroy Crossi**	**27.64**	**180**	P	**P**	**15 57 23.9**	**+1.1**
	40nm,1.4s,mb4.9,baz=16,slow=7.4,SNR=6.5						
WRAB	**Tennant Creek**	**30.66**	**164**	*e*P	**P**	**15 57 46.9**	**-2.9**
	22nm,1.4s,mb4.8						
WRA	**Warramunga Arr**	**30.66**	**164**	P	**P**	**15 57 48.4**	**-1.4**
	0.6nm,0.6s,mb3.6,baz=348,slow=10,SNR=10						
WRA				PcP	PcP	16 00 46.5	-0.4
	0.4nm,0.8s,baz=341,slow=3.1,SNR=5.9						
WB2	**Warramunga Arr**	**30.67**	**164**	*e*P	**P**	**15 57 49.5**	**-0.3**
MBWA	**Marble Bar**	**31.24**	**191**	P	**P**	**15 57 55.8**	**+1.0**
	19nm,1.3s,mb4.8						
ULN	**Ulaanbaatar**	**41.16**	**341**	P	**P**	**15 59 18.1**	**-0.4**
	1.1nm,0.6s,mb3.7						
SONM	**Songino Array**	**41.35**	**340**	P	**P**	**15 59 18.7**	**-1.4**
	0.2nm,0.4s,mb3.1,baz=146,slow=5.2,SNR=2.7						
SONM				LR	LR	16 17 52.5	
	comp=Z,41nm,18.1s,MS3.3,baz=75,slow=38						
KLBR	**Kellerberrin**	**41.77**	**190**	*e*P	**P**	**15 59 24.2**	**+0.4**
	45nm,1.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**43.17**	**190**	*e*P	**P**	**15 59 36.0**	**+0.8**
	42nm,1.3s,mb5.0						
STKA	**Stephens Creek**	**44.05**	**160**	⇑*i*P	**P**	**15 59 42.8**	**+0.4**
	2.5nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**44.05**	**160**	P	**P**	**15 59 42.8**	**+0.4**
	1.5nm,0.3s,mb4.2,baz=344,slow=6.7,SNR=25						
MKAR	**Makanchi Array**	**52.14**	**323**	P	**P**	**16 00 44.3**	**-0.7**
	0.4nm,0.5s,mb3.6,baz=117,slow=8.1,SNR=4.6						
MKAR				LR	LR	16 24 27.2	
	comp=Z,42nm,19.3s,MS3.5,baz=168,slow=38						
TAU	**Tasmania Unive**	**55.96**	**161**	P	**P**	**16 01 10.6**	**-2.5**
	38nm,1.2s,mb5.3						
ZRNK	**Zerenda**	**62.56**	**325**	P	**P**	**16 01 57.6**	**-0.9**
	1.5nm,0.8s,mb4.2						
RPZ	**Rata Peaks**	**67.23**	**146**	P	**P**	**16 02 27.9**	**-0.8**
	7.2nm,0.6s,mb4.9,baz=315,slow=10.0,SNR=5.7						
ILAR	**Eielson Array**	**80.17**	**26**	P	**P**	**16 03 43.2**	**-0.5**
	0.3nm,0.6s,mb3.4,baz=239,slow=4.7,SNR=7.0						
KEV	**Kevo**	**83.97**	**340**	*e*p	**P**	**16 04 07.9**	**+4.7**
ARCES	**ARCESS Array B**	**84.53**	**340**	P	**P**	**16 04 06.0**	**+0.1**
	0.5nm,0.4s,mb4.0,baz=83,slow=6.1,SNR=10						
INK	**Inuvik**	**85.00**	**22**	*e*P	**P**	**16 04 08.7**	**+0.4**
	5.9nm,1.3s,mb4.6						
KAF	**Kangasniemi**	**85.87**	**332**	*e*p	**P**	**16 04 13.1**	**+0.4**
FINES	**FINESS Array B**	**86.12**	**332**	P	**P**	**16 04 13.4**	**-0.6**
	0.9nm,0.4s,mb4.3,baz=65,slow=4.2,SNR=17						
AKASG	**Malin Array Be**	**86.65**	**321**	P	**P**	**16 04 16.2**	**-0.6**
	0.1nm,0.3s,mb3.5,baz=64,slow=3.9,SNR=4.1						
VNDA	**Vanda**	**89.45**	**173**	P	**P**	**16 04 30.8**	**+1.1**
	1.7nm,0.7s,mb4.5,baz=321,slow=6.0,SNR=10.0						
VNDA	**Vanda**	**89.45**	**173**	P	**P**	**16 04 30.8**	**+1.1**
DAG	**Danmarks Havn**	**91.23**	**352**	⇑*e*P	**P**	**16 04 41.4**	**+3.3**
	2.8nm,0.5s,mb4.8						
DAG	**Danmarks Havn**	**91.23**	**352**	⇑*i*P	**P**	**16 04 41.4**	**+3.3**
	2.8nm,0.5s,mb4.8						
NOA	**NORSAR Array B**	**93.02**	**334**	LR	LR	16 50 41.6	
	comp=Z,26nm,19.7s,MS3.7,baz=90,slow=38						

NEIC 02 15:54:02.3±0.8**, 32.22S**×**179.69W, h10**^{km}**, 1C, Error ellipse: s-maj=32.8km s-min=10.4km az=114.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.33**	**28**	*e*Pn	Pn	15 54 53.4	-2.1
RAO				*e*Sn	Sn	15 55 27.4	-8.2
MXZ	**Matakaoa Point**	**5.58**	**197**	P	Pn	15 55 29.0	+1.6
MXZ	**Matakaoa Point**	**5.58**	**197**	PN	Pn	15 55 28.8	+1.4
MXZ				SN	Sn	15 56 36.2	+3.8
PUZ	**Puketiti**	**6.08**	**196**	P	Pn	15 55 35.6	+1.1
PUZ	**Puketiti**	**6.08**	**196**	PN	Pn	15 55 35.3	+0.9
PUZ				*e*SN	Sn	15 56 45.3	+0.5
MWZ	**Matawai**	**6.51**	**200**	P	Pn	15 55 41.5	+0.9
MWZ	**Matawai**	**6.51**	**200**	PN	Pn	15 55 41.5	+0.9
MWZ				SN	Sn	15 56 58.7	+3.0
URZ	**Urewera**	**6.57**	**203**	P	Pn	15 55 42.9	+1.5
URZ	**Urewera**	**6.57**	**203**	PN	Pn	15 55 42.8	+1.3
URZ				SN	Sn	15 57 01.4	+4.2
KNZ	**Kokohu**	**7.12**	**197**	PN	Pn	15 55 48.7	-0.4
BKZ	**Black Stump Fm**	**7.59**	**203**	*e*P	Pn	15 55 55.7	-0.1
BKZ	**Black Stump Fm**	**7.59**	**203**	*e*PN	Pn	15 55 55.5	-0.3
BKZ				*e*SN	Sn	15 57 22.4	-0.4
NGZ	**Ngauruhoe**	**7.93**	**208**	P	Pn	15 56 00.8	+0.4
NGZ	**Ngauruhoe**	**7.93**	**208**	PN	Pn	15 56 02.2	+1.8
CNZ	**Chateau**	**7.97**	**208**	P	Pn	15 56 03.0	+2.0
FWVZ	**Far West T-bar**	**8.02**	**208**	*e*PN	P	15 56 03.3	+1.6
WNVZ	**Wahianoa**	**8.06**	**207**	P	P	15 56 03.3	+1.0
MOVZ	**Moawhango**	**8.07**	**206**	P	P	15 56 02.5	+0.1
MOVZ	**Moawhango**	**8.07**	**206**	*e*PN	P	15 56 02.1	-0.3
PWZ	**Pawanui**	**8.28**	**199**	P	P	15 56 02.7	-2.6
PWZ	**Pawanui**	**8.28**	**199**	*e*PN	P	15 56 02.6	-2.7
PWZ				*e*SN	Sn	15 57 33.2	-6.7
TSZ	**Takapari Road**	**8.58**	**203**	*e*P	P	15 56 07.0	-2.5
TSZ	**Takapari Road**	**8.58**	**203**	*e*PN	P	15 56 06.4	-3.1
WAZ	**Wanganui**	**8.67**	**208**	*e*PN	P	15 56 11.6	+0.9
BFZ	**Birch Farm**	**9.05**	**200**	*e*PN	P	15 56 12.6	-3.6
BFZ				SN	Sn	15 57 51.3	-7.9
MRZ	**Mangatainoka R**	**9.24**	**203**	*e*P	P	15 56 15.1	-3.6
MRZ	**Mangatainoka R**	**9.24**	**203**	*e*PN	P	15 56 14.7	-4.0
KIW	**Kapiti Island**	**9.65**	**205**	P	P	15 56 21.2	-3.2
KIW	**Kapiti Island**	**9.65**	**205**	*e*PN	P	15 56 21.2	-3.2
KIW				SN	Sn	15 58 09.0	-5.0
MTW	**Mount Morrison**	**9.72**	**202**	P	P	15 56 20.9	-4.4
CAW	**Cannon Point**	**9.82**	**204**	P	P	15 56 22.3	-4.3
TCW	**Tory Channel**	**10.20**	**207**	P	P	15 56 27.6	-4.2
TCW	**Tory Channel**	**10.20**	**207**	*e*PN	P	15 56 25.9	-5.9
TCW				*e*SN	S	15 58 20.4	-6.8
QRZ	**Quartz Range**	**10.62**	**214**	*e*PN	P	15 56 34.5	-3.2
QRZ				*e*SN	S	15 58 34.8	-3.0
THZ	**Tophouse**	**11.21**	**210**	*e*PN	P	15 56 42.3	-3.4
THZ				*e*SN	S	15 58 46.9	-5.2
KHZ	**Kahutara**	**11.51**	**206**	*e*P	P	15 56 45.6	-4.2
KHZ	**Kahutara**	**11.51**	**206**	PN	P	15 56 44.1	-5.7
KHZ				SN	S	15 58 50.6	-8.9
LTZ	**Lake Taylor**	**12.32**	**209**	*e*PN	P	15 56 55.7	-5.0
LTZ				*e*SN	S	15 59 09.8	-9.3
MQZ	**McQueen's Vall**	**12.95**	**206**	*e*PN	P	15 57 03.2	-6.0
MQZ				*e*SN	S	15 59 22.1	-12
WB2	**Warramunga Arr**	**42.76**	**275**	⇑*i*P	P	16 02 01.0	-0.8

*IDC **02** 16:10:50.8±0.8, 9.26N×92.88E, mb4.0/13, mb1 4.1/13, mb1mx4.0/20, mbtmp4.0/13, MS2.9/1, Ms1 3.1/1, ms1mx2.8/21, Error ellipse: s-maj=42.5km s-min=16.0km az=56.0*
*NEIC **02** 16:10:55.1±0.5, 9.10N×92.61E, h30^{km}, mb4.6/7, Error ellipse: s-maj=14.2km s-min=8.2km az=60.0*
ISC 02 16:10:53.0±0.5**, 9.09N**±0.07×**92.61E**±0.07**, h30**^{km}**, n27,** σ**1**^{s}**00**/29**, mb4.2**/17**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.83**	**115**	*e*Pn	**P**	**16 13 00.7**	**-1.0**
KULM				*e*Sn	**Sn**	**16 14 30.1**	**-11**
CM31	**Chiang Mai Arr**	**11.15**	**33**	*e*P	**P**	**16 13 34.3**	**+0.6**
	3.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**11.15**	**33**	Pn	**P**	**16 13 33.3**	**-0.4**
	0.6nm,0.3s,baz=226,slow=15,SNR=26						
CMAR				LR	LR	16 17 15.8	
	comp=Z,67nm,20.3s,baz=201,slow=35						
CMAR	**Chiang Mai Arr**	**11.15**	**33**	Pn	**P**	**16 13 33.3**	**-0.4**
CMAR				LR	LR	16 17 15.8	
PALK	**Pallekele**	**11.92**	**262**	*e*P	**P**	**16 13 50.5**	**+6.3**
PALK				*e*S	**S**	**16 15 55.3**	**-1.8**
LSA	**Lhasa**	**20.55**	**356**	P	**P**	**16 15 32.7**	**+0.9**
AAK	**Ala-Archa**	**37.00**	**338**	P	**P**	**16 18 02.1**	**+0.4**
	2.1nm,0.6s,mb4.1						
MKAR	**Makanchi Array**	**38.59**	**349**	P	**P**	**16 18 14.8**	**-0.3**
	1.7nm,0.6s,mb3.9,baz=170,slow=7.8,SNR=20						
SONM	**Songino Array**	**40.34**	**14**	P	**P**	**16 18 28.6**	**-0.9**
	0.4nm,0.5s,mb3.4,baz=205,slow=8.1,SNR=3.8						
ZAL	**Zalesovo**	**45.16**	**353**	P	**P**	**16 19 08.5**	**-0.2**
	0.8nm,0.3s,mb4.0,baz=254,slow=8.8,SNR=3.1						
MUN	**Mundaring**	**46.66**	**152**	*e*P	**P**	**16 19 22.8**	**+1.9**
	24nm,1.9s,mb4.8						
KLBR	**Kellerberrin**	**47.07**	**150**	*e*P	**P**	**16 19 25.5**	**+1.3**
	60nm,1.4s,mb5.3						
NWAO	**Narrogin (SRO)**	**47.92**	**152**	P	**P**	**16 19 31.7**	**+0.8**
	5.2nm,0.3s,mb5.0,baz=301,slow=9.6,SNR=11						
NWAO	**Narrogin (SRO)**	**47.92**	**152**	*e*P	**P**	**16 19 32.1**	**+1.2**
	19nm,1.0s,mb5.1						
WRA	**Warramunga Arr**	**50.20**	**125**	P	**P**	**16 19 47.3**	**-1.2**
	1.7nm,0.4s,mb4.4,baz=301,slow=9.6,SNR=42						
WRAB	**Tennant Creek**	**50.20**	**125**	*e*P	**P**	**16 19 47.1**	**-1.4**
	4.6nm,0.5s,mb4.8						
BR131	**Keskin Array S**	**60.49**	**311**	P	**P**	**16 21 02.8**	**+0.1**
	1.8nm,0.7s,mb4.2						
BRTR	**Keskin Array B**	**60.49**	**311**	P	**P**	**16 21 03.4**	**+0.7**
	1.6nm,0.7s,mb4.2,baz=130,slow=7.7,SNR=9.2						
STKA	**Stephens Creek**	**62.04**	**133**	P	**P**	**16 21 12.9**	**-0.4**
	3.3nm,1.0s,mb4.4,baz=40,slow=5.5,SNR=4.0						
AKASG	**Malin Array Be**	**66.26**	**322**	P	**P**	**16 21 40.4**	**-0.1**
	0.7nm,0.4s,mb4.1,baz=86,slow=5.5,SNR=7.2						
FINES	**FINESS Array B**	**70.93**	**332**	P	**P**	**16 22 09.5**	**+0.2**
	0.5nm,0.5s,mb3.7,baz=90,slow=5.7,SNR=13						
KAF	**Kangasniemi**	**71.02**	**333**	*e*p	**P**	**16 22 08.5**	**-1.3**
ARCES	**ARCESS Array B**	**73.61**	**340**	P	**P**	**16 22 25.5**	**+0.5**
	0.5nm,0.6s,mb3.6,baz=108,slow=7.7,SNR=4.3						
GERES	**GERESS Array B**	**75.91**	**318**	P	**P**	**16 22 40.6**	**+1.9**
	1.4nm,0.5s,mb4.1,baz=93,slow=6.0,SNR=17						
NB2	**NORSAR Subarra**	**77.93**	**331**	P	**P**	**16 22 49.3**	**-0.3**
	0.5nm,0.6s,mb3.6,baz=93,slow=5.8						
NOA	**NORSAR Array B**	**77.93**	**331**	P	**P**	**16 22 50.1**	**+0.6**
	0.2nm,0.4s,mb3.4,baz=113,slow=4.2,SNR=3.0						
NOA				pP	pP	16 23 01.8	+2.7
	0.5nm,0.6s,baz=96,slow=5.6,SNR=3.5						
ILAR	**Eielson Array**	**94.19**	**22**	P	**P**	**16 24 09.2**	**-0.8**
	0.2nm,0.6s,mb3.7,baz=298,slow=5.0,SNR=4.7						

*IDC **02** 16:22:41.8±1.6, 2.64N×95.30E, mb4.0/7, mb1 4.2/8, mb1mx3.8/21, mbtmp4.0/8, ML3.9/1, Error ellipse: s-maj=56.1km s-min=28.0km az=56.0*
*BJI **02** 16:22:43.9, 2.68N×95.00E, h27^{km}, mb4.4, Ms4.3, Msz4.2*
*NEIC **02** 16:22:45.9±0.8, 2.64N×95.36E, h30^{km}, mb4.3/6, Error ellipse: s-maj=17.5km s-min=11.7km az=224.0*
ISC 02 16:22:43.9±0.9**, 2.7N**±0.1×**95.4E**±0.1**, h30**^{km}**, n23,** σ**1**^{s}**27**/23**, mb4.2**/13**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.87**	**63**	*e*Pn	**Pn**	**16 24 10.9**	**-0.4**
KSM	**Kuching**	**14.97**	**94**	*e*P	**P**	**16 26 22.3**	**+6.8**
KKTK	**Khon Kaen**	**15.44**	**28**	PG	**P**	**16 26 25.0**	**+3.4**
CM31	**Chiang Mai Arr**	**16.08**	**12**	*e*Pn	**P**	**16 26 31.1**	**+1.3**
	9.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.08**	**12**	Pn	**P**	**16 26 31.9**	**+2.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.2nm,0.3s,baz=202,slow=11,SNR=38						
KKM	**Kota Kinabalu**	**21.05**	**80**	*e*P	**P**	**16 27 27.8**	**-0.3**
SHL	**Shillong**	**23.02**	**352**	*e*P	**P**	**16 27 45.0**	**-2.7**
LSA	**Lhasa**	**27.19**	**352**	P	**P**	**16 28 28.2**	**+1.1**
LSA	**Lhasa**	**27.19**	**352**	*e*P	**P**	**16 28 25.8**	**-1.3**
	4.7nm,0.6s,mb4.2						
ENH	**Enshi**	**30.54**	**25**	P	**P**	**16 28 57.4**	**+0.1**
	12nm,1.0s,mb4.7						
XAN	**Xi'an**	**33.68**	**21**	P	**P**	**16 29 22.9**	**-1.7**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**44.35**	**122**	P	**P**	**16 30 54.6**	**+0.9**
	comp=Z,1.5nm,0.9s,mb3.7,baz=301,slow=9.2,SNR=4.5						
WRAB	**Tennant Creek**	**44.36**	**122**	P	**P**	**16 30 53.6**	**-0.2**
MKAR	**Makanchi Array**	**45.41**	**347**	P	**P**	**16 31 02.5**	**+0.7**
	comp=Z,4.0nm,0.6s,mb4.4,baz=163,slow=8.0,SNR=40						
SONM	**Songino Array**	**45.99**	**10**	P	**P**	**16 31 06.7**	**+0.3**
	comp=Z,2.3nm,0.8s,mb4.2,baz=189,slow=8.7,SNR=12						
ULN	**Ulaanbaatar**	**46.15**	**11**	*e*P	**P**	**16 31 06.0**	**-1.6**
	comp=Z,1.5nm,0.8s,mb4.0						
TLY	**Talaya**	**49.34**	**7**	*e*P	**P**	**16 31 29.6**	**-2.9**
	comp=Z,4.3nm,0.6s,mb4.7						
ZAL	**Zalesovo**	**51.84**	**352**	P	**P**	**16 31 51.6**	**+0.1**
	comp=Z,3.7nm,0.5s,mb4.5,baz=294,slow=5.4,SNR=21						
BVAR	**Borovoye Array**	**54.29**	**342**	P	**P**	**16 32 09.4**	**-0.2**
	comp=Z,1.6nm,0.7s,mb4.1,baz=142,slow=8.6,SNR=11						
ZRNK	**Zerenda**	**54.67**	**341**	*e*P	**P**	**16 32 11.2**	**-1.3**
	comp=Z,1.2nm,0.5s,mb4.2						
FINES	**FINESS Array B**	**77.87**	**333**	P	**P**	**16 34 41.0**	**+0.8**
	comp=Z,0.7nm,0.7s,mb3.7,baz=117,slow=4.3,SNR=5.4						
FINES	**FINESS Array B**	**77.87**	**333**	P	**P**	**16 34 41.0**	**+0.8**
GERES	**GERESS Array B**	**82.52**	**319**	P	**P**	**16 35 06.9**	**+1.6**
	comp=Z,0.1nm,0.3s,mb3.3,baz=100,slow=6.5,SNR=3.1						

*BJI **02** 16:22:52.5, 1.68N×95.35E, h30^{km}, mB4.8, mb4.6, Ms4.1, Msz4.2*
*IDC **02** 16:22:59.1±1.2, 2.61N×95.29E, mb4.3/10, mb1 4.5/11, mb1mx4.1/22, mbtmp4.3/11, ML4.3/1, MS3.4/1, Ms1 3.6/1, ms1mx3.1/13, Error ellipse: s-maj=50.1km s-min=19.0km az=53.0*
*NEIC **02** 16:23:03.4±0.7, 2.62N×95.35E, h30^{km}, mb4.4/9, Error ellipse: s-maj=15.6km s-min=10.4km az=47.0*
ISC 02 16:23:01.4±0.7**, 2.61N**±0.10×**95.4E**±0.1**, h30^{km}, n26, σ1^{s}12**/28**, mb4.3**/19**, MS4.1**/1**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.92**	**63**	*e*Pn	**Pn**	**16 24 28.6**	**-0.9**
KSM	**Kuching**	**14.99**	**94**	*e*P	**P**	**16 26 39.2**	**+6.0**
CM31	**Chiang Mai Arr**	**16.14**	**12**	*e*Pn	**P**	**16 26 49.1**	**+1.2**
	24nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.14**	**12**	Pn	**P**	**16 26 49.9**	**+1.9**
	0.4nm,0.3s,baz=200,slow=8.6,SNR=17						
CMAR				LR	LR	16 33 05.4	
	comp=Z,154nm,20.4s,baz=195,slow=38						
KKM	**Kota Kinabalu**	**21.08**	**80**	*e*P	**P**	**16 27 45.3**	**-0.6**
KMI	**Kunming**	**23.49**	**17**	P	**P**	**16 28 10.9**	**+1.1**
KMI				AP		16 28 18.3	
KMI				XP		16 28 21.5	
KMI				S	**S**	**16 32 28.1**	**+10**
KMI				XS		16 32 40.7	
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.1						
KMI				AMB	AMB		
	comp=Z,89nm,5.8s						
KMI				LR	LR		
	comp=N,452nm,13.4s,MS4.1						
KMI				LR	LR		
	comp=E,232nm,16.7s,MS4.1						
KMI	**Kunming**	**23.49**	**17**	P	**P**	**16 28 10.9**	**+1.1**
	comp=E,8.0nm,1.0s,mb4.1						
KMI				pP		16 28 18.3	
KMI				sP		16 28 21.5	
KMI				S	**S**	**16 32 28.1**	**+10**
KMI				sS		16 32 40.7	
LSA	**Lhasa**	**27.24**	**352**	*e*P	**P**	**16 28 45.1**	**+0.1**
	comp=E,9.8nm,0.6s,mb4.5						
ENH	**Enshi**	**30.60**	**25**	*e*P	**P**	**16 29 12.7**	**-2.5**
	comp=E,9.3nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**36.25**	**126**	P	**P**	**16 30 04.8**	**+0.7**
	comp=E,7.7nm,0.8s,mb4.7,baz=161,slow=5.9,SNR=4.0						
GTA	**Gaotai**	**36.86**	**6**	*e*P	**P**	**16 30 08.3**	**-0.7**
GTA				AP	pP	16 30 13.3	-4.7
GTA				XP	sP	16 30 16.7	-5.1
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**44.34**	**122**	P	**P**	**16 31 11.8**	**+0.6**
	comp=Z,1.7nm,0.7s,mb3.9,baz=300,slow=9.3,SNR=45						
WRAB	**Tennant Creek**	**44.35**	**122**	*e*P	**P**	**16 31 11.4**	**+0.2**
	comp=Z,15nm,1.3s,mb4.5						
MKAR	**Makanchi Array**	**45.46**	**347**	P	**P**	**16 31 20.1**	**+0.4**
	comp=Z,8.6nm,0.6s,mb4.7,baz=165,slow=8.0,SNR=31						
SONM	**Songino Array**	**46.05**	**10**	P	**P**	**16 31 24.3**	**0.0**
	comp=Z,4.9nm,0.7s,mb4.5,baz=190,slow=8.9,SNR=18						
ULN	**Ulaanbaatar**	**46.20**	**11**	*e*P	**P**	**16 31 25.2**	**-0.3**
	comp=Z,3.3nm,0.8s,mb4.3						
ZAL	**Zalesovo**	**51.89**	**352**	P	**P**	**16 32 09.2**	**-0.1**
	comp=Z,8.6nm,0.6s,mb4.9,baz=313,slow=6.4,SNR=26						
BVAR	**Borovoye Array**	**54.33**	**342**	P	**P**	**16 32 27.2**	**-0.2**
	comp=Z,3.4nm,0.7s,mb4.4,baz=147,slow=8.2,SNR=16						
ZRNK	**Zerenda**	**54.71**	**341**	*e*P	**P**	**16 32 29.0**	**-1.2**
	comp=Z,5.3nm,1.1s,mb4.5						
AKASG	**Malin Array Be**	**73.02**	**323**	P	**P**	**16 34 30.4**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=91,slow=5.1,SNR=4.0						
FINES	**FINESS Array B**	**77.91**	**333**	P	**P**	**16 34 58.3**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.0,baz=104,slow=7.9,SNR=6.7						
KAF	**Kangasniemi**	**78.00**	**333**	*e*p	**P**	**16 34 56.1**	**-2.3**
	comp=Z,2.5nm,1.0s,mb4.1,baz=104,slow=5.2						
KEV	**Kevo**	**80.17**	**341**	*e*p	**P**	**16 35 07.1**	**-3.0**
	comp=Z,4.5nm,1.0s,mb4.3						
ARCES	**ARCESS Array B**	**80.60**	**340**	P	**P**	**16 35 12.8**	**+0.5**
	comp=Z,2.1nm,0.9s,mb4.1,baz=104,slow=5.0,SNR=6.1						
ARCES	**ARCESS Array B**	**80.60**	**340**	P	**P**	**16 35 12.8**	**+0.4**
GERES	**GERESS Array B**	**82.54**	**319**	P	**P**	**16 35 25.3**	**+2.5**
	comp=Z,0.5nm,0.7s,mb3.7,baz=108,slow=4.2,SNR=4.2						

*IDC **02** 16:24:38.0±1.5, 2.66N×95.32E, h25^{km}±5^{km}, mb3.9/6, mb1 4.0/7, mb1mx3.6/20, mbtmp4.0/7, ML3.9/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/15, Error ellipse: s-maj=68.3km s-min=20.7km az=54.0*
*NEIC **02** 16:24:39.2±0.8, 2.84N×95.50E, h30^{km}, mb4.2/4, Error ellipse: s-maj=17.3km s-min=10.5km az=45.0*
ISC 02 16:24:36.6±1.0**, 2.8N**±0.1×**95.5E**±0.1**, h26^{km}, h26^{km}**±1.0^{km}**:pP-P, n17, σ0^{s}84**/17**, mb4.1**/9**, MS3.5**/1**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.69**	**64**	*e*Pn	**Pn**	**16 26 03.0**	**+1.2**
KSM	**Kuching**	**14.85**	**95**	*e*Pn	**P**	**16 28 12.7**	**+5.7**
CM31	**Chiang Mai Arr**	**15.91**	**12**	*e*P	**P**	**16 28 19.6**	**-1.2**
	5.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**15.91**	**12**	Pn	**P**	**16 28 23.9**	**+3.1**
	0.2nm,0.3s,baz=202,slow=11,SNR=4.8						
KKM	**Kota Kinabalu**	**20.89**	**80**	*e*P	**P**	**16 29 18.4**	**-1.3**
LSA	**Lhasa**	**27.06**	**352**	P	**P**	**16 30 19.4**	**+0.1**
ENH	**Enshi**	**30.35**	**24**	*e*P	**P**	**16 30 47.7**	**-1.1**
	7.4nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**44.32**	**122**	P	**P**	**16 32 47.0**	**+0.2**
	0.9nm,0.8s,mb3.6,baz=299,slow=9.2,SNR=3.3						
WRA				pP	pP	16 32 54.2	-0.2
	0.7nm,0.7s,baz=301,slow=9.0,SNR=2.8						
WRAB	**Tennant Creek**	**44.32**	**122**	P	**P**	**16 32 46.9**	**+0.1**
MKAR	**Makanchi Array**	**45.29**	**347**	P	**P**	**16 32 54.6**	**+0.4**
	2.5nm,0.6s,mb4.2,baz=160,slow=8.7,SNR=6.8						
MKAR				pP	pP	16 33 01.9	0.0
	1.3nm,0.4s,baz=161,slow=8.3,SNR=3.6						
MKAR				LR	LR	16 53 26.0	
	comp=Z,48nm,19.4s,MS3.5,baz=179,slow=38						
MKAR	**Makanchi Array**	**45.29**	**347**	P	**P**	**16 32 54.6**	**+0.4**
MKAR				pP	pP	16 33 01.9	0.0
MKAR				LR	LR	16 53 26.0	
SONM	**Songino Array**	**45.83**	**10**	P	**P**	**16 32 58.9**	**+0.5**
	1.5nm,0.7s,mb4.0,baz=188,slow=7.9,SNR=4.3						
ULN	**Ulaanbaatar**	**45.98**	**11**	*e*P	**P**	**16 32 59.8**	**+0.2**
	1.8nm,0.7s,mb4.1						
ZAL	**Zalesovo**	**51.72**	**352**	P	**P**	**16 33 43.5**	**-0.4**
	3.2nm,0.5s,mb4.5,baz=329,slow=7.3,SNR=5.1						
CASY	**Casey**	**69.77**	**174**	P	**P**	**16 35 53.3**	**+6.8**
	3.0nm,1.0s,mb4.2						
FINES	**FINESS Array B**	**77.80**	**333**	P	**P**	**16 36 33.1**	**-0.1**
	0.8nm,0.9s,mb3.6,baz=45,slow=5.4,SNR=3.7						
FINES				pP	pP	16 36 41.0	-0.3
	0.6nm,0.7s,baz=135,slow=5.4,SNR=4.3						
ARCES	**ARCESS Array B**	**80.46**	**340**	P	**P**	**16 36 47.8**	**+0.3**
	1.2nm,0.8s,mb3.9,baz=100,slow=5.5,SNR=3.1						
ARCES				pP	pP	16 36 56.9	+1.3
	0.9nm,0.8s,baz=90,slow=6.1,SNR=4.1						

IDC 02 16:32:23.6±5.2**, 2.69N**×**95.01E, mb3.9**/2**, mb1 3.9**/3**, mb1mx3.5**/20**, mbtmp3.7**/3**, ML3.5**/1**, Error ellipse: s-maj=161.4km s-min=93.7km az=96.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.14**	**14**	Pn	P	16 36 12.3	-1.3
	0.1nm,0.3s,baz=200,slow=10,SNR=6.7						
MKAR	**Makanchi Array**	**45.31**	**348**	P	P	16 40 43.2	-1.9
	0.7nm,0.6s,baz=163,slow=8.0,SNR=11						
ZAL	**Zalesovo**	**51.77**	**352**	P	P	16 41 32.6	-2.4
	1.1nm,0.5s,baz=328,slow=2.3,SNR=4.8						
TXAR	**Lajitas Array**	**143.48**	**28**	PKP	PKPdf	16 52 00.9	-1.9
	0.3nm,1.0s,baz=135,slow=1.8,SNR=3.4						

IDC 02 16:43:01.1±23.0**, 0.54N**×**124.54E, h428^{km}**±301^{km}**, mb3.0**/3**, mb1 3.2**/3**, mb1mx2.8**/17**, mbtmp3.8**/3**, Error ellipse: s-maj=208.6km s-min=50.3km az=61.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.50**	**155**	P	P	16 47 26.5	-1.5
	0.7nm,0.4s,baz=334,slow=11,SNR=14						
WB2	**Warramunga Arr**	**22.51**	**155**	*e*P	P	16 47 27.2	-0.8
STKA	**Stephens Creek**	**36.06**	**155**	*e*P	P	16 49 23.7	-2.1
	0.7nm,0.3s						
STKA	**Stephens Creek**	**36.06**	**155**	P	P	16 49 24.6	-1.3
	1.1nm,0.4s,baz=333,slow=8.4,SNR=14						
MKAR	**Makanchi Array**	**58.98**	**327**	P	P	16 52 17.8	-1.9
	0.5nm,0.3s,baz=117,slow=8.1,SNR=16						

*MOS **02** 17:35:14.6±1.5, 34.97N×27.22E, h10^{km}, mb4.6/36, MS4.0/20, Error ellipse: s-maj=4.4km s-min=2.5km az=111.6*
*BJI **02** 17:35:15.9, 34.94N×26.71E, h37^{km}, mB4.9, mb4.8, Ms4.9, Msz4.6*
*GRAL **02** 17:35:17.7±2.4, 35.17N×27.26E, MD4.6*
*ATH **02** 17:35:17.4, 35.03N×27.32E, h21^{km}±2^{km}, MD4.4/13, ML4.7*
*NIC **02** 17:35:18.8±0.2, 35.42N×27.17E, h25^{km}, mb4.9, ML4.5, MW4.1*
*HLW **02** 17:35:19.4, 35.12N×27.48E, h33^{km}, Mb4.6*
*ISK **02** 17:35:19.0, 35.03N×27.16E, h82^{km}, ML4.7*
*CSEM **02** 17:35:19.2, 35.04N×27.43E, h68^{km}, ML4.8*
*THE **02** 17:35:20.5, 35.06N×27.32E, h9^{km}, ML4.6*
*ZUR_RM **02** 17:35:20, 35.01N×27.31E, h27^{km}, Mw4.9/23, Moment Tensor Solution. s23 Moment tensor: Scale 10^{16}Nm; M_{rr}0.54; $M_{\theta\theta}$-2.34; $M_{\phi\phi}$1.80; $M_{r\theta}$0.04; $M_{\theta\phi}$1.87; $M_{\phi r}$0.60; Best double couple: $M_0$2.87×10^{16} NP1:ϕ_s335°, δ81°, λ167°. NP2:ϕ_s67°, δ77°, λ9°. Principal axes: T 2.672, Plg15°, Azm291°; N .395, Plg74°, Azm122°; P -3.067, Plg3°, Azm21°;*
*NEIC **02** 17:35:20.9±0.2, 35.01N×27.31E, h57^{km}±2^{km}, mb4.3/79, MD4.4(ATH) Error ellipse: s-maj=3.8km s-min=2.1km az=201.0*
*IDC **02** 17:35:23.4±1.9, 35.30N×27.15E, h56^{km}±17^{km}, mb4.0/18, mb1 4.2/25, mb1mx4.1/29, mbtmp4.3/25, ML4.1/6, MS4.1/21, Ms1 4.1/21, ms1mx3.9/34, Error ellipse: s-maj=15.9km s-min=11.2km az=157.0*
ISC 02 17:35:18.3±0.2**, 34.98N**±0.01×**27.28E**±0.02**, h42^{km}**±2^{km}**, h33^{km}**±.8^{km}**:pP-P, n570, σ1^{s}37**/630**, mb4.5**/80**, MS4.2**/33**, 40C-36D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.58**	**350**	*e*PN	**P**	**17 35 27.6**	**-2.5**
KARP				*e*SN	**S**	**17 35 35.8**	**-2.9**
XRY	**Khrisi**	**1.31**	**266**	*e*PN	**P**	**17 35 42.5**	**+2.0**
NPS	**Neapolis**	**1.40**	**282**	*e*PN	**P**	**17 35 44.3**	**+2.5**
NPS				*e*SN	**S**	**17 36 03.9**	**+4.7**
ARG	**Arkhangelos**	**1.42**	**29**	*e*PN	**P**	**17 35 43.0**	**+1.0**
ARG				*e*SN	**S**	**17 36 02.6**	**+2.9**
NISR	**Nisiros**	**1.64**	**356**	*e*PB	**P**	**17 35 45.5**	**+0.4**
IDI	**Anoyia**	**1.98**	**280**	P	**P**	**17 35 53.7**	**+3.6**
	118nm,0.3s,baz=89,slow=14,SNR=382						
THR1	**Thera Island**	**2.03**	**314**	*e*Pn	**P**	**17 35 52.5**	**+1.7**
THR1				*e*Sn	**S**	**17 36 18.0**	**+2.9**
SANT	**Santorini**	**2.03**	**314**	*e*P	**P**	**17 35 51.9**	**+1.1**
SANT	**Santorini**	**2.03**	**314**	*e*P	**P**	**17 35 51.8**	**+1.0**
BODT	**Bodrum**	**2.08**	**1**	*i* PN	**P**	**17 35 52.8**	**+1.4**
BODT				*i* SN	**S**	**17 36 17.5**	**+1.2**
BODT	**Bodrum**	**2.08**	**1**	Pn	**P**	**17 35 52.8**	**+1.4**
BODT				Sg	**S**	**17 36 17.8**	**+1.5**
BDRM	**Kayabasi**	**2.09**	**4**	*i* P	**P**	**17 35 51.7**	**+0.2**
BDRM				*i* S	**S**	**17 36 24.3**	**+7.9**
THR3	**Thira Island,**	**2.09**	**314**	*e*Pn	**P**	**17 35 53.2**	**+1.6**
DALT	**Dalyan (Mudla)**	**2.10**	**31**	*i* PN	**P**	**17 35 53.6**	**+1.9**
THR4	**Thira Island,**	**2.13**	**315**	*e*Pn	**P**	**17 35 54.4**	**+2.2**
THR5	**Thira Island,**	**2.13**	**313**	*e*Pn	**P**	**17 35 54.2**	**+2.1**
KSL	**Kastellorizon**	**2.21**	**57**	*e*PN	**P**	**17 35 54.5**	**+1.2**
YER	**Yerkesik**	**2.30**	**20**	*i* PN	**P**	**17 35 56.1**	**+1.5**
MLSB	**Milas**	**2.35**	**10**	*i* PN	**P**	**17 35 56.3**	**+1.0**
APE	**Apeiranthos**	**2.52**	**326**	*i* PN	**P**	**17 35 58.5**	**+0.7**
APE	**Apeiranthos**	**2.52**	**326**	⇑*e*P	**P**	**17 35 58.2**	**+0.4**
APE	**Apeiranthos**	**2.52**	**326**	*e*PN	**P**	**17 35 58.5**	**+0.7**
VAM	**Vamos**	**2.56**	**281**	*e*PB	**P**	**17 36 01.7**	**+3.4**
GVD	**Gavdhos**	**2.63**	**268**	*e*P	**P**	**17 36 02.3**	**+3.0**
AYDN	**Tasoluk**	**2.72**	**10**	*i* P	**P**	**17 36 01.6**	**+1.0**
AYDN				*i* S	**S**	**17 36 38.4**	**+5.8**
SMG	**Samos**	**2.75**	**353**	*e*PN	**P**	**17 36 01.5**	**+0.5**
ELL	**Elmali**	**2.77**	**50**	*i* PN	**P**	**17 36 03.6**	**+2.3**
GOLH	**Golhisar**	**2.92**	**39**	*i* P	**P**	**17 36 04.8**	**+1.5**
GOLH				*i* S	**S**	**17 36 51.5**	**+14**
DNZL	**Cakiroluk**	**3.06**	**27**	*i* P	**P**	**17 36 05.9**	**+0.5**
DNZL				*i* S	**S**	**17 36 54.3**	**+13**
DENT	**Denizli**	**3.11**	**27**	*i* PN	**P**	**17 36 07.7**	**+1.6**
ANTB	**Antalya**	**3.34**	**54**	*i* PN	**P**	**17 36 11.8**	**+2.4**
IZM	**Izmir**	**3.41**	**360**	*i* PN	**P**	**17 36 11.0**	**+0.6**
BCK	**Bucak**	**3.65**	**46**	PN	**P**	**17 36 15.5**	**+1.8**
MANT	**Manisa**	**3.65**	**16**	*i* P	**P**	**17 36 11.9**	**-1.9**
MANT				*i* S	**S**	**17 36 54.1**	**-2.2**
KYTH	**Kithira**	**3.69**	**292**	*e*PN	**P**	**17 36 16.0**	**+1.6**
KHL	**Karahalli**	**3.79**	**28**	PN	**P**	**17 36 16.2**	**+0.4**
ISP	**Isparta**	**3.87**	**41**	PN	**P**	**17 36 17.2**	**+0.3**
ISP	**Isparta**	**3.87**	**41**	P	**P**	**17 36 18.1**	**+1.2**
ISP	**Isparta**	**3.87**	**41**	*e*P	**P**	**17 36 17.0**	**+0.2**
HMAT	**Matruh**	**3.88**	**182**	⇓*e*P	**P**	**17 36 18.6**	**+1.7**
HMAT				S	**S**	**17 37 02.2**	**+0.4**
SLUM		**3.88**	**207**	⇓*e*P	**P**	**17 36 19.6**	**+2.6**
SLUM				S	**S**	**17 37 03.2**	**+1.1**
SLUM		**3.88**	**207**	P	**P**	**17 36 19.6**	**+2.5**
SLUM				S	**S**	**17 37 03.2**	**+1.2**
AKS	**Akhisar**	**3.92**	**6**	PN	**P**	**17 36 18.5**	**+0.9**
VLI	**Veliai**	**3.93**	**297**	*e*PN	**P**	**17 36 19.0**	**+1.2**
DABA	**Dabaa**	**4.04**	**168**	⇑*e*P	**P**	**17 36 20.4**	**+1.0**
NAIG	**Nisos Aigina**	**4.13**	**313**	*e*PN	**P**	**17 36 22.5**	**+1.9**
ATH	**Athens Observa**	**4.14**	**317**	*e*PN	**P**	**17 36 22.7**	**+1.9**
AKMC	**Akamas**	**4.15**	**88**	⇓P	**P**	**17 36 20.8**	**0.0**
AKMC	**Akamas**	**4.15**	**88**	⇓*e*P	**P**	**17 36 20.8**	**0.0**
AKMC	**Akamas**	**4.15**	**88**	*e*P	**P**	**17 36 20.8**	**0.0**
PPCY	**Paphos**	**4.16**	**90**	*e*P	**P**	**17 36 21.5**	**+0.5**
MPAR	**Parnis Oros**	**4.26**	**319**	*e*PN	**P**	**17 36 23.0**	**+0.6**
PRK	**Paraskevi**	**4.34**	**350**	*e*PN	**P**	**17 36 24.4**	**+0.9**
ALFC	**Alevga**	**4.37**	**86**	⇓P	**P**	**17 36 23.7**	**-0.2**
	61nm,0.7s						
ALFC				S	**S**	**17 37 14.3**	**+0.1**
ALFC	**Alevga**	**4.37**	**86**	⇓*i*P	**P**	**17 36 23.7**	**-0.2**
ALFC				S	**S**	**17 37 14.3**	**+0.1**
ALFC	**Alevga**	**4.37**	**86**	*e*P	**P**	**17 36 23.7**	**-0.2**
ALFC				S	**S**	**17 37 14.3**	**+0.1**
MGER	**Gerania Oros**	**4.42**	**314**	*e*PN	**P**	**17 36 27.0**	**+2.4**
LEF	**Lefka**	**4.61**	**87**	*e*PN	**P**	**17 36 29.5**	**+2.2**
SZAC	**Souni-Zanaja**	**4.61**	**91**	⇓P	**P**	**17 36 27.4**	**0.0**
	33nm,0.5s						
SZAC				S	**S**	**17 37 22.0**	**+1.6**
SZAC	**Souni-Zanaja**	**4.61**	**91**	⇓*i*P	**P**	**17 36 27.4**	**0.0**
SZAC				S	**S**	**17 37 22.0**	**+1.6**
SZAC	**Souni-Zanaja**	**4.61**	**91**	*e*P	**P**	**17 36 27.4**	**0.0**
SZAC				S	**S**	**17 37 22.0**	**+1.6**
ALT	**Altintas**	**4.66**	**28**	PN	**P**	**17 36 28.8**	**+0.8**
HDMB	**Hadim**	**4.66**	**63**	PN	**P**	**17 36 30.0**	**+1.9**
BALB	**Balikesir**	**4.68**	**6**	PN	**P**	**17 36 27.6**	**-0.7**
BALB	**Balikesir**	**4.68**	**6**	Pn	**P**	**17 36 29.5**	**+1.2**
DST	**Dursunbey**	**4.74**	**13**	PN	**P**	**17 36 28.8**	**-0.4**
ITM	**Ithomi**	**4.86**	**298**	*e*PN	**P**	**17 36 32.0**	**+1.1**
MAMC	**Mammari**	**4.87**	**86**	*e*P	**P**	**17 36 31.1**	**0.0**
HBRG	**Burj al 'Arab**	**4.89**	**153**	⇓*e*P	**P**	**17 36 32.6**	**+1.3**
CSS	**Prodhromos**	**4.97**	**88**	⇑P	**P**	**17 36 32.2**	**-0.2**
	24nm,0.7s						
CSS				S	**S**	**17 37 30.2**	**+0.9**
CSS	**Prodhromos**	**4.97**	**88**	⇑*e*P	**P**	**17 36 32.2**	**-0.2**
CSS				S	**S**	**17 37 30.2**	**+0.9**
CSS	**Prodhromos**	**4.97**	**88**	*e*P	**P**	**17 36 32.2**	**-0.2**
CSS				S	**S**	**17 37 30.2**	**+0.9**
AOS	**Alonnisos**	**4.99**	**328**	*e*Pn	**P**	**17 36 33.4**	**+0.7**
LKR	**Lokris**	**5.02**	**318**	*e*PN	**P**	**17 36 34.9**	**+1.7**
CANB	**Canakkale**	**5.03**	**358**	PN	**P**	**17 36 32.6**	**-0.7**
KONT	**Konya--Tatoy**	**5.05**	**53**	PN	**P**	**17 36 33.3**	**-0.3**
ORLT	**Orhaneli**	**5.22**	**14**	PN	**P**	**17 36 35.4**	**-0.5**
LOS	**Limnos**	**5.25**	**341**	*e*Pn	**P**	**17 36 37.2**	**+0.9**
ESKT	**Eskisehir**	**5.35**	**31**	PN	**P**	**17 36 38.2**	**+0.4**
KIZT	**Kizilcal**	**5.36**	**42**	PN	**P**	**17 36 38.1**	**+0.2**
IKL	**Isikli**	**5.37**	**75**	PN	**P**	**17 36 38.2**	**+0.2**
BNT	**Bandirma**	**5.39**	**5**	PN	**P**	**17 36 36.9**	**-1.4**
LPK	**Lapseki**	**5.40**	**356**	PN	**P**	**17 36 38.0**	**-0.4**
XOR	**Xorichti**	**5.46**	**325**	*e*Pn	**P**	**17 36 40.3**	**+1.0**
PHNC	**Paralimni**	**5.54**	**88**	*e*P	**P**	**17 36 41.6**	**+1.2**
MRMT	**Marmara Adasi**	**5.62**	**2**	PN	**P**	**17 36 39.9**	**-1.6**
AGG	**Agios Georgios**	**5.66**	**317**	*e*Pn	**P**	**17 36 43.7**	**+1.7**
PAIG	**Paliouri**	**5.71**	**331**	*e*Pn	**P**	**17 36 43.3**	**+0.6**
MFT	**Murefte**	**5.80**	**0**	PN	**P**	**17 36 42.9**	**-1.1**
YLV	**Yalova**	**5.82**	**16**	PN	**P**	**17 36 42.9**	**-1.4**
AANS		**5.82**	**142**	P	**P**	**17 36 43.9**	**-0.4**
AANS				S	**S**	**17 37 47.0**	**-3.7**
SWA1		**5.85**	**194**	⇑P	**P**	**17 36 47.1**	**+2.4**
SWA1				S	**S**	**17 37 50.6**	**-0.9**
EVR	**Evrytania**	**5.89**	**314**	*e*PN	**P**	**17 36 47.6**	**+2.4**
EVR	**Evrytania**	**5.89**	**314**	*e*Pn	**P**	**17 36 47.8**	**+2.6**
SWA2		**5.92**	**196**	⇑P	**P**	**17 36 47.8**	**+2.1**
HMYD	**Mayadein**	**5.96**	**149**	⇓*e*P	**P**	**17 36 46.4**	**+0.1**
HMYD	**Mayadein**	**5.96**	**149**	P	**P**	**17 36 46.3**	**0.0**
ALN	**Alexandroupoli**	**5.99**	**351**	*e*Pn	**P**	**17 36 46.7**	**0.0**
HNAT	**Natroun**	**6.03**	**151**	⇓*e*P	**P**	**17 36 47.4**	**+0.1**
SQR		**6.06**	**146**	⇓*e*P	**P**	**17 36 47.7**	**0.0**
HRT	**Hereke**	**6.13**	**17**	PN	**P**	**17 36 48.0**	**-0.7**
HLW	**Helwan**	**6.15**	**145**	⇑*e*P	**P**	**17 36 48.7**	**-0.2**
FYM	**Al Fayyum**	**6.16**	**148**	⇑*e*P	**P**	**17 36 49.0**	**0.0**
FYM				S	**S**	**17 37 54.9**	**-4.2**
AYT	**Al 'Ayyat**	**6.20**	**147**	⇑*e*P	**P**	**17 36 50.5**	**+1.0**
CTT	**Catalca**	**6.23**	**8**	PN	**P**	**17 36 48.8**	**-1.2**
ISK	**Istanbul-Kandi**	**6.24**	**12**	PN	**P**	**17 36 50.0**	**-0.2**
VLS	**Valsamata**	**6.26**	**303**	*e*PN	**P**	**17 36 51.4**	**+0.9**
RDO	**Rodhopi**	**6.31**	**348**	P	**P**	**17 36 51.6**	**+0.4**
KOT	**Kottamia**	**6.33**	**141**	⇑*e*P	**P**	**17 36 51.4**	**-0.1**
LIT	**Litokhoron**	**6.37**	**325**	*e*Pn	**P**	**17 36 52.7**	**+0.6**
HSAF	**As Saff**	**6.45**	**145**	⇓*e*P	**P**	**17 36 52.9**	**-0.3**
HHAG	**Hagoal**	**6.46**	**140**	P	**P**	**17 36 52.8**	**-0.4**
GLL	**Jalalah**	**6.56**	**144**	⇓*e*P	**P**	**17 36 54.3**	**-0.4**
ANTO	**Ankara**	**6.56**	**40**	PN	**P**	**17 36 54.7**	**-0.1**
ANTO	**Ankara**	**6.56**	**40**	P	**P**	**17 36 54.8**	**0.0**
AMAG	**Maghara**	**6.60**	**129**	⇑*e*P	**P**	**17 36 53.3**	**-2.0**
NIG	**Nigde**	**6.68**	**60**	PN	**P**	**17 36 56.2**	**-0.2**
HRSH	**Kfar Ka'horesh**	**6.73**	**125**	P	**P**	**17 36 55.9**	**-1.3**
RSH		**6.73**	**125**	P	**P**	**17 36 55.9**	**-1.3**
AWBH		**6.78**	**168**	⇓*e*P	**P**	**17 36 58.4**	**+0.6**
HAF	**Haifa**	**6.80**	**107**	P	**P**	**17 36 57.5**	**-0.6**
HNTI	**Hanita**	**6.82**	**104**	P	**P**	**17 36 57.6**	**-0.8**
HNTI				S	**S**	**17 38 12.6**	**-3.0**
HNTI	**Hanita**	**6.82**	**104**	P	**P**	**17 36 57.8**	**-0.6**
HNTI				S	**S**	**17 38 13.5**	**-2.1**
HNTI	**Hanita**	**6.82**	**104**	P	**P**	**17 36 57.6**	**-0.8**
HNTI				S	**S**	**17 38 13.5**	**-2.1**
MATL	**Matirih**	**6.83**	**100**	*e*PN	**P**	**17 36 57.4**	**-1.1**
OFRI	**'Ofer**	**6.83**	**108**	P	**P**	**17 36 58.2**	**-0.3**
EDRB	**Edirne**	**6.87**	**357**	PN	**P**	**17 36 56.9**	**-2.2**
HBNS	**Bani Suwayf**	**6.87**	**150**	⇑*e*P	**P**	**17 36 59.8**	**+0.6**
BR131	**Keskin Array S**	**6.94**	**45**	*e*P	**P**	**17 36 59.2**	**-0.8**
	15nm,0.6s						
BR131	**Keskin Array S**	**6.94**	**45**	*e*P	**P**	**17 36 59.2**	**-0.8**
	15nm,0.6s						
BRTR	**Keskin Array B**	**6.94**	**45**	P	**P**	**17 36 58.9**	**-1.1**
BRTR				*e*S	**S**	**17 38 19.1**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BRTR	**Keskin Array B**	**6.94**	**45**	P	**P**	**17 36 58.9**	**-1.1**
	comp=Z,3.1nm,0.3s,baz=221,slow=13,SNR=120						
BRTR				S	**S**	**17 38 19.1**	**+0.7**
	comp=Z,2.4nm,0.3s,baz=214,slow=27,SNR=6.5						
BHL	**Bhannes**	**7.00**	**96**	*e*PN	**P**	**17 36 59.8**	**-1.1**
BHL				Sn	**S**	**17 38 16.7**	**-3.4**
SLTI	**Sal'it**	**7.03**	**111**	P	**P**	**17 37 00.7**	**-0.5**
SLTI				S	**S**	**17 38 17.8**	**-2.9**
SLTI	**Sal'it**	**7.03**	**111**	P	**P**	**17 37 00.2**	**-1.0**
SLTI				S	**S**	**17 38 17.9**	**-2.8**
SLTI	**Sal'it**	**7.03**	**111**	P	**P**	**17 37 00.7**	**-0.5**
SLTI				S	**S**	**17 38 17.9**	**-2.8**
GRG	**Griva**	**7.10**	**329**	*e*Pn	**P**	**17 37 03.4**	**+1.1**
CEYT	**Ceyhan**	**7.16**	**71**	*e*PN	**P**	**17 37 02.9**	**-0.2**
KSDI	**Kefar Szold**	**7.18**	**102**	P	**P**	**17 37 02.3**	**-1.0**
KSDI	**Kefar Szold**	**7.18**	**102**	P	**P**	**17 37 02.5**	**-0.8**
HWQ	**Hawqa**	**7.18**	**93**	*e*PN	**P**	**17 37 01.8**	**-1.5**
HWQ				SN	**S**	**17 38 22.8**	**-1.7**
HRI	**Mount Hermon**	**7.22**	**101**	P	**P**	**17 37 02.9**	**-1.0**
ZAF		**7.22**	**140**	⇑*e*P	**P**	**17 37 03.5**	**-0.5**
KZIT	**Kziot**	**7.23**	**122**	P	**P**	**17 37 02.4**	**-1.7**
KZIT				S	**S**	**17 38 20.7**	**-5.0**
KZIT	**Kziot**	**7.23**	**122**	P	**P**	**17 37 02.6**	**-1.5**
KZIT				S	**S**	**17 38 23.3**	**-2.4**
MMLI	**Mount Malkishu**	**7.24**	**108**	P	**P**	**17 37 04.2**	**0.0**
MMLI	**Mount Malkishu**	**7.24**	**108**	P	**P**	**17 37 03.5**	**-0.7**
RTMM	**Retamin**	**7.35**	**120**	P	**P**	**17 37 04.3**	**-1.4**
RTMM	**Retamin**	**7.35**	**120**	P	**P**	**17 37 05.4**	**-0.3**
KSHT	**Keshet**	**7.36**	**103**	P	**P**	**17 37 04.8**	**-1.1**
KSHT	**Keshet**	**7.36**	**103**	P	**P**	**17 37 05.4**	**-0.5**
MASH	**Mash'abbe Sade**	**7.45**	**120**	P	**P**	**17 37 05.8**	**-1.3**
MASH	**Mash'abbe Sade**	**7.45**	**120**	P	**P**	**17 37 06.2**	**-0.9**
YTIR	**Yattir**	**7.49**	**117**	P	**P**	**17 37 07.3**	**-0.4**
FKH	**Fakeheh**	**7.56**	**93**	*e*PN	**P**	**17 37 07.3**	**-1.3**
SAFT	**Safranbolu**	**7.56**	**33**	*e*PN	**P**	**17 37 07.8**	**-0.9**
HNKL	**Nakhl**	**7.57**	**130**	⇓*e*P	**P**	**17 37 08.2**	**-0.6**
HNKL				S	**S**	**17 38 27.1**	**-7.2**
DSI	**Dead Sea**	**7.59**	**114**	P	**P**	**17 37 08.4**	**-0.6**
KEK	**Kerkira**	**7.60**	**311**	Pn	**P**	**17 37 08.6**	**-0.7**
MZDA	**Masada**	**7.70**	**116**	P	**P**	**17 37 10.2**	**-0.4**
MZDA	**Masada**	**7.70**	**116**	P	**P**	**17 37 09.6**	**-1.0**
MKRJ	**Makawir**	**7.79**	**114**	P	**P**	**17 37 11.7**	**-0.1**
CORM	**Corum**	**7.81**	**46**	*e*PN	**P**	**17 37 11.0**	**-1.1**
HFRF	**Wahat Farafira**	**7.85**	**173**	⇑*e*P	**P**	**17 37 13.1**	**+0.4**
BNN	**Bunyan**	**7.88**	**58**	*e*PN	**P**	**17 37 12.5**	**-0.5**
KMTI	**Karmit**	**7.94**	**126**	P	**P**	**17 37 12.5**	**-1.4**
KMTI				S	**S**	**17 38 38.4**	**-5.1**
KMTI	**Karmit**	**7.94**	**126**	P	**P**	**17 37 13.1**	**-0.8**
PRNI	**Paran**	**7.98**	**123**	P	**P**	**17 37 13.0**	**-1.4**
PRNI	**Paran**	**7.98**	**123**	P	**P**	**17 37 13.4**	**-1.0**
PRNI				S	**S**	**17 38 40.5**	**-3.9**
ZFRI	**Zfri**	**7.98**	**121**	P	**P**	**17 37 12.5**	**-2.0**
GRB	**Gharib**	**8.17**	**143**	⇓*e*P	**P**	**17 37 17.0**	**-0.1**
VTS	**Vitosha**	**8.24**	**339**	P	**P**	**17 37 19.5**	**+1.4**
MBH	**Mount Berech**	**8.27**	**127**	P	**P**	**17 37 18.2**	**-0.3**
GAZ	**Gaziantep**	**8.33**	**72**	*e*PN	**P**	**17 37 18.4**	**-1.0**
SKO	**Skopje**	**8.35**	**328**	*e*Pn	**P**	**17 37 20.2**	**+0.6**
EIL	**Elat**	**8.37**	**127**	P	**P**	**17 37 19.7**	**-0.2**
	comp=Z,3.5nm,0.3s,baz=333,slow=19,SNR=49						
EIL				S	**S**	**17 38 49.5**	**-4.6**
	comp=Z,10nm,0.3s,baz=76,slow=27,SNR=4.2						
EIL	**Elat**	**8.37**	**127**	*e*P	**P**	**17 37 19.0**	**-0.9**
	comp=Z,38nm,0.6s						
EIL	**Elat**	**8.37**	**127**	P	**P**	**17 37 19.2**	**-0.7**
AQBJ	**Aqaba**	**8.40**	**126**	P	**P**	**17 37 19.2**	**-1.1**
ASF	**Jabal al Asfar**	**8.50**	**107**	P	**P**	**17 37 19.5**	**-2.1**
	comp=Z,1.4nm,0.3s,baz=160,slow=3.7,SNR=3.3						
ASF				S	**S**	**17 38 54.1**	**-3.2**
	comp=Z,1.8nm,0.3s,baz=102,slow=12,SNR=3.0						
ASF				LR	LR	17 42 18.4	
	comp=Z,635nm,20.0s,baz=324,slow=48						
TR2		**8.56**	**138**	⇓*e*P	**P**	**17 37 22.0**	**-0.5**

HKAT Jabal Katrina 8.60 137⇑eP P 17 37 22.4 -0.8
NUB 8.62 131⇑eP P 17 37 23.2 -0.1
HDHB Dhahab 8.82 133⇑eP P 17 37 25.5 -0.6
TR1 8.98 139⇑eP P 17 37 27.2 -1.1
HHRG Al Ghardaqah 9.42 143⇑eP P 17 37 33.7 -0.8
TIRR Tirgusor 9.51 5 ⇓P P 17 37 36.8 +1.2
MALT Malatya 9.56 66 ePN P 17 37 34.7 -1.5
MALT Malatya 9.56 66 eP P 17 37 34.3 -1.9
MALT pmax pmax
comp=Z,49nm,1.0s
MALT Malatya 9.56 66 eP P 17 37 34.3 -1.9
comp=Z,49nm,1.0s
HDK1 Dakhla 9.58 168⇓eP P 17 37 37.3 +0.7
CFR Carcaliu 10.21 3 ⇑P P 17 37 46.3 +1.1
CFR Carcaliu 10.21 3 ⇑P P 17 37 44.8 -0.4
CFR Carcaliu 10.21 3 ⇑P P 17 37 44.8 -0.4
GRUS Gruza 10.24 332 ⇓iPn P 17 37 51.4 +5.8
MLR Muntele Rosu 10.55 355 P P 17 37 53.6 +3.7
MLR Muntele Rosu 10.55 355 P P 17 37 46.9 -2.9
comp=Z,0.1nm,0.3s,baz=292,slow=24,SNR=1.8
MLR LR LR 17 42 20.3
comp=Z,1μm,18.5s,baz=180,slow=41
MLR Muntele Rosu 10.55 355 P P 17 37 46.9 -2.9
MLR Muntele Rosu 10.55 355 ⇓P P 17 37 51.0 +1.1
BRD Bordesti 10.57 359 P P 17 37 52.8 +2.7
VOIR 10.59 351 ⇑P P 17 37 53.0 +2.7
VAE Valguarnera 10.69 287 P P 17 37 52.0 +0.3
comp=Z,7.2nm,0.3s,baz=110,slow=13,SNR=5.9
VAE S S 17 39 43.2 -7.9
comp=Z,5.8nm,0.3s,baz=182,slow=13,SNR=3.8
DIVS Divcibare 10.70 331 ⇓iPn P 17 37 53.7 +1.8
HDK2 Wahat Dakhilah 10.72 172⇓eP P 17 37 53.6 +1.3
VRI Vrincioaia 10.89 358 P P 17 37 56.1 +1.7
VRI Vrincioaia 10.89 358 ⇓P P 17 37 54.9 +0.5
VRI Vrincioaia 10.89 358 ⇓P P 17 37 54.9 +0.5
SIM Simferopol' 11.25 26*d* iP P 17 37 58.3 -1.1
SIM eS S 17 39 59.0 -5.8
SIM pmax pmax
comp=Z,51nm,0.8s
SIM MLR MLR
comp=Z,880nm,17.4s
SIM Simferopol' 11.25 26⇓iP P 17 37 58.6 -0.8
SIM Simferopol' 11.25 26 i P P 17 37 58.3 -1.1
comp=Z,51nm,0.8s
KIS Kishinev 12.06 5 eP P 17 38 09.0 -1.3
KIS MLR MLR
comp=Z,11μm,11.0s
KIS MLR MLR
comp=Z,1μm,12.0s
BURAR Bucovina Array 12.72 354 ⇑P P 17 38 22.6 +3.5
BURAR Bucovina Array 12.72 354 ⇑P P 17 38 22.6 +3.5
SOC Sochi 12.90 45 i P P 17 38 19.9 -1.6
SOC e 17 40 41.4
SOC pmax pmax
comp=Z,23nm,1.4s
SOC pmax pmax
comp=N,26nm,1.3s
SOC pmax pmax
comp=E,22nm,1.4s
SOC MLR MLR
comp=N,580nm,13.0s
SOC MLR MLR
comp=E,951nm,13.0s
SOC MLR MLR
comp=Z,1μm,13.0s
SOC Sochi 12.90 45 i P P 17 38 19.9 -1.6
comp=Z,26nm,1.3s
SOC eS S 17 40 41.4 -3.1
PKSM Moragy 12.99 332 eP P 17 38 23.7 +1.0
BOJS Bojanci 13.95 323 ePn P 17 38 33.6 -1.5
PSZ Piszkesteto 14.06 339 eP P 17 38 36.8 +0.2
PSZ pmax pmax
comp=Z,26nm,1.1s
PSZ Piszkesteto 14.06 339 eP P 17 38 36.8 +0.3
comp=Z,26nm,1.1s
PSZ Piszkesteto 14.06 339 eP P 17 38 44.5 +7.9
PSZ Piszkesteto 14.06 339 eP P 17 38 36.8 +0.2
comp=Z,26nm,1.1s
LEGS Legarje 14.23 324 i Pn P 17 38 45.3 +6.4
VISS Visnje 14.36 323 ePn P 17 38 38.3 -2.3
KECS Kecovo 14.41 342 eP P 17 38 36.5 -4.7
KECS Kecovo 14.41 342 e P 17 38 36.5 -4.7
KOLS Kolonicke sedl 14.43 347 eP P 17 38 50.3 +8.8
CRVS Cervenica-Dubn 14.56 345 eP P 17 38 53.1 +10
CRVS Cervenica-Dubn 14.56 345 e P 17 38 53.1 +10
ONI Oni 14.71 54 P P 17 38 46.0 +0.8
GNI Garni 14.78 64⇑eP P 17 38 48.3 +2.2
GNI pmax pmax
comp=Z,19nm,1.3s
GNI MLR MLR
comp=Z,900nm,18.0s
GNI Garni 14.78 64 P P 17 38 48.2 +2.1
comp=Z,0.7nm,0.3s,baz=327,slow=20,SNR=4.2
GNI Garni 14.78 64 eP P 17 38 46.4 +0.4
comp=Z,16nm,0.8s
GNI Garni 14.78 64 eP P 17 38 46.4 +0.3
comp=Z,16nm,0.8s
PERS Pernice 14.83 325 ePn P 17 38 44.0 -2.6
VYHS Vyhne 14.89 338 eP P 17 38 51.0 +3.5
VOY Vojsko 15.00 321 ePn P 17 38 46.7 -2.2
VOY e 17 38 53.0
VOY e 17 39 06.8
VOY e 17 39 17.3
OBKA Obir 15.00 324⇑iP P 17 38 49.2 +0.2
comp=Z,5.1nm,0.5s
KWP Kalwaria 15.03 348 P P 17 38 48.2 -1.0
KWP pmax pmax
comp=Z,24nm,1.0s
KWP Kalwaria 15.03 348 P P 17 38 48.2 -1.1
comp=Z,24nm,1.0s
KWP Kalwaria 15.03 348 P P 17 38 48.2 -1.0
comp=Z,24nm,1.0s
ZEI Tsey 15.09 54 eP P 17 38 49.6 -0.5
ARSA Arzberg 15.11 328⇑iP P 17 38 51.1 +0.8
comp=Z,5.7nm,1.0s
ZST Bratislava 15.22 333 eP P 17 38 52.9 +1.1
ZST eS S 17 41 48.4 +8.8
ZST e 17 44 53.7
ZST e 17 46 07.3
NIE Niedzica 15.32 343 eP P 17 38 58.1 +5.1
ROBS Robic 15.34 321 ePn P 17 38 52.5 -0.8
DUS Dusheti 15.36 57 P P 17 38 59.6 +6.0
DGRG David-gareji 15.61 60 P P 17 38 57.1 +0.3
AKASG Malin Array Be 15.78 5 P P 17 38 55.9 -3.0
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKASG Malin Array Be 15.78 5 P P 17 38 55.9 -3.0
comp=Z,2.8nm,0.3s,baz=192,slow=11,SNR=23
KBA Koelnbreinsper 15.99 323 P P 17 39 00.5 -1.2
MOA Molln 16.11 327 P P 17 39 02.4 -0.8
OJC Ojcow 16.18 343 eP P 17 39 02.4 -1.7
OJC eS S 17 42 04.6 +2.8
OJC Ojcow 16.18 343 eP P 17 39 02.4 -1.7
OJC ePP PP 17 39 15.0 -2.4
OJC eS S 17 42 04.6 +2.8
KRUC Moravsky 16.21 334 P P 17 39 04.6 +0.2
OKC Ostrava-Krasne 16.29 339 eP P 17 39 05.7 +0.3
OKC AMS AMS 17 45 30.0
comp=Z,700nm,15.6s
VRAC Vranov 16.34 334 P P 17 39 07.2 +1.1
MORC Moravsky Berou 16.42 337 eP P 17 39 07.9 +0.8
MORC pmax pmax
comp=Z,7.0nm,0.8s
MORC Moravsky Berou 16.42 337 eP P 17 39 07.9 +0.8
comp=Z,6.8nm,0.8s
MORC Moravsky Berou 16.42 337 eP P 17 39 07.9 +0.8
comp=Z,6.8nm,0.8s
WTTA Wattenberg 16.98 321⇑iP P 17 39 15.3 +1.2
comp=Z,4.9nm,0.6s
WTTA Wattenberg 16.98 321⇑iP P 17 39 15.3 +1.2
WTTA pmax pmax
comp=Z,5.0nm,0.6s
GEC2 GERESS Array S 17.11 328 eP P 17 39 16.2 +0.4
GEC2 pmax pmax
comp=Z,24nm,1.1s
GEC2 GERESS Array S 17.11 328 eP P 17 39 16.2 +0.4
comp=Z,24nm,1.1s
GERES GERESS Array B 17.11 328 P P 17 39 15.6 -0.1
comp=Z,0.4nm,0.3s,baz=139,slow=12,SNR=30
SQTA Sankt Quirin 17.17 320⇑iP P 17 39 17.7 +1.2
comp=Z,4.1nm,0.4s
SQTA Sankt Quirin 17.17 320⇑iP P 17 39 17.7 +1.2
SQTA pmax pmax
comp=Z,4.0nm,0.4s

DPC Dobruska-Polom 17.32 336 eP P 17 39 18.2 -0.1
DPC AMS AMS 17 46 30.0
comp=Z,500nm,15.1s
KHC Kasperske Hory 17.38 329 eP P 17 39 18.4 -0.8
KHC AMS AMS 17 46 40.0
comp=Z,600nm,15.3s
UPC Upice 17.56 336 eP P 17 39 18.3 -3.0
MAK Makhachkala 17.61 57 eP P 17 39 25.0 +3.0
MAK eS S 17 42 45.0 +11
MAK pmax pmax
comp=Z,1μm,2.0s
MAK pmax pmax
comp=Z,560nm,1.5s
MAK smax
comp=N,1μm,7.0s
MAK smax
comp=E,1μm,7.0s
DAVOX Davos 17.62 317 P P 17 39 22.7 +0.5
comp=E,0.6nm,0.3s,baz=145,slow=12,SNR=5.4
DAVOX LR LR 17 46 41.4
comp=E,564nm,20.1s,baz=106,slow=39
SAOF Saorge 17.65 307 eP P 17 39 20.6 -2.0
PRU Pruhonice 17.66 332 eP P 17 39 21.4 -1.2
PRU AMS AMS 17 47 00.0
comp=E,700nm,13.0s
SBF Sospel 17.68 306 eP P 17 39 20.0 -2.9
comp=E,90nm,0.7s
WET Wettzell 17.70 327 eP P 17 39 22.2 -0.9
WET pmax pmax
comp=Z,15nm,0.9s
WET Wettzell 17.70 327 eP P 17 39 22.2 -0.9
comp=Z,15nm,0.9s
AUTN L'Aution 17.74 306 eP P 17 39 20.7 -3.0
KSP Ksiaz 17.75 337⇑eP P 17 39 23.1 -0.6
KSP eS S 17 42 40.0 +2.5
KSP Ksiaz 17.75 337⇑eP P 17 39 23.1 -0.6
KSP epP 17 39 31.9
KSP e 17 39 49.5
KSP eS S 17 42 40.0 +2.5
KSP Ksiaz 17.75 337⇑eP P 17 39 23.1 -0.6
KSP epP 17 39 31.9
FUR Furstenfeldbru 17.76 323 eP P 17 39 22.5 -1.3
FUR pmax pmax
comp=Z,20nm,0.8s
FUR Furstenfeldbru 17.76 323 eP P 17 39 22.5 -1.3
comp=Z,20nm,0.8s
TOUF Mont Tournerai 17.87 306 eP P 17 39 25.4 +0.2
MVIF Mont Vial 17.88 306 eP P 17 39 25.8 +0.4
DAVA Damuels 17.92 319⇓iP P 17 39 26.5 +0.6
comp=Z,7.2nm,0.5s
CALN Calern 18.00 305 eP P 17 39 28.5 +1.6
PVCC Panska Ves 18.09 333 eP P 17 39 26.8 -1.1
PVCC AMS AMS 17 47 50.0
comp=Z,500nm,18.2s
FRF La Foret Royal 18.10 304 eP P 17 39 25.0 -3.1
LMR La Mourre 18.11 304 eP P 17 39 25.6 -2.7
comp=Z,16nm,0.7s
LMR La Mourre 18.11 304 eP P 17 39 25.6 -2.7
LMR pmax pmax
comp=Z,8.0nm,0.7s
LLS Linth-Limmern 18.15 316 ⇑P P 17 39 29.5 +0.7
MUO Muotathal 18.43 316 ⇑P P 17 39 33.2 +1.0
MBDF Montbardon 18.47 308 eP P 17 39 31.2 -1.5
comp=Z,28nm,0.8s
MBDF Montbardon 18.47 308 eP P 17 39 31.2 -1.5
MBDF pmax pmax
comp=Z,14nm,0.8s
NOTT Nottersdorf 18.52 328 eP P 17 39 31.6 -1.7
comp=Z,12nm,1.0s
WILA Wila 18.53 318 ⇓P P 17 39 32.5 -1.0
BRG Berggiesshubel 18.60 333 eP P 17 39 32.8 -1.5
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG MLR MLR
comp=N,700nm,16.9s
BRG MLR MLR
comp=E,760nm,16.9s
BRG MLR MLR
comp=Z,560nm,16.2s
BRG Berggiesshubel 18.60 333 eP P 17 39 32.8 -1.5
comp=Z,9.5nm,0.9s
BRG S S 17 43 12.0 +15
BRG Berggiesshubel 18.60 333 eP P 17 39 33.1 -1.2
comp=Z,10.0nm,0.9s
DIX Grande Dixence 18.68 312 ⇓P P 17 39 35.1 -0.2
NKC Novy Kostel 18.70 329 eP P 17 39 33.7 -1.7
NKC AMS AMS 17 47 30.0
comp=Z,400nm,17.6s
LKBD Leukerbad 18.71 313 ⇓P P 17 39 34.7 -0.9
VOR Voronezh 18.81 23 P P 17 39 35.0 -1.8
VOR pmax pmax
comp=Z,50nm,1.4s
VOR pmax pmax
comp=N,70nm,1.3s
VOR pmax pmax
comp=E,60nm,1.3s
VOR Voronezh 18.81 23 P P 17 39 35.0 -1.8
comp=E,50nm,1.4s
LPG La Plagne 18.82 310 eP P 17 39 36.1 -0.8
comp=E,12nm,0.4s
LPG La Plagne 18.82 310 eP P 17 39 36.1 -0.8
LPG pmax pmax
comp=Z,6.0nm,0.4s
GRA1 Grafenberg Arr 18.84 326 eP P 17 39 35.7 -1.4
comp=Z,45nm,1.4s
GRF Grafenberg Arr 18.84 326 eP P 17 39 35.7 -1.4
GRF pmax pmax
comp=Z,45nm,1.4s
GRF Grafenberg Arr 18.84 326 eP P 17 39 35.7 -1.4
GRF pmax pmax
comp=Z,45nm,1.4s
GRF Grafenberg Arr 18.84 326 eP P 17 39 35.7 -1.4
comp=Z,45nm,1.4s
LPL La Plagne 18.84 310 eP P 17 39 36.1 -1.0
comp=Z,9.0nm,0.3s
LPL La Plagne 18.84 310 eP P 17 39 36.1 -1.0
LPL pmax pmax
comp=Z,5.0nm,0.3s
GUNZ Gunzen 18.84 329 eP P 17 39 36.0 -1.2
comp=Z,10.0nm,0.9s
WERD Werda 18.92 329 eP P 17 39 36.5 -1.5
comp=Z,14nm,1.0s
SMRF Simiane la Rot 18.97 305 eP P 17 39 37.1 -1.6
comp=Z,8.1nm,0.6s
RSL Roselend 18.98 311 eP P 17 39 38.3 -0.5
SULZ Sulz-Cheisache 19.04 317 ⇑P P 17 39 39.2 -0.2
ORIF Oris-en-Rattie 19.13 308 eP P 17 39 38.9 -1.5
comp=Z,10nm,0.5s
ORIF eR
comp=Z,992nm,20.0s
STU Stuttgart 19.20 321 eP P 17 39 40.6 -0.7
OG01 Vacheresse 19.25 312 eP P 17 39 42.3 +0.5
SUW Suwalki 19.25 353 eP P 17 39 40.5 -1.3
FELD Feldberg 19.30 318 eP P 17 39 40.0 -2.3
CLL Collm 19.30 332⇓iP P 17 39 41.9 -0.5
CLL eS S 17 43 11.0 -1.6
CLL pmax pmax
comp=Z,16nm,1.0s
CLL Collm 19.30 332⇓iP P 17 39 41.9 -0.5
comp=Z,16nm,1.0s
CLL i 17 40 01.8
CLL eS S 17 43 11.0 -1.6
CLL Collm 19.30 332 ⇓P P 17 39 41.9 -0.5
comp=Z,logA/T=1.2
CLL i *SP 17 40 01.8
CLL e 17 40 11.0
CLL eS S 17 43 11.0 -1.6
CLL e 17 43 27.0
CLL Collm 19.30 332 eP P 17 39 41.4 -1.0
comp=Z,18nm,1.2s
CLL eS S 17 43 11.0 -1.6
BBS Basel-Blauen 19.34 316 eP P 17 39 45.4 +2.6
MOX Moxa 19.36 329 eP P 17 39 42.9 -0.1
MOX eS S 17 43 14.0 +0.2
MOX pmax pmax
comp=Z,27nm,1.5s
MOX Moxa 19.36 329 eP P 17 39 42.9 -0.1
comp=Z,27nm,1.5s
MOX eS S 17 43 14.0 +0.2
MOX Moxa 19.36 329 i P P 17 39 42.9 -0.1
comp=Z,logA/T=1.3
MOX S S 17 43 14.0 +0.2
MOX QM 17 46 59.0
MOX RM 17 48 43.0
MOX Moxa 19.36 329 eP P 17 39 41.8 -1.2

MOX eS S 17 43 14.0 +0.2
BFO Black Forest 19.39 319 eP P 17 39 42.4 -0.9
BFO pmax pmax
comp=Z,10.0nm,1.5s
BFO Black Forest 19.39 319 eP P 17 39 42.4 -0.9
comp=Z,10.0nm,1.5s
MNK Minsk 19.52 1 eP P 17 39 37.0 -7.8
LOMF Lomont 19.68 315 eP P 17 39 45.3 -1.2
CABF La Chapelle 19.74 312 eP P 17 39 45.7 -1.5
comp=Z,27nm,0.6s
CABF La Chapelle 19.74 312 eP P 17 39 45.7 -1.5
CABF pmax pmax
comp=Z,14nm,0.6s
MOF Molkenrain 19.77 317 eP P 17 39 47.3 -0.2
OG05 Jujurieux 19.87 310 eP P 17 39 46.8 -1.8
VIVF Saint-Julien-l 19.89 307 eP P 17 39 47.2 -1.6
comp=Z,19nm,0.7s
VIVF Saint-Julien-l 19.89 307 eP P 17 39 47.2 -1.6
VIVF pmax pmax
comp=Z,9.0nm,0.7s
HINF Hinteralfeld 19.91 316 eP P 17 39 46.9 -2.1
comp=Z,9.1nm,0.5s
HINF Hinteralfeld 19.91 316 eP P 17 39 46.9 -2.1
HINF pmax pmax
comp=Z,5.0nm,0.5s
TOD Tromm 19.93 323 eP P 17 39 48.0 -1.2
WLS Welschbruch 19.96 318 eP P 17 39 49.2 -0.3
RUE Ruedersdorf 19.97 335 eP P 17 39 49.7 +0.1
comp=Z,38nm,1.3s
CDF Champ du Feu 20.00 318 eP P 17 39 48.9 -1.1
comp=Z,13nm,0.6s
CDF Champ du Feu 20.00 318 eP P 17 39 48.9 -1.1
CDF pmax pmax
comp=Z,7.0nm,0.6s
LANF Langenberg 20.05 320 eP P 17 39 49.7 -0.8
LASF Ste Croix 20.17 304 eP P 17 39 50.3 -1.4
HAU Haudompre 20.30 316 eP P 17 39 51.3 -1.8
comp=Z,17nm,0.5s
HAU eR
comp=Z,585nm,21.2s
HAU Haudompre 20.30 316 eP P 17 39 51.3 -1.8
HAU pmax pmax
comp=Z,8.0nm,0.5s
HAU MLR MLR
comp=Z,580nm,21.3s,MS3.9
TNS Taunus Mts 20.51 324 eP P 17 39 56.0 +0.7
TNS pmax pmax
comp=Z,27nm,1.0s
TNS Taunus Mts 20.51 324 eP P 17 39 56.0 +0.7
comp=Z,27nm,1.0s
THEF They Montfort 20.62 316 eP P 17 39 54.5 -1.9
CLZ Clausthal 20.77 329 eP P 17 39 57.0 -0.9
CLZ pmax pmax
comp=Z,8.0nm,1.0s
CLZ Clausthal 20.77 329 eP P 17 39 57.0 -0.9
comp=Z,8.0nm,1.0s
COLF Collangettes 20.78 308 eP P 17 39 56.1 -2.0
RUP Ruppelstein 20.88 321 eP P 17 39 57.3 -1.7
VALF Valcebollere 21.02 298 eP P 17 39 59.5 -1.0
MTLF Montolieu 21.09 301 eP P 17 39 59.7 -1.6
comp=Z,5.1nm,0.5s,mb3.8
MTLF Montolieu 21.09 301 eP P 17 39 59.7 -1.6
MTLF pmax pmax
comp=Z,3.0nm,0.5s,mb3.9
OBN Obninsk 21.14 15*d* iP P 17 39 59.3 -2.4
OBN eS S 17 43 59.4 +10
OBN pmax pmax
comp=Z,95nm,1.1s,mb5.0
OBN MLR MLR
comp=Z,400nm,17.0s,MS3.9
OBN Obninsk 21.14 15 eP P 17 39 59.8 -1.9
comp=Z,73nm,0.8s,mb5.1
SMF Signal de Mont 21.14 311 eP P 17 40 00.2 -1.5
comp=Z,14nm,0.4s,mb4.3
SMF Signal de Mont 21.14 311 eP P 17 40 00.2 -1.5
SMF pmax pmax
comp=Z,7.0nm,0.4s,mb4.3
EMIR Miracle 21.28 297 P P 17 40 02.2 -0.9
comp=Z,113nm,1.6s,mb5.0
EMIR Miracle 21.28 297 P P 17 40 02.2 -1.0
comp=Z,113nm,1.6s,mb5.0,SNR=5.2
MEZF Maizieres J'vi 21.30 316 eP P 17 40 02.0 -1.3
comp=Z,12nm,0.4s,mb4.3
WLF Walferdange 21.33 320 P P 17 40 02.0 -1.6
WLF pmax pmax
comp=Z,17nm,1.0s,mb4.3
WLF Walferdange 21.33 320 P P 17 40 02.0 -1.6
comp=Z,17nm,1.0s,mb4.3
WLF Walferdange 21.33 320 P P 17 40 02.0 -1.6
comp=Z,17nm,1.0s,mb4.3
LOR Lormes 21.40 312 eP P 17 40 02.1 -2.2
comp=Z,16nm,0.6s,mb4.2
LOR eR
comp=Z,611nm,22.5s
LOR Lormes 21.40 312 eP P 17 40 02.1 -2.2
LOR pmax pmax
comp=Z,8.0nm,0.6s,mb4.2
LOR MLR MLR
comp=Z,610nm,22.5s,MS3.9
EPOB Poblet 21.52 295 P P 17 40 04.8 -0.8
comp=Z,18nm,0.5s,mb4.8
EPOB Poblet 21.52 295 P P 17 40 04.8 -0.7
comp=Z,18nm,0.5s,mb4.8,SNR=14
SSF Saint Saulge 21.53 311 eP P 17 40 03.7 -1.9
SSF pmax pmax
comp=Z,11nm,0.5s,mb4.5
SSF Saint Saulge 21.53 311 eP P 17 40 03.7 -1.9
comp=Z,11nm,0.5s,mb4.5
CAF Calviac 21.66 305 eP P 17 40 05.9 -1.0
comp=Z,4.1nm,0.4s,mb3.9
CAF Calviac 21.66 305 eP P 17 40 05.9 -1.0
CAF pmax pmax
comp=Z,2.0nm,0.4s,mb3.9
BGF Bois d'Agland 21.73 310 eP P 17 40 05.1 -2.5
comp=Z,16nm,0.6s,mb4.4
BGF Bois d'Agland 21.73 310 eP P 17 40 05.1 -2.5
BGF pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
MOS Moscow 21.95 16 eP P 17 40 08.1 -1.6
MOS e 17 40 31.4
MOS eS S 17 44 06.2 +1.7
MOS pmax pmax
comp=Z,200nm,1.6s,mb5.3
MOS pmax pmax
comp=Z,600nm,1.1s,mb5.9
MOS smax
comp=N,300nm,2.9s
MOS Moscow 21.95 16 eP P 17 40 08.1 -1.6
comp=N,600nm,1.1s,mb5.9
MEM Membach 21.97 322 P P 17 40 10.3 +0.4
TCF Toulx Ste Croi 22.03 308 eP P 17 40 09.4 -1.2
comp=N,12nm,0.7s,mb4.1
TCF Toulx Ste Croi 22.03 308 eP P 17 40 09.4 -1.2
TCF pmax pmax
comp=Z,6.0nm,0.7s,mb4.1
RJF Les Rejaudoux 22.15 306 eP P 17 40 10.8 -1.0
comp=Z,16nm,0.6s,mb4.3
RJF eR
comp=Z,564nm,18.5s
RJF Les Rejaudoux 22.15 306 eP P 17 40 10.8 -1.0
RJF pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
RJF MLR MLR
comp=Z,560nm,18.5s,MS4.0
EGRA Graus 22.22 297 P P 17 40 12.4 -0.1
comp=Z,7.4nm,0.9s,mb4.1,SNR=7.9
GIVF Givet 22.29 320 eP P 17 40 11.7 -1.4
EBEN Beniarda 22.29 288 P P 17 40 13.0 -0.3
EBEN Beniarda 22.29 288 P P 17 40 13.0 -0.2
SNR=7.9
EPF Esparros 22.36 299 eP P 17 40 12.5 -1.4
DOU Dourbes 22.41 319 P P 17 40 14.8 +0.5
EBIE Bielsa 22.43 298 P P 17 40 16.6 +2.0
comp=Z,41nm,1.5s,mb4.6
EBIE Bielsa 22.43 298 P P 17 40 16.6 +2.0
comp=Z,41nm,1.5s,mb4.6,SNR=9.5
LFF La Frestale 22.56 304 eP P 17 40 14.8 -1.0
comp=Z,8.9nm,0.4s,mb4.2
LFF La Frestale 22.56 304 eP P 17 40 14.8 -1.0
LFF pmax pmax
comp=Z,4.0nm,0.4s,mb4.2
EMOS Mosqueruela 22.57 292 P P 17 40 17.6 +1.6
comp=Z,42nm,1.1s,mb4.8,SNR=7.9
BAIF Baives 22.59 319 eP P 17 40 14.9 -1.2
comp=Z,11nm,0.4s,mb4.3
BAIF Baives 22.59 319 eP P 17 40 14.9 -1.2

BAIF pmax pmax
comp=Z,5.0nm,0.4s,mb4.3
ESAC San Caprasio 22.72 296 P **P** **17 40 17.3 -0.1**
comp=Z,56nm,1.7s,mb4.7
ESAC San Caprasio 22.72 296 P **P** **17 40 17.3 -0.1**
comp=Z,56nm,1.7s,mb4.7,SNR=7.9
ECHE Chera 22.90 290 P **P** **17 40 21.0 +1.8**
SNR=7.9
ETSF Etsaut 22.98 298 *e*P **P** **17 40 19.8 -0.2**
comp=Z,5.5nm,0.4s,mb4.1
ETSF Etsaut 22.98 298 *e*P **P** **17 40 19.8 -0.2**
ETSF pmax pmax
comp=Z,3.0nm,0.4s,mb4.1
SJPF Ste Jean 23.50 299 *e*P **P** **17 40 24.9 -0.1**
MFF Saint Martin d 23.67 308 *e*P **P** **17 40 25.4 -1.2**
comp=Z,10nm,0.6s,mb4.1
MFF Saint Martin d 23.67 308 *e*P **P** **17 40 25.4 -1.2**
MFF pmax pmax
comp=Z,5.0nm,0.6s,mb4.1
EBER Berja 24.46 283 P **P** **17 40 36.5 +2.1**
EBER Berja 24.46 283 P **P** **17 40 36.5 +2.1**
SNR=7.9
EQES Quesada 24.55 286 P **P** **17 40 35.4 +0.2**
comp=Z,124nm,2.6s,mb5.0
EQES Quesada 24.55 286 P **P** **17 40 35.4 +0.2**
comp=Z,124nm,2.6s,mb5.0,SNR=7.9
FLN La Foliniere 24.68 312 *e*P **P** **17 40 35.5 -0.9**
comp=Z,18nm,0.4s,mb4.6
FLN *e*R
comp=Z,349nm,20.2s
FLN La Foliniere 24.68 312 *e*P **P** **17 40 35.5 -0.9**
FLN pmax pmax
comp=Z,9.0nm,0.4s,mb4.7
FLN MLR MLR
comp=Z,350nm,20.3s,MS3.9
GRR Gorron 24.76 311 *e*P **P** **17 40 36.2 -1.0**
comp=Z,9.6nm,0.3s,mb4.5
GRR Gorron 24.76 311 *e*P **P** **17 40 36.2 -1.0**
GRR pmax pmax
comp=Z,5.0nm,0.3s,mb4.5
EBAN Banos Encina 25.09 286 P **P** **17 40 41.4 +0.9**
SNR=7.9
ELAN Lanestosa 25.11 298 P **P** **17 40 41.3 +0.6**
comp=Z,175nm,3.1s
ELAN Lanestosa 25.11 298 P **P** **17 40 41.3 +0.7**
comp=Z,175nm,3.1s,SNR=7.9
ESDC Sonseca Array 25.21 290 P **P** **17 40 42.1 +0.5**
comp=Z,1.9nm,0.3s,mb4.1,baz=83,slow=9.3,SNR=34
ESLA Sonseca Array 25.21 290 *e*P **P** **17 40 41.5 -0.1**
comp=Z,1.3nm,0.7s,mb3.6
ESLA Sonseca Array 25.21 290 *e*P **P** **17 40 41.5 -0.1**
comp=Z,1.3nm,0.7s,mb3.6
ELOJ Sierra Loja 25.45 284 P **P** **17 40 45.5 +1.7**
ELOJ pmax pmax
comp=Z,1.0nm,0.3s,mb3.8
ELOJ Sierra Loja 25.45 284 P **P** **17 40 45.5 +1.7**
comp=Z,0.9nm,0.3s,mb3.8
ELOJ Sierra Loja 25.45 284 P **P** **17 40 45.5 +1.7**
comp=Z,0.9nm,0.3s,mb3.8,SNR=7.9
ELUQ Luque 25.51 285 P **P** **17 40 44.3 -0.1**
ELUQ pmax pmax
comp=Z,3.0nm,0.3s,mb4.3
ELUQ Luque 25.51 285 P **P** **17 40 44.3 -0.1**
comp=Z,2.6nm,0.3s,mb4.2,SNR=7.9
EADA Adamuz 25.72 287 P **P** **17 40 48.3 +1.9**
EADA Adamuz 25.72 287 P **P** **17 40 48.3 +1.9**
SNR=7.9
SGMF Saint Gilles 25.77 310 *e*P **P** **17 40 45.2 -1.5**
comp=Z,5.6nm,0.4s,mb4.2
SGMF Saint Gilles 25.77 310 *e*P **P** **17 40 45.2 -1.5**
SGMF pmax pmax
comp=Z,3.0nm,0.4s,mb4.2
EMIJ Mijas 26.00 283 P **P** **17 40 52.0 +3.0**
comp=Z,3.2nm,0.3s,mb4.3
QUIF Quistinic 26.04 309 *e*P **P** **17 40 48.2 -1.1**
comp=Z,7.2nm,0.4s,mb4.3
QUIF Quistinic 26.04 309 *e*P **P** **17 40 48.2 -1.1**
QUIF pmax pmax
comp=Z,4.0nm,0.4s,mb4.3
ROSF Rostrenen 26.25 310 *e*P **P** **17 40 49.3 -1.9**
comp=Z,13nm,0.5s,mb4.4
ROSF Rostrenen 26.25 310 *e*P **P** **17 40 49.3 -1.9**
ROSF pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
ECAB El Cabril 26.38 286 P **P** **17 40 53.7 +1.2**
comp=Z,1.2nm,0.3s,mb3.9,SNR=11
EARI Arriondas 26.41 298 P **P** **17 40 55.4 +2.7**
FINES FINESS Array B 26.50 359 P **P** **17 40 51.8 -1.5**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES MLR MLR
comp=Z,197nm,19.8s
FINES FINESS Array B 26.50 359 P **P** **17 40 51.8 -1.6**
comp=Z,2.1nm,0.4s,mb4.0,baz=160,slow=11,SNR=46
FINES LR LR 17 51 56.2
comp=Z,196nm,19.8s,MS3.7,baz=343,slow=38
HFS Hagfors 26.68 345 P **P** **17 40 53.5 -1.5**
HFS pmax pmax
comp=Z,2.0nm,0.3s
HFS MLR MLR
comp=Z,528nm,19.2s
HFS Hagfors 26.68 345 P **P** **17 40 53.5 -1.5**
comp=Z,1.8nm,0.3s,mb4.1,baz=140,slow=12,SNR=56
HFS LR LR 17 52 30.4
comp=Z,528nm,19.2s,MS4.1,baz=160,slow=39
HFA0 Hagfors New Ar 26.69 345 P **P** **17 40 53.3 -1.8**
ESPR Espera 26.83 284 P **P** **17 40 56.2 -0.5**
comp=Z,4.9nm,0.4s,mb4.4
ESPR Espera 26.83 284 P **P** **17 40 56.2 -0.4**
comp=Z,4.9nm,0.4s,mb4.4,SNR=6.1
KAF Kangasniemi 27.16 359 *e*p **P** **17 40 57.3 -2.1**
ATD Arta Tunnel 27.30 145 LR LR 17 53 18.0
comp=Z,219nm,18.2s,MS3.8,baz=338,slow=39
EMIN Mina Concepcio 27.39 286 P **P** **17 41 01.7 -0.1**
comp=Z,2.8nm,0.4s,mb4.2
EMIN Mina Concepcio 27.39 286 P **P** **17 41 01.7 -0.1**
comp=Z,2.8nm,0.4s,mb4.1,SNR=14
ECAL Calabor 27.40 295 P **P** **17 41 01.2 -0.6**
comp=Z,10nm,0.4s,mb4.7
ECAL Calabor 27.40 295 P **P** **17 41 01.2 -0.6**
comp=Z,10nm,0.4s,mb4.7,SNR=15
EBAD Badajoz 27.60 288 P **P** **17 41 03.4 -0.3**
EBAD Badajoz 27.60 288 P **P** **17 41 03.4 -0.3**
SNR=7.9
EPON Pontenova 27.82 298 P **P** **17 41 05.9 +0.4**
comp=Z,5.3nm,0.4s,mb4.5
EPON Pontenova 27.82 298 P **P** **17 41 05.9 +0.3**
comp=Z,5.3nm,0.4s,mb4.5,SNR=9.6
AB31 Akbulak array 27.86 49 *i* P **P** **17 41 06.5 +0.6**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
AB31 Akbulak array 27.86 49 *i* P **P** **17 41 06.5 +0.6**
comp=Z,1.0nm,0.3s,mb3.9
NAO01 NORSAR Array S 27.95 343 *e*P **P** **17 41 04.4 -2.2**
comp=Z,7.4nm,0.7s,mb4.4
NAO01 NORSAR Array S 27.95 343 *e*P **P** **17 41 04.4 -2.2**
comp=Z,7.4nm,0.7s,mb4.4
NB2 NORSAR Subarra 28.05 343 P **P** **17 41 04.7 -2.8**
comp=Z,0.6nm,0.5s,mb3.5,baz=145,slow=9.3
NB2 NORSAR Subarra 28.05 343 P **P** **17 41 04.7 -2.8**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
NOA NORSAR Array B 28.05 343 P **P** **17 41 05.0 -2.5**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 28.05 343 P **P** **17 41 05.0 -2.4**
comp=Z,0.9nm,0.5s,mb3.7,baz=147,slow=11,SNR=10
EGRO El Granado 28.06 285 P **P** **17 41 10.3 +2.5**
EKA Eskdalemuir Ar 29.21 324 P **P** **17 41 16.5 -1.3**
EKA pmax pmax
comp=Z,1.0nm,0.5s
EKA Eskdalemuir Ar 29.21 324 P **P** **17 41 16.4 -1.4**
comp=Z,1.1nm,0.5s,mb3.9,baz=126,slow=10,SNR=7.1
ARU Arti 30.19 35 *e*P **P** **17 41 24.5 -2.1**
ARU *e* 17 42 23.6
ARU *e*PPP PPP 17 42 34.0 -6.3
ARU *e* 17 44 29.7
ARU *e*S **S** **17 46 16.8 -4.8**
ARU *e*SSS SSS 17 48 19.6 -3.7
SVE Sverdlovsk 31.38 35 *e*P **P** **17 41 36.3 -0.8**
SVE *e* 17 42 47.2
SVE *e* 17 44 27.0
SVE *e*S **S** **17 46 45.0 +4.7**
SVE pmax pmax
comp=Z,40nm,2.0s,mb4.9
SVE MLR MLR
comp=N,200nm,14.0s,MS4.1
SVE MLR MLR
comp=E,200nm,14.0s,MS4.1
SVE MLR MLR
comp=Z,300nm,14.0s,MS4.1
SVE Sverdlovsk 31.38 35 *e*P **P** **17 41 36.3 -0.8**
comp=Z,40nm,2.0s,mb4.9
SVE Sverdlovsk 31.38 35 *e*PcP PcP 17 44 27.0 -3.2
APA Apatity 32.83 4 *i*P **P** **17 42 04.0 +14**
APA *i* 17 43 20.4
APA MLR MLR
comp=Z,600nm,13.0s,MS4.5
KKAR Karatay Array 34.23 63 *i* P **P** **17 42 03.6 +1.6**
KKAR pmax pmax
comp=Z,33nm,1.1s,mb5.2
ZRNK Zerenda 34.39 45 P **P** **17 42 03.7 +0.4**
ZRNK pmax pmax
comp=Z,16nm,1.0s,mb4.9
ZRNK Zerenda 34.39 45 *e*P **P** **17 42 01.9 -1.4**
comp=Z,24nm,1.1s,mb5.0
ZRNK Zerenda 34.39 45 *e*P **P** **17 42 01.9 -1.4**
comp=Z,24nm,1.1s,mb5.0
ARCES ARCESS Array B 34.63 359 P **P** **17 42 03.5 -1.6**
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES MLR MLR
comp=Z,407nm,19.1s
ARCES ARCESS Array B 34.63 359 P **P** **17 42 03.5 -1.7**
comp=Z,1.5nm,0.3s,mb4.3,baz=170,slow=8.5,SNR=29
ARCES LR LR 17 56 56.7
comp=Z,407nm,19.1s,MS4.2,baz=174,slow=38
ARE0 ARCESS Array S 34.63 359 *e*P **P** **17 42 04.7 -0.4**
KEV Kevo 34.83 360 *e*p **P** **17 42 00.9 -6.0**
AML Almayashu 36.63 65 P **P** **17 42 24.7 +2.3**
SNR=8.5
KMBO Kilima Mbogo 37.11 163 LR LR 17 57 44.6
comp=Z,222nm,20.2s,MS4.0,baz=69,slow=36
USP Ospenovka 37.14 63 P **P** **17 42 28.7 +2.0**
SNR=10
AAK Ala-Archa 37.18 64 P **P** **17 42 29.6 +2.6**
SNR=13
AAK Ala-Archa 37.18 64 P **P** **17 42 29.2 +2.2**
AAK pmax pmax
comp=Z,31nm,1.0s,mb5.1
AAK Ala-Archa 37.18 64 *e*P **P** **17 42 28.3 +1.3**
comp=Z,35nm,1.0s,mb5.2
UCH Uchtor 37.23 64 P **P** **17 42 30.1 +2.7**
SNR=13
FRU Bishkek 37.26 63 *i* P **P** **17 42 30.0 +2.3**
FRU *e* 17 44 10.0
FRU pmax pmax
comp=Z,80nm,1.5s,mb5.3
CHMS Chumysh 37.34 63 P **P** **17 42 31.1 +2.7**
SNR=18
KBK Karagaybulak 37.51 64 P **P** **17 42 33.7 +3.9**
SNR=11
KZA Kyzart 37.78 64 P **P** **17 42 35.6 +3.5**
SNR=31
TKM2 Tokmak 2 37.97 63 P **P** **17 42 36.0 +2.4**
SNR=19
ULHL Ulahol 38.50 64 P **P** **17 42 41.6 +3.6**
SNR=8.4
KSH Kashi 38.65 68 *e*P **P** **17 42 43.0 +3.7**
KSH *e*AP pP 17 42 53.4 +2.5
KSH *e*XP sP 17 42 57.4 +1.3
KSH *e*PP PP 17 44 16.0 +4.0
KSH *e*PCP PcP 17 44 54.0 +2.5
KSH *e*S **S** **17 48 36.8 +4.1**
KSH *e*PCS 17 48 41.5
KSH *e*XS 17 48 54.4
KSH *e*SCS ScS 17 52 40.6 -3.4
KSH AMB AMB
comp=Z,220nm,5.5s
KSH LR LR
comp=N,430nm,6.1s
KSH LR LR
comp=E,440nm,6.3s
DBIC Dimbokro 40.84 234 P **P** **17 43 00.1 +2.4**
DBIC pmax pmax
comp=Z,3.0nm,0.3s
DBIC MLR MLR
comp=Z,534nm,18.7s
DBIC Dimbokro 40.84 234 P **P** **17 43 00.1 +2.3**
comp=Z,3.1nm,0.3s,mb4.4,baz=40,slow=7.9,SNR=15
DBIC LR LR 18 04 01.9
comp=Z,534nm,18.7s,MS4.4,baz=24,slow=42
MKAR Makanchi Array 42.42 57 P **P** **17 43 12.2 +1.8**
MKAR pmax pmax
comp=Z,10.0nm,0.5s
MKAR MLR MLR
comp=Z,182nm,20.8s
MKAR Makanchi Array 42.42 57 P **P** **17 43 12.2 +1.8**
comp=Z,10nm,0.5s,mb4.7,baz=271,slow=7.9,SNR=149
MKAR LR LR 18 02 54.4
comp=Z,182nm,20.8s,MS3.9,baz=0.7,slow=39
MKAR Makanchi Array 42.42 57 P **P** **17 43 12.2 +1.8**
MKAR LR LR 18 02 54.4
NVS Novosibirsk 42.99 45 *i* P **P** **17 43 16.0 +1.1**
NVS *e*S **S** **17 49 39.0 +2.0**
NVS pmax pmax
comp=N,10.0nm,1.4s
NVS pmax pmax
comp=Z,39nm,1.4s,mb4.9
NVS pmax pmax
comp=E,9.0nm,0.9s
NVS smax
comp=N,7.0nm,1.4s
NVS smax
comp=E,8.0nm,0.5s
ZAL Zalesovo 43.87 46 P **P** **17 43 22.7 +0.7**
ZAL pmax pmax
comp=Z,5.0nm,0.4s
ZAL MLR MLR
comp=Z,330nm,20.2s
ZAL Zalesovo 43.87 46 P **P** **17 43 22.7 +0.7**
comp=Z,4.8nm,0.4s,mb4.6,baz=192,slow=6.6,SNR=20
ZAL LR LR 18 06 11.5
comp=Z,330nm,20.2s,MS4.2,baz=207,slow=42
WMQ Urumqi 46.59 60 P **P** **17 43 45.9 +2.1**
WMQ AP pP 17 43 55.8 +0.2
WMQ XP sP 17 43 59.7 -0.9
WMQ PP PP 17 45 35.0 +1.7
WMQ S **S** **17 50 31.1 +2.2**
WMQ XS 17 50 47.5
WMQ AMB AMB
comp=Z,22nm,1.1s,mb5.0
WMQ AMB AMB
comp=Z,110nm,6.8s
WMQ LR LR
comp=N,354nm,18.2s,MS4.5
WMQ LR LR
comp=E,348nm,17.3s,MS4.5
WMQ LR LR
comp=Z,659nm,20.4s,MS4.6
TLY Talaya 55.45 47 *e*P **P** **17 44 53.0 +2.2**
TLY pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
TLY MLR MLR
comp=Z,203nm,21.0s,MS4.2
TLY Talaya 55.45 47 *e*P **P** **17 44 52.4 +1.7**
comp=Z,4.9nm,0.9s,mb4.5
IRK Irkutsk 55.69 46 *e*P **P** **17 44 52.0 -0.5**
IRK pmax pmax
comp=Z,30nm,2.2s,mb4.9
IRK Irkutsk 55.69 46 *e*P **P** **17 44 52.0 -0.5**
comp=Z,30nm,2.2s,mb4.9
GTA Gaotai 56.51 62 *e*P **P** **17 45 00.1 +1.5**
GTA AP pP 17 45 10.3 -0.3
GTA XP sP 17 45 14.6 -0.9
GTA AMB AMB
comp=Z,4.0nm,1.2s,mb4.3
SONM Songino Array 58.25 51 P **P** **17 45 11.9 +1.2**
comp=Z,3.2nm,0.7s,mb4.5,baz=286,slow=9.0,SNR=18
ULN Ulaanbaatar 58.66 51 *e*P **P** **17 45 15.3 +1.7**
ULN Ulaanbaatar 58.66 51 *e*P **P** **17 45 15.6 +2.0**
ULN pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ULN Ulaanbaatar 58.66 51 *e*P **P** **17 45 15.6 +2.0**
comp=Z,7.7nm,1.0s,mb4.7
ULN Ulaanbaatar 58.66 51 *e*P **P** **17 45 15.3 +1.7**
BOD Bodaibo 59.52 38 *e*P **P** **17 45 16.8 -2.6**
BOD pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
BOD Bodaibo 59.52 38 *e*P **P** **17 45 16.8 -2.6**
comp=Z,8.0nm,1.1s,mb4.7
LZH Lanzhou 60.71 65 *e*P **P** **17 45 29.6 +1.8**
LZH AP pP 17 45 40.1 +0.1
LZH XP sP 17 45 44.1 -0.8
LZH PP PP 17 47 45.3 +1.4
LZH AMB AMB
comp=Z,24nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,81nm,7.2s
LZH LR LR
comp=N,439nm,15.0s
LZH LR LR
comp=Z,539nm,18.5s,MS4.7
LZH Lanzhou 60.71 65 *e*P **P** **17 45 29.6 +1.8**
LZH 17 47 45.3
LZH pmax pmax
comp=Z,24nm,1.5s,mb5.1
LZH MLR MLR
comp=Z,540nm,18.5s,MS4.7
LZH Lanzhou 60.71 65 *e*P **P** **17 45 29.6 +1.8**
comp=Z,24nm,1.5s,mb5.1
LZH pP pP 17 45 40.1 +0.1
LZH sP sP 17 45 44.1 -0.8
LZH PP PP 17 47 45.3 +1.4
LZH LR LR
comp=Z,540nm,18.5s,MS4.7
CIT Chita 61.21 45 *e*P **P** **17 45 32.2 +1.2**
BOSA Boshof 63.28 182 P **P** **17 45 48.6 +3.5**
BOSA pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
BOSA MLR MLR
comp=Z,208nm,18.7s,MS4.3
BOSA Boshof 63.28 182 P **P** **17 45 48.6 +3.5**
comp=Z,1.4nm,0.4s,mb4.4,baz=6.3,slow=9.2,SNR=9.2
BOSA LR LR 18 16 06.2
comp=Z,208nm,18.7s,MS4.3,baz=6.8,slow=38
BOSA Boshof 63.28 182 P **P** **17 45 48.6 +3.5**
BOSA LR LR 18 16 06.2
HHC Hu-ho-hao-te 64.29 57 *e*P **P** **17 45 53.8 +2.3**
HHC AP pP 17 46 04.1 +0.4
HHC XP sP 17 46 07.7 -0.8
HHC PCP PcP 17 46 28.0 +2.2
HHC PP PP 17 48 18.1 +3.2
HHC SCP 17 50 24.9
HHC S **S** **17 54 29.0 +4.3**
HHC XS 17 54 44.6
HHC PS PS 17 54 54.1 +3.9
HHC SCS ScS 17 55 42.0 +3.7
HHC SS SS 17 58 41.4 +5.1
HHC AMB AMB
comp=Z,20nm,1.0s,mb5.1
HHC LR LR
comp=N,344nm,17.9s,MS4.8
HHC LR LR
comp=E,450nm,20.3s,MS4.8
HHC LR LR
comp=Z,495nm,19.1s,MS4.7
SCHQ Schefferville 64.45 320 P **P** **17 45 51.8 -0.5**
comp=Z,1.7nm,0.3s,mb4.5,baz=36,slow=6.7,SNR=7.7
SCHQ LR LR 18 12 38.2
comp=Z,109nm,20.3s,MS4.0,baz=82,slow=35
SCHQ Schefferville 64.45 320 P **P** **17 45 53.0 +0.8**
comp=Z,11nm,0.8s,mb4.9
KMI Kunming 64.67 76 P **P** **17 45 56.6 +2.4**
KMI AMB AMB
comp=Z,5.0nm,1.5s,mb4.3
KMI Kunming 64.67 76 P **P** **17 45 56.6 +2.4**
comp=Z,5.0nm,1.5s,mb4.3
CMAR Chiang Mai Arr 64.86 84 P **P** **17 45 56.2 +0.6**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 64.86 84 P **P** **17 45 56.2 +0.7**
comp=Z,1.8nm,0.7s,mb4.2,baz=303,slow=8.3,SNR=12
CMAR Chiang Mai Arr 64.86 84 P **P** **17 45 56.2 +0.7**
YAK Yakutsk 65.16 30 *i* P **P** **17 45 58.1 +1.3**
XAN Xi'an 65.35 65 P **P** **17 46 00.0 +1.5**
XAN AMB AMB
comp=Z,4.0nm,0.5s,mb4.7
HIA Hailar 65.92 46 *e*P **P** **17 46 03.6 +1.8**
HIA pmax pmax
comp=Z,17nm,0.9s
HIA Hailar 65.92 46 *e*P **P** **17 46 03.6 +1.7**
comp=Z,17nm,0.9s,mb5.1
HIA Hailar 65.92 46 *e*P **P** **17 46 03.6 +1.8**
comp=Z,17nm,0.9s,mb5.1
GYA Guiyang 67.14 73 P **P** **17 46 12.4 +2.5**
GYA AP pP 17 46 22.8 +0.5
GYA XP sP 17 46 26.6 -0.3
GYA PP PP 17 48 42.7 +2.8
GYA S S 17 55 03.2 +3.5
GYA AMB AMB
comp=Z,20nm,0.7s,mb5.3
GYA AMB AMB
comp=Z,90nm,3.4s
GYA LR LR
comp=N,280nm,18.6s,MS4.7
GYA LR LR
comp=E,360nm,17.9s,MS4.7
GYA LR LR
comp=Z,410nm,18.4s,MS4.7
SUR Sutherland 67.28 186 LR LR 18 15 37.0
comp=Z,290nm,20.7s,MS4.5,baz=277,slow=36
CN2 Changchun 71.99 49 *e*P **P** **17 46 40.0 +0.7**
KLR Kul'dur 72.76 42 *e*P **P** **17 46 42.8 -0.9**
BILL Bilibino 72.80 15 *i* P **P** **17 46 45.0 +1.4**
NJ2 Nanjing 73.61 62 *e*P **P** **17 46 51.7 +2.6**
NJ2 AP pP 17 47 01.1 -0.4
NJ2 XP sP 17 47 05.0 -1.1
NJ2 PP PP 17 49 37.7 +2.4
NJ2 S S 17 56 19.0 +4.0
NJ2 XS 17 56 35.0
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,70nm,7.2s
NJ2 LR LR
comp=N,440nm,31.5s,MS4.7
NJ2 LR LR
comp=E,440nm,30.6s,MS4.7
NJ2 LR LR
comp=Z,290nm,28.5s,MS4.4
MDJ Mudanjiang 74.08 47 P **P** **17 46 49.7 -1.8**
MDJ AP pP 17 46 59.2 -4.7
MDJ XP sP 17 47 02.9 -5.6
MDJ PCP PcP 17 47 05.4 -1.4
MDJ SCS ScS 17 56 55.3 +0.5
MDJ AMB AMB
comp=Z,6.0nm,1.5s,mb4.3
MDJ AMB AMB
comp=Z,33nm,4.8s
MDJ LR LR
comp=N,410nm,22.0s,MS4.8
MDJ LR LR
comp=E,291nm,22.0s,MS4.8
MDJ LR LR
comp=Z,393nm,31.6s
SSE Sheshan 75.80 62 *e*P **P** **17 47 01.5 -0.2**
SSE AMB AMB
comp=Z,18nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,60nm,3.5s
SSE Sheshan 75.80 62 *e*P **P** **17 47 01.5 -0.2**
comp=Z,18nm,0.8s,mb5.0
INK Inuvik 76.03 353 LR LR 18 21 30.5
comp=Z,107nm,21.6s,MS4.1,baz=13,slow=37
INK Inuvik 76.03 353 *e*P **P** **17 47 03.3 +1.0**
SADO Sadowa 76.40 315 LR LR 18 20 35.8
comp=Z,91nm,18.9s,MS4.1,baz=139,slow=36
GENY Geneseo 76.79 313 *e*P **P** **17 47 07.8 +0.7**
YKA Yellowknife Ar 78.14 343 P **P** **17 47 14.5 +0.4**
comp=Z,0.5nm,0.4s,mb3.8,baz=30,slow=5.1,SNR=7.0
YKA LR LR 18 24 39.1
comp=Z,72nm,19.9s,MS4.0,baz=180,slow=38
YKA Yellowknife Ar 78.14 343 P **P** **17 47 14.6 +0.4**
YSS Yuzh-Sakhalins 79.99 39 *e*P **P** **17 47 28.3 +3.7**
YSS pmax pmax
comp=Z,11nm,1.1s,mb4.7
YSS MLR MLR
comp=Z,100nm,22.0s,MS4.1
YSS Yuzh-Sakhalins 79.99 39 *e*P **P** **17 47 26.7 +2.2**
comp=Z,22nm,1.1s,mb5.0
ILAR Eielson Array 80.48 357 P **P** **17 47 27.7 +0.9**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR Eielson Array 80.48 357 P **P** **17 47 27.7 +0.9**
comp=Z,0.5nm,0.6s,mb3.6,baz=335,slow=3.4,SNR=6.9
FFC Flin Flon 80.60 333 *e*P **P** **17 47 28.2 +0.6**
FFC pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,10.0nm,1.0s,mb4.7						
FFC	**Flin Flon**	**80.60**	**333**	*e*P	**P**	**17 47 28.2**	**+0.6**
	comp=Z,9.8nm,1.0s,mb4.7						
FFC	**Flin Flon**	**80.60**	**333**	*e*P	**P**	**17 47 28.2**	**+0.6**
	comp=Z,10.0nm,1.0s,mb4.7						
ULM	**Lac du Bonnet**	**81.42**	**327**	LR	LR	18 23 05.9	
	comp=Z,105nm,21.6s,MS4.2,baz=355,slow=35						
FWV	**Forest Hill**	**81.72**	**310**	P	**P**	**17 47 34.9**	**+1.0**
MAT	**Matsushiro**	**84.14**	**49**	P	**P**	**17 47 55.0**	**+8.8**
MAT	**Matsushiro**	**84.14**	**49**	P	**P**	**17 47 48.3**	**+2.1**
MJAR	**Matsushiro Arr**	**84.14**	**49**	P	**P**	**17 47 49.0**	**+2.8**
MJAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MJAR	**Matsushiro Arr**	**84.14**	**49**	P	**P**	**17 47 49.0**	**+2.8**
	comp=Z,3.0nm,1.0s,mb4.4,baz=305,slow=4.5,SNR=8.4						
CPCT	**Cooper Cave**	**85.38**	**310**	*e*P	**P**	**17 47 53.8**	**+1.4**
BDFB	**Brasilia**	**87.25**	**249**	LR	LR	18 29 39.4	
	comp=Z,264nm,20.8s,MS4.6,baz=66,slow=37						
CCM	**Cathedral Cave**	**87.67**	**316**	*e*P	**P**	**17 48 06.1**	**+2.6**
CCM				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.9						
CCM	**Cathedral Cave**	**87.67**	**316**	*e*P	**P**	**17 48 06.1**	**+2.6**
	comp=Z,5.7nm,0.7s,mb4.9						
PDAR	**Pinedale Array**	**93.16**	**330**	P	**P**	**17 48 31.0**	**+1.9**
	comp=Z,0.4nm,0.6s,mb4.0,baz=45,slow=4.2,SNR=3.6						
PDAR				LR	LR	18 30 56.9	
	comp=Z,140nm,21.9s,MS4.4,baz=51,slow=36						
NVAR	**Mina Array Bea**	**100.30**	**333**	P	P	17 49 03.9	+2.3
	comp=Z,0.3nm,0.6s,baz=45,slow=4.2,SNR=4.1						
NVAR				LR	LR	18 34 54.0	
	comp=Z,50nm,19.2s,MS4.0,baz=155,slow=36						

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*IDC **02** 17:46:19.8±8.7, 24.13S×179.96E, h478km±108km, mb3.6/4, mb1 3.8/5, mb1mx3.3/14, mbtmp4.5/5, Error ellipse: s-maj=63.0km s-min=28.6km az=12.0*

ISC 02 17:46:19.6±5.1**, 24.1S**±0.2×**179.9E**±0.2**, h488km**±63km**, n9, σ0^{s}61**/10**, mb4.1**/5**, 4D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.27**	**189**	P	**P**	**17 49 22.6**	**-0.3**
	1.1nm,0.3s,baz=252,slow=3.5,SNR=9.9						
URZ				S	**S**	**17 51 50.9**	**+0.1**
	0.5nm,0.3s,baz=80,slow=16,SNR=7.3						
CTA	**Charters Tower**	**31.35**	**271**	⇓*i*P	**P**	**17 52 01.8**	**+1.2**
	9.3nm,0.3s,mb4.7						
CTA	**Charters Tower**	**31.35**	**271**	P	**P**	**17 52 01.9**	**+1.2**
	12nm,0.4s,mb4.7,baz=96,slow=10,SNR=30						
STKA	**Stephens Creek**	**34.51**	**248**	⇓*i*P	**P**	**17 52 27.7**	**+0.5**
	12nm,3.5s						
STKA	**Stephens Creek**	**34.51**	**248**	P	**P**	**17 52 27.8**	**+0.6**
	2.0nm,0.5s,mb3.8,baz=84,slow=9.7,SNR=19						
WB2	**Warramunga Arr**	**42.25**	**266**	⇓*i*P	**P**	**17 53 30.1**	**-0.4**
WRA	**Warramunga Arr**	**42.26**	**266**	P	**P**	**17 53 30.2**	**-0.4**
	4.4nm,0.4s,mb4.3,baz=98,slow=8.3,SNR=82						
KAKA	**Kakadu**	**46.20**	**275**	⇓*i*P	**P**	**17 54 00.6**	**-0.9**
	3.0nm,0.2s,mb4.4						
TXAR	**Lajitas Array**	**90.67**	**58**	P	**P**	**17 58 30.7**	**+0.2**
	0.5nm,0.8s,mb3.5,baz=203,slow=6.9,SNR=5.6						

CASC 02 17:50:27.3±1.9**, 11.16N**×**86.69W, h26km**±5km**, MD3.8, ML3.2, 8C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.91**	**25**	*e*P	Pb	17 50 44.5	+0.2
APON	**Apoyo**	**0.97**	**39**	⇑*e*P	Pn	17 50 45.0	-0.3
TICN	**Ticuantepe**	**0.98**	**27**	⇓*e*P	Pn	17 50 45.4	-0.1
XAVN	**Gruta Xavier**	**1.05**	**20**	*e*P	Pn	17 50 46.1	-0.3
XAVN				*e*S	Sb	17 51 00.9	+0.9
MGAN	**Managua**	**1.07**	**24**	⇑*e*P	Pn	17 50 46.5	-0.3
MGAN				*e*S	Sb	17 51 01.1	+0.3
MGAN				*i*		17 51 02.6	
	comp=E,463nm,0.2s						
WILN	**Americas 2**	**1.11**	**26**	⇑*e*P	Pn	17 50 46.8	-0.5
WILN				*e*S	Sb	17 51 02.9	+1.0
CONN	**Concepcion**	**1.12**	**69**	⇓*i*P	Pn	17 50 46.7	-0.8
APYN	**Apoyeque**	**1.12**	**17**	⇓*e*P	Pn	17 50 47.4	-0.1
APYN				*e*S	Sn	17 51 02.3	+0.2
MOMJ	**Momotombo**	**1.25**	**7**	⇑*e*P	Pn	17 50 48.6	-0.8
LEON	**Leon**	**1.27**	**351**	⇑*e*P	Pn	17 50 49.4	-0.2
LEON				*e*S	Sn	17 51 08.2	+2.3
MIRN	**Miramar**	**1.27**	**359**	⇓*e*P	Pn	17 50 49.6	0.0
MIRN				*e*S	Sn	17 51 06.8	+0.7
CNGN	**Cerro Negro**	**1.33**	**360**	⇑*e*P	Pn	17 50 49.9	-0.6
TEL3	**Telica 3**	**1.42**	**354**	⇑*e*P	Pn	17 50 51.5	-0.2
TELN	**Telica**	**1.45**	**355**	*e*P	Pn	17 50 51.6	-0.6
TELN				*e*S	Sn	17 51 11.5	+1.1
PYTN	**Playitas**	**1.50**	**24**	⇓*e*P	Pn	17 50 52.4	-0.6
CRIN	**San Cristobal**	**1.57**	**347**	⇑*e*P	Pn	17 50 53.9	-0.1
CRIN				*e*S	Sn	17 51 12.9	-0.7

IDC 02 17:57:38.0±1.1**, 1.94N**×**128.19E, mb3.9**/5**, mb1 4.1**/5**, mb1mx3.7**/16**, mbtmp4.0**/5**, Error ellipse: s-maj=64.3km s-min=19.1km az=74.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.56**	**165**	P	P	18 02 40.3	-1.2
	1.5nm,0.4s,baz=343,slow=11,SNR=13						
MJAR	**Matsushiro Arr**	**35.66**	**14**	P	P	18 04 37.2	-2.7
	0.7nm,0.6s,baz=196,slow=11,SNR=4.8						
STKA	**Stephens Creek**	**35.95**	**160**	P	P	18 04 40.1	-2.3
	1.1nm,0.3s,baz=338,slow=11,SNR=22						
SONM	**Songino Array**	**49.46**	**341**	P	P	18 06 30.5	-1.5
	0.6nm,0.6s,baz=146,slow=8.9,SNR=4.5						
MKAR	**Makanchi Array**	**59.85**	**325**	P	P	18 07 45.7	-2.1
	1.8nm,0.3s,baz=113,slow=7.9,SNR=65						

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*IDC **02** 18:05:18.4±2.7, 42.91N×105.07W, mb3.4/3, mb1 3.7/5, mb1mx3.4/22, mbtmp3.5/5, ML3.6/2, Error ellipse: s-maj=59.2km s-min=10.0km az=162.0*
*NEIC **02** 18:05:22.6±0.4, 43.74N×105.30W, ML3.0, Error ellipse: s-maj=6.9km s-min=4.5km az=151.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.

ISC 02 18:05:21.1±0.5**, 43.76N**±0.05×**105.31W**±0.06**, n30, σ0^{s}79**/30**, mb3.9**/2**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**68**	*e*P	**Pb**	**18 05 41.4**	**+0.7**
PHWY	**Pilot Hill**	**2.46**	**183**	*e*P	**Pn**	**18 06 03.8**	**+0.7**
RWWY	**Rawlins**	**2.50**	**215**	*e*P	**Pn**	**18 06 04.8**	**+1.2**
LAO	**LASA Array**	**3.00**	**348**	*e*P	**Pn**	**18 06 11.5**	**+0.7**
BW06	**Boulder Array**	**3.26**	**254**	*e*P	**Pn**	**18 06 15.4**	**+0.9**
PDAR	**Pinedale Array**	**3.26**	**254**	Pn	**Pn**	**18 06 15.7**	**+1.2**
	4.8nm,0.3s,baz=84,slow=14,SNR=83						
PDAR				Lg		18 07 00.6	
	8.6nm,0.3s,baz=332,slow=12,SNR=9.3						
LOHW	**Long Hollow**	**3.84**	**270**	P	**Pn**	**18 06 23.1**	**+0.3**
MOOW	**Moose Ponds**	**3.94**	**272**	P	**Pn**	**18 06 24.5**	**+0.4**
ISCO	**Idaho Springs**	**3.96**	**183**	*e*P	**Pn**	**18 06 24.2**	**-0.3**
SNOW	**Snow King Moun**	**3.97**	**268**	P	**Pn**	**18 06 25.4**	**+0.8**
REDW	**Red Top Meadow**	**4.05**	**266**	*e*P	**Pn**	**18 06 25.8**	**+0.1**
IMW	**Indian Meadow**	**4.08**	**274**	P	**Pn**	**18 06 26.1**	**0.0**
TPAW	**Teton Pass**	**4.11**	**268**	*e*P	**Pn**	**18 06 27.0**	**+0.4**
AHID	**Auburn Hatcher**	**4.35**	**259**	*e*P	**Pn**	**18 06 29.6**	**-0.3**
RRI2	**Red Ridge**	**4.39**	**267**	*e*P	**Pn**	**18 06 30.8**	**+0.3**
DGMT	**Dagmar**	**4.78**	**9**	*e*P	**Pn**	**18 06 36.6**	**+0.6**
BOZ	**Bozeman (W)**	**4.89**	**295**	*e*P	**Pn**	**18 06 37.0**	**-0.6**
HWUT	**Hardware Ranch**	**5.09**	**247**	*e*P	**Pn**	**18 06 39.6**	**-0.9**
HRY	**Holter Researc**	**5.47**	**305**	*e*P	**Pn**	**18 06 46.4**	**+0.5**
SPUT	**South Promonto**	**5.82**	**248**	P	**Pn**	**18 06 49.1**	**-1.6**
PV01	**Paradox Valley**	**6.14**	**205**	*e*P	**Pn**	**18 06 54.8**	**-0.4**
BGU	**Big Grassy Mou**	**6.38**	**246**	*e*P	**Pn**	**18 06 57.0**	**-1.7**
CHMT	**Chamberlain Mo**	**6.43**	**302**	*e*P	**Pn**	**18 06 58.4**	**-0.9**
HLID	**Hailey**	**6.61**	**271**	P	**Pn**	**18 07 02.0**	**+0.1**
MSU	**Marysvale**	**7.37**	**227**	P	**Pn**	**18 07 07.8**	**-4.8**
MVU	**Marysvale**	**7.39**	**227**	P	**Pn**	**18 07 12.9**	**-0.1**
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	**P**	**18 07 37.0**	**-0.3**
	1.2nm,0.3s,baz=234,slow=12,SNR=6.4						
YKA	**Yellowknife Ar**	**19.54**	**347**	P	**P**	**18 09 57.0**	**+4.3**
	0.2nm,0.3s,baz=155,slow=9.0,SNR=4.6						
ARCES	**ARCESS Array B**	**61.41**	**18**	P	**P**	**18 15 39.1**	**-1.7**
	0.3nm,0.4s,mb3.8,baz=324,slow=6.9,SNR=4.2						
FINES	**FINESS Array B**	**68.02**	**23**	P	**P**	**18 16 23.2**	**-0.5**
	0.4nm,0.5s,mb3.9,baz=329,slow=8.1,SNR=6.8						

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*MOS **02** 18:12:19.3±0.7, 13.85N×93.63E, h33km, mb5.4/74, MS4.4/26, Error ellipse: s-maj=7.7km s-min=3.8km az=122.8*
*BJI **02** 18:12:19.7, 13.76N×93.57E, h44km, mB5.2, mb5.3, Ms4.7, Msz4.4*
*HRVD **02** 18:12:21.9±0.3, 13.86N×93.56E, h45km, MW5.1/57, Centroid moment Tensor Solution. LP body waves: s47,c76; Mantle waves: s57,c95; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.34±.21; $M_{\theta\theta}$1.57±.15; $M_{\phi\phi}$-4.91±.14; $M_{r\theta}$2.82±.13; $M_{\theta\phi}$1.05±.14; $M_{\phi r}$-2.33±.15; Best double couple: $M_0$5.765×10^{16} NP1:ϕ_s21°, δ37°, λ142°. NP2:ϕ_s143°, δ68°, λ59°. Principal axes: T 5.574, Plg56°, Azm13°; N .383, Plg28°, Azm155°; P -5.957, Plg18°, Azm255°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 18:12:21.9±0.1, 13.85N×93.61E, mb5.1/89, MS4.4/19 Error ellipse: s-maj=3.7km s-min=2.9km az=207.0*
NEIC Felt in the Andaman Islands.
*IDC **02** 18:12:22.1±0.4, 13.84N×93.60E, h39km±2km, mb4.8/27, mb1 4.9/28, mb1mx4.8/30, mbtmp5.0/28, ML5.4/1, MS4.3/20, Ms1 4.3/20, ms1mx4.2/23, Error ellipse: s-maj=13.2km s-min=9.9km az=45.0*
*CRAAG **02** 18:12:23.2, 14.02N×93.67E, Mb5.1*

ISC 02 18:12:20.3±0.2**, 13.83N**±0.03×**93.56E**±0.02**, h40km**±1.0km**: pP-P, n414, σ0^{s}91**/425**, mb5.1**/137**, MS4.4**/56**, 57C-13D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**6.14**	**101**	P	**P**	**18 13 52.3**	**+1.5**
NST	**Nakhon Sawan**	**6.62**	**73**	⇑P	**P**	**18 13 58.0**	**+0.4**
	1µm,0.5s						
CM31	**Chiang Mai Arr**	**6.92**	**48**	*e*P	**P**	**18 14 01.7**	**-0.1**
	1µm,1.0s						
CMAR	**Chiang Mai Arr**	**6.92**	**48**	Pn	**P**	**18 14 02.0**	**+0.2**
	19nm,0.3s,baz=240,slow=15,SNR=976						
CMAR				Sn	**S**	**18 15 20.1**	**-0.1**
	9.4nm,0.3s,baz=238,slow=29,SNR=4.1						
CMAR				LR	LR	18 17 07.8	
	comp=Z,2µm,21.1s,baz=230,slow=42						
CMAR				ScP		18 24 18.8	
	0.0nm,0.3s,baz=259,slow=3.0,SNR=5.2						
CHG	**Chiang Mai**	**7.16**	**45**	⇑P	**P**	**18 14 04.8**	**-0.4**
	150nm,0.8s						
KKTK	**Khon Kaen**	**9.29**	**73**	⇑P	**P**	**18 14 36.5**	**+1.9**
	6µm,0.4s						
VIS	**Vishakhapatnam**	**10.58**	**293**	*e*P	**P**	**18 14 50.7**	**-1.8**
VIS				*e*S	**S**	**18 16 38.5**	**-12**
VIS				AML	AML	18 16 44.8	
	comp=N,1µm,0.4s						
VIS				AML	AML	18 16 44.9	
	comp=E,543nm,0.3s						
IMP	**Imphal**	**10.90**	**2**	*e*P	**P**	**18 14 54.0**	**-2.9**
IMP				*e*		18 16 49.0	
KULM	**Kulim**	**10.99**	**140**	*e*P	**P**	**18 15 01.1**	**+3.0**
UBT	**Ubonrachathani**	**11.18**	**81**	P	**P**	**18 15 03.8**	**+3.1**
SHL	**Shillong**	**11.78**	**353**	*e*P	**P**	**18 15 05.0**	**-3.8**
SHL				*e*S	**S**	**18 17 06.0**	**-14**
SHBG	**Sahibganj**	**12.61**	**335**	*e*P	**P**	**18 15 17.0**	**-2.9**
SHBG				*e*		18 17 22.0	
BLSP	**Bilaspur**	**13.64**	**309**	*e*P	**P**	**18 15 32.3**	**-1.2**
BLSP				AMb	AMB	18 16 00.6	
	comp=Z,80nm,0.6s						
BLSP				*e*		18 17 51.3	
KMI	**Kunming**	**14.18**	**36**	⇑P	**P**	**18 15 42.4**	**+1.9**
KMI				AP		18 15 49.2	
KMI				PP	PP	18 15 51.8	+0.1
KMI				XP		18 15 56.6	
KMI				PPP	PPP	18 16 01.9	+3.0
KMI				S	**S**	**18 18 17.8**	**+0.4**
KMI				XS		18 18 31.8	
KMI				SS	SS	18 18 35.0	+0.8
KMI				AMB	AMB		
	comp=Z,19nm,1.0s						
KMI				AMB	AMB		
	comp=Z,247nm,4.9s						
KMI				LR	LR		
	comp=N,1µm,13.7s						
KMI				LR	LR		
	comp=E,2µm,13.1s						
KMI				LR	LR		
	comp=Z,2µm,22.9s						
KMI	**Kunming**	**14.18**	**36**	⇑P	**P**	**18 15 42.4**	**+1.9**
KMI				S	**S**	**18 18 17.8**	**+0.4**
KMI				pmax	pmax		
	comp=Z,19nm,1.0s						
KMI	**Kunming**	**14.18**	**36**	⇑P	**P**	**18 15 42.4**	**+1.9**
	comp=Z,19nm,1.0s						
KMI				pP		18 15 49.2	
KMI				PP	PP	18 15 51.8	+0.1
KMI				sP		18 15 56.6	
KMI				PPP	PPP	18 16 01.9	+3.0
KMI				S	**S**	**18 18 17.8**	**+0.4**
KMI				sS		18 18 31.8	
KMI				SS	SS	18 18 35.0	+0.8
PALK	**Pallekele**	**14.21**	**244**	*e*P	**P**	**18 15 39.3**	**-1.8**
	comp=Z,40nm,0.9s						
HYB	**Hyderabad**	**14.89**	**286**	⇑*e*P	**P**	**18 15 50.0**	**+0.1**
HYB				pmax	pmax		
	comp=Z,71nm,0.8s						
HYB	**Hyderabad**	**14.89**	**286**	⇑*i*P	**P**	**18 15 50.0**	**+0.1**
	comp=Z,71nm,0.8s						
HYB				*e*		18 18 19.0	
HYB				*e*S	**S**	**18 18 35.0**	**+0.8**
PKI	**Pulchoki**	**15.65**	**332**	*e*P	**P**	**18 16 00.0**	**+0.4**
PKI				*e*S	**S**	**18 18 40.0**	**-12**
GUN	**Gumba**	**15.73**	**334**	*e*P	**P**	**18 16 01.5**	**+0.7**
	comp=Z,302nm,0.9s						
GUN				*e*S	**S**	**18 18 43.7**	**-10**
DMN	**Daman**	**15.82**	**331**	*e*P	**P**	**18 16 01.9**	**+0.1**
	comp=Z,167nm,0.7s						
KKN	**Kakani**	**15.89**	**332**	*e*P	**P**	**18 16 03.5**	**+0.7**
	comp=Z,143nm,0.7s						
KKN				*e*S	**S**	**18 18 48.2**	**-9.3**
KKN	**Kakani**	**15.89**	**332**	*e*P	**P**	**18 16 03.5**	**+0.7**
KKN				*e*S	**S**	**18 18 48.2**	**-9.3**
KKN				pmax	pmax		
	comp=Z,72nm,0.7s						
ALBI	**Allahabad**	**15.89**	**318**	*e*P	**P**	**18 16 02.5**	**-0.3**
LSA	**Lhasa**	**15.95**	**352**	P	**P**	**18 16 03.4**	**-0.1**
LSA				S	**S**	**18 19 00.1**	**+1.2**
LSA				PCP	PcP	18 20 59.0	-1.5
LSA				AMB	AMB		
	comp=Z,430nm,0.7s						
LSA				LR	LR		
	comp=N,810nm,29.2s						
LSA				LR	LR		
	comp=E,1µm,29.2s						
LSA				LR	LR		
	comp=Z,2µm,26.6s						
LSA	**Lhasa**	**15.95**	**352**	*e*P	**P**	**18 16 01.4**	**-2.1**
LSA				pmax	pmax		
	comp=Z,310nm,0.6s						
LSA	**Lhasa**	**15.95**	**352**	*e*P	**P**	**18 16 01.4**	**-2.1**
	comp=Z,310nm,0.6s						
GKN	**Gorkha**	**16.37**	**331**	*e*P	**P**	**18 16 08.9**	**+0.1**
	comp=Z,69nm,0.3s						
GKN				*e*S	**S**	**18 18 58.7**	**-10**
QIZ	**Qiongzhong**	**16.45**	**70**	P	**P**	**18 16 10.0**	**+0.1**
QIZ				AP		18 16 21.3	
QIZ				XP		18 16 25.9	
QIZ				*e*S	**S**	**18 19 14.4**	**+3.9**
QIZ				SS	SS	18 19 33.4	+2.5
QIZ				LR	LR		
	comp=N,1µm,19.3s						
QIZ				LR	LR		
	comp=E,1µm,20.7s						
QIZ				LR	LR		
	comp=Z,2µm,18.7s						
QIZ	**Qiongzhong**	**16.45**	**70**	*e*P	**P**	**18 16 12.3**	**+2.5**
	comp=Z,45nm,0.9s						
KOLN	**Koldanda**	**16.69**	**328**	*e*P	**P**	**18 16 13.4**	**+0.5**
	comp=Z,252nm,0.7s						
KOLN				*e*S	**S**	**18 19 06.1**	**-10**
LATR	**Latur**	**16.95**	**288**	*e*P	**P**	**18 16 18.1**	**+1.9**
AKL	**Akola**	**17.21**	**296**	⇑*i*	**P**	**18 16 24.0**	**+4.6**
AKL				*i*		18 19 18.0	
GYA	**Guiyang**	**17.57**	**42**	⇑*i*P	**P**	**18 16 23.9**	**0.0**
GYA				AP		18 16 33.4	
GYA				XP		18 16 36.8	
GYA				PPP	PPP	18 16 57.6	+10
GYA				S	**S**	**18 19 37.3**	**+1.4**
GYA				AMB	AMB		
	comp=Z,50nm,0.9s						
GYA				AMB	AMB		
	comp=Z,340nm,6.0s						
GYA				LR	LR		
	comp=N,890nm,17.2s						
GYA				LR	LR		
	comp=E,1µm,16.2s						
GYA				LR	LR		
	comp=Z,1µm,20.0s						
BHPL	**Bhopal**	**17.92**	**304**	*e*P	**P**	**18 16 29.0**	**+0.7**
BHPL				AMb	AMB	18 16 56.3	
	comp=Z,83nm,1.4s						
BHPL				*e*		18 19 35.1	
KAD	**Karad**	**18.98**	**283**	*e*P	**P**	**18 16 42.1**	**+0.8**
KAD				AMb	AMB	18 16 44.5	
	comp=Z,106nm,1.2s						
KAD				*e*		18 19 56.6	
CD2	**Chengdu**	**19.42**	**27**	⇑*i*P	**P**	**18 16 44.6**	**-1.5**
POO	**Poona**	**19.50**	**286**	⇓*i*P	**P**	**18 16 47.0**	**0.0**
	comp=Z,70nm,1.0s						
POO				*i*		18 20 10.0	
LGTI	**Lohaghat**	**19.84**	**324**	*e*	**S**	**18 20 23.5**	**-3.3**
PTH	**Pithoragarh**	**19.93**	**324**	*e*	**P**	**18 16 55.0**	**+3.4**
PTH				*e*		18 19 10.0	
BOM	**Bombay**	**20.53**	**287**	*e*	**P**	**18 17 06.0**	**+8.1**
BOM				*e*		18 17 06.6	
	comp=Z,76nm,0.3s						
BOM				*e*		18 20 33.0	
KSM	**Kuching**	**20.62**	**125**	*e*P	**P**	**18 17 00.1**	**+1.2**
GZH	**Guangzhou**	**20.88**	**61**	P	**P**	**18 17 05.6**	**+4.0**
GZH				LR	LR		
	comp=N,829nm,17.2s,MS4.3						
GZH				LR	LR		
	comp=E,768nm,18.4s,MS4.3						
GZH				LR	LR		
	comp=Z,1µm,21.1s,MS4.2						
AJM	**Ajmer**	**21.73**	**308**	⇑*i*P	**P**	**18 17 12.0**	**+1.9**
DDI	**Dehra Dun**	**21.77**	**321**	*e*	**P**	**18 17 17.0**	**+6.6**
DDI				*e*		18 21 01.0	
ENH	**Enshi**	**21.99**	**39**	*e*P	**P**	**18 17 11.6**	**-1.1**
	comp=Z,608nm,0.9s,mb6.0						
SMLA	**Simla**	**22.88**	**322**	⇓*i*P	**P**	**18 17 20.1**	**-1.4**
	comp=Z,209nm,0.4s,mb5.9						
SMLA				*i* S	**S**	**18 21 29.5**	**+5.4**
SDNR	**Sundarnagar**	**23.26**	**322**	*e*P	**P**	**18 17 28.0**	**+2.8**
BHK	**Bhakra**	**23.54**	**321**	*e*P	**P**	**18 17 32.1**	**+4.2**
KKM	**Kota Kinabalu**	**23.60**	**107**	*e*P	**P**	**18 17 29.1**	**+0.5**
LZH	**Lanzhou**	**24.01**	**21**	⇑P	**P**	**18 17 34.1**	**+1.7**
LZH				AP		18 17 43.9	
LZH				XP		18 17 48.0	
LZH				PP	PP	18 18 08.5	+1.2
LZH				*e*S	**S**	**18 21 46.1**	**+2.3**
LZH				XS		18 22 01.8	
LZH				SS	SS	18 22 38.3	+2.0
LZH				AMB	AMB		
	comp=Z,159nm,1.3s,mb5.3						
LZH				AMB	AMB		
	comp=Z,496nm,5.1s						
LZH				LR	LR		
	comp=N,2µm,10.0s						
LZH				LR	LR		
	comp=Z,3µm,13.2s,MS4.9						
LZH	**Lanzhou**	**24.01**	**21**	⇑P	**P**	**18 17 34.1**	**+1.7**
	comp=Z,159nm,1.3s,mb5.3						
LZH				pP		18 17 43.9	
LZH				sP		18 17 48.0	
LZH				PP	PP	18 18 08.5	+1.2
LZH				*e*S	**S**	**18 21 46.1**	**+2.3**
LZH				sS		18 22 01.8	
LZH				SS	SS	18 22 38.3	+2.0
LZH				LR	LR		
	comp=Z,3µm,13.2s,MS4.9						
THN	**Thein Dam**	**24.67**	**322**	*e*P	**P**	**18 17 38.1**	**-0.8**
THN				*e*		18 22 15.8	
WHN	**Wuhan**	**25.37**	**46**	⇓P	**P**	**18 17 45.0**	**-0.5**
WHN				LR	LR		
	comp=N,820nm,8.2s						
WHN				LR	LR		
	comp=E,3µm,18.8s						
WHN				LR	LR		
	comp=Z,3µm,21.5s,MS4.7						
QZH	**Quanzhou**	**26.02**	**61**	⇑*i*P	**P**	**18 17 51.4**	**-0.3**
QZH				S	**S**	**18 22 18.0**	**+0.4**
QZH				SS	SS	18 23 24.0	-1.7
QZH				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.2						
QZH				LR	LR		
	comp=N,640nm,10.4s,MS4.6						
QZH				LR	LR		
	comp=E,680nm,11.0s,MS4.6						
QZH				LR	LR		
	comp=Z,2µm,20.7s						
GTA	**Gaotai**	**26.07**	**11**	⇑*i*P	**P**	**18 17 52.9**	**+0.9**
GTA				AP	pP	18 18 02.6	-0.1
GTA				XP	sP	18 18 06.4	-1.0
GTA				PCP	PcP	18 21 20.4	+0.8
GTA				S	**S**	**18 22 20.4**	**+2.1**
GTA				SCS	ScS	18 28 43.8	+0.7
GTA				AMB	AMB		
	comp=Z,165nm,0.9s,mb5.6						
GTA				AMB	AMB		
	comp=Z,474nm,9.1s						
GTA				LR	LR		
	comp=N,388nm,20.5s,MS4.1						
GTA				LR	LR		
	comp=E,494nm,20.5s,MS4.1						
GTA				LR	LR		
	comp=Z,542nm,23.1s,MS4.0						
YHNB	**Yeheng**	**28.33**	**63**	*e*P	**P**	**18 18 12.8**	**0.0**
NACB	**Ninganchiao**	**28.38**	**65**	P	**P**	**18 18 11.2**	**-2.0**
TATO	**Taipei**	**28.52**	**63**	PFAKE		18 18 30.0	+16
TATO				LR	LR		
	comp=Z,689nm,19.0s,MS4.3						
NJ2	**Nanjing**	**29.40**	**48**	*e*P	**P**	**18 18 21.6**	**-0.6**
NJ2				AP	pP	18 18 31.0	-2.1
NJ2				XP	sP	18 18 35.0	-3.1
NJ2				PP	PP	18 19 17.4	-1.0
NJ2				S	**S**	**18 23 14.0**	**+2.0**
NJ2				XS		18 23 29.0	
NJ2				AMB	AMB		
	comp=Z,170nm,1.2s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,220nm,11.3s						
NJ2				LR	LR		
	comp=N,2µm,18.0s,MS4.9						
NJ2				LR	LR		
	comp=E,2µm,17.6s,MS4.9						
NJ2				LR	LR		
	comp=Z,1µm,15.0s,MS4.7						
KSH	**Kashi**	**29.91**	**332**	⇑*i*P	**P**	**18 18 28.0**	**+1.3**
KSH				*e*AP	pP	18 18 38.0	+0.4
KSH				*e*XP	sP	18 18 42.0	-0.6
KSH				*e*PP	PP	18 19 25.3	+0.4
KSH				*e*PCP	PcP	18 21 31.2	+2.2
KSH				*e*S	**S**	**18 23 20.0**	**0.0**
KSH				*e*XS		18 23 37.1	
KSH				*e*SS	SS	18 24 57.0	-0.8
KSH				*e*PCS		18 25 13.0	
KSH				*e*SCS	ScS	18 29 03.0	+2.6
KSH				AMB	AMB		
	comp=Z,80nm,0.9s,mb5.5						
KSH				LR	LR		
	comp=N,560nm,5.7s						
KSH				LR	LR		
	comp=E,1µm,16.8s						
WMQ	**Urumqi**	**30.31**	**352**	P	**P**	**18 18 31.5**	**+1.3**
WMQ				AP	pP	18 18 41.1	0.0
WMQ				XP	sP	18 18 45.1	-1.1
WMQ				PP	PP	18 19 30.6	+0.5
WMQ				S	**S**	**18 23 27.4**	**+1.1**
WMQ				XS		18 23 43.3	
WMQ				SS	SS	18 25 06.6	-0.3
WMQ				SCS	ScS	18 29 04.9	+2.6
WMQ				AMB	AMB		
	comp=Z,74nm,1.0s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,203nm,4.1s						
WMQ				LR	LR		
	comp=N,287nm,9.3s						
WMQ				LR	LR		
	comp=E,425nm,9.0s						
WMQ				LR	LR		

comp=Z,476nm,10.0s,MS4.4
BTO Baotou 30.32 25 *e*P **P 18 18 29.6 -0.7**
BTO AMB AMB
comp=Z,43nm,1.1s,mb5.1
SSE Sheshan 30.64 51 *e*P **P 18 18 33.5 +0.2**
SSE AP pP 18 18 42.9 -1.3
SSE XP sP 18 18 46.3 -3.0
SSE S **S 18 23 33.3 +1.7**
SSE XS 18 23 50.4
SSE AMB AMB
comp=Z,42nm,1.1s,mb5.2
SSE AMB AMB
comp=Z,65nm,5.7s
SSE LR LR
comp=N,344nm,20.8s,MS4.3
SSE LR LR
comp=E,586nm,20.8s,MS4.3
SSE LR LR
comp=Z,676nm,17.6s,MS4.3
SSE Sheshan 30.64 51 *e*P **P 18 18 33.5 +0.2**
comp=Z,42nm,1.1s,mb5.2
SSE pP pP 18 18 42.9 -1.3
SSE sP sP 18 18 46.3 -3.0
SSE PP PP 18 19 42.5 +8.0
SSE S **S 18 23 33.3 +1.7**
SSE sS 18 23 50.4
SSE ScS ScS 18 29 10.7 +6.7
SSE LR LR
comp=Z,680nm,17.6s,MS4.3
TIA Tai'an 30.71 39 *e*P **P 18 18 32.0 -1.8**
TIA AMB AMB
comp=Z,72nm,1.0s,mb5.5
HHC Hu-ho-hao-te 31.18 27 ⇑P **P 18 18 37.5 -0.4**
HHC AP pP 18 18 48.8 0.0
HHC XP sP 18 18 54.8 +0.9
HHC PP PP 18 19 42.6 +1.3
HHC PCP PcP 18 21 29.1 -3.1
HHC S **S 18 23 41.9 +2.0**
HHC XS 18 24 01.1
HHC SCP 18 25 06.9
HHC SS SS 18 25 32.0 +4.9
HHC SCS ScS 18 29 06.1 -0.4
HHC AMB AMB
comp=Z,49nm,1.2s,mb5.2
HHC AMB AMB
comp=Z,205nm,12.0s
HHC LR LR
comp=N,344nm,19.1s,MS4.2
HHC LR LR
comp=E,424nm,20.3s,MS4.2
HHC LR LR
comp=Z,495nm,19.1s,MS4.2
KZA Kyzart 32.31 334 P **P 18 18 48.9 +1.0**
SNR=24
UCH Uchtor 32.75 333 P **P 18 18 52.7 +1.0**
SNR=16
TKM2 Tokmak 2 32.87 335 P **P 18 18 53.4 +0.7**
SNR=22
KBK Karagaybulak 32.92 334 P **P 18 18 54.2 +1.2**
SNR=10
AML Almayashu 33.04 332 P **P 18 18 55.5 +1.3**
SNR=29
AAK Ala-Archa 33.09 334 P **P 18 18 56.0 +1.4**
SNR=11
AAK Ala-Archa 33.09 334 P **P 18 18 55.8 +1.2**
AAK pmax pmax
comp=Z,60nm,1.4s,mb5.3
AAK Ala-Archa 33.09 334 *e*P **P 18 18 54.2 -0.4**
comp=Z,37nm,1.3s,mb5.2
FRU Bishkek 33.20 334 *i* P **P 18 18 56.5 +1.0**
FRU *e* 18 20 14.0
FRU pmax pmax
comp=Z,80nm,1.5s,mb5.4
CHMS Chumysh 33.28 334 P **P 18 18 56.3 +0.1**
SNR=24
USP Ospenovka 33.61 334 P **P 18 18 59.6 +0.6**
SNR=31
MKAR Makanchi Array 34.20 346 P **P 18 19 04.1 +0.1**
comp=Z,44nm,0.9s,mb5.4,baz=161,slow=8.8,SNR=302
MKAR PcP PcP 18 21 39.1 -1.4
comp=Z,4.7nm,0.8s,baz=173,slow=2.1,SNR=5.0
MKAR S **S 18 24 26.5 -0.4**
comp=Z,0.5nm,0.9s,baz=14,slow=13,SNR=2.7
MKAR ScP 18 25 21.7
comp=Z,2.1nm,0.9s,baz=146,slow=4.4,SNR=5.1
JOW Kunigami 34.90 63 P **P 18 19 10.8 +0.5**
comp=Z,37nm,0.3s,mb5.7,baz=174,slow=4.6,SNR=33
DL2 Dalian 35.18 40 P **P 18 19 12.6 0.0**
DL2 S **S 18 24 43.8 +1.6**
DL2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
DL2 AMB AMB
comp=Z,140nm,3.4s
DL2 LR LR
comp=E,260nm,16.7s
DL2 LR LR
comp=Z,370nm,24.5s
KKAR Karatay Array 35.28 330 *i* P **P 18 19 13.4 0.0**
KKAR pmax pmax
comp=Z,44nm,1.3s,mb5.2
SONM Songino Array 35.55 15 P **P 18 19 16.0 +0.3**
comp=Z,45nm,1.0s,mb5.4,baz=196,slow=9.0,SNR=136
SONM ScP 18 25 26.9
comp=Z,6.4nm,0.9s,baz=198,slow=3.9,SNR=14
SONM LR LR 18 35 48.7
comp=Z,1μm,21.6s,MS4.7,baz=214,slow=40
SONM Songino Array 35.55 15 P **P 18 19 16.0 +0.3**
SONM ScP 18 25 26.9
SONM LR LR 18 35 48.7
ULN Ulaanbaatar 35.74 16 ⇑*i*P **P 18 19 17.7 +0.4**
ULN Ulaanbaatar 35.74 16 *e*P **P 18 19 17.2 -0.1**
comp=Z,44nm,1.1s,mb5.3
ULN LR LR
comp=Z,2μm,21.0s,MS4.7
INCN Inchon 37.68 45 *e*P **P 18 19 31.4 -2.3**
comp=Z,57nm,1.2s,mb5.2
SNY Shenyang 38.15 37 ⇑P **P 18 19 37.2 -0.3**
SNY S **S 18 25 26.2 -1.4**
SNY AMB AMB
comp=Z,50nm,1.5s,mb5.0
SNY LR LR
comp=E,570nm,17.4s
SNY LR LR
comp=Z,460nm,19.2s,MS4.3
MOY Mondy 38.21 7 *e*P **P 18 19 37.7 -0.2**
MOY pmax pmax
comp=Z,45nm,1.7s,mb4.9
TLY Talaya 38.62 10 *e*P **P 18 19 42.5 +1.2**
TLY *e*S **S 18 25 41.3 +6.6**
TLY pmax pmax
comp=Z,76nm,1.0s,mb5.4
TLY MLR MLR
comp=Z,583nm,24.0s,MS4.3
TLY Talaya 38.62 10 *e*P **P 18 19 41.9 +0.6**
comp=Z,63nm,0.9s,mb5.3
IRK Irkutsk 39.27 10 *e*P **P 18 19 47.1 +0.4**
IRK *e* 18 21 18.0
IRK *e* 18 25 39.9
IRK pmax pmax
comp=Z,68nm,1.4s,mb5.2
CN2 Changchun 40.45 36 ⇑*i*P **P 18 19 56.3 -0.3**
CN2 *e*XP sP 18 20 10.5 -2.2
CN2 *e*S **S 18 26 02.1 -0.1**
CN2 AMB AMB
comp=Z,80nm,0.9s,mb5.5
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,400nm,17.0s,MS4.6
CN2 LR LR
comp=E,700nm,17.0s,MS4.6
CN2 LR LR
comp=Z,900nm,18.0s,MS4.7
ZAL Zalesovo 40.61 352 P **P 18 19 57.9 +0.1**
comp=Z,57nm,0.7s,mb5.3,baz=305,slow=6.8,SNR=295
ZAL S **S 18 26 04.0 -0.4**
comp=Z,1.2nm,0.3s,baz=105,slow=22,SNR=3.6
CIT Chita 41.34 19 ⇑*i*P **P 18 20 04.0 +0.2**
CIT *e* 18 21 43.1
CIT *e* 18 21 56.1
CIT pmax pmax
comp=Z,151nm,1.4s,mb5.4
HIA Hailar 41.37 26 *e*P **P 18 20 03.8 -0.3**
HIA pmax pmax
comp=Z,78nm,1.1s
HIA Hailar 41.37 26 *e*P **P 18 20 03.8 -0.3**
comp=Z,78nm,1.1s,mb5.2
NVS Novosibirsk 41.71 351 *i* P **P 18 20 05.8 -1.0**
NVS *i* 18 21 52.6
NVS *i* S **S 18 26 17.2 -3.6**
NVS pmax pmax
comp=Z,82nm,1.1s,mb5.3
NVS pmax pmax
comp=N,89nm,0.6s
NVS pmax pmax
comp=E,25nm,1.2s
NVS smax
comp=N,30nm,1.8s
NVS smax
comp=E,40nm,1.8s
VOSK Vostochnaya 42.77 340 *i* P **P 18 20 15.3 -0.3**
BVAR Borovoye Array 43.22 340 P **P 18 20 19.0 -0.3**
comp=E,5.0nm,0.6s,mb4.4,baz=135,slow=8.4,SNR=43
BVAR PcP PcP 18 22 08.4 -0.2
comp=E,3.6nm,0.7s,baz=117,slow=3.3,SNR=5.0
BVAR ScP 18 25 55.5
comp=E,3.5nm,0.9s,baz=162,slow=4.7,SNR=8.7
MBWA Marble Bar 43.24 143 *e*P **P 18 20 18.6 -1.2**
comp=E,41nm,1.3s,mb5.0
MDJ Mudanjiang 43.34 38 P **P 18 20 20.0 -0.4**
MDJ AP pP 18 20 29.0 -2.6
MDJ XP sP 18 20 32.8 -3.6
MDJ PP PP 18 22 00.8 -2.5
MDJ PCP PcP 18 22 08.8 -0.3
MDJ SCP 18 25 57.8
MDJ PCS 18 26 01.5
MDJ S **S 18 26 45.4 +0.5**
MDJ XS 18 27 00.3
MDJ AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
MDJ AMB AMB
comp=Z,104nm,5.0s
MDJ LR LR
comp=N,261nm,27.9s,MS4.2
MDJ LR LR
comp=E,317nm,29.4s,MS4.2
MDJ LR LR
comp=Z,372nm,33.9s,MS4.1
MDJ Mudanjiang 43.34 38 *e*P **P 18 20 19.4 -1.0**
comp=Z,16nm,0.9s,mb4.7
MDJ LR LR
comp=Z,288nm,21.0s,MS4.2
ZRNK Zerenda 43.64 339 P **P 18 20 22.3 -0.3**
ZRNK pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
ZRNK Zerenda 43.64 339 *e*P **P 18 20 22.1 -0.5**
FITZ Fitzroy Crossi 44.81 134 P **P 18 20 31.7 -0.8**
comp=Z,24nm,0.4s,mb5.4,baz=342,slow=5.9,SNR=82
AB31 Akbulak array 44.81 329 *i* P **P 18 20 32.8 +0.7**
AB31 pmax pmax
comp=Z,37nm,0.9s,mb5.2
MAT Matsushiro 45.78 52 *e*P **P 18 20 39.0 -1.1**
MAT S **S 18 27 28.0 +7.8**
MAT Matsushiro 45.78 52 P **P 18 20 39.1 -1.0**
MAT *e*S **S 18 27 27.6 +7.4**
MJAR Matsushiro Arr 45.79 52 P **P 18 20 39.5 -0.5**
comp=Z,29nm,0.9s,mb5.2,baz=263,slow=11,SNR=90
MJAR PcP PcP 18 22 16.9 -0.7
comp=Z,12nm,0.8s,baz=240,slow=3.4,SNR=17
MJAR ScP 18 26 05.2
comp=Z,2.4nm,0.9s,baz=240,slow=4.0,SNR=7.1
MJAR LR LR 18 41 53.9
comp=Z,472nm,19.0s,MS4.5,baz=255,slow=39
BOD Bodaibo 46.55 15 ⇓*i*P **P 18 20 45.2 -0.6**
BOD pmax pmax
comp=Z,55nm,1.1s,mb5.4
KLR Kul'dur 47.17 34 *e*P **P 18 20 45.5 -5.3**
KLR *e*S **S 18 27 36.0 -3.7**
KLR MLR MLR
comp=Z,1μm,16.0s,MS4.9
CLNS Chul'man 49.12 22 *e*P **P 18 21 05.8 0.0**
CLNS pmax pmax
comp=N,86nm,0.8s
CLNS pmax pmax
comp=Z,177nm,0.8s,mb6.1
CLNS pmax pmax
comp=E,78nm,0.9s
CLNS MLR MLR
comp=Z,400nm,18.0s,MS4.5
CLNS MLR MLR
comp=N,400nm,20.0s,MS4.5
CLNS MLR MLR
comp=E,200nm,16.0s,MS4.5
ATD Arta Tunnel 49.46 273 LR LR 18 38 27.3
comp=E,118nm,19.8s,MS3.9,baz=73,slow=32
SVE Sverdlovsk 49.71 337 ⇓*i*P **P 18 21 10.4 0.0**
SVE *e* pP 18 21 24.0 +2.3
SVE *e* 18 22 30.0
SVE *e*PS PS 18 28 16.0 -13
SVE *e* 18 31 40.0
SVE pmax pmax
comp=Z,1μm,1.7s
SVE MLR MLR
comp=N,300nm,16.0s,MS4.5
SVE MLR MLR
comp=E,200nm,16.0s,MS4.5
SVE MLR MLR
comp=Z,400nm,16.0s,MS4.5
GUMO Guam 49.77 84 PFAKE 18 21 20.0 +8.6
GUMO LR LR
comp=Z,369nm,22.0s,MS4.3
DGRG David-gareji 49.95 313 P **P 18 21 12.8 +0.4**
GNI Garni 50.00 311 *i* P **P 18 21 13.6 +0.8**
GNI pmax pmax
comp=Z,37nm,1.2s
GNI MLR MLR
comp=Z,200nm,19.0s
GNI Garni 50.00 311 *e*P **P 18 21 13.2 +0.4**
comp=Z,83nm,1.2s,mb5.6
ARU Arti 50.24 336 ⇑*i*P **P 18 21 14.0 -0.5**
ARU *e*PPP PPP 18 24 02.0 -5.9
ARU *e*S **S 18 28 21.0 -1.6**
ARU *e* 18 30 59.4
ARU *e*SS SS 18 31 57.2 +4.0
ARU *e*SSS SSS 18 33 18.1 -7.1
ARU pmax pmax
comp=Z,27nm,0.8s,mb5.3
MUN Mundaring 50.45 155 *e*P **P 18 21 16.4 0.0**
comp=Z,38nm,1.2s,mb5.3
MUN Mundaring 50.45 155 *e*P **P 18 21 16.4 0.0**
MUN pmax pmax
comp=Z,38nm,1.2s,mb5.3
KLBR Kellerberrin 50.78 153 *e*P **P 18 21 18.2 -0.7**
comp=Z,19nm,0.7s,mb5.1
ZEI Tsey 51.41 314 *e*P **P 18 21 22.8 -0.7**
ZEI *i* *PP pP 18 21 34.2 -0.7
ZEI *i* 18 23 23.1
ZEI pmax pmax
comp=Z,16nm,1.1s,mb4.9
ASAJ Asahikawa 51.43 44 P **P 18 21 23.2 -0.4**
baz=264,slow=10
ASAJ LR LR 18 44 49.1
comp=Z,485nm,18.3s,MS4.6,baz=257,slow=38
NWAO Narrogin (SRO) 51.70 155 *e*P **P 18 21 24.7 -1.1**
NWAO pmax pmax
comp=Z,34nm,0.9s
NWAO Narrogin (SRO) 51.70 155 P **P 18 21 25.0 -0.8**
comp=Z,19nm,0.8s,mb5.1,baz=317,slow=7.9,SNR=8.8
NWAO Narrogin (SRO) 51.70 155 *e*P **P 18 21 24.7 -1.1**
comp=Z,34nm,0.9s,mb5.3
WRA Warramunga Arr 52.30 129 P **P 18 21 29.1 -1.3**
comp=Z,5.4nm,0.3s,mb5.0,baz=305,slow=10.0,SNR=138
WRA PcP PcP 18 22 40.5 -0.9
comp=Z,7.0nm,0.9s,baz=305,slow=3.8,SNR=6.8
WRA S **S 18 28 49.1 -2.4**
comp=Z,7.3nm,1.3s,baz=306,slow=15,SNR=6.6
WRAB Tennant Creek 52.31 129 *c* *i*P **P 18 21 29.4 -1.1**
WRAB Tennant Creek 52.31 129 *e*P **P 18 21 29.1 -1.4**
comp=Z,50nm,1.0s,mb5.4
WB2 Warramunga Arr 52.31 129 ⇑*i*P **P 18 21 29.5 -1.0**
YSS Yuzh-Sakhalins 52.56 41 *c* *i*P **P 18 21 31.5 -0.6**
YSS pmax pmax
comp=Z,50nm,0.9s,mb5.4
YSS MLR MLR
comp=Z,400nm,20.0s,MS4.5
YSS Yuzh-Sakhalins 52.56 41 *e*P **P 18 21 30.9 -1.1**
comp=Z,42nm,0.9s,mb5.4
SOKR Solikamsk 53.09 338 *c* *i*P **P 18 21 35.7 -0.1**
SOKR pmax pmax
comp=Z,30nm,0.7s,mb5.3
SOKR MLR MLR
comp=Z,300nm,18.0s,MS4.4
MALT Malatya 54.30 307 *e*P **P 18 21 45.7 +0.6**
MALT pmax pmax
comp=Z,19nm,1.3s,mb4.9
MALT Malatya 54.30 307 *e*P **P 18 21 45.6 +0.6**
comp=Z,19nm,1.3s,mb4.9
SOC Sochi 54.58 314 *e*P **P 18 21 45.2 -1.8**
SOC *e*S **S 18 29 16.0 -5.9**
SOC *e*SSS SSS 18 35 09.3 +5.3
SOC pmax pmax
comp=Z,16nm,0.8s,mb5.1
SOC pmax pmax
comp=N,12nm,0.9s
SOC pmax pmax
comp=E,8.0nm,0.8s
YAK Yakutsk 54.59 20 *c* *i*P **P 18 21 45.3 -1.6**
YAK *i* *PP pP 18 21 56.7 -1.7
YAK *i* 18 31 26.9
YAK pmax pmax
comp=Z,51nm,0.9s,mb5.5
YAK pmax pmax
comp=N,21nm,1.2s
YAK pmax pmax
comp=E,17nm,1.1s
YAK MLR MLR
comp=Z,216nm,19.0s,MS4.2
YAK MLR MLR
comp=N,125nm,21.0s,MS4.1
YAK MLR MLR
comp=E,124nm,21.0s,MS4.1
YAK Yakutsk 54.59 20 *e*P **P 18 21 44.8 -2.0**
comp=E,100nm,0.8s,mb5.9
ASF Jabal al Asfar 54.65 300 P **P 18 21 47.1 -0.6**
comp=E,3.1nm,0.5s,mb4.6,baz=119,slow=6.4,SNR=3.0
ASF LR LR 18 46 48.0
comp=E,160nm,21.0s,MS4.1,baz=154,slow=38
EIL Elat 56.13 297 LR LR 18 47 55.7
comp=E,206nm,19.2s,MS4.2,baz=114,slow=38
EIL Elat 56.13 297 P **P 18 21 59.0 +0.5**
comp=E,25nm,1.3s,mb5.1
VOR Voronezh 57.45 323 *e*P **P 18 22 07.0 -0.5**
VOR pmax pmax
comp=E,60nm,1.1s
VOR pmax pmax
comp=Z,80nm,1.1s,mb5.7
KMBO Kilima Mbogo 57.72 260 P **P 18 22 11.0 +1.1**
comp=Z,2.7nm,0.9s,mb4.3,baz=55,slow=8.9,SNR=7.2
KMBO LR LR 18 46 01.8
comp=Z,498nm,18.8s,MS4.7,baz=274,slow=35
PMG Port Moresby 57.98 110 P **P 18 22 11.6 -0.1**
comp=Z,10nm,0.9s,mb4.9,baz=304,slow=3.9,SNR=3.8
PMG PcP PcP 18 23 02.6 -0.7
comp=Z,13nm,0.8s,baz=308,slow=18,SNR=2.1
BR131 Keskin Array S 58.22 308 *e*P **P 18 22 12.0 -1.0**
comp=Z,6.4nm,0.7s,mb4.8
BRTR Keskin Array B 58.22 308 P **P 18 22 12.6 -0.5**
comp=Z,8.8nm,0.9s,mb4.8,baz=121,slow=7.2,SNR=50
BRTR sP sP 18 22 28.7 -0.6
comp=Z,12nm,0.8s,baz=121,slow=7.6,SNR=12
SIM Simferopol' 58.81 314 *d* *i*P **P 18 22 17.5 +0.4**
SIM *i* S **S 18 30 18.8 +0.9**
SIM pmax pmax
comp=Z,37nm,0.8s,mb5.5
SIM Simferopol' 58.81 314 *e*P **P 18 22 17.3 +0.2**
MOS Moscow 59.76 327 *e*P **P 18 22 22.6 -0.9**
MOS *e* pP 18 22 35.1 0.0
MOS *e* 18 23 09.7
MOS *e* 18 24 36.0
MOS *e*S **S 18 30 27.2 -2.9**
MOS *e* 18 32 09.5
MOS pmax pmax
comp=Z,60nm,0.8s,mb5.7
MOS pmax pmax
comp=Z,100nm,1.3s,mb5.7
MOS MLR MLR
comp=Z,700nm,22.0s,MS4.8
OBN Obninsk 60.10 326 *c* *i*P **P 18 22 24.7 -1.2**
OBN *e* 18 22 40.9
OBN *e* 18 24 38.4
OBN *e*S **S 18 30 32.2 -2.3**
OBN pmax pmax
comp=Z,75nm,1.5s,mb5.5
OBN Obninsk 60.10 326 *e*P **P 18 22 23.4 -2.5**
comp=Z,67nm,1.3s,mb5.5
OBN *e* 18 22 41.3
CTA Charters Tower 61.82 122 P **P 18 22 36.2 -1.7**
comp=Z,5.6nm,1.0s,mb4.6,baz=318,slow=15,SNR=2.9
CTA PcP PcP 18 23 18.5 0.0
comp=Z,5.7nm,0.8s,baz=336,slow=10.0,SNR=2.9
CTAO Charters Tower 61.82 122 P **P 18 22 37.5 -0.5**
MA2 Magadan 61.82 29 *e*P **P 18 22 36.1 -1.3**
MA2 *e* pP 18 22 47.9 -1.2
MA2 pmax pmax
comp=Z,67nm,0.8s,mb5.8
MA2 Magadan 61.82 29 *e*P **P 18 22 36.1 -1.4**
comp=Z,67nm,0.8s,mb5.8
MA2 *e* pP 18 22 47.9 -1.2
TIRR Tirgusor 62.73 313 ⇑P **P 18 22 43.9 +0.1**
KIS Kishinev 62.82 316 *e*P **P 18 22 42.0 -2.3**
KIS *e* 18 23 01.0
KIS *e* 18 26 30.0
KIS *e*S **S 18 31 06.0 -2.9**
CFR Carcaliu 63.02 314 P **P 18 22 45.9 +0.2**
CFR Carcaliu 63.02 314 ⇓P **P 18 22 45.6 -0.1**
CFR Carcaliu 63.02 314 ⇓P **P 18 22 45.6 -0.1**
AKASG Malin Array Be 63.20 320 P **P 18 22 45.2 -1.6**
comp=Z,7.9nm,0.7s,mb4.9,baz=84,slow=5.1,SNR=58
AKASG sP sP 18 23 02.7 -0.3
comp=Z,9.8nm,0.9s,baz=90,slow=6.5,SNR=9.3
AKASG Malin Array Be 63.20 320 P **P 18 22 45.2 -1.6**
AKASG sP sP 18 23 02.7 -0.3
SEY Seymchan 63.82 26 *e*P **P 18 22 49.0 -1.6**
SEY pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
SEY pmax pmax
comp=N,30nm,0.5s
SEY pmax pmax
comp=E,4.0nm,0.5s
MBAR Mbarara 63.82 262 *e*P **P 18 22 51.5 +0.1**
MBAR *e**PP pP 18 23 04.1 +0.9
MBAR pmax pmax
comp=Z,25nm,1.3s,mb5.1
MBAR Mbarara 63.82 262 *d* *i*P **P 18 22 52.3 +0.9**
MBAR Mbarara 63.82 262 *e*P **P 18 22 51.5 0.0**
comp=Z,25nm,1.3s,mb5.1
MBAR *e*pP pP 18 23 04.1 +1.0
VRI Vrincioaia 64.09 314 P **P 18 22 53.5 +0.9**
VRI Vrincioaia 64.09 314 ⇑P **P 18 22 53.2 +0.6**
VRI Vrincioaia 64.09 314 ⇑P **P 18 22 53.2 +0.6**
PET Petropavlovsk 64.13 38 *e*P **P 18 22 52.6 -0.1**
PET *e* 18 31 51.9
PET pmax pmax
comp=Z,44nm,1.0s,mb5.4
PET MLR MLR
comp=Z,300nm,18.0s,MS4.5
PET Petropavlovsk 64.13 38 *e*P **P 18 22 50.0 -2.8**
comp=Z,41nm,1.0s,mb5.4
PET *e*pP pP 18 23 02.6 -1.9
MLR Muntele Rosu 64.59 314 P **P 18 22 56.7 +0.8**
MLR Muntele Rosu 64.59 314 P **P 18 22 56.5 +0.6**
comp=Z,31nm,0.9s,mb5.3,baz=308,slow=0.3,SNR=44
MLR pP pP 18 23 08.4 +0.7
comp=Z,24nm,1.0s,baz=62,slow=5.0,SNR=6.9
MLR Muntele Rosu 64.59 314 ⇑P **P 18 22 56.5 +0.6**
STKA Stephens Creek 64.67 136 *e*P **P 18 22 55.6 -1.1**
comp=Z,4.5nm,0.6s,mb4.7
STKA Stephens Creek 64.67 136 P **P 18 22 55.8 -0.9**
comp=Z,2.5nm,0.6s,mb4.5,baz=303,slow=5.9,SNR=11
STKA LR LR 18 49 35.2
comp=Z,368nm,21.8s,MS4.5,baz=114,slow=34
STKA Stephens Creek 64.67 136 *e*P **P 18 22 54.4 -2.3**
STKA *e* pP 18 23 06.8 -1.6
PUL Pulkovo 64.78 330 *i* P **P 18 22 56.4 -0.4**
MNK Minsk 64.80 324 *e*P **P 18 22 51.0 -6.1**
IDI Anoyia 64.81 303 LR LR 18 54 49.3
comp=Z,97nm,21.5s,MS4.0,baz=335,slow=39
BURAR Bucovina Array 65.33 316 ⇑P **P 18 23 00.7 +0.1**
BURAR Bucovina Array 65.33 316 ⇑P **P 18 23 00.7 +0.1**
PGB Panagyurishte 65.63 311 *e*P **P 18 23 03.0 +0.4**
MMB Musomiste 65.90 310 *e*P **P 18 23 03.5 -0.9**
APA Apatity 66.12 339 ⇓*i*P **P 18 23 05.0 -0.3**
APA *i* pP 18 23 15.2 -1.9
APA *e*S S 18 31 48.0 -1.3
APA *e*PS PS 18 32 12.0 -4.7
APA *e* 18 32 54.0
APA pmax pmax

comp=Z,26nm,1.0s,mb5.2
VSU Vasula 66.24 328 *i* P **P** **18 23 04.3 -1.9**
VTS Vitosha 66.34 311 P **P** **18 23 07.2 +0.1**
KKB Krupnik 66.40 310 P **P** **18 23 07.0 -0.5**
DRGR 66.95 315 P **P** **18 23 11.4 +0.5**
DRGR 66.95 315 ⇑P **P** **18 23 11.0 +0.1**
KWP Kalwaria 67.19 318 *eP* **P** **18 23 12.5 +0.1**
KWP *e* 18 23 28.6
FINES FINESS Array B 67.23 331 P **P** **18 23 11.8 -0.6**
comp=Z,14nm,0.7s,mb5.1,baz=104,slow=7.9,SNR=62
FINES sP sP 18 23 27.9 -0.7
comp=Z,11nm,0.7s,baz=96,slow=5.8,SNR=10
FINES LR LR 18 56 07.0
comp=Z,172nm,21.3s,MS4.2,baz=308,slow=39
FINES FINESS Array B 67.23 331 P **P** **18 23 11.8 -0.6**
FINES sP sP 18 23 27.9 -0.7
FINES LR LR 18 56 07.0
KAF Kangasniemi 67.28 332 *ep* **P** **18 23 11.4 -1.3**
comp=Z,15nm,1.0s,mb5.0,baz=102,slow=6.1
KAF Kangasniemi 67.28 332 *eP* **P** **18 23 11.4 -1.3**
KAF pmax pmax
comp=Z,15nm,1.0s,mb5.0
SUW Suwalki 67.40 323 *eP* **P** **18 23 12.8 -0.9**
SUW *e* pP 18 23 25.0 -0.5
SKO Skopje 67.63 310 *eP* **P** **18 23 10.0 -5.3**
SKO *i* 18 23 30.0
CRVS Cervenica-Dubn 67.95 317 *eP* **P** **18 23 17.7 +0.6**
CRVS *es*P sP 18 23 35.1 +1.8
GRUS Gruza 68.21 312 *eP* **P** **18 23 18.4 -0.4**
KECS Kecovo 68.56 317 *i* P **P** **18 23 20.6 -0.4**
KECS *es*P sP 18 23 38.8 +1.6
NIE Niedzica 68.73 318 *eP* **P** **18 23 22.6 +0.6**
PSZ Piszkesteto 68.93 316 P **P** **18 23 23.7 +0.4**
PSZ Piszkesteto 68.93 316 *eP* **P** **18 23 22.7 -0.5**
comp=Z,19nm,0.9s,mb5.0
PSZ Piszkesteto 68.93 316 ⇑*i*P **P** **18 23 23.4 +0.1**
KEV Kevo 69.07 340 *ep* **P** **18 23 22.8 -1.0**
comp=Z,13nm,0.7s,mb5.0
KEV Kevo 69.07 340 *eP* **P** **18 23 22.8 -1.0**
KEV pmax pmax
comp=Z,13nm,0.7s,mb5.0
OJC Ojcow 69.11 319 ⇑*i*P **P** **18 23 23.8 -0.6**
OJC *i* 18 23 42.5
OJC *e*S S 18 32 24.7 -0.8
OJC MLR MLR 19 01 53.8
comp=Z,100nm,21.1s,MS4.0
ARCES ARCESS Array B 69.51 340 P **P** **18 23 26.5 0.0**
comp=Z,12nm,0.7s,mb4.9,baz=90,slow=6.1,SNR=56
ARCES sP sP 18 23 42.7 0.0
comp=Z,8.3nm,0.7s,baz=90,slow=6.1,SNR=7.8
ARCES LR LR 18 58 19.6
comp=Z,383nm,20.4s,MS4.6,baz=113,slow=40
ARCES ARCESS Array B 69.51 340 P **P** **18 23 26.5 0.0**
ARCES sP sP 18 23 42.7 0.0
ARCES LR LR 18 58 19.6
ARE0 ARCESS Array S 69.51 340 *eP* **P** **18 23 26.3 -0.2**
ARE0 *e* pP 18 23 40.9 +2.6
VYHS Vyhne 69.66 317 *i* P **P** **18 23 27.8 +0.1**
VYHS *es*P sP 18 23 45.9 +2.0
SRO1 Iza 70.04 316 *eP* **P** **18 23 28.9 -1.2**
SRO1 *e* 18 23 49.4
OKC Ostrava-Krasne 70.16 318 *eP* **P** **18 23 30.9 +0.2**
OKC *ep*P pP 18 23 42.2 -0.4
OKC AMS AMS 19 02 00.0
comp=Z,100nm,20.2s
MORC Moravsky Berou 70.55 318 *eP* **P** **18 23 33.2 +0.1**
MORC *e* 18 23 50.4
MORC pmax pmax
comp=Z,33nm,1.0s,mb5.2
MORC Moravsky Berou 70.55 318 *eP* **P** **18 23 33.2 +0.1**
comp=Z,34nm,1.0s,mb5.2
MORC *e* 18 23 50.4
ZST Bratislava 70.81 316 *eP* **P** **18 23 35.2 +0.5**
ZST *e* 18 23 53.2
BILL Bilibino 70.81 22*c* *i*P **P** **18 23 33.0 -1.4**
BILL pmax pmax
comp=Z,14nm,0.7s,mb5.0
BILL MLR MLR
comp=Z,400nm,18.0s,MS4.7
BILL Bilibino 70.81 22 *eP* **P** **18 23 33.0 -1.4**
comp=Z,19nm,1.0s,mb5.0
BILL LR LR
comp=Z,387nm,20.0s,MS4.7
LSZ Lusaka 70.82 248 *eP* **P** **18 23 37.0 +1.7**
LSZ pmax pmax
comp=Z,41nm,1.0s,mb5.3
LSZ Lusaka 70.82 248 *eP* **P** **18 23 37.0 +1.7**
comp=Z,41nm,1.0s,mb5.3
DPC Dobruska-Polom 71.35 319 *eP* **P** **18 23 38.4 +0.5**
DPC *ep*P pP 18 23 52.4 +2.6
DPC AMS AMS 19 00 20.0
comp=Z,200nm,23.4s
KSP Ksiaz 71.37 319 *eP* **P** **18 23 38.3 +0.2**
KSP *e* 18 23 56.5
KSP Ksiaz 71.37 319 *eP* **P** **18 23 38.5 +0.4**
KSP *e* 18 23 56.5
KOGS Kog 71.39 315 *i* P **P** **18 23 38.4 +0.1**
KOGS *e* pP 18 23 50.6 +0.5
UPC Upice 71.55 319 *eP* **P** **18 23 39.2 +0.1**
ARSA Arzberg 71.88 315 ⇓*i*P **P** **18 23 41.3 +0.2**
comp=Z,23nm,1.7s,mb4.8
BOJS Bojanci 72.10 314 *i* P **P** **18 23 42.6 +0.2**
BOJS *e* 18 23 58.4
PERS Pernice 72.17 315 *eP* **P** **18 23 43.0 +0.1**
PERS *e* pP 18 23 54.7 0.0
PVCC Panska Ves 72.47 319 *eP* **P** **18 23 44.9 +0.4**
PVCC AMS AMS 19 00 50.0
comp=Z,200nm,22.5s
PRU Pruhonice 72.49 318 *eP* **P** **18 23 45.0 +0.3**
PRU *ep*P pP 18 23 57.7 +1.2
PRU AMS AMS 18 58 10.0
comp=Z,100nm,20.1s
OBKA Obir 72.56 315 ⇑*i*P **P** **18 23 45.5 +0.3**
comp=Z,32nm,1.3s,mb5.1
LJU Ljubljana 72.59 314 *eP* **P** **18 23 45.8 +0.4**
MOA Molln 72.72 316 ⇑*i*P **P** **18 23 46.0 -0.1**
comp=Z,17nm,1.1s,mb4.9
FX1 Attu Island--F 72.83 39 P **P** **18 23 46.7 +0.1**
comp=Z,47nm,0.5s,mb5.7,baz=254,slow=1.5,SNR=32
FX1 Attu Island--F 72.83 39 *eP* **P** **18 23 46.3 -0.4**
BRG Berggiesshubel 72.86 319 *i* P **P** **18 23 47.2 +0.3**
BRG *i* 18 24 05.8
BRG pmax pmax
comp=Z,24nm,1.0s,mb5.1
BRG pmax pmax
comp=Z,23nm,0.9s,mb5.1
BRG MLR MLR
comp=N,190nm,16.0s,MS4.6
BRG MLR MLR
comp=E,150nm,16.0s,MS4.6
BRG MLR MLR
comp=Z,230nm,23.0s
BRG Berggiesshubel 72.86 319 *i* P **P** **18 23 47.2 +0.3**
comp=Z,24nm,1.0s,mb5.1
BRG *i* 18 24 05.8
BRG LR LR
comp=Z,230nm,23.0s,MS4.4
RUE Ruedersdorf 72.94 321 *eP* **P** **18 23 47.5 +0.1**
comp=Z,22nm,0.8s,mb5.1
VOY Vojsko 73.04 314 *eP* **P** **18 23 45.9 -2.1**
VOY *e* 18 23 47.9
VOY *e* 18 24 03.7
GEC2 GERESS Array S 73.06 317 P **P** **18 23 48.5 +0.4**
GEC2 pmax pmax
comp=Z,29nm,0.9s,mb5.2
GEC2 GERESS Array S 73.06 317 *eP* **P** **18 23 48.5 +0.4**
comp=Z,29nm,0.9s,mb5.2
GERES GERESS Array B 73.06 317 P **P** **18 23 48.5 +0.4**
comp=Z,17nm,0.8s,mb5.0,baz=90,slow=5.3,SNR=135
GERES sP sP 18 24 06.6 +2.2
comp=Z,16nm,0.7s,baz=86,slow=6.0,SNR=14
GERES LR LR 19 01 00.2
comp=Z,123nm,20.8s,MS4.2,baz=83,slow=40
KHC Kasperske Hory 73.14 317 *eP* **P** **18 23 48.4 -0.2**
KHC *ep*P pP 18 24 02.8 +2.4
KHC AMS AMS 19 00 40.0
comp=Z,200nm,24.3s
ROBS Robic 73.29 314 *eP* **P** **18 23 49.2 -0.4**
ROBS *e* pP 18 24 01.8 +0.4
KBA Koelnbreinsper 73.37 315 ⇑*i*P **P** **18 23 49.8 -0.2**
comp=Z,10nm,1.2s,mb4.6
KBA Koelnbreinsper 73.37 315 ⇑*i*P **P** **18 23 49.8 -0.2**
KBA pmax pmax
comp=Z,11nm,1.2s,mb4.7
SMY Shemya 73.40 39 *eP* **P** **18 23 49.4 -0.6**
CLL Collm 73.45 320 ⇑*i*P **P** **18 23 50.1 -0.2**
CLL *i* *SP sP 18 24 07.6 +1.1
CLL *e*S S 18 33 10.0 -5.5
CLL pmax pmax
comp=Z,14nm,1.0s,mb4.8
CLL MLR MLR
comp=Z,300nm,21.4s,MS4.5
CLL Collm 73.45 320 ⇑*i*P **P** **18 23 50.1 -0.2**
comp=Z,14nm,1.0s,mb4.8
CLL *i* sP sP 18 24 07.6 +1.1
CLL *e*S S 18 33 10.0 -5.5
CLL LR LR
comp=Z,300nm,21.4s,MS4.5
CLL Collm 73.45 320 ⇑P **P** **18 23 50.1 -0.2**
comp=Z,logA/T=1.1,mb4.8
CLL *e**PP pP 18 24 02.0 -0.2
CLL *i* *SP sP 18 24 07.6 +1.1
CLL *e* 18 24 40.0
CLL *e*S S 18 33 10.0 -5.5
CLL *e*PPS PPS 18 34 06.0 -2.4
WET Wettzell 73.60 318 P **P** **18 23 51.6 +0.4**
WET pmax pmax
comp=Z,24nm,1.2s,mb5.0
WET Wettzell 73.60 318 *eP* **P** **18 23 51.6 +0.4**
comp=Z,24nm,1.2s,mb5.0
NKC Novy Kostel 73.83 319 *eP* **P** **18 23 53.0 +0.4**
NKC *ep*P pP 18 24 05.1 +0.6
NKC AMS AMS 19 00 40.0
comp=Z,200nm,18.0s
HSP Hornsund 73.92 347 *eP* **P** **18 23 52.9 +0.3**
NB2 NORSAR Subarra 74.31 330 P **P** **18 23 54.2 -0.9**
comp=Z,13nm,0.9s,mb4.9,baz=89,slow=5.8
NB2 NORSAR Subarra 74.31 330 P **P** **18 23 54.2 -0.9**
NB2 pmax pmax
comp=Z,13nm,0.9s,mb4.9
NOA NORSAR Array B 74.31 330 P **P** **18 23 54.5 -0.6**
comp=Z,7.3nm,0.8s,mb4.7,baz=90,slow=5.8,SNR=43
NOA *e* pP pP 18 24 06.8 -0.2
comp=Z,5.8nm,0.7s,baz=90,slow=5.8,SNR=7.1
NOA LR LR 19 02 05.0
comp=Z,166nm,21.2s,MS4.3,baz=85,slow=40
MOX Moxa 74.35 319 *eP* **P** **18 23 55.8 +0.2**
MOX *e* pP 18 24 07.5 +0.1
MOX pmax pmax
comp=Z,21nm,1.4s,mb4.9
MOX MLR MLR
comp=Z,200nm,22.0s,MS4.4
MOX Moxa 74.35 319 *eP* **P** **18 23 55.8 +0.2**
comp=Z,21nm,1.4s,mb4.9
MOX *ep*P pP 18 24 07.5 +0.1
MOX LR LR
comp=Z,200nm,22.0s,MS4.4
MOX Moxa 74.35 319 *i* P **P** **18 23 55.8 +0.2**
comp=Z,logA/T=1.2,mb4.9
MOX pP pP 18 24 08.0 +0.6
MOX L 19 02 16.0
NAO01 NORSAR Array S 74.47 330 *eP* **P** **18 23 55.4 -0.7**
comp=Z,4.8nm,0.8s,mb4.5
WTTA Wattenberg 74.52 316 ⇑*i*P **P** **18 23 56.2 -0.4**
comp=Z,64nm,1.7s,mb5.3
WTTA Wattenberg 74.52 316 ⇑*i*P **P** **18 23 56.2 -0.4**
WTTA pmax pmax
comp=Z,64nm,1.7s,mb5.3
WATA Walderalm 74.56 316 ⇑*i*P **P** **18 23 56.3 -0.6**
comp=Z,12nm,1.1s,mb4.7
WATA Walderalm 74.56 316 ⇑*i*P **P** **18 23 56.3 -0.6**
WATA pmax pmax
comp=Z,12nm,1.1s,mb4.7
GRA1 Grafenberg Arr 74.65 318 *eP* **P** **18 23 58.2 +0.9**
GRA1 *ep*P pP 18 24 08.6 -0.6
GRA1 *es*P sP 18 24 15.5 +1.9
GRA1 LR LR
comp=Z,200nm,21.8s,MS4.4
GRF Grafenberg Arr 74.65 318 *eP* **P** **18 23 58.2 +0.9**
GRF *e**PP pP 18 24 08.6 -0.6
GRF *e**SP sP 18 24 15.5 +1.9
GRF MLR MLR
comp=Z,200nm,21.8s,MS4.4
FUR Furstenfeldbru 74.71 317 P **P** **18 23 57.8 +0.1**
FUR pmax pmax
comp=Z,15nm,0.5s,mb5.2
FUR Furstenfeldbru 74.71 317 *eP* **P** **18 23 57.8 +0.1**
comp=Z,15nm,0.5s,mb5.2
SQTA Sankt Quirin 74.82 316 ⇑*i*P **P** **18 23 57.9 -0.4**
comp=Z,8.0nm,0.9s,mb4.7
SQTA Sankt Quirin 74.82 316 ⇑P **P** **18 23 57.9 -0.4**
SQTA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BSEG Bad Segeberg 74.98 323 P **P** **18 23 59.9 +0.7**
BSEG pmax pmax
comp=Z,34nm,1.0s,mb5.2
BSEG Bad Segeberg 74.98 323 *eP* **P** **18 23 59.9 +0.7**
CLZ Clausthal 75.06 320 P **P** **18 24 00.0 +0.3**
CLZ pmax pmax
comp=Z,22nm,1.0s,mb5.0
CLZ Clausthal 75.06 320 *eP* **P** **18 24 00.0 +0.3**
comp=Z,22nm,1.0s,mb5.0
KONO Kongsberg 75.14 328 *i* P **P** **18 23 58.9 -1.0**
KONO Kongsberg 75.14 328 *i* P **P** **18 23 58.9 -1.0**
DAVA Damuels 75.71 316 ⇑*i*P **P** **18 24 03.4 -0.1**
comp=Z,32nm,1.1s,mb5.2
DAVOX Davos 75.76 315 LR LR 19 00 29.7
comp=Z,51nm,18.8s,MS3.9,baz=265,slow=38
TNS Taunus Mts 76.40 319 P **P** **18 24 07.6 +0.3**
TNS pmax pmax
comp=Z,12nm,1.0s,mb4.8
TNS Taunus Mts 76.40 319 *eP* **P** **18 24 07.6 +0.3**
comp=Z,12nm,1.0s,mb4.8
LBTB Lobatse 76.66 240 *eP* **P** **18 24 10.7 +1.4**
LBTB pmax pmax
comp=Z,12nm,0.8s,mb4.9
LBTB MLR MLR
comp=Z,508nm,20.0s,MS4.8
LBTB Lobatse 76.66 240 *eP* **P** **18 24 10.7 +1.4**
comp=Z,12nm,0.8s,mb4.9
LBTB LR LR
comp=Z,508nm,20.0s,MS4.8
BFO Black Forest 76.66 317 P **P** **18 24 08.3 -0.5**
BFO pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
BFO Black Forest 76.66 317 *eP* **P** **18 24 08.3 -0.5**
comp=Z,9.0nm,1.1s,mb4.6
FELD Feldberg 76.92 316 *eP* **P** **18 24 10.2 -0.1**
LANF Langenberg 76.94 318 *eP* **P** **18 24 10.5 +0.1**
RUP Ruppelstein 77.34 318 *eP* **P** **18 24 12.3 -0.3**
CDF Champ du Feu 77.35 317 *eP* **P** **18 24 12.4 -0.3**
comp=Z,17nm,1.0s,mb4.6
CDF Champ du Feu 77.35 317 *eP* **P** **18 24 12.4 -0.3**
CDF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
HINF Hinteralfeld 77.70 316 *eP* **P** **18 24 14.3 -0.3**
LOMF Lomont 77.77 316 *eP* **P** **18 24 14.7 -0.4**
SBF Sospel 77.79 312 *eP* **P** **18 24 15.2 0.0**
comp=Z,71nm,1.2s,mb5.2
SBF Sospel 77.79 312 *eP* **P** **18 24 15.2 0.0**
SBF pmax pmax
comp=Z,35nm,1.2s,mb5.2
HAU Haudompre 78.01 317 *eP* **P** **18 24 15.9 -0.4**
HAU *eR*
comp=Z,173nm,21.0s
LPG La Plagne 78.06 314 ⇑*i*P **P** **18 24 17.2 +0.5**
comp=Z,45nm,0.7s,mb5.2
LPG La Plagne 78.06 314 ⇑*i*P **P** **18 24 17.2 +0.5**
LPG pmax pmax
comp=Z,22nm,0.7s,mb5.2
LPL La Plagne 78.07 314 *eP* **P** **18 24 17.2 +0.5**
comp=Z,52nm,0.7s,mb5.3
LPL La Plagne 78.07 314 *eP* **P** **18 24 17.2 +0.5**
LPL pmax pmax
comp=Z,26nm,0.7s,mb5.3
MBDF Montbardon 78.15 313 *eP* **P** **18 24 16.7 -0.5**
comp=Z,27nm,0.9s,mb4.9
MBDF Montbardon 78.15 313 *eP* **P** **18 24 16.7 -0.5**
MBDF pmax pmax
comp=Z,14nm,0.9s,mb4.9
THEF They Montfort 78.22 317 *eP* **P** **18 24 17.1 -0.4**
BOSA Boshof 78.31 237 *eP* **P** **18 24 18.8 +0.4**
BOSA pmax pmax
comp=Z,14nm,0.8s,mb4.9
BOSA MLR MLR
comp=Z,229nm,20.0s,MS4.5
BOSA Boshof 78.31 237 P **P** **18 24 19.4 +1.0**
comp=Z,4.9nm,0.6s,mb4.6,baz=88,slow=6.4,SNR=13
BOSA LR LR 18 53 36.3
comp=Z,192nm,19.2s,MS4.4,baz=263,slow=32
BOSA Boshof 78.31 237 *eP* **P** **18 24 18.8 +0.4**
comp=Z,14nm,0.8s,mb5.0
BOSA LR LR
comp=Z,229nm,20.0s,MS4.5
CABF La Chapelle 78.37 315 *eP* **P** **18 24 18.5 +0.2**
comp=Z,32nm,1.0s,mb4.9
CABF La Chapelle 78.37 315 *eP* **P** **18 24 18.5 +0.2**
CABF pmax pmax
comp=Z,16nm,1.0s,mb4.9
FRF La Foret Royal 78.40 312 *eP* **P** **18 24 18.6 0.0**
comp=Z,70nm,1.0s,mb5.2
FRF La Foret Royal 78.40 312 *eP* **P** **18 24 18.6 0.0**
FRF pmax pmax
comp=Z,35nm,1.0s,mb5.2
LMR La Mourre 78.53 312 *eP* **P** **18 24 19.3 0.0**
comp=Z,93nm,1.3s,mb5.2
LMR La Mourre 78.53 312 *eP* **P** **18 24 19.3 0.0**
LMR pmax pmax
comp=Z,47nm,1.3s,mb5.3
GIVF Givet 78.73 319 *eP* **P** **18 24 20.4 +0.2**
ORIF Oris-en-Rattie 78.75 314 *eP* **P** **18 24 19.5 -1.0**
comp=Z,23nm,1.0s,mb4.8
ORIF *eR*
comp=Z,178nm,20.8s
MEZF Maizieres J'vi 78.80 317 *eP* **P** **18 24 20.7 0.0**
TAVF Tavernes 78.81 312 *eP* **P** **18 24 21.7 +0.9**
OG05 Jujurieux 78.88 315 *eP* **P** **18 24 21.5 +0.3**
VILF Villemus 79.02 313 *eP* **P** **18 24 22.9 +0.9**
PUYF Puyloubier 79.08 312 *eP* **P** **18 24 23.1 +0.8**
SMRF Simiane la Rot 79.11 313 *eP* **P** **18 24 22.9 +0.5**
comp=Z,20nm,0.8s,mb4.8
BERF Bertagne 79.12 312 *eP* **P** **18 24 23.1 +0.5**
BAIF Baives 79.12 319 *eP* **P** **18 24 22.7 +0.3**
comp=Z,34nm,1.0s,mb4.9
BAIF Baives 79.12 319 *eP* **P** **18 24 22.7 +0.3**
BAIF pmax pmax
comp=Z,17nm,1.0s,mb4.9
GELF Grande-Etoile 79.30 312 *eP* **P** **18 24 24.6 +1.1**
VIVF Saint-Julien-l 79.61 314 *eP* **P** **18 24 25.1 0.0**
comp=Z,29nm,1.1s,mb4.8
VIVF Saint-Julien-l 79.61 314 *eP* **P** **18 24 25.1 0.0**
VIVF pmax pmax
comp=Z,15nm,1.1s,mb4.8
LOR Lormes 79.78 316 *eP* **P** **18 24 25.6 -0.4**
comp=Z,45nm,1.3s,mb5.0
LOR *eR*
comp=Z,156nm,21.5s
LOR Lormes 79.78 316 *eP* **P** **18 24 25.6 -0.4**
LOR pmax pmax
comp=Z,22nm,1.3s,mb4.9
LOR MLR MLR
comp=Z,160nm,21.5s,MS4.3
SMF Signal de Mont 79.90 316 *eP* **P** **18 24 26.3 -0.4**
comp=Z,17nm,0.7s,mb4.8
SMF Signal de Mont 79.90 316 *eP* **P** **18 24 26.3 -0.4**
SMF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
SSF Saint Saulge 80.06 316 *eP* **P** **18 24 27.4 -0.1**
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SSF Saint Saulge 80.06 316 *eP* **P** **18 24 27.4 -0.1**
comp=Z,6.2nm,0.8s,mb4.6
LASF Ste Croix 80.31 313 *eP* **P** **18 24 29.3 +0.4**
comp=Z,58nm,1.2s,mb5.1
BGF Bois d'Agland 80.59 316 *eP* **P** **18 24 30.6 +0.3**
CASY Casey 80.87 173 P **P** **18 24 31.7 +0.3**
comp=Z,9.4nm,1.0s,mb4.7
TCF Toulx Ste Croi 81.07 315 *eP* **P** **18 24 33.1 +0.2**
comp=Z,36nm,1.0s,mb4.9
TCF Toulx Ste Croi 81.07 315 *eP* **P** **18 24 33.1 +0.2**
TCF pmax pmax
comp=Z,18nm,1.0s,mb5.0
CAF Calviac 81.42 314 *eP* **P** **18 24 35.2 +0.4**
comp=Z,26nm,1.0s,mb4.8
CAF Calviac 81.42 314 *eP* **P** **18 24 35.2 +0.4**
CAF pmax pmax
comp=Z,13nm,1.0s,mb4.8
DAG Danmarks Havn 81.57 348 ⇓*eP* **P** **18 24 34.3 -0.7**
DAG pmax pmax
comp=Z,23nm,1.2s,mb5.0
DAG Danmarks Havn 81.57 348 ⇓*eP* **P** **18 24 34.3 -0.7**
comp=Z,23nm,1.2s,mb5.0
DAG Danmarks Havn 81.57 348 ⇓*i*P **P** **18 24 34.3 -0.7**
comp=Z,23nm,1.2s,mb5.0
MTLF Montolieu 81.61 313 *eP* **P** **18 24 36.1 +0.3**
comp=Z,50nm,1.2s,mb5.0
MTLF Montolieu 81.61 313 *eP* **P** **18 24 36.1 +0.3**
MTLF pmax pmax
comp=Z,25nm,1.2s,mb5.0
TSUM Tsumeb 81.67 248 P **P** **18 24 38.1 +1.6**
comp=Z,15nm,1.3s,mb4.8
TSUM LR LR
comp=Z,571nm,21.0s,MS4.9
RJF Les Rejaudoux 81.73 315 *eP* **P** **18 24 36.8 +0.5**
comp=Z,37nm,0.9s,mb5.0
RJF *eR*
comp=Z,122nm,21.0s
RJF Les Rejaudoux 81.73 315 *eP* **P** **18 24 36.8 +0.5**
RJF pmax pmax
comp=Z,19nm,0.9s,mb5.0
RJF MLR MLR
comp=Z,120nm,21.0s,MS4.2
LFF La Frestale 82.34 314 *eP* **P** **18 24 40.1 +0.6**
FLN La Foliniere 82.37 318 *eP* **P** **18 24 39.6 0.0**
comp=Z,41nm,1.0s,mb5.0
FLN *eR*
comp=Z,184nm,22.8s
FLN La Foliniere 82.37 318 *eP* **P** **18 24 39.6 0.0**
FLN pmax pmax
comp=Z,20nm,1.0s,mb5.0
FLN MLR MLR
comp=Z,180nm,22.8s,MS4.4
EMHD Djebel Mahouad 82.45 305 P **P** **18 24 56.0 +16**
MFF Saint Martin d 82.60 316 *eP* **P** **18 24 40.9 +0.1**
comp=Z,36nm,1.0s,mb5.0
MFF Saint Martin d 82.60 316 *eP* **P** **18 24 40.9 +0.1**
MFF pmax pmax
comp=Z,18nm,1.0s,mb5.1
GRR Gorron 82.69 318 *eP* **P** **18 24 41.3 +0.1**
EPF Esparros 83.02 312 *eP* **P** **18 24 42.5 -0.5**
SUR Sutherland 83.27 234 P **P** **18 24 46.3 +1.8**
comp=Z,35nm,1.3s,mb5.2
EBNR Beni Rached 83.56 306 P **P** **18 24 57.0 +11**
ETSF Etsaut 83.70 312 *eP* **P** **18 24 47.1 +0.6**
comp=Z,17nm,0.8s,mb4.9
ETSF Etsaut 83.70 312 *eP* **P** **18 24 47.1 +0.6**
ETSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
SGMF Saint Gilles 83.83 318 *eP* **P** **18 24 47.4 +0.4**
comp=Z,40nm,1.0s,mb5.2
SGMF Saint Gilles 83.83 318 *eP* **P** **18 24 47.4 +0.4**
SGMF pmax pmax
comp=Z,20nm,1.0s,mb5.2
EANR 'Ain N'Sour 83.97 305 P **P** **18 25 02.0 +14**
SJPF Ste Jean 84.12 313 *eP* **P** **18 24 48.5 -0.1**
MAW Mawson 84.22 191 P **P** **18 24 50.2 +1.7**
comp=Z,3.6nm,1.0s,mb4.5,baz=7.4,slow=6.4,SNR=6.5
MAW LR LR 18 54 52.5
comp=Z,165nm,20.4s,MS4.4,baz=50,slow=30
ROSF Rostrenen 84.27 318 *eP* **P** **18 24 49.6 +0.4**
comp=Z,26nm,0.9s,mb5.0
ROSF Rostrenen 84.27 318 *eP* **P** **18 24 49.6 +0.4**
ROSF pmax pmax
comp=Z,13nm,0.9s,mb5.1
QUIF Quistinic 84.31 318 *eP* **P** **18 24 49.4 0.0**
IMA Indian Mountai 86.36 22 *eP* **P** **18 24 59.3 +0.2**
TTA Tatalina 86.79 25 *eP* **P** **18 25 02.4 +1.1**
ESDC Sonseca Array 86.97 310 P **P** **18 25 03.1 +0.4**
comp=Z,3.4nm,0.8s,mb4.7,baz=46,slow=4.9,SNR=12
ESLA Sonseca Array 86.97 310 P **P** **18 25 02.9 +0.1**
comp=Z,3.2nm,1.0s,mb4.5
SVW2 Sparrevohn 87.73 27 *eP* **P** **18 25 06.8 +0.9**
SUMG Summit 88.25 347 *eP* **P** **18 25 08.9 +0.8**
comp=Z,45nm,1.0s,mb5.7
SPU Mount Spurr 89.23 26 *eP* **P** **18 25 13.1 0.0**
SPU pP pP 18 25 25.8 +0.5
ILAR Eielson Array 89.47 22 P **P** **18 25 13.7 -0.4**
comp=Z,8.1nm,0.8s,mb5.1,baz=298,slow=4.1,SNR=85
ILAR pP pP 18 25 26.2 0.0
comp=Z,3.3nm,0.7s,baz=277,slow=3.2,SNR=4.7
ILAR PP PP 18 28 39.9 -8.1
comp=Z,1.5nm,0.9s,baz=307,slow=6.6,SNR=4.6
ILAR LR LR 19 11 43.8
comp=Z,285nm,20.3s,MS4.7,baz=321,slow=40
ILAR Eielson Array 89.47 22 P **P** **18 25 13.7 -0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ILAR				pP	pP	18 25 26.2	0.0
ILAR				PP	PP	18 28 39.9	-8.1
ILAR				LR	LR	19 11 43.8	
PWA	Palmer West	89.92	25	eP	P	18 25 16.1	-0.2
PMR	Palmer	90.26	25	eP	P	18 25 17.6	-0.3
SLKM	Skilak Lake	90.34	26	eP	P	18 25 18.2	0.0
SLKM				e	pP	18 25 30.2	-0.2
SML	Sawmill	90.48	25	eP	P	18 25 19.6	+0.8
SML				e	pP	18 25 30.1	-1.0
SYO	Syowa Base	90.90	197	⇑P	P	18 25 21.4	+0.7
SYO	Syowa Base	90.90	197	⇑PcP	PcP	18 25 26.0	+4.1
INK	Inuvik	91.46	16	P	P	18 25 23.8	+0.4
	comp=Z,18nm,1.0s,mb5.3,baz=339,slow=4.6,SNR=45						
INK	Inuvik	91.46	16	eP	P	18 25 23.6	+0.3
	comp=Z,48nm,1.4s,mb5.6						
INK				e	pP	18 25 33.4	-2.1
RAO	Raoul Island	95.37	119	eP	P	18 25 42.8	+0.7
	comp=Z,1µm,1.6s						
DBIC	Dimbokro	96.54	278	LR	LR	19 09 11.8	
	comp=Z,127nm,21.4s,MS4.4,baz=57,slow=35						
VNDA	Vanda	98.84	168	LR	LR	19 06 48.3	
	comp=Z,220nm,21.3s,MS4.6,baz=261,slow=33						
YKA	Yellowknife Ar	100.79	13	P	P	18 26 05.9	+0.1
	comp=Z,1.6nm,0.8s,baz=327,slow=4.3,SNR=8.9						
YKA				PP	PP	18 30 10.7	-5.9
	comp=Z,1.2nm,0.8s,baz=339,slow=7.7,SNR=3.8						
YKA	Yellowknife Ar	100.79	13	P	P	18 26 06.0	+0.1
YKA				PP	PP	18 30 10.7	-5.9
MOD	Modoc	116.37	28	ePKPdf	PKPdf	18 31 01.7	+1.8
PDAR	Pinedale Array	119.82	19	PKP	PKPdf	18 31 08.1	+1.4
	comp=Z,1.9nm,0.6s,baz=15,slow=1.9,SNR=20						
NVAR	Mina Array Bea	120.06	29	PKP	PKPdf	18 31 09.8	+2.5
	comp=Z,3.5nm,0.7s,baz=315,slow=0.6,SNR=27						
NVAR	Mina Array Bea	120.06	29	PKP	PKPdf	18 31 09.8	+2.5
MNV	Mina	120.13	29	ePKPdf	PKPdf	18 31 08.8	+1.3
RSSD	Black Hills	120.14	15	ePKPdf	PKPdf	18 31 07.5	+0.2
MVU	Marysvale	122.62	24	ePKPdf	PKPdf	18 31 15.0	+2.8
MSU	Marysvale	122.63	24	ePKPdf	PKPdf	18 31 15.0	+2.7
SRU	San Rafael	122.73	22	ePKPdf	PKPdf	18 31 12.3	-0.1
PV10	Paradox Valley	123.92	21	ePKPdf	PKPdf	18 31 16.8	+2.1
ANMO	Albuquerque	127.90	21	ePKPdf	PKPdf	18 31 24.5	+2.0
ANMO				eSKP		18 34 40.1	
TUC	Tucson	128.54	27	ePKPdf	PKPdf	18 31 26.1	+2.3
WMOK	Wichita Mounta	130.30	13	PFAKE		18 31 40.0	+13
WMOK				LR	LR		
	comp=Z,182nm,20.0s,MS4.8						
TXAR	Lajitas Array	133.98	21	PKP	PKPdf	18 31 35.7	+1.5
	comp=Z,2.0nm,0.8s,baz=232,slow=1.7,SNR=18						
TXAR				PP	PP	18 33 60.0	-9.0
	comp=Z,1.2nm,0.9s,baz=27,slow=2.8,SNR=5.2						
TXAR				SKPbc		18 35 01.7	
	comp=Z,4.4nm,0.9s,baz=315,slow=1.3,SNR=14						
TXAR	Lajitas Array	133.98	21	PKP	PKPdf	18 31 35.7	+1.5
TXAR				PP	PP	18 33 60.0	-9.0
TXAR				SKPbc		18 35 01.7	
DWPF	Disney	138.03	353	PFAKE		18 31 50.0	+8.3
DWPF				LR	LR		
	comp=Z,191nm,21.0s,MS4.8						
TRQA	Tornquist	147.54	218	ePKPdf	PKPdf	18 32 00.1	+2.2
CPUP	Villa Florida	150.04	241	ePKPdf	PKPdf	18 32 04.3	+2.0
CPUP				ePKPbc	PKPdf	18 32 09.2	+6.9
SDV	Santo Domingo	152.52	324	PKP	PKPdf	18 32 08.6	+2.3
	comp=Z,3.8nm,0.2s,baz=137,slow=0.2,SNR=5.5						
SDV				PKPbc	PKPdf	18 32 14.7	+8.4
	comp=Z,23nm,0.7s,baz=20,slow=3.2,SNR=28						
SDV	Santo Domingo	152.52	324	ePKPdf	PKPdf	18 32 08.0	+1.7
SDV				ePKPbc	PKPdf	18 32 14.5	+8.2
CFAA	Coronel Fontan	155.67	220	PKP	PKPdf	18 32 12.7	+2.7
	comp=Z,0.4nm,0.9s,baz=184,slow=2.4,SNR=2.2						
ROSC	El Rosal	157.89	326	PKP	PKPdf	18 32 15.8	+2.3
	comp=Z,3.4nm,0.4s,baz=75,slow=18,SNR=5.1						
LPAZ	La Paz	162.15	260	PKP	PKPdf	18 32 20.5	+2.5
	comp=Z,1.2nm,0.8s,baz=23,slow=9.1,SNR=5.8						

*MOS **02** 18:14:57.2±1.6,52.11N×153.38E,h575km,mb4.2/1,Error ellipse: s-maj=99.9km s-min=51.4km az=144.2*

KRSC 02 18:14:58.1±0.8**,52.03N×153.46E,h592**km±11km**,ML3.8, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALID	Alaid	1.75	131	eP	P	18 16 11.0	+0.1
MIPR	Malaya Ipel'ka	2.05	82	eP	P	18 16 11.3	-0.8
APC	Apacha	2.43	67	eP	P	18 16 12.4	-1.5
GRL	Gorelyy	2.88	78	eP	P	18 16 15.9	-0.4
RUS	Russkaya	3.13	81	P	P	18 16 17.0	-0.8
RUS				S	S	18 17 15.1	-6.0
RUS	Russkaya	3.13	81	iP	P	18 16 17.0	-0.8
RUS				eS	S	18 17 14.7	-6.4
GNL	Ganaly	3.19	57	eP	P	18 16 16.6	-1.6
PET	Petropavlovsk	3.32	71	eP	P	18 16 19.3	+0.3
PET				pmax	pmax		
	comp=Z,21nm,1.0s						
KOK	Koryaka	3.40	66	eP	P	18 16 20.1	+0.6
AVH	Avacha	3.44	67	eP	P	18 16 20.0	+0.2
AVH				eS	S	18 17 20.1	-4.5
UGLR	Uglovaya	3.48	68	iP	P	18 16 20.9	+0.9
UGLR				eS	S	18 17 21.1	-3.8
SMAR	Somma	3.48	67	eP	P	18 16 20.5	+0.5
SDLR	Sedlovina	3.53	67	eP	P	18 16 20.7	+0.4
SDLR				eS	S	18 17 21.0	-4.6
NLC	Nalytchevo	3.77	70	P	P	18 16 21.7	-0.2
NLC				S	S	18 17 23.4	-5.0
NLC	Nalytchevo	3.77	70	eP	P	18 16 22.0	+0.1
NLC				eS	S	18 17 23.7	-4.7
SPN	Mys Shipunski	4.14	72	P	P	18 16 24.1	-0.4
SPN				S	S	18 17 25.9	-7.2
SPN	Mys Shipunski	4.14	72	eP	P	18 16 24.3	-0.2
SPN				eS	S	18 17 26.0	-7.1
SRDR	Sredinnyy	5.65	38	eP	P	18 16 36.2	-0.2
KBTR	Krutoberegovo	6.91	49	P	P	18 16 47.1	-0.4
KBTR				S	S	18 18 07.7	-6.8
KBTR	Krutoberegovo	6.91	49	eP	P	18 16 47.1	-0.4
KBTR				eS	S	18 18 07.1	-7.4
BKI	Bering	8.09	62	S	S	18 18 18.5	-16
BKI				Smax			
	comp=Z,20nm,0.8s						

*IDC **02** 18:31:44.3±16.0,32.86N×46.30E,mb3.7/4,mb1 3.8/4, mb1mx3.5/20,mbtmp3.7/4,Error ellipse: s-maj=305.7km s-min=36.3km az=15.0*
*THR **02** 18:31:44.7±0.4,33.07N×46.23E,h14km±5km,ML3.3*
*TEH **02** 18:31:51.7,33.21N×46.66E,h10km,Mn3.4*

ISC 02 18:31:46.5±1.1**,33.10N**±0.06×**46.6E**±0.1**,h10**km**,n19, σ1s.52**/17**,mb3.4**/4**,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IKOM	Komasi	1.32	36	Pg	Pg	18 32 13.5	+0.5
IVIS	Veys	1.44	9	Pg	Pg	18 32 15.3	+0.1
IDHR	Dehrash	1.60	354	Pn	Pn	18 32 17.5	+2.4
ILIN	Laeen	1.84	10	Pn	Pn	18 32 21.5	+3.0
SNGE	Sanandaj	2.08	18	ePg	Pg	18 32 25.1	-3.0
SNGE				eSg	Sg	18 32 54.7	-1.3
SNGE				AML	AML	18 33 04.8	
	comp=N,267nm,0.6s						
SHGO	Shushtar	2.12	117	ePg	Pg	18 32 27.6	-1.2
SHGO				AML	AML	18 33 17.8	
	comp=N,117nm,0.6s						
ASAO	Ashtian	3.21	62	ePn	Pn	18 32 41.0	+3.0
ASAO				AML	AML	18 33 38.6	
	comp=N,41nm,0.7s						
IRAZ	Razeghan	3.60	49	Pn	Pn	18 32 49.7	+6.1
IRAZ	Razeghan	3.60	49	Lg		18 33 39.2	
IBST	Bostanabad	4.60	3	Pn	Pn	18 32 59.1	+1.4
IVRN	Varamin	4.67	65	Pn	Pn	18 32 56.7	-2.1
IVRN	Varamin	4.67	65	Lg		18 34 10.2	
IZEF	Zefreh	4.83	91	Pn	Pn	18 33 02.1	+1.0
ISHB	Shabestar	5.23	352	Pn	Pn	18 33 06.5	-0.2
IFIR	Firoozkooh	5.70	62	Lg		18 34 43.4	
AKASG	Malin Array Be	21.73	329	P	P	18 36 38.1	-1.5
	comp=N,0.3nm,0.4s,mb3.0,baz=135,slow=11,SNR=5.3						
BVAR	Borovoye Array	26.23	33	P	P	18 37 23.8	+0.7
	comp=N,0.5nm,0.4s,mb3.4,baz=221,slow=8.0,SNR=6.3						
MKAR	Makanchi Array	30.32	53	P	P	18 38 00.4	+0.3
	comp=N,0.7nm,0.6s,mb3.6,baz=249,slow=7.7,SNR=11						
FINES	FINESS Array B	31.30	341	P	P	18 38 06.8	-1.8
	comp=N,0.5nm,0.5s,mb3.6,baz=143,slow=9.5,SNR=8.3						

*TIF **02** 18:31:50.3,42.74N×46.24E,h4km±1km*
*MOS **02** 18:31:51.8±1.3,42.71N×47.40E,h15km,mb3.8/1,Error ellipse: s-maj=75.2km s-min=36.3km az=14.6*

ISC 02 18:31:51.6±1.2**,42.86N**±0.07×**46.14E**±0.06**,h4**km**,n7, σ0s.82**/14**,3C,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UNCR	Uncukul	0.50	107	⇑iPG	Pg	18 32 00.5	-1.2
UNCR				iS	Sg	18 32 07.5	-0.9
UNCR				pmax	pmax		
	comp=Z,72nm,0.2s						
XNZR	Khunzakh	0.52	127	⇑iPG	Pg	18 32 02.2	+0.1
XNZR				iS	Sg	18 32 10.2	+1.1
XNZR				pmax	pmax		
	comp=Z,96nm,0.4s						
DBC	Dubki	0.53	72	iPG	Pg	18 32 01.8	-0.4
DBC				iS	Sg	18 32 10.8	+1.5
KRNR	Karanay	0.56	93	⇑iPG	Pg	18 32 02.0	-0.9
KRNR				iS	Sg	18 32 10.2	-0.2
KRNR				pmax	pmax		
	comp=Z,50nm,0.2s						
DGRG	David-gareji	1.52	202	P	Pn	18 32 20.3	+0.5
DGRG				S	Sb	18 32 32.2	-7.5
DGRG	David-gareji	1.52	202	P	Pn	18 32 20.5	+0.7
DGRG				S	Sb	18 32 39.6	-0.1
MTA	Mtatsminda	1.54	221	P	Pn	18 32 20.7	+0.7
MTA				S	Sb	18 32 39.7	-0.4

*NEIC **02** 18:43:03.7,31.57S×67.15W,h15km,MD3.9(GUC),After GUC.*

GUC 02 18:43:03.7±0.7**,31.57S×67.15W,h15**km**,MD3.9,2D,San Juan Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZON	Zonda	1.30	271	⇓iP	Pb	18 43 31.0	+3.6
ZON				eS	Sb	18 43 52.0	+8.3
JACH	Jahuel	3.12	248	iP	Pn	18 43 54.0	+0.6
FCH	Farellones	3.18	236	eP	Pn	18 43 55.8	+1.6
FCH				iS	Sn	18 44 35.1	+2.9
CMCH	Combarbala	3.31	276	iP	Pn	18 43 56.6	+0.4
CMCH				iS	Sn	18 44 36.0	+0.4
ILCH	Illapel	3.43	268	iS	Sn	18 44 38.1	-0.3
PCH	Pirque	3.50	233	eP	Pn	18 43 58.9	+0.1
ROCH	El Roble	3.56	246	⇓iP	Pn	18 43 59.4	-0.2
CHCH	Chadas Angostu	3.78	230	eP	Pn	18 44 02.5	-0.2
TACH	Talagante	3.81	236	eP	Pn	18 44 02.2	-1.0
CACH	El Canelo	3.86	228	eP	Pn	18 44 04.0	+0.1

CASC 02 18:48:22.7±1.9**,10.96N×86.71W,h38**km±605km**,MD3.9, ML3.3,4C-4D,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.10	21	⇑eP	P	18 48 41.8	0.0
APON	Apoyo	1.14	33	eP	P	18 48 41.8	-0.6
MASN	Masaya	1.16	28	eP	P	18 48 42.7	+0.1
TICN	Ticuantepe	1.17	24	eP	P	18 48 42.2	-0.5
TICN				eS	S	18 48 59.8	+2.0
CONN	Concepcion	1.22	60	⇓eP	P	18 48 42.5	-1.1
CONN				eS	S	18 49 01.4	+2.2
XAVN	Gruta Xavier	1.24	18	⇑eP	P	18 48 43.6	-0.2
XAVN				eS	S	18 48 59.8	+0.1
MGAN	Managua	1.27	21	⇑eP	P	18 48 43.8	-0.4
MGAN				eS	S	18 48 59.3	-1.0
MGAN				i		18 49 00.2	
	comp=N,566nm,0.4s						
WILN	Americas 2	1.30	23	eP	P	18 48 43.9	-0.8
WILN				eS	S	18 49 00.5	-0.7
APYN	Apoyeque	1.32	15	⇓eP	P	18 48 44.8	-0.3
APYN				eS	S	18 49 00.9	-0.7
MOMJ	Momotombo	1.45	7	eP	P	18 48 46.3	-0.6
MOMJ				eS	S	18 49 04.4	-0.5
LEON	Leon	1.46	353	⇑eP	P	18 48 47.1	+0.1
LEON				eS	S	18 49 06.2	+1.1
MIRN	Miramar	1.48	360	eP	P	18 48 47.1	-0.1
CNGN	Cerro Negro	1.54	0	⇓eP	P	18 48 48.0	-0.1
CNGN				eS	S	18 49 06.5	-0.5
TEL3	Telica 3	1.61	355	⇓eP	P	18 48 49.3	+0.1
TEL3				eS	S	18 49 10.1	+1.2
TELN	Telica	1.64	356	eP	P	18 48 47.5	-2.1
PYTN	Playitas	1.70	22	eP	P	18 48 49.5	-0.9
PYTN				eS	S	18 49 11.7	+0.6
CRIN	San Cristobal	1.77	349	eP	P	18 48 51.1	-0.2
SOMN	Somoto	2.45	2	eP	P	18 49 02.3	+1.2

*NEIC **02** 19:00:51.3,19.33N×69.93W,h21km,MD4.0(RSPR), After RSPR.*

RSPR 02 19:00:51.3,19.33N×69.93W,h21km±81km**,MD4.0**/14**, MD4.0**/14**,13C-2D,Dominican Republic region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STDO	Santo Domingo	0.87	180	⇓eP	Pb	19 01 06.1	-1.5
STDO				eS	Sb	19 01 16.2	-2.6
AGPR	Aguadilla, PR	2.81	107	⇑eP	Pn	19 01 34.0	-2.0
AGPR				eS	Sn	19 02 04.6	-5.0
LSP	Las Mesas	2.93	113	⇑eP	Pn	19 01 35.1	-2.7
LSP				eS	Sn	19 02 08.7	-4.0
CRPR	Cabo Rojo, PR	2.98	116	⇑eP	Pn	19 01 36.1	-2.4
CRPR				eS	Sn	19 02 11.1	-2.9
MGP	Maguayo	3.00	116	⇑eP	Pn	19 01 35.6	-3.2
MGP				eS	Sn	19 02 10.2	-4.3
LRS	Lares	3.10	109	⇑eP	Pn	19 01 35.5	-4.7
LRS				eS	Sn	19 02 12.3	-4.8
PORP	Portuguez	3.37	112	⇓eP	Pn	19 01 42.0	-2.1
PORP				eS	Sn	19 02 18.5	-5.4
ICM	Isla Caja Muer	3.54	113	⇑eP	Pn	19 01 41.3	-5.1
ICM				eS	Sn	19 02 24.0	-4.1
SJG	San Juan	3.78	108	⇑eP	Pn	19 01 47.7	-2.3
SJG				eS	Sn	19 02 30.9	-3.4
CBYP	Canovanas	4.00	105	⇑eP	Pn	19 01 49.0	-4.1
CBYP				eS	Sn	19 02 36.1	-3.8
CPD	Cerro la Pandu	4.02	108	⇑eP	Pn	19 01 51.3	-1.9
CPD				eS	Sn	19 02 36.8	-3.5
HUMP	Col San Antoni	4.04	106	⇑eP	Pn	19 01 49.8	-3.9
HUMP				eS	Sn	19 02 34.6	-6.4
MTP	Monte Pirata	4.33	106	⇑eP	Pn	19 01 52.6	-5.0
MTP				eS	Sn	19 02 42.7	-5.4
TBVI	Tortola	5.12	99	⇑eP	Pn	19 02 07.3	-1.6
TBVI				eS	Sn	19 03 03.7	-4.4
TBVI	Tortola	5.12	99	⇑eP	Pn	19 02 07.3	-1.6
TBVI				eS	Sn	19 02 33.7	-34

MAN 02 19:00:52.7,9.09N×125.12E,h145km**,mb3.9,ML2.6, MS2.2,Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.51	103	eP	P	19 01 15.8	+1.8
BUTP				eS	S	19 01 31.0	+0.7
SCPH	Surigao	0.79	28	eP	P	19 01 16.2	+0.7
SCPH				eS	S	19 01 27.9	-5.2
MSLP	Maasin	1.07	346	eP	P	19 01 27.2	+9.4
MSLP				eS	S	19 01 46.7	+10
BESP	Borongan	2.52	7	eP	P	19 01 34.8	+0.4
BESP				eS	S	19 02 06.6	+0.4
AUQP	San Andres	4.84	331	eP	P	19 02 04.2	-0.6

IDC 02 19:08:04.5±10.0**,1.94N×95.92E,mb4.0**/2**,mb1 4.0**/3**, mb1mx3.5**/19**,mbtmp3.9**/3**,ML3.7**/1**,Error ellipse: s-maj=194.6km s-min=117.1km az=150.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.68	10	Pn	P	19 11 59.9	-1.5
	0.1nm,0.3s,baz=200,slow=12,SNR=9.2						
MKAR	Makanchi Array	46.23	347	P	P	19 16 31.4	-1.8
	1.5nm,0.6s,baz=167,slow=7.8,SNR=24						
SONM	Songino Array	46.61	10	P	P	19 16 34.3	-1.9
	1.3nm,0.6s,baz=186,slow=8.1,SNR=7.9						

IDC 02 19:09:09.5±6.9**,2.31N×95.83E,mb3.9**/3**,mb1 3.9**/4**, mb1mx3.5**/19**,mbtmp3.8**/4**,ML3.7**/1**,Error ellipse: s-maj=175.9km s-min=86.2km az=128.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.34	11	Pn	P	19 13 01.4	-0.6
	0.1nm,0.3s,baz=200,slow=12,SNR=4.3						
MKAR	Makanchi Array	45.85	347	P	P	19 17 33.1	-2.1
	0.6nm,0.3s,baz=160,slow=8.3,SNR=12						
SONM	Songino Array	46.26	10	P	P	19 17 36.4	-2.0
	0.5nm,0.4s,baz=186,slow=10,SNR=3.6						
ARCES	ARCESS Array B	81.04	340	P	P	19 21 26.3	-1.1
	1.6nm,0.9s,baz=90,slow=6.3,SNR=5.6						

*IDC **02** 19:36:34.1±0.6,0.94S×97.67E,mb4.3/15,mb1 4.4/16, mb1mx4.3/20,mbtmp4.3/16,ML4.4/1,MS3.4/2,Ms1 3.4/2, ms1mx3.1/12,Error ellipse: s-maj=23.9km s-min=14.6km az=63.0*
*BJI **02** 19:36:35.0,1.27S×98.02E,h32km,mB5.0,mb4.7,Ms4.8, Msz4.5*
*MOS **02** 19:36:36.9±1.1,0.82S×97.86E,h33km,mb4.7/7,Error ellipse: s-maj=28.4km s-min=11.6km az=101.2*
*NEIC **02** 19:36:37.7±0.3,0.93S×97.72E,mb4.8/20,Error ellipse: s-maj=8.7km s-min=6.4km az=66.0*

ISC 02 19:36:36.0±0.4**,0.89S**±0.05×**97.75E**±0.06**,h25**km**, h25**km±1.9km**:pP-P,n91,σ1s.05**/85**,mb4.5**/46**,MS4.2**/11**,6C, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KGM	Kluang	6.27	63	P	Pn	19 38 10.0	+0.4
IPM	Ipoh	6.34	31	P	Pn	19 38 11.0	+0.5
KULM	Kulim	6.79	25	ePn	Pn	19 38 16.3	-0.4
KSM	Kuching	12.78	79	ePn	P	19 39 38.8	-0.3
PALK	Pallekele	18.84	296	P	P	19 41 03.1	+6.3
CM31	Chiang Mai Arr	19.26	3	eP	P	19 41 02.8	+1.0
	41nm,1.0s						
CMAR	Chiang Mai Arr	19.26	3	P	P	19 41 01.4	-0.4
	0.5nm,0.3s,baz=190,slow=11,SNR=48						
CMAR	Chiang Mai Arr	19.26	3	P	P	19 41 01.4	-0.4
KKM	Kota Kinabalu	19.68	69	eP	P	19 41 06.1	-0.5
KKM	Kota Kinabalu	19.68	69	P	P	19 41 06.4	-0.2
TSM	Tawau	20.76	75	P	P	19 41 17.4	-0.5
QIZ	Qiongzhong	23.09	30	P	P	19 41 41.7	+0.5
QIZ				eS	S	19 45 50.0	+3.6
QIZ				LR	LR		
	comp=N,626nm,11.1s,MS4.4						
QIZ				LR	LR		
	comp=E,391nm,11.3s,MS4.4						
QIZ				LR	LR		
	comp=Z,422nm,10.4s,MS4.2						
QIZ	Qiongzhong	23.09	30	eP	P	19 41 43.4	+2.3
	comp=Z,35nm,1.1s,mb4.7						
KMI	Kunming	26.31	10	P	P	19 42 12.3	+0.5
KMI				AP	pP	19 42 21.7	+2.6
KMI				XP	sP	19 42 25.5	+3.0
KMI				PP	PP	19 42 56.0	+1.4
KMI				PPP	PPP	19 43 07.8	+1.2
KMI				PCP	PcP	19 45 38.1	-0.1
KMI				S	S	19 46 41.5	+0.5
KMI				XS		19 46 57.4	
KMI				SS	SS	19 47 51.2	+1.0
KMI				SSS	SSS	19 48 09.0	+1.2
KMI				AMB	AMB		
	comp=Z,21nm,1.1s,mb4.6						
KMI				AMB	AMB		
	comp=Z,153nm,5.2s						
KMI				LR	LR		
	comp=N,656nm,12.2s,MS4.5						
KMI				LR	LR		
	comp=E,549nm,12.8s,MS4.5						
KMI				LR	LR		
	comp=Z,610nm,11.6s,MS4.4						
KMI	Kunming	26.31	10	P	P	19 42 12.3	+0.5
	comp=Z,21nm,1.1s,mb4.6						
KMI				pP	pP	19 42 21.7	+2.6
KMI				sP	sP	19 42 25.5	+3.0
KMI				PP	PP	19 42 56.0	+1.4
KMI				PPP	PPP	19 43 07.8	+1.2
KMI				PcP	PcP	19 45 38.1	-0.1
KMI				S	S	19 46 41.5	+0.5
KMI				sS		19 46 57.4	
KMI				SS	SS	19 47 51.2	+1.0
KMI				SSS	SSS	19 48 09.0	+1.2
KMI				LR	LR		
	comp=Z,610nm,11.6s,MS4.4						
SHL	Shillong	26.91	348	eP	P	19 42 18.0	+0.7
GYA	Guiyang	28.52	17	⇑iP	P	19 42 33.2	+1.3
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
GYA				LR	LR		
	comp=N,670nm,14.1s,MS4.5						
GYA				LR	LR		
	comp=E,410nm,12.6s,MS4.5						
GYA				LR	LR		
	comp=Z,520nm,13.2s,MS4.3						
LSA	Lhasa	31.06	349	P	P	19 42 56.4	+1.8
LSA	Lhasa	31.06	349	eP	P	19 42 56.4	+1.8
	comp=Z,17nm,0.8s,mb4.9						
FITZ	Fitzroy Crossi	32.30	124	P	P	19 43 05.1	-0.3
	comp=Z,14nm,1.1s,mb4.7,baz=10.0,slow=3.4,SNR=3.3						
ENH	Enshi	32.95	19	eP	P	19 43 10.9	-0.1
	comp=Z,33nm,0.8s,mb5.3						
NACB	Ninganchiao	34.01	41	P	P	19 43 13.4	-6.9
LZH	Lanzhou	37.22	8	⇑P	P	19 43 48.0	+0.5
LZH				AP	pP	19 43 53.2	-1.7
LZH				XP	sP	19 43 56.7	-1.4
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb5.0						
LZH				LR	LR		
	comp=N,287nm,13.5s						
LZH				LR	LR		
	comp=Z,419nm,17.3s,MS4.3						
LZH	Lanzhou	37.22	8	⇑P	P	19 43 48.0	+0.5
	comp=Z,29nm,1.3s,mb5.0						
LZH				pP	pP	19 43 53.2	-1.7
LZH				sP	sP	19 43 56.7	-1.4
LZH				LR	LR		
	comp=Z,420nm,17.3s,MS4.3						
NJ2	Nanjing	38.38	30	eP	P	19 43 57.4	+0.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
GTA	Gaotai	40.15	2	eP	P	19 44 12.9	+1.0
GTA				AP	pP	19 44 18.1	-1.3
GTA				XP	sP	19 44 21.7	-0.8
GTA				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.2						
GTA				AMB	AMB		
	comp=Z,101nm,4.6s						
GTA				LR	LR		
	comp=N,215nm,11.0s,MS4.4						
GTA				LR	LR		
	comp=E,259nm,12.9s,MS4.4						
GTA				LR	LR		
	comp=Z,275nm,12.9s,MS4.3						
WRA	Warramunga Arr	40.49	120	P	P	19 44 14.8	-0.1
	comp=Z,8.5nm,0.8s,mb4.5,baz=301,slow=9.1,SNR=26						
WRAB	Tennant Creek	40.50	120	iP	P	19 44 14.2	-0.7
WRAB	Tennant Creek	40.50	120	eP	P	19 44 14.6	-0.4
	comp=Z,21nm,0.8s,mb4.9						
WB2	Warramunga Arr	40.50	120	⇑iP	P	19 44 14.8	-0.1
WMQ	Urumqi	45.41	350	P	P	19 44 56.0	+1.3
WMQ				PP	PP	19 46 43.9	+2.4
WMQ				S	S	19 51 30.8	-2.9
WMQ				AMB	AMB		
	comp=Z,27nm,1.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,101nm,6.4s						
WMQ				LR	LR		
	comp=N,653nm,20.2s,MS4.6						
WMQ				LR	LR		
	comp=E,421nm,20.5s,MS4.6						
WMQ				LR	LR		
	comp=Z,860nm,21.4s,MS4.7						
AAK	Ala-Archa	48.12	337	iP	P	19 45 16.3	+0.3
AAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.3						
AAK	Ala-Archa	48.12	337	P	P	19 45 16.9	+0.8
SONM	Songino Array	49.11	8	P	P	19 45 24.8	+1.2
	comp=Z,3.5nm,0.9s,mb4.4,baz=188,slow=8.7,SNR=16						
SONM				pP	pP	19 45 31.1	-0.1
	comp=Z,15nm,0.8s,baz=189,slow=8.0,SNR=33						
SONM	Songino Array	49.11	8	pP	pP	19 45 39.6	+8.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,17nm,0.8s,baz=196,slow=9.0,SNR=20						
ULN	Ulaanbaatar	49.23	8c	iP	P	19 45 26.0	+1.5
ULN	Ulaanbaatar	49.23	8	eP	P	19 45 25.6	+1.1
	comp=Z,35nm,1.0s,mb5.3						
ULN				e	pP	19 45 33.2	+1.0
ULN				e		19 45 41.3	
MKAR	Makanchi Array	49.39	346	i P	P	19 45 26.2	+0.5
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR	Makanchi Array	49.39	346	P	P	19 45 26.4	+0.7
	comp=Z,3.6nm,0.6s,mb4.6,baz=154,slow=8.1,SNR=45						
MKAR				LR	LR	20 10 14.9	
	comp=Z,34nm,20.6s,MS3.3,baz=154,slow=41						
MKAR	Makanchi Array	49.39	346	P	P	19 45 26.4	+0.7
MKAR				LR	LR	20 10 14.9	
KKAR	Karatay Array	50.16	334	i P	P	19 45 30.8	-0.9
KKAR				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
CN2	Changchun	50.92	26	eP	P	19 45 37.3	-0.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CTAO	Charters Tower	51.10	115	P	P	19 45 39.1	-0.1
	comp=Z,18nm,0.9s,mb5.0						
CTAO				e	pP	19 45 47.9	+1.1
ZAK	Zakamensk	51.30	5	eP	P	19 45 40.7	+0.5
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
STKA	Stephens Creek	51.57	131	eP	P	19 45 42.7	+0.2
	comp=Z,6.1nm,1.0s,mb4.5						
STKA	Stephens Creek	51.57	131	P	P	19 45 42.5	-0.1
	comp=Z,2.5nm,0.7s,mb4.3,baz=275,slow=15,SNR=8.2						
TLY	Talaya	52.61	5	P	P	19 45 48.3	-1.9
	comp=Z,6.5nm,0.8s,mb4.6						
MJAR	Matsushiro Arr	52.88	41	P	P	19 45 51.6	-0.7
	comp=Z,2.5nm,1.0s,mb4.1,baz=213,slow=8.6,SNR=7.3						
HIA	Hailar	53.44	18	eP	P	19 45 56.1	-0.2
	comp=Z,14nm,1.2s,mb4.8						
CIT	Chita	54.38	12	eP	P	19 46 04.3	+1.2
ZAL	Zalesovo	55.69	351	P	P	19 46 12.3	-0.3
	comp=Z,3.6nm,0.8s,mb4.5,baz=302,slow=6.7,SNR=22						
NVS	Novosibirsk	56.81	350	i P	P	19 46 19.8	-0.9
KLR	Kul'dur	57.88	26	eP	P	19 46 25.2	-3.1
KLR				eS	S	19 54 28.5	+3.9
KLR				MLR	MLR		
	comp=E,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,700nm,14.0s,MS4.9						
VOSK	Vostochnaya	57.94	341	P	P	19 46 26.7	-2.0
VOSK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
BVAR	Borovoye Array	58.39	341	P	P	19 46 30.7	-1.1
	comp=Z,2.0nm,0.8s,mb4.2,baz=158,slow=8.0,SNR=14						
ZRNK	Zerenda	58.79	340	P	P	19 46 33.3	-1.3
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
AB31	Akbulak array	59.60	332	P	P	19 46 39.1	-1.2
AB31				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
BOD	Bodaibo	59.95	10	eP	P	19 46 41.7	-0.9
BOD				e	pP	19 46 49.6	-0.8
BOD				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.4						
BOD				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
YSS	Yuzh-Sakhalins	61.77	33	eP	P	19 46 54.6	-0.5
YSS	Yuzh-Sakhalins	61.77	33	P	P	19 46 54.0	-1.0
	comp=Z,20nm,1.2s,mb5.1						
SVE	Sverdlovsk	64.82	338	eP	P	19 47 15.0	0.0
SVE				e	pP	19 47 24.0	+1.2
SVE				e		19 47 47.9	
SVE				e		19 51 08.0	
ARU	Arti	65.31	337⇑	iP	P	19 47 17.1	-1.0
ARU				e		19 47 48.7	
ARU				e		19 49 39.8	
ARU				ePPP	PPP	19 51 13.3	-5.0
ARU				eS	S	19 56 01.6	+2.9
ARU				eSS	SS	20 00 17.4	+3.8
ARU				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
MALT	Malatya	66.93	313	P	P	19 47 27.0	-1.8
	comp=Z,3.2nm,0.8s,mb4.4						
MALT				e		19 47 38.2	
YAK	Yakutsk	67.27	16	eP	P	19 47 29.4	-1.1
YAK				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=N,10.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
YAK				MLR	MLR		
	comp=Z,60nm,14.0s,MS4.0						
YAK				MLR	MLR		
	comp=N,42nm,13.0s,MS3.9						
YAK				MLR	MLR		
	comp=E,26nm,14.0s,MS3.9						
YAK	Yakutsk	67.27	16	eP	P	19 47 29.4	-1.2
	comp=E,46nm,0.9s,mb5.5						
YAK				e	pP	19 47 38.8	+0.5
MATP	Matopo	70.27	249	P	P	19 47 48.6	-1.2
	comp=E,2.1nm,0.7s,mb4.2,baz=32,slow=6.9,SNR=5.4						
MAW	Mawson	70.82	193	P	P	19 47 53.1	+0.8
	comp=E,2.4nm,0.8s,mb4.2,baz=27,slow=10,SNR=4.0						
BRTR	Keskin Array B	70.92	313	P	P	19 47 53.6	+0.2
	comp=E,0.8nm,0.6s,mb3.8,baz=137,slow=9.1,SNR=6.1						
MA2	Magadan	72.97	25	eP	P	19 48 03.9	-1.3
	comp=E,14nm,1.0s,mb4.8						
MA2				e		19 48 14.5	
BOSA	Boshof	74.23	241	LR	LR	20 14 35.1	
	comp=E,48nm,20.7s,MS3.8,baz=62,slow=31						
BOSA	Boshof	74.23	241	P	P	19 48 16.5	+3.3
OBN	Obninsk	74.67	329	i P	P	19 48 15.9	+0.7
OBN				e	pP	19 48 23.3	+0.2
OBN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
TIXI	Tiksi	75.14	10	eP	P	19 48 14.9	-2.7
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
AKASG	Malin Array Be	77.24	323	P	P	19 48 29.4	-0.4
	comp=Z,0.2nm,0.4s,mb3.4,baz=90,slow=4.6,SNR=7.6						
AKASG	Malin Array Be	77.24	323	P	P	19 48 29.4	-0.4
FINES	FINESS Array B	82.09	333	P	P	19 48 55.8	+0.1
	comp=Z,1.7nm,1.0s,mb4.0,baz=117,slow=4.3,SNR=6.1						
KAF	Kangasniemi	82.18	333	ep	P	19 48 57.1	+1.0
VNDA	Vanda	83.68	169	P	P	19 49 04.6	+1.1
	comp=Z,0.9nm,0.8s,mb3.9,baz=268,slow=4.8,SNR=4.5						
VNDA	Vanda	83.68	169	P	P	19 49 04.4	+0.9
	comp=Z,2.3nm,0.9s,mb4.3						
ARCES	ARCESS Array B	84.67	340	P	P	19 49 10.6	+2.0
	comp=Z,1.0nm,0.8s,mb4.0,baz=141,slow=5.8,SNR=4.4						
SBA	Scott Base	84.78	169	P	P	19 49 10.8	+1.7
	comp=Z,5.0nm,1.2s,mb4.5						
GERES	GERESS Array B	86.74	319	P	P	19 49 20.3	+1.0
	comp=Z,0.8nm,0.8s,mb4.0,baz=108,slow=4.2,SNR=6.4						
GERES				LR	LR	20 28 18.3	
	comp=Z,18nm,18.2s,MS3.5,baz=167,slow=36						
GRA1	Grafenberg Arr	88.42	320	eP	pP	19 49 37.5	+2.1
	comp=Z,5.0nm,1.3s						
GRF	Grafenberg Arr	88.42	320	eP	pP	19 49 37.5	+2.1
	comp=Z,5.0nm,1.3s						
CPUP	Villa Florida	143.80	220	ePKPdf	PKPdf	19 56 08.7	-5.8
TZTN	Tazewell	144.50	2	ePKPdf	PKPdf	19 56 10.6	-4.8
WVT	Waverly	144.56	8	ePKPdf	PKPdf	19 56 10.3	-5.3
LTX	Lajitas	145.12	34	ePKPdf	PKPdf	19 56 13.8	-3.0
TXAR	Lajitas Array	145.12	34	PKPbc	PKPbc	19 56 14.3	+1.9
	comp=Z,3.5nm,0.7s,baz=276,slow=1.7,SNR=34						
CPCT	Cooper Cave	145.55	3	ePKPdf	PKPdf	19 56 14.2	-3.1
MYNC	Murphy	145.95	3	ePKPdf	PKPdf	19 56 15.4	-2.6

IDC 02 19:36:43.0±0.8,0.88S×97.61E,mb4.3/8,mb1 4.5/9, mb1mx4.2/18,mbtmp4.3/9,ML4.6/1,MS3.7/1,Ms1 3.6/1, ms1mx3.1/11,Error ellipse: s-maj=39.9km s-min=18.1km az=61.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.26	4	P	P	19 41 10.1	-1.7
	0.7nm,0.3s,baz=191,slow=11,SNR=19						
CMAR	Chiang Mai Arr	19.26	4	P	P	19 41 10.1	-1.7
WRA	Warramunga Arr	40.61	120	P	P	19 44 24.0	-2.4
	8.9nm,0.8s,baz=296,slow=9.2,SNR=11						
MKAR	Makanchi Array	49.35	346	P	P	19 45 34.6	-1.4
	7.0nm,0.8s,baz=153,slow=8.1,SNR=11						
STKA	Stephens Creek	51.67	131	P	P	19 45 51.8	-2.2
	5.8nm,0.9s,baz=314,slow=8.4,SNR=6.3						
ZAL	Zalesovo	55.66	351	P	P	19 46 21.1	-2.0
	3.6nm,0.5s,baz=347,slow=6.0,SNR=6.1						
BVAR	Borovoye Array	58.34	341	P	P	19 46 38.9	-3.2
	2.8nm,0.9s,baz=146,slow=11,SNR=6.1						
MAW	Mawson	70.80	193	P	P	19 48 02.0	-1.0
	3.2nm,0.9s,baz=44,slow=11,SNR=4.7						
BRTR	Keskin Array B	70.81	313	P	P	19 48 01.1	-2.4
	0.8nm,0.6s,baz=126,slow=6.5,SNR=4.7						
AKASG	Malin Array Be	77.15	323	P	P	19 48 37.8	-2.4
	1.5nm,0.8s,baz=90,slow=4.8,SNR=4.9						
TXAR	Lajitas Array	145.18	34	PKPbc	PKPbc	19 56 22.9	-0.7
	3.2nm,0.6s,baz=276,slow=1.2,SNR=14						

MDD 02 21:28:21.9±0.6,39.55N×7.88W,mbLg2.6/26,Error ellipse: s-maj=7.3km s-min=3.1km az=73.0,PRXIMO
NEIC 02 21:28:21.9,39.55N×7.88W,MN2.6(MDD),After MDD.
LDG 02 21:28:21.8±0.1,39.51N×7.96W,h10km,Md3.2/1,Ml3.1/2, Error ellipse: s-maj=1.6km s-min=0.9km az=116.0
IGIL 02 21:28:23.1,39.51N×7.94W,h0km,ML2.6
CSEM 02 21:28:23.0±0.1,39.57N×7.82W,h8km,ML2.8/13,Error ellipse: s-maj=2.6km s-min=1.0km az=71.0
INMG 02 21:28:22.4±1.7,39.52N×7.92W,h7km±4km,ML2.7,Error ellipse: s-maj=3.7km s-min=2.1km az=96.0,Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTOM	Tomar	0.39	284	i Pg	Pg	21 28 29.1	-1.2
PTOM				eSg	Sg	21 28 34.3	-1.3
	526nm,0.1s						
PCBR	Castelo Branco	0.47	47	i Pg	Pg	21 28 31.4	-0.4
PCBR				eSg	Sg	21 28 37.7	-0.4
	124nm,0.2s						
ALMR	Almeirim	0.63	235	eP	Pg	21 28 33.6	-1.4
ALMR				AML	AML	21 28 33.7	
	comp=Z,190nm,0.1s						
ALMR				eS	Sg	21 28 42.2	-1.2
ALMR				eS	Sg	21 28 42.3	-1.2
MTE	Manteigas	0.92	18	ePg	Pg	21 28 39.5	-1.4
MTE				eSg	Sg	21 28 50.6	-2.6
MTE	Manteigas	0.92	18	eP	Pb	21 28 39.6	-0.7
MTE				eS	Sb	21 28 52.0	-0.5
	comp=Z,151nm,0.3s						
MTE	Manteigas	0.92	18	ePg	Pg	21 28 39.5	-1.4
MTE				eSg	Sg	21 28 50.6	-2.6
EVO	Evora	0.99	184	ePg	Pg	21 28 40.1	-2.1
EVO				eSg	Sg	21 28 53.0	-2.5
	comp=Z,293nm,0.4s						
EBAD	Badajoz	1.04	137	Pg	Pg	21 28 41.0	-2.2
	comp=Z,16nm,0.1s,SNR=249						
EBAD				Lg		21 28 54.9	
	comp=Z,82nm,0.1s,SNR=26						
EBAD	Badajoz	1.04	137	Pg	Pg	21 28 41.0	-2.2
	comp=Z,16nm,0.1s,SNR=249						
MOE	Montemor	1.05	199	eP	Pb	21 28 41.1	-1.4
MOE				eS	Sb	21 28 54.6	-1.7
PLOU	Loures	1.15	237	i P	Pb	21 28 43.5	-0.7
PLOU				eS	Sb	21 28 58.8	-0.3
	comp=Z,85nm,0.2s						
PVIS	Viseu	1.19	1	eP	Pb	21 28 44.4	-0.5
PVIS				eS	Sb	21 29 00.6	+0.2
	comp=Z,192nm,0.1s						
INMG	Instituto de M	1.20	232	eP	Pb	21 28 44.5	-0.5
INMG				eS	Sb	21 29 00.6	0.0
LIS	Lisbon	1.25	230	eP	Pb	21 28 45.3	-0.6
LIS				eS	Sb	21 29 01.4	-0.7
LIS				eS	Sb	21 29 01.4	-0.7
LIS				AML	AML	21 29 02.9	
	comp=E,123nm,0.4s						
PBEJ	Beja	1.49	178	eP	Pn	21 28 48.9	-0.9
PBEJ				eS	Sb	21 29 07.9	-1.2
	comp=E,92nm,0.3s						
PVRL	Vila Real	1.76	5	ePn	Pn	21 28 53.0	-0.5
PVRL				eSn	Sn	21 29 16.1	-0.3
	comp=E,86nm,0.1s						
EMIN	Mina Concepcio	2.00	150	Pn	Pn	21 28 55.6	-1.5
EMIN				Pg	Pg	21 28 58.1	-4.4
EMIN				Lg		21 29 23.3	
EMIN	Mina Concepcio	2.00	150	Pn	Pn	21 28 55.6	-1.5
	comp=E,0.1nm,0.1s,SNR=34						
EMIN				Pg	Pg	21 28 58.1	-4.4
	comp=E,2.5nm,0.1s,SNR=7.3						
EMIN				Lg		21 29 23.5	
	comp=E,11nm,0.2s,SNR=7.2						
EMIN	Mina Concepcio	2.00	150	Pn	Pn	21 28 55.6	-1.5
	comp=E,0.1nm,0.1s,SNR=34						
EMIN	Mina Concepcio	2.00	150	Pg	Pg	21 28 58.1	-4.4
	comp=E,2.5nm,0.1s,SNR=7.3						
EGRO	El Granado	2.01	170	Pn	Pn	21 28 55.2	-2.0
EGRO				Pg	Pg	21 28 59.2	-3.4
EGRO				Lg		21 29 23.7	
EGRO	El Granado	2.01	170	Pn	Pn	21 28 55.2	-2.0
	comp=E,0.4nm,0.1s,SNR=10						
EGRO				Pg	Pg	21 28 59.2	-3.4
	comp=E,1.6nm,0.1s,SNR=7.3						
EGRO				Lg		21 29 23.4	
	comp=E,43nm,0.2s,SNR=5.8						
EGRO	El Granado	2.01	170	Pn	Pn	21 28 55.2	-2.0
	comp=E,0.4nm,0.1s,SNR=10						
EGRO	El Granado	2.01	170	Pg	Pg	21 28 59.2	-3.4
	comp=E,1.6nm,0.1s,SNR=7.3						
PTEO	Sao Teotonio	2.07	198	ePg	Pg	21 28 59.6	-4.2
PTEO				eS	Sn	21 29 25.0	+0.6
	comp=E,27nm,0.4s						
ELOB	Lobios	2.34	357	Pn	Pn	21 29 00.2	-1.8
	comp=E,1.0nm,0.1s,SNR=12						
ELOB				Pg	Pg	21 29 03.5	-5.7
	comp=E,1.8nm,0.1s,SNR=7.9						
ELOB				Lg		21 29 34.9	
	comp=E,24nm,0.2s,SNR=12						
ELOB	Lobios	2.34	357	Pn	Pn	21 29 00.2	-1.8
	comp=E,1.0nm,0.1s,SNR=12						
ELOB	Lobios	2.34	357	Pg	Pg	21 29 03.5	-5.7
	comp=E,1.8nm,0.1s,SNR=7.9						
ECAL	Calabor	2.58	20	Pn	Pn	21 29 03.2	-2.0
	comp=E,0.9nm,0.1s,SNR=9.0						
ECAL				Pg	Pg	21 29 09.5	-4.3
	comp=E,3.6nm,0.2s,SNR=15						
ECAL				Sn	Sn	21 29 33.6	-3.6
	comp=E,11nm,0.2s,SNR=7.2						
ECAL				Lg		21 29 43.4	
	comp=E,33nm,0.4s,SNR=6.9						
ECAL	Calabor	2.58	20	Pn	Pn	21 29 03.2	-2.1
	comp=E,0.9nm,0.1s,SNR=9.0						
ECAL	Calabor	2.58	20	Pg	Pg	21 29 09.5	-4.4
	comp=E,3.6nm,0.2s,SNR=15						
ECAL				Sn	Sn	21 29 33.6	-3.6
	comp=E,11nm,0.2s,SNR=7.2						
EZAM	Zamans	2.69	348	Pn	Pn	21 29 05.1	-1.8
	comp=E,0.8nm,0.3s,SNR=7.9						
EZAM				Pg	Pg	21 29 10.9	-5.2
	comp=E,1.8nm,0.2s,SNR=7.2						
EZAM				Lg		21 29 45.9	
	comp=E,8.4nm,0.2s,SNR=6.8						
ERUA	La Rua	2.93	11	Pn	Pn	21 29 07.9	-2.4
ERUA				Pg	Pg	21 29 15.0	-5.8
ERUA				Sn	Sn	21 29 41.5	-4.5
ERUA				Lg		21 29 54.1	
ERUA	La Rua	2.93	11	Pn	Pn	21 29 08.7	-1.5
	comp=E,2.7nm,0.1s,SNR=7.9						
ERUA				Pg	Pg	21 29 15.0	-5.8
	comp=E,2.4nm,0.1s,SNR=7.9						
ERUA				Sn	Sn	21 29 41.5	-4.5
	comp=E,3.8nm,0.2s,SNR=7.9						
ERUA				Lg		21 29 54.1	
	comp=E,12nm,0.3s,SNR=7.9						
ERUA	La Rua	2.93	11	Pn	Pn	21 29 07.9	-2.4
	comp=E,2.7nm,0.1s,SNR=7.9						
ERUA	La Rua	2.93	11	Pg	Pg	21 29 15.0	-5.9
	comp=E,2.4nm,0.1s,SNR=7.9						
ERUA				Sn	Sn	21 29 41.5	-4.6
	comp=E,3.8nm,0.2s,SNR=7.9						
EADA	Adamuz	2.94	116	Pn	Pn	21 29 07.7	-2.7
	comp=E,1.4nm,0.1s,SNR=14						
EADA				Pg	Pg	21 29 15.9	-5.2
	comp=E,1.3nm,0.1s,SNR=12						
EADA				Lg		21 29 54.2	
	comp=E,15nm,0.3s,SNR=5.0						
EADA	Adamuz	2.94	116	Pn	Pn	21 29 07.7	-2.7
	comp=E,1.4nm,0.1s,SNR=14						
EADA	Adamuz	2.94	116	Pg	Pg	21 29 15.9	-5.2
	comp=E,1.3nm,0.1s,SNR=12						
ESDC	Sonseca Array	3.06	86	Pn	Pn	21 29 10.4	-1.7
	comp=E,0.1nm,0.1s,baz=266,slow=13,SNR=13						
ESDC				Pg	Pg	21 29 16.9	-6.6
	comp=E,2.8nm,0.1s,baz=265,slow=17,SNR=4.6						
ESDC				Lg		21 29 56.2	
	comp=E,8.7nm,0.1s,baz=267,slow=28,SNR=4.9						
ESDC	Sonseca Array	3.06	86	Pn	Pn	21 29 10.4	-1.7
	comp=E,0.1nm,0.1s,baz=266,slow=13,SNR=13						
ESDC	Sonseca Array	3.06	86	Pg	Pg	21 29 16.9	-6.6
	comp=E,2.8nm,0.1s,slow=17,SNR=4.6						
ESPR	Espera	3.11	148	Pn	Pn	21 29 11.4	-1.4
	comp=E,0.9nm,0.1s,SNR=6.6						
ESPR				Pg	Pg	21 29 19.6	-4.8
	comp=E,1.5nm,0.3s,SNR=7.9						
ESPR				Sn	Sn	21 29 47.5	-3.1
	comp=E,2.6nm,0.2s,SNR=7.9						
ESPR				Lg		21 30 01.8	
	comp=E,12nm,0.3s,SNR=7.9						
ESPR	Espera	3.11	148	Pn	Pn	21 29 11.4	-1.4
	comp=E,0.9nm,0.1s,SNR=6.6						
ESPR	Espera	3.11	148	Pg	Pg	21 29 19.6	-4.9
	comp=E,1.5nm,0.3s,SNR=7.9						
ESPR				Sn	Sn	21 29 47.5	-3.1
	comp=E,2.6nm,0.2s,SNR=7.9						
STS	Santiago	3.40	352	Lg		21 30 08.7	
	comp=E,4.9nm,0.2s,SNR=7.9						
ELUQ	Luque	3.47	123	Pg	Pg	21 29 25.9	-5.8
	comp=E,0.9nm,0.2s,SNR=7.9						
ELUQ				Lg		21 30 11.0	
	comp=E,5.0nm,0.4s,SNR=4.8						
EBAN	Banos Encina	3.50	111	Pn	Pn	21 29 15.9	-2.5
	comp=E,1.3nm,0.2s,SNR=7.9						
EBAN				Pg	Pg	21 29 26.8	-5.5
	comp=E,0.4nm,0.3s,SNR=7.9						
EBAN				Sn	Sn	21 29 56.3	-4.3
	comp=E,1.8nm,0.1s,SNR=6.5						
EBAN				Lg		21 30 11.3	
	comp=E,4.0nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	3.52	347	Pn	Pn	21 29 15.9	-2.8
	comp=E,1.2nm,0.1s,SNR=7.9						
EMAZ				Sn	Sn	21 29 57.0	-3.9
	comp=E,2.0nm,0.1s,SNR=7.9						
EMAZ				Lg		21 30 12.0	
	comp=E,4.5nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	3.52	347	Pn	Pn	21 29 15.9	-2.7
	comp=E,1.2nm,0.1s,SNR=7.9						
EMAZ				Sn	Sn	21 29 57.0	-4.0
	comp=E,2.0nm,0.1s,SNR=7.9						
ELOJ	Sierra Loja	3.79	127	Pn	Pn	21 29 21.1	-1.4
ELOJ				Pg	Pg	21 29 32.0	-6.2
ELOJ				Sn	Sn	21 30 02.3	-5.6
ELOJ				Lg		21 30 20.4	
ELOJ	Sierra Loja	3.79	127	Pn	Pn	21 29 21.1	-1.4
	comp=E,0.2nm,0.2s,SNR=7.9						
ELOJ				Pg	Pg	21 29 32.0	-6.2
	comp=E,0.4nm,0.2s,SNR=7.9						
ELOJ				Sn	Sn	21 30 02.3	-5.6
	comp=E,0.6nm,0.2s,SNR=7.9						
ELOJ				Lg		21 30 23.4	
	comp=E,2.0nm,0.3s,SNR=7.9						
ELOJ	Sierra Loja	3.79	127	Pg	Pg	21 29 32.0	-6.1
	comp=E,0.4nm,0.2s,SNR=7.9						
ELOJ				Sn	Sn	21 30 02.3	-5.7
	comp=E,0.6nm,0.2s,SNR=7.9						
EPON	Pontenova	3.84	8	Pn	Pn	21 29 20.5	-2.8
	comp=E,0.2nm,0.2s,SNR=7.9						
EPON				Pg	Pg	21 29 30.7	-8.5
	comp=E,1.2nm,0.3s,SNR=7.9						
EPON				Sn	Sn	21 30 03.5	-5.8
	comp=E,0.6nm,0.1s,SNR=4.9						
EPON				Lg		21 30 22.8	
	comp=E,7.5nm,0.4s,SNR=7.8						
EPON	Pontenova	3.84	8	Pn	Pn	21 29 20.5	-2.8
	comp=E,0.2nm,0.2s,SNR=7.9						
EPON	Pontenova	3.84	8	Pg	Pg	21 29 30.7	-8.5
	comp=E,1.2nm,0.3s,SNR=7.9						
EPON				Sn	Sn	21 30 03.5	-5.8
	comp=E,0.6nm,0.1s,SNR=4.9						
EMIJ	Mijas	3.86	139	Pn	Pn	21 29 21.7	-1.7
	comp=E,0.4nm,0.1s,SNR=5.0						
EMIJ				Sn	Sn	21 30 04.9	-4.7
	comp=E,0.5nm,0.1s,SNR=4.0						
EMIJ				Lg		21 30 25.7	
	comp=E,3.6nm,0.3s,SNR=7.9						
EQES	Quesada	4.17	113	Pn	Pn	21 29 25.7	-2.2
	comp=E,0.3nm,0.1s,SNR=9.5						
EQES				Pg	Pg	21 29 39.0	-6.5
	comp=E,0.3nm,0.1s,SNR=7.9						
EQES				Sn	Sn	21 30 10.6	-6.8
	comp=E,1.6nm,0.2s,SNR=4.7						
EQES				Lg		21 30 34.7	
	comp=E,5.6nm,0.3s,SNR=5.0						
EQES	Quesada	4.17	113	Pn	Pn	21 29 25.7	-2.1
	comp=E,0.3nm,0.1s,SNR=9.5						
EQES	Quesada	4.17	113	Pg	Pg	21 29 39.0	-6.6
	comp=E,0.3nm,0.1s,SNR=7.9						
EQES				Sn	Sn	21 30 10.6	-6.8
	comp=E,1.6nm,0.2s,SNR=4.7						
EARI	Arriondas	4.29	27	Pn	Pn	21 29 27.4	-2.2
	comp=E,0.3nm,0.2s,SNR=7.9						
EARI				Sn	Sn	21 30 13.7	-6.8
	comp=E,0.5nm,0.1s,SNR=7.9						
EARI				Lg		21 30 36.7	
	comp=E,0.7nm,0.3s,SNR=7.9						
EARI	Arriondas	4.29	27	Pn	Pn	21 29 27.4	-2.2
	comp=E,0.3nm,0.2s,SNR=7.9						
EARI				Sn	Sn	21 30 13.7	-6.9
	comp=E,0.5nm,0.1s,SNR=7.9						
EVIA	Vianos	4.31	100	Lg		21 30 37.9	
	comp=E,8.9nm,0.6s,SNR=4.8						
EBER	Berja	4.75	122	Pn	Pn	21 29 32.2	-3.9
EBER				Lg		21 30 51.8	
EBER	Berja	4.75	122	Pn	Pn	21 29 30.7	-5.4
	comp=E,1.1nm,0.5s,SNR=4.0						
EBER				Lg		21 30 51.8	
	comp=E,1.0nm,0.3s,SNR=7.9						
ELAN	Lanestosa	5.01	41	Pn	Pn	21 29 35.9	-4.0
	comp=E,0.6nm,0.3s,SNR=7.9						
ELAN				Sn	Sn	21 30 31.7	-7.1
	comp=E,0.7nm,0.2s,SNR=7.9						
ELAN				Lg		21 30 59.6	
	comp=E,1.7nm,0.2s,SNR=7.9						
ELAN	Lanestosa	5.01	41	Pn	Pn	21 29 35.9	-3.9
	comp=E,0.6nm,0.3s,SNR=7.9						
ELAN				Sn	Sn	21 30 31.7	-7.1
	comp=E,0.7nm,0.2s,SNR=7.9						
ETOB	Tobarra	5.03	98	Pn	Pn	21 29 36.8	-3.4
	comp=E,0.2nm,0.1s,SNR=7.9						
ETOB				Lg		21 31 00.1	
	comp=E,3.2nm,0.3s,SNR=5.6						
ETOB	Tobarra	5.03	98	Pn	Pn	21 29 36.8	-3.4
	comp=E,0.2nm,0.1s,SNR=7.9						
ECRI	Cripan	5.12	51	Pn	Pn	21 29 35.0	-6.3
ECRI				Lg		21 31 02.8	
ECRI	Cripan	5.12	51	Lg		21 31 02.8	
	comp=E,1.0nm,0.2s,SNR=7.9						
ECRI	Cripan	5.12	51	Pn	Pn	21 29 35.0	-6.4
	comp=E,0.6nm,0.2s,SNR=4.0						
EMUR	La Murta	5.49	106	Pn	Pn	21 29 43.5	-3.0
	comp=E,0.8nm,0.3s,SNR=7.9						
EMUR				Sn	Sn	21 30 43.4	-7.3
	comp=E,0.1nm,0.1s,SNR=7.9						
EMUR				Lg		21 31 16.1	
	comp=E,1.3nm,0.3s,SNR=7.9						
EMUR	La Murta	5.49	106	Pn	Pn	21 29 43.5	-3.1
	comp=E,0.8nm,0.3s,SNR=7.9						
EMUR				Sn	Sn	21 30 43.4	-7.4
	comp=E,0.1nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	5.79	79	Pn	Pn	21 29 48.3	-2.4
	comp=E,0.2nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	21 30 49.6	-8.6
	comp=E,0.3nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	5.79	79	Pn	Pn	21 29 48.3	-2.5
	comp=E,0.2nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	21 30 49.6	-8.6
	comp=E,0.3nm,0.1s,SNR=7.9						
EBEN	Beniarda	6.04	95	Lg		21 31 33.2	
	comp=E,1.4nm,0.3s,SNR=4.0						
EALK	Alkurruntz	6.08	50	Pg	Pg	21 30 12.5	-11
EALK				Sn	Sn	21 30 57.3	-8.1
EALK				Lg		21 31 31.9	
EALK	Alkurruntz	6.08	50	Pg	Pg	21 30 12.5	-11
	comp=E,0.4nm,0.3s,SNR=4.0						
EALK				Sn	Sn	21 30 57.3	-8.1
	comp=E,0.2nm,0.1s,SNR=7.9						
EALK				Lg		21 31 35.0	
	comp=E,2.0nm,0.3s,SNR=7.9						
ESAC	San Caprasio	6.08	66	Lg		21 31 37.0	
	comp=E,4.4nm,0.3s,SNR=7.9						
SJPF	Ste Jean	6.18	52	ePn	Pn	21 29 51.7	-4.7
SJPF				eSn	Sn	21 30 57.8	-10
	comp=E,0.7nm,0.3s						

ETSF	**Etsaut**	**6.49**	**56**	*e*Pn	Pn	21 29 55.5	-5.3
EBIE	**Bielsa**	**6.86**	**60**	Pn	Pn	21 30 02.6	-3.3
	comp=E,0.1nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	21 31 16.7	-8.4
	comp=E,0.0nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**6.86**	**60**	Pn	Pn	21 30 02.6	-3.3
EBIE				Sn	Sn	21 31 16.7	-8.4
EPOB	**Poblet**	**7.10**	**72**	Pn	Pn	21 30 05.7	-3.6
	comp=E,0.5nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**7.10**	**72**	Pn	Pn	21 30 05.8	-3.5
EPF	**Esparros**	**7.14**	**58**	*e*Pn	Pn	21 30 04.6	-5.2

IDC 02 21:41:48.0±10.0**, 1.66N×96.93E, mb3.6**/2**, mb1 3.7**/3**, mb1mx3.5**/19**, mbtmp3.6**/3**, ML4.2**/1**, Error ellipse: s-maj=203.7km s-min=129.4km az=140.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.81**	**7**	Pn	P	21 45 45.0	-1.6
	0.3nm,0.3s,baz=197,slow=11,SNR=7.0						
SONM	**Songino Array**	**46.72**	**9**	P	P	21 50 18.8	-1.8
	0.2nm,0.3s,baz=191,slow=7.3,SNR=3.1						
MKAR	**Makanchi Array**	**46.73**	**346**	P	P	21 50 18.8	-1.9
	0.6nm,0.7s,baz=158,slow=7.6,SNR=8.3						

MAN 02 21:46:49.3, 9.19N×125.56E, h159km, mb4.0, ML2.8, MS2.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.23**	**164**	*e*P	P	21 47 11.7	+0.7
BUTP				*e*S	S	21 47 24.1	-3.6
SCPH	**Surigao**	**0.59**	**353**	*e*P	P	21 47 06.8	-5.7
SCPH				*e*S	S	21 47 10.8	-20
MSLP	**Maasin**	**1.17**	**324**	*e*P	P	21 47 16.6	0.0
BUKP	**Musuan**	**1.39**	**201**	*e*P	P	21 47 18.9	+0.2
BESP	**Borongan**	**2.40**	**357**	*e*P	P	21 47 30.1	0.0

*IDC **02** 21:49:35.9±12.0, 12.31S×167.09E, h153km±102km, mb3.5/7, mb1 3.7/7, mb1mx3.6/15, mbtmp3.9/7, Error ellipse: s-maj=53.1km s-min=29.1km az=104.0*

ISC 02 21:49:29.0±1.9**, 12.2S**±0.2×**167.0E**±0.4**, h100km, n24, σ0.s41**/7**, mb3.8**/7**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.48**	**226**	P	**P**	**21 55 34.9**	**+0.1**
	0.9nm,0.3s,mb3.8,baz=54,slow=12,SNR=11						
WRA	**Warramunga Arr**	**32.27**	**252**	P	**P**	**21 55 50.0**	**-0.5**
	0.5nm,0.6s,mb3.5,baz=84,slow=8.6,SNR=2.9						
MJAR	**Matsushiro Arr**	**55.58**	**332**	P	**P**	**21 58 56.2**	**-0.4**
	0.6nm,0.5s,mb3.9,baz=168,slow=9.4,SNR=4.3						
CMAR	**Chiang Mai Arr**	**73.71**	**293**	P	**P**	**22 00 55.1**	**+0.8**
	0.9nm,0.9s,mb3.5,baz=116,slow=4.2,SNR=4.6						
SONM	**Songino Array**	**80.34**	**323**	P	**P**	**22 01 30.9**	**+0.3**
	0.2nm,0.3s,mb3.4,baz=150,slow=7.5,SNR=3.1						
ILAR	**Eielson Array**	**84.23**	**18**	P	**P**	**22 01 50.1**	**-0.1**
	2.5nm,0.6s,mb4.2,baz=248,slow=5.2,SNR=28						
MKAR	**Makanchi Array**	**95.22**	**317**	P	**P**	**22 02 42.2**	**-0.3**
	0.5nm,0.5s,mb4.2,baz=95,slow=4.8,SNR=7.2						
ARCES	**ARCESS Array B**	**117.77**	**346**	PKP	PKPdf	22 08 02.6	-0.5
	0.7nm,0.3s,baz=69,slow=2.1,SNR=26						
FINES	**FINESS Array B**	**123.31**	**339**	PKP	PKPdf	22 08 13.5	-0.5
	0.7nm,0.9s,baz=96,slow=3.8,SNR=7.7						
NOA	**NORSAR Array B**	**128.15**	**345**	PKP	PKPdf	22 08 23.4	0.0
	0.2nm,0.7s,baz=48,slow=2.3,SNR=2.8						
LPL	**La Plagne**	**142.80**	**337**	*e*PKP1	PKPdf	22 08 49.4	-1.3
LPG	**La Plagne**	**142.81**	**337**	*e*PKP1	PKPdf	22 08 48.7	-2.1
	1.5nm,0.5s						
ORIF	**Oris-en-Rattie**	**143.63**	**337**	*e*PKP1	PKPbc	22 08 50.7	-0.3
	12nm,0.7s						
TCF	**Toulx Ste Croi**	**143.68**	**342**	*e*PKP1	PKPbc	22 08 50.5	-0.6
	2.2nm,0.6s						
SBF	**Sospel**	**143.89**	**335**	*e*PKP1	PKPbc	22 08 50.8	-1.0
	20nm,0.8s						
MFF	**Saint Martin d**	**144.05**	**345**	*e*PKP1	PKPbc	22 08 51.7	-0.5
	5.7nm,0.6s						
VIVF	**Saint-Julien-l**	**144.13**	**338**	*e*PKP1	PKPbc	22 08 52.3	-0.2
	5.3nm,0.8s						
FRF	**La Foret Royal**	**144.46**	**335**	*e*PKP1	PKPbc	22 08 52.8	-0.6
	13nm,0.8s						
SMRF	**Simiane la Rot**	**144.54**	**337**	*e*PKP1	PKPbc	22 08 53.8	+0.1
LMR	**La Mourre**	**144.71**	**335**	*e*PKP1	PKPbc	22 08 53.6	-0.5
	2.8nm,0.4s						
RJF	**Les Rejaudoux**	**144.78**	**342**	*e*PKP1	PKPbc	22 08 51.6	-2.7
ESDC	**Sonseca Array**	**151.51**	**345**	PKPbc	PKPdf	22 09 12.1	+6.9
	0.3nm,0.4s,baz=18,slow=2.4,SNR=4.6						
ESDC				PKPab	PKPab	22 09 22.3	-0.4
	0.7nm,0.6s,baz=22,slow=3.4,SNR=4.7						
EVO	**Evora**	**153.42**	**351**	*e*PKIKP	PKPdf	22 09 05.6	-2.4
	29nm,1.2s						
DBIC	**Dimbokro**	**170.26**	**236**	PKP	PKPdf	22 09 28.4	+2.8
	4.5nm,0.9s,baz=145,slow=3.3,SNR=3.1						

*CSEM **02** 22:00:51.2±1.0, 39.21N×16.86E, h28km, ML3.6/1, Error ellipse: s-maj=38.5km s-min=9.3km az=102.0, After ROM*

ROM 02 22:00:51.2±0.9**, 39.21N×16.86E, h28km**±7km**, Md2.7**/4**, Ml2.5**/2**, Error ellipse: s-maj=20.8km s-min=9.1km az=163.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRI	**Girifalco**	**0.52**	**222**	Pg	Pb	22 01 02.1	+0.3
GRI				Sg	Sb	22 01 11.4	+2.4
	178nm,0.3s						
ORI	**Oriolo Calabro**	**0.91**	**340**	Pg	Pn	22 01 09.8	+1.6
	40nm,0.2s						
SOI	**Samo**	**1.30**	**209**	Pg	Pn	22 01 16.1	+2.4
	15nm,0.4s						
MGR	**Morigerati**	**1.37**	**313**	Pg	Pn	22 01 16.3	+1.5
	7.0nm,0.3s						
LTRZ	**Laterza**	**1.39**	**359**	Pg	Pn	22 01 15.8	+0.7
LTRZ				Sg	Sn	22 01 37.0	+4.3
	92nm,0.4s						

*CSEM **02** 23:35:11.3±0.1, 33.67N×3.89W, h2km, MD3.1, Error ellipse: s-maj=4.4km s-min=1.9km az=101.0*
*CNRM **02** 23:35:11.1, 33.98N×3.63W, h30km, MD3.1*
*MDD **02** 23:35:12.8±1.2, 33.73N×3.87W, mb3.3/4, Error ellipse: s-maj=11.2km s-min=5.2km az=93.0, PRXIMO*

ISC 02 23:35:11.6±1.0**, 33.77N**±0.03×**3.81W**±0.08**, h10km, n13, σ1.s30**/21**, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TZK	**Tazeka**	**0.44**	**315**	P	**Pg**	**23 35 20.0**	**-0.6**
TZK				S	**Sg**	**23 35 27.0**	**+0.3**
TZK	**Tazeka**	**0.44**	**315**	*i* P	**Pg**	**23 35 20.0**	**-0.6**
MIF	**Mishlifen**	**1.24**	**253**	*i* P	**Pb**	**23 35 34.5**	**-0.2**
MIF				*i* S	**Sb**	**23 35 51.0**	**+0.4**
CZD	**Col de Zad**	**1.27**	**235**	*i* P	**Pb**	**23 35 35.0**	**-0.2**
CZD				*i* S	**Sb**	**23 35 52.0**	**+0.6**
ZFT	**Errachidia**	**1.79**	**195**	*i* P	**Pn**	**23 35 42.0**	**-0.9**
ZFT				*i* S	**Sn**	**23 36 05.0**	**-0.9**
EADA	**Adamuz**	**4.43**	**352**	P	**Pn**	**23 36 22.6**	**+2.2**
	0.1nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**23 37 11.1**	**-1.6**
	0.0nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**4.43**	**352**	P	**Pn**	**23 36 22.6**	**+2.1**
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.62**	**331**	P	**Pn**	**23 36 24.7**	**+1.6**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**23 37 14.8**	**-2.6**
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.62**	**331**	P	**Pn**	**23 36 24.7**	**+1.6**
	0.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.80**	**322**	P	**Pn**	**23 36 27.0**	**+1.3**
	0.6nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**23 37 19.1**	**-3.0**
	0.4nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.80**	**322**	P	**Pn**	**23 36 27.0**	**+1.3**
	0.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.61**	**333**	P	**Pn**	**23 36 38.5**	**+1.4**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**23 37 38.3**	**-4.0**
	0.3nm,0.1s,SNR=4.0						
EBAD	**Badajoz**	**5.61**	**333**	P	**Pn**	**23 36 38.5**	**+1.4**
	0.2nm,0.1s,SNR=7.9						

*JMA **02** 23:57:49.2±0.2, 39.46N×143.48E, h29km, M3.4*
*IDC **02** 23:57:55.9±2.6, 39.60N×142.54E, mb3.4/3, mb1 3.5/4, mb1mx3.4/22, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=61.2km s-min=30.1km az=149.0*

ISC 02 23:57:48.7±2.4**, 39.39N**±0.07×**143.39E**±0.09**, h8km**±19km**, n15, σ0.s75**/20**, mb3.4**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.23**	**279**	P	**Pb**	**23 58 11.7**	**-0.2**
MIYJ				*e*S	**Sb**	**23 58 28.0**	**+0.2**
JTH	**Tanohata**	**1.30**	**295**	P	**Pb**	**23 58 12.3**	**-0.8**
JTH				*e*S	**Sb**	**23 58 30.5**	**+0.7**
OFUJ	**Ofunato**	**1.38**	**258**	P	**Pb**	**23 58 14.1**	**-0.2**
OFUJ				*e*S	**Sb**	**23 58 32.5**	**+0.6**
JOM	**Ohasama**	**1.63**	**274**	P	**Pn**	**23 58 18.0**	**+0.1**
JOM				*e*S	**Sb**	**23 58 39.3**	**0.0**
JMK	**Ichinoseki**	**1.75**	**256**	P	**Pn**	**23 58 19.7**	**+0.1**
JANG	**Nango**	**1.75**	**305**	P	**Pn**	**23 58 18.0**	**-1.7**
JIO	**Ouri**	**1.85**	**240**	P	**Pn**	**23 58 21.1**	**0.0**
JIO				*e*S	**Sn**	**23 58 43.2**	**-1.6**
JYK	**Kaneyama**	**2.41**	**260**	P	**Pn**	**23 58 29.3**	**+0.2**
JMM	**Marumori**	**2.54**	**234**	P	**Pn**	**23 58 30.6**	**-0.4**
JNBK	**Urakawa-nobuka**	**2.93**	**351**	*e*S	**Sn**	**23 59 08.6**	**-3.7**
MJAR	**Matsushiro Arr**	**4.99**	**237**	Pn	**Pn**	**23 59 06.3**	**+0.6**
	0.9nm,0.3s,baz=42,slow=11,SNR=19						
MAT	**Matsushiro**	**4.99**	**237**	P	**Pn**	**23 59 06.2**	**+0.5**
SONM	**Songino Array**	**27.87**	**300**	P	**P**	**00 03 41.4**	**+0.8**
	0.4nm,0.7s,mb3.2,baz=90,slow=7.2,SNR=3.1						
MKAR	**Makanchi Array**	**44.23**	**300**	P	**P**	**00 06 01.0**	**+1.0**
	0.5nm,0.6s,mb3.4,baz=82,slow=8.9,SNR=4.3						
ILAR	**Eielson Array**	**46.67**	**34**	P	**P**	**00 06 27.2**	**+8.0**
	0.4nm,0.6s,mb3.5,baz=252,slow=5.1,SNR=7.0						

NEIC 03 00:13:00.3, 39.27S×175.13E, h25km, ML3.8(WEL)**, After WEL., North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.32**	**296**	P	Pb	00 13 07.5	-0.1
VRZ				S	Sb	00 13 12.4	-0.3
FWVZ	**Far West T-bar**	**0.33**	**88**	P	Pb	00 13 07.7	0.0
WPVZ	**Whakapapa**	**0.33**	**79**	P	Pb	00 13 07.7	-0.1
WPVZ				S	Sb	00 13 12.4	-0.4
CNZ	**Chateau**	**0.33**	**78**	P	Pb	00 13 07.8	0.0
WNVZ	**Wahianoa**	**0.37**	**99**	P	Pb	00 13 08.1	-0.2
NGZ	**Ngauruhoe**	**0.38**	**76**	P	Pb	00 13 08.3	-0.2
WTVZ	**West Tongariro**	**0.39**	**67**	P	Pb	00 13 08.5	-0.2

*ATH **03** 00:18:07.7, 38.61N×20.57E, h4km±1km, MD3.7/6*
*NEIC **03** 00:18:08.1, 38.62N×20.58E, h5km, MD3.7(ATH), After ATH.*
*CSEM **03** 00:18:11.2±0.2, 38.65N×20.31E, h40km, MD3.7, Error ellipse: s-maj=4.2km s-min=3.7km az=23.0*
*IDC **03** 00:18:12.8±1.8, 38.68N×20.42E, h64km±30km, mb3.0/4, mb1 3.3/9, mb1mx3.2/28, mbtmp3.4/9, ML3.2/5, Error ellipse: s-maj=32.8km s-min=14.2km az=45.0*

ISC 03 00:18:07.7±0.4**, 38.61N**±0.02×**20.52E**±0.04**, h4km, n45, σ1.s42**/55**, mb3.2**/4**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.43**	**173**	*e*Pg	**Pg**	**00 18 16.4**	**+0.1**
VLS				Sb	**Sb**	**00 18 23.8**	**-0.2**
VLS	**Valsamata**	**0.43**	**173**	*e*PG	**Pg**	**00 18 16.2**	**-0.1**
VLS				*e*SG	**Sg**	**00 18 22.9**	**+0.8**
RLS	**Riolos of Patr**	**0.92**	**126**	*e*Pg	**Pg**	**00 18 24.9**	**-1.2**
RLS	**Riolos of Patr**	**0.92**	**126**	*e*PG	**Pg**	**00 18 25.0**	**-1.1**
RLS				*e*SG	**Sg**	**00 18 36.9**	**-1.5**
EVR	**Evrytania**	**1.05**	**72**	*e*Pg	**Pg**	**00 18 26.7**	**-2.0**
EVR	**Evrytania**	**1.05**	**72**	*e*PG	**Pg**	**00 18 26.9**	**-1.8**
EVR				*e*SG	**Sg**	**00 18 40.8**	**-1.9**
JAN	**Janina**	**1.08**	**14**	*e*PG	**Pg**	**00 18 27.9**	**-1.3**
JAN				*e*SG	**Sg**	**00 18 42.3**	**-1.3**
JAN	**Janina**	**1.08**	**14**	*e*Pn	**Pn**	**00 18 28.5**	**-0.9**
KEK	**Kerkira**	**1.24**	**333**	*e*PB	**Pb**	**00 18 31.4**	**+0.1**
KEK				*e*SB	**Sb**	**00 18 48.5**	**+1.0**
SRN	**Sarande**	**1.33**	**342**	*e*Pn	**Pn**	**00 18 33.2**	**+0.1**
SRN				*i* Sn	**Sn**	**00 18 50.9**	**-0.6**
LSK	**Leskovik**	**1.54**	**2**	*e*Pn	**Pn**	**00 18 36.9**	**+0.8**
LSK				*i* Sn	**Sn**	**00 19 01.9**	**+5.1**
ITM	**Ithomi**	**1.81**	**142**	*e*Pn	**Pn**	**00 18 42.8**	**+3.0**
ITM	**Ithomi**	**1.81**	**142**	*e*PB	**Pb**	**00 18 41.1**	**+0.1**
LKR	**Lokris**	**1.94**	**88**	*e*PN	**Pn**	**00 18 43.1**	**+1.3**
KZN	**Kozani**	**1.95**	**29**	*e*PN	**Pn**	**00 18 43.7**	**+1.8**
KZN	**Kozani**	**1.95**	**29**	*e*Pn	**Pn**	**00 18 43.3**	**+1.4**
LIT	**Litokhoron**	**2.13**	**45**	*e*P	**Pn**	**00 18 47.1**	**+2.6**
FNA	**Florina**	**2.27**	**17**	*e*P	**Pn**	**00 18 47.1**	**+0.6**
GRG	**Griva**	**2.76**	**31**	*e*P	**Pn**	**00 18 54.1**	**+0.6**
TIR	**Tirane**	**2.78**	**350**	*e*Pn	**Pn**	**00 18 54.5**	**+0.7**
PLG	**Polygyros**	**2.87**	**51**	*e*PN	**Pn**	**00 18 55.5**	**+0.5**
QSH	**Qafa e Shtames**	**2.95**	**351**	*e*Pn	**Pn**	**00 18 56.4**	**+0.2**
QSH				*i* Sn	**Sg**	**00 19 48.4**	**+2.5**
SOH	**Sokhos**	**3.11**	**44**	*e*P	**Pn**	**00 19 00.8**	**+2.3**
KNT	**Kendrikon**	**3.14**	**35**	*e*P	**Pn**	**00 19 00.5**	**+1.6**
OUR	**Ouranopolis**	**3.19**	**56**	*e*P	**Pn**	**00 19 02.7**	**+3.1**
SKO	**Skopje**	**3.43**	**11**	*i* Pn	**Pn**	**00 19 01.0**	**-2.1**
SRS	**Serrai**	**3.44**	**42**	*e*P	**Pn**	**00 19 05.4**	**+2.2**
PUK	**Puka**	**3.47**	**352**	*i* Pn	**Pn**	**00 19 02.8**	**-0.7**
PUK	**Puka**	**3.47**	**352**	*e*Pn	**Pn**	**00 19 02.8**	**-0.7**
IDI	**Anoyia**	**4.82**	**132**	P	**Pn**	**00 19 25.2**	**+2.5**
	0.2nm,0.3s,baz=346,slow=8.3,SNR=2.9						
IDI				S	**Sn**	**00 20 19.9**	**+0.1**
	1.4nm,0.3s,baz=70,slow=23,SNR=4.8						
VAE	**Valguarnera**	**4.95**	**259**	P	**Pn**	**00 19 23.4**	**-1.2**
	0.8nm,0.3s,baz=343,slow=19,SNR=2.4						
VAE	**Valguarnera**	**4.95**	**259**	P	**Pn**	**00 19 23.5**	**-1.1**
CII	**Carovilli**	**5.69**	**305**	*e*P	**Pn**	**00 19 34.9**	**-0.1**
CII	**Carovilli**	**5.69**	**305**	*e*P	**Pn**	**00 19 34.9**	**-0.1**
MLR	**Muntele Rosu**	**7.97**	**29**	P	**Pn**	**00 20 07.4**	**+0.3**
	0.1nm,0.3s,baz=140,slow=18,SNR=4.3						
DAVOX	**Davos**	**11.31**	**320**	P	**P**	**00 20 51.2**	**-1.9**
	0.2nm,0.3s,baz=147,slow=17,SNR=3.0						
GERES	**GERESS Array B**	**11.36**	**337**	P	**P**	**00 20 49.4**	**-4.2**
	0.1nm,0.3s,baz=158,slow=14,SNR=5.4						
HFS	**Hagfors**	**21.98**	**351**	P	**P**	**00 23 00.3**	**-3.9**
	1.2nm,0.5s,mb3.6,baz=164,slow=11,SNR=22						
FINES	**FINESS Array B**	**23.12**	**7**	P	**P**	**00 23 12.2**	**-3.2**
	0.5nm,0.4s,mb3.3,baz=173,slow=9.8,SNR=14						
FINES	**FINESS Array B**	**23.12**	**7**	P	**P**	**00 23 12.1**	**-3.2**
NB2	**NORSAR Subarra**	**23.20**	**348**	P	**P**	**00 23 13.9**	**-2.2**
	0.2nm,0.5s,mb2.8,baz=153,slow=10						
NOA	**NORSAR Array B**	**23.20**	**348**	P	**P**	**00 23 13.9**	**-2.1**
	0.4nm,0.5s,mb3.1,baz=165,slow=11,SNR=4.7						
NOA	**NORSAR Array B**	**23.20**	**348**	P	**P**	**00 23 13.9**	**-2.2**
KAF	**Kangasniemi**	**23.80**	**7**	*e*p	**P**	**00 23 19.8**	**-2.1**
MKAR	**Makanchi Array**	**45.08**	**59**	P	**P**	**00 26 22.1**	**-4.3**
	0.2nm,0.8s,mb3.0,baz=259,slow=7.3,SNR=3.9						

*BJI **03** 00:40:52.7, 12.98N×145.48E, h137km, mB4.8, mb4.6*
*IDC **03** 00:40:58.5±5.6, 13.74N×144.85E, h115km±51km, mb4.2/18, mb1 4.4/18, mb1mx4.3/24, mbtmp4.5/18, MS3.2/6, Ms1 3.2/6, ms1mx3.0/29, Error ellipse: s-maj=21.1km s-min=11.0km az=78.0*
*NEIC **03** 00:41:01.1±0.5, 13.69N×144.69E, h137km±5km, mb4.6/22, Error ellipse: s-maj=10.2km s-min=5.3km az=97.0*
NEIC Felt on Guam.

ISC 03 00:40:59.4±0.5**, 13.63N**±0.05×**144.63E**±0.09**, h133km**±4km**, n61, σ0.s89**/57**, mb4.4**/37**, 3D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.23**	**100**	*e*Pn	**P**	**00 41 18.6**	**+0.8**
GUMO				*e*Sn	**S**	**00 41 29.6**	**-2.3**
SAPN	**Saipan**	**1.91**	**34**	⇓*e*P	**P**	**00 41 33.4**	**+0.6**
SARN	**Sarigan**	**3.25**	**20**	*e*P	**P**	**00 41 51.9**	**+1.7**
SCPH	**Surigao**	**19.13**	**261**	⇓*e*P	**P**	**00 45 06.7**	**-8.0**
PMG	**Port Moresby**	**23.02**	**174**	P	**P**	**00 45 54.0**	**+0.4**
	35nm,0.9s,mb4.8,baz=334,slow=7.4,SNR=7.6						
JNU	**Nakatsue**	**23.10**	**329**	P	**P**	**00 45 55.1**	**+0.8**
	20nm,0.7s,mb4.7,baz=69,slow=3.4						
MJAR	**Matsushiro Arr**	**23.53**	**347**	P	**P**	**00 45 57.4**	**-1.0**
	8.2nm,0.8s,mb4.3,baz=171,slow=10,SNR=27						
MJAR				LR	LR	00 52 55.7	
	comp=Z,26nm,20.5s,baz=245,slow=31						
MAT	**Matsushiro**	**23.53**	**347**	*e*P	**P**	**00 45 58.0**	**-0.4**
	21nm,0.8s,mb4.7						
MAT	**Matsushiro**	**23.53**	**347**	P	**P**	**00 45 58.1**	**-0.3**
MAT				*e*S	**S**	**00 50 01.8**	**+2.7**
CTA	**Charters Tower**	**33.54**	**177**	*e*P	**P**	**00 47 28.9**	**+0.3**
	9.7nm,0.9s,mb4.5						
CTAO	**Charters Tower**	**33.54**	**177**	*e*P	**P**	**00 47 28.8**	**+0.2**
	11nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**34.85**	**197**	*e*P	**P**	**00 47 39.5**	**-0.2**
	37nm,0.9s,mb5.0						
WB2	**Warramunga Arr**	**34.86**	**197**	⇓*i*P	**P**	**00 47 39.7**	**-0.2**
WRA	**Warramunga Arr**	**34.86**	**197**	P	**P**	**00 47 39.8**	**-0.1**
	18nm,0.9s,mb4.7,baz=18,slow=9.3,SNR=28						
FITZ	**Fitzroy Crossi**	**36.68**	**211**	*e*P	**P**	**00 47 56.0**	**+0.8**
	24nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**36.68**	**211**	P	**P**	**00 47 55.8**	**+0.7**
	21nm,0.8s,mb4.8,baz=16,slow=10,SNR=33						
DZM	**Mont Dzumac**	**41.43**	**149**	P	**P**	**00 48 34.8**	**+0.3**
	32nm,0.9s,mb4.9,baz=340,slow=10,SNR=12						
MBWA	**Marble Bar**	**42.35**	**216**	*e*P	**P**	**00 48 42.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**44.09**	**283**	P	**P**	**00 48 57.5**	**+1.4**
	1.2nm,0.6s,mb3.7,baz=87,slow=6.1,SNR=8.0						
STKA	**Stephens Creek**	**45.34**	**184**	*e*P	**P**	**00 49 05.2**	**-0.8**
	8.7nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**45.34**	**184**	P	**P**	**00 49 05.4**	**-0.6**
	11nm,0.9s,mb4.5,baz=344,slow=9.3,SNR=18						
ULN	**Ulaanbaatar**	**46.22**	**325**	*e*P	**P**	**00 49 14.0**	**+1.2**
	5.5nm,1.0s,mb4.1						
SONM	**Songino Array**	**46.57**	**325**	P	**P**	**00 49 15.9**	**+0.5**
	1.7nm,0.7s,mb3.8,baz=141,slow=7.9,SNR=11						
SONM				PcP	PcP	00 50 47.5	-0.4
	1.2nm,0.6s,baz=140,slow=2.8,SNR=4.6						
CNB	**Canberra Magne**	**48.88**	**175**	*e*P	**P**	**00 49 34.2**	**+0.6**
	74nm,1.6s,mb5.1						
TOO	**Toolangi**	**50.93**	**179**	*e*P	**P**	**00 49 50.3**	**+1.1**
	16nm,1.0s,mb4.6						
KLBR	**Kellerberrin**	**51.83**	**209**	*e*P	**P**	**00 49 55.2**	**-0.9**
	35nm,1.3s,mb4.8						
MUN	**Mundaring**	**52.90**	**210**	*e*P	**P**	**00 50 03.5**	**-0.5**
	22nm,1.6s,mb4.6						
WMQ	**Urumqi**	**56.94**	**314**	*e*P	**P**	**00 50 33.1**	**+0.1**
MKAR	**Makanchi Array**	**61.30**	**316**	P	**P**	**00 51 02.9**	**-0.2**
	1.1nm,0.5s,mb3.9,baz=90,slow=7.9,SNR=17						
ZAL	**Zalesovo**	**61.47**	**324**	LR	LR	01 17 33.0	
	comp=Z,16nm,21.7s,baz=93,slow=36						
SML	**Sawmill**	**67.28**	**28**	P	**P**	**00 51 40.1**	**-1.5**
ILAR	**Eielson Array**	**68.63**	**25**	P	**P**	**00 51 46.1**	**-3.7**
	4.3nm,0.4s,mb4.5,baz=251,slow=5.7,SNR=103						
ZRNK	**Zerenda**	**70.58**	**322**	*e*P	**P**	**00 52 01.3**	**-0.6**
	5.0nm,1.0s,mb4.2						
INK	**Inuvik**	**74.42**	**22**	*e*P	**P**	**00 52 22.3**	**-1.9**
	1.6nm,0.5s,mb4.0						
DLBC	**Dease Lake**	**76.07**	**33**	*e*P	**P**	**00 52 33.5**	**-0.2**
YKA	**Yellowknife Ar**	**82.93**	**27**	P	**P**	**00 53 09.0**	**-1.3**
	2.3nm,0.5s,mb4.2,baz=286,slow=5.0,SNR=14						
YKA				LR	LR	01 27 49.3	
	comp=Z,15nm,19.7s,baz=310,slow=34						
YKA	**Yellowknife Ar**	**82.93**	**27**	P	**P**	**00 53 09.0**	**-1.4**
YKA				LR	LR	01 27 49.3	
YBH	**Yreka Blue Hor**	**83.02**	**49**	*e*P	**P**	**00 53 12.4**	**+1.2**
	5.8nm,1.0s,mb4.3						
WVOR	**Wild Horse Val**	**85.81**	**47**	*e*P	**P**	**00 53 25.6**	**+0.4**
	3.9nm,1.0s,mb4.1						
BMO	**Blue Mountains**	**86.12**	**45**	*e*P	**P**	**00 53 26.6**	**0.0**
	14nm,1.0s,mb4.6						
EDM	**Edmonton**	**86.25**	**36**	*e*P	**P**	**00 53 27.0**	**0.0**
KEV	**Kevo**	**86.41**	**342**	*e*p	**P**	**00 53 27.3**	**-0.1**
	7.3nm,0.9s,mb4.4						
ARCES	**ARCESS Array B**	**86.98**	**342**	P	**P**	**00 53 29.6**	**-0.5**
	3.4nm,0.8s,mb4.2,baz=56,slow=4.4,SNR=14						
ARCES				LR	LR	01 34 21.5	
	comp=Z,26nm,18.5s,baz=346,slow=37						
ARE0	**ARCESS Array S**	**86.98**	**342**	*e*P	**P**	**00 53 30.0**	**-0.1**
NVAR	**Mina Array Bea**	**87.08**	**51**	P	**P**	**00 53 31.7**	**+0.4**
	3.3nm,0.8s,mb4.2,baz=263,slow=3.2,SNR=14						
MNV	**Mina**	**87.19**	**51**	*e*P	**P**	**00 53 33.1**	**+1.2**
	3.2nm,0.9s,mb4.2						
HLID	**Hailey**	**88.48**	**46**	*e*P	**P**	**00 53 37.9**	**0.0**
	8.2nm,1.0s,mb4.5						
ELK	**Elko**	**88.72**	**48**	*e*P	**P**	**00 53 39.8**	**+0.6**
	6.1nm,1.0s,mb4.5						
KAF	**Kangasniemi**	**90.59**	**336**	*e*p	**P**	**00 53 45.5**	**-1.9**
	1.6nm,0.4s,mb4.4,baz=56,slow=4.3						
FINES	**FINESS Array B**	**91.03**	**335**	P	**P**	**00 53 48.5**	**-1.0**
	2.3nm,0.6s,mb4.4,baz=69,slow=4.4,SNR=34						
FINES	**FINESS Array B**	**91.03**	**335**	P	**P**	**00 53 48.5**	**-1.0**
VNDA	**Vanda**	**91.52**	**176**	P	**P**	**00 53 51.5**	**0.0**
	1.8nm,1.0s,mb4.1,baz=336,slow=4.6,SNR=7.6						
VNDA				LR	LR	01 32 54.7	
	comp=Z,6.1nm,18.5s,baz=129,slow=34						
PDAR	**Pinedale Array**	**92.10**	**45**	P	**P**	**00 53 54.9**	**+0.1**
	0.7nm,0.7s,mb3.8,baz=276,slow=2.6,SNR=7.3						
PDAR				LR	LR	01 33 45.7	
	comp=Z,17nm,18.8s,baz=251,slow=34						
LAO	**LASA Array**	**92.85**	**41**	*e*P	**P**	**00 53 58.6**	**+0.5**
	19nm,1.0s,mb5.2						
NB2	**NORSAR Subarra**	**96.93**	**339**	P	**P**	**00 54 15.3**	**-1.1**
	0.7nm,0.7s,mb4.1,baz=42,slow=4.6						
NOA	**NORSAR Array B**	**96.93**	**339**	P	**P**	**00 54 15.5**	**-0.9**
	0.3nm,0.7s,mb3.8,baz=54,slow=3.7,SNR=4.0						
SNAA	**Sanae**	**118.78**	**191**	PKP	PKPdf	00 59 32.4	+1.1
	0.3nm,0.5s,baz=222,slow=6.8,SNR=11						
DBIC	**Dimbokro**	**143.61**	**302**	PKP	PKPdf	01 00 18.7	-0.6
	2.7nm,0.4s,baz=28,slow=4.5,SNR=16						
DBIC	**Dimbokro**	**143.61**	**302**	*e*PKPpre		01 00 18.4	
LPAZ	**La Paz**	**148.25**	**99**	PKPbc	PKPdf	01 00 33.7	+6.6
	4.0nm,0.5s,baz=309,slow=2.1,SNR=32						
LPAZ	**La Paz**	**148.25**	**99**	*e*PKPdf	PKPdf	01 00 30.0	+2.9
LPAZ				*e*PKPbc	PKPdf	01 00 33.5	+6.4
LPAZ				PKPbc	PKPdf	01 00 33.7	+6.6

*NEIC **03** 00:42:02.7, 15.84N×61.50W, h37km, MD3.6(TRN), After TRN.*

TRN 03 00:42:01.4, 15.84N×61.56W, h24km, MD3.6, M2.8(FDF)**, Md2.9**(FDF)**, 7C-2D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TBG	**Guadaloupe-3**	**0.09**	**277**	⇓*i*P	Pb	00 42 06.0	+0.3
PHG	**Guadaloupe-2**	**0.19**	**335**	⇑*i*P	Pb	00 42 08.3	+1.5
DOG	**Dongo Capester**	**0.20**	**343**	⇑*i*P	Pb	00 42 08.4	+1.5
SCG	**Saint Claude**	**0.22**	**327**	*e*P	Pb	00 42 08.6	+1.4
MGG	**Marie-Galante**	**0.24**	**72**	⇑*i*P	Pb	00 42 09.4	+1.9
BCG	**Bois Riant Cap**	**0.25**	**346**	⇓*i*P	Pb	00 42 09.1	+1.5
BBL	**Barber's Block**	**0.32**	**165**	*e*P	Pb	00 42 10.2	+1.5
LZG	**Guadaloupe-1**	**0.36**	**325**	⇑*i*P	Pb	00 42 10.9	+1.5
LZG				*e*S	Sb	00 42 16.1	+1.3
MDN	**Morne-Daniel**	**0.54**	**163**	⇑*i*P	Pb	00 42 14.9	+2.7
MDN				*e*S	Sb	00 42 22.6	+3.0
SEG	**Port Louis**	**0.56**	**5**	*e*P	Pb	00 42 14.4	+1.9
DBCT	**Belle View Cho**	**0.60**	**160**	*e*P	Pb	00 42 16.1	+2.9
DSHT	**Scott's Head**	**0.65**	**164**	*e*P	Pb	00 42 16.5	+2.5
DSHT				*e*S	Sb	00 42 26.5	+3.9
DEG	**La Desirade**	**0.67**	**45**	⇑*e*P	Pb	00 42 15.8	+1.4
FDF	**Fort de France**	**1.17**	**160**	*e*P	Pn	00 42 23.4	+0.9
FDF				*e*S	Sb	00 42 38.9	+1.3
BPA	**Boggy Peak**	**1.23**	**347**	*e*P	Pn	00 42 25.6	+2.2
BPA				*e*S	Sn	00 42 41.6	+2.2
CRM	**Caravelle**	**1.25**	**150**	*e*P	Pn	00 42 25.3	+1.7
BIM	**Bigot**	**1.40**	**160**	*e*P	Pn	00 42 27.1	+1.3
BIM				*e*S	Sn	00 42 47.2	+3.6
MVM	**Montagne Vaucl**	**1.43**	**153**	*e*P	Pn	00 42 28.1	+1.8
MVM				⇑*e*S	Sn	00 42 46.9	+2.5
CPB	**Codrington**	**1.81**	**352**	*e*P	Pn	00 42 33.8	+2.2
CPB				*e*S	Sn	00 42 54.9	+0.9

*IDC **03** 00:51:48.3±1.2, 1.15N×126.45E, mb3.8/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/21, Error ellipse: s-maj=100.0km s-min=18.9km az=69.0*
*NEIC **03** 00:51:55.3±0.6, 1.04N×126.23E, h50km, mb4.2/2, Error ellipse: s-maj=36.4km s-min=9.2km az=73.0*

ISC 03 00:51:51.7±0.8**, 1.1N**±0.1×**126.2E**±0.3**, h33km, n11, σ0.s80**/10**, mb4.0**/7**, MS3.3**/1**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.07**	**182**	P	**P**	**00 56 13.3**	**-1.0**
	0.2nm,0.3s,baz=5.3,slow=13,SNR=2.8						
WRAB	**Tennant Creek**	**22.36**	**160**	*e*P	**P**	**00 56 49.7**	**+1.3**
	8.0nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**22.36**	**160**	P	**P**	**00 56 48.2**	**-0.2**
	3.3nm,0.5s,mb4.0,baz=340,slow=11,SNR=8.3						
MBWA	**Marble Bar**	**23.00**	**196**	*e*P	**P**	**00 56 55.8**	**+0.9**
CTA	**Charters Tower**	**28.79**	**138**	LR	LR	01 09 01.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,68nm,18.5s,MS3.3,baz=146,slow=36						
STKA	**Stephens Creek**	**35.88**	**157**	P	**P**	**00 58 49.8**	**-0.9**
	3.4nm,0.8s,mb4.3,baz=336,slow=12,SNR=5.6						
SONM	**Songino Array**	**49.64**	**343**	P	**P**	**01 00 42.9**	**+0.9**
	0.3nm,0.4s,mb3.7,baz=156,slow=7.7,SNR=2.8						
SONM	**Songino Array**	**49.64**	**343**	P	**P**	**01 00 42.9**	**+0.8**
MKAR	**Makanchi Array**	**59.44**	**326**	P	**P**	**01 01 53.6**	**0.0**
	1.1nm,0.6s,mb4.0,baz=120,slow=7.7,SNR=17						
BVAR	**Borovoye Array**	**69.25**	**328**	P	**P**	**01 02 56.6**	**-0.8**
	0.3nm,0.5s,mb3.5,baz=143,slow=7.4,SNR=4.9						
ZRNK	**Zerenda**	**69.96**	**327**	*e*P	**P**	**01 03 01.5**	**-0.2**
	1.8nm,0.5s,mb4.3						

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*IDC **03** 01:31:34.0±1.6, 5.28N×94.77E, mb3.9/7, mb1 4.0/7, mb1mx3.7/19, mbtmp3.9/7, Error ellipse: s-maj=66.2km s-min=30.3km az=54.0*
*NEIC **03** 01:31:38.2±1.0, 5.17N×94.56E, $h30^{km}$, mb4.5/1, Error ellipse: s-maj=31.3km s-min=13.4km az=218.0*
ISC 03 01:31:36.5±1.1**, 5.2N**±0.2×**94.6E**±0.2**, $h30^{km}$, n12, σ0^{s}81**/12**, mb3.9**/8**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.03**	**89**	*e*P	**Pn**	**01 33 07.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**13.86**	**17**	Pn	**P**	**01 35 00.8**	**+7.4**
	0.4nm,0.3s,baz=214,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**42.79**	**348**	P	**P**	**01 39 33.4**	**+0.2**
	0.6nm,0.4s,mb3.7,baz=163,slow=7.4,SNR=8.1						
MKAR	**Makanchi Array**	**42.79**	**348**	P	**P**	**01 39 33.4**	**+0.2**
SONM	**Songino Array**	**43.68**	**12**	P	**P**	**01 39 39.4**	**-1.1**
	0.3nm,0.4s,mb3.4,baz=194,slow=8.7,SNR=4.1						
WRA	**Warramunga Arr**	**46.37**	**124**	P	**P**	**01 40 01.8**	**-0.5**
	1.7nm,0.7s,mb4.1,baz=304,slow=10,SNR=3.5						
WRAB	**Tennant Creek**	**46.37**	**124**	*e*P	**P**	**01 40 01.8**	**-0.5**
	3.6nm,0.6s,mb4.5						
ZAL	**Zalesovo**	**49.26**	**352**	P	**P**	**01 40 24.2**	**-0.2**
	2.3nm,0.5s,mb4.5,baz=270,slow=3.4,SNR=8.0						
FINES	**FINESS Array B**	**75.29**	**332**	P	**P**	**01 43 18.4**	**0.0**
	0.3nm,0.5s,mb3.5,baz=117,slow=4.3,SNR=6.0						
ARCES	**ARCESS Array B**	**77.93**	**340**	P	**P**	**01 43 32.4**	**-0.6**
	0.8nm,0.8s,mb3.7,baz=90,slow=4.9,SNR=9.3						
ARCES	**ARCESS Array B**	**77.93**	**340**	P	**P**	**01 43 32.4**	**-0.6**
GERES	**GERESS Array B**	**80.13**	**319**	P	**P**	**01 43 47.2**	**+1.9**
	0.3nm,0.5s,mb3.5,baz=104,slow=5.5,SNR=6.8						

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*SKHL **03** 01:53:57.7±0.2, 45.23N×150.17E, $h34^{km}\pm3^{km}$, mb5.0/3*
*MOS **03** 01:53:59.2±1.4, 45.27N×149.86E, $h112^{km}$, mb4.2/1, Error ellipse: s-maj=17.2km s-min=13.3km az=135.7*
*IDC **03** 01:53:59.1±4.1, 45.39N×149.84E, $h87^{km}\pm42^{km}$, mb3.5/12, mb1 3.8/14, mb1mx3.7/24, mbtmp3.9/14, Error ellipse: s-maj=36.5km s-min=16.1km az=168.0*
*NIED **03** 01:54:00, 44.80N×149.90E, $h71^{km}$, Mw3.9 Best double couple: $M_0 7.57\times10^{14}$ NP1:ϕ_s149°, δ60°, λ45°. NP2:ϕ_s33°, δ52°, λ141°.*
*NEIC **03** 01:54:01.3±1.9, 45.22N×149.83E, $h115^{km}\pm19^{km}$, mb4.1/3, Error ellipse: s-maj=22.3km s-min=15.6km az=171.0*
*JMA **03** 01:54:02.6±0.6, 44.80N×149.87E, $h100^{km}$, M4.1*
ISC 03 01:54:01.5±0.8**, 44.93N**±0.07×**149.80E**±0.09**, $h144^{km}\pm9^{km}$, n64, σ1^{s}21**/82**, mb3.6**/13**, 2C-4D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.40**	**283**	κ *i*PN	**P**	**01 54 23.6**	**-6.3**
KUR				*i* S	**S**	**01 54 43.2**	**-8.5**
KUR				pmax	pmax		
	comp=N,800nm,1.0s						
KUR				pmax	pmax		
	comp=Z,3μm,1.0s						
KUR				pmax	pmax		
	comp=N,390nm,0.5s						
KUR				pmax	pmax		
	comp=E,220nm,0.5s						
KUR				pmax	pmax		
	comp=Z,610nm,0.5s						
KUR				smax			
	comp=N,3μm,0.7s						
KUR				smax			
	comp=E,4μm,0.7s						
KUR				smax			
	comp=N,6μm,1.0s						
KUR				smax			
	comp=E,4μm,1.0s						
KUR	**Kuril'sk**	**1.40**	**283**	⇓*i*P	**P**	**01 54 23.6**	**-6.3**
KUR				*i* P		01 54 23.6	
KUR				AMB	AMB	01 54 23.8	
	comp=E,800nm,1.0s						
KUR				AMB	AMB	01 54 23.8	
	comp=E,3μm,1.0s						
KUR				AMB	AMB	01 54 24.3	
	comp=E,390nm,0.5s						
KUR				AMB	AMB	01 54 24.3	
	comp=E,220nm,0.5s						
KUR				AMB	AMB	01 54 24.3	
	comp=E,610nm,0.5s						
KUR				*e*S	**S**	**01 54 43.2**	**-8.5**
KUR				A		01 54 45.0	
	comp=E,3μm,0.7s						
KUR				A		01 54 45.0	
	comp=E,4μm,0.7s						
KUR				A		01 54 46.0	
	comp=E,6μm,1.0s						
KUR				A		01 54 46.0	
	comp=E,4μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**2.96**	**254**	⇑*i*PN	**P**	**01 54 47.7**	**-1.1**
YUK				*i* S	**S**	**01 55 25.1**	**+0.2**
YUK				pmax	pmax		
	comp=N,230nm,0.4s						
YUK				pmax	pmax		
	comp=E,350nm,0.4s						
YUK				pmax	pmax		
	comp=Z,680nm,0.4s						
YUK				smax			
	comp=N,2μm,0.8s						
YUK				smax			
	comp=E,1μm,1.0s						
YUK				smax			
	comp=N,730nm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.96**	**254**	⇑*i*P	**P**	**01 54 47.7**	**-1.1**
YUK				AMB	AMB	01 54 48.3	
	comp=E,230nm,0.4s						
YUK				AMB	AMB	01 54 48.3	
	comp=E,350nm,0.4s						
YUK				AMB	AMB	01 54 48.3	
	comp=E,680nm,0.4s						
YUK				*i* S	**S**	**01 55 25.1**	**+0.2**
YUK				A		01 55 27.0	
	comp=E,2μm,1.0s						
YUK				A		01 55 27.0	
	comp=E,1μm,1.0s						
YUK				A		02 05 29.9	
	comp=E,730nm,0.5s						
YUK				A		02 05 29.9	
	comp=E,1μm,0.5s						
NEM2	**Nemuro 2**	**3.31**	**243**	P	**P**	**01 54 52.9**	**-0.6**
NEM2				*e*S	**S**	**01 55 31.9**	**-1.3**
JRA	**Rausu**	**3.49**	**255**	P	**P**	**01 54 56.7**	**+0.9**
JNK	**Nakash**	**3.89**	**252**	P	**P**	**01 55 01.6**	**+0.6**
JAK	**Akkeshi**	**4.16**	**244**	P	**P**	**01 55 04.4**	**-0.2**
JAK				*e*S	**S**	**01 55 52.4**	**-0.7**
JTKR	**Abashiri--Toko**	**4.33**	**259**	P	**P**	**01 55 07.3**	**+0.5**
JAR	**Ashorobuto**	**4.64**	**251**	P	**P**	**01 55 12.2**	**+1.2**
JMP	**Maruseppu**	**4.70**	**261**	P	**P**	**01 55 12.5**	**+0.7**
JOB	**Onbets**	**4.76**	**247**	P	**P**	**01 55 12.9**	**+0.3**
JOB				*e*S	**S**	**01 56 08.2**	**+0.8**
JSE	**Soyaes**	**5.12**	**273**	P	**P**	**01 55 17.9**	**+0.5**
JKK2	**Kamakawa 2**	**5.16**	**261**	P	**P**	**01 55 19.1**	**+1.2**
JCH	**Churui**	**5.20**	**246**	P	**P**	**01 55 18.6**	**+0.1**
JCH				*e*S	**S**	**01 56 17.5**	**-0.5**
ASAJ	**Asahikawa**	**5.21**	**264**	PN	**P**	**01 55 19.5**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ	**Asahikawa**	**5.21**	**264**	P	**P**	**01 55 19.5**	**+0.9**
	comp=Z,6.2nm,0.3s,baz=111,slow=12,SNR=21						
ASAJ	**Asahikawa**	**5.21**	**264**	P	**P**	**01 55 19.9**	**+1.3**
YSS	**Yuzh-Sakhalins**	**5.31**	**295**	*e*PN	**P**	**01 55 17.9**	**-2.0**
YSS				pmax	pmax		
	comp=Z,54nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.31**	**295**	*e*P	**P**	**01 55 17.9**	**-2.0**
	comp=Z,54nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.31**	**295**	AMB	AMB	01 55 13.5	
	comp=Z,70nm,0.8s						
YSS				⇓*i*P		01 55 17.6	
YSS				*e*S	**S**	**01 56 17.4**	**-3.1**
YSS				A		01 56 18.4	
	comp=Z,30nm,1.0s						
JFR	**Furan**	**5.49**	**254**	P	**P**	**01 55 23.8**	**+1.6**
JWK2	**Keihoku**	**5.60**	**277**	P	**P**	**01 55 26.0**	**+2.2**
JAB	**Ashibetsu**	**5.63**	**258**	P	**P**	**01 55 26.5**	**+2.4**
JEM	**Erimo**	**5.64**	**241**	P	**P**	**01 55 25.7**	**+1.4**
JNBK	**Urakawa-nobuka**	**5.76**	**245**	P	**P**	**01 55 25.7**	**-0.2**
JNBK				*e*S	**S**	**01 56 30.3**	**-1.0**
JBT2	**Biratori 2**	**5.79**	**251**	P	**P**	**01 55 26.7**	**+0.4**
JEW	**Eniwo**	**6.38**	**254**	P	**P**	**01 55 35.9**	**+1.6**
JNB	**Noboribetsu**	**6.81**	**252**	P	**P**	**01 55 40.4**	**+0.4**
JNB				*e*S	**S**	**01 56 57.1**	**+0.5**
JKB	**Kayabe**	**7.07**	**248**	P	**P**	**01 55 43.5**	**-0.1**
JKB				*e*S	**S**	**01 57 01.0**	**-1.9**
JYM2	**Yakumo 2**	**7.41**	**251**	P	**P**	**01 55 48.2**	**+0.1**
JANG	**Nango**	**7.62**	**236**	P	**P**	**01 55 49.9**	**-1.0**
JANG				*e*S	**S**	**01 57 12.7**	**-3.3**
JTM	**Tenmabayashi**	**7.63**	**240**	P	**P**	**01 55 50.9**	**-0.2**
JTM				*e*S	**S**	**01 57 13.3**	**-3.2**
JSR	**Shiriuchi**	**7.65**	**247**	P	**P**	**01 55 51.5**	**+0.2**
JTH	**Tanohata**	**7.70**	**232**	P	**P**	**01 55 50.9**	**-1.1**
JTH				*e*S	**S**	**01 57 13.9**	**-4.2**
JOSM	**Okushiri--Mats**	**8.03**	**253**	P	**P**	**01 55 56.5**	**+0.2**
OFUJ	**Ofunato**	**8.41**	**229**	P	**P**	**01 56 00.3**	**-1.2**
JRG	**Rokugo**	**8.77**	**234**	P	**P**	**01 56 06.1**	**-0.1**
JRG				*e*S	**S**	**01 57 41.9**	**-1.7**
JIO	**Ouri**	**9.04**	**227**	P	**P**	**01 56 09.1**	**-0.7**
JIO				*e*S	**S**	**01 57 46.9**	**-3.2**
MJAR	**Matsushiro Arr**	**12.13**	**230**	P	**P**	**01 56 51.7**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=28,slow=13,SNR=7.5						
MJAR				S	**S**	**01 59 09.6**	**+6.5**
	comp=Z,0.2nm,0.3s,baz=211,slow=22,SNR=3.3						
MJAR	**Matsushiro Arr**	**12.13**	**230**	P	**P**	**01 56 51.7**	**+1.2**
MJAR				S	**S**	**01 59 09.6**	**+6.5**
FX1	**Attu Island--F**	**17.24**	**54**	P	**P**	**01 57 51.6**	**-3.1**
	comp=Z,1.0nm,0.3s,baz=243,slow=6.8,SNR=3.8						
FX1				S	**S**	**02 00 44.2**	**-16**
	comp=Z,1.3nm,0.3s,baz=52,slow=22,SNR=6.3						
SONM	**Songino Array**	**29.79**	**291**	P	**P**	**01 59 57.5**	**+0.9**
	comp=Z,0.3nm,0.5s,mb3.3,baz=270,slow=8.6,SNR=3.6						
ILAR	**Eielson Array**	**39.41**	**37**	P	**P**	**02 01 16.7**	**-1.6**
	comp=Z,1.1nm,0.5s,mb3.7,baz=265,slow=7.8,SNR=32						
INK	**Inuvik**	**44.42**	**31**	*e*P	**P**	**02 01 57.9**	**-1.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**44.42**	**31**	P	**P**	**02 01 57.8**	**-1.1**
	comp=Z,1.1nm,0.3s,mb4.0,baz=251,slow=6.2,SNR=13						
INK	**Inuvik**	**44.42**	**31**	*e*P	**P**	**02 01 57.9**	**-1.0**
	comp=Z,1.2nm,0.4s,mb3.9						
MKAR	**Makanchi Array**	**45.72**	**298**	P	**P**	**02 02 11.6**	**+2.1**
	comp=Z,0.6nm,0.6s,mb3.4,baz=72,slow=7.7,SNR=5.8						
YKA	**Yellowknife Ar**	**53.75**	**35**	P	**P**	**02 03 09.1**	**-1.4**
	comp=Z,1.2nm,0.5s,mb3.9,baz=300,slow=6.7,SNR=7.0						
KAF	**Kangasniemi**	**64.09**	**334**	*e*p	**P**	**02 04 18.8**	**-2.9**
FINES	**FINESS Array B**	**64.67**	**334**	P	**P**	**02 04 22.8**	**-2.7**
	comp=Z,0.5nm,0.7s,mb3.4,baz=27,slow=8.5,SNR=6.2						
NVAR	**Mina Array Bea**	**65.34**	**60**	P	**P**	**02 04 30.9**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.5,baz=308,slow=5.8,SNR=3.7						
BW06	**Boulder Array**	**67.69**	**51**	*e*P	**P**	**02 04 44.9**	**-0.1**
	comp=Z,1.4nm,0.9s,mb3.7						
PDAR	**Pinedale Array**	**67.69**	**51**	P	**P**	**02 04 45.0**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.5,baz=315,slow=2.1,SNR=7.0						
NB2	**NORSAR Subarra**	**69.17**	**340**	P	**P**	**02 04 52.6**	**-1.1**
	comp=Z,0.3nm,0.5s,mb3.3,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**69.17**	**340**	P	**P**	**02 04 52.2**	**-1.5**
	comp=Z,0.2nm,0.5s,mb3.1,baz=42,slow=5.1,SNR=2.8						
PV10	**Paradox Valley**	**70.91**	**55**	P	**P**	**02 05 05.7**	**+1.1**
AKASG	**Malin Array Be**	**71.73**	**325**	P	**P**	**02 05 09.2**	**0.0**
	comp=Z,0.5nm,0.3s,mb3.7,baz=40,slow=6.4,SNR=5.0						
CLL	**Collm**	**77.12**	**334**	P	**P**	**02 05 41.0**	**+1.0**
KHC	**Kasperske Hory**	**78.82**	**332**	*e*P	**P**	**02 05 51.0**	**+1.6**
GERES	**GERESS Array B**	**79.03**	**332**	P	**P**	**02 05 51.3**	**+0.8**
	comp=Z,0.7nm,0.5s,mb3.5,baz=36,slow=5.7,SNR=14						
TXAR	**Lajitas Array**	**80.41**	**58**	P	**P**	**02 05 59.7**	**+1.3**
	comp=Z,0.8nm,0.5s,mb3.6,baz=293,slow=4.4,SNR=21						
TXAR	**Lajitas Array**	**80.41**	**58**	P	**P**	**02 05 59.7**	**+1.3**
BDFB	**Brasilia**	**147.15**	**33**	PKPbc	PKPdf	02 13 31.9	+6.7
	comp=Z,1.1nm,0.4s,baz=276,slow=4.5,SNR=4.0						

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*MOS **03** 01:58:43.2±1.6, 42.21N×142.88E, $h60^{km}$, mb4.3/1, Error ellipse: s-maj=27.2km s-min=12.1km az=79.9*
*JMA **03** 01:58:43.1±0.1, 42.23N×142.84E, $h27^{km}\pm1^{km}$, M3.4*
JMA Felt II J1.
*NEIC **03** 01:58:46.5±1.2, 42.22N×142.72E, $h67^{km}\pm11^{km}$, mb4.1/1, Error ellipse: s-maj=25.0km s-min=11.1km az=108.0*
*IDC **03** 01:58:46.1±2.8, 42.34N×142.69E, $h60^{km}\pm21^{km}$, mb3.3/6, mb1 3.5/7, mb1mx3.3/23, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=36.7km s-min=25.8km az=117.0*
ISC 03 01:58:42.0±0.7**, 42.19N**±0.07×**142.75E**±0.09**, $h37^{km}\pm5^{km}$, n23, σ1^{s}19**/25**, mb3.6**/7**, 2C-3D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.09**	**3**	⇑P	**P**	**01 58 47.6**	**-0.5**
JNBK				*e*S	**S**	**01 58 51.5**	**-1.0**
JEM	**Erimo**	**0.35**	**119**	⇑P	**P**	**01 58 50.2**	**-0.4**
JCH	**Churui**	**0.62**	**47**	⇓P	**P**	**01 58 53.7**	**-0.6**
JBT2	**Biratori 2**	**0.65**	**334**	⇓P	**P**	**01 58 55.3**	**+0.6**
JFR	**Furan**	**0.98**	**353**	P	**P**	**01 58 59.3**	**-0.1**
JAR	**Ashorobuto**	**1.34**	**34**	⇓P	**P**	**01 59 04.1**	**-0.4**
ASAJ	**Asahikawa**	**1.93**	**357**	PN	**P**	**01 59 14.4**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ	**Asahikawa**	**1.93**	**357**	P	**P**	**01 59 14.3**	**+1.4**
	comp=Z,9.1nm,0.3s,baz=242,slow=6.9,SNR=27						
YUK	**Yuzh-Kuril'sk**	**2.93**	**50**	PN	**P**	**01 59 26.0**	**-1.3**
YUK				*e*S	**S**	**02 00 03.7**	**+2.0**
YUK				pmax	pmax		
	comp=N,190nm,0.5s						
YUK				pmax	pmax		
	comp=Z,120nm,0.5s						
YUK				smax			
	comp=N,2μm,2.0s						
YUK				smax			
	comp=E,2μm,1.0s						
YUK				smax			
	comp=N,580nm,0.5s						
YUK				smax			
	comp=E,460nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.76**	**0**	*e*PN	**P**	**01 59 56.0**	**+2.7**
YSS				*e*		02 00 53.0	
YSS	**Yuzh-Sakhalins**	**4.76**	**0**	*e*P	**P**	**01 59 55.2**	**+2.0**
MAT	**Matsushiro**	**6.64**	**213**	*e*P	**P**	**02 00 21.0**	**+1.3**
MAT				*e*S	S	02 01 06.0	-29
MAT	**Matsushiro**	**6.64**	**213**	P	**P**	**02 00 21.3**	**+1.6**
MJAR	**Matsushiro Arr**	**6.64**	**213**	P	**P**	**02 00 22.3**	**+2.6**
	comp=E,0.9nm,0.3s,baz=27,slow=12,SNR=9.5						
MJAR	**Matsushiro Arr**	**6.64**	**213**	P	**P**	**02 00 22.3**	**+2.6**
SONM	**Songino Array**	**26.14**	**295**	P	**P**	**02 04 13.7**	**-0.5**
	comp=E,1.0nm,1.1s,mb3.3,baz=253,slow=13,SNR=3.9						
MKAR	**Makanchi Array**	**42.45**	**298**	P	**P**	**02 06 34.3**	**-0.3**
	comp=E,0.5nm,0.6s,mb3.3,baz=80,slow=7.4,SNR=4.2						
ZRNK	**Zerenda**	**48.81**	**309**	*e*P	**P**	**02 07 25.8**	**+0.8**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**48.81**	**309**	*e*P	**P**	**02 07 25.8**	**+0.7**
	comp=Z,1.4nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**64.75**	**332**	P	**P**	**02 09 16.5**	**-1.7**
	comp=Z,0.7nm,0.5s,mb3.9,baz=50,slow=7.9,SNR=16						
HFS	**Hagfors**	**69.82**	**336**	P	**P**	**02 09 49.0**	**-1.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=45,slow=8.4,SNR=12						
NOA	**NORSAR Array B**	**69.84**	**337**	P	**P**	**02 09 48.5**	**-1.6**
	comp=Z,0.3nm,0.8s,mb3.3,baz=54,slow=4.9,SNR=3.0						
TXAR	**Lajitas Array**	**86.19**	**53**	P	**P**	**02 11 21.1**	**+0.6**
	comp=Z,0.2nm,0.5s,mb3.6,baz=292,slow=3.3,SNR=6.0						

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*TRN **03** 02:16:02.4, 18.10N×63.47W, $h114^{km}$, MD3.7*
*RSPR **03** 02:16:04.2, 18.04N×63.76W, $h103^{km}\pm1^{km}$, MD3.9/14, MD3.9/14*
*NEIC **03** 02:16:04.2, 18.04N×63.76W, $h103^{km}$, MD3.9(RSPR), MD3.7(TRN), After RSPR.*
ISC 03 02:16:01.5±0.7**, 18.07N**±0.09×**63.69W**±0.04**, $h114^{km}\pm6^{km}$, n27, σ0^{s}85**/50**, 7C-10D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STMA	**St. Maarten, A**	**0.55**	**93**	⇓*i*P	**P**	**02 16 20.3**	**+1.1**
STMA				*e*S	**S**	**02 16 32.3**	**-0.4**
SABS	**Saba**	**0.62**	**137**	*e*P	**P**	**02 16 20.4**	**+0.7**
SABS				*e*S	**S**	**02 16 33.8**	**+0.2**
SABT	**Saba**	**0.62**	**137**	*e*P	**P**	**02 16 20.4**	**+0.7**
SABT				*e*S	**S**	**02 16 33.8**	**+0.2**
STAT	**Sint Eustatius**	**0.89**	**130**	*e*P	**P**	**02 16 23.9**	**+1.7**
STAT				*e*S	**S**	**02 16 38.2**	**+0.6**
TBVI	**Tortola**	**0.94**	**291**	⇓*i*P	**P**	**02 16 23.1**	**+0.3**
TBVI				*e*S	**S**	**02 16 37.6**	**-0.9**
SKDB	**Saint Kitts 2**	**1.07**	**129**	*e*P	**P**	**02 16 24.9**	**+0.8**
SKDB				*e*S	**S**	**02 16 41.5**	**+0.5**
CDVI	**St. Croix**	**1.07**	**253**	⇑*e*P	**P**	**02 16 24.3**	**+0.2**
CDVI				*e*S	**S**	**02 16 39.8**	**-1.2**
SKI	**Saint Kitts**	**1.17**	**129**	*e*P	**P**	**02 16 26.4**	**+1.2**
SKI				*e*S	**S**	**02 16 42.5**	**-0.3**
STVI	**Saint Thomas**	**1.24**	**283**	⇑*e*P	**P**	**02 16 26.3**	**+0.3**
STVI				*e*S	**S**	**02 16 43.3**	**-1.1**
SKTB	**Turtle Beach**	**1.33**	**130**	*e*P	**P**	**02 16 28.5**	**+1.4**
SKTB				*e*S	**S**	**02 16 47.0**	**+0.7**
MTP	**Monte Pirata**	**1.78**	**271**	⇓*e*P	**P**	**02 16 33.0**	**+0.6**
MTP				*e*S	**S**	**02 16 55.0**	**-0.5**
CPB	**Codrington**	**1.82**	**103**	*e*P	**P**	**02 16 31.7**	**-1.2**
CPB				*e*S	**S**	**02 16 54.9**	**-1.7**
BPA	**Boggy Peak**	**2.02**	**120**	*e*P	**P**	**02 16 35.0**	**-0.4**
BPA				*e*S	**S**	**02 16 58.8**	**-2.1**
HUMP	**Col San Antoni**	**2.06**	**272**	⇑*e*P	**P**	**02 16 36.6**	**+0.7**
HUMP				*e*S	**S**	**02 17 02.0**	**+0.3**
CBYP	**Canovanas**	**2.07**	**276**	⇓*e*P	**P**	**02 16 36.5**	**+0.4**
CBYP				*e*S	**S**	**02 17 02.1**	**+0.1**
CPD	**Cerro la Pandu**	**2.12**	**269**	⇓*e*P	**P**	**02 16 37.4**	**+0.7**
CPD				*e*S	**S**	**02 17 03.4**	**+0.2**
SJG	**San Juan**	**2.34**	**271**	⇑*e*P	**P**	**02 16 40.6**	**+0.8**
SJG				*e*S	**S**	**02 17 09.1**	**+0.7**
LZG	**Guadaloupe-1**	**2.65**	**136**	*e*P	**P**	**02 16 43.5**	**-0.4**
SEG	**Port Louis**	**2.67**	**128**	⇓*i*P	**P**	**02 16 43.7**	**-0.3**
SEG				*e*S	**S**	**02 17 15.6**	**-0.5**
BCG	**Bois Riant Cap**	**2.80**	**135**	*e*P	**P**	**02 16 45.8**	**-0.1**
PORP	**Portuguez**	**2.81**	**270**	⇓*e*P	**P**	**02 16 46.4**	**+0.4**
PORP				*e*S	**S**	**02 17 18.5**	**-1.0**
LRS	**Lares**	**3.01**	**275**	⇓*e*P	**P**	**02 16 49.2**	**+0.5**
LRS				*e*S	**S**	**02 17 23.6**	**-0.8**
DEG	**La Desirade**	**3.06**	**124**	⇑*e*P	**P**	**02 16 48.0**	**-1.4**
DEG				*e*S	**S**	**02 17 22.1**	**-3.5**
MGG	**Marie-Galante**	**3.12**	**133**	⇓*e*P	**P**	**02 16 50.1**	**-0.1**
LSP	**Las Mesas**	**3.23**	**272**	⇑*e*P	**P**	**02 16 52.4**	**+0.6**
LSP				*e*S	**S**	**02 17 29.3**	**-0.4**
MGP	**Maguayo**	**3.24**	**269**	⇓*e*P	**P**	**02 16 51.4**	**-0.3**
AGPR	**Aguadilla, PR**	**3.28**	**277**	⇑*e*P	**P**	**02 16 52.6**	**+0.3**
AGPR				*e*S	**S**	**02 17 29.1**	**-1.7**

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*CSEM **03** 02:24:42.9±0.1, 34.28N×34.65E, $h40^{km}$, Mw3.2, Error ellipse: s-maj=1.7km s-min=1.2km az=67.0*
*GRAL **03** 02:24:43.5±1.8, 34.30N×34.75E, $h15^{km}\pm15^{km}$, MD3.6*
*ISK **03** 02:24:43.5, 34.34N×34.73E, $h65^{km}$, ML3.9*
*SNSN **03** 02:24:44.9, 33.98N×34.62E, Ml3.6*
*NEIC **03** 02:24:44.4±3.0, 34.24N×34.65E, $h30^{km}\pm29^{km}$, ML3.7(NIC), Error ellipse: s-maj=9.4km s-min=6.8km az=222.0*
*NIC **03** 02:24:45.7±0.3, 34.35N×34.70E, $h25^{km}$, mb4.0, ML3.7, MW3.2*
*IDC **03** 02:24:45.6±1.5, 34.19N×34.55E, $h46^{km}\pm30^{km}$, mb3.1/3, mb1 3.5/8, mb1mx3.3/24, mbtmp3.5/8, ML3.5/5, Error ellipse: s-maj=22.6km s-min=13.6km az=45.0*
*HLW **03** 02:24:46.7, 34.12N×34.53E, $h25^{km}$, Mb3.7*
*GII **03** 02:24:48.1±0.4, 33.81N×34.84E, $h2^{km}\pm13^{km}$, ML3.4/5, Mw3.3/5*
ISC 03 02:24:43.2±0.2**, 34.27N**±0.02×**34.72E**±0.02**, $h44^{km}\pm7^{km}$, n114, σ0^{s}99**/153**, mb3.3**/3**, 8C-25D, Cyprus region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.85**	**115**	*i* Pg	**P**	**02 24 58.2**	**-0.7**
BHL				*i* Sg	**S**	**02 25 07.8**	**-2.6**
MATL	**Matirih**	**0.93**	**147**	*i* PG	**P**	**02 24 59.6**	**-0.3**
PHNC	**Paralimni**	**0.93**	**323**	⇓P	**P**	**02 25 00.2**	**+0.2**
	27nm,0.3s						
PHNC				S	**S**	**02 25 12.0**	**-0.4**
PHNC	**Paralimni**	**0.93**	**323**	⇓*e*P	**P**	**02 25 00.2**	**+0.2**
PHNC				S	**S**	**02 25 12.0**	**-0.4**
PHNC	**Paralimni**	**0.93**	**323**	*e*P	**P**	**02 25 00.2**	**+0.2**
PHNC				S	**S**	**02 25 12.0**	**-0.4**
HWQ	**Hawqa**	**1.01**	**89**	*i* PG	**P**	**02 25 01.0**	**-0.1**
HWQ				*i* SG	**S**	**02 25 14.0**	**-0.5**
HNTI	**Hanita**	**1.24**	**162**	Pg	**P**	**02 25 04.1**	**-0.2**
HRI	**Mount Hermon**	**1.31**	**139**	Pg	**P**	**02 25 05.9**	**+0.5**
HRI	**Mount Hermon**	**1.31**	**139**	⇓Pg	**P**	**02 25 05.9**	**+0.5**
KSDI	**Kefar Szold**	**1.33**	**144**	Pg	**P**	**02 25 06.1**	**+0.4**
KSDI	**Kefar Szold**	**1.33**	**144**	⇓Pg	**P**	**02 25 06.1**	**+0.4**
BRBR	**Barbar**	**1.33**	**129**	⇓*i*P	**P**	**02 25 06.4**	**+0.6**
BRBR				⇓*i*S	**S**	**02 25 21.6**	**-1.0**
CSS	**Prodhromos**	**1.34**	**302**	P	**P**	**02 25 05.9**	**0.0**
	6.9nm,0.4s						
CSS				S	**S**	**02 25 22.6**	**-0.2**
CSS	**Prodhromos**	**1.34**	**302**	PN	**P**	**02 25 06.0**	**+0.1**
CSS	**Prodhromos**	**1.34**	**302**	*e*P	**P**	**02 25 05.9**	**0.0**
CSS	**Prodhromos**	**1.34**	**302**	*e*Pn	**P**	**02 25 06.0**	**+0.1**
CSS				S	**S**	**02 25 22.6**	**-0.2**
FKH	**Fakeheh**	**1.39**	**91**	*i* PG	**P**	**02 25 07.1**	**+0.5**
FKH				*i* SG	**S**	**02 25 24.2**	**+0.1**
QASN	**Qassioun**	**1.49**	**119**	⇓*i*P	**P**	**02 25 08.7**	**+0.8**
QASN				⇓*i*S	**S**	**02 25 24.2**	**-2.1**
BIDA	**Albida**	**1.52**	**60**	⇓*i*P	**P**	**02 25 08.7**	**+0.4**
BIDA				⇓*i*S	**S**	**02 25 24.2**	**-2.9**
MAMC	**Mammari**	**1.53**	**307**	*e*P	**P**	**02 25 09.3**	**+0.7**
KSHT	**Keshet**	**1.57**	**144**	Pg	**P**	**02 25 10.3**	**+1.2**
KSHT	**Keshet**	**1.57**	**144**	⇓Pg	**P**	**02 25 10.3**	**+1.2**
SZAC	**Souni-Zanaja**	**1.59**	**288**	⇓P	**P**	**02 25 10.2**	**+0.8**
SZAC				S	**S**	**02 25 29.1**	**+0.1**
SZAC	**Souni-Zanaja**	**1.59**	**288**	⇓*i*P	**P**	**02 25 10.2**	**+0.8**
SZAC				S	**S**	**02 25 29.1**	**+0.1**
SZAC	**Souni-Zanaja**	**1.59**	**288**	*e*P	**P**	**02 25 10.2**	**+0.8**
SZAC				S	**S**	**02 25 29.1**	**+0.1**
OFRI	**'Ofer**	**1.66**	**172**	Pg	**P**	**02 25 10.9**	**+0.6**
TOTH	**TOTAH**	**1.68**	**122**	⇓*i*P	**P**	**02 25 12.0**	**+1.3**
TOTH				⇓*i*S	**S**	**02 25 30.0**	**-1.2**
LEF	**Lefka**	**1.73**	**300**	*i* PN	**P**	**02 25 12.5**	**+1.1**
WRDH	**Warideh**	**1.86**	**48**	⇑*i*P	**P**	**02 25 13.3**	**+0.1**
WRDH				⇑*i*S	**S**	**02 25 32.8**	**-2.8**
MMLI	**Mount Malkishu**	**1.92**	**162**	Pn	**P**	**02 25 14.9**	**+0.9**
ALFC	**Alevga**	**1.96**	**298**	⇓P	**P**	**02 25 15.1**	**+0.5**
	16nm,0.2s						
ALFC				S	**S**	**02 25 40.0**	**+1.9**
ALFC	**Alevga**	**1.96**	**298**	⇓*i*P	**P**	**02 25 15.1**	**+0.5**
ALFC				S	**S**	**02 25 40.0**	**+1.9**
ALFC	**Alevga**	**1.96**	**298**	*e*P	**P**	**02 25 15.1**	**+0.5**
ALFC				S	**S**	**02 25 40.0**	**+1.9**
SLTI	**Sal'it**	**2.04**	**172**	Pn	**P**	**02 25 16.2**	**+0.6**
SLTI				Sn	**S**	**02 25 39.3**	**-0.7**
PPCY	**Paphos**	**2.06**	**288**	⇓P	**P**	**02 25 17.0**	**+1.1**
PPCY	**Paphos**	**2.06**	**288**	⇓*i*P	**P**	**02 25 17.0**	**+1.1**
PPCY	**Paphos**	**2.06**	**288**	*e*P	**P**	**02 25 17.0**	**+1.1**
AKMC	**Akamas**	**2.11**	**292**	*e*P	**P**	**02 25 18.0**	**+1.2**
IKL	**Isikli**	**2.14**	**337**	*i* PN	**P**	**02 25 17.4**	**+0.2**
IKL				*i* SN	**S**	**02 25 42.0**	**-0.7**
HTY	**Hatay**	**2.19**	**32**	*i* PN	**P**	**02 25 18.2**	**+0.4**
SALA	**Sala**	**2.29**	**132**	⇓*i*P	**P**	**02 25 20.9**	**+1.6**
SALA				⇓*i*S	**S**	**02 25 45.3**	**-1.1**
COBT	**Iskenderun**	**2.58**	**29**	*i* P	**P**	**02 25 23.6**	**+0.2**
COBT				*i* S	**S**	**02 25 47.1**	**-6.6**
DSI	**Dead Sea**	**2.74**	**168**	Pn	**P**	**02 25 27.3**	**+1.5**
ASF	**Jabal al Asfar**	**2.77**	**138**	P	**P**	**02 25 27.4**	**+1.2**
	14nm,0.3s,baz=202,slow=5.9,SNR=58						
ASF				S	**S**	**02 26 01.6**	**+2.9**
	23nm,0.3s,baz=342,slow=18,SNR=9.8						
ERMK	**Ermenek**	**2.79**	**329**	*i* P	**P**	**02 25 27.0**	**+0.6**
ERMK				*i* S	**S**	**02 25 57.9**	**-1.3**
MKRJ	**Makawir**	**2.81**	**164**	Pn	**P**	**02 25 28.3**	**+1.5**
CEYT	**Ceyhan**	**2.86**	**17**	PN	**P**	**02 25 27.4**	**-0.1**
YTIR	**Yattir**	**2.91**	**173**	Pn	**P**	**02 25 29.7**	**+1.5**
MZDA	**Masada**	**3.00**	**169**	Pn	**P**	**02 25 30.1**	**+0.8**
RTMM	**Retamin**	**3.21**	**181**	Pn	**P**	**02 25 33.2**	**+0.9**
HDMB	**Hadim**	**3.25**	**327**	PN	**P**	**02 25 33.3**	**+0.3**
HDMB				SN	**S**	**02 26 09.4**	**-1.4**
MASH	**Mash'abbe Sade**	**3.26**	**179**	Pn	**P**	**02 25 34.3**	**+1.2**
KZIT	**Kziot**	**3.36**	**185**	Pn	**P**	**02 25 35.2**	**+0.7**
KZIT				Sn	**S**	**02 26 11.2**	**-2.4**
KZIT	**Kziot**	**3.36**	**185**	⇑Pn	**P**	**02 25 35.2**	**+0.7**
KZIT				Sn	**S**	**02 26 11.2**	**-2.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HRSH	Kfar Ka'horesh	3.40	195	⇑eP	P	02 25 35.0	-0.1
RSH		3.40	195	P	P	02 25 35.0	-0.1
GAZ	Gaziantep	3.54	34	i PN	P	02 25 36.9	-0.1
QURS	Qurayyt al Mil	3.61	142	P	P	02 25 39.8	+1.7
RMNI	Mount Ramon	3.66	179	Pn	P	02 25 39.5	+0.7
ZFRI	Zfri	3.72	174	Pn	P	02 25 40.4	+0.8
KAHT	Ahir Dag	3.79	27	i P	P	02 25 39.9	-0.7
KAHT				i S	S	02 26 18.9	-5.5
AMAG	Maghara	3.83	200	⇑eP	P	02 25 40.6	-0.5
NIG	Nigde	3.84	359	ePN	P	02 25 42.2	+0.9
GZT	Gaziantep	3.85	36	i P	P	02 25 40.4	-1.1
GZT				i S	S	02 26 41.2	+15
PRNI	Paran	3.91	176	Pn	P	02 25 43.0	+0.8
KMTI	Karmit	4.15	180	Pn	P	02 25 46.1	+0.4
HNKL	Nakhl	4.37	188	⇑eP	P	02 25 48.6	-0.2
HNKL				S	S	02 26 35.1	-4.0
MBH	Mount Berech	4.46	178	Pn	P	02 25 50.5	+0.4
MBH	Mount Berech	4.46	178	Pn	P	02 25 50.5	+0.4
AQBJ	Aqaba	4.53	176	Pn	P	02 25 51.5	+0.4
EIL	Elat	4.59	177	P	P	02 25 51.9	0.0
	3.7nm,0.3s,baz=357,slow=12,SNR=50						
EIL				S	S	02 26 43.0	-1.5
	5.4nm,0.3s,baz=40,slow=42,SNR=7.9						
EIL	Elat	4.59	177	eP	P	02 25 51.6	-0.3
EIL				eS	S	02 26 41.7	-2.8
EIL				S	S	02 26 43.0	-1.5
EIL	Elat	4.59	177	Pn	P	02 25 51.9	0.0
EIL	Elat	4.59	177	eP	P	02 25 51.6	-0.3
EIL	Elat	4.59	177	Pn	P	02 25 51.9	0.0
EIL				eS	S	02 26 41.7	-2.8
URFA	Urfa	4.60	45	ePN	P	02 25 51.7	-0.3
BCK	Bucak	4.63	315	ePN	P	02 25 52.3	-0.2
ELL	Elmali	4.64	304	ePN	P	02 25 53.2	+0.6
SUZ		4.69	200	⇓eP	P	02 25 52.8	-0.6
ISP	Isparta	4.94	318	eP	P	02 25 56.6	-0.2
ALWS	Ilw as Safayha	4.95	177	P	P	02 25 57.4	+0.4
ALWS				S	S	02 26 53.1	-0.6
KOT	Kottamia	4.97	210	⇑eP	P	02 25 56.2	-1.1
KOT				S	S	02 26 48.0	-6.2
MALT	Malatya	5.03	35	ePN	P	02 25 57.5	-0.6
MALT	Malatya	5.03	35	eP	P	02 25 57.6	-0.5
	7.0nm,0.4s						
HBST	Basata	5.03	180	P	P	02 25 58.5	+0.3
MYA	Malataya	5.04	35	ePN	P	02 25 58.0	-0.2
JMOS	Jabal al Moall	5.09	176	P	P	02 25 58.7	-0.2
ZNM		5.12	198	⇓eP	P	02 25 58.5	-0.9
FETY	Fethiye	5.17	299	ePN	P	02 26 00.1	0.0
HAQS	Haql	5.20	178	P	P	02 26 00.1	-0.4
NUB		5.22	181	⇑eP	P	02 26 00.2	-0.5
GLL	Jalalah	5.33	210	⇓eP	P	02 26 01.1	-1.2
JMQS	Jabal Moqyreh	5.45	169	P	P	02 26 05.0	+1.0
AYT	Al 'Ayyat	5.46	215	⇓eP	P	02 26 03.0	-1.1
BRTR	Keskin Array B	5.52	351	P	P	02 26 06.1	+1.2
	0.2nm,0.3s,baz=170,slow=16,SNR=4.1						
HDHB	Dhahab	5.53	181	⇑eP	P	02 26 04.8	-0.2
HBRG	Burj al 'Arab	5.53	230	⇑eP	P	02 26 04.2	-0.9
HBRG				S	S	02 27 01.1	-7.1
DALT	Dalyan (Mudla)	5.55	298	ePN	P	02 26 04.7	-0.7
TAYS	Tayyib Ism	5.70	179	P	P	02 26 06.6	-0.8
HKAT	Jabal Katrina	5.76	186	⇑P	P	02 26 07.3	-0.9
DENT	Denizli	5.78	309	ePN	P	02 26 08.0	-0.5
PTK	Pertek	5.95	38	ePN	P	02 26 10.5	-0.5
YER	Yerkesik	5.97	300	ePN	P	02 26 11.0	-0.2
TR1		6.27	186	P	P	02 26 14.4	-1.1
BODT	Bodrum	6.64	297	ePN	P	02 26 19.6	-1.1
HMAT	Matruh	7.16	246	P	P	02 26 26.4	-1.6
IDI	Anoyia	8.15	280	P	P	02 26 39.3	-2.3
	2.1nm,0.3s,baz=343,slow=11,SNR=26						
IDI				S	S	02 28 05.8	-7.7
	1.8nm,0.3s,baz=241,slow=21,SNR=7.8						
GVD	Gavdhos	8.79	277	P	P	02 26 47.0	-3.5
SWA1		9.15	239	P	P	02 26 53.1	-2.3
AKASG	Malin Array Be	16.91	348	P	P	02 28 38.9	+1.0
	0.4nm,0.3s,baz=164,slow=11,SNR=4.7						
GERES	GERESS Array B	21.34	319	P	P	02 29 29.5	+1.1
	0.5nm,0.4s,mb3.2,baz=135,slow=8.3,SNR=14						
FINES	FINESS Array B	27.76	351	P	P	02 30 29.3	-0.2
	0.6nm,0.9s,mb3.2,baz=159,slow=12,SNR=4.8						
MKAR	Makanchi Array	37.71	56	P	P	02 31 58.0	+2.0
	0.3nm,0.4s,mb3.4,baz=252,slow=9.1,SNR=3.1						
MDRS	Chennai	46.27	106	e	P	02 33 07.0	+0.7

*IDC **03** 03:00:09.5±1.2, 16.34S×175.74E, mb3.9/6, mb1 4.2/6, mb1mx4.0/13, mbtmp3.9/6, MS3.6/11, Ms1 3.6/11, ms1mx3.3/26, Error ellipse: s-maj=55.2km s-min=39.2km az=142.0*

*NEIC **03** 03:00:12.7±0.5, 16.43S×175.73E, h20^{km}, mb4.5/1, Error ellipse: s-maj=33.4km s-min=20.4km az=100.0*

ISC 03 03:00:13.2±0.7**, 16.5S**±0.2×**175.7E**±0.3**, h33**^{km}**, n34,** σ**0**^{s}**92**/8**, mb4.1**/8**, MS3.6**/9**, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.39	236	LR	LR	03 05 59.2	
	comp=Z,337nm,20.7s,baz=200,slow=33						
RAO	Raoul Island	13.98	156	LR	LR	03 07 43.0	
	comp=Z,330nm,21.2s,baz=133,slow=32						
URZ	Urewera	21.73	177	LR	LR	03 10 59.5	
	comp=Z,129nm,20.3s,MS3.3,baz=325,slow=30						
RPZ	Rata Peaks	27.43	187	LR	LR	03 15 21.5	
	comp=Z,149nm,18.6s,MS3.6,baz=318,slow=33						
CTA	Charters Tower	28.21	258	LR	LR	03 15 21.2	
	comp=Z,87nm,20.1s,MS3.4,baz=225,slow=32						
PPT	Papeete	33.16	97	LR	LR	03 16 54.4	
	comp=Z,84nm,18.6s,MS3.5,baz=313,slow=30						
STKA	Stephens Creek	34.54	237	LR	LR	03 19 57.7	
	comp=Z,176nm,20.3s,MS3.8,baz=296,slow=34						
JHJ	Hachijo jima 2	60.11	325	LR	LR	03 32 37.1	
	comp=Z,32nm,18.4s,MS3.5,baz=358,slow=32						
VNDA	Vanda	61.45	183	LR	LR	03 34 04.4	
	comp=Z,61nm,20.0s,MS3.8,baz=346,slow=33						
SBA	Scott Base	61.55	182	eP	P	03 10 28.6	-0.6
	3.6nm,0.9s,mb4.5						
QSPA	South Pole Qui	73.56	180	⇓iP	P	03 11 43.8	-0.3
	11nm,1.1s,mb4.7						
NVAR	Mina Array Bea	82.39	46	P	P	03 12 34.1	+0.5
	1.2nm,0.8s,mb3.9,baz=215,slow=6.0,SNR=4.5						
NVAR				LR	LR	03 40 46.1	
	comp=Z,34nm,19.4s,MS3.7,baz=165,slow=30						
CMAR	Chiang Mai Arr	83.15	291	P	P	03 12 39.2	+1.4
	1.0nm,0.7s,mb4.0,baz=107,slow=4.5,SNR=5.4						
MAW	Mawson	83.25	201	P	P	03 12 37.8	+0.4
	2.7nm,1.0s,mb4.2,baz=72,slow=6.4,SNR=3.5						
ILAR	Eielson Array	85.87	15	P	P	03 12 49.1	-1.3
	0.9nm,0.8s,mb4.0,baz=236,slow=5.2,SNR=7.4						
SONM	Songino Array	88.88	321	P	P	03 13 04.3	-1.1
	0.3nm,0.4s,mb3.9,baz=124,slow=4.5,SNR=3.6						
TXAR	Lajitas Array	90.03	59	P	P	03 13 12.2	+0.9
	0.4nm,0.8s,mb3.8,baz=262,slow=6.4,SNR=3.5						
YKA	Yellowknife Ar	95.45	26	LR	LR	03 48 04.2	
	comp=Z,49nm,21.1s,MS4.0,baz=190,slow=30						
GERES	GERESS Array B	144.55	339	PKP	PKPdf	03 19 46.5	+0.2
	1.2nm,0.9s,baz=63,slow=3.0,SNR=8.3						
GRA1	Grafenberg Arr	144.58	343	ePKP	PKPdf	03 19 47.8	+1.5
GIVF	Givet	145.67	350	ePKP1	PKPbc	03 19 50.2	+1.3
BAIF	Baives	145.82	350	ePKP1	PKPbc	03 19 51.2	+1.9
	26nm,1.4s						
CDF	Champ du Feu	146.78	346	ePKP1	PKPbc	03 19 54.0	+2.4
	12nm,1.2s						
MEZF	Maizieres J'vi	147.17	349	ePKP1	PKPdf	03 19 55.3	+4.6
HAU	Haudompre	147.38	347	ePKP1	PKPdf	03 19 55.7	+4.6
	11nm,1.1s						
HINF	Hinteralfeld	147.44	346	ePKP1	PKPdf	03 19 55.7	+4.5
LOR	Lormes	148.58	349	ePKP1	PKPdf	03 19 58.9	+5.9
	9.4nm,1.1s						
SSF	Saint Saulge	148.84	350	ePKP1	PKPdf	03 19 59.5	+6.0
SMF	Signal de Mont	149.18	349	ePKP1	PKPdf	03 20 00.6	+6.6
LPL	La Plagne	149.62	345	ePKP1	PKPdf	03 20 01.9	+7.1
	8.3nm,1.1s						
LPG	La Plagne	149.64	345	ePKP1	PKPdf	03 20 02.0	+7.2
	9.6nm,1.1s						
TCF	Toulx Ste Croi	149.80	351	ePKP1	PKPdf	03 20 02.9	+7.9
	19nm,1.4s						
ORIF	Oris-en-Rattie	150.40	345	ePKP1	PKPdf	03 20 03.4	+7.4
	5.1nm,0.8s						
SMRF	Simiane la Rot	151.36	345	ePKP1	PKPdf	03 20 05.8	+8.4
	15nm,1.2s						

*IDC **03** 03:02:34.3±1.2, 7.32N×123.69E, mb4.0/8, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, Error ellipse: s-maj=161.0km s-min=20.5km az=64.0*

*MAN **03** 03:02:38.4, 7.40N×123.68E, h20^{km}, mb4.7, ML3.6, MS3.6*

ISC 03 03:02:37.4±1.1**, 7.29N**±0.04×**123.64E**±0.04**, h27**^{km}±7^{km}**, n21,** σ**1**^{s}**12**/29**, mb4.0**/8**, 1C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAGZ	Pagadian	0.61	335	eP	Pb	03 02 49.0	-0.4
PAGZ				eS	Sb	03 02 57.1	-0.6
IPIL	Ipil	1.17	295	eP	Pn	03 02 59.7	+1.5
IPIL				eS	Sn	03 03 15.7	+2.4
DCPH	Dipolog City	1.31	347	⇑eP	Pn	03 02 57.7	-2.5
DCPH				eS	Sn	03 03 17.4	+0.4
KCP	Kidapawan	1.46	101	⇓eP	Pn	03 03 03.1	+0.7
KCP				i S	Sn	03 03 22.5	+1.7
BUKP	Musuan	1.52	67	eP	Pn	03 03 03.6	+0.4
CGP	Cagayan de Oro	1.56	42	⇓eP	Pn	03 03 02.9	-0.8
CGP				i S	Sn	03 03 23.1	0.0
SNPH	Sibulan	2.08	349	⇓eP	Pn	03 03 12.2	+1.0
SNPH				i S	Sn	03 03 38.9	+2.5
TBP	Tagbilaran	2.39	5	eP	Pn	03 03 15.1	-0.6
TBP				eS	Sn	03 03 43.6	-0.8
BUTP	Butuan	2.57	49	eP	Pn	03 03 22.5	+4.2
MATI	Mati	2.62	97	eP	Pn	03 03 23.4	+4.5
LLP	Lapu-Lapu	3.02	6	eP	Pn	03 03 24.5	-0.1
LLP				eS	Sn	03 03 59.1	-1.2
MSLP	Maasin	3.07	23	eP	Pn	03 03 26.6	+1.3
GUIM	Jordan	3.47	343	eP	Pn	03 03 32.2	+1.2
WRA	Warramunga Arr	29.04	159	P	P	03 08 36.9	-0.8
	1.7nm,0.8s,mb3.8,baz=333,slow=10,SNR=5.6						
STKA	Stephens Creek	42.55	157	P	P	03 10 31.5	-1.2
	0.7nm,0.4s,mb3.7,baz=336,slow=12,SNR=2.2						
MKAR	Makanchi Array	52.90	325	P	P	03 11 52.4	-0.9
	1.5nm,0.6s,mb4.1,baz=128,slow=8.3,SNR=12						
ZAL	Zalesovo	56.05	333	P	P	03 12 14.7	-1.5
	1.0nm,0.3s,mb4.4,baz=326,slow=10,SNR=3.1						
BVAR	Borovoye Array	62.68	327	P	P	03 13 01.3	-0.7
	0.3nm,0.4s,mb3.8,baz=120,slow=12,SNR=5.8						
BRTR	Keskin Array B	85.40	309	P	P	03 15 13.9	0.0
	1.6nm,0.9s,mb4.2,baz=100,slow=7.5,SNR=8.1						
ARCES	ARCESS Array B	86.06	340	P	P	03 15 16.5	0.0
	1.3nm,0.7s,mb4.3,baz=83,slow=7.3,SNR=6.5						
FINES	FINESS Array B	87.26	332	P	P	03 15 22.5	-0.1
	0.4nm,0.6s,mb3.9,baz=72,slow=6.2,SNR=12						

*BJI **03** 03:32:04.7, 1.33N×96.92E, h32^{km}, mB4.9, mb4.7*

*NEIC **03** 03:32:08.1±0.5, 1.63N×96.87E, mb4.3/3, Error ellipse: s-maj=12.4km s-min=10.6km az=50.0*

*IDC **03** 03:32:08.3±1.1, 1.62N×96.91E, h28^{km}±3^{km}, mb3.8/12, mb1 3.9/13, mb1mx3.8/20, mbtmp4.0/13, ML4.0/1, MS3.4/3, Ms1 3.5/3, ms1mx3.1/21, Error ellipse: s-maj=30.8km s-min=24.7km az=57.0*

ISC 03 03:32:06.0±0.7**, 1.6N**±0.1×**96.9E**±0.1**, h27**^{km}±1.4^{km}**:pP-P, n26,** σ**0**^{s}**72**/23**, mb4.0**/16**, MS3.5**/2**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.25	46	ePn	Pn	03 33 25.0	+0.2
CMAR	Chiang Mai Arr	16.86	7	Pn	P	03 36 01.9	0.0
	0.2nm,0.3s,baz=202,slow=9.7,SNR=5.3						
CMAR				LR	LR	03 43 15.0	
	comp=Z,106nm,18.5s,baz=187,slow=40						
SHL	Shillong	24.29	349	eP	P	03 37 23.0	+0.5
GTA	Gaotai	37.71	4	eP	P	03 39 22.0	+0.8
GTA				AP	pP	03 39 26.2	-3.2
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.0						
WRA	Warramunga Arr	42.53	122	P	P	03 40 00.9	-0.5
	comp=Z,0.8nm,0.7s,mb3.6,baz=300,slow=9.0,SNR=3.5						
WRAB	Tennant Creek	42.54	122	P	P	03 40 02.1	+0.7
MKAR	Makanchi Array	46.76	346	P	P	03 40 35.5	+0.5
	comp=Z,4.5nm,0.7s,mb4.5,baz=162,slow=7.7,SNR=34						
MKAR				pP	pP	03 40 43.8	+0.6
	comp=Z,1.8nm,0.5s,baz=153,slow=8.1,SNR=7.7						
MKAR				LR	LR	04 00 03.4	
	comp=Z,65nm,21.1s,MS3.6,slow=36						
SONM	Songino Array	46.77	9	P	P	03 40 35.2	+0.2
	comp=Z,1.1nm,0.5s,mb4.1,baz=187,slow=7.8,SNR=9.9						
SONM				pP	pP	03 40 44.4	+1.1
	comp=Z,0.8nm,0.4s,baz=198,slow=7.8,SNR=4.3						
SONM				PcP	PcP	03 42 07.6	-0.9
	comp=Z,0.7nm,0.7s,baz=195,slow=4.2,SNR=3.3						
MJAR	Matsushiro Arr	51.61	43	P	P	03 41 11.8	-0.7
	comp=Z,0.5nm,0.4s,mb3.8,baz=205,slow=7.5,SNR=4.7						
MJAR				LR	LR	04 03 45.9	
	comp=Z,32nm,18.9s,MS3.4,baz=200,slow=37						
ZAL	Zalesovo	53.09	351	P	P	03 41 23.1	-0.2
	comp=Z,6.3nm,0.6s,mb4.7,baz=306,slow=7.2,SNR=27						
ZAL				pP	pP	03 41 31.7	0.0
	comp=Z,7.5nm,0.4s,baz=321,slow=5.3,SNR=13						
BVAR	Borovoye Array	55.75	341	P	P	03 41 42.3	-0.4
	comp=Z,2.1nm,0.7s,mb4.3,baz=147,slow=8.5,SNR=12						
BVAR				pP	pP	03 41 50.9	-0.3
	comp=Z,3.2nm,0.6s,baz=141,slow=9.4,SNR=13						
ZRNK	Zerenda	56.15	340	eP	P	03 41 44.9	-0.8
	comp=Z,1.9nm,0.6s,mb4.3						
YAK	Yakutsk	65.11	16	eP	P	03 42 45.8	-0.7
BRTR	Keskin Array B	68.59	312	P	P	03 43 08.3	-0.6
	comp=Z,0.5nm,0.6s,mb3.6,baz=143,slow=7.2,SNR=3.1						
AKASG	Malin Array Be	74.73	322	P	P	03 43 44.5	-0.8
	comp=Z,0.6nm,0.5s,mb3.8,baz=91,slow=5.3,SNR=5.6						
FINES	FINESS Array B	79.48	333	P	P	03 44 12.0	+0.5
	comp=Z,1.1nm,0.7s,mb3.9,baz=108,slow=6.0,SNR=7.7						
FINES				pP	pP	03 44 20.8	+0.5
	comp=Z,1.9nm,0.5s,baz=98,slow=5.6,SNR=6.6						
KAF	Kangasniemi	79.57	333	ep	P	03 44 12.1	+0.1
	comp=Z,2.3nm,0.5s,mb4.4,baz=102,slow=5.0						
KEV	Kevo	81.60	341	ep	P	03 44 20.8	-1.8
	comp=Z,2.6nm,1.0s,mb4.1						
ARCES	ARCESS Array B	82.04	340	P	P	03 44 26.0	+1.2
	comp=Z,1.0nm,0.6s,mb3.9,baz=90,slow=3.6,SNR=6.9						
ARCES				pP	pP	03 44 34.8	+1.2
	comp=Z,1.5nm,0.6s,baz=103,slow=4.0,SNR=5.0						
ARCES	ARCESS Array B	82.04	340	P	P	03 44 26.0	+1.2
ARCES				pP	pP	03 44 34.8	+1.2
GERES	GERESS Array B	84.29	319	P	P	03 44 37.9	+1.1
	comp=Z,0.5nm,0.6s,mb3.8,baz=90,slow=4.0,SNR=6.6						
GERES				pP	pP	03 44 47.9	+2.3
	comp=Z,0.5nm,0.5s,baz=108,slow=4.2,SNR=4.2						
NB2	NORSAR Subarra	86.48	331	P	P	03 44 48.2	+0.7
	comp=Z,0.7nm,0.7s,mb4.0,baz=95,slow=5.0						
NOA	NORSAR Array B	86.48	331	P	P	03 44 48.4	+0.9
	comp=Z,0.5nm,0.7s,mb3.9,baz=96,slow=4.8,SNR=3.9						
NOA				pP	pP	03 44 56.9	+0.6
	comp=Z,0.7nm,0.8s,baz=94,slow=4.9,SNR=3.7						
LFA	Lagoa do Fogo	114.01	313	eP	PKPdf	03 50 38.2	-10
TXAR	Lajitas Array	143.49	31	PKhKP		03 51 37.4	
	comp=Z,0.1nm,0.5s,baz=256,slow=3.7,SNR=3.0						
CPUP	Villa Florida	145.09	223	PKPbc	PKPbc	03 51 44.1	+2.0
	comp=Z,1.1nm,0.8s,baz=207,slow=4.5,SNR=2.6						

*OMAN **03** 03:35:32.9±0.0, 27.03N×56.22E, h2^{km}, Error ellipse: s-maj=19.1km s-min=7.8km az=267.0*

*CSEM **03** 03:35:32.9±0.2, 27.01N×56.07E, h16^{km}, ML3.3, Error ellipse: s-maj=13.0km s-min=4.2km az=75.0*

*THR **03** 03:35:33.2±0.8, 27.07N×56.01E, h14^{km}, ML3.3*

*TEH **03** 03:35:37.3, 27.16N×55.83E, h10^{km}, Mn3.6*

*NEIC **03** 03:35:40.7±4.0, 28.01N×55.95E, h10^{km}, mb3.6/3, Error ellipse: s-maj=71.8km s-min=23.9km az=162.0*

*IDC **03** 03:35:41.6±9.7, 28.32N×55.86E, mb3.5/5, mb1 3.6/6, mb1mx3.5/23, mbtmp3.6/6, ML4.0/1, Error ellipse: s-maj=176.3km s-min=37.3km az=162.0*

ISC 03 03:35:32.4±0.4**, 27.05N**±0.04×**56.07E**±0.07**, h10**^{km}**, n26,** σ**1**^{s}**40**/28**, mb3.4**/5**, 3C-2D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.36	15	ePg	Pg	03 35 40.2	+0.4
BNDS				AML	AML	03 35 54.8	
	comp=N,5µm,0.5s						
BANOM	Banah	1.14	169	P	Pb	03 35 54.1	+0.3
	SNR=27						
BANOM				⇑S	Sb	03 36 09.5	+0.9
ASHO	Ashiyiah	2.36	180	⇓P	Pn	03 36 12.5	+0.7
	SNR=30						
KRBR	Kerman	2.98	12	ePn	Pn	03 36 22.7	+2.0
KRBR				eSg	Sg	03 37 06.5	-5.2
KRBR				AML	AML	03 37 27.6	
	comp=N,119nm,0.5s						
IMOK	Mook	3.56	305	Pn	Pn	03 36 29.0	0.0
HOQ	Hoqain	3.63	162	⇓P	Pn	03 36 29.6	-0.3
BIDO	Bidbid	3.98	152	⇑P	Pn	03 36 34.0	-0.9
IMEH	Mehriz	4.50	344	Pn	Pn	03 36 43.9	+1.6
IBAF	Bafgh	4.54	355	Pn	Pn	03 36 44.1	+1.2
ZHSF	Zahedan	4.87	57	ePn	Pn	03 36 49.0	+1.5
ZHSF				AML	AML	03 38 15.7	
	comp=N,9.5nm,0.7s						
WBK	Wadi Bani Khal	5.15	149	⇑P	Pn	03 36 49.7	-1.8
ICHK	Chekchek	5.37	345	Pn	Pn	03 36 53.7	-0.9
NASN	Na'in	6.39	335	ePn	Pn	03 37 08.9	0.0
RDF	Al-Radifah	7.76	286	eP	Pn	03 37 29.9	+1.8
NAY	Al-Naaiem	8.09	288	eP	P	03 37 31.1	-1.7
IVRN	Varamin	8.75	336	Pn	P	03 37 40.5	-1.4
ASAO	Ashtian	9.10	327	ePn	P	03 37 46.0	-0.8
MALT	Malatya	18.58	312	eP	P	03 39 48.8	-2.7
	comp=N,4.5nm,0.9s						
EIL	Elat	18.76	283	P	P	03 39 56.5	+2.7
	comp=N,0.4nm,0.3s,baz=122,slow=13,SNR=2.8						
EIL	Elat	18.76	283	eP	P	03 39 56.2	+2.4
	comp=N,2.0nm,0.5s						
BR131	Keskin Array S	22.52	310	P	P	03 40 35.3	+1.6
	comp=N,1.3nm,0.6s,mb3.5						
BRTR	Keskin Array B	22.52	310	P	P	03 40 34.4	+0.7
	comp=N,3.1nm,0.9s,mb3.8,baz=124,slow=13,SNR=12						
BVAR	Borovoye Array	28.06	19	P	P	03 41 24.9	-0.9
	comp=N,0.7nm,0.7s,mb3.4,baz=191,slow=7.6,SNR=5.7						
AKASG	Malin Array Be	31.22	326	P	P	03 41 51.8	-2.3
	comp=N,0.3nm,0.5s,mb3.4,baz=11,slow=38,SNR=3.2						
GERES	GERESS Array B	39.20	315	P	P	03 43 03.3	+1.1
	comp=N,0.1nm,0.5s,mb2.8,baz=96,slow=9.9,SNR=2.4						
FINES	FINESS Array B	39.83	338	P	P	03 43 05.0	-2.4
	comp=N,0.5nm,0.5s,mb3.5,baz=139,slow=9.1,SNR=14						

*NEIC **03** 03:52:32.3, 31.00S×68.43W, h137^{km}, MD3.5(GUC), After GUC.*

GUC 03 03:52:32.3±0.4**, 31.00S**×**68.43W, h136**^{km}±35^{km}**, MD2.9, ML3.6, 2C-1D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMCH	Combarbala	2.21	265	⇓iP	P	03 53 09.9	+0.2
CMCH				i S	S	03 53 38.2	0.0
CMCH				AMP		03 53 39.9	
	comp=E,339nm,0.6s						
JACH	Jahuel	2.49	227	⇑iP	P	03 53 13.2	0.0
JACH				i S	S	03 53 44.4	-0.1
ROCH	El Roble	2.94	227	i P	P	03 53 19.5	+0.3
ROCH				i S	S	03 53 55.2	+0.3
PCH	Pirque	3.15	213	⇑iP	P	03 53 21.7	-0.3
PCH				i S	S	03 53 59.8	0.0

NNC 03 03:58:22.9±2.5**, 38.01N**×**71.84E, h217**^{km}±73^{km}**, mpv3.1, Error ellipse: s-maj=41.6km s-min=27.6km az=15.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.04	23	P	P	03 59 37.8	-1.1
	1.3nm,0.5s						
AAK				S	S	04 00 38.9	+1.0
	3.3nm,0.7s						
KK31	Karatay Array	5.19	349	P	P	03 59 40.0	-0.7
	1.0nm,0.5s,baz=164,slow=12,SNR=19						
KK31				S	S	04 00 41.6	+0.3
	16nm,0.7s,baz=168,slow=20,SNR=29						
AB31	Akbulak array	14.14	326	P	P	04 01 36.6	+1.9
	0.1nm,0.3s,baz=171,slow=10,SNR=9.2						
AB31				S	S	04 04 07.9	+1.3
	0.8nm,0.7s,baz=139,slow=23,SNR=4.3						

*NEIC **03** 04:19:04.7±0.8, 15.14S×70.62W, h192^{km}±8^{km}, mb4.7/37, Error ellipse: s-maj=10.6km s-min=5.2km az=62.0*

*BJI **03** 04:19:04.7, 15.10S×70.60W, h181^{km}, mB4.7*

*IDC **03** 04:19:05.6±1.3, 15.03S×70.56W, h192^{km}±11^{km}, mb4.0/12, mb1 4.1/15, mb1mx4.0/22, mbtmp4.4/15, Error ellipse: s-maj=31.1km s-min=12.3km az=38.0*

ISC 03 04:19:02.1±0.8**, 15.25S**±0.05×**70.81W**±0.07**, h188**^{km}±8^{km}**, n98,** σ**1**^{s}**05**/86**, mb4.6**/40**, 1D, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	2.78	112	P	P	04 19 51.5	+2.5
	76nm,0.3s,baz=295,slow=9.6,SNR=3264						
LPAZ				S	S	04 20 27.6	+2.5
	33nm,0.3s,baz=171,slow=21,SNR=12						
LPAZ	La Paz	2.78	112	⇓iP	P	04 19 51.6	+2.6
NNA	Nana	6.70	298	eP	P	04 20 38.0	-1.3
	47nm,0.3s						
LVC	Limon Verde	7.54	167	P	P	04 20 49.2	-0.9
	44nm,0.3s,baz=338,slow=8.5,SNR=561						
LVC				S	S	04 22 07.6	-6.9
	51nm,0.3s,baz=171,slow=21,SNR=38						
LVC	Limon Verde	7.54	167	eP	P	04 20 48.4	-1.8
	161nm,0.4s						
SIV	San Ignacio	9.41	96	P	P	04 21 13.9	-0.7
	4.0nm,0.3s,baz=280,slow=12,SNR=95						
SAML	Samuel	9.74	51	eP	P	04 21 18.6	-0.4
	17nm,0.5s						
CFAA	Coronel Fontan	16.45	172	P	P	04 22 43.9	+0.1
	0.3nm,0.3s,baz=355,slow=11,SNR=36						
CFAA				S	S	04 25 37.2	-2.4
	0.1nm,0.3s,baz=222,slow=15,SNR=4.8						
CFAA	Coronel Fontan	16.45	172	P	P	04 22 43.9	+0.1
CFAA				S	S	04 25 37.2	-2.4
CPUP	Villa Florida	16.73	133	P	P	04 22 46.8	-0.3
	0.2nm,0.3s,baz=328,slow=10.0,SNR=6.1						
CPUP	Villa Florida	16.73	133	P	P	04 22 46.5	-0.6
	53nm,2.4s						
OTAV	Otavalo	17.15	333	eP	P	04 22 53.5	+1.4
	12nm,0.6s						
ROSC	El Rosal	20.28	350	P	P	04 23 25.3	+0.5
	3.8nm,0.4s,baz=288,slow=21,SNR=6.8						
BDFB	Brasilia	21.97	94	P	P	04 23 42.0	+0.5
	4.9nm,0.6s,mb4.1,baz=260,slow=11,SNR=20						
SDV	Santo Domingo	23.98	0	P	P	04 24 01.1	+0.1
	17nm,0.8s,mb4.6,baz=214,slow=3.4,SNR=14						
SDV	Santo Domingo	23.98	0	eP	P	04 24 00.5	-0.5
	21nm,0.9s,mb4.7						
TRQA	Tornquist	24.02	163	eP	P	04 24 01.1	+0.1
JTS	JuntasAbangare	28.99	330	P	P	04 24 48.7	+2.0
	4.5nm,0.7s,mb4.3,baz=135,slow=14,SNR=5.0						
JTS	JuntasAbangare	28.99	330	P	P	04 24 48.6	+2.0
NHSC	New Hope	48.91	350	eP	P	04 27 30.8	-0.3
	67nm,0.8s,mb5.3						
COW	Cow Castle Cre	49.27	349	eP	P	04 27 33.6	-0.2
JSC	Jenkinsville	50.25	349	eP	P	04 27 40.5	-0.7
LRAL	Lakeview Retre	50.45	342	eP	P	04 27 41.9	-0.9
	26nm,0.7s,mb5.0						
CPCT	Cooper Cave	52.07	346	eP	P	04 27 54.1	-0.7
SWET	Sewanee	52.20	344	eP	P	04 27 54.7	-1.2
PLAL	Pickwick Lake	52.58	342	eP	P	04 27 56.9	-1.7
	21nm,0.8s,mb4.9						
TZTN	Tazewell	52.90	347	eP	P	04 27 59.9	-1.1
BLA	Blacksburg	52.96	350	eP	P	04 28 00.9	-0.5
	22nm,1.1s,mb4.8						
ELN	Prospectdale	53.03	350	eP	P	04 28 01.7	-0.3
FWV	Forest Hill	53.39	350	eP	P	04 28 03.9	-0.6
WVT	Waverly	53.58	343	eP	P	04 28 04.2	-1.8
	29nm,0.7s,mb5.1						
UALR	University of	53.80	338	eP	P	04 28 06.8	-0.8
	12nm,0.6s,mb4.8						
TXAR	Lajitas Array	54.51	324	P	P	04 28 12.8	0.0
	2.9nm,0.7s,mb4.1,baz=151,slow=8.6,SNR=39						
PARMO	Parma	54.65	341	eP	P	04 28 13.0	-0.7
MCWV	Mont Chateau	55.27	352	eP	P	04 28 17.2	-0.9
	15nm,0.8s,mb4.8						
FVM	French Village	56.07	341	eP	P	04 28 23.0	-0.9
	92nm,0.8s						
BLO	Bloomington	56.10	345	eP	P	04 28 22.4	-1.6
	24nm,0.6s,mb5.2						
WMOK	Wichita Mounta	56.38	332	eP	P	04 28 25.2	-0.9
	2.6nm,0.4s,mb4.4						
WMOK				ePcP	PcP	04 29 21.1	+0.3
CCM	Cathedral Cave	56.39	341	eP	P	04 28 24.1	-2.1
	29nm,0.9s,mb5.1						
CCM				ePcP	PcP	04 29 21.2	+0.3
SLM	Saint Louis	56.61	342	eP	P	04 28 26.9	-0.8
	24nm,0.6s,mb5.2						
BINY	Binghamton	57.36	355	eP	P	04 28 31.6	-1.3
	13nm,0.8s,mb4.8						
GENY	Geneseo	58.09	354	eP	P	04 28 36.9	-1.2
FRNY	Flat Rock	59.85	358	eP	P	04 28 48.2	-1.9
MSNY	Massena	60.07	357	eP	P	04 28 50.5	-1.1
ANMO	Albuquerque	60.32	327	eP	P	04 28 53.3	-0.1

3.5nm,0.8s,mb4.2
SDCO Great Sand Dun 61.98 329 *e*P **P 04 29 04.7 +0.1**
12nm,0.7s,mb4.8
ISCO Idaho Springs 63.65 331 *e*P **P 04 29 16.1 +0.6**
3.1nm,0.7s,mb4.2
PV01 Paradox Valley 63.83 327 *e*P **P 04 29 17.0 +0.2**
PV10 Paradox Valley 64.26 327 *e*P **P 04 29 19.3 -0.1**
MSU Marysvale 66.04 325 *e*P **P 04 29 32.1 +1.2**
MVU Marysvale 66.05 325 *e*P **P 04 29 32.2 +1.2**
9.9nm,1.1s,mb4.5
ARUT Antelope Range 66.23 324 *e*P **P 04 29 34.1 +1.9**
RSSD Black Hills 66.41 334 *e*P **P 04 29 34.0 +0.8**
5.0nm,0.4s,mb4.7
DAU Daniels Canyon 66.92 327 *e*P **P 04 29 37.2 +0.8**
JLU Jordanelle 67.16 327 *e*P **P 04 29 38.6 +0.7**
BW06 Boulder Array 67.82 330 *e*P **P 04 29 42.3 +0.3**
3.0nm,0.8s,mb4.1
PDAR Pinedale Array 67.82 330 P **P 04 29 42.2 +0.2**
1.4nm,0.4s,mb4.1,baz=122,slow=8.3,SNR=25
HWUT Hardware Ranch 67.95 328 *e*P **P 04 29 43.4 +0.5**
4.7nm,0.8s,mb4.3
SNAA Sanae 68.74 162 *e*P **P 04 29 47.4 +0.2**
ULM Lac du Bonnet 68.85 343 P **P 04 29 47.6 -0.5**
44nm,0.5s,mb5.5,baz=153,slow=5.9,SNR=48
ULM Lac du Bonnet 68.85 343 *e*P **P 04 29 47.5 -0.6**
56nm,0.6s,mb5.5
DBIC Dimbokro 68.87 77 P **P 04 29 47.9 -0.9**
24nm,0.6s,mb5.1,baz=229,slow=6.3,SNR=99
DBIC Dimbokro 68.87 77 P **P 04 29 47.9 -0.9**
LOHW Long Hollow 68.96 330 P **P 04 29 49.6 +0.6**
3.7nm,0.7s,mb4.2
RRI2 Red Ridge 69.11 330 *e*P **P 04 29 50.5 +0.6**
17nm,0.8s,mb4.8
IMW Indian Meadow 69.34 330 *e*P **P 04 29 52.5 +1.2**
5.4nm,0.6s,mb4.5
OMM Old Mammoth Mi 69.38 321 *e*P **P 04 29 53.3 +1.7**
LAO LASA Array 69.40 335 *e*P **P 04 29 52.4 +0.8**
5.8nm,0.4s,mb4.7
NVAR Mina Array Bea 69.49 322 P **P 04 29 53.2 +1.0**
2.4nm,0.9s,mb3.9,baz=125,slow=6.8,SNR=6.8
NVAR Mina Array Bea 69.49 322 P **P 04 29 53.2 +1.0**
HLID Hailey 70.82 328 *e*P **P 04 30 00.8 +0.6**
3.7nm,1.0s,mb4.1
MOD Modoc 72.90 324 *e*P **P 04 30 13.8 +1.2**
2.0nm,0.6s,mb4.0
BMO Blue Mountains 73.21 327 *e*P **P 04 30 15.0 +0.7**
2.4nm,0.6s,mb4.1
FFC Flin Flon 74.57 342 *e*P **P 04 30 21.8 -0.1**
3.1nm,0.6s,mb4.1
EDM Edmonton 77.37 335 *e*P **P 04 30 37.3 -0.3**
ESDC Sonseca Array 82.72 46 P **P 04 31 06.9 +0.5**
0.4nm,0.6s,baz=263,slow=4.9,SNR=4.4
TSUM Tsumeb 83.62 108 P **P 04 31 13.1 +1.7**
2.7nm,0.5s,mb4.2,baz=242,slow=5.3,SNR=6.6
YKA Yellowknife Ar 84.73 341 P **P 04 31 16.6 +0.8**
9.8nm,0.6s,mb4.7,baz=131,slow=5.1,SNR=88
DLBC Dease Lake 87.85 333 *e*P **P 04 31 32.4 +1.3**
SUMG Summit 90.21 9 *e*P **P 04 31 43.1 +1.2**
5.1nm,0.9s,mb4.5
INK Inuvik 94.48 341 *e*P **P 04 32 02.4 +0.8**
3.7nm,0.7s,mb4.6
ILAR Eielson Array 97.86 335 P **P 04 32 18.8 +1.8**
0.3nm,0.7s,mb3.9,baz=95,slow=1.5,SNR=4.3
ILAR PP PP 04 36 21.4 +1.3
1.7nm,1.1s,baz=110,slow=5.2,SNR=9.3
ZRNK Zerenda 130.87 31 *e*PKPdf PKPdf 04 37 54.0 +2.8
WRA Warramunga Arr 137.17 216 PKP PKPdf 04 38 06.0 +2.3
0.9nm,0.5s,baz=153,slow=2.1,SNR=6.1
MKAR Makanchi Array 141.39 30 PKhKP 04 38 08.8
0.8nm,0.5s,baz=3.6,slow=4.6,SNR=5.4
MKAR PKP PKPdf 04 38 13.4 +2.8
1.9nm,0.7s,baz=329,slow=1.7,SNR=11
HIA Hailar 145.00 348 *e*PKPdf PKPdf 04 38 18.8 +2.0
MDJ Mudanjiang 146.01 334 PKP PKPdf 04 38 19.8 +1.2
MJAR Matsushiro Arr 146.59 315 PKPbc PKPbc 04 38 24.4 +2.9
5.2nm,0.6s,baz=96,slow=1.6,SNR=26
MAT Matsushiro 146.59 315 *e*PKP PKPdf 04 38 24.0 +4.1
MAT Matsushiro 146.59 315 PKP PKPdf 04 38 23.9 +4.0
SONM Songino Array 147.43 4 PKPbc PKPdf 04 38 27.0 +6.1
14nm,0.5s,baz=327,slow=2.1,SNR=77
ULN Ulaanbaatar 147.44 3 *e*PKPbc PKPdf 04 38 27.4 +6.5
CN2 Changchun 148.35 337 *e*PKP PKPdf 04 38 25.4 +2.9
HHC Hu-ho-hao-te 154.41 356 *e*PKP PKPdf 04 38 37.0 +5.5
LZH Lanzhou 158.71 12 *e*PKP PKPdf 04 38 38.9 +1.6
LZH APKP 04 39 23.0
LZH LR LR
comp=N,178nm,18.0s
LZH LR LR
comp=Z,305nm,20.2s
SSE Sheshan 160.78 327 *e*PKP PKPdf 04 38 42.4 +2.7
NJ2 Nanjing 161.10 334 *e*PKP PKPdf 04 38 41.5 +1.6
NJ2 PKP2 PKPab 04 39 27.6 +1.0
NJ2 PKS PKS 04 42 13.0 +0.9
NJ2 SKS SKS 04 45 29.0 +4.3
NJ2 PP PP
comp=Z,80nm,8.9s
NJ2 LR LR
comp=N,1µm,27.8s
NJ2 LR LR
comp=E,550nm,19.6s
NJ2 LR LR
comp=Z,100nm,19.2s
GYA Guiyang 168.60 12 PKP PKPdf 04 38 50.0 +3.5
GYA APKP 04 39 32.8
GYA PP PP
comp=Z,90nm,7.6s

CASC 03 04:25:27.5±1.9**, 14.03N×91.49W, MD3.8, 2D, Guatemala**

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

FUG Fuego 3 0.75 56⇓*e*P Pg 04 25 42.2 -0.3
FUG *e*S Sg 04 25 54.7 +2.1
RTR El Retiro 1.79 94⇓*e*P Pn 04 25 60.0 +0.1
SBLS San Blas 1.82 96 *e*P Pn 04 25 59.8 -0.5
SBLS *e*S Sn 04 26 27.3 +2.9
SNJE San Jose 1.83 95 *e*P Pn 04 26 00.4 -0.1

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*PRE **03** 04:27:03.4±2.1, 26.38S×27.32E, h2km, ML3.5*
*NEIC **03** 04:27:04.9±1.0, 26.42S×27.38E, h5km, Error ellipse: s-maj=20.7km s-min=9.1km az=112.0*
*IDC **03** 04:27:04.5±1.6, 26.47S×27.29E, mb3.8/2, mb1 4.1/7, mb1mx3.8/23, mbtmp4.1/7, ML3.7/4, Error ellipse: s-maj=21.1km s-min=15.1km az=93.0*
ISC 03 04:27:02.8±0.4**, 26.37S**±0.03×**27.29E**±0.03**, h2km, n25, σ0s89**/47**, mb3.8**/2**, 1D, South Africa**

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

PRYS Parys 0.56 174 *e*P **Pg 04 27 14.2 +0.3**
PRYS *e*S **Sg 04 27 20.7 -0.6**
PRYS AML AML 04 27 26.6
comp=Z,2µm,0.7s
KSR Koster 0.63 326 *e*P **Pg 04 27 02.8 -12**
KSR *e*S **Sg 04 27 11.5 -12**
KSR AML AML 04 27 16.3
comp=Z,2µm,0.2s
SLR Silverton 1.09 55 *e*P **Pb 04 27 24.5 +0.4**
SLR *e*S **Sb 04 27 39.0 +0.4**
SLR AML AML 04 27 44.1
comp=Z,670nm,0.5s
SEK Senekal 1.97 171 *e*P **Pn 04 27 38.7 +1.2**
SEK *e*S **Sn 04 28 04.1 +1.0**
SEK AML AML 04 28 05.5
comp=Z,1µm,0.5s
LBTB Lobatse 2.04 311 Pn **Pn 04 27 42.2 +3.7**
comp=Z,80nm,0.3s,baz=145,slow=13,SNR=613
LBTB Pg **Pg 04 27 43.6 +0.1**
comp=Z,80nm,0.3s,baz=142,slow=17,SNR=556
LBTB Lg 04 28 10.9
comp=Z,179nm,0.3s,baz=227,slow=23,SNR=72
LBTB Rg 04 28 18.4
comp=Z,126nm,0.4s,baz=257,slow=13,SNR=14
LBTB Lobatse 2.04 311 *e*Pn **Pn 04 27 42.2 +3.7**
LBTB *e*Pg **Pg 04 27 43.7 +0.2**
LBTB Lg 04 28 10.9
LBTB *e*Sg **Sg 04 28 11.0 +0.3**
LBTB Rg 04 28 18.4
BFT Belfast (SA) 2.57 75 *e*S **Sn 04 28 17.8 -0.5**
BFT AML AML 04 28 29.6
comp=N,125nm,0.5s
NWL Newcastle 2.73 120 *e*P **Pn 04 27 48.0 -0.4**
NWL *e*S **Sn 04 28 21.4 -1.0**
NWL AML AML 04 28 32.6
comp=Z,374nm,0.5s
BOSA Boshof 2.87 218 Pn **Pn 04 27 51.3 +0.9**
comp=Z,2.6nm,0.3s,baz=41,slow=15,SNR=3.1
BOSA Lg 04 28 32.0
comp=Z,83nm,0.3s,baz=322,slow=12,SNR=27
BOSA Boshof 2.87 218 *e*P **Pn 04 27 51.3 +0.8**
BOSA *e*S **Sn 04 28 25.9 -0.1**
BOSA Boshof 2.87 218⇓*i*Pn **Pn 04 27 51.2 +0.8**
BOSA *e*Pb **Pb 04 27 56.0 +1.5**
BOSA *e*Pg **Pg 04 28 00.3 +0.2**
BOSA Sn **Sn 04 28 24.2 -1.9**
BOSA *e*Sg **Sg 04 28 31.5 -6.9**
BOSA Lg 04 28 32.0
POGA Pongola 3.99 105 *e*P **Pn 04 28 06.6 +0.3**
MSNA Messina 4.72 32 *e*P **Pn 04 28 16.4 -0.2**
MSNA *e*S Sn 04 28 49.9 -23
UPI Upington 5.72 248 *e*P **Pn 04 28 30.1 -0.8**
UPI *e*S **Sn 04 29 33.5 -4.6**
MATP Matopo 6.02 11 Pn **Pn 04 28 35.7 +0.7**
comp=Z,1.8nm,0.3s,baz=191,slow=13,SNR=39
MATP Sn **Sn 04 29 41.0 -4.5**
comp=Z,3.8nm,0.3s,baz=115,slow=16,SNR=5.6
MATP Lg 04 30 11.8
comp=Z,16nm,0.3s,baz=97,slow=23,SNR=12
MATP Matopo 6.02 11 Pn **Pn 04 28 35.7 +0.7**
MATP Sn **Sn 04 29 41.0 -4.5**
MATP Lg 04 30 11.8
SUR Sutherland 8.23 222 Pn **P 04 29 05.6 -0.4**
comp=Z,2.8nm,0.3s,baz=59,slow=13,SNR=30
SUR Sn **Sn 04 30 33.6 -7.2**
comp=Z,2.6nm,0.3s,baz=337,slow=19,SNR=5.0
SUR Lg 04 31 18.8
comp=Z,5.1nm,0.3s,baz=137,slow=22,SNR=3.8
SUR Sutherland 8.23 222 *e*P **P 04 29 05.5 -0.6**
SUR *e*S **Sn 04 30 33.3 -7.5**
SUR Sn **Sn 04 30 33.6 -7.2**
SUR Lg 04 31 18.8
CVNA Calvinia 8.33 231 *e*P **P 04 29 06.0 -1.5**
CVNA *e*S **Sn 04 30 33.0 -10**
CER Ceres 9.83 223 *e*S Sx 04 31 55.4
LSZ Lusaka 11.07 5 *e*Pn **P 04 29 43.6 -1.7**
comp=Z,4.5nm,0.5s
LSZ *e*Sn **S 04 31 42.3 -8.5**
TSUM Tsumeb 11.44 307 Pn **P 04 29 49.7 -0.7**
comp=Z,1.3nm,0.3s,baz=113,slow=13,SNR=47
TSUM Sn **S 04 31 50.9 -9.1**
comp=Z,0.2nm,0.3s,baz=36,slow=23,SNR=4.4
TSUM Lg 04 33 04.6
comp=Z,0.2nm,0.3s,baz=230,slow=22,SNR=3.8
TSUM Tsumeb 11.44 307 *e*Pn **P 04 29 49.9 -0.5**
TSUM Sn **S 04 31 50.9 -9.1**
TSUM Lg 04 33 04.6
ESDC Sonseca Array 71.88 335 P **P 04 38 29.5 +0.2**
comp=Z,0.4nm,0.4s,mb3.7,baz=154,slow=5.9,SNR=6.2
FINES FINESS Array B 87.50 359 P **P 04 39 54.0 +1.2**
comp=Z,0.5nm,0.6s,mb4.0,baz=158,slow=7.5,SNR=5.6

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*ROM **03** 04:43:45.3±0.3, 44.08N×8.74E, h7km, Md2.5/5, Ml2.1/3, Error ellipse: s-maj=6.0km s-min=3.2km az=1.0*
*NEIC **03** 04:43:46.9, 44.12N×8.74E, h2km, ML2.6(GEN), ML2.5(LDG), ML2.4(STR), After GEN.*
*CSEM **03** 04:43:46.3±0.1, 44.15N×8.77E, h10km, ML2.4/7, Error ellipse: s-maj=2.5km s-min=1.0km az=174.0*
*GEN **03** 04:43:46.9, 44.12N×8.74E, h2km, ML0.2*
*STR **03** 04:43:47.5±0.5, 44.40N×8.59E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **03** 04:43:47.8±0.2, 44.10N×8.72E, h10km, Ml2.5/9, Error ellipse: s-maj=3.5km s-min=2.1km az=144.0*
ISC 03 04:43:45.9±0.3**, 44.13N**±0.03×**8.73E**±0.02**, h10km, n65, σ1s03**/98**, 1D, Northern Italy**

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

QLNO Quiliano 0.34 305⇓*i*Pg **Pg 04 43 53.7 +0.7**
QLNO Sg **Sg 04 43 58.4 +0.8**
72nm,0.2s
FIN Finale Ligure 0.39 282 P **Pg 04 43 54.5 +0.7**
FIN S **Sg 04 43 60.0 +0.9**
FIN Finale Ligure 0.39 282 Pg **Pg 04 43 54.6 +0.8**
FIN Sg **Sg 04 44 00.0 +0.9**
71nm,0.2s
PCP Pian Castagno 0.43 342 P **Pg 04 43 55.2 +0.4**
PCP S **Sg 04 44 01.6 +0.9**
PCP Pian Castagno 0.43 342 P **Pg 04 43 55.2 +0.4**
ROB Roburent 0.64 285 P **Pb 04 43 58.8 +0.1**
ROB S **Sb 04 44 07.2 -0.3**
ROB Roburent 0.64 285 P **Pb 04 43 58.8 0.0**
ROB S **Sb 04 44 07.2 -0.3**
IMI Imperia 0.65 251 P **Pb 04 43 59.4 +0.6**
IMI S **Sb 04 44 08.2 +0.6**
IMI Imperia 0.65 251 Pg **Pg 04 43 59.4 +0.5**
IMI Sg **Sg 04 44 08.6 +1.0**
16nm,0.2s
MONE Monesi 0.70 266 P **Pb 04 44 00.8 +1.0**
MONE S **Sb 04 44 10.2 +0.9**
MONE Monesi 0.70 266 P **Pb 04 44 00.8 +0.9**
MONE S **Sb 04 44 10.2 +0.9**
NEGI Negi 0.79 250 P **Pb 04 44 02.1 +0.7**
NEGI S **Sb 04 44 12.6 +0.7**
NEGI Negi 0.79 250 P **Pb 04 44 02.1 +0.7**
NEGI S **Sb 04 44 12.6 +0.7**
BOB Bobbio (Coli) 0.82 39 Pg **Pg 04 44 03.3 +0.9**
CODM 0.85 72 P **Pb 04 44 02.9 +0.6**
CODM 0.85 72 P **Pb 04 44 02.9 +0.6**
SAOF Saorge 0.86 261 Pg **Pg 04 44 03.2 0.0**
SAOF Sg **Sg 04 44 15.3 +0.6**
ENR Entracque 0.95 276 P **Pb 04 44 05.2 +1.2**
ENR Entracque 0.95 276 P **Pb 04 44 05.2 +1.2**
AUTN L'Aution 0.95 262 Pg **Pg 04 44 04.7 -0.3**
AUTN Sg **Sg 04 44 18.5 +0.8**
SBF Sospel 0.97 255 *e*Pg **Pg 04 44 06.0 +0.6**
SBF *e*Sn **Sn 04 44 18.9 -0.5**
69nm,0.4s
STV2 Anna di Valdie 1.02 277 P **Pb 04 44 06.3 +1.1**
STV2 S **Sb 04 44 19.2 +0.8**
STV2 Anna di Valdie 1.02 277 P **Pb 04 44 06.3 +1.1**
STV2 S **Sb 04 44 19.2 +0.8**
STV Sta Anna Valdi 1.02 277 P **Pb 04 44 06.4 +1.2**
STV S **Sb 04 44 19.1 +0.7**
STV Sta Anna Valdi 1.02 277 P **Pb 04 44 06.4 +1.2**
STV S **Sb 04 44 19.1 +0.7**
VINC Vinca 1.02 89 P **Pb 04 44 06.1 +0.8**
VINC Vinca 1.02 89 P **Pb 04 44 06.1 +0.8**
VINC Vinca 1.02 89 P **Pb 04 44 06.1 +0.8**
GRAM 1.02 69 P **Pb 04 44 06.4 +1.1**
GRAM 1.02 69 P **Pb 04 44 06.4 +1.1**
REVF Revere 1.06 249 Pg **Pg 04 44 08.0 +0.8**
TOUF Mont Tournerai 1.07 264 Pg **Pg 04 44 07.2 -0.3**
TOUF Sg **Sg 04 44 21.5 -0.4**
MONC Moncucco Torin 1.11 329 Pg **Pg 04 44 08.9 +0.8**
48nm,0.5s
VALM 1.11 78 P **Pb 04 44 08.0 +1.2**
VALM 1.11 78 P **Pb 04 44 08.0 +1.2**
DOI San Damiano 1.13 290 Pg **Pg 04 44 08.1 -0.5**
49nm,0.2s
MVIF Mont Vial 1.16 259 Pg **Pg 04 44 09.6 +0.4**
MVIF Sg **Sg 04 44 25.7 +0.9**
SARO Sassorosso 1.20 87 P **Pb 04 44 08.8 +0.4**
SARO Sassorosso 1.20 87 P **Pb 04 44 08.8 +0.4**
SARO Sassorosso 1.20 87 P **Pb 04 44 08.8 +0.4**
BHB Bricherasio 1.27 305 P **Pb 04 44 10.4 +0.9**
BHB Bricherasio 1.27 305 P **Pb 04 44 10.4 +0.9**
MAIM 1.29 99 P **Pb 04 44 09.4 -0.4**
MAIM 1.29 99 P **Pb 04 44 09.4 -0.4**
BDI Bagni Di Lucca 1.35 92 Pg **Pg 04 44 10.8 -2.1**
3.0nm,0.1s
PII Pisa 1.36 107 Pg **Pg 04 44 10.8 -2.3**
7.0nm,0.2s
CALN Calern 1.38 255 Pg **Pg 04 44 14.1 +0.5**
CALN Sg **Sg 04 44 33.5 +1.4**
RSP Reno Superiore 1.47 315 P **Pn 04 44 13.5 +0.9**
MBDF Montbardon 1.53 294 *e*Pn **Pn 04 44 13.5 +0.1**
MBDF *e*Sn **Sn 04 44 32.5 -1.0**
MBDF *e*Sg **Sg 04 44 35.8 -1.0**
14nm,0.3s
TRAV 1.55 334 P **Pn 04 44 14.4 +0.6**
TRAV 1.55 334 P **Pn 04 44 14.4 +0.6**
ORX Oropa 1.60 341 P **Pn 04 44 14.5 +0.1**
ORX Oropa 1.60 341 P **Pn 04 44 14.5 +0.1**
FRF La Foret Royal 1.61 250 *e*Pn **Pn 04 44 13.6 -1.1**
FRF *e*Sn **Sn 04 44 33.5 -2.1**
7.4nm,0.2s
LMR La Mourre 1.80 245 *e*Pn **Pn 04 44 16.0 -1.3**
LMR *e*Sn **Sn 04 44 37.2 -3.1**
8.3nm,0.3s
LPG La Plagne 1.96 315 *e*Pn **Pn 04 44 20.1 +0.4**
LPG *e*P 04 44 22.4
LPG *e*Sn **Sn 04 44 43.6 -1.0**
4.1nm,0.4s
LPL La Plagne 1.99 315 *e*Pn **Pn 04 44 20.4 +0.4**
LPL *e*P 04 44 22.8
LPL *e*Sn **Sn 04 44 43.4 -1.8**
4.3nm,0.4s
TAVF Tavernes 2.00 256 Pg **Pg 04 44 25.4 -0.5**
TAVF Sg **Sg 04 44 51.6 -1.0**
ORIF Oris-en-Rattie 2.19 292 *e*Pn **Pn 04 44 22.7 -0.2**
ORIF *e*Sn **Sn 04 44 48.5 -1.8**
4.2nm,0.4s
SMRF Simiane la Rot 2.28 267 *e*Pn **Pn 04 44 23.5 -0.7**
SMRF *e*Sn **Sn 04 44 50.3 -2.3**
SMRF *e*Sg **Sg 04 44 59.1 -2.8**
6.8nm,0.4s
VIVF Saint-Julien-l 2.99 285 *e*Pn **Pn 04 44 33.4 -1.0**
VIVF *e*Sn **Sn 04 45 07.5 -3.2**
0.7nm,0.3s
LASF Ste Croix 3.51 271 *e*Pn **Pn 04 44 40.7 -1.1**
HINF Hinteralfeld 3.92 341 *e*Pn **Pn 04 44 46.2 -1.3**
CDF Champ du Feu 4.40 347 *e*Pn **Pn 04 44 53.0 -1.4**
BGF Bois d'Agland 4.81 302 *e*Pn **Pn 04 44 58.4 -1.8**

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*ATH **03** 05:01:20.0, 35.23N×29.91E, h10km, MD3.2/3*
*CSEM **03** 05:01:26.1±0.1, 35.72N×29.38E, h10km, MD3.4, Error ellipse: s-maj=2.6km s-min=1.7km az=87.0*
*ISK **03** 05:01:28.2, 35.70N×29.34E, h39km, MD3.4*
*HLW **03** 05:01:35.6, 35.27N×29.35E, h12km, Mb3.3*
ISC 03 05:01:27.9±0.8**, 35.68N**±0.03×**29.35E**±0.05**, h20km**±8km**, n24, σ0s97**/31**, 4C-3D, Eastern Mediterranean Sea**

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

KSL Kastellorizon 0.51 22⇑*i*PB **Pb 05 01 38.0 -0.1**
AKAS Kas 0.59 20 *i* P **Pb 05 01 40.3 +0.8**
AKAS *i* S **Sb 05 01 47.5 +0.1**
FETY Fethiye 0.98 347 PG **Pb 05 01 45.3 -0.8**
FETY SG **Sb 05 01 58.7 +0.1**
ARG Arkhangelos 1.13 299 *e*PN **Pn 05 01 53.0 +4.2**
ELL Elmali 1.16 23 PN **Pn 05 01 48.4 -0.8**
DALT Dalyan (Mudla) 1.23 332 PN **Pn 05 01 49.8 -0.5**
DALT SN **Sn 05 02 05.1 -1.3**
GOLH Golhisar 1.57 6 *i* P **Pn 05 01 55.9 +0.8**
GOLH *i* S **Sn 05 02 15.4 +0.5**
YER Yerkesik 1.69 330 PN **Pn 05 01 55.1 -1.7**
KARP Karpathos 1.79 267 *e*PN **Pn 05 01 59.5 +1.3**
DNZL Cakiroluk 2.02 353 *i* P **Pn 05 02 03.5 +1.9**
DNZL *i* S **Sn 05 02 28.4 +1.8**
DENT Denizli 2.09 353 PN **Pn 05 02 01.7 -0.8**
BODT Bodrum 2.15 311 PN **Pn 05 02 02.6 -0.8**
HDMB Hadim 2.84 62 *e*PN **Pn 05 02 12.6 -0.6**
LEF Lefka 2.95 100 *e*PN **Pn 05 02 14.6 -0.1**
ERMK Ermenek 3.04 70 *i* P **Pn 05 02 18.2 +2.1**
ERMK *i* S **Sn 05 02 51.9 -0.4**
IKL Isikli 3.56 80 *e*PN **Pn 05 02 22.3 -1.2**
DABA Dabaa 4.74 191⇑*e*P **Pn 05 02 41.1 +0.9**
HMAT Matruh 4.94 203 P **Pn 05 02 44.1 +1.0**
KOT Kottamia 6.10 159⇓*e*P **Pn 05 02 59.7 +0.3**
HNAT Natroun 6.12 170⇑*e*P **Pn 05 02 59.8 +0.1**
GLL Jalalah 6.40 161⇓*e*P **Pn 05 03 03.5 -0.2**
SWA1 7.09 207 P **Pn 05 03 13.4 0.0**
SWA1 S **Sn 05 04 25.7 -8.5**
SWA2 7.21 208⇓*e*P **Pn 05 03 14.8 -0.2**
HFRF Wahat Farafira 8.55 186⇑*e*P **P 05 03 32.1 -1.6**

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*NEIC **03** 05:38:09.3±5.5, 27.49S×176.82W, h9km±33km, mb4.9/7, Error ellipse: s-maj=18.5km s-min=11.3km az=102.0*
*IDC **03** 05:38:16.1±3.6, 27.61S×177.08W, h52km±31km, mb4.0/9, mb1 4.3/9, mb1mx4.2/13, mbtmp4.2/9, MS3.7/12, Ms1 3.7/12, ms1mx3.7/18, Error ellipse: s-maj=26.6km s-min=22.5km az=93.0*
ISC 03 05:38:12.2±0.5**, 27.93S**±0.06×**177.2W**±0.1**, h33km, n56, σ1s41**/44**, mb4.5**/15**, MS3.7**/12**, 3C, Kermadec Islands region**

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

RAO Raoul Island 1.46 206 P **P 05 38 44.7 +8.2**
4µm,0.3s,baz=95,slow=4.5,SNR=142
RAO S **S 05 39 06.4 +12**
9µm,0.3s,baz=66,slow=19,SNR=10.0
RAO LR LR 05 39 31.8
comp=Z,2µm,19.0s,baz=2.7,slow=42
RAO Raoul Island 1.46 206 *e*Pn **Pn 05 38 44.0 +7.3**
RAO *e*Sn **Sn 05 39 06.4 +12**
RAO LR LR 05 39 31.8
MXZ Matakaoa Point 10.32 200 PN **P 05 40 36.0 -5.1**
PUZ Puketiti 10.81 199 SN **S 05 42 46.4 -2.1**
MWZ Matawai 11.28 202 PN **P 05 40 49.2 -4.9**
URZ Urewera 11.35 203 P **P 05 40 49.9 -5.2**
0.9nm,0.3s,baz=80,slow=2.5,SNR=12
URZ S **S 05 43 01.4 -0.4**
6.1nm,0.3s,baz=225,slow=23,SNR=17
URZ Urewera 11.35 203 PN **P 05 40 49.8 -5.3**
URZ SN **S 05 43 01.6 -0.2**
TSZ Takapari Road 13.36 203 SN **S 05 43 44.7 -5.5**
MRZ Mangatainoka R 14.03 203 PN **P 05 41 27.0 -3.7**
MRZ SN Sx 05 43 57.9
AFI Afiamalu 14.84 21 *e*Pn **P 05 41 30.7 -11**
AFI *e*Sn Sx 05 43 52.3
SNZO South Karori 14.91 204 *e*Pn **P 05 41 43.0 +0.7**
SNZO *e*Sn Sx 05 44 17.2
TCW Tory Channel 14.98 206 PN **P 05 41 39.3 -3.9**
TUWZ Tuamarina 15.30 206 PN **P 05 41 42.1 -5.2**
DZM Mont Dzumac 15.93 288 P **P 05 42 05.3 +10**
0.2nm,0.3s,baz=68,slow=17,SNR=2.6
DZM LR LR 05 46 33.4
comp=Z,214nm,21.6s,baz=49,slow=31
THZ Tophouse 16.00 208 PN **P 05 41 52.9 -3.4**
THZ SN Sx 05 44 47.4
KHZ Kahutara 16.30 205 PN **P 05 41 56.4 -3.7**
RPZ Rata Peaks 18.38 208 P **P 05 42 24.7 -1.6**
1.3nm,0.3s,baz=254,slow=22,SNR=5.0
PPT Papeete 27.42 74 LR LR 05 52 51.6
comp=Z,95nm,18.1s,MS3.4,baz=254,slow=32
HNR Honiara 28.32 306 LR LR 05 53 15.4
comp=Z,116nm,21.4s,MS3.4,baz=130,slow=32
CTA Charters Tower 34.19 275 P **P 05 44 59.0 +2.2**
3.9nm,0.6s,mb4.5,baz=107,slow=13,SNR=6.5
CTAO Charters Tower 34.19 275 *e*P **P 05 44 58.8 +2.0**
WRAB Tennant Creek 44.76 269 *e*P **P 05 46 25.1 +0.5**
3.2nm,0.5s,mb4.4
WRA Warramunga Arr 44.77 269 P **P 05 46 25.6 +0.9**
2.6nm,0.6s,mb4.3,baz=108,slow=7.5,SNR=11
SBA Scott Base 50.54 184 *e*P **P 05 47 13.5 +4.4**
29nm,1.1s,mb5.1
VNDA Vanda 50.61 186 P **P 05 47 13.1 +3.5**
1.8nm,0.6s,mb4.2,baz=9.5,slow=6.9,SNR=9.0
VNDA LR LR 06 06 02.8
comp=Z,44nm,19.5s,MS3.5,baz=349,slow=33
VNDA Vanda 50.61 186 *e*P **P 05 47 12.5 +2.9**
8.9nm,1.3s,mb4.5
VNDA LR LR 06 06 02.8
CASY Casey 57.65 207 *e*P **P 05 48 01.0 -0.3**
4.7nm,0.5s,mb4.8
QSPA South Pole Qui 62.17 180⇑*i*P **P 05 48 35.0 +2.9**
6.2nm,0.6s,mb4.9
MAW Mawson 74.86 200 P **P 05 49 52.6 +1.9**
7.6nm,0.7s,mb4.7,baz=116,slow=6.3,SNR=14
MAW LR LR 06 21 34.6
comp=Z,98nm,19.5s,MS4.1,baz=237,slow=35
MJAR Matsushiro Arr 76.63 324 P **P 05 50 00.1 -1.4**
18nm,0.8s,mb5.0,baz=165,slow=6.7,SNR=43
MJAR LR LR 06 17 26.3
comp=Z,66nm,20.8s,MS3.9,baz=260,slow=31
MAT Matsushiro 76.63 324 *e*P **P 05 50 00.0 -1.5**
15nm,0.9s,mb4.9
MAT Matsushiro 76.63 324 P **P 05 49 59.7 -1.8**
SNAA Sanae 80.59 178 **P 05 50 23.0 +0.6**
VNA3 Neumayer Olymp 80.71 176⇑*i* **P 05 50 23.7 +0.7**
FX1 Attu Island--F 80.91 354 LR LR 06 21 59.5
comp=Z,3.1nm,21.7s,MS2.6,baz=172,slow=33

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA2	Neumayer--Watz	81.16	177	⇑i	P	05 50 26.9	+1.5
VNA1	Neumayer--Stat	81.38	176		P	05 50 26.1	-0.5
YSS	Yuzh-Sakhalins	82.84	334	eP	P	05 50 34.6	+0.1
	6.2nm,0.5s,mb4.9						
NVAR	Mina Array Bea	85.95	42	P	P	05 50 50.6	+0.3
	0.3nm,0.3s,mb4.0,baz=215,slow=7.2,SNR=4.7						
NVAR				LR	LR	06 20 35.6	
	comp=Z,58nm,20.5s,MS4.0,baz=135,slow=30						
TXAR	Lajitas Array	90.46	57	P	P	05 51 11.8	-0.3
	0.6nm,0.9s,mb3.9,baz=207,slow=5.6,SNR=5.1						
TXAR				LR	LR	06 24 19.6	
	comp=Z,34nm,18.8s,MS3.8,baz=295,slow=31						
TXAR	Lajitas Array	90.46	57	P	P	05 51 11.8	-0.3
TXAR				LR	LR	06 24 19.6	
BBB	Bella Bella	90.59	28	LR	LR	06 22 51.1	
	comp=Z,66nm,20.0s,MS4.1,baz=238,slow=30						
PDAR	Pinedale Array	93.86	43	P	P	05 51 26.3	-1.1
	0.4nm,0.6s,mb4.0,baz=225,slow=1.3,SNR=3.1						
PDAR				LR	LR	06 25 09.2	
	comp=Z,62nm,19.9s,MS4.1,baz=261,slow=30						
DLBC	Dease Lake	94.58	23	LR	LR	06 25 14.0	
	comp=Z,29nm,20.9s,MS3.7,baz=302,slow=30						
ILAR	Eielson Array	95.37	13	P	P	05 51 31.2	-2.5
	0.6nm,1.1s,mb4.0,baz=243,slow=3.2,SNR=4.1						
ILAR				LR	LR	06 25 01.4	
	comp=Z,28nm,21.7s,MS3.7,baz=359,slow=30						
MKAR	Makanchi Array	116.71	311	PKP	PKPdf	05 56 52.5	-0.6
	0.2nm,0.4s,baz=249,slow=1.8,SNR=3.9						
ARCES	ARCESS Array B	136.32	349	PKP	PKPdf	05 57 29.8	-0.1
	0.9nm,0.6s,slow=1.2,SNR=9.1						
KAF	Kangasniemi	142.44	342	epkp	PKPdf	05 57 36.4	-4.6
FINES	FINESS Array B	143.05	342	PKhKP		05 57 38.6	
	0.7nm,0.5s,baz=49,slow=2.8,SNR=15						
NB2	NORSAR Subarra	146.41	353	PKPabc	PKPdf	05 57 48.5	+0.6
	1.4nm,0.5s,baz=11,slow=2.9						
NOA	NORSAR Array B	146.41	353	PKPbc	PKPbc	05 57 48.9	-0.2
	1.3nm,0.7s,baz=16,slow=2.8,SNR=8.9						
MALT	Malatya	148.59	298	ePKPbc	PKPdf	05 57 57.8	+5.7
AKASG	Malin Array Be	149.71	326	PKPbc	PKPdf	05 57 57.7	+4.2
	1.5nm,0.3s,baz=44,slow=3.9,SNR=12						
AKASG	Malin Array Be	149.71	326	PKPbc	PKPdf	05 57 57.7	+4.2
BRTR	Keskin Array B	151.95	303	PKPbc	PKPdf	05 58 04.5	+7.2
	0.7nm,0.5s,baz=90,slow=3.7,SNR=3.7						
CLL	Collm	155.41	345	ePKP1	PKPdf	05 58 12.0	+10
CLL				ePKP2	PKPab	05 58 26.0	-3.6

*HLW **03** 06:01:53.7, 35.45N×27.51E, h25km, Mb3.3*
*ISK **03** 06:01:53.2, 34.77N×27.10E, h76km, MD3.8*
*ATH **03** 06:01:56.3, 35.14N×27.22E, h23km±1km, MD3.7/9*
*CSEM **03** 06:01:56.6±0.1, 35.01N×27.36E, h67km±1km, MD3.6, Error ellipse: s-maj=2.3km s-min=1.7km az=59.0*
*NEIC **03** 06:01:56.4, 35.13N×27.23E, h25km, MD3.6(ATH), After ATH.*
*IDC **03** 06:02:01.8±3.0, 35.47N×27.21E, h52km±34km, mb3.4/4, mb1 3.4/5, mb1mx3.2/21, mbtmp3.6/5, Error ellipse: s-maj=55.2km s-min=27.2km az=169.0*
ISC 03 06:01:55.9±0.3**, 35.02N**±0.02×**27.37E**±0.03**, h23km, n49, σ1ˢ36**/63**, mb3.5**/4**, 9C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.56	342	⇑iPb	Pb	06 02 05.0	-1.9
KARP				eSb	Sb	06 02 12.5	-1.9
KARP	Karpathos	0.56	342	⇑iPB	Pb	06 02 05.0	-1.9
KARP				eSB	Sb	06 02 11.6	-2.8
ARG	Arkhangelos	1.34	27	ePN	Pn	06 02 21.3	+1.8
ARG				eSB	Sb	06 02 39.6	+2.5
XRY	Khrisi	1.39	265	ePN	Pn	06 02 20.5	+0.4
NPS	Neapolis	1.46	280	ePN	Pn	06 02 21.5	+0.3
NPS				eSN	Sn	06 02 39.2	-0.6
NPS	Neapolis	1.46	280	ePn	Pn	06 02 22.2	+1.0
NISR	Nisiros	1.60	353	ePN	Pn	06 02 23.5	+0.3
DALT	Dalyan (Mudla)	2.03	30	PN	Pn	06 02 31.4	+2.1
DALT				SN	Sn	06 02 59.1	+5.0
BODT	Bodrum	2.04	359	PN	Pn	06 02 30.3	+0.8
BODT				SN	Sn	06 02 57.0	+2.5
BDRM	Kayabasi	2.04	2	i P	Pn	06 02 28.2	-1.3
BDRM				i S	Sn	06 03 02.0	+7.4
IDI	Anoyia	2.05	278	P	Pn	06 02 31.9	+2.3
	15nm,0.3s,baz=96,slow=10,SNR=23						
SANT	Santorini	2.06	311	eP	Pn	06 02 29.1	-0.7
SANT	Santorini	2.06	311	eP	Pn	06 02 29.1	-0.7
FETY	Fethiye	2.13	40	PN	Pn	06 02 32.8	+2.0
AKAS	Kas	2.19	56	i P	Pn	06 02 26.1	-5.5
MLSB	Milas	2.30	8	ePN	Pn	06 02 34.9	+1.8
APE	Apeiranthos	2.53	324	PN	Pn	06 02 34.9	-1.6
APE	Apeiranthos	2.53	324	ePN	Pn	06 02 35.8	-0.7
APE				eSN	Sn	06 03 05.4	-1.6
APE	Apeiranthos	2.53	324	ePn	Pn	06 02 36.1	-0.4
APE				eSn	Sn	06 03 05.3	-1.7
VAM	Vamos	2.63	279	ePN	Pn	06 02 37.5	-0.4
ELL	Elmali	2.69	49	PN	Pn	06 02 40.2	+1.5
SMG	Samos	2.72	351	ePN	Pn	06 02 38.7	-0.5
SMG				eSN	Sn	06 03 10.2	-1.5
GOLH	Golhisar	2.84	38	i P	Pn	06 02 40.5	-0.4
GOLH				i S	Sn	06 03 03.0	-12
DENT	Denizli	3.04	26	PN	Pn	06 02 45.5	+1.7
IZM	Izmir	3.38	359	ePN	Pn	06 02 49.7	+1.2
ISP	Isparta	3.79	41	eP	Pn	06 02 54.4	+0.1
ISP	Isparta	3.79	41	eP	Pn	06 02 54.4	+0.1
HMAT	Matruh	3.92	183	⇑eP	Pn	06 02 57.6	+1.4
HMAT				S	Sn	06 03 44.2	+2.1
SLUM		3.95	208	⇑eP	Pn	06 02 58.0	+1.3
VLI	Veliai	3.98	297	ePN	Pn	06 02 57.0	-0.1
DABA	Dabaa	4.07	169	⇑eP	Pn	06 02 59.8	+1.5
LEF	Lefka	4.53	87	ePN	Pn	06 03 04.3	-0.5
HDMB	Hadim	4.58	63	ePN	Pn	06 03 05.3	-0.3
ERMK	Ermenek	4.78	69	i P	Pn	06 03 09.2	+0.7
ERMK				i S	Sn	06 04 04.0	+0.1
IKL	Isikli	5.28	75	ePN	Pn	06 03 14.5	-1.0
SWA1		5.91	194	P	Pn	06 03 24.9	+0.6
SWA2		5.98	196	P	Pn	06 03 26.1	+0.7
GLL	Jalalah	6.55	145	⇑eP	Pn	06 03 32.0	-1.4
AMAG	Maghara	6.57	130	P	Pn	06 03 31.4	-2.3
BRTR	Keskin Array B	6.85	45	P	Pn	06 03 36.8	-0.9
	0.3nm,0.3s,baz=217,slow=12,SNR=13						
SUZ		6.92	137	P	Pn	06 03 36.5	-2.1
EIL	Elat	8.34	128	P	P	06 03 57.4	-1.0
	0.7nm,0.3s,baz=356,slow=13,SNR=10						
EIL				S	Sn	06 05 28.0	-4.8
	1.3nm,0.3s,baz=316,slow=26,SNR=6.1						
ASUT		8.40	154	⇑eP	P	06 03 58.2	-1.0
HKAT	Jabal Katrina	8.58	137	⇑eP	P	06 03 59.8	-2.0
HHRG	Al Ghardaqah	9.41	144	⇑eP	P	06 04 11.5	-1.7
FINES	FINESS Array B	26.46	359	P	P	06 07 29.2	-3.5
	0.4nm,0.6s,mb3.1,baz=162,slow=12,SNR=4.1						
ARCES	ARCESS Array B	34.59	359	P	P	06 08 41.1	-3.6
	0.5nm,0.8s,mb3.5,baz=164,slow=8.8,SNR=5.3						
MKAR	Makanchi Array	42.34	57	P	P	06 09 49.4	-0.2
	1.2nm,0.6s,mb3.7,baz=272,slow=7.1,SNR=12						
ZAL	Zalesovo	43.78	46	P	P	06 10 00.9	-0.3
	0.7nm,0.6s,mb3.6,baz=221,slow=19,SNR=3.0						

*KNET **03** 06:05:12.2±0.7, 41.11N×74.11E, h2km±2km, ml2.3, Error ellipse: s-maj=4.1km s-min=2.6km az=27.0*
*NNC **03** 06:05:14.6±5.5, 41.14N×74.03E, mpv2.6, Error ellipse: s-maj=44.2km s-min=19.2km az=178.0*
ISC 03 06:05:11.3±1.9**, 41.00N**±0.09×**74.0E**±0.1**, h2km, n9, σ1ˢ00**/14**, 4C-8D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	1.16	348	⇓P	Pb	06 05 32.5	-1.2
	16nm,0.2s,SNR=30						
AML				⇓S	Sb	06 05 49.0	-0.2
	80nm,0.3s						
UCH	Uchtor	1.28	17	P	Pb	06 05 34.9	-1.0
	8.0nm,0.1s,SNR=63						
UCH				⇓S	Sb	06 05 52.6	-0.2
	63nm,0.5s						
KZA	Kyzart	1.42	40	⇑P	Pb	06 05 36.8	-1.4
	20nm,0.2s,SNR=62						
KZA				⇓S	Sb	06 05 56.7	0.0
	23nm,0.1s						
AAK	Ala-Archa	1.67	12	⇑P	Pn	06 05 42.4	+0.5
	4.9nm,0.2s						
AAK				⇓S	Sb	06 06 04.8	+0.8
	13nm,0.2s						
AAK	Ala-Archa	1.67	12	⇓P	Pn	06 05 41.9	0.0
	2.6nm,0.3s						
AAK				⇓S	Sb	06 06 04.8	+0.8
	17nm,0.8s						
KBK	Karagaybulak	1.80	22	⇑P	Pn	06 05 44.5	+0.9
	8.4nm,0.1s,SNR=12						
ULHL	Ulahol	2.08	52	⇑P	Pn	06 05 47.9	+0.2
	11nm,0.1s,SNR=70						
USP	Ospenovka	2.29	9	⇓P	Pn	06 05 53.3	+2.5
	11nm,0.3s,SNR=12						
KK31	Karatay Array	3.36	310	Pn	Pn	06 06 11.3	+5.4
	0.7nm,0.3s,baz=126,slow=17,SNR=14						
KK31				Lg		06 06 57.2	
	9.9nm,0.7s,baz=129,slow=29,SNR=23						

*STR **03** 06:22:05.5±0.3, 43.49N×0.55W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **03** 06:22:05.5, 43.49N×0.55W, h5km, ML2.6(LDG), ML2.4(STR), MN1.9(MDD), After STR.*
*LDG **03** 06:22:06.2±0.1, 43.44N×0.56W, h10km, Md2.5/2, Ml2.6/9, Error ellipse: s-maj=1.3km s-min=0.8km az=122.0*
*CSEM **03** 06:22:06.1±0.1, 43.46N×0.56W, h5km, ML2.6/9, Error ellipse: s-maj=1.6km s-min=1.0km az=125.0*
MDD 03 06:22:06.0±0.4**, 43.46N**×**0.56W, h23km**±6km**, mbLg1.8**/17**, Error ellipse: s-maj=3.9km s-min=2.8km az=12.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORDF	Ordiarp	0.37	229	Pg	Pb	06 22 13.3	-0.6
ORDF				Sg	Sb	06 22 19.3	0.0
ORDF	Ordiarp	0.37	229	P	Pb	06 22 12.9	-1.0
ORDF				S	Sb	06 22 19.7	+0.4
ATE	Arette	0.38	196	P	Pb	06 22 13.1	-1.1
ATE				S	Sb	06 22 19.5	-0.3
REYF	Montagne du Re	0.40	163	Pg	Pb	06 22 13.7	-0.8
REYF				Sg	Sb	06 22 20.3	0.0
REYF	Montagne du Re	0.40	163	P	Pb	06 22 13.3	-1.2
REYF				S	Sb	06 22 20.3	+0.1
LARF	Larrau	0.52	217	Pg	Pb	06 22 15.9	-0.5
LARF				Sg	Sb	06 22 23.7	+0.1
LARF	Larrau	0.52	217	P	Pb	06 22 15.8	-0.7
LARF				S	Sb	06 22 23.8	+0.2
OSSF	Osses	0.55	249	P	Pb	06 22 16.3	-0.6
OSSF				S	Sb	06 22 24.7	+0.3
ETSF	Etsaut	0.56	180	ePg	Pb	06 22 16.2	-0.8
ETSF				eSg	Sb	06 22 23.8	-0.7
	39nm,0.3s						
SJPF	Ste Jean	0.60	235	ePg	Pb	06 22 17.3	-0.4
SJPF				eSg	Sb	06 22 25.1	-0.6
	21nm,0.2s						
LABF	Labassere	0.61	131	P	Pb	06 22 18.4	+0.4
FDAF	Les Forges d'A	0.64	181	P	Pb	06 22 17.8	-0.6
FDAF				S	Sb	06 22 26.6	-0.2
VIEF	Viey	0.71	143	Pg	Pb	06 22 19.7	+0.1
VIEF				Sg	Sb	06 22 29.6	+0.6
VIEF	Viey	0.71	143	P	Pb	06 22 19.4	-0.2
VIEF				S	Sb	06 22 29.2	+0.3
EALK	Alkurruntz	0.73	252	Pg	Pb	06 22 19.6	-0.4
	5.9nm,0.2s,SNR=23						
EALK				Lg		06 22 29.6	
	49nm,0.3s,SNR=6.1						
EPF	Esparros	0.78	123	ePn	Pn	06 22 21.3	-0.2
EPF				eSn	Sn	06 22 32.7	+0.2
	30nm,0.2s						
IPRE	Itoiz	0.87	222	Pg	Pb	06 22 22.6	+0.3
	1.6nm,0.1s,SNR=7.9						
IPRE				Lg		06 22 35.8	
	11nm,0.4s,SNR=7.9						
IPRE	Itoiz	0.87	222	Pg	Pb	06 22 22.6	+0.2
	1.6nm,0.1s,SNR=7.9						
EBIE	Bielsa	0.92	146	Pg	Pb	06 22 23.0	-0.3
	2.3nm,0.3s,SNR=18						
EBIE				Lg		06 22 37.2	
	7.1nm,0.3s,SNR=12						
EBIE	Bielsa	0.92	146	Pg	Pb	06 22 23.0	-0.2
	2.3nm,0.3s,SNR=18						
EGRA	Graus	1.41	153	Pg	Pn	06 22 33.4	+2.8
	0.7nm,0.3s,SNR=7.6						
EGRA				Lg		06 22 53.0	
	3.4nm,0.2s,SNR=8.2						
ECRI	Cripan	1.66	240	Pg	Pn	06 22 36.8	+2.7
	1.8nm,0.4s,SNR=7.9						
ECRI				Lg		06 22 59.0	
	3.5nm,0.4s,SNR=7.9						
ESAC	San Caprasio	1.73	178	Pg	Pn	06 22 38.6	+3.4
	5.6nm,0.1s,SNR=9.8						
ESAC				Lg		06 23 01.2	
	75nm,0.3s,SNR=8.1						
ESAC	San Caprasio	1.73	178	Pg	Pn	06 22 38.6	+3.4
	5.6nm,0.1s,SNR=9.8						
LFF	La Frestale	1.75	32	ePn	Pn	06 22 35.1	-0.4
LFF				ePg	Pn	06 22 39.2	+3.7
LFF				eSn	Sn	06 22 56.8	-0.4
LFF				eSg	Sn	06 23 01.9	+4.7
	17nm,0.4s						
MTLF	Montolieu	2.02	92	ePn	Pn	06 22 38.8	-0.6
MTLF				ePg	Pn	06 22 44.0	+4.6
MTLF				eSg	Sn	06 23 09.7	+5.5
	4.4nm,0.3s						
ELAN	Lanestosa	2.11	265	Pg	Pn	06 22 44.7	+4.1
	0.7nm,0.2s,SNR=7.0						
ELAN				Lg		06 23 14.2	
	2.6nm,0.2s,SNR=5.1						
ELAN	Lanestosa	2.11	265	Pg	Pn	06 22 44.7	+4.1
	0.7nm,0.2s,SNR=7.0						
EMIR	Miracle	2.17	134	Pg	Pn	06 22 46.8	+5.3
	0.5nm,0.2s,SNR=7.9						
EMIR				Lg		06 23 15.8	
	2.2nm,0.2s,SNR=7.9						
EMIR	Miracle	2.17	134	Pg	Pn	06 22 46.8	+5.3
	0.5nm,0.2s,SNR=7.9						
RJF	Les Rejaudoux	2.37	38	ePn	Pn	06 22 43.5	-0.8
RJF				ePg	Pn	06 22 50.2	+5.9
RJF				eSg	Sn	06 23 21.3	+8.3
	6.9nm,0.3s						
CAF	Calviac	2.39	51	ePn	Pn	06 22 43.8	-0.8
CAF				ePg	Pn	06 22 51.4	+6.8
CAF				eSn	Sn	06 23 11.5	-2.0
CAF				eSg	Sn	06 23 21.9	+8.4
	3.3nm,0.2s						
EPOB	Poblet	2.42	149	Pg	Pn	06 22 49.8	+4.7
	0.1nm,0.3s,SNR=7.9						
EPOB				Sn	Sn	06 23 15.3	+1.0
	0.8nm,0.3s,SNR=7.9						
EPOB				Lg		06 23 23.7	
	2.8nm,0.3s,SNR=7.9						
EPOB	Poblet	2.42	149	Pg	Pn	06 22 49.8	+4.7
	0.1nm,0.3s,SNR=7.9						
EPOB				Sn	Sn	06 23 15.3	+1.0
	SNR=7.9						
EMOS	Mosqueruela	3.09	179	Pn	Pn	06 22 55.3	+0.8
EMOS				Pg	Pn	06 23 03.5	+9.0
EMOS				Sn	Sn	06 23 31.9	+0.8
EMOS				Lg		06 23 46.4	
EMOS	Mosqueruela	3.09	179	Pn	Pn	06 22 55.0	+0.5
	0.2nm,0.2s,SNR=7.9						
EMOS				Pg	Pn	06 23 03.1	+8.5
	0.4nm,0.3s,SNR=7.9						
EMOS				Sn	Sn	06 23 31.5	+0.4
	0.8nm,0.4s,SNR=7.9						
EMOS				Lg		06 23 45.6	
	0.9nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	3.09	179	Pn	Pn	06 22 55.3	+0.8
	SNR=7.9						
EMOS	Mosqueruela	3.09	179	Pg	Pn	06 23 03.5	+9.0
	0.3nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	06 23 31.9	+0.8
	SNR=7.9						
MFF	Saint Martin d	3.16	5	ePn	Pn	06 22 54.9	-0.6
MFF				ePg	Pn	06 23 04.4	+8.9
MFF				eSg	Sn	06 23 46.1	+13
	2.5nm,0.3s						
LASF	Ste Croix	3.26	77	ePn	Pn	06 22 55.7	-1.2
LASF				eSg	Sn	06 23 48.8	+13
	0.9nm,0.3s						
TCF	Toulx Ste Croi	3.45	34	eSn	Sn	06 23 36.9	-3.3
TCF				eSg	Sn	06 23 55.2	+15
	5.1nm,0.4s						
BGF	Bois d'Agland	3.93	37	ePn	Pn	06 23 05.4	-1.1
BGF				eSg	Sn	06 24 10.3	+18
	16nm,0.4s						
QUIF	Quistinic	4.82	339	ePn	Pn	06 23 17.1	-2.0
SGMF	Saint Gilles	5.00	344	ePn	Pn	06 23 20.0	-1.6
FLN	La Foliniere	5.31	1	ePn	Pn	06 23 23.5	-2.5
MEZF	Maizieres J'vi	6.38	36	ePn	Pn	06 23 37.1	-4.0

WEL 03 06:41:39.1±0.7**, 35.34S**×**178.96E, h198km**±12km**, ML3.9**/12**, Error ellipse: s-maj=20.2km s-min=9.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.28	193	PN	P	06 42 20.3	-0.6
MXZ				SN	S	06 42 52.0	-1.1
PUZ	Puketiti	2.79	192	PN	P	06 42 26.4	-0.2
PUZ				SN	S	06 43 02.1	-1.2
MWZ	Matawai	3.20	201	PN	P	06 42 31.8	+0.2
MWZ				SN	S	06 43 11.3	-0.8
URZ	Urewera	3.27	206	PN	P	06 42 32.0	-0.5
URZ				SN	S	06 43 12.1	-1.5
KNZ	Kokohu	3.82	195	PN	P	06 42 38.1	-1.0
BKZ	Black Stump Fm	4.30	207	PN	P	06 42 42.2	-3.0
BKZ				SN	S	06 43 35.7	-0.6
HIZ	Hauiti	4.57	225	PN	P	06 42 48.0	-0.7
NGZ	Ngauruhoe	4.67	214	PN	P	06 42 51.1	+1.1
WNVZ	Wahianoa	4.80	213	PN	P	06 42 52.3	+0.7
PWZ	Pawanui	4.97	199	PN	P	06 42 51.8	-1.9
PWZ				SN	S	06 43 50.0	-1.6
VRZ	Vera Road	5.05	220	PN	P	06 42 53.3	-1.5
TSZ	Takapari Road	5.28	206	PN	P	06 42 55.6	-2.1
TSZ				SN	S	06 43 55.3	-3.5
MRZ	Mangatainoka R	5.95	206	PN	P	06 43 03.5	-2.9
KIW	Kapiti Island	6.37	209	PN	P	06 43 09.6	-2.3
MTW	Mount Morrison	6.42	204	PN	P	06 43 09.3	-3.2
TCW	Tory Channel	6.92	211	PN	P	06 43 15.3	-3.8
TUWZ	Tuamarina	7.25	211	PN	P	06 43 20.4	-2.9
NNZ	Nelson	7.33	215	PN	P	06 43 22.0	-2.4
THZ	Tophouse	7.98	215	PN	P	06 43 30.0	-2.9
KHZ	Kahutara	8.23	209	PN	P	06 43 33.1	-3.2

MAN 03 07:07:03.0, 19.25N×**121.16E, h33km, mb3.7, ML2.4, MS1.9, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	1.30	140	eP	P	07 07 25.0	0.0
APYP	Conner	1.38	177	eP	P	07 07 26.1	0.0
APYP				eS	S	07 07 43.1	-0.2
BBP	Basco	1.41	32	eP	P	07 07 26.4	-0.1
CVP	Callao Caves	1.66	158	eP	P	07 07 31.0	+0.9
CVP				i S	S	07 07 51.0	+0.6

*IDC **03** 07:12:32.2±3.3, 1.28N×97.10E, mb3.9/5, mb1 4.1/5, mb1mx3.7/19, mbtmp3.9/5, MS3.1/1, Ms1 3.3/1, ms1mx2.9/17, Error ellipse: s-maj=132.9km s-min=26.5km az=55.0*
*NEIC **03** 07:12:36.2±1.0, 1.23N×97.16E, h30km, mb4.1/1, Error ellipse: s-maj=25.5km s-min=14.9km az=59.0*
ISC 03 07:12:34.2±1.2**, 1.3N**±0.1×**97.1E**±0.2**, h30km, n9, σ0ˢ61**/8**, mb3.9**/6**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.33	41	eP	Pn	07 13 53.8	-0.2
CMAR	Chiang Mai Arr	17.19	6	LR	LR	07 23 19.4	
	comp=Z,62nm,18.5s,baz=200,slow=38						
SHL	Shillong	24.70	349	eP	P	07 17 54.2	-0.1
WRA	Warramunga Arr	42.12	122	P	P	07 20 26.8	+1.0
	0.4nm,0.4s,mb3.4,baz=304,slow=9.0,SNR=2.7						
WRAB	Tennant Creek	42.13	122	P	P	07 20 24.9	-1.0
	2.5nm,0.7s,mb4.0						
SONM	Songino Array	47.09	9	P	P	07 21 05.7	+0.4
	1.6nm,0.7s,mb4.0,baz=188,slow=8.7,SNR=7.5						
MKAR	Makanchi Array	47.17	346	P	P	07 21 06.5	+0.5
	0.6nm,0.5s,mb3.8,baz=157,slow=9.2,SNR=11						
ZAL	Zalesovo	53.49	351	P	P	07 21 54.1	+0.1
	1.9nm,0.5s,mb4.3,baz=273,slow=5.3,SNR=7.2						
BVAR	Borovoye Array	56.18	341	P	P	07 22 12.8	-0.8
	1.2nm,0.7s,mb4.0,baz=153,slow=9.9,SNR=4.9						

IDC 03 07:37:04.4±1.3**, 52.98N**×**88.05E, mb3.7**/2**, mb1 4.0**/4**, mb1mx3.6**/23**, mbtmp3.9**/4**, ML3.7**/2**, Error ellipse: s-maj=17.8km s-min=11.9km az=94.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAL	Zalesovo	2.16	298	Pn	Pn	07 37 43.9	+1.7
	27nm,0.3s,baz=355,slow=15,SNR=353						
ZAL				Lg		07 38 12.8	
	50nm,0.3s,baz=292,slow=3.8,SNR=21						
MKAR	Makanchi Array	7.22	213	Pn	Pn	07 38 52.6	-1.2
	6.4nm,0.3s,baz=33,slow=15,SNR=245						
MKAR				Sn	Sn	07 40 14.0	-3.5
	1.5nm,0.3s,baz=35,slow=25,SNR=16						
MKAR				Lg		07 40 50.8	
	1.0nm,0.3s,baz=24,slow=29,SNR=4.0						
SONM	Songino Array	12.78	106	Lg		07 43 48.6	
	baz=292,slow=31,SNR=3.6						
FINES	FINESS Array B	33.38	310	P	P	07 43 43.9	-2.2
	0.5nm,0.7s,baz=79,slow=9.7,SNR=7.6						
ILAR	Eielson Array	55.20	25	P	P	07 46 38.0	-2.6
	1.0nm,0.7s,baz=323,slow=4.5,SNR=18						

*PRU **03** 08:22:16.9, 50.32N×18.75E*
*NEIC **03** 08:22:16.8±1.1, 50.29N×18.82E, h5km, MG2.5(WAR), Error ellipse: s-maj=14.5km s-min=8.3km az=193.0*
WAR 03 08:22:16.5, 50.26N×**18.86E, h0km, ML2.5, Mining Induced, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.46	248	ePG	Pg	08 22 26.0	+0.3
RAC				eSG	Sg	08 22 33.0	+1.1
OJC	Ojcow	0.60	93	ePG	Pg	08 22 28.0	-0.6
OJC				eSG	Sg	08 22 37.0	+0.4
OKC	Ostrava-Krasne	0.62	228	ePG	Pg	08 22 28.4	-0.5
OKC				eSG	Sg	08 22 38.1	+0.8
LIKS	Likavka	1.22	172	ePN	Pn	08 22 40.6	-0.1
LIKS				eSN	Sn	08 22 57.2	-0.9
NIE	Niedzica	1.26	131	ePG	Pg	08 22 41.0	-0.7
NIE				eSG	Sg	08 22 58.0	-0.5
DPC	Dobruska-Polom	1.63	274	ePG	Pg	08 22 45.3	-3.7
DPC				eSG	Sg	08 23 06.5	-4.2
	12nm,0.3s						
KOLL	Kolacno	1.71	190	eP	Pn	08 22 50.2	+2.5
KOLL				eSn	Sn	08 23 11.2	+0.7
KOLL	Kolacno	1.71	190	e	Pn	08 22 50.2	+2.5
KOLL	Kolacno	1.71	190	eSN	Sn	08 23 11.2	+0.7
KSP	Ksiaz	1.74	291	ePg	Pg	08 22 48.8	-2.4
KSP				eSg	Sg	08 23 11.1	-3.3
KSP	Ksiaz	1.74	291	ePG	Pg	08 22 49.0	-2.2
KSP				eSG	Sg	08 23 11.0	-3.4
VYHS	Vyhne	1.77	180	ePN	Pn	08 22 48.0	-0.5
VYHS				eSN	Sn	08 23 09.9	-2.1
UPC	Upice	1.84	279	eSG	Sg	08 23 11.6	-6.1
KECS	Kecovo	2.07	148	ePN	Pn	08 22 53.5	+0.6
KECS				eSN	Sn	08 23 21.1	+1.4
CRVS	Cervenica-Dubn	2.17	128	ePN	Pn	08 22 57.1	+2.8
CRVS				eSN	Sn	08 23 24.9	+2.6
PRU	Pruhonice	2.79	266	eSG	Sg	08 23 42.6	-6.8
BRG	Berggiesshubel	3.19	283	P	Pn	08 23 18.0	+9.1
KHC	Kasperske Hory	3.61	254	ePG	Pg	08 23 20.0	-8.6
KHC				ex	x	08 23 27.5	
KHC				eSG	Sg	08 24 09.6	-7.1
CLL	Collm	3.86	288	eSG	Sg	08 24 20.0	-5.1
MOA	Molln	3.87	233	i	Pn	08 23 24.7	+6.3
MOA	Molln	3.87	233	i SG	Sg	08 24 19.5	-5.7
	0.4nm,0.2s						

*NEIC **03** 08:26:07.0, 19.50N×65.32W, h54km, MD3.5(RSPR), After RSPR.*
RSPR 03 08:26:07.0, 19.50N×**65.32W, h54km**±33km**, MD3.5**/8**, MD3.5**/8**, 9C, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STVI	Saint Thomas	1.19	163	⇑eP	P	08 26 26.1	-1.4
STVI				eS	S	08 26 41.0	-1.9
TBVI	Tortola	1.27	148	⇑eP	P	08 26 28.1	-0.8
TBVI				eS	S	08 26 44.0	-1.2
CBYP	Canovanas	1.32	203	eS	S	08 26 44.5	-1.9
MTP	Monte Pirata	1.41	189	⇑eP	P	08 26 29.2	-1.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MTP				eS	S	08 26 47.7	-0.9
HUMP	**Col San Antoni**	**1.44**	**201**	⇑eP	P	08 26 29.2	-2.1
HUMP				eS	S	08 26 47.3	-1.9
CPD	**Cerro la Pandu**	**1.56**	**201**	⇑eP	P	08 26 31.4	-1.5
CPD				eS	S	08 26 51.6	-0.5
SJG	**San Juan**	**1.59**	**210**	⇑eP	P	08 26 31.4	-1.9
SJG				eS	S	08 26 50.9	-1.9
PORP	**Portuguez**	**1.90**	**221**	⇑eP	P	08 26 36.8	-0.9
PORP				eS	S	08 26 58.5	-2.0
MGP	**Maguayo**	**2.24**	**229**	⇑eP	P	08 26 41.5	-1.0
CRPR	**Cabo Rojo, PR**	**2.25**	**229**	⇑eP	P	08 26 40.9	-1.8
CRPR				eS	S	08 27 08.5	-0.8

*NIED **03** 08:44:00, 39.50N×143.40E, h23^{km}, Mw4.0 Best double couple: $M_0$1.14×10^{15} NP1:ϕ_s27°, δ64°, λ104°. NP2:ϕ_s178°, δ29°, λ65°.*
*JMA **03** 08:44:50.2±0.2, 39.50N×143.44E, h33^{km}, M4.1*
*IDC **03** 08:44:53.6±1.4, 39.82N×142.62E, mb3.6/4, mb1 3.7/6, mb1mx3.5/23, mbtmp3.5/6, ML3.2/2, MS3.3/4, Ms1 3.4/4, ms1mx3.0/25, Error ellipse: s-maj=33.3km s-min=19.0km az=102.0*
ISC 03 08:44:50.5±1.1, **39.50N**±0.04×**143.46E**±0.09, **h36**^{km}±14^{km}, **n21**, σ**0^{s}75**/27, **mb3.5**/4, **MS3.5**/3, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.27**	**274**	P	**P**	**08 45 12.1**	**+0.1**
JTH	**Tanohata**	**1.31**	**290**	P	**P**	**08 45 12.6**	**0.0**
JTH				eS	**S**	**08 45 29.0**	**-0.1**
OFUJ	**Ofunato**	**1.45**	**254**	P	**P**	**08 45 14.7**	**0.0**
JOM	**Ohasama**	**1.68**	**270**	P	**P**	**08 45 18.5**	**+0.6**
JOM				eS	**S**	**08 45 39.1**	**+0.7**
JANG	**Nango**	**1.73**	**301**	P	**P**	**08 45 18.6**	**-0.1**
JMK	**Ichinoseki**	**1.82**	**253**	P	**P**	**08 45 20.3**	**+0.3**
JMK				eS	**S**	**08 45 42.3**	**+0.2**
JIO	**Ouri**	**1.95**	**238**	P	**P**	**08 45 21.6**	**-0.2**
JIO				eS	**S**	**08 45 44.7**	**-0.5**
JOT	**Ohata**	**2.63**	**316**	P	**P**	**08 45 31.5**	**0.0**
JOT				eS	**S**	**08 46 01.9**	**-0.7**
JMM	**Marumori**	**2.65**	**233**	P	**P**	**08 45 31.2**	**-0.6**
JMM				eS	**S**	**08 46 00.7**	**-2.3**
JNBK	**Urakawa-nobuka**	**2.83**	**349**	P	**P**	**08 45 35.2**	**+0.8**
JNBK				eS	**S**	**08 46 08.4**	**+0.8**
JCH	**Churui**	**3.11**	**359**	P	**P**	**08 45 38.6**	**+0.2**
JCH				eS	**S**	**08 46 13.3**	**-1.5**
ASAJ	**Asahikawa**	**4.66**	**352**	Pn	**P**	**08 46 00.3**	**0.0**
	1.0nm,0.3s,baz=209,slow=9.5,SNR=6.0						
ASAJ				Lg		08 47 11.5	
	1.3nm,0.3s,baz=118,slow=33,SNR=3.6						
MJAR	**Matsushiro Arr**	**5.09**	**236**	Pn	**P**	**08 46 06.8**	**+0.4**
	1.5nm,0.3s,baz=42,slow=11,SNR=35						
MAT	**Matsushiro**	**5.09**	**236**	P	**P**	**08 46 06.5**	**+0.1**
MAT				eS	**S**	**08 47 07.9**	**+3.1**
JHJ	**Hachijo jima 2**	**7.02**	**206**	LR	LR	08 48 60.0	
	comp=Z,52nm,20.9s,baz=45,slow=35						
SONM	**Songino Array**	**27.86**	**300**	P	**P**	**08 50 38.5**	**-0.1**
	1.0nm,0.8s,mb3.5,baz=97,slow=10.0,SNR=4.2						
SONM				LR	LR	09 02 25.9	
	comp=Z,128nm,18.1s,MS3.5,baz=248,slow=39						
ZAL	**Zalesovo**	**41.51**	**310**	LR	LR	09 11 24.9	
	comp=Z,63nm,18.1s,MS3.5,baz=107,slow=39						
CMAR	**Chiang Mai Arr**	**43.69**	**254**	LR	LR	09 13 07.0	
	comp=Z,40nm,18.8s,MS3.4,baz=225,slow=39						
MKAR	**Makanchi Array**	**44.22**	**300**	P	**P**	**08 52 58.0**	**+0.3**
	1.2nm,0.7s,mb3.7,baz=78,slow=11,SNR=8.6						
ILAR	**Eielson Array**	**46.55**	**34**	P	**P**	**08 53 22.9**	**+6.8**
	0.3nm,0.8s,mb3.3,baz=277,slow=7.3,SNR=3.2						
WRA	**Warramunga Arr**	**59.74**	**190**	P	**P**	**08 55 02.0**	**+7.8**
	0.3nm,0.5s,mb3.5,baz=7.7,slow=6.9,SNR=5.6						

*ISK **03** 09:09:06.3, 36.49N×28.40E, h29^{km}, MD3.1*
*CSEM **03** 09:09:07.0±0.2, 36.60N×28.46E, h40^{km}, MD3.1, Error ellipse: s-maj=5.8km s-min=4.9km az=126.0*
*ATH **03** 09:09:09.1, 36.26N×28.62E, h41^{km}, MD3.0/3*
ISC 03 09:09:08.9±0.5, **36.59N**±0.03×**28.40E**±0.04, **h32**^{km}±4^{km}, **n14**, σ**1^{s}01**/24, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.26**	**46**	PG	**Pb**	**09 09 15.7**	**-0.4**
DALT				SG	**Sb**	**09 09 20.8**	**-0.1**
ARG	**Arkhangelos**	**0.43**	**211**	eP	**Pb**	**09 09 19.3**	**+0.9**
ARG				eS	**Sb**	**09 09 26.5**	**+1.6**
FETY	**Fethiye**	**0.55**	**85**	PG	**Pb**	**09 09 18.7**	**-1.5**
FETY				SG	**Sb**	**09 09 27.3**	**-0.7**
YER	**Yerkesik**	**0.56**	**350**	PG	**Pb**	**09 09 19.6**	**-0.7**
YER				SG	**Sb**	**09 09 29.7**	**+1.6**
MLSB	**Milas**	**0.87**	**325**	ePG	**Pn**	**09 09 23.7**	**-1.3**
BDRM	**Kayabasi**	**0.90**	**302**	i P	**Pn**	**09 09 24.6**	**-0.9**
BDRM				i S	**Sn**	**09 09 37.5**	**0.0**
BODT	**Bodrum**	**1.00**	**299**	ePG	**Pn**	**09 09 25.3**	**-1.5**
AKAS	**Kas**	**1.03**	**110**	i P	**Pn**	**09 09 26.0**	**-1.4**
AKAS				i S	**Sn**	**09 09 42.2**	**+1.4**
GOLH	**Golhisar**	**1.13**	**55**	i P	**Pn**	**09 09 29.0**	**+0.2**
GOLH				i S	**Sn**	**09 09 44.9**	**+1.6**
AYDN	**Tasoluk**	**1.15**	**339**	i P	**Pn**	**09 09 29.6**	**+0.5**
AYDN				i S	**Sn**	**09 09 44.8**	**+1.0**
DNZL	**Cakiroluk**	**1.22**	**25**	i P	**Pn**	**09 09 30.2**	**+0.2**
DNZL				i S	**Sn**	**09 09 46.3**	**+0.9**
DENT	**Denizli**	**1.27**	**23**	ePN	**Pn**	**09 09 29.5**	**-1.2**
KARP	**Karpathos**	**1.45**	**224**	eP	**Pn**	**09 09 33.3**	**0.0**
KARP				eS	**Sn**	**09 09 51.2**	**-0.1**
SMG	**Samos**	**1.68**	**312**	eP	**Pn**	**09 09 42.5**	**+5.9**

MAN 03 09:29:04.6, 9.30N×125.53E, h6^{km}, mb4.0, ML2.8, MS2.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.34**	**164**	eP	Pg	09 29 11.5	0.0
BUTP				eS	Sg	09 29 18.9	+2.8
SCPH	**Surigao**	**0.48**	**356**	⇑eP	Pg	09 29 14.7	+0.4
SCPH				eS	Sg	09 29 22.5	+1.8
MSLP	**Maasin**	**1.06**	**322**	eP	Pb	09 29 22.7	-2.2
CGP	**Cagayan de Oro**	**1.17**	**224**	⇓i P	Pb	09 29 26.5	-0.4
CGP				i S	Sb	09 29 43.6	+1.4
BUKP	**Musuan**	**1.48**	**198**	eP	Pn	09 29 31.7	-0.2
BESP	**Borongan**	**2.29**	**358**	eP	Pn	09 29 43.1	-0.4
PAGZ	**Pagadian**	**2.56**	**236**	eP	Pn	09 29 48.5	+1.1

MEX 03 09:30:10.0±0.3, **17.23N**×**93.71W**, **h132**^{km}±31^{km}, **MD4.1**, **Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.13**	**263**	i P	P	09 30 33.0	-1.7
CMIG				i S	S	09 30 51.2	-2.2
CCIG	**Comitan**	**1.78**	**122**	i P	P	09 30 40.4	-1.4
CCIG				i S	S	09 31 03.9	-2.2
OXX	**Oaxaca**	**2.89**	**267**	eP	P	09 30 54.0	-2.0

*THE **03** 09:38:44.8, 38.77N×22.09E, h12^{km}, ML2.9*
*ATH **03** 09:38:45.9, 38.88N×22.17E, h16^{km}, MD3.1/3*
*CSEM **03** 09:38:46.5±0.5, 38.92N×22.17E, h2^{km}, ML2.9, Error ellipse: s-maj=12.2km s-min=5.6km az=165.0*
ISC 03 09:38:46.2±1.0, **38.95N**±0.05×**22.14E**±0.05, **h6**^{km}±7^{km}, **n14**, σ**1^{s}11**/19, **Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.16**	**63**	ePg	**Pg**	**09 38 51.1**	**+1.5**
EVR	**Evrytania**	**0.26**	**263**	ePB	**Pb**	**09 38 52.0**	**-0.9**
EVR				eSB	**Sb**	**09 38 56.5**	**-0.9**
XOR	**Xorichti**	**0.92**	**63**	ePg	**Pg**	**09 39 04.0**	**-0.4**
MEV	**Metsovon**	**1.10**	**320**	ePg	**Pg**	**09 39 06.2**	**-1.9**
MEV				eSg	**Sg**	**09 39 24.0**	**+1.3**
LIT	**Litokhoron**	**1.18**	**13**	ePg	**Pg**	**09 39 08.9**	**-0.9**
JAN	**Janina**	**1.23**	**306**	ePN	**Pn**	**09 39 10.0**	**+0.1**
JAN	**Janina**	**1.23**	**306**	ePb	**Pb**	**09 39 11.0**	**+1.6**
VLS	**Valsamata**	**1.44**	**238**	ePN	**Pn**	**09 39 13.1**	**+0.2**
VLS	**Valsamata**	**1.44**	**238**	ePb	**Pb**	**09 39 15.1**	**+2.0**
PAIG	**Paliouri**	**1.54**	**50**	ePb	**Pb**	**09 39 13.2**	**-1.6**
PAIG				eSb	**Sb**	**09 39 35.9**	**+1.4**
PAIG	**Paliouri**	**1.54**	**50**	ePb	**Pb**	**09 39 13.2**	**-1.6**
PAIG				eSb	**Sb**	**09 39 35.8**	**+1.3**
FNA	**Florina**	**1.93**	**342**	ePn	**Pn**	**09 39 19.4**	**-0.5**
FNA				eSn	**Sn**	**09 39 45.1**	**+0.4**
GRG	**Griva**	**2.02**	**6**	ePn	**Pn**	**09 39 20.6**	**-0.6**
SRS	**Serrai**	**2.44**	**27**	ePn	**Pn**	**09 39 26.7**	**-0.5**

*NIED **03** 09:48:00, 40.20N×141.90E, h65^{km}, Mw3.8 Best double couple: $M_0$5.96×10^{14} NP1:ϕ_s57°, δ85°, λ-153°. NP2: ϕ_s324°, δ63°, λ-6°.*
*MOS **03** 09:48:23.7±1.1, 40.34N×141.89E, h70^{km}, mb4.2/1, Error ellipse: s-maj=27.8km s-min=12.8km az=76.3*
*JMA **03** 09:48:25.3, 40.24N×141.87E, h61^{km}±1^{km}, M3.9 Broadband fault plane solution: P waves. NP1:ϕ_s325°, δ69°, λ-15°. NP2:ϕ_s60°, δ76°, λ-158°. Principal axes: T Plg5°, Azm191°; N Plg64°, Azm90°; P Plg25°, Azm284°;*
JMA Felt II J1.
*IDC **03** 09:48:25.4±2.8, 40.23N×142.16E, h82^{km}±24^{km}, mb3.6/7, mb1 3.7/9, mb1mx3.4/24, mbtmp3.9/9 Error ellipse: s-maj=41.1km s-min=19.4km az=84.0*
*NEIC **03** 09:48:26.8±4.7, 40.13N×142.00E, h93^{km}±30^{km}, mb4.1/1, Error ellipse: s-maj=63.8km s-min=13.0km az=73.0*
NEIC Recorded [2 JMA] in Aomori and Iwate Prefectures.
ISC 03 09:48:23.4±0.6, **40.24N**±0.04×**141.95E**±0.09, **h70**^{km}±4^{km}, **n24**, σ**0^{s}93**/34, **mb3.8**/8, **3C-3D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.31**	**192**	⇓P	**P**	**09 48 35.7**	**+1.0**
JTH				eS	**S**	**09 48 43.0**	**-0.1**
JANG	**Nango**	**0.36**	**292**	⇑P	**P**	**09 48 35.4**	**+0.3**
JANG				eS	**S**	**09 48 42.8**	**-0.9**
JKZ	**Kuzumaki**	**0.54**	**242**	⇑P	**P**	**09 48 37.5**	**+0.7**
JKZ				eS	**S**	**09 48 46.0**	**-0.5**
JTM	**Tenmabayashi**	**0.87**	**309**	⇓P	**P**	**09 48 40.7**	**+0.3**
JTM				eS	**S**	**09 48 52.2**	**-0.9**
JOM	**Ohasama**	**0.92**	**214**	⇑P	**P**	**09 48 41.8**	**+0.7**
JOM				eS	**S**	**09 48 53.9**	**-0.3**
JAH	**Hinai**	**1.01**	**268**	⇓P	**P**	**09 48 42.5**	**+0.3**
JAH				eS	**S**	**09 48 55.6**	**-0.7**
ASAJ	**Asahikawa**	**3.90**	**7**	P	**P**	**09 49 22.9**	**+0.5**
ASAJ				S	**S**	**09 50 11.1**	**+3.8**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax			
	comp=E,7.0nm,0.3s						
ASAJ	**Asahikawa**	**3.90**	**7**	P	**P**	**09 49 22.9**	**+0.5**
	comp=E,4.8nm,0.3s,baz=240,slow=7.7,SNR=27						
ASAJ				S	**S**	**09 50 11.1**	**+3.8**
	comp=E,7.4nm,0.3s,baz=59,slow=33,SNR=3.2						
MAT	**Matsushiro**	**4.72**	**220**	eP	**P**	**09 49 34.0**	**+0.3**
MAT	**Matsushiro**	**4.72**	**220**	P	**P**	**09 49 34.4**	**+0.7**
MAT				eS	**S**	**09 50 26.6**	**-1.1**
MJAR	**Matsushiro Arr**	**4.72**	**220**	P	**P**	**09 49 35.3**	**+1.5**
	comp=E,4.1nm,0.3s,baz=32,slow=12,SNR=62						
YUK	**Yuzh-Kuril'sk**	**4.78**	**36**	P	**P**	**09 49 33.4**	**-1.2**
YUK				eS	**S**	**09 50 25.0**	**-4.2**
YUK				pmax	pmax		
	comp=Z,190nm,0.5s						
YUK				pmax	pmax		
	comp=N,170nm,0.4s						
YUK				smax			
	comp=N,380nm,0.5s						
YUK				smax			
	comp=E,230nm,0.5s						
MDJ	**Mudanjiang**	**10.13**	**300**	eP	**P**	**09 50 50.7**	**+2.6**
	comp=E,12nm,0.8s						
SONM	**Songino Array**	**26.48**	**299**	P	**P**	**09 53 55.6**	**-0.1**
	comp=E,0.4nm,0.3s,mb3.3,baz=92,slow=9.1,SNR=3.8						
ZAL	**Zalesovo**	**40.14**	**310**	P	**P**	**09 55 54.2**	**+0.5**
	comp=E,1.1nm,0.5s,mb4.0,baz=18,slow=11,SNR=3.6						
ZAL	**Zalesovo**	**40.14**	**310**	P	**P**	**09 55 54.2**	**+0.5**
MKAR	**Makanchi Array**	**42.84**	**299**	P	**P**	**09 56 15.8**	**-0.1**
	comp=E,0.7nm,0.4s,mb3.8,baz=83,slow=9.8,SNR=11						
MKAR	**Makanchi Array**	**42.84**	**299**	P	**P**	**09 56 15.8**	**-0.1**
BVAR	**Borovoye Array**	**48.77**	**310**	P	**P**	**09 57 03.9**	**+1.1**
	comp=E,1.5nm,0.4s,mb4.2,baz=71,slow=8.2,SNR=12						
ZRNK	**Zerenda**	**49.60**	**311**	eP	**P**	**09 57 09.3**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**49.60**	**311**	eP	**P**	**09 57 09.3**	**+0.1**
	comp=Z,1.2nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**60.29**	**188**	P	**P**	**09 58 25.4**	**-1.6**
	comp=Z,0.5nm,0.4s,mb3.9,baz=6.3,slow=7.0,SNR=11						
FINES	**FINESS Array B**	**66.19**	**332**	P	**P**	**09 59 04.4**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.5,baz=14,slow=7.9,SNR=3.6						
AKASG	**Malin Array Be**	**72.03**	**322**	P	**P**	**09 59 40.0**	**-1.2**
	comp=Z,0.2nm,0.3s,mb3.4,baz=47,slow=6.0,SNR=4.2						

MAN 03 09:59:12.1, 7.33N×126.30E, h22^{km}, mb4.8, ML3.7, MS3.6, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.38**	**187**	eP	Pb	09 59 21.3	+1.1
MATI				eS	Sb	09 59 30.3	+4.7
KCP	**Kidapawan**	**1.24**	**255**	⇓eP	Pn	09 59 34.4	0.0
KCP				i S	Sb	09 59 54.5	+4.1
BUKP	**Musuan**	**1.35**	**294**	eP	Pn	09 59 36.0	+0.1
CGP	**Cagayan de Oro**	**1.95**	**305**	⇓eP	Pn	09 59 43.7	-0.8
SCPH	**Surigao**	**2.57**	**342**	⇑eP	Pn	09 59 53.5	+0.2
PAGZ	**Pagadian**	**2.94**	**280**	eP	Pn	09 59 57.5	-1.1

*BJI **03** 10:06:38.0, 11.90N×143.30E, h10^{km}, mB5.2, mb4.9, Ms4.6, Msz4.2*
*IDC **03** 10:06:38.4±0.9, 12.00N×143.50E, mb4.4/15, mb1 4.5/15, mb1mx4.4/24, mbtmp4.4/15, MS3.5/8, Ms1 3.5/8, ms1mx3.3/32, Error ellipse: s-maj=32.0km s-min=19.6km az=39.0*
*NEIC **03** 10:06:39.5±0.5, 11.86N×143.32E, h10^{km}, mb4.7/8, Error ellipse: s-maj=12.8km s-min=10.6km az=217.0*
ISC 03 10:06:39.4±4.3, **11.9N**±0.1×**143.27E**±0.08, **h17**^{km}±29^{km}, **n47**, σ**0^{s}93**/44, **mb4.5**/25, **MS3.5**/8, **1C**, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.33**	**42**	⇑ePn	**Pn**	**10 07 17.8**	**+0.2**
GUMO				eSn	**Sn**	**10 07 40.3**	**-5.8**
CBIJ	**Chichi jima**	**15.20**	**356**	LR	LR	10 15 45.8	
	comp=Z,97nm,19.1s,baz=128,slow=36						
JOW	**Kunigami**	**20.51**	**319**	P	**P**	**10 11 20.4**	**+0.9**
	11nm,0.4s,baz=224,slow=21,SNR=6.3						
JHJ	**Hachijo jima 2**	**21.41**	**352**	LR	LR	10 18 31.2	
	comp=Z,156nm,18.5s,MS3.4,baz=120,slow=34						
JNU	**Nakatsue**	**24.02**	**334**	P	**P**	**10 11 55.5**	**+1.1**
	6.8nm,0.7s,mb4.2,baz=288,slow=31,SNR=4.1						
JNU				LR	LR	10 19 46.3	
	comp=Z,75nm,19.7s,MS3.2,baz=175,slow=33						
MJAR	**Matsushiro Arr**	**25.00**	**350**	P	**P**	**10 12 02.2**	**-1.7**
	4.3nm,0.7s,mb4.1,baz=181,slow=12,SNR=16						
MJAR				LR	LR	10 20 54.7	
	comp=Z,118nm,18.8s,MS3.4,baz=205,slow=34						
MJAR	**Matsushiro Arr**	**25.00**	**350**	P	**P**	**10 12 02.2**	**-1.7**
MJAR				LR	LR	10 20 54.7	
MAT	**Matsushiro**	**25.00**	**350**	eP	**P**	**10 12 01.0**	**-2.9**
	12nm,1.0s,mb4.4						
MAT	**Matsushiro**	**25.00**	**350**	P	**P**	**10 12 00.5**	**-3.4**
MAT				eS	**S**	**10 16 31.2**	**+7.1**
CTA	**Charters Tower**	**31.87**	**175**	LR	LR	10 23 04.2	
	comp=Z,130nm,21.5s,MS3.6,baz=24,slow=31						
MDJ	**Mudanjiang**	**34.70**	**343**	P	**P**	**10 13 29.6**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,83nm,4.8s						
HHC	**Hu-ho-hao-te**	**40.11**	**322**	eP	**P**	**10 14 16.6**	**+0.7**
HHC				AP	pP	10 14 19.6	-1.5
HHC				XP	sP	10 14 23.2	0.0
HHC				PP	PP	10 15 55.3	+3.3
HHC				AMB	AMB		
	comp=Z,71nm,13.2s						
HHC				LR	LR		
	comp=N,152nm,17.9s						
HHC				LR	LR		
	comp=E,320nm,26.3s						
HHC				LR	LR		
	comp=Z,84nm,20.3s,MS3.6						
DZM	**Mont Dzumac**	**40.66**	**146**	P	**P**	**10 14 20.4**	**-0.2**
	comp=Z,10nm,0.9s,mb4.5,baz=302,slow=9.5,SNR=8.2						
CMAR	**Chiang Mai Arr**	**43.20**	**284**	P	**P**	**10 14 42.9**	**+1.4**
	comp=Z,1.1nm,0.6s,mb3.8,baz=85,slow=6.6,SNR=6.4						
STKA	**Stephens Creek**	**43.51**	**182**	P	**P**	**10 14 42.5**	**-1.4**
GTA	**Gaotai**	**47.19**	**313**	eP	**P**	**10 15 14.5**	**+1.4**
GTA				AP	pP	10 15 20.2	+1.9
GTA				XP	sP	10 15 22.8	+2.4
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
SONM	**Songino Array**	**47.28**	**327**	P	**P**	**10 15 14.2**	**+0.5**
	comp=Z,1.5nm,0.5s,mb4.1,baz=148,slow=7.3,SNR=9.3						
SONM				PcP	PcP	10 16 44.8	-0.4
	comp=Z,1.1nm,0.7s,baz=140,slow=4.8,SNR=3.7						
SONM				LR	LR	10 36 00.7	
	comp=Z,99nm,19.5s,MS3.8,baz=75,slow=37						
FX1	**Attu Island--F**	**47.42**	**24**	eP	**P**	**10 15 14.7**	**0.0**
WMQ	**Urumqi**	**57.22**	**315**	eP	**P**	**10 16 28.0**	**-0.1**
MKAR	**Makanchi Array**	**61.67**	**317**	P	**P**	**10 16 58.4**	**-0.3**
	comp=Z,3.1nm,0.9s,mb4.4,baz=98,slow=8.6,SNR=17						
MKAR	**Makanchi Array**	**61.67**	**317**	P	**P**	**10 16 58.4**	**-0.3**
ZAL	**Zalesovo**	**62.14**	**325**	P	**P**	**10 17 01.4**	**-0.5**
	comp=Z,1.7nm,0.3s,mb4.6,baz=356,slow=7.5,SNR=5.4						
IMA	**Indian Mountai**	**68.45**	**23**	eP	**P**	**10 17 41.7**	**-0.7**
BVAR	**Borovoye Array**	**70.32**	**322**	P	**P**	**10 17 53.8**	**-0.2**
	comp=Z,6.4nm,0.4s,mb4.9,baz=108,slow=7.1,SNR=65						
ILAR	**Eielson Array**	**70.80**	**25**	P	**P**	**10 17 54.4**	**-2.3**
	comp=Z,7.1nm,0.5s,mb4.8,baz=249,slow=5.9,SNR=183						
ZRNK	**Zerenda**	**71.15**	**322**	eP	**P**	**10 17 58.0**	**-1.0**
	comp=Z,75nm,0.7s,mb5.7						
INK	**Inuvik**	**76.56**	**22**	eP	**P**	**10 18 29.3**	**-0.8**
	comp=Z,5.7nm,0.9s,mb4.5						
YKA	**Yellowknife Ar**	**85.11**	**27**	P	**P**	**10 19 15.4**	**+0.1**
	comp=Z,1.0nm,0.6s,mb4.1,baz=284,slow=4.9,SNR=6.9						
YKA	**Yellowknife Ar**	**85.11**	**27**	P	**P**	**10 19 15.4**	**+0.1**
YBH	**Yreka Blue Hor**	**85.19**	**49**	eP	**P**	**10 19 17.6**	**+1.3**
NEW	**Newport**	**87.56**	**41**	eP	**P**	**10 19 27.9**	**+0.2**
	comp=Z,4.8nm,1.0s,mb4.7						
KEV	**Kevo**	**87.68**	**342**	ep	**P**	**10 19 28.4**	**+0.6**
WVOR	**Wild Horse Val**	**87.99**	**47**	eP	**P**	**10 19 30.4**	**+0.4**
	comp=Z,3.3nm,0.8s,mb4.6						
ARCES	**ARCESS Array B**	**88.24**	**342**	P	**P**	**10 19 30.5**	**-0.1**
	comp=Z,2.6nm,0.6s,mb4.6,baz=66,slow=6.9,SNR=31						
ARCES				LR	LR	11 05 02.9	
	comp=Z,39nm,19.7s,MS3.8,baz=327,slow=40						
ARE0	**ARCESS Array S**	**88.24**	**342**	eP	**P**	**10 19 30.6**	**+0.1**
BMO	**Blue Mountains**	**88.32**	**45**	eP	**P**	**10 19 31.4**	**0.0**
	comp=Z,5.3nm,1.1s,mb4.7						
NVAR	**Mina Array Bea**	**89.22**	**51**	P	**P**	**10 19 37.0**	**+1.0**
	comp=Z,4.1nm,0.7s,mb4.8,baz=267,slow=3.5,SNR=28						
MNV	**Mina**	**89.34**	**51**	eP	**P**	**10 19 37.3**	**+0.8**
	comp=Z,4.9nm,1.1s,mb4.8						
HLID	**Hailey**	**90.67**	**45**	eP	**P**	**10 19 42.6**	**0.0**
ELK	**Elko**	**90.89**	**48**	eP	**P**	**10 19 44.5**	**+0.8**
	comp=Z,3.9nm,1.2s,mb4.6						
KAF	**Kangasniemi**	**91.64**	**335**	ep	**P**	**10 19 44.4**	**-2.1**
FINES	**FINESS Array B**	**92.06**	**335**	P	**P**	**10 19 47.5**	**-1.0**
	comp=Z,1.8nm,0.8s,mb4.5,baz=59,slow=3.5,SNR=12						
NEN	**Nelson**	**92.63**	**53**	P	**P**	**10 19 52.6**	**+0.8**
PDAR	**Pinedale Array**	**94.29**	**45**	P	**P**	**10 19 59.4**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.9,baz=315,slow=1.3,SNR=3.2						
LAO	**LASA Array**	**95.06**	**40**	eP	**P**	**10 20 03.5**	**+0.8**
	comp=Z,8.1nm,1.1s,mb5.1						
NOA	**NORSAR Array B**	**98.10**	**339**	LR	LR	11 06 59.5	
	comp=Z,15nm,20.8s,MS3.5,baz=40,slow=37						
LPAZ	**La Paz**	**149.25**	**102**	ePKPbc	PKPdf	10 26 29.4	+1.9

*MOS **03** 10:09:30.0±1.1, 6.75S×130.27E, h74^{km}, mb5.1/12, Error ellipse: s-maj=19.0km s-min=8.1km az=108.8*
*BJI **03** 10:09:34.7, 6.69S×130.41E, h118^{km}, mB5.0, mb4.8*
*HRVD **03** 10:09:36.8±0.7, 6.72S×130.23E, h111^{km}±7^{km}, MW4.8/41, Centroid moment Tensor Solution. LP body waves: s4,c6; Mantle waves: s41,c59; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.95±.13; $M_{\theta\theta}$-1.67±.11; $M_{\phi\phi}$0.72±.16; $M_{r\theta}$-0.11±.09; $M_{\theta\phi}$0.57±.15; $M_{\phi r}$0.82±.11; Best double couple: $M_0$1.762×10^{16} NP1:ϕ_s68°, δ53°, λ33°. NP2:ϕ_s317°, δ64°, λ138°. Principal axes: T 1.691, Plg47°, Azm278°; N .146, Plg42°, Azm110°; P -1.832, Plg6°, Azm15°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **03** 10:09:36.7±3.0, 6.79S×130.28E, h118^{km}±26^{km}, mb4.2/13, mb1 4.2/13, mb1mx4.2/17, mbtmp4.5/13, MS3.5/3, Ms1 3.5/3, ms1mx3.2/25 Error ellipse: s-maj=26.4km s-min=11.4km az=76.0*
*NEIC **03** 10:09:36.8±0.9, 6.79S×130.30E, h122^{km}±8^{km}, mb5.0/21, Error ellipse: s-maj=8.4km s-min=4.7km az=66.0*
ISC 03 10:09:29.7±1.6, **6.80S**±0.05×**130.42E**±0.06, **h74**^{km}±15^{km}, **n113**, σ**0^{s}96**/87, **mb4.6**/42, **4C-3D**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.21**	**161**	⇓iP	**P**	**10 11 04.9**	**+4.3**
	2μm,0.6s						
KAKA				eS	**S**	**10 12 10.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**12.16**	**202**	P	**P**	**10 12 21.4**	**-0.4**
	63nm,0.3s,baz=22,slow=10,SNR=256						
FITZ				S	**S**	**10 14 26.8**	**-9.4**
	43nm,0.3s,baz=172,slow=21,SNR=12						
FITZ				LR	LR	10 17 27.4	
	comp=Z,223nm,19.6s,baz=36,slow=39						
WRAB	**Tennant Creek**	**13.60**	**164**	i P	**P**	**10 12 41.2**	**+0.3**
WRAB	**Tennant Creek**	**13.60**	**164**	ePn	**P**	**10 12 40.3**	**-0.6**
	324nm,0.9s						
WRAB				eSn	**S**	**10 15 02.4**	**-8.2**
WRA	**Warramunga Arr**	**13.61**	**164**	P	**P**	**10 12 41.1**	**+0.2**
	6.6nm,0.3s,baz=344,slow=13,SNR=74						
WRA				S	**S**	**10 15 03.5**	**-7.2**
	19nm,0.3s,baz=356,slow=23,SNR=13						
WB2	**Warramunga Arr**	**13.61**	**164**	⇑iP	**P**	**10 12 40.2**	**-0.8**
WB2				eS	**S**	**10 15 04.0**	**-6.8**
PMG	**Port Moresby**	**16.78**	**100**	eP	**P**	**10 13 29.5**	**+8.1**
PMG				pmax	pmax		
	comp=Z,60nm,0.9s						
PMG	**Port Moresby**	**16.78**	**100**	S	**S**	**10 16 24.0**	**-0.3**
	comp=Z,2.1nm,0.3s,baz=179,slow=22,SNR=11						
PMG				LR	LR	10 19 56.5	
	comp=Z,152nm,19.6s,baz=54,slow=37						
PMG	**Port Moresby**	**16.78**	**100**	eP	**P**	**10 13 29.5**	**+8.1**
	comp=Z,60nm,0.9s						
MBWA	**Marble Bar**	**17.63**	**215**	eP	**P**	**10 13 33.4**	**+1.4**
	comp=Z,35nm,0.5s						
MBWA				eS	**S**	**10 16 33.1**	**-10**
KKM	**Kota Kinabalu**	**19.07**	**312**	eP	**P**	**10 13 50.1**	**+1.2**
CTA	**Charters Tower**	**20.27**	**132**	P	**P**	**10 14 05.0**	**+3.4**
	comp=Z,4.8nm,0.7s,baz=327,slow=8.9,SNR=5.7						
CTAO	**Charters Tower**	**20.27**	**132**	eP	**P**	**10 14 04.8**	**+3.1**
KSM	**Kuching**	**21.68**	**292**	eP	**P**	**10 14 16.2**	**+0.2**
STKA	**Stephens Creek**	**27.05**	**159**	eP	**P**	**10 15 07.9**	**+0.7**
	comp=Z,4.9nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**27.05**	**159**	P	**P**	**10 15 08.1**	**+0.9**
	comp=Z,3.3nm,0.6s,mb4.0,baz=336,slow=9.8,SNR=6.5						
KLBR	**Kellerberrin**	**27.36**	**204**	eP	**P**	**10 15 10.8**	**+0.7**
	comp=Z,68nm,1.3s,mb5.0						
NWAO	**Narrogin (SRO)**	**28.74**	**204**	P	**P**	**10 15 22.9**	**+0.4**
	comp=Z,9.9nm,0.8s,mb4.5,baz=23,slow=9.6,SNR=6.4						
NWAO				LR	LR	10 28 35.2	
	comp=Z,134nm,20.6s,baz=282,slow=40						
NWAO	**Narrogin (SRO)**	**28.74**	**204**	eP	**P**	**10 15 22.8**	**+0.3**
KULM	**Kulim**	**32.04**	**291**	eP	**P**	**10 15 50.0**	**-1.8**
JOW	**Kunigami**	**33.49**	**357**	P	**P**	**10 16 05.9**	**+1.7**
	comp=Z,25nm,0.7s,mb5.2,baz=186,slow=11,SNR=6.0						
SSE	**Sheshan**	**38.70**	**347**	eP	**P**	**10 16 47.5**	**-0.6**
SSE				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.9						
SSE				AMB	AMB		
	comp=Z,19nm,3.5s						
SSE	**Sheshan**	**38.70**	**347**	eP	**P**	**10 16 47.5**	**-0.6**
	comp=Z,17nm,0.9s,mb4.9						
NANT	**Nan**	**38.80**	**311**	⇑P	**P**	**10 16 50.5**	**+1.5**
	comp=Z,488nm,0.4s						
JNU	**Nakatsue**	**39.70**	**1**	P	**P**	**10 16 57.4**	**+1.0**
	comp=Z,15nm,1.0s,mb4.8,baz=17,slow=11,SNR=4.7						
CM31	**Chiang Mai Arr**	**39.92**	**309**	eP	**P**	**10 16 58.4**	**0.0**
	comp=Z,16nm,1.1s,mb4.8						
CMAR	**Chiang Mai Arr**	**39.92**	**309**	P	**P**	**10 16 58.4**	**+0.1**
	comp=Z,8.9nm,0.8s,mb4.6,baz=138,slow=7.3,SNR=22						
CMAR				PcP	PcP	10 19 03.5	+0.3
	comp=Z,3.1nm,0.7s,baz=177,slow=2.8,SNR=8.0						
CMAR				ScP		10 22 40.0	
	comp=Z,1.6nm,0.8s,baz=133,slow=1.9,SNR=6.5						
CHG	**Chiang Mai**	**40.13**	**310**	⇑P	**P**	**10 17 00.3**	**+0.2**
	comp=Z,17nm,0.8s,mb4.9						
KMI	**Kunming**	**41.62**	**321**	P	**P**	**10 17 13.8**	**+1.4**
KMI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						

KMI	Kunming	41.62	321	P	P	10 17 13.8	+1.4
	comp=Z,11nm,0.8s,mb4.6						
MAT	Matsushiro	43.73	9	eP	P	10 17 29.0	-0.4
MAT				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
MAT	Matsushiro	43.73	9	eP	P	10 17 29.0	-0.4
	comp=Z,11nm,1.0s,mb4.5						
MAT	Matsushiro	43.73	9	P	P	10 17 28.7	-0.7
MJAR	Matsushiro Arr	43.73	9	P	P	10 17 28.9	-0.5
	comp=Z,6.8nm,0.8s,mb4.4,baz=191,slow=10,SNR=22						
MJAR	Matsushiro Arr	43.73	9	P	P	10 17 28.9	-0.5
XAN	Xi'an	45.43	335	P	P	10 17 42.2	-0.9
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
SHL	Shillong	49.37	312	eP	P	10 18 13.0	-1.0
HHC	Hu-ho-hao-te	50.48	341	eP	P	10 18 18.6	-3.7
HHC				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.6						
MDJ	Mudanjiang	51.18	359	P	P	10 18 29.4	+1.8
MDJ				AP	pP	10 18 59.5	+13
MDJ				XP	sP	10 19 14.2	+20
MDJ				PP	PP	10 20 27.8	+2.2
MDJ				S	S	10 25 39.4	+0.8
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,49nm,4.5s						
MDJ				LR	LR		
	comp=N,27nm,38.9s						
MDJ				LR	LR		
	comp=E,24nm,41.1s						
MDJ				LR	LR		
	comp=Z,27nm,34.6s						
LSA	Lhasa	52.34	316	P	P	10 18 37.4	+1.0
LSA	Lhasa	52.34	316	eP	P	10 18 36.8	+0.4
LSA				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.3						
LSA	Lhasa	52.34	316	eP	P	10 18 36.8	+0.4
	comp=Z,19nm,0.6s,mb5.3						
GTA	Gaotai	54.00	331	eP	P	10 18 48.5	-0.1
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.5						
YSS	Yuzh-Sakhalins	54.63	10	i P	P	10 18 53.4	+0.3
YSS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
YSS	Yuzh-Sakhalins	54.63	10	eP	P	10 18 53.1	0.0
	comp=Z,8.8nm,0.6s,mb5.0						
GUN	Gumba	55.13	311	eP	P	10 18 56.5	-0.5
	comp=Z,106nm,0.7s						
PKI	Pulchoki	55.31	310	eP	P	10 18 57.7	-0.6
	comp=Z,23nm,0.6s,mb5.4						
PKI	Pulchoki	55.31	310	eP	P	10 18 57.7	-0.6
PKI				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
KKN	Kakani	55.52	310	eP	P	10 18 59.0	-0.8
	comp=Z,40nm,0.7s,mb5.6						
KKN	Kakani	55.52	310	eP	P	10 18 59.0	-0.8
KKN				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3						
DMN	Daman	55.56	310	eP	P	10 18 59.5	-0.6
	comp=Z,54nm,0.9s,mb5.6						
GKN	Gorkha	56.12	310	eP	P	10 19 03.2	-0.9
	comp=Z,46nm,0.5s,mb5.8						
KOLN	Koldanda	56.79	309	eP	P	10 19 08.1	-0.8
	comp=Z,79nm,0.9s,mb5.8						
ULN	Ulaanbaatar	58.20	342	eP	P	10 19 19.3	+0.8
ULN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
ULN	Ulaanbaatar	58.20	342	eP	P	10 19 19.3	+0.8
	comp=Z,8.1nm,0.7s,mb4.9						
SONM	Songino Array	58.38	341	P	P	10 19 20.2	+0.4
	comp=Z,1.3nm,0.4s,mb4.3,baz=153,slow=8.3,SNR=7.1						
CASY	Casey	60.97	189	eP	P	10 19 36.8	-0.5
ZAK	Zakamensk	61.61	341	eP	P	10 19 41.5	-0.3
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.8						
WMQ	Urumqi	63.45	327	P	P	10 19 54.8	+0.6
WMQ				AP	pP	10 20 25.3	+12
WMQ				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,75nm,4.0s						
BOD	Bodaibo	65.77	350	eP	P	10 20 06.8	-2.1
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
MA2	Magadan	68.12	11	eP	P	10 20 23.9	+0.3
MA2				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
MKAR	Makanchi Array	68.28	327	P	P	10 20 24.9	+0.1
	comp=Z,2.6nm,0.3s,mb4.5,baz=120,slow=8.5,SNR=27						
MKAR	Makanchi Array	68.28	327	P	P	10 20 24.9	+0.1
YAK	Yakutsk	68.63	360	i P	P	10 20 27.2	+0.5
YAK				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.0						
YAK	Yakutsk	68.63	360	eP	P	10 20 26.3	-0.4
	comp=Z,17nm,0.5s,mb5.1						
AAK	Ala-Archa	70.65	320	i P	P	10 20 39.0	-0.4
AAK				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.6						
AAK	Ala-Archa	70.65	320	eP	P	10 20 38.9	-0.5
	comp=Z,4.8nm,0.8s,mb4.4						
SEY	Seymchan	71.53	10	eP	P	10 20 45.6	+1.2
SEY				e		10 23 19.6	
SEY				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
ZAL	Zalesovo	71.59	334	P	P	10 20 44.8	0.0
	comp=Z,1.6nm,0.4s,mb4.2,baz=318,slow=5.8,SNR=8.3						
VNDA	Vanda	72.60	173	P	P	10 20 50.5	+0.1
	comp=Z,1.8nm,0.8s,mb3.9,baz=322,slow=4.8,SNR=9.0						
VNDA	Vanda	72.60	173	P	P	10 20 50.5	+0.1
NVS	Novosibirsk	72.87	334	i P	P	10 20 50.2	-2.2
NVS				pmax	pmax		
	comp=Z,17nm,2.3s,mb4.5						
NVS				pmax	pmax		
	comp=E,7.0nm,1.7s						
MAW	Mawson	75.29	201	P	P	10 21 06.0	-0.1
	comp=E,3.4nm,0.7s,mb4.2,baz=72,slow=7.4,SNR=5.9						
BVAR	Borovoye Array	78.11	328	P	P	10 21 21.6	-0.6
	comp=E,2.4nm,0.7s,mb4.0,baz=146,slow=5.3,SNR=13						
TIXI	Tiksi	78.29	359	eP	P	10 21 21.2	-1.7
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
BILL	Bilibino	78.83	13⇓	eP	P	10 21 27.6	+1.7
BILL				i	pP	10 21 48.0	+2.0
BILL				e		10 24 29.9	
BILL				eS	S	10 31 17.8	+1.5
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
BILL				MLR	MLR		
	comp=Z,100nm,20.0s						
QSPA	South Pole Qui	83.18	180⇑	iP	P	10 21 48.7	+0.2
	comp=Z,5.5nm,0.8s,mb4.4						
SYO	Syowa Base	84.00	201	⇓P	P	10 21 53.3	+0.5
ILAR	Eielson Array	92.99	25	P	P	10 22 34.0	-1.8
	comp=Z,0.7nm,0.8s,mb4.1,baz=265,slow=3.9,SNR=6.0						
SNAA	Sanae	95.95	193	eP	P	10 22 49.9	+0.8
ARCES	ARCESS Array B	101.53	340	P	P	10 23 14.0	-0.4
	comp=Z,1.1nm,0.6s,baz=81,slow=5.7,SNR=9.4						
ARCES				PKiKP		10 27 38.2	
	comp=Z,1.2nm,1.0s,baz=90,slow=1.8,SNR=3.6						
FINES	FINESS Array B	102.78	331	PKiKP		10 27 40.4	
	comp=Z,0.4nm,0.4s,baz=135,slow=2.7,SNR=6.6						
GERES	GERESS Array B	112.53	320	PKiKP		10 27 58.5	
	comp=Z,0.8nm,0.5s,baz=106,slow=1.5,SNR=9.6						
CDF	Champ du Feu	116.70	321	ePKIKP	PKPdf	10 28 06.5	+0.9
HINF	Hinteralfeld	117.19	321	ePKIKP	PKPdf	10 28 06.9	+0.4
	comp=Z,3.1nm,0.5s						
HAU	Haudompre	117.43	321	ePKIKP	PKPdf	10 28 07.7	+0.7
BAIF	Baives	117.90	324	ePKIKP	PKPdf	10 28 08.3	+0.5
LPG	La Plagne	118.08	318	ePKIKP	PKPdf	10 28 09.5	+1.2
LPL	La Plagne	118.09	318	ePKIKP	PKPdf	10 28 09.5	+1.2
	comp=Z,4.8nm,0.5s						
CABF	La Chapelle	118.11	320	ePKIKP	PKPdf	10 28 09.5	+1.2
	comp=Z,8.0nm,0.6s						
SBF	Sospel	118.18	317	ePKIKP	PKPdf	10 28 09.1	+0.6
MBDF	Montbardon	118.34	318	ePKIKP	PKPdf	10 28 10.7	+1.9
FRF	La Foret Royal	118.82	316	ePKIKP	PKPdf	10 28 10.3	+0.5
	comp=Z,11nm,0.8s						
ORIF	Oris-en-Rattie	118.86	318	ePKIKP	PKPdf	10 28 10.1	+0.2
LOR	Lormes	119.27	321	ePKIKP	PKPdf	10 28 11.3	+0.7
SMRF	Simiane la Rot	119.40	317	ePKIKP	PKPdf	10 28 12.2	+1.3
	comp=Z,3.8nm,0.7s						
SMF	Signal de Mont	119.53	321	ePKIKP	PKPdf	10 28 10.7	-0.4
SSF	Saint Saulge	119.57	321	ePKIKP	PKPdf	10 28 12.1	+0.9
	comp=Z,2.7nm,0.5s						
VIVF	Saint-Julien-l	119.69	318	ePKIKP	PKPdf	10 28 11.6	+0.2
BGF	Bois d'Agland	120.19	321	ePKIKP	PKPdf	10 28 13.4	+1.0
	comp=Z,18nm,0.8s						
LASF	Ste Croix	120.52	318	ePKIKP	PKPdf	10 28 13.2	+0.1
TCF	Toulx Ste Croi	120.71	321	ePKIKP	PKPdf	10 28 14.4	+1.0
	comp=Z,4.2nm,0.8s						
MTLF	Montolieu	121.90	318	ePKIKP	PKPdf	10 28 16.5	+0.7
	comp=Z,6.6nm,0.9s						
MFF	Saint Martin d	122.03	322	ePKIKP	PKPdf	10 28 16.7	+0.8
	comp=Z,6.3nm,0.5s						
SGMF	Saint Gilles	122.67	324	ePKIKP	PKPdf	10 28 17.8	+0.7
EPF	Esparros	123.28	318	ePKIKP	PKPdf	10 28 19.4	+0.9
TXAR	Lajitas Array	124.47	59	PKP	PKPdf	10 28 22.8	+1.6
	comp=Z,0.3nm,0.8s,baz=225,slow=1.8,SNR=3.8						
DBIC	Dimbokro	135.59	273	PKP	PKPdf	10 28 44.4	+1.7
	comp=Z,5.5nm,0.8s,baz=45,slow=3.6,SNR=5.2						
LVC	Limon Verde	145.18	148	ePKP	PKPdf	10 29 02.4	+2.8
CPUP	Villa Florida	146.22	167	PKPbc	PKPbc	10 29 04.2	+1.7
	comp=Z,4.6nm,0.9s,baz=221,slow=2.1,SNR=11						
CPUP	Villa Florida	146.22	167	ePKPdf	PKPdf	10 29 03.8	+2.6
LPAZ	La Paz	150.62	141	PKPbc	PKPdf	10 29 17.1	+8.6
	comp=Z,3.5nm,0.5s,baz=101,slow=0.5,SNR=17						
LPAZ	La Paz	150.62	141	ePKPbc	PKPdf	10 29 16.7	+8.1

CASC 03 10:28:10.7±1.6, 11.10N×86.42W, h86^{km}±19^{km}, MD3.6, 3C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APON	Apoyo	0.89	23	eP	P	10 28 29.0	0.0
CRUN	El Crucero	0.89	8⇓	eP	P	10 28 29.3	+0.3
CONN	Concepcion	0.91	59⇓	eP	P	10 28 29.2	-0.1
TICN	Ticuantepe	0.95	11⇑	eP	P	10 28 30.3	+0.6
XAVN	Gruta Xavier	1.05	5⇓	eP	P	10 28 30.9	0.0
XAVN				eS	S	10 28 47.0	+0.8
MGAN	Managua	1.06	9	eP	P	10 28 29.6	-1.4
MGAN			⇓	eP		10 28 31.1	
MGAN				eS	S	10 28 47.2	+0.9
MOMJ	Momotombo	1.31	355	eP	P	10 28 34.4	+0.1
MOMJ				eS	S	10 28 51.4	-0.4
MIRN	Miramar	1.36	348⇑	eP	P	10 28 34.9	-0.1
LEON	Leon	1.39	341	eP	P	10 28 35.2	-0.1
LEON				eS	S	10 28 54.7	+1.1
CNGN	Cerro Negro	1.42	349⇑	eP	P	10 28 35.9	+0.1
CNGN				eS	S	10 28 56.0	+1.8
PYTN	Playitas	1.48	14	eP	P	10 28 36.6	+0.2
TEL3	Telica 3	1.52	344	eP	P	10 28 37.5	+0.4
TEL3				eS	S	10 28 56.3	-0.1

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*IDC **03** 10:34:31.2±5.2, 5.12S×145.87E, h48^{km}±50^{km}, mb3.9/3, mb1 4.0/5, mb1mx3.6/15, mbtmp4.0/5, ML3.3/2, Error ellipse: s-maj=47.7km s-min=30.9km az=140.0*

*NEIC **03** 10:34:35.9±2.5, 5.45S×146.21E, h92^{km}±21^{km}, mb4.5/1, Error ellipse: s-maj=25.9km s-min=15.4km az=163.0*

ISC 03 10:34:36.6±3.4, 5.7S±0.2×146.3E±0.1, h109^{km}±32^{km}, n11, σ0ˢ92/12, mb3.9/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.82	167	P	P	10 35 35.3	+0.7
	2.2nm,0.3s,baz=318,slow=16,SNR=8.5						
PMG				S	S	10 36 18.2	-0.5
	4.1nm,0.3s,baz=122,slow=22,SNR=8.1						
PMG	Port Moresby	3.82	167	eP	P	10 35 35.4	+0.8
PMG				S	S	10 36 18.2	-0.5
KAKA	Kakadu	15.34	242	eP	P	10 38 09.0	+0.7
	16nm,0.5s						
WRAB	Tennant Creek	18.31	218	eP	P	10 38 43.8	-0.9
WB2	Warramunga Arr	18.32	218	eP	P	10 38 44.0	-0.8
WRA	Warramunga Arr	18.33	218	P	P	10 38 44.1	-0.8
	0.3nm,0.3s,baz=33,slow=11,SNR=47						
FITZ	Fitzroy Crossi	23.63	237	P	P	10 39 39.4	+0.7
	14nm,0.7s,mb4.4,baz=45,slow=7.3,SNR=14						
STKA	Stephens Creek	26.44	189	P	P	10 40 06.9	+1.8
	0.6nm,0.4s,mb3.3,baz=11,slow=10,SNR=3.8						
STKA	Stephens Creek	26.44	189	eP	P	10 40 07.1	+2.0
ILAR	Eielson Array	85.47	23	P	P	10 47 02.2	-0.6
	0.8nm,0.6s,mb3.8,baz=263,slow=5.3,SNR=14						
SIV	San Ignacio	145.42	129	PKPbc	PKPbc	10 54 04.8	+1.6
	1.5nm,0.6s,baz=246,slow=4.0,SNR=3.1						

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*MOS **03** 10:46:26.3±2.5, 43.07N×46.19E, h8^{km}, mb4.3/1, Error ellipse: s-maj=15.4km s-min=10.0km az=44.8*

*TIF **03** 10:46:28.5, 43.27N×46.36E, h8^{km}±3^{km}*

*NNC **03** 10:46:44.9±4.6, 43.86N×48.21E, Error ellipse: s-maj=44.3km s-min=34.8km az=117.0*

ISC 03 10:46:26.7±1.0, 43.43N±0.04×46.45E±0.06, h2^{km}±8^{km}, n21, σ1ˢ21/36, 6C-7D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRNR	Karanay	0.69	151⇓	iPG	Pg	10 46 40.0	-0.5
KRNR				i S	Sg	10 46 50.0	+0.3
KRNR				pmax	pmax		
	comp=Z,199nm,0.2s						
UNCR	Uncukul	0.76	160⇓	iPG	Pg	10 46 39.4	-2.5
UNCR				eS	Sg	10 46 48.4	-3.6
BUJR	Buynaksk	0.77	141	i PG	Pg	10 46 43.5	+1.3
BUJR				i S	Sg	10 46 55.5	+3.0
BUJR				pmax	pmax		
	comp=Z,414nm,0.1s						
BTLR	Botlikh	0.78	192⇓	iPG	Pg	10 46 37.0	-5.4
BTLR				eS	Sg	10 46 45.3	-7.5
BTLR				pmax	pmax		
	comp=Z,702nm,0.4s						
MAK	Makhachkala	0.90	121	ePG	Pg	10 46 49.7	+5.0
MAK				i		10 47 04.2	
MAK				pmax	pmax		
	comp=N,481nm,0.3s						
MAK				pmax	pmax		
	comp=E,740nm,0.3s						
MAK				pmax	pmax		
	comp=Z,370nm,0.3s						
MAK				smax			
	comp=N,6μm,0.2s						
MAK				smax			
	comp=E,6μm,0.2s						
XNZR	Khunzakh	0.91	168⇑	iPG	Pg	10 46 44.0	-0.8
XNZR				eS	Sb	10 46 55.5	-1.7
XNZR				pmax	pmax		
	comp=Z,399nm,0.2s						
MNSR	Manas	1.18	128⇓	iPG	Pg	10 46 50.8	+0.5
MNSR				eS	Sb	10 47 08.8	+3.7
MNSR				pmax	pmax		
	comp=Z,305nm,0.2s						
DUS	Dusheti	1.86	224	P	Pn	10 47 01.1	+1.2
ZEI	Tsey	1.98	251	ePN	Pn	10 46 59.5	-2.2
ZEI				e		10 47 25.5	
ZEI				pmax	pmax		
	comp=Z,18nm,0.1s						
ZEI				smax			
	comp=N,313nm,0.2s						
TI2	Plekhanov	2.11	217⇑	iPN	Pn	10 47 04.1	+0.6
TBLG	Delisi	2.12	217	P	Pn	10 47 04.4	+0.8
TBLG				S	Sn	10 47 30.3	-0.5
MTA	Mtatsminda	2.12	216	P	Pn	10 47 03.9	+0.2
MTA				S	Sn	10 47 30.0	-1.0
DGRG	David-gareji	2.13	202	P	Pn	10 47 05.3	+1.5
DGRG				S	Sn	10 47 31.6	+0.4
GOR	Gori	2.25	231	P	Pn	10 47 06.3	+0.7
GOR				S	Sn	10 47 34.5	+0.3
ONI	Oni	2.36	250	P	Pn	10 47 06.6	-0.4
ONI				S	Sn	10 47 38.1	+1.1
KIV	Kislovodsk	2.78	282	ePN	Pn	10 47 12.3	-0.8
KIV				pmax	pmax		
	comp=Z,40nm,0.9s						
KIV				MLR	MLR		
	comp=N,82nm,14.0s						
KIV				MLR	MLR		
	comp=E,43nm,14.0s						
KIV				MLR	MLR		
	comp=Z,55nm,14.0s						
AB31	Akbulak array	10.99	53	Pn	P	10 49 08.0	-0.1
	comp=Z,1.1nm,0.5s,baz=244,slow=12,SNR=34						
AB31				⇑Sn	S	10 50 59.6	-13
	comp=Z,8.3nm,0.6s						
KK31	Karatay Array	17.52	83	⇓Pn	P	10 50 35.8	+2.2
	comp=Z,0.5nm,0.5s,baz=272,slow=17,SNR=5.3						
KK31				⇑Sn	S	10 53 39.7	-7.9
	comp=Z,2.2nm,0.7s,baz=273,slow=25,SNR=5.9						
ZRNK	Zerenda	17.73	50	⇓Pn	P	10 50 34.6	-1.6
	comp=Z,3.8nm,0.7s						
ZRNK				⇑Sn	S	10 53 45.0	-7.4
	comp=Z,2.7nm,0.8s						
VOSK	Vostochnaya	18.76	52	⇑Pn	P	10 50 48.3	-0.7
	comp=Z,2.3nm,0.7s						
VOSK				⇓Sn	S	10 54 03.9	-12
	comp=Z,2.4nm,0.9s						
KAF	Kangasniemi	22.16	335	ep	P	10 51 28.6	+3.3

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*ATH **03** 10:49:15.9, 36.03N×27.03E, h23^{km}±4^{km}, MD3.3/4*

*CSEM **03** 10:49:15.9±0.2, 36.02N×27.03E, h8^{km}±1^{km}, MD3.3, Error ellipse: s-maj=5.0km s-min=4.3km az=148.0*

*NEIC **03** 10:49:16.1, 35.99N×27.06E, h28^{km}, MD3.3(ATH), After ATH.*

*ISK **03** 10:49:16.9, 35.89N×26.91E, h35^{km}, MD3.3*

ISC 03 10:49:15.6±1.8, 35.99N±0.04×26.99E±0.04, h2^{km}±13^{km}, n19, σ1ˢ14/30, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	Karpathos	0.46	162	ePB	Pb	10 49 26.3	+0.3
KARP				eSB	Sb	10 49 33.1	0.0
KARP	Karpathos	0.46	162	ePb	Pb	10 49 26.2	+0.2
KARP				eSb	Sb	10 49 32.4	-0.7
ARG	Arkhangelos	0.95	76	ePN	Pn	10 49 34.0	-1.7
ARG				eSN	Sn	10 49 46.5	-3.5
ARG	Arkhangelos	0.95	76	ePn	Pn	10 49 34.3	-1.4
ARG				eSn	Sn	10 49 46.2	-3.8
BODT	Bodrum	1.10	13	PN	Pn	10 49 38.9	+1.0
BODT				SN	Sn	10 49 53.3	-0.6
SANT	Santorini	1.30	288	eP	Pb	10 49 40.2	-0.2
SANT				eS	Sb	10 49 58.6	+1.2
SANT	Santorini	1.30	288	eP	Pb	10 49 40.2	-0.2
SANT				eS	Sb	10 49 58.6	+1.3
NPS	Neapolis	1.34	238	ePN	Pn	10 49 41.8	+0.5
NPS				eSN	Sn	10 50 00.0	+0.2
NPS	Neapolis	1.34	238	ePn	Pn	10 49 41.8	+0.5
NPS				eSn	Sn	10 49 59.0	-0.8
MLSB	Milas	1.45	26	ePN	Pn	10 49 43.8	+0.9
DALT	Dalyan (Mudla)	1.54	59	ePN	Pn	10 49 43.7	-0.5
YER	Yerkesik	1.55	42	ePN	Pn	10 49 44.5	+0.2
APE	Apeiranthos	1.60	313	ePN	Pn	10 49 43.2	-1.8
APE	Apeiranthos	1.60	313	ePN	Pn	10 49 44.6	-0.4
APE	Apeiranthos	1.60	313	ePb	Pb	10 49 44.7	-0.8
SMG	Samos	1.72	356	ePN	Pn	10 49 45.7	-1.1
FETY	Fethiye	1.81	68	ePN	Pn	10 49 47.5	-0.5
AKAS	Kas	2.13	83	i P	Pn	10 49 53.4	+0.8
AKAS				i S	Sn	10 50 22.4	+2.3
GOLH	Golhisar	2.42	58	i P	Pn	10 49 58.4	+1.7
GOLH				i S	Sn	10 50 29.9	+2.6

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*IDC **03** 10:54:08.9±2.3, 35.70N×70.55E, mb3.6/3, mb1 3.8/4, mb1mx3.4/21, mbtmp3.6/4, Error ellipse: s-maj=74.8km s-min=33.4km az=66.0*

*NNC **03** 10:54:19.3±8.9, 36.40N×70.33E, mpv3.8, Error ellipse: s-maj=80.8km s-min=69.3km az=158.0*

ISC 03 10:54:17.1±1.6, 35.99N±0.06×70.7E±0.2, h70^{km}±19^{km}, n13, σ1ˢ20/20, mb3.3/2, 6C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	Thein Dam	5.44	129	eP	P	10 55 40.8	+3.4
THN				eS	S	10 56 41.8	+2.4
THN	Thein Dam	5.44	129	eP	P	10 55 40.8	+3.4
THN				eS	S	10 56 41.8	+2.4
KK31	Karatay Array	7.11	359	⇑P	P	10 56 02.2	+1.7
	2.8nm,0.3s,baz=177,slow=12,SNR=72						
KK31				⇑S	S	10 57 18.2	-2.3
	11nm,0.4s						
SMLA	Simla	7.23	130⇑	iP	P	10 56 01.8	-0.5
SMLA				i		10 57 15.4	
SMLA	Simla	7.23	130⇑	iP	P	10 56 01.8	-0.5
SMLA				i S	S	10 57 15.4	-8.2
AAK	Ala-Archa	7.25	23	P	P	10 56 01.6	-0.9
	3.8nm,0.6s						
AAK				⇓S	S	10 57 24.2	+0.3
	8.9nm,0.6s						
KHET	Khetri	8.99	150	eP	P	10 56 26.6	+0.4
KHET				eS	S	10 58 00.9	-6.0
KHET				AML	AML	10 58 02.2	
	comp=E,14nm,0.1s						
KHET				AML	AML	10 58 03.0	
	comp=N,11nm,0.2s						
SONA	Sohna	9.41	143	eS	S	10 58 15.1	-2.1
AB31	Akbulak array	15.43	333	⇑P	P	10 57 51.1	-0.5
	comp=N,2.5nm,0.3s,baz=155,slow=13,SNR=81						
AB31				⇑S	S	11 00 31.2	-9.5
	comp=N,0.5nm,0.3s,baz=152,slow=23,SNR=7.6						
BVAR	Borovoye Array	17.03	359	P	P	10 58 12.5	+0.8
	comp=N,0.3nm,0.3s,baz=173,slow=10,SNR=5.4						
ZAL	Zalesovo	20.45	24	P	P	10 58 51.2	+0.3
	comp=N,1.5nm,0.4s,baz=242,slow=6.5,SNR=4.3						
ARCES	ARCESS Array B	41.53	338	P	P	11 01 59.1	+0.6
	comp=N,0.9nm,0.8s,mb3.5,baz=108,slow=7.7,SNR=7.6						
WRA	Warramunga Arr	81.91	122	P	P	11 06 30.4	-0.2
	comp=N,0.1nm,0.4s,mb3.0,baz=324,slow=4.8,SNR=4.6						

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*MOS **03** 11:21:25.1±2.1, 43.37N×45.73E, h2^{km}, mb3.7/1, Error ellipse: s-maj=82.0km s-min=18.1km az=127.1*

*TIF **03** 11:21:34.6, 43.19N×46.29E, h7^{km}±4^{km}*

*NNC **03** 11:21:45.0±1.2, 44.09N×46.94E, Error ellipse: s-maj=407.9km s-min=13.6km az=145.0*

ISC 03 11:21:34.5±1.0, 43.37N±0.05×46.57E±0.06, h7^{km}, n11, σ1ˢ30/19, 3C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRNR	Karanay	0.59	155	ePG	Pg	11 21 46.0	-0.4
KRNR				eS	Sg	11 21 56.0	+1.7
BUJR	Buynaksk	0.67	144	ePG	Pg	11 21 50.0	+2.1
BUJR				eS	Sg	11 22 02.0	+5.1
UNCR	Uncukul	0.67	166	i PG	Pg	11 21 45.3	-2.7
UNCR				i S	Sg	11 21 55.3	-1.7
UNCR				pmax	pmax		
	comp=Z,43nm,0.2s						
BTLR	Botlikh	0.75	200⇑	iPG	Pg	11 21 43.0	-6.5
BTLR				i S	Sg	11 21 51.5	-8.0
BTLR				pmax	pmax		
	comp=Z,46nm,0.2s						
XNZR	Khunzakh	0.83	173	ePG	Pg	11 21 50.0	-1.1
XNZR				i S	Sb	11 22 01.5	-0.5
XNZR				pmax	pmax		
	comp=Z,29nm,0.2s						
DUS	Dusheti	1.88	228	P	Pn	11 22 07.4	+0.1
DGRG	David-gareji	2.11	205	P	Pn	11 22 12.4	+1.7
DGRG				S	Sn	11 22 40.4	+2.9
TBLG	Delisi	2.12	220	P	Pn	11 22 11.7	+0.8
TBLG				S	Sn	11 22 37.4	-0.4
MTA	Mtatsminda	2.13	219	S	Sn	11 22 37.9	0.0
ONI	Oni	2.42	252	P	Sn	11 22 44.7	-0.7
AB31	Akbulak array	10.96	53	⇑P	P	11 24 14.2	-0.5
	comp=Z,0.1nm,0.2s,baz=246,slow=11,SNR=12						
AB31				⇑S	S	11 26 11.8	-6.8
	comp=Z,0.2nm,0.3s,baz=244,slow=16,SNR=5.3						

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*CSEM **03** 11:39:04.4±0.7, 37.77N×25.38W, h4^{km}±3^{km}, ML2.9, Error ellipse: s-maj=2.4km s-min=1.5km az=49.0, After PDA*

*PDA **03** 11:39:04.4±0.7, 37.77N×25.38W, h4^{km}±3^{km}, MD2.6, ML2.9, Error ellipse: s-maj=2.4km s-min=1.5km az=49.0*

SVSA 03 11:39:04.4±0.7, 37.77N×25.38W, h4^{km}±3^{km}, MD2.6, ML2.9, Error ellipse: s-maj=2.4km s-min=1.5km az=49.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCNG	Congro	0.01	240	eP	Pg	11 39 05.7	+0.5
PCNG				eS	Sg	11 39 06.9	+1.2
FRA1	Furnas	0.04	148	eS	Sg	11 39 07.1	+1.0
MESC	Monte Escuro	0.06	290	eP	Pg	11 39 06.3	+0.6
MESC				eS	Sg	11 39 07.8	+1.2
VIF	Vila Franca	0.06	238	eP	Pg	11 39 06.3	+0.6
VIF				eS	Sg	11 39 07.6	+1.0
PFAD	Fenais da Ajud	0.08	35	eP	Pg	11 39 09.6	+3.5
LFA	Lagoa do Fogo	0.08	269	eP	Pg	11 39 06.7	+0.5
MIRA	Miradouro	0.08	82	eP	Pg	11 39 09.8	+3.6
PMAT	Coroa da Mata	0.08	300	eP	Pg	11 39 06.9	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PMAT				eS	Sg	11 39 08.2	+0.8
	9µm,0.4s						
PMAT	Coroa da Mata	0.08	300	eP	Pg	11 39 06.9	+0.7
PMAT				eS	Sg	11 39 08.2	+0.8
	9µm,0.4s						
PRCH	Ribeira Ch	0.09	240	eP	Pg	11 39 07.0	+0.6
PRCH				eS	Sg	11 39 08.8	+1.1
PVER	Pico Vermelho	0.11	282	eP	Pg	11 39 07.8	+1.1
PVER				eS	Sg	11 39 10.1	+1.9
CML	Cha da Macela	0.13	269	eP	Pg	11 39 08.4	+1.3
FAC	Faja de Cima	0.21	270	eP	Pg	11 39 11.0	+2.3
PSAN	Santo Antonio	0.28	286	eP	Pg	11 39 12.1	+2.0
PFET	Feteiras	0.33	278	eP	Pg	11 39 11.9	+1.0
SET2	Ginetes	0.34	282	eP	Pg	11 39 12.3	+1.0
SET4	Mosteiros	0.35	287	eP	Pg	11 39 12.7	+1.4
PSCM	Serra do Cume	1.65	305	eS	Sb	11 39 51.5	-4.6
	21nm,0.3s						
PSCM	Serra do Cume	1.65	305	eS	Sb	11 39 51.5	-4.6
	21nm,0.3s						
RIB2	Ribeirinha	1.67	303	eS	Sb	11 39 54.5	-2.2

*IDC **03** 11:59:14.0±1.2, 7.15S×127.98E, mb3.7/4, mb1 4.1/6, mb1mx3.9/16, mbtmp4.0/6, ML4.5/2, Error ellipse: s-maj=61.1km s-min=21.1km az=65.0*

*NEIC **03** 11:59:18.4±0.7, 7.18S×128.02E, h30^{km}, mb3.7/2, Error ellipse: s-maj=16.5km s-min=12.2km az=77.0*

ISC 03 11:59:27.2±1.3**, 7.85S**±0.09×**128.0E**±0.1**, h150^{km}, n10, σ1^{s}59**/12**, mb3.5**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.44	192	Pn	P	12 01 54.6	+0.7
	3.2nm,0.3s,baz=10,slow=12,SNR=17						
FITZ				Sn	S	12 03 48.4	-0.3
	6.7nm,0.3s,baz=174,slow=15,SNR=5.8						
WRAB	Tennant Creek	13.52	153	eP	P	12 02 34.2	+0.3
	11nm,0.4s						
WRA	Warramunga Arr	13.52	153	Pn	P	12 02 34.1	+0.1
	1.9nm,0.3s,baz=330,slow=13,SNR=37						
WRA				Sn	S	12 04 58.9	-2.1
	1.8nm,0.3s,baz=326,slow=22,SNR=6.4						
MBWA	Marble Bar	15.43	210	P	P	12 03 02.3	+4.2
	4.6nm,0.8s						
CTA	Charters Tower	21.50	126	P	P	12 04 08.5	+3.5
	5.1nm,0.9s,mb3.8,baz=281,slow=10,SNR=3.2						
CTAO	Charters Tower	21.50	126	eP	P	12 04 08.6	+3.5
	1.4nm,0.4s,mb3.6						
STKA	Stephens Creek	27.07	154	P	P	12 05 04.6	+6.8
	1.1nm,0.7s,mb3.6,baz=319,slow=11,SNR=3.1						
STKA	Stephens Creek	27.07	154	P	P	12 05 04.6	+6.8
SONM	Songino Array	58.63	343	P	P	12 09 08.6	-2.2
	0.1nm,0.3s,mb3.1,baz=180,slow=7.2,SNR=2.5						
MKAR	Makanchi Array	67.84	328	P	P	12 10 10.2	-1.2
	0.4nm,0.4s,mb3.5,baz=122,slow=7.2,SNR=4.6						

*IDC **03** 12:03:37.3±0.7, 1.82S×99.79E, mb4.4/14, mb1 4.6/14, mb1mx4.5/17, mbtmp4.4/14, MS3.5/6, Ms1 3.5/6, ms1mx3.2/24, Error ellipse: s-maj=33.9km s-min=14.7km az=55.0*

*BJI **03** 12:03:39.3, 2.02S×99.86E, h37^{km}, mB5.1, mb4.8, Ms4.7, Msz4.3*

*MOS **03** 12:03:41.2±1.0, 1.59S×100.03E, h33^{km}, mb4.7/10, Error ellipse: s-maj=18.9km s-min=9.5km az=103.3*

*NEIC **03** 12:03:41.6±0.3, 1.77S×99.84E, mb4.7/11, Error ellipse: s-maj=11.0km s-min=7.3km az=57.0*

ISC 03 12:03:40.2±0.3**, 1.68S**±0.06×**100.01E**±0.07**, h29^{km}, h29^{km}**±1.8^{km}**: pP-P, n79, σ1^{s}00**/68**, mb4.6**/34**, MS3.6**/9**, 2C-2D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.95	5	eP	Pn	12 05 25.1	+2.2
KKM	Kota Kinabalu	17.90	65	eP	P	12 07 53.1	+4.0
CMAR	Chiang Mai Arr	20.03	357	P	P	12 08 13.7	-0.4
	2.8nm,0.5s,baz=186,slow=11,SNR=26						
CMAR				PcP	PcP	12 12 29.9	+1.1
	1.2nm,0.7s,baz=203,slow=3.7,SNR=5.2						
CMAR				LR	LR	12 15 23.1	
	comp=Z,95nm,20.7s,MS3.1,baz=175,slow=35						
PALK	Pallekele	21.22	295	ePn	P	12 08 26.1	-0.2
MBWA	Marble Bar	27.29	137	eP	P	12 09 24.4	-0.2
SHL	Shillong	28.20	344	eP	P	12 09 33.0	+0.2
FITZ	Fitzroy Crossi	29.98	125	P	P	12 09 48.3	-0.6
	24nm,0.8s,mb5.0,baz=260,slow=1.1,SNR=9.2						
ENH	Enshi	33.03	15	eP	P	12 10 13.8	-1.7
	7.1nm,0.5s,mb4.8						
NWAO	Narrogin (SRO)	35.05	154	LR	LR	12 23 34.4	
	comp=Z,150nm,19.3s,MS3.8,baz=172,slow=34						
XAN	Xi'an	36.50	12	P	P	12 10 43.6	-1.5
XAN				AP	pP	12 10 52.3	-1.3
XAN				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.6						
NJ2	Nanjing	38.00	26	eP	P	12 10 57.5	-0.3
NJ2				AP	pP	12 11 07.2	+0.9
NJ2				XP	sP	12 11 11.2	+1.3
NJ2				PP	PP	12 12 27.9	-0.1
NJ2				S	S	12 16 47.0	-0.8
NJ2				XS		12 17 04.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,250nm,4.6s						
NJ2				LR	LR		
	comp=N,790nm,22.5s,MS4.7						
NJ2				LR	LR		
	comp=E,1µm,24.0s,MS4.7						
NJ2				LR	LR		
	comp=Z,150nm,20.8s,MS3.8						
WRA	Warramunga Arr	38.15	121	P	P	12 10 58.8	-0.3
	comp=Z,9.0nm,0.6s,mb4.7,baz=298,slow=9.4,SNR=30						
WRAB	Tennant Creek	38.15	121	eP	P	12 10 58.9	-0.2
WB2	Warramunga Arr	38.16	121	eP	P	12 10 59.0	-0.2
SSE	Sheshan	38.31	30	eP	P	12 10 59.9	-0.5
SSE				AP	pP	12 11 09.2	+0.3
SSE				XP	sP	12 11 12.8	+0.3
SSE				S	S	12 16 53.3	+0.9
SSE				XS		12 17 08.4	
SSE				AMB	AMB		
	comp=Z,31nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,53nm,3.5s						
SSE				LR	LR		
	comp=N,118nm,14.2s,MS4.0						
SSE				LR	LR		
	comp=E,137nm,14.3s,MS4.0						
SSE				LR	LR		
	comp=Z,225nm,12.8s,MS4.2						
SSE	Sheshan	38.31	30	eP	P	12 10 59.9	-0.5
	comp=Z,31nm,0.8s,mb5.1						
SSE				pP	pP	12 11 09.2	+0.3
SSE				sP	sP	12 11 12.8	+0.3
SSE				S	S	12 16 53.3	+0.9
SSE				sS		12 17 08.4	
SSE				SS	SS	12 19 47.8	+16
SSE				LR	LR		
	comp=Z,230nm,12.8s,MS4.2						
WMQ	Urumqi	46.62	348	eP	P	12 12 09.7	+1.8
WMQ				AP	pP	12 12 17.2	+0.7
WMQ				XP	sP	12 12 20.5	+0.5
WMQ				AMB	AMB		
	comp=Z,21nm,1.0s,mb5.0						
WMQ				LR	LR		
	comp=N,131nm,5.7s						
WMQ				LR	LR		
	comp=E,112nm,5.2s						
STKA	Stephens Creek	49.35	132	eP	P	12 12 30.0	+0.6
	comp=E,5.0nm,0.6s,mb4.7						
STKA	Stephens Creek	49.35	132	P	P	12 12 29.6	+0.2
	comp=E,5.6nm,0.6s,mb4.8,baz=305,slow=6.5,SNR=14						
SONM	Songino Array	49.62	6	P	P	12 12 31.9	+0.7
	comp=E,5.5nm,0.6s,mb4.8,baz=187,slow=9.3,SNR=44						
SONM				PcP	PcP	12 13 52.2	-0.5
	comp=E,2.7nm,0.7s,baz=186,slow=4.1,SNR=5.6						
SONM				LR	LR	12 36 29.3	
	comp=E,61nm,19.9s,MS3.6,baz=73,slow=40						
ULN	Ulaanbaatar	49.72	6	eP	P	12 12 32.3	+0.3
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ULN	Ulaanbaatar	49.72	6	eP	P	12 12 32.3	+0.4
	comp=Z,3.6nm,0.7s,mb4.5						
MKAR	Makanchi Array	50.72	344	P	P	12 12 39.9	+0.3
	comp=Z,9.6nm,0.6s,mb4.9,baz=151,slow=8.2,SNR=64						
MKAR				LR	LR	12 35 19.7	
	comp=Z,28nm,20.5s,MS3.3,baz=247,slow=37						
MKAR	Makanchi Array	50.72	344	P	P	12 12 39.9	+0.3
MKAR				LR	LR	12 35 19.7	
ZAK	Zakamensk	51.93	3	eP	P	12 12 48.1	-0.7
ZAK				e		12 13 58.7	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
MJAR	Matsushiro Arr	52.02	39	P	P	12 12 50.0	+0.4
	comp=Z,0.9nm,0.6s,mb3.9,baz=188,slow=7.5,SNR=5.0						
MJAR				LR	LR	12 36 58.9	
	comp=Z,47nm,18.5s,MS3.6,baz=220,slow=38						
MDJ	Mudanjiang	53.09	26	P	P	12 12 59.4	+1.9
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,66nm,4.4s						
MDJ				LR	LR		
	comp=Z,35nm,22.7s,MS3.4						
ZAL	Zalesovo	56.85	349	P	P	12 13 25.0	+0.3
	comp=Z,11nm,0.5s,mb5.1,baz=308,slow=5.2,SNR=47						
KLR	Kul'dur	57.63	24	eP	P	12 13 28.0	-2.3
NVS	Novosibirsk	58.00	349	eP	P	12 13 28.1	-4.7
NVS				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.7						
NVS				pmax	pmax		
	comp=N,11nm,1.7s						
ZRNK	Zerenda	60.31	339	eP	P	12 13 47.4	-1.4
ZRNK				pmax	pmax		
	comp=Z,85nm,0.7s,mb5.9						
ZRNK	Zerenda	60.31	339	eP	P	12 13 47.4	-1.4
	comp=Z,85nm,0.7s,mb5.9						
BOD	Bodaibo	60.36	9	eP	P	12 13 48.4	-0.6
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
YSS	Yuzh-Sakhalins	61.20	32	eP	P	12 13 55.8	+0.9
YSS				e	pP	12 14 03.8	0.0
YSS				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.9						
YSS	Yuzh-Sakhalins	61.20	32	eP	P	12 13 55.8	+0.9
	comp=Z,6.1nm,0.6s,mb4.9						
YSS				e	pP	12 14 03.8	-0.1
SVE	Sverdlovsk	66.39	338	eP	P	12 14 28.0	-0.7
SVE				e	pP	12 14 38.5	+0.8
YAK	Yakutsk	67.43	15	i P	P	12 14 34.4	-0.8
YAK				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.3						
KIV	Kislovodsk	68.31	319	eP	P	12 14 40.5	-0.6
KIV				pmax	pmax		
	comp=N,6.0nm,1.0s						
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
KIV				pmax	pmax		
	comp=E,3.0nm,0.7s						
MA2	Magadan	72.73	24	eP	P	12 15 08.3	+0.7
MA2				e	pP	12 15 15.7	-0.8
MA2				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
MA2	Magadan	72.73	24	eP	P	12 15 08.3	+0.7
	comp=Z,5.7nm,0.6s,mb4.7						
MA2				e	pP	12 15 15.7	-0.9
BRTR	Keskin Array B	73.11	312	P	P	12 15 08.5	-1.7
	comp=Z,1.5nm,0.7s,mb4.0,baz=135,slow=5.2,SNR=7.3						
TIXI	Tiksi	75.54	9	i P	P	12 15 23.3	-0.3
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
SYO	Syowa Base	78.18	199	⇓P	P	12 15 37.0	-1.3
AKASG	Malin Array Be	79.24	322	P	P	12 15 43.2	-1.3
	comp=Z,0.7nm,0.6s,mb3.8,baz=90,slow=3.8,SNR=5.8						
VRI	Vrincioaia	79.62	317	⇑P	P	12 15 47.7	+1.0
MLR	Muntele Rosu	80.08	317	⇓P	P	12 15 47.2	-1.9
BURAR	Bucovina Array	81.03	319	⇑P	P	12 15 55.2	+1.1
VNDA	Vanda	82.47	169	P	P	12 16 01.7	+0.7
	comp=Z,0.8nm,0.8s,mb3.7,baz=28,slow=3.4,SNR=3.9						
SBA	Scott Base	83.57	169	eP	P	12 16 07.4	+0.8
SBA				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
SBA	Scott Base	83.57	169	eP	P	12 16 07.3	+0.7
	comp=Z,2.0nm,0.8s,mb4.3						
FINES	FINESS Array B	83.83	332	P	P	12 16 08.4	+0.2
	comp=Z,2.4nm,0.5s,mb4.6,baz=105,slow=5.8,SNR=37						
FINES	FINESS Array B	83.83	332	P	P	12 16 08.4	+0.2
KAF	Kangasniemi	83.90	333	ep	P	12 16 09.0	+0.4
	comp=Z,4.8nm,0.6s,mb4.8,baz=101,slow=4.6						
KAF	Kangasniemi	83.90	333	eP	P	12 16 09.0	+0.4
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.8						
KEV	Kevo	85.73	340	ep	P	12 16 17.7	+0.1
	comp=Z,6.1nm,0.9s,mb4.8						
KEV	Kevo	85.73	340	eP	P	12 16 17.7	+0.1
KEV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.8						
ARCES	ARCESS Array B	86.17	340	P	P	12 16 20.8	+1.0
	comp=Z,4.1nm,0.7s,mb4.8,baz=90,slow=6.1,SNR=21						
GERES	GERESS Array B	88.82	319	P	P	12 16 33.6	+0.6
	comp=Z,1.0nm,0.6s,mb4.3,baz=79,slow=6.8,SNR=10						
CLL	Collm	89.42	321	P	P	12 16 36.0	+0.2
GRA1	Grafenberg Arr	90.48	320	eP	P	12 16 42.2	+1.4
GRF	Grafenberg Arr	90.48	320	eP	P	12 16 42.2	+1.4
NB2	NORSAR Subarra	90.87	331	P	P	12 16 42.4	+0.1
	comp=Z,1.0nm,0.8s,mb4.2,baz=90,slow=5.0						
NB2	NORSAR Subarra	90.87	331	P	P	12 16 42.4	+0.1
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.2						
NOA	NORSAR Array B	90.87	331	P	P	12 16 41.9	-0.4
	comp=Z,0.8nm,0.8s,mb4.1,baz=135,slow=1.9,SNR=3.7						
NOA	NORSAR Array B	90.87	331	P	P	12 16 41.9	-0.4
DAVOX	Davos	91.30	317	LR	LR	13 04 03.3	
	comp=Z,18nm,18.2s,MS3.5,baz=79,slow=40						
SNAA	Sanae	92.45	198	eP	P	12 16 51.3	+1.9
	comp=Z,0.3nm,0.6s,mb3.8						
NVAR	Mina Array Bea	129.34	39	PKP	PKPdf	12 22 49.8	-2.0
	comp=Z,0.5nm,0.6s,baz=1.4,slow=0.8,SNR=6.2						
PV10	Paradox Valley	134.81	33	PKPdf	PKPdf	12 23 01.5	-0.5
TXAR	Lajitas Array	144.44	37	PKP	PKPdf	12 23 16.2	-3.3
	comp=Z,4.5nm,0.6s,baz=286,slow=1.2,SNR=72						
CPUP	Villa Florida	144.59	217	PKP	PKPdf	12 23 15.6	-4.3
	comp=Z,8.1nm,0.7s,baz=218,slow=9.9,SNR=10.0						
WVT	Waverly	144.96	11	ePKIKP	PKPdf	12 23 16.1	-4.2
TZTN	Tazewell	145.15	5	ePKP	PKPdf	12 23 16.7	-3.9
PLAL	Pickwick Lake	146.02	12	ePKP	PKPdf	12 23 18.8	-3.4
CPCT	Cooper Cave	146.13	7	ePKP	PKPdf	12 23 19.6	-2.7
SWET	Sewanee	146.17	9	ePKP	PKPdf	12 23 19.5	-2.9
MYNC	Murphy	146.55	6	ePKP	PKPdf	12 23 21.1	-2.0
LRAL	Lakeview Retre	148.12	11	ePKPbc	PKPdf	12 23 25.2	-0.4
LVC	Limon Verde	153.55	203	ePKPbc	PKPdf	12 23 38.1	+4.0

*NEIC **03** 12:15:18.8, 36.28N×7.59W, h10^{km}, ML3.3(LDG), MN2.6(MDD), After MDD.*

*LDG **03** 12:15:18.7±0.3, 36.23N×7.80W, h10^{km}, Md3.3/1, Ml3.3/3, Error ellipse: s-maj=5.7km s-min=3.5km az=29.0*

*INMG **03** 12:15:18.8±0.8, 36.26N×7.59W, h5^{km}, ML2.4, Error ellipse: s-maj=4.3km s-min=2.0km az=38.0*

*CSEM **03** 12:15:19.0±0.2, 36.26N×7.53W, h40^{km}, ML3.3/3, Error ellipse: s-maj=5.0km s-min=2.9km az=42.0*

*MDD **03** 12:15:21.0±1.5, 36.40N×7.49W, h86^{km}±10^{km}, mb2.8/15, Error ellipse: s-maj=11.6km s-min=5.6km az=32.0, PRXIMO*

ISC 03 12:15:20.2±0.8**, 36.41N**±0.04×**7.52W**±0.04**, h90^{km}**±7^{km}**, n65, σ0^{s}95**/116**, 3C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	El Granado	1.12	1	P	P	12 15 41.1	-0.5
EGRO				S	S	12 15 57.4	-0.2
EGRO	El Granado	1.12	1	P	P	12 15 41.1	-0.5
	2.2nm,0.1s,SNR=85						
EGRO				S	S	12 15 57.4	-0.2
	25nm,0.1s,SNR=10.0						
EGRO	El Granado	1.12	1	P	P	12 15 41.1	-0.5
	2.2nm,0.1s,SNR=85						
EGRO				S	S	12 15 57.4	-0.2
	25nm,0.1s,SNR=10.0						
ESPR	Espera	1.41	71	⇑P	P	12 15 44.7	-0.6
	7.4nm,0.1s,SNR=18						
ESPR				S	S	12 16 04.0	+0.2
	55nm,0.2s,SNR=5.3						
ESPR	Espera	1.41	71	P	P	12 15 44.7	-0.6
	7.4nm,0.1s,SNR=18						
ESPR				S	S	12 16 04.0	+0.2
	55nm,0.2s,SNR=5.3						
PTEO	Sao Teotonio	1.49	320	eP	P	12 15 44.1	-2.1
PTEO				eS	S	12 16 03.3	-2.2
	23nm,0.3s						
EMIN	Mina Concepcio	1.51	26	P	P	12 15 46.8	+0.3
	0.1nm,0.0s,SNR=16						
EMIN				S	S	12 16 06.8	+0.7
	12nm,0.1s,SNR=11						
EMIN	Mina Concepcio	1.51	26	P	P	12 15 46.8	+0.3
	0.1nm,0.0s,SNR=16						
EMIN				S	S	12 16 06.8	+0.8
	12nm,0.1s,SNR=11						
PBEJ	Beja	1.64	350	ePn	P	12 15 48.3	+0.2
PBEJ				eSn	S	12 16 09.8	+1.1
	16nm,0.1s						
EVO	Evora	2.15	350	ePn	P	12 15 54.6	-0.4
EVO				eSn	S	12 16 21.4	+0.6
	38nm,0.2s						
EMIJ	Mijas	2.22	85	P	P	12 15 54.8	-1.1
	1.6nm,0.3s,SNR=6.0						
EMIJ				S	S	12 16 22.7	+0.3
	4.0nm,0.2s,SNR=5.9						
ECAB	El Cabril	2.36	45	P	P	12 15 58.3	+0.5
	0.4nm,0.1s,SNR=43						
ECAB				S	S	12 16 26.8	+0.9
	3.0nm,0.1s,SNR=14						
ECAB	El Cabril	2.36	45	P	P	12 15 58.3	+0.4
	0.4nm,0.1s,SNR=43						
ECAB				S	S	12 16 26.8	+0.9
	3.0nm,0.1s,SNR=14						
EBAD	Badajoz	2.38	10	P	P	12 15 58.3	+0.2
	1.9nm,0.7s,SNR=26						
EBAD				S	S	12 16 28.5	+2.2
	5.0nm,0.1s,SNR=9.6						
EBAD	Badajoz	2.38	10	P	P	12 15 58.3	+0.2
	1.9nm,0.7s,SNR=26						
EBAD				S	S	12 16 28.5	+2.2
	5.0nm,0.1s,SNR=9.6						
PLOU	Loures	2.79	333	eSn	S	12 16 35.6	-1.0
	15nm,0.2s						
ELOJ	Sierra Loja	2.80	74	P	P	12 16 03.1	-0.9
	1.3nm,0.1s,SNR=7.9						
ELOJ				S	S	12 16 37.6	+0.8
	1.2nm,0.2s,SNR=7.9						
ELUQ	Luque	2.84	65	P	P	12 16 04.7	+0.1
	3.0nm,0.2s,SNR=9.5						
ELUQ				S	S	12 16 39.3	+1.4
	3.5nm,0.1s,SNR=7.7						
EADA	Adamuz	2.93	52	P	P	12 16 06.4	+0.7
	2.2nm,0.3s,SNR=28						
EADA				S	S	12 16 41.0	+1.0
	9.3nm,0.1s,SNR=10						
EADA	Adamuz	2.93	52	P	P	12 16 06.4	+0.6
	2.2nm,0.3s,SNR=28						
EADA				S	S	12 16 41.0	+1.0
	9.3nm,0.1s,SNR=10						
ERON	Agron	3.04	77	P	P	12 16 07.7	+0.3
	1.2nm,0.1s,SNR=7.9						
ERON				S	S	12 16 42.8	-0.1
	1.7nm,0.2s,SNR=7.9						
PTOM	Tomar	3.28	348	ePn	P	12 16 10.4	-0.2
PTOM				eSn	S	12 16 47.8	-0.9
	9.2nm,0.1s						
ECOG	Cogollos-Vega	3.29	74	P	P	12 16 10.3	-0.3
ECOG				S	S	12 16 49.4	+0.6
ECOG	Cogollos-Vega	3.29	74	P	P	12 16 10.4	-0.3
	3.7nm,0.3s,SNR=47						
ECOG				S	S	12 16 49.4	+0.6
	7.9nm,0.2s,SNR=8.2						
ECOG	Cogollos-Vega	3.29	74	P	P	12 16 10.3	-0.4
	19nm,0.3s,SNR=47						
ECOG				S	S	12 16 49.4	+0.6
	7.9nm,0.2s,SNR=8.2						
PCBR	Castelo Branco	3.42	1	ePn	P	12 16 12.7	+0.1
PCBR				eSn	S	12 16 53.3	+1.0
	4.6nm,0.2s						
EBAN	Banos Encina	3.45	58	P	P	12 16 13.1	+0.1
EBAN				S	S	12 16 52.1	-0.9
EBAN	Banos Encina	3.45	58	⇑P	P	12 16 13.1	+0.1
	7.7nm,0.2s,SNR=18						
EBAN				S	S	12 16 52.1	-0.9
	4.7nm,0.1s,SNR=13						
EBER	Berja	3.75	81	P	P	12 16 17.2	+0.1
	0.5nm,0.1s,SNR=7.9						
EBER				S	S	12 17 04.1	+3.7
	0.2nm,0.1s,SNR=7.9						
EBER	Berja	3.75	81	P	P	12 16 17.2	+0.1
	0.5nm,0.1s,SNR=7.9						
EBER				S	S	12 17 04.1	+3.7
	0.2nm,0.1s,SNR=7.9						
EQES	Quesada	3.82	67	P	P	12 16 18.1	+0.1
EQES				S	S	12 17 01.5	-0.5
EQES	Quesada	3.82	67	P	P	12 16 17.9	-0.1
	2.1nm,0.2s,SNR=28						
EQES				S	S	12 17 01.5	-0.5
	0.7nm,0.1s,SNR=4.8						
EQES	Quesada	3.82	67	P	P	12 16 18.1	+0.1
	2.1nm,0.2s,SNR=28						
EQES				S	S	12 17 01.5	-0.4
	0.7nm,0.1s,SNR=4.8						
MTE	Manteigas	3.98	360	eSn	S	12 17 06.6	+0.5
	4.9nm,0.3s						
EHUE	Huescar	4.18	69	P	P	12 16 22.7	-0.3
EHUE				S	S	12 17 11.1	+0.1
EHUE	Huescar	4.18	69	P	P	12 16 22.7	-0.3
	0.9nm,0.2s,SNR=14						
EHUE				S	S	12 17 11.1	+0.1
	0.7nm,0.1s,SNR=6.8						
ESDC	Sonseca Array	4.30	40	P	P	12 16 25.4	+0.8
	baz=223,slow=13,SNR=7.9						
ESDC	Sonseca Array	4.30	40	P	P	12 16 25.4	+0.7
	SNR=7.9						
PVIS	Viseu	4.31	356	eSn	S	12 17 14.5	+0.3
EVIA	Vianos	4.56	59	P	P	12 16 28.1	-0.2
	2.1nm,0.1s,SNR=7.9						
EVIA				S	S	12 17 19.5	-1.1
	2.0nm,0.2s,SNR=7.9						
PVRL	Vila Real	4.86	358	eSn	S	12 17 27.4	-0.4
	5.7nm,0.1s						
EMUR	La Murta	5.21	72	P	P	12 16 37.5	+0.3
	2.2nm,0.3s,SNR=6.5						
EMUR				S	S	12 17 35.0	-1.6
	1.6nm,0.3s,SNR=7.9						
EMUR	La Murta	5.21	72	P	P	12 16 37.5	+0.3
	2.2nm,0.3s,SNR=6.5						
EMUR				S	S	12 17 35.0	-1.6
	1.6nm,0.3s,SNR=7.9						
ETOB	Tobarra	5.24	63	P	P	12 16 37.0	-0.6
ETOB				S	S	12 17 35.9	-1.3
ETOB	Tobarra	5.24	63	⇑P	P	12 16 36.9	-0.7
	3.8nm,0.3s,SNR=18						
ETOB				S	S	12 17 35.9	-1.3
	1.4nm,0.1s,SNR=6.1						
ETOB	Tobarra	5.24	63	P	P	12 16 37.0	-0.6
	3.8nm,0.3s,SNR=64						
ELOB	Lobios	5.47	356	P	P	12 16 40.7	+0.1
	0.9nm,0.3s,SNR=8.6						
ELOB				S	S	12 17 41.9	-0.9
	4.1nm,0.2s,SNR=7.9						
ELOB	Lobios	5.47	356	P	P	12 16 40.7	+0.1
	0.9nm,0.3s,SNR=8.6						
ELOB				S	S	12 17 41.9	-0.9
	4.1nm,0.2s,SNR=7.9						
ECAL	Calabor	5.56	6	P	P	12 16 42.5	+0.6
ECAL				S	S	12 17 44.9	-0.1
ECAL	Calabor	5.56	6	P	P	12 16 42.3	+0.5
	0.2nm,0.1s,SNR=7.9						
ECAL				S	S	12 17 44.9	-0.1
	0.7nm,0.2s,SNR=7.9						
ECAL	Calabor	5.56	6	P	P	12 16 42.5	+0.7
	0.2nm,0.1s,SNR=7.9						
ECAL				S	S	12 17 44.9	-0.1
	0.7nm,0.2s,SNR=7.9						
EBEN	Beniarda	6.23	66	P	P	12 16 51.1	0.0
EBEN				S	S	12 17 58.8	-2.8
EBEN	Beniarda	6.23	66	P	P	12 16 51.1	0.0
	0.3nm,0.1s,SNR=7.9						
EBEN				S	S	12 17 59.8	-1.7
	0.6nm,0.3s,SNR=7.9						
EBEN	Beniarda	6.23	66	P	P	12 16 51.1	0.0
	0.3nm,0.1s,SNR=7.9						
EBEN				S	S	12 17 58.8	-2.8
	SNR=7.9						
EMOS	Mosqueruela	6.80	52	P	P	12 17 00.1	+1.1
EMOS				S	S	12 18 13.6	-1.9
EMOS	Mosqueruela	6.80	52	P	P	12 17 00.2	+1.1
	4.4nm,1.0s,SNR=7.4						
EMOS				S	S	12 18 12.9	-2.6

	0.7nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	6.80	52	P	P	12 17 00.2	+1.2
	4.4nm,1.0s,SNR=7.4						
EARI	Arriondas	7.11	14	S	S	12 18 22.5	-0.7
	0.4nm,0.3s,SNR=7.9						
SJPF	Ste Jean	8.26	34	ePn	P	12 17 20.2	+1.2
SJPF				eSn	S	12 18 49.2	-2.3
	1.7nm,0.3s						
ETSF	Etsaut	8.41	37	ePn	P	12 17 22.2	+1.1
ETSF				eSn	S	12 18 53.7	-1.4
	0.9nm,0.3s						
EPF	Esparros	8.96	40	ePn	P	12 17 29.9	+1.4
LASF	Ste Croix	11.57	45	ePn	P	12 18 05.3	+1.7
QUIF	Quistinic	11.94	14	ePn	P	12 18 09.3	+0.8
ROSF	Rostrenen	12.32	13	ePn	P	12 18 14.3	+0.7
SGMF	Saint Gilles	12.39	16	ePn	P	12 18 15.2	+0.8

*IDC **03** 12:15:17.6±0.7,56.04S×26.63W,mb4.4/5,mb1 4.5/6, mb1mx4.2/13,mbtmp4.3/6,ML3.7/1,MS3.7/9,Ms1 3.7/9, ms1mx3.6/16,Error ellipse: s-maj=34.8km s-min=18.8km az=57.0*

*NEIC **03** 12:15:23.2±2.8,56.09S×26.69W,h38km±25km,mb4.4/6, Error ellipse: s-maj=13.5km s-min=8.2km az=225.0*

ISC 03 12:15:31.1±3.9**,56.1S**±0.1×**26.9W**±0.2**,h133**km±40km**,n30,** σ**0.79**/19**,mb4.2**/8**,1C,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.66	158		P	12 19 18.3	+0.8
VNA3	Neumayer Olymp	16.86	161		P	12 19 20.1	+0.1
VNA2	Neumayer--Watz	17.06	158		P	12 19 22.4	0.0
SNAA	Sanae	18.61	156		P	12 19 36.8	-3.4
SNAA	Sanae	18.61	156	P	P	12 19 36.5	-3.7
	0.2nm,0.3s,baz=316,slow=9.9,SNR=16						
SNAA	Sanae	18.61	156	eP	P	12 19 36.4	-3.8
	7.3nm,0.7s						
PMSA	Palmer Station	19.98	229	eP	P	12 19 53.2	-1.4
	9.7nm,0.7s						
TRQA	Tornquist	29.51	293	eP	P	12 21 24.4	-0.2
	1.8nm,0.6s,mb4.0						
QSPA	South Pole Qui	34.12	180	⇑iP	P	12 22 04.3	0.0
	12nm,0.5s,mb4.9						
CPUP	Villa Florida	36.99	311	P	P	12 22 29.0	0.0
	4.0nm,0.8s,mb4.1,baz=162,slow=9.8,SNR=7.6						
CPUP				LR	LR	12 36 38.3	
	comp=Z,59nm,19.2s,baz=11,slow=35						
CPUP	Villa Florida	36.99	311	P	P	12 22 29.0	0.0
CPUP				LR	LR	12 36 38.4	
MAW	Mawson	39.99	143	P	P	12 22 53.7	+0.1
	1.1nm,0.3s,mb3.9,baz=295,slow=4.6,SNR=4.3						
MAW				LR	LR	12 37 05.5	
	comp=Z,78nm,19.7s,baz=56,slow=33						
BDFB	Brasilia	43.51	330	LR	LR	12 38 21.8	
	comp=Z,82nm,20.4s,baz=9.7,slow=32						
BOSA	Boshof	45.83	75	LR	LR	12 39 37.7	
	comp=Z,44nm,19.8s,baz=219,slow=32						
VNDA	Vanda	46.51	183	P	P	12 23 46.5	+0.7
	2.3nm,0.6s,mb4.0,baz=180,slow=6.8,SNR=22						
VNDA				LR	LR	12 41 37.4	
	comp=Z,71nm,18.3s,baz=175,slow=34						
LBTB	Lobatse	48.87	73	P	P	12 24 04.0	-0.8
LPAZ	La Paz	50.56	305	P	P	12 24 19.4	+1.6
	5.4nm,0.5s,mb4.4,baz=138,slow=5.2,SNR=20						
LPAZ				LR	LR	12 43 08.9	
	comp=Z,56nm,20.8s,baz=93,slow=33						
LPAZ	La Paz	50.56	305	P	P	12 24 19.4	+1.6
LPAZ				LR	LR	12 43 08.9	
SAML	Samuel	54.97	314	eP	P	12 24 50.3	-0.3
	3.0nm,0.7s,mb4.1						
SAML				e		12 25 03.5	
DBIC	Dimbokro	65.17	24	P	P	12 25 59.9	-0.1
	7.3nm,1.0s,mb4.5,baz=236,slow=3.6,SNR=3.8						
DBIC				LR	LR	12 46 59.3	
	comp=Z,76nm,21.0s,baz=89,slow=29						
DBIC	Dimbokro	65.17	24	eP	P	12 26 00.1	+0.1
	13nm,1.2s,mb4.6						
DBIC				LR	LR	12 46 59.3	
SDV	Santo Domingo	74.18	315	LR	LR	12 57 54.8	
	comp=Z,67nm,20.3s,baz=226,slow=34						
STKA	Stephens Creek	91.80	170	LR	LR	13 06 50.7	
	comp=Z,229nm,19.2s,baz=116,slow=34						
FINES	FINESS Array B	124.37	28	PKP	PKPdf	12 34 15.9	+2.7
	0.6nm,0.7s,baz=243,slow=6.2,SNR=3.7						
ARCES	ARCESS Array B	130.95	22	PKP	PKPdf	12 34 28.5	+3.0
	0.9nm,0.7s,baz=198,slow=2.9,SNR=5.3						
BVAR	Borovoye Array	134.68	57	PKP	PKPdf	12 34 36.5	+3.6
	0.4nm,0.5s,baz=225,slow=4.1,SNR=3.6						
INK	Inuvik	145.97	320	PKPbc	PKPbc	12 34 57.0	+3.6
	2.5nm,0.6s,baz=110,slow=4.8,SNR=14						
INK	Inuvik	145.97	320	ePKP	PKPdf	12 34 56.9	+4.6
INK				PKPbc	PKPbc	12 34 57.0	+3.6
ILAR	Eielson Array	150.29	312	PKPbc	PKPdf	12 35 08.0	+8.7
	2.8nm,0.7s,baz=150,slow=1.8,SNR=33						
ILAR				PKPab	PKPab	12 35 15.6	+1.9
	2.5nm,0.7s,baz=108,slow=2.9,SNR=14						
SONM	Songino Array	150.56	86	PKPbc	PKPdf	12 35 09.2	+9.0
	1.7nm,0.6s,baz=215,slow=3.0,SNR=15						
SONM				PKPab	PKPab	12 35 16.8	+1.4
	1.4nm,0.8s,baz=228,slow=2.9,SNR=5.2						

*IDC **03** 12:27:12.0±1.2,11.57N×92.92E,mb3.8/4,mb1 4.1/5, mb1mx3.6/21,mbtmp3.8/5,ML4.3/1,Error ellipse: s-maj=51.9km s-min=23.8km az=52.0*

*NEIC **03** 12:27:16.8±0.8,11.67N×93.05E,h30km,mb4.2/1,Error ellipse: s-maj=17.6km s-min=12.6km az=90.0*

ISC 03 12:27:14.9±1.1**,11.7N**±0.1×**93.1E**±0.2**,h30**km**,n8,** σ**0.15**/8**, mb3.9**/5**,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	8.74	39	eP	P	12 29 22.3	-0.2
CMAR	Chiang Mai Arr	8.74	39	Pn	P	12 29 22.6	+0.1
	0.8nm,0.3s,baz=232,slow=15,SNR=26						
FITZ	Fitzroy Crossi	43.68	132	P	P	12 35 19.1	-0.1
	12nm,1.2s,mb4.5,baz=352,slow=8.4,SNR=7.1						
WRA	Warramunga Arr	51.34	127	P	P	12 36 19.1	0.0
	0.5nm,0.4s,mb3.8,baz=300,slow=10.0,SNR=16						
WRA				PcP	PcP	12 37 33.9	+0.1
	0.4nm,0.8s,baz=317,slow=3.1,SNR=4.6						
WRA	Warramunga Arr	51.34	127	P	P	12 36 19.1	0.0
WRA				PcP	PcP	12 37 33.9	+0.1
WRAB	Tennant Creek	51.34	127	eP	P	12 36 19.2	+0.1
	1.6nm,0.6s,mb4.1						
ARCES	ARCESS Array B	71.33	340	P	P	12 38 33.8	+0.2
	0.9nm,0.9s,mb3.7,baz=90,slow=7.2,SNR=3.5						
GERES	GERESS Array B	74.32	318	P	P	12 38 51.2	-0.2
	0.2nm,0.5s,mb3.3,baz=76,slow=5.5,SNR=3.6						

*HEL **03** 12:47:59.8±0.2,60.12N×25.28E,ML1.7,ML2.0(UPP), Explosion*

*IDC **03** 12:47:59.9±1.6,60.18N×25.32E,mb1 2.9/3, mb1mx2.8/22,mbtmp2.8/3,ML2.7/2,Error ellipse: s-maj=17.9km s-min=6.9km az=142.0*

ISC 03 12:47:58.7±0.7**,60.19N**±0.05×**25.18E**±0.08**,n16,** σ**1.41**/27**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVF	Pernaja	0.49	43	eP	Pg	12 48 08.9	+0.4
PVF				eS	Sg	12 48 15.3	+0.2
VJF	Virojoki	1.23	72	eP	Pb	12 48 21.7	-0.8
VJF				eS	Sb	12 48 36.5	-2.4
FIA0	FINESS Array S	1.34	19	eP	Pb	12 48 24.6	+0.2
FIA0				eS	Sb	12 48 42.0	+0.1
FINES	FINESS Array B	1.34	19	Pg	Pg	12 48 24.6	-0.8
	3.1nm,0.3s,baz=197,slow=17,SNR=139						
FINES				Pn	Pn	12 48 26.7	+2.1
	3.1nm,0.3s,baz=192,slow=13,SNR=140						
FINES				Lg		12 48 41.5	
	5.6nm,0.3s,baz=197,slow=25,SNR=15						
FINES				Sn	Sn	12 48 46.4	+3.1
	5.6nm,0.3s,baz=195,slow=22,SNR=30						
FINES				Rg		12 48 48.8	
	5.9nm,0.4s,baz=194,slow=23,SNR=32						
KEF	Keuruu	1.99	356	eP	Pn	12 48 36.4	+2.3
KEF				eSG	Sg	12 49 03.1	-2.1
KEF				MSG		12 49 03.8	
	comp=Z,3.0nm,0.2s						
KAF	Kangasniemi	2.01	15	eP	Pn	12 48 36.1	+1.8
KAF				eSG	Sg	12 49 02.9	-2.8
KAF				MSG		12 49 04.5	
	comp=Z,3.6nm,0.2s						
SUF	Sumiainen	2.58	10	eP	Pn	12 48 44.6	+2.1
SUF				eS	Sn	12 49 15.9	+0.9
AAL	Aland	2.59	272	eP	Pn	12 48 43.4	+0.8
GRAU	Graesoe	3.31	275	eP	Pn	12 48 52.6	-0.3
NRTU	Norrtaelje	3.34	264	eP	Pn	12 48 53.7	+0.5
NRTU				eS	Sn	12 49 34.2	+0.1
NYNU	Nynaeshamn	3.84	255	eP	Pn	12 49 00.7	+0.4
IGGU	Iggoen	3.95	283	eP	Pn	12 49 01.5	-0.4
ESKU	Eskilstuna	4.55	262	eP	Pn	12 49 10.4	-0.1
HFS	Hagfors	5.74	274	Pn	Pn	12 49 25.2	-2.1
	comp=Z,0.0nm,0.3s,baz=90,slow=13,SNR=5.1						
HFS				Sn	Sn	12 50 29.5	-5.3
	comp=Z,0.1nm,0.3s,baz=83,slow=27,SNR=7.5						
NOA	NORSAR Array B	6.93	283	Pn	Pn	12 49 41.5	-2.5
	comp=Z,0.1nm,0.3s,baz=334,slow=20,SNR=2.7						
NOA				Sn	Sn	12 50 57.9	-6.7
	comp=Z,0.1nm,0.3s,baz=109,slow=14,SNR=2.2						
ARCES	ARCESS Array B	9.39	1	Pn	P	12 50 14.4	-3.9
	comp=Z,0.1nm,0.3s,baz=181,slow=13,SNR=6.8						

*NEIC **03** 13:16:33.0,32.37N×115.12W,h6km,ML3.2(PAS),After PAS.*

ECX 03 13:16:33.6±0.5**,32.37N**×**115.10W,h8**km**,MD3.5,ML3.8, 2C-9D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.18	285	eP	Pg	13 16 37.1	-0.3
CPBX				eS	Sg	13 16 40.1	+0.1
CPBX				⇓e		13 16 45.3	
	comp=N,46μm,0.3s						
EMX	El Mayor	0.40	197	eP	Pg	13 16 40.8	-1.0
EMX				eS	Sg	13 16 46.7	-0.4
PLT	Pilot Knob	0.48	41	⇓eP	Pg	13 16 41.8	-1.4
COA	Coachella	0.49	358	⇓eP	Pg	13 16 42.6	-0.9
YMD	Yuma Desert	0.50	69	⇓eP	Pg	13 16 42.8	-1.0
COK	Cook Ranch	0.71	312	⇓eP	Pb	13 16 46.1	-1.7
GLA	Glamis	0.72	19	⇓eP	Pb	13 16 45.9	-1.9
RDX	Rancho Dowling	0.84	239	⇑eP	Pb	13 16 48.4	-1.6
RDX				eS	Sb	13 16 59.7	-1.5
CBX	Cerro Bola	1.32	268	eP	Pb	13 16 56.4	-1.8
CBX				⇑e		13 17 33.2	
	comp=N,3μm,0.8s						
CBX				⇓e		13 17 44.0	
	comp=E,3μm,0.8s						
SPX	San Pedro Mart	1.36	193	eP	Pb	13 16 57.2	-1.6
SPX				⇓e		13 17 26.0	
	comp=E,864nm,0.7s						
SPX				⇓e		13 17 28.3	
	comp=N,896nm,0.8s						
BAR	Barrett	1.36	283	eP	Pb	13 16 55.5	-3.5
ENX	Ensenada	1.41	250	eP	Pn	13 16 57.3	-2.4
PFO	Pinyon Flat Ob	1.68	318	eP	Pn	13 16 59.0	-4.5
LDFC	Landfair	2.70	360	Pn	Pn	13 17 17.8	-0.3
MWC	Mount Wilson	3.09	308	Pn	Pn	13 17 21.3	-2.4
NEN	Nelson	3.28	4	ePn	Pn	13 17 24.1	-2.2
TUC	Tucson	3.66	90	ePn	Pn	13 17 27.8	-3.8
DAC	Darwin (Calif)	4.41	333	Pn	Pn	13 17 37.5	-4.8
ARUT	Antelope Range	5.57	14	Pn	Pn	13 17 56.4	-2.5
MVU	Marysvale	6.56	20	Pn	Pn	13 18 11.2	-1.5
MSU	Marysvale	6.57	20	Pn	Pn	13 18 12.0	-1.0
PV10	Paradox Valley	7.77	38	Pn	Pn	13 18 26.6	-3.1

*BJI **03** 13:35:16.1,4.15N×94.29E,h30km,mB4.6,mb4.6,Ms4.4, Msz4.2*

*IDC **03** 13:35:20.4±0.8,5.22N×94.72E,mb4.2/13,mb1 4.3/13, mb1mx4.2/20,mbtmp4.2/13,MS3.2/3,Ms1 3.3/3, ms1mx2.9/25,Error ellipse: s-maj=36.1km s-min=16.4km az=48.0*

*NEIC **03** 13:35:24.1±0.6,4.87N×94.37E,h30km,mb4.6/7,Error ellipse: s-maj=17.2km s-min=9.9km az=48.0*

ISC 03 13:35:22.9±0.5**,4.92N**±0.07×**94.50E**±0.07**,h32**km**, h32**km±.1km**:pP-P,n47,** σ**1.28**/44**,mb4.3**/24**,MS3.8**/6**,2C, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	6.14	86	eP	Pn	13 36 53.5	-0.4
SNG	Songkhla	6.48	69	P	Pn	13 36 58.0	-0.8
	124nm,0.8s						
CM31	Chiang Mai Arr	14.14	18	eP	P	13 38 46.0	+2.6
	5.2nm,0.3s						
CMAR	Chiang Mai Arr	14.14	18	Pn	P	13 38 45.4	+2.1
	1.0nm,0.3s,baz=214,slow=12,SNR=26						
CMAR				LR	LR	13 43 38.1	
	comp=Z,67nm,20.5s,baz=190,slow=36						
CHG	Chiang Mai	14.48	17	P	P	13 38 52.8	+5.0
KSM	Kuching	16.15	102	eP	P	13 39 11.8	+2.3
GYA	Guiyang	24.37	27	⇑iP	P	13 40 39.0	-0.6
GYA				AP		13 40 48.2	
GYA				XP		13 40 52.3	
GYA				PP	PP	13 41 14.8	-0.4
GYA				S	S	13 44 53.7	-0.3
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,2.8s,mb4.7						
GYA				LR	LR		
	comp=N,380nm,15.4s,MS4.2						
GYA				LR	LR		
	comp=E,410nm,15.0s,MS4.2						
GYA				LR	LR		
	comp=Z,390nm,15.6s,MS4.0						
LSA	Lhasa	24.85	353	eP	P	13 40 44.3	+0.1
	comp=Z,14nm,0.6s,mb4.7						
LZH	Lanzhou	32.19	14	eP	P	13 41 51.7	+1.4
LZH				AP	pP	13 42 01.2	+1.4
LZH				XP	sP	13 42 05.1	+1.2
LZH				PP	PP	13 42 59.8	+2.1
LZH				AMB	AMB		
	comp=Z,26nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,73nm,6.2s						
LZH				LR	LR		
	comp=N,383nm,13.3s						
LZH				LR	LR		
	comp=Z,589nm,17.6s,MS4.3						
LZH	Lanzhou	32.19	14	eP	P	13 41 51.7	+1.4
	comp=Z,26nm,1.3s,mb4.9						
LZH				pP	pP	13 42 01.2	+1.4
LZH				sP	sP	13 42 05.1	+1.2
LZH				PP	PP	13 42 59.8	+2.1
LZH				LR	LR		
	comp=Z,590nm,17.6s,MS4.3						
GTA	Gaotai	34.67	7	eP	P	13 42 09.4	-2.4
GTA				AP	pP	13 42 18.8	-2.5
GTA				XP	sP	13 42 23.0	-2.4
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
FITZ	Fitzroy Crossi	38.30	127	P	P	13 42 43.2	+0.6
	comp=Z,4.4nm,0.6s,mb4.3,baz=26,slow=3.1,SNR=8.7						
WMQ	Urumqi	39.21	352	eP	P	13 42 50.4	+0.4
WMQ				AP	pP	13 43 00.0	+0.5
WMQ				XP	sP	13 43 04.0	+0.5
WMQ				PP	PP	13 44 25.3	+1.4
WMQ				S	S	13 48 48.8	+1.0
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.4s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,35nm,5.0s						
WMQ				LR	LR		
	comp=N,255nm,16.0s,MS4.3						
WMQ				LR	LR		
	comp=E,311nm,15.8s,MS4.3						
WMQ				LR	LR		
	comp=Z,488nm,18.0s,MS4.4						
UCH	Uchtor	41.20	337	P	P	13 43 07.9	+1.6
	SNR=13						
TKM2	Tokmak 2	41.39	339	P	P	13 43 08.8	+0.9
	SNR=8.9						
KBK	Karagaybulak	41.40	338	P	P	13 43 09.6	+1.6
	SNR=8.3						
AML	Almayashu	41.43	336	P	P	13 43 09.7	+1.4
	SNR=16						
AAK	Ala-Archa	41.55	338	eP	P	13 43 09.9	+0.6
	comp=Z,3.8nm,0.5s,mb4.3						
USP	Ospenovka	42.09	338	P	P	13 43 14.4	+0.6
	SNR=10						
MKAR	Makanchi Array	43.03	348	P	P	13 43 20.6	-0.8
	comp=Z,2.5nm,0.4s,mb4.3,baz=170,slow=7.2,SNR=25						
SONM	Songino Array	43.96	12	P	P	13 43 26.8	-2.1
	comp=Z,2.9nm,0.7s,mb4.1,baz=190,slow=8.1,SNR=21						
SONM				PcP	PcP	13 45 14.4	-0.5
	comp=Z,0.9nm,0.4s,baz=190,slow=3.9,SNR=9.4						
SONM				LR	LR	14 03 05.6	
	comp=Z,33nm,18.9s,MS3.3,baz=245,slow=38						
ULN	Ulaanbaatar	44.12	12	eP	P	13 43 28.3	-2.0
WRA	Warramunga Arr	46.30	124	P	P	13 43 48.9	+1.0
	comp=Z,7.4nm,0.7s,mb4.8,baz=300,slow=9.7,SNR=69						
WRAB	Tennant Creek	46.30	124	eP	P	13 43 49.0	+1.1
	comp=Z,7.6nm,0.6s,mb4.8						
WB2	Warramunga Arr	46.31	124	⇑iP	P	13 43 48.9	+0.9
MDJ	Mudanjiang	50.07	32	P	P	13 44 15.7	-1.2
MDJ				PCP	PcP	13 45 36.0	-0.5
MDJ				PCS		13 49 31.3	
MDJ				S	S	13 51 26.2	+1.6
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.4s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,95nm,6.2s						
MDJ				LR	LR		
	comp=Z,23nm,17.4s,MS3.2						
MJAR	Matsushiro Arr	50.91	46	P	P	13 44 20.9	-2.5
	comp=Z,0.4nm,0.5s,mb3.6,baz=227,slow=5.2,SNR=4.8						
MJAR	Matsushiro Arr	50.91	46	P	P	13 44 20.9	-2.5
ZRNK	Zerenda	52.27	341	eP	P	13 44 32.2	-1.3
	comp=Z,2.7nm,0.6s,mb4.3						
ASAJ	Asahikawa	57.43	40	LR	LR	14 09 44.9	
	comp=Z,24nm,19.2s,MS3.3,baz=353,slow=36						
STKA	Stephens Creek	57.84	133	P	P	13 45 13.1	-1.0
	comp=Z,1.1nm,0.6s,mb4.1,baz=300,slow=15,SNR=3.6						
STKA	Stephens Creek	57.84	133	eP	P	13 45 12.4	-1.7
BRTR	Keskin Array B	64.64	312	P	P	13 45 59.5	-0.5
	comp=Z,1.0nm,0.7s,mb4.0,baz=130,slow=8.3,SNR=4.3						
AKASG	Malin Array Be	70.69	322	P	P	13 46 36.4	-1.3
	comp=Z,0.5nm,0.5s,mb3.7,baz=93,slow=4.9,SNR=4.0						
FINES	FINESS Array B	75.48	333	P	P	13 47 05.3	-0.3
	comp=Z,0.5nm,0.3s,mb3.9,baz=105,slow=5.1,SNR=15						
KAF	Kangasniemi	75.57	333	ep	P	13 47 05.1	-1.0
	comp=Z,1.5nm,0.5s,mb4.2,baz=104,slow=5.3						
KEV	Kevo	77.73	341	ep	P	13 47 17.7	-0.3
	comp=Z,3.1nm,0.6s,mb4.4						
ARCES	ARCESS Array B	78.15	340	P	P	13 47 20.4	+0.1
	comp=Z,1.5nm,0.5s,mb4.2,baz=92,slow=6.0,SNR=33						
ARE0	ARCESS Array S	78.15	340	eP	P	13 47 20.4	+0.1
FX1	Attu Island--F	79.26	37	P	P	13 47 24.5	-2.2
	comp=Z,3.5nm,0.5s,mb4.6,baz=86,slow=23,SNR=6.4						
GERES	GERESS Array B	80.26	319	P	P	13 47 33.5	+1.3
	comp=Z,1.8nm,0.6s,mb4.2,baz=110,slow=5.4,SNR=16						
ILAR	Eielson Array	97.33	22	P	P	13 48 52.8	-1.1
	comp=Z,0.2nm,0.5s,mb3.8,baz=296,slow=4.4,SNR=7.0						
NVAR	Mina Array Bea	127.23	32	PKP	PKPdf	13 54 27.9	-2.2
	comp=Z,0.5nm,0.6s,baz=274,slow=3.1,SNR=5.3						
NVAR	Mina Array Bea	127.23	32	PKP	PKPdf	13 54 27.9	-2.2
PDAR	Pinedale Array	127.76	22	PKP	PKPdf	13 54 27.7	-3.4
	comp=Z,0.4nm,0.4s,baz=104,slow=4.2,SNR=6.2						
TXAR	Lajitas Array	141.74	26	PKhKP		13 54 50.7	
	comp=Z,0.2nm,0.6s,baz=42,slow=0.5,SNR=4.2						
TXAR				PKP	PKPdf	13 54 54.1	-3.2
	comp=Z,0.2nm,0.5s,baz=126,slow=0.5,SNR=3.6						
TXAR				PKiKP		13 54 56.9	
	comp=Z,0.4nm,0.4s,baz=337,slow=0.4,SNR=8.2						
TXAR	Lajitas Array	141.74	26	PKP	PKPdf	13 54 50.7	-6.7
TXAR				PKP	PKPdf	13 54 54.1	-3.2
TXAR				PKPdf	PKPdf	13 54 56.9	-0.5

*NIED **03** 14:14:00,28.90N×129.10E,h35km,Mw4.1 Best double couple: $M_0$1.61×10^{15} NP1:ϕ_s178°,δ85°,λ-63°. NP2: ϕ_s278°,δ28°,λ-169°.*

*BJI **03** 14:14:34.6,29.41N×129.78E,h97km,mb4.0*

*NEIC **03** 14:14:35.7±0.8,28.87N×129.40E,h83km±9km,mb4.4/2, Error ellipse: s-maj=17.0km s-min=8.2km az=105.0*

NEIC Recorded [1 JMA] on Amami-oshima and Kikaiga-shima.

*JMA **03** 14:14:35.6±0.2,28.93N×129.14E,h40km,M4.0*

JMA Felt I J1.

*IDC **03** 14:14:35.0±1.6,28.84N×129.41E,h77km±17km,mb3.7/4, mb1 3.7/6,mb1mx3.4/23,mbtmp3.8/6,Error ellipse: s-maj=32.3km s-min=12.2km az=106.0*

ISC 03 14:14:34.5±0.4**,28.85N**±0.05×**129.41E**±0.08**,h88**km±5km**, n21,** σ**0.85**/28**,mb4.0**/7**,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAM	Amami Oshima	0.47	158	P	P	14 14 48.1	-0.8
JAM				S	S	14 14 57.8	-2.0
JZK	Kikaishima	0.72	137	P	P	14 14 52.6	+1.2
JZK				S	S	14 15 06.8	+2.9
JNN	Nakanoshima	1.07	22	P	P	14 14 54.6	-0.6
JTK	Tokunoshima	1.13	201	P	P	14 14 55.8	-0.1
JTK				S	S	14 15 11.4	-0.6
JKC	Kuchinoerabu	1.75	23	P	P	14 15 04.2	+0.3
JIH	Iheya	2.21	216	P	P	14 15 10.5	+0.4
JIH				S	S	14 15 36.3	-0.2
JOW	Kunigami	2.24	207	P	P	14 15 11.0	+0.4
	28nm,0.3s,baz=3.8,slow=29,SNR=52						
JOW				S	S	14 15 37.1	-0.2
	baz=270,slow=20						
JTN	Tanegashima 3	2.26	37	eS	S	14 15 39.0	+1.2
JAGN	Aguni-jima	2.96	221	P	P	14 15 20.6	+0.1
JAGN				eS	S	14 15 56.0	+1.0
JJT2	Tamagusuku 2	3.07	209	P	P	14 15 22.2	+0.1
JKE	Kume jima 2	3.42	223	P	P	14 15 26.8	-0.1
JKE				eS	S	14 16 06.4	-0.1
JNU	Nakatsue	4.45	16	P	P	14 15 40.3	-0.8
	baz=216,slow=14						
MJAR	Matsushiro Arr	10.67	42	P	P	14 17 05.6	-0.4
	0.1nm,0.3s,baz=248,slow=15,SNR=2.7						
SONM	Songino Array	26.01	323	P	P	14 20 01.3	+0.5
	1.4nm,0.7s,mb3.5,baz=138,slow=10.0,SNR=11						
GTA	Gaotai	26.56	301	eP	P	14 20 07.5	+1.5
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.6						
WRAB	Tennant Creek	48.73	174	eP	P	14 23 12.2	0.0
	comp=Z,3.7nm,0.6s,mb4.5						
WRA	Warramunga Arr	48.73	174	P	P	14 23 12.2	-0.2
	comp=Z,2.7nm,0.7s,mb4.3,baz=353,slow=8.2,SNR=21						
ZRNK	Zerenda	49.89	317	eP	P	14 23 20.1	-0.7
	comp=Z,1.6nm,0.4s,mb4.3						
ZRNK				e		14 23 29.5	
STKA	Stephens Creek	61.49	168	P	P	14 24 44.0	-0.3
	comp=Z,1.9nm,0.8s,mb4.2,baz=342,slow=9.8,SNR=4.3						
STKA	Stephens Creek	61.49	168	eP	P	14 24 44.0	-0.3
ILAR	Eielson Array	61.65	29	P	P	14 24 43.7	-1.3
	comp=Z,0.5nm,0.6s,mb3.7,baz=269,slow=5.6,SNR=15						

MAN 03 14:35:26.0,12.46N×123.71E,h51km,mb4.5,ML3.3, MS3.1,2C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNP	Catarman	0.93	87	eP	P	14 35 42.8	-0.1
CNP				eS	S	14 35 57.4	+1.8
PVCP	Virac	1.21	21	eP	P	14 35 46.6	-0.2
RCP	Roxas	1.30	227	⇑eP	P	14 35 47.9	-0.4
RCP				eS	S	14 36 05.3	+0.3
AUQP	San Andres	1.32	310	eP	P	14 35 50.1	+1.5
AUQP				eS	S	14 36 13.4	+8.1
KALP	Kalibo	1.56	240	eP	S	14 36 10.0	-0.9
OTRP	Odiongan	1.66	267	eP	P	14 35 52.5	-0.7
PLP	Palo	1.79	136	⇑eP	P	14 35 55.3	+0.3
PLP				eS	S	14 36 17.3	+0.6
BESP	Borongan	1.89	117	eP	P	14 35 57.0	+0.5
BOAC	Boac	2.07	299	eP	P	14 35 59.1	+0.1
GUIM	Jordan	2.13	211	eP	P	14 36 00.8	+0.9
SJMP	San Jose	2.53	270	eP	P	14 36 06.3	+0.7
MSLP	Maasin	2.57	154	eP	P	14 36 07.0	+0.8
CUYO	Cuyo Island	3.09	239	eP	P	14 36 13.5	0.0
ENPP	El Nido	4.38	254	eP	P	14 36 30.8	-0.9

*KRSC **03** 14:37:24.1±0.4,51.83N×152.95E,h563km±9km,ML3.8*

*MOS **03** 14:37:26.2±0.9,51.91N×153.45E,h558km,mb4.3/2,Error ellipse: s-maj=26.5km s-min=14.9km az=58.1*

*NEIC **03** 14:37:29.4±0.5,52.54N×152.48E,h498km±8km,mb4.2/3, Error ellipse: s-maj=12.0km s-min=8.5km az=139.0*

*IDC **03** 14:37:29.6±2.3,52.52N×152.42E,h499km±34km,mb3.0/7, mb1 3.2/10,mb1mx2.9/25,mbtmp4.0/10,Error ellipse: s-maj=23.0km s-min=12.7km az=131.0*

ISC 03 14:37:28.3±0.4**,52.43N**±0.07×**152.6E**±0.1**,h494**km±7km**, n60,** σ**1.10**/83**,mb3.4**/7**,Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	Alaid	2.43	129	eP	P	14 38 36.2	+0.4
MIPR	Malaya Ipel'ka	2.58	92	i P	P	14 38 36.7	0.0
PAU	Pauzhetka	2.80	108	i P	P	14 38 38.6	+0.5
SKR	Severo-Kuril's	2.83	127	eP	P	14 38 34.9	-3.4
SKR				eS	S	14 39 24.5	-9.1
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,180nm,1.0s						
SKR				smax			
	comp=E,90nm,1.0s						
APC	Apacha	2.84	78	i P	P	14 38 38.2	-0.2
APC				eS	S	14 39 32.2	-1.6
APC				Smax			
	comp=E,10.0nm,0.7s						
GRL	Gorelyy	3.37	86	eP	P	14 38 42.4	+0.3
GNL	Ganaly	3.49	67	eP	P	14 38 42.9	0.0
GNL				eS	S	14 39 40.9	-1.1
RUS	Russkaya	3.64	88	P	P	14 38 43.8	-0.3
RUS				S	S	14 39 41.3	-2.9
RUS	Russkaya	3.64	88	i P	P	14 38 43.8	-0.3
RUS				i S	S	14 39 41.8	-2.4
PET	Petropavlovsk	3.75	78	P	P	14 38 45.2	+0.2
PET				S	S	14 39 44.4	-1.3
PET	Petropavlovsk	3.75	78	eP	P	14 38 44.7	-0.3
PET	Petropavlovsk	3.75	78	i P	P	14 38 45.1	+0.1
PET				eS	S	14 39 43.9	-1.8
KOK	Koryaka	3.78	74	eP	P	14 38 46.1	+0.9
KOK				eS	S	14 39 45.8	-0.3
AVH	Avacha	3.84	75	eP	P	14 38 46.6	+1.0
AVH				eS	S	14 39 46.8	-0.1
SMAR	Somma	3.88	75	eP	P	14 38 46.7	+0.8
UGLR	Uglovaya	3.88	76	i P	P	14 38 47.2	+1.2
UGLR				eS	S	14 39 48.2	+0.7
SDLR	Sedlovina	3.93	75	i P	P	14 38 47.2	+0.8
SDLR				eS	S	14 39 47.2	-1.0
NLC	Nalytchevo	4.18	77	P	P	14 38 47.7	-0.8
NLC				S	S	14 39 49.6	-2.4
NLC	Nalytchevo	4.18	77	eP	P	14 38 47.9	-0.6
NLC				eS	S	14 39 49.1	-2.9
KII	Karymskiy	4.44	66	eP	P	14 38 51.8	+1.1
SPN	Mys Shipunski	4.58	79	P	P	14 38 50.7	-1.3
SPN				S	S	14 39 52.9	-5.3
SPN	Mys Shipunski	4.58	79	i P	P	14 38 50.3	-1.7
SPN				i S	S	14 39 52.9	-5.3
ESO	Esso	5.03	43	eP	P	14 38 57.3	+1.3
ESO				eS	S	14 40 05.4	0.0
ESO				Smax			
	comp=E,10.0nm,0.8s						
TUMR	Tumrok	5.32	55	P	P	14 39 01.2	+2.4
TUMR				eS	S	14 40 11.6	+1.3
KMNR	Kamenistaya	5.61	51	eP	P	14 39 03.3	+1.8
KMNR				eS	S	14 40 16.0	+0.7
KOZ	Kozyrevsk	5.62	47	P	P	14 39 03.2	+1.6
KOZ	Kozyrevsk	5.62	47	eP	P	14 39 03.3	+1.7
KOZR	Kozyr	5.63	47	P	P	14 39 03.2	+1.4
SRDR	Sredinnyy	5.71	44	i P	P	14 39 03.6	+1.1
SRDR				eS	S	14 40 16.2	-0.9
KPT	Kopyto	5.72	49	P	P	14 39 04.0	+1.4
MKZ	Mys Kozlova	5.87	65	P	P	14 39 03.0	-1.1
MKZ				S	S	14 40 13.8	-6.0
MKZ	Mys Kozlova	5.87	65	i P	P	14 39 03.1	-1.0
MKZ				eS	S	14 40 15.5	-4.3
KRSR	Krestovskiy	6.03	48	eP	P	14 39 06.2	+0.6
KBTR	Krutoberegovo	7.09	54	P	P	14 39 13.7	-2.6
KBTR				S	S	14 40 36.2	-5.7
KBTR	Krutoberegovo	7.09	54	eP	P	14 39 13.8	-2.5
KBTR				eS	S	14 40 36.7	-5.2
MA2	Magadan	7.23	353	eP	P	14 39 17.3	-0.4
YSS	Yuzh-Sakhalins	8.39	233	P	P	14 39 30.5	+0.7
YSS	Yuzh-Sakhalins	8.39	233	eP	P	14 39 30.6	+0.7
	comp=E,8.6nm,0.6s						
BKI	Bering	8.41	65	S	S	14 40 52.4	-14
BKI				Smax			
	comp=E,50nm,0.8s						
ASAJ	Asahikawa	10.63	222	P	P	14 39 53.3	-0.2
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	10.63	222	P	P	14 39 53.3	-0.2
	comp=Z,0.9nm,0.3s,baz=142,slow=19,SNR=7.0						
KAMR	Kamenskoye	12.42	31	eP	P	14 40 11.2	-0.9
FX1	Attu Island--F	12.52	80	P	P	14 40 14.3	+1.1
	comp=Z,5.8nm,0.3s,baz=326,slow=2.9,SNR=43						
FX1	Attu Island--F	12.52	80	eP	P	14 40 14.3	+1.1
YAK	Yakutsk	15.59	317	eP	P	14 40 44.1	-0.3
BILL	Bilibino	17.00	18	eP	P	14 40 58.2	-0.2
BILL	Bilibino	17.00	18	eP	P	14 40 58.2	-0.2
MJAR	Matsushiro Arr	18.84	218	P	P	14 41 17.6	+1.0
	comp=Z,0.5nm,0.3s,baz=14,slow=7.6,SNR=9.2						
HIA	Hailar	20.86	274	P	P	14 41 34.9	-0.6
HIA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
HIA	Hailar	20.86	274	P	P	14 41 34.9	-0.6
	comp=Z,4.7nm,0.3s						
ILAR	Eielson Array	32.51	44	P	P	14 43 17.8	-0.3
	comp=Z,1.3nm,0.4s,mb3.7,baz=270,slow=8.4,SNR=27						
INK	Inuvik	37.16	36	eP	P	14 43 56.7	-0.1
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	Inuvik	37.16	36	P	P	14 43 56.8	0.0
	comp=Z,1.8nm,0.3s,mb4.0,baz=295,slow=9.1,SNR=20						
INK	Inuvik	37.16	36	eP	P	14 43 56.7	-0.1
	comp=Z,2.1nm,0.5s,mb3.8						
MKAR	Makanchi Array	44.24	292	P	P	14 44 53.0	-0.7
	comp=Z,0.6nm,0.4s,mb3.3,baz=59,slow=6.7,SNR=6.0						
ARCES	ARCESS Array B	52.39	339	P	P	14 45 52.1	-2.7
	comp=Z,0.9nm,0.9s,mb3.1,baz=27,slow=8.1,SNR=4.6						
CMAR	Chiang Mai Arr	53.59	252	P	P	14 46 03.9	-0.1
	comp=Z,0.8nm,0.8s,mb3.1,baz=28,slow=6.7,SNR=4.9						
FINES	FINESS Array B	58.77	333	P	P	14 46 37.7	-1.6
	comp=Z,0.5nm,0.5s,mb3.1,baz=36,slow=6.8,SNR=9.0						
FINES	FINESS Array B	58.77	333	P	P	14 46 37.7	-1.6
WRA	Warramunga Arr	73.79	198	P	P	14 48 12.6	-0.1
	comp=Z,0.8nm,0.6s,mb3.4,baz=13,slow=5.9,SNR=8.3						

IDC 03 14:39:45.8±1.5, 52.15N×170.57W, mb3.8/5, mb1 3.9/6, mb1mx3.6/23, mbtmp3.6/6, MS3.1/1, Ms1 3.1/1, ms1mx2.3/30, Error ellipse: s-maj=54.5km s-min=22.9km az=3.0

NEIC 03 14:39:48.7, 52.07N×170.25W, h8km, ML3.8(AEIC), After AEIC.

ISC 03 14:39:47.6±1.4, 51.9N±0.1×170.24W±0.07, h12km±11km, n31, σ0ˢ87/39, mb3.7/5, MS3.0/1, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCE	Okmok Cone E	1.96	39	P	Pn	14 40 20.5	-0.6
OKCE				S	Sn	14 40 44.7	-1.1
OKCD	Okmok Cone D	1.99	40	P	Pn	14 40 21.0	-0.4
OKCD				S	Sn	14 40 47.0	+0.6
OKER	East Rim	2.03	40	P	Pn	14 40 21.7	-0.4
OKFG	Magazine Ridge	2.06	43	P	Pn	14 40 21.6	-0.8
OKFG				S	Sn	14 40 47.7	-0.4
ATKA	Atka Island	2.46	278	P	Pn	14 40 27.2	-1.0
ATKA				S	Sn	14 40 59.5	+1.0
MSW	Makushin Switc	2.89	45	P	Pn	14 40 33.9	-0.4
MSW				S	Sn	14 41 08.5	-0.8
MNAT	Makushin Natee	2.91	46	P	Pn	14 40 34.0	-0.7
MNAT				S	Sn	14 41 10.5	+0.6
MTBL	Makushin Table	2.97	45	P	Pn	14 40 35.0	-0.5
MTBL				S	Sn	14 41 11.8	+0.4
LVA	Lava Point	3.38	47	P	Pn	14 40 42.1	+0.8
AKGG	Akutan Green G	3.43	47	P	Pn	14 40 42.6	+0.6
AHB	Akutan Harbor	3.46	49	P	Pn	14 40 43.1	+0.7
AHB				S	Sn	14 41 26.0	+2.4
AKUT	Akutan	3.49	49	P	Pn	14 40 43.7	+0.8
GSMY	Great Sitkin M	3.60	274	P	Pn	14 40 44.7	+0.3
GSTR	Great Sitkin T	3.60	275	P	Pn	14 40 45.5	+1.0
GSTD	Great Sitkin T	3.66	274	P	Pn	14 40 45.4	+0.2
GSTD				S	Sn	14 41 28.4	-0.3
GSSP	Great Sitkin S	3.67	275	P	Pn	14 40 46.2	+0.7
ADAG	Mount Adagdak	3.94	273	P	Pn	14 40 49.5	+0.3
WPOG	Pogromni	4.25	49	P	Pn	14 40 55.3	+1.7
WESE	West Dahl East	4.25	51	P	Pn	14 40 54.4	+0.7
KIWB	Kanaga Island	4.29	272	eP	Pn	14 40 54.3	+0.2
WESN	West Dahl Nort	4.31	50	P	Pn	14 40 54.7	+0.3
KIMD	Kanaga Island	4.34	271	P	Pn	14 40 55.0	0.0
SPIA	Saint Paul Isl	5.26	360	P	Pn	14 41 07.1	-1.0
ILAR	Eielson Array	17.62	34	P	P	14 43 53.1	-1.1
	baz=225,slow=10,SNR=2.3						
YKA	Yellowknife Ar	30.94	48	LR	LR	14 59 13.8	
	comp=Z,32nm,18.1s,MS3.0,baz=235,slow=38						
PDAR	Pinedale Array	41.02	78	P	P	14 47 31.8	-0.1
	1.1nm,0.8s,mb3.5,baz=326,slow=5.3,SNR=7.8						
SONM	Songino Array	51.07	301	P	P	14 48 47.6	-3.8
	0.4nm,0.5s,mb3.6,baz=54,slow=6.1,SNR=5.7						
TXAR	Lajitas Array	53.29	88	P	P	14 49 07.8	-0.6
	0.8nm,0.8s,mb3.7,baz=301,slow=7.3,SNR=5.9						
FINES	FINESS Array B	66.23	352	P	P	14 50 32.7	-4.1
	0.6nm,0.8s,mb3.7,slow=8.3,SNR=3.9						
FINES	FINESS Array B	66.23	352	P	P	14 50 32.7	-4.1
CMAR	Chiang Mai Arr	76.19	282	P	P	14 51 34.8	-2.5
	1.5nm,0.8s,mb4.0,baz=29,slow=7.0,SNR=12						

IDC 03 14:54:15.0±3.3, 2.00S×99.76E, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=135.6km s-min=27.3km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.20	120	P	P	15 01 36.9	-1.5
	0.3nm,0.9s,baz=295,slow=8.4,SNR=3.1						
SONM	Songino Array	49.96	6	P	P	15 03 10.0	-2.8
	0.3nm,0.5s,baz=180,slow=10,SNR=3.1						
MKAR	Makanchi Array	50.96	345	P	P	15 03 18.7	-1.7
	0.5nm,0.4s,baz=158,slow=8.9,SNR=12						
ZAL	Zalesovo	57.11	350	P	P	15 04 03.8	-1.8
	1.5nm,0.3s,baz=154,slow=4.4,SNR=3.3						
TXAR	Lajitas Array	144.84	37	PKP	PKPdf	15 13 53.3	-3.2
	0.2nm,0.6s,baz=180,slow=1.3,SNR=3.6						

IDC 03 14:55:50.9±0.6, 4.85N×62.13E, mb4.1/17, mb1 4.3/17, mb1mx4.2/21, mbtmp4.2/17, MS3.9/14, Ms1 3.9/14, ms1mx3.7/25, Error ellipse: s-maj=18.7km s-min=14.5km az=153.0

NEIC 03 14:55:52.5±0.4, 4.85N×62.11E, h10km, mb4.8/12, Error ellipse: s-maj=10.6km s-min=8.6km az=11.0

BJI 03 14:55:52.4, 4.90N×62.10E, h11km, mB4.9, mb4.3, Ms4.4, Msz4.4

ISC 03 14:55:50.8±0.5, 4.89N±0.08×62.07E±0.06, h10km, n55, σ0ˢ91/50, mb4.4/32, MS3.9/14, 2C, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	20.12	290	P	P	15 00 28.9	+0.9
	18nm,1.0s,baz=96,slow=13,SNR=3.7						
ATD				LR	LR	15 07 23.1	
	comp=Z,105nm,18.5s,MS3.2,baz=167,slow=34						
KMBO	Kilima Mbogo	25.50	257	P	P	15 01 23.6	+2.4
	13nm,1.0s,mb4.4,baz=56,slow=9.9,SNR=19						
KMBO				LR	LR	15 09 54.1	
	comp=Z,336nm,21.3s,MS3.8,baz=276,slow=33						
KMBO	Kilima Mbogo	25.50	257	P	P	15 01 23.6	+2.4
KMBO				LR	LR	15 09 54.1	
CMAR	Chiang Mai Arr	38.44	66	P	P	15 03 15.4	+0.7
	4.3nm,1.1s,mb4.1,baz=260,slow=10.0,SNR=11						
CMAR				PcP	PcP	15 05 27.8	-0.8
	0.6nm,0.7s,baz=286,slow=4.6,SNR=4.1						
CMAR				LR	LR	15 19 51.1	
	comp=Z,104nm,18.0s,MS3.7,baz=76,slow=38						
MALT	Malatya	39.62	330	P	P	15 03 24.1	-0.3
	4.3nm,0.9s,mb4.2						
MATP	Matopo	41.47	232	P	P	15 03 39.6	-0.1
	2.8nm,0.8s,mb3.9,baz=44,slow=13,SNR=3.0						
MATP				LR	LR	15 18 09.1	
	comp=Z,405nm,20.7s,MS4.3,baz=68,slow=32						
BRTR	Keskin Array B	43.14	328	P	P	15 03 55.1	+1.8
	0.6nm,0.3s,mb3.8,baz=144,slow=11,SNR=4.0						
WMQ	Urumqi	44.87	26	eP	P	15 04 08.8	+1.6
MKAR	Makanchi Array	45.26	20	P	P	15 04 10.9	+0.7
	0.9nm,0.5s,mb3.8,baz=210,slow=10,SNR=12						
MKAR				LR	LR	15 23 00.4	
	comp=Z,94nm,21.6s,MS3.7,baz=201,slow=36						
GYA	Guiyang	47.66	58	P	P	15 04 29.9	+0.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
ZRNK	Zerenda	48.25	6	eP	P	15 04 35.7	+1.9
	comp=Z,3.8nm,0.7s,mb4.5						
GTA	Gaotai	48.40	39	eP	P	15 04 35.8	+0.7
GTA				AP	pP	15 04 39.8	+1.6
GTA				XP	sP	15 04 41.8	+2.4
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
BVAR	Borovoye Array	48.47	7	P	P	15 04 35.5	+0.1
	comp=Z,0.9nm,0.5s,mb4.0,baz=186,slow=5.0,SNR=10.0						
BOSA	Boshof	48.62	225	P	P	15 04 36.3	-0.7
	comp=Z,2.6nm,0.8s,mb4.3,baz=41,slow=10.0,SNR=3.5						
BOSA				LR	LR	15 22 23.1	
	comp=Z,117nm,19.2s,MS3.9,baz=23,slow=33						
XAN	Xi'an	52.19	50	P	P	15 05 03.2	-0.9
XAN				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
ZAL	Zalesovo	52.29	17	P	P	15 05 04.5	-0.1
	comp=Z,2.0nm,0.5s,mb4.3,baz=224,slow=3.7,SNR=12						
ZAL				LR	LR	15 29 15.9	
	comp=Z,118nm,18.4s,MS4.0,baz=257,slow=38						
AKASG	Malin Array Be	53.29	335	P	P	15 05 11.0	-1.1
	comp=Z,0.5nm,0.5s,mb3.7,baz=133,slow=6.2,SNR=9.8						
SONM	Songino Array	57.12	34	P	P	15 05 38.9	-1.1
	comp=Z,2.7nm,0.8s,mb4.3,baz=239,slow=7.2,SNR=19						
SONM				LR	LR	15 30 05.5	
	comp=Z,153nm,19.3s,MS4.1,baz=252,slow=36						
ULN	Ulaanbaatar	57.51	34	eP	P	15 05 41.9	-0.8
	comp=Z,1.8nm,0.9s,mb4.1						
MORC	Moravsky Berou	58.33	328	eP	P	15 05 46.9	-1.4
	comp=Z,8.1nm,1.3s,mb4.6						
DPC	Dobruska-Polom	59.30	328	eP	P	15 05 55.9	+0.8
PRU	Pruhonice	60.07	327	eP	P	15 05 55.2	-5.2
KHC	Kasperske Hory	60.16	325	eP	P	15 05 57.3	-3.7
DAVOX	Davos	61.23	322	LR	LR	15 32 05.6	
	comp=Z,48nm,21.1s,MS3.6,baz=255,slow=36						
CLL	Collm	61.59	327	⇑eP	P	15 06 13.0	+2.2
	comp=Z,13nm,1.5s,mb4.8						
CLL				e		15 06 19.0	
CLL				e		15 08 01.0	
CLL	Collm	61.59	327	⇑P	P	15 06 13.0	+2.2
	comp=Z,logA/T=0.9,mb4.8						
CLL				e*SP	sP	15 06 19.0	+4.0
LPG	La Plagne	62.68	319	eP	P	15 06 18.7	+0.6
ORIF	Oris-en-Rattie	63.03	319	eP	P	15 06 20.0	-0.4
ORIF				eR			
	comp=Z,42nm,22.4s						
CDF	Champ du Feu	63.52	323	eP	P	15 06 23.5	-0.1
	comp=Z,28nm,1.3s,mb4.8						
HINF	Hinteralfeld	63.53	322	eP	P	15 06 23.0	-0.7
CABF	La Chapelle	63.53	320	eP	P	15 06 24.1	+0.4
	comp=Z,33nm,1.0s,mb5.0						
HAU	Haudompre	63.92	322	eP	P	15 06 25.6	-0.7
HAU				eR			
	comp=Z,45nm,20.0s						
LASF	Ste Croix	64.08	317	eP	P	15 06 26.9	-0.5
	comp=Z,34nm,1.5s,mb4.9						
LOR	Lormes	65.20	320	eP	P	15 06 33.6	-1.0
SSF	Saint Saulge	65.35	320	eP	P	15 06 35.0	-0.5
	comp=Z,14nm,1.0s,mb4.7						
BGF	Bois d'Agland	65.60	319	eP	P	15 06 37.1	0.0
	comp=Z,11nm,0.6s,mb4.7						
GIVF	Givet	65.67	324	eP	P	15 06 37.6	+0.1
TCF	Toulx Ste Croi	65.92	319	eP	P	15 06 38.7	-0.5
LFF	La Frestale	66.47	317	eP	P	15 06 41.7	-1.1
DBIC	Dimbokro	66.56	275	P	P	15 06 44.7	+0.9
	comp=Z,6.0nm,0.9s,mb4.6,baz=26,slow=5.9,SNR=4.3						
DBIC				LR	LR	15 35 32.3	
	comp=Z,77nm,18.2s,MS4.0,baz=79,slow=36						
DBIC	Dimbokro	66.56	275	eP	P	15 06 45.0	+1.2
	comp=Z,12nm,1.1s,mb4.8						
DBIC				LR	LR	15 35 32.3	
ETSF	Etsaut	66.79	315	eP	P	15 06 44.3	-0.5
	comp=Z,8.4nm,1.0s,mb4.4						
NOA	NORSAR Array B	67.66	336	P	P	15 06 48.4	-1.6
	comp=Z,0.6nm,0.8s,mb3.7,baz=92,slow=11,SNR=2.7						
ESDC	Sonseca Array	68.52	311	P	P	15 06 55.3	-0.5
	comp=Z,1.4nm,0.8s,mb4.0,baz=83,slow=5.7,SNR=6.8						
ARCES	ARCESS Array B	68.85	347	P	P	15 06 57.7	+0.4
	comp=Z,2.0nm,0.9s,mb4.0,baz=135,slow=6.4,SNR=6.2						
ARCES				LR	LR	15 37 48.6	
	comp=Z,46nm,18.1s,MS3.8,baz=56,slow=36						
ARCES	ARCESS Array B	68.85	347	P	P	15 06 57.7	+0.4
ARCES				LR	LR	15 37 48.6	
MAW	Mawson	72.33	180	LR	LR	15 34 46.0	
	comp=Z,103nm,18.9s,MS4.1,baz=230,slow=32						
WRA	Warramunga Arr	75.12	112	P	P	15 07 35.3	-0.2
	comp=Z,14nm,0.9s,mb4.9,baz=289,slow=5.2,SNR=52						
WRAB	Tennant Creek	75.13	112	eP	P	15 07 35.6	0.0
	comp=Z,65nm,1.4s,mb5.4						
WB2	Warramunga Arr	75.14	112	eP	P	15 07 35.7	+0.1
MJAR	Matsushiro Arr	75.97	54	P	P	15 07 39.9	-0.1
	comp=Z,1.3nm,0.9s,mb3.9,baz=270,slow=10,SNR=6.4						
MJAR				LR	LR	15 42 37.8	
	comp=Z,99nm,20.7s,MS4.1,baz=225,slow=37						
STKA	Stephens Creek	83.71	123	P	P	15 08 21.7	0.0
	comp=Z,2.7nm,0.8s,mb4.4,baz=266,slow=12,SNR=3.4						
VNDA	Vanda	96.86	168	LR	LR	15 46 46.0	
	comp=Z,77nm,20.3s,MS4.2,baz=273,slow=32						
NVAR	Mina Array Bea	136.90	0	PKP	PKPdf	15 15 15.9	-1.4
	comp=Z,1.1nm,0.9s,baz=45,slow=1.6,SNR=6.3						
TXAR	Lajitas Array	143.32	339	PKP	PKPdf	15 15 26.2	-2.9
	comp=Z,0.8nm,0.9s,baz=63,slow=2.8,SNR=7.2						

JMA 03 15:19:13.9±0.2, 30.03N×141.68E, h51km, M4.4

IDC 03 15:19:15.2±2.2, 29.63N×140.58E, h69km±32km, mb3.6/3, mb1 3.7/6, mb1mx3.3/24, mbtmp3.9/6, ML3.6/3, Error ellipse: s-maj=94.6km s-min=12.1km az=69.0

ISC 03 15:19:14.0±0.5, 29.94N±0.06×141.4E±0.2, h89km±11km, n17, σ1ˢ11/28, mb3.7/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.92	166	P	P	15 19 59.9	+0.3
	18nm,0.3s,baz=297,slow=22,SNR=6.5						
CBIJ				S	S	15 20 33.0	-0.7
	50nm,0.3s,baz=286,slow=21,SNR=9.5						
CBIJ	Chichi jima	2.92	166	P	P	15 19 59.7	+0.2
CBIJ				eS	S	15 20 34.0	+0.3
JHHJ	Haha-jima-NKT	3.37	168	P	P	15 20 06.2	+0.4
JHHJ				eS	S	15 20 44.1	-0.7
JHJ2	Mitsune	3.43	337	P	P	15 20 06.5	-0.1
JHJ2				S	S	15 20 45.6	-0.7
JHJ	Hachijo jima 2	3.45	337	P	P	15 20 06.8	-0.1
	4.8nm,0.3s,baz=198,slow=20,SNR=4.6						
JHJ				S	S	15 20 45.0	-1.8
	48nm,0.3s,baz=58,slow=23,SNR=12						
BSO1	Boso 1	4.71	356	eS	S	15 21 17.1	-0.9
BSO3	Boso 3	4.90	352	P	P	15 20 27.5	+0.7
BSO3				eS	S	15 21 21.5	-1.2
JOD2	Odawara 2	5.65	341	P	P	15 20 39.4	+2.4
JHU	Hanno	6.15	344	P	P	15 20 44.9	+1.0
JHU				eS	S	15 21 52.6	-1.0
JRY	Ryogami san	6.41	342	P	P	15 20 48.6	+1.1
JRY				eS	S	15 22 01.4	+1.6
JAG	Ashikaga	6.67	346	P	P	15 20 50.1	-1.0
JAG				eS	S	15 22 02.2	-3.9
JHO	Hitachi	6.69	354	P	P	15 20 51.2	-0.2
JHO				eS	S	15 22 01.4	-5.2
MJAR	Matsushiro Arr	7.10	339	P	P	15 20 58.0	+1.0
	1.1nm,0.3s,baz=161,slow=13,SNR=12						
MAT	Matsushiro	7.10	339	P	P	15 20 58.8	+1.7
MAT				S	S	15 22 16.6	-0.2
WRA	Warramunga Arr	50.06	189	P	P	15 27 59.6	-2.2
	0.6nm,0.5s,mb3.8,baz=5.3,slow=7.6,SNR=22						
WRA				PcP	PcP	15 29 21.1	+0.5
	0.5nm,0.9s,baz=359,slow=4.0,SNR=5.3						
BVAR	Borovoye Array	55.49	316	P	P	15 28 41.1	-0.7
	0.8nm,0.5s,mb4.0,baz=94,slow=7.5,SNR=8.7						
FINES	FINESS Array B	75.10	333	P	P	15 30 48.8	+1.3
	0.3nm,0.4s,mb3.3,baz=90,slow=6.9,SNR=5.5						

IDC 03 15:39:10.6±2.5, 25.98N×100.61E, mb3.1/2, mb1 3.2/2, mb1mx3.1/19, mbtmp3.2/2, Error ellipse: s-maj=72.7km s-min=23.9km az=97.0

BJI 03 15:39:07.8, 25.88N×101.18E, h16km, ML3.2, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	1.60	118	PG	Pn	15 39 35.4	-0.3
KMI				SG	Sn	15 39 53.4	-2.7
KMI				Smax			
	comp=N,380nm,0.7s						
KMI				Smax			
	comp=E,250nm,0.8s						
KMI				LR	LR		
	comp=N,1μm,3.8s						
KMI				LR	LR		
	comp=E,560nm,3.8s						
CMAR	Chiang Mai Arr	7.67	196	Pg	Pn	15 41 31.4	+30
	comp=E,0.2nm,0.3s,baz=6.3,slow=16,SNR=11						
CMAR				Lg		15 43 11.6	
	comp=E,0.3nm,0.3s,baz=3.5,slow=30,SNR=9.2						
SONM	Songino Array	22.30	9	P	P	15 44 08.0	+2.1
	comp=E,0.6nm,0.9s,baz=190,slow=8.8,SNR=3.4						
MKAR	Makanchi Array	25.70	329	P	P	15 44 40.5	+1.6
	comp=E,0.3nm,0.6s,baz=134,slow=11,SNR=3.8						

WEL 03 15:53:55.5±0.3, 37.51S×177.79E, h97km±2km, ML4.0/10, 3C, Error ellipse: s-maj=1.9km s-min=1.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.41	98	PN	P	15 54 10.5	0.0
MXZ				SN	S	15 54 21.4	-0.4
WIZ	White Island	0.48	267	PN	P	15 54 10.7	-0.3
PUZ	Puketiti	0.68	147	⇑PN	P	15 54 12.5	-0.2
PUZ				SN	S	15 54 24.9	-0.5
MWZ	Matawai	0.85	194	⇑PN	P	15 54 14.4	0.0
MWZ				SN	S	15 54 28.3	-0.1
URZ	Urewera	0.92	215	⇑PN	P	15 54 14.8	-0.3
URZ				SN	S	15 54 29.0	-0.7
MARZ	Manawahe	1.00	241	PN	P	15 54 15.9	-0.1
EDRZ	Edgecumbe	1.03	234	PN	P	15 54 16.3	+0.1
LIRZ	Lichensteins R	1.22	246	PN	P	15 54 17.9	-0.7
TAZ	Tarawera	1.25	234	PN	P	15 54 19.3	+0.3
PATZ	Paeroa	1.49	234	PN	P	15 54 22.0	+0.1
KNZ	Kokohu	1.51	183	PN	P	15 54 21.3	-0.9
KNZ				SN	S	15 54 40.9	-1.1
BKZ	Black Stump Fm	1.95	211	PN	P	15 54 26.8	-0.9
BKZ				SN	S	15 54 50.9	-0.6
RITZ	Rihia Road	2.12	225	PN	P	15 54 29.8	-0.2
KRVZ	Karewarewa	2.32	226	PN	P	15 54 32.5	-0.3
OTVZ	Oturere	2.35	225	PN	P	15 54 32.8	-0.5
OTVZ				SN	S	15 55 00.7	-0.7
WTVZ	West Tongariro	2.36	226	PN	P	15 54 33.2	-0.2
NGZ	Ngauruhoe	2.40	225	PN	P	15 54 33.3	-0.6
CNZ	Chateau	2.44	226	PN	P	15 54 33.8	-0.7
WPVZ	Whakapapa	2.45	225	PN	P	15 54 34.4	-0.2
FWVZ	Far West T-bar	2.48	225	PN	P	15 54 34.0	-1.0
MOVZ	Moawhango	2.48	219	PN	P	15 54 33.2	-1.8
MOVZ				SN	S	15 55 02.2	-2.4
WNVZ	Wahianoa	2.50	223	PN	P	15 54 33.9	-1.5
PWZ	Pawanui	2.62	196	PN	P	15 54 34.0	-3.0
VRZ	Vera Road	2.88	235	PN	P	15 54 35.9	-4.6
TSZ	Takapari Road	2.92	209	PN	P	15 54 38.0	-3.2
WAZ	Wanganui	3.14	224	PN	P	15 54 42.9	-1.3
BFZ	Birch Farm	3.39	200	PN	P	15 54 43.4	-4.1
MRZ	Mangatainoka R	3.59	208	PN	P	15 54 46.1	-4.1
MRZ				SN	S	15 55 25.9	-5.9
KIW	Kapiti Island	4.03	213	PN	P	15 54 52.0	-4.3
KIW				SN	S	15 55 36.6	-6.0
MTW	Mount Morrison	4.05	205	PN	P	15 54 51.5	-5.1
CAW	Cannon Point	4.17	210	PN	P	15 54 53.7	-4.5
TRWZ	Traveller	4.21	202	PN	P	15 54 53.6	-5.2
TCW	Tory Channel	4.59	215	PN	P	15 54 59.1	-4.9
TUWZ	Tuamarina	4.92	216	PN	P	15 55 03.1	-5.4
NNZ	Nelson	5.04	221	PN	P	15 55 04.4	-5.7

MOS 03 15:57:15.1±0.4, 55.56N×160.76E, h155km, mb4.2/1, Error ellipse: s-maj=56.1km s-min=13.4km az=78.7

KRSC 03 15:57:15.6±0.5, 55.54N×160.81E, h152km±2km, ML3.8, 1C, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	Kamenistaya	0.39	304	i P	P	15 57 37.8	+0.6
KMNR				eS	S	15 57 53.8	+0.1
TUMR	Tumrok	0.46	236	i P	P	15 57 38.7	+1.3
TUMR				eS	S	15 57 55.1	+0.9
ZLN	Zelenaya	0.48	360	i P	P	15 57 38.2	+0.7
ZLN				eS	S	15 57 54.2	-0.1
KPT	Kopyto	0.54	322	i P	P	15 57 37.9	+0.1
KPT				eS	S	15 57 53.6	-1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LGNR	Loginova	0.55	353	eP	P	15 57 38.4	+0.5
LGNR				eS	S	15 57 54.6	-0.3
CIRR	Tsirk	0.58	357	iP	P	15 57 38.7	+0.7
CIRR				eS	S	15 57 55.4	+0.2
KRSR	Krestovskiy	0.69	349	iP	P	15 57 39.0	+0.4
KRSR				eS	S	15 57 55.5	-0.8
KOZR	Kozyr	0.74	316	PN	P	15 57 39.2	+0.3
KOZR				S	S	15 57 55.6	-1.2
KOZ	Kozyrevsk	0.74	315	eP	P	15 57 39.2	+0.3
KOZ				eS	S	15 57 55.6	-1.2
KLY	Klyuchi	0.78	354	P	P	15 57 39.3	+0.1
KLY				S	S	15 57 56.7	-0.6
KLY	Klyuchi	0.78	354	iP	P	15 57 39.4	+0.2
KLY				eS	S	15 57 56.5	-0.8
SRDR	Sredinnyy	0.99	322	iP	P	15 57 40.8	+0.2
SRDR				eS	S	15 57 59.0	-0.9
MKZ	Mys Kozlova	1.12	151	P	P	15 57 42.3	+0.5
MKZ				S	S	15 58 02.1	+0.1
MKZ	Mys Kozlova	1.12	151	iP	P	15 57 42.4	+0.6
MKZ				eS	S	15 58 02.1	+0.1
ESO	Esso	1.25	289	iP	P	15 57 43.6	+0.5
ESO				iS	S	15 58 04.4	0.0
ESO				Smax			
	270nm,0.9s						
KBG	Krutoberegovo	1.29	55	iP	P	15 57 43.5	0.0
KBG				iS	S	15 58 04.0	-0.9
KBG				Smax			
	3μm,0.8s						
KBTR	Krutoberegovo	1.31	59	P	P	15 57 44.0	+0.3
KBTR				S	S	15 58 04.8	-0.7
KBTR	Krutoberegovo	1.31	59	iP	P	15 57 44.0	+0.3
KBTR				eS	S	15 58 04.5	-1.0
GNL	Ganaly	2.49	223	iP	P	15 57 58.6	+1.3
GNL				eS	S	15 58 29.8	+0.6
SPN	Mys Shipunski	2.49	191	P	P	15 57 56.4	-0.9
SPN				S	S	15 58 26.8	-2.4
SPN	Mys Shipunski	2.49	191	iP	P	15 57 56.4	-0.9
SPN				eS	S	15 58 26.9	-2.3
NLC	Nalytchevo	2.52	200	P	P	15 57 57.8	+0.1
NLC				S	S	15 58 29.3	-0.6
NLC	Nalytchevo	2.52	200	iP	P	15 57 57.9	+0.2
NLC				eS	S	15 58 29.4	-0.5
SDLR	Sedlovina	2.53	207	iP	P	15 57 59.1	+1.3
SDLR				eS	S	15 58 31.1	+1.0
SMAR	Somma	2.57	208	iP	P	15 57 59.6	+1.4
SMAR				eS	S	15 58 31.5	+0.7
AVH	Avacha	2.58	209	iP	P	15 58 00.1	+1.7
AVH				eS	S	15 58 32.6	+1.4
KOK	Koryaka	2.59	210	iP	P	15 58 00.3	+1.8
KOK				eS	S	15 58 33.1	+1.8
UGLR	Uglovaya	2.61	207	iP	P	15 58 00.2	+1.4
UGLR				iS	S	15 58 32.8	+1.0
PET	Petropavlovsk	2.82	208	P	P	15 58 02.3	+0.9
PET				S	S	15 58 37.1	+0.6
PET	Petropavlovsk	2.82	208	⇑iPN	P	15 58 01.8	+0.4
PET				iS	S	15 58 37.6	+1.1
PET				pmax	pmax		
	comp=Z,74nm,0.6s						
PET				smax			
	comp=E,84nm,0.5s						
PET				smax			
	comp=N,59nm,0.5s						
PET				MLR	MLR		
	comp=Z,100nm,12.0s						
PET				MLR	MLR		
	comp=N,100nm,13.0s						
PET	Petropavlovsk	2.82	208	iP	P	15 58 02.3	+0.9
PET				eS	S	15 58 36.2	-0.3
BKI	Bering	2.96	94	iP	P	15 58 03.5	+0.2
BKI				iS	S	15 58 38.1	-1.7
BKI				Smax			
	comp=N,190nm,0.5s						
APC	Apacha	3.38	221	iP	P	15 58 10.4	+1.7
APC				eS	S	15 58 50.4	+1.0
APC				Smax			
	comp=N,50nm,1.2s						
RUS	Russkaya	3.40	204	P	P	15 58 08.2	-0.7
RUS				S	S	15 58 48.1	-1.6
RUS	Russkaya	3.40	204	eP	P	15 58 08.2	-0.7
RUS				eS	S	15 58 47.3	-2.4
GRL	Gorelyy	3.40	209	eP	P	15 58 09.3	+0.4
GRL				eS	S	15 58 48.6	-1.2
OSSR	Ossora	3.91	17	eP	P	15 58 14.7	-0.9
OSSR				eS	S	15 58 57.7	-4.1
PAU	Pauzhetka	4.73	212	eP	P	15 58 28.0	+1.7
SKR	Severo-Kuril's	5.63	212	ePN	P	15 58 38.1	-0.1
SKR				e		15 59 37.1	
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
KAMR	Kamenskoye	7.47	20	eP	P	15 59 04.3	+1.3

CASC 03 16:03:19.7±2.6**, 8.33N×82.88W, h21**km±11km**, MD3.5, MW4.0, 4C-3D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.43	318	⇑eP	Pb	16 03 27.0	-1.5
ACR				eS	Sb	16 03 34.0	-0.5
DVD	David	0.44	76	⇑eP	Pb	16 03 28.0	-0.6
DVD				eS	Sb	16 03 35.1	+0.3
SVTC	San Vito de Co	0.46	350	⇑iP	Pb	16 03 28.5	-0.5
SVTC				eS	Sb	16 03 37.2	+1.9
PTP1	Petroterminal	0.47	106	⇓eP	Pb	16 03 23.9	-5.2
PTP1				eS	Sb	16 03 28.6	-7.0
BRU2	Volcan	0.49	22	eP	Pb	16 03 29.8	+0.1
BRU2				eS	Sb	16 03 38.2	+1.8
BRU	Baru	0.57	34	⇓iP	Pb	16 03 31.2	+0.4
BRU				eS	Sb	16 03 41.4	+3.0
CNI	Changuinola	1.14	18	⇓eP	Pb	16 03 40.4	-0.1
CNI				eS	Sb	16 03 55.8	+0.9
PRS1	Puriscal	2.16	319	⇑eP	Pn	16 03 55.8	+0.5
PRS1				eS	Sn	16 04 21.0	-0.7

*MOS **03** 16:15:23.6±1.4, 35.63N×26.90E, h10km, mb4.3/19, Error ellipse: s-maj=7.6km s-min=3.6km az=117.4*
*BJI **03** 16:15:26.1, 36.52N×26.55E, h21km, mB5.4, mb4.8, Ms4.7, Msz4.5*
*ATH **03** 16:15:27.3, 36.04N×27.00E, h12km±1km, ML4.5*
*NEIC **03** 16:15:27.5, 36.03N×27.02E, h13km, mb4.1/55, ML4.5(ATH), After ATH.*
*ZUR_RM **03** 16:15:27, 36.03N×27.02E, h9km, Mw4.2/17, Moment Tensor Solution. s17 Moment tensor: Scale 10^{15}Nm; Mrr-2.38; Mθθ0.20; Mφφ2.18; Mrθ0.58; Mθφ-0.07; Mφr-0.33; Best double couple: M0 2.37×10^{15} NP1:φs346°, δ51°, λ-105°. NP2:φs189°, δ42°, λ-72°. Principal axes: T 2.207, Plg4°, Azm87°; N .317, Plg12°, Azm356°; P -2.524, Plg77°, Azm197°;*
*THE **03** 16:15:28.3, 35.85N×27.18E, h24km*
*CSEM **03** 16:15:28.9±0.0, 35.86N×27.06E, h40km, mb4.3/21, Ms2.7, Error ellipse: s-maj=1.7km s-min=1.1km az=37.0*
*ISK **03** 16:15:29.0, 35.93N×26.82E, h32km, ML4.1*
*IDC **03** 16:15:31.9±2.6, 36.14N×26.90E, h38km±24km, mb3.8/11, mb1 3.9/14, mb1mx3.7/26, mbtmp4.0/14, ML4.0/3, MS3.1/3, Ms1 3.1/3, ms1mx2.6/30, Error ellipse: s-maj=19.3km s-min=13.1km az=139.0*

ISC 03 16:15:29.0±0.2**, 35.91N**±0.02×**26.99E**±0.02**, h33**km**, n268,** σ1§**44**/299**, mb4.2**/33**, MS3.4**/4**, 10C-9D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.39	159	⇑iPb	Pb	16 15 37.5	-0.4
KARP				eSb	Sb	16 15 44.1	+0.1
KARP	Karpathos	0.39	159	⇑iPB	Pb	16 15 37.5	-0.4
KARP				eSB	Sb	16 15 44.3	+0.3
KARP	Karpathos	0.39	159	iPb	Pb	16 15 37.5	-0.4
KARP				eSb	Sb	16 15 44.1	+0.1
ARG	Arkhangelos	0.97	71	⇑iPn	Pn	16 15 45.4	-1.1
ARG				eSb	Sb	16 15 57.3	-2.5
ARG	Arkhangelos	0.97	71	⇑iPB	Pn	16 15 45.4	-1.1
ARG				eSB	Sb	16 15 58.0	-1.8
ARG	Arkhangelos	0.97	71	iPn	Pn	16 15 45.4	-1.1
ARG				eSb	Sb	16 15 57.3	-2.5
BODT	Bodrum	1.18	13	PN	Pn	16 15 50.1	+0.7
BODT				SN	Sn	16 16 04.5	0.0
BDRM	Kayabasi	1.21	17	iP	P	16 15 49.9	+0.2
NPS	Neapolis	1.29	241	ePG	P	16 15 53.1	+2.3
NPS				eSB	Sb	16 16 11.1	+2.1
THR1	Thera Island	1.32	291	ePg	P	16 15 52.1	+0.8
THR1				eSg	S	16 16 10.6	+2.7
SANT	Santorini	1.32	291	⇓iPn	Pn	16 15 52.0	+0.5
SANT				eSn	Sn	16 16 09.7	+1.6
SANT	Santorini	1.32	291	⇓iPn	Pn	16 15 52.0	+0.5
SANT				eSn	Sn	16 16 09.7	+1.6
THR3	Thira Island,	1.38	292	ePg	P	16 15 53.0	+0.8
THR4	Thira Island,	1.40	294	ePg	P	16 15 53.1	+0.7
THR5	Thira Island,	1.42	291	ePg	P	16 15 53.4	+0.6
THR5	Thira Island,	1.42	291	ePg	P	16 15 53.3	+0.6
XRY	Khrisi	1.48	226	ePB	Pb	16 15 57.0	+1.2
MLSB	Milas	1.52	24	PN	Pn	16 15 55.4	+1.1
MLSB				SN	Sn	16 16 14.7	+1.5
DALT	Dalyan (Mudla)	1.58	57	PN	Pn	16 15 56.6	+1.4
YER	Yerkesik	1.61	40	PN	Pn	16 15 56.4	+0.8
APE	Apeiranthos	1.65	315	PN	Pn	16 15 54.9	-1.3
APE	Apeiranthos	1.65	315	ePg	P	16 15 56.0	0.0
APE				eSb	Sb	16 16 19.8	+0.5
SMG	Samos	1.80	356	ePN	Pn	16 15 57.2	-1.1
SMG				eSB	Sb	16 16 21.2	-2.4
SMG	Samos	1.80	356	ePn	Pn	16 15 57.0	-1.3
IDI	Anoyia	1.82	251	Pn	Pn	16 16 00.7	+2.1
	8.6nm,0.3s,baz=66,slow=14,SNR=41						
IDI				Sn	Sn	16 16 22.7	+2.0
	106nm,0.3s,baz=112,slow=21,SNR=12						
IDI				LR	LR	16 16 50.9	
	comp=Z,411nm,20.3s,baz=86,slow=43						
AYDN	Tasoluk	1.89	22	iP	P	16 16 02.5	+3.1
KSL	Kastellorizon	2.12	83	ePN	Pn	16 16 04.5	+1.6
AKAS	Kas	2.14	81	iP	P	16 16 04.2	+1.1
AKAS				iS	S	16 16 36.7	+7.9
VAM	Vamos	2.33	258	ePN	Pn	16 16 08.7	+2.8
VAM	Vamos	2.33	258	eP	P	16 16 09.6	+3.9
DNZL	Cakiroluk	2.43	42	iP	P	16 16 08.3	+1.2
GOLH	Golhisar	2.46	57	iP	P	16 16 09.6	+2.0
GOLH				iS	S	16 16 41.3	+4.6
DENT	Denizli	2.46	41	PN	Pn	16 16 09.8	+2.0
URLA	Izmir	2.47	353	iP	P	16 16 06.0	-1.7
URLA				iS	S	16 16 48.8	+12
IZM	Izmir	2.49	5	PN	Pn	16 16 08.3	0.0
KDAG	Bornova	2.50	5	iP	P	16 16 07.2	-1.0
ELL	Elmali	2.50	70	PN	Pn	16 16 10.4	+2.0
GVD	Gavdhos	2.60	247	Pn	Pn	16 16 10.8	+1.0
GVD	Gavdhos	2.60	247	Pn	Pn	16 16 10.8	+1.0
AKS	Akhisar	3.04	12	PN	Pn	16 16 16.2	+0.2
ANTB	Antalya	3.12	70	ePN	Pn	16 16 18.9	+1.8
KYTH	Kithira	3.22	278	ePN	Pn	16 16 19.5	+0.9
BCK	Bucak	3.28	61	ePN	Pn	16 16 22.1	+2.7
PTL	Penteli	3.29	311	ePN	Pn	16 16 20.0	+0.4
ATH	Athens Observa	3.33	309	ePN	Pn	16 16 21.2	+1.0
ATH	Athens Observa	3.33	309	ePb	Pb	16 16 21.8	-5.5
NAIG	Nisos Aigina	3.36	304	ePN	Pn	16 16 21.5	+0.9
VLI	Veliai	3.37	285	ePN	Pn	16 16 21.6	+0.9
PRK	Paraskevi	3.38	350	ePN	Pn	16 16 20.0	-0.8
PRK				eSN	S	16 17 00.3	+0.1
PRK	Paraskevi	3.38	350	ePn	Pn	16 16 20.2	-0.6
PRK				eS	S	16 17 00.3	+0.1
TKTP	Tekketepe	3.41	50	iP	P	16 16 23.9	+2.7
TKTP				iS	S	16 16 54.4	-6.6
ISP	Isparta	3.42	55	ePN	Pn	16 16 22.6	+1.2
ISP	Isparta	3.42	55	ePn	Pn	16 16 23.6	+2.2
ISP	Isparta	3.42	55	eP	P	16 16 23.6	+2.4
MPAR	Parnis Oros	3.43	312	ePN	Pn	16 16 22.8	+1.2
GDZ	Gediz	3.74	31	iP	P	16 16 25.2	-0.6
GDZ				iS		16 16 28.4	
BALB	Balikesir	3.79	10	ePN	Pn	16 16 27.4	+0.7
ALT	Altintas	4.00	37	ePN	Pn	16 16 31.1	+1.4
AOS	Alonnisos	4.09	324	ePn	Pn	16 16 30.4	-0.5
CANB	Canakkale	4.10	1	ePN	Pn	16 16 31.1	0.0
LKR	Lokris	4.20	312	ePN	Pn	16 16 32.7	+0.2
ITM	Ithomi	4.27	289	ePn	Pn	16 16 36.0	+2.5
ITM	Ithomi	4.27	289	ePN	Pn	16 16 35.8	+2.3
LOS	Limnos	4.29	340	ePn	Pn	16 16 32.5	-1.3
ULDT	Uludag	4.55	21	iP	P	16 16 42.5	+5.1
HDMB	Hadim	4.55	75	ePN	Pn	16 16 39.6	+2.1
XOR	Xorichti	4.58	320	ePn	Pn	16 16 37.1	-0.8
ERMK	Ermenek	4.84	80	iP	P	16 16 43.9	+2.4
ERMK				iS	S	16 17 32.4	-4.7
KDHN	Kadinhani	4.85	56	iP	P	16 16 42.1	+0.5
KIZT	Kizilcal	4.89	51	ePN	Pn	16 16 43.9	+1.6
ALN	Alexandroupoli	5.04	352	ePn	Pn	16 16 42.3	-2.0
CSS	Prodhromos	5.26	98	ePn	Pn	16 16 47.2	-0.3
	48nm,0.8s						
CSS				eSn	Sn	16 17 43.4	-4.4
CSS	Prodhromos	5.26	98	ePn	Pn	16 16 47.2	-0.3
	48nm,0.8s						
CSS				eSn	Sn	16 17 43.4	-4.4
IKL	Isikli	5.43	85	ePN	Pn	16 16 51.5	+1.6
MEST	Erdemli	5.82	81	iP	P	16 16 56.6	+1.4
MEST				iS	S	16 17 54.7	-7.0
RZN	Rozhen	6.04	344	iP	P	16 16 57.0	-1.2
MMB	Musomiste	6.22	337	iP	P	16 16 59.0	-1.8
MMB	Musomiste	6.22	337	iP	P	16 16 59.0	-1.8
BRTR	Keskin Array B	6.50	52	Pn	Pn	16 17 03.4	-1.6
	1.6nm,0.3s,baz=135,slow=17,SNR=22						
BRTR				Sn	Sn	16 18 16.9	-1.8
	baz=230,slow=20,SNR=2.6						
BRTR	Keskin Array B	6.50	52	Pn	Pn	16 17 03.3	-1.6
BRTR				Sn	Sn	16 18 16.9	-1.7
BR131	Keskin Array S	6.50	52	ePn	Pn	16 17 03.1	-1.8
	3.4nm,0.3s						
BR131	Keskin Array S	6.50	52	ePn	Pn	16 17 03.1	-1.8
	3.4nm,0.3s						
KKB	Krupnik	6.68	334	iP	P	16 17 06.0	-1.4
VTS	Vitosha	7.29	337	iP	P	16 17 16.0	+0.2
KZIT	Kziot	7.95	127	S	S	16 18 49.4	-5.4
MZDA	Masada	8.35	121	S	S	16 19 00.3	-4.5
KMTI	Karmit	8.70	130	S	S	16 19 05.3	-8.1
PRNI	Paran	8.71	127	S	S	16 19 09.3	-4.4
ASF	Jabal al Asfar	9.03	112	Sn	Sn	16 19 21.6	-0.1
	0.6nm,0.3s,baz=341,slow=22,SNR=3.2						
MBH	Mount Berech	9.03	130	S	S	16 19 15.9	-5.8
EIL	Elat	9.14	131	Pn	P	16 17 40.0	-1.6
	1.0nm,0.3s,baz=333,slow=18,SNR=11						
EIL				Sn	Sn	16 19 17.2	-7.3
	3.2nm,0.3s,baz=302,slow=29,SNR=8.1						
EIL	Elat	9.14	131	ePn	P	16 17 39.6	-1.9
	11nm,0.8s						
EIL				eSn	Sn	16 19 13.9	-11
EIL	Elat	9.14	131	S	S	16 19 16.9	-7.5
EIL	Elat	9.14	131	ePn	P	16 17 39.6	-1.9
	11nm,0.8s						
EIL				eSn	Sn	16 19 13.9	-11
ALWS	Ilw as Safayha	9.47	132	P	P	16 17 44.5	-1.5
ALWS				S	S	16 19 26.0	-6.4
HAQS	Haql	9.57	133	P	P	16 17 46.0	-1.5
HAQS				S	S	16 19 27.4	-7.6
JMOS	Jabal al Moall	9.60	132	S	S	16 19 29.3	-6.3
JMOS				P		16 17 46.3	
DIVS	Divcibare	9.78	329	⇓iPn	P	16 17 50.6	+0.3
TAYS	Tayyib Ism	9.91	136	P	P	16 17 51.6	-0.6
BDAS	Al Bad'	10.13	135	P	P	16 17 54.4	-0.8
JMQS	Jabal Moqyreh	10.27	131	P	P	16 17 55.5	-1.6
JMQS				S	S	16 19 46.7	-5.4
TBKS	Tabuk	11.15	131	P	P	16 18 08.5	-0.6
CII	Carovilli	11.47	304	ePn	P	16 18 14.3	+0.9
PSZ	Piszkesteto	13.10	338	P	P	16 18 35.4	+0.1
PSZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PSZ	Piszkesteto	13.10	338	Pn	P	16 18 35.4	+0.1
	comp=Z,6.3nm,0.8s						
PSZ				epPn		16 18 43.8	
PSZ	Piszkesteto	13.10	338	Pn	P	16 18 35.4	+0.1
KOLS	Kolonicke sedl	13.47	347	eP	P	16 18 46.3	+6.2
KOLS	Kolonicke sedl	13.47	347	e	P	16 18 46.3	+6.2
UMJS	Umm Lajj	13.85	137	P	P	16 18 45.7	+0.5
VYHS	Vyhne	13.94	337	eP	P	16 18 51.4	+5.2
VYHS	Vyhne	13.94	337	e	P	16 18 51.4	+5.2
ZST	Bratislava	14.29	332	eP	P	16 18 54.0	+3.2
VSL	Villasalto	14.40	290	eP	P	16 18 59.8	+7.5
KIV	Kislovodsk	14.46	51	eP	P	16 18 54.2	+1.1
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KIV				pmax	pmax		
	comp=N,2.0nm,0.5s						
KIV				MLR	MLR		
	comp=E,27nm,15.0s						
KIV				MLR	MLR		
	comp=Z,29nm,15.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KIV	Kislovodsk	14.46	51	eP	P	16 18 54.2	+1.1
	comp=Z,2.0nm,0.5s						
GNI	Garni	14.62	68	LR	LR	16 25 43.5	
	comp=Z,135nm,18.8s,baz=152,slow=42						
GNI	Garni	14.62	68	P	P	16 18 55.2	0.0
ZEI	Tsey	14.76	57	eP	P	16 19 04.3	+7.3
AKASG	Malin Array Be	14.87	6	Pn	P	16 18 57.7	-0.7
	comp=Z,1.0nm,0.3s,baz=193,slow=10,SNR=6.4						
KBA	Koelnbreinsper	15.11	322	⇓iP	P	16 19 03.4	+1.9
	comp=Z,15nm,0.7s						
KBA	Koelnbreinsper	15.11	322	⇓iP	P	16 19 03.4	+1.9
KBA				pmax	pmax		
	comp=Z,15nm,0.7s						
MOA	Molln	15.21	326	⇑iP	P	16 19 08.9	+6.0
	comp=Z,17nm,1.6s						
OJC	Ojcow	15.23	342	eP	P	16 19 07.9	+4.9
OKC	Ostrava-Krasne	15.34	338	eP	P	16 19 09.1	+4.6
MORC	Moravsky Berou	15.48	336	eP	P	16 19 10.5	+4.2
MORC				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MORC	Moravsky Berou	15.48	336	eP	P	16 19 10.5	+4.2
	comp=Z,8.4nm,1.2s						
WTTA	Wattenberg	16.11	319	⇑iP	P	16 19 17.4	+3.0
	comp=Z,12nm,1.0s						
WTTA	Wattenberg	16.11	319	⇑iP	P	16 19 17.4	+3.0
WTTA				pmax	pmax		
	comp=Z,13nm,1.0s						
WATA	Walderalm	16.19	320	⇑iP	P	16 19 16.7	+1.3
	comp=Z,9.9nm,1.1s						
WATA	Walderalm	16.19	320	⇑iP	P	16 19 16.7	+1.3
WATA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GEC2	GERESS Array S	16.20	327	eP	P	16 19 20.2	+4.7
GEC2				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GEC2	GERESS Array S	16.20	327	eP	P	16 19 20.2	+4.7
	comp=Z,9.0nm,1.0s						
GERES	GERESS Array B	16.20	327	Pn	P	16 19 16.0	+0.5
	comp=Z,0.3nm,0.3s,baz=130,slow=12,SNR=23						
SQTA	Sankt Quirin	16.31	319	⇓iP	P	16 19 17.8	+0.8
	comp=Z,3.9nm,0.9s						
SQTA	Sankt Quirin	16.31	319	⇓iP	P	16 19 17.8	+0.8
SQTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DPC	Dobruska-Polom	16.37	335	eP	P	16 19 21.7	+4.0
KHC	Kasperske Hory	16.47	327	eP	P	16 19 20.6	+1.7
UPC	Upice	16.61	335	eP	P	16 19 22.0	+1.3
PRU	Pruhonice	16.73	331	eP	P	16 19 24.7	+2.5
DAVOX	Davos	16.79	316	LR	LR	16 26 00.0	
	comp=Z,59nm,21.5s,baz=87,slow=38						
WET	Wettzell	16.79	326	eP	P	16 19 25.5	+2.6
WET				pmax	pmax		
	comp=Z,11nm,0.9s						
WET	Wettzell	16.79	326	eP	P	16 19 25.5	+2.6
	comp=Z,11nm,0.9s						
KSP	Ksiaz	16.80	336	eP	P	16 19 24.3	+1.2
SBF	Sospel	16.96	304	eP	P	16 19 22.5	-2.6
	comp=Z,24nm,0.9s						
SBF	Sospel	16.96	304	eP	P	16 19 22.5	-2.6
SBF				pmax	pmax		
	comp=Z,12nm,0.9s						
DAVA	Damuels	17.08	317	⇓iP	P	16 19 27.9	+1.3
	comp=Z,11nm,0.7s						
FRF	La Foret Royal	17.39	302	eP	P	16 19 28.0	-2.5
	comp=Z,26nm,1.1s						
FRF	La Foret Royal	17.39	302	eP	P	16 19 28.0	-2.5
FRF				pmax	pmax		
	comp=Z,13nm,1.1s						
LMR	La Mourre	17.41	301	eP	P	16 19 27.5	-3.3
	comp=Z,27nm,1.0s						
LMR	La Mourre	17.41	301	eP	P	16 19 27.5	-3.3
LMR				pmax	pmax		
	comp=Z,14nm,1.0s						
BRG	Berggiesshubel	17.67	332	eP	P	16 19 34.6	+0.7
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRG	Berggiesshubel	17.67	332	eP	P	16 19 34.6	+0.7
	comp=Z,3.6nm,1.0s						
BRG	Berggiesshubel	17.67	332	eP	P	16 19 34.6	+0.7
	comp=Z,3.6nm,1.0s						
MBDF	Montbardon	17.72	306	eP	P	16 19 34.3	-0.4
	comp=Z,9.9nm,0.8s						
MBDF	Montbardon	17.72	306	eP	P	16 19 34.3	-0.4
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GUNZ	Gunzen	17.93	328	eP	P	16 19 38.0	+0.8
	comp=Z,4.0nm,0.8s						
GRFO	Grafenberg	17.94	325	eP	P	16 19 38.6	+1.3
GRFO				pmax	pmax		
	comp=Z,77nm,0.9s						
GRFO	Grafenberg	17.94	325	eP	P	16 19 38.6	+1.3
	comp=Z,9.0nm,0.9s						
WERD	Werda	18.00	328	eP	P	16 19 38.6	+0.5
	comp=Z,4.0nm,0.8s						
LPG	La Plagne	18.05	308	eP	P	16 19 38.9	+0.2
	comp=Z,11nm,0.8s						
LPG	La Plagne	18.05	308	eP	P	16 19 38.9	+0.2
LPG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LPL	La Plagne	18.07	308	eP	P	16 19 38.9	-0.1
	comp=Z,12nm,0.9s						
LPL	La Plagne	18.07	308	eP	P	16 19 38.9	-0.1
LPL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SMRF	Simiane la Rot	18.26	303	eP	P	16 19 40.1	-1.3
	comp=Z,6.6nm,0.9s						
SUW	Suwalki	18.30	353	eP	P	16 19 41.8	-0.1
SUW				pmax	pmax		
	comp=Z,17nm,0.3s						
SUW	Suwalki	18.30	353	eP	P	16 19 41.8	-0.1
	comp=Z,17nm,0.3s						
SUW	Suwalki	18.30	353	eP	P	16 19 41.8	-0.1
	comp=Z,17nm,0.3s						
CLL	Collm	18.38	331	iP	P	16 19 44.5	+1.7
CLL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CLL	Collm	18.38	331	iP	P	16 19 44.5	+1.7
	comp=Z,6.0nm,0.7s						
CLL				e		16 19 57.0	
CLL	Collm	18.38	331	i *PP	P	16 19 44.5	+1.7
CLL				e*SPP		16 19 57.0	
ORIF	Oris-en-Rattie	18.38	306	eP	P	16 19 41.7	-1.3
	comp=Z,6.1nm,0.7s						
ORIF				eR			
	comp=Z,74nm,18.2s						
MOX	Moxa	18.44	328	eP	P	16 19 45.0	+1.3
MOX				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MOX	Moxa	18.44	328	iP	P	16 19 45.0	+1.3
	comp=Z,logA/T=0.9						
MOX	Moxa	18.44	328	eP	P	16 19 45.0	+1.3
	comp=Z,9.0nm,1.0s						
CABF	La Chapelle	18.95	311	eP	P	16 19 45.6	-4.2
	comp=Z,20nm,0.8s						
CABF	La Chapelle	18.95	311	eP	P	16 19 45.6	-4.2
CABF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HINF	Hinteralfeld	19.08	315	eP	P	16 19 49.6	-1.7
	comp=Z,11nm,0.9s						
HINF	Hinteralfeld	19.08	315	eP	P	16 19 49.6	-1.7
HINF				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CDF	Champ du Feu	19.16	317	eP	P	16 19 51.0	-1.2
	comp=Z,14nm,0.9s						
CDF	Champ du Feu	19.16	317	eP	P	16 19 51.0	-1.2
CDF				pmax	pmax		
	comp=Z,7.0nm,0.9s						
VIVF	Saint-Julien-l	19.16	305	eP	P	16 19 50.6	-1.6
	comp=Z,8.6nm,0.7s						
VIVF	Saint-Julien-l	19.16	305	eP	P	16 19 50.6	-1.6
VIVF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LASF	Ste Croix	19.47	302	eP	P	16 19 54.1	-1.5
	comp=Z,9.0nm,1.0s						
HAU	Haudompre	19.47	315	eP	P	16 19 54.3	-1.3
	comp=Z,15nm,0.7s						
HAU				eR			
	comp=Z,47nm,17.4s						
OBN	Obninsk	20.31	16	⇑eP	P	16 20 07.8	+3.2
OBN				eS	S	16 23 44.9	-0.6
OBN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SMF	Signal de Mont	20.37	309	eP	P	16 20 02.7	-2.6
MTLF	Montolieu	20.43	299	eP	P	16 20 03.8	-2.1
	comp=Z,9.9nm,0.9s						
MTLF	Montolieu	20.43	299	eP	P	16 20 03.8	-2.1

MTLF pmax pmax
comp=Z,5.0nm,0.9s
MEZF Maizieres J'vi 20.47 315 *e*P **P 16 20 04.6 -1.7**
comp=Z,28nm,0.9s
WLF Walferdange 20.47 319 *e*P **P 16 20 05.2 -1.1**
WLF pmax pmax
comp=Z,13nm,1.0s
WLF Walferdange 20.47 319 *e*P **P 16 20 05.2 -1.2**
comp=Z,13nm,1.0s
WLF Walferdange 20.47 319 *e*P **P 16 20 05.2 -1.1**
comp=Z,13nm,1.0s
LOR Lormes 20.61 311 *e*P **P 16 20 05.6 -2.2**
comp=Z,9.7nm,0.8s
LOR *e*R
comp=Z,65nm,21.8s
LOR Lormes 20.61 311 *e*P **P 16 20 05.6 -2.2**
LOR pmax pmax
comp=Z,5.0nm,0.8s
LOR MLR MLR
comp=Z,70nm,21.8s,MS3.0
EMIR Miracle 20.66 295 P **P 16 20 07.0 -1.4**
comp=Z,76nm,1.5s
EMIR Miracle 20.66 295 P **P 16 20 07.0 -1.4**
comp=Z,76nm,1.5s,SNR=7.9
SSF Saint Saulge 20.74 310 *e*P **P 16 20 07.2 -2.0**
SSF pmax pmax
comp=Z,14nm,0.7s
SSF Saint Saulge 20.74 310 *e*P **P 16 20 07.2 -2.0**
comp=Z,14nm,0.7s
EPOB Poblet 20.92 293 P **P 16 20 09.5 -1.5**
comp=Z,29nm,1.0s
EPOB Poblet 20.92 293 P **P 16 20 09.5 -1.6**
comp=Z,29nm,1.0s,SNR=13
CAF Calviac 20.94 303 *e*P **P 16 20 09.7 -1.5**
comp=Z,14nm,1.1s
CAF Calviac 20.94 303 *e*P **P 16 20 09.7 -1.5**
CAF pmax pmax
comp=Z,7.0nm,1.1s
BGF Bois d'Agland 20.96 308 *e*P **P 16 20 09.6 -1.9**
comp=Z,19nm,1.0s
BGF Bois d'Agland 20.96 308 *e*P **P 16 20 09.6 -1.9**
BGF pmax pmax
comp=Z,9.0nm,1.0s
TCF Toulx Ste Croi 21.28 307 *e*P **P 16 20 12.9 -1.7**
EBR Ebro Roquetas 21.31 291 *e*P **P 16 20 17.5 +2.5**
EBR *e*Ts 16 20 25.2
RJF Les Rejaudoux 21.42 304 *e*P **P 16 20 14.9 -1.2**
comp=Z,8.9nm,0.8s,mb3.9
RJF *e*R
comp=Z,68nm,22.2s
RJF Les Rejaudoux 21.42 304 *e*P **P 16 20 14.9 -1.2**
RJF pmax pmax
comp=Z,4.0nm,0.8s,mb3.8
RJF MLR MLR
comp=Z,70nm,22.3s,MS3.0
GIVF Givet 21.43 318 *e*P **P 16 20 14.6 -1.5**
DOU Dourbes 21.55 318 P **P 16 20 15.9 -1.4**
EPF Esparros 21.71 297 *e*P **P 16 20 16.8 -2.2**
BAIF Baives 21.74 318 *e*P **P 16 20 18.1 -1.1**
comp=Z,35nm,1.0s,mb4.5
BAIF Baives 21.74 318 *e*P **P 16 20 18.1 -1.1**
BAIF pmax pmax
comp=Z,18nm,1.0s,mb4.5
EBIE Bielsa 21.80 296 P **P 16 20 20.4 +0.6**
comp=Z,17nm,2.2s,mb4.1,SNR=7.9
EBEN Beniarda 21.80 286 P **P 16 20 20.0 +0.2**
comp=Z,13nm,1.2s,mb4.2
EBEN Beniarda 21.80 286 P **P 16 20 20.0 +0.1**
comp=Z,13nm,1.2s,mb4.2,SNR=7.9
FLN La Foliniere 23.88 311 *e*P **P 16 20 38.1 -2.1**
FLN *e*R
comp=Z,60nm,18.0s
GRR Gorron 23.97 310 *e*P **P 16 20 39.8 -1.3**
comp=Z,29nm,1.0s,mb4.3
GRR Gorron 23.97 310 *e*P **P 16 20 39.8 -1.3**
GRR pmax pmax
comp=Z,14nm,1.0s,mb4.3
EQES Quesada 24.08 283 P **P 16 20 42.5 +0.2**
comp=Z,31nm,1.6s,mb4.5
EQES Quesada 24.08 283 P **P 16 20 42.5 +0.2**
comp=Z,31nm,1.6s,mb4.5,SNR=4.7
ELAN Lanestosa 24.47 297 P **P 16 20 47.7 +1.7**
comp=Z,72nm,1.4s,mb4.9
ELAN Lanestosa 24.47 297 P **P 16 20 47.7 +1.7**
comp=Z,72nm,1.4s,mb4.9,SNR=7.9
EBAN Banos Encina 24.62 284 P **P 16 20 47.2 -0.3**
EBAN pmax pmax
comp=Z,2.0nm,0.4s,mb4.0
EBAN Banos Encina 24.62 284 P **P 16 20 47.2 -0.3**
comp=Z,1.9nm,0.4s,mb4.0
EBAN Banos Encina 24.62 284 P **P 16 20 47.2 -0.3**
comp=Z,1.9nm,0.4s,mb4.0,SNR=7.9
ESDC Sonseca Array 24.68 288 P **P 16 20 48.3 +0.2**
comp=Z,3.9nm,0.7s,mb4.0,baz=78,slow=10,SNR=17
SGMF Saint Gilles 25.00 309 *e*P **P 16 20 49.5 -1.5**
ELUQ Luque 25.05 283 P **P 16 20 50.3 -1.3**
ELUQ pmax pmax
comp=Z,4.0nm,0.7s,mb4.1
ELUQ Luque 25.05 283 P **P 16 20 50.3 -1.3**
comp=Z,3.7nm,0.7s,mb4.0,SNR=5.5
QUIF Quistinic 25.28 308 *e*P **P 16 20 51.5 -2.2**
comp=Z,18nm,0.8s,mb4.3
QUIF Quistinic 25.28 308 *e*P **P 16 20 51.5 -2.2**
QUIF pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
ROSF Rostrenen 25.48 309 *e*P **P 16 20 53.2 -2.3**
comp=Z,11nm,0.6s,mb4.3
ROSF Rostrenen 25.48 309 *e*P **P 16 20 53.2 -2.3**
ROSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
FINES FINESS Array B 25.56 359 P **P 16 20 54.4 -1.8**
comp=Z,1.9nm,0.8s,mb3.6,baz=146,slow=14,SNR=8.1
EMIJ Mijas 25.57 281 P **P 16 20 55.8 -0.7**
comp=Z,11nm,0.8s,mb4.4
EMIJ Mijas 25.57 281 P **P 16 20 55.8 -0.8**
comp=Z,11nm,0.8s,mb4.4,SNR=7.9
HFS Hagfors 25.72 345 P **P 16 20 55.9 -1.8**
comp=Z,1.6nm,0.7s,mb3.6,baz=131,slow=16,SNR=4.9
ECAB El Cabril 25.91 285 P **P 16 20 59.2 -0.5**
comp=Z,17nm,1.5s,mb4.4
ECAB El Cabril 25.91 285 P **P 16 20 59.2 -0.5**
comp=Z,17nm,1.5s,mb4.3,SNR=7.9
KAF Kangasniemi 26.23 359 *e*p **P 16 21 03.2 +0.8**
comp=Z,1.9nm,0.5s,mb3.9,baz=181,slow=9.8
KAF Kangasniemi 26.23 359 *e*P **P 16 21 03.2 +0.8**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb3.9
EMIN Mina Concepcio 26.93 284 P **P 16 21 09.3 +0.3**
comp=Z,41nm,1.6s,mb4.7
EMIN Mina Concepcio 26.93 284 P **P 16 21 09.3 +0.2**
comp=Z,41nm,1.6s,mb4.7,SNR=7.9
NB2 NORSAR Subarra 27.09 343 P **P 16 21 06.6 -3.7**
comp=Z,0.4nm,0.7s,mb3.1,baz=151,slow=9.3
ATD Arta Tunnel 28.20 145 LR LR 16 35 07.3
comp=Z,24nm,18.6s,MS2.8,baz=78,slow=41
ARCES ARCESS Array B 33.69 359 P **P 16 22 06.1 -2.6**
comp=Z,1.9nm,0.8s,mb4.1,baz=188,slow=8.6,SNR=12
KEV Kevo 33.90 0 *e*p **P 16 22 13.6 +3.1**
comp=Z,1.9nm,0.7s,mb4.1
KEV Kevo 33.90 0 *e*P **P 16 22 13.6 +3.1**
KEV pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ZRNK Zerenda 33.92 47 *e*P **P 16 22 10.1 -0.7**
ZRNK pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
ZRNK Zerenda 33.92 47 *e*P **P 16 22 10.1 -0.7**
comp=Z,1.5nm,0.7s,mb4.0
ZRNK Zerenda 33.92 47 *e*P **P 16 22 10.1 -0.7**
comp=Z,1.5nm,0.7s,mb4.0
DBIC Dimbokro 41.20 233 P **P 16 23 12.7 +0.4**
comp=Z,1.9nm,0.6s,mb3.9,baz=20,slow=13,SNR=5.1
MKAR Makanchi Array 42.12 57 P **P 16 23 18.9 -0.5**
comp=Z,1.2nm,0.7s,mb3.7,baz=286,slow=5.8,SNR=9.8
WMQ Urumqi 46.34 61 *e*P **P 16 23 54.5 +1.0**
ZAK Zakamensk 55.13 49 *e*P **P 16 24 58.2 -1.9**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
ZAK Zakamensk 55.13 49 *e*P **P 16 24 58.2 -1.9**
comp=Z,2.0nm,1.1s,mb4.1
MATP Matopo 56.04 178 P **P 16 25 08.7 +1.6**
comp=Z,2.8nm,1.1s,mb4.2,baz=357,slow=11,SNR=5.5
SONM Songino Array 57.86 51 P **P 16 25 19.4 -0.3**
comp=Z,1.0nm,0.6s,mb4.0,baz=291,slow=8.0,SNR=13
ULN Ulaanbaatar 58.26 51 *e*P **P 16 25 22.3 -0.1**
ULN pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
ULN Ulaanbaatar 58.26 51 *e*P **P 16 25 22.3 -0.1**
comp=Z,2.1nm,0.8s,mb4.2
ULN Ulaanbaatar 58.26 51 *e*P **P 16 25 22.3 -0.1**
comp=Z,2.1nm,0.8s,mb4.2
LZH Lanzhou 60.53 65 ⇓P **P 16 25 36.7 -1.6**
LZH AP pP 16 25 49.1 +0.7
LZH XP sP 16 25 54.0 +1.7
LZH AMB AMB
comp=Z,22nm,1.5s,mb5.1
LZH LR LR
comp=N,257nm,13.5s
LZH LR LR
comp=Z,374nm,17.2s,MS4.6
SCHQ Schefferville 63.58 320 P **P 16 25 56.2 -2.1**
comp=Z,3.0nm,0.8s,mb4.4,baz=241,slow=8.8,SNR=3.1
SCHQ Schefferville 63.58 320 P **P 16 25 56.2 -2.1**
CMAR Chiang Mai Arr 65.01 85 P **P 16 26 09.2 +1.0**
comp=Z,1.2nm,0.8s,mb4.0,baz=293,slow=8.0,SNR=8.6
MDJ Mudanjiang 73.61 47 P **P 16 26 58.3 -2.2**
MDJ AMB AMB
comp=Z,5.0nm,1.1s,mb4.4
MDJ AMB AMB
comp=Z,42nm,3.4s
BDFB Brasilia 87.37 249 P **P 16 28 17.1 +2.8**
comp=Z,2.5nm,0.7s,mb4.5,baz=38,slow=8.5,SNR=5.2

MEX 03 17:01:53.0±0.4**, 19.63N**×**104.72W, h121**km±8km**, MD4.1, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.33**	**246**	*i* P	P	17 02 08.8	-1.5
CJM				*i* S	S	17 02 21.3	-2.1
SFJM	**Santa Fe**	**1.79**	**61**	*e*P	P	17 02 23.5	-0.9
SFJM				*i* S	S	17 02 46.0	-2.1
MOIG	**Morelia**	**3.33**	**89**	*i* P	P	17 02 43.2	-1.4
MOIG				*i* S	S	17 03 21.0	-2.9
PLIG	**Platanillo**	**5.09**	**103**	*i* S	S	17 04 02.4	-4.0
CMIG	**Matias Romero**	**9.68**	**104**	*i* S	S	17 05 54.1	-3.4

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*NEIC **03** 17:02:42.4±0.5, 1.78S×99.87E, mb4.4/5, Error ellipse: s-maj=14.7km s-min=7.6km az=56.0*
NEIC Felt at Padang, Sumatra.
*IDC **03** 17:02:42.6±1.0, 1.80S×99.79E, h24km±5km, mb4.2/12, mb1 4.3/12, mb1mx4.0/19, mbtmp4.3/12, MS2.9/1, Ms1 3.1/1, ms1mx2.7/18, Error ellipse: s-maj=35.8km s-min=13.6km az=53.0*
ISC 03 17:02:40.8±0.7**, 1.72S**±0.09×**99.9E**±0.1**, h26**km±1.3km**:pP-P, n25,** σ**0.89**/24**, mb4.4**/14**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.00**	**6**	*e*P	**Pn**	**17 04 25.2**	**+0.9**
KKM	**Kota Kinabalu**	**18.01**	**65**	*e*P	**P**	**17 06 50.8**	**-0.6**
CM31	**Chiang Mai Arr**	**20.07**	**357**	*e*P	**P**	**17 07 14.7**	**-0.6**
	2.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**20.07**	**357**	P	**P**	**17 07 14.1**	**-1.2**
	2.4nm,0.7s,baz=186,slow=10,SNR=26						
CMAR				PcP	PcP	17 11 30.4	+0.5
	0.4nm,0.7s,baz=202,slow=2.4,SNR=4.0						
CMAR				LR	LR	17 14 09.8	
	comp=Z,38nm,20.8s,baz=210,slow=34						
FITZ	**Fitzroy Crossi**	**30.05**	**124**	*e*P	**P**	**17 08 49.5**	**-0.9**
	6.1nm,0.9s,mb4.3						
FITZ				*e*	pP	17 08 57.8	-0.1
FITZ	**Fitzroy Crossi**	**30.05**	**124**	P	**P**	**17 08 49.4**	**-1.0**
	7.8nm,0.8s,mb4.5,baz=252,slow=6.1,SNR=5.3						
FITZ				pP	pP	17 08 57.7	-0.2
	14nm,0.8s,baz=332,slow=4.6,SNR=5.6						
WRA	**Warramunga Arr**	**38.21**	**121**	P	**P**	**17 10 00.2**	**-0.4**
	2.3nm,0.5s,mb4.2,baz=304,slow=9.0,SNR=30						
WRA				pP	pP	17 10 08.2	-0.1
	4.1nm,0.4s,baz=304,slow=9.0,SNR=12						
WRAB	**Tennant Creek**	**38.22**	**121**	*e*P	**P**	**17 10 00.3**	**-0.3**
WB2	**Warramunga Arr**	**38.23**	**121**	*e*P	**P**	**17 10 01.0**	**+0.3**
WB2				*e*	pP	17 10 09.0	+0.6
JOW	**Kunigami**	**39.41**	**42**	P	**P**	**17 10 12.4**	**+1.8**
	8.2nm,0.6s,mb4.7,baz=140,slow=23,SNR=4.2						
STKA	**Stephens Creek**	**49.41**	**132**	P	**P**	**17 11 31.8**	**+1.0**
	2.4nm,0.6s,mb4.4,baz=310,slow=6.5,SNR=9.5						
STKA				pP	pP	17 11 39.5	+0.9
	1.9nm,0.4s,baz=267,slow=6.0,SNR=4.4						
STKA	**Stephens Creek**	**49.41**	**132**	*e*P	**P**	**17 11 31.7**	**+1.0**
STKA				pP	pP	17 11 39.5	+0.9
SONM	**Songino Array**	**49.67**	**6**	P	**P**	**17 11 32.7**	**+0.1**
	3.3nm,0.7s,mb4.5,baz=187,slow=9.2,SNR=34						
SONM				PcP	PcP	17 12 54.0	+0.1
	0.6nm,0.5s,baz=198,slow=4.0,SNR=3.9						
ULN	**Ulaanbaatar**	**49.77**	**6**	*e*P	**P**	**17 11 33.8**	**+0.5**
MKAR	**Makanchi Array**	**50.73**	**344**	P	**P**	**17 11 40.8**	**+0.2**
	4.4nm,0.4s,mb4.7,baz=161,slow=8.6,SNR=75						
ZAL	**Zalesovo**	**56.87**	**349**	P	**P**	**17 12 26.1**	**+0.3**
	7.9nm,0.5s,mb5.0,baz=321,slow=5.7,SNR=31						
ZAL				pP	pP	17 12 32.9	-0.8
	3.3nm,0.4s,baz=289,slow=6.5,SNR=6.0						
ZAL	**Zalesovo**	**56.87**	**349**	P	**P**	**17 12 26.1**	**+0.3**
ZAL				pP	pP	17 12 32.9	-0.8
ZRNK	**Zerenda**	**60.31**	**339**	*e*P	**P**	**17 12 48.2**	**-1.5**
	1.4nm,0.6s,mb4.2						
YAK	**Yakutsk**	**67.49**	**15**	*e*P	**P**	**17 13 35.3**	**-1.3**
	4.9nm,0.7s,mb4.7						
BRTR	**Keskin Array B**	**73.06**	**312**	P	**P**	**17 14 09.7**	**-1.2**
	0.7nm,0.8s,mb3.7,baz=104,slow=5.9,SNR=2.8						
FINES	**FINESS Array B**	**83.82**	**332**	P	**P**	**17 15 09.7**	**+0.5**
	1.1nm,0.5s,mb4.2,baz=108,slow=6.3,SNR=15						
KAF	**Kangasniemi**	**83.89**	**333**	*e*p	**P**	**17 15 09.7**	**+0.2**
	1.3nm,0.5s,mb4.3,baz=100,slow=4.6						
ARCES	**ARCESS Array B**	**86.18**	**340**	P	**P**	**17 15 21.9**	**+1.1**
	2.0nm,0.8s,mb4.4,baz=90,slow=6.1,SNR=12						
GERES	**GERESS Array B**	**88.78**	**319**	P	**P**	**17 15 34.8**	**+1.1**
	0.4nm,0.6s,mb3.9,baz=72,slow=4.2,SNR=5.5						
TXAR	**Lajitas Array**	**144.53**	**37**	PKP	PKPdf	17 22 17.4	-3.1
	1.6nm,0.5s,baz=262,slow=1.0,SNR=27						

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*BJI **03** 17:12:12.0, 2.50S×139.11E, h58km, mB4.9, mb4.4, Ms4.1, Msz4.0*
*NEIC **03** 17:12:18.1±1.7, 1.99S×138.72E, h59km±16km, mb4.7/14, Error ellipse: s-maj=11.8km s-min=9.1km az=73.0*
*IDC **03** 17:12:19.9±3.5, 2.08S×138.61E, h75km±32km, mb3.8/9, mb1 4.1/12, mb1mx4.1/17, mbtmp4.3/12, MS4.0/12, Ms1 4.0/12, ms1mx3.9/19, Error ellipse: s-maj=19.3km s-min=12.5km az=101.0*
ISC 03 17:12:14.3±2.0**, 2.06S**±0.04×**138.80E**±0.09**, h42**km±18km**, n53,** σ**1.17**/49**, mb4.4**/20**, MS3.9**/15**, 1C, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**11.06**	**132**	P	**P**	**17 14 56.4**	**+3.4**
	0.4nm,0.3s,baz=346,slow=22,SNR=2.5						
PMG	**Port Moresby**	**11.06**	**132**	*e*P	**P**	**17 14 57.4**	**+4.3**
KAKA	**Kakadu**	**12.31**	**210**	*e*P	**P**	**17 15 08.9**	**-1.0**
	52nm,0.4s						
KAKA				*e*S	**S**	**17 17 25.0**	**-1.7**
WRAB	**Tennant Creek**	**18.29**	**193**	*e*P	**P**	**17 16 26.7**	**-0.1**
	44nm,0.5s						
WRAB				*e*S	**S**	**17 19 40.9**	**-5.3**
WB2	**Warramunga Arr**	**18.30**	**193**	⇑*i*P	**P**	**17 16 27.4**	**+0.4**
WB2				*e*S	**S**	**17 19 45.0**	**-1.3**
WRA	**Warramunga Arr**	**18.30**	**193**	P	**P**	**17 16 26.6**	**-0.4**
	4.9nm,0.3s,baz=18,slow=12,SNR=21						
WRA				S	**S**	**17 19 46.0**	**-0.4**
	1.3nm,0.3s,baz=12,slow=22,SNR=5.7						
CTA	**Charters Tower**	**19.34**	**158**	P	**P**	**17 16 39.0**	**-0.1**
	2.2nm,0.3s,baz=344,slow=12,SNR=23						
CTA				LR	LR	17 24 52.0	
	comp=Z,690nm,19.4s,baz=342,slow=39						
CTAO	**Charters Tower**	**19.34**	**158**	*e*P	**P**	**17 16 41.1**	**+1.9**
	6.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.51**	**218**	*e*P	**P**	**17 16 52.7**	**+1.0**
	18nm,0.4s						
FITZ				*e*S	**S**	**17 20 34.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**20.51**	**218**	P	**P**	**17 16 52.5**	**+0.7**
	12nm,0.6s,baz=30,slow=9.7,SNR=18						
FITZ				S	**S**	**17 20 34.8**	**+0.8**
	36nm,0.5s,baz=177,slow=16,SNR=13						
FITZ				LR	LR	17 25 51.8	
	comp=Z,351nm,19.9s,MS3.7,baz=58,slow=40						
KKM	**Kota Kinabalu**	**23.95**	**290**	*e*P	**P**	**17 17 27.0**	**+1.1**
MBWA	**Marble Bar**	**26.56**	**223**	*e*P	**P**	**17 17 51.6**	**+0.9**
	8.5nm,0.7s,mb4.4						
KSM	**Kuching**	**28.70**	**277**	*e*P	**P**	**17 18 10.7**	**+0.7**
STKA	**Stephens Creek**	**29.77**	**175**	P	**P**	**17 18 19.5**	**+0.1**
	3.7nm,0.7s,mb4.2,baz=345,slow=9.3,SNR=8.3						
STKA				LR	LR	17 31 14.5	
	comp=Z,492nm,21.7s,MS4.1,baz=3.4,slow=38						
STKA	**Stephens Creek**	**29.77**	**175**	*e*P	**P**	**17 18 19.9**	**+0.5**
CNB	**Canberra Magne**	**34.51**	**165**	*e*P	**P**	**17 19 06.3**	**+5.5**
	15nm,0.8s,mb5.0						
KLBR	**Kellerberrin**	**35.45**	**212**	*e*P	**P**	**17 19 09.7**	**+0.8**
	52nm,1.4s,mb5.3						
NWAO	**Narrogin (SRO)**	**36.77**	**211**	*e*P	**P**	**17 19 21.6**	**+1.6**
MJAR	**Matsushiro Arr**	**38.41**	**359**	LR	LR	17 32 44.3	
	comp=Z,214nm,18.4s,MS4.0,baz=220,slow=32						
KULM	**Kulim**	**38.80**	**281**	*e*P	**P**	**17 19 37.8**	**+0.7**
KMI	**Kunming**	**44.17**	**310**	P	**P**	**17 20 19.1**	**-2.1**
KMI				XP	sP	17 20 42.7	+4.8
KMI				PP	PP	17 22 09.7	+3.9
KMI				S	**S**	**17 26 53.4**	**+2.5**
KMI				XS		17 27 15.1	
KMI				SS	SS	17 30 02.8	+1.8
KMI				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.1						
KMI				AMB	AMB		
	comp=Z,83nm,6.7s						
KMI				LR	LR		
	comp=N,66nm,15.0s,MS3.9						
KMI				LR	LR		
	comp=E,93nm,15.0s,MS3.9						
KMI				LR	LR		
	comp=Z,118nm,15.0s,MS3.9						
KMI	**Kunming**	**44.17**	**310**	P	**P**	**17 20 19.1**	**-2.1**
	comp=Z,4.0nm,1.1s,mb4.1						
KMI				sP	sP	17 20 42.7	+4.8
KMI				PP	PP	17 22 09.7	+3.9
KMI				S	**S**	**17 26 53.4**	**+2.5**
KMI				sS		17 27 15.1	
KMI				SS	SS	17 30 02.8	+1.8
KMI				LR	LR		
	comp=Z,120nm,15.0s,MS3.9						
CMAR	**Chiang Mai Arr**	**44.20**	**299**	P	**P**	**17 20 21.1**	**-0.4**
	comp=Z,2.4nm,1.0s,mb3.9,baz=118,slow=6.1,SNR=9.4						
MDJ	**Mudanjiang**	**47.19**	**351**	P	**P**	**17 20 46.2**	**+1.3**
MDJ				AP	pP	17 21 01.6	+5.0
MDJ				XP	sP	17 21 10.1	+8.5
MDJ				PCS		17 26 09.8	
MDJ				XS		17 28 05.1	
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.0s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,66nm,4.5s						
MDJ				LR	LR		
	comp=N,62nm,19.9s,MS3.6						
MDJ				LR	LR		
	comp=E,17nm,16.8s,MS3.6						
MDJ				LR	LR		
	comp=Z,79nm,19.9s,MS3.7						
YSS	**Yuzh-Sakhalins**	**48.93**	**4**	*e*P	**P**	**17 20 56.4**	**-2.0**
	comp=Z,4.3nm,0.6s,mb4.7						
LZH	**Lanzhou**	**50.02**	**323**	*e*P	**P**	**17 21 08.5**	**+1.5**
LZH				PP	PP	17 23 05.4	+2.4
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,74nm,5.2s						
LZH				LR	LR		
	comp=N,439nm,15.3s						
LZH				LR	LR		
	comp=Z,497nm,17.6s,MS4.6						
LZH	**Lanzhou**	**50.02**	**323**	*e*P	**P**	**17 21 08.5**	**+1.5**
	comp=Z,24nm,1.3s,mb5.1						
LZH				pP	pP	17 21 28.0	+9.3
LZH				sP	sP	17 21 36.7	+13
LZH				PP	PP	17 23 05.4	+2.4
LZH				LR	LR		
	comp=Z,500nm,17.6s,MS4.6						
GTA	**Gaotai**	**54.60**	**323**	*e*P	**P**	**17 21 44.5**	**+3.3**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.3						
ULN	**Ulaanbaatar**	**56.92**	**335**	*e*P	**P**	**17 21 57.3**	**-0.4**
SONM	**Songino Array**	**57.17**	**335**	P	**P**	**17 21 58.4**	**-1.2**
	comp=Z,0.8nm,0.8s,mb3.8,baz=152,slow=6.6,SNR=6.1						
SONM				LR	LR	17 47 25.2	
	comp=Z,156nm,18.1s,MS4.2,baz=143,slow=37						
FX1	**Attu Island--F**	**61.87**	**23**	LR	LR	17 48 13.7	
	comp=Z,4.1nm,18.8s,MS2.6,baz=205,slow=35						
FX1	**Attu Island--F**	**61.87**	**23**	*e*P	**P**	**17 22 30.3**	**-1.4**
YAK	**Yakutsk**	**64.30**	**355**	*e*P	**P**	**17 22 45.0**	**-2.6**
	comp=Z,12nm,0.8s,mb5.0						
WMQ	**Urumqi**	**64.56**	**321**	*e*P	**P**	**17 22 51.0**	**+1.4**
CASY	**Casey**	**67.12**	**192**	*e*P	**P**	**17 23 05.7**	**+0.2**
	comp=Z,5.6nm,1.1s,mb4.5						
MKAR	**Makanchi Array**	**69.33**	**322**	P	**P**	**17 23 18.5**	**-1.2**
	comp=Z,1.0nm,0.5s,mb4.0,baz=114,slow=8.6,SNR=13						
ZAL	**Zalesovo**	**71.43**	**330**	P	**P**	**17 23 32.6**	**+0.4**
	comp=Z,0.8nm,0.4s,mb4.0,baz=356,slow=16,SNR=3.5						
ZAL				LR	LR	17 58 20.5	
	comp=Z,44nm,18.5s,MS3.8,baz=260,slow=39						
PPT	**Papeete**	**71.87**	**108**	LR	LR	17 49 49.4	
	comp=Z,98nm,19.0s,MS4.1,baz=24,slow=31						
VNDA	**Vanda**	**76.41**	**175**	P	**P**	**17 24 01.6**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.9,baz=332,slow=6.6,SNR=10						
VNDA				LR	LR	17 59 17.6	
	comp=Z,143nm,19.8s,MS4.3,baz=347,slow=37						
VNDA	**Vanda**	**76.41**	**175**	*e*P	**P**	**17 24 01.6**	**+0.8**
	comp=Z,1.2nm,0.7s,mb3.9						
SBA	**Scott Base**	**77.18**	**174**	*e*P	**P**	**17 24 05.2**	**+0.1**
	comp=Z,36nm,2.2s,mb4.9						
BVAR	**Borovoye Array**	**78.83**	**325**	P	**P**	**17 24 14.4**	**-0.3**
	comp=Z,2.9nm,0.6s,mb4.4,baz=114,slow=7.8,SNR=21						
ZRNK	**Zerenda**	**79.61**	**325**	*e*P	**P**	**17 24 18.1**	**-0.7**
	comp=Z,4.3nm,1.1s,mb4.3						
MAW	**Mawson**	**82.75**	**202**	LR	LR	17 58 58.5	
	comp=Z,118nm,21.4s,MS4.2,baz=252,slow=34						
ILAR	**Eielson Array**	**85.21**	**24**	P	**P**	**17 24 46.5**	**-0.9**
	comp=Z,2.1nm,1.0s,mb4.2,baz=284,slow=5.9,SNR=8.7						
ILAR				LR	LR	18 00 52.5	
	comp=Z,51nm,18.4s,MS4.0,baz=181,slow=34						
YKA	**Yellowknife Ar**	**99.45**	**27**	LR	LR	18 08 23.9	
	comp=Z,72nm,20.4s,MS4.2,baz=320,slow=34						
ARCES	**ARCESS Array B**	**99.93**	**341**	LR	LR	18 18 54.0	
	comp=Z,38nm,18.9s,MS3.9,baz=149,slow=40						
DBIC	**Dimbokro**	**143.48**	**278**	PKP	PKPdf	17 31 45.7	+0.1
	comp=Z,2.4nm,0.6s,baz=359,slow=7.0,SNR=6.0						
DBIC	**Dimbokro**	**143.48**	**278**	PKP	PKPdf	17 31 45.7	+0.1
ROSC	**El Rosal**	**146.82**	**84**	PKPbc	PKPbc	17 31 56.7	+3.8
	comp=Z,3.6nm,0.5s,baz=93,slow=20,SNR=4.1						
SDV	**Santo Domingo**	**149.95**	**76**	PKPbc	PKPdf	17 32 04.2	+7.8
	comp=Z,2.2nm,0.5s,baz=323,slow=1.9,SNR=6.7						
SDV	**Santo Domingo**	**149.95**	**76**	*e*PKPbc	PKPdf	17 32 04.1	+7.7
SJG	**San Juan**	**150.79**	**55**	PKPbc	PKPdf	17 32 04.5	+7.0
	comp=Z,5.4nm,0.5s,baz=29,slow=4.6,SNR=3.4						

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*NEIC **03** 17:28:56.0±0.9, 20.11S×69.11W, h108km±11km, mb4.0/3, Error ellipse: s-maj=15.0km s-min=10.0km az=84.0*
*GUC **03** 17:28:56.8±0.4, 20.02S×69.27W, h105km±2km, ML4.5*
*IDC **03** 17:28:57.3±1.5, 20.06S×69.01W, h115km±18km, mb3.7/4, mb1 3.9/8, mb1mx3.6/18, mbtmp4.1/8, Error ellipse: s-maj=25.2km s-min=15.3km az=104.0*
ISC 03 17:28:55.2±0.8**, 20.14S**±0.06×**69.2W**±0.1**, h121**km±11km**, n20,** σ**1.28**/25**, mb3.9**/3**, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.47**	**175**	P	**P**	**17 29 38.0**	**+2.7**
	18nm,0.3s,baz=355,slow=9.3,SNR=111						
LVC				S	**S**	**17 30 09.4**	**+3.6**
	47nm,0.3s,baz=331,slow=9.5,SNR=22						
LVC	**Limon Verde**	**2.47**	**175**	*e*P	**P**	**17 29 37.9**	**+2.5**
LVC				*e*S	**S**	**17 30 05.4**	**-0.3**
LVC				S	**S**	**17 30 09.4**	**+3.6**
LPAZ	**La Paz**	**3.95**	**14**	P	**P**	**17 29 56.4**	**+1.2**
	2.6nm,0.3s,baz=208,slow=7.1,SNR=56						
LPAZ	**La Paz**	**3.95**	**14**	*e*P	**P**	**17 29 56.4**	**+1.2**
ARE	**Arequipa**	**4.28**	**328**	*e*P	**P**	**17 29 58.0**	**-1.5**
SIV	**San Ignacio**	**8.73**	**63**	P	**P**	**17 30 56.7**	**-3.0**
	3.8nm,0.3s,baz=256,slow=11,SNR=128						
CFAA	**Coronel Fontan**	**11.45**	**176**	P	**P**	**17 31 35.5**	**-0.5**
	0.0nm,0.3s,baz=354,slow=14,SNR=3.9						
CFAA				S	**S**	**17 33 36.4**	**-5.4**
	0.1nm,0.3s,baz=239,slow=16,SNR=6.4						
CFAA	**Coronel Fontan**	**11.45**	**176**	P	**P**	**17 31 35.5**	**-0.5**
CFAA				S	**S**	**17 33 36.4**	**-5.4**
CPUP	**Villa Florida**	**12.50**	**122**	P	**P**	**17 31 49.6**	**-0.1**
	0.6nm,0.3s,baz=322,slow=11,SNR=15						
CPUP	**Villa Florida**	**12.50**	**122**	*e*P	**P**	**17 31 49.2**	**-0.6**

	7.8nm,0.8s						
SAML	**Samuel**	**12.54**	**28**	*e*P	**P**	**17 31 50.0**	**-0.3**
	0.9nm,0.7s						
TRQA	**Tornquist**	**18.91**	**162**	*e*P	**P**	**17 33 06.7**	**-2.2**
	12nm,1.3s						
BDFB	**Brasilia**	**20.61**	**81**	P	**P**	**17 33 26.4**	**-0.3**
	4.9nm,0.4s,baz=256,slow=11,SNR=12						
BAO	**Brasilia Array**	**20.63**	**81**	PKPdf	**P**	**17 33 27.0**	**+0.1**
RCBR	**Riachuelo**	**35.29**	**71**	*e*P	**P**	**17 35 41.9**	**+1.4**
TXAR	**Lajitas Array**	**59.38**	**325**	P	**P**	**17 38 47.0**	**-0.3**
	0.1nm,0.4s,mb3.2,baz=151,slow=9.3,SNR=2.4						
DBIC	**Dimbokro**	**68.58**	**74**	P	**P**	**17 39 47.6**	**+0.1**
	3.8nm,0.8s,mb4.3,baz=210,slow=12,SNR=3.9						
DBIC	**Dimbokro**	**68.58**	**74**	*e*P	**P**	**17 39 47.4**	**-0.1**
YKA	**Yellowknife Ar**	**89.83**	**341**	P	**P**	**17 41 42.7**	**+1.8**
	1.3nm,0.8s,mb4.1,baz=134,slow=3.9,SNR=5.1						
YKA	**Yellowknife Ar**	**89.83**	**341**	P	**P**	**17 41 42.7**	**+1.8**

IDC 03 17:38:25.0±0.9**,6.74N×72.96W,h157**km±14km**,mb2.8**/1**, mb1 3.3**/3**,mb1mx3.0**/21**,mbtmp3.5**/3**,Error ellipse: s-maj=49.9km s-min=7.7km az=132.0,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.31**	**216**	P	P	17 39 06.1	+1.4
	15nm,0.3s,baz=86,slow=23,SNR=39						
ROSC				S	S	17 39 35.3	+0.2
	31nm,0.3s,baz=105,slow=18,SNR=10						
SDV	**Santo Domingo**	**3.15**	**47**	P	P	17 39 15.7	+0.6
	7.0nm,0.3s,baz=266,slow=6.5,SNR=29						
SDV				S	S	17 39 53.2	-0.4
	14nm,0.3s,baz=254,slow=22,SNR=29						
TXAR	**Lajitas Array**	**36.63**	**312**	P	P	17 45 16.4	-1.6
	0.2nm,0.4s,baz=120,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc	PKPdf	17 57 58.3	+5.3
	0.2nm,0.5s,baz=108,slow=2.5,SNR=6.5						

GUC 03 17:42:01.8±1.1**,25.71S×69.02W,h111**km±35km**,MD3.4, ML3.7,1C-1D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**1.66**	**310**⇑	*i*P	P	17 42 31.6	+0.6
CPN1				*i* S	S	17 42 53.8	+0.8
CPN1				AMP		17 42 55.9	
	comp=E,345nm,0.8s						
CPCH	**Copiapo**	**2.03**	**216**	*i* P	P	17 42 35.5	-0.1
CPCH				*i* S	S	17 43 01.5	+0.4
CPCH				AMP		17 43 07.9	
	comp=E,3μm,0.1s						
ANCH	**Antofagasta**	**2.39**	**328**	*i* P	P	17 42 39.8	-0.7
ANCH				*i* S	S	17 43 09.9	+0.4
ANCH				*e*		17 43 14.3	
LVC	**Limon Verde**	**3.09**	**2**⇓	*i*P	P	17 42 50.0	0.0
LVC				*i* S	S	17 43 26.9	+0.6
LVC				AMP		17 43 34.0	
	comp=E,70nm,0.4s						

*CNRM **03** 17:51:45.1,35.03N×2.59W,h14km,MD3.3*
*MDD **03** 17:51:47.0±0.6,34.87N×2.80W,mb3.4/8,Error ellipse: s-maj=6.2km s-min=3.4km az=131.0,PRXIMO*
*NEIC **03** 17:51:49.3,34.96N×3.07W,MG3.4(MDD),After MDD.*
*CSEM **03** 17:51:49.2±0.2,35.03N×3.05W,h12km,MD3.3,Error ellipse: s-maj=4.4km s-min=2.0km az=127.0*
ISC 03 17:51:47.1±0.5**,34.94N**±0.03×**2.90W**±0.04**,h10**km**,n42, σ1.43**/82**,Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.13**	**77**	P	**Pg**	**17 51 48.5**	**-1.8**
ZAI				S	**Sg**	**17 51 51.0**	**-1.4**
EMEL	**Melilla**	**0.36**	**353**	P	**Pg**	**17 51 55.2**	**+0.6**
	38nm,0.1s,SNR=9.9						
EMEL				S	**Sg**	**17 52 00.8**	**+1.3**
	419nm,0.2s,SNR=10						
EMLI	**Melilla**	**0.36**	**354**	P	**Pg**	**17 51 55.2**	**+0.7**
	38nm,0.1s,SNR=9.9						
TOU	**Touzarine**	**0.70**	**272**	*i* P	**Pb**	**17 52 02.0**	**+1.1**
TOU				*i* S	**Sb**	**17 52 14.0**	**+3.6**
MPAL	**Palemas**	**0.90**	**289**	*e*P	**Pb**	**17 52 05.0**	**+0.7**
MPAL				*e*S	**Sb**	**17 52 19.5**	**+3.4**
EALB	**Alboran**	**1.00**	**354**	P	**Pb**	**17 52 07.1**	**+1.0**
	14nm,0.3s,SNR=18						
EALB				S	**Sb**	**17 52 21.4**	**+2.2**
	68nm,0.2s,SNR=6.6						
EALB	**Alboran**	**1.00**	**354**	P	**Pb**	**17 52 07.1**	**+1.0**
	14nm,0.3s,SNR=18						
EALB				S	**Sb**	**17 52 21.4**	**+2.3**
	68nm,0.2s,SNR=6.6						
TZK	**Tazeka**	**1.36**	**232**	P	**Pb**	**17 52 11.0**	**-1.2**
TZK				S	**Sb**	**17 52 31.0**	**+1.6**
EBER	**Berja**	**1.95**	**0**	P	**Pn**	**17 52 22.7**	**+2.0**
	2.0nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**17 52 45.2**	**-0.3**
	6.9nm,0.3s,SNR=5.6						
EBER	**Berja**	**1.95**	**0**	P	**Pn**	**17 52 22.7**	**+2.0**
	2.0nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**17 52 45.2**	**-0.3**
	6.9nm,0.3s,SNR=5.6						
ENIJ	**Nijar**	**2.10**	**15**	P	**Pn**	**17 52 24.3**	**+1.4**
ENIJ				S	**Sn**	**17 52 46.1**	**-3.2**
ENIJ	**Nijar**	**2.10**	**15**	P	**Pn**	**17 52 24.3**	**+1.4**
	2.7nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**17 52 49.0**	**-0.3**
	9.1nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**2.10**	**15**	P	**Pn**	**17 52 24.3**	**+1.4**
	2.7nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**17 52 46.1**	**-3.2**
	9.1nm,0.4s,SNR=7.9						
ERON	**Agron**	**2.20**	**341**	P	**Pn**	**17 52 24.7**	**+0.5**
	1.3nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**17 52 50.5**	**-1.2**
	3.3nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.22**	**317**	P	**Pn**	**17 52 25.3**	**+0.7**
EMIJ				S	**Sn**	**17 52 50.4**	**-2.0**
EMIJ	**Mijas**	**2.22**	**317**	P	**Pn**	**17 52 25.3**	**+0.7**
	1.2nm,0.3s,SNR=6.2						
EMIJ				S	**Sn**	**17 52 50.2**	**-2.1**
	9.9nm,0.4s						
EMIJ	**Mijas**	**2.22**	**317**	P	**Pn**	**17 52 25.3**	**+0.7**
	1.2nm,0.3s,SNR=6.2						
EMIJ				S	**Sn**	**17 52 50.4**	**-1.9**
	9.9nm,0.4s						
CZD	**Col de Zad**	**2.60**	**224**	P	**Pn**	**17 52 28.5**	**-1.5**
CZD				S	**Sn**	**17 53 03.5**	**+1.5**
EQES	**Quesada**	**2.86**	**357**	P	**Pn**	**17 52 35.0**	**+1.3**
	3.7nm,0.4s,SNR=13						
EQES				S	**Sn**	**17 53 08.9**	**+0.4**
	6.4nm,0.4s						
EQES	**Quesada**	**2.86**	**357**	P	**Pn**	**17 52 35.0**	**+1.3**
	3.7nm,0.4s,SNR=13						
EQES				S	**Sn**	**17 53 08.9**	**+0.4**
	6.4nm,0.4s						
EHUE	**Huescar**	**2.88**	**5**	P	**Pn**	**17 52 36.2**	**+2.2**
EHUE				S	**Sn**	**17 53 09.3**	**+0.3**
EHUE	**Huescar**	**2.88**	**5**	P	**Pn**	**17 52 35.8**	**+1.9**
	1.0nm,0.2s,SNR=5.9						
EHUE				S	**Sn**	**17 53 09.3**	**+0.3**
	0.8nm,0.3s						
EHUE	**Huescar**	**2.88**	**5**	P	**Pn**	**17 52 36.2**	**+2.2**
	1.0nm,0.2s,SNR=5.9						
EHUE				S	**Sn**	**17 53 09.3**	**+0.3**
	0.8nm,0.3s						
ZFT	**Errachidia**	**3.14**	**203**	P	**Pn**	**17 52 36.0**	**-1.7**
ZFT				S	**Sn**	**17 53 12.0**	**-3.6**
EMUR	**La Murta**	**3.19**	**24**	P	**Pn**	**17 52 40.2**	**+1.9**
EMUR				S	**Sn**	**17 53 12.5**	**-4.3**
EMUR	**La Murta**	**3.19**	**24**	P	**Pn**	**17 52 39.0**	**+0.6**
	4.0nm,0.3s,SNR=12						
EMUR				S	**Sn**	**17 53 15.9**	**-1.0**
	2.6nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**3.19**	**24**	P	**Pn**	**17 52 40.2**	**+1.8**
	4.0nm,0.3s,SNR=12						
EBAN	**Banos Encina**	**3.29**	**348**	P	**Pn**	**17 52 40.3**	**+0.4**
	0.5nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**17 53 19.0**	**-0.5**
	0.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.49**	**338**	P	**Pn**	**17 52 42.5**	**-0.1**
	1.4nm,0.3s,SNR=8.4						
EADA				S	**Sn**	**17 53 22.0**	**-2.4**
	2.4nm,0.3s						
EADA	**Adamuz**	**3.49**	**338**	P	**Pn**	**17 52 42.5**	**-0.1**
	1.4nm,0.3s,SNR=8.4						
EADA				S	**Sn**	**17 53 22.0**	**-2.5**
	2.4nm,0.3s						
EVIA	**Vianos**	**3.71**	**5**	P	**Pn**	**17 52 47.0**	**+1.3**
	0.4nm,0.1s,SNR=4.0						
EVIA				S	**Sn**	**17 53 28.4**	**-1.5**
	3.4nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**3.73**	**328**	P	**Pn**	**17 52 44.6**	**-1.4**
	0.8nm,0.7s,SNR=7.9						
ECAB				S	**Sn**	**17 53 27.7**	**-2.7**
	1.8nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**3.73**	**328**	P	**Pn**	**17 52 44.6**	**-1.4**
	0.8nm,0.7s,SNR=7.9						
ECAB				S	**Sn**	**17 53 27.7**	**-2.8**
	1.8nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**3.85**	**16**	P	**Pn**	**17 52 50.4**	**+2.6**
ETOB				S	**Sn**	**17 53 32.2**	**-1.4**
ETOB	**Tobarra**	**3.85**	**16**	P	**Pn**	**17 52 49.1**	**+1.4**
	1.4nm,0.3s,SNR=7.9						
ETOB				S	**Sn**	**17 53 32.2**	**-1.4**
	1.9nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.85**	**16**	P	**Pn**	**17 52 50.4**	**+2.6**
	1.4nm,0.3s,SNR=7.9						
ETOB				S	**Sn**	**17 53 32.2**	**-1.4**
	1.9nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.15**	**314**	P	**Pn**	**17 52 52.1**	**+0.1**
EMIN				S	**Sn**	**17 53 36.4**	**-4.8**
EMIN	**Mina Concepcio**	**4.15**	**314**	P	**Pn**	**17 52 52.1**	**+0.1**
	1.0nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**17 53 38.3**	**-2.9**
	0.8nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.15**	**314**	P	**Pn**	**17 52 52.1**	**+0.1**
	1.0nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**17 53 36.4**	**-4.7**
	0.8nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**4.52**	**306**	P	**Pn**	**17 52 55.6**	**-1.7**
EGRO				S	**Sn**	**17 53 46.0**	**-4.5**
EGRO	**El Granado**	**4.52**	**306**	P	**Pn**	**17 52 55.6**	**-1.7**
	3.4nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**17 53 48.3**	**-2.2**
	2.7nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**4.52**	**306**	P	**Pn**	**17 52 55.6**	**-1.6**
EGRO				S	**Sn**	**17 53 46.0**	**-4.5**

*NEIC **03** 18:03:08.3±0.3,43.74N×105.21W,ML3.5,Error ellipse: s-maj=4.5km s-min=3.2km az=131.0,Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
*IDC **03** 18:03:10.1±2.5,43.91N×105.61W,h9km±16km,mb3.8/7, mb1 3.8/12,mb1mx3.7/24,mbtmp3.7/12,ML3.1/4,Error ellipse: s-maj=16.3km s-min=9.1km az=138.0*
ISC 03 18:03:06.6±0.4**,43.74N**±0.03×**105.23W**±0.05**,n57, σ0.99**/66**,mb3.9**/7**,1C,Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**66**⇑	*e*Pg	**Pg**	**18 03 27.3**	**+1.8**
PHWY	**Pilot Hill**	**2.44**	**184**	*e*Pn	**Pn**	**18 03 49.5**	**+1.1**
RWWY	**Rawlins**	**2.52**	**216**	*e*Pn	**Pn**	**18 03 51.4**	**+1.9**
LAO	**LASA Array**	**3.04**	**347**	*e*Pn	**Pn**	**18 03 57.4**	**+0.6**
BW06	**Boulder Array**	**3.31**	**254**	*e*Pn	**Pn**	**18 04 01.4**	**+0.6**
PDAR	**Pinedale Array**	**3.31**	**254**	Pn	**Pn**	**18 04 01.8**	**+1.1**
	11nm,0.3s,baz=72,slow=15,SNR=142						
PDAR				Lg		18 04 47.0	
	21nm,0.3s,baz=67,slow=30,SNR=16						
GCMT	**Greycliff**	**3.77**	**305**	*e*Pn	**Pn**	**18 04 08.2**	**+0.9**
LKWY	**Lake**	**3.81**	**284**	Pn	**Pn**	**18 04 09.6**	**+1.7**
LOHW	**Long Hollow**	**3.90**	**270**	*e*Pn	**Pn**	**18 04 10.1**	**+0.9**
ISCO	**Idaho Springs**	**3.94**	**184**	*e*Pn	**Pn**	**18 04 10.9**	**+1.2**
MOOW	**Moose Ponds**	**4.00**	**272**	*e*Pn	**Pn**	**18 04 11.5**	**+1.0**
SNOW	**Snow King Moun**	**4.03**	**268**	*e*Pn	**Pn**	**18 04 10.8**	**-0.1**
YFT	**Old Faithful**	**4.10**	**282**	*e*Pn	**Pn**	**18 04 12.7**	**+0.7**
YFT				*e*		18 04 22.8	
REDW	**Red Top Meadow**	**4.11**	**267**	*e*Pn	**Pn**	**18 04 12.8**	**+0.8**
REDW				*e*		18 04 19.6	
REDW				*e*S	**Sn**	**18 05 09.3**	**+7.8**
IMW	**Indian Meadow**	**4.14**	**274**	*e*Pn	**Pn**	**18 04 14.0**	**+1.5**
IMW				*e*		18 04 21.8	
TPAW	**Teton Pass**	**4.17**	**269**	*e*Pn	**Pn**	**18 04 13.8**	**+0.9**
AHID	**Auburn Hatcher**	**4.40**	**259**	*e*Pn	**Pn**	**18 04 16.9**	**+0.6**
AHID				*e*		18 04 27.0	
RRI2	**Red Ridge**	**4.45**	**267**	*e*Pn	**Pn**	**18 04 16.4**	**-0.5**
RRI2				*e*		18 04 26.8	
RRI2				*e*S	**Sn**	**18 05 28.1**	**+18**
QLMT	**Earthquake Lak**	**4.59**	**286**	*e*Pn	**Pn**	**18 04 20.1**	**+1.2**
QLMT				*e*		18 04 30.9	
DGMT	**Dagmar**	**4.79**	**8**	*e*Pn	**Pn**	**18 04 22.2**	**+0.4**
DGMT				*e*Pg	**Pg**	**18 04 34.6**	**-7.6**
BOZ	**Bozeman (W)**	**4.95**	**295**	*e*Pn	**Pn**	**18 04 22.7**	**-1.3**
BOZ				*e*S	**Sn**	**18 05 39.9**	**+17**
HWUT	**Hardware Ranch**	**5.13**	**248**	*e*Pn	**Pn**	**18 04 26.3**	**-0.3**
	17nm,0.4s						
HWUT				*e*		18 04 37.6	
HWUT				*e*S	**Sn**	**18 05 41.5**	**+14**
TCUT	**Toone Canyon**	**5.27**	**242**	*e*Pn	**Pn**	**18 04 28.1**	**-0.5**
HRY	**Holter Researc**	**5.53**	**305**	*e*Pn	**Pn**	**18 04 31.5**	**-0.8**
MCMT	**McKenzie Canyo**	**5.58**	**284**	*e*Pn	**Pn**	**18 04 34.5**	**+1.6**
DAU	**Daniels Canyon**	**5.58**	**236**	*e*Pn	**Pn**	**18 04 33.3**	**+0.4**
JLU	**Jordanelle**	**5.58**	**238**	*e*Pn	**Pn**	**18 04 32.7**	**-0.3**
CTU	**Camp Tracy**	**5.72**	**240**	*e*P	**Pn**	**18 04 34.4**	**-0.5**
SPUT	**South Promonto**	**5.86**	**248**	*e*Pn	**Pn**	**18 04 36.9**	**-0.1**
HVU	**Hansel Valley**	**5.89**	**253**	*e*P	**Pn**	**18 04 36.0**	**-1.3**
NOQ	**North Oquirrh**	**5.98**	**241**	Pn	**Pn**	**18 04 37.6**	**-0.9**
MPU	**Maple Canyon**	**6.06**	**234**	*e*Pn	**Pn**	**18 04 38.9**	**-0.7**
PV10	**Paradox Valley**	**6.08**	**210**	*e*Pn	**Pn**	**18 04 40.6**	**+0.7**
SRU	**San Rafael**	**6.10**	**223**	*e*Pn	**Pn**	**18 04 39.1**	**-1.1**
PV01	**Paradox Valley**	**6.14**	**205**	*e*Pn	**Pn**	**18 04 41.0**	**+0.1**
PV01				*e*S	Sn	18 06 15.6	+23
TMUT	**Trail Mountain**	**6.31**	**227**	*e*Pn	**Pn**	**18 04 42.6**	**-0.6**
TMUT				*e*P		18 05 01.2	
TMUT				*e*Sg	**Sg**	**18 06 18.1**	**-19**
NLU	**North Lily Min**	**6.36**	**236**	*e*Pn	**Pn**	**18 04 42.4**	**-1.5**
BGU	**Big Grassy Mou**	**6.43**	**247**	*e*Pn	**Pn**	**18 04 44.3**	**-0.6**
CHMT	**Chamberlain Mo**	**6.49**	**302**	*e*Pn	**Pn**	**18 04 45.0**	**-0.7**
CHMT				*e*Sg	**Sg**	**18 06 27.3**	**-15**
HLID	**Hailey**	**6.67**	**272**	*e*P	**Pn**	**18 04 48.7**	**+0.4**
	4.5nm,0.8s						
MSO	**Missoula**	**6.88**	**300**	*e*Pn	**Pn**	**18 04 49.6**	**-1.6**
	6.3nm,1.1s						
MSO				*e*S	Sn	18 06 37.1	+26
MSU	**Marysvale**	**7.40**	**228**	*e*Pn	**Pn**	**18 04 57.7**	**-0.8**
MVU	**Marysvale**	**7.42**	**228**	*e*Pn	**Pn**	**18 04 56.7**	**-2.2**
	10nm,0.8s						
MVU				*e*Pg	**Pg**	**18 05 23.0**	**-12**
ELK	**Elko**	**8.01**	**252**	Pn	**P**	**18 05 06.3**	**-0.8**
	0.4nm,0.3s,baz=86,slow=23,SNR=6.7						
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**P**	**18 05 20.6**	**-1.9**
	1.1nm,0.3s,baz=237,slow=9.1,SNR=5.4						
ULM				Pg	P	18 05 52.2	+30
	0.8nm,0.3s,baz=233,slow=16,SNR=3.2						
ULM				Lg		18 07 51.3	
	baz=163,slow=16,SNR=2.2						
WVOR	**Wild Horse Val**	**9.90**	**267**	*e*Pn	**P**	**18 05 32.8**	**-0.4**
	5.3nm,1.1s						
NVAR	**Mina Array Bea**	**11.20**	**246**	Pn	**P**	**18 05 51.0**	**-0.1**
	0.2nm,0.3s,baz=55,slow=11,SNR=5.6						
NVAR	**Mina Array Bea**	**11.20**	**246**	Pn	**P**	**18 05 51.0**	**-0.1**
TXAR	**Lajitas Array**	**14.43**	**175**	Pn	**P**	**18 06 39.6**	**+5.4**
	0.0nm,0.3s,baz=339,slow=11,SNR=5.7						
TXAR				Pg	P	18 07 36.4	+62
	0.1nm,0.3s,baz=8.3,slow=14,SNR=6.8						
TXAR				Sn	**S**	**18 09 16.1**	**+0.1**
	0.1nm,0.3s,baz=355,slow=19,SNR=4.1						
TXAR				Lg		18 10 42.8	
	0.0nm,0.3s,baz=5.0,slow=21,SNR=4.7						
ILAR	**Eielson Array**	**31.29**	**327**	P	**P**	**18 09 28.9**	**-1.2**
	0.1nm,0.4s,mb3.1,baz=240,slow=9.6,SNR=4.8						
ARCES	**ARCESS Array B**	**61.41**	**18**	P	**P**	**18 13 24.6**	**-1.7**
	0.7nm,0.4s,mb4.1,baz=326,slow=6.9,SNR=12						
FINES	**FINESS Array B**	**68.02**	**23**	P	**P**	**18 14 08.7**	**-0.6**
	0.3nm,0.3s,mb4.0,baz=325,slow=8.4,SNR=7.6						
AKASG	**Malin Array Be**	**77.94**	**28**	P	**P**	**18 15 07.1**	**-0.5**
	0.4nm,0.3s,mb4.0,baz=325,slow=5.0,SNR=5.4						
AKASG	**Malin Array Be**	**77.94**	**28**	P	**P**	**18 15 07.1**	**-0.5**
ZAL	**Zalesovo**	**82.33**	**354**	P	**P**	**18 15 31.0**	**0.0**
	0.7nm,0.5s,mb4.0,baz=180,slow=2.1,SNR=3.8						
SONM	**Songino Array**	**84.65**	**339**	P	**P**	**18 15 43.7**	**+0.8**
	0.5nm,0.5s,mb4.0,baz=355,slow=2.6,SNR=5.7						
MKAR	**Makanchi Array**	**89.61**	**355**	P	**P**	**18 16 07.5**	**+0.5**
	0.6nm,0.6s,mb4.0,baz=1.1,slow=4.5,SNR=7.2						

*IDC **03** 18:13:16.1±1.3,1.16N×96.87E,mb4.0/8,mb1 4.2/9, mb1mx3.9/19,mbtmp4.0/9,ML4.2/1,MS3.5/3,Ms1 3.6/3, ms1mx3.0/26,Error ellipse: s-maj=58.0km s-min=19.7km az=56.0*
*NEIC **03** 18:13:20.9±0.6,1.28N×97.06E,h30km,mb4.3/7,Error ellipse: s-maj=15.5km s-min=8.1km az=65.0*
*BJI **03** 18:13:21.8,1.84N×97.52E,h16km,mB4.8,mb4.7,Ms4.1, Msz3.5*
ISC 03 18:13:19.2±0.7**,1.30N**±0.08×**97.1E**±0.1**,h30**km**,n27, σ0.82**/26**,mb4.2**/16**,MS3.6**/3**,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.32**	**42**	*e*P	**Pn**	**18 14 39.0**	**+0.2**
SNG	**Songkhla**	**6.82**	**31**	P	**Pn**	**18 15 10.0**	**+10**
CM31	**Chiang Mai Arr**	**17.15**	**6**	*e*P	**P**	**18 17 19.5**	**+0.9**
	2.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**17.15**	**6**	Pn	**P**	**18 17 18.1**	**-0.5**
	0.3nm,0.3s,baz=201,slow=13,SNR=7.7						
CMAR				LR	LR	18 24 26.2	
	comp=Z,86nm,19.7s,baz=185,slow=39						
NANT	**Nan**	**17.75**	**11**	P	**P**	**18 17 27.5**	**+1.5**
NANT	**Nan**	**17.75**	**11**	P	**P**	**18 17 22.0**	**-4.0**
KMI	**Kunming**	**24.31**	**13**	P	**P**	**18 18 30.6**	**-4.9**
KMI				AP		18 18 37.2	
KMI				XP		18 18 40.2	
KMI				S	**S**	**18 22 47.2**	**-2.4**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb3.8						
KMI				AMB	AMB		
	comp=Z,90nm,3.9s						
KMI				LR	LR		
	comp=N,249nm,15.1s,MS4.0						
KMI				LR	LR		
	comp=E,154nm,10.3s,MS4.0						
KMI				LR	LR		
	comp=Z,109nm,15.2s,MS3.5						
SHL	**Shillong**	**24.65**	**349**	*e*	**P**	**18 18 39.5**	**+0.7**
LSA	**Lhasa**	**28.81**	**349**	P	**P**	**18 19 17.5**	**+0.5**
	comp=Z,3.7nm,0.6s,mb4.3						
ENH	**Enshi**	**31.13**	**21**	*e*P	**P**	**18 19 36.2**	**-1.4**
	comp=Z,7.3nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**34.07**	**126**	LR	LR	18 35 03.3	
	comp=Z,82nm,19.7s,MS3.5,baz=276,slow=38						
GTA	**Gaotai**	**38.02**	**3**	*e*P	**P**	**18 20 37.1**	**+0.5**
GTA				AP	pP	18 20 41.2	-4.4
GTA				XP	sP	18 20 44.2	-5.1
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
NWAO	**Narrogin (SRO)**	**38.99**	**153**	LR	LR	18 33 53.4	
	comp=Z,116nm,20.4s,MS3.7,baz=162,slow=32						
WRA	**Warramunga Arr**	**42.17**	**122**	P	**P**	**18 21 11.2**	**0.0**
	comp=Z,2.4nm,0.6s,mb4.0,baz=303,slow=8.9,SNR=24						
WRAB	**Tennant Creek**	**42.18**	**122**	*e*P	**P**	**18 21 11.3**	**0.0**
	comp=Z,3.7nm,0.5s,mb4.3						
WB2	**Warramunga Arr**	**42.18**	**122**	*e*P	**P**	**18 21 11.3**	**0.0**
SONM	**Songino Array**	**47.05**	**9**	P	**P**	**18 21 50.5**	**+0.5**
	comp=Z,2.7nm,0.7s,mb4.3,baz=189,slow=9.0,SNR=26						
MKAR	**Makanchi Array**	**47.12**	**346**	P	**P**	**18 21 51.0**	**+0.3**
	comp=Z,1.0nm,0.4s,mb4.1,baz=158,slow=9.1,SNR=23						
ULN	**Ulaanbaatar**	**47.18**	**9**	*e*P	**P**	**18 21 51.7**	**+0.6**
	comp=Z,2.0nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**53.44**	**351**	P	**P**	**18 22 39.2**	**+0.5**
	comp=Z,4.9nm,0.5s,mb4.7,baz=308,slow=5.3,SNR=16						
STKA	**Stephens Creek**	**53.50**	**132**	P	**P**	**18 22 39.8**	**+0.3**
	comp=Z,0.8nm,0.3s,mb4.1,baz=298,slow=11,SNR=4.2						
ZRNK	**Zerenda**	**56.53**	**340**	*e*P	**P**	**18 22 59.5**	**-1.7**
	comp=Z,1.0nm,0.5s,mb4.1						
YAK	**Yakutsk**	**65.36**	**16**	*e*P	**P**	**18 23 59.8**	**-1.0**
	comp=Z,9.4nm,0.8s,mb4.9						
AKASG	**Malin Array Be**	**75.12**	**322**	P	**P**	**18 24 59.2**	**-1.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=86,slow=5.9,SNR=3.3						
FINES	**FINESS Array B**	**79.87**	**333**	P	**P**	**18 25 26.6**	**+0.2**
	comp=Z,0.2nm,0.4s,mb3.4,baz=108,slow=6.0,SNR=4.4						
ARCES	**ARCESS Array B**	**82.41**	**340**	P	**P**	**18 25 40.2**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.8,baz=98,slow=5.1,SNR=12						
ARCES	**ARCESS Array B**	**82.41**	**340**	P	**P**	**18 25 40.2**	**+0.6**

*IDC **03** 18:23:23.5±0.8,11.98N×143.25E,mb4.2/10,mb1 4.3/10, mb1mx4.1/20,mbtmp4.1/10,MS3.3/6,Ms1 3.3/6, ms1mx3.1/26,Error ellipse: s-maj=36.0km s-min=19.9km az=87.0*
*NEIC **03** 18:23:24.9±0.5,11.96N×143.15E,h10km,mb4.2/2,Error ellipse: s-maj=14.9km s-min=11.0km az=107.0*
ISC 03 18:23:26.8±0.6**,11.89N**±0.08×**143.03E**±0.09**,h33**km**,n24, σ1.07**/19**,mb4.1**/12**,MS3.3**/5**,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.46**	**47**	*e*P	**P**	**18 24 03.0**	**-2.4**
GUMO				*e*Sg	**S**	**18 24 35.6**	**+1.0**
CBIJ	**Chichi jima**	**15.15**	**357**	LR	LR	18 32 15.6	
	comp=Z,82nm,20.3s,baz=145,slow=35						
JHJ	**Hachijo jima 2**	**21.34**	**352**	LR	LR	18 34 52.3	
	comp=Z,88nm,19.2s,MS3.2,baz=124,slow=32						
MJAR	**Matsushiro Arr**	**24.93**	**351**	P	**P**	**18 28 47.3**	**-1.1**
	0.9nm,0.6s,mb3.5,baz=298,slow=33,SNR=5.5						
MJAR				LR	LR	18 37 43.6	
	comp=Z,96nm,18.8s,MS3.3,baz=160,slow=35						
CTA	**Charters Tower**	**31.94**	**174**	LR	LR	18 40 50.6	
	comp=Z,43nm,20.0s,MS3.1,baz=146,slow=33						
ASAJ	**Asahikawa**	**32.11**	**359**	LR	LR	18 40 54.1	
	comp=Z,48nm,20.6s,MS3.2,baz=48,slow=33						
QIZ	**Qiongzhong**	**32.73**	**287**	P	**P**	**18 29 58.9**	**0.0**
WRAB	**Tennant Creek**	**32.76**	**195**	*e*P	**P**	**18 29 59.7**	**+0.6**
WRA	**Warramunga Arr**	**32.77**	**195**	P	**P**	**18 29 59.4**	**+0.2**
	2.3nm,0.7s,mb4.2,baz=19,slow=9.7,SNR=17						
STKA	**Stephens Creek**	**43.54**	**182**	P	**P**	**18 31 29.1**	**-0.3**
	1.7nm,1.0s,mb3.7,baz=358,slow=12,SNR=2.5						
ULN	**Ulaanbaatar**	**46.79**	**327**	*e*P	**P**	**18 31 56.3**	**+1.3**
	0.7nm,0.6s,mb3.8						
SONM	**Songino Array**	**47.12**	**327**	P	**P**	**18 31 58.9**	**+1.3**
	0.6nm,0.5s,mb3.8,baz=150,slow=6.1,SNR=9.3						
SONM				LR	LR	18 51 35.2	
	comp=Z,58nm,19.4s,MS3.5,baz=92,slow=36						
MKAR	**Makanchi Array**	**61.48**	**317**	P	**P**	**18 33 43.5**	**+0.9**
	1.2nm,1.0s,mb4.0,baz=90,slow=9.7,SNR=7.0						
PALK	**Pallekele**	**61.53**	**272**	P	**P**	**18 33 41.9**	**-1.6**
ILAR	**Eielson Array**	**70.86**	**25**	P	**P**	**18 34 39.9**	**-2.2**
	2.7nm,0.5s,mb4.5,baz=249,slow=5.9,SNR=65						
ZRNK	**Zerenda**	**70.98**	**322**	*e*P	**P**	**18 34 42.9**	**-0.1**
ARCES	**ARCESS Array B**	**88.14**	**342**	P	**P**	**18 36 15.9**	**+0.9**
	0.9nm,0.5s,mb4.3,baz=72,slow=6.6,SNR=16						
BMO	**Blue Mountains**	**88.45**	**45**	*e*P	**P**	**18 36 17.8**	**+0.8**
	2.7nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**89.37**	**51**	P	**P**	**18 36 22.9**	**+1.2**
	1.5nm,0.6s,mb4.5,baz=270,slow=5.4,SNR=15						
KAF	**Kangasniemi**	**91.51**	**335**	*e*p	**P**	**18 36 30.2**	**-0.8**
FINES	**FINESS Array B**	**91.93**	**335**	P	**P**	**18 36 32.4**	**-0.6**
	0.7nm,0.4s,mb4.4,baz=62,slow=5.1,SNR=18						
NOA	**NORSAR Array B**	**97.98**	**339**	P	**P**	**18 37 00.4**	**-0.1**
	0.4nm,0.6s,mb4.1,baz=49,slow=4.4,SNR=2.9						
LPAZ	**La Paz**	**149.48**	**102**	PKPbc	PKPdf	18 43 17.1	+8.1
	0.7nm,0.5s,baz=193,slow=3.7,SNR=5.7						
LPAZ	**La Paz**	**149.48**	**102**	*e*PKPbc	PKPdf	18 43 16.8	+7.8

WEL 03 18:36:32.0±0.4**,45.30S×166.71E,h12**km**,ML3.6**/5**,Error ellipse: s-maj=3.1km s-min=2.0km az=90.0,Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**1.03**	**93**	P*	Pb	18 36 49.6	-1.8
MLZ				S*	Sb	18 37 03.4	-1.3
WHZ	**Wether Hill Ro**	**1.05**	**125**	P*	Pb	18 36 51.1	-0.6
WHZ				S*	Sb	18 37 05.6	+0.4
WKZ	**Wanaka**	**1.70**	**75**	PN	Pn	18 37 01.1	-0.7
WKZ				SN	Sn	18 37 22.7	-0.9
EAZ	**Earnscleugh**	**1.84**	**89**	PN	Pn	18 37 03.2	-0.5
EAZ				SN	Sn	18 37 25.9	-1.1
JCZ	**Jackson Bay**	**1.91**	**51**	*e*PN	Pn	18 37 04.3	-0.4
JCZ				SN	Sn	18 37 28.8	0.0
TUZ	**Tuapeka**	**2.15**	**109**	*e*PN	Pn	18 37 07.5	-0.8
TUZ				SN	Sn	18 37 33.6	-1.5
LBZ	**Lake Benmore**	**2.64**	**71**	PN	Pn	18 37 13.2	-1.9
ODZ	**Otahua Downs**	**2.80**	**86**	PN	Pn	18 37 15.3	-2.1

*MOS **03** 18:38:00.6±1.4,35.42N×26.84E,h10km,mb4.0/2,Error ellipse: s-maj=11.1km s-min=5.7km az=119.9*
*ATH **03** 18:38:06.2,36.01N×26.99E,h22km±2km,MD3.9/9*
*NEIC **03** 18:38:06.4,35.99N×27.04E,h26km,mb3.8/8,*

MD3.9(ATH),After ATH.
*THE **03** 18:38:07.7,35.99N×27.04E,h6km*
*CSEM **03** 18:38:07.2±0.1,35.89N×27.01E,h40km,mb4.5/1,Ms2.7, Error ellipse: s-maj=2.2km s-min=1.4km az=66.0*
*ISK **03** 18:38:07.8,36.00N×26.80E,h56km,MD3.7*
*IDC **03** 18:38:10.5±1.8,35.83N×27.00E,h56km±25km,mb3.3/5, mb1 3.4/9,mb1mx3.3/25,mbtmp3.5/9,ML3.6/4,MS3.2/2, Ms1 3.2/2,ms1mx2.6/19,Error ellipse: s-maj=30.4km s-min=13.2km az=169.0*
*HLW **03** 18:38:11.4,35.86N×27.13E,h24km,Mb3.8*
ISC 03 18:38:07.5±0.2**,35.88N**±0.02×**26.95E**±0.03**,h33km,n111,** σ**1^{s}45**/127**,mb3.7**/6**,7C-5D,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.38**	**153**	*e*PB	**Pb**	**18 38 16.1**	**-0.2**
KARP				*e*SB	**Sb**	**18 38 22.9**	**+0.6**
KARP	**Karpathos**	**0.38**	**153**	*e*Pb	**Pb**	**18 38 16.2**	**-0.1**
KARP				*e*Sb	**Sb**	**18 38 22.8**	**+0.5**
NISR	**Nisiros**	**0.74**	**11**	*e*PN	**Pn**	**18 38 19.0**	**-2.7**
NISR	**Nisiros**	**0.74**	**11**	*e*Pn	**Pn**	**18 38 20.0**	**-1.7**
ARG	**Arkhangelos**	**1.01**	**70**⇑	*i*PN	**Pn**	**18 38 24.2**	**-1.3**
ARG				*e*SN	**Sn**	**18 38 37.7**	**-0.9**
ARG	**Arkhangelos**	**1.01**	**70**⇑	*i*Pn	**Pn**	**18 38 24.2**	**-1.3**
ARG				*e*Sn	**Sn**	**18 38 36.3**	**-2.3**
BODT	**Bodrum**	**1.21**	**14**	PN	**Pn**	**18 38 27.7**	**-0.7**
BODT				SN	**Sn**	**18 38 43.3**	**-0.5**
BDRM	**Kayabasi**	**1.25**	**18**	*i* P	**P**	**18 38 28.6**	**0.0**
BDRM				*i* S	**S**	**18 38 43.8**	**-0.7**
NPS	**Neapolis**	**1.25**	**241**⇑	*i*PN	**Pn**	**18 38 31.8**	**+2.8**
NPS				*e*SN	**Sn**	**18 38 49.7**	**+4.8**
SANT	**Santorini**	**1.30**	**292**	*e*P	**P**	**18 38 30.8**	**+1.2**
SANT	**Santorini**	**1.30**	**292**	*e*P	**P**	**18 38 30.8**	**+1.2**
THR1	**Thera Island**	**1.30**	**292**	*e*Pg	**P**	**18 38 31.4**	**+1.8**
THR1				*e*Sg	**S**	**18 38 49.6**	**+3.7**
THR3	**Thira Island,**	**1.36**	**293**	*e*Pg	**P**	**18 38 31.9**	**+1.6**
XRY	**Khrisi**	**1.44**	**226**	*e*PN	**Pn**	**18 38 35.6**	**+3.9**
MLSB	**Milas**	**1.56**	**25**	PN	**Pn**	**18 38 33.4**	**0.0**
MLSB				SN	**Sn**	**18 38 52.7**	**+0.1**
DALT	**Dalyan (Mudla)**	**1.62**	**56**	PN	**Pn**	**18 38 35.4**	**+1.1**
YER	**Yerkesik**	**1.65**	**40**	PN	**Pn**	**18 38 35.1**	**+0.5**
APE	**Apeiranthos**	**1.65**	**316**	PN	**Pn**	**18 38 33.4**	**-1.2**
APE	**Apeiranthos**	**1.65**	**316**⇓	*i*PN	**Pn**	**18 38 34.7**	**+0.1**
APE	**Apeiranthos**	**1.65**	**316**⇓	*i*Pb	**Pn**	**18 38 34.7**	**+0.1**
IDI	**Anoyia**	**1.78**	**251**	P	**P**	**18 38 39.0**	**+2.5**
	15nm,0.3s,baz=68,slow=13,SNR=44						
IDI				S	**S**	**18 39 01.3**	**+3.2**
	64nm,0.3s,baz=324,slow=18,SNR=12						
SMG	**Samos**	**1.82**	**357**	*e*PB	**Pb**	**18 38 35.9**	**-4.2**
SMG	**Samos**	**1.82**	**357**	*e*Pb	**Pb**	**18 38 35.8**	**-4.3**
FETY	**Fethiye**	**1.88**	**66**	PN	**Pn**	**18 38 39.9**	**+1.9**
AYDN	**Tasoluk**	**1.92**	**22**	*i* P	**P**	**18 38 41.0**	**+2.6**
AYDN				*i* S	**S**	**18 39 09.5**	**+7.8**
KSL	**Kastellorizon**	**2.15**	**82**	*e*PN	**Pn**	**18 38 43.0**	**+1.2**
AKAS	**Kas**	**2.18**	**80**	*i* P	**P**	**18 38 43.7**	**+1.6**
DNZL	**Cakiroluk**	**2.46**	**42**	*i* P	**P**	**18 38 47.8**	**+1.6**
URLA	**Izmir**	**2.49**	**354**	*i* P	**P**	**18 38 44.9**	**-1.6**
URLA				*i* S	**S**	**18 39 18.3**	**+2.3**
GOLH	**Golhisar**	**2.50**	**56**	*i* P	**P**	**18 38 49.3**	**+2.7**
GOLH				*i* S	**S**	**18 39 19.9**	**+3.7**
DENT	**Denizli**	**2.50**	**41**	PN	**Pn**	**18 38 47.2**	**+0.3**
IZM	**Izmir**	**2.52**	**6**	PN	**Pn**	**18 38 45.9**	**-1.3**
KDAG	**Bornova**	**2.53**	**6**	*i* P	**P**	**18 38 50.3**	**+3.2**
ELL	**Elmali**	**2.54**	**69**	PN	**Pn**	**18 38 49.2**	**+1.8**
MANT	**Manisa**	**2.90**	**26**	*i* P	**P**	**18 39 01.4**	**+9.0**
MANT				*i* S	**S**	**18 39 40.6**	**+14**
AKS	**Akhisar**	**3.07**	**13**	*e*PN	**Pn**	**18 38 54.5**	**-0.4**
KHL	**Karahalli**	**3.19**	**39**	*e*PN	**Pn**	**18 38 57.1**	**+0.5**
KYTH	**Kithira**	**3.20**	**278**	*e*PN	**Pn**	**18 38 57.9**	**+1.2**
TKTP	**Tekketepe**	**3.45**	**50**	*i* P	**P**	**18 39 06.4**	**+6.2**
ISP	**Isparta**	**3.46**	**54**	*e*PN	**Pn**	**18 39 01.7**	**+1.2**
ISP	**Isparta**	**3.46**	**54**	P	**P**	**18 39 02.0**	**+1.7**
GDZ	**Gediz**	**3.78**	**31**	*i* S	**Sb**	**18 40 04.5**	**+5.3**
LOS	**Limnos**	**4.31**	**340**	*e*Pn	**Pn**	**18 39 11.5**	**-1.0**
XOR	**Xorichti**	**4.58**	**320**	*e*Pn	**Pn**	**18 39 16.1**	**-0.3**
ULDT	**Uludag**	**4.59**	**21**	*i* P	**P**	**18 39 30.4**	**+14**
SLUM		**4.61**	**199**	P	**P**	**18 39 18.8**	**+2.1**
SLUM				S	**S**	**18 40 09.8**	**-0.1**
PAIG	**Paliouri**	**4.79**	**328**	*e*Pn	**Pn**	**18 39 18.6**	**-0.8**
ERMK	**Ermenek**	**4.88**	**79**	*i* P	**P**	**18 39 12.1**	**-8.4**
KIZT	**Kizilcal**	**4.93**	**51**	*e*PN	**Pn**	**18 39 22.7**	**+1.3**
ALN	**Alexandroupoli**	**5.06**	**352**	*e*Pn	**Pn**	**18 39 21.6**	**-1.5**
CSS	**Prodhromos**	**5.29**	**98**	*e*P	**P**	**18 39 25.9**	**-0.3**
	14nm,0.5s						
MEST	**Erdemli**	**5.86**	**81**	*i* P	**P**	**18 39 35.2**	**+1.0**
BRTR	**Keskin Array B**	**6.54**	**52**	P	**P**	**18 39 44.5**	**+0.8**
	0.2nm,0.3s,baz=225,slow=16,SNR=6.8						
BRTR	**Keskin Array B**	**6.54**	**52**	P	**P**	**18 39 44.5**	**+0.7**
BR131	**Keskin Array S**	**6.54**	**52**	*e*P	**P**	**18 39 43.2**	**-0.6**
	1.4nm,0.4s						
BR131	**Keskin Array S**	**6.54**	**52**	*e*P	**P**	**18 39 43.2**	**-0.6**
	1.4nm,0.4s						
SWA1		**6.68**	**189**	P	**P**	**18 39 47.6**	**+1.8**
SWA1				S	**S**	**18 40 58.2**	**-3.5**
SWA2		**6.74**	**191**	P	**P**	**18 39 47.9**	**+1.2**
GLL	**Jalalah**	**7.45**	**146**⇑	*e*P	**P**	**18 39 56.3**	**-0.4**
HRSH	**Kfar Ka'horesh**	**7.49**	**129**	P	**P**	**18 39 56.2**	**-0.9**
HRSH				S	**S**	**18 41 14.4**	**-7.4**
RSH		**7.49**	**129**	P	**P**	**18 39 56.2**	**-0.9**
SUZ		**7.79**	**139**⇑	*e*P	**P**	**18 40 00.6**	**-0.7**
HNKL	**Nakhl**	**8.37**	**133**⇓	*e*P	**P**	**18 40 08.5**	**-0.9**
HNKL				S	**S**	**18 41 35.4**	**-8.5**
HFRF	**Wahat Farafira**	**8.78**	**172**⇓	*e*P	**P**	**18 40 15.4**	**+0.3**
ASF	**Jabal al Asfar**	**9.04**	**111**	P	**P**	**18 40 13.0**	**-5.8**
	0.3nm,0.3s,baz=334,slow=11,SNR=2.3						
EIL	**Elat**	**9.15**	**130**	P	**P**	**18 40 18.4**	**-1.8**
	0.7nm,0.3s,baz=342,slow=17,SNR=5.3						
EIL				S	**S**	**18 41 55.0**	**-8.1**
	3.6nm,0.3s,baz=12,slow=6.5,SNR=12						
EIL	**Elat**	**9.15**	**130**	*e*P	**P**	**18 40 18.2**	**-1.9**
	6.5nm,0.5s						
EIL	**Elat**	**9.15**	**130**	*e*P	**P**	**18 40 18.2**	**-1.9**
	6.5nm,0.5s						
HKAT	**Jabal Katrina**	**9.45**	**139**⇑	*e*P	**P**	**18 40 23.1**	**-1.3**
HDHB	**Dhahab**	**9.64**	**136**⇑	*e*P	**P**	**18 40 25.7**	**-1.3**
TR1		**9.85**	**141**	P	**P**	**18 40 28.7**	**-1.1**
HDK1	**Dakhla**	**10.52**	**168**⇓	*e*P	**P**	**18 40 38.6**	**-0.5**
GNI	**Garni**	**14.65**	**68**	LR	LR	18 48 21.8	
	comp=Z,130nm,18.1s,baz=173,slow=42						
AKASG	**Malin Array Be**	**14.90**	**6**	P	**P**	**18 41 39.9**	**+2.5**
	0.3nm,0.3s,baz=197,slow=11,SNR=5.4						
OJC	**Ojcow**	**15.24**	**342**	*e*P	**P**	**18 41 47.7**	**+6.0**
GERES	**GERESS Array B**	**16.20**	**327**	P	**P**	**18 41 55.5**	**+1.4**
	0.1nm,0.3s,baz=152,slow=14,SNR=5.0						
KHC	**Kasperske Hory**	**16.47**	**328**	*e*P	**P**	**18 42 00.5**	**+3.0**
DAVOX	**Davos**	**16.78**	**316**	LR	LR	18 48 38.5	
	comp=Z,54nm,20.6s,baz=85,slow=37						
SBF	**Sospel**	**16.94**	**304**	*e*P	**P**	**18 42 00.9**	**-2.5**
FRF	**La Foret Royal**	**17.38**	**302**	*e*P	**P**	**18 42 06.5**	**-2.4**
	14nm,1.1s						
FRF	**La Foret Royal**	**17.38**	**302**	*e*P	**P**	**18 42 06.5**	**-2.4**
FRF				pmax	pmax		
	comp=Z,7.0nm,1.1s						
LMR	**La Mourre**	**17.40**	**302**	*e*P	**P**	**18 42 05.9**	**-3.2**
BRG	**Berggiesshubel**	**17.68**	**332**	*e*P	**P**	**18 42 18.7**	**+6.1**
BRG				pmax	pmax		
	comp=Z,9.0nm,1.7s						
BRG	**Berggiesshubel**	**17.68**	**332**	*e*P	**P**	**18 42 18.7**	**+6.1**
	comp=Z,9.0nm,1.7s						
MBDF	**Montbardon**	**17.71**	**306**	*e*P	**P**	**18 42 13.0**	**-0.1**
	comp=Z,5.1nm,0.8s						
MBDF	**Montbardon**	**17.71**	**306**	*e*P	**P**	**18 42 13.0**	**-0.1**
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPG	**La Plagne**	**18.04**	**308**	*e*P	**P**	**18 42 17.1**	**0.0**
LPL	**La Plagne**	**18.06**	**308**	*e*P	**P**	**18 42 17.3**	**-0.1**
SMRF	**Simiane la Rot**	**18.25**	**303**	*e*P	**P**	**18 42 18.7**	**-1.1**
	comp=Z,22nm,1.4s						
ORIF	**Oris-en-Rattie**	**18.37**	**306**	*e*P	**P**	**18 42 19.9**	**-1.5**
ORIF				*e*R			
	comp=Z,63nm,22.8s						
CLL	**Collm**	**18.38**	**331**	*e**PP		18 42 23.0	
MOX	**Moxa**	**18.45**	**328**	*e*P	**P**	**18 42 25.2**	**+2.9**
MOX				pmax	pmax		
	comp=Z,11nm,1.7s						
MOX	**Moxa**	**18.45**	**328**	*e*P	**P**	**18 42 25.2**	**+2.9**
	comp=Z,11nm,1.7s						
MOX	**Moxa**	**18.45**	**328**	*i* P	**P**	**18 42 25.2**	**+2.9**
	comp=Z,logA/T=0.8						
CABF	**La Chapelle**	**18.94**	**311**	*e*P	**P**	**18 42 24.2**	**-4.1**
CDF	**Champ du Feu**	**19.16**	**317**	*e*P	**P**	**18 42 29.5**	**-1.2**
HAU	**Haudompre**	**19.46**	**315**	*e*P	**P**	**18 42 33.2**	**-0.9**
HAU				*e*R			
	comp=Z,38nm,19.5s						
SMF	**Signal de Mont**	**20.36**	**309**	*e*P	**P**	**18 42 40.9**	**-2.8**
MTLF	**Montolieu**	**20.41**	**299**	*e*P	**P**	**18 42 42.4**	**-1.9**
	comp=Z,11nm,1.3s						
MTLF	**Montolieu**	**20.41**	**299**	*e*P	**P**	**18 42 42.4**	**-1.9**
MTLF				pmax	pmax		
	comp=Z,6.0nm,1.3s						
LOR	**Lormes**	**20.60**	**311**	*e*P	**P**	**18 42 44.1**	**-2.2**
LOR				*e*R			
	comp=Z,54nm,19.8s						
SSF	**Saint Saulge**	**20.74**	**310**	*e*P	**P**	**18 42 45.5**	**-2.1**
SSF				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SSF	**Saint Saulge**	**20.74**	**310**	*e*P	**P**	**18 42 45.5**	**-2.1**
	comp=Z,7.4nm,0.9s						
BGF	**Bois d'Agland**	**20.96**	**308**	*e*P	**P**	**18 42 48.1**	**-1.8**
BAIF	**Baives**	**21.74**	**318**	*e*P	**P**	**18 42 56.6**	**-1.1**
	comp=Z,60nm,1.5s,mb4.5						
ESDC	**Sonseca Array**	**24.66**	**288**	P	**P**	**18 43 26.8**	**+0.3**
	comp=Z,0.4nm,0.5s,mb3.2,baz=67,slow=9.8,SNR=3.9						
ESDC	**Sonseca Array**	**24.66**	**288**	P	**P**	**18 43 26.8**	**+0.3**
HFS	**Hagfors**	**25.73**	**345**	P	**P**	**18 43 35.7**	**-0.7**
	comp=Z,1.7nm,0.9s,mb3.6,baz=144,slow=12,SNR=2.7						
ARCES	**ARCESS Array B**	**33.72**	**359**	P	**P**	**18 44 45.5**	**-1.9**
	comp=Z,1.0nm,1.0s,mb3.7,baz=170,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**42.16**	**57**	P	**P**	**18 45 56.6**	**-1.7**
	comp=Z,0.9nm,0.7s,mb3.5,baz=280,slow=7.4,SNR=7.0						
SONM	**Songino Array**	**57.90**	**51**	P	**P**	**18 47 58.0**	**-0.4**
	comp=Z,0.4nm,0.7s,mb3.6,baz=279,slow=6.6,SNR=4.7						

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*IDC **03** 18:50:56.4±2.1,23.84S×112.08W,mb3.7/3,mb1 4.2/3, mb1mx3.8/15,mbtmp3.7/3,MS3.5/4,Ms1 3.5/4, ms1mx3.2/17,Error ellipse: s-maj=120.2km s-min=57.5km az=88.0*
NEIC 03 18:50:57.3±1.0**,23.88S**×**112.02W,h10km,mb4.3**/3**,Error ellipse: s-maj=75.5km s-min=28.1km az=85.0,Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**41.77**	**88**	LR	LR	19 11 59.4	
	comp=Z,57nm,19.2s,baz=71,slow=30						
CPUP	**Villa Florida**	**49.28**	**105**	LR	LR	19 16 35.5	
	comp=Z,30nm,18.7s,baz=227,slow=31						
TXAR	**Lajitas Array**	**53.51**	**9**	P	P	19 00 18.7	-1.6
	0.5nm,0.8s,baz=180,slow=11,SNR=5.6						
BDFB	**Brasilia**	**60.37**	**95**	LR	LR	19 24 16.6	
	comp=Z,43nm,20.3s,baz=298,slow=33						
MNV	**Mina**	**62.24**	**355**	*e*P	P	19 01 19.6	-2.1
	16nm,1.9s						
NVAR	**Mina Array Bea**	**62.25**	**354**	P	P	19 01 21.1	-0.7
	1.6nm,0.8s,baz=173,slow=9.8,SNR=9.7						
BW06	**Boulder Array**	**66.34**	**2**	*e*P	P	19 01 45.2	-3.1
	1.2nm,0.8s						
PDAR	**Pinedale Array**	**66.34**	**2**	P	P	19 01 45.2	-3.1
	0.4nm,0.6s,baz=164,slow=6.6,SNR=5.1						
HLID	**Hailey**	**67.14**	**358**	*e*P	P	19 01 51.0	-2.4
	1.4nm,0.9s						
INK	**Inuvik**	**93.27**	**352**	LR	LR	19 44 07.2	
	comp=Z,37nm,18.4s,baz=79,slow=34						
AKASG	**Malin Array Be**	**139.87**	**38**	PKP	PKPdf	19 10 25.3	-3.4
	0.1nm,0.4s,baz=296,slow=2.7,SNR=5.1						
ARU	**Arti**	**146.76**	**10**	*e*PKPdf	PKPdf	19 10 37.1	-3.3
BRTR	**Keskin Array B**	**147.05**	**53**	PKPbc	PKPdf	19 10 41.4	-0.1
	1.3nm,0.8s,baz=225,slow=1.7,SNR=5.4						
ZAL	**Zalesovo**	**147.43**	**341**	PKPbc	PKPdf	19 10 41.6	0.0
	0.8nm,0.5s,baz=178,slow=4.2,SNR=5.2						
ZRNK	**Zerenda**	**150.96**	**359**	*e*PKPbc	PKPdf	19 10 49.6	+2.4
MKAR	**Makanchi Array**	**154.41**	**337**	PKPbc	PKPdf	19 10 58.0	+5.7
	1.0nm,0.8s,baz=45,slow=3.4,SNR=9.2						

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*TEH **03** 18:54:30.3,25.79N×58.26E,h10km,Mn3.8*
*CSEM **03** 18:54:38.2±0.3,26.62N×57.99E,h16km,ML4.1,Error ellipse: s-maj=7.9km s-min=3.1km az=2.0*
*NEIC **03** 18:54:43.1,27.07N×57.95E,h14km,mb3.9/2, ML4.1(THR),After THR.*
*IDC **03** 18:54:43.7±1.8,27.54N×58.02E,mb3.6/11,mb1 3.7/11, mb1mx3.6/24,mbtmp3.6/11,MS3.2/2,Ms1 3.2/2, ms1mx2.7/25,Error ellipse: s-maj=41.2km s-min=21.2km az=7.0*
*THR **03** 18:54:43.1±1.2,27.07N×57.95E,h14km±12km,ML4.1*
ISC 03 18:54:35.7±0.9**,26.43N**±0.09×**57.89E**±0.06**,h10km,n43,** σ**1^{s}09**/52**,mb3.5**/11**,MS3.2**/1**,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.81**	**303**	*e*Pg	**Pg**	**18 55 12.0**	**0.0**
BNDS				*e*Sg	**Sg**	**18 55 34.0**	**-2.2**
BNDS	**Bandar-Abbas**	**1.81**	**303**	*e*Pg	**Pg**	**18 55 12.3**	**+0.3**
BNDS				*e*SG	**Sg**	**18 55 34.8**	**-1.4**
BNDS				AML	AML	18 55 43.6	
	comp=N,2µm,0.6s						
BNDS	**Bandar-Abbas**	**1.81**	**303**	*e*Pg	**Pg**	**18 55 12.0**	**0.0**
BNDS				*e*Sg	**Sg**	**18 55 34.8**	**-1.4**
	SNR=90						
KRBR	**Kerman**	**3.68**	**345**	*e*Pn	**Pn**	**18 55 34.0**	**0.0**
KRBR				*e*Sg	**Sn**	**18 56 19.0**	**+1.1**
KRBR	**Kerman**	**3.68**	**345**	*e*Pn	**Pn**	**18 55 34.7**	**+0.7**
KRBR				*e*SG	**Sn**	**18 56 19.5**	**+1.6**
KRBR				AML	AML	18 56 25.7	
	comp=N,400nm,0.5s						
ZHSF	**Zahedan**	**4.07**	**38**	*e*Pn	**Pn**	**18 55 39.0**	**-0.5**
ZHSF				*e*Sg	**Sn**	**18 56 33.0**	**+5.2**
ZHSF	**Zahedan**	**4.07**	**38**	*e*PN	**Pn**	**18 55 40.0**	**+0.5**
ZHSF				*e*SG	**Sn**	**18 56 33.5**	**+5.7**
ZHSF	**Zahedan**	**4.07**	**38**	*e*Pn	**Pn**	**18 55 39.0**	**-0.5**
ZHSF				*e*Sg	**Sn**	**18 56 33.5**	**+5.7**
	SNR=90						
IMOK	**Mook**	**5.28**	**301**	Pn	**Pn**	**18 55 56.9**	**+0.3**
IBAF	**Bafgh**	**5.53**	**339**	Pn	**Pn**	**18 56 01.4**	**+1.2**
IMEH	**Mehriz**	**5.72**	**331**	Pn	**Pn**	**18 56 03.0**	**+0.2**
ISAD	**Sadrabad**	**6.59**	**327**	Pn	**Pn**	**18 56 16.6**	**+1.5**
NASN	**Na'in**	**7.74**	**326**	*e*PN	**Pn**	**18 56 31.2**	**0.0**
NASN	**Na'in**	**7.74**	**326**	*e*Pn	**Pn**	**18 56 31.0**	**-0.2**
IZEF	**Zefreh**	**8.06**	**324**	Pn	**P**	**18 56 28.6**	**-7.1**
IKLH	**Kalahroud**	**8.78**	**323**	Pn	**P**	**18 56 40.6**	**-5.2**
KBD	**Kabd**	**9.43**	**289**	*e*P	**P**	**18 56 55.0**	**+0.2**
KBD				AML	AML	18 58 38.7	
	comp=Z,34nm,0.3s						
KBD	**Kabd**	**9.43**	**289**	*e*P	**P**	**18 56 55.0**	**+0.2**
KBD				*e*S	**Sn**	**18 58 36.8**	**-5.2**
RDF	**Al-Radifah**	**9.50**	**288**	*e*P	**P**	**18 56 56.0**	**+0.3**
RDF				AML	AML	18 58 42.6	
	comp=Z,33nm,0.5s						
RDF	**Al-Radifah**	**9.50**	**288**	*e*P	**P**	**18 56 56.0**	**+0.4**
RDF				*e*S	**Sn**	**18 58 38.1**	**-5.5**
NAY	**Al-Naaiem**	**9.84**	**289**	*e*P	**P**	**18 57 00.0**	**-0.3**
NAY				AML	AML	18 58 48.3	
	comp=Z,6.6nm,0.6s						
NAY	**Al-Naaiem**	**9.84**	**289**	*e*S	**Sn**	**18 58 46.5**	**-5.4**
IMYA	**Miamay**	**10.06**	**10**	Pn	**P**	**18 57 01.2**	**-2.3**
IRAZ	**Razeghan**	**11.26**	**325**	Pn	**P**	**18 57 19.4**	**-0.4**
IKOM	**Komasi**	**11.83**	**313**	Pn	**P**	**18 57 26.4**	**-1.1**
GNI	**Garni**	**17.52**	**325**	LR	LR	19 06 10.5	
	comp=Z,62nm,18.0s,baz=315,slow=41						
EIL	**Elat**	**20.50**	**284**	P	**P**	**18 59 22.5**	**+5.9**
	comp=Z,2.2nm,0.4s,baz=100,slow=14,SNR=5.6						
EIL	**Elat**	**20.50**	**284**	*e*P	**P**	**18 59 20.5**	**+3.9**
	comp=Z,4.8nm,0.8s						
EIL	**Elat**	**20.50**	**284**	*e*P	**P**	**18 59 20.5**	**+3.9**
	comp=Z,4.8nm,0.8s						
AAK	**Ala-Archa**	**21.12**	**36**	*e*P	**P**	**18 59 19.9**	**-3.0**
	comp=Z,3.8nm,0.6s,mb3.9						
BRTR	**Keskin Array B**	**24.17**	**309**	P	**P**	**18 59 57.0**	**+3.8**
	comp=Z,1.3nm,0.7s,mb3.5,baz=122,slow=10,SNR=6.3						
MKAR	**Makanchi Array**	**28.03**	**37**	P	**P**	**19 00 28.7**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.4,baz=223,slow=9.8,SNR=5.3						
MKAR	**Makanchi Array**	**28.03**	**37**	P	**P**	**19 00 28.7**	**-0.3**
AKASG	**Malin Array Be**	**32.65**	**326**	P	**P**	**19 01 10.6**	**+0.7**
	comp=Z,0.1nm,0.3s,mb3.2,baz=133,slow=8.6,SNR=4.0						
ZAL	**Zalesovo**	**33.92**	**29**	P	**P**	**19 01 19.4**	**-1.5**
	comp=Z,1.2nm,0.2s,mb4.4,baz=225,slow=6.7,SNR=3.2						
ZAL	**Zalesovo**	**33.92**	**29**	P	**P**	**19 01 19.4**	**-1.5**
OJC	**Ojcow**	**37.57**	**319**	*e*P	**P**	**19 01 56.5**	**+4.6**
GERES	**GERESS Array B**	**40.79**	**315**	P	**P**	**19 02 19.9**	**+1.1**
	comp=Z,0.3nm,0.6s,mb3.1,baz=108,slow=8.4,SNR=5.4						
GERES				LR	LR	19 22 24.0	
	comp=Z,31nm,18.0s,MS3.2,baz=306,slow=41						
FINES	**FINESS Array B**	**41.03**	**337**	P	**P**	**19 02 19.5**	**-1.1**
	comp=Z,1.1nm,0.8s,mb3.6,baz=141,slow=12,SNR=6.4						
SONM	**Songino Array**	**43.33**	**47**	P	**P**	**19 02 40.8**	**+1.3**
	comp=Z,0.3nm,0.8s,mb3.1,baz=262,slow=10,SNR=3.0						
HFS	**Hagfors**	**45.17**	**331**	P	**P**	**19 02 55.2**	**+1.0**
	comp=Z,0.4nm,0.4s,mb3.6,baz=135,slow=8.4,SNR=5.0						
ARCES	**ARCESS Array B**	**47.10**	**345**	P	**P**	**19 03 08.0**	**-1.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=140,slow=9.5,SNR=4.0						
WRA	**Warramunga Arr**	**87.27**	**114**	P	**P**	**19 07 34.1**	**+10**
	comp=Z,0.3nm,0.6s,mb3.7,baz=308,slow=4.1,SNR=4.7						

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*BJI **03** 19:27:57.4,53.31N×158.47E,h172km,mB4.8,mb4.8*
*MOS **03** 19:28:02.5±0.9,53.30N×157.64E,h176km,mb4.4/50, Error ellipse: s-maj=8.4km s-min=5.3km az=86.5*
*KRSC **03** 19:28:03.3±0.3,53.21N×157.99E,h179km±2km,ML4.7*
*NEIC **03** 19:28:04.0±0.1,53.35N×157.63E,mb4.5/74,Error ellipse: s-maj=4.7km s-min=2.8km az=165.0*
*IDC **03** 19:28:04.5±0.7,53.40N×157.53E,h178km±5km,mb4.0/28, mb1 4.2/30,mb1mx4.2/32,mbtmp4.5/30,Error ellipse: s-maj=12.1km s-min=7.3km az=162.0*
ISC 03 19:28:02.8±0.2**,53.26N**±0.02×**157.69E**±0.04**,h179km**±1km**, h176km**±2.6km**:pP-P,n289,** σ**0^{s}92**/327**,mb4.4**/104**,9C-9D, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GNL	**Ganaly**	**0.46**	**19**	*i* P	**P**	**19 28 29.0**	**+1.3**
GNL				*e*S	**S**	**19 28 47.5**	**+0.6**
APC	**Apacha**	**0.47**	**224**	*i* P	**P**	**19 28 29.1**	**+1.3**
APC				*i* S	**S**	**19 28 47.6**	**+0.6**
APC				Smax			
	7µm,0.8s						
KOK	**Koryaka**	**0.57**	**87**	*i* P	**P**	**19 28 28.8**	**+0.6**
KOK				*e*S	**S**	**19 28 47.5**	**-0.2**
PET	**Petropavlovsk**	**0.63**	**112**	P	**P**	**19 28 28.4**	**-0.1**
PET				S	**S**	**19 28 47.1**	**-1.1**
PET	**Petropavlovsk**	**0.63**	**112**⇑	*i*PN	**P**	**19 28 28.1**	**-0.4**
PET				*i* S	**S**	**19 28 47.6**	**-0.6**
PET				pmax	pmax		
	comp=Z,10µm,1.4s						
PET				pmax	pmax		
	comp=Z,7µm,0.6s						
PET				pmax	pmax		
	comp=E,2µm,0.5s						
PET				smax			
	comp=N,3µm,1.9s						
PET				smax			
	comp=N,14µm,1.3s						
PET				smax			
	comp=N,8µm,0.8s						
PET				smax			
	comp=E,6µm,0.6s						
PET	**Petropavlovsk**	**0.63**	**112**	*e*Pn	**P**	**19 28 28.0**	**-0.5**
PET				*e*Sn	**S**	**19 28 45.9**	**-2.3**
PET	**Petropavlovsk**	**0.63**	**112**	*i* P	**P**	**19 28 28.4**	**-0.1**
PET				*e*S	**S**	**19 28 46.8**	**-1.4**
AVH	**Avacha**	**0.63**	**89**	*i* P	**P**	**19 28 29.0**	**+0.5**
AVH				*e*S	**S**	**19 28 47.9**	**-0.3**
SMAR	**Somma**	**0.67**	**90**	*i* P	**P**	**19 28 29.2**	**+0.6**
SMAR				*e*S	**S**	**19 28 48.3**	**-0.3**
UGLR	**Uglovaya**	**0.68**	**94**	*i* P	**P**	**19 28 29.5**	**+0.8**
UGLR				*e*S	**S**	**19 28 48.3**	**-0.4**
SDLR	**Sedlovina**	**0.72**	**88**	*i* P	**P**	**19 28 29.1**	**+0.2**
SDLR				*e*S	**S**	**19 28 47.8**	**-1.2**
GRL	**Gorelyy**	**0.75**	**162**	*i* P	**P**	**19 28 30.0**	**+0.9**
GRL				*e*S	**S**	**19 28 49.4**	**+0.1**
RUS	**Russkaya**	**0.97**	**149**	P	**P**	**19 28 29.9**	**-0.5**
RUS				S	**S**	**19 28 49.7**	**-2.0**
RUS	**Russkaya**	**0.97**	**149**	*i* P	**P**	**19 28 30.0**	**-0.4**
RUS				*e*S	**S**	**19 28 49.8**	**-1.9**
NLC	**Nalytchevo**	**1.00**	**95**	P	**P**	**19 28 30.1**	**-0.5**
NLC				S	**S**	**19 28 50.1**	**-2.0**
NLC	**Nalytchevo**	**1.00**	**95**	*i* P	**P**	**19 28 30.0**	**-0.6**
NLC				*e*S	**S**	**19 28 49.5**	**-2.6**
MIPR	**Malaya Ipel'ka**	**1.14**	**210**	*i* P	**P**	**19 28 33.0**	**+1.2**
MIPR				*e*S	**S**	**19 28 54.2**	**0.0**
KII	**Karymskiy**	**1.30**	**53**	*i* P	**P**	**19 28 33.8**	**+0.6**
SPN	**Mys Shipunski**	**1.41**	**96**	P	**P**	**19 28 32.9**	**-1.4**
SPN				S	**S**	**19 28 54.1**	**-4.5**
SPN	**Mys Shipunski**	**1.41**	**96**	*i* P	**P**	**19 28 32.7**	**-1.6**
SPN				*i* S	**S**	**19 28 54.1**	**-4.5**
PAU	**Pauzhetka**	**1.88**	**197**	*i* P	**P**	**19 28 40.2**	**+1.3**
PAU				*e*S	**S**	**19 29 06.7**	**0.0**
PAU				Smax			
	comp=E,1µm,1.2s						
TUMR	**Tumrok**	**2.48**	**34**	*i* P	**P**	**19 28 47.3**	**+1.5**
TUMR				*e*S	**S**	**19 29 19.5**	**+0.6**
MKZ	**Mys Kozlova**	**2.72**	**60**	P	**P**	**19 28 47.3**	**-1.3**
MKZ				S	**S**	**19 29 18.4**	**-5.4**
MKZ	**Mys Kozlova**	**2.72**	**60**	*i* P	**P**	**19 28 47.4**	**-1.2**
MKZ				*i* S	**S**	**19 29 19.7**	**-4.1**
ESO	**Esso**	**2.73**	**12**	*i* P	**P**	**19 28 50.6**	**+1.8**
ESO				*e*S	**S**	**19 29 25.2**	**+1.1**
ESO				Smax			
	comp=E,280nm,1.6s						
SKR	**Severo-Kuril's**	**2.76**	**201**⇑	*i*PN	**P**	**19 28 47.0**	**-2.1**
SKR				*e*S	**S**	**19 29 22.0**	**-2.8**
SKR				pmax	pmax		
	comp=N,200nm,0.9s						
SKR				pmax	pmax		
	comp=E,160nm,0.9s						
SKR				pmax	pmax		
	comp=Z,490nm,0.9s						
SKR				smax			
	comp=N,2µm,4.0s						
SKR				smax			
	comp=E,2µm,2.0s						
SKR				smax			
	comp=N,560nm,0.3s						
SKR				smax			
	comp=E,310nm,0.5s						
KMNR	**Kamenistaya**	**2.91**	**30**	*i* P	**P**	**19 28 52.3**	**+1.4**
KMNR				*e*S	**S**	**19 29 27.9**	**0.0**
KOZ	**Kozyrevsk**	**3.08**	**23**	P	**P**	**19 28 54.2**	**+1.3**
KOZ				S	**S**	**19 29 30.2**	**-1.3**
KOZ	**Kozyrevsk**	**3.08**	**23**	*i* P	**P**	**19 28 54.2**	**+1.3**
KOZ				*e*S	**S**	**19 29 31.3**	**-0.2**
KPT	**Kopyto**	**3.08**	**28**	*i* P	**P**	**19 28 54.1**	**+1.1**
KPT				*e*S	**S**	**19 29 31.4**	**-0.3**
KOZR	**Kozyr**	**3.09**	**24**	PN	**P**	**19 28 54.2**	**+1.1**
KOZR				S	**S**	**19 29 30.2**	**-1.6**
SRDR	**Sredinnyy**	**3.28**	**20**	*i* P	**P**	**19 28 56.9**	**+1.4**
SRDR				*e*S	**S**	**19 29 35.8**	**-0.2**
ZLN	**Zelenaya**	**3.30**	**32**	*e*P	**P**	**19 28 57.5**	**+1.7**
ZLN				*e*S	**S**	**19 29 36.6**	**+0.1**
LGNR	**Loginova**	**3.32**	**30**	*i* P	**P**	**19 28 57.7**	**+1.7**
LGNR				*e*S	**S**	**19 29 37.2**	**+0.2**
CIRR	**Tsirk**	**3.36**	**31**	*e*P	**P**	**19 28 57.8**	**+1.2**
CIRR				*e*S	**S**	**19 29 37.1**	**-0.9**
KRSR	**Krestovskiy**	**3.40**	**28**	*e*P	**P**	**19 28 57.5**	**+0.5**
KRSR				*e*S	**S**	**19 29 36.8**	**-1.9**
KLY	**Klyuchi**	**3.50**	**28**	P	**P**	**19 28 59.7**	**+1.4**
KLY				S	**S**	**19 29 41.1**	**0.0**
KLY	**Klyuchi**	**3.50**	**28**	*i* P	**P**	**19 29 00.0**	**+1.7**
KLY				*e*S	**S**	**19 29 41.0**	**-0.1**
KBG	**Krutoberegovo**	**4.17**	**42**	*e*P	**P**	**19 29 05.7**	**-1.1**
KBG				*e*S	**S**	**19 29 53.2**	**-3.1**
KBG				Smax			
	comp=E,2µm,0.8s						
KBTR	**Krutoberegovo**	**4.19**	**43**	P	**P**	**19 29 05.9**	**-1.1**
KBTR				S	**S**	**19 29 51.3**	**-5.3**
KBTR	**Krutoberegovo**	**4.19**	**43**	*e*P	**P**	**19 29 05.8**	**-1.2**
KBTR				*e*S	**S**	**19 29 52.4**	**-4.2**
BKI	**Bering**	**5.23**	**65**	*i* P	**P**	**19 29 18.7**	**-1.8**
BKI				*e*S	**S**	**19 30 13.1**	**-7.7**
BKI				Smax			
	comp=E,1µm,0.4s						
MA2	**Magadan**	**7.40**	**332***c*	*i*PN	**P**	**19 29 50.9**	**+1.9**
MA2	**Magadan**	**7.40**	**332**	*e*P	**P**	**19 29 50.8**	**+1.7**
	comp=E,27nm,0.8s						
FX1	**Attu Island--F**	**9.33**	**86**	P	**P**	**19 30 15.0**	**+0.6**
	comp=E,8.7nm,0.3s,baz=320,slow=5.6,SNR=62						
FX1				S	**S**	**19 31 52.0**	**-5.2**
	comp=E,56nm,0.3s,baz=250,slow=23,SNR=13						
FX1	**Attu Island--F**	**9.33**	**86**	*e*P	**P**	**19 30 14.2**	**-0.2**
FX1				*e*S	**S**	**19 31 50.9**	**-6.4**
SMY	**Shemya**	**9.91**	**87**	*e*PN	**P**	**19 30 21.8**	**0.0**
SMY				pmax	pmax		
	comp=Z,154nm,1.0s						
SMY	**Shemya**	**9.91**	**87**	*e*P	**P**	**19 30 21.8**	**0.0**
	comp=Z,154nm,1.0s						
KAMR	**Kamenskoye**	**10.26**	**23**	*e*P	**P**	**19 30 27.6**	**+1.2**
YSS	**Yuzh-Sakhalins**	**11.47**	**243**⇑	*e*PN	**P**	**19 30 45.0**	**+2.9**
YSS	**Yuzh-Sakhalins**	**11.47**	**243**	*e*P	**P**	**19 30 45.2**	**+3.1**

comp=Z,12nm,0.6s
ASAJ Asahikawa 13.51 233 P **P** **19 31 09.5 +1.5**
ASAJ pmax pmax
comp=Z,7.0nm,0.3s
ASAJ Asahikawa 13.51 233 P **P** **19 31 09.5 +1.5**
comp=Z,6.8nm,0.3s,baz=40,slow=10,SNR=42
BILL Bilibino 15.38 12 P **P** **19 31 29.7 -1.6**
BILL pmax pmax
comp=Z,8.0nm,0.4s
BILL Bilibino 15.38 12 P **P** **19 31 29.7 -1.6**
comp=Z,7.8nm,0.4s
KLR Kul'dur 16.70 266 *eP* **P** **19 31 46.2 -1.3**
YAK Yakutsk 17.24 312 *d iP* **P** **19 31 53.3 -0.4**
YAK *eS* **S** **19 35 02.1 +4.2**
YAK pmax pmax
comp=Z,113nm,0.8s
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=E,44nm,1.0s
YAK smax
comp=E,11nm,1.0s
YAK smax
comp=Z,3.0nm,0.9s
YAK smax
comp=N,6.0nm,1.0s
YAK Yakutsk 17.24 312 ⇓ *eP* **P** **19 31 52.9 -0.9**
comp=N,263nm,0.7s
CLNS Chul'man 19.02 294 *eP* **P** **19 32 12.7 -0.1**
CLNS pmax pmax
comp=Z,43nm,0.8s
CLNS pmax pmax
comp=N,17nm,0.7s
CLNS pmax pmax
comp=E,27nm,0.8s
CLNS pmax pmax
comp=N,41nm,2.4s
MDJ Mudanjiang 20.27 256 P **P** **19 32 25.8 +0.1**
MDJ PP PP 19 32 59.2 +7.4
MDJ XP 19 33 15.4
MDJ S **S** **19 36 04.2 +6.4**
MDJ AMB AMB
comp=Z,18nm,1.3s
MDJ AMB AMB
comp=Z,106nm,8.7s
MDJ Mudanjiang 20.27 256 *eP* **P** **19 32 26.2 +0.6**
comp=Z,3.2nm,0.4s
MAT Matsushiro 21.56 227 *eP* **P** **19 32 40.0 +1.5**
MAT pmax pmax
comp=Z,41nm,0.6s,mb5.0
MAT Matsushiro 21.56 227 *eP* **P** **19 32 40.0 +1.5**
comp=Z,41nm,0.6s,mb5.0
MAT Matsushiro 21.56 227 P **P** **19 32 39.5 +1.0**
MJAR Matsushiro Arr 21.56 227 P **P** **19 32 39.0 +0.5**
comp=Z,29nm,0.6s,mb4.9,baz=15,slow=9.2,SNR=55
MJAR PcP PcP 19 36 34.0 -1.2
comp=Z,1.1nm,0.4s,baz=87,slow=1.4,SNR=5.5
TIXI Tiksi 22.33 336 *eP* **P** **19 32 45.0 -0.8**
TIXI *eS* **S** **19 36 37.3 +2.9**
TIXI pmax pmax
comp=Z,18nm,0.6s,mb4.7
CN2 Changchun 23.18 259 ⇓ P **P** **19 32 53.9 -0.1**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
HIA Hailar 23.89 276 *eP* **P** **19 33 01.4 +0.7**
HIA pmax pmax
comp=Z,44nm,0.6s
HIA Hailar 23.89 276 *eP* **P** **19 33 01.4 +0.7**
comp=Z,44nm,0.6s,mb5.2
BOD Bodaibo 24.80 298 *eP* **P** **19 33 08.2 -0.9**
BOD *e* 19 33 45.1
BOD pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
KS15 Wonju Array Si 25.99 245 *eP* **P** **19 33 20.1 -0.4**
INCN Inchon 26.64 246 *eP* **P** **19 33 27.4 +0.9**
IMA Indian Mountai 26.89 43 *eP* **P** **19 33 27.7 -0.7**
IMA *e*PP* pP 19 33 59.1 -5.6
IMA pmax pmax
comp=Z,28nm,0.9s,mb4.9
IMA Indian Mountai 26.89 43 *eP* **P** **19 33 27.7 -0.7**
comp=Z,28nm,0.9s,mb4.9
IMA *ep*P pP 19 33 59.1 -5.6
RSO Redoubt South 27.44 55 *eP* **P** **19 33 31.4 -2.0**
SPU Mount Spurr 27.69 53 *eP* **P** **19 33 35.0 -0.7**
JNU Nakatsue 27.79 234 P **P** **19 33 38.1 +1.3**
comp=Z,9.6nm,0.6s,mb4.7,baz=294,slow=15,SNR=6.5
SML Sawmill 29.39 52 *eP* **P** **19 33 49.6 -1.2**
SML **PP* pP 19 34 25.7 -2.1
ILAR Eielson Array 29.73 45 P **P** **19 33 52.5 -1.3**
comp=Z,11nm,0.7s,mb4.7,baz=267,slow=7.7,SNR=109
ILAR pP pP 19 34 29.3 -1.5
comp=Z,4.1nm,0.8s,baz=266,slow=8.6,SNR=5.1
ULN Ulaanbaatar 32.05 281 *eP* **P** **19 34 14.7 +0.4**
ULN pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
ULN Ulaanbaatar 32.05 281 *eP* **P** **19 34 14.7 +0.5**
comp=Z,2.8nm,0.6s,mb4.2
TLY Talaya 32.31 289 *i* P **P** **19 34 16.8 +0.4**
TLY pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
SONM Songino Array 32.45 282 P **P** **19 34 17.9 +0.1**
comp=Z,2.6nm,0.5s,mb4.2,baz=63,slow=7.9,SNR=42
SONM PP PP 19 35 37.2 +4.8
comp=Z,0.6nm,0.7s,baz=54,slow=9.7,SNR=4.6
SONM PcP PcP 19 37 00.0 -0.6
comp=Z,3.2nm,0.6s,baz=65,slow=1.6,SNR=18
SONM ScP 19 40 27.6
comp=Z,1.1nm,0.9s,baz=67,slow=2.9,SNR=7.0
ZAK Zakamensk 33.07 287 *eP* **P** **19 34 23.0 0.0**
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
SSE Sheshan 34.40 245 *eP* **P** **19 34 32.8 -1.8**
SSE AMB AMB
comp=Z,23nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,64nm,3.5s
SSE Sheshan 34.40 245 *eP* **P** **19 34 32.8 -1.8**
comp=Z,23nm,0.8s,mb5.0
INK Inuvik 34.62 38 *eP* **P** **19 34 36.0 0.0**
INK pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 34.62 38 P **P** **19 34 36.3 +0.3**
comp=Z,6.9nm,0.7s,mb4.4,baz=299,slow=6.8,SNR=9.5
INK Inuvik 34.62 38 *eP* **P** **19 34 36.0 -0.1**
comp=Z,6.1nm,0.7s,mb4.3
NJ2 Nanjing 34.96 248 *eP* **P** **19 34 39.2 -0.1**
NJ2 AP pP 19 35 19.3 +1.9
NJ2 PP PP 19 36 06.2 +2.8
NJ2 S **S** **19 39 58.0 +1.1**
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb4.7
NJ2 AMB AMB
comp=Z,30nm,4.8s
NJ2 LR LR
comp=N,430nm,21.9s
NJ2 LR LR
comp=E,140nm,21.8s
NJ2 LR LR
comp=Z,300nm,20.5s
DLBC Dease Lake 39.10 53 P **P** **19 35 14.9 +1.3**
comp=Z,5.9nm,0.8s,mb4.2,baz=284,slow=8.5,SNR=8.1
LZH Lanzhou 40.90 267 ⇓ P **P** **19 35 29.0 +0.4**
LZH AP pP 19 36 06.5 -1.1
LZH XP sP 19 36 26.4 -2.2
LZH PP PP 19 37 09.5 +1.5
LZH AMB AMB
comp=Z,35nm,1.3s,mb4.8
LZH Lanzhou 40.90 267 ⇓ P **P** **19 35 29.0 +0.4**
comp=Z,35nm,1.3s,mb4.8
LZH pP pP 19 36 06.5 -1.1
LZH sP sP 19 36 26.4 -2.2
LZH PP PP 19 37 09.5 +1.5
GTA Gaotai 41.15 274 P **P** **19 35 31.4 +0.8**
GTA AP pP 19 36 09.4 -0.2
GTA XP sP 19 36 29.5 -1.1
GTA PP PP 19 37 12.1 +1.5
GTA PCP PcP 19 37 29.1 +2.1
GTA SCP 19 40 57.8
GTA AMB AMB
comp=Z,46nm,1.0s,mb5.1
ZAL Zalesovo 41.48 301 P **P** **19 35 32.3 -0.8**
comp=Z,1.5nm,0.5s,mb3.9,baz=46,slow=7.1,SNR=7.1
ZAL PcP PcP 19 37 27.4 -0.5
comp=Z,2.3nm,0.5s,baz=42,slow=2.6,SNR=6.6

ENH Enshi 41.64 256 *eP* **P** **19 35 33.8 -0.9**
comp=Z,17nm,0.6s,mb4.8
NVS Novosibirsk 41.82 303 *i* P **P** **19 35 34.7 -1.1**
NVS *e*PPP PP 19 37 15.0 -2.6
NVS *eS* **S** **19 41 35.0 -4.4**
NVS pmax pmax
comp=N,8.0nm,0.8s
NVS pmax pmax
comp=E,15nm,0.8s
NVS pmax pmax
comp=Z,22nm,0.8s,mb4.8
NVS smax
comp=N,19nm,2.2s
NVS smax
comp=E,10.0nm,1.8s
YKA Yellowknife Ar 44.01 42 P **P** **19 35 53.7 +0.4**
comp=E,4.8nm,0.7s,mb4.2,baz=300,slow=7.8,SNR=10
YKA Yellowknife Ar 44.01 42 P **P** **19 35 53.7 +0.4**
WMQ Urumqi 45.54 288 *eP* **P** **19 36 06.5 +0.7**
WMQ AP pP 19 36 45.1 -0.3
WMQ AMB AMB
comp=Z,13nm,1.8s,mb4.3
WMQ AMB AMB
comp=Z,39nm,5.2s
GYA Guiyang 46.13 255 P **P** **19 36 09.6 -1.1**
GYA AP pP 19 36 48.3 -2.0
GYA XP sP 19 37 08.1 -2.7
GYA PP PP 19 38 01.2 +0.3
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
GYA AMB AMB
comp=Z,80nm,3.0s
MKAR Makanchi Array 46.77 294 P **P** **19 36 14.2 -1.1**
comp=Z,1.7nm,0.4s,mb4.0,baz=56,slow=7.1,SNR=32
HDW Hoodsport 48.34 63 P **P** **19 36 28.0 +0.5**
BVAR Borovoye Array 49.14 307 P **P** **19 36 32.5 -1.0**
comp=Z,16nm,0.5s,mb4.9,baz=58,slow=7.9,SNR=24
BVAR PcP PcP 19 37 53.2 -1.3
comp=Z,4.4nm,0.6s,baz=63,slow=2.6,SNR=6.6
EDM Edmonton 49.81 52 *eP* **P** **19 36 38.6 0.0**
ETW Entiat 49.81 61 P **P** **19 36 39.0 +0.3**
TWW Teanaway 49.82 62 P **P** **19 36 39.6 +0.8**
ZRNK Zerenda 49.85 308 *eP* **P** **19 36 37.4 -1.5**
ZRNK *e* 19 37 55.4
ZRNK pmax pmax
comp=Z,11nm,0.8s,mb4.5
ZRNK Zerenda 49.85 308 *eP* **P** **19 36 37.4 -1.5**
comp=Z,11nm,0.8s,mb4.5
ZRNK *ep*PcP PcP 19 37 55.4 -1.6
TBM Table Mountain 49.94 62 P **P** **19 36 40.0 +0.2**
OD2 Odessa Site #2 50.80 61 P **P** **19 36 45.9 -0.3**
NEW Newport 51.06 59 P **P** **19 36 47.5 -0.7**
NEW pmax pmax
comp=Z,4.0nm,0.8s
NEW Newport 51.06 59 P **P** **19 36 47.5 -0.7**
comp=Z,3.9nm,0.8s,mb4.1,baz=309,slow=10,SNR=6.2
NEW Newport 51.06 59 *eP* **P** **19 36 47.2 -1.0**
comp=Z,4.6nm,0.9s,mb4.1
KEV Kevo 52.18 340 *ep* **P** **19 36 54.5 -1.8**
comp=Z,2.1nm,0.7s,mb3.9
KEV Kevo 52.18 340 *eP* **P** **19 36 54.5 -1.8**
KEV pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
ARU Arti 52.28 316 ⇓ *iP* **P** **19 36 55.6 -1.6**
ARU *i* 19 38 03.8
ARU *eS* **S** **19 44 07.9 +1.2**
ARU pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
ARU Arti 52.28 316 *eP* **P** **19 36 55.3 -1.9**
comp=Z,14nm,0.8s,mb4.6
ARU *ep*PcP PcP 19 38 04.6 -1.4
YBH Yreka Blue Hor 52.31 68 P **P** **19 36 58.4 +0.8**
YBH pmax pmax
comp=Z,4.0nm,0.6s
YBH Yreka Blue Hor 52.31 68 P **P** **19 36 58.4 +0.8**
comp=Z,4.0nm,0.6s,mb4.2,baz=333,slow=4.6,SNR=16
YBH Yreka Blue Hor 52.31 68 *eP* **P** **19 36 58.3 +0.7**
comp=Z,32nm,1.9s,mb4.6
BSMT Bassoo Peak 52.53 58 P **P** **19 36 59.7 +0.6**
ARCES ARCESS Array B 52.66 341 P **P** **19 36 58.2 -1.6**
comp=Z,3.8nm,0.7s,mb4.2,baz=34,slow=8.7,SNR=15
ARCES PcP PcP 19 38 06.2 -1.0
comp=Z,2.1nm,0.6s,baz=37,slow=3.1,SNR=14
TKM2 Tokmak 2 52.90 294 P **P** **19 37 01.3 -0.7**
SNR=8.8
LSA Lhasa 52.98 271 P **P** **19 37 03.4 +0.7**
LSA Lhasa 52.98 271 *eP* **P** **19 37 03.4 +0.7**
LSA pmax pmax
comp=Z,11nm,0.8s,mb4.6
LSA Lhasa 52.98 271 *eP* **P** **19 37 03.4 +0.7**
comp=Z,11nm,0.8s,mb4.6
ULHL Ulahol 53.00 293 P **P** **19 37 02.2 -0.5**
SNR=11
WDC Whiskeytown Da 53.18 69 *eP* **P** **19 37 04.2 +0.2**
WDC pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
WDC Whiskeytown Da 53.18 69 *eP* **P** **19 37 04.2 +0.2**
comp=Z,6.5nm,0.9s,mb4.4
BMO Blue Mountains 53.19 62 *eP* **P** **19 37 03.9 -0.1**
comp=Z,3.7nm,1.0s,mb4.1
USP Ospenovka 53.27 295 P **P** **19 37 03.9 -0.8**
SNR=16
CHMS Chumysh 53.31 295 P **P** **19 37 04.5 -0.4**
SNR=7.2
LTIM Timbered Crate 53.37 68 P **P** **19 37 06.2 +0.8**
KBK Karagaybulak 53.44 294 P **P** **19 37 05.7 -0.2**
SNR=6.0
MOD Modoc 53.54 67 *eP* **P** **19 37 07.1 +0.5**
comp=Z,22nm,1.0s,mb4.8
MSO Missoula 53.63 58 *eP* **P** **19 37 06.6 -0.7**
comp=Z,5.2nm,1.1s,mb4.2
LBCM Butte Creek Ri 53.67 68 P **P** **19 37 08.2 +0.5**
AAK Ala-Archa 53.70 295 P **P** **19 37 07.5 -0.3**
SNR=6.8
AAK Ala-Archa 53.70 295 *d iP* **P** **19 37 06.0 -1.8**
AAK *i *PP* pP 19 37 50.6 +2.0
AAK pmax pmax
comp=Z,11nm,0.7s,mb4.7
AAK Ala-Archa 53.70 295 *eP* **P** **19 37 06.1 -1.8**
comp=Z,13nm,0.9s,mb4.7
CHMT Chamberlain Mo 53.93 58 *eP* **P** **19 37 08.8 -0.6**
SUMG Summit 53.95 6 *eP* **P** **19 37 08.9 -0.4**
comp=Z,11nm,0.8s,mb4.6
WVOR Wild Horse Val 54.09 65 *eP* **P** **19 37 11.0 +0.3**
WVOR pmax pmax
comp=Z,12nm,0.9s,mb4.6
WVOR Wild Horse Val 54.09 65 *eP* **P** **19 37 11.0 +0.4**
comp=Z,12nm,0.9s,mb4.6
AML Almayashu 54.48 295 P **P** **19 37 13.7 +0.2**
SNR=7.4
HRY Holter Researc 54.79 57 *eP* **P** **19 37 15.8 +0.2**
BEKR Beckwourth 54.89 69 *eP* **P** **19 37 16.6 +0.1**
comp=Z,12nm,1.0s,mb4.6
MCMT McKenzie Canyo 55.55 60 *eP* **P** **19 37 20.9 -0.2**
HLID Hailey 55.60 62 *eP* **P** **19 37 21.7 +0.2**
comp=Z,4.5nm,1.0s,mb4.2
BOZ Bozeman (W) 55.62 58 *eP* **P** **19 37 21.8 +0.2**
BOZ pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
BOZ Bozeman (W) 55.62 58 *eP* **P** **19 37 21.8 +0.1**
comp=Z,8.5nm,1.1s,mb4.5
BMN Battle Mountai 56.24 66 *eP* **P** **19 37 26.4 +0.2**
BMN pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
BMN Battle Mountai 56.24 66 *eP* **P** **19 37 26.4 +0.3**
comp=Z,4.2nm,0.8s,mb4.3
QLMT Earthquake Lak 56.28 59 *eP* **P** **19 37 27.0 +0.6**
CMAR Chiang Mai Arr 56.81 256 P **P** **19 37 30.2 -0.2**
comp=Z,6.1nm,0.7s,mb4.5,baz=23,slow=7.0,SNR=29
CMAR PcP PcP 19 38 23.6 -0.3
comp=Z,2.2nm,0.8s,baz=22,slow=4.0,SNR=5.6
NVAR Mina Array Bea 57.04 69 P **P** **19 37 32.5 +0.7**
comp=Z,7.0nm,0.7s,mb4.6,baz=311,slow=6.0,SNR=61
NVAR pP pP 19 38 12.3 -0.7
comp=Z,1.2nm,0.7s,baz=307,slow=6.0,SNR=2.8
ELK Elko 57.10 65 *eP* **P** **19 37 32.8 +0.6**
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 57.10 65 P **P** **19 37 33.0 +0.8**
comp=Z,3.2nm,0.7s,mb4.3,baz=271,slow=23,SNR=18
ELK Elko 57.10 65 *eP* **P** **19 37 32.8 +0.6**
comp=Z,3.7nm,0.8s,mb4.3
MNV Mina 57.12 68 *eP* **P** **19 37 32.6 +0.2**
MNV pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
MNV Mina 57.12 68 *eP* **P** **19 37 32.6 +0.3**

comp=Z,10nm,1.1s,mb4.6
IMW Indian Meadow 57.18 59 *eP* **P** **19 37 33.7 +1.0**
comp=Z,5.4nm,0.8s,mb4.4
MOOW Moose Ponds 57.39 59 *eP* **P** **19 37 34.7 +0.6**
comp=Z,5.4nm,0.8s,mb4.4
LOHW Long Hollow 57.55 59 *eP* **P** **19 37 36.0 +0.7**
comp=Z,10nm,0.9s,mb4.7
REDW Red Top Meadow 57.60 60 *eP* **P** **19 37 35.9 +0.2**
comp=Z,15nm,1.1s,mb4.7
TPH Tonopah 57.89 68 *eP* **P** **19 37 38.0 +0.2**
TPH pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
TPH Tonopah 57.89 68 *eP* **P** **19 37 38.0 +0.3**
comp=Z,5.8nm,0.8s,mb4.5
AHID Auburn Hatcher 57.89 60 *eP* **P** **19 37 37.7 0.0**
comp=Z,11nm,0.8s,mb4.8
HWUT Hardware Ranch 58.47 62 *eP* **P** **19 37 42.4 +0.7**
comp=Z,12nm,0.9s,mb4.7
PDAR Pinedale Array 58.69 59 P **P** **19 37 43.5 +0.3**
comp=Z,14nm,0.7s,mb4.9,baz=324,slow=2.6,SNR=109
KAF Kangasniemi 58.75 336 *ep* **P** **19 37 41.3 -2.1**
comp=Z,2.9nm,0.7s,mb4.2,baz=32,slow=6.2
KAF Kangasniemi 58.75 336 *eP* **P** **19 37 41.3 -2.1**
KAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
FINES FINESS Array B 59.38 335 P **P** **19 37 45.9 -1.9**
comp=Z,2.0nm,0.7s,mb4.0,baz=27,slow=8.5,SNR=15
FINES PcP PcP 19 38 31.9 -1.6
comp=Z,1.3nm,0.6s,baz=45,slow=5.4,SNR=6.5
MSU Marysvale 60.35 65 *eP* **P** **19 37 55.4 +0.7**
RSSD Black Hills 60.51 55 *eP* **P** **19 37 55.5 -0.1**
RSSD *e*PP* pP 19 38 35.8 -1.6
RSSD pmax pmax
comp=Z,26nm,0.8s,mb5.1
RSSD Black Hills 60.51 55 *eP* **P** **19 37 55.5 -0.1**
comp=Z,26nm,0.8s,mb5.1
RSSD *ep*P pP 19 38 35.8 -1.6
SRU San Rafael 60.81 63 *eP* **P** **19 37 57.9 +0.1**
OBN Obninsk 61.58 326 ⇑ *eP* **P** **19 38 00.0 -2.7**
OBN *eS* **S** **19 46 00.7 -7.8**
OBN pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
PV01 Paradox Valley 62.57 62 *eP* **P** **19 38 09.4 -0.1**
ISCO Idaho Springs 62.89 59 *eP* **P** **19 38 12.3 +0.7**
ISCO pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
ISCO Idaho Springs 62.89 59 *eP* **P** **19 38 12.3 +0.7**
comp=Z,8.0nm,1.1s,mb4.5
NB2 NORSAR Subarra 62.96 342 P **P** **19 38 10.4 -1.4**
comp=Z,5.0nm,0.7s,mb4.5,baz=22,slow=6.5
NB2 NORSAR Subarra 62.96 342 P **P** **19 38 10.4 -1.4**
NB2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
NOA NORSAR Array B 62.96 342 P **P** **19 38 10.4 -1.4**
comp=Z,4.3nm,0.7s,mb4.4,baz=21,slow=6.7,SNR=32
NOA PcP PcP 19 38 46.4 -1.6
comp=Z,0.7nm,0.7s,baz=25,slow=3.4,SNR=3.6
SDCO Great Sand Dun 64.48 61 *eP* **P** **19 38 22.4 +0.5**
comp=Z,1.6nm,0.9s,mb3.9
KSM Kuching 64.72 234 *eP* **P** **19 38 24.4 +0.6**
TUC Tucson 65.69 68 *eP* **P** **19 38 30.0 +0.2**
TUC *e*PP* pP 19 39 09.7 -2.5
ANMO Albuquerque 66.07 63 P **P** **19 38 32.6 +0.5**
comp=Z,2.7nm,0.7s,mb4.2,baz=325,slow=6.4,SNR=8.3
ANMO pP pP 19 39 14.9 +0.2
comp=Z,0.9nm,0.6s,baz=326,slow=5.8,SNR=2.4
SCHQ Schefferville 66.16 26 P **P** **19 38 31.4 -0.9**
comp=Z,1.8nm,0.4s,mb4.2,baz=16,slow=7.5,SNR=5.9
AKASG Malin Array Be 67.71 327 P **P** **19 38 40.1 -2.0**
comp=Z,0.5nm,0.3s,mb3.6,baz=30,slow=6.2,SNR=6.8
AKASG pP pP 19 39 24.1 -0.7
comp=Z,0.1nm,0.3s,baz=30,slow=6.5,SNR=1.4
KAKA Kakadu 69.18 206 *eP* **P** **19 38 51.3 -0.4**
comp=Z,15nm,0.6s,mb4.9
WMOK Wichita Mounta 70.26 58 *eP* **P** **19 38 57.3 -0.7**
WMOK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
WMOK Wichita Mounta 70.26 58 *eP* **P** **19 38 57.3 -0.7**
comp=Z,4.2nm,0.9s,mb4.2
CLL Collm 71.66 338 P **P** **19 39 05.0 -1.1**
TXAR Lajitas Array 71.89 65 P **P** **19 39 08.3 +0.5**
comp=Z,4.6nm,0.4s,mb4.5,baz=297,slow=5.0,SNR=100
TXAR pP pP 19 39 50.7 -0.2
comp=Z,1.9nm,0.6s,baz=304,slow=4.5,SNR=4.3
TXAR Lajitas Array 71.89 65 P **P** **19 39 08.3 +0.5**
TXAR pP pP 19 39 50.7 -0.2
KHC Kasperske Hory 73.55 336 *eP* **P** **19 39 17.0 -0.1**
GRA1 Grafenberg Arr 73.58 338 *eP* **P** **19 39 17.1 -0.1**
comp=Z,2.0nm,0.9s,mb3.9
GRF Grafenberg Arr 73.58 338 *eP* **P** **19 39 17.1 -0.1**
GRF pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
GRF Grafenberg Arr 73.58 338 *eP* **P** **19 39 17.1 -0.1**
GRF pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
GRF Grafenberg Arr 73.58 338 *eP* **P** **19 39 17.1 -0.1**
comp=Z,2.0nm,0.9s,mb3.9
GERES GERESS Array B 73.79 336 P **P** **19 39 17.9 -0.6**
comp=Z,0.8nm,0.6s,mb3.6,baz=35,slow=5.1,SNR=14
GIVF Givet 74.49 342 *eP* **P** **19 39 21.3 -1.2**
BAIF Baives 74.65 343 *eP* **P** **19 39 23.0 -0.4**
comp=Z,26nm,1.3s,mb4.2
BAIF Baives 74.65 343 *eP* **P** **19 39 23.0 -0.4**
BAIF pmax pmax
comp=Z,13nm,1.3s,mb4.4
KBA Koelnbreinsper 75.52 336 ⇑ *iP* **P** **19 39 29.3 +0.9**
comp=Z,14nm,1.4s,mb4.4
KBA Koelnbreinsper 75.52 336 ⇑ *iP* **P** **19 39 29.3 +0.9**
KBA pmax pmax
comp=Z,14nm,1.4s,mb4.4
BRTR Keskin Array B 75.55 319 P **P** **19 39 28.9 +0.2**
comp=Z,5.9nm,0.6s,mb3.5,baz=63,slow=2.8,SNR=4.2
CDF Champ du Feu 75.64 340 *eP* **P** **19 39 28.5 -0.5**
comp=Z,16nm,1.2s,mb4.2
CDF Champ du Feu 75.64 340 *eP* **P** **19 39 28.5 -0.5**
CDF pmax pmax
comp=Z,8.0nm,1.2s,mb4.2
WRAB Tennant Creek 75.64 203 *eP* **P** **19 39 29.3 -0.3**
WB2 Warramunga Arr 75.65 203 ⇓ *iP* **P** **19 39 29.5 -0.1**
WRA Warramunga Arr 75.65 203 P **P** **19 39 29.5 -0.1**
comp=Z,7.2nm,0.6s,mb4.5,baz=11,slow=5.9,SNR=11
HAU Haudompre 76.21 341 *eP* **P** **19 39 31.6 -0.6**
FITZ Fitzroy Crossi 76.27 211 ⇓ *iP* **P** **19 39 33.4 +0.3**
comp=Z,9.1nm,0.6s,mb4.6
FLN La Foliniere 76.68 345 *eP* **P** **19 39 34.3 -0.5**
comp=Z,7.7nm,0.7s,mb4.1
FLN La Foliniere 76.68 345 *eP* **P** **19 39 34.3 -0.5**
FLN pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
GRR Gorron 77.10 346 *eP* **P** **19 39 36.9 -0.2**
comp=Z,16nm,0.9s,mb4.3
GRR Gorron 77.10 346 *eP* **P** **19 39 36.9 -0.2**
GRR pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
LOR Lormes 77.40 342 *eP* **P** **19 39 38.4 -0.4**
comp=Z,9.9nm,0.8s,mb4.2
LOR Lormes 77.40 342 *eP* **P** **19 39 38.4 -0.4**
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
SGMF Saint Gilles 77.48 347 *eP* **P** **19 39 39.0 -0.2**
comp=Z,21nm,0.8s,mb4.5
SGMF Saint Gilles 77.48 347 *eP* **P** **19 39 39.0 -0.2**
SGMF pmax pmax
comp=Z,11nm,0.8s,mb4.5
ROSF Rostrenen 77.50 347 *eP* **P** **19 39 39.2 -0.1**
comp=Z,24nm,1.0s,mb4.5
ROSF Rostrenen 77.50 347 *eP* **P** **19 39 39.2 -0.1**
ROSF pmax pmax
comp=Z,12nm,1.0s,mb4.5
SSF Saint Saulge 77.66 342 *eP* **P** **19 39 39.9 -0.3**
SSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
SSF Saint Saulge 77.66 342 *eP* **P** **19 39 39.9 -0.3**
comp=Z,4.0nm,0.8s,mb4.1
QUIF Quistinic 77.89 347 *eP* **P** **19 39 41.3 -0.2**
comp=Z,23nm,1.0s,mb4.4
QUIF Quistinic 77.89 347 *eP* **P** **19 39 41.3 -0.2**
QUIF pmax pmax
comp=Z,11nm,1.0s,mb4.4
KBD Kabd 77.99 303 *eP* **P** **19 39 41.6 -0.8**
SMF Signal de Mont 78.00 342 *eP* **P** **19 39 41.9 -0.2**
comp=Z,9.4nm,0.8s,mb4.2
SMF Signal de Mont 78.00 342 *eP* **P** **19 39 41.9 -0.2**
SMF pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
NAY Al-Naaiem 78.16 303 *eP* **P** **19 39 41.7 -1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NAY				AMb	AMB	19 39 42.5	
	comp=Z,6.4nm,0.6s,mb4.4						
QRN	Al-Qurain	78.23	302	eP	P	19 39 43.2	-0.5
LPL	La Plagne	78.51	340	eP	P	19 39 45.7	+0.8
	comp=Z,6.1nm,0.8s,mb4.0						
LPL	La Plagne	78.51	340	eP	P	19 39 45.7	+0.8
LPL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
LPG	La Plagne	78.52	340	eP	P	19 39 45.9	+0.9
	comp=Z,6.7nm,0.8s,mb4.0						
LPG	La Plagne	78.52	340	eP	P	19 39 45.9	+0.9
LPG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
TCF	Toulx Ste Croi	78.64	343	eP	P	19 39 45.7	+0.1
	comp=Z,11nm,0.9s,mb4.2						
TCF	Toulx Ste Croi	78.64	343	eP	P	19 39 45.7	+0.1
TCF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
MFF	Saint Martin d	78.73	345	eP	P	19 39 46.2	+0.1
	comp=Z,17nm,0.9s,mb4.4						
MFF	Saint Martin d	78.73	345	eP	P	19 39 46.2	+0.1
MFF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
ORIF	Oris-en-Rattie	79.26	340	eP	P	19 39 49.7	+0.8
	comp=Z,6.0nm,0.8s,mb4.0						
ORIF	Oris-en-Rattie	79.26	340	eP	P	19 39 49.7	+0.8
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
VIVF	Saint-Julien-l	79.56	341	eP	P	19 39 51.1	+0.5
	comp=Z,14nm,0.9s,mb4.3						
VIVF	Saint-Julien-l	79.56	341	eP	P	19 39 51.1	+0.5
VIVF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
RJF	Les Rejaudoux	79.71	343	eP	P	19 39 52.6	+1.2
	comp=Z,14nm,0.8s,mb4.3						
RJF	Les Rejaudoux	79.71	343	eP	P	19 39 52.6	+1.2
RJF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
CAF	Calviac	79.98	343	eP	P	19 39 53.6	+0.8
	comp=Z,36nm,1.2s,mb4.6						
CAF	Calviac	79.98	343	eP	P	19 39 53.6	+0.8
CAF				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.6						
LFF	La Frestale	80.20	344	eP	P	19 39 54.7	+0.7
	comp=Z,30nm,0.9s,mb4.6						
LFF	La Frestale	80.20	344	eP	P	19 39 54.7	+0.7
LFF				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.6						
SMRF	Simiane la Rot	80.22	340	eP	P	19 39 54.9	+0.8
FRF	La Foret Royal	80.39	339	eP	P	19 39 55.8	+0.8
	comp=Z,5.6nm,0.9s,mb3.9						
FRF	La Foret Royal	80.39	339	eP	P	19 39 55.8	+0.8
FRF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
LASF	Ste Croix	80.47	341	eP	P	19 39 56.3	+0.9
	comp=Z,6.5nm,1.0s,mb3.9						
MTLF	Montolieu	81.49	342	eP	P	19 40 01.6	+0.8
	comp=Z,16nm,1.1s,mb4.2						
MTLF	Montolieu	81.49	342	eP	P	19 40 01.6	+0.8
MTLF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.3						
EPF	Esparros	82.12	343	eP	P	19 40 04.2	+0.2
	comp=Z,15nm,1.0s,mb4.3						
EPF	Esparros	82.12	343	eP	P	19 40 04.2	+0.2
EPF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
SJPF	Ste Jean	82.30	345	eP	P	19 40 06.2	+1.2
	comp=Z,13nm,0.7s,mb4.4						
SJPF	Ste Jean	82.30	345	eP	P	19 40 06.2	+1.2
SJPF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
HILS	Ha'il	82.39	306	P	P	19 40 05.8	+0.1
ETSF	Etsaut	82.40	344	eP	P	19 40 06.6	+1.1
	comp=Z,20nm,0.8s,mb4.5						
ETSF	Etsaut	82.40	344	eP	P	19 40 06.6	+1.1
ETSF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
ALWS	Ilw as Safayha	83.89	312	P	P	19 40 12.9	-0.4
JMQS	Jabal Moqyreh	83.89	311	P	P	19 40 13.8	+0.6
JMOS	Jabal al Moall	83.99	312	P	P	19 40 13.5	-0.2
TBKS	Tabuk	84.15	311	P	P	19 40 15.0	+0.5
HAQS	Haql	84.17	312	P	P	19 40 14.5	-0.2
BDAS	Al Bad‘	84.62	312	P	P	19 40 17.0	0.0
TAYS	Tayyib Ism	84.62	312	P	P	19 40 16.9	0.0
AFFS	‘Afif	84.68	303	P	P	19 40 17.1	-0.2
STKA	Stephens Creek	85.93	194	P	P	19 40 24.1	+0.8
	comp=Z,1.4nm,0.7s,mb3.8,baz=340,slow=10,SNR=5.2						
ESDC	Sonseca Array	86.08	346	P	P	19 40 24.3	+0.4
	comp=Z,2.5nm,0.7s,mb4.1,baz=6.6,slow=5.0,SNR=9.6						
PCNG	Congro	89.30	2	eS	S	19 51 10.7	-0.3
	comp=Z,39nm,0.1s						
DJNS	Zahran al Janu	89.58	300	P	P	19 40 41.2	+0.3
DBIC	Dimbokro	118.49	340	PKP	PKPdf	19 46 30.1	+1.1
	comp=Z,1.2nm,0.4s,baz=330,slow=5.5,SNR=5.8						
VNDA	Vanda	130.54	179	PKP	PKPdf	19 46 52.1	+1.4
	comp=Z,0.6nm,0.7s,baz=350,slow=4.7,SNR=6.4						
SBA	Scott Base	130.97	177	ePKIKP	PKPdf	19 46 53.6	+2.1
BOSA	Boshof	137.50	286	PKhKP		19 47 00.3	
	comp=Z,1.2nm,0.7s,baz=74,slow=2.8,SNR=4.7						
BOSA				PKP	PKPdf	19 47 07.8	+3.0
	comp=Z,1.6nm,0.8s,baz=50,slow=1.7,SNR=6.1						
QSPA	South Pole Qui	143.01	180	⇑iP	PKPbc	19 47 10.9	-0.2
SYO	Syowa Base	147.96	217	⇑P	PKPdf	19 47 25.0	+3.3
SNAA	Sanae	159.65	198	P	PKPab	19 48 18.9	-0.8
VNA2	Neumayer--Watz	161.06	195	P	PKPdf	19 48 01.0	+22
VNA3	Neumayer Olymp	161.10	193		PKPdf	19 47 54.6	+15
VNA3	Neumayer Olymp	161.10	193		PKPdf	19 47 58.5	+19
VNA3	Neumayer Olymp	161.10	193	PKPdf	PKPdf	19 47 48.5	+9.2
VNA3				P		19 47 54.6	
VNA3				P		19 47 58.5	

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*NEIC **03** 19:53:14.8±0.6, 23.95S×66.71W, h185km±8km, mb4.1/3, Error ellipse: s-maj=11.1km s-min=8.9km az=100.0*
*IDC **03** 19:53:15.5±1.0, 23.85S×66.74W, h192km±12km, mb3.4/6, mb1 3.6/11, mb1mx3.5/20, mbtmp4.1/11, MS2.5/1, Ms1 2.6/1, ms1mx1.9/14, Error ellipse: s-maj=16.5km s-min=15.2km az=150.0*
*GUC **03** 19:53:16.9±0.5, 24.03S×67.19W, h200km, ML4.5*
ISC 03 19:53:13.5±0.6**, 24.02S**±0.05×**66.78W**±0.07**, h189**km±9km**, n34,** σ1s23/42**, mb3.6**/6**, 3C-5D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.41	305	⇓iP	P	19 53 58.6	+2.5
LVC				iS	S	19 54 30.0	+1.0
LVC				AMP		19 54 34.5	
	comp=E,403nm,0.5s						
LVC	Limon Verde	2.41	305	P	P	19 53 58.3	+2.2
	comp=E,44nm,0.3s,baz=130,slow=6.6,SNR=583						
LVC				S	S	19 54 30.3	+1.4
	comp=E,48nm,0.3s,baz=32,slow=23,SNR=51						
ANCH	Antofagasta	3.34	275	iP	P	19 54 08.5	+1.2
ANCH				iS	S	19 54 47.1	-1.7
ANCH				AMP		19 54 50.3	
	comp=N,2μm,0.3s						
ANCH	Antofagasta	3.34	275	⇑iP	P	19 54 08.6	+1.2
ANCH				iS	S	19 54 48.1	-0.7
CPN1	Cerro Paranal	3.36	259	eP	P	19 54 08.6	+1.1
CPN1				iS	S	19 54 48.4	-0.9
CPN1				AMP		19 54 51.9	
	comp=E,971nm,0.3s						
CPCH	Copiapo	4.63	223	eP	P	19 54 22.5	-1.1
CPCH				iS	S	19 55 15.2	-2.8
CPCH	Copiapo	4.63	223	P	P	19 54 22.7	-0.9
CPCH				iS	S	19 55 15.4	-2.6
CFAA	Coronel Fontan	7.67	189	P	P	19 55 02.8	-0.5
	comp=E,0.5nm,0.3s,baz=8.9,slow=9.7,SNR=81						
CFAA				S	S	19 56 24.3	-4.7
	comp=E,1.0nm,0.3s,baz=272,slow=20,SNR=26						
LPAZ	La Paz	7.79	350	P	P	19 55 05.9	+1.0
	comp=E,1.0nm,0.3s,baz=167,slow=8.6,SNR=23						
LPAZ				S	S	19 56 31.3	-0.5
	comp=E,0.4nm,0.3s,baz=230,slow=25,SNR=6.6						
LPAZ				LR	LR	19 58 30.7	
	comp=E,38nm,20.8s,baz=256,slow=41						
LPAZ	La Paz	7.79	350	eP	P	19 55 05.5	+0.6
	comp=E,5.7nm,0.6s						
CPUP	Villa Florida	8.87	107	P	P	19 55 19.8	+0.9
	comp=E,0.1nm,0.3s,baz=311,slow=11,SNR=3.7						
SIV	San Ignacio	9.62	35	P	P	19 55 27.8	-1.0
	comp=E,4.1nm,0.3s,baz=220,slow=12,SNR=100						
SIV				S	S	19 57 02.8	-12
	baz=234,slow=19,SNR=2.1						
TRQA	Tornquist	14.59	165	eP	P	19 56 31.9	-0.2
	comp=E,2.5nm,0.6s						
SAML	Samuel	15.37	14	eP	P	19 56 40.7	-1.3
	comp=E,13nm,0.8s						
BDFB	Brasilia	19.50	68	P	P	19 57 28.3	0.0
	comp=E,1.5nm,0.3s,baz=251,slow=11,SNR=36						
BAO	Brasilia Array	19.52	68	P	P	19 57 27.0	-1.4
VNA3	Neumayer Olymp	57.07	161		P	20 02 43.7	+2.0
VNA3	Neumayer Olymp	57.07	161	⇓i	P	20 02 49.8	+8.1
VNA3	Neumayer Olymp	57.07	161	⇓iP	P	20 02 49.8	+8.1
VNA2	Neumayer--Watz	57.64	160	⇑i	P	20 02 47.5	+1.8
VNA2	Neumayer--Watz	57.64	160	⇓i	P	20 02 52.7	+7.0
SNAA	Sanae	59.27	161		P	20 02 57.0	0.0
SNAA	Sanae	59.27	161	⇓i	P	20 03 04.6	+7.6
SNAA	Sanae	59.27	161	P	P	20 02 57.1	+0.1
	comp=E,1.0nm,0.7s,mb3.8,baz=287,slow=5.4,SNR=12						
SNAA	Sanae	59.27	161	P	P	20 02 57.0	0.0
TXAR	Lajitas Array	63.81	324	P	P	20 03 27.0	-0.9
	comp=E,0.1nm,0.5s,mb3.0,baz=149,slow=7.3,SNR=3.9						
DBIC	Dimbokro	67.61	71	P	P	20 03 50.7	-1.6
	comp=E,1.2nm,0.5s,mb3.9,baz=220,slow=7.9,SNR=3.4						
SYO	Syowa Base	73.46	159	⇑P	P	20 04 25.6	-0.9
VNDA	Vanda	74.72	190	P	P	20 04 35.5	+1.9
	comp=E,0.4nm,0.8s,mb3.1,baz=191,slow=5.2,SNR=3.6						
VNDA	Vanda	74.72	190	P	P	20 04 35.5	+1.9
MAW	Mawson	81.36	163	P	P	20 05 11.1	+1.2
	comp=E,2.5nm,0.6s,mb4.0,baz=238,slow=3.9,SNR=7.7						
MATP	Matopo	86.47	111	P	P	20 05 37.9	+1.4
	comp=E,0.7nm,0.4s,mb3.7,baz=248,slow=11,SNR=3.3						
WRA	Warramunga Arr	131.71	207	PKP	PKPdf	20 12 06.2	+1.4
	comp=E,0.7nm,0.5s,baz=159,slow=1.8,SNR=16						
MKAR	Makanchi Array	146.41	40	PKPbc	PKPbc	20 12 32.1	+0.3
	comp=E,1.4nm,0.6s,baz=293,slow=3.8,SNR=12						

MAN 03 20:13:39.6, 19.38N×120.76E, h13km, mb4.3, ML3.1, MS2.9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	Basco	1.55	47	eP	Pn	20 14 06.2	-0.9
APYP	Conner	1.58	163	eP	Pn	20 14 05.6	-1.9
APYP				eS	Sn	20 14 25.8	-2.1
ABRA	Dolores	1.73	181	eP	Pn	20 14 08.1	-1.5
CVP	Callao Caves	1.95	149	eP	Pn	20 14 15.0	+2.1
CVP				iS	Sn	20 14 34.0	-3.4
CAUP	Cauayan	2.63	157	eP	Pn	20 14 23.4	+0.9
BOLP	Bolinao	3.09	195	eP	Pn	20 14 29.3	+0.1

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*THE **03** 20:18:18.8, 38.16N×22.45E, h10km, ML3.7*
*IDC **03** 20:18:18.7±1.4, 38.32N×22.26E, mb3.6/10, mb1 3.8/13, mb1mx3.6/28, mbtmp3.7/13, ML3.8/2, MS2.8/1, Ms1 2.9/1, ms1mx2.2/24, Error ellipse: s-maj=27.4km s-min=18.8km az=20.0*
*ATH **03** 20:18:19.9, 38.30N×22.33E, h23km±1km, MD3.7/20, ML3.5*
*NEIC **03** 20:18:19.9, 38.30N×22.33E, h23km, mb3.5/1, ML3.5(ATH), After ATH.*
*MOS **03** 20:18:20.1±0.6, 38.34N×22.36E, h10km, mb3.6/1, Error ellipse: s-maj=9.7km s-min=5.0km az=83.0*
*CSEM **03** 20:18:22.4±0.1, 38.29N×22.36E, h46km, ML3.5, Error ellipse: s-maj=2.5km s-min=2.0km az=65.0*
ISC 03 20:18:19.2±0.3**, 38.26N**±0.02×**22.32E**±0.03**, h10**km**, n65,** σ1s00/75**, mb3.6**/9**, MS2.8**/1**, 2C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	Lokris	0.66	53	⇑iPB	Pg	20 18 31.7	-0.8
LKR				eSN	Sg	20 18 41.5	0.0
RLS	Riolos of Patr	0.70	254	ePN	Pn	20 18 33.9	-1.0
RLS				eSN	Sn	20 18 44.9	-0.8
EVR	Evrytania	0.77	329	ePN	Pn	20 18 34.5	-1.4
MGER	Gerania Oros	0.79	110	ePN	Pn	20 18 35.0	-1.1
NAIG	Nisos Aigina	1.05	118	ePN	Pn	20 18 40.5	+0.7
ITM	Ithomi	1.12	196	⇑iPN	Pn	20 18 41.5	+0.7
MPAR	Parnis Oros	1.12	95	ePN	Pn	20 18 40.8	-0.1
ATH	Athens Observa	1.14	104	ePN	Pn	20 18 42.3	+1.2
ATH				eSN	Sn	20 18 57.8	+1.0
PTL	Penteli	1.24	99	ePN	Pn	20 18 43.5	+1.0
NEO	Neokhori	1.27	34	ePN	Pn	20 18 43.3	+0.4
NEO				eSN	Sn	20 18 59.5	-0.6
XOR	Xorichti	1.30	31	ePg	Pg	20 18 43.9	-1.3
XOR				eSg	Sg	20 19 03.4	+0.8
VLS	Valsamata	1.36	267	ePN	Pn	20 18 45.3	+0.9
LKD	Levkas	1.39	289	ePg	Pg	20 18 46.3	-0.6
AOS	Alonnisos	1.52	53	ePg	Pn	20 18 46.2	-0.4
VLI	Veliai	1.61	162	ePB	Pb	20 18 49.0	+0.4
MEV	Metsovon	1.75	331	ePb	Pb	20 18 51.8	+0.9
MEV				eSb	Sb	20 19 17.0	+4.2
JAN	Janina	1.81	321	ePN	Pn	20 18 51.9	+1.2
LIT	Litokhoron	1.85	4	ePb	Pb	20 18 52.0	-0.6
LIT				eSb	Sb	20 19 18.4	+2.7
LIT	Litokhoron	1.85	4	ePb	Pb	20 18 52.0	-0.6
LIT				S	Sn	20 19 18.4	+3.6
PAIG	Paliouri	1.98	32	ePn	Pn	20 18 53.0	-0.1
KYTH	Kithira	2.05	164	ePN	Pn	20 18 57.5	+3.3
KZN	Kozani	2.09	348	ePN	Pn	20 18 56.1	+1.3
PLG	Polygyros	2.29	22	ePN	Pn	20 18 57.6	0.0
PLG				eSN	Sn	20 19 24.8	-1.3
THE	Thessaloniki	2.42	12	ePn	Pn	20 18 59.9	+0.4
OUR	Ouranopolis	2.44	31	ePn	Pn	20 18 59.7	-0.1
FNA	Florina	2.63	344	ePn	Pn	20 19 03.7	+1.2
SOH	Sokhos	2.68	17	ePn	Pn	20 19 04.0	+0.8
LOS	Limnos	2.73	51	ePn	Pn	20 19 03.5	-0.3
APE	Apeiranthos	2.81	114	ePN	Pn	20 19 06.3	+1.3
KNT	Kendrikon	2.94	9	ePn	Pn	20 19 07.6	+0.8
SRS	Serrai	3.02	19	ePn	Pn	20 19 08.1	+0.1
SANT	Santorini	3.13	126	ePn	Pn	20 19 08.4	-1.1
SANT	Santorini	3.13	126	ePn	Pn	20 19 08.4	-1.2
VAM	Vamos	3.22	151	ePN	Pn	20 19 12.8	+2.0
PRK	Paraskevi	3.25	71	ePN	Pn	20 19 11.0	-0.2
NVR	Nevrokopi	3.31	21	ePN	Pn	20 19 12.7	+0.6
NVR				eSN	Sn	20 19 50.8	-1.2
MMB	Musomiste	3.50	18	iP	Pn	20 19 14.8	0.0
IDI	Anoyia	3.61	144	Pn	Pn	20 19 16.5	+0.1
	3.0nm,0.3s,baz=310,slow=13,SNR=15						
IDI				Sn	Sn	20 19 58.6	-1.0
	8.2nm,0.3s,baz=350,slow=21,SNR=6.8						
KKB	Krupnik	3.65	9	eP	Pn	20 19 17.5	+0.5
SKO	Skopje	3.77	350	iPn	Pn	20 19 21.0	+2.3
RZN	Rozhen	3.89	27	iP	Pn	20 19 20.5	+0.1
ALN	Alexandroupoli	3.91	46	ePn	Pn	20 19 19.7	-0.8
VTS	Vitosha	4.38	9	eP	Pn	20 19 28.7	+1.3
VAE	Valguarnera	6.30	265	Sn	Sn	20 21 08.0	+0.6
	1.3nm,0.3s,baz=76,slow=18,SNR=2.5						
CII	Carovilli	7.06	302	P	Pn	20 20 05.3	+0.2
	94nm,0.6s						
CII	Carovilli	7.06	302	P	Pn	20 20 05.3	+0.1
	94nm,0.6s						
MLR	Muntele Rosu	7.72	19	Pn	Pn	20 20 14.4	0.0
	0.7nm,0.3s,baz=298,slow=5.8,SNR=3.3						
BRTR	Keskin Array B	8.94	77	Pn	P	20 20 31.2	-0.1
	0.4nm,0.3s,baz=260,slow=12,SNR=6.4						
BRTR	Keskin Array B	8.94	77	Pn	P	20 20 31.2	-0.1
ESDC	Sonseca Array	20.47	282	P	P	20 22 58.8	-0.8
	1.1nm,0.7s,baz=85,slow=11,SNR=4.7						
HFS	Hagfors	22.57	349	P	P	20 23 18.2	-2.4
	0.6nm,0.5s,mb3.3,baz=148,slow=14,SNR=6.3						
FINES	FINESS Array B	23.33	5	P	P	20 23 26.9	-1.1
	0.5nm,0.6s,mb3.1,baz=180,slow=9.5,SNR=4.7						
NB2	NORSAR Subarra	23.84	347	P	P	20 23 32.0	-1.0
	0.9nm,0.6s,mb3.4,baz=151,slow=11						
NB2	NORSAR Subarra	23.84	347	P	P	20 23 32.0	-1.0
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
NOA	NORSAR Array B	23.84	347	P	P	20 23 31.9	-1.1
	comp=Z,0.9nm,0.7s,mb3.3,baz=157,slow=8.3,SNR=5.5						
EKA	Eskdalemuir Ar	24.20	323	P	P	20 23 35.9	-0.6
	comp=Z,1.1nm,0.6s,mb3.4,baz=119,slow=9.4,SNR=3.9						
ARCES	ARCESS Array B	31.39	2	LR	LR	20 37 57.9	
	comp=Z,19nm,20.9s,MS2.8,baz=146,slow=38						
BVAR	Borovoye Array	35.98	50	P	P	20 25 21.9	0.0
	comp=Z,0.3nm,0.5s,mb3.5,baz=256,slow=5.9,SNR=3.0						
MKAR	Makanchi Array	44.05	59	P	P	20 26 27.7	-1.0
	comp=Z,1.7nm,0.5s,mb4.0,baz=278,slow=6.8,SNR=19						
MKAR	Makanchi Array	44.05	59	P	P	20 26 27.7	-1.0
ZAL	Zalesovo	44.57	48	P	P	20 26 31.9	-0.8
	comp=Z,1.4nm,0.3s,mb4.3,baz=178,slow=8.8,SNR=4.4						
ZAL	Zalesovo	44.57	48	P	P	20 26 31.9	-0.8
SONM	Songino Array	59.31	51	P	P	20 28 21.6	-1.7
	comp=Z,0.2nm,0.6s,mb3.3,baz=286,slow=8.6,SNR=3.5						
SCHQ	Schefferville	59.36	318	P	P	20 28 22.2	-1.4
	comp=Z,1.8nm,0.5s,mb4.3,baz=55,slow=6.8,SNR=5.7						
SCHQ	Schefferville	59.36	318	P	P	20 28 22.2	-1.4

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*IDC **03** 21:51:48.9±2.7, 0.21N×97.88E, mb3.8/5, mb1 3.9/6, mb1mx3.6/18, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=103.9km s-min=28.3km az=57.0*
*NEIC **03** 21:51:52.9±1.3, 0.12N×97.72E, h30km, Error ellipse: s-maj=31.5km s-min=20.3km az=70.0*
ISC 03 21:51:51.2±1.5**, 0.2N**±0.2×**97.7E**±0.2**, h30**km**, n8,** σ0s94/8**, mb3.8**/5**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.87	30	eP	Pn	21 53 19.2	+0.7
CMAR	Chiang Mai Arr	18.22	4	P	P	21 56 02.9	-1.0
	0.1nm,0.3s,baz=194,slow=10,SNR=4.3						
WRA	Warramunga Arr	41.05	121	P	P	21 59 33.4	-0.5
	0.2nm,0.4s,mb3.1,baz=301,slow=9.7,SNR=4.9						
SONM	Songino Array	48.07	8	P	P	22 00 30.3	+0.2
	0.2nm,0.3s,mb3.6,baz=180,slow=7.2,SNR=2.6						
MKAR	Makanchi Array	48.37	346	P	P	22 00 31.8	-0.5
	0.6nm,0.5s,mb3.9,baz=163,slow=9.6,SNR=8.9						
ZAL	Zalesovo	54.65	351	P	P	22 01 18.9	-0.6
	1.7nm,0.4s,mb4.5,baz=302,slow=3.5,SNR=4.2						
ZAL	Zalesovo	54.65	351	P	P	22 01 18.9	-0.6
ARCES	ARCESS Array B	83.68	340	P	P	22 04 20.1	+2.1
	1.0nm,1.0s,mb3.9,baz=80,slow=5.5,SNR=3.0						

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*IDC **03** 22:22:38.9±1.6, 5.12N×94.62E, mb3.8/7, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, Error ellipse: s-maj=68.8km s-min=28.4km az=54.0*
*NEIC **03** 22:22:43.4±0.8, 5.11N×94.59E, h30km, mb3.9/4, Error ellipse: s-maj=22.4km s-min=9.8km az=221.0*
ISC 03 22:22:41.6±1.1**, 5.1N**±0.2×**94.6E**±0.2**, h30**km**, n14,** σ0s65/14**, mb3.8**/11**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.01	88	eP	Pn	22 24 11.2	+0.3
CMAR	Chiang Mai Arr	13.93	17	Pn	P	22 26 07.2	+7.7
	0.2nm,0.3s,baz=215,slow=10,SNR=5.8						
LSA	Lhasa	24.68	353	eP	P	22 28 03.0	+1.4
	2.7nm,0.5s,mb4.0						
MKAR	Makanchi Array	42.88	348	P	P	22 30 39.4	+0.3
	0.9nm,0.4s,mb3.9,baz=168,slow=8.2,SNR=9.4						
SONM	Songino Array	43.76	11	P	P	22 30 45.3	-0.8
	0.2nm,0.3s,mb3.3,baz=191,slow=7.0,SNR=3.5						
ULN	Ulaanbaatar	43.92	12	P	P	22 30 46.9	-0.6
	0.5nm,0.6s,mb3.4						
WRA	Warramunga Arr	46.30	124	P	P	22 31 06.9	0.0
	1.4nm,0.7s,mb4.0,baz=304,slow=9.1,SNR=5.3						
WRAB	Tennant Creek	46.31	124	eP	P	22 31 06.9	-0.1
	3.5nm,0.6s,mb4.5						
ZAL	Zalesovo	49.34	352	P	P	22 31 30.2	0.0
	2.0nm,0.4s,mb4.5,baz=288,slow=3.2,SNR=7.1						
ZAL	Zalesovo	49.34	352	P	P	22 31 30.2	0.0
ZRNK	Zerenda	52.13	341	P	P	22 31 50.8	-0.7
	0.4nm,0.4s,mb3.7						
FINES	FINESS Array B	75.37	332	P	P	22 34 23.2	-0.8
	0.1nm,0.4s,mb3.1,baz=104,slow=7.9,SNR=3.6						
ARCES	ARCESS Array B	78.02	340	P	P	22 34 38.6	0.0
	0.2nm,0.3s,mb3.5,baz=102,slow=6.5,SNR=6.3						
GERES	GERESS Array B	80.20	319	P	P	22 34 51.8	+0.9
	0.5nm,0.7s,mb3.6,baz=108,slow=4.2,SNR=5.6						

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*GRAL **03** 22:39:19.6±1.4, 34.40N×27.11E, MD4.7*
*MOS **03** 22:39:19.9±1.4, 35.04N×27.25E, h15km, mb5.1/51, MS4.1/17, Error ellipse: s-maj=4.0km s-min=2.0km az=111.9*
*BJI **03** 22:39:20.5, 34.88N×26.69E, h42km, mB5.0, mb5.2, Ms4.8, Msz4.7*
*ATH **03** 22:39:21.5, 35.05N×27.28E, h22km±1km, ML4.8*
*ISK **03** 22:39:21.3, 34.90N×27.19E, h66km, ML4.9*
*CRAAG **03** 22:39:22.9, 35.05N×27.45E, Mb4.6*
*HRVD **03** 22:39:22.2±0.8, 35.21N×27.05E, h21km, MW4.7/46, Centroid moment Tensor Solution. LP body waves: s8,c9; Mantle waves: s46,c71; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.76±.13; $M_{\theta\theta}$-0.54±.10; $M_{\phi\phi}$1.30±.08; $M_{r\theta}$-0.26±.19; $M_{\theta\phi}$0.95±.07; $M_{\phi r}$0.43±.15; Best double couple: $M_0$1.506×10^16 NP1:ϕ_s62°,δ58°,λ-26°. NP2: ϕ_s166°,δ69°,λ-145°. Principal axes: T 1.734, Plg7°, Azm292°; N -.456, Plg50°, Azm194°; P -1.278, Plg39°, Azm28°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **03** 22:39:22.9, 35.05N×27.45E, h68km, mb4.6*
*IDC **03** 22:39:22.8±4.0, 35.33N×27.10E, h18km±24km, mb4.6/29, mb1 4.7/32, mb1mx4.7/33, mbtmp4.7/32, ML4.2/3, MS4.1/14, Ms1 4.1/14, ms1mx3.9/27, Error ellipse: s-maj=12.9km s-min=12.7km az=89.0*
*ZUR_RM **03** 22:39:22, 35.11N×27.26E, h27km, Mw4.9/23, Moment Tensor Solution. s23 Moment tensor: Scale 10^16Nm; M_{rr}-1.54; $M_{\theta\theta}$-1.14; $M_{\phi\phi}$2.68; $M_{r\theta}$-0.52; $M_{\theta\phi}$1.14; $M_{\phi r}$0.23; Best double couple: $M_0$2.53×10^16 NP1:ϕ_s161°,δ60°, λ-142°. NP2:ϕ_s50°,δ58°,λ-37°. Principal axes: T 2.996, Plg1°, Azm285°; N -.937, Plg43°, Azm194°; P -2.059, Plg47°, Azm16°;*
*NEIC **03** 22:39:22.2, 35.11N×27.26E, h21km, mb4.7/116, MS4.0/4, ML4.8(ATH), After ATH.*
*NIC **03** 22:39:24.4±0.2, 35.30N×27.30E, h25km, mb4.8, ML4.5, MW4.1*
*HLW **03** 22:39:25.3, 35.10N×27.55E, h25km, Mb4.6*
*PDG **03** 22:39:25.9±0.0, 35.46N×27.10E, h11km±1km*
*THE **03** 22:39:28.5, 35.16N×27.10E, h29km, ML4.5*
ISC 03 22:39:21.3±0.4**, 35.02N**±0.01×**27.27E**±0.01**, h26**km±2km**, h33**km±3.4km**: pP-P, n816,** σ1s36/887**, mb4.8**/139**, MS4.3**/34**, 53C-45D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.54	350	ePN	Pb	22 39 31.9	-0.2
KARP				eSN	Sn	22 39 39.2	-2.1
KARP	Karpathos	0.54	350	ePb	Pb	22 39 31.9	-0.2
KARP				eSb	Sb	22 39 37.2	-2.2
XRY	Khrisi	1.30	264	ePN	Pn	22 39 46.0	+1.9
NPS	Neapolis	1.38	281	⇑iPn	Pn	22 39 48.1	+2.9
NPS				eSn	Sn	22 40 06.7	+4.0
NPS	Neapolis	1.38	281	⇑iPN	Pn	22 39 48.0	+2.8
NPS				eSN	Sn	22 40 05.9	+3.1
ARG	Arkhangelos	1.38	30	⇓iPN	Pn	22 39 47.4	+2.2
ARG				eSN	Sn	22 40 06.1	+3.3
LAST	Lasithi	1.48	276	Pn	Pn	22 39 50.5	+3.9
NISR	Nisiros	1.59	356	⇓iPN	Pn	22 39 49.6	+1.3
IDI	Anoyia	1.97	279	Pn	Pn	22 39 57.7	+4.1
	163nm,0.3s,baz=97,slow=16,SNR=328						
IDI				Sn	Sn	22 40 25.6	+7.9
	414nm,0.3s,baz=352,slow=21,SNR=5.6						
SANT	Santorini	2.00	313	ePn	Pn	22 39 55.7	+1.6
SANT				eSn	Sn	22 40 19.6	+1.1
THR1	Thera Island	2.00	313	ePb	Pb	22 39 56.1	-0.7
THR1				eSb	Sb	22 40 18.3	-3.1
BODT	Bodrum	2.04	1	iPN	Pn	22 39 56.3	+1.7
BODT				iSN	Sn	22 40 21.9	+2.4
THR3	Thira Island,	2.06	313	ePb	Pb	22 39 57.0	-0.9
DALT	Dalyan (Mudla)	2.07	32	PN	Pn	22 39 57.8	+2.7
THR4	Thira Island,	2.10	314	ePb	Pb	22 39 58.1	-0.4
THR5	Thira Island,	2.10	312	ePb	Pb	22 39 58.0	-0.4
FETY	Fethiye	2.19	42	PN	Pn	22 39 58.5	+1.8
KSL	Kastellorizon	2.20	58	⇓iPB	Pb	22 39 58.5	-1.7
YER	Yerkesik	2.27	21	PN	Pn	22 40 00.2	+2.3
MLSB	Milas	2.31	10	PN	Pn	22 40 00.5	+2.0
APE	Apeiranthos	2.48	326	PN	Pn	22 40 02.6	+1.6
APE	Apeiranthos	2.48	326	⇑iPN	Pn	22 40 02.6	+1.6
VAM	Vamos	2.54	280	ePb	Pb	22 40 05.4	-0.7
VAM	Vamos	2.54	280	ePB	Pb	22 40 04.7	-1.4
GVD	Gavdhos	2.62	267	ePn	Pn	22 40 06.0	+3.0
SMG	Samos	2.71	353	ePN	Pn	22 40 05.3	+1.1
ELL	Elmali	2.75	50	PN	Pn	22 40 06.2	+1.4
DENT	Denizli	3.08	27	PN	Pn	22 40 10.9	+1.5
ANTB	Antalya	3.33	55	PN	Pn	22 40 14.4	+1.5
IZM	Izmir	3.37	360	PN	Pn	22 40 15.1	+1.5
BCK	Bucak	3.62	47	PN	Pn	22 40 19.6	+2.4
KYTH	Kithira	3.67	291	ePN	Pn	22 40 19.0	+1.1
KHL	Karahalli	3.76	28	PN	Pn	22 40 20.2	+1.0
ISP	Isparta	3.84	42	PN	Pn	22 40 20.9	+0.6
ISP	Isparta	3.84	42	ePn	Pn	22 40 21.3	+1.0

AKS	**Akhisar**	**3.88**	**6**	PN	**Pn**	**22 40 21.6**	**+0.8**
VLI	**Veliai**	**3.91**	**297**	⇑iPN	**Pn**	**22 40 22.3**	**+1.1**
HMAT	**Matruh**	**3.92**	**182**	⇓eP	**Pn**	**22 40 24.7**	**+3.3**
SLUM		**3.92**	**207**	⇑eP	**Pn**	**22 40 24.2**	**+2.8**
SLUM				S	**Sn**	**22 41 09.3**	**+2.2**
PTL	**Penteli**	**4.08**	**319**	ePN	**Pn**	**22 40 26.5**	**+2.8**
DABA	**Dabaa**	**4.09**	**168**	⇑eP	**Pn**	**22 40 26.1**	**+2.3**
NAIG	**Nisos Aigina**	**4.10**	**313**	ePN	**Pn**	**22 40 25.5**	**+1.6**
ATH	**Athens Observa**	**4.11**	**317**	eP	**Pn**	**22 40 26.6**	**+2.5**
ATH	**Athens Observa**	**4.11**	**317**	ePN	**Pn**	**22 40 26.1**	**+2.0**
AKMC	**Akamas**	**4.15**	**88**	eP	**Pn**	**22 40 25.3**	**+0.6**
PPCY	**Paphos**	**4.17**	**90**	eP	**Pn**	**22 40 25.4**	**+0.4**
NSAL	**Nisos Salamina**	**4.21**	**314**	ePN	**Pn**	**22 40 28.0**	**+2.5**
MPAR	**Parnis Oros**	**4.23**	**319**	ePN	**Pn**	**22 40 28.0**	**+2.2**
PRK	**Paraskevi**	**4.29**	**350**	ePN	**Pn**	**22 40 27.4**	**+0.7**
ALFC	**Alevga**	**4.37**	**87**	⇓P	**Pn**	**22 40 28.0**	**+0.2**
	22nm,0.3s						
ALFC				S	**Sn**	**22 41 17.6**	**-1.0**
ALFC	**Alevga**	**4.37**	**87**	⇓iP	**Pn**	**22 40 28.0**	**+0.2**
ALFC				S	**Sn**	**22 41 17.6**	**-1.0**
ALFC	**Alevga**	**4.37**	**87**	eP	**Pn**	**22 40 28.0**	**+0.2**
ALFC				S	**Sn**	**22 41 17.6**	**-1.0**
MGER	**Gerania Oros**	**4.38**	**314**	ePN	**Pn**	**22 40 30.0**	**+2.0**
LEF	**Lefka**	**4.61**	**87**	PN	**Pn**	**22 40 30.9**	**-0.3**
SZAC	**Souni-Zanaja**	**4.62**	**92**	⇓P	**Pn**	**22 40 31.6**	**+0.3**
	30nm,0.5s						
SZAC				S	**Sn**	**22 41 24.6**	**-0.3**
SZAC	**Souni-Zanaja**	**4.62**	**92**	⇓eP	**Pn**	**22 40 31.6**	**+0.3**
SZAC				S	**Sn**	**22 41 24.6**	**-0.3**
SZAC	**Souni-Zanaja**	**4.62**	**92**	eP	**Pn**	**22 40 31.6**	**+0.3**
SZAC				S	**Sn**	**22 41 24.6**	**-0.3**
ALT	**Altintas**	**4.62**	**29**	PN	**Pn**	**22 40 31.9**	**+0.5**
BALB	**Balikesir**	**4.64**	**6**	PN	**Pn**	**22 40 32.3**	**+0.7**
HDMB	**Hadim**	**4.65**	**64**	PN	**Pn**	**22 40 33.7**	**+1.9**
DST	**Dursunbey**	**4.71**	**13**	PN	**Pn**	**22 40 33.1**	**+0.6**
ITM	**Ithomi**	**4.83**	**298**	ePN	**Pn**	**22 40 36.1**	**+1.7**
EZN	**Ezine**	**4.86**	**351**	PN	**Pn**	**22 40 35.0**	**+0.3**
MAMC	**Mammari**	**4.88**	**87**	eP	**Pn**	**22 40 35.0**	**0.0**
HBRG	**Burj al ‘Arab**	**4.93**	**153**	⇓eP	**Pn**	**22 40 36.9**	**+1.1**
CSS	**Prodhromos**	**4.97**	**89**	⇓P	**Pn**	**22 40 35.9**	**-0.5**
	26nm,1.0s						
CSS				S	**Sn**	**22 41 32.9**	**-0.9**
CSS	**Prodhromos**	**4.97**	**89**	⇓eP	**Pn**	**22 40 35.9**	**-0.5**
CSS				S	**Sn**	**22 41 32.9**	**-0.9**
CSS	**Prodhromos**	**4.97**	**89**	eP	**Pn**	**22 40 35.9**	**-0.5**
CSS				S	**Sn**	**22 41 32.9**	**-0.9**
LKR	**Lokris**	**4.99**	**318**	ePn	**Pn**	**22 40 39.1**	**+2.6**
LKR	**Lokris**	**4.99**	**318**	ePN	**Pn**	**22 40 38.6**	**+2.1**
CANB	**Canakkale**	**4.99**	**358**	PN	**Pn**	**22 40 37.6**	**+1.0**
KONT	**Konya--Tatoy**	**5.04**	**53**	PN	**Pn**	**22 40 38.5**	**+1.3**
LIA	**Limnos Island**	**5.15**	**342**	ePN	**Pn**	**22 40 39.1**	**+0.3**
ORLT	**Orhaneli**	**5.18**	**14**	PN	**Pn**	**22 40 39.5**	**+0.2**
LOS	**Limnos**	**5.21**	**341**	ePn	**Pn**	**22 40 40.9**	**+1.3**
ESKT	**Eskisehir**	**5.32**	**31**	PN	**Pn**	**22 40 41.6**	**+0.3**
KIZT	**Kizilcal**	**5.34**	**42**	PN	**Pn**	**22 40 42.1**	**+0.7**
EDC	**Edincik**	**5.34**	**5**	PN	**Pn**	**22 40 41.7**	**+0.2**
BNT	**Bandirma**	**5.35**	**5**	PN	**Pn**	**22 40 42.1**	**+0.4**
LPK	**Lapseki**	**5.36**	**356**	PN	**Pn**	**22 40 43.1**	**+1.3**
LPK	**Lapseki**	**5.36**	**356**	Pn	**Pn**	**22 40 44.1**	**+2.3**
NEO	**Neokhori**	**5.36**	**324**	⇓iPN	**Pn**	**22 40 43.7**	**+1.9**
IKL	**Isikli**	**5.37**	**75**	PN	**Pn**	**22 40 42.1**	**+0.3**
XOR	**Xorichti**	**5.42**	**324**	ePn	**Pn**	**22 40 44.7**	**+2.0**
PHNC	**Paralimni**	**5.55**	**88**	eP	**Pn**	**22 40 45.2**	**+0.8**
RLS	**Riolos of Patr**	**5.57**	**305**	ePN	**Pn**	**22 40 47.1**	**+2.4**
MRMT	**Marmara Adasi**	**5.58**	**3**	ePN	**Pn**	**22 40 45.2**	**+0.3**
MRMT	**Marmara Adasi**	**5.58**	**3**	Pn	**Pn**	**22 40 47.4**	**+2.5**
PAIG	**Paliouri**	**5.67**	**331**	ePn	**Pn**	**22 40 47.5**	**+1.4**
MFT	**Murefte**	**5.76**	**0**	ePN	**Pn**	**22 40 47.4**	**0.0**
YLV	**Yalova**	**5.78**	**16**	ePN	**Pn**	**22 40 48.9**	**+1.2**
EVR	**Evrytania**	**5.85**	**313**	ePn	**Pn**	**22 40 51.2**	**+2.5**
EVR				eSn	**Sn**	**22 41 54.6**	**-1.2**
EVR	**Evrytania**	**5.85**	**313**	ePN	**Pn**	**22 40 51.0**	**+2.3**
EVR				eSN	**Sn**	**22 41 54.6**	**-1.2**
SWA1		**5.89**	**193**	P	**Pn**	**22 40 51.7**	**+2.5**
SWA1				S	**Sn**	**22 41 55.0**	**-1.7**
SWA1		**5.89**	**193**	S	**Sn**	**22 41 55.0**	**-1.7**
OUR	**Ouranopolis**	**5.91**	**335**	ePn	**Pn**	**22 40 51.2**	**+1.7**
SWA2		**5.96**	**195**	⇓eP	**Pn**	**22 40 52.6**	**+2.4**
HMYD	**Mayadein**	**6.00**	**149**	⇑eP	**Pn**	**22 40 51.7**	**+0.8**
HRT	**Hereke**	**6.09**	**17**	ePN	**Pn**	**22 40 52.6**	**+0.4**
PLG	**Polygyros**	**6.15**	**332**	ePN	**Pn**	**22 40 54.3**	**+1.4**
CTT	**Catalca**	**6.19**	**8**	ePN	**Pn**	**22 40 53.9**	**+0.5**
FYM	**Al Fayyum**	**6.20**	**148**	⇑eP	**Pn**	**22 40 54.2**	**+0.6**
ISK	**Istanbul-Kandi**	**6.20**	**13**	ePN	**Pn**	**22 40 54.3**	**+0.7**
VLS	**Valsamata**	**6.23**	**302**	ePN	**Pn**	**22 40 54.6**	**+0.5**
VLS	**Valsamata**	**6.23**	**302**	eP	**Pn**	**22 40 54.4**	**+0.3**
AYT	**Al ‘Ayyat**	**6.23**	**147**	⇑eP	**Pn**	**22 40 54.6**	**+0.5**
RDO	**Rodhopi**	**6.27**	**348**	ePN	**Pn**	**22 40 55.0**	**+0.4**
LIT	**Litokhoron**	**6.34**	**325**	ePn	**Pn**	**22 40 57.2**	**+1.7**
KOT	**Kottamia**	**6.37**	**142**	⇑eP	**Pn**	**22 40 55.8**	**-0.3**
HSAF	**As Saff**	**6.49**	**145**	⇑eP	**Pn**	**22 40 57.2**	**-0.5**
HHAG	**Hagoal**	**6.49**	**140**	⇓eP	**Pn**	**22 40 56.6**	**-1.1**
LOD	**Lodumlu**	**6.54**	**40**	ePN	**Pn**	**22 40 59.0**	**+0.6**
ANTO	**Ankara**	**6.54**	**41**	ePN	**Pn**	**22 40 58.5**	**+0.1**
GLL	**Jalalah**	**6.60**	**144**	⇓eP	**Pn**	**22 40 58.7**	**-0.5**
NIG	**Nigde**	**6.66**	**60**	ePN	**Pn**	**22 41 00.6**	**+0.4**
SRS	**Serrai**	**6.74**	**336**	ePn	**Pn**	**22 41 02.5**	**+1.2**
HRSH	**Kfar Ka’horesh**	**6.76**	**125**	⇓eP	**Pn**	**22 41 00.7**	**-0.9**
RSH		**6.76**	**125**	P	**Pn**	**22 41 00.6**	**-1.0**
KDZ	**Kurdzhali**	**6.78**	**348**	i P	**Pn**	**22 41 02.0**	**+0.2**
EDRB	**Edirne**	**6.83**	**357**	ePN	**Pn**	**22 41 02.4**	**-0.1**
EDRB	**Edirne**	**6.83**	**357**	Pn	**Pn**	**22 41 03.3**	**+0.8**
HNTI	**Hanita**	**6.84**	**104**	P	**Pn**	**22 41 02.4**	**-0.2**
HNTI				S	**Sn**	**22 42 16.6**	**-3.8**
MATL	**Matirih**	**6.84**	**101**	ePN	**Pn**	**22 41 01.2**	**-1.5**
KZN	**Kozani**	**6.85**	**322**	eP	**Pn**	**22 41 05.7**	**+3.0**
KZN	**Kozani**	**6.85**	**322**	ePN	**Pn**	**22 41 05.4**	**+2.7**
OFRI	**‘Ofer**	**6.85**	**108**	P	**Pn**	**22 41 01.3**	**-1.5**
NVR	**Nevrokopi**	**6.87**	**338**	ePn	**Pn**	**22 41 05.3**	**+2.3**
NVR	**Nevrokopi**	**6.87**	**338**	ePN	**Pn**	**22 41 04.1**	**+1.1**
JAN	**Janina**	**6.90**	**314**	ePN	**Pn**	**22 41 04.5**	**+1.1**
BR131	**Keskin Array S**	**6.91**	**45**	ePn	**Pn**	**22 41 03.3**	**-0.3**
	52nm,0.8s						
BRTR	**Keskin Array B**	**6.91**	**45**	Pn	**Pn**	**22 41 02.8**	**-0.8**
	2.5nm,0.3s,baz=213,slow=11,SNR=206						
BRTR				Sn	**Sn**	**22 42 20.1**	**-2.1**
	baz=211,slow=17,SNR=2.4						
RZN	**Rozhen**	**6.96**	**344**	i P	**Pn**	**22 41 05.0**	**+0.8**
SUZ		**6.98**	**136**	⇓P	**Pn**	**22 41 04.4**	**-0.2**
BHL	**Bhannes**	**7.01**	**97**	ePN	**Pn**	**22 41 03.6**	**-1.5**
BHL				SN	**Sn**	**22 42 20.3**	**-4.5**
KNT	**Kendrikon**	**7.04**	**332**	ePn	**Pn**	**22 41 06.7**	**+1.3**
SLTI	**Sal’it**	**7.05**	**111**	P	**Pn**	**22 41 04.2**	**-1.3**
SLTI				S	**Sn**	**22 42 21.6**	**-4.0**
MMB	**Musomiste**	**7.13**	**338**	i P	**Pn**	**22 41 07.2**	**+0.5**
CEYT	**Ceyhan**	**7.15**	**71**	ePN	**Pn**	**22 41 06.1**	**-0.9**
HWQ	**Hawqa**	**7.19**	**93**	ePN	**Pn**	**22 41 06.2**	**-1.4**
HWQ				SN	**Sn**	**22 42 26.6**	**-2.5**
KSDI	**Kefar Szold**	**7.19**	**102**	P	**Pn**	**22 41 06.3**	**-1.3**
KZIT	**Kziot**	**7.26**	**122**	P	**Pn**	**22 41 06.2**	**-2.3**
KZIT				S	**Sn**	**22 42 25.4**	**-5.5**
MMLI	**Mount Malkishu**	**7.26**	**108**	P	**Pn**	**22 41 07.3**	**-1.2**
HTY	**Hatay**	**7.31**	**79**	ePN	**Pn**	**22 41 09.1**	**-0.1**
BRBR	**Barbar**	**7.37**	**100**	⇑iP	**Pn**	**22 41 09.3**	**-0.7**
BIDA	**Albida**	**7.43**	**87**	⇓iP	**Pn**	**22 41 08.8**	**-2.1**
JMB	**Yambol**	**7.46**	**356**	i P	**Pn**	**22 41 12.0**	**+0.7**
JMB	**Yambol**	**7.46**	**356**	P	**Pn**	**22 41 12.5**	**+1.2**
CANT	**Cankiri**	**7.51**	**40**	ePN	**Pn**	**22 41 12.3**	**+0.3**
SAFT	**Safranbolu**	**7.54**	**33**	ePN	**Pn**	**22 41 11.6**	**-0.8**
KEK	**Kerkira**	**7.57**	**310**	ePN	**Pn**	**22 41 14.0**	**+1.1**
KKB	**Krupnik**	**7.58**	**336**	i P	**Pn**	**22 41 14.0**	**+0.9**
QASN	**Qassioun**	**7.60**	**99**	⇑iP	**Pn**	**22 41 12.4**	**-0.9**
HNKL	**Nakhl**	**7.61**	**130**	P	**Pn**	**22 41 12.7**	**-0.7**
TCHB	**Talchebab**	**7.61**	**105**	⇑iP	**Pn**	**22 41 13.7**	**+0.3**
MARH	**Ras Al Marh**	**7.67**	**95**	⇑iP	**Pn**	**22 41 12.5**	**-1.7**
MZDA	**Masada**	**7.73**	**116**	P	**Pn**	**22 41 13.7**	**-1.3**
TOTH	**TOTAH**	**7.77**	**100**	⇑iP	**Pn**	**22 41 15.0**	**-0.6**
CORM	**Corum**	**7.79**	**46**	ePN	**Pn**	**22 41 15.7**	**-0.2**
MKRJ	**Makawir**	**7.81**	**114**	P	**Pn**	**22 41 15.5**	**-0.8**
BNN	**Bunyan**	**7.86**	**58**	ePN	**Pn**	**22 41 16.5**	**-0.4**
BNN	**Bunyan**	**7.86**	**58**	Pn	**Pn**	**22 41 17.1**	**+0.2**
HFRF	**Wahat Farafira**	**7.89**	**173**	⇓eP	**Pn**	**22 41 17.3**	**-0.1**
PRNI	**Paran**	**8.01**	**123**	P	**P**	**22 41 17.1**	**-1.9**
ZFRI	**Zfri**	**8.01**	**122**	P	**P**	**22 41 16.7**	**-2.3**
TOS	**Tosya**	**8.03**	**40**	ePN	**P**	**22 41 17.8**	**-1.4**
SALA	**Sala**	**8.20**	**104**	⇑iP	**P**	**22 41 21.6**	**0.0**
VTS	**Vitosha**	**8.20**	**338**	i P	**P**	**22 41 23.8**	**+2.2**
VTS	**Vitosha**	**8.20**	**338**	i P	**P**	**22 41 23.8**	**+2.2**
VTS	**Vitosha**	**8.20**	**338**	P	**P**	**22 41 22.4**	**+0.8**
MBH	**Mount Berech**	**8.30**	**127**	P	**P**	**22 41 22.5**	**-0.5**
ROOS	**tl_alroos**	**8.30**	**93**	⇑iP	**P**	**22 41 21.3**	**-1.8**
SKO	**Skopje**	**8.31**	**328**	i Pn	**P**	**22 41 25.4**	**+2.2**
GAZ	**Gaziantep**	**8.33**	**72**	ePN	**P**	**22 41 21.2**	**-2.2**
EIL	**Elat**	**8.40**	**127**	Pn	**P**	**22 41 23.2**	**-1.3**
	4.6nm,0.3s,baz=314,slow=6.6,SNR=26						
EIL				Sn	**Sn**	**22 42 53.9**	**-5.6**
	9.7nm,0.3s,baz=280,slow=36,SNR=4.5						
EIL	**Elat**	**8.40**	**127**	ePn	**P**	**22 41 23.4**	**-1.1**
	51nm,0.6s						
EIL				eSn	**Sn**	**22 42 52.6**	**-6.9**
EIL	**Elat**	**8.40**	**127**	P	**P**	**22 41 23.5**	**-1.0**
EIL	**Elat**	**8.40**	**127**	ePn	**P**	**22 41 23.4**	**-1.1**
	51nm,0.6s						
EIL				eSn	**Sn**	**22 42 52.6**	**-6.9**
AQBJ	**Aqaba**	**8.43**	**127**	P	**P**	**22 41 24.0**	**-0.8**
ASF	**Jabal al Asfar**	**8.52**	**107**	Pn	**P**	**22 41 24.9**	**-1.1**
	1.8nm,0.3s,baz=153,slow=8.5,SNR=15						
ASF				Sn	**Sn**	**22 43 06.1**	**+3.8**
	1.8nm,0.3s,baz=107,slow=20,SNR=4.1						
HKAT	**Jabal Katrina**	**8.64**	**137**	⇑eP	**P**	**22 41 26.5**	**-1.2**
QSH	**Qafa e Shtames**	**8.70**	**320**	i Pn	**P**	**22 41 34.0**	**+5.5**
QSH				i Sn	**Sn**	**22 43 02.0**	**-4.8**
BZK	**Bozkurt**	**8.71**	**35**	ePN	**P**	**22 41 27.4**	**-1.3**
ALWS	**Ilw as Safayha**	**8.72**	**129**	P	**P**	**22 41 27.8**	**-1.1**
HAQS	**Haql**	**8.81**	**130**	P	**P**	**22 41 28.9**	**-1.1**
JMOS	**Jabal al Moall**	**8.84**	**129**	P	**P**	**22 41 29.3**	**-1.3**
TAYS	**Tayyib Ism**	**9.13**	**133**	P	**P**	**22 41 33.2**	**-1.4**
QURS	**Qurayyt al Mil**	**9.17**	**110**	P	**P**	**22 41 41.0**	**+5.9**
BDAS	**Al Bad‘**	**9.36**	**132**	P	**P**	**22 41 36.0**	**-1.6**
ULC	**Ulcinj**	**9.36**	**320**	ePn	**P**	**22 41 36.9**	**-0.8**
ULC				eSn	**Sn**	**22 43 14.8**	**-8.2**
PVY	**Plav**	**9.46**	**325**	ePn	**P**	**22 41 38.3**	**-0.8**
PVY				eSn	**Sn**	**22 43 17.4**	**-8.4**
TIRR	**Tirgusor**	**9.47**	**5**	⇑P	**P**	**22 41 39.8**	**+0.6**
JMQS	**Jabal Moqyreh**	**9.53**	**128**	P	**P**	**22 41 39.1**	**-0.9**
MALT	**Malatya**	**9.55**	**67**	ePN	**P**	**22 41 38.4**	**-1.9**
MALT	**Malatya**	**9.55**	**67**	P	**P**	**22 41 38.8**	**-1.4**
MALT	**Malatya**	**9.55**	**67**	P	**P**	**22 41 38.8**	**-1.5**
MYA	**Malataya**	**9.55**	**67**	ePN	**P**	**22 41 37.8**	**-2.5**
HDK1	**Dakhla**	**9.62**	**168**	⇑eP	**P**	**22 41 41.7**	**+0.4**
AYUS	**‘Aynunah**	**9.63**	**133**	P	**P**	**22 41 39.9**	**-1.6**
TTG	**Podgorica**	**9.69**	**322**	⇓iPn	**P**	**22 41 41.7**	**-0.5**
TTG				eSn	**Sn**	**22 43 22.9**	**-8.3**
BOLS	**Boljevac**	**9.71**	**337**	⇑iPn	**P**	**22 41 44.0**	**+1.5**
IVA	**Berane**	**9.71**	**326**	⇓iPn	**P**	**22 41 42.0**	**-0.6**
IVA				eSn	**Sn**	**22 43 23.1**	**-8.8**
BUM	**Brajici-Budva**	**9.78**	**321**	⇓iPn	**P**	**22 41 42.8**	**-0.7**
BUM				eSn	**Sn**	**22 43 25.2**	**-8.2**
HCY	**Herceg Novi**	**10.09**	**320**	⇓iPn	**P**	**22 41 47.4**	**-0.4**
HCY				eSn	**S**	**22 43 33.0**	**-8.2**
NKY	**Niksic**	**10.10**	**323**	⇓iPn	**P**	**22 41 47.3**	**-0.6**
NKY				eSn	**S**	**22 43 32.7**	**-8.6**
CFR	**Carcaliu**	**10.17**	**3**	⇓P	**P**	**22 41 46.6**	**-2.2**
SG1	**Sgolgore (BA)**	**10.18**	**308**	ePn	**P**	**22 41 44.7**	**-4.3**
BAI	**Bari**	**10.20**	**310**	ePn	**P**	**22 41 45.5**	**-3.7**
GRUS	**Gruza**	**10.20**	**332**	⇑iPn	**P**	**22 41 49.9**	**+0.6**
PLE	**Pljevlja**	**10.30**	**326**	ePn	**P**	**22 41 49.9**	**-0.8**
PLE				eSn	**S**	**22 43 37.4**	**-8.9**
BRY	**Bratogost**	**10.39**	**322**	ePn	**P**	**22 41 51.3**	**-0.6**
BRY				eSn	**S**	**22 43 39.7**	**-8.8**
TBKS	**Tabuk**	**10.41**	**128**	P	**P**	**22 41 52.4**	**+0.3**
UPM	**Unac-Piva**	**10.43**	**324**	⇓iPn	**P**	**22 41 52.0**	**-0.4**
UPM				eSn	**S**	**22 43 40.7**	**-8.9**
PTK	**Pertek**	**10.44**	**65**	ePN	**P**	**22 41 50.2**	**-2.3**
MLR	**Muntele Rosu**	**10.51**	**355**	Pn	**P**	**22 41 52.5**	**-1.0**
	1.0nm,0.3s,baz=158,slow=5.3,SNR=19						
MLR				LR	LR	22 45 51.1	
	comp=Z,708nm,21.8s,baz=175,slow=38						
MLR	**Muntele Rosu**	**10.51**	**355**	⇓P	**P**	**22 41 53.1**	**-0.3**
MLR	**Muntele Rosu**	**10.51**	**355**	⇓P	**P**	**22 41 53.1**	**-0.3**
BRD	**Bordesti**	**10.53**	**359**	P	**P**	**22 41 56.5**	**+2.8**
VOIR		**10.54**	**351**	⇑P	**P**	**22 41 54.5**	**+0.6**
CDT	**Castel del Mon**	**10.57**	**308**	ePn	**P**	**22 41 50.2**	**-4.1**
DIVS	**Divcibare**	**10.66**	**330**	⇑iPn	**P**	**22 41 55.9**	**+0.4**
VAE	**Valguarnera**	**10.67**	**287**	Pn	**P**	**22 41 55.3**	**-0.3**
	6.7nm,0.3s,baz=283,slow=3.0,SNR=19						
VAE				Sn	**S**	**22 43 46.5**	**-8.8**
	16nm,0.3s,baz=196,slow=4.5,SNR=7.8						
VAE	**Valguarnera**	**10.67**	**287**	Sn	**S**	**22 43 46.5**	**-8.8**
STON	**Ston**	**10.81**	**319**	i Pn	**P**	**22 41 53.6**	**-4.0**
STON				i Sn	**S**	**22 43 46.8**	**-12**
VRI	**Vrincioaia**	**10.84**	**358**	P	**P**	**22 41 59.6**	**+1.6**
VRI	**Vrincioaia**	**10.84**	**358**	⇑P	**P**	**22 41 59.3**	**+1.3**
VRI	**Vrincioaia**	**10.84**	**358**	⇑P	**P**	**22 41 59.3**	**+1.3**
GUMT	**Gumushane**	**11.09**	**57**	ePN	**P**	**22 42 00.0**	**-1.3**
FG4	**Candela**	**11.09**	**307**	P	**P**	**22 42 02.1**	**+0.7**
SIM	**Simferopol’**	**11.22**	**26**	⇑iP	**P**	**22 42 03.1**	**0.0**
SIM				S	**S**	**22 44 14.0**	**+5.3**
SIM				pmax	pmax		
	comp=Z,89nm,0.8s						
SIM	**Simferopol’**	**11.22**	**26**	i P	**P**	**22 42 03.1**	**0.0**
	comp=Z,89nm,0.8s						
FAVR	**Favara**	**11.23**	**285**	P	**P**	**22 42 04.0**	**+0.7**
FG5	**Orsara di Pugl**	**11.33**	**307**	P	**P**	**22 42 05.0**	**+0.4**
MRB1	**Monte Rocchett**	**11.45**	**306**	P	**P**	**22 42 08.1**	**+1.9**
PSB1	**Pescosannita**	**11.60**	**306**	P	**P**	**22 42 08.4**	**+0.1**
KIS	**Kishinev**	**12.03**	**5**	eP	**P**	**22 42 14.0**	**0.0**
KIS				eS	**S**	**22 44 24.0**	**-4.3**
KIS				pmax	pmax		
	comp=Z,150nm,1.0s						
KIS				MLR	MLR		
	comp=Z,2μm,13.0s						
KIS				MLR	MLR		
	comp=N,2μm,12.0s						
KIS				MLR	MLR		
	comp=E,600nm,10.0s						
KIS				MLR	MLR		
	comp=Z,2μm,12.0s						
KIS	**Kishinev**	**12.03**	**5**	eP	**P**	**22 42 14.0**	**0.0**
	comp=Z,150nm,1.0s						
IAS	**Iasi**	**12.17**	**1**	P	**P**	**22 42 14.5**	**-1.4**
CII	**Carovilli**	**12.17**	**307**	ePn	**P**	**22 42 15.9**	**-0.1**
	comp=Z,29nm,0.6s						
CII				eSn	**S**	**22 44 20.2**	**-12**
DRGR		**12.25**	**345**	⇓P	**P**	**22 42 17.0**	**-0.1**
ANN	**Anapa**	**12.49**	**36**	eP	**P**	**22 42 26.2**	**+5.9**
ANN				eS	**S**	**22 44 47.5**	**+7.9**
ANN				pmax	pmax		
	comp=Z,86nm,1.4s						
BURAR	**Bucovina Array**	**12.68**	**354**	⇑P	**P**	**22 42 24.9**	**+2.2**
BURAR	**Bucovina Array**	**12.68**	**354**	⇑P	**P**	**22 42 24.9**	**+2.1**
VVLD	**Villa Vallelon**	**12.69**	**307**	P	**P**	**22 42 23.6**	**+0.6**
SOC	**Sochi**	**12.88**	**45**	eP	**P**	**22 42 23.7**	**-1.7**
SOC				e		22 44 43.0	
SOC				pmax	pmax		
	comp=Z,15nm,1.0s						
SOC				pmax	pmax		
	comp=N,11nm,1.1s						
SOC				pmax	pmax		
	comp=E,10.0nm,1.0s						
SOC				MLR	MLR		
	comp=Z,1μm,15.0s						
SOC				MLR	MLR		
	comp=N,1μm,13.0s						
SOC				MLR	MLR		
	comp=E,872nm,15.0s						
SOC	**Sochi**	**12.88**	**45**	eP	**P**	**22 42 23.7**	**-1.7**
	comp=E,11nm,1.1s						
PTQR	**Pietraquaria**	**12.91**	**307**	P	**P**	**22 42 27.9**	**+2.1**
PKSM	**Moragy**	**12.95**	**332**	P	**P**	**22 42 25.3**	**-1.1**
UMJS	**Umm Lajj**	**13.05**	**136**	P	**P**	**22 42 27.6**	**-0.2**
SNTG	**Esanatoglia**	**13.82**	**311**	P	**P**	**22 42 39.4**	**+1.6**
PSZ	**Piszkesteto**	**14.02**	**339**	eP	**P**	**22 42 38.9**	**-1.4**
PSZ				pmax	pmax		
	comp=Z,38nm,0.9s						
PSZ	**Piszkesteto**	**14.02**	**339**	ePn	**P**	**22 42 38.9**	**-1.4**
	comp=Z,38nm,0.9s						
PSZ	**Piszkesteto**	**14.02**	**339**	eP	**P**	**22 42 39.7**	**-0.6**
PSZ	**Piszkesteto**	**14.02**	**339**	ePn	**P**	**22 42 38.9**	**-1.4**
	comp=Z,38nm,0.9s						
SRO2	**Moca**	**14.36**	**335**	e	**P**	**22 42 46.7**	**+1.9**
KECS	**Kecovo**	**14.37**	**342**	eP	**P**	**22 42 46.4**	**+1.5**
KECS				eS	**S**	**22 45 41.4**	**+17**
KECS	**Kecovo**	**14.37**	**342**	e	**P**	**22 42 46.4**	**+1.5**
KECS				eS	**S**	**22 45 41.4**	**+17**
KOLS	**Kolonicke sedl**	**14.39**	**347**	i P	**P**	**22 42 47.7**	**+2.5**
KOLS				e		22 42 51.5	
KOLS	**Kolonicke sedl**	**14.39**	**347**	i	**P**	**22 42 47.7**	**+2.5**
KOLS				e		22 42 51.5	
SRO1	**Iza**	**14.41**	**335**	e	**P**	**22 42 47.3**	**+1.8**
SRO	**Srobarova**	**14.43**	**335**	eP	**P**	**22 42 49.5**	**+3.7**
CRVS	**Cervenica-Dubn**	**14.52**	**345**	eP	**P**	**22 42 50.7**	**+3.7**
HILS	**Ha’il**	**14.56**	**118**	P	**P**	**22 42 50.5**	**+2.8**
LJU	**Ljubljana**	**14.65**	**323**	ePn	**P**	**22 42 48.0**	**-0.7**
LJU				e		22 42 53.5	
ONI	**Oni**	**14.69**	**54**	P	**P**	**22 42 50.5**	**+1.3**
GNI	**Garni**	**14.77**	**65**	ePN	**P**	**22 42 49.4**	**-0.8**
GNI	**Garni**	**14.77**	**65**	eP	**P**	**22 42 49.7**	**-0.5**
GNI				pmax	pmax		
	comp=Z,30nm,0.9s						
GNI	**Garni**	**14.77**	**65**	Pn	**P**	**22 42 51.6**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=294,slow=5.5,SNR=9.3						
GNI	**Garni**	**14.77**	**65**	ePn	**P**	**22 42 49.7**	**-0.5**
	comp=Z,30nm,0.9s						
GNI	**Garni**	**14.77**	**65**	eP	**P**	**22 42 49.7**	**-0.5**
	comp=Z,30nm,0.9s						
VYHS	**Vyhne**	**14.85**	**338**	eP	**P**	**22 42 51.8**	**+0.5**
KIV	**Kislovodsk**	**14.86**	**48**	eP	**P**	**22 42 52.2**	**+0.8**
KIV				pmax	pmax		
	comp=Z,172nm,1.1s						
KIV	**Kislovodsk**	**14.86**	**48**	ePn	**P**	**22 42 52.2**	**+0.8**
	comp=Z,172nm,1.1s						
KIV				e		22 42 58.7	
KIV	**Kislovodsk**	**14.86**	**48**	eP	**P**	**22 42 52.2**	**+0.8**
	comp=Z,172nm,1.1s						
VSL	**Villasalto**	**14.93**	**293**	P	**P**	**22 42 52.0**	**-0.3**
	comp=Z,45nm,1.0s						
VSL	**Villasalto**	**14.93**	**293**	P	**P**	**22 42 52.0**	**-0.4**
	comp=Z,45nm,1.0s						
VOY	**Vojsko**	**14.96**	**321**	ePn	**P**	**22 42 51.7**	**-1.0**
VOY				eSn	**S**	**22 45 30.0**	**-8.3**
VOJS	**Vojsko**	**14.96**	**321**	ePn	**P**	**22 42 52.7**	**-0.1**
OBKA	**Obir**	**14.97**	**324**	⇓iP	**P**	**22 42 51.0**	**-1.8**
	comp=Z,24nm,1.3s						
SOP	**Sopron**	**14.97**	**331**	P	**P**	**22 42 53.5**	**+0.6**
KWP	**Kalwaria**	**14.98**	**348**	eP	**P**	**22 42 58.1**	**+5.1**
	comp=Z,1.2nm,0.9s						
KWP	**Kalwaria**	**14.98**	**348**	eP	**P**	**22 42 58.0**	**+5.1**
KWP				MLR	MLR	22 50 04.0	
	comp=Z,1μm,17.2s						
GRFL	**Gerfalco**	**15.02**	**308**	P	**P**	**22 42 53.3**	**-0.2**
ARSA	**Arzberg**	**15.07**	**328**	⇑iP	**P**	**22 42 54.5**	**+0.4**
	comp=Z,21nm,1.3s						
ZEI	**Tsey**	**15.07**	**54**	eP	**P**	**22 42 54.6**	**+0.4**
ZST	**Bratislava**	**15.19**	**333**	eP	**P**	**22 42 55.7**	**0.0**
ZST				eS	**S**	**22 45 50.0**	**+6.4**
ZST				e		22 48 49.6	
ZST	**Bratislava**	**15.19**	**333**	e	**P**	**22 42 55.7**	**0.0**
ZST				eS	**S**	**22 45 50.0**	**+6.4**
ZST				e		22 48 49.6	
TBLG	**Delisi**	**15.24**	**59**	P	**P**	**22 42 57.8**	**+1.4**
TI2	**Plekhanov**	**15.25**	**59**	eP	**P**	**22 42 57.0**	**+0.5**
TI2				MLR	MLR		
	comp=E,1μm,14.0s						
MTA	**Mtatsminda**	**15.27**	**59**	P	**P**	**22 42 58.7**	**+2.0**
ROBS	**Robic**	**15.30**	**321**	ePn	**P**	**22 42 56.4**	**-0.8**
SMOL	**Smolenice**	**15.34**	**335**	eP	**P**	**22 42 58.8**	**+1.2**
DUS	**Dusheti**	**15.34**	**57**	P	**P**	**22 43 04.8**	**+7.1**
DGRG	**David-gareji**	**15.60**	**60**	P	**P**	**22 43 03.2**	**+2.1**
GOF	**Gofitskoye**	**15.67**	**45**	⇑iP	**P**	**22 43 02.6**	**+0.7**
GOF				pmax	pmax		
	comp=Z,160nm,1.8s						
GOF	**Gofitskoye**	**15.67**	**45**	i P	**P**	**22 43 02.6**	**+0.7**
	comp=Z,160nm,1.8s						
MAIM		**15.69**	**310**	P	**P**	**22 43 07.0**	**+4.8**
AKASG	**Malin Array Be**	**15.74**	**5**	Pn	**P**	**22 42 59.7**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=193,slow=11,SNR=34						
SARO	**Sassorosso**	**15.88**	**310**	P	**P**	**22 43 15.5**	**+11**
KBA	**Koelnbreinsper**	**15.95**	**323**	⇑iP	**P**	**22 43 08.0**	**+2.4**
	comp=Z,45nm,1.4s						
KBA	**Koelnbreinsper**	**15.95**	**323**	⇑iP	**P**	**22 43 08.0**	**+2.4**
KBA				pmax	pmax		
	comp=Z,45nm,1.4s						
VALM		**16.05**	**311**	P	**P**	**22 43 09.1**	**+2.3**
MOA	**Molln**	**16.08**	**327**	⇑iP	**P**	**22 43 10.3**	**+3.2**
	comp=Z,20nm,1.4s						
BACM		**16.13**	**310**	P	**P**	**22 43 10.7**	**+2.8**
OJC	**Ojcow**	**16.14**	**343**	⇓iP	**P**	**22 43 09.6**	**+1.6**
OJC				eS	**S**	**22 46 13.2**	**+7.3**
OJC	**Ojcow**	**16.14**	**343**	⇓iP	**P**	**22 43 09.6**	**+1.6**
OJC				ePP	PP	22 43 23.7	+2.7
OJC				eS	**S**	**22 46 13.2**	**+7.3**
KRUC	**Moravsky**	**16.17**	**334**	P	**P**	**22 43 08.4**	**+0.1**
CMAH	**Djebel Manchou**	**16.18**	**281**	P	**P**	**22 43 13.0**	**+4.4**
GRAM		**16.24**	**311**	P	**P**	**22 43 10.1**	**+0.9**
GRAM		**16.24**	**311**	P	**P**	**22 43 10.1**	**+0.9**
OKC	**Ostrava-Krasne**	**16.25**	**338**	eP	**P**	**22 43 09.5**	**+0.2**
OKC				AMS	AMS	22 50 30.0	
	comp=Z,1μm,11.2s						
VRAC	**Vranov**	**16.30**	**334**	P	**P**	**22 43 09.3**	**-0.7**
SEST	**Monte Rota**	**16.30**	**320**	P	**P**	**22 43 11.0**	**+0.9**
CODM		**16.32**	**310**	P	**P**	**22 43 11.8**	**+1.5**
CODM		**16.32**	**310**	P	**P**	**22 43 11.8**	**+1.5**
MORC	**Moravsky Berou**	**16.38**	**337**	eP	**P**	**22 43 10.6**	**-0.4**
MORC				pmax	pmax		
	comp=Z,17nm,0.9s						
MORC	**Moravsky Berou**	**16.38**	**337**	eP	**P**	**22 43 10.6**	**-0.5**
	comp=Z,17nm,0.9s						
MORC	**Moravsky Berou**	**16.38**	**337**	eP	**P**	**22 43 10.6**	**-0.4**
	comp=Z,17nm,0.9s						
RAC	**Raciborz**	**16.45**	**339**	eP	**P**	**22 43 13.0**	**+1.1**
RAC				MLR	MLR	22 49 56.3	
	comp=Z,900nm,15.6s						
CAEH	**’Ain El Ouahch**	**16.64**	**282**	P	**P**	**22 43 15.0**	**+0.6**
CKFL	**Kef-Lekhel**	**16.75**	**281**	P	**P**	**22 43 13.0**	**-2.8**
CKFL				P		22 43 17.0	
BOB	**Bobbio (Coli)**	**16.76**	**311**	P	**P**	**22 43 17.1**	**+1.3**
CASM	**Ain Smara**	**16.94**	**280**	P	**P**	**22 43 20.0**	**+1.8**
WTTA	**Wattenberg**	**16.94**	**321**	⇑iP	**P**	**22 43 18.8**	**+0.7**
	comp=Z,43nm,1.4s						
WTTA	**Wattenberg**	**16.94**	**321**	⇑iP	**P**	**22 43 18.8**	**+0.7**
WTTA				pmax	pmax		
	comp=Z,43nm,1.4s						
WATA	**Walderalm**	**17.02**	**321**	⇑iP	**P**	**22 43 20.8**	**+1.7**
	comp=Z,13nm,0.6s						
WATA	**Walderalm**	**17.02**	**321**	⇑iP	**P**	**22 43 20.8**	**+1.7**
WATA				pmax	pmax		
	comp=Z,13nm,0.6s						
GEC2	**GERESS Array S**	**17.07**	**328**	eP	**P**	**22 43 19.9**	**+0.2**
GEC2				pmax	pmax		
	comp=Z,36nm,1.1s						
GEC2	**GERESS Array S**	**17.07**	**328**	eP	**P**	**22 43 19.9**	**+0.2**
	comp=Z,36nm,1.1s						
GERES	**GERESS Array B**	**17.07**	**328**	Pn	**P**	**22 43 18.2**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=138,slow=11,SNR=85						
GERES	**GERESS Array B**	**17.07**	**328**	Pn	**P**	**22 43 18.1**	**-1.6**
SQTA	**Sankt Quirin**	**17.14**	**320**	⇑iP	**P**	**22 43 20.3**	**-0.2**
	comp=Z,10nm,0.5s						
SQTA	**Sankt Quirin**	**17.14**	**320**	⇑iP	**P**	**22 43 20.3**	**-0.2**
SQTA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
DPC	**Dobruska-Polom**	**17.28**	**336**	eP	**P**	**22 43 21.7**	**-0.6**
DPC				AMS	AMS	22 50 50.0	
	comp=Z,700nm,17.3s						
FIN	**Finale Ligure**	**17.29**	**308**	P	**P**	**22 43 24.7**	**+2.3**
KHC	**Kasperske Hory**	**17.34**	**329**	eP	**P**	**22 43 22.6**	**-0.5**
KHC				ex	x	22 43 30.0	
KHC				AMS	AMS	22 52 00.0	
	comp=Z,600nm,18.2s						
IMI	**Imperia**	**17.37**	**307**	P	**P**	**22 43 21.3**	**-2.2**
IMI	**Imperia**	**17.37**	**307**	P	**P**	**22 43 21.3**	**-2.2**
DFRA	**Djebel Bou Aff**	**17.43**	**281**	P	**P**	**22 43 27.0**	**+2.8**
NEGI	**Negi**	**17.47**	**306**	P	**P**	**22 43 25.3**	**+0.6**
NEGI	**Negi**	**17.47**	**306**	P	**P**	**22 43 25.3**	**+0.6**
UPC	**Upice**	**17.52**	**336**	eP	**P**	**22 43 24.6**	**-0.7**
ROB	**Roburent**	**17.54**	**308**	P	**P**	**22 43 25.1**	**-0.5**
AFFS	**‘Afif**	**17.57**	**125**	P	**P**	**22 43 30.0**	**+3.8**
DAVOX	**Davos**	**17.59**	**317**	P	**P**	**22 43 27.3**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=163,slow=16,SNR=8.9						
MAK	**Makhachkala**	**17.59**	**57c**	iP	**P**	**22 43 30.0**	**+3.8**
MAK				pmax	pmax		
	comp=Z,1μm,2.0s						
MAK				pmax	pmax		
	comp=Z,800nm,1.5s						
MAK				pmax	pmax		
	comp=N,330nm,1.0s						
MAK				pmax	pmax		
	comp=E,600nm,1.5s						
PRU	**Pruhonice**	**17.62**	**332**	eP	**P**	**22 43 25.0**	**-1.6**
PRU				AMS	AMS	22 51 00.0	
	comp=E,600nm,17.2s						
SAOF	**Saorge**	**17.62**	**306**	eP	**P**	**22 43 26.4**	**-0.2**
REVF	**Revere**	**17.65**	**306**	eP	**P**	**22 43 27.7**	**+0.7**
SBF	**Sospel**	**17.65**	**306**	eP	**P**	**22 43 25.8**	**-1.2**
	comp=E,199nm,0.7s						
SBF	**Sospel**	**17.65**	**306**	eP	**P**	**22 43 25.8**	**-1.2**

SBF pmax pmax
comp=Z,99nm,0.7s
WET Wettzell 17.66 327 *e*P **P 22 43 25.8 -1.2**
WET pmax pmax
comp=Z,40nm,1.1s
WET Wettzell 17.66 327 *e*P **P 22 43 25.8 -1.2**
comp=Z,40nm,1.1s
KSP Ksiaz 17.71 337 *e*P **P 22 43 27.2 -0.4**
KSP *e*S **S 22 46 45.5 +3.7**
KSP Ksiaz 17.71 337 *e*P **P 22 43 27.1 -0.5**
KSP MLR MLR 22 50 14.1
comp=Z,700nm,18.5s
AUTN L'Aution 17.71 306 *e*P **P 22 43 26.9 -0.8**
CKHR Kef el Ahmar 17.74 280 P **P 22 43 30.0 +1.8**
ENR Entracque 17.81 307 P **P 22 43 25.7 -3.2**
SET Setif 17.82 280 P **P 22 43 32.0 +2.8**
TOUF Mont Tournerai 17.84 306 *e*P **P 22 43 28.4 -0.9**
MVIF Mont Vial 17.85 306 *e*P **P 22 43 30.5 +1.0**
NAY Al-Naaiem 17.86 103 *e*P **P 22 43 29.2 -0.4**
STV Sta Anna Valdi 17.88 307 P **P 22 43 30.5 +0.7**
STV2 Anna di Valdie 17.88 307 P **P 22 43 30.4 +0.7**
STV2 Anna di Valdie 17.88 307 P **P 22 43 30.5 +0.7**
DAVA Damuels 17.89 319⇑ *i*P **P 22 43 29.7 -0.2**
comp=Z,20nm,0.7s
CALN Calern 17.97 305 *e*P **P 22 43 31.3 +0.3**
UBR Uberruh 18.01 320 P **P 22 43 31.0 -0.4**
PVCC Panska Ves 18.05 333 *e*P **P 22 43 30.7 -1.2**
PVCC AMS AMS 22 51 10.0
comp=Z,500nm,19.0s
FRF La Foret Royal 18.07 304 *e*P **P 22 43 31.0 -1.2**
comp=Z,42nm,0.8s
FRF La Foret Royal 18.07 304 *e*P **P 22 43 31.0 -1.2**
FRF pmax pmax
comp=Z,21nm,0.8s
LMR La Mourre 18.08 304 *e*P **P 22 43 31.5 -0.9**
comp=Z,56nm,1.1s
LMR La Mourre 18.08 304 *e*P **P 22 43 31.5 -0.9**
LMR pmax pmax
comp=Z,28nm,1.1s
ORX Oropa 18.09 312 P **P 22 43 31.1 -1.3**
BHB Bricherasio 18.17 309 P **P 22 43 30.6 -2.9**
BHB Bricherasio 18.17 309 P **P 22 43 30.5 -3.0**
TRAV 18.17 311 P **P 22 43 32.9 -0.6**
TRAV 18.17 311 P **P 22 43 32.9 -0.6**
KBD Kabd 18.25 103 *e*P **P 22 43 34.6 0.0**
RSP Reno Superiore 18.31 310 P **P 22 43 38.0 +2.8**
FENE Fenestrelle 18.38 309 P **P 22 43 36.5 +0.5**
FENE Fenestrelle 18.38 309 P **P 22 43 36.5 +0.4**
MUO Muotathal 18.39 316⇑ P **P 22 43 35.5 -0.7**
MBDF Montbardon 18.44 308 *e*P **P 22 43 35.0 -1.8**
comp=Z,72nm,0.8s
MBDF Montbardon 18.44 308 *e*P **P 22 43 35.0 -1.8**
MBDF pmax pmax
comp=Z,36nm,0.8s
NOTT Nottersdorf 18.48 328 *e*P **P 22 43 35.4 -1.9**
comp=Z,11nm,1.0s
TAVF Tavernes 18.49 304 *e*P **P 22 43 38.7 +1.3**
WILA Wila 18.50 318⇓ P **P 22 43 35.8 -1.7**
RRL Cesana Torines 18.51 308 P **P 22 43 38.7 +1.0**
LSD Ceresole Reale 18.51 310 P **P 22 43 39.1 +1.4**
HDH Heidenheim 18.53 322 P **P 22 43 36.1 -1.8**
BRG Berggiesshubel 18.56 333 *i* P **P 22 43 37.0 -1.2**
BRG pmax pmax
comp=Z,13nm,0.9s
BRG pmax pmax
comp=Z,13nm,0.9s
BRG pmax pmax
comp=Z,15nm,1.0s
BRG MLR MLR
comp=N,778nm,19.5s
BRG MLR MLR
comp=E,498nm,19.5s
BRG MLR MLR
comp=Z,616nm,14.3s
BRG Berggiesshubel 18.56 333 *i* P **P 22 43 37.0 -1.3**
comp=Z,13nm,0.9s
BRG *i* 22 43 45.3
BRG *i* 22 43 51.6
BRG Berggiesshubel 18.56 333 *e*P **P 22 43 36.6 -1.6**
comp=Z,13nm,0.9s
SISB Singen-Sch Ber 18.62 318 P **P 22 43 37.8 -1.2**
BERF Bertagne 18.64 303 *e*P **P 22 43 40.2 +1.0**
DIX Grande Dixence 18.65 312⇑ P **P 22 43 40.1 +0.8**
ZUR Zurich 18.65 317⇑ P **P 22 43 37.8 -1.5**
NKC Novy Kostel 18.66 329 *e*P **P 22 43 37.9 -1.5**
NKC AMS AMS 22 52 50.0
comp=Z,1μm,14.8s
LKBD Leukerbad 18.68 313⇑ P **P 22 43 38.6 -1.0**
PUYF Puyloubier 18.70 303 *e*P **P 22 43 41.0 +1.0**
LTHS Al Lith 18.71 138 P **P 22 43 44.9 +4.7**
GUT Gutenstein 18.77 320 P **P 22 43 39.0 -1.8**
VOR Voronezh 18.78 24 *e*P **P 22 43 40.0 -0.8**
VOR pmax pmax
comp=Z,80nm,1.5s
VOR pmax pmax
comp=N,180nm,1.4s
VOR pmax pmax
comp=E,120nm,1.4s
VOR Voronezh 18.78 24 *e*P **P 22 43 40.0 -0.8**
comp=E,80nm,1.5s
LPG La Plagne 18.79 310 *e*P **P 22 43 40.4 -0.6**
comp=E,55nm,0.7s
LPG La Plagne 18.79 310 *e*P **P 22 43 40.4 -0.6**
LPG pmax pmax
comp=Z,28nm,0.7s
GRA1 Grafenberg Arr 18.80 326 *e*P **P 22 43 39.8 -1.3**
comp=Z,64nm,1.2s
GRF Grafenberg Arr 18.80 326 *e*P **P 22 43 39.8 -1.3**
GRF pmax pmax
comp=Z,64nm,1.2s
GRF Grafenberg Arr 18.80 326 *e*P **P 22 43 39.8 -1.3**
GRF pmax pmax
comp=Z,64nm,1.2s
GRF Grafenberg Arr 18.80 326 *e*P **P 22 43 39.8 -1.3**
comp=Z,64nm,1.2s
VILF Villemus 18.80 304 *e*P **P 22 43 42.1 +0.9**
GUNZ Gunzen 18.80 329 *e*P **P 22 43 39.5 -1.7**
comp=Z,39nm,0.9s
LPL La Plagne 18.81 310 *e*P **P 22 43 40.5 -0.7**
comp=Z,29nm,0.5s
LPL La Plagne 18.81 310 *e*P **P 22 43 40.5 -0.7**
LPL pmax pmax
comp=Z,14nm,0.5s
GELF Grande-Etoile 18.84 303 *e*P **P 22 43 42.5 +0.9**
WERD Werda 18.88 329 *e*P **P 22 43 41.3 -0.7**
comp=Z,48nm,1.0s
SLE Schleitheim 18.93 318⇑ P **P 22 43 40.7 -1.9**
SMRF Simiane la Rot 18.94 305 *e*P **P 22 43 42.1 -0.7**
comp=Z,45nm,1.2s
TREF Trevaresse 18.95 304 *e*P **P 22 43 47.1 +4.2**
RSL Roselend 18.95 310 *e*P **P 22 43 41.1 -1.8**
SULZ Sulz-Cheisache 19.00 317⇑ P **P 22 43 42.6 -0.9**
MZLS Mizel 19.04 120 P **P 22 43 47.4 +3.3**
ORIF Oris-en-Rattie 19.10 308 *e*P **P 22 43 43.1 -1.6**
comp=Z,44nm,1.0s
ORIF *e*R
comp=Z,1μm,22.0s
STU Stuttgart 19.17 321 *e*P **P 22 43 42.9 -2.5**
STU pmax pmax
comp=Z,24nm,0.7s
STU Stuttgart 19.17 321 *e*P **P 22 43 42.9 -2.6**
comp=Z,24nm,0.7s
STU Stuttgart 19.17 321 *e*P **P 22 43 42.6 -2.8**
comp=Z,19nm,0.9s
SUW Suwalki 19.21 353 *e*P **P 22 43 43.7 -2.2**
SUW MLR MLR 22 52 20.1
comp=Z,1μm,15.6s
FELD Feldberg 19.26 318 *e*P **P 22 43 45.4 -1.2**
CLL Collm 19.27 332⇑ *i*P **P 22 43 45.7 -0.9**
CLL *e*S **S 22 47 14.0 -3.0**
CLL Collm 19.27 332⇑ P **P 22 43 45.7 -0.9**
CLL *i* 22 43 52.5
CLL *e* 22 44 04.0
CLL Collm 19.27 332 *e*P **P 22 43 45.4 -1.2**
comp=Z,84nm,1.5s
LBG Lerchenberg 19.31 321 P **P 22 43 46.9 -0.2**
MOX Moxa 19.32 329 *e*P **P 22 43 45.6 -1.6**
MOX *e*S **S 22 47 22.0 +3.8**
comp=Z,logA/T=1.7
CLL *i* *SP 22 43 52.5
CLL *i* PP PP 22 43 55.6 -8.1
MOX pmax pmax
comp=Z,101nm,1.7s
MOX Moxa 19.32 329 *e*P **P 22 43 45.6 -1.6**
comp=Z,101nm,1.7s
MOX *e*S **S 22 47 22.0 +3.8**
MOX Moxa 19.32 329 *i* P **P 22 43 45.6 -1.6**
comp=Z,logA/T=1.8
MOX S **S 22 47 22.0 +3.8**
MOX QM 22 51 05.0
MOX RM 22 53 20.0
SIND Sindeldorf 19.33 323 P **P 22 43 46.2 -1.2**
BFO Black Forest 19.35 319 *e*P **P 22 43 45.3 -2.3**
BFO pmax pmax
comp=Z,18nm,1.1s
BFO Black Forest 19.35 319 *e*P **P 22 43 45.3 -2.3**
comp=Z,18nm,1.1s
KIZ Kirchzarten 19.36 318 P **P 22 43 48.2 +0.6**
MNK Minsk 19.48 1 *e*P **P 22 43 39.0 -10**
LOMF Lomont 19.64 315 *e*P **P 22 43 56.0 +5.1**
BLJS Baljurashi 19.69 136 P **P 22 43 56.2 +4.6**
CABF La Chapelle 19.71 312 *e*P **P 22 43 48.2 -3.4**
comp=Z,58nm,0.6s
CABF La Chapelle 19.71 312 *e*P **P 22 43 48.2 -3.4**
CABF pmax pmax
comp=Z,29nm,0.6s
MOF Molkenrain 19.73 317 *e*P **P 22 43 51.6 -0.3**
EMHD Djebel Mahouad 19.80 280 P **P 22 43 51.0 -1.7**
OG05 Jujurieux 19.84 310 *e*P **P 22 43 49.9 -3.1**
VIVF Saint-Julien-l 19.86 306 *e*P **P 22 43 51.5 -1.8**
comp=Z,37nm,0.7s
VIVF Saint-Julien-l 19.86 306 *e*P **P 22 43 51.5 -1.8**
VIVF pmax pmax
comp=Z,19nm,0.7s
HINF Hinteralfeld 19.87 316 *e*P **P 22 43 50.8 -2.6**
comp=Z,18nm,0.6s
HINF Hinteralfeld 19.87 316 *e*P **P 22 43 50.8 -2.6**
HINF pmax pmax
comp=Z,9.0nm,0.6s
TOD Tromm 19.90 323 *e*P **P 22 43 50.6 -3.1**
ECH Echery 19.92 318 *e*P **P 22 43 52.9 -1.0**
WLS Welschbruch 19.93 318 *e*P **P 22 43 52.5 -1.5**
RUE Ruedersdorf 19.93 335 *e*P **P 22 43 53.4 -0.6**
comp=Z,39nm,0.9s
RUE Ruedersdorf 19.93 335 *e*P **P 22 43 53.3 -0.7**
comp=Z,64nm,1.0s
CDF Champ du Feu 19.97 318 *e*P **P 22 43 52.2 -2.2**
comp=Z,32nm,0.8s
CDF Champ du Feu 19.97 318 *e*P **P 22 43 52.2 -2.2**
CDF pmax pmax
comp=Z,16nm,0.8s
LANF Langenberg 20.02 320 *e*P **P 22 43 52.3 -2.6**
KTD Kalmit 20.08 321 P **P 22 43 53.7 -1.8**
LASF Ste Croix 20.14 304 *e*P **P 22 43 54.6 -1.6**
comp=Z,35nm,0.9s
HAU Haudompre 20.26 316 *e*P **P 22 43 55.4 -2.1**
comp=Z,21nm,0.5s
HAU *e*R
comp=Z,601nm,19.8s
HAU Haudompre 20.26 316 *e*P **P 22 43 55.4 -2.1**
HAU pmax pmax
comp=Z,10.0nm,0.5s
HAU MLR MLR
comp=Z,600nm,19.8s,MS4.0
EJON La Jonquera 20.37 299 P **P 22 43 57.5 -1.2**
comp=Z,36nm,1.1s
EJON La Jonquera 20.37 299 P **P 22 43 57.5 -1.2**
comp=Z,36nm,1.1s,SNR=10.0
SJAF Saint Jean de 20.39 299 *e*P **P 22 43 56.1 -2.7**
TNS Taunus Mts 20.47 324 *e*P **P 22 43 57.2 -2.4**
TNS pmax pmax
comp=Z,44nm,1.1s
TNS Taunus Mts 20.47 324 *e*P **P 22 43 57.2 -2.4**
comp=Z,44nm,1.1s
THEF They Montfort 20.59 316 *e*P **P 22 43 59.0 -1.8**
FILF Fillols 20.64 299 *e*P **P 22 44 00.9 -0.5**
ABH Alteburg 20.70 322 *e*P **P 22 43 59.4 -2.6**
CLZ Clausthal 20.73 329 *e*P **P 22 43 58.9 -3.4**
CLZ pmax pmax
comp=Z,24nm,1.4s
CLZ Clausthal 20.73 329 *e*P **P 22 43 58.9 -3.4**
comp=Z,24nm,1.4s
LRDF Laroque-de-Fa 20.74 300 *e*P **P 22 44 00.5 -1.9**
COLF Collangettes 20.75 307 *e*P **P 22 44 00.5 -2.0**
RUP Ruppelstein 20.84 321 *e*P **P 22 44 01.2 -2.2**
EBNR Beni Rached 20.94 281 P **P 22 44 04.5 -0.1**
PLDF La Plantade 20.97 309 P **P 22 44 04.3 -0.5**
VALF Valcebollere 20.99 298 *e*P **P 22 44 04.9 -0.1**
TATS Tathlith 21.05 133 P **P 22 44 12.8 +7.0**
MTLF Montolieu 21.07 301 *e*P **P 22 44 04.3 -1.5**
comp=Z,52nm,1.0s,mb4.5
MTLF Montolieu 21.07 301 *e*P **P 22 44 04.3 -1.5**
MTLF pmax pmax
comp=Z,26nm,1.0s,mb4.5
ECHA Ech Chlef 21.08 281 P **P 22 44 05.0 -1.0**
OBN Obninsk 21.10 15*d* *i*P **P 22 44 03.5 -2.6**
OBN *e*S **S 22 47 52.1 -2.6**
OBN pmax pmax
comp=Z,183nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,400nm,15.0s,MS3.9
OBN Obninsk 21.10 15 *e*P **P 22 44 03.8 -2.2**
comp=Z,133nm,0.9s,mb5.3
OBN Obninsk 21.10 15 *e*P **P 22 44 03.8 -2.3**
comp=Z,133nm,0.9s,mb5.3
SMF Signal de Mont 21.11 310 *e*P **P 22 44 04.1 -2.1**
comp=Z,30nm,0.5s,mb4.6
SMF Signal de Mont 21.11 310 *e*P **P 22 44 04.1 -2.1**
SMF pmax pmax
comp=Z,15nm,0.5s,mb4.6
KAMS Al Khamasin 21.16 129 P **P 22 44 11.7 +4.8**
ETRT Tiaret 21.21 279 P **P 22 44 07.0 -0.3**
EMIR Miracle 21.25 297 P **P 22 44 06.2 -1.5**
comp=Z,57nm,1.4s,mb4.7
EMIR Miracle 21.25 297 P **P 22 44 06.2 -1.5**
comp=Z,57nm,1.4s,mb4.7,SNR=7.2
MEZF Maizieres J'vi 21.26 316 *e*P **P 22 44 05.5 -2.2**
comp=Z,59nm,0.8s,mb4.7
PYM Petit Puy Mans 21.29 308 P **P 22 44 08.0 0.0**
WLF Walferdange 21.29 320 *e*P **P 22 44 06.1 -1.9**
WLF pmax pmax
comp=Z,16nm,0.7s,mb4.5
WLF Walferdange 21.29 320 *e*P **P 22 44 06.1 -1.9**
comp=Z,16nm,0.7s,mb4.5
WLF Walferdange 21.29 320 *e*P **P 22 44 06.1 -1.9**
comp=Z,16nm,0.7s,mb4.5
EANR 'Ain N'Sour 21.32 280 P **P 22 44 08.0 -0.3**
NRDL Niedersach Rie 21.33 330 *e*P **P 22 44 06.4 -1.9**
comp=Z,18nm,1.1s,mb4.3
LOR Lormes 21.37 312 *e*P **P 22 44 06.5 -2.3**
comp=Z,37nm,0.8s,mb4.5
LOR *e*R
comp=Z,567nm,17.5s
LOR Lormes 21.37 312 *e*P **P 22 44 06.5 -2.3**
LOR pmax pmax
comp=Z,19nm,0.8s,mb4.5
LOR MLR MLR
comp=Z,570nm,17.5s,MS4.0
EPOB Poblet 21.49 295 P **P 22 44 09.3 -0.8**
comp=Z,40nm,0.9s,mb4.8,SNR=14
SSF Saint Saulge 21.50 311 *e*P **P 22 44 08.1 -2.0**
SSF pmax pmax
comp=Z,44nm,0.8s,mb4.8
SSF Saint Saulge 21.50 311 *e*P **P 22 44 08.1 -2.0**
comp=Z,44nm,0.8s,mb4.9
CAF Calviac 21.63 305 *e*P **P 22 44 10.4 -1.0**
comp=Z,25nm,0.8s,mb4.4
CAF Calviac 21.63 305 *e*P **P 22 44 10.4 -1.0**
CAF pmax pmax
comp=Z,13nm,0.8s,mb4.4
HASS Wahat al Ahsa' 21.69 111 P **P 22 44 14.9 +2.7**
BGF Bois d'Agland 21.70 309 *e*P **P 22 44 10.3 -1.8**
comp=Z,65nm,0.9s,mb4.8
BGF Bois d'Agland 21.70 309 *e*P **P 22 44 10.3 -1.8**
BGF pmax pmax
comp=Z,33nm,0.9s,mb4.8
BUG Bochum--Univer 21.84 325 P **P 22 44 12.8 -0.7**
BUG Bochum--Univer 21.84 325 *e*P **P 22 44 11.5 -2.0**
comp=Z,27nm,1.2s,mb4.5
BSD Bornholm Skovb 21.84 341 *i* P **P 22 44 13.1 -0.4**
BSD pmax pmax
comp=Z,30nm,0.7s,mb4.8
BSD Bornholm Skovb 21.84 341 *i* P **P 22 44 13.1 -0.4**
comp=Z,30nm,0.7s,mb4.8
EBR Ebro Roquetas 21.86 293 *e*P **P 22 44 15.2 +1.4**
MOS Moscow 21.91 16 *e*P **P 22 44 12.6 -1.6**
MOS *e* 22 44 35.5
MOS *e*S **S 22 48 09.4 -0.4**
MOS *e* 22 48 15.9
MOS pmax pmax
comp=Z,400nm,1.6s,mb5.6
MOS pmax pmax
comp=Z,266nm,1.4s,mb5.5
MOS smax
comp=N,100nm,1.6s
MOS MLR MLR
comp=Z,600nm,12.6s,MS4.2
MOS Moscow 21.91 16 *e*P **P 22 44 12.6 -1.6**
comp=Z,266nm,1.4s,mb5.5
MOS *e*S **S 22 48 09.4 -0.4**
MEM Membach 21.93 322 P **P 22 44 13.7 -0.7**
TCF Toulx Ste Croi 22.00 308 *e*P **P 22 44 13.9 -1.3**
comp=Z,29nm,0.9s,mb4.4
TCF Toulx Ste Croi 22.00 308 *e*P **P 22 44 13.9 -1.3**
TCF pmax pmax
comp=Z,15nm,0.9s,mb4.4
HGN Heimansgroeve 22.06 322⇑ *e*P **P 22 44 14.8 -0.9**
comp=Z,36nm,2.0s,mb4.5
HGN *ex* x 22 44 28.1
HGN *e*S **S 22 48 22.6 +10**
HGN *ex* x 22 50 34.9
RJF Les Rejaudoux 22.12 305 *e*P **P 22 44 15.8 -0.5**
comp=Z,81nm,0.9s,mb4.8
RJF *e*R
comp=Z,477nm,20.2s
RJF Les Rejaudoux 22.12 305 *e*P **P 22 44 15.8 -0.5**
RJF pmax pmax
comp=Z,41nm,0.9s,mb4.9
RJF MLR MLR
comp=Z,480nm,20.3s,MS3.9
HYF Humbligny 22.12 311 *e*P **P 22 44 15.7 -0.6**
EGRA Graus 22.19 297 P **P 22 44 16.2 -0.9**
comp=Z,18nm,1.0s,mb4.5
EGRA Graus 22.19 297 P **P 22 44 16.2 -0.9**
comp=Z,18nm,1.0s,mb4.5,SNR=8.2
GIVF Givet 22.25 320 *e*P **P 22 44 16.1 -1.5**
comp=Z,73nm,0.9s,mb4.8
GIVF Givet 22.25 320 *e*P **P 22 44 16.1 -1.5**
GIVF pmax pmax
comp=Z,36nm,0.9s,mb4.8
EPF Esparros 22.33 299 *e*P **P 22 44 17.5 -1.0**
comp=Z,16nm,0.8s,mb4.2
EPF Esparros 22.33 299 *e*P **P 22 44 17.5 -1.0**
EPF pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
BSEG Bad Segeberg 22.34 333 *e*P **P 22 44 17.6 -0.9**
comp=Z,15nm,0.9s,mb4.4
DOU Dourbes 22.37 319 P **P 22 44 17.0 -1.8**
WTSB Winterswijk 22.40 325⇑ *e*P **P 22 44 14.1 -5.0**
comp=Z,20nm,3.1s
WTSB *ex* x 22 44 40.6
EBIE Bielsa 22.41 298 P **P 22 44 18.8 -0.4**
comp=Z,23nm,1.1s,mb4.5
EBIE Bielsa 22.41 298 P **P 22 44 18.8 -0.4**
comp=Z,23nm,1.1s,mb4.5,SNR=14
DJNS Zahran al Janu 22.52 136 P **P 22 44 29.0 +8.4**
LFF La Frestale 22.53 304 *e*P **P 22 44 20.0 -0.4**
comp=Z,39nm,0.7s,mb4.7
LFF La Frestale 22.53 304 *e*P **P 22 44 20.0 -0.4**
LFF pmax pmax
comp=Z,20nm,0.7s,mb4.7
BAIF Baives 22.56 319 *e*P **P 22 44 18.9 -1.7**
comp=Z,105nm,0.8s,mb5.0
BAIF Baives 22.56 319 *e*P **P 22 44 18.9 -1.7**
BAIF pmax pmax
comp=Z,53nm,0.8s,mb5.0
ESAC San Caprasio 22.70 295 P **P 22 44 23.1 +1.0**
comp=Z,21nm,0.9s,mb4.6
ESAC San Caprasio 22.70 295 P **P 22 44 23.1 +1.1**
comp=Z,21nm,0.9s,mb4.6,SNR=4.8
SNF Seneffe 22.77 320 P **P 22 44 22.5 -0.1**
ECHE Chera 22.88 290 P **P 22 44 25.2 +1.4**
ECHE pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
ECHE Chera 22.88 290 P **P 22 44 25.2 +1.3**
comp=Z,6.1nm,0.6s,mb4.2
ECHE Chera 22.88 290 P **P 22 44 25.2 +1.4**
comp=Z,6.1nm,0.6s,mb4.2,SNR=6.4
UCC Uccle 22.89 321 P **P 22 44 23.1 -0.7**
EMUR La Murta 23.08 285 P **P 22 44 28.4 +2.6**
comp=Z,32nm,1.3s,mb4.6
ETOB Tobarra 23.31 287 P **P 22 44 30.1 +2.1**
comp=Z,105nm,1.9s,mb4.9
VSU Vasula 23.45 359 *i* P **P 22 44 28.6 -0.6**
SJPF Ste Jean 23.47 299 *e*P **P 22 44 27.3 -2.3**
comp=Z,63nm,0.8s,mb4.8
SJPF Ste Jean 23.47 299 *e*P **P 22 44 27.3 -2.3**
SJPF pmax pmax
comp=Z,32nm,0.8s,mb4.8
MFF Saint Martin d 23.64 308 *e*P **P 22 44 30.4 -0.7**
comp=Z,42nm,0.8s,mb4.6
MFF Saint Martin d 23.64 308 *e*P **P 22 44 30.4 -0.7**
MFF pmax pmax
comp=Z,21nm,0.8s,mb4.6
ENIJ Nijar 23.89 283 P **P 22 44 35.1 +1.4**
ENIJ pmax pmax
comp=Z,17nm,0.7s,mb4.6
ENIJ Nijar 23.89 283 P **P 22 44 35.0 +1.4**
comp=Z,16nm,0.7s,mb4.6
ENIJ Nijar 23.89 283 P **P 22 44 35.0 +1.3**
comp=Z,16nm,0.7s,mb4.6,SNR=6.0
EVIA Vianos 24.05 287 P **P 22 44 37.4 +2.1**
EVIA pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
EVIA Vianos 24.05 287 P **P 22 44 37.4 +2.1**
comp=Z,10nm,0.8s,mb4.3
EHUE Huescar 24.15 285 P **P 22 44 37.8 +1.6**
EHUE pmax pmax
comp=Z,5.0nm,1.0s,mb3.9
EHUE Huescar 24.15 285 P **P 22 44 37.8 +1.6**
comp=Z,5.1nm,1.0s,mb3.9,SNR=6.4
EBER Berja 24.44 283 P **P 22 44 41.0 +1.9**
comp=Z,37nm,1.0s,mb4.8
EQES Quesada 24.53 285 P **P 22 44 40.7 +0.8**
comp=Z,10nm,0.9s,mb4.3,SNR=6.3
FLN La Foliniere 24.64 312 *e*P **P 22 44 39.6 -1.3**
comp=Z,42nm,0.5s,mb4.9
FLN *e*R
comp=Z,508nm,18.2s
FLN La Foliniere 24.64 312 *e*P **P 22 44 39.6 -1.3**
FLN pmax pmax
comp=Z,21nm,0.5s,mb4.9
FLN MLR MLR
comp=Z,510nm,18.3s,MS4.1
GRR Gorron 24.73 311 *e*P **P 22 44 40.4 -1.3**
comp=Z,45nm,0.6s,mb4.8
GRR Gorron 24.73 311 *e*P **P 22 44 40.4 -1.3**
GRR pmax pmax
comp=Z,23nm,0.6s,mb4.9
PUL Pulkovo 24.84 4 *e*P **P 22 44 40.8 -1.9**
PUL pmax pmax
comp=Z,156nm,0.9s,mb5.5
PUL MLR MLR
comp=Z,755nm,17.0s,MS4.3
PUL MLR MLR
comp=N,711nm,16.0s,MS4.4
PUL MLR MLR
comp=E,305nm,12.0s,MS4.4
PUL Pulkovo 24.84 4 *e*P **P 22 44 40.8 -1.9**
comp=E,711nm,16.0s
EBAN Banos Encina 25.07 286 P **P 22 44 45.4 +0.3**
EBAN pmax pmax
comp=Z,4.0nm,0.6s,mb4.1
EBAN Banos Encina 25.07 286 P **P 22 44 45.4 +0.3**
comp=Z,4.4nm,0.6s,mb4.1,SNR=6.0
ELAN Lanestosa 25.09 298 P **P 22 44 40.5 -4.7**
comp=Z,134nm,1.8s,mb5.2
ESDC Sonseca Array 25.19 290 P **P 22 44 46.3 +0.1**
comp=Z,5.6nm,0.7s,mb4.2,baz=83,slow=9.4,SNR=47
ESDC Sonseca Array 25.19 290 P **P 22 44 46.3 +0.1**
comp=Z,12nm,0.8s,mb4.5
ESLA Sonseca Array 25.19 290 *e*P **P 22 44 46.4 +0.2**
comp=Z,2.0nm,0.6s,mb3.8
ESLA Sonseca Array 25.19 290 *e*P **P 22 44 46.4 +0.2**
comp=Z,2.0nm,0.6s,mb3.8
ELOJ Sierra Loja 25.43 284 P **P 22 44 52.3 +3.8**
ELOJ pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
ELOJ Sierra Loja 25.43 284 P **P 22 44 52.3 +3.9**
comp=Z,6.0nm,0.6s,mb4.3
ELUQ Luque 25.49 285 P **P 22 44 49.9 +0.9**
ELUQ pmax pmax
comp=Z,11nm,0.6s,mb4.6

ELUQ Luque 25.49 285 P **P** 22 44 49.9 +0.9
comp=Z,11nm,0.6s,mb4.6
ELUQ Luque 25.49 285 P **P** 22 44 49.9 +0.9
comp=Z,11nm,0.6s,mb4.6,SNR=5.5
EADA Adamuz 25.70 286 P **P** 22 44 56.0 +5.1
comp=Z,58nm,2.0s,mb4.8
SGMF Saint Gilles 25.73 310 *e*P **P** 22 44 49.3 -1.9
comp=Z,19nm,0.7s,mb4.4
SGMF Saint Gilles 25.73 310 *e*P **P** 22 44 49.3 -1.9
SGMF pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
EMIJ Mijas 25.98 283 P **P** 22 44 53.7 +0.1
comp=Z,16nm,0.7s,mb4.7
EMIJ Mijas 25.98 283 P **P** 22 44 53.7 +0.1
comp=Z,16nm,0.7s,mb4.7,SNR=15
QUIF Quistinic 26.01 309 *e*P **P** 22 44 52.1 -1.7
comp=Z,34nm,0.7s,mb4.7
QUIF Quistinic 26.01 309 *e*P **P** 22 44 52.1 -1.7
QUIF pmax pmax
comp=Z,17nm,0.7s,mb4.7
ROSF Rostrenen 26.21 310 *e*P **P** 22 44 53.3 -2.3
comp=Z,41nm,0.7s,mb4.8
ROSF Rostrenen 26.21 310 *e*P **P** 22 44 53.3 -2.3
ROSF pmax pmax
comp=Z,20nm,0.7s,mb4.8
LIJA Lijar 26.45 284 *e*P **P** 22 44 58.0 +0.1
FINES FINESS Array B 26.45 359 P **P** 22 44 55.3 -2.4
comp=Z,16nm,0.8s,mb4.6,baz=162,slow=11,SNR=58
FINES ScP 22 52 01.4
comp=Z,1.5nm,0.6s,baz=117,slow=4.3,SNR=7.0
ZFT Errachidia 26.47 273 *i* P **P** 22 44 56.0 -2.2
BANOM Banah 26.54 102 ⇓P **P** 22 45 01.6 +2.8
HFS Hagfors 26.64 345 P **P** 22 44 56.5 -2.9
comp=Z,22nm,0.8s,mb4.7,baz=135,slow=10,SNR=54
HFS LR LR 22 55 57.3
comp=Z,469nm,19.8s,MS4.0,baz=339,slow=38
HFA0 Hagfors New Ar 26.65 345 P **P** 22 44 56.3 -3.2
ESPR Espera 26.81 284 P **P** 22 45 01.8 +0.5
comp=Z,40nm,1.4s,mb4.8
ESPR Espera 26.81 284 P **P** 22 45 01.8 +0.5
comp=Z,40nm,1.4s,mb4.8,SNR=9.1
ASHO Ashiyiah 26.92 105 P **P** 22 45 04.2 +1.7
SNR=6.3
ATD Arta Tunnel 27.34 145 LR LR 22 57 59.7
comp=Z,164nm,19.4s,MS3.6,baz=216,slow=40
EMIN Mina Concepcio 27.38 286 P **P** 22 45 06.5 +0.1
comp=Z,85nm,2.2s,mb4.9
EMIN Mina Concepcio 27.38 286 P **P** 22 45 06.6 +0.2
comp=Z,85nm,2.2s,mb4.9,SNR=9.9
ECAL Calabor 27.38 295 P **P** 22 45 04.5 -1.9
comp=Z,139nm,2.6s,mb5.0
ECAL Calabor 27.38 295 P **P** 22 45 04.5 -1.9
comp=Z,139nm,2.6s,mb5.0,SNR=11
EBAD Badajoz 27.58 288 P **P** 22 45 07.2 -1.0
comp=Z,124nm,2.0s,mb5.2
EBAD Badajoz 27.58 288 P **P** 22 45 07.2 -1.0
comp=Z,124nm,2.0s,mb5.2
EPON Pontenova 27.79 298 P **P** 22 45 06.7 -3.4
comp=Z,200nm,2.2s,mb5.4
NAO01 NORSAR Array S 27.91 343 *e*P **P** 22 45 08.2 -2.8
comp=Z,21nm,0.8s,mb4.8
NB2 NORSAR Subarra 28.00 343 P **P** 22 45 08.7 -3.1
comp=Z,1.0nm,0.6s,baz=146,slow=9.3
NB2 NORSAR Subarra 28.00 343 P **P** 22 45 08.7 -3.1
NB2 pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 28.00 343 P **P** 22 45 08.3 -3.5
comp=Z,6.0nm,0.8s,mb4.3,baz=147,slow=11,SNR=36
NOA LR LR 22 57 46.3
comp=Z,297nm,18.2s,MS3.9,baz=140,slow=40
HOQ Hoqain 28.46 105 P **P** 22 45 17.9 +1.5
SNR=7.2
BIDO Bidbid 29.14 105 ⇓P **P** 22 45 24.1 +1.6
EKA Eskdalemuir Ar 29.17 324 P **P** 22 45 19.9 -2.5
comp=Z,2.4nm,0.5s,mb4.2,baz=120,slow=9.6,SNR=12
ESK Eskdalemuir 29.18 324 *e*P **P** 22 45 20.7 -1.8
SMDO Samad 29.31 106 P **P** 22 45 25.1 +1.1
SNR=8.9
SMDO Samad 29.31 106 P **P** 22 45 25.1 +1.1
SNR=8.9
JMDO Jabal Madar 29.71 107 P **P** 22 45 28.9 +1.3
SNR=5.6
ARU Arti 30.16 35 ⇑*i*P **P** 22 45 29.7 -1.5
ARU *e*PPP PPP 22 46 33.7 -10
ARU *i* 22 48 31.6
ARU *e*S **S** **22 50 23.1 -4.3**
ARU *e*SS SS 22 52 03.0 -3.0
ARU pmax pmax
comp=Z,15nm,1.4s,mb4.5
ARU Arti 30.16 35 *e*P **P** 22 45 29.5 -1.7
comp=Z,6.1nm,0.6s,mb4.5
ARU Arti 30.16 35 *e*P **P** 22 45 29.5 -1.7
comp=Z,6.1nm,0.6s,mb4.5
ARU Arti 30.16 35 *i* PcP PcP 22 48 31.6 -0.6
WBK Wadi Bani Khal 30.27 106 P **P** 22 45 35.2 +2.6
SNR=5.8
SOKR Solikamsk 31.21 29*d* *i*P **P** 22 45 39.6 -0.9
SOKR pmax pmax
comp=Z,30nm,0.9s,mb5.1
SOKR Solikamsk 31.21 29 *i* P **P** 22 45 39.6 -0.9
comp=Z,30nm,0.9s,mb5.1
SVE Sverdlovsk 31.35 36 *e*P **P** 22 45 40.0 -1.7
SVE *e* 22 46 57.2
SVE *e* 22 56 15.0
SVE pmax pmax
comp=Z,40nm,1.5s,mb5.0
SVE MLR MLR
comp=N,200nm,13.0s,MS4.1
SVE MLR MLR
comp=E,200nm,13.0s,MS4.1
SVE MLR MLR
comp=Z,300nm,13.0s,MS4.2
SVE Sverdlovsk 31.35 36 *e*P **P** 22 45 40.0 -1.7
comp=Z,40nm,1.5s,mb5.0
APA Apatity 32.79 4 ⇑*i*P **P** 22 45 52.0 -2.2
APA pmax pmax
comp=Z,53nm,0.9s,mb5.5
APA MLR MLR
comp=Z,600nm,12.0s,MS4.5
APA Apatity 32.79 4 *i* P **P** 22 45 52.0 -2.2
comp=Z,600nm,12.0s
LVZ Lovozero 33.20 5 *e*P **P** 22 45 55.3 -2.4
LVZ pmax pmax
comp=N,10.0nm,1.4s
LVZ pmax pmax
comp=Z,30nm,1.4s,mb5.0
LVZ pmax pmax
comp=E,5.0nm,0.9s
LVZ MLR MLR
comp=Z,420nm,12.0s,MS4.4
LVZ MLR MLR
comp=N,310nm,12.0s,MS4.3
LVZ MLR MLR
comp=E,240nm,14.0s,MS4.3
ZRNK Zerenda 34.37 46 *e*P **P** 22 46 07.9 -0.1
ARCES ARCESS Array B 34.59 359 P **P** 22 46 07.2 -2.5
comp=E,16nm,0.8s,mb5.0,baz=180,slow=8.5,SNR=73
ARCES ARCESS Array B 34.59 359 P **P** 22 46 07.2 -2.5
ARE0 ARCESS Array S 34.59 359 *e*P **P** 22 46 07.1 -2.6
KEV Kevo 34.79 360 *e*P **P** 22 46 09.2 -2.3
KEV pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
KEV Kevo 34.79 360 *e*P **P** 22 46 09.2 -2.3
comp=Z,8.5nm,0.9s,mb4.7
KEV Kevo 34.79 360 *e*P **P** 22 46 09.2 -2.3
comp=Z,8.5nm,0.9s,mb4.7
BVAR Borovoye Array 35.20 46 P **P** 22 46 14.7 -0.4
comp=Z,12nm,0.9s,mb4.8,baz=243,slow=6.6,SNR=51
AML Almayashu 36.62 65 P **P** 22 46 29.1 +1.9
SNR=21
USP Ospenovka 37.13 63 P **P** 22 46 32.4 +0.9
SNR=30
KMBO Kilima Mbogo 37.15 163 P **P** 22 46 35.3 +3.3
comp=Z,1.1nm,0.7s,mb3.8,baz=36,slow=5.8,SNR=3.6
KMBO LR LR 23 03 25.6
comp=Z,264nm,18.9s,MS4.0,baz=108,slow=38
AAK Ala-Archa 37.17 64 P **P** 22 46 34.1 +2.2
SNR=33
AAK Ala-Archa 37.17 64 *e*P **P** 22 46 32.8 +1.0
AAK pmax pmax
comp=Z,51nm,0.8s,mb5.4
AAK Ala-Archa 37.17 64 *e*P **P** 22 46 32.8 +0.9
comp=Z,51nm,0.8s,mb5.4
AAK Ala-Archa 37.17 64 *e*P **P** 22 46 32.8 +1.0
comp=Z,51nm,0.8s,mb5.4
UCH Uchtor 37.22 64 P **P** 22 46 34.4 +2.2
SNR=40

FRU Bishkek 37.24 63 ⇓*i*P **P** 22 46 34.5 +2.0
FRU pmax pmax
comp=Z,190nm,1.9s,mb5.6
FRU Bishkek 37.24 63 *i* P **P** 22 46 34.5 +2.0
comp=Z,190nm,1.9s,mb5.6
CHMS Chumysh 37.33 63 P **P** 22 46 34.9 +1.7
SNR=36
KBK Karagaybulak 37.50 64 P **P** 22 46 36.8 +2.2
SNR=16
KZA Kyzart 37.77 65 P **P** 22 46 39.7 +2.8
SNR=60
TKM2 Tokmak 2 37.96 63 P **P** 22 46 39.6 +1.2
SNR=43
ULHL Ulahol 38.49 64 P **P** 22 46 45.5 +2.5
SNR=43
KSH Kashi 38.64 69 *e*P **P** 22 46 46.6 +2.3
KSH *e*AP pP 22 46 56.5 +4.5
KSH *e*XP sP 22 47 01.0 +5.7
KSH *e*PP PP 22 48 19.3 +2.7
KSH *e*PCP PcP 22 48 59.5 +2.8
KSH *e*S **S** **22 52 40.0 +1.2**
KSH *e*PCS 22 52 47.0
KSH *e*XS 22 52 57.0
KSH *e*SCS ScS 22 56 52.2 +1.4
THN Thein Dam 40.07 79 *e*P **P** **22 46 57.0 +0.8**
DBIC Dimbokro 40.85 234 *e*P **P** **22 47 03.4 +0.6**
DBIC pmax pmax
comp=Z,37nm,1.3s
DBIC Dimbokro 40.85 234 P **P** **22 47 03.7 +0.9**
comp=Z,10nm,0.9s,mb4.5,baz=12,slow=8.9,SNR=14
DBIC LR LR 23 07 57.4
comp=Z,415nm,18.1s,MS4.3,baz=23,slow=42
DBIC Dimbokro 40.85 234 *e*P **P** **22 47 03.4 +0.6**
comp=Z,37nm,1.3s,mb4.8
DBIC Dimbokro 40.85 234 *e*P **P** **22 47 03.4 +0.6**
comp=Z,37nm,1.3s,mb4.8
MKAR Makanchi Array 42.41 57 P **P** **22 47 16.4 +1.2**
comp=Z,46nm,0.6s,mb5.3,baz=278,slow=6.8,SNR=461
MKAR LR LR 23 08 48.9
comp=Z,122nm,20.0s,MS3.8,baz=277,slow=42
MKAR Makanchi Array 42.41 57 P **P** **22 47 16.4 +1.2**
MKAR LR LR 23 08 48.9
NVS Novosibirsk 42.97 45 ⇓*i*P **P** **22 47 20.4 +0.8**
NVS *e**PP pP 22 47 28.7 +1.3
NVS *e* 22 48 59.1
NVS *e*S **S** **22 53 44.4 +1.5**
NVS pmax pmax
comp=N,26nm,1.3s
NVS pmax pmax
comp=Z,77nm,1.3s,mb5.3
NVS pmax pmax
comp=E,35nm,1.0s
NVS pmax pmax
comp=Z,18nm,1.7s,mb4.5
NVS pmax pmax
comp=N,15nm,2.1s
NVS pmax pmax
comp=E,11nm,1.5s
NVS smax
comp=E,12nm,2.0s
NVS Novosibirsk 42.97 45 *i* P **P** **22 47 20.4 +0.8**
NVS *e*S **S** **22 53 44.4 +1.5**
ZAL Zalesovo 43.84 46 P **P** **22 47 27.2 +0.5**
comp=E,18nm,0.6s,mb5.0,baz=208,slow=8.1,SNR=96
ZAL LR LR 23 10 23.6
comp=E,274nm,20.1s,MS4.2,baz=205,slow=43
WMQ Urumqi 46.58 60 P **P** **22 47 50.4 +1.7**
WMQ AP pP 22 48 00.7 +4.2
WMQ XP sP 22 48 04.4 +4.7
WMQ PP PP 22 49 39.5 +1.5
WMQ S **S** **22 54 35.6 +0.5**
WMQ XS 22 54 58.4
WMQ AMB AMB
comp=Z,21nm,1.7s,mb4.8
WMQ AMB AMB
comp=Z,52nm,5.2s
WMQ LR LR
comp=N,234nm,12.0s,MS4.5
WMQ LR LR
comp=E,211nm,11.0s,MS4.5
WMQ LR LR
comp=Z,396nm,12.7s,MS4.6
HYB Hyderabad 48.69 97 *i* P **P** **22 48 06.5 +0.9**
HYB Hyderabad 48.69 97 *e*P **P** **22 48 06.5 +0.9**
SUMG Summit 49.73 339 *e*P **P** **22 48 11.4 -1.4**
comp=Z,20nm,0.9s,mb5.2
SUMG Summit 49.73 339 *e*P **P** **22 48 11.4 -1.5**
comp=Z,20nm,0.9s,mb5.2
LSZ Lusaka 50.02 179 *e*P **P** **22 48 17.5 +1.7**
LSZ pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LSZ Lusaka 50.02 179 *e*P **P** **22 48 17.5 +1.7**
comp=Z,8.2nm,0.9s,mb4.8
LSZ Lusaka 50.02 179 *e*P **P** **22 48 17.5 +1.7**
comp=Z,8.2nm,0.9s,mb4.8
LSA Lhsa 53.42 77 P **P** **22 48 42.6 +1.4**
LSA Lhasa 53.42 77 *e*P **P** **22 48 42.0 +0.8**
LSA pmax pmax
comp=Z,15nm,1.0s,mb4.9
LSA Lhasa 53.42 77 *e*P **P** **22 48 42.0 +0.8**
comp=Z,15nm,1.0s,mb4.9
MOY Mondy 53.83 48 *e*P **P** **22 48 45.7 +1.8**
MOY pmax pmax
comp=Z,69nm,1.6s,mb5.3
MOY Mondy 53.83 48 *e*P **P** **22 48 45.7 +1.8**
comp=Z,69nm,1.6s,mb5.3
TSUM Tsumeb 54.70 191 *e*P **P** **22 48 52.6 +1.8**
comp=Z,13nm,0.9s,mb5.0
TLY Talaya 55.43 47 *e*P **P** **22 48 57.1 +1.4**
TLY *e* 22 56 39.6
TLY pmax pmax
comp=Z,43nm,1.2s,mb5.3
TLY MLR MLR
comp=Z,219nm,17.0s,MS4.3
TLY Talaya 55.43 47 *e*P **P** **22 48 56.0 +0.4**
comp=Z,74nm,1.5s,mb5.5
TLY Talaya 55.43 47 *e*P **P** **22 48 56.0 +0.3**
comp=Z,74nm,1.5s,mb5.5
TLY *e*S **S** **22 56 39.6 +2.7**
comp=Z,219nm,17.0s
ZAK Zakamensk 55.54 49 ⇑*i*P **P** **22 48 57.0 +0.6**
ZAK pmax pmax
comp=Z,20nm,1.1s,mb5.1
ZAK Zakamensk 55.54 49 *i* P **P** **22 48 57.0 +0.6**
comp=Z,20nm,1.1s,mb5.1
IRK Irkutsk 55.67 47 *e*P **P** **22 48 57.2 -0.1**
IRK *e* 22 50 01.4
IRK pmax pmax
comp=Z,91nm,1.8s,mb5.5
IRK Irkutsk 55.67 47 *e*P **P** **22 48 57.2 -0.1**
comp=Z,91nm,1.8s,mb5.5
SHL Shillong 55.74 81 *e*P **P** **22 48 58.0 -0.2**
GTA Gaotai 56.50 62 P **P** **22 49 04.2 +0.7**
GTA AP pP 22 49 14.3 +2.8
GTA XP sP 22 49 18.3 +3.8
GTA PCP PcP 22 50 01.3 +1.4
GTA PP PP 22 51 10.2 -0.6
GTA PPP PPP 22 52 27.5 -1.1
GTA S **S** **22 56 47.6 -3.8**
GTA AMB AMB
comp=Z,17nm,0.9s,mb5.1
GTA AMB AMB
comp=Z,63nm,4.2s
GTA LR LR
comp=N,148nm,14.8s,MS4.6
GTA LR LR
comp=E,279nm,12.9s,MS4.6
GTA LR LR
comp=Z,268nm,14.8s,MS4.5
OPO Ambohidratompo 56.55 157 P **P** **22 49 07.6 +3.4**
comp=Z,7.1nm,0.9s,mb4.7,baz=306,slow=8.7,SNR=3.6
SONM Songino Array 58.23 51 P **P** **22 49 16.1 +0.5**
comp=Z,15nm,0.8s,mb5.1,baz=286,slow=8.5,SNR=105
ULN Ulaanbaatar 58.64 51 *e*P **P** **22 49 19.5 +1.0**
ULN pmax pmax
comp=Z,25nm,0.9s,mb5.2
ULN Ulaanbaatar 58.64 51 *e*P **P** **22 49 19.5 +1.0**
comp=Z,25nm,0.9s,mb5.2
ULN Ulaanbaatar 58.64 51 *e*P **P** **22 49 19.5 +1.0**
comp=Z,25nm,0.9s,mb5.2
LBTB Lobatse 59.73 182 *e*P **P** **22 49 28.4 +2.1**
LBTB pmax pmax
comp=Z,19nm,1.0s,mb5.1
LBTB Lobatse 59.73 182 *e*P **P** **22 49 28.4 +2.1**
comp=Z,19nm,1.0s,mb5.1
TIXI Tiksi 60.69 21 *i* P **P** **22 49 30.8 -1.4**

TIXI pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
TIXI Tiksi 60.69 21 *i* P **P** **22 49 30.8 -1.4**
comp=Z,10.0nm,0.7s,mb5.0
LZH Lanzhou 60.70 65 ⇑P **P** **22 49 33.2 +0.4**
LZH AP pP 22 49 44.7 +3.8
LZH XP sP 22 49 49.3 +5.5
LZH PP PP 22 51 48.5 -0.2
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,87nm,6.4s
LZH LR LR
comp=Z,879nm,18.2s,MS4.9
LZH Lanzhou 60.70 65 ⇑P **P** **22 49 33.2 +0.4**
LZH *PP pP 22 49 44.7 +3.8
LZH 22 51 48.5
LZH pmax pmax
comp=Z,28nm,1.5s,mb5.2
LZH MLR MLR
comp=Z,880nm,18.2s,MS4.9
LZH Lanzhou 60.70 65 ⇑P **P** **22 49 33.2 +0.4**
comp=Z,28nm,1.5s,mb5.2
LZH pP pP 22 49 44.7 +3.8
LZH sP sP 22 49 49.3 +5.5
LZH PP PP 22 51 48.5 -0.2
LZH LR LR
comp=Z,880nm,18.2s,MS4.9
CIT Chita 61.18 45 *e*P **P** **22 49 35.4 -0.4**
CIT pmax pmax
comp=Z,81nm,1.4s,mb5.7
CIT Chita 61.18 45 *e*P **P** **22 49 35.4 -0.4**
comp=Z,81nm,1.4s,mb5.7
CD2 Chengdu 62.82 70 P **P** **22 49 47.4 +0.3**
BOSA Boshof 63.32 182 P **P** **22 49 52.5 +2.1**
comp=Z,6.9nm,0.9s,mb4.8,baz=352,slow=4.7,SNR=9.8
BOSA LR LR 23 20 09.9
comp=Z,150nm,19.1s,MS4.2,baz=192,slow=38
HHC Hu-ho-hao-te 64.27 57 ⇓P **P** **22 49 57.7 +1.2**
HHC AP pP 22 50 11.1 +6.5
HHC XP sP 22 50 15.8 +8.3
HHC PCP PcP 22 50 31.2 +0.3
HHC PP PP 22 52 22.6 +2.9
HHC SCP 22 54 26.9
HHC S **S** **22 58 33.3 +2.3**
HHC XS 22 58 53.5
HHC PS PS 22 58 59.4 +5.4
HHC SCS ScS 22 59 45.6 +0.6
HHC AMB AMB
comp=Z,53nm,0.8s,mb5.6
HHC LR LR
comp=N,229nm,14.2s,MS4.6
HHC LR LR
comp=E,209nm,14.2s,MS4.6
HHC LR LR
comp=Z,292nm,15.4s,MS4.6
SCHQ Schefferville 64.41 320 P **P** **22 49 55.8 -1.3**
comp=Z,4.2nm,0.4s,mb4.8,baz=54,slow=6.2,SNR=11
SCHQ LR LR 23 16 10.3
comp=Z,108nm,21.4s,MS4.0,baz=107,slow=34
KMI Kunming 64.67 76 P **P** **22 49 59.5 +0.2**
KMI AP pP 22 50 07.2 -0.2
KMI PP PP 22 52 22.3 -1.2
KMI S **S** **22 58 32.0 -4.1**
KMI SKS SKS 22 59 47.8 -8.1
KMI SSS SSS 23 05 30.4 -9.0
KMI AMB AMB
comp=Z,15nm,0.9s,mb5.0
KMI AMB AMB
comp=Z,81nm,4.9s
KMI LR LR
comp=Z,483nm,14.6s,MS4.8
KMI Kunming 64.67 76 P **P** **22 49 59.5 +0.2**
KMI *PP pP 22 50 07.2 -0.2
KMI 22 52 22.3
KMI PPP PPP 22 53 54.4 -2.5
KMI S **S** **22 58 32.0 -4.1**
KMI PS PS 22 58 54.0 -5.4
KMI 22 59 47.8
KMI pmax pmax
comp=Z,15nm,0.9s,mb5.0
KMI MLR MLR
comp=Z,480nm,14.6s,MS4.8
KMI Kunming 64.67 76 P **P** **22 49 59.5 +0.2**
comp=Z,15nm,0.9s,mb5.0
KMI pP pP 22 50 07.2 -0.2
KMI sP sP 22 50 09.8 -0.5
KMI PP PP 22 52 22.3 -1.2
KMI PPP PPP 22 53 54.4 -2.5
KMI S **S** **22 58 32.0 -4.1**
KMI sS 22 58 44.5
KMI PS PS 22 58 54.0 -5.4
KMI SKS SKS 22 59 47.8 -8.1
KMI SS SS 23 02 42.4 -6.5
KMI SSS SSS 23 05 30.4 -9.0
KMI LR LR
comp=Z,480nm,14.6s,MS4.8
KMI Kunming 64.67 76 P **P** **22 49 59.5 +0.2**
comp=Z,15nm,0.9s,mb5.0
KMI pP pP 22 50 07.2 -0.2
KMI ScS ScS 22 59 47.8 -0.5
comp=Z,480nm,14.6s
CHG Chiang Mai 64.69 84 ⇓P **P** **22 49 59.5 0.0**
comp=Z,12nm,0.7s,mb5.0
CMAR Chiang Mai Arr 64.86 84 P **P** **22 50 00.9 +0.3**
comp=Z,11nm,0.8s,mb4.9,baz=298,slow=8.3,SNR=47
CMAR Chiang Mai Arr 64.86 84 P **P** **22 50 00.9 +0.2**
YAK Yakutsk 65.13 30 *e*P **P** **22 50 00.3 -1.3**
YAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK Yakutsk 65.13 30 *e*P **P** **22 50 00.3 -1.3**
comp=N,2.0nm,1.0s,mb4.1
XAN Xi'an 65.34 65 P **P** **22 50 04.0 +0.5**
XAN AMB AMB
comp=Z,20nm,0.7s,mb5.3
HIA Hailar 65.89 46 *e*P **P** **22 50 07.8 +1.0**
HIA pmax pmax
comp=Z,30nm,0.8s
HIA Hailar 65.89 46 *e*P **P** **22 50 07.8 +1.1**
comp=Z,30nm,0.8s,mb5.4
HIA Hailar 65.89 46 *e*P **P** **22 50 07.8 +1.0**
comp=Z,30nm,0.8s,mb5.4
NANT Nan 66.13 83 ⇓P **P** **22 50 10.0 +1.2**
comp=Z,238nm,0.4s
GYA Guiyang 67.13 73 P **P** **22 50 15.3 +0.2**
GYA XP sP 22 50 29.5 +3.4
GYA PP PP 22 52 44.4 -0.3
GYA S S 22 59 03.8 -2.3
GYA PS PS 22 59 30.7 -1.7
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,120nm,3.8s
GYA LR LR
comp=Z,510nm,18.0s,MS4.8
ENH Enshi 67.50 68 *e*P **P** **22 50 17.4 0.0**
comp=Z,21nm,0.8s,mb5.2
ENH Enshi 67.50 68 *e*P **P** **22 50 17.4 +0.1**
comp=Z,21nm,0.8s,mb5.2
SNY Shenyang 71.81 51 ⇓P **P** **22 50 43.4 -0.1**
SNY AMB AMB
comp=Z,20nm,0.4s,mb5.4
CN2 Changchun 71.97 49 *e*P **P** **22 50 44.7 +0.3**
CN2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
KLR Kul'dur 72.73 42 *e*P **P** **22 50 46.8 -2.0**
BILL Bilibino 72.77 15 *i* P **P** **22 50 47.8 -0.8**
BILL pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
BILL Bilibino 72.77 15 *i* P **P** **22 50 47.8 -0.8**
comp=Z,9.0nm,1.3s,mb4.5
HNH Hanover 72.87 312 *e*P **P** **22 50 51.8 +2.0**
comp=Z,2.0nm,1.0s,mb4.0
WES Weston 72.97 310 *e*P **P** **22 50 51.0 +0.6**
WES pmax pmax
comp=Z,21nm,0.9s,mb5.1
WES Weston 72.97 310 *e*P **P** **22 50 51.0 +0.6**
comp=Z,21nm,0.9s,mb5.1
WES Weston 72.97 310 *e*P **P** **22 50 51.0 +0.6**
comp=Z,21nm,0.9s,mb5.1
NJ2 Nanjing 73.59 62 *e*P **P** **22 50 55.2 +1.0**
NJ2 AP pP 22 51 11.8 +9.5
NJ2 PP PP 22 53 41.6 +1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,20nm,3.8s						
NJ2				LR	LR		
	comp=Z,990nm,23.2s,MS5.0						
MDJ	**Mudanjiang**	**74.05**	**47**	P	**P**	**22 50 56.1**	**-0.5**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,47nm,6.0s						
MA2	**Magadan**	**74.86**	**26**	deP	**P**	**22 51 01.4**	**+0.5**
MA2				ePPP	PPP	22 55 39.1	+3.5
MA2				eS	S	23 00 32.2	-2.7
MA2				e		23 01 03.0	
MA2				ePS	PS	23 01 11.4	-2.4
MA2				eSSS	SSS	23 08 38.9	-0.2
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MA2				pmax	pmax		
	comp=N,2.0nm,0.5s						
MA2				MLR	MLR		
	comp=Z,300nm,21.0s,MS4.6						
MA2	**Magadan**	**74.86**	**26**	eP	**P**	**22 51 01.5**	**+0.6**
	comp=Z,8.6nm,0.7s,mb4.8						
MA2	**Magadan**	**74.86**	**26**	eP	**P**	**22 51 01.4**	**+0.5**
	comp=Z,2.0nm,0.5s,mb4.3						
SSE	**Sheshan**	**75.79**	**62**	eP	**P**	**22 51 05.0**	**-1.8**
SSE				AMB	AMB		
	comp=Z,12nm,0.6s,mb5.0						
SSE				AMB	AMB		
	comp=Z,24nm,4.2s						
SSE				LR	LR		
	comp=N,136nm,23.2s,MS4.7						
SSE				LR	LR		
	comp=E,387nm,23.2s,MS4.7						
SSE				LR	LR		
	comp=Z,432nm,15.2s						
SSE	**Sheshan**	**75.79**	**62**	eP	**P**	**22 51 05.0**	**-1.8**
	comp=Z,12nm,0.6s,mb5.0						
SSE				LR	LR		
	comp=Z,430nm,15.2s,MS4.9						
BINY	**Binghamton**	**75.97**	**312**	eP	**P**	**22 51 08.6**	**+1.0**
	comp=Z,8.6nm,0.9s,mb4.7						
BINY	**Binghamton**	**75.97**	**312**	eP	**P**	**22 51 08.6**	**+1.0**
	comp=Z,8.6nm,0.9s,mb4.7						
INK	**Inuvik**	**75.99**	**353**	P	**P**	**22 51 06.0**	**-1.2**
	comp=Z,4.0nm,0.7s,mb4.5,baz=102,slow=4.5,SNR=3.9						
INK	**Inuvik**	**75.99**	**353**	P	**P**	**22 51 06.0**	**-1.2**
SADO	**Sadowa**	**76.36**	**315**	P	**P**	**22 51 10.1**	**+0.3**
	comp=Z,8.3nm,0.8s,mb4.7,baz=64,slow=3.5,SNR=6.1						
KS15	**Wonju Array Si**	**76.97**	**53**	eP	**P**	**22 51 14.2**	**+0.8**
KS15	**Wonju Array Si**	**76.97**	**53**	eP	**P**	**22 51 14.2**	**+0.9**
YKW3	**Yellowknife Ar**	**78.05**	**343**	eP	**P**	**22 51 17.6**	**-1.1**
YKA	**Yellowknife Ar**	**78.10**	**343**	P	**P**	**22 51 18.2**	**-0.8**
	comp=Z,7.1nm,0.7s,mb4.7,baz=34,slow=5.5,SNR=24						
IMA	**Indian Mountai**	**79.24**	**0**	eP	**P**	**22 51 25.3**	**+0.1**
IMA				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.1						
IMA	**Indian Mountai**	**79.24**	**0**	eP	**P**	**22 51 25.3**	**+0.2**
	comp=Z,17nm,0.7s,mb5.1						
IMA	**Indian Mountai**	**79.24**	**0**	eP	**P**	**22 51 25.3**	**+0.1**
	comp=Z,17nm,0.7s,mb5.1						
YSS	**Yuzh-Sakhalins**	**79.97**	**39**	⇓eP	**P**	**22 51 31.0**	**+1.5**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
YSS	**Yuzh-Sakhalins**	**79.97**	**39**	eP	**P**	**22 51 30.9**	**+1.4**
	comp=Z,42nm,1.0s,mb5.3						
YSS	**Yuzh-Sakhalins**	**79.97**	**39**	eP	**P**	**22 51 30.9**	**+1.4**
	comp=Z,42nm,1.0s,mb5.3						
ILAR	**Eielson Array**	**80.44**	**357**	P	**P**	**22 51 31.2**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.2,baz=337,slow=3.4,SNR=22						
ILAR	**Eielson Array**	**80.44**	**357**	P	**P**	**22 51 31.2**	**-0.4**
FFC	**Flin Flon**	**80.56**	**333**	eP	**P**	**22 51 32.1**	**-0.4**
FFC				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.2						
FFC	**Flin Flon**	**80.56**	**333**	eP	**P**	**22 51 32.1**	**-0.4**
	comp=Z,37nm,1.1s,mb5.2						
FFC	**Flin Flon**	**80.56**	**333**	eP	**P**	**22 51 32.1**	**-0.4**
	comp=Z,37nm,1.1s,mb5.2						
ULM	**Lac du Bonnet**	**81.38**	**327**	P	**P**	**22 51 35.8**	**-1.1**
	comp=Z,9.5nm,0.7s,mb4.8,baz=42,slow=4.5,SNR=9.2						
ULM				LR	LR	23 30 22.6	
	comp=Z,91nm,18.3s,MS4.2,baz=27,slow=38						
JNU	**Nakatsue**	**81.45**	**56**	P	**P**	**22 51 38.9**	**+1.3**
	comp=Z,4.1nm,0.5s,mb4.6,baz=94,slow=19,SNR=4.4						
FWV	**Forest Hill**	**81.69**	**310**	eP	**P**	**22 51 39.5**	**+0.8**
FWV	**Forest Hill**	**81.69**	**310**	eP	**P**	**22 51 39.5**	**+0.7**
ASAJ	**Asahikawa**	**81.76**	**41**	P	**P**	**22 51 40.1**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ASAJ	**Asahikawa**	**81.76**	**41**	P	**P**	**22 51 40.1**	**+1.1**
	comp=Z,10.0nm,0.7s,mb4.9,baz=202,slow=0.8,SNR=7.7						
ELN	**Prospectdale**	**81.87**	**310**	eP	**P**	**22 51 39.9**	**+0.2**
ELN	**Prospectdale**	**81.87**	**310**	eP	**P**	**22 51 39.8**	**+0.1**
PET	**Petropavlovsk**	**82.68**	**27**	eP	**P**	**22 51 45.9**	**+2.4**
PET				e		23 01 53.1	
PET				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.3						
JOW	**Kunigami**	**83.31**	**62**	P	**P**	**22 51 48.6**	**+1.3**
	comp=Z,10nm,0.7s,mb5.0,baz=271,slow=26,SNR=4.6						
TZTN	**Tazewell**	**84.05**	**311**	eP	**P**	**22 51 51.8**	**+0.9**
TZTN	**Tazewell**	**84.05**	**311**	eP	**P**	**22 51 51.8**	**+0.9**
MAT	**Matsushiro**	**84.12**	**49**	P	**P**	**22 51 52.3**	**+1.0**
MAT				eS	S	23 02 06.2	-6.7
MAT	**Matsushiro**	**84.12**	**49**	eP	**P**	**22 51 52.0**	**+0.7**
MJAR	**Matsushiro Arr**	**84.12**	**49**	P	**P**	**22 51 52.4**	**+1.2**
	comp=Z,13nm,0.8s,mb5.1,baz=305,slow=4.1,SNR=28						
BLO	**Bloomington**	**84.15**	**314**	eP	**P**	**22 51 52.0**	**+0.7**
BLO				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.1						
BLO	**Bloomington**	**84.15**	**314**	eP	**P**	**22 51 52.0**	**+0.6**
	comp=Z,8.6nm,0.6s,mb5.1						
BLO	**Bloomington**	**84.15**	**314**	eP	**P**	**22 51 52.0**	**+0.7**
	comp=Z,8.6nm,0.6s,mb5.1						
EDM	**Edmonton**	**85.70**	**338**	eP	**P**	**22 51 59.1**	**+0.4**
WVT	**Waverly**	**86.94**	**313**	eP	**P**	**22 52 04.8**	**-0.5**
WVT				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.9						
WVT	**Waverly**	**86.94**	**313**	eP	**P**	**22 52 04.8**	**-0.5**
	comp=Z,4.7nm,0.6s,mb4.9						
WVT	**Waverly**	**86.94**	**313**	eP	**P**	**22 52 04.8**	**-0.5**
	comp=Z,4.7nm,0.6s,mb4.9						
FVM	**French Village**	**87.21**	**316**	eP	**P**	**22 52 07.3**	**+0.8**
FVM				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.3						
FVM	**French Village**	**87.21**	**316**	eP	**P**	**22 52 07.3**	**+0.7**
	comp=Z,11nm,0.6s,mb5.3						
FVM	**French Village**	**87.21**	**316**	eP	**P**	**22 52 07.3**	**+0.8**
	comp=Z,11nm,0.6s,mb5.3						
BDFB	**Brasilia**	**87.26**	**249**	P	**P**	**22 52 10.1**	**+2.9**
	comp=Z,0.8nm,0.4s,mb4.3,baz=79,slow=5.2,SNR=2.6						
BDFB				LR	LR	23 33 34.0	
	comp=Z,260nm,19.8s,MS4.6,baz=87,slow=37						
FX1	**Attu Island--F**	**87.56**	**20**	eP	**P**	**22 52 08.3**	**+0.5**
CCM	**Cathedral Cave**	**87.63**	**316**	eP	**P**	**22 52 09.0**	**+0.4**
CCM				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.4						
CCM	**Cathedral Cave**	**87.63**	**316**	eP	**P**	**22 52 09.0**	**+0.5**
	comp=Z,16nm,0.7s,mb5.4						
CCM	**Cathedral Cave**	**87.63**	**316**	eP	**P**	**22 52 09.0**	**+0.4**
	comp=Z,16nm,0.7s,mb5.4						
PLAL	**Pickwick Lake**	**87.85**	**312**	eP	**P**	**22 52 09.6**	**-0.1**
	comp=Z,6.5nm,0.9s,mb4.9						
PLAL	**Pickwick Lake**	**87.85**	**312**	eP	**P**	**22 52 09.6**	**-0.1**
	comp=Z,6.5nm,0.9s,mb4.9						
LRAL	**Lakeview Retre**	**88.48**	**310**	eP	**P**	**22 52 13.0**	**+0.3**
	comp=Z,5.1nm,0.7s,mb4.9						
LRAL	**Lakeview Retre**	**88.48**	**310**	eP	**P**	**22 52 13.0**	**+0.3**
	comp=Z,5.1nm,0.7s,mb4.9						
RSSD	**Black Hills**	**89.65**	**327**	eP	**P**	**22 52 18.5**	**+0.5**
RSSD				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.1						
RSSD	**Black Hills**	**89.65**	**327**	eP	**P**	**22 52 18.5**	**+0.5**
	comp=Z,8.7nm,0.9s,mb5.1						
RSSD	**Black Hills**	**89.65**	**327**	eP	**P**	**22 52 18.5**	**+0.5**
	comp=Z,8.7nm,0.9s,mb5.1						
CHMT	**Chamberlain Mo**	**91.06**	**334**	eP	**P**	**22 52 24.7**	**+0.3**
CHMT	**Chamberlain Mo**	**91.06**	**334**	eP	**P**	**22 52 24.7**	**+0.3**
MSO	**Missoula**	**91.37**	**335**	eP	**P**	**22 52 26.1**	**+0.2**
	comp=Z,2.0nm,0.6s,mb4.6						
MSO	**Missoula**	**91.37**	**335**	eP	**P**	**22 52 26.1**	**+0.2**
	comp=Z,2.0nm,0.6s,mb4.6						
BOZ	**Bozeman (W)**	**91.53**	**333**	eP	**P**	**22 52 27.8**	**+1.1**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.9						
BOZ	**Bozeman (W)**	**91.53**	**333**	eP	**P**	**22 52 27.8**	**+1.1**
	comp=Z,3.5nm,0.6s,mb4.9						
BOZ	**Bozeman (W)**	**91.53**	**333**	eP	**P**	**22 52 27.8**	**+1.1**
	comp=Z,3.5nm,0.6s,mb4.9						
PHWY	**Pilot Hill**	**92.52**	**326**	eP	**P**	**22 52 32.2**	**+0.9**
PHWY	**Pilot Hill**	**92.52**	**326**	eP	**P**	**22 52 32.2**	**+0.9**
PDAR	**Pinedale Array**	**93.11**	**330**	P	**P**	**22 52 33.8**	**-0.2**
	comp=Z,1.4nm,0.7s,mb4.5,baz=55,slow=4.6,SNR=15						
PDAR				LR	LR	23 35 12.7	
	comp=Z,118nm,19.9s,MS4.3,baz=149,slow=36						
WMOK	**Wichita Mounta**	**94.23**	**318**	eP	**P**	**22 52 40.0**	**+0.6**
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.5						
WMOK	**Wichita Mounta**	**94.23**	**318**	eP	**P**	**22 52 40.0**	**+0.6**
	comp=Z,1.6nm,0.9s,mb4.5						
WMOK	**Wichita Mounta**	**94.23**	**318**	eP	**P**	**22 52 40.0**	**+0.6**
	comp=Z,2.0nm,0.9s,mb4.5						
BMO	**Blue Mountains**	**94.26**	**336**	eP	**P**	**22 52 38.9**	**-0.3**
	comp=Z,5.8nm,1.1s,mb4.9						
BMO	**Blue Mountains**	**94.26**	**336**	eP	**P**	**22 52 38.9**	**-0.3**
	comp=Z,5.8nm,1.1s,mb4.9						
YBH	**Yreka Blue Hor**	**98.81**	**338**	P	**P**	**22 52 59.4**	**-0.5**
	comp=Z,2.2nm,0.9s,mb4.7,baz=154,slow=2.9,SNR=3.6						
NVAR	**Mina Array Bea**	**100.26**	**333**	P	P	22 53 07.3	+0.6
	comp=Z,1.0nm,0.6s,baz=54,slow=5.7,SNR=4.9						
NVAR				LR	LR	23 39 42.8	
	comp=Z,155nm,20.8s,MS4.5,baz=90,slow=36						
TXAR	**Lajitas Array**	**101.02**	**318**	P	P	22 53 10.3	0.0
	comp=Z,0.5nm,0.9s,baz=45,slow=1.8,SNR=5.4						
TXAR	**Lajitas Array**	**101.02**	**318**	P	P	22 53 10.3	0.0
QSPA	**South Pole Qui**	**124.87**	**180**	ePKPdf	PKPdf	22 58 19.9	-2.8
STKA	**Stephens Creek**	**126.00**	**107**	PKP	PKPdf	22 58 24.1	-2.0
	comp=Z,3.5nm,0.8s,baz=130,slow=23,SNR=4.2						

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*NIED **03** 22:45:00, 27.70N×143.20E, h5^{km}, Mw4.0 Best double couple: $M_0$1.32×10^{15} NP1:ϕ_s343°, δ55°, λ55°. NP2:ϕ_s214°, δ48°, λ129°.*

*IDC **03** 22:45:15.7±0.8, 27.77N×142.84E, mb4.0/16, mb1 4.2/17, mb1mx4.1/24, mbtmp4.0/17, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/26, Error ellipse: s-maj=23.6km s-min=13.3km az=107.0*

*BJI **03** 22:45:16.6, 27.69N×143.46E, h46^{km}, mB4.4, mb4.2*

*NEIC **03** 22:45:21.2±0.4, 27.77N×142.81E, mb4.3/5, Error ellipse: s-maj=15.5km s-min=8.1km az=79.0*

ISC 03 22:45:19.1±0.5**, 27.77N**±0.06×**143.0E**±0.1**, h39**^{km}±.7^{km}**:pP-P, n32,** σ1§**02**/32**, mb4.1**/21**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.97**	**227**	Pn	**P**	**22 45 36.1**	**-0.3**
	106nm,0.3s,baz=50,slow=4.3,SNR=32						
CBIJ				Sn	**S**	**22 45 49.9**	**+0.6**
	221nm,0.3s,baz=128,slow=19,SNR=11						
MJAR	**Matsushiro Arr**	**9.63**	**336**	Pn	**P**	**22 47 35.1**	**-3.1**
	1.2nm,0.3s,baz=154,slow=12,SNR=12						
MAT	**Matsushiro**	**9.64**	**336**	eP	**P**	**22 47 35.0**	**-3.3**
JNU	**Nakatsue**	**11.72**	**300**	LR	LR	22 52 12.8	
	comp=Z,99nm,19.2s,baz=148,slow=36						
MDJ	**Mudanjiang**	**19.94**	**331**	P	**P**	**22 49 50.3**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,56nm,3.5s						
MDJ	**Mudanjiang**	**19.94**	**331**	eP	**P**	**22 49 49.3**	**-1.1**
	comp=Z,12nm,1.1s						
FX1	**Attu Island--F**	**33.61**	**33**	P	**P**	**22 51 57.1**	**-0.6**
FX1				epP	pP	22 52 08.1	-0.6
ULN	**Ulaanbaatar**	**34.33**	**316**	eP	**P**	**22 52 04.2**	**+0.3**
ULN				pP	pP	22 52 15.0	0.0
SONM	**Songino Array**	**34.73**	**315**	P	**P**	**22 52 06.1**	**-1.2**
	comp=Z,2.0nm,1.0s,mb4.0,baz=127,slow=7.2,SNR=4.3						
TLY	**Talaya**	**37.87**	**320**	eP	**P**	**22 52 34.4**	**+0.5**
	comp=Z,5.7nm,1.0s,mb4.3						
WRAB	**Tennant Creek**	**48.15**	**191**	eP	**P**	**22 53 56.9**	**-0.6**
	comp=Z,4.7nm,0.5s,mb4.8						
WRAB				pP	pP	22 54 08.4	-0.4
WB2	**Warramunga Arr**	**48.16**	**191**	eP	**P**	**22 53 56.5**	**-1.1**
WRA	**Warramunga Arr**	**48.16**	**191**	P	**P**	**22 53 56.9**	**-0.7**
	comp=Z,5.7nm,0.7s,mb4.7,baz=11,slow=8.2,SNR=6.0						
FITZ	**Fitzroy Crossi**	**48.59**	**202**	P	**P**	**22 53 59.7**	**-1.3**
	comp=Z,9.5nm,0.9s,mb4.8,baz=357,slow=6.4,SNR=3.6						
ZAL	**Zalesovo**	**49.46**	**319**	P	**P**	**22 54 08.3**	**+1.1**
	comp=Z,2.1nm,0.6s,mb4.4,baz=22,slow=7.7,SNR=6.9						
MKAR	**Makanchi Array**	**50.59**	**309**	P	**P**	**22 54 15.5**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=85,slow=9.9,SNR=10						
ILAR	**Eielson Array**	**56.79**	**29**	P	**P**	**22 55 00.9**	**-0.5**
	comp=Z,0.5nm,0.8s,mb3.6,baz=288,slow=5.7,SNR=3.8						
BVAR	**Borovoye Array**	**58.03**	**317**	P	**P**	**22 55 10.3**	**0.0**
	comp=Z,2.9nm,0.5s,mb4.6,baz=91,slow=7.1,SNR=22						
ZRNK	**Zerenda**	**58.87**	**317**	eP	**P**	**22 55 15.4**	**-0.8**
	comp=Z,2.6nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**59.33**	**181**	P	**P**	**22 55 19.9**	**+0.3**
	comp=Z,1.5nm,0.9s,mb4.0,baz=336,slow=16,SNR=2.9						
ARCES	**ARCESS Array B**	**73.14**	**341**	P	**P**	**22 56 47.5**	**+0.6**
	comp=Z,0.3nm,0.6s,mb3.4,baz=60,slow=9.8,SNR=3.8						
KAF	**Kangasniemi**	**77.17**	**334**	ep	**P**	**22 57 09.3**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.8,baz=53,slow=5.3						
FINES	**FINESS Array B**	**77.66**	**334**	P	**P**	**22 57 13.0**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=63,slow=4.3,SNR=7.6						
NVAR	**Mina Array Bea**	**79.55**	**52**	P	**P**	**22 57 26.6**	**+2.9**
	comp=Z,0.2nm,0.3s,mb3.5,baz=287,slow=2.0,SNR=3.5						
QRN	**Al-Qurain**	**81.19**	**298**	eP	**P**	**22 57 34.2**	**+1.7**
RDF	**Al-Radifah**	**81.40**	**298**	eP	**P**	**22 57 34.8**	**+1.1**
NAY	**Al-Naaiem**	**81.50**	**298**	eP	**P**	**22 57 34.5**	**+0.4**
NAY				AMb	AMB	22 57 36.7	
	comp=Z,14nm,0.8s,mb4.9						
AKASG	**Malin Array Be**	**82.49**	**324**	P	**P**	**22 57 38.7**	**-0.1**
	comp=Z,0.2nm,0.3s,mb3.5,baz=45,slow=5.9,SNR=4.8						
HFS	**Hagfors**	**83.09**	**337**	P	**P**	**22 57 42.2**	**+0.6**
	comp=Z,1.2nm,0.9s,mb3.9,baz=346,slow=5.9,SNR=3.2						
PDAR	**Pinedale Array**	**83.24**	**45**	P	**P**	**22 57 46.0**	**+3.2**
	comp=Z,0.4nm,0.7s,mb3.6,baz=315,slow=1.3,SNR=3.4						
BRTR	**Keskin Array B**	**86.06**	**313**	P	**P**	**22 57 58.2**	**+1.3**
	comp=Z,1.3nm,0.8s,mb4.2,baz=93,slow=6.2,SNR=5.1						
GERES	**GERESS Array B**	**91.30**	**329**	P	**P**	**22 58 22.0**	**+0.4**
	comp=Z,0.4nm,0.7s,mb3.8,baz=31,slow=5.7,SNR=5.2						

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*ATH **03** 23:15:07.8, 37.78N×26.82E, h13^{km}, MD3.0/3*

*CSEM **03** 23:15:08.7±0.1, 37.83N×26.92E, h15^{km}, MD3.1, Error ellipse: s-maj=2.5km s-min=2.0km az=80.0*

*ISK **03** 23:15:09.1, 37.87N×26.95E, h28^{km}, MD3.1*

ISC 03 23:15:08.1±0.8**, 37.83N**±0.05×**26.87E**±0.07**, h10**^{km}±7^{km}**, n11,** σ**0§90**/14**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMG	**Samos**	**0.12**	**193**	⇑iPG	**Pg**	**23 15 10.6**	**-0.5**
SMG				eSG	**Sg**	**23 15 12.5**	**-0.7**
IZM	**Izmir**	**0.65**	**28**	PG	**Pg**	**23 15 21.7**	**+0.6**
BODT	**Bodrum**	**0.84**	**155**	PG	**Pg**	**23 15 25.4**	**+0.4**
BODT				SG	**Sg**	**23 15 36.9**	**+0.7**
MLSB	**Milas**	**0.89**	**126**	PG	**Pg**	**23 15 25.8**	**-0.2**
MLSB				SG	**Sg**	**23 15 38.8**	**+0.8**
AKS	**Akhisar**	**1.28**	**35**	PN	**Pn**	**23 15 30.7**	**-1.4**
APE	**Apeiranthos**	**1.31**	**235**	ePN	**Pn**	**23 15 33.9**	**+1.4**
APE	**Apeiranthos**	**1.31**	**235**	ePB	**Pb**	**23 15 31.5**	**-0.8**
APE	**Apeiranthos**	**1.31**	**235**	ePb	**Pb**	**23 15 32.0**	**-0.3**
APE	**Apeiranthos**	**1.31**	**235**	ePn	**Pn**	**23 15 33.9**	**+1.4**
YER	**Yerkesik**	**1.32**	**121**	PN	**Pn**	**23 15 31.2**	**-1.4**
PRK	**Paraskevi**	**1.49**	**342**	ePB	**Pb**	**23 15 36.5**	**+1.0**

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*NEIC **03** 23:43:41.2±3.9, 30.28S×69.04W, h10^{km}, ML3.4(GUC), Error ellipse: s-maj=48.4km s-min=17.1km az=220.0*

*GUC **03** 23:43:46.0±0.9, 30.56S×69.43W, h6^{km}±12^{km}, MD3.9, ML3.4*

ISC 03 23:43:43.9±1.5**, 30.52S**±0.08×**69.29W**±0.07**, h6**^{km}**, n7,** σ**1§02**/11**, 2C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZON	**Zonda**	**1.15**	**153**	eP	**Pb**	**23 44 05.0**	**-0.8**
ZON				eS	**Sb**	**23 44 20.0**	**-0.8**
TLL	**Tololo Astrono**	**1.36**	**285**	⇓iP	**Pb**	**23 44 09.6**	**+0.2**
TLL				i S	**Sb**	**23 44 26.9**	**0.0**
TLL				AMP		23 44 27.7	
	comp=N,2μm,0.4s						
CMCH	**Combarbala**	**1.61**	**246**	⇑iP	**Pn**	**23 44 12.1**	**-1.0**
CMCH				i S	**Sb**	**23 44 32.9**	**-1.4**
CMCH				AMP		23 44 33.8	
	comp=N,1μm,0.5s						
ILCH	**Illapel**	**1.96**	**235**	i P	**Pn**	**23 44 18.8**	**+0.7**
ILCH				i S	**Sn**	**23 44 42.4**	**-0.9**
ILCH				AMP		23 44 47.2	
	comp=N,409nm,0.2s						
JACH	**Jahuel**	**2.42**	**207**	⇑iP	**Pn**	**23 44 25.9**	**+1.1**
ROCH	**El Roble**	**2.85**	**211**	⇓iP	**Pn**	**23 44 32.2**	**+1.4**
ROCH				i S	**Sn**	**23 45 07.6**	**+1.7**
CLCH	**Cerro Calan**	**3.06**	**200**	AMP		23 45 28.5	
	comp=N,138nm,0.4s						

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*BJI **03** 23:44:39.2, 42.70N×17.40E, h9^{km}, mB4.9, mb4.7, Ms4.5, Msz4.4*

*MOS **03** 23:44:41.5±1.0, 42.71N×17.24E, h10^{km}, mb4.9/10, Error ellipse: s-maj=3.8km s-min=2.6km az=120.3*

*ROM **03** 23:44:42.8±0.2, 42.76N×17.42E, h12^{km}, Ml4.4/27, Error ellipse: s-maj=3.3km s-min=1.7km az=118.0*

*NEIC **03** 23:44:42.8±0.2, 42.68N×17.37E, h5^{km}, mb4.5/14, ML4.2(PDG), ML4.1(BUC), Error ellipse: s-maj=4.2km s-min=2.5km az=188.0*

*LDG **03** 23:44:42.8±0.1, 42.78N×17.46E, h10^{km}, Ml4.4/28, ms3.0/7, Error ellipse: s-maj=2.1km s-min=1.9km az=36.0*

*ZUR_RM **03** 23:44:42, 42.68N×17.37E, h9^{km}, Mw4.2/27, Moment Tensor Solution. s27 Moment tensor: Scale 10^{15}Nm; M_{rr}1.15; $M_{\theta\theta}$-0.27; $M_{\phi\phi}$-0.88; $M_{r\theta}$0.40; $M_{\theta\phi}$0.65; $M_{\phi r}$-2.00; Best double couple: $M_0$2.38×10^{15} NP1:ϕ_s166°, δ75°, λ100°. NP2:ϕ_s310°, δ18°, λ55°. Principal axes: T 2.382, Plg58°, Azm90°; N .002, Plg10°, Azm343°; P -2.383, Plg30°, Azm247°;*

*BEO **03** 23:44:43.3±0.2, 42.86N×17.42E, h7^{km}*

*CSEM **03** 23:44:43.3±0.0, 42.82N×17.43E, h5^{km}, ML4.3/13, Error ellipse: s-maj=0.8km s-min=0.6km az=172.0*

*PDG **03** 23:44:44.6±0.1, 42.85N×17.51E, h2^{km}*

*IDC **03** 23:44:48.9±1.5, 42.91N×17.47E, h48^{km}±16^{km}, mb4.1/11, mb1 4.1/22, mb1mx4.0/33, mbtmp4.2/22, ML4.0/10, MS3.4/5, Ms1 3.4/5, ms1mx2.9/28, Error ellipse: s-maj=14.5km s-min=12.3km az=35.0*

*STR **03** 23:44:52.3±3.8, 43.06N×16.65E, h10^{km}±1^{km}, Ml4.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 03 23:44:42.8±0.1**, 42.817N**±0.010×**17.37E**±0.01**, h10**^{km}**, n411,** σ**1§32**/526**, mb4.4**/25**, MS3.8**/4**, 44C-18D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STON	**Ston**	**0.25**	**77**	⇓iPg	**Pg**	**23 44 48.6**	**+0.6**
STON				i Sg	**Sg**	**23 44 52.7**	**+1.2**
TREB	**Trebinje**	**0.73**	**98**	Pg	**Pg**	**23 44 56.6**	**-0.8**
TREB				Sg	**Sg**	**23 45 08.4**	**+1.2**
BRY	**Bratogost**	**0.86**	**84**	⇓iPg	**Pg**	**23 44 58.7**	**-1.4**
BRY				eSg	**Sg**	**23 45 10.6**	**-1.2**
HCY	**Herceg Novi**	**0.91**	**114**	⇑iPg	**Pg**	**23 44 59.9**	**-1.1**
HCY				eSg	**Sg**	**23 45 13.1**	**-0.1**
UPM	**Unac-Piva**	**1.19**	**71**	⇓iPg	**Pg**	**23 45 04.6**	**-2.1**
UPM				eSg	**Sg**	**23 45 21.4**	**-1.2**
NKY	**Niksic**	**1.20**	**90**	⇑iPg	**Pg**	**23 45 04.9**	**-1.9**
NKY				eSg	**Sg**	**23 45 22.0**	**-0.7**
BUM	**Brajici-Budva**	**1.24**	**114**	⇓iPg	**Pg**	**23 45 06.1**	**-1.5**
BUM				eSg	**Sg**	**23 45 24.5**	**+0.3**
TTG	**Podgorica**	**1.45**	**105**	⇑iPg	**Pg**	**23 45 09.8**	**-1.9**
TTG				eSg	**Sg**	**23 45 30.8**	**-0.2**
MS1	**Monte Sant'Ang**	**1.54**	**224**	ePn	**Pn**	**23 45 10.5**	**+0.1**
PLE	**Pljevlja**	**1.57**	**70**	⇑iPg	**Pg**	**23 45 11.7**	**-2.4**
PLE				eSg	**Sg**	**23 45 34.5**	**-0.5**
ULC	**Ulcinj**	**1.63**	**121**	⇑iPg	**Pg**	**23 45 13.0**	**-2.4**
ULC				eSg	**Sg**	**23 45 38.1**	**+0.9**
BAI	**Bari**	**1.75**	**192**	ePn	**Pn**	**23 45 13.2**	**-0.2**
RGNG	**Rignano Grg**	**1.75**	**230**	⇓iPn	**Pn**	**23 45 13.5**	**0.0**
SDA	**Shkodra**	**1.75**	**115**	ePn	**Pn**	**23 45 15.2**	**+1.7**
SDA				i Sn	**Sn**	**23 45 41.8**	**+5.8**
NVSS	**Nova Varos 2**	**1.84**	**67**	⇓iPn	**Pn**	**23 45 17.3**	**+2.5**
NVSS				Sn	**Sn**	**23 45 43.4**	**+5.2**
IVA	**Berane**	**1.86**	**87**	⇑iPn	**Pn**	**23 45 17.4**	**+2.4**
IVA				eSn	**Sn**	**23 45 42.6**	**+3.9**
CDT	**Castel del Mon**	**1.92**	**206**	ePn	**Pn**	**23 45 15.7**	**-0.2**
FG2	**Serracapriola**	**1.93**	**239**	Pn	**Pn**	**23 45 16.8**	**+0.8**
BLY	**Banja Luka**	**1.94**	**356**	Pn	**Pn**	**23 45 19.6**	**+3.5**
BRT	**Bari-Castellan**	**1.94**	**184**	⇓iPn	**Pn**	**23 45 16.2**	**0.0**
	26nm,0.4s						
PE1	**Pezze di Greco**	**2.01**	**179**	ePn	**Pn**	**23 45 16.9**	**-0.3**
PUK	**Puka**	**2.02**	**112**	ePn	**Pn**	**23 45 19.7**	**+2.4**
BCI	**Bajram Curri**	**2.04**	**102**	ePn	**Pn**	**23 45 20.3**	**+2.7**
SG1	**Sgolgore (BA)**	**2.04**	**195**	ePn	**Pn**	**23 45 17.3**	**-0.4**
FRES	**Fresagrandinar**	**2.17**	**248**	Pn	**Pn**	**23 45 20.7**	**+1.2**
	6μm,0.7s						
FG4	**Candela**	**2.18**	**220**	Pn	**Pn**	**23 45 20.1**	**+0.5**
	490nm,0.3s						
FG5	**Orsara di Pugl**	**2.19**	**226**	i Pn	**Pn**	**23 45 20.8**	**+1.0**
LTRZ	**Laterza**	**2.25**	**191**	Pn	**Pn**	**23 45 20.4**	**-0.2**
	2μm,0.4s						
QSH	**Qafa e Shtames**	**2.29**	**124**	ePn	**Pn**	**23 45 22.0**	**+0.9**
TRIV	**Trivento**	**2.34**	**244**	Pn	**Pn**	**23 45 23.3**	**+1.3**
TIR	**Tirane**	**2.37**	**128**	ePn	**Pn**	**23 45 23.0**	**+0.7**
TIR				i Sn	**Sn**	**23 45 46.0**	**-5.6**
TIR	**Tirane**	**2.37**	**128**	Pn	**Pn**	**23 45 23.2**	**+0.9**
	2μm,0.6s						
BSSO	**Busso**	**2.42**	**239**	Pn	**Pn**	**23 45 24.1**	**+1.0**
	2μm,0.7s						
SACR	**S. Croce Del S**	**2.44**	**235**	Pn	**Pn**	**23 45 25.0**	**+1.7**
	2μm,1.0s						
MRB1	**Monte Rocchett**	**2.46**	**227**	Pn	**Pn**	**23 45 25.0**	**+1.4**
	3μm,0.6s						
IPES	**Pescosannita**	**2.47**	**231**	Pn	**Pn**	**23 45 24.6**	**+0.9**
PSB1	**Pescosannita**	**2.49**	**231**	Pn	**Pn**	**23 45 25.5**	**+1.5**
	2μm,1.0s						
SNAL	**S. Angelo Dei**	**2.49**	**221**	Pn	**Pn**	**23 45 25.1**	**+1.1**
	3μm,0.6s						
MRLC	**Muro Lucano**	**2.50**	**215**	Pn	**Pn**	**23 45 24.8**	**+0.7**
NVLJ	**Novalja**	**2.52**	**315**	i Pn	**Pn**	**23 45 26.2**	**+1.8**
NVLJ				i Sn	**Sn**	**23 45 58.5**	**+3.0**
CII	**Carovilli**	**2.52**	**245**	ePn	**Pn**	**23 45 25.1**	**+0.5**
CII				ePg	**Pg**	**23 45 33.2**	**0.0**
CII				eSg	**Sg**	**23 46 08.2**	**+1.3**
CII	**Carovilli**	**2.52**	**245**	Pn	**Pn**	**23 45 25.4**	**+0.8**
CII	**Carovilli**	**2.52**	**245**	ePg	**Pg**	**23 45 33.2**	**0.0**
LCI	**Lecce**	**2.54**	**167**	Pn	**Pn**	**23 45 24.6**	**-0.2**
	185nm,0.3s						
MIDA	**Miranda**	**2.60**	**244**	Pn	**Pn**	**23 45 26.2**	**+0.6**
	2μm,0.5s						
CSSN	**Cassano Irpino**	**2.63**	**223**	Pn	**Pn**	**23 45 27.1**	**+1.1**
RNI2	**Rionero Sannit**	**2.64**	**246**	Pn	**Pn**	**23 45 27.2**	**+1.0**
	4μm,1.1s						
SGG	**Gregorio Mates**	**2.65**	**238**	Pn	**Pn**	**23 45 26.9**	**+0.6**
GRUS	**Gruza**	**2.66**	**65**	⇓iPn	**Pn**	**23 45 27.9**	**+1.3**
GRUS				Sn	**Sn**	**23 46 02.4**	**+3.3**
VAGA	**Valle Agricola**	**2.72**	**240**	Pn	**Pn**	**23 45 28.9**	**+1.5**
SGO	**Sicignano**	**2.73**	**215**	Pn	**Pn**	**23 45 27.5**	**-0.1**
SISC	**Sisak**	**2.75**	**345**	i Pn	**Pn**	**23 45 30.4**	**+2.6**
SLCN	**Sala Consilina**	**2.75**	**209**	Pn	**Pn**	**23 45 28.3**	**+0.5**
	552nm,0.5s						
TERO	**Teramo**	**2.78**	**267**	Pn	**Pn**	**23 45 29.1**	**+0.8**
	1μm,0.7s						
ORI	**Oriolo Calabro**	**2.84**	**194**	Pn	**Pn**	**23 45 29.1**	**+0.1**
	614nm,0.4s						
AOI	**Ancona**	**2.85**	**286**	Pn	**Pn**	**23 45 30.2**	**+0.9**
	1μm,0.7s						
FAGN	**Fagnano**	**2.85**	**260**	Pn	**Pn**	**23 45 30.1**	**+0.8**
	3μm,0.5s						
CAMP	**Campotosto**	**2.94**	**266**	Pn	**Pn**	**23 45 31.2**	**+0.8**
	863nm,0.9s						
VVLD	**Villa Vallelon**	**2.94**	**252**	Pn	**Pn**	**23 45 30.9**	**+0.5**
	2μm,0.8s						
RFI	**Roccamonfina**	**2.94**	**240**	Pn	**Pn**	**23 45 32.4**	**+1.9**
	153nm,0.9s						
AQU	**L'Aquila**	**2.97**	**262**	Pn	**Pn**	**23 45 32.0**	**+1.1**
AQU	**L'Aquila**	**2.97**	**262**	ePn	**Pn**	**23 45 31.5**	**+0.6**
OVO	**Vesuviano**	**2.98**	**229**	Pn	**Pn**	**23 45 31.9**	**+0.8**
BEO	**Belgrade**	**3.00**	**47**	⇓iPn	**Pn**	**23 45 32.1**	**+0.7**
BEO				Sn	**Sn**	**23 46 08.6**	**+0.9**
MGR	**Morigerati**	**3.01**	**208**	Pn	**Pn**	**23 45 31.6**	**+0.2**
	462nm,0.8s						
MSC	**Monte Massico**	**3.01**	**238**	Pn	**Pn**	**23 45 32.3**	**+0.8**
PTQR	**Pietraquaria**	**3.05**	**256**	Pn	**Pn**	**23 45 33.7**	**+1.7**
	562nm,1.0s						
OHR	**Ohrid**	**3.07**	**123**	⇑iP	**Pn**	**23 45 33.6**	**+1.3**
OHR				i		23 46 09.4	
OHR	**Ohrid**	**3.07**	**123**	⇑iPn	**Pn**	**23 45 33.6**	**+1.3**
OHR				i Pg	**Pg**	**23 45 40.5**	**-3.6**
OHR				i Sn	**Sn**	**23 46 09.4**	**-0.1**

OHR *i* Sb **Sb** 23 46 18.4 +3.5
OHR *i* Sg **Sg** 23 46 21.2 -3.9
BOJS Bojanci 3.09 331 *e*Pn **Pn** 23 45 35.0 +2.4
BOJS *e*Sn **Sn** 23 46 11.2 +1.2
CING Cingoli 3.11 282 Pn **Pn** 23 45 33.5 +0.6
694nm,0.7s
SKO Skopje 3.13 104 *i* Pn **Pn** 23 45 34.7 +1.5
SKO *i* Pb **Pb** 23 45 41.0 +2.9
SKO *i* Pg **Pg** 23 45 44.0 -1.3
SKO *i* Sg **Sg** 23 46 23.2 -3.8
SKO Lg 23 46 39.0
comp=Z,0.3nm,0.8s
NRCA Norcia 3.13 272 Pn **Pn** 23 45 34.0 +0.8
RHK3 Tenkes 3.13 11⇑ *e*P **Pn** 23 45 34.7 +1.4
SVIS Svilajnac 3.17 61⇑ *i*Pn **Pn** 23 45 34.5 +0.9
SVIS Sn **Sn** 23 46 13.2 +1.3
ISOR Termini 3.19 227 Pn **Pn** 23 45 33.9 -0.1
FIAM Fiamignano 3.19 262 Pn **Pn** 23 45 35.8 +1.7
comp=Z,1µm,1.0s
LNSS Leonessa 3.20 268 Pn **Pn** 23 45 35.2 +1.0
comp=Z,1µm,0.9s
TPE Tepelena 3.20 141 *e*Pn **Pn** 23 45 33.7 -0.5
ARV Arcevia 3.31 283 Pn **Pn** 23 45 36.3 +0.5
comp=Z,422nm,1.0s
CERT Cerreto 3.37 257 Pn **Pn** 23 45 37.3 +0.8
comp=Z,587nm,0.6s
FSSB Fossombrone 3.47 286 Pn **Pn** 23 45 38.6 +0.6
comp=Z,185nm,0.3s
ASS Assisi 3.48 276 Pn **Pn** 23 45 39.3 +1.2
comp=Z,191nm,0.4s
BOLS Boljevac 3.50 72⇑ *i*Pn **Pn** 23 45 39.0 +0.6
BOLS Sn **Sn** 23 46 21.6 +1.3
PKSM Moragy 3.51 15⇑ *e*P **Pn** 23 45 39.6 +1.0
MTCE Montecelio 3.52 259 Pn **Pn** 23 45 39.3 +0.6
comp=Z,724nm,1.2s
MURB Monte Urbino 3.58 279 Pn **Pn** 23 45 40.8 +1.2
comp=Z,1µm,0.3s
LSK Leskovik 3.60 137 *e*Pn **Pn** 23 45 39.4 -0.5
LSK Leskovik 3.60 137 *i* Sn **Sn** 23 46 21.8 -1.2
CEY Cerknica 3.61 325 *i* Pn **Pn** 23 45 41.7 +1.8
FNA Florina 3.62 123 *e*P **Pn** 23 45 41.0 +0.9
MA9 Marino 3.65 255 Pn **Pn** 23 45 41.3 +0.7
comp=Z,211nm,0.4s
LAV9 Lanuvio 3.65 253 Pn **Pn** 23 45 41.1 +0.5
comp=Z,282nm,0.3s
PDKS Podkum 3.66 333 *i* Pn **Pn** 23 45 43.0 +2.2
KOGS Kog 3.72 348 *e*Pn **Pn** 23 45 42.8 +1.2
KOGS *e*Sn **Sn** 23 46 26.4 +0.5
RSM Repubblica di 3.76 289 Pn **Pn** 23 45 42.8 +0.7
comp=Z,1µm,1.2s
BADI Badiali 3.81 282 Pn **Pn** 23 45 44.7 +1.8
comp=Z,720nm,1.1s
LJU Ljubljana 3.82 329 *e*Pn **Pn** 23 45 44.8 +1.9
LJU *e* 23 45 56.4
LJU *e*Sn **Sn** 23 46 30.0 +1.6
PKS9 Tamasi 3.83 9⇓ *e*P **Pn** 23 45 44.2 +1.2
TRI Trieste 3.88 319 Pn **Pn** 23 45 44.7 +0.8
comp=Z,782nm,0.4s
JAVS Javornik 3.88 323 *i* Pn **Pn** 23 45 45.2 +1.3
JAVS *e*Sn **Sn** 23 46 30.2 +0.1
IGT Igoumenitsa 3.97 145 *e*P **Pn** 23 45 44.5 -0.6
SACS San Casciano d 4.02 272 Pn **Pn** 23 45 46.0 +0.2
comp=Z,1µm,1.5s
CRE Caprese Michel 4.04 283 Pn **Pn** 23 45 47.1 +0.9
comp=Z,124nm,0.3s
TOLF Tolfa 4.05 261 Pn **Pn** 23 45 46.1 -0.1
comp=Z,231nm,0.8s
GRI Girifalco 4.06 191 Pn **Pn** 23 45 46.2 -0.1
VOY Vojsko 4.07 323 *e*Pn **Pn** 23 45 47.8 +1.3
VOY *e*Sn **Sn** 23 46 34.7 0.0
DJES Djerdap 4.15 62⇓ *i*Pn **Pn** 23 45 48.7 +0.9
DJES Sn **Sn** 23 46 37.9 +1.0
PKS8 Sarbogard 4.17 12⇑ *e*P **Pn** 23 45 48.5 +0.6
SFI Santa Sofia 4.17 287 Pn **Pn** 23 45 49.0 +1.0
comp=Z,113nm,0.4s
OBKA Obir 4.21 332⇑ *i*PN **Pn** 23 45 50.2 +1.7
OBKA *i* SN **Sn** 23 46 41.3 +3.1
PGD Poggio Sodo 4.25 286 Pn **Pn** 23 45 50.5 +1.3
comp=Z,80nm,0.4s
DRE Drenchia 4.29 323⇓ *i*Pn **Pn** 23 45 50.4 +0.8
VTS Vitosha 4.31 91 *i* P **Pn** 23 45 51.0 +1.1
VTS Vitosha 4.31 91 P **Pn** 23 46 03.2 +13
ARCI Arcidosso 4.34 272 Pn **Pn** 23 45 51.4 +1.1
comp=Z,86nm,0.8s
KKB Krupnik 4.34 101 *i* P **Pn** 23 45 52.0 +1.6
TLI Talmassons 4.36 317⇑ *i*PN **Pn** 23 45 51.3 +0.7
COLI Coloredo 4.38 321⇓ *i*Pn **Pn** 23 45 51.5 +0.6
VMG Vicchio 4.40 287 Pn **Pn** 23 45 52.5 +1.3
comp=Z,544nm,0.7s
CSNT Castellina Chi 4.50 280 Pn **Pn** 23 45 52.6 0.0
comp=Z,152nm,0.6s
BAD Bernadia 4.52 321⇓ *i*Pn **Pn** 23 45 53.1 +0.2
SEI Scarperia 4.55 288 Pn **Pn** 23 45 54.7 +1.3
comp=Z,548nm,0.4s
LSR Lussari 4.57 324⇑ *i*PN **Pn** 23 45 54.9 +1.2
PTCC Patocco-Chiusa 4.59 323 Pn **Pn** 23 45 54.6 +0.6
MAON Monte Argentar 4.62 267 Pn **Pn** 23 45 53.9 -0.5
comp=Z,169nm,1.2s
ARSA Arzberg 4.62 344⇑ *i*PN **Pn** 23 45 55.5 +1.1
ARSA *i* SN **Sn** 23 46 50.4 +1.6
PKSG 4.63 9⇑ *e*P **Pn** 23 45 55.6 +1.1
MPRI Monte Prat 4.64 319⇑ *i*Pn **Pn** 23 45 55.1 +0.4
BOO Bordano 4.65 320⇑ *i*Pn **Pn** 23 45 55.6 +0.9
GRFL Gerfalco 4.70 276 Pn **Pn** 23 45 54.9 -0.6
comp=Z,66nm,0.9s
LIT Litokhoron 4.71 123 *e*P **Pn** 23 45 55.3 -0.3
THE Thessaloniki 4.72 116 *e*P **Pn** 23 45 55.2 -0.6
FNVD Fontana Vidola 4.74 289 Pn **Pn** 23 45 57.7 +1.6
comp=Z,274nm,0.5s
CAE Caneva 4.76 314⇑ *i*Pn **Pn** 23 45 56.8 +0.5
MLNI Malnisio 4.77 316 *e*Pn **Pn** 23 45 56.7 +0.3
PLRO Paularo 4.80 323⇑ *e*Pn **Pn** 23 45 57.5 +0.7
LKD Levkas 4.80 148 *e*P **Pn** 23 45 55.1 -1.9
BUD Budapest 4.81 13⇑ *e*Pn **Pn** 23 45 58.0 +0.9
BUD *e*Sn **Sn** 23 46 53.2 -0.3
TEOL Teolo 4.83 304⇑ *i*Pn **Pn** 23 45 57.3 0.0
SOI Samo 4.84 192 Pn **Pn** 23 45 56.5 -1.0
MMB Musomiste 4.88 102 *i* P **Pn** 23 45 59.5 +1.5
ZOU Zoufplan 4.88 322⇑ *i*Pn **Pn** 23 45 58.5 +0.5
ZCCA Zocca 4.89 290 Pn **Pn** 23 46 00.0 +1.8
comp=Z,100nm,0.6s
SOH Sokhos 4.89 112 *e*P **Pn** 23 45 58.7 +0.4
SOP Sopron 4.90 354 *e*Pn **Pn** 23 46 00.0 +1.7
SOP *e*Sn **Sn** 23 46 56.3 +0.5
SRS Serrai 4.94 108 *e*P **Pn** 23 45 59.0 +0.2
MTTG Motta San Giov 4.98 195 Pn **Pn** 23 45 58.9 -0.5
comp=Z,88nm,0.4s
SRO1 Iza 4.98 7 *e*PN **Pn** 23 46 01.2 +1.7
SRO1 *e*SN **Sn** 23 46 58.5 +0.6
CSO Casso 5.00 315⇑ *i*Pn **Pn** 23 45 59.5 -0.2
CSMI Casera Mimoias 5.00 319⇑ *e*Pn **Pn** 23 46 00.5 +0.8
SRO2 Moca 5.00 8 *e*PN **Pn** 23 46 00.7 +1.0
SRO2 *e*SN **Sn** 23 46 59.5 +1.2
FVI Forni Avoltri 5.00 321 Pn **Pn** 23 45 59.9 +0.2
PGB Panagyurishte 5.02 91 *e*P **Pn** 23 46 01.0 +1.1
CGRP Cima Grappa 5.03 309⇑ *i*Pn **Pn** 23 46 00.0 -0.2
SRO Srobarova 5.04 7 *e*PN **Pn** 23 46 02.2 +1.9
SRO *e*SN **Sn** 23 46 58.0 -1.3
PII Pisa 5.08 283 Pn **Pn** 23 46 00.3 -0.6
comp=Z,33nm,0.2s
BDI Bagni Di Lucca 5.09 286 Pn **Pn** 23 46 00.7 -0.3
comp=Z,10.0nm,0.2s
KBA Koelnbreinsper 5.13 328⇑ *i*PN **Pn** 23 46 02.7 +1.1
KBA *i* SN **Sn** 23 47 03.4 +1.8
EVR Evrytania 5.15 138 *e*P **Pn** 23 46 02.0 +0.2
FAU Forcella Aurin 5.15 313⇑ *i*Pn **Pn** 23 46 02.1 +0.3
PENC Penc 5.15 14⇑ *e*P **Pn** 23 46 02.8 +0.9
GSCL Gusciola 5.16 290 Pn **Pn** 23 46 02.9 +0.9
comp=Z,61nm,0.5s
CTI Castel Tesino 5.22 310 Pn **Pn** 23 46 02.6 -0.2
comp=Z,184nm,0.4s
AFL Alpe Faloria 5.24 317⇑ *i*Pn **Pn** 23 46 03.7 +0.5
VLC Villacollemand 5.26 287 *e*Pn **Pn** 23 46 01.6 -1.7
comp=Z,42nm,0.6s
VLC *e*Sn **Sn** 23 47 01.5 -3.3
VLC Villacollemand 5.26 287 *e*Pn **Pn** 23 46 01.6 -1.8
comp=Z,42nm,0.6s
VLC *e*Sn **Sn** 23 47 01.5 -3.3
ERBM Eremo 5.30 290 Pn **Pn** 23 46 05.0 +1.0
comp=Z,68nm,0.4s
SEST Monte Rota 5.38 319 Pn **Pn** 23 46 05.7 +0.6
ZST Bratislava 5.38 358 *e*PN **Pn** 23 46 06.4 +1.3
ZST *e*SN **Sn** 23 47 06.5 -1.4

VALM 5.40 289 P **Pn** 23 46 05.7 +0.3
VALM S **Sn** 23 47 02.5 -5.8
VALM 5.40 289 P **Pn** 23 46 05.7 +0.4
PSZ Piszkesteto 5.40 18 *e*P **Pn** 23 46 05.5 +0.1
PSZ pmax pmax
comp=Z,67nm,0.6s
PSZ Piszkesteto 5.40 18 *e*Pn **Pn** 23 46 05.5 +0.1
comp=Z,68nm,0.6s
PSZ Piszkesteto 5.40 18⇓ *i*Pn **Pn** 23 46 05.5 +0.1
PSZ *e*Sn **Sn** 23 47 06.1 -2.3
PSZ Piszkesteto 5.40 18 *e*Pn **Pn** 23 46 05.5 +0.1
comp=Z,68nm,0.6s
PSZ *e*S **Sn** 23 47 06.1 -2.3
VINC Vinca 5.42 287 P **Pn** 23 46 06.7 +1.1
VINC S **Sn** 23 47 04.0 -4.8
GIB Gibilmanna 5.46 209 Pn **Pn** 23 46 05.7 -0.5
comp=Z,80nm,0.6s
MOA Molln 5.49 338⇑ *i*PN **Pn** 23 46 08.5 +1.9
MOA *i* SN **Sn** 23 47 13.0 +2.4
DRGR 5.50 42 P **Pn** 23 46 07.2 +0.5
DRGR 5.50 42 ⇑P **Pn** 23 46 06.6 -0.1
DRGR 5.50 42 P **Pn** 23 46 07.2 +0.5
VKA Vienna 5.50 353⇑ *i*PN **Pn** 23 46 08.3 +1.5
VKA *i* SN **Sn** 23 47 12.4 +1.6
BACM 5.50 288 P **Pn** 23 46 07.5 +0.7
BACM 5.50 288 P **Pn** 23 46 07.5 +0.7
OUR Ouranopolis 5.54 114 *e*P **Pn** 23 46 07.0 -0.3
PAIG Paliouri 5.55 119 *e*P **Pn** 23 46 06.1 -1.5
GRAM 5.56 290 P **Pn** 23 46 07.8 +0.2
GRAM 5.56 290 P **Pn** 23 46 07.8 +0.2
RZN Rozhen 5.57 99 *i* P **Pn** 23 46 08.6 +0.9
XOR Xorichti 5.59 126 *e*P **Pn** 23 46 06.4 -1.6
SAL Salo 5.66 302 Pn **Pn** 23 46 09.0 0.0
comp=Z,492nm,0.7s
CODM 5.68 289 P **Pn** 23 46 09.6 +0.2
CODM 5.68 289 P **Pn** 23 46 09.6 +0.2
SMOL Smolenice 5.70 0 *e*PN **Pn** 23 46 09.7 +0.1
SMOL *e*SN **Sn** 23 47 13.7 -2.1
APPI Appiano 5.71 312 Pn **Pn** 23 46 09.9 +0.2
comp=Z,576nm,0.3s
VYHS Vyhne 5.77 10 *i* PN **Pn** 23 46 11.9 +1.3
VYHS *i* SN **Sn** 23 47 16.9 -0.7
VAE Valguarnera 5.79 204 P **Pn** 23 46 13.9 +3.0
comp=Z,1.1nm,0.3s,baz=100,slow=11,SNR=3.5
KOLL Kolacno 5.81 7 *e*PN **Pn** 23 46 11.1 0.0
KOLL *e*SN **Sn** 23 47 17.3 -1.3
MABI Malga Bissina 5.88 306 Pn **Pn** 23 46 12.1 0.0
comp=Z,61nm,0.7s
WTTA Wattenberg 6.02 320⇑ *i*PN **Pn** 23 46 14.8 +0.6
WTTA *i* SN **Sn** 23 47 25.5 +1.5
BOB Bobbio (Coli) 6.06 291 Pn **Pn** 23 46 14.8 +0.1
comp=Z,14nm,0.6s
KECS Kecovo 6.07 20 *e*PN **Pn** 23 46 15.7 +0.9
KECS *e*SN **Sn** 23 47 21.9 -3.3
KDZ Kurdzhali 6.08 98 *i* P **Pn** 23 46 15.0 0.0
WATA Walderalm 6.10 320⇑ *i*PN **Pn** 23 46 16.0 +0.7
WATA *i* SN **Sn** 23 47 27.9 +1.9
VOIR 6.11 62 ⇑P **Pn** 23 46 17.5 +2.1
BRMO Bormio 6.19 309 Pn **Pn** 23 46 16.5 0.0
comp=Z,70nm,0.7s
SQTA Sankt Quirin 6.20 317⇑ *i*PN **Pn** 23 46 17.6 +0.9
SQTA *i* SN **Sn** 23 47 30.9 +2.5
FUORN Ofenpass 6.33 309 Pn **Pn** 23 46 19.6 +1.1
VRAC Vranov 6.51 356 P **Pn** 23 46 22.3 +1.2
GERES GERESS Array B 6.55 338 P **Pn** 23 46 21.9 +0.3
comp=Z,5.6nm,0.3s,baz=157,slow=15,SNR=94
GERES S **Sn** 23 47 36.8 -0.3
comp=Z,30nm,0.3s,baz=150,slow=23,SNR=24
GERES LR LR 23 49 27.4
comp=Z,129nm,20.8s,baz=339,slow=43
PCP Pian Castagno 6.63 288 P **Pn** 23 46 20.7 -2.0
DAVOX Davos 6.64 309 P **Pn** 23 46 23.5 +0.7
comp=Z,4.3nm,0.3s,baz=134,slow=15,SNR=37
DAVOX S **Sn** 23 47 38.9 -0.5
comp=Z,11nm,0.3s,baz=334,slow=20,SNR=5.9
DAVOX Davos 6.64 309 P **Pn** 23 46 23.5 +0.6
DAVOX S **Sn** 23 47 38.9 -0.5
DAVOX Davos 6.64 309 Pn **Pn** 23 46 23.8 +0.9
MLR Muntele Rosu 6.72 64 P **Pn** 23 46 28.3 +4.3
MLR Muntele Rosu 6.72 64 P **Pn** 23 46 23.2 -0.8
comp=Z,1.3nm,0.3s,baz=220,slow=9.5,SNR=14
MLR S **Sn** 23 47 44.8 +3.4
comp=Z,1.7nm,0.3s,baz=237,slow=16,SNR=3.4
MLR LR LR 23 49 25.6
comp=Z,401nm,18.2s,baz=295,slow=42
MLR Muntele Rosu 6.72 64 P **Pn** 23 46 23.2 -0.8
MLR S **Sn** 23 47 38.8 +3.4
MLR LR 23 49 25.6
MLR Muntele Rosu 6.72 64 ⇑P **Pn** 23 46 27.6 +3.6
CRVS Cervenica-Dubn 6.72 24 *e*PN **Pn** 23 46 24.2 +0.2
CRVS *e*SN **Sn** 23 47 37.9 -3.5
MUGIO Muggio 6.73 300 Pn **Pn** 23 46 22.5 -1.6
ALN Alexandroupoli 6.75 104 *e*P **Pn** 23 46 24.6 +0.1
FIN Finale Ligure 6.81 285 P **Pn** 23 46 22.7 -2.5
FIN Finale Ligure 6.81 285 Pn **Pn** 23 46 22.9 -2.3
comp=Z,76nm,0.6s
KHC Kasperske Hory 6.84 339 *e*PN **Pn** 23 46 26.2 +0.5
KHC *e*SN **Sn** 23 47 44.0 -0.5
FUR Furstenfeldbru 6.85 323 *e*P **Pn** 23 46 25.7 -0.1
VSL Villasalto 6.88 244 *e*Pn **Pn** 23 46 24.9 -1.4
comp=Z,15nm,0.6s
VSL Villasalto 6.88 244 Pn **Pn** 23 46 25.5 -0.8
comp=Z,17nm,0.7s
NIE Niedzica 6.91 16 *e*Pn **Pn** 23 46 28.3 +1.6
NIE *e*Sn **Sn** 23 47 44.6 -1.6
DAVA Damuels 6.94 313⇑ *i*PN **Pn** 23 46 27.6 +0.6
DAVA *i* SN **Sn** 23 47 46.6 -0.2
MORC Moravsky Berou 6.96 1 *e*P **Pn** 23 46 27.3 -0.1
MORC *e* 23 47 45.6
MORC pmax pmax
comp=Z,22nm,0.7s
MORC Moravsky Berou 6.96 1 *e*Pn **Pn** 23 46 27.3 -0.1
comp=Z,22nm,0.7s
MORC *e*Sn **Sn** 23 47 45.6 -1.9
MORC Moravsky Berou 6.96 1 *e*P **Pn** 23 46 27.3 -0.1
comp=Z,22nm,0.7s
IMI Imperia 7.00 282 P **Pn** 23 46 25.7 -2.2
IMI Imperia 7.00 282 Pn **Pn** 23 46 25.8 -2.1
comp=Z,13nm,0.4s
KOLS Kolonicke sedl 7.01 28 *e*PN **Pn** 23 46 29.2 +1.2
OKC Ostrava-Krasne 7.04 4 *e*PN **Pn** 23 46 29.7 +1.2
OKC *e*SN **Sn** 23 47 48.0 -1.5
WET Wettzell 7.06 335 *e*Pn **Pn** 23 46 28.4 -0.3
WET *e*Sn **Sn** 23 47 49.2 -0.7
ROB Roburent 7.06 285 P **Pn** 23 46 26.1 -2.7
MONC Moncucco Torin 7.18 292 Pn **Pn** 23 46 29.3 -1.2
comp=Z,46nm,0.5s
SAOF Saorge 7.25 283 *e*P **Pn** 23 46 29.5 -1.9
ORO Oropa 7.31 296 Pn **Pn** 23 46 29.1 -3.1
ORX Oropa 7.31 296 P **Pn** 23 46 28.9 -3.4
SBF Sospel 7.32 282 *e*Pn **Pn** 23 46 30.7 -1.7
SBF *e*Sn **Sn** 23 47 46.9 -10
comp=Z,53nm,0.3s
BURAR Bucovina Array 7.33 46 ⇑P **Pn** 23 46 34.1 +1.6
AUTN L'Aution 7.34 283 *e*P **Pn** 23 46 31.0 -1.7
VRI Vrincioaia 7.37 62 ⇓P **Pn** 23 46 36.9 +3.8
ENR Entracque 7.37 284 P **Pn** 23 46 31.7 -1.4
PRU Pruhonice 7.43 346 *e*PN **Pn** 23 46 35.4 +1.4
PRU *e*SN **Sn** 23 47 57.3 -2.0
STV Sta Anna Valdi 7.44 284 P **Pn** 23 46 31.0 -3.1
TOUF Mont Tournerai 7.47 283 *e*P **Pn** 23 46 33.3 -1.2
MVIF Mont Vial 7.53 282 *e*P **Pn** 23 46 33.8 -1.5
DOI San Damiano 7.54 286 Pn **Pn** 23 46 32.8 -2.6
DPC Dobruska-Polom 7.57 355 *e*PN **Pn** 23 46 37.0 +1.1
DPC *e*SN **Sn** 23 48 00.3 -2.4
BHB Bricherasio 7.58 289 P **Pn** 23 46 32.1 -4.1
OJC Ojcow 7.59 12 *e*P **Pn** 23 46 37.4 +1.2
OJC *e* 23 47 59.5
OJC Ojcow 7.59 12 *e*Pn **Pn** 23 46 37.4 +1.2
OJC *e*PP PP 23 46 45.5 +1.6
OJC *e*Sn **Sn** 23 47 59.5 -3.7
RSP Reno Superiore 7.66 291 P **Pn** 23 46 32.5 -4.7
CALN Calern 7.71 281 *e*P **Pn** 23 46 36.3 -1.5
UPC Upice 7.75 354 *e*PN **Pn** 23 46 39.3 +0.9
UPC *e*SN **Sn** 23 48 05.5 -1.6
KWP Kalwaria 7.75 27 *e*P **Pn** 23 46 39.1 +0.6
KWP pmax pmax
comp=Z,21nm,0.6s
KWP Kalwaria 7.75 27 *e*Pn **Pn** 23 46 39.1 +0.6
comp=Z,20nm,0.6s
KWP Kalwaria 7.75 27 *e*P **Pn** 23 46 39.1 +0.6
comp=Z,21nm,0.6s

OG22 Abries 7.80 288 *e*P **Pn** 23 46 36.0 -3.2
LSD Ceresole Reale 7.81 293 P **Pn** 23 46 35.3 -3.9
FRF La Foret Royal 7.87 279 *e*Pn **Pn** 23 46 38.2 -2.0
FRF *e*Sn **Sn** 23 48 01.2 -9.1
comp=Z,39nm,0.5s
MBDF Montbardon 7.91 288 *e*Pn **Pn** 23 46 37.7 -2.9
MBDF *e*Sn **Sn** 23 48 01.0 -10
comp=Z,87nm,0.8s
RRL Cesana Torines 7.94 289 P **Pn** 23 46 37.4 -3.6
PVCC Panska Ves 7.95 347 *e*PN **Pn** 23 46 42.8 +1.6
LMR La Mourre 7.97 277 *e*Pn **Pn** 23 46 39.7 -1.8
LMR *e*Sn **Sn** 23 48 03.5 -9.2
comp=Z,14nm,0.3s
KSP Ksiaz 8.06 355 *e*P **P** 23 46 45.4 +2.6
KSP *e* 23 48 11.4
KSP Ksiaz 8.06 355 *e*Pn **P** 23 46 45.4 +2.6
KSP *e* 23 46 48.0
KSP *e*Sn **Sn** 23 48 11.4 -3.6
GRA1 Grafenberg Arr 8.09 330 *e*Pn **P** 23 46 43.1 0.0
GRA1 *e*Sn **Sn** 23 48 11.8 -3.8
GRF Grafenberg Arr 8.09 330 *e*Pn **P** 23 46 43.1 0.0
GRF *e*Sn **Sn** 23 48 11.8 -3.8
LPG La Plagne 8.09 293 *e*Pn **P** 23 46 40.2 -3.0
LPG *e*Sn **Sn** 23 48 05.1 -11
comp=Z,80nm,0.5s
LPL La Plagne 8.11 293 *e*Pn **P** 23 46 40.7 -2.8
LPL *e*Sn **Sn** 23 48 06.7 -9.5
comp=Z,97nm,0.5s
CFR Carcaliu 8.11 69 ⇓P **P** 23 46 43.6 +0.1
NKC Novy Kostel 8.16 337 *e*PN **P** 23 46 43.5 -0.6
NKC *e*SN **Sn** 23 48 14.4 -2.9
RSL Roselend 8.23 294 *e*P **P** 23 46 43.4 -1.7
STU Stuttgart 8.25 319 *e*P **P** 23 46 43.3 -2.1
STU pmax pmax
comp=Z,37nm,0.6s
STU Stuttgart 8.25 319 *e*Pn **P** 23 46 43.3 -2.1
comp=Z,38nm,0.6s
STU Stuttgart 8.25 319 *e*Pn **P** 23 46 43.3 -2.1
comp=Z,38nm,0.6s
TAVF Tavernes 8.30 279 *e*P **P** 23 46 44.9 -1.2
FELD Feldberg 8.31 311 *e*P **P** 23 46 44.5 -1.8
BBS Basel-Blauen 8.38 307 *e*P **P** 23 46 45.6 -1.6
BRG Berggiesshubel 8.39 345 P **P** 23 46 48.7 +1.3
BRG *e* 23 48 22.9
BRG pmax pmax
comp=Z,5.0nm,0.7s
BRG pmax pmax
comp=Z,35nm,0.6s
BRG MLR MLR
comp=N,401nm,9.5s
BRG MLR MLR
comp=E,101nm,9.5s
BRG MLR MLR
comp=Z,433nm,10.5s
BRG Berggiesshubel 8.39 345 Pn **P** 23 46 48.7 +1.3
comp=Z,5.0nm,0.6s
BRG *e* 23 48 22.9
BRG *e* 23 48 41.0
BRG Berggiesshubel 8.39 345 P **P** 23 46 48.7 +1.3
comp=Z,5.0nm,0.7s
BFO Black Forest 8.40 314 *e*Pn **P** 23 46 45.6 -1.9
BFO *e*Sn **Sn** 23 48 16.5 -6.9
VILF Villemus 8.56 281 *e*P **P** 23 46 48.6 -1.1
PUYF Puyloubier 8.56 279 *e*P **P** 23 46 48.6 -1.1
ORIF Oris-en-Rattie 8.56 288 *e*Pn **P** 23 46 47.8 -2.0
ORIF *e*Sn **Sn** 23 48 17.7 -10
comp=Z,44nm,0.5s
ORIF *e*R
comp=Z,223nm,18.0s
BERF Bertagne 8.57 277 *e*P **P** 23 46 48.8 -1.0
SMRF Simiane la Rot 8.67 282 *e*Pn **P** 23 46 48.8 -2.4
SMRF *e*Pg P 23 47 24.9 +34
SMRF *e*Sn **Sn** 23 48 20.4 -10
comp=Z,12nm,0.5s
LOMF Lomont 8.73 305 *e*P **P** 23 46 50.6 -1.4
GELF Grande-Etoile 8.76 278 *e*P **P** 23 46 51.2 -1.3
MOX Moxa 8.77 335 *e*Pn **P** 23 46 51.7 -0.9
MOX *e*Sn **Sn** 23 48 27.5 -5.0
MOX Moxa 8.77 335 *i* P **P** 23 46 51.7 -0.9
MOX S **Sn** 23 48 27.0 -5.5
MOX L 23 50 34.0
MOF Molkenrain 8.79 308 *e*P **P** 23 46 52.2 -0.7
CABF La Chapelle 8.88 299 *e*Pn **P** 23 46 51.9 -2.3
CABF *e*Sn **Sn** 23 48 23.8 -12
comp=Z,55nm,0.7s
HINF Hinteralfeld 8.94 308 *e*Pn **P** 23 46 53.4 -1.5
HINF *e*Sn **Sn** 23 48 26.4 -10
comp=Z,32nm,0.4s
ECH Echery 8.97 310 *e*P **P** 23 46 54.4 -1.0
CLL Collm 9.00 342 *e*Pn **P** 23 46 56.0 +0.2
CLL *e*Sn **Sn** 23 48 30.0 -8.3
CLL *e*Sb **Sb** 23 49 06.0 -1.0
CLL *e*Sg **Sg** 23 49 44.0 +1.6
CLL Collm 9.00 342 *e*PN **P** 23 46 56.0 +0.2
CLL *e* 23 47 27.0
CLL *e*SN **Sn** 23 48 30.0 -8.3
CLL *e* 23 49 06.0
CLL *e*SG **Sg** 23 49 44.0 +1.6
CDF Champ du Feu 9.02 312 *e*Pn **P** 23 46 54.3 -1.7
CDF *e*Sn **Sn** 23 48 29.1 -10
CDF *e*Sg **Sg** 23 49 27.1 -16
comp=Z,35nm,0.7s
CDF Champ du Feu 9.02 312 *e*Pn **P** 23 46 54.3 -1.7
CDF *e*Sg **Sg** 23 49 27.1 -16
comp=Z,18nm,0.7s
TOD Tromm 9.02 322 *e*P **P** 23 46 54.3 -1.7
OG05 Jujurieux 9.11 295 *e*P **P** 23 46 54.7 -2.7
KIS Kishinev 9.13 59 *e*P **P** 23 46 59.5 +1.9
KIS MLR MLR
comp=Z,500nm,10.0s
KIS MLR MLR
comp=E,400nm,8.0s
KIS MLR MLR
comp=Z,300nm,10.0s
HAU Haudompre 9.33 308 *e*Pn **P** 23 46 59.3 -1.0
HAU *e*Sn **Sn** 23 48 34.8 -12
comp=Z,74nm,0.5s
HAU *e*R
comp=Z,138nm,17.5s
VIVF Saint-Julien-l 9.40 287 *e*Pn **P** 23 46 57.3 -4.1
VIVF *e*Sn **Sn** 23 48 37.3 -11
comp=Z,27nm,0.7s
IDI Anoyia 9.52 140 P **P** 23 46 57.2 -5.8
comp=Z,1.7nm,0.3s,baz=313,slow=17,SNR=11
IDI S **Sn** 23 48 39.9 -11
comp=Z,2.8nm,0.3s,baz=97,slow=22,SNR=7.1
TNS Taunus Mts 9.62 323 *e*Pn **P** 23 47 03.6 -0.7
TNS *e*Sn **Sn** 23 48 46.6 -7.0
THEF They Montfort 9.65 308 *e*P **P** 23 47 03.5 -1.2
ABH Alteburg 9.79 320 *e*P **P** 23 47 05.7 -1.0
LASF Ste Croix 9.91 282 *e*Pn **P** 23 47 05.8 -2.5
LASF *e*Sn **Sn** 23 48 48.9 -12
comp=Z,12nm,0.7s
RFYF Reffroy 10.14 309 *e*P **P** 23 47 12.6 +1.1
baz=127
RFYF *e*Sn **S** 23 48 54.5 -12
comp=Z,28nm,0.6s
SFTF Sexfontaines 10.19 306 *e*Pn **P** 23 47 09.9 -2.3
baz=124
SFTF *e*Sn **S** 23 48 56.5 -11
comp=Z,39nm,0.7s
COLF Collangettes 10.19 290 *e*P **P** 23 47 07.9 -4.3
MEZF Maizieres J'vi 10.32 308 *e*Pn **P** 23 47 13.3 -0.7
baz=124
MEZF *e*Sn **S** 23 48 59.5 -11
comp=Z,28nm,0.6s
PLDF La Plantade 10.34 292 *e*P **P** 23 47 02.3 -12
WLF Walferdange 10.35 315 P **P** 23 47 17.0 +2.7
SMF Signal de Mont 10.36 296 *e*Pn **P** 23 47 10.7 -3.8
SMF *e*Sn **S** 23 49 00.2 -12
comp=Z,66nm,0.6s
LOR Lormes 10.54 300 *e*Pn **P** 23 47 13.1 -3.9
baz=125
LOR *e*Sn **S** 23 49 03.5 -13
comp=Z,33nm,0.4s
LOR *e*R
comp=Z,152nm,19.0s
SSF Saint Saulge 10.71 298 *e*Pn **P** 23 47 15.6 -3.6
SSF *e*Sn **S** 23 49 08.7 -11
comp=Z,9.6nm,0.5s
BGF Bois d'Agland 11.00 295 *e*Pn **P** 23 47 20.4 -2.8
BGF *e*Sn **S** 23 49 14.0 -13
comp=Z,59nm,0.6s
MEM Membach 11.02 319 P **P** 23 47 23.5 0.0

MTLF	Montolieu	11.10	278	ePn	P	23 47 22.9	-1.7
MTLF				eSn	S	23 49 17.5	-12
	comp=Z,1.9nm,0.4s						
ISP	Isparta	11.19	112	P	P	23 47 25.3	-0.5
ISP				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ISP	Isparta	11.19	112	Pn	P	23 47 25.3	-0.5
	comp=Z,6.0nm,0.8s						
CAF	Calviac	11.25	286	ePn	P	23 47 24.9	-1.8
CAF				eSn	S	23 49 21.7	-12
	comp=Z,5.2nm,0.5s						
GIVF	Givet	11.30	314	ePn	P	23 47 26.0	-1.4
AKASG	Malin Array Be	11.31	42	P	P	23 47 26.8	-0.7
	comp=Z,0.4nm,0.3s,baz=236,slow=13,SNR=18						
HYF	Humbligny	11.33	298	eSn	S	23 49 23.5	-12
TCF	Toulx Ste Croi	11.36	293	ePn	P	23 47 23.9	-4.3
TCF				eSn	S	23 49 23.5	-13
	comp=Z,14nm,0.4s						
DOU	Dourbes	11.42	314	P	P	23 47 29.0	+0.1
BAIF	Baives	11.61	313	eSn	S	23 49 31.0	-11
	comp=Z,27nm,1.0s						
RJF	Les Rejaudoux	11.68	288	ePn	P	23 47 28.7	-3.8
RJF				eR			
	comp=Z,240nm,15.8s						
BRTR	Keskin Array B	12.62	99	P	P	23 47 46.0	+0.8
	comp=Z,0.1nm,0.3s,baz=284,slow=9.3,SNR=8.6						
FLN	La Foliniere	13.79	302	ePn	P	23 48 00.4	-0.1
	baz=119						
FLN				eR			
	comp=Z,180nm,15.0s						
GRR	Gorron	13.91	300	ePn	P	23 48 01.0	-1.2
ANN	Anapa	14.62	75	eP	P	23 48 09.4	-2.0
ANN				eS	S	23 50 50.1	-4.4
ANN				pmax	pmax		
	comp=Z,44nm,1.0s						
SOC	Sochi	16.31	80	eP	P	23 48 34.8	+1.5
SOC				e		23 51 34.9	
SOC				pmax	pmax		
	comp=Z,20nm,0.8s						
SOC				pmax	pmax		
	comp=N,9.0nm,1.1s						
SOC				pmax	pmax		
	comp=E,21nm,0.9s						
SOC				MLR	MLR		
	comp=Z,84nm,14.0s						
SOC				MLR	MLR		
	comp=N,38nm,12.0s						
SOC				MLR	MLR		
	comp=E,23nm,15.0s						
SOC	Sochi	16.31	80	eP	P	23 48 34.8	+1.5
	comp=E,9.0nm,1.1s						
SOC				eS	S	23 51 34.9	+0.8
	comp=E,38nm,12.0s						
VSU	Vasula	16.72	17	i P	P	23 48 38.1	-0.4
HFS	Hagfors	17.49	354	P	P	23 48 47.0	-1.1
	comp=E,0.2nm,0.3s,baz=164,slow=11,SNR=29						
OBN	Obninsk	17.54	39	ePn	P	23 48 47.7	-1.0
	comp=E,15nm,0.8s						
OBN	Obninsk	17.54	39	ePn	P	23 48 47.7	-1.1
	comp=E,15nm,0.8s						
EKA	Eskdalemuir Ar	18.29	320	P	P	23 48 58.0	-0.2
	comp=E,0.3nm,0.3s,baz=131,slow=7.7,SNR=12						
KIV	Kislovodsk	18.42	78	i P	P	23 48 59.2	-0.6
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV	Kislovodsk	18.42	78	i P	P	23 48 59.2	-0.6
	comp=Z,9.0nm,1.0s						
NAO01	NORSAR Array S	18.48	350	P	P	23 48 59.0	-1.4
	comp=Z,5.0nm,0.7s						
GOF	Gofitskoye	18.59	74⇑	iP	P	23 49 07.4	+5.4
GOF				pmax	pmax		
	comp=Z,50nm,1.7s						
NB2	NORSAR Subarra	18.63	351	P	P	23 49 00.9	-1.3
	comp=Z,0.7nm,0.7s,baz=165,slow=9.3						
NB2	NORSAR Subarra	18.63	351	P	P	23 49 00.9	-1.3
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	18.63	351	P	P	23 49 00.9	-1.3
	comp=Z,0.4nm,0.3s,baz=165,slow=13,SNR=8.7						
EIL	Elat	19.27	127	P	P	23 49 08.7	-1.4
	comp=Z,0.2nm,0.3s,baz=335,slow=16,SNR=4.9						
EIL	Elat	19.27	127	eP	P	23 49 08.1	-2.0
	comp=Z,3.4nm,0.6s						
FINES	FINESS Array B	19.37	13	P	P	23 49 08.9	-2.2
	comp=Z,0.9nm,0.3s,baz=175,slow=11,SNR=40						
ZEI	Tsey	19.45	81	eP	P	23 49 08.3	-3.8
HAQS	Haql	19.71	128	S	S	23 52 42.2	-9.2
HAQS				P		23 49 12.9	
JMOS	Jabal al Moall	19.73	128	P	P	23 49 18.4	+3.0
KAF	Kangasniemi	20.04	12	ep	P	23 49 15.7	-2.9
	comp=Z,2.7nm,0.3s,baz=196,slow=11						
KAF	Kangasniemi	20.04	12	eP	P	23 49 15.7	-2.9
KAF				pmax	pmax		
	comp=Z,3.0nm,0.3s						
TBLG	Delisi	20.25	84	P	P	23 49 20.7	-0.2
JMQS	Jabal Moqyreh	20.39	127	P	P	23 49 22.2	-0.2
AYUS	‘Aynunah	20.56	129	P	P	23 49 23.7	-0.5
GNI	Garni	20.65	88	ceP	P	23 49 24.8	-0.2
GNI				pmax	pmax		
	comp=Z,42nm,0.8s						
GNI	Garni	20.65	88	P	P	23 49 24.5	-0.5
	comp=Z,29nm,0.7s,baz=308,slow=2.4,SNR=45						
GNI	Garni	20.65	88	eP	P	23 49 24.5	-0.5
	comp=Z,68nm,1.1s						
GNI	Garni	20.65	88	eP	P	23 49 24.8	-0.2
	comp=Z,42nm,0.8s						
TBKS	Tabuk	21.27	127	P	P	23 49 31.7	+0.2
ARCES	ARCESS Array B	27.11	6	P	P	23 50 24.8	-2.5
	comp=Z,2.1nm,0.6s,mb3.8,baz=191,slow=7.7,SNR=23						
KEV	Kevo	27.46	7	ep	P	23 50 28.0	-2.4
	comp=Z,0.4nm,0.4s,mb3.3						
ARU	Arti	29.46	48⇓	iP	P	23 50 45.4	-3.2
ARU				e		23 53 46.8	
ARU				eS	S	23 55 36.6	-4.9
ARU				e		00 01 23.6	
ARU				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
ARU	Arti	29.46	48	eP	P	23 50 45.2	-3.4
	comp=Z,5.5nm,0.4s,mb4.6						
SVE	Sverdlovsk	30.66	48	eP	P	23 50 57.0	-2.2
SVE				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.9						
SVE				MLR	MLR		
	comp=N,100nm,12.0s,MS4.0						
SVE				MLR	MLR		
	comp=E,200nm,12.0s,MS4.0						
SVE				MLR	MLR		
	comp=Z,400nm,12.0s,MS4.3						
ZRNK	Zerenda	35.36	55	eP	P	23 51 38.6	-1.6
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ZRNK	Zerenda	35.36	55	eP	P	23 51 38.5	-1.6
	comp=Z,3.6nm,0.6s,mb4.5						
BVAR	Borovoye Array	36.19	55	P	P	23 51 45.6	-1.5
	comp=Z,6.8nm,0.7s,mb4.7,baz=265,slow=6.9,SNR=51						
DBIC	Dimbokro	41.00	215	P	P	23 52 28.5	+0.8
	comp=Z,0.9nm,0.3s,mb3.9,baz=352,slow=9.9,SNR=5.3						
AAK	Ala-Archa	41.26	70	i P	P	23 52 28.8	-0.7
AAK				pmax	pmax		
	comp=Z,8.0nm,1.9s,mb4.0						
NVS	Novosibirsk	43.41	50	i P	P	23 52 45.0	-1.9
NVS				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
NVS				pmax	pmax		
	comp=E,3.0nm,0.7s						
ZAL	Zalesovo	44.51	51	P	P	23 52 54.9	-0.9
	comp=E,3.1nm,0.5s,mb4.4,baz=185,slow=6.8,SNR=17						
MKAR	Makanchi Array	45.06	62	P	P	23 52 58.3	-2.0
	comp=E,3.2nm,0.6s,mb4.3,baz=286,slow=6.7,SNR=36						
MKAR				LR	LR	00 13 33.7	
	comp=E,40nm,18.5s,MS3.4,baz=184,slow=38						
WMQ	Urumqi	49.72	63	eP	P	23 53 37.9	+1.1
KOLN	Koldanda	54.78	83	eP	P	23 54 10.5	-4.5
GKN	Gorkha	55.41	82	eP	P	23 54 17.6	-1.9
	comp=E,31nm,0.7s,mb5.4						
DMN	Daman	55.97	82	eP	P	23 54 22.1	-1.5
KKN	Kakani	56.00	82	eP	P	23 54 21.8	-2.0
	comp=E,14nm,0.6s,mb5.2						
KKN	Kakani	56.00	82	eP	P	23 54 21.8	-2.0
KKN				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
PKI	Pulchoki	56.22	82	eP	P	23 54 23.5	-1.8
	comp=Z,11nm,0.6s,mb5.0						
PKI	Pulchoki	56.22	82	eP	P	23 54 23.5	-1.8
PKI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
GUN	Gumba	56.37	82	eP	P	23 54 25.1	-1.3
LSA	Lhasa	59.16	77	eP	P	23 54 45.3	-0.8
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
LSA	Lhasa	59.16	77	eP	P	23 54 45.3	-0.8
	comp=Z,4.9nm,0.6s,mb4.7						
SONM	Songino Array	59.41	51	P	P	23 54 46.0	-1.5
	comp=Z,2.0nm,0.9s,mb4.2,baz=290,slow=8.8,SNR=14						
ULN	Ulaanbaatar	59.77	51	i P	P	23 54 48.6	-1.4
GTA	Gaotai	59.79	63	eP	P	23 54 48.8	-1.5
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.4						
BOSA	Boshof	71.45	173	P	P	23 56 04.3	-1.0
	comp=Z,2.8nm,0.9s,mb4.2,baz=13,slow=7.2,SNR=4.0						
CMAR	Chiang Mai Arr	71.61	82	P	P	23 56 05.0	-1.4
	comp=Z,6.2nm,0.7s,mb4.7,baz=306,slow=7.4,SNR=30						
MDJ	Mudanjiang	74.02	43	P	P	23 56 16.1	-4.0
MDJ				AMB	AMB		
	comp=Z,84nm,4.1s						
NJ2	Nanjing	76.51	59	eP	P	23 56 29.2	-5.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CCM	Cathedral Cave	76.69	310	eP	P	23 56 36.1	+0.6
CCM				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CCM	Cathedral Cave	76.69	310	eP	P	23 56 36.1	+0.6
	comp=Z,4.0nm,0.8s,mb4.4						
SSE	Sheshan	78.62	58	eP	P	23 56 43.0	-3.3
SSE				AMB	AMB		
	comp=Z,19nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,51nm,4.0s						
PDAR	Pinedale Array	82.38	324	P	P	23 57 06.1	+0.1
	comp=Z,0.9nm,0.9s,mb3.7,baz=63,slow=6.6,SNR=6.8						
BDFB	Brasilia	83.47	242	LR	LR	00 37 23.9	
	comp=Z,24nm,19.1s,MS3.6,baz=117,slow=38						
BMO	Blue Mountains	83.80	329	eP	P	23 57 13.5	+0.3
	comp=Z,4.1nm,1.2s,mb4.4						
ROSC	El Rosal	87.98	275	LR	LR	00 33 33.6	
	comp=Z,46nm,18.2s,MS3.9,baz=5.7,slow=33						
TXAR	Lajitas Array	90.07	312	P	P	23 57 44.5	+0.4
	comp=Z,0.8nm,0.9s,mb4.1,baz=63,slow=2.8,SNR=7.9						

*ISK **04** 00:23:05.4, 34.72N×27.02E, h49^{km}, ML3.9*
*IDC **04** 00:23:06.5±1.7, 35.26N×27.14E, mb3.8/8, mb1 3.8/12, mb1mx3.7/26, mbtmp3.7/12, ML3.5/4, MS2.5/1, Ms1 2.5/1, ms1mx2.1/24, Error ellipse: s-maj=35.8km s-min=18.2km az=26.0*
*MOS **04** 00:23:09.5±2.1, 35.37N×27.25E, h10^{km}, mb4.1/4, Error ellipse: s-maj=13.4km s-min=10.0km az=78.2*
*ATH **04** 00:23:10.9, 35.18N×27.20E, h24^{km}±2^{km}, MD3.8/10*
*CSEM **04** 00:23:10.2±0.1, 35.01N×27.40E, h60^{km}, MD3.8, Error ellipse: s-maj=1.7km s-min=1.1km az=71.0*
*HLW **04** 00:23:10.0, 35.08N×27.54E, h12^{km}, Mb3.5*
*NEIC **04** 00:23:10.3, 35.13N×27.22E, h24^{km}, MD3.8(ATH), ML3.7(ISK), After ATH.*
ISC 04 00:23:07.6±0.3**, 34.96N**±0.02×**27.38E**±0.03**, h10^{km}, n94, σ1s19**/108**, mb3.5**/8**, 8C-3D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.62	343	ePb	Pb	00 23 18.7	-1.3
KARP				eSb	Sb	00 23 26.2	-2.2
KARP	Karpathos	0.62	343	ePB	Pb	00 23 18.7	-1.3
KARP				eSB	Sb	00 23 24.9	-3.5
XRY	Khrisi	1.39	267	ePN	Pn	00 23 34.5	+1.4
XRY	Khrisi	1.39	267	ePn	Pn	00 23 34.0	+0.9
ARG	Arkhangelos	1.40	26	ePN	Pn	00 23 34.8	+1.5
ARG				eSN	Sn	00 23 53.1	+1.2
ARG	Arkhangelos	1.40	26	ePn	Pn	00 23 34.6	+1.3
ARG				eSn	Sn	00 23 53.7	+1.8
NPS	Neapolis	1.48	282	ePN	Pn	00 23 35.7	+1.3
IDI	Anoyia	2.07	280	Pn	Pn	00 23 44.5	+1.7
	14nm,0.3s,baz=85,slow=16,SNR=56						
IDI				Sn	Sn	00 24 13.8	+4.9
	30nm,0.3s,baz=276,slow=17,SNR=4.7						
DALT	Dalyan (Mudla)	2.08	29	PN	Pn	00 23 43.5	+0.5
DALT				SN	Sn	00 24 12.8	+3.6
BODT	Bodrum	2.10	358	PN	Pn	00 23 42.6	-0.8
BODT				SN	Sn	00 24 10.1	+0.3
SANT	Santorini	2.11	313	ePn	Pn	00 23 43.0	-0.4
SANT	Santorini	2.11	313	ePn	Pn	00 23 43.0	-0.4
KSL	Kastellorizon	2.16	56	ePB	Pb	00 23 48.0	+1.7
FETY	Fethiye	2.17	39	PN	Pn	00 23 45.5	+1.1
YER	Yerkesik	2.29	18	PN	Pn	00 23 47.1	+1.0
MLSB	Milas	2.36	8	PN	Pn	00 23 47.5	+0.5
APE	Apeiranthos	2.59	325	PN	Pn	00 23 47.5	-2.8
APE	Apeiranthos	2.59	325	ePn	Pn	00 23 49.9	-0.4
VAM	Vamos	2.64	281	ePB	Pb	00 23 52.7	-2.0
ELL	Elmali	2.73	48	PN	Pn	00 23 54.0	+1.8
SMG	Samos	2.78	351	ePN	Pn	00 23 52.3	-0.8
DENT	Denizli	3.10	25	PN	Pn	00 23 58.7	+1.2
IZM	Izmir	3.44	358	PN	Pn	00 24 02.0	-0.4
BCK	Bucak	3.60	45	PN	Pn	00 24 05.8	+1.1
KHL	Karahalli	3.78	27	PN	Pn	00 24 07.4	+0.2
KYTH	Kithira	3.78	292	ePN	Pn	00 24 06.0	-1.2
ISP	Isparta	3.83	40	ePN	Pn	00 24 08.6	+0.6
ISP	Isparta	3.83	40	ePn	Pn	00 24 08.3	+0.3
HMAT	Matruh	3.86	184⇓	eP	Pn	00 24 10.7	+2.4
HMAT				S	Sn	00 24 54.8	+0.6
SLUM		3.90	208⇑	eP	Pn	00 24 11.5	+2.6
AKS	Akhisar	3.93	5	PN	Pn	00 24 08.5	-0.9
DABA	Dabaa	4.01	169⇓	eP	Pn	00 24 12.1	+1.7
VLI	Veliai	4.01	297	ePN	Pn	00 24 10.6	0.0
LEF	Lefka	4.53	86	ePN	Pn	00 24 18.4	+0.6
HDMB	Hadim	4.60	63	ePN	Pn	00 24 20.3	+1.4
CSS	Prodhromos	4.89	88	eP	Pn	00 24 22.5	-0.5
	14nm,0.6s						
CSS	Prodhromos	4.89	88	eP	Pn	00 24 22.5	-0.5
	14nm,0.6s						
KIZT	Kizilcal	5.32	41	ePN	Pn	00 24 30.0	+0.9
ESKT	Eskisehir	5.33	30	ePN	Pn	00 24 30.3	+1.1
SWA1		5.85	194	P	Pn	00 24 38.5	+2.0
SWA1				S	Sn	00 25 43.0	-1.4
SWA2		5.92	197⇑	eP	Pn	00 24 39.5	+1.9
HNAT	Natroun	5.97	152⇑	eP	Pn	00 24 39.5	+1.3
HNAT	Natroun	5.97	152	P	Pn	00 24 39.5	+1.3
GLL	Jalalah	6.49	144⇑	eP	Pn	00 24 45.7	+0.1
AMAG	Maghara	6.52	130⇑	eP	Pn	00 24 45.5	-0.5
HNTI	Hanita	6.74	104	P	Pn	00 24 50.3	+1.3
HNTI				S	Sn	00 26 05.4	-1.2
BR131	Keskin Array S	6.89	44	eP	Pn	00 24 50.4	-0.8
	1.2nm,0.4s						
BR131	Keskin Array S	6.89	44	eP	Pn	00 24 50.4	-0.8
	1.2nm,0.4s						
BRTR	Keskin Array B	6.89	44	Pn	Pn	00 24 48.9	-2.4
	0.3nm,0.3s,baz=214,slow=13,SNR=15						
KSDI	Kefar Szold	7.09	102	P	Pn	00 24 53.5	-0.5
KZIT	Kziot	7.15	122	P	Pn	00 24 54.0	-0.8
KZIT				S	Sn	00 26 13.8	-3.1
RTMM	Retamin	7.27	120	P	Pn	00 24 55.8	-0.7
HNKL	Nakhl	7.50	130⇑	eP	Pn	00 24 59.1	-0.6
MZDA	Masada	7.62	116	P	Pn	00 25 00.8	-0.6
MZDA				S	Sn	00 26 26.7	-2.0
MKRJ	Makawir	7.71	114	P	Pn	00 25 02.7	+0.1
HFRF	Wahat Farafira	7.82	174⇑	eP	Pn	00 25 04.4	+0.2
PRNI	Paran	7.90	123	P	Pn	00 25 04.2	-1.1
ZFRI	Zfri	7.90	122	P	Pn	00 25 03.8	-1.5
MBH	Mount Berech	8.19	127	P	P	00 25 10.4	+1.0
EIL	Elat	8.29	127	Pn	P	00 25 10.6	-0.2
	1.2nm,0.3s,baz=347,slow=19,SNR=12						
EIL				Sn	Sn	00 26 39.7	-5.8
	0.9nm,0.3s,baz=323,slow=34,SNR=2.8						
EIL	Elat	8.29	127	eP	P	00 25 10.4	-0.5
	3.5nm,0.5s						
EIL	Elat	8.29	127	P	P	00 25 10.5	-0.3
ASUT		8.34	153	P	P	00 25 11.3	-0.2
ASF	Jabal al Asfar	8.41	107	Pn	P	00 25 12.3	-0.2
	0.4nm,0.3s,baz=337,slow=7.7,SNR=3.6						
ASF				Sn	Sn	00 26 55.1	+6.6
	0.3nm,0.3s,baz=151,slow=23,SNR=2.4						
HKAT	Jabal Katrina	8.53	137⇓	eP	P	00 25 13.5	-0.6
ALWS	Ilw as Safayha	8.61	129	P	P	00 25 14.8	-0.4
ALWS				S	Sn	00 26 50.6	-2.8
HAQS	Haql	8.70	130	P	P	00 25 16.2	-0.3
JMOS	Jabal al Moall	8.73	129	P	P	00 25 16.9	0.0
TAYS	Tayyib Ism	9.02	133	P	P	00 25 20.9	0.0
BDAS	Al Bad‘	9.25	133	P	P	00 25 24.6	+0.5
TIP	Timpagrande	9.48	300	ePn	P	00 25 22.1	-5.1
TIP	Timpagrande	9.48	300	ePn	P	00 25 22.1	-5.1
AYUS	‘Aynunah	9.52	133	P	P	00 25 27.7	-0.2
HDK1	Dakhla	9.54	169⇑	eP	P	00 25 28.4	+0.3
MLR	Muntele Rosu	10.58	354	LR	LR	00 28 54.5	
	comp=Z,26nm,21.3s,baz=139,slow=34						
KIV	Kislovodsk	14.83	48	eP	P	00 26 44.9	+5.8
KIV				pmax	pmax		
	comp=N,3.0nm,0.9s						
KIV				pmax	pmax		
	comp=E,3.0nm,0.9s						
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV				MLR	MLR		
	comp=E,15nm,15.0s						
KIV				MLR	MLR		
	comp=Z,32nm,15.0s						
AKASG	Malin Array Be	15.79	4	P	P	00 26 50.2	-1.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	15.79	4	Pn	P	00 26 50.2	-1.3
	comp=Z,0.8nm,0.3s,baz=192,slow=11,SNR=6.8						
GERES	GERESS Array B	17.17	328	Pn	P	00 27 04.8	-4.3
	comp=Z,0.1nm,0.3s,baz=135,slow=11,SNR=7.7						
KHC	Kasperske Hory	17.44	328	eP	P	00 27 10.0	-2.5
ESDC	Sonseca Array	25.30	290	P	P	00 28 32.9	-2.7
	comp=Z,0.1nm,0.3s,mb2.8,baz=81,slow=9.4,SNR=4.5						
FINES	FINESS Array B	26.52	359	P	P	00 28 41.5	-5.3
	comp=Z,0.2nm,0.4s,mb3.0,baz=305,slow=38,SNR=7.9						
FINES	FINESS Array B	26.52	359	P	P	00 28 41.6	-5.2
HFS	Hagfors	26.72	345	P	P	00 28 43.5	-5.2
HFS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS	Hagfors	26.72	345	P	P	00 28 43.5	-5.2
	comp=Z,0.8nm,0.7s,mb3.4,baz=150,slow=12,SNR=11						
ARCES	ARCESS Array B	34.65	359	P	P	00 29 53.7	-5.1
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	ARCESS Array B	34.65	359	P	P	00 29 53.7	-5.1
	comp=Z,1.1nm,0.8s,mb3.8,baz=188,slow=8.6,SNR=4.8						
ARCES	ARCESS Array B	34.65	359	P	P	00 29 53.7	-5.1
BVAR	Borovoye Array	35.18	46	P	P	00 29 59.9	-3.6
	comp=Z,0.6nm,0.8s,mb3.6,baz=233,slow=7.2,SNR=4.0						
MKAR	Makanchi Array	42.37	57	P	P	00 31 03.1	-0.3
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	Makanchi Array	42.37	57	P	P	00 31 03.1	-0.3
	comp=Z,2.0nm,0.6s,mb4.0,baz=277,slow=7.0,SNR=27						
ZAL	Zalesovo	43.82	46	P	P	00 31 14.4	-0.7
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	Zalesovo	43.82	46	P	P	00 31 14.4	-0.7
	comp=Z,1.4nm,0.5s,mb4.0,baz=85,slow=20,SNR=4.0						
SONM	Songino Array	58.20	51	P	P	00 33 03.3	-0.8
	comp=Z,0.6nm,0.6s,mb3.8,baz=292,slow=7.8,SNR=6.7						

IDC 04 00:58:23.3±1.8**, 16.48S**×**178.36W, mb3.8**/4**, mb1 4.1**/4**, mb1mx3.8**/14**, mbtmp3.8**/4**, Error ellipse: s-maj=108.2km s-min=28.4km az=148.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.37	240	P	P	01 05 54.5	-1.9
	3.0nm,0.8s,baz=60,slow=9.8,SNR=4.2						
WRA	Warramunga Arr	44.95	258	P	P	01 06 40.6	-1.7
	0.8nm,0.3s,baz=92,slow=7.9,SNR=11						
ILAR	Eielson Array	84.50	13	P	P	01 10 57.8	-1.2
	0.1nm,0.4s,baz=224,slow=5.2,SNR=5.6						
TXAR	Lajitas Array	85.19	58	P	P	01 11 02.0	-1.3
	0.3nm,0.7s,baz=217,slow=4.5,SNR=4.9						

*HEL **04** 01:06:21.1±0.2, 60.14N×25.31E, ML1.5, ML1.8(UPP), Explosion*
*IDC **04** 01:06:21.2±1.5, 60.19N×25.28E, mb1 2.8/3, mb1mx2.7/22, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=16.4km s-min=7.1km az=144.0*
ISC 04 01:06:18.9±0.8**, 60.12N**±0.05×**25.30E**±0.08**, n13, σ1s06**/24**, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVF	Pernaja	0.51	33	eP	Pg	01 06 29.8	+0.7
PVF				eS	Sg	01 06 36.5	+0.6
VJF	Virojoki	1.20	69	eP	Pb	01 06 42.6	+0.4
VJF				eS	Sb	01 06 57.5	-0.6
FIA0	FINESS Array S	1.38	16	eP	Pb	01 06 45.4	+0.1
FIA0				eS	Sb	01 07 02.4	-1.0
FINES	FINESS Array B	1.38	16	Pg	Pg	01 06 45.3	-1.2
	1.8nm,0.3s,baz=196,slow=17,SNR=96						
FINES				Pn	Pn	01 06 47.5	+2.0
	1.8nm,0.3s,baz=196,slow=13,SNR=97						
FINES				Lg		01 07 02.6	
	0.6nm,0.3s,baz=202,slow=29,SNR=9.4						
FINES				Sn	Sn	01 07 07.3	+2.6
	3.2nm,0.3s,baz=194,slow=23,SNR=28						
FINES				Rg		01 07 10.0	
	16nm,0.9s,baz=191,slow=30,SNR=37						
KAF	Kangasniemi	2.06	13	ePB	Pb	01 06 56.8	-0.1
KAF				eSB	Sb	01 07 23.1	0.0
KAF				MSG		01 07 26.4	
	comp=Z,2.2nm,0.1s						
KEF	Keuruu	2.06	354	ePB	Pb	01 06 57.3	+0.3
KEF				eSB	Sb	01 07 23.4	+0.2
KEF				MSG		01 07 26.3	
	comp=Z,2.4nm,0.1s						
SUF	Sumiainen	2.64	9	ePB	Pb	01 07 06.1	-0.7
SUF				eSB	Sb	01 07 39.4	-0.5
SUF				MSG		01 07 41.2	
	comp=Z,1.1nm,0.1s						
AAL	Aland	2.65	274	eP	Pn	01 07 04.1	+0.5
AAL				eS	Sn	01 07 37.8	+0.8
GRAU	Graesoe	3.38	277	eP	Pn	01 07 13.7	-0.3
NRTU	Norrtaelje	3.39	265	eP	Pn	01 07 15.1	+0.9
HFS	Hagfors	5.80	275	Pn	Pn	01 07 47.1	-1.2
	comp=Z,0.0nm,0.3s,baz=79,slow=15,SNR=5.6						
HFS				Sn	Sn	01 08 51.1	-5.4
	comp=Z,0.0nm,0.3s,baz=80,slow=28,SNR=6.3						
HFS				Lg		01 09 20.4	
	comp=Z,0.0nm,0.3s,baz=90,slow=32,SNR=4.3						
NOA	NORSAR Array B	7.00	284	Pn	Pn	01 08 01.9	-3.4
	comp=Z,0.1nm,0.3s,baz=100,slow=15,SNR=2.3						
ARCES	ARCESS Array B	9.45	0	Pn	P	01 08 36.5	-2.9
	comp=Z,0.1nm,0.3s,baz=182,slow=12,SNR=7.6						
ARCES				Sn	Sn	01 10 18.5	-9.1
	comp=Z,0.0nm,0.3s,baz=185,slow=21,SNR=3.4						

NDI 04 01:22:44.3±3.3**, 17.28N**×**73.77E, h12^{km}**±20^{km}**, MD3.2, ML3.2, Southern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAD	Karad	0.40	85	eP	Pg	01 22 51.5	-1.0
KAD				eS	Sg	01 22 58.6	+0.6
KAD				AML	AML	01 22 60.0	
	comp=N,865nm,0.3s						
KAD				AML	AML	01 23 00.1	
	comp=E,738nm,0.3s						
POO	Poona	1.25	4	eP	Pb	01 23 08.6	+1.2
POO				eS	Sb	01 23 25.9	+2.5
POO				AML	AML	01 23 28.1	
	comp=E,743nm,0.2s						
POO				AML	AML	01 23 28.1	
	comp=N,674nm,0.2s						
BOM	Bombay	1.85	331	ePB	Pb	01 23 17.1	-0.6
BOM				eSB	Sb	01 23 42.0	+1.2
LATR	Latur	2.89	66	eP	Pn	01 23 32.0	+0.8
LATR				eSB	Sb	01 24 11.5	+0.5
AKL	Akola	4.59	42	ePN	Pn	01 23 52.7	-2.6
AKL				ePG	Pg	01 24 09.6	-6.3
AKL				eS	Sn	01 24 46.4	-2.8
AKL				e		01 25 08.8	
NGP	Nagpur	6.31	51	eP	Pn	01 24 12.2	-7.3
NGP				eS	Sn	01 25 23.0	-9.3
BHPL	Bhopal	6.86	29	eP	Pn	01 24 27.8	+0.6
BHPL				eS	Sn	01 25 41.1	-4.9
AJM	Ajmer	9.20	5	eS	Sn	01 26 49.1	+4.8
AJM				e		01 27 02.6	
KHET	Khetri	10.91	10	eS	P	01 25 21.8	-1.7
BHK	Bhakra	14.28	9	e	P	01 26 07.6	-1.0

*NNC **04** 01:22:42.4±7.5, 38.34N×75.38E, mpv3.9, Error ellipse:*

s-maj=71.8km s-min=62.9km az=76.0
*BJI **04** 01:22:43.9,38.56N×75.32E,h7^{km},ML4.2*
*IDC **04** 01:22:44.1±2.2,38.58N×75.55E,mb3.6/9,mb1 3.8/12, mb1mx3.8/23,mbtmp3.6/12,ML3.2/3,MS3.5/2,Ms1 3.4/2, ms1mx2.7/28,Error ellipse: s-maj=43.4km s-min=21.1km az=164.0*
*MOS **04** 01:22:49.4±1.2,38.89N×75.31E,h33^{km},mb3.9/8,Error ellipse: s-maj=22.5km s-min=9.9km az=92.5*
*NEIC **04** 01:22:53.9±3.8,39.05N×75.45E,h55^{km}±24^{km},mb3.7/1, Error ellipse: s-maj=38.5km s-min=13.1km az=178.0*
ISC 04 01:22:45.2±0.3**,38.71N**±0.03×**75.47E**±0.07**,h10^{km},n53, σ1^{s}61**/58**,mb3.5**/10**,MS4.1**/1**,6C-4D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.90**	**26**	⇓PG	**Pg**	**01 23 02.3**	**-0.9**
KSH				*e*SG	**Sg**	**01 23 13.6**	**-1.6**
KSH				Smax			
	comp=N,2μm,0.6s						
KSH				Smax			
	comp=E,4μm,0.8s						
KZA	**Kyzart**	**3.37**	**357**	P	**Pn**	**01 23 41.8**	**+2.8**
	SNR=38						
ULHL	**Ulahol**	**3.58**	**9**	P	**Pn**	**01 23 49.3**	**+7.3**
	SNR=15						
UCH	**Uchtor**	**3.59**	**349**	P	**Pn**	**01 23 45.1**	**+3.0**
	SNR=107						
AML	**Almayashu**	**3.68**	**339**	P	**Pn**	**01 23 45.8**	**+2.4**
	SNR=21						
KBK	**Karagaybulak**	**3.96**	**354**	P	**Pn**	**01 23 50.6**	**+3.1**
	SNR=46						
AAK	**Ala-Archa**	**3.99**	**350**	P	**Pn**	**01 23 51.0**	**+3.2**
	SNR=21						
AAK	**Ala-Archa**	**3.99**	**350**	⇓P	**Pn**	**01 23 50.9**	**+3.1**
	comp=E,24nm,0.6s						
AAK				⇑S	**Sn**	**01 24 43.3**	**+8.1**
	comp=E,105nm,0.8s						
AAK	**Ala-Archa**	**3.99**	**350**	⇓*e*P	**Pn**	**01 23 49.5**	**+1.7**
TKM2	**Tokmak 2**	**4.21**	**1**	P	**Pn**	**01 23 53.8**	**+2.9**
	SNR=33						
CHMS	**Chumysh**	**4.32**	**353**	P	**Pn**	**01 23 55.2**	**+2.7**
	SNR=17						
USP	**Ospenovka**	**4.61**	**351**	P	**Pn**	**01 23 58.5**	**+1.9**
	SNR=31						
KK31	**Karatay Array**	**5.78**	**321**	⇓P	**Pn**	**01 24 13.8**	**+0.7**
	comp=E,6.4nm,0.8s,baz=131,slow=12,SNR=39						
KK31				⇑S	**Sn**	**01 25 19.4**	**-0.8**
	comp=E,6.8nm,0.6s,baz=135,slow=22,SNR=3.4						
THN	**Thein Dam**	**6.27**	**178**	*e*P	**Pn**	**01 24 21.9**	**+1.9**
SDNR	**Sundarnagar**	**7.30**	**170**	*e*P	**Pn**	**01 24 39.0**	**+4.5**
SDNR				*e*S	**Sn**	**01 26 01.0**	**+2.7**
DDI	**Dehra Dun**	**8.63**	**165**	*e*S	**Sn**	**01 26 31.0**	**-0.6**
MK31	**Makanchi Array**	**9.50**	**30**	⇑P	**P**	**01 25 05.4**	**+0.3**
	comp=E,2.0nm,0.7s,baz=208,slow=13,SNR=20						
MKAR	**Makanchi Array**	**9.50**	**30**	Pn	**P**	**01 25 03.7**	**-1.5**
	comp=E,0.4nm,0.3s,baz=202,slow=12,SNR=27						
NDI	**New Delhi**	**10.11**	**171**	*e*P	**P**	**01 25 13.5**	**0.0**
NDI				*e*S	**S**	**01 27 05.4**	**-2.6**
NDI				AML	AML	01 27 14.2	
	comp=E,12nm,0.9s						
NDI				AML	AML	01 27 14.6	
	comp=N,11nm,0.3s						
AYAN	**Aya Nagar**	**10.29**	**172**	*e*P	**P**	**01 25 18.2**	**+2.1**
SONA	**Sohna**	**10.52**	**172**	*e*P	**P**	**01 25 19.7**	**+0.5**
SONA				*e*S	**S**	**01 27 15.8**	**-2.3**
VOSK	**Vostochnaya**	**14.36**	**349**	⇑P	**P**	**01 26 07.9**	**-2.5**
	comp=N,3.7nm,0.8s						
BVAR	**Borovoye Array**	**14.74**	**348**	Pn	**P**	**01 26 13.7**	**-1.8**
	comp=N,0.1nm,0.3s,baz=166,slow=12,SNR=5.4						
BVAR				Lg		01 30 27.0	
	comp=N,0.1nm,0.3s,baz=187,slow=23,SNR=3.1						
ZRNK	**Zerenda**	**14.93**	**345**	⇑P	**P**	**01 26 16.4**	**-1.5**
	comp=N,3.7nm,0.9s						
ZRNK	**Zerenda**	**14.93**	**345**	*e*P	**P**	**01 26 15.7**	**-2.2**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.4s						
ZRNK	**Zerenda**	**14.93**	**345**	*e*P	**P**	**01 26 15.7**	**-2.2**
	comp=Z,9.7nm,1.4s						
AB31	**Akbulak array**	**15.33**	**318**	⇑P	**P**	**01 26 21.4**	**-1.8**
	comp=Z,4.3nm,0.8s,baz=126,slow=12,SNR=35						
BHPL	**Bhopal**	**15.51**	**173**	*e*	**P**	**01 26 17.0**	**-8.7**
BHPL				AML	AML	01 26 21.6	
	comp=E,69nm,0.3s						
BHPL				AML	AML	01 26 22.9	
	comp=N,35nm,0.4s						
ZAL	**Zalesovo**	**16.51**	**20**	Pn	**P**	**01 26 38.9**	**+0.6**
	comp=N,0.2nm,0.3s,baz=272,slow=7.6,SNR=8.0						
ZAL				LR	LR	01 34 08.3	
	comp=N,41nm,19.7s,baz=26,slow=41						
NVS	**Novosibirsk**	**16.97**	**16**	*e*P	**P**	**01 26 42.7**	**-1.4**
ARU	**Arti**	**20.98**	**333**	*e*P	**P**	**01 27 28.5**	**-2.3**
ZAK	**Zakamensk**	**22.86**	**50**	*e*P	**P**	**01 27 51.5**	**+2.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.5						
SONM	**Songino Array**	**24.16**	**58**	P	**P**	**01 28 02.9**	**+0.6**
	comp=Z,0.7nm,0.7s,mb3.2,baz=247,slow=9.4,SNR=5.8						
BRTR	**Keskin Array B**	**32.22**	**285**	P	**P**	**01 29 16.0**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**32.22**	**285**	P	**P**	**01 29 16.0**	**+0.4**
	comp=Z,1.0nm,0.9s,mb3.6,baz=104,slow=5.9,SNR=4.2						
AKASG	**Malin Array Be**	**34.44**	**306**	P	**P**	**01 29 34.4**	**-0.4**
	comp=Z,0.1nm,0.3s,mb3.2,baz=81,slow=7.1,SNR=5.1						
AKASG	**Malin Array Be**	**34.44**	**306**	P	**P**	**01 29 34.4**	**-0.4**
FINES	**FINESS Array B**	**37.73**	**323**	P	**P**	**01 30 02.6**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**37.73**	**323**	P	**P**	**01 30 02.6**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.5,baz=124,slow=10.0,SNR=5.0						
ARCES	**ARCESS Array B**	**40.53**	**336**	P	**P**	**01 30 24.8**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**40.53**	**336**	P	**P**	**01 30 24.8**	**-1.0**
	comp=Z,1.0nm,0.7s,mb3.6,baz=98,slow=8.6,SNR=8.6						
ARCES	**ARCESS Array B**	**40.53**	**336**	P	**P**	**01 30 24.8**	**-1.0**
GERES	**GERESS Array B**	**44.60**	**304**	P	**P**	**01 30 58.7**	**-0.4**
	comp=Z,0.4nm,0.7s,mb3.4,baz=67,slow=7.5,SNR=3.6						
NB2	**NORSAR Subarra**	**44.81**	**322**	P	**P**	**01 30 59.7**	**-0.9**
	comp=Z,0.8nm,0.6s,mb3.7,baz=90,slow=7.9						
NB2	**NORSAR Subarra**	**44.81**	**322**	P	**P**	**01 30 59.7**	**-0.9**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
NOA	**NORSAR Array B**	**44.81**	**322**	P	**P**	**01 30 59.6**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**44.81**	**322**	P	**P**	**01 30 59.5**	**-1.1**
	comp=Z,1.0nm,0.7s,mb3.8,baz=90,slow=7.9,SNR=7.1						
ILAR	**Eielson Array**	**71.64**	**18**	P	**P**	**01 34 07.1**	**-1.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**71.64**	**18**	P	**P**	**01 34 07.1**	**-1.3**
	comp=Z,0.6nm,0.8s,mb3.6,baz=313,slow=4.9,SNR=7.7						
YKA	**Yellowknife Ar**	**78.82**	**5**	P	**P**	**01 34 49.2**	**0.0**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**78.82**	**5**	P	**P**	**01 34 49.2**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=346,slow=5.4,SNR=4.8						
YKA	**Yellowknife Ar**	**78.82**	**5**	P	**P**	**01 34 49.2**	**0.0**
PMG	**Port Moresby**	**81.87**	**109**	LR	LR	02 10 56.9	
	comp=Z,94nm,20.1s,MS4.1,baz=251,slow=35						

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*ISK **04** 01:27:01.7,34.88N×27.13E,h74^{km},ML3.3*
*ATH **04** 01:27:03.4,35.08N×27.29E,h21^{km}±2^{km},MD3.7/6*
*NEIC **04** 01:27:03.3,35.03N×27.31E,h5^{km},MD3.8(ATH),After ATH.*
*CSEM **04** 01:27:04.6±0.5,35.12N×27.32E,h20^{km},MD3.8,Error ellipse: s-maj=11.9km s-min=6.0km az=156.0*
ISC 04 01:27:04.7±0.9**,35.08N**±0.07×**27.30E**±0.07**,h20^{km},n21, σ0^{s}84**/25**,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.48**	**347**	*e*PB	**Pb**	**01 27 12.7**	**-1.7**
KARP				*e*SB	**Sb**	**01 27 20.2**	**-0.8**
KARP	**Karpathos**	**0.48**	**347**	*e*Pb	**Pb**	**01 27 12.7**	**-1.7**
KARP				*e*Sb	**Sb**	**01 27 21.2**	**+0.2**
ARG	**Arkhangelos**	**1.32**	**30**	*e*PN	**Pn**	**01 27 28.6**	**+0.3**
ARG	**Arkhangelos**	**1.32**	**30**	*e*Pb	**Pb**	**01 27 29.2**	**+0.5**
XRY	**Khrisi**	**1.33**	**262**	*e*PN	**Pn**	**01 27 28.5**	**+0.1**
NPS	**Neapolis**	**1.39**	**278**	*e*PN	**Pn**	**01 27 29.6**	**+0.4**
NPS	**Neapolis**	**1.39**	**278**	*e*Pg	**Pn**	**01 27 29.5**	**+0.3**
BODT	**Bodrum**	**1.98**	**0**	PN	**Pn**	**01 27 36.6**	**-1.1**
BODT				SN	**Sn**	**01 28 03.5**	**+1.3**
DALT	**Dalyan (Mudla)**	**2.01**	**32**	*e*PN	**Pn**	**01 27 38.6**	**+0.5**
FETY	**Fethiye**	**2.13**	**42**	*e*PN	**Pn**	**01 27 39.9**	**+0.1**
YER	**Yerkesik**	**2.21**	**21**	*e*PN	**Pn**	**01 27 40.8**	**-0.1**
YER				*e*SN	**Sn**	**01 28 08.9**	**+1.1**
MLSB	**Milas**	**2.25**	**10**	*e*PN	**Pn**	**01 27 40.5**	**-1.0**
APE	**Apeiranthos**	**2.45**	**325**	*e*PN	**Pn**	**01 27 42.6**	**-1.8**
APE	**Apeiranthos**	**2.45**	**325**	*e*PN	**Pn**	**01 27 44.5**	**+0.1**
VAM	**Vamos**	**2.56**	**278**	*e*Pn	**Pn**	**01 27 48.5**	**+2.6**
VAM	**Vamos**	**2.56**	**278**	*e*PN	**Pn**	**01 27 45.9**	**0.0**
ELL	**Elmali**	**2.70**	**51**	*e*PN	**Pn**	**01 27 47.7**	**-0.2**
DENT	**Denizli**	**3.02**	**27**	*e*PN	**Pn**	**01 27 52.0**	**-0.5**
BCK	**Bucak**	**3.57**	**47**	*e*PN	**Pn**	**01 28 00.1**	**-0.2**
VLI	**Veliai**	**3.90**	**296**	*e*PN	**Pn**	**01 28 05.0**	**0.0**
VLI	**Veliai**	**3.90**	**296**	*e*Pn	**Pn**	**01 28 06.0**	**+1.0**

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*IDC **04** 01:49:45.8±4.0,7.60S×127.89E,h114^{km}±35^{km},mb3.9/6, mb1 4.2/8,mb1mx4.0/15,mbtmp4.4/8,Error ellipse: s-maj=47.5km s-min=15.2km az=74.0*
*NEIC **04** 01:49:48.7±2.3,7.59S×128.09E,h141^{km}±21^{km},mb4.6/3, Error ellipse: s-maj=21.4km s-min=11.2km az=63.0*
ISC 04 01:49:46.4±2.2**,7.61S**±0.08×**128.1E**±0.1**,h136^{km}**±21^{km}**, n23,σ1^{s}22**/22**,mb4.0**/8**,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.69**	**192**	P	**P**	**01 52 16.7**	**-0.1**
	23nm,0.3s,baz=14,slow=9.5,SNR=122						
FITZ				S	**S**	**01 54 09.6**	**-4.8**
	28nm,0.3s,baz=212,slow=4.7,SNR=8.5						
WRAB	**Tennant Creek**	**13.69**	**154**	*e*Pn	**P**	**01 52 54.8**	**-1.2**
	41nm,0.8s						
WRAB				*e*Sn	**S**	**01 55 16.6**	**-8.4**
WRA	**Warramunga Arr**	**13.69**	**154**	P	**P**	**01 52 55.1**	**-0.9**
	4.8nm,0.3s,baz=324,slow=13,SNR=78						
WRA				S	**S**	**01 55 17.0**	**-8.0**
	13nm,0.3s,baz=334,slow=22,SNR=14						
MBWA	**Marble Bar**	**15.68**	**210**	*e*P	**P**	**01 53 22.9**	**+1.8**
MBWA				S	**S**	**01 56 09.5**	**-1.3**
KSM	**Kuching**	**19.87**	**296**	*e*P	**P**	**01 54 11.3**	**+2.2**
CTAO	**Charters Tower**	**21.56**	**127**	P	**P**	**01 54 27.9**	**+1.8**
STKA	**Stephens Creek**	**27.24**	**154**	P	**P**	**01 55 20.9**	**+1.0**
	1.3nm,0.4s,mb4.0,baz=349,slow=18,SNR=5.6						
STKA	**Stephens Creek**	**27.24**	**154**	*e*P	**P**	**01 55 20.7**	**+0.8**
CM31	**Chiang Mai Arr**	**38.67**	**312**	P	**P**	**01 56 55.0**	**-3.6**
ULN	**Ulaanbaatar**	**58.27**	**344**	*e*P	**P**	**01 59 28.2**	**-0.8**
	2.2nm,0.6s,mb4.2						
SONM	**Songino Array**	**58.43**	**343**	P	**P**	**01 59 29.8**	**-0.4**
	1.9nm,0.5s,mb4.2,baz=173,slow=7.5,SNR=21						
CASY	**Casey**	**59.81**	**188**	*e*P	**P**	**01 59 38.2**	**-1.2**
	1.9nm,0.3s,mb4.4						
MKAR	**Makanchi Array**	**67.69**	**328**	P	**P**	**02 00 30.0**	**-1.2**
	2.6nm,0.4s,mb4.3,baz=122,slow=8.0,SNR=38						
ZAL	**Zalesovo**	**71.29**	**335**	P	**P**	**02 00 51.9**	**-1.0**
	2.6nm,0.4s,mb4.3,baz=330,slow=2.7,SNR=8.5						
VNDA	**Vanda**	**72.08**	**173**	P	**P**	**02 00 57.0**	**-0.1**
	0.3nm,0.6s,mb3.2,baz=320,slow=11,SNR=4.6						
VNDA	**Vanda**	**72.08**	**173**	*e*P	**P**	**02 00 57.8**	**+0.6**
MAW	**Mawson**	**73.68**	**201**	P	**P**	**02 01 07.2**	**+0.6**
	2.1nm,0.9s,mb3.9,baz=58,slow=9.5,SNR=3.3						
SNAA	**Sanae**	**94.61**	**194**	*e*P	**P**	**02 02 53.9**	**+1.5**
PDAR	**Pinedale Array**	**118.69**	**45**	PKP	PKPdf	02 08 19.9	+1.3
	0.4nm,0.6s,baz=270,slow=1.5,SNR=5.1						
CPUP	**Villa Florida**	**145.86**	**171**	PKPbc	PKPbc	02 09 11.5	+0.9
	1.6nm,0.4s,baz=232,slow=2.5,SNR=12						
CPUP	**Villa Florida**	**145.86**	**171**	PKPbc	PKPbc	02 09 11.5	+0.9
CPUP				*e*PKPdf	PKPdf	02 09 12.1	+2.4
LPAZ	**La Paz**	**151.36**	**146**	PKPbc	PKPdf	02 09 28.2	+10
	1.7nm,0.4s,baz=40,slow=4.5,SNR=24						
LPAZ	**La Paz**	**151.36**	**146**	*e*PKPbc	PKPdf	02 09 27.9	+9.4
LPAZ				*e*PKPab	PKPab	02 09 37.3	+1.5

IDC 04 02:02:26.7±7.6**,16.53N**×**145.51E,mb3.7**/6**,mb1 3.9**/6**, mb1mx3.7**/20**,mbtmp3.7**/6**,MS3.5**/1**,Ms1 3.5**/1**, ms1mx2.7**/31**,Error ellipse: s-maj=205.0km s-min=51.1km az=179.0,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**21.16**	**324**	LR	LR	02 14 19.1	
	comp=Z,126nm,21.5s,baz=155,slow=34						
SONM	**Songino Array**	**44.74**	**323**	P	P	02 10 42.7	-0.9
	0.5nm,0.6s,baz=136,slow=8.5,SNR=5.1						
ZAL	**Zalesovo**	**59.64**	**323**	P	P	02 12 31.1	-3.8
	1.7nm,0.4s,baz=159,slow=4.9,SNR=3.8						
MKAR	**Makanchi Array**	**59.84**	**315**	P	P	02 12 34.0	-2.4
	0.2nm,0.5s,baz=101,slow=7.9,SNR=3.7						
ILAR	**Eielson Array**	**65.67**	**26**	P	P	02 13 12.3	-2.4
	0.2nm,0.8s,baz=260,slow=5.9,SNR=4.3						
ARCES	**ARCESS Array B**	**84.49**	**342**	P	P	02 15 02.4	+0.1
	0.4nm,0.7s,baz=76,slow=7.4,SNR=4.4						
FINES	**FINESS Array B**	**88.77**	**335**	P	P	02 15 21.8	-1.5
	0.3nm,0.5s,baz=90,slow=3.8,SNR=4.8						

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*MOS **04** 02:03:53.6±0.9,4.61S×152.88E,h79^{km},mb4.9/11,Error ellipse: s-maj=13.7km s-min=10.3km az=74.6*
*NEIC **04** 02:03:54.6±1.5,4.71S×153.01E,h81^{km}±13^{km},mb4.7/11, Error ellipse: s-maj=11.1km s-min=7.0km az=62.0*
*IDC **04** 02:03:54.7±2.3,4.72S×152.89E,h80^{km}±19^{km},mb4.3/12, mb1 4.4/14,mb1mx4.3/19,mbtmp4.6/14,MS3.8/19, Ms1 3.8/19,ms1mx3.8/24,Error ellipse: s-maj=17.0km s-min=11.4km az=108.0*
*BJI **04** 02:03:55.5,4.39S×152.95E,h94^{km},mB4.8,mb4.8*
ISC 04 02:03:55.0±0.4**,4.72S**±0.05×**152.93E**±0.09**,h97^{km},** **h97^{km}**±2.9^{km}**:pP-P,n96,σ1^{s}01**/78**,mb4.7**/36**,4C,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.38**	**231**	*e*P	**P**	**02 05 40.8**	**-1.0**
PMG				*e*S	**S**	**02 06 59.3**	**-5.2**
PMG				pmax	pmax		
	comp=Z,49nm,0.6s						
PMG	**Port Moresby**	**7.38**	**231**	P	**P**	**02 05 40.0**	**-1.7**
	comp=Z,8.3nm,0.3s,baz=29,slow=11,SNR=13						
PMG				S	**S**	**02 07 00.5**	**-4.1**
	comp=Z,9.4nm,0.3s,baz=74,slow=11,SNR=5.0						
PMG	**Port Moresby**	**7.38**	**231**	*e*P	**P**	**02 05 40.8**	**-1.0**
	comp=Z,49nm,0.6s						
PMG				*e*S	**S**	**02 06 59.3**	**-5.3**
CTA	**Charters Tower**	**16.60**	**202**	P	**P**	**02 07 42.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=30,slow=12,SNR=3.6						
CTA				LR	LR	02 13 20.9	
	comp=Z,354nm,21.1s,baz=34,slow=34						
CTA	**Charters Tower**	**16.60**	**202**	P	**P**	**02 07 42.7**	**-0.5**
CTA				LR	LR	02 13 20.9	
CTAO	**Charters Tower**	**16.60**	**202**	*e*P	**P**	**02 07 44.6**	**+1.4**
NOUC	**Port Laguerre**	**21.59**	**144**	*e*P	**P**	**02 08 38.2**	**-0.2**
DZM	**Mont Dzumac**	**21.65**	**144**	*e*P	**P**	**02 08 36.3**	**-2.7**
DZM	**Mont Dzumac**	**21.65**	**144**	P	**P**	**02 08 38.5**	**-0.4**
	comp=Z,36nm,0.8s,mb4.7,baz=349,slow=12,SNR=15						
WRAB	**Tennant Creek**	**23.58**	**229**	*e*P	**P**	**02 08 58.2**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,80nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**23.58**	**229**	*e*P	**P**	**02 08 58.2**	**+0.4**
	comp=Z,80nm,0.8s,mb5.1						
WRA	**Warramunga Arr**	**23.59**	**229**	P	**P**	**02 08 58.5**	**+0.6**
	comp=Z,49nm,0.6s,mb5.0,baz=52,slow=9.9,SNR=213						
WRA				S	**S**	**02 13 06.6**	**+4.8**
	comp=Z,1.5nm,1.1s,baz=54,slow=18,SNR=5.2						
STKA	**Stephens Creek**	**29.03**	**200**	P	**P**	**02 09 46.5**	**-1.7**
	comp=Z,6.1nm,0.7s,mb4.3,baz=19,slow=12,SNR=9.4						
STKA				LR	LR	02 21 02.8	
	comp=Z,303nm,19.9s,baz=34,slow=35						
STKA	**Stephens Creek**	**29.03**	**200**	*e*P	**P**	**02 09 46.7**	**-1.5**
FITZ	**Fitzroy Crossi**	**29.81**	**241**	P	**P**	**02 09 53.5**	**-1.8**
	comp=Z,82nm,0.7s,mb5.5,baz=56,slow=4.4,SNR=93						
FITZ				LR	LR	02 21 05.9	
	comp=Z,114nm,21.2s,baz=82,slow=35						
CBIJ	**Chichi jima**	**33.29**	**342**	LR	LR	02 23 20.2	
	comp=Z,103nm,18.7s,baz=107,slow=35						
MBWA	**Marble Bar**	**36.12**	**240**	*e*P	**P**	**02 10 48.7**	**-1.1**
	comp=Z,17nm,0.6s,mb5.2						
JOW	**Kunigami**	**39.41**	**324**	LR	LR	02 25 30.9	
	comp=Z,70nm,19.7s,baz=100,slow=33						
RPZ	**Rata Peaks**	**42.00**	**160**	LR	LR	02 26 55.4	
	comp=Z,281nm,18.9s,baz=4.2,slow=33						
JNU	**Nakatsue**	**43.05**	**333**	P	**P**	**02 11 46.0**	**-1.0**
	comp=Z,32nm,0.9s,mb5.1,baz=62,slow=2.0,SNR=11						
MJAR	**Matsushiro Arr**	**43.30**	**343**	LR	LR	02 28 05.4	
	comp=Z,94nm,21.5s,baz=210,slow=34						
NWAO	**Narrogin (SRO)**	**43.54**	**225**	LR	LR	02 30 33.7	
	comp=Z,186nm,19.2s,baz=189,slow=37						
KS15	**Wonju Array Si**	**47.99**	**333**	*e*P	**P**	**02 12 25.7**	**-0.5**
INCN	**Inchon**	**48.60**	**332**	*e*P	**P**	**02 12 30.4**	**-0.5**
	comp=Z,26nm,0.6s,mb5.3						
ASAJ	**Asahikawa**	**49.49**	**350**	P	**P**	**02 12 37.2**	**-0.4**
	comp=Z,6.0nm,0.5s,mb4.8,baz=211,slow=21,SNR=4.8						
ASAJ				LR	LR	02 30 50.3	
	comp=Z,54nm,20.6s,baz=90,slow=33						
MDJ	**Mudanjiang**	**53.39**	**339**	P	**P**	**02 13 08.1**	**+1.1**
MDJ				AP	pP	02 13 30.6	-0.1
MDJ				XP	sP	02 13 40.4	-1.0
MDJ				PCP	PcP	02 14 09.7	-3.2
MDJ				PP	PP	02 15 08.6	-1.0
MDJ				SCP		02 17 59.2	
MDJ				PCS		02 18 10.2	
MDJ				S	**S**	**02 20 31.3**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,65nm,3.1s						
MDJ				LR	LR		
	comp=N,86nm,33.6s						
MDJ				LR	LR		
	comp=E,25nm,27.5s						
MDJ				LR	LR		
	comp=Z,86nm,28.5s						
ENH	**Enshi**	**54.20**	**313**	*e*P	**P**	**02 13 12.3**	**-0.7**
	comp=Z,9.4nm,0.7s,mb4.9						
CN2	**Changchun**	**54.28**	**336**	*e*P	**P**	**02 13 13.3**	**-0.2**
CN2				*e*AP	pP	02 13 39.8	+2.6
CN2				*e*S	**S**	**02 20 40.0**	**-1.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
GYA	**Guiyang**	**54.45**	**307**	⇑*i*P	**P**	**02 13 14.4**	**-0.5**
GYA				AP	pP	02 13 38.0	-0.7
GYA				XP	sP	02 13 49.3	-0.2
GYA				PP	PP	02 15 19.0	-0.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,80nm,3.1s						
GYA				LR	LR		
	comp=N,240nm,17.9s						
GYA				LR	LR		
	comp=E,380nm,18.4s						
GYA				LR	LR		
	comp=Z,310nm,18.6s						
XAN	**Xi'an**	**56.65**	**316**	P	**P**	**02 13 28.6**	**-2.1**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
KMI	**Kunming**	**57.05**	**304**	P	**P**	**02 13 34.0**	**+0.4**
KMI				S	**S**	**02 21 20.2**	**+1.4**
KMI				SS	SS	02 25 10.5	+0.3
KMI				SSS	SSS	02 27 26.0	-2.5
KMI				LR	LR		
	comp=N,62nm,17.4s						
KMI				LR	LR		
	comp=E,84nm,25.5s						
KMI				LR	LR		
	comp=Z,138nm,22.5s						
PPT	**Papeete**	**57.62**	**108**	*e*LR	LR	02 30 28.3	
	comp=Z,41nm,23.5s						
PPT	**Papeete**	**57.62**	**108**	LR	LR	02 35 06.7	
	comp=Z,112nm,18.0s,baz=344,slow=32						
CMAR	**Chiang Mai Arr**	**57.96**	**295**	P	**P**	**02 13 40.1**	**0.0**
	comp=Z,8.2nm,0.9s,mb4.8,baz=110,slow=5.4,SNR=26						
CMAR				LR	LR	02 36 21.9	
	comp=Z,45nm,20.1s,baz=120,slow=34						
TBI	**Tubuai**	**58.47**	**114**	*e*LR	LR	02 32 20.2	
	comp=Z,244nm,31.0s						
CD2	**Chengdu**	**58.78**	**310**	P	**P**	**02 13 45.0**	**-0.6**
HHC	**Hu-ho-hao-te**	**59.06**	**324**	*e*P	**P**	**02 13 47.5**	**+0.1**
HHC				S	**S**	**02 21 43.6**	**-1.2**
HHC				AMB	AMB		
	comp=Z,84nm,12.0s						
HHC				LR	LR		
	comp=N,109nm,19.2s						
HHC				LR	LR		
	comp=E,115nm,21.6s						
HHC				LR	LR		
	comp=Z,165nm,15.6s						
LZH	**Lanzhou**	**61.26**	**316**	⇑P	**P**	**02 14 03.0**	**+0.5**
LZH				AP	pP	02 14 27.9	+1.1
LZH				XP	sP	02 14 39.0	+1.3
LZH				PP	PP	02 16 22.8	+2.2
LZH				AMB	AMB		
	comp=Z,26nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,71nm,5.4s						
LZH				LR	LR		
	comp=N,275nm,14.9s						
LZH				LR	LR		
	comp=Z,347nm,18.2s						
LZH	**Lanzhou**	**61.26**	**316**	⇑P	**P**	**02 14 03.0**	**+0.5**
	comp=Z,26nm,1.4s,mb5.1						
LZH				pP	pP	02 14 27.9	+1.1
LZH				sP	sP	02 14 39.0	+1.3
LZH				PP	PP	02 16 22.8	+2.2
LZH				LR	LR		
	comp=Z,350nm,18.2s						
MA2	**Magadan**	**64.12**	**359**	*e*P	**P**	**02 14 19.2**	**-1.8**
MA2				*e*PPP	PPP	02 18 12.1	-5.7
MA2				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.5						
GTA	**Gaotai**	**65.69**	**317**	*e*P	**P**	**02 14 31.8**	**+0.3**
GTA				AP	pP	02 14 56.3	+0.2
GTA				PCP	PcP	02 15 02.5	+0.6
GTA				XP	sP	02 15 07.2	+0.5
GTA				S	S	02 23 08.6	+0.5
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GTA				AMB	AMB		
	comp=Z,52nm,4.6s						
GTA				LR	LR		
	comp=N,100nm,16.4s						
GTA				LR	LR		
	comp=E,138nm,19.8s						
GTA				LR	LR		
	comp=Z,118nm,19.0s						
ULN	**Ulaanbaatar**	**66.00**	**328**	*e*P	**P**	**02 14 33.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	**66.00**	**328**	*e*P	**P**	**02 14 33.7**	**+0.4**
	comp=Z,5.2nm,1.1s,mb4.3						
SONM	**Songino Array**	**66.33**	**328**	P	**P**	**02 14 34.7**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.0,baz=135,slow=5.2,SNR=12						
SONM				LR	LR	02 41 52.8	
	comp=Z,78nm,19.7s,baz=128,slow=34						
ZAK	**Zakamensk**	**69.49**	**329**	*e*P	**P**	**02 14 54.4**	**-0.7**
ZAK				*e*	pP	02 15 17.5	-2.4
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.9						
BOD	**Bodaibo**	**69.76**	**339**	*e*P	**P**	**02 14 50.9**	**-5.7**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2						
GUN	**Gumba**	**72.19**	**301**	*e*P	**P**	**02 15 12.2**	**+0.5**
	comp=Z,22nm,0.7s,mb5.1						
PKI	**Pulchoki**	**72.50**	**301**	*e*P	**P**	**02 15 13.6**	**0.0**
	comp=Z,6.4nm,0.6s,mb4.6						
PKI	**Pulchoki**	**72.50**	**301**	*e*P	**P**	**02 15 13.6**	**0.0**
PKI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
KKN	**Kakani**	**72.67**	**301**	*e*P	**P**	**02 15 14.9**	**+0.3**
	comp=Z,18nm,0.8s,mb4.9						
KKN	**Kakani**	**72.67**	**301**	*e*P	**P**	**02 15 14.9**	**+0.3**
KKN				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
DMN	**Daman**	**72.77**	**301**	*e*P	**P**	**02 15 15.3**	**+0.2**
VNDA	**Vanda**	**72.90**	**178**	*e*P	**P**	**02 15 16.1**	**+1.2**
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VNDA	**Vanda**	**72.90**	**178**	P	**P**	**02 15 15.8**	**+0.9**
	comp=Z,1.6nm,0.7s,mb3.9,baz=325,slow=6.5,SNR=11						
VNDA				LR	LR	02 43 44.6	
	comp=Z,57nm,20.1s,baz=319,slow=33						
VNDA	**Vanda**	**72.90**	**178**	*e*P	**P**	**02 15 16.1**	**+1.2**
	comp=Z,3.8nm,1.0s,mb4.2						
BILL	**Bilibino**	**73.20**	**5**	*e*P	**P**	**02 15 16.2**	**-0.6**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
GKN	**Gorkha**	**73.28**	**301**	*e*P	**P**	**02 15 17.9**	**-0.2**
	comp=Z,22nm,0.7s,mb5.1						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIR	Mirnyy	74.05	201	c iP	P	02 15 22.5	+0.7
MIR				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
WMQ	Urumqi	75.77	317	eP	P	02 15 32.9	+0.8
HYB	Hyderabad	76.59	289	eP	P	02 15 37.0	-0.2
HYB	Hyderabad	76.59	289	i P	P	02 15 37.0	-0.2
IMA	Indian Mountai	80.34	19	eP	P	02 15 56.8	+0.1
IMA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7						
IMA	Indian Mountai	80.34	19	eP	P	02 15 56.8	0.0
	comp=Z,11nm,0.8s,mb4.7						
MKAR	Makanchi Array	80.35	319	P	P	02 15 57.3	+0.1
	comp=Z,5.2nm,0.9s,mb4.4,baz=101,slow=6.2,SNR=33						
MKAR				LR	LR	02 48 39.4	
	comp=Z,41nm,18.8s,baz=177,slow=33						
ZAL	Zalesovo	81.17	326	P	P	02 16 01.6	+0.2
	comp=Z,1.5nm,0.5s,mb4.1,baz=19,slow=11,SNR=7.4						
ILAR	Eielson Array	82.04	22	P	P	02 16 04.0	-1.6
	comp=Z,2.8nm,0.8s,mb4.1,baz=254,slow=5.5,SNR=27						
ILAR				LR	LR	02 50 05.2	
	comp=Z,53nm,18.1s,baz=179,slow=34						
NVS	Novosibirsk	82.34	327	eP	P	02 16 06.1	-1.3
TKM2	Tokmak 2	83.97	314	P	P	02 16 17.4	+1.5
	SNR=7.1						
KZA	Kyzart	84.05	313	P	P	02 16 18.5	+2.2
	SNR=14						
CHMS	Chumysh	84.59	314	P	P	02 16 20.2	+1.2
	SNR=5.9						
UCH	Uchtor	84.61	313	P	P	02 16 21.1	+2.0
	SNR=15						
FRU	Bishkek	84.66	314	eP	P	02 16 20.0	+0.7
AAK	Ala-Archa	84.71	313	eP	P	02 16 19.7	+0.1
AAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
AAK	Ala-Archa	84.71	313	eP	P	02 16 19.7	+0.1
	comp=Z,5.9nm,0.8s,mb4.6						
USP	Ospenovka	84.83	314	P	P	02 16 21.3	+1.1
	SNR=11						
AML	Almayashu	85.19	313	P	P	02 16 24.0	+2.0
	SNR=27						
QSPA	South Pole Qui	85.24	180	eP	P	02 16 23.3	+1.9
	comp=Z,7.6nm,0.9s,mb4.6						
MAW	Mawson	85.69	203	P	P	02 16 24.3	+0.4
	comp=Z,3.6nm,0.6s,mb4.5,baz=107,slow=6.6,SNR=17						
MAW				LR	LR	02 50 09.8	
	comp=Z,84nm,18.1s,baz=247,slow=32						
NVAR	Mina Array Bea	91.93	52	LR	LR	02 54 02.7	
	comp=Z,32nm,19.0s,baz=170,slow=33						
YKA	Yellowknife Ar	95.30	28	LR	LR	02 53 29.3	
	comp=Z,57nm,21.9s,baz=270,slow=31						
PDAR	Pinedale Array	98.70	48	LR	LR	02 54 58.7	
	comp=Z,66nm,20.3s,baz=233,slow=31						
AKASG	Malin Array Be	114.51	324	PKP	PKPdf	02 22 24.6	+0.9
	comp=Z,0.7nm,0.6s,baz=59,slow=2.6,SNR=4.9						
NB2	NORSAR Subarra	116.88	340	PKPdf	PKPdf	02 22 30.1	+2.0
	comp=Z,1.3nm,1.0s,baz=45,slow=1.9						
NOA	NORSAR Array B	116.88	340	PKP	PKPdf	02 22 29.2	+1.1
	comp=Z,0.8nm,0.8s,baz=47,slow=2.0,SNR=5.9						
BRG	Berggiesshubel	122.67	330	ePKIKP	PKPdf	02 22 41.4	+1.9
BRG				pmax	pmax		
	comp=Z,13nm,1.8s						
BRG	Berggiesshubel	122.67	330	ePKP	PKPdf	02 22 41.4	+1.9
CLL	Collm	122.84	331	ePKIKP	PKPdf	02 22 43.0	+3.2
CLL	Collm	122.84	331	i PKIKP	PKPdf	02 22 43.2	+3.4
	comp=Z,logA/T=0.7						
GERES	GERESS Array B	124.06	329	PKP	PKPdf	02 22 44.0	+1.7
	comp=Z,1.0nm,0.6s,baz=90,slow=2.7,SNR=11						
GRA1	Grafenberg Arr	124.76	331	ePKP	PKPdf	02 22 45.6	+2.0
GRF	Grafenberg Arr	124.76	331	PKIKP	PKPdf	02 22 45.6	+2.0
LPAZ	La Paz	134.34	118	PKP	PKPdf	02 23 05.5	+2.7
	comp=Z,1.1nm,0.8s,baz=321,slow=2.5,SNR=6.6						
BDFB	Brasilia	151.03	135	PKPbc	PKPdf	02 23 39.9	+8.3
	comp=Z,10nm,0.8s,baz=261,slow=1.1,SNR=22						
BAO	Brasilia Array	151.05	135	PKPdf	PKPdf	02 23 40.0	+8.3
DBIC	Dimbokro	157.81	276	PKP	PKPdf	02 23 42.5	+1.5
	comp=Z,4.0nm,0.9s,baz=108,slow=9.2,SNR=3.7						
DBIC				PKPab	PKPab	02 24 16.1	-0.5
	comp=Z,5.7nm,0.8s,baz=69,slow=5.7,SNR=6.6						
DBIC	Dimbokro	157.81	276	PKP	PKPdf	02 23 42.5	+1.5
DBIC				PKPab	PKPab	02 24 16.1	-0.5

*NEIC **04** 02:08:27.6,32.08S×70.37W,h109km,MD3.7(GUC),After GUC.*

GUC 04 02:08:27.6±0.6,32.08S×70.37W,h109km±4km,MD3.7, ML3.2,2C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	Jahuel	0.63	197	⇑iP	P	02 08 45.3	-0.1
JACH				i S	S	02 08 59.1	+0.3
ILCH	Illapel	0.81	303	eP	P	02 08 47.3	+0.2
ILCH				i S	S	02 09 02.1	+0.5
ILCH				AMP		02 09 02.7	
	comp=N,1μm,0.2s						
PACH	Papudo	1.01	243	eP	P	02 08 49.1	+0.1
PACH				i S	S	02 09 05.2	-0.1
ROCH	El Roble	1.04	211	⇑iP	P	02 08 49.7	+0.3
ROCH				i S	S	02 09 06.8	+1.0
CMCH	Combarbala	1.05	329	⇓iP	P	02 08 49.7	+0.2
CMCH				i S	S	02 09 06.7	+0.7
CMCH				AMP		02 09 08.6	
	comp=N,1μm,0.4s						
FCH	Farellones	1.25	177	eP	P	02 08 52.5	+0.7
FCH				i S	S	02 09 11.2	+1.3
CLCH	Cerro Calan	1.32	186	eP	P	02 08 52.7	+0.1
CLCH				i S	S	02 09 11.8	+0.3
CLCH				AMP		02 09 16.8	
	comp=E,410nm,0.6s						
DSCH	Colegio Aleman	1.33	187	eP	P	02 08 52.4	-0.3
DSCH				i S	S	02 09 11.9	+0.3
DSCH				AMP		02 09 17.1	
	comp=N,442nm,0.3s						
ANTU	Antumapu	1.50	188	eP	P	02 08 55.0	+0.1
ANTU				i S	S	02 09 15.7	+0.5
ANTU				AMP		02 09 17.2	
	comp=N,289nm,0.3s						
ZON	Zonda	1.54	70	eP	P	02 08 53.0	-2.2
ZON				eS	S	02 09 13.0	-2.9
PCH	Pirque	1.54	184	eP	P	02 08 55.5	+0.2
TACH	Talagante	1.64	197	i P	P	02 08 56.3	-0.2
TACH				i S	S	02 09 18.1	0.0
CHCH	Chadas Angostu	1.86	187	i P	P	02 08 59.3	0.0
TLL	Tololo Astrono	1.94	349	eP	P	02 09 00.6	+0.3
TLL				i S	S	02 09 25.8	+1.1
TLL				AMP		02 09 33.6	
	comp=N,153nm,0.3s						
CACH	El Canelo	2.04	185	i P	P	02 09 02.5	+0.9

*IDC **04** 02:15:05.0±1.0,12.00N×143.21E,mb4.0/7,mb1 4.2/7, mb1mx4.0/20,mbtmp4.0/7,MS3.7/2,Ms1 3.7/2, ms1mx3.1/29,Error ellipse: s-maj=38.8km s-min=27.2km az=90.0*

*NEIC **04** 02:15:08.8±6.2,11.99N×143.16E,h24km±43km,Error ellipse: s-maj=26.0km s-min=19.2km az=104.0*

ISC 04 02:15:07.0±7.0,11.9N±0.2×143.1E±0.2,h25km±50km,n12, σ0.s94/10,mb4.0/7,MS3.9/2,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	2.37	46	ePn	Pn	02 15 45.1	-0.1
WRA	Warramunga Arr	32.83	195	P	P	02 21 40.9	-0.1
	1.7nm,1.1s,mb3.9,baz=20,slow=9.7,SNR=4.7						
SONM	Songino Array	47.14	327	P	P	02 23 40.3	+1.1
	0.4nm,0.5s,mb3.6,baz=146,slow=6.3,SNR=4.6						
MKAR	Makanchi Array	61.52	317	P	P	02 25 24.1	-0.2
	0.8nm,1.0s,mb3.8,baz=112,slow=6.5,SNR=4.6						
ILAR	Eielson Array	70.79	25	P	P	02 26 21.5	-1.6
	1.2nm,0.5s,mb4.1,baz=257,slow=5.8,SNR=21						
KEV	Kevo	87.56	342	ep	P	02 27 53.9	+0.1
ARCES	ARCESS Array B	88.13	342	P	P	02 27 57.1	+0.6
	0.5nm,0.5s,mb4.0,baz=75,slow=6.1,SNR=11						
ARCES				LR	LR	03 10 19.2	
	comp=Z,41nm,21.5s,MS3.8,baz=355,slow=38						
NVAR	Mina Array Bea	89.28	51	P	P	02 28 04.6	+1.9
	0.5nm,0.3s,mb4.3,baz=258,slow=4.1,SNR=6.7						
KAF	Kangasniemi	91.51	335	ep	P	02 28 11.5	-1.0
FINES	FINESS Array B	91.93	335	P	P	02 28 13.8	-0.7
	0.5nm,0.4s,mb4.2,baz=59,slow=4.5,SNR=12						
FINES				LR	LR	03 08 22.8	
	comp=Z,41nm,19.4s,MS3.9,baz=50,slow=35						
LPAZ	La Paz	149.40	102	PKPbc	PKPdf	02 34 57.9	+2.8
	0.6nm,0.6s,baz=360,slow=25,SNR=4.0						
LPAZ	La Paz	149.40	102	ePKPbc	PKPdf	02 34 58.0	+3.0

*IDC **04** 02:24:34.1±3.3,29.07N×114.07W,mb3.4/1,mb1 3.7/7, mb1mx3.5/24,mbtmp3.3/7,ML3.6/5,MS3.1/4,Ms1 3.1/4, ms1mx2.9/12,Error ellipse: s-maj=50.0km s-min=15.6km az=29.0*

*NEIC **04** 02:24:37.3±1.6,29.27N×113.98W,h10km,mb3.3/1,Error ellipse: s-maj=19.8km s-min=8.5km az=202.0*

ISC 04 02:24:35.4±2.0,29.3N±0.2×113.9W±0.1,h10km,n26, σ1.s10/24,mb3.3/1,MS3.0/1,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUC	Tucson	4.04	41	eP	Pn	02 25 36.4	-2.2
BAR	Barrett	4.14	326	eP	Pn	02 25 39.5	-0.6
PFO	Pinyon Flat Ob	4.84	334	P	Pn	02 25 49.6	-0.5
ANMO	Albuquerque	8.47	46	Pn	P	02 26 41.6	+0.6
	baz=223,slow=13,SNR=13						
ANMO				LR	LR	02 29 29.1	
	comp=Z,104nm,19.3s,slow=34						
TXAR	Lajitas Array	8.93	87	Pn	P	02 26 47.3	-0.1
	0.3nm,0.3s,baz=270,slow=14,SNR=6.1						
TXAR				Lg		02 29 24.0	
	0.2nm,0.3s,baz=245,slow=28,SNR=3.8						
MVU	Marysvale	9.30	8	P	P	02 26 53.1	+0.5
MSU	Marysvale	9.32	8	eP	P	02 26 52.4	-0.4
NVAR	Mina Array Bea	9.83	339	Pn	P	02 26 58.5	-1.4
	0.1nm,0.3s,baz=165,slow=14,SNR=2.2						
PV01	Paradox Valley	9.88	25	P	P	02 26 59.1	-1.4
PV10	Paradox Valley	9.93	23	eP	P	02 27 01.2	0.0
SRU	San Rafael	10.19	15	P	P	02 27 04.9	0.0
ELK	Elko	11.49	355	Pn	P	02 27 24.8	+2.2
	0.1nm,0.3s,baz=85,slow=24,SNR=4.9						
ELK				LR	LR	02 31 38.5	
	comp=Z,90nm,20.7s,slow=36						
HWUT	Hardware Ranch	12.44	8	P	P	02 27 33.6	-1.8
BW06	Boulder Array	13.90	13	P	P	02 27 55.4	+0.6
PDAR	Pinedale Array	13.90	13	Pn	P	02 28 00.1	+5.3
	0.1nm,0.3s,baz=188,slow=14,SNR=3.5						
WMOK	Wichita Mounta	13.93	63	P	P	02 27 55.5	+0.4
	5.1nm,1.1s						
HLID	Hailey	14.26	358	eP	P	02 28 00.5	+1.0
	8.6nm,1.8s						
YBH	Yreka Blue Hor	14.34	332	LR	LR	02 33 24.0	
	comp=Z,124nm,18.4s,baz=154,slow=37						
MOOW	Moose Ponds	14.66	9	P	P	02 28 04.7	0.0
	7.8nm,1.2s						
RSSD	Black Hills	16.77	25	eP	P	02 28 33.1	+1.3
	2.1nm,0.8s						
CHMT	Chamberlain Mo	17.61	1	eP	P	02 28 42.1	-0.3
LAO	LASA Array	18.39	17	P	P	02 28 53.5	+1.4
NEW	Newport	19.12	353	P	P	02 29 01.9	+1.0
	0.2nm,0.3s,baz=169,slow=10,SNR=4.0						
FFC	Flin Flon	26.85	15	P	P	02 30 14.7	-3.0
JTS	JuntasAbangare	32.99	119	LR	LR	02 46 20.4	
	comp=Z,29nm,21.8s,MS3.0,baz=154,slow=40						
ILAR	Eielson Array	41.09	339	P	P	02 32 21.4	+0.8
	0.6nm,0.8s,mb3.3,baz=152,slow=7.2,SNR=7.5						

IDC 04 02:43:16.8±1.2,6.77S×146.02E,mb4.1/3,mb1 4.3/4, mb1mx3.9/13,mbtmp4.0/4,ML2.8/2,Error ellipse: s-maj=31.3km s-min=17.1km az=72.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	2.85	157	Pn	Pn	02 44 03.4	-1.0
	3.6nm,0.3s,baz=351,slow=9.3,SNR=7.8						
PMG				Sn	Sn	02 44 37.7	-2.2
	9.8nm,0.3s,baz=124,slow=22,SNR=3.7						
PMG				Lg		02 44 48.8	
	8.7nm,0.3s,baz=332,slow=22,SNR=4.1						
WRA	Warramunga Arr	17.32	220	P	P	02 47 20.2	-1.5
	0.1nm,0.3s,baz=39,slow=11,SNR=7.2						
FITZ	Fitzroy Crossi	22.84	239	P	P	02 48 20.6	-2.3
	4.2nm,0.7s,baz=22,slow=9.0,SNR=6.6						
MKAR	Makanchi Array	77.47	321	P	P	02 55 15.8	0.0
	0.8nm,0.7s,baz=117,slow=6.4,SNR=6.1						
ILAR	Eielson Array	86.57	23	P	P	02 56 00.7	-2.1
	1.7nm,0.7s,baz=251,slow=5.0,SNR=26						

*IDC **04** 02:43:40.5±3.2,29.41N×113.86W,mb3.5/1,mb1 3.8/6, mb1mx3.5/23,mbtmp3.4/6,ML3.6/4,MS3.5/4,Ms1 3.5/4, ms1mx3.0/19,Error ellipse: s-maj=48.7km s-min=12.9km az=25.0*

*NEIC **04** 02:43:41.2±1.8,29.39N×113.89W,h10km,mb3.8/3,Error ellipse: s-maj=22.9km s-min=10.5km az=203.0*

ISC 04 02:43:40.1±1.8,29.5N±0.1×113.86W±0.09,h10km,n25, σ0.s98/25,mb3.8/3,MS3.6/1,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUC	Tucson	3.87	42	P	Pn	02 44 40.9	-0.1
BAR	Barrett	4.01	324	eP	Pn	02 44 40.9	-2.1
PFO	Pinyon Flat Ob	4.68	332	eP	Pn	02 44 51.9	-0.6
ARUT	Antelope Range	8.30	2	eP	P	02 45 43.5	+0.1
ANMO	Albuquerque	8.31	47	Pn	P	02 45 42.3	-1.3
	baz=224,slow=12,SNR=11						
TXAR	Lajitas Array	8.89	88	Pn	P	02 45 50.2	-1.4
	0.2nm,0.3s,baz=268,slow=14,SNR=6.1						
TXAR				Sn	Sn	02 47 33.2	+0.4
	0.1nm,0.3s,baz=272,slow=32,SNR=2.4						
TXAR				Lg		02 48 23.6	
	0.2nm,0.3s,baz=272,slow=32,SNR=4.2						
TXAR				LR	LR	02 49 16.1	
	comp=Z,397nm,19.4s,baz=265,slow=38						
TXAR	Lajitas Array	8.89	88	Pn	P	02 45 50.2	-1.4
TXAR				Sn	Sn	02 47 33.2	+0.4
TXAR				Lg		02 48 23.6	
TXAR				LR	LR	02 49 16.1	
MSU	Marysvale	9.12	8	eP	P	02 45 54.6	-0.2
NVAR	Mina Array Bea	9.66	339	Pn	P	02 46 03.8	+1.5
	0.1nm,0.3s,baz=160,slow=15,SNR=5.0						
PV10	Paradox Valley	9.74	23	eP	P	02 46 02.5	-0.9
SRU	San Rafael	10.00	15	eP	P	02 46 06.7	-0.2
ELK	Elko	11.30	355	LR	LR	02 50 57.8	
	comp=Z,149nm,20.7s,baz=180,slow=38						
HWUT	Hardware Ranch	12.25	8	P	P	02 46 36.8	-0.7
WVOR	Wild Horse Val	13.50	345	P	P	02 46 53.4	-0.7
BW06	Boulder Array	13.71	13	P	P	02 46 56.6	-0.3
PDAR	Pinedale Array	13.71	13	Pn	P	02 46 59.5	+2.6
	0.0nm,0.3s,baz=190,slow=9.0,SNR=3.9						
MOOW	Moose Ponds	14.46	9	P	P	02 47 06.8	0.0
	8.8nm,1.1s						
IMW	Indian Meadow	14.58	8	P	P	02 47 09.8	+1.4
	5.0nm,1.1s						
MCMT	McKenzie Canyo	15.35	3	eP	P	02 47 18.7	+0.3
RSSD	Black Hills	16.58	25	P	P	02 47 34.3	+0.1
	1.7nm,0.6s						
NEW	Newport	18.93	353	P	P	02 48 03.8	+0.4
	0.2nm,0.3s,baz=185,slow=10,SNR=3.5						
NEW				LR	LR	02 55 23.3	
	comp=Z,120nm,18.3s,baz=188,slow=37						
WVT	Waverly	22.82	66	P	P	02 48 45.8	+1.5
	46nm,2.0s,mb4.6						
FFC	Flin Flon	26.65	15	P	P	02 49 20.4	-0.3
	0.9nm,0.6s,mb3.5						
ILAR	Eielson Array	40.92	339	P	P	02 51 25.3	+1.3
	0.7nm,0.8s,mb3.4,baz=158,slow=7.6,SNR=7.8						
SCHQ	Schefferville	42.00	39	LR	LR	03 09 02.9	
	comp=Z,83nm,20.1s,MS3.6,baz=288,slow=36						

MAN 04 02:51:51.7,9.52N×125.49E,h7km,mb4.2,ML3.0,MS2.8, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.26	0	⇑eP	Pg	02 51 58.1	+1.2
SCPH				eS	Sg	02 52 02.9	+2.4
BUTP	Butuan	0.57	166	eP	Pg	02 52 02.6	-0.4
BUTP				eS	Sg	02 52 13.5	+2.8
MSLP	Maasin	0.87	314	eP	Pb	02 52 07.3	-1.3
CGP	Cagayan de Oro	1.32	216	i S	Sb	02 52 32.7	-0.7
BUKP	Musuan	1.69	194	eP	Pn	02 52 21.8	0.0
PLP	Palo	1.71	343	eP	Pn	02 52 21.1	-1.0
PLP				eS	Sn	02 52 44.7	+0.3
BESP	Borongan	2.06	359	eP	Pn	02 52 26.6	-0.6

*IDC **04** 03:22:39.3±1.2,23.71N×44.82W,mb3.9/10,mb1 4.1/10, mb1mx3.9/23,mbtmp3.9/10,MS3.3/8,Ms1 3.4/8, ms1mx3.1/23,Error ellipse: s-maj=35.9km s-min=20.3km az=157.0*

*NEIC **04** 03:22:40.9±0.6,23.67N×44.76W,h10km,mb4.4/8,Error ellipse: s-maj=16.6km s-min=8.6km az=168.0*

ISC 04 03:22:39.2±0.9,23.8N±0.2×44.8W±0.1,h10km,n26, σ0.s57/23,mb4.1/18,MS3.4/8,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJG	San Juan	20.75	258	LR	LR	03 33 32.7	
	comp=Z,38nm,19.6s,MS2.8,baz=93,slow=32						
DBIC	Dimbokro	41.88	107	LR	LR	03 45 28.5	
	comp=Z,52nm,19.3s,MS3.4,baz=195,slow=33						
CCM	Cathedral Cave	41.94	301	eP	P	03 30 32.1	+0.3
	2.8nm,0.8s,mb3.9						
LPAZ	La Paz	45.88	212	P	P	03 31 03.8	-0.1
	0.7nm,0.7s,mb3.7,baz=292,slow=6.1,SNR=5.1						
ULM	Lac du Bonnet	47.45	317	LR	LR	03 49 56.3	
	comp=Z,30nm,18.5s,MS3.3,baz=154,slow=34						
WMOK	Wichita Mounta	47.90	296	eP	P	03 31 19.7	0.0
	5.1nm,1.0s,mb4.5						
AMTX	Amarillo	50.28	296	eP	P	03 31 37.5	-0.4
	13nm,1.0s,mb4.9						
GERES	GERESS Array B	51.88	46	P	P	03 31 50.1	+0.3
	0.4nm,0.6s,mb3.5,baz=256,slow=8.1,SNR=3.2						
TXAR	Lajitas Array	52.54	290	P	P	03 31 53.8	-1.3
	1.1nm,0.9s,mb3.8,baz=112,slow=6.7,SNR=7.5						
TXAR				LR	LR	03 52 51.2	
	comp=Z,34nm,20.0s,MS3.4,baz=325,slow=34						
ANMO	Albuquerque	54.19	297	eP	P	03 32 07.8	+0.6
	2.8nm,1.0s,mb4.2						
BNM	Barren Site	54.41	296	eP	P	03 32 09.6	+0.8
PV01	Paradox Valley	55.59	301	eP	P	03 32 17.9	+0.5
PDAR	Pinedale Array	56.07	307	P	P	03 32 20.1	-0.7
	2.3nm,0.9s,mb4.2,baz=96,slow=8.2,SNR=14						
PDAR				LR	LR	03 55 38.5	
	comp=Z,33nm,18.8s,MS3.5,baz=347,slow=35						
BW06	Boulder Array	56.07	307	eP	P	03 32 20.2	-0.6
	3.7nm,1.0s,mb4.4						
SRU	San Rafael	57.04	302	eP	P	03 32 28.0	+0.2
MSU	Marysvale	58.38	302	eP	P	03 32 37.5	+0.3
MVU	Marysvale	58.41	302	eP	P	03 32 37.8	+0.4
	3.7nm,1.0s,mb4.4						
HLID	Hailey	59.57	308	eP	P	03 32 44.7	-0.7
	1.6nm,0.8s,mb4.1						
FINES	FINESS Array B	60.28	32	P	P	03 32 49.6	-0.3
	0.6nm,0.7s,mb3.8,baz=236,slow=5.0,SNR=3.4						
FINES				LR	LR	03 53 41.2	
	comp=Z,30nm,20.6s,MS3.4,baz=82,slow=31						
ARCES	ARCESS Array B	61.07	22	P	P	03 32 54.6	-0.6
	1.3nm,0.7s,mb4.2,baz=248,slow=6.5,SNR=7.5						
NEW	Newport	61.10	313	eP	P	03 32 56.1	+0.4
	4.0nm,0.9s,mb4.5						
AKASG	Malin Array Be	61.97	44	P	P	03 33 01.0	-0.6
	0.5nm,0.4s,mb4.0,baz=271,slow=6.2,SNR=4.8						
AKASG	Malin Array Be	61.97	44	P	P	03 33 01.0	-0.6
NVAR	Mina Array Bea	63.15	302	P	P	03 33 09.7	+0.1
	0.2nm,0.3s,mb3.7,baz=90,slow=7.4,SNR=3.6						
NVAR				LR	LR	03 57 36.1	
	comp=Z,32nm,19.5s,MS3.5,baz=305,slow=33						
BRTR	Keskin Array B	66.60	55	P	P	03 33 32.8	+0.8
	1.2nm,1.0s,mb3.9,baz=292,slow=6.7,SNR=3.7						
ILAR	Eielson Array	73.78	334	P	P	03 34 15.8	+0.7
	2.4nm,0.9s,mb4.1,baz=67,slow=4.1,SNR=18						
ILAR				LR	LR	04 06 45.4	
	comp=Z,26nm,19.6s,MS3.5,baz=179,slow=36						

*NEIC **04** 03:28:07.8,39.19S×174.91E,h211km,MG3.9(WEL), After WEL.*

WEL 04 03:28:08.2±0.3,39.20S×174.91E,h208km±2km,ML3.9/17, 6C-1D,Error ellipse: s-maj=4.5km s-min=2.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRZ	Vera Road	0.14	304	eP	P	03 28 34.6	-1.0
VRZ				S	S	03 28 55.5	-1.2
VRZ	Vera Road	0.14	304	PN	P	03 28 34.6	-1.0
VRZ				SN	S	03 28 55.5	-1.3
WPVZ	Whakapapa	0.50	91	P	P	03 28 36.0	-0.5
WPVZ	Whakapapa	0.50	91	PN	P	03 28 36.0	-0.5
WPVZ				SN	S	03 28 57.5	-0.9
CNZ	Chateau	0.50	90	P	P	03 28 36.1	-0.4
CNZ	Chateau	0.50	90	PN	P	03 28 36.1	-0.5
FWVZ	Far West T-bar	0.51	96	eP	P	03 28 36.2	-0.4
FWVZ				S	S	03 28 57.5	-1.0
FWVZ	Far West T-bar	0.51	96	PN	P	03 28 36.2	-0.3
FWVZ				SN	S	03 28 57.5	-1.0
WTVZ	West Tongariro	0.54	81	P	P	03 28 36.1	-0.6
WTVZ	West Tongariro	0.54	81	PN	P	03 28 36.1	-0.6
WTVZ				SN	S	03 28 57.7	-1.0
NGZ	Ngauruhoe	0.54	88	P	P	03 28 36.2	-0.5
NGZ	Ngauruhoe	0.54	88	PN	P	03 28 36.2	-0.5
NGZ				SN	S	03 28 57.7	-1.0
WNVZ	Wahianoa	0.55	103	P	P	03 28 36.5	-0.2
WNVZ	Wahianoa	0.55	103	PN	P	03 28 36.5	-0.2
WAZ	Wanganui	0.56	174	P	P	03 28 36.9	+0.2
WAZ	Wanganui	0.56	174	⇑PN	P	03 28 36.9	+0.2
WAZ				SN	S	03 28 58.9	+0.1
TUVZ	Tukino	0.58	97	P	P	03 28 36.6	-0.3
TUVZ	Tukino	0.58	97	ePN	P	03 28 36.6	-0.3
TUVZ				SN	S	03 28 58.7	-0.3
OTVZ	Oturere	0.59	87	PN	P	03 28 36.6	-0.3
OTVZ				SN	S	03 28 58.4	-0.7
KATZ	Kakaramea	0.66	70	P	P	03 28 36.3	-0.8
KATZ	Kakaramea	0.66	70	PN	P	03 28 36.3	-0.9
KATZ				eSN	S	03 28 58.4	-1.2
MOVZ	Moawhango	0.69	108	P	P	03 28 36.8	-0.5
MOVZ	Moawhango	0.69	108	⇑PN	P	03 28 36.8	-0.5
MOVZ				SN	S	03 28 57.7	-2.1
BKZ	Black Stump Fm	1.23	89	P	P	03 28 39.7	-1.1
BKZ	Black Stump Fm	1.23	89	⇓PN	P	03 28 39.7	-1.1
BKZ				SN	S	03 29 03.4	-2.5
MRZ	Mangatainoka R	1.55	161	P	P	03 28 42.7	-0.7
MRZ	Mangatainoka R	1.55	161	PN	P	03 28 43.0	-0.5
MRZ				SN	S	03 29 09.4	-1.2
KIW	Kapiti Island	1.66	180	P	P	03 28 44.0	-0.4
KIW	Kapiti Island	1.66	180	⇑PN	P	03 28 44.0	-0.4
KIW				SN	S	03 29 11.0	-1.3
PWZ	Pawanui	1.72	119	PN	P	03 28 44.6	-0.4
DUWZ	D'Urville Isla	1.77	205	PN	P	03 28 44.7	-0.7
BFZ	Birch Farm	1.80	146	eP	P	03 28 45.3	-0.4
BFZ	Birch Farm	1.80	146	ePN	P	03 28 45.3	-0.4
CAW	Cannon Point	1.91	176	P	P	03 28 46.3	-0.5
CAW	Cannon Point	1.91	176	PN	P	03 28 46.3	-0.5
URZ	Urewera	1.96	62	P	P	03 28 44.3	-3.0
URZ	Urewera	1.96	62	PN	P	03 28 44.3	-3.0
MTW	Mount Morrison	2.01	167	P	P	03 28 47.0	-0.7
MTW	Mount Morrison	2.01	167	PN	P	03 28 47.0	-0.8
MRW	Makara Radio	2.03	184	P	P	03 28 47.4	-0.6
MRW	Makara Radio	2.03	184	⇑PN	P	03 28 47.4	-0.6
TCW	Tory Channel	2.06	193	P	P	03 28 47.9	-0.5
TCW	Tory Channel	2.06	193	⇑PN	P	03 28 47.9	-0.5
SNZO	South Karori	2.11	184	P	P	03 28 48.0	-0.8
SNZO	South Karori	2.11	184	⇑PN	P	03 28 48.0	-0.9
KNZ	Kokohu	2.16	86	P	P	03 28 47.9	-1.5
BHW	Baring Head	2.20	181	P	P	03 28 48.8	-1.0
MWZ	Matawai	2.23	68	P	P	03 28 47.6	-2.5
MSWZ	Moikau Station	2.23	173	P	P	03 28 49.2	-0.9
NNZ	Nelson	2.33	210	P	P	03 28 49.9	-1.3
QRZ	Quartz Range	2.44	228	P	P	03 28 50.1	-2.3
BSWZ	Blackbirch Sta	2.63	197	P	P	03 28 53.9	-0.6
THZ	Tophouse	2.98	210	P	P	03 28 56.7	-1.8
MXZ	Matakaoa Point	3.13	60	P	P	03 28 56.8	-3.5
KHZ	Kahutara	3.38	197	P	P	03 29 01.9	-1.3
DSZ	Denniston Nort	3.47	222	eP	P	03 29 01.7	-2.7
LTZ	Lake Taylor	4.09	208	eP	P	03 29 09.5	-2.6
MQZ	McQueen's Vall	4.81	200	eP	P	03 29 17.3	-3.8
WVZ	Waitaha Valley	4.99	218	eP	P	03 29 20.0	-3.3
RPZ	Rata Peaks	5.36	211	eP	P	03 29 24.5	-3.6
LBZ	Lake Benmore	6.27	213	eP	P	03 29 35.6	-4.2

*STR **04** 03:51:13.3±0.4,43.42N×0.55W,h5km±1km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **04** 03:51:13.3,43.42N×0.55W,h5km,ML2.5(LDG), ML2.3(STR),MN1.8(MDD),After STR.*

*LDG **04** 03:51:13.6±0.1,43.38N×0.60W,h16km,Md2.4/2,Ml2.5/9, Error ellipse: s-maj=1.3km s-min=0.9km az=130.0*

*CSEM **04** 03:51:13.9±0.1,43.40N×0.60W,h5km,ML2.5/9,Error*

ellipse: s-maj=1.3km s-min=0.8km az=138.0

MDD 04 03:51:14.2±0.4**, 43.41N×0.58W, mbLg1.8**/15**, Error ellipse: s-maj=2.9km s-min=2.0km az=2.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORDF	Ordiarp	0.33	234	Pg	Pg	03 51 20.0	-0.6
ORDF				Sg	Sg	03 51 25.8	+0.8
ORDF	Ordiarp	0.33	234	P	Pg	03 51 20.0	-0.7
ORDF				S	Sg	03 51 25.2	+0.2
ATE	Arette	0.33	196	P	Pg	03 51 19.9	-0.9
ATE				S	Sg	03 51 25.1	-0.1
REYF	Montagne du Re	0.36	158	Pg	Pg	03 51 20.7	-0.7
REYF				Sg	Sg	03 51 25.9	-0.3
REYF	Montagne du Re	0.36	158	P	Pg	03 51 20.6	-0.8
REYF				S	Sg	03 51 24.9	-1.3
LARF	Larrau	0.47	219	Pg	Pg	03 51 22.4	-1.2
LARF				Sg	Sg	03 51 29.6	-0.4
LARF	Larrau	0.47	219	P	Pg	03 51 22.5	-1.1
LARF				S	Sg	03 51 29.0	-1.0
ETSF	Etsaut	0.51	179	ePg	Pg	03 51 22.9	-1.4
ETSF				eSg	Sg	03 51 30.0	-1.0
	24nm,0.3s						
OSSF	Osses	0.52	254	Pg	Pg	03 51 23.5	-1.1
OSSF				Sg	Sg	03 51 31.7	+0.2
OSSF	Osses	0.52	254	P	Pg	03 51 23.4	-1.2
OSSF				S	Sg	03 51 31.2	-0.4
SJPF	Ste Jean	0.56	239	ePg	Pg	03 51 24.1	-1.2
SJPF				eSg	Sg	03 51 31.7	-1.0
	22nm,0.3s						
FDAF	Les Forges d'A	0.59	179	P	Pg	03 51 24.4	-1.5
FDAF				S	Sg	03 51 33.3	-0.3
LABF	Labassere	0.59	127	S	Sg	03 51 34.7	+0.7
VIEF	Viey	0.68	140	Pg	Pg	03 51 26.6	-1.2
VIEF	Viey	0.68	140	P	Pg	03 51 26.6	-1.2
VIEF				S	Sg	03 51 36.4	-0.4
EALK	Alkurruntz	0.70	255	Pg	Pg	03 51 26.8	-1.5
	12nm,0.3s,SNR=20						
EALK				Lg		03 51 37.7	
	29nm,0.3s,SNR=15						
EPF	Esparros	0.77	119	ePg	Pg	03 51 28.8	-0.7
EPF				eSn	Sn	03 51 39.3	-5.0
EBIE	Bielsa	0.89	144	Pg	Pg	03 51 30.4	-1.5
EBIE				Lg		03 51 42.9	
EBIE	Bielsa	0.89	144	Pg	Pg	03 51 30.4	-1.5
	0.3nm,0.1s,SNR=19						
EBIE				Lg		03 51 42.9	
	4.7nm,0.2s,SNR=9.7						
EBIE	Bielsa	0.89	144	Pg	Pg	03 51 30.4	-1.5
	0.3nm,0.1s,SNR=19						
RESF	Ens	0.90	131	S	Sg	03 51 41.3	-2.7
MLS	Moulis	1.30	110	S	Sb	03 51 54.9	-1.4
EGRA	Graus	1.38	151	Pg	Pg	03 51 40.0	-1.6
	1.1nm,0.1s,SNR=12						
EGRA				Lg		03 52 01.9	
	4.6nm,0.3s,SNR=5.8						
ESAC	San Caprasio	1.68	177	Pg	Pg	03 51 45.7	-2.1
	9.0nm,0.2s,SNR=8.0						
ESAC				Lg		03 52 08.7	
	33nm,0.3s,SNR=8.0						
ESAC	San Caprasio	1.68	177	Pg	Pg	03 51 45.7	-2.1
	9.0nm,0.2s,SNR=8.0						
LFF	La Frestale	1.80	31	ePg	Pg	03 51 47.7	-2.4
LFF				eSg	Sg	03 52 11.0	-3.2
	13nm,0.4s						
MTLF	Montolieu	2.04	91	ePn	Pn	03 51 46.1	-4.0
MTLF				ePg	Pg	03 51 52.0	-2.8
MTLF				eSg	Sg	03 52 18.1	-3.9
	10.0nm,0.4s						
ELAN	Lanestosa	2.09	266	Pg	Pg	03 51 53.0	-2.9
	0.7nm,0.2s,SNR=7.9						
ELAN				Lg		03 52 21.6	
	2.4nm,0.3s,SNR=7.9						
ELAN	Lanestosa	2.09	266	Pg	Pg	03 51 53.0	-2.9
	0.7nm,0.2s,SNR=7.9						
EMIR	Miracle	2.15	133	Pg	Pg	03 51 53.9	-3.1
	1.1nm,0.2s,SNR=7.9						
EMIR				Lg		03 52 21.8	
	5.6nm,0.4s,SNR=7.9						
EMIR	Miracle	2.15	133	Pg	Pg	03 51 53.9	-3.2
	1.1nm,0.2s,SNR=7.9						
EPOB	Poblet	2.39	149	Pg	Pg	03 51 58.7	-3.1
	0.8nm,0.2s,SNR=7.9						
EPOB				Lg		03 52 30.3	
	1.8nm,0.3s,SNR=7.9						
EPOB	Poblet	2.39	149	Pg	Pg	03 51 58.7	-3.2
	0.8nm,0.2s,SNR=7.9						
RJF	Les Rejaudoux	2.42	38	ePg	Pg	03 51 58.9	-3.6
RJF				eSg	Sg	03 52 30.9	-3.8
	4.4nm,0.2s						
CAF	Calviac	2.43	50	ePg	Pg	03 51 59.4	-3.3
CAF				eSg	Sg	03 52 31.1	-4.0
	5.2nm,0.3s						
EJON	La Jonquera	2.72	109	Lg		03 52 41.5	
	1.1nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	3.04	179	Pg	Pg	03 52 12.0	-2.8
EMOS				Sn	Sn	03 52 39.7	-2.4
EMOS				Lg		03 52 54.2	
EMOS	Mosqueruela	3.04	179	Pg	Pg	03 52 12.0	-2.8
	0.4nm,0.3s,SNR=7.9						
EMOS				Sn	Sn	03 52 39.7	-2.4
	0.9nm,0.4s,SNR=4.0						
EMOS				Lg		03 52 53.3	
	0.7nm,0.5s,SNR=4.0						
EMOS	Mosqueruela	3.04	179	Pg	Pg	03 52 12.0	-2.8
	0.4nm,0.3s,SNR=7.9						
EMOS				Sn	Sn	03 52 39.7	-2.4
	0.9nm,0.4s,SNR=4.0						
MFF	Saint Martin d	3.21	5	eSg	Sg	03 52 55.0	-6.1
	1.7nm,0.3s						
LASF	Ste Croix	3.28	77	ePn	Pn	03 52 02.5	-5.3
LASF				eSg	Sg	03 52 57.3	-6.1
	1.6nm,0.3s						
LASF	Ste Croix	3.28	77	Lg		03 52 57.3	
	0.8nm,0.3s						
TCF	Toulx Ste Croi	3.50	34	eSg	Sg	03 53 04.2	-6.4
	2.4nm,0.3s						
BGF	Bois d'Agland	3.98	36	eSg	Sg	03 53 19.2	-7.4
	9.6nm,0.4s						

*LDG **04** 04:04:11.5±0.3, 10.47N×61.73W, h10km, Mb4.8/19, Ms3.4/6, Error ellipse: s-maj=18.5km s-min=5.5km az=97.0*
*BJI **04** 04:04:15.1, 10.50N×61.10W, h23km, mB5.2, Ms5.3, Msz4.7*
*TRN **04** 04:04:20.0, 10.46N×61.10W, h23km, MD4.1*
TRN Felt (IV) mainly in central and northern Trinidad and some parts of the southern areas.
*NEIC **04** 04:04:20.2, 10.47N×61.09W, h23km, mb4.7/27, MD4.1(TRN), After TRN.*
NEIC Felt on Trinidad.
*IDC **04** 04:04:20.0±1.8, 10.44N×61.47W, h47km±17km, mb3.9/21, mb1 4.1/24, mb1mx4.0/29, mbtmp4.2/24, ML4.0/3, MS3.7/11, Ms1 3.7/11, ms1mx3.5/24, Error ellipse: s-maj=14.1km s-min=10.5km az=86.0*
*FUNV **04** 04:04:22.7, 10.43N×61.40W, h48km, MW3.4*

ISC 04 04:04:19.6±0.3**, 10.44N**±0.03×**61.39W**±0.03**, h65**km±2km**, n115, σ1ˢ02**/125**, mb4.3**/46**, 2C-4D, Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TPP	Pointe-a-Pierr	0.14	206	⇓iP	P	04 04 28.2	-1.1
TPP				eS	S	04 04 39.7	+3.3
TRN	Trinidad (W)	0.20	356	⇑iP	P	04 04 27.7	-1.9
TRN				eS	S	04 04 33.4	-3.6
TBH	Brigand Hill	0.32	83	⇓iP	P	04 04 24.9	-5.5
TBH				eS	S	04 04 39.9	+1.4
ALNG	Atlantic LNG	0.39	229	eP	P	04 04 32.5	+1.4
ALNG				eS	S	04 04 44.4	+4.9
GUIV	Guiria	0.84	284	eP	P	04 04 37.7	+1.7
GUIV				eS	S	04 04 49.1	+0.8
TPR	Prospect	0.95	39	eP	P	04 04 35.0	-2.4
TPR				eS	S	04 04 46.4	-4.3
BOT	Bacolet	0.98	42	⇓eP	P	04 04 35.1	-2.7
BOT				eS	S	04 04 47.0	-4.3
GUNV	Guanoco	1.55	260	eP	P	04 04 47.4	+1.7
GRW	Mount Saint Ca	1.73	351	eP	P	04 04 49.2	+1.1
GRW				eS	S	04 05 12.4	+3.3
GRHS	Sauteurs	1.79	352	eP	P	04 04 48.9	0.0
GRHS				eS	S	04 05 12.3	+1.8
GRHS	Sauteurs	1.79	352	eP	P	04 04 51.0	+2.1
GRHS				eS	S	04 05 12.3	+1.8
CRUV	Carupano	1.83	277	⇑eP	P	04 04 50.5	+1.0
ITEV	Isla Los Testi	1.94	298	⇓eP	P	04 04 52.6	+1.7
ITEV				eS	S	04 05 14.3	+0.2
ORIV	Oritupano	2.41	236	eP	P	04 04 58.8	+1.1
ORIV				eS	S	04 05 25.2	-0.8
SVB	Belmont	2.81	3	eP	P	04 05 03.8	+0.5
SVB				e		04 05 32.8	
SVB				eS	S	04 05 36.6	+0.4
BIRV	Birongo	4.80	271	eP	P	04 05 30.9	-0.2
BIRV				eS	S	04 06 21.5	-4.5
ORCV	Isla La Orchil	4.91	287	eP	P	04 05 32.4	-0.2
CAOV	Caicara del Or	5.77	238	eP	P	04 05 43.8	-0.8
CAOV				eS	S	04 06 44.1	-6.2
BAUV	El Baul	6.72	258	eP	P	04 05 56.7	-1.2
SJG	San Juan	8.91	329	P	P	04 06 26.4	-1.5
	1.0nm,0.3s,baz=175,slow=19,SNR=2.9						
SJG				S	S	04 08 01.4	-6.4
	2.7nm,0.3s,baz=28,slow=18,SNR=2.4						
SJG	San Juan	8.91	329	eP	P	04 06 26.0	-1.9
SJG				eS	S	04 08 02.6	-5.2
SDV	Santo Domingo	9.24	261	P	P	04 06 30.2	-2.3
	5.2nm,0.3s,baz=115,slow=8.3,SNR=32						
SDV				S	S	04 08 11.2	-4.8
	6.1nm,0.3s,baz=39,slow=16,SNR=6.9						
SDV	Santo Domingo	9.24	261	eP	P	04 06 29.5	-3.0
	20nm,0.6s						
SDV				eS	S	04 08 09.6	-6.4
ROSC	El Rosal	13.97	248	P	P	04 07 35.8	-0.2
	0.7nm,0.3s,baz=111,slow=22,SNR=7.2						
SAML	Samuel	19.35	185	eP	P	04 08 41.2	-1.4
	13nm,0.7s						
OTAV	Otavalo	19.76	240	P	P	04 08 48.3	+1.1
	9.0nm,0.8s						
JTS	JuntasAbangare	23.18	272	eP	P	04 09 22.8	+1.2
SIV	San Ignacio	26.27	179	P	P	04 09 51.8	+0.8
	3.4nm,0.7s,mb4.0,baz=16,slow=10,SNR=24						
LPAZ	La Paz	27.38	194	P	P	04 10 01.1	-0.2
	1.2nm,0.8s,mb3.5,baz=4.3,slow=11,SNR=6.9						
LPAZ				LR	LR	04 20 38.5	
	comp=Z,53nm,20.6s,baz=15,slow=36						
LPAZ	La Paz	27.38	194	eP	P	04 10 02.9	+1.7
	1.6nm,0.8s,mb3.6						
BDFB	Brasilia	29.10	153	P	P	04 10 17.0	+0.3
	5.2nm,0.8s,mb4.3,baz=331,slow=7.6,SNR=10						
BDFB				LR	LR	04 22 27.6	
	comp=Z,265nm,20.1s,baz=198,slow=37						
BAO	Brasilia Array	29.11	153	P	P	04 10 17.5	+0.8
ELN	Prospectdale	31.87	330	eP	P	04 10 40.9	0.0
LRAL	Lakeview Retre	32.56	318	eP	P	04 10 46.6	-0.4
	1.8nm,0.5s,mb4.3						
TZTN	Tazewell	32.82	326	eP	P	04 10 48.9	-0.3
SWET	Sewanee	33.28	322	eP	P	04 10 52.9	-0.2
PLAL	Pickwick Lake	34.47	319	eP	P	04 11 02.8	-0.6
	7.0nm,0.5s,mb4.8						
OXF	Oxford	35.05	318	P	P	04 11 07.8	-0.6
CPUP	Villa Florida	36.76	174	P	P	04 11 22.3	-0.6
	2.4nm,0.6s,mb4.2,baz=15,slow=13,SNR=7.3						
CPUP				LR	LR	04 27 00.1	
	comp=Z,91nm,19.2s,baz=203,slow=37						
CCM	Cathedral Cave	38.37	321	eP	P	04 11 35.6	-0.5
	4.9nm,0.6s,mb4.4						
CFAA	Coronel Fontan	42.32	189	P	P	04 12 08.9	-0.1
	0.2nm,0.5s,mb3.0,baz=2.1,slow=7.6,SNR=13						
TXAR	Lajitas Array	43.67	302	P	P	04 12 20.1	0.0
	0.5nm,0.6s,mb3.4,baz=115,slow=11,SNR=7.3						
TXAR				PcP	PcP	04 14 09.2	+2.5
	0.9nm,0.5s,baz=118,slow=6.1,SNR=13						
SCHQ	Schefferville	44.49	356	P	P	04 12 27.7	+1.5
	8.6nm,0.5s,mb4.7,baz=175,slow=6.4,SNR=24						
SCHQ				LR	LR	04 29 22.0	
	comp=Z,58nm,19.3s,baz=44,slow=34						
GDL2	Guadalupe Moun	45.12	305	eP	P	04 12 31.5	0.0
BNM	Barren Site	47.54	307	eP	P	04 12 51.4	+0.7
ANMO	Albuquerque	47.67	308	eP	P	04 12 52.2	+0.5
	4.6nm,1.0s,mb4.5						
ULM	Lac du Bonnet	48.81	331	P	P	04 12 58.4	-1.8
	1.9nm,0.4s,mb4.5,baz=114,slow=5.3,SNR=3.2						
ULM				LR	LR	04 34 58.5	
	comp=Z,67nm,19.1s,baz=23,slow=38						
ULM	Lac du Bonnet	48.81	331	P	P	04 12 58.4	-1.8
ULM				LR	LR	04 34 58.5	
PV01	Paradox Valley	50.36	311	eP	P	04 13 12.6	+0.3
PV01				e		04 13 23.8	
SRU	San Rafael	52.13	312	eP	P	04 13 25.0	-0.7
LAO	LASA Array	52.35	322	eP	P	04 13 26.3	-1.0
	4.5nm,0.4s,mb4.8						
BW06	Boulder Array	52.78	316	eP	P	04 13 28.8	-1.7
	3.1nm,0.9s,mb4.2						
PDAR	Pinedale Array	52.78	316	P	P	04 13 29.4	-1.0
	1.3nm,0.5s,mb4.1,baz=108,slow=9.3,SNR=17						
PDAR				LR	LR	04 37 11.4	
	comp=Z,67nm,19.8s,baz=97,slow=37						
EVO	Evora	55.11	50	eP	P	04 13 45.3	-2.4
	29nm,1.2s,mb4.9						
BOZ	Bozeman (W)	55.27	319	eP	P	04 13 47.9	-0.8
	1.4nm,0.8s,mb4.0						
HRY	Holter Researc	55.82	320	eP	P	04 13 51.6	-1.0
DBIC	Dimbokro	55.97	89	P	P	04 13 53.1	-1.1
	0.9nm,0.4s,mb4.2,baz=324,slow=3.6,SNR=6.7						
DBIC	Dimbokro	55.97	89	eP	P	04 13 52.2	-2.0
ELK	Elko	56.09	312	LR	LR	04 39 25.5	
	comp=Z,89nm,20.5s,baz=45,slow=38						
HLID	Hailey	56.38	316	eP	P	04 13 56.4	-0.3
	2.0nm,0.6s,mb4.3						
NVAR	Mina Array Bea	57.78	309	P	P	04 14 06.7	0.0
	1.0nm,0.5s,mb4.1,baz=100,slow=5.5,SNR=9.3						
NVAR				LR	LR	04 40 02.4	
	comp=Z,54nm,20.4s,baz=125,slow=37						
ESDC	Sonseca Array	58.45	50	P	P	04 14 11.5	+0.2
	2.2nm,0.7s,mb4.3,baz=263,slow=7.4,SNR=12						
ESLA	Sonseca Array	58.45	50	eP	P	04 14 11.3	0.0
	0.4nm,0.7s,mb3.6						
NEW	Newport	59.73	320	P	P	04 14 19.0	-1.1
	7.2nm,0.6s,mb4.9,baz=125,slow=5.9,SNR=25						
NEW				LR	LR	04 38 31.3	
	comp=Z,66nm,20.5s,baz=113,slow=34						
NEW	Newport	59.73	320	eP	P	04 14 18.5	-1.6
	6.9nm,0.6s,mb4.9						
QUIF	Quistinic	61.20	41	eP	P	04 14 30.3	+0.2
SJPF	Ste Jean	61.25	46	eP	P	04 14 31.1	+0.7
	16nm,0.8s,mb4.9						
ROSF	Rostrenen	61.26	40	eP	P	04 14 30.5	0.0
	9.3nm,0.6s,mb4.8						
ETSF	Etsaut	61.68	47	eP	P	04 14 34.0	+0.7
SGMF	Saint Gilles	61.69	41	eP	P	04 14 33.6	+0.3
	10nm,0.8s,mb4.7						
YBH	Yreka Blue Hor	61.79	312	P	P	04 14 33.2	-0.8
	1.3nm,0.5s,mb4.3,baz=156,slow=3.7,SNR=9.4						
EPF	Esparros	62.35	47	eP	P	04 14 38.6	+0.8
	13nm,0.7s,mb4.9						
GRR	Gorron	62.82	41	eP	P	04 14 40.9	0.0
LFF	La Frestale	63.04	45	eP	P	04 14 42.5	+0.1
FLN	La Foliniere	63.16	40	eP	P	04 14 43.3	+0.1
	28nm,0.9s,mb5.1						
FLN				eR			
	52nm,19.1s						
MTLF	Montolieu	63.76	47	eP	P	04 14 47.1	-0.1
	33nm,1.3s,mb4.9						
CAF	Calviac	63.96	45	eP	P	04 14 48.4	0.0
	18nm,0.7s,mb4.9						
TCF	Toulx Ste Croi	64.34	44	eP	P	04 14 50.9	0.0
	12nm,0.9s,mb4.6						
YKA	Yellowknife Ar	64.34	336	P	P	04 14 48.9	-1.7
	0.7nm,0.4s,mb4.1,baz=108,slow=7.3,SNR=7.1						
YKA				LR	LR	04 41 37.6	
	comp=Z,107nm,20.7s,baz=110,slow=35						
YKA	Yellowknife Ar	64.34	336	P	P	04 14 48.9	-1.7
YKA				LR	LR	04 41 37.6	
BGF	Bois d'Agland	64.83	43	eP	P	04 14 54.1	+0.1
	22nm,0.9s,mb4.9						
SSF	Saint Saulge	65.37	43	eP	P	04 14 57.6	+0.1
SMF	Signal de Mont	65.52	43	eP	P	04 14 58.4	-0.1
	12nm,0.8s,mb4.7						
LOR	Lormes	65.65	43	eP	P	04 14 58.8	-0.5
	11nm,0.9s,mb4.6						
LOR				eR			
	44nm,18.6s						
VIVF	Saint-Julien-l	65.77	45	eP	P	04 15 00.2	+0.1
ORIF	Oris-en-Rattie	66.62	46	eP	P	04 15 06.3	+0.8
ORIF				eR			
	45nm,17.0s						
MEZF	Maizieres J'vi	66.67	42	eP	P	04 15 06.5	+0.7
GIVF	Givet	66.84	40	eP	P	04 15 06.7	-0.1
LMR	La Mourre	66.85	47	eP	P	04 15 06.9	-0.1
FRF	La Foret Royal	66.98	47	eP	P	04 15 07.7	-0.1
	13nm,0.7s,mb4.8						
CABF	La Chapelle	67.03	44	eP	P	04 15 08.1	0.0
MBDF	Montbardon	67.22	46	eP	P	04 15 10.0	+0.7
	7.5nm,0.9s,mb4.4						
LPL	La Plagne	67.31	45	eP	P	04 15 10.8	+1.0
	14nm,1.0s,mb4.7						
LPG	La Plagne	67.32	45	eP	P	04 15 11.2	+1.3
	7.0nm,0.8s,mb4.4						
HAU	Haudompre	67.44	42	eP	P	04 15 10.1	-0.5
HAU				eR			
	34nm,21.5s						
SBF	Sospel	67.58	47	eP	P	04 15 11.7	+0.2
HINF	Hinteralfeld	67.74	43	eP	P	04 15 12.0	-0.5
CDF	Champ du Feu	68.12	42	eP	P	04 15 14.7	-0.1
CLL	Collm	72.16	39	P	P	04 15 40.0	+0.7
GERES	GERESS Array B	72.40	42	P	P	04 15 41.5	+0.7
	2.0nm,0.8s,mb4.1,baz=256,slow=5.5,SNR=18						
NB2	NORSAR Subarra	72.52	29	P	P	04 15 42.5	+1.3
	0.8nm,0.9s,mb3.6,baz=261,slow=5.8						
NOA	NORSAR Array B	72.52	29	P	P	04 15 43.0	+1.9
	2.0nm,0.9s,mb4.0,baz=258,slow=5.8,SNR=5.4						
INK	Inuvik	73.78	338	P	P	04 15 48.6	+0.2
	1.9nm,0.9s,mb4.0,baz=90,slow=3.0,SNR=2.9						
ILAR	Eielson Array	78.71	334	P	P	04 16 16.4	+0.1
	0.8nm,0.6s,mb3.8,baz=92,slow=4.6,SNR=11						
ILAR				LR	LR	04 49 50.3	
	comp=Z,77nm,21.5s,baz=180,slow=35						
ARCES	ARCESS Array B	79.20	21	P	P	04 16 20.4	+1.5
	1.9nm,0.7s,mb4.2,baz=270,slow=6.1,SNR=12						
ARCES	ARCESS Array B	79.20	21	P	P	04 16 20.4	+1.5
FINES	FINESS Array B	79.70	29	P	P	04 16 22.6	+0.9
	0.7nm,0.6s,mb3.8,baz=252,slow=6.0,SNR=5.9						
MDJ	Mudanjiang	124.31	351	PKP	PKPdf	04 23 13.2	+1.7
CN2	Changchun	125.66	354	ePKP	PKPdf	04 23 16.4	+2.3
LZH	Lanzhou	131.67	16	ePKP	PKPdf	04 23 21.5	-4.4
LZH				XPKP		04 23 39.6	
LZH	Lanzhou	131.67	16	ePKP	PKPdf	04 23 21.5	-4.4
LZH				pPKP		04 23 34.5	
LZH				sPKP		04 23 39.6	
CMAR	Chiang Mai Arr	145.34	34	PKPbc	PKPbc	04 23 54.1	+2.6
	7.0nm,0.8s,baz=312,slow=5.2,SNR=21						
STKA	Stephens Creek	149.89	221	PKPbc	PKPdf	04 24 06.0	+7.8
	1.5nm,0.5s,baz=295,slow=12,SNR=3.6						
STKA	Stephens Creek	149.89	221	ePKPbc	PKPdf	04 24 06.5	+8.3
WRA	Warramunga Arr	162.14	236	PKPab	PKPab	04 25 04.6	+1.0
	0.3nm,0.5s,baz=111,slow=4.7,SNR=8.2						

OTT 04 04:13:57.9±0.8**, 67.94N×66.47W, h18**km**, MN3.0**/6**, 112km northwest from Qikiqtarjuaq, Nu Baffin Island Seismic Zone, Northwest Territories, Baffin Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PINU	Pond Inlet	6.14	326	PN	Pn	04 15 27.9	-2.3
PINU				SN	Sn	04 16 34.1	-6.6
PINU				LG		04 17 06.7	
PINU				Trac		04 17 11.7	
	comp=Z,13nm,0.2s						
SFJD	Kangerlussuaq	6.16	91	SN	Sn	04 16 35.5	-5.7
QILN	Qililugaq Expl	7.80	270	PN	Pn	04 15 49.4	-4.0
QILN				SN	Sn	04 17 11.8	-10
QILN				Trac		04 17 59.8	
	comp=Z,8.1nm,0.3s						
KUQ	Kuujjuuaa	9.91	186	PN	P	04 16 17.4	-5.1
KUQ				SN	Sn	04 18 02.1	-12
KUQ				Trac		04 19 03.0	
	comp=Z,1.9nm,0.2s						
RES	Resolute Bay	11.21	319	PN	P	04 16 32.9	-7.4
RES				SN	S	04 18 34.4	-12
RES				LG		04 19 45.0	
RES				Trac		04 19 57.6	
	comp=Z,0.8nm,0.3s						
YRTN	Rankin Inlet	11.80	256	PN	P	04 16 44.4	-3.8
YRTN				SN	S	04 18 43.9	-17
YRTN				Trac		04 20 07.8	
	comp=Z,3.6nm,0.3s						
SCHQ	Schefferville	13.16	181	SN	S	04 19 20.2	-13
SCHQ				Trac		04 19 25.9	
	comp=Z,0.8nm,0.3s						
EUNU	Eureka	13.21	345	SN	S	04 19 21.1	-13
LG4Q	La Grande 4	14.82	198	PN	P	04 17 22.7	-5.3
LG4Q				SN	S	04 19 55.3	-17
LG4Q				Trac		04 20 03.6	
	comp=Z,1.1nm,0.3s						
SILO	Sutton Inlier	16.05	222	PN	P	04 17 41.0	-3.1
SILO				SN	S	04 20 26.4	-15
SILO				Trac		04 21 11.0	
	comp=Z,0.4nm,0.2s						
VIMO	Victor Mine	17.30	217	PN	P	04 17 56.6	-3.2
VIMO				SN	S	04 20 55.5	-15
VIMO				Trac		04 22 02.6	
	comp=Z,0.4nm,0.3s						

*SOF **04** 04:30:03.3, 41.98N×21.55E, h6km, MD2.6*
*SKO **04** 04:30:04.0, 41.97N×21.53E, h16km, ML3.1*
*CSEM **04** 04:30:04.9±0.1, 41.95N×21.55E, h5km, ML2.8, Error ellipse: s-maj=1.7km s-min=1.0km az=34.0*
*NEIC **04** 04:30:04.0, 41.97N×21.53E, h16km, MD2.7(PDG), ML3.1(SKO), After SKO.*
NEIC Felt [V] at Skopje.
*BEO **04** 04:30:05.7±0.5, 41.96N×21.51E, h7km±1km*
*THE **04** 04:30:06.5, 41.84N×21.58E, h6km, ML2.8*
*PDG **04** 04:30:09.8±0.2, 42.04N×21.22E, h10km±1km*

ISC 04 04:30:05.2±0.4**, 41.88N**±0.03×**21.60E**±0.03**, h5**km**, n24, σ1ˢ10**/42**, 2C-3D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKO	Skopje	0.15	310	⇓iPg	Pg	04 30 07.1	-1.2
SKO				i Sg	Sg	04 30 09.1	-1.3
SKO				Smax		04 30 09.5	
	comp=E,14nm,0.3s						
SKO				Smax		04 30 10.0	
	comp=N,12nm,0.3s						
SKO	Skopje	0.15	310	⇓iPg	Pg	04 30 07.1	-1.2
SKO				i Sg	Sg	04 30 09.1	-1.3
	comp=N,12µm,0.3s						
OHR	Ohrid	0.97	218	⇑iPg	Pg	04 30 23.8	-0.8
OHR				i Sg	Sg	04 30 37.6	+0.1
GRG	Griva	1.10	146	ePg	Pg	04 30 26.7	-0.5
GRG				eSg	Sg	04 30 42.3	+0.5
FNA	Florina	1.10	189	ePg	Pg	04 30 26.7	-0.5
FNA				eSg	Sg	04 30 41.7	-0.2
KKB	Krupnik	1.11	90	i P	Pb	04 30 26.5	0.0
QSH	Qafa e Shtames	1.31	255	ePn	Pn	04 30 30.0	-0.2
QSH				i Sn	Sn	04 30 49.0	+0.7
VTS	Vitosha	1.40	59	i P	Pn	04 30 30.5	-0.8
TIR	Tirane	1.40	248	ePg	Pg	04 30 25.0	-8.1
PVY	Plav	1.40	301	ePg	Pg	04 30 30.0	-3.1
PVY				eSg	Sg	04 30 46.6	-5.3
IVA	Berane	1.60	309	ePg	Pg	04 30 33.3	-3.9
IVA				eSg	Sg	04 30 53.4	-5.1
MMB	Musomiste	1.62	99	i P	Pn	04 30 35.5	+0.9
SRS	Serrai	1.68	116	ePb	Pb	04 30 35.1	-1.2
SRS				eSb	Sb	04 30 58.2	+0.6
SRS	Serrai	1.68	116	ePb	Pb	04 30 35.1	-1.1
SRS				eSb	Sb	04 30 58.2	+0.6
SOH	Sokhos	1.69	128	ePb	Pb	04 30 35.7	-0.7
SOH				eSb	Sb	04 30 58.3	+0.4
ULC	Ulcinj	1.75	274	ePg	Pg	04 30 37.0	-3.2
ULC				eSg	Sg	04 30 59.3	-4.2
TTG	Podgorica	1.82	288	ePg	Pg	04 30 36.8	-4.8
TTG				eSg	Sg	04 31 01.1	-4.8
BOLS	Boljevac	1.97	8	⇓iPn	Pn	04 30 39.5	-0.1
BOLS				Sn	Sn	04 31 04.5	-0.4
BUM	Brajici-Budva	2.05	283	ePn	Pn	04 30 42.0	+1.3
BUM				eSn	Sn	04 31 08.4	+1.4
GRUS	Gruza	2.11	342	⇑iPn	Pn	04 30 42.0	+0.4
NKY	Niksic	2.14	297	ePn	Pn	04 30 43.0	+1.0
NKY				eSn	Sn	04 31 09.7	+0.4
PLE	Pljevlja	2.18	313	ePn	Pn	04 30 44.7	+2.1
PLE				eSn	Sn	04 31 11.2	+0.9
RZN	Rozhen	2.34	94	eP	Pn	04 30 45.5	+0.6
BRY	Bratogost	2.48	295	ePn	Pn	04 30 47.9	+1.0
BRY				eSn	Sn	04 31 18.5	+0.6

*CSEM **04** 04:32:32.5±0.5, 39.52N×29.81W, h5km, MD3.3, Error ellipse: s-maj=36.6km s-min=3.5km az=47.0, After PDA*

PDA ***04*** *04:32:32.5±0.5,39.52N×29.81W,h5km,MD3.3,Error ellipse: s-maj=36.6km s-min=3.5km az=47.0*

SVSA 04 04:32:32.5±0.5,39.52N×29.81W,h5km,MD3.3,Error ellipse: s-maj=36.6km s-min=3.5km az=47.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CALA	Caldeira	1.27	137	eP	Pb	04 32 52.0	-4.6
CALA				eS	Sb	04 33 07.1	-6.0
HOR	Horta	1.35	137	eP	Pb	04 32 53.1	-4.8
HOR				eS	Sb	04 33 08.3	-7.1
PICO	Pico	1.48	133	i P	Pn	04 32 55.1	-4.8
PICO				eS	Sb	04 33 11.9	-7.3

BJI ***04*** *04:34:47.7,4.25N×94.99E,h40km,mB4.9,mb4.9,Ms4.4,Msz4.1*

MOS ***04*** *04:34:51.8±1.1,4.92N×95.22E,h33km,mb5.2/30,Error ellipse: s-maj=13.2km s-min=6.0km az=116.0*

NEIC ***04*** *04:34:55.3±0.3,4.77N×95.17E,mb4.8/28,Error ellipse: s-maj=9.4km s-min=6.4km az=207.0*

IDC ***04*** *04:34:55.4±0.6,4.79N×95.20E,h53km±4km,mb4.5/15,mb1 4.6/15,mb1mx4.4/21,mbtmp4.8/15,MS3.8/19,Ms1 3.8/19,ms1mx3.7/28,Error ellipse: s-maj=22.3km s-min=13.3km az=57.0*

ISC 04 04:34:53.0±0.4**,4.69N**±0.06×**95.14E**±0.04**,h48km,h48km**±1.9km**:pP-P,n188,**σ1.08/173**,mb4.9**/66**,MS3.9**/31**,19C-5D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.52	84	⇓eP	P	04 36 16.2	+1.5
KULM				eS	S	04 37 16.8	-0.9
SNG	Songkhla	5.98	65	P	P	04 36 24.0	+2.9
	290nm,0.8s						
NNT	Nongplab	9.07	30	P	P	04 37 06.5	+2.5
CMAR	Chiang Mai Arr	14.18	15	P	P	04 38 16.6	+3.7
	1.2nm,0.3s,baz=210,slow=11,SNR=75						
CMAR				LR	LR	04 43 39.3	
	comp=Z,297nm,18.8s,baz=195,slow=37						
CHG	Chiang Mai	14.52	14	⇑P	P	04 38 23.7	+6.3
PALK	Pallekele	14.59	281	P	P	04 38 26.1	+7.8
KSM	Kuching	15.47	101	eP	P	04 38 34.1	+4.3
QIZ	Qiongzhong	20.22	44	eP	P	04 39 31.4	+4.6
QIZ				S	S	04 43 14.8	+8.8
QIZ				LR	LR		
	comp=N,204nm,20.4s,MS3.7						
QIZ				LR	LR		
	comp=E,281nm,21.7s,MS3.7						
QIZ				LR	LR		
	comp=Z,347nm,19.0s,MS3.7						
HYB	Hyderabad	20.59	309	eP	P	04 39 31.5	+0.9
HYB				eS	S	04 43 23.0	+10
HYB	Hyderabad	20.59	309	i P	P	04 39 31.5	+0.9
SHL	Shillong	21.00	352	eP	P	04 39 30.0	-4.7
KMI	Kunming	21.59	19	P	P	04 39 44.1	+3.5
KMI				AP		04 39 56.1	
KMI				XP		04 40 01.7	
KMI				PP	PP	04 40 08.2	+2.1
KMI				PPP	PPP	04 40 16.5	+0.4
KMI				S	S	04 43 30.3	-1.6
KMI				XS		04 43 50.0	
KMI				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.5						
KMI				AMB	AMB		
	comp=Z,57nm,3.1s						
KMI				LR	LR		
	comp=N,338nm,14.9s,MS3.9						
KMI				LR	LR		
	comp=E,143nm,13.8s,MS3.9						
KMI				LR	LR		
	comp=Z,383nm,15.5s,MS3.9						
KMI	Kunming	21.59	19	P	P	04 39 44.1	+3.5
KMI				*PP		04 39 56.1	
KMI				*SP		04 40 01.7	
KMI						04 40 08.2	
KMI				S	S	04 43 30.3	-1.6
KMI				SS	SS	04 44 05.1	-5.0
KMI				SSS	SSS	04 44 19.8	-5.7
KMI				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.5						
KMI				MLR	MLR		
	comp=Z,380nm,15.5s,MS3.9						
KMI	Kunming	21.59	19	P	P	04 39 44.1	+3.5
	comp=Z,25nm,1.2s,mb4.5						
KMI				pP		04 39 56.1	
KMI				sP		04 40 01.7	
KMI				PP	PP	04 40 08.2	+2.1
KMI				PPP	PPP	04 40 16.5	+0.4
KMI				S	S	04 43 30.3	-1.6
KMI				sS		04 43 50.0	
KMI				SS	SS	04 44 05.1	-5.0
KMI				SSS	SSS	04 44 19.8	-5.7
KMI				LR	LR		
	comp=Z,380nm,15.5s,MS3.9						
ALBI	Allahabad	24.17	329	eP	P	04 40 05.0	-1.0
GYA	Guiyang	24.29	26	⇑iP	P	04 40 08.2	+1.0
GYA				AP		04 40 17.4	
GYA				XP		04 40 21.0	
GYA				PP	PP	04 40 44.2	+0.8
GYA				S	S	04 44 22.9	+3.0
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
GYA				AMB	AMB		
	comp=Z,120nm,3.0s						
GYA				LR	LR		
	comp=N,420nm,15.0s,MS4.2						
GYA				LR	LR		
	comp=E,510nm,15.2s,MS4.2						
GYA				LR	LR		
	comp=Z,640nm,14.8s,MS4.2						
PKI	Pulchoki	24.58	339	eP	P	04 40 10.4	+0.5
	comp=Z,9.5nm,0.4s,mb4.7						
DMN	Daman	24.72	338	eP	P	04 40 11.2	-0.1
	comp=Z,18nm,0.7s,mb4.7						
GUN	Gumba	24.72	340	eP	P	04 40 11.7	+0.4
	comp=Z,49nm,0.7s,mb5.1						
KKN	Kakani	24.82	339	eP	P	04 40 12.1	-0.2
	comp=Z,22nm,0.8s,mb4.7						
LSA	Lhasa	25.16	352	P	P	04 40 16.8	+1.3
LSA	Lhasa	25.16	352	eP	P	04 40 14.3	-1.2
LSA				pmax	pmax		
	comp=Z,25nm,0.8s,mb4.8						
LSA	Lhasa	25.16	352	eP	P	04 40 14.3	-1.3
	comp=Z,25nm,0.8s,mb4.8						
LSA	Lhasa	25.16	352	eP	P	04 40 17.5	+2.0
GKN	Gorkha	25.25	338	eP	P	04 40 17.1	+0.7
	comp=Z,18nm,0.3s,mb5.1						
KOLN	Koldanda	25.45	336	eP	P	04 40 18.5	+0.2
	comp=Z,72nm,0.6s,mb5.4						
CD2	Chengdu	27.32	16	P	P	04 40 34.2	-1.3
ENH	Enshi	28.83	26	P	P	04 40 47.6	-1.3
ENH	Enshi	28.83	26	eP	sP	04 41 09.5	+2.0
XAN	Xi'an	31.89	22	P	P	04 41 14.7	-1.4
XAN				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.3						
XAN				LR	LR		
	comp=N,156nm,13.4s,MS4.0						
XAN				LR	LR		
	comp=E,162nm,15.0s,MS4.0						
XAN				LR	LR		
	comp=Z,324nm,15.5s,MS4.1						
LZH	Lanzhou	32.26	13	⇑P	P	04 41 17.5	-1.8
LZH				AP	pP	04 41 26.7	-5.3
LZH				XP	sP	04 41 30.6	-7.5
LZH				PP	PP	04 42 25.4	-2.2
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,92nm,5.6s						
LZH				LR	LR		
	comp=N,637nm,12.9s						
LZH				LR	LR		
	comp=Z,983nm,17.5s,MS4.5						
LZH	Lanzhou	32.26	13	⇑P	P	04 41 17.5	-1.8
	comp=Z,27nm,1.3s,mb4.9						
LZH				pP	pP	04 41 26.7	-5.3
LZH				sP	sP	04 41 30.6	-7.5
LZH				PP	PP	04 42 25.4	-2.2
LZH				LR	LR		
	comp=Z,980nm,17.5s,MS4.5						
GTA	Gaotai	34.82	6	eP	P	04 41 40.3	-1.1
GTA				AP	pP	04 41 49.3	-4.9
GTA				XP	sP	04 41 53.8	-6.5
GTA				PCP	PcP	04 44 14.1	+0.1
GTA				S	S	04 47 02.7	-5.2
GTA				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.1						
GTA				AMB	AMB		
	comp=Z,82nm,4.6s						
GTA				LR	LR		
	comp=N,97nm,14.5s,MS3.9						
GTA				LR	LR		
	comp=E,96nm,12.9s,MS3.9						
GTA				LR	LR		
	comp=Z,142nm,16.3s,MS3.8						
NJ2	Nanjing	35.14	36	eP	P	04 41 44.9	+0.8
NJ2				AMB	AMB		
	comp=Z,390nm,6.4s						
NJ2				LR	LR		
	comp=N,2μm,13.0s,MS5.0						
NJ2				LR	LR		
	comp=E,820nm,15.3s,MS5.0						
NJ2				LR	LR		
	comp=Z,170nm,15.2s,MS3.9						
SSE	Sheshan	35.91	40	P	P	04 41 47.5	-3.2
SSE				PP	PP	04 43 12.6	-0.6
SSE				SS	SS	04 49 56.0	+7.4
SSE				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.8						
SSE				AMB	AMB		
	comp=Z,53nm,4.4s						
SSE				LR	LR		
	comp=N,70nm,18.6s,MS3.6						
SSE				LR	LR		
	comp=E,65nm,18.7s,MS3.6						
SSE				LR	LR		
	comp=Z,96nm,20.4s,MS3.5						
FITZ	Fitzroy Crossi	37.65	128	P	P	04 42 04.0	-1.4
	comp=Z,19nm,0.9s,mb4.8,baz=320,slow=1.8,SNR=8.0						
FITZ				LR	LR	04 58 01.1	
	comp=Z,148nm,21.2s,MS3.8,baz=285,slow=37						
JOW	Kunigami	38.53	52	LR	LR	04 57 11.8	
	comp=Z,209nm,21.4s,MS3.9,baz=289,slow=35						
KSH	Kashi	38.77	336	eP	P	04 42 16.3	+1.8
KSH				eAP	pP	04 42 26.0	-1.5
KSH				eXP	sP	04 42 30.1	-3.3
KSH				ePCP	PcP	04 44 27.0	+1.1
KSH				AMB	AMB		
	comp=Z,210nm,2.4s,mb5.4						
HHC	Hu-ho-hao-te	38.91	20	eP	P	04 42 15.8	+0.1
HHC				AP	pP	04 42 25.0	-3.6
HHC				XP	sP	04 42 29.7	-4.8
HHC				PP	PP	04 43 50.6	+1.4
HHC				PCP	PcP	04 44 25.8	-0.5
HHC				SCP		04 48 11.1	
HHC				S	S	04 48 13.3	+3.0
HHC				XS		04 48 29.7	
HHC				SS	SS	04 51 00.3	+5.0
HHC				SCS	ScS	04 52 20.5	+1.6
HHC				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,90nm,7.7s						
HHC				LR	LR		
	comp=N,242nm,19.8s,MS4.2						
HHC				LR	LR		
	comp=E,267nm,18.7s,MS4.2						
HHC				LR	LR		
	comp=Z,285nm,19.8s,MS4.1						
WMQ	Urumqi	39.52	352	P	P	04 42 21.2	+0.4
WMQ				AP	pP	04 42 31.0	-2.7
WMQ				XP	sP	04 42 35.0	-4.6
WMQ				PP	PP	04 43 56.4	+0.6
WMQ				S	S	04 48 20.4	+0.9
WMQ				XS		04 48 36.6	
WMQ				SCS	ScS	04 52 25.0	+2.5
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,112nm,6.0s						
WMQ				LR	LR		
	comp=N,262nm,10.4s						
WMQ				LR	LR		
	comp=Z,2μm,22.4s						
ULHL	Ulahol	41.02	338	P	P	04 42 34.1	+1.0
	SNR=47						
KZA	Kyzart	41.24	337	P	P	04 42 36.6	+1.6
	SNR=24						
UCH	Uchtor	41.66	337	P	P	04 42 40.0	+1.5
	SNR=88						
DL2	Dalian	41.69	32	P	P	04 42 40.0	+1.3
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
TKM2	Tokmak 2	41.84	338	P	P	04 42 41.0	+1.1
	SNR=24						
KBK	Karagaybulak	41.85	338	P	P	04 42 41.8	+1.7
	SNR=26						
AML	Almayashu	41.90	336	P	P	04 42 42.0	+1.6
	SNR=10						
AAK	Ala-Archa	42.01	337	P	P	04 42 43.9	+2.6
	SNR=16						
AAK	Ala-Archa	42.01	337c	iP	P	04 42 41.6	+0.3
AAK				pmax	pmax		
	comp=Z,67nm,1.7s,mb5.0						
AAK				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.8						
AAK	Ala-Archa	42.01	337	eP	P	04 42 41.5	+0.2
	comp=Z,39nm,0.9s,mb5.0						
AAK	Ala-Archa	42.01	337	eP	P	04 42 46.4	+5.1
FRU	Bishkek	42.13	337	eP	P	04 42 43.0	+0.7
FRU				pmax	pmax		
	comp=Z,80nm,1.9s,mb5.0						
CHMS	Chumysh	42.22	338	P	P	04 42 43.7	+0.7
	SNR=11						
USP	Ospenovka	42.55	338	P	P	04 42 46.6	+0.9
	SNR=50						
NWAO	Narrogin (SRO)	42.88	152	LR	LR	04 58 12.1	
	comp=Z,183nm,21.5s,MS3.9,baz=126,slow=32						
MKAR	Makanchi Array	43.40	347	P	P	04 42 52.1	-0.5
	comp=Z,5.3nm,0.4s,mb4.6,baz=161,slow=6.8,SNR=57						
MKAR				LR	LR	05 03 52.8	
	comp=Z,85nm,20.8s,MS3.6,baz=360,slow=40						
JNU	Nakatsue	43.69	45	LR	LR	05 01 09.8	
	comp=Z,177nm,20.8s,MS4.0,baz=181,slow=36						
SONM	Songino Array	44.06	11	P	P	04 42 56.9	-1.0
	comp=Z,2.8nm,0.9s,mb4.0,baz=193,slow=6.5,SNR=18						
SONM				PcP	PcP	04 44 43.1	-0.1
	comp=Z,4.0nm,0.8s,baz=200,slow=4.0,SNR=9.2						
SONM				LR	LR	05 03 19.0	
	comp=Z,80nm,21.5s,MS3.6,baz=82,slow=39						
ULN	Ulaanbaatar	44.22	11	eP	P	04 42 58.2	-1.0
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
ULN	Ulaanbaatar	44.22	11	eP	P	04 42 58.2	-1.0
	comp=Z,1.8nm,0.6s,mb4.0						
SNY	Shenyang	44.85	30	⇑P	P	04 43 04.2	-0.1
SNY				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
WRA	Warramunga Arr	45.64	124	P	P	04 43 11.5	+0.5
	comp=Z,34nm,0.8s,mb5.3,baz=302,slow=9.2,SNR=146						
WRAB	Tennant Creek	45.65	124	eP	P	04 43 11.6	+0.6
WRAB				pmax	pmax		
	comp=Z,53nm,0.8s,mb5.5						
WRAB	Tennant Creek	45.65	124	eP	P	04 43 11.6	+0.6
	comp=Z,53nm,0.8s,mb5.5						
ZAK	Zakamensk	46.05	7	eP	P	04 43 12.5	-1.3
CN2	Changchun	47.23	30	eP	P	04 43 22.8	-0.4
CN2				eAP	pP	04 43 32.7	-3.6
CN2				eS	S	04 50 13.7	+2.0
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,150nm,15.0s,MS4.1						
HIA	Hailar	49.08	21	eP	P	04 43 36.9	-0.6
HIA				pmax	pmax		
	comp=Z,14nm,1.0s						
HIA	Hailar	49.08	21	eP	P	04 43 36.9	-0.5
	comp=Z,14nm,1.0s,mb4.9						
ZAL	Zalesovo	49.82	352	P	P	04 43 42.9	-0.2
	comp=Z,5.3nm,0.6s,mb4.7,baz=296,slow=5.7,SNR=15						
ZAL	Zalesovo	49.82	352	P	P	04 43 42.9	-0.2
MDJ	Mudanjiang	49.92	32	P	P	04 43 44.5	+0.5
MDJ				AP	pP	04 43 53.6	-3.6
MDJ				XP	sP	04 43 57.5	-5.3
MDJ				PP	PP	04 45 39.7	-0.2
MDJ				S	S	04 50 54.1	+4.7
MDJ				XS		04 51 09.6	
MDJ				AMB	AMB		
	comp=Z,21nm,1.3s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,110nm,3.8s						
MDJ				LR	LR		
	comp=N,67nm,23.4s,MS3.7						
MDJ				LR	LR		
	comp=E,71nm,24.2s,MS3.7						
MDJ				LR	LR		
	comp=Z,106nm,24.2s,MS3.8						
MDJ	Mudanjiang	49.92	32	eP	P	04 43 43.9	-0.1
	comp=Z,24nm,1.1s,mb5.1						
MDJ	Mudanjiang	49.92	32	P	Px	04 44 10.4	
MJAR	Matsushiro Arr	50.62	45	P	P	04 43 49.6	+0.2
	comp=Z,1.1nm,0.3s,mb4.2,baz=239,slow=7.3,SNR=5.1						
MJAR				PcP	PcP	04 45 06.6	0.0
	comp=Z,1.2nm,0.3s,baz=213,slow=3.0,SNR=4.6						
MJAR				LR	LR	05 06 36.5	
	comp=Z,101nm,21.4s,MS3.8,baz=235,slow=38						
NVS	Novosibirsk	50.92	351	i P	P	04 43 49.2	-2.3
NVS				e*PP	pP	04 44 01.0	-3.7
NVS				eS	S	04 50 55.7	-7.4
NVS				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
NVS				pmax	pmax		
	comp=N,6.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.4s						
NVS				smax			
	comp=N,10.0nm,1.7s						
NVS				smax			
	comp=E,6.0nm,1.7s						
ATD	Arta Tunnel	52.15	281	LR	LR	05 01 29.9	
	comp=E,50nm,18.9s,MS3.6,baz=272,slow=31						
BVAR	Borovoye Array	52.31	341	P	P	04 44 01.0	-0.8
	comp=E,25nm,0.7s,mb5.2,baz=149,slow=8.6,SNR=161						
BVAR				pP	pP	04 44 16.2	+1.1
	comp=E,9.6nm,0.7s,baz=142,slow=8.8,SNR=9.1						
ZRNK	Zerenda	52.70	340	eP	P	04 44 03.8	-1.0
ZRNK				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.2						
ZRNK	Zerenda	52.70	340	eP	P	04 44 03.8	-1.1
	comp=Z,19nm,0.6s,mb5.2						
KLR	Kul'dur	54.14	29	eP	P	04 44 12.0	-3.5
ASAJ	Asahikawa	57.20	39	LR	LR	05 08 11.4	
	comp=Z,102nm,21.9s,MS3.9,baz=7.8,slow=35						
STKA	Stephens Creek	57.21	133	LR	LR	05 12 06.6	
	comp=Z,110nm,20.1s,MS4.0,baz=295,slow=39						
GNI	Garni	57.38	315	P	P	04 44 38.4	-0.6
	comp=Z,2.9nm,0.3s,mb4.7,baz=310,slow=15,SNR=3.7						
GNI	Garni	57.38	315	eP	P	04 44 39.1	+0.1
GNI				epP	pP	04 44 53.0	+0.5
KMBO	Kilima Mbogo	58.12	266	LR	LR	05 04 28.4	
	comp=Z,138nm,21.8s,MS4.0,baz=92,slow=30						
YSS	Yuzh-Sakhalins	58.71	36	⇑eP	P	04 44 48.0	-0.1
YSS				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
YSS	Yuzh-Sakhalins	58.71	36	eP	P	04 44 47.7	-0.4
	comp=Z,36nm,1.1s,mb5.3						
SVE	Sverdlovsk	58.71	339	eP	P	04 44 47.0	-1.0
SVE				e	pP	04 45 00.0	-1.5
SVE				pmax	pmax		
	comp=Z,60nm,1.5s,mb5.4						
ZEI	Tsey	59.05	318	eP	P	04 44 48.0	-2.6
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
ARU	Arti	59.20	337	eP	P	04 44 48.9	-2.5
ARU				e		04 45 36.2	
ARU				e		04 47 00.1	
KIV	Kislovodsk	60.34	319	eP	P	04 44 58.4	-1.1
KIV				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
KIV	Kislovodsk	60.34	319	eP	P	04 44 58.4	-1.1
	comp=Z,10nm,0.8s,mb4.9						
KIV	Kislovodsk	60.34	319	P	sP	04 45 15.1	-3.6
MALT	Malatya	61.29	311	eP	P	04 45 05.7	-0.3
MALT				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
MALT	Malatya	61.29	311	eP	P	04 45 05.7	-0.3
	comp=Z,6.6nm,1.0s,mb4.7						
MALT	Malatya	61.29	311	eP	pP	04 45 20.7	+1.2
EIL	Elat	61.89	301	P	P	04 45 07.7	-2.4
	comp=Z,3.9nm,0.8s,mb4.6						
EIL	Elat	61.89	301	eP	pP	04 45 26.2	+2.5
SOKR	Solikamsk	62.11	339	⇓iP	P	04 45 10.6	-0.6
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
SOC	Sochi	62.18	317	eP	P	04 45 09.4	-2.4
SOC				e		04 47 26.8	
SOC				pmax	pmax		
	comp=N,5.0nm,0.6s						
SOC				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.3						
SOC				pmax	pmax		
	comp=E,4.0nm,0.5s						
YAK	Yakutsk	62.70	18	eP	P	04 45 11.8	-3.3
YAK				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.2						
BRTR	Keskin Array B	65.27	312	P	P	04 45 31.2	-1.0
	comp=Z,6.8nm,0.7s,mb4.8,baz=128,slow=7.6,SNR=34						
BRTR				pP	pP	04 45 46.5	+0.5
	comp=Z,5.3nm,0.7s,baz=120,slow=7.3,SNR=13						
BR131	Keskin Array S	65.27	312	eP	P	04 45 30.9	-1.2
	comp=Z,5.6nm,0.7s,mb4.7						
BR131	Keskin Array S	65.27	312	eP	pP	04 45 46.6	+0.7
	comp=Z,3.4nm,0.6s						
ISP	Isparta	67.19	309	eP	P	04 45 44.7	+0.3
ISP				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
ISP	Isparta	67.19	309	eP	P	04 45 44.7	+0.3
	comp=Z,5.3nm,0.5s,mb4.8						
OBN	Obninsk	68.59	328	⇑iP	P	04 45 50.7	-2.1
OBN				i	pP	04 46 06.4	-0.3
OBN				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.1						
MATP	Matopo	69.97	246	LR	LR	05 11 19.0	
	comp=Z,127nm,18.5s,MS4.2,baz=98,slow=31						
TIXI	Tiksi	70.15	11c	iP	P	04 46 00.0	-2.1
TIXI				pmax	pmax		
	comp=Z,33nm,1.5s,mb5.0						
TIRR	Tirgusor	70.21	316	⇓P	P	04 46 01.9	-1.0
PET	Petropavlovsk	70.53	35	eP	P	04 46 04.9	+0.2
PET				e		04 55 12.6	
PET				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.2						
CFR	Carcaliu	70.56	316	⇓P	P	04 46 04.8	-0.3
AKASG	Malin Array Be	71.26	322	P	P	04 46 07.8	-1.4
	comp=Z,7.4nm,0.6s,mb4.8,baz=89,slow=5.4,SNR=52						
AKASG				pP	pP	04 46 22.8	-0.2
	comp=Z,1.9nm,0.6s,baz=88,slow=5.2,SNR=3.8						
VRI	Vrincioaia	71.68	317	⇑P	P	04 46 12.3	+0.5
MLR	Muntele Rosu	72.14	316	⇓P	P	04 46 15.0	+0.5
BURAR	Bucovina Array	73.07	318	⇑P	P	04 46 20.5	+0.6
BOSA	Boshof	74.77	239	P	P	04 46 32.1	+1.9
	comp=Z,3.7nm,1.0s,mb4.3,baz=167,slow=8.4,SNR=3.1						
BOSA				LR	LR	05 12 49.0	
	comp=Z,116nm,20.0s,MS4.2,baz=50,slow=30						
VSU	Vasula	74.82	330	i P	P	04 46 29.2	-0.7
KWP	Kalwaria	75.09	320	eP	P	04 46 31.9	+0.3
APA	Apatity	75.16	340	⇑iP	P	04 46 31.3	-0.4
APA				i	pP	04 46 46.8	+1.2
APA				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
KOLS	Kolonicke sedl	75.25	319	eP	P	04 46 34.2	+1.6
KOLS				e	pP	04 46 44.3	-2.2
MAW	Mawson	75.64	192	LR	LR	05 13 05.0	
	comp=Z,117nm,19.4s,MS4.2,baz=245,slow=30						
SUW	Suwalki	75.66	325	eP	P	04 46 33.8	-1.0
CRVS	Cervenica-Dubn	75.77	319	eP	P	04 46 36.5	+1.0
CRVS				e	pP	04 46 47.5	-2.0
FINES	FINESS Array B	75.98	332	P	P	04 46 35.9	-0.5
	comp=Z,3.6nm,0.3s,mb4.7,baz=105,slow=5.1,SNR=62						
FINES				pP	pP	04 46 50.4	0.0
	comp=Z,2.1nm,0.5s,baz=95,slow=5.6,SNR=4.8						
FINES				LR	LR	05 27 20.8	
	comp=Z,19nm,18.6s,MS3.4,baz=333,slow=41						
KAF	Kangasniemi	76.06	333	ep	P	04 46 35.7	-1.2
	comp=Z,10nm,0.8s,mb4.8,baz=105,slow=5.3						
KAF	Kangasniemi	76.06	333	eP	P	04 46 35.7	-1.2
KAF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
KECS	Kecovo	76.35	319	eP	P	04 46 38.7	-0.1
KECS				epP	pP	04 46 54.5	+1.7
NIE	Niedzica	76.60	320	eP	P	04 46 40.9	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PSZ	Piszkesteto	76.66	318	eP	P	04 46 40.6	0.0
PSZ				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
PSZ	Piszkesteto	76.66	318	eP	P	04 46 40.6	0.0
	comp=Z,8.8nm,0.8s,mb4.7						
PSZ	Piszkesteto	76.66	318	⇑e	P	04 46 40.9	+0.3
OJC	Ojcow	77.05	320	⇑iP	P	04 46 42.9	+0.2
OJC				ePcP	PcP	04 46 59.9	+6.1
VYHS	Vyhne	77.44	319	eP	P	04 46 44.9	0.0
SRO	Srobarova	77.70	318	eP	P	04 46 47.1	+0.7
OKC	Ostrava-Krasne	78.05	320	eP	P	04 46 49.0	+0.8
OKC				epP	pP	04 47 03.6	+1.3
KEV	Kevo	78.15	341	ep	P	04 46 47.3	-1.1
	comp=Z,8.1nm,0.6s,mb4.8						
KEV	Kevo	78.15	341	eP	P	04 46 47.3	-1.1
KEV				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
MORC	Moravsky Berou	78.43	320	eP	P	04 46 49.9	-0.5
MORC				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
MORC	Moravsky Berou	78.43	320	eP	P	04 46 49.9	-0.4
	comp=Z,9.0nm,1.0s,mb4.7						
ZST	Bratislava	78.55	318	eP	P	04 46 49.8	-1.2
ZST				epP	pP	04 47 05.4	+0.3
ARCES	ARCESS Array B	78.58	340	P	P	04 46 50.9	0.0
	comp=Z,3.4nm,0.4s,mb4.6,baz=99,slow=6.5,SNR=88						
ARCES				LR	LR	05 24 50.0	
	comp=Z,46nm,20.8s,MS3.8,baz=84,slow=38						
ARE0	ARCESS Array S	78.58	340	eP	P	04 46 50.8	0.0
KOGS	Kog	78.97	316	eP	P	04 46 53.7	+0.3
DPC	Dobruska-Polom	79.27	320	eP	P	04 46 55.7	+0.7
DPC				epP	pP	04 47 10.8	+1.8
UPC	Upice	79.49	320	eP	P	04 46 57.0	+0.9
UPC				epP	pP	04 47 10.6	+0.5
BOJS	Bojanci	79.59	315	eP	P	04 46 57.0	+0.2
BOJS				i		04 47 05.0	
PERS	Pernice	79.76	316	eP	P	04 46 58.2	+0.5
VISS	Visnje	79.90	316	eP	P	04 46 58.5	+0.1
PRU	Pruhonice	80.38	320	eP	P	04 47 01.3	+0.4
PRU				epP	pP	04 47 17.1	+2.1
PVCC	Panska Ves	80.41	320	eP	P	04 47 01.6	+0.6
GORS	Gorjuse	80.51	316	iP	P	04 47 01.8	+0.1
BRG	Berggiesshubel	80.83	321	iP	P	04 47 03.6	+0.3
BRG				e	pP	04 47 19.2	+1.9
BRG				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
BRG				pmax	pmax		
	comp=Z,19nm,1.8s,mb4.7						
BRG	Berggiesshubel	80.83	321	iP	P	04 47 03.6	+0.3
	comp=Z,6.5nm,1.0s,mb4.5						
BRG				e	pP	04 47 19.2	+1.9
ROBS	Robic	80.85	316	eP	P	04 47 03.4	0.0
GERES	GERESS Array B	80.86	319	P	P	04 47 04.5	+1.0
	comp=Z,9.3nm,0.9s,mb4.7,baz=104,slow=5.5,SNR=44						
GERES				pP	pP	04 47 19.5	+2.0
	comp=Z,2.9nm,0.8s,baz=104,slow=5.5,SNR=5.7						
KHC	Kasperske Hory	80.95	319	eP	P	04 47 04.2	+0.2
KHC				epP	pP	04 47 19.0	+1.0
CLL	Collm	81.45	321	eP	P	04 47 07.0	+0.5
CLL				e	pP	04 47 26.0	+5.4
CLL	Collm	81.45	321	P	P	04 47 07.0	+0.5
CLL	Collm	81.45	321	P	sP	04 47 26.0	+0.1
WTTA	Wattenberg	82.17	317	⇑iP	P	04 47 10.4	+0.1
	comp=Z,19nm,1.5s,mb4.8						
WTTA	Wattenberg	82.17	317	⇑iP	P	04 47 10.4	+0.1
WTTA				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.8						
MOX	Moxa	82.29	320	eP	P	04 47 10.0	-0.9
MOX				pP	pP	04 47 16.0	-9.0
GRA1	Grafenberg Arr	82.52	319	eP	P	04 47 13.1	+1.1
	comp=Z,9.0nm,1.0s,mb4.8						
GRA1				epP	pP	04 47 28.5	+2.3
GRF	Grafenberg Arr	82.52	319	P	P	04 47 13.1	+1.1
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
GRF	Grafenberg Arr	82.52	319	eP	P	04 47 13.1	+1.1
GRF				e*PP	pP	04 47 28.5	+2.3
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
GRF	Grafenberg Arr	82.52	319	eP	P	04 47 13.1	+1.1
	comp=Z,9.0nm,1.0s,mb4.8						
GRF				epP	pP	04 47 28.5	+2.3
NB2	NORSAR Subarra	82.98	331	P	P	04 47 13.7	-0.5
	comp=Z,5.4nm,0.9s,mb4.6,baz=95,slow=5.3						
NB2	NORSAR Subarra	82.98	331	P	P	04 47 13.7	-0.5
NB2				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
NOA	NORSAR Array B	82.98	331	P	P	04 47 14.1	0.0
	comp=Z,4.7nm,1.0s,mb4.5,baz=94,slow=5.4,SNR=10						
NOA				pP	pP	04 47 28.2	-0.1
	comp=Z,1.4nm,0.7s,baz=92,slow=5.5,SNR=4.6						
DAVA	Damuels	83.37	317	⇑iP	P	04 47 16.8	+0.4
	comp=Z,10nm,1.1s,mb4.8						
LPG	La Plagne	85.56	315	⇑iP	P	04 47 28.3	+0.8
	comp=Z,10.0nm,0.8s,mb4.8						
LPG	La Plagne	85.56	315	⇑iP	P	04 47 28.3	+0.8
LPG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.8						
VNDA	Vanda	89.63	168	P	P	04 47 46.7	+0.4
	comp=Z,0.2nm,0.5s,mb3.7,baz=335,slow=10,SNR=4.0						
VNDA				LR	LR	05 26 49.8	
	comp=Z,56nm,18.7s,MS4.0,baz=291,slow=35						
IMA	Indian Mountai	94.17	22	eP	P	04 48 08.3	+0.8
IMA				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.5						
IMA	Indian Mountai	94.17	22	eP	P	04 48 08.3	+0.8
	comp=Z,18nm,0.8s,mb5.5						
SNAA	Sanae	96.94	198	LR	LR	05 25 15.0	
	comp=Z,36nm,19.5s,MS3.9,baz=19,slow=31						
MSO	Missoula	122.62	23	ePKPdf	PKPdf	04 53 45.1	+1.4
ULM	Lac du Bonnet	124.46	9	PKP	PKPdf	04 53 46.0	-1.1
	comp=Z,2.3nm,0.7s,baz=1.1,slow=5.0,SNR=2.9						
HLID	Hailey	125.07	26	ePKPdf	PKPdf	04 53 50.7	+2.2
LAO	LASA Array	125.46	18	ePKPdf	PKPdf	04 53 51.2	+2.1
NVAR	Mina Array Bea	127.08	33	PKP	PKPdf	04 53 53.0	+0.5
	comp=Z,1.0nm,0.8s,baz=334,slow=1.0,SNR=6.3						
NVAR				pPKP		04 54 08.6	
	comp=Z,1.0nm,0.8s,baz=214,slow=1.2,SNR=4.2						
PDAR	Pinedale Array	127.73	23	PKP	PKPdf	04 53 55.9	+2.2
	comp=Z,1.4nm,0.9s,slow=1.5,SNR=10						
PDAR				pPKP		04 54 10.6	
	comp=Z,1.2nm,1.1s,slow=1.5,SNR=4.4						
ANMO	Albuquerque	135.64	26	ePKIKP	PKPdf	04 54 11.8	+3.1
TXAR	Lajitas Array	141.65	27	PKhKP		04 54 16.5	
	comp=Z,0.5nm,0.8s,baz=231,slow=1.4,SNR=10						
TXAR				PKP	PKPdf	04 54 22.4	+2.6
	comp=Z,0.7nm,0.6s,baz=256,slow=0.3,SNR=10						
TXAR				PP	PP	04 57 26.9	-0.9
	comp=Z,0.5nm,1.0s,baz=90,slow=2.5,SNR=3.5						
TXAR				SKPbc		04 57 53.7	
	comp=Z,0.6nm,1.0s,baz=180,slow=1.3,SNR=3.5						
TXAR	Lajitas Array	141.65	27	PKP	PKPdf	04 54 16.5	-3.4
TXAR				PKP	PKPdf	04 54 22.4	+2.6
TXAR				PP	PP	04 57 26.9	-0.9
TXAR				SKPbc		04 57 53.7	
CPUP	Villa Florida	146.00	228	ePKP2	PKPab	04 54 29.8	-1.1
CPUP	Villa Florida	146.00	228	PKPbc	PKPbc	04 54 30.6	+2.1
	comp=Z,4.7nm,0.9s,baz=138,slow=6.0,SNR=10						
CPUP				pPKPbc		04 54 46.5	
	comp=Z,7.2nm,0.8s,baz=125,slow=5.6,SNR=11						

*BJI **04** 04:46:46.1, 1.64N×96.54E, h38^{km}, mB4.8, mb4.7, Ms4.4, Msz4.0*
*NEIC **04** 04:46:49.6±0.4, 1.96N×96.61E, mb4.5/14, Error ellipse: s-maj=10.8km s-min=6.4km az=44.0*
*IDC **04** 04:46:49.9±1.2, 2.02N×96.70E, h29^{km}±6^{km}, mb4.2/12, mb1 4.4/13, mb1mx4.2/21, mbtmp4.4/13, ML4.5/1, MS3.5/2, Ms1 3.6/2, ms1mx3.1/23, Error ellipse: s-maj=32.3km s-min=14.4km az=49.0*
ISC 04 04:46:47.5±2.4**, 1.94N**±0.08×**96.64E**±0.08**, h28**^{km}±16^{km}**, h30**^{km}±1.6^{km}**:pP-P, n48,** σ0^s**84**/47**, mb4.5**/31**, MS3.9**/5**, 2C, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.20	50	⇑eP	Pn	04 48 04.9	-0.7
KSM	Kuching	13.67	92	eP	P	04 50 04.0	+1.8
CM31	Chiang Mai Arr	16.57	8	eP	P	04 50 41.6	+1.9
	18nm,0.4s						
CMAR	Chiang Mai Arr	16.57	8	Pn	P	04 50 37.7	-2.0
	0.6nm,0.3s,baz=198,slow=11,SNR=44						
CMAR				LR	LR	04 57 12.9	
	comp=Z,105nm,20.0s,baz=185,slow=38						
CMAR	Chiang Mai Arr	16.57	8	Pn	P	04 50 37.7	-2.0
CMAR				LR	LR	04 57 12.9	
KKM	Kota Kinabalu	19.94	78	eP	P	04 51 20.2	-0.3
KMI	Kunming	23.78	14	P	P	04 52 00.6	+1.6
KMI				AP		04 52 09.0	
KMI				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.0						
KMI				LR	LR		
	comp=Z,61nm,18.4s,MS3.1						
KMI	Kunming	23.78	14	P	P	04 52 00.6	+1.6
	comp=Z,8.0nm,1.2s,mb4.0						
KMI				pP		04 52 09.0	
KMI				LR	LR		
	comp=Z,60nm,18.4s,MS3.1						
SHL	Shillong	23.93	349	eP	P	04 51 59.0	-1.4
GYA	Guiyang	26.21	21	⇑iP	P	04 52 22.4	+0.4
GYA				AP	pP	04 52 31.2	+1.1
GYA				XP	sP	04 52 35.9	+2.2
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
GYA				AMB	AMB		
	comp=Z,70nm,3.6s						
GYA				LR	LR		
	comp=N,210nm,15.0s,MS4.0						
GYA				LR	LR		
	comp=E,240nm,14.6s,MS4.0						
GYA				LR	LR		
	comp=Z,300nm,14.8s,MS4.0						
PKI	Pulchoki	27.66	338	eP	P	04 52 35.2	-0.1
	comp=Z,12nm,0.6s,mb4.7						
GUN	Gumba	27.80	339	eP	P	04 52 37.7	+1.2
	comp=Z,37nm,0.7s,mb5.1						
DMN	Daman	27.81	338	eP	P	04 52 36.7	+0.1
	comp=Z,9.1nm,0.5s,mb4.7						
KKN	Kakani	27.91	338	eP	P	04 52 37.9	+0.4
	comp=Z,19nm,0.8s,mb4.8						
LSA	Lhasa	28.09	350	eP	P	04 52 39.8	+0.6
	comp=Z,8.4nm,0.6s,mb4.5						
GKN	Gorkha	28.34	337	eP	P	04 52 41.4	0.0
	comp=Z,16nm,0.8s,mb4.7						
KOLN	Koldanda	28.55	335	eP	P	04 52 43.0	-0.3
LZH	Lanzhou	34.62	10	eP	P	04 53 35.0	-1.5
LZH				AP	pP	04 53 44.1	-0.7
LZH				XP	sP	04 53 48.3	0.0
LZH				PP	PP	04 54 54.2	+0.8
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,79nm,5.7s						
LZH				LR	LR		
	comp=N,384nm,13.5s						
LZH				LR	LR		
	comp=Z,541nm,17.2s,MS4.3						
LZH	Lanzhou	34.62	10	eP	P	04 53 35.0	-1.5
	comp=Z,25nm,1.5s,mb4.9						
LZH				pP	pP	04 53 44.1	-0.7
LZH				sP	sP	04 53 48.3	0.0
LZH				PP	PP	04 54 54.2	+0.8
LZH				LR	LR		
	comp=Z,540nm,17.2s,MS4.3						
FITZ	Fitzroy Crossi	34.81	126	P	P	04 53 37.6	-0.7
	comp=Z,6.8nm,0.7s,mb4.7,baz=355,slow=23,SNR=6.6						
GTA	Gaotai	37.40	4	eP	P	04 53 59.7	-0.3
GTA				AP	pP	04 54 08.9	+0.6
GTA				XP	sP	04 54 13.1	+1.3
GTA				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.9						
WMQ	Urumqi	42.45	350	eP	P	04 54 42.8	+1.0
WMQ				AP	pP	04 54 52.2	+2.1
WMQ				XP	sP	04 54 56.2	+2.6
WMQ				S	S	05 01 02.4	+0.8
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,32nm,7.0s						
WMQ				LR	LR		
	comp=N,172nm,15.1s,MS4.2						
WMQ				LR	LR		
	comp=E,148nm,16.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,459nm,19.4s,MS4.4						
WRA	Warramunga Arr	42.90	122	P	P	04 54 45.9	+0.1
	comp=Z,8.7nm,0.6s,mb4.6,baz=302,slow=9.0,SNR=82						
WRAB	Tennant Creek	42.91	122	eP	P	04 54 45.5	-0.3
	comp=Z,10nm,0.5s,mb4.8						
MKAR	Makanchi Array	46.39	346	P	P	04 55 13.6	+0.2
	comp=Z,7.1nm,0.6s,mb4.8,baz=163,slow=7.4,SNR=93						
MKAR				pP	pP	04 55 21.9	+0.2
	comp=Z,5.1nm,0.7s,baz=159,slow=8.4,SNR=13						
MKAR	Makanchi Array	46.39	346	P	P	04 55 13.6	+0.2
MKAR				pP	pP	04 55 21.9	+0.2
SONM	Songino Array	46.48	9	P	P	04 55 14.4	+0.3
	comp=Z,5.0nm,0.8s,mb4.5,baz=188,slow=9.2,SNR=27						
SONM				pP	pP	04 55 22.9	+0.4
	comp=Z,2.2nm,0.5s,baz=191,slow=9.2,SNR=8.0						
ULN	Ulaanbaatar	46.62	10	eP	P	04 55 15.3	+0.1
	comp=Z,2.3nm,0.9s,mb4.1						
CN2	Changchun	48.90	28	eP	P	04 55 31.5	-1.6
CN2				eAP	pP	04 55 45.8	+4.3
CN2				eS	S	05 02 33.7	-0.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
MDJ	Mudanjiang	51.50	30	P	P	04 55 52.9	0.0
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,32nm,2.7s,mb4.8						
MJAR	Matsushiro Arr	51.52	43	P	P	04 55 52.6	-0.6
	comp=Z,1.1nm,0.3s,mb4.3,baz=222,slow=8.0,SNR=5.5						
MJAR				pP	pP	04 56 01.1	-0.6
	comp=Z,1.1nm,0.3s,baz=215,slow=6.6,SNR=2.6						
PMG	Port Moresby	51.57	104	P	P	04 55 53.8	-0.1
	comp=Z,30nm,0.8s,mb5.3,baz=310,slow=4.0,SNR=7.6						
STKA	Stephens Creek	54.27	132	P	P	04 56 13.9	+0.3
	comp=Z,1.4nm,0.5s,mb4.2,baz=297,slow=9.0,SNR=3.3						
BVAR	Borovoye Array	55.37	341	P	P	04 56 20.6	-0.8
	comp=Z,3.1nm,0.7s,mb4.5,baz=136,slow=8.7,SNR=4.9						
ZRNK	Zerenda	55.77	340	eP	P	04 56 23.4	-0.9
	comp=Z,2.2nm,0.8s,mb4.2						
KMBO	Kilima Mbogo	59.46	268	LR	LR	05 18 19.6	
	comp=Z,68nm,18.5s,MS3.8,baz=274,slow=32						
AKASG	Malin Array Be	74.33	322	P	P	04 58 24.1	-0.3
	comp=Z,0.7nm,0.5s,mb3.9,baz=88,slow=5.1,SNR=6.7						
FINES	FINESS Array B	79.08	333	P	P	04 58 51.0	+0.3
	comp=Z,1.8nm,0.6s,mb4.2,baz=90,slow=5.7,SNR=11						
KAF	Kangasniemi	79.17	333	ep	P	04 58 51.0	-0.2
	comp=Z,2.6nm,0.6s,mb4.3,baz=105,slow=5.1						
FX1	Attu Island--F	80.33	37	P	P	04 58 58.4	+0.7
KEV	Kevo	81.22	341	ep	P	04 59 01.8	-0.2
	comp=Z,3.3nm,0.8s,mb4.3						
ARCES	ARCESS Array B	81.65	340	P	P	04 59 05.5	+1.2
	comp=Z,1.0nm,0.5s,mb4.0,baz=92,slow=5.0,SNR=25						
ARCES	ARCESS Array B	81.65	340	P	P	04 59 05.5	+1.2
GERES	GERESS Array B	83.89	319	P	P	04 59 15.8	-0.5
	comp=Z,0.9nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=7.0						
NB2	NORSAR Subarra	86.09	331	P	P	04 59 27.3	+0.4
	comp=Z,1.4nm,0.8s,mb4.2,baz=91,slow=4.8						
NOA	NORSAR Array B	86.09	331	P	P	04 59 27.0	+0.1
	comp=Z,1.1nm,0.8s,mb4.1,baz=92,slow=5.0,SNR=4.6						
TXAR	Lajitas Array	143.32	30	PKP	PKPdf	05 06 19.6	-5.2
	comp=Z,0.3nm,0.5s,baz=23,slow=3.0,SNR=6.1						
CPUP	Villa Florida	145.17	224	PKPbc	PKPbc	05 06 25.9	+2.2
	comp=Z,1.1nm,0.6s,baz=145,slow=4.3,SNR=5.5						

*IDC **04** 05:12:45.5±9.4, 18.17N×106.63W, mb3.5/3, mb1 4.0/4, mb1mx3.7/20, mbtmp3.6/4, ML3.6/1, MS3.5/9, Ms1 3.5/9, ms1mx3.2/24, Error ellipse: s-maj=155.9km s-min=82.5km az=138.0*
*MEX **04** 05:12:52.7±0.5, 18.73N×106.95W, h10^{km}, MD4.2*
*NEIC **04** 05:12:53.8, 18.68N×106.88W, h10^{km}, mb4.1/12, MD4.2(MEX), After MEX.*
ISC 04 05:12:55.7±1.7**, 18.8N**±0.1×**106.75W**±0.07**, h41**^{km}±15^{km}**, n38,** σ1^s**08**/33**, mb4.0**/11**, MS3.5**/8**, 1C, Off coast of Jalisco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CJM	Chamela	1.78	65	⇑iP	P	05 13 22.6	-1.9
CJM				iS	S	05 13 46.0	0.0
SFJM	Santa Fe	3.90	63	iP	P	05 13 54.5	-0.2
SFJM				iS	S	05 14 40.5	+0.7
MOIG	Morelia	5.34	79	iP	P	05 14 15.0	+0.1
MOIG				iS	S	05 15 15.5	-0.5
VHO	Vista Hermosa	9.68	98	iP	P	05 15 16.3	+0.8
VHO	Vista Hermosa	9.68	98	iP	P	05 15 14.3	-1.2
OXX	Oaxaca	9.69	98	eP	P	05 15 17.0	+1.4
TXAR	Lajitas Array	10.90	14	Pn	P	05 15 31.6	-0.5
	0.1nm,0.3s,baz=198,slow=14,SNR=15						
TXAR				LR	LR	05 19 59.0	
	comp=Z,88nm,18.3s,baz=195,slow=38						
CMIG	Matias Romero	11.42	97	iP	P	05 15 39.5	+0.4
CMIG	Matias Romero	11.42	97	iP	P	05 15 39.0	-0.1
ANMO	Albuquerque	16.13	1	P	P	05 16 42.5	+1.6
	1.7nm,0.8s						
BAR	Barrett	16.48	329	P	P	05 16 46.8	+1.3
NATX	Nacogdoches	16.93	38	eP	P	05 16 50.3	-0.8
	71nm,1.1s						
PFO	Pinyon Flat Ob	17.15	332	eP	P	05 16 54.4	+0.6
	19nm,1.4s						
WMOK	Wichita Mounta	17.42	22	P	P	05 16 55.4	-1.9
	4.2nm,0.9s						
LDFC	Landfair	17.87	337	eP	P	05 17 04.2	+1.4
NEN	Nelson	18.29	339	eP	P	05 17 07.2	-0.8
SDCO	Great Sand Dun	18.95	3	eP	P	05 17 16.7	+0.7
MNV	Mina	21.97	335	eP	P	05 17 47.2	-0.4
	19nm,1.6s,mb4.3						
OXF	Oxford	22.00	41	eP	P	05 17 49.1	+1.1
	21nm,1.1s,mb4.5						
NVAR	Mina Array Bea	22.03	335	P	P	05 17 47.6	-0.6
	1.9nm,0.9s,mb3.5,baz=153,slow=12,SNR=10.0						
LRAL	Lakeview Retre	22.70	47	eP	P	05 17 56.7	+1.8
	5.8nm,0.8s,mb4.1						
ELK	Elko	23.09	343	P	P	05 18 00.1	+1.5
	1.6nm,0.8s,mb3.5,baz=89,slow=1.0,SNR=4.5						
CCM	Cathedral Cave	23.51	32	eP	P	05 18 02.7	0.0
	7.5nm,1.1s,mb4.0						
WVT	Waverly	24.04	40	eP	P	05 18 08.5	+0.6
	2.7nm,0.8s,mb3.7						
HLID	Hailey	25.56	347	eP	P	05 18 22.2	-0.2
	2.1nm,1.0s,mb3.6						
WVOR	Wild Horse Val	25.67	339	eP	P	05 18 22.5	-0.9
	5.7nm,1.1s,mb4.0						
YBH	Yreka Blue Hor	26.64	333	LR	LR	05 28 50.5	
	comp=Z,41nm,20.1s,MS3.0,baz=171,slow=36						
TZTN	Tazewell	27.02	44	P	P	05 18 35.5	-0.5
NEW	Newport	30.61	346	LR	LR	05 31 41.8	
	comp=Z,55nm,19.0s,MS3.2,baz=172,slow=36						
ULM	Lac du Bonnet	32.60	13	LR	LR	05 32 53.7	
	comp=Z,115nm,19.2s,MS3.6,baz=300,slow=36						
SADO	Sadowa	34.67	35	LR	LR	05 33 57.9	
	comp=Z,48nm,18.5s,MS3.3,baz=188,slow=36						
EDM	Edmonton	34.78	353	eP	P	05 19 42.2	-2.0
SDV	Santo Domingo	36.35	101	eP	P	05 19 53.6	-4.3
	6.3nm,0.8s,mb4.6						
YKA	Yellowknife Ar	44.03	355	LR	LR	05 39 39.4	
	comp=Z,64nm,18.5s,MS3.6,baz=310,slow=36						
INK	Inuvik	52.32	348	LR	LR	05 46 35.8	
	comp=Z,38nm,18.1s,MS3.5,baz=149,slow=38						
ILAR	Eielson Array	53.18	340	P	P	05 22 09.2	-2.4
	0.9nm,1.0s,mb3.6,baz=150,slow=5.6,SNR=5.6						
PPT	Papeete	55.45	232	LR	LR	05 38 17.4	
	comp=Z,107nm,21.9s,MS3.9,baz=77,slow=28						
CPUP	Villa Florida	65.66	132	LR	LR	05 51 52.4	
	comp=Z,54nm,18.6s,MS3.8,baz=308,slow=36						

*MOS **04** 05:42:22.4±2.3, 51.68N×16.16E, h10^{km}, mb3.8/1, Error ellipse: s-maj=9.8km s-min=4.8km az=88.3*
*NEIC **04** 05:42:23.8±0.3, 51.53N×16.19E, h5^{km}, ML3.3(VIE), ML3.0(SZGRF), ML2.8(CLL), Error ellipse: s-maj=4.3km s-min=3.7km az=51.0*
*IPEC **04** 05:42:24.7±0.3, 51.46N×16.27E, ML2.8/4, Error ellipse: s-maj=3.7km s-min=1.9km az=86.0*
*NAO **04** 05:42:25.5±4.0, 51.50N×15.79E, ML2.3*
*WAR **04** 05:42:25.5, 51.45N×16.12E, h1^{km}, ML3.2, Mining Induced*
*IDC **04** 05:42:25.6±0.7, 51.48N×15.97E, mb1 3.5/6, mb1mx3.3/23, mbtmp3.4/6, ML3.4/6, Error ellipse: s-maj=11.7km s-min=7.2km az=116.0*
*PRU **04** 05:42:25.7, 51.41N×16.11E*
*CSEM **04** 05:42:26.3±0.1, 51.39N×16.12E, h2^{km}, ML3.6/7, Error ellipse: s-maj=2.0km s-min=1.2km az=13.0*
*BGR **04** 05:42:31.3±0.7, 51.35N×15.32E, h1^{km}, ML3.0/9, Error ellipse: s-maj=13.3km s-min=7.8km az=166.0*
ISC 04 05:42:21.9±0.3**, 51.47N**±0.02×**16.17E**±0.03**, n82,** σ1^s**52**/142**, 3C-5D, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	173	⇓iP	Pg	05 42 36.8	+2.2
KSP				e		05 42 49.0	
KSP	Ksiaz	0.64	173	⇓iPg	Pg	05 42 36.8	+2.2
KSP				eSg	Sg	05 42 44.1	+1.0
KSP				e		05 42 49.0	
KSP	Ksiaz	0.64	173	⇓iPG	Pg	05 42 36.8	+2.2
KSP				⇓eSG	Sg	05 42 44.8	+1.7
KSP	Ksiaz	0.64	173	ePg	Pg	05 42 36.6	+2.0
KSP				eSg	Sg	05 42 44.5	+1.4
KSP	Ksiaz	0.64	173	ePg	Pg	05 42 36.6	+2.0
KSP				eSg	Sg	05 42 44.1	+1.0
KSP				eS	Sg	05 42 49.0	+5.9
UPC	Upice	0.97	186	ePG	Pg	05 42 42.7	+1.4
DPC	Dobruska-Polom	1.13	175	ePG	Pg	05 42 45.5	+1.0
DPC				eSG	Sg	05 43 00.3	+0.8
	78nm,0.2s						
DPC	Dobruska-Polom	1.13	175	ePg	Pg	05 42 45.5	+1.0
DPC				eSg	Sg	05 43 00.1	+0.6
PVCC	Panska Ves	1.38	227	ePG	Pg	05 42 50.0	+0.4
BRG	Berggiesshubel	1.52	248	ePn	Pn	05 42 51.5	+1.0
BRG	Berggiesshubel	1.52	248	P	Pn	05 42 51.5	+1.0
BRG						05 43 13.2	
BRG				smax			
	comp=N,85nm,0.5s						
BRG	Berggiesshubel	1.52	248	Pn	Pn	05 42 51.5	+1.0
BRG				Pg	Pg	05 42 53.1	+0.7
BRG				Sg	Sg	05 43 13.2	+0.5
BRG	Berggiesshubel	1.52	248	Pg	Pg	05 42 53.1	+0.8
BRG				S	Sb	05 43 13.2	+2.7
	comp=N,85nm,0.5s						
RUE	Ruedersdorf	1.79	305	eP	Pn	05 42 55.1	+0.8
RUE				e		05 42 58.7	
RUE	Ruedersdorf	1.79	305	eP	Pn	05 42 55.1	+0.8
PRU	Pruhonice	1.81	215	eP	Pn	05 42 55.6	+1.0
PRU				e		05 43 20.7	
PRU	Pruhonice	1.81	215	ePN	Pn	05 42 55.6	+1.0
PRU				ePG	Pg	05 42 57.4	-0.7
PRU				eSG	Sg	05 43 20.7	-1.5
PRU	Pruhonice	1.81	215	ePg	Pg	05 42 57.4	-0.7
PRU				eSg	Sg	05 43 20.7	-1.5
RAC	Raciborz	1.90	136	eP	Pn	05 43 00.0	+4.1
RAC				eS	Sn	05 43 25.0	+4.2
MORC	Moravsky Berou	1.91	152	eP	Pn	05 42 57.6	+1.5
MORC				eS	Sn	05 43 24.6	+3.4
MORC	Moravsky Berou	1.91	152	ePn	Pn	05 42 57.5	+1.4
MORC				eSg	Sg	05 43 23.4	-2.2
	comp=N,62nm,0.4s						
MORC				eS	Sn	05 43 24.6	+3.4
CLL	Collm	1.99	266	ePn	Pn	05 42 58.4	+1.2
CLL	Collm	1.99	266	iP	Pn	05 42 58.0	+0.8
CLL				e		05 43 27.0	
CLL				pmax	pmax		
	comp=Z,12nm,0.5s						
CLL	Collm	1.99	266	iPn	Pn	05 42 58.0	+0.8
CLL				iPg	Pg	05 43 01.3	-0.3
CLL				eSg	Sg	05 43 27.0	-1.1
CLL	Collm	1.99	266	iPN	Pn	05 42 58.0	+0.8
	comp=Z,logA/T=1.4						
CLL				iPG	Pg	05 43 01.3	-0.3
CLL				i		05 43 05.0	
CLL				e		05 43 16.0	
CLL				eSG	Sg	05 43 27.0	-1.1
CLL	Collm	1.99	266	iPg	Pg	05 43 01.3	-0.3
CLL				eS	Sg	05 43 27.0	-1.1
OKC	Ostrava-Krasne	2.07	142	ePG	Pg	05 43 02.7	-0.5
OKC				eSG	Sg	05 43 29.3	-1.5
VRAC	Vranov	2.18	173	ePn	Pn	05 43 02.5	+2.5
VRAC				eSg	Sg	05 43 32.8	-1.9
	comp=Z,30nm,0.2s						
KRUC	Moravsky	2.42	176	ePn	Pn	05 43 05.7	+2.4
KRUC	Moravsky	2.42	176	ePg	Pg	05 43 08.7	-1.5
KRUC				eSg	Sg	05 43 39.7	-2.8
	comp=Z,36nm,0.5s						
TANN	Tannenbergstha	2.57	247	ePn	Pn	05 43 06.9	+1.3
TANN				eSg	Sg	05 43 35.9	-12

OJC	Ojcow	2.62	117	eP	Pn	05 43 06.5	+0.2
OJC				e		05 43 49.7	
OJC	Ojcow	2.62	117	ePN	Pn	05 43 06.0	-0.3
OJC				ePG	Pg	05 43 15.0	+0.7
OJC				eSG	Sg	05 43 50.0	+0.7
OJC	Ojcow	2.62	117	ePg	Pg	05 43 15.5	+1.2
OJC				eSg	Sg	05 43 49.7	+0.4
WERD	Werda	2.65	249	ePn	Pn	05 43 08.0	+1.4
NKC	Novy Kostel	2.66	244	eP	Pn	05 43 07.9	+1.1
NKC				e		05 43 49.1	
NKC	Novy Kostel	2.66	244	ePN	Pn	05 43 07.9	+1.1
NKC				ePG	Pg	05 43 14.6	-0.5
NKC				eSG	Sg	05 43 49.1	-1.5
	comp=Z,69nm,0.3s						
GUNZ	Gunzen	2.67	247	ePn	Pn	05 43 08.6	+1.7
GUNZ				eSg	Sg	05 43 40.2	-11
KHC	Kasperske Hory	2.87	216	eP	Pn	05 43 10.8	+1.0
KHC				e		05 43 54.0	
KHC	Kasperske Hory	2.87	216	ePN	Pn	05 43 10.8	+1.0
KHC				ePG	Pg	05 43 17.0	-2.3
KHC				eSG	Sg	05 43 54.0	-3.6
KHC	Kasperske Hory	2.87	216	ePg	Pg	05 43 17.0	-2.3
KHC				eSg	Sg	05 43 54.0	-3.6
MOX	Moxa	2.99	256	ePn	Pn	05 43 13.2	+1.8
MOX	Moxa	2.99	256	ePn	Pn	05 43 13.1	+1.6
MOX				ePg	Pg	05 43 20.6	-1.0
MOX				eSg	Sg	05 44 00.3	-1.1
MOX	Moxa	2.99	256	i P	Pn	05 43 13.1	+1.6
MOX				Pg	Pg	05 43 21.0	-0.6
MOX				Sg	Sg	05 44 00.0	-1.4
MOX	Moxa	2.99	256	ePg	Pg	05 43 20.6	-1.0
NOTT	Nottersdorf	3.06	239	ePn	Pn	05 43 13.6	+1.0
GEC2	GERESS Array S	3.07	212	ePn	Pn	05 43 14.8	+2.1
GEC2	GERESS Array S	3.07	212	ePn	Pn	05 43 14.8	+2.1
GERES	GERESS Array B	3.07	212	P	Pn	05 43 14.6	+1.9
GERES						05 43 47.4	
GERES	GERESS Array B	3.07	212	Pn	Pn	05 43 14.6	+2.0
	comp=Z,1.6nm,0.3s,baz=33,slow=13,SNR=16						
GERES				Pg	Pg	05 43 20.3	-2.9
	comp=Z,9.6nm,0.3s,baz=29,slow=20,SNR=47						
GERES				Sn	Sn	05 43 47.4	-3.2
	comp=Z,4.8nm,0.3s,baz=45,slow=23,SNR=7.2						
GERES				Lg		05 44 01.5	
	comp=Z,9.8nm,0.3s,baz=39,slow=28,SNR=8.1						
GERES	GERESS Array B	3.07	212	Pg	Pg	05 43 20.3	-3.0
GERES				S	Sn	05 43 47.4	-3.2
SMOL	Smolenice	3.07	164	ePG	Pg	05 43 22.8	-0.5
SMOL				eSG	Sg	05 44 02.2	-2.0
VKA	Vienna	3.21	178⇑	iPN	Pn	05 43 24.6	+10
VKA				i		05 44 07.5	
KOLL	Kolacno	3.24	153	ePN	Pn	05 43 17.2	+2.2
KOLL				ePG	Pg	05 43 25.1	-1.5
ZST	Bratislava	3.34	169	eSG	Sg	05 44 10.8	-2.2
NIE	Niedzica	3.35	126	eP	Pn	05 43 27.5	+11
NIE				eS	Sn	05 44 12.0	+14
VYHS	Vyhne	3.44	149	ePN	Pn	05 43 18.6	+0.6
GRA1	Grafenberg Arr	3.62	242	ePn	Pn	05 43 21.7	+1.2
GRA1				eSg	Sn	05 44 09.7	+5.2
GRA1	Grafenberg Arr	3.62	242	Pn	Pn	05 43 21.7	+1.2
GRA1				eS	Sn	05 44 09.7	+5.2
GRF	Grafenberg Arr	3.62	242	ePn	Pn	05 43 21.7	+1.2
GRF				eSg	Sg	05 44 09.7	-13
BSD	Bornholm Skovb	3.72	349	i P	Pn	05 43 21.7	-0.2
BSD				eS	Sn	05 44 06.7	-0.5
MOA	Molln	3.83	200⇓	iPN	Pn	05 43 24.6	+1.2
MOA				i SG	Sg	05 44 26.4	-3.1
	comp=Z,32nm,0.7s						
KECS	Kecovo	4.09	135	ePn	Pn	05 43 27.3	+0.2
KECS				e		05 43 43.0	
KECS				eSg	Sg	05 44 34.9	-3.2
ARSA	Arzberg	4.25	186⇑	iPN	Pn	05 43 30.6	+1.2
ARSA				i SG	Sg	05 44 38.4	-4.9
	comp=Z,32nm,0.7s						
CRVS	Cervenica-Dubn	4.27	125	ePN	Pn	05 43 31.1	+1.5
CRVS				e		05 43 47.2	
KOLS	Kolonicke sedl	4.67	121	ePN	Pn	05 43 35.4	0.0
KOLS				e		05 43 55.6	
KBA	Koelnbreinsper	4.77	204⇑	iPN	Pn	05 43 37.6	+0.8
KBA				i SG	Sg	05 44 57.3	-3.4
	comp=Z,19nm,0.6s						
DAVOX	Davos	6.25	224	Lg		05 45 44.2	
	comp=Z,0.6nm,0.3s,baz=166,slow=22,SNR=3.3						
AKASG	Malin Array Be	8.26	90	Pn	P	05 44 25.2	-0.6
	comp=Z,1.2nm,0.3s,baz=277,slow=12,SNR=7.9						
AKASG				Sn	Sn	05 45 54.2	-6.9
	comp=Z,1.0nm,0.3s,baz=280,slow=22,SNR=3.7						
AKASG	Malin Array Be	8.26	90	Pn	P	05 44 25.2	-0.7
AKASG				Sn	Sn	05 45 54.2	-6.9
HFS	Hagfors	8.79	352	Pn	P	05 44 31.7	-1.6
	baz=164,slow=16						
HFS				Sn	Sn	05 46 05.5	-8.8
	baz=180,slow=28						
HFS	Hagfors	8.79	352	Pn	P	05 44 31.1	-2.2
	comp=Z,0.1nm,0.3s,baz=168,slow=14,SNR=6.9						
HFS				Sn	Sn	05 46 05.6	-8.7
	comp=Z,0.0nm,0.3s,baz=188,slow=22,SNR=2.5						
HFS	Hagfors	8.79	352	Pn	P	05 44 31.7	-1.6
	SNR=6.2						
HFS				Sn	Sn	05 46 05.4	-8.9
NB2	NORSAR Subarra	9.97	346	Pn	P	05 44 47.2	-2.2
	baz=160,slow=14						
NB2				Sn	Sn	05 46 42.0	-1.4
NB2	NORSAR Subarra	9.97	346	Pn	P	05 44 47.2	-2.2
FIA0	FINESS Array S	11.38	25	Pn	P	05 45 05.2	-3.5
	baz=216,slow=12						
FIA0				Sn	S	05 47 10.0	-7.9
	baz=202,slow=28						
FINES	FINESS Array B	11.38	25	Pn	P	05 45 05.4	-3.3
	comp=Z,0.4nm,0.3s,baz=207,slow=11,SNR=12						
FINES				Sn	S	05 47 09.4	-8.5
	comp=Z,0.3nm,0.3s,baz=202,slow=20,SNR=5.7						
KAF	Kangasniemi	12.01	23	ep	P	05 45 09.8	-7.4
EKA	Eskdalemuir Ar	12.15	296	Pn	P	05 45 16.1	-3.0
	comp=Z,0.2nm,0.3s,baz=102,slow=14,SNR=3.3						
ARA0	ARCESS Array S	18.65	10	Pn	P	05 46 39.5	-3.4
	baz=192,slow=14						
ARCES	ARCESS Array B	18.65	10	Pn	P	05 46 39.9	-3.0
	comp=Z,0.4nm,0.3s,baz=195,slow=11,SNR=16						
ARCES	ARCESS Array B	18.65	10	Pn	P	05 46 39.9	-3.0

*IDC **04** 05:47:00.6±1.4, 14.89N×147.11E, mb4.0/8, mb1 4.1/8, mb1mx3.9/22, mbtmp4.0/8, Error ellipse: s-maj=38.0km s-min=27.6km az=91.0*

*NEIC **04** 05:47:02.5±0.8, 14.95N×147.05E, h10^{km}, mb4.3/2, Error ellipse: s-maj=19.6km s-min=11.7km az=102.0*

ISC 04 05:47:04.3±0.8**, 15.02N**±0.09×**147.06E**±0.08**, h33**^{km}**, n16, σ1^{s}11**/15**, mb4.0**/10**, 1C-1D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAPN	Saipan	1.28	279⇓	eP	Sn	05 47 41.5	-0.9
SARN	Sarigan	2.09	324⇑	eP	P	05 47 29.5	-8.1
GUMO	Guam	2.56	237	eP	P	05 47 43.5	-0.8
GUMO				eS	S	05 48 16.6	+2.0
JOW	Kunigami	21.09	307	P	P	05 51 46.1	-2.2
	14nm,0.3s,mb4.7,baz=292,slow=30,SNR=7.4						
WRAB	Tennant Creek	36.91	200	eP	P	05 54 12.2	+0.1
	7.7nm,1.1s,mb4.5						
WRA	Warramunga Arr	36.92	200	P	P	05 54 10.5	-1.7
	0.8nm,0.7s,mb3.6,baz=23,slow=9.4,SNR=5.9						
CMAR	Chiang Mai Arr	46.11	281	P	P	05 55 26.8	-0.8
	1.0nm,0.7s,mb3.9,baz=91,slow=6.4,SNR=5.1						
ULN	Ulaanbaatar	46.47	323	eP	P	05 55 30.9	+0.8
	1.5nm,0.6s,mb4.1						
SONM	Songino Array	46.84	323	P	P	05 55 33.9	+1.0
	1.4nm,0.7s,mb4.0,baz=131,slow=5.4,SNR=9.1						
MKAR	Makanchi Array	61.96	315	P	P	05 57 24.1	+0.8
	1.0nm,0.4s,mb4.3,baz=96,slow=8.4,SNR=15						
ILAR	Eielson Array	66.38	25	P	P	05 57 51.0	-0.8
	0.3nm,0.9s,mb3.3,baz=256,slow=3.3,SNR=4.2						
BVAR	Borovoye Array	70.14	321	P	P	05 58 15.9	+0.5
	1.3nm,0.7s,mb4.0,baz=90,slow=7.4,SNR=8.2						
ZRNK	Zerenda	70.98	321	P	P	05 58 21.1	+0.6
ARCES	ARCESS Array B	86.38	343	P	P	05 59 45.1	+1.1
	0.9nm,0.9s,mb4.0,baz=83,slow=7.3,SNR=3.4						
DBIC	Dimbokro	144.80	306	PKP	PKPdf	06 06 40.4	+1.4
	3.4nm,1.0s,baz=198,slow=3.2,SNR=3.8						
DBIC	Dimbokro	144.80	306	PKP	PKPdf	06 06 40.4	+1.4
DBIC				ePKPdf	PKPdf	06 06 40.6	+1.7

*NEIC **04** 06:00:55.0±1.8, 22.34S×171.39E, h107^{km}±16^{km}, Error ellipse: s-maj=35.2km s-min=13.1km az=198.0*

*IDC **04** 06:00:59.1±5.4, 21.65S×171.03E, h126^{km}±36^{km}, mb3.7/3, mb1 4.0/4, mb1mx3.6/14, mbtmp4.0/4, MS2.9/1, Ms1 2.9/1, ms1mx2.5/20, Error ellipse: s-maj=130.5km s-min=33.7km az=163.0*

ISC 04 06:00:54.3±2.0**, 22.5S**±0.3×**171.3E**±0.1**, h106**^{km}±18^{km}**, n10, σ0^{s}76**/12**, mb4.0**/3**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.50	275	eP	P	06 02 02.6	+1.2
DZM				eS	S	06 02 52.5	-0.6
DZM	Mont Dzumac	4.50	275	P	P	06 02 02.6	+1.1
	1.2nm,0.3s,baz=90,slow=17,SNR=40						
DZM				S	S	06 02 52.4	-0.6
	6.7nm,0.3s,baz=101,slow=20,SNR=24						
DZM				LR	LR	06 03 01.4	
	comp=Z,152nm,19.8s,baz=297,slow=29						
DZM	Mont Dzumac	4.50	275	eP	P	06 02 02.6	+1.1
DZM				eS	S	06 02 52.5	-0.6
RAO	Raoul Island	11.82	127	eP	P	06 03 39.8	-0.6
WRAB	Tennant Creek	34.46	267	eP	P	06 07 33.1	-0.7
WRA	Warramunga Arr	34.47	267	P	P	06 07 33.1	-0.9
	0.5nm,0.4s,mb3.7,baz=98,slow=8.6,SNR=20						
FITZ	Fitzroy Crossi	42.90	267	P	P	06 08 44.9	+0.8
	7.5nm,0.7s,mb4.5,baz=132,slow=6.8,SNR=4.6						
QSPA	South Pole Qui	67.57	180	eP	P	06 11 41.6	+0.9
NVAR	Mina Array Bea	89.55	48	P	P	06 13 41.0	0.0
	0.5nm,0.6s,mb3.8,baz=217,slow=9.0,SNR=4.2						
GERES	GERESS Array B	148.26	331	PKPbc	PKPdf	06 20 27.0	+2.8
	0.2nm,0.4s,baz=180,slow=2.7,SNR=3.5						

*IDC **04** 06:16:57.6±2.3, 28.09N×57.21E, mb3.5/5, mb1 3.7/5, mb1mx3.4/22, mbtmp3.6/5, Error ellipse: s-maj=122.9km s-min=31.1km az=41.0*

*THR **04** 06:17:00.3±0.3, 27.79N×56.66E, h15^{km}±4^{km}, ML3.1*

*CSEM **04** 06:17:00.3, 27.79N×56.66E, h15^{km}, ML3.1, After THR*

ISC 04 06:17:01.5±1.0**, 27.54N**±0.08×**56.6E**±0.1**, h55**^{km}±8^{km}**, n12, σ1^{s}01**/16**, mb3.5**/5**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.40	249	ePG	P	06 17 11.7	-0.3
BNDS				eSG	S	06 17 20.1	+0.5
BNDS				AML	AML	06 17 28.3	
	comp=N,710nm,0.1s						
BNDS	Bandar-Abbas	0.40	249	ePg	P	06 17 11.7	-0.3
	SNR=92						
BNDS				eSg	S	06 17 20.1	+0.4
	comp=N,710nm,0.1s,SNR=92						
KRBR	Kerman	2.44	4	ePG	P	06 17 40.1	+0.3
KRBR				eSG	S	06 18 09.5	+1.1
KRBR				AML	AML	06 18 14.9	
	comp=N,212nm,0.5s						
KRBR	Kerman	2.44	4	ePg	P	06 17 40.1	+0.3
	SNR=90						
KRBR				eSg	S	06 18 09.5	+1.1
	comp=N,212nm,0.5s,SNR=90						
ZHSF	Zahedan	4.22	60	ePN	P	06 18 04.0	-1.0
NASN	Na'in	6.17	329	ePN	P	06 18 31.0	-1.2
BRTR	Keskin Array B	22.57	308	P	P	06 22 01.2	+3.2
	comp=N,0.6nm,0.5s,mb3.3,baz=131,slow=13,SNR=5.1						
AKASG	Malin Array Be	31.08	326	P	P	06 23 15.6	-0.9
	comp=N,0.2nm,0.3s,mb3.5,baz=135,slow=8.6,SNR=5.5						
FINES	FINESS Array B	39.56	337	P	P	06 24 28.3	-0.3
	comp=N,0.4nm,0.5s,mb3.5,baz=128,slow=16,SNR=4.8						
NB2	NORSAR Subarra	45.14	331	P	P	06 25 13.3	-0.7
	comp=N,0.5nm,0.7s,mb3.5,baz=116,slow=7.9						
NOA	NORSAR Array B	45.14	331	P	P	06 25 13.5	-0.5
	comp=N,0.7nm,0.7s,mb3.6,baz=107,slow=6.7,SNR=4.2						
WRA	Warramunga Arr	88.78	113	P	P	06 29 52.4	+1.4
	comp=N,0.4nm,0.8s,mb3.8,baz=313,slow=3.7,SNR=4.9						

*NEIC **04** 06:17:11.3±1.4, 51.47N×176.12W, h45^{km}±10^{km}, ML3.3(AEIC), Error ellipse: s-maj=23.0km s-min=7.6km az=171.0*

*IDC **04** 06:17:16.3±3.6, 51.76N×176.11W, h81^{km}±31^{km}, mb3.6/4, mb1 3.8/6, mb1mx3.4/25, mbtmp3.8/6, Error ellipse: s-maj=56.2km s-min=16.9km az=5.0*

ISC 04 06:17:11.2±1.2**, 51.6N**±0.1×**176.07W**±0.08**, h58**^{km}±8^{km}**, n18, σ0^{s}85**/24**, mb4.0**/4**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSCK	Great Sitkin C	0.46	353	P	P	06 17 23.1	+0.4
GSCK				S	S	06 17 32.4	+1.3
GSMY	Great Sitkin M	0.49	1	P	P	06 17 23.4	+0.4
GSTD	Great Sitkin T	0.51	355	P	P	06 17 23.7	+0.5
GSTD				S	S	06 17 31.5	-0.3
ADAG	Mount Adagdak	0.54	323	P	P	06 17 23.5	0.0
ADAG				S	S	06 17 31.8	-0.7
GSTR	Great Sitkin T	0.54	1	P	P	06 17 24.3	+0.8
GSTR				S	S	06 17 31.9	-0.6
GSSP	Great Sitkin S	0.55	353	P	P	06 17 24.2	+0.7
KIWB	Kanaga Island	0.74	295	P	P	06 17 25.5	-0.3
KIMD	Kanaga Island	0.76	287	P	P	06 17 25.2	-0.9
KIMD				S	S	06 17 36.1	-1.0
KIKV	Kanaga Island	0.76	296	P	P	06 17 25.9	-0.3
KIKV				S	S	06 17 37.1	0.0
KINC	Kanaga Island	0.76	300	P	P	06 17 26.0	-0.1
ATKA	Atka Island	1.33	60	P	P	06 17 33.1	-1.0
FX1	Attu Island--F	6.75	286	P	P	06 18 50.6	+0.6
	1.5nm,0.3s,baz=8.7,slow=9.9,SNR=12						
FX1				S	S	06 20 07.8	+1.6
	1.2nm,0.3s,baz=67,slow=24,SNR=3.1						
ILAR	Eielson Array	20.05	38	P	P	06 21 40.2	-1.6
	0.4nm,0.3s,baz=228,slow=10,SNR=28						
PDAR	Pinedale Array	44.63	74	P	P	06 25 20.9	+1.6
	1.6nm,0.6s,mb4.0,baz=308,slow=4.2,SNR=20						
TXAR	Lajitas Array	56.94	83	P	P	06 26 53.0	+0.3
	0.8nm,0.6s,mb3.9,baz=306,slow=5.8,SNR=14						
MKAR	Makanchi Array	61.25	310	P	P	06 27 20.7	-1.5
	0.6nm,0.4s,mb4.1,baz=44,slow=6.1,SNR=12						
BVAR	Borovoye Array	61.84	321	P	P	06 27 26.3	+0.2
	0.5nm,0.3s,mb4.1,baz=60,slow=8.4,SNR=5.8						
BOSA	Boshof	152.07	317	PKPbc	PKPdf	06 37 00.9	+8.1
	2.7nm,0.7s,baz=56,slow=3.6,SNR=4.7						

MOS 04 06:23:58.3±1.2**, 55.25N**×**112.95E, h27**^{km}**, mb4.2**/1**, 2C, Error ellipse: s-maj=24.8km s-min=20.9km az=94.4, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UKT	Uakit	0.46	58	ePG	Pb	06 24 06.8	-1.0
UKT				e		06 24 13.2	
UKT				pmax	pmax		
	comp=Z,65nm,0.1s						
UKT				smax			
	comp=E,1μm,0.1s						
SVKR	Severomuysk	0.94	21	ePG	Pn	06 24 15.5	-0.3
SVKR				e		06 24 28.9	
SVKR				pmax	pmax		
	comp=Z,183nm,0.3s						
SVKR				smax			
	comp=E,2μm,0.6s						
YLYR	Ulyunkhan	1.09	251	ePN	Pn	06 24 18.3	+0.3
YLYR				e		06 24 33.0	
YLYR				pmax	pmax		
	comp=Z,39nm,0.2s						
YLYR				smax			
	comp=N,678nm,0.2s						
YOA	Uoyan	1.12	322⇑	iPN	Pn	06 24 18.0	-0.5
YOA				i		06 24 34.0	
YOA				pmax	pmax		
	comp=Z,405nm,0.3s						
YOA				smax			
	comp=N,1μm,0.5s						
KMO	Kumora	1.18	303⇑	iPN	Pn	06 24 19.1	-0.2
KMO				e		06 24 34.6	
KMO				pmax	pmax		
	comp=Z,390nm,0.3s						
KMO				smax			
	comp=E,376nm,0.7s						
TUP	Tupik	4.13	99	ePN	Pn	06 25 00.4	-1.0
TUP				e		06 25 11.6	
TUP				e		06 26 06.5	
TUP				pmax	pmax		
	comp=Z,9.0nm,0.3s						
TUP				smax			
	comp=N,130nm,1.0s						

CASC 04 06:37:51.1±1.9**, 12.72N**×**88.94W, h29**^{km}±7^{km}**, MD3.7, 4C-7D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LFRS	El Faro	0.91	353⇓	eP	Pn	06 38 07.8	-0.1
LFRS				eS	Sb	06 38 20.1	+0.2
LCBS	La Ceiba	0.93	358⇓	eP	Pn	06 38 08.2	-0.2
LCBS				eS	Sb	06 38 20.6	0.0
VSM	San Miguel	0.96	43⇑	eP	Pn	06 38 09.2	+0.5
VSM				eS	Sb	06 38 24.2	+2.8
BLLM	Bellamira	0.99	44⇑	eP	Pn	06 38 09.4	+0.2
BLLM				eS	Sn	06 38 23.6	+1.3
SNET	Serv Nac Est T	1.00	344⇓	eP	Pn	06 38 09.4	+0.1
SNET				eS	Sn	06 38 22.5	0.0
LBRS	Las Brisas	1.02	355	eP	Pn	06 38 09.9	+0.3
LFU	La Fuente	1.04	351⇑	eP	Pn	06 38 10.1	+0.2
BOQS	Boqueron	1.06	342⇓	eP	Pn	06 38 10.7	+0.5
BOQS				eS	Sn	06 38 24.2	+0.1
CNCH	Conchagua	1.22	63⇓	eP	Pn	06 38 12.3	0.0
CNCH				eS	Sn	06 38 28.7	+0.8
SBLS	San Blas	1.30	329	eP	Pn	06 38 14.1	+0.6
SBLS				eS	Sn	06 38 30.6	+0.6
SNJE	San Jose	1.31	331	eP	Pn	06 38 14.1	+0.4
SNJE				eS	Sn	06 38 30.8	+0.3
RTR	El Retiro	1.36	330⇓	eP	Pn	06 38 15.2	+0.8
RTR				eS	Sn	06 38 32.2	+0.7
RBDL	Robledal	1.56	333	eP	Pn	06 38 18.4	+1.0
RBDL				eS	Sn	06 38 38.0	+1.2
CRIN	San Cristobal	1.85	90	eP	Pn	06 38 20.4	-1.0
CRIN				eS	Sn	06 38 45.6	+1.6
LEON	Leon	2.02	98⇑	eP	Pn	06 38 22.2	-1.7
TEL3	Telica 3	2.05	94	eP	Pn	06 38 23.3	-1.0
TEL3				eS	Sn	06 38 48.6	-0.7
TELN	Telica	2.06	93	eP	Pn	06 38 23.0	-1.5
TELN				eS	Sn	06 38 48.4	-1.1
MIRN	Miramar	2.20	97⇓	eP	Pn	06 38 25.3	-1.1

*NEIC **04** 06:52:58.4, 15.39N×92.89W, h112^{km}, MD4.3(MEX), After MEX.*

MEX 04 06:52:58.4±1.1**, 15.39N**×**92.89W, h112**^{km}±41^{km}**, MD4.3, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	Comitan	1.15	39	i P	P	06 53 19.3	-2.4
CCIG				i S	S	06 53 37.5	-1.6
SCX	San Cristobal	1.36	10	i P	P	06 53 23.5	-0.7
SCX				i S	S	06 53 41.5	-2.1
CMIG	Matias Romero	2.56	312	i P	P	06 53 37.0	-2.5
CMIG				i S	S	06 54 07.9	-2.6
SCIG		3.92	24	eP	P	06 53 56.6	-1.2
SCIG				i S	S	06 54 38.0	-5.1
OXX	Oaxaca	4.05	295	eP	P	06 53 42.0	-18
JTS	JuntasAbangare	9.24	122	eP	P	06 55 07.2	-2.8
LAZ	Ladron	22.88	328	eP	P	06 57 54.9	+2.0

*NEIC **04** 07:00:33.9±0.2, 17.95S×178.51W, mb4.4/22, Error ellipse: s-maj=9.5km s-min=5.3km az=140.0*

*BJI **04** 07:00:33.3, 18.00S×178.50W, h564^{km}, mB4.5, mb4.7*

*IDC **04** 07:00:34.2±3.1, 17.93S×178.50W, h565^{km}±36^{km}, mb3.9/16, mb1 4.2/17, mb1mx4.1/19, mbtmp4.8/17, Error ellipse: s-maj=17.1km s-min=15.6km az=58.0*

ISC 04 07:00:33.1±1.1**, 17.98S**±0.08×**178.53W**±0.07**, h567**^{km}±13^{km}**, n93, σ0^{s}99**/73**, mb4.3**/38**, 7C-3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.65	59	eP	P	07 02 27.6	-1.0
	69nm,0.5s						
DZM	Mont Dzumac	14.70	251	eP	P	07 03 41.0	+2.1
DZM	Mont Dzumac	14.70	251	P	P	07 03 41.2	+2.4
	4.1nm,0.3s,baz=81,slow=17,SNR=63						
NOUC	Port Laguerre	14.83	251	eP	P	07 03 41.8	+1.6
URZ	Urewera	20.56	190	P	P	07 04 33.1	-1.3
	7.3nm,0.6s,baz=107,slow=5.7,SNR=9.2						
SNZO	South Karori	23.97	193	P	P	07 05 03.2	-2.1
CTA	Charters Tower	33.32	261	P	P	07 06 26.4	+0.2
	30nm,0.6s,mb5.0,baz=88,slow=10,SNR=30						
CTAO	Charters Tower	33.32	261	eP	P	07 06 26.1	0.0
	77nm,1.2s,mb5.1						
PMG	Port Moresby	34.36	280	P	P	07 06 35.9	+1.1
	65nm,0.6s,mb5.3,baz=84,slow=4.4,SNR=13						
PMG	Port Moresby	34.36	280	eP	P	07 06 35.6	+0.9
	85nm,0.8s,mb5.3						
TAU	Tasmania Unive	38.11	222	eP	P	07 07 06.2	+0.9
STKA	Stephens Creek	38.50	241	P	P	07 07 09.9	+1.3
	45nm,0.4s,mb5.4,baz=93,slow=9.7,SNR=153						
STKA	Stephens Creek	38.50	241	eP	P	07 07 09.7	+1.1
WRAB	Tennant Creek	44.50	260	eP	P	07 07 55.5	-0.9
	52nm,0.6s,mb5.2						
WRA	Warramunga Arr	44.51	260	P	P	07 07 55.5	-1.0
	18nm,0.3s,mb5.1,baz=92,slow=7.9,SNR=1166						
WRA				PcP	PcP	07 09 26.7	-1.0
	3.3nm,0.4s,baz=95,slow=3.3,SNR=5.7						
FITZ	Fitzroy Crossi	52.91	261	P	P	07 08 58.6	-0.3
	16nm,0.3s,mb4.9,baz=24,slow=4.3,SNR=3.9						
MBWA	Marble Bar	57.95	256	eP	P	07 09 32.8	-1.0
	27nm,0.6s,mb4.7						
NWAO	Narrogin (SRO)	59.08	242	eP	P	07 09 40.4	-0.9
	11nm,0.7s,mb4.2						
VNDA	Vanda	60.36	185	P	P	07 09 49.9	+0.7
	0.9nm,0.5s,mb3.4,baz=353,slow=8.2,SNR=15						
VNDA	Vanda	60.36	185	eP	P	07 09 49.4	+0.2
	1.0nm,0.6s,mb3.3						
CASY	Casey	66.03	205	eP	P	07 10 25.1	-0.2
	10nm,0.9s,mb4.3						
MJAR	Matsushiro Arr	67.89	323	P	P	07 10 36.2	-1.0
	2.9nm,0.5s,mb4.1,baz=167,slow=6.6,SNR=6.2						
MJAR	Matsushiro Arr	67.89	323	P	P	07 10 36.2	-1.0
FX1	Attu Island--F	70.93	355	eP	P	07 10 53.5	-1.4
QSPA	South Pole Qui	72.08	180⇓	iP	P	07 11 02.1	+0.9
	9.6nm,0.7s,mb4.3						
KSM	Kuching	72.58	277	eP	P	07 11 04.9	-0.4
CMB	Columbia Colle	77.97	43	eP	P	07 11 34.2	-0.3
	8.4nm,1.0s,mb4.0						
MDJ	Mudanjiang	78.18	325	P	P	07 11 36.4	+1.0
MDJ				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,77nm,3.5s						
HUMO	Hull Mountain	79.03	38	eP	P	07 11 40.0	+0.1
	comp=Z,7.7nm,1.0s,mb4.0						
NVAR	Mina Array Bea	79.55	44	P	P	07 11 43.5	+0.7
	comp=Z,5.2nm,0.8s,mb3.9,baz=228,slow=10.0,SNR=42						
NVAR				pP	pP	07 13 44.0	+0.1
	comp=Z,0.4nm,0.7s,baz=212,slow=5.7,SNR=3.9						
MNV	Mina	79.65	44	eP	P	07 11 43.7	+0.4
	comp=Z,8.4nm,1.3s,mb3.9						
CN2	Changchun	80.01	322	eP	P	07 11 42.8	-2.2
MOD	Modoc	80.21	40	eP	P	07 11 46.6	+0.5
	comp=Z,6.9nm,0.6s,mb4.2						
SLKM	Skilak Lake	81.49	14	eP	P	07 11 51.1	-1.1
WVOR	Wild Horse Val	81.53	40	eP	P	07 11 52.5	-0.4
	comp=Z,9.4nm,0.9s,mb4.2						
TUC	Tucson	81.83	52	eP	P	07 11 55.7	+1.1
	comp=Z,6.3nm,1.1s,mb4.0						
ELK	Elko	82.78	43	eP	P	07 11 59.5	+0.3
	comp=Z,4.8nm,1.0s,mb4.0						
DIV	Divide	83.09	15	eP	P	07 11 59.3	-1.0
	comp=Z,15nm,0.6s,mb4.7						
BMO	Blue Mountains	83.67	39	eP	P	07 12 02.6	-0.9
	comp=Z,1.1nm,0.7s,mb3.5						
MAW	Mawson	83.75	200	P	P	07 12 03.7	+0.3
	comp=Z,4.5nm,0.5s,mb4.3,baz=142,slow=6.7,SNR=11						
ENH	Enshi	84.22	304	eP	P	07 12 07.1	+0.6
	comp=Z,6.3nm,0.6s,mb4.3						
HLID	Hailey	84.76	41	eP	P	07 12 09.6	+0.8
	comp=Z,3.1nm,0.7s,mb4.0						
SRU	San Rafael	85.15	46	eP	P	07 12 11.1	+0.2
PV10	Paradox Valley	85.85	48	eP	P	07 12 14.8	+0.5
ILAR	Eielson Array	85.98	13	P	P	07 12 12.9	-1.4
	comp=Z,1.7nm,0.4s,mb4.0,baz=223,slow=5.1,SNR=66						
PV01	Paradox Valley	86.07	48	eP	P	07 12 15.5	+0.2
TXAR	Lajitas Array	86.13	58	P	P	07 12 17.4	+1.5
	comp=Z,4.6nm,0.8s,mb4.2,baz=218,slow=6.0,SNR=63						
XAN	Xi'an	86.21	307	P	P	07 12 16.8	+0.7
XAN				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.5						
MCMT	McKenzie Canyo	86.37	41	eP	P	07 12 17.8	+1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RRI2	**Red Ridge**	**86.61**	**42**	eP	**P**	**07 12 18.6**	**+0.8**
	comp=Z,12nm,0.8s,mb4.6						
SNOW	**Snow King Moun**	**87.03**	**42**	eP	**P**	**07 12 20.1**	**+0.4**
	comp=Z,6.1nm,0.8s,mb4.3						
IMW	**Indian Meadow**	**87.11**	**42**	eP	**P**	**07 12 20.4**	**+0.3**
	comp=Z,9.3nm,1.0s,mb4.4						
CHMT	**Chamberlain Mo**	**87.16**	**39**	eP	**P**	**07 12 19.6**	**-0.6**
QLMT	**Earthquake Lak**	**87.25**	**41**	eP	**P**	**07 12 22.2**	**+1.5**
PDAR	**Pinedale Array**	**87.48**	**43**	P	**P**	**07 12 22.2**	**+0.3**
	comp=Z,3.0nm,0.6s,mb4.1,baz=227,slow=3.0,SNR=37						
KMI	**Kunming**	**87.76**	**297**	P	**P**	**07 12 21.8**	**-1.8**
KMI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
CMAR	**Chiang Mai Arr**	**88.80**	**290**	P	**P**	**07 12 29.9**	**+1.3**
	comp=Z,4.4nm,0.9s,mb4.3,baz=114,slow=2.6,SNR=14						
SYO	**Syowa Base**	**89.06**	**193**	⇑P	**P**	**07 12 26.5**	**-2.2**
SYO	**Syowa Base**	**89.06**	**193**	⇑pP	pP	07 14 27.5	-5.3
EDM	**Edmonton**	**90.28**	**33**	P	**P**	**07 12 33.7**	**-0.9**
SNAA	**Sanae**	**90.53**	**179**	e	**P**	**07 12 40.8**	**+5.4**
SNAA	**Sanae**	**90.53**	**179**	e	**P**	**07 12 46.3**	**+11**
SNAA	**Sanae**	**90.53**	**179**	⇓iP	**P**	**07 12 35.1**	**-0.3**
SNAA				e		07 12 46.3	
VNA3	**Neumayer Olymp**	**90.68**	**176**	e	**P**	**07 12 43.1**	**+7.0**
VNA3	**Neumayer Olymp**	**90.68**	**176**	⇑iP	**P**	**07 12 36.5**	**+0.4**
VNA3				e		07 12 43.1	
LZH	**Lanzhou**	**90.84**	**308**	⇑P	**P**	**07 12 38.2**	**+0.5**
LZH				AP	pP	07 14 42.5	+0.3
LZH				XP	sP	07 15 37.6	-0.7
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.8						
LZH	**Lanzhou**	**90.84**	**308**	⇑P	**P**	**07 12 38.2**	**+0.5**
	comp=Z,21nm,1.5s,mb4.8						
LZH				pP	pP	07 14 42.5	+0.3
LZH				sP	sP	07 15 37.6	-0.7
VNA2	**Neumayer--Watz**	**91.11**	**177**	e	**P**	**07 12 44.6**	**+6.5**
VNA2	**Neumayer--Watz**	**91.11**	**177**	⇓iP	**P**	**07 12 38.3**	**+0.2**
VNA2				e		07 12 44.6	
VNA1	**Neumayer--Stat**	**91.34**	**177**	e	**P**	**07 12 45.8**	**+6.7**
VNA1	**Neumayer--Stat**	**91.34**	**177**	e	**P**	**07 12 50.4**	**+11**
VNA1	**Neumayer--Stat**	**91.34**	**177**	P	**P**	**07 12 40.0**	**+0.9**
VNA1				e		07 12 45.8	
VNA1				e		07 12 50.4	
SONM	**Songino Array**	**93.53**	**319**	P	**P**	**07 12 49.8**	**+0.2**
	comp=Z,0.3nm,0.5s,mb3.7,baz=120,slow=5.1,SNR=4.0						
YKA	**Yellowknife Ar**	**94.44**	**25**	P	**P**	**07 12 52.6**	**-0.7**
	comp=Z,1.5nm,0.8s,mb4.2,baz=248,slow=4.4,SNR=4.2						
MKAR	**Makanchi Array**	**109.10**	**314**	PKiKP		07 17 58.2	
	comp=Z,0.8nm,0.5s,baz=201,slow=0.7,SNR=11						
ARCES	**ARCESS Array B**	**126.36**	**350**	PKP	PKPdf	07 18 31.5	+0.4
	comp=Z,1.1nm,0.6s,baz=349,slow=1.3,SNR=8.7						
ARCES	**ARCESS Array B**	**126.36**	**350**	PKP	PKPdf	07 18 31.5	+0.4
AKASG	**Malin Array Be**	**140.57**	**332**	PKP	PKPdf	07 19 01.0	+3.0
	comp=Z,0.7nm,0.3s,baz=38,slow=3.2,SNR=4.7						
MALT	**Malatya**	**141.97**	**310**	ePKPdf	PKPdf	07 19 01.0	+0.2
KWP	**Kalwaria**	**144.09**	**336**	ePKP	PKPdf	07 19 04.9	+0.8
BURAR	**Bucovina Array**	**144.62**	**332**	⇑P	PKPdf	07 19 08.0	+2.9
BR131	**Keskin Array S**	**144.75**	**315**	ePKPdf	PKPdf	07 19 06.9	+1.4
BRTR	**Keskin Array B**	**144.75**	**315**	PKP	PKPdf	07 19 07.3	+1.8
	comp=Z,4.6nm,0.8s,baz=135,slow=1.7,SNR=15						
KOLS	**Kolonicke sedl**	**144.82**	**336**	ePKP	PKPdf	07 19 06.9	+1.5
CLL	**Collm**	**145.51**	**347**	⇑iPKP1	PKPbc	07 19 09.2	+1.5
CLL				i		07 19 17.8	
UPC	**Upice**	**145.53**	**344**	ePKP	PKPdf	07 19 09.3	+2.8
DPC	**Dobruska-Polom**	**145.58**	**343**	ePKP	PKPdf	07 19 09.9	+3.3
BRG	**Berggiesshubel**	**145.71**	**346**	P	PKPdf	07 19 09.1	+2.3
KECS	**Kecovo**	**145.87**	**337**	ePKP	PKPdf	07 19 06.0	-1.2
PRU	**Pruhonice**	**146.38**	**345**	ePKP	PKPdf	07 19 11.6	+3.6
VYHS	**Vyhne**	**146.44**	**339**	ePKP	PKPdf	07 19 12.2	+4.1
KHC	**Kasperske Hory**	**147.42**	**345**	ePKP	PKPdf	07 19 14.6	+4.9
GERES	**GERESS Array B**	**147.65**	**345**	PKPbc	PKPdf	07 19 15.1	+5.0
	comp=Z,3.1nm,0.6s,baz=22,slow=2.9,SNR=17						

*NEIC **04** 07:13:53.4, 32.93S×71.90W, h10^{km}, ML4.1(GUC), After GUC.*

GUC 04 07:13:53.4±0.9**, 32.93S×71.90W, h10**^{km}±5^{km}**, MD3.8, ML4.1, 14C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.55**	**45**	iP	Pg	07 14 04.4	-0.1
LCCH	**Las Cruces**	**0.61**	**154**	⇑iP	Pg	07 14 05.7	0.0
LCCH				iS	Sg	07 14 14.1	+0.1
ROCH	**El Roble**	**0.74**	**94**	⇑iP	Pb	07 14 07.5	-0.5
ROCH				iS	Sb	07 14 19.6	+1.6
PEL	**Peldehue**	**1.04**	**102**	⇑iP	Pb	07 14 12.6	-0.5
TACH	**Talagante**	**1.08**	**132**	⇑iP	Pb	07 14 13.0	-0.7
TACH				iS	Sb	07 14 27.9	+0.1
PUEX	**Pudahuel**	**1.08**	**119**	⇓iP	Pb	07 14 13.4	-0.4
PUEX				iS	Sb	07 14 28.0	+0.2
PUEX				AMP		07 14 32.1	
	comp=E,8μm,0.4s						
LNV	**Longovilo**	**1.10**	**159**	⇑iP	Pb	07 14 13.5	-0.7
LNV				iS	Sb	07 14 28.7	+0.3
JACH	**Jahuel**	**1.12**	**78**	⇑iP	Pb	07 14 13.3	-1.2
JACH				⇓iS	Sb	07 14 29.6	+0.5
SAN	**Santiago**	**1.16**	**117**	⇑iP	Pb	07 14 14.6	-0.5
SAN				iS	Sb	07 14 30.2	+0.1
SAN				AMP		07 14 36.0	
	comp=N,5μm,0.6s						
STL	**Santa Lucia**	**1.17**	**116**	iP	Pb	07 14 13.9	-1.4
STL				iS	Sb	07 14 30.1	-0.2
DSCH	**Colegio Aleman**	**1.21**	**113**	⇑iP	Pb	07 14 15.3	-0.6
DSCH				iS	Sb	07 14 31.1	-0.4
DSCH				AMP		07 14 38.5	
	comp=E,6μm,0.6s						
CLCH	**Cerro Calan**	**1.23**	**113**	iP	Pb	07 14 15.6	-0.7
CLCH				iS	Sb	07 14 32.1	0.0
CLCH				AMP		07 14 39.1	
	comp=E,5μm,0.4s						
ANTU	**Antumapu**	**1.24**	**122**	iP	Pb	07 14 15.8	-0.7
ANTU				iS	Sb	07 14 32.7	+0.4
ANTU				AMP		07 14 38.5	
	comp=E,4μm,0.7s						
FSR	**Penalolen**	**1.27**	**116**	⇓iP	Pb	07 14 16.5	-0.6
FSR				iS	Sb	07 14 33.1	-0.2
FSR				AMP		07 14 40.4	
	comp=N,4μm,0.5s						
PCH	**Pirque**	**1.35**	**121**	⇑iP	Pb	07 14 17.5	-0.9
PCH				iS	Sb	07 14 35.8	+0.2
FCH	**Farellones**	**1.40**	**107**	⇓iP	Pn	07 14 18.3	-0.9
FCH				iS	Sb	07 14 38.3	+1.1
ILCH	**Illapel**	**1.43**	**26**	⇑iP	Pn	07 14 18.4	-1.1
ILCH				iS	Sb	07 14 38.2	+0.4
ILCH				AMP		07 14 40.5	
	comp=E,4μm,0.7s						
CHCH	**Chadas Angostu**	**1.45**	**134**	⇑iP	Pn	07 14 18.9	-0.9
CHCH				iS	Sb	07 14 38.4	0.0
SJCH	**San Jose de Ma**	**1.47**	**119**	⇑iP	Pn	07 14 19.1	-1.1
SJCH				iS	Sb	07 14 39.1	-0.1
SJCH				AMP		07 14 41.7	
	comp=E,2μm,0.4s						
CACH	**El Canelo**	**1.61**	**138**	⇑iP	Pn	07 14 22.4	+0.3
CACH				iS	Sb	07 14 44.3	+1.3
LMEL	**Las Melosas**	**1.69**	**123**	⇓iP	Pn	07 14 23.0	-0.3
LMEL				iS	Sn	07 14 45.6	+0.5
LMEL				AMP		07 14 49.5	
	comp=N,3μm,0.2s						
SFDO	**San Fernando**	**1.84**	**157**	⇑iP	Pn	07 14 24.8	-0.6
SFDO				iS	Sn	07 14 48.7	-0.2
CMCH	**Combarbala**	**1.91**	**24**	AMP		07 14 54.1	
	comp=E,16μm,0.5s						
TLL	**Tololo Astrono**	**2.91**	**19**	AMP		07 15 29.6	
	comp=E,2μm,0.5s						
ZON	**Zonda**	**3.05**	**64**	⇓iP	Pn	07 14 45.0	+2.2
ZON				eS	Sn	07 15 27.0	+7.2
CCHI	**Chillan**	**3.67**	**182**	AMP		07 15 58.8	
	comp=N,416nm,0.9s						

*TIR **04** 07:18:29.8, 41.11N×20.16E, h5^{km}, Ml2.6*
*NEIC **04** 07:18:31.4, 41.00N×19.84E, h10^{km}, MD3.2(ATH), MD2.8(PDG), After PDG.*
*PDG **04** 07:18:31.4±0.3, 41.00N×19.84E, h10^{km}±1^{km}*
*CSEM **04** 07:18:33.3±0.4, 41.01N×20.38E, MD3.2, Error ellipse: s-maj=7.4km s-min=4.8km az=123.0*
*ATH **04** 07:18:37.0, 40.80N×20.46E, h5^{km}, MD3.2/3*

ISC 04 07:18:31.8±0.4**, 41.08N**±0.03×**20.19E**±0.04**, h5**^{km}**, n27,** $\sigma 1^{s}$**29**/48**, 9C, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.36**	**317**	iPg	**Pg**	**07 18 37.6**	**-1.4**
TIR				iSg	**Sg**	**07 18 43.5**	**-0.4**
TIR	**Tirane**	**0.36**	**317**	ePg	**Pg**	**07 18 37.6**	**-1.4**
TIR				iSg	**Sg**	**07 18 43.5**	**-0.4**
OHR	**Ohrid**	**0.46**	**86**	⇑iPg	**Pg**	**07 18 39.9**	**-1.1**
OHR				iSg	**Sg**	**07 18 47.2**	**0.0**
QSH	**Qafa e Shtames**	**0.49**	**334**	iPg	**Pg**	**07 18 39.4**	**-2.2**
QSH				iSg	**Sg**	**07 18 47.4**	**-0.7**
KBN	**Korca**	**0.65**	**135**	iPg	**Pg**	**07 18 43.1**	**-1.6**
KBN				iSg	**Sg**	**07 18 53.1**	**-0.2**
KBN	**Korca**	**0.65**	**135**	ePg	**Pg**	**07 18 43.1**	**-1.6**
KBN				iSg	**Sg**	**07 18 53.1**	**-0.2**
PUK	**Puka**	**0.98**	**347**	ePg	**Pg**	**07 18 47.0**	**-4.5**
PUK				iSg	**Sg**	**07 19 04.8**	**+0.2**
KKS	**Kukesi**	**1.00**	**9**	ePg	**Pg**	**07 18 49.0**	**-2.9**
KKS				iSg	**Sg**	**07 19 05.1**	**-0.2**
ULC	**Ulcinj**	**1.13**	**322**	ePg	**Pg**	**07 18 51.0**	**-3.4**
ULC				eSg	**Sg**	**07 19 08.1**	**-1.3**
SKO	**Skopje**	**1.29**	**46**	iPn	**Pn**	**07 18 55.6**	**-0.9**
SKO				iSn	**Sn**	**07 19 12.8**	**-1.5**
SKO	**Skopje**	**1.29**	**46**	iPn	**Pn**	**07 18 55.6**	**-0.9**
SKO				i		07 19 01.1	
SKO				iSn	**Sn**	**07 19 12.8**	**-1.5**
KEK	**Kerkira**	**1.40**	**192**	ePG	**Pg**	**07 18 59.5**	**-0.3**
KEK				eSB	**Sb**	**07 19 17.1**	**+1.0**
JAN	**Janina**	**1.51**	**160**	ePN	**Pn**	**07 18 59.0**	**-0.6**
TTG	**Podgorica**	**1.51**	**333**	⇑iPg	**Pg**	**07 18 58.2**	**-3.8**
TTG				eSg	**Sg**	**07 19 22.5**	**+0.3**
PVY	**Plav**	**1.52**	**354**	⇑iPn	**Pn**	**07 19 00.7**	**+0.9**
PVY				eSn	**Sn**	**07 19 25.7**	**+5.6**
BUM	**Brajici-Budva**	**1.55**	**322**	⇑iPg	**Pg**	**07 18 58.8**	**-4.0**
BUM				eSg	**Sg**	**07 19 22.9**	**-0.7**
IVA	**Berane**	**1.80**	**353**	⇑iPn	**Pn**	**07 19 05.9**	**+2.1**
IVA				eSn	**Sn**	**07 19 32.5**	**+5.2**
HCY	**Herceg Novi**	**1.86**	**318**	⇑iPn	**Pn**	**07 19 03.5**	**-1.2**
HCY				eSn	**Sn**	**07 19 29.5**	**+0.8**
NKY	**Niksic**	**1.94**	**333**	⇑iPn	**Pn**	**07 19 06.3**	**+0.5**
NKY				eSn	**Sn**	**07 19 34.4**	**+3.6**
BRY	**Bratogost**	**2.19**	**326**	⇑iPn	**Pn**	**07 19 09.2**	**-0.2**
BRY				eSn	**Sn**	**07 19 38.9**	**+1.7**
KKB	**Krupnik**	**2.31**	**69**	iP	**Pn**	**07 19 13.0**	**+1.9**
PLE	**Pljevlja**	**2.32**	**346**	⇑iPn	**Pn**	**07 19 13.1**	**+1.9**
PLE				eSn	**Sn**	**07 19 44.5**	**+4.0**
UPM	**Unac-Piva**	**2.32**	**336**	ePn	**Pn**	**07 19 12.6**	**+1.3**
UPM				eSn	**Sn**	**07 19 43.5**	**+3.0**
EVR	**Evrytania**	**2.50**	**150**	ePG	**Pg**	**07 19 17.0**	**-4.6**
MMB	**Musomiste**	**2.71**	**78**	iP	**Pn**	**07 19 18.0**	**+1.2**
VTS	**Vitosha**	**2.71**	**55**	iP	**Pn**	**07 19 18.0**	**+1.2**
RZN	**Rozhen**	**3.46**	**78**	eP	**Pn**	**07 19 28.0**	**+0.6**

MEX 04 07:22:48.1±0.8**, 15.09N×93.00W, h29**^{km}±69^{km}**, MD4.0, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.45**	**35**	iP	Pn	07 23 10.2	-2.5
CCIG				iS	Sn	07 23 27.3	-3.5
SCX	**San Cristobal**	**1.67**	**12**	eP	Pn	07 23 14.5	-1.4
SCX				iS	Sn	07 23 34.0	-2.6
CMIG	**Matias Romero**	**2.69**	**318**	iP	Pn	07 23 27.9	-2.6
CMIG				iS	Sn	07 23 58.1	-4.4

*NEIC **04** 07:30:15.2±3.1, 4.35S×151.51E, h159^{km}±30^{km}, Error ellipse: s-maj=26.1km s-min=21.0km az=92.0*
*IDC **04** 07:30:16.6±4.6, 4.43S×151.45E, h169^{km}±44^{km}, mb3.6/7, mb1 3.7/8, mb1mx3.6/16, mbtmp4.1/8, MS3.8/11, Ms1 3.8/11, ms1mx3.7/18, Error ellipse: s-maj=32.0km s-min=22.4km az=67.0*

ISC 04 07:30:13.1±3.4**, 4.4S**±0.2×**151.8E**±0.2**, h159**^{km}±32^{km}**, n17,** $\sigma 1^{s}$**00**/11**, mb4.0**/8**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.72**	**223**	P	**P**	**07 31 50.3**	**-0.1**
	1.1nm,0.3s,baz=52,slow=10,SNR=3.2						
PMG				LR	LR	07 34 39.1	
	comp=Z,700nm,19.2s,baz=40,slow=40						
DZM	**Mont Dzumac**	**22.58**	**142**	P	**P**	**07 35 06.4**	**+5.6**
	13nm,0.8s,mb4.4,baz=133,slow=18,SNR=5.9						
WRAB	**Tennant Creek**	**22.91**	**226**	eP	**P**	**07 35 04.8**	**+0.7**
WRA	**Warramunga Arr**	**22.92**	**226**	P	**P**	**07 35 04.0**	**-0.2**
	6.1nm,1.2s,mb3.9,baz=52,slow=10,SNR=5.4						
STKA	**Stephens Creek**	**28.91**	**198**	P	**P**	**07 35 58.1**	**-1.3**
	0.5nm,0.3s,mb3.8,baz=357,slow=18,SNR=3.5						
FITZ	**Fitzroy Crossi**	**28.93**	**240**	LR	LR	07 48 17.9	
	comp=Z,328nm,20.5s,baz=79,slow=38						
CBIJ	**Chichi jima**	**32.69**	**344**	LR	LR	07 47 24.8	
	comp=Z,147nm,20.4s,baz=137,slow=32						
MJAR	**Matsushiro Arr**	**42.69**	**344**	LR	LR	07 53 04.3	
	comp=Z,82nm,19.3s,baz=190,slow=32						
SONM	**Songino Array**	**65.47**	**328**	P	**P**	**07 40 40.6**	**-0.8**
	1.0nm,0.7s,mb3.7,baz=146,slow=4.5,SNR=7.3						
SONM				LR	LR	08 06 00.5	
	comp=Z,63nm,19.3s,baz=109,slow=33						
VNDA	**Vanda**	**73.22**	**178**	LR	LR	08 10 32.6	
	comp=Z,38nm,18.6s,baz=303,slow=33						
MKAR	**Makanchi Array**	**79.38**	**319**	P	**P**	**07 42 03.6**	**+0.8**
	1.1nm,0.9s,mb3.5,baz=124,slow=4.4,SNR=7.8						
MKAR				LR	LR	08 16 19.9	
	comp=Z,41nm,18.7s,baz=142,slow=35						
SML	**Sawmill**	**80.23**	**25**	eP	**P**	**07 42 06.9**	**-0.2**
ZAL	**Zalesovo**	**80.29**	**326**	P	**P**	**07 42 08.5**	**+0.8**
	1.0nm,0.3s,mb4.0,baz=353,slow=5.2,SNR=4.0						
ZAL				LR	LR	08 15 36.9	
	comp=Z,42nm,18.3s,baz=162,slow=34						
IMA	**Indian Mountai**	**80.47**	**20**	eP	**P**	**07 42 07.6**	**-0.7**
	82nm,1.6s,mb5.1						
ILAR	**Eielson Array**	**82.22**	**22**	P	**P**	**07 42 17.7**	**+0.2**
	2.1nm,1.0s,mb3.7,baz=260,slow=5.9,SNR=9.8						
ILAR				LR	LR	08 15 03.2	
	comp=Z,42nm,19.0s,baz=181,slow=33						
MAW	**Mawson**	**85.50**	**203**	LR	LR	08 17 47.9	
	comp=Z,76nm,18.9s,baz=243,slow=33						
NVAR	**Mina Array Bea**	**92.68**	**52**	LR	LR	08 15 55.9	
	comp=Z,67nm,20.4s,slow=30						

CASC 04 08:11:06.9±2.2**, 13.44N×88.68W, h109**^{km}±12^{km}**, MD3.7, ML2.7, 5C-5D, El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCBS	**La Ceiba**	**0.36**	**307**	eP	P	08 11 23.1	+0.1
VSM	**San Miguel**	**0.40**	**91**	⇓eP	P	08 11 24.3	+1.1
VSM				eS	S	08 11 36.8	+1.4
LFRS	**El Faro**	**0.41**	**297**	⇓eP	P	08 11 22.7	-0.6
BLLM	**Bellamira**	**0.43**	**89**	⇑eP	P	08 11 24.5	+1.2
LBRS	**Las Brisas**	**0.46**	**311**	eP	P	08 11 24.8	+1.2
LFU	**La Fuente**	**0.52**	**307**	eP	P	08 11 24.8	+0.8
LFU				eS	S	08 11 37.4	+0.6
CAHU	**Cacacuatique**	**0.57**	**54**	⇓eP	P	08 11 22.4	-1.9
SNET	**Serv Nac Est T**	**0.59**	**295**	⇑eP	P	08 11 24.2	-0.2
BOQS	**Boqueron**	**0.65**	**297**	⇓eP	P	08 11 25.4	+0.5
BOQS				eS	S	08 11 38.8	+0.3
CNCH	**Conchagua**	**0.84**	**101**	⇑eP	P	08 11 27.8	+1.1
SNJE	**San Jose**	**0.99**	**296**	⇑eP	P	08 11 29.3	+1.0
SNJE				eS	S	08 11 44.3	0.0
SBLS	**San Blas**	**1.00**	**294**	eP	P	08 11 29.1	+0.8
SBLS				eS	S	08 11 44.5	+0.2
RTR	**El Retiro**	**1.04**	**296**	⇑eP	P	08 11 30.1	+1.4
RTR				eS	S	08 11 46.2	+1.0
CRIN	**San Cristobal**	**1.75**	**115**	eP	P	08 11 37.0	-0.2
CRIN				eS	S	08 12 01.0	+1.2
TEL3	**Telica 3**	**1.99**	**115**	⇓eP	P	08 11 39.6	-0.5
CNGN	**Cerro Negro**	**2.15**	**115**	eP	P	08 11 41.8	-0.5
CNGN				eS	S	08 12 09.3	+0.6
MIRN	**Miramar**	**2.16**	**117**	eP	P	08 11 41.2	-1.3
MIRN				eS	S	08 12 09.6	+0.5
MGAN	**Managua**	**2.70**	**118**	e	S	08 12 24.1	+2.1
	comp=E,40nm,0.4s						
TICN	**Ticuantepe**	**2.77**	**120**	eP	P	08 11 49.7	-1.0

IDC 04 08:11:44.0±2.2**, 4.00S×151.94E, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.7**/14**, mbtmp3.5**/4**, Error ellipse: s-maj=72.1km s-min=32.1km az=120.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.35**	**226**	P	P	08 16 53.8	-1.3
	1.1nm,0.9s,baz=48,slow=9.1,SNR=8.1						
SONM	**Songino Array**	**65.19**	**328**	P	P	08 22 27.7	-1.7
	0.3nm,0.5s,baz=135,slow=6.1,SNR=3.1						
MKAR	**Makanchi Array**	**79.16**	**319**	P	P	08 23 51.3	-1.1
	0.4nm,0.8s,baz=117,slow=6.4,SNR=2.9						
ILAR	**Eielson Array**	**81.75**	**22**	P	P	08 24 03.8	-1.9
	0.6nm,1.0s,baz=259,slow=5.7,SNR=5.8						

*IDC **04** 08:19:19.2±5.4, 4.02S×151.79E, h111^{km}±52^{km}, mb3.6/7, mb1 3.8/8, mb1mx3.7/16, mbtmp4.0/8, MS3.7/10, Ms1 3.7/10, ms1mx3.5/16, Error ellipse: s-maj=34.5km s-min=24.5km az=36.0*
*NEIC **04** 08:19:22.4±2.8, 4.07S×151.69E, h137^{km}±25^{km}, mb4.6/2, Error ellipse: s-maj=22.4km s-min=17.9km az=66.0*

ISC 04 08:19:18.5±3.8**, 3.9S**±0.2×**151.7E**±0.2**, h111**^{km}±35^{km}**, n18,** $\sigma 0^{s}$**87**/13**, mb3.9**/9**, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.04**	**219**	P	**P**	**08 21 00.1**	**-0.4**
	0.7nm,0.3s,baz=61,slow=13,SNR=2.1						
PMG	**Port Moresby**	**7.04**	**219**	eP	**P**	**08 21 02.2**	**+1.6**
	38nm,0.8s						
CTA	**Charters Tower**	**16.90**	**198**	LR	LR	08 29 21.0	
	comp=Z,148nm,18.1s,baz=22,slow=36						
DZM	**Mont Dzumac**	**23.03**	**143**	P	**P**	**08 24 14.0**	**-0.8**
	7.5nm,0.9s,mb4.0,baz=160,slow=21,SNR=4.4						
DZM				LR	LR	08 31 59.7	
	comp=Z,222nm,19.3s,baz=16,slow=33						
DZM	**Mont Dzumac**	**23.03**	**143**	P	**P**	**08 24 14.0**	**-0.8**
DZM				LR	LR	08 31 59.7	
WRAB	**Tennant Creek**	**23.20**	**225**	eP	**P**	**08 24 15.7**	**-0.7**
	22nm,1.4s,mb4.3						
WRA	**Warramunga Arr**	**23.21**	**225**	P	**P**	**08 24 16.3**	**-0.2**
	2.8nm,1.0s,mb3.5,baz=52,slow=9.0,SNR=11						
FITZ	**Fitzroy Crossi**	**29.11**	**239**	LR	LR	08 37 06.7	
	comp=Z,180nm,21.7s,baz=83,slow=37						
MJAR	**Matsushiro Arr**	**42.18**	**344**	LR	LR	08 43 07.8	
	comp=Z,63nm,20.6s,baz=185,slow=34						
CMAR	**Chiang Mai Arr**	**56.49**	**295**	P	**P**	**08 28 51.4**	**-0.3**
	0.6nm,0.4s,mb3.9,baz=90,slow=4.5,SNR=2.4						
CMAR				LR	LR	08 51 33.5	
	comp=Z,35nm,18.2s,baz=0.9,slow=34						
SONM	**Songino Array**	**64.99**	**328**	P	**P**	**08 29 47.9**	**-1.0**
	0.2nm,0.3s,mb3.4,baz=146,slow=5.2,SNR=2.6						
SONM				LR	LR	08 56 26.1	
	comp=Z,57nm,18.3s,baz=251,slow=34						
MKAR	**Makanchi Array**	**78.93**	**319**	P	**P**	**08 31 12.3**	**+0.9**
	0.5nm,0.8s,mb3.4,baz=104,slow=5.0,SNR=5.0						
MKAR				LR	LR	09 03 58.5	
	comp=Z,43nm,19.3s,baz=11,slow=34						
ZAL	**Zalesovo**	**79.82**	**326**	P	**P**	**08 31 16.0**	**-0.1**
	1.0nm,0.3s,mb4.1,baz=56,slow=18,SNR=1.9						
ZAL				LR	LR	09 05 21.2	
	comp=Z,46nm,18.6s,baz=79,slow=34						
IMA	**Indian Mountai**	**80.02**	**20**	P	**P**	**08 31 18.4**	**+1.4**
	13nm,1.1s,mb4.7						
ILAR	**Eielson Array**	**81.79**	**22**	P	**P**	**08 31 25.3**	**-0.9**
	3.1nm,0.9s,mb4.1,baz=256,slow=4.3,SNR=15						
MAW	**Mawson**	**85.93**	**203**	LR	LR	09 07 10.4	
	comp=Z,84nm,19.6s,baz=67,slow=33						
QSPA	**South Pole Qui**	**86.02**	**180**	eP	**P**	**08 31 48.2**	**+1.1**
NVAR	**Mina Array Bea**	**92.44**	**52**	LR	LR	09 04 52.4	
	comp=Z,18nm,20.6s,baz=135,slow=30						

*NEIC **04** 09:02:20.6±2.3, 4.01S×151.89E, h107^{km}±20^{km}, mb4.3/1, Error ellipse: s-maj=18.8km s-min=14.3km az=79.0*
*IDC **04** 09:02:20.9±5.1, 4.04S×151.90E, h112^{km}±49^{km}, mb3.6/7, mb1 3.8/9, mb1mx3.6/18, mbtmp4.0/9, MS3.8/6, Ms1 3.8/6, ms1mx3.5/20, Error ellipse: s-maj=28.8km s-min=25.7km az=46.0*

ISC 04 09:02:18.7±3.5**, 4.0S**±0.1×**151.9E**±0.2**, h101**^{km}±31^{km}**, n20,** $\sigma 0^{s}$**81**/16**, mb3.8**/8**, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.14**	**221**	P	**P**	**09 04 02.3**	**0.0**
	1.2nm,0.3s,baz=18,slow=2.7,SNR=3.4						
PMG	**Port Moresby**	**7.14**	**221**	eP	**P**	**09 04 02.5**	**+0.3**
CTA	**Charters Tower**	**16.94**	**198**	P	**P**	**09 06 10.6**	**-0.2**
	0.2nm,0.3s,baz=30,slow=14,SNR=1.9						
DZM	**Mont Dzumac**	**22.90**	**143**	P	**P**	**09 07 14.4**	**-0.1**
	9.8nm,1.2s,mb4.0,baz=276,slow=24,SNR=2.2						
WRAB	**Tennant Creek**	**23.31**	**226**	eP	**P**	**09 07 19.0**	**+0.5**
WRA	**Warramunga Arr**	**23.32**	**226**	P	**P**	**09 07 18.9**	**+0.2**
	1.2nm,0.5s,mb3.5,baz=48,slow=9.3,SNR=11						
FITZ	**Fitzroy Crossi**	**29.26**	**239**	P	**P**	**09 08 13.1**	**-0.6**
	2.5nm,0.7s,mb4.0,baz=77,slow=8.0,SNR=3.2						
URZ	**Urewera**	**41.18**	**149**	LR	LR	09 24 33.3	
	comp=Z,70nm,20.9s,baz=219,slow=32						
MJAR	**Matsushiro Arr**	**42.26**	**344**	LR	LR	09 25 15.2	
	comp=Z,66nm,18.8s,baz=190,slow=32						
SONM	**Songino Array**	**65.12**	**328**	P	**P**	**09 12 51.1**	**+0.1**
	0.7nm,1.0s,mb3.4,baz=135,slow=2.0,SNR=3.4						
SONM				LR	LR	09 38 33.9	
	comp=Z,84nm,18.5s,baz=79,slow=33						
SBA	**Scott Base**	**74.26**	**177**	eP	**P**	**09 13 44.5**	**-1.6**
	3.8nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**79.08**	**319**	P	**P**	**09 14 14.2**	**+0.6**
	0.6nm,0.6s,mb3.6,baz=104,slow=5.0,SNR=6.3						
SML	**Sawmill**	**79.75**	**25**	P	**P**	**09 14 17.7**	**+0.8**
ZAL	**Zalesovo**	**79.94**	**326**	P	**P**	**09 14 17.3**	**-0.8**
	1.0nm,0.3s,mb4.1,baz=196,slow=16,SNR=2.2						
ZAL				LR	LR	09 47 35.7	
	comp=Z,54nm,19.9s,baz=170,slow=34						
ZAL	**Zalesovo**	**79.94**	**326**	P	**P**	**09 14 17.3**	**-0.8**
ZAL				LR	LR	09 47 35.7	
ILAR	**Eielson Array**	**81.74**	**22**	P	**P**	**09 14 26.9**	**-0.4**
	1.9nm,1.1s,mb3.9,baz=261,slow=4.1,SNR=6.8						
MAW	**Mawson**	**85.98**	**203**	LR	LR	09 49 03.9	
	comp=Z,75nm,20.5s,baz=249,slow=33						
QSPA	**South Pole Qui**	**86.00**	**180**	eP	**P**	**09 14 50.7**	**+2.3**
ZRNK	**Zerenda**	**88.82**	**323**	eP	**P**	**09 15 02.1**	**-0.4**
YBH	**Yreka Blue Hor**	**89.20**	**48**	LR	LR	09 49 35.3	
	comp=Z,144nm,20.1s,baz=302,slow=32						

*NEIC **04** 09:06:14.1±3.8, 3.87S×151.69E, h63^{km}±31^{km}, mb4.6/3, Error ellipse: s-maj=36.3km s-min=20.0km az=89.0*
*BJI **04** 09:06:14.1, 3.74S×151.46E, h46^{km}, mb4.7*
*IDC **04** 09:06:14.7±5.7, 4.06S×151.89E, h78^{km}±54^{km}, mb3.8/6, mb1 4.0/7, mb1mx3.8/16, mbtmp4.1/7, ML2.5/1, MS3.8/7, Ms1 3.8/7, ms1mx3.6/19, Error ellipse: s-maj=59.6km s-min=30.2km az=126.0*

ISC 04 09:06:10.4±4.4**, 3.8S**±0.1×**151.8E**±0.2**, h42**^{km}±35^{km}**, n19,** $\sigma 1^{s}$**12**/14**, mb4.3**/10**, MS3.8**/6**, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.18**	**219**	P	**P**	**09 07 55.8**	**+0.3**
	0.5nm,0.3s,baz=329,slow=5.4,SNR=2.2						
CTA	**Charters Tower**	**17.03**	**198**	LR	LR	09 16 00.6	
	comp=Z,342nm,19.5s,baz=20,slow=35						
WRAB	**Tennant Creek**	**23.33**	**225**	eP	**P**	**09 11 15.7**	**-0.2**
	35nm,1.3s,mb4.6						
WRA	**Warramunga Arr**	**23.34**	**225**	P	**P**	**09 11 16.1**	**+0.1**
	4.9nm,1.0s,mb3.9,baz=49,slow=9.6,SNR=26						
WRA	**Warramunga Arr**	**23.34**	**225**	P	**P**	**09 11 16.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**29.23**	**239**	P	**P**	**09 12 09.2**	**-1.6**
	9.6nm,1.1s,mb4.4,baz=50,slow=12,SNR=6.3						
FITZ				LR	LR	09 24 17.8	
	comp=Z,277nm,20.6s,MS3.9,baz=79,slow=37						
STKA	**Stephens Creek**	**29.49**	**198**	LR	LR	09 24 03.2	
	comp=Z,339nm,19.0s,MS4.0,baz=17,slow=36						
FX1	**Attu Island--F**	**59.32**	**15**	LR	LR	09 40 07.2	
	comp=Z,3.9nm,18.7s,MS2.6,baz=232,slow=34						
GTA	**Gaotai**	**64.24**	**317**	eP	**P**	**09 16 45.1**	**+1.5**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.6						
SONM	**Songino Array**	**64.95**	**328**	P	**P**	**09 16 47.9**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.8,baz=149,slow=8.4,SNR=5.4						
VNDA	**Vanda**	**73.84**	**178**	eP	**P**	**09 17 43.6**	**+1.6**
SBA	**Scott Base**	**74.40**	**177**	eP	**P**	**09 17 42.6**	**-2.7**
MKAR	**Makanchi Array**	**78.91**	**319**	P	**P**	**09 18 12.4**	**+1.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=105,slow=7.4,SNR=7.1						
ZAL	**Zalesovo**	**79.78**	**326**	P	**P**	**09 18 15.3**	**-0.5**
	comp=Z,1.4nm,0.3s,mb4.3,baz=59,slow=2.5,SNR=4.3						
ILAR	**Eielson Array**	**81.66**	**22**	P	**P**	**09 18 24.2**	**-1.3**
	comp=Z,3.0nm,0.9s,mb4.2,baz=241,slow=5.7,SNR=13						
ILAR				LR	LR	09 49 38.1	
	comp=Z,58nm,20.5s,MS3.9,baz=181,slow=32						
QSPA	**South Pole Qui**	**86.13**	**180**	eP	**P**	**09 18 48.8**	**+1.2**
	comp=Z,5.0nm,1.0s,mb4.7						
ZRNK	**Zerenda**	**88.66**	**323**	eP	**P**	**09 19 00.1**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.3nm,0.8s,mb4.6						
NVAR	Mina Array Bea	92.31	52	LR	LR	09 52 26.4	
	comp=Z,107nm,21.7s,MS4.2,baz=180,slow=30						
YKA	Yellowknife Ar	95.06	28	LR	LR	09 58 08.2	
	comp=Z,76nm,20.8s,MS4.1,baz=260,slow=33						

*NEIC **04** 09:08:24.8, 42.66N×11.07W, MG3.5(MDD), After MDD.*
MDD 04 09:08:26.6±2.5**, 42.75N**×**11.02W, h91**km±21km**, mb2.4**/6**, 1C, Error ellipse: s-maj=19.3km s-min=15.2km az=111.0, PRXIMO, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	Mazaricos	1.52	82	P	P	09 08 52.2	-0.9
	1.9nm,0.1s,SNR=7.9						
EMAZ				S	S	09 09 12.4	-0.3
	11nm,0.1s,SNR=7.3						
EMAZ	Mazaricos	1.52	82	P	P	09 08 52.2	-0.9
	1.9nm,0.1s,SNR=7.9						
EMAZ				S	S	09 09 12.4	-0.3
	11nm,0.1s,SNR=7.3						
STS	Santiago	1.82	85	P	P	09 08 56.9	-0.2
STS				S	S	09 09 20.3	+0.8
STS	Santiago	1.82	85	S	S	09 09 20.3	+0.8
	13nm,0.1s,SNR=7.9						
EZAM	Zamans	1.83	109	P	P	09 08 56.3	-0.8
EZAM				S	S	09 09 20.2	+0.7
EZAM	Zamans	1.83	109	P	P	09 08 55.0	-2.1
	1.4nm,0.1s,SNR=4.0						
EZAM				S	S	09 09 20.2	+0.7
	2.9nm,0.2s,SNR=7.9						
ELOB	Lobios	2.37	111	P	P	09 09 04.5	0.0
ELOB				S	S	09 09 32.4	-0.3
ELOB	Lobios	2.37	111	⇑P	P	09 09 04.6	0.0
	1.3nm,0.1s,SNR=18						
ELOB				S	S	09 09 32.4	-0.3
	3.0nm,0.1s,SNR=5.8						
ELOB	Lobios	2.37	111	P	P	09 09 04.5	0.0
	1.3nm,0.1s,SNR=8.2						
ELOB				S	S	09 09 32.4	-0.3
	3.0nm,0.1s,SNR=5.8						
ERUA	La Rua	2.89	96	P	P	09 09 11.7	-0.1
	2.3nm,0.2s,SNR=7.9						
ERUA				S	S	09 09 46.0	+0.4
	3.6nm,0.1s,SNR=7.9						
EPON	Pontenova	2.90	77	P	P	09 09 11.2	-0.6
	1.1nm,0.2s,SNR=13						
EPON				S	S	09 09 45.0	-0.7
	3.3nm,0.2s,SNR=7.9						
EPON	Pontenova	2.90	77	P	P	09 09 11.2	-0.6
	1.1nm,0.2s,SNR=13						
EPON				S	S	09 09 45.0	-0.8
	3.3nm,0.2s,SNR=7.9						
ECAL	Calabor	3.28	103	P	P	09 09 17.3	+0.2
ECAL				S	S	09 09 55.5	+0.3
ECAL	Calabor	3.28	103	P	P	09 09 17.8	+0.7
	1.5nm,0.1s,SNR=7.9						
ECAL				S	S	09 09 55.5	+0.3
	2.2nm,0.3s,SNR=7.9						
ECAL	Calabor	3.28	103	P	P	09 09 17.8	+0.7
	1.5nm,0.1s,SNR=7.9						
ECAL				S	S	09 09 55.5	+0.3
	2.2nm,0.3s,SNR=7.9						
EARI	Arriondas	4.30	81	P	P	09 09 31.3	+0.2
	0.3nm,0.1s,SNR=6.1						
EARI				S	S	09 10 20.0	-0.3
	0.6nm,0.2s,SNR=7.9						
EARI	Arriondas	4.30	81	P	P	09 09 31.3	+0.2
	0.3nm,0.1s,SNR=6.1						
EARI				S	S	09 10 20.0	-0.4
	0.6nm,0.2s,SNR=7.9						
EBAD	Badajoz	5.02	141	P	P	09 09 38.6	-2.5
	0.7nm,0.1s,SNR=5.6						
EBAD				S	S	09 10 32.9	-5.4
	1.9nm,0.1s,SNR=7.9						
EBAD	Badajoz	5.02	141	P	P	09 09 38.6	-2.5
	0.7nm,0.1s,SNR=5.6						
EBAD				S	S	09 10 32.9	-5.4
	1.9nm,0.1s,SNR=7.9						
ELAN	Lanestosa	5.59	83	P	P	09 09 49.3	+0.6
	0.3nm,0.2s,SNR=7.9						
ELAN				S	S	09 10 50.6	-1.7
	0.2nm,0.2s,SNR=7.9						
ELAN	Lanestosa	5.59	83	P	P	09 09 49.3	+0.6
	0.3nm,0.2s,SNR=7.9						
ELAN				S	S	09 10 50.6	-1.7
	0.2nm,0.2s,SNR=7.9						
ECAB	El Cabril	6.33	136	P	P	09 09 57.0	-2.1
	0.2nm,0.1s,SNR=7.9						
ECAB				S	S	09 11 05.4	-5.2
	0.4nm,0.1s,SNR=7.9						
ECAB	El Cabril	6.33	136	P	P	09 09 57.0	-2.1
	0.2nm,0.1s,SNR=7.9						
ECAB				S	S	09 11 05.4	-5.2
	0.4nm,0.1s,SNR=7.9						

*NEIC **04** 09:13:00.0, 30.01S×69.17W, h166km, MD3.7(GUC), After GUC.*
GUC 04 09:13:00.0±0.6**, 30.01S**×**69.17W, h166**km±11km**, MD3.7, ML4.0, 3C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	1.43	263	i P	P	09 13 31.1	+0.8
TLL				i S	S	09 13 54.7	+0.9
TLL				AMP		09 13 57.3	
	comp=E,860nm,0.3s						
CMCH	Combarbala	1.96	233	⇓i P	P	09 13 35.9	0.0
CMCH				i S	S	09 14 03.6	0.0
CMCH				AMP		09 14 09.8	
	comp=N,934nm,0.8s						
ILCH	Illapel	2.36	226	⇑i P	P	09 13 40.6	-0.1
ILCH				i S	S	09 14 11.6	-0.5
ILCH				AMP		09 14 14.7	
	comp=N,292nm,0.3s						
CPCH	Copiapo	2.84	338	i P	P	09 13 46.6	0.0
CPCH				i S	S	09 14 22.2	-0.3
CPCH				AMP		09 14 25.8	
	comp=E,830nm,0.1s						
JACH	Jahuel	2.93	204	i P	P	09 13 48.0	+0.3
JACH				i S	S	09 14 24.5	+0.2
PACH	Papudo	3.18	217	⇑i P	P	09 13 51.2	+0.3
PACH				i S	S	09 14 30.1	+0.1
FCH	Farellones	3.44	196	⇑i P	P	09 13 55.4	+1.1
FCH				i S	S	09 14 36.8	+0.8

*ISK **04** 09:27:22.2, 35.90N×27.04E, h68km, MD3.2*
*ATH **04** 09:27:27.8, 36.04N×27.40E, h13km±1km, MD3.1/5*
*CSEM **04** 09:27:27.5±0.1, 36.04N×27.42E, h30km, MD3.1, Error ellipse: s-maj=4.1km s-min=2.6km az=119.0*
*NEIC **04** 09:27:27.8, 36.04N×27.40E, h13km, MD3.1(ATH), After ATH.*
ISC 04 09:27:27.9±0.6**, 36.04N**±0.04×**27.39E**±0.06**, h25**km±8km**, n13, σ1.24**/20**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.52	200	⇑i PB	Pb	09 27 38.0	-0.5
KARP				eSB	Sb	09 27 45.7	0.0
NISR	Nisiros	0.61	340	ePB	Pb	09 27 39.5	-0.3
ARG	Arkhangelos	0.62	73	ePB	Pb	09 27 40.1	0.0
ARG				eSB	Sb	09 27 48.3	-0.2
BODT	Bodrum	1.02	357	PN	Pn	09 27 43.2	-3.5
BODT				SN	Sn	09 27 59.9	-0.4
BDRM	Kayabasi	1.02	3	i P	Pb	09 27 46.6	-0.3
BDRM				i S	Sb	09 28 02.0	+2.1
DALT	Dalyan (Mudla)	1.25	54	ePN	Pn	09 27 49.1	-0.8
MLSB	Milas	1.29	14	ePN	Pn	09 27 48.1	-2.5
YER	Yerkesik	1.31	33	PN	Pn	09 27 50.0	-0.9
YER				SN	Sn	09 28 08.7	+1.0
FETY	Fethiye	1.50	66	PN	Pn	09 27 52.5	-1.0
FETY				SN	Sn	09 28 14.1	+1.8
NPS	Neapolis	1.64	242	ePB	Pb	09 27 58.0	+0.7
XRY	Khrisi	1.80	230	ePN	Pn	09 28 01.0	+3.1
APE	Apeiranthos	1.81	305	ePN	Pn	09 27 50.5	-7.5
GOLH	Golhisar	2.12	55	i P	Pn	09 28 06.1	+3.7
GOLH				i S	Sn	09 28 34.3	+6.1

*NAO **04** 09:37:20.5±2.3, 76.10N×24.66E, ML2.9*
*BER **04** 09:37:22.1±3.1, 76.36N×26.34E, h31km±27km, MD2.6, ML2.9(NAO)*
*CSEM **04** 09:37:23.0±0.0, 76.27N×25.81E, h19km, ML2.9, Error ellipse: s-maj=1.2km s-min=0.2km az=66.0*
ISC 04 09:37:18.9±1.3**, 76.1N**±0.1×**26.1E**±0.8**, h32**km±16km**, n5, σ1.11**/9**, Barents Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPEN	Hopen	0.52	330	eP	Pb	09 37 30.8	+1.1
HOPEN				eS	Sb	09 37 36.0	-1.1
HSP	Hornsund	2.64	296	ePg	Pn	09 38 00.2	-0.2
HSP				eSg	Sn	09 38 32.2	+0.5
SPA0	Spitsbergen Ar	3.04	319	Pn	Pn	09 38 05.5	-0.5
	baz=131,slow=16						
SPA0				Lg		09 38 48.3	
	baz=122,slow=28						
ARA0	ARCESS Array S	6.57	182	Pn	Pn	09 38 59.6	+3.7
	baz=2.2,slow=10						
ARA0				Sn	Sn	09 40 10.3	-0.3
	baz=2.7,slow=22						
APA0	Apatity Array	8.76	162	Pn	P	09 39 29.2	+2.7
	baz=338,slow=11						
APA0				Sn	Sn	09 41 04.0	-1.2
	baz=355,slow=22						

*IDC **04** 09:39:15.9±2.2, 4.07S×151.92E, mb3.6/5, mb1 3.8/5, mb1mx3.7/15, mbtmp3.6/5, MS3.6/4, Ms1 3.6/4, ms1mx3.2/17, Error ellipse: s-maj=73.8km s-min=32.7km az=120.0*
*NEIC **04** 09:39:29.4±1.0, 4.06S×151.55E, h100km, mb4.2/1, Error ellipse: s-maj=37.5km s-min=16.8km az=109.0*
ISC 04 09:39:20.6±1.2**, 3.9S**±0.2×**151.7E**±0.3**, h33**km**, n9, σ0.32**/7**, mb3.7**/6**, MS3.6**/4**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	23.05	143	LR	LR	09 51 45.6	
	comp=Z,63nm,21.1s,MS3.0,baz=200,slow=33						
WRAB	Tennant Creek	23.22	225	P	P	09 44 25.8	-0.1
	18nm,1.3s,mb4.3						
WRA	Warramunga Arr	23.23	225	P	P	09 44 26.0	0.0
	1.2nm,0.9s,mb3.3,baz=52,slow=9.6,SNR=6.5						
SONM	Songino Array	64.97	328	P	P	09 50 00.1	+0.6
	0.2nm,0.5s,mb3.5,baz=124,slow=5.2,SNR=3.4						
SONM				LR	LR	10 15 43.2	
	comp=Z,49nm,19.1s,MS3.7,baz=72,slow=34						
MKAR	Makanchi Array	78.91	319	P	P	09 51 22.1	-0.4
	0.4nm,0.9s,mb3.3,baz=90,slow=2.9,SNR=3.6						
MKAR				LR	LR	10 24 13.6	
	comp=Z,29nm,20.2s,MS3.6,baz=234,slow=34						
ZAL	Zalesovo	79.80	326	LR	LR	10 26 21.0	
	comp=Z,60nm,18.7s,MS4.0,baz=221,slow=35						
ILAR	Eielson Array	81.76	22	P	P	09 51 37.0	-0.3
	0.6nm,0.8s,mb3.5,baz=256,slow=5.2,SNR=6.1						
QSPA	South Pole Qui	86.05	180	P	P	09 51 58.8	+0.3
BVAR	Borovoye Array	87.85	323	P	P	09 52 07.8	0.0
	0.5nm,0.5s,mb4.0,baz=104,slow=6.1,SNR=3.8						

CASC 04 09:49:21.4±2.4**, 11.03N**×**86.72W, h8**km±14km**, MD3.9, ML3.5, 5C-6D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.03	23	eP	Pb	09 49 41.0	-0.1
CRUN				eS	Sb	09 49 56.5	+1.9
APON	Apoyo	1.09	36	⇓eP	Pb	09 49 42.3	+0.2
APON				eS	Sb	09 49 56.5	+0.2
TICN	Ticuantepe	1.11	26	⇓eP	Pb	09 49 42.8	+0.4
TICN				eS	Sb	09 49 58.1	+1.3
XAVN	Gruta Xavier	1.18	19	⇓eP	Pb	09 49 43.6	0.0
XAVN				eS	Sb	09 50 01.2	+2.4
CONN	Concepcion	1.20	64	⇓eP	Pb	09 49 43.1	-0.9
CONN				eS	Sb	09 49 59.0	-0.4
MGAN	Managua	1.20	23	⇑eP	Pb	09 49 43.4	-0.6
MGAN				eS	Sb	09 49 59.9	+0.3
MGAN				i		09 50 00.2	
	comp=E,863nm,0.5s						
WILN	Americas 2	1.24	25	⇑eP	Pb	09 49 44.7	0.0
WILN				eS	Sb	09 50 01.1	+0.5
MOMJ	Momotombo	1.38	7	⇓eP	Pn	09 49 46.2	-0.8
MOMJ				eS	Sb	09 50 04.0	-0.7
LEON	Leon	1.39	353	⇑eP	Pn	09 49 46.5	-0.7
LEON				eS	Sb	09 50 05.0	0.0
MIRN	Miramar	1.40	0	⇑eP	Pn	09 49 46.8	-0.5
MIRN				eS	Sb	09 50 04.8	-0.6
CNGN	Cerro Negro	1.46	1	eP	Pn	09 49 47.1	-1.1
CNGN				eS	Sb	09 50 07.7	+0.6
TEL3	Telica 3	1.54	355	⇓eP	Pn	09 49 49.0	-0.3
TEL3				eS	Sb	09 50 10.5	+1.2
TELN	Telica	1.57	356	⇑eP	Pn	09 49 49.3	-0.5
PYTN	Playitas	1.63	23	eP	Pn	09 49 49.4	-1.2
PYTN				eS	Sb	09 50 11.0	-1.0
CRIN	San Cristobal	1.69	349	eP	Pn	09 49 50.4	-1.1

*IDC **04** 10:11:52.3±0.8, 15.38S×173.28W, mb3.8/8, mb1 4.1/8, mb1mx4.0/18, mbtmp3.9/8, Error ellipse: s-maj=42.8km s-min=19.4km az=136.0*
*NEIC **04** 10:11:53.7±0.5, 15.34S×173.26W, h10km, mb4.6/1, Error ellipse: s-maj=27.0km s-min=9.7km az=140.0*
ISC 04 10:11:52.3±0.6**, 15.3S**±0.2×**173.4W**±0.1**, h10**km**, n12, σ0.50**/11**, mb3.8**/8**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.06	49	ePn	Pn	10 12 26.9	-0.7
DZM	Mont Dzumac	20.26	247	P	P	10 16 31.1	+0.3
	4.4nm,0.7s,baz=283,slow=18,SNR=2.5						
URZ	Urewera	24.39	198	P	P	10 17 11.7	-0.2
	4.7nm,0.3s,mb4.3,baz=299,slow=18,SNR=12						
WRAB	Tennant Creek	49.88	257	eP	P	10 20 48.0	-0.3
	1.5nm,0.2s,mb4.7						
WRA	Warramunga Arr	49.89	257	P	P	10 20 47.5	-0.9
	1.3nm,0.7s,mb4.1,baz=97,slow=7.7,SNR=43						
WRA				PcP	PcP	10 22 08.5	-0.5
	0.7nm,0.6s,baz=91,slow=3.7,SNR=6.8						
LUBP	Lubang	71.69	290	eP	P	10 23 17.1	+0.2
NVAR	Mina Array Bea	74.22	42	P	P	10 23 31.4	-0.1
	0.5nm,0.8s,mb3.5,baz=238,slow=8.5,SNR=4.1						
TXAR	Lajitas Array	80.53	56	P	P	10 24 07.1	+0.5
	0.3nm,0.9s,mb3.2,baz=217,slow=4.5,SNR=3.3						
PDAR	Pinedale Array	82.16	42	P	P	10 24 14.8	-0.1
	0.4nm,0.9s,mb3.4,baz=225,slow=2.6,SNR=3.0						
ILAR	Eielson Array	82.32	11	P	P	10 24 16.2	+0.9
	0.3nm,0.8s,mb3.3,baz=225,slow=6.4,SNR=4.2						
MAW	Mawson	87.91	199	P	P	10 24 43.6	+0.5
	1.5nm,0.9s,mb4.2,baz=106,slow=11,SNR=5.1						
BRTR	Keskin Array B	146.07	321	PKPbc	PKPbc	10 31 35.6	+2.5
	2.9nm,0.8s,baz=99,slow=1.6,SNR=9.1						

*NEIC **04** 10:16:38.0±4.2, 21.31S×178.60W, h609km±48km, mb4.2/2, Error ellipse: s-maj=38.7km s-min=21.4km az=215.0*
*IDC **04** 10:16:37.1±5.5, 21.25S×178.57W, h599km±64km, mb3.2/4, mb1 3.4/6, mb1mx3.1/17, mbtmp4.3/6, Error ellipse: s-maj=45.2km s-min=32.1km az=27.0*
ISC 04 10:16:40.8±3.7**, 21.6S**±0.3×**178.7W**±0.3**, h677**km±50km**, n12, σ0.45**/8**, mb3.8**/5**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.84	265	P	P	10 19 37.0	+0.1
	0.3nm,0.3s,baz=78,slow=16,SNR=4.1						
URZ	Urewera	17.04	191	P	P	10 20 06.5	0.0
	0.4nm,0.3s,baz=212,slow=9.4,SNR=3.9						
CTA	Charters Tower	32.78	266	P	P	10 22 23.7	0.0
	3.3nm,0.4s,mb4.2,baz=98,slow=11,SNR=8.1						
CTAO	Charters Tower	32.78	266	eP	P	10 22 23.6	-0.1
	3.4nm,0.4s,mb4.2						
WRAB	Tennant Creek	43.84	263	eP	P	10 23 52.1	-0.4
	2.0nm,0.3s,mb3.9						
WRA	Warramunga Arr	43.84	263	P	P	10 23 52.5	-0.2
	1.1nm,0.3s,mb3.7,baz=96,slow=7.3,SNR=68						
FITZ	Fitzroy Crossi	52.27	263	P	P	10 24 55.6	+0.7
	4.9nm,0.8s,mb3.8,baz=111,slow=2.2,SNR=9.5						
ILAR	Eielson Array	89.48	13	P	P	10 28 29.0	0.0
	0.3nm,0.5s,mb3.3,baz=215,slow=5.2,SNR=7.8						
BVAR	Borovoye Array	119.48	320	PKP	PKPdf	10 34 18.9	+3.2
	0.6nm,0.4s,baz=105,slow=2.3,SNR=4.5						
ARCES	ARCESS Array B	129.84	349	PKP	PKPdf	10 34 38.6	+3.4
	0.5nm,0.6s,baz=72,slow=2.9,SNR=4.5						
AKASG	Malin Array Be	143.62	330	PKP	PKPdf	10 35 02.6	+2.0
	2.4nm,0.4s,baz=44,slow=4.3,SNR=16						
GERES	GERESS Array B	151.03	343	PKPbc	PKPdf	10 35 23.5	+11
	0.4nm,0.6s,baz=45,slow=4.2,SNR=3.6						

*NEIC **04** 10:31:47.7, 34.78N×23.89E, h2km, MD3.4(ATH), After ATH.*
*CSEM **04** 10:31:47.7, 34.78N×23.89E, h2km, MD3.4/5, After ATH*
ATH 04 10:31:44.0, 34.55N×**23.91E, h10**km±3km**, MD3.5**/5**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.32	27	ePg	Pg	10 31 51.5	+0.8
VAM	Vamos	0.89	15	ePG	Pg	10 32 00.7	-1.1
VAM				eSB	Sb	10 32 13.5	+0.8
VAM	Vamos	0.89	15	ePg	Pg	10 32 00.6	-1.2
XRY	Khrisi	1.50	77	ePB	Pb	10 32 12.5	+0.9
XRY	Khrisi	1.50	77	ePg	Pg	10 32 15.0	+0.9
NPS	Neapolis	1.57	63	ePB	Pb	10 32 13.0	+0.3
NPS	Neapolis	1.57	63	ePn	Pn	10 32 16.0	+3.9
KYTH	Kithira	1.87	338	ePN	Pn	10 32 18.0	+1.6
KYTH	Kithira	1.87	338	ePb	Pb	10 32 18.5	+0.7
VLI	Veliai	2.30	340	ePN	Pn	10 32 24.5	+1.9
VLI	Veliai	2.30	340	ePg	Pg	10 32 26.0	-4.0
APE	Apeiranthos	2.84	27	ePN	Pn	10 32 32.0	+1.7
KARP	Karpathos	2.85	69	ePN	Pn	10 32 31.5	+1.1

*MOS **04** 10:35:04.6±1.0, 3.67S×151.69E, h33km, mb4.8/7, Error ellipse: s-maj=17.8km s-min=10.8km az=78.4*
*BJI **04** 10:35:10.1, 3.08S×152.30E, h78km, mB4.8, mb4.6, Ms4.3, Msz4.3*
*NEIC **04** 10:35:12.1±2.0, 3.88S×151.59E, h92km±19km, mb4.8/11, Error ellipse: s-maj=11.9km s-min=9.9km az=75.0*
*IDC **04** 10:35:12.4±4.2, 3.91S×151.55E, h92km±38km, mb4.1/14, mb1 4.2/16, mb1mx4.1/22, mbtmp4.5/16, MS4.3/15, Ms1 4.3/15, ms1mx4.2/18, Error ellipse: s-maj=21.0km s-min=15.0km az=68.0*
ISC 04 10:35:08.8±2.9**, 3.78S**±0.09×**151.59E**±0.09**, h73**km±27km**, n63, σ0.93**/61**, mb4.5**/27**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.12	218	P	P	10 36 52.3	-0.1
	1.6nm,0.3s,baz=33,slow=11,SNR=8.1						
PMG				LR	LR	10 39 53.8	
	comp=Z,4µm,18.6s,baz=2.4,slow=40						
PMG	Port Moresby	7.12	218	ePn	P	10 36 52.1	-0.3
PMG				LR	LR	10 39 53.8	
CTA	Charters Tower	17.02	197	P	P	10 39 05.0	+1.3
	0.2nm,0.3s,baz=358,slow=12,SNR=5.1						
CTA				LR	LR	10 45 05.0	
	comp=Z,1µm,20.3s,baz=265,slow=35						
NOUC	Port Laguerre	23.14	143	eP	P	10 40 09.2	-0.4
NOUC	Port Laguerre	23.14	143	eP	P	10 40 09.2	-0.4
DZM	Mont Dzumac	23.20	143	eP	P	10 40 10.6	+0.4
DZM	Mont Dzumac	23.20	143	P	P	10 40 10.6	+0.5
	46nm,0.6s,mb5.0,baz=336,slow=9.4,SNR=65						
DZM				LR	LR	10 47 21.5	
	comp=Z,582nm,21.4s,baz=319,slow=32						
DZM	Mont Dzumac	23.20	143	eP	P	10 40 10.6	+0.4
WRAB	Tennant Creek	23.25	225	eP	P	10 40 10.5	-0.1
WRAB				pmax	pmax		
	comp=Z,91nm,1.6s,mb4.8						
WRAB	Tennant Creek	23.25	225	eP	P	10 40 10.5	-0.2
	comp=Z,90nm,1.6s,mb4.8						
WRA	Warramunga Arr	23.26	225	P	P	10 40 10.5	-0.2
	comp=Z,8.4nm,0.8s,mb4.1,baz=49,slow=9.4,SNR=57						
FITZ	Fitzroy Crossi	29.12	239	P	P	10 41 02.9	-2.3
	comp=Z,7.1nm,0.6s,mb4.5,baz=47,slow=5.2,SNR=9.3						
FITZ				LR	LR	10 53 33.2	
	comp=Z,1µm,20.5s,baz=76,slow=38						
STKA	Stephens Creek	29.49	197	P	P	10 41 04.7	-3.7
	comp=Z,2.0nm,0.7s,mb3.8,baz=306,slow=23,SNR=2.7						
STKA				LR	LR	10 53 55.1	
	comp=Z,693nm,18.6s,baz=17,slow=38						
STKA	Stephens Creek	29.49	197	P	P	10 41 04.7	-3.7
STKA				LR	LR	10 53 55.1	
MBWA	Marble Bar	35.46	238	eP	P	10 41 58.8	-1.6
	comp=Z,16nm,1.1s,mb4.8						
YHNB	Yeheng	40.77	315	P	P	10 42 48.9	+4.3
URZ	Urewera	41.47	149	P	P	10 42 51.0	+0.8
	comp=Z,14nm,1.0s,mb4.7,baz=72,slow=16,SNR=3.7						
KSM	Kuching	41.59	276	eP	P	10 42 52.1	+0.5
NWAO	Narrogin (SRO)	43.26	224	LR	LR	11 02 16.6	
	comp=Z,591nm,18.2s,baz=224,slow=38						
QIZ	Qiongzhong	46.92	300	P	P	10 43 35.6	+1.3
QIZ				S	S	10 50 29.5	+11
QIZ				AMB	AMB		
	comp=Z,176nm,7.0s						
QIZ				LR	LR		
	comp=E,225nm,19.1s						
QIZ				LR	LR		
	comp=Z,390nm,21.8s						
XAN	Xi'an	55.06	317	P	P	10 44 40.2	+4.5
XAN				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.7						
KLR	Kul'dur	55.54	344	eP	P	10 44 34.7	-4.2
KLR				e		10 52 19.5	
CMAR	Chiang Mai Arr	56.36	295	P	P	10 44 45.7	+0.5
	comp=Z,2.0nm,0.8s,mb4.2,baz=108,slow=5.4,SNR=7.4						
CMAR				LR	LR	11 06 58.7	
	comp=Z,103nm,19.9s,baz=185,slow=34						
PET	Petropavlovsk	56.91	5	eP	P	10 44 46.9	-1.8
PET				eS	S	10 52 43.9	+8.9
PET				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.9						
PET				smax			
	comp=E,200nm,10.9s						
PET				smax			
	comp=N,14nm,0.6s						
PET	Petropavlovsk	56.91	5	eP	P	10 44 47.0	-1.6
	comp=N,7.2nm,0.6s,mb4.9						
FX1	Attu Island--F	59.32	15	P	P	10 45 04.9	-0.5
	comp=N,11nm,0.7s,mb5.0,baz=186,slow=4.9,SNR=6.1						
FX1	Attu Island--F	59.32	15	eP	P	10 45 04.5	-1.0
HIA	Hailar	59.62	336	eP	P	10 45 06.3	-1.3
HIA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HIA	Hailar	59.62	336	eP	P	10 45 06.3	-1.3
	comp=Z,5.9nm,0.8s,mb4.7						
MA2	Magadan	63.16	360	eP	P	10 45 32.0	+0.6
MA2				e		10 47 51.2	
MA2				ePPP	PPP	10 49 18.1	-6.0
MA2				eS	S	10 54 04.2	+9.0
MA2				ePS	PS	10 54 24.4	+0.1
MA2				e		10 55 23.1	
MA2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
MA2	Magadan	63.16	360	eP	P	10 45 29.7	-1.7
	comp=Z,11nm,0.8s,mb4.8						
GTA	Gaotai	64.09	317	eP	P	10 45 38.8	+1.0
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.5						
CIT	Chita	64.27	335	eP	P	10 45 38.3	-0.3
ULN	Ulaanbaatar	64.50	328	eP	P	10 45 41.1	+0.9
ULN				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
ULN	Ulaanbaatar	64.50	328	eP	P	10 45 41.0	+0.8
	comp=Z,6.9nm,1.1s,mb4.4						
SHL	Shillong	64.76	300	eP	P	10 45 43.0	+0.7
SONM	Songino Array	64.83	328	P	P	10 45 42.8	+0.4
	comp=Z,0.9nm,0.6s,mb3.8,baz=143,slow=6.2,SNR=8.4						
SONM				LR	LR	11 12 22.5	
	comp=Z,193nm,20.4s,baz=98,slow=34						
SONM	Songino Array	64.83	328	P	P	10 45 42.8	+0.4
SONM				LR	LR	11 12 22.5	
ZAK	Zakamensk	68.00	329	eP	P	10 46 02.3	-0.1
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
VNDA	Vanda	73.89	178	eP	P	10 46 36.9	-0.4
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VNDA	Vanda	73.89	178	P	P	10 46 37.3	0.0
	comp=Z,1.1nm,0.7s,mb3.7,baz=347,slow=4.6,SNR=11						
VNDA				LR	LR	11 17 04.6	
	comp=Z,102nm,18.9s,baz=255,slow=34						
VNDA	Vanda	73.89	178	eP	P	10 46 36.9	-0.4
	comp=Z,1.2nm,0.7s,mb3.7						
VNDA				LR	LR	11 17 04.6	
SLKM	Skilak Lake	78.27	25	eP	P	10 47 01.9	-0.3
MKAR	Makanchi Array	78.77	319	P	P	10 47 06.0	+0.7
	comp=Z,1.8nm,0.9s,mb3.9,baz=109,slow=5.8,SNR=14						
MKAR				LR	LR	11 21 24.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,98nm,18.0s,baz=269,slow=35						
ZAL	**Zalesovo**	**79.65**	**326**	P	**P**	**10 47 10.1**	**+0.1**
	comp=Z,1.5nm,0.3s,mb4.3,baz=1.1,slow=3.1,SNR=7.2						
ZAL				LR	LR	11 22 50.1	
	comp=Z,121nm,20.5s,baz=116,slow=36						
SML	**Sawmill**	**79.70**	**25**	*e*P	**P**	**10 47 10.3**	**+0.2**
IMA	**Indian Mountai**	**79.91**	**20**	*e*P	**P**	**10 47 11.8**	**+0.7**
IMA				pmax	pmax		
	comp=Z,48nm,1.3s,mb5.2						
IMA	**Indian Mountai**	**79.91**	**20**	*e*P	**P**	**10 47 11.8**	**+0.7**
	comp=Z,48nm,1.3s,mb5.2						
DIV	**Divide**	**80.48**	**26**	*e*P	**P**	**10 47 13.9**	**-0.3**
	comp=Z,23nm,0.8s,mb5.1						
NVS	**Novosibirsk**	**80.83**	**327**	*e*P	**P**	**10 47 15.7**	**-0.5**
NVS				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.5						
ILAR	**Eielson Array**	**81.68**	**22**	P	**P**	**10 47 19.5**	**-0.9**
	comp=Z,4.1nm,0.7s,mb4.4,baz=250,slow=5.4,SNR=49						
ILAR				LR	LR	11 17 57.7	
	comp=Z,177nm,21.4s,baz=180,slow=31						
FRU	**Bishkek**	**83.05**	**314**	*e*P	**P**	**10 47 33.0**	**+5.1**
AAK	**Ala-Archa**	**83.09**	**314**	P	**P**	**10 47 29.2**	**+1.1**
DLBC	**Dease Lake**	**87.13**	**31**	P	**P**	**10 47 49.5**	**+1.7**
	comp=Z,3.8nm,0.9s,mb4.3,baz=138,slow=1.3,SNR=7.4						
INK	**Inuvik**	**87.94**	**21**	*e*P	**P**	**10 47 50.9**	**-0.6**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**87.94**	**21**	P	**P**	**10 47 51.5**	**+0.1**
	comp=Z,2.4nm,0.8s,mb4.2,baz=196,slow=14,SNR=2.7						
INK	**Inuvik**	**87.94**	**21**	*e*P	**P**	**10 47 50.9**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**88.53**	**323**	*e*P	**P**	**10 47 54.0**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**88.53**	**323**	*e*P	**P**	**10 47 54.0**	**-0.6**
	comp=Z,3.7nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**92.40**	**52**	LR	LR	11 21 53.6	
	comp=Z,205nm,21.6s,baz=270,slow=30						
YKA	**Yellowknife Ar**	**95.09**	**28**	LR	LR	11 27 01.7	
	comp=Z,203nm,21.4s,baz=275,slow=33						
PDAR	**Pinedale Array**	**99.05**	**47**	LR	LR	11 24 54.4	
	comp=Z,223nm,21.9s,baz=236,slow=30						
BDFB	**Brasilia**	**152.63**	**135**	PKPbc	PKPdf	10 54 58.4	+7.5
	comp=Z,3.2nm,0.5s,baz=236,slow=2.9,SNR=5.1						

IDC 04 10:40:34.3±2.8**, 10.06S**×**161.10E, h84**km±19km**, mb3.4**/3**, mb1 3.7**/4**, mb1mx3.4**/16**, mbtmp3.9**/4**, Error ellipse: s-maj=47.1km s-min=22.0km az=57.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.30**	**299**	P	P	10 40 56.4	-1.2
	81nm,0.3s,baz=152,slow=9.3,SNR=25						
HNR				S	S	10 41 14.5	-0.6
	498nm,0.3s,baz=198,slow=18,SNR=26						
DZM	**Mont Dzumac**	**13.00**	**157**	P	P	10 43 36.3	-0.6
	0.9nm,0.3s,baz=322,slow=19,SNR=19						
WRA	**Warramunga Arr**	**27.61**	**246**	P	P	10 46 13.9	-2.2
	0.6nm,0.6s,baz=75,slow=9.2,SNR=5.4						
VNDA	**Vanda**	**67.44**	**180**	P	P	10 51 20.5	-2.1
	0.2nm,0.6s,baz=353,slow=4.8,SNR=5.7						
SONM	**Songino Array**	**75.22**	**325**	P	P	10 52 08.1	-1.4
	0.5nm,0.6s,baz=140,slow=6.7,SNR=3.7						
SONM				pP	pP	10 52 29.4	-2.5
	0.4nm,0.6s,baz=148,slow=5.0,SNR=2.9						

*NEIC **04** 10:56:19.2±2.5, 4.12S×151.42E, h150km±23km, mb3.8/2, Error ellipse: s-maj=19.2km s-min=18.4km az=67.0*

*IDC **04** 10:56:20.4±4.8, 4.19S×151.36E, h161km±47km, mb3.4/7, mb1 3.6/8, mb1mx3.4/18, mbtmp3.9/8, MS3.2/3, Ms1 3.2/3, ms1mx3.0/16, Error ellipse: s-maj=30.1km s-min=24.9km az=32.0*

ISC 04 10:56:17.9±3.8**, 4.1S**±0.2×**151.4E**±0.2**, h148**km±36km**, n12,** σ**0**^{s}**66**/10**, mb3.7**/9**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.77**	**218**	P	**P**	**10 57 55.8**	**0.0**
	0.7nm,0.3s,baz=350,slow=17,SNR=3.2						
PMG				LR	LR	11 00 42.0	
	comp=Z,90nm,18.9s,baz=208,slow=39						
HNR	**Honiara**	**10.04**	**123**	LR	LR	11 02 13.6	
	comp=Z,156nm,19.4s,baz=294,slow=35						
CTA	**Charters Tower**	**16.70**	**197**	LR	LR	11 04 49.1	
	comp=Z,132nm,20.9s,baz=218,slow=31						
WRAB	**Tennant Creek**	**22.90**	**225**	*e*P	**P**	**11 01 11.1**	**+1.4**
	2.1nm,0.7s,mb3.7						
WRA	**Warramunga Arr**	**22.92**	**225**	P	**P**	**11 01 10.0**	**+0.1**
	0.5nm,0.5s,mb3.2,baz=50,slow=9.3,SNR=12						
DZM	**Mont Dzumac**	**23.11**	**142**	P	**P**	**11 01 11.3**	**-0.4**
	7.9nm,0.7s,mb4.2,baz=315,slow=9.8,SNR=10						
FITZ	**Fitzroy Crossi**	**28.80**	**239**	P	**P**	**11 02 03.1**	**-1.3**
	6.6nm,1.2s,mb4.2,baz=69,slow=8.6,SNR=3.3						
SONM	**Songino Array**	**64.95**	**328**	P	**P**	**11 06 43.8**	**-0.1**
	0.3nm,0.6s,mb3.3,baz=135,slow=4.1,SNR=3.5						
MKAR	**Makanchi Array**	**78.84**	**319**	P	**P**	**11 08 05.7**	**-0.4**
	0.3nm,0.6s,mb3.1,baz=117,slow=3.2,SNR=3.6						
ILAR	**Eielson Array**	**82.01**	**22**	P	**P**	**11 08 23.2**	**+0.7**
	1.1nm,0.9s,mb3.5,baz=255,slow=5.6,SNR=8.7						
BVAR	**Borovoye Array**	**87.80**	**323**	P	**P**	**11 08 51.2**	**-0.1**
	1.0nm,0.6s,mb3.9,baz=90,slow=5.8,SNR=6.5						
ZRNK	**Zerenda**	**88.62**	**323**	*e*P	**P**	**11 08 55.2**	**0.0**
	0.8nm,0.5s,mb3.9						

*BJI **04** 11:06:56.4, 0.94N×96.97E, h20km, mB5.1, mb4.7, Ms4.6, Msz4.4*

*IDC **04** 11:07:01.0±0.8, 1.64N×96.91E, mb4.2/13, mb1 4.3/14, mb1mx4.1/21, mbtmp4.2/14, ML4.1/1, Error ellipse: s-maj=29.8km s-min=17.9km az=54.0*

*MOS **04** 11:07:03.6±0.8, 1.62N×96.96E, h33km, mb4.6/9, Error ellipse: s-maj=23.1km s-min=10.3km az=96.1*

*NEIC **04** 11:07:04.1±0.5, 1.59N×96.91E, mb4.4/9, Error ellipse: s-maj=13.1km s-min=9.6km az=56.0*

ISC 04 11:07:02.4±0.7**, 1.61N**±0.09×**96.96E**±0.10**, h23**km**, h23**km±1.8km**:pP-P, n49,** σ**0**^{s}**97**/47**, mb4.3**/28**, MS4.4**/2**, 2C-3D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.19**	**45**	*e*Pn	**Pn**	**11 08 21.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**16.85**	**7**	Pn	**P**	**11 10 58.6**	**-0.1**
	0.3nm,0.3s,baz=203,slow=11,SNR=7.3						
QIZ	**Qiongzhong**	**21.42**	**35**	P	**P**	**11 11 50.5**	**-0.7**
SHL	**Shillong**	**24.31**	**349**	*e*P	**P**	**11 12 21.0**	**+1.4**
GYA	**Guiyang**	**26.41**	**20**	⇓*i*P	**P**	**11 12 40.6**	**+1.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
ENH	**Enshi**	**30.88**	**21**	*e*P	**P**	**11 13 17.8**	**-1.8**
	comp=Z,7.6nm,0.6s,mb4.7						
ENH				*e*pP	pP	11 13 25.3	-1.1
XAN	**Xi’an**	**34.14**	**18**	P	**P**	**11 13 46.5**	**-1.5**
XAN				AP	pP	11 13 55.0	+0.1
XAN				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.9						
GTA	**Gaotai**	**37.71**	**4**	*e*P	**P**	**11 14 18.7**	**+0.6**
GTA				AP	pP	11 14 23.1	-2.0
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.2						
JOW	**Kunigami**	**39.14**	**47**	P	**P**	**11 14 31.1**	**+0.9**
	comp=Z,10nm,0.5s,mb4.8,baz=196,slow=24,SNR=3.7						
HHC	**Hu-ho-hao-te**	**41.23**	**17**	*e*P	**P**	**11 14 48.7**	**+1.3**
WRA	**Warramunga Arr**	**42.46**	**122**	P	**P**	**11 14 58.1**	**+0.3**
	comp=Z,1.1nm,0.6s,mb3.7,baz=302,slow=9.1,SNR=12						
WRAB	**Tennant Creek**	**42.47**	**122**	*e*P	**P**	**11 14 57.4**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
WRAB	**Tennant Creek**	**42.47**	**122**	*e*P	**P**	**11 14 57.4**	**-0.4**
	comp=Z,1.9nm,0.5s,mb4.0						
SONM	**Songino Array**	**46.76**	**9**	P	**P**	**11 15 32.4**	**+0.5**
	comp=Z,4.1nm,0.7s,mb4.5,baz=189,slow=9.1,SNR=33						
SONM				PcP	PcP	11 17 05.1	-0.4
	comp=Z,0.8nm,0.6s,baz=188,slow=3.5,SNR=3.1						
MKAR	**Makanchi Array**	**46.78**	**346**	P	**P**	**11 15 32.5**	**+0.4**
	comp=Z,7.1nm,0.7s,mb4.7,baz=160,slow=7.5,SNR=82						
ULN	**Ulaanbaatar**	**46.89**	**9**	*e*P	**P**	**11 15 33.6**	**+0.7**
ULN				*e**PP	pP	11 15 40.6	+0.6
ULN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
ULN	**Ulaanbaatar**	**46.89**	**9**	*e*P	**P**	**11 15 33.6**	**+0.7**
	comp=Z,5.2nm,0.9s,mb4.5						
ULN				*e*pP	pP	11 15 40.6	+0.6
ZAK	**Zakamensk**	**48.89**	**5**	⇑*e*P	**P**	**11 15 48.8**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
TLY	**Talaya**	**50.21**	**5**	⇓*i*P	**P**	**11 15 59.3**	**+0.7**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
TLY				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.0						
TLY	**Talaya**	**50.21**	**5**	*e*P	**P**	**11 15 59.1**	**+0.5**
	comp=Z,4.4nm,0.8s,mb4.5						
HIA	**Hailar**	**51.33**	**19**	*e*P	**P**	**11 16 06.6**	**-0.5**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HIA	**Hailar**	**51.33**	**19**	*e*P	**P**	**11 16 06.6**	**-0.5**
	comp=Z,4.8nm,0.6s,mb4.6						
MJAR	**Matsushiro Arr**	**51.55**	**43**	P	**P**	**11 16 07.9**	**-1.1**
	comp=Z,2.0nm,0.8s,mb4.1,baz=202,slow=6.9,SNR=4.8						
CIT	**Chita**	**52.12**	**13**	*e*P	**P**	**11 16 13.8**	**+0.7**
ZAL	**Zalesovo**	**53.10**	**351**	P	**P**	**11 16 21.0**	**+0.6**
	comp=Z,6.7nm,0.7s,mb4.7,baz=290,slow=5.9,SNR=30						
ZAL	**Zalesovo**	**53.10**	**351**	P	**P**	**11 16 21.0**	**+0.6**
STKA	**Stephens Creek**	**53.81**	**132**	P	**P**	**11 16 26.4**	**+0.5**
	comp=Z,1.4nm,0.5s,mb4.2,baz=319,slow=9.3,SNR=2.6						
NVS	**Novosibirsk**	**54.23**	**350**	*e*P	**P**	**11 16 27.0**	**-1.6**
BVAR	**Borovoye Array**	**55.78**	**341**	P	**P**	**11 16 39.3**	**-0.7**
	comp=Z,1.6nm,0.5s,mb4.3,baz=154,slow=9.2,SNR=12						
KLR	**Kul’dur**	**55.99**	**27**	*e*P	**P**	**11 16 35.7**	**-5.8**
KLR				MLR	MLR		
	comp=Z,500nm,13.0s,MS4.8						
ZRNK	**Zerenda**	**56.18**	**340**	*e*P	**P**	**11 16 41.3**	**-1.5**
ZRNK				*e**PP	pP	11 16 48.3	-1.7
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
ZRNK	**Zerenda**	**56.18**	**340**	*e*P	**P**	**11 16 41.3**	**-1.5**
	comp=Z,1.4nm,0.5s,mb4.2						
ZRNK				*e*pP	pP	11 16 48.3	-1.7
YSS	**Yuzh-Sakhalins**	**60.15**	**34**	*d* *i*P	**P**	**11 17 16.6**	**+5.9**
YSS				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
YAK	**Yakutsk**	**65.09**	**16**	*e*P	**P**	**11 17 42.2**	**-1.1**
YAK				*e*	pP	11 17 49.8	-0.8
YAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK	**Yakutsk**	**65.09**	**16**	*e*P	**P**	**11 17 42.0**	**-1.3**
	comp=E,26nm,0.8s,mb5.3						
TIXI	**Tiksi**	**72.82**	**10**	⇑*i*P	**P**	**11 18 29.2**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
AKASG	**Malin Array Be**	**74.78**	**322**	P	**P**	**11 18 41.6**	**-1.0**
	comp=Z,0.4nm,0.3s,mb3.8,baz=88,slow=5.0,SNR=4.5						
FINES	**FINESS Array B**	**79.52**	**333**	P	**P**	**11 19 08.7**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=124,slow=6.9,SNR=7.3						
KAF	**Kangasniemi**	**79.61**	**333**	*e*p	**P**	**11 19 09.1**	**-0.1**
	comp=Z,2.3nm,0.7s,mb4.2,baz=105,slow=5.0						
KAF	**Kangasniemi**	**79.61**	**333**	*e*P	**P**	**11 19 09.1**	**-0.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
KEV	**Kevo**	**81.63**	**341**	*e*p	**P**	**11 19 22.8**	**+3.0**
	comp=Z,2.0nm,0.8s,mb4.1						
KEV	**Kevo**	**81.63**	**341**	*e*P	**P**	**11 19 22.8**	**+3.0**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ARCES	**ARCESS Array B**	**82.07**	**340**	P	**P**	**11 19 22.7**	**+0.7**
	comp=Z,1.1nm,0.5s,mb4.1,baz=98,slow=5.2,SNR=20						
GERES	**GERESS Array B**	**84.34**	**319**	P	**P**	**11 19 34.9**	**+0.8**
	comp=Z,0.3nm,0.3s,mb3.9,baz=101,slow=6.8,SNR=4.4						
NB2	**NORSAR Subarra**	**86.53**	**331**	P	**P**	**11 19 45.2**	**+0.5**
	comp=Z,1.0nm,0.7s,mb4.2,baz=91,slow=5.0						
NOA	**NORSAR Array B**	**86.53**	**331**	P	**P**	**11 19 44.7**	**0.0**
	comp=Z,0.7nm,0.7s,mb4.0,baz=95,slow=4.8,SNR=2.8						
NOA	**NORSAR Array B**	**86.53**	**331**	P	**P**	**11 19 44.7**	**0.0**
TXAR	**Lajitas Array**	**143.44**	**31**	PKP	PKPdf	11 26 36.0	-4.3
	comp=Z,0.2nm,0.7s,baz=270,slow=1.3,SNR=3.7						
CPUP	**Villa Florida**	**145.14**	**223**	PKPbc	PKPbc	11 26 41.5	+2.2
	comp=Z,3.1nm,0.9s,baz=197,slow=4.0,SNR=6.0						

*IDC **04** 11:14:28.8±1.0, 7.65S×127.84E, mb4.3/7, mb1 4.5/9, mb1mx4.3/16, mbtmp4.3/9, ML4.7/2, MS3.2/3, Ms1 3.2/3, ms1mx3.1/18, Error ellipse: s-maj=51.9km s-min=16.0km az=73.0*

*NEIC **04** 11:14:30.7±0.5, 7.69S×127.92E, h15km, mb4.4/5, Error ellipse: s-maj=18.3km s-min=7.5km az=72.0*

ISC 04 11:14:30.6±0.6**, 7.76S**±0.07×**128.0E**±0.1**, h33**km**, n20,** σ**1**^{s}**15**/20**, mb4.2**/10**, MS3.1**/2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.53**	**192**	Pn	**P**	**11 17 01.2**	**-1.3**
	4.4nm,0.3s,baz=14,slow=11,SNR=45						
FITZ				Sn	**S**	**11 18 50.3**	**-10**
	2.8nm,0.3s,baz=20,slow=11,SNR=4.3						
WRAB	**Tennant Creek**	**13.57**	**154**	*e*Pn	**P**	**11 17 43.6**	**+0.3**
	19nm,0.8s						
WRAB				*e*Sn	**S**	**11 20 04.5**	**-9.5**
WRA	**Warramunga Arr**	**13.58**	**154**	Pn	**P**	**11 17 44.1**	**+0.7**
	3.8nm,0.3s,baz=319,slow=14,SNR=52						
WRA				Sn	**S**	**11 20 09.2**	**-4.9**
	2.9nm,0.3s,baz=333,slow=22,SNR=8.8						
MBWA	**Marble Bar**	**15.53**	**210**	*e*P	**P**	**11 18 09.1**	**+0.1**
	24nm,0.8s						
PMG	**Port Moresby**	**19.01**	**96**	LR	LR	11 25 39.4	
	comp=Z,77nm,20.8s,baz=23,slow=35						
KSM	**Kuching**	**19.89**	**297**	*e*P	**P**	**11 19 02.0**	**-0.3**
CTA	**Charters Tower**	**21.51**	**127**	LR	LR	11 26 59.9	
	comp=Z,47nm,19.6s,MS2.9,baz=223,slow=35						
NWAO	**Narrogin (SRO)**	**26.96**	**200**	P	**P**	**11 20 12.7**	**+1.4**
	16nm,0.9s,mb4.6,baz=97,slow=4.9,SNR=4.2						
STKA	**Stephens Creek**	**27.13**	**154**	P	**P**	**11 20 15.9**	**+3.1**
	5.5nm,0.8s,mb4.2,baz=327,slow=6.2,SNR=6.6						
CMAR	**Chiang Mai Arr**	**38.74**	**313**	P	**P**	**11 21 54.0**	**+0.3**
	3.5nm,0.8s,mb4.1,baz=143,slow=7.0,SNR=15						
ENH	**Enshi**	**41.79**	**336**	*e*P	**P**	**11 22 19.2**	**+0.2**
	6.8nm,0.6s,mb4.5						
MJAR	**Matsushiro Arr**	**45.10**	**12**	LR	LR	11 39 44.9	
	comp=Z,33nm,19.4s,MS3.3,baz=205,slow=34						
ULN	**Ulaanbaatar**	**58.40**	**344**	*e*P	**P**	**11 24 24.9**	**-0.4**
	6.1nm,1.0s,mb4.6						
SONM	**Songino Array**	**58.56**	**343**	P	**P**	**11 24 27.0**	**+0.6**
	2.2nm,0.9s,mb4.2,baz=165,slow=7.5,SNR=15						
MKAR	**Makanchi Array**	**67.80**	**328**	P	**P**	**11 25 27.4**	**0.0**
	1.0nm,0.7s,mb4.0,baz=121,slow=7.1,SNR=7.4						
ZAL	**Zalesovo**	**71.41**	**335**	P	**P**	**11 25 48.2**	**-1.1**
	0.9nm,0.4s,mb4.0,baz=174,slow=16,SNR=3.4						
ZAL	**Zalesovo**	**71.41**	**335**	P	**P**	**11 25 48.2**	**-1.1**
VNDA	**Vanda**	**71.94**	**173**	P	**P**	**11 25 54.3**	**+2.2**
	1.0nm,0.5s,mb4.0,baz=314,slow=9.3,SNR=6.9						
VNDA	**Vanda**	**71.94**	**173**	*e*P	**P**	**11 25 54.6**	**+2.4**
	1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**78.35**	**328**	*e*P	**P**	**11 26 28.4**	**-0.9**
	1.5nm,0.9s,mb3.9						

MAN 04 11:17:25.8, 9.71N×**125.40E, h10**km**, mb4.1, ML2.9, MS2.6, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.68**	**308**	*e*P	Pb	11 17 38.8	-0.4
MSLP				*e*S	Sb	11 17 52.0	+3.6
BUTP	**Butuan**	**0.77**	**164**	*e*P	Pb	11 17 40.6	-0.2
BUTP				*e*S	Sb	11 17 54.5	+3.4
PLP	**Palo**	**1.50**	**344**	*e*P	Pn	11 17 52.1	-0.8
PLP				*e*S	Sb	11 18 11.9	-0.4
BESP	**Borongan**	**1.88**	**1**	*e*P	Pn	11 17 59.7	+1.4
BESP				*e*S	Sn	11 18 22.5	+0.3
LUBP	**Lubang**	**6.44**	**309**	*e*P	Pn	11 18 54.3	-8.7

*IDC **04** 11:35:56.7±0.4, 41.83S×42.25E, mb4.5/16, mb1 4.5/17, mb1mx4.5/17, mbtmp4.4/17, ML3.9/1, MS5.7/16, Ms1 5.7/16, ms1mx5.6/22, Error ellipse: s-maj=11.1km s-min=6.4km az=62.0*

*NEIC **04** 11:35:58.9±0.3, 41.67S×42.51E, h10km, mb4.7/15, Error ellipse: s-maj=10.2km s-min=7.4km az=65.0*

ISC 04 11:35:58.3±0.3**, 41.94S**±0.05×**42.36E**±0.07**, h10**km**, n89,** σ**1**^{s}**46**/93**, mb4.5**/27**, 1C-4D, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**16.99**	**325**	*e*P	**P**	**11 39 58.7**	**+1.1**
NWL	**Newcastle**	**17.43**	**321**	*e*P	**P**	**11 40 04.4**	**+1.2**
HVD	**Hendrik Verwoe**	**17.65**	**304**	*e*P	**P**	**11 40 04.4**	**-1.4**
BFT	**Belfast (SA)**	**19.13**	**324**	*e*P	**P**	**11 40 27.2**	**+3.1**
BOSA	**Boshof**	**19.23**	**308**	P	**P**	**11 40 22.6**	**-2.7**
	0.2nm,0.3s,baz=146,slow=11,SNR=3.7						
BOSA				S	**S**	**11 43 56.0**	**-0.4**
	3.2nm,0.3s,baz=235,slow=16,SNR=4.9						
PRYS	**Parys**	**19.38**	**316**	*e*P	**P**	**11 40 27.9**	**+1.0**
SUR	**Sutherland**	**19.60**	**292**	P	**P**	**11 40 27.7**	**-1.8**
	0.3nm,0.3s,baz=134,slow=12,SNR=4.9						
SUR				S	**S**	**11 44 04.1**	**-0.4**
	5.2nm,0.3s,baz=156,slow=22,SNR=6.8						
PKA	**Prieska**	**20.01**	**301**	*e*P	**P**	**11 40 30.3**	**-3.7**
CER	**Ceres**	**20.12**	**288**	*e*P	**P**	**11 40 34.9**	**-0.3**
KSR	**Koster**	**20.49**	**317**	*e*P	**P**	**11 40 39.2**	**+0.1**
CVNA	**Calvinia**	**20.85**	**293**	*e*P	**P**	**11 40 43.7**	**+1.0**
LBTB	**Lobatse**	**21.85**	**315**	P	**P**	**11 40 50.8**	**-2.1**
	13nm,0.9s,mb4.4,baz=147,slow=9.6,SNR=13						
LBTB				S	**S**	**11 44 49.9**	**+0.6**
	23nm,1.0s,baz=200,slow=17,SNR=1.4						
LBTB	**Lobatse**	**21.85**	**315**	*e*P	**P**	**11 40 50.5**	**-2.4**
	9.9nm,0.8s,mb4.3						
LBTB				S	**S**	**11 44 49.9**	**+0.6**
UPI	**Upington**	**21.86**	**302**	*e*P	**P**	**11 40 53.9**	**+0.9**
MATP	**Matopo**	**24.44**	**327**	P	**P**	**11 41 15.2**	**-3.1**
	7.4nm,0.8s,mb4.2,baz=159,slow=11,SNR=10						
MATP				S	**S**	**11 45 38.0**	**+2.8**
	17nm,1.1s,baz=62,slow=23,SNR=1.3						
SYO	**Syowa Base**	**27.17**	**182**	⇑P	**P**	**11 41 38.9**	**-4.5**
MAW	**Mawson**	**28.02**	**163**	P	**P**	**11 41 50.9**	**-0.2**
	54nm,1.1s,mb5.1,baz=324,slow=8.1,SNR=51						
MAW				S	**S**	**11 46 35.5**	**+1.7**
	4.4nm,0.8s,baz=309,slow=23,SNR=1.6						
LSZ	**Lusaka**	**29.25**	**331**	*e*P	**P**	**11 42 01.8**	**-0.9**
	8.3nm,1.0s,mb4.4						
TSUM	**Tsumeb**	**30.92**	**310**	*e*P	**P**	**11 42 16.1**	**-1.4**
	8.8nm,0.8s,mb4.6						
SNAA	**Sanae**	**37.06**	**202**	⇓*i*P	**P**	**11 43 09.7**	**-0.2**
SNAA	**Sanae**	**37.06**	**202**	*e*	**P**	**11 43 12.3**	**+2.4**
SNAA	**Sanae**	**37.06**	**202**	P	**P**	**11 43 09.4**	**-0.5**
	4.4nm,0.7s,mb4.4,baz=81,slow=4.5,SNR=36						
SNAA				S	**S**	**11 48 55.6**	**+0.4**
	0.9nm,1.0s,baz=213,slow=18,SNR=1.7						
VNA2	**Neumayer--Watz**	**38.06**	**204**	*e*	**P**	**11 43 22.7**	**+4.4**
VNA2	**Neumayer--Watz**	**38.06**	**204**	*e*P	**P**	**11 43 21.3**	**+3.0**
VNA2				*e*	pP	11 43 22.7	+1.4
VNA2	**Neumayer--Watz**	**38.06**	**204**	⇓*i*P	**P**	**11 43 18.6**	**+0.3**
VNA1	**Neumayer--Stat**	**38.23**	**205**	*e*	**P**	**11 43 22.8**	**+3.1**
VNA1	**Neumayer--Stat**	**38.23**	**205**	*e*P	**P**	**11 43 22.8**	**+3.1**
VNA1	**Neumayer--Stat**	**38.23**	**205**	⇓*i*P	**P**	**11 43 20.2**	**+0.5**
VNA3	**Neumayer Olymp**	**38.87**	**204**	*e*	**P**	**11 43 28.9**	**+3.8**
VNA3	**Neumayer Olymp**	**38.87**	**204**	*e*P	**P**	**11 43 27.5**	**+2.4**
VNA3				*e*	pP	11 43 28.9	+0.8
VNA3	**Neumayer Olymp**	**38.87**	**204**	⇓*i*P	**P**	**11 43 24.7**	**-0.4**
KMBO	**Kilima Mbogo**	**40.89**	**352**	P	**P**	**11 43 39.3**	**-3.0**
	0.5nm,0.3s,baz=228,slow=22,SNR=1.8						
KMBO				PP	PP	11 45 23.3	+3.5
	2.6nm,0.9s,baz=195,slow=9.8,SNR=1.4						
KMBO				S	**S**	**11 49 51.4**	**-2.1**
	2.1nm,1.0s,baz=52,slow=23,SNR=1.9						
CASY	**Casey**	**43.85**	**147**	*e*P	**P**	**11 44 06.0**	**+0.1**
	2.9nm,0.9s,mb4.0						
QSPA	**South Pole Qui**	**48.27**	**180**	*e*P	**P**	**11 44 38.4**	**-2.4**
	832nm,1.2s						
ATD	**Arta Tunnel**	**53.20**	**1**	P	**P**	**11 45 16.0**	**-3.1**
	32nm,1.1s,mb5.2,baz=264,slow=16,SNR=2.0						
ATD				S	**S**	**11 52 47.4**	**-0.9**
	22nm,0.9s,baz=128,slow=21,SNR=2.4						
ATD	**Arta Tunnel**	**53.20**	**1**	P	**P**	**11 45 16.0**	**-3.1**
ATD				S	**S**	**11 52 47.4**	**-0.9**
VNDA	**Vanda**	**55.25**	**167**	P	**P**	**11 45 32.1**	**-1.2**
	74nm,1.0s,mb5.7,baz=248,slow=7.9,SNR=77						
VNDA				S	**S**	**11 53 15.9**	**+0.8**
	0.7nm,0.9s,baz=9.3,slow=17,SNR=1.7						
VNDA	**Vanda**	**55.25**	**167**	*e*P	**P**	**11 45 32.6**	**-0.7**
	5.7nm,1.0s,mb4.6						
VNDA				S	**S**	**11 53 15.9**	**+0.8**
SBA	**Scott Base**	**55.84**	**168**	*e*P	**P**	**11 45 37.2**	**-0.4**
	9.1nm,1.0s,mb4.8						
NWAO	**Narrogin (SRO)**	**58.41**	**108**	S	**S**	**11 53 58.5**	**+1.1**
	15nm,1.0s,baz=146,slow=23,SNR=2.0						
PMSA	**Palmer Station**	**59.25**	**209**	*e*P	**P**	**11 46 00.9**	**-0.8**
	22nm,1.0s,mb5.1						
PALK	**Pallekele**	**60.21**	**45**	*e*P	**P**	**11 46 05.7**	**-3.4**
	21nm,1.1s,mb5.1						
DBIC	**Dimbokro**	**64.75**	**306**	P	**P**	**11 46 36.5**	**-2.8**
	0.7nm,0.5s,mb4.0,baz=72,slow=23,SNR=2.7						
DBIC				S	**S**	**11 55 17.4**	**-0.8**
	2.0nm,0.9s,baz=89,slow=13,SNR=2.1						
DBIC	**Dimbokro**	**64.75**	**306**	*e*P	**P**	**11 46 37.8**	**-1.5**
	22nm,1.6s,mb4.9						
DBIC				S	**S**	**11 55 17.4**	**-0.8**
MBWA	**Marble Bar**	**66.97**	**98**	*e*P	**P**	**11 46 51.2**	**-2.2**
	22nm,1.3s,mb5.0						
KULM	**Kulim**	**70.76**	**64**	*e*P	**P**	**11 47 16.1**	**-0.8**
EIL	**Elat**	**71.58**	**353**	*e*P	**P**	**11 47 18.1**	**-3.6**
	2.5nm,0.8s,mb4.2						
TAU	**Tasmania Unive**	**71.93**	**132**	*e*P	**P**	**11 47 22.6**	**-1.0**
	25nm,1.2s,mb5.0						
ASF	**Jabal al Asfar**	**73.92**	**355**	P	**P**	**11 47 32.3**	**-3.0**
	1.5nm,0.4s,mb4.3,baz=330,slow=19,SNR=1.8						
ASF				S	S	11 57 08.0	+2.1
	1.0nm,0.3s,baz=190,slow=19,SNR=2.2						
KSM	**Kuching**	**74.75**	**74**	*e*P	**P**	**11 47 37.6**	**-2.9**
TRQA	**Tornquist**	**74.76**	**232**	*e*P	**P**	**11 47 40.0**	**-0.1**
	10.0nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**75.64**	**120**	P	**P**	**11 47 45.3**	**0.0**
	174nm,0.9s,baz=224,slow=4.5,SNR=144						
STKA				S	S	11 57 26.4	+1.4
	2.1nm,1.0s,baz=177,slow=24,SNR=1.6						
XRY	**Khrisi**	**77.95**	**346**	*e*P	**P**	**11 48 00.0**	**+1.9**
WRA	**Warramunga Arr**	**78.38**	**106**	P	**P**	**11 48 00.6**	**-0.1**
	78nm,1.0s,mb5.6,baz=225,slow=4.5,SNR=128						
WRA				PKiKP		11 53 38.5	
	1.0nm,0.8s,baz=247,slow=1.6,SNR=2.8						
WRA				S	S	11 57 57.1	+2.2
	0.4nm,0.9s,baz=251,slow=7.9,SNR=2.7						
WRAB	**Tennant Creek**	**78.39**	**106**	*e*P	**P**	**11 48 01.3**	**+0.5**
	2.8nm,0.7s,mb4.3						
IDI	**Anoyia**	**78.50**	**345**	S	S	11 57 59.2	+3.2
	1.8nm,0.3s,baz=26,slow=13,SNR=3.1						
GZT	**Gaziantep**	**79.04**	**356**	*i* P	**P**	**11 48 05.1**	**+1.1**
CPUP	**Villa Florida**	**79.57**	**244**	P	**P**	**11 48 05.3**	**-1.8**
	1.6nm,0.8s,mb4.0,baz=28,slow=5.0,SNR=2.5						
CPUP				S	S	11 58 11.3	+3.8
	2.9nm,1.2s,baz=58,slow=20,SNR=1.6						
CPUP	**Villa Florida**	**79.57**	**244**	*e*P	**P**	**11 48 07.8**	**+0.6**
	2.4nm,0.8s,mb4.2						
CPUP				S	S	11 58 11.3	+3.8
CMAR	**Chiang Mai Arr**	**79.60**	**54**	P	**P**	**11 48 03.6**	**-3.8**
	0.5nm,0.4s,mb3.8,baz=236,slow=5.2,SNR=4.5						
CMAR				S	S	11 58 11.8	+3.8
	0.3nm,0.3s,baz=243,slow=29,SNR=3.1						
BDFB	**Brasilia**	**79.99**	**258**	P	**P**	**11 48 07.5**	**-2.1**
	1.4nm,0.5s,mb4.2,baz=154,slow=14,SNR=2.1						
BDFB				S	S	11 58 15.5	+3.3
	1.2nm,0.4s,baz=167,slow=15,SNR=1.7						
BRTR	**Keskin Array B**	**81.67**	**353**	P	**P**	**11 48 14.6**	**-3.3**
	0.7nm,0.7s,baz=72,slow=3.9,SNR=2.8						
GNI	**Garni**	**81.73**	**2**	S	S	11 58 33.2	+3.5
	2.5nm,0.3s,baz=28,slow=14,SNR=1.9						
CTKT	**Corum**	**82.47**	**354**	*i* P	**P**	**11 48 24.0**	**+2.0**
LMR	**La Mourre**	**90.80**	**335**	*e*P	**P**	**11 49 03.8**	**+1.1**
	187nm,1.6s						
FRF	**La Foret Royal**	**90.96**	**335**	*e*P	**P**	**11 49 04.7**	**+1.3**
	105nm,1.5s						
ESDC	**Sonseca Array**	**91.47**	**326**	P	**P**	**11 49 08.2**	**+2.3**
	0.2nm,0.3s,mb3.9,baz=127,slow=7.4,SNR=3.3						
ESDC				PP	PP	11 52 49.3	+3.0
	1.6nm,0.7s,baz=153,slow=5.7,SNR=3.0						
ESDC				S		11 59 38.1	
	0.1nm,0.3s,baz=257,slow=33,SNR=2.9						
MBDF	**Montbardon**	**91.97**	**335**	*e*P	**P**	**11 49 09.8**	**+1.8**
	131nm,1.3s						
EVO	**Evora**	**92.28**	**323**	*e*P	**P**	**11 49 11.4**	**+1.8**
	61nm,1.2s						
ORIF	**Oris-en-Rattie**	**92.42**	**335**	*e*P	**P**	**11 49 11.1**	**+1.0**

36nm,1.1s
EPF Esparros 92.65 331 eP P 11 49 12.0 +0.8
60nm,1.3s
LPG La Plagne 92.67 336 eP P 11 49 12.5 +1.2
44nm,1.2s
LPL La Plagne 92.70 336 eP P 11 49 12.9 +1.5
64nm,1.3s
ETSF Etsaut 92.87 330 eP P 11 49 13.3 +1.1
86nm,1.2s
AKASG Malin Array Be 92.97 352 P P 11 49 14.0 +1.5
0.2nm,0.2s,mb4.1,baz=166,slow=3.9,SNR=7.3
AKASG S 11 59 45.5
0.5nm,0.4s,baz=27,slow=39,SNR=2.2
CAF Calviac 93.69 333 eP P 11 49 16.9 +1.0
GERES GERESS Array B 93.86 341 P P 11 49 16.3 -0.3
0.3nm,0.2s,mb4.3,baz=134,slow=37,SNR=2.4
CABF La Chapelle 93.88 336 eP P 11 49 17.4 +0.6
71nm,1.3s
SMF Signal de Mont 94.61 335 eP P 11 49 20.3 +0.2
121nm,1.8s
LOR Lormes 95.16 335 eP P 11 49 24.3 +1.7
32nm,1.1s
LOR eR
6µm,19.0s
MKAR Makanchi Array 95.20 26 P P 11 49 22.2 -0.7
0.4nm,0.7s,mb4.0,baz=202,slow=3.4,SNR=4.6
PLAL Pickwick Lake 141.02 277 ePKPdf PKPdf 11 55 29.6 -2.2
BLO Bloomington 141.53 283 ePKPdf PKPdf 11 55 30.9 -1.6
TXAR Lajitas Array 149.86 256 PKPbc PKPdf 11 55 48.3 +1.5
8.0nm,0.9s,baz=149,slow=2.1,SNR=35
ULM Lac du Bonnet 150.20 301 PKPbc PKPdf 11 55 48.0 +1.4
4.2nm,0.7s,baz=337,slow=13,SNR=3.0
ILAR Eielson Array 156.52 10 PKP PKPdf 11 55 52.0 -3.0
0.2nm,0.9s,SNR=2.4
PDAR Pinedale Array 159.26 282 PKP PKPdf 11 55 56.1 -3.1
0.2nm,0.3s,baz=306,slow=20,SNR=4.1
NVAR Mina Array Bea 164.81 263 PKP PKPdf 11 56 04.0 -0.9
0.2nm,0.7s,baz=225,slow=6.3,SNR=2.8
NVAR Mina Array Bea 164.81 263 PKP PKPdf 11 56 04.0 -1.0

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*BJI **04** 11:36:00.2, 42.57S×41.91E, h10km, mB6.0, mb5.5, Ms5.8, Msz5.5*
*MOS **04** 11:36:05.2±1.4, 42.21S×42.58E, h10km, mb5.8/46, MS5.7/51, Error ellipse: s-maj=18.3km s-min=7.2km az=99.3*
*HRVD **04** 11:36:05.7±0.1, 41.94S×42.65E, h20km, MW6.3/79, Centroid moment Tensor Solution. LP body waves: s79,c183;Mantle waves: s77,c328; Half duration: 3.3s Moment tensor: Scale 10^{18}Nm; Mrr-0.06±.02; Mθθ0.91±.02; Mφφ-0.84±.02; Mrθ0.01±.04; Mθφ2.87±.02; Mφr-0.14±.04; Best double couple: Mo3.004×10^{18} NP1: φs278°,δ87°,λ-1°. NP2:φs8°,δ89°,λ-177°. Principal axes: T 3.033, Plg1°, Azm143°; N -.059, Plg87°, Azm23°; P -2.975, Plg2°, Azm234°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **04** 11:36:05.7±0.2, 42.28S×42.37E, h10km, mb5.7/64, MS5.7/104, MW6.1 Error ellipse: s-maj=8.2km s-min=6.6km az=77.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^{18}Nm; Mrr0.19; Mθθ0.35; Mφφ-0.54; Mrθ-0.39; Mθφ1.61; Mφr-0.08; Best double couple: Mo1.7×10^{18} NP1:φs187°,δ77°,λ174°. NP2:φs278°, δ84°,λ14°. Principal axes: T 1.66, Plg14°, Azm143°; N .12, Plg75°, Azm302°; P -1.78, Plg5°, Azm52°;*
*CSEM **04** 11:36:10.0, 42.04S×43.08E, h33km, mb5.6*
*CRAAG **04** 11:36:10.2, 42.00S×43.18E, Mw6.2*
ISC 04 11:36:04.9±0.2, **42.20S**±0.04×**42.76E**±0.07, **h10km, (h12km±1.3km:pP-P), n492, σ1.22s/292, mb5.6**/69, **MS5.7**/135, **36C-18D, Prince Edward Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
SEK Senekal 18.52 314 eP P 11 40 18.6 -4.7
BOSA Boshof 19.63 308 eP P 11 40 33.3 -3.1
BOSA pmax pmax
comp=Z,962nm,1.6s
BOSA Boshof 19.63 308 eP P 11 40 33.3 -3.1
comp=Z,962nm,1.6s
BOSA Boshof 19.63 308 LR LR 11 46 27.9
comp=Z,40µm,20.9s,baz=139,slow=33
BOSA T 11 56 54.0
comp=Z,2.1nm,0.3s,baz=193,slow=14,SNR=2.9
SUR Sutherland 19.98 292 eP P 11 40 34.3 -5.9
comp=Z,384nm,1.0s
SUR Sutherland 19.98 292 LR LR 11 46 43.3
comp=Z,30µm,19.1s,baz=124,slow=33
SUR T 11 57 23.0
comp=Z,5.2nm,0.3s,baz=166,slow=22,SNR=4.1
MOPA Mopani 20.90 330 eP P 11 40 45.6 -4.2
LBTB Lobatse 22.25 315 eP P 11 40 58.7 -4.8
LBTB pmax pmax
comp=Z,7.0nm,0.5s
LBTB MLR MLR
comp=Z,29µm,20.0s,MS5.7
LBTB Lobatse 22.25 315 eP P 11 40 58.7 -4.8
comp=Z,6.8nm,0.5s
LBTB LR LR
comp=Z,29µm,20.0s,MS5.7
LBTB Lobatse 22.25 315 LR LR 11 48 18.8
comp=Z,30µm,19.4s,MS5.7,baz=154,slow=34
LBTB T 11 58 26.6
comp=Z,6.2nm,0.4s,baz=264,slow=23,SNR=3.4
MSNA Messina 22.49 328 eP P 11 41 04.1 -1.8
MATP Matopo 24.82 327 LR LR 11 49 59.1
comp=Z,26µm,18.2s,MS5.8,baz=145,slow=35
MATP T 12 00 21.2
comp=Z,2.5nm,0.5s,baz=64,slow=21,SNR=3.2
MAW Mawson 27.68 164 LR LR 11 50 08.1
comp=Z,20µm,18.4s,MS5.7,baz=330,slow=30
MAW T 12 10 28.3
comp=Z,3.4nm,0.4s,baz=248,slow=20,SNR=2.2
LSZ Lusaka 29.62 331⇑iP P 11 42 09.9 -2.8
LSZ pmax pmax
comp=Z,236nm,1.2s,mb5.8
LSZ MLR MLR
comp=Z,16µm,19.0s,MS5.7
LSZ Lusaka 29.62 331⇑iP P 11 42 09.9 -2.8
comp=Z,236nm,1.2s,mb5.8
LSZ LR LR
comp=Z,16µm,19.0s,MS5.7
TSUM Tsumeb 31.32 309⇑iP P 11 42 24.6 -3.0
comp=Z,170nm,1.2s,mb5.8
TSUM LR LR
comp=Z,29µm,21.0s,MS5.9
NVL N'lazarevskaya 32.58 198⇓iP P 11 42 33.6 -4.5
NVL i PPP PPP 11 43 48.4 -14
NVL i S S 11 47 50.6 -1.9
NVL pmax pmax
comp=Z,36nm,1.2s,mb5.2
NVL MLR MLR
comp=Z,4µm,14.8s,MS5.2
MAIT Maitri 32.61 198 eP P 11 42 38.0 -0.4
MIR Mirnyy 36.54 149c iP P 11 43 12.0 -0.1
MIR eS S 11 48 58.0 +4.1
MIR eS S 11 48 58.0 +4.1
MIR pmax pmax
comp=Z,2µm,6.0s
MIR pmax pmax
comp=E,900nm,7.0s
MIR smax
comp=N,2µm,12.0s
MIR smax
comp=E,5µm,16.0s
MIR MLR MLR
comp=N,8µm,14.0s,MS5.7
MIR MLR MLR
comp=E,4µm,14.0s,MS5.7
MIR MLR MLR
comp=Z,14µm,14.0s,MS5.9
SNAA Sanae 36.93 202 e P 11 43 13.6 -1.8
SNAA Sanae 36.93 202 e P 11 43 16.1 +0.7
SNAA Sanae 36.93 202 e pP 11 43 18.7 +0.3
SNAA Sanae 36.93 202 e Px 11 43 26.6
SNAA Sanae 36.93 202 eP P 11 43 13.3 -2.1
SNAA pmax pmax
comp=Z,477nm,1.5s
SNAA Sanae 36.93 202 eP P 11 43 13.3 -2.1
comp=Z,477nm,1.5s,mb6.1
SNAA Sanae 36.93 202 LR LR 11 54 46.9
comp=Z,7µm,20.2s,MS5.4,baz=55,slow=30
VNA2 Neumayer--Watz 37.95 204 e P 11 43 25.3 +1.4
VNA2 Neumayer--Watz 37.95 204 e pP 11 43 28.4 +1.5
VNA2 Neumayer--Watz 37.95 204 e Px 11 43 35.7
VNA2 Neumayer--Watz 37.95 204 e P 11 43 25.3 +1.4
VNA2 e pP 11 43 28.4 +1.5
VNA2 e 11 43 35.7
VNA2 e 11 44 38.4
VNA2 e 11 44 43.2
VNA2 e 11 45 39.4
VNA2 e 11 45 51.3
VNA1 Neumayer--Stat 38.12 205 e P 11 43 24.2 -1.2
VNA1 Neumayer--Stat 38.12 205 e P 11 43 26.8 +1.4
VNA1 Neumayer--Stat 38.12 205 e pP 11 43 29.9 +1.6
VNA1 Neumayer--Stat 38.12 205 e Px 11 43 37.4
VNA1 Neumayer--Stat 38.12 205 e P 11 43 24.2 -1.2
VNA1 e pP 11 43 26.8 -1.5
VNA1 e 11 43 29.9
VNA1 e 11 43 37.4
VNA1 e 11 44 53.0
VNA1 e 11 44 57.8
VNA1 e 11 45 40.0
VNA3 Neumayer Olymp 38.76 204 e P 11 43 31.4 +0.7
VNA3 Neumayer Olymp 38.76 204 e Px 11 43 42.0
VNA3 Neumayer Olymp 38.76 204 e P 11 43 31.4 +0.7
VNA3 e 11 43 42.0
VNA3 e 11 44 55.6
VNA3 e 11 45 00.7
VNA3 e 11 45 42.7
VNA3 e 11 45 53.6
VNA3 e 11 52 46.5
KMBO Kilima Mbogo 41.19 352 PFAKE 11 44 00.0 +8.6
KMBO LR LR
comp=Z,305µm,19.0s
KMBO Kilima Mbogo 41.19 352 LR LR 11 59 20.5
comp=Z,11µm,18.5s,MS5.8,baz=159,slow=34
TRIS Tristan da Cun 42.10 258 PFAKE 11 44 10.0 +11
TRIS LR LR
comp=Z,8µm,22.0s,MS5.5
MBAR Mbarara 42.80 342⇑iP P 11 44 03.5 -1.2
MBAR pmax pmax
comp=Z,47nm,1.0s,mb5.2
MBAR MLR MLR
comp=Z,3µm,21.0s,MS5.2
MBAR Mbarara 42.80 342⇑iP P 11 44 03.5 -1.2
comp=Z,48nm,1.0s,mb5.2
MBAR LR LR
comp=Z,3µm,21.0s,MS5.2
DGAR Diego Garcia 43.45 46 PFAKE 11 44 20.0 +10
DGAR LR LR
comp=Z,928nm,19.0s,MS4.7
CASY Casey 43.47 147⇑iP P 11 44 10.2 +0.8
comp=Z,182nm,1.5s,mb5.6
CASY LR LR
comp=Z,10µm,21.0s,MS5.7
ATD Arta Tunnel 53.46 0 LR LR 12 04 42.9
comp=Z,5µm,21.8s,MS5.6,baz=350,slow=32
DRV Dumont d'Urvil 54.80 151 P P 11 45 40.0 +3.3
DRV S S 11 53 26.0 +10
DRV SS SS 11 57 07.0 +8.3
DRV L 11 59 00.0
DRV R 12 02 00.0
VNDA Vanda 54.93 167⇑iP P 11 45 37.2 -0.4
VNDA pmax pmax
comp=Z,145nm,1.2s
VNDA MLR MLR
comp=Z,8µm,21.0s
VNDA Vanda 54.93 167⇑iP P 11 45 37.2 -0.4
comp=Z,145nm,1.2s,mb5.9
VNDA LR LR
comp=Z,8µm,21.0s,MS5.8
VNDA Vanda 54.93 167 LR LR 12 07 33.2
comp=Z,10µm,18.5s,MS5.9,baz=228,slow=34
SBA Scott Base 55.52 168 eP P 11 45 41.7 -0.2
SBA pmax pmax
comp=Z,564nm,1.2s,mb6.5
SBA MLR MLR
comp=Z,10µm,19.0s,MS5.9
SBA Scott Base 55.52 168 eP P 11 45 41.7 -0.2
comp=Z,564nm,1.2s,mb6.5
SBA LR LR
comp=Z,10µm,19.0s,MS5.9
NWAO Narrogin (SRO) 58.04 107⇑iP P 11 46 01.0 +0.6
NWAO pmax pmax
comp=Z,87nm,0.9s
NWAO MLR MLR
comp=Z,5µm,19.0s
NWAO Narrogin (SRO) 58.04 107⇑iP P 11 46 01.0 +0.7
comp=Z,87nm,0.9s,mb5.8
NWAO LR LR
comp=Z,5µm,19.0s,MS5.6
PMSA Palmer Station 59.16 209 eP P 11 46 05.9 -1.8
comp=Z,117nm,1.3s,mb5.8
PMSA LR LR
comp=Z,4µm,19.0s,MS5.6
DJNS Zahran al Janu 59.61 1 P P 11 46 11.8 +0.3
ABTO Aybut 60.05 12 P P 11 46 14.1 -0.3
SNR=10
PALK Pallekele 60.19 45⇓iP P 11 46 15.4 -0.1
comp=Z,144nm,1.1s,mb5.9
PALK LR LR
comp=Z,561nm,20.0s,MS4.7
WHFO Wadi Hawf 60.67 12 P P 11 46 18.4 -0.4
SNR=11
TATS Tathlith 61.43 1 P P 11 46 24.6 +0.7
BLJS Baljurashi 61.78 359 P P 11 46 26.6 +0.4
LTHS Al Lith 62.20 358 P P 11 46 28.8 -0.2
KAMS Al Khamasin 62.22 2 P P 11 46 29.2 0.0
DBIC Dimbokro 65.15 306⇑iP P 11 46 46.7 -1.8
DBIC pmax pmax
comp=Z,124nm,1.4s
DBIC Dimbokro 65.15 306⇑iP P 11 46 46.7 -1.8
comp=Z,124nm,1.4s,mb5.8
AFFS 'Afif 65.79 0 P P 11 46 52.4 -0.1
JMDO Jabal Madar 65.79 16 P P 11 46 52.0 -0.5
SNR=6.8
MZLS Mizel 65.93 2 P P 11 46 53.7 +0.3
BSY Bisya 65.98 15 P P 11 46 53.2 -0.5
SNR=13
RYDS Riyadh 66.15 4 P P 11 46 56.3 +1.5
WBK Wadi Bani Khal 66.20 16 P P 11 46 54.9 -0.2
SNR=8.1
YNBS Yanbu' al Bahr 66.35 355 P P 11 46 55.3 -0.7
SMDO Samad 66.45 15 P P 11 46 56.1 -0.6
SNR=20
MBWA Marble Bar 66.64 98⇑iP P 11 46 58.3 +0.4
comp=Z,164nm,1.3s,mb5.9
MBWA LR LR
comp=Z,3µm,19.0s,MS5.6
HOQ Hoqain 66.82 15 P P 11 46 58.3 -0.7
SNR=19
BIDO Bidbid 66.92 15 P P 11 46 59.0 -0.7
SNR=10
UMJS Umm Lajj 67.28 355 P P 11 47 02.0 0.0
HASS Wahat al Ahsa' 67.36 7 P P 11 47 02.5 +0.1
ASHO Ashiyiah 67.67 13 P P 11 47 03.8 -0.6
SNR=16
KBRS Khaybar 67.72 357 P P 11 47 04.9 +0.2
ARSS Ar Rass 67.74 0 P P 11 47 04.8 0.0
HYB Hyderabad 67.89 37 eP P 11 47 05.5 -0.4
HYB pmax pmax
comp=Z,100nm,1.0s,mb5.8
HYB Hyderabad 67.89 37 eP P 11 47 05.5 -0.4
comp=Z,100nm,1.0s,mb5.8
HYB Hyderabad 67.89 37⇓iP P 11 47 05.5 -0.4
comp=Z,100nm,1.0s,mb5.8
HYB e 11 56 10.0
HILS Ha'il 69.24 359 P P 11 47 14.6 +0.5
TBKS Tabuk 70.31 354 P P 11 47 21.5 +0.9
KULM Kulim 70.61 63 eP P 11 47 22.9 +0.2
BDAS Al Bad' 70.63 353 P P 11 47 22.2 -0.3
TAYS Tayyib Ism 70.77 353 P P 11 47 23.6 +0.1
JMQS Jabal Moqyreh 71.02 354 P P 11 47 24.4 -0.5
HAQS Haql 71.27 353 P P 11 47 26.6 +0.2
JMOS Jabal al Moall 71.36 353 P P 11 47 27.4 +0.4
ALWS Ilw as Safayha 71.51 353 P P 11 47 27.7 -0.1
TAU Tasmania Unive 71.53 131 eP P 11 47 28.8 +1.0
TAU pmax pmax
comp=Z,179nm,1.3s,mb5.8
TAU MLR MLR
comp=Z,2µm,21.0s,MS5.4
TAU Tasmania Unive 71.53 131 eP P 11 47 28.8 +1.0
comp=Z,178nm,1.3s,mb5.8
TAU LR LR
comp=Z,2µm,21.0s,MS5.4
EIL Elat 71.88 353 eP P 11 47 29.1 -0.9
comp=Z,62nm,1.4s,mb5.3
BHPL Bhopal 72.57 33 eP P 11 47 33.4 -0.9
BHPL AMb AMB 11 47 37.5
comp=Z,90nm,1.5s,mb5.5
JASL Jaisalmer 73.53 26 eP P 11 47 39.0 -0.8
BLSP Bilaspur 73.62 38 eP P 11 47 38.6 -1.9
BLSP AMb AMB 11 47 49.2
comp=Z,89nm,1.6s,mb5.4
AJM Ajmer 74.41 29⇓iP P 11 47 44.0 -0.9
KSM Kuching 74.54 73 eP P 11 47 46.8 +0.9
TRQA Tornquist 74.84 232⇑eP P 11 47 45.8 -1.4
comp=Z,104nm,0.9s,mb5.8
TRQA LR LR
comp=Z,7µm,20.0s,MS6.0
NNT Nongplab 75.50 58 P P 11 47 52.5 +1.1
KHET Khetri 76.29 30 eP P 11 47 52.9 -2.8
KHET AMb AMB 11 47 57.7
comp=Z,40nm,1.5s,mb5.1
SONA Sohna 76.92 31 eP P 11 47 57.0 -2.2
SONA AMb AMB 11 48 01.8
comp=Z,51nm,1.5s,mb5.2
AYAN Aya Nagar 77.15 31 e P 11 47 54.9 -5.6
BHGR Bahadurgarh 77.26 30 eP P 11 47 59.2 -1.8
CSS Prodhromos 77.28 352⇑eP P 11 48 00.8 -0.2
comp=Z,114nm,1.3s,mb5.6
BISR Bishrakh 77.35 31 eP P 11 47 59.6 -1.9
ASOR Ausora 77.64 31 eP P 11 48 01.0 -2.1
RCBR Riachuelo 77.71 273 PFAKE 11 48 10.0 +6.2
RCBR LR LR
comp=Z,2µm,19.0s,MS5.5
WRAB Tennant Creek 78.03 106⇑iP P 11 48 06.3 +0.9
WRAB pmax pmax
comp=Z,242nm,1.1s,mb6.0
WRAB MLR MLR
comp=Z,2µm,19.0s,MS5.5
WRAB Tennant Creek 78.03 106⇑iP P 11 48 06.3 +0.9
comp=Z,242nm,1.1s,mb6.0
WRAB LR LR
comp=Z,2µm,19.0s,MS5.5
NST Nakhon Sawan 78.10 56 P P 11 48 05.0 -0.8
KKR Kurukshetra 78.37 30 eP P 11 48 06.2 -0.9
NPS Neapolis 78.67 346 eP P 11 48 10.0 +1.3
KARP Karpathos 78.68 347 eP P 11 48 03.0 -5.7
VAM Vamos 79.08 345 eP P 11 48 11.5 +0.6
KOLN Koldanda 79.17 36 eP P 11 48 11.5 0.0
comp=Z,202nm,1.0s,mb6.0
ARG Arkhangelos 79.18 348 eP P 11 48 12.0 +0.6
CM31 Chiang Mai Arr 79.52 53 PFAKE 11 48 30.0 +16
CM31 LR LR
comp=Z,2µm,20.0s,MS5.3
CMAR Chiang Mai Arr 79.52 53 LR LR 12 19 29.3
comp=Z,1µm,18.1s,MS5.2,baz=225,slow=33
BHK Bhakra 79.53 29 e P 11 48 17.5 +4.1
DMN Daman 79.70 37 eP P 11 48 14.3 -0.1
comp=Z,228nm,1.2s,mb6.0
CPUP Villa Florida 79.72 244 eP P 11 48 12.4 -2.1
CPUP pmax pmax
comp=Z,67nm,1.0s
CPUP MLR MLR
comp=Z,3µm,22.0s
CPUP Villa Florida 79.72 244 eP P 11 48 12.3 -2.2
comp=Z,67nm,1.0s,mb5.5
CPUP LR LR
comp=Z,3µm,22.0s,MS5.6
CPUP Villa Florida 79.72 244 LR LR 12 19 48.0
comp=Z,2µm,18.3s,MS5.5,baz=50,slow=33
CHG Chiang Mai 79.80 53 ⇓P P 11 48 14.9 -0.1
comp=Z,28nm,0.8s,mb5.2
PKI Pulchoki 79.80 38 eP P 11 48 14.7 -0.3
comp=Z,203nm,1.3s,mb5.9
PKI Pulchoki 79.80 38 eP P 11 48 14.7 -0.3
PKI pmax pmax
comp=Z,101nm,1.3s,mb5.6
SDNR Sundarnagar 79.81 29 eP P 11 48 13.6 -1.3
GKN Gorkha 79.83 37 eP P 11 48 14.7 -0.4
comp=Z,214nm,1.2s,mb6.0
KKN Kakani 79.93 37 eP P 11 48 15.5 -0.1
comp=Z,249nm,1.4s,mb6.0
KKN Kakani 79.93 37 eP P 11 48 15.5 -0.1
KKN pmax pmax
comp=Z,125nm,1.4s,mb5.7
GOLH Golhisar 79.97 349 i P P 11 48 12.8 -2.8
KYTH Kithira 80.16 344 eP P 11 48 16.0 -0.7
THN Thein Dam 80.21 28 eP P 11 48 15.8 -1.2
MALT Malatya 80.23 357 P P 11 48 17.7 +0.7
MALT pmax pmax
comp=Z,82nm,1.3s,mb5.5
MALT Malatya 80.23 357 eP P 11 48 14.9 -2.1
comp=Z,82nm,1.4s,mb5.5
GUN Gumba 80.31 38 eP P 11 48 18.1 +0.5
comp=Z,757nm,1.5s,mb6.4
ELZG Elazig 80.39 357 i P P 11 48 17.6 -0.2
ITM Ithomi 81.26 343 eP P 11 48 22.5 0.0
SHL Shillong 81.26 44 eP P 11 48 23.0 +0.3
SHL e 11 58 32.0
KDAG Bornova 81.45 348 i P P 11 48 23.2 -0.3
ERZM Erzurum 81.73 359 i P P 11 48 27.0 +2.2
CDAG Cicekdag 81.80 353 i P P 11 48 23.3 -1.9
GDZ Gediz 81.81 350 i P P 11 48 24.4 -0.9
BR131 Keskin Array S 81.96 353 eP P 11 48 25.2 -0.9
comp=Z,23nm,1.0s,mb5.1
BR131 LR LR
comp=Z,2µm,20.0s,MS5.5
GNI Garni 81.99 2⇓iP P 11 48 25.6 -0.6
GNI MLR MLR
comp=Z,3µm,20.0s
ESKT Eskisehir 82.06 351 i P P 11 48 26.6 0.0
ELDT Eldivan 82.74 353 i P P 11 48 29.7 -0.4
ULDT Uludag 82.89 350 i P P 11 48 31.2 +0.3
EVR Evrytania 82.95 344 eP P 11 48 30.5 -0.7
SGKT Sivrigoynuk 82.96 352 i P P 11 48 26.5 -4.7
MTA Mtatsminda 83.53 2 P P 11 48 35.7 +1.6
BOYT Boyabat 83.54 354 i P P 11 48 34.5 +0.3
TBLG Delisi 83.57 1 P P 11 48 35.3 +1.0
TI2 Plekhanov 83.57 1 i P P 11 48 28.0 -6.3
TI2 i 11 48 37.0
TI2 pmax pmax
comp=Z,50µm,0.6s
LSA Lhasa 84.30 41 P P 11 48 34.0 -4.2
LSA AP pP 11 48 47.3 +5.9
LSA XP sP 11 48 50.5 +8.0
LSA PP PP 11 52 00.0 +5.3
LSA AMB AMB
comp=Z,120nm,1.1s,mb5.9
LSA LR LR
comp=N,2µm,47.6s
LSA LR LR
comp=E,6µm,59.9s
LSA LR LR
comp=Z,3µm,47.6s,MS5.3
LSA Lhasa 84.30 41 eP P 11 48 39.7 +1.5
LSA pmax pmax
comp=Z,92nm,0.9s,mb5.9
LSA Lhasa 84.30 41 eP P 11 48 39.7 +1.4
comp=Z,92nm,0.9s,mb5.9
TIP Timpagrande 84.38 340 eP P 11 48 39.2 +0.8
ONI Oni 84.40 1 P P 11 48 37.4 -1.0
CMER Merouana 84.47 331 P P 11 48 46.0 +7.0
ABSA Djebel Ababsia 84.49 332 P P 11 48 41.0 +1.9
ZEI Tsey 84.59 1 eP P 11 48 34.5 -4.9
ZEI i 11 51 51.4
ZEI pmax pmax
comp=Z,21nm,1.0s,mb5.2
CTEI Djebel Teioual 84.68 331 P P 11 48 48.0 +8.0
CASM Ain Smara 84.83 331 P P 11 48 45.0 +4.2
CMAH Djebel Manchou 84.83 332 P P 11 48 42.0 +1.2
CKFL Kef-Lekhel 84.87 332 P P 11 48 42.0 +1.0
MAK Makhachkala 84.89 3 eP P 11 48 41.0 +0.1
MAK eS S 11 59 03.0 -4.9
MAK pmax pmax
comp=Z,600nm,3.0s
MAK pmax pmax
comp=Z,1µm,6.0s
MAK smax
comp=N,2µm,7.0s
MAK smax
comp=E,700nm,7.0s
MAK MLR MLR
comp=N,6µm,19.0s,MS6.1
MAK MLR MLR
comp=E,3µm,19.0s,MS6.1
MAK MLR MLR
comp=Z,3µm,19.0s,MS5.8
RZN Rozhen 85.08 347 i P P 11 48 44.0 +2.1
RZN Rozhen 85.08 347 i P P 11 48 44.0 +2.1
CAEH 'Ain El Ouahch 85.17 332 P P 11 48 44.0 +1.6

SET	Setif	85.17	330	P	P	11 48 45.0	+2.5
OHR	Ohrid	85.28	344	iP	P	11 48 44.1	+1.2
DFRA	Djebel Bou Aff	85.31	331	P	P	11 48 47.0	+3.9
SOC	Sochi	85.44	358	eP	P	11 48 43.4	-0.2
SOC				e	pP	11 48 46.1	-0.7
SOC				e		11 51 57.4	
SOC				eS	S	11 59 05.7	-7.6
SOC				eSSS	tx	12 00 15.9	
SOC				pmax	pmax		
	comp=N,3.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.4s						
SOC				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb5.0						
SOC				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.5						
SOC				MLR	MLR		
	comp=N,537nm,22.0s,MS5.2						
SOC				MLR	MLR		
	comp=E,1µm,19.0s,MS5.2						
KKB	Krupnik	85.55	345	iP	P	11 48 45.0	+0.8
KKB	Krupnik	85.55	345	iP	P	11 48 45.0	+0.8
KIV	Kislovodsk	85.77	360	eP	P	11 48 46.3	+1.0
KIV				e		11 52 03.2	
KIV				e		11 59 08.0	
KIV				pmax	pmax		
	comp=N,26nm,1.1s						
KIV				pmax	pmax		
	comp=Z,76nm,1.1s,mb5.8						
KIV				pmax	pmax		
	comp=E,11nm,0.8s						
KIV				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.5						
KIV				MLR	MLR		
	comp=E,2µm,18.0s						
KIV	Kislovodsk	85.77	360	eP	P	11 48 45.4	+0.2
	comp=E,154nm,1.4s,mb6.0						
KIV				LR	LR		
	comp=Z,506nm,21.0s,MS4.9						
SKO	Skopje	85.97	344	iP	P	11 48 47.0	+0.7
PGB	Panagyurishte	86.01	346	eP	P	11 48 47.0	+0.5
PGB	Panagyurishte	86.01	346	eP	P	11 48 47.0	+0.5
ETRT	Tiaret	86.04	327	P	P	11 48 53.0	+6.2
SNZO	South Karori	86.22	146	⇑iP	P	11 48 48.0	+0.5
	comp=Z,304nm,1.4s,mb6.3						
SNZO				LR	LR		
	comp=Z,4µm,21.0s,MS5.8						
VTS	Vitosha	86.23	346	eP	P	11 48 45.0	-2.6
VTS	Vitosha	86.23	346	eP	P	11 48 45.0	-2.6
CTA	Charters Tower	86.24	114	LR	LR	12 21 35.1	
	comp=Z,5µm,19.7s,MS6.0,baz=157,slow=32						
CTAO	Charters Tower	86.24	114	eP	P	11 48 47.9	-0.2
CTAO				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.7						
CTAO				MLR	MLR		
	comp=Z,5µm,20.0s,MS5.9						
CTAO	Charters Tower	86.24	114	eP	P	11 48 47.9	-0.2
	comp=Z,55nm,1.0s,mb5.7						
CTAO				LR	LR		
	comp=Z,5µm,20.0s,MS5.9						
ABA	Alger-Bouzarea	86.59	329	P	P	11 48 50.0	+0.5
EANR	'Ain N'Sour	86.60	327	P	P	11 48 55.0	+5.4
EBNR	Beni Rached	86.73	328	P	P	11 48 53.0	+2.8
QIZ	Qiongzhong	86.74	61	P	P	11 48 48.3	-2.3
QIZ				AP	pP	11 48 53.6	-0.2
QIZ				S	S	11 59 23.0	-3.4
QIZ				AMB	AMB		
	comp=Z,20nm,1.9s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,411nm,8.0s						
QIZ				LR	LR		
	comp=N,998nm,19.8s,MS5.4						
QIZ				LR	LR		
	comp=E,1µm,20.4s,MS5.4						
QIZ				LR	LR		
	comp=Z,2µm,23.8s,MS5.4						
QIZ	Qiongzhong	86.74	61	PFAKE		11 49 00.0	+9.4
QIZ				LR	LR		
	comp=Z,2µm,21.0s,MS5.4						
ANN	Anapa	86.75	356	eP	P	11 48 47.4	-2.6
ANN				e		11 59 11.0	
ANN				e		11 59 20.2	
ANN				eSS	SS	12 05 16.6	+6.0
ANN				pmax	pmax		
	comp=Z,406nm,9.2s						
ANN				MLR	MLR		
	comp=N,3µm,18.0s,MS5.7						
ANN				MLR	MLR		
	comp=E,990nm,18.0s,MS5.7						
ANN				MLR	MLR		
	comp=Z,2µm,18.0s,MS5.5						
KSH	Kashi	86.75	25	iPR	P	11 48 51.7	+1.5
KSH				eAP	pP	11 48 57.6	+4.2
KSH				eXP	sP	11 48 58.7	+4.3
KSH				ePP	PP	11 52 17.0	+2.1
KSH				eSKS	SKS	11 59 17.0	-2.2
KSH				S	S	11 59 32.4	+6.4
KSH				eXS		11 59 40.7	
KSH				ePS	PS	12 00 41.1	+13
KSH				AMB	AMB		
	comp=Z,100nm,0.6s,mb6.2						
KSH				AMB	AMB		
	comp=Z,650nm,3.7s						
KSH				LR	LR		
	comp=N,5µm,27.6s						
KSH				LR	LR		
	comp=E,3µm,18.9s						
VSL	Villasalto	86.78	335	⇑eP	P	11 48 51.0	+0.6
	comp=E,88nm,1.5s,mb5.8						
GOF	Gofitskoye	86.87	0	eP	P	11 48 45.9	-4.8
KMI	Kunming	86.88	52	P	P	11 48 51.7	+0.5
KMI				AP	pP	11 48 54.9	+0.5
KMI				XP	sP	11 48 56.1	+0.7
KMI				PP	PP	11 52 17.8	+1.4
KMI				SKS	SKS	11 59 16.5	-3.9
KMI				S	S	11 59 30.0	+2.4
KMI				PS	PS	12 00 32.8	+2.4
KMI				SS	SS	12 05 17.1	+4.2
KMI				SSS	SSS	12 08 48.2	+4.5
KMI				AMB	AMB		
	comp=Z,20nm,1.5s,mb5.1						
KMI				AMB	AMB		
	comp=Z,211nm,4.6s						
KMI				LR	LR		
	comp=N,1µm,26.1s,MS5.3						
KMI				LR	LR		
	comp=E,859nm,24.9s,MS5.3						
KMI				LR	LR		
	comp=Z,5µm,40.7s						
KMI	Kunming	86.88	52	P	P	11 48 51.7	+0.5
KMI				*PP	pP	11 48 54.9	+0.5
KMI				*SP	sP	11 48 56.1	+0.7
KMI						11 52 17.8	
KMI				PPP	PPP	11 54 15.2	+1.8
KMI						11 59 16.5	
KMI				S	S	11 59 30.0	+2.4
KMI				PS	PS	12 00 32.8	+2.4
KMI				SS	SS	12 05 17.1	+4.2
KMI				SSS	SSS	12 08 48.2	+4.5
KMI				pmax	pmax		
	comp=Z,20nm,1.5s,mb5.1						
KMI				MLR	MLR		
	comp=Z,5µm,40.7s,MS5.6						
KMI	Kunming	86.88	52	P	P	11 48 51.7	+0.5
	comp=Z,20nm,1.5s,mb5.1						
KMI				pP	pP	11 48 54.9	+0.5
KMI				sP	sP	11 48 56.1	+0.7
KMI				PP	PP	11 52 17.8	+1.4
KMI				PPP	PPP	11 54 15.2	+1.8
KMI				SKS	SKS	11 59 16.5	-3.9
KMI				S	S	11 59 30.0	+2.4
KMI				sS		11 59 35.2	
KMI				PS	PS	12 00 32.8	+2.4
KMI				SS	SS	12 05 17.1	+4.2
KMI				SSS	SSS	12 08 48.2	+4.5
KMI				LR	LR		
	comp=Z,5µm,40.7s,MS5.6						
ZAPS	Zavoj/Pirot	87.02	345	⇓iP	P	11 48 51.5	+0.1
SIM	Simferopol'	87.11	354	P	P	11 48 53.9	+2.1
SIM				eS	S	11 59 29.0	-0.3
SIM				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.6						
SIM				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.5						
CFR	Carcaliu	87.97	350	⇓P	P	11 48 57.1	+1.2
SVIS	Svilajnac	88.25	345	⇑iP	P	11 48 55.4	-1.9
AML	Almayashu	88.46	22	P	P	11 48 53.4	-4.9
	SNR=5.2						
MLR	Muntele Rosu	88.59	348	P	P	11 48 59.8	+0.9
MLR	Muntele Rosu	88.59	348	⇓P	P	11 48 56.9	-2.0
VOIR		88.67	348	⇑P	P	11 48 57.0	-2.3
UCH	Uchtor	88.79	23	P	P	11 49 01.2	+1.3
	SNR=21						
VRI	Vrincioaia	88.84	349	P	P	11 49 01.3	+1.2
VRI	Vrincioaia	88.84	349	⇓P	P	11 48 54.2	-5.9
KZA	Kyzart	88.87	24	P	P	11 49 01.5	+1.2
	SNR=16						
BEO	Belgrade	88.91	344	eP	P	11 48 57.0	-3.4
AAK	Ala-Archa	89.16	23	P	P	11 49 02.7	+1.0
	SNR=8.1						
AAK	Ala-Archa	89.16	23	eP	P	11 49 00.9	-0.8
AAK				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.6						
AAK	Ala-Archa	89.16	23	eP	P	11 49 00.9	-0.8
	comp=Z,35nm,1.2s,mb5.6						
KBK	Karagaybulak	89.31	23	P	P	11 49 03.2	+0.9
	SNR=8.5						
ULHL	Ulahol	89.32	24	P	P	11 49 03.3	+0.9
	SNR=19						
FRU	Bishkek	89.38	23	iP	P	11 49 03.5	+0.8
FRU				e		11 59 57.0	
FRU				pmax	pmax		
	comp=Z,80nm,2.5s,mb5.6						
CHMS	Chumysh	89.56	23	P	P	11 49 03.8	+0.3
	SNR=6.2						
KIS	Kishinev	89.67	351	eP	P	11 49 06.0	+2.0
KIS				e		12 00 00.0	
KIS				pmax	pmax		
	comp=Z,2µm,18.0s						
KIS				pmax	pmax		
	comp=N,1µm,18.0s						
KIS				pmax	pmax		
	comp=Z,2µm,18.0s						
KIS				pmax	pmax		
	comp=E,2µm,17.0s						
TKM2	Tokmak 2	89.74	23	P	P	11 49 04.4	0.0
	SNR=11						
LVC	Limon Verde	89.87	239	eP	P	11 49 04.2	-1.3
	comp=E,35nm,1.4s,mb5.5						
LVC				LR	LR		
	comp=Z,3µm,21.0s,MS5.6						
IAS	Iasi	90.03	350	P	P	11 49 10.1	+4.5
DRGR		90.38	346	P	P	11 49 11.9	+4.6
DRGR		90.38	346	⇑P	P	11 49 10.3	+3.0
BURAR	Bucovina Array	90.77	348	⇓P	P	11 49 08.1	-0.9
VISS	Visnje	91.09	341	eP	P	11 49 11.0	+0.5
CEY	Cerknica	91.13	341	iP	P	11 49 11.8	+1.0
KOGS	Kog	91.36	342	eP	P	11 49 12.9	+1.2
LJU	Ljubljana	91.39	341	eP	P	11 49 13.5	+1.6
BERF	Bertagne	91.42	334	eP	P	11 49 14.1	+2.0
CALN	Calern	91.42	335	eP	P	11 49 13.9	+1.8
SAOF	Saorge	91.43	335	eP	P	11 49 12.0	-0.2
AUTN	L'Aution	91.47	335	eP	P	11 49 15.4	+3.0
VOY	Vojsko	91.53	340	eP	P	11 49 11.0	-1.6
VOY				e		11 49 20.2	
TOUF	Mont Tournerai	91.55	335	eP	P	11 49 14.6	+1.9
TAVF	Tavernes	91.57	334	eP	P	11 49 15.2	+2.4
PUYF	Puyloubier	91.61	334	eP	P	11 49 15.2	+2.2
OBKA	Obir	91.82	341	⇑iP	P	11 49 14.4	+0.5
ROBS	Robic	91.83	340	eP	P	11 49 16.2	+2.2
ESLA	Sonseca Array	91.86	326	eP	P	11 49 14.2	0.0
	comp=Z,6.6nm,1.0s,mb4.9						
ESLA				LR	LR		
	comp=Z,16µm,19.0s,MS6.5						
CD2	Chengdu	91.86	49	P	P	11 49 15.1	+0.6
CD2				SKS	SKS	11 59 42.6	-8.0
CD2				S	S	12 00 11.2	-1.8
CD2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.7						
CD2				LR	LR		
	comp=N,1µm,22.2s						
CD2				LR	LR		
	comp=Z,2µm,40.2s						
PSZ	Piszkesteto	91.99	345	eP	P	11 49 14.2	-0.4
PSZ				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.6						
PSZ	Piszkesteto	91.99	345	eP	P	11 49 14.2	-0.4
	comp=Z,40nm,1.4s,mb5.5						
UZH	Uzhgorod	92.23	347	eP	P	11 49 13.0	-2.7
ARSA	Arzberg	92.28	342	⇑iP	P	11 49 16.8	+0.8
	comp=Z,139nm,2.1s,mb5.9						
KECS	Kecovo	92.42	345	eP	P	11 49 20.0	+3.4
KECS	Kecovo	92.42	345	epP	pP	11 49 20.0	+0.2
KOLS	Kolonicke sedl	92.53	347	eP	P	11 49 20.3	+3.2
KOLS	Kolonicke sedl	92.53	347	epP	pP	11 49 20.3	0.0
CRVS	Cervenica-Dubn	92.64	346	eP	P	11 49 21.4	+3.8
CRVS				eS	S	12 00 26.8	+7.4
CRVS				eSS	SS	12 06 38.9	+3.3
CRVS	Cervenica-Dubn	92.64	346	epP	pP	11 49 21.4	+0.6
CRVS	Cervenica-Dubn	92.64	346	eS	S	12 00 26.8	+7.4
CRVS				eSS	SS	12 06 38.9	+3.3
KBA	Koelnbreinsper	92.65	340	⇓iP	P	11 49 16.0	-1.7
	comp=Z,116nm,3.8s						
KBA	Koelnbreinsper	92.65	340	⇓iP	P	11 49 16.0	-1.7
KBA				pmax	pmax		
	comp=Z,116nm,3.8s						
VYHS	Vyhne	92.75	344	eP	P	11 49 17.0	-1.1
VYHS				eS	S	12 00 27.7	+7.4
VYHS				eSS	SS	12 06 40.2	+3.0
VYHS	Vyhne	92.75	344	eP	P	11 49 17.0	-1.1
VYHS				e		11 52 52.2	
VYHS				eS	S	12 00 27.7	+7.4
VYHS				eSS	SS	12 06 40.2	+3.0
ZST	Bratislava	92.82	343	eP	P	11 49 18.5	0.0
ZST				eS	S	12 00 28.7	+7.7
ZST				eSS	SS	12 06 44.4	+6.0
ZST	Bratislava	92.82	343	eS	S	12 00 28.7	+7.7
ZST				eSS	SS	12 06 44.4	+6.0
ZST				eL		12 31 45.4	
KWP	Kalwaria	93.13	347	eP	P	11 49 24.2	+4.3
MOA	Molln	93.14	341	⇑iP	P	11 49 16.1	-3.8
	comp=Z,207nm,4.2s						
WTTA	Wattenberg	93.26	339	⇑iP	P	11 49 20.6	+0.1
	comp=Z,82nm,2.6s,mb5.7						
WTTA	Wattenberg	93.26	339	⇑iP	P	11 49 20.6	+0.1
WTTA				pmax	pmax		
	comp=Z,82nm,2.6s,mb5.7						
SQTA	Sankt Quirin	93.33	339	⇓iP	P	11 49 21.5	+0.7
	comp=Z,58nm,1.7s,mb5.7						
SQTA	Sankt Quirin	93.33	339	⇓iP	P	11 49 21.5	+0.7
SQTA				pmax	pmax		
	comp=Z,58nm,1.7s,mb5.7						
MOTA	Moosalm	93.47	339	⇑iP	P	11 49 21.3	-0.2
	comp=Z,44nm,1.5s,mb5.7						
MOTA	Moosalm	93.47	339	⇑iP	P	11 49 21.3	-0.2
MOTA				pmax	pmax		
	comp=Z,44nm,1.5s,mb5.7						
VOR	Voronezh	93.60	358	eP	P	11 49 24.5	+2.5
VOR				pmax	pmax		
	comp=Z,70nm,1.5s,mb5.9						
DAVA	Damuels	93.75	338	⇓iP	P	11 49 20.0	-2.7
	comp=Z,179nm,3.8s						
LPAZ	La Paz	93.89	244	eP	P	11 49 24.9	+0.8
LPAZ				pmax	pmax		
	comp=Z,21nm,1.3s						
LPAZ				MLR	MLR		
	comp=Z,4µm,20.0s						
LPAZ	La Paz	93.89	244	S		11 59 53.4	
	comp=Z,0.5nm,0.7s,baz=185,slow=22,SNR=1.9						
LPAZ				LR	LR	12 27 06.5	
	comp=Z,4µm,18.7s,MS5.9,baz=124,slow=33						
LPAZ	La Paz	93.89	244	eP	P	11 49 24.9	+0.7
	comp=Z,21nm,1.3s,mb5.4						
LPAZ				LR	LR		
	comp=Z,4µm,20.0s,MS5.9						
OKC	Ostrava-Krasne	94.16	344	eP	P	11 49 27.4	+2.8
OKC				ePP	PP	11 53 09.5	-4.5
OKC				AMS	AMS	12 38 30.0	
	comp=Z,2µm,19.6s						
GERES	GERESS Array B	94.21	341	LR	LR	12 35 42.9	
	comp=Z,2µm,18.9s,MS5.6,baz=15,slow=38						
OJC	Ojcow	94.21	345	eP	P	11 49 26.8	+2.0
OJC				ePP	PP	11 53 14.7	+0.4
OJC				⇑eSKSa		12 00 01.4	
OJC				eS	S	12 00 34.4	+1.4
OJC				eSS	SS	12 06 59.8	+1.9
OJC				MLR	MLR	12 32 19.4	
	comp=Z,2µm,20.5s,MS5.6						
PMG	Port Moresby	94.22	107	PFAKE		11 49 40.0	+14
PMG				LR	LR		
	comp=Z,5µm,22.0s,MS6.0						
MORC	Moravsky Berou	94.23	344	eP	P	11 49 24.7	-0.2
MORC				pmax	pmax		
	comp=Z,12nm,1.3s,mb5.2						
MORC	Moravsky Berou	94.23	344	eP	P	11 49 24.7	-0.2
	comp=Z,12nm,1.3s,mb5.2						
KHC	Kasperske Hory	94.50	341	eP	P	11 49 25.9	-0.3
KHC				e		11 53 11.3	
KHC				MLR	MLR		
	comp=Z,3µm,19.1s,MS5.7						
KHC	Kasperske Hory	94.50	341	eP	P	11 49 25.9	-0.3
KHC				ePP	PP	11 53 11.3	-5.1
KHC				ex	x	12 00 46.1	
KHC				AMS	AMS	12 34 00.0	
	comp=Z,3µm,19.1s						
WMQ	Urumqi	94.65	31	P	P	11 49 23.6	-3.4
WMQ				AP	pP	11 49 27.8	-2.4
WMQ				XP	sP	11 49 30.2	-1.0
WMQ				PP	PP	11 53 14.8	-2.8
WMQ				SKS	SKS	11 59 57.2	-8.6
WMQ				S	S	12 00 34.1	-2.8
WMQ				AMB	AMB		
	comp=Z,15nm,1.2s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,353nm,4.8s						
WMQ				LR	LR		
	comp=N,1µm,26.4s,MS5.4						
WMQ				LR	LR		
	comp=E,1µm,26.3s,MS5.4						
WMQ				LR	LR		
	comp=Z,2µm,32.0s						
LOMF	Lomont	94.68	336	eP	P	11 49 28.2	+1.2
DPC	Dobruska-Polom	95.03	343	eP	P	11 49 28.8	+0.2
DPC				e	PP	11 53 16.2	-3.9
DPC				e	S	12 00 36.2	-3.7
DPC				MLR	MLR		
	comp=Z,2µm,17.4s,MS5.6						
DPC	Dobruska-Polom	95.03	343	eP	P	11 49 28.8	+0.2
DPC				ePP	PP	11 53 16.2	-3.9
DPC				eSKS	S	12 00 35.4	-4.5
DPC				eSKS	S	12 00 36.2	-3.7
DPC				LR	LR		
	comp=Z,2µm,17.4s,MS5.6						
DPC	Dobruska-Polom	95.03	343	eP	P	11 49 28.8	+0.2
DPC				ePP	PP	11 53 16.2	-3.9
DPC				eS	S	12 00 35.4	-4.5
DPC				AMS	AMS	12 36 20.0	
	comp=Z,2µm,17.4s						
PRU	Pruhonice	95.08	342	eP	P	11 49 29.3	+0.5
PRU				e		11 53 17.5	
PRU				MLR	MLR		
	comp=Z,3µm,18.4s,MS5.7						
PRU	Pruhonice	95.08	342	eP	P	11 49 29.3	+0.5
PRU				ePP	PP	11 53 17.5	-3.0
PRU				eSKS		12 00 52.0	
PRU				AMS	AMS	12 35 50.0	
	comp=Z,3µm,18.4s						
UPC	Upice	95.24	343	eP	P	11 49 28.4	-1.1
MKAR	Makanchi Array	95.31	26	S		11 59 59.0	
	comp=Z,0.1nm,0.4s,baz=243,slow=34,SNR=2.3						
MKAR				LR	LR	12 29 48.8	
	comp=Z,786nm,20.9s,MS5.2,baz=197,slow=34						
WLS	Welschbruch	95.48	337	eP	P	11 49 29.9	-0.8
KSP	Ksiaz	95.50	344	eP	P	11 49 30.9	+0.2
KSP				e		12 00 01.0	
KSP				eS	S	12 00 45.0	+1.1
KSP				eSS	SS	12 07 18.0	+2.1
KSP				MLR	MLR		
	comp=Z,6µm,36.5s,MS5.8						
PVCC	Panska Ves	95.58	342	eP	P	11 49 31.3	+0.2
PVCC				AMS	AMS	12 34 40.0	
	comp=Z,2µm,19.6s						
GRA1	Grafenberg Arr	95.60	340	eP	P	11 49 35.5	+4.3
	comp=Z,20nm,1.1s,mb5.5						
GRA1				ePP	PP	11 53 21.7	-3.0
GRA1				epPP		11 53 31.7	
GRA1				eS	S	12 00 47.5	+2.7
GRA1				eSP	SP	12 02 02.2	-6.1
GRA1				eSS	SS	12 07 01.8	-16
GRA1				LR	LR		
	comp=Z,3µm,21.1s,MS5.7						
GRF	Grafenberg Arr	95.60	340	eP	P	11 49 35.5	+4.3
GRF				e		11 53 21.7	
GRF				eS	S	12 00 47.5	+2.7
GRF				eSP	SP	12 02 02.2	-6.1
GRF				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.5						
GRF				MLR	MLR		
	comp=Z,3µm,21.1s,MS5.7						
GRF	Grafenberg Arr	95.60	340	eP	P	11 49 35.5	+4.3
GRF				e		11 53 21.7	
GRF				eS	S	12 00 47.5	+2.7
GRF				eSP	SP	12 02 02.2	-6.1
GRF				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.5						
GRF				MLR	MLR		
	comp=Z,3µm,21.1s,MS5.7						
GRF	Grafenberg Arr	95.60	340	eP	P	11 49 35.5	+4.3
	comp=Z,20nm,1.1s,mb5.5						
GRF				ePP	PP	11 53 21.7	-3.0
GRF				epPP		11 53 31.7	
GRF				eS	S	12 00 47.5	+2.7
GRF				eSP	SP	12 02 02.2	-6.1
GRF				eSS	SS	12 07 01.8	-16
GRF				LR	LR		
	comp=Z,3µm,21.1s,MS5.7						
SAML	Samuel	95.64	253	eP	P	11 49 30.9	-1.3
	comp=Z,11nm,1.3s,mb5.1						
SAML				LR	LR		
	comp=Z,5µm,19.0s,MS6.0						
NKC	Novy Kostel	95.80	341	eP	P	11 49 32.6	+0.5
NKC				AMS	AMS	12 34 20.0	
LZH	Lanzhou	95.82	45	eP	P	11 49 31.0	-1.6
LZH				AP	pP	11 49 34.2	-1.6
LZH				PP	PP	11 53 26.0	-0.8
LZH				SKS	SKS	12 00 05.9	-6.5
LZH				eS	S	12 00 48.2	+1.2
LZH				SS	SS	12 07 24.1	+3.3
LZH				AMB	AMB		
	comp=Z,39nm,1.5s,mb5.6						
LZH				AMB	AMB		
	comp=Z,232nm,7.2s						
LZH				LR	LR		
	comp=N,1µm,15.2s						
LZH				LR	LR		
	comp=Z,1µm,18.0s,MS5.5						
LZH	Lanzhou	95.82	45	eP	P	11 49 31.0	-1.6
LZH				*PP	pP	11 49 34.2	-1.6
LZH				*SP	sP	11 49 35.7	-1.1
LZH						11 53 26.0	
LZH						12 00 05.9	
LZH				eS	S	12 00 48.2	+1.2
LZH				SS	SS	12 07 24.1	+3.3
LZH				pmax	pmax		
	comp=Z,39nm,1.5s,mb5.6						
LZH				MLR	MLR		
	comp=Z,1µm,18.0s,MS5.5						
LZH	Lanzhou	95.82	45	eP	P	11 49 31.0	-1.6
	comp=Z,39nm,1.5s,mb5.6						
LZH				pP	pP	11 49 34.2	-1.6
LZH				sP	sP	11 49 35.7	-1.1
LZH				PP	PP	11 53 26.0	-0.8
LZH				SKS	SKS	12 00 05.9	-6.5
LZH				eS	S	12 00 48.2	+1.2
LZH				sS		12 00 55.8	
LZH				SS	SS	12 07 24.1	+3.3
LZH				LR	LR		
	comp=Z,1µm,18.0s,MS5.5						
BRG	Berggiesshubel	96.04	342	eP	P	11 49 37.3	+4.1
BRG						11 53 32.0	
BRG						12 00 05.0	
BRG				S	S	12 00 54.0	+5.5
BRG				SS	SS	12 07 19.0	-4.6
BRG				pmax	pmax		
	comp=Z,31nm,1.8s,mb5.4						
BRG				MLR	MLR		
	comp=Z,3µm,17.4s,MS5.8						
BRG				MLR	MLR		
	comp=N,2µm,17.0s,MS5.9						
BRG				MLR	MLR		
	comp=E,2µm,17.0s,MS5.9						
BRG	Berggiesshubel	96.04	342	eP	P	11 49 37.3	+4.1

comp=E,31nm,1.8s,mb5.4
BRG PP PP 11 53 32.0 +3.8
BRG SKS SKS 12 00 05.0 -8.2
BRG S S 12 00 54.0 +5.5
BRG SS SS 12 07 19.0 -4.6
BRG LR LR
comp=Z,3μm,17.4s,MS5.8
GTA Gaotai 96.32 41 P **P** **11 49 35.2 +0.4**
GTA AP pP 11 49 39.8 +1.8
GTA XP sP 11 49 42.3 +3.3
GTA PP PP 11 53 26.9 -3.8
GTA SKS SKS 12 00 09.5 -5.5
GTA S S 12 00 48.7 -2.5
GTA XS 12 01 01.2
GTA PS PS 12 02 18.8 +0.9
GTA SS SS 12 07 29.0 +1.2
GTA AMB AMB
comp=Z,23nm,0.9s,mb5.6
GTA AMB AMB
comp=Z,170nm,4.9s
GTA LR LR
comp=N,2μm,26.6s,MS5.5
GTA LR LR
comp=E,1μm,25.5s,MS5.5
GTA LR LR
comp=Z,3μm,26.6s,MS5.7
MOX Moxa 96.38 341 *e*P **P** **11 49 38.7 +4.0**
MOX *e* 12 00 08.0
MOX *e*S S 12 01 00.0 +8.6
MOX *e*SS SS 12 07 40.0 +12
MOX pmax pmax
comp=Z,37nm,2.1s,mb5.5
MOX MLR MLR
comp=Z,3μm,20.0s,MS5.8
MOX Moxa 96.38 341 *e*P **P** **11 49 38.7 +4.0**
comp=Z,37nm,2.1s,mb5.5
MOX *e*SKS SKS 12 00 08.0 -7.0
MOX *e*S S 12 01 00.0 +8.6
MOX *e*PS PS 12 02 30.0 +12
MOX *e*SS SS 12 07 40.0 +12
MOX LR LR
comp=Z,3μm,20.0s,MS5.8
MOX Moxa 96.38 341 *i* P **P** **11 49 38.7 +4.0**
comp=Z,logA/T=1.2,mb5.4
MOX SKS SKS 12 00 08.0 -7.0
MOX S S 12 01 00.0 +8.6
MOX PS PS 12 02 30.0 +12
MOX SS SS 12 07 40.0 +12
MOX L 12 37 48.0
QZH Quanzhou 96.64 62 *e*P **P** **11 49 35.2 -1.3**
QZH S S 12 00 51.0 -3.2
QZH SS SS 12 07 35.0 +2.5
QZH LR LR
comp=N,2μm,18.4s,MS5.7
QZH LR LR
comp=E,1μm,18.0s,MS5.7
QZH LR LR
comp=Z,8μm,41.7s
CLL Collm 96.67 342 *e*P **P** **11 49 39.0 +3.0**
CLL *i* 11 49 47.2
CLL *e* 12 00 09.0
CLL *e*S S 12 01 00.0 +6.2
CLL pmax pmax
comp=Z,19nm,1.4s,mb5.3
CLL MLR MLR
comp=Z,3μm,20.6s,MS5.7
CLL Collm 96.67 342 *e*P **P** **11 49 39.0 +3.0**
comp=Z,19nm,1.4s,mb5.3
CLL *i* 11 49 47.2
CLL *e*SKS SKS 12 00 09.0 -7.5
CLL *e*S S 12 01 00.0 +6.2
CLL LR LR
comp=Z,3μm,20.6s,MS5.7
CLL Collm 96.67 342 P **P** **11 49 39.0 +3.0**
comp=Z,logA/T=1.1,mb5.3
CLL *i* 11 49 47.2
CLL *i* 11 49 57.9
CLL *e*PP PP 11 53 30.0 -3.2
CLL *e* 11 57 27.0
CLL *e* 12 00 09.0
CLL *e*S S 12 01 00.0 +6.2
CLL *e*PPS PPS 12 03 18.0 +17
CLL *e*SS SS 12 07 24.0 -8.2
CLL *e* 12 15 00.0
OBN Obninsk 97.08 356 *e*P **P** **11 49 35.8 -2.0**
OBN *e* 11 53 35.9
OBN *e* 12 00 10.0
OBN *i*S S 12 01 02.1 +4.8
OBN *e*PS PS 12 02 27.9 +2.1
OBN pmax pmax
comp=Z,6.0nm,0.4s,mb5.4
OBN MLR MLR
comp=Z,1μm,18.0s,MS5.5
OBN Obninsk 97.08 356 *e*P **P** **11 49 35.9 -1.9**
OBN LR LR
comp=Z,1μm,15.0s,MS5.4
XAN Xi'an 97.09 50 P **P** **11 49 37.6 -0.8**
XAN AMB AMB
comp=Z,5.0nm,1.2s,mb4.8
XAN LR LR
comp=N,512nm,23.5s,MS5.2
XAN LR LR
comp=E,894nm,22.1s,MS5.2
XAN LR LR
comp=Z,1μm,24.8s,MS5.3
DZM Mont Dzumac 97.60 129 LR LR 12 25 55.7
comp=Z,4μm,20.5s,MS5.9,baz=45,slow=31
MOS Moscow 97.67 357 *e*P **P** **11 49 45.5 +5.1**
MOS *e* 11 49 53.9
MOS *e* 11 53 39.7
MOS pmax pmax
comp=Z,56nm,1.0s,mb6.0
MOS MLR MLR
comp=Z,2μm,21.5s,MS5.6
TATO Taipei 98.58 64 PFAKE 11 50 00.0 +15
TATO LR LR
comp=Z,1μm,22.0s,MS5.4
ARU Arti 99.17 9⇓ *i*P **P** **11 49 46.4 -0.7**
ARU pmax pmax
comp=Z,5.0nm,1.7s,mb4.8
ARU Arti 99.17 9 PFAKE 11 50 00.0 +13
ARU LR LR
comp=Z,302nm,20.0s,MS4.8
RAO Raoul Island 99.62 145 PFAKE 11 50 00.0 +10
RAO LR LR
comp=Z,3μm,21.0s,MS5.8
SVE Sverdlovsk 99.80 10 *i* P **P** **11 49 48.5 -1.6**
SVE *e* 11 53 55.0
SVE *e* 12 01 26.0
COP Copenhagen 100.86 343 *i* P PP 11 54 02.4 -3.2
CMLA Cha da Macela 100.97 311 PFAKE 11 50 10.0 +14
CMLA LR LR
comp=Z,1μm,21.0s,MS5.5
NJ2 Nanjing 101.64 57 *e*P P 11 49 55.8 -3.2
NJ2 AP 11 50 00.3
NJ2 PP PP 11 54 09.3 -2.5
NJ2 SKS SKS 12 00 33.0 -8.9
NJ2 S S 12 01 35.0 -1.1
NJ2 AMB AMB
comp=Z,440nm,5.6s
NJ2 LR LR
comp=N,380nm,22.8s,MS5.0
NJ2 LR LR
comp=E,340nm,26.5s,MS5.0
NJ2 LR LR
comp=Z,190nm,22.9s
MUD Monsted U'grnd 102.30 342 *i* P PP 11 54 08.3 -7.8
MUD *i* 11 58 05.5
MUD *e* 12 03 32.4
MUD *i*S SS 12 08 56.4 +5.4
MUD *i* 12 09 12.3
comp=Z,3μm,19.0s
SSE Sheshan 102.48 59 P Pdif 11 50 06.8 +4.0
SSE PP PP 11 54 19.6 +1.4
SSE S S 12 01 48.6 +5.5
SSE SS SS 12 08 57.2 +3.1
SSE LR LR
comp=N,1μm,20.0s,MS5.6
SSE LR LR
comp=E,1μm,20.0s,MS5.6
SSE LR LR
comp=Z,2μm,20.0s,MS5.6
SSE Sheshan 102.48 59 P Pdif 11 50 06.8 +4.0
comp=Z,15nm,0.9s
SSE S S 12 01 48.6 +5.5
SSE SS SS 12 08 57.2 +3.1
SSE LR LR
comp=Z,2μm,20.0s,MS5.6
NVS Novosibirsk 102.65 23 *e*P Pdif 11 50 04.2 +1.3
NNA Nana 102.77 241 PFAKE 11 50 10.0 +5.6
NNA LR LR
comp=Z,900nm,21.0s,MS5.3
HNR Honiara 103.06 116 PFAKE 11 50 20.0 +14
HNR LR LR
comp=Z,3μm,21.0s,MS5.8
ESK Eskdalemuir 104.71 335 PFAKE 11 50 20.0 +8.0
ESK LR LR
comp=Z,1μm,20.0s,MS5.4
KONO Kongsberg 105.11 343 *e*PP PP 11 54 34.3 -3.1
KONO *e*SS SS 12 09 30.1 +0.9
SONM Songino Array 105.80 39 Pdiff Pdif 11 50 16.1 -0.9
comp=Z,0.4nm,0.4s,baz=29,slow=38,SNR=3.4
SONM PP 11 54 26.5
comp=Z,0.3nm,0.4s,baz=217,slow=6.2,SNR=3.8
NAO01 NORSAR Array S 105.93 344 PFAKE 11 54 40.0
NAO01 LR LR
comp=Z,3μm,21.0s,MS5.8
ULN Ulaanbaatar 106.13 39 PFAKE 11 54 40.0
ULN LR LR
comp=Z,1μm,19.0s,MS5.5
BER Bergen 106.72 342 *e* Px 11 53 21.5
BER AMS AMS 12 41 26.6
comp=Z,1μm,21.4s,MS5.5
TLY Talaya 107.37 35 PFAKE 11 54 40.0
TLY LR LR
comp=Z,344nm,21.0s,MS4.9
GUMO Guam 107.93 88 PFAKE 11 54 50.0
GUMO LR LR
comp=Z,632nm,20.0s,MS5.2
NSS Namsos 109.11 346 AMS AMS 12 45 30.2
comp=Z,2μm,17.8s,MS5.7
APA Apatity 109.67 356 *e*P Pdif 11 50 31.0 -2.5
APA *e* 11 55 18.0
APA *e*PS PS 12 04 32.0 -1.2
APA *e*PPS PPS 12 05 38.0 -1.8
APA *e*SS SS 12 10 35.0 +4.0
APA *e*SSS SSS 12 14 38.0 -0.3
INCN Inchon 110.03 57 PFAKE 11 54 50.0 +11
INCN LR LR
comp=Z,1μm,21.0s,MS5.5
ARCES ARCESS Array B 112.14 354 PKKPab 12 05 32.6
comp=Z,4.6nm,0.9s,slow=3.6,SNR=12
KEV Kevo 112.24 354 PFAKE 11 54 50.0 +7.2
KEV LR LR
comp=Z,2μm,20.0s,MS5.7
PTCN Pitcairn Islan 112.74 187 PFAKE 11 54 50.0 +5.1
PTCN LR LR
comp=Z,3μm,21.0s,MS5.9
OTAV Otavalo 112.82 248 PFAKE 11 54 50.0 +4.7
OTAV LR LR
comp=Z,3μm,20.0s,MS5.8
TRO Tromso 112.89 351 *e*PP PP 11 55 34.5 0.0
TRO *e*SS SS 12 11 15.8 +1.9
TRO AMS AMS 12 48 49.1
comp=Z,2μm,22.1s,MS5.7
CN2 Changchun 113.15 51 *e*PKP 11 54 35.3
CN2 PP PP 11 55 33.6 -3.5
CN2 PPP PPP 11 58 02.6 +2.4
CN2 SS SS 12 11 24.1 +6.0
CN2 PP PP
comp=Z,400nm,5.0s
CN2 LR LR
comp=N,1μm,19.0s,MS5.5
CN2 LR LR
comp=E,600nm,19.0s,MS5.5
CN2 LR LR
comp=Z,2μm,21.0s,MS5.6
ROSC El Rosal 113.17 255 PP PP 11 55 32.0 -5.9
comp=Z,2.5nm,0.4s,baz=283,slow=23,SNR=4.7
SDV Santo Domingo 113.22 261 PFAKE 11 55 00.0 +14
SDV LR LR
comp=Z,5μm,19.0s,MS6.1
TBI Tubuai 113.81 168 *e*P PP 11 55 34.9 -7.3
TBI *e*PP x 11 57 32.5
comp=Z,213nm,35.0s
TBI *e*S x 12 05 00.2
comp=Z,3μm,28.2s
RKT Rikitea 114.98 182 *e*P PP 11 55 41.4 -9.0
RKT *e*PP x 11 58 06.6
comp=Z,112nm,26.8s
AFI Afiamalu 115.75 142 PFAKE 11 55 00.0 +9.0
AFI LR LR
comp=Z,2μm,20.0s,MS5.8
SJG San Juan 115.84 271 PFAKE 11 55 00.0 +8.9
SJG LR LR
comp=Z,2μm,19.0s,MS5.8
MDJ Mudanjiang 116.05 53 PDIF Pdif 11 50 59.4 -2.7
MDJ PS PS 12 05 35.6 +1.2
MDJ SS SS 12 12 00.6 +4.9
MDJ PP PP
comp=Z,185nm,16.1s
MDJ LR LR
comp=N,1μm,45.0s
MDJ LR LR
comp=E,2μm,36.3s
MDJ LR LR
comp=Z,2μm,41.8s,MS5.5
MAJO Matsushiro 116.97 64 PFAKE 11 55 00.0 +7.1
MAJO LR LR
comp=Z,879nm,21.0s,MS5.3
JMIC Jan Mayen 118.68 343 *e*P PKPdf 11 54 51.8 -3.7
JMIC Jan Mayen 118.68 343 *e* PKPdf 11 54 51.8 -3.7
JMIC *e*SS SS 12 12 30.9 +1.5
JMIC AMS AMS 12 49 40.6
comp=Z,1μm,22.4s,MS5.5
KLR Kul'dur 119.79 49 *e*PKIKP PKPdf 11 54 51.1 -6.8
KLR *e* 11 56 24.0
KLR *e* 12 06 11.5
KLR *e* 12 07 27.5
KLR *e* 12 12 52.0
PAYG Puerto Ayora 119.96 238 PFAKE 11 55 10.0 +11
PAYG LR LR
comp=Z,2μm,20.0s,MS5.7
CLNS Chul'man 120.21 39 *e*PKIKP PKPdf 11 54 56.9 -1.7
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=E,37nm,0.8s
CLNS pmax pmax
comp=Z,36nm,0.8s
KWAJ Kwajalein Atol 121.43 108 PFAKE 11 55 10.0 +7.9
KWAJ LR LR
comp=Z,1μm,21.0s,MS5.5
KBS Kingsbay 122.22 353 PFAKE 11 55 10.0 +7.9
KBS LR LR
comp=Z,1μm,20.0s,MS5.6
KBS Kingsbay 122.22 353 *e*PP PP 11 56 38.2 -0.7
KBS *e*SS SS 12 13 18.0 +2.7
KBS AMS AMS 12 50 58.6
comp=Z,768nm,20.1s,MS5.3
BBSR BB Station 123.04 286 PFAKE 11 55 10.0 +5.3
BBSR LR LR
comp=Z,2μm,21.0s,MS5.6
JTS JuntasAbangare 124.48 251 PFAKE 11 55 20.0 +12
JTS LR LR
comp=Z,652nm,20.0s,MS5.3
DAG Danmarks Havn 124.71 346⇑ *i*PKIKP PKPdf 11 55 09.7 +2.8
DAG pmax pmax
comp=Z,4.0nm,0.7s
DAG MLR MLR
comp=N,2μm,21.0s
DAG MLR MLR
comp=Z,2μm,21.0s,MS5.8
DAG Danmarks Havn 124.71 346⇑ *i*P PKPdf 11 55 09.7 +2.8
comp=Z,4.1nm,0.7s
comp=Z,2μm,21.0s
YAK Yakutsk 124.85 35 *i* PKIKP PKPdf 11 55 06.0 -1.4
YAK MLR MLR
comp=Z,952nm,21.0s,MS5.4
YSS Yuzh-Sakhalins 125.16 56⇑ *i*PKIKP PKPdf 11 55 04.1 -4.3
YSS *e* 11 57 02.0
YSS *e*PPP PPP 11 59 38.0 -1.4
YSS *e*SS SS 12 14 01.0 +8.1
YSS pmax pmax
comp=Z,20nm,0.8s
YSS Yuzh-Sakhalins 125.16 56 *e*PKP PKPdf 11 55 06.3 -2.1
YSS LR LR
comp=Z,850nm,22.0s,MS5.4
WAKE Wake Island 127.67 98 PFAKE 11 55 20.0 +6.0
WAKE LR LR
comp=Z,2μm,19.0s,MS5.8
TIXI Tiksi 128.23 24 *i* PKIKP PKPdf 11 55 09.6 -4.1
TIXI pmax pmax
comp=Z,9.0nm,1.2s
TIXI Tiksi 128.23 24⇑ *i*PKP PKPdf 11 55 10.7 -3.0
TIXI LR LR
comp=Z,1μm,19.0s,MS5.6
PQI Presque Isle 131.82 300 PFAKE 11 55 30.0 +8.8
PQI LR LR
comp=Z,12μm,20.0s,MS6.6
WVL Waterville 132.11 297 PFAKE 11 55 30.0 +8.2
WVL LR LR
comp=Z,9μm,21.0s,MS6.4
WES Weston 132.38 294 PFAKE 11 55 30.0 +7.6
WES LR LR
comp=Z,2μm,22.0s,MS5.9
HRV Harvard--Oak R 132.59 294 PFAKE 11 55 30.0 +7.2
HRV LR LR
comp=Z,2μm,21.0s,MS5.9
DWPF Disney 133.04 271 PFAKE 11 55 30.0 +6.0
DWPF LR LR
comp=Z,3μm,20.0s,MS5.9
SCHQ Schefferville 133.63 311 PP PP 11 57 45.0 -9.1
comp=Z,2.6nm,0.9s,baz=184,slow=17,SNR=1.8
SCHQ Schefferville 133.63 311 PFAKE 11 55 30.0 +5.8
SCHQ LR LR
comp=Z,5μm,21.0s,MS6.2
MA2 Magadan 133.87 42⇓ *i*PKIKP PKPdf 11 55 22.5 -2.0
MA2 MLR MLR
comp=Z,802nm,19.0s,MS5.5
NHSC New Hope 134.66 278 PFAKE 11 55 40.0 +13
NHSC LR LR
comp=Z,2μm,21.0s,MS5.8
CBN Corbin 134.91 286 PFAKE 11 55 40.0 +13
CBN LR LR
comp=Z,2μm,21.0s,MS5.9
SEY Seymchan 135.18 38 *e*PKIKP PKPdf 11 55 24.0 -3.0
SEY *e* 11 57 58.6
SEY *e* 12 10 11.1
SEY *e* 12 16 00.1
SEY pmax pmax
comp=Z,10.0nm,0.9s
BINY Binghamton 135.51 292 PKPdf PKPdf 11 55 24.0 -4.2
BINY LR LR
comp=Z,2μm,19.0s,MS5.9
JSC Jenkinsville 136.01 279 *e*PKIKP PKPdf 11 55 27.4 -1.9
BLA Blacksburg 136.69 283 PFAKE 11 55 40.0 +10
BLA LR LR
comp=Z,2μm,20.0s,MS5.9
PET Petropavlovsk 136.83 53 *e*PKIKP PKPdf 11 55 30.4 +0.2
PET *e* 11 58 11.8
PET *e*PPP PPP 12 01 15.9 +1.5
PET *e*PPS PPS 12 10 21.1 -0.1
PET *e*SS SS 12 16 13.0 -2.6
PET pmax pmax
comp=Z,30nm,0.8s
PET pmax pmax
comp=Z,300nm,21.4s
PET pmax pmax
comp=Z,500nm,26.3s
PET pmax pmax
comp=Z,24nm,1.5s
PET MLR MLR
comp=Z,600nm,26.0s,MS5.2
PET Petropavlovsk 136.83 53⇑ *i*PKP PKPdf 11 55 29.0 -1.1
PET LR LR
comp=Z,980nm,21.0s,MS5.5
FWV Forest Hill 137.13 283 *e*PKPdf PKPdf 11 55 29.8 -1.4
MCWV Mont Chateau 137.26 287 PFAKE 11 55 40.0 +8.6
MCWV LR LR
comp=Z,2μm,22.0s,MS5.8
ALLY Alegheny Colle 138.21 289 *e*PKPdf PKPdf 11 55 31.9 -1.3
MYNC Murphy 138.47 278 PFAKE 11 55 40.0 +6.2
MYNC LR LR
comp=Z,2μm,21.0s,MS5.9
LRAL Lakeview Retre 139.67 274 PFAKE 11 55 40.0 +4.0
LRAL LR LR
comp=Z,2μm,21.0s,MS5.9
BILL Bilibino 140.75 30 *e*PKIKP PKPdf 11 55 35.8 -1.1
BILL Bilibino 140.75 30 *e*PKP PKPdf 11 55 35.9 -1.0
WVT Waverly 141.65 278 *e*PKIKP PKPdf 11 55 37.6 -1.8
WVT MLR MLR
comp=Z,2μm,20.0s,MS5.8
BLO Bloomington 141.88 283 *e*PKHKP 11 55 31.7
OXF Oxford 142.13 274 PFAKE 11 55 50.0 +10
OXF LR LR
comp=Z,2μm,21.0s,MS5.9
FVM French Village 144.29 279 *e*PKIKP PKPdf 11 55 39.8 -4.1
UALR University of 144.42 273 *e*PKPdf PKPdf 11 55 39.7 -4.5
MIDW Midway 144.70 100 PFAKE 11 55 50.0 +8.2
MIDW LR LR
comp=Z,2μm,21.0s,MS5.8
NATX Nacogdoches 144.75 267 *e*PKPdf PKPdf 11 55 40.2 -4.7
NATX LR LR
comp=Z,2μm,20.0s,MS5.8
CCM Cathedral Cave 144.92 279 *e*PKIKP PKPdf 11 55 41.7 -3.3
CCM MLR MLR
comp=Z,2μm,20.0s,MS5.9
FX1 Attu Island--F 145.51 55 *e*PKPdf PKPdf 11 55 44.7 -0.9
SMY Shemya 146.07 55 *e*PKP2 PKPab 11 55 45.6 -1.4
SMY MLR MLR
comp=Z,3μm,22.0s,MS6.0
KSU1 Kansas State U 149.22 278 *e*PKPdf PKPdf 11 55 50.6 -1.5
TNA Tin City 150.98 26 PFAKE 11 56 00.0 +6.0
TNA LR LR
comp=Z,1μm,20.0s,MS5.7
AMTX Amarillo 151.40 267 *e*PKPdf PKPdf 11 55 52.8 -2.8
AMTX *e*PKPbc PKPdf 11 55 59.2 +3.6
AMTX LR LR
comp=Z,2μm,20.0s,MS6.0
CBKS Cedar Bluff 151.44 276 *e*PKIKP PKPdf 11 55 52.4 -3.1
CBKS MLR MLR
comp=Z,2μm,22.0s,MS6.0
CLNB Carlsbad 151.80 260 *e*PKPdf PKPdf 11 55 54.5 -1.7
CLNB *e*PKPbc PKPdf 11 56 00.1 +3.8
GDL2 Guadalupe Moun 152.12 260 *e*PKPbc PKPdf 11 56 00.6 +3.9
POHA Pohakuloa 152.79 140 PFAKE 11 56 10.0 +12
POHA LR LR
comp=Z,16μm,20.0s,MS6.8
KIP Kipapa 152.91 133 PFAKE 11 56 10.0 +12
KIP LR LR
comp=Z,2μm,20.0s,MS6.0
INK Inuvik 153.76 357 PKPbc PKPdf 11 56 00.5 +2.7
comp=Z,7.0nm,0.8s,baz=12,slow=4.4,SNR=9.0
INK Inuvik 153.76 357 *e*PKPbc PKPdf 11 56 01.1 +3.3
FFC Flin Flon 153.78 311 *e*PKIKP PKPdf 11 55 56.3 -2.0
FFC *e* 11 56 04.6
FFC MLR MLR
comp=Z,953nm,21.0s,MS5.6
IMA Indian Mountai 154.39 15 *e*PKIKP PKPdf 11 55 58.4 -0.4
BNM Barren Site 154.73 262 *e*PKPdf PKPdf 11 55 59.1 -1.1
ANMO Albuquerque 154.97 263 PKIKP PKPdf 11 55 58.5 -2.0
ANMO Albuquerque 154.97 263 *e*PKPdf PKPdf 11 55 58.8 -1.7
ANMO LR LR
comp=Z,2μm,20.0s,MS5.9
SDCO Great Sand Dun 155.35 270 *e*PKPdf PKPdf 11 55 59.5 -1.4
SDCO *e*PKPbc PKPdf 11 56 06.0 +5.1
SDCO LR LR
comp=Z,4μm,21.0s,MS6.2
YKW3 Yellowknife Ar 155.62 334 PKPdf PKPdf 11 55 57.6 -2.9
YKA Yellowknife Ar 155.67 334 PKPbc PKPdf 11 55 59.3 -1.2
comp=Z,2.5nm,0.8s,baz=35,slow=2.0,SNR=4.0
YKA PP PP 12 00 02.9 -1.4
comp=Z,1.5nm,0.9s,baz=53,slow=6.2,SNR=3.5
RSSD Black Hills 155.79 286 *e*PKIKP PKPdf 11 55 58.6 -2.7
RSSD MLR MLR
comp=Z,2μm,20.0s,MS6.0
DGMT Dagmar 156.07 297 *e*PKPdf PKPdf 11 55 58.5 -3.0
DGMT LR LR
comp=Z,4μm,21.0s,MS6.2
ISCO Idaho Springs 156.08 275 *e*PKIKP PKPdf 11 55 59.3 -2.5
ISCO MLR MLR
comp=Z,3μm,19.0s,MS6.2
PHWY Pilot Hill 156.34 279 *e*PKPdf PKPdf 11 56 00.5 -1.6
ILAR Eielson Array 156.72 10 PP PP 12 00 09.5 -0.4
comp=Z,1.4nm,1.1s,baz=339,slow=7.7,SNR=4.3
TUC Tucson 156.82 253 *e*PKIKP PKPdf 11 56 00.1 -3.0
TUC MLR MLR
comp=Z,2μm,20.0s,MS5.9
LAO LASA Array 157.49 292 *e*PKPdf PKPdf 11 56 00.7 -2.8
LAO LR LR
comp=Z,4μm,20.0s,MS6.2
RWWY Rawlins 157.71 279 *e*PKPdf PKPdf 11 56 01.1 -2.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PV01	**Paradox Valley**	**157.77**	**269**	*e*PKPdf	PKPdf	11 56 02.3	-1.9
SML	**Sawmill**	**159.27**	**15**	*e*PKIKP	PKPdf	11 56 02.2	-3.0
FIB	**Fire Island**	**159.46**	**18**	PFAKE		11 56 10.0	+4.6
FIB				LR	LR		
	comp=Z,1μm,20.0s,MS5.8						
SRU	**San Rafael**	**159.53**	**270**	*e*PKIKP	PKPdf	11 56 02.1	-4.1
PDAR	**Pinedale Array**	**159.61**	**281**	PP	PP	12 00 27.9	+1.9
	comp=Z,0.7nm,1.0s,baz=76,slow=3.7,SNR=2.2						
BW06	**Boulder Array**	**159.61**	**281**	*e*PKPdf	PKPdf	11 56 02.9	-3.2
BW06				LR	LR		
	comp=Z,3μm,20.0s,MS6.1						
TMUT	**Trail Mountain**	**160.09**	**270**	*e*PKPdf	PKPdf	11 56 05.0	-1.8
DIV	**Divide**	**160.35**	**12**	*e*PKPdf	PKPdf	11 56 04.9	-1.4
DIV				LR	LR		
	comp=Z,8μm,21.0s						
LKWY	**Lake**	**160.38**	**286**	PFAKE		11 56 20.0	+13
LKWY				LR	LR		
	comp=Z,5μm,21.0s						
DAU	**Daniels Canyon**	**160.42**	**274**	*e*PKIKP	PKPdf	11 56 04.8	-2.3
LOHW	**Long Hollow**	**160.46**	**283**	*e*PKPdf	PKPdf	11 56 05.1	-1.9
MSU	**Marysvale**	**160.57**	**267**	*e*PKIKP	PKPdf	11 56 05.6	-1.7
MOOW	**Moose Ponds**	**160.57**	**284**	*e*PKPdf	PKPdf	11 56 03.6	-3.5
MVU	**Marysvale**	**160.59**	**267**	*e*PKPdf	PKPdf	11 56 06.3	-1.0
MVU				LR	LR		
	comp=Z,4μm,22.0s						
EDM	**Edmonton**	**160.61**	**313**	*e*PKIKP	PKPdf	11 56 04.4	-2.4
JLU	**Jordanelle**	**160.61**	**274**	*e*PKPdf	PKPdf	11 56 03.5	-3.7
REDW	**Red Top Meadow**	**160.62**	**282**	*e*PKPdf	PKPdf	11 56 05.4	-1.7
TCUT	**Toone Canyon**	**160.69**	**275**	*e*PKPdf	PKPdf	11 56 03.1	-4.2
TPAW	**Teton Pass**	**160.70**	**283**	*e*PKPdf	PKPdf	11 56 05.7	-1.5
IMW	**Indian Meadow**	**160.73**	**284**	*e*PKPdf	PKPdf	11 56 06.0	-1.2
AHID	**Auburn Hatcher**	**160.73**	**281**	PFAKE		11 56 20.0	+13
AHID				LR	LR		
	comp=Z,3μm,21.0s						
YMR	**Madison River**	**160.78**	**286**	*e*PKPdf	PKPdf	11 56 05.8	-1.5
CTU	**Camp Tracy**	**160.85**	**274**	*e*PKPdf	PKPdf	11 56 05.7	-1.8
HWUT	**Hardware Ranch**	**160.90**	**277**	*e*PKPdf	PKPdf	11 56 05.5	-2.0
HWUT				LR	LR		
	comp=Z,3μm,22.0s						
BOZ	**Bozeman (W)**	**161.26**	**289**	*e*PKIKP	PKPdf	11 56 05.8	-1.9
BOZ				MLR	MLR		
	comp=Z,6μm,22.0s						
HRY	**Holter Researc**	**161.34**	**293**	*e*PKPdf	PKPdf	11 56 05.1	-2.7
NEN	**Nelson**	**161.41**	**257**	*e*PKPdf	PKPdf	11 56 06.7	-1.5
PFO	**Pinyon Flat Ob**	**161.52**	**249**	PFAKE		11 56 20.0	+12
PFO				LR	LR		
	comp=Z,650nm,20.0s						
CHMT	**Chamberlain Mo**	**162.29**	**294**	*e*PKPdf	PKPdf	11 56 06.8	-2.0
MSO	**Missoula**	**162.77**	**294**	*e*PKPdf	PKPdf	11 56 07.0	-2.2
MSO				*e*PKPab	PKPab	11 56 54.2	-3.2
MSO				LR	LR		
	comp=Z,2μm,19.0s						
HLID	**Hailey**	**163.22**	**282**	*e*PKPdf	PKPdf	11 56 09.2	-0.6
HLID				*e*PKPab	PKPab	11 56 59.3	-0.2
HLID				LR	LR		
	comp=Z,4μm,20.0s						
ELK	**Elko**	**163.45**	**272**	*e*PKIKP	PKPdf	11 56 08.8	-1.3
ELK				MLR	MLR		
	comp=Z,4μm,20.0s						
DAC	**Darwin (Calif)**	**163.68**	**255**	PFAKE		11 56 20.0	+10
DAC				LR	LR		
	comp=Z,4μm,20.0s						
TPH	**Tonopah**	**164.15**	**262**	PKIKP	PKPdf	11 56 10.4	-0.5
TPH	**Tonopah**	**164.15**	**262**	PFAKE		11 56 20.0	+9.1
TPH				LR	LR		
	comp=Z,3μm,20.0s						
NEW	**Newport**	**164.60**	**300**	*e*PKIKP	PKPdf	11 56 08.2	-2.8
NEW				*e*		11 57 02.8	
NEW				MLR	MLR		
	comp=Z,4μm,20.0s						
NEW	**Newport**	**164.60**	**300**	PP	PP	12 00 48.1	-4.7
	comp=Z,0.7nm,0.4s,baz=105,slow=4.3,SNR=2.7						
BMN	**Battle Mountai**	**164.85**	**270**	PFAKE		11 56 20.0	+8.5
BMN				LR	LR		
	comp=Z,3μm,20.0s						
MTUM	**Tungsten Hills**	**164.85**	**258**	*e*PKPdf	PKPdf	11 56 09.9	-1.7
MNV	**Mina**	**164.96**	**262**	PKIKP	PKPdf	11 56 09.8	-1.9
MNV				MLR	MLR		
	comp=Z,3μm,20.0s						
NVAR	**Mina Array Bea**	**165.07**	**262**	PP	PP	12 00 56.0	+0.5
	comp=Z,1.1nm,0.9s,baz=124,slow=6.5,SNR=3.3						
NVAR	**Mina Array Bea**	**165.07**	**262**	PP	PP	12 00 56.0	+0.5
SIT	**Sitka**	**165.08**	**356**	PFAKE		11 56 20.0	+8.8
SIT				LR	LR		
	comp=Z,3μm,20.0s						
OMM	**Old Mammoth Mi**	**165.27**	**258**	*e*PKPdf	PKPdf	11 56 09.8	-2.2
BMO	**Blue Mountains**	**165.30**	**287**	*e*PKIKP	PKPdf	11 56 09.4	-2.4
BMO				MLR	MLR		
	comp=Z,3μm,20.0s						
WVOR	**Wild Horse Val**	**166.23**	**277**	*e*PKIKP	PKPdf	11 56 10.9	-1.8
WVOR				MLR	MLR		
	comp=Z,7μm,21.0s						
CMB	**Columbia Colle**	**166.45**	**258**	PKIKP	PKPdf	11 56 10.2	-2.8
CMB				MLR	MLR		
	comp=Z,3μm,20.0s						
SAO	**San Andreas Ge**	**166.65**	**251**	PFAKE		11 56 20.0	+6.9
SAO				LR	LR		
	comp=Z,3μm,19.0s						
MOD	**Modoc**	**167.40**	**274**	*e*PKPdf	PKPdf	11 56 11.2	-2.2
MOD				LR	LR		
	comp=Z,5μm,20.0s						
HOPS	**Hopland**	**168.76**	**258**	PFAKE		11 56 20.0	+5.6
HOPS				LR	LR		
	comp=Z,4μm,20.0s						
WDC	**Whiskeytown Da**	**168.84**	**267**	PFAKE		11 56 20.0	+5.7
WDC				LR	LR		
	comp=Z,4μm,22.0s						
YBH	**Yreka Blue Hor**	**169.17**	**272**	PFAKE		11 56 20.0	+5.5
YBH				LR	LR		
	comp=Z,3μm,22.0s						
OCWA	**Octopus Mounta**	**169.22**	**305**	PFAKE		11 56 20.0	+5.7
OCWA				LR	LR		
	comp=Z,4μm,21.0s						
HUMO	**Hull Mountain**	**169.43**	**277**	*e*PKPdf	PKPdf	11 56 13.1	-1.5
HUMO				LR	LR		
	comp=Z,3μm,20.0s						
COR	**Corvallis**	**169.58**	**288**	PFAKE		11 56 20.0	+5.3
COR				LR	LR		
	comp=Z,3μm,22.0s						

OTT 04 11:47:13.2±0.1**,46.24N**×**76.91W,h18**km**,MN3.6**/31**,6D, Southern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLO	**Chalk River**	**0.39**	**238**	⇓PG	Pb	11 47 20.8	-0.4
CRLO				SG	Sb	11 47 26.2	-0.5
CRLO				Trac		11 47 26.3	
	comp=Z,805nm,0.1s						
PEMO	**Pembroke**	**0.61**	**203**	⇓PG	Pb	11 47 24.9	-0.2
PEMO				SG	Sb	11 47 33.5	+0.3
PEMO				Trac		11 47 34.0	
	comp=Z,285nm,0.0s						
GRQ	**Grand Remous**	**0.81**	**63**	⇓PG	Pb	11 47 27.9	-0.6
GRQ				SG	Sb	11 47 38.5	-0.5
GRQ				Trac		11 47 44.8	
	comp=Z,160nm,0.1s						
ALGO	**Algonquin Park**	**0.85**	**251**	⇓PG	Pb	11 47 28.5	-0.6
ALGO				SG	Sb	11 47 39.7	-0.2
ALGO				Trac		11 47 44.4	
	comp=Z,2μm,0.1s						
GAC	**Glen Almond**	**1.13**	**118**	PG	Pb	11 47 33.7	-0.2
GAC				PG	Pb	11 47 33.8	-0.2
GAC				SG	Sb	11 47 48.2	-0.1
GAC				SG	Sb	11 47 48.2	0.0
GAC				Trac		11 47 51.9	
	comp=Z,259nm,0.3s						
GAC				Trac		11 47 52.1	
	comp=Z,326nm,0.3s						
OTT	**Ottawa**	**1.19**	**135**	PG	Pb	11 47 33.7	-1.2
OTT				PG	Pb	11 47 33.8	-1.1
OTT				SG	Sb	11 47 50.4	+0.5
OTT				SG	Sb	11 47 50.5	+0.6
OTT				Trac		11 47 53.6	
	comp=Z,181nm,0.2s						
OTT				Trac		11 47 55.5	
	comp=Z,140nm,0.1s						
PLVO	**Plevna**	**1.21**	**186**	⇓PG	Pb	11 47 35.1	-0.1
PLVO				SG	Sb	11 47 51.2	+0.8
PLVO				Trac		11 47 54.5	
	comp=Z,170nm,0.1s						
BANO	**Bancroft**	**1.42**	**211**	⇓PG	Pn	11 47 38.2	-0.1
BANO				SG	Sb	11 47 57.3	+0.9
BANO				Trac		11 48 05.3	
	comp=Z,253nm,0.0s						
ALFO	**Alfred**	**1.54**	**113**	PG	Pn	11 47 40.6	+0.5
ALFO				SG	Sn	11 48 01.1	+1.3
ALFO				Trac		11 48 06.1	
	comp=Z,89nm,0.2s						
MPPO	**Murphy's Point**	**1.54**	**163**	PG	Pn	11 47 40.8	+0.7
MPPO				SG	Sn	11 48 00.5	+0.7
MPPO				Trac		11 48 06.3	
	comp=Z,250nm,0.2s						
EEO	**Eldee**	**1.55**	**286**	PG	Pn	11 47 40.1	-0.1
EEO				SG	Sn	11 48 00.8	+0.8
EEO				Trac		11 48 04.0	
	comp=Z,103nm,0.1s						
TRQ	**Mont Tremblant**	**1.63**	**90**	PN	Pn	11 47 41.7	+0.2
TRQ				SN	Sn	11 48 00.1	-2.0
TRQ				SG	Sn	11 48 03.6	+1.5
TRQ				Trac		11 48 05.1	
	comp=Z,160nm,0.2s						
DELO	**Deloro Mine**	**1.79**	**196**	PN	Pn	11 47 44.4	+0.6
DELO				SN	Sn	11 48 07.2	+0.9
DELO				Trac		11 48 14.4	
	comp=Z,170nm,0.1s						
MRHQ	**Morin Heights**	**1.91**	**100**	PN	Pn	11 47 45.4	0.0
MRHQ				SG	Sn	11 48 11.0	+1.9
MRHQ				Trac		11 48 16.8	
	comp=Z,79nm,0.2s						
VLDQ	**Val d'Or**	**1.91**	**349**	PN	Pn	11 47 47.0	+1.6
VLDQ				SN	Sn	11 48 11.6	+2.5
VLDQ				SG	Sn	11 48 14.6	+5.4
VLDQ				Trac		11 48 17.5	
	comp=Z,117nm,0.1s						
BUKO	**Buck Lake**	**1.92**	**246**	PN	Pn	11 47 45.9	+0.4
BUKO				SN	Sn	11 48 11.0	+1.7
BUKO				Trac		11 48 15.9	
	comp=Z,201nm,0.1s						
RSPO	**Restoule Provi**	**1.99**	**266**	PN	Pn	11 47 47.3	+0.8
RSPO				SN	Sn	11 48 12.0	+0.9
RSPO				Trac		11 48 18.7	
	comp=Z,185nm,0.2s						
KGNO	**Kingston**	**2.04**	**172**	PN	Pn	11 47 48.9	+1.7
KGNO				SN	Sn	11 48 12.0	-0.4
KGNO				SG	Sn	11 48 15.1	+2.8
KGNO				Trac		11 48 16.6	
	comp=Z,54nm,0.1s						
SADO	**Sadowa**	**2.15**	**228**	PN	Pn	11 47 48.9	0.0
SADO				SN	Sn	11 48 18.6	+3.3
SADO				Trac		11 48 23.4	
	comp=Z,130nm,0.1s						
LINO	**Lindsay**	**2.30**	**216**	PN	Pn	11 47 51.0	-0.1
LINO				SN	Sn	11 48 18.9	-0.3
LINO				SG	Sn	11 48 23.1	+3.9
LINO				Trac		11 48 26.2	
	comp=Z,147nm,0.1s						
PECO	**Prince Edward**	**2.31**	**182**	PN	Pn	11 47 51.3	+0.2
PECO				SN	Sn	11 48 18.5	-0.8
PECO				SG	Sn	11 48 23.3	+4.0
PECO				Trac		11 48 33.3	
	comp=Z,144nm,0.2s						
MNT	**Montreal**	**2.41**	**107**	PN	Pn	11 47 51.9	-0.6
MNT				SN	Sn	11 48 20.8	-1.1
MNT				SG	Sn	11 48 27.1	+5.2
MNT				Trac		11 48 30.1	
	comp=Z,64nm,0.2s						
KLBO	**Killbear Provi**	**2.48**	**250**	PN	Pn	11 47 53.4	-0.1
KLBO				SN	Sn	11 48 23.3	-0.2
KLBO				Trac		11 48 35.4	
	comp=Z,95nm,0.1s						
WLVO	**Wesleyville**	**2.55**	**205**	PN	Pn	11 47 57.1	+2.6
WLVO				SN	Sn	11 48 27.7	+2.4
WLVO				SG	Sn	11 48 32.9	+7.6
WLVO				Trac		11 48 33.0	
	comp=Z,105nm,0.2s						
PKRO	**Pickering**	**2.75**	**215**	PN	Pn	11 47 57.6	+0.3
PKRO				SN	Sn	11 48 28.6	-1.8
PKRO				SG	Sn	11 48 36.9	+6.5
PKRO				Trac		11 48 44.9	
	comp=Z,313nm,0.2s						
DPQ	**Saint Jean**	**2.89**	**80**	PN	Pn	11 47 58.3	-1.0
DPQ				SN	Sn	11 48 30.3	-3.7
DPQ				SG	Sn	11 48 40.0	+6.0
DPQ				Trac		11 48 44.1	
	comp=Z,66nm,0.1s						
KILO	**Kirkland Lake**	**2.96**	**321**	PN	Pn	11 47 59.3	-1.1
KILO				SN	Sn	11 48 33.5	-2.3
KILO				SG	Sn	11 48 41.4	+5.6
KILO				Trac		11 48 47.5	
	comp=Z,69nm,0.1s						
CLWO	**Collingwood**	**2.99**	**234**	PN	Pn	11 48 00.1	-0.7
CLWO				SN	Sn	11 48 36.3	-0.3
CLWO				SG	Sn	11 48 46.4	+10
CLWO				Trac		11 48 51.5	
	comp=Z,62nm,0.1s						
SUNO	**Sudbury Onapin**	**3.09**	**279**	PN	Pn	11 48 02.0	-0.3
SUNO				SN	Sn	11 48 37.2	-2.0
SUNO				SG	Sn	11 48 48.8	+10
SUNO				Trac		11 48 55.8	
	comp=Z,60nm,0.2s						
MEDO	**Medina**	**3.27**	**200**	PN	Pn	11 48 04.2	-0.6
MEDO				SN	Sn	11 48 41.4	-2.2
MEDO				SG	Sn	11 48 55.3	+12
MEDO				Trac		11 49 04.1	
	comp=Z,44nm,0.2s						
MOQ	**Mont Orford**	**3.39**	**104**	PN	Pn	11 48 05.7	-0.8
MOQ				SN	Sn	11 48 47.1	+0.6
MOQ				SG	Sn	11 48 55.8	+9.2
MOQ				Trac		11 49 05.1	
	comp=Z,21nm,0.2s						
TOBO	**Tobermory, Bru**	**3.39**	**254**	PN	Pn	11 48 06.5	+0.1
TOBO				SN	Sn	11 48 46.5	-0.2
TOBO				Trac		11 49 04.7	
	comp=Z,67nm,0.2s						
STCO	**Saint Catharin**	**3.43**	**209**	PN	Pn	11 48 11.3	+4.2
STCO				SN	Sn	11 48 45.9	-1.8
STCO				SG	Sn	11 48 57.3	+10
STCO				Trac		11 49 02.7	
	comp=Z,50nm,0.1s						
ACTO	**Acton**	**3.46**	**222**	PN	Pn	11 48 07.4	-0.1
ACTO				SN	Sn	11 48 46.3	-2.1
ACTO				SG	Sn	11 48 58.7	+10
ACTO				Trac		11 49 10.2	
	comp=Z,39nm,0.1s						
EFO	**Effingham**	**3.59**	**209**	PN	Pn	11 48 07.6	-1.7
EFO				PG	Pn	11 48 14.5	+5.2
EFO				SG	Sn	11 49 03.2	+12
ELGO	**Elora Gorge**	**3.59**	**226**	PN	Pn	11 48 08.6	-0.7
ELGO				SN	Sn	11 48 50.0	-1.7
ELGO				SG	Sn	11 49 02.1	+10
ELGO				Trac		11 49 05.6	
	comp=Z,43nm,0.1s						
BRCO	**Bruce Peninsul**	**3.77**	**240**	PN	Pn	11 48 11.9	-0.1
BRCO				SN	Sn	11 48 54.3	-2.1
BRCO				SG	Sn	11 49 09.6	+13
BRCO				Trac		11 49 13.9	
	comp=Z,180nm,0.2s						
TYNO	**Tyneside**	**3.79**	**215**	PN	Pn	11 48 14.2	+2.0
TYNO				SN	Sn	11 48 52.9	-3.9
TYNO				SG	Sn	11 49 11.2	+14
TYNO				Trac		11 49 13.2	
	comp=Z,47nm,0.1s						
QCQ	**Quebec**	**3.93**	**80**	SN	Sn	11 48 58.8	-1.5
QCQ				SG	Sn	11 49 09.4	+9.2
QCQ				Trac		11 49 13.8	
	comp=Z,100nm,0.3s						
HGVO	**Hagersville**	**4.00**	**216**	PN	Pn	11 48 13.9	-1.3
HGVO				SN	Sn	11 49 00.6	-1.7
HGVO				SG	Sn	11 49 19.3	+17
HGVO				Trac		11 49 23.0	
	comp=Z,30nm,0.1s						
BINY	**Binghamton**	**4.09**	**170**	PN	Pn	11 48 15.7	-0.8
BINY				SN	Sn	11 48 58.1	-6.4
BINY				SG	Sn	11 49 18.5	+14
BINY				Trac		11 49 21.5	
	comp=Z,36nm,0.3s						
DAQ	**Lac Daran**	**4.24**	**64**	PN	Pn	11 48 15.3	-3.2
DAQ				SN	Sn	11 49 06.5	-1.6
DAQ				SG	Sn	11 49 20.3	+12
DAQ				Trac		11 49 28.3	
	comp=Z,45nm,0.2s						
MALO	**McAlpine Lake**	**4.24**	**334**	PN	Pn	11 48 16.9	-1.7
MALO				SN	Sn	11 49 03.1	-5.1
MALO				SG	Sn	11 49 22.3	+14
MALO				Trac		11 49 27.6	
	comp=Z,55nm,0.2s						
ELFO	**Elginfield**	**4.38**	**227**	PN	Pn	11 48 18.4	-2.1
ELFO				SN	Sn	11 49 09.4	-2.3
ELFO				LG		11 49 28.6	
ELFO				Trac		11 49 35.7	
	comp=Z,61nm,0.2s						
A54	**Misere**	**4.62**	**72**	PN	Pn	11 48 20.7	-3.3
A54				SN	Sn	11 49 13.7	-4.1
A54				LG		11 49 31.6	
A54				Trac		11 49 38.0	
	comp=Z,53nm,0.3s						
LMQ	**La Malbaie**	**4.70**	**71**	PN	Pn	11 48 22.1	-3.0
LMQ				SN	Sn	11 49 15.2	-4.6
LMQ				LG		11 49 34.4	
LMQ				Trac		11 49 41.4	
	comp=Z,27nm,0.2s						
A11	**Saint Roch-des**	**4.72**	**75**	SN	Sn	11 49 16.4	-4.0
A11				LG		11 49 36.0	
A11				Trac		11 49 40.4	
	comp=Z,43nm,0.4s						
A61	**Sainte Mathild**	**4.89**	**70**	PN	Pn	11 48 24.3	-3.5
A61				SN	Sn	11 49 18.8	-5.8
A61				LG		11 49 38.6	
A61				Trac		11 49 47.1	
	comp=Z,38nm,0.3s						
A16	**Riviere Ouelle**	**4.89**	**73**	PN	Pn	11 48 26.8	-1.0
A16				SN	Sn	11 49 18.2	-6.5
A16				LG		11 49 40.7	
A16				Trac		11 49 48.3	
	comp=Z,24nm,0.2s						
KAPO	**Kapuskasing**	**4.95**	**312**	PN	Pn	11 48 26.3	-2.3
KAPO				SN	Sn	11 49 20.7	-5.5
KAPO				LG		11 49 39.4	
KAPO				Trac		11 49 47.6	
	comp=Z,14nm,0.2s						
OTRO	**Otter Rapids**	**5.05**	**323**	PN	Pn	11 48 27.0	-3.1
OTRO				SN	Sn	11 49 22.2	-6.4
OTRO				Trac		11 49 30.2	
	comp=Z,80nm,0.1s						
OTRO				LG		11 49 46.1	
A64	**Saint Simeon**	**5.05**	**69**	PN	Pn	11 48 29.7	-0.4
A64				SN	Sn	11 49 24.1	-4.6
A64				LG		11 49 45.3	
A64				Trac		11 49 54.3	
	comp=Z,25nm,0.2s						
A21	**Saint Andre**	**5.15**	**71**	PN	Pn	11 48 27.9	-3.5
A21				SN	Sn	11 49 23.8	-7.4
A21				LG		11 49 47.3	
A21				Trac		11 49 55.8	
	comp=Z,61nm,0.4s						
PLIO	**Pelee Island,**	**6.10**	**225**	PN	Pn	11 48 41.3	-3.5
PLIO				SN	Sn	11 49 48.9	-6.0
PLIO				LG		11 50 17.2	
PLIO				Trac		11 50 34.6	
	comp=Z,9.0nm,0.1s						
PNPO	**Pukaskwa Natio**	**6.79**	**294**	PN	Pn	11 48 51.8	-2.7
PNPO				SN	Sn	11 50 01.1	-11
PNPO				LG		11 50 40.2	
PNPO				Trac		11 50 44.9	
	comp=Z,10nm,0.3s						
WEMQ	**Wemindji, Queb**	**6.85**	**355**	PN	Pn	11 48 51.6	-3.9
WEMQ				SN	Sn	11 50 03.0	-11
WEMQ				LG		11 50 39.8	
WEMQ				Trac		11 50 46.0	
	comp=Z,34nm,0.3s						
GGN	**Saint George**	**7.14**	**95**	PN	Pn	11 48 54.7	-4.8
GGN				SN	Sn	11 50 13.7	-7.3
GGN				LG		11 50 46.7	
GGN				Trac		11 51 07.2	
	comp=Z,3.1nm,0.1s						
YOSQ	**Ashton Mining**	**7.30**	**23**	PN	Pn	11 49 00.3	-1.4
YOSQ				SN	Sn	11 50 12.4	-13
YOSQ				LG		11 50 54.5	
YOSQ				Trac		11 51 02.2	
	comp=Z,53nm,0.5s						
LG4Q	**La Grande 4**	**7.61**	**13**	PN	Pn	11 49 01.6	-4.5
LG4Q				SN	Sn	11 50 20.4	-12
LG4Q				LG		11 51 03.6	
LG4Q				Trac		11 51 15.0	
	comp=Z,14nm,0.3s						
VIMO	**Victor Mine**	**7.94**	**328**	PN	Pn	11 49 05.6	-5.1
VIMO				SN	Sn	11 50 31.3	-10
VIMO				LG		11 51 14.7	
SILO	**Sutton Inlier**	**9.70**	**331**	PN	P	11 49 29.8	-5.1
SILO				SN	Sn	11 51 12.6	-12

IDC 04 12:20:34.6±5.2**,4.41S**×**152.05E,h151**km±50km**,mb3.4**/4**, mb1 3.6**/5**,mb1mx3.4**/15**,mbtmp3.8**/5**,Error ellipse: s-maj=56.1km s-min=33.2km az=122.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.94**	**224**	P	P	12 22 13.9	-1.0
	0.7nm,0.3s,baz=328,slow=18,SNR=3.5						
WRA	**Warramunga Arr**	**23.15**	**227**	P	P	12 25 28.0	-0.6
	1.9nm,0.8s,baz=51,slow=9.6,SNR=19						
SONM	**Songino Array**	**65.60**	**328**	P	P	12 31 02.7	-2.0
	0.2nm,0.3s,baz=135,slow=2.0,SNR=3.0						
MKAR	**Makanchi Array**	**79.54**	**319**	P	P	12 32 24.8	-1.5
	0.4nm,0.8s,baz=117,slow=6.4,SNR=3.5						
ILAR	**Eielson Array**	**82.08**	**22**	P	P	12 32 37.9	-1.4
	1.8nm,1.0s,baz=256,slow=4.8,SNR=15						

MAN 04 12:20:52,18.13N×**120.88E,h22**km**,mb3.9,ML2.7,MS2.3, 1D,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.44**	**128**	*e*P	Pb	12 21 01.9	+0.8
APYP				*e*S	Sb	12 21 09.8	+2.6
ABRA	**Dolores**	**0.51**	**198**	*e*P	Pb	12 21 02.5	+0.3
ABRA				*e*S	Sb	12 21 12.5	+3.5
CVP	**Callao Caves**	**1.00**	**115**	⇓*i*P	Pb	12 21 10.0	-0.5
CVP				*i* S	Sb	12 21 24.0	+0.8
SGCP	**Mt. Cagua**	**1.12**	**84**	*e*P	Pn	12 21 11.4	-1.1
CAUP	**Cauayan**	**1.49**	**142**	*e*P	Pn	12 21 20.7	+2.9
BOLP	**Bolinao**	**1.97**	**208**	*e*P	Pn	12 21 26.2	+1.6

*NEIC **04** 12:37:01.8,40.06S×175.01E,h40km,ML3.8(WEL),After WEL.*
NEIC Felt in the Wanganui area.
WEL 04 12:37:01.7±0.1**,40.06S**×**174.99E,h39**km±2km**,ML3.5**/14**, 4C,Error ellipse: s-maj=1.3km s-min=0.5km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.30**	**360**	P	P	12 37 09.4	-0.5
WAZ				S	S	12 37 15.0	-0.7
WAZ	**Wanganui**	**0.30**	**360**	⇑PN	P	12 37 09.4	-0.5
WAZ				SN	S	12 37 15.0	-0.7
TSZ	**Takapari Road**	**0.75**	**90**	*e*P	P	12 37 15.6	-0.2
TSZ				S	S	12 37 26.1	-0.1
TSZ	**Takapari Road**	**0.75**	**90**	PN	P	12 37 15.6	-0.2
TSZ				SN	S	12 37 26.1	-0.1
MRZ	**Mangatainoka R**	**0.76**	**143**	P	P	12 37 15.9	0.0
MRZ	**Mangatainoka R**	**0.76**	**143**	PN	P	12 37 15.9	-0.1
MRZ				SN	S	12 37 26.1	-0.2
MTVZ	**Mangateitei**	**0.77**	**29**	⇑PN	P	12 37 15.4	-0.7
MTVZ				SN	S	12 37 26.4	-0.2
KIW	**Kapiti Island**	**0.81**	**184**	P	P	12 37 15.7	-0.9
KIW	**Kapiti Island**	**0.81**	**184**	⇑PN	P	12 37 15.7	-0.9
KIW				SN	S	12 37 26.6	-1.0
PKVZ	**Pokaka**	**0.81**	**20**	PN	P	12 37 15.9	-0.9
PKVZ				SN	S	12 37 27.6	-0.2
WNVZ	**Wahianoa**	**0.87**	**33**	P	P	12 37 16.9	-0.6
WNVZ	**Wahianoa**	**0.87**	**33**	PN	P	12 37 16.9	-0.6
WNVZ				SN	S	12 37 28.6	-0.6
TRVZ	**Turoa**	**0.87**	**30**	PN	P	12 37 16.9	-0.7
MOVZ	**Moawhango**	**0.88**	**43**	P	P	12 37 16.8	-0.9
MOVZ				S	S	12 37 28.6	-0.8
MOVZ	**Moawhango**	**0.88**	**43**	PN	P	12 37 16.8	-0.9
MOVZ				SN	S	12 37 28.6	-0.8
RAEZ	**Rainy Point**	**0.90**	**329**	P	P	12 37 18.0	+0.1
RAEZ	**Rainy Point**	**0.90**	**329**	PN	P	12 37 18.0	+0.1
DRZ	**Dome Shelter**	**0.90**	**30**	P	P	12 37 17.7	-0.3
DRZ	**Dome Shelter**	**0.90**	**30**	PN	P	12 37 17.5	-0.5
DRZ				SN	S	12 37 29.4	-0.6
FWVZ	**Far West T-bar**	**0.91**	**29**	P	P	12 37 17.4	-0.8

FWVZ	Far West T-bar	0.91	29	PN	P	12 37 17.4	-0.8
FWVZ				SN	S	12 37 29.4	-0.9
TUVZ	Tukino	0.94	33	P	P	12 37 18.1	-0.5
TUVZ	Tukino	0.94	33	⇑PN	P	12 37 18.1	-0.5
TUVZ				SN	S	12 37 30.9	-0.1
VRZ	Vera Road	0.95	349	eP	P	12 37 18.2	-0.5
VRZ	Vera Road	0.95	349	PN	P	12 37 18.2	-0.5
VRZ				SN	S	12 37 31.1	-0.1
WPVZ	Whakapapa	0.95	27	P	P	12 37 18.0	-0.8
WPVZ	Whakapapa	0.95	27	PN	P	12 37 18.0	-0.8
WPVZ				SN	S	12 37 31.3	-0.1
CNZ	Chateau	0.96	27	P	P	12 37 18.2	-0.7
CNZ	Chateau	0.96	27	PN	P	12 37 18.2	-0.7
DFE	Dawson Falls	1.00	317	P	P	12 37 20.1	+0.7
DFE	Dawson Falls	1.00	317	PN	P	12 37 19.6	+0.2
NGZ	Ngauruhoe	1.00	29	P	P	12 37 18.7	-0.7
NGZ	Ngauruhoe	1.00	29	PN	P	12 37 18.7	-0.7
OTVZ	Oturere	1.03	31	PN	P	12 37 19.4	-0.5
OTVZ				SN	S	12 37 33.4	0.0
NEZ	North Egmont	1.04	319	P	P	12 37 20.2	+0.2
NEZ	North Egmont	1.04	319	PN	P	12 37 20.2	+0.2
TWVZ	Taurewa	1.04	20	P	P	12 37 19.0	-1.0
TWVZ	Taurewa	1.04	20	PN	P	12 37 19.0	-1.0
WTVZ	West Tongariro	1.05	27	P	P	12 37 19.4	-0.7
WTVZ	West Tongariro	1.05	27	PN	P	12 37 19.2	-0.9
WTVZ				SN	S	12 37 33.9	+0.2
CAW	Cannon Point	1.05	177	P	P	12 37 19.6	-0.5
CAW	Cannon Point	1.05	177	PN	P	12 37 19.6	-0.5
NRZ	Ngariki Road	1.08	311	P	P	12 37 20.8	+0.2
NRZ	Ngariki Road	1.08	311	PN	P	12 37 20.8	+0.2
KRVZ	Karewarewa	1.09	28	PN	P	12 37 19.9	-0.7
DUWZ	D'Urville Isla	1.10	227	PN	P	12 37 19.4	-1.4
BFZ	Birch Farm	1.15	123	eP	P	12 37 21.8	+0.3
BFZ	Birch Farm	1.15	123	PN	P	12 37 21.8	+0.3
PKE	Pukeiti	1.16	318	P	P	12 37 22.3	+0.7
MTW	Mount Morrison	1.17	160	P	P	12 37 21.9	+0.1
MTW	Mount Morrison	1.17	160	PN	P	12 37 21.9	+0.2
MRW	Makara Radio	1.19	190	P	P	12 37 21.4	-0.7
MRW	Makara Radio	1.19	190	PN	P	12 37 21.4	-0.6
KATZ	Kakaramea	1.21	27	P	P	12 37 22.2	-0.2
KATZ	Kakaramea	1.21	27	PN	P	12 37 22.2	-0.2
WEL	Wellington	1.24	188	P	P	12 37 22.2	-0.6
WEL	Wellington	1.24	188	PN	P	12 37 22.2	-0.5
SNZO	South Karori	1.27	190	P	P	12 37 22.5	-0.7
SNZO	South Karori	1.27	190	PN	P	12 37 22.5	-0.7
RITZ	Rihia Road	1.27	32	P	P	12 37 23.3	0.0
RITZ	Rihia Road	1.27	32	PN	P	12 37 23.3	0.0
TCW	Tory Channel	1.27	205	P	P	12 37 22.2	-1.1
TCW	Tory Channel	1.27	205	PN	P	12 37 22.2	-1.1
RATZ	Rangitukua	1.33	27	P	P	12 37 24.2	-0.1
RATZ	Rangitukua	1.33	27	PN	P	12 37 24.2	-0.1
BHW	Baring Head	1.35	184	P	P	12 37 24.1	-0.4
BHW	Baring Head	1.35	184	PN	P	12 37 24.1	-0.4
PAWZ	Paruwai Farm	1.36	166	PN	P	12 37 24.8	+0.1
MSWZ	Moikau Station	1.37	172	P	P	12 37 24.7	-0.1
MSWZ	Moikau Station	1.37	172	PN	P	12 37 24.7	-0.1
TRWZ	Traveller	1.44	159	PN	P	12 37 26.2	+0.4
HATZ	Hinemaiaia	1.45	37	P	P	12 37 25.3	-0.5
HATZ	Hinemaiaia	1.45	37	PN	P	12 37 25.3	-0.5
BKZ	Black Stump Fm	1.47	53	eP	P	12 37 26.5	+0.4
BKZ	Black Stump Fm	1.47	53	PN	P	12 37 26.5	+0.4
WATZ	Wairara	1.47	24	PN	P	12 37 25.9	-0.2
HIZ	Hauiti	1.54	356	P	P	12 37 26.6	-0.6
HIZ	Hauiti	1.54	356	PN	P	12 37 26.6	-0.7
TUWZ	Tuamarina	1.58	210	PN	P	12 37 26.7	-1.1
NNZ	Nelson	1.69	226	P	P	12 37 28.4	-0.8
NNZ	Nelson	1.69	226	PN	P	12 37 28.4	-0.8
CMWZ	Cape Campbell	1.79	199	P	P	12 37 31.0	+0.3
CMWZ	Cape Campbell	1.79	199	PN	P	12 37 31.0	+0.4
BSWZ	Blackbirch Sta	1.86	207	P	P	12 37 31.5	-0.2
BSWZ	Blackbirch Sta	1.86	207	PN	P	12 37 31.5	-0.2
QRZ	Quartz Range	2.03	247	eP	P	12 37 32.9	-1.2
QRZ	Quartz Range	2.03	247	PN	P	12 37 32.9	-1.2
KNZ	Kokohu	2.32	64	eP	P	12 37 37.8	-0.5
THZ	Tophouse	2.32	222	eP	P	12 37 37.5	-0.8
TOZ	Tahuroa Road	2.36	10	P	P	12 37 41.1	+2.3
URZ	Urewera	2.44	43	eP	P	12 37 38.8	-1.2
KHZ	Kahutara	2.60	204	P	P	12 37 40.8	-1.4
MWZ	Matawai	2.62	50	eP	P	12 37 42.2	-0.4
DSZ	Denniston Nort	2.94	234	eP	P	12 37 45.9	-1.3
LTZ	Lake Taylor	3.40	216	P	P	12 37 51.5	-2.2
CRLZ	Canterbury Las	3.94	206	eP	P	12 37 57.4	-3.8
MQZ	McQueen's Vall	4.04	205	eP	P	12 37 58.3	-4.4
ODZ	Otahua Downs	5.92	211	eP	P	12 38 24.2	-5.0
TUZ	Tuapeka	7.08	212	eP	P	12 38 41.0	-4.5

*MOS **04** 13:00:20.9±1.0, 51.15N×179.78E, h33km, mb4.1/9, Error ellipse: s-maj=19.1km s-min=12.9km az=108.7*

*BJI **04** 13:00:22.6, 51.20N×179.70E, h53km, mB4.9, mb4.4, Ms4.4, Msz4.2*

*NEIC **04** 13:00:25.7±0.7, 51.24N×179.67E, h53km±4km, mb4.1/5, ML4.2(AEIC), Error ellipse: s-maj=14.2km s-min=4.0km az=184.0*

*IDC **04** 13:00:27.1±3.8, 51.41N×179.71E, h61km±33km, mb3.5/14, mb1 3.8/15, mb1mx3.6/28, mbtmp3.8/15, ML3.5/1, Error ellipse: s-maj=41.1km s-min=14.6km az=8.0*

ISC 04 13:00:24.2±1.0**, 51.2N**±0.1×**179.60E**±0.06**, h58**km±6km**, n56, σ0^{s}80**/63**, mb3.9**/22**, MS4.4**/1**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	Kanaga Island	2.05	74	P	P	13 00 56.3	-0.7
KIMD				S	S	13 01 22.1	+0.8
KIKV	Kanaga Island	2.12	71	P	P	13 00 57.5	-0.5
KIWB	Kanaga Island	2.12	71	P	P	13 00 57.9	-0.1
KINC	Kanaga Island	2.16	70	P	P	13 00 58.1	-0.5
ADAG	Mount Adagdak	2.48	71	P	P	13 01 02.9	-0.3
GSSP	Great Sitkin S	2.77	70	P	P	13 01 07.5	+0.2
GSTD	Great Sitkin T	2.78	71	P	P	13 01 06.6	-0.8
GSTD				S	S	13 01 42.7	+2.9
GSMY	Great Sitkin M	2.83	71	P	P	13 01 07.2	-0.8
GSMY				S	S	13 01 43.5	+2.5
GSTR	Great Sitkin T	2.84	70	P	P	13 01 08.0	-0.2
GSTR				S	S	13 01 45.1	+3.7
SMY	Shemya	3.72	296	eP	P	13 01 20.4	-0.3
ATKA	Atka Island	3.98	73	P	P	13 01 24.7	+0.4
ATKA				S	S	13 02 08.8	-1.3
FX1	Attu Island--F	4.31	295	P	P	13 01 29.5	+0.6
FX1				S	S	13 02 26.4	+8.1
FX1				pmax	pmax		
	comp=Z,9.0nm,0.3s						
FX1				smax			
	comp=E,16nm,0.3s						
FX1	Attu Island--F	4.31	295	P	P	13 01 29.5	+0.6
	comp=E,8.9nm,0.3s,baz=118,slow=2.4,SNR=44						
FX1				S	S	13 02 26.4	+8.1
	comp=E,16nm,0.3s,baz=214,slow=20,SNR=8.5						
FX1	Attu Island--F	4.31	295	P	P	13 01 29.6	+0.7
RSO	Redoubt South	17.94	48	eP	P	13 04 32.1	+1.3
SPU	Mount Spurr	18.50	46	eP	P	13 04 37.5	-0.1
IMA	Indian Mountai	20.11	32	eP	P	13 04 55.5	+0.1
IMA				pmax	pmax		
	comp=Z,26nm,0.9s						
IMA	Indian Mountai	20.11	32	eP	P	13 04 55.5	+0.1
	comp=Z,26nm,0.9s						
ILAR	Eielson Array	22.00	39	P	P	13 05 13.5	-0.9
	comp=Z,0.3nm,0.4s,mb3.0,baz=240,slow=9.5,SNR=14						
INK	Inuvik	28.16	35	P	P	13 06 12.2	-0.4
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	Inuvik	28.16	35	P	P	13 06 12.2	-0.4
	comp=Z,0.6nm,0.3s,mb3.6,baz=198,slow=7.4,SNR=5.2						
MDJ	Mudanjiang	33.61	279	P	P	13 06 59.2	-1.5
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,161nm,4.8s						
YKA	Yellowknife Ar	36.06	46	P	P	13 07 20.7	-0.8
	comp=Z,1.7nm,0.7s,mb4.1,baz=280,slow=8.9,SNR=4.3						
BOD	Bodaibo	37.27	306	eP	P	13 07 31.4	-0.2
BOD				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.0						
NEW	Newport	39.88	69	P	P	13 07 53.7	+0.3
NEW				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NEW	Newport	39.88	69	P	P	13 07 53.6	+0.2
	comp=Z,0.8nm,0.4s,mb3.8,baz=297,slow=7.1,SNR=3.9						
HLID	Hailey	43.95	73	eP	P	13 08 26.8	0.0
	comp=Z,1.9nm,0.8s,mb3.9						
MCMT	McKenzie Canyo	44.18	71	eP	P	13 08 28.5	-0.1
NVAR	Mina Array Bea	44.57	82	P	P	13 08 32.0	+0.1
	comp=Z,0.3nm,0.4s,mb3.4,baz=277,slow=7.3,SNR=3.0						
ULN	Ulaanbaatar	45.43	296	P	P	13 08 39.7	+1.1
SONM	Songino Array	45.82	296	P	P	13 08 42.9	+1.2
	comp=Z,1.2nm,1.0s,mb3.8,baz=63,slow=8.8,SNR=6.6						
ZAK	Zakamensk	46.17	300	eP	P	13 08 45.0	+0.6
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.6						
BW06	Boulder Array	47.31	71	eP	P	13 08 53.5	+0.1
	comp=Z,5.2nm,1.0s,mb4.4						
PDAR	Pinedale Array	47.31	71	P	P	13 08 53.8	+0.3
	comp=Z,3.4nm,0.8s,mb4.3,baz=316,slow=4.2,SNR=32						
PV10	Paradox Valley	50.30	75	eP	P	13 09 17.0	+0.3
PV01	Paradox Valley	50.74	75	eP	P	13 09 20.0	0.0
SDCO	Great Sand Dun	52.85	74	eP	P	13 09 36.3	+0.4
	comp=Z,0.6nm,0.6s,mb3.7						
NVS	Novosibirsk	53.57	314	eP	P	13 09 40.6	-0.3
LZH	Lanzhou	54.46	285	eP	P	13 09 48.9	+1.2
LZH				AP	pP	13 10 01.3	-2.0
LZH				XP	sP	13 10 06.4	-3.5
LZH				AMB	AMB		
	comp=Z,23nm,1.4s,mb4.9						
LZH				LR	LR		
	comp=N,219nm,15.0s						
LZH				LR	LR		
	comp=Z,298nm,17.8s,MS4.4						
ARCES	ARCESS Array B	58.07	350	P	P	13 10 11.5	-1.5
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	ARCESS Array B	58.07	350	P	P	13 10 11.5	-1.5
	comp=Z,0.6nm,0.4s,mb3.9,baz=27,slow=8.1,SNR=8.1						
ARCES	ARCESS Array B	58.07	350	P	P	13 10 11.5	-1.5
WMOK	Wichita Mounta	58.90	72	P	P	13 10 19.0	-0.3
MKAR	Makanchi Array	59.34	308	P	P	13 10 22.1	0.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	59.34	308	P	P	13 10 22.1	0.0
	comp=Z,0.7nm,0.6s,mb3.9,baz=51,slow=6.9,SNR=8.6						
TXAR	Lajitas Array	59.67	80	P	P	13 10 23.9	-0.8
	comp=Z,0.4nm,0.6s,mb3.6,baz=295,slow=5.9,SNR=7.2						
BVAR	Borovoye Array	60.36	319	P	P	13 10 28.8	-0.2
	comp=Z,0.6nm,0.4s,mb4.0,baz=45,slow=8.4,SNR=4.1						
ZRNK	Zerenda	60.98	320	eP	P	13 10 33.2	-0.1
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
ZRNK	Zerenda	60.98	320	eP	P	13 10 33.2	0.0
	comp=Z,0.7nm,0.5s,mb4.0						
LSA	Lhasa	66.55	289	P	P	13 11 11.3	+1.3
NB2	NORSAR Subarra	67.70	354	P	P	13 11 16.3	-0.4
	comp=Z,1.2nm,0.8s,mb4.0,baz=7.0,slow=6.2						
NOA	NORSAR Array B	67.70	354	P	P	13 11 16.5	-0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	67.70	354	P	P	13 11 16.4	-0.2
	comp=Z,1.3nm,0.7s,mb4.1,baz=7.8,slow=6.3,SNR=5.7						
HFS	Hagfors	68.42	352	P	P	13 11 20.3	-0.8
HFS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
HFS	Hagfors	68.42	352	P	P	13 11 20.3	-0.8
	comp=Z,1.2nm,0.8s,mb4.0,baz=68,slow=7.8,SNR=3.9						
AKASG	Malin Array Be	75.38	341	P	P	13 12 02.6	+0.1
	comp=Z,0.2nm,0.3s,mb3.6,baz=18,slow=5.1,SNR=4.4						

IDC 04 13:09:38.5±2.3**, 5.58S**×**102.22E, h33**km±5km**, mb3.6**/6**, mb1 3.8**/6**, mb1mx3.5**/19**, mbtmp3.8**/6**, MS4.5**/2**, Ms1 4.5**/2**, ms1mx3.7**/26**, Error ellipse: s-maj=88.4km s-min=15.5km az=54.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	24.10	352	P	P	13 14 51.0	-1.4
	1.0nm,0.7s,baz=183,slow=7.6,SNR=7.4						
CMAR				pP		13 15 01.9	
	1.3nm,0.7s,baz=183,slow=7.8,SNR=7.2						
FITZ	Fitzroy Crossi	26.04	121	P	P	13 15 09.3	-1.5
	3.5nm,0.8s,baz=336,slow=10.0,SNR=3.2						
FITZ				pP	pP	13 15 18.2	-2.0
	8.0nm,1.0s,baz=220,slow=8.6,SNR=2.9						
WRA	Warramunga Arr	34.33	118	P	P	13 16 21.6	-2.8
	0.3nm,0.5s,baz=304,slow=8.5,SNR=7.0						
WRA				pP	pP	13 16 31.6	-2.6
	0.8nm,0.5s,baz=288,slow=12,SNR=5.3						
SONM	Songino Array	53.31	4	P	P	13 18 54.9	-1.7
	0.9nm,0.7s,baz=184,slow=9.0,SNR=5.5						
SONM				pP	pP	13 19 04.4	-2.3
	1.3nm,0.8s,baz=180,slow=7.4,SNR=4.8						
SONM				LR	LR	13 47 03.2	
	comp=Z,442nm,19.4s,baz=21,slow=42						
MKAR	Makanchi Array	55.06	343	P	P	13 19 06.9	-2.5
	0.6nm,0.6s,baz=146,slow=10,SNR=1.9						
ZAL	Zalesovo	61.08	348	LR	LR	13 52 07.1	
	comp=Z,334nm,19.5s,baz=93,slow=42						
BVAR	Borovoye Array	64.29	339	P	P	13 20 09.1	-3.7
	0.4nm,0.4s,baz=143,slow=7.2,SNR=4.1						
TXAR	Lajitas Array	145.99	43	PKPbc	PKPbc	13 29 16.3	+0.5
	0.5nm,0.6s,baz=209,slow=2.1,SNR=9.3						
TXAR				pPKPbc		13 29 25.9	
	1.2nm,0.7s,baz=287,slow=1.0,SNR=12						

MAN 04 13:10:31.0, 9.41N×**122.31E, h1**km**, mb4.0, ML2.8, MS2.4, 1D, Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.91	94⇓	eP	Pg	13 10 48.8	-0.5
SNPH				eS	Sg	13 11 00.5	-1.0
GUIM	Jordan	1.24	13	eP	Pb	13 10 55.6	+0.7
GUIM				eS	Sb	13 11 12.8	+1.5
IPIL	Ipil	1.63	171	eP	Pn	13 11 00.2	-0.8
IPIL				eS	Sb	13 11 16.8	-5.8
PAGZ	Pagadian	1.88	146	eP	Pn	13 11 04.9	+0.4
CUYO	Cuyo Island	1.92	318	eP	Pn	13 11 05.1	0.0
CUYO				eS	Sn	13 11 27.6	-2.6

*NEIC **04** 13:24:28.7, 40.19S×173.54E, h192km, MG3.8(WEL), After WEL.*

WEL 04 13:24:29.5±0.3**, 40.20S**×**173.58E, h185**km±2km**, ML3.7**/10**, 4C, Error ellipse: s-maj=2.3km s-min=1.3km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.66	157	⇑PN	P	13 24 55.9	0.0
DUWZ				SN	S	13 25 15.6	-0.7
NRZ	Ngariki Road	0.90	17	P	P	13 24 57.1	-0.1
NRZ	Ngariki Road	0.90	17	PN	P	13 24 57.1	-0.1
NEZ	North Egmont	1.01	23	P	P	13 24 57.7	-0.2
NEZ	North Egmont	1.01	23	PN	P	13 24 57.7	-0.2
QRZ	Quartz Range	1.02	232	P	P	13 24 57.4	-0.6
QRZ				S	S	13 25 18.0	-2.1
QRZ	Quartz Range	1.02	232	⇑PN	P	13 24 57.4	-0.6
QRZ				SN	S	13 25 18.2	-1.9
NNZ	Nelson	1.03	189	P	P	13 24 57.7	-0.4
NNZ				S	S	13 25 19.3	-0.9
NNZ	Nelson	1.03	189	PN	P	13 24 57.7	-0.4
NNZ				SN	S	13 25 19.3	-0.9
RAEZ	Rainy Point	1.10	35	P	P	13 24 58.5	-0.2
RAEZ	Rainy Point	1.10	35	PN	P	13 24 58.5	-0.3
TCW	Tory Channel	1.14	153	P	P	13 24 59.1	+0.1
TCW	Tory Channel	1.14	153	PN	P	13 24 59.1	+0.1
TCW				SN	S	13 25 20.6	-1.2
WAZ	Wanganui	1.16	68	P	P	13 24 59.6	+0.3
WAZ	Wanganui	1.16	68	PN	P	13 24 59.6	+0.3
WAZ				SN	S	13 25 22.4	+0.1
KIW	Kapiti Island	1.21	124	P	P	13 24 59.5	-0.1
KIW	Kapiti Island	1.21	124	PN	P	13 24 59.5	-0.1
KIW				SN	S	13 25 20.9	-1.9
TUWZ	Tuamarina	1.26	168	PN	P	13 24 59.7	-0.4
TUWZ				SN	S	13 25 22.2	-1.5
MRW	Makara Radio	1.33	141	P	P	13 25 00.5	-0.2
MRW	Makara Radio	1.33	141	⇑PN	P	13 25 00.5	-0.2
MRW				SN	S	13 25 23.2	-1.7
SNZO	South Karori	1.40	143	P	P	13 25 00.9	-0.4
SNZO	South Karori	1.40	143	⇑PN	P	13 25 00.9	-0.4
SNZO				SN	S	13 25 24.2	-1.7
VRZ	Vera Road	1.41	41	PN	P	13 25 00.3	-1.1
VRZ				SN	S	13 25 24.4	-1.6
WEL	Wellington	1.41	141	P	P	13 25 01.0	-0.4
WEL	Wellington	1.41	141	PN	P	13 25 01.0	-0.4
WEL				SN	S	13 25 24.5	-1.6
CAW	Cannon Point	1.45	129	P	P	13 25 01.5	-0.3
CAW	Cannon Point	1.45	129	PN	P	13 25 01.5	-0.3
CAW				SN	S	13 25 25.0	-1.7
BSWZ	Blackbirch Sta	1.53	172	P	P	13 25 02.1	-0.5
BSWZ	Blackbirch Sta	1.53	172	PN	P	13 25 02.1	-0.4
BSWZ				SN	S	13 25 27.2	-0.8
BHW	Baring Head	1.55	141	P	P	13 25 02.0	-0.8
BHW	Baring Head	1.55	141	PN	P	13 25 02.0	-0.7
BHW				SN	S	13 25 26.2	-2.2
MRZ	Mangatainoka R	1.59	107	P	P	13 25 02.6	-0.6
MRZ	Mangatainoka R	1.59	107	PN	P	13 25 02.6	-0.6
MRZ				SN	S	13 25 26.9	-2.2
PKVZ	Pokaka	1.63	57	PN	P	13 25 02.7	-0.9
THZ	Tophouse	1.64	198	P	P	13 25 02.7	-1.0
THZ	Tophouse	1.64	198	PN	P	13 25 02.7	-1.0
THZ				SN	S	13 25 28.7	-1.3
MTVZ	Mangateitei	1.67	61	PN	P	13 25 03.0	-0.9
MTW	Mount Morrison	1.75	124	P	P	13 25 03.9	-0.8
MTW	Mount Morrison	1.75	124	PN	P	13 25 03.9	-0.7
MSWZ	Moikau Station	1.75	134	P	P	13 25 04.3	-0.4
MSWZ	Moikau Station	1.75	134	PN	P	13 25 04.3	-0.5
TRVZ	Turoa	1.76	60	PN	P	13 25 03.9	-0.9
WNVZ	Wahianoa	1.78	61	P	P	13 25 04.2	-0.8
WNVZ	Wahianoa	1.78	61	PN	P	13 25 04.2	-0.8
DRZ	Dome Shelter	1.78	59	P	P	13 25 04.6	-0.4
DRZ	Dome Shelter	1.78	59	PN	P	13 25 04.4	-0.7
FWVZ	Far West T-bar	1.79	59	P	P	13 25 04.2	-0.9
FWVZ	Far West T-bar	1.79	59	PN	P	13 25 04.2	-0.9
WPVZ	Whakapapa	1.81	57	P	P	13 25 04.3	-1.0
WPVZ	Whakapapa	1.81	57	PN	P	13 25 04.3	-1.0
CNZ	Chateau	1.81	57	P	P	13 25 04.3	-1.1
CNZ	Chateau	1.81	57	PN	P	13 25 04.3	-1.0
TSZ	Takapari Road	1.83	86	eP	P	13 25 04.6	-0.9
TSZ	Takapari Road	1.83	86	PN	P	13 25 04.6	-0.9
TUVZ	Tukino	1.85	60	P	P	13 25 05.0	-0.7
MOVZ	Moawhango	1.85	65	P	P	13 25 04.4	-1.3
NGZ	Ngauruhoe	1.86	57	P	P	13 25 04.8	-1.0
HIZ	Hauiti	1.95	31	P	P	13 25 05.3	-1.5
DSZ	Denniston Nort	2.05	221	eP	P	13 25 06.4	-1.4
BFZ	Birch Farm	2.09	104	P	P	13 25 07.4	-0.9
RATZ	Rangitukua	2.15	53	P	P	13 25 08.1	-0.9
KHZ	Kahutara	2.22	181	P	P	13 25 08.2	-1.5
BKZ	Black Stump Fm	2.47	66	P	P	13 25 10.8	-1.9
PWZ	Pawanui	2.52	87	P	P	13 25 12.0	-1.2
LTZ	Lake Taylor	2.76	201	eP	P	13 25 14.1	-2.0
URZ	Urewera	3.35	56	eP	P	13 25 20.3	-3.1
KNZ	Kokohu	3.37	71	eP	P	13 25 21.4	-2.2
CRLZ	Canterbury Las	3.45	192	eP	P	13 25 21.1	-3.4
MQZ	McQueen's Vall	3.57	191	eP	P	13 25 22.1	-4.0
WVZ	Waitaha Valley	3.58	216	eP	P	13 25 22.9	-3.3
MWZ	Matawai	3.58	60	P	P	13 25 23.2	-3.0
RPZ	Rata Peaks	3.99	207	eP	P	13 25 28.0	-3.3
PUZ	Puketiti	4.21	61	eP	P	13 25 30.6	-3.5
MXZ	Matakaoa Point	4.53	56	P	P	13 25 34.9	-3.3
ODZ	Otahua Downs	5.30	203	eP	P	13 25 44.9	-3.4

IDC 04 13:27:29.1±2.8**, 5.73S**×**102.09E, h32**km±5km**, mb3.5**/5**, mb1 3.8**/5**, mb1mx3.5**/17**, mbtmp3.7**/5**, Error ellipse: s-maj=111.8km s-min=19.0km az=54.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	24.23	353	P	P	13 32 42.0	-2.4
	1.5nm,0.7s,baz=187,slow=9.2,SNR=7.6						
CMAR				pP		13 32 53.1	
	1.0nm,0.8s,baz=181,slow=9.2,SNR=4.5						
WRA	Warramunga Arr	34.38	117	P	P	13 34 12.7	-2.9
	0.4nm,0.8s,baz=292,slow=10,SNR=6.8						
WRA				pP	pP	13 34 22.8	-2.5
	0.7nm,0.5s,baz=288,slow=12,SNR=5.1						
SONM	Songino Array	53.47	4	P	P	13 36 46.7	-1.8
	0.5nm,0.6s,baz=181,slow=8.2,SNR=5.6						
SONM				pP	pP	13 36 56.1	-2.4
	0.8nm,0.7s,baz=180,slow=9.3,SNR=4.7						
SONM				PcP	PcP	13 37 52.6	-2.6
	0.2nm,0.4s,baz=180,slow=2.9,SNR=3.0						
MKAR	Makanchi Array	55.16	344	P	P	13 36 58.0	-3.0
	0.2nm,0.6s,baz=151,slow=10,SNR=5.2						
MKAR				pP	pP	13 37 07.8	-3.1
	0.6nm,0.8s,baz=183,slow=12,SNR=6.3						
ZAL	Zalesovo	61.19	348	P	P	13 37 40.8	-2.2
	1.9nm,0.3s,baz=236,slow=5.7,SNR=3.1						
ZAL				pP	pP	13 37 50.3	-2.9
	1.7nm,0.3s,baz=140,slow=6.0,SNR=1.8						
TXAR	Lajitas Array	146.19	43	PKPbc	PKPbc	13 47 07.5	+0.5
	0.4nm,0.5s,baz=208,slow=2.1,SNR=7.6						
TXAR				pPKPbc		13 47 17.1	
	1.0nm,0.7s,baz=280,slow=0.7,SNR=11						

*BJI **04** 13:31:48.4, 12.64S×166.79E, h29km, mb4.8*

*NEIC **04** 13:31:51.6±1.6, 13.03S×166.53E, h55km±13km, mb4.8/11, Error ellipse: s-maj=14.4km s-min=9.8km az=66.0*

*IDC **04** 13:31:52.1±3.3, 13.07S×166.53E, h62km±27km, mb4.0/13, mb1 4.3/16, mb1mx4.2/20, mbtmp4.4/16, ML4.2/3, MS4.0/2, Ms1 4.0/2, ms1mx3.6/24, Error ellipse: s-maj=23.5km s-min=16.7km az=76.0*

ISC 04 13:31:50.0±1.9**, 13.13S**±0.07×**166.46E**±0.10**, h50**km±15km**, n57, σ1^{s}19**/48**, mb4.5**/22**, MS4.4**/1**, 2C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.37	299	P	P	13 33 36.4	-1.0
	48nm,0.3s,baz=184,slow=3.9,SNR=27						
HNR				S	S	13 35 02.9	+2.4
	9.6nm,0.3s,baz=218,slow=21,SNR=3.2						
HNR				LR	LR	13 35 59.7	
	comp=Z,520nm,20.4s,baz=84,slow=33						
HNR	Honiara	7.37	299	ePn	P	13 33 35.7	-1.8
	486nm,0.8s						
DZM	Mont Dzumac	8.90	180	eP	P	13 33 59.1	+0.5
DZM				eS	S	13 35 46.4	+7.9
DZM	Mont Dzumac	8.90	180	P	P	13 33 59.1	+0.5
	1.6nm,0.3s,baz=318,slow=19,SNR=24						
DZM				S	S	13 35 46.6	+8.1
	2.9nm,0.3s,baz=166,slow=23,SNR=3.0						
DZM	Mont Dzumac	8.90	180	eP	P	13 33 59.1	+0.5
DZM				eS	S	13 35 46.4	+7.9
NOUC	Port Laguerre	8.93	181	eP	P	13 33 59.1	+0.1
NOUC	Port Laguerre	8.93	181	eS	S	13 35 44.1	+4.9
NOUC	Port Laguerre	8.93	181	eP	P	13 33 59.1	+0.1
NOUC				eS	S	13 35 44.1	+4.9
PMG	Port Moresby	19.28	279	P	P	13 36 13.9	+0.4
	0.5nm,0.3s,baz=152,slow=8.2,SNR=5.1						
PMG	Port Moresby	19.28	279	eP	P	13 36 13.7	+0.2
	70nm,1.1s						
CTA	Charters Tower	20.55	248	P	P	13 36 28.8	+1.9
	13nm,1.0s,baz=98,slow=15,SNR=3.4						
CTA				PcP	PcP	13 40 36.0	-0.6
	4.8nm,0.9s,baz=93,slow=19,SNR=5.1						
CTA	Charters Tower	20.55	248	P	P	13 36 28.8	+1.9
CTA				PcP	PcP	13 40 36.0	-0.6
CTAO	Charters Tower	20.55	248	eP	P	13 36 28.7	+1.8
	12nm,0.9s						
STKA	Stephens Creek	29.47	227	P	P	13 37 50.5	-1.0
	3.2nm,0.7s,mb4.1,baz=100,slow=6.1,SNR=4.5						
STKA				PcP	PcP	13 40 55.5	-0.8
	5.0nm,0.7s,baz=175,slow=3.1,SNR=4.7						
STKA	Stephens Creek	29.47	227	P	P	13 37 50.5	-1.0
STKA				PcP	PcP	13 40 55.5	-0.8
WRAB	Tennant Creek	31.48	253	eP	P	13 38 08.4	-0.9
WRA	Warramunga Arr	31.49	253	P	P	13 38 08.3	-1.2
	2.0nm,0.9s,mb3.9,baz=85,slow=8.6,SNR=20						
FITZ	Fitzroy Crossi	39.56	257	P	P	13 39 16.2	-1.9
	6.9nm,0.9s,mb4.4,baz=45,slow=6.4,SNR=3.1						
MBWA	Marble Bar	45.23	253	eP	P	13 40 05.0	+0.7
	5.6nm,0.8s,mb4.5						
MJAR	Matsushiro Arr	56.12	333	P	P	13 41 23.8	-3.1
	2.6nm,0.7s,mb4.4,baz=165,slow=8.2,SNR=4.8						
VNDA	Vanda	64.44	181	P	P	13 42 21.6	-1.4
	5.1nm,1.3s,mb4.4,baz=7.7,slow=10,SNR=5.0						
VNDA	Vanda	64.44	181	eP	P	13 42 21.8	-1.1
	5.7nm,1.4s,mb4.4						
CASY	Casey	64.71	202	eP	P	13 42 23.7	-1.1
	18nm,1.4s,mb4.9						
SBA	Scott Base	64.73	180	eP	P	13 42 24.8	0.0
	18nm,1.6s,mb4.8						
CN2	Changchun	67.87	329	eP	P	13 42 45.1	-0.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
ENH	Enshi	69.74	309	P	P	13 42 57.3	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CMAR	Chiang Mai Arr	73.58	294	P	P	13 43 18.0	-2.2
	comp=Z,1.5nm,0.9s,mb3.9,baz=119,slow=4.3,SNR=7.0						
HIA	Hailar	74.51	330	P	P	13 43 24.8	-0.2
	comp=Z,7.6nm,0.7s,mb4.7						
QSPA	South Pole Qui	76.89	180	eP	P	13 43 38.4	+0.4
	comp=Z,21nm,1.2s,mb4.9						
ULN	Ulaanbaatar	80.38	324	eP	P	13 43 58.9	+1.2
	comp=Z,20nm,1.4s,mb4.9						
SONM	Songino Array	80.74	324	P	P	13 43 59.8	+0.3
	comp=Z,3.2nm,1.0s,mb4.2,baz=135,slow=5.2,SNR=13						
GTA	Gaotai	80.99	314	eP	P	13 44 02.6	+1.5
GTA				AP	pP	13 44 07.0	-8.7
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
MAW	Mawson	83.07	202	P	P	13 44 11.3	+0.1
	comp=Z,1.2nm,0.5s,mb4.2,baz=80,slow=9.1,SNR=4.2						
TLY	Talaya	84.23	326	eP	P	13 44 17.3	0.0
	comp=Z,17nm,1.4s,mb5.0						
ILAR	Eielson Array	85.25	18	P	P	13 44 20.3	-1.8
	comp=Z,1.6nm,0.7s,mb4.3,baz=258,slow=3.9,SNR=18						
NVAR	Mina Array Bea	86.83	50	P	P	13 44 30.5	0.0
	comp=Z,0.8nm,0.8s,mb4.0,baz=239,slow=8.3,SNR=5.0						
NVAR				LR	LR	14 17 48.5	
	comp=Z,148nm,18.3s,MS4.4,baz=165,slow=32						
MSU	Marysvale	91.44	51	eP	P	13 44 53.5	+1.1
SNAA	Sanae	95.10	183	⇑i	P	13 45 08.4	+0.1
SNAA	Sanae	95.10	183		sP	13 45 28.0	-0.3
SNAA	Sanae	95.10	183	eP	P	13 45 07.3	-1.0
	comp=Z,4.8nm,1.0s,mb4.9						
MKAR	Makanchi Array	95.50	317	P	P	13 45 11.2	+0.6
	comp=Z,4.1nm,0.9s,mb4.9,baz=101,slow=5.9,SNR=30						
ZAL	Zalesovo	95.65	324	P	P	13 45 11.4	+0.3
	comp=Z,1.1nm,0.2s,mb4.8,baz=87,slow=6.9,SNR=7.1						
VNA3	Neumayer Olymp	95.79	181		P	13 45 13.4	+2.0
VNA3	Neumayer Olymp	95.79	181		sP	13 45 33.7	+2.2
VNA2	Neumayer--Watz	96.05	182	⇑i	P	13 45 14.9	+2.3
VNA2	Neumayer--Watz	96.05	182		sP	13 45 33.7	+1.1
BOSA	Boshof	124.06	222	PKP	PKPdf	13 50 45.0	+1.5
	comp=Z,1.4nm,0.9s,baz=135,slow=1.4,SNR=3.3						
MBDF	Montbardon	144.05	335	ePKP1	PKPbc	13 51 18.6	-0.8
	comp=Z,7.6nm,0.9s						
ORIF	Oris-en-Rattie	144.25	336	ePKP1	PKPbc	13 51 20.5	+0.6
	comp=Z,22nm,0.9s						
SBF	Sospel	144.47	334	ePKP1	PKPbc	13 51 20.6	0.0
	comp=Z,33nm,0.8s						
VIVF	Saint-Julien-l	144.76	337	ePKP1	PKPbc	13 51 21.3	-0.1
	comp=Z,17nm,1.0s						
FRF	La Foret Royal	145.05	334	ePKP1	PKPbc	13 51 21.8	-0.4
SMRF	Simiane la Rot	145.15	336	ePKP1	PKPbc	13 51 23.4	+1.0
	comp=Z,59nm,1.5s						
LMR	La Mourre	145.29	334	ePKP1	PKPbc	13 51 22.6	-0.2
RJF	Les Rejaudoux	145.47	341	ePKP1	PKPbc	13 51 24.4	+1.2
	comp=Z,26nm,1.1s						
LASF	Ste Croix	145.74	337	ePKP1	PKPbc	13 51 25.0	+1.1
MTLF	Montolieu	146.97	339	ePKP1	PKPbc	13 51 28.7	+1.9

*IDC **04** 14:08:12.5±1.0, 8.82S×67.01E, mb4.0/7, mb1 4.1/7, mb1mx3.8/19, mbtmp4.0/7, MS4.2/1, Ms1 4.1/1, ms1mx3.3/19, Error ellipse: s-maj=35.6km s-min=26.4km az=138.0*

*NEIC **04** 14:08:14.2±0.6, 8.81S×67.07E, h10^{km}, mb4.5/2, Error ellipse: s-maj=24.3km s-min=13.8km az=142.0*

ISC 04 14:08:12.3±0.9, **8.8S**±0.2×**67.1E**±0.2, **h10**^{km}, **n13**, σ**0^{s}73**/9, **mb4.1**/9, **MS4.2**/1, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	Lusaka	38.55	257	eP	P	14 15 38.1	+0.9
	10nm,0.8s,mb4.6						
CMAR	Chiang Mai Arr	41.47	49	P	P	14 16 02.6	+1.3
	1.9nm,0.8s,mb3.8,baz=244,slow=9.6,SNR=12						
BOSA	Boshof	43.97	238	P	P	14 16 21.4	-0.3
	2.1nm,0.6s,mb4.1,baz=70,slow=12,SNR=4.7						
MKAR	Makanchi Array	56.95	12	P	P	14 17 59.6	-0.7
	0.9nm,0.7s,mb3.9,baz=190,slow=7.4,SNR=11						
MAW	Mawson	58.82	182	LR	LR	14 36 59.1	
	comp=Z,198nm,19.5s,MS4.2,baz=230,slow=29						
ZRNK	Zerenda	61.50	1	eP	P	14 18 31.3	-0.3
	2.9nm,0.9s,mb4.4						
ZAL	Zalesovo	64.24	12	P	P	14 18 49.5	-0.3
	0.6nm,0.4s,mb4.0,baz=249,slow=9.1,SNR=3.7						
WRA	Warramunga Arr	65.73	108	P	P	14 18 59.3	-0.7
	0.9nm,0.9s,mb3.8,baz=277,slow=5.3,SNR=5.3						
SONM	Songino Array	66.21	28	P	P	14 19 03.3	+0.8
	2.3nm,0.9s,mb4.2,baz=211,slow=6.4,SNR=14						
ARCES	ARCESS Array B	83.21	346	P	P	14 20 39.2	-0.6
	1.6nm,0.8s,mb4.1,baz=162,slow=3.8,SNR=7.8						
PDAR	Pinedale Array	146.01	356	PKPbc	PKPbc	14 27 54.5	+1.6
	0.2nm,0.4s,baz=16,slow=4.5,SNR=2.3						
NVAR	Mina Array Bea	150.07	9	PKPbc	PKPdf	14 28 06.9	+5.3
	0.8nm,0.8s,baz=84,slow=2.3,SNR=5.7						
TXAR	Lajitas Array	157.78	338	PKPab	PKPab	14 28 43.8	-0.8
	0.3nm,0.7s,baz=143,slow=4.5,SNR=2.8						

*IDC **04** 15:10:12.8±1.1, 0.26N×97.48E, mb3.9/9, mb1 4.0/10, mb1mx3.9/18, mbtmp3.9/10, ML4.1/1, Error ellipse: s-maj=47.6km s-min=21.9km az=52.0*

*NEIC **04** 15:10:17.3±0.6, 0.29N×97.57E, h30^{km}, mb4.2/3, Error ellipse: s-maj=16.6km s-min=11.8km az=61.0*

ISC 04 15:10:16.4±0.8, **0.4N**±0.1×**97.6E**±0.1, **h33**^{km}, **n17**, σ**0^{s}74**/16, **mb4.0**/12, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.77	32	ePn	Pn	15 11 41.6	-0.4
CMAR	Chiang Mai Arr	18.04	4	P	P	15 14 26.8	+0.5
	0.3nm,0.3s,baz=193,slow=12,SNR=8.6						
WRA	Warramunga Arr	41.25	121	P	P	15 18 00.6	+0.3
	0.5nm,0.4s,mb3.5,baz=304,slow=8.8,SNR=14						
WRA				PcP	PcP	15 19 59.7	+0.3
	0.3nm,0.6s,baz=304,slow=2.7,SNR=5.7						
WRAB	Tennant Creek	41.26	121	P	P	15 18 00.0	-0.3
	2.0nm,0.5s,mb4.0						
SONM	Songino Array	47.90	8	P	P	15 18 52.7	-0.7
	1.9nm,0.5s,mb4.4,baz=197,slow=13,SNR=2.4						
SONM				PcP	PcP	15 20 20.2	-1.7
	1.7nm,0.5s,baz=217,slow=12,SNR=2.8						
ULN	Ulaanbaatar	48.03	9	eP	P	15 18 55.0	+0.6
	0.9nm,0.4s,mb4.2						
MKAR	Makanchi Array	48.15	346	P	P	15 18 55.9	+0.6
	1.2nm,0.6s,mb4.1,baz=153,slow=8.1,SNR=11						
MKAR	Makanchi Array	48.15	346	P	P	15 18 55.9	+0.6
ZAL	Zalesovo	54.44	351	P	P	15 19 43.3	+0.6
	1.9nm,0.3s,mb4.5,baz=294,slow=5.6,SNR=9.6						
ZRNK	Zerenda	57.58	340	eP	P	15 20 03.9	-1.4
	1.1nm,0.3s,mb4.4						
BRTR	Keskin Array B	69.97	312	P	P	15 21 25.8	-0.9
	0.9nm,0.6s,mb3.9,baz=143,slow=5.9,SNR=4.0						
AKASG	Malin Array Be	76.17	322	P	P	15 22 02.4	-0.5
	0.6nm,0.4s,mb3.9,baz=84,slow=5.2,SNR=5.1						
FINES	FINESS Array B	80.93	333	P	P	15 22 29.0	+0.2
	0.2nm,0.4s,mb3.4,baz=189,slow=37,SNR=4.7						
ARCES	ARCESS Array B	83.46	340	P	P	15 22 41.4	-0.2
	0.5nm,0.6s,mb3.7,baz=124,slow=4.4,SNR=5.8						
ARCES	ARCESS Array B	83.46	340	P	P	15 22 41.4	-0.2
GERES	GERESS Array B	85.71	319	P	P	15 22 54.9	+1.6
	0.2nm,0.3s,mb3.8,baz=117,slow=9.0,SNR=3.0						
TXAR	Lajitas Array	144.16	33	PKP	PKPdf	15 29 50.1	+0.6
	0.1nm,0.4s,baz=163,slow=2.6,SNR=4.4						

*BJI **04** 15:16:24.4, 2.58N×95.44E, h30^{km}, mb4.8, Ms4.1, Msz4.0*

*NEIC **04** 15:16:27.2±0.7, 2.65N×95.50E, mb4.4/8, Error ellipse: s-maj=13.8km s-min=8.9km az=50.0*

*IDC **04** 15:16:27.2±1.4, 2.63N×95.43E, h21^{km}±4^{km}, mb4.0/6, mb1 4.2/7, mb1mx3.9/18, mbtmp4.2/7, ML4.2/1, MS3.4/1, Ms1 3.6/1, ms1mx2.9/32, Error ellipse: s-maj=56.2km s-min=19.1km az=55.0*

ISC 04 15:16:25.4±0.8, **2.67N**±0.09×**95.5E**±0.1, **h22**^{km}, **h22**^{km}±.9^{km}**:pP-P**, **n28**, σ**0^{s}99**/28, **mb4.3**/14, **MS3.9**/1, **1D**, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.74	63	ePn	Pn	15 17 51.6	-0.1
KSM	Kuching	14.83	94	ePn	P	15 19 56.7	+0.8
KKTK	Khon Kaen	15.36	27	⇓PN	P	15 20 07.0	+4.1
CM31	Chiang Mai Arr	16.04	12	eP	P	15 20 13.5	+1.9
	11nm,0.8s						
CMAR	Chiang Mai Arr	16.04	12	Pn	P	15 20 13.2	+1.5
	0.3nm,0.3s,baz=202,slow=11,SNR=55						
CMAR				LR	LR	15 27 18.2	
	comp=Z,120nm,18.4s,baz=200,slow=40						
KKM	Kota Kinabalu	20.90	80	eP	P	15 21 07.4	-1.6
KMI	Kunming	23.38	17	P	P	15 21 33.7	0.0
KMI				S	S	15 25 36.3	-5.3
KMI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.3						
KMI				LR	LR		
	comp=N,287nm,12.4s,MS3.9						
KMI				LR	LR		
	comp=E,101nm,16.6s,MS3.9						
KMI				LR	LR		
	comp=Z,305nm,12.7s,MS4.0						
KMI	Kunming	23.38	17	P	P	15 21 33.7	0.0
	comp=Z,11nm,0.9s,mb4.3						
KMI				S	S	15 25 36.3	-5.3
KMI				LR	LR		
	comp=Z,310nm,12.7s,MS4.0						
LSA	Lhasa	27.20	352	eP	P	15 22 10.1	+0.3
	comp=Z,9.1nm,0.8s,mb4.4						
XAN	Xi'an	33.62	20	P	P	15 23 04.4	-2.2
XAN				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.3						
WRA	Warramunga Arr	44.23	122	P	P	15 24 35.5	+0.2
	comp=Z,2.1nm,0.7s,mb4.0,baz=298,slow=9.3,SNR=16						
WRA				sP	sP	15 24 45.6	+0.9
	comp=Z,1.2nm,0.6s,baz=301,slow=9.2,SNR=5.6						
WRAB	Tennant Creek	44.24	122	eP	P	15 24 36.0	+0.6
	comp=Z,3.0nm,0.7s,mb4.1						
MKAR	Makanchi Array	45.43	347	P	P	15 24 44.7	+0.1
	comp=Z,7.5nm,0.7s,mb4.6,baz=162,slow=7.7,SNR=50						
MKAR				pP	pP	15 24 51.5	+0.3
	comp=Z,12nm,0.7s,baz=165,slow=7.4,SNR=23						
MKAR	Makanchi Array	45.43	347	P	P	15 24 44.7	+0.1
MKAR				pP	pP	15 24 51.5	+0.3
SONM	Songino Array	45.96	10	P	P	15 24 48.5	-0.2
	comp=Z,3.7nm,0.9s,mb4.3,baz=180,slow=11,SNR=4.2						
SONM				pP	pP	15 24 55.2	-0.2
	comp=Z,4.6nm,0.8s,baz=198,slow=7.8,SNR=5.3						
ULN	Ulaanbaatar	46.11	11	eP	P	15 24 49.7	-0.2
	comp=Z,2.7nm,0.9s,mb4.2						
TLY	Talaya	49.31	7	eP	P	15 25 15.3	+0.4
	comp=Z,3.9nm,0.9s,mb4.4						
HIA	Hailar	50.82	20	P	P	15 25 25.7	-0.7
ZAL	Zalesovo	51.85	352	P	P	15 25 34.5	+0.3
	comp=Z,4.1nm,0.7s,mb4.5,baz=299,slow=6.3,SNR=22						
ZAL	Zalesovo	51.85	352	P	P	15 25 34.5	+0.3
ZRNK	Zerenda	54.71	341	eP	P	15 25 54.0	-1.3
	comp=Z,2.9nm,0.8s,mb4.4						
ZRNK				epP	pP	15 26 01.6	-0.5
YAK	Yakutsk	64.50	17	eP	P	15 27 00.7	-1.9
	comp=Z,9.0nm,0.7s,mb4.9						
YAK				epP	pP	15 27 08.1	-1.5
AKASG	Malin Array Be	73.08	323	pP	pP	15 28 01.9	-1.0
	comp=Z,0.6nm,0.6s,baz=88,slow=5.3,SNR=3.4						
FINES	FINESS Array B	77.93	333	P	P	15 28 23.4	+0.2
	comp=Z,0.9nm,0.9s,mb3.7,baz=207,slow=4.3,SNR=3.5						
FINES				pP	pP	15 28 30.1	-0.2
	comp=Z,0.7nm,0.6s,baz=90,slow=5.7,SNR=3.3						
ARCES	ARCESS Array B	80.60	340	P	P	15 28 38.0	+0.5
	comp=Z,0.8nm,0.8s,mb3.7,baz=317,slow=22,SNR=3.4						
ARCES				pP	pP	15 28 44.2	-0.4
	comp=Z,0.8nm,0.6s,baz=104,slow=5.0,SNR=3.0						
ARCES	ARCESS Array B	80.60	340	P	P	15 28 38.0	+0.5
ARCES				pP	pP	15 28 44.2	-0.4
GERES	GERESS Array B	82.61	319	pP	pP	15 28 56.6	+1.1
	comp=Z,0.4nm,0.4s,baz=90,slow=4.0,SNR=4.6						
SBA	Scott Base	88.69	168	eP	P	15 29 18.6	+0.7

*IDC **04** 15:20:57.6±0.7, 15.25S×173.03W, mb4.1/9, mb1 4.4/9, mb1mx4.2/17, mbtmp4.1/9, ML5.9/1, MS3.8/18, Ms1 3.8/18, ms1mx3.7/32, Error ellipse: s-maj=38.2km s-min=17.4km az=126.0*

*NEIC **04** 15:20:59.0±0.3, 15.24S×173.09W, h10^{km}, mb4.2/7, Error ellipse: s-maj=18.1km s-min=6.3km az=126.0*

ISC 04 15:20:57.6±0.4, **15.3S**±0.1×**173.1W**±0.2, **h10**^{km}, **n48**, σ**0^{s}59**/30, **mb4.1**/16, **MS3.9**/18, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.88	45	ePn	Pn	15 21 29.1	-1.0
AFI				eSn	Sn	15 21 47.4	-6.7
RAO	Raoul Island	14.61	197	Pn	P	15 24 25.5	-0.9
	55nm,0.3s,baz=166,slow=20,SNR=3.3						
DZM	Mont Dzumac	20.49	248	P	P	15 25 45.5	+7.0
	4.5nm,0.9s,baz=66,slow=19,SNR=3.2						
PPT	Papeete	22.71	99	LR	LR	15 32 04.3	
	comp=Z,174nm,19.2s,MS3.5,baz=346,slow=30						
URZ	Urewera	24.48	199	P	P	15 26 19.4	+1.4
	19nm,0.5s,mb4.8,baz=337,slow=3.9,SNR=18						
URZ				LR	LR	15 34 26.7	
	comp=Z,287nm,21.4s,MS3.7,baz=48,slow=33						
HNR	Honiara	26.91	279	LR	LR	15 36 06.9	
	comp=Z,129nm,19.8s,MS3.5,baz=251,slow=34						
RPZ	Rata Peaks	31.41	202	LR	LR	15 38 58.4	
	comp=Z,316nm,20.7s,MS4.0,baz=16,slow=34						
RKT	Rikitea	36.80	108	eLR	LR	15 37 45.5	
	175nm,31.2s						
CTA	Charters Tower	38.92	257	LR	LR	15 41 38.3	
	comp=Z,162nm,21.6s,MS3.8,baz=47,slow=32						
STKA	Stephens Creek	44.33	240	P	P	15 29 09.4	-0.4
	1.6nm,0.8s,mb3.8,baz=88,slow=8.7,SNR=4.3						
WRA	Warramunga Arr	50.12	257	P	P	15 29 55.0	-0.4
	0.2nm,0.4s,mb3.5,baz=94,slow=6.7,SNR=9.4						
CBIJ	Chichi jima	60.44	314	LR	LR	15 53 28.8	
	comp=Z,62nm,20.5s,MS3.7,baz=133,slow=32						
VNDA	Vanda	63.54	186	P	P	15 31 29.8	-0.3
	1.3nm,1.1s,mb3.9,baz=18,slow=7.4,SNR=3.9						
VNDA	Vanda	63.54	186	eP	P	15 31 29.6	-0.5
FX1	Attu Island--F	68.89	351	LR	LR	15 56 50.1	
	comp=Z,6.3nm,19.5s,MS2.9,baz=199,slow=31						
YBH	Yreka Blue Hor	73.33	37	LR	LR	15 56 46.9	
	comp=Z,92nm,21.9s,MS4.0,baz=250,slow=29						
NVAR	Mina Array Bea	74.05	42	P	P	15 32 35.2	-0.5
	1.3nm,0.9s,mb3.9,baz=212,slow=7.4,SNR=7.6						
NVAR				LR	LR	15 58 53.1	
	comp=Z,85nm,18.0s,MS4.1,baz=175,slow=31						
NVAR	Mina Array Bea	74.05	42	P	P	15 32 35.2	-0.5
NVAR				LR	LR	15 58 53.1	
ELK	Elko	77.31	41	LR	LR	15 59 14.1	
	comp=Z,104nm,20.0s,MS4.2,baz=315,slow=30						
BBB	Bella Bella	77.65	26	LR	LR	16 00 10.3	
	comp=Z,56nm,18.3s,MS3.9,baz=282,slow=30						
MVU	Marysvale	78.12	44	eP	P	15 32 59.1	+0.4
	3.2nm,0.9s,mb4.2						
MSU	Marysvale	78.15	44	eP	P	15 32 60.0	+1.1
HLID	Hailey	79.36	39	eP	P	15 33 05.4	+0.1
	1.9nm,0.8s,mb4.1						
PV10	Paradox Valley	80.23	46	eP	P	15 33 10.8	+0.6
TXAR	Lajitas Array	80.32	56	P	P	15 33 10.1	-0.8
	2.6nm,1.1s,mb4.1,baz=228,slow=5.5,SNR=13						
TXAR				LR	LR	16 02 45.0	
	comp=Z,62nm,20.3s,MS4.0,baz=295,slow=31						
TXAR	Lajitas Array	80.32	56	P	P	15 33 10.1	-0.8
TXAR				LR	LR	16 02 45.0	
PV01	Paradox Valley	80.44	46	eP	P	15 33 11.6	+0.3
NEW	Newport	80.45	34	LR	LR	16 01 15.6	
	comp=Z,82nm,19.1s,MS4.1,baz=235,slow=30						
ANMO	Albuquerque	80.52	50	eP	P	15 33 11.5	-0.2
	2.8nm,1.1s,mb4.1						
MCMT	McKenzie Canyo	80.99	39	eP	P	15 33 14.7	+0.7
TPAW	Teton Pass	81.47	41	eP	P	15 33 16.6	+0.1
	2.1nm,0.8s,mb4.1						
DLBC	Dease Lake	81.48	21	LR	LR	16 00 44.8	
	comp=Z,66nm,21.5s,MS4.0,baz=269,slow=29						
CHMT	Chamberlain Mo	81.86	37	eP	P	15 33 17.8	-0.7
BW06	Boulder Array	81.99	42	eP	P	15 33 19.1	-0.2
	1.1nm,0.7s,mb3.9						
PDAR	Pinedale Array	81.99	42	P	P	15 33 19.0	-0.3
	0.9nm,0.6s,mb3.9,baz=216,slow=3.3,SNR=11						
PDAR				LR	LR	16 03 07.4	
	comp=Z,91nm,20.4s,MS4.1,baz=261,slow=31						
ILAR	Eielson Array	82.26	11	P	P	15 33 20.1	-0.1
	1.9nm,0.8s,mb4.1,baz=224,slow=5.8,SNR=12						
ILAR				LR	LR	16 02 22.7	
	comp=Z,45nm,20.4s,MS3.8,baz=178,slow=30						
SDCO	Great Sand Dun	82.43	48	eP	P	15 33 22.2	+0.5
	2.3nm,1.2s,mb4.0						
HRY	Holter Researc	82.58	37	eP	P	15 33 22.4	+0.1
RSSD	Black Hills	86.19	42	eP	P	15 33 40.6	+0.1
	2.1nm,0.6s,mb4.5						
MAW	Mawson	88.01	199	LR	LR	16 09 38.6	
	comp=Z,80nm,19.0s,MS4.2,baz=58,slow=33						
YKA	Yellowknife Ar	89.87	23	P	P	15 33 58.2	+0.5
	1.2nm,0.7s,mb4.3,baz=229,slow=4.2,SNR=4.5						
YKA	Yellowknife Ar	89.87	23	P	P	15 33 58.2	+0.5
ULM	Lac du Bonnet	93.66	39	LR	LR	16 09 36.5	
	comp=Z,86nm,18.1s,MS4.2,baz=321,slow=31						
ARCES	ARCESS Array B	124.51	352	PKP	PKPdf	15 39 57.5	-2.4
	0.8nm,0.6s,slow=1.2,SNR=7.1						
KECS	Kecovo	145.02	344	ePKP	PKPdf	15 40 37.7	-0.5
GRA1	Grafenberg Arr	145.48	355	ePKP	PKPdf	15 40 39.6	+0.6
GERES	GERESS Array B	146.04	352	PKPbc	PKPbc	15 40 40.7	+2.8
	1.0nm,0.7s,baz=45,slow=3.8,SNR=11						
BRTR	Keskin Array B	146.21	321	PKPbc	PKPbc	15 40 40.8	+2.1
	1.3nm,0.6s,baz=90,slow=1.2,SNR=7.6						

CASC 04 15:31:01.6±2.0, **11.09N**×**86.67W**, **h13**^{km}±9^{km}, **MD3.7**, **ML3.5**, **1C-7D**, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	0.96	22	eP	Pb	15 31 20.2	+0.7
APON	Apoyo	1.01	36	eP	Pb	15 31 20.1	-0.4
TICN	Ticuantepe	1.03	24	eP	Pb	15 31 20.8	0.0
TICN				eS	Sb	15 31 35.6	+1.6
XAVN	Gruta Xavier	1.10	18	⇓eP	Pb	15 31 22.1	0.0
XAVN				eS	Sb	15 31 38.0	+1.9
CONN	Concepcion	1.12	65	eP	Pb	15 31 20.6	-1.8
MGAN	Managua	1.13	21	⇓eP	Pb	15 31 21.4	-1.0
MGAN				eS	Sb	15 31 37.0	+0.3
MGAN				i		15 31 38.0	
	comp=E,988nm,0.3s						
WILN	Americas 2	1.16	24	⇓eP	Pb	15 31 22.3	-0.8
WILN				eS	Sb	15 31 37.9	+0.1
APYN	Apoyeque	1.18	15	⇓eP	Pb	15 31 23.0	-0.3
APYN				eS	Sb	15 31 38.8	+0.5
MOMJ	Momotombo	1.31	5	eP	Pb	15 31 24.4	-1.2
MOMJ				eS	Sb	15 31 41.4	-0.8
LEON	Leon	1.33	350	⇓eP	Pb	15 31 25.1	-0.9
MIRN	Miramar	1.34	358	⇓eP	Pn	15 31 25.2	-0.9
MIRN				eS	Sb	15 31 43.5	+0.5
CNGN	Cerro Negro	1.40	359	eP	Pn	15 31 26.0	-0.9
TEL3	Telica 3	1.48	353	eP	Pn	15 31 27.3	-0.8
TEL3				eS	Sb	15 31 46.7	-0.4
TELN	Telica	1.51	354	eP	Pn	15 31 27.6	-1.0
TELN				eS	Sb	15 31 47.6	-0.3
PYTN	Playitas	1.56	22	⇓eP	Pn	15 31 27.9	-1.2
CRIN	San Cristobal	1.64	347	⇑eP	Pn	15 31 29.7	-0.7
CRIN				eS	Sn	15 31 51.1	-0.3

*IDC **04** 15:39:50.0±3.2, 12.62S×166.86E, h216^{km}±29^{km}, mb3.9/16, mb1 4.0/18, mb1mx3.9/24, mbtmp4.4/18, Error ellipse: s-maj=16.9km s-min=13.7km az=64.0*

*NEIC **04** 15:39:51.6±1.7, 12.64S×166.84E, h235^{km}±15^{km}, mb4.2/7, Error ellipse: s-maj=10.7km s-min=9.3km az=51.0*

ISC 04 15:39:50.4±2.4, **12.64S**±0.09×**166.82E**±0.10, **h232**^{km}±22^{km}, **n50**, σ**0^{s}85**/32, **mb4.1**/21, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.38	182	P	P	15 42 02.1	0.0
	0.7nm,0.3s,baz=151,slow=23,SNR=17						
DZM				S	S	15 43 46.2	+0.9
	0.6nm,0.3s,baz=140,slow=21,SNR=3.0						
PMG	Port Moresby	19.57	277	P	P	15 44 02.4	0.0
	0.5nm,0.3s,baz=146,slow=10,SNR=3.3						
CTA	Charters Tower	21.06	247	P	P	15 44 18.3	+1.0
	15nm,0.6s,mb4.7,baz=84,slow=13,SNR=22						
CTA	Charters Tower	21.06	247	P	P	15 44 18.3	+1.0
CTAO	Charters Tower	21.06	247	eP	P	15 44 17.9	+0.6
	13nm,0.7s,mb4.6						
URZ	Urewera	27.11	162	P	P	15 45 12.1	-1.8
	11nm,0.7s,mb4.6,baz=339,slow=8.6,SNR=7.5						
STKA	Stephens Creek	30.06	226	P	P	15 45 39.7	-0.5
	2.8nm,0.6s,mb4.0,baz=2.1,slow=7.3,SNR=11						
STKA	Stephens Creek	30.06	226	P	P	15 45 39.7	-0.5
RPZ	Rata Peaks	31.18	174	P	P	15 45 49.3	-0.5
	9.1nm,0.6s,mb4.6,baz=46,slow=5.8,SNR=14						
WRAB	Tennant Creek	31.96	253	eP	P	15 45 54.9	-1.9
	3.3nm,0.4s,mb4.2						
WRA	Warramunga Arr	31.97	253	P	P	15 45 55.4	-1.5
	1.9nm,0.4s,mb4.0,baz=84,slow=9.0,SNR=47						
MBWA	Marble Bar	45.71	253	P	P	15 47 50.5	+0.2
VNDA	Vanda	64.92	181	P	P	15 50 06.9	+0.4
	1.5nm,0.7s,mb3.7,baz=347,slow=5.7,SNR=16						
VNDA	Vanda	64.92	181	eP	P	15 50 06.8	+0.3
	2.0nm,0.8s,mb3.8						
SBA	Scott Base	65.21	180	eP	P	15 50 08.7	+0.3
	6.4nm,0.9s,mb4.2						
FX1	Attu Island--F	65.49	4	P	P	15 50 10.2	-0.3
	5.2nm,0.7s,mb4.3						
FX1	Attu Island--F	65.49	4	eP	P	15 50 10.4	0.0
MA2	Magadan	73.13	352	eP	P	15 50 55.7	-1.3
	2.0nm,0.6s,mb3.9						
ULN	Ulaanbaatar	80.21	324	eP	P	15 51 37.4	+1.0
	1.9nm,0.9s,mb3.7						
BILL	Bilibino	80.47	360	eP	P	15 51 37.2	-0.1
	12nm,1.0s,mb4.5						
MAW	Mawson	83.64	202	P	P	15 51 53.8	+0.2
	1.2nm,0.7s,mb3.7,baz=113,slow=18,SNR=2.7						
LSA	Lhasa	84.09	302	eP	P	15 51 58.7	+2.0
ILAR	Eielson Array	84.69	18	P	P	15 51 58.4	-0.5
	7.7nm,0.8s,mb4.5,baz=241,slow=5.8,SNR=34						
NVAR	Mina Array Bea	86.25	49	P	P	15 52 07.2	0.0
	0.5nm,0.8s,mb3.3,baz=225,slow=3.8,SNR=3.7						
ELK	Elko	89.22	48	P	P	15 52 21.9	+0.7
	0.4nm,0.5s,mb3.5,baz=96,slow=2.2,SNR=5.1						
NEW	Newport	90.27	40	P	P	15 52 25.5	-0.4
	1.2nm,0.7s,mb3.8,baz=212,slow=8.5,SNR=3.8						
INK	Inuvik	91.06	19	P	P	15 52 29.6	+0.5
	1.5nm,0.7s,mb4.0,baz=15,slow=9.0,SNR=2.9						
MKAR	Makanchi Array	95.40	317	P	P	15 52 50.5	+0.9
	1.5nm,0.7s,mb4.2,baz=90,slow=6.5,SNR=18						
ZAL	Zalesovo	95.47	324	P	P	15 52 49.9	+0.2
	0.4nm,0.3s,mb4.0,baz=321,slow=3.7,SNR=4.3						
SNAA	Sanae	95.59	183	P	P	15 52 50.4	+0.6
TXAR	Lajitas Array	95.67	61	P	P	15 52 50.9	-0.2
	0.3nm,0.6s,mb3.7,baz=221,slow=5.5,SNR=5.1						
ARCES	ARCESS Array B	118.14	346	PKP	PKPdf	15 58 10.5	+1.3
	0.8nm,0.4s,baz=89,slow=1.6,SNR=16						
ARCES	ARCESS Array B	118.14	346	PKP	PKPdf	15 58 10.5	+1.3
CPUP	Villa Florida	122.18	132	PKP	PKPdf	15 58 19.2	+1.2
	1.6nm,0.8s,baz=69,slow=20,SNR=3.9						
FINES	FINESS Array B	123.64	339	PKP	PKPdf	15 58 20.5	+0.4
	0.3nm,0.5s,SNR=3.7						
BDFB	Brasilia	135.53	128	PKP	PKPdf	15 58 45.3	+1.6
	0.9nm,0.3s,baz=130,slow=6.4,SNR=5.1						
LOR	Lormes	142.64	341	ePKP1	PKPdf	15 58 55.5	-0.1
SSF	Saint Saulge	142.93	341	ePKP1	PKPdf	15 58 55.4	-0.7
LPL	La Plagne	143.12	336	ePKP1	PKPbc	15 58 56.8	+1.9
LPG	La Plagne	143.13	336	ePKP1	PKPbc	15 58 57.0	+2.1
	5.0nm,0.7s						
MBDF	Montbardon	143.76	336	ePKP1	PKPbc	15 58 57.8	+1.0
	4.3nm,0.7s						
ORIF	Oris-en-Rattie	143.95	337	ePKP1	PKPbc	15 58 58.9	+1.5
	22nm,0.7s						
TCF	Toulx Ste Croi	144.03	342	ePKP1	PKPbc	15 58 58.8	+1.2
	3.3nm,0.5s						
SBF	Sospel	144.19	334	ePKP1	PKPbc	15 58 59.0	+0.9
	36nm,0.8s						
MFF	Saint Martin d	144.41	345	ePKP1	PKPbc	15 58 59.9	+1.3
	14nm,0.4s						
VIVF	Saint-Julien-l	144.46	338	ePKP1	PKPbc	15 58 59.5	+0.7
	8.6nm,0.7s						
FRF	La Foret Royal	144.77	335	ePKP1	PKPbc	15 59 01.0	+1.3
	19nm,0.8s						
SMRF	Simiane la Rot	144.86	336	ePKP1	PKPbc	15 59 02.0	+2.0
	7.0nm,0.6s						
LMR	La Mourre	145.01	335	ePKP1	PKPbc	15 58 59.8	-0.6
	22nm,1.0s						
MTLF	Montolieu	146.65	339	ePKP1	PKPbc	15 59 03.4	-1.0
	8.9nm,0.6s						

*BJI **04** 16:07:31.6, 9.99N×93.45E, h37^{km}, mB5.3, mb4.8, Ms5.0, Msz4.7*

*MOS **04** 16:07:33.8±1.0, 10.34N×93.68E, h33^{km}, mb5.2/35, MS4.7/22, Error ellipse: s-maj=10.2km s-min=5.5km az=115.3*

*HRVD **04** 16:07:36.0±0.2, 10.33N×93.80E, h12^{km}, MW5.3/70, Centroid moment Tensor Solution. LP body waves: s57,c104; Mantle waves: s70,c157; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.00±.02; $M_{\theta\theta}$0.12±.02; $M_{\phi\phi}$0.88±.02; $M_{r\theta}$0.22±.05; $M_{\theta\phi}$0.38±.01; $M_{\phi r}$-0.58±.05; Best double couple: $M_0$1.19×10^{17} NP1: ϕ_s220°, δ36°, λ-59°. NP2: ϕ_s3°, δ60°, λ-110°. Principal*

axes: T 1.143, Plg13°, Azm108°; N .098, Plg18°, Azm14°; P -1.236, Plg68°, Azm232°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **04** 16:07:36.0±0.3, 10.25N×93.58E, mb4.9/38 Error ellipse: s-maj=7.2km s-min=6.3km az=46.0*

*IDC **04** 16:07:38.5±4.0, 10.36N×93.60E, h55km±35km, mb4.3/26, mb1 4.4/27, mb1mx4.4/28, mbtmp4.6/27, ML4.0/1, MS4.5/21, Ms1 4.5/21, ms1mx4.5/21, Error ellipse: s-maj=17.4km s-min=10.7km az=49.0*

ISC 04 16:07:34.3±0.2, **10.28N**±0.04×**93.69E**±0.03, **h35**km, **h35**km±1.7km**:pP-P, n236,** σ1§**13**/252, **mb4.8**/77, **MS4.7**/52, **17C-16D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	Port Blair	1.65	326	e	P	16 07 53.6	-7.7
PBA				e		16 08 30.0	
NNT	Nongplab	6.35	68	P	P	16 09 08.5	+0.5
SNG	Songkhla	7.51	114	P	P	16 09 24.0	-0.1
	196nm,0.9s						
NST	Nakhon Sawan	8.25	49	P	P	16 09 34.0	-0.5
	150nm,0.4s						
KULM	Kulim	8.49	125	eP	P	16 09 34.6	-3.1
CM31	Chiang Mai Arr	9.59	31	eP	P	16 09 54.0	+1.0
	13nm,0.5s						
CMAR	Chiang Mai Arr	9.59	31	P	P	16 09 53.8	+0.7
	0.4nm,0.3s,baz=221,slow=14,SNR=28						
CMAR				LR	LR	16 14 13.1	
	comp=Z,1µm,21.5s,baz=225,slow=41						
CHG	Chiang Mai	9.89	30	⇓P	P	16 10 01.6	+4.4
	28nm,1.1s						
KKTK	Khon Kaen	10.73	55	P	P	16 10 10.5	+1.7
	556nm,0.9s						
VIS	Vishakhapatnam	12.48	307	eP	P	16 10 30.8	-1.6
VIS				e		16 12 39.8	
VIS				i		16 13 39.8	
CAL	Calcutta	13.23	338	e	Px	16 09 27.6	
CAL				e		16 10 42.4	
SHL	Shillong	15.30	354	eP	P	16 11 12.0	+2.5
SHL				eS	S	16 13 53.0	-5.2
BLSP	Bilaspur	16.17	318	eP	P	16 11 20.5	-0.2
BLSP				AMb	AMB	16 11 24.5	
	comp=Z,56nm,0.7s						
BLSP				eS	S	16 14 11.1	-7.5
HYB	Hyderabad	16.31	297	eP	P	16 11 24.0	+1.5
HYB				eS	S	16 14 26.5	+4.7
HYB	Hyderabad	16.31	297	i P	P	16 11 24.0	+1.5
HYB				eS	S	16 14 26.5	+4.7
KMI	Kunming	17.08	29	P	P	16 11 35.3	+3.2
KMI				AP		16 11 44.0	
KMI				XP		16 11 49.5	
KMI				PP	PP	16 11 51.5	+5.0
KMI				PPP	PPP	16 11 58.5	+3.9
KMI				S	S	16 14 54.0	+15
KMI				SSS	SSS	16 15 31.2	+17
KMI				AMB	AMB		
	comp=Z,37nm,1.5s						
KMI				AMB	AMB		
	comp=Z,907nm,5.8s						
KMI				LR	LR		
	comp=N,3µm,9.9s						
KMI				LR	LR		
	comp=E,2µm,10.3s						
KMI				LR	LR		
	comp=Z,2µm,10.3s						
KMI	Kunming	17.08	29	P	P	16 11 35.3	+3.2
KMI				pmax	pmax		
	comp=Z,37nm,1.5s						
KMI	Kunming	17.08	29	P	P	16 11 35.3	+3.2
	comp=Z,37nm,1.5s						
KMI				pP		16 11 44.0	
KMI				sP		16 11 49.5	
KMI				PP	PP	16 11 51.5	+5.0
KMI				PPP	PPP	16 11 58.5	+3.9
KMI				S	S	16 14 54.0	+15
KMI				sS		16 15 07.8	
KMI				SS	SS	16 15 18.0	+17
KMI				SSS	SSS	16 15 31.2	+17
QIZ	Qiongzhong	17.87	59	⇑iP	P	16 11 44.2	+2.2
QIZ				XP		16 11 56.8	
QIZ				S	S	16 14 58.9	+1.5
QIZ				AMB	AMB		
	comp=Z,945nm,8.1s						
QIZ				LR	LR		
	comp=N,4µm,16.6s						
QIZ				LR	LR		
	comp=Z,3µm,10.1s						
LATR	Latur	18.45	298	eP	P	16 11 50.5	+1.2
KSM	Kuching	18.69	117	eP	P	16 11 53.9	+1.7
PKI	Pulchoki	18.89	337	eP	P	16 11 55.2	+0.7
	comp=Z,868nm,1.8s						
PKI	Pulchoki	18.89	337	eP	P	16 11 55.2	+0.7
PKI				pmax	pmax		
	comp=Z,434nm,1.8s						
GUN	Gumba	19.01	338	eP	P	16 11 56.2	+0.2
	comp=Z,171nm,0.9s						
DMN	Daman	19.04	336	eP	P	16 11 57.3	+1.1
	comp=Z,516nm,1.7s						
KKN	Kakani	19.13	337	eP	P	16 11 57.2	-0.1
	comp=Z,42nm,0.6s						
KKN	Kakani	19.13	337	eP	P	16 11 57.2	-0.1
KKN				pmax	pmax		
	comp=Z,21nm,0.6s						
LSA	Lhasa	19.47	353	P	P	16 12 00.4	-0.6
LSA				AP		16 12 10.4	
LSA				XP		16 12 17.7	
LSA				S	S	16 15 33.5	+0.2
LSA				PCP	PcP	16 16 13.6	-7.2
LSA				SCP		16 19 45.2	
LSA				PCS		16 19 51.3	
LSA				SCS	ScS	16 23 27.7	-5.7
LSA				AMB	AMB		
	comp=Z,890nm,7.7s						
LSA				LR	LR		
	comp=N,630nm,21.8s						
LSA				LR	LR		
	comp=E,610nm,13.9s						
LSA				LR	LR		
	comp=Z,1µm,18.3s						
LSA	Lhasa	19.47	353	eP	P	16 11 59.4	-1.6
LSA				pmax	pmax		
	comp=Z,36nm,0.6s						
LSA	Lhasa	19.47	353	eP	P	16 11 59.4	-1.6
	comp=Z,36nm,0.6s						
GKN	Gorkha	19.58	335	eP	P	16 12 02.2	0.0
	comp=Z,64nm,0.6s						
KOLN	Koldanda	19.82	333	eP	P	16 12 05.4	+0.5
	comp=Z,59nm,0.4s						
KAD	Karad	20.18	292	eP	P	16 12 10.9	+2.2
KAD				AMb	AMB	16 12 13.8	
	comp=Z,125nm,1.5s						
KAD				eS	S	16 15 46.8	-1.6
BHPL	Bhopal	20.19	312	eP	P	16 12 10.1	+1.3
BHPL				AMb	AMB	16 12 22.4	
	comp=Z,83nm,1.4s						
BHPL				eS	S	16 15 45.9	-2.6
BHPL				e		16 18 07.8	
GYA	Guiyang	20.23	36	⇓iP	P	16 12 09.8	+0.5
GYA				AP		16 12 18.7	
GYA				XP		16 12 21.4	
GYA				S	S	16 15 59.2	+10
GYA				AMB	AMB		
	comp=Z,70nm,0.8s						
GYA				AMB	AMB		
	comp=Z,980nm,7.5s						
GYA				LR	LR		
	comp=N,2µm,12.9s,MS4.9						
GYA				LR	LR		
	comp=E,2µm,11.1s,MS4.9						
GYA				LR	LR		
	comp=Z,2µm,14.1s,MS4.6						
POO	Poona	20.88	295	⇓iP	P	16 12 17.0	+1.0
	comp=Z,80nm,1.0s						
POO				i S	S	16 16 02.0	+0.1
CD2	Chengdu	22.56	23	P	P	16 12 33.4	+0.6
CD2				PP	PP	16 13 03.1	+1.8
CD2				PPP	PPP	16 13 13.3	+2.0
CD2				S	S	16 16 38.5	+5.4
CD2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.1						
CD2				AMB	AMB		
	comp=Z,520nm,5.1s						
CD2				LR	LR		
	comp=N,3µm,11.4s						
CD2				LR	LR		
	comp=Z,3µm,10.2s,MS5.0						
LGTI	Lohaghat	22.84	329	eP	P	16 12 38.5	+2.9
AJM	Ajmer	24.16	314	⇑iP	P	16 12 51.0	+2.6
DDI	Dehra Dun	24.69	326	eP	P	16 12 55.0	+1.4
DDI				e		16 17 36.0	
ENH	Enshi	24.74	34	eP	P	16 12 53.7	-0.4
	comp=Z,48nm,0.8s,mb5.1						
SDNR	Sundarnagar	26.19	326	eP	P	16 13 08.2	+0.5
LZH	Lanzhou	27.29	18	⇓P	P	16 13 15.2	-2.6
LZH				AP	pP	16 13 24.2	-3.4
LZH				XP	sP	16 13 28.3	-3.7
LZH				ePP	PP	16 14 03.5	-1.7
LZH				eS	S	16 17 51.7	-1.4
LZH				AMB	AMB		
	comp=Z,39nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,174nm,5.5s						
LZH				LR	LR		
	comp=N,2µm,10.2s						
LZH				LR	LR		
	comp=Z,2µm,15.6s						
LZH	Lanzhou	27.29	18	⇓P	P	16 13 15.2	-2.6
	comp=Z,39nm,1.3s,mb4.8						
LZH				pP	pP	16 13 24.2	-3.4
LZH				sP	sP	16 13 28.3	-3.7
LZH				ePP	PP	16 14 03.5	-1.7
LZH				eS	S	16 17 51.7	-1.4
LZH				sS		16 18 07.2	
LZH				SS	SS	16 19 09.5	-0.9
LZH				LR	LR		
	comp=Z,2µm,15.6s,MS4.8						
XAN	Xi'an	27.46	28	P	P	16 13 17.8	-1.5
XAN				AP	pP	16 13 26.5	-2.7
XAN				S	S	16 18 03.1	+7.3
XAN				AMB	AMB		
	comp=Z,23nm,0.6s,mb4.9						
XAN				LR	LR		
	comp=N,1µm,11.3s,MS4.8						
XAN				LR	LR		
	comp=E,1µm,12.4s,MS4.8						
XAN				LR	LR		
	comp=Z,1µm,13.4s,MS4.7						
WHN	Wuhan	27.86	41	eP	P	16 13 23.4	+0.5
WHN				LR	LR		
	comp=N,850nm,10.0s,MS5.3						
WHN				LR	LR		
	comp=E,4µm,11.1s,MS5.3						
WHN				LR	LR		
	comp=Z,5µm,12.6s,MS5.3						
GTA	Gaotai	29.52	10	eP	P	16 13 38.0	+0.3
GTA				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.4						
GTA				AMB	AMB		
	comp=Z,178nm,6.1s						
GTA				LR	LR		
	comp=N,552nm,11.1s,MS4.7						
GTA				LR	LR		
	comp=E,688nm,10.7s,MS4.7						
GTA				LR	LR		
	comp=Z,634nm,18.7s						
YHNB	Yeheng	29.95	58	P	P	16 13 42.6	+0.9
NJ2	Nanjing	31.78	43	eP	P	16 13 58.0	+0.2
NJ2				AP	pP	16 14 07.3	-0.6
NJ2				S	S	16 19 03.0	-1.4
NJ2				AMB	AMB		
	comp=Z,850nm,6.9s						
NJ2				LR	LR		
	comp=N,340nm,14.3s,MS4.5						
NJ2				LR	LR		
	comp=E,530nm,13.2s,MS4.5						
NJ2				LR	LR		
	comp=Z,430nm,12.9s,MS4.3						
SSE	Sheshan	32.86	47	P	P	16 14 05.2	-2.0
SSE				AP	pP	16 14 13.9	-3.4
SSE				XP	sP	16 14 17.8	-4.0
SSE				PP	PP	16 15 19.1	+1.5
SSE				S	S	16 19 20.3	-0.9
SSE				AMB	AMB		
	comp=Z,15nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,229nm,4.9s						
SSE				LR	LR		
	comp=N,1µm,19.5s,MS4.6						
SSE				LR	LR		
	comp=E,564nm,19.5s,MS4.6						
SSE				LR	LR		
	comp=Z,482nm,17.5s,MS4.3						
SSE	Sheshan	32.86	47	P	P	16 14 05.2	-2.0
	comp=Z,15nm,0.7s,mb5.0						
SSE				pP	pP	16 14 13.9	-3.4
SSE				sP	sP	16 14 17.8	-4.0
SSE				PP	PP	16 15 19.1	+1.5
SSE				S	S	16 19 20.3	-0.9
SSE				sS		16 19 35.0	
SSE				SS	SS	16 21 42.0	+21
SSE				LR	LR		
	comp=Z,480nm,17.5s,MS4.3						
KSH	Kashi	33.12	334	eP	P	16 14 09.6	+0.2
KSH				eAP	pP	16 14 16.5	-2.9
KSH				eXP	sP	16 14 20.0	-4.0
KSH				AMB	AMB		
	comp=Z,190nm,2.7s,mb5.5						
WMQ	Urumqi	33.82	352	P	P	16 14 16.4	+1.1
WMQ				AP	pP	16 14 25.9	+0.5
WMQ				XP	sP	16 14 29.8	-0.2
WMQ				PP	PP	16 15 30.0	+0.9
WMQ				S	S	16 19 37.0	+1.1
WMQ				XS		16 19 53.0	
WMQ				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,328nm,4.2s						
WMQ				LR	LR		
	comp=N,739nm,18.6s,MS4.8						
WMQ				LR	LR		
	comp=E,1µm,16.8s,MS4.8						
WMQ				LR	LR		
	comp=Z,544nm,18.6s,MS4.3						
HHC	Hu-ho-hao-te	34.30	24	eP	P	16 14 19.5	0.0
HHC				AP	pP	16 14 28.6	-1.0
HHC				XP	sP	16 14 32.8	-1.4
HHC				PP	PP	16 15 36.1	+0.9
HHC				PCP	PcP	16 16 48.4	-7.1
HHC				S	S	16 19 54.4	+11
HHC				XS		16 20 06.2	
HHC				SCP		16 20 29.9	
HHC				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.8						
HHC				LR	LR		
	comp=N,1µm,14.2s,MS4.9						
HHC				LR	LR		
	comp=E,1µm,14.2s,MS4.9						
HHC				LR	LR		
	comp=Z,1µm,11.9s,MS4.8						
ULHL	Ulahol	35.32	337	P	P	16 14 29.1	+0.8
	SNR=9.3						
KZA	Kyzart	35.57	336	P	P	16 14 31.2	+0.9
	SNR=14						
UCH	Uchtor	35.99	335	P	P	16 14 35.5	+1.5
	SNR=9.0						
TKM2	Tokmak 2	36.15	337	P	P	16 14 37.2	+2.0
	SNR=7.0						
KBK	Karagaybulak	36.17	336	P	P	16 14 36.3	+0.8
	SNR=9.4						
AML	Almayashu	36.25	335	P	P	16 14 36.8	+0.7
	SNR=28						
AAK	Ala-Archa	36.34	336	P	P	16 14 37.8	+1.0
	SNR=7.0						
AAK	Ala-Archa	36.34	336	eP	P	16 14 36.2	-0.6
AAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
AAK	Ala-Archa	36.34	336	eP	P	16 14 36.2	-0.7
	comp=Z,11nm,0.8s,mb4.8						
FRU	Bishkek	36.45	336	eP	P	16 14 38.5	+0.7
FRU				MLR	MLR		
	comp=Z,2µm,22.0s,MS4.7						
JOW	Kunigami	36.52	58	LR	LR	16 32 05.9	
	comp=Z,341nm,18.1s,MS4.2,baz=145,slow=40						
CHMS	Chumysh	36.54	336	P	P	16 14 38.3	-0.2
	SNR=7.5						
USP	Ospenovka	36.87	336	P	P	16 14 41.2	-0.1
	SNR=14						
MKAR	Makanchi Array	37.66	347	P	P	16 14 46.9	-1.0
	comp=Z,7.3nm,0.7s,mb4.5,baz=168,slow=7.4,SNR=76						
MKAR				LR	LR	16 33 12.5	
	comp=Z,680nm,21.8s,MS4.4,baz=174,slow=41						
MKAR	Makanchi Array	37.66	347	P	P	16 14 46.9	-1.0
MKAR				LR	LR	16 33 12.5	
DL2	Dalian	37.88	37	eP	P	16 14 49.4	-0.4
DL2				S	S	16 20 49.4	+11
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
DL2				AMB	AMB		
	comp=Z,160nm,4.9s						
DL2				LR	LR		
	comp=N,330nm,19.6s,MS4.4						
DL2				LR	LR		
	comp=E,470nm,19.3s,MS4.4						
DL2				LR	LR		
	comp=Z,430nm,23.3s,MS4.2						
SONM	Songino Array	38.93	14	P	P	16 14 58.9	+0.4
	comp=Z,4.1nm,0.6s,mb4.4,baz=200,slow=9.0,SNR=18						
SONM				PcP	PcP	16 17 09.3	0.0
	comp=Z,3.6nm,0.6s,baz=192,slow=4.0,SNR=6.4						
SONM				LR	LR	16 33 01.2	
	comp=Z,696nm,19.0s,MS4.5,baz=30,slow=39						
ULN	Ulaanbaatar	39.12	14	eP	P	16 14 59.7	-0.3
ULN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
ULN	Ulaanbaatar	39.12	14	eP	P	16 14 59.7	-0.4
	comp=Z,4.7nm,0.7s,mb4.3						
SNY	Shenyang	40.93	35	⇑P	P	16 15 15.8	+0.7
SNY				S	S	16 21 32.9	+8.6
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
SNY				AMB	AMB		
	comp=Z,180nm,5.6s						
SNY				LR	LR		
	comp=E,1µm,13.9s						
SNY				LR	LR		
	comp=Z,1µm,13.4s,MS4.9						
KS15	Wonju Array Si	40.95	43	eP	P	16 15 16.2	+0.8
TLY	Talaya	42.07	9	eP	P	16 15 24.8	+0.4
TLY				e		16 17 15.0	
TLY				eS	S	16 21 46.6	+5.5
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
TLY				MLR	MLR		
	comp=Z,293nm,16.0s,MS4.3						
FITZ	Fitzroy Crossi	42.31	132	P	P	16 15 26.8	0.0
	comp=Z,5.3nm,0.4s,mb4.5,baz=348,slow=5.7,SNR=15						
FITZ				LR	LR	16 34 16.5	
	comp=Z,733nm,18.5s,MS4.6,baz=291,slow=38						
CN2	Changchun	43.26	34	eP	P	16 15 34.7	+0.4
CN2				eAP	pP	16 15 45.0	+0.4
CN2				eS	S	16 22 00.9	+2.3
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,170nm,4.0s						
CN2				LR	LR		
	comp=N,700nm,19.0s,MS4.7						
CN2				LR	LR		
	comp=E,670nm,19.0s,MS4.7						
CN2				LR	LR		
	comp=Z,900nm,15.0s,MS4.8						
ZAL	Zalesovo	44.12	352	P	P	16 15 41.3	+0.3
	comp=Z,18nm,0.6s,mb5.0,baz=344,slow=5.2,SNR=90						
ZAL				LR	LR	16 38 34.4	
	comp=Z,236nm,18.9s,MS4.1,baz=292,slow=42						
CIT	Chita	44.65	17	eP	P	16 15 41.7	-3.6
NVS	Novosibirsk	45.21	351	eP	P	16 15 48.0	-1.8
NVS				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.7						
NVS				pmax	pmax		
	comp=N,8.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.1s						
MDJ	Mudanjiang	46.10	36	P	P	16 15 55.5	-1.4
MDJ				PCP	PcP	16 17 28.4	-4.8
MDJ				PP	PP	16 17 45.0	-0.2
MDJ				S	S	16 22 43.2	+3.8
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,202nm,5.1s						
MDJ				LR	LR		
	comp=N,688nm,25.0s,MS4.6						
MDJ				LR	LR		
	comp=E,351nm,24.1s,MS4.6						
MDJ				LR	LR		
	comp=Z,513nm,22.4s,MS4.4						
QRN	Al-Qurain	46.56	300	eP	P	16 16 01.5	+0.7
QRN				AMb	AMB	16 16 10.2	
	comp=Z,33nm,0.6s,mb5.4						
KBD	Kabd	46.85	300	eP	P	16 16 04.5	+1.4
RDF	Al-Radifah	46.91	300	eP	P	16 16 04.7	+1.2
RDF				AMb	AMB	16 16 11.7	
	comp=Z,31nm,0.6s,mb5.4						
ZRNK	Zerenda	46.98	340	eP	P	16 16 02.1	-1.6
MJAR	Matsushiro Arr	47.91	50	P	P	16 16 13.1	+1.7
	comp=Z,4.2nm,0.8s,mb4.5,baz=240,slow=9.1,SNR=8.8						
MJAR				LR	LR	16 38 55.3	
	comp=Z,535nm,18.1s,MS4.6,baz=245,slow=39						
MZLS	Mizel	48.07	293	P	P	16 16 14.1	+1.4
KAMS	Al Khamasin	48.25	288	P	P	16 16 15.8	+1.6
NWAO	Narrogin (SRO)	48.48	153	LR	LR	16 35 26.1	
	comp=Z,514nm,19.1s,MS4.5,baz=332,slow=34						
TATS	Tathlith	49.24	287	P	P	16 16 23.9	+2.2
ATD	Arta Tunnel	49.89	276	LR	LR	16 34 08.0	
	comp=Z,666nm,20.8s,MS4.6,baz=96,slow=32						
BOD	Bodaibo	49.93	14	eP	P	16 16 25.3	-1.3
BOD				pmax	pmax		
	comp=Z,4.0nm,1.8s,mb4.2						
WRA	Warramunga Arr	50.03	127	P	P	16 16 28.3	+0.4
	comp=Z,5.5nm,0.5s,mb4.9,baz=305,slow=8.6,SNR=158						
WRAB	Tennant Creek	50.04	127	eP	P	16 16 28.0	+0.1
WRAB				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.1						
WRAB	Tennant Creek	50.04	127	eP	P	16 16 28.0	+0.1
	comp=Z,13nm,0.6s,mb5.2						
AFFS	‘Afif	50.06	293	P	P	16 16 28.8	+0.8
BLJS	Baljurashi	51.02	287	P	P	16 16 37.4	+2.0
GNI	Garni	52.46	313	eP	P	16 16 46.7	+0.8
GNI				pmax	pmax		
	comp=Z,53nm,1.4s						
GNI	Garni	52.46	313	P	P	16 16 46.8	+0.9
	comp=Z,8.7nm,0.6s,mb4.9,baz=78,slow=2.2,SNR=5.5						
GNI	Garni	52.46	313	eP	P	16 16 46.7	+0.8
	comp=Z,53nm,1.4s,mb5.3						
DGRG	David-gareji	52.49	315	P	P	16 16 46.5	+0.3
SVE	Sverdlovsk	53.02	338	eP	P	16 16 44.3	-5.5
SVE				e	pP	16 16 57.0	-3.3
SVE				ePS	PS	16 24 22.0	-8.4
SVE				e		16 26 32.0	
SVE				pmax	pmax		
	comp=Z,41nm,1.7s,mb5.1						
SVE				MLR	MLR		
	comp=N,600nm,20.0s,MS4.8						
SVE				MLR	MLR		
	comp=E,600nm,20.0s,MS4.8						
SVE				MLR	MLR		
	comp=Z,1µm,20.0s,MS4.9						
ARU	Arti	53.52	337	⇓iP	P	16 16 52.0	-1.6
ARU				e		16 17 58.8	
ARU				e		16 18 48.6	
ARU				ePPP	PPP	16 20 01.9	-1.9
ARU				eS	S	16 24 23.8	+1.4
ARU				e		16 26 41.3	
ARU				eSS	SS	16 28 05.7	+3.5
ARU				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
ARU				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.0						
ARU				MLR	MLR		
	comp=N,700nm,23.0s,MS4.9						
ARU				MLR	MLR		
	comp=E,1µm,21.0s,MS4.9						
ARU	Arti	53.52	337	eP	P	16 16 51.9	-1.7
	comp=E,9.8nm,0.7s,mb4.8						
ZEI	Tsey	54.00	316	eP	P	16 16 53.6	-3.7
ZEI				i *PP	pP	16 17 01.2	-6.6
ZEI				i		16 18 55.2	
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
ONI	Oni	54.24	316	P	P	16 16 59.0	-0.1
YSS	Yuzh-Sakhalins	55.19	39	eP	P	16 17 06.1	+0.2
YSS				eS	S	16 24 43.0	-2.0
YSS				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						

YSS pmax pmax
comp=Z,200nm,5.0s
YSS MLR MLR
comp=Z,500nm,19.0s,MS4.6
YSS MLR MLR
comp=N,500nm,17.0s,MS4.8
YSS MLR MLR
comp=E,500nm,19.0s,MS4.8
KIV Kislovodsk 55.26 317 *e*P **P 16 17 06.2 -0.3**
KIV *e* 16 19 10.3
KIV *e*S **S 16 24 44.7 -1.3**
KIV *e*SS SS 16 28 28.7 -1.5
KIV pmax pmax
comp=N,25nm,1.0s
KIV pmax pmax
comp=E,15nm,1.0s
KIV pmax pmax
comp=Z,41nm,1.0s,mb5.4
KIV MLR MLR
comp=E,422nm,23.0s
KIV MLR MLR
comp=Z,639nm,23.0s,MS4.6
KIV Kislovodsk 55.26 317 *e*P **P 16 17 06.2 -0.2**
comp=Z,39nm,0.8s,mb5.5
UMJS Umm Lajj 55.34 294 P **P 16 17 09.3 +2.0**
TBKS Tabuk 56.32 297 P **P 16 17 15.9 +1.6**
SOKR Solikamsk 56.41 338⇑*i*P **P 16 17 14.8 +0.3**
SOKR pmax pmax
comp=Z,20nm,1.1s,mb5.1
SOKR MLR MLR
comp=Z,2µm,23.0s,MS5.1
ASF Jabal al Asfar 56.56 302 P **P 16 17 16.7 +0.7**
comp=Z,1.3nm,0.4s,mb4.4,baz=80,slow=2.1,SNR=3.0
PMG Port Moresby 56.68 108 *e*P **P 16 17 17.5 +0.4**
PMG Port Moresby 56.68 108 P **P 16 17 18.5 +1.4**
comp=Z,21nm,0.7s,mb5.3,baz=311,slow=7.1,SNR=4.6
PMG LR LR 16 42 40.4
comp=Z,270nm,21.6s,MS4.3,baz=95,slow=37
JMQS Jabal Moqyreh 56.98 298 P **P 16 17 20.5 +1.4**
SOC Sochi 57.15 316 *e*P **P 16 17 20.0 -0.1**
SOC *e* 16 19 26.6
SOC *e*PPP PPP 16 20 45.4 -3.7
SOC *e*S **S 16 25 11.4 +0.3**
SOC pmax pmax
comp=Z,11nm,0.7s,mb5.0
SOC pmax pmax
comp=N,8.0nm,0.6s
SOC pmax pmax
comp=E,10.0nm,0.7s
SOC MLR MLR
comp=N,432nm,21.0s,MS4.7
SOC MLR MLR
comp=E,524nm,21.0s,MS4.7
SOC MLR MLR
comp=Z,630nm,21.0s,MS4.7
KMBO Kilima Mbogo 57.28 262 P **P 16 17 22.1 +0.6**
comp=Z,1.1nm,0.5s,mb4.1,baz=53,slow=15,SNR=5.4
KMBO LR LR 16 38 42.4
comp=Z,844nm,20.7s,MS4.8,baz=94,slow=33
BDAS Al Bad' 57.61 297 P **P 16 17 24.4 +0.8**
TAYS Tayyib Ism 57.82 297 P **P 16 17 26.0 +1.1**
HAQS Haql 57.82 298 P **P 16 17 26.4 +1.4**
EIL Elat 57.87 299 P **P 16 17 24.9 -0.5**
comp=Z,4.8nm,0.5s,mb4.8,baz=47,slow=9.3,SNR=5.0
EIL Elat 57.87 299 *e*P **P 16 17 24.7 -0.7**
comp=Z,16nm,1.0s,mb5.0
YAK Yakutsk 57.87 19*d i*P **P 16 17 22.8 -2.1**
ANN Anapa 59.09 316 *e*P **P 16 17 27.7 -5.9**
ANN *e*S **S 16 25 31.7 -4.8**
ANN pmax pmax
comp=Z,16nm,1.0s,mb5.0
ANN MLR MLR
comp=N,938nm,23.0s,MS4.9
ANN MLR MLR
comp=E,268nm,23.0s,MS4.9
ANN MLR MLR
comp=Z,709nm,23.0s,MS4.7
BR131 Keskin Array S 60.54 310 *e*P **P 16 17 41.6 -2.1**
comp=Z,7.1nm,0.8s,mb4.8
BRTR Keskin Array B 60.54 310 P **P 16 17 41.5 -2.2**
comp=Z,5.7nm,0.7s,mb4.8,baz=121,slow=6.8,SNR=24
STKA Stephens Creek 62.09 134 P **P 16 17 54.4 +0.2**
comp=Z,5.3nm,0.6s,mb4.8,baz=300,slow=7.4,SNR=20
STKA LR LR 16 44 53.1
comp=Z,582nm,21.5s,MS4.7,baz=290,slow=36
STKA Stephens Creek 62.09 134 *e*P **P 16 17 53.6 -0.6**
MOS Moscow 62.81 328 *e*P **P 16 17 49.9 -8.8**
MOS *e* 16 18 04.4
MOS *e* 16 18 31.2
MOS pmax pmax
comp=Z,32nm,0.8s,mb5.5
MOS MLR MLR
comp=Z,1µm,24.5s,MS4.9
OBN Obninsk 63.12 327*d i*P **P 16 17 59.1 -1.7**
OBN *i* S **S 16 26 36.4 +8.8**
OBN pmax pmax
comp=Z,29nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,500nm,21.0s,MS4.7
OBN Obninsk 63.12 327 *e*P **P 16 17 59.3 -1.4**
MA2 Magadan 64.86 28*c e*P **P 16 18 11.4 -0.5**
MA2 *e*PPP PPP 16 22 04.9 -5.5
MA2 *e*S **S 16 26 47.7 -1.3**
MA2 *e*PS PS 16 27 12.0 -1.8
MA2 *e*SS SS 16 30 59.3 -3.3
MA2 pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
TIXI Tiksi 64.98 12 *e*P **P 16 18 07.4 -5.1**
TIXI *e*S **S 16 26 44.2 -6.1**
TIXI pmax pmax
comp=Z,11nm,0.8s,mb4.9
KIS Kishinev 65.46 317 *e*P **P 16 18 23.0 +7.0**
KIS *e*S S 16 27 10.0 +13
KIS MLR MLR
comp=Z,500nm,17.0s,MS4.8
KIS MLR MLR
comp=Z,500nm,20.0s
CFR Carcaliu 65.58 315⇑P **P 16 18 15.6 -1.2**
AKASG Malin Array Be 66.01 321 P **P 16 18 17.4 -2.1**
comp=Z,2.9nm,0.6s,mb4.5,baz=88,slow=4.9,SNR=14
VRI Vrincioaia 66.67 316⇓P **P 16 18 22.5 -1.3**
IDI Anoyia 66.85 304 P **P 16 18 23.9 -1.1**
comp=Z,11nm,0.6s,mb5.1,baz=90,slow=7.6,SNR=20
PET Petropavlovsk 66.86 37 *e*P **P 16 18 22.4 -2.4**
PET *e*S S 16 27 09.5 -4.1
PET *e* 16 28 10.8
PET *e*SS SS 16 31 26.3 -7.5
PET pmax pmax
comp=Z,100nm,11.3s
PET smax
comp=E,100nm,16.0s
PET MLR MLR
comp=Z,400nm,21.0s,MS4.6
MLR Muntele Rosu 67.16 315⇑P **P 16 18 27.1 +0.3**
BURAR Bucovina Array 67.98 317⇓P **P 16 18 31.2 -0.8**
LVZ Lovozero 69.16 340 *e*P **P 16 18 37.6 -1.3**
LVZ *e*S S 16 27 47.0 +6.2
LVZ pmax pmax
comp=E,3.0nm,0.5s
LVZ pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
LVZ smax
comp=N,110nm,4.8s
LVZ MLR MLR
comp=Z,1µm,24.0s,MS5.1
LVZ MLR MLR
comp=N,520nm,23.0s,MS5.0
LVZ MLR MLR
comp=E,770nm,22.0s,MS5.0
VSU Vasula 69.31 329⇓*i*P **P 16 18 38.3 -1.7**
APA Apatity 69.45 339⇓*i*P **P 16 18 40.0 -0.7**
APA *i* 16 18 46.0
APA *e*S S 16 27 44.0 -0.2
APA pmax pmax
comp=Z,11nm,0.7s,mb4.9
APA MLR MLR
comp=Z,1µm,20.0s,MS5.1
APA pmax pmax
comp=Z,13nm,0.6s,mb5.0
APA MLR MLR
comp=Z,500nm,16.0s
APA pmax pmax
comp=Z,120nm,1.0s,mb5.8
APA pmax pmax
comp=Z,8µm,15.0s
APA pmax pmax
comp=N,2µm,16.0s
APA pmax pmax
comp=E,4µm,16.0s
LSZ Lusaka 69.67 249 *e*P **P 16 18 42.7 -0.2**
LSZ pmax pmax
comp=Z,52nm,1.8s,mb5.2
LSZ Lusaka 69.67 249 *e*P **P 16 18 42.6 -0.2**
comp=Z,52nm,1.8s,mb5.2
KWP Kalwaria 69.93 319 *e*P **P 16 18 43.5 -0.4**
KOLS Kolonicke sedl 70.12 318 *e*P **P 16 18 42.4 -2.7**
SUW Suwalki 70.31 324 *e*P **P 16 18 44.6 -1.5**
FINES FINESS Array B 70.39 332 P **P 16 18 45.0 -1.5**
comp=Z,3.1nm,0.7s,mb4.3,baz=95,slow=5.6,SNR=16
FINES LR LR 16 56 15.7
comp=Z,413nm,18.4s,MS4.7,baz=321,slow=42
KAF Kangasniemi 70.46 333 *e*P **P 16 18 45.4 -1.5**
comp=Z,7.0nm,1.1s,mb4.5,baz=104,slow=5.9
KAF Kangasniemi 70.46 333 *e*P **P 16 18 45.4 -1.5**
KAF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
CRVS Cervenica-Dubn 70.64 318 *e*P **P 16 18 49.6 +1.3**
GRUS Gruza 70.68 313⇓*i*P **P 16 18 46.3 -2.3**
KECS Kecovo 71.24 318 *e*P **P 16 18 50.9 -1.0**
PSZ Piszkesteto 71.58 317 *e*P **P 16 18 54.2 +0.3**
PSZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
PSZ Piszkesteto 71.58 317 *e*P **P 16 18 54.2 +0.3**
comp=Z,3.0nm,0.7s,mb4.3
PSZ Piszkesteto 71.58 317⇑*e* **P 16 18 54.6 +0.7**
OJC Ojcow 71.86 320 *e*P **P 16 18 54.5 -1.0**
OJC *e*S S 16 28 08.4 -4.1
OJC MLR MLR 16 56 12.8
comp=Z,300nm,21.9s,MS4.5
VYHS Vyhne 72.34 318 *e*P **P 16 18 58.0 -0.4**
KEV Kevo 72.43 340 *e*p **P 16 18 57.6 -1.0**
comp=Z,12nm,0.6s,mb5.0
KEV Kevo 72.43 340 *e*P **P 16 18 57.6 -1.0**
KEV pmax pmax
comp=Z,12nm,0.6s,mb5.0
ARCES ARCESS Array B 72.87 340 P **P 16 19 00.7 -0.4**
comp=Z,8.3nm,0.6s,mb4.8,baz=89,slow=5.6,SNR=83
ARCES LR LR 16 53 38.8
comp=Z,1µm,21.8s,MS5.1,baz=113,slow=38
ARE0 ARCESS Array S 72.87 340 *e*P **P 16 19 00.5 -0.6**
OKC Ostrava-Krasne 72.89 319 *e*P **P 16 19 01.6 -0.1**
OKC *e*pP pP 16 19 12.4 0.0
OKC AMS AMS 16 56 50.0
comp=Z,200nm,17.1s
MORC Moravsky Berou 73.28 319 *e*P **P 16 19 03.0 -1.0**
MORC pmax pmax
comp=Z,13nm,1.1s,mb4.8
MORC Moravsky Berou 73.28 319 *e*P **P 16 19 03.0 -1.0**
comp=Z,13nm,1.1s,mb4.8
ZST Bratislava 73.47 317 *e*P **P 16 19 05.0 -0.1**
ZST *e*pP pP 16 19 16.2 +0.3
ZST *e*L 16 55 40.9
KOGS Kog 73.97 315 *e*P **P 16 19 07.2 -0.8**
BILL Bilibino 74.03 22 *i* P **P 16 19 07.8 -0.2**
DPC Dobruska-Polom 74.10 319 *e*P **P 16 19 08.7 0.0**
DPC *e*pP pP 16 19 19.9 +0.4
DPC AMS AMS 16 55 40.0
comp=Z,300nm,23.0s
KSP Ksiaz 74.14 320 *e*P **P 16 19 08.0 -0.9**
UPC Upice 74.30 320 *e*P **P 16 19 03.6 -6.3**
ARSA Arzberg 74.50 316⇑*i*P **P 16 19 11.4 +0.3**
comp=Z,9.7nm,0.8s,mb4.8
BOJS Bojanci 74.65 314 *i* P **P 16 19 11.1 -0.9**
PERS Pernice 74.76 316 *e*P **P 16 19 13.0 +0.4**
LBTB Lobatse 75.01 241 *e*P **P 16 19 14.1 -0.4**
LBTB pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LBTB Lobatse 75.01 241 *e*P **P 16 19 14.1 -0.5**
comp=Z,8.3nm,0.7s,mb4.8
OBKA Obir 75.15 315⇑*i*P **P 16 19 14.3 -0.6**
comp=Z,22nm,1.2s,mb5.0
LJU Ljubljana 75.16 315 *e*P **P 16 19 15.0 +0.1**
PVCC Panska Ves 75.22 320 AMS AMS 16 56 50.0
comp=Z,300nm,24.8s
PRU Pruhonice 75.22 319 *e*P **P 16 19 15.3 +0.1**
PRU *e*pP pP 16 19 26.4 +0.4
PRU LR LR
comp=Z,300nm,24.3s,MS4.5
PRU Pruhonice 75.22 319 *e*P **P 16 19 15.3 +0.1**
PRU *e*pP pP 16 19 26.4 +0.4
PRU AMS AMS 16 57 20.0
comp=Z,300nm,24.3s
MOA Molln 75.36 317⇑*i*P **P 16 19 15.4 -0.6**
comp=Z,11nm,1.1s,mb4.7
VOY Vojsko 75.60 315 *e*P **P 16 19 16.3 -1.2**
VOY *e* pP 16 19 24.3 -3.9
VOY *e* pP 16 19 28.3 +0.1
VOY *e* 16 19 45.8
BRG Berggiesshubel 75.63 320 *i* P **P 16 19 17.9 +0.4**
BRG *e* pP 16 19 29.4 +1.1
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
BRG pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
BRG Berggiesshubel 75.63 320 *i* P **P 16 19 17.9 +0.3**
comp=Z,7.0nm,1.1s,mb4.5
BRG *e* pP 16 19 29.4 +1.1
GERES GERESS Array B 75.75 318 P **P 16 19 17.8 -0.5**
comp=Z,3.8nm,0.6s,mb4.5,baz=89,slow=6.3,SNR=32
GERES LR LR 16 57 36.8
comp=Z,338nm,20.1s,MS4.7,baz=96,slow=40
KHC Kasperske Hory 75.84 318 *e*P **P 16 19 17.2 -1.5**
KHC *e*pP pP 16 19 29.1 -0.4
KHC LR LR
comp=Z,200nm,20.8s,MS4.4
KHC Kasperske Hory 75.84 318 *e*P **P 16 19 17.2 -1.5**
KHC *e*pP pP 16 19 29.1 -0.4
KHC AMS AMS 16 56 40.0
comp=Z,200nm,20.8s
ROBS Robic 75.87 315 *e*P **P 16 19 18.0 -1.0**
KBA Koelnbreinsper 75.98 316⇑*i*P **P 16 19 18.8 -0.8**
comp=Z,14nm,1.5s,mb4.7
KBA Koelnbreinsper 75.98 316⇑*i*P **P 16 19 18.8 -0.8**
KBA pmax pmax
comp=Z,14nm,1.5s,mb4.7
HFS Hagfors 76.17 329 P **P 16 19 19.2 -1.2**
comp=Z,2.4nm,0.5s,mb4.4,baz=112,slow=8.0,SNR=11
CLL Collm 76.23 320 *e*P **P 16 19 20.0 -0.9**
CLL *e* 16 19 35.0
CLL Collm 76.23 320 P **P 16 19 20.0 -0.9**
CLL *e**SP sP 16 19 35.0 -0.6
BOSA Boshof 76.49 237 *e*P **P 16 19 23.3 +0.4**
BOSA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BOSA Boshof 76.49 237 P **P 16 19 23.9 +1.0**
comp=Z,4.5nm,0.5s,mb4.7,baz=69,slow=4.5,SNR=13
BOSA LR LR 16 48 35.2
comp=Z,298nm,19.0s,MS4.6,baz=62,slow=32
BOSA Boshof 76.49 237 *e*P **P 16 19 23.3 +0.4**
comp=Z,9.1nm,0.8s,mb4.8
MOX Moxa 77.11 320 *e*P **P 16 19 20.0 -5.9**
WTTA Wattenberg 77.14 316⇑*i*P **P 16 19 25.3 -0.9**
comp=Z,12nm,1.0s,mb4.8
WTTA Wattenberg 77.14 316⇑*i*P **P 16 19 25.3 -0.9**
WTTA pmax pmax
comp=Z,12nm,1.0s,mb4.8
GRA1 Grafenberg Arr 77.37 319 *e*P **P 16 19 26.8 -0.6**
comp=Z,10.0nm,1.2s,mb4.6
GRA1 *e*pP pP 16 19 39.3 +1.1
GRF Grafenberg Arr 77.37 319 P **P 16 19 26.8 -0.6**
GRF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
GRF Grafenberg Arr 77.37 319 *e*P **P 16 19 26.8 -0.6**
GRF *e**PP pP 16 19 39.3 +1.1
GRF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
GRF Grafenberg Arr 77.37 319 *e*P **P 16 19 26.8 -0.6**
comp=Z,10.0nm,1.2s,mb4.6
GRF *e*pP pP 16 19 39.3 +1.1
NB2 NORSAR Subarra 77.43 330 P **P 16 19 25.9 -1.6**
comp=Z,6.5nm,1.0s,mb4.5,baz=92,slow=5.6
NB2 NORSAR Subarra 77.43 330 P **P 16 19 25.9 -1.6**
NB2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
NOA NORSAR Array B 77.43 330 P **P 16 19 26.3 -1.2**
comp=Z,3.5nm,1.0s,mb4.3,baz=92,slow=5.5,SNR=7.0
NOA LR LR 16 57 15.2
comp=Z,296nm,21.1s,MS4.6,baz=105,slow=38
SQTA Sankt Quirin 77.44 316⇓*i*P **P 16 19 26.5 -1.3**
comp=Z,5.7nm,0.9s,mb4.5
SQTA Sankt Quirin 77.44 316⇓*i*P **P 16 19 26.5 -1.3**
SQTA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
DAVA Damuels 78.34 316⇑*i*P **P 16 19 32.0 -0.8**
comp=Z,20nm,1.0s,mb5.0
LPG La Plagne 80.62 315 *e*P **P 16 19 44.7 -0.4**
comp=Z,44nm,0.9s,mb5.1
LPG La Plagne 80.62 315 *e*P **P 16 19 44.7 -0.4**
LPG pmax pmax
comp=Z,22nm,0.9s,mb5.1
MAW Mawson 80.79 191 P **P 16 19 46.5 +1.0**
comp=Z,3.6nm,0.7s,mb4.4,baz=47,slow=4.4,SNR=6.3
MAW LR LR 16 49 41.3
comp=Z,242nm,18.5s,MS4.6,baz=148,slow=31
EKA Eskdalemuir Ar 85.50 325 P **P 16 20 11.3 +1.6**
comp=Z,4.4nm,0.9s,mb4.7,baz=90,slow=5.8,SNR=7.8
SYO Syowa Base 87.56 197⇓P **P 16 20 19.6 +0.1**
SYO Syowa Base 87.56 197⇑PcP PcP 16 20 22.0 +0.1
ESDC Sonseca Array 89.34 310 P **P 16 20 29.0 +0.3**
comp=Z,1.9nm,0.6s,mb4.6,baz=62,slow=4.3,SNR=8.2
SUMG Summit 91.71 347 P **P 16 20 40.4 +1.4**
ILAR Eielson Array 92.69 22 P **P 16 20 43.1 -0.6**
comp=Z,0.5nm,0.7s,mb4.1,baz=304,slow=5.3,SNR=9.7
ILAR LR LR 17 07 27.9
comp=Z,216nm,20.3s,MS4.6,baz=330,slow=39
VNDA Vanda 95.36 168 P **P 16 20 55.7 +0.1**
comp=Z,0.4nm,0.5s,mb4.1,baz=300,slow=8.5,SNR=7.1
VNDA LR LR 17 00 31.3
comp=Z,248nm,18.7s,MS4.7,baz=303,slow=33
DBIC Dimbokro 97.17 278 LR LR 17 06 00.2
comp=Z,244nm,21.4s,MS4.7,baz=64,slow=36
ULM Lac du Bonnet 119.15 7 PKP PKPdf 16 26 21.4 +1.6
comp=Z,3.6nm,0.6s,baz=2.6,slow=2.3,SNR=4.3
ULM Lac du Bonnet 119.15 7 PKP PKPdf 16 26 21.4 +1.6
NVAR Mina Array Bea 123.08 30 PKP PKPdf 16 26 30.6 +2.8
comp=Z,1.3nm,0.6s,baz=61,slow=28,SNR=14
PDAR Pinedale Array 123.09 20 PKP PKPdf 16 26 29.1 +1.4
comp=Z,1.6nm,0.6s,baz=266,slow=0.3,SNR=18
TXAR Lajitas Array 137.21 23 PKHKP 16 26 49.2
comp=Z,0.2nm,0.6s,baz=358,slow=1.0,SNR=3.6
TXAR PKP PKPdf 16 26 57.3 +2.5
comp=Z,1.3nm,0.5s,baz=178,slow=0.9,SNR=26
TXAR Lajitas Array 137.21 23 PKP PKPdf 16 26 49.2 -5.6
TXAR PKP PKPdf 16 26 57.3 +2.5
BDFB Brasilia 142.34 258 PKhKP 16 27 03.5
comp=Z,2.0nm,0.5s,baz=80,slow=1.7,SNR=3.0
BDFB PKP PKPdf 16 27 07.0 +2.7
comp=Z,2.9nm,0.6s,baz=180,slow=7.5,SNR=5.1
TRQA Tornquist 144.76 214 *e*PKP PKPdf 16 27 08.2 +0.2
CPUP Villa Florida 148.30 236 PKPbc PKPdf 16 27 16.9 +2.7
comp=Z,3.3nm,1.0s,baz=75,slow=8.3,SNR=4.8
SDV Santo Domingo 155.38 320 *e*PKPab PKPab 16 27 52.1 -0.6
LPAZ La Paz 161.33 249 PKP PKPdf 16 27 36.1 +4.3
comp=Z,1.0nm,0.5s,baz=6.9,slow=23,SNR=4.4
LPAZ PKPab PKPab 16 28 18.4 0.0
comp=Z,1.4nm,0.6s,baz=54,slow=5.2,SNR=3.6

*CRAAG **04** 16:13:07.5, 36.28N×4.29E, Ml3.4*
*MDD **04** 16:13:09.1±0.9, 36.41N×4.25E, mb4.1/4, Error ellipse: s-maj=15.6km s-min=6.7km az=30.0, PRXIMO*
*CSEM **04** 16:13:11.3±0.1, 36.87N×4.56E, h2km, ML3.4, Error ellipse: s-maj=5.1km s-min=2.7km az=19.0*
ISC 04 16:13:09.5±1.3, 36.4N±0.1×4.23E±0.07, h14km±16km, n23, σ0s99/27, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SET	**Setif**	**0.96**	**99**	P		**Pb**	**16 13 26.0**	**-1.4**
EMHD	**Djebel Mahouad**	**1.04**	**262**	P		**Pb**	**16 13 28.0**	**-0.8**
ABA	**Alger-Bouzarea**	**1.06**	**295**	P		**Pb**	**16 13 29.5**	**+0.4**
CKHR	**Kef el Ahmar**	**1.09**	**108**	P		**Pb**	**16 13 28.0**	**-1.7**
DFRA	**Djebel Bou Aff**	**1.34**	**81**	P		**Pn**	**16 13 34.0**	**+0.1**
CMER	**Merouana**	**1.54**	**118**	P		**Pn**	**16 13 36.0**	**-0.8**
CTEI	**Djebel Teioual**	**1.78**	**99**	P		**Pn**	**16 13 41.5**	**+1.3**
CASM	**Ain Smara**	**1.83**	**92**	P		**Pn**	**16 13 43.0**	**+2.1**
CKFL	**Kef-Lekhel**	**2.01**	**88**	P		**Pn**	**16 13 44.0**	**+0.5**
CAEH	**'Ain El Ouahch**	**2.15**	**78**	P		**Pn**	**16 13 46.0**	**+0.5**
EBNR	**Beni Rached**	**2.18**	**269**	P		**Pg**	**16 13 53.0**	**-0.1**
ECHA	**Ech Chlef**	**2.32**	**266**	P		**Pg**	**16 13 56.0**	**0.0**
EANR	**'Ain N'Sour**	**2.56**	**262**	P		**Pg**	**16 14 00.0**	**-0.8**
ETRT	**Tiaret**	**2.57**	**249**	P		**Pg**	**16 14 02.0**	**+1.2**
EIBI	**Ibiza**	**3.51**	**320**	P		**Pn**	**16 14 05.7**	**+0.8**
	11nm,0.2s,SNR=17							
EIBI				S		Sn	16 14 46.9	+0.3
	0.6nm,0.5s,SNR=7.9							
EIBI	**Ibiza**	**3.51**	**320**	P		**Pn**	**16 14 05.7**	**+0.8**
	11nm,0.2s,SNR=17							
EIBI				S		Sn	16 14 46.9	+0.2
	SNR=7.9							
ETOS	**Mallorca**	**3.58**	**342**	P		**Pn**	**16 14 06.1**	**+0.2**
	4.1nm,0.3s,SNR=8.7							
ETOS				S		Sn	16 14 47.8	-0.6
	3.2nm,0.4s							
ETOS	**Mallorca**	**3.58**	**342**	P		**Pn**	**16 14 06.1**	**+0.2**
	4.1nm,0.3s,SNR=8.7							
ETOS				S		Sn	16 14 45.2	-3.2
	8.4nm,0.5s							
ECHE	**Chera**	**5.22**	**310**	P		**Pn**	**16 14 30.2**	**+1.0**
	1.5nm,0.6s,SNR=7.9							
EMOS	**Mosqueruela**	**5.45**	**319**	P		**Pn**	**16 14 32.2**	**-0.1**
	3.7nm,0.3s,SNR=6.6							
EMOS	**Mosqueruela**	**5.45**	**319**	P		**Pn**	**16 14 32.2**	**-0.1**
	3.7nm,0.3s,SNR=6.6							
EPOB	**Poblet**	**5.56**	**335**	P		**Pn**	**16 14 32.2**	**-1.7**
	1.3nm,0.3s,SNR=4.0							
EPOB	**Poblet**	**5.56**	**335**	P		**Pn**	**16 14 32.2**	**-1.7**
	1.3nm,0.3s,SNR=4.0							

*BJI **04** 16:17:29.3, 1.40N×124.50E, h270km, mB4.3, mb4.3*
*IDC **04** 16:17:29.9±3.6, 1.42N×124.47E, h256km±39km, mb3.7/14, mb1 3.8/15, mb1mx3.7/21, mbtmp4.3/15, Error ellipse: s-maj=24.1km s-min=9.9km az=78.0*
*NEIC **04** 16:17:31.3±2.9, 1.37N×124.49E, h270km±31km, mb4.2/8, Error ellipse: s-maj=16.6km s-min=7.8km az=83.0*
ISC 04 16:17:30.0±3.3, 1.39N±0.06×124.5E±0.1, h271km±35km, n32, σ0s94/32, mb4.0/24, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.40**	**177**	P		**P**	**16 21 36.6**	**-1.0**
	3.1nm,0.3s,baz=2.0,slow=8.3,SNR=53							
MBWA	**Marble Bar**		**22.89 192**	*e*P		**P**	**16 22 11.2**	**-0.5**
	6.9nm,0.6s,mb4.2							
WRAB	**Tennant Creek**	**23.28**	**156**	*e*P		**P**	**16 22 15.3**	**-0.1**
	74nm,0.4s							
WRA	**Warramunga Arr**	**23.28**	**156**	P		**P**	**16 22 15.3**	**-0.1**
	31nm,0.3s,mb5.0,baz=334,slow=11,SNR=450							
YHNB	**Yeheng**		**23.34 353**	*e*P		**P**	**16 22 17.5**	**+1.6**
JOW	**Kunigami**	**25.55**	**8**	P		**P**	**16 22 36.5**	**+0.4**
	19nm,0.8s,mb4.6,baz=196,slow=18,SNR=2.6							
CMAR	**Chiang Mai Arr**	**30.29**	**306**	P		**P**	**16 23 19.1**	**+0.5**
	0.5nm,0.8s,mb3.1,baz=135,slow=10,SNR=4.7							
NWAO	**Narrogin (SRO)**	**34.82**	**191**	P		**P**	**16 23 57.0**	**-0.3**
	26nm,1.2s,mb4.7,baz=45,slow=5.7,SNR=5.9							
NWAO	**Narrogin (SRO)**	**34.82**	**191**	P		**P**	**16 23 57.0**	**-0.3**
STKA	**Stephens Creek**	**36.83**	**155**	P		**P**	**16 24 15.1**	**+0.9**
	5.5nm,0.5s,mb4.3,baz=326,slow=8.3,SNR=23							
MAJO	**Matsushiro**	**37.20**	**18**	*e*P		**P**	**16 24 16.2**	**-1.0**
	6.3nm,0.7s,mb4.2							
MJAR	**Matsushiro Arr**	**37.20**	**18**	P		**P**	**16 24 16.8**	**-0.5**
	4.8nm,0.7s,mb4.0,baz=194,slow=8.9,SNR=9.3							
MJAR	**Matsushiro Arr**	**37.20**	**18**	P		**P**	**16 24 16.8**	**-0.5**
LSA	**Lhasa**	**42.41**	**315**	*e*P		**P**	**16 25 01.5**	**+1.5**
	4.0nm,0.6s,mb3.8							
GTA	**Gaotai**		**44.04 332**	*e*P		**P**	**16 25 14.3**	**+1.3**
GTA				AMB		AMB		
	comp=Z,6.0nm,0.7s,mb3.9							
HIA	**Hailar**		**47.87 356**	*e*P		**P**	**16 25 42.5**	**-0.2**
	comp=Z,5.4nm,0.6s,mb4.0							
ULN	**Ulaanbaatar**		**48.71 344**	*e*P		**P**	**16 25 48.6**	**-0.4**
	comp=Z,4.4nm,0.9s,mb3.8							
SONM	**Songino Array**		**48.86 344**	P		**P**	**16 25 49.6**	**-0.6**
	comp=Z,3.8nm,0.8s,mb3.8,baz=155,slow=9.2,SNR=18							
SONM				pP		pP	16 26 39.7	-8.5
	comp=Z,1.0nm,0.8s,baz=180,slow=8.6,SNR=3.8							
MKAR	**Makanchi Array**	**58.26**	**327**	P		**P**	**16 26 57.2**	**-1.1**
	comp=Z,2.6nm,0.3s,mb4.1,baz=124,slow=7.8,SNR=56							
MKAR				PcP		PcP	16 27 46.0	-0.5
	comp=Z,1.6nm,0.6s,baz=122,slow=4.9,SNR=6.8							
YAK	**Yakutsk**	**60.62**	**3**	*e*P		**P**	**16 27 13.6**	**-0.6**
	comp=Z,13nm,0.8s,mb4.5							
MA2	**Magadan**	**61.51**	**15**	*e*P		**P**	**16 27 20.6**	**+0.5**
	comp=Z,7.0nm,0.6s,mb4.5							
ZAL	**Zalesovo**	**61.70**	**335**	P		**P**	**16 27 19.8**	**-1.7**

	comp=Z,2.8nm,0.3s,mb4.4,baz=348,slow=5.8,SNR=9.1						
ZAL	**Zalesovo**	**61.70**	**335**	P	**P**	**16 27 19.8**	**-1.7**
FX1	**Attu Island--F**	**65.20**	**30**	*e*P	**P**	**16 27 45.8**	**+1.6**
BVAR	**Borovoye Array**	**68.10**	**328**	P	**P**	**16 28 01.3**	**-1.0**
	comp=Z,0.7nm,0.3s,mb3.9,baz=124,slow=8.2,SNR=8.5						
ZRNK	**Zerenda**	**68.80**	**328**	*e*P	**P**	**16 28 05.2**	**-1.4**
	comp=Z,3.4nm,0.5s,mb4.3						
VNDA	**Vanda**	**81.41**	**172**	P	**P**	**16 29 18.5**	**+1.1**
	comp=Z,0.3nm,0.5s,mb3.3,baz=322,slow=8.9,SNR=3.8						
VNDA	**Vanda**	**81.41**	**172**	P	**P**	**16 29 18.5**	**+1.0**
KMBO	**Kilima Mbogo**	**87.30**	**269**	P	**P**	**16 29 49.7**	**+1.5**
	comp=Z,0.3nm,0.3s,mb3.6,baz=42,slow=21,SNR=3.6						
ILAR	**Eielson Array**	**88.15**	**25**	P	**P**	**16 29 51.1**	**+0.2**
	comp=Z,0.2nm,0.4s,mb3.3,baz=258,slow=3.9,SNR=4.3						
ARCES	**ARCESS Array B**	**91.87**	**340**	P	**P**	**16 30 07.4**	**-0.8**
	comp=Z,1.2nm,0.7s,mb3.9,baz=84,slow=5.8,SNR=6.9						
FINES	**FINESS Array B**	**92.83**	**332**	P	**P**	**16 30 13.2**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=53,slow=9.5,SNR=3.4						

IDC 04 16:19:03.9±2.6**, 9.83N×91.48E, mb3.6**/2**, mb1 3.8**/3**, mb1mx3.4**/20**, mbtmp3.5**/3**, ML3.3**/1**, Error ellipse: s-maj=74.3km s-min=31.3km az=64.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.22**	**39**	Pn	P	16 21 45.8	-3.0
	0.1nm,0.3s,baz=232,slow=15,SNR=3.4						
MKAR	**Makanchi Array**	**37.66**	**350**	P	P	16 26 20.7	-1.8
	0.5nm,0.9s,baz=169,slow=7.3,SNR=3.3						
WRA	**Warramunga Arr**	**51.53**	**125**	P	P	16 28 11.9	-2.1
	2.1nm,0.9s,baz=304,slow=8.5,SNR=7.0						

WEL 04 17:15:16.4±1.1**, 35.37S×179.20E, h33^{km}, ML3.6**/6**, Error ellipse: s-maj=18.0km s-min=10.0km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.81**	**195**	PN	Pn	17 15 58.5	-1.6
PUZ				SN	Sn	17 16 30.5	-2.6
MWZ	**Matawai**	**3.25**	**204**	P*	Pb	17 16 05.0	-8.3
MWZ				S*	Sb	17 16 43.5	-9.3
URZ	**Urewera**	**3.34**	**209**	P*	Pb	17 16 07.4	-7.4
URZ				S*	Sb	17 16 44.9	-10
BKZ	**Black Stump Fm**	**4.37**	**209**	P*	Pb	17 16 20.1	-12
BFZ	**Birch Farm**	**5.80**	**203**	PN	Pn	17 16 37.0	-5.4
MRZ	**Mangatainoka R**	**6.01**	**207**	*e*SN	Sn	17 17 45.2	-8.6
TCW	**Tory Channel**	**7.00**	**212**	*e*SN	Sn	17 18 09.3	-9.4

SKHL 04 17:33:09.1±0.1**, 52.72N×142.88E, h10^{km}, mb4.0**/2**, Sakhalin Island**

MAN 04 17:43:57.8, 18.13N×120.61E, h26^{km}, mb3.6, ML2.3, MS1.7, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.48**	**169**	*e*P	Pb	17 44 08.4	+0.6
ABRA				*e*S	Sb	17 44 17.8	+3.2
APYP	**Conner**	**0.65**	**114**	*e*P	Pb	17 44 11.1	+0.5
APYP				*e*S	Sb	17 44 22.1	+2.8
CAUP	**Cauayan**	**1.65**	**135**	*e*P	Pn	17 44 25.6	0.0
BOLP	**Bolinao**	**1.86**	**201**	*e*P	Pn	17 44 27.0	-1.6
BOLP				*e*S	Sn	17 44 51.0	-0.4

CASC 04 17:58:32.7±2.6**, 13.88N×90.88W, h29^{km}**±8^{km}**, MD4.0, ML4.2, 5C-6D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.50**	**54**	⇓*e*P	Pb	17 58 41.0	-2.1
IXG				*e*S	Sb	17 58 51.2	+0.9
FUG	**Fuego 3**	**0.57**	**3**	⇓*e*P	Pb	17 58 43.6	-0.6
PCG	**Pacaya**	**0.58**	**27**	⇑*e*P	Pb	17 58 43.9	-0.4
PCG				*e*S	Sb	17 58 54.8	+2.6
TP2	**Tecpan 2**	**0.91**	**351**	⇓*e*P	Pn	17 58 49.2	-0.4
TP2				*e*S	Sb	17 59 04.5	+2.9
TP2				AML	AML	17 59 06.0	
	comp=E,7μm,0.4s						
RBDL	**Robledal**	**1.18**	**78**	⇑*e*P	Pn	17 58 55.0	+1.6
RBDL				*e*S	Sn	17 59 10.8	+2.2
RTR	**El Retiro**	**1.19**	**89**	⇓*e*P	Pn	17 58 54.6	+0.9
RTR				*e*S	Sn	17 59 09.5	+0.5
SBLS	**San Blas**	**1.22**	**92**	*e*P	Pn	17 58 54.5	+0.5
SBLS				*e*S	Sn	17 59 09.9	+0.3
SNJE	**San Jose**	**1.23**	**90**	⇓*e*P	Pn	17 58 54.9	+0.7
SNJE				*e*S	Sn	17 59 10.4	+0.4
BOQS	**Boqueron**	**1.56**	**95**	⇑*e*P	Pn	17 58 59.2	+0.4
BOQS				*e*S	Sn	17 59 17.5	-0.7
MTO2	**Montecristo 2**	**1.56**	**70**	⇓*e*P	Pn	17 58 59.8	+0.9
LFU	**La Fuente**	**1.72**	**94**	⇑*e*P	Pn	17 59 01.6	+0.4
LFU				*e*S	Sn	17 59 22.7	+0.4
LFRS	**El Faro**	**1.78**	**98**	*e*P	Pn	17 59 01.9	-0.2
LFRS				*e*S	Sn	17 59 22.5	-1.4
LBRS	**Las Brisas**	**1.79**	**94**	*e*P	Pn	17 59 01.5	-0.7
LCBS	**La Ceiba**	**1.86**	**97**	*e*P	Pn	17 59 03.4	+0.3
LCBS				*e*S	Sn	17 59 26.4	+0.5
CNCH	**Conchagua**	**3.02**	**101**	⇑*e*P	Pn	17 59 19.1	-0.6

*NEIC **04** 18:04:38.3, 63.01N×150.70W, h116^{km}, MG3.3(AEIC), After AEIC.*
*IDC **04** 18:04:40.2±4.0, 63.21N×150.22W, h143^{km}±31^{km}, mb3.2/3, mb1 3.2/4, mb1mx3.0/20, mbtmp3.6/4, MS2.5/2, Ms1 2.5/2, ms1mx2.2/18, Error ellipse: s-maj=47.8km s-min=21.9km az=38.0*
ISC 04 18:04:36.6±0.3**, 63.01N**±0.02×**150.68W**±0.06**, h126^{km}**±4^{km}**, n69, σ0^{s}84**/82**, mb3.5**/3**, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.48**	**93**	P	**P**	**18 04 55.6**	**+0.3**
HUR				S	**S**	**18 05 08.7**	**-0.7**
TRF	**Thorofare Moun**	**0.48**	**21**	P	**P**	**18 04 55.8**	**+0.5**
KTH	**Kantishna Hill**	**0.56**	**349**	P	**P**	**18 04 56.1**	**+0.4**
KTH				S	**S**	**18 05 09.3**	**-1.0**
CUT	**Chulitna**	**0.63**	**163**	P	**P**	**18 04 56.5**	**+0.3**
RND	**Reindeer**	**0.92**	**63**	P	**P**	**18 04 59.3**	**+0.6**
RND				S	**S**	**18 05 15.2**	**-0.1**
MCK	**McKinley**	**1.07**	**46**	P	**P**	**18 05 00.8**	**+0.7**
BWN	**Browne**	**1.29**	**24**	P	**P**	**18 05 03.6**	**+1.1**
BWN				S	**S**	**18 05 22.5**	**+0.5**
PWA	**Palmer West**	**1.41**	**164**	P	**P**	**18 05 04.4**	**+0.5**
GHO	**Glory Hole Cre**	**1.48**	**146**	P	**P**	**18 05 05.2**	**+0.5**
GHO				S	**S**	**18 05 26.4**	**+0.3**
SML	**Sawmill**	**1.62**	**137**	P	**P**	**18 05 06.4**	**+0.1**
SML				S	**S**	**18 05 29.0**	**+0.1**
NEA	**Nenana**	**1.73**	**24**	P	**P**	**18 05 07.9**	**+0.3**
NEA				S	**S**	**18 05 29.6**	**-1.4**
FIB	**Fire Island**	**1.86**	**173**	P	**P**	**18 05 10.0**	**+0.8**
WRH	**Wood River Hil**	**1.87**	**37**	P	**P**	**18 05 09.7**	**+0.6**
KNK	**Knik Glacier**	**1.91**	**146**	P	**P**	**18 05 10.1**	**+0.4**
SPU	**Mount Spurr**	**1.94**	**200**	*e*P	**P**	**18 05 09.7**	**-0.4**
SCM	**Sheep Creek Mo**	**1.95**	**126**	P	**P**	**18 05 10.5**	**+0.3**
RC01	**Rabbit Creek A**	**1.98**	**167**	P	**P**	**18 05 10.9**	**+0.4**
VOGL	**Vogel Lake**	**2.02**	**177**	P	**P**	**18 05 12.7**	**+1.6**
MLY	**Manley**	**2.03**	**359**	P	**P**	**18 05 11.7**	**+0.5**
HDA	**Harding Lake**	**2.17**	**48**	P	**P**	**18 05 13.4**	**+0.4**
HDA				S	**S**	**18 05 39.8**	**-0.9**
MDM	**Murphy Dome**	**2.24**	**28**	P	**P**	**18 05 14.4**	**+0.5**
COLA	**College**	**2.25**	**32**	P	**P**	**18 05 14.6**	**+0.5**
THY	**Trims Highway**	**2.27**	**77**	P	**P**	**18 05 16.3**	**+2.0**
PAX	**Paxson**	**2.38**	**89**	P	**P**	**18 05 16.7**	**+0.9**
PAX				S	**S**	**18 05 46.0**	**+0.5**
ILAR	**Eielson Array**	**2.44**	**42**	P	**P**	**18 05 16.7**	**+0.1**
	5.8nm,0.3s,baz=224,slow=13,SNR=233						
ILAR				S	**S**	**18 05 45.1**	**-1.7**
	5.0nm,0.3s,baz=220,slow=16,SNR=14						
IL1	**Eielson Array**	**2.44**	**42**	P	**P**	**18 05 16.7**	**+0.1**
TTA	**Tatalina**	**2.44**	**271**	P	**P**	**18 05 16.3**	**-0.2**
TT01	**Tatalina**	**2.44**	**270**	P	**P**	**18 05 16.4**	**-0.2**
TT01				S	**S**	**18 05 44.7**	**-2.3**
SLKM	**Skilak Lake**	**2.52**	**175**	P	**P**	**18 05 18.1**	**+0.5**
MPA	**Moose Pass**	**2.60**	**166**	P	**P**	**18 05 18.8**	**0.0**
TZL	**Tazlina**	**2.62**	**109**	P	**P**	**18 05 20.1**	**+1.1**
RSO	**Redoubt South**	**2.74**	**202**	*e*P	**P**	**18 05 20.6**	**0.0**
VLZ	**Valdez**	**2.78**	**131**	P	**P**	**18 05 19.9**	**-1.1**
VLZ				S	**S**	**18 05 52.8**	**-2.0**
SEW	**Seward**	**2.97**	**168**	P	**P**	**18 05 23.4**	**-0.2**
DIV	**Divide**	**2.98**	**127**	P	**P**	**18 05 22.7**	**-1.0**
SVW2	**Sparrevohn**	**3.00**	**233**	P	**P**	**18 05 23.5**	**-0.5**
ILIM	**Iliamna**	**3.13**	**201**	P	**P**	**18 05 26.2**	**+0.4**
ILW	**Iliamna West**	**3.18**	**203**	P	**P**	**18 05 27.2**	**+0.8**
GCSA	**Galena City Sc**	**3.25**	**305**	P	**P**	**18 05 27.2**	**-0.1**
BRLK	**Bradley Lake**	**3.26**	**182**	P	**P**	**18 05 27.3**	**-0.1**
BRLK				S	**S**	**18 06 03.9**	**-2.2**
IM3	**Indian Mountai**	**3.27**	**337**	P	**P**	**18 05 27.3**	**-0.3**
HIN	**Hinchinbrook I**	**3.29**	**141**	P	**P**	**18 05 27.2**	**-0.6**
IMA	**Indian Mountai**	**3.34**	**338**	*e*P	**P**	**18 05 28.1**	**-0.3**
HOM	**Homer**	**3.39**	**188**	P	**P**	**18 05 29.8**	**+0.5**
EYAK	**Cordova Ski Ar**	**3.40**	**134**	P	**P**	**18 05 29.0**	**-0.4**
CVA	**Cordova**	**3.40**	**134**	P	**P**	**18 05 28.8**	**-0.5**
CNPM	**China Poot**	**3.50**	**185**	P	**P**	**18 05 30.6**	**-0.1**
GLB	**Gilahina Butte**	**3.58**	**113**	P	**P**	**18 05 31.5**	**-0.2**
GLB				S	**S**	**18 06 12.1**	**-1.7**
XLV	**Seldovia**	**3.60**	**189**	P	**P**	**18 05 31.8**	**-0.2**
AUL	**Augustine Lava**	**3.88**	**201**	P	**P**	**18 05 37.0**	**+1.4**
AGU	**Augustine-Summ**	**3.90**	**201**	P	**P**	**18 05 36.9**	**+1.0**
AUI	**Augustine Isla**	**3.92**	**201**	P	**P**	**18 05 37.1**	**+0.9**
BCA3	**Beaver Creek A**	**4.05**	**85**	P	**P**	**18 05 37.7**	**-0.3**
MID	**Middleton Isla**	**4.16**	**148**	P	**P**	**18 05 40.0**	**+0.5**
MCNL	**McNeil River**	**4.23**	**206**	P	**P**	**18 05 40.8**	**+0.5**
COLD	**Coldfoot**	**4.24**	**2**	P	**P**	**18 05 40.8**	**+0.2**
BALM	**Baldy**	**4.39**	**113**	P	**P**	**18 05 42.0**	**-0.6**
KAPH	**Katmai Pasha**	**4.78**	**204**	P	**P**	**18 05 47.9**	**+0.2**
KAHC	**Katmai Hardscr**	**4.86**	**208**	P	**P**	**18 05 49.1**	**+0.2**
KAHC				S	**S**	**18 06 42.4**	**-2.1**
BM3	**Burnt Mountain**	**5.11**	**27**	P	**P**	**18 05 52.4**	**+0.1**
KDAK	**Kodiak Island**	**5.33**	**191**	P	**P**	**18 05 53.5**	**-1.7**
MGLS	**Mageik LS**	**5.33**	**208**	P	**P**	**18 05 56.0**	**+0.8**
CAHL	**Cahill**	**5.47**	**207**	P	**P**	**18 05 57.2**	**+0.2**
KJL	**Kejulik**	**5.53**	**208**	P	**P**	**18 05 58.4**	**+0.6**
DLBC	**Dease Lake**	**11.07**	**105**	LR	LR	18 11 15.9	
	comp=Z,23nm,20.9s,baz=152,slow=36						
FX1	**Attu Island--F**	**21.40**	**259**	LR	LR	18 16 22.3	
	comp=Z,14nm,21.2s,baz=91,slow=32						
SONM	**Songino Array**	**53.93**	**306**	P	**P**	**18 13 49.6**	**+0.9**
	0.2nm,0.8s,mb3.2,baz=29,slow=6.1,SNR=6.0						
FINES	**FINESS Array B**	**55.84**	**2**	P	**P**	**18 14 00.7**	**-1.7**
	0.3nm,0.6s,mb3.5,baz=16,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**62.76**	**322**	P	**P**	**18 14 48.8**	**-1.4**
	0.4nm,0.4s,mb3.7,baz=40,slow=7.0,SNR=12						

*NEIC **04** 18:08:09.5±0.2, 43.77N×105.27W, ML3.4, Error ellipse: s-maj=3.2km s-min=2.7km az=134.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.
*IDC **04** 18:08:10.7±0.8, 44.08N×105.76W, mb3.8/5, mb1 3.8/11, mb1mx3.6/25, mbtmp3.6/11, ML3.5/6, Error ellipse: s-maj=22.3km s-min=7.8km az=145.0*
ISC 04 18:08:07.8±0.4**, 43.76N**±0.04×**105.27W**±0.05**, n57, σ0^{s}86**/57**, mb3.9**/5**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**67**	*e*P	**Pg**	**18 08 28.3**	**+1.3**
PHWY	**Pilot Hill**	**2.46**	**183**	*e*P	**Pn**	**18 08 50.7**	**+1.0**
RWWY	**Rawlins**	**2.51**	**215**	*e*P	**Pn**	**18 08 52.7**	**+2.2**
LAO	**LASA Array**	**3.01**	**347**	*e*P	**Pn**	**18 08 58.0**	**+0.4**
BW06	**Boulder Array**	**3.29**	**254**	*e*P	**Pn**	**18 09 02.3**	**+0.8**
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**18 09 02.7**	**+1.1**
	8.7nm,0.3s,baz=73,slow=16,SNR=105						
PDAR				Lg		18 09 46.0	
	14nm,0.3s,baz=74,slow=30,SNR=5.1						
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**18 09 02.7**	**+1.1**
PDAR				Lg		18 09 46.0	
GCMT	**Greycliff**	**3.74**	**305**	*e*P	**Pn**	**18 09 09.1**	**+1.1**
LOHW	**Long Hollow**	**3.87**	**270**	*e*P	**Pn**	**18 09 11.0**	**+1.1**
ISCO	**Idaho Springs**	**3.96**	**184**	*e*P	**Pn**	**18 09 12.1**	**+1.0**
MOOW	**Moose Ponds**	**3.97**	**272**	*e*P	**Pn**	**18 09 12.1**	**+0.8**
SNOW	**Snow King Moun**	**4.00**	**268**	*e*P	**Pn**	**18 09 12.4**	**+0.8**
YNR	**Norris Junctio**	**4.01**	**286**	P	**Pn**	**18 09 12.4**	**+0.6**
YFT	**Old Faithful**	**4.07**	**282**	P	**Pn**	**18 09 13.6**	**+0.9**
REDW	**Red Top Meadow**	**4.08**	**266**	*e*P	**Pn**	**18 09 13.7**	**+0.9**
IMW	**Indian Meadow**	**4.11**	**274**	*e*P	**Pn**	**18 09 13.9**	**+0.7**
TPAW	**Teton Pass**	**4.14**	**268**	*e*P	**Pn**	**18 09 14.5**	**+0.9**
YMR	**Madison River**	**4.20**	**285**	P	**Pn**	**18 09 13.3**	**-1.3**
AHID	**Auburn Hatcher**	**4.37**	**259**	*e*P	**Pn**	**18 09 16.6**	**-0.4**
RRI2	**Red Ridge**	**4.42**	**267**	*e*P	**Pn**	**18 09 18.1**	**+0.5**
QLMT	**Earthquake Lak**	**4.55**	**286**	*e*P	**Pn**	**18 09 19.3**	**-0.3**
DGMT	**Dagmar**	**4.77**	**9**	P	**Pn**	**18 09 22.7**	**0.0**
BOZ	**Bozeman (W)**	**4.91**	**295**	*e*P	**Pn**	**18 09 23.9**	**-0.7**
HWUT	**Hardware Ranch**	**5.12**	**247**	*e*P	**Pn**	**18 09 27.2**	**-0.3**
	18nm,0.4s						
TCUT	**Toone Canyon**	**5.25**	**242**	*e*P	**Pn**	**18 09 29.0**	**-0.5**
HRY	**Holter Researc**	**5.50**	**305**	*e*P	**Pn**	**18 09 32.6**	**-0.3**
MCMT	**McKenzie Canyo**	**5.55**	**284**	P	**Pn**	**18 09 33.1**	**-0.6**
DAU	**Daniels Canyon**	**5.57**	**235**	*e*P	**Pn**	**18 09 33.8**	**-0.1**
CTU	**Camp Tracy**	**5.70**	**240**	*e*P	**Pn**	**18 09 35.1**	**-0.7**
SPUT	**South Promonto**	**5.84**	**248**	P	**Pn**	**18 09 37.3**	**-0.5**
HVU	**Hansel Valley**	**5.87**	**253**	*e*P	**Pn**	**18 09 37.3**	**-0.9**
MPU	**Maple Canyon**	**6.04**	**234**	P	**Pn**	**18 09 40.0**	**-0.6**
PV10	**Paradox Valley**	**6.08**	**209**	*e*P	**Pn**	**18 09 41.0**	**-0.2**
SRU	**San Rafael**	**6.09**	**222**	*e*P	**Pn**	**18 09 40.2**	**-1.1**
PV01	**Paradox Valley**	**6.15**	**205**	*e*P	**Pn**	**18 09 41.7**	**-0.4**
TMUT	**Trail Mountain**	**6.30**	**227**	*e*P	**Pn**	**18 09 43.6**	**-0.7**
BGU	**Big Grassy Mou**	**6.41**	**246**	*e*P	**Pn**	**18 09 44.5**	**-1.3**
CHMT	**Chamberlain Mo**	**6.45**	**302**	*e*P	**Pn**	**18 09 45.6**	**-0.8**
CBKS	**Cedar Bluff**	**6.46**	**138**	P	**Pn**	**18 09 46.4**	**-0.1**
HLID	**Hailey**	**6.64**	**271**	*e*P	**Pn**	**18 09 49.0**	**-0.1**
MSO	**Missoula**	**6.85**	**300**	*e*P	**Pn**	**18 09 51.1**	**-0.9**
MSU	**Marysvale**	**7.39**	**227**	*e*P	**Pn**	**18 09 58.8**	**-0.8**
MVU	**Marysvale**	**7.42**	**227**	*e*P	**Pn**	**18 09 59.0**	**-0.9**
ELK	**Elko**	**7.99**	**251**	Pn	**Pn**	**18 10 07.8**	**-0.1**
	0.3nm,0.3s,baz=282,slow=21,SNR=4.4						
ELK	**Elko**	**7.99**	**251**	Pn	**Pn**	**18 10 07.8**	**-0.1**
ARUT	**Antelope Range**	**8.60**	**229**	*e*P	**P**	**18 10 16.0**	**-0.5**
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**P**	**18 10 21.7**	**-2.1**
	0.8nm,0.3s,baz=237,slow=11,SNR=4.6						
ULM				Pg	P	18 10 56.2	+32
	1.1nm,0.3s,baz=224,slow=17,SNR=4.2						
ULM				Lg		18 12 53.0	
	0.4nm,0.3s,baz=124,slow=22,SNR=2.1						
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**P**	**18 10 21.7**	**-2.1**
ULM				Pg	P	18 10 56.2	+32
ULM				Lg		18 12 53.0	
WMOK	**Wichita Mounta**	**10.31**	**149**	*e*P	**P**	**18 10 36.0**	**-4.0**
NVAR	**Mina Array Bea**	**11.18**	**246**	Pn	**P**	**18 10 52.9**	**+0.9**
	0.2nm,0.3s,baz=56,slow=12,SNR=5.0						
YBH	**Yreka Blue Hor**	**12.98**	**267**	Pn	**P**	**18 11 16.8**	**+0.5**
	0.1nm,0.3s,baz=53,slow=7.0,SNR=3.8						
TXAR	**Lajitas Array**	**14.45**	**174**	Pn	**P**	**18 11 42.6**	**+7.0**
	0.1nm,0.3s,baz=354,slow=10,SNR=4.6						
TXAR				Pg	P	18 12 37.4	+62
	0.1nm,0.3s,baz=4.0,slow=15,SNR=6.3						
TXAR				Lg		18 15 53.8	
	0.1nm,0.3s,baz=8.4,slow=25,SNR=4.8						
ARCES	**ARCESS Array B**	**61.40**	**18**	P	**P**	**18 18 25.6**	**-1.8**
	0.8nm,0.5s,mb4.1,baz=342,slow=7.7,SNR=11						
FINES	**FINESS Array B**	**68.01**	**23**	P	**P**	**18 19 09.8**	**-0.5**
	0.2nm,0.3s,mb3.8,baz=333,slow=8.5,SNR=4.2						
ZAL	**Zalesovo**	**82.30**	**354**	P	**P**	**18 20 32.8**	**+0.8**
	0.5nm,0.3s,mb4.2,baz=146,slow=1.1,SNR=3.0						
SONM	**Songino Array**	**84.62**	**339**	P	**P**	**18 20 44.7**	**+0.8**
	0.3nm,0.5s,mb3.8,slow=3.7,SNR=3.9						
MKAR	**Makanchi Array**	**89.59**	**355**	P	**P**	**18 21 08.7**	**+0.6**
	0.4nm,0.5s,mb3.9,baz=9.2,slow=5.1,SNR=6.4						

MAN 04 18:16:02.4, 16.20N×120.69E, h1^{km}, mb3.9, ML2.6, MS2.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.20**	**329**	⇑*i*P	Pg	18 16 06.2	-0.3
BCPH				*i* S	Sg	18 16 09.2	0.0
BOLP	**Bolinao**	**0.77**	**283**	*e*P	Pg	18 16 17.1	-0.6
BOLP				*e*S	Sg	18 16 29.3	+1.4
SCZP	**Santa Cruz**	**0.86**	**241**	*e*P	Pg	18 16 18.8	-0.8
BALP	**Baler**	**0.97**	**118**	*e*P	Pb	18 16 21.0	-0.6
CAUP	**Cauayan**	**1.31**	**56**	*e*P	Pb	18 16 26.7	-0.8
ABRA	**Dolores**	**1.44**	**1**	*e*P	Pn	18 16 26.3	-3.4
ABRA				*e*S	Sb	18 16 45.6	-2.7
APYP	**Conner**	**1.73**	**18**	*e*P	Pn	18 16 34.3	+0.5
APYP				*e*S	Sn	18 16 54.9	-2.0

*MAN **04** 18:32:36.6, 21.25N×118.18E, h1^{km}*
*IDC **04** 18:32:36.6±1.1, 21.74N×118.00E, mb3.9/8, mb1 4.2/9, mb1mx3.9/20, mbtmp4.0/9, ML3.4/1, MS3.8/10, Ms1 3.8/10, ms1mx3.6/23, Error ellipse: s-maj=29.6km s-min=23.2km az=58.0*
*BJI **04** 18:32:39.7, 21.78N×117.48E, h18^{km}, mB4.3, mb4.4, ML5.0, Ms4.5, Msz4.3*
*NEIC **04** 18:32:41.1±2.1, 21.70N×117.89E, h32^{km}±16^{km}, mb4.3/7, Error ellipse: s-maj=8.5km s-min=6.0km az=155.0*
ISC 04 18:32:37.2±0.3**, 21.42N**±0.03×**118.01E**±0.04**, h33^{km}, n53, σ1^{s}31**/59**, mb4.0**/15**, MS4.0**/13**, 4C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**3.55**	**9**	P	**P**	**18 33 29.9**	**-1.4**
QZH				S	**S**	**18 34 10.8**	**-1.9**
QZH				Smax			
	comp=N,4μm,1.0s						
QZH				Smax			
	comp=E,2μm,1.1s						
QZH				LR	LR		
	comp=Z,4μm,9.1s						
BBP	**Basco**	**3.82**	**104**	*e*P	**P**	**18 33 34.7**	**-0.5**
BBP				*e*S	**S**	**18 34 19.4**	**-0.2**
NACB	**Ninganchiao**	**4.30**	**50**	*e*Pn	**Pn**	**18 33 43.6**	**+1.6**
YHNB	**Yeheng**	**4.48**	**43**	*e*Pn	**Pn**	**18 33 45.3**	**+0.6**
ABRA	**Dolores**	**4.53**	**145**	*e*P	**P**	**18 33 43.0**	**-2.2**
GZH	**Guangzhou**	**4.63**	**292**	P	**P**	**18 33 41.5**	**-5.2**
GZH				Smax			
	comp=N,2μm,1.0s						
GZH				Smax			
	comp=E,2μm,0.7s						
APYP	**Conner**	**4.67**	**139**	*e*P	**P**	**18 33 45.8**	**-1.4**
APYP				*e*S	**S**	**18 34 39.5**	**-1.4**
TATO	**Taipei**	**4.77**	**41**	*e*Pn	**Pn**	**18 33 49.5**	**+0.7**
SGCP	**Mt. Cagua**	**4.94**	**129**	*e*P	**P**	**18 33 50.5**	**-0.6**
CVP	**Callao Caves**	**5.15**	**135**	*e*P	**P**	**18 33 54.0**	**0.0**
BOLP	**Bolinao**	**5.32**	**160**	*e*P	**P**	**18 33 55.9**	**-0.5**
BCPH	**Baguio City Da**	**5.57**	**154**	⇑*i*P	**Sn**	**18 35 01.2**	**-2.4**
CAUP	**Cauayan**	**5.72**	**140**	*e*P	**P**	**18 34 03.1**	**+1.0**
SCZP	**Santa Cruz**	**5.89**	**162**	*e*P	**P**	**18 34 07.1**	**+2.7**
BALP	**Baler**	**6.58**	**148**	*e*P	**P**	**18 34 14.8**	**+0.7**
QIZ	**Qiongzhong**	**8.03**	**254**	*e*P	**P**	**18 34 29.0**	**-5.3**
QIZ				LR	LR		
	comp=N,2μm,11.0s						
QIZ				LR	LR		
	comp=E,755nm,9.4s						
QIZ				LR	LR		
	comp=Z,1μm,10.4s						
QIZ	**Qiongzhong**	**8.03**	**254**	*e*Pn	**P**	**18 34 29.4**	**-4.9**
	comp=Z,20nm,0.6s						
WHN	**Wuhan**	**9.67**	**341**	*e*P	**P**	**18 34 52.7**	**-4.3**
WHN				*e*S	**S**	**18 36 35.8**	**-10**
WHN				Smax			
	comp=N,256nm,1.0s						
WHN				Smax			
	comp=E,343nm,1.0s						
WHN				LR	LR		
	comp=N,6μm,7.2s						
WHN				LR	LR		
	comp=E,2μm,8.6s						
GYA	**Guiyang**	**11.52**	**298**	⇑*i*P	**P**	**18 35 16.4**	**-6.0**
GYA				AP		18 35 25.4	
GYA				XP		18 35 29.0	
GYA				S	**S**	**18 37 27.7**	**-3.3**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				AMB	AMB		
	comp=Z,90nm,2.8s						
GYA				LR	LR		
	comp=N,1μm,9.8s						
GYA				LR	LR		
	comp=E,930nm,9.9s						
GYA				LR	LR		
	comp=Z,1μm,8.4s						
ENH	**Enshi**	**11.68**	**321**	*e*Pn	**P**	**18 35 20.6**	**-3.9**
	comp=Z,29nm,0.8s						
KMI	**Kunming**	**14.51**	**288**	P	**P**	**18 36 02.4**	**+0.3**
KMI				XP		18 36 10.9	
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s						
KMI				LR	LR		
	comp=N,648nm,8.0s						
KMI				LR	LR		
	comp=E,1μm,8.9s						
KMI				LR	LR		
	comp=Z,757nm,7.0s						
KMI	**Kunming**	**14.51**	**288**	P	**P**	**18 36 02.4**	**+0.3**
	comp=Z,10.0nm,1.0s						
KMI				sP		18 36 10.9	
KMI				S	**S**	**18 38 47.2**	**+4.5**
XAN	**Xi'an**	**14.92**	**329**	P	**P**	**18 36 02.5**	**-4.9**
XAN				AP		18 36 12.5	
XAN				AMB	AMB		
	comp=Z,3.0nm,1.0s						
XAN				LR	LR		
	comp=N,644nm,11.2s						
XAN				LR	LR		
	comp=E,889nm,9.2s						
XAN				LR	LR		
	comp=Z,2μm,9.9s						
DL2	**Dalian**	**17.71**	**9**	*e*P	**P**	**18 36 41.0**	**-1.8**
DL2				S	**S**	**18 39 57.2**	**+0.6**
DL2				AMB	AMB		
	comp=Z,70nm,2.5s						
DL2				LR	LR		
	comp=N,320nm,14.6s						
DL2				LR	LR		
	comp=E,1μm,14.1s						
DL2				LR	LR		
	comp=Z,420nm,12.6s						
CM31	**Chiang Mai Arr**	**18.16**	**264**	*e*P	**P**	**18 36 48.9**	**+0.2**
	comp=Z,8.5nm,1.1s						
CMAR	**Chiang Mai Arr**	**18.16**	**264**	P	**P**	**18 36 50.6**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=76,slow=10,SNR=12						
CMAR				LR	LR	18 43 48.8	
	comp=Z,173nm,19.5s,baz=75,slow=37						
LZH	**Lanzhou**	**19.15**	**323**	⇑P	**P**	**18 36 59.8**	**-0.6**
LZH				AP		18 37 06.0	
LZH				XP		18 37 10.0	
LZH				PP	PP	18 37 16.7	-0.6
LZH				*e*S	**S**	**18 40 28.0**	**-1.2**
LZH				AMB	AMB		
	comp=Z,39nm,1.3s						
LZH				AMB	AMB		
	comp=Z,194nm,5.2s						
LZH				LR	LR		
	comp=N,1μm,10.0s						
LZH				LR	LR		
	comp=Z,2μm,12.2s						
LZH	**Lanzhou**	**19.15**	**323**	⇑P	**P**	**18 36 59.8**	**-0.6**
	comp=Z,39nm,1.3s						
LZH				pP		18 37 06.0	
LZH				sP		18 37 10.0	
LZH				PP	PP	18 37 16.7	-0.6
LZH				*e*S	**S**	**18 40 28.0**	**-1.2**
LZH				sS		18 40 37.3	
LZH				SS	SS	18 40 54.1	-0.9
HHC	**Hu-ho-hao-te**	**20.13**	**346**	*e*P	**P**	**18 37 07.9**	**-3.2**
HHC				AP		18 37 17.2	
HHC				XP		18 37 21.9	
HHC				PP	PP	18 37 32.6	+1.5
HHC				AMB	AMB		
	comp=Z,13nm,1.2s						
HHC				AMB	AMB		
	comp=Z,105nm,8.3s						
HHC				LR	LR		
	comp=N,726nm,10.7s,MS4.3						
HHC				LR	LR		
	comp=E,453nm,11.8s,MS4.3						
HHC				LR	LR		
	comp=Z,407nm,14.2s,MS3.9						
KSM	**Kuching**	**21.20**	**202**	*e*P	**P**	**18 37 26.6**	**+4.3**
MAJO	**Matsushiro**	**23.15**	**45**	*e*P	**P**	**18 37 43.2**	**+1.6**
	comp=Z,6.0nm,0.7s,mb4.1						
MAT	**Matsushiro**	**23.15**	**45**	*e*P	**P**	**18 37 43.0**	**+1.4**
MAT	**Matsushiro**	**23.15**	**45**	P	**P**	**18 37 43.1**	**+1.5**
MJAR	**Matsushiro Arr**	**23.16**	**45**	P	**P**	**18 37 42.6**	**+1.0**
	comp=Z,13nm,1.0s,mb4.3,baz=230,slow=9.6,SNR=19						
MJAR				LR	LR	18 46 37.2	
	comp=Z,142nm,21.5s,MS3.4,baz=265,slow=37						
CN2	**Changchun**	**23.16**	**14**	*e*P	**P**	**18 37 47.6**	**+6.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CN2				LR	LR		
	comp=N,1μm,14.0s,MS4.9						
CN2				LR	LR		
	comp=E,2μm,14.0s,MS4.9						
CN2				LR	LR		
	comp=Z,670nm,13.0s,MS4.3						
KULM	**Kulim**	**23.24**	**229**	P	**P**	**18 37 46.9**	**+4.2**
GTA	**Gaotai**	**23.75**	**323**	eP	**P**	**18 37 51.4**	**+4.0**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.8s,mb3.8						
GTA				AMB	AMB		
	comp=Z,49nm,4.6s						
GTA				LR	LR		
	comp=N,355nm,12.2s,MS4.4						
GTA				LR	LR		
	comp=E,633nm,11.1s,MS4.4						
GTA				LR	LR		
	comp=Z,795nm,12.2s,MS4.4						
MDJ	**Mudanjiang**	**25.04**	**20**	P	**P**	**18 37 59.7**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,72nm,3.5s						
MDJ				LR	LR		
	comp=N,384nm,13.7s,MS4.3						
MDJ				LR	LR		
	comp=E,624nm,14.1s,MS4.3						
MDJ				LR	LR		
	comp=Z,246nm,9.2s						
LSA	**Lhasa**	**25.55**	**294**	P	**P**	**18 38 05.2**	**+0.4**
LSA	**Lhasa**	**25.55**	**294**	P	**P**	**18 38 05.5**	**+0.7**
	comp=Z,4.4nm,0.8s,mb4.0						
SONM	**Songino Array**	**27.97**	**343**	P	**P**	**18 38 26.8**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.5,baz=162,slow=9.3,SNR=4.9						
SONM				LR	LR	18 50 37.9	
	comp=Z,168nm,21.1s,MS3.6,baz=178,slow=39						
MKAR	**Makanchi Array**	**38.41**	**320**	P	**P**	**18 39 56.8**	**-0.4**
	comp=Z,0.9nm,0.7s,mb3.6,baz=117,slow=11,SNR=6.8						
MKAR				LR	LR	18 56 51.5	
	comp=Z,125nm,18.2s,MS3.8,baz=152,slow=38						
ZAL	**Zalesovo**	**41.09**	**330**	LR	LR	18 58 57.8	
	comp=Z,165nm,18.1s,MS3.9,baz=168,slow=39						
WRAB	**Tennant Creek**	**44.09**	**158**	eP	**P**	**18 40 49.2**	**+5.0**
	comp=Z,9.9nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**44.10**	**158**	P	**P**	**18 40 49.3**	**+5.0**
	comp=Z,2.8nm,0.8s,mb4.0,baz=339,slow=8.9,SNR=11						
BVAR	**Borovoye Array**	**48.03**	**323**	P	**P**	**18 41 16.1**	**+1.0**
	comp=Z,1.0nm,0.8s,mb3.9,baz=112,slow=8.0,SNR=6.9						
ZRNK	**Zerenda**	**48.79**	**323**	eP	**P**	**18 41 20.1**	**-0.7**
	comp=Z,5.1nm,1.1s,mb4.5						
ARCES	**ARCESS Array B**	**71.00**	**338**	P	**P**	**18 43 55.6**	**+2.5**
	comp=Z,1.0nm,0.8s,mb3.8,baz=63,slow=5.4,SNR=4.0						
ARCES				LR	LR	19 18 43.1	
	comp=Z,96nm,18.5s,MS4.1,baz=35,slow=39						
FINES	**FINESS Array B**	**72.35**	**330**	LR	LR	19 17 28.5	
	comp=Z,46nm,18.9s,MS3.8,baz=199,slow=37						
NB2	**NORSAR Subarra**	**79.28**	**332**	P	**P**	**18 44 41.1**	**+0.5**
	comp=Z,0.8nm,0.7s,mb3.8,baz=65,slow=5.6						
NOA	**NORSAR Array B**	**79.28**	**332**	P	**P**	**18 44 41.1**	**+0.5**
	comp=Z,1.4nm,0.8s,mb3.9,baz=65,slow=5.6,SNR=5.7						
NOA				LR	LR	19 22 37.9	
	comp=Z,84nm,18.5s,MS4.1,baz=55,slow=38						
GERES	**GERESS Array B**	**83.08**	**320**	LR	LR	19 24 04.6	
	comp=Z,49nm,19.1s,MS3.9,baz=20,slow=37						
YKA	**Yellowknife Ar**	**86.63**	**22**	P	**P**	**18 45 19.2**	**+1.2**
	comp=Z,1.2nm,0.6s,mb4.3,baz=328,slow=6.6,SNR=4.0						
YKA				LR	LR	19 27 54.2	
	comp=Z,35nm,18.1s,MS3.8,baz=265,slow=38						

IDC ***04*** *18:43:32.7±9.6, 1.73N×96.75E, mb3.9/3, mb1 4.1/4, mb1mx3.6/19, mbtmp3.9/4, ML3.5/1, MS3.3/1, Ms1 3.5/1, ms1mx3.0/17, Error ellipse: s-maj=194.5km s-min=116.3km az=142.0*

NEIC ***04*** *18:43:38.9±3.0, 1.96N×96.42E, h30km, mb4.0/2, Error ellipse: s-maj=52.7km s-min=20.8km az=173.0*

ISC 04 18:43:35.9±4.0**, 1.8N**±0.5**×96.4E**±0.2**, h30**km**, n7,** σ**0**^{s}**45**/7**, mb4.0**/5**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.43**	**51**	ePn	**Pn**	**18 44 57.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**16.70**	**8**	Pn	**P**	**18 47 29.4**	**-0.2**
	0.1nm,0.3s,baz=197,slow=11,SNR=12						
CMAR				LR	LR	18 54 29.8	
	comp=Z,95nm,18.6s,baz=210,slow=39						
LSA	**Lhasa**	**28.16**	**350**	P	**P**	**18 49 28.3**	**+0.4**
	1.8nm,0.5s,mb4.0						
MKAR	**Makanchi Array**	**46.44**	**347**	P	**P**	**18 52 02.1**	**+0.2**
	2.4nm,0.7s,mb4.2,baz=163,slow=7.7,SNR=30						
SONM	**Songino Array**	**46.62**	**9**	P	**P**	**18 52 02.9**	**-0.4**
	0.4nm,0.6s,mb3.5,baz=180,slow=8.6,SNR=4.7						
ZAL	**Zalesovo**	**52.80**	**351**	P	**P**	**18 52 51.4**	**+0.7**
	1.7nm,0.6s,mb4.2,baz=320,slow=5.7,SNR=9.8						
ZRNK	**Zerenda**	**55.79**	**340**	eP	**P**	**18 53 11.9**	**-0.7**
	1.0nm,0.8s,mb3.9						

NEIC ***04*** *19:19:37.0, 21.18N×99.00W, h16km, MD3.9(MEX), After MEX.*

MEX 04 19:19:36.4±1.1**, 21.19N×99.02W, h15**km±44km**, MD3.9, Central Mexico**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IIC	**Rita Coyotepec**	**1.43**	**189**	iP	Pn	19 19 58.4	-3.6
IIC				iS	Sb	19 20 15.8	-4.4
PTVM	**Pico Tres Padr**	**1.59**	**183**	iP	Pn	19 20 02.0	-2.3
PTVM				iS	Sn	19 20 20.8	-3.8
IIJ	**Jocotitlan**	**1.60**	**205**	iP	Pn	19 20 00.6	-3.8
IIJ				iS	Sn	19 20 19.7	-5.1
IIO	**Organos**	**1.61**	**170**	iP	Pn	19 20 03.6	-0.9
IIO				eS	Sn	19 20 20.0	-5.2
IIO	**Organos**	**1.61**	**170**	iP	Pn	19 20 01.2	-3.4
IIO				eS	Sn	19 20 20.0	-5.2
MDVM	**Presa Madin**	**1.66**	**188**	eP	Pn	19 20 01.2	-4.0
MDVM				iS	Sn	19 20 22.3	-4.0
UNM	**Universidad Na**	**1.86**	**185**	eP	Pn	19 20 04.7	-3.4
UNM				iS	Sn	19 20 26.1	-5.3
UNM	**Universidad Na**	**1.86**	**185**	eP	Pn	19 20 04.7	-3.4
UNM				eP		19 20 05.0	
UNM				iS	Sn	19 20 26.1	-5.3
SZVM	**Salazar**	**1.89**	**191**	iP	Pn	19 20 07.0	-1.5
SZVM				iS	Sn	19 20 30.5	-1.6
SZVM	**Salazar**	**1.89**	**191**	iP	Pn	19 20 07.0	-1.5
SZVM				iS	Sn	19 20 27.8	-4.3
IIZ	**Mezontepec**	**2.00**	**186**	iP	Pn	19 20 07.5	-2.6
IIZ				iS	Sn	19 20 30.1	-4.9
CIVM	**Cilcuayo**	**2.08**	**179**	iP	Pn	19 20 07.7	-3.5
CIVM				iS	Sn	19 20 30.9	-6.1
CHVM	**Chichinautzin**	**2.10**	**183**	iP	Pn	19 20 12.1	+0.6
CHVM	**Chichinautzin**	**2.10**	**183**	eP	Pn	19 20 09.5	-2.0
PPM	**Popocatepetl**	**2.14**	**170**	eP	Pn	19 20 10.5	-1.7
PPM	**Popocatepetl**	**2.14**	**170**	eP	Pn	19 20 09.4	-2.7
PPM				eP		19 20 10.5	
PPM				iS	Sn	19 20 33.8	-4.8
YAIG	**Yautepec**	**2.31**	**181**	iP	Pn	19 20 15.5	+0.9
YAIG				iS	Sn	19 20 45.2	+2.1
YAIG	**Yautepec**	**2.31**	**181**	iP	Pn	19 20 12.5	-2.1
YAIG				iS	Sn	19 20 40.2	-2.8
MOIG	**Morelia**	**2.53**	**234**	iP	Pn	19 20 15.1	-2.6
MOIG				iS	Sn	19 20 49.0	+0.5
MOIG	**Morelia**	**2.53**	**234**	iP	Pn	19 20 15.1	-2.6
MOIG				iS	Sn	19 20 46.2	-2.3
PLIG	**Platanillo**	**2.82**	**189**	iP	Pn	19 20 22.7	+0.8
PLIG				iS	Sn	19 20 48.1	-7.7
PLIG	**Platanillo**	**2.82**	**189**	eP	Pn	19 20 19.6	-2.2
PLIG				iS	Sn	19 20 49.8	-6.0
LVIG	**Laguna Verde**	**2.84**	**120**	eP	Pn	19 20 17.9	-4.3
LVIG				iS	Sn	19 20 52.6	-3.7
SFJM	**Santa Fe**	**3.83**	**260**	eP	Pn	19 20 33.5	-2.6
SFJM				iS	Sn	19 21 16.0	-5.3
ACX	**Acapulco**	**4.38**	**191**	iP	Pn	19 20 39.0	-5.0

IDC 04 19:36:10.2±2.9**, 6.75N×92.00E, mb3.6**/3**, mb1 3.8**/4**, mb1mx3.5**/20**, mbtmp3.6**/4**, ML3.5**/1**, Error ellipse: s-maj=87.9km s-min=29.6km az=64.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.46**	**30**	Pn	P	19 39 23.1	-2.0
	0.1nm,0.3s,baz=225,slow=14,SNR=5.5						
MKAR	**Makanchi Array**	**40.76**	**350**	P	P	19 43 53.2	-1.4
	0.6nm,0.4s,baz=168,slow=8.8,SNR=13						
SONM	**Songino Array**	**42.74**	**14**	P	P	19 44 08.8	-2.1
	0.6nm,1.0s,baz=180,slow=2.9,SNR=3.8						
WRA	**Warramunga Arr**	**49.38**	**123**	P	P	19 45 01.9	-2.0
	0.7nm,0.8s,baz=310,slow=7.8,SNR=7.1						

IDC ***04*** *19:37:59.3±0.6, 23.75S×111.82W, mb4.6/13, mb1 4.9/13, mb1mx4.8/17, mbtmp4.6/13, MS4.6/18, Ms1 4.6/18, ms1mx4.6/21, Error ellipse: s-maj=22.8km s-min=15.5km az=59.0*

NEIC ***04*** *19:38:01.0±0.2, 23.74S×111.71W, h10km, mb5.2/55, MS4.6/52, Error ellipse: s-maj=8.8km s-min=4.7km az=73.0*

MOS ***04*** *19:38:01.7±0.9, 23.28S×111.32W, h10km, mb5.4/25, Error ellipse: s-maj=20.6km s-min=7.9km az=87.9*

HRVD ***04*** *19:38:01.0±0.2, 23.96S×111.65W, h12km, MW5.2/63, Centroid moment Tensor Solution. LP body waves: s56,c95;Mantle waves: s63,c126; Half duration:* $1^{s}0$ *Moment tensor: Scale* 10^{16}*Nm;* M_{rr}*7.00±.14;* $M_{\theta\theta}$*-2.40±.14;* $M_{\phi\phi}$*-4.59±.15;* $M_{r\theta}$*1.91±.39;* $M_{\theta\phi}$*3.72±.12;* $M_{\phi r}$*-0.24±.39; Best double couple:* M_0*7.447×*10^{16} *NP1:* ϕ_s*334°, δ41°, λ107°. NP2:*ϕ_s*132°, δ51°, λ76°. Principal axes: T 7.394, Plg78°, Azm348°; N .115, Plg11°, Azm141°; P -7.499, Plg5°, Azm232°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***04*** *19:38:02.9, 23.70S×111.70W, h10km, mB5.6, Ms5.2, Msz5.0*

ISC 04 19:37:59.3±0.4**, 23.67S**±0.06**×111.7W**±0.1**, h10**km**, n228,** σ**0**^{s}**71**/156**, mb5.0**/66**, MS4.7**/71**, 9C-2D, Easter Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**4.03**	**149**	Pn	**Pn**	**19 38 58.4**	**-4.0**
	35nm,0.3s,baz=328,slow=14,SNR=17						
RPN				LR	LR	19 40 19.0	
	comp=Z,4μm,19.7s,baz=311,slow=35						
RPN	**Rapa Nui**	**4.03**	**149**	eP	**Pn**	**19 38 56.8**	**-5.6**
NNA	**Nana**	**35.02**	**77**	PFAKE		19 45 10.0	+16
NNA				LR	LR		
	comp=Z,722nm,22.0s,MS4.4						
PPT	**Papeete**	**35.94**	**272**	LR	LR	19 56 03.4	
	comp=Z,656nm,19.4s,MS4.4,baz=53,slow=30						
CFAA	**Coronel Fontan**	**39.06**	**111**	P	**P**	**19 45 29.8**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=295,slow=7.1,SNR=6.7						
LVC	**Limon Verde**	**39.21**	**97**	P	**P**	**19 45 31.8**	**+2.3**
	comp=Z,5.3nm,0.8s,mb4.3,baz=246,slow=7.6,SNR=4.3						
LPAZ	**La Paz**	**41.43**	**88**	eP	**P**	**19 45 50.0**	**+2.1**
LPAZ				pmax	pmax		
	comp=Z,77nm,1.8s						
LPAZ				MLR	MLR		
	comp=Z,1μm,22.0s						
LPAZ	**La Paz**	**41.43**	**88**	P	**P**	**19 45 50.7**	**+2.8**
	comp=Z,8.1nm,1.1s,mb4.3,baz=241,slow=7.9,SNR=24						
LPAZ				LR	LR	19 58 58.1	
	comp=Z,911nm,20.4s,MS4.6,baz=47,slow=30						
LPAZ	**La Paz**	**41.43**	**88**	eP	**P**	**19 45 50.0**	**+2.1**
	comp=Z,77nm,1.8s,mb5.0						
LPAZ				LR	LR		
	comp=Z,1μm,22.0s,MS4.7						
JTS	**JuntasAbangare**	**42.67**	**41**	PFAKE		19 46 10.0	+12
JTS				LR	LR		
	comp=Z,593nm,22.0s,MS4.4						
ROSC	**El Rosal**	**46.13**	**57**	LR	LR	20 02 30.6	
	comp=Z,1μm,18.9s,MS5.0,baz=190,slow=32						
SAML	**Samuel**	**48.52**	**81**	eP	**P**	**19 46 43.8**	**-0.9**
	comp=Z,36nm,1.4s,mb5.2						
CPUP	**Villa Florida**	**49.00**	**105**	P	**P**	**19 46 47.5**	**-0.9**
	comp=Z,3.8nm,1.1s,mb4.4,baz=284,slow=11,SNR=4.2						
CPUP				LR	LR	20 05 03.8	
	comp=Z,329nm,19.2s,MS4.3,baz=288,slow=33						
SDV	**Santo Domingo**	**51.51**	**56**	eP	**P**	**19 47 07.8**	**+0.2**
	comp=Z,20nm,1.3s,mb4.9						
LTX	**Lajitas**	**53.26**	**9**	PFAKE		19 47 30.0	+9.4
LTX				LR	LR		
	comp=Z,547nm,21.0s,MS4.6						
TXAR	**Lajitas Array**	**53.26**	**9**	P	**P**	**19 47 21.7**	**+1.1**
	comp=Z,5.3nm,1.1s,mb4.4,baz=187,slow=10,SNR=30						
TXAR				PcP	PcP	19 48 28.6	+0.3
	comp=Z,3.3nm,1.1s,baz=198,slow=4.0,SNR=5.4						
TXAR				LR	LR	20 06 06.4	
	comp=Z,490nm,18.2s,MS4.6,baz=95,slow=32						
TUC	**Tucson**	**55.67**	**1**	eP	**P**	**19 47 38.4**	**+0.2**
TUC				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
TUC				MLR	MLR		
	comp=Z,587nm,20.0s,MS4.7						
TUC	**Tucson**	**55.67**	**1**	eP	**P**	**19 47 38.4**	**+0.2**
	comp=Z,11nm,1.1s,mb4.8						
TUC				LR	LR		
	comp=Z,587nm,20.0s,MS4.7						
GDL2	**Guadalupe Moun**	**55.99**	**7**	eP	**P**	**19 47 39.9**	**-0.6**
CLNB	**Carlsbad**	**56.12**	**8**	eP	**P**	**19 47 41.1**	**-0.3**
BAR	**Barrett**	**56.24**	**355**	eP	**P**	**19 47 42.8**	**+0.5**
PFO	**Pinyon Flat Ob**	**57.15**	**355**	eP	**P**	**19 47 49.1**	**+0.4**
PFO				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
PFO				MLR	MLR		
	comp=Z,61nm,20.0s,MS3.7						
PFO	**Pinyon Flat Ob**	**57.15**	**355**	eP	**P**	**19 47 49.1**	**+0.4**
	comp=Z,7.0nm,1.4s,mb4.5						
PFO				LR	LR		
	comp=Z,61nm,20.0s,MS3.7						
BNM	**Barren Site**	**57.70**	**5**	eP	**P**	**19 47 53.2**	**+0.6**
LAZ	**Ladron**	**57.91**	**4**	eP	**P**	**19 47 54.6**	**+0.6**
ANMO	**Albuquerque**	**58.51**	**5**	eP	**P**	**19 47 58.2**	**0.0**
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ANMO				MLR	MLR		
	comp=Z,767nm,21.0s						
ANMO	**Albuquerque**	**58.51**	**5**	eP	**P**	**19 47 58.2**	**0.0**
	comp=Z,7.4nm,1.2s,mb4.6						
ANMO				LR	LR		
	comp=Z,767nm,21.0s,MS4.8						
AMTX	**Amarillo**	**59.00**	**10**	eP	**P**	**19 48 01.5**	**-0.1**
	comp=Z,5.1nm,0.7s,mb4.7						
AMTX				LR	LR		
	comp=Z,369nm,19.0s,MS4.5						
NEN	**Nelson**	**59.08**	**357**	eP	**P**	**19 48 02.3**	**+0.1**
WMOK	**Wichita Mounta**	**59.36**	**12**	eP	**P**	**19 48 02.7**	**-1.5**
WMOK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
WMOK	**Wichita Mounta**	**59.36**	**12**	eP	**P**	**19 48 02.6**	**-1.5**
	comp=Z,4.6nm,1.1s,mb4.4						
DAC	**Darwin (Calif)**	**59.89**	**354**	eP	**P**	**19 48 08.4**	**+0.6**
DAC				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.1						
DAC				MLR	MLR		
	comp=Z,304nm,19.0s,MS4.5						
DAC	**Darwin (Calif)**	**59.89**	**354**	eP	**P**	**19 48 08.4**	**+0.6**
	comp=Z,28nm,1.4s,mb5.1						
DAC				LR	LR		
	comp=Z,304nm,19.0s,MS4.5						
BDFB	**Brasilia**	**60.05**	**95**	P	**P**	**19 48 08.9**	**-0.2**
	comp=Z,6.7nm,0.8s,mb4.7,baz=255,slow=6.4,SNR=8.2						
BDFB				LR	LR	20 12 05.7	
	comp=Z,648nm,19.3s,MS4.8,baz=263,slow=34						
LRAL	**Lakeview Retre**	**61.10**	**24**	eP	**P**	**19 48 16.0**	**-0.1**
	comp=Z,37nm,1.3s,mb5.3						
LRAL				LR	LR		
	comp=Z,491nm,19.0s,MS4.7						
ARUT	**Antelope Range**	**61.16**	**358**	eP	**P**	**19 48 17.2**	**+0.8**
OMM	**Old Mammoth Mi**	**61.35**	**353**	eP	**P**	**19 48 18.2**	**+0.5**
SDCO	**Great Sand Dun**	**61.36**	**6**	eP	**P**	**19 48 17.8**	**0.0**
	comp=Z,25nm,1.3s,mb5.2						
PV01	**Paradox Valley**	**61.55**	**3**	eP	**P**	**19 48 18.7**	**-0.4**
TPH	**Tonopah**	**61.64**	**355**	eP	**P**	**19 48 20.3**	**+0.6**
TPH				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.3						
TPH	**Tonopah**	**61.64**	**355**	eP	**P**	**19 48 20.3**	**+0.6**
	comp=Z,34nm,1.3s,mb5.3						
TRCR	**Troy Canyon**	**61.80**	**356**	eP	**P**	**19 48 21.5**	**+0.8**
MVU	**Marysvale**	**61.85**	**359**	eP	**P**	**19 48 20.8**	**-0.3**
	comp=Z,15nm,1.4s,mb4.9						
MSU	**Marysvale**	**61.86**	**360**	eP	**P**	**19 48 21.2**	**+0.1**
CMB	**Columbia Colle**	**61.92**	**352**	eP	**P**	**19 48 21.5**	**-0.1**
CMB				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.2						
CMB				MLR	MLR		
	comp=Z,546nm,20.0s,MS4.7						
CMB	**Columbia Colle**	**61.92**	**352**	eP	**P**	**19 48 21.5**	**-0.1**
	comp=Z,26nm,1.3s,mb5.2						
CMB				LR	LR		
	comp=Z,546nm,20.0s,MS4.7						
MNV	**Mina**	**62.08**	**354**	eP	**P**	**19 48 23.5**	**+0.9**
MNV				pmax	pmax		
	comp=Z,43nm,1.3s,mb5.4						
MNV				MLR	MLR		
	comp=Z,451nm,19.0s,MS4.7						
MNV	**Mina**	**62.08**	**354**	eP	**P**	**19 48 23.5**	**+0.9**
	comp=Z,43nm,1.3s,mb5.4						
MNV				LR	LR		
	comp=Z,451nm,19.0s,MS4.7						
NVAR	**Mina Array Bea**	**62.09**	**354**	P	**P**	**19 48 24.0**	**+1.3**
	comp=Z,19nm,1.0s,mb5.2,baz=172,slow=8.4,SNR=72						
NVAR				LR	LR	20 09 45.2	
	comp=Z,435nm,18.2s,MS4.7,baz=190,slow=31						
NVAR	**Mina Array Bea**	**62.09**	**354**	P	**P**	**19 48 24.0**	**+1.3**
NVAR				LR	LR	20 09 45.2	
SRU	**San Rafael**	**62.46**	**1**	eP	**P**	**19 48 25.2**	**0.0**
PLAL	**Pickwick Lake**	**62.47**	**22**	eP	**P**	**19 48 24.1**	**-1.2**
	comp=Z,13nm,1.1s,mb5.0						
PLAL				LR	LR		
	comp=Z,366nm,19.0s,MS4.6						
CBKS	**Cedar Bluff**	**63.15**	**10**	PFAKE		19 48 40.0	+10
CBKS				LR	LR		
	comp=Z,737nm,19.0s,MS4.9						
NLU	**North Lily Min**	**63.30**	**360**	eP	**P**	**19 48 30.9**	**+0.3**
NLU				ePcP	PcP	19 49 07.5	-0.2
MPU	**Maple Canyon**	**63.36**	**0**	eP	**P**	**19 48 30.8**	**-0.3**
ISCO	**Idaho Springs**	**63.39**	**5**	eP	**P**	**19 48 31.2**	**-0.1**
ISCO				pmax	pmax		
	comp=Z,21nm,1.3s,mb5.1						
ISCO				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.1						
ISCO	**Idaho Springs**	**63.39**	**5**	eP	**P**	**19 48 31.2**	**-0.1**
	comp=Z,21nm,1.3s,mb5.1						
ISCO				LR	LR		
	comp=Z,1μm,19.0s,MS5.1						
SWET	**Sewanee**	**63.44**	**23**	eP	**P**	**19 48 30.8**	**-0.8**
WVT	**Waverly**	**63.60**	**21**	eP	**P**	**19 48 31.3**	**-1.4**
WVT				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0						
WVT	**Waverly**	**63.60**	**21**	eP	**P**	**19 48 31.3**	**-1.5**
	comp=Z,20nm,1.3s,mb5.0						
BEKR	**Beckwourth**	**63.73**	**353**	eP	**P**	**19 48 33.9**	**+0.4**
	comp=Z,15nm,1.3s,mb4.9						
DAU	**Daniels Canyon**	**63.75**	**0**	eP	**P**	**19 48 33.8**	**+0.1**
JLU	**Jordanelle**	**63.94**	**0**	eP	**P**	**19 48 35.2**	**+0.3**
BMN	**Battle Mountai**	**63.98**	**355**	eP	**P**	**19 48 35.8**	**+0.6**
BMN				pmax	pmax		
	comp=Z,41nm,1.3s,mb5.3						
BMN				MLR	MLR		
	comp=Z,242nm,19.0s,MS4.4						
BMN	**Battle Mountai**	**63.98**	**355**	eP	**P**	**19 48 35.8**	**+0.7**
	comp=Z,41nm,1.3s,mb5.3						
BMN				LR	LR		
	comp=Z,242nm,19.0s,MS4.4						
MYNC	**Murphy**	**63.99**	**25**	eP	**P**	**19 48 35.3**	**0.0**
MYNC				pmax	pmax		
	comp=Z,51nm,1.3s,mb5.4						
MYNC	**Murphy**	**63.99**	**25**	eP	**P**	**19 48 35.3**	**0.0**
	comp=Z,51nm,1.3s,mb5.4						
NOQ	**North Oquirrh**	**63.99**	**360**	eP	**P**	**19 48 36.0**	**+0.7**
CTU	**Camp Tracy**	**64.03**	**360**	eP	**P**	**19 48 35.9**	**+0.4**
ELK	**Elko**	**64.17**	**357**	eP	**P**	**19 48 36.4**	**0.0**
ELK				pmax	pmax		
	comp=Z,21nm,1.3s						
ELK				MLR	MLR		
	comp=Z,414nm,22.0s						
ELK	**Elko**	**64.17**	**357**	eP	**P**	**19 48 36.4**	**0.0**
	comp=Z,21nm,1.3s,mb5.0						
ELK				LR	LR		
	comp=Z,414nm,22.0s,MS4.6						
CCM	**Cathedral Cave**	**64.32**	**18**	eP	**P**	**19 48 36.6**	**-0.9**
CCM				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.2						
CCM				MLR	MLR		
	comp=Z,301nm,19.0s,MS4.5						
CCM	**Cathedral Cave**	**64.32**	**18**	eP	**P**	**19 48 36.6**	**-0.9**
	comp=Z,31nm,1.2s,mb5.2						
CCM				LR	LR		
	comp=Z,301nm,19.0s,MS4.5						
TCUT	**Toone Canyon**	**64.46**	**0**	eP	**P**	**19 48 38.2**	**-0.1**
JSC	**Jenkinsville**	**64.47**	**28**	eP	**P**	**19 48 37.5**	**-1.0**
FVM	**French Village**	**64.49**	**18**	eP	**P**	**19 48 36.9**	**-1.6**
FVM				pmax	pmax		
	comp=Z,34nm,1.5s,mb5.2						
FVM	**French Village**	**64.49**	**18**	eP	**P**	**19 48 36.9**	**-1.6**
	comp=Z,34nm,1.5s,mb5.2						
SPUT	**South Promonto**	**64.65**	**359**	eP	**P**	**19 48 39.5**	**0.0**
WDC	**Whiskeytown Da**	**64.72**	**351**	eP	**P**	**19 48 39.4**	**-0.6**
WDC				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.2						
WDC				MLR	MLR		
	comp=Z,351nm,20.0s,MS4.5						
WDC	**Whiskeytown Da**	**64.72**	**351**	eP	**P**	**19 48 39.4**	**-0.6**
	comp=Z,30nm,1.2s,mb5.2						
WDC				LR	LR		
	comp=Z,351nm,20.0s,MS4.5						
HWUT	**Hardware Ranch**	**64.95**	**0**	eP	**P**	**19 48 40.6**	**-0.8**
	comp=Z,9.8nm,1.2s,mb4.7						
HWUT				LR	LR		
	comp=Z,360nm,19.0s,MS4.6						
RWWY	**Rawlins**	**65.16**	**4**	eP	**P**	**19 48 41.8**	**-1.0**
	comp=Z,17nm,1.1s,mb5.0						
TZTN	**Tazewell**	**65.50**	**25**	eP	**P**	**19 48 44.6**	**-0.5**
MOD	**Modoc**	**65.73**	**353**	eP	**P**	**19 48 46.9**	**+0.5**
	comp=Z,32nm,1.1s,mb5.3						
YBH	**Yreka Blue Hor**	**65.87**	**351**	eP	**P**	**19 48 46.8**	**-0.6**
YBH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
YBH	**Yreka Blue Hor**	**65.87**	**351**	P	**P**	**19 48 47.7**	**+0.3**
YBH	**Yreka Blue Hor**	**65.87**	**351**	eP	**P**	**19 48 46.8**	**-0.6**
	comp=Z,9.8nm,1.3s,mb4.7						
WVOR	**Wild Horse Val**	**66.09**	**354**	eP	**P**	**19 48 49.5**	**+0.8**
WVOR				pmax	pmax		
	comp=Z,47nm,1.3s,mb5.4						
WVOR	**Wild Horse Val**	**66.09**	**354**	eP	**P**	**19 48 49.5**	**+0.8**
	comp=Z,47nm,1.3s,mb5.4						
AHID	**Auburn Hatcher**	**66.11**	**0**	eP	**P**	**19 48 48.2**	**-0.6**
	comp=Z,18nm,1.1s,mb5.0						
AHID				LR	LR		
	comp=Z,298nm,21.0s,MS4.5						
BW06	**Boulder Array**	**66.13**	**2**	eP	**P**	**19 48 47.9**	**-1.1**
	comp=Z,18nm,1.3s,mb4.9						
BW06				LR	LR		
	comp=Z,420nm,21.0s,MS4.6						
PDAR	**Pinedale Array**	**66.13**	**2**	P	**P**	**19 48 48.1**	**-0.9**
	comp=Z,11nm,1.2s,mb4.8,baz=180,slow=4.4,SNR=40						
PDAR				LR	LR	20 13 19.0	
	comp=Z,326nm,18.2s,MS4.6,baz=172,slow=32						
VNDA	**Vanda**	**66.31**	**194**	P	**P**	**19 48 49.2**	**-0.4**
	comp=Z,2.2nm,0.8s,mb4.2,baz=87,slow=3.6,SNR=15						
VNDA				LR	LR	20 12 12.4	
	comp=Z,680nm,18.1s,MS4.9,baz=95,slow=31						
VNDA	**Vanda**	**66.31**	**194**	eP	**P**	**19 48 48.3**	**-1.2**
	comp=Z,20nm,1.8s,mb4.8						
VNDA				LR	LR		
	comp=Z,705nm,21.0s,MS4.8						
RRI2	**Red Ridge**	**66.69**	**0**	eP	**P**	**19 48 52.6**	**+0.1**
	comp=Z,50nm,1.4s,mb5.3						
REDW	**Red Top Meadow**	**66.70**	**1**	eP	**P**	**19 48 52.4**	**-0.3**
	comp=Z,24nm,1.3s,mb5.1						
HUMO	**Hull Mountain**	**66.77**	**351**	eP	**P**	**19 48 53.1**	**+0.1**
	comp=Z,21nm,1.1s,mb5.1						
HUMO				LR	LR		
	comp=Z,388nm,21.0s,MS4.6						
SNOW	**Snow King Moun**	**66.81**	**1**	eP	**P**	**19 48 53.3**	**0.0**
	comp=Z,22nm,1.2s,mb5.1						
TPAW	**Teton Pass**	**66.83**	**1**	eP	**P**	**19 48 53.3**	**-0.2**
	comp=Z,38nm,1.2s,mb5.3						
HLID	**Hailey**	**66.95**	**358**	eP	**P**	**19 48 54.5**	**+0.2**
	comp=Z,34nm,1.2s,mb5.2						
HLID				LR	LR		
	comp=Z,355nm,19.0s,MS4.6						
LOHW	**Long Hollow**	**66.96**	**1**	eP	**P**	**19 48 53.9**	**-0.4**
	comp=Z,28nm,1.3s,mb5.1						
MOOW	**Moose Ponds**	**67.09**	**1**	eP	**P**	**19 48 53.9**	**-1.2**
	comp=Z,22nm,1.4s,mb5.0						
IMW	**Indian Meadow**	**67.24**	**1**	eP	**P**	**19 48 55.6**	**-0.4**
	comp=Z,39nm,1.3s,mb5.3						
BLA	**Blacksburg**	**67.33**	**27**	eP	**P**	**19 48 56.1**	**-0.6**
BLA				pmax	pmax		
	comp=Z,45nm,1.4s,mb5.3						
BLA				MLR	MLR		
	comp=Z,467nm,21.0s,MS4.7						
BLA	**Blacksburg**	**67.33**	**27**	eP	**P**	**19 48 56.1**	**-0.6**

comp=Z,45nm,1.4s,mb5.3
BLA LR LR
comp=Z,467nm,21.0s,MS4.7
RSSD Black Hills 67.82 6 *e*P **P 19 48 58.8 -0.9**
RSSD pmax pmax
comp=Z,32nm,1.3s,mb5.2
RSSD Black Hills 67.82 6 *e*P **P 19 48 58.8 -0.9**
comp=Z,32nm,1.3s,mb5.2
LKWY Lake 67.91 1 PFAKE 19 49 10.0 +10
LKWY LR LR
comp=Z,386nm,19.0s,MS4.7
QLMT Earthquake Lak 68.17 0 *e*P **P 19 49 02.1 +0.2**
MCMT McKenzie Canyo 68.17 359 *e*P **P 19 49 01.9 0.0**
FRIS Frissel Point 68.23 352 P **P 19 49 03.1 +0.9**
BROR Big Rock Looko 68.33 352 P **P 19 49 03.2 +0.4**
BMO Blue Mountains 68.39 356 *e*P **P 19 49 02.8 -0.5**
comp=Z,29nm,1.4s,mb5.1
BMO LR LR
comp=Z,348nm,22.0s,MS4.5
COR Corvallis 68.76 351 *e*P **P 19 49 06.1 +0.6**
COR pmax pmax
comp=Z,52nm,1.2s,mb5.3
COR MLR MLR
comp=Z,287nm,21.0s,MS4.5
COR Corvallis 68.76 351 *e*P **P 19 49 06.0 +0.5**
comp=Z,52nm,1.2s,mb5.3
COR LR LR
comp=Z,287nm,21.0s,MS4.5
BOZ Bozeman (W) 68.98 0 *e*P **P 19 49 06.5 -0.4**
BOZ pmax pmax
comp=Z,26nm,1.8s,mb4.9
BOZ MLR MLR
comp=Z,482nm,20.0s,MS4.7
BOZ Bozeman (W) 68.98 0 *e*P **P 19 49 06.5 -0.4**
comp=Z,26nm,1.8s,mb4.9
BOZ LR LR
comp=Z,482nm,20.0s,MS4.7
VFP Flag Point 69.24 353 P **P 19 49 09.3 +0.9**
CBN Corbin 69.45 28 PFAKE 19 49 20.0 +10
CBN LR LR
comp=Z,823nm,19.0s,MS5.0
KMOR Kings Mountain 69.81 351 P **P 19 49 12.8 +0.9**
HRY Holter Researc 70.05 360 *e*P **P 19 49 12.8 -0.6**
MSO Missoula 70.20 358 *e*P **P 19 49 13.4 -0.8**
comp=Z,19nm,1.4s,mb4.8
MSO LR LR
comp=Z,217nm,19.0s,MS4.4
LAO LASA Array 70.20 4 *e*P **P 19 49 14.0 -0.3**
comp=Z,25nm,1.2s,mb5.0
LAO LR LR
comp=Z,520nm,20.0s,MS4.8
CHMT Chamberlain Mo 70.27 359 *e*P **P 19 49 14.2 -0.5**
WPW White Pass 70.61 353 P **P 19 49 17.7 +0.9**
OD2 Odessa Site #2 71.02 355 P **P 19 49 19.8 +0.6**
EPH Ephrata 71.06 354 P **P 19 49 20.6 +1.1**
ALLY Alegheny Colle 71.25 24 *e*P **P 19 49 21.2 +0.4**
BBSR BB Station 71.53 41 PFAKE 19 49 30.0 +7.4
BBSR LR LR
comp=Z,576nm,20.0s,MS4.8
VNA3 Neumayer Olymp 71.57 161⇑*i* **P 19 49 22.5 +0.3**
VNA3 Neumayer Olymp 71.57 161 **P 19 49 27.4 +5.2**
HTW Haystack Looko 71.72 353 P **P 19 49 23.8 +0.3**
NEW Newport 71.77 356 *e*P **P 19 49 23.7 -0.1**
NEW pmax pmax
comp=Z,47nm,1.3s
NEW Newport 71.77 356 P **P 19 49 23.0 -0.8**
comp=Z,21nm,1.1s,mb5.0,baz=171,slow=5.9,SNR=22
NEW Newport 71.77 356 *e*P **P 19 49 23.6 -0.1**
comp=Z,47nm,1.3s,mb5.3
DGMT Dagmar 72.12 5 *e*P **P 19 49 26.1 +0.3**
comp=Z,80nm,1.3s,mb5.5
VNA1 Neumayer--Stat 72.20 160⇑*i* **P 19 49 26.9 +0.9**
VNA1 Neumayer--Stat 72.20 160 **P 19 49 30.5 +4.5**
VNA2 Neumayer--Watz 72.37 160⇑*i* **P 19 49 27.5 +0.5**
VNA2 Neumayer--Watz 72.37 160 **P 19 49 31.8 +4.8**
GENY Geneseo 73.10 25 *e*P **P 19 49 32.1 +0.3**
BINY Binghamton 73.36 27 *e*P **P 19 49 33.6 +0.3**
comp=Z,51nm,1.4s,mb5.3
BINY LR LR
comp=Z,3µm,19.0s,MS5.6
SNAA Sanae 73.43 162⇑*i* **P 19 49 32.3 -0.8**
SNAA Sanae 73.43 162 **P 19 49 35.3 +2.2**
ULM Lac du Bonnet 74.91 10 P **P 19 49 41.5 -0.6**
comp=Z,11nm,1.0s,mb4.7,baz=183,slow=5.9,SNR=8.9
ULM LR LR 20 20 18.6
comp=Z,280nm,18.3s,MS4.6,baz=224,slow=34
ULM Lac du Bonnet 74.91 10 P **P 19 49 41.5 -0.6**
ULM LR LR 20 20 18.6
ACCN Adirondack Com 75.31 28 *e*P **P 19 49 44.8 +0.3**
EDM Edmonton 76.58 359 *e*P **P 19 49 51.7 +0.2**
NVL N'lazarevskaya 77.93 164⇓*i*P **P 19 49 58.0 -0.6**
NVL *i* *PP pP 19 50 07.2 +5.4
NVL *i* *SP sP 19 50 11.6 +8.7
NVL *e*S ScS 20 00 18.8 +4.1
NVL pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
FFC Flin Flon 78.52 6 *e*P **P 19 50 02.3 +0.2**
FFC pmax pmax
comp=Z,24nm,1.3s,mb5.0
FFC MLR MLR
comp=Z,155nm,21.0s,MS4.3
FFC Flin Flon 78.52 6 *e*P **P 19 50 02.3 +0.2**
comp=Z,24nm,1.3s,mb5.0
FFC LR LR
comp=Z,155nm,21.0s,MS4.3
DLBC Dease Lake 83.22 350 *e*P **P 19 50 27.8 +0.9**
CASY Casey 84.82 196 *e*P **P 19 50 34.3 -0.5**
comp=Z,17nm,1.5s,mb5.0
CASY LR LR
comp=Z,333nm,21.0s,MS4.7
YKA Yellowknife Ar 85.90 359 P **P 19 50 40.9 +0.7**
comp=Z,18nm,1.1s,mb5.2,baz=169,slow=4.5,SNR=32
YKA LR LR 20 24 58.1
comp=Z,354nm,20.1s,MS4.8,baz=90,slow=33
YKA Yellowknife Ar 85.90 359 P **P 19 50 40.9 +0.7**
YKA LR LR 20 24 58.1
YKW3 Yellowknife Ar 85.97 359 *e*P **P 19 50 40.7 +0.2**
SCHQ Schefferville 87.10 24 LR LR 20 26 05.2
comp=Z,242nm,21.4s,MS4.6,baz=260,slow=33
EYAK Cordova Ski Ar 88.39 344 *e*P **P 19 50 52.3 0.0**
DIV Divide 88.89 344 *e*P **P 19 50 53.5 -1.2**
comp=Z,65µm,1.2s
MAW Mawson 88.91 178 P **P 19 50 53.8 -0.9**
comp=Z,3.5nm,1.0s,mb4.6,baz=218,slow=5.7,SNR=5.1
MAW LR LR 20 27 26.2
comp=Z,759nm,18.7s,MS5.1,baz=178,slow=33
MAW Mawson 88.91 178 P **P 19 50 53.8 -0.9**
MAW LR LR 20 27 26.2
SML Sawmill 90.12 344 *e*P **P 19 51 00.2 -0.3**
SPU Mount Spurr 90.63 342 *e*P **P 19 51 02.4 -0.4**
STKA Stephens Creek 90.86 235 LR LR 20 27 53.4
comp=Z,383nm,19.0s,MS4.9,baz=293,slow=33
ILAR Eielson Array 92.28 346 P **P 19 51 11.4 +1.0**
comp=Z,1.8nm,1.1s,mb4.3,baz=197,slow=4.9,SNR=8.2
ILAR LR LR 20 24 59.3
comp=Z,123nm,19.2s,MS4.4,baz=180,slow=30
CTA Charters Tower 92.54 247 LR LR 20 24 34.8
comp=Z,528nm,20.6s,MS5.0,baz=95,slow=30
CTAO Charters Tower 92.54 247 PFAKE 19 51 20.0 +7.4
CTAO LR LR
comp=Z,634nm,21.0s,MS5.0
INK Inuvik 93.11 352 *e*P **P 19 51 13.6 -0.5**
INK pmax pmax
comp=Z,19nm,1.3s
INK Inuvik 93.11 352 *e*P **P 19 51 13.6 -0.5**
comp=Z,19nm,1.3s,mb5.4
PMG Port Moresby 96.36 257 LR LR 20 27 00.4
comp=Z,472nm,18.2s,MS5.0,baz=329,slow=31
DBIC Dimbokro 108.01 91 PFAKE 19 56 40.0
DBIC LR LR
comp=Z,463nm,21.0s,MS5.0
BILL Bilibino 108.81 337 PFAKE 19 56 40.0
BILL LR LR
comp=Z,142nm,21.0s,MS4.5
ESLA Sonseca Array 117.96 56 PFAKE 19 57 00.0 +10
ESLA LR LR
comp=Z,2µm,19.0s,MS5.8
KBS Kingsbay 119.33 11 PFAKE 19 57 00.0 +8.7
KBS LR LR
comp=Z,281nm,20.0s,MS4.9
MAJO Matsushiro 119.40 300 PFAKE 19 57 00.0 +7.6
MAJO LR LR
comp=Z,128nm,20.0s,MS4.5
ARCES ARCESS Array B 127.60 18 PKP PKPdf 19 57 03.4 -4.0
comp=Z,1.9nm,1.0s,baz=350,slow=7.4,SNR=3.8

GRA1 Grafenberg Arr 128.81 44 *e*PKP PKPdf 19 57 09.9 -0.3
GRF Grafenberg Arr 128.81 44 *e*PKIKP PKPdf 19 57 09.9 -0.3
MOX Moxa 128.91 43 *e*P PKPdf 19 57 10.0 -0.4
CN2 Changchun 129.49 308 *e*PKP PKPdf 19 57 13.0 +1.3
CLL Collm 129.65 42 *e*PKIKP PKPdf 19 57 11.0 -0.8
BRG Berggiesshubel 130.31 43 *i* PKIKP PKPdf 19 57 12.5 -0.6
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG Berggiesshubel 130.31 43 *i* P PKPdf 19 57 12.5 -0.6
KHC Kasperske Hory 130.42 45 *e*PKPdf PKPdf 19 57 12.0 -1.3
GERES GERESS Array B 130.55 45 PKP PKPdf 19 57 12.4 -1.1
comp=Z,1.4nm,0.9s,baz=333,slow=3.0,SNR=8.7
FINES FINESS Array B 132.54 26 PKP PKPdf 19 57 14.2 -2.8
comp=Z,1.6nm,1.0s,baz=166,slow=7.9,SNR=4.7
HIA Hailar 132.56 316 PFAKE 19 57 30.0 +13
HIA LR LR
comp=Z,211nm,19.0s,MS4.9
VYHS Vyhne 133.95 45 *e*PKP PKPdf 19 57 19.2 -0.7
MBAR Mbarara 136.23 118 PFAKE 19 57 40.0 +15
MBAR LR LR
comp=Z,75nm,19.0s,MS4.4
AKASG Malin Array Be 139.50 38 PKP PKPdf 19 57 27.5 -2.5
comp=Z,4.3nm,0.9s,baz=280,slow=2.4,SNR=20
AKASG PP PP 20 00 26.2 +0.6
comp=Z,0.1nm,0.4s,baz=280,slow=5.2,SNR=5.4
AKASG Malin Array Be 139.50 38 PKP PKPdf 19 57 27.5 -2.6
AKASG PP PP 20 00 26.2 +0.6
HHC Hu-ho-hao-te 140.09 306 *e*PKP PKPdf 19 57 30.4 -1.0
HHC PP PP 20 00 31.8 +2.3
HHC PKS PKS 20 01 08.5 +5.4
HHC SKS SKS 20 04 35.9 -4.9
HHC SKKS 20 07 16.4
HHC SS SS 20 18 47.2 -1.6
HHC PP PP
comp=Z,56nm,14.2s
HHC LR LR
comp=N,120nm,14.2s,MS4.9
HHC LR LR
comp=E,106nm,14.2s,MS4.9
HHC LR LR
comp=Z,108nm,16.6s,MS4.7
OBN Obninsk 140.76 29 *e*PKPdf PKPdf 19 57 29.9 -2.3
OBN LR LR
comp=Z,55nm,20.0s,MS4.3
TLY Talaya 141.11 325 *e*PKIKP PKPdf 19 57 31.5 -1.4
TLY MLR MLR
comp=Z,30nm,20.0s,MS4.0
SONM Songino Array 141.40 318 PKhKP 19 57 26.1
comp=Z,1.8nm,1.0s,baz=96,slow=1.3,SNR=7.6
ZAK Zakamensk 141.99 323 *e*PKIKP PKPdf 19 57 32.4 -2.1
ZAK pmax pmax
comp=Z,2.0nm,1.2s
ZAK pmax pmax
comp=Z,1.0nm,1.4s
ENH Enshi 142.90 289 PFAKE 19 57 50.0 +13
ENH LR LR
comp=Z,124nm,20.0s,MS4.7
ISP Isparta 144.80 57 *e*PKIKP PKPdf 19 57 38.8 -0.9
SIM Simferopol' 145.02 44*ce*PKIKP PKPdf 19 57 38.6 -1.3
SIM pmax pmax
comp=Z,55nm,1.0s
GYA Guiyang 145.27 283⇑*i*PKP PKPdf 19 57 38.9 -2.0
GYA PKS PKS 20 01 13.1 +1.0
GYA SKKS 20 07 46.2
GYA PP PP
comp=Z,350nm,7.5s
GYA LR LR
comp=Z,580nm,20.8s,MS5.3
SVE Sverdlovsk 146.41 8⇓*i*PKP2 PKPab 19 57 41.6 -1.5
SVE pmax pmax
comp=Z,175nm,2.5s
ARU Arti 146.50 10 *e*PKIKP PKPdf 19 57 41.1 -0.9
ARU MLR MLR
comp=Z,58nm,20.0s,MS4.4
ARU Arti 146.50 10 *e*PKPdf PKPdf 19 57 41.1 -0.9
ARU LR LR
comp=Z,58nm,20.0s,MS4.4
BR131 Keskin Array S 146.66 53 *e*PKPbc PKPbc 19 57 43.1 +1.9
BRTR Keskin Array B 146.66 53 PKPbc PKPbc 19 57 43.4 +2.1
comp=Z,18nm,1.1s,baz=225,slow=1.7,SNR=30
NVS Novosibirsk 146.95 344⇑*i*PKIKP PKPdf 19 57 40.9 -1.9
NVS pmax pmax
comp=Z,72nm,2.2s
NVS pmax pmax
comp=N,13nm,1.7s
NVS pmax pmax
comp=E,14nm,1.6s
LZH Lanzhou 147.01 300⇑PKP PKPdf 19 57 43.5 -0.1
LZH APKP 19 57 46.7
LZH XPKP 19 57 48.1
LZH *e*PP PP 20 01 14.5 +3.3
LZH SS SS 20 20 12.5 +3.5
LZH PP PP
comp=Z,158nm,8.7s
LZH LR LR
comp=N,289nm,18.5s
LZH LR LR
comp=Z,448nm,20.0s,MS5.2
LZH Lanzhou 147.01 300⇑PKP PKPdf 19 57 43.5 -0.1
LZH pPKP 19 57 46.7
LZH sPKP 19 57 48.1
LZH PKP PKPdf 19 57 49.2 +5.6
LZH *e*PP PP 20 01 14.5 +3.3
LZH SS SS 20 20 12.5 +3.5
LZH LR LR
comp=Z,450nm,20.0s,MS5.2
ZAL Zalesovo 147.34 342 PKPbc PKPdf 19 57 43.2 -0.3
comp=Z,5.3nm,1.0s,baz=88,slow=3.1,SNR=15
ZAL Zalesovo 147.34 342 PKPbc PKPdf 19 57 43.2 -0.3
CSS Prodhromos 147.61 62 *e*PKPbc PKPdf 19 57 45.5 +1.0
KMI Kunming 148.70 280 PKP PKPdf 19 57 48.4 +1.8
GTA Gaotai 149.13 308 *e*PKP PKPdf 19 57 49.6 +2.8
GTA APKP 19 57 54.2
GTA XPKP 19 57 57.0
GTA LR LR
comp=N,183nm,18.3s,MS5.0
GTA LR LR
comp=E,106nm,17.5s,MS5.0
GTA LR LR
comp=Z,116nm,14.4s,MS4.8
SOC Sochi 149.21 43 *e*PKHKP 19 57 45.1
SOC pmax pmax
comp=Z,37nm,1.4s
SOC pmax pmax
comp=N,18nm,1.0s
SOC pmax pmax
comp=E,14nm,1.4s
GOF Gofitskoye 150.35 38 *e*PKHKP 19 57 48.8
MALT Malatya 150.64 53 *e*PKIKP PKPdf 19 57 53.9 +4.7
BVAR Borovoye Array 150.65 357 PKPbc PKPdf 19 57 53.1 +4.4
comp=E,14nm,1.0s,slow=1.5,SNR=36
KIV Kislovodsk 150.81 40 *e*PKIKP PKPdf 19 57 53.7 +4.4
KIV *e* 19 58 00.2
KIV MLR MLR
comp=Z,33nm,19.0s,MS4.2
KIV Kislovodsk 150.81 40 *e*PKPbc PKPdf 19 57 53.7 +4.4
KIV *e*PKPab PKPab 19 58 00.2 -1.1
KIV LR LR
comp=Z,33nm,19.0s,MS4.2
CM31 Chiang Mai Arr 151.02 266 *e*PKPbc PKPdf 19 57 54.3 +4.0
CMAR Chiang Mai Arr 151.02 266 PKPbc PKPdf 19 57 55.0 +4.6
comp=Z,15nm,1.0s,baz=20,slow=0.7,SNR=41
ASF Jabal al Asfar 151.03 66 PKPbc PKPdf 19 57 55.4 +5.4
comp=Z,13nm,1.0s,baz=116,slow=2.8,SNR=11
ZEI Tsey 152.22 41 *e*PKIKP PKPdf 19 57 47.4 -4.0
GNI Garni 154.21 45 PFAKE 19 58 00.0 +5.7
GNI LR LR
comp=Z,162nm,20.0s,MS4.8
MKAR Makanchi Array 154.35 338 PKP PKPdf 19 57 52.4 -1.8
comp=Z,0.3nm,0.4s,slow=1.2,SNR=5.9
MKAR PKPbc PKPdf 19 58 00.4 +6.2
comp=Z,6.6nm,1.1s,baz=45,slow=3.4,SNR=14
WMQ Urumqi 154.38 326 PKP PKPdf 19 57 53.2 -1.2
WMQ PP PP 20 01 54.9 +2.2
WMQ PP PP
comp=Z,118nm,10.8s
WMQ LR LR
comp=N,132nm,21.3s,MS4.8
WMQ LR LR
comp=E,114nm,22.0s,MS4.8
WMQ LR LR
comp=Z,206nm,22.5s,MS4.9
LSA Lhasa 158.78 291 PFAKE 19 58 10.0 +9.4
LSA LR LR
comp=Z,164nm,20.0s,MS4.9

AAK Ala-Archa 160.41 346 PFAKE 19 58 10.0 +8.1
AAK LR LR
comp=Z,62nm,20.0s

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*LDG **04** 19:44:00.9±0.1,32.49N×76.20E,h10km,Mb4.8/18, Ms3.5/1, Error ellipse: s-maj=17.9km s-min=4.2km az=29.0*
*IDC **04** 19:44:05.0±3.3,32.76N×76.37E,h13km±20km,mb4.5/22, mb1 4.7/23,mb1mx4.6/27,mbtmp4.6/23,ML4.8/1,MS3.8/6, Ms1 3.8/6,ms1mx3.5/31,Error ellipse: s-maj=16.2km s-min=13.5km az=12.0*
*MOS **04** 19:44:05.4±0.9,32.69N×76.30E,h33km,mb4.9/49,Error ellipse: s-maj=8.1km s-min=4.9km az=123.1*
*NEIC **04** 19:44:05.8±0.2,32.73N×76.31E,h20km,mb4.8/36,Error ellipse: s-maj=6.4km s-min=3.3km az=207.0*
*BJI **04** 19:44:05.1,32.87N×76.60E,h8km,mB4.7,mb4.7,ML5.0, Ms4.4,Msz4.1*
*NDI **04** 19:44:06.3±4.7,32.65N×76.44E,h10km,mb4.8,ML4.3, mb4.8(NEIC)*
*NNC **04** 19:44:11.9±7.3,33.39N×75.27E,Error ellipse: s-maj=86.3km s-min=67.5km az=53.0*
ISC 04 19:44:02.6±0.2,32.78N±0.02×76.32E±0.03,h10km, (h41km±3.7km:pP-P),n228,σ1§09/263,mb4.7/66,MS3.9/20, 25C-10D,Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**0.39**	**231**	*e*	**Pg**		**19 44 09.0**	**-1.5**
DLH				*e*S	**Sg**		**19 44 24.0**	**+8.2**
PONG	**Pong**	**0.89**	**201**	*e*P	**Pb**		**19 44 19.0**	**-0.6**
PONG				*e*			19 44 40.0	
JMU	**Jammu**	**1.20**	**267**	*e*P	**Pb**		**19 44 31.5**	**+6.5**
JMU				*e*S	**Sb**		**19 44 46.5**	**+6.1**
BHK	**Bhakra**	**1.37**	**177**	*e*PN	**Pn**		**19 44 30.8**	**+3.0**
BHK				*e*			19 44 54.8	
SDNR	**Sundarnagar**	**1.39**	**157**	*e*PN	**Pn**		**19 44 28.8**	**+0.6**
SDNR				*e*SN	**Sn**		**19 44 48.8**	**+2.0**
SMLA	**Simla**	**1.80**	**156**⇑	*i*P	**Pn**		**19 44 33.5**	**-0.6**
SMLA				*i* S	**Sn**		**19 44 56.7**	**-0.4**
CHCP	**Chirah Chowk**	**2.71**	**290**	P	**Pn**		**19 44 51.3**	**+4.3**
KKR	**Kurukshetra**	**2.85**	**171**	*e*P	**Pn**		**19 44 51.7**	**+2.8**
DDI	**Dehra Dun**	**2.87**	**148**	*e*PN	**Pn**		**19 44 51.8**	**+2.5**
DDI				*e*			19 45 32.1	
SARP	**Sargodha**	**3.21**	**255**	P	**Pn**		**19 44 54.2**	**+0.1**
RTK	**Rohtak**	**3.74**	**179**	*e*P	**Pn**		**19 45 03.3**	**+1.6**
CEP	**Cherat**	**3.84**	**287**	P	**Pn**		**19 45 05.2**	**+2.1**
THW	**Thamme Wali**	**3.86**	**271**	P	**Pn**		**19 45 04.3**	**+1.0**
NDI	**New Delhi**	**4.16**	**169**	*e*PN	**Pn**		**19 45 07.5**	**-0.1**
NDI				*e*			19 45 17.0	
NDI				*e*			19 46 10.0	
BISR	**Bishrakh**	**4.31**	**167**	*e*P	**Pn**		**19 45 11.1**	**+1.3**
AYAN	**Aya Nagar**	**4.34**	**171**	*e*P	**Pn**		**19 45 11.3**	**+1.0**
AYAN				*e*			19 46 01.6	
SONA	**Sohna**	**4.57**	**172**	*e*P	**Pn**		**19 45 14.7**	**+1.3**
KUDL	**Kundal**	**4.63**	**178**	*e*P	**Pn**		**19 45 14.7**	**+0.4**
PTH	**Pithoragarh**	**4.64**	**133**	*e*	**Pn**		**19 45 20.0**	**+5.5**
PTH				*e*			19 46 08.5	
SBDP	**Sheikh Budin**	**4.68**	**266**	P	**Pn**		**19 45 15.8**	**+0.7**
KHET	**Khetri**	**4.72**	**186**	*e*P	**Pn**		**19 45 15.6**	**0.0**
LGTI	**Lohaghat**	**4.73**	**134**	*e*P	**Pn**		**19 45 16.5**	**+0.8**
LGTI				*e*			19 46 10.0	
DRP	**Derazinda**	**5.29**	**260**	P	**Pn**		**19 45 24.0**	**+0.4**
AGRA	**Agra**	**5.71**	**165**	*e*P	**Pn**		**19 45 29.1**	**-0.4**
AGRA				AML	AML		19 47 17.5	
	comp=E,545nm,0.7s							
AGRA				AML	AML		19 47 24.0	
	comp=N,310nm,0.8s							
AJM	**Ajmer**	**6.45**	**194**	*e*P	**Pn**		**19 45 38.7**	**-1.3**
KSH	**Kashi**	**6.72**	**358**⇑	*i*P	**Pn**		**19 45 48.3**	**+4.4**
KSH				S	**Sn**		**19 47 05.4**	**+4.1**
KSH				Smax				
	comp=N,460nm,0.6s							
KSH				Smax				
	comp=E,510nm,0.4s							
JASL	**Jaisalmer**	**7.50**	**220**	*e*P	**Pn**		**19 45 55.9**	**+1.2**
JHNI	**Jhansi**	**7.55**	**165**	*e*P	**Pn**		**19 45 51.5**	**-3.9**
JHNI				*e*S	**Sn**		**19 47 12.0**	**-10**
KOLN	**Koldanda**	**8.03**	**127**	*e*Pn	**P**		**19 46 01.0**	**-1.2**
KOLN				*e*Sn	**Sn**		**19 47 31.0**	**-3.1**
	comp=E,281nm,0.8s							
KOLN	**Koldanda**	**8.03**	**127**	*e*Pn	**P**		**19 46 01.0**	**-1.2**
	comp=E,141nm,0.8s							
KOLN				*e*Sn	**Sn**		**19 47 31.0**	**-3.1**
GKN	**Gorkha**	**8.62**	**121**	*e*Pn	**P**		**19 46 09.1**	**-1.2**
GKN				*e*Sn	**Sn**		**19 47 43.2**	**-5.4**
	comp=E,164nm,0.3s							
GKN	**Gorkha**	**8.62**	**121**	*e*Pn	**P**		**19 46 09.1**	**-1.2**
	comp=E,82nm,0.3s							
GKN				*e*Sn	**Sn**		**19 47 43.2**	**-5.4**
ALBI	**Allahabad**	**8.86**	**146**	*e*P	**P**		**19 46 10.0**	**-3.7**
DMN	**Daman**	**9.18**	**122**	*e*Pn	**P**		**19 46 16.5**	**-1.7**
DMN				*e*Sn	**Sn**		**19 47 56.9**	**-5.7**
	comp=E,364nm,0.8s							
DMN	**Daman**	**9.18**	**122**	*e*Pn	**P**		**19 46 16.5**	**-1.7**
	comp=E,182nm,0.8s							
DMN				*e*Sn	**Sn**		**19 47 56.9**	**-5.7**
KKN	**Kakani**	**9.20**	**120**	*e*Pn	**P**		**19 46 17.3**	**-1.1**
KKN				*e*Sn	**Sn**		**19 47 57.1**	**-6.0**
	comp=E,167nm,0.5s							
KKN	**Kakani**	**9.20**	**120**	*e*P	**P**		**19 46 17.3**	**-1.1**
KKN				*e*			19 47 57.1	
KKN				pmax	pmax			
	comp=Z,84nm,0.5s							
KKN	**Kakani**	**9.20**	**120**	*e*Pn	**P**		**19 46 17.3**	**-1.1**
	comp=Z,84nm,0.5s							
KKN				*e*Sn	**Sn**		**19 47 57.1**	**-6.0**
PKI	**Pulchoki**	**9.42**	**121**	*e*Pn	**P**		**19 46 19.8**	**-1.7**
PKI				*e*Sn	**Sn**		**19 48 03.2**	**-5.4**
	comp=Z,355nm,0.8s							
PKI	**Pulchoki**	**9.42**	**121**	*e*P	**P**		**19 46 19.8**	**-1.7**
PKI				*e*			19 48 03.2	
PKI				pmax	pmax			
	comp=Z,177nm,0.8s							
PKI	**Pulchoki**	**9.42**	**121**	*e*Pn	**P**		**19 46 19.8**	**-1.7**
	comp=Z,177nm,0.8s							
PKI				*e*Sn	**Sn**		**19 48 03.2**	**-5.4**
BHPL	**Bhopal**	**9.56**	**174**	*e*P	**P**		**19 46 20.1**	**-3.3**
BHPL				*e*			19 48 05.1	
BHPL				AML	AML		19 49 16.6	
	comp=E,74nm,0.6s							
BHPL				AML	AML		19 49 59.2	
	comp=N,62nm,0.7s							
GUN	**Gumba**	**9.58**	**118**	*e*Pn	**P**		**19 46 22.5**	**-1.1**
GUN				*e*Sn	**Sn**		**19 48 06.3**	**-6.1**
	comp=N,205nm,0.5s							
GUN	**Gumba**	**9.58**	**118**	*e*Pn	**P**		**19 46 22.5**	**-1.1**
	comp=N,103nm,0.5s							
GUN				*e*Sn	**Sn**		**19 48 06.3**	**-6.1**
AAK	**Ala-Archa**	**9.94**	**352**	⇓P	**P**		**19 46 29.8**	**+1.3**
	comp=N,39nm,0.6s							
AAK				⇓S	**Sn**		**19 48 20.3**	**-0.9**
	comp=N,66nm,0.7s							
AAK	**Ala-Archa**	**9.94**	**352**	*e*P	**P**		**19 46 28.7**	**+0.2**
AAK				*e*			19 48 18.6	
AAK				pmax	pmax			
	comp=Z,46nm,0.6s							
AAK	**Ala-Archa**	**9.94**	**352**	*e*Pn	**P**		**19 46 28.7**	**+0.1**
	comp=Z,46nm,0.6s							
AAK				*e*Sn	**Sn**		**19 48 18.6**	**-2.7**
FRU	**Bishkek**	**10.12**	**353**	*e*P	**P**		**19 46 33.0**	**+1.9**
FRU				*e*			19 48 30.0	
FRU				pmax	pmax			
	comp=Z,80nm,2.0s							
KK31	**Karatay Array**	**11.27**	**338**	⇓P	**P**		**19 46 45.9**	**-1.0**
	comp=Z,14nm,0.5s,baz=148,slow=12							
KK31				⇓S	**S**		**19 48 44.5**	**-9.4**
	comp=Z,33nm,0.4s,baz=159,slow=22							
BLSP	**Bilaspur**	**11.80**	**153**	*e*	**S**		**19 48 56.0**	**-11**
LSA	**Lhasa**	**13.05**	**100**	P	**P**		**19 47 11.0**	**+0.2**
LSA	**Lhasa**	**13.05**	**100**	*e*P	**P**		**19 47 08.8**	**-2.0**
LSA				pmax	pmax			
	comp=Z,12nm,0.8s							
LSA	**Lhasa**	**13.05**	**100**	*e*Pn	**P**		**19 47 08.8**	**-2.1**
	comp=Z,12nm,0.8s							
WMQ	**Urumqi**	**14.17**	**36**	P	**P**		**19 47 28.9**	**+3.5**
WMQ				AP			19 47 33.4	
WMQ				XP			19 47 37.3	
WMQ				PP	PP		19 47 40.6	+3.9
WMQ				S	**S**		**19 50 09.1**	**+5.5**
WMQ				AMB	AMB			
	comp=Z,75nm,0.7s							

WMQ AMB AMB
comp=Z,230nm,4.6s
WMQ LR LR
comp=N,2μm,9.3s
WMQ LR LR
comp=E,2μm,9.2s
WMQ LR LR
comp=Z,3μm,9.6s
LATR Latur 14.31 179 *e*P **P 19 47 25.4 -2.0**
POO Poona 14.37 189 ⇓*i* **P 19 47 34.0 +5.8**
comp=Z,20nm,1.0s
POO *i* 19 50 03.0
MK31 Makanchi Array 14.72 16 ⇑P **P 19 47 31.8 -0.8**
comp=Z,3.5nm,0.3s,baz=201,slow=14,SNR=234
MK31 ⇓S **S 19 50 10.0 -6.7**
comp=Z,26nm,0.8s,baz=202,slow=25
MKAR Makanchi Array 14.72 16 P **P 19 47 31.6 -1.0**
MKAR 19 50 11.0
MKAR pmax pmax
comp=Z,4.0nm,0.3s
MKAR smax
comp=E,4.0nm,0.3s
MKAR MLR MLR
comp=Z,87nm,18.1s
MKAR Makanchi Array 14.72 16 Pn **P 19 47 31.6 -1.0**
comp=Z,4.3nm,0.3s,baz=201,slow=13,SNR=69
MKAR Sn **S 19 50 11.0 -5.6**
comp=Z,4.0nm,0.3s,baz=202,slow=26,SNR=11
MKAR LR LR 19 53 23.8
comp=Z,87nm,18.1s,baz=163,slow=38
SHL Shillong 15.37 114 *e* **P 19 47 36.0 -5.3**
SHL *e* 19 50 29.0
HYB Hyderabad 15.43 172 *i* P **P 19 47 38.0 -4.2**
HYB *e*S **S 19 50 35.0 +1.3**
KAD Karad 15.53 188 *e*P **P 19 47 43.0 -0.4**
VIS Vishakhapatnam 16.27 155 *i* **S 19 50 44.5 -8.8**
GTA Gaotai 20.07 64 *e*P **P 19 48 39.6 +0.7**
GTA AP 19 48 46.0
GTA XP 19 48 48.9
GTA S **S 19 52 26.4 +7.5**
GTA XS 19 52 28.7
GTA SS SS 19 52 46.6 -0.9
GTA AMB AMB
comp=Z,16nm,1.0s
GTA AMB AMB
comp=Z,67nm,5.6s
GTA LR LR
comp=N,210nm,11.1s,MS4.2
GTA LR LR
comp=E,506nm,11.1s,MS4.2
GTA LR LR
comp=Z,497nm,12.6s,MS4.1
VOSK Vostochnaya 20.30 351 ⇑P **P 19 48 40.4 -0.8**
comp=Z,19nm,0.7s
AB31 Akbulak array 20.50 328 ⇓P **P 19 48 42.6 -0.8**
comp=Z,32nm,0.7s,baz=131,slow=11,SNR=348
AB31 ⇓S **S 19 52 16.2 -12**
comp=Z,5.1nm,0.6s,baz=152,slow=23,SNR=7.2
BVA0 Borovoye Array 20.68 350 ⇑P **P 19 48 44.9 -0.3**
comp=Z,12nm,0.8s
BVAR Borovoye Array 20.68 350 P **P 19 48 45.0 -0.1**
comp=Z,53nm,0.7s,baz=161,slow=11,SNR=429
BVAR ScP 19 56 30.4
comp=Z,0.8nm,0.8s,baz=180,slow=5.9,SNR=3.7
ZRNK Zerenda 20.84 347 ⇑P **P 19 48 46.5 -0.3**
comp=Z,67nm,0.8s
ZRNK Zerenda 20.84 347 ⇑*i*P **P 19 48 46.3 -0.5**
ZRNK pmax pmax
comp=Z,79nm,0.8s
ZRNK Zerenda 20.84 347 ⇑*i*P **P 19 48 46.3 -0.5**
comp=Z,79nm,0.8s
ZAL Zalesovo 21.99 13 P **P 19 48 58.6 +0.2**
ZAL pmax pmax
comp=Z,15nm,0.5s
ZAL MLR MLR
comp=Z,399nm,18.7s
ZAL Zalesovo 21.99 13 P **P 19 48 58.6 +0.1**
comp=Z,15nm,0.5s,mb4.7,baz=266,slow=9.9,SNR=36
ZAL LR LR 19 58 48.8
comp=Z,398nm,18.7s,MS3.9,baz=265,slow=40
NVS Novosibirsk 22.58 10 *e*P **P 19 49 03.3 -1.0**
NVS *e*S **S 19 53 10.2 +3.4**
NVS pmax pmax
comp=Z,36nm,1.0s,mb4.8
NVS pmax pmax
comp=N,59nm,1.5s
NVS smax
comp=N,54nm,1.8s
LZH Lanzhou 22.91 74 ⇑P **P 19 49 08.2 +0.5**
LZH AP 19 49 17.1
LZH XP 19 49 21.5
LZH PP PP 19 49 40.2 +3.1
LZH *e*S **S 19 53 15.0 +2.2**
LZH AMB AMB
comp=Z,32nm,1.1s,mb4.7
LZH AMB AMB
comp=Z,208nm,6.2s
LZH LR LR
comp=N,567nm,9.8s
LZH LR LR
comp=Z,913nm,13.0s,MS4.4
LZH Lanzhou 22.91 74 ⇑P **P 19 49 08.2 +0.5**
comp=Z,32nm,1.1s,mb4.7
LZH pP 19 49 17.1
LZH sP 19 49 21.5
LZH PP PP 19 49 40.2 +3.1
LZH *e*S **S 19 53 15.0 +2.2**
LZH sS 19 53 30.5
LZH SS SS 19 54 03.4 +6.8
LZH LR LR
comp=Z,910nm,13.0s,MS4.4
CD2 Chengdu 23.36 87 P **P 19 49 13.2 +1.1**
CD2 S **S 19 53 11.7 -9.2**
CD2 AMB AMB
comp=Z,30nm,0.7s,mb4.8
CD2 LR LR
comp=N,500nm,12.0s
CD2 LR LR
comp=Z,430nm,12.0s,MS4.1
KMI Kunming 24.30 101 P **P 19 49 21.6 +0.3**
KMI AP 19 49 26.3
KMI XP 19 49 28.0
KMI PP PP 19 49 55.8 -0.6
KMI PPP PPP 19 50 06.3 -0.4
KMI S **S 19 53 35.6 -1.6**
KMI XS 19 53 43.3
KMI SS SS 19 54 27.7 -2.7
KMI SSS SSS 19 54 43.6 -3.0
KMI AMB AMB
comp=Z,23nm,0.6s,mb4.8
KMI AMB AMB
comp=Z,89nm,4.6s
KMI LR LR
comp=N,110nm,8.4s
KMI LR LR
comp=E,162nm,6.8s
KMI LR LR
comp=Z,149nm,10.9s,MS3.7
KMI Kunming 24.30 101 P **P 19 49 21.6 +0.3**
KMI *SP 19 49 28.0
KMI 19 49 55.8
KMI PPP PPP 19 50 06.3 -0.4
KMI S **S 19 53 35.6 -1.6**
KMI SS SS 19 54 27.7 -2.7
KMI SSS SSS 19 54 43.6 -3.0
KMI pmax pmax
comp=Z,23nm,0.6s,mb4.8
KMI MLR MLR
comp=Z,150nm,10.9s,MS3.7
KMI Kunming 24.30 101 P **P 19 49 21.6 +0.3**
comp=Z,23nm,0.6s,mb4.8
KMI pP 19 49 26.3
KMI sP 19 49 28.0
KMI PP PP 19 49 55.8 -0.6
KMI PPP PPP 19 50 06.3 -0.4
KMI S **S 19 53 35.6 -1.6**
KMI sS 19 53 43.3
KMI SS SS 19 54 27.7 -2.7
KMI SSS SSS 19 54 43.6 -3.0
KMI LR LR
comp=Z,150nm,10.9s,MS3.7
CM31 Chiang Mai Arr 24.82 120 *e*P **P 19 49 25.7 -0.6**
comp=Z,24nm,0.8s,mb4.8
CMAR Chiang Mai Arr 24.82 120 P **P 19 49 26.3 -0.1**
CMAR pmax pmax
comp=Z,14nm,1.0s
CMAR pmax pmax
comp=E,1.0nm,0.9s
CMAR Chiang Mai Arr 24.82 120 P **P 19 49 26.3 -0.1**
comp=E,14nm,1.0s,mb4.5,baz=304,slow=9.4,SNR=27
CMAR ScP 19 56 41.0
comp=E,1.0nm,0.9s,baz=328,slow=3,9,SNR=4.3
MOY Mondy 26.06 36 *e*P **P 19 49 39.4 +1.7**
GNI Garni 26.34 295 ⇑*i*P **P 19 49 42.1 +1.7**
GNI pmax pmax
comp=Z,40nm,1.3s
GNI Garni 26.34 295 P **P 19 49 44.4 +3.9**
comp=Z,20nm,0.9s,mb4.7,baz=319,slow=3.1,SNR=12
GNI Garni 26.34 295 *e*P **P 19 49 45.6 +5.1**
comp=Z,48nm,1.0s,mb5.0
SVE Sverdlovsk 26.36 340 *e*P **P 19 49 41.5 +1.1**
SVE *e* 19 50 25.8
SVE pmax pmax
comp=Z,46nm,1.5s,mb4.8
SVE MLR MLR
comp=N,400nm,13.0s,MS4.2
SVE MLR MLR
comp=E,100nm,13.0s,MS4.2
SVE MLR MLR
comp=Z,500nm,13.0s,MS4.2
ZAK Zakamensk 26.53 41 *e*P **P 19 49 42.7 +0.6**
ZAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.2
ARU Arti 26.65 338 ⇑*i*P **P 19 49 43.4 +0.3**
ARU *e*PPP PPP 19 50 31.3 -8.0
ARU *e*S **S 19 54 13.0 -3.2**
ARU *e*SSS SSS 19 55 32.9 -12
ARU pmax pmax
comp=Z,24nm,1.0s,mb4.7
ARU MLR MLR
comp=N,200nm,16.0s,MS3.9
ARU MLR MLR
comp=Z,400nm,16.0s,MS4.1
ARU MLR MLR
comp=E,200nm,15.0s,MS3.9
ARU Arti 26.65 338 ⇑*i*P **P 19 49 43.7 +0.6**
comp=E,32nm,1.0s,mb4.8
GYA Guiyang 27.06 96 ⇑*i*P **P 19 49 46.5 -0.7**
GYA AP pP 19 49 55.6 +5.5
GYA XP sP 19 50 01.4 +10
GYA S **S 19 54 22.0 -1.2**
GYA AMB AMB
comp=Z,20nm,1.2s,mb4.5
GYA AMB AMB
comp=Z,90nm,3.0s
GYA LR LR
comp=N,640nm,15.9s,MS4.3
GYA LR LR
comp=E,310nm,18.9s,MS4.3
GYA LR LR
comp=Z,420nm,16.0s,MS4.1
XAN Xi'an 27.18 78 P **P 19 49 47.3 -0.9**
XAN AP pP 19 49 53.7 +2.6
XAN AMB AMB
comp=Z,13nm,1.0s,mb4.4
SONM Songino Array 27.20 48 P **P 19 49 50.0 +1.8**
comp=Z,8.5nm,0.7s,mb4.4,baz=242,slow=9.7,SNR=112
SONM LR LR 20 01 36.0
comp=Z,204nm,18.9s,MS3.7,baz=159,slow=39
TLY Talaya 27.42 38 *i* P **P 19 49 51.2 +1.0**
ULN Ulaanbaatar 27.63 48 *e*P **P 19 49 53.4 +1.3**
ULN pmax pmax
comp=Z,11nm,0.8s,mb4.5
ULN MLR MLR
comp=Z,104nm,21.0s,MS3.4
ULN Ulaanbaatar 27.63 48 *e*P **P 19 49 53.4 +1.3**
comp=Z,11nm,0.8s,mb4.5
ULN LR LR
comp=Z,104nm,21.0s,MS3.4
KIV Kislovodsk 28.45 303 *e*P **P 19 49 59.5 -0.1**
KIV pmax pmax
comp=N,2.0nm,0.9s
KIV pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
KIV pmax pmax
comp=E,1.0nm,0.6s
KIV MLR MLR
comp=N,28nm,17.0s
KIV MLR MLR
comp=Z,74nm,17.0s,MS3.4
CIT Chita 33.05 43 *e*P **P 19 50 41.2 +1.0**
CIT *e* 19 50 49.5
CIT pmax pmax
comp=Z,26nm,1.3s,mb5.0
BR131 Keskin Array S 34.85 294 *e*P **P 19 50 55.5 -0.4**
comp=Z,3.0nm,0.7s,mb4.3
BRTR Keskin Array B 34.85 294 P **P 19 50 55.9 0.0**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 34.85 294 P **P 19 50 55.9 -0.1**
comp=Z,5.4nm,0.9s,mb4.5,baz=97,slow=8.7,SNR=20
MOS Moscow 35.29 322 *e*P **P 19 51 04.4 +5.0**
MOS pmax pmax
comp=Z,29nm,1.0s,mb5.2
OBN Obninsk 35.59 321 ⇑*i*P **P 19 51 01.9 -0.1**
OBN *e*PP pP 19 51 20.8 +16
OBN *e* 19 52 22.0
OBN *e*S **S 19 56 30.1 -7.1**
OBN pmax pmax
comp=Z,34nm,1.2s,mb5.2
NJ2 Nanjing 35.74 79 *e*P **P 19 51 07.4 +3.9**
NJ2 S **S 19 56 39.0 -0.6**
NJ2 AMB AMB
comp=Z,80nm,3.9s
NJ2 LR LR
comp=N,100nm,19.5s,MS3.9
NJ2 LR LR
comp=E,180nm,20.5s,MS3.9
NJ2 LR LR
comp=Z,60nm,19.1s,MS3.4
HIA Hailar 36.10 50 *e*P **P 19 51 07.7 +1.3**
HIA pmax pmax
comp=Z,3.0nm,0.6s
HIA Hailar 36.10 50 *e*P **P 19 51 07.7 +1.3**
comp=Z,2.8nm,0.6s,mb4.4
SSE Sheshan 37.90 80 P **P 19 51 24.4 +2.7**
SSE PP PP 19 52 51.6 +0.4
SSE S **S 19 57 12.1 -0.6**
SSE AMB AMB
comp=Z,12nm,0.9s,mb4.6
SSE AMB AMB
comp=Z,58nm,4.1s
SSE LR LR
comp=N,61nm,27.5s,MS3.3
SSE LR LR
comp=E,14nm,27.3s,MS3.3
SSE LR LR
comp=Z,44nm,16.6s
AKASG Malin Array Be 38.69 312 P **P 19 51 27.5 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 38.69 312 P **P 19 51 27.5 -0.6**
comp=Z,3.7nm,0.6s,mb4.3,baz=80,slow=7.0,SNR=28
AKASG Malin Array Be 38.69 312 P **P 19 51 27.5 -0.6**
BURAR Bucovina Array 41.00 307 ⇑P **P 19 51 47.8 +0.5**
VSU Vasula 41.80 323 ⇓*i*P **P 19 51 52.7 -0.9**
IDI Anoyia 42.31 288 P **P 19 51 58.9 +0.8**
comp=Z,5.2nm,0.8s,mb4.2,baz=122,slow=1.7,SNR=4.5
FINES FINESS Array B 42.99 327 P **P 19 52 03.9 +0.6**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES FINESS Array B 42.99 327 P **P 19 52 03.9 +0.6**
comp=Z,6.3nm,0.6s,mb4.5,baz=135,slow=5.4,SNR=46
KAF Kangasniemi 43.10 328 *ep* **P 19 52 04.2 0.0**
comp=Z,6.3nm,0.8s,mb4.4,baz=109,slow=8.1
KAF Kangasniemi 43.10 328 *eP* **P 19 52 04.2 0.0**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
KLR Kul'dur 43.92 51 *eP* **P 19 52 09.7 -1.3**
KLR MLR MLR
comp=Z,600nm,13.0s,MS4.7
YAK Yakutsk 44.58 33 *c i*P **P 19 52 16.7 +0.5**
YAK pmax pmax
comp=Z,39nm,0.8s,mb5.3
YAK Yakutsk 44.58 33 *eP* **P 19 52 16.6 +0.4**
comp=Z,50nm,1.0s,mb5.3
YAK LR LR
comp=Z,208nm,20.0s,MS4.0
PSZ Piszkesteto 44.59 307 *eP* **P 19 52 16.9 +0.4**
PSZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
PSZ Piszkesteto 44.59 307 *eP* **P 19 52 16.9 +0.3**
comp=Z,3.8nm,0.8s,mb4.3
OKC Ostrava-Krasne 45.71 310 *eP* **P 19 52 25.9 +0.5**
MORC Moravsky Berou 46.10 310 *eP* **P 19 52 27.8 -0.7**
MORC pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MORC Moravsky Berou 46.10 310 *eP* **P 19 52 27.8 -0.7**
comp=Z,6.6nm,0.8s,mb4.6
ARCES ARCESS Array B 46.24 338 P **P 19 52 30.5 +1.2**
ARCES pmax pmax
comp=Z,24nm,0.7s
ARCES MLR MLR
comp=Z,176nm,19.1s
ARCES ARCESS Array B 46.24 338 P **P 19 52 30.5 +1.2**
comp=Z,24nm,0.7s,mb5.2,baz=117,slow=8.1,SNR=124
ARCES LR LR 20 13 23.5
comp=Z,176nm,19.1s,MS4.0,baz=252,slow=38
ARE0 ARCESS Array S 46.24 338 *eP* **P 19 52 29.9 +0.6**
DPC Dobruska-Polom 46.87 311 *eP* **P 19 52 35.1 +0.5**
DPC *ep*P pP 19 52 48.6 +11
UPC Upice 47.07 311 *eP* **P 19 52 36.4 +0.3**
UPC *ep*P pP 19 52 50.2 +11
TIP Timpagrande 47.88 295 *eP* **P 19 52 41.4 -1.3**
PRU Pruhonice 48.03 310 *eP* **P 19 52 44.3 +0.6**
PRU *ep*P pP 19 52 56.8 +10
BRG Berggiesshubel 48.37 311 *i* P **P 19 52 46.3 0.0**
BRG pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
BRG Berggiesshubel 48.37 311 *i* P **P 19 52 46.3 0.0**
comp=Z,7.1nm,0.5s,mb5.0
MOA Moln 48.38 307 ⇑*i*P **P 19 52 46.2 -0.2**
comp=Z,8.6nm,1.1s,mb4.7
GERES GERESS Array B 48.66 309 P **P 19 52 48.8 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 48.66 309 P **P 19 52 48.8 +0.3**
comp=Z,0.8nm,0.7s,mb3.9,baz=90,slow=6.7,SNR=8.4
KHC Kasperske Hory 48.72 309 *eP* **P 19 52 49.1 +0.1**
CLL Collm 48.93 312 *eP* pP 19 53 01.0 +7.3
MOX Moxa 49.86 311 *eP* **P 19 52 58.0 +0.3**
MOX Moxa 49.86 311 *i* P **P 19 52 58.0 +0.3**
KMBO Kilima Mbogo 49.96 235 P **P 19 52 59.5 +0.5**
KMBO pmax pmax
comp=Z,8.0nm,1.2s
KMBO MLR MLR
comp=Z,109nm,18.9s
KMBO Kilima Mbogo 49.96 235 P **P 19 52 59.5 +0.4**
comp=Z,7.7nm,1.2s,mb4.6,baz=26,slow=11,SNR=4.4
KMBO LR LR 20 14 14.5
comp=Z,109nm,18.9s,MS3.9,baz=93,slow=36
NB2 NORSAR Subarra 49.96 325 P **P 19 52 57.9 -0.5**
comp=Z,4.2nm,0.7s,mb4.6,baz=94,slow=7.4
NB2 NORSAR Subarra 49.96 325 P **P 19 52 57.9 -0.5**
NB2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
NOA NORSAR Array B 49.96 325 P **P 19 52 57.9 -0.5**
NOA pmax pmax
comp=Z,3.0nm,0.5s
NOA NORSAR Array B 49.96 325 P **P 19 52 57.9 -0.5**
comp=Z,2.8nm,0.5s,mb4.5,baz=96,slow=7.5,SNR=20
NOA NORSAR Array B 49.96 325 P **P 19 52 57.9 -0.5**
VAE Valguarnera 50.05 294 P **P 19 52 60.0 +0.5**
comp=Z,8.0nm,1.0s,mb4.7,baz=146,slow=13,SNR=2.3
GRA1 Grafenberg Arr 50.20 310 *eP* **P 19 53 01.6 +1.2**
GRF Grafenberg Arr 50.20 310 *eP* **P 19 53 01.6 +1.2**
MJAR Matsushiro Arr 50.27 67 P **P 19 53 00.5 -0.6**
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR Matsushiro Arr 50.27 67 P **P 19 53 00.5 -0.6**
comp=Z,4.4nm,0.8s,mb4.5,baz=281,slow=9.6,SNR=11
MJAR Matsushiro Arr 50.27 67 P **P 19 53 00.5 -0.6**
BSEG Bad Segeberg 50.42 316 *eP* **P 19 53 02.1 +0.1**
CLZ Clausthal 50.53 313 *eP* **P 19 53 03.2 +0.3**
CLZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CLZ Clausthal 50.53 313 *eP* **P 19 53 03.2 +0.3**
comp=Z,9.0nm,0.9s,mb4.7
MOTA Moosalm 50.56 307 ⇓*i*P **P 19 53 02.3 -0.9**
comp=Z,4.0nm,0.9s,mb4.3
MOTA Moosalm 50.56 307 ⇓*i*P **P 19 53 02.3 -0.9**
MOTA pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
DAVA Damuels 51.40 307 ⇑*i*P **P 19 53 08.9 -0.6**
comp=Z,24nm,1.0s,mb5.1
DAVOX Davos 51.48 306 P **P 19 53 10.0 -0.1**
comp=Z,2.6nm,0.5s,mb4.4,baz=119,slow=13,SNR=4.2
ASAJ Asahikawa 51.83 57 LR LR 20 18 32.1
comp=Z,61nm,18.6s,MS3.7,baz=307,slow=40
BFO Black Forest 52.27 309 *eP* **P 19 53 15.8 -0.3**
HINF Hinteralfeld 53.33 308 *eP* **P 19 53 22.9 -1.1**
comp=Z,17nm,1.0s,mb4.6
HINF Hinteralfeld 53.33 308 *eP* **P 19 53 22.9 -1.1**
HINF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
HAU Haudompre 53.63 308 *eP* **P 19 53 25.4 -0.8**
comp=Z,14nm,0.8s,mb4.6
HAU Haudompre 53.63 308 *eP* **P 19 53 25.4 -0.8**
HAU pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
SBF Sospel 53.73 303 *eP* **P 19 53 25.3 -1.7**
comp=Z,50nm,1.0s,mb5.1
SBF Sospel 53.73 303 *eP* **P 19 53 25.3 -1.7**
SBF pmax pmax
comp=Z,25nm,1.0s,mb5.1
LPG La Plagne 53.85 305 *eP* **P 19 53 27.8 0.0**
comp=Z,16nm,0.8s,mb4.7
LPG La Plagne 53.85 305 *eP* **P 19 53 27.8 0.0**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LPL La Plagne 53.86 305 *eP* **P 19 53 27.9 0.0**
comp=Z,26nm,0.9s,mb4.9
LPL La Plagne 53.86 305 *eP* **P 19 53 27.9 0.0**
LPL pmax pmax
comp=Z,13nm,0.9s,mb4.9
MBDF Montbardon 54.00 304 *eP* **P 19 53 28.1 -0.8**
comp=Z,22nm,0.9s,mb4.8
MBDF Montbardon 54.00 304 *eP* **P 19 53 28.1 -0.8**
MBDF pmax pmax
comp=Z,11nm,0.9s,mb4.8
CABF La Chapelle 54.07 307 *eP* **P 19 53 29.2 -0.2**
GIVF Givet 54.24 311 *eP* **P 19 53 30.4 -0.2**
FRF La Foret Royal 54.36 303 *eP* **P 19 53 30.5 -1.1**
comp=Z,17nm,1.0s,mb4.7
FRF La Foret Royal 54.36 303 *eP* **P 19 53 30.5 -1.1**
FRF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ORIF Oris-en-Rattie 54.58 305 *eP* **P 19 53 32.1 -1.1**
comp=Z,25nm,1.3s,mb4.8
ORIF Oris-en-Rattie 54.58 305 *eP* **P 19 53 32.1 -1.1**
ORIF pmax pmax
comp=Z,13nm,1.3s,mb4.8
BAIF Baives 54.64 311 *eP* **P 19 53 33.3 -0.2**
SEY Seymchan 55.11 33 *eP* **P 19 53 37.9 +1.1**
SEY *e* 19 55 40.8
SEY *e* 20 01 12.6
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LOR Lormes 55.43 308 *eP* **P 19 53 38.2 -1.2**
VIVF Saint-Julien-l 55.43 305 *eP* **P 19 53 38.8 -0.6**
SMF Signal de Mont 55.58 307 *eP* **P 19 53 39.5 -1.0**
comp=Z,15nm,0.8s,mb4.8
SMF Signal de Mont 55.58 307 *eP* **P 19 53 39.5 -1.0**
SMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
SMF Signal de Mont 55.58 307 *eP* **P 19 53 39.5 -1.0**
SMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
SSF Saint Saulge 55.71 308 *eP* **P 19 53 40.4 -1.0**
SSF pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
SSF Saint Saulge 55.71 308 *eP* **P 19 53 40.4 -1.0**
comp=Z,10nm,1.1s,mb4.8
LASF Ste Croix 56.19 304 *eP* **P 19 53 44.5 -0.4**
comp=Z,9.7nm,0.8s,mb4.6
BGF Bois d'Agland 56.27 307 *eP* **P 19 53 43.2 -2.2**
TCF Toulx Ste Croi 56.76 307 *eP* **P 19 53 48.2 -0.7**
comp=Z,12nm,0.9s,mb4.7
TCF Toulx Ste Croi 56.76 307 *eP* **P 19 53 48.2 -0.7**
TCF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
CAF Calviac 57.20 306 *eP* **P 19 53 51.6 -0.6**
MTLF Montolieu 57.53 304 *eP* **P 19 53 53.2 -1.3**
FLN La Foliniere 57.91 310 *eP* **P 19 53 55.7 -1.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRR	**Gorron**	**58.24**	**310**	*e*P	**P**	**19 53 58.1**	**-1.3**
	comp=Z,37nm,1.2s,mb5.0						
GRR	**Gorron**	**58.24**	**310**	*e*P	**P**	**19 53 58.1**	**-1.3**
GRR				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
BILL	**Bilibino**	**60.03**	**26***c*	*i*P	**P**	**19 54 12.5**	**+1.0**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
BILL				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.1						
BILL	**Bilibino**	**60.03**	**26**	*e*P	**P**	**19 54 11.7**	**+0.3**
	comp=Z,4.6nm,0.5s,mb4.8						
PET	**Petropavlovsk**	**60.17**	**44**	*e*P	**P**	**19 54 16.0**	**+3.3**
PET				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.0						
SUMG	**Summit**	**65.95**	**343**	*e*P	**P**	**19 54 51.7**	**+1.2**
	comp=Z,20nm,0.9s,mb5.2						
EVO	**Evora**	**66.45**	**302**	*e*P	**P**	**19 54 52.1**	**-2.2**
	comp=Z,66nm,1.6s,mb5.1						
FX1	**Attu Island--F**	**68.42**	**40**	*e*P	**P**	**19 55 06.6**	**+0.2**
IMA	**Indian Mountai**	**74.27**	**19**	*e*P	**P**	**19 55 42.0**	**+0.9**
IMA				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.4						
IMA	**Indian Mountai**	**74.27**	**19**	*e*P	**P**	**19 55 42.0**	**+0.9**
	comp=Z,39nm,0.8s,mb5.4						
WRA	**Warramunga Arr**	**76.29**	**125**	P	**P**	**19 55 52.6**	**-1.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA	**Warramunga Arr**	**76.29**	**125**	P	**P**	**19 55 52.6**	**-1.0**
	comp=Z,2.0nm,0.5s,mb4.3,baz=324,slow=5.9,SNR=15						
INK	**Inuvik**	**76.78**	**11**	⇑*i*P	**P**	**19 55 56.4**	**+1.0**
INK				pmax	pmax		
	comp=Z,12nm,0.9s						
INK	**Inuvik**	**76.78**	**11**	P	**P**	**19 55 56.6**	**+1.2**
	comp=Z,7.5nm,0.5s,mb4.9,baz=357,slow=6.9,SNR=28						
INK	**Inuvik**	**76.78**	**11**	⇑*i*P	**P**	**19 55 56.4**	**+0.9**
	comp=Z,12nm,0.9s,mb4.8						
ILAR	**Eielson Array**	**77.07**	**18**	P	**P**	**19 55 57.3**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ILAR	**Eielson Array**	**77.07**	**18**	P	**P**	**19 55 57.2**	**+0.2**
	comp=Z,6.0nm,0.8s,mb4.6,baz=317,slow=5.8,SNR=59						
BOSA	**Boshof**	**77.95**	**224**	P	**P**	**19 56 04.4**	**+1.7**
BOSA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BOSA	**Boshof**	**77.95**	**224**	P	**P**	**19 56 04.4**	**+1.7**
	comp=Z,5.6nm,0.9s,mb4.5,baz=52,slow=6.6,SNR=7.0						
THY	**Trims Highway**	**78.47**	**18**	*e*P	**P**	**19 56 05.0**	**+0.2**
DBIC	**Dimbokro**	**79.02**	**271**	P	**P**	**19 56 10.9**	**+2.1**
DBIC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
DBIC	**Dimbokro**	**79.02**	**271**	P	**P**	**19 56 10.9**	**+2.1**
	comp=Z,4.9nm,1.0s,mb4.4,baz=14,slow=4.2,SNR=3.7						
SML	**Sawmill**	**79.07**	**20**	⇑*i*P	**P**	**19 56 08.9**	**+0.8**
EYAK	**Cordova Ski Ar**	**80.82**	**20**	⇑*i*P	**P**	**19 56 19.0**	**+1.5**
YKA	**Yellowknife Ar**	**84.65**	**5**	P	**P**	**19 56 38.2**	**+1.1**
YKA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
YKA	**Yellowknife Ar**	**84.65**	**5**	P	**P**	**19 56 38.2**	**+1.1**
	comp=Z,6.8nm,0.7s,mb4.9,baz=342,slow=5.0,SNR=12						
YKA	**Yellowknife Ar**	**84.65**	**5**	P	**P**	**19 56 38.2**	**+1.1**
DLBC	**Dease Lake**	**86.49**	**14**	P	**P**	**19 56 47.8**	**+1.4**
	comp=Z,2.0nm,0.6s,mb4.5,baz=302,slow=6.2,SNR=5.7						
TXAR	**Lajitas Array**	**118.22**	**360**	PKP	PKPdf	20 02 51.4	-2.0
	comp=Z,0.1nm,0.7s,baz=124,slow=3.3,SNR=2.4						
ARE	**Arequipa**	**146.70**	**291**	*e*PKP2	PKPab	20 03 48.0	-0.5

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*NEIC **04** 19:54:10.2, 32.73S×68.83W, h155km, MD3.6(GUC), After GUC.*

GUC 04 19:54:10.2±0.7**, 32.73S×68.83W, h155**km±9km**, MD3.6, ML4.1, 5C-4D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZON	**Zonda**	**1.19**	**6**	⇑*i*P	P	19 54 37.5	+0.1
ZON				*e*S	S	19 54 57.5	-0.8
FCH	**Farellones**	**1.36**	**244**	⇑*i*P	P	19 54 39.7	+0.7
FCH				*i* S	S	19 55 02.5	+1.2
JACH	**Jahuel**	**1.49**	**272**	⇓*i*P	P	19 54 40.7	+0.4
JACH				*i* S	S	19 55 03.6	-0.1
PEL	**Peldehue**	**1.62**	**255**	*i* P	P	19 54 41.9	+0.2
PCH	**Pirque**	**1.67**	**238**	⇓*i*P	P	19 54 42.5	+0.3
PCH				*i* S	S	19 55 06.8	-0.2
RCDM	**Rinconada Maip**	**1.82**	**245**	⇓*i*P	P	19 54 44.0	+0.1
RCDM				AMP		19 55 09.3	
	comp=N,598nm,0.5s						
RCDM				*i* S	S	19 55 10.5	+0.5
RCDM	**Rinconada Maip**	**1.82**	**245**	⇓*i*P	P	19 54 44.0	+0.1
RCDM				*i* S	S	19 55 10.5	+0.5
ROCH	**El Roble**	**1.85**	**262**	*i* S	S	19 55 10.7	+0.2
CHCH	**Chadas Angostu**	**1.94**	**231**	⇑*i*P	P	19 54 45.7	+0.5
CHCH				*i* S	S	19 55 12.3	0.0
TACH	**Talagante**	**1.99**	**242**	⇑*i*P	P	19 54 45.9	+0.1
TACH				*i* S	S	19 55 13.1	-0.2
PACH	**Papudo**	**2.21**	**274**	⇑*i*P	P	19 54 47.8	-0.7
PACH				*i* S	S	19 55 16.9	-1.1
CMCH	**Combarbala**	**2.42**	**309**	AMP		19 55 23.6	
	comp=E,2µm,0.8s						
LCCH	**Las Cruces**	**2.42**	**251**	*i* P	P	19 54 51.1	0.0
LCCH				*i* S	S	19 55 22.3	-0.1
SFDO	**San Fernando**	**2.62**	**224**	*i* P	P	19 54 53.5	-0.1
SFDO				*i* S	S	19 55 26.4	-0.4
TLL	**Tololo Astrono**	**3.07**	**326**	AMP		19 55 41.0	
	comp=N,353nm,0.5s						

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*NNC **04** 20:08:21.9±5.5, 38.69N×74.93E, mpv3.4, Error ellipse: s-maj=56.3km s-min=53.6km az=58.0*

ISC 04 20:08:18.1±2.6**, 38.5N**±0.2×**75.0E**±0.2**, h10**km**, n12, σ0^{s}83**/14**, 3C-1D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZA	**Kyzart**	**3.56**	**3**	P	**Pn**	**20 09 14.0**	**-0.6**
	SNR=12						
UCH	**Uchtor**	**3.72**	**355**	P	**Pn**	**20 09 16.8**	**-0.1**
	SNR=44						
AML	**Almayashu**	**3.74**	**345**	P	**Pn**	**20 09 17.3**	**+0.1**
	SNR=9.5						
ULHL	**Ulahol**	**3.84**	**14**	P	**Pn**	**20 09 20.7**	**+2.0**
	SNR=19						
AAK	**Ala-Archa**	**4.13**	**355**	P	**Pn**	**20 09 22.6**	**0.0**
	SNR=8.5						
AAK	**Ala-Archa**	**4.13**	**355**	⇓P	**Pn**	**20 09 22.5**	**-0.1**
	15nm,0.7s						
AAK				⇑S	**Sn**	**20 10 11.9**	**+0.3**
	28nm,0.9s						
KBK	**Karagaybulak**	**4.13**	**360**	P	**Pn**	**20 09 22.8**	**0.0**
	SNR=18						
TKM2	**Tokmak 2**	**4.42**	**6**	P	**Pn**	**20 09 25.7**	**-1.2**
	SNR=11						
CHMS	**Chumysh**	**4.48**	**358**	P	**Pn**	**20 09 26.9**	**-0.8**
	SNR=14						
USP	**Ospenovka**	**4.76**	**356**	P	**Pn**	**20 09 31.2**	**-0.4**
	SNR=11						
KK31	**Karatay Array**	**5.70**	**325**	⇑P	**Pn**	**20 09 45.4**	**+0.5**
	0.6nm,0.3s,baz=127,slow=13,SNR=37						
KK31				⇑S	**Sn**	**20 10 51.1**	**-0.1**
	3.3nm,0.5s,baz=128,slow=22,SNR=5.3						
BVA0	**Borovoye Array**	**14.85**	**349**	P	**P**	**20 11 53.4**	**+3.6**
	0.4nm,0.8s,baz=159,slow=11,SNR=19						

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*NIED **04** 20:10:00, 33.70N×130.10E, h17km, Mw3.9 Best double couple: M₀9.33×10¹⁴ NP1:φs296°, δ88°, λ-2°. NP2:φs26°, δ88°, λ-178°.*

*IDC **04** 20:10:00.5±2.0, 32.59N×130.16E, h71km±18km, mb3.1/4, mb1 3.3/5, mb1mx3.1/22, mbtmp3.4/5, Error ellipse: s-maj=37.2km s-min=25.7km az=78.0*

*NEIC **04** 20:10:02.0, 33.74N×130.12E, h14km, MW3.9(NIED), After JMA.*

NEIC Felt at Fukuoka. Recorded [3 JMA] in Fukuoka and Saga; [2 JMA] in Nagasaki Prefectures. Recorded [1 JMA] in the Tsushima Islands and on Uku-jima.

*JMA **04** 20:10:02.0, 33.74N×130.12E, h15km, M4.2 Broadband fault plane solution: P waves. NP1:φs38°, δ67°, λ-169°. NP2:φs304°, δ80°, λ-24°. Principal axes: T Plg9°, Azm353°; N Plg64°, Azm102°; P Plg24°, Azm259°;*

JMA Felt III J1.

ISC 04 20:10:01.4±0.5**, 33.73N**±0.06×**130.10E**±0.06**, h27**km±6km**, n12, σ0^{s}79**/18**, mb3.4**/3**, 3C-2D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JII	**Iki**	**0.32**	**282**	⇓P	**Pb**	**20 10 08.9**	**0.0**
JII				S	**Sb**	**20 10 13.5**	**-0.4**
JFI	**Itaya**	**0.39**	**142**	⇑P	**Pb**	**20 10 09.7**	**-0.2**
JFI				S	**Sb**	**20 10 15.3**	**-0.4**
JFA	**Akaike**	**0.58**	**92**	⇓P	**Pb**	**20 10 12.6**	**-0.4**
JFA				S	**Sb**	**20 10 20.5**	**-0.3**
JTA	**Tamana**	**0.85**	**155**	⇑P	**Pb**	**20 10 17.8**	**+0.4**
JTA				S	**Sb**	**20 10 29.1**	**+0.7**
JNU	**Nakatsue**	**0.89**	**133**	P	**Pb**	**20 10 18.1**	**-0.1**
	794nm,0.3s,baz=254,slow=6.7,SNR=938						
JNU				S	**Sb**	**20 10 29.8**	**+0.1**
	2µm,0.3s,baz=234,slow=18,SNR=43						
JTU	**Tsushima**	**0.98**	**324**	⇑P	**Pn**	**20 10 20.0**	**+0.4**
JTU				*i* S	**Sb**	**20 10 33.2**	**+0.8**
KS15	**Wonju Array Si**	**4.12**	**335**	*e*P	**Pn**	**20 11 04.0**	**-0.3**
INCN	**Inchon**	**4.69**	**324**	*e*P	**Pn**	**20 11 11.5**	**-0.9**
MJAR	**Matsushiro Arr**	**7.21**	**65**	P	**Pn**	**20 11 49.7**	**+1.8**
	0.3nm,0.3s,baz=246,slow=13,SNR=5.8						
SONM	**Songino Array**	**22.70**	**315**	P	**P**	**20 15 03.5**	**+1.5**
	0.6nm,0.8s,mb3.1,baz=124,slow=8.9,SNR=5.1						
ILAR	**Eielson Array**	**57.12**	**30**	P	**P**	**20 19 46.2**	**-1.4**
	0.3nm,0.6s,mb3.5,baz=284,slow=8.7,SNR=4.7						
FINES	**FINESS Array B**	**67.19**	**330**	P	**P**	**20 20 53.8**	**-1.1**
	0.6nm,0.9s,mb3.6,baz=90,slow=6.9,SNR=4.3						

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*IDC **04** 20:29:37.8±0.8, 10.24N×93.47E, mb3.9/13, mb1 4.0/14, mb1mx3.9/21, mbtmp3.9/14, ML3.3/1, Error ellipse: s-maj=25.6km s-min=17.8km az=59.0*

*NEIC **04** 20:29:42.4±0.4, 10.26N×93.48E, h30km, mb4.4/2, Error ellipse: s-maj=13.1km s-min=9.7km az=61.0*

ISC 04 20:29:40.9±0.6**, 10.3N**±0.1×**93.5E**±0.1**, h33**km**, n19, σ0^{s}77**/18**, mb4.0**/15**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.68**	**32**	Pn	**P**	**20 32 00.6**	**-0.4**
	0.1nm,0.3s,baz=225,slow=13,SNR=3.8						
MKAR	**Makanchi Array**	**37.63**	**347**	P	**P**	**20 36 54.1**	**-0.3**
	1.5nm,0.8s,mb3.8,baz=164,slow=8.8,SNR=9.3						
SONM	**Songino Array**	**38.98**	**14**	P	**P**	**20 37 05.9**	**+0.3**
	0.7nm,0.6s,mb3.5,baz=196,slow=7.9,SNR=8.2						
SONM				PcP	PcP	20 39 16.8	+0.5
	0.1nm,0.3s,baz=204,slow=3.7,SNR=4.2						
ZAL	**Zalesovo**	**44.10**	**353**	P	**P**	**20 37 48.7**	**+1.0**
	2.3nm,0.5s,mb4.2,baz=334,slow=5.2,SNR=11						
ZAL	**Zalesovo**	**44.10**	**353**	P	**P**	**20 37 48.7**	**+1.0**
BVAR	**Borovoye Array**	**46.54**	**341**	P	**P**	**20 38 07.0**	**0.0**
	0.5nm,0.3s,mb3.9,baz=146,slow=5.3,SNR=8.1						
ZRNK	**Zerenda**	**46.93**	**340**	*e*P	**P**	**20 38 09.3**	**-0.8**
	1.2nm,0.6s,mb4.0						
MJAR	**Matsushiro Arr**	**48.04**	**50**	P	**P**	**20 38 20.3**	**+1.2**
	0.7nm,0.5s,mb4.0,baz=275,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**50.15**	**127**	P	**P**	**20 38 35.5**	**-0.1**
	1.5nm,0.5s,mb4.3,baz=306,slow=8.5,SNR=39						
WRAB	**Tennant Creek**	**50.16**	**127**	*e*P	**P**	**20 38 35.6**	**0.0**
	3.7nm,0.5s,mb4.7						
BRTR	**Keskin Array B**	**60.43**	**310**	P	**P**	**20 39 48.9**	**-0.8**
	1.2nm,0.9s,mb3.9,baz=121,slow=7.2,SNR=4.5						
STKA	**Stephens Creek**	**62.19**	**134**	P	**P**	**20 40 00.5**	**-1.2**
	2.4nm,0.9s,mb4.3,baz=348,slow=14,SNR=4.7						
AKASG	**Malin Array Be**	**65.92**	**321**	P	**P**	**20 40 24.4**	**-1.2**
	0.2nm,0.4s,mb3.5,baz=88,slow=5.1,SNR=4.9						
FINES	**FINESS Array B**	**70.32**	**332**	P	**P**	**20 40 53.0**	**+0.1**
	0.3nm,0.4s,mb3.6,baz=193,slow=33,SNR=4.3						
ARCES	**ARCESS Array B**	**72.82**	**340**	P	**P**	**20 41 08.0**	**+0.4**
	1.6nm,0.7s,mb4.1,baz=90,slow=6.2,SNR=13						
ARCES	**ARCESS Array B**	**72.82**	**340**	P	**P**	**20 41 08.0**	**+0.4**
GERES	**GERESS Array B**	**75.65**	**318**	P	**P**	**20 41 25.0**	**+0.5**
	0.6nm,0.6s,mb3.7,baz=90,slow=2.7,SNR=5.9						
BOSA	**Boshof**	**76.36**	**237**	P	**P**	**20 41 30.4**	**+1.5**
	1.3nm,0.5s,mb4.1,baz=70,slow=2.9,SNR=5.5						
TXAR	**Lajitas Array**	**137.27**	**22**	PKP	PKPdf	20 49 04.3	+2.6
	0.2nm,0.4s,baz=224,slow=2.1,SNR=9.0						

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*NEIC **04** 20:32:09.9±0.5, 28.28S×67.45W, h113km±5km, mb4.7/4, Error ellipse: s-maj=8.5km s-min=5.6km az=104.0*

*IDC **04** 20:32:09.4±1.1, 28.31S×67.42W, h107km±11km, mb3.9/7, mb1 3.9/11, mb1mx3.8/18, mbtmp4.2/11, MS2.9/1, Ms1 2.9/1, ms1mx2.4/21, Error ellipse: s-maj=19.1km s-min=9.0km az=94.0*

*GUC **04** 20:32:10.4±0.9, 28.30S×67.66W, h135km±99km, ML5.0*

ISC 04 20:32:09.1±0.6**, 28.29S**±0.03×**67.53W**±0.06**, h122**km±7km**, n56, σ0^{s}94**/66**, mb4.2**/9**, 20C-4D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**2.67**	**290**	*i* P	**P**	**20 32 52.7**	**+0.7**
CPCH				*i* S	**S**	**20 33 23.6**	**-0.8**
CPCH				AMP		20 33 26.7	
	comp=N,10µm,0.1s						
CPCH	**Copiapo**	**2.67**	**290**	⇓*i*P	**P**	**20 32 52.9**	**+0.9**
CPCH				*i* S	**S**	**20 33 23.9**	**-0.5**
VACH	**Vallenar**	**2.86**	**264**	*i* P	**P**	**20 32 54.8**	**+0.3**
VACH				*i* S	**S**	**20 33 27.5**	**-1.4**
VACH	**Vallenar**	**2.86**	**264**	⇑*i*P	**P**	**20 32 55.0**	**+0.5**
VACH				*i* S	**S**	**20 33 27.9**	**-0.9**
LCO	**Las Campanas**	**2.88**	**255**	⇑*i*P	**P**	**20 32 55.6**	**+0.8**
LCO				*i* S	**S**	**20 33 29.1**	**-0.2**
LCO				AMP		20 33 31.8	
	comp=E,3µm,0.3s						
LCO	**Las Campanas**	**2.88**	**255**	*i* P	**P**	**20 32 55.6**	**+0.8**
LCO				*i* S	**S**	**20 33 29.2**	**-0.1**
CFAA	**Coronel Fontan**	**3.36**	**190**	P	**P**	**20 33 01.8**	**+0.6**
	comp=E,2.1nm,0.3s,baz=2.7,slow=11,SNR=272						
CFAA				S	**S**	**20 33 39.4**	**-1.4**
	comp=E,22nm,0.3s,baz=142,slow=19,SNR=61						
CFAA	**Coronel Fontan**	**3.36**	**190**	P	**P**	**20 33 01.8**	**+0.6**
CFAA				S	**S**	**20 33 39.4**	**-1.4**
ZON	**Zonda**	**3.39**	**197**	⇑*i*P	**P**	**20 33 02.0**	**+0.4**
ZON				*e*S	**S**	**20 33 43.0**	**+1.4**
TLL	**Tololo Astrono**	**3.42**	**236**	⇑*i*P	**P**	**20 33 02.4**	**+0.4**
TLL				*i* S	**S**	**20 33 42.4**	**+0.2**
TLL				AMP		20 33 45.8	
	comp=E,1µm,0.9s						
TLL	**Tololo Astrono**	**3.42**	**236**	⇑*i*P	**P**	**20 33 02.4**	**+0.5**
TLL				*i* S	**S**	**20 33 42.9**	**+0.6**
CMCH	**Combarbala**	**4.17**	**226**	⇓*i*P	**P**	**20 33 10.6**	**-1.5**
CMCH				*i* S	**S**	**20 33 57.7**	**-2.5**
CMCH	**Combarbala**	**4.17**	**226**	⇓*i*P	**P**	**20 33 10.7**	**-1.4**
CMCH				*i* S	**S**	**20 33 57.9**	**-2.3**
CPN1	**Cerro Paranal**	**4.47**	**324**	⇑*i*P	**P**	**20 33 17.1**	**+1.0**
CPN1				*i* S	**S**	**20 34 07.9**	**+0.4**
JACH	**Jahuel**	**5.11**	**210**	*e*P	**P**	**20 33 24.8**	**+0.1**
JACH				*i* S	**S**	**20 34 22.4**	**-0.7**
FCH	**Farellones**	**5.55**	**205**	*e*P	**P**	**20 33 31.6**	**+1.0**
LVC	**Limon Verde**	**5.79**	**347**	P	**P**	**20 33 35.5**	**+1.6**
	comp=E,8.5nm,0.3s,baz=191,slow=12,SNR=83						
LVC				S	**S**	**20 34 38.6**	**-1.0**
	comp=E,16nm,0.3s,baz=34,slow=23,SNR=9.8						
LVC	**Limon Verde**	**5.79**	**347**	P	**P**	**20 33 35.5**	**+1.6**
LVC				*i* Pn	**P**	**20 33 35.6**	**+1.7**
LVC				S	**S**	**20 34 38.6**	**-1.0**
PCH	**Pirque**	**5.90**	**205**	*e*P	**P**	**20 33 35.8**	**+0.5**
CPUP	**Villa Florida**	**9.28**	**80**	P	**P**	**20 34 19.8**	**-1.1**
	comp=E,0.4nm,0.3s,baz=277,slow=15,SNR=8.1						
CPUP				LR	LR	20 38 32.0	
	comp=E,70nm,20.6s,baz=194,slow=42						
CPUP	**Villa Florida**	**9.28**	**80**	*e*Pn	**P**	**20 34 19.5**	**-1.5**
	comp=E,9.8nm,0.7s						
CPUP				P		20 34 19.8	
LPAZ	**La Paz**	**11.96**	**357**	P	**P**	**20 34 58.0**	**+1.4**
	comp=E,0.3nm,0.3s,baz=165,slow=16,SNR=8.2						
LPAZ	**La Paz**	**11.96**	**357**	*e*Pn	**P**	**20 34 57.5**	**+0.9**
LPAZ				P		20 34 58.0	
SIV	**San Ignacio**	**13.62**	**27**	P	**P**	**20 35 17.4**	**-0.8**
	baz=202,slow=12						
SAML	**Samuel**	**19.67**	**13**	⇑*e*P	**P**	**20 36 31.0**	**+0.2**
	comp=E,26nm,0.6s						
BDFB	**Brasilia**	**22.00**	**59**	P	**P**	**20 36 53.2**	**-1.0**
	comp=E,6.1nm,0.4s,mb4.2,baz=241,slow=8.5,SNR=11						
SDV	**Santo Domingo**	**37.08**	**355**	*e*P	**P**	**20 39 08.0**	**-1.3**
	comp=E,4.3nm,0.5s,mb4.6						
VNA3	**Neumayer Olymp**	**53.28**	**160**		**P**	**20 41 20.1**	**+3.1**
VNA3	**Neumayer Olymp**	**53.28**	**160**		**P**	**20 41 24.4**	**+7.4**
VNA3	**Neumayer Olymp**	**53.28**	**160**		**P**	**20 41 30.7**	**+14**
VNA3	**Neumayer Olymp**	**53.28**	**160**		Px	20 41 38.4	
VNA3	**Neumayer Olymp**	**53.28**	**160**		pP	20 41 45.5	-0.5
VNA3	**Neumayer Olymp**	**53.28**	**160**	⇑*i*P	**P**	**20 41 18.0**	**+1.0**
VNA3				P		20 41 20.1	
VNA3				P		20 41 24.4	
VNA3				P		20 41 30.7	
VNA3				P		20 41 38.4	
VNA2	**Neumayer--Watz**	**53.87**	**159**		**P**	**20 41 23.6**	**+2.3**
VNA2	**Neumayer--Watz**	**53.87**	**159**		**P**	**20 41 27.4**	**+6.1**
VNA2	**Neumayer--Watz**	**53.87**	**159**		**P**	**20 41 35.1**	**+14**
VNA2	**Neumayer--Watz**	**53.87**	**159**		Px	20 41 42.8	
VNA2	**Neumayer--Watz**	**53.87**	**159**	⇑*i*P	**P**	**20 41 22.4**	**+1.1**
VNA2				P		20 41 23.6	
VNA2				P		20 41 27.4	
VNA2				P		20 41 35.1	
VNA2				P		20 41 42.8	
SNAA	**Sanae**	**55.49**	**160**	⇑	**P**	**20 41 33.5**	**+0.4**
SNAA	**Sanae**	**55.49**	**160**	⇑	**P**	**20 41 39.5**	**+6.4**
SNAA	**Sanae**	**55.49**	**160**	⇑	**P**	**20 41 44.6**	**+11**
SNAA	**Sanae**	**55.49**	**160**	⇑	**P**	**20 41 50.4**	**+17**
SNAA	**Sanae**	**55.49**	**160**	⇑	Px	20 41 55.7	
SNAA	**Sanae**	**55.49**	**160**	⇑P	**P**	**20 41 32.4**	**-0.7**
SNAA				⇑P		20 41 33.5	
SNAA				⇑P		20 41 39.5	
SNAA				⇑P		20 41 44.6	
SNAA				⇑P		20 41 50.4	
SNAA				⇑P		20 41 55.7	
QSPA	**South Pole Qui**	**61.93**	**180**	⇓*i*P	**P**	**20 42 17.6**	**0.0**
	comp=E,8.5nm,0.6s,mb5.0						
SWET	**Sewanee**	**65.51**	**343**	*e*P	**P**	**20 42 40.4**	**-1.2**
TXAR	**Lajitas Array**	**66.92**	**326**	P	**P**	**20 42 50.6**	**0.0**
	comp=E,0.4nm,0.6s,mb3.4,baz=142,slow=8.9,SNR=6.1						
DBIC	**Dimbokro**	**69.65**	**70**	P	**P**	**20 43 07.0**	**-0.6**
	comp=E,4.7nm,0.4s,mb4.7,baz=219,slow=8.6,SNR=17						
VNDA	**Vanda**	**70.41**	**190**	P	**P**	**20 43 11.9**	**+0.7**
	comp=E,1.3nm,0.8s,mb3.8,baz=150,slow=3.7,SNR=9.6						
MAW	**Mawson**	**77.50**	**163**	P	**P**	**20 43 52.5**	**+0.3**
	comp=E,4.6nm,0.9s,mb4.2,baz=212,slow=5.7,SNR=7.9						
BOSA	**Boshof**	**79.22**	**117**	P	**P**	**20 44 02.6**	**+0.3**
	comp=E,2.4nm,0.9s,mb4.0,baz=209,slow=11,SNR=3.8						
PDAR	**Pinedale Array**	**80.60**	**330**	P	**P**	**20 44 10.1**	**+0.6**
	comp=E,0.8nm,0.5s,mb3.8,baz=129,slow=7.8,SNR=10						
WRA	**Warramunga Arr**	**127.60**	**206**	PKP	PKPdf	20 51 01.4	+0.9
	comp=E,1.3nm,0.5s,baz=154,slow=2.0,SNR=42						
ZAL	**Zalesovo**	**147.35**	**31**	PKPbc	PKPdf	20 51 40.8	+5.5
	comp=E,3.3nm,0.4s,baz=165,slow=3.1,SNR=11						
MKAR	**Makanchi Array**	**150.04**	**44**	PKPbc	PKPdf	20 51 47.1	+7.4
	comp=E,2.3nm,0.6s,baz=297,slow=2.7,SNR=17						
SONM	**Songino Array**	**159.92**	**12**	PKPab	PKPab	20 52 35.8	+0.5
	comp=E,0.6nm,0.8s,baz=310,slow=3.3,SNR=4.5						

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*ROM **04** 20:37:40.3±2.4, 43.01N×18.07E, h12km, Md3.2/2, Ml3.1/3, Error ellipse: s-maj=39.8km s-min=7.8km az=122.0*

*CSEM **04** 20:37:47.7±0.1, 42.84N×17.45E, h8km, MD3.2/2, Error ellipse: s-maj=2.3km s-min=1.6km az=179.0*

*NEIC **04** 20:37:48.4, 42.86N×17.47E, h5km, MD2.8(PDG), After PDG.*

*PDG **04** 20:37:48.4±0.2, 42.86N×17.47E, h5km*

ISC 04 20:37:47.4±0.3**, 42.83N**±0.03×**17.39E**±0.02**, h8**km**, n38, σ1^{s}25**/58**, 7C, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STON	**Ston**	**0.23**	**79**	*i* Pg	**Pg**	**20 37 52.1**	**-0.1**
STON				*i* Sg	**Sg**	**20 37 56.3**	**+0.8**
TREB	**Trebinje**	**0.72**	**98**	Sn	**Sn**	**20 38 11.1**	**-3.6**
BRY	**Bratogost**	**0.85**	**85**	*e*Pg	**Pg**	**20 38 02.5**	**-1.9**
BRY				*e*Sg	**Sg**	**20 38 15.7**	**-0.1**
HCY	**Herceg Novi**	**0.90**	**114**	*e*Pg	**Pg**	**20 38 04.2**	**-1.2**
HCY				*e*Sg	**Sg**	**20 38 18.3**	**+0.8**
UPM	**Unac-Piva**	**1.18**	**71**	*e*Pg	**Pg**	**20 38 08.6**	**-2.3**
UPM				*e*Sg	**Sg**	**20 38 27.2**	**+0.6**
NKY	**Niksic**	**1.18**	**90**	⇑*i*Pg	**Pg**	**20 38 09.4**	**-1.6**
NKY				*e*Sg	**Sg**	**20 38 27.5**	**+0.7**
BUM	**Brajici-Budva**	**1.23**	**115**	⇑*i*Pg	**Pg**	**20 38 10.6**	**-1.4**
BUM				*e*Sg	**Sg**	**20 38 29.4**	**+1.0**
TTG	**Podgorica**	**1.44**	**105**	⇑*i*Pg	**Pg**	**20 38 13.9**	**-2.2**
TTG				*e*Sg	**Sg**	**20 38 35.3**	**0.0**
MS1	**Monte Sant'Ang**	**1.55**	**224**	*e*Pn	**Pn**	**20 38 16.0**	**+0.5**
PLE	**Pljevlja**	**1.55**	**70**	*e*Pg	**Pg**	**20 38 16.0**	**-2.4**
PLE				*e*Sg	**Sg**	**20 38 39.3**	**+0.2**
ULC	**Ulcinj**	**1.63**	**121**	*e*Pn	**Pn**	**20 38 16.9**	**+0.4**
ULC				*e*Sn	**Sn**	**20 38 41.9**	**+4.1**
RGNG	**Rignano Grg**	**1.77**	**230**	Pn	**Pn**	**20 38 19.4**	**+0.9**
IVA	**Berane**	**1.85**	**88**	*e*Pn	**Pn**	**20 38 21.5**	**+1.8**
IVA				*e*Sn	**Sn**	**20 38 46.9**	**+3.5**
PVY	**Plav**	**1.92**	**96**	*e*Pn	**Pn**	**20 38 22.1**	**+1.4**
PVY				*e*Sn	**Sn**	**20 38 48.2**	**+3.0**
CDT	**Castel del Mon**	**1.93**	**206**	*e*Pn	**Pn**	**20 38 20.3**	**-0.6**
SG1	**Sgolgore (BA)**	**2.06**	**195**	*e*Pn	**Pn**	**20 38 20.9**	**-1.7**
CIGN	**Sant'Elia a Pi**	**2.19**	**238**	Pn	**Pn**	**20 38 26.2**	**+1.7**
LTRZ	**Laterza**	**2.26**	**191**	Pn	**Pn**	**20 38 23.9**	**-1.7**
DIVS	**Divcibare**	**2.28**	**55**	⇑*i*Pn	**Pn**	**20 38 26.4**	**+0.5**
DIVS				Sn	**Sn**	**20 38 55.3**	**+0.8**
MRLC	**Muro Lucano**	**2.51**	**215**	Pn	**Pn**	**20 38 28.2**	**-0.9**
NVLJ	**Novalja**	**2.52**	**314**	*i* Pn	**Pn**	**20 38 30.1**	**+0.8**
NVLJ				*i* Sn	**Sn**	**20 39 02.0**	**+1.4**
NVLJ	**Novalja**	**2.52**	**314**	*i* Pn	**Pn**	**20 38 30.0**	**+0.7**
NVLJ				*i* Sn	**Sn**	**20 39 01.9**	**+1.4**
CII	**Carovilli**	**2.54**	**245**	Pn	**Pn**	**20 38 31.7**	**+2.1**
	29nm,0.7s						
CSSN	**Cassano Irpino**	**2.64**	**223**	Pn	**Pn**	**20 38 30.4**	**-0.6**
	7.0nm,0.3s						
SGG	**Gregorio Mates**	**2.66**	**238**	Pn	**Pn**	**20 38 32.8**	**+1.5**
VAGA	**Valle Agricola**	**2.74**	**240**	Pn	**Pn**	**20 38 33.2**	**+0.8**
SLCN	**Sala Consilina**	**2.77**	**209**	Pn	**Pn**	**20 38 32.5**	**-0.3**
	10.0nm,0.4s						
VVLD	**Villa Vallelon**	**2.95**	**252**	Pn	**Pn**	**20 38 35.1**	**-0.4**
	38nm,0.7s						
NRCA	**Norcia**	**3.14**	**272**	Pn	**Pn**	**20 38 37.7**	**-0.5**
	3.0nm,0.2s						
LNSS	**Leonessa**	**3.21**	**267**	Pn	**Pn**	**20 38 39.1**	**-0.1**
	14nm,0.5s						
LEGS	**Legarje**	**3.46**	**335**	*i* Pn	**Pn**	**20 38 44.0**	**+1.4**
LEGS				*i* Sn	**Sn**	**20 39 25.8**	**+1.5**
ASS	**Assisi**	**3.49**	**275**	Pn	**Pn**	**20 38 42.7**	**-0.3**
	5.0nm,0.3s						
MURB	**Monte Urbino**	**3.59**	**279**	Pn	**Pn**	**20 38 44.7**	**+0.1**
	30nm,0.3s						
VOY	**Vojsko**	**4.07**	**323**	*e*Pn	**Pn**	**20 38 51.3**	**0.0**
VOY				*e*(Sn)	**Sn**	**20 39 38.4**	**-1.3**
VOY				*e*		20 39 39.8	
VOY	**Vojsko**	**4.07**	**323**	*e*Pn	**Pn**	**20 38 51.3**	**0.0**
VOY				Sn	**Sn**	**20 39 38.4**	**-1.3**
OBKA	**Obir**	**4.20**	**332**	⇑*i*PN	**Pn**	**20 38 54.0**	**+0.8**
OBKA				*i* SN	**Sn**	**20 39 40.9**	**-2.2**
ARSA	**Arzberg**	**4.62**	**344**	⇑*i*PN	**Pn**	**20 38 59.8**	**+0.7**
ARSA				*i* SN	**Sn**	**20 39 51.9**	**-1.7**
MOA	**Molln**	**5.48**	**337**	⇑*i*PN	**Pn**	**20 39 11.2**	**-0.2**
MOA				*i* SN	**Sn**	**20 40 12.1**	**-3.3**

MAN 04 20:47:30.6, 18.04N×119.61E, h12km**, mb4.4, ML3.3, MS3.1, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.11**	**110**	*e*P	Pb	20 47 50.4	-1.0
ABRA				*e*S	Sb	20 48 07.7	+2.1
APYP	**Conner**	**1.56**	**96**	*e*P	Pn	20 47 56.4	-1.9
APYP				*e*S	Sb	20 48 18.6	0.0
BOLP	**Bolinao**	**1.67**	**170**	*e*P	Pn	20 47 57.8	-2.2
CVP	**Callao Caves**	**2.13**	**99**	⇓*i*P	Pn	20 48 06.0	-0.5
CAUP	**Cauayan**	**2.37**	**117**	*e*P	Pn	20 48 11.1	+1.1
BALP	**Baler**	**2.96**	**140**	*e*P	Pn	20 48 18.5	+0.2

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*NEIC **04** 21:07:49.5±1.1, 20.03S×69.06W, h103km±11km, Error ellipse: s-maj=18.1km s-min=12.8km az=74.0*

*IDC **04** 21:07:51.3±1.4, 20.01S×68.94W, h115km±15km, mb3.7/5, mb1 4.0/8, mb1mx3.7/17, mbtmp4.2/8, Error ellipse: s-maj=23.2km s-min=14.4km az=105.0*

ISC 04 21:07:48.2±0.8**, 19.83S**±0.06×**68.98W**±0.10**, h99**km±11km**, n20, σ0^{s}70**/24**, mb3.9**/4**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.77**	**179**	P	**P**	**21 08 32.5**	**+0.6**
	56nm,0.3s,baz=18,slow=13,SNR=300						
LVC				S	**S**	**21 09 04.3**	**-0.2**
	153nm,0.3s,baz=134,slow=22,SNR=22						
LVC	**Limon Verde**	**2.77**	**179**	P	**P**	**21 08 32.5**	**+0.6**
LVC				*e*Pn	**P**	**21 08 32.6**	**+0.7**
LVC				S	**S**	**21 09 04.3**	**-0.2**
LPAZ	**La Paz**	**3.61**	**13**	P	**P**	**21 08 50.0**	**+6.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	4.3nm,0.3s,baz=190,slow=8.0,SNR=222						
LPAZ	La Paz	3.61	13	ePn	P	21 08 49.5	+6.2
LPAZ				P		21 08 50.0	
ARE	Arequipa	4.11	324	eP	P	21 08 50.0	-0.1
ARE				iS	S	21 09 37.2	-0.2
SIV	San Ignacio	8.44	64	P	P	21 09 49.8	+0.5
	baz=262,slow=11						
CFAA	Coronel Fontan	11.75	177	P	P	21 10 28.7	-5.1
	0.1nm,0.3s,slow=10,SNR=7.1						
CFAA				S	S	21 12 29.9	-13
	0.1nm,0.3s,baz=202,slow=1.5,SNR=3.9						
CFAA	Coronel Fontan	11.75	177	P	P	21 10 28.7	-5.1
CFAA				S	S	21 12 29.9	-13
CPUP	Villa Florida	12.52	123	P	P	21 10 43.4	-0.7
	0.9nm,0.3s,baz=314,slow=15,SNR=14						
CPUP	Villa Florida	12.52	123	P	P	21 10 43.4	-0.7
CPUP				ePn	P	21 10 43.5	-0.5
BDFB	Brasilia	20.40	82	P	P	21 12 19.5	+0.1
	3.0nm,0.5s,baz=253,slow=12,SNR=4.4						
TXAR	Lajitas Array	59.23	325	P	P	21 17 40.3	-1.3
	0.2nm,0.6s,mb3.3,baz=145,slow=11,SNR=3.6						
DBIC	Dimbokro	68.33	74	P	P	21 18 40.7	-0.7
	5.7nm,1.1s,mb4.3,baz=226,slow=9.1,SNR=4.5						
DBIC	Dimbokro	68.33	74	P	P	21 18 40.7	-0.7
NVAR	Mina Array Bea	74.14	322	P	P	21 19 16.9	+1.2
	0.6nm,0.7s,mb3.5,baz=151,slow=8.8,SNR=4.1						
YKA	Yellowknife Ar	89.59	341	P	P	21 20 36.2	+0.8
	2.4nm,0.7s,mb4.5,baz=136,slow=4.8,SNR=7.5						
YKA	Yellowknife Ar	89.59	341	P	P	21 20 36.2	+0.7
WRA	Warramunga Arr	134.35	211	PKP	PKPdf	21 26 56.6	+1.1
	0.4nm,0.6s,baz=150,slow=1.8,SNR=9.3						
MKAR	Makanchi Array	144.31	34	PKP	PKPdf	21 27 13.2	+0.7
	0.2nm,0.3s,baz=270,slow=1.4,SNR=5.2						
SONM	Songino Array	151.81	7	PKPbc	PKPdf	21 27 33.7	+9.0
	1.0nm,0.4s,baz=307,slow=1.4,SNR=7.4						

JMA 04 21:17:37.9±0.3, 25.53N×122.34E, h225km, M3.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.23	150	P	P	21 18 11.9	-0.1
IRIF	Iriomote-Funau	1.73	133	P	P	21 18 15.8	-0.4
IRIF				eS	S	21 18 45.3	-0.5
HATJ	Hateruma jima	1.98	137	P	P	21 18 18.5	0.0
HATJ				eS	S	21 18 50.0	+0.2
JKRS	Kuro-shima	1.99	130	P	P	21 18 18.5	0.0
JKRS				S	S	21 18 49.9	0.0
JIJ	Ishigaki jima	2.01	125	P	P	21 18 18.1	-0.6
JIJ				S	S	21 18 49.2	-1.0
JTJ	Tarama	2.32	112	P	P	21 18 22.0	+0.1
JTJ				eS	S	21 18 55.6	-0.3
JOGS	Gusukube	2.88	105	eS	S	21 19 07.1	+0.2

*BJI **04** 21:33:03.4, 39.38N×35.37E, h22km, mB5.2, mb4.6, Ms4.8, Msz4.5*

*NEIC **04** 21:33:05.4, 39.12N×36.04E, h5km, mb4.2/26, ML4.3(ISK), After ISK.*

*ZUR_RM **04** 21:33:05, 39.12N×36.04E, h18km, Mw4.5/19, Moment Tensor Solution. s19 Moment tensor: Scale 10^{15}Nm; M_{rr}-5.23; $M_{\theta\theta}$1.43; $M_{\phi\phi}$3.80; $M_{r\theta}$-1.82; $M_{\theta\phi}$4.25; $M_{\phi r}$0.55; Best double couple: $M_0$6.54×10^{15} NP1:ϕ_s58°,δ52°,λ-61°. NP2:ϕ_s196°,δ46°,λ-122°. Principal axes: T 7.064, Plg3°, Azm128°; N -1.043, Plg23°, Azm219°; P -6.021, Plg67°, Azm30°;*

*ISK **04** 21:33:05.3, 39.13N×36.04E, h2km, ML4.4*

*IDC **04** 21:33:05.1±0.8, 39.05N×36.03E, mb3.9/13, mb1 4.0/17, mb1mx3.9/28, mbtmp3.8/17, ML3.3/4, MS3.3/7, Ms1 3.3/7, ms1mx3.1/35, Error ellipse: s-maj=17.9km s-min=9.4km az=13.0*

*CSEM **04** 21:33:06.4, 39.13N×36.03E, h8km, mb4.5*

*MOS **04** 21:33:08.3±1.4, 39.01N×36.23E, h33km, mb4.3/28, Error ellipse: s-maj=8.2km s-min=5.0km az=129.6*

ISC 04 21:33:06.0±0.7, **39.16N**±0.02×**36.08E**±0.02, **h3**km±5km, **n201**, $\sigma 1^{s}$**20**/216, **mb4.1**/31, **MS3.2**/4, **6C-2D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	Bunyan	0.36	210	iPG	Pg	21 33 11.7	-1.5
YOZ	Yozgat	0.76	309	iPG	Pg	21 33 20.6	-0.5
SVST	Sivas	0.91	48	iP	Pg	21 33 23.8	-0.4
SVST				iS	Sg	21 33 39.2	+2.9
AVNT	Avonos	1.03	249	iP	Pb	21 33 24.1	-1.9
AVNT				iS	Sb	21 33 38.6	-1.0
TOKT	Tokat	1.21	17	iPN	Pn	21 33 29.4	-0.3
TOKT				iSN	Sn	21 33 48.0	+1.2
CDAG	Cicekdag	1.40	290	iP	Pb	21 33 31.2	-1.1
CDAG				iS	Sb	21 33 53.7	+3.2
CORM	Corum	1.51	313	iPN	Pn	21 33 34.3	+0.3
CORM				iSN	Sn	21 33 55.7	+1.3
NIG	Nigde	1.56	228	iPN	Pn	21 33 33.9	-0.8
KAHT	Ahir Dag	1.65	157	iP	Pn	21 33 36.0	0.0
KAHT				iS	Sb	21 33 59.3	+1.5
CTKT	Corum	1.76	326	iP	Pn	21 33 39.6	+2.0
KAMT	Kaman	1.85	277	iPN	Pn	21 33 38.9	+0.1
BSTP	Nigde	1.96	233	iP	Pn	21 33 41.9	+1.5
BSTP				iS	Sn	21 34 11.5	+5.7
BR131	Keskin Array S	1.97	287	eP	Pn	21 33 40.6	0.0
BR131				eS	Sn	21 34 07.7	+1.6
BR131	Keskin Array S	1.97	287	eP	Pn	21 33 40.6	0.0
BR131				eS	Sn	21 34 07.7	+1.6
BRTR	Keskin Array B	1.97	287	P	Pn	21 33 40.5	-0.1
BRTR						21 34 07.9	
BRTR				pmax	pmax		
	comp=Z,170nm,0.3s						
BRTR	Keskin Array B	1.97	287	Pg	Pn	21 33 40.5	-0.1
	comp=Z,170nm,0.3s,baz=119,slow=17,SNR=1023						
BRTR				Lg		21 34 07.8	
	comp=Z,48nm,0.3s,baz=23,slow=30,SNR=4.9						
BRTR	Keskin Array B	1.97	287	Pg	Pn	21 33 40.5	-0.1
BRTR				S	Sn	21 34 07.9	+1.8
MYA	Malataya	2.02	114	iPN	Pn	21 33 42.1	+0.8
MALT	Malatya	2.02	114	iPN	Pn	21 33 41.4	0.0
MALT				iSN	Sn	21 34 08.1	+0.6
MALT	Malatya	2.02	114	eP	Pn	21 33 40.6	-0.8
GZT	Gaziantep	2.15	147	iP	Pn	21 33 42.6	-0.6
GZT				iS	Sn	21 34 13.8	+3.1
CEYT	Ceyhan	2.16	187	PN	Pn	21 33 43.3	-0.1
GAZ	Gaziantep	2.18	155	PN	Pn	21 33 44.0	+0.4
ELZG	Elazig	2.37	105	iP	Pn	21 33 47.0	+0.7
ELZG				iS	Sn	21 34 22.9	+6.8
CANT	Cankiri	2.38	308	PN	Pn	21 33 47.0	+0.6
BOYT	Boyabat	2.43	339	iP	Pn	21 33 51.4	+4.2
BOYT				iS	Sn	21 34 24.8	+7.1
ELDT	Eldivan	2.43	304	iP	Pn	21 33 47.7	+0.5
ELDT				iS	Sn	21 34 19.8	+1.9
TOS	Tosya	2.45	321	PN	Pn	21 33 48.3	+0.9
BYBT	Boyabat	2.51	337	PN	Pn	21 33 49.7	+1.4
PTK	Pertek	2.60	95	PN	Pn	21 33 50.8	+1.2
ANTO	Ankara	2.64	287	PN	Pn	21 33 50.4	+0.3
KELT	Kelkit	2.65	67	iP	Pn	21 33 51.2	+1.0
LOD	Lodumlu	2.66	287	PN	Pn	21 33 51.2	+0.7
URFA	Urfa	2.76	128	PN	Pn	21 33 52.1	+0.2
GUMT	Gumushane	2.92	63	PN	Pn	21 33 55.3	+1.1
MEST	Erdemli	2.99	211	iP	Pn	21 33 55.1	0.0
MEST				iS	Sn	21 34 40.1	+8.1
KONT	Konya--Tatoy	3.16	249	PN	Pn	21 33 57.5	0.0
KDHN	Kadinhani	3.16	260	iP	Pn	21 33 57.9	+0.4
KDHN				iS	x	21 35 20.4	
BZK	Bozkurt	3.21	331	PN	Pn	21 33 59.1	+0.8
KIZT	Kizilcal	3.28	266	PN	Pn	21 33 59.1	-0.2
SAFT	Safranbolu	3.32	310	PN	Pn	21 34 00.2	+0.3
SGKT	Sivrigoynuk	3.40	296	iP	Pn	21 34 02.1	+1.2
IKL	Isikli	3.48	214	PN	Pn	21 34 02.0	-0.1
DIY	Diyarbakir	3.49	110	PN	Pn	21 34 02.0	-0.3
ERMK	Ermenek	3.55	226	iP	Pn	21 34 05.0	+2.0
ERMK				iS	Sn	21 34 51.4	+5.3
HDMB	Hadim	3.58	233	PN	Pn	21 34 03.3	-0.3
ESKT	Eskisehir	4.07	277	PN	Pn	21 34 09.9	-0.6
ESKT	Eskisehir	4.07	277	iP	Pn	21 34 10.5	0.0
MARD	Mardin	4.14	115	iP	Pn	21 34 10.8	-0.6
EZM	Erzurum	4.15	78	PN	Pn	21 34 13.0	+1.3
ERZM	Erzurum	4.16	78	iP	Pn	21 34 21.4	+10
BEST	Besiri	4.27	106	iP	Pn	21 34 14.2	+1.0
HENT	Hendek	4.31	294	iP	Pn	21 34 14.2	+0.3
BTMT	Batman	4.34	101	PN	Pn	21 34 14.1	-0.3
ISP	Isparta	4.56	255	ePN	Pn	21 34 17.4	-0.1
ISP	Isparta	4.56	255	P	Pn	21 34 16.1	-1.4
ALT	Altintas	4.64	271	ePN	Pn	21 34 18.6	0.0
TKTP	Tekketepe	4.65	258	iP	Pn	21 34 19.9	+1.2
BCA	Borcka	4.81	60	ePN	Pn	21 34 22.2	+1.1
ANTB	Antalya	4.84	244	ePN	Pn	21 34 21.1	-0.3
GDZ	Gediz	5.13	271	iP	Pn	21 34 29.8	+4.3
HRT	Hereke	5.19	291	PN	Pn	21 34 25.9	-0.5
YLV	Yalova	5.35	287	ePN	Pn	21 34 28.9	+0.3
ULDT	Uludag	5.45	283	iP	Pn	21 34 29.0	-1.0
VANB	Van	5.73	93	ePN	Pn	21 34 35.0	+0.9
TVAN	Van	5.76	94	iP	Pg	21 34 53.4	-7.6
DST	Dursunbey	5.79	277	ePN	Pn	21 34 34.7	-0.1
SIM	Simferopol’	5.96	346	eP	Pn	21 34 41.4	+4.1
SIM				S	Sn	21 35 46.0	-1.0
SIM				pmax	pmax		
	comp=Z,39nm,1.0s						
CLDR	Caldiran	6.09	88	ePN	Pn	21 34 40.3	+1.2
BALB	Balikesir	6.37	277	ePN	Pn	21 34 43.3	+0.3
AKS	Akhisar	6.44	270	ePN	Pn	21 34 44.2	+0.2
GNI	Garni	6.76	79	ePN	Pn	21 34 49.9	+1.4
GNI	Garni	6.76	79	eP	Pn	21 34 47.2	-1.3
GNI				pmax	pmax		
	comp=Z,31nm,1.2s						
GNI	Garni	6.76	79	Pn	Pn	21 34 49.6	+1.0
	comp=Z,0.2nm,0.3s,baz=240,slow=20,SNR=2.5						
GNI	Garni	6.76	79	eP	Pn	21 34 47.1	-1.4
	comp=Z,31nm,1.2s						
GNI	Garni	6.76	79	eP	Pn	21 34 47.2	-1.3
	comp=Z,31nm,1.2s						
KIV	Kislovodsk	6.89	44	eP	Pn	21 34 43.3	-7.1
KIV				pmax	pmax		
	comp=N,3.0nm,1.0s						
KIV				pmax	pmax		
	comp=E,4.0nm,1.0s						
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ZEI	Tsey	6.93	56	eP	Pn	21 34 48.0	-2.9
ZEI				e		21 36 10.6	
ZEI	Tsey	6.93	56	eS	Sn	21 36 10.6	-0.6
ASF	Jabal al Asfar	7.01	174	Pn	Pn	21 34 53.3	+1.3
	comp=Z,0.2nm,0.3s,baz=320,slow=7.9,SNR=2.7						
ASF				Lg		21 36 50.4	
	comp=Z,0.5nm,0.3s,baz=52,slow=19,SNR=2.6						
ASF				LR	LR	21 37 51.7	
	comp=Z,488nm,19.3s,baz=68,slow=42						
CANB	Canakkale	7.01	280	ePN	Pn	21 34 51.9	-0.2
CFR	Carcaliu	8.42	318	⇓P	P	21 35 08.2	-3.5
KIS	Kishinev	9.46	328	eP	P	21 35 24.0	-2.1
EIL	Elat	9.51	186	LR	LR	21 39 22.3	
	comp=Z,126nm,21.8s,baz=101,slow=40						
VRI	Vrincioaia	9.61	317	⇑P	P	21 35 33.1	+4.9
IDI	Anoyia	9.72	250	Pn	P	21 35 30.7	+1.0
	comp=Z,0.2nm,0.3s,baz=15,slow=16,SNR=2.4						
IDI				LR	LR	21 39 14.2	
	comp=Z,146nm,20.6s,baz=60,slow=38						
MLR	Muntele Rosu	9.81	313	Pn	P	21 35 28.5	-2.4
	comp=Z,0.2nm,0.3s,baz=179,slow=17,SNR=4.5						
MLR	Muntele Rosu	9.81	313	Pn	P	21 35 28.5	-2.4
MLR	Muntele Rosu	9.81	313	⇑P	P	21 35 31.1	+0.2
BURAR	Bucovina Array	11.56	320	⇓P	P	21 35 53.5	-1.3
AKASG	Malin Array Be	12.51	339	P	P	21 36 04.2	-3.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	12.51	339	Pn	P	21 36 04.2	-3.5
	comp=Z,1.0nm,0.3s,baz=156,slow=13,SNR=4.9						
KWP	Kalwaria	14.15	322	P	P	21 36 30.4	+1.1
KWP				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KWP	Kalwaria	14.15	322	P	P	21 36 30.4	+1.1
	comp=Z,6.9nm,0.8s						
KWP	Kalwaria	14.15	322	P	P	21 36 30.4	+1.1
	comp=Z,6.9nm,0.8s						
KECS	Kecovo	14.59	315	ePN	P	21 36 34.3	-0.7
TIP	Timpagrande	14.99	276	eP	P	21 36 40.7	+0.4
TIP	Timpagrande	14.99	276	eP	P	21 36 40.7	+0.3
OBN	Obninsk	15.96	1	eP	P	21 36 52.9	0.0
OBN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
OBN	Obninsk	15.96	1	eP	P	21 36 51.6	-1.3
	comp=Z,7.6nm,0.8s						
OBN	Obninsk	15.96	1	eP	P	21 36 52.9	0.0
	comp=Z,9.0nm,0.7s						
ZST	Bratislava	16.39	310	eP	P	21 37 02.0	+3.5
OKC	Ostrava-Krasne	16.61	316	eP	P	21 37 05.6	+4.3
MOS	Moscow	16.62	3	eP	P	21 37 00.0	-1.3
MOS				pmax	pmax		
	comp=Z,47nm,0.8s						
MOS	Moscow	16.62	3	eP	P	21 37 00.0	-1.3
	comp=Z,47nm,0.8s						
CII	Carovilli	16.77	286	P	P	21 37 00.9	-2.3
	comp=Z,27nm,1.3s						
CII	Carovilli	16.77	286	P	P	21 37 00.9	-2.3
	comp=Z,27nm,1.3s						
MORC	Moravsky Berou	16.91	315	eP	P	21 37 07.6	+2.6
SUW	Suwalki	17.25	334	eP	P	21 37 05.9	-3.4
DPC	Dobruska-Polom	17.88	315	eP	P	21 37 20.2	+3.0
MOA	Molln	18.00	306	⇑iP	P	21 37 22.3	+3.6
	comp=Z,10nm,1.0s						
PRU	Pruhonice	18.71	312	eP	P	21 37 30.0	+2.6
GERES	GERESS Array B	18.72	308	P	P	21 37 27.5	-0.1
	comp=Z,0.1nm,0.3s,baz=117,slow=11,SNR=11						
KHC	Kasperske Hory	18.91	309	eP	P	21 37 32.8	+3.0
KHC				eP		21 37 33.5	
MOTA	Moosalm	19.88	302	⇑iP	P	21 37 40.9	-0.2
	comp=Z,9.0nm,1.1s						
MOTA	Moosalm	19.88	302	⇑iP	P	21 37 40.9	-0.2
MOTA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
NKC	Novy Kostel	20.03	311	eP	P	21 37 42.3	-0.4
CLL	Collm	20.19	315	iP	P	21 37 43.4	-0.9
CLL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CLL	Collm	20.19	315	P	P	21 37 43.4	-0.9
	comp=Z,logA/T=0.8						
CLL	Collm	20.19	315	iP	P	21 37 43.4	-0.9
	comp=Z,7.0nm,1.0s						
GRA1	Grafenberg Arr	20.55	309	eP	P	21 37 48.7	+0.6
	comp=Z,9.0nm,1.4s						
GRF	Grafenberg Arr	20.55	309	eP	P	21 37 48.7	+0.6
GRF				pmax	pmax		
	comp=Z,9.0nm,1.4s						
GRF	Grafenberg Arr	20.55	309	eP	P	21 37 48.7	+0.6
GRF				pmax	pmax		
	comp=Z,9.0nm,1.4s						
GRF	Grafenberg Arr	20.55	309	eP	P	21 37 48.7	+0.6
	comp=Z,9.0nm,1.4s						
DAVOX	Davos	20.56	300	P	P	21 37 46.5	-1.8
	comp=Z,5.5nm,0.9s,baz=125,slow=12,SNR=2.6						
DAVA	Damuels	20.67	302	⇑iP	P	21 37 48.0	-1.4
	comp=Z,27nm,0.9s						
MOX	Moxa	20.68	312	eP	P	21 37 52.0	+2.5
SBF	Sospel	21.90	292	eP	P	21 38 01.7	-0.2
MBDF	Montbardon	22.43	294	eP	P	21 38 07.0	-0.1
	comp=Z,10nm,0.8s,mb4.0						
MBDF	Montbardon	22.43	294	eP	P	21 38 07.0	-0.1
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
FRF	La Foret Royal	22.46	291	eP	P	21 38 07.1	-0.4
	comp=Z,19nm,0.8s,mb4.3						
FRF	La Foret Royal	22.46	291	eP	P	21 38 07.1	-0.4
FRF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
LPG	La Plagne	22.51	296	eP	P	21 38 08.5	+0.6
LPL	La Plagne	22.52	296	eP	P	21 38 08.8	+0.8
	comp=Z,36nm,1.4s,mb4.3						
LPL	La Plagne	22.52	296	eP	P	21 38 08.8	+0.8
LPL				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.3						
LMR	La Mourre	22.56	290	eP	P	21 38 07.4	-1.0
	comp=Z,61nm,1.4s,mb4.5						
LMR	La Mourre	22.56	290	eP	P	21 38 07.4	-1.0
LMR				pmax	pmax		
	comp=Z,30nm,1.4s,mb4.5						
CDF	Champ du Feu	22.64	304	eP	P	21 38 09.9	+0.7
ARU	Arti	22.77	33	eP	P	21 38 06.6	-3.8
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
ARU	Arti	22.77	33	eP	P	21 38 06.6	-3.9
	comp=Z,4.0nm,0.6s,mb4.0						
HINF	Hinteralfeld	22.79	302	eP	P	21 38 10.5	-0.2
	comp=Z,5.1nm,0.7s,mb3.8						
HINF	Hinteralfeld	22.79	302	eP	P	21 38 10.5	-0.2
HINF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
ORIF	Oris-en-Rattie	23.07	294	eP	P	21 38 13.7	+0.2
	comp=Z,36nm,1.0s,mb4.5						
ORIF				eR			
	comp=Z,138nm,19.2s						
CABF	La Chapelle	23.10	299	eP	P	21 38 14.2	+0.5
	comp=Z,11nm,0.8s,mb4.0						
CABF	La Chapelle	23.10	299	eP	P	21 38 14.2	+0.5
CABF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
FINES	FINESS Array B	23.15	348	P	P	21 38 13.5	-0.5
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	FINESS Array B	23.15	348	P	P	21 38 13.5	-0.5
	comp=Z,3.2nm,0.8s,mb3.8,baz=141,slow=12,SNR=9.3						
FINES	FINESS Array B	23.15	348	P	P	21 38 13.5	-0.5
HAU	Haudompre	23.16	302	eP	P	21 38 14.1	-0.2
	comp=Z,14nm,0.8s,mb4.1						
HAU				eR			
	comp=Z,74nm,17.5s						
SMRF	Simiane la Rot	23.25	292	eP	P	21 38 15.0	-0.2
	comp=Z,37nm,1.2s,mb4.4						
KAF	Kangasniemi	23.75	349	ep	P	21 38 22.4	+2.6
SVE	Sverdlovsk	23.92	34	eP	P	21 38 23.7	+2.2
SVE				e		21 38 35.2	
SVE				e		21 39 11.3	
VIVF	Saint-Julien-l	23.93	294	eP	P	21 38 21.9	+0.2
	comp=Z,24nm,1.2s,mb4.2						
VIVF	Saint-Julien-l	23.93	294	eP	P	21 38 21.9	+0.2
VIVF				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.2						
LASF	Ste Croix	24.49	292	eP	P	21 38 27.0	-0.2
SMF	Signal de Mont	24.64	298	eP	P	21 38 28.7	0.0
	comp=Z,10nm,0.8s,mb4.1						
SMF	Signal de Mont	24.64	298	eP	P	21 38 28.7	0.0
SMF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
LOR	Lormes	24.70	300	eP	P	21 38 29.6	+0.3
LOR				eR			
	comp=Z,122nm,20.5s						
SSF	Saint Saulge	24.92	299	eP	P	21 38 31.6	+0.3
SSF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
SSF	Saint Saulge	24.92	299	eP	P	21 38 31.6	+0.3
	comp=Z,4.8nm,0.9s,mb4.0						
HFS	Hagfors	25.27	333	P	P	21 38 32.8	-1.7
	comp=Z,2.4nm,0.9s,mb3.7,baz=153,slow=6.4,SNR=3.5						
HFS				LR	LR	21 48 55.8	
	comp=Z,81nm,18.2s,MS3.3,baz=287,slow=38						
HFS	Hagfors	25.27	333	P	P	21 38 32.9	-1.6
HYF	Humbligny	25.53	299	eP	P	21 38 37.1	0.0
MTLF	Montolieu	25.69	290	eP	P	21 38 38.3	-0.4
	comp=Z,13nm,1.0s,mb4.1						
MTLF	Montolieu	25.69	290	eP	P	21 38 38.3	-0.4
MTLF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
TCF	Toulx Ste Croi	25.73	297	eP	P	21 38 38.9	-0.2
	comp=Z,14nm,1.0s,mb4.1						
TCF	Toulx Ste Croi	25.73	297	eP	P	21 38 38.9	-0.2
TCF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
ZRNK	Zerenda	26.41	48	eP	P	21 38 43.0	-2.3
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.8						
ZRNK	Zerenda	26.41	48	eP	P	21 38 43.0	-2.3
	comp=Z,3.4nm,1.0s,mb3.8						
NB2	NORSAR Subarra	26.78	333	P	P	21 38 51.2	+2.7
	comp=Z,6.4nm,1.1s,mb4.1,baz=135,slow=9.3						
NB2	NORSAR Subarra	26.78	333	P	P	21 38 51.2	+2.7
NB2				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.0						
NOA	NORSAR Array B	26.78	333	P	P	21 38 48.7	+0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,27nm,19.1s						
NOA	NORSAR Array B	26.78	333	P	P	21 38 48.7	+0.2
	comp=Z,0.7nm,0.8s,mb3.2,baz=143,slow=11,SNR=3.6						
NOA				LR	LR	21 50 11.3	
	comp=Z,27nm,19.1s,MS2.8,baz=140,slow=38						
NOA	NORSAR Array B	26.78	333	P	P	21 38 48.7	+0.2
BVAR	Borovoye Array	27.23	48	P	P	21 38 51.3	-1.5
	comp=Z,0.7nm,0.8s,mb3.3,baz=233,slow=7.4,SNR=7.1						
ATD	Arta Tunnel	28.17	166	LR	LR	21 48 49.3	
	comp=Z,55nm,21.2s,MS3.1,baz=5.4,slow=34						
EKA	Eskdalemuir Ar	30.66	315	P	P	21 39 21.2	-2.3
EKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
EKA	Eskdalemuir Ar	30.66	315	P	P	21 39 21.2	-2.3
	comp=Z,1.7nm,1.0s,mb3.8,baz=82,slow=10.0,SNR=2.3						
ESDC	Sonseca Array	30.76	284	P	P	21 39 22.9	-1.7
	comp=Z,0.7nm,0.6s,mb3.7,baz=74,slow=9.6,SNR=3.2						
ARCES	ARCESS Array B	30.96	353	P	P	21 39 25.1	-0.9
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	ARCESS Array B	30.96	353	P	P	21 39 25.1	-1.0
	comp=Z,1.3nm,0.7s,mb3.9,baz=172,slow=8.6,SNR=6.1						
EVO	Evora	34.09	283	eP	P	21 39 52.6	-1.1
	comp=Z,26nm,1.2s,mb4.7						
EVO				eR			
	comp=Z,88nm,21.0s						
MKAR	Makanchi Array	34.25	62	P	P	21 39 52.9	-2.1
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	Makanchi Array	34.25	62	P	P	21 39 52.9	-2.0
	comp=Z,2.2nm,0.8s,mb4.2,baz=270,slow=6.1,SNR=18						
MKAR	Makanchi Array	34.25	62	P	P	21 39 52.9	-2.0
NVS	Novosibirsk	35.03	48	eP	P	21 39 59.4	-2.2
LSA	Lhasa	45.79	84	P	P	21 41 30.4	-0.2
LSA	Lhasa	45.79	84	eP	P	21 41 28.1	-2.5
LSA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
LSA	Lhasa	45.79	84	eP	P	21 41 28.1	-2.6
	comp=Z,4.8nm,0.7s,mb4.5						
DBIC	Dimbokro	49.01	240	P	P	21 41 52.0	-4.0
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DBIC	Dimbokro	49.01	240	P	P	21 41 52.0	-4.1
	comp=Z,3.8nm,0.9s,mb4.4,baz=357,slow=12,SNR=2.8						
SONM	Songino Array	50.12	56	P	P	21 42 02.8	-1.4
	comp=Z,0.4nm,0.7s,mb3.6,baz=281,slow=7.3,SNR=3.0						
ULN	Ulaanbaatar	50.53	56	eP	P	21 42 06.1	-1.2
LSZ	Lusaka	54.65	189	P	P	21 42 35.1	-3.3
CMAR	Chiang Mai Arr	57.69	92	P	P	21 42 56.6	-3.7
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	Chiang Mai Arr	57.69	92	P	P	21 42 56.6	-3.7
	comp=Z,1.7nm,0.9s,mb4.1,baz=296,slow=8.2,SNR=7.3						
ENH	Enshi	59.50	74	P	P	21 43 11.3	-1.5
MATP	Matopo	59.70	188	LR	LR	22 12 53.5	
	comp=Z,66nm,18.5s,MS3.8,baz=20,slow=40						
LBTB	Lobatse	64.59	191	P	P	21 43 44.5	-2.4
LBTB				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
LBTB	Lobatse	64.59	191	P	P	21 43 44.5	-2.4
	comp=Z,3.7nm,0.9s,mb4.4,baz=17,slow=12,SNR=4.7						
MDJ	Mudanjiang	66.03	51	P	P	21 43 52.4	-3.4
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,113nm,3.9s						

*BJI **04** 21:59:09.3, 26.19S×64.14W, h546km, mB5.1*

*MOS **04** 21:59:10.8±1.1, 27.19S×63.36W, h568km, mb5.0/1, Error ellipse: s-maj=28.6km s-min=17.6km az=50.9*

*HRVD **04** 21:59:10.2±0.7, 27.34S×63.24W, h585km±4km, MW5.1/37, Centroid moment Tensor Solution. LP body waves: s37,c52; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.35±.32; $M_{\theta\theta}$-0.60±.51; $M_{\phi\phi}$4.95±.54; $M_{r\theta}$-3.31±.57; $M_{\theta\phi}$1.92±.49; $M_{\phi r}$1.49±.69; Best double couple: $M_0$6.146×10^{16} NP1:ϕ_s45°,δ51°,λ-45°. NP2:ϕ_s168°,δ56°, λ-131°. Principal axes: T 5.573, Plg3°, Azm286°; N 1.145, Plg33°, Azm194°; P -6.718, Plg57°, Azm20°; nsta1 refers to body waves, cutoff=40s.*

*IDC **04** 21:59:10.9±0.5, 27.01S×63.32W, h560km±4km, mb4.3/22, mb1 4.4/27, mb1mx4.4/29, mbtmp5.2/27 Error ellipse: s-maj=9.6km s-min=6.9km az=67.0*

*NEIC **04** 21:59:10.2±0.1, 27.01S×63.27W, mb4.9/105, Error ellipse: s-maj=3.7km s-min=3.3km az=62.0*

*LDG **04** 21:59:10.7±0.4, 26.00S×63.84W, h550km, Mb4.9/28, Error ellipse: s-maj=81.9km s-min=25.8km az=123.0*

ISC 04 21:59:10.5±0.3, **27.04S**±0.03×**63.34W**±0.04, **h567**km±4km, **h555**km±2.5km**:pP-P, n331,** $\sigma 0^{s}$**83**/248, **mb4.8**/117, **11C-19D, Santiago del Estero Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**5.42**	**84**	*e*P	**P**	**22 00 45.7**	**+0.2**
CPUP				pmax	pmax		
	comp=Z,390nm,0.9s						
CPUP	**Villa Florida**	**5.42**	**84**	P	**P**	**22 00 45.7**	**+0.2**
	comp=Z,15nm,0.3s,baz=270,slow=12,SNR=469						
CPUP				S	**S**	**22 02 02.9**	**+1.9**
	comp=Z,1.5nm,0.3s,baz=112,slow=17,SNR=3.0						
CPUP	**Villa Florida**	**5.42**	**84**	*e*P	**P**	**22 00 45.7**	**+0.2**
	comp=Z,390nm,0.9s						
CFAA	**Coronel Fontan**	**6.24**	**222**	P	**P**	**22 00 52.2**	**-0.6**
	comp=Z,16nm,0.3s,baz=45,slow=9.4,SNR=1222						
CFAA				S	**S**	**22 02 13.7**	**-0.3**
	comp=Z,7.0nm,0.3s,baz=175,slow=22,SNR=50						
CFAA	**Coronel Fontan**	**6.24**	**222**	P	**P**	**22 00 52.2**	**-0.6**
CFAA				S	**S**	**22 02 13.7**	**-0.3**
ZON	**Zonda**	**6.47**	**225**	*e*P	**P**	**22 00 54.0**	**-0.9**
ZON				*e*S	**S**	**22 02 14.0**	**-3.8**
LVC	**Limon Verde**	**6.71**	**310**	P	**P**	**22 00 56.6**	**-0.5**
	comp=Z,67nm,0.3s,baz=113,slow=6.1,SNR=52						
LVC				S	**S**	**22 02 20.9**	**-0.9**
	comp=Z,98nm,0.3s,baz=248,slow=17,SNR=19						
LVC	**Limon Verde**	**6.71**	**310**	*e*P	**P**	**22 00 57.4**	**+0.3**
LVC				*e*S	**S**	**22 02 16.0**	**-5.9**
TLL	**Tololo Astrono**	**7.26**	**243**	⇑*i*P	**P**	**22 01 02.0**	**-0.3**
TLL				*i* S	**S**	**22 02 31.7**	**+0.3**
CMCH	**Combarbala**	**7.87**	**237**	⇓*i*P	**P**	**22 01 06.8**	**-1.3**
CMCH				*i* S	**S**	**22 02 41.5**	**-0.4**
JACH	**Jahuel**	**8.44**	**227**	⇓*i*P	**P**	**22 01 13.3**	**-0.4**
JACH				*i* S	**S**	**22 02 52.0**	**-0.1**
FCH	**Farellones**	**8.68**	**222**	⇑*i*P	**P**	**22 01 16.1**	**0.0**
FCH				*i* S	**S**	**22 02 57.1**	**+0.7**
PEL	**Peldehue**	**8.80**	**225**	*i* P	**P**	**22 01 16.3**	**-0.9**
CLCH	**Cerro Calan**	**8.88**	**223**	*i* P	**P**	**22 01 17.2**	**-0.8**
CLCH				*i* S	**S**	**22 03 01.0**	**+1.1**
LMEL	**Las Melosas**	**9.00**	**219**	⇑*i*P	**P**	**22 01 19.2**	**-0.1**
LMEL				*i* S	**S**	**22 03 03.4**	**+1.2**
PCH	**Pirque**	**9.02**	**222**	⇓*i*P	**P**	**22 01 19.0**	**-0.4**
PCH				*i* S	**S**	**22 03 03.1**	**+0.6**
LPA	**La Plata**	**9.11**	**151**	*ce*P	**P**	**22 01 19.0**	**-1.3**
LPA				*e*sP		22 02 54.0	
LPA				*e*S	**S**	**22 03 05.0**	**+0.9**
LPAZ	**La Paz**	**11.59**	**336**	P	**P**	**22 01 46.1**	**+0.9**
	comp=Z,7.3nm,0.3s,baz=144,slow=5.6,SNR=182						
LPAZ				S	**S**	**22 03 50.2**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=232,slow=18,SNR=5.0						
LPAZ				ScP		22 09 25.3	
	comp=Z,0.2nm,0.3s,baz=39,slow=4.1,SNR=3.7						
LPAZ	**La Paz**	**11.59**	**336**	*e*P	**P**	**22 01 45.8**	**+0.6**
	comp=Z,184nm,1.2s						
JATB	**Jatai**	**14.23**	**53**	*c i*P	**P**	**22 02 12.8**	**+1.1**
JATB				*e*		22 02 28.0	
JATB				*e*		22 04 41.8	
SAML	**Samuel**	**18.00**	**0**	*e*P	**P**	**22 02 48.1**	**0.0**
	comp=Z,53nm,0.9s						
BDFB	**Brasilia**	**18.21**	**55**	P	**P**	**22 02 51.1**	**+1.0**
	comp=Z,4.3nm,0.3s,baz=231,slow=8.6,SNR=110						
BDFB				S	**S**	**22 05 47.5**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=224,slow=26,SNR=4.4						
USHA	**Ushuaia**	**28.01**	**186**	P	**P**	**22 04 15.8**	**-2.3**
	comp=Z,7.9nm,0.4s,mb4.7,baz=107,slow=9.9,SNR=12						
USHA				PcP	PcP	22 07 13.6	-0.9
	comp=Z,11nm,0.6s,baz=284,slow=16,SNR=5.1						
OTAV	**Otavalo**	**30.77**	**329**	*e*P	**P**	**22 04 43.3**	**+1.3**
	comp=Z,16nm,0.7s,mb4.7						
ROSC	**El Rosal**	**33.45**	**340**	P	**P**	**22 05 04.8**	**+0.3**
	comp=Z,23nm,0.7s,mb4.8,baz=140,slow=6.2,SNR=18						
ROSC				PcP	PcP	22 07 29.5	-0.1
	comp=Z,9.7nm,0.6s,baz=270,slow=22,SNR=6.2						
ROSC				ScP		22 10 21.0	
	comp=Z,4.7nm,0.3s,baz=104,slow=21,SNR=4.0						
SDV	**Santo Domingo**	**36.41**	**348**	P	**P**	**22 05 27.4**	**-1.6**
	comp=Z,20nm,0.5s,mb4.9,baz=195,slow=6.6,SNR=40						
SDV				PcP	PcP	22 07 37.7	-0.6
	comp=Z,3.0nm,0.5s,baz=28,slow=3.6,SNR=3.1						
SDV				ScP		22 10 31.7	
	comp=Z,3.0nm,0.8s,baz=60,slow=22,SNR=3.8						
SDV	**Santo Domingo**	**36.41**	**348**	*e*P	**P**	**22 05 27.2**	**-1.9**
	comp=Z,36nm,0.8s,mb5.0						
JTS	**JuntasAbangare**	**42.63**	**328**	P	**P**	**22 06 20.4**	**+1.2**
	comp=Z,27nm,0.7s,mb4.9,baz=173,slow=0.7,SNR=20						
JTS	**JuntasAbangare**	**42.63**	**328**	*e*P	**P**	**22 06 20.2**	**+0.9**
	comp=Z,29nm,0.8s,mb4.9						
SJG	**San Juan**	**44.97**	**356**	P	**P**	**22 06 34.8**	**-2.6**
	comp=Z,22nm,0.7s,mb4.8,baz=105,slow=4.1,SNR=7.4						
SJG	**San Juan**	**44.97**	**356**	*e*P	**P**	**22 06 34.8**	**-2.6**
	comp=Z,33nm,1.1s,mb4.8						
VNA3	**Neumayer Olymp**	**53.21**	**161**	⇓*i*P	**P**	**22 07 38.2**	**+0.4**
VNA3	**Neumayer Olymp**	**53.21**	**161**	⇑*i*	PcP	22 08 36.8	+0.4
VNA1	**Neumayer--Stat**	**53.38**	**160**	⇓*i*P	**P**	**22 07 39.6**	**+0.7**
VNA1	**Neumayer--Stat**	**53.38**	**160**	⇑*i*	PcP	22 08 37.4	+0.3
VNA2	**Neumayer--Watz**	**53.75**	**160**	⇓*i*P	**P**	**22 07 42.3**	**+0.7**
VNA2	**Neumayer--Watz**	**53.75**	**160**	⇑*i*	PcP	22 08 38.5	0.0
VNA2	**Neumayer--Watz**	**53.75**	**160**	S	**S**	**22 14 31.8**	**-1.8**
SNAA	**Sanae**	**55.39**	**160**	⇓*i*P	**P**	**22 07 51.8**	**-1.3**
SNAA	**Sanae**	**55.39**	**160**	⇑*i*	PcP	22 08 44.0	-0.9
SNAA	**Sanae**	**55.39**	**160**	P	**P**	**22 07 52.1**	**-0.9**
	comp=Z,7.2nm,0.8s,mb4.0,baz=288,slow=6.6,SNR=48						
SNAA				PcP	PcP	22 08 44.0	-0.9
	comp=Z,4.8nm,0.8s,baz=264,slow=4.0,SNR=7.5						
SNAA				pP	pP	22 09 40.1	-2.2
	comp=Z,20nm,1.1s,baz=302,slow=6.5,SNR=17						
RGRS	**Roger Stewart**	**61.74**	**344**	*e*P	**P**	**22 08 35.8**	**-0.3**
COW	**Cow Castle Cre**	**62.31**	**344**	*e*P	**P**	**22 08 39.2**	**-0.6**
QSPA	**South Pole Qui**	**63.18**	**180**	⇓*i*P	**P**	**22 08 44.9**	**+0.2**
	comp=Z,48nm,0.8s,mb5.0						
JSC	**Jenkinsville**	**63.31**	**343**	*e*P	**P**	**22 08 45.7**	**-0.5**
LRAL	**Lakeview Retre**	**63.84**	**338**	*e*P	**P**	**22 08 48.0**	**-1.6**
	comp=Z,37nm,0.8s,mb4.9						
MYNC	**Murphy**	**64.83**	**341**	*e*P	**P**	**22 08 54.5**	**-1.3**
	comp=Z,46nm,0.8s,mb5.0						
MYNC				*e*PcP	PcP	22 09 22.2	-1.4
SWET	**Sewanee**	**65.50**	**340**	*e*P	**P**	**22 08 58.3**	**-1.7**
NATX	**Nacogdoches**	**65.66**	**331**	*e*P	**P**	**22 09 01.0**	**0.0**
	comp=Z,80nm,0.8s,mb5.3						
DBIC	**Dimbokro**	**65.73**	**68**	P	**P**	**22 09 00.6**	**-1.1**
	comp=Z,25nm,0.6s,mb4.9,baz=214,slow=7.1,SNR=53						
DBIC	**Dimbokro**	**65.73**	**68**	*e*P	**P**	**22 09 00.4**	**-1.4**
	comp=Z,33nm,0.8s,mb4.9						
BLA	**Blacksburg**	**65.90**	**345**	*e*P	**P**	**22 09 01.7**	**-0.7**
	comp=Z,100nm,1.4s,mb5.2						
PLAL	**Pickwick Lake**	**65.98**	**338**	*e*P	**P**	**22 09 01.2**	**-1.8**
	comp=Z,55nm,0.8s,mb5.1						
ELN	**Prospectdale**	**65.99**	**345**	*e*P	**P**	**22 09 02.7**	**-0.2**
OXF	**Oxford**	**66.01**	**337**	*e*P	**P**	**22 09 01.2**	**-2.0**
	comp=Z,58nm,1.1s,mb5.0						
TZTN	**Tazewell**	**66.05**	**342**	*e*P	**P**	**22 09 01.6**	**-1.7**
FWV	**Forest Hill**	**66.34**	**345**	*e*P	**P**	**22 09 04.5**	**-0.6**
WVT	**Waverly**	**66.94**	**339**	*e*P	**P**	**22 09 06.8**	**-2.0**
	comp=Z,58nm,0.8s,mb5.2						
UALR	**University of**	**67.33**	**334**	*e*P	**P**	**22 09 09.6**	**-1.6**
	comp=Z,34nm,0.8s,mb4.9						
GNAR	**Gosnell**	**67.53**	**337**	*e*P	**P**	**22 09 12.0**	**-0.5**
GLAT	**Glass**	**67.56**	**338**	*e*P	**P**	**22 09 11.2**	**-1.4**
TXAR	**Lajitas Array**	**68.08**	**322**	P	**P**	**22 09 15.3**	**-0.5**
	comp=Z,8.8nm,0.6s,mb4.5,baz=149,slow=7.5,SNR=142						
TXAR				PKPPKP		22 37 26.2	
	comp=Z,0.7nm,0.9s,baz=225,slow=1.8,SNR=6.6						
BRYW	**Bryant College**	**69.03**	**353**	*e*P	**P**	**22 09 20.6**	**-0.7**
	comp=Z,120nm,1.2s,mb5.3						
BLO	**Bloomington**	**69.34**	**341**	*e*P	**P**	**22 09 21.2**	**-2.0**
	comp=Z,66nm,1.1s,mb5.1						
FVM	**French Village**	**69.49**	**337**	*e*P	**P**	**22 09 22.6**	**-1.5**
	comp=Z,60nm,0.8s,mb5.2						
SYO	**Syowa Base**	**69.52**	**158**	⇑P	**P**	**22 09 22.0**	**-1.7**
SYO	**Syowa Base**	**69.52**	**158**	⇓PcP	PcP	22 09 40.5	-2.2
CCM	**Cathedral Cave**	**69.84**	**337**	*e*P	**P**	**22 09 24.6**	**-1.6**
	comp=Z,56nm,0.7s,mb5.2						
WMOK	**Wichita Mounta**	**70.01**	**329**	*e*P	**P**	**22 09 25.8**	**-1.4**
	comp=Z,8.3nm,0.7s,mb4.4						
SLM	**Saint Louis**	**70.02**	**338**	*e*P	**P**	**22 09 25.3**	**-1.8**
	comp=Z,36nm,0.8s,mb5.0						
ALLY	**Alegheny Colle**	**70.09**	**347**	*e*P	**P**	**22 09 27.3**	**-0.2**
CLNB	**Carlsbad**	**70.49**	**324**	*e*P	**P**	**22 09 29.8**	**-0.3**
GDL2	**Guadalupe Moun**	**70.69**	**324**	*e*P	**P**	**22 09 30.9**	**-0.4**
GENY	**Geneseo**	**70.73**	**349**	*e*P	**P**	**22 09 30.8**	**-0.5**
HNH	**Hanover**	**70.88**	**353**	*e*P	**P**	**22 09 32.6**	**+0.5**
	comp=Z,7.4nm,1.4s,mb4.0						
SUR	**Sutherland**	**71.46**	**117**	P	**P**	**22 09 36.4**	**+0.7**
	comp=Z,16nm,0.6s,mb4.7,baz=234,slow=6.7,SNR=29						
SUR	**Sutherland**	**71.46**	**117**	*e*P	**P**	**22 09 36.0**	**+0.3**
	comp=Z,8.4nm,0.6s,mb4.5						
AMTX	**Amarillo**	**71.48**	**327**	*e*P	**P**	**22 09 34.8**	**-0.9**
	comp=Z,33nm,0.8s,mb4.9						
WVL	**Waterville**	**71.49**	**355**	*e*P	**P**	**22 09 35.9**	**+0.3**
	comp=Z,136nm,0.9s,mb5.5						
FRNY	**Flat Rock**	**72.14**	**352**	*e*P	**P**	**22 09 39.0**	**-0.5**
VNDA	**Vanda**	**72.26**	**189**	P	**P**	**22 09 40.5**	**+0.9**
	comp=Z,14nm,0.9s,mb4.4,baz=137,slow=4.9,SNR=78						
VNDA				pP	pP	22 11 35.6	-2.2
	comp=Z,1.9nm,0.8s,baz=128,slow=7.2,SNR=2.9						
VNDA	**Vanda**	**72.26**	**189**	*e*P	**P**	**22 09 40.1**	**+0.5**
	comp=Z,14nm,0.9s,mb4.4						
VNDA				*e*pP	pP	22 11 34.5	-3.2
MSNY	**Massena**	**72.46**	**351**	*e*P	**P**	**22 09 41.4**	**+0.1**
KSU1	**Kansas State U**	**72.77**	**333**	*e*P	**P**	**22 09 42.0**	**-1.2**
BNM	**Barren Site**	**73.40**	**324**	*e*P	**P**	**22 09 47.3**	**+0.5**
LENM	**Lemitar**	**73.59**	**323**	*e*P	**P**	**22 09 47.2**	**-0.7**
TSUM	**Tsumeb**	**73.69**	**104**	*e*P	**P**	**22 09 48.8**	**+0.1**
	comp=Z,22nm,1.0s,mb4.5						
TSUM				*e*pP	pP	22 11 45.1	-2.4
CBKS	**Cedar Bluff**	**73.83**	**331**	*e*P	**P**	**22 09 49.0**	**0.0**
	comp=Z,206nm,1.0s,mb5.5						
LAZ	**Ladron**	**73.86**	**323**	*e*P	**P**	**22 09 50.0**	**+0.7**
ANMO	**Albuquerque**	**73.92**	**324**	⇓*i*P	**P**	**22 09 50.6**	**+0.8**
	comp=Z,23nm,0.8s,mb4.7						
ANMO				*e*pP	pP	22 11 46.8	-1.8
SDCO	**Great Sand Dun**	**75.61**	**327**	⇓*i*P	**P**	**22 10 00.0**	**+0.9**
	comp=Z,35nm,1.0s,mb4.8						
SDCO				*e*pP	pP	22 12 00.0	+1.4
BOSA	**Boshof**	**76.43**	**115**	P	**P**	**22 10 03.5**	**-0.2**
	comp=Z,26nm,0.6s,mb4.8,baz=247,slow=4.2,SNR=77						
BOSA	**Boshof**	**76.43**	**115**	⇓*i*P	**P**	**22 10 03.3**	**-0.4**
	comp=Z,36nm,0.8s,mb4.8						
ISCO	**Idaho Springs**	**77.28**	**328**	*e*P	**P**	**22 10 09.0**	**+0.9**
	comp=Z,32nm,0.8s,mb4.8						
PV01	**Paradox Valley**	**77.45**	**325**	*e*P	**P**	**22 10 10.2**	**+1.2**
MAW	**Mawson**	**77.54**	**162**	P	**P**	**22 10 09.1**	**+0.2**
	comp=Z,29nm,0.8s,mb4.7,baz=218,slow=6.2,SNR=78						
MAW				pP	pP	22 12 07.3	-1.9
	comp=Z,8.3nm,1.0s,baz=243,slow=7.5,SNR=6.6						
PV10	**Paradox Valley**	**77.88**	**325**	*e*P	**P**	**22 10 12.2**	**+0.9**
BAR	**Barrett**	**78.10**	**316**	*e*P	**P**	**22 10 12.6**	**0.0**
LBTB	**Lobatse**	**78.16**	**112**	P	**P**	**22 10 13.0**	**0.0**
	comp=Z,45nm,0.8s,mb4.8,baz=265,slow=6.0,SNR=48						
LBTB	**Lobatse**	**78.16**	**112**	*e*P	**P**	**22 10 12.1**	**-0.9**
	comp=Z,42nm,0.8s,mb4.8						
LBTB				*e*pP	pP	22 12 11.0	-2.6
PHWY	**Pilot Hill**	**78.40**	**329**	*e*P	**P**	**22 10 14.5**	**+0.6**
PFO	**Pinyon Flat Ob**	**78.60**	**317**	*e*P	**P**	**22 10 15.9**	**+0.7**
	comp=Z,23nm,1.1s,mb4.4						
NEN	**Nelson**	**79.06**	**320**	*e*P	**P**	**22 10 17.7**	**+0.1**
SRU	**San Rafael**	**79.19**	**324**	*e*P	**P**	**22 10 18.8**	**+0.6**
RWWY	**Rawlins**	**79.52**	**328**	*e*P	**P**	**22 10 20.6**	**+0.7**
	comp=Z,104nm,1.0s,mb5.1						
MSU	**Marysvale**	**79.62**	**323**	*e*P	**P**	**22 10 21.5**	**+1.0**
MVU	**Marysvale**	**79.64**	**323**	*e*P	**P**	**22 10 21.3**	**+0.8**
	comp=Z,34nm,0.9s,mb4.7						
TMUT	**Trail Mountain**	**79.69**	**324**	*e*P	**P**	**22 10 21.5**	**+0.7**
ARUT	**Antelope Range**	**79.78**	**322**	*e*P	**P**	**22 10 22.3**	**+1.0**
MWC	**Mount Wilson**	**80.00**	**317**	*e*P	**P**	**22 10 22.9**	**+0.4**
MPU	**Maple Canyon**	**80.44**	**324**	*e*P	**P**	**22 10 25.2**	**+0.5**
DAU	**Daniels Canyon**	**80.54**	**325**	*e*P	**P**	**22 10 26.1**	**+1.0**
NLU	**North Lily Min**	**80.62**	**324**	*e*P	**P**	**22 10 26.4**	**+0.8**
JLU	**Jordanelle**	**80.78**	**325**	*e*P	**P**	**22 10 27.1**	**+0.7**
CTU	**Camp Tracy**	**81.00**	**325**	*e*P	**P**	**22 10 28.2**	**+0.7**
DAC	**Darwin (Calif)**	**81.11**	**318**	*e*P	**P**	**22 10 28.7**	**+0.5**
	comp=Z,30nm,1.2s,mb4.6						
TCUT	**Toone Canyon**	**81.14**	**325**	*e*P	**P**	**22 10 29.3**	**+1.1**
TRCR	**Troy Canyon**	**81.38**	**321**	*e*P	**P**	**22 10 30.5**	**+1.0**
BW06	**Boulder Array**	**81.46**	**327**	*e*P	**P**	**22 10 30.1**	**+0.3**
	comp=Z,11nm,0.8s,mb4.3						
PDAR	**Pinedale Array**	**81.46**	**327**	P	**P**	**22 10 30.4**	**+0.5**
	comp=Z,17nm,0.7s,mb4.6,baz=133,slow=8.0,SNR=150						
HWUT	**Hardware Ranch**	**81.58**	**326**	*e*P	**P**	**22 10 31.2**	**+0.7**
	comp=Z,40nm,0.8s,mb4.9						
SCHQ	**Schefferville**	**81.59**	**358**	P	**P**	**22 10 30.3**	**+0.1**
	comp=Z,26nm,0.8s,mb4.7,baz=175,slow=4.4,SNR=34						
SCHQ	**Schefferville**	**81.59**	**358**	*e*P	**P**	**22 10 29.8**	**-0.4**
	comp=Z,45nm,0.9s,mb4.9						
SPUT	**South Promonto**	**81.81**	**325**	*e*P	**P**	**22 10 32.3**	**+0.7**
BGU	**Big Grassy Mou**	**81.83**	**324**	*e*P	**P**	**22 10 32.1**	**+0.3**
TPH	**Tonopah**	**82.11**	**320**	*e*P	**P**	**22 10 33.9**	**+0.7**
	comp=Z,32nm,1.2s,mb4.6						
ULM	**Lac du Bonnet**	**82.18**	**340**	P	**P**	**22 10 33.2**	**-0.1**
	comp=Z,29nm,0.8s,mb4.8,baz=148,slow=6.2,SNR=25						
AHID	**Auburn Hatcher**	**82.21**	**327**	*e*P	**P**	**22 10 34.2**	**+0.6**
	comp=Z,12nm,0.4s,mb4.7						
HVU	**Hansel Valley**	**82.32**	**325**	*e*P	**P**	**22 10 34.3**	**+0.1**
MTUM	**Tungsten Hills**	**82.41**	**319**	*e*P	**P**	**22 10 35.5**	**+0.8**
MATP	**Matopo**	**82.53**	**109**	P	**P**	**22 10 36.3**	**+0.7**
	comp=Z,59nm,0.8s,mb5.2,baz=242,slow=4.5,SNR=158						
REDW	**Red Top Meadow**	**82.53**	**327**	*e*P	**P**	**22 10 35.5**	**+0.3**
	comp=Z,12nm,0.7s,mb4.5						
SNOW	**Snow King Moun**	**82.56**	**327**	*e*P	**P**	**22 10 35.9**	**+0.5**
	comp=Z,9.9nm,0.7s,mb4.5						
LOHW	**Long Hollow**	**82.60**	**327**	*e*P	**P**	**22 10 35.8**	**+0.2**
	comp=Z,25nm,0.8s,mb4.8						
TPAW	**Teton Pass**	**82.67**	**327**	*e*P	**P**	**22 10 36.5**	**+0.5**
	comp=Z,14nm,0.8s,mb4.5						
RRI2	**Red Ridge**	**82.75**	**327**	*e*P	**P**	**22 10 36.5**	**+0.2**
	comp=Z,28nm,0.8s,mb4.8						
MOOW	**Moose Ponds**	**82.77**	**327**	*e*P	**P**	**22 10 36.3**	**-0.1**
	comp=Z,9.8nm,0.7s,mb4.5						
OMM	**Old Mammoth Mi**	**82.83**	**319**	*e*P	**P**	**22 10 37.6**	**+0.7**
ELK	**Elko**	**82.87**	**323**	*e*P	**P**	**22 10 37.7**	**+0.7**
	comp=Z,26nm,0.9s,mb4.8						
MNV	**Mina**	**82.89**	**320**	*e*P	**P**	**22 10 37.2**	**0.0**
	comp=Z,9.5nm,1.0s,mb4.3						
EGRO	**El Granado**	**82.90**	**42**	P	**P**	**22 10 37.7**	**+0.5**
	comp=Z,68nm,1.2s,mb5.0						
IMW	**Indian Meadow**	**82.97**	**327**	*e*P	**P**	**22 10 38.2**	**+0.8**
	comp=Z,35nm,0.8s,mb4.9						
NVAR	**Mina Array Bea**	**82.98**	**320**	P	**P**	**22 10 38.5**	**+0.9**
	comp=Z,6.3nm,0.8s,mb4.2,baz=133,slow=5.8,SNR=40						
LAO	**LASA Array**	**83.00**	**332**	*e*P	**P**	**22 10 37.1**	**-0.4**
	comp=Z,42nm,1.0s,mb4.9						
EVO	**Evora**	**83.26**	**41**	*e*P	**P**	**22 10 37.4**	**-1.6**
	comp=Z,42nm,0.9s,mb4.7						
YFT	**Old Faithful**	**83.34**	**328**	*e*P	**P**	**22 10 40.8**	**+1.6**
ESPR	**Espera**	**83.43**	**43**	P	**P**	**22 10 40.6**	**+0.8**
	comp=Z,61nm,0.8s,mb5.2						
EMIN	**Mina Concepcio**	**83.53**	**42**	P	**P**	**22 10 40.6**	**+0.3**
	comp=Z,66nm,0.9s,mb5.2						
YMR	**Madison River**	**83.56**	**328**	*e*P	**P**	**22 10 41.2**	**+0.9**
PTOM	**Tomar**	**83.76**	**39**	*e*P	**P**	**22 10 42.1**	**+0.7**
EMIJ	**Mijas**	**83.90**	**44**	P	**P**	**22 10 42.2**	**0.0**
	comp=Z,56nm,1.0s,mb5.0						
QLMT	**Earthquake Lak**	**83.91**	**328**	*e*P	**P**	**22 10 42.8**	**+0.8**
CMB	**Columbia Colle**	**83.94**	**318**	*e*P	**P**	**22 10 42.2**	**0.0**
	comp=Z,10nm,1.2s,mb4.2						
EBAD	**Badajoz**	**83.99**	**41**	P	**P**	**22 10 43.0**	**+0.4**
	comp=Z,77nm,1.2s,mb5.1						
HLID	**Hailey**	**84.44**	**325**	*e*P	**P**	**22 10 45.8**	**+1.2**
	comp=Z,50nm,0.8s,mb5.1						
HLID				*e*pP	pP	22 12 47.3	-0.1
PCBR	**Castelo Branco**	**84.44**	**40**	*e*P	**P**	**22 10 45.1**	**+0.4**
PAHR	**Pah Rah Range**	**84.46**	**320**	*e*P	**P**	**22 10 45.5**	**+0.7**
	comp=Z,6.3nm,0.6s,mb4.3						
LSZ	**Lusaka**	**84.52**	**104**	*e*P	**P**	**22 10 46.8**	**+1.2**
	comp=Z,96nm,1.4s,mb5.1						
MCMT	**McKenzie Canyo**	**84.58**	**327**	*e*P	**P**	**22 10 46.4**	**+1.1**
ELOJ	**Sierra Loja**	**84.66**	**44**	P	**P**	**22 10 46.0**	**+0.2**
	comp=Z,9.3nm,0.6s,mb4.5						
MTE	**Manteigas**	**84.78**	**39**	*e*P	**P**	**22 10 46.6**	**+0.2**
	comp=Z,66nm,1.1s,mb5.1						
PVIS	**Viseu**	**84.80**	**39**	*e*P	**P**	**22 10 46.7**	**+0.3**
ELUQ	**Luque**	**84.85**	**43**	P	**P**	**22 10 47.4**	**+0.6**
	comp=Z,40nm,0.9s,mb5.0						
EADA	**Adamuz**	**85.05**	**43**	P	**P**	**22 10 47.8**	**+0.1**
	comp=Z,23nm,0.7s,mb4.8						
BEKR	**Beckwourth**	**85.13**	**320**	*e*P	**P**	**22 10 48.7**	**+0.6**
	comp=Z,23nm,0.9s,mb4.7						
PVRL	**Vila Real**	**85.27**	**39**	*e*P	**P**	**22 10 49.5**	**+0.7**
	comp=Z,64nm,1.2s,mb5.0						
HRY	**Holter Researc**	**85.49**	**329**	*e*P	**P**	**22 10 50.1**	**+0.4**
EBAN	**Banos Encina**	**85.53**	**43**	P	**P**	**22 10 50.6**	**+0.6**
	comp=Z,14nm,0.6s,mb4.8						
EQES	**Quesada**	**85.73**	**44**	P	**P**	**22 10 49.5**	**-1.6**
	comp=Z,137nm,1.8s,mb5.3						
WVOR	**Wild Horse Val**	**85.88**	**322**	*e*P	**P**	**22 10 50.9**	**-0.7**
	comp=Z,14nm,1.2s,mb4.5						
CHMT	**Chamberlain Mo**	**86.30**	**328**	*e*P	**P**	**22 10 53.5**	**0.0**
LBCM	**Butte Creek Ri**	**86.33**	**320**	P	**P**	**22 10 54.2**	**+0.4**
ESDC	**Sonseca Array**	**86.38**	**42**	P	**P**	**22 10 54.4**	**+0.3**
	comp=Z,6.8nm,0.8s,mb4.3,baz=240,slow=4.8,SNR=21						
ESDC	**Sonseca Array**	**86.38**	**42**	P	**P**	**22 10 54.3**	**+0.2**
	comp=Z,14nm,1.2s,mb4.5						
MOD	**Modoc**	**86.44**	**321**	*e*P	**P**	**22 10 54.6**	**+0.3**
	comp=Z,44nm,1.3s,mb4.9						
MSO	**Missoula**	**86.56**	**328**	*e*P	**P**	**22 10 55.0**	**+0.2**
	comp=Z,27nm,1.6s,mb4.6						
EVIA	**Vianos**	**86.61**	**43**	P	**P**	**22 10 55.2**	**+0.1**
	comp=Z,6.6nm,0.5s,mb4.5						
BMO	**Blue Mountains**	**86.83**	**325**	*e*P	**P**	**22 10 56.1**	**0.0**
	comp=Z,14nm,1.1s,mb4.5						
CASY	**Casey**	**86.86**	**178**	*e*P	**P**	**22 10 56.0**	**+0.3**
	comp=Z,23nm,0.9s,mb4.8						
CASY				*e*pP	pP	22 12 56.5	-2.6
YBH	**Yreka Blue Hor**	**87.69**	**320**	*e*P	**P**	**22 10 59.5**	**-0.7**
	comp=Z,13nm,1.0s,mb4.6						
KHMM	**Horse Mountain**	**87.74**	**319**	*e*P	**P**	**22 11 00.9**	**+0.5**
FFC	**Flin Flon**	**87.95**	**339**	*e*P	**P**	**22 11 00.9**	**-0.2**
	comp=Z,26nm,1.0s,mb4.9						
HUMO	**Hull Mountain**	**88.39**	**320**	*e*P	**P**	**22 11 03.1**	**-0.3**
	comp=Z,4.4nm,0.7s,mb4.3						
IRO	**Indian Ridge**	**88.90**	**322**	P	**P**	**22 11 06.4**	**+0.6**
NEW	**Newport**	**89.10**	**327**	*e*P	**P**	**22 11 06.0**	**-0.6**
	comp=Z,3.6nm,0.6s,mb4.4						
BROR	**Big Rock Looko**	**89.18**	**322**	P	**P**	**22 11 07.3**	**+0.2**
COR	**Corvallis**	**89.85**	**322**	*e*P	**P**	**22 11 10.6**	**+0.4**
	comp=Z,20nm,0.7s,mb5.0						
SJPF	**Ste Jean**	**90.14**	**40**	*e*P	**P**	**22 11 11.7**	**+0.1**
	comp=Z,81nm,1.3s,mb5.1						
ETW	**Entiat**	**90.24**	**325**	P	**P**	**22 11 12.5**	**+0.6**
ETSF	**Etsaut**	**90.40**	**41**	*e*P	**P**	**22 11 13.1**	**+0.4**
	comp=Z,16nm,0.9s,mb4.5						
NLW	**Nelson Butte**	**90.56**	**326**	P	**P**	**22 11 13.4**	**+0.1**
KMOR	**Kings Mountain**	**90.62**	**323**	P	**P**	**22 11 14.5**	**+0.8**
EDM	**Edmonton**	**90.95**	**333**	*e*P	**P**	**22 11 14.2**	**-0.8**
EPF	**Esparros**	**91.00**	**41**	*e*P	**P**	**22 11 15.5**	**0.0**
QUIF	**Quistinic**	**92.07**	**36**	*e*P	**P**	**22 11 19.4**	**-0.9**
	comp=Z,22nm,0.9s,mb4.9						
ROSF	**Rostrenen**	**92.28**	**35**	*e*P	**P**	**22 11 20.4**	**-0.8**
	comp=Z,15nm,0.7s,mb4.8						
MTLF	**Montolieu**	**92.29**	**42**	*e*P	**P**	**22 11 20.7**	**-0.7**
LFF	**La Frestale**	**92.38**	**40**	*e*P	**P**	**22 11 21.5**	**-0.2**
	comp=Z,50nm,0.9s,mb5.2						
SGMF	**Saint Gilles**	**92.60**	**36**	*e*P	**P**	**22 11 21.6**	**-1.1**
MFF	**Saint Martin d**	**92.88**	**38**	*e*P	**P**	**22 11 23.6**	**-0.4**
	comp=Z,39nm,1.2s,mb5.0						
RJF	**Les Rejaudoux**	**93.03**	**40**	*e*P	**P**	**22 11 24.1**	**-0.6**
	comp=Z,36nm,1.3s,mb4.9						
CAF	**Calviac**	**93.13**	**40**	*e*P	**P**	**22 11 24.9**	**-0.3**
	comp=Z,42nm,1.3s,mb5.0						
GRR	**Gorron**	**93.58**	**36**	*e*P	**P**	**22 11 26.1**	**-1.0**
FLN	**La Foliniere**	**94.00**	**36**	*e*P	**P**	**22 11 27.7**	**-1.3**
TCF	**Toulx Ste Croi**	**94.00**	**39**	*e*P	**P**	**22 11 28.5**	**-0.6**
	comp=Z,12nm,0.9s,mb4.7						
BGF	**Bois d'Agland**	**94.52**	**39**	*e*P	**P**	**22 11 31.2**	**-0.2**
	comp=Z,32nm,1.1s,mb5.1						
VIVF	**Saint-Julien-l**	**94.61**	**41**	*e*P	**P**	**22 11 31.3**	**-0.6**
	comp=Z,11nm,0.9s,mb4.7						
SMRF	**Simiane la Rot**	**94.66**	**43**	*e*P	**P**	**22 11 32.7**	**+0.6**
	comp=Z,26nm,1.1s,mb5.0						
HYF	**Humbligny**	**94.81**	**39**	*e*P	**P**	**22 11 32.3**	**-0.4**
LMR	**La Mourre**	**94.88**	**43**	*e*P	**P**	**22 11 33.1**	**0.0**
	comp=Z,33nm,1.0s,mb5.1						
FRF	**La Foret Royal**	**95.08**	**43**	*e*P	**P**	**22 11 32.6**	**-1.4**
SMF	**Signal de Mont**	**95.13**	**40**	*e*P	**P**	**22 11 34.0**	**-0.2**
	comp=Z,40nm,0.9s,mb5.2						
SSF	**Saint Saulge**	**95.18**	**39**	*e*P	**P**	**22 11 33.7**	**-0.7**
	comp=Z,17nm,0.9s,mb4.9						
ORIF	**Oris-en-Rattie**	**95.36**	**42**	*e*P	**P**	**22 11 35.8**	**+0.6**
	comp=Z,23nm,0.9s,mb5.0						
LOR	**Lormes**	**95.49**	**39**	*e*P	**P**	**22 11 35.2**	**-0.6**
	comp=Z,15nm,0.8s,mb4.9						
SBF	**Sospel**	**95.73**	**43**	*e*P	**P**	**22 11 36.6**	**-0.3**
MBDF	**Montbardon**	**95.79**	**42**	*e*P	**P**	**22 11 37.6**	**+0.4**
	comp=Z,15nm,0.9s,mb4.9						
RRL	**Cesana Torines**	**95.90**	**42**	P	**P**	**22 11 38.0**	**+0.4**
ENR	**Entracque**	**95.91**	**43**	P	**P**	**22 11 41.6**	**+3.9**
BHB	**Bricherasio**	**96.14**	**42**	P	**P**	**22 11 42.4**	**+3.6**
LPL	**La Plagne**	**96.19**	**42**	*e*P	**P**	**22 11 39.7**	**+0.7**
	comp=Z,22nm,1.0s,mb5.0						
LPG	**La Plagne**	**96.19**	**42**	*e*P	**P**	**22 11 39.8**	**+0.8**
	comp=Z,27nm,1.0s,mb5.1						
RSP	**Reno Superiore**	**96.31**	**42**	P	**P**	**22 11 40.2**	**+0.7**
FIN	**Finale Ligure**	**96.39**	**43**	P	**P**	**22 11 39.1**	**-0.8**
CABF	**La Chapelle**	**96.40**	**41**	*e*P	**P**	**22 11 39.9**	**0.0**
LSD	**Ceresole Reale**	**96.41**	**42**	P	**P**	**22 11 41.4**	**+1.4**
EKA	**Eskdalemuir Ar**	**96.76**	**30**	P	**P**	**22 11 40.8**	**-0.5**
	comp=Z,3.8nm,0.8s,mb4.7,baz=226,slow=2.6,SNR=9.3						
TRAV		**96.79**	**42**	P	**P**	**22 11 43.3**	**+1.6**
MEZF	**Maizieres J'vi**	**96.85**	**39**	*e*P	**P**	**22 11 41.3**	**-0.6**
	comp=Z,21nm,0.8s,mb5.1						
ORX	**Oropa**	**96.99**	**42**	P	**P**	**22 11 38.9**	**-3.8**
BAIF	**Baives**	**97.25**	**37**	*e*P	**P**	**22 11 42.8**	**-0.9**
HAU	**Haudompre**	**97.31**	**39**	*e*P	**P**	**22 11 43.3**	**-0.7**
	comp=Z,7.5nm,0.7s,mb4.7						
HINF	**Hinteralfeld**	**97.49**	**40**	*e*P	**P**	**22 11 44.1**	**-0.7**
	comp=Z,6.3nm,0.8s,mb4.6						
CDF	**Champ du Feu**	**98.05**	**39**	*e*P	**P**	**22 11 46.7**	**-0.6**
	comp=Z,15nm,0.9s,mb5.0						
YKA	**Yellowknife Ar**	**98.13**	**339**	P	**P**	**22 11 47.0**	**-0.3**
	comp=Z,4.4nm,0.6s,mb5.0,baz=126,slow=4.5,SNR=17						
YKA	**Yellowknife Ar**	**98.13**	**339**	P	**P**	**22 11 47.0**	**-0.3**
DAVOX	**Davos**	**98.72**	**42**	P	**P**	**22 11 51.1**	**+0.7**
	comp=Z,3.1nm,0.7s,mb4.7,baz=156,slow=14,SNR=5.4						
DLBC	**Dease Lake**	**101.47**	**330**	*e*Pdif	P	22 12 03.4	+1.0
GERES	**GERESS Array B**	**101.97**	**41**	P	P	22 12 04.8	0.0
	comp=Z,0.6nm,0.9s,baz=243,slow=3.0,SNR=3.4						
GERES				PKiKP		22 16 23.9	
	comp=Z,0.3nm,0.6s,baz=270,slow=1.3,SNR=4.5						
NOA	**NORSAR Array B**	**106.23**	**29**	PKKPab		22 28 09.2	
	comp=Z,1.5nm,1.1s,baz=64,slow=4.6,SNR=3.8						
HFS	**Hagfors**	**106.94**	**31**	PKKP	PKKP	22 28 07.7	+62
	comp=Z,1.6nm,0.6s,baz=90,slow=3.0,SNR=9.5						
ILAR	**Eielson Array**	**111.45**	**333**	PKKPbc		22 27 36.4	
	comp=Z,0.4nm,0.5s,baz=292,slow=3.6,SNR=4.4						
BRTR	**Keskin Array B**	**111.80**	**56**	PKiKP		22 16 41.9	
	comp=Z,1.8nm,0.8s,baz=179,slow=3.8,SNR=7.6						
AKASG	**Malin Array Be**	**111.98**	**43**	PKiKP		22 16 41.4	
	comp=Z,1.7nm,0.6s,baz=263,slow=2.6,SNR=16						
FINES	**FINESS Array B**	**113.09**	**31**	PKiKP		22 16 43.6	
	comp=Z,0.9nm,0.6s,baz=135,slow=2.7,SNR=8.5						
FINES				PKKPbc		22 27 32.0	
	comp=Z,0.9nm,0.5s,baz=85,slow=4.8,SNR=13						
FINES				PKKPab		22 27 40.5	
	comp=Z,0.7nm,0.6s,baz=90,slow=5.7,SNR=4.2						
FINES	**FINESS Array B**	**113.09**	**31**	PKPdf	PKPdf	22 16 43.6	+0.6
FINES				PKKPbc		22 27 32.0	
FINES				PKKPab		22 27 40.5	
KAF	**Kangasniemi**	**113.36**	**31**	*e*p	PKPdf	22 16 43.3	-0.2
ARCES	**ARCESS Array B**	**114.64**	**23**	PKP	PKPdf	22 16 46.3	+0.4
	comp=Z,2.6nm,0.8s,baz=232,slow=3.0,SNR=9.9						
ARCES				PKKPbc		22 27 26.5	
	comp=Z,2.4nm,0.5s,baz=79,slow=6.2,SNR=35						
ARCES				PKKPab		22 27 33.5	
	comp=Z,2.2nm,0.6s,baz=76,slow=5.0,SNR=11						
ARCES				SKKPbc		22 30 16.7	
	comp=Z,0.4nm,0.4s,baz=83,slow=2.5,SNR=9.8						
MALT	**Malatya**	**114.98**	**58**	*e*PKP	PKPdf	22 16 48.8	+1.5
STKA	**Stephens Creek**	**116.77**	**204**	PKP	PKPdf	22 16 52.2	+1.4
	comp=Z,4.9nm,0.9s,baz=311,slow=2.2,SNR=3.3						
STKA				PKKPbc		22 27 20.0	
	comp=Z,2.0nm,0.7s,baz=144,slow=5.1,SNR=3.6						
OBN	**Obninsk**	**117.28**	**40**	*d i*PKIKP	PKPdf	22 16 50.7	-0.6
OBN				pmax	pmax		
	comp=Z,23nm,1.2s						
OBN	**Obninsk**	**117.28**	**40**	*e*PKP	PKPdf	22 16 51.7	+0.4
KIV	**Kislovodsk**	**119.38**	**53**	*e*PKIKP	PKPdf	22 16 57.0	+1.3
KIV				pmax	pmax		
	comp=Z,14nm,1.2s						
KIV				pmax	pmax		
	comp=N,3.0nm,0.7s						
KIV				pmax	pmax		
	comp=E,5.0nm,1.2s						
KIV	**Kislovodsk**	**119.38**	**53**	*e*PKP	PKPdf	22 16 56.5	+0.8
GNI	**Garni**	**120.17**	**57**	PKP	PKPdf	22 16 58.2	+0.9
	comp=E,3.4nm,0.6s,baz=315,slow=5.1,SNR=6.3						
BILL	**Bilibino**	**129.52**	**338**	⇓*i*PKIKP	PKPdf	22 17 15.7	+1.1
BILL				pmax	pmax		
	comp=Z,16nm,0.9s						
BILL	**Bilibino**	**129.52**	**338**	*e*PKP	PKPdf	22 17 15.8	+1.2
ARU	**Arti**	**129.63**	**38**	*i* PKIKP	PKPdf	22 17 16.2	+1.2
ARU				*e*		22 19 33.0	
ARU	**Arti**	**129.63**	**38**	*e*PKP	PKPdf	22 17 16.1	+1.1
WRA	**Warramunga Arr**	**130.25**	**202**	PKP	PKPdf	22 17 18.0	+0.8
	comp=Z,10nm,0.6s,baz=168,slow=1.6,SNR=91						
WRA				SKPbc		22 19 48.2	
	comp=Z,15nm,0.5s,baz=157,slow=3.5,SNR=132						
WRAB	**Tennant Creek**	**130.26**	**202**	*e*PKP	PKPdf	22 17 17.8	+0.6
SVE	**Sverdlovsk**	**130.68**	**37**	*e*PKIKP	PKPdf	22 17 18.6	+1.6
SVE				pmax	pmax		
	comp=Z,24nm,1.5s						

SVE MLR MLR
comp=N,100nm,16.0s
SVE MLR MLR
comp=E,100nm,16.0s
SVE MLR MLR
comp=Z,100nm,16.0s
FITZ Fitzroy Crossi 134.29 192 PKP PKPdf 22 17 26.2 +1.4
comp=Z,22nm,0.6s,baz=194,slow=2.6,SNR=24
FITZ SKPbc 22 20 03.1
comp=Z,36nm,0.5s,baz=193,slow=3.8,SNR=46
TIXI Tiksi 134.84 355 *i* PKIKP PKPdf 22 17 24.5 +0.1
TIXI pmax pmax
comp=Z,26nm,1.0s
ZRNK Zerenda 136.35 40 *e*PKPdf PKPdf 22 17 29.2 +1.6
BVAR Borovoye Array 137.12 40 PKhKP 22 17 19.6
comp=Z,1.0nm,0.5s,baz=315,slow=2.1,SNR=8.4
BVAR PKP PKPdf 22 17 30.6 +1.6
comp=Z,10nm,0.7s,baz=279,slow=3.1,SNR=48
BVAR SKP 22 20 11.9
comp=Z,2.1nm,0.7s,baz=256,slow=6.1,SNR=6.8
BVAR SKKPbc 22 28 59.8
comp=Z,0.9nm,0.6s,baz=102,slow=5.7,SNR=6.7
BVAR Borovoye Array 137.12 40 PKP PKPdf 22 17 30.6 +1.6
BVAR SKP 22 20 11.9
BVAR SKKPbc 22 28 59.8
SEY Seymchan 137.17 337 *e*PKIKP PKPdf 22 17 31.1 +2.3
SEY *e* 22 30 51.7
SEY pmax pmax
comp=Z,9.0nm,0.9s
SEY pmax pmax
comp=E,3.0nm,0.7s
AML Almayashu 141.97 55 P PKPdf 22 17 36.3 -1.7
SNR=18
USP Ospenovka 142.35 53 P PKPdf 22 17 36.7 -1.8
SNR=19
AAK Ala-Archa 142.47 54 P PKPdf 22 17 38.3 -0.5
SNR=16
AAK Ala-Archa 142.47 54 *e*PKP PKPdf 22 17 37.0 -1.8
FRU Bishkek 142.52 54 *i* PKIKP PKPdf 22 17 39.0 +0.1
FRU pmax pmax
comp=Z,120nm,1.9s
UCH Uchtor 142.56 55 P PKPdf 22 17 39.0 0.0
SNR=42
CHMS Chumysh 142.59 54 P PKPdf 22 17 38.2 -0.8
SNR=17
AJM Ajmer 142.60 81 *e* PKPdf 22 17 47.0 +7.5
KBK Karagaybulak 142.79 54 P PKPdf 22 17 39.4 0.0
SNR=26
NVS Novosibirsk 143.08 32 ⇓*i* PKIKP PKPdf 22 17 39.0 -0.4
NVS pmax pmax
comp=N,10.0nm,0.6s
NVS pmax pmax
comp=Z,50nm,0.6s
NVS pmax pmax
comp=E,15nm,0.5s
KZA Kyzart 143.12 55 P PKPbc 22 17 40.9 +2.3
SNR=30
TKM2 Tokmak 2 143.21 54 P PKPbc 22 17 40.4 +1.5
SNR=89
HYB Hyderabad 143.57 97 ⇓*e*P PKPbc 22 17 41.5 +0.9
HYB Hyderabad 143.57 97 ⇓*i* PKP PKPdf 22 17 41.5 +0.1
comp=E,120nm,1.0s
ULHL Ulahol 143.81 55 P PKPbc 22 17 42.9 +2.3
SNR=26
KHET Khetri 143.88 79 *e*P PKPbc 22 17 38.2 -3.2
YAK Yakutsk 143.95 350 *d i* PKIKP PKPdf 22 17 41.7 +1.0
YAK pmax pmax
comp=Z,207nm,0.9s
YAK pmax pmax
comp=N,25nm,1.0s
YAK pmax pmax
comp=E,23nm,1.1s
YAK Yakutsk 143.95 350 *e*PKP PKPdf 22 17 41.7 +1.0
KSH Kashi 144.07 59 *e*PKP PKPdf 22 17 43.7 +2.1
KSH *e*PKS PKS 22 21 19.3 +3.8
KSH PP PP
comp=Z,300nm,4.0s
THN Thein Dam 144.20 71 *e*P PKPdf 22 17 42.3 +0.2
ZAL Zalesovo 144.35 32 PKP PKPdf 22 17 44.0 +2.4
comp=Z,40nm,0.9s,baz=162,slow=3.9,SNR=192
BHPL Bhopal 144.38 87 *e*P PKPdf 22 17 43.2 +0.6
BHPL *e* 22 17 44.1
KUDL Kundal 144.49 79 *e*P PKPdf 22 17 44.1 +1.3
RTK Rohtak 144.54 77 *e*P PKPdf 22 17 43.5 +0.7
KKR Kurukshetra 144.99 76 *e*P PKPdf 22 17 44.7 +1.2
SONA Sohna 145.03 79 *e*P PKPdf 22 17 45.3 +1.7
AYAN Aya Nagar 145.09 78 *e*P PKPdf 22 17 44.2 +0.5
SDNR Sundarnagar 145.22 73 *e*P PKPdf 22 17 46.0 +2.1
AGRA Agra 145.64 81 *e*P PKPdf 22 17 46.4 +1.6
DDI Dehra Dun 146.08 75 *e*P PKPdf 22 17 48.0 +2.6
MKAR Makanchi Array 146.55 45 PKPbc PKPbc 22 17 47.5 -0.2
comp=Z,59nm,0.7s,baz=308,slow=1.2,SNR=206
MKAR pPKPbc 22 19 57.6
comp=Z,2.5nm,0.7s,baz=315,slow=2.0,SNR=3.2
MKAR SKKPbc 22 28 23.7
comp=Z,1.0nm,0.5s,baz=101,slow=6.1,SNR=9.9
LGTI Lohaghat 147.91 77 *e*P PKPdf 22 17 50.7 +2.3
BOD Bodaibo 149.18 3 *e*PKIKP PKPdf 22 17 49.7 +0.2
BOD pmax pmax
comp=Z,56nm,0.9s
CLNS Chul'man 149.65 351 *e*PKHKP 22 17 56.8
CLNS pmax pmax
comp=Z,82nm,0.8s
CLNS pmax pmax
comp=N,23nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,1.0s
KOLN Koldanda 150.69 81 *e*P PKPdf 22 17 51.0 -1.8
comp=E,90nm,0.8s
WMQ Urumqi 151.26 47 *e*PKP PKPdf 22 17 54.5 +1.4
YSS Yuzh-Sakhalins 151.42 321 ⇓*i* PKIKP PKPdf 22 18 01.8 +8.6
YSS *e* 22 18 12.1
YSS pmax pmax
comp=Z,60nm,0.7s
YSS Yuzh-Sakhalins 151.42 321 *e*PKPbc PKPdf 22 18 01.4 +8.2
YSS *e*PKPab PKPab 22 18 12.2 -1.2
GKN Gorkha 151.62 81 *e*P PKPdf 22 17 53.8 -0.3
comp=Z,78nm,0.6s
DMN Daman 152.00 82 *e*P PKPdf 22 17 55.9 +1.3
comp=Z,86nm,0.8s
KKN Kakani 152.17 81 *e*P PKPdf 22 17 56.5 +1.6
comp=Z,54nm,0.6s
PKI Pulchoki 152.26 82 *e*P PKPdf 22 17 56.7 +1.7
comp=Z,72nm,0.9s
GUN Gumba 152.71 81 *e*P PKPdf 22 17 57.7 +2.1
comp=Z,146nm,0.9s
TLY Talaya 153.50 18 *e*PKIKP PKPdf 22 18 06.5 +11
TLY *e* 22 18 22.8
TLY pmax pmax
comp=Z,8.0nm,0.9s
ZAK Zakamensk 154.54 20 *e*PKIKP PKPdf 22 17 59.7 +2.4
ZAK *e* 22 18 08.3
ZAK *e* 22 18 26.5
ZAK *e* 22 22 07.0
ZAK pmax pmax
comp=Z,2.0nm,0.9s
ZAK pmax pmax
comp=Z,4.0nm,0.9s
ZAK pmax pmax
comp=Z,5.0nm,0.9s
ZAK pmax pmax
comp=Z,2.0nm,1.0s
ZAK pmax pmax
comp=Z,2.0nm,1.2s
CIT Chita 154.94 5 *e*PKIKP PKPdf 22 18 01.1 +3.2
CIT *e* 22 18 07.3
CIT *e* 22 18 28.5
KLR Kul'dur 154.96 336 *e*PKIKP PKPdf 22 17 57.7 -0.3
LSA Lhasa 157.41 77 PKP PKPdf 22 18 05.0 +3.2
LSA Lhasa 157.41 77 *e*PKPdf PKPdf 22 18 04.4 +2.6
LSA *e*PKPab PKPab 22 18 39.8 +0.4
SONM Songino Array 157.74 18 PKP PKPdf 22 18 03.9 +2.2
comp=Z,6.8nm,0.9s,baz=270,slow=1.2,SNR=34
SONM PKPab PKPab 22 18 39.5 -0.7
comp=Z,4.8nm,0.7s,baz=320,slow=4.9,SNR=12
SONM pPKP 22 20 15.8
comp=Z,0.7nm,0.4s,SNR=3.1
SONM PP PP 22 22 19.8 -2.5
comp=Z,0.3nm,0.3s,baz=333,slow=2.8,SNR=3.6
ULN Ulaanbaatar 157.89 17 *e*PKP PKPdf 22 18 04.4 +2.6
MJAR Matsushiro Arr 159.42 303 PKP PKPdf 22 18 05.5 +1.5
comp=Z,1.5nm,0.7s,baz=254,slow=0.4,SNR=4.3
MJAR PKPab PKPab 22 18 47.1 -0.6
comp=Z,6.1nm,0.9s,baz=74,slow=1.5,SNR=10
MDJ Mudanjiang 159.61 333 PKP PKPdf 22 18 04.2 +0.3

GTA Gaotai 161.31 44 *e*PKP PKPdf 22 18 08.5 +2.7
CMAR Chiang Mai Arr 161.58 114 PKP PKPdf 22 18 08.6 +2.0
comp=Z,2.8nm,0.8s,baz=268,slow=2.8,SNR=12
CMAR PKPab PKPab 22 18 57.0 -0.7
comp=Z,2.0nm,0.8s,baz=251,slow=4.0,SNR=6.0
CN2 Changchun 161.83 339 *e*PKP PKPdf 22 18 04.0 -2.1
CN2 PKP2 PKPab 22 18 55.6 -2.4
HHC Hu-ho-hao-te 165.60 16 *e*PKP PKPdf 22 18 12.4 +2.6
HHC APKP 22 20 21.0
HHC XPKP 22 21 13.2
HHC PKS PKS 22 21 42.8 +1.5
HHC PP PP 22 23 04.5 +0.8
HHC SKS SKS 22 24 25.1 +5.8
HHC SKKS 22 28 58.7
HHC PP PP
comp=Z,68nm,10.7s
LZH Lanzhou 165.85 47 ⇑PKP PKPdf 22 18 12.0 +1.8
LZH APKP 22 20 26.3
XAN Xi'an 170.35 42 PKP PKPdf 22 18 15.0 +1.9
GYA Guiyang 171.04 91 *i* PKP PKPdf 22 18 15.9 +2.2
GYA APKP 22 20 24.6
GYA XPKP 22 21 16.0
GYA PP PP
comp=Z,110nm,7.2s
ENH Enshi 172.92 61 *e*PKPdf PKPdf 22 18 15.6 +1.0
NJ2 Nanjing 174.66 340 *e*PKP PKPdf 22 18 18.6 +3.5
NJ2 PKP2 PKPab 22 19 54.1 -0.6
NJ2 APKP 22 20 25.0
NJ2 XPKP 22 21 19.0
NJ2 PP PP 22 23 48.0 -1.0
NJ2 SKS SKS 22 24 29.0 +5.3
NJ2 PP PP
comp=Z,160nm,10.0s
WHN Wuhan 175.97 30 *e*PKP PKPdf 22 18 17.5 +2.0

*THR **04** 22:06:17.4±1.1,31.39N×56.43E,h14km±11km,ML3.2*
*CSEM **04** 22:06:18.2±0.1,31.32N×56.43E,h18km,ML3.2,Error ellipse: s-maj=4.2km s-min=2.3km az=52.0*
*TEH **04** 22:06:25.3,31.40N×55.90E,h10km,Mn3.2*
ISC 04 22:06:18.0±0.8,31.33N±0.05×56.47E±0.09,h14km,n23,
σ0§98/25,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.81**	**289**	Pg	**Pg**		**22 06 31.5**	**-2.9**
KRBR	**Kerman**	**1.36**	**169**	*e*Pg	**Pg**		**22 06 43.7**	**-1.6**
KRBR				*e*Sg	**Sg**		**22 07 03.9**	**+0.3**
KRBR				AML	AML		22 07 08.2	
	comp=N,331nm,0.3s							
IMEH	**Mehriz**	**1.59**	**273**	Pg	**Pn**		**22 06 45.8**	**-0.1**
ICHK	**Chekchek**	**1.98**	**298**	Pn	**Pn**		**22 06 51.9**	**+0.4**
ISAD	**Sadrabad**	**2.45**	**285**	Pn	**Pn**		**22 06 59.3**	**+1.1**
NASN	**Na'in**	**3.44**	**296**	*e*Pn	**Pn**		**22 07 12.7**	**+0.4**
NASN				*e*Pg	**Pg**		**22 07 18.2**	**-8.4**
NASN				AML	AML		22 08 09.1	
	comp=N,59nm,0.4s							
IGAR	**Garneh**	**3.75**	**285**	Pn	**Pn**		**22 07 19.2**	**+2.5**
IZEF	**Zefreh**	**3.85**	**295**	Pn	**Pn**		**22 07 18.2**	**+0.1**
IMOK	**Mook**	**3.96**	**236**	Pn	**Pn**		**22 07 19.6**	**-0.2**
ZHSF	**Zahedan**	**4.09**	**114**	*e*Pn	**Pn**		**22 07 22.4**	**+0.8**
GHIR	**Ghir-Karzin**	**4.28**	**226**	*e*Pn	**Pn**		**22 07 24.2**	**-0.1**
IKLH	**Kalahroud**	**4.59**	**297**	Pn	**Pn**		**22 07 28.4**	**-0.3**
ISFB	**Sefidab**	**4.67**	**311**	Pn	**Pn**		**22 07 25.4**	**-4.4**
ISFB				Sn	**Sn**		**22 08 17.3**	**-7.1**
IPIR	**Pirpir**	**4.93**	**287**	Pn	**Pn**		**22 07 34.7**	**+1.3**
IFIR	**Firoozkooh**	**5.31**	**325**	Pn	**Pn**		**22 07 38.1**	**-0.7**
IVRN	**Varamin**	**5.40**	**314**	Lg			22 09 00.7	
IVRN	**Varamin**	**5.40**	**314**	Pn	**Pn**		**22 07 39.7**	**-0.5**
IDMV	**Damavand**	**5.63**	**320**	Pn	**Pn**		**22 07 43.7**	**+0.3**
IMHD	**Mahdasht**	**6.51**	**313**	Pn	**Pn**		**22 07 54.9**	**-0.8**
IMHD	**Mahdasht**	**6.51**	**313**	Lg			22 09 37.8	
IRAZ	**Razeghan**	**6.82**	**308**	Lg			22 09 45.3	
IRAZ	**Razeghan**	**6.82**	**308**	Pn	**Pn**		**22 08 12.5**	**+12**
IRAZ				Sn	**Sn**		**22 09 08.0**	**-10**
IGZV	**Gazvin**	**7.25**	**316**	Pn	**Pn**		**22 08 05.6**	**-0.5**
IGZV				Sn	**Sn**		**22 09 17.2**	**-12**

*MOS **04** 23:02:34.5±1.4,47.28N×10.48E,h10km,mb3.7/1,Error ellipse: s-maj=6.4km s-min=5.7km az=143.4*
*BGR **04** 23:02:35.8±0.4,47.23N×10.49E,h10km,ML3.0,Error ellipse: s-maj=12.2km s-min=6.7km az=171.0*
*NEIC **04** 23:02:35.6±0.3,47.27N×10.52E,h10km,ML3.3(FUR), ML3.2(LDG),ML3.0(SZGRF),ML3.0(STR),ML2.9(VIE), ML2.7(ZUR),Error ellipse: s-maj=4.4km s-min=2.8km az=159.0*
NEIC Felt [IV] at Elbigenalp.
*ZUR **04** 23:02:35.8,47.22N×10.43E,h6km,ML2.7/12*
*CSEM **04** 23:02:35.5±0.1,47.19N×10.54E,h15km,ML3.2/20,Error ellipse: s-maj=1.8km s-min=1.0km az=164.0*
*LEDBW **04** 23:02:35.7±0.6,47.25N×10.56E,h10km,ML3.1,Error ellipse: s-maj=14.0km s-min=12.0km az=66.0*
*LDG **04** 23:02:36.5±0.2,47.24N×10.52E,h10km,Ml3.2/17,Error ellipse: s-maj=3.7km s-min=2.3km az=85.0*
*STR **04** 23:02:39.9±0.6,47.38N×10.29E,h10km±1km,Ml3.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 04 23:02:34.6±0.2,47.30N±0.02×10.50E±0.02,h10km,n111,
σ1§33/204,8C-16D,Austria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OBER	**Oberstdorf**	**0.18**	**307**	⇓*i* Pg	**Pg**		**23 02 38.9**	**+0.4**
OBER				*i* Sg	**Sg**		**23 02 40.3**	**-0.9**
MOTA	**Moosalm**	**0.41**	**84**	⇓*i* PG	**Pg**		**23 02 43.2**	**+0.1**
MOTA				*i* SG	**Sg**		**23 02 49.4**	**+0.7**
	167nm,0.2s							
DAVA	**Damuels**	**0.42**	**268**	⇓*i* PG	**Pg**		**23 02 43.0**	**-0.2**
DAVA				*i* SG	**Sg**		**23 02 49.7**	**+0.7**
	175nm,0.2s							
DAVA	**Damuels**	**0.42**	**268**	*e*Pg	**Pg**		**23 02 43.3**	**0.0**
DAVA				*e*Sg	**Sg**		**23 02 50.2**	**+1.2**
UBR	**Uberruh**	**0.46**	**325**	⇓*e*Pg	**Pg**		**23 02 45.5**	**+1.5**
UBR				*i* Sg	**Sg**		**23 02 53.9**	**+3.6**
SQTA	**Sankt Quirin**	**0.49**	**99**	⇓*i* PG	**Pg**		**23 02 44.8**	**+0.3**
SQTA				*i* SG	**Sg**		**23 02 52.1**	**+0.9**
	266nm,0.3s							
DAVOX	**Davos**	**0.67**	**219**	⇓*i* Pg	**Pg**		**23 02 47.4**	**-0.7**
FUORN	**Ofenpass**	**0.70**	**193**	⇓*i* Pg	**Pg**		**23 02 48.1**	**-0.6**
WATA	**Walderalm**	**0.73**	**87**	⇑*i* PG	**Pg**		**23 02 49.1**	**-0.3**
WATA				*i* SG	**Sg**		**23 03 00.0**	**+0.8**
	40nm,0.2s							
WTTA	**Wattenberg**	**0.78**	**92**	⇑*i* PG	**Pg**		**23 02 50.0**	**-0.2**
WTTA				*i* SG	**Sg**		**23 03 01.2**	**+0.6**
	26nm,0.2s							
WTTA	**Wattenberg**	**0.78**	**92**	*e*Pg	**Pg**		**23 02 50.1**	**-0.1**
WTTA				*e*Sg	**Sg**		**23 03 02.1**	**+1.6**
PLONS	**Plons**	**0.80**	**252**	⇑*i* Pg	**Pg**		**23 02 50.3**	**-0.5**
BERNI	**Berninapass**	**0.95**	**200**	⇓*i* Pg	**Pg**		**23 02 52.4**	**-1.2**
FUR	**Furstenfeldbru**	**1.01**	**31**	*e*Pg	**Pg**		**23 02 56.9**	**+2.0**
FUR				*e*Sg	**Sg**		**23 03 11.3**	**+2.9**
FUR	**Furstenfeldbru**	**1.01**	**31**	*e*Pg	**Pg**		**23 02 56.9**	**+2.0**
FUR				*e*Sg	**Sg**		**23 03 11.3**	**+2.9**
WILA	**Wila**	**1.09**	**277**	*e*Pg	**Pg**		**23 02 56.9**	**+0.5**
SISB	**Singen-Sch Ber**	**1.11**	**291**	Pn	**Pn**		**23 02 57.6**	**+1.4**
STEIN	**Stein am Rhein**	**1.17**	**289**	*e*P*P			23 02 58.7	
GUT	**Gutenstein**	**1.21**	**310**	⇓*e*Pn	**Pn**		**23 02 59.0**	**+1.4**
GUT				Pg	**Pg**		**23 02 59.7**	**+0.8**
GUT				Sg	**Sg**		**23 03 17.0**	**+2.0**
GUT	**Gutenstein**	**1.21**	**310**	Pg	**Pg**		**23 02 59.7**	**+0.8**
GUT				Sg	**Sg**		**23 03 17.0**	**+1.9**
TRULL	**Truellikon**	**1.28**	**286**	*e*Pn	**Pn**		**23 02 59.9**	**+1.3**
HDH	**Heidenheim**	**1.30**	**351**	⇓*e*Pn	**Pn**		**23 03 00.2**	**+1.4**
HDH				Pg	**Pg**		**23 03 01.1**	**+0.5**
HDH				Sg	**Sg**		**23 03 19.4**	**+1.4**
HDH	**Heidenheim**	**1.30**	**351**	Pg	**Pg**		**23 03 01.1**	**+0.5**
HDH				Sg	**Sg**		**23 03 19.4**	**+1.4**
BUCH	**Bad Urach**	**1.39**	**327**	⇓*e*Pn	**Pn**		**23 03 01.6**	**+1.5**
BUCH				Pg	**Pg**		**23 03 02.7**	**+0.4**
BUCH				Sn	**Sn**		**23 03 20.2**	**+1.7**
BUCH	**Bad Urach**	**1.39**	**327**	Pn	**Pn**		**23 03 01.5**	**+1.4**
BUCH	**Bad Urach**	**1.39**	**327**	Pg	**Pg**		**23 03 02.7**	**+0.4**
BUCH				Sn	**Sn**		**23 03 20.2**	**+1.7**
SPAK	**Spaichingen**	**1.41**	**305**	Pg	**Pg**		**23 03 03.2**	**+0.4**
NORI	**Noerdlinger Ri**	**1.42**	**3**	⇓*i* Pn	**Pn**		**23 03 01.7**	**+1.1**
NORI				*e*Sn	**Sn**		**23 03 21.6**	**+2.1**
SLE	**Schleitheim**	**1.44**	**290**	⇓*i* Pn	**Pn**		**23 03 02.1**	**+1.3**
RJOB	**Jochberg**	**1.62**	**73**	*e*Pn	**Pn**		**23 03 06.7**	**+3.3**
RJOB				*e*Sn	**Sn**		**23 03 31.0**	**+6.6**

SULZ Sulz-Cheisache 1.64 279 ⇓*i* Pn **Pn 23 03 05.0 +1.3**
HASLI Hasliberg 1.70 252 *eP** **Pb 23 03 06.5 +1.0**
STU Stuttgart 1.71 330 *e*Pn **Pn 23 03 06.9 +2.2**
STU *e*Sg **Sg 23 03 31.7 0.0**
LBG Lerchenberg 1.78 321 Pg **Pg 23 03 07.1 -3.1**
LBG Sn **Sn 23 03 28.8 +0.2**
LBG Lerchenberg 1.78 321 S **Sn 23 03 28.8 +0.2**
FELD Feldberg 1.79 290 P **Pn 23 03 06.7 +0.9**
FELD *e*S **Sn 23 03 33.7 +5.0**
FELD Feldberg 1.79 290 Pn **Pn 23 03 06.6 +0.8**
FELD Sg **Sg 23 03 33.6 -0.5**
BFO Black Forest 1.79 306 *e*Pn **Pn 23 03 07.5 +1.6**
KIZ Kirchzarten 1.86 292 Pn **Pn 23 03 07.8 +0.8**
KIZ Pg **Pg 23 03 11.5 -0.4**
KIZ Sg **Sg 23 03 35.5 -1.3**
KIZ Kirchzarten 1.86 292 P **Pg 23 03 11.5 -0.4**
KIZ S **Sg 23 03 35.5 -1.3**
BALST Balsthal 1.91 272 ⇓*i* Pn **Pn 23 03 08.7 +1.1**
KBA Koelnbreinsper 1.95 95 ⇑*i* PG **Pg 23 03 12.3 -1.3**
KBA *i* SG **Sg 23 03 39.2 -0.5**
25nm,0.3s
BBS Basel-Blauen 2.04 276 Pn **Pn 23 03 10.2 +0.8**
BBS Sg **Sg 23 03 43.7 +1.2**
SIND Sindeldorf 2.13 344 Pn **Pn 23 03 11.3 +0.5**
SIND Pg **Pg 23 03 16.4 -0.9**
MOF Molkenrain 2.34 285 Pn **Pn 23 03 15.3 +1.5**
MOF Sg **Sg 23 03 51.1 -1.6**
WLS Welschbruch 2.39 299 Pg **Pg 23 03 22.7 +0.3**
ECH Echery 2.43 293 Pn **Pn 23 03 15.4 +0.3**
WET Wettzell 2.44 40 *e*Pn **Pn 23 03 16.2 +1.1**
WET *e*Sg **Sg 23 03 54.3 -1.5**
CDF Champ du Feu 2.44 298 *e*Pn **Pn 23 03 15.9 +0.7**
CDF *e*Pg **Pg 23 03 22.6 -0.7**
CDF *e*Sg **Sg 23 03 53.6 -2.3**
57nm,0.3s
CDF Champ du Feu 2.44 298 *e*P **Pn 23 03 15.9 +0.7**
CDF *e* 23 03 53.6
GRA1 Grafenberg Arr 2.44 11 *e*Pn **Pn 23 03 15.0 -0.2**
GRA1 *e*Sn **Sn 23 03 54.8 +9.4**
GRF Grafenberg Arr 2.44 11 *e*Pn **Pn 23 03 15.0 -0.2**
GRF *e*Sg **Sg 23 03 54.8 -1.1**
GRF Grafenberg Arr 2.44 11 *e*Pn **Pn 23 03 15.0 -0.2**
GRF *e*Sn **Sn 23 03 54.8 +9.4**
LANF Langenberg 2.47 314 Pg **Pg 23 03 24.2 +0.3**
LANF Langenberg 2.47 314 Pn **Pn 23 03 16.9 +1.3**
LANF Pg **Pg 23 03 24.2 +0.3**
LANF Langenberg 2.47 314 Pg **Pg 23 03 24.2 +0.3**
LOMF Lomont 2.50 272 Pg **Pg 23 03 25.2 +0.7**
HINF Hinteralfeld 2.52 283 *e*Pn **Pn 23 03 16.7 +0.3**
HINF *e*Pg **Pg 23 03 23.7 -1.3**
HINF *e*Sn **Sn 23 03 45.3 -2.2**
HINF *e*Sg **Sg 23 03 55.5 -3.1**
59nm,0.4s
HINF Hinteralfeld 2.52 283 *e*P **Pn 23 03 16.7 +0.3**
HINF *e* 23 03 45.3
MOA Molln 2.61 76 ⇑*i* PN **Pn 23 03 16.7 -0.9**
MOA *i* PG **Pg 23 03 25.2 -1.5**
MOA *i* SG **Sg 23 04 00.3 -1.2**
10nm,0.2s
GEC2 GERESS Array S 2.65 53 *e*Pn **Pn 23 03 19.7 +1.6**
GEC2 *e*Sn **Sn 23 03 51.7 +1.2**
VOJS Vojsko 2.65 117 *i* Pn **Pn 23 03 21.8 +3.5**
VOJS *e*Sn **Sn 23 03 57.0 +6.2**
KHC Kasperske Hory 2.75 47 *e*P **Pn 23 03 21.1 +1.4**
KHC *e* 23 03 54.9
KHC Kasperske Hory 2.75 47 *e*PN **Pn 23 03 21.1 +1.4**
KHC *e*PG **Pg 23 03 27.0 -2.6**
KHC *e*SN **Sn 23 03 54.9 +1.5**
KHC *e*SG **Sg 23 04 03.2 -3.2**
35nm,0.5s
OBKA Obir 2.89 104 ⇑*i* PG **Pg 23 03 30.3 -2.0**
OBKA *i* SG **Sg 23 04 10.4 -0.4**
9.1nm,0.4s
OBKA Obir 2.89 104 ⇑*i* Pn **Pn 23 03 26.9 +5.3**
OBKA ⇑*i* Pg **Pg 23 03 30.3 -2.0**
OBKA *i* Sg **Sg 23 04 10.4 -0.4**
HAU Haudompre 2.89 286 *e*Pn **Pn 23 03 21.4 -0.3**
HAU *e*Pg **Pg 23 03 30.4 -2.0**
HAU *e*Sg **Sg 23 04 07.4 -3.6**
67nm,0.4s
CABF La Chapelle 3.10 259 *e*Pn **Pn 23 03 24.0 -0.6**
CABF *e*P 23 03 26.7
CABF *e*Pg **Pg 23 03 36.1 -0.4**
CABF *e*Sg **Sg 23 04 13.6 -4.2**
19nm,0.5s
LPG La Plagne 3.16 237 *e*Pn **Pn 23 03 24.5 -0.9**
LPG *e*Sg **Sg 23 04 14.2 -5.6**
11nm,0.4s
LPL La Plagne 3.16 237 *e*Pn **Pn 23 03 24.3 -1.1**
LPL *e*Sg **Sg 23 04 14.5 -5.3**
9.3nm,0.4s
THEF They Montfort 3.18 289 Pg **Pg 23 03 36.0 -2.2**
THEF They Montfort 3.18 289 Pn **Pn 23 03 27.2 +1.4**
THEF Pg **Pg 23 03 36.0 -2.2**
THEF They Montfort 3.18 289 Pg **Pg 23 03 36.0 -2.2**
NKC Novy Kostel 3.21 23 *e*PN **Pn 23 03 25.1 -1.0**
NKC *e*SN **Sn 23 04 04.2 -0.5**
NKC *e*SG **Sg 23 04 18.1 -3.3**
ABH Alteburg 3.24 324 Pg **Pg 23 03 37.5 -1.9**
ABH Alteburg 3.24 324 Pg **Pg 23 03 37.6 -1.7**
GUNZ Gunzen 3.30 21 *e*Pn **Pn 23 03 28.9 +1.5**
GUNZ *e*Sn **Sn 23 04 05.7 -1.4**
WERD Werda 3.37 20 *e*Pn **Pn 23 03 28.3 +0.1**
WERD *e*Sn **Sn 23 04 07.2 -1.7**
TANN Tannenbergstha 3.38 22 *e*Pn **Pn 23 03 28.6 +0.1**
TANN *e*Sn **Sn 23 04 07.8 -1.2**
ARSA Arzberg 3.42 89 ⇓*i* PN **Pn 23 03 28.4 -0.7**
ARSA *i* SG **Sg 23 04 27.1 -1.4**
6.5nm,0.5s
MOX Moxa 3.43 12 *e*Pn **Pn 23 03 28.1 -1.2**
MOX *e*Pg **Pg 23 03 42.2 -0.8**
MOX *e*Sn **Sn 23 04 09.3 -1.0**
MOX *e*Sg **Sg 23 04 25.7 -3.0**
MOX Moxa 3.43 12 *e*P **Pn 23 03 27.9 -1.3**
MOX *e* 23 04 09.2
MOX Moxa 3.43 12 *e*Pn **Pn 23 03 27.9 -1.3**
MOX *e*Pg **Pg 23 03 42.2 -0.8**
MOX *e*Sn **Sn 23 04 09.2 -1.2**
MOX *e*Sg **Sg 23 04 25.7 -3.0**
MOX Moxa 3.43 12 *i* P **Pn 23 03 27.9 -1.3**
MOX Pg **Pg 23 03 42.0 -1.0**
MOX S **Sn 23 04 09.0 -1.4**
MOX Sg **Sg 23 04 26.0 -2.7**
RFYF Reffroy 3.63 293 *e*Pn **Pn 23 03 31.2 -0.9**
RFYF *e*P 23 03 34.4
baz=112
RFYF *e*Pg **Pg 23 03 44.2 -2.9**
baz=112
RFYF *e*Sg **Sg 23 04 31.7 -3.7**
26nm,0.3s
RFYF Reffroy 3.63 293 *e*P **Pn 23 03 34.4 +2.3**
RFYF Reffroy 3.63 293 *e*Pg **Pg 23 03 44.2 -2.9**
RFYF *e*Sg **Sg 23 04 31.7 -3.7**
13nm,0.3s
MBDF Montbardon 3.66 227 *e*P **Pn 23 03 34.1 +1.6**
MBDF *e*Sn **Sn 23 04 11.1 -5.1**
11nm,0.6s
WLF Walferdange 3.73 311 *e*Pn **Pn 23 03 35.7 +2.1**
BOJS Bojanci 3.75 117 *i* Pn **Pn 23 03 37.3 +3.6**
BOJS *i* Sn **Sn 23 04 23.5 +5.1**
PRU Pruhonice 3.80 43 *e*P **Pn 23 03 35.4 +0.9**
PRU *e* 23 04 19.9
PRU Pruhonice 3.80 43 *e*PN **Pn 23 03 35.4 +0.9**
PRU *e*PG **Pg 23 03 43.3 -7.1**
PRU *e*SN **Sn 23 04 19.9 +0.2**
PRU *e*SG **Sg 23 04 35.6 -5.4**
MEZF Maizieres J'vi 3.86 290 *e*Pg **Pg 23 04 48.3 -3.3**
MEZF *e*Sg **Sg 23 04 38.6 -4.4**
12nm,0.3s
ORIF Oris-en-Rattie 4.00 235 *e*P **Pn 23 03 39.4 +2.0**
ORIF *e*Sg **Sg 23 04 41.0 -6.8**
7.0nm,0.4s
SBF Sospel 4.05 213 *e*Pn **Pn 23 03 35.8 -2.4**
SBF *e*Sn **Sn 23 04 20.3 -6.0**
9.4nm,0.3s
BRG Berggiesshubel 4.23 31 *i* Sg **Sg 23 04 50.2 -5.3**
CLL Collm 4.33 21 *e*Pn **Pn 23 03 42.0 -0.1**
CLL *e*Pg **Pg 23 03 59.0 -2.1**
CLL *e*Sg **Sg 23 04 55.0 -3.9**
LOR Lormes 4.52 272 *e*Pn **Pn 23 03 43.7 -1.1**
baz=94

LOR				eSg	Sg	23 04 58.4	-6.7
	11nm,0.4s						
VRAC	Vranov	4.54	61	ePn	Pn	23 03 46.6	+1.6
SMF	Signal de Mont	4.61	264	ePn	Pn	23 03 44.3	-1.7
SMF				eSg	Sg	23 05 01.3	-6.6
	18nm,0.7s						
FRF	La Foret Royal	4.62	217	eP	Pn	23 03 47.3	+1.1
FRF				eSn	Sn	23 04 33.5	-7.0
	7.1nm,0.4s						
VIVF	Saint-Julien-l	4.73	241	ePn	Pn	23 03 46.8	-1.0
SSF	Saint Saulge	4.78	270	ePn	Pn	23 03 47.6	-0.8
SSF				eSg	Sg	23 05 06.7	-6.9
	3.0nm,0.5s						
SMRF	Simiane la Rot	4.79	228	eP	Pn	23 03 49.8	+1.2
LMR	La Mourre	4.86	217	eP	Pn	23 03 50.7	+1.1
DPC	Dobruska-Polom	4.91	49	eSG	Sg	23 05 10.0	-8.1
MORC	Moravsky Berou	5.29	60	eP	Pn	23 03 55.0	-0.7
MORC	Moravsky Berou	5.29	60	ePn	Pn	23 03 56.1	+0.4
MORC				eSn	Sn	23 04 54.2	-3.3
BGF	Bois d'Agland	5.29	265	ePn	Pn	23 03 55.1	-0.6
BGF				eSg	Sg	23 05 23.0	-7.9
	9.4nm,0.4s						
LASF	Ste Croix	5.66	238	ePn	Pn	23 03 58.3	-2.6
OKC	Ostrava-Krasne	5.67	61	eSG	Sg	23 05 34.7	-8.9

*BJI **04** 23:42:07.4, 6.85N×93.48E, h19km, mB4.8, mb4.6, Ms4.3, Msz4.1*
*NEIC **04** 23:42:16.4±0.5, 7.63N×93.91E, mb4.5/6, Error ellipse: s-maj=11.9km s-min=8.9km az=56.0*
*IDC **04** 23:42:16.6±0.8, 7.69N×93.92E, h18km±3km, mb4.1/12, mb1 4.3/13, mb1mx4.1/20, mbtmp4.2/13, ML4.3/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/22, Error ellipse: s-maj=23.9km s-min=18.1km az=74.0*
ISC 04 23:42:14.3±0.6, **7.51N**±0.07×**93.88E**±0.07, **h21km, h21km**±1.4km**:pP-P, n36,** σ1^{s}**06**/33, **mb4.3**/20, **MS3.9**/3, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	Songkhla	6.69	92	P	Pn	23 43 54.0	0.0
KULM	Kulim	7.08	108	eP	Pn	23 43 59.1	-0.4
NNT	Nongplab	7.66	48	P	Pn	23 44 07.0	-0.6
CM31	Chiang Mai Arr	11.94	24	P	P	23 45 04.4	-2.2
	13nm,0.8s						
CMAR	Chiang Mai Arr	11.94	24	Pn	P	23 45 04.9	-1.7
	0.6nm,0.3s,baz=207,slow=12,SNR=31						
CHG	Chiang Mai	12.27	23	P	P	23 45 13.2	+2.3
KMI	Kunming	19.45	25	P	P	23 46 44.8	+2.2
KMI				AP		23 46 51.9	
KMI				XP		23 46 55.7	
KMI				S	S	23 50 17.1	+1.8
KMI				AMB	AMB		
	comp=Z,7.0nm,1.0s						
KMI				AMB	AMB		
	comp=Z,58nm,4.6s						
KMI				LR	LR		
	comp=N,262nm,19.2s						
KMI				LR	LR		
	comp=E,145nm,17.1s						
KMI				LR	LR		
	comp=Z,205nm,18.2s						
LSA	Lhasa	22.22	354	P	P	23 47 10.8	-0.4
LSA	Lhasa	22.22	354	eP	P	23 47 10.5	-0.7
	comp=Z,17nm,0.7s,mb4.6						
GTA	Gaotai	32.20	9	eP	P	23 48 43.3	+0.1
GTA				AP	pP	23 48 49.4	0.0
GTA				XP	sP	23 48 52.9	+0.8
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
WMQ	Urumqi	36.57	352	eP	P	23 49 21.5	+0.8
WMQ				AP	pP	23 49 31.2	+4.3
WMQ				XP	sP	23 49 35.2	+5.7
WMQ				PP	PP	23 50 46.0	+0.7
WMQ				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,37nm,4.2s						
WMQ				LR	LR		
	comp=N,224nm,15.8s,MS4.3						
WMQ				LR	LR		
	comp=E,321nm,15.4s,MS4.3						
WMQ				LR	LR		
	comp=Z,425nm,15.5s,MS4.3						
HHC	Hu-ho-hao-te	36.75	23	eP	P	23 49 22.2	0.0
HHC				S	S	23 55 00.5	-3.8
HHC				LR	LR		
	comp=N,119nm,15.6s,MS3.9						
HHC				LR	LR		
	comp=E,99nm,18.0s,MS3.9						
MKAR	Makanchi Array	40.38	348	P	P	23 49 51.5	-0.9
	comp=E,0.9nm,0.6s,mb3.7,baz=169,slow=7.6,SNR=11						
MKAR				pP	pP	23 49 57.8	-0.9
	comp=E,2.7nm,0.7s,baz=157,slow=9.2,SNR=16						
SONM	Songino Array	41.57	13	P	P	23 50 02.2	0.0
	comp=E,2.7nm,0.8s,mb4.0,baz=195,slow=8.4,SNR=23						
SONM				PcP	PcP	23 52 00.4	+0.4
	comp=E,0.8nm,0.9s,baz=214,slow=5.2,SNR=3.0						
SONM				pPcP		23 52 06.6	
	comp=E,0.9nm,0.7s,baz=206,slow=3.3,SNR=3.9						
ULN	Ulaanbaatar	41.75	13	eP	P	23 50 03.6	0.0
	comp=E,1.9nm,0.7s,mb3.8						
ZAL	Zalesovo	46.87	353	P	P	23 50 45.2	+0.4
	comp=E,4.5nm,0.4s,mb4.8,baz=314,slow=5.4,SNR=17						
ZAL	Zalesovo	46.87	353	P	P	23 50 45.2	+0.4
MDJ	Mudanjiang	48.25	34	P	P	23 50 55.1	-0.7
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,83nm,3.2s						
WRA	Warramunga Arr	48.27	125	P	P	23 50 56.1	-0.1
	comp=Z,0.8nm,0.5s,mb4.0,baz=304,slow=8.6,SNR=17						
WRA				PcP	PcP	23 52 23.8	+0.4
	comp=Z,1.2nm,1.2s,baz=314,slow=2.6,SNR=3.0						
WRA				pPcP		23 52 30.0	
	comp=Z,0.8nm,0.7s,baz=313,slow=2.9,SNR=5.5						
WRAB	Tennant Creek	48.27	125	eP	P	23 50 56.4	+0.2
	comp=Z,6.2nm,0.9s,mb4.6						
BVAR	Borovoye Array	49.25	341	PcP	PcP	23 52 26.5	-0.1
	comp=Z,0.6nm,0.6s,baz=153,slow=6.4,SNR=2.0						
BVAR				pPcP		23 52 33.6	
	comp=Z,0.7nm,0.6s,baz=135,slow=4.2,SNR=3.7						
ZRNK	Zerenda	49.63	340	eP	P	23 51 04.8	-1.5
	comp=Z,3.8nm,1.0s,mb4.4						
KMBO	Kilima Mbogo	57.12	264	LR	LR	00 12 16.6	
	comp=Z,53nm,19.5s,MS3.6,baz=137,slow=32						
BRTR	Keskin Array B	62.47	311	P	P	23 52 37.5	-1.1
	comp=Z,1.4nm,0.8s,mb4.2,baz=114,slow=7.8,SNR=6.2						
FINES	FINESS Array B	72.91	332	P	P	23 53 43.3	-0.4
	comp=Z,4.1nm,0.7s,mb4.5,baz=96,slow=5.7,SNR=32						
FINES				pP	pP	23 53 49.4	-0.8
	comp=Z,2.3nm,0.5s,baz=108,slow=6.6,SNR=10.0						
KAF	Kangasniemi	72.99	333	ep	P	23 53 43.6	-0.6
	comp=Z,3.0nm,0.5s,mb4.5,baz=104,slow=5.7						
BOSA	Boshof	75.17	238	P	P	23 54 00.6	+3.1
	comp=Z,1.4nm,0.5s,mb4.2,baz=194,slow=10,SNR=5.6						
BOSA				pP	pP	23 54 06.5	+2.4
	comp=Z,1.5nm,0.4s,baz=38,slow=5.7,SNR=2.2						
ARCES	ARCESS Array B	75.52	340	P	P	23 53 59.2	+0.6
	comp=Z,1.8nm,0.8s,mb4.1,baz=93,slow=5.2,SNR=16						
FX1	Attu Island--F	77.58	38	P	P	23 54 11.1	+0.6
	comp=Z,6.3nm,0.6s,mb4.7,baz=346,slow=4.2,SNR=5.7						
GERES	GERESS Array B	77.92	318	P	P	23 54 13.0	+0.5
	comp=Z,1.3nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=14						
GERES				pP	pP	23 54 19.1	0.0
	comp=Z,1.2nm,0.5s,baz=91,slow=5.5,SNR=8.8						
NB2	NORSAR Subarra	79.92	331	P	P	23 54 23.1	0.0
	comp=Z,3.4nm,1.1s,mb4.2,baz=92,slow=5.8						
NOA	NORSAR Array B	79.92	331	P	P	23 54 22.7	-0.4
	comp=Z,1.2nm,0.8s,mb3.9,baz=96,slow=5.6,SNR=5.0						
NOA				pP	pP	23 54 28.9	-0.8
	comp=Z,1.2nm,0.7s,baz=93,slow=5.7,SNR=4.9						
ESDC	Sonseca Array	91.25	310	P	P	23 55 20.8	+1.1
	comp=Z,0.6nm,0.5s,mb4.2,baz=67,slow=3.9,SNR=4.6						
ESDC				pP	pP	23 55 27.2	+0.8
	comp=Z,0.6nm,0.6s,baz=66,slow=3.9,SNR=3.8						
ILAR	Eielson Array	95.18	22	pP	pP	23 55 44.6	+0.7
	comp=Z,0.3nm,0.6s,baz=293,slow=3.8,SNR=3.3						
PDAR	Pinedale Array	125.60	21	PKP	PKPdf	00 01 17.2	-1.6
	comp=Z,0.2nm,0.5s,baz=59,slow=5.3,SNR=2.8						
PDAR				pPKP		00 01 24.1	
	comp=Z,0.8nm,0.9s,baz=45,slow=2.1,SNR=5.5						
TXAR	Lajitas Array	139.66	24	pPKP		00 01 51.8	
	comp=Z,0.2nm,0.4s,baz=332,slow=1.8,SNR=3.2						

*NEIC **04** 23:46:09.5±1.9, 30.15N×83.54E, h44km±25km, mb3.9/1, Error ellipse: s-maj=22.4km s-min=10.5km az=74.0*
*IDC **04** 23:46:09.7±7.2, 30.19N×83.54E, h43km±70km, mb3.4/3, mb1 3.7/5, mb1mx3.3/23, mbtmp3.7/5, ML4.0/2, MS3.3/3, Ms1 3.4/3, ms1mx2.9/17, Error ellipse: s-maj=64.7km s-min=24.6km az=61.0*
ISC 04 23:46:06.9±0.8, **30.12N**±0.09×**83.6E**±0.2, **h33km, n13,** σ0^{s}**24**/11, **mb3.6**/4, **MS3.3**/3, **Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLK	Valmikinagar	2.81	174	i P	P	23 47 02.0	+11
VLK				eS	S	23 47 41.0	+17
HYB	Hyderabad	13.45	201	eP	P	23 49 18.0	+0.2
HYB	Hyderabad	13.45	201	i P	P	23 49 18.0	+0.2
MKAR	Makanchi Array	16.67	357	P	P	23 49 59.9	+0.5
	0.3nm,0.3s,baz=173,slow=12,SNR=19						
MKAR	Makanchi Array	16.67	357	P	P	23 49 59.9	+0.5
CMAR	Chiang Mai Arr	18.19	126	P	P	23 50 18.7	0.0
	0.3nm,0.3s,baz=321,slow=9.5,SNR=6.3						
BVAR	Borovoye Array	24.83	341	P	P	23 51 27.1	-0.2
	0.6nm,0.5s,mb3.4,baz=153,slow=9.7,SNR=2.9						
SONM	Songino Array	24.92	38	P	P	23 51 28.3	+0.1
	0.5nm,0.6s,mb3.2,baz=227,slow=9.6,SNR=2.9						
ZRNK	Zerenda	25.18	339	eP	P	23 51 30.3	-0.3
	3.3nm,0.9s,mb3.9						
MJAR	Matsushiro Arr	45.61	67	LR	LR	00 14 09.6	
	comp=Z,55nm,21.1s,MS3.5,baz=240,slow=37						
GERES	GERESS Array B	55.10	311	LR	LR	00 22 51.8	
	comp=Z,20nm,19.5s,MS3.2,baz=4.3,slow=40						
NOA	NORSAR Array B	55.65	326	LR	LR	00 20 29.3	
	comp=Z,25nm,18.0s,MS3.3,baz=90,slow=37						
WRA	Warramunga Arr	69.76	129	P	P	23 57 15.8	-0.2
	1.6nm,0.8s,mb4.0,baz=323,slow=6.7,SNR=7.2						

IDC 04 23:54:43.5±1.1, **46.50N**×**150.13E, mb3.7**/6, **mb1 4.0**/6, **mb1mx3.7**/21, **mbtmp3.7**/6, **MS3.3**/2, **Ms1 3.3**/2, **ms1mx2.6**/25, **Error ellipse: s-maj=37.3km s-min=29.8km az=76.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	13.36	226	LR	LR	00 03 47.1	
	comp=Z,42nm,20.3s,baz=245,slow=41						
JHJ	Hachijo jima 2	15.53	214	LR	LR	00 04 03.6	
	comp=Z,296nm,21.0s,baz=120,slow=36						
MKAR	Makanchi Array	45.22	296	P	P	00 03 03.0	-0.8
	0.4nm,0.6s,baz=72,slow=7.8,SNR=7.8						
FINES	FINESS Array B	63.37	334	P	P	00 05 13.3	-3.0
	0.4nm,0.5s,baz=22,slow=7.5,SNR=6.2						
WRA	Warramunga Arr	67.66	196	P	P	00 05 42.0	-2.5
	1.0nm,0.8s,baz=15,slow=6.6,SNR=7.1						
NB2	NORSAR Subarra	67.77	340	P	P	00 05 42.8	-1.7
	0.5nm,0.5s,baz=28,slow=6.2						
NOA	NORSAR Array B	67.77	340	P	P	00 05 42.9	-1.6
	0.6nm,0.5s,baz=29,slow=6.4,SNR=4.3						
GERES	GERESS Array B	77.75	332	P	P	00 06 41.4	-2.0
	0.4nm,0.6s,baz=22,slow=7.2,SNR=3.9						
TXAR	Lajitas Array	79.39	59	P	P	00 06 52.0	-0.8
	0.1nm,0.3s,baz=280,slow=5.5,SNR=4.0						

*KISR **05** 00:06:55.4±1.2, 30.07N×51.55E, h33km, ML2.9*
*CSEM **05** 00:06:56.8±0.1, 29.72N×51.63E, h20km, ML2.9, Error ellipse: s-maj=3.8km s-min=2.6km az=15.0*
*THR **05** 00:06:58.4±0.3, 29.91N×52.19E, h35km±9km, ML3.1*
ISC 05 00:06:53.7±0.8, **29.70N**±0.08×**51.73E**±0.05, **h10km, n10,** σ1^{s}**13**/14, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.79	142	ePG	Pg	00 07 30.2	+0.8
GHIR				AML	AML	00 08 10.5	
	comp=N,122nm,0.5s						
NASN	Na'in	3.22	16	ePN	Pn	00 07 44.9	-0.6
NASN	Na'in	3.22	16	ePn	Pn	00 07 44.8	-0.6
	SNR=54						
QRN	Al-Qurain	3.47	255	eP	Pn	00 07 49.9	+1.0
QRN				eS	Sn	00 08 30.4	-0.1
QRN				AML	AML	00 08 31.8	
	comp=Z,28nm,0.4s						
SHGR	Shooshtar-Gavs	3.48	314	ePN	Pn	00 07 54.4	+5.3
SHGR				AML	AML	00 08 45.8	
	comp=N,56nm,0.6s						
KBD	Kabd	3.56	263	eP	Pn	00 07 51.0	+0.7
KBD				eS	Sn	00 08 32.2	-0.7
KBD				AML	AML	00 08 35.6	
	comp=Z,48nm,0.2s						
RDF	Al-Radifah	3.73	259	eP	Pn	00 07 53.5	+0.8
RDF				eS	Sn	00 08 37.6	+0.3
RDF				AML	AML	00 08 42.0	
	comp=Z,20nm,0.3s						
NAY	Al-Naaiem	3.94	265	eP	Pn	00 07 55.3	-0.4
NAY				eS	Sn	00 08 40.6	-1.9
NAY				AML	AML	00 08 49.6	
	comp=Z,5.6nm,0.4s						
KRBR	Kerman	4.38	85	ePN	Pn	00 07 59.3	-2.5
ASAO	Ashtian	5.04	344	ePN	Pn	00 08 13.1	+1.8

ISC 05 00:08:20.1±2.2, **22.9N**±0.1×**93.1E**±0.1, **h10km, n9,** σ0^{s}**55**/10, **1D, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGT	Agartala	2.01	301	⇓iPG	Pg	00 09 06.0	+5.7
AGT				i		00 10 06.0	
IMP	Imphal	2.07	21	i P	Pn	00 08 55.0	-0.3
IMP				i		00 09 28.0	
SHL	Shillong	2.94	338	eP	Pn	00 09 07.5	-0.3
SHL				eS	Sn	00 09 43.0	-0.5
BWNR	Bhubaneshwar	7.27	251	i	Px	00 10 04.5	
BWNR				eS	Sn	00 11 31.9	-0.6
BWNR				AML	AML	00 11 40.9	
	comp=E,32nm,0.1s						
BWNR				AML	AML	00 11 41.3	
	comp=N,14nm,0.4s						
GUN	Gumba	8.27	309	eP	P	00 10 24.1	+1.1
	comp=N,30nm,0.4s						
PKI	Pulchoki	8.42	306	eP	P	00 10 25.9	+0.7
	comp=N,26nm,0.4s						
KKN	Kakani	8.64	306	eP	P	00 10 28.2	+0.1
	comp=N,6.7nm,0.2s						
DMN	Daman	8.67	305	eP	P	00 10 28.8	+0.2
	comp=N,11nm,0.4s						
GKN	Gorkha	9.23	306	eP	P	00 10 36.1	-0.3
	comp=N,47nm,0.4s						

*KNET **05** 00:10:44.7±0.7, 41.25N×75.30E, h8km±3km, ml2.1, Error ellipse: s-maj=4.5km s-min=3.2km az=1.0*
*NNC **05** 00:10:45.0±2.2, 41.17N×75.18E, mpv2.6, Error ellipse: s-maj=22.1km s-min=12.0km az=89.0*
ISC 05 00:10:43.9±1.6, **41.10N**±0.08×**75.33E**±0.08, **h8km, n11,** σ1^{s}**11**/21, **13C-7D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	Kyzart	0.98	356	P	Pb	00 11 01.1	-1.5
	14nm,0.1s,SNR=94						
KZA				⇑S	Sb	00 11 13.9	-1.6
	32nm,0.2s						
UCH	Uchtor	1.28	332	P	Pb	00 11 06.6	-1.2
	26nm,0.2s,SNR=19						
UCH				⇓S	Sb	00 11 23.6	-0.8
	24nm,0.2s						
ULHL	Ulahol	1.33	30	⇑P	Pb	00 11 07.8	-0.9
	5.4nm,0.1s,SNR=21						
ULHL				⇓S	Sb	00 11 25.4	-0.4
	11nm,0.1s						
KBK	Karagaybulak	1.58	350	⇑P	Pn	00 11 12.0	-0.3
	8.9nm,0.1s,SNR=8.2						
KBK				⇑S	Sb	00 11 32.9	-0.1
	49nm,0.2s						
AML	Almayashu	1.60	311	⇑P	Pn	00 11 12.2	-0.5
	6.0nm,0.2s,SNR=17						
AML				⇑S	Sb	00 11 33.5	-0.2
	18nm,0.3s						
AAK	Ala-Archa	1.66	338	⇑P	Pn	00 11 13.6	+0.1
	11nm,0.2s,SNR=6.8						
AAK				⇑S	Sn	00 11 34.9	-0.2
	18nm,0.2s						
AAK	Ala-Archa	1.66	338	⇓P	Pn	00 11 13.4	0.0
	4.0nm,0.5s						
AAK				⇑S	Sn	00 11 34.8	-0.2
	8.3nm,0.3s						
TKM2	Tokmak 2	1.83	6	⇓P	Pn	00 11 16.6	+0.7
	10.0nm,0.3s,SNR=14						
TKM2				⇓S	Sn	00 11 40.9	+1.3
	34nm,0.1s						
CHMS	Chumysh	1.95	347	⇑P	Pn	00 11 18.5	+0.9
	3.5nm,0.1s,SNR=6.2						
CHMS				⇑S	Sn	00 11 43.9	+1.4
	9.8nm,0.2s						
USP	Ospenovka	2.25	344	⇓P	Pn	00 11 24.2	+2.3
	8.5nm,0.3s,SNR=11						
USP				⇑S	Sn	00 11 53.0	+2.8
	20nm,0.2s						
KK31	Karatay Array	4.11	301	⇑Pg	Pg	00 11 57.4	-8.5
	0.4nm,0.4s,baz=118,slow=17,SNR=5.6						
KK31				⇓Lg		00 12 50.1	
	3.0nm,0.6s,baz=116,slow=28,SNR=8.9						

*NEIC **05** 00:17:07.0±0.5, 4.54N×94.94E, mb4.5/4, Error ellipse: s-maj=18.2km s-min=9.3km az=225.0*
*IDC **05** 00:17:07.2±1.0, 4.78N×95.12E, h51km±7km, mb4.0/11, mb1 4.1/11, mb1mx3.9/19, mbtmp4.3/11, MS3.4/3, Ms1 3.4/3, ms1mx3.0/19, Error ellipse: s-maj=42.9km s-min=14.5km az=49.0*
ISC 05 00:17:05.6±0.5, **4.52N**±0.10×**95.00E**±0.10, **h51km, h51km**±4.6km**:pP-P, n36,** σ1^{s}**15**/34, **mb4.3**/16, **MS3.6**/2, **3C-1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.68	82	ePn	P	00 18 29.0	-0.4
CM31	Chiang Mai Arr	14.38	15	ePn	P	00 20 32.5	+4.5
	13nm,0.8s						
CMAR	Chiang Mai Arr	14.38	15	P	P	00 20 29.5	+1.5
	0.9nm,0.3s,baz=208,slow=11,SNR=35						
CMAR				LR	LR	00 25 30.2	
	comp=Z,67nm,21.1s,baz=195,slow=36						
KSM	Kuching	15.58	101	eP	P	00 20 50.2	+6.6
LSA	Lhasa	25.31	352	eP	P	00 22 29.8	+0.5
	5.2nm,0.8s,mb4.1						
FITZ	Fitzroy Crossi	37.65	127	P	P	00 24 18.1	+0.3
	3.8nm,0.8s,mb4.2,baz=334,slow=8.0,SNR=3.6						
ULHL	Ulahol	41.12	339	P	P	00 24 47.1	+0.7
	SNR=7.0						
UCH	Uchtor	41.76	337	P	P	00 24 52.7	+1.1
	SNR=16						
TKM2	Tokmak 2	41.95	339	P	P	00 24 53.6	+0.5
	SNR=7.1						
KBK	Karagaybulak	41.96	338	P	P	00 24 54.5	+1.2
	SNR=9.2						
AML	Almayashu	42.00	336	P	P	00 24 54.8	+1.2
	SNR=20						
AAK	Ala-Archa	42.11	337	eP	P	00 24 55.1	+0.6
	6.6nm,0.6s,mb4.4						
USP	Ospenovka	42.65	338	P	P	00 24 59.4	+0.4
	SNR=13						
MKAR	Makanchi Array	43.53	347	P	P	00 25 04.4	-1.7
	3.1nm,0.4s,mb4.4,baz=169,slow=7.6,SNR=46						
MKAR				pP	pP	00 25 15.8	-3.8
	0.5nm,0.3s,baz=180,slow=8.4,SNR=3.6						
MKAR				LR	LR	00 44 06.5	
	comp=Z,28nm,18.5s,MS3.2,baz=18,slow=37						
SONM	Songino Array	44.25	11	P	P	00 25 09.9	-2.0
	0.5nm,0.4s,mb3.6,baz=193,slow=7.5,SNR=7.3						
SONM				PcP	PcP	00 26 55.6	-0.6
	0.6nm,0.4s,baz=200,slow=3.9,SNR=5.4						
WRA	Warramunga Arr	45.66	124	P	P	00 25 23.8	+0.3
	10nm,0.7s,mb4.9,baz=301,slow=9.5,SNR=80						
WRA				PcP	PcP	00 27 01.7	+0.3
	0.4nm,0.7s,baz=304,slow=2.8,SNR=2.3						
WRAB	Tennant Creek	45.67	123	eP	P	00 25 24.7	+1.2
	17nm,0.6s,mb5.2						
WB2	Warramunga Arr	45.67	124	⇑iP	P	00 25 24.7	+1.1
HIA	Hailar	49.29	21	eP	P	00 25 48.1	-3.3
ZRNK	Zerenda	52.81	341	eP	P	00 26 16.4	-1.6
	7.1nm,0.8s,mb4.7						
STKA	Stephens Creek	57.20	133	P	P	00 26 48.6	-1.6
	4.4nm,1.0s,mb4.4,baz=288,slow=10,SNR=3.1						
BRTR	Keskin Array B	65.28	312	P	P	00 27 42.9	-1.7
	2.0nm,0.6s,mb4.3,baz=128,slow=7.4,SNR=12						
BRTR				pP	pP	00 27 59.0	+0.2
	1.0nm,0.7s,baz=114,slow=7.7,SNR=3.8						
AKASG	Malin Array Be	71.31	322	P	P	00 28 20.6	-1.2
	0.8nm,0.4s,mb4.0,baz=90,slow=5.5,SNR=11						
VRI	Vrincioaia	71.71	317	⇑P	P	00 28 25.3	+1.0
MLR	Muntele Rosu	72.17	316	⇓P	P	00 28 27.3	+0.3
BURAR	Bucovina Array	73.10	318	⇑P	P	00 28 33.4	+0.9
BOSA	Boshof	74.56	239	LR	LR	01 00 17.9	
	comp=Z,81nm,18.5s,MS4.0,baz=333,slow=35						
KOLS	Kolonicke sedl	75.29	319	eP	P	00 28 46.0	+0.9
CRVS	Cervenica-Dubn	75.81	319	eP	P	00 28 49.2	+1.1
FINES	FINESS Array B	76.06	332	P	P	00 28 48.4	-0.9
	2.2nm,0.4s,mb4.4,baz=101,slow=5.2,SNR=45						
FINES				pP	pP	00 29 02.9	-0.9
	1.1nm,0.4s,baz=104,slow=5.7,SNR=4.6						
KAF	Kangasniemi	76.15	333	ep	P	00 28 48.7	-1.1
	2.9nm,0.5s,mb4.5,baz=103,slow=5.3						
KECS	Kecovo	76.38	319	eP	P	00 28 51.1	-0.2
ARCES	ARCESS Array B	78.70	340	P	P	00 29 01.4	-2.3
	1.1nm,0.4s,mb4.2,baz=100,slow=6.7,SNR=40						
GERES	GERESS Array B	80.89	319	P	P	00 29 16.5	+0.6
	1.4nm,0.6s,mb4.1,baz=90,slow=5.3,SNR=14						
NOA	NORSAR Array B	83.06	331	P	P	00 29 25.7	-1.2
	1.1nm,0.8s,mb4.0,baz=95,slow=5.3,SNR=3.4						
TXAR	Lajitas Array	141.87	27	PKhKP		00 36 31.2	
	0.2nm,0.5s,baz=312,slow=0.7,SNR=3.5						

*ATH **05** 01:05:14.4, 40.58N×21.92E, h9km, MD3.0/3*
*THE **05** 01:05:15.1, 40.52N×21.63E, h1km, ML2.6*
*NEIC **05** 01:05:15.8, 40.55N×21.78E, h5km, MD3.0(ATH), After ATH.*
*CSEM **05** 01:05:15.0±0.1, 40.58N×21.63E, h2km, ML2.6, Error ellipse: s-maj=2.5km s-min=2.0km az=53.0*
ISC 05 01:05:14.8±0.5, **40.55N**±0.03×**21.68E**±0.04, **h5km**±8km, **n16,** σ1^{s}**13**/21, **1C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.26	165	⇑iPG	Pg	01 05 20.5	+0.5
KZN				eSG	Sg	01 05 25.0	+1.6
FNA	Florina	0.33	315	ePg	Pg	01 05 20.6	-0.8
FNA				eSg	Sg	01 05 26.6	+0.8
GRG	Griva	0.68	53	ePg	Pg	01 05 28.9	+0.5
GRG				eSg	Sg	01 05 39.1	+1.7
LIT	Litokhoron	0.77	126	ePg	Pg	01 05 30.0	-0.1
LIT				eSg	Sg	01 05 41.4	+1.1
MEV	Metsovon	0.84	205	ePg	Pg	01 05 29.7	-2.0
MEV				eSg	Sg	01 05 42.0	-0.9
THE	Thessaloniki	0.98	85	ePg	Pg	01 05 33.9	-0.5
JAN	Janina	1.10	216	ePB	Pb	01 05 37.5	+1.5
KNT	Kendrikon	1.10	56	ePg	Pg	01 05 36.9	0.0
SOH	Sokhos	1.30	78	ePg	Pg	01 05 39.7	-1.0
SKO	Skopje	1.43	353	ePn	Pn	01 05 42.5	+0.9
SRS	Serrai	1.56	68	ePg	Pg	01 05 44.0	-1.9
EVR	Evrytania	1.64	177	ePB	Pb	01 05 45.7	+0.5
EVR	Evrytania	1.64	177	ePb	Pb	01 05 47.5	+2.3
PAIG	Paliouri	1.65	112	ePb	Pb	01 05 44.9	-0.5
XOR	Xorichti	1.66	135	ePb	Pb	01 05 44.5	-1.0
OUR	Ouranopolis	1.77	96	ePb	Pb	01 05 46.3	-1.1

IDC 05 01:11:27.1±1.4, **11.27N**×**144.51E, mb3.7**/4, **mb1 3.9**/4, **mb1mx3.7**/19, **mbtmp3.7**/4, **Error ellipse: s-maj=50.6km s-min=27.7km az=96.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.59	198	P	P	01 18 00.5	-2.2
	0.9nm,0.6s,baz=20,slow=9.6,SNR=12						
SONM	Songino Array	48.43	326	P	P	01 20 10.9	-2.2
	0.5nm,0.5s,baz=144,slow=4.7,SNR=5.9						
MKAR	Makanchi Array	62.92	317	P	P	01 21 55.8	-1.8
	0.3nm,0.5s,baz=90,slow=5.8,SNR=2.3						
ILAR	Eielson Array	70.81	25	P	P	01 22 45.3	-2.0
	0.6nm,0.6s,baz=255,slow=6.0,SNR=9.8						

IDC 05 01:11:56.2±4.3, **2.55N**×**97.39E, mb3.8**/3, **mb1 3.9**/3, **mb1mx3.5**/17, **mbtmp3.8**/3, **Error ellipse: s-maj=160.1km s-min=30.7km az=59.0, Northern**

Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.60**	**123**	P	P	01 19 54.4	-1.7
	0.3nm,0.4s,baz=301,slow=9.2,SNR=4.8						
SONM	**Songino Array**	**45.77**	**8**	P	P	01 20 19.6	-1.7
	1.1nm,0.7s,baz=174,slow=6.9,SNR=7.8						
MKAR	**Makanchi Array**	**45.98**	**346**	P	P	01 20 21.0	-2.0
	1.3nm,0.7s,baz=153,slow=8.1,SNR=7.5						

CSEM ***05*** *01:20:22.9±1.2, 14.77N×46.84E, h14km, ML3.5, Error ellipse: s-maj=35.3km s-min=22.7km az=153.0, After DHMR*

DHMR 05 01:20:22.9±2.0, 14.77N×46.84E, h14km±21km, ML3.5, 3C-3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**1.47**	**238**	↑*i*P	Pn	01 20 48.8	-0.3
BDHA				*i* S	Sb	01 21 10.4	+2.6
BDHA				AML	AML	01 21 11.9	
	comp=N,1μm,0.3s						
BDHA	**Al Bayda'**	**1.47**	**238**	↑*i*P	Pn	01 20 48.8	-0.3
BDHA				*i* S	Sb	01 21 10.4	+2.5
	comp=N,531nm,0.3s						
LBOS		**1.79**	**240**	↓*i*P	Pn	01 20 54.3	+0.6
LBOS				*i* S	Sn	01 21 20.0	+3.8
DHBB	**Dhamar BB**	**2.38**	**266**	↓*i*P	Pn	01 21 03.7	+1.5
DHBB				*i* S	Sn	01 21 36.2	+4.8
UDYN	**Al 'Udayn**	**2.90**	**254**	↑*i*P	Pn	01 21 13.1	+3.5
UDYN				*i* S	Sn	01 21 48.7	+4.2
UDYN				AML	AML	01 22 01.5	
	comp=N,154nm,0.4s						
TRBA	**At Turbah**	**3.06**	**240**	↓*i*P	Pn	01 21 13.7	+1.9
TRBA				*i* S	Sn	01 21 53.2	+4.7

NIED ***05*** *01:41:00, 27.90N×130.20E, h35km, Mw3.7 Best double couple: M○3.62×10^14 NP1:φ=285°, δ66°, λ26°. NP2:φ=184°, δ66°, λ154°.*
IDC ***05*** *01:41:29.8±1.4, 27.82N×130.12E, mb3.8/5, mb1 4.0/6, mb1mx3.7/21, mbtmp3.9/6, ML4.7/1, Error ellipse: s-maj=37.4km s-min=21.2km az=109.0*
NEIC ***05*** *01:41:33.0±0.6, 27.80N×130.15E, h20km, mb3.9/1, Error ellipse: s-maj=19.4km s-min=10.4km az=100.0*
JMA ***05*** *01:41:32.9±0.1, 27.87N×130.23E, h49km±2km, M3.9*
JMA Felt I J1.

ISC 05 01:41:32.8±0.5, 27.85N±0.03×130.21E±0.05, h49km, n20, σ1ŝ01/32, mb3.8/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.51**	**336**	P	**P**	**01 41 44.1**	**-0.1**
JZK				S	**S**	**01 41 51.9**	**-0.5**
JAM	**Amami Oshima**	**0.78**	**317**	P	**P**	**01 41 47.5**	**-0.1**
JAM				S	**S**	**01 41 58.2**	**-0.3**
JTK	**Tokunoshima**	**1.12**	**267**	P	**P**	**01 41 52.9**	**+0.5**
JTK				*e*S	**S**	**01 42 07.5**	**+0.6**
JOW	**Kunigami**	**2.00**	**240**	Pn	**P**	**01 42 04.5**	**-0.3**
	30nm,0.3s,baz=103,slow=19,SNR=34						
JOW				Sn	**S**	**01 42 27.4**	**-1.2**
	29nm,0.3s,baz=94,slow=23,SNR=5.6						
JOW	**Kunigami**	**2.00**	**240**	P	**P**	**01 42 05.1**	**+0.3**
JOW				*e*S	**S**	**01 42 29.7**	**+1.1**
JNN	**Nakanoshima**	**2.01**	**352**	P	**P**	**01 42 05.1**	**+0.1**
JNN				S	**S**	**01 42 29.2**	**+0.3**
JIH	**Iheya**	**2.15**	**248**	P	**P**	**01 42 07.2**	**+0.2**
JIH				*e*S	**S**	**01 42 32.1**	**-0.5**
JMZ	**Minamidaito 2**	**2.21**	**156**	P	**P**	**01 42 07.0**	**-0.9**
JMZ				S	**S**	**01 42 32.4**	**-1.6**
JKC	**Kuchinoerabu**	**2.61**	**360**	P	**P**	**01 42 12.8**	**-0.7**
JKC				S	**S**	**01 42 42.7**	**-1.4**
JTN	**Tanegashima 3**	**2.88**	**13**	P	**P**	**01 42 17.0**	**-0.4**
JTN				*e*S	**S**	**01 42 50.1**	**-0.9**
JAGN	**Aguni-jima**	**2.93**	**245**	P	**P**	**01 42 17.9**	**-0.2**
JAGN				*e*S	**S**	**01 42 50.7**	**-1.5**
JKE	**Kume jima 2**	**3.41**	**244**	P	**P**	**01 42 24.1**	**-0.8**
JNU	**Nakatsue**	**5.29**	**6**	Pn	**P**	**01 42 51.6**	**+0.4**
	25nm,0.3s,baz=262,slow=3.2,SNR=64						
JNU				Sn	**S**	**01 43 48.0**	**-3.7**
	1.7nm,0.3s,baz=76,slow=34,SNR=2.5						
WRA	**Warramunga Arr**	**47.67**	**175**	P	**P**	**01 50 07.9**	**+1.3**
	0.8nm,0.8s,mb3.8,baz=353,slow=8.1,SNR=4.9						
BVAR	**Borovoye Array**	**50.27**	**317**	P	**P**	**01 50 28.2**	**+2.1**
	0.3nm,0.5s,mb3.6,baz=72,slow=9.1,SNR=4.1						
STKA	**Stephens Creek**	**60.37**	**169**	*e*P	**P**	**01 51 40.5**	**+1.0**
ARCES	**ARCESS Array B**	**69.15**	**339**	P	**P**	**01 52 37.5**	**+1.9**
	0.7nm,0.7s,mb3.7,baz=56,slow=4.4,SNR=4.4						
FINES	**FINESS Array B**	**72.33**	**331**	P	**P**	**01 52 55.9**	**+1.1**
	0.9nm,0.3s,mb4.1,baz=68,slow=5.9,SNR=24						
NB2	**NORSAR Subarra**	**78.64**	**334**	P	**P**	**01 53 33.5**	**+2.7**
	0.8nm,0.7s,mb3.8,baz=49,slow=5.3						
NOA	**NORSAR Array B**	**78.64**	**334**	P	**P**	**01 53 34.1**	**+3.3**
	0.9nm,0.8s,mb3.8,baz=50,slow=5.4,SNR=5.0						

ORF ***05*** *01:51:01.9, 48.09N×156.31E, h30km, mb6.1*
BJI ***05*** *01:51:08.2, 49.34N×155.17E, h77km, mB5.0, mb5.0, Ms5.2, Msz5.2*
SKHL ***05*** *01:51:09.6±0.4, 49.03N×155.27E, h91km±27km, mb6.2/7, mbh6.1/7, Ms4.3/4, msh5.7/6*
MOS ***05*** *01:51:10.6±1.0, 49.14N×154.84E, h77km, mb5.4/76, Error ellipse: s-maj=7.9km s-min=4.7km az=93.3*
KRSC ***05*** *01:51:10.0±1.6, 48.97N×155.53E, h41km±13km, ML5.6*
NEIC ***05*** *01:51:12.1±0.2, 49.18N×154.76E, mb5.2/118, Error ellipse: s-maj=5.2km s-min=2.6km az=174.0*
IDC ***05*** *01:51:12.4±0.7, 49.33N×154.70E, h75km±5km, mb4.6/23, mb1 4.7/23, mb1mx4.7/27, mbtmp4.9/23, MS3.3/2, Ms1 3.3/2, ms1mx3.3/38, Error ellipse: s-maj=17.2km s-min=11.1km az=154.0*

ISC 05 01:51:10.4±0.1, 49.16N±0.02×154.90E±0.03, h72km, h72km±3.2km: pP-P, n516, σ1ŝ02/538, mb5.0/148, 75C-30D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.71**	**27**	*i* P	**P**	**01 51 36.5**	**-2.4**
SKR				*i* P		01 51 36.5	
SKR				AMB	AMB	01 51 40.4	
	2μm,0.6s						
SKR				AMB	AMB	01 51 40.4	
	1μm,0.6s						
SKR				AMB	AMB	01 51 40.4	
	4μm,0.6s						
SKR				AMB	AMB	01 51 41.0	
	4μm,0.4s						
SKR				AMB	AMB	01 51 41.0	
	6μm,0.4s						
SKR				AMB	AMB	01 51 41.0	
	4μm,0.4s						
SKR				AMB	AMB	01 51 41.0	
	4μm,0.4s						
SKR				AMB	AMB	01 51 41.0	
	6μm,0.4s						
SKR				A		01 52 06.0	
	32μm,8.0s						
SKR				A		01 52 06.0	
	33μm,8.0s						
SKR				A		01 52 06.0	
	38μm,8.0s						
SKR				A		01 52 06.0	
	19μm,2.0s						
SKR				A		01 52 06.0	
	19μm,2.0s						
SKR	**Severo-Kuril's**	**1.71**	**27**	*i* P	**P**	**01 51 36.5**	**-2.4**
SKR				*i* S	**S**	**01 51 57.5**	**-2.3**
ALID	**Alaid**	**1.76**	**14**	*i* P	**P**	**01 51 41.5**	**+2.0**
PAU	**Pauzhetka**	**2.61**	**27**	*i* P	**P**	**01 51 52.3**	**+0.9**
PAU				*i* S	**S**	**01 52 24.0**	**+2.0**
PAU	**Pauzhetka**	**2.61**	**27**	*i* P	**P**	**01 51 52.2**	**+0.8**
PAU				*i* S	**S**	**01 52 22.8**	**+0.8**
PAU				Smax			
	13μm,0.9s						
MIPR	**Malaya Ipel'ka**	**3.33**	**20**	*e*P	**P**	**01 52 02.9**	**+1.4**
GRL	**Gorelyy**	**3.95**	**29**	*i* P	**P**	**01 52 10.9**	**+0.9**
GRL				*i* S	**S**	**01 52 54.0**	**-1.4**
RUS	**Russkaya**	**4.00**	**34**	*i* P	**P**	**01 52 09.7**	**-1.0**
RUS				*i* S	**S**	**01 52 54.0**	**-2.7**
APC	**Apacha**	**4.03**	**20**	*i* P	**P**	**01 52 12.5**	**+1.3**
APC				*i* S	**S**	**01 52 56.8**	**-0.7**
APC				Smax			
	540nm,0.8s						
PET	**Petropavlovsk**	**4.53**	**30**	*d* iPN	**P**	**01 52 18.0**	**-0.2**
PET	**Petropavlovsk**	**4.53**	**30**	↓*i*Pn	**P**	**01 52 18.0**	**-0.2**
PET	**Petropavlovsk**	**4.53**	**30**	↓*i*P	**P**	**01 52 18.0**	**-0.2**
PET				↓*i*P		01 52 18.0	
PET				AMB	AMB	01 52 18.6	
	220nm,1.1s						
PET				AMB	AMB	01 52 19.2	
	100nm,5.0s						
PET				AMB	AMB	01 52 20.1	
	100nm,2.0s						
PET				AMB	AMB	01 52 23.9	
	410nm,0.6s						
PET				*i* S	**S**	**01 53 09.6**	**-0.5**
PET				A		01 53 13.6	
	4μm,1.5s						
PET				A		01 53 20.5	
	3μm,0.7s						
PET				AMS	AMS	01 54 12.4	
	3μm,8.0s						
PET				AMS	AMS	01 54 22.1	
	2μm,16.0s						
PET				AMS	AMS	01 54 25.7	
	1μm,17.0s						
PET				AMS	AMS	01 54 30.2	
	800nm,11.0s						
PET	**Petropavlovsk**	**4.53**	**30**	*e*P	**P**	**01 52 18.4**	**+0.2**
PET				*e*S	**S**	**01 53 07.2**	**-2.9**
UGLR	**Uglovaya**	**4.75**	**30**	*i* P	**P**	**01 52 21.7**	**+0.6**
KOK	**Koryaka**	**4.76**	**28**	*i* P	**P**	**01 52 22.6**	**+1.3**
AVH	**Avacha**	**4.76**	**29**	*i* P	**P**	**01 52 22.3**	**+0.9**
AVH				*i* S	**S**	**01 53 13.8**	**-2.1**
SMAR	**Somma**	**4.78**	**29**	*i* P	**P**	**01 52 22.4**	**+0.7**
SDLR	**Sedlovina**	**4.82**	**30**	*i* P	**P**	**01 52 22.2**	**0.0**
NLC	**Nalytchevo**	**4.89**	**33**	*i* P	**P**	**01 52 21.1**	**-2.1**
NLC				*i* S	**S**	**01 53 13.7**	**-5.4**
GNL	**Ganaly**	**4.92**	**22**	*i* P	**P**	**01 52 25.3**	**+1.7**
SPN	**Mys Shipunski**	**5.09**	**37**	*i* P	**P**	**01 52 24.2**	**-1.7**
SPN				*i* S	**S**	**01 53 18.1**	**-5.9**
KII	**Karymskiy**	**5.64**	**28**	*e*P	**P**	**01 52 34.6**	**+1.1**
KUR	**Kuril'sk**	**6.20**	**233**	↓*i*PN	**P**	**01 52 41.0**	**-0.2**
KUR				*i* S	**S**	**01 53 52.2**	**+0.8**
KUR				pmax	pmax		
	comp=Z,2μm,1.2s						
KUR				pmax	pmax		
	comp=N,2μm,1.5s						
KUR				pmax	pmax		
	comp=E,4μm,1.5s						
KUR				pmax	pmax		
	comp=Z,5μm,1.5s						
KUR				smax			
	comp=N,260nm,0.7s						
KUR				smax			
	comp=E,520nm,0.7s						
KUR	**Kuril'sk**	**6.20**	**233**	↓*i*P	**P**	**01 52 41.0**	**-0.2**
KUR				↓*i*P		01 52 41.0	
KUR				AMB	AMB	01 52 43.8	
	comp=E,440nm,1.2s						
KUR				AMB	AMB	01 52 43.8	
	comp=E,1μm,1.2s						
KUR				AMB	AMB	01 52 43.8	
	comp=E,2μm,1.2s						
KUR				AMB	AMB	01 52 44.2	
	comp=E,2μm,1.5s						
KUR				AMB	AMB	01 52 44.2	
	comp=E,4μm,1.5s						
KUR				AMB	AMB	01 52 44.2	
	comp=E,5μm,1.5s						
KUR				*i* S	**S**	**01 53 52.2**	**+0.8**
KUR				A		01 53 59.8	
	comp=E,260nm,0.7s						
KUR				A		01 53 59.8	
	comp=E,520nm,0.7s						
KUR				AMS	AMS	01 55 26.0	
	comp=E,3μm,14.0s						
MKZ	**Mys Kozlova**	**6.86**	**35**	*i* P	**P**	**01 52 48.2**	**-2.3**
MKZ				*i* S	**S**	**01 54 01.6**	**-6.2**
TUMR	**Tumrok**	**6.92**	**26**	*i* P	**P**	**01 52 51.7**	**+0.3**
ESO	**Esso**	**7.16**	**17**	*i* P	**P**	**01 52 56.1**	**+1.5**
KMNR	**Kamenistaya**	**7.36**	**24**	*e*P	**P**	**01 52 57.9**	**+0.5**
KOZ	**Kozyrevsk**	**7.54**	**22**	*e*P	**P**	**01 53 02.1**	**+2.2**
KPT	**Kopyto**	**7.55**	**23**	*e*P	**P**	**01 53 00.1**	**+0.2**
SRDR	**Sredinnyy**	**7.74**	**20**	*i* P	**P**	**01 53 03.9**	**+1.3**
KRSR	**Krestovskiy**	**7.86**	**24**	*e*P	**P**	**01 53 04.7**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**8.06**	**234**	↓*i*P	**P**	**01 53 06.5**	**-0.5**
YUK				AMB	AMB	01 53 12.8	
	comp=E,730nm,0.4s						
YUK				AMB	AMB	01 53 12.8	
	comp=E,910nm,0.4s						
YUK				AMB	AMB	01 53 12.8	
	comp=E,1μm,0.4s						
YUK				AMB	AMB	01 53 30.0	
	comp=E,3μm,1.4s						
YUK				AMB	AMB	01 53 30.0	
	comp=E,2μm,1.4s						
YUK				AMB	AMB	01 53 30.0	
	comp=E,4μm,1.4s						
YUK				A		01 54 44.5	
	comp=E,700nm,0.3s						
YUK				A		01 54 44.5	
	comp=E,200nm,0.3s						
YUK				A		01 54 53.0	
	comp=E,3μm,2.0s						
YUK				A		01 54 53.0	
	comp=E,2μm,2.0s						
TYV	**Tymovskoe**	**8.07**	**287**	↓*e*PN	**P**	**01 53 08.5**	**+1.4**
TYV				*e*S	**S**	**01 54 47.0**	**+9.4**
TYV				pmax	pmax		
	comp=N,1μm,2.0s						
TYV				pmax	pmax		
	comp=E,2μm,2.0s						
TYV				pmax	pmax		
	comp=Z,3μm,2.0s						
TYV				pmax	pmax		
	comp=N,82nm,1.2s						
TYV				pmax	pmax		
	comp=E,902nm,1.2s						
TYV				pmax	pmax		
	comp=Z,943nm,1.2s						
TYV				smax			
	comp=N,92nm,1.0s						
TYV				MLR	MLR		
	comp=E,2μm,12.0s						
TYV				MLR	MLR		
	comp=Z,2μm,12.0s						
TYV	**Tymovskoe**	**8.07**	**287**	*e*P	**P**	**01 53 08.5**	**+1.4**
TYV				↓*i*P		01 53 09.0	
TYV				AMB	AMB	01 53 10.0	
	comp=Z,1μm,2.0s						
TYV				AMB	AMB	01 53 10.0	
	comp=Z,2μm,2.0s						
TYV				AMB	AMB	01 53 10.0	
	comp=Z,3μm,2.0s						
TYV				AMB	AMB	01 53 10.2	
	comp=Z,82nm,1.2s						
TYV				AMB	AMB	01 53 10.2	
	comp=Z,902nm,1.2s						
TYV				AMB	AMB	01 53 10.2	
	comp=Z,943nm,1.2s						
TYV				A		01 54 55.0	
	comp=Z,92nm,0.9s						
TYV				A		01 54 55.0	
	comp=Z,43nm,0.9s						
TYV				A		01 55 27.5	
	comp=Z,2μm,7.0s						
TYV				A		01 55 27.5	
	comp=Z,3μm,7.0s						
TYV				A		01 55 27.5	
	comp=Z,2μm,7.0s						
TYV				AMS	AMS	01 56 28.0	
	comp=Z,2μm,18.0s						
TYV				AMS	AMS	01 58 33.0	
	comp=Z,2μm,12.0s						
TYV				AMS	AMS	01 58 33.0	
	comp=Z,2μm,12.0s						
UGL	**Uglegorsk**	**8.42**	**274**	*d* iPN	**P**	**01 53 17.0**	**+5.1**
UGL				S	**S**	**01 54 50.5**	**+4.2**
UGL				pmax	pmax		
	comp=N,600nm,1.5s						
UGL				pmax	pmax		
	comp=Z,3μm,1.5s						
UGL				pmax	pmax		
	comp=E,2μm,2.5s						
UGL				pmax	pmax		
	comp=N,190nm,0.8s						
UGL				pmax	pmax		
	comp=Z,410nm,0.8s						
UGL				pmax	pmax		
	comp=E,340nm,1.0s						
UGL				smax			
	comp=N,700nm,2.0s						
UGL				smax			
	comp=E,500nm,2.0s						
UGL				smax			
	comp=N,190nm,0.8s						
UGL				MLR	MLR		
	comp=N,700nm,14.0s						
UGL				MLR	MLR		
	comp=E,2μm,15.0s						
UGL				MLR	MLR		
	comp=Z,900nm,15.0s						
UGL	**Uglegorsk**	**8.42**	**274**	↓*i*P	**P**	**01 53 17.0**	**+5.1**
UGL				*e*P		01 53 17.5	
UGL				AMB	AMB	01 53 18.5	
	comp=Z,600nm,1.5s						
UGL				AMB	AMB	01 53 18.5	
	comp=Z,3μm,1.5s						
UGL				AMB	AMB	01 53 18.5	
	comp=Z,2μm,2.5s						
UGL				AMB	AMB	01 53 19.5	
	comp=Z,190nm,0.9s						
UGL				AMB	AMB	01 53 19.5	
	comp=Z,340nm,0.9s						
UGL				AMB	AMB	01 53 19.5	
	comp=Z,410nm,0.9s						
UGL				*e*S	**S**	**01 54 50.5**	**+4.2**
UGL				A		01 54 52.0	
	comp=Z,700nm,2.0s						
UGL				A		01 54 52.0	
	comp=Z,500nm,2.0s						
UGL				A		01 54 52.0	
	comp=Z,190nm,0.8s						
UGL				*e*rx	rx	01 55 03.5	
UGL				AMS	AMS	01 57 00.0	
	comp=Z,700nm,15.0s						
UGL				AMS	AMS	01 57 00.0	
	comp=Z,2μm,15.0s						
UGL				AMS	AMS	01 57 00.0	
	comp=Z,900nm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.43**	**259**	*k* iPN	**P**	**01 53 16.1**	**+4.1**
YSS				*e*S	**S**	**01 54 48.9**	**+2.4**
YSS				pmax	pmax		
	comp=N,420nm,1.1s						
YSS				pmax	pmax		
	comp=E,670nm,1.1s						
YSS				pmax	pmax		
	comp=Z,520nm,1.1s						
YSS				smax			
	comp=N,410nm,1.0s						
YSS				smax			
	comp=E,300nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,13.0s						
YSS				MLR	MLR		
	comp=E,500nm,11.0s						
YSS	**Yuzh-Sakhalins**	**8.43**	**259**	↓*i*Pn	**P**	**01 53 16.3**	**+4.2**
	comp=E,600nm,1.1s						
YSS				*e*Sn	**S**	**01 54 52.9**	**+6.4**
YSS	**Yuzh-Sakhalins**	**8.43**	**259**	↓*i*P	**P**	**01 53 16.1**	**+4.1**
YSS				↓*i*P		01 53 16.1	
YSS				AMB	AMB	01 53 17.8	
	comp=E,420nm,1.1s						
YSS				AMB	AMB	01 53 17.8	
	comp=E,670nm,1.1s						
YSS				AMB	AMB	01 53 17.8	
	comp=E,520nm,1.1s						
YSS				*e*S	**S**	**01 54 48.9**	**+2.4**
YSS				A		01 54 56.7	
	comp=E,410nm,1.0s						
YSS				A		01 54 56.7	
	comp=E,300nm,1.0s						
YSS				AMS	AMS	01 57 59.0	
	comp=E,500nm,12.0s						
KBTR	**Krutoberegovo**	**8.54**	**31**	*e*P	**P**	**01 53 12.8**	**-0.7**
KBTR				*i* S	**S**	**01 54 43.0**	**-6.2**
OKH	**Okha**	**8.68**	**305**	*i* PN	**P**	**01 53 11.0**	**-4.4**
OKH				*e*S	**S**	**01 54 57.6**	**+4.9**
OKH				pmax	pmax		
	comp=Z,2μm,5.6s						
OKH				smax			
	comp=E,2μm,8.0s						
OKH	**Okha**	**8.68**	**305**	*e*P	**P**	**01 53 11.0**	**-4.4**
OKH				*i* P		01 53 11.0	
OKH				AMB	AMB	01 53 12.0	
	comp=E,1μm,5.2s						
OKH				AMB	AMB	01 53 12.0	
	comp=E,2μm,5.2s						
OKH				AMB	AMB	01 53 12.0	
	comp=E,2μm,5.2s						
OKH				*e*S	**S**	**01 54 57.6**	**+4.9**
OKH				A		01 55 04.0	
	comp=E,2μm,8.0s						
OKH				A		01 55 04.0	
	comp=E,2μm,8.0s						
BKI	**Bering**	**9.10**	**44**	*e*P	**P**	**01 53 17.0**	**-4.1**
BKI				*e*S	**S**	**01 54 48.2**	**-15**
BKI				Smax			
	comp=E,300nm,0.5s						
JWK2	**Keihoku**	**9.64**	**251**	P	**P**	**01 53 35.2**	**+6.7**
ASAJ	**Asahikawa**	**9.85**	**244**	PN	**P**	**01 53 33.2**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,23nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,19.8s						
ASAJ	**Asahikawa**	**9.85**	**244**	P	**P**	**01 53 33.1**	**+1.9**
	comp=Z,23nm,0.3s,baz=69,slow=9.5,SNR=88						
ASAJ				LR	LR	01 57 00.0	
	comp=Z,1μm,19.8s,baz=69,slow=35						
ASAJ	**Asahikawa**	**9.85**	**244**	P	**P**	**01 53 34.7**	**+3.4**
MA2	**Magadan**	**10.71**	**349**	*d* iPN	**P**	**01 53 44.0**	**+1.1**
MA2				pmax	pmax		
	comp=Z,165nm,1.7s						
MA2	**Magadan**	**10.71**	**349**	*e*Pn	**P**	**01 53 44.5**	**+1.6**
	comp=Z,80nm,0.8s						
JEM	**Erimo**	**10.89**	**233**	P	**P**	**01 53 46.1**	**+0.7**
JEM				S	**S**	**01 55 41.1**	**-5.1**
JEW	**Eniwo**	**11.28**	**241**	P	**P**	**01 53 51.7**	**+1.1**
GRNR	**Gornyy**	**12.01**	**285**	*e*P	**P**	**01 54 00.0**	**-0.3**
GRNR				AMB	AMB	01 54 02.0	
	comp=Z,90nm,1.0s						
GRNR				AMB	AMB	01 54 02.0	
	comp=Z,240nm,1.0s						
GRNR				AMB	AMB	01 54 02.0	
	comp=Z,250nm,1.0s						
FX1	**Attu Island--F**	**12.09**	**65**	PN	**P**	**01 53 59.2**	**-2.2**
FX1				pmax	pmax		
	comp=Z,14nm,0.3s						
FX1				MLR	MLR		
	comp=Z,23nm,18.2s						
FX1	**Attu Island--F**	**12.09**	**65**	P	**P**	**01 53 59.2**	**-2.2**
	comp=Z,14nm,0.3s,baz=333,slow=3.0,SNR=66						
FX1				LR	LR	01 58 26.1	
	comp=Z,23nm,18.2s,baz=226,slow=36						
FX1	**Attu Island--F**	**12.09**	**65**	*e*Pn	**P**	**01 53 58.6**	**-2.7**
JSH	**Shimam**	**12.22**	**243**	P	**P**	**01 54 03.7**	**+0.5**
JSH				S	**S**	**01 56 24.8**	**+6.6**
JOT	**Ohata**	**12.46**	**237**	P	**P**	**01 54 03.3**	**-3.2**
SMY	**Shemya**	**12.62**	**66**	*e*PN	**P**	**01 54 05.7**	**-2.8**
SMY				pmax	pmax		
	comp=Z,180nm,0.6s						
SMY	**Shemya**	**12.62**	**66**	*e*P	**P**	**01 54 06.3**	**-2.2**
	comp=Z,128nm,0.4s						
JTM	**Tenmabayashi**	**12.87**	**235**	P	**P**	**01 54 07.4**	**-4.4**
JTM				S	**S**	**01 56 24.3**	**-9.4**
TEY	**Ternei**	**13.12**	**259**	*e*P	**P**	**01 54 17.0**	**+1.9**
TEY				AMB	AMB	01 54 21.5	
	comp=Z,200nm,0.9s						
SEY	**Seymchan**	**13.88**	**355**	*e*P	**P**	**01 54 26.9**	**+2.2**
SEY				*e*S	**S**	**01 57 00.1**	**+2.8**
SEY				pmax	pmax		
	comp=N,40nm,1.1s						
SEY				pmax	pmax		
	comp=Z,70nm,1.1s						
SEY				MLR	MLR		
	comp=N,500nm,11.0s						
SEY				MLR	MLR		
	comp=Z,700nm,11.0s						
EKMR	**Ekimchan**	**14.31**	**294**	*e*P	**P**	**01 54 30.7**	**+0.2**
EKMR				AMB	AMB	01 54 52.8	
	comp=Z,640nm,1.5s						
EKMR				AMB	AMB	01 54 52.8	

comp=Z,890nm,1.5s
EKMR AMB AMB 01 54 52.8
comp=Z,2µm,1.5s
KAMR Kamenskoye 14.73 21 eP P 01 54 36.2 +0.4
JSD Sado 16.36 233 P P 01 54 56.1 -0.5
MAJO Matsushiro 17.52 230 P P 01 55 10.2 -1.0
MAJO Matsushiro 17.52 230 eP P 01 55 09.8 -1.5
MAJO pmax pmax
comp=Z,85nm,0.6s
MAJO Matsushiro 17.52 230 ePn P 01 55 09.8 -1.4
comp=Z,85nm,0.6s
MAT Matsushiro 17.52 230 eP P 01 55 09.0 -2.3
MAT pmax pmax
comp=Z,106nm,1.0s
MAT Matsushiro 17.52 230 P P 01 55 09.4 -1.9
MAT SS SS 01 58 43.7 -2.4
MAT Matsushiro 17.52 230 P P 01 55 10.3 -1.0
MJAR Matsushiro Arr 17.52 230 P P 01 55 09.3 -1.9
MJAR pmax pmax
comp=Z,6.0nm,0.3s
MJAR Matsushiro Arr 17.52 230 P P 01 55 09.3 -1.9
comp=Z,5.9nm,0.3s,baz=22,slow=12,SNR=44
JRY Ryogami san 17.59 228 P P 01 55 11.0 -1.1
ZEA Zeya 17.77 295 eP P 01 55 12.1 -2.1
ZEA AMB AMB 01 55 17.7
comp=Z,70nm,1.5s
ZEA AMB AMB 01 55 17.7
comp=Z,200nm,1.5s
ZEA AMB AMB 01 55 17.7
comp=Z,240nm,1.5s
MDJ Mudanjiang 17.85 265 P P 01 55 13.2 -2.0
MDJ AP 01 55 26.0
MDJ S **S 01 58 31.4 +2.6**
MDJ PCP PcP 01 59 44.5 -4.7
MDJ AMB AMB
comp=Z,27nm,1.2s
MDJ AMB AMB
comp=Z,271nm,5.5s
MDJ LR LR
comp=N,4µm,13.8s
MDJ LR LR
comp=E,4µm,14.9s
MDJ LR LR
comp=Z,6µm,19.5s
MDJ Mudanjiang 17.85 265 ePn P 01 55 13.7 -1.5
comp=Z,120nm,1.1s
KROS Kirovskiy 17.99 298 eP P 01 55 16.4 -0.5
KROS AMB AMB 01 55 19.0
comp=Z,110nm,1.2s
JGF Kuroka 18.69 230 P P 01 55 25.2 0.0
YAK Yakutsk 19.05 322 eP P 01 55 27.7 -1.4
YAK *eS* **S 01 58 57.7 +2.4**
YAK pmax pmax
comp=Z,78nm,1.0s
YAK pmax pmax
comp=N,26nm,1.1s
YAK pmax pmax
comp=E,51nm,1.1s
YAK smax
comp=N,42nm,1.1s
YAK smax
comp=E,12nm,1.1s
YAK Yakutsk 19.05 322 eP P 01 55 28.4 -0.6
comp=E,323nm,1.2s
CLNS Chul'man 19.50 305 eP P 01 55 34.2 +0.2
CLNS *eS* **S 01 59 13.3 +8.3**
CLNS pmax pmax
comp=Z,231nm,0.8s
CLNS pmax pmax
comp=N,160nm,1.1s
CLNS pmax pmax
comp=E,155nm,1.0s
CLNS smax
comp=N,43nm,1.2s
CLNS smax
comp=Z,17nm,1.3s
CLNS smax
comp=E,24nm,1.0s
CLNS MLR MLR
comp=Z,7µm,15.0s
CLNS MLR MLR
comp=N,6µm,19.0s
CLNS MLR MLR
comp=E,2µm,21.0s
BILL Bilibino 19.77 13 eP P 01 55 34.2 -2.7
BILL pmax pmax
comp=Z,39nm,1.0s
BILL Bilibino 19.77 13 eP P 01 55 34.2 -2.7
comp=Z,39nm,1.0s
JWT Wachi 19.94 233 P P 01 55 38.3 -0.6
JIE Ise 19.97 229 P P 01 55 39.5 +0.3
JAD Aida 20.86 235 P P 01 55 47.9 -0.4
CN2 Changchun 20.90 266 eP P 01 55 45.5 -3.2
CN2 *e*AP 01 56 01.4
CN2 *e*XP 01 56 11.2
CN2 *e*S **S 01 59 27.5 -5.0**
CN2 AMB AMB
comp=Z,40nm,0.8s
CN2 AMB AMB
comp=Z,200nm,4.0s
JWZ Kozaga 21.15 230 P P 01 55 52.1 +0.8
JHS Saijyo 21.38 237 P P 01 55 54.4 +0.8
JMN Monobe 21.94 233 P P 01 56 00.0 +0.9
KS15 Wonju Array Si 22.75 249 eP P 01 56 08.0 +1.0
HIA Hailar 22.84 284 eP P 01 56 06.8 -1.0
HIA pmax pmax
comp=Z,69nm,1.4s
HIA Hailar 22.84 284 eP P 01 56 06.8 -0.9
comp=Z,70nm,1.4s,mb4.8
JNU Nakatsue 24.02 237 P P 01 56 18.9 -0.4
comp=Z,75nm,0.9s,mb5.0,baz=84,slow=10
JNU Nakatsue 24.02 237 P P 01 56 20.9 +1.7
CBIJ Chichi jima 24.13 209 P P 01 56 20.4 0.0
comp=Z,54nm,0.6s,mb5.0,baz=212,slow=19,SNR=2.8
TIXI Tiksi 25.53 341 eP P 01 56 28.2 -5.2
TIXI *e**PP pP 01 56 49.6 -0.5
TIXI *eS* **S 02 00 46.0 -7.2**
TIXI pmax pmax
comp=Z,35nm,1.0s,mb4.7
TIXI MLR MLR
comp=Z,3µm,12.0s
DL2 Dalian 25.83 259 P P 01 56 36.5 0.0
DL2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
CIT Chita 26.15 292 eP P 01 56 37.6 -1.7
CIT *e* pP 01 56 58.4 +2.3
TTA Tatalina 29.83 44 eP P 01 57 12.0 -0.5
SVW2 Sparrevohn 29.96 48 eP P 01 57 13.5 -0.1
TIA Tai'an 30.31 259 eP P 01 57 16.7 -0.2
JOW Kunigami 30.34 232 P P 01 57 16.8 -0.5
comp=Z,47nm,0.5s,mb5.3,baz=352,slow=6.1,SNR=9.0
IMA Indian Mountai 31.16 38 eP P 01 57 23.5 -0.6
IMA pmax pmax
comp=Z,50nm,0.9s,mb5.2
IMA Indian Mountai 31.16 38 eP P 01 57 23.9 -0.2
comp=Z,8.8nm,0.7s,mb4.6
ULN Ulaanbaatar 31.31 286 eP P 01 57 23.1 -2.5
comp=Z,8.3nm,1.0s,mb4.4
RSO Redoubt South 31.36 49 eP P 01 57 26.4 +0.5
HHC Hu-ho-hao-te 31.38 271 ⇓P P 01 57 25.5 -0.8
HHC AP pP 01 57 40.2 -3.4
HHC XP sP 01 57 48.5 -3.8
HHC PP PP 01 58 34.7 +2.8
HHC AMB AMB
comp=Z,24nm,1.4s,mb4.7
HHC AMB AMB
comp=Z,178nm,10.7s
HHC LR LR
comp=N,2µm,14.2s
HHC LR LR
comp=E,2µm,13.0s
SPU Mount Spurr 31.67 48 eP P 01 57 28.2 -0.4
SONM Songino Array 31.73 286 P P 01 57 28.4 -0.9
comp=E,1.0nm,0.5s,baz=78,slow=7.8,SNR=13
SONM PcP PcP 02 00 18.5 -0.9
comp=E,6.0nm,1.0s,baz=94,slow=3.2,SNR=7.1
NJ2 Nanjing 31.88 251 eP P 01 57 30.8 0.0
NJ2 PP PP 01 58 41.1 +2.7
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,80nm,8.4s
NJ2 LR LR
comp=Z,23µm,13.6s
TLY Talaya 32.21 294 eP P 01 57 32.3 -1.1
TLY *e* 01 57 55.7
BTO Baotou 32.52 272 eP P 01 57 34.8 -1.4
BTO AMB AMB
comp=Z,11nm,0.6s,mb4.9
SML Sawmill 33.41 46 ⇓*i*P P 01 57 42.5 -1.3
ILAR Eielson Array 33.92 41 P P 01 57 46.9 -1.2
comp=Z,7.9nm,0.8s,mb4.6,baz=255,slow=7.0,SNR=71
ILAR pP pP 01 58 05.2 -0.4
comp=Z,9.3nm,0.7s,baz=258,slow=6.6,SNR=12
DIV Divide 34.71 47 eP P 01 57 53.9 -0.9
comp=Z,40nm,0.7s,mb5.4
WHN Wuhan 35.73 254 ⇑*i*P P 01 58 03.5 -0.4
INK Inuvik 38.98 34 eP P 01 58 30.5 -0.1
INK pmax pmax
comp=Z,18nm,0.7s
INK Inuvik 38.98 34 P P 01 58 30.6 0.0
comp=Z,14nm,0.6s,mb5.0,baz=294,slow=6.0,SNR=64
INK Inuvik 38.98 34 eP P 01 58 30.5 -0.1
comp=Z,18nm,0.7s,mb5.0
LZH Lanzhou 39.05 270 ⇑P P 01 58 30.5 -1.0
LZH AP pP 01 58 47.0 -2.3
LZH AMB AMB
comp=Z,59nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,332nm,6.1s
LZH LR LR
comp=N,2µm,13.5s
LZH LR LR
comp=Z,3µm,17.2s
LZH Lanzhou 39.05 270 ⇑P P 01 58 30.5 -1.0
LZH *PP pP 01 58 47.0 -2.3
LZH *SP sP 01 58 55.2 -2.7
LZH 02 00 04.5
LZH *e*S **S 02 04 20.1 -5.1**
LZH *SS 02 04 50.5
LZH SS SS 02 07 08.6 -4.1
LZH pmax pmax
comp=Z,59nm,1.3s,mb5.3
LZH MLR MLR
comp=Z,3µm,17.2s
LZH Lanzhou 39.05 270 ⇑P P 01 58 30.5 -1.0
comp=Z,59nm,1.3s,mb5.3
LZH pP pP 01 58 47.0 -2.3
LZH sP sP 01 58 55.2 -2.7
LZH PP PP 02 00 04.5 -1.4
LZH *e*S **S 02 04 20.1 -5.1**
LZH sS 02 04 50.5
LZH SS SS 02 07 08.6 -4.1
LZH LR LR
comp=Z,3µm,17.2s
GTA Gaotai 39.82 277 eP P 01 58 38.0 +0.1
GTA AP pP 01 58 53.0 -2.7
GTA XP sP 01 59 00.3 -3.9
GTA AMB AMB
comp=Z,17nm,1.1s,mb4.8
NVS Novosibirsk 42.71 306 ⇓*i*P P 01 58 59.4 -2.0
NVS *i* 02 00 51.7
NVS pmax pmax
comp=Z,40nm,1.9s,mb4.8
NVS pmax pmax
comp=N,22nm,2.0s
NVS pmax pmax
comp=E,30nm,2.0s
DLBC Dease Lake 43.07 48 eP P 01 59 05.3 +1.0
WMQ Urumqi 45.20 290 P P 01 59 22.2 +0.6
WMQ AP pP 01 59 38.1 -1.5
WMQ XP sP 01 59 45.3 -2.6
MKAR Makanchi Array 46.93 296 P P 01 59 33.9 -1.3
comp=E,11nm,0.9s,mb4.6,baz=63,slow=8.1,SNR=43
YKW3 Yellowknife Ar 48.24 38 eP P 01 59 44.6 -0.6
YKA Yellowknife Ar 48.28 38 P P 01 59 45.0 -0.5
comp=E,6.1nm,0.7s,mb4.5,baz=298,slow=7.4,SNR=12
YKA pP pP 02 00 02.3 -1.4
comp=E,4.5nm,0.7s,baz=298,slow=7.5,SNR=5.4
YKA Yellowknife Ar 48.28 38 P P 01 59 45.0 -0.5
YKA pP pP 02 00 02.3 -1.4
BVAR Borovoye Array 50.27 309 P P 01 59 58.8 -2.3
comp=E,13nm,0.8s,mb4.9,baz=53,slow=7.4,SNR=60
ZRNK Zerenda 51.02 309 ⇓eP P 02 00 04.5 -2.2
ZRNK *e* 02 01 20.5
ZRNK pmax pmax
comp=Z,13nm,0.7s,mb5.1
ZRNK Zerenda 51.02 309 ⇓eP P 02 00 04.5 -2.2
comp=Z,13nm,0.7s,mb5.1
ZRNK *e*PcP PcP 02 01 20.5 -1.4
AAA Alma-Ata 52.02 295 *c* *i*P P 02 00 16.5 +2.1
RPW Rockport 52.29 57 P P 02 00 15.9 -0.4
PNT Penticton 52.83 55 P P 02 00 19.9 -0.4
SVE Sverdlovsk 52.89 317 eP P 02 00 19.0 -1.7
SVE *e* pP 02 00 37.2 -1.9
SVE *e* 02 01 28.0
SVE pmax pmax
comp=Z,60nm,2.0s,mb5.3
COR Corvallis 53.51 62 P P 02 00 26.3 +0.8
COR pmax pmax
comp=Z,43nm,1.2s,mb5.3
COR Corvallis 53.51 62 eP P 02 00 25.2 -0.3
comp=Z,19nm,0.7s,mb5.2
FRU Bishkek 53.66 296 ⇑*i*P P 02 00 22.6 -4.0
FRU *i* pP 02 00 40.0 -5.0
FRU pmax pmax
comp=Z,1µm,2.4s
EBG Ellensburg 53.70 58 P P 02 00 26.9 +0.1
EDM Edmonton 53.80 48 eP P 02 00 26.4 -1.0
AAK Ala-Archa 53.85 296 ePP PP 02 02 24.4 -6.8
EPH Ephrata 53.98 57 P P 02 00 28.5 -0.3
ARU Arti 54.05 317 *d* *i*P P 02 00 26.6 -2.6
ARU pmax pmax
comp=Z,50nm,1.0s,mb5.5
ARU Arti 54.05 317 eP P 02 00 27.0 -2.3
comp=Z,61nm,1.0s,mb5.6
CMAR Chiang Mai Arr 54.11 256 P P 02 00 30.6 +0.4
CMAR pmax pmax
comp=Z,34nm,1.1s
CMAR Chiang Mai Arr 54.11 256 P P 02 00 30.6 +0.4
comp=Z,34nm,1.1s,mb5.3,baz=27,slow=8.1,SNR=4.1
VFP Flag Point 54.13 60 P P 02 00 30.3 +0.3
NEW Newport 54.78 55 eP P 02 00 33.6 -1.1
NEW pmax pmax
comp=Z,21nm,1.2s
NEW Newport 54.78 55 eP P 02 00 33.6 -1.1
comp=Z,20nm,1.2s,mb5.0
HUMO Hull Mountain 54.90 63 eP P 02 00 35.4 -0.2
comp=Z,40nm,1.3s,mb5.3
KRMB Red Mountain 54.99 65 eP P 02 00 36.9 +0.5
YBH Yreka Blue Hor 55.58 64 eP P 02 00 40.9 +0.4
YBH pmax pmax
comp=Z,16nm,0.8s
YBH Yreka Blue Hor 55.58 64 eP P 02 00 40.9 +0.4
comp=Z,16nm,0.8s,mb5.1
KKAR Karatay Array 55.90 298 P P 02 00 36.2 -6.6
KKAR pmax pmax
comp=Z,2µm,1.8s
LHEM Herd Peak 55.93 64 P P 02 00 43.8 +0.8
ARCES ARCESS Array B 55.97 341 P P 02 00 39.9 -3.1
comp=Z,1.4nm,0.3s,mb4.4,baz=40,slow=7.9,SNR=48
ARCES PcP PcP 02 01 40.3 -0.2
comp=Z,5.8nm,1.0s,baz=9.5,slow=7.4,SNR=4.6
WDC Whiskeytown Da 56.39 65 eP P 02 00 45.9 -0.5
WDC pmax pmax
comp=Z,35nm,1.3s,mb5.2
WDC Whiskeytown Da 56.39 65 eP P 02 00 45.9 -0.5
comp=Z,35nm,1.3s,mb5.2
BMO Blue Mountains 56.76 58 eP P 02 00 49.1 +0.1
comp=Z,11nm,0.7s,mb5.0
BMO *es*P sP 02 01 09.4 -6.3
MOD Modoc 56.88 63 eP P 02 00 50.5 +0.6
comp=Z,16nm,0.7s,mb5.2
MSO Missoula 57.36 55 eP P 02 00 52.9 -0.3
comp=Z,23nm,1.2s,mb5.1
MSO *es*P sP 02 01 13.5 -6.6
WVOR Wild Horse Val 57.51 61 eP P 02 00 54.7 +0.4
WVOR pmax pmax
comp=Z,20nm,0.8s,mb5.2
WVOR Wild Horse Val 57.51 61 eP P 02 00 54.7 +0.4
comp=Z,20nm,0.8s,mb5.2
CHMT Chamberlain Mo 57.68 54 eP P 02 00 54.8 -0.6
AB31 Akbulak array 57.81 310 P P 02 00 53.8 -2.5
FFC Flin Flon 58.13 42 eP P 02 00 57.2 -1.2
FFC *e**SP sP 02 01 18.0 -7.3
FFC pmax pmax
comp=Z,22nm,1.2s,mb5.1
FFC Flin Flon 58.13 42 eP P 02 00 57.2 -1.2
comp=Z,22nm,1.2s,mb5.1
FFC *es*P sP 02 01 17.9 -7.4
BEKR Beckwourth 58.13 64 ⇑eP P 02 00 58.6 -0.1
comp=Z,36nm,1.3s,mb5.2
SUMG Summit 58.20 5 eP P 02 00 57.5 -1.2
comp=Z,8.8nm,0.5s,mb5.0
HRY Holter Researc 58.56 54 eP P 02 01 01.3 -0.2
PMG Port Moresby 58.71 189 P P 02 01 02.9 -0.1
PMG pmax pmax
comp=Z,106nm,0.6s
PMG Port Moresby 58.71 189 P P 02 01 02.9 -0.1
comp=Z,106nm,0.6s,mb6.0,baz=312,slow=3.6,SNR=43
PMG Port Moresby 58.71 189 eP P 02 01 03.3 +0.3
comp=Z,105nm,0.6s,mb6.0
WCN Washoe City 58.85 65 eP P 02 01 04.0 +0.4
WCN pmax pmax
comp=Z,29nm,1.1s,mb5.2
WCN Washoe City 58.85 65 eP P 02 01 04.0 +0.3
comp=Z,29nm,1.1s,mb5.2
HLID Hailey 59.18 58 eP P 02 01 06.0 +0.2
comp=Z,17nm,1.0s,mb5.0
MCMT McKenzie Canyo 59.23 56 eP P 02 01 06.1 -0.1
CMB Columbia Colle 59.30 66 P P 02 01 07.1 +0.4
CMB pmax pmax
comp=Z,31nm,1.4s,mb5.2
CMB Columbia Colle 59.30 66 ⇑eP P 02 01 06.6 -0.1
BOZ Bozeman (W) 59.35 54 ⇑*i*P P 02 01 07.6 +0.6
BOZ pmax pmax
comp=Z,19nm,0.7s,mb5.2
BOZ Bozeman (W) 59.35 54 ⇑*i*P P 02 01 07.6 +0.6
comp=Z,19nm,0.7s,mb5.2
BMN Battle Mountai 59.61 62 ⇑*i*P P 02 01 09.4 +0.5
BMN pmax pmax
comp=Z,22nm,0.7s,mb5.3
BMN Battle Mountai 59.61 62 ⇑*i*P P 02 01 09.3 +0.5
comp=Z,22nm,0.7s,mb5.3
QLMT Earthquake Lak 59.99 55 eP P 02 01 12.1 +0.6
PECR Pechory 60.23 323 eP P 02 01 11.0 -1.9
PECR pmax pmax
comp=Z,110nm,2.0s,mb5.5
NVAR Mina Array Bea 60.28 65 P P 02 01 13.5 0.0
comp=Z,11nm,0.8s,mb5.0,baz=306,slow=5.8,SNR=53
NVAR pP pP 02 01 33.7 +1.4
comp=Z,3.8nm,0.7s,baz=303,slow=5.5,SNR=5.0
NVAR Mina Array Bea 60.28 65 P P 02 01 13.5 0.0
NVAR pP pP 02 01 33.7 +1.4
MNV Mina 60.37 64 ⇑eP P 02 01 14.2 +0.1
MNV pmax pmax
comp=Z,18nm,1.0s,mb5.1
MNV Mina 60.37 64 ⇑eP P 02 01 14.2 +0.1
comp=Z,18nm,1.0s,mb5.0
ELK Elko 60.55 61 ⇑eP P 02 01 15.8 +0.5
ELK pmax pmax
comp=Z,11nm,0.7s
ELK Elko 60.55 61 ⇑eP P 02 01 15.8 +0.5
comp=Z,11nm,0.7s,mb5.0
YFT Old Faithful 60.56 55 eP P 02 01 16.7 +1.4
MTUM Tungsten Hills 60.84 66 eP P 02 01 13.8 -3.5
IMW Indian Meadow 60.87 56 eP P 02 01 18.1 +0.7
comp=Z,29nm,1.0s,mb5.3
RRI2 Red Ridge 61.03 56 ⇑eP P 02 01 19.5 +1.0
comp=Z,40nm,0.8s,mb5.5
RRI2 *es*P sP 02 01 40.4 -5.2
MOOW Moose Ponds 61.08 56 eP P 02 01 19.2 +0.4
comp=Z,27nm,1.2s,mb5.2
MOOW *es*P sP 02 01 40.2 -5.7
TPAW Teton Pass 61.13 56 ⇑eP P 02 01 20.3 +1.1
comp=Z,37nm,0.9s,mb5.4
TPH Tonopah 61.16 64 eP P 02 01 19.7 +0.3
TPH pmax pmax
comp=Z,63nm,1.4s,mb5.5
TPH Tonopah 61.16 64 eP P 02 01 19.7 +0.2
comp=Z,63nm,1.4s,mb5.5
LOHW Long Hollow 61.24 56 eP P 02 01 20.8 +0.8
comp=Z,60nm,1.5s,mb5.4
SNOW Snow King Moun 61.26 56 eP P 02 01 20.8 +0.7
comp=Z,39nm,1.1s,mb5.3
REDW Red Top Meadow 61.27 56 eP P 02 01 20.9 +0.8
comp=Z,51nm,1.2s,mb5.4
DGMT Dagmar 61.29 48 eP P 02 01 19.1 -1.1
comp=Z,36nm,1.2s,mb5.3
DGMT *es*P sP 02 01 39.7 -7.5
LAO LASA Array 61.48 51 eP P 02 01 21.9 +0.3
comp=Z,24nm,1.0s,mb5.2
LAO *es*P sP 02 01 41.5 -7.1
SPUT South Promonto 61.76 59 eP P 02 01 24.0 +0.6
HWUT Hardware Ranch 62.05 58 eP P 02 01 25.8 +0.4
comp=Z,32nm,1.1s,mb5.3
FINES FINESS Array B 62.37 335 P P 02 01 24.9 -2.3
FINES pmax pmax
comp=Z,4.0nm,0.3s
FINES FINESS Array B 62.37 335 P P 02 01 24.9 -2.2
comp=Z,4.2nm,0.3s,mb5.0,baz=33,slow=6.6,SNR=126
PDAR Pinedale Array 62.38 56 P P 02 01 27.8 +0.2
comp=Z,20nm,0.9s,mb5.2,baz=309,slow=1.8,SNR=131
PDAR pP pP 02 01 47.8 +1.4
comp=Z,8.6nm,0.8s,baz=321,slow=2.8,SNR=6.1
NOQ North Oquirrh 62.38 59 eP P 02 01 27.6 0.0
TCUT Toone Canyon 62.47 58 eP P 02 01 28.8 +0.6
SFJD Kangerlussuaq 62.56 11 P P 02 01 26.9 -1.5
CTU Camp Tracy 62.56 59 eP P 02 01 28.3 -0.5
JLU Jordanelle 62.79 59 ⇑eP P 02 01 30.7 +0.3
NLU North Lily Min 62.88 60 ⇑eP P 02 01 31.1 +0.2
DAU Daniels Canyon 63.03 59 eP P 02 01 32.7 +0.7
MPU Maple Canyon 63.09 59 ⇑eP P 02 01 32.4 0.0
ARUT Antelope Range 63.56 62 eP P 02 01 35.0 -0.4
MVU Marysvale 63.78 61 ⇑eP P 02 01 37.5 +0.7
comp=Z,10nm,0.9s,mb4.7
MVU *es*P sP 02 01 56.5 -7.4
MSU Marysvale 63.80 61 P P 02 01 37.7 +0.8
MSU Marysvale 63.80 61 eP P 02 01 37.8 +0.9
TMUT Trail Mountain 63.82 60 eP P 02 01 37.5 +0.5
OBN Obninsk 63.99 326 α *i*P P 02 01 35.7 -2.2
OBN *e* 02 02 11.7
OBN pmax pmax
comp=Z,25nm,1.0s,mb5.0
NEN Nelson 64.20 65 eP P 02 01 39.6 +0.1
NEN *e*PcP PcP 02 02 13.2 -0.6
SRU San Rafael 64.33 59 ⇑eP P 02 01 40.7 +0.3
SRU *e* 02 04 03.3
RSSD Black Hills 64.37 52 eP P 02 01 40.5 0.0
RSSD *e**SP sP 02 02 00.5 -7.0
RSSD pmax pmax
comp=Z,30nm,1.1s,mb5.0
RSSD Black Hills 64.37 52 eP P 02 01 40.5 0.0
comp=Z,30nm,1.1s,mb5.0
RSSD *es*P sP 02 02 00.5 -7.0
LDFC Landfair 64.43 65 eP P 02 01 41.0 -0.1
VSU Vasula 64.62 333 ⇑*i*P P 02 01 40.1 -1.8
VOR Voronezh 65.56 322 P P 02 01 46.0 -2.1
VOR pmax pmax
comp=Z,50nm,1.8s,mb5.0
PV10 Paradox Valley 65.68 59 eP P 02 01 49.9 +0.8
PV01 Paradox Valley 66.11 59 eP P 02 01 52.0 +0.1
NB2 NORSAR Subarra 66.33 342 P P 02 01 51.0 -1.8
comp=Z,11nm,1.2s,mb4.6,baz=25,slow=6.5
NB2 NORSAR Subarra 66.33 342 P P 02 01 51.0 -1.8
NB2 pmax pmax
comp=Z,11nm,1.2s,mb4.6
NOA NORSAR Array B 66.33 342 P P 02 01 50.1 -2.6
comp=Z,2.2nm,0.7s,mb4.1,baz=25,slow=6.3,SNR=8.6
ISCO Idaho Springs 66.57 56 P P 02 01 55.5 +0.8
ISCO pmax pmax
comp=Z,32nm,1.1s,mb5.1
ISCO Idaho Springs 66.57 56 ⇑*i*P P 02 01 55.7 +1.0
MAK *i* PS S 02 10 50.0 -10
MAK *i* 02 11 50.0
MAK pmax pmax
comp=Z,1µm,12.0s
MAK pmax pmax
comp=N,2µm,10.0s
MAK pmax pmax
comp=E,6µm,10.0s
MAK MLR MLR
comp=Z,22µm,15.0s
MAK MLR MLR
comp=N,20µm,18.0s
MAK MLR MLR
comp=E,24µm,18.0s
TUC Tucson 68.94 65 eP P 02 02 09.2 -0.4
TUC pmax pmax
comp=Z,11nm,1.1s,mb4.6
TUC Tucson 68.94 65 eP P 02 02 09.2 -0.3
comp=Z,11nm,1.1s,mb4.6
GOF Gofitskoye 68.97 315 eP P 02 02 11.0 +1.5

SUW Suwalki 69.44 332 *eP* **P 02 02 10.7 -1.6**
ANMO Albuquerque 69.56 60 *eP* **P 02 02 13.8 +0.4**
ANMO pmax pmax
comp=Z,12nm,1.0s
ANMO Albuquerque 69.56 60 *eP* **P 02 02 13.8 +0.5**
comp=Z,12nm,1.0s,mb4.7
LENM Lemitar 69.83 61 *eP* **P 02 02 15.1 +0.1**
KIV Kislovodsk 69.97 315 *eP* **P 02 02 14.2 -1.5**
KIV pmax pmax
comp=Z,39nm,1.0s,mb5.2
BNM Barren Site 70.04 61 *eP* **P 02 02 17.0 +0.7**
AKASG Malin Array Be 70.20 327 P **P 02 02 14.9 -2.0**
AKASG pmax pmax
comp=Z,17nm,0.8s
AKASG Malin Array Be 70.20 327 P **P 02 02 14.9 -2.0**
comp=Z,17nm,0.8s,mb4.9,baz=34,slow=6.2,SNR=65
ZEI Tsey 70.30 313 *eP* **P 02 02 13.8 -3.9**
ZEI *i* *PP pP 02 02 39.6 +2.6
ZEI *i* 02 04 50.6
ZEI pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
SCHQ Schefferville 70.62 24 P **P 02 02 18.6 -0.8**
comp=Z,6.3nm,0.4s,mb4.8,baz=293,slow=4.4,SNR=36
TI2 Plekhanov 70.67 312⇑*iP* **P 02 02 19.6 -0.3**
WRAB Tennant Creek 71.18 200 *eP* **P 02 02 17.2 -6.1**
ANN Anapa 71.69 318⇑*iP* **P 02 02 24.9 -1.1**
ANN *i* *PP pP 02 02 49.0 +3.6
ANN pmax pmax
comp=Z,63nm,1.2s,mb5.3
GNI Garni 71.87 311 *eP* **P 02 02 26.1 -1.1**
GNI pmax pmax
comp=Z,247nm,1.3s
AMTX Amarillo 72.29 57 *eP* **P 02 02 30.0 +0.3**
comp=Z,34nm,1.3s,mb5.0
MNTX Cornudas Mount 72.54 62 *eP* **P 02 02 31.3 +0.1**
comp=Z,20nm,1.3s,mb4.8
GDL2 Guadalupe Moun 72.76 61 *eP* **P 02 02 32.9 +0.4**
KWP Kalwaria 73.36 330 *eP* **P 02 02 35.8 +0.2**
KWP pmax pmax
comp=Z,86nm,1.0s,mb5.5
KWP Kalwaria 73.36 330 *eP* **P 02 02 35.9 +0.3**
KIS Kishinev 73.42 325 *eP* **P 02 02 34.0 -2.0**
OJC Ojcow 73.77 332 *eP* **P 02 02 37.7 -0.3**
WMOK Wichita Mounta 73.98 55 P **P 02 02 39.8 +0.2**
WMOK pmax pmax
comp=Z,14nm,1.0s,mb4.7
WMOK Wichita Mounta 73.98 55 *eP* **P 02 02 39.6 0.0**
comp=Z,9.1nm,0.8s,mb4.6
KOLS Kolonicke sedl 74.10 330 *eP* **P 02 02 40.2 +0.2**
KOLS *e* 02 02 48.4
BURAR Bucovina Array 74.22 327⇑*iP* **P 02 02 41.0 +0.3**
KSP Ksiaz 74.27 334 *eP* **P 02 02 40.0 -0.9**
KSP Ksiaz 74.27 334 *eP* **P 02 02 39.4 -1.6**
NIE Niedzica 74.31 331 *eP* **P 02 02 42.5 +1.3**
CRVS Cervenica-Dubn 74.40 330 *eP* **P 02 02 42.7 +1.0**
OKC Ostrava-Krasne 74.62 333 *eP* **P 02 02 42.3 -0.6**
UPC Upice 74.65 334 *eP* **P 02 02 42.4 -0.7**
DPC Dobruska-Polom 74.70 334 *eP* **P 02 02 43.1 -0.3**
CLL Collm 74.75 336⇑*iP* **P 02 02 43.0 -0.7**
CLL pmax pmax
comp=Z,28nm,1.5s,mb4.8
CLL Collm 74.75 336⇑*iP* **P 02 02 43.0 -0.7**
comp=Z,28nm,1.5s,mb4.8
CLL Collm 74.75 336⇑*P* **P 02 02 43.0 -0.7**
comp=Z,logA/T=1.3,mb4.8
MORC Moravsky Berou 74.85 333 *eP* **P 02 02 43.7 -0.6**
MORC pmax pmax
comp=Z,32nm,1.1s,mb5.0
MORC Moravsky Berou 74.85 333 *eP* **P 02 02 43.7 -0.6**
comp=Z,32nm,1.1s,mb5.0
BRG Berggiesshubel 74.89 336 *eP* **P 02 02 44.1 -0.4**
BRG pmax pmax
comp=Z,13nm,1.4s,mb4.5
BRG Berggiesshubel 74.89 336 *eP* **P 02 02 44.1 -0.4**
comp=Z,13nm,1.4s,mb4.5
CLZ Clausthal 74.93 338 P **P 02 02 44.9 +0.2**
CLZ pmax pmax
comp=Z,31nm,1.4s,mb4.8
CLZ Clausthal 74.93 338 *eP* **P 02 02 44.9 +0.2**
comp=Z,31nm,1.4s,mb4.8
PVCC Panska Ves 75.03 335 *eP* **P 02 02 44.9 -0.4**
KECS Kecovo 75.08 331 *eP* **P 02 02 45.6 0.0**
KECS *e* 02 02 51.6
VRI Vrincioaia 75.16 325⇓*P* **P 02 02 47.1 +1.0**
CFR Carcaliu 75.20 324⇓*P* **P 02 02 46.1 -0.3**
TXAR Lajitas Array 75.28 62 P **P 02 02 47.6 +0.4**
TXAR *PP pP 02 03 06.8 +0.1
TXAR pmax pmax
comp=Z,6.0nm,0.5s
TXAR Lajitas Array 75.28 62 P **P 02 02 47.6 +0.4**
comp=Z,6.3nm,0.5s,mb4.6,baz=304,slow=4.5,SNR=55
TXAR pP pP 02 03 06.8 +0.1
comp=Z,3.4nm,0.5s,baz=297,slow=5.2,SNR=5.4
CCM Cathedral Cave 75.32 48 *eP* **P 02 02 46.6 -0.6**
CCM pmax pmax
comp=Z,14nm,1.1s,mb4.6
CCM Cathedral Cave 75.32 48 *eP* **P 02 02 46.5 -0.6**
comp=Z,14nm,1.1s,mb4.6
PRU Pruhonice 75.53 335 *eP* **P 02 02 47.5 -0.6**
VRAC Vranov 75.55 333 P **P 02 02 48.7 +0.4**
VRAC pmax pmax
comp=Z,7.0nm,0.4s
VRAC Vranov 75.55 333 P **P 02 02 48.7 +0.4**
comp=Z,6.6nm,0.4s,mb4.7,baz=34,slow=7.3,SNR=5.5
VYHS Vyhne 75.59 332 *eP* **P 02 02 49.1 +0.6**
VYHS *e* 02 02 54.2
TIRR Tirgusor 75.70 324⇑*P* **P 02 02 48.3 -0.9**
MOX Moxa 75.72 337 *eP* **P 02 02 49.8 +0.6**
MOX pmax pmax
comp=Z,15nm,1.5s,mb4.5
MOX Moxa 75.72 337 *eP* **P 02 02 49.8 +0.6**
comp=Z,15nm,1.5s,mb4.5
MOX Moxa 75.72 337 *i P* **P 02 02 49.8 +0.6**
comp=Z,logA/T=1.0,mb4.5
PSZ Piszkesteto 75.76 331 *eP* **P 02 02 50.4 +0.9**
PSZ pmax pmax
comp=Z,12nm,0.9s,mb4.6
PSZ Piszkesteto 75.76 331 *eP* **P 02 02 50.4 +0.8**
comp=Z,12nm,0.9s,mb4.6
MLR Muntele Rosu 75.77 326 P **P 02 02 49.0 -0.6**
MLR pmax pmax
comp=Z,35nm,1.2s
MLR Muntele Rosu 75.77 326 P **P 02 02 49.0 -0.6**
comp=Z,35nm,1.1s,mb5.0,baz=1.4,slow=7.4,SNR=30
MLR Muntele Rosu 75.77 326⇑*P* **P 02 02 50.0 +0.4**
FVM French Village 75.77 48 *eP* **P 02 02 49.0 -0.8**
FVM pmax pmax
comp=Z,11nm,0.6s,mb4.8
FVM French Village 75.77 48 *eP* **P 02 02 49.0 -0.8**
comp=Z,11nm,0.6s,mb4.8
NKC Novy Kostel 75.88 336 *eP* **P 02 02 49.0 -1.1**
VOIR 76.14 326⇑*P* **P 02 02 52.2 +0.5**
TOS Tosya 76.20 318 *eP* **P 02 02 56.7 +4.5**
SRO Srobarova 76.36 332 *eP* **P 02 02 54.2 +1.3**
ZST Bratislava 76.39 332 *eP* **P 02 02 53.6 +0.5**
ZST *e* 02 02 59.2
KHC Kasperske Hory 76.57 335 *eP* **P 02 02 53.9 -0.2**
KHC *ex* x 02 03 00.5
MSNY Massena 76.66 34 *eP* **P 02 02 55.1 +0.4**
MSNY *es*P sP 02 03 15.0 -7.0
GRA1 Grafenberg Arr 76.69 337 *eP* **P 02 02 55.4 +0.7**
comp=Z,39nm,1.1s,mb5.0
GRA1 *ep*P pP 02 03 33.2 +19
GRF Grafenberg Arr 76.69 337 P **P 02 02 55.4 +0.7**
GRF pmax pmax
comp=Z,39nm,1.1s,mb5.0
DLF Lyons Farm 76.72 349⇑*iP* **P 02 02 54.7 -0.1**
DLF Lyons Farm 76.72 349 *eP* **P 02 02 51.0 -3.8**
DLF ⇑*iP* 02 02 54.7
WET Wettzell 76.75 335 P **P 02 02 55.5 +0.4**
WET pmax pmax
comp=Z,28nm,1.3s,mb4.8
WET Wettzell 76.75 335 *eP* **P 02 02 55.5 +0.4**
comp=Z,28nm,1.3s,mb4.8
DCN Croghan 76.76 349⇑*iP* **P 02 02 55.0 0.0**
DCN Croghan 76.76 349 *eP* **P 02 02 51.1 -3.9**
DCN ⇑*iP* 02 02 55.0
GEC2 GERESS Array S 76.80 335 P **P 02 02 55.2 -0.1**
GEC2 pmax pmax
comp=Z,17nm,1.4s,mb4.6
GEC2 GERESS Array S 76.80 335 *eP* **P 02 02 55.2 -0.1**
comp=Z,17nm,1.4s,mb4.6
GERES GERESS Array B 76.80 335 P **P 02 02 54.7 -0.6**
comp=Z,1.2nm,0.3s,mb4.1,baz=34,slow=5.6,SNR=22

HGN Heimansgroeve 76.97 340 *eP* **P 02 02 56.4 +0.2**
comp=Z,36nm,1.3s,mb5.0
HGN ⇑*eP* 02 04 57.3
HGN comp=Z,115nm,2.4s
HGN *ex* x 02 05 10.0
HGN *ePP* PP 02 05 47.7 -3.8
TOD Tromm 77.38 338⇑*eP* **P 02 02 58.8 +0.2**
SIND Sindeldorf 77.42 338⇑*eP* **P 02 02 59.0 +0.2**
ABH Alteburg 77.43 339⇑*eP* **P 02 02 59.0 +0.2**
ALLY Alegheny Colle 77.44 39 *eP* **P 02 02 58.2 -0.8**
BR131 Keskin Array S 77.44 318 *eP* **P 02 03 00.2 +1.1**
comp=Z,50nm,0.8s,mb5.3
BRTR Keskin Array B 77.44 318 P **P 02 02 59.7 +0.6**
comp=Z,26nm,1.0s,mb4.9,baz=63,slow=3.2,SNR=1.4
BRTR Keskin Array B 77.44 318 P **P 02 02 59.7 +0.6**
MOA Molln 77.54 334⇑*iP* **P 02 02 59.8 +0.3**
comp=Z,10nm,1.1s,mb4.5
KAMT Kaman 77.70 317 *eP* **P 02 02 59.1 -1.4**
RUP Ruppelstein 77.71 339 *eP* **P 02 03 00.5 +0.1**
ARSA Arzberg 77.71 333⇑*iP* **P 02 03 01.1 +0.7**
comp=Z,18nm,1.2s,mb4.7
GIVF Givet 77.83 341 *eP* **P 02 03 00.3 -0.7**
comp=Z,65nm,1.2s,mb4.9
GIVF Givet 77.83 341 *eP* **P 02 03 00.3 -0.7**
GIVF pmax pmax
comp=Z,32nm,1.2s,mb4.9
MENF Mencas 77.95 343 *eP* **P 02 03 01.8 +0.1**
HDH Heidenheim 77.97 337⇑*eP* **P 02 03 02.1 +0.3**
BAIF Baives 78.00 341 *eP* **P 02 03 01.4 -0.6**
comp=Z,40nm,1.0s,mb4.8
BAIF Baives 78.00 341 *eP* **P 02 03 01.4 -0.6**
BAIF pmax pmax
comp=Z,20nm,1.0s,mb4.8
FUR Furstenfeldbru 78.08 336 P **P 02 03 02.9 +0.5**
FUR pmax pmax
comp=Z,49nm,1.4s,mb5.0
FUR Furstenfeldbru 78.08 336 *eP* **P 02 03 02.9 +0.5**
comp=Z,49nm,1.4s,mb5.0
LBG Lerchenberg 78.26 338⇑*eP* **P 02 03 03.6 +0.2**
BUCH Bad Urach 78.32 337⇑*eP* **P 02 03 04.4 +0.7**
PERS Pernice 78.39 333 *eP* **P 02 03 04.3 +0.2**
GROS Grobnik 78.43 333⇓*eP* **P 02 03 04.0 -0.4**
NATX Nacogdoches 78.47 55 *eP* **P 02 03 05.8 +0.9**
comp=Z,78nm,1.3s,mb5.3
NATX *es*P sP 02 03 26.3 -6.2
VAL Valentia 78.48 351 *eP* **P 02 03 01.0 -3.6**
WVT Waverly 78.50 47 *eP* **P 02 03 05.0 0.0**
WVT pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
WVT Waverly 78.50 47 *eP* **P 02 03 05.0 0.0**
comp=Z,7.1nm,0.7s,mb4.6
KBA Koelnbreinsper 78.50 334⇑*iP* **P 02 03 05.8 +1.0**
comp=Z,113nm,1.2s,mb5.6
KBA Koelnbreinsper 78.50 334⇑*iP* **P 02 03 05.8 +1.0**
KBA pmax pmax
comp=Z,113nm,1.2s,mb5.6
OBKA Obir 78.67 333⇑*iP* **P 02 03 06.2 +0.5**
comp=Z,12nm,1.2s,mb4.6
BFO Black Forest 78.68 338 P **P 02 03 05.8 +0.1**
BFO pmax pmax
comp=Z,19nm,1.1s,mb4.8
BFO Black Forest 78.68 338 *eP* **P 02 03 05.8 +0.1**
comp=Z,19nm,1.1s,mb4.8
GUT Gutenstein 78.73 337⇑*eP* **P 02 03 06.4 +0.4**
WATA Walderalm 78.76 336⇑*iP* **P 02 03 07.0 +0.8**
comp=Z,32nm,1.2s,mb5.0
WATA Walderalm 78.76 336⇑*iP* **P 02 03 07.0 +0.8**
WATA pmax pmax
comp=Z,33nm,1.2s,mb5.0
WTTA Wattenberg 78.81 335⇑*iP* **P 02 03 07.7 +1.2**
comp=Z,56nm,1.1s,mb5.3
WTTA Wattenberg 78.81 335⇑*iP* **P 02 03 07.7 +1.2**
WTTA pmax pmax
comp=Z,56nm,1.1s,mb5.3
ESKT Eskisehir 78.82 319 *eP* **P 02 03 05.1 -1.6**
UBR Uberruh 78.83 337⇑*eP* **P 02 03 06.9 +0.3**
WLS Welschbruch 78.84 339 *eP* **P 02 03 07.0 +0.4**
CDF Champ du Feu 78.86 339 *eP* **P 02 03 06.2 -0.5**
comp=Z,64nm,1.1s,mb5.1
CDF Champ du Feu 78.86 339 *eP* **P 02 03 06.2 -0.5**
CDF pmax pmax
comp=Z,32nm,1.1s,mb5.1
MOTA Moosalm 78.88 336⇑*iP* **P 02 03 07.6 +0.7**
comp=Z,40nm,1.2s,mb5.1
MOTA Moosalm 78.88 336⇑*iP* **P 02 03 07.6 +0.7**
MOTA pmax pmax
comp=Z,40nm,1.2s,mb5.1
KIZT Kizilcal 78.91 318 *eP* **P 02 03 05.1 -2.1**
SQTA Sankt Quirin 78.97 336⇑*iP* **P 02 03 08.2 +0.9**
comp=Z,41nm,1.2s,mb5.1
SQTA Sankt Quirin 78.97 336⇑*iP* **P 02 03 08.2 +0.9**
SQTA pmax pmax
comp=Z,41nm,1.2s,mb5.1
GRUS Gruza 79.03 328⇑*iP* **P 02 03 07.2 -0.6**
ECH Echery 79.07 339 *eP* **P 02 03 08.1 +0.2**
DIVS Divcibare 79.09 329⇓*iP* **P 02 03 06.9 -1.2**
KIZ Kirchzarten 79.13 338⇑*eP* **P 02 03 08.2 0.0**
FELD Feldberg 79.19 338 *eP* **P 02 03 08.5 0.0**
FELD Feldberg 79.19 338⇑*eP* **P 02 03 08.6 +0.1**
DAVA Damuels 79.26 337⇑*iP* **P 02 03 09.6 +0.7**
comp=Z,22nm,1.0s,mb5.0
VTS Vitosha 79.27 326 *eP* **P 02 03 10.0 +0.9**
VTS Vitosha 79.27 326 *eP* **P 02 03 10.0 +0.9**
MEZF Maizieres J'vi 79.29 340 *eP* **P 02 03 08.8 -0.3**
comp=Z,86nm,1.1s,mb5.2
PLAL Pickwick Lake 79.30 48⇑*eP* **P 02 03 08.9 -0.5**
comp=Z,7.0nm,0.5s,mb4.8
THEF They Montfort 79.34 339 *eP* **P 02 03 09.6 +0.3**
BOJS Bojanci 79.37 332⇓*eP* **P 02 03 08.8 -0.8**
MOF Molkenrain 79.42 339 *eP* **P 02 03 10.0 +0.2**
HAU Haudompre 79.46 339 *eP* **P 02 03 09.3 -0.7**
comp=Z,89nm,1.4s,mb5.1
HAU Haudompre 79.46 339 *eP* **P 02 03 09.3 -0.7**
HAU pmax pmax
comp=Z,44nm,1.4s,mb5.1
RZN Rozhen 79.48 324 *i P* **P 02 03 13.0 +2.8**
RZN Rozhen 79.48 324 *i P* **P 02 03 13.0 +2.8**
HINF Hinteralfeld 79.52 339 *eP* **P 02 03 09.5 -0.8**
comp=Z,39nm,1.3s,mb4.8
HINF Hinteralfeld 79.52 339 *eP* **P 02 03 09.5 -0.8**
HINF pmax pmax
comp=Z,19nm,1.3s,mb4.8
BBS Basel-Blauen 79.69 338 *eP* **P 02 03 11.5 +0.2**
BBS Basel-Blauen 79.69 338⇑*eP* **P 02 03 11.6 +0.3**
DAVOX Davos 79.73 336 P **P 02 03 11.8 +0.4**
baz=45,slow=5.4
MMB Musomiste 79.94 325 *i P* **P 02 03 13.0 +0.3**
MMB Musomiste 79.94 325 *i P* **P 02 03 13.0 +0.3**
KKB Krupnik 79.94 326 *eP* **P 02 03 13.0 +0.3**
KKB Krupnik 79.94 326 *eP* **P 02 03 13.0 +0.3**
LOMF Lomont 79.96 339 *eP* **P 02 03 13.3 +0.6**
SWET Sewanee 80.15 47 *eP* **P 02 03 13.6 -0.4**
FLN La Foliniere 80.17 344 *eP* **P 02 03 13.2 -0.6**
comp=Z,111nm,1.0s,mb5.3
FLN La Foliniere 80.17 344 *eP* **P 02 03 13.2 -0.6**
FLN pmax pmax
comp=Z,56nm,1.0s,mb5.3
NVLJ Novalja 80.33 332 *i P* **P 02 03 13.0 -1.8**
ISP Isparta 80.37 318 *eP* **P 02 03 13.5 -1.6**
ISP Isparta 80.37 318 *eP* **P 02 03 17.1 +2.0**
ISP pmax pmax
comp=Z,795nm,1.8s
ISP Isparta 80.37 318 *eP* **P 02 03 17.1 +2.0**
comp=Z,795nm,1.8s
SKO Skopje 80.45 327 *i P* **P 02 03 15.5 +0.1**
GRR Gorron 80.60 344 *eP* **P 02 03 15.7 -0.4**
comp=Z,207nm,1.1s,mb5.6
GRR Gorron 80.60 344 *eP* **P 02 03 15.7 -0.4**
GRR pmax pmax
comp=Z,103nm,1.1s,mb5.6
LOR Lormes 80.72 340 *eP* **P 02 03 16.2 -0.6**
comp=Z,79nm,1.1s,mb5.2
LOR Lormes 80.72 340 *eP* **P 02 03 16.2 -0.6**
LOR pmax pmax
comp=Z,39nm,1.1s,mb5.2
CABF La Chapelle 80.83 339 *eP* **P 02 03 17.2 -0.2**
comp=Z,68nm,1.2s,mb5.0
CABF La Chapelle 80.83 339 *eP* **P 02 03 17.2 -0.2**
CABF pmax pmax
comp=Z,34nm,1.2s,mb5.0
ELN Prospectdale 80.86 42 *eP* **P 02 03 17.4 -0.3**
ELN *es*P sP 02 03 39.1 -6.3
HYF Humbligny 80.98 341 *eP* **P 02 03 18.1 0.0**
SSF Saint Saulge 81.00 341 *eP* **P 02 03 17.7 -0.5**

SSF pmax pmax
comp=Z,22nm,1.0s,mb4.9
SSF Saint Saulge 81.00 341 *eP* **P 02 03 17.7 -0.5**
comp=Z,22nm,1.0s,mb4.9
BLA Blacksburg 81.02 42 *eP* **P 02 03 18.6 0.0**
BLA pmax pmax
comp=Z,25nm,1.2s,mb4.9
BLA Blacksburg 81.02 42 *eP* **P 02 03 18.6 0.0**
comp=Z,25nm,1.2s,mb4.9
SGMF Saint Gilles 81.03 345 *eP* **P 02 03 18.1 -0.2**
comp=Z,97nm,0.8s,mb5.4
SGMF Saint Gilles 81.03 345 *eP* **P 02 03 18.1 -0.2**
SGMF pmax pmax
comp=Z,49nm,0.8s,mb5.4
ROSF Rostrenen 81.07 345 *eP* **P 02 03 18.4 -0.1**
comp=Z,106nm,0.9s,mb5.4
ROSF Rostrenen 81.07 345 *eP* **P 02 03 18.4 -0.1**
ROSF pmax pmax
comp=Z,53nm,0.9s,mb5.4
DENT Denizli 81.08 319 *eP* **P 02 03 18.1 -0.7**
ORX Oropa 81.28 337 P **P 02 03 19.7 0.0**
SMF Signal de Mont 81.32 340 *eP* **P 02 03 19.6 -0.3**
comp=Z,136nm,1.1s,mb5.4
LRAL Lakeview Retre 81.40 49 *eP* **P 02 03 19.6 -1.1**
comp=Z,5.4nm,0.6s,mb4.5
TRAV 81.45 337 P **P 02 03 20.2 -0.5**
QUIF Quistinic 81.46 345 *eP* **P 02 03 20.3 -0.3**
comp=Z,69nm,1.1s,mb5.1
QUIF Quistinic 81.46 345 *eP* **P 02 03 20.3 -0.3**
QUIF pmax pmax
comp=Z,34nm,1.1s,mb5.1
BGF Bois d'Agland 81.62 341 *eP* **P 02 03 21.2 -0.2**
comp=Z,67nm,1.3s,mb5.0
BGF Bois d'Agland 81.62 341 *eP* **P 02 03 21.2 -0.2**
BGF pmax pmax
comp=Z,34nm,1.3s,mb5.0
LSD Ceresole Reale 81.65 338 P **P 02 03 23.2 +1.5**
LPL La Plagne 81.70 338 *eP* **P 02 03 22.6 +0.7**
comp=Z,70nm,0.9s,mb5.2
LPL La Plagne 81.70 338 *eP* **P 02 03 22.6 +0.7**
LPL pmax pmax
comp=Z,35nm,0.9s,mb5.2
LPG La Plagne 81.72 338 *eP* **P 02 03 22.8 +0.8**
comp=Z,126nm,1.1s,mb5.4
LPG La Plagne 81.72 338 *eP* **P 02 03 22.8 +0.8**
LPG pmax pmax
comp=Z,63nm,1.1s,mb5.4
GRAM 81.79 335 P **P 02 03 23.3 +0.9**
RSP Reno Superiore 81.92 338 P **P 02 03 23.4 +0.4**
YER Yerkesik 81.92 320 *eP* **P 02 03 21.0 -2.2**
CODM 81.94 335 P **P 02 03 23.2 +0.1**
SARO Sassorosso 81.98 335 P **P 02 03 24.3 +0.9**
BACM 81.99 335 P **P 02 03 24.1 +0.7**
MLSB Milas 82.00 320 *eP* **P 02 03 22.1 -1.6**
PLDF La Plantade 82.00 340 *eP* **P 02 03 25.5 +2.0**
TCF Toulx Ste Croi 82.01 341 *eP* **P 02 03 23.5 0.0**
comp=Z,60nm,1.1s,mb5.0
VLC Villacollemand 82.01 335 *eP* **P 02 03 23.7 +0.2**
DALT Dalyan (Mudla) 82.08 319 *eP* **P 02 03 22.6 -1.4**
GDM Grand'Maison 82.15 338 *eP* **P 02 03 25.7 +1.5**
PCP Pian Castagno 82.15 336 P **P 02 03 24.5 +0.2**
MFF Saint Martin d 82.18 343 *eP* **P 02 03 24.4 0.0**
comp=Z,78nm,1.1s,mb5.1
GRN Grenoble 82.20 339 *eP* **P 02 03 26.1 +1.6**
BHB Bricherasio 82.20 337 P **P 02 03 23.7 -0.8**
MAIM 82.21 335 P **P 02 03 24.3 +0.3**
RRL Cesana Torines 82.25 338 P **P 02 03 26.2 +1.4**
MBDF Montbardon 82.43 338 *eP* **P 02 03 25.8 +0.1**
comp=Z,72nm,1.2s,mb5.1
ORIF Oris-en-Rattie 82.47 338 *eP* **P 02 03 26.4 +0.5**
comp=Z,74nm,1.0s,mb5.2
FIN Finale Ligure 82.55 337 P **P 02 03 25.8 -0.5**
ROB Roburent 82.56 337 P **P 02 03 26.2 -0.1**
SURF Saint Ours 82.65 338 *eP* **P 02 03 28.3 +1.5**
ENR Entracque 82.74 337 P **P 02 03 26.5 -0.8**
AQU L'Aquila 82.79 332 *eP* **P 02 03 28.0 +0.5**
comp=Z,41nm,1.2s,mb5.1
MONE Monesi 82.79 337 P **P 02 03 27.8 +0.3**
VIVF Saint-Julien-l 82.82 339 *eP* **P 02 03 28.0 +0.3**
comp=Z,89nm,1.1s,mb5.2
IMI Imperia 82.91 337 P **P 02 03 28.2 +0.1**
SAOF Saorge 82.93 337 *eP* **P 02 03 28.5 +0.3**
AUTN L'Aution 82.95 337 *eP* **P 02 03 29.1 +0.8**
TOUF Mont Tournerai 82.98 337 *eP* **P 02 03 29.3 +0.8**
SBF Sospel 83.07 337 *eP* **P 02 03 29.2 +0.2**
comp=Z,124nm,1.1s,mb5.4
CII Carovilli 83.08 331 *eP* **P 02 03 28.4 -0.7**
comp=Z,22nm,1.1s,mb4.9
RJF Les Rejaudoux 83.09 341 *eP* **P 02 03 29.1 +0.1**
comp=Z,142nm,1.2s,mb5.4
MVIF Mont Vial 83.11 337 *eP* **P 02 03 30.0 +0.8**
REVF Revere 83.21 337 *eP* **P 02 03 30.3 +0.7**
CALN Calern 83.32 337 *eP* **P 02 03 31.0 +0.8**
STOF St-Etienne Org 83.33 338 *eP* **P 02 03 31.7 +1.4**
CAF Calviac 83.34 341 *eP* **P 02 03 30.9 +0.6**
comp=Z,135nm,1.2s,mb5.4
SMRF Simiane la Rot 83.43 338 *eP* **P 02 03 31.4 +0.6**
comp=Z,142nm,1.3s,mb5.3
VILF Villemus 83.52 338 *eP* **P 02 03 32.7 +1.6**
FRF La Foret Royal 83.56 337 *eP* **P 02 03 31.3 0.0**
comp=Z,122nm,1.3s,mb5.3
LFF La Frestale 83.60 342 *eP* **P 02 03 31.9 +0.4**
comp=Z,140nm,1.0s,mb5.4
TAVF Tavernes 83.65 338 *eP* **P 02 03 33.2 +1.4**
PRAF Pradon 83.69 338 *eP* **P 02 03 34.0 +2.0**
LASF Ste Croix 83.75 339 *eP* **P 02 03 33.0 +0.7**
comp=Z,69nm,1.1s,mb5.1
SANT Santorini 83.75 321 *eP*cP PcP 02 03 37.7 +0.8
comp=Z,41nm,0.6s
LMR La Mourre 83.81 337 *eP* **P 02 03 32.7 +0.1**
comp=Z,220nm,1.2s,mb5.6
TREF Trevaresse 83.81 338 *eP* **P 02 03 34.7 +2.1**
PUYF Puyloubier 83.82 338 *eP* **P 02 03 34.3 +1.7**
GELF Grande-Etoile 84.03 338 *eP* **P 02 03 35.3 +1.6**
TIP Timpagrande 84.57 329 *eP* **P 02 03 36.3 -0.2**
KYTH Kithira 84.81 323 *eP* **P 02 03 30.5 -7.3**
MTLF Montolieu 84.81 340 *eP* **P 02 03 38.2 +0.6**
comp=Z,53nm,1.2s,mb5.0
VAM Vamos 85.10 322 *eP* **P 02 03 38.9 -0.3**
MLS Moulis 85.42 341 *eP* **P 02 03 42.2 +1.5**
EPF Esparros 85.51 342 *eP* **P 02 03 42.2 +1.1**
comp=Z,27nm,1.1s,mb4.8
GVD Gavdhos 85.64 321 *eP* **P 02 03 40.8 -1.1**
comp=Z,175nm,1.1s,mb5.9
RESF Ems 85.73 342 *eP* **P 02 03 44.4 +2.3**
SJPF Ste Jean 85.75 343 *eP* **P 02 03 43.4 +1.2**
ETSF Etsaut 85.82 342 *eP* **P 02 03 43.5 +0.9**
comp=Z,44nm,1.2s,mb5.0
VSL Villasalto 86.61 334 *eP* **P 02 03 46.9 +0.4**
comp=Z,53nm,1.0s,mb5.4
ESDC Sonseca Array 89.59 344 P **P 02 03 59.5 -1.3**
comp=Z,5.9nm,1.0s,mb4.7,baz=12,slow=4.5,SNR=15
CFAA Coronel Fontan 143.34 78 PKP PKPdf 02 10 37.2 +1.2
comp=Z,0.2nm,0.4s,baz=227,slow=1.5,SNR=3.7
CFAA pPKP 02 11 01.6
comp=Z,0.2nm,0.4s,baz=266,slow=5.9,SNR=2.0
CFAA Coronel Fontan 143.34 78 PKP PKPdf 02 10 37.2 +1.1
CFAA pPKP 02 11 01.6
CPUP Villa Florida 146.22 59 PKPbc PKPbc 02 10 43.5 +1.1
comp=Z,5.1nm,0.9s,baz=324,slow=4.8,SNR=7.0
SNAA Sanae 155.21 197⇑*iP* PKPab 02 11 21.4 +0.4
SNAA Sanae 155.21 197 *e* 02 11 39.1
SNAA Sanae 155.21 197 PKPab PKPab 02 11 20.9 -0.1
comp=Z,2.5nm,1.1s,baz=257,slow=2.7,SNR=6.1
VNA2 Neumayer--Watz 156.64 195⇑*iP* PKPab 02 11 27.1 -0.1
VNA2 Neumayer--Watz 156.64 195 *e* 02 11 47.2
VNA3 Neumayer Olymp 156.71 193⇑*iP* PKPab 02 11 27.0 -0.5
VNA3 Neumayer Olymp 156.71 193 *e* 02 11 46.8
VNA1 Neumayer--Stat 157.02 194⇑*iP* PKPab 02 11 28.9 +0.1

*CRAAG **05** 01:52:00.4, 1.88N×97.14E, Mw6.6*
*BJI **05** 01:52:00.6, 1.54N×97.23E, h33km, mB7.0, mb6.1, Ms7.2, Msz7.2*
*MOS **05** 01:52:01.4± 1.1, 1.88N×97.18E, h22km, mb6.3/89, MS6.7/49, Error ellipse: s-maj=8.0km s-min=4.0km az=123.0*
*NEIC **05** 01:52:03.0± 0.1, 1.82N×97.08E, h21km, mb6.2/115, ME6.5, MS6.8/130, MW6.5, Error ellipse: s-maj=5.1km s-min=3.6km az=30.0 Broadband fault plane solution: P waves. NP1:φs130°, δ80°, λ90°. NP2:φs310°, δ10°, λ90°. Principal axes: T Plg55°, Azm40°; N Plg0°, Azm0°; P*

Plg35°, Azm220°; Moment Tensor Solution. s44 Moment tensor: Scale 10^{18} Nm; M_{rr}4.13; $M_{\theta\theta}$-3.03; $M_{\phi\phi}$-1.11; $M_{r\theta}$5.45; $M_{r\phi}$1.92; $M_{\theta\phi}$-3.91; Best double-couple: $M_0$7.9×10^{18} NP1:ϕ_s298°,δ16°,λ83°. NP2:ϕ_s125°, δ74°,λ92°. Principal axes: T 7.87, Plg61°, Azm38°; N .07, Plg2°, Azm305°; P -7.93, Plg29°, Azm214°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.

NEIC Buildings and roads damaged in the Gunungsitoli area. Felt [II] at Sibolga, Sumatra. Felt at Medan and Pematangsiantar, Sumatra. Also felt at Kelang, Kuala Lumpur, Petaling Jaya, Shah Alam and Sungai Ara, Malaysia.

*IDC **05** 01:52:02.5±1.2,1.76N×97.02E,h23km±7km,mb5.5/35, mb1 5.5/36,mb1mx5.5/36,mbtmp5.6/36,ML5.4/1,MS6.7/28, Ms1 6.7/28,ms1mx6.6/36 Error ellipse: s-maj=9.2km s-min=7.2km az=49.0*

*SVSA **05** 01:52:03.1,1.85N×98.06E,h21km,MW6.7*

*HRVD **05** 01:52:03.0±0.1,1.56N×96.93E,h16km,MW6.7/79, Centroid moment Tensor Solution. LP body waves: s79,c208;Mantle waves: s78,c318; Half duration: 4s4 Moment tensor: Scale 10^{19}Nm; M_{rr}0.27±.00; $M_{\theta\theta}$-0.11±.00; $M_{\phi\phi}$-0.16±.00; $M_{r\theta}$0.85±.01; $M_{r\phi}$0.17±.00; $M_{\theta\phi}$-0.74±.01; Best double couple: $M_0$1.167×10^{19} NP1: ϕ_s329°,δ8°,λ107°. NP2:ϕ_s131°,δ83°,λ88°. Principal axes: T 1.151, Plg52°, Azm39°; N .031, Plg2°, Azm132°; P -1.183, Plg38°, Azm223°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s.*

*BGS **05** 01:52:03.7, 1.82N×97.08E,h21km,mb5.9*

ISC 05 01:52:03.1±0.1,1.81N±0.03×97.13E±0.02,h34km, h34km±1.3km:pP-P,n1029,σ1912/891,mb6.0/187, MS6.8/185,145C-32D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.77**	**55**	P	**P**	**01 53 15.3**	**+0.8**
KULM	**Kulim**	**4.93**	**45**	*e*Pn	**P**	**01 53 17.8**	**+1.0**
KGM	**Kluang**	**6.19**	**88**	P	**P**	**01 53 35.5**	**+1.0**
SNG	**Songkhla**	**6.37**	**33**	P	**P**	**01 53 36.5**	**-0.5**
PBA	**Port Blair**	**10.70**	**336**	*e*	**P**	**01 54 40.1**	**+2.8**
PBA				*e*		01 57 42.4	
NNT	**Nongplab**	**11.02**	**13**	P	**P**	**01 54 40.5**	**-1.0**
KSM	**Kuching**	**13.18**	**91**	*e*Pn	**P**	**01 55 11.3**	**+0.7**
NST	**Nakhon Sawan** 733nm,2.4s	**14.09**	**12**	P	**P**	**01 55 21.5**	**-1.1**
NST				S	x	01 58 34.6	
UBT	**Ubonrachathani**	**15.46**	**30**	P	**P**	**01 55 40.5**	**+0.1**
KKTK	**Khon Kaen**	**15.49**	**21**	PN	Px	01 55 22.0	
KKTK				PG	**P**	**01 55 41.5**	**+0.7**
KKTK				SG	Px	01 55 43.5	
CM31	**Chiang Mai Arr** 268nm,0.8s	**16.64**	**6**	*e*Pn	**P**	**01 55 55.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.64**	**6**	P	**P**	**01 55 55.2**	**-0.2**
CMAR	comp=Z,5.0nm,0.3s			pmax	pmax		
CMAR	comp=Z,825μm,18.1s			MLR	MLR		
CMAR	**Chiang Mai Arr**	**16.64**	**6**	Pn	**P**	**01 55 55.2**	**-0.2**
CMAR	comp=Z,5.3nm,0.3s,baz=194,slow=13,SNR=52 baz=195,slow=10,SNR=2.2			Sn	**S**	**01 59 08.2**	**+10**
CMAR	comp=Z,825μm,18.1s,baz=185,slow=42			LR	LR	02 03 34.8	
CHG	**Chiang Mai** comp=Z,150nm,0.9s	**16.99**	**6**	⇑P	**P**	**01 55 58.6**	**-1.3**
CHG				S	**S**	**01 59 14.4**	**+8.1**
PALK	**Pallekele** comp=Z,1μm,1.4s	**17.24**	**289**	*e*P	**P**	**01 56 02.0**	**-1.1**
KKM	**Kota Kinabalu**	**19.50**	**77**	*e*P	**P**	**01 56 29.6**	**-0.7**
KKM	**Kota Kinabalu**	**19.50**	**77**	P	**P**	**01 56 29.7**	**-0.6**
VIS	**Vishakhapatnam**	**20.82**	**320**	*e*P	**P**	**01 56 45.7**	**+1.4**
VIS	comp=Z,2μm,1.8s			AMb	AMB	01 57 07.4	
VIS	comp=Z,138μm,19.3s,MS6.3			*e*S	**S**	**02 00 35.9**	**+6.1**
VIS				AMS	AMS	02 06 15.5	
TSM	**Tawau**	**20.86**	**83**	P	**P**	**01 56 42.8**	**-1.9**
TRD	**Trivandrum**	**21.15**	**289**	*e*	**P**	**01 56 53.5**	**+5.8**
TRD				*e*		02 00 33.5	
QIZ	**Qiongzhong**	**21.17**	**35**	P	**P**	**01 56 46.8**	**-1.0**
QIZ				AP		01 56 55.6	
QIZ				S	**S**	**02 00 35.6**	**-0.7**
QIZ				XS		02 00 50.8	
QIZ				SS	SS	02 01 09.2	-1.2
QIZ	comp=N,192μm,14.5s,MS6.8			LR	LR		
QIZ	comp=E,248μm,14.3s,MS6.8			LR	LR		
QIZ	comp=Z,292μm,14.4s,MS6.8			LR	LR		
QIZ	**Qiongzhong**	**21.17**	**35**	P	**P**	**01 56 47.3**	**-0.5**
QIZ				S	PcP	02 00 51.1	-1.9
CAL	**Calcutta**	**22.31**	**338**	*e*P	**P**	**01 56 59.5**	**+0.3**
CAL				*e*S	**S**	**02 01 01.7**	**+4.3**
AGT	**Agartala**	**22.67**	**346**	⇑*i*P	**P**	**01 57 02.0**	**-0.8**
AGT				*e*		01 58 39.0	
PPR	**Puerto Princes**	**22.89**	**69**	⇓*i*P	**P**	**01 57 05.2**	**+0.1**
IMP	**Imphal**	**23.05**	**353**	*e*	**P**	**01 57 24.0**	**+17**
IMP				*e*S	**S**	**02 01 16.0**	**+5.2**
KMI	**Kunming**	**23.80**	**13**	P	**P**	**01 57 15.5**	**+1.6**
KMI				AP		01 57 25.4	
KMI				XP		01 57 30.0	
KMI				PP	PP	01 57 50.6	+3.0
KMI				PPP	PPP	01 58 01.3	+3.7
KMI				PCP	PcP	02 00 57.3	-1.1
KMI				S	**S**	**02 01 28.3**	**+4.3**
KMI				XS		02 01 45.1	
KMI				SS	SS	02 02 21.9	+7.3
KMI				SSS	SSS	02 02 38.0	+6.9
KMI				SCP		02 04 31.4	
KMI				PCS		02 04 35.6	
KMI	comp=Z,1μm,1.4s,mb6.1			AMB	AMB		
KMI	comp=Z,38μm,9.2s			AMB	AMB		
KMI	comp=N,632μm,15.6s,MS7.3			LR	LR		
KMI	comp=E,371μm,13.7s,MS7.3			LR	LR		
KMI	comp=Z,648μm,14.3s,MS7.2			LR	LR		
KMI	**Kunming**	**23.80**	**13**	P	**P**	**01 57 15.2**	**+1.3**
KMI				S	**S**	**02 01 32.9**	**+8.9**
KMI	**Kunming**	**23.80**	**13**	P	**P**	**01 57 15.5**	**+1.6**
KMI				*PP		01 57 25.4	
KMI						01 57 50.6	
KMI				PPP	PPP	01 58 01.3	+3.7
KMI						02 00 57.3	-1.1
KMI				S	**S**	**02 01 28.3**	**+4.3**
KMI				SS	SS	02 02 21.9	+7.3
KMI	comp=Z,1μm,1.4s,mb6.1			pmax	pmax		
KMI	comp=Z,648μm,14.3s,MS7.2			MLR	MLR		
KMI	**Kunming** comp=Z,1μm,1.4s,mb6.1	**23.80**	**13**	P	**P**	**01 57 15.5**	**+1.6**
KMI				pP		01 57 25.4	
KMI				sP		01 57 30.0	
KMI				PP	PP	01 57 50.6	+3.0
KMI				PPP	PPP	01 58 01.3	+3.7
KMI				PcP	PcP	02 00 57.3	-1.1
KMI				S	**S**	**02 01 28.3**	**+4.3**
KMI				sS		02 01 45.1	
KMI				SS	SS	02 02 21.9	+7.3
KMI				SSS	SSS	02 02 38.0	+6.9
KMI				ScP		02 04 31.4	
KMI				PcS		02 04 35.6	
KMI	comp=Z,648μm,14.3s,MS7.2			LR	LR		
HYB	**Hyderabad**	**23.95**	**311**	⇑*e*P	**P**	**01 57 17.5**	**+2.1**
HYB				*e*S	**S**	**02 01 32.0**	**+5.3**
HYB	comp=Z,780nm,1.0s,mb6.1			pmax	pmax		
HYB	**Hyderabad** comp=Z,780nm,1.0s,mb6.1	**23.95**	**311**	⇑*e*P	**P**	**01 57 17.5**	**+2.1**
HYB				*e*S	**S**	**02 01 32.0**	**+5.3**
HYB	**Hyderabad** comp=Z,780nm,1.0s,mb6.1	**23.95**	**311**	⇑*i*P	**P**	**01 57 17.5**	**+2.1**
HYB				*e*S	**S**	**02 01 32.0**	**+5.3**
HYB	comp=Z,144nm,18.0s			LR	LR	02 07 04.0	
ENPP	**El Nido**	**24.02**	**66**	*e*P	**P**	**01 57 16.7**	**+0.7**
SHL	**Shillong**	**24.15**	**348**	*e*P	**P**	**01 57 16.0**	**-1.3**
SHL				*e*S	**S**	**02 01 32.0**	**+1.9**
MNGI	**Mangalore**	**24.70**	**298**	*i*P	**P**	**01 57 19.4**	**-3.3**
MNGI	comp=Z,674nm,1.3s			*i* S	**S**	**02 01 40.9**	**+1.4**
MNCY	**Minicoy**	**24.83**	**286**	⇓*i*P	**P**	**01 57 23.0**	**-1.0**
MNCY				*i*		01 59 49.0	
BLSP	**Bilaspur**	**24.91**	**325**	*e*P	**P**	**01 57 25.3**	**+0.6**
BLSP				AMb	AMB	01 57 53.6	
BLSP	comp=Z,11μm,2.1s,mb7.0			*e*S	**S**	**02 01 46.0**	**+2.9**
BLSP	comp=Z,111μm,14.7s,MS6.5			AMS	AMS	02 08 59.6	
BUSP	**Coron**	**25.02**	**65**	*e*P	**P**	**01 57 27.3**	**+1.6**
CUYO	**Cuyo Island**	**25.36**	**68**	*e*P	**P**	**01 57 29.3**	**+0.3**
ZMPH	**Zamboanga City**	**25.38**	**78**	⇑*e*P	**P**	**01 57 28.4**	**-0.7**
LKP	**Lekhapani**	**25.40**	**358**	*e*P	**P**	**01 57 30.0**	**+0.8**
LUBP	**Lubang**	**25.75**	**61**	*e*P	**P**	**01 57 32.0**	**-0.6**
SJMP	**San Jose**	**26.02**	**65**	*e*P	**P**	**01 57 35.8**	**+0.6**
IPIL	**Ipil**	**26.03**	**76**	*e*P	**P**	**01 57 38.3**	**+3.0**
LATR	**Latur**	**26.06**	**311**	*e*P	**P**	**01 57 37.0**	**+1.5**
GYA	**Guiyang**	**26.16**	**20**	⇓*i*P	**P**	**01 57 36.1**	**-0.3**
GYA				AP	pP	01 57 45.3	-0.8
GYA				XP	sP	01 57 49.8	-0.4
GYA				PP	PP	01 58 21.6	+2.9
GYA				S	**S**	**02 02 08.3**	**+4.6**
GYA	comp=Z,23μm,9.6s			AMB	AMB		
GYA	comp=N,676μm,16.4s,MS7.3			LR	LR		
GYA	comp=E,275μm,14.9s,MS7.3			LR	LR		
GYA	comp=Z,999μm,15.2s,MS7.5			LR	LR		
HKC	**Hong Kong**	**26.26**	**38**	⇑*i*P	**P**	**01 57 38.0**	**+0.7**
HKC				*i* S	**S**	**02 02 06.0**	**+0.7**
DGAR	**Diego Garcia**	**26.27**	**249**	PFAKE		01 57 50.0	+13
DGAR	comp=Z,46μm,19.0s,MS6.0			LR	LR		
PGP	**Puerto Galera**	**26.28**	**63**	*e*P	**P**	**01 57 38.7**	**+1.2**
SCZP	**Santa Cruz**	**26.40**	**57**	*e*P	**P**	**01 57 38.8**	**+0.2**
BOLP	**Bolinao**	**26.70**	**56**	*e*P	**P**	**01 57 39.8**	**-1.6**
GUIM	**Jordan**	**26.76**	**70**	*e*P	**P**	**01 57 42.0**	**0.0**
OTRP	**Odiongan**	**26.80**	**66**	*e*P	**P**	**01 57 42.8**	**+0.4**
PAGZ	**Pagadian**	**26.83**	**76**	*e*P	**P**	**01 57 42.8**	**+0.2**
DCPH	**Dipolog City**	**26.95**	**75**	⇑*e*P	**P**	**01 57 44.4**	**+0.6**
SNPH	**Sibulan**	**27.02**	**73**	*e*P	**P**	**01 57 46.3**	**+1.9**
BOAC	**Boac**	**27.05**	**63**	*e*P	**P**	**01 57 43.3**	**-1.4**
AKL	**Akola**	**27.16**	**315**	⇓*i*	**P**	**01 57 54.5**	**+8.9**
RCP	**Roxas**	**27.20**	**68**	⇑*e*P	**P**	**01 57 46.2**	**+0.3**
PCPH	**Palayan**	**27.30**	**59**	⇑*e*P	**P**	**01 57 45.2**	**-1.7**
KAD	**Karad**	**27.31**	**306**	*e*P	**P**	**01 57 43.9**	**-3.0**
KAD	comp=Z,627nm,1.8s,mb5.8			AMb	AMB	01 58 20.7	
KAD	comp=Z,79μm,15.6s,MS6.4			*i* S	**S**	**02 02 25.9**	**+3.5**
KAD				AMS	AMS	02 10 06.7	
ALBI	**Allahabad**	**27.64**	**329**	*e*P	**P**	**01 57 48.0**	**-1.9**
POLP	**Polillo Island**	**27.66**	**61**	*e*P	**P**	**01 57 50.9**	**+0.8**
TBP	**Tagbilaran**	**27.71**	**73**	*e*P	**P**	**01 57 49.5**	**-1.2**
GQP	**Guinayangan**	**27.77**	**63**	⇓*e*P	**P**	**01 57 51.0**	**-0.1**
BALP	**Baler**	**27.79**	**59**	*e*P	**P**	**01 57 52.3**	**+1.0**
PKI	**Pulchoki** comp=Z,1μm,1.2s,mb6.5	**27.96**	**337**	*e*P	**P**	**01 57 51.9**	**-1.0**
PKI	comp=Z,680nm,1.2s,mb6.2			pmax	pmax		
LLP	**Lapu-Lapu**	**27.97**	**71**	*e*P	**P**	**01 57 52.6**	**-0.5**
ABRA	**Dolores**	**28.01**	**54**	*e*P	**P**	**01 57 54.1**	**+0.8**
GUN	**Gumba** comp=Z,7μm,1.8s,mb7.0	**28.09**	**338**	*e*P	**P**	**01 57 54.3**	**+0.3**
DMN	**Daman** comp=Z,1μm,1.0s,mb6.5	**28.12**	**337**	*e*P	**P**	**01 57 54.6**	**+0.4**
KKN	**Kakani** comp=Z,3μm,1.4s,mb6.7	**28.21**	**337**	*e*P	**P**	**01 57 54.8**	**-0.3**
KKN	**Kakani**	**28.21**	**337**	*e*P	**P**	**01 57 54.8**	**-0.3**
KKN	comp=Z,1μm,1.4s,mb6.3			pmax	pmax		
CGP	**Cagayan de Oro**	**28.22**	**75**	⇓*e*P	**P**	**01 57 56.3**	**+1.0**
POO	**Poona** comp=Z,80nm,1.0s,mb5.3	**28.23**	**308**	⇑*i*P	**P**	**01 57 56.0**	**+0.7**
POO				*i*		02 02 36.0	
LSA	**Lhasa**	**28.31**	**349**	P	**P**	**01 57 54.4**	**-1.5**
LSA				AP	pP	01 58 08.8	+3.1
LSA				XP	sP	01 58 13.6	+3.4
LSA				PCP	PcP	02 01 01.8	-6.8
LSA				S	**S**	**02 02 39.5**	**+1.1**
LSA				PCS		02 04 44.4	
LSA				SCS	ScS	02 08 35.1	-2.0
LSA	comp=Z,260nm,1.1s,mb5.8			AMB	AMB		
LSA	comp=N,88μm,26.4s			LR	LR		
LSA	comp=E,170μm,31.9s			LR	LR		
LSA	comp=Z,140μm,25.7s,MS6.5			LR	LR		
LSA	**Lhasa**	**28.31**	**349**	P	**P**	**01 57 56.9**	**+0.9**
LSA				S	**S**	**02 02 41.1**	**+2.6**
VLK	**Valmikinagar**	**28.37**	**335**	*i*	**P**	**01 57 52.0**	**-4.4**
VLK				*e*		01 58 05.0	
BUKP	**Musuan**	**28.47**	**77**	*e*P	**P**	**01 57 57.9**	**+0.4**
APYP	**Conner**	**28.55**	**55**	*e*P	**P**	**01 57 56.9**	**-1.3**
CAUP	**Cauayan**	**28.57**	**57**	*e*P	**P**	**01 57 57.2**	**-1.2**
BHPL	**Bhopal**	**28.61**	**320**	*e*S	**S**	**02 02 43.8**	**+0.4**
BHPL	comp=Z,55μm,21.6s,MS6.1			AMS	AMS	02 09 22.2	
BHPL	comp=Z,90μm,17.3s			AMS	AMS	02 10 34.7	
GKN	**Gorkha** comp=Z,4μm,1.6s,mb6.9	**28.65**	**336**	*e*P	**P**	**01 57 58.7**	**-0.3**
MSLP	**Maasin**	**28.77**	**72**	*e*P	**P**	**01 58 00.3**	**+0.2**
DAV	**Davao City (W)**	**28.83**	**79**	P	**P**	**01 58 01.7**	**+1.0**
DAV	**Davao City (W)**	**28.83**	**79**	⇓*e*P	**P**	**01 58 03.5**	**+2.8**
KOLN	**Koldanda** comp=Z,6μm,1.8s,mb7.0	**28.88**	**335**	*e*P	**P**	**01 58 02.1**	**+1.1**
PLP	**Palo**	**29.16**	**70**	*e*P	**P**	**01 58 06.2**	**+2.6**
BUTP	**Butuan**	**29.23**	**75**	*e*P	**P**	**01 58 04.4**	**+0.2**
BOM	**Bombay**	**29.25**	**307**	*e*	**P**	**01 58 07.1**	**+2.7**
BOM				*e*		02 03 00.2	
BOM	comp=Z,3μm,6.6s			*e*		02 06 14.2	
CNP	**Catarman**	**29.28**	**67**	*e*P	**P**	**01 58 04.4**	**-0.2**
MATI	**Mati**	**29.48**	**79**	*e*P	**P**	**01 58 08.2**	**+1.8**
JHNI	**Jhansi**	**29.56**	**324**	*e*P	**P**	**01 58 04.0**	**-3.1**
JHNI				*e*		01 59 50.0	
CD2	**Chengdu**	**29.61**	**12**	P	**P**	**01 58 06.6**	**-0.9**
CD2				XP	sP	01 58 18.6	-3.3
CD2				PPP	PPP	01 59 18.0	+0.1
CD2				S	**S**	**02 02 56.0**	**-3.2**
CD2	comp=Z,141nm,1.0s,mb5.7			AMB	AMB		
CD2	comp=Z,7μm,9.0s			AMB	AMB		
CD2	comp=N,280μm,14.0s			LR	LR		
BBP	**Basco**	**30.51**	**51**	*e*P	**P**	**01 58 13.9**	**-1.7**
QZH	**Quanzhou**	**30.95**	**40**	⇓*i*P	**P**	**01 58 17.0**	**-2.5**
QZH	comp=Z,130nm,1.0s,mb5.7			AMB	AMB		
QZH	**Quanzhou**	**30.95**	**40**	⇑*i*P	**P**	**01 58 18.8**	**-0.7**
QZH				PP	PP	01 59 18.5	-3.3
QZH				S	**S**	**02 03 23.0**	**+2.7**
QZH	comp=Z,300nm,0.9s,mb6.1			AMB	AMB		
QZH	comp=Z,23μm,5.8s			AMB	AMB		
QZH	comp=N,830μm,14.2s,MS7.6			LR	LR		
QZH	comp=E,485μm,16.8s,MS7.6			LR	LR		
QZH	comp=Z,1042μm,15.4s,MS7.6			LR	LR		
BHV	**Bhavnagar**	**31.37**	**311**	*e*P	**P**	**01 58 24.5**	**+1.3**
MBWA	**Marble Bar** comp=Z,641nm,1.7s,mb6.2	**31.79**	**137**	⇑*e*P	**P**	**01 58 25.5**	**-1.4**
MBWA	comp=Z,149μm,22.0s,MS6.6			LR	LR		
LGTI	**Lohaghat**	**31.84**	**331**	*e*P	**P**	**01 58 27.3**	**+0.1**
LGTI				*e*		01 59 52.7	
PTH	**Pithoragarh**	**31.93**	**331**	*e*P	**P**	**01 58 28.8**	**+0.7**
PTH				*e*S	**S**	**02 03 40.3**	**+4.6**
AJM	**Ajmer**	**32.68**	**321**	⇑*i*P	**P**	**01 58 35.0**	**+0.4**
NDI	**New Delhi**	**32.78**	**326**	*e*P	**P**	**01 58 33.0**	**-2.5**
NDI				*e*		02 03 48.0	
TATO	**Taipei**	**32.91**	**44**	P	**P**	**01 58 37.0**	**+0.4**
TATO	**Taipei** comp=Z,93nm,0.8s,mb5.8	**32.91**	**44**	⇑*e*P	**P**	**01 58 37.6**	**+1.0**
TATO	comp=Z,136μm,20.0s,MS6.7			LR	LR		
WHN	**Wuhan**	**32.91**	**28**	⇑P	**P**	**01 58 35.5**	**-1.1**
WHN	comp=N,495μm,12.8s,MS7.5			LR	LR		
WHN	comp=E,437μm,15.4s,MS7.5			LR	LR		
WHN	comp=Z,926μm,16.2s,MS7.6			LR	LR		
DDI	**Dehra Dun**	**33.63**	**329**	*e*P	**P**	**01 58 43.8**	**+1.0**
DDI				*e*		02 04 07.6	
XAN	**Xi'an**	**33.91**	**18**	P	**P**	**01 58 44.0**	**-1.1**
XAN				AP	pP	01 58 53.5	-1.6
XAN				PP	PP	02 00 00.0	+0.9
XAN				S	**S**	**02 04 05.5**	**-0.8**
XAN				SS	SS	02 06 14.1	0.0
XAN	comp=Z,514nm,0.8s,mb6.5			AMB	AMB		
XAN	comp=N,258μm,14.5s,MS7.2			LR	LR		
XAN	comp=E,213μm,13.5s,MS7.2			LR	LR		
XAN	comp=Z,566μm,15.2s,MS7.4			LR	LR		
BHJ	**Bhuj** comp=Z,70μm,17.8s	**34.11**	**311**	⇑*e*P	**P**	**01 58 46.2**	**-0.8**
BHJ				*e*		02 04 15.2	
FITZ	**Fitzroy Crossi** comp=Z,116nm,0.6s,mb6.0	**34.34**	**126**	*e*P	**P**	**01 58 46.5**	**-2.5**
FITZ				*e*S	**S**	**02 04 09.5**	**-3.8**
FITZ	**Fitzroy Crossi** comp=Z,88nm,0.7s,mb5.8,baz=322,slow=3.8,SNR=67	**34.34**	**126**	P	**P**	**01 58 46.8**	**-2.2**
FITZ	comp=Z,16nm,0.9s,baz=153,slow=22,SNR=2.8			S	**S**	**02 04 07.8**	**-5.5**
FITZ	comp=Z,153μm,21.6s,MS6.7,baz=289,slow=36			LR	LR	02 12 38.5	
LZH	**Lanzhou**	**34.67**	**10**	⇑*i*P	**P**	**01 58 50.8**	**-0.8**
LZH	comp=Z,2μm,1.4s,mb6.9			AMB	AMB		
LZH	comp=Z,13μm,6.8s			AMB	AMB		
LZH	comp=N,272μm,15.6s			LR	LR		
LZH	comp=Z,292μm,18.5s,MS7.0			LR	LR		
LZH	**Lanzhou**	**34.67**	**10**	⇑*i*P	**P**	**01 58 50.8**	**-0.8**
LZH				*PP	pP	01 59 00.3	-1.3
LZH						02 00 08.4	
LZH				S	**S**	**02 04 18.5**	**+0.4**
LZH				*SS		02 04 33.7	
LZH				SS	SS	02 06 32.8	+1.2
LZH	comp=Z,2μm,1.4s,mb6.9			pmax	pmax		
LZH	comp=Z,292μm,18.5s,MS7.0			MLR	MLR		
LZH	**Lanzhou** comp=Z,2μm,1.4s,mb6.9	**34.67**	**10**	⇑*i*P	**P**	**01 58 50.8**	**-0.8**
LZH				pP	pP	01 59 00.3	-1.3
LZH				sP	sP	01 59 04.6	-1.5
LZH				PP	PP	02 00 08.4	-0.5
LZH				S	**S**	**02 04 18.5**	**+0.4**
LZH				sS		02 04 33.7	
LZH				SS	SS	02 06 32.8	+1.2
LZH				LR	LR		
LZH	comp=Z,292μm,18.5s,MS7.0						
SMLA	**Simla**	**34.74**	**329**	*i* P	**P**	**01 58 48.4**	**-3.8**
SMLA				*i*		02 04 14.3	
SDNR	**Sundarnagar**	**35.13**	**329**	*e*P	**P**	**01 58 56.0**	**+0.3**
BHK	**Bhakra**	**35.35**	**328**	*e*	**P**	**01 59 02.7**	**+5.2**
BHK				*e*		02 05 12.1	
PONG	**Pong**	**36.02**	**329**	*e*P	**P**	**01 59 03.0**	**-0.2**
NJ2	**Nanjing**	**36.39**	**32**	*e*P	**P**	**01 59 05.4**	**-0.9**
NJ2				AP	pP	01 59 14.4	-1.9
NJ2				XP	sP	01 59 17.6	-3.1
NJ2				S	**S**	**02 04 54.0**	**+9.3**
NJ2	comp=Z,1μm,1.2s,mb6.7			AMB	AMB		
NJ2	comp=Z,14μm,10.0s			AMB	AMB		
NJ2	comp=N,691μm,15.8s,MS7.7			LR	LR		
NJ2	comp=E,595μm,15.3s,MS7.7			LR	LR		
NJ2	comp=Z,553μm,15.6s,MS7.4			LR	LR		
DLH	**Dalhousie**	**36.48**	**329**	*e*P	**P**	**01 59 07.0**	**0.0**
DLH				*e*		01 59 24.0	
THN	**Thein Dam**	**36.52**	**329**	*e*P	**P**	**01 59 06.2**	**-1.2**
THN				*e*		02 09 23.8	
SSE	**Sheshan**	**36.96**	**36**	P	**P**	**01 59 11.6**	**+0.5**
SSE				AP	pP	01 59 20.3	-0.8
SSE				XP	sP	01 59 24.4	-1.2
SSE				S	**S**	**02 04 55.6**	**+2.1**
SSE				XS		02 05 11.7	
SSE				PCS		02 05 19.7	
SSE	comp=Z,128nm,1.0s,mb5.7			AMB	AMB		
SSE	comp=Z,13μm,9.3s			AMB	AMB		
SSE	comp=N,135μm,18.2s,MS6.8			LR	LR		
SSE	comp=E,67μm,18.5s,MS6.8			LR	LR		
SSE	comp=Z,181μm,17.3s,MS6.9			LR	LR		
SSE	**Sheshan** comp=Z,128nm,1.0s,mb5.7	**36.96**	**36**	P	**P**	**01 59 11.6**	**+0.5**
SSE				pP	pP	01 59 20.3	-0.8
SSE				sP	sP	01 59 24.4	-1.2
SSE				S	**S**	**02 04 55.6**	**+2.1**
SSE				sS		02 05 11.7	
SSE				PcS		02 05 19.7	
SSE	comp=Z,181μm,17.3s,MS6.9			LR	LR		
GTA	**Gaotai**	**37.50**	**3**	P	**P**	**01 59 15.5**	**-0.1**
GTA				AP	pP	01 59 25.3	-0.3
GTA				XP	sP	01 59 29.1	-1.0
GTA				S	**S**	**02 05 02.4**	**+0.7**
GTA				XS		02 05 16.7	
GTA				SS	SS	02 07 34.3	-1.4
GTA				SCS	ScS	02 09 28.1	+4.0
GTA	comp=Z,356nm,2.0s,mb5.8			AMB	AMB		
GTA	comp=Z,19μm,9.5s			AMB	AMB		
GTA	comp=N,145μm,14.1s,MS7.1			LR	LR		
GTA	comp=E,155μm,15.7s,MS7.1			LR	LR		
GTA	comp=Z,177μm,14.1s,MS7.0			LR	LR		
KAKA	**Kakadu** comp=Z,227nm,0.8s,mb6.0	**37.91**	**113**	⇓*i*P	**P**	**01 59 16.7**	**-2.5**
MUN	**Mundaring** comp=Z,83nm,0.8s,mb5.5	**38.17**	**153**	*e*P	**P**	**01 59 24.7**	**+3.5**
MUN				*e*S	**S**	**02 05 16.0**	**+4.1**
MUN	**Mundaring**	**38.17**	**153**	*e*P	**P**	**01 59 24.7**	**+3.5**
MUN				*e*S	**S**	**02 05 16.0**	**+4.1**
MUN	comp=Z,83nm,0.8s,mb5.5			pmax	pmax		
TIY	**Taiyuan**	**38.40**	**20**	⇑*i*P	**P**	**01 59 23.0**	**-0.1**
TIY				S	**S**	**02 05 20.0**	**+4.6**
TIY	comp=N,225μm,18.0s			LR	LR		
JOW	**Kunigami** comp=N,148nm,0.5s,mb6.0,baz=243,slow=7.6,SNR=39	**38.88**	**47**	P	**P**	**01 59 27.1**	**-0.1**
JOW	comp=N,12nm,0.4s,baz=178,slow=26,SNR=4.2			S	**S**	**02 05 27.9**	**+5.1**
JOW	comp=N,98μm,21.8s,MS6.6,baz=228,slow=35			LR	LR	02 14 42.5	
TIA	**Tai'an**	**38.92**	**26**	P	**P**	**01 59 27.4**	**0.0**
TIA	comp=Z,136nm,0.8s,mb5.7			AMB	AMB		
TIA	comp=Z,11μm,10.0s			AMB	AMB		

TIA LR LR
comp=N,183µm,15.0s,MS7.4
TIA LR LR
comp=E,356µm,15.0s,MS7.4
NWAO Narrogin (SRO) 39.43 153 P **P** **01 59 31.0 -0.7**
comp=E,49nm,0.9s,mb5.2,baz=327,slow=8.7,SNR=11
NWAO S **S** **02 05 32.6 +1.6**
comp=E,19nm,1.0s,baz=170,slow=16,SNR=2.1
NWAO LR LR 02 15 24.1
comp=E,185µm,20.8s,MS6.9,baz=330,slow=36
NWAO Narrogin (SRO) 39.43 153⇑ *e*P **P** **01 59 33.5 +1.8**
comp=E,541nm,1.5s,mb6.1
NWAO LR LR
comp=Z,142µm,20.0s,MS6.8
HHC Hu-ho-hao-te 41.00 17 *e*P **P** **01 59 45.4 +0.8**
HHC AP pP 01 59 54.5 -0.2
HHC XP sP 01 59 59.2 +0.1
HHC PP PP 02 01 25.7 +3.6
HHC PCP PcP 02 01 43.5 -1.4
HHC SCP 02 05 30.9
HHC S **S** **02 05 57.0 +2.7**
HHC XS 02 06 12.4
HHC SS SS 02 08 55.9 +3.3
HHC SCS ScS 02 09 44.4 +0.1
HHC AMB AMB
comp=Z,402nm,1.9s,mb5.7
HHC AMB AMB
comp=Z,25µm,11.8s
HHC LR LR
comp=N,402µm,15.4s,MS7.4
HHC LR LR
comp=E,199µm,15.4s,MS7.4
HHC LR LR
comp=Z,351µm,17.8s,MS7.3
KSH Kashi 42.19 335⇑ *i*P **P** **01 59 54.7 +0.3**
KSH *e*AP pP 02 00 05.0 +0.4
KSH *e*XP sP 02 00 09.0 +0.1
KSH *e*PCS 02 05 41.0
KSH S **S** **02 06 11.3 -0.6**
KSH *e*SCS ScS 02 09 50.0 -1.6
KSH AMB AMB
comp=Z,100nm,0.6s,mb5.6
KSH AMB AMB
comp=Z,18µm,6.0s
KSH LR LR
comp=N,80µm,14.2s,MS6.9
KSH LR LR
comp=E,90µm,15.0s,MS6.9
WRA Warramunga Arr 42.42 122 P **P** **01 59 54.7 -1.9**
WRA S **S** **02 06 12.1 -3.5**
WRA pmax pmax
comp=Z,42nm,0.7s
WRA Warramunga Arr 42.42 122 P **P** **01 59 54.7 -1.9**
comp=Z,42nm,0.7s,mb5.2,baz=301,slow=9.2,SNR=108
WRA S **S** **02 06 12.1 -3.5**
comp=Z,42nm,1.2s,baz=294,slow=16,SNR=9.2
WRAB Tennant Creek 42.43 122⇑ *e*P **P** **01 59 55.0 -1.6**
WRAB pmax pmax
comp=Z,2µm,1.4s,mb6.5
WRAB MLR MLR
comp=Z,30µm,20.0s,MS6.2
WRAB Tennant Creek 42.43 122⇑ *e*P **P** **01 59 55.0 -1.7**
comp=Z,2µm,1.4s,mb6.5
WRAB LR LR
comp=Z,30µm,20.0s,MS6.2
WB2 Warramunga Arr 42.43 122 *e*P **P** **01 59 55.1 -1.6**
WB2 *e*S **S** **02 06 13.2 -2.5**
WMQ Urumqi 42.66 350 *i* P **P** **01 59 58.6 +0.3**
WMQ AP pP 02 00 08.2 -0.2
WMQ XP sP 02 00 12.1 -0.6
WMQ PP PP 02 01 40.5 +0.7
WMQ S **S** **02 06 19.1 +0.3**
WMQ AMB AMB
comp=Z,742nm,1.7s,mb6.1
WMQ AMB AMB
comp=Z,22µm,6.2s
WMQ LR LR
comp=N,71µm,18.0s,MS6.8
WMQ LR LR
comp=E,98µm,20.6s,MS6.8
WMQ LR LR
comp=Z,53µm,22.9s,MS6.4
WMQ Urumqi 42.66 350 P **P** **01 59 58.8 +0.5**
WMQ S **S** **02 06 20.7 +1.9**
JMDO Jabal Madar 43.06 301 P **P** **02 00 04.2 +2.4**
SNR=7.5
DL2 Dalian 43.18 28⇑ *i*P **P** **02 00 02.8 +0.3**
DL2 XP sP 02 00 14.8 -2.2
DL2 S **S** **02 06 31.3 +4.9**
DL2 AMB AMB
comp=Z,270nm,0.9s,mb6.0
DL2 AMB AMB
comp=Z,9µm,7.4s
DL2 LR LR
comp=N,104µm,14.9s
DL2 LR LR
comp=Z,109µm,18.6s,MS6.8
SMDO Samad 43.37 302 P **P** **02 00 05.7 +1.3**
SNR=15
BIDO Bidbid 43.49 303 P **P** **02 00 06.8 +1.5**
SNR=31
BSY Bisya 43.97 301 P **P** **02 00 10.5 +1.3**
SNR=30
HOQ Hoqain 44.20 303 P **P** **02 00 12.8 +1.7**
SNR=13
JNU Nakatsue 44.40 42 P **P** **02 00 12.0 -0.5**
comp=Z,118nm,0.8s,mb5.7,baz=234,slow=3.5,SNR=28
JNU S **S** **02 06 45.7 +1.5**
comp=Z,1.7nm,0.4s,baz=111,slow=39,SNR=1.8
JNU LR LR 02 21 09.9
comp=Z,150µm,18.1s,MS7.0,baz=239,slow=39
ULHL Ulahol 44.40 338 P **P** **02 00 13.0 +0.6**
SNR=184
KZA Kyzart 44.64 337 P **P** **02 00 15.3 +1.0**
SNR=109
INCN Inchon 44.68 34 P **P** **02 00 14.0 -0.7**
INCN Inchon 44.68 34 *e*P **P** **02 00 12.9 -1.8**
comp=Z,116nm,0.8s,mb5.8
INCN LR LR
comp=Z,237µm,20.0s,MS7.1
AAA Alma-Ata 45.03 339 *i* P **P** **02 00 16.4 -1.0**
AAA Alma-Ata 45.03 339 *i* P **P** **02 00 16.4 -1.0**
UCH Uchtor 45.06 336 P **P** **02 00 18.8 +1.1**
SNR=434
TKM2 Tokmak 2 45.23 338 P **P** **02 00 19.6 +0.6**
SNR=7.6
KBK Karagaybulak 45.25 337 P **P** **02 00 20.4 +1.2**
SNR=184
AML Almayashu 45.32 335 P **P** **02 00 20.8 +1.0**
SNR=273
KS15 Wonju Array Si 45.36 35 *e*P **P** **02 00 18.4 -1.7**
AAK Ala-Archa 45.41 336 P **P** **02 00 21.8 +1.4**
SNR=48
AAK Ala-Archa 45.41 336 *c i*P **P** **02 00 20.2 -0.3**
AAK pmax pmax
comp=Z,463nm,2.5s,mb5.9
AAK Ala-Archa 45.41 336⇑ *e*P **P** **02 00 21.2 +0.7**
AAK pmax pmax
comp=Z,2µm,1.7s,mb6.7
AAK Ala-Archa 45.41 336 PFAKE 02 00 30.0 +10
AAK LR LR
comp=Z,21µm,20.0s,MS6.1
AAK Ala-Archa 45.41 336⇑ *e*P **P** **02 00 21.2 +0.7**
comp=Z,2µm,1.7s
WHFO Wadi Hawf 45.45 293 P **P** **02 00 23.2 +2.2**
SNR=17
CHMS Chumysh 45.62 337 P **P** **02 00 22.4 +0.3**
SNR=64
ASHO Ashiyiah 45.69 303 P **P** **02 00 24.4 +1.4**
SNR=13
ABTO Aybut 45.74 293 P **P** **02 00 25.4 +2.1**
SNR=9.9
USP Ospenovka 45.95 337 P **P** **02 00 24.1 -0.6**
SNR=529
SNY Shenyang 46.40 27 ⇑P **P** **02 00 24.9 -3.3**
SNY AP pP 02 00 34.8 -3.6
SNY XP sP 02 00 39.3 -3.4
SNY PP PP 02 02 19.0 +1.8
SNY S **S** **02 07 17.6 +4.9**
SNY XS 02 07 28.4
SNY AMB AMB
comp=Z,410nm,1.6s,mb6.1
SNY AMB AMB
comp=Z,15µm,6.5s
SNY LR LR
comp=N,255µm,17.2s
SNY LR LR
comp=Z,256µm,18.2s,MS7.2
SONM Songino Array 46.54 9 P **P** **02 00 29.2 -0.1**
comp=Z,320nm,0.8s,mb5.3,baz=90,slow=1.2,SNR=3.8
SONM S **S** **02 07 12.4 -2.2**
comp=Z,4.2nm,1.2s,baz=191,slow=14,SNR=2.7
SONM PKPPKP 02 31 31.9
comp=Z,0.8nm,0.8s,baz=12,slow=1.6,SNR=4.3
MKAR Makanchi Array 46.63 346 *i* P **P** **02 00 29.9 -0.1**
MKAR pmax pmax
comp=Z,543nm,0.9s
MKAR Makanchi Array 46.63 346 P **P** **02 00 29.9 -0.1**
comp=Z,421nm,0.8s,mb6.4,baz=162,slow=7.7,SNR=212
MKAR S **S** **02 07 19.7 +3.7**
comp=Z,4.1nm,1.0s,baz=110,slow=21,SNR=2.1
MKAR LR LR 02 23 50.3
comp=Z,90µm,20.7s,MS6.7,baz=172,slow=41
MKAR PKPPKP 02 31 52.2
comp=Z,1.1nm,0.9s,baz=270,slow=3.6,SNR=5.3
TAS Tashkent 46.66 331⇑ *e*P **P** **02 00 31.0 +0.7**
ULN Ulaanbaatar 46.67 9 *e*P **P** **02 00 30.2 -0.1**
ULN pmax pmax
comp=Z,2µm,1.8s,mb6.7
ULN MLR MLR
comp=Z,97µm,20.0s,MS6.8
ULN Ulaanbaatar 46.67 9 *e*P **P** **02 00 30.2 -0.2**
comp=Z,2µm,1.8s,mb6.7
ULN LR LR
comp=Z,97µm,20.0s,MS6.8
GUMO Guam 48.63 74 PFAKE 02 01 00.0 +14
GUMO LR LR
comp=Z,19µm,22.0s,MS6.0
CN2 Changchun 48.80 27 *e*P **P** **02 00 46.0 -1.0**
CN2 *e*AP pP 02 00 56.0 -1.2
CN2 *e*XP sP 02 01 00.0 -1.4
CN2 PCP PcP 02 02 10.8 -1.0
CN2 *e*PP PP 02 02 38.9 -1.2
CN2 PPP PPP 02 03 32.3 -1.3
CN2 *e*S **S** **02 07 46.6 0.0**
CN2 SS SS 02 11 12.4 -0.2
CN2 AMB AMB
comp=Z,280nm,2.0s,mb6.0
CBIJ Chichi jima 49.94 56 P **P** **02 00 54.1 -1.8**
comp=Z,132nm,0.5s,mb6.2,baz=285,slow=12,SNR=4.6
CBIJ LR LR 02 19 37.9
comp=Z,34µm,21.9s,MS6.3,baz=234,slow=33
TLY Talaya 50.00 5 *c i*P **P** **02 00 56.5 +0.4**
TLY pmax pmax
comp=Z,257nm,1.1s,mb6.2
TLY MLR MLR
comp=Z,250µm,21.0s,MS7.2
TLY Talaya 50.00 5 *e*P **P** **02 00 56.1 +0.1**
comp=Z,690nm,1.4s,mb6.5
TLY LR LR
comp=Z,57µm,20.0s,MS6.6
SARN Sarigan 50.07 70 *e*P **P** **02 00 58.5 +1.4**
IRK Irkutsk 50.61 6 *e*P **P** **02 01 02.2 +1.4**
IRK *e* 02 08 16.2
IRK *e* 02 10 45.1
IRK pmax pmax
comp=Z,3µm,2.0s,mb6.8
JHJ Hachijo jima 2 50.66 47 P **P** **02 01 00.1 -1.4**
comp=Z,166nm,0.9s,mb6.0,baz=62,slow=21,SNR=5.7
PMG Port Moresby 51.07 104 P **P** **02 01 03.8 -1.0**
PMG S **S** **02 08 18.0 -0.4**
PMG Port Moresby 51.07 104 PFAKE 02 01 20.0 +15
PMG LR LR
comp=Z,71µm,21.0s,MS6.7
HIA Hailar 51.09 19 P **P** **02 01 04.4 0.0**
HIA P 02 01 04.4
HIA S **S** **02 08 20.5 +2.3**
HIA S **S** **02 08 20.7 +2.5**
HIA Hailar 51.09 19 *e*P **P** **02 01 03.6 -0.8**
HIA pmax pmax
comp=Z,242nm,1.1s
HIA Hailar 51.09 19 *e*P **P** **02 01 03.6 -0.8**
comp=Z,242nm,1.1s,mb6.0
HASS Wahat al Ahsa' 51.25 301 P **P** **02 01 06.5 +0.5**
MAJO Matsushiro 51.29 43⇑ *e*P **P** **02 01 04.6 -1.5**
MAJO MLR MLR
comp=Z,99µm,20.0s,MS6.8
MAJO Matsushiro 51.29 43 P **P** **02 01 05.1 -1.0**
MAT Matsushiro 51.29 43 *e*P **P** **02 01 05.0 -1.1**
MAT *e*S **S** **02 08 25.0 +3.8**
MAT pmax pmax
comp=Z,2µm,2.5s,mb6.7
MAT Matsushiro 51.29 43 *e*P **P** **02 01 05.0 -1.1**
comp=Z,2µm,2.5s,mb6.7
MAT *e*S **S** **02 08 25.0 +3.8**
MAT Matsushiro 51.29 43 P **P** **02 01 04.7 -1.4**
MAT S **S** **02 08 24.0 +2.8**
MJAR Matsushiro Arr 51.29 43 P **P** **02 01 05.1 -1.0**
MJAR pmax pmax
comp=Z,81nm,0.7s
MJAR MLR MLR
comp=Z,93µm,21.2s
MJAR Matsushiro Arr 51.29 43 P **P** **02 01 05.0 -1.1**
comp=Z,81nm,0.7s,mb5.8,baz=219,slow=7.2,SNR=78
MJAR LR LR 02 23 29.6
comp=Z,93µm,21.2s,MS6.8,baz=245,slow=37
MDJ Mudanjiang 51.37 29 P **P** **02 01 06.6 0.0**
MDJ AP pP 02 01 16.1 -0.8
MDJ XP sP 02 01 19.5 -1.6
MDJ PCP PcP 02 02 20.5 -0.7
MDJ PP PP 02 03 04.2 -0.3
MDJ SCP 02 06 14.1
MDJ PCS 02 06 18.7
MDJ S **S** **02 08 25.0 +2.8**
MDJ XS 02 08 41.2
MDJ SCS ScS 02 10 54.8 +3.8
MDJ AMB AMB
comp=Z,196nm,2.1s,mb5.7
MDJ AMB AMB
comp=Z,20µm,8.5s
MDJ LR LR
comp=N,115µm,20.8s
MDJ LR LR
comp=E,182µm,15.3s
MDJ LR LR
comp=Z,236µm,15.3s
MDJ Mudanjiang 51.37 29⇑ *e*P **P** **02 01 06.9 +0.2**
comp=Z,804nm,1.7s,mb6.4
LBOS 52.65 286‖ *e*P **P** **02 01 18.5 +2.0**
CTA Charters Tower 52.84 117 *e*P **P** **02 01 17.4 -0.5**
comp=Z,153nm,0.9s,mb5.9
CTA *e*S **S** **02 08 46.3 +3.6**
CTA Charters Tower 52.84 117 P **P** **02 01 17.6 -0.3**
CTA S **S** **02 08 48.2 +5.5**
CTA pmax pmax
comp=Z,78nm,0.9s
CTA MLR MLR
comp=Z,80µm,18.4s
CTA Charters Tower 52.84 117 P **P** **02 01 17.6 -0.3**
comp=Z,78nm,0.9s,mb5.6,baz=291,slow=10,SNR=38
CTA S **S** **02 08 48.1 +5.5**
comp=Z,9.2nm,1.1s,baz=30,slow=23,SNR=7.6
CTA LR LR 02 28 03.9
comp=Z,80µm,18.4s,MS6.8,baz=281,slow=41
CTAO Charters Tower 52.84 117 *e*P **P** **02 01 17.4 -0.5**
CTAO pmax pmax
comp=Z,444nm,1.6s,mb6.1
CTAO MLR MLR
comp=Z,97µm,22.0s,MS6.8
CTAO Charters Tower 52.84 117 *e*P **P** **02 01 17.4 -0.6**
comp=Z,444nm,1.6s,mb6.1
CTAO LR LR
comp=Z,97µm,22.0s,MS6.8
OPO Ambohidratompo 53.11 245 S **S** **02 08 56.8 +11**
comp=Z,6.0nm,1.1s,baz=172,slow=14,SNR=2.2
DHBB Dhamar BB 53.57 287‖ *e*P **P** **02 01 25.1 +1.6**
RYDS Riyadh 53.59 299 P **P** **02 01 24.5 +1.0**
STKA Stephens Creek 53.82 132 *e*P **P** **02 01 24.1 -1.0**
comp=Z,143nm,1.5s,mb5.7
STKA *e*S **S** **02 08 57.6 +1.8**
STKA Stephens Creek 53.82 132 P **P** **02 01 24.4 -0.6**
comp=Z,85nm,0.9s,mb5.7,baz=307,slow=7.6,SNR=54
STKA S **S** **02 08 54.6 -1.2**
comp=Z,6.0nm,1.1s,baz=22,slow=24,SNR=2.3
STKA LR LR 02 27 29.1
comp=Z,83µm,20.2s,MS6.8,baz=308,slow=40
QRN Al-Qurain 53.95 305 *e*P **P** **02 01 25.6 -0.6**
QRN AMb AMB 02 01 57.6
comp=Z,843nm,1.4s,mb6.5
NVS Novosibirsk 54.07 350 *e*P **P** **02 01 24.8 -1.8**
NVS *i* S **S** **02 08 52.9 -5.9**
NVS *i* 02 11 03.6
NVS pmax pmax
comp=Z,2µm,2.1s,mb6.7
NVS pmax pmax
comp=N,2µm,2.0s
NVS pmax pmax
comp=E,990nm,2.4s
NVS smax
comp=N,873nm,2.2s
NVS smax
comp=E,772nm,2.7s
KBD Kabd 54.29 305 *e*P **P** **02 01 28.4 -0.1**
KBD AMb AMB 02 01 46.4
comp=Z,1µm,1.1s,mb6.8
RDF Al-Radifah 54.32 305 *e*P **P** **02 01 28.6 -0.2**
RDF AMb AMB 02 01 59.1
comp=Z,739nm,1.1s,mb6.5
KAMS Al Khamasin 54.46 294 P **P** **02 01 29.3 -0.6**
ATD Arta Tunnel 54.68 283 P **P** **02 01 29.9 -1.7**
comp=Z,39nm,1.1s,mb5.3,baz=338,slow=3.9,SNR=5.7
ATD S **S** **02 09 06.0 -1.6**
comp=Z,5.6nm,0.7s,baz=227,slow=22,SNR=2.1
ATD LR LR 02 22 16.0
comp=Z,38µm,18.6s,MS6.5,baz=244,slow=33
NAY Al-Naaiem 54.69 305 *e*P **P** **02 01 30.0 -1.5**
NAY AMb AMB 02 01 50.6
comp=Z,202nm,0.8s,mb6.2
MZLS Mizel 54.80 298 P **P** **02 01 32.3 -0.1**
DJNS Zahran al Janu 54.89 290 P **P** **02 01 33.4 +0.3**
TATS Tathlith 55.31 293 P **P** **02 01 35.2 -0.8**
BVAR Borovoye Array 55.65 341 P **P** **02 01 36.7 -1.4**
comp=Z,141nm,0.8s,mb6.0,baz=144,slow=6.7,SNR=86
BVAR S **S** **02 09 23.6 +3.5**
comp=Z,3.8nm,1.0s,baz=146,slow=5.2,SNR=2.8
BVAR PKP2bc 02 31 57.1
comp=Z,0.3nm,0.3s,slow=1.4,SNR=2.3
BVAR Borovoye Array 55.65 341 P **P** **02 01 36.7 -1.4**
BVAR S **S** **02 09 23.6 +3.5**
BVAR ⇑ *e* 02 31 57.1
AFFS 'Afif 56.73 298 P **P** **02 01 45.7 -0.5**
ARSS Ar Rass 57.02 300 P **P** **02 01 48.3 -0.1**
BLJS Baljurashi 57.11 292 P **P** **02 01 49.1 +0.1**
ASAJ Asahikawa 58.22 37 P **P** **02 01 56.7 +0.2**
ASAJ S **S** **02 09 55.5 +1.4**
ASAJ pmax pmax
comp=Z,124nm,0.7s
ASAJ Asahikawa 58.22 37 P **P** **02 01 56.6 +0.2**
comp=Z,124nm,0.7s,mb6.1,baz=249,slow=7.0,SNR=20
ASAJ S **S** **02 09 55.5 +1.4**
LTHS Al Lith 58.28 293 P **P** **02 01 58.0 +0.8**
HILS Ha'il 58.68 301 P **P** **02 02 00.5 +0.6**
CLNS Chul'man 59.18 17 *e*P **P** **02 02 03.5 +0.5**
TOO Toolangi 59.43 136 *e*P **P** **02 02 06.3 +1.3**
comp=Z,105nm,1.3s,mb5.7
TOO *e*S **S** **02 10 15.2 +5.2**
TOO Toolangi 59.43 136 *e*P **P** **02 02 06.3 +1.3**
TOO *e*S **S** **02 10 15.2 +5.2**
TOO pmax pmax
comp=Z,105nm,1.3s,mb5.7
YSS Yuzh-Sakhalins 59.89 34 *j* *i*P **P** **02 02 07.6 -0.4**
YSS *e**PP pP 02 02 19.0 +0.6
YSS *e*PPP PPP 02 05 44.0 -4.0
YSS *e*S **S** **02 10 19.0 +3.3**
YSS pmax pmax
comp=E,200nm,1.0s
YSS pmax pmax
comp=Z,650nm,1.0s,mb6.6
YSS pmax pmax
comp=N,190nm,0.9s
YSS smax
comp=E,16µm,8.0s
YSS MLR MLR
comp=Z,101µm,15.0s,MS7.1
YSS Yuzh-Sakhalins 59.89 34 *e*P **P** **02 02 07.8 -0.2**
comp=Z,670nm,0.9s,mb6.7
YSS LR LR
comp=Z,53µm,21.0s,MS6.7
KMBO Kilima Mbogo 59.94 268 P **P** **02 02 08.9 +0.1**
comp=Z,14nm,0.9s,mb5.0,baz=50,slow=8.9,SNR=21
KMBO S **S** **02 10 15.0 -1.8**
comp=Z,0.8nm,0.7s,baz=60,slow=23,SNR=1.8
KMBO LR LR 02 24 44.9
comp=Z,59µm,20.4s,MS6.7,baz=78,slow=33
YUK Yuzh-Kuril'sk 60.19 39⇑ *i*P **P** **02 02 08.9 -1.2**
YUK *e* 02 02 59.0
YUK *i* S **S** **02 10 22.8 +3.2**
YUK *e*PS PS 02 10 40.4 +0.8
YUK *e*SS SS 02 14 17.9 -0.1
YUK pmax pmax
comp=Z,25µm,8.0s
YUK pmax pmax
comp=N,10µm,4.0s
YUK pmax pmax
comp=E,10µm,4.5s
YUK pmax pmax
comp=Z,4µm,2.6s,mb6.9
YUK pmax pmax
comp=N,5µm,1.4s
YUK smax
comp=E,17µm,5.0s
YUK smax
comp=N,10µm,4.0s
YUK MLR MLR
comp=Z,232µm,15.0s,MS7.4
YUK MLR MLR
comp=N,48µm,16.5s
YUK MLR MLR
comp=E,249µm,22.0s
KBRS Khaybar 60.47 299 P **P** **02 02 12.8 +0.5**
HKR Hakkari 60.48 313 *e*P **P** **02 02 10.8 -1.4**
GNI Garni 60.80 316 *e*P **P** **02 02 12.4 -1.9**
GNI Garni 60.80 316 *c i*P **P** **02 02 13.4 -1.0**
GNI pmax pmax
comp=Z,110nm,1.0s
GNI Garni 60.80 316 P **P** **02 02 14.0 -0.4**
comp=Z,56nm,1.0s,mb5.7,baz=325,slow=3.9,SNR=34
GNI S **S** **02 10 30.6 +3.0**
comp=Z,1.5nm,0.3s,baz=65,slow=7.5,SNR=1.9
GNI Garni 60.80 316 P **P** **02 02 14.0 -0.4**
GNI S **S** **02 10 30.6 +3.0**
CLDR Caldiran 60.97 315 *e*P **P** **02 02 14.0 -1.5**
VANB Van 61.13 314 *e*P **P** **02 02 14.1 -2.6**
CNB Canberra Magne 61.15 132 *e*P **P** **02 02 16.1 -0.7**
comp=Z,368nm,1.5s,mb6.3
TBLG Delisi 61.48 318 P **P** **02 02 18.3 -0.6**
TBLG S **S** **02 10 39.2 +3.0**
DUS Dusheti 61.66 318 P **P** **02 02 20.3 +0.2**
RIV Riverview 61.88 130 *e*P **P** **02 02 23.8 +2.1**
SVE Sverdlovsk 62.10 338⇑ *i*P **P** **02 02 22.0 -0.8**
SVE *e* 02 04 40.0
SVE *i* S **S** **02 10 41.0 -2.7**
SVE pmax pmax
comp=Z,1µm,3.0s
SVE smax
comp=N,16µm,17.0s
SVE smax
comp=E,19µm,17.0s
SVE MLR MLR
comp=N,27µm,18.0s,MS6.6
SVE MLR MLR
comp=E,29µm,18.0s,MS6.6
SVE MLR MLR
comp=Z,49µm,18.0s,MS6.7
KARS Kars 62.14 316 *e*P **P** **02 02 20.9 -2.5**
BTMT Batman 62.36 313 *e*P **P** **02 02 23.4 -1.5**
ARU Arti 62.60 337 *c i*P **P** **02 02 24.8 -1.3**
ARU pmax pmax
comp=Z,144nm,1.0s,mb6.1
ARU MLR MLR
comp=Z,39µm,19.0s,MS6.6
ARU Arti 62.60 337 *e*P **P** **02 02 24.6 -1.6**
comp=Z,189nm,1.1s,mb6.1
ARU LR LR
comp=Z,10µm,21.0s,MS6.0
ONI Oni 62.71 318 P **P** **02 02 26.0 -1.1**
ONI S **S** **02 10 52.8 +1.2**
EZM Erzurum 63.09 315 *e*P **P** **02 02 28.9 -0.7**
TAU Tasmania Unive 63.33 141 PFAKE 02 02 40.0 +8.8
TAU LR LR
comp=Z,16µm,21.0s,MS6.2
TBKS Tabuk 63.38 301 P **P** **02 02 31.8 +0.1**
BCA Borcka 63.50 316 *e*P **P** **02 02 30.7 -1.6**
QURS Qurayyt al Mil 63.50 304 P **P** **02 02 32.7 +0.2**
HNR Honiara 63.55 101 *e*P **P** **02 02 31.9 -1.3**
HNR pmax pmax

HNR MLR MLR
comp=Z,23µm,21.0s,MS6.3
HNR Honiara 63.55 101 P **P** **02 02 32.1 -1.0**
comp=Z,353nm,0.8s,mb6.5,baz=138,slow=0.5,SNR=6.4
HNR S **S** **02 11 00.4 -2.3**
comp=Z,154nm,0.8s,baz=353,slow=2.7,SNR=2.0
HNR Honiara 63.55 101 *e*P **P** **02 02 31.9 -1.2**
comp=Z,1µm,1.5s,mb6.8
HNR LR LR
comp=Z,23µm,21.0s,MS6.3
KIV Kislovodsk 63.80 319*c i*P **P** **02 02 33.2 -1.1**
KIV pmax pmax
comp=Z,191nm,1.0s,mb6.1
KIV Kislovodsk 63.80 319 *e*P **P** **02 02 33.1 -1.1**
comp=Z,209nm,1.0s,mb6.1
KIV LR LR
comp=Z,7µm,20.0s,MS5.9
ASF Jabal al Asfar 64.06 305 P **P** **02 02 34.4 -1.7**
comp=Z,52nm,0.9s,mb5.5,baz=351,slow=3.7,SNR=41
ASF S **S** **02 11 12.5 +3.9**
comp=Z,0.8nm,0.2s,baz=43,slow=22,SNR=2.5
ASF LR LR 02 31 19.7
comp=Z,40µm,21.1s,MS6.6,baz=341,slow=37
URFA Urfa 64.09 311 *e*P **P** **02 02 34.2 -2.1**
PTK Pertek 64.15 313 *e*P **P** **02 02 33.9 -2.7**
MALT Malatya 64.67 312 *e*P **P** **02 02 39.0 -1.0**
BDAS Al Bad' 64.67 301 P **P** **02 02 40.2 -0.1**
MYA Malataya 64.67 312 *e*P **P** **02 02 38.3 -1.8**
JMOS Jabal al Moall 64.83 301 P **P** **02 02 41.1 -0.1**
YAK Yakutsk 64.86 16*c i*P **P** **02 02 39.9 -0.9**
YAK *e**PP pP 02 02 52.3 +0.9
YAK *e* 02 05 00.1
YAK *i* S **S** **02 11 19.7 +1.7**
YAK *i* *SS 02 11 33.7
YAK *e* 02 12 23.1
YAK *e*SS SS 02 15 37.6 +6.1
YAK pmax pmax
comp=Z,414nm,0.9s,mb6.5
YAK pmax pmax
comp=N,181nm,1.0s
YAK pmax pmax
comp=E,93nm,1.1s
YAK pmax pmax
comp=Z,2µm,10.0s
YAK pmax pmax
comp=N,2µm,17.4s
YAK pmax pmax
comp=E,2µm,18.8s
YAK smax
comp=N,3µm,8.7s
YAK smax
comp=Z,1µm,12.9s
YAK smax
comp=E,3µm,12.0s
YAK MLR MLR
comp=N,108µm,16.0s,MS7.2
YAK MLR MLR
comp=Z,153µm,16.0s,MS7.3
YAK MLR MLR
comp=E,71µm,15.0s,MS7.2
YAK Yakutsk 64.86 16 *e*P **P** **02 02 39.3 -1.5**
comp=E,1µm,1.0s,mb6.8
YAK LR LR
comp=Z,221µm,22.0s,MS7.3
ALWS Ilw as Safayha 64.89 302 P **P** **02 02 42.2 +0.5**
TAYS Tayyib Ism 64.89 301 P **P** **02 02 41.8 +0.2**
MKRJ Makawir 64.93 304 P **P** **02 02 41.2 -0.6**
HAQS Haql 64.95 301 P **P** **02 02 42.0 0.0**
AQBJ Aqaba 65.00 302 P **P** **02 02 41.4 -0.9**
EIL Elat 65.07 302 S S 02 11 21.9 +0.8
comp=Z,1.2nm,0.6s,baz=346,slow=39,SNR=1.5
EIL LR LR 02 31 25.8
comp=Z,71µm,19.4s,MS6.9,baz=320,slow=36
EIL Elat 65.07 302 P **P** **02 02 41.9 -0.9**
ZFRI Zfri 65.08 303 P **P** **02 02 42.1 -0.7**
MBH Mount Berech 65.13 302 P **P** **02 02 42.6 -0.5**
PRNI Paran 65.18 303 P **P** **02 02 42.9 -0.6**
GAZ Gaziantep 65.22 310 *e*P **P** **02 02 42.3 -1.3**
KSDI Kefar Szold 65.33 306 P **P** **02 02 43.9 -0.5**
MMLI Mount Malkishu 65.33 305 P **P** **02 02 44.1 -0.3**
BHL Bhannes 65.52 307 *e*P **P** **02 02 46.0 +0.4**
SLTI Sal'it 65.59 305 P **P** **02 02 45.7 -0.4**
SOC Sochi 65.62 318*c i*P **P** **02 02 44.1 -1.9**
SOC *e* 02 03 13.1
SOC *e* 02 05 11.1
SOC *e*PPP PPP 02 06 42.3 -5.1
SOC *i* S S 02 11 24.4 -3.2
SOC *e* 02 12 34.4
SOC *e*SS SS 02 15 45.6 +2.2
SOC pmax pmax
comp=E,123nm,1.4s
SOC pmax pmax
comp=Z,430nm,1.4s,mb6.3
SOC pmax pmax
comp=N,121nm,1.5s
SOC MLR MLR
comp=N,11µm,19.0s,MS6.3
SOC MLR MLR
comp=E,16µm,22.0s,MS6.3
SOC MLR MLR
comp=Z,14µm,22.0s,MS6.1
SOC Sochi 65.62 318 *i* P **P** **02 02 43.8 -2.2**
HNTI Hanita 65.69 306 P **P** **02 02 46.5 -0.2**
OFRI 'Ofer 65.73 305 P **P** **02 02 46.4 -0.6**
HTY Hatay 65.74 309 *e*P **P** **02 02 45.4 -1.6**
CEYT Ceyhan 66.29 310 *e*P **P** **02 02 48.7 -1.7**
MBAR Mbarara 66.42 269 *e*P **P** **02 02 50.3 -1.4**
MBAR pmax pmax
comp=Z,57nm,1.0s,mb5.6
MBAR MLR MLR
comp=Z,11µm,20.0s,MS6.1
MBAR Mbarara 66.42 269 *e*P **P** **02 02 50.3 -1.3**
comp=Z,57nm,1.0s,mb5.6
MBAR LR LR
comp=Z,11µm,20.0s,MS6.1
TOKT Tokat 66.70 314 *e*P **P** **02 02 52.0 -1.0**
BNN Bunyan 66.76 312 *e*P **P** **02 02 50.6 -2.8**
NIG Nigde 67.47 311 P **P** **02 02 56.3 -1.5**
ANN Anapa 67.60 318*c*P **P** **02 02 57.1 -1.4**
ANN *i* *PP pP 02 03 07.3 -1.9
ANN *i* 02 03 21.2
ANN *i* PPP PPP 02 07 09.6 +3.1
ANN *e*S S 02 11 49.7 -1.8
ANN *e* 02 12 49.3
ANN *e*SS SS 02 16 16.2 +2.2
ANN pmax pmax
comp=Z,6µm,10.4s
ANN pmax pmax
comp=N,2µm,10.1s
ANN smax
comp=N,12µm,9.6s
ANN smax
comp=E,6µm,9.6s
CSS Prodhromos 67.64 307 P **P** **02 02 58.4 -0.6**
comp=E,2.4nm,0.9s
CSS Prodhromos 67.64 307 *e*P **P** **02 02 57.2 -1.8**
IKL Isikli 67.68 309 *e*P **P** **02 02 57.6 -1.6**
SZAC Souni-Zanaja 67.95 307 P **P** **02 03 00.6 -0.3**
CORM Corum 68.05 313 *e*P **P** **02 02 57.6 -3.8**
ALFC Alevga 68.27 307 P **P** **02 03 01.8 -1.1**
BYBT Boyabat 68.33 314 *e*P **P** **02 03 04.1 +0.9**
CASY Casey 68.61 174 *e*P **P** **02 03 05.3 +0.8**
CASY *e*S S 02 12 06.4 +3.1
BR131 Keskin Array S 68.65 312 PFAKE 02 03 20.0 +15
BR131 LR LR
comp=Z,12µm,20.0s,MS6.1
BRTR Keskin Array B 68.65 312 P **P** **02 03 03.9 -1.3**
comp=Z,55nm,0.9s,mb5.5,baz=130,slow=6.5,SNR=10
BRTR PKP2bc 02 31 20.4
comp=Z,0.6nm,0.9s,baz=214,slow=5.2,SNR=3.1
BRTR Keskin Array B 68.65 312 P **P** **02 03 03.9 -1.3**
BRTR ⇑*e* 02 31 20.4
HDMB Hadim 68.80 309 *e*P **P** **02 03 04.3 -1.9**
PECR Pechory 68.84 331 ⇓*i*P **P** **02 03 05.0 -1.1**
PECR *e* 02 03 24.4
PECR *e* 02 05 36.0
PECR *i* S S 02 12 04.0 -2.2
PECR *e* 02 12 54.4
PECR *e*SS SS 02 16 31.0 -2.4
PECR pmax pmax
comp=N,6µm,10.6s
PECR pmax pmax
comp=E,2µm,10.6s
PECR pmax pmax
comp=Z,6µm,10.6s
PECR smax
comp=N,14µm,16.0s
PECR smax
comp=E,10µm,10.0s
PECR MLR MLR
comp=E,21µm,21.0s,MS6.4
PECR MLR MLR
comp=Z,30µm,21.0s,MS6.5
PECR MLR MLR
comp=N,14µm,20.0s,MS6.4
BZK Bozkurt 69.03 315 *e*P **P** **02 03 05.8 -1.7**
VOR Voronezh 69.23 326 *e*P **P** **02 03 07.5 -1.0**
VOR *e* 02 03 30.0
VOR S S 02 12 09.0 -1.8
VOR pmax pmax
comp=N,140nm,1.3s
VOR pmax pmax
comp=E,200nm,1.3s
VOR pmax pmax
comp=Z,400nm,1.3s,mb6.2
VOR smax
comp=N,160nm,1.6s
VOR smax
comp=Z,70nm,2.0s
ANTO Ankara 69.31 312 *e*P **P** **02 03 05.1 -4.2**
LOD Lodumlu 69.34 312 *e*P **P** **02 03 07.1 -2.4**
SKR Severo-Kuril's 69.40 36⇑*i*P **P** **02 03 07.0 -2.6**
SKR *e* 02 07 22.0
SKR *i* S S 02 12 44.0 +31
SKR *e* 02 12 58.0
SKR *e*SS SS 02 16 48.0 +6.0
SKR pmax pmax
comp=E,2µm,2.0s
SKR pmax pmax
comp=Z,2µm,2.0s,mb6.8
SKR pmax pmax
comp=N,7µm,6.0s
SKR pmax pmax
comp=E,11µm,6.0s
SKR pmax pmax
comp=Z,19µm,6.0s
SKR MLR MLR
comp=N,52µm,16.0s,MS7.0
SKR MLR MLR
comp=E,37µm,16.0s,MS7.0
SKR MLR MLR
comp=Z,52µm,16.0s,MS6.9
SAFT Safranbolu 69.77 314 *e*P **P** **02 03 10.5 -1.5**
SIM Simferopol' 69.87 318 *e*P **P** **02 03 12.0 -0.5**
SIM *e* 02 03 35.0
SIM *e* 02 05 44.0
SIM PPP PPP 02 07 36.0 +7.2
SIM *e*S S 02 12 18.0 -0.4
SIM *e*SS SS 02 16 55.0 +6.0
SIM pmax pmax
comp=Z,171nm,0.9s,mb6.0
SIM pmax pmax
comp=Z,7µm,11.5s
SIM MLR MLR
comp=Z,33µm,20.0s,MS6.6
SIM Simferopol' 69.87 318⇑*e*P **P** **02 03 11.9 -0.6**
WAKE Wake Island 70.09 70 *e*P **P** **02 03 16.7 +2.4**
comp=Z,269nm,1.2s,mb6.0
WAKE LR LR
comp=Z,41µm,22.0s,MS6.6
ANTB Antalya 70.21 309 *e*P **P** **02 03 12.1 -2.7**
LSZ Lusaka 70.22 253 *e*P **P** **02 03 13.7 -1.4**
comp=Z,16nm,0.9s,mb5.0
LSZ LR LR
comp=Z,89µm,20.0s,MS7.0
BCK Bucak 70.39 309 *e*P **P** **02 03 12.5 -3.3**
KWAJ Kwajalein Atol 70.44 81 PFAKE 02 03 30.0 +13
KWAJ LR LR
comp=Z,4µm,19.0s
MATP Matopo 70.69 248 S S 02 12 26.3 -2.1
comp=Z,3.7nm,1.1s,baz=64,slow=23,SNR=2.0
MATP LR LR 02 31 59.8
comp=Z,73µm,18.1s,MS7.0,baz=79,slow=34
ELL Elmali 70.76 308 *e*P **P** **02 03 16.8 -1.3**
MA2 Magadan 70.82 26*c i*P **P** **02 03 17.9 -0.2**
MA2 pmax pmax
comp=Z,457nm,2.5s,mb6.0
MA2 MLR MLR
comp=Z,108µm,14.0s,MS7.3
MA2 Magadan 70.82 26⇑*e*P **P** **02 03 17.8 -0.3**
comp=Z,92nm,0.7s,mb5.8
MA2 LR LR
comp=Z,82µm,19.0s,MS7.0
ALT Altintas 71.12 311 *e*P **P** **02 03 18.8 -1.5**
FETY Fethiye 71.38 308 *e*P **P** **02 03 18.3 -3.6**
EYL Eskiyayla 71.44 312 *e*P **P** **02 03 18.4 -3.8**
NOUC Port Laguerre 71.47 114 *e*P **P** **02 03 22.5 -0.1**
DZM Mont Dzumac 71.59 114 P **P** **02 03 23.1 -0.3**
comp=Z,20nm,0.7s,mb5.1,baz=290,slow=8.6,SNR=9.4
DZM S S 02 12 39.3 +0.4
comp=Z,6.2nm,1.0s,baz=50,slow=14,SNR=2.0
DZM LR LR 02 39 35.2
comp=Z,33µm,19.6s,MS6.6,baz=282,slow=40
PET Petropavlovsk 71.77 34 *e*P **P** **02 03 22.8 -1.1**
comp=Z,2µm,1.4s,mb6.7
PET LR LR
comp=Z,48µm,22.0s,MS6.7
MOS Moscow 71.77 329*α i*P **P** **02 03 23.2 -0.6**
MOS *e* 02 03 45.2
MOS *e* 02 06 00.4
MOS *e*PPP PPP 02 07 47.8 +0.9
MOS *e*S S 02 12 37.4 -3.0
MOS *e* 02 13 18.7
MOS *e*SSS SSS 02 20 32.2 +5.4
MOS pmax pmax
comp=Z,408nm,1.1s,mb6.3
MOS pmax pmax
comp=E,6µm,5.5s
MOS pmax pmax
comp=N,2µm,5.0s
MOS pmax pmax
comp=E,2µm,5.0s
MOS smax
comp=N,20µm,7.0s
MOS smax
comp=E,12µm,7.0s
MOS MLR MLR
comp=N,47µm,22.4s
MOS MLR MLR
comp=Z,64µm,22.4s,MS6.8
HRT Hereke 71.87 312 *e*P **P** **02 03 25.3 +0.6**
YLV Yalova 72.03 312 *e*P **P** **02 03 21.0 -4.6**
ARG Arkhangelos 72.05 307 *e*P **P** **02 03 25.4 -0.4**
OBN Obninsk 72.06 328*j i*P **P** **02 03 24.7 -0.8**
OBN *e* 02 03 43.3
OBN *e* 02 06 05.0
OBN *i* PPP PPP 02 07 50.1 +0.5
OBN *i* S S 02 12 41.4 -2.3
OBN *e* 02 13 25.8
OBN *e*SS SS 02 17 19.9 -3.0
OBN *e*SSS SSS 02 20 32.3 +0.3
OBN pmax pmax
comp=Z,268nm,1.0s,mb6.1
OBN pmax pmax
comp=Z,4µm,3.7s
OBN MLR MLR
comp=Z,39µm,21.0s,MS6.7
OBN Obninsk 72.06 328 *e*P **P** **02 03 24.2 -1.3**
comp=Z,312nm,1.0s,mb6.2
OBN LR LR
comp=Z,10µm,22.0s,MS6.0
ORLT Orhaneli 72.26 312 *e*P **P** **02 03 26.3 -0.7**
DST Dursunbey 72.36 311 *e*P **P** **02 03 21.0 -6.6**
ISK Istanbul-Kandi 72.37 313 *e*P **P** **02 03 23.8 -3.9**
TIXI Tiksi 72.60 10 *e*P **P** **02 03 25.8 -2.7**
TIXI *e* 02 06 08.2
TIXI *e*PPP PPP 02 07 52.8 -1.9
TIXI *e*S S 02 12 46.0 -3.6
TIXI pmax pmax
comp=N,22nm,0.8s
TIXI pmax pmax
comp=E,10.0nm,0.8s
TIXI pmax pmax
comp=Z,155nm,0.8s,mb6.0
TIXI pmax pmax
comp=Z,10µm,6.5s
TIXI MLR MLR
comp=N,70µm,15.0s,MS7.1
TIXI MLR MLR
comp=E,29µm,15.0s,MS7.1
TIXI MLR MLR
comp=Z,113µm,15.0s,MS7.3
TIXI Tiksi 72.60 10⇑*i*P **P** **02 03 27.2 -1.3**
TIXI LR LR
comp=Z,48µm,20.0s,MS6.8
KARP Karpathos 72.70 307 *e*P **P** **02 03 29.5 -0.3**
AKS Akhisar 72.83 310 *e*P **P** **02 03 27.6 -2.9**
BODT Bodrum 72.86 308 *e*P **P** **02 03 29.2 -1.5**
BALB Balikesir 72.94 311 *e*P **P** **02 03 27.4 -3.7**
BNT Bandirma 73.06 312 *e*P **P** **02 03 30.5 -1.3**
IZM Izmir 73.16 310 P **P** **02 03 28.1 -4.4**
SEY Seymchan 73.23 23 *e*P **P** **02 03 32.7 +0.3**
SEY *e* 02 03 49.6
SEY 02 06 18.6
SEY *e*PPP PPP 02 08 00.8 -0.3
SEY *e*S S 02 13 00.5 +3.6
SEY *e*SP SP 02 13 52.7 +23
SEY pmax pmax
comp=E,170nm,1.1s
SEY pmax pmax
comp=Z,330nm,1.1s,mb6.2
SEY pmax pmax
comp=N,50nm,0.9s
SEY smax
comp=N,28µm,9.7s
SEY smax
comp=E,16µm,10.4s
SEY MLR MLR
comp=N,59µm,17.0s,MS7.5
SEY MLR MLR
comp=E,193µm,17.0s,MS7.5
SEY MLR MLR
comp=Z,304µm,17.0s,MS7.7
MAW Mawson 73.29 193 *e*P **P** **02 03 33.1 +0.5**
comp=Z,32nm,0.9s,mb5.2
MAW *e*S S 02 12 58.5 +1.1
MAW Mawson 73.29 193 *e*P **P** **02 03 33.1 +0.5**
MAW *e*S S 02 12 58.5 +1.1
MAW pmax pmax
comp=Z,32nm,0.9s
MAW Mawson 73.29 193 P **P** **02 03 32.0 -0.6**
comp=Z,26nm,0.9s,mb5.2,baz=7.7,slow=5.1,SNR=38
MAW S S 02 12 55.4 -2.0
comp=Z,0.4nm,0.5s,baz=315,slow=18,SNR=1.4
MAW LR LR 02 31 17.1
comp=Z,48µm,18.8s,MS6.8,baz=27,slow=32
BLCB Balcova 73.32 310 *e*P **P** **02 03 26.7 -6.8**
SMG Samos 73.35 309 *e*P **P** **02 03 33.2 -0.4**
PSN Preselentsi 73.61 315 *i*P **P** **02 03 34.0 -1.0**
PSN Preselentsi 73.61 315 *i*P **P** **02 03 34.0 -1.0**
CANB Canakkale 73.63 311 *e*P **P** **02 03 33.2 -1.9**
TIRR Tirgusor 73.64 316 ⇑P **P** **02 03 33.9 -1.2**
XRIV Khrisi 73.77 306 *e*P **P** **02 03 35.0 -1.1**
NPS Neapolis 73.90 306 *e*P **P** **02 03 36.7 -0.1**
KIS Kishinev 73.99 319*α i*P **P** **02 03 34.0 -3.1**
KIS *i* 02 03 54.0
KIS *i* 02 06 22.0
KIS *i* PPP PPP 02 08 08.0 -1.1
KIS *i* 02 13 40.0
KIS *i* PS PS 02 13 58.0 +14
KIS *i* SS SS 02 17 54.0 +1.1
KIS pmax pmax
comp=Z,200nm,1.0s,mb6.0
KIS pmax pmax
comp=E,2µm,10.0s
KIS pmax pmax
comp=Z,6µm,10.0s
KIS pmax pmax
comp=Z,7µm,16.0s
KIS pmax pmax
comp=E,4µm,12.0s
KIS pmax pmax
comp=Z,7µm,12.0s
KIS pmax pmax
comp=Z,3µm,12.0s
KIS MLR MLR
comp=Z,19µm,20.0s,MS6.4
KIS MLR MLR
comp=N,19µm,23.0s,MS6.4
KIS MLR MLR
comp=E,12µm,18.0s,MS6.4
CFR Carcaliu 74.00 317 P **P** **02 03 37.8 +0.6**
CFR Carcaliu 74.00 317 ⇓P **P** **02 03 36.0 -1.2**
PRD Provadia 74.06 314 *i*P **P** **02 03 38.0 +0.5**
PRD Provadia 74.06 314 *i*P **P** **02 03 38.0 +0.5**
PRK Paraskevi 74.08 310 *e*P **P** **02 03 37.0 -0.8**
LBTB Lobatse 74.09 243 *e*P **P** **02 03 37.9 -0.2**
LBTB pmax pmax
comp=Z,35nm,0.9s,mb5.3
LBTB MLR MLR
comp=Z,66µm,20.0s,MS6.9
LBTB Lobatse 74.09 243 *e*P **P** **02 03 37.9 -0.2**
comp=Z,35nm,0.9s,mb5.3
LBTB LR LR
comp=Z,66µm,20.0s,MS6.9
APE Apeiranthos 74.26 308 *e*P **P** **02 03 37.4 -1.5**
IDI Anoyia 74.48 306 P **P** **02 03 37.9 -2.3**
comp=Z,58nm,0.7s,mb5.6,baz=52,slow=5.2,SNR=4.3
IDI S S 02 13 07.3 -4.2
comp=Z,8.4nm,1.2s,baz=153,slow=18,SNR=1.7
AKASG Malin Array Be 74.73 322 P **P** **02 03 39.5 -1.8**
AKASG S S 02 13 10.3 -3.6
AKASG pmax pmax
comp=Z,45nm,0.6s
AKASG Malin Array Be 74.73 322 P **P** **02 03 39.5 -1.8**
comp=Z,45nm,0.6s,mb5.6,baz=88,slow=4.9,SNR=108
AKASG S S 02 13 10.3 -3.6
comp=Z,0.8nm,0.5s,baz=22,slow=2.2,SNR=4.2
KIEV Kiev 74.74 322 P **P** **02 03 39.6 -1.7**
KIEV S S 02 13 10.4 -3.6
DRV Dumont d'Urvil 74.75 164 P **P** **02 03 45.0 +3.9**
DRV S S 02 13 22.0 +8.2
DRV SS SS 02 18 01.0 -2.9
DRV L 02 23 00.0
RDO Rodhopi 74.99 312 *e*P **P** **02 03 41.4 -1.6**
BOSA Boshof 75.02 240 *e*P **P** **02 03 41.9 -1.5**
BOSA pmax pmax
comp=Z,31nm,0.9s,mb5.2
BOSA MLR MLR
comp=Z,41µm,21.0s,MS6.7
BOSA Boshof 75.02 240 P **P** **02 03 42.3 -1.1**
comp=Z,23nm,0.8s,mb5.1,baz=96,slow=5.1,SNR=31
BOSA S S 02 13 12.2 -5.4
comp=Z,3.3nm,0.9s,baz=118,slow=9.5,SNR=3.1
BOSA LR LR 02 35 27.8
comp=Z,64µm,18.0s,MS7.0,baz=60,slow=35
BOSA Boshof 75.02 240 *e*P **P** **02 03 41.9 -1.5**
comp=Z,31nm,0.9s,mb5.2
BOSA LR LR
comp=Z,41µm,21.0s,MS6.7
LIA Limnos Island 75.03 311 *e*P **P** **02 03 42.2 -1.0**
SZH Strazhica 75.12 314 *e*P **P** **02 03 44.0 +0.3**
SZH Strazhica 75.12 314 *e*P **P** **02 03 44.0 +0.3**
VRI Vrincioaia 75.12 317 P **P** **02 03 44.4 +0.7**
VRI Vrincioaia 75.12 317 ⇑P **P** **02 03 43.2 -0.5**
DIM Dimitrovgrad 75.17 313 *e*P **P** **02 03 44.0 0.0**
KDZ Kurdzhali 75.17 313 *i*P **P** **02 03 45.0 +0.9**
BUC1 Bucharest 75.28 315 P **P** **02 03 45.6 +1.0**
MLR Muntele Rosu 75.58 317 P **P** **02 03 46.0 -0.3**
MLR S S 02 13 18.9 -4.5
MLR pmax pmax
comp=Z,107nm,0.9s
MLR Muntele Rosu 75.58 317 P **P** **02 03 46.0 -0.3**
comp=Z,107nm,0.9s,mb5.8,baz=121,slow=2.7,SNR=32
MLR S S 02 13 18.9 -4.5
comp=Z,1.8nm,0.8s,baz=143,slow=10,SNR=1.9
MLR Muntele Rosu 75.58 317 P **P** **02 03 47.0 +0.7**
MLR Muntele Rosu 75.58 317 ⇑P **P** **02 03 46.5 +0.2**
RZN Rozhen 75.70 313 *i*P **P** **02 03 48.0 +1.0**
PLD Plovdiv 75.78 313 *e*P **P** **02 03 48.0 +0.5**
ATH Athens Observa 75.83 309 *e*P **P** **02 03 46.3 -1.6**
SNX Sinaia 75.84 316 P **P** **02 03 49.1 +1.3**
MPAR Parnis Oros 75.84 309 *e*P **P** **02 03 47.5 -0.4**
NAIG Nisos Aigina 75.98 308 *e*P **P** **02 03 47.5 -1.2**
NSAL Nisos Salamina 76.02 309 *e*P **P** **02 03 48.0 -0.9**
MTUR Matau 76.13 316 P **P** **02 03 50.3 +0.9**
VOIR 76.18 316 ⇑P **P** **02 03 49.3 -0.4**
MGER Gerania Oros 76.19 309 *e*P **P** **02 03 47.0 -2.9**
PGB Panagyurishte 76.26 313 *i*P **P** **02 03 50.0 -0.2**
VLI Veliai 76.26 307 *e*P **P** **02 03 48.9 -1.4**
NVR Nevrokopi 76.27 312 *e*P **P** **02 03 49.3 -1.0**
MMB Musomiste 76.41 312 *i*P **P** **02 03 51.0 -0.1**

Sta	Name	Dist	Az	Phase	ISC	Time	Res
NEO	Neokhori	76.42	310	eP	P	02 03 49.9	-1.3
PLG	Polygyros	76.42	311	eP	P	02 03 49.8	-1.4
LKR	Lokris	76.49	309	eP	P	02 03 49.4	-2.2
BURAR	Bucovina Array	76.52	319	P	P	02 03 52.4	+0.8
BURAR	Bucovina Array	76.52	319 ⇑	P	P	02 03 51.7	+0.1
PUL	Pulkovo	76.92	331	i P	P	02 03 53.3	-0.3
PUL				i		02 06 44.9	
PUL				i S	S	02 13 36.6	-1.2
PUL				pmax	pmax		
	comp=Z,234nm,0.9s,mb6.1						
PUL				pmax	pmax		
	comp=N,36nm,0.6s						
PUL				pmax	pmax		
	comp=E,128nm,0.8s						
PUL				smax			
	comp=N,6µm,5.0s						
PUL				smax			
	comp=Z,2µm,4.9s						
PUL				smax			
	comp=E,6µm,5.1s						
KKB	Krupnik	76.93	313	i P	P	02 03 53.5	-0.6
VTS	Vitosha	76.96	313	i P	P	02 03 53.0	-1.2
VTS	Vitosha	76.96	313	i P	P	02 03 53.0	-1.2
ITM	Ithomi	77.13	308	eP	P	02 03 53.9	-1.3
IDID	Didziasalis	77.44	327	eP	P	02 03 56.5	0.0
IDID				AMb	AMB	02 04 16.8	
	comp=Z,49nm,1.1s,mb5.3						
EVR	Evrytania	77.45	309	eP	P	02 03 55.5	-1.5
ZAPS	Zavoj/Pirot	77.50	314⇑	iP	P	02 03 56.1	-1.1
RLS	Riolos of Patr	77.60	308	eP	P	02 03 57.3	-0.6
KZN	Kozani	77.67	311	eP	P	02 03 56.1	-2.1
IIGN	Ignalina	77.73	326	eP	P	02 03 57.9	-0.3
LVV	L'vov	77.75	321⇑	iP	P	02 03 58.3	-0.1
DJES	Djerdap	77.79	315⇑	iP	P	02 03 59.1	+0.3
IZAR	Zarasai	77.82	327	eP	P	02 03 58.3	-0.4
IZAR				AMb	AMB	02 04 19.0	
	comp=Z,34nm,1.2s,mb5.1						
ISAL	Salakas	77.84	327	eP	P	02 03 58.5	-0.2
ISAL				AMb	AMB	02 04 19.2	
	comp=Z,41nm,1.1s,mb5.3						
BOLS	Boljevac	78.06	314⇑	iP	P	02 03 59.3	-0.9
SKO	Skopje	78.16	312⇑	iP	P	02 04 00.0	-0.8
	comp=Z,143nm,1.1s,mb5.8						
SKO				i		02 04 14.5	
SKO				i		02 04 29.5	
SKO	Skopje	78.16	312⇑	iP	P	02 04 00.0	-0.8
SKO				i		02 04 14.5	
SKO				i		02 04 29.5	
	comp=Z,0.1nm,1.1s						
LVZ	Lovozero	78.24	340	i P	P	02 03 59.8	-0.9
LVZ				i S	S	02 13 51.7	-0.1
LVZ				pmax	pmax		
	comp=E,14nm,0.8s						
LVZ				pmax	pmax		
	comp=Z,60nm,0.8s,mb5.6						
LVZ				pmax	pmax		
	comp=N,10.0nm,1.0s						
LVZ				pmax	pmax		
	comp=Z,4µm,4.9s						
LVZ				pmax	pmax		
	comp=N,569nm,4.2s						
LVZ				pmax	pmax		
	comp=E,3µm,5.0s						
LVZ				smax			
	comp=N,12µm,7.3s						
LVZ				smax			
	comp=Z,3µm,7.6s						
LVZ				smax			
	comp=E,10µm,8.6s						
LVZ				MLR	MLR		
	comp=Z,55µm,25.0s,MS6.8						
LVZ				MLR	MLR		
	comp=N,40µm,20.0s,MS7.0						
LVZ				MLR	MLR		
	comp=E,59µm,23.0s,MS7.0						
JAN	Janina	78.29	310	eP	P	02 04 01.4	-0.2
VSU	Vasula	78.29	330c	iP	P	02 04 00.7	-0.5
VSU	Vasula	78.29	330⇑	iP	P	02 04 00.7	-0.5
VLS	Valsamata	78.30	308	eP	P	02 04 00.3	-1.4
KWP	Kalwaria	78.56	320	eP	P	02 04 03.3	+0.4
	comp=E,7µm,7.1s						
KWP				epP	pP	02 04 12.7	-0.9
KWP				i S	S	02 13 56.2	+0.7
KWP				eSKS	SKS	02 14 15.5	+5.6
KWP				MLR	MLR	02 43 51.2	
	comp=E,24µm,23.7s,MS6.5						
UZH	Uzhgorod	78.64	319⇑	iP	P	02 04 04.0	+0.7
SVIS	Svilajnac	78.66	315⇑	iP	P	02 04 03.5	0.0
KOLS	Kolonicke sedl	78.71	320	i P	P	02 04 04.2	+0.5
GRUS	Gruza	78.96	314⇑	iP	P	02 04 04.2	-1.0
KEK	Kerkira	79.10	310	eP	P	02 04 04.9	-1.1
SUW	Suwalki	79.14	325	eP	P	02 04 05.1	-0.8
	comp=E,8µm,7.2s						
SUW				epP	pP	02 04 14.3	-2.4
SUW				i S	S	02 14 00.3	-1.2
SUW				eSKS	SKS	02 14 19.2	+5.3
SUW				MLR	MLR	02 45 19.1	
	comp=E,34µm,21.6s,MS6.7						
CRVS	Cervenica-Dubn	79.23	319	eP	P	02 04 07.6	+1.1
CRVS				eS	S	02 14 03.8	+1.1
CRVS	Cervenica-Dubn	79.23	319	eP	P	02 04 07.6	+1.1
CRVS				e		02 04 26.5	
CRVS				eS	S	02 14 03.8	+1.1
BEO	Belgrade	79.28	315⇑	iP	P	02 04 06.7	-0.2
PVY	Plav	79.32	313⇑	iP	P	02 04 06.9	-0.2
IVA	Berane	79.41	313⇑	iP	P	02 04 07.0	-0.7
FINES	FINESS Array B	79.43	332	P	P	02 04 05.8	-1.6
	comp=E,51nm,0.8s,mb5.5,baz=108,slow=6.0,SNR=68						
FINES				LR	LR	02 46 15.0	
	comp=E,23µm,19.6s,MS6.5,baz=291,slow=41						
SUR	Sutherland	79.43	237	LR	LR	02 37 10.7	
	comp=E,71µm,18.3s,MS7.0,baz=81,slow=34						
SUR	Sutherland	79.43	237	eP	P	02 04 08.5	+0.5
	comp=E,55nm,0.9s,mb5.5						
SUR				LR	LR		
	comp=Z,14µm,20.0s,MS6.3						
DIVS	Divcibare	79.51	314⇑	iP	P	02 04 07.0	-1.1
KAF	Kangasniemi	79.51	333	ep	P	02 04 06.6	-1.2
	comp=Z,84nm,0.7s,mb5.8,baz=103,slow=5.0						
KAF	Kangasniemi	79.51	333	eP	P	02 04 06.6	-1.2
KAF				pmax	pmax		
	comp=Z,84nm,0.7s,mb5.8						
RPZ	Rata Peaks	79.69	135	LR	LR	02 42 06.0	
	comp=Z,57µm,21.0s,MS6.9,baz=283,slow=38						
ULC	Ulcinj	79.78	312⇑	iP	P	02 04 08.5	-1.1
KECS	Kecovo	79.80	319	i P	P	02 04 09.4	-0.2
KECS				e	pP	02 04 22.0	+1.6
KECS				eS	S	02 14 09.2	+0.5
TTG	Podgorica	79.83	313⇑	iP	P	02 04 08.3	-1.6
PLE	Pljevlja	79.84	314⇑	iP	P	02 04 10.1	+0.1
NIE	Niedzica	80.06	320	eP	P	02 04 11.5	+0.5
NIE				eS	S	02 14 14.1	+2.8
NKY	Niksic	80.06	313	eP	P	02 04 10.1	-1.1
WAR	Warsaw	80.07	323	eP	P	02 04 11.3	+0.3
WAR				e*PP	pP	02 04 20.4	-1.4
WAR				i S	S	02 14 11.4	-0.1
WAR				pmax	pmax		
	comp=Z,7µm,6.2s						
WAR				MLR	MLR		
	comp=Z,23µm,24.2s,MS6.4						
WAR	Warsaw	80.07	323	eP	P	02 04 11.3	+0.3
	comp=Z,6.7nm,6.2s						
WAR				epP	pP	02 04 20.4	-1.4
WAR				i S	S	02 14 11.4	-0.1
WAR				LR	LR		
	comp=Z,23µm,24.2s,MS6.4						
WAR	Warsaw	80.07	323	eP	P	02 04 11.3	+0.3
	comp=Z,7µm,6.2s						
WAR				epP	pP	02 04 20.4	-1.3
WAR				i S	S	02 14 11.4	-0.1
WAR				MLR	MLR	02 43 06.2	
	comp=Z,23µm,24.2s,MS6.4						
BUM	Brajici-Budva	80.08	312⇑	iP	P	02 04 10.7	-0.6
PSZ	Piszkesteto	80.11	318	eP	P	02 04 10.6	-0.7
PSZ				pmax	pmax		
	comp=Z,118nm,0.9s,mb5.8						
PSZ	Piszkesteto	80.11	318	eP	P	02 04 10.6	-0.6
	comp=Z,118nm,0.9s,mb5.8						
FX1	Attu Island--F	80.15	37	eP	P	02 04 11.3	-0.1
UPM	Unac-Piva	80.17	313⇑	iP	P	02 04 11.0	-0.8
BRY	Bratogost	80.41	313⇑	iP	P	02 04 12.2	-0.7
OJC	Ojcow	80.51	321	eP	P	02 04 13.5	+0.1
OJC				ePcP	PcP	02 04 24.1	+3.6
OJC				ePP	PP	02 07 15.1	-3.5
OJC				eS	S	02 14 16.7	+0.7
OJC				eSS	SS	02 19 30.8	-0.8
OJC				MLR	MLR	02 48 08.5	
	comp=Z,26µm,20.4s,MS6.6						
BILL	Bilibino	80.62	21c	iP	P	02 04 12.9	-0.7
BILL				pmax	pmax		
	comp=Z,145nm,2.5s,mb5.5						
BILL				MLR	MLR		
	comp=Z,193µm,18.0s,MS7.5						
BILL	Bilibino	80.62	21	eP	P	02 04 14.0	+0.4
	comp=Z,994nm,1.9s,mb6.4						
BILL				LR	LR		
	comp=Z,70µm,20.0s,MS7.0						
SMY	Shemya	80.68	37	eP	P	02 04 14.2	0.0
SMY				pmax	pmax		
	comp=Z,222nm,0.8s,mb6.1						
SMY	Shemya	80.68	37	eP	P	02 04 14.2	0.0
	comp=Z,222nm,0.8s,mb6.1						
TSUM	Tsumeb	80.72	250	eP	P	02 04 15.6	+0.4
	comp=Z,48nm,1.1s,mb5.3						
TSUM				LR	LR		
	comp=Z,28µm,22.0s,MS6.6						
VYHS	Vyhne	80.89	319	i P	P	02 04 15.3	-0.1
VYHS				e	pP	02 04 28.4	+2.2
VYHS				e		02 07 26.9	
VYHS				eS	S	02 14 19.0	-1.0
STON	Ston	81.02	313	i P	P	02 04 14.9	-1.3
SRO	Srobarova	81.15	318	i P	P	02 04 16.9	+0.1
SRO				eS	S	02 14 23.7	+1.0
SRO	Srobarova	81.15	318	i P	P	02 04 16.9	+0.1
SRO				e		02 04 39.6	
SRO				eS	S	02 14 23.7	+1.0
KOLL	Kolacno	81.18	319	i P	P	02 04 16.8	-0.2
SRO1	Iza	81.19	318	eP	P	02 04 18.2	+1.2
TIP	Timpagrande	81.39	309	eP	P	02 04 17.7	-0.5
KEV	Kevo	81.50	341	P	P	02 04 18.5	+0.2
KEV				PP	PP	02 07 27.7	+0.9
KEV				S	S	02 14 26.9	+0.9
KEV	Kevo	81.50	341	eP	P	02 04 17.8	-0.4
KEV				pmax	pmax		
	comp=Z,98nm,1.0s,mb5.7						
KEV				MLR	MLR		
	comp=Z,41µm,20.0s,MS6.8						
KEV	Kevo	81.50	341	eP	P	02 04 17.8	-0.4
	comp=Z,98nm,1.0s,mb5.7						
KEV				LR	LR		
	comp=Z,41µm,20.0s,MS6.8						
OKC	Ostrava-Krasne	81.51	320	eP	P	02 04 18.2	-0.4
OKC				eSKS	SKS	02 14 27.0	-3.9
OKC	Ostrava-Krasne	81.51	320	eP	P	02 04 18.2	-0.4
OKC				eS	S	02 14 27.0	+0.6
OKC				AMS	AMS	02 48 50.0	
	comp=Z,18µm,18.7s						
RAC	Raciborz	81.51	320	eP	P	02 04 19.5	+0.9
RAC				ePcP	PcP	02 04 24.7	-0.2
RAC				eS	S	02 14 27.5	+1.1
RAC				MLR	MLR	02 51 35.0	
	comp=Z,27µm,21.2s,MS6.6						
SNZO	South Karori	81.88	132	PFAKE		02 04 30.0	+9.3
SNZO				LR	LR		
	comp=Z,89µm,22.0s,MS7.1						
MORC	Moravsky Berou	81.89	320	eP	P	02 04 20.4	-0.2
MORC				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.7						
MORC	Moravsky Berou	81.89	320	eP	P	02 04 20.4	-0.2
	comp=Z,90nm,1.0s,mb5.7						
ARCES	ARCESS Array B	81.94	340	P	P	02 04 20.3	-0.1
	comp=Z,30nm,0.5s,mb5.5,baz=96,slow=5.5,SNR=102						
ARCES				S	S	02 14 29.2	-1.2
	comp=Z,1.3nm,0.9s,baz=336,slow=12,SNR=2.5						
ARCES				LR	LR	02 46 20.8	
	comp=Z,47µm,19.2s,MS6.9,baz=111,slow=40						
ARE0	ARCESS Array S	81.94	340	eP	P	02 04 20.0	-0.4
ZST	Bratislava	82.00	318	i P	P	02 04 21.3	+0.1
ZST				e	pP	02 04 34.4	+2.4
ZST				eS	S	02 14 32.6	+1.1
ZST				eL		02 52 41.3	
VRAC	Vranov	82.45	319	P	P	02 04 23.0	-0.5
VRAC				S	S	02 14 34.9	-1.1
VRAC				pmax	pmax		
	comp=Z,17nm,0.9s						
VRAC				smax			
	comp=E,1.0nm,0.7s						
VRAC	Vranov	82.45	319	P	P	02 04 23.0	-0.5
	comp=E,17nm,0.9s,mb5.0,baz=79,slow=7.7,SNR=9.0						
VRAC				S	S	02 14 34.9	-1.1
	comp=E,1.3nm,0.7s,baz=217,slow=15,SNR=2.0						
VKA	Vienna	82.53	318⇑	iP	P	02 04 22.0	-1.9
	comp=E,687nm,4.5s						
KTK1	Kautokeino	82.58	340⇑	iP	P	02 04 23.5	-0.2
	comp=E,866nm,2.1s,mb6.4						
KTK1	Kautokeino	82.58	340⇑	iP	P	02 04 23.5	-0.2
KTK1				AMb	AMB	02 04 53.0	
	comp=Z,866nm,2.1s,mb6.4						
DPC	Dobruska-Polom	82.74	320	eP	P	02 04 25.0	+0.1
DPC				ePP	PP	02 07 41.0	+4.0
DPC				eS	S	02 14 40.7	+1.8
DPC				AMS	AMS	02 52 30.0	
	comp=Z,24µm,17.8s						
KSP	Ksiaz	82.81	321⇑	eP	P	02 04 25.9	+0.6
KSP				e*PP	pP	02 04 38.6	+2.5
KSP				e		02 07 36.0	
KSP				eS	S	02 14 40.0	+0.4
KSP				MLR	MLR		
	comp=Z,56µm,23.1s,MS6.9						
KSP	Ksiaz	82.81	321	eP	P	02 04 25.9	+0.6
	comp=Z,7µm,7.0s						
KSP				epP	pP	02 04 37.9	+1.8
KSP				i S	S	02 14 41.2	+1.7
KSP				MLR	MLR	02 48 30.6	
	comp=Z,50µm,21.7s,MS6.8						
UPC	Upice	82.95	321	eP	P	02 04 26.7	+0.7
UPC				e		02 14 42.1	
UPC	Upice	82.95	321	eP	P	02 04 26.7	+0.7
UPC				ex	x	02 07 49.1	
UPC				eS	S	02 14 42.1	+1.1
ARSA	Arzberg	82.97	317⇑	iP	P	02 04 26.8	+0.6
	comp=Z,3µm,5.5s						
BOJS	Bojanci	83.01	315⇑	eP	P	02 04 26.0	-0.4
NVLJ	Novalja	83.21	314	i P	P	02 04 26.2	-1.2
CII	Carovilli	83.44	312	eP	P	02 04 30.4	+1.7
LJU	Ljubljana	83.56	316⇑	iP	P	02 04 29.9	+0.7
LJU				ePPP	PPP	02 09 32.4	-5.4
LJU				eS	S	02 14 47.3	+0.1
LJU				pmax	pmax		
	comp=Z,5µm,5.4s						
LJU	Ljubljana	83.56	316⇑	iP	P	02 04 29.9	+0.6
	comp=Z,5µm,5.4s						
LJU				e		02 05 20.9	
LJU				ePP	PP	02 07 52.1	+8.5
LJU				ePPP	PPP	02 09 32.4	-5.4
LJU				e		02 11 20.2	
LJU				eS	S	02 14 47.3	0.0
LJU				e		02 14 58.0	
LJU				eSS	SS	02 19 56.6	-20
LJU				eSSS	SSS	02 23 55.6	+13
LJU				e		02 26 53.0	
OBKA	Obir	83.58	316⇑	iP	P	02 04 30.4	+1.1
	comp=Z,3µm,4.8s						
CEY	Cerknica	83.61	316⇑	eP	P	02 04 29.4	-0.1
PRU	Pruhonice	83.84	320	eP	P	02 04 30.6	0.0
PRU				ex	x	02 07 50.8	
PRU				eS	S	02 14 52.6	+2.6
PRU				AMS	AMS	02 48 10.0	
	comp=Z,22µm,21.3s						
MOA	Molln	83.86	318⇑	iP	P	02 04 30.7	0.0
	comp=Z,3µm,6.1s						
PVCC	Panska Ves	83.87	320	eP	P	02 04 31.4	+0.7
PVCC				eS	S	02 14 51.6	+1.4
PVCC				AMS	AMS	02 48 30.0	
	comp=Z,26µm,21.4s						
PRA	Prague	83.92	320	P	P	02 04 32.0	+1.0
PRA				ex	x	02 08 15.0	
PRA				ex	x	02 16 05.0	
PRA				AMS	AMS	02 52 30.0	
VOY	Vojsko	84.00	316	eP	P	02 04 30.7	-0.8
VOY				e		02 04 46.8	
BSD	Bornholm Skovb	84.06	325⇑	iP	P	02 04 32.1	+0.6
BSD				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.5						
BSD	Bornholm Skovb	84.06	325⇑	iP	P	02 04 32.1	+0.6
	comp=Z,43nm,1.0s,mb5.5						
BSD				e		02 04 47.9	
AQU	L'Aquila	84.14	312	eP	P	02 04 32.5	+0.2
AQU				pmax	pmax		
	comp=Z,161nm,1.0s,mb6.1						
AQU	L'Aquila	84.14	312	eP	P	02 04 32.5	+0.2
	comp=Z,161nm,1.0s,mb6.1						
TRO	Tromso	84.20	340	eP	P	02 04 30.5	-1.5
TRO				LR	LR		
	comp=Z,37442µm,20.4s						
TRO	Tromso	84.20	340	eP	P	02 04 30.5	-1.5
TRO				eSKSa		02 14 53.5	
TRO				AMS	AMS	02 48 05.2	
	comp=Z,37µm,20.4s,MS6.8						
ROBS	Robic	84.28	316⇑	eP	P	02 04 32.7	-0.2
BRG	Berggiesshubel	84.29	321	eP	P	02 04 32.8	0.0
BRG				i		02 04 35.7	
BRG						02 07 45.0	
BRG				S	S	02 14 55.0	+0.6
BRG				SS	SS	02 20 22.0	-5.3
BRG				pmax	pmax		
	comp=Z,85nm,1.2s,mb5.8						
BRG				MLR	MLR		
	comp=N,30µm,22.3s,MS6.7						
BRG				MLR	MLR		
	comp=E,14µm,20.9s,MS6.7						
BRG				MLR	MLR		
	comp=Z,28µm,20.3s,MS6.6						
BRG	Berggiesshubel	84.29	321	eP	P	02 04 32.8	0.0
	comp=Z,85nm,1.2s,mb5.8						
BRG				i		02 04 35.7	
BRG				i		02 04 49.2	
BRG				i		02 05 00.0	
BRG				i		02 05 12.4	
BRG				PP	PP	02 07 45.0	-4.4
BRG				S	S	02 14 55.0	+0.6
BRG				e		02 15 27.7	
BRG				SS	SS	02 20 22.0	-5.3
BRG				LR	LR		
	comp=Z,28µm,20.3s,MS6.6						
GEC2	GERESS Array S	84.31	319	P	P	02 04 34.3	+1.3
GEC2				pmax	pmax		
	comp=Z,150nm,1.2s,mb6.0						
GEC2	GERESS Array S	84.31	319	eP	P	02 04 34.3	+1.3
	comp=Z,150nm,1.2s,mb6.0						
GEC2				eS	S	02 14 58.1	+3.5
GERES	GERESS Array B	84.31	319	P	P	02 04 32.9	-0.1
GERES				S	S	02 14 55.4	+0.8
GERES				pmax	pmax		
	comp=Z,71nm,1.0s						
GERES	GERESS Array B	84.31	319	P	P	02 04 32.9	-0.1
	comp=Z,71nm,1.0s,mb5.8,baz=90,slow=5.3,SNR=89						
GERES				S	S	02 14 55.4	+0.8
	comp=Z,0.5nm,0.8s,baz=135,slow=19,SNR=2.5						
KHC	Kasperske Hory	84.41	319	eP	P	02 04 32.6	-0.8
KHC				ePP	PP	02 07 52.5	+2.1
KHC				eS	S	02 14 58.3	+2.7
KHC				AMS	AMS	02 53 40.0	
	comp=Z,16µm,18.6s						
KBA	Koelnbreinsper	84.44	317⇓	iP	P	02 04 33.6	-0.1
	comp=Z,2µm,5.9s						
KBA	Koelnbreinsper	84.44	317⇓	iP	P	02 04 33.6	-0.1
KBA				pmax	pmax		
	comp=Z,2µm,5.9s						
WET	Wettzell	84.87	319	P	P	02 04 37.0	+1.3
WET				pmax	pmax		
	comp=Z,98nm,1.0s,mb5.9						
WET	Wettzell	84.87	319	eP	P	02 04 37.0	+1.3
	comp=Z,98nm,1.0s,mb5.9						
WET				eS	S	02 15 03.9	+3.7
CLL	Collm	84.91	321	i P	P	02 04 36.1	+0.2
CLL				i *SP	sP	02 04 50.2	-0.2
CLL				eS	S	02 15 03.0	+2.5
CLL				pmax	pmax		
	comp=Z,77nm,1.2s,mb5.7						
CLL				MLR	MLR		
	comp=Z,21µm,21.4s,MS6.5						
CLL	Collm	84.91	321	i P	P	02 04 36.1	+0.2
	comp=Z,77nm,1.2s,mb5.7						
CLL				i sP	sP	02 04 50.2	-0.2
CLL				eS	S	02 15 03.0	+2.5
CLL				LR	LR		
	comp=Z,21µm,21.4s,MS6.5						
CLL	Collm	84.91	321	P	P	02 04 36.1	+0.2
	comp=Z,logA/T=1.8,mb5.7						
CLL				i *SP	sP	02 04 49.3	-1.1
CLL				i		02 04 56.5	
CLL				eS	S	02 15 03.0	+2.5
CLL				ePS	PS	02 15 54.0	-7.1
CLL				ePPS	PPS	02 16 36.0	+11
CLL				e		02 17 20.0	
CLL				eSS	SS	02 20 48.0	+11
CLL				eSSS	SSS	02 24 00.0	-4.6
CLL				e		02 27 11.0	
HFS	Hagfors	85.16	330	P	P	02 04 35.8	-1.1
HFS				S	S	02 14 59.9	-2.8
HFS				pmax	pmax		
	comp=Z,17nm,0.6s						
HFS	Hagfors	85.16	330	P	P	02 04 35.8	-1.1
	comp=Z,17nm,0.6s,mb5.4,baz=117,slow=3.3,SNR=27						
HFS				S	S	02 14 59.9	-2.9
	comp=Z,2.5nm,1.0s,baz=90,slow=22,SNR=2.1						
HFA0	Hagfors New Ar	85.16	330	P	P	02 04 37.0	+0.1
MIDW	Midway	85.19	62	PFAKE		02 04 50.0	+12
MIDW				LR	LR		
	comp=Z,18µm,22.0s,MS6.4						
NKC	Novy Kostel	85.20	320	eP	P	02 04 38.1	+0.7
NKC				eS	S	02 15 05.7	+2.3
NKC				AMS	AMS	02 49 30.0	
	comp=Z,33µm,21.8s						
MOR8	Moi Rana	85.39	336	eP	P	02 04 37.0	-0.9
	comp=Z,582nm,2.2s,mb6.3						
MOR8	Moi Rana	85.39	336	eP	P	02 04 37.0	-0.9
MOR8				AMb	AMB	02 05 07.1	
	comp=Z,582nm,2.2s,mb6.3						
COP	Copenhagen	85.51	326⇑	iP	P	02 04 39.5	+0.7
COP				i	pP	02 04 51.6	+2.0
COP				i S	S	02 15 09.5	+3.2
COP				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.7						
COP				MLR	MLR		
	comp=Z,12µm,20.0s,MS6.3						
COP	Copenhagen	85.51	326⇑	iP	P	02 04 39.5	+0.7
	comp=Z,36nm,0.7s,mb5.7						
COP				i	pP	02 04 51.6	+2.0
COP				i S	S	02 15 09.5	+3.2
COP				LR	LR		
	comp=Z,12µm,20.0s,MS6.3						
COP	Copenhagen	85.51	326⇑	iP	P	02 04 39.5	+0.7
	comp=Z,36nm,0.7s,mb5.7						
COP				i	pP	02 04 51.6	+2.0
COP	Copenhagen	85.51	326	i S	S	02 15 09.5	+3.2
	comp=Z,12µm,20.0s						
WTTA	Wattenberg	85.61	317⇑	iP	P	02 04 39.4	-0.1
	comp=Z,3µm,7.1s						
WTTA	Wattenberg	85.61	317⇑	iP	P	02 04 39.4	-0.1
WTTA				pmax	pmax		
	comp=Z,3µm,7.1s						
WATA	Walderalm	85.66	317⇓	iP	P	02 04 38.9	-0.8
	comp=Z,332nm,1.9s,mb6.2						
WATA	Walderalm	85.66	317⇓	iP	P	02 04 38.9	-0.8
WATA				pmax	pmax		
	comp=Z,332nm,1.9s,mb6.2						
MELSS	Ber_school_2	85.74	337	eP	P	02 04 39.9	+0.2
MOX	Moxa	85.76	320	eP	P	02 04 40.5	+0.4
MOX				pmax	pmax		
	comp=Z,360nm,2.0s,mb6.3						
MOX				MLR	MLR		
	comp=Z,14µm,21.0s,MS6.3						
MOX	Moxa	85.76	320	eP	P	02 04 40.5	+0.4
	comp=Z,360nm,2.0s,mb6.3						
MOX				eS	S	02 15 11.0	+2.2
MOX				LR	LR		
	comp=Z,14µm,21.0s,MS6.3						
MOX	Moxa	85.76	320⇑	iP	P	02 04 40.5	+0.4
	comp=Z,logA/T=2.3,mb6.3						
MOX				S	S	02 15 11.0	+2.2
MOX				L		02 51 49.0	
FUR	Furstenfeldbru	85.89	318	P	P	02 04 41.6	+0.8
FUR				pmax	pmax		
	comp=Z,104nm,1.2s,mb5.9						
FUR	Furstenfeldbru	85.89	318	eP	P	02 04 41.6	+0.8
	comp=Z,104nm,1.2s,mb5.9						
FUR				eS	S	02 15 11.3	+1.2
SQTA	Sankt Quirin	85.90	317⇓	iP	P	02 04 39.5	-1.4
	comp=Z,170nm,1.4s,mb6.1						
SQTA	Sankt Quirin	85.90	317⇓	iP	P	02 04 39.5	-1.4
SQTA				pmax	pmax		

comp=Z,170nm,1.4s,mb6.1
LOF Lofoten 85.93 338 *e*P P 02 04 40.2 -0.3
comp=Z,368nm,2.3s,mb6.2
LOF Lofoten 85.93 338 *e*P P
LOF AMb AMB 02 05 09.9
comp=Z,368nm,2.3s,mb6.2
GRA1 Grafenberg Arr 85.97 320 *e*P P 02 04 42.9 +1.8
comp=Z,132nm,1.0s,mb6.1
GRA1 *e*S S 02 15 15.1 +4.2
GRA1 LR LR
comp=Z,27µm,21.1s,MS6.6
GRF Grafenberg Arr 85.97 320 P P 02 04 42.9 +1.8
GRF pmax pmax
comp=Z,132nm,1.0s,mb6.1
GRFO Grafenberg 85.97 320 P P 02 04 42.1 +0.9
GRFO pSKSac 02 15 14.0
MOTA Moosalm 85.98 317⇓ *i*P P 02 04 40.6 -0.6
comp=Z,117nm,1.2s,mb6.0
MOTA Moosalm 85.98 317⇓ *i*P P 02 04 40.6 -0.6
MOTA pmax pmax
comp=Z,117nm,1.2s,mb6.0
HSP Hornsund 86.35 347 *e*P P 02 04 42.6 +0.2
HSP Hornsund 86.35 347 *e*P P 02 04 42.5 +0.1
VLC Villacollemand 86.41 314 *e*P P 02 04 43.2 -0.3
comp=Z,181nm,1.4s,mb6.1
VNDA Vanda 86.43 169 P P 02 04 42.0 -0.8
comp=Z,5.1nm,0.7s,baz=296,slow=5.4,SNR=52
VNDA S S 02 15 04.2 -11
comp=Z,0.6nm,1.0s,baz=356,slow=17,SNR=2.2
VNDA PKKPbc 02 22 41.2
comp=Z,1.4nm,0.9s,baz=263,slow=4.2,SNR=4.9
VNDA LR LR 02 40 56.4
comp=Z,40µm,18.7s,MS6.8,baz=307,slow=34
VNDA Vanda 86.43 169 *e*P P 02 04 42.9 +0.1
comp=Z,180nm,1.5s,mb6.1
VNDA LR LR
comp=Z,39µm,19.0s,MS6.8
NB2 NORSAR Subarra 86.44 331 P P 02 04 43.0 -0.2
comp=Z,86nm,1.0s,mb5.9,baz=95,slow=5.0
NB2 NORSAR Subarra 86.44 331 P P 02 04 43.0 -0.2
baz=95,slow=5.1
NOA NORSAR Array B 86.44 331 P P 02 04 42.7 -0.5
NOA S S 02 15 12.6 -2.5
NOA pmax pmax
comp=Z,41nm,0.8s
NOA MLR MLR
comp=Z,22µm,21.9s
NOA NORSAR Array B 86.44 331 P P 02 04 42.7 -0.4
comp=Z,41nm,0.8s,mb5.7,baz=94,slow=4.9,SNR=80
NOA PP PP 02 07 56.0 -11
comp=Z,3.5nm,0.8s,baz=88,slow=9.3,SNR=3.4
NOA S S 02 15 12.6 -2.5
comp=Z,0.7nm,0.7s,baz=329,slow=5.3,SNR=2.3
NOA LR LR 02 47 24.6
comp=Z,22µm,21.9s,MS6.5,baz=90,slow=38
NOA NORSAR Array B 86.44 331 P P 02 04 42.7 -0.4
NOA PP PP 02 07 56.0 -11
NOA S S 02 15 12.6 -2.5
NOA LR LR 02 47 24.6
RAO Raoul Island 86.47 119 LR LR 02 42 48.2
comp=Z,30µm,21.2s,MS6.7,baz=98,slow=35
RAO Raoul Island 86.47 119 PFAKE 02 05 00.0 +16
RAO LR LR
comp=Z,29µm,20.0s,MS6.7
FUORN Ofenpass 86.53 316⇑ *i*P P 02 04 45.0 +1.0
CLZ Clausthal 86.58 322 P P 02 04 45.4 +1.4
CLZ pmax pmax
comp=Z,94nm,1.1s,mb5.9
CLZ Clausthal 86.58 322 *e*P P 02 04 45.4 +1.4
comp=Z,94nm,1.1s,mb5.9
CLZ *e*S S 02 15 18.7 +2.1
NAO01 NORSAR Array S 86.59 331 *e*P P 02 04 43.4 -0.5
comp=Z,106nm,0.9s,mb6.1
NAO01 LR LR
comp=Z,25µm,20.0s,MS6.6
HDH Heidenheim 86.61 318 P P 02 04 44.6 +0.3
OSL Oslo 86.64 330 *e*P P 02 04 45.9 +1.7
comp=Z,496nm,1.5s,mb6.5
OSL Oslo 86.64 330 *e*P P 02 04 45.9 +1.7
OSL AMb AMB 02 05 14.1
comp=Z,496nm,1.5s,mb6.5
BSEG Bad Segeberg 86.66 324 P P 02 04 45.9 +1.5
BSEG pmax pmax
comp=Z,133nm,1.1s,mb6.1
BSEG Bad Segeberg 86.66 324 *e*P P 02 04 45.9 +1.5
BSEG *e*S S 02 15 20.7 +3.3
BERNI Berninapass 86.70 316⇑ *i*P P 02 04 45.8 +1.0
DAVOX Davos 86.80 317 P P 02 04 45.4 +0.1
comp=Z,65nm,0.8s,mb5.9,baz=111,slow=6.1,SNR=28
DAVOX S S 02 15 18.2 -0.7
comp=Z,2.0nm,0.8s,baz=345,slow=22,SNR=5.2
DAVOX Davos 86.80 317⇓ *i*P P 02 04 46.0 +0.7
DAVA Damuels 86.81 317⇑ *i*P P 02 04 46.1 +0.8
comp=Z,4µm,6.6s
SIND Sindeldorf 87.02 319 P P 02 04 46.9 +0.6
LIENZ Alp Oberkamor 87.07 317⇑ *e*P P 02 04 47.1 +0.5
LIENZ Alp Oberkamor 87.07 317⇑ *e*P P 02 04 47.2 +0.6
VSL Villasalto 87.12 309 *e*P P 02 04 46.7 -0.3
comp=Z,186nm,1.3s,mb6.2
PLONS Plons 87.15 317⇑ *i*P P 02 04 47.5 +0.5
BUCH Bad Urach 87.18 318 P P 02 04 48.7 +1.6
KONO Kongsberg 87.19 329 P P 02 04 47.3 +0.4
KONO Kongsberg 87.19 329 P P 02 04 47.7 +0.8
KONO pmax pmax
comp=Z,250nm,1.2s,mb6.3
KONO Kongsberg 87.19 329⇑ *i*P P 02 04 46.8 -0.1
KONO *e*SKSa 02 15 13.3
STU Stuttgart 87.28 319⇑ *e*P P 02 04 47.8 +0.2
STU pmax pmax
comp=Z,21nm,0.9s,mb5.4
STU Stuttgart 87.28 319⇑ *e*P P 02 04 47.8 +0.2
comp=Z,21nm,0.9s,mb5.4
KBS Kingsbay 87.31 349⇑ *i*P P 02 04 45.5 -1.6
KBS LR LR
comp=Z,33835µm,20.2s
KBS Kingsbay 87.31 349⇑ *i*P P 02 04 45.5 -1.6
KBS *e*SKSa 02 15 09.2
KBS AMS AMS 02 51 16.7
comp=Z,34µm,20.2s,MS6.8
GUT Gutenstein 87.33 318 P P 02 04 48.3 +0.5
MUD Monsted U'grnd 87.37 326⇑ *i*P P 02 04 49.1 +1.3
MUD *i* 02 10 19.8
MUD *i* S S 02 15 28.7 +4.6
MUD pmax pmax
comp=Z,78nm,1.0s,mb5.9
MUD MLR MLR
comp=Z,23µm,20.0s,MS6.6
MUD Monsted U'grnd 87.37 326⇑ *i*P P 02 04 49.1 +1.3
comp=Z,78nm,1.0s,mb5.9
MUD *e* 02 05 12.6
MUD *i* 02 10 19.8
MUD *i* S S 02 15 28.7 +4.6
MUD *i* 02 15 57.4
comp=Z,23µm,20.0s
MUGIO Muggio 87.38 316⇓ *e*P P 02 04 47.5 -0.6
SISB Singen-Sch Ber 87.43 317 P P 02 04 48.5 +0.2
WILA Wila 87.47 317⇑ *i*P P 02 04 48.8 +0.3
STEIN Stein am Rhein 87.50 317⇑ *e*P P 02 04 49.5 +0.9
SBA Scott Base 87.53 169 *e*P P 02 04 50.2 +2.0
SBA pmax pmax
comp=Z,149nm,1.2s,mb6.1
SBA MLR MLR
comp=Z,32µm,19.0s,MS6.8
SBA Scott Base 87.53 169 *e*P P 02 04 50.2 +2.0
comp=Z,149nm,1.2s,mb6.1
SBA LR LR
comp=Z,32µm,19.0s,MS6.8
TOD Tromm 87.54 319 *e*P P 02 04 49.9 +1.1
LBG Lerchenberg 87.55 318 P P 02 04 50.5 +1.7
SPAK Spaichingen 87.55 318 P P 02 04 50.4 +1.5
MUO Muotathal 87.66 317⇑ *i*P P 02 04 50.0 +0.6
PCP Pian Castagno 87.73 314 P P 02 04 49.1 -0.7
SLE Schleitheim 87.75 318⇑ *e*P P 02 04 49.6 -0.2
BNALP Bannalp 87.80 317⇑ *i*P P 02 04 50.6 +0.5
BFO Black Forest 87.86 318 P P 02 04 51.3 +1.0
BFO pmax pmax
comp=Z,39nm,1.1s,mb5.5
BFO Black Forest 87.86 318 *e*P P 02 04 51.3 +1.0
comp=Z,39nm,1.1s,mb5.5
BFO *e*S S 02 15 30.6 +1.7
FIN Finale Ligure 87.97 314 P P 02 04 51.2 +0.2
HASLI Hasliberg 87.99 317⇑ *e*P P 02 04 51.2 +0.2
SULZ Sulz-Cheisache 88.01 317⇑ *i*P P 02 04 51.2 +0.1
KTD Kalmit 88.01 319 *e*P P 02 04 52.1 +1.0
FELD Feldberg 88.08 318 *e*P P 02 04 51.9 +0.5

ORX Oropa 88.12 315 P P 02 04 51.7 0.0
MMK Mattmark 88.12 316⇑ P P 02 04 52.8 +1.1
KIZ Kirchzarten 88.14 318 P P 02 04 53.1 +1.4
LANF Langenberg 88.20 319 *e*P P 02 04 52.7 +0.7
IMI Imperia 88.21 314 P P 02 04 52.8 +0.6
MOL Molde 88.21 332⇑ *i*P P 02 04 54.9 +3.2
comp=Z,527nm,1.6s,mb6.5
MOL Molde 88.21 332⇑ *i*P P 02 04 54.9 +3.2
MOL AMb AMB 02 05 22.8
comp=Z,527nm,1.6s,mb6.5
ROB Roburent 88.21 314 P P 02 04 52.9 +0.8
STR Strasbourg 88.23 318 *e*P P 02 04 52.9 +0.8
BALST Balsthal 88.30 317⇑ *i*P P 02 04 52.3 -0.2
WIMIS Wimmis 88.35 316⇑ *i*P P 02 04 53.1 +0.3
ABH Alteburg 88.36 320 *e*P P 02 04 54.0 +1.3
LKBD Leukerbad 88.36 316⇑ *i*P P 02 04 53.5 +0.7
BBS Basel-Blauen 88.42 317 *e*P P 02 04 53.6 +0.5
SAOF Saorge 88.45 314 *e*P P 02 04 54.5 +1.2
WLS Welschbruch 88.51 318 *e*P P 02 04 53.8 +0.3
DIX Grande Dixence 88.51 316⇑ *e*P P 02 04 54.5 +1.0
SBF Sospel 88.53 314 *e*P P 02 04 53.9 +0.2
comp=Z,248nm,1.1s,mb6.2
SBF Sospel 88.53 314 *e*P P 02 04 53.9 +0.2
SBF pmax pmax
comp=Z,124nm,1.1s,mb6.2
AUTN L'Aution 88.54 314 *e*P P 02 04 54.0 +0.3
ENR Entracque 88.54 314 P P 02 04 56.0 +2.3
CDF Champ du Feu 88.56 318 *e*P P 02 04 53.2 -0.5
comp=Z,535nm,1.9s,mb6.2
CDF Champ du Feu 88.56 318 *e*P P 02 04 53.2 -0.5
CDF pmax pmax
comp=Z,268nm,1.9s,mb6.2
SENIN Lac Senin 88.58 316⇑ *i*P P 02 04 54.7 +0.8
REVF Revere 88.59 314 *e*P P 02 04 55.1 +1.2
STV Sta Anna Valdi 88.61 314 P P 02 04 54.1 +0.1
BOURR Bourrignon 88.61 317⇑ *e*P P 02 04 53.8 -0.2
RSP Reno Superiore 88.64 315 P P 02 04 53.5 -0.7
BHB Bricherasio 88.64 315 P P 02 04 56.0 +1.8
ECH Echery 88.64 318 *e*P P 02 04 54.2 +0.1
ABSA Djebel Ababsia 88.66 306 P P 02 04 59.0 +4.5
MOF Molkenrain 88.67 318 *e*P P 02 04 55.1 +0.9
TOUF Mont Tournerai 88.67 314 *e*P P 02 04 55.9 +1.6
RUP Ruppelstein 88.67 319 *e*P P 02 04 55.7 +1.5
CMAH Djebel Manchou 88.70 306 P P 02 04 58.0 +3.3
LSD Ceresole Reale 88.70 315 P P 02 04 56.0 +1.5
GRYON Gryon 88.72 316⇑ *i*P P 02 04 55.2 +0.7
MVIF Mont Vial 88.74 314 *e*P P 02 04 56.3 +1.6
WTSB Winterswijk 88.79 322⇑ *e*P P 02 04 55.5 +0.8
comp=Z,157nm,1.1s,mb6.3
WTSB *ex* x 02 05 08.3
BLS5 Blasjo 88.80 329 *e*P P 02 04 57.6 +3.0
TORNY Torny 88.81 317⇑ *e*P P 02 04 55.4 +0.5
AIGLE Aigle 88.82 316⇑ *i*P P 02 04 55.5 +0.5
WIT Witteveen 88.85 323⇑ *e*P P 02 04 56.4 +1.5
HINF Hinteralfeld 88.86 318 *e*P P 02 04 54.3 -0.8
comp=Z,609nm,1.9s,mb6.3
HINF Hinteralfeld 88.86 318 *e*P P 02 04 54.3 -0.8
HINF pmax pmax
comp=Z,305nm,1.9s,mb6.3
EMV Vieux Emosson 88.87 316⇑ *e*P P 02 04 55.9 +0.7
LOMF Lomont 88.88 317 *e*P P 02 04 56.4 +1.1
CALN Calern 88.93 314 *e*P P 02 04 56.9 +1.3
SURF Saint Ours 88.97 314 *e*P P 02 04 57.8 +2.0
RRL Cesana Torines 88.98 315 P P 02 04 56.9 +1.1
LPG La Plagne 88.98 315 *e*P P 02 04 56.0 +0.2
comp=Z,277nm,1.1s,mb6.2
LPG La Plagne 88.98 315 *e*P P 02 04 56.0 +0.2
LPG pmax pmax
comp=Z,138nm,1.1s,mb6.2
MBDF Montbardon 88.99 315 *e*P P 02 04 55.0 -0.9
comp=Z,608nm,1.8s,mb6.3
MBDF Montbardon 88.99 315 *e*P P 02 04 55.0 -0.9
MBDF pmax pmax
comp=Z,304nm,1.8s,mb6.3
LPL La Plagne 89.00 315 *e*P P 02 04 55.8 -0.1
comp=Z,493nm,1.3s,mb6.4
LPL La Plagne 89.00 315 *e*P P 02 04 55.8 -0.1
LPL pmax pmax
comp=Z,247nm,1.3s,mb6.4
FRF La Foret Royal 89.11 313 *e*P P 02 04 56.2 -0.3
comp=Z,825nm,1.6s,mb6.5
FRF La Foret Royal 89.11 313 *e*P P 02 04 56.2 -0.3
FRF pmax pmax
comp=Z,412nm,1.6s,mb6.5
BRANT Les Verrieres 89.14 317⇑ *e*P P 02 04 56.9 +0.4
CAEH 'Ain El Ouahch 89.15 307 P P 02 05 00.0 +3.2
HAU Haudompre 89.19 318 *e*P P 02 04 56.3 -0.4
comp=Z,674nm,1.6s,mb6.4
HAU *e*R
comp=Z,30µm,22.0s
HAU Haudompre 89.19 318 *e*P P 02 04 56.3 -0.4
HAU pmax pmax
comp=Z,337nm,1.6s,mb6.4
HAU MLR MLR
comp=Z,30µm,22.0s,MS6.7
LMR La Mourre 89.22 313 *e*P P 02 04 56.6 -0.4
comp=Z,538nm,1.6s,mb6.3
LMR La Mourre 89.22 313 *e*P P 02 04 56.6 -0.4
LMR pmax pmax
comp=Z,269nm,1.6s,mb6.3
CKFL Kef-Lekhel 89.27 306 P P 02 05 00.0 +2.6
WLF Walferdange 89.27 319 *e*P P 02 04 57.0 0.0
WLF pmax pmax
comp=Z,404nm,1.5s,mb6.5
WLF Walferdange 89.27 319 *e*P P 02 04 57.0 -0.1
comp=Z,404nm,1.5s,mb6.5
BER Bergen 89.33 330 *e*P P 02 04 59.1 +2.0
HGN Heimansgroeve 89.37 321 *e*S S 02 15 45.3 +2.4
HGN *ex* x 02 16 52.1
HGN *ex* x 02 17 58.1
HGN *e*SS SS 02 21 50.4 +8.9
HGN *e*SSS SSS 02 25 25.5 +10
CABF La Chapelle 89.41 316 *e*P P 02 04 57.8 0.0
comp=Z,707nm,1.6s,mb6.4
CABF La Chapelle 89.41 316 *e*P P 02 04 57.8 0.0
CABF pmax pmax
comp=Z,353nm,1.6s,mb6.4
THEF They Montfort 89.42 318 *e*P P 02 04 58.8 +1.0
GDM Grand'Maison 89.44 315 *e*P P 02 04 59.4 +1.4
CASM Ain Smara 89.45 306 P P 02 05 02.0 +3.7
CTEI Djebel Teioual 89.53 306 P P 02 05 03.0 +4.4
TAVF Tavernes 89.54 313 *e*P P 02 05 00.1 +1.6
ORIF Oris-en-Rattie 89.62 315 *e*P P 02 04 59.0 +0.2
comp=Z,408nm,1.4s,mb6.3
ORIF *e*R
comp=Z,19µm,20.8s
STOF St-Etienne Org 89.63 314 *e*P P 02 05 01.4 +2.5
GRN Grenoble 89.70 315 *e*P P 02 05 00.9 +1.7
VILF Villemus 89.78 314 *e*P P 02 05 01.6 +2.0
PUYF Puyloubier 89.80 313 *e*P P 02 05 01.6 +1.9
BERF Bertagne 89.82 313 *e*P P 02 05 01.6 +1.8
SMRF Simiane la Rot 89.88 314 *e*P P 02 05 00.4 +0.4
comp=Z,526nm,1.6s,mb6.3
DFRA Djebel Bou Aff 89.94 306 P P 02 05 05.0 +4.5
CMER Merouana 89.96 305 P P 02 05 04.0 +3.4
GELF Grande-Etoile 90.01 313 *e*P P 02 05 02.7 +2.0
TREF Trevaresse 90.03 313 *e*P P 02 05 02.7 +1.9
MEZF Maizieres J'vi 90.04 318 *e*P P 02 05 00.6 -0.1
comp=Z,1µm,1.9s,mb6.6
GIVF Givet 90.11 320 *e*P P 02 05 01.0 0.0
comp=Z,536nm,1.5s,mb6.3
GIVF Givet 90.11 320 *e*P P 02 05 01.0 0.0
GIVF pmax pmax
comp=Z,268nm,1.5s,mb6.3
NVL N'lazarevskaya 90.14 199⇓ *i*P P 02 05 03.4 +2.7
NVL *i* 02 05 10.0
NVL *i* *PP pP 02 05 14.1 +2.5
NVL *i* 02 15 53.2
NVL *e*SS SS 02 21 53.6 +1.1
NVL pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
PRAF Pradon 90.18 314 *e*P P 02 05 03.5 +2.0
CKHR Kef el Ahmar 90.25 306 P pP 02 05 15.0 +2.0
SET Setif 90.34 306 P pP 02 05 18.0 +4.6
TNA Tin City 90.42 24 PFAKE 02 05 10.0 +7.9
TNA LR LR
comp=Z,43µm,19.0s,MS6.9
VIVF Saint-Julien-l 90.48 315 *e*P P 02 05 02.8 -0.1
comp=Z,500nm,1.6s,mb6.3
VIVF Saint-Julien-l 90.48 315 *e*P P 02 05 02.8 -0.1
VIVF pmax pmax
comp=Z,250nm,1.6s,mb6.3
BAIF Baives 90.50 320 *e*P P 02 05 03.1 +0.3

comp=Z,607nm,1.4s,mb6.5
BAIF Baives 90.50 320 *e*P P 02 05 03.1 +0.3
BAIF pmax pmax
comp=Z,303nm,1.4s,mb6.4
LOR Lormes 90.91 317 *e*P P 02 05 04.6 -0.2
comp=Z,1µm,1.7s,mb6.6
LOR *e*R
comp=Z,21µm,22.5s
LOR Lormes 90.91 317 *e*P P 02 05 04.6 -0.2
LOR pmax pmax
comp=Z,608nm,1.7s,mb6.7
LOR MLR MLR
comp=Z,21µm,22.5s,MS6.5
SMF Signal de Mont 90.96 317 *e*P P 02 05 04.6 -0.5
comp=Z,563nm,1.5s,mb6.4
SMF Signal de Mont 90.96 317 *e*P P 02 05 04.6 -0.5
SMF pmax pmax
comp=Z,282nm,1.5s,mb6.4
LASF Ste Croix 91.11 314 *e*P P 02 05 06.0 +0.2
comp=Z,822nm,1.9s,mb6.4
PLDF La Plantade 91.15 316 *e*P P 02 05 08.6 +2.6
SSF Saint Saulge 91.16 317 *e*P P 02 05 05.9 -0.1
SSF pmax pmax
comp=Z,375nm,1.7s,mb6.4
SSF Saint Saulge 91.16 317 *e*P P 02 05 05.9 -0.1
comp=Z,375nm,1.7s,mb6.4
AFI Afiamalu 91.49 104 PFAKE 02 05 20.0 +12
AFI LR LR
comp=Z,10µm,22.0s,MS6.2
BGF Bois d'Agland 91.65 316 *e*P P 02 05 08.4 +0.1
comp=Z,818nm,1.5s,mb6.5
BGF Bois d'Agland 91.65 316 *e*P P 02 05 08.4 +0.1
BGF pmax pmax
comp=Z,409nm,1.5s,mb6.5
HYF Humbligny 91.73 317 *e*P P 02 05 09.1 +0.5
QSPA South Pole Qui 91.75 180 *e*P P 02 05 10.2 +2.2
comp=Z,40nm,0.8s,mb5.8
MENF Mencas 91.78 321 *e*P P 02 05 10.4 +1.6
EJON La Jonquera 91.92 312 P P 02 05 09.3 -0.4
comp=Z,458nm,3.4s
EJON PP PP 02 08 51.8 +0.1
TCF Toulx Ste Croi 92.11 316 *e*P P 02 05 10.5 +0.1
comp=Z,506nm,1.8s,mb6.3
TCF Toulx Ste Croi 92.11 316 *e*P P 02 05 10.5 +0.1
TCF pmax pmax
comp=Z,253nm,1.8s,mb6.2
FILF Fillols 92.16 313 *e*P P 02 05 11.6 +0.9
ETOS Mallorca 92.17 310 P P 02 05 13.2 +2.4
comp=Z,2µm,3.1s
ABA Alger-Bouzarea 92.21 307 P pP 02 05 21.0 -1.0
EMHD Djebel Mahouad 92.31 306 P pP 02 05 25.0 +2.4
CAF Calviac 92.33 315 *e*P P 02 05 11.7 +0.3
comp=Z,661nm,1.9s,mb6.3
CAF Calviac 92.33 315 *e*P P 02 05 11.7 +0.3
CAF pmax pmax
comp=Z,331nm,1.9s,mb6.3
MTLF Montolieu 92.35 313 *e*P P 02 05 11.7 +0.2
comp=Z,986nm,1.9s,mb6.5
MTLF Montolieu 92.35 313 *e*P P 02 05 11.7 +0.2
MTLF pmax pmax
comp=Z,493nm,1.9s,mb6.5
RJF Les Rejaudoux 92.68 315 *e*P P 02 05 13.4 +0.4
comp=Z,936nm,1.9s,mb6.6
RJF *e*R
comp=Z,23µm,22.5s
RJF Les Rejaudoux 92.68 315 *e*P P 02 05 13.4 +0.4
RJF pmax pmax
comp=Z,468nm,1.9s,mb6.6
RJF MLR MLR
comp=Z,23µm,22.5s,MS6.6
EMIR Miracle 92.98 312 P P 02 05 15.0 +0.5
comp=Z,2µm,3.8s
EMIR PP PP 02 08 59.8 -0.3
LFF La Frestale 93.26 315 *e*P P 02 05 16.1 +0.4
comp=Z,668nm,1.7s,mb6.5
LFF La Frestale 93.26 315 *e*P P 02 05 16.1 +0.4
LFF pmax pmax
comp=Z,334nm,1.7s,mb6.5
EPOB Poblet 93.36 311 P P 02 05 16.2 0.0
comp=Z,818nm,4.3s
EPOB PP PP 02 09 03.2 0.0
JMIC Jan Mayen 93.36 342 P P 02 05 16.1 +0.5
comp=Z,51nm,0.4s,mb6.3,baz=104,slow=2.9,SNR=2.1
JMIC LR LR 02 52 50.3
comp=Z,24µm,19.4s,MS6.7,baz=246,slow=39
JMIC Jan Mayen 93.36 342⇑ *i*P P 02 05 17.9 +2.4
JMIC LR LR
comp=Z,22057µm,23.2s
JMIC Jan Mayen 93.36 342⇑ *i*P P 02 05 17.9 +2.4
JMIC *e*SS SS 02 22 38.0 -0.6
JMIC AMS AMS 02 53 28.8
comp=Z,22µm,23.2s,MS6.5
EIBI Ibiza 93.37 309 P P 02 05 17.3 +1.0
comp=Z,1µm,4.3s
EBNR Beni Rached 93.45 306 P sP 02 05 35.0 +3.7
LCP Cassop 93.50 325 *e*P P 02 05 17.7 +1.1
LCP AMb AMB 02 05 22.0
comp=Z,180nm,2.0s,mb6.2
ECHA Ech Chlef 93.60 306 P pP 02 05 32.0 +3.6
FLN La Foliniere 93.67 319 *e*P P 02 05 17.3 -0.1
comp=Z,310nm,1.6s,mb6.2
FLN *e*R
comp=Z,24µm,21.0s
FLN La Foliniere 93.67 319 *e*P P 02 05 17.3 -0.1
FLN pmax pmax
comp=Z,155nm,1.6s,mb6.2
FLN MLR MLR
comp=Z,24µm,21.0s,MS6.6
MFF Saint Martin d 93.70 317 *e*P P 02 05 17.5 -0.1
comp=Z,547nm,1.7s,mb6.4
MFF Saint Martin d 93.70 317 *e*P P 02 05 17.5 -0.1
MFF pmax pmax
comp=Z,274nm,1.7s,mb6.4
HPK Haverah Park 93.70 324 *e*P P 02 05 18.8 +1.4
HPK AMb AMB 02 05 28.0
comp=Z,295nm,1.4s,mb6.5
EPF Esparros 93.74 313 *e*P P 02 05 17.8 -0.1
comp=Z,191nm,1.7s,mb6.0
EPF Esparros 93.74 313 *e*P P 02 05 17.8 -0.1
EPF pmax pmax
comp=Z,95nm,1.7s,mb6.0
KBI1 Birley Grange 93.74 323 *e*P P 02 05 18.6 +0.9
KBI1 AMb AMB 02 05 23.8
comp=Z,143nm,1.6s,mb6.2
EBR Ebro Roquetas 93.85 311 *e*P P 02 05 21.8 +3.4
LHO Holmfirth 93.89 324 *e*P P 02 05 19.6 +1.3
LHO AMb AMB 02 05 19.6
comp=Z,66nm,1.6s,mb5.8
EBIE Bielsa 93.92 313 P P 02 05 20.0 +1.3
comp=Z,875nm,3.9s
GRR Gorron 93.97 319 *e*P P 02 05 18.7 -0.1
comp=Z,399nm,1.9s,mb6.2
GRR Gorron 93.97 319 *e*P P 02 05 18.7 -0.1
GRR pmax pmax
comp=Z,200nm,1.9s,mb6.2
KWE Weaver Farm 93.97 323 *e*P P 02 05 20.1 +1.4
KWE AMb AMB 02 05 22.3
comp=Z,114nm,1.9s,mb6.0
DAG Danmarks Havn 93.99 348*j* *i*P P 02 05 18.1 -0.2
DAG pmax pmax
comp=Z,25nm,0.7s,mb5.8
DAG MLR MLR
comp=N,35µm,20.0s,MS6.9
DAG MLR MLR
comp=Z,51µm,20.0s,MS7.0
DAG MLR MLR
comp=E,24µm,21.0s,MS6.9
DAG Danmarks Havn 93.99 348 *i* Pdu 02 05 18.1
comp=E,25nm,0.7s
DAG *i* 02 05 44.0
DAG LR LR
comp=Z,51µm,20.0s,MS7.0
DAG Danmarks Havn 93.99 348*j* *i*P P 02 05 18.1 -0.2
comp=Z,25nm,0.7s,mb5.8
DAG *i* 02 05 44.0
comp=Z,51µm,20.0s
EDI Edinburgh 94.29 326 *e*P P 02 05 22.3 +2.2
EDI AMb AMB 02 05 28.1
comp=Z,37nm,3.3s
ESK Eskdalemuir 94.40 326 PFAKE 02 05 30.0 +9.4
ESK LR LR
comp=Z,6µm,22.0s,MS6.0
ETSF Etsaut 94.41 313 *e*P P 02 05 21.7 +0.8
comp=Z,72nm,1.0s,mb5.7
ETSF Etsaut 94.41 313 *e*P P 02 05 21.7 +0.8
ETSF pmax pmax

comp=Z,36nm,1.0s,mb5.8
ESAC San Caprasio 94.48 312 P **P** **02 05 21.5 +0.2**
comp=Z,675nm,3.3s
EBEN Beniarda 94.62 309 P **P** **02 05 23.9 +1.9**
comp=Z,859nm,3.3s
EMOS Mosqueruela 94.63 311 P **P** **02 05 23.8 +1.8**
comp=Z,1µm,3.9s
SNAA Sanae 94.85 198 *e* **P** **02 05 32.9 +11**
SNAA Sanae 94.85 198 *e* **P** **02 05 36.4 +14**
SNAA Sanae 94.85 198 *e* Px 02 10 12.1
SNAA Sanae 94.85 198 *e* Px 02 10 15.3
SNAA Sanae 94.85 198 *i/*P **P** **02 05 22.8 +0.5**
SNAA Sanae 94.85 198 LR LR 02 43 43.3
comp=Z,8µm,19.2s,MS6.2,baz=102,slow=33
SNAA Sanae 94.85 198 *i/*P **P** **02 05 24.9 +2.6**
SNAA *e* pP 02 05 32.9 -0.4
SNAA *e* pP 02 05 36.4 +3.1
SNAA *e* 02 09 15.0
SNAA *e* 02 10 01.4
SNAA *e* 02 10 12.1
SNAA *e* 02 10 15.3
SJPF Ste Jean 94.87 313 *e*P **P** **02 05 23.8 +0.7**
comp=Z,426nm,1.9s,mb6.2
SJPF Ste Jean 94.87 313 *e*P **P** **02 05 23.8 +0.7**
SJPF pmax pmax
comp=Z,213nm,1.9s,mb6.2
EALK Alkurruntz 95.06 313 P **P** **02 05 25.0 +1.0**
comp=Z,873nm,4.3s
SGMF Saint Gilles 95.11 319 *e*P **P** **02 05 23.6 -0.4**
EMUR La Murta 95.51 308 P **P** **02 05 25.4 -0.6**
comp=Z,510nm,4.9s
SDPT Sand Point 95.56 34 *e*P **P** **02 05 26.3 +0.5**
comp=Z,116nm,1.1s,mb6.2
QUIF Quistinic 95.56 318 *e*P **P** **02 05 25.4 -0.7**
ROSF Rostrenen 95.57 319 *e*P **P** **02 05 25.7 -0.4**
comp=Z,64nm,1.2s,mb5.6
ROSF Rostrenen 95.57 319 *e*P **P** **02 05 25.7 -0.4**
ROSF pmax pmax
comp=Z,32nm,1.2s,mb5.6
ETOB Tobarra 95.65 309 P **P** **02 05 27.4 +0.6**
comp=Z,992nm,5.0s
TTA Tatalina 96.01 26 *e*P **P** **02 05 29.0 +1.3**
IMA Indian Mountai 96.05 23 *e*P **P** **02 05 28.3 +0.5**
IMA pmax pmax
comp=Z,2µm,1.5s
IMA Indian Mountai 96.05 23 *e*P **P** **02 05 28.8 +1.0**
comp=Z,32nm,1.0s,mb5.7
VNA2 Neumayer--Watz 96.43 199 *e* **P** **02 05 39.7 +10**
VNA2 Neumayer--Watz 96.43 199 *e* **P** **02 05 43.8 +14**
VNA2 Neumayer--Watz 96.43 199 *e* Px 02 10 09.4
VNA2 Neumayer--Watz 96.43 199 *e* Px 02 10 19.5
VNA2 Neumayer--Watz 96.43 199 *e* Px 02 10 22.2
VNA2 Neumayer--Watz 96.43 199 *i/*P **P** **02 05 33.0 +3.5**
VNA2 *e* 02 05 39.7
VNA2 *e* pP 02 05 43.8 +3.3
VNA2 *e* 02 09 25.5
VNA2 *e* 02 10 09.4
VNA2 *e* 02 10 19.5
VNA2 *e* 02 10 22.2
ELAN Lanestosa 96.46 314 P **P** **02 05 30.4 +0.2**
comp=Z,912nm,4.2s
SVW2 Sparrevohn 96.71 28 *e*P **P** **02 05 32.6 +1.6**
VNA1 Neumayer--Stat 96.78 199 *e* **P** **02 05 41.7 +11**
VNA1 Neumayer--Stat 96.78 199 *e* **P** **02 05 45.7 +15**
VNA1 Neumayer--Stat 96.78 199 *e* Px 02 10 09.0
VNA1 Neumayer--Stat 96.78 199 *e* Px 02 10 18.4
VNA1 Neumayer--Stat 96.78 199 *e* Px 02 10 21.3
VNA1 Neumayer--Stat 96.78 199 *i/*P **P** **02 05 35.1 +4.0**
VNA1 *e* 02 05 41.7
VNA1 *e* pP 02 05 45.7 +3.7
VNA1 *e* 02 09 33.4
VNA1 *e* 02 10 09.0
VNA1 *e* 02 10 18.4
VNA1 *e* 02 10 21.3
EQES Quesada 96.95 308 P **P** **02 05 31.4 -1.2**
comp=Z,913nm,4.9s
EQES PP PP 02 09 27.8 -3.2
VNA3 Neumayer Olymp 97.07 198 *e* **P** **02 05 39.7 +7.3**
VNA3 Neumayer Olymp 97.07 198 *e* **P** **02 05 43.7 +11**
VNA3 Neumayer Olymp 97.07 198 *e* Px 02 10 09.6
VNA3 Neumayer Olymp 97.07 198 *e* Px 02 10 19.2
VNA3 Neumayer Olymp 97.07 198 *e* Px 02 10 22.5
VNA3 Neumayer Olymp 97.07 198 *e*P **P** **02 05 33.1 +0.7**
VNA3 *e* 02 05 39.7
VNA3 *e* pP 02 05 43.7 +0.3
VNA3 *e* 02 09 31.3
VNA3 *e* 02 10 09.6
VNA3 *e* 02 10 19.2
VNA3 *e* 02 10 22.5
ESDC Sonseca Array 97.38 310 P **P** **02 05 34.0 -0.5**
comp=Z,2.1nm,0.8s,baz=58,slow=3.9,SNR=4.8
ESDC PKKPbc 02 22 13.4
comp=Z,1.1nm,0.7s,baz=257,slow=2.8,SNR=5.2
ESDC Sonseca Array 97.38 310 P **P** **02 05 34.5 0.0**
comp=Z,76nm,5.7s
ESLA Sonseca Array 97.38 310 PFAKE 02 05 50.0 +15
ESLA LR LR
comp=Z,49µm,20.0s,MS7.0
SCO Scoresbysund 97.68 343 *i* P **P** **02 05 38.6 +3.4**
SCO *i* S 02 16 11.6
EADA Adamuz 98.08 309 P **P** **02 05 39.0 +1.3**
comp=Z,437nm,4.2s
SPU Mount Spurr 98.32 27 *e*P **P** **02 05 38.5 +0.2**
EMIJ Mijas 98.47 307 P **P** **02 05 38.9 -0.6**
comp=Z,202nm,4.0s
EMIJ PP PP 02 09 39.8 -3.0
COLA College 98.75 23 Pdiff **P** **02 05 39.7 -0.4**
EPON Pontenova 99.11 314 P **P** **02 05 43.1 +0.8**
comp=Z,911nm,3.5s
ILAR Eielson Array 99.17 23 P **P** **02 05 39.2 -2.7**
comp=Z,2.0nm,0.9s,baz=280,slow=4.4,SNR=13
ILAR PP PP 02 09 36.0 -11
comp=Z,6.6nm,0.9s,baz=290,slow=7.8,SNR=6.5
ILAR PKKPbc 02 22 07.8
comp=Z,1.2nm,0.8s,baz=142,slow=2.1,SNR=7.7
ILAR LR LR 02 57 03.5
comp=Z,42µm,18.5s,MS7.0,baz=329,slow=39
FIB Fire Island 99.18 27 PFAKE 02 05 50.0 +7.9
FIB LR LR
comp=Z,26µm,20.0s,MS6.7
VAL Valentia 99.21 323 *i*S S 02 17 09.8 +2.0
ESPR Espera 99.28 308 P **P** **02 05 43.9 +0.7**
comp=Z,336nm,4.9s
ESPR PP PP 02 09 46.6 -2.1
EMIN Mina Concepcio 99.78 309 P **P** **02 05 46.2 +0.7**
comp=Z,499nm,4.1s
EMIN PP PP 02 09 51.6 -1.0
PVRL Vila Real 99.92 312 *e*P **P** **02 05 51.3 +5.2**
MTE Manteigas 99.97 311 *e*P **P** **02 05 51.3 +5.0**
MTE Manteigas 99.97 311 *e*PP PP 02 09 58.6 +4.5
MTE *e*S S 02 17 16.7 +2.3
MTE Manteigas 99.97 311 *e*LQ 02 33 13.1
MTE *e*LR LR 02 37 22.3
comp=Z,13µm,19.8s
PCBR Castelo Branco 100.02 311 *e*P P 02 05 50.7 +4.2
PCBR Castelo Branco 100.02 311 *e*PP PP 02 09 57.1 +2.6
ELOB Lobios 100.06 313 P P 02 05 46.6 0.0
comp=Z,393nm,5.6s
PVIS Viseu 100.17 312 *e*P P 02 05 52.0 +4.8
EGRO El Granado 100.45 309 P P 02 05 49.6 +1.0
comp=Z,308nm,4.9s
EGRO PP PP 02 09 55.1 -2.9
PBEJ Beja 100.66 309 *e*P P 02 05 53.4 +3.9
PBEJ Beja 100.66 309 *e*PP PP 02 10 03.2 +3.5
PTOM Tomar 100.77 311 *e*P P 02 05 54.4 +4.5
DIV Divide 101.16 26 *e*Pdif P 02 05 51.5 +0.4
comp=Z,189nm,1.5s
DIV LR LR
comp=Z,99µm,22.0s,MS7.3
EYAK Cordova Ski Ar 101.42 27 *e*Pdif P 02 05 51.8 -0.5
PTEO Sao Teotonio 101.42 309 *e*P P 02 05 58.5 +5.6
PTEO Sao Teotonio 101.42 309 *e*PP PP 02 10 08.3 +3.0
PLOU Loures 101.48 310 *e*P P 02 05 58.2 +5.1
DBIC Dimbokro 101.68 277 P P 02 05 53.5 -1.1
DBIC 02 10 00.9
DBIC S 02 16 28.3
DBIC pmax pmax
comp=Z,4.0nm,1.0s
DBIC pmax pmax
comp=Z,4.0nm,0.9s
DBIC Dimbokro 101.68 277 P P 02 05 53.5 -1.1
comp=Z,4.1nm,1.0s,baz=63,slow=2.3,SNR=2.5
DBIC PP PP 02 10 00.9 -6.9
comp=Z,4.2nm,0.9s,baz=38,slow=8.8,SNR=3.3
DBIC S 02 16 28.3
comp=Z,1.7nm,0.8s,baz=268,slow=21,SNR=2.1
DBIC PKKPbc 02 22 03.1
comp=Z,3.7nm,0.9s,baz=85,slow=4.1,SNR=3.1
INK Inuvik 101.92 17 *e*P P 02 05 54.8 +0.4
INK pmax pmax
comp=Z,131nm,1.7s
INK Inuvik 101.92 17 P P 02 05 54.1 -0.2
comp=Z,4.0nm,0.8s,baz=297,slow=8.9,SNR=7.2
INK Inuvik 101.92 17 *e*Pdif P 02 05 54.8 +0.4
comp=Z,131nm,1.7s
RAR Rarotonga 102.87 111 PFAKE 02 06 10.0 +10
RAR LR LR
comp=Z,16µm,21.0s,MS6.5
KIP Kipapa 103.15 68 PFAKE 02 06 10.0 +9.1
KIP LR LR
comp=Z,12µm,20.0s,MS6.4
POHA Pohakuloa 105.67 69 PFAKE 02 10 40.0
POHA LR LR
comp=Z,103µm,20.0s,MS7.4
TRIS Tristan da Cun 106.56 232 PFAKE 02 10 40.0
TRIS LR LR
comp=Z,18µm,20.0s,MS6.6
SFJD Kangerlussuaq 107.66 347 *i* P PP 02 10 39.9 -11
SFJD *i* 02 16 56.1
SFJD *i* 02 20 03.4
SFJD *e*S SS 02 25 54.5 -2.3
comp=Z,10µm,20.0s
SIT Sitka 107.85 27 PFAKE 02 10 40.0
SIT LR LR
comp=Z,46µm,19.0s,MS7.1
YKA Yellowknife Ar 111.53 15 PKKPab 02 21 38.9
comp=Z,1.3nm,0.8s,baz=135,slow=3.7,SNR=3.6
PSMN Pico do Norte, 114.05 312 *e*SS SS 02 27 32.2 +9.3
CMLA Cha da Macela 114.09 313 PFAKE 02 10 50.0 +11
CMLA LR LR
comp=Z,4µm,19.0s,MS6.0
BBB Bella Bella 114.12 29 PP PP 02 11 32.2 -6.7
comp=Z,9.5nm,0.9s,baz=186,slow=23,SNR=2.4
ADH Angra Heroismo 114.97 315 *e*PS PS 02 21 42.5 +22
ADH Angra Heroismo 114.97 315 *i* rx 02 48 25.0
PMSA Palmer Station 115.71 189 PFAKE 02 11 00.0 +18
PMSA LR LR
comp=Z,46µm,20.0s,MS7.1
OCWA Octopus Mounta 118.92 31 PFAKE 02 11 00.0 +12
OCWA LR LR
comp=Z,23µm,19.0s,MS6.8
EDM Edmonton 119.53 21 PKIKP PKPdf 02 10 51.7 +2.2
EDM *e* 02 11 04.2
EDM Edmonton 119.53 21 *e*PKPdf PKPdf 02 10 51.6 +2.1
COR Corvallis 121.45 33 PFAKE 02 11 10.0 +17
COR LR LR
comp=Z,5µm,21.0s,MS6.1
FFC Flin Flon 121.49 13 PFAKE 02 11 10.0 +17
FFC LR LR
comp=Z,6µm,19.0s,MS6.2
NEW Newport 121.92 26 PKIKP PKPdf 02 10 55.0 +0.9
NEW 02 12 26.3
NEW pmax pmax
comp=Z,10.0nm,0.9s
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW Newport 121.92 26 PKP PKPdf 02 10 55.0 +0.9
comp=Z,9.8nm,0.9s,baz=253,slow=0.2,SNR=14
NEW PP PP 02 12 26.3 -6.3
comp=Z,7.0nm,1.0s,baz=2.1,slow=5.3,SNR=1.7
SCHQ Schefferville 122.02 349 PKP PKPdf 02 10 54.5 +0.4
comp=Z,9.9nm,0.8s,baz=48,slow=3.5,SNR=14
SCHQ PP PP 02 12 27.0 -6.1
comp=Z,6.5nm,0.9s,baz=23,slow=13,SNR=2.3
SCHQ Schefferville 122.02 349 PKP PKPdf 02 10 54.5 +0.4
SCHQ PP PP 02 12 27.0 -6.1
SCHQ LR LR
comp=Z,39µm,21.0s,MS7.0
HUMO Hull Mountain 122.92 34 *e*PKPdf PKPdf 02 10 55.6 -0.7
HUMO LR LR
comp=Z,14µm,20.0s,MS6.6
KHMM Horse Mountain 123.56 37 *e*PKPdf PKPdf 02 11 00.4 +2.9
YBH Yreka Blue Hor 123.62 35 PKIKP PKPdf 02 11 00.5 +2.9
YBH 02 12 37.4
YBH pmax pmax
comp=Z,3.0nm,0.8s
YBH pmax pmax
comp=Z,2.0nm,0.7s
YBH Yreka Blue Hor 123.62 35 PKP PKPdf 02 11 00.5 +2.8
comp=Z,2.8nm,0.8s,baz=336,slow=4.8,SNR=6.5
YBH PP PP 02 12 37.4 -7.2
comp=Z,1.9nm,0.7s,baz=59,slow=15,SNR=1.1
BMO Blue Mountains 124.36 29 *e*PKIKP PKPdf 02 11 01.4 +2.4
BMO MLR MLR
comp=Z,26µm,21.0s,MS6.9
MSO Missoula 124.41 25 *e*PKPdf PKPdf 02 10 58.8 -0.3
MSO LR LR
comp=Z,37µm,20.0s,MS7.0
WDC Whiskeytown Da 124.45 36 PFAKE 02 11 10.0 +11
WDC LR LR
comp=Z,23µm,20.0s,MS6.8
CHMT Chamberlain Mo 124.63 25 *e*PKPdf PKPdf 02 11 00.5 +1.1
MOD Modoc 124.86 34 *e*PKPdf PKPdf 02 11 02.6 +2.6
MOD LR LR
comp=Z,18µm,19.0s,MS6.8
HOPS Hopland 125.12 38 PFAKE 02 11 10.0 +9.4
HOPS LR LR
comp=Z,15µm,20.0s,MS6.7
HRY Holter Researc 125.38 24 *e*PKPdf PKPdf 02 11 03.4 +2.5
WVOR Wild Horse Val 125.40 32 *e*PKIKP PKPdf 02 11 03.4 +2.3
WVOR MLR MLR
comp=Z,34µm,19.0s,MS7.0
USHA Ushuaia 125.85 190 PKP PKPdf 02 11 03.4 +1.8
comp=Z,12nm,0.8s,baz=316,slow=7.1,SNR=3.6
BEKR Beckwourth 126.19 35 *e*PKPdf PKPdf 02 11 04.6 +2.0
BOZ Bozeman (W) 126.32 25 *e*PKPdf PKPdf 02 11 04.0 +1.3
BOZ LR LR
comp=Z,53µm,19.0s,MS7.2
MCMT McKenzie Canyo 126.45 26 *e*PKPdf PKPdf 02 11 04.0 +1.0
DGMT Dagmar 126.60 18 *e*PKPdf PKPdf 02 11 04.1 +0.8
DGMT LR LR
comp=Z,84µm,19.0s,MS7.4
HLID Hailey 126.70 28 *e*PKPdf PKPdf 02 11 05.0 +1.4
HLID LR LR
comp=Z,63µm,19.0s,MS7.3
ULM Lac du Bonnet 126.95 10 PKP PKPdf 02 11 03.8 -0.1
comp=Z,25nm,0.8s,baz=355,slow=3.2,SNR=23
ULM PP PP 02 12 53.8 -12
comp=Z,5.1nm,0.7s,baz=338,slow=5.4,SNR=1.8
QLMT Earthquake Lak 127.06 25 *e*PKPdf PKPdf 02 11 05.9 +1.7
CMB Columbia Colle 127.36 37 *e*PKIKP PKPdf 02 11 06.3 +1.3
CMB MLR MLR
comp=Z,20nm,21.0s,MS6.8
SAO San Andreas Ge 127.50 39 PFAKE 02 11 20.0 +15
SAO LR LR
comp=Z,16µm,20.0s,MS6.7
LAO LASA Array 127.51 20 *e*PKPdf PKPdf 02 11 07.3 +2.3
LAO LR LR
comp=Z,29µm,20.0s,MS7.0
BMN Battle Mountai 127.56 33 PFAKE 02 11 20.0 +15
BMN LR LR
comp=Z,24µm,19.0s,MS6.9
YFT Old Faithful 127.62 25 *e*PKPdf PKPdf 02 11 09.7 +4.4
LKWY Lake 127.71 25 PFAKE 02 11 20.0 +15
LKWY LR LR
comp=Z,140µm,19.0s,MS7.7
IMW Indian Meadow 128.02 26 *e*PKPdf PKPdf 02 11 08.1 +2.0
RRI2 Red Ridge 128.29 26 *e*PKPdf PKPdf 02 11 09.8 +3.1
NVAR Mina Array Bea 128.33 35 PKP PKPdf 02 11 09.2 +2.3
comp=Z,7.2nm,0.8s,baz=192,slow=0.7,SNR=22
NVAR PP PP 02 13 12.8 -3.0
comp=Z,2.0nm,0.8s,baz=73,slow=33,SNR=2.3
NVAR Mina Array Bea 128.33 35 PKP PKPdf 02 11 09.2 +2.3
NVAR PP PP 02 13 12.8 -3.0
ELK Elko 128.39 31 PFAKE 02 11 20.0 +13
ELK LR LR
comp=Z,21µm,21.0s,MS6.8
MNV Mina 128.42 35 PFAKE 02 11 20.0 +13
MNV LR LR
comp=Z,16µm,20.0s,MS6.7
OMM Old Mammoth Mi 128.47 37 *e*PKPdf PKPdf 02 11 10.9 +3.7
HVU Hansel Valley 128.85 29 PKIKP PKPdf 02 11 11.2 +3.5
HVU Hansel Valley 128.85 29 *e*PKPdf PKPdf 02 11 11.2 +3.5
AHID Auburn Hatcher 128.85 27 PFAKE 02 11 20.0 +12
AHID LR LR
comp=Z,61µm,19.0s,MS7.3
PTCN Pitcairn Islan 128.97 121 PFAKE 02 11 20.0 +12
PTCN LR LR
comp=Z,26µm,21.0s,MS6.9
TPH Tonopah 129.20 35 *e*PKPdf PKPdf 02 11 12.4 +3.9
TPH LR LR
comp=Z,12µm,19.0s,MS6.6
BGU Big Grassy Mou 129.38 30 *e*PKPdf PKPdf 02 11 12.4 +3.6
BW06 Boulder Array 129.53 25 *e*PKPdf PKPdf 02 11 11.7 +2.7
BW06 LR LR
comp=Z,31µm,19.0s,MS7.0
PDAR Pinedale Array 129.53 25 PKP PKPdf 02 11 11.2 +2.3
comp=Z,4.6nm,0.6s,baz=180,slow=0.9,SNR=27
PDAR PP PP 02 13 20.2 -3.2
comp=Z,3.1nm,0.9s,baz=315,slow=3.8,SNR=3.0
HWUT Hardware Ranch 129.55 28 *e*PKPdf PKPdf 02 11 12.2 +3.2
HWUT LR LR
comp=Z,35µm,19.0s,MS7.1
PQI Presque Isle 129.98 347 PFAKE 02 11 20.0 +10
PQI LR LR
comp=Z,84µm,19.0s,MS7.5
CTU Camp Tracy 130.18 29 *e*PKPdf PKPdf 02 11 13.8 +3.5
DAC Darwin (Calif) 130.19 37 *e*PKIKP PKPdf 02 11 13.7 +3.2
DAC MLR MLR
comp=Z,20µm,22.0s,MS6.8
RSSD Black Hills 130.51 20 PKPdf PKPdf 02 11 12.0 +1.2
RSSD PP PP 02 13 23.8 -6.0
RSSD SKPbc 02 14 32.6
RSSD Black Hills 130.51 20 PFAKE 02 11 20.0 +9.2
RSSD LR LR
comp=Z,9µm,19.0s,MS6.5
NLU North Lily Min 130.59 30 *e*PKPdf PKPdf 02 11 15.0 +3.9
DAU Daniels Canyon 130.63 29 *e*PKIKP PKPdf 02 11 14.2 +3.0
MWC Mount Wilson 131.25 39 *e*PKIKP PKPdf 02 11 15.2 +2.7
TMUT Trail Mountain 131.52 29 *e*PKPdf PKPdf 02 11 16.2 +3.3
MVU Marysvale 131.62 31 PFAKE 02 11 30.0 +17
MVU LR LR
comp=Z,31µm,20.0s,MS7.0
MSU Marysvale 131.63 31 *e*PKIKP PKPdf 02 11 16.3 +3.2
NEN Nelson 132.25 36 *e*PKPdf PKPdf 02 11 18.0 +3.7
WVL Waterville 132.34 347 *e*PKPdf PKPdf 02 11 16.9 +2.6
WVL LR LR
comp=Z,131µm,20.0s,MS7.6
PFO Pinyon Flat Ob 132.66 39 PFAKE 02 11 30.0 +15
PFO LR LR
comp=Z,3µm,20.0s,MS6.0
MSNY Massena 132.85 352 *e*PKPdf PKPdf 02 11 12.9 -2.3
RCBR Riachuelo 132.98 264 PFAKE 02 11 30.0 +14
RCBR LR LR
comp=Z,20µm,19.0s,MS6.9
BAR Barrett 133.13 40 *e*PKPdf PKPdf 02 11 20.4 +4.3
ISCO Idaho Springs 133.64 24 PFAKE 02 11 30.0 +13
ISCO LR LR
comp=Z,63µm,19.0s,MS7.3
HNH Hanover 133.70 349 *e*PKPdf PKPdf 02 11 21.2 +4.3
PV01 Paradox Valley 133.71 28 *e*PKPdf PKPdf 02 11 19.9 +2.9
ACCN Adirondack Com 134.25 351 *e*PKPdf PKPdf 02 11 21.1 +3.2
HRV Harvard--Oak R 134.72 348 *e*PKIKP PKPdf 02 11 20.3 +1.5
HRV MLR MLR
comp=Z,30µm,20.0s,MS7.0
WES Weston 134.78 348 *e*PKIKP PKPdf 02 11 21.9 +3.0
WES MLR MLR
comp=Z,39µm,20.0s,MS7.1
QUA2 Belchertown 135.09 349 *e*PKPdf PKPdf 02 11 21.2 +1.8
GENY Geneseo 135.39 355 *e*PKPdf PKPdf 02 11 21.5 +1.5
SDCO Great Sand Dun 135.42 26 PFAKE 02 11 30.0 +10
SDCO LR LR
comp=Z,46µm,21.0s,MS7.2
BINY Binghamton 135.75 353 PFAKE 02 11 30.0 +9.3
BINY LR LR
comp=Z,44µm,19.0s,MS7.2
CBKS Cedar Bluff 136.69 19 PFAKE 02 11 40.0 +17
CBKS LR LR
comp=Z,48µm,19.0s,MS7.2
TUC Tucson 136.99 36 PFAKE 02 11 40.0 +17
TUC LR LR
comp=Z,21µm,20.0s,MS6.9
ANMO Albuquerque 137.27 29 PKPdf PKPdf 02 11 14.3 -9.4
ANMO PKPdf PKPdf 02 11 26.0 +2.3
ANMO Albuquerque 137.27 29 PFAKE 02 11 40.0 +16
ANMO LR LR
comp=Z,44µm,20.0s,MS7.2
KSU1 Kansas State U 137.37 16 *e*PKPdf PKPdf 02 11 25.8 +2.0
LENM Lemitar 137.65 30 *e*PKPdf PKPdf 02 11 27.3 +2.9
AMTX Amarillo 139.46 24 *e*PKPdf PKPdf 02 11 30.4 +2.7
AMTX LR LR
comp=Z,30µm,19.0s,MS7.0
CCM Cathedral Cave 139.59 10 PFAKE 02 11 40.0 +12
CCM LR LR
comp=Z,7µm,19.0s,MS6.4
CBN Corbin 139.86 353 PFAKE 02 11 40.0 +12
CBN LR LR
comp=Z,42µm,19.0s,MS7.2
MNTX Cornudas Mount 140.41 31 *e*PKPpre 02 11 24.3
MNTX *e*PKPdf PKPdf 02 11 33.6 +4.2
MNTX LR LR
comp=Z,52µm,19.0s,MS7.3
GDL2 Guadalupe Moun 140.52 29 *e*PKPpre 02 11 23.2
GDL2 *e*PKPdf PKPdf 02 11 31.5 +1.8
WMOK Wichita Mounta 140.70 21 PFAKE 02 11 40.0 +10
WMOK LR LR
comp=Z,34µm,19.0s,MS7.1
CLNB Carlsbad 140.70 29 *e*PKPpre 02 11 25.4
FWV Forest Hill 140.76 357 *e*PKPpre 02 11 23.8
FWV *e*PKPdf PKPdf 02 11 31.3 +1.3
BLA Blacksburg 141.11 357 PFAKE 02 11 40.0 +9.4
BLA LR LR
comp=Z,40µm,20.0s,MS7.2
BBSR BB Station 141.89 335 PFAKE 02 11 50.0 +18
BBSR LR LR
comp=Z,13µm,19.0s,MS6.7
WVT Waverly 141.97 7 PFAKE 02 11 50.0 +18
WVT LR LR
comp=Z,40µm,20.0s,MS7.2
BDFB Brasilia 142.99 246 PKIKP PKPdf 02 11 33.8 -0.6
BDFB 02 14 41.0
BDFB pmax pmax
comp=Z,17nm,0.8s
BDFB pmax pmax
comp=Z,6.0nm,0.8s
BDFB Brasilia 142.99 246 PKP PKPdf 02 11 33.8 -0.5
comp=Z,16nm,0.8s,baz=182,slow=5.2,SNR=12
BDFB PP PP 02 14 41.0 -7.1
comp=Z,6.2nm,0.8s,baz=316,slow=14,SNR=1.7
PLAL Pickwick Lake 143.08 7 PFAKE 02 11 50.0 +18
PLAL LR LR
comp=Z,40µm,20.0s,MS7.2
TXAR Lajitas Array 143.19 31 PKIKP PKPdf 02 11 32.3 -2.1
TXAR 02 14 47.4
TXAR pmax pmax
comp=Z,5.0nm,0.6s
TXAR pmax pmax
comp=Z,3.0nm,1.0s
TXAR Lajitas Array 143.19 31 PKhKP 02 11 32.3
comp=Z,4.9nm,0.6s,baz=317,slow=0.5,SNR=44
TXAR PP PP 02 14 47.4 -1.6
comp=Z,3.0nm,1.0s,baz=305,slow=15,SNR=2.5
MYNC Murphy 143.29 2 PFAKE 02 11 50.0 +17
MYNC LR LR
comp=Z,56µm,20.0s,MS7.3
OXF Oxford 143.35 9 PFAKE 02 11 50.0 +17
OXF LR LR
comp=Z,38µm,21.0s,MS7.1
CCHI Chillan 143.97 195 *e*P PKPbc 02 11 38.2 +3.6
JSC Jenkinsville 144.07 358 *e*PKIKP PKPdf 02 11 34.2 -1.5
RPN Rapa Nui 144.26 137 PFAKE 02 11 50.0 +14
RPN LR LR
comp=Z,3µm,20.0s,MS6.1
NATX Nacogdoches 144.79 18 PFAKE 02 11 50.0 +13
NATX LR LR
comp=Z,48µm,19.0s,MS7.3
LRAL Lakeview Retre 145.12 6 *e*PKPdf PKPdf 02 11 37.0 -0.6
LRAL LR LR
comp=Z,39µm,19.0s,MS7.2
NHSC New Hope 145.18 356 PFAKE 02 11 50.0 +12
NHSC LR LR
comp=Z,37µm,19.0s,MS7.2
CSU Charleston Sou 145.29 356 *e*PKPdf PKPdf 02 11 38.8 +0.8
JATB Jatai 145.30 241 *c i*P PKPdf 02 11 39.7 +1.4
JATB *e* 02 11 46.4
JATB *i* 02 11 50.3
JATB *e* 02 11 56.5
JATB *e* 02 12 00.9
JATB *i* 02 12 04.8
CPUP Villa Florida 145.40 223 PKPbc PKPbc 02 11 39.9 +1.1
comp=Z,70nm,0.7s,baz=134,slow=2.8,SNR=58
CPUP Villa Florida 145.40 223 PFAKE 02 11 50.0 +12
CPUP LR LR

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,23µm,19.0s,MS7.0						
LMEL	Las Melosas	146.00	199	eP	PKPdf	02 11 41.8	+2.7
MDZ	Mendoza	146.40	202	eP	PKPdf	02 11 45.7	+5.8
MDZ				e		02 11 56.7	
CFAA	Coronel Fontan	147.30	204	PKPbc	PKPdf	02 11 43.5	+2.2
	comp=Z,4.8nm,0.7s,baz=173,slow=2.2,SNR=34						
CMCH	Combarbala	148.71	200	eP	PKPdf	02 11 47.0	+3.3
TLL	Tololo Astrono	149.56	201	ePKHKP		02 11 46.8	
CJM	Chamela	149.63	45	i P	PKPdf	02 11 47.0	+1.6
DWPF	Disney	150.22	357	PKPdf	PKPdf	02 11 47.7	+1.6
DWPF	Disney	150.22	357	PFAKE		02 12 00.0	+14
DWPF				LR	LR		
	comp=Z,10µm,20.0s,MS6.6						
SFJM	Santa Fe	150.31	41	i P	PKPdf	02 11 50.5	+4.0
MOIG	Morelia	152.08	39	i P	PKPdf	02 11 51.1	+2.0
SJG	San Juan	154.25	321	PKP	PKPdf	02 11 51.5	-0.7
	comp=Z,11nm,0.9s,baz=283,slow=12,SNR=3.0						
SJG	San Juan	154.25	321	PKP	PKPdf	02 11 51.5	-0.7
SJG				LR	LR		
	comp=Z,28µm,21.0s,MS7.1						
TPR	Prospect	154.51	301	e	PKPdf	02 12 06.2	+14
LVC	Limon Verde	155.27	212	PKP	PKPdf	02 11 55.6	+2.2
	comp=Z,3.9nm,0.7s,baz=152,slow=5.4,SNR=3.7						
LVC				PKPbc	PKPdf	02 12 05.4	+12
	comp=Z,17nm,0.8s,baz=349,slow=0.7,SNR=16						
LVC				PKPab	PKPab	02 12 19.5	-1.5
	comp=Z,18nm,0.8s,baz=262,slow=2.1,SNR=7.3						
LVC	Limon Verde	155.27	212	PKP	PKPdf	02 11 55.6	+2.2
LVC				PKPbc	PKPdf	02 12 05.4	+12
LVC				PKPab	PKPab	02 12 19.5	-1.5
LVC				LR	LR		
	comp=Z,23µm,20.0s,MS7.0						
TRN	Trinidad (W)	155.31	301	ePKIKP	PKPdf	02 11 55.6	+1.9
TRN	Trinidad (W)	155.31	301	e	PKPdf	02 11 55.6	+1.9
RCC	Rio Carpintero	157.22	342	eP	PKPdf	02 11 58.1	+2.0
TEIG	Tepich	157.47	13	PKPdf	PKPdf	02 11 57.9	+1.5
LMGC	Las Mercedes	157.51	345	eP	PKPdf	02 11 58.1	+1.6
CMIG	Matias Romero	157.79	32	i P	PKPdf	02 11 58.1	+1.2
SAML	Samuel	159.16	249	PKPdf	PKPdf	02 12 00.3	+1.6
SAML				SKKSac		02 23 02.1	
SAML	Samuel	159.16	249	PFAKE		02 12 10.0	+11
SAML				LR	LR		
	comp=Z,35µm,20.0s,MS7.2						
LPAZ	La Paz	159.56	224	PKP	PKPdf	02 12 01.8	+2.8
	comp=Z,7.2nm,0.8s,baz=85,slow=2.2,SNR=27						
LPAZ	La Paz	159.56	224	PKP	PKPdf	02 12 01.8	+2.8
LPAZ				LR	LR		
	comp=Z,18µm,20.0s,MS6.9						
SDV	Santo Domingo	163.82	311	PKPdf	PKPdf	02 12 04.2	+0.8
SDV	Santo Domingo	163.82	311	PKP	PKPdf	02 12 03.6	+0.2
	comp=Z,3.9nm,0.8s,baz=272,slow=2.8,SNR=5.1						
SDV				PKPbc	PKPdf	02 12 19.7	+16
	comp=Z,6.5nm,0.8s,baz=266,slow=4.4,SNR=5.9						
SDV				PKPab	PKPab	02 12 57.0	-1.2
	comp=Z,13nm,0.8s,baz=62,slow=7.6,SNR=6.1						
SDV	Santo Domingo	163.82	311	PKP	PKPdf	02 12 03.6	+0.2
SDV				PKPbc	PKPdf	02 12 19.7	+16
SDV				PKPab	PKPab	02 12 57.0	-1.2
SDV				LR	LR		
	comp=Z,25µm,21.0s						
JTS	JuntasAbangare	167.80	10	PFAKE		02 12 20.0	+13
JTS				LR	LR		
	comp=Z,7µm,21.0s						
NNA	Nana	168.25	210	PFAKE		02 12 20.0	+13
NNA				LR	LR		
	comp=Z,5µm,20.0s						
ROSC	El Rosal	169.20	308	PKP	PKPdf	02 12 10.0	+2.5
	comp=Z,7.2nm,0.8s,baz=138,slow=4.8,SNR=11						
PAYG	Puerto Ayora	172.50	81	PFAKE		02 12 20.0	+11
PAYG				LR	LR		
	comp=Z,21µm,21.0s						
OTAV	Otavalo	175.13	295	PFAKE		02 12 20.0	+10
OTAV				LR	LR		
	comp=Z,28µm,20.0s						

JMA 05 02:01:17.5±0.1**, 26.65N**×**126.66E, h6**km±2km**, M3.5, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.34	161	P	Pg	02 01 24.3	-0.1
JKE				S	Sg	02 01 29.0	0.0
JAGN	Aguni-jima	0.53	97	P	Pg	02 01 27.7	-0.3
JAGN				S	Sg	02 01 34.9	-0.2
NAH1	Naha	1.02	115	P	Pb	02 01 37.0	-0.3
NAH1				S	Sb	02 01 50.4	-0.4
JJT2	Tamagusuku 2	1.10	117	P	Pb	02 01 38.7	+0.1
JJT2				S	Sb	02 01 52.6	-0.4
JIH	Iheya	1.23	72	P	Pb	02 01 40.5	-0.2
JIH				S	Sb	02 01 56.8	+0.1
JOW	Kunigami	1.46	82	P	Pn	02 01 43.6	-0.8
JOW				S	Sb	02 02 02.1	-1.2

IDC 05 02:07:20.0±2.4**, 1.58N**×**96.82E, mb3.9**/5**, mb1 4.0**/5**, mb1mx3.7**/18**, mbtmp3.9**/5**, Error ellipse: s-maj=97.5km s-min=26.9km az=54.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.56	122	P	P	02 15 18.0	-1.6
	0.5nm,0.6s,baz=301,slow=9.2,SNR=4.6						
MKAR	Makanchi Array	46.78	346	P	P	02 15 52.1	-1.0
	3.0nm,0.7s,baz=161,slow=8.4,SNR=12						
SONM	Songino Array	46.81	9	P	P	02 15 51.4	-2.0
	1.3nm,0.4s,baz=188,slow=9.8,SNR=16						
BVAR	Borovoye Array	55.77	341	P	P	02 16 58.5	-2.5
	1.6nm,0.8s,baz=141,slow=9.5,SNR=5.8						
ARCES	ARCESS Array B	82.05	340	P	P	02 19 41.3	-1.9
	0.5nm,0.4s,baz=90,slow=3.6,SNR=12						

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*IDC **05** 02:11:57.6±1.0, 2.65N×126.74E, mb4.1/9, mb1 4.3/9, mb1mx4.1/18, mbtmp4.1/9, Error ellipse: s-maj=101.0km s-min=13.0km az=70.0*

*NEIC **05** 02:12:07.3±5.5, 2.58N×126.54E, h73km±52km, mb4.3/3, Error ellipse: s-maj=82.0km s-min=18.9km az=70.0*

ISC 05 02:12:01.5±0.8**, 2.6N**±0.2×**126.3E**±0.5**, h33**km**, n14, σ1§29**/15**, mb4.1**/9**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	16.36	158	eP	P	02 15 53.1	+2.8
	14nm,0.6s						
FITZ	Fitzroy Crossi	20.54	182	eP	P	02 16 40.0	+0.1
	11nm,0.8s						
FITZ	Fitzroy Crossi	20.54	182	P	P	02 16 39.5	-0.4
	11nm,0.5s,baz=6.2,slow=8.0,SNR=29						
WRA	Warramunga Arr	23.72	161	P	P	02 17 10.6	-1.0
	4.8nm,0.5s,mb4.2,baz=339,slow=11,SNR=37						
WRA				S	S	02 21 27.1	+5.8
	0.8nm,0.8s,baz=334,slow=19,SNR=3.8						
WB2	Warramunga Arr	23.72	161	eP	P	02 17 10.8	-0.8
STKA	Stephens Creek	37.21	158	P	P	02 19 10.5	-1.2
	4.5nm,0.6s,mb4.5,baz=337,slow=9.2,SNR=17						
STKA	Stephens Creek	37.21	158	P	P	02 19 10.5	-1.2
STKA				eP		02 19 11.7	
SONM	Songino Array	48.26	342	P	P	02 20 40.2	-1.1
	0.6nm,0.5s,mb3.9,baz=158,slow=8.9,SNR=5.7						
MKAR	Makanchi Array	58.26	326	P	P	02 21 54.0	-1.2
	1.7nm,0.5s,mb4.3,baz=120,slow=8.5,SNR=13						
BVAR	Borovoye Array	68.06	327	P	P	02 22 59.8	0.0
	0.5nm,0.4s,mb3.9,baz=106,slow=4.9,SNR=5.3						
ZRNK	Zerenda	68.77	327	eP	P	02 23 03.8	-0.4
	2.3nm,0.5s,mb4.4						
VNDA	Vanda	82.33	173	P	P	02 24 21.6	+0.8
	0.8nm,0.9s,mb3.6,baz=306,slow=6.8,SNR=3.3						
ARCES	ARCESS Array B	91.39	340	P	P	02 25 06.9	+1.8
	0.8nm,0.8s,mb4.1,baz=82,slow=8.6,SNR=3.9						
AKASG	Malin Array Be	92.52	321	P	P	02 25 13.1	+2.4
	0.9nm,0.5s,mb4.4,baz=282,slow=37,SNR=4.3						

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*IDC **05** 03:07:22.1±0.7, 41.43N×74.77E, mb4.3/19, mb1 4.4/21, mb1mx4.4/25, mbtmp4.3/21, ML3.8/2, MS5.1/2, Ms1 5.1/2, ms1mx4.7/19, Error ellipse: s-maj=15.2km s-min=11.7km az=173.0*

*BJI **05** 03:07:23.4, 41.84N×74.69E, h12km, mB5.1, mb4.6, ML4.9, Ms5.1, Msz5.0*

*KNET **05** 03:07:24.9±0.7, 41.65N×74.71E, h13km±4km, ml4.5, Error ellipse: s-maj=4.9km s-min=3.1km az=6.0*

*NEIC **05** 03:07:24.2±0.3, 41.49N×74.72E, h10km, mb4.6/22, Error ellipse: s-maj=6.8km s-min=4.7km az=34.0*

*MOS **05** 03:07:25.9±1.1, 41.49N×74.66E, h33km, mb4.6/27, Error ellipse: s-maj=8.4km s-min=5.8km az=105.0*

*NNC **05** 03:07:25.4±1.4, 41.64N×74.70E, h1km±10km, mpv4.6, Error ellipse: s-maj=12.2km s-min=7.0km az=100.0*

ISC 05 03:07:21.7±0.7**, 41.46N**±0.02×**74.69E**±0.04**, h5**km±4km**, n146, σ1§26**/170**, mb4.5**/42**, MS5.2**/6**, 19C-13D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZA	Kyzart	0.74	34	P	Pg	03 07 36.7	+0.1
	2µm,0.2s,SNR=8695						
KZA				⇑S	Sg	03 07 45.2	-1.4
	8µm,0.2s						
UCH	Uchtor	0.78	350	P	Pg	03 07 37.6	+0.4
	6µm,0.3s						
UCH				⇓S	Sg	03 07 47.1	-0.6
	6µm,0.2s						
AML	Almayashu	1.00	312	P	Pb	03 07 42.8	+1.7
	3µm,0.3s,SNR=5696						
AML				⇑S	Sb	03 07 55.4	+1.0
	11µm,0.3s						
AAK	Ala-Archa	1.18	353	P	Pb	03 07 44.8	+0.6
	2µm,0.5s,SNR=1500						
AAK				⇑S	Sb	03 07 59.0	-0.6
	4µm,0.5s						
AAK	Ala-Archa	1.18	353	⇓P	Pb	03 07 44.9	+0.7
	1µm,0.5s						
AAK				⇓S	Sb	03 07 58.9	-0.7
	2µm,0.6s						
AAK	Ala-Archa	1.18	353	⇓i Pn	Pn	03 07 43.7	-1.1
KBK	Karagaybulak	1.21	9	P	Pb	03 07 45.2	+0.5
	4µm,0.1s						
KBK				⇑S	Sb	03 07 59.7	-0.8
	14µm,0.2s						
FRU	Bishkek	1.37	358	⇓i PG	Pg	03 07 49.5	+0.4
FRU				eS	Sb	03 08 06.5	+1.3
FRU				pmax	pmax		
	comp=Z,3µm,1.0s						
FRU				smax			
	comp=N,10µm,1.0s						
ULHL	Ulahol	1.40	55	P	Pn	03 07 48.2	+0.3
	comp=N,2µm,0.4s,SNR=1073						
CHMS	Chumysh	1.54	2	P	Pn	03 07 51.0	+1.1
	comp=N,2µm,0.3s,SNR=1038						
CHMS				⇑S	Sb	03 08 09.7	-0.3
	comp=N,4µm,0.3s						
TKM2	Tokmak 2	1.61	24	P	Pn	03 07 51.9	+1.0
	comp=N,905nm,0.3s,SNR=1146						
USP	Ospenovka	1.81	356	P	Pn	03 07 56.0	+2.2
	comp=N,2µm,0.2s,SNR=2963						
USP				⇑S	Sn	03 08 18.2	+0.8
	comp=N,5µm,0.3s						
KSH	Kashi	2.17	153	⇑P	Pn	03 08 06.3	+7.3
KSH				S	Sn	03 08 38.0	+11
KSH				Smax			
	comp=N,8µm,1.0s						
KSH				Smax			
	comp=E,12µm,0.8s						
AAA	Alma-Ata	2.46	42c	i PN	Pn	03 08 07.0	+3.8
AAA				i S	Sn	03 08 37.7	+3.7
AAA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AAA				smax			
	comp=E,14nm,0.6s						
KK31	Karatay Array	3.51	299	⇓Pn	Pn	03 08 21.0	+3.0
	comp=E,7.1nm,0.3s,baz=120,slow=12,SNR=2791						
KK31				⇓Pg	Pg	03 08 27.6	-4.1
	comp=E,212nm,0.5s,baz=117,slow=17						
KK31				⇓Lg		03 09 13.0	
	comp=E,801nm,0.6s,baz=111,slow=28,SNR=12						
KKAR	Karatay Array	3.51	299	PN	Pn	03 08 21.0	+3.0
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MK31	Makanchi Array	7.63	43	Pn	Pn	03 09 16.2	-0.1
	comp=Z,29nm,0.6s,baz=220,slow=14,SNR=194						
MK31				⇓Lg		03 11 23.2	
	comp=Z,56nm,0.6s,baz=220,slow=28,SNR=6.1						
MKAR	Makanchi Array	7.63	43	Pn	Pn	03 09 15.6	-0.7
	comp=Z,1.2nm,0.3s,baz=218,slow=15,SNR=32						
MKAR				Sn	Sn	03 10 51.2	+7.1
	comp=Z,3.2nm,0.3s,baz=225,slow=31,SNR=2.2						
MKAR				Lg		03 11 16.4	
	comp=Z,7.8nm,0.3s,baz=223,slow=25,SNR=3.7						
MKAR				LR	LR	03 12 47.5	
	comp=Z,3µm,19.1s,baz=14,slow=43						
CHCP	Chirah Chowk	7.87	189	P	Pn	03 09 25.0	+5.4
CEP	Cherat	7.94	197	P	Pn	03 09 23.1	+2.6
CEP				S	Sn	03 10 50.0	-1.7
DLH	Dalhousie	8.96	173	e	P	03 09 38.0	+3.3
DLH				e		03 11 12.0	
THW	Thamme Wali	8.96	196	P	P	03 09 36.8	+2.0
THN	Thein Dam	9.05	174	e	P	03 09 38.7	+2.7
THN				e		03 11 19.8	
SBDP	Sheikh Budin	9.66	200	P	P	03 09 46.3	+1.9
SDNR	Sundarnagar	10.11	169	eP	P	03 09 51.0	+0.4
SDNR				e		03 11 42.4	
BHK	Bhakra	10.12	172	e	S	03 11 49.6	+3.8
SMLA	Simla	10.50	168	⇑i P	P	03 09 53.0	-3.0
	comp=Z,152nm,0.3s						
SMLA				i		03 11 40.9	
DDI	Dehra Dun	11.44	165	eP	P	03 10 09.4	+0.6
DDI				e		03 12 17.0	
VOSK	Vostochnaya	11.55	349	⇑Pn	P	03 10 08.7	-1.4
	comp=Z,11nm,0.7s						
VOSK				⇑Lg		03 13 26.9	
	comp=Z,131nm,1.2s						
KKR	Kurukshetra	11.60	171	eP	P	03 10 08.7	-2.3
KKR				i P		03 10 10.1	
BVA0	Borovoye Array	11.93	347	Pn	P	03 10 12.0	-3.3
	comp=Z,3.0nm,0.8s,baz=160,slow=14,SNR=60						
BVA0				⇓Sn	S	03 12 27.8	-2.1
	comp=Z,7.3nm,0.8s,baz=164,slow=25,SNR=5.2						
BVA0				⇓Lg		03 13 38.7	
	comp=Z,21nm,0.9s,baz=166,slow=27,SNR=4.5						
BVA0	Borovoye Array	11.93	347	i P	P	03 10 12.0	-3.3
BVA0				i		03 12 37.5	
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BVAR	Borovoye Array	11.93	347	Pn	P	03 10 12.2	-3.1
	comp=Z,0.8nm,0.3s,baz=160,slow=14,SNR=26						
BVAR				Sn	S	03 12 28.7	-1.3
	comp=Z,1.8nm,0.3s,baz=164,slow=26,SNR=3.4						
BVAR				Lg		03 13 31.5	
	comp=Z,3.0nm,0.3s,baz=164,slow=28,SNR=3.9						
ZRNK	Zerenda	12.12	343	⇑Pn	P	03 10 15.3	-2.6
	comp=Z,11nm,0.5s						
ZRNK				⇑Lg		03 13 45.5	
	comp=Z,66nm,0.9s						
RTK	Rohtak	12.48	173	e	P	03 10 14.9	-7.9
RTK				AMb	AMB	03 10 30.7	
	comp=Z,59nm,0.3s						
BHGR	Bahadurgarh	12.88	171	e	P	03 10 33.0	+4.9
BHGR				AMb	AMB	03 10 36.0	
	comp=Z,128nm,0.3s						
NDI	New Delhi	12.91	170	eP	P	03 10 26.0	-2.6
NDI				e		03 12 44.5	
AB31	Akbulak array	12.96	312	⇑Pn	P	03 10 27.1	-2.1
	comp=Z,16nm,0.5s,slow=0.1,SNR=85						
AB31				⇑Sn	S	03 12 54.9	+0.1
	comp=Z,14nm,0.6s,baz=115,slow=17,SNR=8.2						
AB31				⇓Lg		03 14 14.6	
	comp=Z,42nm,0.9s,slow=0.1,SNR=85						
AB31	Akbulak array	12.96	312	P	P	03 10 26.4	-2.7
AB31				pmax	pmax		
	comp=Z,15nm,0.6s						
AYAN	Aya Nagar	13.10	170	eP	P	03 10 29.7	-1.4
AYAN				AMb	AMB	03 10 38.0	
	comp=Z,2.8nm,0.9s						
SONA	Sohna	13.32	171	eP	P	03 10 32.8	-1.3
SONA				AMb	AMB	03 10 38.4	
	comp=Z,28nm,0.5s						
SONA				eS	S	03 12 51.3	-12
KUDL	Kundal	13.37	173	eP	P	03 10 33.7	-0.9
KUDL				AMb	AMB	03 10 46.0	
	comp=Z,28nm,0.9s						
KUDL				eS	S	03 12 53.2	-12
KHET	Khetri	13.39	176	eP	P	03 10 32.5	-2.4
KHET				eS	S	03 12 53.1	-12
NVS	Novosibirsk	14.54	20	eP	P	03 10 51.7	+1.9
NVS				e		03 13 25.4	
GKN	Gorkha	15.70	146	eP	P	03 11 03.9	-1.3
	comp=Z,82nm,0.8s						
KKN	Kakani	16.16	144	eP	P	03 11 11.1	-0.1
	comp=Z,78nm,1.0s						
KKN	Kakani	16.16	144	eP	P	03 11 11.1	-0.1
KKN				pmax	pmax		
	comp=Z,39nm,1.0s						
GUN	Gumba	16.33	142	eP	P	03 11 14.2	+0.9
	comp=Z,34nm,0.5s						
PKI	Pulchoki	16.41	144	eP	P	03 11 14.4	+0.1
	comp=Z,45nm,0.7s						
PKI	Pulchoki	16.41	144	eP	P	03 11 14.4	+0.1
PKI				pmax	pmax		
	comp=Z,23nm,0.7s						
SVE	Sverdlovsk	17.86	334	eP	P	03 11 27.0	-5.3
ARU	Arti	18.27	331	eP	P	03 11 35.6	-1.9
ARU				eS	S	03 14 55.0	-3.9
ARU	Arti	18.27	331	eP	P	03 11 36.6	-0.9
	comp=Z,32nm,1.0s						
BHPL	Bhopal	18.31	172	e	P	03 11 32.9	-5.3
BHPL				AMb	AMB	03 12 15.8	
	comp=Z,23nm,1.3s						
GTA	Gaotai	19.22	88	eP	P	03 11 49.9	+0.9
GTA				AP		03 11 55.4	
GTA				XP		03 11 58.0	
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s						
BOK	Bokaro	19.95	149	eP	P	03 11 56.3	-1.1
SHL	Shillong	21.31	133	eP	P	03 12 10.0	-1.5
ZAK	Zakamensk	21.69	56	⇑i P	P	03 12 16.0	+0.9
ZAK				pmax	pmax		
	comp=Z,39nm,0.8s,mb4.9						
TLY	Talaya	22.24	53c	i P	P	03 12 21.4	+0.8
TLY				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.3						
TLY	Talaya	22.24	53	eP	P	03 12 22.0	+1.3
	comp=Z,16nm,1.0s,mb4.4						
GNI	Garni	22.66	277	eP	P	03 12 27.3	+2.4
GNI	Garni	22.66	277	P	P	03 12 27.6	+2.8
	comp=Z,2.5nm,0.4s,mb4.0,baz=76,slow=12,SNR=4.0						
ZEI	Tsey	22.82	284	eP	P	03 12 26.7	+0.3
ZEI				i *PP		03 12 34.6	
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.1						
LZH	Lanzhou	23.29	94	eP	P	03 12 33.9	+2.8
LZH				AP		03 12 44.0	
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.5						
LZH	Lanzhou	23.29	94	eP	P	03 12 33.9	+2.8
LZH				*PP		03 12 44.0	
LZH				*SP		03 12 48.3	
LZH				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.5						
LZH	Lanzhou	23.29	94	eP	P	03 12 33.9	+2.8
	comp=Z,24nm,1.3s,mb4.5						
LZH				pP		03 12 44.0	
LZH				sP		03 12 48.3	
SONM	Songino Array	23.33	63	P	P	03 12 32.3	+1.0
	comp=Z,7.3nm,0.9s,mb4.1,baz=270,slow=8.7,SNR=45						
KIV	Kislovodsk	23.57	287	eP	P	03 12 33.5	-0.2
KIV				pmax	pmax		
	comp=Z,25nm,2.5s,mb4.2						
KIV	Kislovodsk	23.57	287	eP	P	03 12 36.1	+2.4
	comp=Z,24nm,1.1s,mb4.5						
ULN	Ulaanbaatar	23.77	63	eP	P	03 12 37.5	+1.9
ULN				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.4						
ULN	Ulaanbaatar	23.77	63	eP	P	03 12 37.5	+1.9
	comp=Z,20nm,1.2s,mb4.4						
HYB	Hyderabad	24.19	171	eP	P	03 12 42.0	+2.0
HYB	Hyderabad	24.19	171	i P	P	03 12 42.0	+2.0
CIT	Chita	28.33	55	eP	P	03 13 18.2	+0.1
KMI	Kunming	28.38	116	P	P	03 13 19.6	+0.7
KMI				XP	sP	03 13 26.3	+5.2
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
KMI	Kunming	28.38	116	P	P	03 13 19.6	+0.7
	comp=Z,10.0nm,0.9s,mb4.5						
KMI				sP	sP	03 13 26.3	+5.2
OBN	Obninsk	28.41	312	P	P	03 13 18.0	-0.8
OBN				e		03 13 28.8	
OBN						03 16 31.0	
OBN				MLR	MLR		
	comp=Z,5µm,20.0s,MS5.1						
OBN				MLR	MLR		
	comp=Z,2µm,18.0s						
CMAR	Chiang Mai Arr	30.90	131	P	P	03 13 41.0	-0.4
	comp=Z,0.9nm,0.4s,mb4.0,baz=312,slow=12,SNR=4.6						
BR131	Keskin Array S	31.02	281	eP	P	03 13 42.8	+0.6
	comp=Z,5.4nm,1.1s,mb4.3						
BRTR	Keskin Array B	31.02	281	P	P	03 13 42.7	+0.4
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR	Keskin Array B	31.02	281	P	P	03 13 42.7	+0.4
	comp=Z,3.0nm,0.9s,mb4.1,baz=90,slow=7.4,SNR=8.5						
AKASG	Malin Array Be	32.41	302	P	P	03 13 53.4	-0.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	32.41	302	P	P	03 13 53.4	-0.9
	comp=Z,1.4nm,0.5s,mb4.0,baz=77,slow=8.2,SNR=9.5						
KIS	Kishinev	32.96	295	eP	P	03 14 04.0	+4.8
VSU	Vasula	34.34	316	eP	P	03 14 10.4	-0.6
FINES	FINESS Array B	35.19	321	P	P	03 14 17.5	-0.8
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	FINESS Array B	35.19	321	P	P	03 14 17.4	-0.8
	comp=Z,4.4nm,0.6s,mb4.6,baz=101,slow=9.7,SNR=30						
KAF	Kangasniemi	35.23	322	ep	P	03 14 18.7	+0.1
NJ2	Nanjing	36.27	90	eP	P	03 14 32.0	+4.2
NJ2				PP	PP	03 15 56.2	+5.6
NJ2				S	S	03 20 11.0	+2.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
NJ2				LR	LR		
	comp=N,7µm,15.5s,MS5.7						
NJ2				LR	LR		
	comp=E,6µm,15.9s,MS5.7						
NJ2				LR	LR		
	comp=Z,5µm,15.3s,MS5.4						
ARCES	ARCESS Array B	37.79	334	P	P	03 14 40.1	0.0
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ARCES	ARCESS Array B	37.79	334	P	P	03 14 40.0	-0.1
	comp=Z,5.1nm,0.5s,mb4.5,baz=106,slow=8.9,SNR=80						
YAK	Yakutsk	38.28	39d	i P	P	03 14 43.9	-0.4
YAK				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.0						
OJC	Ojcow	38.45	302	eP	P	03 14 45.5	-0.3
SSE	Sheshan	38.48	90	P	P	03 14 47.0	+0.7
SSE				AP	pP	03 14 55.9	+8.0
SSE				XP	sP	03 14 59.8	+11
SSE				S	S	03 20 42.2	+0.4
SSE				XS		03 20 57.2	
SSE				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,2µm,12.0s						
SSE				LR	LR		
	comp=N,2µm,27.5s,MS4.8						
SSE				LR	LR		
	comp=E,2µm,27.5s,MS4.8						
SSE				LR	LR		
	comp=Z,2µm,28.4s,MS4.8						
SSE	Sheshan	38.48	90	P	P	03 14 47.0	+0.7
	comp=Z,41nm,0.7s,mb5.3						
SSE				pP	pP	03 14 55.9	+8.0
SSE				sP	sP	03 14 59.8	+11
SSE				S	S	03 20 42.2	+0.4
SSE				sS		03 20 57.2	
SSE				LR	LR		
	comp=Z,2µm,28.4s,MS4.8						
IDI	Anoyia	39.09	278	P	P	03 14 51.8	+0.5
	comp=Z,6.8nm,1.0s,mb4.3,baz=95,slow=12,SNR=2.8						
DIVS	Divcibare	39.62	293	⇑i P	P	03 14 57.3	+1.6
MDJ	Mudanjiang	39.62	66	P	P	03 14 54.9	-0.8
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.3						
MDJ				LR	LR		
	comp=N,1µm,29.6s						
MDJ				LR	LR		
	comp=E,3µm,21.7s						
MDJ				LR	LR		
	comp=Z,1µm,29.5s,MS4.5						
MORC	Moravsky Berou	39.96	302	eP	P	03 14 59.6	+1.2
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
MORC	Moravsky Berou	39.96	302	eP	P	03 14 59.6	+1.1
	comp=Z,3.9nm,0.9s,mb4.1						
TIXI	Tiksi	40.09	24	eP	P	03 14 58.1	-1.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIXI				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8						
DPC	Dobruska-Polom	40.62	303	eP	P	03 15 04.9	+1.0
UPC	Upice	40.79	303	eP	P	03 15 06.4	+1.2
PRU	Pruhonice	41.82	303	eP	P	03 15 07.6	-6.0
NB2	NORSAR Subarra	42.31	320	P	P	03 15 17.9	+0.4
	comp=Z,4.7nm,0.6s,mb4.3,baz=88,slow=7.9						
NB2	NORSAR Subarra	42.31	320	P	P	03 15 17.9	+0.4
NB2				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
NOA	NORSAR Array B	42.31	320	P	P	03 15 17.7	+0.2
NOA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NOA	NORSAR Array B	42.31	320	P	P	03 15 17.6	+0.2
	comp=Z,4.4nm,0.6s,mb4.3,baz=90,slow=8.1,SNR=25						
GERES	GERESS Array B	42.61	301	P	P	03 15 21.2	+1.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	42.61	301	P	P	03 15 21.2	+1.1
	comp=Z,1.2nm,0.5s,mb3.9,baz=74,slow=7.7,SNR=11						
KHC	Kasperske Hory	42.62	302	eP	P	03 15 20.4	+0.2
AQU	L'Aquila	44.73	293	eP	P	03 15 38.9	+1.4
AQU				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.0						
AQU	L'Aquila	44.73	293	eP	P	03 15 38.9	+1.4
	comp=Z,24nm,1.0s,mb5.0						
HAU	Haudompre	47.55	302	eP	P	03 15 58.5	-1.1
YSS	Yuzh-Sakhalins	47.71	59	i P	P	03 16 02.1	+1.1
LPG	La Plagne	48.13	299	eP	P	03 16 03.4	-0.9
	comp=Z,7.6nm,0.8s,mb4.5						
LPG	La Plagne	48.13	299	eP	P	03 16 03.4	-0.9
LPG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
LPL	La Plagne	48.14	299	eP	P	03 16 03.7	-0.6
	comp=Z,5.1nm,0.6s,mb4.4						
LPL	La Plagne	48.14	299	eP	P	03 16 03.7	-0.6
LPL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
MBDF	Montbardon	48.39	298	eP	P	03 16 05.6	-0.7
	comp=Z,6.7nm,0.7s,mb4.5						
MBDF	Montbardon	48.39	298	eP	P	03 16 05.6	-0.7
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
MJAR	Matsushiro Arr	48.63	74	P	P	03 16 06.7	-1.5
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MJAR	Matsushiro Arr	48.63	74	P	P	03 16 06.7	-1.6
	comp=Z,4.1nm,0.8s,mb4.5,baz=285,slow=9.0,SNR=9.9						
SMRF	Simiane la Rot	49.47	297	eP	P	03 16 13.5	-1.1
	comp=Z,22nm,1.0s,mb4.8						
BILL	Bilibino	52.89	28⇑	iP	P	03 16 40.0	-0.2
BILL				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
BILL				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.3						
SUMG	Summit	57.32	341	eP	P	03 17 12.9	+0.5
	comp=Z,9.7nm,0.8s,mb4.9						
ESDC	Sonseca Array	57.76	297	P	P	03 17 15.3	-0.5
	comp=Z,0.5nm,0.5s,mb3.8,baz=57,slow=8.1,SNR=3.2						
IMA	Indian Mountai	66.51	19	eP	P	03 18 13.7	-0.2
IMA				pmax	pmax		
	comp=Z,77nm,0.9s,mb5.7						
IMA	Indian Mountai	66.51	19	eP	P	03 18 13.7	-0.2
	comp=Z,77nm,0.9s,mb5.7						
INK	Inuvik	68.53	11	eP	P	03 18 26.4	-0.2
INK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
INK	Inuvik	68.53	11	eP	P	03 18 26.4	-0.2
	comp=Z,10nm,1.0s,mb4.7						
ILAR	Eielson Array	69.21	18	P	P	03 18 29.3	-1.5
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	Eielson Array	69.21	18	P	P	03 18 29.3	-1.5
	comp=Z,2.4nm,0.9s,mb4.1,baz=320,slow=6.0,SNR=17						
YKA	Yellowknife Ar	76.13	4	P	P	03 19 11.1	-0.5
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YKA	Yellowknife Ar	76.13	4	P	P	03 19 11.1	-0.5
	comp=Z,2.8nm,0.7s,mb4.3,baz=351,slow=5.7,SNR=8.8						
DBIC	Dimbokro	77.79	268	P	P	03 19 20.9	-0.9
DBIC				pmax	pmax		
	comp=Z,3.0nm,1.1s						
DBIC	Dimbokro	77.79	268	P	P	03 19 20.9	-0.8
	comp=Z,3.4nm,1.1s,mb4.2,baz=63,slow=4.5,SNR=3.1						
DBIC	Dimbokro	77.79	268	P	P	03 19 20.9	-0.8
SCHQ	Schefferville	78.61	338	P	P	03 19 25.3	-0.1
	comp=Z,3.0nm,0.9s,mb4.2,baz=343,slow=9.8,SNR=3.7						
SCHQ				LR	LR	03 59 46.7	
	comp=Z,4μm,18.7s,MS5.7,baz=226,slow=40						
WRA	Warramunga Arr	82.32	125	P	P	03 19 45.2	-0.7
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	Warramunga Arr	82.32	125	P	P	03 19 45.2	-0.7
	comp=Z,3.3nm,0.9s,mb4.3,baz=324,slow=5.2,SNR=20						
BOSA	Boshof	83.37	222	P	P	03 19 51.4	+0.3
BOSA				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
BOSA	Boshof	83.37	222	P	P	03 19 51.4	+0.3
	comp=Z,2.5nm,1.0s,mb4.2,baz=65,slow=0.9,SNR=3.5						
FFC	Flin Flon	84.15	358	eP	P	03 19 54.5	+0.1
FFC				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.8						
FFC	Flin Flon	84.15	358	eP	P	03 19 54.5	+0.1
	comp=Z,12nm,1.4s,mb4.8						
PDAR	Pinedale Array	96.07	3	P	P	03 20 51.3	+0.2
	comp=Z,0.4nm,0.7s,mb4.0,baz=90,slow=1.5,SNR=3.4						

IDC ***05*** *03:19:02.7±0.7, 47.44S×13.14W, mb4.0/9, mb1 4.1/9, mb1mx4.0/16, mbtmp4.0/9, Error ellipse: s-maj=22.6km s-min=20.3km az=75.0*
NEIC ***05*** *03:19:04.6±0.5, 47.39S×13.29W, h10^{km}, mb4.5/5, Error ellipse: s-maj=16.0km s-min=15.0km az=138.0*
ISC 05 03:19:03.6±0.6**, 47.44S**±0.09×**13.2W**±0.2**, h10**^{km}**, n31, σ1^{s}09**/28**, mb4.2**/13**, 4C, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	23.41	176	e	P	03 24 18.4	+5.4
VNA1	Neumayer--Stat	23.41	176	e	P	03 24 22.1	+9.1
VNA1	Neumayer--Stat	23.41	176⇑	iPdif	P	03 24 15.2	+2.2
VNA1				e		03 24 18.4	
VNA1				e		03 24 22.1	
VNA2	Neumayer--Watz	23.73	175	e	P	03 24 20.0	+3.9
VNA2	Neumayer--Watz	23.73	175	e	P	03 24 23.1	+7.0
VNA2	Neumayer--Watz	23.73	175⇑	iPdif	P	03 24 16.8	+0.7
VNA2				e		03 24 20.0	
VNA2				e		03 24 23.1	
VNA3	Neumayer Olymp	23.94	177	e	P	03 24 21.5	+3.3
VNA3	Neumayer Olymp	23.94	177	e	P	03 24 24.7	+6.5
VNA3	Neumayer Olymp	23.94	177⇑	iPdif	P	03 24 18.6	+0.4
VNA3				e		03 24 21.5	
VNA3				e		03 24 24.7	
SNAA	Sanae	24.79	172	e	P	03 24 29.3	+2.8
SNAA	Sanae	24.79	172	e	P	03 24 33.3	+6.8
SNAA	Sanae	24.79	172	P	P	03 24 24.6	-1.9
	2.3nm,1.1s,mb3.6,baz=325,slow=6.5,SNR=7.5						
SNAA	Sanae	24.79	172⇑	iPdif	P	03 24 25.2	-1.3
SNAA				e		03 24 29.3	
SNAA				e		03 24 33.3	
BOSA	Boshof	35.18	72	P	P	03 25 59.8	0.0
	2.1nm,0.8s,mb4.1,baz=216,slow=7.5,SNR=3.1						
TSUM	Tsumeb	37.69	52	eP	P	03 26 21.8	+0.9
	3.9nm,0.7s,mb4.2						
MAW	Mawson	42.19	146	P	P	03 26 56.7	-0.9
	2.2nm,0.8s,mb3.8,baz=258,slow=7.7,SNR=4.0						
BDFB	Brasilia	42.81	306	P	P	03 27 03.7	+0.4
	5.9nm,1.2s,mb4.2,baz=93,slow=9.0,SNR=3.3						
QSPA	South Pole Qui	42.82	180	eP	P	03 27 02.5	0.0
	8.2nm,0.7s,mb4.6						
MATP	Matopo	43.09	66	P	P	03 27 05.1	-0.5
	4.8nm,0.7s,mb4.3,baz=239,slow=9.4,SNR=9.0						
MATP	Matopo	43.09	66	P	P	03 27 05.1	-0.5
CFAA	Coronel Fontan	44.38	270	P	P	03 27 16.6	+0.7
	0.2nm,0.6s,baz=118,slow=11,SNR=3.4						
LSZ	Lusaka	46.85	61	eP	P	03 27 36.4	+0.8
	3.9nm,0.8s,mb4.4						
DBIC	Dimbokro	54.37	10	P	P	03 28 29.5	-3.4
	5.7nm,1.0s,mb4.4,baz=100,slow=1.7,SNR=4.3						
SBA	Scott Base	54.99	180	eP	P	03 28 36.7	+0.1
	3.9nm,0.6s,mb4.6						
VNDA	Vanda	55.28	179	P	P	03 28 37.8	-1.0
	1.5nm,0.7s,mb4.1,baz=213,slow=10,SNR=11						
VNDA	Vanda	55.28	179	P	P	03 28 37.8	-1.0
VNDA				eP		03 28 38.1	
SAML	Samuel	57.00	296	eP	P	03 28 48.7	-3.2
	4.7nm,1.0s,mb4.5						
ESDC	Sonseca Array	87.12	7	P	P	03 31 50.4	-0.2
	0.9nm,0.7s,mb4.1,baz=174,slow=4.8,SNR=5.7						
PDAR	Pinedale Array	123.52	299	PKP	PKPdf	03 38 00.0	-4.0
	0.8nm,0.8s,baz=117,slow=3.3,SNR=7.1						
NVAR	Mina Array Bea	126.41	290	PKP	PKPdf	03 38 06.7	-2.8
	0.9nm,0.7s,baz=116,slow=3.2,SNR=6.0						
ILAR	Eielson Array	149.81	322	PKPbc	PKPdf	03 38 51.8	+1.0
	4.6nm,0.7s,baz=0.4,slow=1.3,SNR=49						

ATH ***05*** *03:25:19.2, 37.79N×26.80E, h16^{km}±2^{km}, MD3.3/3*
ISK ***05*** *03:25:19.1, 37.82N×26.81E, h23^{km}, MD3.3*
CSEM ***05*** *03:25:19.1±0.1, 37.82N×26.86E, h15^{km}, MD3.3, Error ellipse: s-maj=1.9km s-min=1.3km az=97.0*
ISC 05 03:25:18.6±0.8**, 37.79N**±0.03×**26.76E**±0.05**, h4**^{km}±6^{km}**, n19, σ1^{s}10**/28**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMG	Samos	0.10	144	ePB	Pb	03 25 22.5	-0.4
SMG				eSB	Sb	03 25 24.9	-0.6
BLCB	Balcova	0.63	21	i PG	Pg	03 25 31.1	-0.2
BLCB				i SG	Sg	03 25 40.5	+0.8
IZM	Izmir	0.72	33	i PG	Pg	03 25 33.5	+0.4
BODT	Bodrum	0.85	149	PG	Pg	03 25 35.8	+0.2
BODT				SG	Sg	03 25 48.2	+1.2
AYDN	Tasoluk	0.90	98	i P	Pb	03 25 36.2	-0.2
AYDN				i S	Sg	03 25 48.5	0.0
BDRM	Kayabasi	0.91	143	i P	Pb	03 25 37.6	+1.0
BDRM				i S	Sg	03 25 49.4	+0.6
MLSB	Milas	0.95	121	PG	Pg	03 25 37.1	-0.5
APE	Apeiranthos	1.22	234	PN	Pn	03 25 42.0	-0.4
APE	Apeiranthos	1.22	234	ePN	Pn	03 25 42.7	+0.3
APE				eSN	Sn	03 26 00.1	+0.6
AKS	Akhisar	1.36	37	PN	Pn	03 25 42.7	-1.9
YER	Yerkesik	1.38	118	PN	Pn	03 25 43.8	-0.9
PRK	Paraskevi	1.50	345	ePN	Pn	03 25 47.9	+1.4
PRK				eSN	Sn	03 26 08.4	+1.6
MANT	Manisa	1.58	63	i P	Pn	03 25 49.6	+2.0
MANT				i S	Sb	03 26 09.1	+0.7
DENT	Denizli	1.80	91	PN	Pn	03 25 49.2	-1.6
DNZL	Cakiroluk	1.82	93	i P	Pn	03 25 51.0	0.0
DNZL				i S	Sn	03 26 16.8	+2.1
BALB	Balikesir	2.04	25	ePN	Pn	03 25 52.6	-1.7
FETY	Fethiye	2.19	121	ePN	Pn	03 25 54.6	-1.7
CANB	Canakkale	2.23	6	ePN	Pn	03 25 55.7	-1.3
DST	Dursunbey	2.33	38	ePN	Pn	03 25 57.0	-1.3

CASC 05 03:39:25.7±3.4**, 12.58N**×**88.13W, h71**^{km}±95^{km}**, MD3.7, ML2.9, 3C-6D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	Conchagua	0.75	22	eP	P	03 39 44.9	+3.5
CNCH				eS	S	03 39 55.4	+2.2
VSM	San Miguel	0.86	350⇑	eP	P	03 39 44.7	+2.0
VSM				eS	S	03 39 57.2	+1.9
BLLM	Bellamira	0.87	353⇓	eP	P	03 39 44.3	+1.5
BLLM				eS	S	03 39 55.6	+0.1
CRIN	San Cristobal	1.06	83	eP	P	03 39 44.1	-1.2
CRIN				eS	S	03 40 00.9	+1.1
LEON	Leon	1.22	97	eP	P	03 39 45.8	-1.6
LEON				eS	S	03 40 03.1	-0.4
TEL3	Telica 3	1.25	90	eP	P	03 39 46.1	-1.7
LCBS	La Ceiba	1.35	322⇑	eP	P	03 39 49.7	+0.4
LFRS	El Faro	1.38	319⇑	eP	P	03 39 50.2	+0.5
LFRS				eS	S	03 40 05.8	-1.6
MIRN	Miramar	1.39	96	eP	P	03 39 48.5	-1.3
LFU	La Fuente	1.51	321⇓	eP	P	03 39 51.7	+0.3
MOMJ	Momotombo	1.56	96	eP	P	03 39 50.9	-1.1
MOMJ				eS	S	03 40 11.3	-0.1
BOQS	Boqueron	1.61	316⇓	eP	P	03 39 53.8	+1.1
XAVN	Gruta Xavier	1.81	103	eP	P	03 39 54.5	-0.8
XAVN				eS	S	03 40 19.9	+2.6
MGAN	Managua	1.89	103	eP	P	03 39 55.8	-0.6
MGAN				eS	S	03 40 20.6	+1.5
MGAN				i		03 40 23.6	
	comp=E,118nm,0.3s						
SBLS	San Blas	1.92	311⇓	eP	P	03 39 57.9	+1.0
SBLS				eS	S	03 40 19.7	-0.3
TICN	Ticuantepe	1.93	106⇓	eP	P	03 39 56.7	-0.3
RTR	El Retiro	1.98	312⇓	eP	P	03 39 58.8	+1.1
RTR				eS	S	03 40 20.5	-0.8

GUC 05 03:55:27.0±0.8**, 30.61S**×**69.22W, h140**^{km}**, MD3.2, ML3.5, 1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLL	Tololo Astrono	1.44	287	eP	P	03 55 55.8	+0.2
TLL				i S	S	03 56 18.4	+1.0
TLL				AMP		03 56 19.4	
	comp=N,387nm,0.5s						
CMCH	Combarbala	1.63	249⇓	iP	P	03 55 57.4	-0.2
CMCH				i S	S	03 56 21.0	-0.2
CMCH				AMP		03 56 21.6	
	comp=N,840nm,0.4s						
JACH	Jahuel	2.38	209	i S	S	03 56 38.0	+1.1
FCH	Farellones	2.86	198	eP	P	03 56 13.6	+0.7
FCH				eS	S	03 56 49.4	+1.5
FCH				AMP		03 56 54.1	
	comp=E,57nm,0.3s						
RCDM	Rinconada Maip	3.17	205	i S	S	03 56 54.6	-0.6
RCDM				AMP		03 56 55.6	
	comp=E,122nm,0.1s						
PCH	Pirque	3.20	200	eS	S	03 56 55.6	-0.1

IDC ***05*** *04:16:08.0±2.5, 1.33N×96.91E, mb3.8/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.8/5, Error ellipse: s-maj=102.7km s-min=27.0km az=54.0*
NEIC ***05*** *04:16:12.7±1.1, 1.38N×96.99E, h30^{km}, Error ellipse: s-maj=23.4km s-min=18.7km az=45.0*
ISC 05 04:16:11.0±1.5**, 1.4N**±0.2×**97.0E**±0.2**, h30**^{km}**, n6, σ0^{s}55**/6**, mb3.8**/5**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.30	43	ePn	Pn	04 17 30.2	-0.1
WRA	Warramunga Arr	42.31	122	P	P	04 24 04.2	0.0
	0.7nm,0.9s,mb3.3,baz=302,slow=9.1,SNR=3.8						
SONM	Songino Array	46.95	9	P	P	04 24 41.3	+0.3
	1.4nm,0.5s,mb4.1,baz=192,slow=9.0,SNR=12						
MKAR	Makanchi Array	46.99	346	P	P	04 24 41.8	+0.5
	1.5nm,0.9s,mb3.9,baz=149,slow=7.5,SNR=7.8						
BVAR	Borovoye Array	55.99	341	P	P	04 25 48.3	-0.8
	0.3nm,0.4s,mb3.7,baz=141,slow=9.2,SNR=3.6						
ARCES	ARCESS Array B	82.27	340	P	P	04 28 30.7	+0.1
	0.8nm,0.8s,mb3.7,baz=100,slow=5.5,SNR=5.9						

BJI ***05*** *04:25:00.5, 48.45N×131.92E, h16^{km}, ML3.3*
SKHL ***05*** *04:25:01.9±0.1, 48.34N×131.64E, h10^{km}, mb3.6/2*
ISC 05 04:24:51.7±0.8**, 48.36N**±0.03×**131.50E**±0.07**, h10**^{km}**, n8, σ1^{s}19**/13**, Priamurye-Northeastern China border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDJ	Mudanjiang	3.97	200	PG	Pg	04 26 18.4	+7.5
MDJ				SG	Sg	04 27 04.3	+0.6
MDJ				Smax			
	comp=N,25nm,0.7s						
MDJ				Smax			
	comp=E,47nm,0.7s						
GRNR	Gornyy	4.01	51	ePg	Pg	04 26 13.0	+1.2
GRNR				AMB	AMB	04 26 14.1	
	comp=E,22nm,0.8s						
GRNR				eSg	Sg	04 27 05.0	-0.2
GRNR				A		04 27 10.8	
	comp=E,110nm,0.9s						
EKMR	Ekimchan	4.81	10	ePn	Pn	04 26 17.3	+11
EKMR				ePg	Pg	04 26 29.0	+1.3
EKMR				AMB	AMB	04 26 37.4	
	comp=E,4.0nm,0.5s						
EKMR				eSg	Sg	04 27 32.5	+0.7
EKMR				A		04 27 42.6	
	comp=E,20nm,0.6s						
TEY	Ternei	4.83	132	eSg	Sg	04 27 31.1	-1.5
TEY				A		04 27 38.5	
	comp=E,43nm,1.0s						
YASR	Yasnyy	5.42	337	ePn	Pn	04 26 24.0	+9.5
YASR				erx	rx	04 26 30.5	
YASR				eSg	Sg	04 27 52.9	+0.8
YASR				A		04 28 07.6	
	comp=E,11nm,0.5s						
BMKR	Bomnak	6.58	346	erx	rx	04 27 55.2	
BMKR				eSg	Sg	04 28 29.3	-1.3
BMKR				A		04 28 37.4	
	comp=E,10.0nm,0.5s						
KROS	Kirovskiy	6.71	337	eSg	Sg	04 28 32.9	-2.2
NKL	Nikolayevsk	7.54	47	eSg	Sg	04 28 55.2	-7.6

NEIC ***05*** *04:25:06.6±5.4, 34.18N×71.69E, h5^{km}, Error ellipse: s-maj=99.3km s-min=18.6km az=151.0*
IDC ***05*** *04:25:16.8±29.0, 35.46N×71.09E, mb3.7/5, mb1 3.7/6, mb1mx3.5/22, mbtmp3.6/6, ML3.0/1, Error ellipse: s-maj=539.4km s-min=37.8km az=159.0*
NNC ***05*** *04:25:41.8±8.4, 36.79N×70.83E, h140^{km}±179^{km}, mpv3.6, Error ellipse: s-maj=78.8km s-min=62.7km az=24.0*
ISC 05 04:25:40.0±2.5**, 36.8N**±0.2×**70.8E**±0.2**, h135**^{km}±22^{km}**, n17, σ0^{s}40**/19**, mb3.3**/4**, 1C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	5.83	22	P	P	04 27 05.4	+0.3
	SNR=62						
UCH	Uchtor	6.18	27	P	P	04 27 10.2	+0.2
	SNR=11						
KZA	Kyzart	6.34	32	P	P	04 27 11.9	-0.3
	SNR=33						
KK31	Karatay Array	6.35	358	P	P	04 27 12.2	-0.1
	0.8nm,0.3s,baz=172,slow=11,SNR=35						
KK31				S	S	04 28 23.6	-0.4
	3.3nm,0.5s,baz=188,slow=22,SNR=12						
AAK	Ala-Archa	6.53	25	⇓P	P	04 27 15.0	+0.2
	2.5nm,0.3s						
AAK				⇓S	S	04 28 28.8	+0.4
	5.1nm,0.7s						
AAK	Ala-Archa	6.53	25	ePn	P	04 27 13.9	-0.9
	6.5nm,0.3s						
CHMS	Chumysh	6.94	25	P	P	04 27 20.3	0.0
	SNR=5.1						
USP	Ospenovka	7.10	22	P	P	04 27 22.9	+0.4
	SNR=8.6						
TKM2	Tokmak 2	7.19	29	P	P	04 27 23.4	-0.3
	SNR=6.2						
MKAR	Makanchi Array	13.19	37	Pn	P	04 28 37.3	-5.5
	0.1nm,0.3s,baz=217,slow=14,SNR=2.4						
AB31	Akbulak array	14.79	331	⇑P	P	04 29 03.5	+0.3
	0.5nm,0.4s,baz=155,slow=11,SNR=12						
ZAL	Zalesovo	19.74	25	P	P	04 30 00.7	-0.4
	2.7nm,0.4s,baz=256,slow=4.1,SNR=5.5						
FINES	FINESS Array B	37.19	326	P	P	04 32 39.4	+0.2
	0.2nm,0.4s,mb3.1,baz=101,slow=9.7,SNR=5.1						
FINES	FINESS Array B	37.19	326	P	P	04 32 39.4	+0.2
ARCES	ARCESS Array B	40.85	338	P	P	04 33 10.3	+0.9
	0.5nm,0.7s,mb3.3,baz=108,slow=7.7,SNR=4.4						
HFS	Hagfors	42.77	322	P	P	04 33 25.0	-0.2
	1.0nm,0.5s,mb3.7,baz=90,slow=12,SNR=6.8						
NOA	NORSAR Array B	44.08	323	P	P	04 33 35.1	-0.6
	0.5nm,0.8s,mb3.2,baz=98,slow=8.4,SNR=3.2						

IDC 05 05:01:16.8±1.1**, 55.52N**×**35.25W, mb3.8**/8**, mb1 4.0**/9**, mb1mx3.7**/27**, mbtmp3.8**/9**, ML2.4**/1**, Error ellipse: s-maj=37.0km s-min=19.1km az=164.0, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	Schefferville	17.98	281	P	P	05 05 26.6	-2.9
	0.1nm,0.3s,baz=80,slow=11,SNR=3.7						
NOA	NORSAR Array B	24.60	58	P	P	05 06 36.6	-2.7
	0.7nm,0.8s,baz=277,slow=10,SNR=2.6						
ARCES	ARCESS Array B	29.80	38	P	P	05 07 24.4	-2.6
	0.9nm,0.9s,baz=270,slow=8.1,SNR=3.8						
BRTR	Keskin Array B	47.03	79	P	P	05 09 49.9	-1.6
	0.9nm,0.7s,baz=316,slow=7.2,SNR=4.3						
PDAR	Pinedale Array	47.95	287	P	P	05 09 56.1	-2.5
	0.5nm,0.6s,baz=59,slow=8.6,SNR=5.4						
ILAR	Eielson Array	49.21	328	P	P	05 10 06.8	-1.3
	1.6nm,0.7s,baz=37,slow=5.6,SNR=27						
NVAR	Mina Array Bea	55.73	289	P	P	05 10 55.3	-1.8
	0.5nm,0.6s,baz=54,slow=7.8,SNR=3.5						
BVAR	Borovoye Array	55.74	45	P	P	05 10 55.9	-1.2
	0.9nm,0.8s,baz=270,slow=5.9,SNR=5.5						
ROSC	El Rosal	59.40	227	P	P	05 11 21.7	-1.7
	3.4nm,0.6s,baz=143,slow=6.5,SNR=6.1						

IDC ***05*** *05:03:02.4±2.4, 10.38N×92.09E, mb3.9/4, mb1 4.1/5, mb1mx3.7/21, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=72.8km s-min=23.2km az=70.0*
NEIC ***05*** *05:03:07.2±1.2, 10.47N×92.24E, h30^{km}, mb4.6/2, Error ellipse: s-maj=29.4km s-min=11.8km az=80.0*
ISC 05 05:03:05.8±1.6**, 10.5N**±0.1×**92.4E**±0.3**, h30**^{km}**, n8, σ0^{s}41**/8**, mb4.1**/6**, 1C, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.16	38	Pn	P	05 05 32.9	-0.1
	0.2nm,0.3s,baz=234,slow=14,SNR=6.1						
ENH	Enshi	25.33	37	eP	P	05 08 31.4	-0.4
	5.7nm,0.6s,mb4.3						
MKAR	Makanchi Array	37.17	349	P	P	05 10 15.5	-0.5
	0.5nm,0.6s,mb3.5,baz=191,slow=7.3,SNR=3.6						
SONM	Songino Array	39.05	15	P	P	05 10 32.7	+1.0
	0.2nm,0.3s,mb3.3,baz=207,slow=9.7,SNR=2.9						
FITZ	Fitzroy Crossi	43.44	131	P	P	05 11 08.1	0.0
	2.7nm,0.4s,mb4.3,baz=342,slow=6.4,SNR=8.2						
WRA	Warramunga Arr	51.21	126	P	P	05 12 09.0	0.0
	1.7nm,0.4s,mb4.4,baz=306,slow=8.3,SNR=66						
WRAB	Tennant Creek	51.22	126	eP	P	05 12 09.1	0.0
	5.2nm,0.5s,mb4.7						
WB2	Warramunga Arr	51.22	126⇑	iP	P	05 12 09.1	0.0

NNC ***05*** *05:27:52.7±8.4, 37.92N×72.05E, mpv3.4, Error ellipse: s-maj=67.8km s-min=49.2km az=162.0*
ISC 05 05:27:51.6±2.2**, 37.7N**±0.1×**72.0E**±0.2**, h100**^{km}**, n9, σ0^{s}57**/11**, 4C, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	4.66	16	P	P	05 29 02.1	+1.0
	SNR=26						
UCH	Uchtor	4.97	22	P	P	05 29 05.6	+0.3
	SNR=18						
KZA	Kyzart	5.09	29	P	P	05 29 06.2	-0.7
	SNR=6.3						
AAK	Ala-Archa	5.34	21	P	P	05 29 10.8	+0.6
	SNR=7.4						
AAK	Ala-Archa	5.34	21	⇑P	P	05 29 10.4	+0.2
	5.8nm,0.5s						
AAK				⇑S	S	05 30 11.1	+0.1
	5.9nm,0.8s						
KK31	Karatay Array	5.55	349	⇑P	P	05 29 14.0	+0.8
	0.6nm,0.2s,baz=160,slow=11,SNR=25						
KK31				⇑S	S	05 30 15.9	-0.4
	6.7nm,0.3s,baz=164,slow=23,SNR=35						
ULHL	Ulahol	5.64	34	P	P	05 29 14.0	-0.4
	SNR=6.2						
TKM2	Tokmak 2	5.95	27	P	P	05 29 18.0	-0.5
	SNR=5.2						
AB31	Akbulak array	14.49	327	P	P	05 31 12.1	-0.5
	0.6nm,0.5s,baz=134,slow=11,SNR=12						

CASC 05 05:53:38.8±2.6**, 14.19N**×**91.27W, h12**^{km}±19^{km}**, MD3.9, 2C-1D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FUG	Fuego 3	0.48	59	eP	Pb	05 53 47.1	-1.6
RBDL	Robledal	1.54	93⇑	eP	Pn	05 54 07.5	+1.3
RBDL				eS	Sb	05 54 28.3	+2.4
RTR	El Retiro	1.60	100⇑	eP	Pn	05 54 07.5	+0.3
RTR				eS	Sn	05 54 28.6	+0.8
SBLS	San Blas	1.64	102⇓	eP	Pn	05 54 07.0	-0.5
SBLS				eS	Sn	05 54 28.4	-0.2
SNJE	San Jose	1.65	101	eP	Pn	05 54 07.7	0.0
SNJE				eS	Sn	05 54 29.0	+0.1
MRL	Marmol	1.75	60	eP	Pn	05 54 09.2	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRL				eS	Sn	05 54 32.1	+0.4
LFRS	El Faro	2.22	105	eP	Pn	05 54 15.2	-0.7

*IDC **05** 06:16:43.7±2.3, 24.29S×179.74E, h504km±24km, mb3.5/9, mb1 3.7/10, mb1mx3.7/14, mbtmp4.3/10, Error ellipse: s-maj=19.4km s-min=14.1km az=152.0*

*NEIC **05** 06:16:56.0±0.7, 24.32S×179.41E, h650km, mb4.4/8, Error ellipse: s-maj=21.7km s-min=12.8km az=209.0*

ISC 05 06:16:47.4±1.4**, 24.38S**±0.08×**179.70E**±0.09**, h556**km±17km**, n37,** σ1§**06**/35**, mb4.1**/15**, 4C-3D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.40	278	eP	P	06 19 31.0	+0.7
DZM	Mont Dzumac	12.40	278	P	P	06 19 31.9	+1.6
	2.8nm,0.3s,baz=84,slow=17,SNR=40						
DZM	Mont Dzumac	12.40	278	eP	P	06 19 31.0	+0.7
NOUC	Port Laguerre	12.52	278	eP	P	06 19 33.1	+1.5
NOUC	Port Laguerre	12.52	278	eP	P	06 19 33.1	+1.5
URZ	Urewera	14.01	188	P	P	06 19 44.5	-1.9
	1.2nm,0.3s,baz=210,slow=8.6,SNR=6.6						
URZ				S	S	06 22 11.0	+0.4
	1.7nm,0.3s,baz=69,slow=23,SNR=13						
RPZ	Rata Peaks	20.55	198	P	P	06 20 46.3	-2.8
	14nm,0.5s,baz=234,slow=3.2,SNR=18						
CTA	Charters Tower	31.20	271	⇓iP	P	06 22 23.5	+0.3
	15nm,0.4s,mb4.9						
CTAO	Charters Tower	31.20	271	eP	P	06 22 23.6	+0.4
	20nm,0.5s,mb4.9						
STKA	Stephens Creek	34.29	249	P	P	06 22 49.5	+0.6
	1.6nm,0.5s,mb3.8,baz=88,slow=8.2,SNR=7.4						
STKA	Stephens Creek	34.29	249	P	P	06 22 49.8	+0.9
WB2	Warramunga Arr	42.09	267	⇑iP	P	06 23 51.9	-0.6
WB2				eS	S	06 29 32.3	-0.5
WRAB	Tennant Creek	42.09	267	eP	P	06 23 51.4	-1.1
	12nm,0.5s,mb4.7						
WRA	Warramunga Arr	42.10	267	P	P	06 23 52.0	-0.6
	6.1nm,0.4s,mb4.5,baz=103,slow=8.1,SNR=92						
WRA				ScP		06 28 38.9	
	4.2nm,0.9s,baz=101,slow=4.1,SNR=14						
WRA				S	S	06 29 33.3	+0.3
	4.0nm,1.1s,baz=97,slow=14,SNR=9.8						
KAKA	Kakadu	46.08	276	eP	P	06 24 22.6	-1.0
	8.6nm,0.8s,mb4.3						
VNDA	Vanda	53.88	185	P	P	06 25 19.6	-0.6
	1.1nm,0.5s,mb3.5,baz=3.5,slow=7.6,SNR=11						
VNDA	Vanda	53.88	185	eP	P	06 25 19.7	-0.4
	1.7nm,0.7s,mb3.5						
SBA	Scott Base	53.88	183	eP	P	06 25 20.9	+0.8
	13nm,0.9s,mb4.3						
QSPA	South Pole Qui	65.70	180	⇓iP	P	06 26 38.8	+0.6
	16nm,0.7s,mb4.7						
MAW	Mawson	77.20	201	P	P	06 27 45.7	+0.8
	4.2nm,0.5s,mb4.1,baz=132,slow=7.7,SNR=18						
PMSA	Palmer Station	78.58	157	eP	P	06 27 52.4	+0.1
	40nm,0.8s,mb4.8						
SNAA	Sanae	84.19	179	e	P	06 28 22.5	+1.9
SNAA	Sanae	84.19	179	⇑iP	P	06 28 19.8	-0.8
SNAA				e		06 28 22.5	
VNA3	Neumayer Olymp	84.41	177	⇑i	P	06 28 20.9	-0.8
VNA3	Neumayer Olymp	84.41	177	e	P	06 28 23.7	+2.0
VNA2	Neumayer--Watz	84.82	178	⇑i	P	06 28 23.5	-0.2
VNA2	Neumayer--Watz	84.82	178	e	P	06 28 26.1	+2.4
NVAR	Mina Array Bea	85.29	44	P	P	06 28 26.4	-0.4
	0.5nm,0.5s,mb3.3,baz=210,slow=5.6,SNR=5.6						
WVOR	Wild Horse Val	87.46	41	eP	P	06 28 37.4	+0.5
	9.4nm,1.4s,mb4.2						
TXAR	Lajitas Array	90.92	58	P	P	06 28 54.0	+0.7
	2.3nm,0.9s,mb4.1,baz=217,slow=6.3,SNR=25						
ILAR	Eielson Array	92.56	14	P	P	06 28 58.0	-2.0
	0.3nm,0.7s,mb3.5,baz=210,slow=4.4,SNR=5.7						
PDAR	Pinedale Array	93.23	44	P	P	06 29 03.7	+0.1
	0.3nm,0.6s,mb3.5,baz=315,slow=2.1,SNR=4.3						
ARCES	ARCESS Array B	132.30	348	PKP	PKPdf	06 34 58.3	+0.6
	0.4nm,0.3s,baz=69,slow=2.3,SNR=9.6						
AKASG	Malin Array Be	145.22	327	PKPbc	PKPbc	06 35 22.7	+0.4
	0.5nm,0.3s,baz=45,slow=3.7,SNR=4.1						
BRTR	Keskin Array B	147.64	306	PKPbc	PKPdf	06 35 31.3	+5.7
	1.1nm,0.6s,baz=135,slow=3.5,SNR=5.0						
CLL	Collm	151.23	343	⇓iPKP1	PKPdf	06 35 39.4	+8.6
GERES	GERESS Array B	153.21	339	PKPbc	PKPdf	06 35 43.1	+9.5
	0.2nm,0.3s,baz=180,slow=9.3,SNR=3.7						

*CSEM **05** 06:26:23.0±0.2, 32.59N×29.94E, h2km, ML3.5, Error ellipse: s-maj=5.7km s-min=2.1km az=178.0*

*HLW **05** 06:26:27.4, 32.65N×29.94E, h24km, Mb3.5*

ISC 05 06:26:26.2±1.1**, 32.64N**±0.08×**30.04E**±0.05**, h33**km**, n26,** σ1§**04**/28**, 6C-4D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HBRG	Burj al ‘Arab	2.06	185	⇑eP	P	06 26 59.8	+0.6
HBRG				S	S	06 27 22.8	-1.1
HNAT	Natroun	3.04	170	⇓eP	P	06 27 14.3	+1.3
FYM	Al Fayyum	3.06	163	P	P	06 27 14.8	+1.4
KOT	Kottamia	3.11	150	⇑P	P	06 27 15.0	+1.0
HHAG	Hagoal	3.21	146	⇑eP	P	06 27 16.1	+0.7
HSAF	As Saff	3.28	156	P	P	06 27 17.2	+0.8
AMAG	Maghara	3.36	125	⇑eP	P	06 27 18.0	+0.5
GLL	Jalalah	3.37	154	P	P	06 27 18.8	+1.0
HRSH	Kfar Ka’horesh	3.55	117	P	P	06 27 21.1	+0.7
RSH		3.55	117	P	P	06 27 21.1	+0.7
SUZ		3.67	139	P	P	06 27 22.8	+0.7
ZAF		3.98	147	⇓eP	P	06 27 26.7	+0.3
ZNM		4.06	142	P	P	06 27 27.9	+0.3
KZIT	Kziot	4.09	114	Sn	Sn	06 28 14.2	-1.4
SLUM		4.25	256	⇓eP	P	06 27 29.1	-1.3
HNKL	Nakhl	4.32	128	eP	P	06 27 31.9	+0.5
AWBH		4.41	193	⇓eP	P	06 27 31.9	-0.7
KSDI	Kefar Szold	4.76	82	Sn	Sn	06 28 32.0	-0.4
PRNI	Paran	4.81	117	Sn	Sn	06 28 30.8	-3.0
MKRJ	Makawir	4.88	101	Sn	Sn	06 28 35.2	-0.1
GRB	Gharib	4.96	151	⇑eP	P	06 27 40.3	0.0
SWA1		5.01	229	eP	P	06 27 39.7	-1.4
SWA1				S	S	06 28 32.4	-6.3
MBH	Mount Berech	5.05	123	Sn	Sn	06 28 36.6	-3.1
EIL	Elat	5.15	124	Sn	Sn	06 28 38.3	-3.8
HKAT	Jabal Katrina	5.33	139	⇑eP	P	06 27 45.4	-0.2
HFRF	Wahat Farafira	5.67	196	P	P	06 27 49.3	-1.0

*NEIC **05** 07:00:42.0, 37.66S×177.11E, h133km, MG4.0(WEL), After WEL.*

WEL 05 07:00:42.0±0.1**, 37.66S×177.11E, h133**km±1km**, ML3.9**/9**, 12C-6D, Error ellipse: s-maj=0.9km s-min=0.9km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.15	26	PN	P	07 00 59.8	-0.5
MARZ	Manawahe	0.47	226	⇑PN	P	07 01 01.4	-0.1
EDRZ	Edgecumbe	0.53	213	P	P	07 01 00.9	-0.9
EDRZ	Edgecumbe	0.53	213	PN	P	07 01 02.0	+0.2
URZ	Urewera	0.60	180	P	P	07 01 02.0	-0.2
URZ	Urewera	0.60	180	⇑PN	P	07 01 02.0	-0.2
URZ				SN	S	07 01 17.1	-0.6
LIRZ	Lichensteins R	0.67	239	P	P	07 01 02.8	+0.1
LIRZ	Lichensteins R	0.67	239	⇓PN	P	07 01 02.8	+0.1
TGRZ	Tauranga	0.68	264	P	P	07 01 02.3	-0.5
TGRZ	Tauranga	0.68	264	⇑PN	P	07 01 02.3	-0.4
TAZ	Tarawera	0.74	219	P	P	07 01 03.8	+0.6
TAZ	Tarawera	0.74	219	PN	P	07 01 03.8	+0.6
MWZ	Matawai	0.75	154	⇑PN	P	07 01 03.2	-0.1
MWZ				SN	S	07 01 19.5	0.0
UTU	Utuhina	0.89	234	PN	P	07 01 04.9	+0.5
MXZ	Matakaoa Point	0.96	85	P	P	07 01 04.9	-0.1
MXZ				S	S	07 01 22.0	-0.6
MXZ	Matakaoa Point	0.96	85	⇑PN	P	07 01 04.8	-0.2
MXZ				SN	S	07 01 22.4	-0.2
PUZ	Puketiti	1.00	115	⇑PN	P	07 01 05.1	-0.3
PUZ				SN	S	07 01 22.4	-0.8
KNZ	Kokohu	1.43	162	P	P	07 01 09.7	-0.3
KNZ				S	S	07 01 30.9	-0.5
KNZ	Kokohu	1.43	162	⇑PN	P	07 01 09.7	-0.3
KNZ				SN	S	07 01 29.9	-1.5
BKZ	Black Stump Fm	1.58	198	P	P	07 01 11.2	-0.5
BKZ	Black Stump Fm	1.58	198	⇓PN	P	07 01 11.2	-0.5
BKZ				SN	S	07 01 32.9	-1.4
MKAZ	Moumakai	1.64	289	P	P	07 01 11.8	-0.6
MKAZ	Moumakai	1.64	289	⇓PN	P	07 01 11.8	-0.5
OTAZ	Otara	1.88	291	P	P	07 01 14.9	-0.2
OTVZ	Oturere	1.88	217	PN	P	07 01 15.3	+0.1
NGZ	Ngauruhoe	1.92	218	P	P	07 01 15.9	+0.3
NGZ	Ngauruhoe	1.92	218	PN	P	07 01 15.8	+0.2
MTAZ	Motutapu	1.96	296	P	P	07 01 15.7	-0.4
MTAZ	Motutapu	1.96	296	PN	P	07 01 15.6	-0.4
CNZ	Chateau	1.96	218	P	P	07 01 16.6	+0.4
CNZ	Chateau	1.96	218	PN	P	07 01 16.6	+0.5
TUVZ	Tukino	1.97	215	P	P	07 01 16.2	0.0
TUVZ	Tukino	1.97	215	PN	P	07 01 16.1	-0.1
FWVZ	Far West T-bar	2.01	217	P	P	07 01 16.7	0.0
FWVZ	Far West T-bar	2.01	217	⇑PN	P	07 01 16.6	0.0
MOVZ	Moawhango	2.04	211	P	P	07 01 16.2	-0.9
MOVZ	Moawhango	2.04	211	⇓PN	P	07 01 16.2	-0.9
MOVZ				SN	S	07 01 43.0	-0.9
WNVZ	Wahianoa	2.04	215	P	P	07 01 16.8	-0.3
WNVZ	Wahianoa	2.04	215	PN	P	07 01 16.6	-0.5
TRVZ	Turoa	2.04	216	PN	P	07 01 16.8	-0.3
PKVZ	Pokaka	2.13	220	PN	P	07 01 18.0	-0.3
WTAZ	Waiatarua	2.15	289	P	P	07 01 18.1	-0.4
WTAZ	Waiatarua	2.15	289	PN	P	07 01 18.1	-0.3
MTVZ	Mangateitei	2.15	216	⇑PN	P	07 01 18.1	-0.4
PWZ	Pawanui	2.37	185	P	P	07 01 20.1	-1.3
PWZ	Pawanui	2.37	185	PN	P	07 01 19.7	-1.7
PWZ				SN	S	07 01 49.8	-1.6
TSZ	Takapari Road	2.56	200	⇑PN	P	07 01 22.2	-1.6
TSZ				SN	S	07 01 53.1	-2.4
WAZ	Wanganui	2.67	218	eP	P	07 01 24.4	-0.9
WAZ	Wanganui	2.67	218	PN	P	07 01 24.1	-1.1
BFZ	Birch Farm	3.09	192	eP	P	07 01 28.3	-2.5
BFZ	Birch Farm	3.09	192	⇓PN	P	07 01 28.3	-2.5
MRZ	Mangatainoka R	3.22	201	eP	P	07 01 29.5	-3.1
MRZ	Mangatainoka R	3.22	201	⇑PN	P	07 01 29.7	-2.8
MRZ				SN	S	07 02 06.5	-4.5
KIW	Kapiti Island	3.62	207	P	P	07 01 34.6	-3.2
KIW	Kapiti Island	3.62	207	PN	P	07 01 34.5	-3.4
MTW	Mount Morrison	3.71	199	P	P	07 01 35.2	-3.8
MTW	Mount Morrison	3.71	199	⇓PN	P	07 01 35.1	-3.8
CAW	Cannon Point	3.79	204	P	P	07 01 36.3	-3.7
CAW	Cannon Point	3.79	204	PN	P	07 01 36.1	-4.0
CAW				SN	S	07 02 19.4	-5.0
TRWZ	Traveller	3.89	196	PN	P	07 01 37.6	-3.8
PAWZ	Paruwai Farm	3.94	199	PN	P	07 01 38.0	-4.0
PAWZ				SN	S	07 02 22.0	-6.0
DUWZ	D’Urville Isla	4.00	217	PN	P	07 01 41.0	-1.8
MSWZ	Moikau Station	4.01	200	P	P	07 01 39.0	-4.1
MSWZ	Moikau Station	4.01	200	PN	P	07 01 38.7	-4.4
MRW	Makara Radio	4.02	207	P	P	07 01 39.2	-3.9
MRW	Makara Radio	4.02	207	PN	P	07 01 39.2	-3.9
MRW				SN	S	07 02 25.0	-5.0
BHW	Baring Head	4.12	204	P	P	07 01 40.3	-4.2
BHW	Baring Head	4.12	204	⇑PN	P	07 01 40.3	-4.2
BHW				SN	S	07 02 26.7	-5.7
TCW	Tory Channel	4.17	211	P	P	07 01 41.0	-4.1
TCW	Tory Channel	4.17	211	PN	P	07 01 40.9	-4.2
TUWZ	Tuamarina	4.49	212	PN	P	07 01 45.1	-4.3
THZ	Tophouse	5.22	217	eP	P	07 01 55.1	-4.1
KHZ	Kahutara	5.48	209	eP	P	07 01 57.8	-4.8
LTZ	Lake Taylor	6.31	214	eP	P	07 02 08.6	-5.3
ODZ	Otahua Downs	8.83	211	eP	P	07 02 41.8	-5.9

*IDC **05** 07:22:12.1±0.5, 53.23N×161.14W, mb4.7/27, mb1 4.9/30, mb1mx4.8/32, mbtmp4.7/30, ML4.3/2, MS3.8/19, Ms1 3.8/19, ms1mx3.7/32, Error ellipse: s-maj=15.4km s-min=10.9km az=10.0*

*BJI **05** 07:22:13.8, 53.26N×161.35W, h24km, mB5.0, mb4.7, Ms4.6, Msz4.1*

*MOS **05** 07:22:16.0±1.0, 53.32N×161.02W, h33km, mb5.1/32, Error ellipse: s-maj=11.3km s-min=6.2km az=96.0*

*HRVD **05** 07:22:17.2±0.4, 53.27N×161.05W, h12km, MW4.9/57, Centroid moment Tensor Solution. LP body waves: s17,c19; Mantle waves: s57,c80; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.72±.12; $M_{\theta\theta}$2.27±.10; $M_{\phi\phi}$0.45±.12; $M_{r\theta}$-0.29±.46; $M_{\theta\phi}$-0.25±.12; $M_{\phi r}$1.32±.67; Best double couple: $M_0$2.779×10^{16} NP1:ϕ_s262°,δ42°, λ-119°. NP2:ϕ_s118°,δ54°,λ-67°. Principal axes: T 2.355, Plg6°, Azm192°; N .855, Plg19°, Azm284°; P -3.203, Plg70°, Azm84°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **05** 07:22:17.2±0.2, 53.29N×161.06W, mb4.9/90, MS4.0/4, ML4.6(AEIC) Error ellipse: s-maj=3.8km s-min=2.2km az=191.0*

ISC 05 07:22:15.7±0.2**, 53.28N**±0.03×**161.02W**±0.03**, h31**km±.5km**:pP-P, n315,** σ1§**12**/319**, mb4.8**/131**, MS4.0**/26**, 11C-14D, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRIA	Deer Island	1.84	337	P	Pn	07 22 45.8	+0.1
DOL	Dolgoi Island	1.94	346	P	Pn	07 22 47.4	+0.3
DT1	Dutton Round H	1.97	339	P	Pn	07 22 47.5	-0.2
DT1				S	Sn	07 23 12.5	+0.9
DTNA	Dutton South F	2.01	339	P	Pn	07 22 48.1	0.0
SDPT	Sand Point	2.10	9	P	Pn	07 22 49.3	-0.1
SDPT				S	Sn	07 23 14.8	+0.1
HAG	Hague Volcano	2.10	346	P	Pn	07 22 50.3	+0.8
PVV	Pavlof Volcano	2.15	348	P	Pn	07 22 50.7	+0.6
BALA	Baldy Mountain	2.18	332	P	Pn	07 22 51.5	+0.9
PN7A	Pavlof North-7	2.23	346	P	Pn	07 22 52.7	+1.4
PN7A				S	Sn	07 23 18.1	-0.1
PN6	Pavlof North-6	2.24	347	P	Pn	07 22 53.4	+1.9
PN6				S	Sn	07 23 17.2	-1.2
SSLN	Shishaldin Nor	2.33	312	P	Pn	07 22 53.2	+0.5
WESE	West Dahl East	2.42	301	P	Pn	07 22 53.7	-0.5
WESN	West Dahl Nort	2.47	303	P	Pn	07 22 54.6	-0.1
WESS	West Dahl Sout	2.50	300	P	Pn	07 22 54.5	-0.6
WESS				S	Sn	07 23 23.5	-1.4
BLHA	Black Hill	2.50	346	P	Pn	07 22 56.1	+0.9
WFAR	Faris Peak	2.55	301	P	Pn	07 22 55.7	-0.2
AKA	Akutan	2.95	289	P	Pn	07 23 01.4	-0.2
AKUT	Akutan	2.95	289	P	Pn	07 23 01.0	-0.6
AKUT				S	Sn	07 23 34.0	-2.4
AKLV	Akutan Long Va	3.06	289	P	Pn	07 23 02.3	-0.8
AKGG	Akutan Green G	3.09	289	P	Pn	07 23 03.3	-0.3
MNAT	Makushin Natee	3.43	282	P	Pn	07 23 07.2	-1.2
MTBL	Makushin Table	3.44	284	P	Pn	07 23 07.9	-0.7
MSW	Makushin Switc	3.49	283	P	Pn	07 23 08.2	-1.1
OKCD	Okmok Cone D	4.25	275	P	Pn	07 23 18.6	-1.5
OKCE	Okmok Cone E	4.28	275	P	Pn	07 23 19.2	-1.3
KJL	Kejulik	5.69	31	P	Pn	07 23 39.0	-1.5
CAHL	Cahill	5.77	32	P	Pn	07 23 39.7	-1.9
KAHC	Katmai Hardscr	6.35	30	P	Pn	07 23 47.7	-2.1
KDAK	Kodiak Island	6.58	43	P	Pn	07 23 49.4	-3.5
MCNL	McNeil River	6.99	30	P	Pn	07 23 56.5	-2.2
ILW	Iliamna West	8.06	29	P	P	07 24 11.3	-2.3
ATKA	Atka Island	8.07	268	P	P	07 24 10.9	-2.9
ILIM	Iliamna	8.13	30	P	P	07 24 12.4	-2.2
SVW2	Sparrevohn	8.37	18	P	P	07 24 16.4	-1.6
RSO	Redoubt South	8.50	29	eP	P	07 24 17.7	-2.1
BRLK	Bradley Lake	8.57	37	P	P	07 24 16.7	-4.1
GSTR	Great Sitkin T	9.21	269	P	P	07 24 26.3	-3.3
GSMY	Great Sitkin M	9.22	268	P	P	07 24 25.5	-4.2
GSTD	Great Sitkin T	9.27	268	P	P	07 24 27.5	-2.9
SPU	Mount Spurr	9.29	28	eP	P	07 24 27.5	-3.1
SLKM	Skilak Lake	9.34	35	eP	P	07 24 28.1	-3.2
ADAG	Mount Adagdak	9.56	268	P	P	07 24 31.0	-3.3
KIWB	Kanaga Island	9.93	268	P	P	07 24 28.5	-11
RC01	Rabbit Creek A	9.93	33	P	P	07 24 36.2	-3.0
KIKV	Kanaga Island	9.93	268	P	P	07 24 35.9	-3.5
TTA	Tatalina	10.03	13	eP	P	07 24 38.7	-2.0
PMR	Palmer	10.49	33	eP	P	07 24 42.5	-4.5
PMR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PMR	Palmer	10.49	33	eP	P	07 24 42.5	-4.5
	comp=Z,2.5nm,0.3s						
SML	Sawmill	10.91	33	eP	P	07 24 47.6	-5.2
EYAK	Cordova Ski Ar	11.06	43	eP	P	07 24 49.8	-5.0
DIV	Divide	11.39	40	eP	P	07 24 55.2	-4.0
IMA	Indian Mountai	13.34	13	eP	P	07 25 24.7	-0.6
IMA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
IMA	Indian Mountai	13.34	13	eP	P	07 25 24.7	-0.6
	comp=Z,8.1nm,0.8s						
ILAR	Eielson Array	13.58	26	Pn	P	07 25 22.6	-5.7
	comp=Z,0.8nm,0.3s,baz=219,slow=14,SNR=52						
ILAR				Sn	S	07 27 48.1	-11
	comp=Z,1.3nm,0.3s,baz=214,slow=24,SNR=7.1						
ILAR				PcP	PcP	07 30 51.2	-2.0
	comp=Z,0.2nm,0.3s,baz=260,slow=2.7,SNR=9.8						
ILAR				LR	LR	07 31 07.7	
	comp=Z,674nm,19.4s,baz=245,slow=39						
FX1	Attu Island--F	15.49	279	eP	P	07 25 53.5	+0.1
DLBC	Dease Lake	18.04	61	P	P	07 26 26.9	+1.4
	comp=Z,0.3nm,0.3s,baz=266,slow=12,SNR=31						
DLBC				PcP	PcP	07 30 57.2	-2.7
	comp=Z,0.1nm,0.3s,baz=325,slow=5.3,SNR=3.4						
DLBC				LR	LR	07 31 59.9	
	comp=Z,136nm,20.4s,baz=289,slow=32						
DLBC	Dease Lake	18.04	61	eP	P	07 26 25.9	+0.4
BBB	Bella Bella	19.87	80	LR	LR	07 33 27.8	
	comp=Z,156nm,20.5s,baz=342,slow=34						
INK	Inuvik	19.89	30	eP	P	07 26 45.8	-1.4
INK				pmax	pmax		
	comp=Z,81nm,0.8s						
INK	Inuvik	19.89	30	P	P	07 26 46.3	-0.9
	comp=Z,4.7nm,0.3s,baz=224,slow=12,SNR=82						
INK				S	S	07 30 24.6	+0.8
	comp=Z,0.1nm,0.3s,baz=228,slow=31,SNR=7.5						
INK				PcP	PcP	07 31 01.4	-1.6
	comp=Z,0.9nm,0.3s,baz=342,slow=5.1,SNR=9.4						
INK				LR	LR	07 34 53.2	
	comp=Z,623nm,21.3s,baz=229,slow=38						
INK	Inuvik	19.89	30	eP	P	07 26 45.8	-1.4
	comp=Z,81nm,0.8s						
BILL	Bilibino	21.41	326	eP	P	07 27 01.7	-1.1
BILL				pmax	pmax		
	comp=Z,118nm,1.6s,mb5.0						
BILL	Bilibino	21.41	326	eP	P	07 27 01.7	-1.0
	comp=Z,118nm,1.6s,mb5.0						
PGC	Sidney	23.92	86	eP	P	07 27 28.7	+1.3
PET	Petropavlovsk	23.96	286	eP	P	07 27 28.0	+0.2
PET				eS	S	07 31 41.3	+1.9
PET				pmax	pmax		
	comp=Z,27nm,1.2s,mb4.5						
PET				pmax	pmax		
	comp=Z,100nm,13.3s						
PET				smax			
	comp=N,300nm,10.8s						
PET				smax			
	comp=E,100nm,15.2s						
PET				smax			
	comp=N,100nm,13.2s						
PET				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.4						
PET	Petropavlovsk	23.96	286	eP	P	07 27 27.7	-0.1
	comp=Z,73nm,1.1s,mb5.0						
FMW	Mount Fremont	25.77	88	P	P	07 27 48.7	+3.6
YKW3	Yellowknife Ar	25.78	50	eP	P	07 27 44.7	-0.3
YKA	Yellowknife Ar	25.79	51	P	P	07 27 45.1	0.0
	comp=Z,14nm,0.8s,mb4.5,baz=270,slow=8.6,SNR=38						
YKA				PcP	PcP	07 31 13.3	-1.6
	comp=Z,3.3nm,0.6s,baz=279,slow=2.2,SNR=15						
YKA				LR	LR	07 38 52.1	
	comp=Z,198nm,18.5s,MS3.7,baz=270,slow=39						
SEY	Seymchan	25.86	310	eP	P	07 27 45.4	-0.4
SEY				e		07 28 31.8	
SEY				e		07 31 18.4	
SEY				eS	S	07 32 12.1	+0.9
SEY				e		07 38 41.8	
SEY				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
SEY				pmax	pmax		
	comp=E,6.0nm,1.0s						
SEY				smax			
	comp=N,110nm,19.2s						
SEY				smax			
	comp=E,200nm,16.8s						
MPOR	Mary’s Peak	25.89	95	P	P	07 27 47.8	+1.5
SKR	Severo-Kuril’s	26.24	282	eP	P	07 27 47.7	-1.7
SKR				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.3						
FRIS	Frissel Point	26.92	94	P	P	07 27 57.0	+1.2
IRO	Indian Ridge	26.95	94	P	P	07 27 57.0	+1.0
HBO	Huckleberry Mo	27.00	95	P	P	07 27 57.6	+1.2
NEW	Newport	27.87	82	eP	P	07 28 03.7	-0.6
NEW				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NEW	Newport	27.87	82	P	P	07 28 04.2	0.0
	comp=Z,7.0nm,0.8s,mb4.3,baz=295,slow=7.0,SNR=22						
NEW	Newport	27.87	82	eP	P	07 28 03.6	-0.6
	comp=Z,6.9nm,0.8s,mb4.3						
YBH	Yreka Blue Hor	28.00	99	eP	P	07 28 05.9	+0.3
YBH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YBH	Yreka Blue Hor	28.00	99	P	P	07 28 05.6	0.0
	comp=Z,10nm,0.9s,mb4.4,baz=323,slow=3.0,SNR=17						
YBH				LR	LR	07 36 23.5	
	comp=Z,152nm,20.3s,MS3.6,baz=224,slow=30						
YBH	Yreka Blue Hor	28.00	99	eP	P	07 28 05.8	+0.3
	comp=Z,6.9nm,0.8s,mb4.3						
EDM	Edmonton	28.11	71	eP	P	07 28 05.7	-0.7
LHEM	Herd Peak	28.36	98	P	P	07 28 10.0	+1.3
LTIM	Timbered Crate	29.07	98	P	P	07 28 16.2	+1.0
LBCM	Butte Creek Ri	29.36	99	P	P	07 28 18.5	+0.7
WVOR	Wild Horse Val	30.01	94	eP	P	07 28 23.2	-0.4
WVOR				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
WVOR	Wild Horse Val	30.01	94	eP	P	07 28 23.2	-0.4
	comp=Z,7.9nm,0.9s,mb4.4						
MSO	Missoula	30.45	83	eP	P	07 28 26.1	-1.3
	comp=Z,2.3nm,0.9s,mb3.9						
BEKR	Beckwourth	30.56	99	eP	P	07 28 28.1	-0.3
	comp=Z,5.1nm,0.8s,mb4.4						
CHMT	Chamberlain Mo	30.81	82	eP	P	07 28 29.8	-0.9
WCN	Washoe City	31.28	100	eP	P	07 28 34.7	-0.1
WCN				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
WCN	Washoe City	31.28	100	eP	P	07 28 34.7	-0.1
	comp=Z,7.5nm,0.9s,mb4.5						
CMB	Columbia Colle	31.74	102	eP	P	07 28 38.9	0.0
CMB				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
CMB	Columbia Colle	31.74	102	eP	P	07 28 38.9	0.0
	comp=Z,4.2nm,0.9s,mb4.3						
HRY	Holter Researc	31.76	82	eP	P	07 28 38.2	-0.8
HLID	Hailey	31.90	89	eP	P	07 28 40.0	-0.2
	comp=Z,6.3nm,1.4s,mb4.2						
BMN	Battle Mountai	32.07	96	eP	P	07 28 41.9	+0.1
	comp=Z,8.1nm,1.1s,mb4.5						
MCMT	McKenzie Canyo	32.14	85	eP	P	07 28 41.8	-0.5
BOZ	Bozeman (W)	32.43	83	eP	P	07 28 44.2	-0.6
	comp=Z,3.8nm,0.8s,mb4.3						
NVAR	Mina Array Bea	32.71	100	P	P	07 28 47.7	+0.4
	comp=Z,8.0nm,0.8s,mb4.7,baz=304,slow=7.2,SNR=47						
MNV	Mina	32.79	99	eP	P	07 28 47.8	-0.3
	comp=Z,8.2nm,1.0s,mb4.6						
OMM	Old Mammoth Mi	32.84	101	eP	P	07 28 49.2	+0.7
ELK	Elko	33.06	93	eP	P	07 28 50.4	0.0
ELK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ELK	Elko	33.06	93	P	P	07 28 50.8	+0.4
	comp=Z,6.9nm,0.8s,mb4.6,baz=278,slow=24,SNR=46						
ELK				PcP	PcP	07 31 32.3	-1.2
	comp=Z,1.0nm,0.8s,baz=235,slow=23,SNR=4.5						
ELK				LR	LR	07 39 56.4	
	comp=Z,102nm,19.2s,MS3.5,baz=45,slow=32						
ELK	Elko	33.06	93	eP	P	07 28 50.4	0.0
	comp=Z,7.8nm,0.8s,mb4.7						
MTUM	Tungsten Hills	33.27	101	eP	P	07 28 52.9	+0.7
YMR	Madison River	33.35	84	eP	P	07 28 52.9	+0.1
GCMT	Greycliff	33.52	82	P	P	07 28 54.1	-0.2
LKWY	Lake	33.75	84	eP	P	07 28 56.8	+0.6
	comp=Z,8.3nm,0.8s,mb4.7						
IMW	Indian Meadow	33.79	85	eP	P	07 28 56.2	-0.5
	comp=Z,4.6nm,0.8s,mb4.5						
RRI2	Red Ridge	33.88	87	eP	P	07 28 57.2	-0.2
	comp=Z,4.9nm,0.8s,mb4.5						
TPAW	Teton Pass	34.02	86	eP	P	07 28 58.8	+0.2
	comp=Z,3.1nm,0.8s,mb4.3						
LOHW	Long Hollow	34.16	86	eP	P	07 28 59.5	-0.3
	comp=Z,2.9nm,0.8s,mb4.3						
BGU	Big Grassy Mou	34.28	91	eP	P	07 29 00.9	0.0
DAC	Darwin (Calif)	34.57	102	eP	P	07 29 03.5	+0.1
	comp=Z,7.5nm,0.8s,mb4.7						
LAO	LASA Array	35.09	78	eP	P	07 29 07.4	-0.4
	comp=Z,12nm,1.0s,mb4.8						
BW06	Boulder Array	35.27	86	eP	P	07 29 08.5	-0.8
	comp=Z,3.8nm,0.6s,mb4.5						
PDAR	Pinedale Array	35.27	86	P	P	07 29 09.2	-0.1
	comp=Z,4.2nm,0.7s,mb4.5,baz=312,slow=4.5,SNR=46						
ARUT	Antelope Range	36.02	96	eP	P	07 29 16.1	+0.3
MVU	Marysvale	36.29	94	eP	P	07 29 18.1	+0.1

comp=Z,7.2nm,0.8s,mb4.7
MSU Marysvale 36.30 94 *e*P P **07 29 18.4 +0.2**
YAK Yakutsk 36.36 312⇑*i*P P **07 29 17.6 -0.8**
YAK pmax pmax
comp=Z,107nm,1.7s,mb5.5
TMUT Trail Mountain 36.38 92 *e*P P **07 29 18.9 +0.1**
NEN Nelson 36.62 100 *e*P P **07 29 20.7 -0.1**
SRU San Rafael 36.91 92 *e*P P **07 29 23.5 +0.2**
RSSD Black Hills 37.78 80 *e*P P **07 29 30.2 -0.3**
RSSD pmax pmax
comp=Z,19nm,0.8s,mb4.9
RSSD Black Hills 37.78 80 *e*P P **07 29 30.2 -0.3**
comp=Z,19nm,0.8s,mb4.9
PV10 Paradox Valley 38.27 91 *e*P P **07 29 34.3 -0.4**
PV01 Paradox Valley 38.71 91 *e*P P **07 29 37.8 -0.6**
ULM Lac du Bonnet 39.19 67 P P **07 29 41.4 -0.8**
comp=Z,12nm,0.8s,mb4.7,baz=295,slow=8.1,SNR=13
ULM PcP PcP 07 31 49.2 -2.4
comp=Z,4.1nm,0.7s,baz=327,slow=4.2,SNR=3.9
ULM LR LR 07 45 10.3
comp=Z,40nm,20.9s,MS3.2,baz=230,slow=35
ULM Lac du Bonnet 39.19 67 P P **07 29 41.4 -0.8**
ULM PcP PcP 07 31 49.2 -2.4
ULM LR LR 07 45 10.3
SDCO Great Sand Dun 40.81 89 *e*P P **07 29 55.8 +0.1**
comp=Z,4.2nm,0.8s,mb4.1
TUC Tucson 41.36 100 *e*P P **07 30 00.2 -0.1**
comp=Z,6.2nm,0.9s,mb4.2
ANMO Albuquerque 42.10 93 *e*P P **07 30 06.4 +0.1**
ANMO pmax pmax
comp=Z,7.0nm,1.2s
ANMO Albuquerque 42.10 93 *e*P P **07 30 06.4 +0.1**
comp=Z,6.9nm,1.2s,mb4.2
BNM Barren Site 42.55 94 *e*P P **07 30 10.1 +0.1**
MDJ Mudanjiang 44.71 288 P P **07 30 25.6 -1.7**
MDJ AP pP 07 30 34.5 -2.1
MDJ XP sP 07 30 38.5 -1.9
MDJ PCP PcP 07 32 06.1 -3.7
MDJ SCP 07 35 55.3
MDJ PCS 07 36 00.0
MDJ XS 07 37 12.0
MDJ SCS ScS 07 40 20.8 +0.8
MDJ AMB AMB
comp=Z,13nm,1.8s,mb4.5
MDJ AMB AMB
comp=Z,152nm,4.5s
MDJ LR LR
comp=Z,68nm,23.6s,MS3.5
MJAR Matsushiro Arr 44.75 273 P P **07 30 27.2 -0.6**
comp=Z,1.0nm,0.3s,mb4.1,baz=35,slow=6.1,SNR=5.9
MJAR LR LR 07 46 49.9
comp=Z,72nm,21.8s,MS3.6,baz=350,slow=33
AMTX Amarillo 45.01 89 *e*P P **07 30 29.5 -0.4**
comp=Z,14nm,1.0s,mb4.8
KSU1 Kansas State U 45.25 81 *e*P P **07 30 30.5 -1.2**
GDL2 Guadalupe Moun 45.26 94 *e*P P **07 30 31.7 -0.2**
BOD Bodaibo 45.28 311 *e*P P **07 30 28.8 -2.9**
BOD pmax pmax
comp=Z,18nm,1.5s,mb4.7
WMOK Wichita Mounta 46.85 87 *e*P P **07 30 43.1 -1.3**
WMOK pmax pmax
comp=Z,14nm,0.8s,mb4.9
WMOK Wichita Mounta 46.85 87 *e*P P **07 30 43.1 -1.3**
comp=Z,14nm,0.8s,mb5.0
CN2 Changchun 47.56 290 *e*P P **07 30 48.4 -1.5**
CN2 *e*XP sP 07 31 02.2 -0.8
CN2 *e*S **S** **07 37 38.1 -3.9**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 LR LR
comp=N,480nm,18.0s,MS4.6
CN2 LR LR
comp=E,350nm,18.0s,MS4.6
LTX Lajitas 47.73 97 *e*P P **07 30 50.9 -0.6**
LTX pmax pmax
comp=Z,20nm,0.8s,mb5.2
LTX Lajitas 47.73 97 *e*P P **07 30 50.9 -0.6**
comp=Z,20nm,0.8s,mb5.2
TXAR Lajitas Array 47.73 97 P P **07 30 51.5 0.0**
comp=Z,16nm,0.7s,mb5.1,baz=297,slow=5.6,SNR=233
TXAR LR LR 07 50 39.5
comp=Z,51nm,20.2s,MS3.5,baz=355,slow=36
DAG Danmarks Havn 48.04 11⇑*e*P P **07 30 53.7 +0.5**
DAG pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
DAG Danmarks Havn 48.04 11⇑*e*P P **07 30 53.7 +0.5**
comp=Z,9.3nm,0.6s,mb5.0
DAG Danmarks Havn 48.04 11⇑*i*P P **07 30 53.7 +0.5**
comp=Z,9.3nm,0.6s,mb5.0
SUMG Summit 48.31 20 *e*P P **07 30 55.4 0.0**
comp=Z,8.4nm,0.9s,mb4.8
CIT Chita 48.83 305 *e*P P **07 30 59.5 -0.1**
CCM Cathedral Cave 49.10 79 *e*P P **07 30 58.8 -3.1**
comp=Z,4.7nm,0.8s,mb4.6
BLO Bloomington 51.11 74 *e*P P **07 31 14.8 -2.4**
comp=Z,15nm,0.8s,mb5.0
SCHQ Schefferville 51.18 48 P P **07 31 16.5 -1.0**
comp=Z,4.6nm,0.8s,mb4.5,baz=309,slow=9.7,SNR=6.7
SCHQ LR LR 07 54 13.1
comp=Z,204nm,18.0s,MS4.2,baz=3.6,slow=38
SCHQ Schefferville 51.18 48 P P **07 31 16.5 -1.0**
SCHQ LR LR 07 54 13.1
WVT Waverly 52.41 78 *e*P P **07 31 24.1 -3.0**
comp=Z,12nm,0.8s,mb4.9
PLAL Pickwick Lake 53.06 79 *e*P P **07 31 29.0 -3.0**
comp=Z,6.7nm,0.8s,mb4.6
ALLY Alegheny Colle 53.08 68 P P **07 31 29.8 -2.2**
MSNY Massena 53.70 61 P P **07 31 34.4 -2.1**
TLY Talaya 53.77 310 *e*P P **07 31 36.8 -0.1**
TLY *e* 07 33 33.7
TLY *e*S **S** **07 39 10.4 +2.7**
TLY *e* 07 41 25.5
TLY pmax pmax
comp=Z,28nm,1.6s,mb4.9
TLY MLR MLR
comp=Z,135nm,16.0s,MS4.1
TLY Talaya 53.77 310 *e*P P **07 31 36.0 -0.9**
comp=Z,28nm,1.2s,mb5.0
FRNY Flat Rock 54.48 61 *e*P P **07 31 39.4 -2.8**
ULN Ulaanbaatar 54.72 304⇓*i*P P **07 31 43.5 -0.5**
ZAK Zakamensk 54.82 309 *e*P P **07 31 43.4 -1.3**
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.1
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
BINY Binghamton 54.99 65 *e*P P **07 31 43.3 -2.8**
comp=Z,8.7nm,0.8s,mb4.8
BINY *e* pP 07 31 53.0 -2.5
SONM Songino Array 55.06 305 P P **07 31 45.7 -0.8**
comp=Z,1.5nm,0.5s,mb4.3,baz=37,slow=6.2,SNR=23
SONM LR LR 07 58 05.5
comp=Z,163nm,19.6s,MS4.1,baz=250,slow=39
ACCN Adirondack Com 55.42 62 *e*P P **07 31 47.0 -2.1**
FWV Forest Hill 55.48 72 *e*P P **07 31 47.0 -2.7**
BLA Blacksburg 55.96 72 *e*P P **07 31 50.4 -2.7**
BLA pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BLA Blacksburg 55.96 72 *e*P P **07 31 50.4 -2.7**
comp=Z,6.4nm,0.9s,mb4.7
QUA2 Belchertown 56.89 62 *e*P P **07 31 57.7 -2.0**
comp=Z,521nm,1.1s
KEV Kevo 57.13 357 *e*P P **07 31 59.5 -1.6**
KEV *e**PP pP 07 32 08.9 -1.7
KEV pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
KEV Kevo 57.13 357 *e*P P **07 31 59.5 -1.5**
comp=Z,9.2nm,0.6s,mb5.0
KEV *e*pP pP 07 32 08.9 -1.7
WES Weston 57.36 62 *e*P P **07 32 00.7 -2.4**
comp=Z,40nm,0.8s,mb5.5
WES *e*pP pP 07 32 10.2 -2.3
ARCES ARCESS Array B 57.40 357 P P **07 32 01.9 -1.1**
comp=Z,4.1nm,0.6s,mb4.6,baz=18,slow=6.3,SNR=27
ARCES LR LR 07 54 22.1
comp=Z,117nm,20.4s,MS4.0,baz=207,slow=34
ARE0 ARCESS Array S 57.40 357 *e*P P **07 32 01.6 -1.3**
BRYW Bryant College 57.57 62 *e*P P **07 32 02.3 -2.2**
comp=Z,22nm,0.8s,mb5.2
SSE Sheshan 58.67 281 P P **07 32 09.0 -3.4**
SSE AP pP 07 32 18.2 -3.7
SSE XP sP 07 32 22.0 -3.5
SSE S **S** **07 40 09.5 -3.6**
SSE XS 07 40 25.3
SSE AMB AMB
comp=Z,23nm,0.6s,mb5.4
SSE AMB AMB
comp=Z,73nm,4.0s
SSE LR LR
comp=N,113nm,20.0s,MS4.3
SSE LR LR
comp=E,227nm,20.0s,MS4.3
SSE LR LR
comp=Z,101nm,20.0s,MS3.9
SSE Sheshan 58.67 281 P P **07 32 09.0 -3.4**
comp=Z,23nm,0.6s,mb5.4
SSE pP pP 07 32 18.2 -3.7
SSE sP sP 07 32 22.0 -3.5
SSE S **S** **07 40 09.5 -3.6**
SSE sS 07 40 25.3
SSE LR LR
comp=Z,100nm,20.0s,MS3.9
NJ2 Nanjing 59.35 283 *e*P P **07 32 18.9 +1.8**
NJ2 AP pP 07 32 28.4 +1.7
NJ2 XP sP 07 32 33.2 +3.1
NJ2 PCP PcP 07 33 07.1 +2.6
NJ2 S **S** **07 40 24.0 +2.2**
NJ2 XS 07 40 40.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
NJ2 AMB AMB
comp=Z,110nm,9.2s
NJ2 LR LR
comp=N,220nm,13.8s
NJ2 LR LR
comp=E,160nm,19.8s
NJ2 LR LR
comp=Z,130nm,19.1s
NVS Novosibirsk 59.91 323 *e*P P **07 32 18.3 -2.2**
NVS *e* 07 33 02.2
NVS pmax pmax
comp=N,21nm,1.5s
NVS pmax pmax
comp=Z,28nm,1.5s,mb5.1
NVS pmax pmax
comp=E,15nm,1.3s
ZAL Zalesovo 60.04 321 P P **07 32 20.1 -1.3**
comp=E,6.1nm,0.5s,mb4.9,baz=56,slow=7.6,SNR=17
ZAL LR LR 08 01 28.2
comp=E,239nm,18.4s,MS4.4,baz=82,slow=39
GTA Gaotai 64.43 302 *e*P P **07 32 50.7 -0.2**
GTA AP pP 07 32 59.9 -0.7
GTA XP sP 07 33 04.0 0.0
GTA S **S** **07 41 28.4 +2.5**
GTA AMB AMB
comp=Z,9.0nm,1.8s,mb4.5
GTA AMB AMB
comp=Z,165nm,8.0s
GTA LR LR
comp=N,148nm,18.0s,MS4.4
GTA LR LR
comp=E,167nm,19.9s,MS4.4
GTA LR LR
comp=Z,126nm,18.3s,MS4.1
KAF Kangasniemi 64.81 356 *ep* P **07 32 52.0 -0.9**
comp=Z,11nm,0.5s,mb5.2,baz=1.5,slow=6.2
KAF Kangasniemi 64.81 356 *e*P P **07 32 52.0 -0.9**
KAF pmax pmax
comp=Z,11nm,0.5s,mb5.1
LZH Lanzhou 64.82 297⇑P P **07 32 53.5 0.0**
LZH AP pP 07 33 03.6 +0.5
LZH XP sP 07 33 07.5 +0.9
LZH PP PP 07 35 17.8 -0.3
LZH AMB AMB
comp=Z,41nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,89nm,6.3s
LZH LR LR
comp=Z,837nm,17.8s,MS5.0
LZH Lanzhou 64.82 297⇑P P **07 32 53.5 0.0**
comp=Z,41nm,1.3s,mb5.3
LZH pP pP 07 33 03.6 +0.5
LZH sP sP 07 33 07.5 +0.9
LZH PP PP 07 35 17.8 -0.3
LZH LR LR
comp=Z,840nm,17.8s,MS5.0
FINES FINESS Array B 65.48 356 P P **07 32 56.7 -0.6**
comp=Z,9.0nm,0.7s,mb4.9,baz=14,slow=7.9,SNR=46
FINES LR LR 08 00 27.3
comp=Z,85nm,21.5s,MS3.9,baz=140,slow=35
FINES FINESS Array B 65.48 356 P P **07 32 56.7 -0.6**
FINES LR LR 08 00 27.3
BVA0 Borovoye Array 65.73 329 P P **07 32 59.3 +0.3**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
BVAR Borovoye Array 65.73 329 P P **07 32 59.2 +0.2**
comp=Z,22nm,0.6s,mb5.3,baz=40,slow=6.5,SNR=111
VOSK Vostochnaya 65.80 328 P P **07 32 59.5 0.0**
VOSK pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
NB2 NORSAR Subarra 65.86 4 P P **07 32 59.6 -0.1**
comp=Z,7.9nm,0.8s,mb4.8,baz=355,slow=6.2
NB2 NORSAR Subarra 65.86 4 P P **07 32 59.6 -0.1**
NB2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
NOA NORSAR Array B 65.86 4 P P **07 32 59.3 -0.4**
comp=Z,5.8nm,0.7s,mb4.7,baz=356,slow=6.4,SNR=28
NOA LR LR 08 00 05.8
comp=Z,71nm,21.6s,MS3.8,baz=340,slow=34
ARU Arti 65.93 337⇓*i*P P **07 32 59.9 -0.3**
ARU *e*S S 07 41 44.4 +0.4
ARU *e*SS SS 07 45 53.5 -7.0
ARU pmax pmax
comp=Z,12nm,0.7s,mb5.0
ARU Arti 65.93 337 *e*P P **07 32 59.6 -0.6**
comp=Z,14nm,0.6s,mb5.2
ZRNK Zerenda 66.22 330 P P **07 33 02.6 +0.5**
ZRNK pmax pmax
comp=Z,16nm,0.7s,mb5.2
MKAR Makanchi Array 66.69 318 *i*P P **07 33 04.7 -0.6**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 66.69 318 P P **07 33 04.5 -0.8**
comp=Z,7.6nm,0.6s,mb4.9,baz=48,slow=6.6,SNR=92
MKAR LR LR 08 04 37.0
comp=Z,52nm,18.1s,MS3.8,baz=12,slow=38
WMQ Urumqi 66.80 313 P P **07 33 06.7 +0.7**
WMQ AP pP 07 33 17.0 +1.4
WMQ XP sP 07 33 20.9 +1.8
WMQ PP PP 07 35 35.6 +0.7
WMQ AMB AMB
comp=Z,14nm,2.1s,mb4.6
WMQ AMB AMB
comp=Z,38nm,7.2s
WMQ LR LR
comp=N,154nm,20.2s,MS4.4
WMQ LR LR
comp=E,148nm,16.1s,MS4.4
WMQ LR LR
comp=Z,296nm,21.0s,MS4.5
HFS Hagfors 66.86 3 P P **07 33 05.9 -0.2**
comp=Z,21nm,0.6s,mb5.3,baz=34,slow=5.3,SNR=54
VSU Vasula 68.44 356⇓*i*P P **07 33 15.9 -0.1**
GYA Guiyang 70.57 288⇑*i*P P **07 33 28.9 -0.8**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
OBN Obninsk 71.00 349 *e*P P **07 33 31.2 -0.5**
OBN *e* 07 33 59.2
OBN 07 36 10.0
OBN pmax pmax
comp=Z,19nm,0.9s,mb5.0
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
PPT Papeete 71.24 168 LR LR 07 56 06.6
comp=Z,271nm,20.2s,MS4.5,baz=354,slow=29
AB31 Akbulak array 72.12 333 P P **07 33 39.2 +0.6**
AB31 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
TKM2 Tokmak 2 72.55 320 P P **07 33 42.2 +1.1**
SNR=18
USP Ospenovka 72.67 321 P P **07 33 42.8 +1.0**
SNR=17
CHMS Chumysh 72.81 321 P P **07 33 43.7 +1.1**
SNR=8.9
ULHL Ulahol 72.87 319 P P **07 33 42.8 -0.3**
SNR=8.6
FRU Bishkek 73.00 321 *e*P P **07 33 44.5 +0.7**
FRU pmax pmax
comp=Z,74nm,1.8s,mb5.3
KBK Karagaybulak 73.03 320 P P **07 33 45.2 +1.3**
SNR=6.7
AAK Ala-Archa 73.22 321 P P **07 33 46.1 +1.0**
SNR=10
AAK Ala-Archa 73.22 321*d i*P P **07 33 44.9 -0.1**
AAK pmax pmax
comp=Z,15nm,0.7s,mb5.0
AAK MLR MLR
comp=Z,200nm,18.0s,MS4.4
AAK Ala-Archa 73.22 321 *e*P P **07 33 44.5 -0.5**
comp=Z,9.4nm,0.6s,mb4.9
KZA Kyzart 73.40 320 P P **07 33 47.5 +1.4**
SNR=16
UCH Uchtor 73.56 320 P P **07 33 48.6 +1.6**
SNR=11
AML Almayashu 73.95 321 P P **07 33 51.2 +1.9**
SNR=17
CLL Collm 75.67 4 *i*P P **07 33 59.4 +0.4**
CLL pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
CLL Collm 75.67 4 *i*P P **07 33 59.4 +0.4**
comp=Z,9.0nm,0.7s,mb4.8
CLL Collm 75.67 4 P P **07 33 59.4 +0.4**
comp=Z,logA/T=1.1,mb4.8
AKASG Malin Array Be 76.03 353 P P **07 34 00.6 -0.5**
comp=Z,16nm,0.6s,mb5.2,baz=8.7,slow=5.6,SNR=83
BRG Berggiesshubel 76.13 3 *e*P P **07 34 02.5 +0.9**
comp=Z,9.1nm,1.0s,mb4.7
KSP Ksiaz 76.23 2 *e*P P **07 34 02.9 +0.7**
MOX Moxa 76.26 5 *e*P P **07 34 03.1 +0.7**
MOX pmax pmax
comp=Z,16nm,0.7s,mb5.1
MOX Moxa 76.26 5 *e*P P **07 34 03.1 +0.7**
comp=Z,16nm,0.7s,mb5.1
MOX Moxa 76.26 5 *i*P P **07 34 03.1 +0.7**
comp=Z,logA/T=1.4,mb5.1
BAIF Baives 76.28 10 *e*P P **07 34 03.1 +0.6**
PVCC Panska Ves 76.50 3 *e*P P **07 34 04.5 +0.8**
UPC Upice 76.56 2 *e*P P **07 34 04.8 +0.8**
NKC Novy Kostel 76.72 4 *e*P P **07 34 05.5 +0.6**
DPC Dobruska-Polom 76.72 2 *e*P P **07 34 06.1 +1.2**
OJC Ojcow 76.87 359 *e*P P **07 34 06.5 +0.7**
FLN La Foliniere 77.00 13 *e*P P **07 34 06.6 +0.1**
FLN *e*R
comp=Z,150nm,22.5s
PRU Pruhonice 77.04 3 *e*P P **07 34 07.5 +0.8**
GRA1 Grafenberg Arr 77.19 5 *e*P P **07 34 08.9 +1.3**
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 77.19 5 P P **07 34 08.9 +1.3**
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SGMF Saint Gilles 77.20 15 *e*P P **07 34 07.5 -0.1**
comp=Z,10nm,0.6s,mb4.6
OKC Ostrava-Krasne 77.25 1 *e*P P **07 34 08.9 +1.0**
GRR Gorron 77.32 13 *e*P P **07 34 08.5 +0.2**
comp=Z,30nm,0.7s,mb5.0
KHC Kasperske Hory 77.86 4 *e*P P **07 34 12.5 +1.3**
KOLS Kolonicke sedl 78.12 358 *e*P P **07 34 13.6 +0.9**
GERES GERESS Array B 78.15 4 P P **07 34 13.7 +0.9**
comp=Z,4.1nm,0.6s,mb4.5,baz=359,slow=4.3,SNR=35
GERES LR LR 08 13 00.3
comp=Z,58nm,19.0s,MS3.9,baz=189,slow=39
CRVS Cervenica-Dubn 78.17 358 *e*P P **07 34 14.7 +1.8**
CDF Champ du Feu 78.20 8 *e*P P **07 34 13.7 +0.6**
comp=Z,15nm,0.8s,mb4.4
HAU Haudompre 78.52 9 *e*P P **07 34 15.3 +0.4**
comp=Z,16nm,0.8s,mb4.7
HAU *e*R
comp=Z,70nm,20.0s
VYHS Vyhne 78.60 0 *e*P P **07 34 16.3 +1.0**
KECS Kecovo 78.61 359 *e*P P **07 34 16.3 +1.0**
HINF Hinteralfeld 78.75 8 *e*P P **07 34 16.6 +0.4**
comp=Z,9.7nm,0.7s,mb4.5
LOR Lormes 79.00 10 *e*P P **07 34 18.7 +1.1**
comp=Z,16nm,0.7s,mb4.8
LOR *e*R
comp=Z,76nm,21.8s
MFF Saint Martin d 79.17 13 *e*P P **07 34 19.1 +0.7**
comp=Z,75nm,0.7s,mb5.4
SSF Saint Saulge 79.17 11 *e*P P **07 34 19.0 +0.5**
comp=Z,20nm,0.8s,mb4.8
BURAR Bucovina Array 79.34 356⇓P P **07 34 20.5 +1.1**
MOTA Moosalm 79.53 5⇓*i*P P **07 34 21.6 +1.2**
comp=Z,6.2nm,0.6s,mb4.7
WATA Walderalm 79.56 5⇓*i*P P **07 34 21.9 +1.3**
comp=Z,9.7nm,0.5s,mb5.0
BGF Bois d'Agland 79.59 11 *e*P P **07 34 21.2 +0.5**
comp=Z,23nm,0.8s,mb4.8
SMF Signal de Mont 79.62 11 *e*P P **07 34 21.2 +0.3**
comp=Z,16nm,0.7s,mb4.7
WTTA Wattenberg 79.64 5⇓*i*P P **07 34 22.5 +1.5**
comp=Z,14nm,0.6s,mb5.1
SQTA Sankt Quirin 79.66 5⇓*i*P P **07 34 22.5 +1.4**
comp=Z,11nm,0.7s,mb4.9
TCF Toulx Ste Croi 79.78 12 *e*P P **07 34 22.2 +0.4**
ARSA Arzberg 79.80 2⇑*i*P P **07 34 23.8 +1.9**
comp=Z,7.4nm,0.7s,mb4.7
CABF La Chapelle 79.88 9 *e*P P **07 34 23.3 +1.0**
comp=Z,17nm,0.7s,mb4.8
KBA Koelnbreinsper 79.90 4⇓*i*P P **07 34 24.2 +1.8**
comp=Z,21nm,0.6s,mb5.2
PERS Pernice 80.41 3 *i*P P **07 34 26.5 +1.4**
OBKA Obir 80.52 3⇓*i*P P **07 34 27.0 +1.3**
comp=Z,64nm,0.8s,mb5.6
GUN Gumba 80.57 304 *e*P P **07 34 27.2 +0.8**
comp=Z,32nm,0.8s,mb5.3
GROS Grobnik 80.59 2 *i*P P **07 34 27.2 +1.1**
RJF Les Rejaudoux 80.66 12 *e*P P **07 34 27.5 +1.0**
comp=Z,18nm,0.7s,mb4.8
RJF *e*R
comp=Z,164nm,21.2s
ROBS Robic 80.74 4 *i*P P **07 34 27.2 +0.3**
LFF La Frestale 80.92 13 *e*P P **07 34 28.5 +0.7**
comp=Z,56nm,0.7s,mb5.3
KKN Kakani 80.97 305 *e*P P **07 34 29.1 +0.7**
comp=Z,19nm,0.6s,mb5.2
KIV Kislovodsk 81.03 343⇓*i*P P **07 34 29.6 +1.2**
KIV pmax pmax
comp=Z,12nm,0.6s,mb5.0
KIV MLR MLR
comp=Z,100nm,21.0s,MS4.2
KIV Kislovodsk 81.03 343 *e*P P **07 34 29.5 +1.1**
comp=Z,13nm,0.6s,mb5.0
LPL La Plagne 81.03 9 *e*P P **07 34 30.2 +1.8**
LPG La Plagne 81.05 9 *e*P P **07 34 30.4 +1.9**
PKI Pulchoki 81.08 305 *e*P P **07 34 29.2 +0.1**
comp=Z,60nm,1.1s,mb5.4
CAF Calviac 81.10 12 *e*P P **07 34 29.4 +0.6**
comp=Z,17nm,0.8s,mb4.8
GKN Gorkha 81.10 305 *e*P P **07 34 29.5 +0.3**
comp=Z,30nm,0.9s,mb5.2
DMN Daman 81.20 305 *e*P P **07 34 30.3 +0.6**
comp=Z,57nm,1.1s,mb5.4
CMAR Chiang Mai Arr 81.24 289 P P **07 34 29.6 -0.4**
comp=Z,3.1nm,1.0s,mb4.2,baz=17,slow=4.7,SNR=9.8
MLR Muntele Rosu 81.43 355 P P **07 34 31.4 +1.0**
comp=Z,2.3nm,0.6s,mb4.3,baz=265,slow=4.1,SNR=5.5
VIVF Saint-Julien-l 81.47 10 *e*P P **07 34 31.7 +1.0**
comp=Z,21nm,0.9s,mb4.8
ORIF Oris-en-Rattie 81.54 9 *e*P P **07 34 32.2 +1.1**
comp=Z,18nm,0.7s,mb4.8
ORIF *e*R
comp=Z,107nm,21.2s
SNX Sinaia 81.58 355⇓P P **07 34 33.2 +1.9**
MBDF Montbardon 81.81 9 *e*P P **07 34 33.7 +1.2**
comp=Z,16nm,0.6s,mb4.8
LASF Ste Croix 82.16 11 *e*P P **07 34 35.3 +1.0**
comp=Z,22nm,1.1s,mb4.7
TIRR Tirgusor 82.30 353⇓P P **07 34 36.0 +1.0**
SJPF Ste Jean 82.42 15 *e*P P **07 34 36.9 +1.2**
SMRF Simiane la Rot 82.44 10 *e*P P **07 34 37.4 +1.6**
comp=Z,20nm,0.7s,mb4.8
MTLF Montolieu 82.68 12 *e*P P **07 34 37.9 +0.9**
comp=Z,21nm,0.7s,mb5.0
SBF Sospel 82.73 8 *e*P P **07 34 38.7 +1.4**
comp=Z,58nm,0.8s,mb5.3
ETSF Etsaut 82.73 14 *e*P P **07 34 38.6 +1.3**
comp=Z,14nm,0.6s,mb4.8
EPF Esparros 82.73 14 *e*P P **07 34 38.3 +1.0**
comp=Z,12nm,0.8s,mb4.7
FRF La Foret Royal 82.96 9 *e*P P **07 34 39.2 +0.7**
comp=Z,24nm,0.7s,mb5.0
LMR La Mourre 83.17 9 *e*P P **07 34 40.6 +1.0**
ROSC El Rosal 84.16 90 P P **07 34 45.2 +0.1**
comp=Z,3.1nm,0.6s,mb4.6,baz=284,slow=17,SNR=3.8
GNI Garni 84.32 340 P P **07 34 45.2 -0.1**
comp=Z,1.8nm,0.3s,mb4.7,baz=162,slow=20,SNR=2.8
CII Carovilli 85.29 4 *e*P P **07 34 50.5 +0.3**
comp=Z,16nm,0.6s,mb5.3
ESDC Sonseca Array 85.32 18 P P **07 34 50.9 +0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,4.4nm,0.7s,mb4.7,baz=341,slow=4.1,SNR=16						
BRTR	**Keskin Array B**	**86.50**	**349**	P	**P**	**07 34 57.2**	**+0.9**
	comp=Z,4.1nm,0.7s,mb4.7,baz=39,slow=2.2,SNR=16						
WRAB	**Tennant Creek**	**91.66**	**238**	*e*P	**P**	**07 35 20.9**	**-0.1**
WRA	**Warramunga Arr**	**91.67**	**238**	P	**P**	**07 35 19.5**	**-1.5**
	comp=Z,0.9nm,0.7s,mb4.2,baz=38,slow=5.7,SNR=13						
WRA				PKKPbc		07 52 38.5	
	comp=Z,0.5nm,0.7s,baz=227,slow=2.5,SNR=5.6						
KMBO	**Kilima Mbogo**	**125.85**	**337**	PKP	PKPdf	07 41 16.4	-3.4
	comp=Z,2.3nm,0.7s,baz=3.4,slow=5.6,SNR=6.4						
LSZ	**Lusaka**	**141.39**	**346**	*e*PKP	PKPdf	07 41 38.2	-11
TSUM	**Tsumeb**	**145.97**	**2**	*e*PKP	PKPdf	07 41 52.6	-3.9
LBTB	**Lobatse**	**151.33**	**347**	*e*PKPbc	PKPdf	07 42 06.8	+1.9
MAW	**Mawson**	**154.75**	**219**	PKPbc	PKPdf	07 42 12.3	+3.9
	comp=Z,0.9nm,0.7s,baz=33,slow=16,SNR=2.5						
MAW				PKPab	PKPab	07 42 28.0	-1.3
	comp=Z,2.3nm,0.5s,baz=89,slow=5.6,SNR=8.8						
BOSA	**Boshof**	**154.92**	**347**	PKP	PKPdf	07 42 06.0	-3.9
	comp=Z,1.5nm,0.7s,baz=189,slow=10,SNR=4.6						
BOSA				PKPbc	PKPdf	07 42 14.8	+4.9
	comp=Z,1.4nm,0.6s,baz=65,slow=9.1,SNR=3.7						
BOSA	**Boshof**	**154.92**	**347**	PKP	PKPdf	07 42 06.0	-3.9
BOSA				PKPbc	PKPdf	07 42 14.8	+4.9
VNA3	**Neumayer Olymp**	**157.99**	**156**	⇑*i*PKPdf	PKPdf	07 42 22.7	+10
VNA3				*e*		07 42 42.0	
VNA3				*e*		07 42 55.9	
VNA3				*e*		07 46 32.4	
VNA3				*e*		08 11 01.6	
VNA2	**Neumayer--Watz**	**158.76**	**156**	⇑*i*PKPdf	PKPdf	07 42 21.5	+7.9
VNA2				*e*		07 42 40.0	
VNA2				*e*		07 42 53.5	
VNA2				*e*		07 46 27.5	
VNA2				*e*		08 11 02.4	
SNAA	**Sanae**	**159.22**	**161**	⇑*i*PKPdf	PKPdf	07 42 21.1	+7.0
SNAA				*e*		07 42 56.0	
SNAA				*e*		07 46 29.2	
SNAA				*e*		08 10 52.2	

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*KNET **05** 07:35:34.3±0.4, 43.05N×74.89E, h16^{km}±2^{km}, ml1.9, Error ellipse: s-maj=2.7km s-min=2.2km az=13.0*
*NNC **05** 07:35:34.9±0.2, 43.08N×74.85E, mpv2.3, Error ellipse: s-maj=3.1km s-min=1.1km az=112.0*
ISC 05 07:35:34.8±0.7**, 43.07N**±0.04×**74.91E**±0.04**, h7**^{km}±6^{km}**, n11, σ0^{s}48**/20**, 10C-8D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.14**	**239**	⇑P	**Pg**	**07 35 37.7**	**-0.2**
	177nm,0.2s,SNR=328						
CHMS				⇓S	**Sg**	**07 35 39.6**	**-0.3**
	240nm,0.2s						
USP	**Ospenovka**	**0.36**	**303**	P	**Pg**	**07 35 42.5**	**+0.4**
	85nm,0.1s,SNR=280						
USP				⇓S	**Sg**	**07 35 48.0**	**+0.9**
	119nm,0.2s						
KBK	**Karagaybulak**	**0.41**	**176**	⇓P	**Pg**	**07 35 43.2**	**0.0**
	84nm,0.1s,SNR=45						
KBK				⇓S	**Sg**	**07 35 49.4**	**+0.7**
	222nm,0.3s						
TKM2	**Tokmak 2**	**0.52**	**106**	⇓P	**Pg**	**07 35 45.1**	**-0.3**
	11nm,0.1s,SNR=75						
TKM2				⇓S	**Sg**	**07 35 52.4**	**+0.1**
	44nm,0.1s						
AAK	**Ala-Archa**	**0.53**	**215**	⇑P	**Pg**	**07 35 45.1**	**-0.4**
	20nm,0.2s,SNR=14						
AAK				⇑S	**Sg**	**07 35 52.4**	**-0.4**
	64nm,0.3s						
AAK	**Ala-Archa**	**0.53**	**215**	⇑P	**Pg**	**07 35 45.1**	**-0.5**
	6.8nm,0.3s						
AAK				⇑S	**Sg**	**07 35 52.4**	**-0.4**
	21nm,0.3s						
UCH	**Uchtor**	**0.89**	**199**	⇑P	**Pb**	**07 35 51.7**	**-0.5**
	2.8nm,0.2s,SNR=32						
KZA	**Kyzart**	**1.02**	**166**	⇑P	**Pb**	**07 35 54.4**	**-0.1**
	6.0nm,0.2s,SNR=8.4						
KZA				⇑S	**Sb**	**07 36 08.5**	**+0.7**
	13nm,0.2s						
ULHL	**Ulahol**	**1.28**	**130**	⇑P	**Pb**	**07 35 58.7**	**-0.1**
	2.6nm,0.1s,SNR=17						
AML	**Almayashu**	**1.30**	**224**	P	**Pb**	**07 35 59.4**	**+0.2**
	9.2nm,0.3s,SNR=22						
AML				⇓S	**Sb**	**07 36 16.3**	**+0.4**
	16nm,0.2s						
KK31	**Karatay Array**	**3.23**	**272**	Pn	**Pn**	**07 36 25.9**	**-1.0**
	0.2nm,0.4s,baz=86,slow=13,SNR=4.0						
KK31				⇓Pg	**Pg**	**07 36 33.0**	**-6.2**
	0.2nm,0.2s,baz=91,slow=17,SNR=21						
KK31				⇑Lg		07 37 15.6	
	1.3nm,0.3s,baz=88,slow=29,SNR=7.9						

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*STR **05** 07:37:54.3±0.5, 43.37N×0.59W, h5^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **05** 07:37:54.3, 43.37N×0.59W, h5^{km}, ML3.1(LDG), ML2.4(STR), After STR.*
*LDG **05** 07:37:54.2±0.1, 43.35N×0.62W, h6^{km}, Md2.9/7, Ml3.1/11, Error ellipse: s-maj=1.5km s-min=1.1km az=125.0*
*CSEM **05** 07:37:54.8±0.1, 43.38N×0.57W, h5^{km}, ML3.0/15, Error ellipse: s-maj=1.1km s-min=0.8km az=147.0*
MDD 05 07:37:54.4±0.4**, 43.40N×0.60W, h13**^{km}±4^{km}**, mbLg2.3**/22**, 1C, Error ellipse: s-maj=3.8km s-min=2.1km az=8.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.30**	**233**	Pg	Pg	07 37 59.8	-1.1
ORDF				Sg	Sg	07 38 05.2	-0.1
ORDF	**Ordiarp**	**0.30**	**233**	P	Pg	07 37 59.8	-1.1
ORDF				S	Sg	07 38 05.2	-0.1
ATE	**Arette**	**0.32**	**193**	P	Pg	07 37 59.8	-1.4
ATE				S	Sg	07 38 05.1	-0.7
REYF	**Montagne du Re**	**0.36**	**155**	Pg	Pg	07 38 00.4	-1.6
REYF				Sg	Sg	07 38 05.9	-1.2
REYF	**Montagne du Re**	**0.36**	**155**	P	Pg	07 38 00.2	-1.9
REYF				S	Sg	07 38 06.5	-0.7
LARF	**Larrau**	**0.46**	**218**	Pg	Pg	07 38 02.2	-1.6
LARF				Sg	Sg	07 38 09.4	-0.7
LARF	**Larrau**	**0.46**	**218**	P	Pb	07 38 02.4	-1.4
LARF				S	Sb	07 38 09.5	-0.6
ETSF	**Etsaut**	**0.50**	**176**	*e*Pg	Pg	07 38 02.6	-2.1
ETSF				*e*Sg	Sg	07 38 09.3	-2.2
	117nm,0.4s						
OSSF	**Osses**	**0.50**	**254**	Pg	Pg	07 38 03.3	-1.4
OSSF				Sg	Sg	07 38 12.1	+0.6
OSSF	**Osses**	**0.50**	**254**	P	Pb	07 38 03.4	-1.1
OSSF				S	Sb	07 38 11.2	-0.2
SJPF	**Ste Jean**	**0.54**	**238**	*e*Pg	Pg	07 38 03.9	-1.5
SJPF				*e*Sg	Sg	07 38 10.2	-2.5
	142nm,0.4s						
LABF	**Labassere**	**0.61**	**125**	P	Pb	07 38 05.2	-1.1
LABF				S	Sb	07 38 14.1	-0.4
EALK	**Alkurruntz**	**0.68**	**255**	⇑Pg	Pg	07 38 06.8	-1.5
	51nm,0.3s,SNR=18						
EALK				Lg		07 38 17.6	
	109nm,0.3s						
VIEF	**Viey**	**0.69**	**138**	Pg	Pg	07 38 06.4	-2.0
VIEF				Sg	Sg	07 38 16.0	-1.7
VIEF	**Viey**	**0.69**	**138**	P	Pb	07 38 06.4	-1.4
VIEF				S	Sb	07 38 16.4	-0.4
EPF	**Esparros**	**0.78**	**118**	*e*Pg	Pg	07 38 08.7	-1.5
EPF				*e*Sg	Sg	07 38 18.6	-2.1
	90nm,0.3s						
IPRE	**Itoiz**	**0.81**	**223**	Pg	Pg	07 38 10.1	-0.7
	7.0nm,0.2s,SNR=7.9						
IPRE				Lg		07 38 21.5	
	34nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**0.81**	**223**	Pg	Pg	07 38 10.1	-0.6
	7.0nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.90**	**142**	Pg	Pg	07 38 10.0	-2.4
	2.1nm,0.1s,SNR=7.9						
EBIE				Lg		07 38 22.9	
	19nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.90**	**142**	Pg	Pg	07 38 10.0	-2.5
	2.1nm,0.1s,SNR=7.9						
MELF	**Melles**	**1.13**	**117**	Pg	Pg	07 38 15.3	-1.7
MELF	**Melles**	**1.13**	**117**	P	Pb	07 38 14.4	-0.8
MELF				S	Sb	07 38 31.3	+1.7
MLS	**Moulis**	**1.32**	**109**	S	Sb	07 38 34.9	-0.2
EGRA	**Graus**	**1.38**	**150**	Pg	Pg	07 38 20.0	-2.0
	5.0nm,0.2s,SNR=7.9						
EGRA				Lg		07 38 39.9	
	7.3nm,0.2s,SNR=7.9						
SALF	**Salau**	**1.46**	**115**	Pg	Pg	07 38 22.6	-1.0
SALF	**Salau**	**1.46**	**115**	P	Pn	07 38 22.2	+1.7
SALF				S	Sb	07 38 40.8	+1.6
ECRI	**Cripan**	**1.61**	**241**	Pg	Pg	07 38 24.5	-2.0
	6.9nm,0.2s,SNR=7.9						
ECRI				Lg		07 38 46.6	
	19nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**1.68**	**177**	Pg	Pg	07 38 25.6	-2.4
	11nm,0.1s,SNR=19						
ESAC				Lg		07 38 48.3	
	104nm,0.3s,SNR=7.1						
ESAC	**San Caprasio**	**1.68**	**177**	Pg	Pg	07 38 25.6	-2.4
	11nm,0.1s,SNR=19						
LFF	**La Frestale**	**1.82**	**32**	*e*Pg	Pg	07 38 28.9	-1.9
LFF				*e*Sg	Sg	07 38 53.0	-2.1
	56nm,0.4s						
MTLF	**Montolieu**	**2.06**	**91**	*e*Pn	Pn	07 38 28.5	-0.6
MTLF				*e*Pg	Pg	07 38 32.5	-3.0
MTLF				*e*Sg	Sg	07 38 59.2	-3.8
	45nm,0.4s						
ELAN	**Lanestosa**	**2.07**	**266**	Pg	Pg	07 38 33.2	-2.7
	1.2nm,0.1s,SNR=7.9						
ELAN				Lg		07 38 59.4	
	5.7nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**2.07**	**266**	Pg	Pg	07 38 33.2	-2.6
	1.2nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.16**	**133**	Pg	Pg	07 38 34.0	-3.6
	2.0nm,0.1s,SNR=6.8						
EMIR				Lg		07 39 02.6	
	13nm,0.3s,SNR=5.0						
EMIR	**Miracle**	**2.16**	**133**	Pg	Pg	07 38 34.0	-3.6
	2.0nm,0.1s,SNR=6.8						
EPOB	**Poblet**	**2.40**	**148**	Pg	Pg	07 38 37.7	-4.5
	2.0nm,0.1s,SNR=6.9						
EPOB				Lg		07 39 10.1	
	11nm,0.4s,SNR=5.0						
EPOB	**Poblet**	**2.40**	**148**	Pg	Pg	07 38 37.8	-4.4
RJF	**Les Rejaudoux**	**2.44**	**38**	*e*Pn	Pn	07 38 33.4	-1.1
RJF				*e*Pg	Pg	07 38 40.1	-3.0
RJF				*e*Sg	Sg	07 39 12.1	-3.5
	27nm,0.4s						
CAF	**Calviac**	**2.45**	**51**	*e*Pn	Pn	07 38 33.7	-1.1
CAF				*e*Pg	Pg	07 38 40.2	-3.2
CAF				*e*Sn	Sn	07 39 02.3	-2.5
CAF				*e*Sg	Sg	07 39 13.1	-3.0
	18nm,0.3s						
CAF	**Calviac**	**2.45**	**51**	Pn	Pn	07 38 33.7	-1.1
CAF				Pg	Pg	07 38 40.2	-3.2
CAF				Lg		07 39 13.1	
	8.8nm,0.3s						
EBR	**Ebro Roquetas**	**2.70**	**162**	*e*SG	Sg	07 39 23.5	-0.9
EMOS	**Mosqueruela**	**3.03**	**178**	Pn	Pn	07 38 43.1	0.0
EMOS				Pg	Pg	07 38 50.8	-4.2
EMOS				Sn	Sn	07 39 19.3	-0.2
EMOS				Lg		07 39 34.1	
EMOS	**Mosqueruela**	**3.03**	**178**	Pn	Pn	07 38 43.1	0.0
	0.6nm,0.2s,SNR=7.9						
EMOS				Pg	Pg	07 38 50.8	-4.2
	0.2nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	07 39 19.3	-0.2
	1.7nm,0.3s,SNR=7.9						
EMOS				Lg		07 39 30.4	
	7.6nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**3.03**	**178**	Pn	Pn	07 38 43.1	+0.1
	0.6nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**3.03**	**178**	Pg	Pg	07 38 50.8	-4.2
	0.2nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	07 39 19.3	-0.2
	1.7nm,0.3s,SNR=7.9						
MFF	**Saint Martin d**	**3.22**	**6**	*e*Pn	Pn	07 38 43.8	-1.9
MFF				*e*Sn	Sn	07 39 20.6	-3.6
MFF				*e*Sg	Sg	07 39 36.4	-5.2
	14nm,0.4s						
MFF	**Saint Martin d**	**3.22**	**6**	Pn	Pn	07 38 43.8	-1.9
MFF				Lg		07 39 36.4	
	6.8nm,0.4s						
LASF	**Ste Croix**	**3.30**	**77**	*e*Pn	Pn	07 38 44.7	-2.2
LASF				*e*Pg	Pg	07 38 55.8	-4.6
LASF				*e*Sg	Sg	07 39 38.7	-5.7
	22nm,0.6s						
EARI	**Arriondas**	**3.36**	**270**	Pn	Pn	07 38 47.2	-0.4
	0.3nm,0.2s,SNR=7.9						
EARI				Sn	Sn	07 39 27.5	-0.3
	0.7nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**3.36**	**270**	Pn	Pn	07 38 47.2	-0.5
	0.3nm,0.2s,SNR=7.9						
EARI				Sn	Sn	07 39 27.5	-0.3
	0.7nm,0.2s,SNR=7.9						
BGF	**Bois d'Agland**	**4.00**	**37**	*e*Pn	Pn	07 38 54.4	-2.3
BGF				*e*Sg	Sg	07 40 02.1	-5.4
	44nm,0.4s						
VIVF	**Saint-Julien-l**	**4.07**	**67**	*e*Pn	Pn	07 38 55.6	-2.1
VIVF				*e*Sg	Sg	07 40 03.2	-6.7
	4.5nm,0.3s						
SSF	**Saint Saulge**	**4.67**	**37**	*e*Pn	Pn	07 39 03.5	-2.8
SSF				*e*Sn	Sn	07 39 55.5	-5.5
SSF				*e*Sg	Sg	07 40 22.3	-7.7
	2.9nm,0.5s						
ECAL	**Calabor**	**4.75**	**254**	Pn	Pn	07 39 06.5	-0.9
ECAL				Sn	Sn	07 40 00.7	-2.3
ECAL	**Calabor**	**4.75**	**254**	Pn	Pn	07 39 06.5	-0.9
	0.2nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	07 40 01.3	-1.7
	1.4nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**4.75**	**254**	Pn	Pn	07 39 06.5	-0.9
	0.2nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	07 40 00.7	-2.3
	1.4nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**4.77**	**271**	Sn	Sn	07 39 59.8	-3.7
	0.6nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**4.77**	**271**	Sn	Sn	07 39 59.8	-3.7
	0.6nm,0.2s,SNR=7.9						
QUIF	**Quistinic**	**4.86**	**339**	*e*Pn	Pn	07 39 08.1	-0.9
GRR	**Gorron**	**4.99**	**358**	*e*Sg	Sg	07 40 31.8	-8.9
	3.4nm,0.2s						
SGMF	**Saint Gilles**	**5.04**	**345**	*e*Pn	Pn	07 39 09.0	-2.6
FLN	**La Foliniere**	**5.37**	**1**	*e*Pn	Pn	07 39 13.6	-2.5

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*KNET **05** 07:49:12.8±0.8, 41.65N×74.77E, h18^{km}±2^{km}, ml2.4, Error ellipse: s-maj=4.6km s-min=2.2km az=19.0*
*NNC **05** 07:49:13.3±1.8, 41.65N×74.66E, mpv2.8, Error ellipse: s-maj=19.9km s-min=9.4km az=98.0*
ISC 05 07:49:11.7±1.6**, 41.57N**±0.07×**74.73E**±0.06**, h3**^{km}±7^{km}**, n11, σ0^{s}40**/21**, 8C-10D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.64**	**37**	⇓P	**Pg**	**07 49 24.4**	**-0.1**
	27nm,0.2s,SNR=130						
KZA				⇓S	**Sg**	**07 49 33.0**	**0.0**
	70nm,0.2s						
UCH	**Uchtor**	**0.68**	**346**	⇓P	**Pg**	**07 49 25.3**	**0.0**
	63nm,0.2s,SNR=108						
UCH				⇓S	**Sg**	**07 49 34.6**	**+0.3**
	105nm,0.2s						
AML	**Almayashu**	**0.96**	**306**	P	**Pb**	**07 49 30.5**	**-0.1**
	35nm,0.1s,SNR=51						
AML				⇑S	**Sb**	**07 49 43.0**	**-0.5**
	90nm,0.2s						
AAK	**Ala-Archa**	**1.08**	**351**	⇓P	**Pb**	**07 49 32.5**	**-0.2**
	13nm,0.2s,SNR=12						
AAK				⇓S	**Sb**	**07 49 46.6**	**-0.4**
	40nm,0.2s						
AAK	**Ala-Archa**	**1.08**	**351**	⇓P	**Pb**	**07 49 32.4**	**-0.3**
	6.9nm,0.3s						
AAK				S	**Sb**	**07 49 46.3**	**-0.7**
	18nm,0.3s						
KBK	**Karagaybulak**	**1.10**	**8**	P	**Pb**	**07 49 32.9**	**-0.1**
	87nm,0.1s,SNR=148						
KBK				⇑S	**Sb**	**07 49 47.3**	**-0.3**
	137nm,0.2s						
ULHL	**Ulahol**	**1.31**	**59**	⇓P	**Pb**	**07 49 36.3**	**-0.4**
	3.1nm,0.1s,SNR=27						
ULHL				⇓S	**Sb**	**07 49 53.7**	**-0.1**
	27nm,0.2s						
CHMS	**Chumysh**	**1.43**	**1**	P	**Pn**	**07 49 38.7**	**+0.1**
	13nm,0.1s,SNR=33						
CHMS				⇑S	**Sb**	**07 49 57.0**	**-0.1**
	82nm,0.3s						
TKM2	**Tokmak 2**	**1.50**	**25**	⇑P	**Pn**	**07 49 39.8**	**+0.2**
	6.0nm,0.1s,SNR=8.9						
TKM2				⇑S	**Sb**	**07 49 59.1**	**0.0**
	34nm,0.2s						
USP	**Ospenovka**	**1.71**	**354**	⇓P	**Pn**	**07 49 43.7**	**+1.1**
	20nm,0.1s,SNR=30						
USP				⇑S	**Sn**	**07 50 05.9**	**+0.7**
	56nm,0.3s						
KK31	**Karatay Array**	**3.48**	**298**	⇑Pg	**Pg**	**07 50 15.4**	**-5.9**
	0.8nm,0.3s,baz=118,slow=16,SNR=23						
KK31				⇑Lg		07 51 00.6	
	1.8nm,0.3s,baz=108,slow=28,SNR=8.8						

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*IDC **05** 07:57:24.7±0.5, 2.34N×95.05E, mb4.7/19, mb1 4.8/20, mb1mx4.8/24, mbtmp4.8/20, ML4.3/1, MS4.2/10, Ms1 4.2/10, ms1mx3.9/23, Error ellipse: s-maj=21.3km s-min=12.2km az=62.0*
*BJI **05** 07:57:27.3, 2.15N×95.14E, h35^{km}, mB5.2, mb4.9, Ms4.8, Msz4.5*
*MOS **05** 07:57:28.0±0.8, 2.33N×95.07E, h33^{km}, mb5.4/37, Error ellipse: s-maj=12.6km s-min=5.6km az=110.0*
*NEIC **05** 07:57:28.9±0.2, 2.26N×95.06E, mb5.1/40, MS4.5/4, Error ellipse: s-maj=6.0km s-min=4.5km az=46.0*
*HRVD **05** 07:57:29.0±0.7, 2.20N×95.17E, h12^{km}, MW4.9/43, Centroid moment Tensor Solution. LP body waves: s10,c14;Mantle waves: s43,c70; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.90±.13; $M_{\theta\theta}$-1.75±.08; $M_{\phi\phi}$0.85±.15; $M_{r\theta}$0.20±.30; $M_{\theta\phi}$0.81±.09; $M_{\phi r}$2.78±.55; Best double couple: $M_0$3.025×10^{16} NP1:ϕ_s81°, δ35°, λ17°. NP2:ϕ_s337°, δ80°, λ124°. Principal axes: T 3.745, Plg44°, Azm280°; N -1.443, Plg33°, Azm150°; P -2.305, Plg27°, Azm41°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 05 07:57:27.3±0.3**, 2.27N**±0.04×**95.10E**±0.04**, h29**^{km}**, h29**^{km}±.9^{km}**:pP-P, n207, σ0^{s}92**/209**, mb5.0**/82**, MS4.4**/26**, 10C-4D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.30**	**61**	*e*Pn	**Pn**	**07 59 00.6**	**-0.2**
KULM				*e*Sn	**Sn**	**08 00 08.0**	**-4.6**
IPM	**Ipoh**	**6.34**	**69**	P	**Pn**	**07 59 01.9**	**+0.4**
SNG	**Songkhla**	**7.35**	**48**	P	**Pn**	**07 59 15.0**	**-0.6**
	410nm,0.9s						
KGM	**Kluang**	**8.22**	**92**	P	**P**	**07 59 27.5**	**-0.1**
PALK	**Pallekele**	**15.18**	**290**	*e*P	**P**	**08 01 07.6**	**+5.9**
KSM	**Kuching**	**15.22**	**93**	*e*P	**P**	**08 01 08.9**	**+6.6**
KSM				*e*pP		08 01 16.9	
CM31	**Chiang Mai Arr**	**16.52**	**13**	*e*P	**P**	**08 01 20.8**	**+1.9**
	78nm,0.9s						
CM31				*e*pP		08 01 28.4	
CMAR	**Chiang Mai Arr**	**16.52**	**13**	Pn	**P**	**08 01 17.7**	**-1.2**
	0.4nm,0.3s,baz=206,slow=11,SNR=40						
CMAR				Sn	**S**	**08 04 30.4**	**+10**
	0.4nm,0.3s,baz=213,slow=11,SNR=2.4						
CMAR				LR	LR	08 08 12.4	
	comp=Z,1μm,18.1s,baz=200,slow=39						
TRD	**Trivandrum**	**19.09**	**290**	*e*P	**P**	**08 01 50.2**	**-0.4**
TRD				AMb	AMB	08 01 51.4	
	comp=Z,108nm,0.9s						
VIS	**Vishakhapatnam**	**19.22**	**324**	*e*P	**P**	**08 01 50.8**	**-1.4**
VIS				AMb	AMB	08 01 55.2	
	comp=Z,40nm,1.1s						
VIS				*e*S	**S**	**08 05 17.1**	**-4.8**
KKM	**Kota Kinabalu**	**21.39**	**79**	*e*P	**P**	**08 02 16.3**	**+1.3**
KKM	**Kota Kinabalu**	**21.39**	**79**	P	**P**	**08 02 18.7**	**+3.6**
QIZ	**Qiongzhong**	**22.04**	**40**	*e*P	**P**	**08 02 18.8**	**-2.8**
QIZ				S	**S**	**08 06 22.2**	**+4.2**
QIZ				XS		08 06 29.8	
QIZ				AMB	AMB		
	comp=Z,154nm,8.8s						
QIZ				LR	LR		
	comp=N,2μm,17.2s,MS4.6						
QIZ				LR	LR		
	comp=E,1μm,16.3s,MS4.6						
QIZ				LR	LR		
	comp=Z,722nm,17.8s,MS4.1						
QIZ	**Qiongzhong**	**22.04**	**40**	*e*P	**P**	**08 02 30.4**	**+8.9**
	comp=Z,58nm,1.2s,mb4.9						
HYB	**Hyderabad**	**22.15**	**314**	*e*P	**P**	**08 02 23.0**	**+0.3**
HYB	**Hyderabad**	**22.15**	**314**	*i* P	**P**	**08 02 23.0**	**+0.3**
IMP	**Imphal**	**22.41**	**357**	*e*	**P**	**08 02 38.0**	**+13**
TSM	**Tawau**	**22.82**	**84**	P	**P**	**08 02 40.7**	**+11**
SHL	**Shillong**	**23.37**	**353**	*e*P	**P**	**08 02 33.5**	**-1.1**
SHL				*e*S	**S**	**08 06 42.5**	**+0.7**
BLSP	**Bilaspur**	**23.42**	**328**	*e*P	**P**	**08 02 36.1**	**+0.9**
BLSP				AMb	AMB	08 02 38.5	
	comp=Z,210nm,1.1s,mb5.5						
KMI	**Kunming**	**23.89**	**17**	P	**P**	**08 02 41.9**	**+2.2**
KMI				AP		08 02 50.4	
KMI				XP		08 02 53.9	
KMI				PP	PP	08 03 18.1	+4.5
KMI				PPP	PPP	08 03 28.9	+5.3
KMI				PCP	PcP	08 06 21.2	-2.4
KMI				S	**S**	**08 06 57.8**	**+7.0**
KMI				XS		08 07 12.1	
KMI				AMB	AMB		
	comp=Z,66nm,1.3s,mb4.9						
KMI				AMB	AMB		
	comp=Z,271nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,13.1s,MS4.6						
KMI				LR	LR		
	comp=E,747nm,13.9s,MS4.6						
KMI				LR	LR		
	comp=Z,1μm,13.9s,MS4.6						
KMI	**Kunming**	**23.89**	**17**	P	**P**	**08 02 41.9**	**+2.2**
KMI				*PP		08 02 50.4	
KMI				*SP		08 02 53.9	
KMI						08 03 18.1	
KMI						08 06 21.2	
KMI				S	**S**	**08 06 57.8**	**+7.0**
KMI				*SS		08 07 12.1	
KMI				SS	SS	08 07 53.4	+12
KMI				pmax	pmax		
	comp=Z,66nm,1.3s,mb4.9						
KMI				MLR	MLR		
	comp=Z,1μm,13.9s,MS4.6						
KMI	**Kunming**	**23.89**	**17**	P	**P**	**08 02 41.9**	**+2.2**
	comp=Z,66nm,1.3s,mb4.9						
KMI				pP		08 02 50.4	
KMI				sP		08 02 53.9	
KMI				PP	PP	08 03 18.1	+4.5
KMI				PPP	PPP	08 03 28.9	+5.3
KMI				PcP	PcP	08 06 21.2	-2.4
KMI				S	**S**	**08 06 57.8**	**+7.0**
KMI				sS		08 07 12.1	
KMI				SS	SS	08 07 53.4	+12
KMI				SSS	SSS	08 08 09.7	+12
KMI				LR	LR		
	comp=Z,1μm,13.9s,MS4.6						
KAD	**Karad**	**25.41**	**307**	*e*P	**P**	**08 02 55.1**	**+0.7**
KAD				AMb	AMB	08 02 59.1	
	comp=Z,43nm,1.3s,mb4.8						
GYA	**Guiyang**	**26.49**	**24**	⇑*i*P	**P**	**08 03 04.6**	**+0.3**
GYA				AP	pP	08 03 13.4	+0.6
GYA				XP	sP	08 03 17.9	+1.3
GYA				PP	PP	08 03 49.4	+1.4
GYA				S	**S**	**08 07 36.8**	**+2.3**
GYA				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.7						
GYA				AMB	AMB		
	comp=Z,370nm,6.0s						
GYA				LR	LR		
	comp=N,2μm,17.0s,MS4.9						
GYA				LR	LR		
	comp=E,2μm,15.2s,MS4.9						
GYA				LR	LR		
	comp=Z,1μm,14.9s,MS4.6						
PKI	**Pulchoki**	**26.82**	**341**	*e*P	**P**	**08 03 07.3**	**0.0**
	comp=Z,204nm,1.2s,mb5.5						
PKI	**Pulchoki**	**26.82**	**341**	*e*P	**P**	**08 03 07.3**	**0.0**
PKI				pmax	pmax		
	comp=Z,102nm,1.2s,mb5.2						
DMN	**Daman**	**26.95**	**340**	*e*P	**P**	**08 03 08.6**	**+0.1**
	comp=Z,244nm,1.3s,mb5.6						
GUN	**Gumba**	**26.98**	**342**	*e*P	**P**	**08 03 09.0**	**+0.2**
	comp=Z,383nm,1.3s,mb5.8						
KKN	**Kakani**	**27.06**	**341**	*e*P	**P**	**08 03 09.3**	**-0.2**
	comp=Z,547nm,1.5s,mb5.9						
KKN	**Kakani**	**27.06**	**341**	*e*P	**P**	**08 03 09.3**	**-0.2**
KKN				pmax	pmax		
	comp=Z,273nm,1.5s,mb5.6						
GKN	**Gorkha**	**27.47**	**340**	*e*P	**P**	**08 03 13.2**	**-0.1**
	comp=Z,428nm,1.3s,mb5.8						
LSA	**Lhasa**	**27.54**	**353**	P	**P**	**08 03 12.8**	**-1.0**
LSA				AP	pP	08 03 23.1	+0.8
LSA				XP	sP	08 03 25.7	-0.4

LSA SCS ScS 08 13 53.1 -6.2
LSA AMB AMB
comp=Z,20nm,1.0s,mb4.7
LSA LR LR
comp=N,180nm,12.8s,MS4.2
LSA LR LR
comp=E,380nm,13.4s,MS4.2
LSA LR LR
comp=Z,310nm,15.3s,MS4.0
LSA Lhasa 27.54 353 *e*P **P 08 03 15.1 +1.3**
LSA pmax pmax
comp=Z,115nm,1.0s,mb5.5
LSA Lhasa 27.54 353 *e*P **P 08 03 15.1 +1.3**
comp=Z,115nm,1.0s,mb5.5
CD2 Chengdu 29.64 15 P **P 08 03 31.7 -1.1**
DDI Dehra Dun 32.24 332 *e* **P 08 03 55.0 -0.7**
XAN Xi'an 34.14 21 P **P 08 04 10.9 -1.3**
XAN AP pP 08 04 18.7 -2.0
XAN S **S 08 09 28.4 -7.0**
XAN AMB AMB
comp=Z,21nm,0.9s,mb5.1
XAN LR LR
comp=N,431nm,13.9s,MS4.6
XAN LR LR
comp=E,614nm,13.5s,MS4.6
XAN LR LR
comp=Z,786nm,17.2s,MS4.5
THN Thein Dam 35.11 331 *e* **P 08 04 18.2 -2.2**
FITZ Fitzroy Crossi 36.25 125 *e*P **P 08 04 29.9 -0.4**
comp=Z,14nm,0.9s,mb4.9
FITZ *i* pP 08 04 39.1 +0.2
FITZ Fitzroy Crossi 36.25 125 P **P 08 04 29.9 -0.4**
comp=Z,21nm,0.9s,mb5.1,baz=337,slow=5.7,SNR=12
GTA Gaotai 37.22 6 *e*P **P 08 04 37.9 -0.2**
GTA AP pP 08 04 46.4 -0.4
GTA XP sP 08 04 50.4 0.0
GTA S **S 08 10 24.2 +1.5**
GTA XS 08 10 44.7
GTA SS SS 08 13 00.7 +6.5
GTA AMB AMB
comp=Z,13nm,1.1s,mb4.7
GTA AMB AMB
comp=Z,161nm,10.7s
GTA LR LR
comp=N,444nm,13.8s,MS4.5
GTA LR LR
comp=E,200nm,14.1s,MS4.5
GTA LR LR
comp=Z,435nm,13.8s,MS4.4
SSE Sheshan 37.81 38 P **P 08 04 42.4 -0.8**
SSE AP pP 08 04 51.2 -0.7
SSE XP sP 08 04 55.1 -0.4
SSE S **S 08 10 34.2 +2.3**
SSE XS 08 10 49.0
SSE AMB AMB
comp=Z,32nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,121nm,9.0s
SSE LR LR
comp=N,181nm,24.3s,MS4.1
SSE LR LR
comp=E,289nm,24.3s,MS4.1
SSE LR LR
comp=Z,348nm,17.8s
SSE Sheshan 37.81 38 P **P 08 04 42.4 -0.8**
comp=Z,32nm,0.7s,mb5.2
SSE pP pP 08 04 51.2 -0.7
SSE sP sP 08 04 55.1 -0.4
SSE S **S 08 10 34.2 +2.3**
SSE sS 08 10 49.0
SSE SS SS 08 13 20.9 +13
SSE LR LR
comp=Z,350nm,17.8s,MS4.2
KAKA Kakadu 39.95 113 *e*P **P 08 05 00.7 -0.5**
comp=Z,12nm,0.8s,mb4.7
NWAO Narrogin (SRO) 40.78 151 P **P 08 05 08.9 +1.0**
comp=Z,12nm,0.9s,mb4.5,baz=301,slow=5.9,SNR=3.0
KSH Kashi 40.96 337 ⇑P **P 08 05 09.7 +0.4**
KSH *e*AP pP 08 05 18.1 +0.2
KSH *e*XP sP 08 05 24.4 +2.9
KSH *e*PCS 08 11 04.0
KSH *e*S **S 08 11 13.1 -6.0**
KSH *e*SCS ScS 08 15 12.6 +2.8
KSH AMB AMB
comp=Z,170nm,2.2s,mb5.3
KSH LR LR
comp=N,1μm,19.4s,MS5.0
KSH LR LR
comp=E,1μm,17.1s,MS5.0
HHC Hu-ho-hao-te 41.19 19 *e*P **P 08 05 12.6 +1.5**
HHC AP pP 08 05 19.8 0.0
HHC XP sP 08 05 22.3 -1.1
HHC PP PP 08 06 54.7 +5.5
HHC PCP PcP 08 07 06.5 -4.1
HHC SCP 08 10 56.3
HHC S **S 08 11 26.0 +3.5**
HHC XS 08 11 37.8
HHC SS SS 08 14 24.8 +3.4
HHC SCS ScS 08 15 12.2 +1.1
HHC AMB AMB
comp=Z,22nm,1.3s,mb4.6
HHC AMB AMB
comp=Z,306nm,8.3s
HHC LR LR
comp=N,1μm,15.4s,MS4.9
HHC LR LR
comp=E,734nm,15.4s,MS4.9
HHC LR LR
comp=Z,1μm,15.4s,MS4.8
WMQ Urumqi 41.90 352 P **P 08 05 18.0 +1.1**
WMQ AP pP 08 05 25.4 -0.2
WMQ XP sP 08 05 28.8 -0.4
WMQ PP PP 08 06 58.5 +1.5
WMQ S **S 08 11 34.5 +1.5**
WMQ XS 08 11 46.8
WMQ AMB AMB
comp=Z,67nm,1.4s,mb5.1
WMQ AMB AMB
comp=Z,123nm,4.8s
WMQ LR LR
comp=N,624nm,15.6s,MS4.8
WMQ LR LR
comp=E,733nm,14.7s,MS4.8
WMQ LR LR
comp=Z,1μm,15.8s,MS4.8
ULHL Ulahol 43.24 339 P **P 08 05 28.7 +0.8**
SNR=30
KZA Kyzart 43.45 338 P **P 08 05 30.8 +1.1**
SNR=20
UCH Uchtor 43.85 338 P **P 08 05 34.1 +1.2**
SNR=52
TKM2 Tokmak 2 44.06 339 P **P 08 05 35.4 +0.8**
SNR=24
KBK Karagaybulak 44.06 339 P **P 08 05 36.1 +1.4**
SNR=15
AML Almayashu 44.09 337 P **P 08 05 35.0 +0.2**
SNR=27
AAK Ala-Archa 44.21 338 P **P 08 05 37.4 +1.5**
SNR=7.0
AAK Ala-Archa 44.21 338 P **P 08 05 36.8 +1.0**
AAK pmax pmax
comp=Z,41nm,1.0s,mb5.1
AAK Ala-Archa 44.21 338 *e*P **P 08 05 36.2 +0.3**
comp=Z,39nm,1.3s,mb5.0
FRU Bishkek 44.34 338 *e*P **P 08 05 37.8 +0.9**
FRU *i* pP 08 05 47.0 +1.4
FRU pmax pmax
comp=Z,88nm,2.0s,mb5.1
WRA Warramunga Arr 44.38 122 P **P 08 05 37.1 -0.4**
comp=Z,17nm,1.0s,mb4.7,baz=300,slow=9.0,SNR=48
WRAB Tennant Creek 44.38 122 *e*P **P 08 05 37.6 +0.1**
WRAB *e**PP pP 08 05 45.7 -0.5
WRAB pmax pmax
comp=Z,48nm,1.0s,mb5.2
WRAB Tennant Creek 44.38 122 *e*P **P 08 05 37.6 +0.1**
comp=Z,48nm,1.0s,mb5.2
WRAB *e*pP pP 08 05 45.7 -0.5
WB2 Warramunga Arr 44.39 122 *e*P **P 08 05 37.9 +0.3**
WB2 *i* pP 08 05 46.5 +0.3
CHMS Chumysh 44.43 339 P **P 08 05 38.0 +0.4**
SNR=7.8
USP Ospenovka 44.76 339 P **P 08 05 40.7 +0.5**
SNR=65
JNU Nakatsue 45.44 44 LR LR 08 24 09.4
comp=Z,298nm,21.7s,MS4.2,baz=308,slow=35

MKAR Makanchi Array 45.73 348 *i* P **P 08 05 48.2 +0.3**
MKAR pmax pmax
comp=Z,61nm,1.0s
MKAR Makanchi Array 45.73 348 P **P 08 05 48.1 +0.2**
comp=Z,32nm,0.8s,mb5.3,baz=164,slow=8.8,SNR=145
MKAR LR LR 08 28 22.7
comp=Z,130nm,21.5s,MS3.8,baz=176,slow=41
KKAR Karatay Array 46.19 335 *i* P **P 08 05 51.1 -0.5**
KKAR pmax pmax
comp=Z,33nm,1.1s,mb5.2
SONM Songino Array 46.43 10 P **P 08 05 53.6 +0.2**
comp=Z,12nm,1.1s,mb4.8,baz=189,slow=7.7,SNR=47
SONM PcP PcP 08 07 28.5 +0.2
comp=Z,3.8nm,0.9s,baz=199,slow=4.5,SNR=3.7
SONM LR LR 08 27 29.9
comp=Z,520nm,20.7s,MS4.5,baz=341,slow=39
ULN Ulaanbaatar 46.58 11 *e*P **P 08 05 54.9 +0.3**
ULN pmax pmax
comp=Z,17nm,1.4s,mb4.8
ULN Ulaanbaatar 46.58 11 *e*P **P 08 05 54.9 +0.3**
comp=Z,17nm,1.4s,mb4.8
ZAK Zakamensk 48.44 7 ⇑*i*P **P 08 06 09.1 0.0**
ZAK pmax pmax
comp=Z,12nm,1.2s,mb4.8
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
HASS Wahat al Ahsa' 49.29 302 P **P 08 06 16.5 +0.5**
CN2 Changchun 49.35 29 *e*P **P 08 06 15.8 -0.4**
CN2 *e*XP sP 08 06 29.6 +1.1
CN2 AMB AMB
comp=Z,30nm,1.3s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,450nm,14.0s,MS4.9
CN2 LR LR
comp=E,750nm,14.0s,MS4.9
CN2 LR LR
comp=Z,400nm,15.0s,MS4.5
MOY Mondy 49.47 5 *e*P **P 08 06 17.7 +0.6**
TLY Talaya 49.76 7 *e*P **P 08 06 19.8 +0.5**
TLY *e* pP 08 06 28.7 +0.6
TLY *e* 08 13 29.6
TLY pmax pmax
comp=Z,25nm,1.0s,mb5.2
TLY MLR MLR
comp=Z,264nm,14.0s,MS4.4
TLY Talaya 49.76 7 *e*P **P 08 06 20.0 +0.8**
comp=Z,21nm,0.9s,mb5.2
TLY *e*pP pP 08 06 28.3 +0.2
IRK Irkutsk 50.39 7 *e*P **P 08 06 24.2 +0.1**
IRK *e* 08 08 21.6
IRK pmax pmax
comp=Z,93nm,1.9s,mb5.5
HIA Hailar 51.34 20 *e*P **P 08 06 31.3 0.0**
HIA *e**PP pP 08 06 39.1 -1.1
HIA pmax pmax
comp=Z,21nm,1.0s
HIA Hailar 51.34 20 *e*P **P 08 06 31.3 -0.1**
comp=Z,21nm,1.0s,mb5.0
HIA *e*pP pP 08 06 39.1 -1.1
CIT Chita 51.93 14 *e*P **P 08 06 36.3 +0.5**
CIT pmax pmax
comp=Z,122nm,1.3s,mb5.7
MDJ Mudanjiang 52.00 31 P **P 08 06 38.0 +1.6**
MDJ AP pP 08 06 44.2 -1.0
MDJ XP sP 08 06 46.0 -2.7
MDJ PCP PcP 08 07 45.7 -2.8
MDJ PP PP 08 08 35.4 +0.3
MDJ SCP 08 11 42.8
MDJ PCS 08 11 45.9
MDJ S **S 08 14 02.0 +5.7**
MDJ XS 08 14 16.5
MDJ SCS ScS 08 16 21.9 +0.9
MDJ AMB AMB
comp=Z,9.0nm,2.3s,mb4.3
MDJ AMB AMB
comp=Z,144nm,4.2s
MDJ LR LR
comp=N,165nm,18.4s,MS4.4
MDJ LR LR
comp=E,292nm,18.4s,MS4.4
MDJ LR LR
comp=Z,254nm,21.9s,MS4.2
MDJ Mudanjiang 52.00 31 *e*P **P 08 06 45.1 +8.7**
comp=Z,43nm,1.3s,mb5.2
MDJ LR LR
comp=Z,364nm,21.0s,MS4.4
ZAL Zalesovo 52.19 352 P **P 08 06 37.0 -0.8**
comp=Z,13nm,0.8s,mb4.9,baz=281,slow=7.1,SNR=16
MJAR Matsushiro Arr 52.35 44 LR LR 08 28 24.4
comp=Z,222nm,21.9s,MS4.2,baz=275,slow=36
MZLS Mizel 52.80 299 P **P 08 06 43.5 +0.8**
DJNS Zahran al Janu 52.84 290 P **P 08 06 44.1 +1.1**
PMG Port Moresby 53.14 103 *e*P **P 08 06 42.8 -2.5**
PMG *e**PP pP 08 06 54.5 +0.3
PMG pmax pmax
comp=Z,44nm,1.1s
PMG Port Moresby 53.14 103 *e*P **P 08 06 42.8 -2.5**
comp=Z,44nm,1.1s,mb5.3
PMG *e*pP pP 08 06 54.5 +0.3
TATS Tathlith 53.26 293 P **P 08 06 45.6 -0.5**
NVS Novosibirsk 53.29 351 ⇑*i*P **P 08 06 44.4 -1.5**
NVS pmax pmax
comp=Z,50nm,1.2s,mb5.3
NVS pmax pmax
comp=N,46nm,1.5s
NVS pmax pmax
comp=E,22nm,1.3s
VOSK Vostochnaya 54.13 342 P **P 08 06 50.6 -1.4**
VOSK pmax pmax
comp=Z,18nm,0.9s,mb5.0
BVA0 Borovoye Array 54.57 342 P **P 08 06 53.9 -1.4**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
BVAR Borovoye Array 54.57 342 P **P 08 06 54.1 -1.2**
comp=Z,11nm,0.8s,mb5.0,baz=143,slow=7.4,SNR=76
AFFS 'Afif 54.72 298 P **P 08 06 57.0 +0.2**
ZRNK Zerenda 54.95 341 P **P 08 06 56.4 -1.7**
ZRNK pmax pmax
comp=Z,14nm,1.1s,mb4.9
BLJS Baljurashi 55.06 293 P **P 08 07 00.3 +1.0**
AB31 Akbulak array 55.60 333 *i* P **P 08 07 01.3 -1.5**
AB31 pmax pmax
comp=Z,26nm,1.0s,mb5.2
STKA Stephens Creek 55.63 132 *e*P **P 08 07 03.2 -0.1**
comp=Z,11nm,1.1s,mb4.8
STKA *i* pP 08 07 12.2 0.0
STKA Stephens Creek 55.63 132 P **P 08 07 03.5 +0.3**
comp=Z,14nm,1.0s,mb5.0,baz=300,slow=3.8,SNR=10
LTHS Al Lith 56.24 293 P **P 08 07 08.1 +0.4**
BOD Bodaibo 57.38 12 *e*P **P 08 07 14.8 -0.6**
BOD pmax pmax
comp=Z,37nm,1.7s,mb5.1
KMBO Kilima Mbogo 57.93 267 P **P 08 07 19.9 0.0**
comp=Z,6.9nm,0.9s,mb4.7,baz=57,slow=9.8,SNR=11
KMBO Kilima Mbogo 57.93 267 P **P 08 07 19.9 0.0**
GNI Garni 59.08 317 *c i*P **P 08 07 26.5 -1.0**
GNI pmax pmax
comp=Z,14nm,0.9s
YNBS Yanbu' al Bahr 59.26 297 P **P 08 07 29.5 +0.5**
UMJS Umm Lajj 60.06 298 P **P 08 07 35.8 +1.3**
SVE Sverdlovsk 60.94 339 ⇑*e*P **P 08 07 38.0 -2.0**
SVE *e* pP 08 07 46.0 -3.0
SVE *e* 08 08 28.5
SVE pmax pmax
comp=Z,60nm,1.3s,mb5.6
SVE MLR MLR
comp=N,100nm,18.0s,MS4.2
SVE MLR MLR
comp=E,100nm,18.0s,MS4.2
SVE MLR MLR
comp=Z,200nm,18.0s,MS4.3
ARU Arti 61.40 338 *e*P **P 08 07 41.6 -1.5**
ARU pmax pmax
comp=Z,43nm,1.5s,mb5.4
ARU Arti 61.40 338 *e*P **P 08 07 41.5 -1.6**
comp=Z,43nm,1.5s,mb5.4
TBKS Tabuk 61.41 301 P **P 08 07 44.7 +1.0**
QURS Qurayyt al Mil 61.57 305 P **P 08 07 45.6 +0.9**
KIV Kislovodsk 62.14 320 *e*P **P 08 07 46.9 -1.4**
KIV *e**PP pP 08 08 00.0 +2.7
KIV pmax pmax
comp=Z,36nm,1.2s,mb5.4
KIV Kislovodsk 62.14 320 *e*P **P 08 07 46.9 -1.4**
comp=Z,36nm,1.2s,mb5.4
KIV *e*pP pP 08 07 60.0 +2.6
MALT Malatya 62.86 312 *e*P **P 08 07 53.1 -0.1**
MALT pmax pmax
comp=Z,23nm,1.1s,mb5.2
MALT Malatya 62.86 312 *e*P **P 08 07 53.1 -0.1**
comp=Z,23nm,1.1s,mb5.2
EIL Elat 63.11 302 *e*P **P 08 07 53.8 -1.2**
comp=Z,17nm,1.0s,mb5.1
EIL Elat 63.11 302 P **P 08 07 55.1 +0.2**
MBH Mount Berech 63.17 302 P **P 08 07 55.6 +0.3**
PRNI Paran 63.23 303 P **P 08 07 56.1 +0.4**
SOKR Solikamsk 64.34 340 ⇑*i*P **P 08 08 02.4 -0.2**
SOKR pmax pmax
comp=Z,20nm,1.1s,mb5.1
YAK Yakutsk 65.01 17 *e*P **P 08 08 06.1 -0.7**
YAK *e**PP pP 08 08 13.7 -2.2
YAK pmax pmax
comp=Z,41nm,1.0s,mb5.4
YAK Yakutsk 65.01 17 *e*P **P 08 08 06.1 -0.8**
comp=Z,41nm,1.0s,mb5.4
YAK *e*pP pP 08 08 13.7 -2.1
BR131 Keskin Array S 66.85 313 *e*P **P 08 08 17.6 -1.4**
comp=Z,7.7nm,0.8s,mb4.8
BR131 *e*pP pP 08 08 26.6 -1.4
BRTR Keskin Array B 66.85 313 P **P 08 08 17.5 -1.5**
comp=Z,7.8nm,0.9s,mb4.8,baz=127,slow=6.2,SNR=28
ISP Isparta 68.69 310 *i* P **P 08 08 29.1 -1.5**
MOS Moscow 70.35 330 *e*P **P 08 08 37.9 -2.5**
MOS pmax pmax
comp=Z,63nm,0.9s,mb5.5
OBN Obninsk 70.62 329 *e*P **P 08 08 40.6 -1.4**
OBN *e* pP 08 08 50.2 -0.9
OBN *e* 08 08 54.4
OBN 08 09 03.0
OBN pmax pmax
comp=Z,78nm,2.1s,mb5.3
MA2 Magadan 71.30 26 *e*P **P 08 08 54.0 +7.9**
MA2 pmax pmax
comp=Z,20nm,1.4s,mb4.8
LBTB Lobatse 72.49 243 *e*P **P 08 08 53.8 0.0**
LBTB pmax pmax
comp=Z,25nm,1.0s,mb5.1
LBTB Lobatse 72.49 243 *e*P **P 08 08 53.8 0.0**
comp=Z,25nm,1.0s,mb5.1
TIXI Tiksi 72.52 11 ⇑*i*P **P 08 08 51.0 -2.1**
TIXI pmax pmax
comp=Z,41nm,1.3s,mb5.2
PET Petropavlovsk 72.53 35 *e*P **P 08 08 53.2 -0.4**
PET *e**PP pP 08 09 01.5 -1.1
PET pmax pmax
comp=Z,16nm,1.0s,mb4.9
PET Petropavlovsk 72.53 35 *e*P **P 08 08 53.2 -0.3**
comp=Z,16nm,1.0s,mb4.9
PET *e*pP pP 08 09 01.5 -1.2
AKASG Malin Array Be 73.14 323 P **P 08 08 55.3 -1.9**
comp=Z,4.5nm,0.8s,mb4.5,baz=90,slow=4.8,SNR=24
MAW Mawson 73.28 192 P **P 08 08 58.5 +0.8**
comp=Z,2.3nm,0.9s,mb4.1,baz=46,slow=7.4,SNR=5.4
MAW LR LR 08 33 33.6
comp=Z,113nm,20.3s,MS4.1,baz=168,slow=30
VRI Vrincioaia 73.41 317 ⇑P **P 08 08 58.8 -0.1**
BOSA Boshof 73.50 239 P **P 08 08 59.8 0.0**
comp=Z,7.4nm,1.0s,mb4.6,baz=107,slow=5.9,SNR=5.8
SEY Seymchan 73.62 24 *e*P **P 08 08 59.9 +0.2**
SEY pmax pmax
comp=Z,30nm,1.2s,mb5.1
SEY pmax pmax
comp=E,10.0nm,1.5s
MLR Muntele Rosu 73.86 317 ⇑P **P 08 09 01.2 -0.2**
BURAR Bucovina Array 74.84 319 ⇓P **P 08 09 07.5 +0.4**
VSU Vasula 76.87 330 *i* P **P 08 09 17.8 -0.6**
KWP Kalwaria 76.91 320 *e*P **P 08 09 18.4 -0.4**
KWP pmax pmax
comp=Z,56nm,1.5s,mb5.3
KWP Kalwaria 76.91 320 *e*P **P 08 09 18.4 -0.4**
comp=Z,56nm,1.5s,mb5.3
KOLS Kolonicke sedl 77.05 320 *e*P **P 08 09 19.8 +0.3**
KOLS *e*pP pP 08 09 28.1 -0.6
APA Apatity 77.40 340 ⇑*i*P **P 08 09 21.5 +0.4**
APA *i* pP 08 09 30.0 -0.3
CRVS Cervenica-Dubn 77.57 320 *e*P **P 08 09 26.0 +3.6**
CRVS Cervenica-Dubn 77.57 320 *e* **P 08 09 26.0 +3.6**
SUW Suwalki 77.60 325 *e*P **P 08 09 21.7 -0.8**
FINES FINESS Array B 78.09 333 P **P 08 09 24.4 -0.6**
comp=Z,4.9nm,0.8s,mb4.5,baz=117,slow=8.5,SNR=22
KECS Kecovo 78.13 319 *e*P **P 08 09 25.3 -0.2**
KECS *e* 08 09 30.7
KAF Kangasniemi 78.19 333 *e*p **P 08 09 24.3 -1.2**
comp=Z,16nm,1.0s,mb4.9,baz=105,slow=5.1
KAF Kangasniemi 78.19 333 *e*P **P 08 09 24.3 -1.2**
KAF pmax pmax
comp=Z,16nm,1.0s,mb4.9
PSZ Piszkesteto 78.42 318 *e*P **P 08 09 27.0 -0.1**
comp=Z,12nm,0.9s,mb4.8
OJC Ojcow 78.87 321 *e*P **P 08 09 29.4 -0.1**
VYHS Vyhne 79.21 319 *e*P **P 08 09 31.1 -0.3**
TIP Timpagrande 79.53 309 *e*P **P 08 09 33.8 +0.4**
OKC Ostrava-Krasne 79.86 320 *e*P **P 08 09 34.8 -0.1**
MORC Moravsky Berou 80.24 320 *e*P **P 08 09 37.2 +0.3**
comp=Z,8.2nm,0.9s,mb4.7
ZST Bratislava 80.31 318 *e*P **P 08 09 37.7 +0.4**
KEV Kevo 80.41 341 *e*P **P 08 09 35.8 -1.6**
comp=Z,17nm,1.1s,mb4.9
KEV *e* pP 08 09 45.5 -1.2
KEV LR LR
comp=Z,166nm,20.0s,MS4.4
ARCES ARCESS Array B 80.83 340 P **P 08 09 40.2 +0.5**
comp=Z,12nm,0.9s,mb4.8,baz=104,slow=5.0,SNR=43
ARCES LR LR 08 49 06.8
comp=Z,140nm,20.2s,MS4.3,baz=217,slow=38
ARE0 ARCESS Array S 80.83 340 *e*P **P 08 09 39.8 +0.2**
BILL Bilibino 80.92 21 *i* P **P 08 09 40.7 +0.5**
BILL pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
DPC Dobruska-Polom 81.10 321 *e*P **P 08 09 41.9 +0.5**
DPC *e*pP pP 08 09 50.7 +0.1
KSP Ksiaz 81.18 321 *e*P **P 08 09 42.5 +0.7**
KSP Ksiaz 81.18 321 *e*P **P 08 09 42.6 +0.8**
BOJS Bojanci 81.27 316 *e*P **P 08 09 42.2 -0.2**
UPC Upice 81.31 321 *e*P **P 08 09 43.0 +0.5**
PERS Pernice 81.47 317 *e*P **P 08 09 43.8 +0.3**
VISS Visnje 81.58 316 *i* P **P 08 09 44.1 0.0**
PRU Pruhonice 82.19 320 *e*P **P 08 09 47.3 +0.2**
PVCC Panska Ves 82.23 321 *e*P **P 08 09 48.0 +0.7**
PVCC *e*pP pP 08 10 01.4 +4.8
AQU L'Aquila 82.34 312 *e*P **P 08 09 48.4 +0.4**
comp=Z,74nm,1.3s,mb5.5
GERES GERESS Array B 82.63 319 P **P 08 09 49.8 +0.4**
comp=Z,9.5nm,0.9s,mb4.8,baz=104,slow=5.5,SNR=54
BRG Berggiesshubel 82.66 321 *e*P **P 08 09 50.3 +0.8**
BRG *e* 08 10 05.8
BRG pmax pmax
comp=Z,24nm,1.5s,mb5.0
BRG pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
BRG Berggiesshubel 82.66 321 *e*P **P 08 09 50.3 +0.8**
comp=Z,24nm,1.5s,mb5.0
BRG *e* 08 10 05.8
KHC Kasperske Hory 82.74 319 *i* P **P 08 09 49.7 -0.3**
KHC Kasperske Hory 82.74 319 *e*P **P 08 09 49.7 -0.3**
KHC *e*pP pP 08 09 59.5 +0.3
CLL Collm 83.29 321 ⇓*i*P **P 08 09 52.9 +0.1**
CLL *i* pP 08 10 01.4 -0.6
CLL pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
CLL Collm 83.29 321 ⇓*i*P **P 08 09 52.9 +0.1**
comp=Z,10.0nm,1.1s,mb4.8
CLL *i* pP 08 10 01.4 -0.6
CLL Collm 83.29 321 ⇓P **P 08 09 52.9 +0.1**
comp=Z,logA/T=1.0,mb4.8
CLL *i* *PP pP 08 10 01.4 -0.6
NKC Novy Kostel 83.56 320 *e*P **P 08 09 54.8 +0.6**
NKC *e*pP pP 08 10 05.9 +2.5
HFS Hagfors 83.75 330 P **P 08 09 55.0 0.0**
comp=Z,12nm,1.0s,mb5.0,baz=108,slow=4.7,SNR=12
MOX Moxa 84.12 321 *e*P **P 08 09 56.0 -1.0**
GRA1 Grafenberg Arr 84.31 320 *e*P **P 08 09 58.8 +0.8**
comp=Z,18nm,1.2s,mb5.1
GRA1 *e*pP pP 08 10 07.7 +0.4
GRF Grafenberg Arr 84.31 320 P **P 08 09 58.8 +0.8**
GRF pmax pmax
comp=Z,18nm,1.2s,mb5.1
NB2 NORSAR Subarra 85.06 331 P **P 08 10 00.7 -0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,12nm,1.1s,mb4.9,baz=99,slow=5.0						
NOA	NORSAR Array B	85.06	331	P	P	08 10 01.2	-0.2
	comp=Z,5.5nm,1.0s,mb4.6,baz=94,slow=5.7,SNR=6.7						
NOA				LR	LR	08 51 39.2	
	comp=Z,62nm,18.2s,MS4.0,baz=35,slow=38						
KONO	Kongsberg	85.78	329	iP	P	08 10 05.1	0.0
LPG	La Plagne	87.24	315	eP	P	08 10 13.4	+0.8
	comp=Z,27nm,1.1s,mb5.1						
VNDA	Vanda	87.28	168	P	P	08 10 13.2	+1.1
	comp=Z,3.9nm,1.2s,mb4.5,baz=308,slow=4.5,SNR=7.0						
VNDA				LR	LR	08 47 22.2	
	comp=Z,136nm,18.5s,MS4.4,baz=292,slow=34						
IMA	Indian Mountai	96.41	22	eP	P	08 10 56.4	+1.7
	comp=Z,39nm,1.4s,mb5.6						
IMA				epP	pP	08 11 06.1	+2.1
ILAR	Eielson Array	99.53	23	LR	LR	09 04 38.2	
	comp=Z,83nm,18.9s,MS4.3,baz=358,slow=40						
ULM	Lac du Bonnet	126.84	9	PKP	PKPdf	08 16 29.7	-3.9
	comp=Z,0.9nm,0.4s,baz=33,slow=2.0,SNR=3.5						
ULM	Lac du Bonnet	126.84	9	PKP	PKPdf	08 16 29.7	-3.9
NVAR	Mina Array Bea	129.11	34	PKP	PKPdf	08 16 35.8	-2.6
	comp=Z,1.7nm,0.8s,baz=279,slow=0.7,SNR=9.8						
PDAR	Pinedale Array	129.95	24	PKP	PKPdf	08 16 36.5	-3.4
	comp=Z,1.7nm,1.1s,baz=45,slow=2.1,SNR=10						
GDL2	Guadalupe Moun	141.07	27	ePKPdf	PKPdf	08 16 58.2	-2.6
TXAR	Lajitas Array	143.80	28	PKP	PKPdf	08 17 00.6	-4.8
	comp=Z,3.5nm,1.0s,SNR=10.0						
CPUP	Villa Florida	144.31	225	PKP	PKPdf	08 17 02.3	-4.2
	comp=Z,26nm,0.9s,baz=136,slow=4.5,SNR=34						
CPUP	Villa Florida	144.31	225	ePKPdf	PKPdf	08 17 02.5	-4.0
LRAL	Lakeview Retre	144.83	3	ePKPdf	PKPdf	08 17 02.3	-4.9
LRAL				LR	LR		
	comp=Z,96nm,19.0s,MS4.6						
NATX	Nacogdoches	144.91	15	ePKPdf	PKPdf	08 17 03.5	-3.9
NATX				LR	LR		
	comp=Z,146nm,19.0s,MS4.8						
LPAZ	La Paz	158.40	229	PKP	PKPdf	08 17 25.9	-1.8
	comp=Z,1.4nm,0.9s,baz=38,slow=8.4,SNR=4.9						
LPAZ				PKPab	PKPab	08 18 01.1	+1.4
	comp=Z,2.3nm,0.9s,baz=114,slow=6.7,SNR=6.9						
LPAZ	La Paz	158.40	229	PKP	PKPdf	08 17 25.9	-1.8
LPAZ				PKPab	PKPab	08 18 01.1	+1.4

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*IDC **05** 08:07:54.9±1.4, 9.07N×61.77W, mb3.9/8, mb1 4.2/10, mb1mx3.9/26, mbtmp3.9/10, ML2.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/20, Error ellipse: s-maj=29.3km s-min=22.9km az=108.0*

*FUNV **05** 08:07:58.0, 8.75N×61.65W, h18km, MW3.2*

*NEIC **05** 08:08:00.1±0.8, 8.71N×61.85W, h50km±8km, mb3.7/2, MD4.1(TRN), Error ellipse: s-maj=14.5km s-min=7.8km az=119.0*

*TRN **05** 08:08:01.2, 8.98N×61.46W, h2km, MD4.1*

ISC 05 08:07:58.5±0.6**, 8.72N**±0.03×**61.87W**±0.03**, h56**km±7km**, n46,** σ1**ˢ08**/68**, mb4.0**/8**, 4C-1D, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORIV	Oritupano	1.56	283	⇑eP	P	08 08 27.2	+2.7
TPP	Pointe-a-Pierr	1.64	15	⇑iP	P	08 08 27.9	+2.2
TPP				eS	S	08 08 45.6	-0.2
GUNV	Guanoco	1.78	324	eP	P	08 08 28.9	+1.3
GUNV				eS	S	08 08 51.8	+2.6
TBH	Brigand Hill	1.93	24	eP	P	08 08 30.4	+0.8
TBH				eS	S	08 08 51.0	-1.6
GUIV	Guiria	1.95	350	⇓eP	P	08 08 29.9	0.0
GUIV				eS	S	08 08 53.4	+0.3
TRN	Trinidad (W)	1.97	13	eP	P	08 08 31.2	+0.9
TRN				eS	S	08 09 03.7	+10
TRN	Trinidad (W)	1.97	13	eP	P	08 08 31.2	+0.9
TRN				eS	S	08 08 52.9	-0.9
CRUV	Carupano	2.37	325	eP	P	08 08 35.8	0.0
CRUV				eS	S	08 09 03.9	+0.1
TPR	Prospect	2.68	24	⇑iP	P	08 08 40.2	-0.1
TPR				eS	S	08 09 10.1	-1.5
BOT	Bacolet	2.69	25	eP	P	08 08 39.8	-0.6
BOT				eS	S	08 09 11.8	0.0
BOT	Bacolet	2.69	25	eP	P	08 08 39.8	-0.6
BOT				eS	S	08 09 09.6	-2.2
LUEV	Luepa	2.88	172	⇑iP	P	08 08 42.6	-0.5
ITEV	Isla Los Testi	2.90	335	eP	P	08 08 43.0	-0.4
ITEV				eS	S	08 09 16.6	-0.6
GRW	Mount Saint Ca	3.43	3	eP	P	08 08 53.2	+2.4
GRW				eS	S	08 09 32.2	+1.6
GRW	Mount Saint Ca	3.43	3	eP	P	08 08 53.2	+2.4
GRW				eS	S	08 09 30.6	+0.1
CUPV	Cœpira	4.09	289	eP	P	08 09 00.9	+0.7
CUPV				eS	S	08 09 47.8	+0.6
MERV	Las Mercedes	4.41	277	eP	P	08 09 05.2	+0.6
MERV				eS	S	08 09 55.3	+0.1
SVB	Belmont	4.57	8	eP	P	08 09 06.8	-0.1
SVB				eS	S	08 09 57.8	-1.4
SVB	Belmont	4.57	8	eP	P	08 09 06.4	-0.4
SVB				eS	S	08 09 57.8	-1.4
CAOV	Caicara del Or	4.62	253	eP	P	08 09 08.4	+0.8
CAOV				eS	S	08 10 00.7	+0.2
BIRV	Birongo	4.68	292	eP	P	08 09 08.9	+0.5
BIRV				eS	S	08 10 01.6	-0.3
FUNV	FUNVISIS	5.17	290	eP	P	08 09 16.2	+0.9
BAUV	El Baul	6.10	273	eP	P	08 09 28.3	+0.1
BAUV				eS	S	08 10 35.2	-2.3
TURV	Turiamo	6.13	287	eP	P	08 09 28.9	+0.2
PAYV	Puerto Ayacuch	6.61	241	eP	P	08 09 35.0	-0.4
PAYV				eS	S	08 10 46.9	-3.2
TEPV	Terepaima	7.33	280	eP	P	08 09 45.4	0.0
SIQV	Siquisique	8.06	284	eP	P	08 09 54.8	-0.6
CURV	Curarigua	8.09	280	eP	P	08 09 54.9	-0.9
MONV	Montecano	8.60	293	eP	P	08 10 00.8	-2.0
SDV	Santo Domingo	8.66	272	Pn	P	08 10 02.4	-1.3
	1.8nm,0.3s,baz=81,slow=8.2,SNR=12						
SDV				Sn	S	08 11 35.1	-5.9
	2.7nm,0.3s,baz=70,slow=16,SNR=5.0						
SDV				Lg		08 12 34.2	
	2.1nm,0.3s,baz=256,slow=16,SNR=2.5						
QARV	Quebrada Arrib	8.67	281	eP	P	08 10 02.6	-1.1
SOCV	Socops	8.90	268	eP	P	08 10 05.3	-1.6
CAPV	Capacho	10.37	266	eP	P	08 10 26.0	-1.2
ROSC	El Rosal	12.95	254	Pn	P	08 11 02.3	+0.4
	0.3nm,0.3s,baz=73,slow=19,SNR=2.2						
ROSC				Lg		08 14 52.4	
	baz=66,slow=19,SNR=1.9						
ROSC				LR	LR	08 16 03.7	
	comp=Z,78nm,21.8s,baz=24,slow=37						
SAML	Samuel	17.60	184	eP	P	08 12 01.6	+0.1
	6.7nm,1.4s						
LPAZ	La Paz	25.60	194	P	P	08 13 30.2	+5.7
	1.2nm,0.4s,mb3.8,baz=25,slow=7.0,SNR=16						
LPAZ	La Paz	25.60	194	eP	P	08 13 26.5	+2.0
	1.3nm,0.4s,mb3.8						
SADO	Sadowa	38.91	340	P	P	08 15 19.9	-0.5
	2.8nm,0.6s,mb4.2,baz=177,slow=7.7,SNR=4.5						
TXAR	Lajitas Array	44.20	303	P	P	08 16 05.8	+1.8
	0.4nm,0.5s,mb3.5,baz=129,slow=8.0,SNR=4.3						
PDAR	Pinedale Array	53.71	317	P	P	08 17 17.4	+0.3
	0.6nm,0.6s,mb3.7,baz=113,slow=11,SNR=4.6						
NVAR	Mina Array Bea	58.50	310	P	P	08 17 53.2	+1.7
	0.4nm,0.5s,mb3.7,baz=106,slow=6.9,SNR=3.0						
NEW	Newport	60.76	321	P	P	08 18 06.6	-0.3
	1.2nm,0.4s,mb4.4,baz=111,slow=8.2,SNR=5.6						
YBH	Yreka Blue Hor	62.59	313	P	P	08 18 19.4	+0.2
	0.6nm,0.3s,mb4.2,baz=8.6,slow=2.5,SNR=7.9						
YBH	Yreka Blue Hor	62.59	313	P	P	08 18 19.4	+0.2
YKA	Yellowknife Ar	65.72	336	P	P	08 18 39.0	-0.2
	1.7nm,0.5s,mb4.3,baz=109,slow=7.4,SNR=5.8						
YKA	Yellowknife Ar	65.72	336	P	P	08 18 39.0	-0.2

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*IDC **05** 08:21:11.5±1.5, 15.25N×123.01E, mb3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=58.6km s-min=24.5km az=62.0*

*MAN **05** 08:21:15, 15.32N×122.54E, h2km, mb4.8, ML3.7, MS3.7*

ISC 05 08:21:15.1±2.4**, 15.31N**±0.04×**122.62E**±0.06**, h12**km±17km**, n17,** σ1**ˢ07**/24**, mb3.7**/4**, 5C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
POLP	Polilio Island	0.88	229	eP	Pb	08 21 30.9	-0.9
POLP				eS	Sb	08 21 43.0	-0.4
BALP	Baler	1.10	293	eP	Pb	08 21 35.2	-0.4
BALP				eS	Sb	08 21 50.5	+0.9
GQP	Guinayangan	1.41	187	⇑iP	Pn	08 21 39.6	-1.2
GQP				eS	Sb	08 21 57.8	-0.8
PCPH	Palayan	1.50	280	eP	Pn	08 21 39.9	-2.0
PCPH				eS	Sb	08 22 01.4	+0.2
ARP	Angono	1.62	242	eP	Pn	08 21 43.8	0.0
QVPH	Quezon City--P	1.65	247	⇑eP	Pn	08 21 45.4	+1.2
CAUP	Cauayan	1.80	335	eP	Pn	08 21 46.4	+0.1
CAUP				eS	Sn	08 22 10.1	+0.9
LBPH	Los Banos	1.81	231	⇑eP	Pn	08 21 46.4	-0.1
AUQP	San Andres	1.98	179	eP	Pn	08 21 50.2	+1.3
TGY	Tagaytay City	2.03	234	⇑eP	Pn	08 21 51.5	+1.9
TGY				eS	Sn	08 22 20.9	+5.9
NBP	Mount Natib	2.21	255	⇑eP	Pn	08 21 52.7	+0.6
PVCP	Virac	2.26	139	eP	Pn	08 21 55.0	+2.0
APYP	Conner	2.86	333	eP	Pn	08 22 01.0	-0.6
APYP				eS	Sn	08 22 36.2	0.0
CMAR	Chiang Mai Arr	22.87	281	P	P	08 26 20.2	+0.4
	0.9nm,0.3s,mb3.6,baz=78,slow=10,SNR=4.4						
SONM	Songino Array	35.10	341	P	P	08 28 07.7	-2.6
	0.2nm,0.4s,mb3.4,baz=158,slow=7.8,SNR=3.3						
WRA	Warramunga Arr	36.88	161	P	P	08 28 20.3	-5.3
	0.7nm,0.6s,mb3.7,baz=344,slow=8.9,SNR=8.1						
MKAR	Makanchi Array	45.89	322	P	P	08 29 38.5	-0.8
	1.5nm,0.8s,mb4.0,baz=124,slow=8.7,SNR=9.0						

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*MDD **05** 08:21:48.0±0.6, 37.05N×3.66E, mb4.3/7, Error ellipse: s-maj=7.8km s-min=4.9km az=77.0, PRXIMO*

*CRAAG **05** 08:21:47.5, 36.94N×3.73E, Ml3.5*

*CSEM **05** 08:21:47.1±0.1, 36.98N×3.75E, h5km, ML3.2/5, Error ellipse: s-maj=2.5km s-min=2.0km az=88.0*

*NEIC **05** 08:21:49.0±2.1, 36.96N×3.79E, h10km, MG4.5(MDD), Error ellipse: s-maj=24.6km s-min=6.6km az=157.0*

*LDG **05** 08:21:52.5±0.3, 37.03N×3.70E, h10km, Ml3.2/5, Error ellipse: s-maj=6.9km s-min=4.3km az=156.0*

ISC 05 08:21:48.6±0.4**, 37.12N**±0.02×**3.66E**±0.04**, h10**km**, n62,** σ1**ˢ40**/92**, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABMS	Boumerdes	0.39	201	P	Pg	08 21 53.5	-3.1
ABA	Alger-Bouzarea	0.59	238	P	Pg	08 21 59.9	-0.5
AKF	Akfadou	0.88	123	P	Pb	08 22 02.7	-2.7
ADJB	Djebel Djouab	0.97	190	P	Pb	08 22 03.8	-3.3
EMHD	Djebel Mahouad	1.07	212	P	Pb	08 22 07.0	-1.8
AKET	Djebel Ketaf	1.08	170	P	Pb	08 22 05.5	-3.4
ATAF	Djebel Tarf	1.34	158	P	Pb	08 22 10.3	-3.0
SET	Setif	1.67	123	P	Pn	08 22 18.0	-0.2
CKHR	Kef el Ahmar	1.85	126	P	Pn	08 22 24.0	+3.2
DFRA	Djebel Bou Aff	1.87	107	P	Pn	08 22 21.5	+0.5
EBNR	Beni Rached	1.90	245	P	Pn	08 22 24.0	+2.6
ECHA	Ech Chlef	2.08	243	P	Pn	08 22 26.0	+2.0
ECHF	Ech Chlef	2.09	243	P	Pn	08 22 26.0	+1.8
CMER	Merouana	2.35	129	P	Pn	08 22 27.0	-0.8
EANR	'Ain N'Sour	2.37	241	P	Pn	08 22 28.5	+0.4
CASM	Ain Smara	2.43	110	P	Pn	08 22 33.0	+4.0
CTEI	Djebel Teioual	2.45	115	P	Pn	08 22 32.0	+2.7
ETRT	Tiaret	2.57	229	P	Pn	08 22 29.5	-1.5
EIBI	Ibiza	2.64	317	P	Pn	08 22 33.7	+1.7
	3.6nm,0.1s,SNR=7.9						
EIBI				S	Sn	08 23 05.2	+0.8
	50nm,0.2s,SNR=7.9						
EIBI	Ibiza	2.64	317	P	Pn	08 22 33.7	+1.7
	3.6nm,0.1s,SNR=7.9						
EIBI				S	Sn	08 23 05.2	+0.8
	53nm,0.3s,SNR=7.9						
ETOS	Mallorca	2.73	346	P	Pn	08 22 35.0	+1.8
ETOS				S	Sn	08 23 06.9	+0.3
ETOS	Mallorca	2.73	346	P	Pn	08 22 35.0	+1.8
	17nm,0.2s,SNR=7.9						
ETOS				S	Sn	08 23 07.2	+0.5
	8.8nm,0.2s,SNR=7.9						
ETOS	Mallorca	2.73	346	P	Pn	08 22 35.0	+1.7
	17nm,0.2s,SNR=7.9						
ETOS				S	Sn	08 23 06.9	+0.3
	8.8nm,0.2s,SNR=7.9						
EBEN	Beniarda	3.45	298	P	Pn	08 22 44.6	+1.1
EBEN				S	Sn	08 23 23.5	-1.5
EBEN	Beniarda	3.45	298	P	Pn	08 22 44.6	+1.1
	1.5nm,0.0s,SNR=7.9						
EBEN				S	Sn	08 23 23.8	-1.2
	4.2nm,0.2s,SNR=7.9						
EBEN	Beniarda	3.45	298	P	Pn	08 22 44.6	+1.0
	1.5nm,0.0s,SNR=7.9						
EBEN				S	Sn	08 23 23.5	-1.5
	4.2nm,0.2s,SNR=7.9						
ECHE	Chera	4.39	306	P	Pn	08 22 58.5	+1.5
ECHE				S	Sn	08 23 47.1	-1.7
ECHE	Chera	4.39	306	P	Pn	08 22 58.5	+1.5
	5.5nm,0.3s,SNR=7.9						
ECHE				S	Sn	08 23 50.1	+1.3
	2.1nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	4.58	316	P	Pn	08 23 00.5	+1.0
EMOS				S	Sn	08 23 51.5	-1.9
EMOS	Mosqueruela	4.58	316	P	Pn	08 23 00.3	+0.8
	2.1nm,0.2s,SNR=7.9						
EMOS				S	Sn	08 23 51.5	-1.8
	6.1nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	4.58	316	P	Pn	08 23 00.5	+1.0
	2.1nm,0.2s,SNR=7.9						
EPOB	Poblet	4.68	335	P	Pn	08 23 02.1	+1.2
EPOB				S	Sn	08 23 54.2	-1.8
EPOB	Poblet	4.68	335	P	Pn	08 23 01.7	+0.7
	0.9nm,0.1s,SNR=7.9						
EPOB				S	Sn	08 23 54.9	-1.2
	1.5nm,0.2s,SNR=7.9						
EPOB	Poblet	4.68	335	P	Pn	08 23 02.2	+1.2
EMIR	Miracle	5.07	342	P	Pn	08 23 08.4	+1.9
EMIR				S	Sn	08 24 04.8	-0.9
EMIR	Miracle	5.07	342	P	Pn	08 23 08.7	+2.2
	8.1nm,0.1s,SNR=7.9						
EMIR				S	Sn	08 24 04.8	-0.9
	3.7nm,0.2s,SNR=7.9						
EMIR	Miracle	5.07	342	P	Pn	08 23 08.4	+1.9
EMIR				S	Sn	08 24 04.8	-1.0
	3.7nm,0.2s,SNR=7.9						
EJON	La Jonquera	5.36	354	P	Pn	08 23 11.8	+1.3
EJON				S	Sn	08 24 10.8	-2.4
EJON	La Jonquera	5.36	354	P	Pn	08 23 11.8	+1.3
	6.6nm,0.1s,SNR=7.9						
EJON				S	Sn	08 24 13.4	+0.2
	0.1nm,0.0s,SNR=7.9						
EJON	La Jonquera	5.36	354	P	Pn	08 23 11.9	+1.3
EQES	Quesada	5.39	279	P	Pn	08 23 12.0	+0.9
EQES				S	Sn	08 24 12.3	-1.8
EQES	Quesada	5.39	279	P	Pn	08 23 11.5	+0.4
	4.7nm,0.3s,SNR=7.9						
EQES				S	Sn	08 24 13.5	-0.6
	1.4nm,0.2s,SNR=7.9						
EQES	Quesada	5.39	279	P	Pn	08 23 12.0	+0.9
	4.7nm,0.3s,SNR=7.9						
EMLI	Melilla	5.64	253	P	Pn	08 23 14.5	0.0
	69nm,0.1s,SNR=4.0						
EMEL	Melilla	5.64	253	P	Pn	08 23 14.5	-0.1
	69nm,0.1s,SNR=4.0						
EBIE	Bielsa	6.18	335	P	Pn	08 23 23.8	+1.5
EBIE				S	Sn	08 24 30.9	-2.9
EBIE	Bielsa	6.18	335	P	Pn	08 23 23.8	+1.5
	2.0nm,0.4s,SNR=4.0						
EBIE				S	Sn	08 24 32.5	-1.3
	1.6nm,0.3s,SNR=7.9						
EBIE	Bielsa	6.18	335	P	Pn	08 23 23.8	+1.6
	2.0nm,0.4s,SNR=4.0						
MTLF	Montolieu	6.31	350	ePn	Pn	08 23 25.1	+1.0
EPF	Esparros	6.43	338	ePn	Pn	08 23 27.0	+1.3
EPF				eSn	Sn	08 24 37.0	-3.0
	3.5nm,0.3s						
LMR	La Mourre	6.58	18	ePn	Pn	08 23 26.7	-1.1
LMR				eSn	Sn	08 24 38.5	-5.3
	2.6nm,0.3s						
ETSF	Etsaut	6.62	332	ePn	Pn	08 23 28.7	+0.3
ETSF				eSn	Sn	08 24 41.3	-3.4
	2.1nm,0.3s						
FRF	La Foret Royal	6.83	19	ePn	Pn	08 23 30.1	-1.2
FRF				eSn	Sn	08 24 44.0	-5.9
	2.9nm,0.2s						
LASF	Ste Croix	6.95	1	ePn	Pn	08 23 32.1	-1.0
SMRF	Simiane la Rot	7.01	11	ePn	Pn	08 23 33.7	-0.1
SJPF	Ste Jean	7.06	330	ePn	Pn	08 23 34.8	+0.2
SJPF				eSn	Sn	08 24 51.4	-4.3
	1.2nm,0.2s						
EALK	Alkurruntz	7.26	329	P	Pn	08 23 37.7	+0.2
EALK				S	Sn	08 24 56.9	-3.9
EALK	Alkurruntz	7.26	329	P	Pn	08 23 37.7	+0.2
	0.8nm,0.2s,SNR=7.9						
EALK				S	Sn	08 25 00.1	-0.7
	5.4nm,0.3s,SNR=7.9						
VIVF	Saint-Julien-l	7.77	5	ePn	Pn	08 23 44.0	-0.5
MBDF	Montbardon	7.96	16	ePn	Pn	08 23 47.4	+0.3
LPG	La Plagne	8.69	15	ePn	P	08 23 57.3	0.0
TCF	Toulx Ste Croi	9.23	354	ePn	P	08 24 04.3	-0.5

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*NEIC **05** 08:33:07.0, 36.32N×7.88W, h20km, MN2.8(MDD), After MDD.*

*INMG **05** 08:33:07.1±1.2, 36.23N×7.88W, h23km±5km, ML2.5, Error ellipse: s-maj=5.7km s-min=3.1km az=42.0*

*CSEM **05** 08:33:07.1±0.4, 36.29N×7.81W, h20km, ML3.5/3, Error ellipse: s-maj=7.3km s-min=3.5km az=31.0*

*MDD **05** 08:33:08.4±1.9, 36.46N×7.74W, h88km±12km, mb3.0/11, Error ellipse: s-maj=14.6km s-min=6.3km az=37.0, PRXIMO*

ISC 05 08:33:05.6±1.0**, 36.44N**±0.05×**7.75W**±0.04**, h10**km**, n40,** σ1**ˢ16**/78**, 3C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGRO	El Granado	1.11	11	⇑Pg	Pg	08 33 28.7	+0.9
EGRO				Sn	Sn	08 33 44.5	+1.9
EGRO				Lg		08 33 47.5	
EGRO	El Granado	1.11	11	⇑P	Pb	08 33 28.7	+2.3
	8.6nm,0.1s,SNR=18						
EGRO				S	Sb	08 33 44.5	+3.8
	37nm,0.1s,SNR=7.9						
EGRO	El Granado	1.11	11	⇑Pg	Pg	08 33 28.7	+0.9
EGRO				Sn	Sn	08 33 44.5	+1.9
PTEO	Sao Teotonio	1.35	325	ePn	Pn	08 33 30.3	-0.3
PTEO				eSn	Sn	08 33 48.9	+0.3
	26nm,0.3s						
PTEO	Sao Teotonio	1.35	325	ePn	Pn	08 33 30.3	-0.3
PTEO				eSn	Sn	08 33 48.9	+0.3
	26nm,0.3s						
EMIN	Mina Concepcio	1.58	33	P	Pn	08 33 34.6	+0.7
	7.3nm,0.1s,SNR=7.9						
EMIN				S	Sb	08 33 55.4	+1.0
	8.8nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	1.58	33	Pn	Pn	08 33 34.6	+0.8
EMIN				Sn	Sn	08 33 55.4	+0.9
ESPR	Espera	1.58	74	P	Pn	08 33 34.6	+0.8
	5.9nm,0.1s,SNR=7.9						
ESPR				S	Sb	08 33 55.4	+0.9
	86nm,0.3s,SNR=7.9						
ESPR	Espera	1.58	74	Pn	Pn	08 33 34.6	+0.7
ESPR				Sn	Sn	08 33 55.4	+0.9
PBEJ	Beja	1.58	357	ePn	Pn	08 33 35.8	+1.9
PBEJ				eSn	Sn	08 33 56.7	+2.1
PBEJ				eSg	Sg	08 34 02.9	+4.5
	27nm,0.1s						
PBEJ	Beja	1.58	357	ePn	Pn	08 33 35.8	+1.9
PBEJ				eSn	Sn	08 33 56.7	+2.1
PBEJ				eSg	Sg	08 34 02.9	+4.5
	27nm,0.1s						
EBAD	Badajoz	2.38	14	Pn	Pn	08 33 46.0	+0.7
EBAD				Sn	Sn	08 34 15.2	+0.3
EBAD				Lg		08 34 26.7	
EBAD	Badajoz	2.38	14	P	Pn	08 33 46.0	+0.7
	3.8nm,0.1s,SNR=18						
EBAD				S	Sn	08 34 15.2	+0.3
	8.4nm,0.1s,SNR=7.9						
EBAD	Badajoz	2.38	14	Pn	Pn	08 33 46.0	+0.7
EBAD				Sn	Sn	08 34 15.2	+0.3
EMIJ	Mijas	2.40	86	P	Pn	08 33 44.9	-0.8
	1.7nm,0.1s,SNR=7.9						
EMIJ				S	Sn	08 34 14.4	-1.0
	8.9nm,0.3s,SNR=7.9						
ECAB	El Cabril	2.47	48	P	Pn	08 33 47.5	+0.8
	1.4nm,0.1s,SNR=21						
ECAB				S	Sn	08 34 17.5	+0.3
	3.5nm,0.1s,SNR=6.7						
ECAB	El Cabril	2.47	48	Pn	Pn	08 33 47.5	+0.9
ECAB				Sn	Sn	08 34 17.5	+0.3
PLOU	Loures	2.68	336	eSn	Sn	08 34 21.1	-1.3
ELOJ	Sierra Loja	2.97	75	S	Sn	08 34 29.6	-0.2
	2.3nm,0.2s,SNR=7.9						
ELUQ	Luque	3.00	67	S	Sn	08 34 29.2	-1.4
	6.2nm,0.2s,SNR=7.9						
EADA	Adamuz	3.06	55	P	Pn	08 33 55.7	+0.7
	1.7nm,0.1s,SNR=5.7						
EADA				S	Sn	08 34 31.8	-0.3
	6.6nm,0.1s,SNR=6.8						
EADA	Adamuz	3.06	55	Pn	Pn	08 33 55.7	+0.7
EADA				Sn	Sn	08 34 31.8	-0.3
PTOM	Tomar	3.21	351	ePn	Pn	08 33 57.0	-0.2
PTOM				eSn	Sn	08 34 34.4	-1.5
PTOM				eSg	Sg	08 34 51.5	-1.1
	12nm,0.3s						
PTOM	Tomar	3.21	351	ePn	Pn	08 33 57.0	-0.2
PTOM				eSn	Sn	08 34 34.4	-1.5
PTOM				eSg	Sg	08 34 51.5	-1.1
	12nm,0.3s						
PCBR	Castelo Branco	3.40	4	ePn	Pn	08 33 59.9	+0.1
PCBR				eSn	Sn	08 34 39.7	-0.9
	3.4nm,0.1s						
EBAN	Banos Encina	3.60	60	P	Pn	08 34 02.5	-0.1
	2.3nm,0.1s,SNR=18						
EBAN				S	Sn	08 34 43.1	-2.6
	7.2nm,0.1s,SNR=7.9						
MTE	Manteigas	3.96	2	eSn	Sn	08 34 53.3	-1.4
	12nm,0.6s						
EQES	Quesada	3.98	69	Pn	Pn	08 34 08.3	+0.3
EQES				Sn	Sn	08 34 52.0	-3.2
EQES	Quesada	3.98	69	P	Pn	08 34 08.5	+0.4
	2.0nm,0.1s,SNR=9.5						
EQES				S	Sn	08 34 52.0	-3.2
	3.7nm,0.1s,SNR=7.9						
EQES	Quesada	3.98	69	Pn	Pn	08 34 08.3	+0.3
EQES				Sn	Sn	08 34 52.0	-3.3
ESDC	Sonseca Array	4.40	42	P	Pn	08 34 14.0	0.0
	4.3nm,0.1s,baz=226,slow=14,SNR=4.0						
ESDC	Sonseca Array	4.40	42	Pn	Pn	08 34 14.0	0.0
ETOB	Tobarra	5.40	64	Pn	Pn	08 34 27.3	-0.8
ETOB				Sn	Sn	08 35 26.1	-5.0
ETOB	Tobarra	5.40	64	P	Pn	08 34 26.8	-1.3
	1.0nm,0.1s,SNR=7.9						
ETOB				S	Sn	08 35 26.8	-4.3
	3.6nm,0.2s,SNR=7.9						
ETOB	Tobarra	5.40	64	Pn	Pn	08 34 27.3	-0.8
ETOB				Sn	Sn	08 35 26.1	-5.0
ELOB	Lobios	5.42	358	P	Pn	08 34 27.6	-0.9
	0.6nm,0.0s,SNR=7.9						
ELOB				S	Sn	08 35 28.0	-3.8
	1.4nm,0.1s,SNR=7.9						
ELOB	Lobios	5.42	358	Pn	Pn	08 34 27.6	-0.9
ELOB				Sn	Sn	08 35 28.0	-3.7
ECAL	Calabor	5.55	8	Pn	Pn	08 34 29.9	-0.3
ECAL				Sn	Sn	08 35 32.1	-2.8
ECAL	Calabor	5.55	8	P	Pn	08 34 29.6	-0.7
	1.4nm,0.2s,SNR=4.6						
ECAL				S	Sn	08 35 32.1	-2.8
	3.6nm,0.3s,SNR=7.9						
ECAL	Calabor	5.55	8	Pn	Pn	08 34 29.9	-0.4
ECAL				Sn	Sn	08 35 32.1	-2.8

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*IDC **05** 08:52:09.9±1.5, 55.40N×35.30W, mb3.7/6, mb1 3.9/8, mb1mx3.7/27, mbtmp3.8/8, ML3.0/2, MS3.5/8, Ms1 3.5/8, ms1mx3.3/30, Error ellipse: s-maj=45.6km s-min=19.7km az=11.0*

*NEIC **05** 08:52:11.5±0.9, 55.39N×35.33W, h10km, mb4.4/1, Error ellipse: s-maj=32.9km s-min=11.1km az=185.0*

*CSEM **05** 08:52:11.5±0.1, 55.39N×35.33W, h10km, mb4.4/1, Error ellipse: s-maj=11.0km s-min=3.7km az=12.0, After NEIC*

ISC 05 08:52:09.9±0.9**, 55.4N**±0.2×**35.3W**±0.1**, h10**km**, n14,** σ1**ˢ03**/10**, mb3.8**/7**, MS3.6**/7**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	Schefferville	17.96	281	P	P	08 56 20.5	-0.6
	0.2nm,0.3s,baz=141,slow=5.6,SNR=3.9						
SCHQ				LR	LR	09 02 22.7	
	comp=Z,39nm,19.3s,baz=14,slow=34						
SCHQ	Schefferville	17.96	281	P	P	08 56 20.5	-0.6
SCHQ				eP		08 56 21.3	
EKA	Eskdalemuir Ar	18.18	77	P	P	08 56 25.3	+1.4
	0.1nm,0.3s,baz=286,slow=6.1,SNR=3.8						
HFS	Hagfors	26.04	59	LR	LR	09 06 02.7	
	comp=Z,76nm,18.4s,MS3.3,baz=329,slow=32						
ESDC	Sonseca Array	26.08	114	P	P	08 57 44.1	-1.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.2nm,0.3s,mb3.1,baz=315,slow=6.3,SNR=4.2						
DAVOX	**Davos**	**29.20**	**88**	LR	LR	09 09 14.5	
	comp=Z,144nm,18.8s,MS3.6,baz=86,slow=35						
ARCES	**ARCESS Array B**	**29.90**	**38**	P	**P**	**08 58 17.9**	**-1.6**
	2.3nm,0.9s,mb3.9,baz=293,slow=9.2,SNR=7.6						
ARCES				LR	LR	09 07 39.2	
	comp=Z,58nm,20.4s,MS3.2,baz=64,slow=31						
GERES	**GERESS Array B**	**30.25**	**82**	LR	LR	09 09 09.2	
	comp=Z,55nm,18.7s,MS3.2,baz=179,slow=34						
AKASG	**Malin Array Be**	**37.82**	**69**	P	**P**	**08 59 26.9**	**-0.9**
	0.2nm,0.3s,mb3.4,baz=304,slow=8.2,SNR=4.1						
LAO	**LASA Array**	**43.59**	**289**	*e*P	**P**	**09 00 16.5**	**+1.1**
	6.9nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**47.08**	**79**	P	**P**	**09 00 44.7**	**+1.3**
	0.9nm,0.5s,mb4.0,baz=318,slow=5.1,SNR=4.0						
PDAR	**Pinedale Array**	**47.95**	**287**	P	**P**	**09 00 50.1**	**-0.1**
	0.5nm,0.8s,mb3.6,baz=80,slow=9.0,SNR=4.4						
PDAR				LR	LR	09 20 02.5	
	comp=Z,112nm,18.4s,MS3.9,baz=9.8,slow=35						
ILAR	**Eielson Array**	**49.27**	**328**	P	**P**	**09 01 00.4**	**+0.4**
	1.4nm,0.8s,mb4.0,baz=37,slow=5.7,SNR=18						
ILAR				LR	LR	09 21 17.3	
	comp=Z,46nm,19.8s,MS3.5,baz=182,slow=35						
CBIJ	**Chichi jima**	**97.78**	**2**	LR	LR	09 50 47.6	
	comp=Z,136nm,19.3s,MS4.5,baz=147,slow=36						

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*IDC **05** 09:22:09.4±2.5, 5.63S×146.78E, h92^{km}±22^{km}, mb4.1/11, mb1 4.3/14, mb1mx4.2/20, mbtmp4.5/14, MS3.2/1, Ms1 3.2/1, ms1mx2.7/21, Error ellipse: s-maj=17.2km s-min=14.4km az=118.0*
*NEIC **05** 09:22:12.0±0.4, 5.70S×146.87E, mb4.5/7, Error ellipse: s-maj=11.0km s-min=9.3km az=104.0*
ISC 05 09:22:07.3±1.7**, 5.55S**±0.07×**146.90E**±0.07**, h84**^{km}±15^{km}**, n31,** $\sigma1^{s}$**05**/33**, mb4.2**/13**, 2D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.84**	**176**	P	**P**	**09 23 06.5**	**+1.1**
	52nm,0.3s,baz=348,slow=4.8,SNR=164						
PMG				S	**S**	**09 23 48.0**	**-1.6**
	130nm,0.3s,baz=174,slow=21,SNR=27						
PMG	**Port Moresby**	**3.84**	**176**	*e*Pn	**P**	**09 23 05.5**	**+0.1**
PMG				P		09 23 06.5	
PMG				*e*Sn	**S**	**09 23 45.9**	**-3.7**
PMG				S	**S**	**09 23 48.0**	**-1.6**
HNR	**Honiara**	**13.50**	**107**	P	**P**	**09 25 18.9**	**+2.2**
	4.2nm,0.3s,baz=249,slow=4.6,SNR=3.8						
CTA	**Charters Tower**	**14.46**	**182**	*e*P	**P**	**09 25 33.3**	**+4.1**
	10nm,0.9s						
CTA	**Charters Tower**	**14.46**	**182**	P	**P**	**09 25 33.0**	**+3.8**
	1.4nm,0.3s,baz=2.6,slow=12,SNR=13						
CTA				LR	LR	09 30 01.0	
	comp=Z,96nm,21.5s,baz=39,slow=33						
CTAO	**Charters Tower**	**14.46**	**182**	*e*Pn	**P**	**09 25 27.1**	**-2.1**
KAKA	**Kakadu**	**15.94**	**242**	*e*P	**P**	**09 25 49.1**	**+1.1**
	19nm,0.6s						
WRAB	**Tennant Creek**	**18.80**	**219**	*e*P	**P**	**09 26 21.9**	**-0.9**
	29nm,0.5s						
WB2	**Warramunga Arr**	**18.80**	**219**⇓	*i*P	**P**	**09 26 22.0**	**-0.8**
WB2				*e*S	**S**	**09 29 48.0**	**+1.9**
WRA	**Warramunga Arr**	**18.81**	**219**	P	**P**	**09 26 22.1**	**-0.8**
	3.4nm,0.3s,baz=38,slow=11,SNR=71						
WRA				S	**S**	**09 29 47.1**	**+0.8**
	0.2nm,0.3s,baz=42,slow=23,SNR=4.0						
FITZ	**Fitzroy Crossi**	**24.22**	**237**⇓	*i*P	**P**	**09 27 18.5**	**+1.0**
	10.0nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**24.22**	**237**	P	**P**	**09 27 18.2**	**+0.7**
	17nm,0.5s,mb4.6,baz=38,slow=8.6,SNR=37						
DZM	**Mont Dzumac**	**25.05**	**133**	P	**P**	**09 27 25.2**	**-0.3**
	9.1nm,0.6s,mb4.4,baz=323,slow=10,SNR=8.2						
STKA	**Stephens Creek**	**26.66**	**190**	*e*P	**P**	**09 27 39.0**	**-1.3**
	1.4nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**26.66**	**190**	P	**P**	**09 27 39.4**	**-0.9**
	2.0nm,0.4s,mb4.0,baz=18,slow=13,SNR=5.5						
URZ	**Urewera**	**42.58**	**144**	P	**P**	**09 29 56.8**	**+0.2**
	4.5nm,0.4s,mb4.6,baz=331,slow=7.1,SNR=9.8						
RPZ	**Rata Peaks**	**43.56**	**154**	P	**P**	**09 30 04.6**	**0.0**
	8.6nm,0.6s,mb4.6,baz=354,slow=5.7,SNR=11						
HIA	**Hailar**	**59.50**	**340**	*e*P	**P**	**09 32 04.0**	**0.0**
	10nm,1.0s,mb4.8						
FX1	**Attu Island--F**	**62.32**	**18**	*e*P	**P**	**09 32 24.2**	**+1.2**
SONM	**Songino Array**	**63.96**	**331**	P	**P**	**09 32 33.5**	**-0.5**
	1.0nm,0.6s,mb3.9,baz=148,slow=6.8,SNR=6.9						
VNDA	**Vanda**	**72.36**	**177**	P	**P**	**09 33 25.0**	**-0.7**
	1.4nm,0.5s,mb4.0,baz=330,slow=6.9,SNR=20						
VNDA	**Vanda**	**72.36**	**177**	P	**P**	**09 33 25.0**	**-0.7**
VNDA				*e*P		09 33 25.2	
VNDA				*e*pP	pP	09 33 53.7	+5.9
MKAR	**Makanchi Array**	**77.09**	**320**	P	**P**	**09 33 52.1**	**-1.1**
	0.5nm,0.4s,mb3.6,baz=118,slow=7.7,SNR=4.0						
QSPA	**South Pole Qui**	**84.41**	**180**	*e*P	**P**	**09 34 31.0**	**-0.2**
	2.5nm,0.5s,mb4.3						
QSPA				*e*pP	pP	09 35 01.1	+7.3
ILAR	**Eielson Array**	**85.11**	**23**	P	**P**	**09 34 34.0**	**-1.0**
	2.9nm,0.7s,mb4.3,baz=250,slow=5.0,SNR=56						
BVAR	**Borovoye Array**	**86.35**	**324**	P	**P**	**09 34 40.4**	**-0.8**
	0.4nm,0.4s,mb3.7,baz=68,slow=7.8,SNR=5.0						
NVAR	**Mina Array Bea**	**97.17**	**52**	P	**P**	**09 35 33.7**	**+1.8**
	0.8nm,0.8s,mb4.2,baz=241,slow=5.3,SNR=5.0						
NVAR	**Mina Array Bea**	**97.17**	**52**	P	**P**	**09 35 33.7**	**+1.8**
PDAR	**Pinedale Array**	**103.69**	**47**	Pdiff	Pdif	09 36 01.6	+0.7
	0.3nm,0.5s,baz=225,slow=2.1,SNR=3.7						
SAML	**Samuel**	**146.74**	**115**	*e*PKP	PKPdf	09 41 40.8	+1.9
BDFB	**Brasilia**	**154.28**	**145**	PKPbc	PKPdf	09 41 59.0	+8.9
	2.8nm,0.5s,baz=227,slow=3.3,SNR=5.5						

IDC 05 09:45:07.4±3.9**, 2.03N**×**98.20E, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.7**/18**, mbtmp3.8**/4**, Error ellipse: s-maj=153.4km s-min=27.1km az=58.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.64**	**123**	P	P	09 52 57.7	-1.7
	0.4nm,0.3s,baz=301,slow=8.8,SNR=9.5						
SONM	**Songino Array**	**46.18**	**8**	P	P	09 53 33.9	-1.8
	0.3nm,0.4s,baz=198,slow=9.1,SNR=3.4						
MKAR	**Makanchi Array**	**46.69**	**345**	P	P	09 53 38.2	-1.5
	1.0nm,0.6s,baz=162,slow=7.7,SNR=5.4						
ZAL	**Zalesovo**	**52.90**	**350**	P	P	09 54 24.6	-2.7
	1.6nm,0.4s,baz=291,slow=8.2,SNR=4.2						

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*NEIC **05** 10:07:33.1±0.5, 24.08S×66.89W, h172^{km}±4^{km}, mb4.4/19, Error ellipse: s-maj=7.3km s-min=5.5km az=82.0*
*BJI **05** 10:07:33.1, 24.10S×66.90W, h174^{km}, mB4.4*
*IDC **05** 10:07:33.6±0.9, 24.08S×66.86W, h179^{km}±8^{km}, mb3.8/11, mb1 4.1/16, mb1mx4.0/19, mbtmp4.4/16, Error ellipse: s-maj=14.7km s-min=10.2km az=57.0*
*GUC **05** 10:07:34.0±0.9, 24.23S×67.23W, h190^{km}, ML4.6*
ISC 05 10:07:32.2±0.6**, 24.14S**±0.04×**66.93W**±0.06**, h179**^{km}±5^{km}**, n72,** $\sigma1^{s}$**02**/73**, mb4.2**/28**, 8C, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.37**	**309**	*e*P	**P**	**10 08 16.1**	**+2.2**
LVC				*i* S	**S**	**10 08 47.6**	**+1.6**
LVC				AMP		10 08 50.2	
	comp=N,840nm,1.1s						
LVC	**Limon Verde**	**2.37**	**309**	P	**P**	**10 08 16.4**	**+2.6**
	comp=N,150nm,0.3s,baz=129,slow=8.4,SNR=1509						
LVC				S	**S**	**10 08 47.8**	**+1.8**
	comp=N,121nm,0.3s,baz=307,slow=20,SNR=18						
LVC	**Limon Verde**	**2.37**	**309**⇑	*i*Pn	**P**	**10 08 16.5**	**+2.6**
LVC				*e*Sn	**S**	**10 08 48.6**	**+2.7**
CPN1	**Cerro Paranal**	**3.21**	**261**⇑	*i*P	**P**	**10 08 25.1**	**+1.1**
CPN1				*i* S	**S**	**10 09 03.0**	**-0.9**
CPN1				AMP		10 09 05.2	
	comp=E,2µm,0.5s						
ANCH	**Antofagasta**	**3.22**	**277**⇑	*i*P	**P**	**10 08 25.6**	**+1.4**
ANCH				*i* S	**S**	**10 09 03.4**	**-0.7**
ANCH				AMP		10 09 07.0	
	comp=N,2µm,0.4s						
CRCH	**Chaqaral**	**4.00**	**236**⇑	*i*P	**P**	**10 08 33.9**	**-0.1**
CRCH				*i* S	**S**	**10 09 19.4**	**-2.3**
CPCH	**Copiapo**	**4.45**	**223**	*i* P	**P**	**10 08 39.8**	**+0.1**
CPCH				*i* S	**S**	**10 09 30.7**	**-1.3**
TLL	**Tololo Astrono**	**6.93**	**209**	*e*P	**P**	**10 09 12.8**	**+0.6**
CFAA	**Coronel Fontan**	**7.53**	**189**	P	**P**	**10 09 20.2**	**+0.1**
	comp=N,0.2nm,0.3s,baz=11,slow=12,SNR=29						
CFAA				S	**S**	**10 10 39.0**	**-5.2**
	comp=N,0.8nm,0.3s,baz=267,slow=20,SNR=18						
LPAZ	**La Paz**	**7.89**	**352**	P	**P**	**10 09 26.4**	**+1.4**
	comp=N,2.5nm,0.3s,baz=156,slow=10,SNR=72						
LPAZ				S	**S**	**10 10 52.8**	**-0.2**
	comp=N,0.3nm,0.3s,baz=180,slow=20,SNR=3.8						
LPAZ	**La Paz**	**7.89**	**352**	*e*Pn	**P**	**10 09 25.6**	**+0.7**
	comp=N,13nm,0.7s						
ARE	**Arequipa**	**8.76**	**330**	*e*P	**P**	**10 09 35.0**	**-1.3**
ARE				*e*S	**S**	**10 11 09.0**	**-4.2**
CPUP	**Villa Florida**	**8.96**	**106**	P	**P**	**10 09 39.2**	**+0.3**
	comp=N,0.2nm,0.3s,baz=285,slow=12,SNR=10.0						
CPUP	**Villa Florida**	**8.96**	**106**	*e*Pn	**P**	**10 09 39.0**	**+0.1**
SIV	**San Ignacio**	**9.79**	**35**	P	**P**	**10 09 48.7**	**-1.2**
	comp=N,2.3nm,0.3s,baz=222,slow=13,SNR=22						
SIV				S	**S**	**10 11 31.0**	**-6.7**
	comp=N,0.2nm,0.3s,baz=229,slow=16,SNR=3.4						
SAML	**Samuel**	**15.52**	**14**	*e*P	**P**	**10 11 01.8**	**-1.1**
	comp=N,2.2nm,0.8s						
BDFB	**Brasilia**	**19.68**	**68**	P	**P**	**10 11 48.7**	**-0.7**
	comp=N,4.3nm,0.3s,baz=249,slow=10,SNR=82						
VNA3	**Neumayer Olymp**	**57.00**	**161**⇑	*i*P	**P**	**10 17 01.0**	**+0.2**
VNA1	**Neumayer--Stat**	**57.20**	**160**⇑	*i*P	**P**	**10 17 04.3**	**+2.1**
VNA2	**Neumayer--Watz**	**57.56**	**160**⇑	*i*P	**P**	**10 17 04.5**	**-0.3**
SNAA	**Sanae**	**59.20**	**161**⇑	*i*P	**P**	**10 17 15.8**	**-0.3**
SNAA	**Sanae**	**59.20**	**161**	P	**P**	**10 17 15.4**	**-0.8**
	comp=N,0.6nm,0.6s,mb3.6,baz=281,slow=5.9,SNR=14						
LRAL	**Lakeview Retre**	**59.99**	**341**	*e*P	**P**	**10 17 19.6**	**-2.4**
	comp=N,3.7nm,0.7s,mb4.3						
SWET	**Sewanee**	**61.72**	**342**	*e*P	**P**	**10 17 31.3**	**-2.4**
PLAL	**Pickwick Lake**	**62.12**	**340**	*e*P	**P**	**10 17 34.3**	**-2.1**
	comp=N,5.7nm,0.7s,mb4.5						
ELN	**Prospectdale**	**62.41**	**348**	*e*P	**P**	**10 17 37.0**	**-1.3**
TXAR	**Lajitas Array**	**63.83**	**324**	P	**P**	**10 17 46.7**	**-1.0**
	comp=N,1.3nm,0.7s,mb3.9,baz=158,slow=6.7,SNR=12						
TXAR	**Lajitas Array**	**63.83**	**324**	P	**P**	**10 17 46.7**	**-1.0**
QSPA	**South Pole Qui**	**66.07**	**180**	*e*P	**P**	**10 18 01.5**	**+0.3**
	comp=N,9.2nm,0.5s,mb4.9						
GDL2	**Guadalupe Moun**	**66.46**	**326**	*e*P	**P**	**10 18 03.8**	**-0.7**
MNTX	**Cornudas Mount**	**66.60**	**325**	*e*P	**P**	**10 18 03.6**	**-1.8**
	comp=N,6.0nm,0.9s,mb4.4						
DBIC	**Dimbokro**	**67.78**	**71**	P	**P**	**10 18 13.1**	**+0.1**
	comp=N,8.5nm,1.0s,mb4.4,baz=223,slow=7.1,SNR=4.2						
BNM	**Barren Site**	**69.17**	**325**	*e*P	**P**	**10 18 21.2**	**0.0**
ANMO	**Albuquerque**	**69.70**	**326**	*e*P	**P**	**10 18 24.6**	**+0.1**
	comp=N,6.0nm,0.8s,mb4.4						
ISCO	**Idaho Springs**	**73.14**	**330**	*e*P	**P**	**10 18 45.3**	**+0.5**
	comp=N,5.7nm,1.0s,mb4.3						
PV01	**Paradox Valley**	**73.24**	**327**	*e*P	**P**	**10 18 46.1**	**+0.6**
VNDA	**Vanda**	**74.58**	**190**	P	**P**	**10 18 53.1**	**+0.7**
	comp=N,1.4nm,1.0s,mb3.6,baz=130,slow=4.8,SNR=7.2						
NEN	**Nelson**	**74.77**	**321**	*e*P	**P**	**10 18 54.4**	**+0.1**
MSU	**Marysvale**	**75.38**	**325**	*e*P	**P**	**10 18 58.7**	**+1.0**
MVU	**Marysvale**	**75.39**	**325**	*e*P	**P**	**10 18 58.5**	**+0.8**
	comp=N,8.2nm,0.9s,mb4.4						
ARUT	**Antelope Range**	**75.52**	**324**	*e*P	**P**	**10 18 59.9**	**+1.4**
PDAR	**Pinedale Array**	**77.30**	**329**	P	**P**	**10 19 08.3**	**0.0**
	comp=N,1.3nm,0.7s,mb3.7,baz=127,slow=7.3,SNR=12						
HWUT	**Hardware Ranch**	**77.38**	**327**	*e*P	**P**	**10 19 09.1**	**+0.3**
	comp=N,6.2nm,0.9s,mb4.2						
TPH	**Tonopah**	**77.83**	**322**	*e*P	**P**	**10 19 12.1**	**+0.8**
	comp=N,8.9nm,1.1s,mb4.3						
ULM	**Lac du Bonnet**	**78.38**	**342**	P	**P**	**10 19 13.0**	**-1.0**
	comp=N,4.6nm,0.6s,mb4.3,baz=148,slow=7.1,SNR=5.0						
LOHW	**Long Hollow**	**78.44**	**329**	*e*P	**P**	**10 19 15.3**	**+0.7**
	comp=N,5.2nm,0.7s,mb4.3						
TPAW	**Teton Pass**	**78.51**	**329**	*e*P	**P**	**10 19 14.7**	**-0.2**
	comp=N,6.4nm,0.9s,mb4.2						
OMM	**Old Mammoth Mi**	**78.53**	**320**	*e*P	**P**	**10 19 15.9**	**+0.7**
MOOW	**Moose Ponds**	**78.61**	**329**	*e*P	**P**	**10 19 15.7**	**+0.2**
	comp=N,1.9nm,0.6s,mb3.9						
ELK	**Elko**	**78.62**	**325**	*e*P	**P**	**10 19 16.2**	**+0.6**
	comp=N,4.9nm,1.0s,mb4.1						
SCHQ	**Schefferville**	**78.65**	**0**	P	**P**	**10 19 14.6**	**-0.8**
	comp=N,3.6nm,1.0s,mb3.9,baz=149,slow=5.9,SNR=3.7						
NVAR	**Mina Array Bea**	**78.69**	**321**	P	**P**	**10 19 17.0**	**+1.1**
	comp=N,1.7nm,0.9s,mb3.7,baz=151,slow=6.8,SNR=8.8						
IMW	**Indian Meadow**	**78.81**	**329**	*e*P	**P**	**10 19 17.1**	**+0.6**
	comp=N,6.5nm,0.8s,mb4.3						
LAO	**LASA Array**	**78.95**	**334**	*e*P	**P**	**10 19 16.6**	**-0.6**
	comp=N,10nm,1.0s,mb4.4						
DGMT	**Dagmar**	**79.61**	**336**	*e*P	**P**	**10 19 21.3**	**+0.6**
	comp=N,18nm,0.8s,mb4.8						
HLID	**Hailey**	**80.24**	**327**	*e*P	**P**	**10 19 25.0**	**+0.8**
	comp=N,7.4nm,0.8s,mb4.4						
MCMT	**McKenzie Canyo**	**80.42**	**329**	*e*P	**P**	**10 19 26.5**	**+1.4**
BOSA	**Boshof**	**80.61**	**117**	P	**P**	**10 19 25.8**	**-0.7**
	comp=N,2.3nm,0.8s,mb3.9,baz=250,slow=7.8,SNR=4.6						
MAW	**Mawson**	**81.28**	**163**	P	**P**	**10 19 29.8**	**+0.6**
	comp=N,4.4nm,0.7s,mb4.2,baz=201,slow=6.3,SNR=10						
HRY	**Holter Researc**	**81.36**	**331**	*e*P	**P**	**10 19 30.8**	**+0.8**
EDM	**Edmonton**	**86.92**	**334**	*e*P	**P**	**10 19 56.6**	**-0.9**
YKA	**Yellowknife Ar**	**94.28**	**340**	P	**P**	**10 20 31.6**	**+0.1**
	comp=N,1.6nm,0.5s,mb4.4,baz=134,slow=4.6,SNR=9.6						
WRA	**Warramunga Arr**	**131.53**	**207**	PKP	PKPdf	10 26 25.2	+1.1
	comp=N,1.1nm,0.4s,baz=154,slow=2.0,SNR=44						
ZRNK	**Zerenda**	**136.13**	**37**	*e*PKPdf	PKPdf	10 26 33.2	+1.4
ZAL	**Zalesovo**	**143.48**	**28**	PKP	PKPdf	10 26 44.2	-0.6
	comp=N,2.0nm,0.5s,baz=165,slow=5.1,SNR=8.3						
MKAR	**Makanchi Array**	**146.59**	**40**	PKPbc	PKPbc	10 26 52.2	+0.3
	comp=N,4.2nm,0.6s,baz=285,slow=1.5,SNR=36						
MJAR	**Matsushiro Arr**	**155.11**	**306**	PKPab	PKPab	10 27 30.8	-0.7
	comp=N,4.1nm,0.9s,baz=73,slow=2.8,SNR=6.9						
MDJ	**Mudanjiang**	**155.53**	**331**	PKP	PKPdf	10 27 04.7	+1.0
SONM	**Songino Array**	**155.76**	**11**	PKPab	PKPab	10 27 32.9	-1.0
	comp=N,0.7nm,0.7s,baz=310,slow=3.6,SNR=4.3						
CN2	**Changchun**	**157.91**	**336**	*e*PKP	PKPdf	10 27 10.9	+4.0
CMAR	**Chiang Mai Arr**	**165.67**	**111**	PKPab	PKPab	10 28 17.6	0.0
	comp=N,0.3nm,0.4s,baz=258,slow=4.1,SNR=4.5						
LZH	**Lanzhou**	**165.67**	**32**	*e*PKP	PKPdf	10 27 17.2	+2.1
LZH				APKP		10 28 05.6	
LZH				XPKP		10 28 24.7	

MAN 05 10:24:50.8, 10.22N×**126.12E, h24**^{km}**, mb4.3, ML3.1, MS2.9, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.76**	**235**⇓	*e*P	Pb	10 25 06.0	+0.8
SCPH				*e*S	Sb	10 25 16.5	+1.4
MSLP	**Maasin**	**1.25**	**266**	*e*P	Pn	10 25 12.4	-0.6
MSLP				*e*S	Sn	10 25 30.2	+1.1
BUTP	**Butuan**	**1.33**	**202**	*e*P	Pn	10 25 12.8	-1.4
BUTP				*e*S	Sn	10 25 31.2	-0.1
PLP	**Palo**	**1.47**	**310**	*e*P	Pn	10 25 15.6	-0.5
PLP				*e*S	Sn	10 25 34.2	-0.5
BESP	**Borongan**	**1.53**	**334**	*e*P	Pn	10 25 16.5	-0.5
LLP	**Lapu-Lapu**	**2.12**	**273**	*e*P	Pn	10 25 24.6	-0.9
LLP				*e*S	Sn	10 25 51.1	-0.3
BUKP	**Musuan**	**2.55**	**204**	*e*P	Pn	10 25 32.0	+0.5
CNP	**Catarman**	**2.69**	**328**	*e*P	Pn	10 25 35.9	+2.3
SNPH	**Sibulan**	**2.98**	**253**	*e*P	Pn	10 25 39.0	+1.3

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*CSEM **05** 10:29:22.7±0.1, 36.66N×27.14E, h138^{km}±1^{km}, MD3.2, Error ellipse: s-maj=2.3km s-min=1.9km az=166.0*
*ATH **05** 10:29:24.1, 36.60N×27.01E, h137^{km}±6^{km}*
*HLW **05** 10:29:24.2, 36.55N×27.26E, h21^{km}, Mb4.1*
*IDC **05** 10:29:24.8±0.8, 36.50N×26.92E, h145^{km}±16^{km}, mb3.5/2, mb1 3.4/7, mb1mx3.1/27, mbtmp3.9/7, Error ellipse: s-maj=21.4km s-min=12.0km az=167.0*
*NEIC **05** 10:29:25.1±0.4, 36.53N×27.07E, h140^{km}±8^{km}, mb4.6/1, Error ellipse: s-maj=10.3km s-min=5.7km az=176.0*
*ISK **05** 10:29:26.4, 36.69N×27.03E, h114^{km}, MD3.2*
ISC 05 10:29:23.7±0.3**, 36.53N**±0.03×**27.05E**±0.03**, h141**^{km}±4^{km}**, n57,** $\sigma1^{s}$**06**/75**, mb3.7**/2**, 5C-8D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.57**	**21**	*i* PG	**P**	**10 29 44.1**	**-0.8**
ARG	**Arkhangelos**	**0.92**	**110**⇑	*i*P	**P**	**10 29 48.5**	**+1.3**
ARG				*e*S	**S**	**10 30 05.7**	**+0.5**
MLSB	**Milas**	**0.96**	**37**	*i* PG	**P**	**10 29 47.3**	**-0.2**
MLSB				*i* SG	**S**	**10 30 02.9**	**-2.8**
KARP	**Karpathos**	**0.99**	**175**	*e*P	**P**	**10 29 49.1**	**+1.4**
KARP				*e*S	**S**	**10 30 06.7**	**+0.6**
YER	**Yerkesik**	**1.16**	**58**	*i* PN	**P**	**10 29 50.1**	**+0.8**
SANT	**Santorini**	**1.29**	**263**⇓	*i*Pn	**P**	**10 29 51.3**	**+0.5**
SANT	**Santorini**	**1.29**	**263**⇓	*i*Pn	**P**	**10 29 51.3**	**+0.5**
DALT	**Dalyan (Mudla)**	**1.30**	**79**	PN	**P**	**10 29 51.9**	**+1.1**
FETY	**Fethiye**	**1.64**	**86**	PN	**P**	**10 29 55.4**	**+0.9**
NPS	**Neapolis**	**1.73**	**223**	*e*P	**P**	**10 29 56.5**	**+1.0**
NPS				*e*S	**S**	**10 30 19.3**	**-0.5**
BLCB	**Balcova**	**1.85**	**360**	PN	**P**	**10 29 55.9**	**-1.0**
IZM	**Izmir**	**1.87**	**5**	PN	**P**	**10 29 56.6**	**-0.5**
XRY	**Khrisi**	**1.99**	**214**	*e*P	**P**	**10 30 00.0**	**+1.5**
DENT	**Denizli**	**2.00**	**52**	PN	**P**	**10 29 58.4**	**-0.2**
KSL	**Kastellorizon**	**2.08**	**100**	*e*P	**P**	**10 30 00.0**	**+0.4**
AKAS	**Kas**	**2.08**	**97**	*i* P	**P**	**10 30 00.5**	**+0.8**
AKAS				*i* S	**S**	**10 30 25.1**	**-2.1**
GOLH	**Golhisar**	**2.13**	**70**	*i* P	**P**	**10 30 01.0**	**+0.7**
GOLH				*i* S	**S**	**10 30 22.4**	**-5.9**
IDI	**Anoyia**	**2.15**	**235**	P	**P**	**10 30 01.3**	**+0.7**
	30nm,0.3s,baz=53,slow=11,SNR=116						
IDI				S	**S**	**10 30 27.7**	**-1.1**
	106nm,0.3s,baz=93,slow=23,SNR=34						
MANT	**Manisa**	**2.29**	**31**	*i* P	**P**	**10 30 01.0**	**-1.4**
MANT				*i* S	**S**	**10 30 28.8**	**-3.1**
ELL	**Elmali**	**2.31**	**84**	PN	**P**	**10 30 03.3**	**+0.8**
VAM	**Vamos**	**2.57**	**245**	*e*P	**P**	**10 30 06.7**	**+0.8**
VAM				*e*S	**S**	**10 30 37.3**	**-0.9**
GVD	**Gavdhos**	**2.95**	**236**	*e*Pn	**P**	**10 30 12.9**	**+2.2**
GVD				*e*Sn	**S**	**10 30 45.5**	**-1.2**
GVD	**Gavdhos**	**2.95**	**236**	*e*Pn	**P**	**10 30 12.9**	**+2.1**
GVD				*e*Sn	**S**	**10 30 45.5**	**-1.2**
TKTP	**Tekketepe**	**3.01**	**59**	*i* P	**P**	**10 30 10.6**	**-1.0**
TKTP				*i* S	**S**	**10 30 37.2**	**-11**
ISP	**Isparta**	**3.05**	**64**	*e*Pn	**P**	**10 30 12.0**	**-0.2**
KYTH	**Kithira**	**3.25**	**267**	*e*P	**P**	**10 30 15.0**	**+0.3**
VLI	**Veliai**	**3.32**	**274**	*e*P	**P**	**10 30 15.9**	**+0.3**
SLUM		**5.26**	**197**⇓	*e*P	**P**	**10 30 41.9**	**+0.6**
SLUM				S	**S**	**10 31 38.1**	**-3.2**
CSS	**Prodhromos**	**5.34**	**105**	*e*Pn	**P**	**10 30 41.1**	**-1.3**
	18nm,0.4s						
CSS	**Prodhromos**	**5.34**	**105**	*e*Pn	**P**	**10 30 41.2**	**-1.2**
	18nm,0.4s						
HMAT	**Matruh**	**5.42**	**180**⇓	*e*P	**P**	**10 30 43.6**	**+0.1**
HMAT				S	**S**	**10 31 41.8**	**-3.6**
BRTR	**Keskin Array B**	**6.09**	**56**	P	**P**	**10 30 54.0**	**+1.5**
	0.3nm,0.3s,baz=238,slow=14,SNR=5.2						
BRTR				S	**S**	**10 32 03.9**	**+2.4**
	0.3nm,0.3s,baz=223,slow=26,SNR=4.2						
HBRG	**Burj al ‘Arab**	**6.38**	**158**⇑	*e*P	**P**	**10 30 55.9**	**-0.5**
SWA1		**7.34**	**189**⇓	*e*P	**P**	**10 31 09.2**	**-0.1**
SWA1		**7.34**	**189**	P	**P**	**10 31 09.2**	**-0.1**
HNTI	**Hanita**	**7.51**	**115**	S	**P**	**10 31 10.4**	**-1.3**
KOT	**Kottamia**	**7.71**	**147**⇓	*e*P	**P**	**10 31 14.0**	**-0.3**
AMAG	**Maghara**	**7.80**	**137**⇑	*e*P	**P**	**10 31 14.7**	**-0.8**
HSAF	**As Saff**	**7.86**	**150**⇓	*e*P	**P**	**10 31 16.4**	**0.0**
SLTI	**Sal’it**	**7.87**	**121**	S	**P**	**10 31 16.6**	**+0.2**
GLL	**Jalalah**	**7.96**	**149**⇑	*e*P	**P**	**10 31 17.5**	**-0.1**
MMLI	**Mount Malkishu**	**8.03**	**118**	S	**P**	**10 31 18.6**	**+0.1**
SUZ		**8.24**	**142**⇓	*e*P	**P**	**10 31 21.7**	**+0.2**
KZIT	**Kziot**	**8.30**	**130**	S	**P**	**10 31 21.9**	**-0.3**
ZNM		**8.65**	**144**	P	**P**	**10 31 26.9**	**+0.1**
HNKL	**Nakhl**	**8.78**	**137**	P	**P**	**10 31 28.4**	**-0.1**
PRNI	**Paran**	**9.06**	**131**	S	**P**	**10 31 31.6**	**-0.7**
KMTI	**Karmit**	**9.07**	**133**	S	**P**	**10 31 31.4**	**-1.0**
ASF	**Jabal al Asfar**	**9.23**	**115**	P	**P**	**10 31 35.4**	**+0.9**
	2.3nm,0.3s,baz=359,slow=14,SNR=7.5						
ASF				S	**S**	**10 33 21.2**	**+4.4**
	0.7nm,0.3s,baz=273,slow=18,SNR=2.6						
EIL	**Elat**	**9.52**	**134**	P	**P**	**10 31 39.0**	**+0.6**
	1.0nm,0.3s,baz=333,slow=6.8,SNR=6.5						
EIL				S	**S**	**10 33 20.9**	**-2.9**
	3.9nm,0.3s,baz=341,slow=18,SNR=10						
EIL	**Elat**	**9.52**	**134**	P	**P**	**10 31 39.0**	**+0.6**
EIL				S	**S**	**10 33 20.9**	**-2.9**
HKAT	**Jabal Katrina**	**9.90**	**142**⇑	*e*P	**P**	**10 31 44.5**	**+1.1**
AKASG	**Malin Array Be**	**14.25**	**6**	P	**P**	**10 32 41.7**	**+1.9**
	1.1nm,0.3s,baz=190,slow=11,SNR=5.2						
AKASG	**Malin Array Be**	**14.25**	**6**	P	**P**	**10 32 41.7**	**+1.9**
CLL	**Collm**	**17.86**	**330**	P	**P**	**10 33 23.0**	**-1.3**
HFS	**Hagfors**	**25.13**	**344**	P	**P**	**10 34 35.3**	**-1.4**
	0.7nm,0.5s,mb3.5,baz=150,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**41.74**	**58**	P	**P**	**10 37 00.6**	**+0.5**
	1.3nm,0.4s,mb3.9,baz=267,slow=8.8,SNR=15						

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*MOS **05** 10:58:05.3±1.0, 54.22N×161.87E, h42^{km}, mb4.1/4, Error ellipse: s-maj=18.1km s-min=9.4km az=72.3*
*IDC **05** 10:58:06.5±4.5, 54.32N×161.52E, h44^{km}±44^{km}, mb3.5/6, mb1 3.8/6, mb1mx3.4/22, mbtmp3.8/6, ML4.2/1, Error ellipse: s-maj=32.5km s-min=20.8km az=128.0*
*KRSC **05** 10:58:07.7±0.5, 54.35N×161.55E, h36^{km}±3^{km}, ML4.5*
*NEIC **05** 10:58:07.1±1.4, 54.37N×161.65E, h49^{km}±15^{km}, Error ellipse: s-maj=20.4km s-min=11.1km az=153.0*
ISC 05 10:58:06.2±0.4**, 54.30N**±0.02×**161.77E**±0.05**, h54**^{km}±5^{km}**, n57,** $\sigma1^{s}$**14**/96**, mb3.9**/7**, 3C, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.26**	**356**	P	**P**	**10 58 14.7**	**-0.7**
MKZ				S	**S**	**10 58 19.4**	**-2.6**
MKZ	**Mys Kozlova**	**0.26**	**356**	*i* P	**P**	**10 58 14.7**	**-0.7**
MKZ				*i* S	**S**	**10 58 19.5**	**-2.5**
TUMR	**Tumrok**	**1.36**	**317**	*i* P	**P**	**10 58 29.2**	**-0.2**
TUMR				*e*S	**S**	**10 58 44.7**	**-1.9**
KII	**Karymskiy**	**1.39**	**260**	*i* P	**P**	**10 58 29.7**	**-0.1**
KII				*e*S	**S**	**10 58 45.2**	**-2.0**
SPN	**Mys Shipunski**	**1.58**	**222**	P	**P**	**10 58 32.0**	**-0.5**
SPN				S	**S**	**10 58 49.7**	**-2.2**
SPN	**Mys Shipunski**	**1.58**	**222**	*i* P	**P**	**10 58 31.8**	**-0.7**
SPN				*i* S	**S**	**10 58 49.7**	**-2.2**
KMNR	**Kamenistaya**	**1.71**	**330**	*i* P	**P**	**10 58 35.1**	**+0.9**
KMNR				*e*S	**S**	**10 58 54.8**	**-0.1**
ZLN	**Zelenaya**	**1.81**	**343**	*e*P	**P**	**10 58 37.4**	**+1.8**
ZLN				*e*S	**S**	**10 58 58.8**	**+1.4**
NLC	**Nalytchevo**	**1.83**	**233**	P	**P**	**10 58 35.7**	**-0.1**
NLC				S	**S**	**10 58 56.4**	**-1.4**
NLC	**Nalytchevo**	**1.83**	**233**	*i* P	**P**	**10 58 35.6**	**-0.2**
NLC				*e*S	**S**	**10 58 55.4**	**-2.4**
KPT	**Kopyto**	**1.89**	**333**	*i* P	**P**	**10 58 38.0**	**+1.2**
KPT				*e*S	**S**	**10 59 00.4**	**+0.9**
LGNR	**Loginova**	**1.89**	**341**	*e*P	**P**	**10 58 38.0**	**+1.2**
LGNR				*e*S	**S**	**10 58 59.8**	**+0.3**
CIRR	**Tsirk**	**1.92**	**343**	*e*P	**P**	**10 58 38.5**	**+1.4**
CIRR				*e*S	**S**	**10 59 00.9**	**+0.9**
SDLR	**Sedlovina**	**1.99**	**240**	*i* P	**P**	**10 58 38.9**	**+0.8**
SDLR				*i* S	**S**	**10 59 02.4**	**+0.6**
KBTR	**Krutoberegovo**	**2.01**	**17**	P	**P**	**10 58 39.3**	**+0.9**
KBTR				S	**S**	**10 59 02.0**	**-0.3**
KBTR	**Krutoberegovo**	**2.01**	**17**	*i* P	**P**	**10 58 39.0**	**+0.6**
KBTR				*e*S	**S**	**10 59 02.1**	**-0.2**
SMAR	**Somma**	**2.04**	**241**	*i* P	**P**	**10 58 39.7**	**+0.9**
SMAR				*e*S	**S**	**10 59 02.8**	**-0.3**
KRSR	**Krestovskiy**	**2.04**	**341**	*e*P	**P**	**10 58 39.4**	**+0.5**
KRSR				*e*S	**S**	**10 59 02.5**	**-0.7**
UGLR	**Uglovaya**	**2.06**	**239**	*i* P	**P**	**10 58 40.0**	**+0.9**
UGLR				*e*S	**S**	**10 59 04.2**	**+0.7**
AVH	**Avacha**	**2.07**	**241**	*i* P	**P**	**10 58 40.4**	**+1.1**
AVH				*e*S	**S**	**10 59 04.5**	**+0.6**
KOZ	**Kozyrevsk**	**2.07**	**329**	P	**P**	**10 58 40.1**	**+0.8**
KOZ				S	**S**	**10 59 03.8**	**-0.1**
KOZ	**Kozyrevsk**	**2.07**	**329**	*i* P	**P**	**10 58 40.1**	**+0.8**
KOZ				*e*S	**S**	**10 59 03.7**	**-0.2**
KOZR	**Kozyr**	**2.07**	**330**	PN	**P**	**10 58 40.1**	**+0.8**
KOZR				S	**S**	**10 59 03.8**	**-0.1**
KOK	**Koryaka**	**2.11**	**243**	*i* P	**P**	**10 58 40.8**	**+1.0**
KOK				*e*S	**S**	**10 59 05.3**	**+0.4**
KLY	**Klyuchi**	**2.12**	**343**	P	**P**	**10 58 40.5**	**+0.5**
KLY				S	**S**	**10 59 04.5**	**-0.6**
KLY	**Klyuchi**	**2.12**	**343**	*e*P	**P**	**10 58 40.2**	**+0.2**
KLY				*e*S	**S**	**10 59 03.8**	**-1.3**
PET	**Petropavlovsk**	**2.25**	**237**	P	**P**	**10 58 42.4**	**+0.6**
PET				S	**S**	**10 59 07.5**	**-0.9**
PET	**Petropavlovsk**	**2.25**	**237**⇑	*i*PN	**P**	**10 58 42.3**	**+0.5**
PET				*e*S	**S**	**10 59 08.4**	**0.0**
PET				pmax	pmax		
	comp=Z,200nm,0.5s						
PET				pmax	pmax		
	comp=Z,293nm,0.4s						
PET				smax			
	comp=E,800nm,1.0s						
PET				smax			
	comp=N,1µm,0.5s						
PET				smax			
	comp=E,527nm,0.5s						
PET				MLR	MLR		
	comp=Z,400nm,4.0s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s						
PET				MLR	MLR		
	comp=E,100nm,15.0s						
PET				MLR	MLR		
	comp=N,100nm,17.0s						

PET Petropavlovsk 2.25 237⇑iPn P 10 58 42.0 +0.2
PET Petropavlovsk 2.25 237 i P P 10 58 42.3 +0.5
PET eS S 10 59 07.6 -0.8
GNL Ganaly 2.34 257 i P P 10 58 43.6 +0.5
GNL eS S 10 59 09.5 -1.1
SRDR Sredinnyy 2.34 331 i P P 10 58 43.2 +0.1
SRDR eS S 10 59 09.1 -1.6
ESO Esso 2.40 314 i P P 10 58 43.7 -0.3
ESO eS S 10 59 09.3 -3.0
ESO Smax
comp=N,240nm,1.0s
BKI Bering 2.60 68 i P P 10 58 47.2 +0.3
BKI i S S 10 59 15.9 -1.5
BKI Smax
comp=N,190nm,0.3s
RUS Russkaya 2.70 228 P P 10 58 48.5 +0.3
RUS S S 10 59 17.9 -1.9
RUS Russkaya 2.70 228 eP P 10 58 48.0 -0.2
RUS eS S 10 59 17.1 -2.7
GRL Gorelyy 2.82 233 i P P 10 58 50.8 +0.9
GRL eS S 10 59 22.1 -0.7
MIPR Malaya Ipel'ka 3.62 238 eP P 10 59 02.0 +0.7
PAU Pauzhetka 4.13 229 eP P 10 59 11.1 +2.7
PAU eS S 10 59 57.4 +1.6
PAU Smax
comp=N,180nm,1.1s
SKR Severo-Kuril's 5.00 226 ePN P 10 59 17.7 -2.9
SKR eS S 11 00 25.5 +7.7
SKR pmax pmax
comp=Z,40nm,0.6s
SKR smax
comp=N,80nm,0.5s
SKR smax
comp=E,120nm,0.5s
SKR smax
comp=Z,40nm,0.5s
SKR Severo-Kuril's 5.00 226 eP P 10 59 22.4 +1.8
FX1 Attu Island--F 6.93 97 PN P 10 59 46.6 -1.0
FX1 pmax pmax
comp=Z,14nm,0.3s
FX1 Attu Island--F 6.93 97 P P 10 59 46.6 -1.0
comp=Z,14nm,0.3s,baz=320,slow=4.8,SNR=108
FX1 Attu Island--F 6.93 97⇑iPn P 10 59 46.4 -1.3
FX1 eSn S 11 01 00.8 -5.0
MJAR Matsushiro Arr 24.07 232 P P 11 03 18.0 +0.8
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR Matsushiro Arr 24.07 232 P P 11 03 18.0 +0.8
comp=Z,2.8nm,0.8s,mb3.7,baz=17,slow=11,SNR=7.2
ILAR Eielson Array 27.26 47 P P 11 03 47.0 +0.1
comp=Z,0.4nm,0.7s,mb3.1,baz=252,slow=8.4,SNR=6.3
KAF Kangasniemi 58.76 337 ep P 11 07 58.0 -2.4
FINES FINESS Array B 59.41 337 P P 11 08 03.3 -1.5
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 59.41 337 P P 11 08 03.3 -1.5
comp=Z,0.6nm,0.4s,mb4.0,baz=27,slow=5.8,SNR=9.5
NOA NORSAR Array B 62.66 344 P P 11 08 24.8 -2.1
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 62.66 344 P P 11 08 24.8 -2.0
comp=Z,1.0nm,0.7s,mb4.1,baz=24,slow=6.7,SNR=3.9
TXAR Lajitas Array 69.26 69 P P 11 09 10.6 +1.2
comp=Z,0.2nm,0.4s,mb3.4,baz=300,slow=5.6,SNR=7.5
TXAR Lajitas Array 69.26 69 P P 11 09 10.6 +1.2
WRA Warramunga Arr 77.60 206 P P 11 09 56.7 -1.4
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 77.60 206 P P 11 09 56.7 -1.4
comp=Z,1.2nm,0.7s,mb3.9,baz=20,slow=6.0,SNR=16
MBWA Marble Bar 83.36 219 P P 11 10 28.9 +0.2
comp=Z,15nm,1.2s,mb4.9

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*IDC **05** 11:12:11.7±0.5, 50.77S×72.14W, mb4.8/11, mb1 4.8/12, mb1mx4.7/16, mbtmp4.7/12, ML4.4/1, MS4.0/12, Ms1 4.0/12, ms1mx4.0/16, Error ellipse: s-maj=28.1km s-min=14.7km az=81.0*

*HRVD **05** 11:12:15.3±0.9, 51.08S×72.13W, h12km, MW4.9/33, Centroid moment Tensor Solution. LP body waves: s6,c7; Mantle waves: s33,c45; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.86±.10; $M_{\theta\theta}$-0.41±.11; $M_{\phi\phi}$-1.45±.11; $M_{r\theta}$-1.38±.50; $M_{\theta\phi}$0.07±.13; $M_{\phi r}$1.51±.55; Best double couple: $M_0$2.589×10^{16} NP1:ϕ_s181°,δ22°,λ121°. NP2: ϕ_s328°,δ71°,λ78°. Principal axes: T 2.931, Plg62°, Azm220°; N -.685, Plg11°, Azm332°; P -2.247, Plg25°, Azm67°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **05** 11:12:15.3±3.1, 50.67S×72.07W, h22km±21km, mb5.1/24, MS4.4/50 Error ellipse: s-maj=14.1km s-min=6.1km az=81.0*

*BJI **05** 11:12:15.3, 50.70S×72.10W, h23km, mB4.9, Ms4.9, Msz4.7*

*MOS **05** 11:12:17.2±1.5, 50.73S×71.38W, h33km, mb5.4/5, Error ellipse: s-maj=46.5km s-min=14.5km az=88.5*

ISC 05 11:12:10.5±2.8**, 50.65S**±0.05×**72.0W**±0.2**, h1**km±16km**, n182, σ0§93**/62**, mb5.0**/32**, MS4.5**/62**, 11C-5D, Southern Chile-Argentina border region**

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

USHA Ushuaia 4.73 154 Pn Pn 11 13 22.7 -1.9
18nm,0.3s,baz=309,slow=12,SNR=392
USHA Lg 11 14 47.7
48nm,0.3s,baz=319,slow=20,SNR=4.0
CFAA Coronel Fontan 19.23 10 LR LR 11 25 30.7
comp=Z,32nm,21.3s,baz=195,slow=41
CPUP Villa Florida 26.77 30 eP P 11 17 52.7 -0.9
CPUP pmax pmax
comp=Z,10.0nm,0.7s
CPUP MLR MLR
comp=Z,494nm,19.0s
CPUP Villa Florida 26.77 30 P P 11 17 53.0 -0.6
comp=Z,12nm,0.9s,mb4.6,baz=213,slow=11,SNR=11
CPUP LR LR 11 29 43.5
comp=Z,318nm,18.8s,MS3.9,baz=211,slow=39
CPUP Villa Florida 26.77 30 eP P 11 17 52.7 -0.9
comp=Z,9.5nm,0.7s,mb4.6
CPUP LR LR
comp=Z,494nm,19.0s,MS4.1
LVC Limon Verde 28.09 6 LR LR 11 29 59.2
comp=Z,276nm,19.6s,MS3.9,baz=188,slow=38
LVC Limon Verde 28.09 6 PFAKE 11 18 20.0 +14
LVC LR LR
comp=Z,491nm,19.0s,MS4.1
ARE Arequipa 34.10 1 eP P 11 19 03.0 +4.2
VNA3 Neumayer Olymp 34.39 150⇑iP P 11 19 00.7 0.0
VNA3 e 11 19 12.4
VNA3 e 11 19 17.0
VNA3 e 11 20 18.6
VNA3 e 11 20 30.3
VNA3 e 11 21 37.2
VNA3 eS S 11 24 30.2 +1.7
LPAZ La Paz 34.42 7 eP P 11 19 02.1 +0.6
LPAZ e 11 21 37.7
LPAZ pmax pmax
comp=Z,10.0nm,0.7s
LPAZ La Paz 34.42 7 LR LR 11 35 10.5
comp=Z,112nm,18.9s,MS3.6,baz=144,slow=40
LPAZ La Paz 34.42 7 eP P 11 19 02.1 +0.6
comp=Z,10nm,0.7s,mb4.9
LPAZ ePcP PcP 11 21 37.7 +0.4
VNA1 Neumayer--Stat 34.83 148⇑iP P 11 19 05.3 +0.8
VNA1 e 11 19 16.4
VNA1 e 11 19 21.1
VNA1 e 11 20 21.0
VNA1 e 11 20 32.2
VNA2 Neumayer--Watz 35.12 149⇑iP P 11 19 07.3 +0.3
VNA2 e 11 19 17.6
VNA2 e 11 19 22.1
VNA2 e 11 20 21.2
VNA2 e 11 20 42.4
VNA2 e 11 21 39.3
VNA2 eS S 11 24 34.5 -5.4
SIV San Ignacio 35.68 18 P P 11 19 12.4 +0.1
comp=Z,14nm,0.8s,mb4.8,baz=204,slow=7.7,SNR=43
SNAA Sanae 36.57 150 e P 11 19 28.0 +8.7
SNAA Sanae 36.57 150 e P 11 19 31.6 +12
SNAA Sanae 36.57 150 eS S 11 25 00.6 -1.7
SNAA Sanae 36.57 150 i P P 11 19 19.2 -0.1
SNAA Sanae 36.57 150 P P 11 19 19.3 +0.1
comp=Z,5.9nm,0.8s,mb4.4,baz=282,slow=7.1,SNR=36
SNAA LR LR 11 33 39.5
comp=Z,43nm,18.1s,baz=22,slow=35
SNAA Sanae 36.57 150⇑iP P 11 19 19.1 -0.2
SNAA e 11 19 28.0
SNAA e 11 19 31.6
SNAA e 11 20 40.6
SNAA e 11 20 54.6
SNAA e 11 21 41.9
SNAA eS S 11 25 00.6 -1.7
SNAA e 11 25 13.4
RPN Rapa Nui 36.77 296 LR LR 11 30 32.8
comp=Z,278nm,21.9s,MS4.0,baz=264,slow=30
QSPA South Pole Qui 39.60 180⇑iP P 11 19 44.7 +0.1
comp=Z,34nm,0.9s,mb5.0
BDFB Brasilia 39.93 38 P P 11 19 48.9 +1.0
comp=Z,19nm,0.7s,mb4.8,baz=219,slow=6.3,SNR=19
BDFB LR LR 11 36 50.7
comp=Z,392nm,20.4s,MS4.2,baz=198,slow=37
MAIT Maitri 41.37 150 eP P 11 20 00.1 +0.9
NVL N'lazarevskaya 41.40 150⇓iP P 11 19 59.3 -0.1
NVL i *SP sP 11 20 10.2 +11
NVL i 11 21 34.1
NVL MLR MLR
comp=Z,40nm,16.8s,MS3.4
SAML Samuel 42.21 13 eP P 11 20 06.8 +0.2
comp=Z,14nm,1.0s,mb4.7
SBA Scott Base 46.86 194 eP P 11 20 44.6 +1.4
SBA pmax pmax
comp=Z,69nm,2.0s,mb5.4
SBA Scott Base 46.86 194 eP P 11 20 44.6 +1.4
comp=Z,69nm,2.0s,mb5.4
VNDA Vanda 47.85 194 P P 11 20 52.0 +1.0
comp=Z,6.1nm,1.0s,mb4.7,baz=142,slow=7.7,SNR=22
VNDA LR LR 11 40 21.2
comp=Z,66nm,19.4s,MS3.6,baz=133,slow=35
VNDA Vanda 47.85 194 eP P 11 20 52.0 +1.0
comp=Z,12nm,1.1s,mb4.9
OTAV Otavalo 50.99 352 eP P 11 21 17.4 +1.4
comp=Z,42nm,1.6s,mb5.1
RCBR Riachuelo 53.89 47 PFAKE 11 21 50.0 +12
RCBR LR LR
comp=Z,448nm,20.0s,MS4.5
ROSC El Rosal 55.32 357 P P 11 21 49.9 +1.8
comp=Z,4.7nm,0.3s,mb4.9,baz=270,slow=6.1,SNR=8.5
MAW Mawson 57.31 161 P P 11 21 58.8 -2.9
comp=Z,7.2nm,0.9s,mb4.7,baz=231,slow=6.0,SNR=11
MAW LR LR 11 45 16.1
comp=Z,164nm,19.4s,MS4.2,baz=350,slow=35
SDV Santo Domingo 59.30 2 eP P 11 22 14.4 -1.9
comp=Z,13nm,1.0s,mb4.9
JTS JuntasAbangare 61.72 346 i P P 11 22 31.4 -1.4
JTS JuntasAbangare 61.72 346 P P 11 22 33.1 +0.3
comp=Z,22nm,0.9s,mb5.4,baz=185,slow=1.5,SNR=12
JTS JuntasAbangare 61.72 346 eP P 11 22 31.7 -1.1
comp=Z,33nm,0.9s,mb5.6
CASY Casey 63.39 181 eP P 11 22 42.6 -0.6
comp=Z,29nm,1.0s,mb5.4
PPT Papeete 68.75 268 LR LR 11 47 04.0
comp=Z,323nm,18.1s,MS4.6,baz=151,slow=30
BOSA Boshof 72.76 114 P P 11 23 43.0 +0.9
comp=Z,9.4nm,0.9s,mb4.9,baz=219,slow=6.5,SNR=10
BOSA LR LR 11 53 15.6
comp=Z,305nm,18.1s,MS4.6,baz=226,slow=34
LBTB Lobatse 75.67 112 eP P 11 23 59.5 +0.4
comp=Z,24nm,1.2s,mb5.2
DBIC Dimbokro 81.01 68 LR LR 11 54 12.4
comp=Z,185nm,21.4s,MS4.4,baz=166,slow=31
NHSC New Hope 83.70 353 PFAKE 11 24 50.0 +8.0
NHSC LR LR
comp=Z,138nm,21.0s,MS4.3
LRAL Lakeview Retre 84.36 347 eP P 11 24 45.1 -0.3
comp=Z,23nm,1.1s,mb5.3
LRAL LR LR
comp=Z,103nm,20.0s,MS4.2
LTX Lajitas 84.41 333 eP P 11 24 45.8 +0.1
comp=Z,18nm,1.5s,mb5.1
TXAR Lajitas Array 84.41 333 P P 11 24 46.0 +0.3
comp=Z,3.0nm,0.8s,mb4.6,baz=153,slow=8.4,SNR=34
MYNC Murphy 86.02 350 eP P 11 24 53.3 -0.3
comp=Z,5.6nm,0.6s,mb4.9
MYNC LR LR
comp=Z,147nm,20.0s,MS4.4
OXF Oxford 86.17 346 eP P 11 24 53.1 -1.3
comp=Z,38nm,1.0s,mb5.5
OXF LR LR
comp=Z,117nm,22.0s,MS4.2
PLAL Pickwick Lake 86.43 347 eP P 11 24 54.4 -1.2
comp=Z,13nm,1.1s,mb5.0
PLAL LR LR
comp=Z,98nm,22.0s,MS4.2
GDL2 Guadalupe Moun 87.30 333 P P 11 25 00.1 +0.1
WVT Waverly 87.52 347 eP P 11 24 59.5 -1.4
comp=Z,6.3nm,0.9s,mb5.0
ELN Prospectdale 87.84 353 P P 11 25 03.0 +0.7
FWV Forest Hill 88.19 353 eP P 11 25 03.7 -0.4
WMOK Wichita Mounta 88.24 338 PFAKE 11 25 20.0 +16
WMOK LR LR
comp=Z,121nm,20.0s,MS4.3
PARMO Parma 88.33 346 eP P 11 25 04.1 -0.6
CBN Corbin 88.60 356 PFAKE 11 25 20.0 +14
CBN LR LR
comp=Z,100nm,19.0s,MS4.2
AMTX Amarillo 89.09 336 eP P 11 25 08.5 +0.1
comp=Z,12nm,1.0s,mb5.1
AMTX LR LR
comp=Z,118nm,19.0s,MS4.3
TUC Tucson 89.41 328 eP P 11 25 10.7 +0.7
comp=Z,3.8nm,0.9s,mb4.6
FVM French Village 89.73 346 eP P 11 25 10.5 -0.9
comp=Z,22nm,1.0s,mb5.3
BNM Barren Site 89.79 332 eP P 11 25 12.8 +1.1
CCM Cathedral Cave 89.93 345 eP P 11 25 12.3 0.0
comp=Z,44nm,0.8s,mb5.7
MCWV Mont Chateau 90.19 354 PFAKE 11 25 20.0 +6.5
MCWV LR LR
comp=Z,177nm,22.0s,MS4.5
SLM Saint Louis 90.34 346 eP P 11 25 13.8 -0.3
comp=Z,25nm,1.0s,mb5.4
ANMO Albuquerque 90.48 332 i P P 11 25 14.7 -0.2
ANMO Albuquerque 90.48 332 eP P 11 25 15.5 +0.5
comp=Z,9.4nm,1.2s,mb4.9
STKA Stephens Creek 92.62 208 P P 11 25 24.4 -0.4
comp=Z,4.4nm,0.8s,mb4.9,baz=247,slow=7.7,SNR=4.3
STKA Stephens Creek 92.62 208 P P 11 25 24.4 -0.4
WES Weston 92.65 1 PFAKE 11 25 40.0 +15
WES LR LR
comp=Z,620nm,22.0s,MS5.0
HRV Harvard--Oak R 92.77 0 PFAKE 11 25 40.0 +15
HRV LR LR
comp=Z,112nm,19.0s,MS4.3
NCB Newcomb 94.26 358 PFAKE 11 25 40.0 +8.0
NCB LR LR
comp=Z,124nm,21.0s,MS4.3
ISCO Idaho Springs 94.76 335 eP P 11 25 35.2 +0.8
comp=Z,3.7nm,1.3s,mb4.7
ISCO LR LR
comp=Z,69nm,21.0s,MS4.1
WVL Waterville 94.85 2 PFAKE 11 25 50.0 +15
WVL LR LR
comp=Z,3μm,21.0s
DAC Darwin (Calif) 95.40 325 PFAKE 11 25 50.0 +12
DAC LR LR
comp=Z,159nm,19.0s,MS4.5
MVU Marysvale 95.54 329 PFAKE 11 25 50.0 +12
MVU LR LR
comp=Z,91nm,22.0s,MS4.2
PQI Presque Isle 97.00 3 PFAKE 11 26 00.0 +16
PQI LR LR
comp=Z,1μm,20.0s,MS5.4
MNV Mina 97.52 325 PFAKE 11 26 00.0 +13
MNV LR LR
comp=Z,121nm,20.0s,MS4.4
ELK Elko 98.56 328 PFAKE 11 26 00.0 +8.3
ELK LR LR
comp=Z,72nm,20.0s,MS4.2
PDAR Pinedale Array 98.62 333 P P 11 25 51.1 -0.8
comp=Z,0.1nm,0.5s,SNR=4.3
PDAR LR LR 12 04 18.8
comp=Z,46nm,18.5s,MS4.0,baz=249,slow=32
BMN Battle Mountai 98.96 327 PFAKE 11 26 00.0 +6.5
BMN LR LR
comp=Z,91nm,20.0s,MS4.3
AHID Auburn Hatcher 99.07 332 PFAKE 11 26 10.0 +16
AHID LR LR
comp=Z,89nm,19.0s,MS4.3
LKWY Lake 100.51 333 PFAKE 11 26 10.0 +10
LKWY LR LR
comp=Z,112nm,20.0s,MS4.4
HLID Hailey 100.82 330 PFAKE 11 26 10.0 +8.1
HLID LR LR
comp=Z,71nm,20.0s,MS4.2
WVOR Wild Horse Val 101.22 327 PFAKE 11 26 20.0 +16
WVOR LR LR
comp=Z,91nm,19.0s,MS4.3
BOZ Bozeman (W) 101.86 333 PFAKE 11 26 20.0 +14
BOZ LR LR
comp=Z,91nm,20.0s,MS4.3
DGMT Dagmar 102.53 339 PFAKE 11 26 20.0 +11
DGMT LR LR
comp=Z,132nm,22.0s,MS4.4
BMO Blue Mountains 102.91 329 PFAKE 11 26 20.0 +8.9
BMO LR LR
comp=Z,113nm,22.0s,MS4.3
SCHQ Schefferville 105.20 3 PFAKE 11 30 50.0
SCHQ LR LR
comp=Z,211nm,20.0s,MS4.7
NEW Newport 105.87 331 PFAKE 11 30 50.0
NEW LR LR
comp=Z,87nm,19.0s,MS4.3
YKA Yellowknife Ar 117.73 339 PKP PKPdf 11 30 57.6 -1.8
comp=Z,1.2nm,0.7s,baz=156,slow=2.2,SNR=5.5
SIT Sitka 119.31 326 PFAKE 11 31 10.0 +7.4
SIT LR LR
comp=Z,135nm,19.0s,MS4.6
DAVOX Davos 119.91 52 PKP PKPdf 11 31 02.3 -1.6
comp=Z,5.0nm,0.7s,baz=266,slow=2.9,SNR=4.1
GRA1 Grafenberg Arr 122.54 50 ePKP PKPdf 11 31 09.3 +0.3
GRF Grafenberg Arr 122.54 50 PKIKP PKPdf 11 31 09.3 +0.3
GERES GERESS Array B 123.21 52 PKP PKPdf 11 31 09.7 -0.6
comp=Z,4.0nm,0.7s,baz=207,slow=3.0,SNR=26
MOX Moxa 123.36 49 eP PKPdf 11 31 08.0 -2.6
KOLL Kolacno 125.44 55 i PKP PKPdf 11 31 14.9 +0.3
EYAK Cordova Ski Ar 125.61 324 ePKPdf PKPdf 11 31 13.5 -1.1
VYHS Vyhne 125.61 55 ePKP PKPdf 11 31 14.5 -0.5
DIV Divide 126.00 325 PFAKE 11 31 30.0 +15
DIV LR LR
comp=Z,308nm,19.0s,MS5.0
KECS Kecovo 126.46 56 ePKP PKPdf 11 31 15.8 -0.7
DRGR 126.62 59 ⇑P PKPdf 11 31 16.2 -0.6
VOIR 127.08 61 ⇓P PKPdf 11 31 17.7 0.0
INK Inuvik 127.08 336 ePKPdf PKPdf 11 31 15.7 -1.4
OJC Ojcow 127.16 54 ePKP PKPdf 11 31 17.3 -0.5
MLR Muntele Rosu 127.61 62 PKP PKPdf 11 31 18.2 -0.6
comp=Z,12nm,0.8s,baz=169,slow=2.8,SNR=16
MLR Muntele Rosu 127.61 62 ⇑P PKPdf 11 31 17.9 -1.0
FIB Fire Island 127.67 323 PFAKE 11 31 30.0 +11
FIB LR LR
comp=Z,599nm,19.0s,MS5.3
KONO Kongsberg 128.12 40 PFAKE 11 31 30.0 +10
KONO LR LR
comp=Z,470nm,20.0s,MS5.2
VRI Vrincioaia 128.27 62 ⇓P PKPdf 11 31 18.5 -1.7
TIRR Tirgusor 128.38 64 ⇓P PKPdf 11 31 19.6 -0.8
BURAR Bucovina Array 128.48 59 ⇑P PKPdf 11 31 21.3 +0.8
BR131 Keskin Array S 128.57 72 ePKPdf PKPdf 11 31 20.9 0.0
BRTR Keskin Array B 128.57 72 PKP PKPdf 11 31 20.6 -0.3
comp=Z,4.6nm,0.8s,baz=198,slow=3.9,SNR=11
ILAR Eielson Array 128.72 328 PKP PKPdf 11 31 19.1 -1.5
comp=Z,5.7nm,0.8s,baz=168,slow=1.8,SNR=60
NB2 NORSAR Subarra 129.59 39 PKPdf PKPdf 11 31 21.1 -1.2
comp=Z,1.3nm,0.7s,baz=241,slow=1.9
NOA NORSAR Array B 129.59 39 PKP PKPdf 11 31 21.2 -1.1
comp=Z,1.6nm,0.7s,baz=238,slow=2.3,SNR=4.9
NOA NORSAR Array B 129.59 39 PKP PKPdf 11 31 21.2 -1.1
HFS Hagfors 130.08 41 PKP PKPdf 11 31 21.5 -1.7
comp=Z,2.4nm,0.6s,baz=180,slow=1.4,SNR=5.7
PALK Pallekele 131.18 143 PFAKE 11 31 40.0 +13
PALK LR LR
comp=Z,111nm,20.0s,MS4.6
IMA Indian Mountai 131.79 327 ePKPdf PKPdf 11 31 26.4 +0.1
AKASG Malin Array Be 132.39 58 PKP PKPdf 11 31 26.4 -1.5
comp=Z,2.8nm,0.6s,baz=260,slow=2.6,SNR=13
AKASG Malin Array Be 132.39 58 PKP PKPdf 11 31 26.4 -1.5
GUMO Guam 132.46 232 PFAKE 11 31 40.0 +11
GUMO LR LR
comp=Z,402nm,19.0s,MS5.2
ANN Anapa 133.84 69 i PKIKP PKPdf 11 31 36.4 +5.8
ANN pmax pmax
comp=Z,56nm,1.4s
VSU Vasula 135.00 47 i PKIKP PKPdf 11 31 31.2 -1.3
GNI Garni 135.65 78 PFAKE 11 31 50.0 +16
GNI LR LR
comp=Z,72nm,20.0s,MS4.4
FINES FINESS Array B 136.01 43 PKP PKPdf 11 31 33.5 -0.7
comp=Z,3.4nm,0.9s,baz=180,slow=1.9,SNR=11
KAF Kangasniemi 136.39 42 epkp PKPdf 11 31 33.0 -1.8
KIV Kislovodsk 136.52 72 i PKIKP PKPdf 11 31 35.2 -0.4
TNA Tin City 136.76 323 PFAKE 11 31 50.0 +15
TNA LR LR
comp=Z,48nm,19.0s,MS4.2
OBN Obninsk 138.41 55⇓iPKIKP PKPdf 11 31 38.2 -0.6
OBN e 11 31 51.8
OBN pmax pmax
comp=Z,37nm,1.3s
OBN Obninsk 138.41 55 PFAKE 11 31 50.0 +11
OBN LR LR
comp=Z,32nm,19.0s,MS4.1
ARCES ARCESS Array B 138.70 32 PKP PKPdf 11 31 37.0 -2.0
comp=Z,3.5nm,1.1s,baz=297,slow=2.7,SNR=8.8
CM31 Chiang Mai Arr 147.09 164 PFAKE 11 32 10.0 +15
CM31 LR LR
comp=Z,382nm,20.0s,MS5.2
CMAR Chiang Mai Arr 147.09 164 PKPbc PKPdf 11 31 54.7 -0.2
comp=Z,3.7nm,0.8s,baz=226,slow=3.5,SNR=15
BILL Bilibino 147.18 324c iPKIKP PKPdf 11 31 54.6 +1.0
BILL Bilibino 147.18 324 ePKPdf PKPdf 11 31 53.8 +0.2
BILL ePKPbc PKPdf 11 31 54.8 +1.2
BILL LR LR
comp=Z,86nm,19.0s,MS4.5
QIZ Qiongzhong 148.42 183 PFAKE 11 32 10.0 +13
QIZ LR LR
comp=Z,493nm,20.0s,MS5.3
PET Petropavlovsk 149.12 294⇑iPKHKP 11 31 59.9
PET pmax pmax
comp=Z,33nm,0.6s
PET Petropavlovsk 149.12 294 ePKPbc PKPdf 11 32 00.1 +2.9
AB31 Akbulak array 149.49 74 i PKP2 PKPab 11 32 01.9 -5.6
AB31 pmax pmax
comp=Z,15nm,0.6s
SOKR Solikamsk 150.11 53c iPKP2 PKPab 11 32 03.8 -5.9
SOKR pmax pmax
comp=Z,70nm,1.0s
ARU Arti 150.62 59 i PKIKP PKPdf 11 32 04.9 +5.5
ARU e 11 35 41.1
ARU eSS SS 11 55 02.0 +1.1
ARU Arti 150.62 59 ePKPdf PKPdf 11 31 58.8 -0.6
ARU ePKPbc PKPdf 11 32 05.0 +5.6
ARU LR LR
comp=Z,36nm,20.0s,MS4.2
DMN Daman 151.17 134 eP PKPdf 11 32 06.1 +5.0
comp=Z,70nm,0.9s
PKI Pulchoki 151.28 135 eP PKPdf 11 32 06.4 +5.1
comp=Z,65nm,1.1s
GKN Gorkha 151.29 133 eP PKPdf 11 32 06.2 +4.9
comp=Z,56nm,0.9s
KKN Kakani 151.41 134 eP PKPdf 11 32 06.5 +5.0
comp=Z,41nm,0.8s
JOW Kunigami 151.61 221 PKPbc PKPdf 11 32 08.1 +6.3
baz=100,slow=6.1
GUN Gumba 151.78 135 eP PKPdf 11 32 07.0 +5.0
comp=Z,64nm,0.9s
SHL Shillong 152.07 148 eP PKPdf 11 32 08.5 +6.0
SEY Seymchan 153.35 314 ePKIKP PKPdf 11 32 10.7 +7.6
SEY e 11 32 22.4
SEY e 11 39 02.6
SEY pmax pmax
comp=E,3.0nm,0.9s
SEY pmax pmax
comp=Z,7.0nm,0.9s
KMI Kunming 154.20 169 PKP PKPdf 11 32 04.3 -1.2
MA2 Magadan 154.36 307 PFAKE 11 32 20.0 +15
MA2 LR LR
comp=Z,90nm,19.0s,MS4.6
LSA Lhasa 155.56 143 PFAKE 11 32 20.0 +13
LSA LR LR
comp=Z,236nm,21.0s,MS5.0
AAK Ala-Archa 155.83 96 i PKIKP PKPdf 11 32 06.4 -0.7
AAK Ala-Archa 155.83 96 PFAKE 11 32 20.0 +13
AAK LR LR
comp=Z,40nm,20.0s,MS4.2

ZRNK	**Zerenda**	**155.99**	**69**	*e*PKPdf	PKPdf	11 32 06.6	-0.4
BVAR	**Borovoye Array**	**156.83**	**69**	PKP	PKPdf	11 32 07.0	-1.1
	comp=Z,1.3nm,0.6s,baz=277,slow=1.3,SNR=9.7						
BVAR				PKPbc	PKPdf	11 32 19.0	+11
	comp=Z,2.9nm,1.0s,baz=270,slow=1.5,SNR=7.6						
TIXI	**Tiksi**	**156.90**	**343**	*e*PKP2	PKPab	11 32 35.4	-2.8
TIXI				pmax	pmax		
	comp=Z,14nm,1.0s						
TIXI	**Tiksi**	**156.90**	**343**	PFAKE		11 32 20.0	+12
TIXI				LR	LR		
	comp=Z,328nm,21.0s,MS5.1						
YSS	**Yuzh-Sakhalins**	**156.92**	**274**	PFAKE		11 32 20.0	+12
YSS				LR	LR		
	comp=Z,135nm,22.0s,MS4.7						
SSE	**Sheshan**	**158.12**	**212**	PKP	PKPdf	11 32 07.8	-2.7
SSE				LR	LR		
	comp=N,65nm,17.1s,MS4.8						
SSE				LR	LR		
	comp=E,106nm,17.1s,MS4.8						
SSE				LR	LR		
	comp=Z,112nm,19.4s,MS4.7						
ENH	**Enshi**	**159.61**	**184**	PFAKE		11 32 20.0	+7.8
ENH				LR	LR		
	comp=Z,266nm,19.0s,MS5.1						
NJ2	**Nanjing**	**159.74**	**208**	*e*PKP	PKPdf	11 32 09.5	-2.8
NJ2				APKP		11 32 19.2	
NJ2				XPKP		11 32 24.1	
NJ2				SKS	SKS	11 39 10.0	-7.3
NJ2				PP	PP		
	comp=Z,120nm,8.0s						
NJ2				LR	LR		
	comp=N,330nm,17.2s,MS5.3						
NJ2				LR	LR		
	comp=E,290nm,20.0s,MS5.3						
NJ2				LR	LR		
	comp=Z,80nm,16.4s,MS4.7						
MKAR	**Makanchi Array**	**162.66**	**93**	*i* PKIKP	PKPdf	11 32 14.3	-0.5
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**162.66**	**93**	PKP	PKPdf	11 32 14.1	-0.7
	comp=Z,2.5nm,1.0s,baz=270,slow=2.4,SNR=9.9						
MKAR				PKPab	PKPab	11 33 02.5	-1.2
	comp=Z,1.1nm,0.7s,baz=251,slow=5.0,SNR=7.1						
MKAR	**Makanchi Array**	**162.66**	**93**	PKP	PKPdf	11 32 14.1	-0.7
MKAR				PKPab	PKPab	11 33 02.5	-1.2
YAK	**Yakutsk**	**163.52**	**322**	PFAKE		11 32 30.0	+15
YAK				LR	LR		
	comp=Z,131nm,19.0s						
MDJ	**Mudanjiang**	**164.25**	**256**	PKP	PKPdf	11 32 16.9	+0.5
MDJ				APKP		11 32 26.6	
MDJ				XPKP		11 32 30.5	
MDJ				PKS	PKS	11 35 49.6	+3.2
MDJ				PP	PP	11 36 57.7	-0.1
MDJ				SS	SS	11 57 28.5	+1.5
MDJ				PP	PP		
	comp=Z,37nm,18.4s						
MDJ				LR	LR		
	comp=N,90nm,20.4s						
MDJ				LR	LR		
	comp=E,47nm,21.6s						
MDJ				LR	LR		
	comp=Z,78nm,16.4s						
WMQ	**Urumqi**	**164.66**	**109**	PKP	PKPdf	11 32 17.7	+0.8
WMQ				PP	PP	11 37 02.7	+2.8
WMQ				PP	PP		
	comp=Z,123nm,10.4s						
WMQ				LR	LR		
	comp=N,97nm,22.3s						
WMQ				LR	LR		
	comp=E,85nm,22.1s						
WMQ				LR	LR		
	comp=Z,177nm,22.6s						
ZAL	**Zalesovo**	**165.46**	**68**	PKP	PKPdf	11 32 16.0	-1.3
	comp=Z,2.1nm,0.7s,baz=260,slow=1.7,SNR=9.5						
ZAL				PKPab	PKPab	11 33 15.4	-0.3
	comp=Z,1.0nm,0.4s,baz=208,slow=4.7,SNR=3.2						
ZAL	**Zalesovo**	**165.46**	**68**	PKP	PKPdf	11 32 16.0	-1.3
ZAL				PKPab	PKPab	11 33 15.4	-0.3
GTA	**Gaotai**	**167.38**	**150**	*e*PKP	PKPdf	11 32 19.2	0.0
GTA				APKP		11 32 26.8	
HHC	**Hu-ho-hao-te**	**169.88**	**196**	*e*PKP	PKPdf	11 32 18.5	-2.1
HIA	**Hailar**	**172.28**	**264**	PFAKE		11 32 30.0	+8.2
HIA				LR	LR		
	comp=Z,275nm,21.0s						
ZAK	**Zakamensk**	**177.00**	**93**	*e*PKIKP	PKPdf	11 32 18.5	-4.7
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
SONM	**Songino Array**	**177.00**	**159**	PKP	PKPdf	11 32 22.2	-1.0
	comp=Z,1.4nm,0.9s,baz=180,slow=1.2,SNR=8.3						
SONM				PKPab	PKPab	11 34 06.1	-0.8
	comp=Z,5.3nm,1.0s,baz=198,slow=3.9,SNR=19						
TLY	**Talaya**	**177.09**	**68**	PFAKE		11 32 30.0	+6.8
TLY				LR	LR		
	comp=Z,60nm,19.0s						
ULN	**Ulaanbaatar**	**177.15**	**168**	PFAKE		11 32 30.0	+6.7
ULN				LR	LR		
	comp=Z,1µm,19.0s						

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*GUC **05** 11:15:13.9±0.8, 31.79S×70.54W, h111km±4km, ML4.9*
*NEIC **05** 11:15:14.7±0.3, 31.77S×70.40W, h93km±4km, mb4.2/2, Error ellipse: s-maj=7.4km s-min=3.7km az=94.0*
NEIC Felt [II] at Quillota and Santiago, Chile.
*IDC **05** 11:15:16.2±0.6, 31.74S×70.25W, h107km±5km, mb3.7/6, mb1 4.0/7, mb1mx3.9/15, mbtmp4.1/7, MS3.6/1, Ms1 3.6/1, ms1mx2.8/16, Error ellipse: s-maj=17.6km s-min=8.4km az=5.0*
ISC 05 11:15:14.2±0.3, **31.77S**±0.02×**70.42W**±0.04, **h103**km±3km, **n50**, σ**0.73**/70, **mb3.9**/6, **14C-9D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.78**	**320**	⇓*i*P	**P**	**11 15 33.1**	**+0.2**
CMCH				*i* S	**S**	**11 15 47.4**	**+0.7**
CMCH				AMP		11 15 49.0	
	comp=E,153µm,0.8s						
JACH	**Jahuel**	**0.92**	**189**	⇑*i*P	**P**	**11 15 34.5**	**+0.3**
JACH				⇑*i*S	**S**	**11 15 50.3**	**+1.0**
PACH	**Papudo**	**1.15**	**228**	⇓*i*P	**P**	**11 15 36.6**	**-0.3**
PACH				*i* S	**S**	**11 15 53.0**	**-0.9**
ROCH	**El Roble**	**1.30**	**203**	⇑*i*P	**P**	**11 15 38.4**	**-0.1**
ROCH				*i* S	**S**	**11 15 57.3**	**+0.4**
OVCH	**Ovalle**	**1.34**	**330**	*i* P	**P**	**11 15 39.3**	**+0.3**
OVCH				*i* S	**S**	**11 15 58.1**	**+0.4**
OVCH				AMP		11 16 05.6	
	comp=E,6µm,0.3s						
PEL	**Peldehue**	**1.39**	**189**	⇑*i*P	**P**	**11 15 39.3**	**-0.3**
PEL				*i* S	**S**	**11 15 58.6**	**-0.1**
PEL				AMP		11 16 01.5	
	comp=N,15µm,0.8s						
ZON	**Zonda**	**1.50**	**82**	⇓*i*P	**P**	**11 15 41.0**	**0.0**
ZON				*e*S	**S**	**11 15 59.0**	**-2.1**
FCH	**Farellones**	**1.56**	**176**	⇑*i*P	**P**	**11 15 42.6**	**+0.9**
FCH				*i* S	**S**	**11 16 03.9**	**+1.7**
FCH				AMP		11 16 06.9	
	comp=E,19µm,0.2s						
CLCH	**Cerro Calan**	**1.62**	**184**	⇓*i*P	**P**	**11 15 42.6**	**+0.1**
CLCH				*i* S	**S**	**11 16 03.9**	**+0.2**
CLCH				AMP		11 16 11.0	
	comp=E,17µm,0.4s						
CLCH				AMP		11 16 13.0	
	comp=E,14µm,0.7s						
IHA	**Instituto Hidr**	**1.62**	**219**	⇓*i*P	**P**	**11 15 41.8**	**-0.8**
IHA				*i* S	**S**	**11 16 02.2**	**-1.5**
DSCH	**Colegio Aleman**	**1.63**	**184**	AMP		11 16 09.0	
	comp=E,15µm,0.7s						
TLL	**Tololo Astrono**	**1.63**	**348**	⇑*i*P	**P**	**11 15 43.4**	**+0.7**
TLL				AMP		11 16 14.6	
	comp=N,16µm,0.6s						
SAN	**Santiago**	**1.69**	**187**	⇑*i*P	**P**	**11 15 43.3**	**0.0**
SAN				*i* S	**S**	**11 16 05.3**	**+0.2**
SAN				AMP		11 16 11.4	
	comp=E,7µm,0.5s						
MDZ	**Mendoza**	**1.73**	**130**	⇓*i*P	**P**	**11 15 43.8**	**-0.1**
MDZ				*i* S	**S**	**11 16 06.7**	**+0.7**
RCDM	**Rinconada Maip**	**1.74**	**191**	⇑*i*P	**P**	**11 15 43.8**	**-0.3**
RCDM				*i* S	**S**	**11 16 06.2**	**-0.1**
RCDM				AMP		11 16 10.7	
	comp=E,18µm,0.2s						
ANTU	**Antumapu**	**1.80**	**186**	⇓*i*P	**P**	**11 15 44.9**	**+0.1**
ANTU				*i* S	**S**	**11 16 08.3**	**+0.7**
ANTU				AMP		11 16 11.5	
	comp=N,12µm,0.2s						
PCH	**Pirque**	**1.84**	**182**	⇑*i*P	**P**	**11 15 45.5**	**+0.1**
PCH				*i* S	**S**	**11 16 09.2**	**+0.7**
CFAA	**Coronel Fontan**	**1.87**	**85**	P	**P**	**11 15 45.2**	**-0.4**
	comp=N,12nm,0.3s,baz=252,slow=11,SNR=1392						
CFAA				S	**S**	**11 16 08.2**	**-0.8**
	comp=N,84nm,0.3s,baz=123,slow=18,SNR=160						
CFAA	**Coronel Fontan**	**1.87**	**85**	P	**P**	**11 15 45.2**	**-0.4**
CFAA				S	**S**	**11 16 08.2**	**-0.8**
TACH	**Talagante**	**1.93**	**193**	⇑*i*P	**P**	**11 15 45.8**	**-0.6**
TACH				*i* S	**S**	**11 16 10.7**	**+0.3**
LCCH	**Las Cruces**	**1.96**	**209**	*i* P	**P**	**11 15 46.0**	**-0.8**
LCCH				*i* S	**S**	**11 16 10.5**	**-0.6**
LMEL	**Las Melosas**	**2.08**	**175**	⇑*i*P	**P**	**11 15 49.0**	**+0.6**
LMEL				*i* S	**S**	**11 16 14.9**	**+1.0**
LMEL				AMP		11 16 19.0	
	comp=N,15µm,0.2s						
CHCH	**Chadas Angostu**	**2.16**	**185**	⇑*i*P	**P**	**11 15 49.1**	**-0.4**
CHCH				*i* S	**S**	**11 16 16.1**	**+0.1**
LNV	**Longovilo**	**2.33**	**201**	⇓*i*P	**P**	**11 15 50.5**	**-1.4**
LNV				*i* S	**S**	**11 16 19.1**	**-1.0**
CACH	**El Canelo**	**2.34**	**184**	*i* P	**P**	**11 15 52.0**	**0.0**
CACH				*i* S	**S**	**11 16 21.5**	**+1.2**
CICH	**Cipreses**	**2.54**	**180**	⇓*i*P	**P**	**11 15 54.8**	**+0.1**
CICH				*i* S	**S**	**11 16 25.4**	**+0.3**
LCO	**Las Campanas**	**2.76**	**355**	⇑*i*P	**P**	**11 15 57.5**	**-0.2**
LCO				*i* S	**S**	**11 16 31.5**	**+1.1**
LCO				AMP		11 16 41.1	
	comp=E,3µm,0.4s						
SFDO	**San Fernando**	**2.88**	**190**	⇑*i*P	**P**	**11 15 58.0**	**-1.3**
SFDO				*i* S	**S**	**11 16 32.3**	**-1.0**
VACH	**Vallenar**	**3.20**	**355**	*i* P	**P**	**11 16 03.2**	**-0.5**
VACH				*i* S	**S**	**11 16 40.4**	**-0.7**
LVC	**Limon Verde**	**9.22**	**9**	P	**P**	**11 17 20.9**	**-4.8**
	comp=E,0.9nm,0.3s,baz=202,slow=7.6,SNR=10						
LVC	**Limon Verde**	**9.22**	**9**	*e*Pn	**P**	**11 17 22.1**	**-3.6**
	comp=E,34nm,1.0s						
LPAZ	**La Paz**	**15.55**	**8**	P	**P**	**11 18 49.8**	**+1.0**
	comp=E,0.3nm,0.3s,baz=172,slow=8.4,SNR=13						
LPAZ				S	**S**	**11 21 38.0**	**-0.2**
	comp=E,0.2nm,0.3s,slow=20,SNR=4.0						
LPAZ	**La Paz**	**15.55**	**8**	*e*P	**P**	**11 18 49.2**	**+0.4**
	comp=E,5.5nm,0.7s						
USHA	**Ushuaia**	**23.09**	**177**	LR	LR	11 28 15.5	
	comp=E,147nm,21.6s,baz=13,slow=34						
VNA3	**Neumayer Olymp**	**50.92**	**159**	*e*	**P**	**11 24 06.9**	**+0.5**
VNA3	**Neumayer Olymp**	**50.92**	**159**	*e*	sP	11 24 46.5	+3.9
VNA2	**Neumayer--Watz**	**51.55**	**158**	*e*	**P**	**11 24 10.8**	**-0.3**
VNA2	**Neumayer--Watz**	**51.55**	**158**	*e*	sP	11 24 52.2	+4.8
SNAA	**Sanae**	**53.14**	**159**	*e*	**P**	**11 24 22.1**	**-0.9**
SNAA	**Sanae**	**53.14**	**159**	P	**P**	**11 24 22.2**	**-0.8**
	comp=E,1.3nm,0.7s,mb4.1,baz=314,slow=5.9,SNR=9.3						
SNAA	**Sanae**	**53.14**	**159**	*e*P	**P**	**11 24 22.1**	**-1.0**
	comp=E,5.6nm,0.8s,mb4.7						
VNDA	**Vanda**	**66.54**	**191**	P	**P**	**11 25 55.1**	**+0.5**
	comp=E,0.8nm,0.3s,mb4.1,baz=308,slow=1.6,SNR=16						
TXAR	**Lajitas Array**	**68.49**	**329**	P	**P**	**11 26 07.7**	**+0.2**
	comp=E,0.8nm,0.7s,mb3.7,baz=152,slow=8.0,SNR=6.1						
TXAR				pP	pP	11 26 33.3	-0.3
	comp=E,0.5nm,0.6s,baz=159,slow=7.7,SNR=1.9						
TXAR				sP	sP	11 26 45.1	+0.4
	comp=E,0.8nm,0.7s,baz=169,slow=6.4,SNR=3.6						
MAW	**Mawson**	**74.92**	**163**	P	**P**	**11 26 44.6**	**-0.2**
	comp=E,2.0nm,0.6s,mb4.0,baz=248,slow=4.2,SNR=4.9						
PDAR	**Pinedale Array**	**82.42**	**332**	P	**P**	**11 27 26.6**	**+0.4**
	comp=E,0.5nm,0.6s,mb3.5,baz=128,slow=5.7,SNR=4.9						
NVAR	**Mina Array Bea**	**82.86**	**324**	P	**P**	**11 27 30.1**	**+1.6**
	comp=E,0.8nm,0.7s,mb3.7,baz=155,slow=5.8,SNR=7.3						
WRA	**Warramunga Arr**	**123.37**	**208**	PKP	PKPdf	11 34 00.0	+0.4
	comp=E,1.4nm,0.5s,baz=161,slow=1.6,SNR=22						
WRA				pPKP		11 34 31.3	
	comp=E,0.5nm,0.6s,baz=165,slow=1.5,SNR=2.6						
BVAR	**Borovoye Array**	**144.72**	**41**	PKP	PKPdf	11 34 39.5	+1.4
	comp=E,1.1nm,0.5s,baz=265,slow=2.7,SNR=5.2						
BVAR				pPKP		11 35 07.1	
	comp=E,1.2nm,0.6s,baz=297,slow=3.3,SNR=3.7						
ZAL	**Zalesovo**	**151.62**	**31**	PKPbc	PKPdf	11 34 57.0	+7.8
	comp=E,3.6nm,0.6s,baz=203,slow=1.5,SNR=10.0						
ZAL				pPKPbc		11 35 26.9	
	comp=E,5.0nm,0.8s,baz=172,slow=2.9,SNR=7.6						
MKAR	**Makanchi Array**	**154.26**	**47**	PKPbc	PKPdf	11 35 03.2	+10
	comp=E,0.8nm,0.8s,baz=288,slow=3.8,SNR=4.3						
MKAR				PKPab	PKPab	11 35 17.5	-0.8
	comp=E,0.6nm,0.7s,baz=310,slow=3.3,SNR=4.0						
MKAR				pPKPbc		11 35 32.4	
	comp=E,1.6nm,0.9s,baz=315,slow=3.4,SNR=4.6						
MKAR				pPKPab		11 35 43.5	
	comp=E,0.8nm,0.6s,baz=293,slow=4.3,SNR=3.9						

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*NAO **05** 11:21:33.5±3.1, 60.83N×36.67E, ML2.2*
HEL 05 11:21:32.2±1.5, **61.03N**×**37.20E**, **ML2.1**, **ML2.2**(NAO), **Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAF	**Kangasniemi**	**5.32**	**287**	*e*S	Sn	11 23 54.0	-3.7
KJN	**Kajaani**	**5.35**	**309**	*e*P	Pn	11 22 53.9	-1.3
KJN				*e*S	Sn	11 23 53.6	-4.9
KJN				*e*SG		11 24 16.4	
KJN				MSG		11 24 21.9	
	comp=Z,1.9nm,0.2s						
FIA0	**FINESS Array S**	**5.39**	**279**	Pn	Pn	11 22 51.1	-4.7
	baz=96,slow=14						
FIA0				Sn	Sn	11 23 52.7	-6.7
	baz=82,slow=28						
FIA0				Lg		11 24 15.7	
	baz=82,slow=37						
FIA0	**FINESS Array S**	**5.39**	**279**	*e*P	Pn	11 22 51.1	-4.7
FIA0				*e*S	Sn	11 23 52.7	-6.7
FIA0				*e*SG		11 24 15.7	
SUF	**Sumiainen**	**5.50**	**293**	*e*P	Pn	11 22 57.9	+0.7
SUF				*e*S	Sn	11 23 59.5	-2.6
KU4	**Liikasenvaara**	**6.33**	**331**	*e*P	Pn	11 23 05.4	-3.7
KU4				*e*S	Sn	11 24 14.9	-8.2
ARA0	**ARCESS Array S**	**9.82**	**335**	Pn	P	11 23 52.4	-5.1
	baz=140,slow=14						
ARA0				Sn	Sn	11 25 38.8	-11
	baz=150,slow=28						
ARA0				Lg		11 26 43.0	
	baz=142,slow=37						
ARA0	**ARCESS Array S**	**9.82**	**335**	*e*P	P	11 23 52.4	-5.1
ARA0				*e*S	Sn	11 25 38.8	-11
ARA0				*e*		11 26 43.0	
HFS	**Hagfors**	**11.57**	**276**	Lg		11 27 28.6	
	baz=75,slow=37						
HFS	**Hagfors**	**11.57**	**276**	*e*SG		11 27 28.6	
HFS	**Hagfors**	**11.57**	**276**	Lg		11 27 28.6	
	baz=75,slow=37						

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*SKO **05** 11:42:28.2, 41.33N×21.03E, h26km, ML2.8*
*TIR **05** 11:42:28.8, 41.40N×20.84E, h5km*
*CSEM **05** 11:42:28.6±0.4, 41.22N×21.37E, h2km, ML2.8, Error ellipse: s-maj=7.5km s-min=4.5km az=114.0*
*NEIC **05** 11:42:31.4, 41.40N×20.78E, h10km, MD2.6(PDG), ML2.8(SKO), After PDG.*
*PDG **05** 11:42:31.4±0.4, 41.40N×20.78E, h10km±1km*
ISC 05 11:42:29.0±0.8, **41.30N**±0.03×**21.16E**±0.07, **h10**km, **n15**, σ**1.03**/29, **5C-2D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.33**	**236**	⇓*i*Pg	**Pg**	**11 42 35.1**	**-0.7**
OHR				⇓*i*Sg	**Sg**	**11 42 39.9**	**-0.4**
SKO	**Skopje**	**0.71**	**17**	*i* Pg	**Pg**	**11 42 43.0**	**-0.3**
SKO				*i* Sg	**Sg**	**11 42 52.5**	**-0.3**
SKO				Smax		11 42 53.5	
	comp=Z,0.3nm,0.3s						
KBN	**Korca**	**0.73**	**203**	*e*Pg	**Pg**	**11 42 43.9**	**+0.3**
KBN				*i* Sg	**Sg**	**11 42 55.3**	**+1.9**
KKS	**Kukesi**	**0.96**	**325**	*e*Pg	**Pg**	**11 42 44.5**	**-3.7**
QSH	**Qafa e Shtames**	**0.97**	**284**	*i* pg?	**Pg**	**11 42 47.0**	**-1.4**
QSH				*i* Sg	**Sg**	**11 42 57.0**	**-4.4**
PVY	**Plav**	**1.57**	**326**	*e*Pg	**Pn**	**11 42 55.5**	**-1.6**
PVY				*e*Sg	**Sn**	**11 43 17.5**	**-0.2**
ULC	**Ulcinj**	**1.58**	**296**	*e*Pg	**Pn**	**11 42 54.6**	**-2.6**
ULC				*e*Sg	**Sn**	**11 43 15.5**	**-2.3**
TTG	**Podgorica**	**1.81**	**309**	*e*Pg	**Pn**	**11 42 59.5**	**-1.1**
TTG				*e*Sg	**Sn**	**11 43 24.0**	**+0.1**
IVA	**Berane**	**1.83**	**330**	*e*Pn	**Pn**	**11 43 00.9**	**0.0**
IVA				*e*Sn	**Sn**	**11 43 25.9**	**+1.6**
BUM	**Brajici-Budva**	**1.96**	**301**	⇑*i*Pn	**Pn**	**11 43 02.2**	**-0.6**
BUM				*e*Sn	**Sn**	**11 43 28.2**	**+0.6**
NKY	**Niksic**	**2.21**	**314**	⇑*i*Pn	**Pn**	**11 43 06.7**	**+0.4**
NKY				*e*Sn	**Sn**	**11 43 34.1**	**+0.2**
HCY	**Herceg Novi**	**2.29**	**301**	⇑*i*Pn	**Pn**	**11 43 08.0**	**+0.5**
HCY				*e*Sn	**Sn**	**11 43 36.7**	**+0.6**
PLE	**Pljevlja**	**2.42**	**328**	⇑*i*Pn	**Pn**	**11 43 09.4**	**+0.1**
PLE				*e*Sn	**Sn**	**11 43 40.5**	**+1.3**
BRY	**Bratogost**	**2.52**	**310**	⇑*i*Pn	**Pn**	**11 43 11.5**	**+0.8**
BRY				*e*Sn	**Sn**	**11 43 42.1**	**+0.3**
UPM	**Unac-Piva**	**2.53**	**320**	*e*Pn	**Pn**	**11 43 11.8**	**+0.9**
UPM				*e*Sn	**Sn**	**11 43 43.2**	**+1.1**

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*BJI **05** 12:07:29.9, 24.16N×103.75E, h13km, mB4.2, mb4.4, ML4.0, Ms3.9, Msz3.9*
*IDC **05** 12:07:30.3±1.2, 24.14N×103.67E, mb3.7/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, ML4.1/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/23, Error ellipse: s-maj=33.1km s-min=19.5km az=90.0*
*NEIC **05** 12:07:31.9±0.9, 24.20N×103.56E, h10km, Error ellipse: s-maj=17.0km s-min=13.0km az=88.0*
*PLV **05** 12:07:36.6±1.2, 23.79N×103.86E, h8km±7km, MD4.1*
ISC 05 12:07:27.6±0.4, **24.03N**±0.03×**103.53E**±0.04, **h10**km, **n23**, σ**1.43**/42, **mb3.7**/5, **MS3.4**/1, **2C, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.30**	**327**	PG	**Pg**	**12 07 53.7**	**0.0**
KMI				SG	**Sg**	**12 08 10.8**	**-0.4**
KMI				Smax			
	comp=N,1µm,0.8s						
KMI				Smax			
	comp=E,1µm,0.9s						
KMI				LR	LR		
	comp=N,2µm,3.8s						
KMI				LR	LR		
	comp=E,2µm,3.8s						
KMI				LR	LR		
	comp=Z,2µm,3.7s						
BVV	**Ba Vi**	**3.37**	**149**	*e*Pn	**Pn**	**12 08 25.7**	**+4.3**
BVV				*e*Pg	**Pg**	**12 08 34.8**	**-0.2**
BVV				*e*Sg	**Sg**	**12 09 15.8**	**-4.1**
MTZV	**Met**	**3.58**	**133**	*e*Pn	**Pn**	**12 08 26.9**	**+2.5**
MTZV				*e*Pg	**Pg**	**12 08 38.8**	**-0.3**
MTZV				*e*Sg	**Sg**	**12 09 20.4**	**-6.5**
HNV	**Hanoi**	**3.63**	**144**	*e*Pn	**Pn**	**12 08 28.3**	**+3.1**
HNV				*e*Pg	**Pg**	**12 08 40.1**	**0.0**
HNV				*e*SG	**Sg**	**12 09 23.1**	**-5.5**
BGV	**Bac-Giang**	**3.69**	**137**	*e*Pn	**Pn**	**12 08 28.8**	**+2.9**
BGV				*e*Pg	**Pg**	**12 08 40.2**	**-1.1**
BGV				*e*Sg	**Sg**	**12 09 22.6**	**-7.9**
GYA	**Guiyang**	**3.73**	**49**	⇑*i*P	**Pn**	**12 08 26.4**	**-0.2**
GYA				S	**Sn**	**12 09 07.0**	**-4.1**
GYA				SG	**Sg**	**12 09 22.5**	**-9.4**
GYA				Smax			
	comp=N,900nm,0.9s						
GYA				Smax			
	comp=E,480nm,0.9s						
GYA				LR	LR		
	comp=N,1µm,6.3s						
GYA				LR	LR		
	comp=E,870nm,6.0s						
GYA				LR	LR		
	comp=Z,790nm,4.5s						
DSV	**Doi Son**	**4.11**	**146**	*e*Pn	**Pn**	**12 08 34.2**	**+2.4**
DSV				*e*Pg	**Pg**	**12 08 47.5**	**-2.1**
DSV				*e*Sg	**Sg**	**12 09 36.7**	**-7.6**
YTV	**Yen Tu**	**4.11**	**133**	*e*Pn	**Pn**	**12 08 34.8**	**+2.9**
YTV				*e*Pg	**Pg**	**12 08 48.1**	**-1.5**
YTV				*e*Sg	**Sg**	**12 09 36.2**	**-8.1**
CHG	**Chiang Mai**	**6.72**	**220**	⇑PN	**Pn**	**12 09 03.0**	**-5.8**
CHG				PG	Pg	12 09 19.5	-22
CHG				S	**Sn**	**12 10 25.5**	**-0.7**
CHG	**Chiang Mai**	**6.72**	**220**	PG	**Pg**	**12 09 53.4**	**+12**
CHG				SG	**Sg**	**12 11 11.7**	**+0.4**
CD2	**Chengdu**	**6.86**	**2**	P	**Pn**	**12 09 10.7**	**-0.1**
CD2				S	**Sn**	**12 10 26.0**	**-3.7**
CD2				Smax			
	comp=N,63nm,0.8s						
CD2				Smax			
	comp=E,51nm,0.7s						
CMAR	**Chiang Mai Arr**	**7.00**	**219**	Pn	**Pn**	**12 09 16.9**	**+4.2**
	comp=E,0.9nm,0.3s,baz=30,slow=12,SNR=16						
CMAR				Pg	**Pg**	**12 09 45.4**	**-1.9**
	comp=E,0.3nm,0.3s,baz=34,slow=17,SNR=11						
CMAR				Lg		12 11 18.2	
	comp=E,0.3nm,0.3s,baz=36,slow=30,SNR=12						
CMAR	**Chiang Mai Arr**	**7.00**	**219**	Pn	**Pn**	**12 09 16.9**	**+4.2**
CMAR				Pg	**Pg**	**12 09 45.4**	**-1.9**
CMAR				Lg		12 11 18.2	
QIZ	**Qiongzhong**	**7.70**	**129**	*e*P	**Pn**	**12 09 22.9**	**+0.4**
ENH	**Enshi**	**8.18**	**39**	*e*Pn	**P**	**12 09 28.4**	**-0.8**
	comp=E,22nm,0.6s						
GZH	**Guangzhou**	**9.05**	**94**	P	**P**	**12 09 42.8**	**+1.4**
GZH				Smax			
	comp=N,148nm,0.8s						
GZH				Smax			
	comp=E,108nm,0.9s						
WHN	**Wuhan**	**11.61**	**54**	P	**P**	**12 10 15.0**	**-1.4**
SONM	**Songino Array**	**23.87**	**5**	P	**P**	**12 12 45.0**	**+3.0**
	comp=E,1.4nm,0.6s,mb3.6,baz=190,slow=11,SNR=7.9						
MKAR	**Makanchi Array**	**28.39**	**328**	P	**P**	**12 13 25.0**	**+1.0**
	comp=E,0.4nm,0.6s,mb3.2,baz=146,slow=10,SNR=3.1						
MJAR	**Matsushiro Arr**	**32.27**	**59**	LR	LR	12 27 08.1	
	comp=E,89nm,21.8s,MS3.4,baz=255,slow=37						
ZAL	**Zalesovo**	**33.01**	**340**	P	**P**	**12 14 05.2**	**+0.3**
	comp=E,1.6nm,0.4s,mb4.3,baz=230,slow=1.3,SNR=4.5						
WRA	**Warramunga Arr**	**53.02**	**143**	P	**P**	**12 16 48.9**	**+1.7**
	comp=E,0.7nm,0.6s,mb3.8,baz=331,slow=8.3,SNR=12						
ARCES	**ARCESS Array B**	**63.53**	**337**	P	**P**	**12 18 03.5**	**+3.5**
	comp=E,0.3nm,0.5s,mb3.6,baz=100,slow=7.4,SNR=3.7						

CASC 05 12:14:35.5±4.7, **11.57N**×**86.43W**, **h132**km±33km, **MD4.0**, **1C, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APON	**Apoyo**	**0.50**	**46**	*e*S	S	12 15 08.2	-1.5
TICN	**Ticuantepe**	**0.50**	**23**	*e*S	S	12 15 10.4	+0.6
MGAN	**Managua**	**0.60**	**17**	*e*S	S	12 15 08.2	-2.8
WILN	**Americas 2**	**0.64**	**22**	*e*P	P	12 14 57.1	+1.3
CONN	**Concepcion**	**0.79**	**90**	*e*P	P	12 14 55.8	-1.1
MOMJ	**Momotombo**	**0.84**	**353**	⇑*e*P	P	12 14 58.0	+0.7
LEON	**Leon**	**0.96**	**332**	*e*S	S	12 15 17.3	+1.4
TEL3	**Telica 3**	**1.08**	**338**	*e*S	S	12 15 19.5	+1.6

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*IDC **05** 12:15:06.6±0.7, 6.01S×103.37E, mb4.9/16, mb1 5.0/16, mb1mx4.8/21, mbtmp4.9/16, MS4.0/14, Ms1 4.0/14, ms1mx3.9/20, Error ellipse: s-maj=26.7km s-min=13.5km az=51.0*
*MOS **05** 12:15:10.3±1.3, 5.85S×103.52E, h33km, mb4.9/25, Error ellipse: s-maj=18.3km s-min=8.7km az=110.7*
*BJI **05** 12:15:10.7, 5.90S×103.60E, h30km, mB5.1, mb5.1, Ms4.7, Msz4.4*
*HRVD **05** 12:15:11.8±2.4, 6.06S×103.59E, h36km±2km, MW4.7/27, Centroid moment Tensor Solution. LP body waves: s12,c16; Mantle waves: s27,c41; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.86±.23; $M_{\theta\theta}$-1.25±.13; $M_{\phi\phi}$0.39±.20; $M_{r\theta}$0.74±.10; $M_{\theta\phi}$0.91±.08; $M_{\phi r}$-0.27±.22; Best double couple: $M_0$1.486×10^{16} NP1: ϕ_s307°, δ30°, λ108°. NP2: ϕ_s106°, δ62°, λ80°. Principal axes: T 1.094, Plg72°, Azm353°; N .783, Plg9°, Azm111°; P -1.877, Plg16°, Azm204°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 12:15:11.8±0.3, 5.92S×103.55E, h30km, mb5.0/23, MS4.5/39 Error ellipse: s-maj=12.3km s-min=7.0km az=55.0*
ISC 05 12:15:09.8±0.4, **6.01S**±0.06×**103.47E**±0.06, **h34**km, **h34**km±2.2km**:pP-P**, **n185**, σ**1.01**/131, **mb4.9**/63, **MS4.4**/61, **4C, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**17.48**	**47**	*e*P	**P**	**12 19 18.7**	**+6.1**
CM31	**Chiang Mai Arr**	**24.72**	**350**	*e*P	**P**	**12 20 29.6**	**0.0**
	27nm,0.7s,mb4.9						
CMAR	**Chiang Mai Arr**	**24.72**	**350**	P	**P**	**12 20 29.5**	**-0.1**
CMAR						12 24 08.0	
CMAR				pmax	pmax		

comp=Z,21nm,0.7s
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR MLR MLR
comp=Z,208nm,18.1s
CMAR Chiang Mai Arr 24.72 350 P **P** **12 20 29.4 -0.1**
comp=Z,21nm,0.7s,mb4.8,baz=182,slow=8.8,SNR=73
CMAR PcP PcP 12 24 08.0 +0.8
comp=Z,1.8nm,0.7s,baz=205,slow=2.5,SNR=4.8
CMAR LR LR 12 32 41.9
comp=Z,208nm,18.1s,MS3.7,baz=170,slow=43
FITZ Fitzroy Crossi 24.75 121 *e*P **P** **12 20 30.0 +0.1**
comp=Z,38nm,0.8s,mb5.0
FITZ *e*S **S** **12 25 05.9 +19**
FITZ Fitzroy Crossi 24.75 121 P **P** **12 20 31.1 +1.2**
comp=Z,52nm,0.8s,mb5.1,baz=301,slow=3.3,SNR=38
FITZ LR LR 12 30 06.0
comp=Z,252nm,21.0s,MS3.7,baz=287,slow=36
QIZ Qiongzhong 25.66 14 P **P** **12 20 41.1 +2.6**
QIZ *e*S **S** **12 25 06.3 +4.0**
QIZ LR LR
comp=N,357nm,17.6s
QIZ LR LR
comp=Z,456nm,19.2s,MS4.0
QIZ Qiongzhong 25.66 14 PFAKE 12 20 50.0 +11
QIZ LR LR
comp=Z,493nm,20.0s,MS4.0
KAKA Kakadu 29.33 105 *e*P **P** **12 21 10.6 -1.3**
comp=Z,14nm,0.6s,mb4.9
NWAO Narrogin (SRO) 29.69 156 LR LR 12 31 37.8
comp=Z,535nm,21.3s,MS4.1,baz=340,slow=33
KMI Kunming 30.95 359 P **P** **12 21 27.2 +1.0**
KMI AP pP 12 21 37.9 +1.9
KMI XP sP 12 21 42.7 +2.3
KMI AMB AMB
comp=Z,9.0nm,0.9s,mb4.6
KMI AMB AMB
comp=Z,68nm,5.1s
KMI LR LR
comp=N,350nm,13.6s,MS4.3
KMI LR LR
comp=E,418nm,17.5s,MS4.3
KMI LR LR
comp=Z,457nm,11.7s
KMI Kunming 30.95 359 P **P** **12 21 27.2 +1.0**
comp=Z,9.0nm,0.9s,mb4.6
KMI pP pP 12 21 37.9 +1.9
KMI sP sP 12 21 42.7 +2.3
KMI PP PP 12 22 34.2 +5.7
KMI S **S** **12 26 37.0 +10**
KMI sS 12 26 49.9
KMI SS SS 12 28 22.3 +10
KMI LR LR
comp=Z,460nm,11.7s,MS4.4
BWNR Bhubaneshwar 31.38 327 *e*S **S** **12 26 38.3 +4.4**
GYA Guiyang 32.42 5⇑ *i*P **P** **12 21 39.2 +0.1**
GYA AP pP 12 21 48.4 -0.5
GYA XP sP 12 21 52.0 -1.3
GYA PP PP 12 22 47.6 0.0
GYA AMB AMB
comp=Z,20nm,0.6s,mb5.1
GYA AMB AMB
comp=Z,90nm,3.4s
GYA LR LR
comp=N,340nm,16.4s,MS4.3
GYA LR LR
comp=E,410nm,17.0s,MS4.3
GYA LR LR
comp=Z,380nm,17.4s,MS4.2
WRA Warramunga Arr 33.03 118 P **P** **12 21 44.0 -0.4**
WRA pmax pmax
comp=Z,7.0nm,0.6s
WRA Warramunga Arr 33.03 118 P **P** **12 21 44.0 -0.5**
comp=Z,7.2nm,0.6s,mb4.8,baz=286,slow=12,SNR=64
WRAB Tennant Creek 33.04 118 *i*P **P** **12 21 44.5 0.0**
WRAB Tennant Creek 33.04 118 *e*P **P** **12 21 44.4 -0.1**
comp=Z,19nm,0.7s,mb5.1
WB2 Warramunga Arr 33.04 118⇑ *i*P **P** **12 21 44.1 -0.4**
ENH Enshi 36.53 9 *e*P **P** **12 22 14.3 0.0**
comp=Z,29nm,0.7s,mb5.2
ENH LR LR
comp=Z,266nm,19.0s,MS4.0
LSA Lhasa 37.43 342 *e*P **P** **12 22 23.3 +1.5**
comp=Z,32nm,0.9s,mb5.2
LSA LR LR
comp=Z,236nm,21.0s,MS4.0
ALBI Allahabad 37.59 327 *e*P **P** **12 22 22.0 -1.2**
PKI Pulchoki 37.67 333 *e*P **P** **12 22 23.0 -0.9**
comp=Z,13nm,0.6s,mb4.8
GUN Gumba 37.76 334 *e*P **P** **12 22 25.0 +0.4**
comp=Z,86nm,0.8s,mb5.5
DMN Daman 37.84 333 *e*P **P** **12 22 25.8 +0.5**
KKN Kakani 37.92 333 *e*P **P** **12 22 26.4 +0.5**
comp=Z,57nm,0.9s,mb5.3
GKN Gorkha 38.39 333 *e*P **P** **12 22 30.5 +0.7**
KOLN Koldanda 38.68 331 *e*P **P** **12 22 32.5 +0.3**
comp=Z,56nm,1.0s,mb5.2
XAN Xi'an 40.17 7 P **P** **12 22 44.5 0.0**
XAN AP pP 12 22 54.1 -0.3
XAN AMB AMB
comp=Z,23nm,0.9s,mb4.9
XAN LR LR
comp=N,146nm,15.0s,MS4.2
XAN LR LR
comp=E,202nm,16.7s,MS4.2
XAN LR LR
comp=Z,314nm,16.2s,MS4.2
JOW Kunigami 40.54 35 P **P** **12 22 48.2 +0.5**
comp=Z,14nm,0.4s,mb4.9,baz=259,slow=9.3,SNR=7.0
NJ2 Nanjing 40.59 20 *e*P **P** **12 22 48.1 0.0**
NJ2 AP pP 12 22 57.3 -0.7
NJ2 XP sP 12 23 02.2 -0.1
NJ2 PP PP 12 24 25.2 +0.3
NJ2 S **S** **12 28 57.0 +1.8**
NJ2 XS 12 29 12.0
NJ2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.4
NJ2 AMB AMB
comp=Z,160nm,11.5s
NJ2 LR LR
comp=N,530nm,12.8s,MS4.7
NJ2 LR LR
comp=E,590nm,15.1s,MS4.7
NJ2 LR LR
comp=Z,450nm,13.6s,MS4.5
SSE Sheshan 40.60 24 P **P** **12 22 49.2 +1.0**
SSE AP pP 12 22 58.0 -0.1
SSE XP sP 12 23 02.0 -0.4
SSE PP PP 12 24 23.5 -1.5
SSE S **S** **12 28 59.6 +4.3**
SSE XS 12 29 14.4
SSE AMB AMB
comp=Z,56nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,58nm,4.1s
SSE LR LR
comp=N,65nm,16.6s,MS3.9
SSE LR LR
comp=E,106nm,16.4s,MS3.9
SSE LR LR
comp=Z,112nm,18.9s,MS3.7
SSE Sheshan 40.60 24 P **P** **12 22 49.2 +1.0**
comp=Z,56nm,0.7s,mb5.3
SSE pP pP 12 22 58.0 -0.1
SSE sP sP 12 23 02.0 -0.4
SSE PP PP 12 24 23.5 -1.5
SSE S **S** **12 28 59.6 +4.3**
SSE sS 12 29 14.4
SSE SS SS 12 32 02.3 +11
SSE LR LR
comp=Z,110nm,18.9s,MS3.7
ASOR Ausora 42.51 326 *e*P **P** **12 23 04.4 +0.4**
SONA Sohna 42.52 325 *e*P **P** **12 23 03.9 -0.2**
SONA AMb AMB 12 23 04.7
comp=Z,29nm,0.7s,mb5.1
SONA *e* 12 25 05.5
BISR Bishrakh 42.56 325 *e*P **P** **12 23 04.4 +0.1**
AYAN Aya Nagar 42.67 325 *e* **P** **12 23 02.8 -2.5**
AJM Ajmer 42.70 320 *e*P **P** **12 23 06.6 +1.0**
AJM AMb AMB 12 23 21.0
comp=Z,22nm,1.4s,mb4.7
NDI New Delhi 42.77 325 *e*P **P** **12 23 05.0 -1.1**
KHET Khetri 43.14 323 *e*P **P** **12 23 09.2 +0.1**
KHET AMb AMB 12 23 12.7
comp=Z,16nm,0.9s,mb4.7
KHET *e* 12 24 44.2
PMG Port Moresby 43.41 97 P **P** **12 23 12.3 +0.8**
PMG pmax pmax
comp=Z,40nm,0.7s
PMG Port Moresby 43.41 97 P **P** **12 23 12.3 +0.8**
comp=Z,40nm,0.7s,mb5.3,baz=212,slow=3.4,SNR=15
PMG Port Moresby 43.41 97 *e*P **P** **12 23 12.1 +0.6**
comp=Z,43nm,0.6s,mb5.3
STKA Stephens Creek 43.92 131⇑ *i*P **P** **12 23 15.9 +0.5**
comp=Z,25nm,0.6s,mb5.1
STKA Stephens Creek 43.92 131 P **P** **12 23 15.9 +0.5**
comp=Z,30nm,0.6s,mb5.2,baz=305,slow=7.8,SNR=130
SDNR Sundarnagar 45.07 327 *e*P **P** **12 23 24.2 -0.4**
GTA Gaotai 45.32 356 *e*P **P** **12 23 27.5 +1.0**
GTA AP pP 12 23 34.8 -1.7
GTA XP sP 12 23 38.3 -2.4
GTA AMB AMB
comp=Z,21nm,0.8s,mb5.0
GTA AMB AMB
comp=Z,212nm,4.6s
GTA LR LR
comp=N,386nm,8.8s
GTA LR LR
comp=E,234nm,12.2s
GTA LR LR
comp=Z,423nm,9.5s
JNU Nakatsue 46.82 32 P **P** **12 23 38.9 +0.5**
comp=Z,22nm,0.9s,mb5.1,baz=137,slow=4.6,SNR=7.7
HHC Hu-ho-hao-te 47.22 8 *e*P **P** **12 23 42.3 +0.8**
HHC AP pP 12 23 52.2 +0.7
HHC XP sP 12 23 55.8 +0.2
HHC PCP PcP 12 25 11.6 -1.3
HHC PP PP 12 25 34.1 +2.2
HHC SCP 12 29 02.6
HHC PCS 12 29 07.3
HHC S **S** **12 30 36.2 +5.0**
HHC XS 12 30 50.4
HHC SCS ScS 12 33 30.3 +0.1
HHC AMB AMB
comp=Z,23nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,133nm,10.7s
HHC LR LR
comp=N,363nm,20.1s,MS4.5
HHC LR LR
comp=E,356nm,17.8s,MS4.5
HHC LR LR
comp=Z,409nm,19.0s,MS4.4
WMQ Urumqi 51.61 345 *e*P **P** **12 24 16.4 +1.3**
WMQ AP pP 12 24 26.4 +1.2
WMQ XP sP 12 24 30.3 +1.0
WMQ PP PP 12 26 16.9 +3.5
WMQ S **S** **12 31 40.4 +8.1**
WMQ AMB AMB
comp=Z,71nm,0.8s,mb5.7
WMQ AMB AMB
comp=Z,135nm,6.3s
WMQ LR LR
comp=N,422nm,16.1s,MS4.8
WMQ LR LR
comp=E,544nm,16.4s,MS4.8
WMQ LR LR
comp=Z,800nm,17.6s,MS4.8
KSH Kashi 51.94 333 *e*P **P** **12 24 18.0 +0.3**
KSH *e*AP pP 12 24 28.0 +0.3
KSH *e*XP sP 12 24 32.4 +0.6
KSH *e*PCP PcP 12 25 30.7 +0.6
KSH *e*S **S** **12 31 38.2 +1.3**
KSH *e*PS PS 12 31 48.8 -2.2
KSH *e*XS 12 31 58.4
KSH AMB AMB
comp=Z,80nm,1.2s,mb5.5
KSH LR LR
comp=N,570nm,7.9s
KSH LR LR
comp=E,350nm,5.6s
MAJO Matsushiro 53.38 35 P **P** **12 24 26.0 -2.5**
comp=E,7.8nm,0.8s,mb4.7
MAT Matsushiro 53.38 35 *e*P **P** **12 24 26.0 -2.5**
comp=E,6.7nm,0.9s,mb4.6
MAT Matsushiro 53.38 35 P **P** **12 24 26.2 -2.3**
MJAR Matsushiro Arr 53.38 35 P **P** **12 24 26.7 -1.8**
MJAR pmax pmax
comp=Z,10.0nm,1.0s
MJAR Matsushiro Arr 53.38 35 P **P** **12 24 26.6 -1.9**
comp=Z,9.7nm,0.9s,mb4.7,baz=216,slow=8.1,SNR=21
CN2 Changchun 53.41 20 *e*P **P** **12 24 28.0 -0.6**
CN2 AMB AMB
comp=Z,30nm,0.8s,mb5.3
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,260nm,15.0s,MS4.6
CN2 LR LR
comp=E,300nm,15.0s,MS4.6
CN2 LR LR
comp=Z,240nm,16.0s,MS4.3
SONM Songino Array 53.68 2 P **P** **12 24 31.5 +0.9**
comp=Z,36nm,0.7s,mb5.4,baz=181,slow=8.9,SNR=184
SONM LR LR 12 50 45.5
comp=Z,252nm,18.9s,MS4.3,baz=72,slow=40
ULN Ulaanbaatar 53.74 3*c* *i*P **P** **12 24 32.1 +1.1**
ULN Ulaanbaatar 53.74 3 *e*P **P** **12 24 32.0 +1.0**
comp=Z,21nm,0.7s,mb5.2
ULN LR LR
comp=Z,233nm,19.0s,MS4.3
ULHL Ulahol 54.06 335 P **P** **12 24 33.3 -0.1**
SNR=8.7
KZA Kyzart 54.34 334 P **P** **12 24 35.9 +0.4**
SNR=12
UCH Uchtor 54.78 334 P **P** **12 24 38.8 +0.1**
SNR=8.4
TKM2 Tokmak 2 54.88 335 P **P** **12 24 39.2 -0.2**
SNR=23
KBK Karagaybulak 54.94 335 P **P** **12 24 40.1 +0.3**
SNR=8.6
AML Almayashu 55.06 333 P **P** **12 24 40.9 +0.1**
SNR=7.6
AAK Ala-Archa 55.12 334 *i*P **P** **12 24 39.6 -1.5**
AAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
AAK Ala-Archa 55.12 334 *e*P **P** **12 24 39.5 -1.6**
comp=Z,7.7nm,1.1s,mb4.7
FRU Bishkek 55.23 334 *e*P **P** **12 24 41.8 -0.1**
MDJ Mudanjiang 55.60 22 P **P** **12 24 45.0 +0.4**
MDJ AMB AMB
comp=Z,12nm,1.2s,mb4.8
MDJ AMB AMB
comp=Z,141nm,4.4s
USP Ospenovka 55.63 335 P **P** **12 24 43.9 -0.9**
SNR=5.5
MKAR Makanchi Array 55.83 343 *i*P **P** **12 24 45.6 -0.6**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 55.83 343 P **P** **12 24 45.6 -0.6**
comp=Z,11nm,0.6s,mb5.1,baz=145,slow=8.2,SNR=109
MKAR LR LR 12 51 33.5
comp=Z,137nm,21.4s,MS4.0,baz=266,slow=39
ZAK Zakamensk 56.16 360 *e*P **P** **12 24 48.2 -0.3**
ZAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
HIA Hailar 56.85 13 *e*P **P** **12 24 52.9 -0.6**
comp=Z,16nm,0.9s,mb5.1
HIA LR LR
comp=Z,275nm,21.0s,MS4.3
KKAR Karatay Array 57.29 332 *i*P **P** **12 24 55.1 -1.6**
TLY Talaya 57.46 0 *e*P **P** **12 24 58.6 +0.8**
TLY pmax pmax
comp=Z,13nm,0.8s,mb5.0
TLY MLR MLR
comp=Z,171nm,16.0s,MS4.2
MOY Mondy 57.49 358 *e*P **P** **12 24 58.0 0.0**
ASAJ Asahikawa 61.09 31 LR LR 12 50 06.3
comp=Z,48nm,18.8s,MS3.7,baz=4.8,slow=34
ZAL Zalesovo 61.76 348 P **P** **12 25 26.1 -1.2**
ZAL pmax pmax
comp=Z,11nm,0.4s
ZAL MLR MLR
comp=Z,295nm,18.6s
ZAL Zalesovo 61.76 348 P **P** **12 25 26.1 -1.2**
comp=Z,10nm,0.4s,mb5.3,baz=305,slow=2.9,SNR=39
ZAL LR LR 12 55 52.8
comp=Z,295nm,18.6s,MS4.5,baz=311,slow=40
NVS Novosibirsk 62.94 347 *e*P **P** **12 25 33.1 -2.1**
NVS *e* 12 34 00.8
BOD Bodaibo 64.19 6 *e*P **P** **12 25 41.9 -1.4**
BOD pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BVA0 Borovoye Array 65.13 339 *i*P **P** **12 25 48.4 -1.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
BVAR Borovoye Array 65.13 339 P **P** **12 25 48.6 -0.9**
comp=Z,7.2nm,0.7s,mb4.8,baz=144,slow=8.9,SNR=41
ZRNK Zerenda 65.58 338 P **P** **12 25 51.3 -1.1**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ZRNK Zerenda 65.58 338 *e*P **P** **12 25 51.3 -1.0**
comp=Z,6.7nm,0.7s,mb4.8
KMBO Kilima Mbogo 66.23 271 LR LR 12 49 25.5
comp=Z,137nm,19.6s,MS4.2,baz=94,slow=31
AB31 Akbulak array 66.80 331 *i*P **P** **12 25 59.4 -0.8**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
MAW Mawson 67.33 196 LR LR 12 49 21.1
comp=Z,215nm,20.1s,MS4.4,baz=178,slow=30
MAW Mawson 67.33 196 PFAKE 12 26 20.0 +17
MAW LR LR
comp=Z,557nm,21.0s,MS4.8
GNI Garni 70.79 316 P **P** **12 26 27.8 +2.8**
GNI pmax pmax
comp=Z,5.0nm,0.3s
GNI MLR MLR
comp=Z,54nm,21.4s
GNI Garni 70.79 316 P **P** **12 26 27.8 +2.8**
comp=Z,5.0nm,0.3s,mb4.9,baz=149,slow=17,SNR=3.6
GNI LR LR 12 58 58.6
comp=Z,54nm,21.4s,MS3.8,baz=352,slow=37
GNI Garni 70.79 316 P **P** **12 26 27.8 +2.8**
GNI LR LR 12 58 58.6
YAK Yakutsk 70.80 13 *i*P **P** **12 26 23.9 -0.7**
YAK pmax pmax
comp=Z,18nm,0.7s,mb5.1
YAK Yakutsk 70.80 13 *e*P **P** **12 26 23.9 -0.7**
comp=Z,25nm,0.7s,mb5.3
YAK LR LR
comp=Z,131nm,19.0s,MS4.2
SVE Sverdlovsk 71.69 337 *e*P **P** **12 26 30.0 -0.1**
SVE *e* 12 26 50.0
SVE pmax pmax
comp=Z,22nm,1.9s,mb4.8
ARU Arti 72.25 336 *i*P **P** **12 26 31.4 -2.0**
ARU pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ZEI Tsey 72.51 318 *e*P **P** **12 26 31.2 -4.0**
ZEI *i* *PP pP 12 26 45.2 -0.4
ZEI pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KIV Kislovodsk 73.82 319 *i*P **P** **12 26 40.8 -2.1**
KIV pmax pmax
comp=Z,13nm,0.9s,mb4.9
LSZ Lusaka 74.27 256 PFAKE 12 27 00.0 +14
LSZ LR LR
comp=Z,215nm,21.0s,MS4.4
EIL Elat 74.58 303 *e*P **P** **12 26 48.3 +0.6**
comp=Z,8.9nm,0.9s,mb4.7
EIL *e*PcP PcP 12 26 59.4 -2.9
PET Petropavlovsk 74.92 31 *e*P **P** **12 26 49.0 -0.1**
PET *e* 12 27 03.9
PET pmax pmax
comp=Z,16nm,0.6s,mb5.1
MA2 Magadan 75.30 23 *e*P **P** **12 26 51.5 +0.4**
comp=Z,10nm,0.8s,mb4.8
BOSA Boshof 76.81 242 LR LR 12 56 58.3
comp=Z,117nm,18.1s,MS4.2,baz=4.9,slow=33
VNDA Vanda 77.59 169 P **P** **12 27 03.2 -0.6**
comp=Z,0.3nm,0.5s,mb3.5,baz=306,slow=3.8,SNR=3.6
VNDA LR LR 12 55 40.1
comp=Z,100nm,21.1s,MS4.1,baz=284,slow=31
SEY Seymchan 78.08 21 *e*P **P** **12 27 07.0 +0.3**
SEY *e* 12 38 06.5
SEY pmax pmax
comp=E,2.0nm,0.7s
SEY pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BRTR Keskin Array B 78.56 312 P **P** **12 27 09.5 -0.3**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 78.56 312 P **P** **12 27 09.5 -0.3**
comp=Z,2.1nm,0.6s,mb4.2,baz=135,slow=7.2,SNR=8.5
OBN Obninsk 82.01 328 *e*P **P** **12 27 28.8 +1.0**
OBN *e* pP 12 27 40.7 +2.3
OBN *e* 12 27 45.4
OBN *e* 12 38 27.4
OBN pmax pmax
comp=Z,22nm,0.9s,mb5.1
AKASG Malin Array Be 84.75 322 P **P** **12 27 42.1 +0.2**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 84.75 322 P **P** **12 27 42.0 +0.2**
comp=Z,5.6nm,0.7s,mb4.8,baz=85,slow=5.3,SNR=18
BILL Bilibino 85.72 20 *i*P **P** **12 27 46.6 +0.3**
BILL pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
BILL Bilibino 85.72 20 PFAKE 12 28 00.0 +14
BILL LR LR
comp=Z,86nm,19.0s,MS4.2
VSU Vasula 88.20 329 *i*P **P** **12 27 58.6 +0.2**
KWP Kalwaria 88.58 320 *e*P **P** **12 28 02.1 +1.6**
SUW Suwalki 89.14 324 *e*P **P** **12 28 04.0 +1.0**
FINES FINESS Array B 89.25 332 P **P** **12 28 04.7 +1.3**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 89.25 332 P **P** **12 28 04.7 +1.3**
comp=Z,4.3nm,0.8s,mb4.9,baz=104,slow=7.9,SNR=18
SNAA Sanae 89.41 198 P **P** **12 28 05.8 +1.8**
SNAA Sanae 89.41 198 **P** **12 28 14.6 +11**
SNAA Sanae 89.41 198 **P** **12 28 16.9 +13**
SNAA Sanae 89.41 198 **P** **12 28 20.3 +16**
SNAA Sanae 89.41 198 *i*P **P** **12 28 14.8 +11**
KEV Kevo 90.94 340 PFAKE 12 28 20.0 +8.8
KEV LR LR
comp=Z,138nm,21.0s,MS4.4
VNA2 Neumayer--Watz 91.04 198 P **P** **12 28 13.6 +2.0**
VNA2 Neumayer--Watz 91.04 198 **P** **12 28 22.4 +11**
VNA2 Neumayer--Watz 91.04 198 **P** **12 28 25.0 +13**
ARCES ARCESS Array B 91.40 340 P **P** **12 28 13.8 +0.5**
comp=Z,1.1nm,0.6s,mb4.3,baz=90,slow=3.6,SNR=7.5
ARCES LR LR 13 13 18.8
comp=Z,101nm,21.0s,MS4.2,baz=110,slow=38
VNA1 Neumayer--Stat 91.41 198 P **P** **12 28 26.6 +13**
VNA3 Neumayer Olymp 91.60 197 P **P** **12 28 16.6 +2.4**
VNA3 Neumayer Olymp 91.60 197 **P** **12 28 16.7 +2.5**
KBS Kingsbay 96.15 349 PFAKE 12 28 50.0 +15
KBS LR LR
comp=Z,128nm,21.0s,MS4.4
NOA NORSAR Array B 96.31 331 LR LR 13 19 56.0
comp=Z,38nm,19.2s,MS3.9,baz=45,slow=40
KONO Kongsberg 97.11 329 PFAKE 12 28 50.0 +10
KONO LR LR
comp=Z,186nm,20.0s,MS4.6
FIB Fire Island 103.11 29 PFAKE 12 29 20.0 +13
FIB LR LR
comp=Z,2μm,20.0s,MS5.5
DIV Divide 105.19 28 PFAKE 12 33 40.0
DIV LR LR
comp=Z,223nm,20.0s,MS4.7
YKA Yellowknife Ar 117.11 19 PKP PKPdf 12 33 52.5 +1.3
comp=Z,0.3nm,0.5s,baz=356,slow=2.1,SNR=4.8
YKA Yellowknife Ar 117.11 19 PKP PKPdf 12 33 52.5 +1.3
NEW Newport 125.60 32 PKIKP PKPdf 12 34 11.2 +3.2
NEW pmax pmax
comp=Z,1.0nm,0.4s
NEW Newport 125.60 32 PKP PKPdf 12 34 11.2 +3.2
comp=Z,0.8nm,0.4s,baz=41,slow=14,SNR=3.7
BMO Blue Mountains 127.51 36 PFAKE 12 34 30.0 +18
BMO LR LR
comp=Z,95nm,21.0s,MS4.5
MSO Missoula 128.18 32 PFAKE 12 34 30.0 +17
MSO LR LR
comp=Z,43nm,19.0s,MS4.2
HLID Hailey 129.95 36 PFAKE 12 34 30.0 +13
HLID LR LR
comp=Z,107nm,21.0s,MS4.5
BMN Battle Mountai 130.01 41 PFAKE 12 34 30.0 +13
BMN LR LR
comp=Z,95nm,19.0s,MS4.5
BOZ Bozeman (W) 130.16 32 PFAKE 12 34 30.0 +13
BOZ LR LR
comp=Z,103nm,22.0s,MS4.5
NVAR Mina Array Bea 130.32 43 PKP PKPdf 12 34 20.4 +3.1
comp=Z,1.2nm,0.6s,baz=62,slow=29,SNR=9.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNV	Mina	130.42	43	PFAKE		12 34 30.0	+12
MNV				LR	LR		
	comp=Z,107nm,20.0s,MS4.5						
SCHQ	Schefferville	130.70	353	PKP	PKPdf	12 34 19.9	+2.2
	comp=Z,2.3nm,0.9s,baz=59,slow=16,SNR=3.9						
SCHQ	Schefferville	130.70	353	PKP	PKPdf	12 34 19.9	+2.2
SCHQ				LR	LR		
	comp=Z,138nm,22.0s,MS4.6						
ELK	Elko	131.10	39	PFAKE		12 34 30.0	+11
ELK				LR	LR		
	comp=Z,129nm,22.0s,MS4.6						
LKWY	Lake	131.53	32	PFAKE		12 34 30.0	+10
LKWY				LR	LR		
	comp=Z,86nm,19.0s,MS4.5						
DGMT	Dagmar	131.60	24	PFAKE		12 34 30.0	+10
DGMT				LR	LR		
	comp=Z,118nm,22.0s,MS4.5						
DAC	Darwin (Calif)	131.86	45	PFAKE		12 34 30.0	+10
DAC				LR	LR		
	comp=Z,227nm,22.0s,MS4.8						
AHID	Auburn Hatcher	132.34	34	PFAKE		12 34 40.0	+19
AHID				LR	LR		
	comp=Z,116nm,21.0s,MS4.6						
HWUT	Hardware Ranch	132.81	36	eP	PKPdf	12 34 25.1	+3.1
HWUT				LR	LR		
	comp=Z,108nm,19.0s,MS4.6						
ULM	Lac du Bonnet	133.02	17	PKP	PKPdf	12 34 24.2	+2.1
	comp=Z,4.4nm,0.7s,baz=4.8,slow=4.0,SNR=4.5						
ULM	Lac du Bonnet	133.02	17	PKP	PKPdf	12 34 24.2	+2.1
ULM				LR	LR		
	comp=Z,157nm,21.0s,MS4.7						
PDAR	Pinedale Array	133.19	33	PKP	PKPdf	12 34 24.8	+2.1
	comp=Z,0.9nm,0.6s,baz=108,slow=0.6,SNR=11						
NEN	Nelson	134.10	45	eP	PKPdf	12 34 28.1	+3.5
MVU	Marysvale	134.30	40	eP	PKPdf	12 34 28.1	+3.2
MVU				LR	LR		
	comp=Z,156nm,21.0s,MS4.7						
MSU	Marysvale	134.31	40	eP	PKPdf	12 34 28.3	+3.4
SRU	San Rafael	134.99	38	P	PKPdf	12 34 29.9	+3.8
PV10	Paradox Valley	136.35	38	eP	PKPdf	12 34 30.9	+2.3
PQI	Presque Isle	138.83	351	PFAKE		12 34 50.0	+17
PQI				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
SDCO	Great Sand Dun	138.87	36	PFAKE		12 34 50.0	+17
SDCO				LR	LR		
	comp=Z,302nm,20.0s,MS5.0						
WMOK	Wichita Mounta	144.80	33	eP	PKPdf	12 34 44.4	+0.6
CCM	Cathedral Cave	145.41	21	eP	PKPdf	12 34 45.9	+1.2
CCM				LR	LR		
	comp=Z,81nm,21.0s,MS4.5						
LTX	Lajitas	145.44	45	PFAKE		12 35 00.0	+15
LTX				LR	LR		
	comp=Z,117nm,19.0s,MS4.7						
TXAR	Lajitas Array	145.44	45	PKIKP	PKPdf	12 34 48.2	+3.1
TXAR				pmax	pmax		
	comp=Z,32nm,0.6s						
TXAR	Lajitas Array	145.44	45	PKPbc	PKPbc	12 34 48.2	+2.6
	comp=Z,32nm,0.6s,baz=286,slow=1.4,SNR=322						
MCWV	Mont Chateau	146.37	5	PFAKE		12 35 00.0	+14
MCWV				LR	LR		
	comp=Z,217nm,22.0s,MS4.9						
CBN	Corbin	147.95	1	PFAKE		12 35 00.0	+11
CBN				LR	LR		
	comp=Z,127nm,20.0s,MS4.7						
WVT	Waverly	148.28	18	eP	PKPdf	12 34 55.0	+5.4
ELN	Prospectdale	148.69	6	eP	PKPdf	12 34 54.4	+4.2
TZTN	Tazewell	148.94	11	eP	PKPdf	12 34 56.5	+5.9
OXF	Oxford	149.24	21	PFAKE		12 35 00.0	+8.9
OXF				LR	LR		
	comp=Z,110nm,19.0s,MS4.7						
PLAL	Pickwick Lake	149.27	19	eP	PKPdf	12 34 56.5	+5.4
NATX	Nacogdoches	149.28	31	PFAKE		12 35 10.0	+19
NATX				LR	LR		
	comp=Z,116nm,22.0s,MS4.6						
SWET	Sewanee	149.67	15	eP	PKPdf	12 34 57.6	+5.8
MYNC	Murphy	150.24	13	eP	PKPdf	12 35 00.1	+7.4
LRAL	Lakeview Retre	151.40	19	PFAKE		12 35 10.0	+15
LRAL				LR	LR		
	comp=Z,152nm,20.0s,MS4.8						
NHSC	New Hope	152.83	7	PFAKE		12 35 10.0	+13
NHSC				LR	LR		
	comp=Z,128nm,20.0s,MS4.7						
JTS	JuntasAbangare	170.65	62	PFAKE		12 35 30.0	+15
JTS				LR	LR		
	comp=Z,58nm,20.0s						
OTAV	Otavalo	173.95	161	PFAKE		12 35 30.0	+13
OTAV				LR	LR		
	comp=Z,194nm,22.0s						

*BJI **05** 12:23:39.6, 32.42N×93.62E, h25^{km}, mB4.8, mb4.5, ML3.9, Ms4.0, Msz3.7*
*IDC **05** 12:23:43.1±4.2, 32.45N×93.89E, h46^{km}±42^{km}, mb3.6/9, mb1 3.8/12, mb1mx3.7/21, mbtmp3.9/12, ML3.7/3, MS3.4/1, Ms1 3.4/1, ms1mx2.8/22, Error ellipse: s-maj=34.0km s-min=18.6km az=53.0*
ISC 05 12:23:39.2±2.5**, 32.35N**±0.07×**93.74E**±0.06**, h31**^{km}±21^{km}**, n26, σ0^{s}94**/27**, mb3.9**/10**, 1C, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSA	Lhasa	3.45	221	PG	Pn	12 24 39.2	+7.0
LSA				SG	Sn	12 25 28.0	+15
LSA				Smax			
	comp=N,90nm,1.0s						
LSA				Smax			
	comp=E,280nm,1.0s						
GUN	Gumba	8.11	239	eP	P	12 25 37.9	0.0
	comp=E,124nm,0.6s						
GTA	Gaotai	8.60	33	eP	P	12 25 45.1	+0.5
GTA				AP		12 25 49.9	
GTA				XP		12 25 52.6	
GTA				AMB	AMB		
	comp=Z,9.0nm,1.2s						
GTA				AMB	AMB		
	comp=Z,98nm,5.7s						
GTA				LR	LR		
	comp=N,252nm,22.4s						
GTA				LR	LR		
	comp=E,205nm,19.8s						
GTA				LR	LR		
	comp=Z,294nm,25.1s						
KKN	Kakani	8.62	240	eP	P	12 25 44.6	-0.3
	comp=Z,90nm,0.4s						
PKI	Pulchoki	8.65	239	eP	P	12 25 44.5	-0.9
	comp=Z,194nm,0.5s						
CD2	Chengdu	8.67	97	eP	P	12 25 50.4	+4.8
DMN	Daman	8.85	240	eP	P	12 25 47.8	-0.3
	comp=Z,86nm,0.5s						
GKN	Gorkha	8.99	244	eP	P	12 25 49.7	-0.3
	comp=Z,24nm,0.4s						
KMI	Kunming	10.69	130	P	P	12 26 14.3	+0.9
KMI				AP		12 26 22.4	
KMI				XP		12 26 27.1	
KMI				AMB	AMB		
	comp=Z,11nm,1.0s						
KMI				LR	LR		
	comp=N,358nm,14.3s						
KMI				LR	LR		
	comp=E,296nm,15.0s						
KMI				LR	LR		
	comp=Z,457nm,15.0s						
GYA	Guiyang	12.71	114	⇑iP	P	12 26 40.6	-0.1
GYA				AMB	AMB		
	comp=Z,30nm,0.9s						
XAN	Xi'an	12.83	78	P	P	12 26 41.3	-1.0
XAN				AP		12 26 50.4	
XAN				AMB	AMB		
	comp=Z,9.0nm,1.5s						
CMAR	Chiang Mai Arr	14.61	160	P	P	12 27 07.0	+1.2
	comp=Z,0.1nm,0.3s,baz=329,slow=11,SNR=8.2						
MKAR	Makanchi Array	16.88	332	P	P	12 27 36.4	+1.6
	comp=Z,0.2nm,0.3s,baz=144,slow=13,SNR=5.0						
MKAR				LR	LR	12 34 45.3	
	comp=Z,132nm,18.7s,baz=154,slow=39						
WHN	Wuhan	17.68	90	eP	P	12 27 49.5	+4.6
SONM	Songino Array	18.21	28	P	P	12 27 49.6	-1.8
	comp=Z,0.3nm,0.3s,baz=210,slow=12,SNR=7.5						
ZAL	Zalesovo	22.50	346	P	P	12 28 38.5	+1.2
	comp=Z,2.2nm,0.6s,mb3.8,baz=294,slow=11,SNR=3.1						
BVAR	Borovoye Array	26.64	328	P	P	12 29 20.6	+3.7
	comp=Z,1.1nm,0.6s,mb3.6,baz=238,slow=39,SNR=4.8						
BRTR	Keskin Array B	48.36	297	P	P	12 32 21.8	+1.8
	comp=Z,1.5nm,0.8s,mb4.1,baz=90,slow=7.4,SNR=5.7						
AKASG	Malin Array Be	50.01	311	P	P	12 32 31.9	-0.7
	comp=Z,1.7nm,0.6s,mb4.2,baz=75,slow=6.9,SNR=6.0						
FINES	FINESS Array B	51.56	325	P	P	12 32 44.6	+0.4
	comp=Z,0.5nm,0.6s,mb3.6,baz=121,slow=8.1,SNR=3.9						
ARCES	ARCESS Array B	52.49	336	P	P	12 32 51.1	+0.1
	comp=Z,1.3nm,0.8s,mb3.9,baz=78,slow=8.3,SNR=5.4						
NB2	NORSAR Subarra	58.75	326	P	P	12 33 34.9	-1.4
	comp=Z,0.7nm,0.5s,mb4.0,baz=78,slow=7.0						
NOA	NORSAR Array B	58.75	326	P	P	12 33 35.2	-1.0
	comp=Z,1.7nm,0.8s,mb4.1,baz=79,slow=6.9,SNR=5.7						
GERES	GERESS Array B	60.23	311	P	P	12 33 46.2	-0.5
	comp=Z,0.4nm,0.4s,mb3.8,baz=82,slow=6.9,SNR=4.1						
WRA	Warramunga Arr	64.91	137	P	P	12 34 18.1	-0.1
	comp=Z,0.3nm,0.4s,mb3.6,baz=332,slow=7.4,SNR=9.9						
ILAR	Eielson Array	72.35	23	P	P	12 35 03.0	-0.6
	comp=Z,1.0nm,0.9s,mb3.8,baz=296,slow=5.2,SNR=7.1						

*PRU **05** 12:33:45.1, 45.08N×7.31E*
*ROM **05** 12:33:50.0±0.3, 45.33N×7.68E, h12^{km}, Md3.0/6, Ml2.9/1, Error ellipse: s-maj=5.1km s-min=2.5km az=68.0*
*CSEM **05** 12:33:50.3±0.1, 45.30N×7.75E, h5^{km}, ML3.5/29, Error ellipse: s-maj=1.3km s-min=0.8km az=100.0*
*NEIC **05** 12:33:50.6±0.2, 45.33N×7.70E, h5^{km}, ML3.5(LDG), ML3.2(STR), Error ellipse: s-maj=3.0km s-min=1.8km az=96.0*
*STR **05** 12:33:51.2±0.3, 45.31N×7.67E, h5^{km}±1^{km}, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **05** 12:33:51.7±0.1, 45.34N×7.68E, h5^{km}, Md3.1/14, Ml3.5/29, Error ellipse: s-maj=2.6km s-min=1.8km az=105.0*
*GEN **05** 12:33:51.7, 45.38N×7.61E, h10^{km}, ML0.3*
*ZUR **05** 12:33:53.0, 45.48N×7.70E, h18^{km}±1^{km}, ML2.9/17*
ISC 05 12:33:50.2±0.2**, 45.34N**±0.01×**7.61E**±0.02**, h10**^{km}**, n108, σ1^{s}20**/178**, 9C-6D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRAV		0.19	29	P	Pg	12 33 55.6	+1.1
TRAV				S	Sg	12 33 58.0	+0.6
TRAV		0.19	29	P	Pg	12 33 55.6	+1.1
RSP	Reno Superiore	0.32	233	P	Pg	12 33 58.5	+1.7
RSP	Reno Superiore	0.32	233	P	Pg	12 33 58.5	+1.7
LSD	Ceresole Reale	0.34	290	P	Pg	12 33 58.9	+1.6
LSD	Ceresole Reale	0.34	290	P	Pg	12 33 58.9	+1.6
ORO	Oropa	0.38	42	⇓iPg	Pg	12 33 58.7	+0.6
ORO				Sg	Sg	12 34 03.4	0.0
ORX	Oropa	0.39	42	P	Pg	12 33 58.6	+0.4
ORX				S	Sg	12 34 03.6	+0.1
ORX	Oropa	0.39	42	P	Pg	12 33 58.6	+0.4
FENE	Fenestrelle	0.50	231	P	Pg	12 34 01.6	+1.2
FENE				S	Sg	12 34 08.7	+1.5
FENE	Fenestrelle	0.50	231	P	Pg	12 34 01.6	+1.2
BHB	Bricherasio	0.56	206	P	Pg	12 34 02.3	+0.8
BHB	Bricherasio	0.56	206	P	Pg	12 34 02.3	+0.7
LPG	La Plagne	0.63	285	ePg	Pg	12 34 03.5	+0.6
LPG				eSg	Sg	12 34 12.0	+0.7
	730nm,0.2s						
LPL	La Plagne	0.64	286	ePg	Pg	12 34 03.9	+0.7
LPL				eSg	Sg	12 34 12.4	+0.5
	828nm,0.3s						
MCGN	Macugnaga	0.67	23	Pg	Pg	12 34 03.5	-0.2
OG22	Abries	0.70	222	Pg	Pg	12 34 05.1	+0.7
OG22				Sg	Sg	12 34 14.9	+1.0
RRL	Cesana Torines	0.72	234	P	Pb	12 34 05.5	+1.0
RRL				S	Sb	12 34 16.1	+1.9
RRL	Cesana Torines	0.72	234	P	Pb	12 34 05.5	+1.0
DIX	Grande Dixence	0.75	349	⇑iP	Pb	12 34 04.8	-0.1
DIX				eS	Sb	12 34 13.8	-1.2
MMK	Mattmark	0.75	19	eS	Sb	12 34 13.6	-1.3
MMK	Mattmark	0.75	19	⇓iP	Pb	12 34 04.8	-0.1
MBDF	Montbardon	0.86	224	ePg	Pg	12 34 08.0	+0.5
MBDF				eSg	Sg	12 34 20.3	+1.3
	821nm,0.5s						
EMV	Vieux Emosson	0.88	325	⇑iP	Pb	12 34 07.9	+0.8
EMV				eS	Sb	12 34 18.4	-0.2
DOI	San Damiano	0.88	197	⇑iPg	Pg	12 34 07.0	-0.9
	309nm,0.2s						
SALAN	Lac Salanfe	0.92	331	⇑iP	Pb	12 34 08.6	+0.8
SALAN				iS	Sb	12 34 19.5	-0.3
VAI	Varese	0.97	57	iPg	Pg	12 34 08.5	-1.1
VAI				Sg	Sg	12 34 22.6	+0.1
GRYON	Gryon	0.97	339	eP	Pb	12 34 09.2	+0.5
PCP	Pian Castagno	1.04	140	P	Pb	12 34 11.9	+2.0
PCP				S	Sb	12 34 25.1	+1.7
PCP	Pian Castagno	1.04	140	P	Pb	12 34 11.9	+2.0
PCP				S	Sb	12 34 25.0	+1.6
SENIN	Lac Senin	1.04	348	⇑iP	Pb	12 34 10.2	+0.3
LKBD	Leukerbad	1.04	1	eP	Pb	12 34 10.1	+0.2
ROB	Roburent	1.06	170	P	Pb	12 34 11.4	+1.1
ROB	Roburent	1.06	170	P	Pb	12 34 11.4	+1.1
GDM	Grand'Maison	1.07	263	Pg	Pg	12 34 12.4	+0.8
GDM				Sg	Sg	12 34 25.9	0.0
AIGLE	Aigle	1.10	335	eP	Pb	12 34 11.8	+0.9
STV2	Anna di Valdie	1.12	191	P	Pb	12 34 10.7	-0.5
STV	Sta Anna Valdi	1.12	191	P	Pb	12 34 10.8	-0.5
STV	Sta Anna Valdi	1.12	191	P	Pb	12 34 10.8	-0.4
ENR	Entracque	1.12	187	P	Pb	12 34 11.1	-0.2
ENR	Entracque	1.12	187	P	Pb	12 34 11.1	-0.2
MUGIO	Muggio	1.16	60	eP	Pb	12 34 11.7	-0.2
MUGIO	Muggio	1.16	60	eP	Pb	12 34 11.8	-0.1
FIN	Finale Ligure	1.21	159	P	Pb	12 34 14.1	+1.3
FIN	Finale Ligure	1.21	159	Pg	Pg	12 34 14.2	-0.3
FIN				Sg	Sg	12 34 30.2	-0.5
	151nm,0.4s						
MONE	Monesi	1.27	175	P	Pb	12 34 14.0	+0.2
ORIF	Oris-en-Rattie	1.30	251	ePn	Pn	12 34 16.2	+1.7
ORIF				eSg	Sg	12 34 34.0	+0.4
	337nm,0.4s						
WIMIS	Wimmis	1.32	0	⇓iP	Pb	12 34 15.5	+0.8
FUSIO	Fusio	1.33	33	eP	Pb	12 34 13.6	-1.3
AUTN	L'Aution	1.35	186	Pg	Pg	12 34 15.1	-2.2
TOUF	Mont Tournerai	1.35	191	Pg	Pg	12 34 18.9	+1.5
SAOF	Saorge	1.36	182	Pg	Pg	12 34 15.1	-2.3
IMI	Imperia	1.45	172	P	Pn	12 34 17.5	+0.9
IMI	Imperia	1.45	172	⇓iPg	Pg	12 34 17.6	-1.6
	63nm,0.2s						
HASLI	Hasliberg	1.46	15	eP	Pn	12 34 18.3	+1.5
MVIF	Mont Vial	1.48	193	Pg	Pg	12 34 17.7	-2.2
MVIF				Sg	Sg	12 34 40.7	+1.0
SBF	Sospel	1.49	185	ePn	Pn	12 34 16.9	-0.3
SBF				eSn	Sn	12 34 36.0	-0.7
SBF				eSg	Sg	12 34 39.0	-0.8
	323nm,0.5s						
NEGI	Negi	1.50	177	P	Pn	12 34 17.9	+0.6
NEGI	Negi	1.50	177	P	Pn	12 34 17.9	+0.6
TORNY	Torny	1.50	343	⇓iP	Pn	12 34 20.2	+2.8
REVF	Revere	1.61	186	Pg	Pg	12 34 21.3	-1.2
REVF				Sg	Sg	12 34 40.8	-3.2
BNALP	Bannalp	1.63	20	⇓iP	Pn	12 34 20.1	+0.9
CABF	La Chapelle	1.66	321	ePn	Pn	12 34 21.0	+1.4
CABF				ePg	Pg	12 34 23.4	+0.1
CABF				eSg	Sg	12 34 45.0	-0.4
	250nm,0.8s						
CALN	Calern	1.67	198	Pn	Pn	12 34 20.8	+1.0
CALN				Sg	Sg	12 34 44.4	-1.6
VDL	Val di Lei	1.73	48	eP	Pn	12 34 20.3	-0.3
BRANT	Les Verrieres	1.78	334	⇑iP	Pn	12 34 23.3	+1.9
FRF	La Foret Royal	1.91	202	ePn	Pn	12 34 23.6	+0.3
FRF				eSn	Sn	12 34 46.5	-1.1
FRF				eSg	Sg	12 34 52.2	-1.8
	52nm,0.2s						
SMRF	Simiane la Rot	2.00	227	eP	Pn	12 34 27.3	+2.8
SMRF				ePg	Pg	12 34 29.2	-0.9
SMRF				eSg	Sg	12 34 55.7	-1.1
	49nm,0.4s						
LOMF	Lomont	2.08	345	Pg	Pg	12 34 31.2	-0.6
BBS	Basel-Blauen	2.12	358	Pg	Pg	12 34 31.2	-1.5
VIVF	Saint-Julien-l	2.14	258	ePn	Pn	12 34 27.9	+1.4
VIVF				ePg	Pg	12 34 32.4	-0.6
VIVF				eSn	Sn	12 34 53.0	-0.3
	46nm,0.3s						
VIVF				eSg	Sg	12 35 00.3	-1.2
	46nm,0.3s						
MABI	Malga Bissina	2.15	70	Pg	Pg	12 34 26.4	-6.9
LMR	La Mourre	2.16	202	ePn	Pn	12 34 27.5	+0.7
LMR				ePg	Pg	12 34 31.7	-1.7
LMR				eSn	Sn	12 34 52.2	-1.7
LMR				eSg	Sg	12 34 59.5	-2.7
	28nm,0.2s						
DAVA	Damuels	2.50	38	⇑iPN	Pn	12 34 32.5	+0.8
DAVA				iSN	Sn	12 35 05.6	+3.1
HINF	Hinteralfeld	2.53	348	ePn	Pn	12 34 32.8	+0.7
HINF				ePg	Pg	12 34 38.6	-2.2
HINF				eSg	Sg	12 35 09.8	-4.7
	58nm,0.3s						
MOF	Molkenrain	2.53	353	Pg	Pg	12 34 38.9	-1.9
MOF	Molkenrain	2.53	353	Pn	Pn	12 34 32.5	+0.4
MOF				Pg	Pg	12 34 38.9	-1.9
MOF	Molkenrain	2.53	353	Pg	Pg	12 34 38.9	-1.9
FELD	Feldberg	2.55	6	Pn	Pn	12 34 31.9	-0.5
FELD				Pg	Pg	12 34 38.8	-2.3
FELD	Feldberg	2.55	6	Pg	Pg	12 34 38.8	-2.3
COLF	Collangettes	2.76	275	Pn	Pn	12 34 36.8	+1.3
HAU	Haudompre	2.80	342	ePn	Pn	12 34 36.8	+0.8
HAU				ePg	Pg	12 34 43.9	-2.3
HAU				eSn	Sn	12 35 08.8	-1.4
	28nm,0.2s						
HAU				eSg	Sg	12 35 18.7	-4.9
	61nm,0.3s						
ECH	Echery	2.89	354	Pn	Pn	12 34 37.3	+0.1
SMF	Signal de Mont	2.93	298	ePn	Pn	12 34 39.4	+1.5
SMF				ePg	Pg	12 34 46.5	-2.3
SMF				eSn	Sn	12 35 12.4	-1.1
	28nm,0.4s						
SMF				eSg	Sg	12 35 23.3	-4.7
	45nm,0.2s						
LASF	Ste Croix	2.96	246	ePn	Pn	12 34 39.6	+1.3
LASF				eSn	Sn	12 35 12.6	-1.6
	12nm,0.3s						
PGF	Pioggiola	2.97	160	ePn	Pn	12 34 37.2	-1.2
PGF				eSn	Sn	12 35 10.8	-3.6
	8.5nm,0.2s						
WLS	Welschbruch	3.08	357	Pn	Pn	12 34 39.5	-0.4
CDF	Champ du Feu	3.08	356	ePn	Pn	12 34 39.9	0.0
CDF				ePg	Pg	12 34 49.0	-2.7
CDF				eSg	Sg	12 35 28.0	-4.8
	65nm,0.7s						
THEF	They Montfort	3.09	339	Pn	Pn	12 34 40.8	+0.7
SQTA	Sankt Quirin	3.12	52	⇑iPN	Pn	12 34 40.7	+0.2
SQTA				iSN	Sn	12 35 19.4	+1.1
LOR	Lormes	3.24	308	ePn	Pn	12 34 43.1	+0.9
	baz=139						
LOR				eSg	Sg	12 35 33.9	-4.1
	28nm,0.3s						
SSF	Saint Saulge	3.33	303	ePn	Pn	12 34 44.4	+0.9
SSF				eSn	Sn	12 35 22.5	-1.0
SSF				eSg	Sg	12 35 35.3	-5.8
	6.9nm,0.3s						
SFTF	Sexfontaines	3.37	329	ePn	Pn	12 34 43.9	-0.1
SFTF				ePg	Pg	12 34 54.5	-2.9
	baz=134						
SFTF				eSg	Sg	12 35 37.9	-4.4
	49nm,0.4s						
SFTF	Sexfontaines	3.37	329	ePg	Pg	12 34 54.5	-2.9
SFTF				eSg	Sg	12 35 37.9	-4.4
	24nm,0.4s						
WTTA	Wattenberg	3.39	54	⇑iPN	Pn	12 34 44.7	+0.4
WTTA				iSN	Sn	12 35 26.4	+1.4
BGF	Bois d'Agland	3.54	292	ePn	Pn	12 34 47.8	+1.3
BGF				eSg	Sg	12 35 43.4	-4.7
	54nm,0.4s						
RFYF	Reffroy	3.60	337	ePn	Pn	12 34 46.7	-0.6
RFYF				eSg	Sg	12 35 45.4	-4.7
	49nm,0.3s						
MEZF	Maizieres J'vi	3.61	332	ePg	Pg	12 34 58.1	-4.3
	baz=153						
MEZF				eSg	Sg	12 35 45.8	-4.8
	38nm,0.4s						
TCF	Toulx Ste Croi	3.89	286	ePn	Pn	12 34 51.6	+0.1
TCF				eSn	Sn	12 35 35.3	-2.5
TCF				eSg	Sg	12 35 54.9	-5.0
	24nm,0.5s						
CAF	Calviac	3.95	266	ePn	Pn	12 34 50.9	-1.4
RJF	Les Rejaudoux	4.30	272	ePn	Pn	12 34 58.6	+1.3
RJF				eSg	Sg	12 36 08.0	-5.4
	23nm,0.6s						
GIVF	Givet	5.12	339	ePn	Pn	12 35 07.7	-1.2
GIVF				eSg	Sg	12 36 33.0	-7.7
	20nm,0.6s						
NVLJ	Novalja	5.21	96	iPn	Pn	12 35 05.7	-4.4
NVLJ				iSn	Sn	12 36 03.7	-7.4
NVLJ	Novalja	5.21	96	iPn	Pn	12 35 05.7	-4.5
NVLJ				iSn	Sn	12 36 03.6	-7.5
BAIF	Baives	5.25	335	ePn	Pn	12 35 09.6	-1.1
BAIF				eSg	Sg	12 36 37.3	-7.7
	10.0nm,0.4s						
MFF	Saint Martin d	5.55	286	ePn	Pn	12 35 15.8	+0.8
MFF				eSg	Sg	12 36 47.6	-7.5
	5.2nm,0.3s						
KHC	Kasperske Hory	5.55	45	ePN	Pn	12 35 09.2	-5.8
KHC				eSN	Sn	12 36 18.2	-1.5
KHC				ex	x	12 36 47.5	
CLL	Collm	6.96	29	eSG	Sg	12 37 38.0	-4.1

*IDC **05** 13:08:43.5±1.2, 21.27N×121.30E, mb3.7/6, mb1 3.9/6, mb1mx3.6/20, mbtmp3.7/6, MS3.0/2, Ms1 3.1/2, ms1mx2.8/30, Error ellipse: s-maj=39.8km s-min=24.6km az=67.0*
*JMA **05** 13:08:50.0±0.2, 21.45N×121.27E, h184^{km}, M3.4*
ISC 05 13:08:49.1±1.9**, 21.2N**±0.1×**121.2E**±0.1**, h59**^{km}±18^{km}**, n14, σ0^{s}53**/16**, mb3.5**/6**, MS2.8**/1**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	3.60	27	P	P	13 09 44.1	+0.2
HATJ	Hateruma jima	3.67	40	P	P	13 09 45.3	+0.4
HATJ				eS	S	13 10 27.9	+0.6
IRIF	Iriomote-Funau	3.85	36	P	P	13 09 47.2	-0.1
IRIF				eS	S	13 10 32.4	+0.7
JKRS	Kuro-shima	3.93	40	P	P	13 09 48.6	+0.1
JKRS				eS	S	13 10 33.6	-0.2
JIJ	Ishigaki jima	4.11	40	P	P	13 09 50.7	-0.3
JIJ				eS	S	13 10 37.6	-0.6
JTJ	Tarama	4.66	43	P	P	13 09 58.0	-0.7
JOW	Kunigami	8.51	48	LR	LR	13 14 14.6	
	comp=Z,101nm,18.9s,baz=328,slow=39						
CMAR	Chiang Mai Arr	21.16	266	LR	LR	13 21 28.7	
	comp=Z,32nm,18.1s,MS2.8,baz=135,slow=36						
ASAJ	Asahikawa	28.89	33	P	P	13 14 43.3	-1.1
	4.8nm,0.7s,mb4.3,baz=180,slow=5.1,SNR=3.1						
SONM	Songino Array	29.12	339	P	P	13 14 45.9	-0.5
	1.0nm,1.0s,mb3.5,baz=157,slow=9.4,SNR=4.4						
MKAR	Makanchi Array	40.53	318	P	P	13 16 24.6	+0.6
	0.2nm,0.4s,mb3.1,baz=108,slow=9.1,SNR=3.0						
ZAL	Zalesovo	42.77	329	P	P	13 16 42.0	-0.2
	0.7nm,0.5s,mb3.7,baz=4.0,slow=11,SNR=4.8						
WRA	Warramunga Arr	42.88	162	P	P	13 16 43.9	+0.2
	0.4nm,0.6s,mb3.3,baz=343,slow=9.1,SNR=7.0						
ILAR	Eielson Array	71.81	27	P	P	13 20 07.8	+0.8
	0.3nm,0.9s,mb3.2,baz=283,slow=7.4,SNR=6.3						

*NEIC **05** 13:19:36.3±1.0, 13.10N×144.05E, h147^{km}±9^{km}, mb4.3/3, Error ellipse: s-maj=17.9km s-min=13.4km az=86.0*
*IDC **05** 13:19:37.7±8.7, 13.13N×144.08E, h158^{km}±82^{km}, mb3.6/9, mb1 3.8/9, mb1mx3.6/21, mbtmp4.0/9, Error ellipse: s-maj=39.1km s-min=18.6km az=87.0*
ISC 05 13:19:35.0±1.3**, 13.1N**±0.1×**143.9E**±0.2**, h147**^{km}±12^{km}**, n13, σ0^{s}89**/13**, mb3.9**/11**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.07	60	ePn	P	13 20 00.2	-0.1
JOW	Kunigami	20.07	315	P	P	13 23 59.9	+1.1
	12nm,0.5s,baz=123,slow=14,SNR=3.6						
MJAR	Matsushiro Arr	23.94	349	P	P	13 24 36.7	0.0
	1.6nm,0.5s,mb3.8,baz=169,slow=9.6,SNR=7.1						
WRAB	Tennant Creek	34.11	196	eP	P	13 26 07.5	-0.3
	5.8nm,0.9s,mb4.3						
WRA	Warramunga Arr	34.12	196	P	P	13 26 08.2	+0.3
	1.6nm,0.8s,mb3.8,baz=19,slow=9.4,SNR=18						
SONM	Songino Array	46.63	326	P	P	13 27 50.8	+0.6
	0.3nm,0.3s,mb3.4,baz=108,slow=3.9,SNR=3.6						
MKAR	Makanchi Array	61.23	316	P	P	13 29 36.3	-0.4
	0.5nm,0.3s,mb3.8,baz=94,slow=8.0,SNR=6.4						
AAK	Ala-Archa	66.15	311	P	P	13 30 07.5	-1.4
	2.3nm,0.4s,mb4.4						
ILAR	Eielson Array	69.44	25	P	P	13 30 26.2	-2.7
	0.5nm,0.6s,mb3.4,baz=251,slow=5.7,SNR=6.7						
BMO	Blue Mountains	87.02	45	eP	P	13 32 05.5	+0.5
	2.5nm,0.7s,mb4.2						
ARCES	ARCESS Array B	87.30	342	P	P	13 32 05.5	-0.3
	0.8nm,0.8s,mb3.6,baz=15,slow=14,SNR=3.7						
NVAR	Mina Array Bea	87.97	51	P	P	13 32 10.9	+1.2
	2.6nm,0.5s,mb4.3,baz=265,slow=4.8,SNR=23						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**92.99**	**45**	P	**P**	**13 32 33.2**	**+0.2**
	0.4nm,0.5s,mb3.8,baz=270,slow=1.5,SNR=4.7						

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*BJI **05** 13:26:40.9, 0.88N×97.07E, h30km, mB4.9, mb4.6, Ms4.3, Msz4.1*
*IDC **05** 13:26:44.9±0.8, 1.75N×96.83E, mb4.2/15, mb1 4.3/16, mb1mx4.2/22, mbtmp4.2/16, ML3.8/1, MS3.7/4, Ms1 3.7/4, ms1mx3.3/26, Error ellipse: s-maj=25.4km s-min=15.5km az=49.0*
*MOS **05** 13:26:46.4±0.7, 1.62N×97.19E, h33km, mb4.3/7, Error ellipse: s-maj=70.8km s-min=13.2km az=111.4*
*NEIC **05** 13:26:49.7±0.4, 1.79N×96.88E, h30km, mb4.5/4, Error ellipse: s-maj=11.0km s-min=7.5km az=55.0*
ISC 05 13:26:47.0±0.6**, 1.75N**±0.08×**96.90E**±0.08**, h26km, h26km**±2.8km**:pP-P, n43,** σ**0s97**/45**, mb4.3**/28**, MS3.8**/6**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.14**	**47**	*e*Pn	**Pn**	**13 28 04.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**16.73**	**7**	Pn	**P**	**13 30 40.5**	**-1.0**
	0.1nm,0.3s,baz=196,slow=12,SNR=21						
CMAR				LR	LR	13 37 42.6	
	comp=Z,160nm,19.5s,baz=190,slow=39						
KMI	**Kunming**	**23.91**	**13**	P	**P**	**13 32 02.2**	**+2.2**
KMI				AP		13 32 10.0	
KMI				XP		13 32 14.7	
KMI				PP	PP	13 32 38.4	+4.4
KMI				S	**S**	**13 36 15.6**	**+4.0**
KMI				XS		13 36 31.4	
KMI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
KMI				AMB	AMB		
	comp=Z,116nm,8.3s						
KMI				LR	LR		
	comp=N,255nm,15.0s,MS3.9						
KMI				LR	LR		
	comp=E,194nm,18.6s,MS3.9						
KMI				LR	LR		
	comp=Z,200nm,15.0s,MS3.7						
KMI	**Kunming**	**23.91**	**13**	P	**P**	**13 32 02.2**	**+2.2**
	comp=Z,10.0nm,0.8s,mb4.3						
KMI				pP		13 32 10.0	
KMI				sP		13 32 14.7	
KMI				PP	PP	13 32 38.4	+4.4
KMI				S	**S**	**13 36 15.6**	**+4.0**
KMI				sS		13 36 31.4	
KMI				SS	SS	13 37 07.8	+5.3
LSA	**Lhasa**	**28.33**	**349**	P	**P**	**13 32 42.2**	**+1.1**
ENH	**Enshi**	**30.78**	**22**	*e*P	**P**	**13 33 01.6**	**-1.4**
	comp=Z,7.4nm,0.6s,mb4.7						
XAN	**Xi'an**	**34.03**	**18**	P	**P**	**13 33 29.3**	**-2.0**
XAN				AP	pP	13 33 36.4	-2.5
XAN				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**34.49**	**126**	*e*P	**P**	**13 33 35.6**	**+0.2**
	comp=Z,5.6nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**34.49**	**126**	P	**P**	**13 33 35.3**	**-0.1**
	comp=Z,2.2nm,0.8s,mb4.2,baz=348,slow=10.0,SNR=3.8						
GTA	**Gaotai**	**37.58**	**4**	*e*P	**P**	**13 34 01.8**	**+0.5**
GTA				AP	pP	13 34 06.1	-2.9
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
KAKA	**Kakadu**	**38.09**	**113**	*e*P	**P**	**13 34 04.7**	**-1.1**
	comp=Z,2.4nm,0.4s,mb4.3						
JOW	**Kunigami**	**39.09**	**48**	P	**P**	**13 34 14.1**	**-0.1**
	comp=Z,16nm,0.8s,mb4.8,baz=242,slow=24,SNR=4.5						
HHC	**Hu-ho-hao-te**	**41.12**	**17**	*e*P	**P**	**13 34 32.1**	**+1.4**
HHC				AP	pP	13 34 40.1	+1.7
HHC				XP	sP	13 34 44.9	+3.3
HHC				PCP	PcP	13 36 29.2	-1.3
HHC				S	**S**	**13 40 45.7**	**+3.8**
HHC				XS		13 40 58.9	
HHC				SS	SS	13 43 48.0	+7.5
HHC				SCS	ScS	13 44 31.1	-0.2
HHC				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.4						
HHC				AMB	AMB		
	comp=Z,81nm,10.8s						
HHC				LR	LR		
	comp=N,177nm,16.8s,MS4.1						
HHC				LR	LR		
	comp=E,136nm,15.6s,MS4.1						
HHC				LR	LR		
	comp=Z,185nm,16.8s,MS4.0						
WRA	**Warramunga Arr**	**42.58**	**122**	P	**P**	**13 34 43.2**	**+0.3**
	comp=Z,1.7nm,0.6s,mb4.0,baz=301,slow=9.2,SNR=29						
WB2	**Warramunga Arr**	**42.59**	**122**	*e*P	**P**	**13 34 43.6**	**+0.5**
WMQ	**Urumqi**	**42.68**	**350**	*e*P	**P**	**13 34 45.5**	**+2.0**
WMQ				AP	pP	13 34 55.4	+4.2
JNU	**Nakatsue**	**44.60**	**42**	P	**P**	**13 34 59.1**	**-0.1**
	comp=Z,6.3nm,0.6s,mb4.6,baz=284,slow=8.3,SNR=2.9						
SONM	**Songino Array**	**46.64**	**9**	P	**P**	**13 35 15.7**	**+0.6**
	comp=Z,1.3nm,0.4s,mb4.3,baz=194,slow=8.6,SNR=14						
SONM				PcP	PcP	13 36 49.7	+0.5
	comp=Z,1.0nm,0.5s,baz=196,slow=3.8,SNR=3.8						
SONM				LR	LR	13 57 47.0	
	comp=Z,99nm,18.7s,MS3.8,baz=240,slow=40						
MKAR	**Makanchi Array**	**46.64**	**346**	*i* P	**P**	**13 35 16.0**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**46.64**	**346**	P	**P**	**13 35 15.7**	**+0.5**
	comp=Z,3.4nm,0.7s,mb4.4,baz=164,slow=8.8,SNR=27						
KKAR	**Karatay Array**	**47.43**	**334**	*i* P	**P**	**13 35 22.6**	**+1.1**
ZAK	**Zakamensk**	**48.76**	**5**	*e*P	**P**	**13 35 31.0**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.7						
CN2	**Changchun**	**48.96**	**27**	*e*P	**P**	**13 35 30.3**	**-3.0**
MJAR	**Matsushiro Arr**	**51.49**	**43**	P	**P**	**13 35 52.5**	**-0.2**
	comp=Z,3.1nm,0.7s,mb4.3,baz=216,slow=7.0,SNR=12						
MDJ	**Mudanjiang**	**51.54**	**30**	P	**P**	**13 35 53.0**	**0.0**
MDJ				AP	pP	13 36 01.7	+0.8
MDJ				XP	sP	13 36 06.0	+2.1
MDJ				PCP	PcP	13 37 05.8	-1.2
MDJ				PP	PP	13 37 55.2	+4.1
MDJ				SCP		13 40 58.5	
MDJ				PCS		13 41 02.8	
MDJ				S	**S**	**13 43 12.0**	**+1.6**
MDJ				SCS	ScS	13 45 40.7	+2.3
MDJ				SS	SS	13 46 47.4	+2.9
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,112nm,3.9s						
MDJ				LR	LR		
	comp=N,14nm,18.8s,MS3.6						
MDJ				LR	LR		
	comp=E,45nm,16.8s,MS3.6						
MDJ				LR	LR		
	comp=Z,35nm,21.8s,MS3.4						
ZAL	**Zalesovo**	**52.96**	**351**	P	**P**	**13 36 03.4**	**-0.2**
	comp=Z,11nm,0.5s,mb5.1,baz=310,slow=5.3,SNR=27						
ZAL				LR	LR	13 59 36.3	
	comp=Z,31nm,18.7s,MS3.4,baz=101,slow=37						
STKA	**Stephens Creek**	**53.95**	**132**	P	**P**	**13 36 11.9**	**+0.9**
	comp=Z,1.2nm,0.6s,mb4.0,baz=328,slow=13,SNR=2.7						
NVS	**Novosibirsk**	**54.09**	**350**	*e*P	**P**	**13 36 10.6**	**-1.2**
VOSK	**Vostochnaya**	**55.19**	**341**	P	**P**	**13 36 19.3**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
BVA0	**Borovoye Array**	**55.64**	**341**	*i* P	**P**	**13 36 22.1**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**56.04**	**340**	P	**P**	**13 36 25.3**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
ZRNK	**Zerenda**	**56.04**	**340**	*e*P	**P**	**13 36 25.2**	**-0.8**
	comp=Z,3.6nm,0.8s,mb4.5						
AB31	**Akbulak array**	**56.89**	**332**	*i* P	**P**	**13 36 32.0**	**-0.2**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
YAK	**Yakutsk**	**64.98**	**16**	*e*P	**P**	**13 37 26.5**	**-0.3**
YAK				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.3						
YAK	**Yakutsk**	**64.98**	**16**	*e*P	**P**	**13 37 26.5**	**-0.3**
	comp=Z,31nm,0.9s,mb5.3						
BRTR	**Keskin Array B**	**68.52**	**312**	P	**P**	**13 37 49.6**	**0.0**
	comp=Z,2.3nm,1.1s,mb4.0,baz=135,slow=4.1,SNR=3.4						
LBTB	**Lobatse**	**73.86**	**243**	LR	LR	14 05 55.6	
	comp=Z,81nm,19.1s,MS4.0,baz=255,slow=32						
AKASG	**Malin Array Be**	**74.64**	**322**	P	**P**	**13 38 25.2**	**-0.8**
	comp=Z,0.3nm,0.3s,mb3.6,baz=85,slow=5.8,SNR=5.5						
FINES	**FINESS Array B**	**79.38**	**332**	P	**P**	**13 38 51.4**	**-0.8**
	comp=Z,1.0nm,0.6s,mb3.9,baz=104,slow=7.9,SNR=6.7						
ARCES	**ARCESS Array B**	**81.92**	**340**	P	**P**	**13 39 05.8**	**+0.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=101,slow=6.2,SNR=8.7						
GERES	**GERESS Array B**	**84.20**	**319**	P	**P**	**13 39 18.5**	**+0.9**
	comp=Z,1.0nm,0.6s,mb4.1,baz=124,slow=4.8,SNR=8.7						
NOA	**NORSAR Array B**	**86.38**	**331**	P	**P**	**13 39 28.4**	**+0.2**
	comp=Z,0.7nm,0.8s,mb4.0,baz=97,slow=5.4,SNR=3.2						
CPUP	**Villa Florida**	**145.20**	**223**	PKPbc	PKPbc	13 46 23.6	+0.1
	comp=Z,2.3nm,0.7s,baz=129,slow=6.5,SNR=4.3						

MAN 05 13:39:05.0, 7.59N×123.17E, h3km, mb3.9, ML2.6, MS2.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.34**	**40**	*e*P	Pg	13 39 12.0	+0.3
PAGZ				*e*S	Sg	13 39 19.9	+3.7
IPIL	**Ipil**	**0.62**	**289**	*e*P	Pg	13 39 16.6	-0.8
IPIL				*e*S	Sg	13 39 27.3	+1.6
DCPH	**Dipolog City**	**1.00**	**11**⇑	*e*P	Pb	13 39 24.6	0.0
DCPH				*e*S	Sb	13 39 40.5	+2.5

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*CSEM **05** 13:44:19.8±0.1, 37.99N×31.01E, h5km, Mw3.6, Error ellipse: s-maj=1.5km s-min=1.3km az=129.0*
*ISK **05** 13:44:20.5, 37.97N×30.98E, h10km, ML3.6*
*NIC **05** 13:44:28.5±0.4, 37.63N×30.56E, h33km, mb4.0, ML3.5, MW3.6*
*NEIC **05** 13:44:28.5, 37.63N×30.56E, h33km, ML3.7(ISK), ML3.5(NIC), After NIC.*
ISC 05 13:44:20.9±0.3**, 37.99N**±0.02×**30.97E**±0.03**, h5km, n31,** σ**0s95**/43**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.40**	**248**	*i* PG	**Pg**	**13 44 27.7**	**-1.1**
ISP				*i* SG	**Sg**	**13 44 34.1**	**0.0**
TKTP	**Tekketepe**	**0.52**	**275**	*i* P	**Pg**	**13 44 30.6**	**-0.6**
TKTP				*i* S	**Sg**	**13 44 36.9**	**-1.3**
BCK	**Bucak**	**0.61**	**210**	PG	**Pg**	**13 44 32.5**	**-0.6**
KONT	**Konya--Tatoy**	**1.10**	**92**	PN	**Pn**	**13 44 41.8**	**-1.0**
ANTB	**Antalya**	**1.12**	**193**	PN	**Pn**	**13 44 42.8**	**-0.3**
KIZT	**Kizilcal**	**1.14**	**39**	PN	**Pn**	**13 44 42.7**	**-0.7**
KHL	**Karahalli**	**1.19**	**286**	PN	**Pn**	**13 44 44.4**	**+0.3**
KHL				SN	**Sn**	**13 45 01.6**	**+0.8**
ALT	**Altintas**	**1.26**	**328**	PN	**Pn**	**13 44 45.1**	**0.0**
GOLH	**Golhisar**	**1.35**	**236**	*i* P	**Pb**	**13 44 47.4**	**+1.1**
GOLH				*i* S	**Sb**	**13 45 08.1**	**+4.3**
ELL	**Elmali**	**1.50**	**215**	*e*PN	**Pn**	**13 44 47.7**	**-0.9**
ESKT	**Eskisehir**	**1.53**	**356**	*e*PN	**Pn**	**13 44 49.1**	**+0.2**
ESKT				*e*SN	**Sn**	**13 45 09.5**	**+0.1**
ESKT	**Eskisehir**	**1.53**	**356**	*i* P	**Pn**	**13 44 49.0**	**+0.1**
ESKT				*i* S	**Sb**	**13 45 10.5**	**+1.7**
DENT	**Denizli**	**1.55**	**262**	*e*PN	**Pn**	**13 44 49.0**	**-0.3**
DNZL	**Cakiroluk**	**1.55**	**259**	*i* P	**Pn**	**13 44 49.5**	**+0.2**
DNZL				*i* S	**Sb**	**13 45 13.5**	**+3.8**
HDMB	**Hadim**	**1.58**	**130**	*e*PN	**Pn**	**13 44 49.1**	**-0.7**
GDZ	**Gediz**	**1.60**	**314**	*i* P	**Pn**	**13 44 50.0**	**+0.1**
GDZ				*i* S	**Sb**	**13 45 10.7**	**-0.3**
MANT	**Manisa**	**1.96**	**285**	*i* P	**Pn**	**13 44 55.0**	**-0.2**
MANT				*i* S	**Sn**	**13 45 21.9**	**+1.4**
FETY	**Fethiye**	**2.03**	**229**	*e*PN	**Pn**	**13 44 55.9**	**-0.2**
YER	**Yerkesik**	**2.30**	**249**	*e*PN	**Pn**	**13 45 00.0**	**0.0**
GPA	**Golpazari**	**2.35**	**348**	*e*PN	**Pn**	**13 45 00.1**	**-0.6**
ANTO	**Ankara**	**2.35**	**37**	*e*PN	**Pn**	**13 45 00.1**	**-0.6**
LOD	**Lodumlu**	**2.35**	**36**	*e*PN	**Pn**	**13 45 00.4**	**-0.4**
KAMT	**Kaman**	**2.55**	**57**	*e*PN	**Pn**	**13 45 03.1**	**-0.4**
AKS	**Akhisar**	**2.63**	**291**	*e*PN	**Pn**	**13 45 04.6**	**-0.2**
EYL	**Eskiyayla**	**2.65**	**346**	*e*PN	**Pn**	**13 45 04.2**	**-0.7**
YLV	**Yalova**	**2.85**	**335**	*e*PN	**Pn**	**13 45 08.0**	**+0.1**
ALFC	**Alevga**	**3.12**	**155**	P	**Pn**	**13 45 12.7**	**+1.0**
	5.5nm,0.3s						
ALFC				S	**Sn**	**13 45 48.6**	**-1.2**
PPCY	**Paphos**	**3.29**	**160**	P	**Pn**	**13 45 15.9**	**+1.7**
MAMC	**Mammari**	**3.35**	**147**	P	**Pn**	**13 45 18.0**	**+3.1**
CSS	**Prodhromos**	**3.57**	**147**	P	**Pn**	**13 45 20.7**	**+2.6**
	2.7nm,0.9s						
CSS				S	**Sn**	**13 46 01.7**	**+0.4**
SZAC	**Souni-Zanaja**	**3.58**	**154**	P	**Pn**	**13 45 20.5**	**+2.2**
SZAC				S	**Sn**	**13 46 00.3**	**-1.2**

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*IDC **05** 14:44:42.1±1.3, 1.77S×99.73E, mb3.7/8, mb1 3.9/8, mb1mx3.7/18, mbtmp3.7/8, Error ellipse: s-maj=57.9km s-min=24.1km az=55.0*
*NEIC **05** 14:44:46.8±0.6, 1.71S×99.76E, h30km, mb4.2/3, Error ellipse: s-maj=29.7km s-min=11.2km az=56.0*
ISC 05 14:44:46.2±1.1**, 1.5S**±0.2×**99.9E**±0.3**, h33km, n14,** σ**0s80**/12**, mb4.0**/10**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.87**	**357**	P	**P**	**14 49 17.1**	**-0.5**
	0.4nm,0.5s,baz=185,slow=9.4,SNR=4.6						
WRA	**Warramunga Arr**	**38.29**	**121**	P	**P**	**14 52 05.0**	**-0.6**
	0.9nm,0.5s,mb3.8,baz=303,slow=9.1,SNR=13						
WRAB	**Tennant Creek**	**38.29**	**121**	*e*P	**P**	**14 52 05.8**	**+0.1**
	3.0nm,0.7s,mb4.1						
SONM	**Songino Array**	**49.47**	**6**	P	**P**	**14 53 36.9**	**+1.5**
	0.2nm,0.3s,mb3.6,baz=184,slow=10,SNR=2.8						
AAK	**Ala-Archa**	**49.58**	**335**	*e*P	**P**	**14 53 35.0**	**-1.3**
	1.6nm,0.4s,mb4.4						
ZAL	**Zalesovo**	**56.68**	**349**	P	**P**	**14 54 28.7**	**-0.1**
	1.2nm,0.5s,mb4.2,baz=326,slow=4.7,SNR=5.5						
ZAL	**Zalesovo**	**56.68**	**349**	P	**P**	**14 54 28.7**	**-0.1**
BVAR	**Borovoye Array**	**59.71**	**340**	P	**P**	**14 54 49.1**	**-0.9**
	0.4nm,0.4s,mb3.8,baz=145,slow=9.6,SNR=4.1						
ZRNK	**Zerenda**	**60.14**	**339**	*e*P	**P**	**14 54 52.9**	**0.0**
	0.6nm,0.6s,mb3.8						
FINES	**FINESS Array B**	**83.66**	**332**	P	**P**	**14 57 12.6**	**-0.1**
	0.3nm,0.4s,mb3.8,baz=117,slow=6.2,SNR=4.6						
ARCES	**ARCESS Array B**	**86.00**	**340**	P	**P**	**14 57 25.1**	**+0.9**
	0.7nm,0.7s,mb4.0,baz=101,slow=6.2,SNR=7.4						
GERES	**GERESS Array B**	**88.65**	**319**	P	**P**	**14 57 38.3**	**+0.9**
	0.2nm,0.2s,mb4.0,baz=63,slow=6.6,SNR=2.9						
TXAR	**Lajitas Array**	**144.35**	**37**	PKP	PKPdf	15 04 21.2	+1.5
	0.8nm,0.6s,baz=249,slow=1.3,SNR=9.4						
CPUP	**Villa Florida**	**144.67**	**217**	PKP	PKPdf	15 04 20.6	+0.2
	1.7nm,0.7s,baz=18,slow=1.2,SNR=4.5						

IDC 05 14:50:12.7±2.8**, 35.40N×94.19E, mb3.6**/2**, mb1 3.7**/4**, mb1mx3.5**/21**, mbtmp3.6**/4**, ML3.6**/1**, Error ellipse: s-maj=191.8km s-min=34.1km az=67.0, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.47**	**325**	Pn	P	14 53 35.5	-5.2
	0.3nm,0.3s,baz=135,slow=14,SNR=12						
CMAR	**Chiang Mai Arr**	**17.40**	**165**	P	P	14 54 17.1	-1.4
	baz=340,slow=12,SNR=4.3						
BVAR	**Borovoye Array**	**24.34**	**324**	P	P	14 55 31.7	-1.2
	0.8nm,0.7s,baz=129,slow=9.2,SNR=2.9						
ARCES	**ARCESS Array B**	**49.88**	**335**	P	P	14 59 07.5	-1.9
	1.0nm,1.0s,baz=86,slow=12,SNR=3.8						

IDC 05 14:54:30.6±9.4**, 1.51N×96.79E, mb3.8**/3**, mb1 3.8**/4**, mb1mx3.6**/20**, mbtmp3.7**/4**, ML3.9**/1**, MS3.1**/1**, Ms1 3.3**/1**, ms1mx2.9**/17**, Error ellipse: s-maj=188.7km s-min=98.1km az=147.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.98**	**7**	Pn	P	14 58 30.0	-1.3
	0.1nm,0.3s,baz=196,slow=11,SNR=5.7						
CMAR				LR	LR	15 06 20.7	
	comp=Z,68nm,19.8s,baz=200,slow=42						
MKAR	**Makanchi Array**	**46.84**	**346**	P	P	15 03 01.8	-2.4
	0.9nm,0.5s,baz=172,slow=8.9,SNR=5.8						
SONM	**Songino Array**	**46.89**	**9**	P	P	15 03 02.8	-1.8
	0.7nm,0.5s,baz=191,slow=9.8,SNR=11						
BVAR	**Borovoye Array**	**55.83**	**341**	P	P	15 04 09.9	-2.1
	0.8nm,0.7s,baz=149,slow=8.6,SNR=6.1						

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*BJI **05** 15:41:41.4, 7.21N×93.68E, h36km, mB4.9, mb4.6, Ms4.5, Msz4.1*
*IDC **05** 15:41:41.8±0.5, 7.77N×93.97E, mb4.4/18, mb1 4.6/18, mb1mx4.5/21, mbtmp4.4/18, MS3.7/4, Ms1 3.7/4, ms1mx3.4/16, Error ellipse: s-maj=24.1km s-min=12.8km az=64.0*
*MOS **05** 15:41:45.2±0.9, 7.70N×93.82E, h33km, mb4.9/17, Error ellipse: s-maj=15.9km s-min=6.8km az=95.5*
*NEIC **05** 15:41:46.4±0.4, 7.63N×93.79E, h30km, mb4.8/18, Error ellipse: s-maj=11.4km s-min=7.5km az=59.0*
ISC 05 15:41:44.7±2.0**, 7.64N**±0.05×**93.92E**±0.05**, h30km**±14km**, h30km**±1.2km**:pP-P, n92,** σ**1s01**/93**, mb4.6**/49**, MS4.0**/10**, 2C-3D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.08**	**109**	*e*Pn	**Pn**	**15 43 28.2**	**-0.8**
CM31	**Chiang Mai Arr**	**11.81**	**24**	*e*Pn	**P**	**15 44 36.0**	**+1.7**
	17nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.81**	**24**	Pn	**P**	**15 44 35.9**	**+1.5**
	0.5nm,0.3s,baz=214,slow=13,SNR=46						
KSM	**Kuching**	**17.44**	**110**	*e*P	**P**	**15 45 51.8**	**+4.2**
QIZ	**Qiongzhong**	**19.17**	**52**	P	**P**	**15 46 09.2**	**+0.5**
QIZ				S	**S**	**15 49 38.1**	**+0.1**
QIZ				LR	LR		
	comp=N,554nm,11.8s						
QIZ				LR	LR		
	comp=Z,294nm,8.7s						
KMI	**Kunming**	**19.32**	**25**	P	**P**	**15 46 12.0**	**+1.5**
KMI				AP		15 46 19.7	
KMI				PP	PP	15 46 31.5	+3.8
KMI				PPP	PPP	15 46 40.4	+3.7
KMI				S	**S**	**15 49 49.5**	**+8.2**
KMI				SS	SS	15 50 16.9	+9.4
KMI				SSS	SSS	15 50 30.6	+9.2
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s						
KMI				LR	LR		
	comp=N,212nm,12.1s						
KMI				LR	LR		
	comp=E,195nm,11.1s						
KMI				LR	LR		
	comp=Z,268nm,13.4s						
KMI	**Kunming**	**19.32**	**25**	P	**P**	**15 46 12.0**	**+1.5**
KMI				S	**S**	**15 49 49.5**	**+8.2**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KMI	**Kunming**	**19.32**	**25**	P	**P**	**15 46 12.0**	**+1.5**
	comp=Z,10.0nm,0.9s						
KMI				pP		15 46 19.7	
KMI				PP	PP	15 46 31.5	+3.8
KMI				PPP	PPP	15 46 40.4	+3.7
KMI				S	**S**	**15 49 49.5**	**+8.2**
KMI				SS	SS	15 50 16.9	+9.4
KMI				SSS	SSS	15 50 30.6	+9.2
PKI	**Pulchoki**	**21.40**	**339**	*e*P	**P**	**15 46 31.8**	**-0.5**
	comp=Z,50nm,0.8s,mb4.9						
PKI	**Pulchoki**	**21.40**	**339**	*e*P	**P**	**15 46 31.8**	**-0.5**
PKI				pmax	pmax		
	comp=Z,25nm,0.8s,mb4.6						
DMN	**Daman**	**21.55**	**338**	*e*P	**P**	**15 46 33.4**	**-0.3**
	comp=Z,56nm,0.8s,mb5.0						
GUN	**Gumba**	**21.55**	**340**	*e*P	**P**	**15 46 33.8**	**0.0**
	comp=Z,84nm,0.7s,mb5.3						
KKN	**Kakani**	**21.65**	**339**	*e*P	**P**	**15 46 34.1**	**-0.6**
	comp=Z,61nm,0.9s,mb5.0						
KKN	**Kakani**	**21.65**	**339**	*e*P	**P**	**15 46 34.1**	**-0.6**
KKN				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.7						
GKN	**Gorkha**	**22.08**	**338**	*e*P	**P**	**15 46 38.8**	**-0.2**
	comp=Z,29nm,0.3s,mb5.2						
LSA	**Lhasa**	**22.10**	**354**	*e*P	**P**	**15 46 38.6**	**-0.7**
LSA				pmax	pmax		
	comp=Z,44nm,0.8s,mb4.9						
LSA	**Lhasa**	**22.10**	**354**	*e*P	**P**	**15 46 38.6**	**-0.7**
	comp=Z,44nm,0.8s,mb4.9						
KOLN	**Koldanda**	**22.28**	**335**	*e*P	**P**	**15 46 41.6**	**+0.6**
GYA	**Guiyang**	**22.30**	**31**⇑	*i*P	**P**	**15 46 43.2**	**+2.0**
GYA				AP		15 46 52.2	
GYA				XP		15 46 56.8	
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,90nm,2.8s,mb4.7						
GYA				LR	LR		
	comp=N,300nm,11.1s,MS4.3						
GYA				LR	LR		
	comp=E,650nm,11.7s,MS4.3						
GYA				LR	LR		
	comp=Z,420nm,11.4s,MS4.1						
CD2	**Chengdu**	**24.92**	**20**	*e*P	**P**	**15 47 05.0**	**-1.7**
LGTI	**Lohaghat**	**25.23**	**331**	*e*P	**P**	**15 47 10.3**	**+0.6**
DDI	**Dehra Dun**	**27.03**	**329**	*e*	**P**	**15 47 28.0**	**+1.7**
LZH	**Lanzhou**	**29.74**	**16**	*e*P	**P**	**15 47 50.1**	**-0.6**
LZH				AP	pP	15 47 59.2	-0.5
LZH				XP	sP	15 48 03.5	-0.1
LZH				PP	PP	15 48 48.0	+0.2
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,74nm,5.2s						
LZH				LR	LR		
	comp=N,757nm,13.5s						
LZH				LR	LR		
	comp=Z,987nm,17.4s,MS4.5						
LZH	**Lanzhou**	**29.74**	**16**	*e*P	**P**	**15 47 50.1**	**-0.6**
	comp=Z,23nm,1.3s,mb4.8						
LZH				pP	pP	15 47 59.2	-0.5
LZH				sP	sP	15 48 03.5	-0.1
LZH				PP	PP	15 48 48.0	+0.2
GTA	**Gaotai**	**32.08**	**9**	*e*P	**P**	**15 48 11.0**	**-0.3**
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
WMQ	**Urumqi**	**36.45**	**352**	P	**P**	**15 48 49.6**	**+0.8**
WMQ				AP	pP	15 48 59.3	+1.4
WMQ				XP	sP	15 49 03.3	+1.6
WMQ				PP	PP	15 50 13.6	+0.6
WMQ				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,59nm,4.8s						
WMQ				LR	LR		
	comp=N,324nm,15.6s,MS4.5						
WMQ				LR	LR		
	comp=E,433nm,14.7s,MS4.5						
WMQ				LR	LR		
	comp=Z,614nm,15.8s,MS4.5						
HHC	**Hu-ho-hao-te**	**36.62**	**23**	*e*P	**P**	**15 48 51.1**	**+0.8**
HHC				AP	pP	15 49 00.6	+1.3
HHC				XP	sP	15 49 04.9	+1.8
HHC				PP	PP	15 50 15.1	-0.1
HHC				PCP	PcP	15 51 13.5	+0.2
HHC				S	**S**	**15 54 32.5**	**+1.9**
HHC				XS		15 54 48.0	
HHC				SCP		15 54 56.3	
HHC				SS	SS	15 57 03.9	+5.9
HHC				SCS	ScS	15 59 01.8	+0.1
HHC				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,92nm,9.5s						
HHC				LR	LR		
	comp=N,149nm,13.1s,MS4.1						
HHC				LR	LR		
	comp=E,156nm,15.5s,MS4.1						
HHC				LR	LR		
	comp=Z,134nm,14.3s,MS3.9						
AAK	**Ala-Archa**	**38.84**	**337**	*e*P	**P**	**15 49 08.9**	**+0.1**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.5						
AAK	**Ala-Archa**	**38.84**	**337**	*e*P	**P**	**15 49 08.9**	**+0.1**
	comp=Z,9.5nm,1.1s,mb4.4						
MKAR	**Makanchi Array**	**40.27**	**348**	*i* P	**P**	**15 49 19.9**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MKAR	**Makanchi Array**	**40.27**	**348**	P	**P**	**15 49 19.7**	**-1.0**
	comp=Z,2.2nm,0.7s,mb4.0,baz=167,slow=8.2,SNR=25						
MKAR				LR	LR	16 08 48.7	
	comp=Z,51nm,19.9s,MS3.4,baz=170,slow=40						
MKAR	**Makanchi Array**	**40.27**	**348**	P	**P**	**15 49 19.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**40.43**	**130**	P	**P**	**15 49 21.4**	**-0.9**
	comp=Z,5.1nm,0.9s,mb4.3,baz=351,slow=11,SNR=4.3						
KKAR	**Karatay Array**	**40.88**	**334**	*i* P	**P**	**15 49 26.0**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
SONM	**Songino Array**	**41.44**	**13**	P	**P**	**15 49 30.3**	**0.0**
	comp=Z,6.4nm,0.8s,mb4.3,baz=195,slow=8.4,SNR=49						
SONM				PcP	PcP	15 51 28.1	-0.4
	comp=Z,0.8nm,0.6s,baz=194,slow=2.6,SNR=4.4						
ULN	**Ulaanbaatar**	**41.62**	**13**	*e*P	**P**	**15 49 32.1**	**+0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
ULN	Ulaanbaatar	41.62	13	eP	P	15 49 32.1	+0.4
	comp=Z,6.1nm,0.8s,mb4.3						
ZAK	Zakamensk	43.32	9	eP	P	15 49 45.3	-0.3
ZAK				e		15 51 34.7	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.5						
TLY	Talaya	44.64	9	eP	P	15 49 56.6	+0.3
TLY				e		15 50 10.0	
TLY				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
NWAO	Narrogin (SRO)	46.04	152	P	P	15 50 08.4	+0.7
	comp=Z,6.1nm,0.6s,mb4.7,baz=275,slow=8.1,SNR=6.5						
ZAL	Zalesovo	46.75	353	P	P	15 50 12.1	-0.9
	comp=Z,13nm,0.3s,mb5.3,baz=304,slow=4.8,SNR=36						
HIA	Hailar	46.83	23	eP	P	15 50 14.0	+0.4
HIA				pmax	pmax		
	comp=Z,14nm,0.7s						
HIA	Hailar	46.83	23	eP	P	15 50 14.0	+0.4
	comp=Z,14nm,0.7s,mb5.0						
CIT	Chita	47.10	16	eP	P	15 50 15.3	-0.5
NVS	Novosibirsk	47.85	352⇓	iP	P	15 50 20.3	-1.3
NVS				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
NVS				pmax	pmax		
	comp=N,10.0nm,1.0s						
MDJ	Mudanjiang	48.13	34	P	P	15 50 23.9	0.0
MDJ				AP	pP	15 50 32.8	-0.3
MDJ				XP	sP	15 50 37.3	+0.5
MDJ				PCP	PcP	15 51 48.8	-2.7
MDJ				PP	PP	15 52 15.5	0.0
MDJ				SCP		15 55 41.5	
MDJ				PCS		15 55 46.3	
MDJ				S	S	15 57 21.4	+1.8
MDJ				XS		15 57 37.5	
MDJ				SS	SS	16 00 43.5	-0.1
MDJ				AMB	AMB		
	comp=Z,13nm,1.6s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,134nm,4.0s						
MDJ				LR	LR		
	comp=N,49nm,17.6s,MS3.6						
MDJ				LR	LR		
	comp=E,30nm,17.6s,MS3.6						
MDJ				LR	LR		
	comp=Z,39nm,14.7s,MS3.5						
WRA	Warramunga Arr	48.30	125	P	P	15 50 24.8	-0.8
	comp=Z,2.4nm,0.5s,mb4.5,baz=305,slow=8.5,SNR=24						
VOSK	Vostochnaya	48.70	342	P	P	15 50 27.0	-1.2
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
KAMS	Al Khamasin	49.33	290	P	P	15 50 34.5	+1.0
MZLS	Mizel	49.34	295	P	P	15 50 36.2	+2.6
ZRNK	Zerenda	49.53	340	P	P	15 50 33.5	-1.1
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
ZRNK	Zerenda	49.53	340	eP	P	15 50 33.5	-1.1
	comp=Z,3.8nm,1.2s,mb4.3						
TATS	Tathlith	50.26	289	P	P	15 50 42.1	+1.5
AB31	Akbulak array	50.33	332	i P	P	15 50 40.5	-0.3
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
BOD	Bodaibo	52.43	13	eP	P	15 50 54.9	-1.7
BOD				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.3						
KMBO	Kilima Mbogo	57.18	264	LR	LR	16 14 03.6	
	comp=Z,72nm,18.1s,MS3.8,baz=94,slow=34						
EIL	Elat	59.35	300	P	P	15 51 47.7	+1.0
	comp=Z,9.2nm,1.0s,mb4.8						
STKA	Stephens Creek	60.10	133	P	P	15 51 51.0	-0.8
	comp=Z,2.9nm,0.9s,mb4.3,baz=325,slow=22,SNR=5.9						
YAK	Yakutsk	60.29	18	eP	P	15 51 51.8	-0.9
YAK				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.1						
YAK	Yakutsk	60.29	18	eP	P	15 51 51.8	-0.8
	comp=Z,28nm,1.4s,mb5.1						
BRTR	Keskin Array B	62.42	311	P	P	15 52 05.5	-1.9
	comp=Z,2.2nm,0.7s,mb4.4,baz=125,slow=7.5,SNR=11						
OBN	Obninsk	65.46	328	eP	P	15 52 25.6	-1.4
OBN				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.0						
MA2	Magadan	67.08	28	eP	P	15 52 36.9	-0.3
MA2				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.3						
MA2	Magadan	67.08	28	eP	P	15 52 36.9	-0.4
	comp=Z,28nm,0.9s,mb5.3						
AKASG	Malin Array Be	68.20	322	P	P	15 52 41.9	-2.6
	comp=Z,0.8nm,0.4s,mb4.1,baz=91,slow=5.0,SNR=5.6						
MLR	Muntele Rosu	69.19	316	⇑P	P	15 52 50.9	+0.3
BURAR	Bucovina Array	70.08	318	⇓P	P	15 52 52.3	-3.7
APA	Apatity	71.99	339⇓	iP	P	15 53 06.7	-0.5
APA				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
FINES	FINESS Array B	72.82	332	P	P	15 53 11.6	-0.6
	comp=Z,11nm,0.7s,mb4.9,baz=104,slow=7.9,SNR=42						
KAF	Kangasniemi	72.90	333	ep	P	15 53 11.8	-0.9
	comp=Z,5.0nm,0.5s,mb4.7,baz=105,slow=5.6						
KAF	Kangasniemi	72.90	333	eP	P	15 53 11.8	-0.9
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
BOSA	Boshof	75.27	238	P	P	15 53 28.6	+1.6
	comp=Z,3.2nm,0.5s,mb4.5,baz=91,slow=6.7,SNR=9.7						
BOSA				LR	LR	16 26 17.8	
	comp=Z,56nm,19.1s,MS3.9,baz=330,slow=36						
ARCES	ARCESS Array B	75.41	340	P	P	15 53 27.2	+0.2
	comp=Z,1.3nm,0.4s,mb4.2,baz=104,slow=5.6,SNR=21						
ARCES				LR	LR	16 29 25.8	
	comp=Z,48nm,19.2s,MS3.8,baz=115,slow=38						
BILL	Bilibino	76.39	22	eP	P	15 53 32.7	+0.1
BILL				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.4						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
BILL	Bilibino	76.39	22	eP	P	15 53 31.8	-0.8
	comp=Z,6.9nm,1.0s,mb4.5						
FX1	Attu Island--F	77.46	38	eP	P	15 53 38.8	-0.1
GERES	GERESS Array B	77.86	318	P	P	15 53 41.0	-0.1
	comp=Z,3.9nm,0.7s,mb4.5,baz=90,slow=5.3,SNR=25						
MAW	Mawson	78.26	192	P	P	15 53 45.0	+2.1
	comp=Z,1.3nm,0.6s,mb4.0,baz=57,slow=6.4,SNR=5.9						
CLL	Collm	78.41	321	P	P	15 53 44.0	0.0
GRA1	Grafenberg Arr	79.50	319	eP	P	15 53 50.7	+0.6
	comp=Z,8.0nm,1.1s,mb4.6						
GRA1				epP	pP	15 53 58.9	-0.8
GRF	Grafenberg Arr	79.50	319	P	P	15 53 50.7	+0.6
GRF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
NB2	NORSAR Subarra	79.83	331	P	P	15 53 50.9	-0.7
	comp=Z,9.6nm,1.0s,mb4.7,baz=98,slow=4.8						
NB2	NORSAR Subarra	79.83	331	P	P	15 53 50.9	-0.7
NB2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
NOA	NORSAR Array B	79.83	331	P	P	15 53 50.7	-0.9
	comp=Z,4.6nm,0.8s,mb4.4,baz=94,slow=5.4,SNR=11						
ESDC	Sonseca Array	91.20	310	P	P	15 54 49.1	+0.6
	comp=Z,1.2nm,0.5s,mb4.5,baz=66,slow=4.8,SNR=4.8						
VNDA	Vanda	92.74	168	P	P	15 54 55.7	+0.9
	comp=Z,0.7nm,0.8s,mb4.1,baz=322,slow=3.2,SNR=5.0						
VNDA	Vanda	92.74	168	P	P	15 54 55.7	+0.9
ILAR	Eielson Array	95.05	22	P	P	15 55 05.2	-0.4
	comp=Z,0.5nm,0.7s,mb4.1,baz=307,slow=4.0,SNR=4.6						
NVAR	Mina Array Bea	125.23	31	PKP	PKPdf	16 00 45.7	-2.4
	comp=Z,0.5nm,0.7s,baz=291,slow=2.2,SNR=3.8						
TXAR	Lajitas Array	139.53	24	PKP	PKPdf	16 01 13.2	-2.0
	comp=Z,0.2nm,0.4s,baz=190,slow=0.3,SNR=4.4						
CPUP	Villa Florida	146.94	232	PKPbc	PKPbc	16 01 27.1	+2.5
	comp=Z,4.7nm,0.9s,baz=85,slow=5.3,SNR=8.4						
LPAZ	La Paz	160.46	242	PKP	PKPdf	16 01 45.6	-1.6
	comp=Z,0.8nm,0.8s,baz=181,slow=25,SNR=3.8						
LPAZ				PKPab	PKPab	16 02 26.0	+0.4
	comp=Z,0.9nm,0.7s,baz=65,slow=1.4,SNR=4.8						

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*NEIC **05** 15:49:14.8±1.1, 51.44N×16.14E, h5^{km}, ML2.8(VIE), ML2.5(SZGRF), Error ellipse: s-maj=12.0km s-min=5.5km az=18.0*
*PRU **05** 15:49:15.3, 51.44N×16.14E*
*CSEM **05** 15:49:15.3±0.2, 51.44N×16.11E, h1^{km}, ML2.9/4, Error ellipse: s-maj=4.3km s-min=2.2km az=19.0*
*IPEC **05** 15:49:15.2±0.2, 51.45N×16.21E, h7^{km}±1^{km}, ML2.0/2, Error ellipse: s-maj=1.5km s-min=0.6km az=34.0*
*WAR **05** 15:49:16, 51.46N×16.13E, h1^{km}, ML2.7, Mining Induced*
ISC 05 15:49:13.2±0.6**, 51.42N**±0.03×**16.13E**±0.04**, n32,** $\sigma 1^{s}$**24**/63**, 1C-1D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.59	170⇓	iPg	Pg	15 49 27.0	+2.1
KSP				e		15 49 28.2	
KSP				eSg	Sg	15 49 34.5	+1.7
KSP	Ksiaz	0.59	170	ePG	Pg	15 49 27.0	+2.1
KSP				eSG	Sg	15 49 34.0	+1.2
UPC	Upice	0.92	185	ePG	Pg	15 49 32.5	+1.0
UPC	Upice	0.92	185	ePg	Pg	15 49 32.9	+1.4
DPC	Dobruska-Polom	1.08	173	ePG	Pg	15 49 35.7	+1.0
DPC				eSG	Sg	15 49 50.4	+1.3
	16nm,0.3s						
PVCC	Panska Ves	1.33	228	ePG	Pg	15 49 40.3	+0.5
PVCC	Panska Ves	1.33	228	ePn	Pn	15 49 40.4	+1.4
PVCC				eSg	Sg	15 49 59.7	+2.2
BRG	Berggiesshubel	1.48	249	Pn	Pn	15 49 42.5	+1.3
BRG				Pg	Pg	15 49 43.3	+0.5
BRG				Sg	Sg	15 50 03.6	+1.0
BRG	Berggiesshubel	1.48	249	ePn	Pn	15 49 43.0	+1.8
BRG	Berggiesshubel	1.48	249	Pg	Pg	15 49 43.3	+0.5
BRG				eSg	Sg	15 50 02.4	-0.1
PRU	Pruhonice	1.75	216	ePN	Pn	15 49 45.7	+0.6
PRU				ePG	Pg	15 49 47.7	-0.5
PRU				eSG	Sg	15 50 11.9	+0.3
PRU	Pruhonice	1.75	216	ePg	Pg	15 49 47.7	-0.5
PRU				eSg	Sg	15 50 11.9	+0.3
RUE	Ruedersdorf	1.80	307	eSg	Sg	15 50 11.3	-1.8
MORC	Moravsky Berou	1.88	151	ePn	Pn	15 49 47.9	+1.1
MORC				eSg	Sg	15 50 13.5	-2.2
	9.5nm,0.4s						
CLL	Collm	1.96	268	i Pn	Pn	15 49 48.2	+0.1
CLL				i Pg	Pg	15 49 51.7	-0.7
CLL				eSg	Sg	15 50 18.0	-0.5
CLL	Collm	1.96	268	i PN	Pn	15 49 48.2	+0.1
CLL				i PG	Pg	15 49 51.7	-0.7
CLL				i		15 49 55.3	
CLL				eSG	Sg	15 50 18.0	-0.5
CLL	Collm	1.96	268	i Pg	Pg	15 49 51.7	-0.7
CLL				eSg	Sg	15 50 18.3	-0.2
OKC	Ostrava-Krasne	2.04	140	ePG	Pg	15 49 53.8	-0.1
OKC				eSG	Sg	15 50 18.9	-2.2
OKC	Ostrava-Krasne	2.04	140	ePg	Pg	15 49 53.6	-0.3
OKC				Sg	Sg	15 50 18.9	-2.2
VRAC	Vranov	2.14	172	ePn	Pn	15 49 52.4	+1.9
VRAC				eSg	Sg	15 50 22.2	-2.1
	7.2nm,0.3s						
KRUC	Moravsky	2.37	176	ePg	Pg	15 49 58.9	-1.6
NKC	Novy Kostel	2.62	244	ePN	Pn	15 49 58.3	+0.8
NKC				ePG	Pg	15 50 04.5	-1.0
NKC				eSG	Sg	15 50 40.5	+0.1
NKC	Novy Kostel	2.62	244	ePg	Pg	15 50 04.5	-1.0
NKC				eSg	Sg	15 50 40.5	+0.1
OJC	Ojcow	2.62	116	ePG	Pg	15 50 05.0	-0.5
OJC				eSG	Sg	15 50 40.0	-0.4
KHC	Kasperske Hory	2.82	216	ePN	Pn	15 50 01.3	+1.0
KHC				ePG	Pg	15 50 06.9	-2.5
KHC				eSN	Sn	15 50 35.0	-0.4
KHC				eSG	Sg	15 50 46.6	-0.4
KHC	Kasperske Hory	2.82	216	ePg	Pg	15 50 07.0	-2.4
KHC				eSn	Sn	15 50 35.0	-0.4
KHC				eSg	Sg	15 50 46.6	-0.4
MOX	Moxa	2.95	256	ePg	Pg	15 50 10.5	-1.6
MOX				eSg	Sg	15 50 50.3	-1.2
GEC2	GERESS Array S	3.02	212	ePn	Pn	15 50 04.8	+1.7
GEC2				eSg	Sg	15 50 52.4	-1.2
WET	Wettzell	3.09	224	ePn	Pn	15 50 05.2	+1.0
WET	Wettzell	3.09	224	ePn	Pn	15 50 04.8	+0.6
ZST	Bratislava	3.29	169	eSG	Sg	15 51 02.7	0.0
MOA	Molln	3.77	199⇑	iPN	Pn	15 50 13.4	-0.5
MOA				i SG	Sg	15 51 16.7	-2.2
	3.5nm,0.4s						

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*NEIC **05** 16:10:49.9, 18.06N×96.82W, h75^{km}, MD3.7(MEX), After MEX.*
MEX 05 16:10:49.9±1.2**, 18.06N×96.82W, h75**^{km}±23^{km}**, MD3.7, Veracruz**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OXX	Oaxaca	0.98	174	i P	P	16 11 08.5	-0.2
OXX				i S	S	16 11 20.5	-2.2
VHO	Vista Hermosa	0.99	175	i P	P	16 11 07.1	-1.7
VHO				i S	S	16 11 20.6	-2.3
IISM	Ciudad Serdan	1.06	330	i P	P	16 11 07.5	-2.1
IISM				i S	S	16 11 22.5	-1.9
LVIG	Laguna Verde	1.70	13	i P	P	16 11 16.1	-2.0
LVIG				i S	S	16 11 37.0	-1.9

IDC 05 16:14:03.2±1.3**, 1.40N×126.51E, mb3.6**/5**, mb1 3.8**/5**, mb1mx3.7**/16**, mbtmp3.6**/5**, Error ellipse: s-maj=138.8km s-min=21.9km az=68.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.55	160	P	P	16 19 04.8	-1.8
	2.6nm,0.4s,baz=339,slow=10,SNR=37						
STKA	Stephens Creek	36.05	158	P	P	16 21 06.3	-2.2
	0.6nm,0.3s,baz=347,slow=8.4,SNR=7.5						
SONM	Songino Array	49.43	342	P	P	16 22 55.4	-1.5
	0.1nm,0.4s,baz=162,slow=9.1,SNR=3.2						
MKAR	Makanchi Array	59.35	326	P	P	16 24 06.9	-2.6
	0.3nm,0.5s,baz=122,slow=7.2,SNR=3.4						
VNDA	Vanda	81.15	173	P	P	16 26 20.6	-1.1
	0.2nm,0.5s,baz=325,slow=6.0,SNR=3.6						

JMA 05 16:26:04.8±0.5**, 45.23N×149.83E, h133**^{km}**, M3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	3.48	239	P	P	16 26 58.2	-0.4
NEM2				eS	S	16 27 39.6	-0.2
JRA	Rausu	3.60	251	P	P	16 27 00.5	+0.2
JNK	Nakash	4.01	248	P	P	16 27 05.9	+0.1
JAK	Akkeshi	4.32	241	P	P	16 27 09.1	-0.8
JAK				eS	S	16 27 59.5	-0.3
JTKR	Abashiri--Toko	4.41	256	P	P	16 27 10.5	-0.6
JAR	Ashorobuto	4.76	248	P	P	16 27 16.0	+0.2
JMP	Maruseppu	4.78	257	P	P	16 27 15.9	-0.1
JOB	Onbets	4.91	244	P	P	16 27 17.9	+0.2
JOB				eS	S	16 28 14.4	+0.5
JKK2	Kamakawa 2	5.24	257	P	P	16 27 22.0	-0.2
ASAJ	Asahikawa	5.28	260	P	P	16 27 22.4	-0.3
JCH	Churui	5.35	243	P	P	16 27 23.1	-0.6
JCH				eS	S	16 28 23.5	-1.2
JEM	Erimo	5.81	239	P	P	16 27 30.7	+0.9
JNBK	Urakawa-nobuka	5.91	243	P	P	16 27 29.8	-1.4
JNBK				eS	S	16 28 33.1	-5.1
JBT2	Biratori 2	5.92	248	P	P	16 27 30.4	-0.8
JNB	Noboribetsu	6.93	250	eS	S	16 29 01.0	-1.8
JKB	Kayabe	7.21	245	P	P	16 27 46.5	-2.3
JKB				eS	S	16 29 04.4	-5.2
JYM2	Yakumo 2	7.53	249	P	P	16 27 52.0	-1.1
JANG	Nango	7.80	234	eS	S	16 29 18.9	-5.1
JTM	Tenmabayashi	7.80	238	eS	S	16 29 18.6	-5.4
JTH	Tanohata	7.90	231	eS	S	16 29 19.3	-7.1
JRG	Rokugo	8.96	233	S	S	16 29 49.6	-2.2
JIO	Ouri	9.26	226	eS	S	16 29 54.8	-4.2

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*NEIC **05** 16:32:41.2±1.0, 4.62N×123.13E, h591^{km}±14^{km}, mb4.4/7, Error ellipse: s-maj=18.2km s-min=7.1km az=56.0*
*IDC **05** 16:32:42.9±1.5, 4.54N×123.17E, h617^{km}±21^{km}, mb3.3/12, mb1 3.3/12, mb1mx3.1/25, mbtmp4.3/12, Error ellipse: s-maj=24.2km s-min=8.7km az=68.0*
ISC 05 16:32:40.3±0.8**, 4.60N**±0.08×**123.2E**±0.1**, h601**^{km}±12^{km}**, n27,** $\sigma 0^{s}$**91**/30**, mb4.0**/16**, 4C-3D, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TSM	Tawau	5.31	267	P	P	16 34 15.5	-0.7
KKM	Kota Kinabalu	7.09	282⇑	iP	P	16 34 30.8	-0.9
KKM	Kota Kinabalu	7.09	282	P	P	16 34 31.1	-0.6
LUBP	Lubang	9.53	342	eP	P	16 34 55.3	+0.5
KSM	Kuching	13.23	257⇓	iP	P	16 35 31.9	+0.6
KAKA	Kakadu	19.50	152⇓	iP	P	16 36 31.3	+0.4
	18nm,0.6s						
FITZ	Fitzroy Crossi	22.68	174	P	P	16 36 59.5	-0.4
	1.2nm,0.4s,mb3.9,baz=180,slow=13,SNR=7.1						
FITZ				S	S	16 40 24.8	-2.9
	1.7nm,0.6s,baz=220,slow=12,SNR=2.7						
FITZ				ScP		16 43 10.0	
	2.9nm,0.5s,baz=172,slow=0.8,SNR=8.1						
WRAB	Tennant Creek	26.73	156⇑	iP	P	16 37 35.5	-0.1
	26nm,0.3s,mb5.3						
WRA	Warramunga Arr	26.73	156	P	P	16 37 34.9	-0.7
	11nm,0.3s,mb4.9,baz=332,slow=10,SNR=119						
WRA				S	S	16 41 27.5	-3.8
	1.9nm,0.7s,baz=336,slow=16,SNR=6.2						
WB2	Warramunga Arr	26.74	156⇑	iP	P	16 37 35.4	-0.2
WB2				eS	S	16 41 27.6	-3.8
PMG	Port Moresby	27.64	120	P	P	16 37 42.6	-0.9
	14nm,0.9s,mb4.6,baz=292,slow=19,SNR=2.4						
CTA	Charters Tower	33.40	138	P	P	16 38 34.0	+1.8
	11nm,1.0s,mb4.4,baz=338,slow=11,SNR=6.9						
CTAO	Charters Tower	33.40	138	eP	P	16 38 34.4	+2.2
	8.4nm,0.7s,mb4.5						
KLBR	Kellerberrin	36.35	188⇓	iP	P	16 38 57.1	+0.6
NWAO	Narrogin (SRO)	37.74	188	P	P	16 39 08.4	+0.5
	4.3nm,0.4s,mb4.3,baz=279,slow=17,SNR=7.1						
LSA	Lhasa	39.25	313	eP	P	16 39 22.2	+2.1
	3.7nm,0.4s,mb4.3						
STKA	Stephens Creek	40.28	155⇑	iP	P	16 39 29.9	+1.5
	2.8nm,0.3s,mb4.3						
STKA	Stephens Creek	40.28	155	P	P	16 39 29.9	+1.5
	3.7nm,0.3s,mb4.3,baz=340,slow=6.0,SNR=31						
ULN	Ulaanbaatar	45.28	345	P	P	16 40 07.4	+0.1
	0.5nm,0.4s,mb3.4						
SONM	Songino Array	45.43	344	P	P	16 40 08.4	0.0
	0.5nm,0.5s,mb3.3,baz=157,slow=8.9,SNR=5.7						
MKAR	Makanchi Array	54.86	327	P	P	16 41 17.2	-0.1
	2.4nm,0.3s,mb3.9,baz=122,slow=7.7,SNR=72						
MKAR				PcP	PcP	16 42 09.1	-1.0
	0.7nm,0.6s,baz=119,slow=4.2,SNR=6.5						
MKAR				ScP		16 45 11.1	
	0.3nm,0.6s,baz=128,slow=4.9,SNR=3.6						
MKAR	Makanchi Array	54.86	327	P	P	16 41 17.2	-0.1
MKAR				PcP	PcP	16 42 09.1	-1.0
MKAR				ScP		16 45 11.1	
BVAR	Borovoye Array	64.69	328	P	P	16 42 21.4	-0.6
	0.4nm,0.3s,mb3.3,baz=127,slow=7.4,SNR=7.2						
ZRNK	Zerenda	65.40	327	eP	P	16 42 26.0	-0.4
	2.6nm,0.5s,mb3.9						
OPO	Ambohidratompo	78.26	250	P	P	16 43 41.2	+0.3
	1.4nm,0.6s,mb3.5,baz=90,slow=6.1,SNR=4.7						
ARCES	ARCESS Array B	88.42	340	P	P	16 44 29.6	-0.5
	0.3nm,0.6s,mb3.2,baz=90,slow=7.3,SNR=4.1						
FINES	FINESS Array B	89.40	332	P	P	16 44 33.9	-1.0
	0.9nm,0.6s,mb3.8,baz=56,slow=6.9,SNR=5.0						

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*PRE **05** 16:53:24.3±1.9, 26.39S×27.25E, h2^{km}, ML2.6*
*NEIC **05** 16:53:26.4±1.8, 26.47S×27.44E, h5^{km}, ML2.7(PRE), Error ellipse: s-maj=29.2km s-min=10.9km az=103.0*
NEIC One person killed and one injured in a mine near Carletonville.
ISC 05 16:53:25.3±1.0**, 26.41S**±0.04×**27.26E**±0.05**, h10**^{km}±7^{km}**, n11,** $\sigma 0^{s}$**68**/21**, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRYS	Parys	0.52	170	eP	Pg	16 53 35.8	-0.1
PRYS				eS	Sg	16 53 42.1	-0.8
PRYS				AML	AML	16 53 44.0	
	comp=Z,124nm,0.1s						
KSR	Koster	0.65	329	eP	Pb	16 53 28.1	-10
KSR				eS	Sg	16 53 36.4	-11
KSR				AML	AML	16 53 37.5	
	comp=Z,232nm,0.1s						
SLR	Silverton	1.14	54	eP	Pb	16 53 46.6	0.0
SLR				eS	Sb	16 54 00.9	-0.3
SLR				AML	AML	16 54 07.7	
	comp=Z,57nm,0.2s						
SEK	Senekal	1.93	170	eS	Sn	16 54 24.0	+0.9
SEK				AML	AML	16 54 26.6	
	comp=Z,158nm,0.4s						
LBTB	Lobatse	2.04	312	ePn	Pn	16 54 04.4	+4.2
LBTB				eS	Sn	16 54 32.7	+6.7
NWL	Newcastle	2.73	119	eP	Pn	16 54 10.9	+0.8
NWL				eS	Sn	16 54 43.2	-0.2
NWL				AML	AML	16 54 53.1	
	comp=Z,83nm,0.7s						
BOSA	Boshof	2.83	219	eP	Pn	16 54 11.8	+0.4
BOSA				eS	Sn	16 54 44.6	-1.2
BOSA	Boshof	2.83	219	ePn	Pn	16 54 13.1	+1.7
BOSA				ePg	Pg	16 54 22.2	+0.4
BOSA				eS	Sn	16 54 53.7	+7.8
SUR	Sutherland	8.19	222	Pn	P	16 55 27.0	0.0
SUR				eSn	Sn	16 56 59.7	-0.8
SUR				eSg	Sg	16 57 49.1	-8.7
LSZ	Lusaka	11.11	5	P	P	16 56 06.7	-0.7
TSUM	Tsumeb	11.45	307	Pn	P	16 56 12.3	+0.3

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*NEIC **05** 17:06:19.7, 32.86S×71.29W, h54^{km}, mb4.6/12, After GUC.*
NEIC Felt [V] at Petorca; [IV] at San Felipe, Santiago, Valparaiso and Vina del Mar; [III] at Illapel, La Ligua, Los Andes, Rancagua and Salamanca. Also felt at Concon.
*BJI **05** 17:06:19.7, 32.90S×71.30W, h50^{km}, mB4.1, Ms4.6, Msz4.6*
*GUC **05** 17:06:19.7±0.5, 32.86S×71.29W, h54^{km}±4^{km}, ML4.8*
*IDC **05** 17:06:19.5±0.7, 32.84S×71.13W, h55^{km}±5^{km}, mb4.0/8, mb1 4.3/11, mb1mx4.1/16, mbtmp4.4/11, MS3.7/6, Ms1 3.7/6, ms1mx3.3/22, Error ellipse: s-maj=22.3km s-min=17.4km az=106.0*
ISC 05 17:06:18.2±0.4**, 32.84S**±0.03×**71.43W**±0.05**, h56**^{km}**, h56**^{km}±.9^{km}**:pP-P, n67,** $\sigma 1^{s}$**19**/59**, mb4.3**/16**, MS3.8**/5**, 9C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.26	224⇓	iP	P	17 06 29.7	+2.2
PACH	Papudo	0.30	358⇑	iP	P	17 06 29.9	+1.9
ROCH	El Roble	0.37	110⇓	iP	P	17 06 29.7	+1.1
LCCH	Las Cruces	0.64	191⇑	iP	P	17 06 33.3	+1.7
JACH	Jahuel	0.72	77⇓	iP	P	17 06 33.1	+0.6
CLCH	Cerro Calan	0.93	127⇑	iP	P	17 06 35.9	+0.6
CLCH				i S	S	17 06 47.7	-0.4
CLCH				AMP		17 06 50.8	
	comp=N,42μm,0.6s						
ANTU	Antumapu	0.98	138⇑	iP	P	17 06 36.8	+0.7
ANTU				i S	S	17 06 49.4	+0.1
ANTU				AMP		17 06 50.0	
	comp=N,45μm,0.4s						
ANTU				AMP		17 06 51.0	
	comp=E,50μm,0.2s						
FCH	Farellones	1.07	117⇑	iP	P	17 06 37.8	+0.5
PCH	Pirque	1.09	136⇓	iP	P	17 06 38.1	+0.5
LMEL	Las Melosas	1.43	135⇑	iP	P	17 06 43.1	+0.6
LMEL				i S	S	17 07 00.7	+0.3
LMEL				AMP		17 07 02.1	
	comp=N,36μm,0.4s						
MDZ	Mendoza	2.17	92	eP	P	17 06 54.6	+1.9
MDZ				e		17 07 12.9	
MDZ				i S	S	17 07 23.5	+5.1
ZON	Zonda	2.67	62⇓	iP	P	17 07 01.0	+1.2
ZON				eS	S	17 07 39.0	+8.1
TLL	Tololo Astrono	2.72	11⇓	iP	P	17 07 01.8	+1.3
TLL				i S	S	17 07 34.2	+1.9
CFAA	Coronel Fontan	2.97	66	P	P	17 07 05.1	+1.0
	comp=N,14nm,0.3s,baz=235,slow=12,SNR=307						
CFAA				S	S	17 07 37.8	-1.0
	comp=N,25nm,0.3s,baz=140,slow=20,SNR=3.1						
TRQA	Tornquist	9.30	127	ePn	P	17 08 30.3	-1.8
	comp=N,48nm,0.9s						
TRQA				e		17 08 41.3	
LVC	Limon Verde	10.43	13	P	P	17 08 41.9	-5.8
	comp=N,4.4nm,0.3s,baz=184,slow=8.2,SNR=63						
LVC				LR	LR	17 12 56.9	
	comp=N,216nm,21.0s,baz=345,slow=38						
LVC	Limon Verde	10.43	13	ePn	P	17 08 41.7	-6.0
	comp=N,18nm,0.4s						
CPUP	Villa Florida	13.87	66	P	P	17 09 30.3	-3.2
	comp=N,0.5nm,0.3s,baz=267,slow=12,SNR=8.0						
CPUP	Villa Florida	13.87	66	ePn	P	17 09 29.5	-4.0
	comp=N,16nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**16.31**	**360**	*e*P	**P**	**17 10 10.0**	**+5.0**
LPAZ	**La Paz**	**16.75**	**11**	P	**P**	**17 10 11.2**	**+0.6**
	comp=N,1.2nm,0.3s,baz=181,slow=8.3,SNR=64						
LPAZ	**La Paz**	**16.75**	**11**	*e*P	**P**	**17 10 10.7**	**+0.2**
	comp=N,28nm,0.8s						
SIV	**San Ignacio**	**19.22**	**32**	P	**P**	**17 10 37.5**	**-3.0**
	comp=N,5.3nm,0.3s,baz=220,slow=11,SNR=183						
USHA	**Ushuaia**	**22.09**	**175**	LR	LR	17 19 24.0	
	comp=N,196nm,19.5s,MS3.5,baz=10,slow=36						
SAML	**Samuel**	**24.97**	**20**	*e*P	**P**	**17 11 36.9**	**-1.3**
	comp=N,41nm,0.7s,mb5.1						
BDFB	**Brasilia**	**27.27**	**57**	P	**P**	**17 11 56.2**	**-3.2**
	comp=N,23nm,0.8s,mb4.8,baz=238,slow=7.8,SNR=28						
BDFB				LR	LR	17 23 37.7	
	comp=N,202nm,21.2s,MS3.7,baz=15,slow=38						
BAO	**Brasilia Array**	**27.29**	**57**	P	**P**	**17 11 57.0**	**-2.6**
BAO				pP	pP	17 12 11.0	-2.4
SDV	**Santo Domingo**	**41.50**	**1**	*e*P	**P**	**17 14 00.6**	**-1.1**
	comp=N,2.4nm,0.9s,mb3.8						
VNA3	**Neumayer Olymp**	**50.24**	**158**	P	**P**	**17 15 09.9**	**-0.4**
VNA3	**Neumayer Olymp**	**50.24**	**158**		**P**	**17 15 21.7**	**+11**
VNA3	**Neumayer Olymp**	**50.24**	**158**		pP	17 15 26.2	+1.2
VNA2	**Neumayer--Watz**	**50.88**	**158**	⇑*i*P	**P**	**17 15 14.7**	**-0.5**
VNA2	**Neumayer--Watz**	**50.88**	**158**	⇑*i*	**P**	**17 15 28.1**	**+13**
VNA2	**Neumayer--Watz**	**50.88**	**158**	⇑*i*	pP	17 15 31.3	+1.3
SNAA	**Sanae**	**52.47**	**158**	P	**P**	**17 15 26.1**	**-0.9**
SNAA	**Sanae**	**52.47**	**158**		**P**	**17 15 36.7**	**+10**
SNAA	**Sanae**	**52.47**	**158**		pP	17 15 41.9	0.0
SNAA	**Sanae**	**52.47**	**158**	*e*P	**P**	**17 15 25.9**	**-1.2**
	comp=N,13nm,0.7s,mb5.0						
SNAA				*e*pP	pP	17 15 40.6	-1.3
VNDA	**Vanda**	**65.33**	**191**	P	**P**	**17 16 56.0**	**-0.1**
	comp=N,1.2nm,0.7s,mb4.0,baz=141,slow=5.6,SNR=10						
TXAR	**Lajitas Array**	**68.98**	**330**	P	**P**	**17 17 20.2**	**+0.4**
	comp=N,0.5nm,0.7s,mb3.6,baz=150,slow=8.0,SNR=8.2						
SWET	**Sewanee**	**69.06**	**347**	*e*P	**P**	**17 17 19.3**	**-0.9**
SWET				*e*pP	pP	17 17 35.1	-0.6
WVT	**Waverly**	**70.31**	**346**	*e*P	**P**	**17 17 26.8**	**-1.0**
	comp=N,9.9nm,0.8s,mb4.8						
WVT				*e*pP	pP	17 17 42.3	-1.1
MNTX	**Cornudas Mount**	**71.76**	**330**	*e*P	**P**	**17 17 35.6**	**-1.0**
	comp=N,2.4nm,0.6s,mb4.3						
MNTX				*e*pP	pP	17 17 52.1	-0.1
MAW	**Mawson**	**74.14**	**163**	P	**P**	**17 17 49.6**	**-0.2**
	comp=N,2.2nm,1.0s,mb4.1,baz=202,slow=5.4,SNR=3.4						
MAW	**Mawson**	**74.14**	**163**	P	**P**	**17 17 48.6**	**-1.3**
	comp=N,6.2nm,0.8s,mb4.6						
MAW				*e*		17 17 56.2	
DBIC	**Dimbokro**	**74.32**	**71**	P	**P**	**17 17 50.5**	**-1.5**
	comp=N,8.2nm,0.6s,mb4.9,baz=219,slow=6.1,SNR=11						
DBIC				pP	pP	17 18 05.7	-2.0
	comp=N,9.3nm,0.8s,baz=223,slow=6.8,SNR=5.1						
DBIC				LR	LR	17 46 07.6	
	comp=N,47nm,20.1s,MS3.8,baz=116,slow=32						
DBIC	**Dimbokro**	**74.32**	**71**	*e*P	**P**	**17 17 50.2**	**-1.8**
	comp=N,8.2nm,0.6s,mb4.8						
DBIC				*e*pP	pP	17 18 05.7	-1.9
SUR	**Sutherland**	**74.94**	**119**	*e*P	**P**	**17 17 54.1**	**-1.1**
SUR				*e*pP	pP	17 18 10.4	-0.4
ANMO	**Albuquerque**	**75.02**	**331**	*e*P	**P**	**17 17 55.3**	**-0.3**
ANMO				*e*pP	pP	17 18 09.9	-1.3
SDCO	**Great Sand Dun**	**77.07**	**333**	P	**P**	**17 18 06.4**	**-0.7**
	comp=N,1.8nm,0.7s,mb4.1						
BOSA	**Boshof**	**80.15**	**118**	P	**P**	**17 18 23.3**	**-0.9**
	comp=N,2.9nm,0.9s,mb4.2,baz=252,slow=6.4,SNR=3.7						
BOSA				pP	pP	17 18 38.7	-1.3
	comp=N,2.9nm,0.5s,baz=264,slow=6.2,SNR=3.8						
BOSA				LR	LR	17 49 54.5	
	comp=N,73nm,18.3s,MS4.1,baz=225,slow=33						
BOSA	**Boshof**	**80.15**	**118**	*e*P	**P**	**17 18 23.3**	**-0.9**
	comp=N,2.8nm,0.5s,mb4.5						
BOSA				*e*pP	pP	17 18 38.1	-1.9
BOSA				*e*		17 18 47.7	
CASY	**Casey**	**81.19**	**181**	*e*P	**P**	**17 18 29.0**	**+0.1**
	comp=N,3.9nm,0.8s,mb4.4						
CASY				*e*pP	pP	17 18 45.4	+0.7
LBTB	**Lobatse**	**82.32**	**115**	*e*P	**P**	**17 18 34.2**	**-1.4**
	comp=N,3.6nm,0.5s,mb4.6						
LBTB				*e*pP	pP	17 18 49.9	-1.6
PDAR	**Pinedale Array**	**82.97**	**333**	P	**P**	**17 18 39.0**	**+0.5**
	comp=N,0.3nm,0.5s,mb3.6,baz=191,slow=4.6,SNR=3.1						
PDAR				LR	LR	17 54 13.0	
	comp=N,32nm,18.4s,MS3.7,baz=74,slow=35						
NVAR	**Mina Array Bea**	**83.23**	**325**	P	**P**	**17 18 41.5**	**+1.6**
	comp=N,1.0nm,0.7s,mb4.0,baz=150,slow=6.2,SNR=6.4						
WB2	**Warramunga Arr**	**122.02**	**209**	*e*P	PKPdf	17 25 07.2	+0.3
WRA	**Warramunga Arr**	**122.02**	**209**	PKP	PKPdf	17 25 07.1	+0.1
	comp=N,1.3nm,0.4s,baz=158,slow=1.8,SNR=61						
WRA				pPKP		17 25 24.1	
	comp=N,0.9nm,0.6s,baz=162,slow=1.6,SNR=4.1						
FITZ	**Fitzroy Crossi**	**126.78**	**200**	PKP	PKPdf	17 25 17.0	+0.8
	comp=N,1.8nm,0.6s,baz=323,slow=5.1,SNR=5.1						
FITZ				pPKP		17 25 34.0	
	comp=N,5.5nm,1.1s,baz=204,slow=4.7,SNR=2.0						
ZRNK	**Zerenda**	**145.32**	**43**	*e*PKPdf	PKPdf	17 25 50.2	+1.0
ZAL	**Zalesovo**	**152.97**	**32**	PKPbc	PKPdf	17 26 09.7	+8.6
	comp=N,1.4nm,0.7s,baz=142,slow=6.8,SNR=7.0						
ZAL				pPKPbc		17 26 26.0	
	comp=N,2.4nm,0.6s,baz=157,slow=3.0,SNR=3.9						
MKAR	**Makanchi Array**	**155.61**	**47**	PKPbc	PKPdf	17 26 17.4	+12
	comp=N,0.2nm,0.5s,baz=286,slow=5.7,SNR=6.6						
MKAR				PKPab	PKPab	17 26 32.3	-1.4
	comp=N,1.4nm,0.5s,baz=284,slow=4.2,SNR=16						
MKAR				pPKPab		17 26 47.6	
	comp=N,1.0nm,0.6s,baz=291,slow=5.2,SNR=7.2						
MDJ	**Mudanjiang**	**159.89**	**312**	PKP	PKPdf	17 26 11.8	+1.5
CN2	**Changchun**	**162.86**	**315**	*e*PKP	PKPdf	17 26 17.4	+4.1
KMI	**Kunming**	**170.77**	**145**	PKP	PKPdf	17 26 22.7	+2.8
HHC	**Hu-ho-hao-te**	**171.66**	**344**	*e*PKP	PKPdf	17 26 25.9	+5.9
LZH	**Lanzhou**	**174.93**	**49**	*e*PKP	PKPdf	17 26 23.2	+1.8
LZH				APKP		17 26 39.5	
LZH				XPKP		17 26 45.3	
LZH				LR	LR		
	comp=N,165nm,18.0s						
LZH				LR	LR		
	comp=Z,297nm,20.2s						

MAN 05 17:47:16.3, 11.55N×125.31E, h29km, mb3.5, ML2.2, MS1.7, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.14**	**67**	*e*P	Pb	17 47 23.0	+1.2
BESP				*e*S	Sb	17 47 28.8	+3.3
PLP	**Palo**	**0.50**	**220**	*e*P	Pb	17 47 28.2	+1.6
PLP				*e*S	Sb	17 47 36.5	+2.8
CNP	**Catarman**	**1.15**	**327**	*e*P	Pn	17 47 35.6	-1.0
CNP				*e*S	Sn	17 47 51.8	+0.3

IDC 05 17:54:39.8±2.1, 3.59S×150.70E, mb3.4/3, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, ML2.1/1, Error ellipse: s-maj=83.7km s-min=27.5km az=117.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.77**	**211**	Pn	Pn	17 56 21.5	-1.3
	0.2nm,0.3s,baz=36,slow=14,SNR=1.7						
WRA	**Warramunga Arr**	**22.78**	**223**	P	P	17 59 43.5	-1.9
	0.7nm,0.9s,baz=49,slow=10.0,SNR=4.4						
MKAR	**Makanchi Array**	**78.05**	**319**	P	P	18 06 40.6	-1.4
	0.2nm,0.6s,baz=93,slow=7.6,SNR=2.4						
ILAR	**Eielson Array**	**81.84**	**23**	P	P	18 07 00.7	-1.2
	0.6nm,0.7s,baz=247,slow=5.1,SNR=4.3						

IDC 05 18:18:31.9±2.8, 8.61N×91.94E, mb3.3/2, mb1 3.6/3, mb1mx3.4/20, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=80.7km s-min=32.3km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.92**	**34**	Pn	P	18 21 23.4	-2.8
	0.1nm,0.3s,baz=226,slow=16,SNR=5.1						
MKAR	**Makanchi Array**	**38.94**	**349**	P	P	18 25 59.5	-1.7
	0.2nm,0.6s,baz=168,slow=9.5,SNR=3.8						
WRA	**Warramunga Arr**	**50.46**	**125**	P	P	18 27 31.8	-2.1
	0.3nm,0.5s,baz=305,slow=8.5,SNR=8.6						

*NEIC **05** 18:34:22.3±0.8, 53.56N×163.56W, h37km±6km, ML3.2(AEIC), Error ellipse: s-maj=12.6km s-min=4.1km az=158.0*

*IDC **05** 18:34:42.2±8.8, 53.37N×163.55W, h232km±80km, mb3.1/6, mb1 3.3/7, mb1mx3.1/24, mbtmp3.7/7, MS3.0/1, Ms1 3.1/1, ms1mx2.6/7, Error ellipse: s-maj=60.5km s-min=24.6km az=22.0*

ISC 05 18:34:20.5±1.1, 53.45N±0.09×163.46W±0.07, h43km±9km, n27, σ0.55/32, mb3.7/7, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.22**	**327**	P	**P**	**18 34 40.9**	**-0.4**
WESS	**West Dahl Sout**	**1.27**	**324**	P	**P**	**18 34 41.8**	**-0.3**
WESS				S	**S**	**18 34 58.6**	**+0.3**
WESN	**West Dahl Nort**	**1.30**	**330**	P	**P**	**18 34 42.4**	**-0.3**
AKA	**Akutan**	**1.53**	**297**	P	**P**	**18 34 45.7**	**-0.2**
AKA				S	**S**	**18 35 05.2**	**+0.4**
AKUT	**Akutan**	**1.54**	**297**	P	**P**	**18 34 45.4**	**-0.5**
AKLV	**Akutan Long Va**	**1.65**	**297**	P	**P**	**18 34 47.0**	**-0.5**
AKLV				S	**S**	**18 35 07.4**	**-0.1**
AKGG	**Akutan Green G**	**1.68**	**297**	P	**P**	**18 34 47.7**	**-0.2**
AKGG				S	**S**	**18 35 09.3**	**+0.9**
BALA	**Baldy Mountain**	**1.79**	**12**	P	**P**	**18 34 50.8**	**+1.3**
DT1	**Dutton Round H**	**1.79**	**22**	P	**P**	**18 34 49.2**	**-0.4**
DTNA	**Dutton South F**	**1.84**	**22**	P	**P**	**18 34 50.0**	**-0.2**
DOL	**Dolgoi Island**	**1.94**	**28**	P	**P**	**18 34 52.6**	**+1.0**
MNAT	**Makushin Natee**	**1.97**	**284**	P	**P**	**18 34 51.5**	**-0.5**
MTBL	**Makushin Table**	**1.98**	**286**	P	**P**	**18 34 51.9**	**-0.3**
MSW	**Makushin Switc**	**2.03**	**284**	P	**P**	**18 34 53.3**	**+0.4**
HAG	**Hague Volcano**	**2.08**	**25**	P	**P**	**18 34 53.8**	**+0.3**
SDPT	**Sand Point**	**2.58**	**41**	P	**P**	**18 35 00.2**	**-0.5**
SDPT				S	**S**	**18 35 30.5**	**-0.5**
OKCD	**Okmok Cone D**	**2.79**	**271**	P	**P**	**18 35 03.7**	**0.0**
OKCE	**Okmok Cone E**	**2.82**	**271**	P	**P**	**18 35 04.5**	**+0.4**
ILAR	**Eielson Array**	**14.12**	**30**	P	**P**	**18 37 53.5**	**+14**
	0.1nm,0.3s,baz=229,slow=9.8,SNR=5.0						
ILAR				LR	LR	18 43 27.1	
	comp=Z,59nm,19.0s,baz=1.3,slow=37						
TXAR	**Lajitas Array**	**49.20**	**95**	P	**P**	**18 43 07.3**	**+1.2**
	0.3nm,0.6s,mb3.5,baz=321,slow=8.0,SNR=3.7						
SONM	**Songino Array**	**53.76**	**303**	P	**P**	**18 43 40.2**	**0.0**
	0.8nm,0.8s,mb3.7,baz=36,slow=7.6,SNR=5.8						
BVAR	**Borovoye Array**	**64.81**	**327**	P	**P**	**18 44 56.7**	**+0.4**
	1.3nm,0.8s,mb4.0,baz=56,slow=5.2,SNR=6.4						
FINES	**FINESS Array B**	**65.20**	**355**	P	**P**	**18 44 57.7**	**-1.0**
	0.5nm,0.8s,mb3.6,baz=346,slow=5.7,SNR=3.8						
FINES	**FINESS Array B**	**65.20**	**355**	P	**P**	**18 44 57.7**	**-1.0**
ZRNK	**Zerenda**	**65.32**	**328**	*e*P	**P**	**18 44 59.5**	**-0.1**
	1.7nm,0.8s,mb4.1						
MKAR	**Makanchi Array**	**65.58**	**317**	P	**P**	**18 45 00.7**	**-0.6**
	0.4nm,0.8s,mb3.5,baz=56,slow=5.2,SNR=4.8						
AKASG	**Malin Array Be**	**75.67**	**352**	P	**P**	**18 46 02.3**	**+0.1**
	0.2nm,0.2s,mb3.7,baz=9.0,slow=5.2,SNR=4.5						

WEL 05 19:01:44.3±0.2, 39.24S×174.92E, h213km±1km, ML3.5/16, 11C-1D, Error ellipse: s-maj=3.2km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.33**	**98**	SN	S	19 02 33.7	-1.1
MTVZ	**Mangateitei**	**0.45**	**109**	SN	S	19 02 34.3	-1.1
FWVZ	**Far West T-bar**	**0.49**	**92**	PN	P	19 02 12.7	-0.5
FWVZ				SN	S	19 02 34.3	-1.3
WAZ	**Wanganui**	**0.52**	**175**	⇑PN	P	19 02 13.2	-0.1
WAZ				SN	S	19 02 35.2	-0.6
WNVZ	**Wahianoa**	**0.53**	**99**	PN	P	19 02 13.1	-0.3
TUVZ	**Tukino**	**0.57**	**93**	SN	S	19 02 35.0	-1.1
MOVZ	**Moawhango**	**0.67**	**105**	PN	P	19 02 13.2	-0.7
MOVZ				SN	S	19 02 34.8	-2.1
BKZ	**Black Stump Fm**	**1.22**	**87**	⇑PN	P	19 02 16.5	-0.8
BKZ				SN	S	19 02 42.4	-0.5
MRZ	**Mangatainoka R**	**1.50**	**161**	⇑PN	P	19 02 19.4	-0.3
MRZ				SN	S	19 02 45.9	-1.0
KIW	**Kapiti Island**	**1.62**	**180**	⇑PN	P	19 02 20.2	-0.5
KIW				SN	S	19 02 46.9	-1.7
PWZ	**Pawanui**	**1.69**	**118**	PN	P	19 02 21.4	+0.1
PWZ				SN	S	19 02 50.1	+0.3
DUWZ	**D'Urville Isla**	**1.74**	**206**	PN	P	19 02 20.7	-1.0
DUWZ				SN	S	19 02 48.8	-1.7
BFZ	**Birch Farm**	**1.76**	**145**	⇓PN	P	19 02 21.8	-0.1
BFZ				SN	S	19 02 49.4	-1.5
CAW	**Cannon Point**	**1.87**	**177**	PN	P	19 02 22.5	-0.4
CAW				SN	S	19 02 51.8	-0.8
MTW	**Mount Morrison**	**1.96**	**167**	⇑PN	P	19 02 23.3	-0.5
MTW				*e*SN	S	19 02 53.9	-0.4
URZ	**Urewera**	**1.97**	**61**	PN	P	19 02 19.1	-4.8
URZ				*e*SN	S	19 02 51.3	-3.2
MRW	**Makara Radio**	**1.99**	**185**	⇑PN	P	19 02 23.5	-0.6
MRW				SN	S	19 02 53.4	-1.4
TCW	**Tory Channel**	**2.03**	**194**	⇑PN	P	19 02 23.9	-0.6
TCW				SN	S	19 02 53.7	-1.7
SNZO	**South Karori**	**2.07**	**185**	PN	P	19 02 24.2	-0.7
KNZ	**Kokohu**	**2.15**	**85**	PN	P	19 02 24.7	-1.1
KNZ				SN	S	19 02 55.8	-1.9
BHW	**Baring Head**	**2.16**	**181**	PN	P	19 02 25.1	-0.8
BHW				SN	S	19 02 56.5	-1.5
PAWZ	**Paruwai Farm**	**2.17**	**170**	⇑PN	P	19 02 25.4	-0.6
PAWZ				SN	S	19 02 57.2	-0.9
MSWZ	**Moikau Station**	**2.18**	**174**	⇑PN	P	19 02 25.4	-0.7
MSWZ				SN	S	19 02 57.2	-1.2
MWZ	**Matawai**	**2.23**	**67**	⇑PN	P	19 02 24.4	-2.2
MWZ				SN	S	19 02 54.3	-4.9
TRWZ	**Traveller**	**2.23**	**165**	PN	P	19 02 26.1	-0.5
TRWZ				SN	S	19 02 57.9	-1.4
NNZ	**Nelson**	**2.30**	**210**	⇑PN	P	19 02 25.7	-1.7
NNZ				SN	S	19 02 58.4	-2.2
TUWZ	**Tuamarina**	**2.31**	**199**	PN	P	19 02 26.3	-1.2
QRZ	**Quartz Range**	**2.42**	**228**	PN	P	19 02 25.9	-2.8
BSWZ	**Blackbirch Sta**	**2.59**	**198**	PN	P	19 02 29.8	-0.7
THZ	**Tophouse**	**2.95**	**211**	PN	P	19 02 32.6	-2.0
THZ				SN	S	19 03 11.1	-2.3
KHZ	**Kahutara**	**3.34**	**198**	PN	P	19 02 37.5	-1.7
KHZ				SN	S	19 03 19.1	-2.6
DSZ	**Denniston Nort**	**3.45**	**223**	PN	P	19 02 37.3	-3.2
DSZ				SN	S	19 03 20.5	-3.5
LTZ	**Lake Taylor**	**4.07**	**209**	PN	P	19 02 45.5	-2.5
MQZ	**McQueen's Vall**	**4.78**	**200**	PN	P	19 02 53.4	-3.5
MQZ				SN	S	19 03 47.6	-5.6
ODZ	**Otahua Downs**	**6.61**	**207**	PN	P	19 03 17.1	-3.2

CASC 05 19:07:11.6±2.7, 11.10N×86.62W, h6km±11km, MD4.1, ML3.7, 7C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.93**	**20**	⇓*e*P	Pb	19 07 29.9	+0.1
APON	**Apoyo**	**0.98**	**34**	⇑*e*P	Pb	19 07 30.1	-0.5
APON				*e*S	Sb	19 07 46.7	+3.1
MASN	**Masaya**	**0.99**	**28**	*e*P	Pb	19 07 30.4	-0.4
MASN				⇑*e*P		19 07 30.8	
MASN				*e*S	Sb	19 07 43.6	-0.4
TICN	**Ticuantepe**	**1.00**	**22**	*e*P	Pb	19 07 31.0	0.0
CONN	**Concepcion**	**1.08**	**65**	⇓*e*P	Pb	19 07 30.8	-1.5
XAVN	**Gruta Xavier**	**1.08**	**15**	⇑*e*P	Pb	19 07 32.0	-0.3
XAVN				*e*S	Sb	19 07 46.5	-0.1
MGAN	**Managua**	**1.10**	**19**	⇓*e*P	Pb	19 07 32.2	-0.5
MGAN				*e*S	Sb	19 07 47.6	+0.4
MGAN				*i*		19 07 48.9	
	comp=E,2μm,0.6s						
WILN	**Americas 2**	**1.14**	**22**	*e*P	Pb	19 07 32.6	-0.7
WILN				*e*S	Sb	19 07 47.9	-0.2
APYN	**Apoyeque**	**1.16**	**13**	⇓*e*P	Pb	19 07 33.2	-0.4
APYN				*e*S	Sb	19 07 49.2	+0.4
MOMJ	**Momotombo**	**1.30**	**3**	*e*P	Pb	19 07 34.9	-1.3
LEON	**Leon**	**1.33**	**349**	*e*P	Pb	19 07 35.6	-1.1
MIRN	**Miramar**	**1.33**	**356**	⇓*e*P	Pb	19 07 35.8	-0.9
CNGN	**Cerro Negro**	**1.39**	**357**	*e*P	Pb	19 07 36.5	-1.1
CNGN				*e*S	Sb	19 07 54.5	-1.1
TEL3	**Telica 3**	**1.48**	**351**	⇑*e*P	Pn	19 07 37.4	-1.5
PYTN	**Playitas**	**1.53**	**21**	⇑*e*P	Pn	19 07 37.6	-2.0
PYTN				*e*S	Sb	19 07 59.3	-0.3
CRIN	**San Cristobal**	**1.64**	**345**	⇑*e*P	Pn	19 07 39.3	-2.0
FORC	**Fortuna**	**2.02**	**108**	*e*P	Pn	19 07 45.4	-1.3
FORC				*e*S	Sn	19 08 14.5	+2.0
PRS1	**Puriscal**	**2.53**	**116**	⇑*e*P	Pn	19 07 54.5	+0.6
PRS1				*e*S	Sn	19 08 28.3	+2.9
TRTC	**Tortuguero**	**2.90**	**100**	*e*P	Pn	19 07 59.8	+0.5
LCR2	**La Lucha 2**	**2.91**	**117**	*e*P	Pn	19 07 58.2	-1.1
BUS	**Buena Vista**	**3.21**	**118**	*e*P	Pn	19 08 03.6	0.0

*NEIC **05** 19:10:22.8, 16.18N×98.38W, h11km, MD3.8(MEX), After MEX.*

MEX 05 19:10:20.3±0.8, 16.04N×98.38W, h7km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.43**	**35**	*i* P	Pg	19 10 28.3	-0.6
PNIG				*i* S	Sg	19 10 34.3	-0.4
VHO	**Vista Hermosa**	**1.88**	**57**	*i* P	Pn	19 10 52.5	-0.7
VHO				*i* S	Sn	19 11 10.8	-6.7
VHO	**Vista Hermosa**	**1.88**	**57**	*i* P	Pn	19 10 49.0	-4.2
VHO				*i* S	Sn	19 11 13.1	-4.4
OXX	**Oaxaca**	**1.90**	**57**	*i* P	Pn	19 10 53.0	-0.4
OXX				*i* S	Sn	19 11 11.5	-6.3
CMIG	**Matias Romero**	**3.51**	**72**	*i* P	Pn	19 11 14.9	-1.6
CMIG				*i* S	Sn	19 11 54.3	-4.5

IDC 05 19:24:15.7±2.1, 2.96S×119.81E, mb3.8/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.9/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/21, Error ellipse: s-maj=164.2km s-min=27.2km az=58.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.05**	**141**	P	P	19 29 12.2	-1.7
	2.7nm,0.9s,baz=315,slow=12,SNR=10						
CMAR	**Chiang Mai Arr**	**29.58**	**317**	LR	LR	19 43 05.2	
	comp=Z,44nm,19.1s,baz=135,slow=38						
NWAO	**Narrogin (SRO)**	**29.91**	**184**	LR	LR	19 43 37.9	
	comp=Z,215nm,18.6s,baz=64,slow=39						
SONM	**Songino Array**	**51.93**	**349**	P	P	19 33 26.6	-1.8
	1.3nm,0.9s,baz=162,slow=7.8,SNR=6.6						
MKAR	**Makanchi Array**	**59.54**	**331**	P	P	19 34 20.8	-2.6
	1.9nm,1.0s,baz=135,slow=8.2,SNR=15						

*SOF **05** 19:34:10.1, 39.28N×24.41E, h5km, MD2.8*
*THE **05** 19:34:19.0, 39.63N×24.05E, h9km, ML2.8*
*CSEM **05** 19:34:18.9±0.1, 39.63N×24.06E, h20km, ML2.8, Error ellipse: s-maj=2.2km s-min=1.8km az=115.0*
*ATH **05** 19:34:20.9, 39.93N×24.19E, h20km±1km, MD3.4/6*
*NEIC **05** 19:34:20.9, 39.93N×24.19E, h20km, MD3.4(ATH), After ATH.*

ISC 05 19:34:18.7±0.5, 39.64N±0.03×24.08E±0.04, h23km±5km, n26, σ1.00/38, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.42**	**314**	*e*Pg	**Pb**	**19 34 26.9**	**-0.5**
PAIG				*e*Sg	**Sb**	**19 34 33.2**	**-0.2**
PAIG	**Paliouri**	**0.42**	**314**	*e*Pg	**Pb**	**19 34 27.0**	**-0.5**
PAIG				*e*Sg	**Sb**	**19 34 33.2**	**-0.2**
AOS	**Alonnisos**	**0.49**	**198**	*e*Pg	**Pb**	**19 34 28.1**	**-0.6**
AOS				*e*Sg	**Sb**	**19 34 35.5**	**+0.1**
OUR	**Ouranopolis**	**0.70**	**354**	*e*Pg	**Pb**	**19 34 32.2**	**0.0**
OUR				*e*Sg	**Sb**	**19 34 42.4**	**+1.0**
OUR	**Ouranopolis**	**0.70**	**354**	*e*Pg	**Pb**	**19 34 32.2**	**+0.1**
OUR				*e*Sg	**Sb**	**19 34 42.3**	**+1.0**
XOR	**Xorichti**	**0.74**	**249**	*e*Pg	**Pb**	**19 34 32.7**	**0.0**
XOR				*e*Sg	**Sb**	**19 34 42.9**	**+0.5**
NEO	**Neokhori**	**0.74**	**244**	*e*PN	**Pn**	**19 34 39.5**	**+5.7**
LOS	**Limnos**	**0.83**	**69**	*e*Pg	**Pb**	**19 34 34.9**	**+0.5**
LOS				*e*Sg	**Sb**	**19 34 47.4**	**+2.3**
PLG	**Polygyros**	**0.88**	**327**	*e*PB	**Pb**	**19 34 34.4**	**-0.8**
PLG				*e*SN	**Sn**	**19 34 44.2**	**-3.7**
LIA	**Limnos Island**	**0.89**	**73**	*e*PN	**Pn**	**19 34 35.8**	**-0.2**
LIA				*e*SN	**Sn**	**19 34 46.3**	**-1.9**
LIT	**Litokhoron**	**1.30**	**291**	*e*Pg	**Pn**	**19 34 41.9**	**0.0**
LIT				*e*Sg	**Sn**	**19 34 59.6**	**+0.9**
SOH	**Sokhos**	**1.30**	**335**	*e*Pg	**Pn**	**19 34 42.3**	**+0.4**
SOH				*e*Sg	**Sn**	**19 35 01.2**	**+2.5**
THE	**Thessaloniki**	**1.31**	**320**	*e*Pg	**Pn**	**19 34 42.3**	**+0.4**
SRS	**Serrai**	**1.52**	**346**	*e*Pg	**Pn**	**19 34 45.1**	**+0.1**
NVR	**Nevrokopi**	**1.72**	**355**	*e*PN	**Pn**	**19 34 47.8**	**0.0**
PRK	**Paraskevi**	**1.75**	**102**	*e*PB	**Pb**	**19 34 51.5**	**+1.6**
PRK				*e*SN	**Sn**	**19 35 14.6**	**+4.7**
KNT	**Kendrikon**	**1.77**	**330**	*e*Pb	**Pb**	**19 34 49.5**	**-0.8**
GRG	**Griva**	**1.84**	**316**	*e*Pb	**Pb**	**19 34 50.2**	**-1.3**
RDO	**Rodhopi**	**1.88**	**36**	*e*PN	**Pn**	**19 34 50.3**	**+0.3**
ALN	**Alexandroupoli**	**1.96**	**50**	*e*Pb	**Pb**	**19 34 51.6**	**-2.1**
MMB	**Musomiste**	**1.97**	**352**	*i* P	**Pn**	**19 34 51.0**	**-0.3**
RZN	**Rozhen**	**2.10**	**13**	*i* P	**Pn**	**19 34 53.0**	**-0.3**
KDZ	**Kurdzhali**	**2.25**	**26**	*i* P	**Pn**	**19 34 52.0**	**-3.4**
KKB	**Krupnik**	**2.35**	**342**	*i* P	**Pn**	**19 34 56.0**	**-0.8**
FNA	**Florina**	**2.36**	**300**	*e*Pn	**Pn**	**19 34 57.5**	**+0.5**
VTS	**Vitosha**	**3.02**	**348**	*i* P	**Pn**	**19 35 07.0**	**+0.6**

IDC 05 19:38:49.2±6.9, 31.82N×94.58E, mb1 3.0/2, mb1mx3.0/19, mbtmp3.0/2, ML3.2/1, Error ellipse: s-maj=127.2km s-min=44.0km az=35.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.69**	**331**	P	P	19 42 57.0	-1.6
	0.1nm,0.3s,baz=138,slow=13,SNR=6.5						
SONM	**Songino Array**	**18.35**	**26**	P	P	19 43 05.4	-1.5
	0.1nm,0.3s,baz=225,slow=8.2,SNR=2.5						
MJAR	**Matsushiro Arr**	**36.17**	**70**	P	P	19 45 53.6	-1.6
	13nm,0.7s,baz=276,slow=10.0,SNR=33						

*NEIC **05** 19:57:23.0, 38.44N×39.40E, h5km, MD3.6(ISK), After ISK.*
*ISK **05** 19:57:23.3, 38.48N×39.39E, h26km, MD3.4*
*CSEM **05** 19:57:23.3, 38.48N×39.39E, h26km, MD3.4, After ISK*

ISC 05 19:57:23.4±0.5, 38.38N±0.04×39.45E±0.04, h5km, n26, σ1.04/32, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.39**	**288**	*i* P	**Pg**	**19 57 30.9**	**-0.3**
PTK	**Pertek**	**0.51**	**355**	*i* PG	**Pg**	**19 57 32.6**	**-1.0**
PTK	**Pertek**	**0.51**	**355**	Pg	**Pg**	**19 57 32.6**	**-1.0**
PTK				Sg	**Sg**	**19 57 41.6**	**+1.2**
DIY	**Diyarbakir**	**0.78**	**128**	PG	**Pg**	**19 57 39.9**	**+0.9**
DIY	**Diyarbakir**	**0.78**	**128**	Pg	**Pg**	**19 57 39.9**	**+0.9**
MALT	**Malatya**	**0.81**	**265**	PG	**Pg**	**19 57 38.6**	**-1.0**
MALT				SG	**Sg**	**19 57 50.0**	**-0.4**
MALT	**Malatya**	**0.81**	**265**	⇑*i*P	**Pb**	**19 57 38.7**	**-0.8**
MALT				*e*S	**Sg**	**19 57 50.9**	**+0.5**
MYA	**Malataya**	**0.81**	**266**	PG	**Pg**	**19 57 39.1**	**-0.5**
MYA				SG	**Sg**	**19 57 50.4**	**0.0**
MYA	**Malataya**	**0.81**	**266**	Pg	**Pg**	**19 57 39.2**	**-0.4**
MYA				Sg	**Sg**	**19 57 51.2**	**+0.8**
URFA	**Urfa**	**1.06**	**208**	PN	**Pn**	**19 57 44.1**	**-0.8**
URFA	**Urfa**	**1.06**	**208**	Pn	**Pn**	**19 57 45.9**	**+1.1**
MARD	**Mardin**	**1.50**	**135**	*i* P	**Pn**	**19 57 51.2**	**+0.1**
BEST	**Besiri**	**1.52**	**108**	*i* P	**Pn**	**19 57 51.4**	**+0.1**
BTMT	**Batman**	**1.61**	**96**	*e*PN	**Pn**	**19 57 50.5**	**-2.2**
GZT	**Gaziantep**	**1.81**	**236**	*i* P	**Pn**	**19 57 56.0**	**+0.5**
GZT				*i* S	**Sn**	**19 58 20.9**	**+1.7**
EZM	**Erzurum**	**2.13**	**44**	*e*PN	**Pn**	**19 57 58.4**	**-1.6**
EZM	**Erzurum**	**2.13**	**44**	Pn	**Pn**	**19 58 01.3**	**+1.2**
ERZM	**Erzurum**	**2.13**	**44**	*i* P	**Pn**	**19 58 01.1**	**+1.0**
GAZ	**Gaziantep**	**2.15**	**236**	*e*PN	**Pn**	**19 57 58.7**	**-1.6**
GAZ	**Gaziantep**	**2.15**	**236**	Pn	**Pn**	**19 58 01.3**	**+0.9**
SVST	**Sivas**	**2.39**	**306**	*i* P	**Pg**	**19 58 11.0**	**-0.1**
TOKT	**Tokat**	**2.97**	**312**	Pn	**Pn**	**19 58 12.8**	**+0.7**
COBT	**Iskenderun**	**3.15**	**235**	*i* P	**Pg**	**19 58 23.7**	**-2.6**
KAMT	**Kaman**	**4.59**	**284**	Pn	**Pn**	**19 58 35.3**	**+0.2**
BR131	**Keskin Array S**	**4.72**	**288**	*e*Pn	**Pn**	**19 58 36.1**	**-0.8**
HWQ	**Hawqa**	**4.98**	**216**	*e*PN	**Pn**	**19 58 42.0**	**+1.4**

*IDC **05** 20:07:12.5±5.1, 55.40N×35.00W, mb3.6/6, mb1 3.7/6, mb1mx3.5/26, mbtmp3.6/6, MS2.8/1, Ms1 2.7/1, ms1mx2.7/25, Error ellipse: s-maj=143.1km s-min=25.1km az=14.0*
*NEIC **05** 20:07:13.6±0.9, 55.40N×35.12W, h10km, mb3.6/4, Error ellipse: s-maj=23.1km s-min=10.9km az=179.0*
*CSEM **05** 20:07:13.6±0.2, 55.40N×35.12W, h10km, mb3.8/2, Error ellipse: s-maj=8.5km s-min=4.3km az=6.0, After NEIC*

ISC 05 20:07:11.6±1.1, 55.4N±0.2×35.1W±0.2, h10km, n12, σ0.61/11, mb3.6/8, Reykjanes Ridge

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SUMG	Summit	17.35	357	P	P	20 11 14.4	-0.6
	2.2nm,0.8s						
SCHQ	Schefferville	18.08	281	LR	LR	20 16 06.2	
	comp=Z,30nm,21.2s,baz=103,slow=29						
SCHQ	Schefferville	18.08	281	P	P	20 11 24.6	+0.4
	3.6nm,0.8s						
SCHQ	Schefferville	18.08	281	P	P	20 11 24.6	+0.3
	3.6nm,0.8s						
AKASG	Malin Array Be	37.74	69	P	P	20 14 28.9	0.0
	0.1nm,0.2s,mb3.1,baz=306,slow=9.1,SNR=4.8						
YKA	Yellowknife Ar	39.16	314	P	P	20 14 41.9	+1.2
	0.3nm,0.4s,mb3.4,baz=53,slow=9.5,SNR=3.2						
BRTR	Keskin Array B	46.99	79	P	P	20 15 44.2	-0.1
	0.6nm,0.6s,mb3.7,baz=323,slow=6.2,SNR=3.6						
ARU	Arti	48.53	48	P	P	20 15 56.8	+0.6
	1.5nm,0.7s,mb4.1						
ILAR	Eielson Array	49.39	328	P	P	20 16 02.4	-0.3
	0.5nm,0.7s,mb3.7,baz=40,slow=6.2,SNR=6.6						
MNTX	Cornudas Mount	53.59	274	P	P	20 16 33.7	-1.1
	0.3nm,0.5s,mb3.5						
BVAR	Borovoye Array	55.81	45	P	P	20 16 50.6	-0.1
	0.4nm,0.8s,mb3.5,baz=326,slow=5.2,SNR=3.4						
MKAR	Makanchi Array	65.43	42	P	P	20 17 56.1	0.0
	0.3nm,0.6s,mb3.5,baz=315,slow=2.0,SNR=3.3						

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*IDC **05** 20:07:41.7±1.2, 55.53N×35.12W, mb3.9/13, mb1 4.1/15, mb1mx4.0/31, mbtmp3.9/15, ML2.8/1, MS2.6/1, Ms1 2.6/1, ms1mx2.5/29, Error ellipse: s-maj=33.7km s-min=14.6km az=6.0*

*NEIC **05** 20:07:42.5±0.6, 55.46N×35.24W, $h10^{km}$, mb4.1/5, Error ellipse: s-maj=17.5km s-min=8.0km az=179.0*

*CSEM **05** 20:07:42.5±0.7, 55.46N×35.24W, $h10^{km}\pm6^{km}$, mb4.3/3, Error ellipse: s-maj=8.2km s-min=3.6km az=2.0, After NEIC*

ISC 05 20:07:40.7±0.6**, 55.4N**±0.1×**35.2W**±0.1**, $h10^{km}$, n25,** $\sigma 1^{s}$**04**/24**, mb3.9**/16**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SUMG	Summit	17.27	357	eP	P	20 11 43.8	+0.7
	5.5nm,1.0s						
SCHQ	Schefferville	18.00	281	P	P	20 11 52.4	+0.1
	0.4nm,0.3s,baz=77,slow=9.2,SNR=7.7						
SCHQ	Schefferville	18.00	281	eP	P	20 11 52.7	+0.4
	8.3nm,0.8s						
EKA	Eskdalemuir Ar	18.14	77	P	P	20 11 54.9	+0.7
	baz=275,slow=10.0,SNR=6.1						
JMIC	Jan Mayen	19.42	26	LR	LR	20 16 32.7	
	comp=Z,18nm,21.9s,baz=81,slow=28						
NOA	NORSAR Array B	24.65	58	P	P	20 13 04.2	+2.1
	2.1nm,1.0s,mb3.6,baz=280,slow=9.8,SNR=2.9						
HFS	Hagfors	26.01	59	P	P	20 13 14.2	-0.8
	4.1nm,1.0s,mb3.9,baz=260,slow=16,SNR=2.6						
ESDC	Sonseca Array	26.04	114	P	P	20 13 16.6	+1.1
	0.7nm,0.6s,mb3.4,baz=307,slow=8.4,SNR=5.9						
SADO	Sadowa	29.63	267	P	P	20 13 48.8	+0.7
	1.9nm,0.4s,mb4.2,baz=28,slow=12,SNR=2.6						
ARCES	ARCESS Array B	29.87	38	P	P	20 13 48.2	-1.8
	3.0nm,1.0s,mb4.0,baz=281,slow=12,SNR=6.2						
ARCES	ARCESS Array B	29.87	38	P	P	20 13 48.2	-1.8
GERES	GERESS Array B	30.21	82	P	P	20 13 53.2	0.0
	0.5nm,0.7s,mb3.3,baz=301,slow=11,SNR=4.2						
AKASG	Malin Array Be	37.78	69	P	P	20 14 57.0	-1.4
	0.2nm,0.3s,mb3.4,baz=301,slow=8.2,SNR=3.3						
YKA	Yellowknife Ar	39.05	314	P	P	20 15 09.7	+0.8
	1.7nm,0.8s,mb3.8,baz=60,slow=9.3,SNR=6.5						
YKA	Yellowknife Ar	39.05	314	P	P	20 15 09.7	+0.8
INK	Inuvik	42.93	327	P	P	20 15 41.5	+1.0
	4.5nm,1.2s,mb4.1,baz=40,slow=8.4,SNR=4.1						
INK	Inuvik	42.93	327	P	P	20 15 41.5	+1.0
PHWY	Pilot Hill	46.72	283	eP	P	20 16 09.1	-2.1
BRTR	Keskin Array B	47.04	79	P	P	20 16 14.7	+0.9
	1.7nm,0.7s,mb4.1,baz=298,slow=6.1,SNR=4.4						
WMOK	Wichita Mounta	47.53	272	eP	P	20 16 17.6	-0.2
	3.4nm,1.0s,mb4.3						
ARU	Arti	48.53	48	eP	P	20 16 24.2	-1.1
	3.7nm,0.8s,mb4.5						
ILAR	Eielson Array	49.29	328	P	P	20 16 31.9	+0.9
	2.2nm,0.8s,mb4.2,baz=39,slow=5.7,SNR=16						
MNTX	Cornudas Mount	53.51	274	eP	P	20 17 02.7	-0.7
	2.1nm,0.9s,mb4.1						
BVAR	Borovoye Array	55.80	45	P	P	20 17 19.6	-0.2
	1.4nm,0.9s,mb4.0,baz=304,slow=5.3,SNR=7.4						
MKAR	Makanchi Array	65.42	42	P	P	20 18 24.2	-1.0
	1.2nm,0.9s,mb3.9,baz=333,slow=5.4,SNR=6.5						

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*NIED **05** 20:10:00, 39.60N×143.40E, $h23^{km}$, Mw5.0 Best double couple: $M_0 4.06\times10^{16}$ NP1: $\phi_s 25°$, $\delta 65°$, $\lambda 100°$. NP2: $\phi_s 182°$, $\delta 27°$, $\lambda 69°$.*

*JMA **05** 20:10:38.1±0.2, 39.59N×143.39E, $h24^{km}\pm4^{km}$, M5.2*

JMA Felt II J1.

*BJI **05** 20:10:39.7, 39.59N×142.85E, $h13^{km}$, mB5.4, mb5.0, Ms5.1, Msz4.9*

*MOS **05** 20:10:41.6±0.8, 39.76N×143.06E, $h33^{km}$, mb5.3/85, MS4.9/31, Error ellipse: s-maj=7.7km s-min=4.4km az=107.4*

*HRVD **05** 20:10:41.7±0.3, 39.71N×143.19E, $h19^{km}$, MW5.1/58, Centroid moment Tensor Solution. LP body waves: s35,c55;Mantle waves: s58,c114; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.13±.10; $M_{\theta\theta}$0.10±.09; $M_{\phi\phi}$-2.22±.07; $M_{r\theta}$1.95±.21; $M_{\theta\phi}$-0.61±.07; $M_{\phi r}$3.87±.17; Best double couple: $M_0 4.886\times10^{16}$ NP1: $\phi_s 181°$, $\delta 15°$, $\lambda 66°$. NP2: $\phi_s 25°$, $\delta 77°$, $\lambda 96°$. Principal axes: T 4.817, Plg58°, Azm304°; N .141, Plg6°, Azm204°; P -4.954, Plg31°, Azm110°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **05** 20:10:41.7±0.2, 39.67N×143.10E, mb5.2/88, MS4.9/7, MW5.0(NIED) Error ellipse: s-maj=5.3km s-min=3.2km az=153.0*

NEIC Recorded [2 JMA] in Aomori and Iwate; [1 JMA] in Miyagi Prefectures.

*IDC **05** 20:10:42.7±2.8, 39.58N×143.15E, $h37^{km}\pm24^{km}$, mb4.3/27, mb1 4.5/32, mb1mx4.4/37, mbtmp4.6/32, ML4.2/5, MS4.5/23, Ms1 4.5/23, ms1mx4.3/38, Error ellipse: s-maj=14.4km s-min=12.9km az=150.0*

ISC 05 20:10:40.4±0.2**, 39.64N**±0.02×**143.19E**±0.03**, $h28^{km}$, $h28^{km}\pm1.4^{km}$:pP-P, n426,** $\sigma 1^{s}$**03**/435**, mb5.0**/137**, MS4.8**/63**, 71C-10D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.06	267	P	Pn	20 10 59.7	+0.3
JTH	Tanohata	1.06	287	⇓P	Pn	20 11 00.0	+0.5
JTH				S	Sn	20 11 16.6	+3.3
OFUJ	Ofunato	1.30	245	P	Pn	20 11 03.0	+0.1
OFUJ				eS	Sn	20 11 21.3	+1.8
JKZ	Kuzumaki	1.47	284	⇑P	Pn	20 11 06.6	+1.3
JOM	Ohasama	1.47	264	⇓P	Pn	20 11 06.3	+0.9
JOM				eS	Sn	20 11 26.9	+3.1
JANG	Nango	1.48	300	⇑P	Pn	20 11 05.6	+0.2
JANG				eS	Sn	20 11 25.8	+1.9
JMK	Ichinoseki	1.67	246	⇑P	Pn	20 11 08.8	+0.6
JMK				eS	Sn	20 11 31.3	+2.4
JIO	Ouri	1.86	231	⇑P	Pn	20 11 10.3	-0.6
JIO				eS	Sn	20 11 32.3	-1.3
JTM	Tenmabayashi	1.98	306	⇑P	Pn	20 11 13.4	+0.7
JTM				eS	Sn	20 11 37.8	+1.0
JRG	Rokugo	1.99	264	⇑P	Pn	20 11 13.8	+1.1
JAH	Hinai	2.04	286	⇑P	Pn	20 11 14.8	+1.4
JYK	Kaneyama	2.31	253	⇑P	Pn	20 11 18.2	+0.8
JOT	Ohata	2.38	318	⇓P	Pn	20 11 19.3	+0.9
JMM	Marumori	2.58	227	⇑P	Pn	20 11 20.0	-1.2
JNBK	Urakawa-nobuka	2.66	353	P	Pn	20 11 22.5	+0.2
JNBK				eS	Sn	20 11 54.2	+0.3
JAW	Awa shima	3.29	250	P	Pn	20 11 32.0	+0.8
JAW				S	Sn	20 12 25.1	+15
JNS	Sasagawa	3.53	240	P	Pn	20 11 35.7	+1.0
JHO	Hitachi	3.66	215	P	Pn	20 11 33.9	-2.7
JSD	Sado	4.17	249	P	Pn	20 11 44.5	+0.8
JKT	Katashina	4.22	228	P	Pn	20 11 45.4	+0.8
JAG	Ashikaga	4.36	224	⇑P	Pn	20 11 45.5	-1.0
ASAJ	Asahikawa	4.49	355	P	Pn	20 11 47.8	-0.6
ASAJ				pmax	pmax		
	comp=Z,16nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,8µm,18.7s						
ASAJ	Asahikawa	4.49	355	Pn	Pn	20 11 47.8	-0.6
	comp=Z,16nm,0.3s,baz=236,slow=11,SNR=88						
ASAJ				LR	LR	20 14 30.2	
	comp=Z,8µm,18.7s,baz=191,slow=50						
JGK	Kuni	4.72	231	P	Pn	20 11 52.2	+0.6
YUK	Yuzh-Kuril'sk	4.82	24	eP	Pn	20 11 49.6	-3.5
YUK				iS	Sn	20 12 40.5	-8.2
YUK				pmax	pmax		
	comp=N,210nm,0.4s						
YUK				pmax	pmax		
	comp=Z,250nm,0.4s						
YUK				smax			
	comp=N,20µm,1.6s						
YUK				smax			
	comp=E,8.0nm,1.2s						
YUK				smax			
	comp=N,2µm,0.5s						
YUK				smax			
	comp=E,2µm,0.6s						
YUK				MLR	MLR		
	comp=N,7µm,16.0s						
YUK				MLR	MLR		
	comp=Z,6µm,16.0s						
YUK				MLR	MLR		
	comp=E,6µm,17.0s						
JRY	Ryogami san	4.96	224	⇑P	Pn	20 11 53.7	-1.3
MJAR	Matsushiro Arr	5.00	233	P	Pn	20 11 55.6	+0.1
MJAR						20 12 57.0	
MJAR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
MJAR	Matsushiro Arr	5.00	233	Pn	Pn	20 11 55.6	+0.1
	comp=Z,9.3nm,0.3s,baz=45,slow=11,SNR=183						
MJAR				Sn	Sn	20 12 57.0	+3.9
	baz=73,slow=16,SNR=2.1						
MAJO	Matsushiro	5.00	233	⇑eP	Pn	20 11 55.5	0.0
MAT	Matsushiro	5.00	233	eP	Pn	20 11 55.0	-0.5
MAT				S	Sn	20 12 57.0	+3.9
MAT	Matsushiro	5.00	233	P	Pn	20 11 55.1	-0.4
MAT				eS	Sn	20 12 53.1	0.0
MAT	Matsushiro	5.00	233	P	Pn	20 11 55.7	+0.2
JSZ	Suzu	5.06	246	P	Pn	20 11 56.4	0.0
JNG	Nsakai	5.15	233	P	Pn	20 11 57.8	+0.1
JTT	Ttatey	5.52	239	P	Pn	20 12 03.6	+0.7
JGN	Niukaw	5.76	235	P	Pn	20 12 07.3	+1.1
JNY	Yasuok	6.01	226	P	Pn	20 12 09.5	-0.4
KUR	Kuril'sk	6.57	30	iP	Pn	20 12 12.0	-5.7
KUR				iS	Sn	20 13 23.0	-9.5
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				pmax	pmax		
	comp=Z,2µm,1.0s						
KUR				smax			
	comp=N,570nm,0.9s						
KUR				smax			
	comp=E,430nm,0.9s						
KUR				smax			
	comp=N,5µm,2.0s						
KUR				smax			
	comp=E,2µm,2.0s						
JHJ	Hachijo jima 2	7.06	204	Pn	Pn	20 12 21.3	-3.3
	comp=E,32nm,0.3s,baz=248,slow=22,SNR=4.5						
JHJ				Sn	Sn	20 13 34.4	-10
	comp=E,43nm,0.3s,baz=83,slow=23,SNR=4.1						
YSS	Yuzh-Sakhalins	7.32	358	⇑eP	Pn	20 12 22.0	-6.1
YSS				S	Sn	20 13 48.6	-2.5
YSS				pmax	pmax		
	comp=N,100nm,1.0s						
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS				smax			
	comp=E,150nm,1.0s						
YSS				MLR	MLR		
	comp=Z,4µm,14.0s						
YSS				MLR	MLR		
	comp=N,5µm,15.0s						
YSS				MLR	MLR		
	comp=E,2µm,15.0s						
YSS	Yuzh-Sakhalins	7.32	358	eP	Pn	20 12 26.2	-2.0
UGL	Uglegorsk	9.47	356	eP	P	20 12 55.5	-2.5
UGL				pmax	pmax		
	comp=Z,90nm,1.0s						
UGL				MLR	MLR		
	comp=Z,3µm,16.0s						
UGL				MLR	MLR		
	comp=N,4µm,17.0s						
UGL				MLR	MLR		
	comp=E,2µm,20.0s						
TYV	Tymovskoe	11.23	358	⇓eP	P	20 13 16.8	-5.2
TYV				eS	S	20 15 21.0	-6.6
TYV				pmax	pmax		
	comp=N,46nm,1.0s						
TYV				pmax	pmax		
	comp=Z,46nm,1.0s						
TYV				pmax	pmax		
	comp=E,902nm,1.2s						
TYV				pmax	pmax		
	comp=Z,3µm,2.0s						
TYV				pmax	pmax		
	comp=Z,300nm,4.0s						
TYV				smax			
	comp=E,700nm,10.0s						
TYV				MLR	MLR		
	comp=Z,4µm,18.0s						
MDJ	Mudanjiang	11.25	301	P	P	20 13 19.8	-2.5
MDJ				AP		20 13 22.6	
MDJ				XP		20 13 26.5	
MDJ				S	S	20 15 23.8	-4.3
MDJ				SS	SS	20 15 40.2	-1.9
MDJ				AMB	AMB		
	comp=Z,54nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,696nm,4.2s						
MDJ				LR	LR		
	comp=N,3µm,13.3s						
MDJ				LR	LR		
	comp=E,4µm,18.9s						
MDJ				LR	LR		
	comp=Z,6µm,16.8s						
MDJ	Mudanjiang	11.25	301	ePn	P	20 13 21.0	-1.4
JNU	Nakatsue	11.86	241	Pn	P	20 13 28.4	-2.2
	comp=Z,0.4nm,0.3s,baz=114,slow=18,SNR=2.8						
JNU				LR	LR	20 18 21.0	
	comp=Z,5µm,18.9s,baz=177,slow=39						
KS15	Wonju Array Si	12.18	264	Pn	P	20 13 34.4	-0.6
CBIJ	Chichi jima	12.54	184	Pn	P	20 13 38.4	-1.5
	comp=Z,11nm,0.3s,baz=277,slow=21,SNR=3.4						
CN2	Changchun	13.88	293	eP	P	20 13 52.7	-4.7
CN2				eS	S	20 16 25.3	-6.2
CN2				AMB	AMB		
	comp=Z,20nm,1.3s						
CN2				AMB	AMB		
	comp=Z,610nm,11.0s						
CN2				LR	LR		
	comp=N,2µm,15.0s						
CN2				LR	LR		
	comp=E,4µm,15.0s						
CN2				LR	LR		
	comp=Z,4µm,17.0s						
SNY	Shenyang	15.03	285	⇑P	P	20 14 10.0	-2.4
SNY				S	S	20 17 02.4	+3.9
SNY				AMB	AMB		
	comp=Z,20nm,1.1s						
SNY				AMB	AMB		
	comp=Z,550nm,10.5s						
SNY				LR	LR		
	comp=E,4µm,16.2s						
SNY				LR	LR		
	comp=Z,5µm,16.2s						
DL2	Dalian	16.71	274	P	P	20 14 31.5	-2.5
DL2				AMB	AMB		
	comp=Z,20nm,0.9s						
DL2				AMB	AMB		
	comp=Z,290nm,3.1s						
DL2				LR	LR		
	comp=N,790nm,16.9s						
DL2				LR	LR		
	comp=E,1µm,17.3s						
DL2				LR	LR		
	comp=Z,1µm,17.2s						
PET	Petropavlovsk	17.07	33	eP	P	20 14 39.9	+1.4
PET				pmax	pmax		
	comp=Z,119nm,1.2s						
PET	Petropavlovsk	17.07	33	eP	P	20 14 39.9	+1.4
	comp=Z,119nm,1.2s						
HIA	Hailar	19.23	308	⇑iP	P	20 15 00.9	-4.1
HIA				pmax	pmax		
	comp=Z,75nm,1.0s						
HIA	Hailar	19.23	308	⇑iP	P	20 15 00.9	-4.1
	comp=Z,75nm,1.0s						
SSE	Sheshan	19.83	251	P	P	20 15 07.1	-4.7
SSE				AP		20 15 15.1	
SSE				XP		20 15 19.3	
SSE				S	S	20 18 49.0	+1.1
SSE				AMB	AMB		
	comp=Z,43nm,0.9s						
SSE				AMB	AMB		
	comp=Z,400nm,11.1s						
SSE				LR	LR		
	comp=N,947nm,16.5s						
SSE				LR	LR		
	comp=E,423nm,16.5s						
SSE				LR	LR		
	comp=Z,777nm,19.8s						
SSE	Sheshan	19.83	251	P	P	20 15 07.1	-4.7
	comp=Z,43nm,0.9s						
SSE				pP		20 15 15.1	
SSE				sP		20 15 19.3	
SSE				S	S	20 18 49.0	+1.1
SSE				sS		20 19 02.7	
MA2	Magadan	20.52	11	ceP	P	20 15 17.2	-1.6
MA2				e		20 15 44.2	
MA2				eS	S	20 18 58.6	-3.3
MA2				e		20 19 30.6	
MA2				eSS	SS	20 19 37.3	+4.8
MA2				pmax	pmax		
	comp=Z,40nm,0.9s						
MA2				pmax	pmax		
	comp=N,30nm,1.2s						
MA2				pmax	pmax		
	comp=E,10.0nm,1.1s						
MA2	Magadan	20.52	11	eP	P	20 15 17.0	-1.9
	comp=E,69nm,1.0s						
TIA	Tai'an	20.82	269	⇓P	P	20 15 18.6	-3.4
TIA				AMB	AMB		
	comp=Z,94nm,1.0s						
TIA				LR	LR		
	comp=N,2µm,18.0s,MS5.0						
TIA				LR	LR		
	comp=E,6µm,18.0s,MS5.0						
CLNS	Chul'man	20.96	331	eP	P	20 15 21.1	-2.3
CLNS				e		20 15 31.6	
CLNS				eS	S	20 19 10.7	+0.1
CLNS				e		20 19 23.1	
CLNS				eSS	SS	20 20 02.4	+19
CLNS				pmax	pmax		
	comp=Z,73nm,0.9s						
CLNS				pmax	pmax		
	comp=N,56nm,1.2s						
CLNS				pmax	pmax		
	comp=E,33nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,79nm,1.0s						
CLNS				pmax	pmax		
	comp=N,86nm,0.9s						
CLNS				pmax	pmax		
	comp=E,54nm,1.0s						
CLNS				smax			
	comp=E,239nm,18.5s						
CLNS				smax			
	comp=Z,372nm,13.4s						
CLNS				smax			
	comp=N,419nm,13.7s						
CLNS				MLR	MLR		
	comp=Z,3µm,15.0s,MS4.7						
CLNS				MLR	MLR		
	comp=N,2µm,14.0s,MS4.7						
CLNS				MLR	MLR		
	comp=E,100nm,12.0s,MS4.7						
NJ2	Nanjing	21.09	257	eP	P	20 15 22.1	-2.7
NJ2				AP		20 15 30.1	
NJ2				XP		20 15 35.3	
NJ2				PP	PP	20 15 45.6	-2.4
NJ2				PPP	PPP	20 15 56.1	-1.0
NJ2				S	S	20 19 11.0	-2.0
NJ2				XS		20 19 23.0	
NJ2				AMB	AMB		
	comp=Z,300nm,1.0s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,270nm,11.9s						
NJ2				LR	LR		
	comp=N,4µm,17.9s,MS5.0						
NJ2				LR	LR		
	comp=E,3µm,15.7s,MS5.0						
NJ2				LR	LR		
	comp=Z,2µm,17.5s,MS4.6						
YAK	Yakutsk	23.89	344	⇑iP	P	20 15 50.3	-1.8
YAK				pmax	pmax		
	comp=Z,114nm,0.9s,mb5.3						
YAK	Yakutsk	23.89	344	⇑iP	P	20 15 50.3	-1.8
	comp=Z,114nm,0.9s,mb5.3						
CIT	Chita	23.89	311	eP	P	20 15 48.6	-3.6
CIT				e		20 16 06.6	
CIT				pmax	pmax		
	comp=Z,304nm,2.2s,mb5.3						
SEY	Seymchan	23.97	10	eP	P	20 15 53.5	+0.6
SEY				e		20 19 29.9	
SEY				eS	S	20 20 08.9	+4.2
SEY				eSS	SS	20 21 14.1	+18
SEY				pmax	pmax		
	comp=N,30nm,1.2s						
SEY				pmax	pmax		
	comp=Z,110nm,1.2s,mb5.2						
SEY				smax			
	comp=N,2µm,13.4s						
SEY				smax			
	comp=E,2µm,16.2s						
SEY				MLR	MLR		
	comp=Z,3µm,17.0s,MS4.8						
SEY				MLR	MLR		
	comp=N,2µm,15.0s						
SEY				MLR	MLR		
	comp=E,1µm,23.0s						
HHC	Hu-ho-hao-te	24.10	283	eP	P	20 15 52.2	-2.2
HHC				AP		20 16 01.0	
HHC				XP		20 16 06.0	
HHC				PP	PP	20 16 27.1	-2.0
HHC				PCP	PcP	20 19 32.9	-3.8
HHC				S	S	20 20 06.5	-0.7
HHC				SS	SS	20 20 59.2	-0.4
HHC				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.3						
HHC				AMB	AMB		
	comp=Z,298nm,13.2s						
HHC				LR	LR		
	comp=N,1µm,16.8s,MS4.9						
HHC				LR	LR		
	comp=E,3µm,19.2s,MS4.9						
HHC				LR	LR		
	comp=Z,4µm,20.4s,MS4.9						
FX1	Attu Island--F	24.39	47	LR	LR	20 24 48.8	
	comp=Z,15nm,19.0s,baz=264,slow=35						
FX1	Attu Island--F	24.39	47	eP	P	20 15 57.6	+0.5
WHN	Wuhan	25.19	258	⇑P	P	20 16 04.4	-0.6
WHN				S	S	20 20 27.0	+1.3
WHN				LR	LR		
	comp=N,1µm,13.4s,MS5.1						
WHN				LR	LR		
	comp=E,4µm,15.0s,MS5.1						
WHN				LR	LR		
	comp=Z,4µm,16.8s,MS5.0						
BTO	Baotou	25.30	283	eP	P	20 16 04.4	-1.5
BTO				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.5						
BTO				LR	LR		
	comp=N,1µm,14.7s,MS5.1						
BTO				LR	LR		
	comp=E,4µm,14.8s,MS5.1						
QZH	Quanzhou	25.33	242	P	P	20 16 04.7	-1.6
QZH				S	S	20 20 30.0	+2.0
QZH				AMB	AMB		
	comp=Z,800nm,3.3s						
QZH				LR	LR		
	comp=N,4µm,18.5s,MS5.0						
QZH				LR	LR		
	comp=E,2µm,16.8s,MS5.0						
QZH				LR	LR		
	comp=Z,3µm,14.9s,MS4.9						
BOD	Bodaibo	26.16	324	eP	P	20 16 12.2	-1.5
BOD				pmax	pmax		
	comp=Z,71nm,1.0s,mb5.2						
ULN	Ulaanbaatar	27.16	300	⇑iP	P	20 16 23.0	0.0
ULN				pmax	pmax		
	comp=Z,80nm,1.2s,mb5.1						
ULN	Ulaanbaatar	27.16	300	⇑iP	P	20 16 23.0	0.0

comp=Z,80nm,1.2s,mb5.1
SONM Songino Array 27.60 299 P **P** **20 16 26.9 -0.1**
comp=Z,38nm,1.1s,mb4.9,baz=106,slow=9.0,SNR=145
SONM LR LR 20 28 03.5
comp=Z,4µm,18.3s,MS5.0,baz=83,slow=38
XAN Xi'an 27.88 269 P **P** **20 16 27.3 -2.4**
XAN AP pP 20 16 37.3 -0.7
XAN PP PP 20 17 19.5 +0.3
XAN SS SS 20 22 26.5 -4.6
XAN AMB AMB
comp=Z,31nm,1.3s,mb4.8
XAN LR LR
comp=N,1µm,13.7s,MS4.8
XAN LR LR
comp=E,2µm,14.9s,MS4.8
XAN LR LR
comp=Z,2µm,16.5s,MS4.8
ENH Enshi 29.02 262⇑ *iP* **P** **20 16 38.2 -1.8**
comp=Z,90nm,1.0s,mb5.5
IRK Irkutsk 29.48 308 *e*P **P** **20 16 42.7 -1.2**
IRK pmax pmax
comp=Z,63nm,2.1s,mb5.0
TLY Talaya 29.77 307 *e*P **P** **20 16 46.0 -0.6**
TLY *e* 20 16 59.8
TLY *e* 20 17 50.5
TLY *e*S **S** **20 21 43.6 +3.8**
TLY *e*SS SS 20 23 12.3 -3.2
TLY pmax pmax
comp=Z,28nm,1.1s,mb4.9
TLY MLR MLR
comp=Z,1µm,16.0s,MS4.7
ZAK Zakamensk 29.85 304⇓ *iP* **P** **20 16 46.1 -1.1**
ZAK pmax pmax
comp=Z,14nm,1.4s,mb4.5
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
LZH Lanzhou 31.09 276⇑ P **P** **20 16 56.5 -1.8**
LZH AP pP 20 17 06.5 -0.2
LZH XP sP 20 17 10.6 +0.2
LZH PP PP 20 18 00.5 -0.5
LZH *e*S **S** **20 21 58.0 -2.7**
LZH XS 20 22 13.5
LZH SS SS 20 23 40.7 -5.6
LZH AMB AMB
comp=Z,38nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,183nm,5.9s
LZH LR LR
comp=N,2µm,13.6s
LZH LR LR
comp=Z,3µm,15.2s,MS5.1
LZH Lanzhou 31.09 276⇑ P **P** **20 16 56.5 -1.8**
comp=Z,38nm,1.3s,mb5.1
LZH pP pP 20 17 06.5 -0.2
LZH sP sP 20 17 10.6 +0.2
LZH PP PP 20 18 00.5 -0.5
LZH *e*S **S** **20 21 58.0 -2.7**
LZH sS 20 22 13.5
LZH SS SS 20 23 40.7 -5.6
LZH LR LR
comp=Z,3µm,15.2s,MS5.1
BILL Bilibino 31.13 17⇑ *e*P **P** **20 16 56.7 -1.7**
BILL *e**PP pP 20 17 05.2 -1.6
BILL pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
BILL Bilibino 31.13 17⇑ *e*P **P** **20 16 56.7 -1.7**
comp=Z,1.6nm,0.4s,mb4.2
BILL *e*pP pP 20 17 05.2 -1.6
MOY Mondy 31.41 307 *e*P **P** **20 17 00.7 -0.3**
MOY pmax pmax
comp=Z,42nm,1.6s,mb5.0
TIXI Tiksi 32.89 352 *e*P **P** **20 17 10.5 -3.2**
TIXI *e*S **S** **20 22 29.9 +1.4**
TIXI pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
TIXI MLR MLR
comp=Z,700nm,14.0s,MS4.5
GYA Guiyang 33.08 258⇑ *iP* **P** **20 17 14.0 -1.9**
GYA AP pP 20 17 23.8 -0.5
GYA XP sP 20 17 27.6 -0.3
GYA AMB AMB
comp=Z,80nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,290nm,3.3s
GYA LR LR
comp=N,820nm,18.3s,MS4.8
GYA LR LR
comp=E,2µm,18.2s,MS4.8
GYA LR LR
comp=Z,1µm,16.8s,MS4.7
CD2 Chengdu 33.13 267 P **P** **20 17 14.6 -1.6**
CD2 AMB AMB
comp=Z,30nm,1.2s,mb5.1
GTA Gaotai 33.21 284 P **P** **20 17 17.1 +0.3**
GTA AP pP 20 17 26.7 +1.4
GTA PP PP 20 18 27.1 -1.3
GTA AMB AMB
comp=Z,38nm,1.3s,mb5.2
GTA AMB AMB
comp=Z,315nm,4.6s
GTA LR LR
comp=N,1µm,17.1s,MS5.2
GTA LR LR
comp=E,4µm,17.5s,MS5.2
GTA LR LR
comp=Z,5µm,17.9s,MS5.2
QIZ Qiongzhong 35.30 244 P **P** **20 17 36.7 +1.7**
QIZ PP PP 20 18 55.8 +1.3
QIZ S **S** **20 23 08.9 +2.6**
QIZ AMB AMB
comp=Z,162nm,14.9s
QIZ LR LR
comp=N,1µm,15.1s,MS4.8
QIZ LR LR
comp=E,699nm,15.8s,MS4.8
QIZ LR LR
comp=Z,1µm,15.4s,MS4.8
KMI Kunming 36.78 259 P **P** **20 17 46.6 -0.8**
KMI AP pP 20 17 56.8 +0.9
KMI XP sP 20 18 00.8 +1.3
KMI PP PP 20 19 08.6 -4.4
KMI PPP PPP 20 19 28.2 -4.8
KMI PcP PcP 20 20 13.9 +4.2
KMI AMB AMB
comp=Z,42nm,1.4s,mb5.1
KMI AMB AMB
comp=Z,257nm,3.7s
KMI LR LR
comp=N,991nm,15.8s,MS4.9
KMI LR LR
comp=E,1µm,16.4s,MS4.9
KMI LR LR
comp=Z,1µm,15.5s,MS4.8
KMI Kunming 36.78 259 P **P** **20 17 46.6 -0.8**
comp=Z,42nm,1.4s,mb5.1
KMI pP pP 20 17 56.8 +0.9
KMI sP sP 20 18 00.8 +1.3
KMI PP PP 20 19 08.6 -4.4
KMI PPP PPP 20 19 28.2 -4.8
KMI PcP PcP 20 20 13.9 +4.2
KMI S **S** **20 23 21.0 -8.0**
KMI sS 20 23 38.2
KMI ScP 20 23 56.1
KMI PcS 20 24 00.1
KMI SS SS 20 25 42.8 -14
KMI SSS SSS 20 26 11.7 -16
KMI ScS ScS 20 27 59.9 +1.2
KMI LR LR
comp=Z,1µm,15.5s,MS4.8
WMQ Urumqi 40.97 295 P **P** **20 18 21.4 -0.7**
WMQ AP pP 20 18 31.2 +0.6
WMQ XP sP 20 18 35.2 +1.0
WMQ PP PP 20 19 59.5 -0.1
WMQ AMB AMB
comp=Z,92nm,1.5s,mb5.2
WMQ AMB AMB
comp=Z,356nm,4.4s
WMQ LR LR
comp=N,904nm,12.3s,MS5.0
WMQ LR LR
comp=E,971nm,14.6s,MS5.0
WMQ LR LR
comp=Z,918nm,14.5s,MS4.8
ZAL Zalesovo 41.26 310 P **P** **20 18 24.0 -0.3**
ZAL pmax pmax
comp=Z,9.0nm,0.5s
ZAL MLR MLR
comp=Z,1µm,18.8s
ZAL Zalesovo 41.26 310 P **P** **20 18 24.0 -0.4**
comp=Z,9.1nm,0.5s,mb4.7,baz=24,slow=8.6,SNR=49
ZAL LR LR 20 36 51.4
comp=Z,1µm,18.8s,MS4.8,baz=30,slow=38
CHRT Chiangrai 42.04 255 PG **P** **20 18 30.0 -1.1**
KKTK Khon Kaen 42.05 248 P **P** **20 18 31.0 -0.3**
NVS Novosibirsk 42.10 312⇑ *iP* **P** **20 18 30.3 -0.9**
NVS pmax pmax
comp=Z,111nm,2.3s,mb5.1
NVS pmax pmax
comp=E,58nm,1.9s
SVW2 Sparrevohn 42.61 39 *e*P **P** **20 18 36.5 +1.2**
CHG Chiang Mai 43.31 254⇑ P **P** **20 18 54.9 +13**
comp=E,16nm,1.1s,mb4.7
LSA Lhasa 43.40 273 P **P** **20 18 43.0 +0.8**
LSA AP pP 20 18 49.7 -1.0
LSA XP sP 20 18 54.8 +0.5
LSA PP PP 20 20 22.3 -2.8
LSA PCP PcP 20 20 30.0 -0.9
LSA SCP 20 24 18.9
LSA PCS 20 24 21.4
LSA S **S** **20 25 07.7 -0.3**
LSA XS 20 25 25.7
LSA SCS ScS 20 28 38.6 +1.0
LSA AMB AMB
comp=Z,20nm,1.5s,mb4.6
LSA LR LR
comp=N,630nm,16.1s,MS5.0
LSA LR LR
comp=E,1µm,17.6s,MS5.0
LSA LR LR
comp=Z,2µm,17.2s,MS5.1
LSA Lhasa 43.40 273 *e*P **P** **20 18 43.1 +0.9**
LSA pmax pmax
comp=Z,18nm,0.8s,mb4.8
LSA Lhasa 43.40 273 *e*P **P** **20 18 43.1 +1.0**
comp=Z,18nm,0.8s,mb4.8
CMAR Chiang Mai Arr 43.53 254 P **P** **20 18 43.1 -0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
CMAR MLR MLR
comp=Z,452nm,19.2s
CMAR Chiang Mai Arr 43.53 254 P **P** **20 18 43.1 -0.2**
comp=Z,1.9nm,0.5s,mb4.1,baz=54,slow=6.4,SNR=15
CMAR LR LR 20 38 27.4
comp=Z,452nm,19.2s,MS4.4,baz=45,slow=38
IMA Indian Mountai 43.74 32 *e*P **P** **20 18 40.7 -3.7**
IMA pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
IMA Indian Mountai 43.74 32 *e*P **P** **20 18 40.7 -3.7**
comp=Z,5.8nm,0.9s,mb4.3
MKAR Makanchi Array 43.97 300 *i* P **P** **20 18 46.1 -0.4**
MKAR pmax pmax
comp=Z,50nm,0.9s
MKAR Makanchi Array 43.97 300 P **P** **20 18 46.2 -0.3**
comp=Z,34nm,1.0s,mb5.0,baz=81,slow=8.8,SNR=124
MKAR LR LR 20 38 01.5
comp=Z,2µm,18.0s,MS5.0,baz=139,slow=37
SPU Mount Spurr 44.33 39 *e*P **P** **20 18 49.9 +0.7**
SML Sawmill 46.08 38 *e*P **P** **20 19 02.1 -1.0**
ILAR Eielson Array 46.55 34 P **P** **20 19 06.4 -0.4**
ILAR pmax pmax
comp=Z,3.0nm,0.8s
ILAR MLR MLR
comp=Z,180nm,20.4s
ILAR Eielson Array 46.55 34 P **P** **20 19 06.4 -0.4**
comp=Z,3.2nm,0.8s,mb4.3,baz=266,slow=6.7,SNR=31
ILAR LR LR 20 39 47.9
comp=Z,180nm,20.4s,MS4.0,baz=106,slow=37
DIV Divide 47.37 39 *e*P **P** **20 19 13.4 +0.1**
comp=Z,54nm,1.0s,mb5.4
GUN Gumba 48.32 274 *e*P **P** **20 19 20.5 -0.7**
comp=Z,196nm,0.7s
KSM Kuching 48.36 227 *e*P **P** **20 19 21.4 -0.2**
KKN Kakani 48.84 274 *e*P **P** **20 19 24.7 -0.5**
comp=Z,169nm,0.8s
KKN Kakani 48.84 274 *e*P **P** **20 19 24.7 -0.5**
KKN pmax pmax
comp=Z,85nm,0.8s,mb5.8
PKI Pulchoki 48.85 274 *e*P **P** **20 19 24.8 -0.5**
comp=Z,202nm,1.4s,mb6.0
PKI Pulchoki 48.85 274 *e*P **P** **20 19 24.8 -0.5**
PKI pmax pmax
comp=Z,101nm,1.4s,mb5.7
DMN Daman 49.06 274 *e*P **P** **20 19 26.1 -0.9**
comp=Z,98nm,0.9s,mb5.8
GKN Gorkha 49.23 275 *e*P **P** **20 19 27.4 -0.8**
comp=Z,47nm,0.5s,mb5.8
ULHL Ulahol 49.45 296 P **P** **20 19 29.5 -0.2**
SNR=16
VOSK Vostochnaya 49.62 311 P **P** **20 19 30.1 -0.8**
VOSK pmax pmax
comp=Z,57nm,1.2s,mb5.5
TKM2 Tokmak 2 49.65 297 P **P** **20 19 31.7 +0.4**
SNR=61
BVA0 Borovoye Array 49.88 311 *i* P **P** **20 19 32.3 -0.6**
BVA0 pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
BVAR Borovoye Array 49.88 311 P **P** **20 19 32.5 -0.4**
comp=Z,12nm,0.6s,mb5.1,baz=79,slow=7.6,SNR=101
KBK Karagaybulak 50.19 297 P **P** **20 19 35.5 +0.1**
SNR=32
KZA Kyzart 50.19 296 P **P** **20 19 36.4 +0.9**
SNR=25
CHMS Chumysh 50.21 297 P **P** **20 19 35.1 -0.4**
SNR=10
USP Ospenovka 50.28 298 P **P** **20 19 35.8 -0.4**
SNR=22
FRU Bishkek 50.36 297⇑ *iP* **P** **20 19 36.0 -0.7**
FRU pmax pmax
comp=Z,120nm,2.0s,mb5.6
AAK Ala-Archa 50.51 297 P **P** **20 19 37.5 -0.4**
SNR=7.9
AAK Ala-Archa 50.51 297 *i* P **P** **20 19 37.4 -0.5**
AAK pmax pmax
comp=Z,18nm,0.8s,mb5.0
AAK MLR MLR
comp=Z,1µm,19.0s,MS5.0
AAK Ala-Archa 50.51 297 *e*P **P** **20 19 36.2 -1.7**
comp=Z,22nm,1.1s,mb5.0
UCH Uchtor 50.65 297 P **P** **20 19 39.1 +0.2**
SNR=10
KSH Kashi 50.65 293⇑ *iP* **P** **20 19 40.0 +1.0**
KSH *e*AP pP 20 19 50.2 +2.5
KSH *e*XP sP 20 19 54.2 +3.2
KSH *e*PCP PcP 20 20 58.0 +1.6
KSH *e*PP PP 20 21 36.2 +0.4
KSH *e*S **S** **20 26 50.0 -0.6**
KSH *e*XS 20 27 07.8
KSH *e*SCS ScS 20 29 25.2 +0.6
KSH *e*SS SS 20 30 20.2 -2.2
KSH AMB AMB
comp=Z,120nm,0.8s,mb5.9
KSH AMB AMB
comp=Z,190nm,2.8s,mb5.5
KSH LR LR
comp=N,3µm,15.4s,MS5.5
KSH LR LR
comp=E,2µm,13.1s,MS5.5
ZRNK Zerenda 50.71 311 P **P** **20 19 38.8 -0.4**
ZRNK pmax pmax
comp=Z,64nm,1.2s,mb5.4
AML Almayashu 51.25 297 P **P** **20 19 44.0 +0.5**
SNR=43
INK Inuvik 51.44 28 *e*P **P** **20 19 44.0 -0.5**
INK pmax pmax
comp=Z,7.0nm,0.6s
INK Inuvik 51.44 28 P **P** **20 19 43.5 -1.0**
comp=Z,2.2nm,0.7s,mb4.2,baz=281,slow=6.1,SNR=5.9
INK LR LR 20 46 58.2
comp=Z,253nm,18.6s,MS4.3,baz=100,slow=42
INK Inuvik 51.44 28 *e*P **P** **20 19 44.0 -0.5**
comp=Z,6.5nm,0.6s,mb4.7
LGTI Lohaghat 51.89 279 *e*P **P** **20 19 51.0 +2.5**
KKAR Karatay Array 53.05 299 *i* P **P** **20 19 55.7 -1.3**
KKAR pmax pmax
comp=Z,46nm,1.3s,mb5.2
DDI Dehra Dun 53.13 281 *e*P **P** **20 19 58.5 +0.7**
SMLA Simla 53.42 283⇑ *iP* **P** **20 19 56.1 -3.7**
comp=Z,20nm,0.3s,mb5.5
SMLA *i* 20 25 07.8
THN Thein Dam 53.89 285 *e*P **P** **20 20 02.0 -1.2**
SVE Sverdlovsk 54.14 318⇑ *iP* **P** **20 20 04.0 -0.7**
SVE *e* 20 20 09.0
SVE *e* 20 21 09.0
SVE *e* 20 22 10.0
SVE *e* 20 29 44.0
SVE pmax pmax
comp=Z,108nm,2.0s,mb5.4
SVE MLR MLR
comp=N,800nm,14.0s,MS5.5
SVE MLR MLR
comp=E,2µm,14.0s,MS5.5
SVE MLR MLR
comp=Z,4µm,14.0s,MS5.7
SOKR Solikamsk 55.13 322*c* *iP* **P** **20 20 11.1 -0.9**
SOKR pmax pmax
comp=Z,20nm,1.3s,mb5.0
SOKR MLR MLR
comp=Z,940nm,16.0s,MS5.0
ARU Arti 55.35 318⇑ *iP* **P** **20 20 12.9 -0.8**
ARU *i* 20 21 11.8
ARU *e* 20 22 14.4
ARU *e*PPP PPP 20 23 28.0 -4.7
ARU *e*S **S** **20 27 56.5 +2.3**
ARU *e* 20 29 58.2
ARU *e*SS SS 20 31 36.2 -2.5
ARU pmax pmax
comp=Z,74nm,1.1s,mb5.6
ARU MLR MLR
comp=N,800nm,16.0s,MS5.2
ARU MLR MLR
comp=E,2µm,16.0s,MS5.2
ARU MLR MLR
comp=Z,2µm,16.0s,MS5.3
ARU Arti 55.35 318⇑ *e*P **P** **20 20 12.8 -0.9**
comp=Z,88nm,1.1s,mb5.7
ARU *e*pP pP 20 20 22.6 +0.2
ARU *e*sP sP 20 20 27.7 +2.0
ARU LR LR
comp=Z,353nm,19.0s,MS4.5
KBS Kingsbay 58.33 350 *e*S **S** **20 28 33.6 +0.2**
KBS AMS AMS 20 49 13.8
comp=Z,113nm,24.2s,MS3.9
BBB Bella Bella 59.24 46 LR LR 20 43 07.2
comp=Z,148nm,19.5s,MS4.1,baz=309,slow=33
FITZ Fitzroy Crossi 59.73 199 *e*P **P** **20 20 43.4 -1.7**
comp=Z,14nm,1.6s,mb4.8
FITZ Fitzroy Crossi 59.73 199 P **P** **20 20 42.8 -2.3**
comp=Z,9.8nm,0.9s,mb4.8,baz=15,slow=6.9,SNR=8.3
WB2 Warramunga Arr 59.84 190 *e*P **P** **20 20 42.9 -2.9**
WRA Warramunga Arr 59.85 190 P **P** **20 20 43.0 -2.8**
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 59.85 190 P **P** **20 20 43.0 -2.8**
comp=Z,3.2nm,0.8s,mb4.4,baz=8.0,slow=6.9,SNR=31
YKA Yellowknife Ar 60.86 31 *i* P **P** **20 20 51.2 -0.9**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 60.86 31 P **P** **20 20 51.2 -0.9**
comp=Z,1.4nm,0.8s,mb4.2,baz=298,slow=6.9,SNR=7.1
YKA LR LR 20 52 21.4
comp=Z,206nm,19.0s,MS4.3,baz=25,slow=41
YKA Yellowknife Ar 60.86 31 P **P** **20 20 51.2 -0.9**
YKA LR LR 20 52 21.4
APA Apatity 60.89 336⇓ *e*P **P** **20 20 50.6 -1.7**
APA *i* 20 21 08.0
APA *i* 20 21 30.5
APA pmax pmax
comp=Z,18nm,1.0s,mb5.2
APA MLR MLR
comp=Z,900nm,17.0s,MS5.0
KEV Kevo 61.50 339 *e*P **P** **20 20 55.5 -0.9**
KEV pmax pmax
comp=Z,13nm,1.0s,mb5.0
KEV Kevo 61.50 339 *e*P **P** **20 20 55.5 -1.0**
comp=Z,13nm,1.0s,mb5.0
ARCES ARCESS Array B 62.05 339 P **P** **20 20 59.1 -1.0**
ARCES pmax pmax
comp=Z,6.0nm,1.0s
ARCES MLR MLR
comp=Z,447nm,20.8s
ARCES ARCESS Array B 62.05 339 P **P** **20 20 59.1 -1.1**
comp=Z,6.4nm,1.0s,mb4.7,baz=56,slow=8.7,SNR=16
ARCES LR LR 20 51 10.7
comp=Z,447nm,20.8s,MS4.6,baz=36,slow=39
AREO ARCESS Array S 62.05 339 *e*P **P** **20 20 58.8 -1.3**
PECR Pechory 62.64 322 *e*P **P** **20 21 03.0 -1.2**
PECR pmax pmax
comp=Z,100nm,2.0s,mb5.6
PECR MLR MLR
comp=Z,1µm,15.0s,MS5.1
TRO Tromso 63.70 341 *e*P **P** **20 21 08.4 -2.5**
TRO LR LR
comp=Z,380µm,16.5s
TRO Tromso 63.70 341 *e*P **P** **20 21 08.4 -2.5**
TRO *e*S **S** **20 29 43.1 +1.3**
TRO AMS AMS 20 54 05.7
comp=Z,380nm,16.5s,MS4.7
MOS Moscow 65.99 323 *e*P **P** **20 21 25.1 -0.8**
MOS *e* pP 20 21 34.8 0.0
MOS *i* 20 21 52.3
MOS pmax pmax
comp=Z,100nm,1.9s,mb5.5
MOS pmax pmax
comp=Z,70nm,1.5s,mb5.5
MOS MLR MLR
comp=Z,2µm,16.4s,MS5.3
MOS MLR MLR
comp=N,1µm,15.7s,MS5.3
MOS MLR MLR
comp=E,1µm,15.0s,MS5.3
KEBM Edson Butte 66.03 53 *e*P **P** **20 21 26.9 +0.5**
KAF Kangasniemi 66.63 333 *e*p **P** **20 21 27.7 -2.2**
comp=E,16nm,1.1s,mb5.0,baz=46,slow=6.0
KAF Kangasniemi 66.63 333 *e*P **P** **20 21 27.7 -2.2**
KAF pmax pmax
comp=Z,16nm,1.1s,mb5.0
OBN Obninsk 66.84 323α *iP* **P** **20 21 30.3 -1.1**
OBN *i* pP 20 21 39.8 -0.5
OBN *e* 20 21 53.0
OBN 20 23 58.0
OBN 20 31 29.0
OBN *e*SS SS 20 34 35.8 -4.7
OBN pmax pmax
comp=Z,48nm,1.4s,mb5.3
OBN MLR MLR
comp=Z,1µm,15.0s,MS5.3
OBN Obninsk 66.84 323 *e*P **P** **20 21 30.0 -1.4**
comp=Z,148nm,1.8s,mb5.7
OBN *e*pP pP 20 21 39.3 -0.9
FINES FINESS Array B 67.16 332 *i* P **P** **20 21 32.3 -0.9**
FINES pmax pmax
comp=Z,10.0nm,0.9s
FINES FINESS Array B 67.16 332 P **P** **20 21 32.2 -1.0**
comp=Z,9.7nm,0.9s,mb4.8,baz=56,slow=6.9,SNR=39
FINES LR LR 20 53 37.8
comp=Z,1µm,18.3s,MS5.1,baz=213,slow=38
NEW Newport 67.30 46 P **P** **20 21 34.5 +0.1**
NEW pmax pmax
comp=Z,4.0nm,0.8s
NEW MLR MLR
comp=Z,161nm,21.1s
NEW Newport 67.30 46 P **P** **20 21 34.5 +0.1**
comp=Z,4.2nm,0.8s,mb4.5,baz=88,slow=20,SNR=3.5
NEW LR LR 20 46 58.7
comp=Z,161nm,21.1s,MS4.2,baz=24,slow=32
VOR Voronezh 67.57 319 *e*P **P** **20 21 35.0 -1.0**
VOR pmax pmax
comp=Z,60nm,1.3s,mb5.5
YBH Yreka Blue Hor 67.67 54 P **P** **20 21 37.3 +0.5**
YBH *e**PP pP 20 21 42.6 -3.1
YBH pmax pmax
comp=Z,11nm,1.3s
YBH Yreka Blue Hor 67.67 54 P **P** **20 21 36.8 0.0**
comp=Z,1.5nm,0.8s,mb4.1,baz=231,slow=6.5,SNR=2.7
YBH Yreka Blue Hor 67.67 54 P **P** **20 21 37.3 +0.5**
comp=Z,11nm,1.3s,mb4.7
YBH *e*pP pP 20 21 42.6 -3.1
JMIC Jan Mayen 67.82 350 *e*S S 20 30 31.2 -0.8
JMIC AMS AMS 20 56 32.1
comp=Z,156nm,16.7s,MS4.3
SUMG Summit 68.08 1 *e*P **P** **20 21 39.1 +0.2**
comp=Z,24nm,0.9s,mb5.2
WDC Whiskeytown Da 68.41 55 P **P** **20 21 41.4 -0.1**
WDC pmax pmax
comp=Z,14nm,1.1s,mb4.9
WDC Whiskeytown Da 68.41 55 P **P** **20 21 41.4 -0.1**
comp=Z,14nm,1.1s,mb4.9

VSU Vasula 68.91 330 *c iP* **P 20 21 43.7 -0.5**
BMO Blue Mountains 69.15 49 *e*P **P 20 21 45.8 -0.1**
comp=Z,12nm,1.4s,mb4.6
BMO *e*pP pP 20 21 51.2 -3.7
NSS Namsos 69.33 340 *e*P **P 20 21 43.4 -3.3**
GOF Gofitskoye 69.40 312 ⇓ *i*P **P 20 21 46.5 -1.0**
GOF pmax pmax
comp=Z,80nm,1.3s,mb5.5
WVOR Wild Horse Val 69.77 51 *e*P **P 20 21 49.2 -0.5**
WVOR *e**PP pP 20 21 55.2 -3.4
WVOR pmax pmax
comp=Z,23nm,1.5s,mb4.9
WVOR Wild Horse Val 69.77 51 *e*P **P 20 21 49.2 -0.5**
comp=Z,23nm,1.5s,mb4.9
WVOR *e*pP pP 20 21 55.2 -3.4
BEKR Beckwourth 70.19 54 *e*P **P 20 21 52.9 +0.5**
comp=Z,12nm,1.0s,mb4.8
BEKR *e* 20 21 57.1
ZEI Tsey 70.23 309 *e*P **P 20 21 50.8 -1.8**
ZEI *i* *PP pP 20 22 00.8 -0.7
ZEI *i* 20 24 27.2
ZEI pmax pmax
comp=Z,12nm,0.7s,mb4.9
KIV Kislovodsk 70.25 311 *c iP* **P 20 21 52.0 -0.7**
KIV *e* 20 22 15.3
KIV *e* 20 24 27.1
KIV *e*S S 20 31 02.2 +1.0
KIV pmax pmax
comp=Z,100nm,1.2s,mb5.6
KIV MLR MLR
comp=Z,794nm,17.0s,MS5.0
KIV MLR MLR
comp=E,465nm,19.0s
KIV Kislovodsk 70.25 311 *e*P **P 20 21 52.6 -0.1**
comp=E,127nm,1.2s,mb5.7
TI2 Plekhanov 70.33 308 ⇑ *iP* **P 20 21 54.6 +1.4**
TI2 pmax pmax
comp=Z,30nm,1.0s,mb5.2
TI2 pmax pmax
comp=Z,40nm,1.0s,mb5.3
TI2 MLR MLR
comp=N,500nm,14.0s,MS5.1
TI2 MLR MLR
comp=E,500nm,14.0s,MS5.1
TI2 MLR MLR
comp=Z,1µm,14.0s,MS5.2
MNK Minsk 71.14 326 *e*P **P 20 22 01.0 +3.1**
CMB Columbia Colle 71.24 56 P **P 20 21 59.1 +0.3**
CMB pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CMB Columbia Colle 71.24 56 P **P 20 21 59.1 +0.3**
comp=Z,10nm,1.0s,mb4.7
CMB *e* 20 22 03.7
GNI Garni 71.26 307 P **P 20 21 59.7 +0.8**
GNI pmax pmax
comp=Z,67nm,1.5s
GNI Garni 71.26 307 P **P 20 21 58.9 0.0**
comp=Z,1.4nm,0.3s,mb4.3,baz=189,slow=10,SNR=5.2
GNI Garni 71.26 307 P **P 20 21 59.7 +0.8**
comp=Z,67nm,1.5s,mb5.3
HLID Hailey 71.59 48 *e*P **P 20 22 01.2 +0.4**
comp=Z,8.4nm,1.4s,mb4.5
HLID *e* 20 22 06.2
BMN Battle Mountai 71.80 52 *e*P **P 20 22 02.7 +0.6**
BMN *e* 20 22 07.7
BMN pmax pmax
comp=Z,21nm,1.4s,mb4.9
BMN Battle Mountai 71.80 52 *e*P **P 20 22 02.7 +0.6**
comp=Z,21nm,1.4s,mb4.9
BMN *e* 20 22 07.7
SOC Sochi 72.19 312 *e*P **P 20 21 58.8 -5.6**
SOC *e* 20 22 19.8
SOC *e* 20 24 40.3
SOC *e*PPP PPP 20 26 25.2 -3.5
SOC *e*S S 20 31 15.8 -7.8
SOC *e*SS SS 20 36 01.2 -2.1
SOC pmax pmax
comp=Z,33nm,0.8s,mb5.3
SOC pmax pmax
comp=N,35nm,0.9s
SOC pmax pmax
comp=E,11nm,0.9s
SOC MLR MLR
comp=Z,551nm,17.0s,MS4.9
SOC MLR MLR
comp=N,412nm,16.0s,MS4.9
SOC MLR MLR
comp=E,307nm,17.0s,MS4.9
HFS Hagfors 72.28 336 P **P 20 22 03.9 -0.7**
HFS pmax pmax
comp=Z,8.0nm,0.4s
HFS Hagfors 72.28 336 P **P 20 22 03.9 -0.7**
comp=Z,7.6nm,0.4s,mb4.9,baz=45,slow=6.3,SNR=66
NB2 NORSAR Subarra 72.31 338 P **P 20 22 03.9 -0.9**
comp=Z,26nm,0.9s,mb5.2,baz=37,slow=5.8
NB2 NORSAR Subarra 72.31 338 P **P 20 22 03.9 -0.9**
NB2 pmax pmax
comp=Z,26nm,0.9s,mb5.2
NB2 NORSAR Subarra 72.31 338 P **P 20 22 03.9 -0.9**
baz=37,slow=6.2
NOA NORSAR Array B 72.31 338 P **P 20 22 03.9 -0.9**
NOA pmax pmax
comp=Z,18nm,0.9s
NOA MLR MLR
comp=Z,441nm,18.2s
NOA NORSAR Array B 72.31 338 P **P 20 22 03.9 -0.9**
comp=Z,18nm,0.9s,mb5.0,baz=38,slow=6.0,SNR=31
NOA LR LR 20 59 35.3
comp=Z,440nm,18.1s,MS4.8,baz=15,slow=40
NOA NORSAR Array B 72.31 338 P **P 20 22 03.9 -0.9**
NOA LR LR 20 59 35.3
NVAR Mina Array Bea 72.33 55 P **P 20 22 05.8 +0.6**
comp=Z,4.8nm,0.9s,mb4.4,baz=289,slow=3.8,SNR=13
NVAR LR LR 20 55 03.0
comp=Z,122nm,18.3s,MS4.2,baz=325,slow=37
MNV Mina 72.42 55 *e*P **P 20 22 06.3 +0.5**
MNV pmax pmax
comp=Z,11nm,1.2s,mb4.7
MNV Mina 72.42 55 *e*P **P 20 22 06.3 +0.5**
comp=Z,10nm,1.2s,mb4.6
MNV *e* 20 22 10.5
ELK Elko 72.82 51 P **P 20 22 08.9 +0.8**
ELK pmax pmax
comp=Z,2.0nm,1.1s
ELK Elko 72.82 51 P **P 20 22 08.9 +0.8**
comp=Z,2.4nm,1.1s,mb4.0,baz=82,slow=0.9,SNR=2.6
ELK Elko 72.82 51 P **P 20 22 08.2 +0.1**
comp=Z,9.9nm,1.4s,mb4.5
AKASG Malin Array Be 73.08 323 *i* P **P 20 22 08.7 -0.7**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 73.08 323 P **P 20 22 08.7 -0.7**
comp=Z,2.9nm,0.4s,mb4.5,baz=42,slow=6.1,SNR=44
TPH Tonopah 73.22 54 *e*P **P 20 22 09.8 -0.7**
TPH *e**PP pP 20 22 16.2 -3.2
TPH *e**SP sP 20 22 20.6 -2.0
TPH pmax pmax
comp=Z,20nm,1.2s,mb4.9
TPH Tonopah 73.22 54 *e*P **P 20 22 09.8 -0.7**
comp=Z,20nm,1.2s,mb4.9
TPH *e*pP pP 20 22 16.2 -3.2
TPH *e*sP sP 20 22 20.6 -2.0
SUW Suwalki 73.44 328 *e*P **P 20 22 10.5 -0.9**
MOOW Moose Ponds 73.56 47 *e*P **P 20 22 12.9 +0.6**
comp=Z,3.6nm,0.8s,mb4.3
TRCR Troy Canyon 74.07 53 *e*P **P 20 22 16.2 +0.8**
DAC Darwin (Calif) 74.08 56 *e*P **P 20 22 15.1 -0.4**
DAC pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
DAC Darwin (Calif) 74.08 56 *e*P **P 20 22 15.1 -0.4**
comp=Z,8.3nm,1.1s,mb4.6
BER Bergen 74.50 340 AMS AMS 20 59 43.2
comp=Z,420nm,17.4s,MS4.8
NOQ North Oquirrh 74.73 50 P **P 20 22 19.7 +0.5**
PDAR Pinedale Array 74.86 47 P **P 20 22 19.9 0.0**
comp=Z,1.4nm,0.9s,baz=301,slow=2.8,SNR=10
PDAR LR LR 20 50 50.8
comp=Z,94nm,21.3s,MS4.1,baz=113,slow=32
DAU Daniels Canyon 75.39 49 *e*P **P 20 22 24.2 +1.2**
ARUT Antelope Range 75.75 53 P **P 20 22 25.8 +0.7**
KIS Kishinev 75.81 320 *e*P **P 20 22 23.0 -2.2**
KIS *e* pP 20 22 33.0 -1.2
KIS *e* 20 25 19.0
KIS *e* 20 32 07.0
KIS MLR MLR
comp=Z,1µm,17.0s,MS5.2
KIS MLR MLR
comp=Z,1µm,16.0s
MSU Marysvale 76.06 51 *e*P **P 20 22 27.7 +0.9**
MSU *e**PP pP 20 22 33.0 -2.8
NEN Nelson 76.22 55 *e*P **P 20 22 28.2 +0.5**
NEN *e* 20 22 33.3
MALT Malatya 76.26 308 ⇑ *e*P **P 20 22 28.9 +1.0**
MALT *i* pP 20 22 39.1 +2.2
MALT pmax pmax
comp=Z,35nm,1.3s,mb5.1
MALT Malatya 76.26 308 ⇑ *e*P **P 20 22 28.9 +0.9**
comp=Z,35nm,1.3s,mb5.1
MALT *i* pP 20 22 39.1 +2.2
IAS Iasi 76.29 321 P **P 20 22 27.8 -0.1**
KWP Kalwaria 76.81 325 *e*P **P 20 22 31.6 +0.8**
RSSD Black Hills 76.97 43 *e*P **P 20 22 31.8 0.0**
RSSD pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
RSSD Black Hills 76.97 43 *e*P **P 20 22 31.8 0.0**
comp=Z,4.7nm,0.8s,mb4.5
BURAR Bucovina Array 77.12 322 ⇓ P **P 20 22 33.0 +0.5**
CFR Carcaliu 77.41 319 ⇓ P **P 20 22 34.3 +0.1**
VRI Vrincioaia 77.63 320 ⇑ P **P 20 22 37.0 +1.6**
OJC Ojcow 77.64 327 ⇑ *iP* **P 20 22 35.6 +0.3**
CRVS Cervenica-Dubn 77.90 325 *e*P **P 20 22 38.0 +1.2**
NIE Niedzica 78.02 326 ⇑ *e*P **P 20 22 38.3 +0.9**
BR131 Keskin Array S 78.16 312 *e*P **P 20 22 38.5 +0.1**
comp=Z,19nm,1.4s,mb4.8
BRTR Keskin Array B 78.16 312 P **P 20 22 38.7 +0.3**
BRTR 20 25 43.6
BRTR pmax pmax
comp=Z,8.0nm,1.1s
BRTR pmax pmax
comp=Z,5.0nm,1.2s
BRTR Keskin Array B 78.16 312 P **P 20 22 38.7 +0.3**
comp=Z,7.5nm,1.1s,mb4.5,baz=90,slow=3.7,SNR=17
BRTR PP PP 20 25 43.5 +6.5
comp=Z,4.9nm,1.2s,baz=63,slow=8.3,SNR=4.7
MLR Muntele Rosu 78.28 320 P **P 20 22 39.3 +0.3**
MLR pmax pmax
comp=Z,2.0nm,0.6s
MLR Muntele Rosu 78.28 320 P **P 20 22 39.3 +0.3**
comp=Z,2.1nm,0.6s,mb4.3,baz=66,slow=4.6,SNR=5.4
MLR Muntele Rosu 78.28 320 ⇑ P **P 20 22 39.3 +0.3**
BSEG Bad Segeberg 78.36 334 P **P 20 22 39.4 +0.2**
BSEG pmax pmax
comp=Z,30nm,1.2s,mb5.1
BSEG Bad Segeberg 78.36 334 *e*P **P 20 22 39.4 +0.2**
RAC Raciborz 78.42 327 *e*P **P 20 22 40.5 +0.9**
KSP Ksiaz 78.61 329 *e*P **P 20 22 41.1 +0.5**
KSP MLR MLR
comp=Z,2µm,17.8s,MS5.4
KSP Ksiaz 78.61 329 *e*P **P 20 22 41.5 +0.9**
OKC Ostrava-Krasne 78.63 327 *e*P **P 20 22 41.0 +0.3**
OKC AMS AMS 21 00 10.0
comp=Z,800nm,18.1s
KECS Kecovo 78.65 325 *e*P **P 20 22 41.4 +0.5**
MORC Moravsky Berou 78.92 328 ⇑ *iP* **P 20 22 42.8 +0.4**
MORC pmax pmax
comp=Z,21nm,1.1s,mb5.0
MORC Moravsky Berou 78.92 328 ⇑ *iP* **P 20 22 42.8 +0.4**
comp=Z,21nm,1.1s,mb5.0
DPC Dobruska-Polom 78.98 329 *e*P **P 20 22 43.3 +0.6**
DPC *e*pP pP 20 22 51.0 -0.7
DPC AMS AMS 21 00 30.0
comp=Z,700nm,17.1s
UPC Upice 78.98 329 *e*P **P 20 22 43.0 +0.3**
UPC *e*pP pP 20 22 54.3 +2.6
PSZ Piszkesteto 79.33 325 *e*P **P 20 22 45.6 +1.0**
PSZ *e* 20 23 01.3
PSZ pmax pmax
comp=Z,60nm,1.8s,mb5.2
PSZ Piszkesteto 79.33 325 *e*P **P 20 22 45.6 +0.9**
comp=Z,60nm,1.8s,mb5.2
PSZ *e* 20 23 01.3
PSZ Piszkesteto 79.33 325 ⇑ *e*P **P 20 22 45.4 +0.8**
VYHS Vyhne 79.36 326 *e*P **P 20 22 45.2 +0.4**
BRG Berggiesshubel 79.51 330 *e*P **P 20 22 45.7 +0.2**
BRG *e* 20 23 01.6
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BRG pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
BRG Berggiesshubel 79.51 330 *e*P **P 20 22 45.7 +0.2**
comp=Z,9.0nm,1.0s,mb4.7
BRG *e* 20 23 01.6
CLL Collm 79.52 331 ⇑ *iP* **P 20 22 45.5 -0.1**
CLL *i* *PP pP 20 22 55.1 +0.5
CLL pmax pmax
comp=Z,26nm,1.2s,mb5.0
CLL Collm 79.52 331 ⇑ *iP* **P 20 22 45.5 -0.1**
comp=Z,26nm,1.2s,mb5.0
CLL *i* pP pP 20 22 55.1 +0.5
CLL Collm 79.52 331 ⇑ P **P 20 22 45.5 -0.1**
comp=Z,logA/T=1.3,mb5.0
CLL *i* *PP pP 20 22 55.1 +0.5
CLL *e* 20 23 03.0
CLL *e*PP PP 20 25 40.0 -7.7
CLL *e* 20 26 54.0
PVCC Panska Ves 79.54 330 *e*P **P 20 22 46.2 +0.5**
PVCC AMS AMS 21 00 50.0
comp=Z,800nm,17.1s
VRAC Vranov 79.68 328 P **P 20 22 47.8 +1.3**
PRU Pruhonice 79.97 329 *e*P **P 20 22 48.2 +0.2**
PRU *e*pP pP 20 22 55.6 -1.5
PRU AMS AMS 21 01 10.0
comp=Z,800nm,17.5s
CLZ Clausthal 80.05 332 P **P 20 22 48.9 +0.5**
CLZ pmax pmax
comp=Z,37nm,1.3s,mb5.2
CLZ Clausthal 80.05 332 *e*P **P 20 22 48.9 +0.5**
comp=Z,37nm,1.3s,mb5.2
ZST Bratislava 80.33 327 *e*P **P 20 22 51.2 +1.2**
MOX Moxa 80.57 331 *e*P **P 20 22 51.3 +0.1**
MOX pmax pmax
comp=Z,28nm,1.6s,mb4.9
MOX MLR MLR
comp=Z,600nm,17.0s,MS5.0
MOX Moxa 80.57 331 *e*P **P 20 22 51.3 +0.1**
comp=Z,28nm,1.6s,mb4.9
MOX LR LR
comp=Z,600nm,17.0s,MS5.0
MOX Moxa 80.57 331 *i* P **P 20 22 51.3 +0.1**
comp=Z,logA/T=1.2,mb4.9
MOX L 21 03 57.0
DJES Djerdap 80.57 321 *e*P **P 20 22 57.9 +6.5**
NKC Novy Kostel 80.59 330 *e*P **P 20 22 51.4 +0.1**
NKC AMS AMS 21 05 10.0
comp=Z,700nm,15.2s
MZLS Mizel 80.83 293 P **P 20 22 53.9 +0.7**
KHC Kasperske Hory 81.04 329 *e*P **P 20 22 53.8 +0.1**
KHC *e*pP pP 20 23 02.7 -0.1
KHC AMS AMS 21 04 10.0
comp=Z,800nm,15.2s
HILS Ha'il 81.08 298 P **P 20 22 54.9 +0.5**
EKA Eskdalemuir Ar 81.13 341 P **P 20 22 54.0 0.0**
EKA pmax pmax
comp=Z,6.0nm,1.0s
EKA Eskdalemuir Ar 81.13 341 P **P 20 22 54.0 -0.1**
comp=Z,5.5nm,1.0s,mb4.5,baz=28,slow=4.8,SNR=7.2
GEC2 GERESS Array S 81.22 329 P **P 20 22 54.9 +0.3**
GEC2 pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
GEC2 GERESS Array S 81.22 329 *e*P **P 20 22 54.9 +0.3**
comp=Z,7.0nm,1.1s,mb4.5
GERES GERESS Array B 81.22 329 P **P 20 22 54.4 -0.2**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES MLR MLR
comp=Z,535nm,18.8s
GERES GERESS Array B 81.22 329 P **P 20 22 54.4 -0.2**
comp=Z,1.8nm,0.6s,mb4.2,baz=45,slow=3.8,SNR=20
GERES LR LR 21 02 22.0
comp=Z,535nm,18.8s,MS4.9,baz=15,slow=38
WET Wettzell 81.30 330 P **P 20 22 55.7 +0.6**
WET pmax pmax
comp=Z,25nm,1.4s,mb5.0
WET Wettzell 81.30 330 *e*P **P 20 22 55.7 +0.6**
comp=Z,25nm,1.4s,mb5.0
GRA1 Grafenberg Arr 81.50 331 *e*P **P 20 22 56.9 +0.8**
comp=Z,52nm,1.2s,mb5.3
GRA1 LR LR
comp=Z,400nm,18.3s,MS4.8
GRF Grafenberg Arr 81.50 331 P **P 20 22 56.9 +0.8**
GRF pmax pmax
comp=Z,52nm,1.2s,mb5.3
ARSA Arzberg 81.73 327 ⇑ *iP* **P 20 22 58.0 +0.6**
comp=Z,55nm,2.5s,mb5.0
MOA Molln 81.78 328 ⇑ *iP* **P 20 22 58.4 +0.8**
comp=Z,58nm,2.2s,mb5.1
LAZ Ladron 81.81 52 P **P 20 22 59.6 +1.5**
ANMO Albuquerque 81.85 51 *e*P **P 20 22 59.6 +1.4**
ANMO pmax pmax
comp=Z,9.0nm,1.3s
ANMO MLR MLR
comp=Z,201nm,21.0s
ANMO Albuquerque 81.85 51 *e*P **P 20 22 59.5 +1.3**
comp=Z,9.3nm,1.3s,mb4.5
ANMO *e* 20 23 04.6
ANMO LR LR
comp=Z,201nm,21.0s,MS4.5
DIVS Divcibare 82.18 323 ⇑ *iP* **P 20 22 59.1 -0.7**
GROS Grobnik 82.36 326 *i* P **P 20 23 00.8 +0.1**
SCHQ Schefferville 82.45 17 LR LR 21 07 19.5
comp=Z,109nm,18.0s,MS4.3,baz=15,slow=41
GOLS Golise 82.67 326 *e*P **P 20 23 02.3 +0.1**
FUR Furstenfeldbru 82.72 330 P **P 20 23 03.0 +0.5**
FUR pmax pmax
comp=Z,24nm,1.1s,mb5.1
FUR Furstenfeldbru 82.72 330 *e*P **P 20 23 03.0 +0.5**
comp=Z,24nm,1.1s,mb5.1
KBA Koelnbreinsper 82.77 328 ⇑ *iP* **P 20 23 03.4 +0.6**
comp=Z,48nm,1.6s,mb5.3
KBA Koelnbreinsper 82.77 328 ⇑ *iP* **P 20 23 03.4 +0.6**
KBA pmax pmax
comp=Z,49nm,1.6s,mb5.3
LEGS Legarje 82.85 326 *e*P **P 20 23 02.8 -0.4**
SKO Skopje 83.08 320 *i* P **P 20 23 05.2 +0.7**
WATA Walderalm 83.28 329 ⇑ *iP* **P 20 23 05.9 +0.5**
comp=Z,26nm,1.4s,mb5.1
WATA Walderalm 83.28 329 ⇑ *iP* **P 20 23 05.9 +0.5**
WATA pmax pmax
comp=Z,27nm,1.4s,mb5.1
WTTA Wattenberg 83.31 329 ⇑ *iP* **P 20 23 06.1 +0.6**
comp=Z,99nm,2.1s,mb5.5
WTTA Wattenberg 83.31 329 ⇑ *iP* **P 20 23 06.1 +0.6**
WTTA pmax pmax
comp=Z,99nm,2.1s,mb5.5
ZFRI Zfri 83.37 304 Pg **P 20 23 06.8 +0.6**
GIVF Givet 83.42 334 *e*P **P 20 23 06.3 +0.3**
MOTA Moosalm 83.46 329 ⇑ *iP* **P 20 23 06.8 +0.5**
comp=Z,37nm,1.3s,mb5.3
MOTA Moosalm 83.46 329 ⇑ *iP* **P 20 23 06.8 +0.5**
MOTA pmax pmax
comp=Z,37nm,1.3s,mb5.2
SQTA Sankt Quirin 83.52 329 ⇑ *iP* **P 20 23 07.1 +0.6**
comp=Z,20nm,1.3s,mb5.1
SQTA Sankt Quirin 83.52 329 ⇑ *iP* **P 20 23 07.1 +0.6**
SQTA pmax pmax
comp=Z,20nm,1.3s,mb5.1
URZ Urewera 83.54 154 LR LR 20 57 35.3
comp=Z,568nm,18.5s,MS5.0,baz=349,slow=34
PRNI Paran 83.61 304 Pg **P 20 23 08.1 +0.7**
BAIF Baives 83.66 335 *e*P **P 20 23 07.3 +0.1**
BFO Black Forest 83.70 332 P **P 20 23 07.8 +0.4**
BFO pmax pmax
comp=Z,46nm,1.7s,mb5.3
BFO Black Forest 83.70 332 *e*P **P 20 23 07.8 +0.4**
comp=Z,46nm,1.7s,mb5.3
KBRS Khaybar 83.83 298 P **P 20 23 09.8 +1.1**
DAVA Damuels 83.98 330 ⇑ *iP* **P 20 23 09.2 +0.3**
comp=Z,31nm,1.2s,mb5.3
AQBJ Aqaba 84.00 304 Pg **P 20 23 10.2 +0.8**
CDF Champ du Feu 84.01 332 *e*P **P 20 23 09.4 +0.4**
comp=Z,44nm,1.3s,mb5.1
CDF Champ du Feu 84.01 332 *e*P **P 20 23 09.4 +0.4**
CDF pmax pmax
comp=Z,22nm,1.3s,mb5.1
JMQS Jabal Moqyreh 84.03 303 P **P 20 23 10.4 +0.8**
TBKS Tabuk 84.04 302 P **P 20 23 10.5 +0.8**
MBH Mount Berech 84.05 304 Pg **P 20 23 10.6 +1.0**
EIL Elat 84.11 304 *e*P **P 20 23 10.2 +0.2**
comp=Z,32nm,1.4s,mb5.2
EIL *e*pP pP 20 23 18.9 -0.2
EIL Elat 84.11 304 Pg **P 20 23 10.7 +0.8**
DAVOX Davos 84.40 330 P **P 20 23 12.2 +1.3**
comp=Z,6.7nm,0.9s,mb4.8,baz=29,slow=4.1,SNR=6.6
PPT Papeete 84.59 118 LR LR 20 52 41.8
comp=Z,384nm,20.1s,MS4.8,baz=326,slow=30
HINF Hinteralfeld 84.67 332 *e*P **P 20 23 12.3 0.0**
HAU Haudompre 84.69 333 *e*P **P 20 23 12.5 +0.1**
comp=Z,15nm,1.0s,mb4.8
HAU *e*R
comp=Z,585nm,20.8s
HAU Haudompre 84.69 333 *e*P **P 20 23 12.5 +0.1**
HAU pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
HAU MLR MLR
comp=Z,590nm,20.8s,MS5.0
MEZF Maizieres J'vi 84.72 334 *e*P **P 20 23 13.1 +0.6**
comp=Z,49nm,1.0s,mb5.3
BDAS Al Bad' **84.84 303** P **P 20 23 14.1 +0.5**
TATS Tathlith 84.92 291 P **P 20 23 15.0 +0.8**
GDL2 Guadalupe Moun 85.01 52 *e*P **P 20 23 15.1 +0.7**
UMJS Umm Lajj 85.52 299 P **P 20 23 18.0 +0.9**
CABF La Chapelle 85.96 332 *e*P **P 20 23 19.3 +0.5**
BLJS Baljurashi 86.05 292 P **P 20 23 20.8 +1.0**
DJNS Zahran al Janu 86.05 290 P **P 20 23 21.2 +1.3**
LOR Lormes 86.19 334 *e*P **P 20 23 20.1 +0.2**
comp=Z,67nm,1.2s,mb5.5
LOR *e*R
comp=Z,502nm,18.0s
LOR Lormes 86.19 334 *e*P **P 20 23 20.1 +0.2**
LOR pmax pmax
comp=Z,34nm,1.2s,mb5.5
LOR MLR MLR
comp=Z,500nm,18.0s,MS5.0
FLN La Foliniere 86.28 337 *e*P **P 20 23 20.5 +0.2**
FLN *e*R
comp=Z,416nm,18.8s
SSF Saint Saulge 86.49 334 *e*P **P 20 23 21.7 +0.3**
SSF pmax pmax
comp=Z,12nm,0.9s,mb5.1
SSF Saint Saulge 86.49 334 *e*P **P 20 23 21.7 +0.3**
comp=Z,12nm,0.9s,mb5.1
LPL La Plagne 86.66 331 *e*P **P 20 23 22.9 +0.7**
comp=Z,43nm,1.3s,mb5.2
LPL La Plagne 86.66 331 *e*P **P 20 23 22.9 +0.7**
LPL pmax pmax
comp=Z,22nm,1.3s,mb5.2
LPG La Plagne 86.66 331 *e*P **P 20 23 23.1 +0.8**
comp=Z,46nm,1.3s,mb5.3
LPG La Plagne 86.66 331 *e*P **P 20 23 23.1 +0.8**
LPG pmax pmax
comp=Z,23nm,1.3s,mb5.2
RPZ Rata Peaks 86.71 160 LR LR 20 58 09.0
comp=Z,266nm,20.0s,MS4.6,baz=13,slow=33
GRR Gorron 86.73 337 *e*P **P 20 23 22.9 +0.4**
comp=Z,65nm,1.2s,mb5.4
GRR Gorron 86.73 337 *e*P **P 20 23 22.9 +0.4**
GRR pmax pmax
comp=Z,33nm,1.2s,mb5.4
SMF Signal de Mont 86.73 333 *e*P **P 20 23 23.0 +0.4**
comp=Z,106nm,1.5s,mb5.5
SMF Signal de Mont 86.73 333 *e*P **P 20 23 23.0 +0.4**
SMF pmax pmax
comp=Z,53nm,1.5s,mb5.5
BGF Bois d'Agland 87.15 334 *e*P **P 20 23 23.9 -0.7**
MBDF Montbardon 87.31 331 *e*P **P 20 23 25.2 -0.2**
comp=Z,12nm,0.9s,mb4.8
MBDF Montbardon 87.31 331 *e*P **P 20 23 25.2 -0.2**
MBDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
SGMF Saint Gilles 87.35 338 *e*P **P 20 23 26.2 +0.7**
comp=Z,50nm,1.2s,mb5.3
SGMF Saint Gilles 87.35 338 *e*P **P 20 23 26.2 +0.7**
SGMF pmax pmax
comp=Z,25nm,1.2s,mb5.3
TXAR Lajitas Array 87.44 53 P **P 20 23 27.3 +0.9**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR MLR MLR
comp=Z,106nm,20.0s
TXAR Lajitas Array 87.44 53 P **P 20 23 27.2 +0.8**
comp=Z,0.5nm,0.6s,baz=252,slow=4.0,SNR=6.5
TXAR LR LR 20 57 04.7
comp=Z,106nm,20.0s,MS4.2,baz=355,slow=32
ORIF Oris-en-Rattie 87.48 331 *e*P **P 20 23 26.7 +0.5**
comp=Z,38nm,1.4s,mb5.1
ORIF *e*R

	comp=Z,475nm,20.2s						
TCF	**Toulx Ste Croi**	**87.60**	**334**	*e*P	**P**	**20 23 27.6**	**+0.8**
	comp=Z,48nm,1.3s,mb5.3						
TCF	**Toulx Ste Croi**	**87.60**	**334**	*e*P	**P**	**20 23 27.6**	**+0.8**
TCF				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.3						
SBF	**Sospel**	**87.78**	**330**	*e*P	**P**	**20 23 27.6**	**-0.1**
	comp=Z,116nm,1.3s,mb5.7						
SBF	**Sospel**	**87.78**	**330**	*e*P	**P**	**20 23 27.6**	**-0.1**
SBF				pmax	pmax		
	comp=Z,58nm,1.3s,mb5.7						
QUIF	**Quistinic**	**87.83**	**338**	*e*P	**P**	**20 23 28.4**	**+0.6**
VIVF	**Saint-Julien-l**	**87.98**	**332**	*e*P	**P**	**20 23 29.1**	**+0.5**
	comp=Z,82nm,1.7s,mb5.4						
VIVF	**Saint-Julien-l**	**87.98**	**332**	*e*P	**P**	**20 23 29.1**	**+0.5**
VIVF				pmax	pmax		
	comp=Z,41nm,1.7s,mb5.4						
MFF	**Saint Martin d**	**88.10**	**336**	*e*P	**P**	**20 23 29.8**	**+0.7**
	comp=Z,121nm,1.6s,mb5.6						
MFF	**Saint Martin d**	**88.10**	**336**	*e*P	**P**	**20 23 29.8**	**+0.7**
MFF				pmax	pmax		
	comp=Z,61nm,1.6s,mb5.6						
PGF	**Pioggiola**	**88.26**	**328**	*e*P	**P**	**20 23 29.7**	**-0.3**
FRF	**La Foret Royal**	**88.34**	**330**	*e*P	**P**	**20 23 29.9**	**-0.5**
SMRF	**Simiane la Rot**	**88.40**	**331**	*e*P	**P**	**20 23 30.5**	**-0.1**
LMR	**La Mourre**	**88.59**	**330**	*e*P	**P**	**20 23 31.2**	**-0.4**
	comp=Z,153nm,1.6s,mb5.8						
LMR	**La Mourre**	**88.59**	**330**	*e*P	**P**	**20 23 31.2**	**-0.4**
LMR				pmax	pmax		
	comp=Z,76nm,1.6s,mb5.8						
RJF	**Les Rejaudoux**	**88.70**	**334**	*e*P	**P**	**20 23 31.3**	**-0.7**
	comp=Z,50nm,1.5s,mb5.3						
RJF				*e*R			
	comp=Z,535nm,18.5s						
RJF	**Les Rejaudoux**	**88.70**	**334**	*e*P	**P**	**20 23 31.3**	**-0.7**
RJF				pmax	pmax		
	comp=Z,25nm,1.5s,mb5.3						
RJF				MLR	MLR		
	comp=Z,530nm,18.5s,MS5.0						
CAF	**Calviac**	**88.84**	**334**	*e*P	**P**	**20 23 33.8**	**+1.1**
	comp=Z,25nm,1.3s,mb5.1						
CAF	**Calviac**	**88.84**	**334**	*e*P	**P**	**20 23 33.8**	**+1.1**
CAF				pmax	pmax		
	comp=Z,12nm,1.3s,mb5.1						
LASF	**Ste Croix**	**88.95**	**332**	*e*P	**P**	**20 23 33.3**	**0.0**
	comp=Z,38nm,1.3s,mb5.3						
LFF	**La Frestale**	**89.28**	**334**	*e*P	**P**	**20 23 35.7**	**+0.9**
	comp=Z,26nm,1.0s,mb5.2						
LFF	**La Frestale**	**89.28**	**334**	*e*P	**P**	**20 23 35.7**	**+0.9**
LFF				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.2						
MTLF	**Montolieu**	**90.17**	**333**	*e*P	**P**	**20 23 39.7**	**+0.7**
	comp=Z,24nm,1.1s,mb5.1						
MTLF	**Montolieu**	**90.17**	**333**	*e*P	**P**	**20 23 39.7**	**+0.7**
MTLF				pmax	pmax		
	comp=Z,12nm,1.1s,mb5.1						
ATD	**Arta Tunnel**	**90.55**	**285**	LR	LR	21 06 51.2	
	comp=Z,168nm,21.0s,MS4.5,baz=156,slow=37						
EPF	**Esparros**	**91.10**	**334**	*e*P	**P**	**20 23 43.5**	**+0.2**
SJPF	**Ste Jean**	**91.55**	**335**	*e*P	**P**	**20 23 48.6**	**+3.2**
	comp=Z,68nm,1.4s,mb5.5						
SJPF	**Ste Jean**	**91.55**	**335**	*e*P	**P**	**20 23 48.6**	**+3.2**
SJPF				pmax	pmax		
	comp=Z,34nm,1.4s,mb5.5						
SNAA	**Sanae**	**143.65**	**197**	P	PKPbc	20 30 12.8	+2.8
SNAA	**Sanae**	**143.65**	**197**		PKPbc	20 30 17.8	+7.8
SNAA	**Sanae**	**143.65**	**197**		PKPbc	20 30 24.0	+14
SNAA	**Sanae**	**143.65**	**197**		PKPbc	20 30 31.5	+22
SNAA	**Sanae**	**143.65**	**197**	*e*PKPpre		20 30 08.8	
LPAZ	**La Paz**	**144.16**	**58**	PKIKP	PKPdf	20 30 14.1	-4.6
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LPAZ	**La Paz**	**144.16**	**58**	PKP	PKPdf	20 30 14.1	-4.6
	comp=Z,0.6nm,0.4s,baz=225,slow=1.4,SNR=2.9						
LPAZ	**La Paz**	**144.16**	**58**	*e*PKPpre		20 30 12.0	
VNA2	**Neumayer--Watz**	**145.21**	**196**	⇑*i*	PKPbc	20 30 20.0	+5.6
VNA2	**Neumayer--Watz**	**145.21**	**196**		PKPbc	20 30 26.6	+12
VNA2	**Neumayer--Watz**	**145.21**	**196**	⇑*i*	PKPbc	20 30 30.5	+16
VNA2	**Neumayer--Watz**	**145.21**	**196**	⇑*i*	PKPbc	20 30 33.8	+19
VNA2	**Neumayer--Watz**	**145.21**	**196**	⇑*i*PKPdf	PKPdf	20 30 16.3	-2.7
VNA2				⇑*i*P		20 30 20.0	
VNA3	**Neumayer Olymp**	**145.44**	**195**		PKPbc	20 30 18.6	+3.6
VNA3	**Neumayer Olymp**	**145.44**	**195**		PKPbc	20 30 30.5	+16
VNA3	**Neumayer Olymp**	**145.44**	**195**		PKPbc	20 30 33.7	+19
VNA3	**Neumayer Olymp**	**145.44**	**195**	PKPdf	PKPdf	20 30 17.3	-2.1
VNA3				P		20 30 18.6	
VNA1	**Neumayer--Stat**	**145.61**	**196**	P	PKPbc	20 30 18.1	+2.7
VNA1	**Neumayer--Stat**	**145.61**	**196**		PKPbc	20 30 28.4	+13
VNA1	**Neumayer--Stat**	**145.61**	**196**		PKPbc	20 30 33.5	+18
LVC	**Limon Verde**	**147.93**	**68**	*e*PKPbc	PKPdf	20 30 25.6	+0.7

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*NIED **05** 20:15:00, 39.60N×143.30E, h17^{km}, Mw4.2 Best double couple: $M_0$2.43×10^{15} NP1:ϕ_s36°, δ74°, λ100°. NP2:ϕ_s181°, δ19°, λ57°.*
*JMA **05** 20:15:47.2±0.2, 39.60N×143.33E, h21^{km}±4^{km}, M4.4*
*MOS **05** 20:15:48.4±1.1, 39.68N×143.28E, h33^{km}, mb4.4/15, Error ellipse: s-maj=13.2km s-min=10.6km az=79.2*
*NEIC **05** 20:15:50.7±0.6, 39.66N×143.18E, mb4.4/9, Error ellipse: s-maj=13.6km s-min=7.7km az=129.0*
*BJI **05** 20:15:50.2, 39.81N×142.45E, h10^{km}, mB5.2, mb4.5*
*IDC **05** 20:15:51.3±3.3, 39.56N×143.24E, h40^{km}±29^{km}, mb3.8/15, mb1 4.0/17, mb1mx3.8/25, mbtmp4.0/17, ML3.8/2, Error ellipse: s-maj=20.3km s-min=17.8km az=125.0*
ISC 05 20:15:48.6±0.9**, 39.59N**±0.05×**143.31E**±0.07**, h35**^{km}±7^{km}**, h28**^{km}±7.0^{km}**:pP-P, n66,** σ**0^{s}87**/76**, mb4.1**/23**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.15**	**270**	P	**P**	**20 16 08.0**	**-0.4**
MIYJ				*e*S	**S**	**20 16 23.4**	**+0.2**
JTH	**Tanohata**	**1.17**	**288**	P	**P**	**20 16 08.6**	**0.0**
JTH				*e*S	**S**	**20 16 24.2**	**+0.6**
OFUJ	**Ofunato**	**1.37**	**249**	P	**P**	**20 16 11.6**	**+0.1**
OFUJ				*e*S	**S**	**20 16 28.6**	**-0.1**
JOM	**Ohasama**	**1.56**	**266**	P	**P**	**20 16 15.0**	**+0.7**
JOM				*e*S	**S**	**20 16 34.8**	**+1.2**
JANG	**Nango**	**1.59**	**300**	P	**P**	**20 16 14.1**	**-0.5**
JMK	**Ichinoseki**	**1.74**	**249**	P	**P**	**20 16 17.2**	**+0.3**
JIO	**Ouri**	**1.90**	**234**	P	**P**	**20 16 18.9**	**-0.2**
JIO				*e*S	**S**	**20 16 40.7**	**-1.4**
JTM	**Tenmabayashi**	**2.09**	**306**	P	**P**	**20 16 22.0**	**+0.1**
JTM				*e*S	**S**	**20 16 45.8**	**-1.2**
JAH	**Hinai**	**2.14**	**287**	P	**P**	**20 16 23.3**	**+0.7**
JYK	**Kaneyama**	**2.38**	**255**	P	**P**	**20 16 26.7**	**+0.6**
JEM	**Erimo**	**2.43**	**357**	P	**P**	**20 16 26.9**	**+0.2**
JMM	**Marumori**	**2.61**	**230**	P	**P**	**20 16 28.5**	**-0.8**
ASAJ	**Asahikawa**	**4.56**	**354**	P	**P**	**20 16 56.5**	**-0.4**
	3.6nm,0.3s,baz=346,slow=20,SNR=8.9						
ASAJ				S	**S**	**20 17 54.1**	**+4.7**
	1.4nm,0.3s,baz=42,slow=26,SNR=3.2						
MJAR	**Matsushiro Arr**	**5.04**	**235**	P	**P**	**20 17 04.5**	**+0.7**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR	**Matsushiro Arr**	**5.04**	**235**	P	**P**	**20 17 04.5**	**+0.6**
	comp=Z,3.5nm,0.3s,baz=9.4,slow=32,SNR=19						
MAJO	**Matsushiro**	**5.04**	**235**	*e*P	**P**	**20 17 04.2**	**+0.4**
MAT	**Matsushiro**	**5.04**	**235**	*e*P	**P**	**20 17 04.0**	**+0.2**
MAT				S	**S**	**20 18 07.0**	**+5.3**
MAT				S	**S**	**20 18 08.0**	**+6.3**
MAT	**Matsushiro**	**5.04**	**235**	P	**P**	**20 17 03.8**	**0.0**
MAT				*e*S	**S**	**20 18 01.6**	**-0.1**
KUR	**Kuril'sk**	**6.57**	**29**	*e*P	**P**	**20 17 22.0**	**-3.3**
KUR				pmax	pmax		
	comp=Z,80nm,0.4s						
KUR				pmax	pmax		
	comp=N,90nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
HIA	**Hailar**	**19.34**	**308**	*e*P	**P**	**20 20 10.1**	**-3.5**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HIA	**Hailar**	**19.34**	**308**	*e*P	**P**	**20 20 10.1**	**-3.5**
	comp=Z,6.4nm,0.6s						
BOD	**Bodaibo**	**26.26**	**324**	*e*P	**P**	**20 21 20.4**	**-1.7**
ULN	**Ulaanbaatar**	**27.27**	**300**	*e*P	**P**	**20 21 31.7**	**+0.2**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**27.27**	**300**	*e*P	**P**	**20 21 31.7**	**+0.2**
	comp=Z,7.8nm,1.0s,mb4.2						
SONM	**Songino Array**	**27.71**	**300**	P	**P**	**20 21 35.0**	**-0.5**
	comp=Z,4.5nm,0.8s,mb4.2,baz=102,slow=8.8,SNR=12						
ENH	**Enshi**	**29.10**	**262**	*e*P	**P**	**20 21 45.7**	**-2.4**
	comp=Z,14nm,0.8s,mb4.8						
GTA	**Gaotai**	**33.32**	**284**	*e*P	**P**	**20 22 26.2**	**+1.1**
GTA				AP	pP	20 22 31.8	-3.4
GTA				XP	sP	20 22 34.8	-5.0
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
KMI	**Kunming**	**36.86**	**259**	P	**P**	**20 22 55.3**	**-0.1**
KMI				AP	pP	20 23 04.6	-1.0
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
KMI	**Kunming**	**36.86**	**259**	P	**P**	**20 22 55.3**	**-0.1**
	comp=Z,8.0nm,0.9s,mb4.5						
KMI				pP	pP	20 23 04.6	-1.0
WMQ	**Urumqi**	**41.08**	**295**	*e*P	**P**	**20 23 31.0**	**+0.7**
ZAL	**Zalesovo**	**41.36**	**310**	P	**P**	**20 23 32.7**	**+0.1**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAL	**Zalesovo**	**41.36**	**310**	P	**P**	**20 23 32.6**	**+0.1**
	comp=Z,2.4nm,0.5s,mb4.1,baz=20,slow=8.1,SNR=7.0						
LSA	**Lhasa**	**43.50**	**274**	*e*P	**P**	**20 23 50.5**	**+0.2**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
LSA	**Lhasa**	**43.50**	**274**	*e*P	**P**	**20 23 50.5**	**+0.1**
	comp=Z,3.4nm,0.6s,mb4.2						
CMAR	**Chiang Mai Arr**	**43.60**	**254**	P	**P**	**20 23 51.7**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**43.60**	**254**	P	**P**	**20 23 51.7**	**+0.4**
	comp=Z,1.3nm,0.8s,mb3.7,baz=52,slow=6.4,SNR=4.6						
MKAR	**Makanchi Array**	**44.08**	**300**	P	**P**	**20 23 55.0**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**44.08**	**300**	P	**P**	**20 23 55.0**	**+0.3**
	comp=Z,4.1nm,0.7s,mb4.3,baz=84,slow=9.7,SNR=16						
ILAR	**Eielson Array**	**46.55**	**34**	P	**P**	**20 24 15.5**	**+1.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**46.55**	**34**	P	**P**	**20 24 15.4**	**+1.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=268,slow=6.6,SNR=2.8						
BVAR	**Borovoye Array**	**49.99**	**311**	P	**P**	**20 24 41.0**	**-0.1**
	comp=Z,3.0nm,0.6s,mb4.5,baz=64,slow=8.7,SNR=14						
SVE	**Sverdlovsk**	**54.24**	**318**	*e*P	**P**	**20 25 23.0**	**+10**
SVE				*e*		20 27 20.0	
SVE				*e*		20 28 28.0	
ARU	**Arti**	**55.45**	**318**	*e*P	**P**	**20 25 20.0**	**-1.7**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
ARU	**Arti**	**55.45**	**318**	*e*P	**P**	**20 25 20.0**	**-1.7**
	comp=Z,7.1nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**59.81**	**190**	P	**P**	**20 25 51.5**	**-1.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**59.81**	**190**	P	**P**	**20 25 51.5**	**-1.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=7.9,slow=6.9,SNR=16						
ARCES	**ARCESS Array B**	**62.14**	**339**	P	**P**	**20 26 07.4**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**62.14**	**339**	P	**P**	**20 26 07.4**	**-0.5**
	comp=Z,1.0nm,0.8s,mb4.0,baz=37,slow=12,SNR=3.8						
KAF	**Kangasniemi**	**66.72**	**333**	*e*p	**P**	**20 26 37.2**	**-0.4**
	comp=Z,1.4nm,0.6s,mb4.2,baz=46,slow=6.0						
KAF	**Kangasniemi**	**66.72**	**333**	*e*P	**P**	**20 26 37.2**	**-0.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
FINES	**FINESS Array B**	**67.25**	**332**	P	**P**	**20 26 41.0**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**67.25**	**332**	P	**P**	**20 26 41.0**	**0.0**
	comp=Z,1.6nm,0.7s,mb4.2,baz=56,slow=6.9,SNR=6.6						
FINES	**FINESS Array B**	**67.25**	**332**	P	**P**	**20 26 41.0**	**0.0**
KIV	**Kislovodsk**	**70.36**	**311**	*e*P	**P**	**20 27 01.1**	**+0.6**
KIV				*e**PP	pP	20 27 11.8	+0.5
KIV				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
KIV	**Kislovodsk**	**70.36**	**311**	*e*P	**P**	**20 27 01.1**	**+0.6**
	comp=Z,18nm,1.1s,mb4.9						
KIV				*e*pP	pP	20 27 11.8	+0.6
NVAR	**Mina Array Bea**	**72.28**	**55**	P	**P**	**20 27 14.6**	**+2.5**
	comp=Z,0.3nm,0.4s,mb3.5,baz=270,slow=4.5,SNR=2.6						
HFS	**Hagfors**	**72.37**	**336**	P	**P**	**20 27 12.9**	**+0.7**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	**Hagfors**	**72.37**	**336**	P	**P**	**20 27 12.9**	**+0.7**
	comp=Z,2.1nm,0.5s,mb4.4,baz=45,slow=6.3,SNR=18						
NB2	**NORSAR Subarra**	**72.40**	**338**	P	**P**	**20 27 12.7**	**+0.3**
	comp=Z,1.5nm,0.6s,mb4.1,baz=40,slow=5.8						
NB2	**NORSAR Subarra**	**72.40**	**338**	P	**P**	**20 27 12.7**	**+0.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
NOA	**NORSAR Array B**	**72.40**	**338**	P	**P**	**20 27 13.0**	**+0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**72.40**	**338**	P	**P**	**20 27 13.0**	**+0.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=38,slow=6.0,SNR=8.8						
AKASG	**Malin Array Be**	**73.18**	**323**	P	**P**	**20 27 17.3**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**73.18**	**323**	P	**P**	**20 27 17.3**	**+0.1**
	comp=Z,1.1nm,0.5s,mb4.1,baz=46,slow=6.2,SNR=7.4						
PDAR	**Pinedale Array**	**74.83**	**47**	P	**P**	**20 27 26.6**	**-0.3**
	comp=Z,0.1nm,0.3s,mb3.2,slow=1.8,SNR=2.4						
GERES	**GERESS Array B**	**81.31**	**329**	P	**P**	**20 28 03.4**	**+0.9**
	comp=Z,0.3nm,0.5s,mb3.5,baz=63,slow=6.0,SNR=4.3						

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*IDC **05** 20:30:53.1±0.6, 23.90N×142.90E, mb4.1/17, mb1 4.3/19, mb1mx4.3/24, mbtmp4.1/19, ML3.8/2, MS3.7/4, Ms1 3.8/4, ms1mx3.3/39, Error ellipse: s-maj=20.4km s-min=17.1km az=90.0*
*BJI **05** 20:30:54.5, 23.90N×143.08E, h29^{km}, mB5.1, mb4.3*
*NEIC **05** 20:30:55.6±0.3, 23.95N×142.79E, h15^{km}, mb4.5/13, Error ellipse: s-maj=10.3km s-min=7.7km az=87.0*
ISC 05 20:30:56.8±0.4**, 23.99N**±0.05×**142.74E**±0.09**, h33**^{km}**, n48,** σ**1^{s}19**/44**, mb4.2**/29**, MS3.7**/3**, 1D, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.13**	**351**	Pn	**Pn**	**20 31 45.4**	**+0.2**
	9.3nm,0.3s,baz=282,slow=21,SNR=6.6						
CBIJ				Sn	**Sn**	**20 32 21.7**	**-0.1**
	88nm,0.3s,baz=100,slow=21,SNR=9.3						
MJAR	**Matsushiro Arr**	**13.10**	**344**	Pn	**P**	**20 34 02.3**	**-0.9**
	0.9nm,0.3s,baz=160,slow=11,SNR=6.6						
MAJO	**Matsushiro**	**13.11**	**344**	*e*P	**P**	**20 34 01.0**	**-2.3**
MAT	**Matsushiro**	**13.11**	**344**	P	**P**	**20 34 01.0**	**-2.2**
MAT	**Matsushiro**	**13.11**	**344**	P	**P**	**20 34 00.9**	**-2.3**
JOW	**Kunigami**	**13.38**	**285**	LR	LR	20 38 33.8	
	comp=Z,309nm,18.4s,baz=140,slow=34						
KMI	**Kunming**	**36.31**	**280**	P	**P**	**20 38 00.9**	**+1.5**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.5						
KMI	**Kunming**	**36.31**	**280**	P	**P**	**20 38 00.9**	**+1.5**
	comp=Z,7.0nm,1.2s,mb4.5						
FX1	**Attu Island--F**	**36.91**	**31**	*e*P	**P**	**20 38 04.4**	**+0.3**
ULN	**Ulaanbaatar**	**36.95**	**319**	*e*P	**P**	**20 38 03.0**	**-1.6**
	comp=Z,0.8nm,0.6s,mb3.7						
HNR	**Honiara**	**37.23**	**151**	LR	LR	20 50 25.4	
	comp=Z,142nm,21.7s,MS3.7,baz=177,slow=32						
SONM	**Songino Array**	**37.33**	**319**	P	**P**	**20 38 09.9**	**+2.1**
	comp=Z,0.4nm,0.6s,mb3.4,baz=110,slow=4.9,SNR=3.0						
GTA	**Gaotai**	**39.24**	**303**	*e*P	**P**	**20 38 29.3**	**+5.5**
GTA				AP	pP	20 38 33.5	-0.1
GTA				XP	sP	20 38 36.6	-1.2
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb3.9						
CMAR	**Chiang Mai Arr**	**41.08**	**271**	P	**P**	**20 38 40.8**	**+1.6**
	comp=Z,1.0nm,0.7s,mb3.5,baz=57,slow=8.1,SNR=8.8						
CMAR				LR	LR	20 54 38.1	
	comp=Z,73nm,20.0s,MS3.5,baz=80,slow=35						
WB2	**Warramunga Arr**	**44.43**	**191**	⇓*i*P	**P**	**20 39 05.6**	**-1.0**
WRA	**Warramunga Arr**	**44.43**	**191**	P	**P**	**20 39 05.5**	**-1.1**
	comp=Z,3.9nm,0.8s,mb4.2,baz=8.0,slow=7.8,SNR=32						
FITZ	**Fitzroy Crossi**	**45.04**	**203**	*e*P	**P**	**20 39 10.6**	**-0.9**
	comp=Z,4.3nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**45.04**	**203**	LR	LR	20 58 49.0	
	comp=Z,116nm,19.4s,MS3.8,baz=300,slow=37						
SHL	**Shillong**	**45.97**	**283**	*e*P	**P**	**20 39 20.0**	**+1.1**
ZAL	**Zalesovo**	**52.19**	**321**	P	**P**	**20 40 06.2**	**-0.1**
	comp=Z,0.8nm,0.3s,mb4.1,baz=26,slow=5.5,SNR=3.8						
MKAR	**Makanchi Array**	**52.87**	**311**	P	**P**	**20 40 10.8**	**-0.7**
	comp=Z,1.0nm,0.6s,mb3.9,baz=89,slow=9.6,SNR=10						
MKAR	**Makanchi Array**	**52.87**	**311**	P	**P**	**20 40 10.8**	**-0.7**
STKA	**Stephens Creek**	**55.56**	**181**	P	**P**	**20 40 29.1**	**-2.4**
	comp=Z,2.7nm,0.7s,mb4.4,baz=18,slow=9.7,SNR=7.3						
ILAR	**Eielson Array**	**60.20**	**28**	P	**P**	**20 41 02.1**	**-1.5**
	comp=Z,3.7nm,0.8s,mb4.4,baz=261,slow=5.7,SNR=30						
DIV	**Divide**	**60.37**	**32**	P	**P**	**20 41 05.9**	**+1.1**
	comp=Z,14nm,0.5s,mb5.2						
ZRNK	**Zerenda**	**61.52**	**319**	*e*P	**P**	**20 41 11.0**	**-1.7**
	comp=Z,3.6nm,0.9s,mb4.5						
INK	**Inuvik**	**65.64**	**24**	P	**P**	**20 41 38.8**	**-0.6**
	comp=Z,2.0nm,0.7s,mb4.3,baz=295,slow=7.5,SNR=5.1						
INK	**Inuvik**	**65.64**	**24**	*e*P	**P**	**20 41 38.4**	**-1.0**
	comp=Z,1.7nm,0.6s,mb4.2						
INK				*e*		20 41 52.2	
ARU	**Arti**	**67.19**	**323**	*e*P	**P**	**20 41 48.3**	**-1.1**
	comp=Z,3.6nm,0.6s,mb4.6						
YKA	**Yellowknife Ar**	**74.63**	**28**	P	**P**	**20 42 33.9**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=292,slow=5.9,SNR=7.5						
YKA	**Yellowknife Ar**	**74.63**	**28**	P	**P**	**20 42 33.9**	**-0.2**
ARCES	**ARCESS Array B**	**76.63**	**341**	P	**P**	**20 42 45.8**	**+0.4**
	comp=Z,3.5nm,0.9s,mb4.3,baz=68,slow=6.5,SNR=8.3						
BEKR	**Beckwourth**	**80.00**	**51**	*e*P	**P**	**20 43 04.6**	**+0.1**
	comp=Z,3.2nm,0.8s,mb4.3						
BMO	**Blue Mountains**	**80.11**	**45**	*e*P	**P**	**20 43 05.1**	**+0.1**
	comp=Z,2.1nm,0.8s,mb4.1						
KAF	**Kangasniemi**	**80.48**	**335**	*e*p	**P**	**20 43 02.1**	**-4.5**
	comp=Z,2.9nm,0.8s,mb4.3,baz=52,slow=4.9						
FINES	**FINESS Array B**	**80.95**	**334**	P	**P**	**20 43 09.4**	**+0.3**
	comp=Z,1.5nm,0.6s,mb4.1,baz=70,slow=4.1,SNR=11						
NVAR	**Mina Array Bea**	**82.04**	**52**	P	**P**	**20 43 16.2**	**+0.9**
	comp=Z,1.4nm,0.8s,mb4.0,baz=265,slow=4.1,SNR=10						
ELK	**Elko**	**83.21**	**48**	P	**P**	**20 43 22.4**	**+1.2**
	comp=Z,0.7nm,0.5s,mb4.0,baz=131,slow=1.2,SNR=5.3						
FFC	**Flin Flon**	**84.10**	**32**	*e*P	**P**	**20 43 25.9**	**+0.5**
	comp=Z,7.0nm,1.0s,mb4.8						
AKASG	**Malin Array Be**	**85.41**	**324**	P	**P**	**20 43 33.5**	**+1.5**
	comp=Z,2.2nm,0.7s,mb4.4,baz=46,slow=5.2,SNR=9.2						
PDAR	**Pinedale Array**	**86.06**	**45**	P	**P**	**20 43 35.9**	**+0.5**
	comp=Z,0.4nm,0.7s,mb3.8,baz=326,slow=5.3,SNR=3.9						
NB2	**NORSAR Subarra**	**86.67**	**339**	P	**P**	**20 43 39.5**	**+1.6**
	comp=Z,1.4nm,0.9s,mb4.2,baz=43,slow=5.0						
NOA	**NORSAR Array B**	**86.67**	**339**	P	**P**	**20 43 39.5**	**+1.6**
	comp=Z,1.9nm,0.9s,mb4.3,baz=50,slow=4.4,SNR=4.7						
NOA	**NORSAR Array B**	**86.67**	**339**	P	**P**	**20 43 39.5**	**+1.6**
BRTR	**Keskin Array B**	**88.48**	**313**	P	**P**	**20 43 47.9**	**+0.7**
	comp=Z,1.8nm,0.8s,mb4.4,baz=90,slow=4.3,SNR=3.6						
KWP	**Kalwaria**	**89.45**	**326**	*e*P	**P**	**20 43 53.4**	**+1.9**
	comp=Z,6.5nm,0.8s,mb5.0						
LPAZ	**La Paz**	**150.07**	**81**	PKPbc	PKPdf	20 50 46.5	+6.7
	comp=Z,2.3nm,0.7s,baz=338,slow=1.8,SNR=12						
LPAZ	**La Paz**	**150.07**	**81**	PKPdf	PKPdf	20 50 41.7	+2.0
LPAZ				*e*PKPbc	PKPdf	20 50 47.6	+7.9

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*IDC **05** 20:49:33.8±0.9, 26.59S×176.36W, mb4.3/9, mb1 4.5/10, mb1mx4.4/15, mbtmp4.3/10, MS4.0/8, Ms1 4.0/8, ms1mx3.6/30, Error ellipse: s-maj=29.0km s-min=20.6km az=120.0*
*NEIC **05** 20:49:38.0±0.6, 26.71S×176.36W, h30^{km}, mb4.6/5, Error ellipse: s-maj=19.4km s-min=13.4km az=102.0*
ISC 05 20:49:32.7±5.2**, 26.56S**±0.08×**176.4W**±0.2**, h3**^{km}±32^{km}**, n37,** σ**0^{s}97**/27**, mb4.3**/12**, MS4.1**/6**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.99**	**206**	Pn	**Pn**	**20 50 22.3**	**+0.3**
	168nm,0.3s,baz=86,slow=20,SNR=9.3						
RAO				Sn	**Sn**	**20 50 59.2**	**+0.3**
	296nm,0.3s,baz=251,slow=23,SNR=6.1						
RAO				LR	LR	20 51 09.6	
	comp=Z,498nm,18.3s,baz=92,slow=32						
URZ	**Urewera**	**12.88**	**203**	Pn	**P**	**20 52 34.9**	**-4.6**
	0.4nm,0.3s,baz=34,slow=9.0,SNR=2.6						
URZ				Sn	**S**	**20 54 49.3**	**-15**
	1.0nm,0.3s,baz=186,slow=20,SNR=5.2						
DZM	**Mont Dzumac**	**16.23**	**282**	Pn	**P**	**20 53 31.8**	**+8.3**
	0.3nm,0.3s,baz=89,slow=17,SNR=6.6						
DZM				LR	LR	20 58 21.1	
	comp=Z,524nm,21.2s,baz=229,slow=32						
PPT	**Papeete**	**26.40**	**76**	LR	LR	21 03 19.6	
	comp=Z,282nm,19.8s,MS3.8,baz=262,slow=31						
HNR	**Honiara**	**28.11**	**303**	LR	LR	21 04 48.4	
	comp=Z,254nm,18.8s,MS3.8,baz=150,slow=32						
CTA	**Charters Tower**	**34.78**	**273**	P	**P**	**20 56 28.1**	**+1.4**
	3.1nm,0.4s,mb4.6,baz=93,slow=11,SNR=7.0						
CTA				LR	LR	21 09 11.8	
	comp=Z,327nm,19.4s,MS4.1,baz=105,slow=34						
CTAO	**Charters Tower**	**34.78**	**273**	*e*P	**P**	**20 56 28.1**	**+1.3**
	8.3nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**36.85**	**252**	P	**P**	**20 56 43.8**	**-0.4**
	1.2nm,0.7s,mb3.8,baz=104,slow=15,SNR=4.7						
STKA				LR	LR	21 10 53.7	
	comp=Z,388nm,19.2s,MS4.2,baz=293,slow=35						
WB2	**Warramunga Arr**	**45.48**	**268**	*e*P	**P**	**20 57 54.8**	**-0.5**
WRA	**Warramunga Arr**	**45.49**	**268**	P	**P**	**20 57 54.0**	**-1.4**
	4.1nm,0.5s,mb4.5,baz=104,slow=6.0,SNR=57						
VNDA	**Vanda**	**52.04**	**186**	P	**P**	**20 58 45.5**	**+0.1**
	1.2nm,0.8s,mb3.9,baz=25,slow=7.5,SNR=4.3						
FITZ	**Fitzroy Crossi**	**53.87**	**266**	*e*P	**P**	**20 58 59.7**	**0.0**
	3.9nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**53.87**	**266**	P	**P**	**20 58 59.9**	**+0.2**
	4.3nm,0.5s,mb4.6,baz=158,slow=6.7,SNR=13						
FITZ				LR	LR	21 22 36.5	
	comp=Z,245nm,19.3s,MS4.3,baz=88,slow=37						
MJAR	**Matsushiro Arr**	**75.92**	**324**	P	**P**	**21 01 22.9**	**+0.2**
	5.3nm,1.0s,mb4.4,baz=166,slow=7.2,SNR=9.2						
MAJO	**Matsushiro**	**75.93**	**324**	*e*P	**P**	**21 01 23.4**	**+0.7**
	2.8nm,0.7s,mb4.3						
MAW	**Mawson**	**76.38**	**200**	P	**P**	**21 01 24.4**	**-0.2**
	1.7nm,0.6s,mb4.2,baz=177,slow=1.7,SNR=4.1						
SNAA	**Sanae**	**81.94**	**178**		**P**	**21 01 52.4**	**-2.2**
SNAA	**Sanae**	**81.94**	**178**		**P**	**21 01 59.1**	**+4.5**
SNAA	**Sanae**	**81.94**	**178**		**P**	**21 02 05.2**	**+11**
SNAA	**Sanae**	**81.94**	**178**	*e*P	**P**	**21 01 52.4**	**-2.3**
	2.4nm,0.9s,mb4.1						
VNA3	**Neumayer Olymp**	**82.03**	**176**		**P**	**21 02 01.1**	**+6.0**
VNA3	**Neumayer Olymp**	**82.03**	**176**		**P**	**21 02 07.7**	**+13**
VNA3	**Neumayer Olymp**	**82.03**	**176**	P	**P**	**21 01 55.6**	**+0.5**
VNA3				P		21 02 01.1	
VNA3				P		21 02 07.7	
NVAR	**Mina Array Bea**	**84.48**	**42**	P	**P**	**21 02 08.8**	**+0.5**
	0.9nm,0.8s,mb4.0,baz=208,slow=7.9,SNR=5.1						
NVAR	**Mina Array Bea**	**84.48**	**42**	P	**P**	**21 02 08.8**	**+0.5**
ELK	**Elko**	**87.77**	**42**	LR	LR	21 37 02.6	
	comp=Z,92nm,18.2s,MS4.2,baz=229,slow=32						
ENH	**Enshi**	**90.60**	**304**	*e*P	**P**	**21 02 36.0**	**-2.1**
	13nm,1.0s,mb5.2						
ENH				*e*		21 02 40.3	
CMAR	**Chiang Mai Arr**	**93.46**	**289**	P	**P**	**21 02 53.1**	**+1.6**
	1.3nm,0.9s,mb4.4,baz=145,slow=3.0,SNR=6.7						
MKAR	**Makanchi Array**	**116.33**	**311**	PKP	PKPdf	21 08 17.7	-2.3
	0.3nm,0.5s,baz=121,slow=0.9,SNR=5.9						
MKAR	**Makanchi Array**	**116.33**	**311**	PKP	PKPdf	21 08 17.7	-2.3
BVAR	**Borovoye Array**	**124.57**	**318**	PKP	PKPdf	21 08 34.0	-1.7
	0.8nm,0.7s,baz=90,slow=1.5,SNR=6.0						
ARCES	**ARCESS Array B**	**135.11**	**349**	PKP	PKPdf	21 08 53.6	-1.7
	1.6nm,1.1s,baz=333,slow=5.4,SNR=3.7						
NB2	**NORSAR Subarra**	**145.14**	**353**	PKPabc	PKPdf	21 09 11.6	-1.7
	9.3nm,1.0s,baz=11,slow=3.5						
NB2	**NORSAR Subarra**	**145.14**	**353**	PKPab	PKPab	21 09 11.6	-1.1
NOA	**NORSAR Array B**	**145.14**	**353**	PKPbc	PKPbc	21 09 11.6	+0.2
	4.6nm,0.9s,baz=10,slow=2.4,SNR=8.0						
AKASG	**Malin Array Be**	**148.94**	**328**	PKPbc	PKPdf	21 09 22.6	+2.8
	0.6nm,0.4s,baz=36,slow=3.1,SNR=5.2						
CLL	**Collm**	**154.26**	**346**	*e*PKP2	PKPab	21 09 55.0	+4.8

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*BJI **05** 20:49:57.7, 55.40N×160.69E, h137^{km}, mB4.5, mb4.4*
*KRSC **05** 20:49:59.3±0.5, 55.30N×160.83E, h135^{km}±2^{km}, ML4.5*
*MOS **05** 20:49:59.1±1.1, 55.35N×160.71E, h140^{km}, mb3.9/18, Error ellipse: s-maj=15.7km s-min=7.3km az=82.4*
*NEIC **05** 20:50:00.2±0.5, 55.38N×160.64E, mb4.4/7, Error ellipse: s-maj=11.4km s-min=8.6km az=170.0*
*IDC **05** 20:50:00.6±0.7, 55.48N×160.39E, h131^{km}±6^{km}, mb3.6/20, mb1 3.8/20, mb1mx3.8/24, mbtmp4.0/20, Error ellipse: s-maj=15.4km s-min=10.5km az=154.0*
ISC 05 20:49:59.2±0.2**, 55.35N**±0.02×**160.79E**±0.06**, h140**^{km}±2^{km}**, h134**^{km}±3.9^{km}**:pP-P, n110,** σ**1^{s}01**/148**, mb3.9**/28**, 1D, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.37**	**260**	*i* P	**P**	**20 50 19.5**	**+0.2**
TUMR				*i* S	**S**	**20 50 33.8**	**-0.9**
KMNR	**Kamenistaya**	**0.51**	**323**	*i* P	**P**	**20 50 20.0**	**0.0**
KMNR				*i* S	**S**	**20 50 35.2**	**-0.7**
ZLN	**Zelenaya**	**0.67**	**1**	*i* P	**P**	**20 50 21.4**	**+0.6**
ZLN				*i* S	**S**	**20 50 37.9**	**+0.5**

KPT	Kopyto	0.69	333	i P	P	20 50 20.9	-0.1
KPT				i S	S	20 50 36.6	-1.1
LGNR	Loginova	0.73	356	i P	P	20 50 22.3	+1.0
LGNR				i S	S	20 50 39.0	+0.8
CIRR	Tsirk	0.77	358	i P	P	20 50 22.2	+0.7
CIRR				eS	S	20 50 38.6	0.0
KOZR	Kozyr	0.88	325	PN	P	20 50 22.7	+0.5
KOZR				S	S	20 50 40.1	+0.2
KRSR	Krestovskiy	0.88	352	i P	P	20 50 22.2	0.0
KRSR				eS	S	20 50 39.4	-0.5
KOZ	Kozyrevsk	0.88	324	P	P	20 50 22.7	+0.5
KOZ				S	S	20 50 40.1	+0.2
KOZ	Kozyrevsk	0.88	324	i P	P	20 50 22.7	+0.5
KOZ				i S	S	20 50 40.2	+0.3
MKZ	Mys Kozlova	0.96	145	P	P	20 50 22.6	-0.3
MKZ				S	S	20 50 40.0	-1.1
MKZ	Mys Kozlova	0.96	145	i P	P	20 50 22.4	-0.5
MKZ				i S	S	20 50 40.0	-1.1
KLY	Klyuchi	0.97	356	i P	P	20 50 23.6	+0.7
KLY				i S	S	20 50 41.3	+0.2
SRDR	Sredinnyy	1.14	328	i P	P	20 50 25.0	+0.4
SRDR				i S	S	20 50 43.6	-0.5
ESO	Esso	1.31	297	i P	P	20 50 27.0	+0.6
ESO				i S	S	20 50 47.3	0.0
ESO				Smax			
	1μm,0.8s						
KBTR	Krutoberegovo	1.43	52	P	P	20 50 27.9	+0.3
KBTR				S	S	20 50 48.8	-0.7
KBTR	Krutoberegovo	1.43	52	i P	P	20 50 27.9	+0.3
KBTR				eS	S	20 50 49.1	-0.4
KII	Karymskiy	1.53	211	P	P	20 50 29.4	+0.7
KII				S	S	20 50 52.3	+1.0
KII	Karymskiy	1.53	211	i P	P	20 50 29.3	+0.6
KII				eS	S	20 50 51.4	+0.1
SPN	Mys Shipunski	2.30	192	P	P	20 50 36.4	-1.5
SPN				S	S	20 51 04.0	-3.5
SPN	Mys Shipunski	2.30	192	i P	P	20 50 36.2	-1.7
SPN				eS	S	20 51 03.5	-4.0
NLC	Nalytchevo	2.34	202	P	P	20 50 38.0	-0.4
NLC				S	S	20 51 06.5	-1.9
NLC	Nalytchevo	2.34	202	i P	P	20 50 38.1	-0.3
NLC				eS	S	20 51 06.8	-1.6
GNL	Ganaly	2.35	226	i P	P	20 50 39.1	+0.6
GNL				eS	S	20 51 08.5	0.0
SDLR	Sedlovina	2.36	209	i P	P	20 50 39.2	+0.6
SDLR				eS	S	20 51 08.8	+0.1
SMAR	Somma	2.39	210	i P	P	20 50 39.7	+0.6
SMAR				eS	S	20 51 09.6	+0.1
AVH	Avacha	2.41	211	i P	P	20 50 40.3	+1.0
AVH				eS	S	20 51 10.3	+0.4
KOK	Koryaka	2.42	212	i P	P	20 50 40.4	+1.0
KOK				eS	S	20 51 10.7	+0.6
UGLR	Uglovaya	2.44	209	i P	P	20 50 40.4	+0.8
UGLR				eS	S	20 51 10.5	0.0
PET	Petropavlovsk	2.65	209	P	P	20 50 42.5	+0.1
PET				S	S	20 51 14.6	-0.7
PET	Petropavlovsk	2.65	209	eP	P	20 50 42.7	+0.4
PET				eS	S	20 51 14.6	-0.7
PET	Petropavlovsk	2.65	209	eP	P	20 50 42.6	+0.2
PET				eS	S	20 51 14.7	-0.6
BKI	Bering	2.97	91	i P	P	20 50 45.9	-0.6
BKI				i S	S	20 51 19.3	-3.3
BKI				Smax			
	2μm,0.4s						
RUS	Russkaya	3.22	206	P	P	20 50 49.0	-0.8
RUS				S	S	20 51 24.9	-3.6
RUS	Russkaya	3.22	206	i P	P	20 50 49.0	-0.8
RUS				eS	S	20 51 25.9	-2.6
GRL	Gorelyy	3.23	211	eP	P	20 50 51.0	+1.0
GRL				eS	S	20 51 29.3	+0.6
MIPR	Malaya Ipel'ka	3.90	219	eP	P	20 50 59.1	+0.4
OSSR	Ossora	4.10	17	eS	S	20 51 47.9	-1.3
OSSR				Smax			
	60nm,0.7s						
SKR	Severo-Kuril's	5.46	213	ePN	P	20 51 18.0	-1.5
SKR				eS	S	20 52 14.5	-7.2
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				smax			
	comp=N,40nm,0.5s						
SKR				smax			
	comp=E,60nm,0.5s						
SKR				smax			
	comp=Z,30nm,0.5s						
SKR	Severo-Kuril's	5.46	213	eP	P	20 51 23.0	+3.5
SKR				eS	S	20 52 19.5	-2.2
ALID	Alaid	5.49	217	eP	P	20 51 19.9	0.0
MA2	Magadan	6.86	312	dePN	P	20 51 39.4	+1.0
MA2				pmax	pmax		
	comp=Z,30nm,0.8s						
MA2				pmax	pmax		
	comp=N,20nm,0.9s						
MA2				pmax	pmax		
	comp=E,10.0nm,0.6s						
MA2	Magadan	6.86	312	eP	P	20 51 39.1	+0.7
KAMR	Kamenskoye	7.66	19	i P	P	20 51 52.5	+3.4
FX1	Attu Island--F	7.68	104	PN	P	20 51 48.7	-0.8
FX1				pmax	pmax		
	comp=Z,4.0nm,0.3s						
FX1	Attu Island--F	7.68	104	P	P	20 51 48.7	-0.7
	comp=Z,3.6nm,0.3s,baz=314,slow=6.1,SNR=34						
FX1	Attu Island--F	7.68	104	ePn	P	20 51 48.7	-0.8
FX1				eS	S	20 53 09.6	-5.8
BILL	Bilibino	12.99	9	PN	P	20 53 00.6	+1.4
BILL				pmax	pmax		
	comp=Z,13nm,0.8s						
BILL	Bilibino	12.99	9	Pn	P	20 53 00.6	+1.4
	comp=Z,13nm,0.8s						
BILL				eP		20 53 06.8	
ASAJ	Asahikawa	16.21	234	P	P	20 53 42.0	+2.1
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	16.21	234	P	P	20 53 42.0	+2.1
	comp=Z,1.0nm,0.3s,baz=103,slow=10,SNR=8.1						
YAK	Yakutsk	17.36	305	eP	P	20 53 53.5	-0.3
YAK				pmax	pmax		
	comp=Z,26nm,0.5s						
YAK	Yakutsk	17.36	305	eP	P	20 53 53.5	-0.4
	comp=Z,26nm,0.5s						
MDJ	Mudanjiang	22.56	255	P	P	20 54 46.6	-1.1
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.6s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,71nm,4.8s						
MDJ				LR	LR		
	comp=E,39nm,21.1s						
MDJ				LR	LR		
	comp=N,42nm,19.1s						
MDJ				LR	LR		
	comp=Z,42nm,19.1s						
MJAR	Matsushiro Arr	24.31	229	P	P	20 55 05.9	+1.3
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MJAR	Matsushiro Arr	24.31	229	P	P	20 55 05.9	+1.3
	comp=Z,1.3nm,0.6s,mb3.6,baz=26,slow=7.2,SNR=4.8						
CN2	Changchun	25.38	258	eP	P	20 55 15.0	+0.4
BOD	Bodaibo	25.48	295	eP	P	20 55 14.9	-0.5
BOD				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb3.6						
ILAR	Eielson Array	26.97	48	P	P	20 55 29.5	+0.5
ILAR				*PP	pP	20 55 59.1	+0.8
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	Eielson Array	26.97	48	P	P	20 55 29.5	+0.5
	comp=Z,1.0nm,0.5s,mb3.7,baz=266,slow=6.9,SNR=8.9						
ILAR				pP	pP	20 55 59.0	+0.8
	comp=Z,1.1nm,0.9s,baz=267,slow=8.6,SNR=3.6						
INK	Inuvik	31.85	40	P	P	20 56 13.0	+0.6
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	Inuvik	31.85	40	P	P	20 56 12.9	+0.6
	comp=Z,0.6nm,0.4s,mb3.6,baz=246,slow=3.6,SNR=4.2						
INK	Inuvik	31.85	40	P	P	20 56 11.2	-1.2
	comp=Z,0.6nm,0.4s,mb3.7						
SONM	Songino Array	33.84	280	P	P	20 56 28.3	-1.3
	comp=Z,0.4nm,0.5s,mb3.4,baz=51,slow=7.8,SNR=4.9						
SONM				PcP	PcP	20 59 05.1	-0.4
	comp=Z,2.8nm,0.6s,baz=79,slow=1.5,SNR=24						
SONM				ScP		21 02 38.1	
	comp=Z,0.2nm,0.4s,baz=90,slow=2.5,SNR=4.7						
HHC	Hu-ho-hao-te	35.13	267	eP	P	20 56 40.4	-0.3
HHC				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.7						
YKA	Yellowknife Ar	41.24	45	P	P	20 57 33.2	+1.9
YKA						20 59 26.9	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	41.24	45	P	P	20 57 33.2	+1.9
	comp=Z,1.2nm,0.7s,mb3.6,baz=301,slow=7.8,SNR=5.6						
YKA				PcP	PcP	20 59 26.9	-1.2
	comp=Z,0.5nm,0.5s,baz=306,slow=3.5,SNR=4.0						
YKA	Yellowknife Ar	41.24	45	P	P	20 57 33.2	+1.9
YKA				PcP	PcP	20 59 26.9	-1.2
ZAL	Zalesovo	41.95	301	PcP	PcP	20 59 27.1	-3.3
	comp=Z,1.3nm,0.4s,baz=26,slow=4.8,SNR=6.0						
LZH	Lanzhou	42.80	268	eP	P	20 57 44.2	0.0
LZH				AP	pP	20 58 17.5	+1.8
LZH				XP	sP	20 58 32.3	+0.3
LZH				PP	PP	20 59 27.7	-0.1
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.6						
LZH	Lanzhou	42.80	268	eP	P	20 57 44.2	0.0
	comp=Z,21nm,1.4s,mb4.6						
LZH				pP	pP	20 58 17.5	+1.8
LZH				sP	sP	20 58 32.3	+0.3
LZH				PP	PP	20 59 27.7	-0.1
WMQ	Urumqi	46.64	288	eP	P	20 58 16.4	+1.7
WMQ				AP	pP	20 58 48.2	+1.7
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,31nm,5.3s						
MKAR	Makanchi Array	47.57	294	P	P	20 58 20.8	-1.1
MKAR						20 59 48.9	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	47.57	294	P	P	20 58 20.8	-1.1
	comp=Z,1.0nm,0.5s,mb3.7,baz=51,slow=6.8,SNR=18						
MKAR				PcP	PcP	20 59 48.9	-1.0
	comp=Z,0.5nm,0.7s,baz=90,slow=2.4,SNR=3.9						
MKAR	Makanchi Array	47.57	294	P	P	20 58 20.8	-1.1
MKAR				PcP	PcP	20 59 48.9	-1.0
BVAR	Borovoye Array	49.32	307	P	P	20 58 34.0	-1.3
	comp=Z,3.4nm,0.5s,mb4.2,baz=61,slow=7.4,SNR=29						
BVAR				PcP	PcP	20 59 54.8	-1.4
	comp=Z,1.6nm,0.5s,baz=82,slow=3.2,SNR=7.3						
ZRNK	Zerenda	50.00	308	eP	P	20 58 38.9	-1.6
ZRNK				e		20 59 56.6	
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
ZRNK	Zerenda	50.00	308	eP	P	20 58 38.9	-1.6
	comp=Z,3.6nm,0.5s,mb4.3						
ZRNK				ePcP	PcP	20 59 56.6	-2.1
ARCES	ARCESS Array B	51.27	342	P	P	20 58 48.6	-1.3
ARCES						21 00 02.4	
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	ARCESS Array B	51.27	342	P	P	20 58 48.6	-1.3
	comp=Z,0.3nm,0.4s,mb3.3,baz=33,slow=9.2,SNR=8.6						
ARCES				PcP	PcP	21 00 02.4	-0.7
	comp=Z,0.6nm,0.5s,baz=18,slow=3.8,SNR=6.4						
NVAR	Mina Array Bea	54.62	72	P	P	20 59 17.6	+2.5
	comp=Z,2.2nm,0.7s,mb4.0,baz=314,slow=6.4,SNR=14						
NVAR				pP	pP	20 59 47.8	0.0
	comp=Z,2.1nm,0.8s,baz=305,slow=6.2,SNR=5.5						
PDAR	Pinedale Array	56.09	63	P	P	20 59 27.1	+1.5
	comp=Z,1.1nm,0.7s,mb3.8,baz=324,slow=2.7,SNR=9.3						
PDAR				pP	pP	20 59 58.2	-0.4
	comp=Z,1.0nm,0.8s,baz=342,slow=4.7,SNR=4.8						
KAF	Kangasniemi	57.57	337	ep	P	20 59 33.5	-2.2
	comp=Z,0.8nm,0.3s,mb4.0,baz=29,slow=6.6						
KAF	Kangasniemi	57.57	337	eP	P	20 59 33.5	-2.2
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
RSSD	Black Hills	57.84	58	eP	P	20 59 38.7	+0.9
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
RSSD	Black Hills	57.84	58	eP	P	20 59 38.7	+0.9
	comp=Z,2.9nm,0.6s,mb4.3						
FINES	FINESS Array B	58.21	336	P	P	20 59 38.7	-1.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	58.21	336	P	P	20 59 38.7	-1.5
	comp=Z,1.1nm,0.4s,mb4.0,baz=37,slow=6.9,SNR=33						
FINES	FINESS Array B	58.21	336	P	P	20 59 38.7	-1.5
CMAR	Chiang Mai Arr	59.06	257	P	P	20 59 45.6	-1.1
CMAR						21 00 33.6	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR	Chiang Mai Arr	59.06	257	P	P	20 59 45.6	-1.1
	comp=Z,0.7nm,0.6s,mb3.6,baz=28,slow=7.0,SNR=7.8						
CMAR				PcP	PcP	21 00 33.5	-0.1
	comp=Z,1.4nm,0.7s,baz=12,slow=3.6,SNR=9.7						
NB2	NORSAR Subarra	61.48	344	P	P	21 00 00.7	-1.9
	comp=Z,0.6nm,0.5s,mb3.7,baz=20,slow=7.0						
NB2	NORSAR Subarra	61.48	344	P	P	21 00 00.7	-1.9
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
NB2	NORSAR Subarra	61.48	344	P	P	21 00 00.7	-1.9
	comp=Z,0.6nm,0.5s,mb3.7						
NOA	NORSAR Array B	61.48	344	P	P	21 00 01.0	-1.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	61.48	344	P	P	21 00 01.0	-1.6
	comp=Z,0.9nm,0.7s,mb3.7,baz=20,slow=6.7,SNR=4.5						
NOA	NORSAR Array B	61.48	344	P	P	21 00 01.0	-1.6
SCHQ	Schefferville	63.46	29	P	P	21 00 14.7	-1.1
	comp=Z,1.2nm,0.4s,mb4.0,baz=294,slow=10.0,SNR=6.8						
AKASG	Malin Array Be	66.89	329	P	P	21 00 36.5	-1.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	66.89	329	P	P	21 00 36.5	-1.2
	comp=Z,0.9nm,0.3s,mb4.1,baz=29,slow=6.9,SNR=8.2						
AKASG	Malin Array Be	66.89	329	P	P	21 00 36.5	-1.2
TXAR	Lajitas Array	69.40	68	P	P	21 00 55.5	+1.9
TXAR				*PP	pP	21 01 27.0	-0.8
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	69.40	68	P	P	21 00 55.5	+1.9
	comp=Z,0.9nm,0.6s,mb3.7,baz=297,slow=4.5,SNR=12						
TXAR				pP	pP	21 01 27.0	-0.8
	comp=Z,0.7nm,0.7s,baz=285,slow=4.2,SNR=3.4						
BRTR	Keskin Array B	75.14	321	P	P	21 01 27.0	0.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	Keskin Array B	75.14	321	P	P	21 01 27.0	0.0
	comp=Z,0.9nm,0.5s,mb3.7,baz=41,slow=4.7,SNR=5.3						
CTA	Charters Tower	76.15	194	P	P	21 01 34.2	+1.1
CTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CTA	Charters Tower	76.15	194	P	P	21 01 34.2	+1.1
	comp=Z,8.0nm,1.1s,mb4.3,baz=90,slow=6.1,SNR=2.8						
WRA	Warramunga Arr	78.30	205	P	P	21 01 45.1	+0.1
WRA				*PP	pP	21 02 18.1	-2.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	78.30	205	P	P	21 01 45.1	+0.1
	comp=Z,0.9nm,0.7s,mb3.5,baz=16,slow=6.0,SNR=6.5						
WRA				pP	pP	21 02 18.1	-1.9
	comp=Z,0.7nm,0.7s,baz=20,slow=6.2,SNR=2.9						
ESDC	Sonseca Array	84.45	348	P	P	21 02 17.9	+1.3
	comp=Z,2.2nm,0.7s,mb4.0,baz=356,slow=4.1,SNR=9.5						

IDC 05 21:12:30.7±2.3**, 1.99S**×**99.71E, mb3.5**/5**, mb1 3.7**/5**, mb1mx3.5**/17**, mbtmp3.5**/5**, Error ellipse: s-maj=90.4km s-min=25.4km az=56.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.33	358	P	P	21 17 08.4	-3.0
	0.4nm,0.7s,baz=186,slow=10,SNR=3.6						
WRA	Warramunga Arr	38.25	120	P	P	21 19 53.1	-1.5
	0.6nm,0.6s,baz=303,slow=9.0,SNR=11						
SONM	Songino Array	49.96	6	P	P	21 21 26.4	-2.1
	0.2nm,0.3s,baz=188,slow=10,SNR=3.4						
MKAR	Makanchi Array	50.94	345	P	P	21 21 34.3	-1.7
	0.4nm,0.3s,baz=157,slow=8.8,SNR=14						
FINES	FINESS Array B	83.97	332	P	P	21 25 02.6	-1.3
	0.2nm,0.3s,baz=104,slow=5.7,SNR=3.7						
TXAR	Lajitas Array	144.87	37	PKP	PKPdf	21 32 09.1	-3.2
	0.3nm,0.6s,baz=243,slow=2.8,SNR=3.9						

*BJI **05** 21:36:13.9, 3.68N×93.37E, h25km, mB5.7, mb5.1, Ms5.9, Msz5.6*

*IDC **05** 21:36:14.4±0.5, 4.00N×93.46E, mb4.6/21, mb1 4.8/22, mb1mx4.8/23, mbtmp4.6/22, ML4.0/1, MS5.2/22, Ms1 5.2/22, ms1mx5.1/24, Error ellipse: s-maj=16.7km s-min=14.3km az=77.0*

*MOS **05** 21:36:17.4±0.9, 3.99N×93.44E, h33km, mb5.4/65, MS5.3/51, Error ellipse: s-maj=8.4km s-min=4.4km az=115.2*

*HRVD **05** 21:36:18.5±0.1, 3.88N×93.24E, h12km, MW5.4/71, Centroid moment Tensor Solution. LP body waves: s58,c106;Mantle waves: s71,c160; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.54±.02; $M_{\theta\theta}$-0.15±.02; $M_{\phi\phi}$-1.39±.02; $M_{r\theta}$0.25±.06; $M_{\theta\phi}$0.59±.02; $M_{\phi r}$-0.73±.06; Best double couple: $M_0$1.762×10^{17} NP1: ϕ_s337°, δ32°, λ87°. NP2: ϕ_s160°, δ58°, λ92°. Principal axes: T 1.72, Plg77°, Azm75°; N .082, Plg1°, Azm339°; P -1.803, Plg13°, Azm249°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **05** 21:36:18.5±0.2, 3.96N×93.42E, mb5.3/62, MS5.4/126, MW5.6 Error ellipse: s-maj=5.2km s-min=4.2km az=199.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17} Nm; M_{rr}3.27; $M_{\theta\theta}$-0.66; $M_{\phi\phi}$-2.61; $M_{r\theta}$-1.31; $M_{\theta\phi}$0.79; $M_{\phi r}$0.01; Best double couple: $M_0$3.3×10^{17} NP1: ϕ_s176°, δ43°, λ115°. NP2: ϕ_s323°, δ52°, λ69°. Principal axes: T 3.68, Plg73°, Azm173°; N -.75, Plg17°, Azm337°; P -2.93, Plg5°, Azm68°;*

ISC 05 21:36:16.4±0.2**, 3.94N**±0.03×**93.44E**±0.02**, h26km, h26km**±1.4km**: pP-P, n477, σ1s06**/402**, mb5.1**/120**, MS5.4**/179**, 58C-14D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	7.31	79⇑	iP	Pn	21 38 03.8	-0.5
IPM	Ipoh	7.59	85	P	Pn	21 38 08.0	-0.2
SNG	Songkhla	7.84	65	P	Pn	21 38 11.0	-0.6
	230nm,0.9s						
KGM	Kluang	10.05	101	P	P	21 38 42.9	+0.5
NNT	Nongplab	10.62	36	P	P	21 38 48.5	-1.6
PALK	Pallekele	13.10	285	Pn	P	21 39 20.1	-3.4
	94nm,0.9s						
NST	Nakhon Sawan	13.39	29	P	P	21 39 25.0	-2.4
KKTK	Khon Kaen	15.39	36	PG	P	21 39 54.0	+0.3
CM31	Chiang Mai Arr	15.40	20⇑	iP	P	21 39 52.9	-1.0
	144nm,1.0s						
CMAR	Chiang Mai Arr	15.40	20	Pn	P	21 39 53.0	-0.9
	0.2nm,0.3s,baz=215,slow=12,SNR=54						
CMAR				LR	LR	21 46 29.1	
	comp=Z,6μm,18.2s,baz=210,slow=40						
CHG	Chiang Mai	15.74	20	⇑P	P	21 39 57.4	-0.8
	36nm,1.1s						
VIS	Vishakhapatnam	16.91	325	eP	P	21 40 12.8	-0.2
VIS				AMb	AMB	21 40 23.5	
	comp=Z,283nm,1.4s						
TRD	Trivandrum	17.00	286⇓	eP	P	21 40 13.5	-0.7
TRD				e		21 43 28.5	
KSM	Kuching	17.03	98	eP	P	21 40 14.7	+0.2
CAL	Calcutta	19.14	345	eP	P	21 40 41.4	+0.8
CAL				eS	S	21 44 18.0	+8.3
HYB	Hyderabad	19.81	314⇓	eP	P	21 40 48.0	-0.1
HYB				eS	S	21 44 24.0	-0.2
HYB	Hyderabad	19.81	314⇓	iP	P	21 40 48.0	-0.1
HYB				eS	S	21 44 24.0	-0.2
HYB				LR	LR	21 55 40.0	
	comp=Z,13nm,14.0s						
AGT	Agartala	19.94	354⇑	i	P	21 40 45.0	-4.5
AGT				i		21 41 26.0	
MNGI	Mangalore	20.46	297	i P	P	21 40 53.1	-1.7
MNGI				i S	S	21 44 38.9	+1.4
IMP	Imphal	20.73	1	eP	P	21 40 56.0	-1.7
BLSP	Bilaspur	21.15	330	eP	P	21 41 00.8	-1.2
BLSP				AMb	AMB	21 41 07.1	
	comp=Z,134nm,1.5s,mb5.0						
BLSP				eS	S	21 44 54.5	+3.7
SHL	Shillong	21.56	356	i P	P	21 41 05.0	-1.0
SHL				i		21 45 00.0	
LATR	Latur	21.90	312	eP	P	21 41 09.0	-0.5
LATR				e		21 45 16.3	
QIZ	Qiongzhong	21.95	46⇑	iP	P	21 41 10.2	+0.2
QIZ				XP		21 41 17.2	
QIZ				S	S	21 45 07.4	+1.5
QIZ				XS		21 45 16.2	
QIZ				AMB	AMB		
	comp=Z,2μm,14.2s						
QIZ				LR	LR		
	comp=N,22μm,14.1s,MS5.8						
QIZ				LR	LR		
	comp=E,12μm,14.1s,MS5.8						
QIZ				LR	LR		
	comp=Z,25μm,11.3s,MS5.9						
QIZ	Qiongzhong	21.95	46	P	P	21 41 10.3	+0.3
QIZ	Qiongzhong	21.95	46⇑	eP	P	21 41 10.1	+0.1
	comp=Z,324nm,1.6s,mb5.5						
QIZ				LR	LR		
	comp=Z,15μm,19.0s,MS5.4						
KKM	Kota Kinabalu	22.79	84⇑	iP	P	21 41 19.7	+1.2
KKM	Kota Kinabalu	22.79	84	P	P	21 41 21.0	+2.6
KMI	Kunming	22.89	22	P	P	21 41 21.1	+1.8
KMI				AP		21 41 33.2	
KMI				PP	PP	21 41 53.4	+4.5
KMI				PPP	PPP	21 42 03.9	+5.0
KMI				PCP	PcP	21 45 09.1	-1.8
KMI				S	S	21 45 26.4	+3.5
KMI				SS	SS	21 46 15.0	+7.8
KMI				SSS	SSS	21 46 30.9	+8.3
KMI				SCP		21 48 41.7	
KMI				PCS		21 48 47.0	
KMI				AMB	AMB		
	comp=Z,107nm,1.4s,mb5.1						
KMI				AMB	AMB		
	comp=Z,2μm,6.8s						
KMI				LR	LR		
	comp=N,12μm,10.2s,MS5.7						
KMI				LR	LR		
	comp=E,10μm,11.2s,MS5.7						
KMI				LR	LR		
	comp=Z,12μm,10.0s,MS5.6						
KMI	Kunming	22.89	22	P	P	21 41 21.1	+1.8
KMI				*PP		21 41 33.2	
KMI						21 41 53.4	
KMI						21 45 09.1	
KMI				S	S	21 45 26.4	+3.5
KMI				SS	SS	21 46 15.0	+7.8
KMI				pmax	pmax		
	comp=Z,107nm,1.4s,mb5.1						
KMI				MLR	MLR		
	comp=Z,12μm,10.0s,MS5.6						
KMI	Kunming	22.89	22	P	P	21 41 21.1	+1.8
	comp=Z,107nm,1.4s,mb5.1						
KMI				pP		21 41 33.2	
KMI				sP		21 41 38.7	
KMI				PP	PP	21 41 53.4	+4.5
KMI				PPP	PPP	21 42 03.9	+5.0
KMI				PcP	PcP	21 45 09.1	-1.8
KMI				S	S	21 45 26.4	+3.5
KMI				sS		21 45 46.9	
KMI				SS	SS	21 46 15.0	+7.8
KMI				SSS	SSS	21 46 30.9	+8.3
KMI				ScP		21 48 41.7	
KMI				PcS		21 48 47.0	
KMI				LR	LR		
	comp=Z,12μm,10.0s,MS5.6						
KAD	Karad	23.09	307	e	Px	21 41 49.5	
KAD				AMb	AMB	21 41 54.3	
	comp=Z,157nm,1.6s,mb5.2						
KAD				eS	S	21 45 31.7	+5.2
AKL	Akola	23.09	318⇓	i	P	21 41 27.3	+5.9
DGAR	Diego Garcia	23.78	242	PFAKE		21 41 40.0	+12
DGAR				LR	LR		
	comp=Z,2μm,19.0s,MS4.7						
ALBI	Allahabad	24.01	333	eP	P	21 41 30.0	-0.2
POO	Poona	24.03	309	eP	P	21 41 30.3	-0.2
POO				AMb	AMB	21 41 35.5	

POO comp=Z,634nm,3.3s eS S 21 45 46.8 +4.0
TSM Tawau 24.37 88 P **P** **21 41 36.4 +2.5**
BHPL Bhopal 24.66 323 *e*P **P** **21 41 36.7 +0.1**
PKI Pulchoki 24.72 343 *e*P **P** **21 41 37.8 +0.7**
comp=Z,396nm,1.5s,mb5.7
PKI Pulchoki 24.72 343 *e*P **P** **21 41 37.8 +0.7**
PKI pmax pmax
comp=Z,198nm,1.5s,mb5.4
DMN Daman 24.85 342 *e*P **P** **21 41 39.1 +0.8**
comp=Z,151nm,0.9s,mb5.5
GUN Gumba 24.91 344 *e*P **P** **21 41 40.0 +1.1**
comp=Z,728nm,1.4s,mb6.0
KKN Kakani 24.96 343 *e*P **P** **21 41 40.2 +0.8**
comp=Z,278nm,1.1s,mb5.7
KKN Kakani 24.96 343 *e*P **P** **21 41 40.2 +0.8**
KKN pmax pmax
comp=Z,139nm,1.1s,mb5.4
GKN Gorkha 25.36 342 *e*P **P** **21 41 43.9 +0.7**
comp=Z,392nm,1.0s,mb5.9
KOLN Koldanda 25.49 339 *e*P **P** **21 41 45.3 +0.9**
comp=Z,444nm,1.3s,mb5.8
LSA Lhasa 25.72 355 P **P** **21 41 48.0 +1.5**
LSA AP pP 21 41 58.3 +4.1
LSA XP sP 21 42 03.4 +5.7
LSA PCP PcP 21 45 11.1 -5.8
LSA S **S** **21 46 15.4 +4.2**
LSA SCP 21 48 47.1
LSA PCS 21 48 52.3
LSA SCS ScS 21 52 38.6 -2.6
LSA AMB AMB
comp=Z,130nm,1.0s,mb5.4
LSA AMB AMB
comp=Z,2μm,8.4s
LSA LR LR
comp=N,4μm,15.1s,MS5.5
LSA LR LR
comp=E,9μm,13.1s,MS5.5
LSA LR LR
comp=Z,10μm,14.5s,MS5.5
LSA Lhasa 25.72 355 P **P** **21 41 48.6 +2.1**
LSA S **S** **21 46 18.0 +6.8**
LSA Lhasa 25.72 355⇑ *e*P **P** **21 41 48.6 +2.1**
LSA pmax pmax
comp=Z,100nm,0.7s,mb5.5
LSA MLR MLR
comp=Z,4μm,21.0s,MS4.9
LSA Lhasa 25.72 355⇑ *e*P **P** **21 41 48.6 +2.1**
comp=Z,103nm,0.7s,mb5.5
LSA LR LR
comp=Z,4μm,21.0s,MS4.9
GYA Guiyang 25.73 28⇑ *i*P **P** **21 41 46.8 +0.2**
GYA AP pP 21 41 50.8 -3.5
GYA XP sP 21 41 53.9 -3.9
GYA PP PP 21 42 27.5 +0.6
GYA S **S** **21 46 10.7 -0.7**
GYA AMB AMB
comp=Z,30nm,1.2s,mb4.7
GYA AMB AMB
comp=Z,1μm,7.8s
GYA LR LR
comp=N,9μm,14.5s,MS5.6
GYA LR LR
comp=E,10μm,13.0s,MS5.6
GYA LR LR
comp=Z,9μm,12.6s,MS5.5
GZH Guangzhou 27.07 44 P **P** **21 42 03.6 +4.6**
GZH LR LR
comp=N,17μm,15.9s,MS5.8
GZH LR LR
comp=E,10μm,16.2s,MS5.8
GZH LR LR
comp=Z,24μm,12.7s,MS6.0
HKC Hong Kong 27.15 46 P **P** **21 42 02.0 +2.3**
LGTI Lohaghat 28.29 335 *e*P **P** **21 42 10.5 +0.5**
CD2 Chengdu 28.54 19 P **P** **21 42 11.6 -0.6**
CD2 S **S** **21 47 00.0 +2.9**
CD2 AMB AMB
comp=Z,61nm,1.2s,mb5.2
CD2 LR LR
comp=E,24μm,10.0s
NDI New Delhi 29.04 330 *e*P **P** **21 42 15.0 -1.8**
DDI Dehra Dun 30.00 333 *e*P **P** **21 42 25.6 +0.2**
DDI *e* 21 48 23.0
ENH Enshi 30.27 28⇑ *i*P **P** **21 42 26.6 -1.1**
comp=E,38nm,0.9s,mb5.1
ENH LR LR
comp=Z,7μm,19.0s,MS5.3
SDNR Sundarnagar 31.49 332 *e*P **P** **21 42 38.4 -0.1**
BHK Bhakra 31.68 332 *e* pP 21 42 53.4 +5.5
QZH Quanzhou 31.96 47⇑ *i*P **P** **21 42 43.0 +0.4**
QZH PP PP 21 43 48.0 -1.0
QZH S **S** **21 47 54.1 +2.9**
QZH AMB AMB
comp=Z,1μm,7.0s
QZH LR LR
comp=N,17μm,11.1s
QZH LR LR
comp=E,18μm,9.3s
QZH LR LR
comp=Z,32μm,11.7s,MS6.2
DAV Davao City (W) 32.14 83 *e*P **P** **21 42 46.0 +1.7**
WHN Wuhan 33.02 34 ⇑P **P** **21 42 52.5 +0.7**
WHN S **S** **21 48 10.3 +2.7**
WHN AMB AMB
comp=Z,1μm,8.5s
WHN LR LR
comp=N,22μm,10.5s,MS6.2
WHN LR LR
comp=E,18μm,12.2s,MS6.2
WHN LR LR
comp=Z,25μm,11.2s,MS6.2
XAN Xi'an 33.24 24 P **P** **21 42 52.3 -1.4**
XAN AP pP 21 42 59.9 -1.6
XAN S **S** **21 48 04.3 -6.7**
XAN AMB AMB
comp=Z,64nm,1.2s,mb5.4
XAN LR LR
comp=N,6μm,14.0s,MS5.7
XAN LR LR
comp=E,10μm,16.9s,MS5.7
XAN LR LR
comp=Z,8μm,12.5s,MS5.7
LZH Lanzhou 33.40 15 ⇑P **P** **21 42 54.6 -0.5**
LZH PP PP 21 44 05.8 -1.4
LZH *e*S **S** **21 48 14.7 +1.2**
LZH SS SS 21 50 17.6 +0.6
LZH AMB AMB
comp=Z,97nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,621nm,9.2s
LZH LR LR
comp=N,4μm,11.5s
LZH LR LR
comp=Z,5μm,14.1s,MS5.3
LZH Lanzhou 33.40 15 ⇑P **P** **21 42 54.6 -0.5**
comp=Z,97nm,1.5s,mb5.5
LZH pP pP 21 42 57.8 -5.1
LZH sP sP 21 42 59.2 -7.1
LZH PP PP 21 44 05.8 -1.4
LZH *e*S **S** **21 48 14.7 +1.2**
LZH sS 21 48 20.5
LZH SS SS 21 50 17.6 +0.6
LZH LR LR
comp=Z,5μm,14.1s,MS5.4
TATO Taipei 34.13 50 PFAKE 21 43 10.0 +8.5
TATO LR LR
comp=Z,6μm,19.0s,MS5.4
GTA Gaotai 35.78 8 *e*P **P** **21 43 15.6 +0.1**
GTA AP pP 21 43 24.7 +1.4
GTA XP sP 21 43 28.7 +2.0
GTA PP PP 21 44 39.5 +2.8
GTA S **S** **21 48 51.5 +1.1**
GTA XS 21 49 09.0
GTA SS SS 21 51 13.8 +2.1
GTA SCS ScS 21 53 34.3 +4.4
GTA AMB AMB
comp=Z,21nm,1.6s,mb4.8
GTA AMB AMB
comp=Z,823nm,6.9s
GTA LR LR
comp=N,2μm,20.2s
GTA LR LR
comp=E,2μm,13.3s
GTA LR LR
comp=Z,3μm,16.3s,MS5.2
MBWA Marble Bar 35.86 135 P **P** **21 43 16.1 -0.2**
comp=Z,32nm,1.2s,mb5.1
MBWA LR LR
comp=Z,5μm,19.0s,MS5.3
NJ2 Nanjing 36.75 38 *e*P **P** **21 43 22.2 -1.5**
NJ2 AP pP 21 43 32.0 +0.4
NJ2 XP sP 21 43 36.2 +1.3
NJ2 PP PP 21 44 46.5 -2.7
NJ2 AMB AMB
comp=Z,30nm,1.3s,mb5.0
NJ2 AMB AMB
comp=Z,610nm,10.4s
NJ2 LR LR
comp=N,27μm,16.6s,MS6.2
NJ2 LR LR
comp=E,19μm,15.2s,MS6.2
NJ2 LR LR
comp=Z,4μm,21.3s
SSE Sheshan 37.58 41 P **P** **21 43 27.4 -3.3**
SSE AP pP 21 43 36.4 -2.2
SSE XP sP 21 43 40.2 -1.7
SSE S **S** **21 49 18.3 +0.3**
SSE XS 21 49 33.1
SSE AMB AMB
comp=Z,36nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,615nm,11.7s
SSE LR LR
comp=N,3μm,22.4s,MS5.2
SSE LR LR
comp=E,4μm,22.4s,MS5.2
SSE LR LR
comp=Z,4μm,19.7s,MS5.3
SSE Sheshan 37.58 41 P **P** **21 43 27.4 -3.3**
comp=Z,36nm,0.7s,mb5.2
SSE pP pP 21 43 36.4 -2.2
SSE sP sP 21 43 40.2 -1.7
SSE S **S** **21 49 18.3 +0.3**
SSE sS 21 49 33.1
SSE LR LR
comp=Z,4μm,19.7s,MS5.3
TIY Taiyuan 37.84 25 *e*P **P** **21 43 32.0 -0.8**
TIY S **S** **21 49 27.0 +5.1**
TIY LR LR
comp=N,10μm,12.0s,MS5.9
TIY LR LR
comp=E,4μm,10.0s,MS5.9
FITZ Fitzroy Crossi 38.56 126⇑ *i*P **P** **21 43 31.7 -7.3**
comp=E,57nm,0.6s,mb5.5
FITZ Fitzroy Crossi 38.56 126 LR LR 21 58 58.4
comp=E,2μm,19.7s,MS4.8,baz=296,slow=35
KSH Kashi 38.80 338 *e*P **P** **21 43 41.2 +0.4**
KSH *e*AP pP 21 43 46.2 -2.5
KSH *e*XP sP 21 43 48.0 -4.0
KSH *e*PP PP 21 45 13.0 -0.6
KSH *e*PCP PcP 21 45 53.1 +0.7
KSH S **S** **21 49 36.7 +0.4**
KSH *e*PS 21 49 41.3
KSH *e*XS 21 49 48.4
KSH *e*SS SS 21 52 17.1 -2.2
KSH *e*SCS ScS 21 53 49.6 +2.7
KSH AMB AMB
comp=Z,100nm,0.6s,mb5.7
KSH AMB AMB
comp=Z,540nm,4.4s
KSH LR LR
comp=N,3μm,11.4s,MS5.9
KSH LR LR
comp=E,11μm,12.3s,MS5.9
TIA Tai'an 38.83 31 *e*P **P** **21 43 40.8 -0.3**
TIA LR LR
comp=N,4μm,16.0s,MS5.8
TIA LR LR
comp=E,10μm,16.0s,MS5.8
BTO Baotou 39.45 20 *e*P **P** **21 43 46.6 +0.4**
BTO S **S** **21 49 42.8 -3.3**
BTO AMB AMB
comp=Z,26nm,0.9s,mb5.0
WMQ Urumqi 40.04 354 P **P** **21 43 52.6 +1.5**
WMQ AP pP 21 43 57.1 -1.9
WMQ XP sP 21 43 59.6 -2.7
WMQ PP PP 21 45 28.9 +2.0
WMQ S **S** **21 49 57.5 +2.5**
WMQ SS SS 21 52 48.0 +1.4
WMQ AMB AMB
comp=Z,31nm,1.7s,mb4.8
WMQ AMB AMB
comp=Z,881nm,4.2s
WMQ LR LR
comp=N,3μm,15.3s,MS5.4
WMQ LR LR
comp=E,3μm,14.1s,MS5.4
WMQ LR LR
comp=Z,3μm,14.4s,MS5.3
HHC Hu-ho-hao-te 40.21 21 *e*P **P** **21 43 53.8 +1.3**
HHC AP pP 21 43 58.4 -2.0
HHC XP sP 21 44 00.8 -2.8
HHC PP PP 21 45 30.8 +2.2
HHC PCP PcP 21 45 58.0 +1.2
HHC SCP 21 49 46.7
HHC S **S** **21 50 02.1 +4.6**
HHC XS 21 50 09.2
HHC SS SS 21 52 55.0 +4.8
HHC SCS ScS 21 53 56.6 +1.5
HHC AMB AMB
comp=Z,66nm,1.5s,mb5.1
HHC AMB AMB
comp=Z,555nm,10.7s
HHC LR LR
comp=N,5μm,16.6s,MS6.0
HHC LR LR
comp=E,15μm,16.6s,MS6.0
HHC LR LR
comp=Z,4μm,17.8s,MS5.3
JOW Kunigami 40.33 52 LR LR 22 00 24.1
comp=Z,4μm,21.6s,MS5.2,baz=159,slow=36
ULHL Ulahol 41.12 340 P **P** **21 44 01.1 +1.1**
SNR=16
KZA Kyzart 41.31 339 P **P** **21 44 02.9 +1.4**
SNR=31
UCH Uchtor 41.70 339 P **P** **21 44 06.1 +1.4**
SNR=40
AML Almayashu 41.92 338 P **P** **21 44 08.1 +1.5**
SNR=63
KBK Karagaybulak 41.92 340 P **P** **21 44 08.2 +1.6**
SNR=34
TKM2 Tokmak 2 41.94 340 P **P** **21 44 07.5 +0.9**
SNR=36
AAK Ala-Archa 42.06 339 P **P** **21 44 09.0 +1.3**
SNR=10
AAK Ala-Archa 42.06 339*c i*P **P** **21 44 07.8 +0.1**
AAK pmax pmax
comp=Z,52nm,1.8s,mb4.9
AAK Ala-Archa 42.06 339⇑ *e*P **P** **21 44 07.5 -0.3**
comp=Z,66nm,1.4s,mb5.1
AAK LR LR
comp=Z,852nm,19.0s,MS4.7
FRU Bishkek 42.20 339 *e*P **P** **21 44 10.5 +1.7**
FRU *i* pP 21 44 20.0 +3.3
FRU *e* 21 50 30.0
FRU pmax pmax
comp=Z,94nm,1.5s,mb5.2
CHMS Chumysh 42.30 340 P **P** **21 44 09.9 +0.3**
SNR=12
USP Ospenovka 42.62 340 P **P** **21 44 13.0 +0.7**
SNR=48
NWAO Narrogin (SRO) 43.04 150 P **P** **21 44 17.1 +1.3**
NWAO MLR MLR
comp=Z,2μm,20.0s
NWAO Narrogin (SRO) 43.04 150 LR LR 22 01 28.6
comp=Z,3μm,19.1s,MS5.2,baz=328,slow=35
DL2 Dalian 43.22 33 P **P** **21 44 18.2 +1.0**
DL2 AP pP 21 44 26.4 +1.3
DL2 S **S** **21 50 47.3 +5.3**
DL2 AMB AMB
comp=Z,20nm,1.2s,mb4.7
DL2 AMB AMB
comp=Z,400nm,6.4s
DL2 LR LR
comp=N,2μm,14.8s,MS5.4
DL2 LR LR
comp=E,3μm,15.9s,MS5.4
DL2 LR LR
comp=Z,3μm,11.8s,MS5.4
MKAR Makanchi Array 43.77 349 *i*P **P** **21 44 22.1 +0.5**
MKAR pmax pmax
comp=Z,10.0nm,0.5s
MKAR Makanchi Array 43.77 349 P **P** **21 44 22.1 +0.5**
comp=Z,10nm,0.5s,mb4.8,baz=170,slow=8.7,SNR=144
MKAR LR LR 22 05 23.5
comp=Z,2μm,20.8s,MS4.9,baz=173,slow=40
KKAR Karatay Array 43.99 336 *i*P **P** **21 44 23.1 -0.3**
KKAR pmax pmax
comp=Z,23nm,0.9s,mb4.9
INCN Inchon 45.13 38 PFAKE 21 44 40.0 +7.3
INCN LR LR
comp=E,6μm,19.0s,MS5.5
SONM Songino Array 45.13 12 P **P** **21 44 33.1 +0.6**
comp=Z,5.0nm,0.8s,mb4.4,baz=194,slow=8.7,SNR=38
SONM LR LR 22 05 05.2
comp=Z,3μm,20.9s,MS5.2,baz=281,slow=38
ULN Ulaanbaatar 45.31 13⇑ *i*P **P** **21 44 34.6 +0.7**
ULN Ulaanbaatar 45.31 13⇑ *i*P **P** **21 44 34.3 +0.4**
comp=Z,81nm,1.8s,mb5.2
ULN LR LR
comp=Z,2μm,21.0s,MS5.0
JNU Nakatsue 45.42 46 LR LR 22 06 59.6
comp=Z,6μm,18.1s,MS5.6,baz=242,slow=41
SNY Shenyang 46.36 31 ⇑P **P** **21 44 41.4 -0.9**
SNY AP pP 21 44 52.8 +2.6
SNY XP sP 21 44 56.6 +3.1
SNY PP PP 21 46 32.5 +1.4
SNY S **S** **21 51 29.5 +2.3**
SNY AMB AMB
comp=Z,30nm,1.2s,mb5.1
SNY AMB AMB
comp=Z,620nm,7.9s
SNY LR LR
comp=E,6μm,12.9s
SNY LR LR
comp=Z,4μm,12.0s,MS5.6
WRA Warramunga Arr 46.66 122 P **P** **21 44 44.9 0.0**
comp=Z,21nm,0.9s,mb5.1,baz=299,slow=8.7,SNR=18
ZAK Zakamensk 47.02 9 *i*P **P** **21 44 46.9 -0.5**
ZAK pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
TLY Talaya 48.34 8 *e*P **P** **21 44 58.6 +0.9**
TLY *e* 21 46 50.2
TLY *e*S **S** **21 51 55.7 +0.6**
TLY *e* 21 54 46.1
TLY pmax pmax
comp=Z,26nm,1.5s,mb5.0
TLY MLR MLR
comp=Z,2μm,15.0s,MS5.2
TLY Talaya 48.34 8⇑ *e*P **P** **21 44 58.6 +0.9**
comp=Z,33nm,1.5s,mb5.1
TLY LR LR
comp=Z,567nm,20.0s,MS4.5
CN2 Changchun 48.73 31 *e*P **P** **21 44 59.8 -1.0**
CN2 *e*AP pP 21 45 09.4 +0.5
CN2 *e*XP sP 21 45 13.1 +1.1
CN2 PP PP 21 46 53.1 -0.7
CN2 PPP PPP 21 47 45.2 -1.6
CN2 *e*S **S** **21 52 02.4 +1.6**
CN2 SS SS 21 55 25.0 -1.6
CN2 AMB AMB
comp=Z,30nm,2.0s,mb5.0
CN2 AMB AMB
comp=Z,380nm,5.0s
CN2 LR LR
comp=N,6μm,13.0s,MS5.9
CN2 LR LR
comp=E,6μm,13.0s,MS5.9
CN2 LR LR
comp=Z,4μm,14.0s,MS5.5
IRK Irkutsk 48.98 9 *e*P **P** **21 45 02.8 +0.2**
IRK pmax pmax
comp=Z,82nm,2.1s,mb5.4
QRN Al-Qurain 49.73 305 *e*P **P** **21 45 09.0 +0.3**
QRN AMb AMB 21 45 13.6
comp=Z,86nm,1.0s,mb5.8
KBD Kabd 50.06 305 *e*P **P** **21 45 12.2 +0.9**
KBD AMb AMB 21 45 23.1
comp=Z,487nm,1.3s
RDF Al-Radifah 50.09 305 *e*P **P** **21 45 12.2 +0.7**
RDF AMb AMB 21 45 23.3
comp=Z,230nm,1.1s,mb6.1
KAMS Al Khamasin 50.24 293 P **P** **21 45 12.5 -0.2**
ZAL Zalesovo 50.34 353 *i*P **P** **21 45 13.2 +0.1**
ZAL pmax pmax
comp=Z,9.0nm,0.4s
ZAL Zalesovo 50.34 353 P **P** **21 45 13.2 +0.1**
comp=Z,9.3nm,0.4s,mb5.2,baz=299,slow=4.1,SNR=48
HIA Hailar 50.40 22⇑ *i*P **P** **21 45 13.8 +0.2**
HIA pmax pmax
comp=Z,75nm,1.3s
HIA MLR MLR
comp=Z,5μm,20.0s
HIA Hailar 50.40 22⇑ *i*P **P** **21 45 13.8 +0.2**
comp=Z,75nm,1.3s,mb5.6
HIA LR LR
comp=Z,5μm,20.0s,MS5.5
NAY Al-Naaiem 50.46 305 *e*P **P** **21 45 14.4 +0.2**
NAY AMb AMB 21 45 24.2
comp=Z,102nm,1.0s,mb5.8
MZLS Mizel 50.56 298 P **P** **21 45 16.4 +1.2**
DJNS Zahran al Janu 50.71 290 P **P** **21 45 17.9 +1.6**
OPO Ambohidratompo 50.74 242 P **P** **21 45 18.5 +2.0**
comp=Z,2.5nm,0.7s,mb4.2
CIT Chita 50.76 16 *e*P **P** **21 45 17.0 +0.7**
CIT *e* 21 52 33.4
CIT pmax pmax
comp=Z,139nm,1.4s,mb5.7
TATS Tathlith 51.10 292 P **P** **21 45 19.5 +0.3**
NVS Novosibirsk 51.42 352⇑ *i*P **P** **21 45 20.5 -0.7**
NVS *e*S **S** **21 52 39.8 +2.0**
NVS pmax pmax
comp=Z,129nm,2.1s,mb5.5
NVS pmax pmax
comp=N,209nm,2.5s
NVS smax
comp=N,68nm,1.9s
NVS smax
comp=E,45nm,2.0s
MDJ Mudanjiang 51.46 33 P **P** **21 45 22.1 +0.4**
MDJ AP pP 21 45 25.3 -4.5
MDJ PCP PcP 21 46 32.9 -3.1
MDJ PP PP 21 47 21.6 +1.9
MDJ SCP 21 50 29.1
MDJ PCS 21 50 31.8
MDJ S **S** **21 52 42.9 +4.4**
MDJ AMB AMB
comp=Z,31nm,1.3s,mb5.1
MDJ AMB AMB
comp=Z,758nm,7.2s
MDJ LR LR
comp=N,3μm,13.8s,MS5.6
MDJ LR LR
comp=E,3μm,15.9s,MS5.6
MDJ LR LR
comp=Z,6μm,11.7s,MS5.9
MDJ Mudanjiang 51.46 33⇑ *i*P **P** **21 45 22.2 +0.6**
comp=Z,58nm,1.4s,mb5.3
MDJ LR LR
comp=Z,3μm,20.0s,MS5.4
GUMO Guam 51.63 76 PFAKE 21 45 40.0 +17
GUMO LR LR
comp=Z,1μm,19.0s,MS5.0
CBIJ Chichi jima 51.88 58 LR LR 22 07 27.4
comp=Z,1μm,18.1s,MS5.0,baz=182,slow=36
JHJ Hachijo jima 2 52.05 50 LR LR 22 11 29.2
comp=Z,2μm,18.1s,MS5.2,baz=291,slow=41
VOSK Vostochnaya 52.05 343 *i*P **P** **21 45 25.3 -0.8**
MAJO Matsushiro 52.35 46 *e*P **P** **21 45 28.2 -0.3**
MAJO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MAJO MLR MLR
comp=Z,4μm,19.0s,MS5.5
MAJO Matsushiro 52.35 46 *e*P **P** **21 45 28.1 -0.4**
comp=Z,8.2nm,0.8s,mb4.7
MAJO LR LR
comp=Z,4μm,19.0s,MS5.5
MAT Matsushiro 52.35 46 *e*P **P** **21 45 26.0 -2.5**
MAT *e*S **S** **21 52 57.0 +6.1**
MAT LR LR
comp=Z,4μm,20.0s,MS5.4
MAT Matsushiro 52.35 46 P **P** **21 45 25.7 -2.8**
MAT S **S** **21 52 56.0 +5.1**

MJAR **Matsushiro Arr** 52.35 46 P **P** 21 45 27.6 -0.9
comp=Z,2.9nm,0.8s,mb4.2,baz=256,slow=7.0,SNR=7.2
MJAR PcP PcP 21 46 40.2 +0.8
comp=Z,12nm,1.1s,baz=242,slow=6.0,SNR=8.7
MJAR LR LR 22 09 51.6
comp=Z,4μm,18.6s,MS5.5,baz=255,slow=39
BVA0 Borovoye Array 52.49 343 *i* P **P** 21 45 28.4 -0.9
BVA0 pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
ZRNK Zerenda 52.85 342⇑ *i*P **P** 21 45 31.1 -0.9
ZRNK pmax pmax
comp=Z,112nm,1.9s,mb5.5
ZRNK Zerenda 52.85 342⇑ *i*P **P** 21 45 31.1 -1.0
comp=Z,112nm,1.9s,mb5.5
BLJS Baljurashi 52.90 292 P **P** 21 45 34.4 +1.6
AB31 Akbulak array 53.37 333 *i* P **P** 21 45 34.9 -1.0
AB31 pmax pmax
comp=Z,49nm,1.2s,mb5.3
LTHS Al Lith 54.07 292 P **P** 21 45 42.4 +1.0
HILS Ha'il 54.43 301 P **P** 21 45 45.0 +1.0
PMG Port Moresby 55.15 104 *e*P **P** 21 45 48.9 -0.5
PMG pmax pmax
comp=Z,36nm,1.1s
PMG MLR MLR
comp=Z,2μm,19.0s
PMG Port Moresby 55.15 104 *e*P **P** 21 45 48.9 -0.6
comp=Z,36nm,1.1s,mb5.3
PMG LR LR
comp=Z,2μm,19.0s,MS5.1
BOD Bodaibo 56.12 13 *e*P **P** 21 45 54.3 -1.5
BOD pmax pmax
comp=Z,32nm,1.2s,mb5.2
KBRS Khaybar 56.22 298 P **P** 21 45 58.8 +1.8
KMBO Kilima Mbogo 56.37 266 P **P** 21 45 59.4 +1.2
comp=Z,2.1nm,0.8s,mb4.2,baz=62,slow=14,SNR=5.0
KMBO LR LR 22 07 45.6
comp=Z,2μm,18.8s,MS5.3,baz=80,slow=34
KMBO Kilima Mbogo 56.37 266 P **P** 21 45 59.4 +1.2
KMBO LR LR 22 07 45.6
GNI Garni 56.73 316 P **P** 21 46 00.0 -0.5
GNI pmax pmax
comp=Z,110nm,1.3s
GNI MLR MLR
comp=Z,1μm,21.0s
GNI Garni 56.73 316 *e*P **P** 21 45 59.5 -1.0
comp=Z,108nm,1.4s,mb5.7
GNI LR LR
comp=Z,1μm,21.0s,MS5.0
CTAO Charters Tower 57.08 117 *e*P **P** 21 46 02.8 -0.4
CTAO pmax pmax
comp=Z,23nm,1.1s,mb5.1
CTAO MLR MLR
comp=Z,2μm,21.0s,MS5.2
CTAO Charters Tower 57.08 117 *e*P **P** 21 46 02.8 -0.4
comp=Z,23nm,1.1s,mb5.1
CTAO LR LR
comp=Z,2μm,21.0s,MS5.2
TI2 Plekhanov 57.44 318⇑ *i*P **P** 21 46 05.0 -0.5
TI2 *i* pP 21 46 13.0 -0.6
TI2 pmax pmax
comp=Z,30nm,1.0s,mb5.3
TI2 pmax pmax
comp=Z,60nm,1.0s,mb5.6
TI2 MLR MLR
comp=Z,1μm,16.0s,MS5.0
STKA Stephens Creek 57.97 132 P **P** 21 46 08.9 -0.3
comp=Z,7.2nm,0.9s,mb4.7,baz=302,slow=10,SNR=4.6
STKA LR LR 22 15 16.9
comp=Z,2μm,18.4s,MS5.2,baz=305,slow=40
STKA Stephens Creek 57.97 132 *e*P **P** 21 46 08.8 -0.4
CLNS Chul'man 58.35 20 *e*P **P** 21 46 11.4 -0.2
CLNS *e**PP pP 21 46 21.0 +1.2
CLNS *e* 21 47 06.4
CLNS *e*S **S** 21 53 59.6 -11
CLNS pmax pmax
comp=Z,29nm,1.2s,mb5.2
CLNS pmax pmax
comp=N,22nm,1.4s
CLNS pmax pmax
comp=E,15nm,1.3s
CLNS pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
CLNS pmax pmax
comp=N,7.0nm,1.3s
CLNS pmax pmax
comp=E,7.0nm,1.1s
CLNS smax
comp=N,434nm,11.1s
CLNS smax
comp=Z,205nm,11.8s
CLNS smax
comp=E,71nm,16.2s
CLNS MLR MLR
comp=N,2μm,14.0s,MS5.5
CLNS MLR MLR
comp=Z,4μm,14.0s,MS5.7
CLNS MLR MLR
comp=E,200nm,10.0s,MS5.5
MARD Mardin 58.42 312 *i* P **P** 21 46 09.8 -2.5
ZEI Tsey 58.48 319 *e*P **P** 21 46 09.5 -3.2
ZEI pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
ONI Oni 58.69 319 P **P** 21 46 13.8 -0.3
ONI S **S** 21 54 17.9 +2.6
SVE Sverdlovsk 58.80 340⇑ *i*P **P** 21 46 14.9 +0.1
SVE *e* pP 21 46 24.0 +1.1
SVE *e* 21 47 09.0
SVE *e* 21 48 28.0
SVE *e*S **S** 21 54 16.0 -0.7
SVE *e* 21 56 00.0
SVE pmax pmax
comp=Z,120nm,2.0s,mb5.6
SVE MLR MLR
comp=N,2μm,17.0s,MS5.5
SVE MLR MLR
comp=E,2μm,17.0s,MS5.5
SVE MLR MLR
comp=Z,4μm,17.0s,MS5.6
ASAJ Asahikawa 58.85 40 P **P** 21 46 14.8 -0.4
comp=Z,12nm,0.8s,mb5.0,baz=180
ASAJ LR LR 22 12 27.2
comp=Z,3μm,18.3s,MS5.5,baz=86,slow=37
ARU Arti 59.24 338⇑ *i*P **P** 21 46 16.4 -1.4
ARU *i* 21 47 03.4
ARU *e*S **S** 21 54 24.0 +1.6
ARU *e* 21 56 01.6
ARU *e*SS SS 21 58 17.2 -1.4
ARU pmax pmax
comp=Z,24nm,1.1s,mb5.1
ARU MLR MLR
comp=Z,2μm,18.0s,MS5.4
ARU MLR MLR
comp=N,1μm,20.0s,MS5.2
ARU MLR MLR
comp=E,1μm,17.0s,MS5.2
ARU Arti 59.24 338⇑ *i*P **P** 21 46 16.3 -1.5
comp=E,29nm,1.2s,mb5.2
ARU LR LR
comp=Z,466nm,19.0s,MS4.6
QURS Qurayyt al Mil 59.27 304 P **P** 21 46 19.8 +1.5
KIV Kislovodsk 59.80 320 *e*P **P** 21 46 20.4 -1.4
KIV *e* 21 48 31.8
KIV *i*S **S** 21 54 30.9 +1.2
KIV *e*SS SS 21 58 25.0 -2.1
KIV pmax pmax
comp=E,14nm,1.0s
KIV pmax pmax
comp=Z,24nm,1.0s,mb5.2
KIV smax
comp=N,657nm,8.3s
KIV smax
comp=E,273nm,8.3s
KIV Kislovodsk 59.80 320 P **P** 21 46 21.1 -0.7
KIV pmax pmax
comp=Z,39nm,1.2s,mb5.3
KIV MLR MLR
comp=Z,240nm,20.0s
KIV Kislovodsk 59.80 320⇑ *i*P **P** 21 46 20.8 -1.1
comp=Z,39nm,1.3s,mb5.3
KIV LR LR
comp=Z,235nm,20.0s
JMQS Jabal Moqyreh 59.86 301 P **P** 21 46 23.7 +1.2
GOF Gofitskoye 60.08 321⇑ *i*P **P** 21 46 21.5 -2.2
GOF pmax pmax
comp=Z,18nm,1.3s,mb4.9
YSS Yuzh-Sakhalins 60.32 37 *α**e*P **P** 21 46 25.1 -0.2

YSS *e* 21 46 36.0
YSS *e**SP sP 21 46 43.0 +6.5
YSS PPP PPP 21 50 03.0 -4.0
YSS *e*S **S** **21 54 38.0 +1.7**
YSS *e*PPS PPS 21 55 07.0 +3.5
YSS *e*SSS SSS 22 01 12.0 +3.1
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.4
YSS smax
comp=N,700nm,9.0s
YSS Yuzh-Sakhalins 60.32 37⇑ *e*P **P** **21 46 25.4 +0.1**
comp=N,48nm,1.1s,mb5.4
YSS LR LR
comp=Z,2μm,19.0s,MS5.2
BDAS Al Bad' 60.43 300 P **P** **21 46 27.2 +0.9**
MALT Malatya 60.52 312 P **P** **21 46 27.3 +0.5**
MALT pmax pmax
comp=Z,45nm,1.2s,mb5.5
MALT Malatya 60.52 312 *e*P **P** **21 46 27.0 +0.2**
comp=Z,45nm,1.2s,mb5.5
JMOS Jabal al Moall 60.58 301 P **P** **21 46 28.7 +1.3**
HAQS Haql 60.71 301 P **P** **21 46 29.6 +1.3**
EIL Elat 60.83 302 P **P** **21 46 29.6 +0.6**
comp=Z,23nm,1.2s,mb5.2
EIL Elat 60.83 302⇑ *e*P **P** **21 46 29.4 +0.4**
comp=Z,50nm,1.3s,mb5.5
EIL Elat 60.83 302 P **P** **21 46 29.5 +0.5**
GZT Gaziantep 60.84 311 *i* P **P** **21 46 27.7 -1.4**
MBH Mount Berech 60.89 302 P **P** **21 46 30.1 +0.7**
YUK Yuzh-Kuril'sk 60.92 41 *e*P **P** **21 46 29.0 -0.4**
YUK *e* 21 46 44.0
YUK MLR MLR
comp=N,3μm,16.0s,MS5.6
YUK MLR MLR
comp=Z,4μm,16.0s,MS5.6
YUK MLR MLR
comp=E,2μm,15.0s,MS5.6
PRNI Paran 60.94 303 P **P** **21 46 30.5 +0.7**
MMLI Mount Malkishu 61.10 305 P **P** **21 46 33.5 +2.6**
HNTI Hanita 61.47 306 P **P** **21 46 35.9 +2.5**
KZIT Kziot 61.58 303 P **P** **21 46 34.5 +0.4**
SOC Sochi 61.59 318 *e*P **P** **21 46 32.6 -1.4**
SOC *e* 21 47 09.6
SOC *e* 21 48 53.3
SOC *e*PPP PPP 21 50 18.1 -2.3
SOC *e*S **S** **21 54 54.2 +1.7**
SOC *e*SS SS 21 58 56.2 +0.7
SOC pmax pmax
comp=Z,30nm,0.8s,mb5.5
SOC pmax pmax
comp=N,36nm,1.1s
SOC pmax pmax
comp=E,22nm,0.9s
SOC MLR MLR
comp=Z,887nm,21.0s,MS4.9
SOC MLR MLR
comp=N,402nm,17.0s,MS5.1
SOC MLR MLR
comp=E,1μm,18.0s,MS5.1
SOKR Solikamsk 62.22 340 *c i*P **P** **21 46 37.1 -0.9**
SOKR S **S** **21 54 59.9 -0.4**
SOKR SS SS 21 59 10.8 +5.5
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.2
SOKR MLR MLR
comp=Z,3μm,18.0s,MS5.5
MBAR Mbarara 62.82 267 *e*P **P** **21 46 42.8 +0.2**
MBAR pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
MBAR MLR MLR
comp=Z,818nm,22.0s,MS4.9
MBAR Mbarara 62.82 267 *e*P **P** **21 46 42.8 +0.2**
comp=Z,5.7nm,1.0s,mb4.7
MBAR LR LR
comp=Z,818nm,22.0s,MS4.9
AVNT Avonos 63.32 312 *i* P **P** **21 46 44.5 -1.0**
ANN Anapa 63.58 319 *e*P **P** **21 46 41.5 -5.7**
ANN *e*S **S** **21 55 12.6 -5.0**
ANN *e* 21 56 28.2
ANN *e*SS SS 21 59 32.2 +5.4
ANN pmax pmax
comp=Z,47nm,1.3s,mb5.4
ANN MLR MLR
comp=N,868nm,19.0s,MS5.1
ANN MLR MLR
comp=E,688nm,19.0s,MS5.1
ANN MLR MLR
comp=Z,854nm,19.0s,MS5.0
YAK Yakutsk 63.93 18 *c i*P **P** **21 46 48.2 -1.0**
YAK *e**PP pP 21 46 57.2 -0.3
YAK *e* 21 47 19.9
YAK *e* 21 49 10.4
YAK *e*S **S** **21 55 22.9 +1.2**
YAK *e**SS 21 55 37.7
YAK *e* 21 56 39.3
YAK pmax pmax
comp=Z,21nm,1.1s,mb5.1
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,11nm,1.3s
YAK pmax pmax
comp=Z,115nm,9.9s
YAK smax
comp=N,294nm,9.5s
YAK smax
comp=Z,77nm,8.3s
YAK smax
comp=E,79nm,8.6s
YAK MLR MLR
comp=Z,2μm,13.0s,MS5.5
YAK MLR MLR
comp=N,1μm,12.0s,MS5.5
YAK MLR MLR
comp=E,2μm,13.0s,MS5.5
YAK Yakutsk 63.93 18⇑ *e*P **P** **21 46 47.8 -1.4**
comp=E,48nm,1.1s,mb5.4
YAK LR LR
comp=Z,2μm,22.0s,MS5.2
BR131 Keskin Array S 64.50 312 *e*P **P** **21 46 51.7 -1.7**
comp=Z,6.9nm,0.8s,mb4.7
BR131 LR LR
comp=Z,711nm,20.0s,MS4.8
BRTR Keskin Array B 64.50 312 P **P** **21 46 52.3 -1.1**
comp=Z,6.7nm,0.8s,mb4.7,baz=127,slow=6.2,SNR=17
PECR Pechory 65.25 332 *e*P **P** **21 46 56.0 -1.9**
PECR pmax pmax
comp=Z,300nm,6.0s
VOR Voronezh 65.42 326 *e*P **P** **21 46 57.0 -2.0**
VOR pmax pmax
comp=Z,50nm,1.5s,mb5.3
SIM Simferopol' 65.83 318 *c e*P **P** **21 47 01.0 -0.8**
SIM *e*S S 21 55 45.0 -0.3
SIM *e* 21 56 55.0
SIM *e*SS SS 21 59 58.0 -3.6
SIM pmax pmax
comp=Z,33nm,1.1s,mb5.3
SIM MLR MLR
comp=Z,4μm,24.0s,MS5.5
SGKT Sivrigoynuk 65.91 313 *i* P **P** **21 47 01.1 -1.3**
ESKT Eskisehir 66.52 312 *i* P **P** **21 47 02.8 -3.5**
TKTP Tekketepe 66.55 310 *i* P **P** **21 47 04.7 -1.8**
TAU Tasmania Unive 67.31 140 PFAKE 21 47 20.0 +8.8
TAU LR LR
comp=Z,370nm,20.0s,MS4.6
LSZ Lusaka 67.34 252 *e*P **P** **21 47 10.2 -1.7**
LSZ *e**PP pP 21 47 20.3 +0.2
LSZ pmax pmax
comp=Z,32nm,1.6s,mb5.1
LSZ MLR MLR
comp=Z,3μm,19.0s,MS5.6
LSZ Lusaka 67.34 252 *e*P **P** **21 47 10.2 -1.7**
comp=Z,32nm,1.6s,mb5.1
LSZ *e*pP pP 21 47 20.3 +0.2
LSZ LR LR
comp=Z,3μm,19.0s,MS5.6
HNR Honiara 67.59 102 PFAKE 21 47 30.0 +17
HNR LR LR
comp=Z,796nm,20.0s,MS4.9
MOS Moscow 68.08 330 *e*P **P** **21 47 14.2 -1.7**
MOS *e* 21 47 41.0
MOS *e*S S 21 56 08.6 -3.7
MOS pmax pmax
comp=Z,50nm,1.1s,mb5.5
MOS MLR MLR
comp=Z,2μm,22.7s,MS5.4
MOS MLR MLR
comp=E,2μm,21.1s
OBN Obninsk 68.34 329 *α i*P **P** **21 47 15.9 -1.6**
OBN *i* 21 47 38.1
OBN *i* S S 21 56 14.8 -0.6
OBN *e* 21 57 13.7
OBN *e*SS SS 22 00 39.4 -1.0
OBN pmax pmax
comp=Z,23nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,1μm,19.0s,MS5.2
OBN Obninsk 68.34 329⇑ *e*P **P** **21 47 15.9 -1.6**
comp=Z,45nm,1.4s,mb5.3
OBN LR LR
comp=Z,334nm,20.0s,MS4.6
TIRR Tirgusor 69.56 316 ⇓P **P** **21 47 24.5 -0.7**
SKR Severo-Kuril's 69.89 37 *e*P **P** **21 47 22.0 -5.0**
SKR *e* 21 47 34.0
SKR *e* 21 47 44.0
SKR *e* 21 56 06.0
SKR *e*PPP PPP 21 51 40.0 -3.3
SKR *e*S S 21 56 34.0 +0.3
SKR *e*PS PS 21 56 56.0 -7.7
SKR *e* 21 57 06.0
SKR pmax pmax
comp=N,70nm,1.0s
SKR pmax pmax
comp=E,90nm,1.0s
SKR pmax pmax
comp=Z,110nm,1.0s,mb5.7
SKR pmax pmax
comp=Z,1μm,12.0s
SKR pmax pmax
comp=N,1μm,10.0s
SKR pmax pmax
comp=E,1μm,10.0s
SKR smax
comp=N,1μm,10.0s
SKR smax
comp=E,1μm,10.0s
SKR MLR MLR
comp=N,2μm,16.0s,MS5.6
SKR MLR MLR
comp=E,2μm,16.0s,MS5.6
SKR MLR MLR
comp=Z,2μm,16.0s,MS5.5
CFR Carcaliu 69.94 317 P **P** **21 47 27.7 +0.2**
CFR Carcaliu 69.94 317 ⇓P **P** **21 47 26.8 -0.7**
PRD Provadia 69.95 315 *e*P **P** **21 47 27.0 -0.6**
PRD Provadia 69.95 315 *e*P **P** **21 47 27.0 -0.6**
KIS Kishinev 69.98 319 *e*P **P** **21 47 25.0 -2.7**
KIS *e* 21 47 45.0
KIS *e* 21 50 05.0
KIS *e* 21 51 40.0
KIS *i* S S 21 56 34.0 -0.9
KIS *e* 21 56 57.0
KIS smax
comp=N,1μm,10.0s
KIS MLR MLR
comp=Z,500nm,17.0s,MS4.8
KIS MLR MLR
comp=E,500nm,15.0s
KIS MLR MLR
comp=Z,500nm,16.0s
JMB Yambol 70.36 314 *e*P **P** **21 47 30.0 -0.1**
JMB Yambol 70.36 314 *e*P **P** **21 47 30.0 -0.1**
ALN Alexandroupoli 70.42 312 *e*P **P** **21 47 30.4 0.0**
MA2 Magadan 70.56 27 *i* P **P** **21 47 30.5 -0.5**
MA2 pmax pmax
comp=Z,100nm,3.0s
MA2 MLR MLR
comp=Z,2μm,14.0s,MS5.5
AKASG Malin Array Be 70.82 323 P **P** **21 47 31.0 -1.7**
comp=Z,5.7nm,0.8s,mb4.5,baz=89,slow=5.0,SNR=25
AKASG Malin Array Be 70.82 323 P **P** **21 47 31.0 -1.7**
KDZ Kurdzhali 71.04 313 *e*P **P** **21 47 34.0 -0.2**
KDZ Kurdzhali 71.04 313 *e*P **P** **21 47 34.0 -0.2**
VRI Vrincioaia 71.07 317 P **P** **21 47 34.8 +0.4**
VRI Vrincioaia 71.07 317 ⇓P **P** **21 47 34.6 +0.2**
CASY Casey 71.13 173 PFAKE 21 47 50.0 +16
CASY LR LR
comp=Z,1μm,21.0s,MS5.2
TIXI Tiksi 71.21 11 *e*P **P** **21 47 30.8 -4.0**
TIXI *e* 21 50 08.7
TIXI *e*S S 21 56 44.2 -4.6
TIXI *e*SS SS 22 01 21.2 -3.6
TIXI pmax pmax
comp=Z,62nm,1.4s,mb5.3
TIXI MLR MLR
comp=Z,2μm,15.0s,MS5.6
TIXI Tiksi 71.21 11 PFAKE 21 47 50.0 +15
TIXI LR LR
comp=Z,2μm,20.0s,MS5.3
MLR Muntele Rosu 71.51 317 P **P** **21 47 37.2 +0.2**
comp=Z,31nm,1.1s,mb5.2,baz=122,slow=2.3,SNR=21
MLR Muntele Rosu 71.51 317 P **P** **21 47 37.5 +0.5**
MLR Muntele Rosu 71.51 317 ⇑P **P** **21 47 37.2 +0.2**
RZN Rozhen 71.56 313 *e*P **P** **21 47 37.0 -0.4**
RZN Rozhen 71.56 313 *e*P **P** **21 47 37.0 -0.4**
SNX Sinaia 71.78 317 ⇓P **P** **21 47 28.4 -10**
LBTB Lobatse 71.78 242 *e*P **P** **21 47 39.3 +0.3**
LBTB *e**PP pP 21 47 47.0 -0.2
LBTB pmax pmax
comp=Z,15nm,0.9s,mb4.9
LBTB MLR MLR
comp=Z,4μm,21.0s,MS5.6
LBTB Lobatse 71.78 242 *e*P **P** **21 47 39.3 +0.4**
comp=Z,15nm,0.9s,mb4.9
LBTB *e*pP pP 21 47 47.0 -0.2
LBTB LR LR
comp=Z,4μm,21.0s,MS5.6
OUR Ouranopolis 71.84 311 *e*P **P** **21 47 38.0 -1.1**
PAIG Paliouri 72.00 311 *e*P **P** **21 47 38.4 -1.6**
PET Petropavlovsk 72.12 35 *e*P **P** **21 47 39.0 -1.5**
PET *e* 21 47 56.1
PET *e* 21 50 24.4
PET *i* S S 21 57 02.8 +3.2
PET pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
PET pmax pmax
comp=Z,300nm,15.5s
PET pmax pmax
comp=Z,14nm,0.8s,mb4.9
PET pmax pmax
comp=Z,200nm,12.1s
PET smax
comp=N,400nm,13.0s
PET Petropavlovsk 72.12 35 PFAKE 21 47 50.0 +9.5
PET LR LR
comp=Z,2μm,21.0s,MS5.4
PGB Panagyurishte 72.13 313 *e*P **P** **21 47 40.0 -0.8**
PGB Panagyurishte 72.13 313 *e*P **P** **21 47 40.0 -0.8**
MMB Musomiste 72.27 312 *e*P **P** **21 47 41.0 -0.6**
MMB Musomiste 72.27 312 *e*P **P** **21 47 41.0 -0.6**
SRS Serrai 72.28 312 *e*P **P** **21 47 40.9 -0.8**
SOH Sokhos 72.40 312 *e*P **P** **21 47 41.4 -1.0**
BURAR Bucovina Array 72.50 319 P **P** **21 47 43.5 +0.6**
BURAR Bucovina Array 72.50 319 ⇑P **P** **21 47 43.3 +0.4**
THE Thessaloniki 72.66 311 *e*P **P** **21 47 42.8 -1.2**
SEY Seymchan 72.78 24 *e*P **P** **21 47 43.1 -1.1**
SEY *e* 21 50 24.8
SEY PPP PPP 21 52 11.4 +0.4
SEY *e*S S 21 57 08.1 +1.2
SEY 21 57 49.2
SEY SS SS 22 01 53.2 +4.0
SEY pmax pmax
comp=E,5.0nm,1.3s
SEY pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
SEY smax
comp=N,1μm,10.2s
SEY smax
comp=E,500nm,9.1s
SEY MLR MLR
comp=N,4μm,16.0s,MS5.7
SEY MLR MLR
comp=Z,3μm,16.0s,MS5.6
SEY MLR MLR
comp=E,1μm,17.0s,MS5.7
KKB Krupnik 72.79 313 *e*P **P** **21 47 43.5 -1.2**
KKB Krupnik 72.79 313 *e*P **P** **21 47 43.5 -1.2**
KNT Kendrikon 72.80 312 *e*P **P** **21 47 44.3 -0.5**
VTS Vitosha 72.83 313 *e*P **P** **21 47 44.0 -0.9**

VTS **Vitosha** 72.83 313 *e*P P 21 47 44.0 -0.9
VTS **Vitosha** 72.83 313 P P 21 47 44.9 -0.1
WAKE **Wake Island** 72.87 71 PFAKE 21 48 00.0 +14
WAKE LR LR
comp=Z,675nm,19.0s,MS4.9
LIT **Litokhoron** 72.93 311 *e*P P 21 47 43.6 -2.0
BOSA **Boshof** 72.93 239 *e*P P 21 47 46.0 +0.2
BOSA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BOSA MLR MLR
comp=Z,2μm,21.0s,MS5.4
BOSA **Boshof** 72.93 239 P P 21 47 46.4 +0.6
comp=Z,5.3nm,0.7s,mb4.6,baz=101,slow=6.5,SNR=13
BOSA LR LR 22 13 32.1
comp=Z,2μm,22.0s,MS5.4,baz=70,slow=31
BOSA **Boshof** 72.93 239 *e*P P 21 47 46.0 +0.1
comp=Z,10.0nm,0.9s,mb4.8
BOSA LR LR
comp=Z,2μm,21.0s,MS5.4
VAY **Valandovo** 73.07 312 *e*P P 21 47 45.4 -1.0
GRG **Griva** 73.14 312 *e*P P 21 47 44.5 -2.2
BOLS **Boljevac** 73.95 314 ⇓*i*P P 21 47 50.7 -0.7
DRGR 73.99 318 P P 21 47 52.1 +0.5
MAW **Mawson** 74.56 192 *e*P P 21 47 55.4 +0.9
comp=Z,7.8nm,1.8s,mb4.3
MAW **Mawson** 74.56 192 *e*P P 21 47 55.4 +0.9
MAW pmax pmax
comp=Z,8.0nm,1.8s
MAW **Mawson** 74.56 192 P P 21 47 55.6 +1.2
comp=Z,3.1nm,0.8s,mb4.3,baz=0.1,slow=7.6,SNR=13
MAW LR LR 22 14 08.3
comp=Z,584nm,20.1s,MS4.9,baz=24,slow=30
KWP **Kalwaria** 74.58 320 *e*P P 21 47 54.9 -0.1
KOLS **Kolonicke sedl** 74.71 320 *e*P P 21 47 55.9 +0.2
KOLS *e*pP pP 21 48 03.8 -0.2
LVZ **Lovozero** 75.00 340 *i* P P 21 47 55.0 -2.0
LVZ *i* S S 21 57 29.8 -1.9
LVZ pmax pmax
comp=Z,15nm,1.3s,mb4.8
LVZ pmax pmax
comp=N,4.0nm,1.5s
LVZ pmax pmax
comp=E,3.0nm,1.0s
LVZ pmax pmax
comp=Z,201nm,3.8s
LVZ pmax pmax
comp=E,82nm,2.8s
LVZ smax
comp=E,492nm,7.8s
LVZ smax
comp=Z,102nm,4.2s
LVZ smax
comp=N,625nm,6.8s
LVZ MLR MLR
comp=Z,3μm,17.0s,MS5.7
LVZ MLR MLR
comp=N,1μm,18.0s,MS5.5
LVZ MLR MLR
comp=E,2μm,18.0s,MS5.5
CRVS **Cervenica-Dubn** 75.23 320 *e*P P 21 48 00.4 +1.7
CRVS *e*SP SP 21 48 11.0 +1.1
CRVS *e*S S 21 57 33.5 -1.1
APA **Apatity** 75.27 340 ⇓*i*P P 21 47 58.0 -0.6
APA *i* pP 21 48 06.2 -0.7
APA *i* S S 21 57 32.0 -2.7
APA *i* PS PS 21 58 14.0 -0.5
APA *e*SS SS 22 02 29.0 +1.9
APA pmax pmax
comp=Z,18nm,1.1s,mb4.9
APA smax
comp=N,1μm,11.0s
APA smax
comp=E,700nm,11.0s
APA MLR MLR
comp=Z,3μm,18.0s,MS5.7
SUW **Suwalki** 75.29 325 *e*P P 21 47 58.1 -0.8
KECS **Kecovo** 75.79 319 *e*P P 21 48 01.5 -0.4
KECS *e*pP pP 21 48 09.6 -0.6
FINES **FINESS Array B** 75.86 333 *i* P P 21 48 01.2 -0.8
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES **FINESS Array B** 75.86 333 P P 21 48 01.2 -0.8
comp=Z,5.1nm,0.9s,mb4.5,baz=124,slow=6.9,SNR=16
FINES LR LR 22 28 43.2
comp=Z,1μm,18.3s,MS5.2,baz=294,slow=42
KAF **Kangasniemi** 75.97 333 *e*p P 21 48 02.6 0.0
comp=Z,15nm,1.0s,mb4.9,baz=106,slow=5.3
KAF **Kangasniemi** 75.97 333 *e*P P 21 48 02.6 0.0
KAF pmax pmax
comp=Z,15nm,1.0s,mb4.9
NIE **Niedzica** 76.07 320 *e*P P 21 48 03.7 +0.3
PSZ **Piszkesteto** 76.08 318 *e*P P 21 48 02.9 -0.6
PSZ pmax pmax
comp=Z,31nm,1.4s,mb5.0
PSZ **Piszkesteto** 76.08 318 *e*P P 21 48 02.9 -0.7
comp=Z,31nm,1.4s,mb5.0
OJC **Ojcow** 76.54 321 ⇑*i*P P 21 48 05.8 -0.3
OJC *e*S S 21 57 49.4 +0.5
OJC MLR MLR 22 31 10.7
comp=Z,800nm,17.3s,MS5.1
VYHS **Vyhne** 76.87 319 *e*P P 21 48 08.2 +0.2
VYHS *e*S S 21 57 50.8 -1.8
TIP **Timpagrande** 77.20 309 ⇑*e*P P 21 48 09.7 -0.2
OKC **Ostrava-Krasne** 77.53 320 *e*P P 21 48 11.8 +0.3
OKC *e*S S 21 57 58.7 -0.9
OKC AMS AMS 22 37 00.0
comp=Z,600nm,16.7s
RAC **Raciborz** 77.53 320 *e*P P 21 48 12.4 +0.8
SUR **Sutherland** 77.54 236 PFAKE 21 48 20.0 +8.0
SUR LR LR
comp=Z,561nm,21.0s,MS4.9
DRV **Dumont d'Urvil** 77.84 163 P P 21 48 23.0 +10
DRV S S 21 58 07.0 +4.4
DRV L 22 08 00.0
MORC **Moravsky Berou** 77.91 320 P P 21 48 14.6 +1.0
MORC **Moravsky Berou** 77.91 320 *e*P P 21 48 14.0 +0.3
comp=Z,33nm,1.4s,mb5.1
ZST **Bratislava** 77.97 318 *e*P P 21 48 14.5 +0.5
ZST *e*pP pP 21 48 22.5 +0.1
TSUM **Tsumeb** 77.99 250 PFAKE 21 48 30.0 +15
TSUM LR LR
comp=Z,2μm,20.0s,MS5.5
KEV **Kevo** 78.30 341 *e*P P 21 48 14.4 -1.0
KEV pmax pmax
comp=Z,17nm,1.2s,mb4.8
KEV MLR MLR
comp=Z,2μm,19.0s,MS5.5
KEV **Kevo** 78.30 341 *e*P P 21 48 14.4 -1.0
comp=Z,18nm,1.2s,mb4.9
KEV LR LR
comp=Z,2μm,19.0s,MS5.5
ARCES **ARCESS Array B** 78.72 341 P P 21 48 17.9 +0.2
comp=Z,8.5nm,1.0s,mb4.6,baz=108,slow=3.8,SNR=20
ARCES LR LR 22 26 52.2
comp=Z,3μm,19.2s,MS5.6,baz=111,slow=39
ARE0 **ARCESS Array S** 78.72 341 *e*P P 21 48 17.6 -0.1
DPC **Dobruska-Polom** 78.76 320 *e*P P 21 48 19.3 +1.0
DPC *e*S S 21 58 14.8 +1.9
DPC AMS AMS 22 37 20.0
comp=Z,900nm,15.4s
KSP **Ksiaz** 78.85 321 ⇑*e*P P 21 48 19.4 +0.6
KSP *e*S S 21 58 13.8 0.0
KSP MLR MLR
comp=Z,2μm,22.1s,MS5.3
KSP **Ksiaz** 78.85 321 *e*P P 21 48 19.3 +0.5
GROS **Grobnik** 78.85 316 *e*P P 21 48 19.1 +0.2
ARSA **Arzberg** 78.92 317 ⇓*i*P P 21 48 19.9 +0.7
comp=Z,244nm,2.9s,mb5.6
UPC **Upice** 78.98 321 *e*P P 21 48 20.2 +0.7
LJU **Ljubljana** 79.48 316 *e*P P 21 48 22.6 +0.3
LJU *e*S S 21 58 20.8 +0.2
MOA **Molln** 79.83 318 ⇑*i*P P 21 48 24.9 +0.8
comp=Z,285nm,4.3s
PRU **Pruhonice** 79.86 320 *e*P P 21 48 24.9 +0.6
PRU *e*S S 21 58 26.2 +1.8
PRU AMS AMS 22 38 00.0
comp=Z,900nm,15.5s
GORS **Gorjuse** 79.87 316 *e*P P 21 48 24.8 +0.4
PVCC **Panska Ves** 79.90 320 *e*P P 21 48 24.9 +0.4
PVCC *e*S S 21 58 26.6 +1.8
PVCC AMS AMS 22 40 20.0
comp=Z,1μm,14.2s
BILL **Bilibino** 79.98 21 α*i*P P 21 48 24.5 -0.1
BILL *e* pP 21 48 32.0 -1.0
BILL *e* 21 51 27.3
BILL *e*PS PS 21 59 28.0 +14
BILL pmax pmax
comp=Z,22nm,2.0s,mb4.7
BILL MLR MLR
comp=Z,3μm,17.0s,MS5.6
BILL **Bilibino** 79.98 21 *e*P P 21 48 24.6 0.0
comp=Z,24nm,1.4s,mb4.9
BILL LR LR
comp=Z,3μm,19.0s,MS5.7
AQU **L'Aquila** 80.00 312 *e*P P 21 48 24.8 -0.4
AQU pmax pmax
comp=Z,24nm,1.0s,mb5.1
AQU **L'Aquila** 80.00 312 *e*P P 21 48 24.8 -0.4
comp=Z,24nm,1.1s,mb5.0
GEC2 **GERESS Array S** 80.29 319 P P 21 48 27.4 +0.8
GEC2 pmax pmax
comp=Z,63nm,1.3s,mb5.4
GEC2 **GERESS Array S** 80.29 319 *e*P P 21 48 27.4 +0.8
comp=Z,63nm,1.3s,mb5.4
GERES **GERESS Array B** 80.29 319 P P 21 48 27.3 +0.7
comp=Z,9.7nm,0.9s,mb4.7,baz=90,slow=4.0,SNR=53
GERES LR LR 22 30 26.0
comp=Z,826nm,20.3s,MS5.1,baz=83,slow=40
GERES **GERESS Array B** 80.29 319 P P 21 48 27.3 +0.7
GERES LR LR 22 30 26.0
BRG **Berggiesshubel** 80.33 321 *e*P P 21 48 27.2 +0.4
BRG S S 21 58 33.0 +3.7
BRG pmax pmax
comp=Z,26nm,1.5s,mb4.9
BRG **Berggiesshubel** 80.33 321 *e*P P 21 48 27.2 +0.4
comp=Z,26nm,1.5s,mb4.9
BRG S S 21 58 33.0 +3.7
KBA **Koelnbreinsper** 80.38 317 ⇑*i*P P 21 48 27.4 +0.3
comp=Z,288nm,4.5s
KBA **Koelnbreinsper** 80.38 317 ⇑*i*P P 21 48 27.4 +0.3
KBA pmax pmax
comp=Z,288nm,4.5s
KHC **Kasperske Hory** 80.40 319 *e*P P 21 48 27.4 +0.2
KHC *e*S S 21 58 31.3 +1.2
KHC AMS AMS 22 35 00.0
comp=Z,800nm,15.4s
FX1 **Attu Island--F** 80.67 37 *e*P P 21 48 29.0 +0.4
WET **Wettzell** 80.86 319 P P 21 48 30.3 +0.7
WET pmax pmax
comp=Z,32nm,1.3s,mb5.1
WET **Wettzell** 80.86 319 *e*P P 21 48 30.3 +0.7
comp=Z,32nm,1.3s,mb5.1
TRO **Tromso** 80.96 340 *e*P P 21 48 28.1 -1.7
TRO LR LR
comp=Z,1744μm,16.7s
TRO **Tromso** 80.96 340 *e*P P 21 48 28.1 -1.7
TRO *e*S S 21 58 34.8 -0.7
TRO AMS AMS 22 28 34.5
comp=Z,2μm,16.7s,MS5.5
CLL **Collm** 80.96 321 *i* P P 21 48 28.4 -1.7
CLL *i* pP 21 48 36.8 -1.7
CLL *e*S S 21 58 37.0 +1.2
CLL pmax pmax
comp=Z,15nm,1.3s,mb4.8
CLL **Collm** 80.96 321 *i* P P 21 48 28.4 -1.7
comp=Z,15nm,1.3s,mb4.8
CLL *i* pP 21 48 36.8 -1.7
CLL *e*S S 21 58 37.0 +1.2
CLL **Collm** 80.96 321 P P 21 48 29.6 -0.5
comp=Z,logA/T=1.1,mb4.8
CLL *i* *PP pP 21 48 37.6 -0.9
CLL *e* 21 49 03.0
CLL *e* 21 49 43.0
CLL *e*PP PP 21 51 39.0 +1.9
CLL *e*PPP PPP 21 53 26.0 -2.1
CLL *e*S S 21 58 37.0 +1.2
CLL *e*SCS ScS 21 58 52.0 -0.6
CLL *e*PS PS 21 59 28.0 +1.3
CLL *e* 22 10 10.0
NKC **Novy Kostel** 81.22 320 *e*P P 21 48 32.3 +0.8
NKC *e*S S 21 58 41.4 +2.8
NKC AMS AMS 22 38 50.0
comp=Z,1μm,13.7s
SMY **Shemya** 81.22 37 PFAKE 21 48 40.0 +8.6
SMY LR LR
comp=Z,1μm,22.0s,MS5.2
WTTA **Wattenberg** 81.56 317 ⇑*i*P P 21 48 33.4 +0.1
comp=Z,194nm,2.7s,mb5.6
WTTA **Wattenberg** 81.56 317 ⇑*i*P P 21 48 33.4 +0.1
WTTA pmax pmax
comp=Z,194nm,2.7s,mb5.6
WATA **Walderalm** 81.60 317 ⇑*i*P P 21 48 33.3 -0.2
COP **Copenhagen** 81.69 326 *i* P P 21 48 32.3 -1.5
COP *i* S S 21 58 45.8 +2.5
COP pmax pmax
comp=Z,28nm,1.0s,mb5.2
COP MLR MLR
comp=Z,210nm,18.0s,MS4.5
COP **Copenhagen** 81.69 326 *i* P P 21 48 32.3 -1.5
comp=Z,28nm,1.0s,mb5.1
COP *i* S S 21 58 45.8 +2.5
COP LR LR
comp=Z,210nm,18.0s,MS4.5
COP **Copenhagen** 81.69 326 *i* P P 21 48 32.3 -1.5
comp=Z,28nm,1.0s,mb5.1
COP **Copenhagen** 81.69 326 *i* S S 21 58 45.8 +2.5
comp=Z,210nm,18.0s
MOX **Moxa** 81.78 320 *e*P P 21 48 34.7 +0.3
MOX pmax pmax
comp=Z,27nm,1.6s,mb4.9
MOX MLR MLR
comp=Z,600nm,17.0s,MS5.0
MOX **Moxa** 81.78 320 *e*P P 21 48 34.7 +0.3
comp=Z,27nm,1.6s,mb4.9
MOX *e*S S 21 58 47.0 +2.7
MOX *e*SS SS 22 04 00.0 -5.8
MOX LR LR
comp=Z,600nm,17.0s,MS5.0
MOX **Moxa** 81.78 320 *i* P P 21 48 34.7 +0.3
comp=Z,logA/T=1.2,mb4.9
MOX S S 21 58 47.0 +2.7
MOX SS SS 22 04 00.0 -5.8
MOX L 22 35 58.0
SQTA **Sankt Quirin** 81.85 317 ⇓*i*P P 21 48 34.4 -0.4
comp=Z,20nm,1.3s,mb4.9
SQTA **Sankt Quirin** 81.85 317 ⇓*i*P P 21 48 34.4 -0.4
SQTA pmax pmax
comp=Z,20nm,1.3s,mb4.9
FUR **Furstenfeldbru** 81.85 318 P P 21 48 34.9 +0.1
FUR pmax pmax
comp=Z,31nm,1.3s,mb5.1
FUR **Furstenfeldbru** 81.85 318 *e*P P 21 48 34.9 +0.1
comp=Z,31nm,1.3s,mb5.1
MOTA **Moosalm** 81.92 317 ⇑*i*P P 21 48 35.2 0.0
comp=Z,39nm,1.3s,mb5.2
MOTA **Moosalm** 81.92 317 ⇑*i*P P 21 48 35.2 0.0
MOTA pmax pmax
comp=Z,39nm,1.3s,mb5.2
GRA1 **Grafenberg Arr** 81.98 319 *e*P P 21 48 36.4 +1.0
comp=Z,32nm,1.2s,mb5.1
GRA1 *e*S S 21 58 51.4 +5.1
GRA1 *e*SS SS 22 04 17.4 +8.7
GRA1 LR LR
comp=Z,600nm,18.1s,MS5.0
GRF **Grafenberg Arr** 81.98 319 P P 21 48 36.4 +1.0
GRF pmax pmax
comp=Z,32nm,1.2s,mb5.1
CLZ **Clausthal** 82.64 322 P P 21 48 39.2 +0.4
CLZ pmax pmax
comp=Z,27nm,1.3s,mb5.1
CLZ **Clausthal** 82.64 322 *e*P P 21 48 39.2 +0.4
comp=Z,27nm,1.3s,mb5.1
DAVA **Damuels** 82.75 317 ⇑*i*P P 21 48 40.1 +0.6
comp=Z,150nm,2.9s,mb5.5
BSEG **Bad Segeberg** 82.78 324 P P 21 48 40.0 +0.5
BSEG pmax pmax
comp=Z,28nm,1.3s,mb5.1
BSEG **Bad Segeberg** 82.78 324 *e*P P 21 48 40.0 +0.5
NSS **Namsos** 82.79 334 *e*P P 21 48 38.0 -1.3
NSS AMS AMS 22 31 13.9
comp=Z,1μm,17.7s,MS5.4
NB2 **NORSAR Subarra** 82.80 331 P P 21 48 38.9 -0.6
comp=Z,15nm,1.4s,mb4.8,baz=93,slow=4.8
NB2 **NORSAR Subarra** 82.80 331 P P 21 48 38.9 -0.6
NB2 pmax pmax
comp=Z,15nm,1.4s,mb4.8
NB2 **NORSAR Subarra** 82.80 331 P P 21 48 38.9 -0.6
baz=93,slow=4.8
NOA **NORSAR Array B** 82.80 331 P P 21 48 38.9 -0.5
comp=Z,2.8nm,1.0s,mb4.3,baz=94,slow=5.3,SNR=4.3
NOA LR LR 22 33 01.5
comp=Z,722nm,18.3s,MS5.1,baz=90,slow=41
NOA **NORSAR Array B** 82.80 331 P P 21 48 38.9 -0.5
NOA LR LR 22 33 01.5
KONO **Kongsberg** 83.51 329 *e*P P 21 48 47.6 +4.5
KONO LR LR
comp=Z,1μm,19.0s,MS5.2
KONO **Kongsberg** 83.51 329 *e*P P 21 48 47.6 +4.5
KONO *e*SKSa 21 59 01.8
MUD **Monsted U'grnd** 83.57 326 *i* P P 21 48 46.8 +3.3
MUD *i* S S 21 59 05.7 +3.4
MUD MLR MLR
comp=Z,600nm,17.0s,MS5.0
MUD **Monsted U'grnd** 83.57 326 *i* S S 21 59 05.7 +3.4
comp=Z,600nm,17.0s
BFO **Black Forest** 83.83 318 P P 21 48 45.0 0.0
BFO pmax pmax
comp=Z,21nm,1.4s,mb5.1
BFO **Black Forest** 83.83 318 *e*P P 21 48 45.0 0.0
comp=Z,21nm,1.4s,mb5.1
KBS **Kingsbay** 84.53 349 PFAKE 21 49 00.0 +12
KBS LR LR
comp=Z,1μm,19.0s,MS5.4
KBS **Kingsbay** 84.53 349 *e*P P 21 48 53.5 +5.7
KBS *e*SKSa 21 59 07.4
KBS AMS AMS 22 33 36.5
comp=Z,813nm,19.7s,MS5.1
LPG **La Plagne** 84.89 315 *e*P P 21 48 50.6 +0.2
comp=Z,57nm,1.3s,mb5.2
BER **Bergen** 85.67 330 *e*P P 21 48 59.3 +5.4
BER AMS AMS 22 35 08.5
comp=Z,1μm,13.8s,MS5.5
SNZO **South Karori** 86.03 132 PFAKE 21 49 10.0 +14
SNZO LR LR
comp=Z,2μm,20.0s,MS5.5
MIDW **Midway** 87.45 62 PFAKE 21 49 20.0 +17
MIDW LR LR
comp=Z,971nm,20.0s,MS5.2
VNDA **Vanda** 89.24 168 P P 21 49 12.4 +1.5
VNDA pmax pmax
comp=Z,14nm,1.4s
VNDA MLR MLR
comp=Z,780nm,19.0s
VNDA **Vanda** 89.24 168 P P 21 49 11.2 +0.4
comp=Z,1.3nm,0.7s,mb4.4,baz=292,slow=4.2,SNR=11
VNDA LR LR 22 26 26.5
comp=Z,615nm,18.0s,MS5.1,baz=301,slow=34
VNDA **Vanda** 89.24 168 *e*P P 21 49 11.4 +0.5
comp=Z,14nm,1.4s,mb5.1
VNDA LR LR
comp=Z,781nm,19.0s,MS5.2
TNA **Tin City** 90.02 24 PFAKE 21 49 30.0 +15
TNA LR LR
comp=Z,1μm,19.0s,MS5.3
JMIC **Jan Mayen** 90.19 341 *e*P P 21 49 21.0 +5.6
JMIC AMS AMS 22 33 22.4
comp=Z,764nm,21.0s,MS5.1
SBA **Scott Base** 90.34 168 PFAKE 21 49 30.0 +14
SBA LR LR
comp=Z,808nm,20.0s,MS5.2
ESK **Eskdalemuir** 90.58 325 PFAKE 21 49 30.0 +12
ESK LR LR
comp=Z,245nm,20.0s,MS4.6
ESDC **Sonseca Array** 93.20 310 P P 21 49 31.1 +1.1
comp=Z,1.6nm,0.9s,mb4.5,baz=56,slow=5.3,SNR=6.6
ESLA **Sonseca Array** 93.20 310 PFAKE 21 49 40.0 +10
ESLA LR LR
comp=Z,3μm,20.0s,MS5.7
QSPA **South Pole Qui** 93.86 180 PFAKE 21 49 40.0 +7.9
QSPA LR LR
comp=Z,1μm,19.0s,MS5.5
IMA **Indian Mountai** 95.51 22 P P 21 49 43.2 +3.2
IMA pmax pmax
comp=Z,56nm,1.5s,mb5.8
IMA **Indian Mountai** 95.51 22 P P 21 49 42.4 +2.5
comp=Z,56nm,1.5s,mb5.8
DBIC **Dimbokro** 97.77 277 LR LR 22 31 13.6
comp=Z,1μm,19.6s,MS5.4,baz=68,slow=34
DBIC **Dimbokro** 97.77 277 PFAKE 21 50 00.0 +8.6
DBIC LR LR
comp=Z,1μm,20.0s,MS5.4
ILAR **Eielson Array** 98.63 22 PP PP 21 53 53.2 -4.3
comp=Z,1.9nm,1.2s,baz=278,slow=6.4,SNR=4.9
ILAR LR LR 22 39 04.5
comp=Z,930nm,19.0s,MS5.3,baz=312,slow=38
DIV **Divide** 100.85 25 PFAKE 21 50 20.0 +16
DIV LR LR
comp=Z,3μm,19.0s,MS5.9
KIP **Kipapa** 105.72 67 PFAKE 21 54 50.0
KIP LR LR
comp=Z,1μm,21.0s,MS5.3
SIT **Sitka** 107.59 26 PFAKE 21 54 50.0
SIT LR LR
comp=Z,2μm,19.0s,MS5.6
POHA **Pohakuloa** 108.32 68 PFAKE 21 55 00.0
POHA LR LR
comp=Z,7μm,21.0s,MS6.2
CMLA **Cha da Macela** 109.96 312 PFAKE 21 55 00.0
CMLA LR LR
comp=Z,107nm,21.0s,MS4.4
YKA **Yellowknife Ar** 110.39 13 PP PP 21 55 20.3 -5.6
comp=Z,0.2nm,0.4s,baz=330,slow=6.3,SNR=4.6
OCWA **Octopus Mounta** 118.88 28 PFAKE 21 55 20.0 +12
OCWA LR LR
comp=Z,829nm,19.0s,MS5.4
SCHQ **Schefferville** 119.19 347 PFAKE 21 55 20.0 +12
SCHQ LR LR
comp=Z,878nm,22.0s,MS5.3
FFC **Flin Flon** 120.16 10 PFAKE 21 55 20.0 +10
FFC LR LR
comp=Z,253nm,21.0s,MS4.8
NEW **Newport** 121.56 23 *e*PKIKP PKPdf 21 55 09.8 -2.9
NEW MLR MLR
comp=Z,822nm,21.0s
COR **Corvallis** 121.57 30 PFAKE 21 55 20.0 +7.2
COR LR LR
comp=Z,559nm,20.0s,MS5.2
HUMO **Hull Mountain** 123.16 32 PFAKE 21 55 20.0 +4.1
HUMO LR LR
comp=Z,496nm,20.0s,MS5.2
YBH **Yreka Blue Hor** 123.90 32 PFAKE 21 55 30.0 +13
YBH LR LR
comp=Z,437nm,19.0s,MS5.1
MSO **Missoula** 123.97 22 PFAKE 21 55 30.0 +13
MSO LR LR
comp=Z,829nm,19.0s,MS5.4
BMO **Blue Mountains** 124.19 26 PFAKE 21 55 30.0 +12
BMO LR LR
comp=Z,788nm,19.0s,MS5.4
WDC **Whiskeytown Da** 124.80 33 PFAKE 21 55 30.0 +11
WDC LR LR
comp=Z,602nm,19.0s,MS5.3
MOD **Modoc** 125.03 30 PFAKE 21 55 30.0 +10
MOD LR LR
comp=Z,528nm,20.0s,MS5.2
ULM **Lac du Bonnet** 125.44 7 PFAKE 21 55 30.0 +10
ULM LR LR
comp=Z,157nm,21.0s,MS4.7
WVOR **Wild Horse Val** 125.45 29 PFAKE 21 55 30.0 +10
WVOR LR LR
comp=Z,675nm,20.0s,MS5.3
DGMT **Dagmar** 125.58 14 PFAKE 21 55 30.0 +10
DGMT LR LR
comp=Z,1μm,20.0s,MS5.5
HOPS **Hopland** 125.60 35 PFAKE 21 55 30.0 +9.2
HOPS LR LR
comp=Z,685nm,20.0s,MS5.3
BOZ **Bozeman (W)** 125.83 22 PFAKE 21 55 30.0 +9.0
BOZ LR LR
comp=Z,863nm,19.0s,MS5.4
HLID **Hailey** 126.47 25 *e*PKPdf PKPdf 21 55 19.0 -3.2
HLID LR LR
comp=Z,1μm,20.0s,MS5.5
LAO **LASA Array** 126.68 17 PFAKE 21 55 30.0 +7.4
LAO LR LR
comp=Z,1μm,21.0s,MS5.6
PQI **Presque Isle** 127.01 344 PFAKE 21 55 30.0 +6.8
PQI LR LR
comp=Z,3μm,19.0s,MS6.0
LKWY **Lake** 127.20 21 PFAKE 21 55 30.0 +6.3
LKWY LR LR
comp=Z,2μm,20.0s,MS5.7
BMN **Battle Mountai** 127.67 29 PFAKE 21 55 30.0 +5.3
BMN LR LR
comp=Z,526nm,19.0s,MS5.2
CMB **Columbia Colle** 127.78 34 PFAKE 21 55 30.0 +5.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMB				LR	LR		
	comp=Z,518nm,20.0s,MS5.2						
SAO	**San Andreas Ge**	**128.07**	**36**	PFAKE		21 55 30.0	+4.4
SAO				LR	LR		
	comp=Z,554nm,19.0s,MS5.3						
REDW	**Red Top Meadow**	**128.07**	**22**	*e*PKPdf	PKPdf	21 55 23.2	-2.2
ELK	**Elko**	**128.37**	**28**	PFAKE		21 55 30.0	+3.9
ELK				LR	LR		
	comp=Z,755nm,19.0s,MS5.4						
AHID	**Auburn Hatcher**	**128.48**	**23**	PFAKE		21 55 30.0	+3.8
AHID				LR	LR		
	comp=Z,847nm,20.0s,MS5.4						
NVAR	**Mina Array Bea**	**128.62**	**32**	PKP	PKPdf	21 55 24.6	-2.0
	comp=Z,2.5nm,1.0s,baz=264,slow=1.0,SNR=11						
EMMW	**East Machias**	**128.64**	**343**	PFAKE		21 55 30.0	+3.5
EMMW				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
BW06	**Boulder Array**	**129.06**	**22**	PFAKE		21 55 40.0	+13
BW06				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
PDAR	**Pinedale Array**	**129.06**	**22**	PKP	PKPdf	21 55 24.7	-2.6
	comp=Z,2.9nm,1.1s,slow=1.5,SNR=15						
HWUT	**Hardware Ranch**	**129.27**	**24**	PFAKE		21 55 40.0	+12
HWUT				LR	LR		
	comp=Z,887nm,19.0s,MS5.5						
WVL	**Waterville**	**129.40**	**344**	PFAKE		21 55 40.0	+12
WVL				LR	LR		
	comp=Z,5µm,22.0s,MS6.2						
TPH	**Tonopah**	**129.45**	**31**	PFAKE		21 55 40.0	+12
TPH				LR	LR		
	comp=Z,593nm,19.0s,MS5.3						
RCBR	**Riachuelo**	**129.50**	**266**	PFAKE		21 55 40.0	+11
RCBR				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
RSSD	**Black Hills**	**129.65**	**16**	PFAKE		21 55 40.0	+12
RSSD				LR	LR		
	comp=Z,919nm,19.0s,MS5.5						
DAC	**Darwin (Calif)**	**130.59**	**33**	PFAKE		21 55 40.0	+10
DAC				LR	LR		
	comp=Z,474nm,21.0s,MS5.2						
NCB	**Newcomb**	**131.04**	**348**	PFAKE		21 55 40.0	+8.9
NCB				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
MVU	**Marysvale**	**131.56**	**27**	PFAKE		21 55 40.0	+7.8
MVU				LR	LR		
	comp=Z,552nm,19.0s,MS5.3						
MSU	**Marysvale**	**131.57**	**27**	PKIKP	PKPdf	21 55 32.3	+0.1
MSU	**Marysvale**	**131.57**	**27**	*e*PKPdf	PKPdf	21 55 30.2	-2.0
MSU				*e*SKPbc		21 58 56.5	
SRU	**San Rafael**	**131.79**	**25**	PKPdf	PKPdf	21 55 29.5	-3.1
HRV	**Harvard--Oak R**	**131.81**	**345**	PFAKE		21 55 40.0	+7.4
HRV				LR	LR		
	comp=Z,531nm,20.0s,MS5.2						
WES	**Weston**	**131.87**	**345**	PFAKE		21 55 40.0	+7.3
WES				LR	LR		
	comp=Z,672nm,22.0s,MS5.3						
ISCO	**Idaho Springs**	**133.08**	**20**	PFAKE		21 55 40.0	+5.0
ISCO				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
PFO	**Pinyon Flat Ob**	**133.18**	**35**	PFAKE		21 55 40.0	+4.6
PFO				LR	LR		
	comp=Z,182nm,21.0s,MS4.8						
AAM	**Ann Arbor**	**133.91**	**357**	PFAKE		21 55 40.0	+3.6
AAM				LR	LR		
	comp=Z,751nm,19.0s,MS5.4						
SDCO	**Great Sand Dun**	**134.95**	**21**	*e*PKPdf	PKPdf	21 55 35.5	-3.1
SDCO				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
CBKS	**Cedar Bluff**	**135.75**	**15**	PFAKE		21 55 50.0	+10
CBKS				LR	LR		
	comp=Z,699nm,20.0s,MS5.4						
ANMO	**Albuquerque**	**137.03**	**24**	*e*PKIKP	PKPdf	21 55 40.6	-1.8
ANMO				MLR	MLR		
	comp=Z,648nm,19.0s						
CBN	**Corbin**	**137.22**	**349**	PFAKE		21 55 50.0	+7.3
CBN				LR	LR		
	comp=Z,941nm,19.0s,MS5.5						
TUC	**Tucson**	**137.24**	**31**	*e*PKIKP	PKPdf	21 55 40.3	-2.6
TUC				MLR	MLR		
	comp=Z,524nm,20.0s,MS5.3						
BNM	**Barren Site**	**137.65**	**25**	*e*PKPdf	PKPdf	21 55 41.2	-2.5
CCM	**Cathedral Cave**	**138.00**	**6**	PFAKE		21 55 50.0	+5.8
CCM				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
BBSR	**BB Station**	**138.35**	**332**	PFAKE		21 55 50.0	+5.1
BBSR				LR	LR		
	comp=Z,622nm,20.0s,MS5.3						
BLA	**Blacksburg**	**138.67**	**353**	PFAKE		21 55 50.0	+4.6
BLA				LR	LR		
	comp=Z,833nm,20.0s,MS5.5						
AMTX	**Amarillo**	**138.85**	**19**	PFAKE		21 55 50.0	+4.2
AMTX				LR	LR		
	comp=Z,714nm,19.0s,MS5.4						
TRQA	**Tornquist**	**139.29**	**210**	PFAKE		21 56 00.0	+14
TRQA				LR	LR		
	comp=Z,799nm,20.0s,MS5.5						
WMOK	**Wichita Mounta**	**139.85**	**16**	*e*PKPpre		21 55 38.2	
WMOK				LR	LR		
	comp=Z,759nm,19.0s,MS5.5						
WVT	**Waverly**	**140.13**	**2**	PFAKE		21 56 00.0	+12
WVT				LR	LR		
	comp=Z,848nm,19.0s,MS5.5						
GDL2	**Guadalupe Moun**	**140.28**	**24**	*e*PKPdf	PKPdf	21 55 46.5	-2.0
MNTX	**Cornudas Mount**	**140.29**	**25**	*e*PKPdf	PKPdf	21 55 45.4	-3.1
MNTX				LR	LR		
	comp=Z,833nm,19.0s,MS5.5						
MYNC	**Murphy**	**141.13**	**357**	PFAKE		21 56 00.0	+10
MYNC				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
PLAL	**Pickwick Lake**	**141.26**	**2**	PFAKE		21 56 00.0	+10
PLAL				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
OXF	**Oxford**	**141.66**	**4**	PFAKE		21 56 00.0	+9.1
OXF				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
NHSC	**New Hope**	**142.67**	**351**	PFAKE		21 56 00.0	+7.4
NHSC				LR	LR		
	comp=Z,743nm,20.0s,MS5.5						
LTX	**Lajitas**	**143.07**	**25**	PKIKP	PKPdf	21 55 50.1	-3.3
LTX				MLR	MLR		
	comp=Z,815nm,20.0s,MS5.5						
TXAR	**Lajitas Array**	**143.07**	**25**	PKP	PKPdf	21 55 48.3	-5.1
	comp=Z,1.9nm,1.0s,baz=333,slow=2.8,SNR=6.8						
LRAL	**Lakeview Retre**	**143.23**	**1**	PFAKE		21 56 00.0	+13
LRAL				LR	LR		
	comp=Z,1µm,22.0s,MS5.6						
NATX	**Nacogdoches**	**143.68**	**12**	*e*PKP	PKPdf	21 55 49.4	-4.9
NATX				LR	LR		
	comp=Z,819nm,19.0s,MS5.5						
CPUP	**Villa Florida**	**144.23**	**229**	*e*PKIKP	PKPdf	21 55 50.7	-4.8
CPUP				MLR	MLR		
	comp=Z,2µm,20.0s						
CPUP	**Villa Florida**	**144.23**	**229**	PKP	PKPdf	21 55 51.0	-4.5
	comp=Z,6.2nm,0.8s,baz=100,slow=4.1,SNR=10						
DWPF	**Disney**	**147.76**	**351**	PFAKE		21 56 10.0	+8.6
DWPF				LR	LR		
	comp=Z,700nm,19.0s,MS5.5						
SJG	**San Juan**	**150.25**	**318**	PFAKE		21 56 10.0	+4.3
SJG				LR	LR		
	comp=Z,593nm,20.0s,MS5.4						
LVC	**Limon Verde**	**154.76**	**221**	PFAKE		21 56 20.0	+8.0
LVC				LR	LR		
	comp=Z,595nm,21.0s,MS5.4						
SAML	**Samuel**	**156.25**	**257**	*e*PKPdf	PKPdf	21 56 11.8	-2.3
SAML				LR	LR		
	comp=Z,1µm,19.0s,MS5.8						
LPAZ	**La Paz**	**158.12**	**235**	PKP	PKPdf	21 56 14.1	-2.4
	comp=Z,2.9nm,1.1s,baz=19,slow=2.8,SNR=8.5						
LPAZ	**La Paz**	**158.12**	**235**	*e*PKPdf	PKPdf	21 56 14.3	-2.2
LPAZ				LR	LR		
	comp=Z,887nm,20.0s,MS5.6						
SDV	**Santo Domingo**	**159.64**	**309**	PFAKE		21 56 30.0	+12
SDV				LR	LR		
	comp=Z,693nm,20.0s,MS5.5						
ROSC	**El Rosal**	**164.98**	**305**	PKP	PKPdf	21 56 21.8	-2.0
	comp=Z,3.5nm,0.4s,baz=277,slow=23,SNR=4.8						
JTS	**JuntasAbangare**	**165.78**	**354**	PFAKE		21 56 30.0	+5.5
JTS				LR	LR		
	comp=Z,199nm,20.0s						
PAYG	**Puerto Ayora**	**175.07**	**49**	PFAKE		21 56 40.0	+10
PAYG				LR	LR		
	comp=Z,639nm,20.0s						

*NEIC **05** 21:38:39.1±2.3, 4.50S×144.30E, h92km±20km, mb4.7/6, Error ellipse: s-maj=17.9km s-min=15.0km az=167.0*

*IDC **05** 21:38:39.6±8.5, 4.48S×144.47E, h95km±77km, mb4.0/8, mb1 4.3/9, mb1mx4.1/15, mbtmp4.4/9, ML4.8/1, Error ellipse: s-maj=29.8km s-min=21.5km az=51.0*

ISC 05 21:38:36.8±2.7**, 4.5S**±0.1×**144.35E**±0.09**, h81**km±24km**, n20, σ0s83**/18**, mb4.3**/11**, 1C-2D, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.60**	**150**	*e*Pn	**P**	**21 40 01.1**	**+2.0**
	125nm,0.5s						
PMG				*e*S	**S**	**21 41 01.8**	**-1.0**
KAKA	**Kakadu**	**14.30**	**235**	⇓*i*P	**P**	**21 41 55.9**	**-0.8**
	47nm,0.4s						
CTAO	**Charters Tower**	**15.59**	**173**	*e*P	**P**	**21 42 16.8**	**+3.7**
	17nm,1.0s						
WB2	**Warramunga Arr**	**18.16**	**212**	⇓*i*P	**P**	**21 42 44.6**	**-0.5**
WRA	**Warramunga Arr**	**18.17**	**212**	P	**P**	**21 42 44.5**	**-0.6**
	2.9nm,0.3s,baz=34,slow=11,SNR=96						
STKA	**Stephens Creek**	**27.34**	**185**	*e*P	**P**	**21 44 16.3**	**0.0**
	2.7nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**27.34**	**185**	P	**P**	**21 44 16.4**	**+0.1**
	3.2nm,0.5s,mb4.1,baz=1.0,slow=8.8,SNR=12						
DZM	**Mont Dzumac**	**27.62**	**131**	P	**P**	**21 44 18.5**	**-0.4**
	4.5nm,0.5s,mb4.3						
NWAO	**Narrogin (SRO)**	**37.94**	**219**	*e*P	**P**	**21 45 48.5**	**+0.4**
	9.4nm,0.6s,mb4.8						
MUN	**Mundaring**	**37.97**	**221**	*e*P	**P**	**21 45 48.9**	**+0.5**
	18nm,1.1s,mb4.8						
CMAR	**Chiang Mai Arr**	**50.22**	**298**	P	**P**	**21 47 27.0**	**0.0**
	1.1nm,0.5s,mb4.0,baz=119,slow=5.9,SNR=19						
MKAR	**Makanchi Array**	**74.68**	**321**	P	**P**	**21 50 09.7**	**+0.3**
	0.7nm,0.5s,mb3.7,baz=96,slow=8.3,SNR=9.6						
MAW	**Mawson**	**82.59**	**202**	P	**P**	**21 50 52.2**	**+0.2**
	2.4nm,0.6s,mb4.2,baz=117,slow=7.6,SNR=7.0						
BVAR	**Borovoye Array**	**84.03**	**324**	P	**P**	**21 51 00.1**	**+0.6**
	1.6nm,0.7s,mb3.9,baz=108,slow=9.1,SNR=5.0						
ILAR	**Eielson Array**	**85.18**	**24**	P	**P**	**21 51 04.0**	**-1.0**
	3.4nm,0.7s,mb4.4,baz=259,slow=5.1,SNR=24						
QSPA	**South Pole Qui**	**85.44**	**180**	⇑*i*P	**P**	**21 51 07.0**	**+1.0**
	5.3nm,0.8s,mb4.5						
YKA	**Yellowknife Ar**	**99.09**	**27**	P	**P**	**21 52 08.8**	**-0.9**
	0.6nm,0.7s,mb4.2,baz=284,slow=4.5,SNR=4.0						
LPAZ	**La Paz**	**141.80**	**123**	PKhKP		21 57 57.9	
	1.1nm,0.5s,baz=315,slow=7.1,SNR=4.6						
CPUP	**Villa Florida**	**142.84**	**147**	PKP	PKPdf	21 57 59.8	-1.8
	1.0nm,0.5s,baz=280,slow=3.4,SNR=3.8						
DBIC	**Dimbokro**	**149.28**	**275**	PKPbc	PKPdf	21 58 18.6	+5.9
	3.7nm,1.0s,baz=101,slow=5.2,SNR=3.6						

IDC 05 21:48:13.6±4.7**, 7.41N**×**93.71E, mb3.6**/3**, mb1 3.7**/3**, mb1mx3.3**/18**, mbtmp3.6**/3**, Error ellipse: s-maj=367.9km s-min=32.4km az=48.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.35**	**125**	P	P	21 56 57.4	-2.0
	0.2nm,0.4s,baz=304,slow=8.7,SNR=5.3						
FINES	**FINESS Array B**	**72.92**	**332**	P	P	21 59 44.4	-2.0
	0.2nm,0.4s,baz=108,slow=6.0,SNR=6.9						
ARCES	**ARCESS Array B**	**75.55**	**340**	P	P	22 00 00.0	-1.5
	0.4nm,0.7s,baz=90,slow=5.4,SNR=4.2						

CASC 05 21:56:17.4±2.1**, 11.02N**×**86.60W, h6**km±11km**, MD4.0, 6C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.00**	**17**	⇓*e*P	Pb	21 56 37.4	+0.6
APON	**Apoyo**	**1.03**	**30**	⇑*e*P	Pb	21 56 37.3	0.0
TICN	**Ticuantepe**	**1.07**	**20**	*e*P	Pb	21 56 37.9	0.0
TICN				*e*S	Sb	21 56 53.1	+1.2
CONN	**Concepcion**	**1.10**	**60**	*e*P	Pb	21 56 37.9	-0.5
XAVN	**Gruta Xavier**	**1.15**	**13**	⇑*e*P	Pb	21 56 39.0	-0.4
XAVN				*e*S	Sb	21 56 55.8	+1.4
MGAN	**Managua**	**1.17**	**17**	⇑*e*P	Pb	21 56 39.2	-0.4
MGAN				*e*S	Sb	21 56 54.7	-0.2
WILN	**Americas 2**	**1.20**	**20**	⇑*e*P	Pb	21 56 39.7	-0.5
WILN				*e*S	Sb	21 56 55.9	+0.1
APYN	**Apoyeque**	**1.23**	**12**	⇑*e*P	Pb	21 56 40.3	-0.4
APYN				*e*S	Sb	21 56 56.9	+0.3
MOMJ	**Momotombo**	**1.38**	**2**	⇓*e*P	Pb	21 56 41.9	-1.3
MOMJ				*e*S	Sb	21 56 59.6	-1.4
MIRN	**Miramar**	**1.41**	**356**	⇑*e*P	Pn	21 56 42.7	-1.0
LEON	**Leon**	**1.42**	**348**	*e*P	Pn	21 56 42.3	-1.5
CNGN	**Cerro Negro**	**1.47**	**356**	⇓*e*P	Pn	21 56 43.5	-1.0
TEL3	**Telica 3**	**1.56**	**351**	*e*P	Pn	21 56 44.8	-1.0
TELN	**Telica**	**1.59**	**352**	*e*P	Pn	21 56 45.2	-1.0
PYTN	**Playitas**	**1.60**	**19**	⇓*e*P	Pn	21 56 45.1	-1.3
PYTN				*e*S	Sb	21 57 08.1	+0.8
CRIN	**San Cristobal**	**1.73**	**345**	⇓*e*P	Pn	21 56 47.2	-0.9

*JMA **05** 21:58:20.3±0.5, 32.32N×138.15E, h421km, M3.2*

*NEIC **05** 21:58:28.8±0.8, 32.60N×137.74E, h330km±9km, mb3.3/2, Error ellipse: s-maj=18.6km s-min=14.5km az=71.0*

*IDC **05** 21:58:28.3±1.3, 32.61N×137.77E, h326km±17km, mb3.1/5, mb1 3.2/7, mb1mx3.0/25, mbtmp3.8/7, Error ellipse: s-maj=34.5km s-min=15.4km az=66.0*

ISC 05 21:58:28.3±0.7**, 32.75N**±0.09×**138.04E**±0.10**, h353**km±6km**, n24, σ0s85**/30**, mb3.3**/7**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIE	**Ise**	**1.98**	**326**	P	**P**	**21 59 20.5**	**+0.4**
JWZ	**Kozaga**	**2.10**	**292**	P	**P**	**21 59 20.5**	**-0.5**
JWY	**Kouya**	**2.51**	**306**	P	**P**	**21 59 24.6**	**+0.4**
JOD2	**Odawara 2**	**2.65**	**19**	P	**P**	**21 59 25.9**	**+0.6**
JYN	**Shimob**	**2.77**	**9**	P	**P**	**21 59 27.7**	**+1.4**
BSO1	**Boso 1**	**3.10**	**51**	P	**P**	**21 59 27.8**	**-1.4**
BSO1				*e*S	**S**	**22 00 17.3**	**+0.4**
JAI	**Aioi**	**3.18**	**290**	P	**P**	**21 59 29.4**	**-0.6**
JRY	**Ryogami san**	**3.33**	**12**	P	**P**	**21 59 32.5**	**+1.1**
JRY				*e*S	**S**	**22 00 22.2**	**+1.3**
JWT	**Wachi**	**3.34**	**320**	P	**P**	**21 59 31.7**	**+0.2**
MJAR	**Matsushiro Arr**	**3.78**	**2**	P	**P**	**21 59 36.0**	**+0.3**
	1.8nm,0.3s,baz=186,slow=11,SNR=24						
MJAR				S	**S**	**22 00 28.2**	**-0.5**
	0.2nm,0.3s,baz=201,slow=35,SNR=4.0						
MAJO	**Matsushiro**	**3.78**	**2**	*e*P	**P**	**21 59 36.1**	**+0.3**
MAT	**Matsushiro**	**3.78**	**2**	*e*P	**P**	**21 59 36.0**	**+0.2**
MAT				*e*S	**S**	**22 00 28.0**	**-0.7**
MAT	**Matsushiro**	**3.78**	**2**	P	**P**	**21 59 36.0**	**+0.2**
MAT				S	**S**	**22 00 27.8**	**-0.9**
MAT	**Matsushiro**	**3.78**	**2**	P	**P**	**21 59 36.1**	**+0.3**
JAG	**Ashikaga**	**3.84**	**17**	P	**P**	**21 59 35.7**	**-0.7**
JAG				*e*S	**S**	**22 00 27.5**	**-2.3**
JHS	**Saijyo**	**4.67**	**300**	P	**P**	**21 59 44.9**	**-0.1**
JNU	**Nakatsue**	**6.03**	**275**	P	**P**	**21 59 56.5**	**-3.7**
	0.7nm,0.3s,baz=74,slow=7.5,SNR=3.9						
ULN	**Ulaanbaatar**	**27.81**	**312**	*e*P	**P**	**22 03 48.7**	**+0.8**
	1.4nm,0.6s,mb3.4						
SONM	**Songino Array**	**28.21**	**312**	P	**P**	**22 03 52.3**	**+0.8**
	1.6nm,0.6s,mb3.4,baz=112,slow=7.8,SNR=14						
MKAR	**Makanchi Array**	**44.19**	**305**	P	**P**	**22 06 04.4**	**-0.4**
	0.3nm,0.4s,mb2.8,baz=88,slow=9.7,SNR=13						
BVAR	**Borovoye Array**	**51.49**	**314**	P	**P**	**22 06 60.0**	**-0.4**
	0.7nm,0.6s,mb3.1,baz=93,slow=7.5,SNR=6.6						
ZRNK	**Zerenda**	**52.33**	**314**	*e*P	**P**	**22 07 06.1**	**-0.5**
	0.5nm,0.5s,mb3.1						
WRA	**Warramunga Arr**	**52.52**	**184**	P	**P**	**22 07 07.4**	**-1.0**
	0.4nm,0.3s,mb3.2,baz=0.1,slow=7.6,SNR=28						
STKA	**Stephens Creek**	**64.37**	**177**	P	**P**	**22 08 29.9**	**+0.8**
	2.7nm,1.0s,mb3.8,baz=330,slow=8.1,SNR=3.0						

*NEIC **05** 23:20:18.8±0.5, 68.83N×17.50W, h10km, mb4.3/3, Error ellipse: s-maj=9.5km s-min=8.1km az=78.0*

*IDC **05** 23:20:18.0±1.1, 69.08N×17.26W, mb3.5/7, mb1 3.7/9, mb1mx3.6/25, mbtmp3.5/9, ML3.1/2, MS3.7/12, Ms1 3.7/12, ms1mx3.5/28, Error ellipse: s-maj=40.6km s-min=16.2km az=27.0*

*CSEM **05** 23:20:19.8±0.2, 68.79N×17.34W, h42km±2km, ML3.9, Error ellipse: s-maj=4.3km s-min=4.0km az=55.0*

ISC 05 23:20:17.2±0.5**, 68.79N**±0.03×**17.5W**±0.2**, h10**km**, n46, σ1s20**/53**, mb3.6**/10**, MS3.8**/8**, Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**2.26**	**185**	P	**Pn**	**23 20 55.7**	**+0.4**
IGRI				S	**Sn**	**23 21 22.4**	**-1.1**
ILEI	**Leirhofn**	**2.42**	**170**	P	**Pn**	**23 20 57.5**	**0.0**
ILEI				S	**Sn**	**23 21 26.8**	**-0.7**
IFLA	**Flatey**	**2.64**	**183**	P	**Pn**	**23 21 01.3**	**+0.6**
IFLA				S	**Sn**	**23 21 33.2**	**+0.1**
IBRE	**Brettingsstaoi**	**2.68**	**184**	P	**Pn**	**23 21 01.8**	**+0.6**
IBRE				S	**Sn**	**23 21 33.7**	**-0.4**
IHED	**Heoinshofoi**	**2.72**	**178**	P	**Pn**	**23 21 02.1**	**+0.3**
IHED	**Heoinshofoi**	**2.72**	**178**	P	**Pn**	**23 21 02.1**	**+0.3**
IHED				S	**Sn**	**23 21 32.9**	**-2.1**
ISIG	**Siglufjorour**	**2.72**	**192**	P	**Pn**	**23 21 03.0**	**+1.2**
ISIG	**Siglufjorour**	**2.72**	**192**	P	**Pn**	**23 21 03.0**	**+1.2**
ISIG				S	**Sn**	**23 21 35.1**	**0.0**
IGIL	**Gilhagi**	**2.76**	**170**	P	**Pn**	**23 21 02.6**	**+0.3**
IGIL	**Gilhagi**	**2.76**	**170**	P	**Pn**	**23 21 02.6**	**+0.3**
IGIL				S	**Sn**	**23 21 35.3**	**-0.7**
IHLA	**Hella**	**2.88**	**187**	P	**Pn**	**23 21 05.0**	**+0.9**
IHLA	**Hella**	**2.88**	**187**	P	**Pn**	**23 21 04.9**	**+0.9**
IHLA				S	**Sn**	**23 21 38.1**	**-0.9**
IGRA	**Granastaoir**	**2.88**	**181**	P	**Pn**	**23 21 04.5**	**+0.4**
IGRA	**Granastaoir**	**2.88**	**181**	P	**Pn**	**23 21 04.5**	**+0.4**
IGRA				S	**Sn**	**23 21 37.8**	**-1.4**
IREN	**Reynihlio**	**3.16**	**176**	P	**Pn**	**23 21 08.9**	**+0.8**
IREN	**Reynihlio**	**3.16**	**176**	P	**Pn**	**23 21 08.8**	**+0.7**
IREN				S	**Sn**	**23 21 45.7**	**-0.6**
IGRS	**Grimsstaoir**	**3.21**	**170**	P	**Pn**	**23 21 08.6**	**-0.1**
IGRS				S	**Sn**	**23 21 47.7**	**+0.3**
ISVA	**Svartarkot**	**3.47**	**178**	P	**Pn**	**23 21 13.6**	**+1.2**
ISVA	**Svartarkot**	**3.47**	**178**	P	**Pn**	**23 21 13.6**	**+1.2**
ISVA				S	**Sn**	**23 21 54.6**	**+0.6**
SUMG	**Summit**	**7.89**	**308**	Pn	**Pn**	**23 22 13.9**	**-0.9**
SUMG				*e*Sg	**Sg**	**23 24 21.0**	**-19**
SUMG	**Summit**	**7.89**	**308**	Pn	**Pn**	**23 22 13.9**	**-0.9**
NOA	**NORSAR Array B**	**14.30**	**109**	LR	LR	23 28 56.9	
	comp=Z,133nm,18.0s,baz=320,slow=36						
ARCES	**ARCESS Array B**	**15.09**	**67**	Pn	**P**	**23 23 50.0**	**-1.7**
	0.0nm,0.3s,baz=299,slow=17,SNR=4.0						
ARCES				LR	LR	23 28 19.9	
	comp=Z,182nm,19.0s,baz=154,slow=32						
HFS	**Hagfors**	**15.81**	**108**	LR	LR	23 29 15.3	
	comp=Z,212nm,19.6s,baz=313,slow=34						
KAF	**Kangasniemi**	**19.00**	**89**	*e*p	**P**	**23 24 39.5**	**-1.4**
FINES	**FINESS Array B**	**19.35**	**91**	P	**P**	**23 24 43.8**	**-1.3**
	0.2nm,0.3s,baz=315,slow=8.1,SNR=7.1						
FINES				LR	LR	23 30 59.1	
	comp=Z,84nm,18.9s,baz=192,slow=33						
CLL	**Collm**	**22.79**	**125**	*i* PKP	**P**	**23 25 23.1**	**+2.5**
	16nm,1.4s,mb4.3						
CLL				*i*		23 28 24.0	
CLL	**Collm**	**22.79**	**125**	P	**P**	**23 25 23.1**	**+2.5**
	logA/T=1.1,mb4.3						
CLL				*i* PPP	PPP	23 26 00.9	+1.3
MOX	**Moxa**	**22.97**	**127**	*e*P	**P**	**23 25 22.0**	**-0.4**
NKC	**Novy Kostel**	**23.58**	**127**	*e*P	**P**	**23 25 31.1**	**+2.8**
GRA1	**Grafenberg Arr**	**23.71**	**129**	*e*P	**P**	**23 25 32.3**	**+2.7**
	29nm,2.0s,mb4.4						
PRU	**Pruhonice**	**24.42**	**124**	*e*P	**P**	**23 25 38.6**	**+2.1**
DPC	**Dobruska-Polom**	**24.65**	**121**	*e*P	**P**	**23 25 45.5**	**+6.8**
KHC	**Kasperske Hory**	**24.90**	**126**	*e*P	**P**	**23 25 39.4**	**-1.7**
GERES	**GERESS Array B**	**25.19**	**126**	P	**P**	**23 25 46.5**	**+2.7**
	3.0nm,1.0s,mb3.8,baz=315,slow=9.4,SNR=9.6						
GERES				LR	LR	23 35 03.4	
	comp=Z,121nm,18.3s,MS3.5,baz=127,slow=35						
VRAC	**Vranov**	**25.65**	**122**	P	**P**	**23 25 50.0**	**+1.9**
	1.3nm,0.6s,mb3.6,baz=246,slow=10,SNR=4.1						
DAVOX	**Davos**	**26.01**	**134**	LR	LR	23 35 19.7	
	comp=Z,191nm,20.2s,MS3.6,baz=293,slow=34						
AKASG	**Malin Array Be**	**28.66**	**105**	P	**P**	**23 26 14.4**	**-1.3**
	0.1nm,0.2s,mb3.1,baz=328,slow=9.2,SNR=2.9						
YKA	**Yellowknife Ar**	**36.48**	**309**	P	**P**	**23 27 23.0**	**-0.7**
	0.4nm,0.6s,mb3.5,baz=42,slow=7.1,SNR=6.4						
YKA				LR	LR	23 42 13.3	
	comp=Z,170nm,19.2s,MS3.8,baz=95,slow=36						
ULM	**Lac du Bonnet**	**40.43**	**284**	LR	LR	23 45 36.7	
	comp=Z,116nm,18.1s,MS3.8,baz=37,slow=38						
ILAR	**Eielson Array**	**42.05**	**330**	P	**P**	**23 28 08.6**	**-1.1**
	0.2nm,0.5s,mb3.0,baz=18,slow=5.7,SNR=2.7						
ILAR				LR	LR	23 45 59.9	
	comp=Z,145nm,19.4s,MS3.9,baz=279,slow=37						
ZAL	**Zalesovo**	**45.15**	**55**	LR	LR	23 51 16.1	
	comp=Z,85nm,19.0s,MS3.7,baz=138,slow=41						
MKAR	**Makanchi Array**	**50.64**	**61**	P	**P**	**23 29 16.7**	**-1.2**
	0.4nm,0.6s,mb3.5,slow=4.9,SNR=6.7						
PDAR	**Pinedale Array**	**51.65**	**290**	P	**P**	**23 29 26.2**	**+0.6**
	0.3nm,0.6s,mb3.4,baz=63,slow=6.0,SNR=2.5						
PDAR				LR	LR	23 51 37.2	
	comp=Z,177nm,18.4s,MS4.1,baz=66,slow=36						
WMOK	**Wichita Mounta**	**54.99**	**276**	P	**P**	**23 29 54.0**	**+3.5**
	0.5nm,0.6s,mb3.7						
TXAR	**Lajitas Array**	**61.63**	**278**	LR	LR	23 57 47.5	
	comp=Z,123nm,19.3s,MS4.1,baz=100,slow=36						

*IDC **05** 23:23:13.9±6.4, 68.98N×17.74W, mb3.6/2, mb1 3.5/4, mb1mx3.3/24, mbtmp3.4/4, ML3.1/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/29, Error ellipse: s-maj=109.6km s-min=50.6km az=97.0*

*NEIC **05** 23:23:16.1±0.6, 68.80N×17.32W, h10km, ML3.7(REY), Error ellipse: s-maj=10.2km s-min=6.5km az=110.0*

*CSEM **05** 23:23:17.5±0.2, 68.74N×16.95W, h30km, ML3.5, Error ellipse: s-maj=7.1km s-min=2.5km az=72.0*

ISC 05 23:23:16.5±0.9**, 68.67N**±0.06×**16.8W**±0.3**, h10**km**, n38, σ0s79**/46**, mb3.6**/2**, Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**2.19**	**193**	P	**Pn**	**23 23 53.4**	**0.0**
IGRI	**Grimsey**	**2.19**	**193**	P	**Pn**	**23 23 53.4**	**0.0**
IGRI				S	**Sn**	**23 24 19.7**	**-1.1**
ILEI	**Leirhofn**	**2.28**	**177**	P	**Pn**	**23 23 54.8**	**+0.1**
IFLA	**Flatey**	**2.55**	**189**	P	**Pn**	**23 23 58.7**	**+0.1**
IFLA				S	**Sn**	**23 24 29.5**	**-0.5**
IBRE	**Brettingsstaoi**	**2.59**	**190**	P	**Pn**	**23 23 59.1**	**-0.1**
IBRE				S	**Sn**	**23 24 30.2**	**-0.9**
IHED	**Heoinshofoi**	**2.61**	**184**	P	**Pn**	**23 23 59.3**	**-0.1**
IHED	**Heoinshofoi**	**2.61**	**184**	P	**Pn**	**23 23 59.3**	**-0.1**
IGIL	**Gilhagi**	**2.61**	**176**	P	**Pn**	**23 23 59.3**	**-0.1**
IGIL	**Gilhagi**	**2.61**	**176**	P	**Pn**	**23 23 59.3**	**-0.2**
IGIL				S	**Sn**	**23 24 32.2**	**+0.7**
ISIG	**Siglufjorour**	**2.67**	**199**	P	**Pn**	**23 24 00.4**	**0.0**
ISIG	**Siglufjorour**	**2.67**	**199**	P	**Pn**	**23 24 00.4**	**0.0**
IGRA	**Granastaoir**	**2.78**	**186**	P	**Pn**	**23 24 01.9**	**0.0**
IGRA				S	**Sn**	**23 24 34.9**	**-0.9**
IHLA	**Hella**	**2.81**	**193**	P	**Pn**	**23 24 02.4**	**+0.1**
IHLA	**Hella**	**2.81**	**193**	P	**Pn**	**23 24 02.3**	**0.0**
IHLA				S	**Sn**	**23 24 35.0**	**-1.5**
IHRN	**Hraun**	**2.87**	**208**	P	**Pn**	**23 24 04.0**	**+0.8**
IHRN	**Hraun**	**2.87**	**208**	P	**Pn**	**23 24 03.8**	**+0.6**
IKVO	**Krokottuvotn**	**2.97**	**181**	P	**Pn**	**23 24 04.9**	**+0.3**
IKVO	**Krokottuvotn**	**2.97**	**181**	P	**Pn**	**23 24 04.8**	**+0.2**
IREN	**Reynihlio**	**3.04**	**181**	P	**Pn**	**23 24 06.2**	**+0.6**
IREN	**Reynihlio**	**3.04**	**181**	P	**Pn**	**23 24 06.0**	**+0.5**
IREN				S	**Sn**	**23 24 43.2**	**+0.9**
IGRS	**Grimsstaoir**	**3.06**	**175**	P	**Pn**	**23 24 05.9**	**+0.1**
IGRS	**Grimsstaoir**	**3.06**	**175**	P	**Pn**	**23 24 05.9**	**+0.1**
IGRS				S	**Sn**	**23 24 43.5**	**+0.6**
ISVA	**Svartarkot**	**3.35**	**183**	P	**Pn**	**23 24 10.6**	**+0.6**
ISVA	**Svartarkot**	**3.35**	**183**	P	**Pn**	**23 24 10.5**	**+0.5**
ISVA				S	**Sn**	**23 24 50.1**	**-0.2**
IADA	**Aoalbol**	**3.70**	**172**	P	**Pn**	**23 24 14.8**	**-0.1**
IADA	**Aoalbol**	**3.70**	**172**	P	**Pn**	**23 24 14.8**	**-0.2**
JMIC	**Jan Mayen**	**3.70**	**47**	LR	LR	23 25 00.3	
	comp=Z,158nm,21.2s,baz=238,slow=28						
IHVA	**Hvannstoosfjol**	**3.75**	**174**	P	**Pn**	**23 24 16.0**	**+0.3**
IHVA	**Hvannstoosfjol**	**3.75**	**174**	P	**Pn**	**23 24 16.0**	**+0.3**
IBRU	**Bruarjokull**	**3.87**	**175**	P	**Pn**	**23 24 17.4**	**0.0**
IVSH	**V-Sauoahnukur**	**3.90**	**173**	P	**Pn**	**23 24 18.4**	**+0.6**
IASB	**`sbjarnarst**	**4.33**	**207**	P	**Pn**	**23 24 25.3**	**+1.4**
SUMG	**Summit**	**8.16**	**308**	Pn	**P**	**23 25 11.2**	**-6.6**
SUMG	**Summit**	**8.16**	**308**	Pn	**P**	**23 25 11.2**	**-6.6**
ARCES	**ARCESS Array B**	**14.91**	**67**	Pn	**P**	**23 26 48.6**	**+0.1**
	0.1nm,0.3s,baz=276,slow=9.1,SNR=2.5						
FINES	**FINESS Array B**	**19.09**	**91**	P	**P**	**23 27 40.0**	**-1.3**
	0.1nm,0.3s,baz=321,slow=12,SNR=4.5						
GERES	**GERESS Array B**	**24.92**	**127**	P	**P**	**23 28 42.9**	**+2.3**
	2.8nm,1.0s,mb3.7,baz=329,slow=7.8,SNR=9.4						
MKAR	**Makanchi Array**	**50.47**	**62**	P	**P**	**23 32 13.9**	**-2.0**
	0.3nm,0.7s,mb3.5,baz=329,slow=7.1,SNR=4.2						

*NEIC **05** 23:46:52.3±0.5, 32.45S×178.38W, h10km, mb5.2/7, Error*

ellipse: s-maj=14.7km s-min=7.4km az=107.0

*IDC **05** 23:46:57.6±2.1, 32.22S×178.47W, h44km±18km, mb4.0/6, mb1 4.2/7, mb1mx4.1/14, mbtmp4.3/7, ML3.7/1, MS4.2/11, Ms1 4.2/11, ms1mx4.1/16, Error ellipse: s-maj=18.2km s-min=15.6km az=117.0*

ISC 05 23:46:54.4±0.6**, 32.55S**±0.04×**178.5W**±0.1**, h33km, n81, σ1^{s}47**/70**, mb4.8**/11**, MS4.2**/10**, 2D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.33**	**9**	P	**P**	**23 47 40.8**	**-4.5**
	195nm,0.3s,baz=41,slow=22,SNR=7.5						
RAO				S	**S**	**23 48 17.3**	**-6.8**
	372nm,0.3s,baz=71,slow=23,SNR=7.0						
RAO	**Raoul Island**	**3.33**	**9**	*e*Pn	**Pn**	**23 47 40.6**	**-4.8**
RAO				*e*Sn	**Sn**	**23 48 22.6**	**-1.7**
MXZ	**Matakaoa Point**	**5.64**	**207**	P	**P**	**23 48 17.7**	**-0.3**
MXZ	**Matakaoa Point**	**5.64**	**207**	PN	**Pn**	**23 48 19.7**	**+1.5**
PUZ	**Puketiti**	**6.11**	**205**	*e*P	**P**	**23 48 24.2**	**-0.4**
PUZ				S	**S**	**23 49 36.4**	**+2.1**
PUZ	**Puketiti**	**6.11**	**205**	PN	**Pn**	**23 48 24.2**	**-0.6**
PUZ				SN	**Sn**	**23 49 36.5**	**+2.1**
MWZ	**Matawai**	**6.62**	**208**	*e*P	**P**	**23 48 30.2**	**-1.6**
MWZ				S	**S**	**23 49 47.9**	**+1.0**
MWZ	**Matawai**	**6.62**	**208**	PN	**Pn**	**23 48 30.1**	**-1.8**
MWZ				SN	**Sn**	**23 49 48.8**	**+1.8**
URZ	**Urewera**	**6.73**	**211**	P	**P**	**23 48 32.6**	**-0.7**
	8.1nm,0.3s,baz=110,slow=2.5,SNR=39						
URZ				S	**S**	**23 49 51.4**	**+1.7**
	34nm,0.3s,baz=184,slow=19,SNR=9.4						
URZ	**Urewera**	**6.73**	**211**	*e*P	**P**	**23 48 31.9**	**-1.4**
URZ	**Urewera**	**6.73**	**211**	PN	**Pn**	**23 48 31.7**	**-1.8**
URZ				SN	**Sn**	**23 49 49.4**	**-0.3**
OUZ	**Omahuta**	**7.09**	**246**	*e*P	**P**	**23 48 42.6**	**+4.2**
OUZ	**Omahuta**	**7.09**	**246**	PN	**Pn**	**23 48 42.6**	**+4.0**
KNZ	**Kokohu**	**7.16**	**205**	*e*P	**P**	**23 48 36.7**	**-2.7**
KNZ	**Kokohu**	**7.16**	**205**	PN	**Pn**	**23 48 36.7**	**-2.9**
KNZ				SN	**Sn**	**23 49 59.6**	**-1.1**
BKZ	**Black Stump Fm**	**7.75**	**210**	*e*P	**P**	**23 48 45.0**	**-2.6**
BKZ	**Black Stump Fm**	**7.75**	**210**	PN	**Pn**	**23 48 46.5**	**-1.3**
NGZ	**Ngauruhoe**	**8.16**	**214**	P	**P**	**23 48 53.3**	**0.0**
NGZ	**Ngauruhoe**	**8.16**	**214**	PN	**P**	**23 48 54.5**	**+1.3**
TUVZ	**Tukino**	**8.21**	**214**	P	**P**	**23 48 55.3**	**+1.4**
TUVZ	**Tukino**	**8.21**	**214**	PN	**P**	**23 48 55.3**	**+1.3**
FWVZ	**Far West T-bar**	**8.24**	**214**	P	**P**	**23 48 53.9**	**-0.6**
FWVZ	**Far West T-bar**	**8.24**	**214**	PN	**P**	**23 48 55.4**	**+1.0**
WNVZ	**Wahianoa**	**8.28**	**214**	P	**P**	**23 48 54.1**	**-0.9**
WNVZ	**Wahianoa**	**8.28**	**214**	PN	**P**	**23 48 55.1**	**+0.1**
PWZ	**Pawanui**	**8.35**	**205**	SN	**Sn**	**23 50 29.2**	**-1.0**
BFZ	**Birch Farm**	**9.14**	**206**	*e*P	**P**	**23 49 01.3**	**-5.6**
BFZ	**Birch Farm**	**9.14**	**206**	PN	**P**	**23 49 01.3**	**-5.7**
BFZ				SN	**Sn**	**23 50 44.1**	**-5.8**
MRZ	**Mangatainoka R**	**9.38**	**209**	*e*P	**P**	**23 49 05.2**	**-5.1**
MRZ	**Mangatainoka R**	**9.38**	**209**	PN	**P**	**23 49 05.1**	**-5.1**
MRZ				SN	**Sn**	**23 50 50.8**	**-5.1**
MTW	**Mount Morrison**	**9.84**	**207**	PN	**P**	**23 49 11.8**	**-4.7**
THZ	**Tophouse**	**11.46**	**214**	*e*PN	**P**	**23 49 33.2**	**-5.4**
THZ				*e*SN	**S**	**23 51 38.5**	**-8.1**
KHZ	**Kahutara**	**11.69**	**210**	PN	**P**	**23 49 36.2**	**-5.6**
KHZ				*e*SN	**S**	**23 51 43.0**	**-9.2**
LTZ	**Lake Taylor**	**12.55**	**213**	*e*P	**P**	**23 49 47.3**	**-6.0**
LTZ	**Lake Taylor**	**12.55**	**213**	*e*PN	**P**	**23 49 46.6**	**-6.7**
RPZ	**Rata Peaks**	**13.83**	**213**	P	**P**	**23 50 07.5**	**-2.7**
	1.3nm,0.3s,baz=90,slow=2.5,SNR=7.2						
RPZ				S	**S**	**23 52 32.4**	**-11**
	3.1nm,0.3s,baz=285,slow=22,SNR=7.7						
DZM	**Mont Dzumac**	**16.95**	**304**	P	**P**	**23 50 51.1**	**+0.6**
	0.2nm,0.3s,baz=100,slow=17,SNR=4.1						
DZM				LR	LR	23 56 17.9	
	comp=Z,2μm,18.2s,baz=204,slow=33						
DZM	**Mont Dzumac**	**16.95**	**304**	P	**P**	**23 50 51.1**	**+0.6**
DZM				LR	LR	23 56 17.9	
TBI	**Tubuai**	**27.18**	**78**	*e*LQ		23 58 01.3	
	305nm,30.2s						
TBI				*e*LR	LR	23 58 52.7	
	658nm,27.2s						
PPT	**Papeete**	**30.03**	**67**	*e*LQ		23 59 04.1	
	217nm,23.5s						
PPT				*e*LR	LR	00 00 16.6	
	430nm,25.0s						
PPT	**Papeete**	**30.03**	**67**	LR	LR	00 00 50.1	
	comp=Z,273nm,21.6s,MS3.9,baz=205,slow=28						
STKA	**Stephens Creek**	**33.63**	**260**	*e*P	**P**	**23 53 35.8**	**+1.9**
	6.4nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**33.63**	**260**	P	**P**	**23 53 35.6**	**+1.6**
	4.4nm,0.8s,mb4.4,baz=104,slow=10,SNR=8.0						
STKA				LR	LR	00 06 52.6	
	comp=Z,620nm,18.1s,MS4.4,baz=287,slow=35						
CTA	**Charters Tower**	**33.78**	**283**	⇓*i*P	**P**	**23 53 37.3**	**+2.0**
	15nm,0.5s,mb5.2						
CTA	**Charters Tower**	**33.78**	**283**	P	**P**	**23 53 36.9**	**+1.6**
	14nm,0.4s,mb5.2,baz=108,slow=9.9,SNR=39						
CTAO	**Charters Tower**	**33.78**	**283**	*e*P	**P**	**23 53 37.1**	**+1.7**
	28nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**43.78**	**275**	*e*P	**P**	**23 54 59.0**	**+0.2**
WRA	**Warramunga Arr**	**43.79**	**275**	P	**P**	**23 54 59.1**	**+0.2**
	53nm,0.5s,mb5.5,baz=115,slow=7.6,SNR=502						
WRA				ScP		00 00 34.7	
	0.3nm,0.4s,baz=107,slow=3.7,SNR=4.8						
WRA				S	**S**	**00 01 25.9**	**-0.9**
	2.0nm,1.0s,baz=114,slow=14,SNR=3.5						
VNDA	**Vanda**	**45.92**	**186**	P	**P**	**23 55 17.6**	**+2.4**
	0.9nm,0.5s,mb3.9,baz=2.7,slow=6.2,SNR=4.7						
VNDA				LR	LR	00 11 29.3	
	comp=Z,172nm,19.8s,MS4.0,baz=74,slow=32						
VNDA	**Vanda**	**45.92**	**186**	P	**P**	**23 55 17.6**	**+2.4**
VNDA				LR	LR	00 11 29.3	
KAKA	**Kakadu**	**48.92**	**282**	*e*P	**P**	**23 55 39.3**	**-0.1**
	37nm,0.5s,mb5.7						
FITZ	**Fitzroy Crossi**	**51.96**	**272**	⇓*i*P	**P**	**23 56 02.4**	**-0.1**
	11nm,0.6s,mb5.0						
QSPA	**South Pole Qui**	**57.57**	**180**	*e*P	**P**	**23 56 45.5**	**+2.9**
	35nm,0.6s,mb5.6						
QSPA				*e*		23 56 52.4	
MAW	**Mawson**	**70.15**	**201**	P	**P**	**23 58 06.1**	**+1.1**
	5.0nm,1.0s,mb4.4,baz=115,slow=8.2,SNR=6.4						
SNAA	**Sanae**	**76.02**	**179**	LR	LR	00 28 03.9	
	comp=Z,36nm,19.9s,MS3.7,baz=218,slow=32						
SNAA	**Sanae**	**76.02**	**179**	*e*P	**P**	**23 58 41.2**	**+1.9**
	24nm,1.1s,mb5.0						
SNAA				*e*		23 58 48.0	
MJAR	**Matsushiro Arr**	**79.77**	**326**	LR	LR	00 33 20.4	
	comp=Z,90nm,18.4s,MS4.2,baz=55,slow=35						
NVAR	**Mina Array Bea**	**90.11**	**43**	P	**P**	**23 59 52.9**	**+0.7**
	1.5nm,1.0s,mb4.3,baz=215,slow=5.2,SNR=5.4						
NVAR				LR	LR	00 35 21.3	
	comp=Z,174nm,18.2s,MS4.5,slow=32						
TXAR	**Lajitas Array**	**93.91**	**58**	P	**P**	**00 00 11.0**	**+1.1**
	0.6nm,0.9s,mb4.0,baz=169,slow=6.4,SNR=3.7						
TXAR				LR	LR	00 36 19.9	
	comp=Z,101nm,19.4s,MS4.3,baz=210,slow=32						
TXAR	**Lajitas Array**	**93.91**	**58**	P	**P**	**00 00 11.0**	**+1.1**
TXAR				LR	LR	00 36 19.9	
LPAZ	**La Paz**	**97.65**	**115**	LR	LR	00 34 43.2	
	comp=Z,59nm,19.9s,MS4.1,baz=22,slow=29						
PDAR	**Pinedale Array**	**97.98**	**44**	LR	LR	00 40 18.5	
	comp=Z,137nm,18.3s,MS4.5,baz=250,slow=33						
CPUP	**Villa Florida**	**98.98**	**129**	LR	LR	00 36 04.1	
	comp=Z,94nm,19.7s,MS4.3,baz=202,slow=30						
MKAR	**Makanchi Array**	**118.81**	**309**	PKP	PKPdf	00 05 39.7	+0.6
	1.2nm,0.5s,baz=168,slow=0.8,SNR=20						
MKAR	**Makanchi Array**	**118.81**	**309**	PKP	PKPdf	00 05 39.7	+0.6
ZAL	**Zalesovo**	**119.34**	**318**	PKP	PKPdf	00 05 39.9	-0.2
	1.0nm,0.4s,baz=344,slow=5.1,SNR=4.1						
ZRNK	**Zerenda**	**128.45**	**314**	*e*PKPdf	PKPdf	00 05 58.2	+0.6
ARCES	**ARCESS Array B**	**140.59**	**347**	PKhKP		00 06 13.8	
	1.6nm,0.5s,baz=36,slow=3.0,SNR=26						
KAF	**Kangasniemi**	**146.41**	**339**	*e*pkp	PKPdf	00 06 31.2	+1.4
FINES	**FINESS Array B**	**147.00**	**338**	PKPbc	PKPdf	00 06 33.8	+3.0
	28nm,0.5s,baz=60,slow=3.5,SNR=535						
NB2	**NORSAR Subarra**	**150.80**	**350**	PKPabc	PKPdf	00 06 43.7	+6.9
	6.5nm,0.7s,baz=16,slow=2.5						
NOA	**NORSAR Array B**	**150.80**	**350**	PKPbc	PKPdf	00 06 43.4	+6.6
	3.9nm,0.5s,baz=15,slow=4.1,SNR=27						
NOA	**NORSAR Array B**	**150.80**	**350**	PKPbc	PKPdf	00 06 43.4	+6.6
NAO01	**NORSAR Array S**	**151.03**	**351**	*e*PKPbc	PKPdf	00 06 44.8	+7.6
NAO01				*e*		00 06 51.5	
AKASG	**Malin Array Be**	**152.70**	**320**	PKPbc	PKPdf	00 06 47.9	+8.0
	6.5nm,0.6s,baz=46,slow=3.1,SNR=34						
AKASG	**Malin Array Be**	**152.70**	**320**	PKPbc	PKPdf	00 06 47.9	+8.0
BRTR	**Keskin Array B**	**153.17**	**295**	PKPbc	PKPdf	00 06 49.4	+8.4
	1.8nm,0.6s,baz=153,slow=4.2,SNR=10						
BRTR				PKPab	PKPab	00 07 03.5	+1.0
	2.8nm,0.6s,baz=136,slow=3.9,SNR=8.6						
SUW	**Suwalki**	**153.56**	**331**	*e*PKPbc	PKPdf	00 06 50.5	+9.5
DBIC	**Dimbokro**	**153.58**	**166**	PKPbc	PKPdf	00 06 52.2	+10
	5.2nm,0.8s,baz=132,slow=19,SNR=5.0						
DBIC	**Dimbokro**	**153.58**	**166**	PKPbc	PKPdf	00 06 52.2	+10
GERES	**GERESS Array B**	**161.32**	**334**	PKPab	PKPab	00 07 35.2	-1.9
	0.4nm,0.5s,baz=45,slow=3.8,SNR=4.5						

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*NIED **05** 23:49:00, 43.80N×147.80E, h29km, Mw3.7 Best double couple: M₀4.46×10[14] NP1:φs252°, δ72°, λ-143°. NP2: φs149°, δ55°, λ-22°.*

*SKHL **05** 23:49:23.0±3.3, 43.88N×149.48E, h32km±7km, mb4.9/2*

*JMA **05** 23:49:36.8±0.3, 43.81N×147.77E, M4.3*

*MOS **05** 23:49:38.2±1.2, 44.23N×147.91E, h54km, mb4.1/5, Error ellipse: s-maj=23.7km s-min=16.3km az=43.1*

*IDC **05** 23:49:41.0±4.8, 44.52N×147.98E, h50km±48km, mb3.5/9, mb1 3.7/10, mb1mx3.5/23, mbtmp3.7/10, ML3.4/1, Error ellipse: s-maj=92.8km s-min=27.6km az=175.0*

*NEIC **05** 23:49:42.9±3.8, 44.56N×147.97E, h65km±20km, mb3.7/2, Error ellipse: s-maj=56.0km s-min=15.8km az=174.0*

ISC 05 23:49:37.3±1.2**, 44.07N**±0.07×**148.0E**±0.1**, h50km**±9km**, n32, σ0^{s}88**/41**, mb3.6**/10**, 1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.16**	**356**	*e*P	**P**	**23 49 51.0**	**-6.5**
KUR				AMB	AMB	23 49 57.9	
	50nm,0.5s						
KUR				AMB	AMB	23 49 57.9	
	140nm,0.5s						
KUR				AMB	AMB	23 49 57.9	
	150nm,0.5s						
KUR				*e*S	**S**	**23 50 12.0**	**-0.5**
KUR				A		23 50 12.6	
	610nm,0.6s						
KUR				A		23 50 12.6	
	228nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.54**	**269**	⇑*i*PN	**P**	**23 50 01.9**	**-1.0**
YUK				*i* S	**S**	**23 50 20.9**	**-0.9**
YUK				pmax	pmax		
	comp=Z,670nm,0.4s						
YUK				pmax	pmax		
	comp=E,270nm,0.3s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				smax			
	comp=E,1μm,0.3s						
YUK				smax			
	comp=N,2μm,0.6s						
YUK				smax			
	comp=N,4μm,0.6s						
YUK				smax			
	comp=E,4.0nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.54**	**269**	*i* P	**P**	**23 50 01.9**	**-1.0**
YUK				AMB	AMB	23 50 03.0	
	comp=E,270nm,0.3s						
YUK				AMB	AMB	23 50 03.0	
	comp=E,670nm,0.3s						
YUK				AMB	AMB	23 50 03.3	
	comp=E,2μm,0.5s						
YUK				A		23 50 27.0	
	comp=E,2μm,0.4s						
YUK				A		23 50 27.0	
	comp=E,1μm,0.4s						
YUK				A		23 50 28.0	
	comp=E,4μm,0.5s						
YUK				A		23 50 28.0	
	comp=E,4μm,0.5s						
NEM2	**Nemuro 2**	**1.78**	**247**	P	**P**	**23 50 05.3**	**-0.9**
NEM2				*e*S	**S**	**23 50 26.3**	**-1.4**
JRA	**Rausu**	**2.08**	**267**	P	**P**	**23 50 11.4**	**+1.0**
JRA				*e*S	**S**	**23 50 36.2**	**+1.1**
JNK	**Nakash**	**2.42**	**260**	*e*S	**S**	**23 50 43.4**	**-0.4**
JAK	**Akkeshi**	**2.63**	**247**	P	**P**	**23 50 17.8**	**-0.5**
JAK				*e*S	**S**	**23 50 48.2**	**-0.9**
JTKR	**Abashiri--Toko**	**2.95**	**269**	P	**P**	**23 50 23.8**	**+0.9**
JAR	**Ashorobuto**	**3.16**	**257**	P	**P**	**23 50 26.7**	**+0.9**
JAR				*e*S	**S**	**23 51 03.5**	**+0.9**
JOB	**Onbets**	**3.25**	**250**	P	**P**	**23 50 26.9**	**-0.1**
JOB				*e*S	**S**	**23 51 04.3**	**-0.4**
JMP	**Maruseppu**	**3.34**	**270**	P	**P**	**23 50 29.5**	**+1.1**
JCH	**Churui**	**3.68**	**248**	P	**P**	**23 50 33.7**	**+0.5**
JCH				*e*S	**S**	**23 51 15.1**	**-0.6**
ASAJ	**Asahikawa**	**3.89**	**273**	PN	**P**	**23 50 37.9**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**3.89**	**273**	P	**P**	**23 50 37.9**	**+1.8**
	comp=Z,2.1nm,0.3s,baz=79,slow=11,SNR=5.8						
JFR	**Furan**	**4.03**	**259**	P	**P**	**23 50 39.2**	**+1.2**
JFR				*e*S	**S**	**23 51 25.0**	**+0.5**
JNBK	**Urakawa-nobuka**	**4.23**	**247**	P	**P**	**23 50 40.4**	**-0.5**
YSS	**Yuzh-Sakhalins**	**4.67**	**310**	PN	**P**	**23 50 46.5**	**-0.7**
SONM	**Songino Array**	**28.91**	**292**	P	**P**	**23 55 34.0**	**+0.5**
	comp=Z,0.4nm,0.4s,mb3.5,baz=71,slow=8.1,SNR=4.4						
ILAR	**Eielson Array**	**40.87**	**36**	P	**P**	**23 57 15.2**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.2,baz=283,slow=8.5,SNR=5.9						
MKAR	**Makanchi Array**	**44.98**	**298**	P	**P**	**23 57 49.6**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.4,baz=78,slow=8.2,SNR=5.4						
ZRNK	**Zerenda**	**50.57**	**310**	P	**P**	**23 58 31.6**	**-1.0**
	comp=Z,0.4nm,0.4s,mb3.7						
FINES	**FINESS Array B**	**64.86**	**333**	P	**P**	**00 00 11.3**	**-1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**64.86**	**333**	P	**P**	**00 00 11.3**	**-1.6**
	comp=Z,0.8nm,0.6s,mb4.0,baz=45,slow=5.4,SNR=7.3						
FINES	**FINESS Array B**	**64.86**	**333**	P	**P**	**00 00 11.3**	**-1.6**
NB2	**NORSAR Subarra**	**69.52**	**339**	P	**P**	**00 00 41.5**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.6,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.52**	**339**	P	**P**	**00 00 40.9**	**-1.2**
	comp=Z,0.4nm,0.4s,mb3.7,baz=31,slow=6.2,SNR=3.7						
AKASG	**Malin Array Be**	**71.68**	**324**	P	**P**	**00 00 54.9**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.8,baz=39,slow=5.6,SNR=5.0						
MLR	**Muntele Rosu**	**77.08**	**322**	P	**P**	**00 01 27.6**	**+1.1**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MLR	**Muntele Rosu**	**77.08**	**322**	P	**P**	**00 01 27.6**	**+1.0**
	comp=Z,1.1nm,0.5s,mb4.0,baz=2.6,slow=3.3,SNR=4.7						
GERES	**GERESS Array B**	**79.17**	**331**	P	**P**	**00 01 38.4**	**+0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	**GERESS Array B**	**79.17**	**331**	P	**P**	**00 01 38.4**	**+0.5**
	comp=Z,0.5nm,0.4s,mb3.8,baz=45,slow=5.7,SNR=7.2						
TXAR	**Lajitas Array**	**81.96**	**57**	P	**P**	**00 01 54.1**	**+0.9**
	comp=Z,0.2nm,0.5s,mb3.3,baz=297,slow=4.0,SNR=4.1						

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*NEIC **06** 00:28:13.6, 32.66S×71.66W, h24km, ML2.9(GUC), After GUC.*

GUC 06 00:28:13.6±0.8**, 32.66S**×**71.66W, h24km**±4km**, MD3.6, ML2.9, 9C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.22**	**58**	⇓*i*P	Pb	00 28 20.2	+0.7
PACH				*i* S	Sb	00 28 24.4	+1.0
IHA	**Instituto Hidr**	**0.37**	**177**	⇓*i*P	Pb	00 28 21.4	-0.2
IHA				*i* S	Sb	00 28 27.3	+0.3
ROCH	**El Roble**	**0.63**	**120**	⇑*i*P	Pb	00 28 25.9	0.0
ROCH				*i* S	Sb	00 28 35.0	+0.7
LCCH	**Las Cruces**	**0.82**	**175**	⇓*i*P	Pb	00 28 28.2	-0.9
LCCH				*i* S	Sb	00 28 39.5	-0.2
JACH	**Jahuel**	**0.90**	**92**	⇑*i*P	Pb	00 28 29.8	-0.7
JACH				*i* S	Sb	00 28 42.2	+0.1
PEL	**Peldehue**	**0.95**	**121**	*i* S	Sb	00 28 44.2	+0.7
RCDM	**Rinconada Maip**	**1.10**	**139**	*e*P	Pn	00 28 33.0	-0.6
RCDM				*i* S	Sb	00 28 47.2	-0.5
RCDM				AMP		00 28 48.9	
	comp=E,462nm,0.1s						
TACH	**Talagante**	**1.17**	**149**	⇑*i*P	Pn	00 28 34.0	-0.6
TACH				*i* S	Sb	00 28 48.8	-0.8
DSCH	**Colegio Aleman**	**1.18**	**129**	*e*P	Pn	00 28 34.2	-0.6
DSCH				*i* S	Sb	00 28 50.2	+0.1
DSCH				AMP		00 28 51.5	
	comp=N,572nm,0.6s						
CLCH	**Cerro Calan**	**1.20**	**128**	⇓*i*P	Pn	00 28 34.6	-0.4
CLCH				*i* S	Sb	00 28 50.9	+0.3
CLCH				AMP		00 28 55.4	
	comp=E,300nm,0.3s						
ANTU	**Antumapu**	**1.25**	**137**	*i* S	Sn	00 28 52.2	+0.1
ANTU				AMP		00 28 56.9	
	comp=E,330nm,0.4s						
LNV	**Longovilo**	**1.31**	**171**	⇑*i*P	Pn	00 28 36.2	-0.5
LNV				*i* S	Sn	00 28 53.4	-0.2
FCH	**Farellones**	**1.33**	**121**	⇓*i*P	Pn	00 28 36.7	-0.3
FCH				*i* S	Sn	00 28 54.9	+0.8
FCH				AMP		00 28 59.0	
	comp=E,201nm,0.2s						
PCH	**Pirque**	**1.36**	**135**	⇑*i*P	Pn	00 28 37.1	-0.2
CHCH	**Chadas Angostu**	**1.53**	**147**	⇓*i*P	Pn	00 28 40.2	+0.4
CHCH				*i* S	Sn	00 29 00.1	+1.1
CMCH	**Combarbala**	**1.58**	**21**	⇑*i*P	Pn	00 28 40.4	-0.1
CMCH				*i* S	Sn	00 29 01.3	+0.9
CMCH				AMP		00 29 05.4	
	comp=E,1μm,0.7s						
LMEL	**Las Melosas**	**1.70**	**135**	⇑*i*P	Pn	00 28 42.7	+0.4
LMEL				*i* S	Sn	00 29 05.2	+1.7
LMEL				AMP		00 29 09.2	
	comp=N,354nm,0.1s						
CACH	**El Canelo**	**1.71**	**149**	⇑*i*P	Pn	00 28 43.8	+1.5
CACH				*i* S	Sn	00 29 06.5	+3.0
CICH	**Cipreses**	**1.96**	**148**	⇑*i*P	Pn	00 28 46.4	+0.5
CICH				*i* S	Sn	00 29 11.9	+1.9
SFDO	**San Fernando**	**2.03**	**165**	*i* P	Pn	00 28 48.1	+1.2
SFDO				*i* S	Sn	00 29 13.8	+2.1

IDC 06 00:36:28.0±10.0**, 14.74S**×**178.98W, h393km**±117km**, mb3.1**/6**, mb1 3.5**/6**, mb1mx3.3**/14**, mbtmp3.8**/6**, Error ellipse: s-maj=83.6km s-min=30.9km az=150.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.76**	**238**	P	P	00 43 24.9	-1.1
	2.2nm,0.8s,baz=52,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**44.75**	**256**	P	P	00 44 04.3	-1.9
	0.2nm,0.4s,baz=95,slow=6.8,SNR=5.4						
NVAR	**Mina Array Bea**	**77.54**	**45**	P	P	00 47 42.7	-0.5
	0.8nm,0.7s,baz=216,slow=7.2,SNR=4.2						
ILAR	**Eielson Array**	**82.94**	**13**	P	P	00 48 09.8	-1.1
	1.0nm,0.6s,baz=237,slow=7.3,SNR=7.9						
TXAR	**Lajitas Array**	**84.78**	**58**	P	P	00 48 19.5	-1.3
	0.5nm,0.7s,baz=214,slow=4.5,SNR=7.4						
PDAR	**Pinedale Array**	**85.44**	**44**	P	P	00 48 22.4	-1.2
	0.6nm,0.5s,baz=203,slow=2.6,SNR=7.8						
ARCES	**ARCESS Array B**	**123.12**	**350**	PKP	PKPdf	00 54 37.8	-0.3
	1.4nm,1.0s,baz=333,slow=2.7,SNR=4.3						
GERES	**GERESS Array B**	**144.42**	**346**	PKP	PKPdf	00 55 17.9	0.0
	0.7nm,0.5s,baz=27,slow=3.0,SNR=7.1						

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*NEIC **06** 00:53:44.0, 36.95N×20.25E, h15km, MD3.4(ATH), After ATH.*

*CSEM **06** 00:53:44.0±0.9, 36.95N×20.25E, h15km, MD3.4/5, Error ellipse: s-maj=21.4km s-min=13.4km az=61.0, After ATH*

ATH 06 00:53:44.0, 36.95N×**20.25E, h15km**±3km**, MD3.5**/5**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	**Valsamata**	**1.25**	**12**	*e*PN	Pn	00 54 07.5	+0.5
VLS				*e*SN	Sn	00 54 25.4	+1.7
ITM	**Ithomi**	**1.36**	**80**	*e*PN	Pn	00 54 09.5	+0.9
ITM				*e*SN	Sn	00 54 28.2	+1.9
RLS	**Riolos of Patr**	**1.47**	**41**	*e*PN	Pn	00 54 12.1	+2.0
VLI	**Veliai**	**2.17**	**95**	*e*PN	Pn	00 54 22.0	+1.9
NEO	**Neokhori**	**3.32**	**44**	*e*PN	Pn	00 54 37.8	+1.2

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*JMA **06** 01:00:06.3±0.2, 36.12N×137.13E, h270km±2km, M2.9*

*IDC **06** 01:00:06.5±0.7, 36.18N×137.38E, h276km±10km, mb3.0/4, mb1 3.3/5, mb1mx3.0/23, mbtmp3.8/5, Error ellipse: s-maj=43.9km s-min=17.6km az=67.0*

ISC 06 01:00:05.7±0.6**, 36.16N**±0.08×**137.08E**±0.09**, h272km**±5km**, n20, σ0^{s}67**/27**, mb3.2**/4**, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.86**	**73**	P	**P**	**01 00 43.2**	**+0.6**
JNG				S	**S**	**01 01 11.5**	**0.0**
MAT	**Matsushiro**	**0.99**	**67**	P	**P**	**01 00 43.3**	**+0.1**
MAT				*e*S	**S**	**01 01 12.1**	**-0.4**
MAT	**Matsushiro**	**0.99**	**67**	P	**P**	**01 00 43.8**	**+0.6**
MAT				S	**S**	**01 01 12.1**	**-0.4**
MJAR	**Matsushiro Arr**	**0.99**	**67**	P	**P**	**01 00 43.7**	**+0.5**
	3.5nm,0.3s,baz=182,slow=8.3,SNR=12						
MJAR				S	**S**	**01 01 12.9**	**+0.4**
	0.9nm,0.3s,baz=323,slow=8.9,SNR=18						
JRY	**Ryogami san**	**1.48**	**95**	P	**P**	**01 00 46.4**	**+0.1**
JWT	**Wachi**	**1.62**	**238**	P	**P**	**01 00 47.6**	**+0.3**
JWT				S	**S**	**01 01 18.8**	**-0.9**
JKY	**Yasaka**	**1.69**	**252**	P	**P**	**01 00 48.0**	**+0.2**
JKY				S	**S**	**01 01 19.6**	**-1.0**
JIE	**Ise**	**1.79**	**190**	P	**P**	**01 00 49.2**	**+0.6**
JIE				S	**S**	**01 01 21.6**	**-0.3**
JOD2	**Odawara 2**	**1.86**	**118**	P	**P**	**01 00 49.5**	**+0.3**
JAG	**Ashikaga**	**1.94**	**81**	P	**P**	**01 00 49.6**	**-0.2**
JKSM	**Kasumi**	**2.04**	**255**	P	**P**	**01 00 51.0**	**+0.3**
JSD	**Sado**	**2.10**	**26**	P	**P**	**01 00 51.7**	**+0.5**
JWY	**Kouya**	**2.29**	**213**	P	**P**	**01 00 53.6**	**+0.7**
JWZ	**Kozaga**	**2.85**	**204**	P	**P**	**01 00 58.5**	**0.0**
JFK	**Kawauchi**	**3.28**	**67**	P	**P**	**01 01 02.6**	**-0.4**
ASAJ	**Asahikawa**	**9.00**	**26**	P	**P**	**01 02 10.0**	**-2.3**
	5.6nm,0.3s,baz=236,slow=9.0,SNR=14						
SONM	**Songino Array**	**25.45**	**307**	P	**P**	**01 05 10.4**	**0.0**
	0.3nm,0.5s,mb3.0,baz=90,slow=8.6,SNR=3.1						
MKAR	**Makanchi Array**	**41.63**	**302**	P	**P**	**01 07 29.4**	**+0.5**
	0.9nm,0.7s,mb3.1,baz=88,slow=11,SNR=8.4						
BVAR	**Borovoye Array**	**48.58**	**312**	P	**P**	**01 08 24.3**	**+0.9**
	0.3nm,0.4s,mb3.0,baz=90,slow=7.2,SNR=3.2						
WRA	**Warramunga Arr**	**55.85**	**183**	P	**P**	**01 09 15.9**	**-1.2**
	0.8nm,0.3s,mb3.6,baz=360,slow=7.8,SNR=12						

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*MOS **06** 01:00:19.9±2.6, 50.37N×18.93E, h10km, mb3.8/1, Error ellipse: s-maj=8.2km s-min=5.7km az=78.7*

*PRU **06** 01:00:20.5, 50.35N×18.83E*

*NEIC **06** 01:00:20.2±0.5, 50.34N×18.87E, h5km, ML3.2(SZGRF), ML3.0(VIE), Error ellipse: s-maj=6.6km s-min=3.8km az=192.0*

*WAR **06** 01:00:21.1, 50.26N×18.91E, h0km, ML2.9, Mining Induced*

*IPEC **06** 01:00:21.2±0.2, 50.27N×18.87E, h7km±1km, ML2.6/3, Error ellipse: s-maj=2.4km s-min=0.8km az=170.0*

*CSEM **06** 01:00:21.1±0.2, 50.28N×18.85E, ML3.5/3, Error ellipse: s-maj=5.5km s-min=1.8km az=10.0*

*IDC **06** 01:00:22.6±0.9, 50.24N×18.69E, mb3.5/1, mb1 3.3/7, mb1mx3.3/22, mbtmp3.3/7, ML3.1/5, Error ellipse: s-maj=17.8km s-min=6.8km az=137.0*

*BGR **06** 01:00:23.6±0.9, 50.16N×18.70E, h1km, ML3.2/7, Error ellipse: s-maj=13.3km s-min=7.8km az=8.0*

ISC 06 01:00:18.9±0.3**, 50.35N**±0.03×**18.90E**±0.03**, n70, σ1^{s}25**/124**, mb3.6**/1**, 2C-7D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.53**	**240**	⇓*i*PG	**Pg**	**01 00 31.3**	**+1.9**
RAC				⇓*e*SG	**Sg**	**01 00 38.3**	**+1.9**
RAC	**Raciborz**	**0.53**	**240**	⇓*i*Pg	**Pg**	**01 00 31.3**	**+1.9**
RAC				*e*Sg	**Sg**	**01 00 38.5**	**+2.1**
OJC	**Ojcow**	**0.59**	**102**	⇓*i*PG	**Pg**	**01 00 32.4**	**+1.7**
OJC				⇓*e*SG	**Sg**	**01 00 40.4**	**+1.8**
OJC	**Ojcow**	**0.59**	**102**	*i* Pg	**Pg**	**01 00 32.4**	**+1.7**
OJC				*e*Sg	**Sg**	**01 00 40.1**	**+1.5**
OKC	**Ostrava-Krasne**	**0.70**	**224**	*e*PG	**Pg**	**01 00 33.5**	**+0.5**
OKC				*e*SG	**Sg**	**01 00 44.3**	**+1.9**
	219nm,0.7s						
MORC	**Moravsky Berou**	**1.04**	**237**	*e*P	**Pb**	**01 00 39.5**	**-0.1**
MORC	**Moravsky Berou**	**1.04**	**237**	*e*Pg	**Pg**	**01 00 39.6**	**-0.2**
MORC				*e*Sg	**Sg**	**01 00 53.1**	**-0.6**
	133nm,0.4s						
NIE	**Niedzica**	**1.30**	**135**	⇓*e*Pg	**Pg**	**01 00 44.4**	**-0.5**
NIE				*e*Sg	**Sg**	**01 01 02.1**	**-0.2**
LIKS	**Likavka**	**1.30**	**174**	*e*PN	**Pn**	**01 00 44.5**	**+0.1**
LIKS				*e*SN	**Sn**	**01 01 01.2**	**-1.6**
DPC	**Dobruska-Polom**	**1.65**	**271**	*e*PG	**Pn**	**01 00 50.2**	**+0.8**
DPC				*e*SG	**Sn**	**01 01 11.9**	**+0.3**
	83nm,0.6s						
DPC	**Dobruska-Polom**	**1.65**	**271**	*e*Pn	**Pn**	**01 00 50.5**	**+1.1**
DPC				*e*Sg	**Sn**	**01 01 12.5**	**+0.9**
JAVC	**Velka Javorina**	**1.69**	**209**	*e*Pn	**Pn**	**01 00 50.4**	**+0.5**
KSP	**Ksiaz**	**1.73**	**288**	*e*P	**Pn**	**01 00 51.5**	**+1.0**
KSP				*e*		01 01 17.2	

KSP	Ksiaz	1.73	288	ePn	Pn	01 00 51.5	+1.0
KSP				i Pg	Pg	01 00 53.9	+0.3
KSP				eSg	Sg	01 01 17.2	+0.5
KSP	Ksiaz	1.73	288	ePN	Pn	01 00 52.0	+1.5
KSP				i PG	Pg	01 00 53.9	+0.3
KSP				eSG	Sg	01 01 17.9	+1.2
KSP	Ksiaz	1.73	288	ePn	Pn	01 00 52.5	+1.9
KSP				ePg	Pg	01 00 54.0	+0.4
KSP				eSg	Sg	01 01 17.4	+0.7
KSP	Ksiaz	1.73	288	i Pg	Pg	01 00 53.9	+0.3
KSP				eSg	Sg	01 01 17.2	+0.5
KOLL	Kolacno	1.80	191	ePN	Pn	01 00 51.2	-0.3
KOLL				eSN	Sn	01 01 15.2	-0.1
VRAC	Vranov	1.82	236	Pn	Pn	01 00 52.3	+0.6
	8.3nm,0.3s,baz=59,slow=14,SNR=84						
VRAC				Pg	Pg	01 00 53.2	-2.0
	8.3nm,0.3s,baz=60,slow=14,SNR=85						
VRAC				Lg		01 01 16.0	
	15nm,0.3s,baz=139,slow=23,SNR=10						
VRAC	Vranov	1.82	236	ePn	Pn	01 00 52.1	+0.3
VRAC	Vranov	1.82	236	Pg	Pn	01 00 53.2	+1.4
VRAC				eSg	Sn	01 01 16.3	+0.4
	50nm,0.3s						
UPC	Upice	1.85	276	ePG	Pn	01 00 53.5	+1.2
VYHS	Vyhne	1.85	181	ePN	Pn	01 00 52.1	-0.2
VYHS				eSN	Sn	01 01 17.2	+0.5
KRUC	Moravsky	2.07	233	ePn	Pn	01 00 54.9	-0.5
KRUC				eSg	Sn	01 01 23.8	+1.5
	18nm,0.2s						
KECS	Kecovo	2.13	150	ePN	Pn	01 00 56.0	-0.2
CRVS	Cervenica-Dubn	2.21	130	ePN	Pn	01 00 58.0	+0.7
CRVS				ePG	Pg	01 01 01.3	-1.7
ZST	Bratislava	2.45	209	ePN	Pn	01 01 01.0	+0.2
PSZ	Piszkesteto	2.52	165	ePn	Pn	01 01 01.3	-0.4
PSZ				ePB	Pg	01 01 07.8	-1.4
PSZ				eSn	Sn	01 01 31.8	-1.8
PSZ	Piszkesteto	2.52	165	eP	Pn	01 01 01.5	-0.2
PSZ	Piszkesteto	2.52	165	Pg	Pg	01 01 07.8	-1.4
PSZ				eS	Sn	01 01 31.8	-1.8
KWP	Kalwaria	2.56	105	eP	Pn	01 01 02.8	+0.5
KWP				e		01 01 35.7	
KWP	Kalwaria	2.56	105	ePn	Pn	01 01 02.8	+0.5
KWP				ePg	Pg	01 01 11.3	+1.3
KWP				eSn	Sn	01 01 35.7	+1.1
KWP				eSg	Sg	01 01 47.4	+3.3
KWP	Kalwaria	2.56	105	ePn	Pn	01 01 02.8	+0.5
KWP				ePg	Pg	01 01 11.3	+1.3
KWP				eSn	Sn	01 01 35.7	+1.1
KWP				eSg	Sg	01 01 47.4	+3.3
KWP	Kalwaria	2.56	105	ePg	Pg	01 01 11.3	+1.3
KWP				eSn	Sn	01 01 35.7	+1.1
SRO	Srobarova	2.56	189	eP	Pg	01 01 08.9	-1.2
SRO	Srobarova	2.56	189	e	Pg	01 01 08.9	-1.2
KOLS	Kolonicke sedl	2.61	122	ePN	Pn	01 01 03.2	+0.1
KOLS				ePG	Pg	01 01 08.7	-2.3
PRU	Pruhonice	2.83	264	eP	Pn	01 01 05.4	-0.8
PRU				e		01 01 47.7	
PRU	Pruhonice	2.83	264	ePn	Pn	01 01 05.4	-0.8
PRU				ePg	Pb	01 01 10.8	+0.7
PRU				eSg	Sb	01 01 47.7	+2.3
PRU	Pruhonice	2.83	264	ePg	Pb	01 01 10.8	+0.7
PRU				eSg	Sb	01 01 47.7	+2.3
BRG	Berggiesshubel	3.20	281	ePg	Pb	01 01 20.7	+4.2
BRG				eSg	Sb	01 02 02.6	+6.3
BRG	Berggiesshubel	3.20	281	P	Pb	01 01 19.8	+3.3
KHC	Kasperske Hory	3.66	253	eP	Pn	01 01 17.3	-0.7
KHC				e		01 02 07.5	
KHC	Kasperske Hory	3.66	253	ePn	Pn	01 01 17.3	-0.7
KHC				ePg	Pg	01 01 25.9	-6.1
KHC				eSn	Sn	01 02 07.5	+5.0
KHC				eSg	Sg	01 02 16.1	-4.7
KHC	Kasperske Hory	3.66	253	ePg	Pg	01 01 25.9	-6.1
KHC				eS	Sn	01 02 07.5	+5.0
KHC				eSg	Sg	01 02 16.1	-4.7
GEC2	GERESS Array S	3.70	248	ePn	Pn	01 01 18.9	+0.3
GEC2	GERESS Array S	3.70	248	ePn	Pn	01 01 18.9	+0.3
GERES	GERESS Array B	3.70	248	Pn	Pn	01 01 18.4	-0.1
	0.4nm,0.3s,baz=62,slow=14,SNR=12						
GERES				Pg	Pg	01 01 27.1	-5.7
	1.9nm,0.3s,baz=66,slow=18,SNR=29						
GERES				Lg		01 02 16.0	
	3.5nm,0.3s,baz=65,slow=28,SNR=12						
CLL	Collm	3.86	287	ePg	Pg	01 01 33.7	-2.3
CLL				eSg	Sg	01 02 25.2	-2.3
CLL	Collm	3.86	287	i PG	Pg	01 01 33.1	-2.9
CLL				eSG	Sg	01 02 27.0	-0.5
MOA	Molln	3.94	232	⇑iPN	Pn	01 01 20.9	-1.1
MOA				i SG	Sg	01 02 24.3	-5.8
	18nm,0.8s						
WET	Wettzell	4.09	255	eSg	Sg	01 02 27.6	-7.4
TANN	Tannenbergstha	4.12	273	ePn	Pn	01 01 24.2	-0.3
TANN				eSg	Sg	01 02 30.4	-5.8
NKC	Novy Kostel	4.14	271	ePG	Pg	01 01 38.4	-3.2
NKC				eSG	Sg	01 02 29.1	-7.6
GUNZ	Gunzen	4.21	273	ePn	Pn	01 01 25.6	-0.2
GUNZ				eSg	Sg	01 02 32.9	-6.1
WERD	Werda	4.22	274	eSg	Sg	01 02 33.5	-5.9
DRGR		4.37	143	⇓P	Pn	01 01 27.0	-1.0
SUW	Suwalki	4.52	34	P	Pn	01 01 36.3	+6.1
MOX	Moxa	4.66	276	ePn	Pn	01 01 32.2	0.0
MOX				eSg	Sb	01 02 44.8	+6.2
MOX	Moxa	4.66	276	i P	Pn	01 01 32.2	0.0
MOX				Sg	Sb	01 02 45.0	+6.4
BURAR	Bucovina Array	4.98	121	⇑P	Pn	01 01 36.4	-0.3
GRA1	Grafenberg Arr	4.99	265	Sg	Sg	01 02 58.4	-6.8
GRF	Grafenberg Arr	4.99	265	eSg	Sg	01 02 58.4	-6.8
AKASG	Malin Array Be	6.59	83	Pn	Pn	01 02 00.9	+1.4
	0.5nm,0.3s,baz=270,slow=11,SNR=3.5						
AKASG				Lg		01 03 47.3	
	0.8nm,0.3s,baz=267,slow=25,SNR=4.2						
DAVOX	Davos	6.97	243	Pn	Pn	01 02 03.3	-1.4
	0.4nm,0.3s,baz=27,slow=14,SNR=4.3						
DAVOX				Lg		01 04 04.8	
	0.2nm,0.3s,baz=353,slow=23,SNR=2.7						
HFS	Hagfors	10.24	345	Pn	P	01 02 47.3	-2.9
	0.0nm,0.3s,baz=144,slow=13,SNR=5.7						
HFS				Sn	S	01 04 41.8	-5.2
	0.1nm,0.3s,baz=148,slow=23,SNR=4.2						
FINES	FINESS Array B	11.82	17	Pn	P	01 03 07.4	-4.2
	0.3nm,0.3s,baz=196,slow=12,SNR=16						
FINES				Sn	S	01 05 16.3	-9.2
	0.1nm,0.3s,baz=192,slow=26,SNR=3.3						
KAF	Kangasniemi	12.48	16	ep	P	01 03 16.3	-4.3
ARCES	ARCESS Array B	19.51	7	Pn	P	01 04 47.6	-2.5
	0.1nm,0.3s,baz=192,slow=11,SNR=8.4						
SONM	Songino Array	54.11	56	P	P	01 09 49.0	+1.7
	0.4nm,0.7s,mb3.6,baz=292,slow=7.8,SNR=3.7						

CASC 06 01:41:12.5±2.1**, 12.58N**×**88.15W, h52**^{km}±80^{km}**, MD3.6, ML3.1, 6C-6D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	Conchagua	0.75	24	⇓eP	P	01 41 28.5	+1.4
CNCH				eS	S	01 41 39.3	+1.4
VSM	San Miguel	0.85	352	eP	P	01 41 29.8	+1.4
VSM				eS	S	01 41 41.1	+0.9
BLLM	Bellamira	0.86	354	eP	P	01 41 29.3	+0.8
BLLM				eS	S	01 41 40.4	-0.1
CRIN	San Cristobal	1.08	84	⇓eP	P	01 41 31.6	0.0
CRIN				eS	S	01 41 48.0	+2.3
SNVI	San Vicente	1.23	327	eP	P	01 41 33.9	+0.3
SNVI				eS	S	01 41 48.9	-0.4
LEON	Leon	1.24	98	eP	P	01 41 33.0	-0.8
LEON				eS	S	01 41 48.7	-0.9
TEL3	Telica 3	1.27	90	⇑eP	P	01 41 33.9	-0.4
TEL3				eS	S	01 41 49.8	-0.8
TELN	Telica	1.28	89	⇑eP	P	01 41 34.0	-0.6
TELN				eS	S	01 41 51.2	+0.3
LCBS	La Ceiba	1.34	323	⇑eP	P	01 41 35.6	+0.2
LCBS				eS	S	01 41 51.4	-0.9
LFRS	El Faro	1.36	319	⇑eP	P	01 41 35.9	+0.2
LFRS				eS	S	01 41 51.9	-1.0
MIRN	Miramar	1.41	96	⇓eP	P	01 41 35.6	-0.7
MIRN				eS	S	01 41 54.3	+0.3
CNGN	Cerro Negro	1.42	93	eP	P	01 41 35.8	-0.6
LBRS	Las Brisas	1.44	323	eP	P	01 41 37.2	+0.4
LBRS				eS	S	01 41 55.0	+0.2
LFU	La Fuente	1.49	321	⇓eP	P	01 41 37.9	+0.4
MOMJ	Momotombo	1.58	96	⇑eP	P	01 41 38.1	-0.5
MOMJ				eS	S	01 41 58.5	+0.4
BOQS	Boqueron	1.59	316	eP	P	01 41 39.3	+0.5
BOQS				eS	S	01 41 58.6	+0.3
APYN	Apoyeque	1.79	101	⇓eP	P	01 41 41.2	-0.4
XAVN	Gruta Xavier	1.83	103	eP	P	01 41 41.8	-0.4
XAVN				eS	S	01 42 04.5	+0.3
SBLS	San Blas	1.90	311	eP	P	01 41 44.0	+0.8
SBLS				eS	S	01 42 06.5	+0.6
MGAN	Managua	1.91	103	i	S	01 42 07.0	+1.0
	comp=N,174nm,0.5s						
TICN	Ticuantepe	1.95	106	⇓eP	P	01 41 43.8	-0.1
TICN				eS	S	01 42 05.9	-1.2
RTR	El Retiro	1.96	312	eP	P	01 41 44.7	+0.8
RTR				eS	S	01 42 07.1	-0.2
PYTN	Playitas	2.04	91	⇑eP	P	01 41 44.0	-1.2
PYTN				eS	S	01 42 09.1	-0.3

*CASC **06** 01:45:02.3±1.4, 13.91N×94.26W, h50^{km}, MD4.8*
*MEX **06** 01:45:18.4±0.6, 13.97N×93.41W, h20^{km}, MD4.7*
*NEIC **06** 01:45:21.7±1.4, 14.26N×93.00W, h50^{km}±11^{km}, mb4.3/15, MD4.7(MEX), Error ellipse: s-maj=21.0km s-min=8.6km az=216.0*
*BJI **06** 01:45:21.7, 14.30N×93.00W, h50^{km}, Ms4.7, Msz4.5*
*IDC **06** 01:45:23.2±3.4, 14.72N×92.67W, h44^{km}±32^{km}, mb3.7/10, mb1 3.9/12, mb1mx3.8/22, mbtmp3.9/12, ML3.7/2, MS3.7/3, Ms1 3.7/3, ms1mx3.1/20, Error ellipse: s-maj=80.0km s-min=16.2km az=36.0*
ISC 06 01:45:15.2±1.8**, 14.02N**±0.06×**93.25W**±0.05**, h21**^{km}±14^{km}**, n59,** σ**1**^{s}**41**/64**, mb4.1**/20**, MS3.7**/3**, 1C, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TP2	Tecpan 2	2.29	70	⇑eP	Pn	01 45 52.4	-0.2
TP2				eS	Sn	01 46 30.2	+10
FUG	Fuego 3	2.37	79	eP	Pn	01 45 51.6	-2.1
CCIG	Comitan	2.50	25	i P	Pn	01 45 57.0	+1.5
CCIG				i S	Sn	01 46 25.9	+0.3
CCIG	Comitan	2.50	25	i P	Pn	01 45 57.0	+1.5
CCIG				eS	Sn	01 46 28.3	+2.7
IXG	Ixpaco	2.72	86	eP	Pn	01 45 57.6	-1.0
IXG				eS	Sn	01 46 41.5	+10
SCX	San Cristobal	2.77	12	eP	Pn	01 46 01.0	+1.6
SCX				i S	Sn	01 46 33.0	+0.5
CMIG	Matias Romero	3.44	333	eP	Pn	01 46 06.7	-2.2
CMIG				i S	Sn	01 46 46.9	-2.6
CMIG	Matias Romero	3.44	333	i P	Pn	01 46 09.0	+0.1
CMIG				i S	Sn	01 46 46.6	-2.9
MRL	Marmol	3.60	73	eP	Pn	01 46 10.9	-0.3
TUIG	Tuzandepetl	4.15	344	i P	Pn	01 46 17.1	-1.9
TUIG				i S	Sn	01 46 59.8	-7.7
TUIG	Tuzandepetl	4.15	344	i P	Pn	01 46 18.3	-0.7
TUIG				eS	Sn	01 47 07.3	-0.2
OXX	Oaxaca	4.53	313	eP	Pn	01 46 22.0	-2.4
VHO	Vista Hermosa	4.53	313	i P	Pn	01 46 24.1	-0.3
VHO				i S	Sn	01 47 14.2	-2.8
EVV	El Vigia	4.85	336	eP	Pn	01 46 28.5	-0.5
PPM	Popocatepetl	7.20	315	eP	Pn	01 47 03.5	+1.5
JTS	JuntasAbangare	8.92	114	P	P	01 47 26.5	+0.6
	0.9nm,0.3s,baz=294,slow=20,SNR=3.4						
JTS				S	Sn	01 49 01.7	-5.0
	0.4nm,0.3s,baz=132,slow=23,SNR=4.0						
JTS				Lg		01 49 46.5	
	baz=102,slow=20,SNR=5.1						
JTS	JuntasAbangare	8.92	114	P	P	01 47 24.9	-1.1
	34nm,0.9s						
LTX	Lajitas	18.04	329	eP	P	01 49 29.0	+2.5
	57nm,1.9s						
TXAR	Lajitas Array	18.04	329	P	P	01 49 27.9	+1.5
	0.1nm,0.3s,baz=157,slow=9.5,SNR=13						
LRAL	Lakeview Retre	19.77	16	P	P	01 49 42.9	-4.0
	7.0nm,1.0s						
CLNB	Carlsbad	20.60	334	eP	P	01 49 55.5	-0.1
ROSC	El Rosal	20.75	114	P	P	01 50 00.1	+2.8
	12nm,1.0s,baz=94,slow=22,SNR=6.5						
GDL2	Guadalupe Moun	20.76	333	eP	P	01 49 58.3	+0.9
MNTX	Cornudas Mount	20.82	330	eP	P	01 49 59.7	+1.7
	5.6nm,0.9s						
WMOK	Wichita Mounta	21.23	347	eP	P	01 50 02.1	0.0
	10nm,1.4s,mb4.0						
AMTX	Amarillo	22.13	341	eP	P	01 50 10.2	-1.0
	14nm,0.7s,mb4.5						
NHSC	New Hope	22.42	30	eP	P	01 50 12.8	-1.3
	46nm,1.0s,mb4.9						
SDV	Santo Domingo	22.74	101	P	P	01 50 18.5	+1.1
	14nm,0.9s,mb4.4,baz=317,slow=5.3,SNR=16						
SDV	Santo Domingo	22.74	101	eP	P	01 50 18.2	+0.8
	12nm,0.8s,mb4.4						
BNM	Barren Site	23.43	331	eP	P	01 50 28.1	+4.2
CCM	Cathedral Cave	24.01	4	eP	P	01 50 27.0	-2.6
	4.5nm,0.7s,mb4.0						
ANMO	Albuquerque	24.01	333	P	P	01 50 31.2	+1.6
	0.7nm,0.5s,mb3.3,baz=152,slow=11,SNR=4.0						
ANMO				LR	LR	02 01 27.1	
	comp=Z,54nm,18.1s,MS3.1,slow=41						
ANMO	Albuquerque	24.01	333	P	P	01 50 31.2	+1.6
ANMO				LR	LR	02 01 27.1	
TUC	Tucson	24.25	322	eP	P	01 50 35.3	+3.3
	5.7nm,1.1s,mb3.9						
ARUT	Antelope Range	29.71	327	eP	P	01 51 24.1	+1.9
PDAR	Pinedale Array	31.92	337	P	P	01 51 41.1	-0.4
	0.4nm,0.8s,mb3.3,baz=117,slow=6.6,SNR=4.0						
ELK	Elko	32.83	328	eP	P	01 51 50.4	+0.9
	3.4nm,1.1s,mb4.2						
NVAR	Mina Array Bea	32.91	322	P	P	01 51 51.8	+1.5
	0.6nm,0.7s,mb3.7,baz=129,slow=9.2,SNR=5.4						
REDW	Red Top Meadow	32.92	336	eP	P	01 51 51.6	+1.3
	12nm,1.1s,mb4.7						
SNOW	Snow King Moun	32.97	336	eP	P	01 51 50.9	+0.2
	13nm,0.9s,mb4.9						
LOHW	Long Hollow	33.04	337	eP	P	01 51 51.6	+0.3
	5.1nm,1.1s,mb4.4						
IMW	Indian Meadow	33.41	336	P	P	01 51 54.6	+0.1
MCMT	McKenzie Canyo	34.94	335	eP	P	01 52 09.7	+2.0
WVOR	Wild Horse Val	35.81	327	eP	P	01 52 13.0	-2.1
	4.7nm,1.2s,mb4.3						
SCHQ	Schefferville	45.63	21	LR	LR	02 14 40.4	
	comp=Z,97nm,19.6s,MS3.8,baz=178,slow=39						
YKA	Yellowknife Ar	50.74	347	P	P	01 54 14.1	-1.3
	4.0nm,0.7s,mb4.5,baz=151,slow=7.4,SNR=36						
YKA				PcP	PcP	01 55 34.0	+1.3
	0.5nm,0.7s,baz=155,slow=4.9,SNR=4.7						
YKA	Yellowknife Ar	50.74	347	P	P	01 54 14.2	-1.3
YKA				PcP	PcP	01 55 34.0	+1.3
YKW3	Yellowknife Ar	50.80	347	eP	P	01 54 14.7	-1.2
INK	Inuvik	60.08	344	eP	P	01 55 21.6	-1.3
	5.2nm,1.1s,mb4.5						
ILAR	Eielson Array	62.35	337	P	P	01 55 37.3	-1.0
	1.0nm,0.9s,mb4.0,baz=128,slow=4.5,SNR=9.9						
PPT	Papeete	63.82	242	LR	LR	02 16 43.8	
	comp=Z,143nm,20.2s,MS4.2,baz=72,slow=29						
ESDC	Sonseca Array	80.66	51	P	P	01 57 26.4	-1.8
	0.3nm,0.6s,mb3.4,baz=303,slow=6.5,SNR=4.0						
NB2	NORSAR Subarra	84.71	28	P	P	01 57 49.8	+1.2
	0.9nm,0.7s,mb4.0,baz=291,slow=4.8						
NOA	NORSAR Array B	84.71	28	P	P	01 57 48.5	-0.1
	1.7nm,0.8s,mb4.2,baz=292,slow=4.8,SNR=4.4						
ARCES	ARCESS Array B	86.50	18	P	P	01 57 56.8	-0.5
	0.7nm,0.6s,mb4.1,baz=304,slow=4.4,SNR=7.6						
HHC	Hu-ho-hao-te	120.77	338	ePKP	PKPdf	02 04 08.8	-1.6
SSE	Sheshan	124.27	324	PKP	PKPdf	02 04 16.9	-0.5
NJ2	Nanjing	124.83	327	ePKP	PKPdf	02 04 18.2	-0.3
CMAR	Chiang Mai Arr	145.57	339	PKPbc	PKPbc	02 04 54.5	+1.0
	2.3nm,0.8s,baz=315,slow=3.8,SNR=8.5						

WEL 06 02:07:35.5±0.7**, 37.06S**×**176.65E, h306**^{km}±7^{km}**, ML3.7**/6**, Error ellipse: s-maj=19.5km s-min=12.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	1.26	163	PN	P	02 08 17.6	-0.5
URZ				SN	S	02 08 50.5	-0.9
MWZ	Matawai	1.46	152	PN	P	02 08 19.4	+0.1
BKZ	Black Stump Fm	2.11	183	PN	P	02 08 23.9	-0.1
BKZ				SN	S	02 09 01.9	0.0
KNZ	Kokohu	2.12	158	PN	P	02 08 23.9	-0.2
NGZ	Ngauruhoe	2.27	201	PN	P	02 08 26.0	+0.6
TUVZ	Tukino	2.34	199	PN	P	02 08 26.6	+0.6
MRZ	Mangatainoka R	3.69	193	PN	P	02 08 37.9	-1.3
KIW	Kapiti Island	4.03	199	PN	P	02 08 41.8	-1.1
KIW				SN	S	02 09 35.1	-0.5
TCW	Tory Channel	4.54	203	PN	P	02 08 47.4	-1.1

CASC 06 02:11:21.5±1.7**, 14.24N**×**90.60W, h124**^{km}±14^{km}**, MD3.6, 1C-2D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IXG	Ixpaco	0.15	114	⇓eP	P	02 11 37.3	-1.3
IXG				eP		02 11 38.0	
TP2	Tecpan 2	0.68	323	⇑eP	P	02 11 42.8	+1.6
TP2				eS	S	02 11 58.3	+2.1
RTR	El Retiro	0.99	110	eP	P	02 11 44.9	+0.9
RTR				eS	S	02 12 02.2	+1.3
SBLS	San Blas	1.03	112	eP	P	02 11 44.7	+0.3
SBLS				eS	S	02 12 02.9	+1.3
SNJE	San Jose	1.03	111	eP	P	02 11 45.2	+0.7
MRL	Marmol	1.21	47	⇓iP	P	02 11 46.0	-0.3
MRL				eS	S	02 12 05.7	+0.7
LFRS	El Faro	1.61	112	eP	P	02 11 50.9	0.0

*IDC **06** 02:13:52.8±1.5, 0.76N×96.99E, mb4.1/7, mb1 4.2/8, mb1mx4.0/18, mbtmp4.1/8, ML4.2/1, MS3.6/4, Ms1 3.6/4, ms1mx3.3/16, Error ellipse: s-maj=70.4km s-min=18.4km az=57.0*
*BJI **06** 02:13:54.2, 0.80N×97.00E, h30^{km}, mb4.5*
*NEIC **06** 02:13:57.2±0.8, 0.82N×97.04E, h30^{km}, mb4.5/1, Error ellipse: s-maj=24.2km s-min=12.6km az=67.0*
ISC 06 02:13:56.4±0.9**, 0.8N**±0.1×**97.1E**±0.2**, h33**^{km}**, n17,** σ**0**^{s}**93**/14**, mb4.2**/11**, MS3.8**/3**, 1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.68	38	eP	P	02 15 20.4	-0.2
CMAR	Chiang Mai Arr	17.63	6	P	P	02 17 60.0	-1.3
	0.3nm,0.3s,baz=195,slow=13,SNR=5.3						
CMAR				LR	LR	02 24 30.9	
	comp=Z,60nm,19.4s,baz=180,slow=36						
KMI	Kunming	24.77	12	P	P	02 19 19.0	+2.2
KMI				AP		02 19 28.1	
KMI				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.5						
SHL	Shillong	25.12	349	⇑iP	P	02 19 20.2	+0.1
LSA	Lhasa	29.28	349	P	P	02 19 57.0	-1.0
	comp=Z,6.4nm,0.7s,mb4.5						
FITZ	Fitzroy Crossi	33.78	125	P	P	02 20 36.2	-1.4
	comp=Z,3.8nm,0.6s,mb4.5,baz=335,slow=3.7,SNR=7.1						
XAN	Xi'an	34.86	17	P	P	02 20 41.6	-5.1
XAN				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
GTA	Gaotai	38.49	3	eP	P	02 21 18.2	+0.9
GTA				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.3						
WRA	Warramunga Arr	41.91	122	P	P	02 21 46.2	+0.4
	comp=Z,1.5nm,0.4s,mb3.9,baz=301,slow=9.0,SNR=12						
SONM	Songino Array	47.52	8	P	P	02 22 30.3	-0.1
	comp=Z,1.0nm,0.4s,mb4.2,baz=190,slow=9.4,SNR=13						
SONM				PcP	PcP	02 24 00.2	-0.4
	comp=Z,0.9nm,0.4s,baz=193,slow=4.5,SNR=5.3						
MKAR	Makanchi Array	47.59	346	P	P	02 22 31.6	+0.6
	comp=Z,3.3nm,0.5s,mb4.6,baz=161,slow=8.4,SNR=36						
STKA	Stephens Creek	53.17	132	P	P	02 23 14.6	+0.9
	comp=Z,1.4nm,0.5s,mb4.1,baz=350,slow=10,SNR=3.4						
KMBO	Kilima Mbogo	59.88	268	LR	LR	02 44 31.3	
	comp=Z,71nm,18.9s,MS3.8,baz=274,slow=31						
BOSA	Boshof	74.51	240	LR	LR	02 53 07.9	
	comp=Z,46nm,18.2s,MS3.8,baz=354,slow=32						
FINES	FINESS Array B	80.30	333	P	P	02 26 04.8	-0.7
	comp=Z,0.6nm,0.8s,mb3.6,baz=153,slow=4.3,SNR=4.0						
ARCES	ARCESS Array B	82.87	340	P	P	02 26 18.7	0.0
	comp=Z,0.7nm,0.6s,mb3.9,baz=108,slow=3.8,SNR=13						
ARCES				LR	LR	03 06 46.0	
	comp=Z,37nm,18.4s,MS3.8,baz=188,slow=38						
TXAR	Lajitas Array	144.04	32	PKP	PKPdf	02 33 29.2	-0.1
	comp=Z,0.2nm,0.3s,baz=232,slow=1.3,SNR=4.7						

IDC 06 03:07:42.2±1.0**, 49.54S**×**114.03E, mb3.8**/5**, mb1 4.0**/5**, mb1mx3.9**/12**, mbtmp3.8**/5**, MS4.0**/3**, Ms1 4.0**/3**, ms1mx3.4**/19**, Error ellipse: s-maj=48.8km s-min=21.9km az=108.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	16.77	9	LR	LR	03 16 35.3	
	comp=Z,339nm,21.1s,baz=146,slow=32						
MAW	Mawson	30.98	215	P	P	03 14 01.8	-1.1
	0.8nm,0.6s,baz=96,slow=12,SNR=2.5						
VNDA	Vanda	33.31	163	P	P	03 14 20.2	-3.0
	1.1nm,0.8s,baz=297,slow=9.2,SNR=7.8						
VNDA				LR	LR	03 27 06.1	
	comp=Z,112nm,18.3s,baz=234,slow=35						
WRA	Warramunga Arr	33.69	36	P	P	03 14 25.3	-1.8
	0.9nm,0.5s,baz=201,slow=11,SNR=9.5						
RPZ	Rata Peaks	38.78	104	LR	LR	03 26 07.3	
	comp=Z,709nm,19.7s,baz=220,slow=28						
SNAA	Sanae	51.20	201	P	P	03 16 46.6	-2.1
	0.5nm,0.7s,baz=134,slow=10,SNR=9.2						
CMAR	Chiang Mai Arr	69.00	345	P	P	03 18 48.2	-3.4
	0.6nm,0.4s,baz=170,slow=6.2,SNR=2.8						
TXAR	Lajitas Array	145.07	111	PKPbc	PKPbc	03 27 19.9	-1.5
	0.4nm,0.9s,baz=194,slow=5.2,SNR=4.3						
YKA	Yellowknife Ar	150.67	45	PKPbc	PKPdf	03 27 35.6	+4.6
	0.3nm,0.7s,baz=292,slow=2.6,SNR=3.7						

IDC 06 03:10:26.0±3.0**, 55.10N**×**35.60W, mb3.5**/4**, mb1 3.8**/4**, mb1mx3.4**/24**, mbtmp3.5**/4**, Error ellipse: s-maj=104.7km s-min=31.4km az=13.0, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YKA	Yellowknife Ar	39.14	314	P	P	03 17 54.8	-1.6
	0.4nm,0.6s,baz=63,slow=9.5,SNR=3.8						
BRTR	Keskin Array B	47.31	79	P	P	03 19 01.1	-1.7
	0.8nm,0.6s,baz=323,slow=6.9,SNR=3.9						
PDAR	Pinedale Array	47.89	287	P	P	03 19 05.6	-1.8
	0.2nm,0.4s,baz=63,slow=8.1,SNR=2.5						
ILAR	Eielson Array	49.47	328	P	P	03 19 17.1	-2.1
	0.5nm,0.6s,baz=36,slow=5.9,SNR=7.7						

MAN 06 03:22:14.3, 11.95N×**125.09E, h32**^{km}**, mb3.5, ML2.2, MS1.7, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	Borongan	0.48	135	eP	Pb	03 22 25.6	+1.0
BESP				eS	Sb	03 22 33.2	+1.6
CNP	Catarman	0.70	323	eP	Pn	03 22 28.4	+0.4
CNP				eS	Sb	03 22 38.6	+1.1
PLP	Palo	0.78	188	eP	Pn	03 22 29.4	+0.2
PLP				eS	Sb	03 22 40.3	+0.6

*BJI **06** 03:25:26.0, 55.50N×35.10W, h10^{km}, mB4.9, mb4.7, Ms4.9, Msz4.5*
*IDC **06** 03:25:27.9±0.6, 55.52N×35.23W, mb4.1/21, mb1 4.3/23, mb1mx4.3/29, mbtmp4.1/23, ML3.3/2, MS4.2/14, Ms1 4.2/14, ms1mx4.0/26, Error ellipse: s-maj=18.0km s-min=11.0km az=171.0*
*NEIC **06** 03:25:30.0±0.3, 55.48N×35.12W, h10^{km}, mb4.5/30, Error ellipse: s-maj=9.1km s-min=5.0km az=182.0*
*ZUR_RM **06** 03:25:30, 55.48N×35.12W, h12^{km}, Mw5.0/8, Moment Tensor Solution. s8 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.27; $M_{\theta\theta}$0.64; $M_{\phi\phi}$1.64; $M_{r\theta}$0.45; $M_{\theta\phi}$-0.03; $M_{\phi r}$-2.84; Best double couple: $M_0$3.48×10^{16} NP1:ϕ_s352°,δ73°,λ-92°. NP2:ϕ_s179°,δ17°,λ-84°. Principal axes: T 3.156, Plg28°, Azm84°; N .646, Plg2°, Azm353°; P -3.802, Plg62°, Azm259°;*
*CSEM **06** 03:25:31.7±0.1, 55.58N×35.16W, h40^{km}, mb4.5/23 Error ellipse: s-maj=4.7km s-min=1.9km az=5.0*
ISC 06 03:25:28.3±0.3**, 55.52N**±0.06×**35.13W**±0.06**, h10**^{km}**, (h16**^{km}±.6^{km}**:pP-P), n131,** σ**1**^{s}**12**/115**, mb4.4**/49**, MS4.3**/17**, 2C, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFJD	Kangerlussuaq	13.65	334	i P	P	03 28 46.2	+2.2
SFJD	Kangerlussuaq	13.65	334	eP	P	03 28 46.2	+2.2

SUMG Summit 17.18 357 eP P 03 29 28.8 -0.8
263nm,2.3s
SUMG Summit 17.18 357 eP P 03 29 28.8 -0.8
263nm,2.3s
SCHQ Schefferville 18.04 281 P P 03 29 39.1 -1.4
0.4nm,0.3s,baz=81,slow=9.6,SNR=15
SCHQ LR LR 03 35 16.7
comp=Z,546nm,21.5s,baz=52,slow=33
SCHQ Schefferville 18.04 281 eP P 03 29 40.6 +0.1
16nm,0.9s
SCHQ Schefferville 18.04 281 eP P 03 29 40.6 +0.1
16nm,0.9s
EKA Eskdalemuir Ar 18.06 77 P P 03 29 41.5 +0.7
0.1nm,0.3s,baz=274,slow=11,SNR=8.8
JMIC Jan Mayen 19.31 26 LR LR 03 34 41.9
comp=Z,73nm,20.4s,baz=35,slow=29
NAO01 NORSAR Array S 24.41 58 P P 03 30 41.3 -6.2
NB2 NORSAR Subarra 24.55 58 P P 03 30 49.6 +0.9
3.8nm,0.8s,mb4.0,baz=280,slow=9.3
NOA NORSAR Array B 24.55 58 P P 03 30 48.5 -0.2
3.3nm,0.9s,mb3.9,baz=279,slow=9.6,SNR=5.5
NOA LR LR 03 38 50.8
comp=Z,219nm,20.4s,MS3.6,baz=270,slow=33
NOA NORSAR Array B 24.55 58 P P 03 30 48.5 -0.2
NOA LR LR 03 38 50.8
HFS Hagfors 25.91 60 P P 03 31 01.0 -0.6
2.3nm,1.0s,mb3.6,baz=264,slow=15,SNR=3.3
HFS LR LR 03 40 19.3
comp=Z,420nm,18.3s,MS4.0,baz=292,slow=34
ESDC Sonseca Array 26.03 114 P P 03 31 03.5 +0.5
1.7nm,0.8s,mb3.6,baz=320,slow=9.4,SNR=7.4
ESDC Sonseca Array 26.03 114 P P 03 31 03.4 +0.4
1.4nm,0.8s,mb3.5
ESDC Sonseca Array 26.03 114 P P 03 31 03.4 +0.4
1.4nm,0.8s,mb3.5
EBIE Bielsa 26.11 105 P P 03 30 57.0 -6.7
56nm,1.7s,mb4.8
FRNY Flat Rock 26.51 262 eP P 03 31 08.5 +1.1
EADA Adamuz 26.85 117 P P 03 31 09.4 -1.2
66nm,2.6s,mb4.7
EADA Adamuz 26.85 117 P P 03 31 09.4 -1.2
66nm,2.6s,mb4.7
EVIA Vianos 27.55 114 P P 03 31 17.1 +0.1
13nm,1.3s,mb4.4
EVIA Vianos 27.55 114 P P 03 31 17.1 +0.1
13nm,1.3s,mb4.4
EQES Quesada 27.89 116 P P 03 31 20.6 +0.6
263nm,3.8s
EQES Quesada 27.89 116 P P 03 31 20.6 +0.5
263nm,3.8s
EMIJ Mijas 28.00 120 P P 03 31 19.3 -1.7
9.1nm,1.0s,mb4.4
EMIJ Mijas 28.00 120 P P 03 31 19.3 -1.7
9.1nm,1.0s,mb4.4
MOX Moxa 28.07 80 eP pP 03 31 28.4 +4.0
MOX LR LR
comp=Z,500nm,16.0s,MS4.2
MOX Moxa 28.07 80 iP pP 03 31 28.4 +4.0
MOX L 03 42 53.0
EHUE Huescar 28.13 115 P P 03 31 23.4 +1.2
comp=Z,4.1nm,0.8s,mb4.1
GRA1 Grafenberg Arr 28.31 82 eP pP 03 31 30.1 +3.5
comp=Z,16nm,1.3s
GRA1 LR LR
comp=Z,400nm,18.9s,MS4.0
CLL Collm 28.53 78 eP pP 03 31 31.0 +2.4
CLL e 03 32 02.0
CLL Collm 28.53 78 P P 03 31 27.0 +1.3
CLL e*PP pP 03 31 32.0 +3.4
CLL e 03 32 02.0
NKC Novy Kostel 28.73 80 eP pP 03 31 32.9 +2.5
NKC AMS AMS 03 43 40.0
comp=Z,700nm,15.8s
DAVOX Davos 29.09 88 LR LR 03 42 51.2
comp=Z,1μm,18.1s,MS4.6,baz=273,slow=36
SADO Sadowa 29.70 267 LR LR 03 42 17.1
comp=Z,311nm,18.5s,MS4.0,baz=94,slow=34
ARCES ARCESS Array B 29.76 38 P P 03 31 34.8 -1.8
comp=Z,2.9nm,0.9s,mb4.0,baz=270,slow=4.9,SNR=7.0
ARCES LR LR 03 41 35.5
comp=Z,298nm,18.2s,MS4.0,baz=342,slow=32
PVCC Panska Ves 29.77 79 AMS AMS 03 45 30.0
comp=Z,400nm,14.4s
KHC Kasperske Hory 29.92 82 eP P 03 31 39.6 +1.4
KHC AMS AMS 03 44 30.0
comp=Z,400nm,15.1s
PRU Pruhonice 30.02 80 AMS AMS 03 43 40.0
comp=Z,500nm,16.4s
GERES GERESS Array B 30.14 82 P P 03 31 40.6 +0.5
comp=Z,1.4nm,1.0s,mb3.6,baz=293,slow=7.5,SNR=6.4
GERES LR LR 03 43 26.8
comp=Z,350nm,18.4s,MS4.0,baz=328,slow=36
UPC Upice 30.59 78 eP pP 03 31 50.4 +3.4
DPC Dobruska-Polom 30.84 78 eP P 03 31 46.3 +0.1
DPC AMS AMS 03 45 00.0
comp=Z,700nm,14.4s
KAF Kangasniemi 31.37 52 ep P 03 31 50.8 0.0
FINES FINESS Array B 31.46 54 P P 03 31 51.6 0.0
comp=Z,1.4nm,0.8s,mb3.9,baz=297,slow=13,SNR=7.7
OKC Ostrava-Krasne 32.11 78 eP P 03 31 58.4 +1.0
OKC AMS AMS 03 46 00.0
comp=Z,700nm,13.9s
OJC Ojcow 32.83 76 eP P 03 32 04.0 +0.3
NIE Niedzica 33.53 77 eP P 03 32 10.7 +0.9
ULM Lac du Bonnet 35.99 288 P P 03 32 29.9 -1.0
comp=Z,9.8nm,1.0s,mb4.7,baz=66,slow=10,SNR=6.8
ULM LR LR 03 45 56.2
comp=Z,569nm,18.5s,MS4.4,baz=175,slow=34
AKASG Malin Array Be 37.69 70 P P 03 32 44.0 -1.2
comp=Z,2.1nm,0.6s,mb4.0,baz=303,slow=8.3,SNR=9.1
JSC Jenkinsville 38.05 256 eP P 03 32 47.5 -0.9
JSC Jenkinsville 38.05 256 eP P 03 32 47.5 -0.8
RGRS Roger Stewart 38.50 253 P P 03 32 49.5 -2.7
RGRS Roger Stewart 38.50 253 P P 03 32 49.5 -2.7
YKW3 Yellowknife Ar 39.01 314 eP P 03 32 55.1 -1.0
YKW3 Yellowknife Ar 39.01 314 eP P 03 32 55.1 -1.0
YKA Yellowknife Ar 39.04 314 P P 03 32 55.2 -1.1
comp=Z,4.0nm,0.7s,mb4.2,baz=60,slow=9.2,SNR=25
YKA PcP PcP 03 35 04.3 -2.7
comp=Z,1.5nm,0.9s,baz=57,slow=3.4,SNR=6.3
YKA LR LR 03 47 50.6
comp=Z,311nm,18.1s,MS4.2,baz=60,slow=34
YKA Yellowknife Ar 39.04 314 P P 03 32 55.2 -1.1
YKA PcP PcP 03 35 04.3 -2.7
YKA LR LR 03 47 50.6
YKA Yellowknife Ar 39.04 314 PcP PcP 03 35 04.3 -2.7
CCM Cathedral Cave 40.96 269 eP P 03 33 12.1 -0.4
comp=Z,6.3nm,1.0s,mb4.2
CCM Cathedral Cave 40.96 269 eP P 03 33 12.1 -0.3
comp=Z,6.3nm,1.0s,mb4.2
OXF Oxford 42.43 264 eP P 03 33 24.4 -0.2
comp=Z,29nm,1.0s,mb4.9
OXF Oxford 42.43 264 eP P 03 33 24.4 -0.1
comp=Z,29nm,1.0s,mb4.9
INK Inuvik 42.88 327 P P 03 33 27.1 -0.6
comp=Z,4.8nm,1.0s,mb4.2,baz=30,slow=6.5,SNR=10
INK Inuvik 42.88 327 eP P 03 33 27.1 -0.6
comp=Z,6.9nm,1.1s,mb4.3
LAO LASA Array 43.66 289 eP P 03 33 35.3 +1.0
comp=Z,23nm,0.9s,mb4.9
LAO LASA Array 43.66 289 eP P 03 33 35.3 +1.0
comp=Z,23nm,0.9s,mb4.9
HRY Holter Researc 46.62 293 eP P 03 34 00.8 +2.9
BR131 Keskin Array S 46.97 80 P P 03 33 54.5 -6.3
comp=Z,2.7nm,0.6s,mb4.3
BRTR Keskin Array B 46.97 80 P P 03 34 02.2 +1.4
comp=Z,3.0nm,0.6s,mb4.4,baz=316,slow=6.2,SNR=13
BOZ Bozeman (W) 47.21 292 eP P 03 34 02.7 0.0
comp=Z,10.0nm,1.0s,mb4.7
BOZ Bozeman (W) 47.21 292 eP P 03 34 02.7 +0.1
comp=Z,10.0nm,1.0s,mb4.7
WMOK Wichita Mounta 47.59 272 eP P 03 34 06.9 +1.1
comp=Z,6.8nm,1.0s,mb4.6
WMOK Wichita Mounta 47.59 272 eP P 03 34 06.9 +1.1
comp=Z,6.8nm,1.0s,mb4.6
ISCO Idaho Springs 47.87 282 eP P 03 34 08.1 +0.2
comp=Z,2.8nm,0.8s,mb4.3
ISCO Idaho Springs 47.87 282 eP P 03 34 08.1 +0.1
comp=Z,2.8nm,0.8s,mb4.3
IMW Indian Meadow 48.00 289 eP P 03 34 10.5 +1.6
comp=Z,0.9nm,0.4s,mb4.2
PDAR Pinedale Array 48.02 287 P P 03 34 07.4 -1.7
comp=Z,2.3nm,0.9s,mb4.2,baz=58,slow=6.9,SNR=13
PDAR LR LR 03 53 12.0
comp=Z,537nm,19.3s,MS4.5,baz=34,slow=35
MCMT McKenzie Canyo 48.40 292 eP P 03 34 12.0 +0.1
MCMT McKenzie Canyo 48.40 292 eP P 03 34 12.0 +0.1
AMTX Amarillo 49.13 274 eP P 03 34 17.1 -0.7
comp=Z,14nm,0.8s,mb5.0
AMTX Amarillo 49.13 274 eP P 03 34 17.1 -0.7
comp=Z,14nm,0.8s,mb5.0
ILAR Eielson Array 49.24 328 P P 03 34 17.9 -0.3
comp=Z,7.7nm,1.0s,mb4.7,baz=39,slow=6.1,SNR=28
ILAR LR LR 03 55 03.7
comp=Z,244nm,18.3s,MS4.2,baz=2.1,slow=36
HWUT Hardware Ranch 49.90 288 eP P 03 34 22.9 -0.7
comp=Z,7.5nm,0.9s,mb4.7
HWUT Hardware Ranch 49.90 288 eP P 03 34 22.9 -0.7
comp=Z,7.5nm,0.9s,mb4.7
HLID Hailey 50.08 291 eP P 03 34 25.6 +0.7
comp=Z,4.4nm,0.9s,mb4.5
HLID Hailey 50.08 291 eP P 03 34 25.6 +0.7
comp=Z,4.4nm,0.9s,mb4.5
IMA Indian Mountai 50.20 332 eP P 03 34 25.5 0.0
comp=Z,52nm,1.1s,mb5.5
IMA Indian Mountai 50.20 332 eP P 03 34 25.5 0.0
comp=Z,52nm,1.1s,mb5.5
DAU Daniels Canyon 50.56 286 eP P 03 34 30.3 +1.7
DAU Daniels Canyon 50.56 286 eP P 03 34 30.3 +1.7
MALT Malatya 50.62 77 eP P 03 34 31.7 +2.6
comp=Z,14nm,1.4s,mb4.7
BMO Blue Mountains 50.71 294 eP P 03 34 29.4 -0.3
comp=Z,4.6nm,1.2s,mb4.3
BMO Blue Mountains 50.71 294 eP P 03 34 29.4 -0.3
comp=Z,4.6nm,1.2s,mb4.3
PV10 Paradox Valley 50.77 283 eP P 03 34 30.8 +0.6
PV10 Paradox Valley 50.77 283 eP P 03 34 30.8 +0.6
ANMO Albuquerque 51.78 278 eP P 03 34 40.0 +2.0
comp=Z,1.5nm,0.9s,mb3.9
ANMO Albuquerque 51.78 278 eP P 03 34 40.0 +2.0
comp=Z,1.5nm,0.9s,mb3.9
SML Sawmill 51.87 326 eP P 03 34 38.1 -0.1
ELK Elko 52.48 289 eP P 03 34 45.9 +2.7
comp=Z,4.9nm,1.1s,mb4.3
GDL2 Guadalupe Moun 52.62 274 eP P 03 34 44.7 +0.4
GDL2 Guadalupe Moun 52.62 274 eP P 03 34 44.7 +0.4
WVOR Wild Horse Val 53.09 293 eP P 03 34 49.7 +2.0
comp=Z,8.0nm,1.1s,mb4.6
WVOR Wild Horse Val 53.09 293 eP P 03 34 49.7 +2.0
comp=Z,8.0nm,1.1s,mb4.6
SPU Mount Spurr 53.50 327 eP P 03 34 51.4 +1.0
SPU Mount Spurr 53.50 327 eP P 03 34 51.4 +1.0
MNTX Cornudas Mount 53.57 274 eP P 03 34 52.0 +0.7
comp=Z,1.9nm,0.8s,mb4.1
MNTX Cornudas Mount 53.57 274 eP P 03 34 52.0 +0.7
comp=Z,1.9nm,0.8s,mb4.1
SDV Santo Domingo 54.29 225 eP P 03 34 56.3 -0.5
SDV Santo Domingo 54.29 225 eP P 03 34 56.3 -0.5
TXAR Lajitas Array 54.37 271 P P 03 34 56.0 -1.2
comp=Z,2.0nm,1.1s,mb4.0,baz=53,slow=6.3,SNR=10
TXAR LR LR 03 57 33.9
comp=Z,396nm,19.4s,MS4.5,baz=90,slow=36
PAHR Pah Rah Range 55.44 291 P P 03 35 09.5 +4.6
BVAR Borovoye Array 55.69 45 P P 03 35 05.8 -0.7
comp=Z,1.5nm,0.7s,mb4.1,baz=307,slow=7.4,SNR=11
NVAR Mina Array Bea 55.79 289 P P 03 35 06.9 -0.6
comp=Z,0.9nm,0.6s,mb4.0,baz=45,slow=6.4,SNR=8.5
NVAR LR LR 03 58 05.6
comp=Z,352nm,18.7s,MS4.5,baz=50,slow=35
TUC Tucson 56.16 279 eP P 03 35 09.8 -0.4
comp=Z,1.4nm,0.9s,mb4.0
ROSC El Rosal 59.45 227 P P 03 35 33.3 -0.3
comp=Z,9.3nm,0.6s,mb5.0,baz=91,slow=5.8,SNR=13
MKAR Makanchi Array 65.31 42 P P 03 36 12.1 0.0
comp=Z,0.9nm,0.7s,mb3.9,baz=326,slow=4.6,SNR=7.5
WMQ Urumqi 69.85 40 eP P 03 36 39.0 -1.7
BDFB Brasilia 71.72 193 P P 03 36 50.0 -2.4
comp=Z,4.7nm,0.8s,mb4.5,baz=104,slow=15,SNR=5.8
SONM Songino Array 72.07 26 P P 03 36 52.9 -1.0
comp=Z,0.2nm,0.3s,mb3.5,baz=297,slow=3.2,SNR=3.6
LPAZ La Paz 76.78 213 P P 03 37 21.8 +0.2
comp=Z,2.5nm,1.0s,mb4.1,baz=15,slow=11,SNR=6.9
MDJ Mudanjiang 79.40 11 P P 03 37 31.4 -4.1
MDJ AMB AMB
comp=Z,9.0nm,2.0s,mb4.3
MDJ AMB AMB
comp=Z,63nm,4.3s
CN2 Changchun 79.69 14 eP P 03 37 33.1 -3.9
HHC Hu-ho-hao-te 79.90 25 eP P 03 37 36.2 -2.0
HHC AP pP 03 37 41.5 +0.1
HHC XP sP 03 37 43.8 +1.3
HHC PP PP 03 40 41.5 +0.1
HHC S S 03 47 40.9 +0.6
HHC XS 03 47 50.4
HHC PS PS 03 48 28.3 +2.0
HHC AMB AMB
comp=Z,11nm,1.6s,mb4.5
HHC AMB AMB
comp=Z,93nm,8.3s
HHC LR LR
comp=N,144nm,17.8s,MS4.6
HHC LR LR
comp=E,218nm,16.6s,MS4.6
HHC LR LR
comp=Z,182nm,16.6s,MS4.5
NJ2 Nanjing 89.97 22 eP P 03 38 28.3 -0.5
NJ2 AP pP 03 38 33.1 +1.1
NJ2 XP sP 03 38 35.3 +2.3
NJ2 PP PP 03 42 03.7 -0.4
NJ2 S S 03 49 18.0 -1.2
NJ2 XS 03 49 26.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.3
NJ2 AMB AMB
comp=Z,130nm,4.3s
NJ2 LR LR
comp=N,180nm,13.8s
NJ2 LR LR
comp=E,330nm,20.7s
NJ2 LR LR
comp=Z,630nm,17.8s,MS5.1
SSE Sheshan 91.38 20 P P 03 38 31.5 -3.7
SSE AMB AMB
comp=Z,25nm,0.7s,mb5.7
SSE AMB AMB
comp=Z,48nm,6.3s
KMI Kunming 92.00 37 P P 03 38 34.5 -3.8
KMI AMB AMB
comp=Z,7.0nm,0.7s,mb5.1
KMI LR LR
comp=Z,58nm,14.0s,MS4.2
VNA1 Neumayer--Stat 127.33 169⇑iP PKPdf 03 44 29.2 -5.7
VNA3 Neumayer Olymp 127.75 170⇑iP PKPdf 03 44 33.6 -2.1
WRA Warramunga Arr 143.60 17 PKP PKPdf 03 45 03.1 -2.9
comp=Z,1.2nm,0.9s,baz=339,slow=3.3,SNR=7.2
QSPA South Pole Qui 145.42 180 eP PKPbc 03 45 04.8 -0.3

*MOS **06** 03:47:53.8±1.5, 54.98N×35.56W, h10km, mb5.2/15, MS4.3/11, Error ellipse: s-maj=25.8km s-min=10.4km az=61.3*
*CSEM **06** 03:47:55.8±0.0, 55.63N×35.12W, h2km, mb4.8/69, Ms4.5, Error ellipse: s-maj=2.7km s-min=1.3km az=8.0*
*IDC **06** 03:47:57.0±0.5, 55.50N×35.15W, mb4.2/20, mb1 4.4/22, mb1mx4.3/30, mbtmp4.2/22, ML3.5/2, MS4.4/26, Ms1 4.5/26, ms1mx4.4/28, Error ellipse: s-maj=18.5km s-min=11.1km az=168.0*
*NEIC **06** 03:47:59.5±0.1, 55.59N×35.15W, h10km, mb4.8/62, MS4.5/4, Error ellipse: s-maj=6.1km s-min=2.7km az=190.0*
*ZUR_RM **06** 03:47:59, 55.59N×35.15W, h12km, Mw5.2/8, Moment Tensor Solution. s8 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.98; $M_{\theta\theta}$1.02; $M_{\phi\phi}$4.96; $M_{r\theta}$2.73; $M_{\theta\phi}$0.34; $M_{\phi r}$-5.27; Best double couple: $M_0$8×10^{16} NP1:ϕ_s343°, δ69°, λ-102°. NP2:ϕ_s194°, δ24°, λ-61°. Principal axes: T 7.173, Plg23°, Azm82°; N 1.653, Plg11°, Azm348°; P -8.826, Plg64°, Azm233°;*
*BJI **06** 03:48:00.9, 56.50N×35.05W, h10km, mB5.2, mb4.7, Ms4.8, Msz4.5*
ISC 06 03:47:57.9±0.2**, 55.58N**±0.04×**35.18W**±0.04**, h10km, (h11km**±1.4km**:pP-P), n293, σ1.02**/280**, mb4.7**/103**, MS4.4**/42**, 7C-2D, Reykjanes Ridge**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SFJD Kangerlussuaq 13.59 334 eP P 03 51 09.7 -3.0
SFJD iP 03 51 20.2
SFJD eS S 03 53 51.8 +7.0
SFJD Kangerlussuaq 13.59 334 iP P 03 51 20.2 +7.5
SFJD eS S 03 53 51.8 +7.0
comp=Z,1μm,17.0s
SFJD Kangerlussuaq 13.59 334 eP P 03 51 09.7 -3.0
SCO Scoresbysund 16.05 16 iP P 03 51 51.0 +6.2
SCO pmax pmax
comp=Z,6.0nm,1.0s
SCO Scoresbysund 16.05 16 iP P 03 51 51.0 +6.2
comp=Z,5.6nm,1.0s
SUMG Summit 17.12 357 eP P 03 51 57.9 -0.5
comp=Z,57nm,1.3s
SUMG Summit 17.12 357 eP P 03 51 57.9 -0.5
comp=Z,57nm,1.3s
SCHQ Schefferville 18.00 281 P P 03 52 08.7 -0.8
comp=Z,1.1nm,0.3s,baz=78,slow=9.0,SNR=25
SCHQ LR LR 03 57 45.1
comp=Z,2μm,21.2s,baz=62,slow=33
SCHQ Schefferville 18.00 281 eP P 03 52 07.7 -1.8
comp=Z,31nm,1.1s
SCHQ Schefferville 18.00 281 eP P 03 52 07.7 -1.8
comp=Z,31nm,1.1s
EKA Eskdalemuir Ar 18.08 77 P P 03 52 09.8 -0.7
comp=Z,0.1nm,0.3s,baz=270,slow=7.8,SNR=8.9
JMIC Jan Mayen 19.27 26 LR LR 03 58 15.7
comp=Z,635nm,19.4s,baz=35,slow=32
JMIC Jan Mayen 19.27 26 AMS AMS 03 58 30.2
comp=Z,510nm,19.9s
ROSF Rostrenen 20.82 97 eP P 03 52 41.0 -0.7
comp=Z,211nm,1.7s
QUIF Quistinic 21.10 98 eP P 03 52 44.5 -0.1
comp=Z,279nm,1.7s,mb5.0
BER Bergen 21.75 61 e P 03 52 52.4 +1.3
BER eS S 03 56 52.2 +5.6
BER AMS AMS 04 00 08.9
comp=Z,1μm,24.8s,MS4.1
GRR Gorron 22.15 95 eP P 03 52 54.2 -1.0
comp=Z,174nm,1.7s,mb4.9
FLN La Foliniere 22.17 93 eP P 03 52 54.3 -1.0
comp=Z,143nm,1.5s,mb4.9
FLN eR
comp=Z,4μm,21.8s
MFF Saint Martin d 23.54 98 eP P 03 53 08.8 +0.1
comp=Z,39nm,1.1s,mb4.5
MTE Manteigas 23.71 118 eP P 03 53 12.0 +1.6
comp=Z,59nm,2.2s,mb4.6
MTE eLQ 03 57 25.2
MTE eLR LR 03 58 49.4
comp=Z,2μm,17.3s
PTOM Tomar 23.88 121 eP P 03 53 13.5 +1.4
comp=Z,108nm,1.4s,mb5.1
KONO Kongsberg 23.97 62 e P 03 53 16.3 +3.6
KONO eS S 03 57 31.8 +5.7
PCBR Castelo Branco 24.17 119 eP P 03 53 15.9 +1.0
comp=Z,56nm,1.1s,mb4.9
BAIF Baives 24.19 87 eP P 03 53 14.8 -0.2
WVL Waterville 24.46 258 P P 03 53 17.9 +0.2
WVL Waterville 24.46 258 P P 03 53 17.9 +0.2
MUD Monsted U'grnd 24.49 69 eP P 03 53 21.2 +3.4
MUD eS S 03 57 37.0 +1.9
MUD pmax pmax
comp=Z,42nm,1.4s,mb4.7
MUD MLR MLR
comp=Z,1μm,19.0s,MS4.4
MUD Monsted U'grnd 24.49 69 eP P 03 53 21.2 +3.4
comp=Z,42nm,1.4s,mb4.7
MUD eS S 03 57 37.0 +1.9
MUD Monsted U'grnd 24.49 69 iP P 03 53 21.2 +3.4
comp=Z,42nm,1.4s,mb4.7
MUD eS S 03 57 37.0 +1.9
comp=Z,1μm,19.0s
GIVF Givet 24.52 86 eP P 03 53 16.8 -1.4
NB2 NORSAR Subarra 24.54 58 P P 03 53 18.7 +0.4
comp=Z,4.1nm,1.2s,mb3.8,baz=279,slow=9.3
NOA NORSAR Array B 24.54 58 P P 03 53 18.6 +0.4
comp=Z,0.6nm,0.6s,mb3.3,baz=267,slow=9.7,SNR=4.1
NOA LR LR 04 01 19.1
comp=Z,680nm,21.6s,MS4.1,baz=275,slow=33
NOA NORSAR Array B 24.54 58 P P 03 53 18.6 +0.3
ECRI Cripan 24.76 108 P P 03 53 21.8 +1.3
comp=Z,11nm,0.8s,mb4.4
EVO Evora 24.92 122 eP P 03 53 21.3 -0.9
comp=Z,36nm,1.1s,mb4.5
EVO eR
comp=Z,2μm,21.0s
LFF La Frestale 25.03 100 eP P 03 53 22.5 -0.7
TCF Toulx Ste Croi 25.05 96 eP P 03 53 22.5 -0.8
comp=Z,85nm,1.5s,mb4.7
EBAD Badajoz 25.23 120 P P 03 53 24.3 -0.8
comp=Z,39nm,1.0s,mb4.9
EBAD Badajoz 25.23 120 P P 03 53 24.3 -0.8
comp=Z,39nm,1.0s,mb4.9
BGF Bois d'Agland 25.26 95 eP P 03 53 25.4 +0.1
comp=Z,22nm,0.8s,mb4.4
SSF Saint Saulge 25.35 93 eP P 03 53 24.8 -1.3
comp=Z,17nm,1.1s,mb4.5
LOR Lormes 25.43 93 eP P 03 53 25.5 -1.4
comp=Z,22nm,1.1s,mb4.3
LOR eR
comp=Z,2μm,21.5s
ETSF Etsaut 25.62 105 eP P 03 53 28.3 -0.4
SMF Signal de Mont 25.77 94 eP P 03 53 29.1 -1.0
comp=Z,67nm,1.5s,mb4.6
HFS Hagfors 25.91 60 P P 03 53 30.6 -0.6
comp=Z,2.0nm,0.6s,mb3.8,baz=235,slow=18,SNR=3.5
HFS LR LR 04 02 48.6
comp=Z,1μm,18.1s,MS4.4,baz=282,slow=34
EGRO El Granado 25.97 122 P P 03 53 31.6 -0.4
comp=Z,34nm,1.2s,mb4.8
EGRO El Granado 25.97 122 P P 03 53 31.6 -0.4
comp=Z,34nm,1.2s,mb4.8
EPF Esparros 26.03 104 eP P 03 53 32.7 +0.2
comp=Z,23nm,1.2s,mb4.3
PLDF La Plantade 26.04 95 eP P 03 53 36.3 +3.7
ESDC Sonseca Array 26.08 114 P P 03 53 31.4 -1.6
comp=Z,2.7nm,0.7s,mb3.9,baz=314,slow=8.9,SNR=17
ESDC Sonseca Array 26.08 114 P P 03 53 32.9 -0.1
comp=Z,2.7nm,1.0s,mb3.7
ESDC Sonseca Array 26.08 114 P P 03 53 32.9 -0.1
comp=Z,2.7nm,1.0s,mb3.7
EBIE Bielsa 26.15 105 P P 03 53 36.8 +3.2
comp=Z,147nm,2.0s,mb5.2
EMIN Mina Concepcio 26.17 121 P P 03 53 34.1 +0.2
comp=Z,56nm,1.5s,mb4.9
EMIN Mina Concepcio 26.17 121 P P 03 53 34.1 +0.2
comp=Z,56nm,1.5s,mb4.9
HAU Haudompre 26.44 89 eP P 03 53 35.2 -1.1
comp=Z,11nm,0.9s,mb4.1
HAU eR
comp=Z,4μm,17.5s
COP Copenhagen 26.47 70 eP P 03 53 37.7 +1.3
COP MLR MLR
comp=Z,640nm,19.0s,MS4.2
COP Copenhagen 26.47 70 iP P 03 53 37.7 +1.3
comp=Z,640nm,19.0s
FRNY Flat Rock 26.49 262 eP P 03 53 38.1 +1.4
FRNY Flat Rock 26.49 262 eP P 03 53 38.1 +1.4
CDF Champ du Feu 26.75 88 eP P 03 53 38.3 -0.8
comp=Z,58nm,1.6s,mb4.5
HINF Hinteralfeld 26.83 89 eP P 03 53 38.8 -1.1
MTLF Montolieu 26.87 101 eP P 03 53 38.9 -1.3
comp=Z,81nm,1.6s,mb4.7
EADA Adamuz 26.90 118 P P 03 53 39.5 -1.1
comp=Z,120nm,2.4s,mb5.0
MOF Molkenrain 26.97 89 eP P 03 53 43.6 +2.5
MSNY Massena 27.11 264 P P 03 53 42.4 0.0
MSNY Massena 27.11 264 P P 03 53 42.4 0.0
ESPR Espera 27.28 121 P P 03 53 44.5 +0.4
comp=Z,49nm,1.4s,mb4.8
ESPR Espera 27.28 121 P P 03 53 44.5 +0.4
comp=Z,49nm,1.4s,mb4.8
VIVF Saint-Julien-l 27.30 96 eP P 03 53 43.3 -0.8
EBAN Banos Encina 27.30 116 P P 03 53 45.6 +1.3
comp=Z,9.8nm,1.0s,mb4.3
EBAN Banos Encina 27.30 116 P P 03 53 45.6 +1.3
comp=Z,9.8nm,1.0s,mb4.3
LASF Ste Croix 27.32 98 eP P 03 53 43.9 -0.4
comp=Z,95nm,1.8s,mb4.7
TRO Tromso 27.43 38 eS S 03 58 27.3 +3.6
TRO AMS AMS 04 02 41.2
comp=Z,725nm,19.8s,MS4.2
ERTA Horta de San J 27.43 107 P P 03 53 45.9 +0.5
comp=Z,113nm,1.9s,mb5.1
ERTA Horta de San J 27.43 107 P P 03 53 45.9 +0.5
comp=Z,113nm,1.9s,mb5.1
EVIA Vianos 27.61 114 P P 03 53 47.0 0.0
comp=Z,6.4nm,0.8s,mb4.3
EQES Quesada 27.94 116 P P 03 53 50.2 +0.1
comp=Z,139nm,1.9s,mb5.3
EQES Quesada 27.94 116 P P 03 53 50.2 +0.1

comp=Z,139nm,1.9s,mb5.3
EMIJ Mijas 28.05 120 P **P** **03 53 50.7 -0.4**
comp=Z,62nm,2.1s,mb4.9
EMIJ Mijas 28.05 120 P **P** **03 53 50.7 -0.4**
comp=Z,62nm,2.1s,mb4.9
LPL La Plagne 28.07 93 *eP* **P** **03 53 50.5 -0.6**
KBS Kingsbay 28.08 18 AMS AMS 04 03 36.7
comp=Z,96nm,17.1s,MS3.5
LPG La Plagne 28.09 93 *eP* **P** **03 53 51.0 -0.3**
comp=Z,36nm,1.4s,mb4.5
MOX Moxa 28.09 80 *eP* **P** **03 53 51.5 +0.3**
MOX MLR MLR
comp=Z,800nm,21.0s,MS4.3
MOX Moxa 28.09 80 *eP* **P** **03 53 51.5 +0.3**
MOX LR LR
comp=Z,800nm,21.0s,MS4.3
MOX Moxa 28.09 80 *i* P **P** **03 53 51.5 +0.3**
MOX L 04 04 04.0
EHUE Huescar 28.18 115 P **P** **03 53 53.6 +1.4**
comp=Z,13nm,0.8s,mb4.6
CLL Collm 28.55 78 *eP* **P** **03 53 56.0 +0.6**
CLL *e* 03 54 41.0
CLL *eS* **S** **03 58 46.0 +4.1**
CLL Collm 28.55 78 P **P** **03 53 56.0 +0.6**
CLL *e**SP sP 03 54 03.0 +3.4
CLL *e*PP PP 03 54 41.0 -6.4
CLL *eS* **S** **03 58 46.0 +4.1**
MBDF Montbardon 28.56 95 *eP* **P** **03 53 54.8 -0.8**
EBER Berja 28.73 117 P **P** **03 53 58.4 +1.2**
EBER Berja 28.73 117 P **P** **03 53 58.4 +1.2**
NKC Novy Kostel 28.75 81 AMS AMS 04 06 00.0
comp=Z,1µm,16.7s
ENIJ Nijar 29.02 116 P **P** **03 54 01.4 +1.5**
comp=Z,18nm,0.8s,mb4.8
ENIJ Nijar 29.02 116 P **P** **03 54 01.4 +1.6**
comp=Z,18nm,0.8s,mb4.8
DAVOX Davos 29.12 88 LR LR 04 05 20.6
comp=Z,3µm,18.2s,MS5.0,baz=292,slow=36
SADO Sadowa 29.67 267 P **P** **03 54 04.0 -1.6**
comp=Z,5.1nm,0.6s,mb4.4,baz=105,slow=12,SNR=5.1
SADO LR LR 04 04 46.3
comp=Z,855nm,18.9s,MS4.4,baz=88,slow=34
ARCES ARCESS Array B 29.74 38 P **P** **03 54 04.8 -1.2**
comp=Z,5.6nm,0.9s,mb4.3,baz=263,slow=9.8,SNR=17
ARCES LR LR 04 03 37.6
comp=Z,985nm,20.3s,MS4.4,baz=276,slow=32
ARE0 ARCESS Array S 29.74 38 *eP* **P** **03 54 05.4 -0.6**
ARE0 ARCESS Array S 29.74 38 *eP* **P** **03 54 05.4 -0.5**
PVCC Panska Ves 29.79 79 AMS AMS 04 05 30.0
comp=Z,1µm,18.5s
KHC Kasperske Hory 29.94 82 AMS AMS 04 04 50.0
comp=Z,1µm,19.4s
PRU Pruhonice 30.05 80 AMS AMS 04 06 10.0
comp=Z,1µm,16.0s
GERES GERESS Array B 30.16 82 LR LR 04 05 28.4
comp=Z,983nm,20.0s,MS4.5,baz=312,slow=35
DPC Dobruska-Polom 30.86 78 AMS AMS 04 07 20.0
comp=Z,2µm,14.4s
KAF Kangasniemi 31.36 53 *ep* **P** **03 54 19.1 -1.2**
FINES FINESS Array B 31.45 54 P **P** **03 54 19.7 -1.5**
comp=Z,2.7nm,1.0s,mb4.0,baz=315,slow=5.4,SNR=7.2
FINES LR LR 04 05 35.9
comp=Z,229nm,21.9s,MS3.8,baz=295,slow=34
FINES FINESS Array B 31.45 54 P **P** **03 54 19.7 -1.5**
FINES LR LR 04 05 35.9
OKC Ostrava-Krasne 32.13 78 AMS AMS 04 08 30.0
comp=Z,2µm,14.2s
VSU Vasula 32.78 59 *i* P **P** **03 54 32.4 -0.4**
APA Apatity 32.90 41 ⇓*i*P **P** **03 54 33.2 -0.5**
APA *eS* **S** **04 00 00.0 +10**
APA *eSS* SS 04 01 56.0 +6.9
APA pmax pmax
comp=Z,30nm,1.3s,mb5.1
APA MLR MLR
comp=Z,500nm,14.0s,MS4.4
APA Apatity 32.90 41 *i* P **P** **03 54 33.2 -0.5**
comp=Z,30nm,1.3s,mb5.1
VYHS Vyhne 33.23 79 *eP* **P** **03 54 35.9 -0.8**
KWP Kalwaria 34.75 75 P **P** **03 54 51.8 +1.9**
comp=Z,11nm,1.1s,mb4.7
KWP Kalwaria 34.75 75 P **P** **03 54 51.8 +1.9**
comp=Z,11nm,1.1s,mb4.7
KOLS Kolonicke sedl 34.89 76 *eP* sP 03 54 56.9 +1.5
KOLS Kolonicke sedl 34.89 76 *es*P sP 03 54 56.9 +1.5
BLA Blacksburg 35.42 258 *eP* **P** **03 54 56.8 +1.1**
BLA Blacksburg 35.42 258 *eP* **P** **03 54 56.8 +1.0**
ULM Lac du Bonnet 35.95 288 P **P** **03 54 58.5 -1.6**
comp=Z,12nm,1.1s,mb4.7,baz=58,slow=10,SNR=9.0
ULM LR LR 04 08 25.7
comp=Z,2µm,18.9s,MS4.9,baz=66,slow=34
AKASG Malin Array Be 37.70 70 P **P** **03 55 13.0 -1.8**
comp=Z,8.4nm,0.9s,mb4.5,baz=301,slow=8.2,SNR=12
JSC Jenkinsville 38.03 255 *eP* **P** **03 55 17.6 -0.2**
JSC Jenkinsville 38.03 255 *eP* **P** **03 55 17.5 -0.3**
TWB Tillmans-White 38.28 253 P **P** **03 55 19.7 -0.2**
TWB Tillmans-White 38.28 253 P **P** **03 55 19.7 -0.1**
HBF Harts Bluff 38.56 253 *eP* **P** **03 55 23.1 +0.9**
HBF Harts Bluff 38.56 253 *eP* **P** **03 55 23.1 +0.8**
YKW3 Yellowknife Ar 38.95 314 *eP* **P** **03 55 24.8 -0.4**
YKW3 Yellowknife Ar 38.95 314 *eP* **P** **03 55 24.8 -0.4**
YKA Yellowknife Ar 38.98 313 P **P** **03 55 24.9 -0.5**
comp=Z,6.6nm,0.9s,mb4.4,baz=62,slow=9.1,SNR=43
YKA PcP PcP 03 57 33.8 -2.6
comp=Z,1.8nm,1.1s,baz=46,slow=3.6,SNR=6.1
YKA LR LR 04 10 19.9
comp=Z,987nm,18.8s,MS4.7,baz=75,slow=34
YKA Yellowknife Ar 38.98 313 P **P** **03 55 24.9 -0.5**
YKA PcP PcP 03 57 33.8 -2.6
YKA LR LR 04 10 19.9
YKA Yellowknife Ar 38.98 313 PcP PcP 03 57 33.8 -2.6
OBN Obninsk 39.12 60 *eP* **P** **03 55 27.1 +0.4**
OBN *e* 03 55 32.5
OBN 03 56 59.0
OBN 03 57 37.0
OBN *eS* **S** **04 01 32.9 +7.0**
OBN *eSS* SS 04 04 12.5 +2.3
OBN pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
OBN MLR MLR
comp=Z,500nm,16.0s,MS4.4
OBN Obninsk 39.12 60 *eP* **P** **03 55 27.1 +0.4**
comp=Z,9.0nm,0.6s,mb4.7
FVM French Village 40.51 268 *eP* **P** **03 55 38.3 -0.1**
comp=Z,16nm,1.1s,mb4.6
FVM French Village 40.51 268 *eP* **P** **03 55 38.3 0.0**
comp=Z,16nm,1.1s,mb4.6
CCM Cathedral Cave 40.93 269 *eP* **P** **03 55 40.8 -1.0**
comp=Z,15nm,1.2s,mb4.5
CCM Cathedral Cave 40.93 269 *eP* **P** **03 55 40.8 -0.9**
comp=Z,15nm,1.2s,mb4.5
DGMT Dagmar 41.43 290 *eP* **P** **03 55 47.3 +1.5**
comp=Z,8.0nm,0.3s,mb4.8
DGMT Dagmar 41.43 290 *eP* **P** **03 55 47.3 +1.5**
comp=Z,7.9nm,0.3s,mb4.8
INK Inuvik 42.82 327 *eP* **P** **03 55 56.5 -0.3**
comp=Z,24nm,1.3s,mb4.8
INK Inuvik 42.82 327 *eP* **P** **03 55 56.5 -0.3**
comp=Z,24nm,1.3s,mb4.8
EDM Edmonton 43.31 301 *eP* **P** **03 56 01.5 +0.5**
EDM Edmonton 43.31 301 *eP* **P** **03 56 01.5 +0.6**
LAO LASA Array 43.61 289 *eP* **P** **03 56 05.1 +1.6**
comp=Z,55nm,1.3s,mb5.1
LAO LASA Array 43.61 289 *eP* **P** **03 56 05.1 +1.6**
comp=Z,55nm,1.3s,mb5.1
ANN Anapa 45.67 72 *eP* **P** **03 56 22.2 +2.2**
ANN *i* 03 57 54.6
ANN *e* 03 58 08.2
ANN *eS* **S** **04 03 07.4 +5.2**
ANN pmax pmax
comp=Z,39nm,0.9s,mb5.3
ANN MLR MLR
comp=Z,2µm,19.0s,MS5.0
ANN MLR MLR
comp=N,142nm,16.0s,MS5.0
ANN MLR MLR
comp=E,2µm,19.0s,MS5.0
ANN Anapa 45.67 72 *i* PcP PcP 03 57 54.6 -4.1
SOKR Solikamsk 45.69 45 ⇑*i*P **P** **03 56 20.9 +0.9**
SOKR S **S** **04 03 01.5 -0.8**
SOKR pmax pmax
comp=Z,20nm,1.2s,mb4.9
SOKR Solikamsk 45.69 45 *i* P **P** **03 56 20.9 +0.9**
comp=Z,20nm,1.2s,mb4.9
HRY Holter Researc 46.57 293 *eP* **P** **03 56 27.7 +0.6**
HRY Holter Researc 46.57 293 *eP* **P** **03 56 27.7 +0.6**

BR131 Keskin Array S 46.99 80 *eP* **P** **03 56 32.4 +1.8**
comp=Z,4.6nm,0.7s,mb4.5
BR131 Keskin Array S 46.99 80 *eP* **P** **03 56 32.3 +1.8**
comp=Z,4.6nm,0.7s,mb4.5
BRTR Keskin Array B 46.99 80 P **P** **03 56 31.1 +0.5**
comp=Z,7.2nm,0.8s,mb4.6,baz=311,slow=5.3,SNR=21
BRTR Keskin Array B 46.99 80 P **P** **03 56 31.0 +0.5**
BOZ Bozeman (W) 47.16 292 *eP* **P** **03 56 32.9 +1.0**
comp=Z,26nm,1.3s,mb5.0
BOZ Bozeman (W) 47.16 292 *eP* **P** **03 56 32.9 +1.1**
comp=Z,26nm,1.3s,mb5.0
CHMT Chamberlain Mo 47.18 294 *eP* **P** **03 56 32.1 +0.2**
CHMT Chamberlain Mo 47.18 294 *eP* **P** **03 56 32.1 +0.2**
RWWY Rawlins 47.42 285 *eP* **P** **03 56 34.3 +0.4**
comp=Z,15nm,1.1s,mb4.8
RWWY Rawlins 47.42 285 *eP* **P** **03 56 34.3 +0.4**
comp=Z,15nm,1.1s,mb4.8
YFT Old Faithful 47.53 290 *eP* **P** **03 56 37.1 +2.4**
YFT Old Faithful 47.53 290 *eP* **P** **03 56 37.1 +2.3**
WMOK Wichita Mounta 47.56 272 *eP* **P** **03 56 34.4 -0.7**
comp=Z,8.1nm,1.1s,mb4.7
DLBC Dease Lake 47.56 315 *eP* **P** **03 56 34.9 +0.1**
DLBC Dease Lake 47.56 315 *eP* **P** **03 56 34.9 +0.1**
SOC Sochi 47.70 72 *eP* **P** **03 56 38.4 +2.2**
SOC *eS* **S** **04 03 34.4 +3.2**
SOC *e* 04 06 27.6
SOC pmax pmax
comp=N,20nm,1.0s
SOC pmax pmax
comp=Z,36nm,1.0s,mb5.4
SOC pmax pmax
comp=E,19nm,0.8s
SOC MLR MLR
comp=Z,634nm,20.0s,MS4.6
SOC MLR MLR
comp=N,236nm,19.0s,MS4.6
SOC MLR MLR
comp=E,550nm,21.0s,MS4.6
IMW Indian Meadow 47.95 289 *eP* **P** **03 56 39.0 +0.9**
comp=E,6.9nm,1.3s,mb4.5
PDAR Pinedale Array 47.97 287 P **P** **03 56 37.2 -1.0**
comp=E,4.8nm,1.1s,mb4.4,baz=53,slow=7.4,SNR=16
PDAR LR LR 04 15 50.8
comp=E,2µm,18.5s,MS5.1,baz=36,slow=35
REDW Red Top Meadow 48.27 289 P **P** **03 56 40.9 +0.3**
comp=E,22nm,1.4s,mb5.0
REDW Red Top Meadow 48.27 289 P **P** **03 56 40.9 +0.4**
comp=E,22nm,1.4s,mb5.0
NEW Newport 48.27 298 *eP* **P** **03 56 40.0 -0.5**
comp=E,15nm,1.4s,mb4.8
NEW Newport 48.27 298 *eP* **P** **03 56 40.0 -0.5**
comp=E,15nm,1.4s,mb4.8
MCMT McKenzie Canyo 48.35 292 *eP* **P** **03 56 41.7 +0.6**
ARU Arti 48.41 48 ⇑*i*P **P** **03 56 41.3 -0.1**
ARU *e* 03 58 32.9
ARU *eS* **S** **04 03 38.4 -2.5**
ARU *e*SS SS 04 07 07.6 +1.8
ARU pmax pmax
comp=Z,15nm,1.0s,mb5.0
ARU Arti 48.41 48 *i* P **P** **03 56 41.3 -0.1**
comp=Z,15nm,1.0s,mb5.0
GOF Gofitskoye 48.48 68 ⇑*i*P **P** **03 56 42.3 +0.1**
GOF pmax pmax
comp=Z,46nm,1.2s,mb5.4
GOF Gofitskoye 48.48 68 *i* P **P** **03 56 42.3 +0.1**
comp=Z,46nm,1.2s,mb5.4
SVE Sverdlovsk 49.01 46 ⇑*eP* **P** **03 56 46.7 +0.6**
SVE *e* pP 03 56 49.0 -0.1
SVE Sverdlovsk 49.01 46 *eP* **P** **03 56 46.7 +0.6**
KIV Kislovodsk 49.04 69 *i* P **P** **03 56 47.3 +0.8**
KIV pmax pmax
comp=Z,16nm,1.3s,mb4.9
KIV MLR MLR
comp=Z,600nm,19.0s,MS4.6
KIV Kislovodsk 49.04 69 *i* P **P** **03 56 47.3 +0.8**
comp=Z,600nm,19.0s
AMTX Amarillo 49.10 274 *eP* **P** **03 56 47.4 +0.4**
comp=Z,23nm,1.0s,mb5.2
AMTX Amarillo 49.10 274 *eP* **P** **03 56 47.4 +0.4**
comp=Z,23nm,1.0s,mb5.2
ILAR Eielson Array 49.18 328 P **P** **03 56 47.0 -0.2**
comp=Z,8.9nm,1.0s,mb4.8,baz=35,slow=6.7,SNR=61
ILAR LR LR 04 17 24.3
comp=Z,766nm,19.5s,MS4.7,baz=23,slow=36
ILAR Eielson Array 49.18 328 P **P** **03 56 47.0 -0.3**
HWUT Hardware Ranch 49.85 288 *eP* **P** **03 56 52.5 -0.2**
comp=Z,11nm,1.1s,mb4.8
HWUT Hardware Ranch 49.85 288 *eP* **P** **03 56 52.5 -0.3**
comp=Z,11nm,1.1s,mb4.8
HLID Hailey 50.03 291 *eP* **P** **03 56 55.0 +0.9**
comp=Z,14nm,1.3s,mb4.8
HLID Hailey 50.03 291 *eP* **P** **03 56 55.0 +0.9**
comp=Z,14nm,1.3s,mb4.8
IMA Indian Mountai 50.13 332 *eP* **P** **03 56 55.3 +0.7**
JLU Jordanelle 50.49 287 P **P** **03 56 56.7 -0.9**
JLU Jordanelle 50.49 287 P **P** **03 56 56.7 -0.9**
DAU Daniels Canyon 50.51 286 *eP* **P** **03 56 57.9 +0.1**
DAU Daniels Canyon 50.51 286 *eP* **P** **03 56 57.9 +0.1**
SPUT South Promonto 50.54 288 *eP* **P** **03 56 57.6 -0.4**
SPUT South Promonto 50.54 288 *eP* **P** **03 56 57.6 -0.4**
MALT Malatya 50.64 77 *eP* **P** **03 56 60.0 +1.2**
comp=Z,14nm,1.1s,mb4.8
MALT Malatya 50.64 77 *eP* **P** **03 57 00.0 +1.2**
comp=Z,14nm,1.1s,mb4.8
PV01 Paradox Valley 50.64 282 *eP* **P** **03 57 00.4 +1.6**
PV01 Paradox Valley 50.64 282 *eP* **P** **03 57 00.4 +1.6**
BMO Blue Mountains 50.66 294 *eP* **P** **03 56 57.8 -1.1**
comp=Z,9.7nm,1.3s,mb4.6
BMO Blue Mountains 50.66 294 *eP* **P** **03 56 57.8 -1.1**
comp=Z,9.7nm,1.3s,mb4.6
PV10 Paradox Valley 50.73 283 *eP* **P** **03 57 00.6 +1.1**
PV10 Paradox Valley 50.73 283 *eP* **P** **03 57 00.6 +1.1**
NLU North Lily Min 51.28 286 *eP* **P** **03 57 03.9 +0.2**
ANMO Albuquerque 51.75 278 *i* P **P** **03 57 07.6 +0.3**
SML Sawmill 51.80 326 P **P** **03 57 07.2 -0.1**
SML Sawmill 51.80 326 P **P** **03 57 07.2 -0.1**
MSU Marysvale 52.36 285 *eP* **P** **03 57 11.8 -0.1**
MSU Marysvale 52.36 285 *eP* **P** **03 57 11.8 -0.1**
PWA Palmer West 52.41 327 *eP* **P** **03 57 12.3 +0.4**
BNM Barren Site 52.42 277 *eP* **P** **03 57 13.3 +0.9**
BNM Barren Site 52.42 277 *eP* **P** **03 57 13.3 +0.9**
ELK Elko 52.43 289 *eP* **P** **03 57 13.1 +0.7**
comp=Z,16nm,1.5s,mb4.7
ELK Elko 52.43 289 *eP* **P** **03 57 13.1 +0.7**
comp=Z,16nm,1.5s,mb4.7
TIXI Tiksi 52.57 6 *eP* **P** **03 57 11.4 -1.6**
TIXI pmax pmax
comp=Z,28nm,1.1s,mb5.1
TIXI Tiksi 52.57 6 *eP* **P** **03 57 11.4 -1.6**
comp=Z,28nm,1.1s,mb5.1
GDL2 Guadalupe Moun 52.58 274 *eP* **P** **03 57 13.2 -0.4**
GDL2 Guadalupe Moun 52.58 274 *eP* **P** **03 57 13.2 -0.4**
GNI Garni 52.79 71 *i* P **P** **03 57 15.2 +0.2**
GNI pmax pmax
comp=Z,34nm,1.6s
GNI MLR MLR
comp=Z,200nm,15.0s
GNI Garni 52.79 71 P **P** **03 57 15.3 +0.2**
comp=Z,50nm,1.1s,mb5.3
GNI Garni 52.79 71 P **P** **03 57 15.3 +0.3**
comp=Z,50nm,1.1s,mb5.3
WVOR Wild Horse Val 53.04 293 *eP* **P** **03 57 17.1 +0.3**
comp=Z,18nm,1.3s,mb4.8
WVOR Wild Horse Val 53.04 293 *eP* **P** **03 57 17.1 +0.2**
comp=Z,18nm,1.3s,mb4.8
TTA Tatalina 53.22 331 *eP* **P** **03 57 18.2 +0.3**
SLKM Skilak Lake 53.39 326 *eP* **P** **03 57 19.8 +0.6**
SLKM Skilak Lake 53.39 326 *eP* **P** **03 57 19.8 +0.6**
SPU Mount Spurr 53.44 327 *eP* **P** **03 57 19.5 0.0**
SPU Mount Spurr 53.44 327 *eP* **P** **03 57 19.5 0.0**
MNTX Cornudas Mount 53.53 274 *eP* **P** **03 57 19.2 -1.4**
comp=Z,7.8nm,1.1s,mb4.5
RSO Redoubt South 54.22 327 *eP* **P** **03 57 24.9 -0.3**
RSO Redoubt South 54.22 327 *eP* **P** **03 57 24.9 -0.3**
MOD Modoc 54.29 294 *eP* **P** **03 57 25.4 -0.6**
comp=Z,21nm,1.5s,mb4.8
MOD Modoc 54.29 294 *eP* **P** **03 57 25.4 -0.6**
comp=Z,21nm,1.5s,mb4.8
SDV Santo Domingo 54.31 225 LR LR 04 18 22.2
comp=Z,78nm,20.2s,MS3.8,baz=189,slow=34
TXAR Lajitas Array 54.34 271 P **P** **03 57 25.7 -0.9**
comp=Z,3.2nm,1.2s,mb4.1,baz=63,slow=5.6,SNR=15
TXAR LR LR 04 20 03.1
comp=Z,1µm,20.0s,MS4.9,baz=50,slow=35
TXAR Lajitas Array 54.34 271 P **P** **03 57 25.7 -0.9**

TXAR LR LR 04 20 03.1
DBIC Dimbokro 54.42 142 LR LR 04 18 58.5
comp=Z,557nm,18.1s,MS4.7,baz=334,slow=34
SVW2 Sparrevohn 54.56 329 *eP* **P** **03 57 26.7 -1.0**
EIL Elat 55.02 87 *eP* **P** **03 57 31.8 +0.2**
comp=Z,21nm,1.3s,mb5.0
EIL Elat 55.02 87 *eP* **P** **03 57 31.8 +0.2**
comp=Z,21nm,1.3s,mb5.0
ZRNK Zerenda 55.17 46 *eP* **P** **03 57 31.7 -0.7**
comp=Z,7.4nm,1.4s,mb4.5
ZRNK Zerenda 55.17 46 *eP* **P** **03 57 31.7 -0.7**
comp=Z,7.4nm,1.4s,mb4.5
TPH Tonopah 55.42 288 *eP* **P** **03 57 33.8 -0.6**
comp=Z,17nm,1.2s,mb5.0
TPH Tonopah 55.42 288 *eP* **P** **03 57 33.8 -0.6**
comp=Z,17nm,1.2s,mb5.0
NVAR Mina Array Bea 55.74 289 P **P** **03 57 36.7 0.0**
comp=Z,0.8nm,0.7s,mb3.9,baz=42,slow=4.7,SNR=4.4
NVAR LR LR 04 20 44.5
comp=Z,1µm,18.8s,MS5.0,slow=35
NEN Nelson 55.90 285 *eP* **P** **03 57 37.5 -0.3**
NEN Nelson 55.90 285 *eP* **P** **03 57 37.5 -0.4**
TUC Tucson 56.12 279 *eP* **P** **03 57 39.2 -0.3**
comp=Z,6.9nm,1.5s,mb4.5
TUC Tucson 56.12 279 *eP* **P** **03 57 39.2 -0.3**
comp=Z,6.9nm,1.5s,mb4.5
NVS Novosibirsk 59.00 36 ⇑*i*P **P** **03 57 58.7 -0.8**
NVS pmax pmax
comp=Z,24nm,1.8s,mb4.9
NVS pmax pmax
comp=N,12nm,1.5s
NVS Novosibirsk 59.00 36 *i* P **P** **03 57 58.7 -0.8**
comp=N,12nm,1.5s,mb4.7
ROSC El Rosal 59.46 227 P **P** **03 58 03.2 -0.1**
comp=N,8.0nm,0.6s,mb4.9,baz=239,slow=8.5,SNR=7.9
ROSC LR LR 04 21 22.1
comp=N,90nm,21.7s,MS3.9,baz=258,slow=34
SEY Seymchan 61.68 356 *eP* **P** **03 58 17.8 +0.1**
SEY *e* 04 00 31.0
SEY *eS* **S** **04 06 42.9 +4.5**
SEY 04 08 07.8
SEY SS SS 04 10 45.6 +4.0
SEY *e*SSS SSS 04 13 34.2 +13
SEY pmax pmax
comp=N,10.0nm,1.6s
SEY pmax pmax
comp=Z,19nm,1.6s,mb5.0
SEY pmax pmax
comp=E,5.0nm,1.4s
SEY smax
comp=N,430nm,30.8s
SEY smax
comp=E,300nm,34.4s
SEY MLR MLR
comp=Z,240nm,18.0s,MS4.4
SEY MLR MLR
comp=N,140nm,21.0s,MS4.2
SEY MLR MLR
comp=E,130nm,22.0s,MS4.2
YAK Yakutsk 62.13 8 *i* P **P** **03 58 20.1 -0.7**
YAK pmax pmax
comp=Z,12nm,0.5s,mb5.3
YAK MLR MLR
comp=Z,100nm,19.0s,MS4.0
YAK Yakutsk 62.13 8 *i* P **P** **03 58 20.1 -0.7**
comp=Z,100nm,19.0s
BOD Bodaibo 64.26 18 *eP* **P** **03 58 28.9 -5.8**
BOD pmax pmax
comp=Z,5.0nm,1.6s,mb4.3
MKAR Makanchi Array 65.29 42 *i* P **P** **03 58 41.1 -0.4**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 65.29 42 P **P** **03 58 40.5 -1.0**
comp=Z,1.3nm,0.7s,mb4.0,baz=315,slow=6.9,SNR=12
MKAR LR LR 04 27 31.9
comp=Z,181nm,19.1s,MS4.3,baz=360,slow=36
ZAK Zakamensk 68.89 27 *eP* **P** **03 59 03.5 -0.7**
ZAK pmax pmax
comp=Z,1.0nm,1.4s,mb3.5
ZAK Zakamensk 68.89 27 *eP* **P** **03 59 03.5 -0.7**
comp=Z,1.0nm,1.4s,mb3.5
WMQ Urumqi 69.83 40 *eP* **P** **03 59 12.6 +2.5**
PET Petropavlovsk 71.16 351 *eP* **P** **03 59 19.5 +1.5**
PET *e* 04 13 21.3
BDFB Brasilia 71.76 193 P **P** **03 59 19.9 -2.3**
comp=Z,1.9nm,0.7s,mb4.2,baz=158,slow=1.6,SNR=4.5
BDFB LR LR 04 26 07.0
comp=Z,196nm,18.7s,MS4.4,baz=76,slow=32
SONM Songino Array 72.03 26 P **P** **03 59 22.7 -0.6**
comp=Z,0.7nm,0.8s,mb3.6,baz=333,slow=5.5,SNR=7.8
SONM LR LR 04 29 10.3
comp=Z,154nm,20.7s,MS4.2,baz=284,slow=34
ULN Ulaanbaatar 72.17 26 *i* P **P** **03 59 24.7 +0.6**
ULN Ulaanbaatar 72.17 26 *eP* **P** **03 59 25.0 +0.9**
comp=Z,18nm,1.5s,mb4.8
ULN Ulaanbaatar 72.17 26 *eP* **P** **03 59 25.0 +0.9**
comp=Z,18nm,1.5s,mb4.8
SIV San Ignacio 74.57 206 P **P** **03 59 37.0 -1.6**
comp=Z,4.0nm,1.0s,mb4.3,baz=47,slow=9.9,SNR=5.1
LPAZ La Paz 76.81 212 LR LR 04 32 08.2
comp=Z,91nm,20.5s,MS4.1,baz=170,slow=34
GTA Gaotai 77.91 34 *eP* **P** **03 59 53.9 -3.1**
GTA PP PP 04 02 48.2 -6.8
GTA S S 04 09 41.2 -7.7
GTA SKS SKS 04 09 59.4 -11
GTA PS PS 04 10 20.7 -10
GTA SS SS 04 14 39.3 -13
GTA AMB AMB
comp=Z,3.0nm,0.6s,mb4.4
GTA AMB AMB
comp=Z,53nm,7.6s
GTA LR LR
comp=N,198nm,19.0s,MS4.6
GTA LR LR
comp=E,128nm,15.2s,MS4.6
GTA LR LR
comp=Z,244nm,14.8s,MS4.7
MDJ Mudanjiang 79.35 11 P **P** **04 00 03.5 -1.3**
MDJ AMB AMB
comp=Z,6.0nm,1.4s,mb4.3
MDJ AMB AMB
comp=Z,147nm,5.6s
CN2 Changchun 79.64 14 *eP* **P** **04 00 07.0 +0.6**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 LR LR
comp=Z,300nm,18.0s,MS4.7
HHC Hu-ho-hao-te 79.86 25 *eP* **P** **04 00 08.8 +1.2**
HHC AP pP 04 00 12.0 +1.2
HHC XP sP 04 00 15.5 +3.7
HHC S S 04 10 12.6 +3.1
HHC XS 04 10 19.7
HHC SKS SKS 04 10 22.0 -2.7
HHC AMB AMB
comp=Z,13nm,1.4s,mb4.7
HHC AMB AMB
comp=Z,72nm,4.7s
HHC LR LR
comp=N,188nm,17.8s,MS4.7
HHC LR LR
comp=E,332nm,22.5s,MS4.7
HHC LR LR
comp=Z,176nm,17.8s,MS4.5
KMBO Kilima Mbogo 81.07 105 LR LR 04 37 44.6
comp=Z,198nm,18.9s,MS4.5,baz=301,slow=37
LZH Lanzhou 82.22 32 *eP* **P** **04 00 21.0 +0.9**
LZH AP pP 04 00 25.0 +1.7
LZH XP sP 04 00 28.0 +3.7
LZH AMB AMB
comp=Z,15nm,1.2s,mb4.8
CPUP Villa Florida 83.75 200 LR LR 04 34 46.5
comp=Z,106nm,18.6s,MS4.2,baz=90,slow=34
NJ2 Nanjing 89.94 22 *eP* **P** **04 01 00.1 +1.9**
NJ2 AP pP 04 01 04.9 +3.5
NJ2 XP sP 04 01 07.1 +4.7
NJ2 S S 04 11 50.0 +1.6
NJ2 XS 04 11 58.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.3
NJ2 AMB AMB
comp=Z,140nm,4.8s
NJ2 LR LR
comp=N,410nm,19.3s
NJ2 LR LR
comp=E,690nm,24.5s
NJ2 LR LR

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,190nm,25.1s						
CFAA	Coronel Fontan	91.33	208	P	P	04 01 03.1	-1.4
	comp=Z,0.2nm,0.8s,mb3.5,baz=342,slow=5.2,SNR=3.5						
SSE	Sheshan	91.33	20	P	P	04 01 04.1	-0.5
SSE				XP	sP	04 01 08.8	-0.1
SSE				PP	PP	04 04 37.7	-6.9
SSE				S	S	04 11 59.8	-1.1
SSE				XS		04 12 05.5	
SSE				SS	SS	04 18 02.4	-7.3
SSE				AMB	AMB		
	comp=Z,14nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,70nm,4.6s						
SSE				LR	LR		
	comp=N,74nm,20.5s,MS4.2						
SSE				LR	LR		
	comp=E,52nm,20.5s,MS4.2						
SSE				LR	LR		
	comp=Z,112nm,29.7s						
KMI	Kunming	91.98	37	P	P	04 01 09.3	+1.6
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.8						
KMI				LR	LR		
	comp=Z,90nm,21.5s,MS4.2						
CMAR	Chiang Mai Arr	96.68	43	LR	LR	04 51 26.0	
	comp=Z,87nm,18.4s,MS4.3,baz=305,slow=39						
BOSA	Boshof	98.39	129	LR	LR	04 44 60.0	
	comp=Z,217nm,19.0s,MS4.7,baz=359,slow=35						
VNA1	Neumayer--Stat	127.39	169	e	PKPdf	04 07 08.3	+3.7
VNA1	Neumayer--Stat	127.39	169	⇑iPKPdf	PKPdf	04 07 05.3	+0.7
VNA1				e		04 07 08.3	
VNA3	Neumayer Olymp	127.81	170	e	PKPdf	04 07 06.3	+0.9
VNA3	Neumayer Olymp	127.81	170	PKPdf	PKPdf	04 07 03.1	-2.3
VNA3				e		04 07 06.3	
SNAA	Sanae	128.98	167	⇑iP	PKPdf	04 07 04.8	-2.9
WRA	Warramunga Arr	143.55	17	PKP	PKPdf	04 07 32.7	-2.8
	comp=Z,1.9nm,1.1s,baz=337,slow=2.0,SNR=8.0						
QSPA	South Pole Qui	145.47	180	⇓iP	PKPbc	04 07 35.2	+0.4

*NEIC **06** 03:53:09.4±1.8, 51.53N×16.09E, h5km, ML2.6(SZGRF), ML2.6(VIE), ML2.5(FUR), Error ellipse: s-maj=18.5km s-min=6.9km az=205.0*
*PRU **06** 03:53:10.6, 51.47N×16.08E*
*CSEM **06** 03:53:11.5±0.3, 51.44N×16.06E, ML2.6, Error ellipse: s-maj=4.8km s-min=2.6km az=25.0*
WAR 06 03:53:11.0, 51.49N×16.06E, h1km, ML2.4, 1C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.67	167	ePG	Pg	03 53 23.0	-1.3
KSP				eSG	Sg	03 53 32.0	-1.2
UPC	Upice	0.98	182	ePg	Pg	03 53 29.1	-1.6
UPC	Upice	0.98	182	Pg	Pg	03 53 29.1	-1.6
DPC	Dobruska-Polom	1.16	172	ePG	Pg	03 53 31.9	-2.1
DPC				eSG	Sg	03 53 46.8	-2.6
	19nm,0.2s						
PVCC	Panska Ves	1.35	225	ePG	Pg	03 53 36.2	-1.7
BRG	Berggiesshubel	1.47	246	Pn	Pn	03 53 37.8	-0.9
BRG				Pg	Pg	03 53 38.5	-1.8
BRG				Sg	Sg	03 53 58.0	-1.9
BRG	Berggiesshubel	1.47	246	Pn	Pn	03 53 37.8	-0.9
BRG	Berggiesshubel	1.47	246	Pg	Pg	03 53 38.5	-1.8
PRU	Pruhonice	1.79	213	ePG	Pg	03 53 43.2	-3.5
PRU				eSG	Sg	03 54 06.5	-4.0
CLL	Collm	1.92	266	ePG	Pg	03 53 45.0	-4.4
CLL				i SG	Sg	03 54 11.9	-3.1
CLL				i		03 54 15.3	
MORC	Moravsky Berou	1.96	151	eP	Pn	03 53 43.6	-2.1
MORC	Moravsky Berou	1.96	151	ePn	Pn	03 53 44.0	-1.7
OKC	Ostrava-Krasne	2.12	140	ePG	Pg	03 53 49.7	-3.7
OKC				eSG	Sg	03 54 15.6	-6.1
VRAC	Vranov	2.21	171	ePn	Pn	03 53 48.6	-0.7
NKC	Novy Kostel	2.61	243	ePN	Pn	03 53 53.6	-1.4
NKC				ePG	Pg	03 53 59.8	-3.3
NKC				eSG	Sg	03 54 34.0	-3.9
NKC	Novy Kostel	2.61	243	ePg	Pg	03 53 59.8	-3.3
NKC				eSg	Sg	03 54 34.0	-3.9
KHC	Kasperske Hory	2.85	215	ePN	Pn	03 53 56.3	-2.1
KHC				ePG	Pg	03 54 03.0	-4.8
KHC				eSN	Sn	03 54 31.0	-2.8
KHC				eSG	Sg	03 54 39.8	-6.0
MOX	Moxa	2.93	255	ePg	Pg	03 54 06.1	-3.3
MOX				eSg	Sg	03 54 45.0	-3.5
GEC2	GERESS Array S	3.05	211	ePn	Pn	03 54 00.1	-1.2
GEC2				eSg	Sg	03 54 46.1	-6.5
WET	Wettzell	3.11	222	ePn	Pn	03 54 00.5	-1.7
MOA	Molln	3.83	198	⇑iPN	Pn	03 54 09.6	-2.7
MOA				i SG	Sg	03 55 13.3	-5.1
	4.3nm,0.6s						

*GUC **06** 03:58:45.0±0.8, 20.05S×69.22W, h100km±4km, MD4.2, ML4.1*
*IDC **06** 03:58:45.7±1.6, 20.13S×68.89W, h119km±17km, mb3.6/2, mb1 3.8/5, mb1mx3.4/17, mbtmp4.1/5, Error ellipse: s-maj=33.8km s-min=14.2km az=96.0*
*NEIC **06** 03:58:46.5±1.0, 20.02S×68.87W, h117km±13km, mb3.8/1, Error ellipse: s-maj=23.0km s-min=11.0km az=108.0*
ISC 06 03:58:44.8±0.6**, 20.02S**±0.04×**69.3W**±0.1**, h138**km±11km**, n17,** σ1^s**48**/24**, mb4.0**/1**, 2C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.60	173	eP	P	03 59 26.2	-1.1
LVC				i S	S	03 59 58.1	-1.5
LVC				AMP		04 00 05.7	
	comp=E,556nm,0.7s						
LVC	Limon Verde	2.60	173	P	P	03 59 26.2	-1.1
	comp=E,51nm,0.3s,baz=19,slow=11,SNR=143						
LVC				S	S	03 59 59.7	+0.1
	comp=E,59nm,0.3s,baz=119,slow=19,SNR=28						
LVC	Limon Verde	2.60	173	eP	P	03 59 25.8	-1.5
LVC				S	S	03 59 59.7	+0.1
SPCH	San Pedro de A	3.03	161	eP	P	03 59 32.9	-0.1
SPCH	San Pedro de A	3.03	161	⇑iP	P	03 59 33.4	+0.4
ANCH	Antofagasta	3.80	196	i P	P	03 59 45.2	+2.1
ANCH	Antofagasta	3.80	196	⇑iP	P	03 59 45.4	+2.4
ANCH				i S	S	04 00 31.2	+3.6
LPAZ	La Paz	3.87	16	P	P	03 59 44.5	+0.6
	comp=E,7.3nm,0.3s,baz=201,slow=7.7,SNR=288						
LPAZ				S	S	04 00 30.4	+1.2
	comp=E,0.2nm,0.3s,baz=212,slow=7.7,SNR=2.0						
LPAZ	La Paz	3.87	16	eP	P	03 59 44.3	+0.4
ARE	Arequipa	4.13	329	eP	P	03 59 47.0	-0.5
ARE				e		03 59 51.0	
ARE				eS	S	04 00 34.0	-1.6
CPN1	Cerro Paranal	4.70	193	eP	P	03 59 59.0	+3.9
SIV	San Ignacio	8.75	64	P	P	04 00 44.7	-4.7
	comp=E,1.5nm,0.3s,baz=259,slow=10,SNR=56						
CFAA	Coronel Fontan	11.57	176	P	P	04 01 23.6	-3.0
	comp=E,0.0nm,0.3s,baz=359,slow=13,SNR=5.4						
CFAA				S	S	04 03 24.6	-9.0
	comp=E,0.0nm,0.3s,baz=257,slow=6.4,SNR=2.5						
TRQA	Tornquist	19.05	162	eP	P	04 02 58.3	-0.4
	comp=E,4.6nm,0.9s						
BDFB	Brasilia	20.68	81	P	P	04 03 14.6	-1.0
	comp=E,1.5nm,0.6s,baz=235,slow=8.1,SNR=3.1						
YKA	Yellowknife Ar	89.69	341	P	P	04 11 30.7	+2.7
	comp=E,1.2nm,0.7s,mb4.0,baz=134,slow=4.7,SNR=20						
YKA	Yellowknife Ar	89.69	341	P	P	04 11 30.7	+2.7

*IDC **06** 04:42:19.5±1.4, 4.37N×94.82E, mb4.1/8, mb1 4.2/8, mb1mx3.9/20, mbtmp4.1/8, Error ellipse: s-maj=67.9km s-min=19.1km az=52.0*
*NEIC **06** 04:42:23.3±0.9, 4.15N×94.66E, h30km, mb4.2/1, Error ellipse: s-maj=23.6km s-min=13.1km az=49.0*
ISC 06 04:42:22.3±0.9**, 4.4N**±0.2×**94.8E**±0.1**, h30km, n13,** σ0^s**66**/13**, mb4.0**/9**, 1D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.87	81	eP	Pn	04 43 49.6	0.0
CMAR	Chiang Mai Arr	14.57	16	Pn	P	04 45 53.9	+5.3
	0.6nm,0.3s,baz=207,slow=11,SNR=16						
LSA	Lhasa	25.44	353	eP	P	04 47 50.3	+1.0
FITZ	Fitzroy Crossi	37.70	127	P	P	04 49 36.7	-0.5
	3.0nm,0.9s,mb4.0,baz=350,slow=11,SNR=5.9						
MKAR	Makanchi Array	43.64	348	P	P	04 50 26.3	+0.4
	4.0nm,0.6s,mb4.3,baz=172,slow=8.3,SNR=39						
SONM	Songino Array	44.44	11	P	P	04 50 31.4	-0.9
	0.8nm,0.7s,mb3.6,baz=194,slow=8.1,SNR=7.1						
SONM				PcP	PcP	04 52 16.1	0.0
	0.6nm,0.5s,baz=212,slow=2.8,SNR=6.2						
WRA	Warramunga Arr	45.72	123	P	P	04 50 43.1	+0.2
	2.6nm,0.7s,mb4.3,baz=299,slow=9.5,SNR=24						
WB2	Warramunga Arr	45.73	123	⇓iP	P	04 50 43.4	+0.4
BVAR	Borovoye Array	52.51	342	P	P	04 51 34.2	-0.7
	3.4nm,0.7s,mb4.4,baz=140,slow=8.4,SNR=20						
ZRNK	Zerenda	52.90	341	eP	P	04 51 37.0	-0.7
	2.3nm,0.8s,mb4.2						
FINES	FINESS Array B	76.12	333	P	P	04 54 08.8	-0.1
	0.7nm,0.5s,mb3.9,baz=90,slow=5.7,SNR=7.4						
ARCES	ARCESS Array B	78.78	340	P	P	04 54 24.1	+0.6
	0.6nm,0.5s,mb3.8,baz=99,slow=6.5,SNR=11						
GERES	GERESS Array B	80.89	319	P	P	04 54 35.2	+0.1
	0.2nm,0.2s,mb3.6,baz=90,slow=6.7,SNR=4.5						

IDC 06 05:29:11.1±17.0**, 16.37S**×**178.54W, h407**km±191km**, mb3.0**/2**, mb1 3.4**/2**, mb1mx2.9**/14**, mbtmp3.7**/2**, Error ellipse: s-maj=220.4km s-min=45.5km az=167.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.81	258	P	P	05 36 46.9	-1.6
	0.8nm,0.5s,baz=92,slow=7.7,SNR=29						
TXAR	Lajitas Array	85.28	58	P	P	05 41 03.8	-1.1
	0.4nm,0.7s,baz=225,slow=7.7,SNR=7.5						
BRTR	Keskin Array B	143.60	316	PKP	PKPdf	05 47 57.5	-0.7
	0.5nm,0.5s,baz=72,slow=4.6,SNR=4.1						
GERES	GERESS Array B	146.10	345	PKPbc	PKPbc	05 48 04.2	+0.4
	0.3nm,0.2s,baz=315,slow=3.8,SNR=3.7						

IDC 06 05:35:00.2±14.0**, 0.21N**×**121.86E, h204**km±161km**, mb3.2**/4**, mb1 3.3**/5**, mb1mx3.1**/18**, mbtmp3.8**/5**, Error ellipse: s-maj=107.9km s-min=24.5km az=60.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.57	169	eP	P	05 39 02.7	-1.5
	6.7nm,1.4s						
FITZ	Fitzroy Crossi	18.57	169	P	P	05 39 02.2	-2.1
	0.4nm,0.3s,baz=356,slow=9.6,SNR=6.9						
WRA	Warramunga Arr	23.47	149	P	P	05 39 51.4	-1.3
	2.5nm,0.5s,baz=325,slow=11,SNR=26						
WB2	Warramunga Arr	23.47	149	eP	P	05 39 51.1	-1.7
STKA	Stephens Creek	36.98	151	P	P	05 41 50.2	-1.5
	1.1nm,0.6s,baz=331,slow=13,SNR=3.9						
SONM	Songino Array	49.30	346	P	P	05 43 28.5	-1.8
	0.6nm,0.6s,baz=166,slow=7.6,SNR=5.7						
MKAR	Makanchi Array	57.84	329	P	P	05 44 30.4	-2.1
	0.4nm,0.5s,baz=121,slow=8.4,SNR=4.3						

*CSEM **06** 05:59:27.6±0.6, 34.54N×23.68E, h60km, MD3.2, Error ellipse: s-maj=31.7km s-min=13.2km az=67.0*
*ATH **06** 05:59:28.0, 34.68N×23.97E, h40km±1km, MD3.2/5*
*HLW **06** 05:59:29.0, 34.69N×23.84E, h22km, Mb3.4*
*NEIC **06** 05:59:30.0, 34.88N×23.77E, h28km, MD3.2(ATH), After ATH.*
ISC 06 05:59:27.7±1.0**, 34.59N**±0.07×**23.9E**±0.2**, h42**km±25km**, n12,** σ0^s**98**/14**, 2C, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVD	Gavdhos	0.30	33	ePb	P	05 59 37.0	+0.9
GVD	Gavdhos	0.30	33	eP	P	05 59 35.5	-0.6
VAM	Vamos	0.85	17	eP	P	05 59 43.2	-0.2
VAM				eS	S	05 59 54.4	-0.5
VAM	Vamos	0.85	17	ePn	P	05 59 43.0	-0.4
NPS	Neapolis	1.56	64	eP	P	05 59 53.2	-0.3
NPS	Neapolis	1.56	64	ePn	P	05 59 57.4	+3.9
KYTH	Kithira	1.83	338	eP	P	05 59 58.0	+0.8
VLI	Veliai	2.26	340	eP	P	06 00 03.2	-0.3
VLI	Veliai	2.26	340	ePn	P	06 00 02.4	-1.1
HMAT	Matruh	4.41	141	⇑eP	P	06 00 35.2	+1.3
SWA1		5.53	163	⇑eP	P	06 00 50.4	+0.8
SWA1				S	S	06 01 50.6	-2.2
AMAG	Maghara	8.79	114	P	P	06 01 35.3	+0.3

NNC 06 06:07:14.3±2.4**, 38.00N**×**71.65E, h196**km±32km**, mpv3.3, 2C-2D, Error ellipse: s-maj=24.1km s-min=20.6km az=143.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.12	24	S	S	06 09 30.5	+0.3
	5.3nm,0.5s						
KK31	Karatay Array	5.17	351	⇓P	P	06 08 30.8	-0.8
	1.8nm,0.4s,baz=172,slow=12,SNR=25						
KK31				⇑S	S	06 09 32.1	+0.6
	0.8nm,0.2s,baz=178,slow=22,SNR=9.8						
AB31	Akbulak array	14.07	327	⇓P	P	06 10 25.3	-0.7
	0.2nm,0.4s,baz=130,slow=14,SNR=11						
AB31				⇑S	S	06 13 01.6	+4.0
	0.2nm,0.5s,baz=154,slow=23,SNR=3.2						

*THR **06** 06:12:27.0±0.8, 33.16N×46.24E, h14km±13km, ML3.2*
*TEH **06** 06:12:28.7, 33.00N×46.53E, h12km, Mn3.3*
*CSEM **06** 06:12:29.6±0.3, 33.24N×46.59E, h10km, ML3.8/2*
ISC 06 06:12:31.5±1.2**, 33.27N**±0.06×**46.73E**±0.07**, h10km, n17,** σ1^s**45**/22**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGHG	Ghaleghazi	1.06	353	Pg	Pg	06 12 52.5	-0.3
IKOM	Komasi	1.11	36	Pg	Pg	06 12 54.7	+0.9
IVIS	Veys	1.25	5	Pn	Pn	06 12 56.4	+1.3
ILIN	Laeen	1.65	7	Pn	Pn	06 13 02.4	+1.6
SNGE	Sanandaj	1.89	16	ePG	Pg	06 13 05.6	-3.6
SNGE				eSG	Sg	06 13 34.6	+0.3
SNGE				AML	AML	06 13 42.1	
	comp=N,228nm,0.5s						
SNGE	Sanandaj	1.89	16	ePg	Pg	06 13 05.6	-3.6
	SNR=90						
SNGE				eSg	Sg	06 13 34.7	+0.3
	comp=N,228nm,0.5s,SNR=90						
SHGO	Shushtar	2.10	123	ePn	Pn	06 13 08.1	+0.9
SHGO				AML	AML	06 13 52.3	
	comp=N,110nm,0.5s						
ASAO	Ashtian	3.02	64	ePN	Pn	06 13 22.2	+1.9
ASAO				eSg	Sg	06 14 14.1	+1.9
ASAO				AML	AML	06 14 26.6	
	comp=N,35nm,0.8s						
ASAO	Ashtian	3.02	64	ePn	Pn	06 13 22.2	+1.8
	SNR=52						
ASAO				eSg	Sg	06 14 14.1	+1.9
	comp=N,35nm,0.8s,SNR=90						
IRAZ	Razeghan	3.40	50	Lg		06 14 24.0	
IRAZ	Razeghan	3.40	50	Pn	Pg	06 13 35.9	-3.4
IMHD	Mahdasht	4.05	52	Pn	Pn	06 13 34.1	-0.8
IMHD				Sn	Sn	06 14 22.5	-0.5
IVRN	Varamin	4.49	66	Pn	Pn	06 13 39.3	-1.9
IVRN				Sn	Sn	06 14 32.2	-1.9
IZEF	Zefreh	4.72	93	Pn	Pn	06 13 38.2	-6.2
DAMV	Damavand	4.93	60	ePn	Pn	06 13 48.8	+1.3
IDMV	Damavand	4.95	61	Pn	Pn	06 13 46.2	-1.5
IHRS	Heris	5.04	3	Pn	Pn	06 13 47.3	-1.7

*NEIC **06** 06:20:58.9±1.6, 23.23S×179.63W, h544km±21km, mb4.6/3, Error ellipse: s-maj=34.0km s-min=13.9km az=148.0*
*IDC **06** 06:21:00.8±5.5, 23.27S×179.74W, h561km±65km, mb3.1/5, mb1 3.4/6, mb1mx3.3/13, mbtmp4.0/6, Error ellipse: s-maj=32.0km s-min=26.1km az=90.0*
ISC 06 06:20:58.3±1.9**, 23.3S**±0.2×**179.6W**±0.1**, h552**km±25km**, n18,** σ0^s**99**/17**, mb4.1**/9**, 6D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	11.94	40	eP	P	06 23 35.4	-1.2
	157nm,0.9s						
DZM	Mont Dzumac	12.92	273	P	P	06 23 48.5	+1.8
	1.2nm,0.3s,baz=112,slow=16,SNR=10						
CTA	Charters Tower	31.83	269	⇓iP	P	06 26 40.4	+0.8
	34nm,0.3s						
TOO	Toolangi	33.06	236	eP	P	06 26 49.9	+0.1
	5.4nm,0.7s,mb4.2						
STKA	Stephens Creek	35.27	247	⇓iP	P	06 27 08.4	+0.1
	5.6nm,0.4s,mb4.5						
STKA	Stephens Creek	35.27	247	P	P	06 27 08.5	+0.2
	7.9nm,0.4s,mb4.6,baz=90,slow=9.4,SNR=32						
WB2	Warramunga Arr	42.79	265	⇓iP	P	06 28 08.7	-0.5
WRA	Warramunga Arr	42.80	265	P	P	06 28 08.8	-0.5
	15nm,0.4s,mb4.9,baz=92,slow=8.5,SNR=825						
KAKA	Kakadu	46.61	274	⇓iP	P	06 28 38.2	-0.6
	8.8nm,0.3s,mb4.8						
FITZ	Fitzroy Crossi	51.22	265	⇓iP	P	06 29 12.8	-0.4
	14nm,0.4s,mb4.7						
VNDA	Vanda	54.99	185	P	P	06 29 39.0	-0.2
	0.7nm,0.4s,mb3.2,baz=13,slow=7.6,SNR=10.0						
VNDA	Vanda	54.99	185	P	P	06 29 39.0	-0.2
KLBR	Kellerberrin	55.54	247	⇓iP	P	06 29 42.3	-1.2
	12nm,0.5s,mb4.4						
NVAR	Mina Array Bea	84.09	44	P	P	06 32 33.3	+1.1
	0.3nm,0.6s,baz=214,slow=6.5,SNR=4.1						
TXAR	Lajitas Array	89.82	58	P	P	06 33 01.7	+2.1
	0.3nm,0.8s,mb3.1,baz=225,slow=7.1,SNR=3.9						
TXAR	Lajitas Array	89.82	58	P	P	06 33 01.7	+2.1
ILAR	Eielson Array	91.38	13	P	P	06 33 05.0	-0.9
	0.3nm,0.7s,mb3.3,baz=219,slow=5.8,SNR=4.4						
AKASG	Malin Array Be	144.66	328	PKP	PKPdf	06 39 34.1	+2.4
	0.6nm,0.4s,baz=35,slow=4.1,SNR=5.6						

*IDC **06** 06:22:31.9±0.5, 35.68S×102.77W, mb5.1/18, mb1 5.2/18, mb1mx5.1/19, mbtmp5.1/18, MS5.0/14, Ms1 5.0/14, ms1mx4.9/17, Error ellipse: s-maj=17.3km s-min=14.2km az=175.0*
*HRVD **06** 06:22:32.5±0.1, 35.91S×103.13W, h12km, MW5.9/78, Centroid moment Tensor Solution. LP body waves: s73,c177;Mantle waves: s78,c185; Half duration: 2^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.49±.08; $M_{\theta\theta}$-1.46±.08; $M_{\phi\phi}$1.95±.09; $M_{r\theta}$0.34±.21; $M_{\theta\phi}$-7.11±.07; $M_{\phi r}$-1.63±.22; Best double couple: $M_0$7.488×10^{17} NP1: ϕ_s96°, δ78°, λ177°. NP2:ϕ_s187°, δ87°, λ12°. Principal axes: T 7.824, Plg10°, Azm52°; N -.675, Plg78°, Azm199°; P -7.152, Plg7°, Azm321°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 06:22:32.5±0.2, 35.79S×102.81W, h10km, mb5.2/64, MS5.1/110, MW5.8 Error ellipse: s-maj=8.5km s-min=5.8km az=63.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^{17}Nm; M_{rr}0.73; $M_{\theta\theta}$-1.42; $M_{\phi\phi}$0.69; $M_{r\theta}$-0.46; $M_{\theta\phi}$-6.83; $M_{\phi r}$0.30; Best double couple: $M_0$6.9×10^{17} NP1:ϕ_s4°, δ86°, λ3°. NP2:ϕ_s274°, δ87°, λ176°. Principal axes: T 6.59, Plg5°, Azm229°; N .69, Plg85°, Azm61°; P -7.28, Plg1°, Azm319°;*
*MOS **06** 06:22:32.5±1.2, 35.45S×102.76W, h10km, mb5.3/41 Error ellipse: s-maj=19.4km s-min=8.9km az=89.5*
*BJI **06** 06:22:34.4, 35.80S×102.80W, h10km, mB5.7, Ms5.6, Msz5.4*
ISC 06 06:22:30.8±0.2**, 35.80S**±0.04×**102.82W**±0.07**, h10km, (h15**km±.7km**:pP-P), n358,** σ1^s**27**/184**, mb5.1**/81**, MS5.1**/128**, 10C-1D, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	10.28	325	LR	LR	06 27 52.8	
	comp=Z,30μm,21.8s,baz=130,slow=31						
CCHI	Chillan	24.77	101	eP	P	06 27 56.8	+2.9
PTCN	Pitcairn Islan	25.76	287	PFAKE		06 28 20.0	+17
PTCN				LR	LR		
	comp=Z,6μm,21.0s,MS5.1						
CLCH	Cerro Calan	26.62	94	⇑iP	P	06 28 12.1	+0.9
LMEL	Las Melosas	26.78	95	⇑iP	P	06 28 14.0	+1.3
FCH	Farellones	26.83	94	⇑iP	P	06 28 15.8	+2.7
CMCH	Combarbala	26.87	89	eP	P	06 28 14.0	+0.5
TLL	Tololo Astrono	27.36	87	eP	P	06 28 19.3	+1.3
CFAA	Coronel Fontan	28.98	92	P	P	06 28 32.8	+0.2
	comp=Z,4.0nm,1.0s,mb4.1,baz=250,slow=7.9,SNR=36						
CFAA				LR	LR	06 36 36.3	
	comp=Z,202nm,21.1s,baz=253,slow=29						
USHA	Ushuaia	30.33	140	P	P	06 28 44.9	+0.5
	comp=Z,45nm,1.1s,mb5.1,baz=280,slow=9.0,SNR=7.4						
USHA				LR	LR	06 38 15.6	
	comp=Z,6μm,18.4s,MS5.3,baz=261,slow=31						
RKT	Rikitea	30.57	286	eP	P	06 28 28.4	-19
RKT				eLQ		06 33 46.2	
	comp=Z,3μm,25.8s						
RKT				eLR	LR	06 35 33.9	
	comp=Z,3μm,26.8s						
LVC	Limon Verde	32.21	75	P	P	06 29 02.9	+1.6
	comp=Z,87nm,1.0s,mb5.5,baz=237,slow=9.1,SNR=65						
LVC				LR	LR	06 38 59.1	
	comp=Z,3μm,20.8s,MS4.9,baz=240,slow=31						
LVC	Limon Verde	32.21	75	eP	P	06 29 02.6	+1.3
	comp=Z,209nm,1.3s,mb5.8						
LVC				LR	LR		
	comp=Z,5μm,21.0s,MS5.2						
TRQA	Tornquist	32.54	106	eP	P	06 29 03.7	-0.3
	comp=Z,34nm,1.1s,mb5.2						
TRQA				LR	LR		
	comp=Z,4μm,22.0s,MS5.0						
ARE	Arequipa	33.87	64	⇑iP	P	06 29 16.8	+1.0
LPAZ	La Paz	36.46	67	P	P	06 29 40.2	+2.4
	comp=Z,164nm,1.2s,mb5.8,baz=234,slow=6.6,SNR=192						
LPAZ	La Paz	36.46	67	eP	P	06 29 40.2	+2.3
	comp=Z,54nm,1.1s,mb5.4						
LPAZ				LR	LR		
	comp=Z,880nm,21.0s,MS4.5						
PAYG	Puerto Ayora	36.84	21	PFAKE		06 29 50.0	+8.9
PAYG				LR	LR		
	comp=Z,1μm,21.0s,MS4.7						
PMSA	Palmer Station	37.08	154	PFAKE		06 29 50.0	+7.4
PMSA				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
CPUP	Villa Florida	39.79	89	P	P	06 30 06.0	+0.3
	comp=Z,24nm,1.0s,mb4.9,baz=274,slow=8.7,SNR=17						
CPUP				LR	LR	06 42 53.2	
	comp=Z,998nm,19.1s,MS4.7,baz=92,slow=31						
CPUP	Villa Florida	39.79	89	eP	P	06 30 05.4	-0.3
	comp=Z,76nm,1.4s,mb5.2						
CPUP				LR	LR		
	comp=Z,481nm,20.0s,MS4.3						
SIV	San Ignacio	42.03	73	P	P	06 30 24.7	+0.5
	comp=Z,36nm,0.8s,mb5.0,baz=245,slow=12,SNR=92						
TBI	Tubuai	42.06	274	eP	P	06 30 10.3	-14
TBI				eS	S	06 36 30.3	-13
	comp=Z,1μm,27.2s						
TBI				eLQ		06 39 51.7	
	comp=Z,19μm,34.0s						
TBI				eLR	LR	06 41 25.3	
	comp=Z,5μm,23.2s,baz=108						
TAOE	Nuku Hiva Isla	43.29	299	eLR	LR	06 42 38.5	
	comp=Z,21μm,24.6s						
SAML	Samuel	44.88	63	PFAKE		06 31 00.0	+13
SAML				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
PPT	Papeete	45.09	281	eP	P	06 30 32.7	-16
PPT				eS	S	06 37 13.0	-14
	comp=Z,1μm,25.0s						
PPT				eLQ		06 40 45.3	
	comp=Z,10μm,26.8s						
PPT				eLR	LR	06 41 29.6	
	comp=Z,4μm,26.8s,baz=106						
PPT	Papeete	45.09	281	P	P	06 30 50.5	+1.4
PPT				pmax	pmax		
	comp=Z,20nm,0.6s						
PPT	Papeete	45.09	281	P	P	06 30 50.5	+1.4
	comp=Z,20nm,0.6s,mb5.1,baz=108,slow=6.2,SNR=4.4						
ROSC	El Rosal	48.47	39	P	P	06 31 17.3	+1.6
	comp=Z,52nm,0.9s,mb5.6,baz=127,slow=2.7,SNR=24						
ROSC				LR	LR	06 48 50.2	
	comp=Z,1μm,18.2s,MS4.9,baz=293,slow=33						
BDFB	Brasilia	52.59	82	P	P	06 31 46.5	-0.5
	comp=Z,46nm,1.0s,mb5.4,baz=250,slow=6.1,SNR=15						
BDFB				LR	LR	06 53 19.7	
	comp=Z,1μm,18.4s,MS5.0,baz=240,slow=35						
BAO	Brasilia Array	52.61	82	P	P	06 31 46.0	-1.2
BAO				pP	pP	06 31 49.5	-0.8
SDV	Santo Domingo	53.80	41	eP	P	06 31 53.3	-2.8
	comp=Z,25nm,0.8s,mb5.2						
SDV				LR	LR		
	comp=Z,275nm,22.0s,MS4.3						
QSPA	South Pole Qui	54.41	180	eP	P	06 31 59.0	-0.7
	comp=Z,25nm,1.0s,mb5.1						
SBA	Scott Base	55.40	195	eP	P	06 32 05.3	-1.7
	comp=Z,39nm,1.5s,mb5.2						
SBA				LR	LR		
	comp=Z,1μm,21.0s,MS5.0						

VNDA **Vanda** 56.50 195 P **P** 06 32 11.4 -3.5
comp=Z,1.2nm,0.9s,baz=66,slow=7.0,SNR=4.8
VNDA LR LR 06 50 52.7
comp=Z,2μm,21.9s,MS5.1,baz=192,slow=30
VNDA Vanda 56.50 195 *eP* **P 06 32 13.1 -1.8**
comp=Z,22nm,1.3s,mb5.0
VNDA LR LR
comp=Z,2μm,22.0s,MS5.1
VNA3 Neumayer Olymp 57.55 157 *e* **P 06 32 25.0 +2.6**
VNA3 Neumayer Olymp 57.55 157 *e* **P 06 32 27.3 +4.9**
VNA3 Neumayer Olymp 57.55 157 *eS* **S 06 40 16.2 -2.0**
VNA3 Neumayer Olymp 57.55 157⇑ *iP* **P 06 32 20.3 -2.1**
VNA3 *e* pP 06 32 25.0 -0.5
VNA3 *e* 06 32 27.3
VNA3 *eS* **S 06 40 16.2 -2.0**
VNA3 *e* 06 40 20.5
VNA3 *e* 06 40 28.3
VNA1 Neumayer--Stat 58.16 157 *e* **P 06 32 29.7 +3.1**
VNA1 Neumayer--Stat 58.16 157 *e* **P 06 32 31.8 +5.2**
VNA1 Neumayer--Stat 58.16 157⇑ *iP* **P 06 32 25.0 -1.6**
VNA1 *e* pP 06 32 29.7 0.0
VNA1 *e* 06 32 31.8
VNA2 Neumayer--Watz 58.35 157 *e* **P 06 32 30.8 +2.8**
VNA2 Neumayer--Watz 58.35 157 *e* **P 06 32 33.0 +5.0**
VNA2 Neumayer--Watz 58.35 157 *eS* **S 06 40 26.5 -2.3**
VNA2 Neumayer--Watz 58.35 157⇑ *iP* **P 06 32 26.2 -1.8**
VNA2 *e* pP 06 32 30.8 -0.3
VNA2 *e* 06 32 33.0
VNA2 *eS* **S 06 40 26.5 -2.3**
VNA2 *e* 06 40 29.9
VNA2 *e* 06 40 38.5
SNAA Sanae 59.48 159 *e* **P 06 32 38.1 +2.3**
SNAA Sanae 59.48 159 *e* **P 06 32 39.6 +3.8**
SNAA Sanae 59.48 159 *eP* **P 06 32 33.1 -2.7**
SNAA pmax pmax
comp=Z,35nm,1.1s
SNAA Sanae 59.48 159 P **P 06 32 33.2 -2.6**
SNAA *e* pP 06 32 38.1 -0.8
SNAA *e* 06 32 39.6
RAO Raoul Island 62.24 253 PFAKE 06 33 10.0 +15
RAO LR LR
comp=Z,5μm,21.0s,MS5.7
SNZO South Karori 62.41 237 PFAKE 06 33 10.0 +14
SNZO LR LR
comp=Z,7μm,22.0s,MS5.8
RPZ Rata Peaks 63.84 234 P **P 06 33 08.5 +3.0**
comp=Z,8.6nm,0.8s,mb4.8,baz=162,slow=7.3,SNR=3.7
SJG San Juan 63.88 39 PFAKE 06 33 20.0 +14
SJG LR LR
comp=Z,541nm,19.0s,MS4.8
MAIT Maitri 64.05 160 *eP* **P 06 33 04.6 -1.8**
NVL N'lazarevskaya 64.08 160⇓ *iP* **P 06 33 08.5 +1.9**
NVL pmax pmax
comp=Z,37nm,1.2s,mb5.3
LTX Lajitas 64.79 359 *eP* **P 06 33 11.8 -0.1**
comp=Z,32nm,1.4s,mb5.2
LTX LR LR
comp=Z,859nm,19.0s,MS5.0
TXAR Lajitas Array 64.79 359 P **P 06 33 11.4 -0.5**
comp=Z,5.0nm,1.1s,mb4.5,baz=180,slow=8.8,SNR=22
TXAR LR 06 56 08.6
comp=Z,664nm,20.6s,MS4.8,baz=200,slow=31
DWPF Disney 66.69 21 *eP* **P 06 33 22.9 -1.1**
comp=Z,29nm,0.9s,mb5.3
DWPF LR LR
comp=Z,596nm,20.0s,MS4.8
MNTX Cornudas Mount 67.18 358 *eP* **P 06 33 26.0 -1.2**
comp=Z,11nm,1.2s,mb4.8
MNTX LR LR
comp=Z,543nm,19.0s,MS4.8
DRV Dumont d'Urvil 67.28 203 P **P 06 33 25.0 -2.2**
DRV S S 06 42 24.0 +3.3
DRV SS SS 06 46 41.0 -1.0
DRV L 06 50 00.0
DRV R 06 55 00.0
NATX Nacogdoches 67.64 8 *eP* **P 06 33 27.8 -2.3**
comp=Z,93nm,1.3s,mb5.7
NATX LR LR
comp=Z,481nm,22.0s,MS4.7
GDL2 Guadalupe Moun 67.66 359 *eP* **P 06 33 29.3 -0.8**
RCBR Riachuelo 67.92 81 *eP* **P 06 33 33.1 +0.9**
comp=Z,59nm,1.4s,mb5.4
RCBR LR LR
comp=Z,694nm,20.0s,MS4.9
TUC Tucson 68.16 353 *eP* **P 06 33 33.0 -0.3**
comp=Z,22nm,1.3s,mb5.0
TUC LR LR
comp=Z,294nm,20.0s,MS4.5
BAR Barrett 69.35 348 *eP* **P 06 33 41.0 +0.4**
BNM Barren Site 69.68 357 *eP* **P 06 33 44.8 +2.2**
LRAL Lakeview Retre 70.06 14 *eP* **P 06 33 43.8 -1.2**
comp=Z,30nm,1.2s,mb5.1
LRAL LR LR
comp=Z,1μm,21.0s,MS5.1
WMOK Wichita Mounta 70.27 4 *eP* **P 06 33 44.1 -2.1**
comp=Z,12nm,1.3s,mb4.7
WMOK LR LR
comp=Z,526nm,20.0s,MS4.8
AMTX Amarillo 70.33 1 *eP* **P 06 33 45.5 -1.1**
comp=Z,16nm,0.4s,mb5.3
AMTX LR LR
comp=Z,741nm,20.0s,MS4.9
ANMO Albuquerque 70.47 357⇑ *eP* **P 06 33 48.1 +0.7**
ANMO Albuquerque 70.47 357 *eP* **P 06 33 47.9 +0.5**
comp=Z,14nm,1.3s,mb4.7
ANMO LR LR
comp=Z,709nm,20.0s,MS4.9
UALR University of 70.89 9 *eP* **P 06 33 46.3 -3.6**
comp=Z,22nm,1.1s,mb5.0
OXF Oxford 71.06 12 P **P 06 33 49.1 -1.9**
comp=Z,23nm,1.1s,mb5.0
OXF LR LR
comp=Z,540nm,20.0s,MS4.8
LDFC Landfair 71.44 349 *eP* **P 06 33 54.0 +0.7**
PLAL Pickwick Lake 71.75 13 PFAKE 06 34 10.0 +15
PLAL LR LR
comp=Z,593nm,22.0s,MS4.8
NHSC New Hope 71.75 20 *eP* **P 06 33 54.1 -1.1**
comp=Z,119nm,1.3s,mb5.7
NHSC LR LR
comp=Z,715nm,22.0s,MS4.9
NEN Nelson 71.96 350 *eP* **P 06 33 56.1 -0.3**
SWET Sewanee 72.38 14 *eP* **P 06 33 57.2 -1.7**
GNAR Gosnell 72.38 11 *eP* **P 06 33 57.9 -1.0**
JSC Jenkinsville 72.57 19 *eP* **P 06 33 59.1 -0.9**
MYNC Murphy 72.63 16 *eP* **P 06 33 59.2 -1.1**
comp=Z,22nm,0.9s,mb5.1
MYNC LR LR
comp=Z,554nm,22.0s,MS4.8
WVT Waverly 72.91 13 *eP* **P 06 33 59.9 -2.1**
comp=Z,12nm,1.0s,mb4.8
WVT LR LR
comp=Z,841nm,21.0s,MS5.0
UTMT University of 72.94 12 *eP* **P 06 34 01.9 -0.2**
DAC Darwin (Calif) 73.01 348 *eP* **P 06 33 58.7 -3.9**
comp=Z,19nm,1.2s,mb4.9
DAC LR LR
comp=Z,470nm,19.0s,MS4.8
SDCO Great Sand Dun 73.22 358 PFAKE 06 34 20.0 +16
SDCO LR LR
comp=Z,1μm,20.0s,MS5.1
PV01 Paradox Valley 73.75 355 *eP* **P 06 34 07.6 +0.7**
LRV Little Rabbit 73.82 345 *eP* **P 06 34 08.3 +1.0**
ARUT Antelope Range 73.88 351 *eP* **P 06 34 07.9 +0.3**
PV10 Paradox Valley 74.03 355 *eP* **P 06 34 08.5 0.0**
TZTN Tazewell 74.17 16 *eP* **P 06 34 06.8 -2.5**
MTUM Tungsten Hills 74.23 347 *eP* **P 06 34 11.5 +1.9**
SAO San Andreas Ge 74.24 345 PFAKE 06 34 20.0 +10
SAO LR LR
comp=Z,1μm,21.0s,MS5.2
CCM Cathedral Cave 74.26 9 *eP* **P 06 34 08.0 -1.8**
comp=Z,40nm,1.1s,mb5.3
CCM LR LR
comp=Z,247nm,21.0s,MS4.5
CBKS Cedar Bluff 74.29 2 PFAKE 06 34 20.0 +10
CBKS LR LR
comp=Z,382nm,22.0s,MS4.7
FVM French Village 74.30 10 *eP* **P 06 34 08.8 -1.2**
FVM pmax pmax
comp=Z,12nm,0.8s,mb4.9
FVM French Village 74.30 10 *eP* **P 06 34 08.8 -1.2**
comp=Z,12nm,0.8s,mb4.9
MVU Marysvale 74.44 352 *eP* **P 06 34 12.2 +1.4**
comp=Z,34nm,1.5s,mb5.1
MVU LR LR
comp=Z,1μm,21.0s,MS5.2
MSU Marysvale 74.44 352 *eP* **P 06 34 12.0 +1.1**
POHA Pohakuloa 74.45 309 PFAKE 06 34 20.0 +8.8
POHA LR LR
comp=Z,22μm,20.0s
OMM Old Mammoth Mi 74.57 347 *eP* **P 06 34 10.3 -1.3**
TPH Tonopah 74.70 348 *eP* **P 06 34 12.9 +0.5**
comp=Z,51nm,1.2s,mb5.3
TPH LR LR
comp=Z,511nm,21.0s,MS4.8
TRCR Troy Canyon 74.72 350 *eP* **P 06 34 13.0 +0.5**
SRU San Rafael 74.88 354 *eP* **P 06 34 13.3 0.0**
CASY Casey 75.06 193 *eP* **P 06 34 13.9 +0.1**
comp=Z,14nm,1.0s,mb4.8
CASY LR LR
comp=Z,2μm,21.0s,MS5.3
TMUT Trail Mountain 75.12 353 *eP* **P 06 34 16.6 +1.9**
NVAR Mina Array Bea 75.23 347 P **P 06 34 15.9 +0.5**
comp=Z,15nm,0.8s,mb5.0,baz=159,slow=7.2,SNR=27
NVAR LR LR 06 59 56.0
comp=Z,825nm,20.8s,MS5.0,baz=160,slow=30
CMB Columbia Colle 75.24 346 *eP* **P 06 34 15.7 +0.2**
comp=Z,18nm,1.0s,mb4.9
CMB LR LR
comp=Z,2μm,22.0s,MS5.4
ISCO Idaho Springs 75.27 358 *eP* **P 06 34 15.7 +0.1**
comp=Z,11nm,1.1s,mb4.7
ISCO LR LR
comp=Z,769nm,19.0s,MS5.0
ELN Prospectdale 75.49 18 *eP* **P 06 34 15.7 -1.2**
BLA Blacksburg 75.56 18 PFAKE 06 34 30.0 +13
BLA LR LR
comp=Z,410nm,21.0s,MS4.7
FWV Forest Hill 75.81 18 *eP* **P 06 34 17.4 -1.3**
NLU North Lily Min 75.86 353 *eP* **P 06 34 18.6 -0.4**
MPU Maple Canyon 75.88 353 *eP* **P 06 34 21.0 +1.9**
BLO Bloomington 76.10 13 *eP* **P 06 34 18.5 -1.8**
BLO pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
BLO Bloomington 76.10 13 *eP* **P 06 34 18.5 -1.8**
comp=Z,8.1nm,0.7s,mb4.8
DAU Daniels Canyon 76.23 353 *eP* **P 06 34 21.1 +0.1**
WCN Washoe City 76.35 347 *eP* **P 06 34 22.6 +0.9**
WCN pmax pmax
comp=Z,20nm,1.1s,mb5.0
WCN Washoe City 76.35 347 *eP* **P 06 34 22.6 +0.9**
comp=Z,20nm,1.2s,mb4.9
MAW Mawson 76.35 174 P **P 06 34 23.2 +2.1**
comp=Z,9.0nm,0.9s,mb4.7,baz=211,slow=7.7,SNR=13
MAW LR LR 07 06 12.9
comp=Z,487nm,19.2s,MS4.8,baz=6.6,slow=34
JLU Jordanelle 76.44 353 *eP* **P 06 34 22.8 +0.6**
NOQ North Oquirrh 76.56 353 *eP* **P 06 34 24.0 +1.1**
CTU Camp Tracy 76.56 353 *eP* **P 06 34 23.6 +0.7**
BBSR BB Station 76.65 32 *eP* **P 06 34 22.5 -1.1**
comp=Z,22nm,1.1s,mb5.0
BBSR LR LR
comp=Z,334nm,19.0s,MS4.7
HOPS Hopland 76.74 344 *eP* **P 06 34 21.6 -2.3**
HOPS LR LR
comp=Z,1μm,20.0s,MS5.3
PHWY Pilot Hill 76.76 358 *eP* **P 06 34 23.8 -0.2**
BGU Big Grassy Mou 76.92 352 *eP* **P 06 34 25.4 +0.5**
TCUT Toone Canyon 76.95 353 *eP* **P 06 34 25.7 +0.7**
BMN Battle Mountai 77.00 349 *eP* **P 06 34 24.6 -0.7**
comp=Z,34nm,1.2s,mb5.2
BMN LR LR
comp=Z,550nm,20.0s,MS4.9
BEKR Beckwourth 77.01 346 *eP* **P 06 34 25.6 +0.2**
comp=Z,43nm,1.2s,mb5.3
ELK Elko 77.02 350 *eP* **P 06 34 26.1 +0.7**
comp=Z,23nm,1.4s,mb4.9
ELK LR LR
comp=Z,1μm,21.0s,MS5.1
RWWY Rawlins 77.22 357 *eP* **P 06 34 27.2 +0.7**
comp=Z,33nm,1.2s,mb5.1
SPUT South Promonto 77.24 353 *eP* **P 06 34 25.4 -1.2**
KIP Kipapa 77.24 308 PFAKE 06 34 40.0 +13
KIP LR LR
comp=Z,2μm,21.0s,MS5.5
MIR Mirnyy 77.25 186 *eP* **P 06 34 25.0 -1.2**
MIR pmax pmax
comp=Z,80nm,1.6s,mb5.4
CBN Corbin 77.31 20 PFAKE 06 34 40.0 +13
CBN LR LR
comp=Z,726nm,20.0s,MS5.0
HWUT Hardware Ranch 77.45 353 *eP* **P 06 34 27.9 +0.1**
comp=Z,18nm,1.2s,mb4.9
HWUT LR LR
comp=Z,1μm,19.0s,MS5.2
HVU Hansel Valley 77.74 352 *eP* **P 06 34 28.7 -0.7**
MCWV Mont Chateau 78.02 18 PFAKE 06 34 40.0 +9.1
MCWV LR LR
comp=Z,414nm,20.0s,MS4.8
WDC Whiskeytown Da 78.14 345 *eP* **P 06 34 30.7 -0.9**
comp=Z,28nm,1.0s,mb5.2
WDC LR LR
comp=Z,739nm,20.0s,MS5.0
BW06 Boulder Array 78.43 355 PFAKE 06 34 40.0 +6.9
BW06 LR LR
comp=Z,404nm,19.0s,MS4.8
PDAR Pinedale Array 78.43 355 P **P 06 34 33.1 0.0**
comp=Z,19nm,0.8s,mb5.1,baz=159,slow=5.5,SNR=43
AHID Auburn Hatcher 78.55 354 *eP* **P 06 34 35.4 +1.6**
comp=Z,53nm,1.6s,mb5.2
AHID LR LR
comp=Z,967nm,22.0s,MS5.1
SDMD Soldier's Deli 78.58 20 *eP* **P 06 34 32.2 -1.8**
KHMM Horse Mountain 78.68 344 *eP* **P 06 34 36.5 +2.0**
MOD Modoc 78.97 347 *eP* **P 06 34 36.4 +0.3**
comp=Z,25nm,1.0s,mb5.1
MOD LR LR
comp=Z,1μm,20.0s,MS5.2
REDW Red Top Meadow 79.12 354 *eP* **P 06 34 37.4 +0.4**
comp=Z,87nm,1.5s,mb5.5
RRI2 Red Ridge 79.15 354 *eP* **P 06 34 37.9 +0.8**
comp=Z,46nm,1.4s,mb5.2
WVOR Wild Horse Val 79.19 348 PFAKE 06 34 50.0 +13
WVOR LR LR
comp=Z,979nm,20.0s,MS5.1
SNOW Snow King Moun 79.22 354 *eP* **P 06 34 37.2 -0.3**
comp=Z,52nm,1.3s,mb5.3
TPAW Teton Pass 79.26 354 *eP* **P 06 34 37.5 -0.2**
comp=Z,55nm,1.2s,mb5.4
YBH Yreka Blue Hor 79.28 345 *eP* **P 06 34 37.2 -0.6**
comp=Z,12nm,1.0s,mb4.8
YBH LR LR
comp=Z,2μm,22.0s,MS5.3
LOHW Long Hollow 79.35 354 *eP* **P 06 34 37.9 -0.2**
comp=Z,46nm,1.4s,mb5.2
MOOW Moose Ponds 79.50 354 *eP* **P 06 34 38.6 -0.3**
comp=Z,22nm,1.2s,mb5.0
RSSD Black Hills 79.55 359 PFAKE 06 34 50.0 +11
RSSD LR LR
comp=Z,702nm,19.0s,MS5.0
IMW Indian Meadow 79.66 354 *eP* **P 06 34 39.5 -0.4**
comp=Z,17nm,0.8s,mb5.0
AAM Ann Arbor 79.67 14 *eP* **P 06 34 38.9 -1.1**
comp=Z,19nm,0.8s,mb5.1
AAM LR LR
comp=Z,558nm,22.0s,MS4.9
HLID Hailey 79.69 351 *eP* **P 06 34 40.0 +0.1**
comp=Z,37nm,0.9s,mb5.3
HLID LR LR
comp=Z,600nm,19.0s,MS5.0
ALLY Alegheny Colle 79.83 17 P **P 06 34 40.9 +0.1**
KBO Bosley Butte 80.07 344 *eP* **P 06 34 42.1 +0.1**
HUMO Hull Mountain 80.17 345 *eP* **P 06 34 42.6 0.0**
comp=Z,14nm,1.0s,mb4.8
HUMO LR LR
comp=Z,1μm,20.0s,MS5.2
YFT Old Faithful 80.20 354 *eP* **P 06 34 46.0 +3.3**
LKWY Lake 80.28 355 PFAKE 06 34 50.0 +6.9
LKWY LR LR
comp=Z,472nm,19.0s,MS4.9
YMR Madison River 80.43 354 *eP* **P 06 34 46.7 +2.8**
QLMT Earthquake Lak 80.63 354 *eP* **P 06 34 46.6 +1.7**
MCMT McKenzie Canyo 80.76 353 *eP* **P 06 34 46.1 +0.4**
BMO Blue Mountains 81.34 350 *eP* **P 06 34 49.5 +0.8**
comp=Z,12nm,1.3s,mb4.7
BMO LR LR
comp=Z,503nm,19.0s,MS4.9
BINY Binghamton 81.41 20 *eP* **P 06 34 47.4 -1.7**
comp=Z,15nm,1.0s,mb4.9
BINY LR LR
comp=Z,692nm,19.0s,MS5.0
GENY Geneseo 81.45 18 *eP* **P 06 34 47.7 -1.6**
BOZ Bozeman (W) 81.46 354 *eP* **P 06 34 49.6 +0.3**
comp=Z,16nm,0.9s,mb5.0
BOZ LR LR
comp=Z,1μm,19.0s,MS5.2
LCCM Lewis and Clar 81.67 354 P **P 06 34 51.5 +1.1**
COR Corvallis 82.14 345 PFAKE 06 35 00.0 +7.2
COR LR LR
comp=Z,986nm,22.0s,MS5.1
LAO LASA Array 82.17 358 *eP* **P 06 34 53.1 +0.2**
comp=Z,31nm,0.9s,mb5.2
LAO LR LR
comp=Z,599nm,21.0s,MS4.9
HRY Holter Researc 82.53 354 *eP* **P 06 34 55.2 +0.4**
QUA2 Belchertown 82.55 22 *eP* **P 06 34 53.6 -1.4**
comp=Z,36nm,1.1s,mb5.3
MSO Missoula 82.86 352 *eP* **P 06 34 57.2 +0.7**
comp=Z,17nm,1.5s,mb4.9
MSO LR LR
comp=Z,385nm,22.0s,MS4.7
CHMT Chamberlain Mo 82.87 353 *eP* **P 06 34 57.2 +0.6**
WES Weston 82.96 23 P **P 06 34 56.0 -1.2**
comp=Z,37nm,1.2s,mb5.3
WES LR LR
comp=Z,321nm,19.0s,MS4.7
HRV Harvard--Oak R 83.00 23 PFAKE 06 35 10.0 +13
HRV LR LR
comp=Z,578nm,22.0s,MS4.9
REDWA Red Mountain 83.08 348 P **P 06 35 01.0 +3.3**
ACCN Adirondack Com 83.16 21 *eP* **P 06 34 56.4 -1.8**
ASR Mount Adams--S 83.31 347 P **P 06 35 02.4 +3.5**
BENWA Benson Ranch 83.34 348 P **P 06 35 02.5 +3.5**
MDW Midway 83.44 348 P **P 06 35 03.0 +3.4**
NCB Newcomb 83.54 20 *eP* **P 06 34 57.9 -2.2**
comp=Z,18nm,0.8s,mb5.2
WPW White Pass 83.83 347 P **P 06 35 04.3 +2.8**
FFD Franklin Falls 83.84 22 *eP* **P 06 34 56.9 -4.7**
comp=Z,39nm,1.0s,mb5.5
DGMT Dagmar 83.90 359 *eP* **P 06 35 02.1 +0.3**
comp=Z,41nm,1.2s,mb5.4
DGMT LR LR
comp=Z,588nm,19.0s,MS5.0
LON Longmire 83.93 347 P **P 06 35 04.5 +2.5**
BSMT Bassoo Peak 83.96 352 P **P 06 35 03.4 +1.3**
TBM Table Mountain 84.12 348 P **P 06 35 06.5 +3.5**
MSNY Massena 84.31 20 *eP* **P 06 35 03.5 -0.5**
FRNY Flat Rock 84.51 20 *eP* **P 06 35 02.0 -2.9**
WTV Waterville 84.53 348 P **P 06 35 05.4 +0.4**
NEW Newport 84.66 350 *eP* **P 06 35 05.2 -0.3**
comp=Z,24nm,1.0s,mb5.3
NEW LR LR
comp=Z,697nm,20.0s,MS5.0
OCWA Octopus Mounta 85.34 346 PFAKE 06 35 20.0 +11
OCWA LR LR
comp=Z,1μm,21.0s,MS5.2
WVL Waterville 85.45 23 PFAKE 06 35 20.0 +10
WVL LR LR
comp=Z,4μm,21.0s,MS5.7
ULM Lac du Bonnet 85.89 4 P **P 06 35 12.7 +1.0**
comp=Z,9.3nm,0.9s,mb5.0,baz=206,slow=3.8,SNR=10
ULM Lac du Bonnet 85.89 4 P **P 06 35 12.7 +1.0**
ULM LR LR
comp=Z,157nm,21.0s,MS4.4
EMMW East Machias 86.30 24 PFAKE 06 35 30.0 +16
EMMW LR LR
comp=Z,2μm,21.0s,MS5.5
PQI Presque Isle 87.85 23 PFAKE 06 35 30.0 +8.7
PQI LR LR
comp=Z,2μm,22.0s,MS5.4
EDM Edmonton 89.12 354 *eP* **P 06 35 27.8 +0.6**
STKA Stephens Creek 89.58 230 P **P 06 35 31.1 +1.2**
comp=Z,3.3nm,0.9s,mb4.7,baz=86,slow=4.6,SNR=4.2
STKA LR LR 07 09 20.8
comp=Z,4μm,18.8s,MS5.8,baz=96,slow=31
STKA Stephens Creek 89.58 230 P **P 06 35 31.1 +1.2**
STKA LR LR 07 09 20.8
HNR Honiara 90.36 258 PFAKE 06 35 50.0 +16
HNR LR LR
comp=Z,1μm,22.0s,MS5.2
CTAO Charters Towe 94.25 242 PFAKE 06 36 00.0 +8.3
CTAO LR LR
comp=Z,2μm,21.0s,MS5.5
MIDW Midway 94.75 301 PFAKE 06 36 10.0 +16
MIDW LR LR
comp=Z,1μm,19.0s,MS5.5
SCHQ Schefferville 95.41 20 LR LR 07 15 38.8
comp=Z,275nm,20.4s,MS4.7,baz=208,slow=33
SCHQ Schefferville 95.41 20 PFAKE 06 36 10.0 +14
SCHQ LR LR
comp=Z,190nm,19.0s,MS4.6
SIT Sitka 96.50 343 PFAKE 06 36 10.0 +8.9
SIT LR LR
comp=Z,990nm,20.0s,MS5.3
DLBC Dease Lake 96.60 346 *eP* **P 06 36 02.8 +1.2**
YKA Yellowknife Ar 98.41 354 P **P 06 36 08.5 -1.0**
comp=Z,1.3nm,0.8s,mb4.5,baz=164,slow=4.8,SNR=16
YKA LR LR 07 14 56.4
comp=Z,626nm,21.0s,MS5.1,baz=180,slow=32
BOSA Boshof 99.40 135 P **P 06 36 15.8 +0.9**
comp=Z,3.0nm,1.1s,mb4.8,baz=70,slow=3.5,SNR=2.7
BOSA LR LR 07 16 18.7
comp=Z,697nm,18.0s,MS5.2,baz=216,slow=32
DBIC Dimbokro 100.31 89 PFAKE 06 36 30.0 +11
DBIC LR LR
comp=Z,523nm,20.0s,MS5.0
PMG Port Moresby 100.38 250 PFAKE 06 36 30.0 +10
PMG LR LR
comp=Z,2μm,21.0s,MS5.5
TSUM Tsumeb 101.44 124 PFAKE 06 36 40.0 +16
TSUM LR LR
comp=Z,643nm,19.0s,MS5.2
ADH Angra Heroismo 101.76 51 *e* 07 12 00.0
NWAO Narrogin (SRO) 102.03 214 PFAKE 06 36 40.0 +13
NWAO LR LR
comp=Z,2μm,20.0s,MS5.6
LBTB Lobatse 102.32 133 PFAKE 06 36 40.0 +12
LBTB LR LR
comp=Z,431nm,19.0s,MS5.0
WRA Warramunga Arr 102.55 234 P Pdif 06 36 29.9 +0.6
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 102.55 234 P Pdif 06 36 29.9 +0.5
comp=Z,1.1nm,1.0s,baz=147,slow=4.9,SNR=4.7
DIV Divide 102.73 340 PFAKE 06 36 40.0 +11
DIV LR LR
comp=Z,3μm,21.0s,MS5.8
ILAR Eielson Array 106.01 342 PKiKP 06 40 57.4
comp=Z,0.5nm,0.8s,baz=169,slow=1.4,SNR=6.6
COLA College 106.34 342 PFAKE 06 41 10.0
COLA LR LR
comp=Z,2.0nm,22.0s
MBWA Marble Bar 110.49 222 PFAKE 06 41 20.0 +13
MBWA LR LR
comp=Z,2μm,21.0s,MS5.7
LSZ Lusaka 111.24 129 PFAKE 06 41 20.0 +12
LSZ LR LR
comp=Z,640nm,20.0s,MS5.2
TNA Tin City 112.78 336 PFAKE 06 41 20.0 +10
TNA LR LR
comp=Z,387nm,19.0s,MS5.0
SMY Shemya 113.75 319 PFAKE 06 41 20.0 +7.7
SMY LR LR
comp=Z,2μm,21.0s,MS5.6
ESLA Sonseca Array 117.83 60 PFAKE 06 41 30.0 +10
ESLA LR LR
comp=Z,3μm,20.0s,MS5.9
SJPF Ste Jean 121.08 57 *e*PKIKP PKPdf 06 41 21.8 -4.9
ETSF Etsaut 121.45 57 *e*PKIKP PKPdf 06 41 22.7 -4.8
comp=Z,46nm,1.3s
PET Petropavlovsk 122.47 315 PFAKE 06 41 40.0 +11
PET LR LR
comp=Z,1μm,22.0s,MS5.5
LASF Ste Croix 124.87 57 *e*PKIKP PKPdf 06 41 29.2 -4.8
SMF Signal de Mont 125.64 54 *e*PKIKP PKPdf 06 41 30.3 -5.1
SMRF Simiane la Rot 126.02 58 *e*PKIKP PKPdf 06 41 31.0 -5.2
LPL La Plagne 127.25 56 *e*PKIKP PKPdf 06 41 33.8 -4.6
LPG La Plagne 127.26 56 *e*PKIKP PKPdf 06 41 34.0 -4.5
comp=Z,30nm,1.2s
KMBO Kilima Mbogo 127.73 126 PFAKE 06 41 50.0 +10
KMBO LR LR
comp=Z,351μm,20.0s
SEY Seymchan 127.79 326 *e*PKIKP PKPdf 06 41 38.6 -0.5
SEY *e* 06 53 39.1
SEY *e* 06 55 16.7
SEY *e* 07 01 09.8

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SEY				pmax	pmax		
	comp=Z,30nm,0.9s						
MA2	**Magadan**	**128.18**	**322**	PFAKE		06 41 50.0	+10
MA2				LR	LR		
	comp=Z,691nm,20.0s,MS5.3						
BFO	**Black Forest**	**129.01**	**53**	*e*PKP	PKPdf	06 41 40.0	-1.8
KBS	**Kingsbay**	**129.58**	**13**	PFAKE		06 41 50.0	+7.8
KBS				LR	LR		
	comp=Z,328nm,19.0s,MS5.0						
YSS	**Yuzh-Sakhalins**	**130.88**	**304**	PFAKE		06 42 00.0	+15
YSS				LR	LR		
	comp=Z,600nm,19.0s,MS5.3						
CLZ	**Clausthal**	**130.94**	**49**	*e*PKP	PKPdf	06 41 45.1	-0.3
CLZ				*e*SKP		06 45 13.7	
GRA1	**Grafenberg Arr**	**131.14**	**52**	*e*PKP	PKPdf	06 41 45.3	-0.5
GRA1				*e*SKP		06 45 14.7	
GRA1				LR	LR		
	comp=Z,200nm,22.0s,MS4.8						
GRF	**Grafenberg Arr**	**131.14**	**52**	PKIKP	PKPdf	06 41 45.3	-0.5
BSEG	**Bad Segeberg**	**131.18**	**46**	*e*PKP	PKPdf	06 41 46.1	+0.3
BSEG				*e*SKP		06 45 14.2	
KONO	**Kongsberg**	**131.23**	**39**	PFAKE		06 42 00.0	+14
KONO				LR	LR		
	comp=Z,304nm,20.0s,MS5.0						
MAJO	**Matsushiro**	**131.48**	**290**	PFAKE		06 42 00.0	+13
MAJO				LR	LR		
	comp=Z,622nm,22.0s,MS5.3						
MOX	**Moxa**	**131.54**	**51**	*e*PKIKP	PKPdf	06 41 46.4	-0.2
MOX				MLR	MLR		
	comp=Z,200nm,22.0s,MS4.8						
MOX	**Moxa**	**131.54**	**51**	*i* P	PKPdf	06 41 46.4	-0.2
MOX				L		07 37 58.0	
NOA	**NORSAR Array B**	**132.05**	**37**	PKIKP	PKPdf	06 41 45.1	-2.2
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NOA	**NORSAR Array B**	**132.05**	**37**	PKP	PKPdf	06 41 45.1	-2.1
	comp=Z,2.4nm,1.0s,baz=284,slow=2.2,SNR=3.2						
WET	**Wettzell**	**132.12**	**53**	*e*PKP	PKPdf	06 41 48.4	+0.7
CLL	**Collm**	**132.50**	**50**	*e*P	Pdif	06 38 59.0	+19
CLL				*e*		06 41 48.0	
CLL	**Collm**	**132.50**	**50**	*e*PKP	PKPdf	06 41 48.0	-0.4
CLL	**Collm**	**132.50**	**50**	*e*	Pdif	06 38 59.0	+19
CLL				*e*PKIKP	PKPdf	06 41 48.0	-0.4
CLL				*e*		06 43 26.0	
CLL				*e*PKS	PKS	06 45 24.0	+3.6
CLL				*e*		07 02 17.0	
CLL				*e*SSS	SSS	07 06 48.0	+2.7
KHC	**Kasperske Hory**	**132.57**	**53**	*i* PKIKP	PKPdf	06 41 49.5	+0.9
GEC2	**GERESS Array S**	**132.61**	**53**	*e*PKP	PKPdf	06 41 47.8	-0.9
GERES	**GERESS Array B**	**132.61**	**53**	PKIKP	PKPdf	06 41 48.4	-0.3
GERES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GERES	**GERESS Array B**	**132.61**	**53**	PKP	PKPdf	06 41 48.4	-0.2
	comp=Z,3.7nm,0.8s,SNR=14						
BRG	**Berggiesshubel**	**133.03**	**51**	*e*PKIKP	PKPdf	06 41 51.1	+1.7
BRG				SS	SS	07 02 14.0	+18
BRG				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BRG	**Berggiesshubel**	**133.03**	**51**	*e*PKP	PKPdf	06 41 51.1	+1.7
BRG				*e*		06 45 24.0	
BRG				SS	SS	07 02 14.0	+18
TIXI	**Tiksi**	**135.40**	**339**	*i* PKIKP	PKPdf	06 41 52.3	-0.9
TIXI				*e*PS	PS	06 54 46.3	-2.2
TIXI				*e*SS	SS	07 02 17.2	-6.8
TIXI				*e*SSS	SSS	07 07 22.5	-4.4
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TIXI	**Tiksi**	**135.40**	**339**	PFAKE		06 42 00.0	+6.8
TIXI				LR	LR		
	comp=Z,355nm,20.0s,MS5.1						
VYHS	**Vyhne**	**135.94**	**55**	*e*PKP	PKPdf	06 41 53.9	-0.9
ARCES	**ARCESS Array B**	**136.25**	**24**	PKIKP	PKPdf	06 41 53.5	-1.3
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES	**ARCESS Array B**	**136.25**	**24**	PKP	PKPdf	06 41 53.5	-1.3
	comp=Z,3.9nm,0.8s,slow=9.7,SNR=14						
ARE0	**ARCESS Array S**	**136.25**	**24**	*e*PKPdf	PKPdf	06 41 53.5	-1.2
KEV	**Kevo**	**136.65**	**23**	PFAKE		06 42 10.0	+15
KEV				LR	LR		
	comp=Z,252nm,19.0s,MS5.0						
YAK	**Yakutsk**	**138.32**	**326**	PFAKE		06 42 10.0	+11
YAK				LR	LR		
	comp=Z,579nm,20.0s,MS5.3						
KWP	**Kalwaria**	**138.55**	**53**	*e*PKPdf	PKPdf	06 41 57.5	-2.0
KWP				*e*PKP	PKPdf	06 42 03.0	+3.4
KWP	**Kalwaria**	**138.55**	**53**	*e*PKP	PKPdf	06 42 03.0	+3.5
KAF	**Kangasniemi**	**139.04**	**34**	*e*p	PKPdf	06 41 58.8	-1.3
FINES	**FINESS Array B**	**139.11**	**35**	PKIKP	PKPdf	06 41 58.8	-1.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**139.11**	**35**	PKP	PKPdf	06 41 58.8	-1.4
	comp=Z,1.5nm,0.5s,baz=270,slow=1.9,SNR=14						
MDJ	**Mudanjiang**	**139.62**	**299**	PKP	PKPdf	06 41 59.0	-2.6
MDJ				XPKP		06 42 03.7	
MDJ				PKS	PKS	06 45 35.2	+1.9
MDJ				SKS	SKS	06 49 05.5	-5.6
MDJ				SS	SS	07 03 20.8	+6.6
MDJ				LR	LR		
	comp=N,233nm,29.1s,MS5.2						
MDJ				LR	LR		
	comp=E,591nm,29.1s,MS5.2						
MDJ				LR	LR		
	comp=Z,735nm,31.8s,MS5.2						
MDJ	**Mudanjiang**	**139.62**	**299**	PFAKE		06 42 10.0	+8.4
MDJ				LR	LR		
	comp=Z,853nm,22.0s,MS5.5						
APA	**Apatity**	**139.73**	**24**	*i* PKIKP	PKPdf	06 42 00.0	-1.2
APA				pmax	pmax		
	comp=Z,18nm,1.2s						
APA				MLR	MLR		
	comp=Z,400nm,20.0s,MS5.2						
VSU	**Vasula**	**140.13**	**39**	*i* PKIKP	PKPdf	06 42 00.8	-1.4
TATO	**Taipei**	**140.58**	**267**	PFAKE		06 42 10.0	+6.1
TATO				LR	LR		
	comp=Z,481nm,19.0s,MS5.3						
INCN	**Inchon**	**140.65**	**288**	PFAKE		06 42 10.0	+6.3
INCN				LR	LR		
	comp=Z,249nm,21.0s,MS4.9						
CN2	**Changchun**	**142.51**	**297**	*e*PKP	PKPdf	06 42 07.0	+0.3
CN2				PP	PP	06 45 19.0	+3.9
CN2				PP	PP		
	comp=Z,300nm,6.0s						
CN2				LR	LR		
	comp=N,400nm,19.0s,MS5.3						
CN2				LR	LR		
	comp=E,400nm,19.0s,MS5.3						
CN2				LR	LR		
	comp=Z,400nm,21.0s,MS5.2						
AKASG	**Malin Array Be**	**142.71**	**51**	PKIKP	PKPdf	06 42 04.5	-2.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**142.71**	**51**	PKP	PKPdf	06 42 04.5	-2.3
	comp=Z,2.2nm,0.8s,baz=274,slow=3.5,SNR=5.7						
AKASG	**Malin Array Be**	**142.71**	**51**	PKP	PKPdf	06 42 04.5	-2.3
QZH	**Quanzhou**	**142.91**	**265**	*e*PKP	PKPdf	06 42 08.0	+0.1
QZH				PP	PP	06 45 21.6	+3.6
QZH				LR	LR		
	comp=N,920nm,17.4s,MS5.7						
QZH				LR	LR		
	comp=E,780nm,18.4s,MS5.7						
QZH				LR	LR		
	comp=Z,880nm,17.4s,MS5.6						
SSE	**Sheshan**	**143.22**	**276**	PKP	PKPdf	06 42 07.5	-0.8
SSE				PP	PP	06 45 22.4	+2.7
SSE				SS	SS	07 04 01.8	+5.0
SSE				LR	LR		
	comp=N,696nm,28.3s,MS5.3						
SSE				LR	LR		
	comp=E,340nm,28.5s,MS5.3						
SSE				LR	LR		
	comp=Z,448nm,24.1s,MS5.2						
ESKT	**Eskisehir**	**143.44**	**70**	*i* P	PKPbc	06 42 02.7	-1.1
KIZT	**Kizilcal**	**144.13**	**71**	*e*P	PKPbc	06 42 06.1	+0.2
EIL	**Elat**	**144.16**	**88**	*e*PKPdf	PKPdf	06 42 06.1	-3.8
KDHN	**Kadinhani**	**144.25**	**72**	*i* P	PKPbc	06 42 05.8	-0.4
CSS	**Prodhromos**	**144.46**	**78**	*e*PKPdf	PKPdf	06 42 07.7	-2.6
SGKT	**Sivrigoynuk**	**144.51**	**68**	*i* P	PKPbc	06 42 07.3	+0.4
ERMK	**Ermenek**	**144.51**	**75**	*i* P	PKPbc	06 42 12.6	+5.6
ERMK	**Ermenek**	**144.51**	**75**	*i* P	PKPbc	06 42 12.6	+5.6
DL2	**Dalian**	**144.79**	**289**	PKP	PKPdf	06 42 10.6	-0.2
DL2				PP	PP		
	comp=Z,130nm,8.6s						
DL2				LR	LR		
	comp=N,310nm,18.8s,MS5.3						
DL2				LR	LR		
	comp=E,320nm,17.2s,MS5.3						
DL2				LR	LR		
	comp=Z,370nm,25.9s						
NJ2	**Nanjing**	**145.41**	**276**	*e*PKP	PKPdf	06 42 12.3	+0.2
NJ2				PKP2	PKPab	06 42 14.9	+3.7
NJ2				PP	PP	06 45 31.0	-1.8
NJ2				PKS	PKS	06 45 46.0	+2.7
NJ2				PPP	PPP	06 48 52.0	+3.8
NJ2				SKS	SKS	06 49 16.0	-4.4
NJ2				PP	PP		
	comp=Z,150nm,8.8s						
NJ2				LR	LR		
	comp=Z,630nm,22.5s,MS5.3						
ELDT	**Eldivan**	**145.53**	**69**	*i* P	PKPbc	06 42 09.6	0.0
BR131	**Keskin Array S**	**145.60**	**70**	*e*PKPdf	PKPdf	06 42 11.0	-1.2
BRTR	**Keskin Array B**	**145.60**	**70**	PKIKP	PKPdf	06 42 10.6	-1.6
BRTR				pmax	pmax		
	comp=Z,11nm,1.0s						
BRTR	**Keskin Array B**	**145.60**	**70**	PKPbc	PKPbc	06 42 10.6	+0.8
	comp=Z,11nm,0.9s,baz=241,slow=1.1,SNR=16						
BALT	**Daday**	**145.61**	**67**	*i* P	PKPbc	06 42 09.7	0.0
KAMT	**Kaman**	**145.61**	**71**	*e*P	PKPbc	06 42 10.8	+0.9
CDAG	**Cicekdag**	**146.15**	**70**	*i* P	PKPbc	06 42 14.0	+2.8
CDAG	**Cicekdag**	**146.15**	**70**	*i* P	PKPbc	06 42 14.4	+3.2
OBN	**Obninsk**	**146.22**	**42**	*i* PKIKP	PKPdf	06 42 11.1	-1.6
OBN				*i*		06 42 15.0	
OBN				*e*		06 45 39.9	
OBN				pmax	pmax		
	comp=Z,138nm,1.8s						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.9						
SIM	**Simferopol'**	**146.28**	**61**	*e*PKP2	PKPab	06 42 15.2	+1.1
SIM				pmax	pmax		
	comp=Z,27nm,1.0s						
HIA	**Hailar**	**146.33**	**307**	*e*PKPdf	PKPdf	06 42 11.2	-1.9
HIA				LR	LR		
	comp=Z,960nm,20.0s,MS5.6						
AVNT	**Avonos**	**146.41**	**72**	*i* P	PKPbc	06 42 12.7	+0.9
CTKT	**Corum**	**146.58**	**69**	*i* P	PKPbc	06 42 11.8	-0.3
MOS	**Moscow**	**146.59**	**41**	*e*PKP2	PKPab	06 42 14.6	-0.4
MOS				pmax	pmax		
	comp=Z,200nm,1.6s						
QIZ	**Qiongzhong**	**146.74**	**249**	PFAKE		06 42 20.0	+6.9
QIZ				LR	LR		
	comp=Z,527nm,22.0s,MS5.3						
COBT	**Iskenderun**	**147.12**	**76**	*i* P	PKPdf	06 42 16.9	+2.0
BOD	**Bodaibo**	**147.16**	**324**	*e*PKIKP	PKPdf	06 42 12.5	-1.7
BOD				pmax	pmax		
	comp=Z,32nm,1.4s						
BNN	**Bunyan**	**147.18**	**72**	*e*P	PKPdf	06 42 12.2	-2.7
TIA	**Tai'an**	**147.84**	**283**	*e*PKP	PKPdf	06 42 15.8	-0.2
GZT	**Gaziantep**	**148.30**	**75**	*i* P	PKPdf	06 42 17.8	+1.1
VOR	**Voronezh**	**148.71**	**47**	PKP2	PKPab	06 42 20.0	-3.5
VOR				pmax	pmax		
	comp=Z,200nm,2.0s						
MALT	**Malatya**	**149.12**	**74**	*e*P	PKPdf	06 42 22.4	+4.4
MALT	**Malatya**	**149.12**	**74**	*e*PKPbc	PKPdf	06 42 19.1	+1.1
URFA	**Urfa**	**149.30**	**75**	*e*P	PKPdf	06 42 19.3	+1.0
ELZG	**Elazig**	**149.57**	**73**	*i* P	PKPdf	06 42 22.3	+3.5
CIT	**Chita**	**149.58**	**314**	*e*PKIKP	PKPdf	06 42 20.5	+2.2
PTK	**Pertek**	**149.94**	**73**	*e*P	PKPdf	06 42 19.0	-0.3
GUMT	**Gumushane**	**150.13**	**70**	*e*P	PKPdf	06 42 22.8	+3.2
SOC	**Sochi**	**150.34**	**63**	*i* PKIKP	PKPdf	06 42 25.1	+5.4
SOC				*e*		06 45 57.7	
SOC				*e*PPP	PPP	06 49 25.6	-0.1
SOC				*e*SSS	SSS	07 11 00.0	+1.2
SOC				pmax	pmax		
	comp=Z,49nm,0.8s						
SOC				pmax	pmax		
	comp=N,25nm,1.0s						
SOC				pmax	pmax		
	comp=E,32nm,0.9s						
MARD	**Mardin**	**150.83**	**76**	*i* P	PKPdf	06 42 15.4	-5.3
MARD	**Mardin**	**150.83**	**76**	*i* P	PKPdf	06 42 15.4	-5.3
NST	**Nakhon Sawan**	**151.34**	**232**	P	PKPdf	06 42 28.6	+6.6
BTMT	**Batman**	**151.50**	**74**	*e*P	PKPdf	06 42 28.4	+6.7
ERZM	**Erzurum**	**151.54**	**71**	*i* P	PKPdf	06 42 29.5	+7.8
ENH	**Enshi**	**152.44**	**268**	PFAKE		06 42 30.0	+6.7
ENH				LR	LR		
	comp=Z,505nm,21.0s,MS5.3						
KIV	**Kislovodsk**	**152.46**	**62**	*i* PKIKP	PKPdf	06 42 27.4	+4.5
HHC	**Hu-ho-hao-te**	**152.67**	**291**	*e*PKP	PKPdf	06 42 20.8	-2.5
HHC				PKS	PKS	06 45 56.5	+3.1
HHC				SKS	SKS	06 49 28.5	-1.3
HHC				LR	LR		
	comp=N,308nm,21.3s,MS5.4						
HHC				LR	LR		
	comp=E,503nm,20.1s,MS5.4						
HHC				LR	LR		
	comp=Z,573nm,23.7s,MS5.3						
GYA	**Guiyang**	**153.19**	**258**⇑	*i*PKP	PKPdf	06 42 27.6	+3.2
GYA				PP	PP		
	comp=Z,670nm,7.8s						
GYA				LR	LR		
	comp=N,590nm,24.3s						
GYA				LR	LR		
	comp=E,780nm,19.2s						
GYA				LR	LR		
	comp=Z,580nm,22.8s,MS5.3						
NANT	**Nan**	**153.21**	**237**	⇑P	PKPdf	06 42 30.0	+5.4
	comp=Z,88nm,1.0s						
ZEI	**Tsey**	**153.43**	**65**	*e*PKIKP	PKPdf	06 42 22.1	-2.1
ZEI				*i*		06 46 16.9	
GNI	**Garni**	**154.14**	**71**	*i* PKIKP	PKPdf	06 42 27.2	+1.9
GNI	**Garni**	**154.14**	**71**	PFAKE		06 42 40.0	+15
GNI				LR	LR		
	comp=Z,341nm,20.0s,MS5.2						
CM31	**Chiang Mai Arr**	**154.15**	**234**	PFAKE		06 42 40.0	+14
CM31				LR	LR		
	comp=Z,707nm,20.0s,MS5.5						
CMAR	**Chiang Mai Arr**	**154.15**	**234**	PKIKP	PKPdf	06 42 33.8	+7.9
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**154.15**	**234**	PKPbc	PKPdf	06 42 33.8	+7.9
	comp=Z,2.3nm,0.6s,baz=212,slow=1.4,SNR=7.6						
CMAR				PKPab	PKPab	06 42 49.9	+2.6
	comp=Z,4.7nm,0.8s,baz=163,slow=2.7,SNR=8.4						
IRK	**Irkutsk**	**154.73**	**319**	*e*PKIKP	PKPdf	06 42 31.4	+5.7
ULN	**Ulaanbaatar**	**154.85**	**308**	*e*PKPdf	PKPdf	06 42 25.9	-0.1
ULN				LR	LR		
	comp=Z,510nm,21.0s,MS5.3						
SONM	**Songino Array**	**155.28**	**308**	PKP	PKPdf	06 42 23.9	-2.6
	comp=Z,2.7nm,1.0s,baz=107,slow=1.3,SNR=12						
SONM				PKPbc	PKPdf	06 42 35.0	+8.4
	comp=Z,3.2nm,0.9s,baz=169,slow=0.5,SNR=10						
SONM				PKPab	PKPab	06 42 53.6	+2.4
	comp=Z,5.4nm,0.8s,baz=79,slow=2.2,SNR=8.2						
TLY	**Talaya**	**155.34**	**318**	*i* PKIKP	PKPdf	06 42 25.3	-1.2
TLY				*e*SS	SS	07 06 12.5	+1.2
TLY				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KMI	**Kunming**	**155.60**	**251**	PKP	PKPdf	06 42 23.4	-4.3
KMI				XPKP		06 42 30.0	
ARU	**Arti**	**155.81**	**26**	*i* PKIKP	PKPdf	06 42 26.4	-0.5
SVE	**Sverdlovsk**	**156.18**	**23**	*e*PKIKP	PKPdf	06 42 20.0	-7.4
SVE				*e*		06 42 28.0	
NVS	**Novosibirsk**	**160.50**	**349**	*e*PKIKP	PKPdf	06 42 29.2	-3.5
GTA	**Gaotai**	**161.72**	**288**	PKP	PKPdf	06 42 33.8	-0.6
GTA				APKP		06 42 38.2	
GTA				XPKP		06 42 40.3	
GTA				PKS	PKS	06 46 05.2	+1.6
GTA				SKS	SKS	06 49 35.0	-3.9
GTA				LR	LR		
	comp=N,196nm,21.7s						
GTA				LR	LR		
	comp=E,463nm,22.4s						
GTA				LR	LR		
	comp=Z,729nm,22.8s						
LSA	**Lhasa**	**166.77**	**247**	PFAKE		06 42 50.0	+11
LSA				LR	LR		
	comp=Z,374nm,20.0s						
MKAR	**Makanchi Array**	**168.37**	**342**	PKIKP	PKPdf	06 42 37.8	-2.1
MKAR						06 43 48.0	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**168.37**	**342**	PKP	PKPdf	06 42 37.8	-2.1
	comp=Z,1.2nm,0.9s,baz=45,slow=1.7,SNR=8.7						
MKAR				PKPab	PKPab	06 43 48.0	+0.1
	comp=Z,1.4nm,0.9s,baz=333,slow=5.4,SNR=5.2						
WMQ	**Urumqi**	**168.63**	**318**	PKP	PKPdf	06 42 37.8	-2.4
WMQ				APKP		06 42 41.1	
WMQ				XPKP		06 42 42.4	
WMQ				PP	PP	06 47 39.8	+0.7
WMQ				PP	PP		
	comp=Z,868nm,10.6s						
WMQ				LR	LR		
	comp=N,654nm,24.5s						
WMQ				LR	LR		
	comp=E,652nm,23.4s						
WMQ				LR	LR		
	comp=Z,2µm,24.4s						
FRU	**Bishkek**	**172.70**	**15**	*e*PKIKP	PKPdf	06 42 48.0	+5.4

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*BJI **06** 07:19:05.1, 8.50S×113.40E, h112km, mB5.1, mb5.3*
*MOS **06** 07:19:07.1±1.1, 8.42S×113.48E, h150km, mb4.8/11, Error ellipse: s-maj=18.9km s-min=9.6km az=103.8*
*IDC **06** 07:19:07.5±1.6, 8.48S×113.39E, h136km±13km, mb4.4/20, mb1 4.5/21, mb1mx4.4/24, mbtmp4.8/21, Error ellipse: s-maj=16.9km s-min=9.4km az=72.0*
*NEIC **06** 07:19:08.2±1.1, 8.50S×113.39E, h143km±10km, mb4.9/23, Error ellipse: s-maj=8.4km s-min=4.5km az=61.0*
NEIC Felt [II] at Karangkates.
ISC 06 07:19:06.8±1.6, **8.50S**±0.05×**113.39E**±0.07, **h148**km±14km, **n132**, σ0.98/114, **mb4.8**/54, **2C-9D**, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSM	**Kuching**	**10.37**	**343**	*e*P	**P**	**07 21 34.1**	**+1.4**
MBWA	**Marble Bar**	**14.00**	**155**	*e*P	**P**	**07 22 16.2**	**-3.5**
	47nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.26**	**130**⇓	*i*P	**P**	**07 22 35.8**	**0.0**
	48nm,0.8s						
FITZ				*e*S	**S**	**07 25 14.3**	**-6.4**
FITZ	**Fitzroy Crossi**	**15.26**	**130**	P	**P**	**07 22 35.9**	**+0.1**
	2.8nm,0.3s,baz=328,slow=5.7,SNR=58						
KULM	**Kulim**	**18.68**	**317**	*e*P	**P**	**07 23 14.9**	**-1.3**
KAKA	**Kakadu**	**19.18**	**104**	*e*P	**P**	**07 23 20.6**	**-0.9**
	14nm,0.5s						
WRA	**Warramunga Arr**	**23.24**	**122**	P	**P**	**07 24 02.6**	**+0.7**
	14nm,0.5s,mb4.6,baz=297,slow=12,SNR=228						
WRA				ScP		07 31 11.1	
	2.3nm,0.8s,baz=293,slow=2.0,SNR=4.9						
WB2	**Warramunga Arr**	**23.25**	**122**⇓	*i*P	**P**	**07 24 02.6**	**+0.6**
KLBR	**Kellerberrin**	**23.34**	**171**	*e*P	**P**	**07 24 20.2**	**+18**
	38nm,1.5s,mb4.6						
NWAO	**Narrogin (SRO)**	**24.57**	**172**	P	**P**	**07 24 13.3**	**-1.1**
	6.3nm,0.7s,mb4.3,baz=338,slow=8.6,SNR=5.0						
NWAO	**Narrogin (SRO)**	**24.57**	**172**	*e*P	**P**	**07 24 14.0**	**-0.5**
CM31	**Chiang Mai Arr**	**30.34**	**332**	*e*P	**P**	**07 25 08.2**	**+1.2**
	8.4nm,0.6s,mb4.7						
CMAR	**Chiang Mai Arr**	**30.34**	**332**	P	**P**	**07 25 08.0**	**+1.0**
	14nm,0.6s,mb4.9,baz=163,slow=9.1,SNR=50						
CMAR				ScP		07 31 33.4	
	1.7nm,0.6s,baz=189,slow=3.3,SNR=7.7						
CTAO	**Charters Tower**	**33.79**	**114**	*e*P	**P**	**07 25 36.6**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
CTAO	**Charters Tower**	**33.79**	**114**	*e*P	**P**	**07 25 36.6**	**-0.2**
	comp=Z,10nm,0.9s,mb4.6						
KMI	**Kunming**	**34.99**	**343**	P	**P**	**07 25 49.7**	**+2.8**
KMI				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.5						
STKA	**Stephens Creek**	**35.04**	**136**⇓	*i*P	**P**	**07 25 47.9**	**+0.6**
	comp=Z,33nm,0.4s,mb5.3						
STKA	**Stephens Creek**	**35.04**	**136**	P	**P**	**07 25 48.0**	**+0.7**
	comp=Z,39nm,0.4s,mb5.3,baz=314,slow=8.5,SNR=223						
ENH	**Enshi**	**38.73**	**355**	*e*P	**P**	**07 26 18.7**	**+0.5**
	comp=Z,13nm,0.6s,mb4.7						
SHL	**Shillong**	**39.80**	**329**	*e*P	**P**	**07 26 27.0**	**-0.1**
NJ2	**Nanjing**	**40.65**	**7**	*e*P	**P**	**07 26 36.4**	**+2.4**
NJ2				AP	pP	07 27 03.3	-3.6
NJ2				XP	sP	07 27 18.4	-6.0
NJ2				PP	PP	07 28 15.6	+2.9
NJ2				S	**S**	**07 32 38.0**	**+5.5**
NJ2				XS		07 33 26.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,140nm,11.9s						
NJ2				LR	LR		
	comp=N,440nm,11.9s						
NJ2				LR	LR		
	comp=E,760nm,21.4s						
NJ2				LR	LR		
	comp=Z,320nm,18.9s						
XAN	**Xi'an**	**42.51**	**355**	P	**P**	**07 26 49.5**	**+0.2**
XAN				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.6						
HYB	**Hyderabad**	**42.99**	**307**	*i* P	**P**	**07 26 52.0**	**-1.4**
LSA	**Lhasa**	**43.59**	**331**	*e*P	**P**	**07 26 59.8**	**+1.7**
LSA				pmax	pmax		
	comp=Z,28nm,0.6s,mb5.1						
LSA	**Lhasa**	**43.59**	**331**	*e*P	**P**	**07 26 59.8**	**+1.8**
	comp=Z,28nm,0.6s,mb5.1						
JNU	**Nakatsue**	**44.61**	**21**	P	**P**	**07 27 05.7**	**-0.5**
	comp=Z,9.0nm,0.6s,mb4.5,baz=176,slow=14,SNR=6.6						
GUN	**Gumba**	**44.92**	**325**	*e*P	**P**	**07 27 09.2**	**+0.5**
	comp=Z,146nm,0.5s,mb5.8						
PKI	**Pulchoki**	**44.94**	**324**	*e*P	**P**	**07 27 08.5**	**-0.4**
	comp=Z,31nm,0.6s,mb5.1						
PKI	**Pulchoki**	**44.94**	**324**	*e*P	**P**	**07 27 08.5**	**-0.4**
PKI				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.8						
DMN	**Daman**	**45.14**	**324**	*e*P	**P**	**07 27 10.4**	**-0.1**
	comp=Z,110nm,0.6s,mb5.7						
KKN	**Kakani**	**45.18**	**324**	*e*P	**P**	**07 27 10.5**	**-0.3**
	comp=Z,51nm,0.7s,mb5.3						
KKN	**Kakani**	**45.18**	**324**	*e*P	**P**	**07 27 10.5**	**-0.3**
KKN				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.0						
LZH	**Lanzhou**	**45.24**	**349**	*e*P	**P**	**07 27 12.5**	**+1.3**
LZH				AMB	AMB		
	comp=Z,63nm,1.0s,mb5.2						
GKN	**Gorkha**	**45.71**	**324**	*e*P	**P**	**07 27 14.5**	**-0.5**
	comp=Z,81nm,0.3s,mb5.8						
KOLN	**Koldanda**	**46.16**	**322**	*e*P	**P**	**07 27 18.1**	**-0.4**
	comp=Z,93nm,0.5s,mb5.6						
KS15	**Wonju Array Si**	**47.67**	**16**	*e*P	**P**	**07 27 31.1**	**+1.0**
BTO	**Baotou**	**48.95**	**357**	*e*P	**P**	**07 27 40.7**	**+0.7**
BTO				AMB	AMB		
	comp=Z,45nm,0.6s,mb5.3						
HHC	**Hu-ho-hao-te**	**49.13**	**358**	*e*P	**P**	**07 27 40.9**	**-0.5**
HHC				AP	pP	07 28 10.3	-4.8
HHC				XP	sP	07 28 24.7	-6.9
HHC				PCP	PcP	07 29 03.0	+0.1
HHC				PP	PP	07 29 37.8	+1.2
HHC				SCP		07 32 44.8	
HHC				S	**S**	**07 34 36.3**	**+2.5**
HHC				XS		07 35 27.9	
HHC				SCS	ScS	07 37 17.0	+2.1
HHC				SS	SS	07 38 07.3	+3.8
HHC				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.5						
HHC				AMB	AMB		
	comp=Z,98nm,12.0s						
HHC				LR	LR		
	comp=N,308nm,20.4s						
HHC				LR	LR		
	comp=E,503nm,19.2s						
HHC				LR	LR		
	comp=Z,573nm,22.8s						
GTA	**Gaotai**	**49.30**	**346**	*e*P	**P**	**07 27 44.2**	**+1.5**
GTA				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.8						
MAJO	**Matsushiro**	**50.50**	**26**	*e*P	**P**	**07 27 50.6**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.0						
MAJO	**Matsushiro**	**50.50**	**26**	*e*P	**P**	**07 27 50.6**	**-1.3**
	comp=Z,22nm,0.6s,mb5.0						
MAT	**Matsushiro**	**50.50**	**26**	*e*P	**P**	**07 27 51.0**	**-0.9**
MAT				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.9						
MAT	**Matsushiro**	**50.50**	**26**	*e*P	**P**	**07 27 51.0**	**-0.9**
	comp=Z,18nm,0.6s,mb4.9						
MAT	**Matsushiro**	**50.50**	**26**	P	**P**	**07 27 50.5**	**-1.4**
MJAR	**Matsushiro Arr**	**50.50**	**26**	P	**P**	**07 27 51.0**	**-0.9**
	comp=Z,30nm,0.7s,mb5.1,baz=203,slow=8.5,SNR=66						
MJAR	**Matsushiro Arr**	**50.50**	**26**	P	**P**	**07 27 51.0**	**-0.9**
SNY	**Shenyang**	**50.94**	**10**	⇑P	**P**	**07 27 54.5**	**-0.7**
SNY				XP	sP	07 28 34.8	-11
SNY				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CN2	**Changchun**	**53.19**	**11**	*e*P	**P**	**07 28 11.1**	**-0.8**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
THN	**Thein Dam**	**54.28**	**320**	*e*P	**P**	**07 28 17.1**	**-2.9**
MDJ	**Mudanjiang**	**54.85**	**14**	P	**P**	**07 28 23.2**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,32nm,0.9s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,97nm,4.0s						
MDJ				LR	LR		
	comp=N,220nm,31.1s						
MDJ				LR	LR		
	comp=E,164nm,36.1s						
MDJ				LR	LR		
	comp=Z,319nm,24.3s						
MDJ	**Mudanjiang**	**54.85**	**14**	*e*P	**P**	**07 28 23.7**	**-0.3**
	comp=Z,27nm,0.9s,mb5.0						
ULN	**Ulaanbaatar**	**56.39**	**355**	*e*P	**P**	**07 28 35.5**	**+0.5**
ULN				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.2						
ULN	**Ulaanbaatar**	**56.39**	**355**	*e*P	**P**	**07 28 35.5**	**+0.5**
	comp=Z,25nm,0.6s,mb5.2						
SONM	**Songino Array**	**56.42**	**354**	P	**P**	**07 28 35.3**	**+0.1**
	comp=Z,21nm,0.4s,mb5.3,baz=175,slow=8.6,SNR=140						
ASAJ	**Asahikawa**	**58.66**	**24**	P	**P**	**07 28 50.6**	**-0.3**
	comp=Z,22nm,0.8s,mb5.0,baz=233,slow=14,SNR=7.9						
CIT	**Chita**	**60.27**	**0**	*e*P	**P**	**07 29 02.5**	**+0.6**
CIT				*e*		07 31 13.7	
CIT				pmax	pmax		
	comp=Z,41nm,1.2s,mb5.1						
TLY	**Talaya**	**60.52**	**353**	⇑*i*P	**P**	**07 29 03.4**	**-0.1**
TLY				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
ULHL	**Ulahol**	**60.85**	**329**	P	**P**	**07 29 05.7**	**-0.3**
	SNR=8.7						
RPZ	**Rata Peaks**	**61.01**	**136**	P	**P**	**07 29 07.6**	**+0.6**
	comp=Z,31nm,0.9s,mb5.1,baz=279,slow=2.3,SNR=12						
YSS	**Yuzh-Sakhalins**	**61.08**	**23**	*e*P	**P**	**07 29 07.0**	**-0.4**
YSS				pmax	pmax		
	comp=Z,61nm,1.2s,mb5.3						
YSS	**Yuzh-Sakhalins**	**61.08**	**23**	*e*P	**P**	**07 29 07.0**	**-0.4**
	comp=Z,61nm,1.2s,mb5.3						
KZA	**Kyzart**	**61.24**	**328**	P	**P**	**07 29 08.6**	**+0.1**
	SNR=20						
MKAR	**Makanchi Array**	**61.62**	**336**	*e*P	**P**	**07 29 10.2**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MKAR	**Makanchi Array**	**61.62**	**336**	P	**P**	**07 29 10.0**	**-1.0**
	comp=Z,16nm,0.4s,mb5.2,baz=149,slow=7.4,SNR=238						
MKAR	**Makanchi Array**	**61.62**	**336**	P	**P**	**07 29 10.0**	**-1.0**
TKM2	**Tokmak 2**	**61.67**	**329**	P	**P**	**07 29 10.9**	**-0.5**
	SNR=21						
UCH	**Uchtor**	**61.73**	**328**	P	**P**	**07 29 12.1**	**+0.3**
	SNR=6.4						
KBK	**Karagaybulak**	**61.81**	**329**	P	**P**	**07 29 12.4**	**+0.1**
	SNR=12						
AAK	**Ala-Archa**	**62.02**	**328**	P	**P**	**07 29 14.1**	**+0.3**
	SNR=5.6						
AML	**Almayashu**	**62.09**	**327**	P	**P**	**07 29 14.2**	**-0.1**
	SNR=16						
USP	**Ospenovka**	**62.47**	**329**	P	**P**	**07 29 15.8**	**-0.9**
	SNR=9.7						
URZ	**Urewera**	**64.20**	**128**	P	**P**	**07 29 27.9**	**-0.2**
	comp=Z,4.2nm,0.4s,mb4.6,baz=126,slow=15,SNR=4.3						
KKAR	**Karatay Array**	**64.47**	**326**	*e*P	**P**	**07 29 28.4**	**-1.4**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
MAW	**Mawson**	**67.88**	**199**	P	**P**	**07 29 50.3**	**-0.7**
	comp=Z,3.5nm,0.6s,mb4.3,baz=42,slow=5.7,SNR=7.6						
NVS	**Novosibirsk**	**67.97**	**342**	*e*P	**P**	**07 29 49.6**	**-2.2**
VOSK	**Vostochnaya**	**70.87**	**334**	P	**P**	**07 30 08.2**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
BVA0	**Borovoye Array**	**71.34**	**334**	P	**P**	**07 30 11.4**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**71.34**	**334**	P	**P**	**07 30 11.7**	**-0.5**
	comp=Z,3.3nm,0.6s,mb4.2,baz=149,slow=8.6,SNR=30						
ZRNK	**Zerenda**	**71.89**	**334**	P	**P**	**07 30 14.6**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
VNDA	**Vanda**	**73.39**	**170**	*e*P	**P**	**07 30 23.9**	**+0.1**
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VNDA	**Vanda**	**73.39**	**170**	P	**P**	**07 30 24.1**	**+0.3**
	comp=Z,4.8nm,0.9s,mb4.2,baz=295,slow=6.6,SNR=21						
VNDA	**Vanda**	**73.39**	**170**	*e*P	**P**	**07 30 23.9**	**0.0**
	comp=Z,7.3nm,1.0s,mb4.4						
AB31	**Akbulak array**	**74.03**	**327**	P	**P**	**07 30 27.5**	**-0.6**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
SBA	**Scott Base**	**74.43**	**170**	*e*P	**P**	**07 30 30.8**	**+0.9**
SBA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
SBA	**Scott Base**	**74.43**	**170**	*e*P	**P**	**07 30 30.8**	**+0.9**
	comp=Z,3.4nm,0.8s,mb4.1						
SYO	**Syowa Base**	**76.33**	**201**	⇓P	**P**	**07 30 38.9**	**-1.8**
FX1	**Attu Island--F**	**79.34**	**32**	*e*P	**P**	**07 30 58.0**	**+0.6**
TIXI	**Tiksi**	**80.63**	**5**	⇓*e*P	**P**	**07 31 03.7**	**-0.4**
QSPA	**South Pole Qui**	**81.50**	**180**	*e*P	**P**	**07 31 09.1**	**+0.6**
	comp=Z,13nm,1.0s,mb4.5						
ASF	**Jabal al Asfar**	**83.21**	**304**	P	**P**	**07 31 20.3**	**+2.1**
	comp=Z,4.5nm,0.6s,mb4.3,baz=331,slow=4.0,SNR=4.9						
BOSA	**Boshof**	**84.36**	**242**	*e*P	**P**	**07 31 24.9**	**+0.8**
BOSA	**Boshof**	**84.36**	**242**	P	**P**	**07 31 25.3**	**+1.2**
	comp=Z,1.9nm,0.5s,mb4.1,baz=162,slow=5.9,SNR=9.7						
LBTB	**Lobatse**	**84.48**	**246**	*e*P	**P**	**07 31 25.9**	**+1.2**
LBTB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
LBTB	**Lobatse**	**84.48**	**246**	*e*P	**P**	**07 31 25.9**	**+1.2**
	comp=Z,4.1nm,0.6s,mb4.3						
BR131	**Keskin Array S**	**87.58**	**311**	*e*P	**P**	**07 31 40.2**	**+0.7**
	comp=Z,3.5nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**87.58**	**311**	P	**P**	**07 31 40.1**	**+0.7**
	comp=Z,3.5nm,0.8s,mb4.3,baz=127,slow=6.2,SNR=12						
SNAA	**Sanae**	**89.95**	**196**	⇓*i*	**P**	**07 31 51.5**	**+1.6**
SNAA	**Sanae**	**89.95**	**196**	*e*	**P**	**07 31 54.6**	**+4.7**
SNAA	**Sanae**	**89.95**	**196**	*e*	**P**	**07 31 57.0**	**+7.1**
SNAA	**Sanae**	**89.95**	**196**	P	**P**	**07 31 51.9**	**+2.0**
	comp=Z,3.0nm,0.8s,mb4.3,baz=131,slow=4.5,SNR=35						
VNA2	**Neumayer--Watz**	**91.59**	**196**	⇓*i*	**P**	**07 31 59.4**	**+1.7**
VNA2	**Neumayer--Watz**	**91.59**	**196**	*e*	**P**	**07 32 02.8**	**+5.1**
VNA2	**Neumayer--Watz**	**91.59**	**196**	*e*	**P**	**07 32 05.4**	**+7.7**
VNA1	**Neumayer--Stat**	**91.99**	**196**	⇓*i*	**P**	**07 32 00.1**	**+0.7**
VNA1	**Neumayer--Stat**	**91.99**	**196**	*e*	**P**	**07 32 04.2**	**+4.8**
VNA3	**Neumayer Olymp**	**92.05**	**196**	⇓*i*	**P**	**07 32 01.2**	**+1.5**
VNA3	**Neumayer Olymp**	**92.05**	**196**	*e*	**P**	**07 32 05.7**	**+6.0**
VNA3	**Neumayer Olymp**	**92.05**	**196**	*e*	**P**	**07 32 08.1**	**+8.4**
AKASG	**Malin Array Be**	**92.83**	**321**	P	**P**	**07 32 03.0**	**-0.8**
	comp=Z,0.6nm,0.4s,mb4.1,baz=79,slow=4.5,SNR=4.7						
FINES	**FINESS Array B**	**96.11**	**331**	P	**P**	**07 32 18.8**	**+0.4**
	comp=Z,0.8nm,0.6s,mb4.2,baz=117,slow=8.5,SNR=4.0						
FINES	**FINESS Array B**	**96.11**	**331**	P	**P**	**07 32 18.8**	**+0.4**
ILAR	**Eielson Array**	**101.78**	**26**	PP	PP	07 36 57.4	-1.0
	comp=Z,0.6nm,0.9s,baz=283,slow=7.1,SNR=7.4						
YKA	**Yellowknife Ar**	**115.93**	**23**	PKP	PKPdf	07 37 33.8	+2.1
	comp=Z,0.2nm,0.6s,baz=314,slow=1.7,SNR=3.9						
YKA				PP	PP	07 38 42.4	0.0
	comp=Z,0.3nm,0.8s,baz=317,slow=7.0,SNR=4.2						
YKA	**Yellowknife Ar**	**115.93**	**23**	PKP	PKPdf	07 37 33.9	+2.1
YKA				PP	PP	07 38 42.4	0.0
ULM	**Lac du Bonnet**	**131.80**	**25**	SKPbc		07 41 16.5	
	comp=Z,5.9nm,0.6s,baz=306,slow=4.4,SNR=6.3						
SCHQ	**Schefferville**	**133.79**	**0**	PKP	PKPdf	07 38 07.8	+1.7
	comp=Z,2.7nm,1.2s,baz=32,slow=18,SNR=3.1						
SCHQ				SKPbc		07 41 23.3	
	comp=Z,4.8nm,0.9s,baz=234,slow=19,SNR=7.2						
TXAR	**Lajitas Array**	**139.54**	**54**	PKhKP		07 38 10.2	
	comp=Z,0.1nm,0.7s,baz=304,slow=14,SNR=3.2						
TXAR				PKP	PKPdf	07 38 18.9	+1.5
	comp=Z,0.4nm,0.8s,baz=220,slow=4.2,SNR=4.0						
TXAR				SKPbc		07 41 42.4	
	comp=Z,0.6nm,0.9s,baz=243,slow=2.8,SNR=5.2						
CPUP	**Villa Florida**	**144.23**	**194**	PKP	PKPdf	07 38 27.1	+1.3
	comp=Z,12nm,0.8s,baz=212,slow=1.6,SNR=26						
CPUP	**Villa Florida**	**144.23**	**194**	*e*PKPdf	PKPdf	07 38 26.5	+0.8
UALR	**University of**	**144.77**	**38**	*e*PKPdf	PKPdf	07 38 26.4	0.0
ACSO	**Alum Creek Sta**	**145.19**	**22**	*e*PKPdf	PKPdf	07 38 29.2	+2.2
BINY	**Binghamton**	**145.43**	**12**	*e*PKPdf	PKPdf	07 38 29.8	+2.5
WVT	**Waverly**	**146.37**	**32**	*e*PKPdf	PKPdf	07 38 32.9	+3.8
OXF	**Oxford**	**146.70**	**36**	*e*PKPdf	PKPdf	07 38 33.7	+4.0
MCWV	**Mont Chateau**	**146.78**	**19**	*e*PKPbc	PKPbc	07 38 34.1	+2.8
TZTN	**Tazewell**	**148.11**	**26**	*e*PKPbc	PKPdf	07 38 37.9	+5.9
ELN	**Prospectdale**	**148.65**	**22**	*e*PKPbc	PKPdf	07 38 38.8	+5.9
LVC	**Limon Verde**	**149.00**	**176**	*e*PKPbc	PKPdf	07 38 40.4	+6.6
LRAL	**Lakeview Retre**	**149.15**	**35**	*e*PKPbc	PKPdf	07 38 40.1	+6.4
BDFB	**Brasilia**	**149.76**	**218**	PKP	PKPdf	07 38 35.9	+0.8
	comp=Z,0.8nm,0.4s,baz=243,slow=25,SNR=2.4						
BDFB				PKPbc	PKPdf	07 38 42.9	+7.8
	comp=Z,4.2nm,0.5s,baz=166,slow=5.6,SNR=4.3						
BDFB				PKPab	PKPab	07 38 48.0	-0.1
	comp=Z,5.3nm,0.6s,baz=109,slow=2.5,SNR=8.4						
LPAZ	**La Paz**	**155.33**	**176**	PKPab	PKPab	07 39 12.5	+1.0
	comp=Z,2.5nm,0.6s,baz=194,slow=9.5,SNR=17						
LPAZ	**La Paz**	**155.33**	**176**	*e*PKPab	PKPab	07 39 12.4	+0.9

*LDG **06** 07:27:04.3±0.2, 35.72N×3.58W, h10^{km}, Md3.9/1, Ml4.0/1, Error ellipse: s-maj=5.9km s-min=4.0km az=10.0*
*CSEM **06** 07:27:04.6±0.1, 35.59N×3.41W, h40^{km}, MD4.0, Error ellipse: s-maj=1.7km s-min=1.1km az=104.0*
*CNRM **06** 07:27:04.9, 35.77N×3.32W, h30^{km}, MD4.0*
*MDD **06** 07:27:05.1±0.2, 35.75N×3.52W, mbLg3.5/7, Error ellipse: s-maj=2.3km s-min=2.2km az=41.0, PRXIMO*
*SFS **06** 07:27:05.0, 35.75N×3.47W*
*IDC **06** 07:27:05.7±2.1, 35.80N×3.06W, mb3.9/2, mb1 4.0/3, mb1mx3.5/24, mbtmp3.8/3, ML4.1/1, Error ellipse: s-maj=42.4km s-min=28.6km az=58.0*
*INMG **06** 07:27:05.6±1.2, 35.73N×3.50W, ML3.4, Error ellipse: s-maj=4.1km s-min=3.5km az=133.0*
*NEIC **06** 07:27:05.5, 35.76N×3.50W, MN3.5(MDD), After MDD.*
NEIC Felt at Melilla, Spain.
ISC 06 07:27:03.1±0.5**, 35.68N**±0.01×**3.52W**±0.02**, h11**^{km}±3^{km}**, n113,** σ1^s**40**/184**, mb4.0**/2**, 6C-2D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.47**	**57**	P	**Pg**	**07 27 13.2**	**+0.4**
EALB				S	**Sg**	**07 27 18.9**	**-0.4**
EALB	**Alboran**	**0.47**	**57**	⇑Pg	**Pg**	**07 27 13.1**	**+0.3**
	2μm,0.2s,SNR=18						
EALB				Lg		07 27 18.8	
	10μm,0.3s,SNR=7.9						
MPAL	**Palemas**	**0.57**	**217**	*i* P	**Pb**	**07 27 16.0**	**+1.4**
MPAL				*i* S	**Sb**	**07 27 27.0**	**+4.6**
EMEL	**Melilla**	**0.60**	**129**	⇑Pg	**Pg**	**07 27 17.2**	**+2.0**
	8μm,0.2s,SNR=18						
EMEL				Lg		07 27 25.2	
	27μm,0.3s,SNR=7.9						
EMLI	**Melilla**	**0.60**	**129**	P	**Pb**	**07 27 17.2**	**+2.0**
	8μm,0.2s,SNR=18						
EMLI				S	**Sb**	**07 27 25.2**	**+1.8**
	27μm,0.3s,SNR=7.9						
MELI	**Melilla**	**0.62**	**129**	P	**Pb**	**07 27 17.4**	**+2.0**
MELI				S	**Sb**	**07 27 25.5**	**+1.7**
MELI	**Melilla**	**0.62**	**129**	*i* P	**Pb**	**07 27 17.4**	**+2.0**
MELI				*e*S	**Sb**	**07 27 25.5**	**+1.7**
TOU	**Touzarine**	**0.74**	**195**	*i* P	**Pb**	**07 27 19.0**	**+1.5**
TOU				*i* S	**Sb**	**07 27 31.0**	**+3.6**
ZAI	**Zaio**	**0.95**	**138**	*i* P	**Pb**	**07 27 20.5**	**-0.6**
ZAI				*i* S	**Sb**	**07 27 32.0**	**-1.5**
EGUA	**Guajares**	**1.15**	**358**	Pg	**Pg**	**07 27 24.6**	**-1.5**
	17nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.32**	**23**	P	**Pb**	**07 27 27.9**	**+0.5**
EBER				S	**Sb**	**07 27 44.0**	**-0.1**
EBER	**Berja**	**1.32**	**23**	⇑Pg	**Pg**	**07 27 27.9**	**-1.6**
	29nm,0.2s,SNR=18						
EBER				Lg		07 27 44.0	
	2μm,0.6s,SNR=7.9						
EBER	**Berja**	**1.32**	**23**	P	**Pb**	**07 27 27.9**	**+0.6**
	52nm,0.2s,SNR=7.9						
EBER				S	**Sb**	**07 27 44.0**	**0.0**
	2μm,0.6s,SNR=7.9						
EMIJ	**Mijas**	**1.34**	**311**	⇑Pg	**Pg**	**07 27 28.3**	**-1.6**
	43nm,0.2s,SNR=18						
EMIJ				Lg		07 27 45.3	
	535nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**1.34**	**311**	P	**Pn**	**07 27 28.3**	**+0.5**
	43nm,0.2s,SNR=7.9						
EMIJ				S	**Sb**	**07 27 45.3**	**+0.6**
	535nm,0.3s,SNR=7.9						
ERON	**Agron**	**1.35**	**350**	P	**Pn**	**07 27 27.8**	**-0.2**
ERON				S	**Sb**	**07 27 45.5**	**+0.5**
ERON	**Agron**	**1.35**	**350**	Pg	**Pg**	**07 27 27.8**	**-2.3**
	36nm,0.2s,SNR=7.9						
ERON				Lg		07 27 45.5	
	105nm,0.3s,SNR=7.9						
ERON	**Agron**	**1.35**	**350**	P	**Pn**	**07 27 27.8**	**-0.1**
	36nm,0.2s,SNR=7.9						
ERON				S	**Sb**	**07 27 45.5**	**+0.4**
	105nm,0.3s,SNR=7.9						
DKH	**Dar Kharkhour**	**1.51**	**263**	*i* P	**Pn**	**07 27 31.0**	**+0.8**
DKH				*i* S	**Sb**	**07 27 51.0**	**+1.3**
ELOJ	**Sierra Loja**	**1.55**	**341**	P	**Pn**	**07 27 32.3**	**+1.6**
ELOJ				S	**Sb**	**07 27 55.8**	**+5.1**
ELOJ	**Sierra Loja**	**1.55**	**341**	Pg	**Pg**	**07 27 32.3**	**-1.7**
	13nm,0.2s,SNR=7.9						
ELOJ				Lg		07 27 53.0	
	84nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.55**	**341**	P	**Pn**	**07 27 32.3**	**+1.6**
	13nm,0.2s,SNR=7.9						
ELOJ				S	**Sb**	**07 27 53.0**	**+2.3**
	84nm,0.3s,SNR=7.9						
REAL	**Reales**	**1.58**	**301**	⇓P	**Pn**	**07 27 33.1**	**+1.8**
REAL				S	**Sn**	**07 27 51.5**	**-0.3**
REAL	**Reales**	**1.58**	**301**	*i* P	**Pn**	**07 27 33.1**	**+1.9**
REAL				*e*S	**Sn**	**07 27 51.5**	**-0.2**
ECOG	**Cogollos-Vega**	**1.59**	**359**	P	**Pn**	**07 27 33.0**	**+1.6**
ECOG	**Cogollos-Vega**	**1.59**	**359**	Pg	**Pg**	**07 27 32.9**	**-2.1**
	23nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.59**	**359**	P	**Pn**	**07 27 32.8**	**+1.4**
	23nm,0.2s,SNR=7.9						
MDAL	**Dalia**	**1.61**	**278**	*i* P	**Pn**	**07 27 33.0**	**+1.4**
MDAL				*i* S	**Sn**	**07 27 53.0**	**+0.6**
ENIJ	**Nijar**	**1.67**	**39**	P	**Pn**	**07 27 30.7**	**-1.8**
ENIJ	**Nijar**	**1.67**	**39**	Pn	**Pn**	**07 27 30.9**	**-1.6**
	66nm,0.4s,SNR=7.9						
OUJ	**Oujda**	**1.68**	**127**	*i* P	**Pn**	**07 27 30.0**	**-2.6**
OUJ				*i* S	**Sn**	**07 27 48.0**	**-6.2**
TZK	**Tazeka**	**1.68**	**199**	*i* P	**Pn**	**07 27 32.0**	**-0.6**
TZK				*i* S	**Sn**	**07 27 54.0**	**-0.3**
ELUQ	**Luque**	**1.97**	**343**	P	**Pn**	**07 27 40.5**	**+3.8**
ELUQ	**Luque**	**1.97**	**343**	Pg	**Pg**	**07 27 39.5**	**-2.9**
	21nm,0.2s,SNR=7.9						
ELUQ				Lg		07 28 07.6	
	135nm,0.3s,SNR=7.9						
ELUQ	**Luque**	**1.97**	**343**	P	**Pn**	**07 27 38.7**	**+2.0**
	21nm,0.2s,SNR=7.9						
TSY	**Tnine Yamani**	**2.02**	**262**	*e*P	**Pn**	**07 27 39.0**	**+1.5**
TSY				*i* S	**Sn**	**07 28 03.0**	**+0.1**
EQES	**Quesada**	**2.15**	**10**	P	**Pn**	**07 27 41.4**	**+2.1**
EQES				S	**Sn**	**07 28 09.8**	**+3.6**
EQES	**Quesada**	**2.15**	**10**	⇓Pn	**Pn**	**07 27 41.1**	**+1.8**
	24nm,0.1s,SNR=18						
EQES				Pg	**Pg**	**07 27 43.0**	**-3.0**
	63nm,0.2s,SNR=7.9						
EQES				Sn	**Sn**	**07 28 07.3**	**+1.1**
	908nm,0.7s,SNR=7.9						
EQES	**Quesada**	**2.15**	**10**	P	**Pn**	**07 27 41.0**	**+1.7**
	SNR=7.9						
EQES				S	**Sn**	**07 28 07.3**	**+1.2**
	908nm,0.7s,SNR=7.9						
ESPR	**Espera**	**2.23**	**303**	P	**Pn**	**07 27 44.3**	**+3.9**
ESPR	**Espera**	**2.23**	**303**	Pn	**Pn**	**07 27 43.5**	**+3.1**
	14nm,0.2s,SNR=7.9						
ESPR				Sn	**Sn**	**07 28 09.0**	**+0.8**
	29nm,0.2s,SNR=7.9						
ESPR				Lg		07 28 17.1	
	75nm,0.4s,SNR=7.9						
EHUE	**Huescar**	**2.25**	**19**	P	**Pn**	**07 27 42.6**	**+1.7**
EHUE				S	**Sn**	**07 28 08.5**	**-0.4**
EHUE	**Huescar**	**2.25**	**19**	⇑Pn	**Pn**	**07 27 43.0**	**+2.1**
	15nm,0.2s,SNR=18						
EHUE				Sn	**Sn**	**07 28 08.5**	**-0.4**
	227nm,0.8s,SNR=7.9						
EHUE	**Huescar**	**2.25**	**19**	P	**Pn**	**07 27 42.6**	**+1.7**
	15nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**07 28 08.5**	**-0.4**
	227nm,0.8s,SNR=7.9						
EBAN	**Banos Encina**	**2.49**	**355**	P	**Pn**	**07 27 46.4**	**+2.2**
EBAN				S	**Sn**	**07 28 19.5**	**+4.8**
EBAN	**Banos Encina**	**2.49**	**355**	Pn	**Pn**	**07 27 45.9**	**+1.7**
	0.9nm,0.4s,SNR=7.9						
EBAN				Sn	**Sn**	**07 28 15.6**	**+0.9**
	195nm,0.8s,SNR=7.9						
EBAN	**Banos Encina**	**2.49**	**355**	P	**Pn**	**07 27 45.5**	**+1.3**
	SNR=7.9						
EBAN				S	**Sn**	**07 28 15.6**	**+0.9**
	195nm,0.8s,SNR=7.9						
EADA	**Adamuz**	**2.62**	**342**	P	**Pn**	**07 27 47.2**	**+1.1**
EADA				S	**Sn**	**07 28 24.1**	**+5.9**
EADA	**Adamuz**	**2.62**	**342**	Pn	**Pn**	**07 27 46.7**	**+0.6**
	2.6nm,0.1s,SNR=7.9						
EADA				Pg	**Pg**	**07 27 51.5**	**-4.0**
	14nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**07 28 18.3**	**+0.2**
	22nm,0.2s,SNR=7.9						
EADA				Lg		07 28 24.4	
	116nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**2.62**	**342**	P	**Pn**	**07 27 47.2**	**+1.1**
EADA				S	**Sn**	**07 28 24.1**	**+6.0**
MIF	**Mishlifen**	**2.67**	**212**	*i* P	**Pn**	**07 27 46.0**	**-0.8**
MIF				*i* S	**Sn**	**07 28 18.0**	**-1.4**
CART	**Cartagena**	**2.78**	**46**	*e*P	**Pn**	**07 27 48.0**	**-0.3**
CART	**Cartagena**	**2.78**	**46**	P	**Pn**	**07 27 49.4**	**+1.0**
CART	**Cartagena**	**2.78**	**46**	*e*P	**Pn**	**07 27 48.0**	**-0.4**
CART				*e*S	**Sn**	**07 28 16.6**	**-5.6**
ECAB	**El Cabril**	**2.83**	**328**	Pn	**Pn**	**07 27 50.0**	**+0.9**
	0.5nm,0.1s,SNR=7.9						
ECAB				Sn	**Sn**	**07 28 29.9**	**+6.5**
	422nm,0.8s,SNR=7.9						
ECAB	**El Cabril**	**2.83**	**328**	P	**Pn**	**07 27 50.0**	**+0.9**
	0.5nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**2.83**	**40**	Pn	**Pn**	**07 27 50.4**	**+1.3**
	56nm,0.6s,SNR=7.9						
EMUR				Pg	**Pg**	**07 27 55.8**	**-3.8**
	22nm,0.3s,SNR=7.9						
EMUR				Sn	**Sn**	**07 28 17.7**	**-5.7**
	110nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**2.83**	**40**	P	**Pn**	**07 27 50.4**	**+1.3**
	56nm,0.6s,SNR=7.9						
CZD	**Col de Zad**	**2.93**	**206**	*i* P	**Pn**	**07 27 50.0**	**-0.5**
CZD				*i* S	**Sn**	**07 28 25.0**	**-0.9**
EVIA	**Vianos**	**3.06**	**15**	Pn	**Pn**	**07 27 56.0**	**+3.7**
	26nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.27**	**310**	Pn	**Pn**	**07 27 56.5**	**+1.1**
	3.9nm,0.2s,SNR=7.9						
EMIN				Pg	**Pg**	**07 28 04.7**	**-3.8**
	6.3nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**07 28 34.3**	**-0.4**
	38nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.27**	**310**	P	**Pn**	**07 27 56.5**	**+1.1**
	3.9nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**07 28 34.3**	**-0.4**
	38nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**3.35**	**28**	Pn	**Pn**	**07 27 57.3**	**+0.8**
	21nm,0.3s,SNR=7.9						
ETOB				Sn	**Sn**	**07 28 35.9**	**-0.8**
	242nm,1.1s,SNR=7.9						
ETOB	**Tobarra**	**3.35**	**28**	P	**Pn**	**07 27 57.3**	**+0.8**
	21nm,0.3s,SNR=7.9						
ETOB				S	**Sn**	**07 28 35.9**	**-0.8**
	242nm,1.1s,SNR=7.9						
EGRO	**El Granado**	**3.68**	**301**	P	**Pn**	**07 28 02.8**	**+1.6**
EGRO	**El Granado**	**3.68**	**301**	⇑Pn	**Pn**	**07 28 02.8**	**+1.6**
	11nm,0.3s,SNR=18						
EGRO				Sn	**Sn**	**07 28 44.3**	**-0.8**
	60nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**3.68**	**301**	P	**Pn**	**07 28 02.8**	**+1.6**
	11nm,0.3s,SNR=18						
EGRO				S	**Sn**	**07 28 44.3**	**-0.7**
	60nm,0.4s,SNR=7.9						
ZFT	**Errachidia**	**3.70**	**191**	*i* P	**Pn**	**07 28 01.0**	**-0.5**
ZFT				*i* S	**Sn**	**07 28 43.0**	**-2.6**
KIB	**El Ksiba**	**3.73**	**215**	*i* P	**Pn**	**07 28 01.0**	**-0.9**
KIB				*i* S	**Sn**	**07 28 45.0**	**-1.4**
ESDC	**Sonseca Array**	**4.00**	**355**	Pn	**Pn**	**07 28 06.8**	**+1.1**
	6.0nm,0.3s,baz=170,slow=12,SNR=12						
ESDC				Lg		07 29 10.9	
	11nm,0.3s,baz=172,slow=28,SNR=9.5						
ESLA	**Sonseca Array**	**4.00**	**355**	P	**Pn**	**07 28 04.3**	**-1.4**
ESLA	**Sonseca Array**	**4.00**	**355**	P	**Pn**	**07 28 04.3**	**-1.4**
EBEN	**Beniarda**	**4.00**	**40**	Pn	**Pn**	**07 28 05.4**	**-0.4**
	2.6nm,0.3s,SNR=7.9						
EBEN				Pg	**Pg**	**07 28 16.5**	**-6.6**
	4.5nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**4.00**	**40**	P	**Pn**	**07 28 05.4**	**-0.4**
	SNR=7.9						
EBAD	**Badajoz**	**4.14**	**319**	P	**Pn**	**07 28 08.7**	**+0.9**
EBAD	**Badajoz**	**4.14**	**319**	Pn	**Pn**	**07 28 08.8**	**+1.1**
	1.8nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**07 28 54.1**	**-2.6**
	11nm,0.4s,SNR=7.9						
EBAD	**Badajoz**	**4.14**	**319**	P	**Pn**	**07 28 08.7**	**+1.0**
	1.8nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**4.20**	**305**	*e*Pn	**Pn**	**07 28 09.7**	**+1.2**
PBEJ				*e*Sn	**Sn**	**07 28 57.0**	**-1.0**
	28nm,0.8s						
PBEJ	**Beja**	**4.20**	**305**	*e*Pn	**Pn**	**07 28 09.7**	**+1.2**
PBEJ				*e*Sn	**Sn**	**07 28 57.0**	**-1.0**
	28nm,0.8s						
TZC	**Tazercounte**	**4.30**	**216**	*i* P	**Pn**	**07 28 09.0**	**-1.0**
TZC				*i* S	**Sn**	**07 28 58.0**	**-2.8**
EVO	**Evora**	**4.58**	**310**	*e*P	**Pn**	**07 28 16.1**	**+2.2**
EVO				*e*Sn	**Sn**	**07 29 01.7**	**-6.0**
	90nm,0.5s						
PTEO	**Sao Teotonio**	**4.58**	**295**	*e*Pn	**Pn**	**07 28 15.6**	**+1.7**
PTEO				*e*Sn	**Sn**	**07 29 07.1**	**-0.6**
	71nm,0.6s						
PTEO	**Sao Teotonio**	**4.58**	**295**	*e*Pn	**Pn**	**07 28 15.6**	**+1.7**
PTEO				*e*Sn	**Sn**	**07 29 07.1**	**-0.6**
	71nm,0.6s						
EIBI	**Ibiza**	**5.12**	**48**	Pn	**Pn**	**07 28 19.8**	**-1.8**
	9.8nm,0.3s,SNR=7.9						
EIBI				Sn	**Sn**	**07 29 14.9**	**-6.4**
	16nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**5.12**	**48**	P	**Pn**	**07 28 19.8**	**-1.7**
	9.8nm,0.3s,SNR=7.9						
PCBR	**Castelo Branco**	**5.20**	**324**	*e*Pn	**Pn**	**07 28 23.6**	**+0.9**
PCBR				*e*Sn	**Sn**	**07 29 20.9**	**-2.5**
	42nm,0.4s						
PCBR	**Castelo Branco**	**5.20**	**324**	*e*Pn	**Pn**	**07 28 23.6**	**+0.9**
PCBR				*e*Sn	**Sn**	**07 29 20.9**	**-2.5**
	42nm,0.4s						
PTOM	**Tomar**	**5.52**	**317**	*e*Pn	**Pn**	**07 28 28.3**	**+1.1**
PTOM				*e*Sn	**Sn**	**07 29 29.8**	**-1.6**
	52nm,0.5s						
MTE	**Manteigas**	**5.68**	**327**	*e*Pn	**Pn**	**07 28 30.3**	**+0.9**
MTE				*e*Sn	**Sn**	**07 29 32.4**	**-3.0**
	62nm,0.6s						
OUK	**Oukaimeden**	**5.75**	**220**	*i* P	**Pn**	**07 28 30.0**	**-0.5**
CIA	**Chichaoua**	**5.99**	**228**	P	**Pn**	**07 28 33.0**	**-0.9**
CIA				S	**Sn**	**07 29 38.0**	**-5.3**
CIA	**Chichaoua**	**5.99**	**228**	*i* P	**Pn**	**07 28 33.0**	**-0.9**
ERTA	**Horta de San J**	**6.08**	**29**	P	**Pn**	**07 28 31.9**	**-3.1**
ERTA	**Horta de San J**	**6.08**	**29**	Pn	**Pn**	**07 28 33.4**	**-1.7**
	9.9nm,0.6s,SNR=7.9						
ERTA	**Horta de San J**	**6.08**	**29**	P	**Pn**	**07 28 33.4**	**-1.7**
	0.1nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**6.47**	**49**	P	**Pn**	**07 28 38.5**	**-2.2**
ETOS				S	**Sn**	**07 29 47.3**	**-7.9**
ETOS	**Mallorca**	**6.47**	**49**	Pn	**Pn**	**07 28 38.5**	**-2.2**
	3.6nm,0.3s,SNR=7.9						
ETOS				Sn	**Sn**	**07 29 48.1**	**-7.1**
	7.2nm,0.7s,SNR=7.9						
ETOS	**Mallorca**	**6.47**	**49**	P	**Pn**	**07 28 38.5**	**-2.1**
PVRL	**Vila Real**	**6.48**	**331**	*e*Pn	**Pn**	**07 28 41.0**	**+0.2**
PVRL				*e*Sn	**Sn**	**07 29 51.9**	**-3.5**
	26nm,0.5s						
ECAL	**Calabor**	**6.73**	**339**	P	**Pn**	**07 28 44.9**	**+0.6**
ECAL				S	**Sn**	**07 29 55.4**	**-6.4**
ECAL	**Calabor**	**6.73**	**339**	Pn	**Pn**	**07 28 44.9**	**+0.6**
	2.9nm,0.3s,SNR=7.9						
ECAL				Sn	**Sn**	**07 29 59.5**	**-2.2**
	9.0nm,0.4s,SNR=7.9						
ECAL				Lg		07 30 37.1	
	11nm,0.5s,SNR=7.9						
ECAL	**Calabor**	**6.73**	**339**	P	**Pn**	**07 28 44.9**	**+0.6**
ELOB	**Lobios**	**7.12**	**332**	Pn	**Pn**	**07 28 49.4**	**-0.3**
	1.6nm,0.2s,SNR=7.9						
ELOB				Sn	**Sn**	**07 30 05.1**	**-6.3**
	7.2nm,0.4s,SNR=4.0						
ELOB				Lg		07 30 50.9	
	7.6nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**7.12**	**332**	P	**Pn**	**07 28 49.4**	**-0.3**
ETSF	**Etsaut**	**7.56**	**17**	*e*Pn	**Pn**	**07 28 52.3**	**-3.7**
SJPF	**Ste Jean**	**7.63**	**13**	*e*Pn	**Pn**	**07 28 52.5**	**-4.4**
EALK	**Alkurruntz**	**7.69**	**11**	Pn	**Pn**	**07 28 58.1**	**+0.4**
	1.6nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**7.72**	**351**	Pn	**Pn**	**07 28 57.8**	**-0.4**
	0.9nm,0.3s,SNR=7.9						
EARI				Lg		07 31 09.2	
	3.7nm,0.5s,SNR=7.9						
EARI	**Arriondas**	**7.72**	**351**	P	**Pn**	**07 28 57.8**	**-0.3**
EPF	**Esparros**	**7.92**	**21**	*e*Pn	**Pn**	**07 28 56.0**	**-5.0**

PGF	**Pioggiola**	**11.89**	**51**	*e*Pn	**P**	**07 29 51.8**	**-3.7**
MKAR	**Makanchi Array**	**62.44**	**51**	P	**P**	**07 37 27.7**	**-0.6**
	1.4nm,0.7s,mb4.2,baz=286,slow=5.4,SNR=9.9						
YKA	**Yellowknife Ar**	**67.77**	**332**	P	**P**	**07 38 05.8**	**+3.4**
	0.6nm,0.6s,mb3.8,baz=59,slow=6.3,SNR=9.8						

*NEIC **06** 07:27:15.4±5.1, 19.42N×121.73E, h3km±30km, mb4.3/1, Error ellipse: s-maj=15.4km s-min=12.4km az=83.0*
*IDC **06** 07:27:15.2±0.8, 19.45N×121.73E, mb4.0/14, mb1 4.2/14, mb1mx4.1/23, mbtmp4.1/14, Error ellipse: s-maj=31.2km s-min=20.1km az=58.0*
*MAN **06** 07:27:18.5, 19.54N×121.48E, h24km, mb4.9, ML3.8, MS3.8*
*BJI **06** 07:27:18.6, 19.44N×121.01E, h10km, mb4.4*
ISC 06 07:27:17.9±1.2**, 19.56N**±0.03×**121.40E**±0.10**, h18**km±11km**, n32,** σ0^{s}96/35**, mb4.0**/17**, 2C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**1.03**	**31**	*e*P	**Pb**	**07 27 36.7**	**-0.2**
BBP				*e*S	**Sb**	**07 27 50.4**	**+0.5**
APYP	**Conner**	**1.69**	**185**	*e*P	**Pn**	**07 27 45.8**	**-1.1**
APYP				*e*S	**Sn**	**07 28 07.2**	**-1.0**
CVP	**Callao Caves**	**1.89**	**168**⇓	*e*P	**Pn**	**07 27 49.2**	**-0.5**
CVP				*i* S	**Sn**	**07 28 13.5**	**+0.3**
ABRA	**Dolores**	**2.00**	**199**	*e*P	**Pn**	**07 27 51.0**	**-0.4**
ABRA				*e*S	**Sn**	**07 28 16.2**	**0.0**
CAUP	**Cauayan**	**2.63**	**171**	*e*P	**Pn**	**07 28 00.8**	**+0.4**
BALP	**Baler**	**3.80**	**177**	*e*P	**Pn**	**07 28 17.4**	**+0.4**
BALP				*e*S	**Sn**	**07 29 03.1**	**+1.4**
PCPH	**Palayan**	**3.98**	**184**⇑	*e*P	**Pn**	**07 28 20.3**	**+0.7**
YHNB	**Yeheng**	**5.09**	**360**	*e*P	**Pn**	**07 28 34.6**	**-0.6**
GZH	**Guangzhou**	**8.29**	**296**	P	**P**	**07 29 17.7**	**-2.5**
CMAR	**Chiang Mai Arr**	**21.26**	**271**	P	**P**	**07 32 06.3**	**+0.8**
	2.3nm,0.9s,mb3.5,baz=62,slow=10,SNR=7.5						
SNY	**Shenyang**	**22.28**	**4** ⇑	P	**P**	**07 32 16.0**	**+0.4**
SNY				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
LZH	**Lanzhou**	**22.57**	**320**	*e*P	**P**	**07 32 20.0**	**+1.4**
LZH				AP		07 32 30.0	
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.4						
ULN	**Ulaanbaatar**	**30.55**	**341**	*e*P	**P**	**07 33 32.9**	**+0.4**
	comp=Z,5.1nm,1.1s,mb4.3						
SONM	**Songino Array**	**30.73**	**340**	P	**P**	**07 33 34.6**	**+0.4**
	comp=Z,1.5nm,0.6s,mb4.0,baz=162,slow=7.8,SNR=7.3						
WRA	**Warramunga Arr**	**41.25**	**161**	P	**P**	**07 35 00.2**	**-3.6**
	comp=Z,2.1nm,0.7s,mb3.9,baz=342,slow=9.1,SNR=11						
WRA				PcP	PcP	07 37 01.3	-1.9
	comp=Z,0.4nm,0.5s,baz=343,slow=3.3,SNR=5.1						
MKAR	**Makanchi Array**	**41.88**	**320**	P	**P**	**07 35 10.0**	**+1.3**
	comp=Z,2.6nm,0.8s,mb3.9,baz=113,slow=9.2,SNR=12						
BVAR	**Borovoye Array**	**51.42**	**323**	P	**P**	**07 36 24.1**	**+0.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=120,slow=12,SNR=6.7						
BVAR				PcP	PcP	07 37 37.2	-1.3
	comp=Z,0.8nm,0.6s,baz=135,slow=2.1,SNR=4.1						
ILAR	**Eielson Array**	**73.23**	**27**	P	**P**	**07 38 46.9**	**-2.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=270,slow=4.4,SNR=7.5						
ARCES	**ARCESS Array B**	**73.89**	**339**	P	**P**	**07 38 53.0**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=51,slow=7.8,SNR=6.1						
KAF	**Kangasniemi**	**75.27**	**331**	*e*p	**P**	**07 39 00.1**	**-1.1**
FINES	**FINESS Array B**	**75.53**	**330**	P	**P**	**07 39 02.5**	**-0.3**
	comp=Z,1.7nm,0.8s,mb4.0,baz=117,slow=8.5,SNR=9.4						
AKASG	**Malin Array Be**	**76.47**	**319**	P	**P**	**07 39 07.0**	**-1.2**
	comp=Z,0.5nm,0.4s,mb3.8,baz=60,slow=5.7,SNR=4.7						
MLR	**Muntele Rosu**	**80.01**	**315**	P	**P**	**07 39 28.5**	**+0.7**
	comp=Z,1.3nm,0.6s,mb4.1,baz=3.6,slow=3.3,SNR=4.0						
HFS	**Hagfors**	**81.69**	**331**	P	**P**	**07 39 36.9**	**+0.6**
	comp=Z,1.1nm,0.6s,mb3.9,baz=90,slow=2.9,SNR=5.3						
NB2	**NORSAR Subarra**	**82.40**	**333**	P	**P**	**07 39 39.7**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.6,baz=63,slow=4.8						
NOA	**NORSAR Array B**	**82.40**	**333**	P	**P**	**07 39 39.5**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.7,baz=64,slow=5.0,SNR=3.8						
NOA	**NORSAR Array B**	**82.40**	**333**	P	**P**	**07 39 39.5**	**-0.5**
VRAC	**Vranov**	**84.61**	**321**	P	**P**	**07 39 53.0**	**+1.5**
	comp=Z,2.3nm,0.6s,mb4.5,baz=59,slow=5.9,SNR=3.4						
YKA	**Yellowknife Ar**	**87.14**	**23**	P	**P**	**07 40 03.1**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.5,baz=313,slow=4.7,SNR=26						
YKA	**Yellowknife Ar**	**87.14**	**23**	P	**P**	**07 40 03.1**	**-0.6**
TXAR	**Lajitas Array**	**114.80**	**43**	PKP	PKPdf	07 45 58.6	-3.2
	comp=Z,0.2nm,0.6s,baz=225,slow=1.8,SNR=4.4						
SDV	**Santo Domingo**	**149.35**	**24**	PKPbc	PKPdf	07 47 07.1	+1.0
	comp=Z,3.5nm,0.6s,baz=344,slow=7.0,SNR=6.0						

*ATH **06** 07:30:27.7, 38.77N×21.03E, h22km±2km, MD3.3/4*
*NEIC **06** 07:30:27.8, 38.74N×21.02E, h27km, MD3.4(ATH), After ATH.*
*THE **06** 07:30:28.8, 38.92N×20.88E, h6km, ML2.4*
*CSEM **06** 07:30:28.1±0.2, 38.80N×21.00E, h8km, ML2.4, Error ellipse: s-maj=5.6km s-min=3.8km az=118.0*
ISC 06 07:30:27.4±0.6**, 38.78N**±0.04×**20.99E**±0.05**, h21**km±7km**, n15,** σ1^{s}12/25**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.28**	**255**	*e*Pg	**Pb**	**07 30 33.6**	**-0.2**
LKD				*e*Sg	**Sb**	**07 30 38.6**	**+0.4**
EVR	**Evrytania**	**0.65**	**78**	*e*PB	**Pb**	**07 30 39.8**	**-0.2**
EVR				*e*SN	**Sn**	**07 30 49.4**	**-1.6**
EVR	**Evrytania**	**0.65**	**78**	*e*Pb	**Pb**	**07 30 39.6**	**-0.4**
EVR				*e*Sn	**Sn**	**07 30 50.4**	**-0.6**
VLS	**Valsamata**	**0.68**	**208**	*e*PN	**Pn**	**07 30 41.3**	**-0.4**
VLS				*e*SN	**Sn**	**07 30 51.7**	**0.0**
VLS	**Valsamata**	**0.68**	**208**	*e*Pn	**Pn**	**07 30 41.2**	**-0.5**
RLS	**Riolos of Patr**	**0.81**	**153**	*e*PN	**Pn**	**07 30 43.2**	**-0.4**
RLS				*e*SN	**Sn**	**07 30 54.5**	**-0.6**
RLS	**Riolos of Patr**	**0.81**	**153**	*e*Pn	**Pn**	**07 30 43.3**	**-0.3**
JAN	**Janina**	**0.88**	**353**	*e*PN	**Pn**	**07 30 44.8**	**+0.2**
JAN	**Janina**	**0.88**	**353**	*e*Pn	**Pn**	**07 30 45.5**	**+0.9**
MEV	**Metsovon**	**1.02**	**10**	*e*Pg	**Pb**	**07 30 46.2**	**-0.1**
MEV				*e*Sg	**Sb**	**07 30 58.8**	**-0.5**
KEK	**Kerkira**	**1.31**	**316**	*e*PN	**Pn**	**07 30 53.1**	**+2.3**
KEK				*e*SN	**Sn**	**07 31 11.5**	**+3.7**
LIT	**Litokhoron**	**1.76**	**41**	*e*Pb	**Pb**	**07 30 58.4**	**-0.4**
LIT				*e*Sb	**Sb**	**07 31 21.6**	**+1.1**
XOR	**Xorichti**	**1.81**	**70**	*e*Pb	**Pb**	**07 31 00.7**	**+1.0**
XOR				*e*Sb	**Sb**	**07 31 24.7**	**+2.6**
FNA	**Florina**	**2.02**	**8**	*e*Pb	**Pb**	**07 31 01.3**	**-2.1**
FNA				*e*Sb	**Sb**	**07 31 26.1**	**-2.1**
KNT	**Kendrikon**	**2.79**	**31**	*e*Pn	**Pn**	**07 31 12.7**	**+0.8**

CASC 06 07:31:52.6±2.6**, 8.38N**×**82.76W, h25**km±7km**, MD3.5, 1C-6D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.31**	**80**⇓	*i*P	Pb	07 32 00.1	+0.4
DVD				*e*S	Sb	07 32 05.7	+1.2
PTP1	**Petroterminal**	**0.37**	**118**⇑	*e*P	Pb	07 31 57.9	-2.7
PTP1				*e*S	Sb	07 32 03.9	-2.3
SVTC	**San Vito de Co**	**0.45**	**334**⇓	*i*P	Pb	07 32 01.3	-0.7
SVTC				*e*S	Sb	07 32 09.1	+0.8
BRU	**Baru**	**0.47**	**24**⇓	*i*P	Pb	07 32 03.1	+0.9
ACR	**Cerro Adams**	**0.49**	**304**⇓	*e*P	Pb	07 32 00.3	-2.2
SFX2	**San Felix**	**0.88**	**96**	*e*P	Pb	07 32 07.4	-1.7
SFX2				*e*S	Sb	07 32 20.2	-0.3
CNI	**Changuinola**	**1.06**	**13**	*e*P	Pn	07 32 12.3	+0.4
BUS	**Buena Vista**	**1.53**	**320**⇓	*e*P	Pn	07 32 18.2	-0.5
LCR2	**La Lucha 2**	**1.83**	**318**⇓	*e*P	Pn	07 32 22.3	-0.7
LCR2				*e*S	Sn	07 32 46.5	+0.9
SJS	**Escuela Geolog**	**2.01**	**320**	*e*S	Sn	07 32 51.8	+1.5
PRS1	**Puriscal**	**2.21**	**316**	*e*P	Pn	07 32 26.6	-1.9
PRS1				*e*S	Sn	07 32 55.2	-0.1
AZU	**Azuero**	**2.53**	**103**	*e*P	Pn	07 32 34.1	+1.1

*IDC **06** 08:01:22.6±4.7, 4.61S×153.20E, h56km±41km, mb4.1/10, mb1 4.2/11, mb1mx4.1/17, mbtmp4.4/11, ML3.6/1, MS3.4/2, Ms1 3.4/2, ms1mx3.0/16, Error ellipse: s-maj=26.6km s-min=16.1km az=61.0*
*NEIC **06** 08:01:23.7±1.9, 4.64S×153.03E, h64km±17km, mb4.7/3, Error ellipse: s-maj=16.0km s-min=12.9km az=196.0*
*BJI **06** 08:01:23.6, 4.60S×153.00E, h63km, mb5.0, Ms4.6*
ISC 06 08:01:21.6±2.1**, 4.63S**±0.10×**153.04E**±0.09**, h57**km±19km**, n25,** σ1^{s}02/22**, mb4.5**/16**, 3D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.52**	**231**	P	**P**	**08 03 11.9**	**+1.0**
	5.1nm,0.3s,baz=46,slow=13,SNR=9.8						
PMG	**Port Moresby**	**7.52**	**231**	*e*P	**P**	**08 03 10.7**	**-0.3**
HNR	**Honiara**	**8.36**	**125**	P	**P**	**08 03 22.8**	**+0.3**
	31nm,0.3s,baz=214,slow=8.1,SNR=4.5						
HNR				LR	LR	08 05 58.2	
	comp=Z,182nm,18.7s,baz=93,slow=34						
CTA	**Charters Tower**	**16.73**	**203**	LR	LR	08 10 44.0	
	comp=Z,210nm,19.7s,baz=210,slow=33						
DZM	**Mont Dzumac**	**21.67**	**144**	P	**P**	**08 06 07.6**	**-1.5**
	18nm,0.9s,mb4.5,baz=344,slow=15,SNR=14						
KAKA	**Kakadu**	**21.87**	**247**⇓	*i*P	**P**	**08 06 09.8**	**-1.4**
	65nm,0.6s,mb5.2						
WB2	**Warramunga Arr**	**23.72**	**229**⇓	*i*P	**P**	**08 06 29.7**	**+0.3**
WRA	**Warramunga Arr**	**23.73**	**229**	P	**P**	**08 06 29.8**	**+0.3**
	20nm,0.4s,mb4.9,baz=51,slow=9.8,SNR=182						
STKA	**Stephens Creek**	**29.15**	**200**	P	**P**	**08 07 21.1**	**+1.4**
	1.6nm,0.8s,mb3.8,baz=277,slow=16,SNR=2.9						
FITZ	**Fitzroy Crossi**	**29.95**	**241**⇓	*i*P	**P**	**08 07 25.3**	**-1.5**
	45nm,0.7s,mb5.3						
FITZ	**Fitzroy Crossi**	**29.95**	**241**	P	**P**	**08 07 25.3**	**-1.5**
	61nm,0.6s,mb5.5,baz=28,slow=8.1,SNR=75						
MBWA	**Marble Bar**	**36.26**	**240**	*e*P	**P**	**08 08 20.1**	**-1.2**
	11nm,0.5s,mb5.0						
RPZ	**Rata Peaks**	**42.05**	**160**	P	**P**	**08 09 09.1**	**-0.1**
	5.9nm,0.6s,mb4.4,baz=166,slow=15,SNR=7.9						
JNU	**Nakatsue**	**43.02**	**332**	P	**P**	**08 09 17.9**	**+0.5**
	4.2nm,0.7s,mb4.3,baz=52,slow=12,SNR=4.0						
CMAR	**Chiang Mai Arr**	**58.02**	**295**	P	**P**	**08 11 11.9**	**+0.7**
	3.5nm,0.6s,mb4.6,baz=135,slow=4.9,SNR=11						
GTA	**Gaotai**	**65.69**	**317**	*e*P	**P**	**08 12 03.3**	**+0.8**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.4						
SONM	**Songino Array**	**66.31**	**328**	P	**P**	**08 12 06.5**	**+0.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=150,slow=7.2,SNR=7.0						
SONM				PcP	PcP	08 12 35.4	-0.2
	comp=Z,0.8nm,0.6s,baz=143,slow=5.3,SNR=4.4						
VNDA	**Vanda**	**72.99**	**178**	P	**P**	**08 12 46.5**	**0.0**
	comp=Z,2.1nm,0.8s,mb4.1,baz=337,slow=6.2,SNR=12						
SBA	**Scott Base**	**73.53**	**177**	*e*P	**P**	**08 12 51.4**	**+1.8**
	comp=Z,1.6nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**80.35**	**319**	P	**P**	**08 13 28.5**	**+0.2**
	comp=Z,1.1nm,0.5s,mb4.0,baz=100,slow=7.2,SNR=12						
MKAR	**Makanchi Array**	**80.35**	**319**	P	**P**	**08 13 28.5**	**+0.2**
ILAR	**Eielson Array**	**81.91**	**22**	P	**P**	**08 13 33.8**	**-2.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=245,slow=3.2,SNR=7.7						
QSPA	**South Pole Qui**	**85.33**	**180**	*e*P	**P**	**08 13 53.4**	**+0.4**
	comp=Z,7.2nm,0.8s,mb4.8						
GERES	**GERESS Array B**	**124.03**	**329**	PKP	PKPdf	08 20 15.4	+1.6
	comp=Z,0.8nm,0.4s,baz=90,slow=1.3,SNR=5.9						
BDFB	**Brasilia**	**151.02**	**134**	PKPbc	PKPdf	08 21 09.1	+6.0
	comp=Z,3.3nm,0.6s,baz=264,slow=1.1,SNR=6.2						

*NEIC **06** 08:02:59.7, 34.56S×72.38W, h25km, ML2.7(GUC), After GUC.*
GUC 06 08:02:59.7±0.7**, 34.56S**×**72.38W, h25**km±6km**, MD3.6, ML2.7, 7C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.00**	**53**	*e*P	Pn	08 03 17.4	-0.9
LNV				*i* S	Sb	08 03 30.7	-0.4
SFDO	**San Fernando**	**1.13**	**93**	*e*P	Pn	08 03 19.4	-0.7
SFDO				*e*S	Sb	08 03 34.0	-0.7
CNCO	**Chanco**	**1.18**	**186**⇑	*i*P	Pn	08 03 20.1	-0.6
CNCO				*i* S	Sb	08 03 35.5	-0.5
CNCO				AMP		08 03 36.0	
	comp=E,309nm,0.5s						
LCCH	**Las Cruces**	**1.28**	**32**	*e*P	Pn	08 03 21.5	-0.7
LCCH				*i* S	Sn	08 03 38.1	-0.5
TACH	**Talagante**	**1.50**	**53**⇑	*i*P	Pn	08 03 25.3	-0.1
TACH				*e*S	Sn	08 03 45.0	+0.6
CACH	**El Canelo**	**1.54**	**74**	*e*P	Pn	08 03 26.6	+0.7
CACH				*i* S	Sn	08 03 47.5	+2.2
CHCH	**Chadas Angostu**	**1.56**	**67**⇑	*i*P	Pn	08 03 26.7	+0.4
CHCH				*i* S	Sn	08 03 46.4	+0.6
CICH	**Cipreses**	**1.64**	**82**⇑	*i*P	Pn	08 03 27.9	+0.5
CICH				*i* S	Sn	08 03 48.8	+1.1
RCDM	**Rinconada Maip**	**1.69**	**51**⇑	*i*P	Pn	08 03 28.1	0.0
RCDM				*i* S	Sn	08 03 49.8	+0.7
PCH	**Pirque**	**1.81**	**59**⇑	*i*P	Pn	08 03 30.6	+0.8
PCH				*i* S	Sn	08 03 54.4	+2.2
LMEL	**Las Melosas**	**1.94**	**69**⇑	*i*P	Pn	08 03 33.2	+1.5
LMEL				*i* S	Sn	08 03 58.0	+2.6
LMEL				AMP		08 04 02.0	
	comp=N,165nm,0.4s						
FCH	**Farellones**	**2.13**	**55**	*e*P	Pn	08 03 35.5	+1.1
FCH				*i* S	Sn	08 04 02.6	+2.3
FCH				AMP		08 04 06.5	
	comp=E,58nm,0.3s						

*NEIC **06** 08:03:11.3, 14.83N×93.54W, h45km, MD4.3(MEX), After MEX.*
MEX 06 08:03:11.3±1.1**, 14.82N**×**93.53W, h33**km±999km**, MD4.3, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.98**	**43**	*i* P	P	08 03 40.5	-2.5
CCIG				*i* S	S	08 04 03.6	-3.2
CCIG	**Comitan**	**1.98**	**43**	*i* P	P	08 03 40.5	-2.5
CCIG				*i* S	S	08 04 04.1	-2.8
SCX	**San Cristobal**	**2.09**	**24**	*i* P	P	08 03 44.0	-0.6
SCX				*i* S	S	08 04 08.5	-1.2
CMIG	**Matias Romero**	**2.60**	**330**	*i* P	P	08 03 49.4	-2.6
CMIG				*i* S	S	08 04 18.9	-3.8
OXX	**Oaxaca**	**3.80**	**307**	*e*P	P	08 04 07.5	-1.5
VHO	**Vista Hermosa**	**3.80**	**306**	*i* P	P	08 04 07.0	-2.0
VHO				*i* S	S	08 04 53.1	-0.1
VHO	**Vista Hermosa**	**3.80**	**306**	*i* P	P	08 04 07.0	-2.0
VHO				*i* S	S	08 04 50.8	-2.5

*BJI **06** 08:24:38.9, 69.00N×16.60W, h10km, mB5.4, mb4.8, Ms5.5, Msz5.2*
*CSEM **06** 08:24:39.5, 68.75N×17.22W, h2km, mb5.2*
*MOS **06** 08:24:40.2±1.0, 68.98N×16.77W, h10km, mb5.2/90, MS5.0/47, Error ellipse: s-maj=11.2km s-min=3.5km az=107.2*
*IDC **06** 08:24:40.5±0.4, 68.94N×16.87W, mb4.4/18, mb1 4.5/23, mb1mx4.5/26, mbtmp4.4/23, ML4.1/4, MS5.0/26, Ms1 5.0/26, ms1mx5.0/29, Error ellipse: s-maj=11.3km s-min=5.8km az=22.0*
*NEIC **06** 08:24:42.0±0.1, 69.00N×16.64W, h10km, mb5.1/121, MS5.2/28, MW5.6, Error ellipse: s-maj=4.1km s-min=1.8km az=214.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{17}Nm; M_{rr}0.71; $M_{\theta\theta}$-1.09; $M_{\phi\phi}$0.38; $M_{r\theta}$0.60; $M_{\theta\phi}$2.62; $M_{\phi r}$-0.34; Best double couple: $M_0$2.8×10^{17} NP1: ϕ_s353°, δ81°, λ-175°. NP2:ϕ_s262°, δ85°, λ-9°. Principal axes: T 2.37, Plg3°, Azm308°; N .82, Plg80°, Azm55°; P -3.19, Plg10°, Azm217°;*
*ZUR_RM **06** 08:24:41, 69.00N×16.64W, h12km, Mw5.5/16, Moment Tensor Solution. s16 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.37; $M_{\theta\theta}$0.16; $M_{\phi\phi}$0.21; $M_{r\theta}$-0.89; $M_{\theta\phi}$1.97; $M_{\phi r}$-0.82; Best double couple: $M_0$2.21×10^{17} NP1:ϕ_s271°, δ77°, λ18°. NP2:ϕ_s177°, δ72°, λ166°. Principal axes: T 2.641, Plg22°, Azm135°; N -.855, Plg68°, Azm306°; P -1.786, Plg3°, Azm44°;*
*HRVD **06** 08:24:42.0±0.1, 69.01N×16.85W, h12km, MW5.5/74, Centroid moment Tensor Solution. LP body waves: s60,c124;Mantle waves: s74,c177; Half duration: 1^{s}3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.27±.03; $M_{\theta\theta}$0.14±.03; $M_{\phi\phi}$0.13±.03; $M_{r\theta}$-0.40±.08; $M_{\theta\phi}$1.96±.03; $M_{\phi r}$-0.44±.07; Best double couple: $M_0$2.03×10^{17} NP1: ϕ_s271°, δ80°, λ9°. NP2:ϕ_s179°, δ82°, λ170°. Principal axes: T 2.236, Plg13°, Azm135°; N -.412, Plg77°, Azm320°; P -1.824, Plg1°, Azm225°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BGS **06** 08:25:28.7±2.0, 65.56N×13.12W, h10km, mb5.2*
ISC 06 08:24:40.4±0.1**, 68.89N**±0.02×**16.87W**±0.04**, h10**km**, (h16**km±1.6km**:pP-P), n667,** σ1^{s}23/734**, mb4.9**/171**, MS5.1**/92**, 30C-27D, Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.39**	**314**	*i* P	**Pn**	**08 25 13.2**	**-7.0**
IGRI	**Grimsey**	**2.40**	**191**	P	**Pn**	**08 25 16.5**	**-3.9**
IGRI				S	**Sn**	**08 25 43.5**	**-6.6**
ILEI	**Leirhofn**	**2.50**	**177**	P	**Pn**	**08 25 17.8**	**-4.0**
ILEI	**Leirhofn**	**2.50**	**177**	P	**Pn**	**08 25 17.9**	**-3.9**
ILEI				S	**Sn**	**08 25 46.7**	**-5.9**
IFLA	**Flatey**	**2.77**	**188**	P	**Pn**	**08 25 22.4**	**-3.2**
IFLA				S	**Sn**	**08 25 53.6**	**-5.8**
IBRE	**Brettingsstaoi**	**2.81**	**189**	P	**Pn**	**08 25 22.3**	**-3.9**
IBRE				S	**Sn**	**08 25 53.8**	**-6.7**
IHED	**Heoinshofoi**	**2.83**	**184**	P	**Pn**	**08 25 22.4**	**-4.1**
IHED	**Heoinshofoi**	**2.83**	**184**	P	**Pn**	**08 25 22.6**	**-3.9**
IGIL	**Gilhagi**	**2.83**	**176**	P	**Pn**	**08 25 23.0**	**-3.6**
IGIL				S	**Sn**	**08 25 57.0**	**-4.1**
ISIG	**Siglufjorour**	**2.88**	**197**	P	**Pn**	**08 25 23.7**	**-3.5**
ISIG				S	**Sn**	**08 25 55.3**	**-7.0**
IGRA	**Granastaoir**	**3.00**	**186**	P	**Pn**	**08 25 25.4**	**-3.5**
IGRA				S	**Sn**	**08 26 01.0**	**-4.3**
IHLA	**Hella**	**3.02**	**192**	P	**Pn**	**08 25 25.4**	**-3.8**
IHLA				S	**Sn**	**08 25 59.0**	**-6.8**
IHRN	**Hraun**	**3.06**	**206**	P	**Pn**	**08 25 27.1**	**-2.7**
IREN	**Reynihlio**	**3.26**	**180**	P	**Pn**	**08 25 29.7**	**-2.9**
IREN				S	**Sn**	**08 26 07.4**	**-4.5**
IGRS	**Grimsstaoir**	**3.28**	**175**	P	**Pn**	**08 25 28.9**	**-4.0**
IGRS				S	**Sn**	**08 26 07.8**	**-4.6**
JMI	**Jan Mayen**	**3.48**	**50**	*e*S	**Sn**	**08 26 11.7**	**-5.6**
JMI				AML	AML	08 26 19.0	
	comp=Z,91nm,0.5s						
JMIC	**Jan Mayen**	**3.57**	**50**	Pn	**Pn**	**08 25 31.9**	**-5.1**
	comp=Z,34nm,0.3s,baz=264,slow=3.3,SNR=18						
JMIC				Sn	**Sn**	**08 26 16.9**	**-2.7**
	comp=Z,8.6nm,0.3s,baz=218,slow=19,SNR=3.3						
JMIC	**Jan Mayen**	**3.57**	**50**	*e*P	**Pn**	**08 25 30.7**	**-6.2**
JMIC				AML	AML	08 26 17.7	
	comp=Z,72nm,0.6s						
JMIC				*e*S	**Sn**	**08 26 18.7**	**-0.9**
ISVA	**Svartarkot**	**3.57**	**183**	P	**Pn**	**08 25 33.7**	**-3.4**
ISVA	**Svartarkot**	**3.57**	**183**	P	**Pn**	**08 25 33.8**	**-3.3**
ISVA				S	**Sn**	**08 26 14.4**	**-5.4**
JNW	**Jan Mayen West**	**3.61**	**50**	*i* P	**Pn**	**08 25 32.2**	**-5.4**
JNW	**Jan Mayen West**	**3.61**	**50**	*e*P	**Pn**	**08 25 32.3**	**-5.3**
JNW				*e*S	**Sn**	**08 26 14.2**	**-6.6**
JNW	**Jan Mayen West**	**3.61**	**50**	*i* P	**Pn**	**08 25 32.2**	**-5.4**
JNE	**Jan Mayen East**	**3.63**	**51**	*e*P	**Pn**	**08 25 34.2**	**-3.7**
IADA	**Aoalbol**	**3.92**	**172**	P	**Pn**	**08 25 37.8**	**-4.2**
IHVA	**Hvannstoosfjol**	**3.97**	**174**	P	**Pn**	**08 25 38.5**	**-4.2**
IBRU	**Bruarjokull**	**4.09**	**175**	P	**Pn**	**08 25 40.5**	**-3.9**
ISKR	**Skrokkalda**	**4.39**	**189**	P	**Pn**	**08 25 46.4**	**-2.3**
IGRF	**Grimsfjall**	**4.51**	**182**	P	**Pn**	**08 25 48.8**	**-1.5**
IASB	**`sbjarnarst**	**4.52**	**205**	P	**Pn**	**08 25 49.0**	**-1.5**
IGYG	**Gygjarholskot**	**4.82**	**198**	P	**Pn**	**08 25 54.7**	**-0.1**
IKAL	**Kalfafell**	**4.97**	**184**	P	**Pn**	**08 25 56.4**	**-0.6**
IKUD	**Kuludalsa**	**5.00**	**206**	P	**Pn**	**08 25 56.1**	**-1.3**
IHEI	**Heioarbar**	**5.02**	**202**	P	**Pn**	**08 25 57.0**	**-0.6**
IFAG	**Fagurholsmyri**	**5.04**	**179**	P	**Pn**	**08 25 55.2**	**-2.7**
IHAU	**Haukadalur**	**5.10**	**196**	P	**Pn**	**08 25 59.6**	**+0.9**
IKRO	**Krokur**	**5.10**	**201**	P	**Pn**	**08 25 57.7**	**-1.1**
ISAU	**Saurbar**	**5.12**	**198**	P	**Pn**	**08 25 57.6**	**-1.5**
ISAN	**Sandskeio**	**5.21**	**203**	P	**Pn**	**08 26 00.1**	**-0.1**
ISOL	**Solvholt**	**5.24**	**200**	P	**Pn**	**08 26 01.1**	**+0.3**
IBJA	**Bjarnastaoir**	**5.27**	**202**	P	**Pn**	**08 26 02.0**	**+0.8**
IASM	**Asmuli**	**5.30**	**198**	P	**Pn**	**08 26 01.7**	**+0.2**
IVOG	**Vogar**	**5.41**	**207**	P	**Pn**	**08 26 02.1**	**-1.1**
IVOS	**Vogsosar**	**5.42**	**203**	P	**Pn**	**08 26 02.9**	**-0.3**
IKRI	**Krysuvik**	**5.45**	**205**	P	**Pn**	**08 26 04.3**	**+0.6**
INYL	**Nylenda**	**5.47**	**208**	P	**Pn**	**08 26 03.1**	**-0.8**
DAG	**Danmarks Havn**	**7.94**	**357**	*e*P	**Pn**	**08 26 30.4**	**-8.3**
DAG				MLR	MLR		
	comp=N,11μm,18.0s						
DAG				MLR	MLR		
	comp=E,26μm,18.0s						
DAG				MLR	MLR		
	comp=Z,8μm,18.0s						
DAG	**Danmarks Havn**	**7.94**	**357**	*i* P	**Pn**	**08 26 30.4**	**-8.3**
	comp=Z,9μm,18.0s						
SUMG	**Summit**	**8.01**	**307**	*e*P	**P**	**08 26 35.3**	**-4.3**
	comp=Z,89nm,1.0s						
LOF	**Lofoten**	**11.12**	**80**	*e*P	**P**	**08 27 19.4**	**-2.9**
LOF				AMb	AMB	08 27 30.3	
	comp=Z,158nm,1.5s						
OWE	**Westray**	**11.31**	**141**	*e*P	**P**	**08 27 23.0**	**-2.0**
OWE				AMb	AMB	08 27 24.2	
	comp=Z,239nm,1.3s						
OST	**Stronsay**	**11.63**	**141**	*e*P	**P**	**08 27 26.6**	**-2.7**
OST				AMb	AMB	08 27 31.2	
	comp=Z,171nm,1.4s						
FOO	**Floro**	**11.67**	**118**	*e*P	**P**	**08 27 27.9**	**-1.9**
OHO	**Hoy**	**11.71**	**143**	*e*P	**P**	**08 27 26.9**	**-3.4**
OHO				AMb	AMB	08 27 31.9	
	comp=Z,169nm,1.9s						
OTO	**Tongue**	**11.77**	**146**	*e*P	**P**	**08 27 27.9**	**-3.3**
OTO				AMb	AMB	08 27 30.1	
	comp=Z,50nm,1.9s						
ORE	**Reay**	**11.85**	**145**	*e*P	**P**	**08 27 28.4**	**-3.9**
RRH	**Rhenigidale**	**11.89**	**153**	*e*P	**P**	**08 27 28.1**	**-4.8**
RRH				AMb	AMB	08 27 31.7	
	comp=Z,71nm,1.3s						
OBR	**Brabster**	**11.92**	**143**	*e*P	**P**	**08 27 30.5**	**-2.7**
REB	**Eisghbrachaidh**	**11.95**	**149**	*e*P	**P**	**08 27 29.7**	**-3.9**
RRR	**Rubha Reidh**	**12.10**	**151**	*e*P	**P**	**08 27 31.1**	**-4.5**
RRR				AMb	AMB	08 27 34.8	
	comp=Z,64nm,1.2s						
NSS	**Namsos**	**12.13**	**97**	*e*P	**P**	**08 27 31.5**	**-4.6**
MLA1	**Latheron**	**12.16**	**144**	*e*P	**P**	**08 27 33.1**	**-3.4**
HSP	**Hornsund**	**12.29**	**35**	*e*P	**P**	**08 27 35.1**	**-3.0**
MVH1	**Achvaich**	**12.35**	**147**	*e*P	**P**	**08 27 35.2**	**-3.7**
HYA	**Hoyanger**	**12.36**	**118**	*e*P	**P**	**08 27 39.2**	**+0.1**
HYA	**Hoyanger**	**12.36**	**118**	*e*P	**P**	**08 27 38.7**	**-0.4**
HYA				AMb	AMB	08 27 45.6	
	comp=Z,124nm,1.6s						
HYA	**Hoyanger**	**12.36**	**118**	*e*P	**P**	**08 27 38.7**	**-0.4**
	comp=Z,124nm,1.6s,SNR=47						
KAC	**Achnashellach**	**12.53**	**150**	*e*P	**P**	**08 27 38.1**	**-3.3**
KAC				AMb	AMB	08 27 40.4	
	comp=Z,50nm,1.3s						
KBS	**Kingsbay**	**12.62**	**25**	*e*P	**P**	**08 27 39.2**	**-3.3**
KBS				*e*S	**S**	**08 29 52.4**	**-12**
KBS	**Kingsbay**	**12.62**	**25**	*e*P	**P**	**08 27 39.2**	**-3.3**
KBS				*e*Sn	**S**	**08 29 53.0**	**-11**
KBS				AMS	AMS	08 31 27.0	
	comp=Z,7μm,18.5s						
KBS	**Kingsbay**	**12.62**	**25**	*e*Sn	**S**	**08 29 53.0**	**-11**
	SNR=55						
SFJD	**Kangerlussuaq**	**12.72**	**277**	*e*P	**P**	**08 27 39.6**	**-4.3**
SFJD	**Kangerlussuaq**	**12.72**	**277**	*e*P	**P**	**08 27 39.0**	**-4.9**
	comp=Z,27nm,1.0s						
SFJD	**Kangerlussuaq**	**12.72**	**277**	*i* P	**P**	**08 27 39.0**	**-4.9**
	comp=Z,27nm,1.0s						
	comp=Z,1μm,15.0s						
MDO	**Dochfour**	**12.76**	**148**	*e*P	**P**	**08 27 39.9**	**-4.5**
MDO				AMb	AMB	08 27 46.0	
	comp=Z,51nm,1.2s						
KSB	**Sheil Bridge**	**12.78**	**151**	*e*P	**P**	**08 27 40.9**	**-3.8**
KSB				AMb	AMB	08 27 48.6	
	comp=Z,41nm,1.4s						
MCD	**Coleburn Disti**	**12.85**	**145**	*e*P	**P**	**08 27 42.3**	**-3.4**
MCD				AMb	AMB	08 27 45.2	
	comp=Z,130nm,1.2s						
KAR1	**Arisaig**	**12.99**	**152**	*e*P	**P**	**08 27 43.5**	**-4.0**
KAR1				AMb	AMB	08 27 47.3	
	comp=Z,54nm,1.1s						
MME1	**Meikle Cairn**	**13.16**	**145**	*e*P	**P**	**08 27 47.1**	**-2.7**
KMY	**Karmoy**	**13.61**	**125**	*e*P	**P**	**08 27 53.5**	**-1.9**
KMY				AMb	AMB	08 27 56.8	
	comp=Z,93nm,1.6s						
KMY	**Karmoy**	**13.61**	**125**	*e*P	**P**	**08 27 53.5**	**-1.9**
	comp=Z,93nm,1.6s,SNR=47						
BLS5	**Blasjo**	**13.80**	**122**	*e*P	**P**	**08 27 56.8**	**-1.2**
BLS5				AMb	AMB	08 28 04.0	
	comp=Z,54nm,1.4s						
BLS5	**Blasjo**	**13.80**	**122**	*e*P	**P**	**08 27 56.8**	**-1.2**
	comp=Z,54nm,1.4s,SNR=47						
NB2	**NORSAR Subarra**	**14.12**	**110**	Pn	**P**	**08 27 59.8**	**-2.4**
	comp=Z,7.0nm,0.6s,baz=316,slow=11						
NB2	**NORSAR Subarra**	**14.12**	**110**	P	**P**	**08 27 59.8**	**-2.4**
NB2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NB2	**NORSAR Subarra**	**14.12**	**110**	P	**P**	**08 27 59.8**	**-2.4**
	baz=316,slow=11						
NOA	**NORSAR Array B**	**14.12**	**110**	P	**P**	**08 28 00.7**	**-1.5**
NOA						08 30 32.7	
NOA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA				MLR	MLR		

comp=Z,5µm,18.9s
NOA NORSAR Array B 14.12 110 Pn P 08 28 00.7 -1.5
comp=Z,0.9nm,0.3s,baz=302,slow=13,SNR=6.4
NOA Sn S 08 30 32.7 -7.2
comp=Z,0.2nm,0.3s,baz=44,slow=25,SNR=2.3
NOA LR LR 08 33 09.4
comp=Z,5µm,18.9s,baz=315,slow=36
NAO01 NORSAR Array S 14.15 111 *eP* **P 08 28 00.9 -1.7**
comp=Z,20nm,1.0s
KONO Kongsberg 14.62 116 *eP* **P 08 28 07.4 -1.3**
KONO pmax pmax
comp=Z,42nm,1.1s
KONO Kongsberg 14.62 116 *eP* **P 08 28 07.4 -1.3**
comp=Z,42nm,1.1s
KONO Kongsberg 14.62 116 *eP* **P 08 28 07.4 -1.3**
comp=Z,42nm,1.1s
ARCES ARCESS Array B 14.84 68 Pn P **08 28 10.5 -1.1**
comp=Z,0.2nm,0.3s,baz=287,slow=13,SNR=11
ARCES Sn S **08 30 55.9 -1.0**
comp=Z,0.1nm,0.3s,baz=278,slow=17,SNR=2.8
ARCES LR LR 08 32 40.3
comp=Z,6µm,18.8s,baz=282,slow=32
ARE0 ARCESS Array S 14.84 68 *eP* **P 08 28 09.7 -1.9**
SNART Snartemo 14.91 123 *eP* **P 08 28 11.2 -1.4**
SNART Snartemo 14.91 123 *eP* **P 08 28 11.1 -1.5**
EKA Eskdalemuir Ar 14.98 148 P P **08 28 12.1 -1.3**
EKA pmax pmax
comp=Z,1.0nm,0.3s
EKA Eskdalemuir Ar 14.98 148 Pn P **08 28 12.1 -1.4**
comp=Z,0.6nm,0.3s,baz=340,slow=12,SNR=13
KEV Kevo 15.27 66 *eP* **P 08 28 15.8 -1.4**
KEV pmax pmax
comp=Z,154nm,1.5s
KEV Kevo 15.27 66 *eP* **P 08 28 15.8 -1.5**
comp=Z,154nm,1.5s
KEV Kevo 15.27 66 *eP* **P 08 28 15.8 -1.4**
comp=Z,154nm,1.5s
HFA0 Hagfors New Ar 15.61 109 Pn P **08 28 24.5 +2.8**
HFS Hagfors 15.62 109 Pn P **08 28 20.5 -1.3**
comp=Z,0.0nm,0.3s,baz=324,slow=13,SNR=12
HFS Sn S **08 31 06.2 -9.2**
comp=Z,0.5nm,0.3s,baz=6.7,slow=25,SNR=15
HFS LR LR 08 34 15.4
comp=Z,8µm,18.1s,baz=317,slow=37
DCN Croghan 16.23 159 *eP* **P 08 28 30.1 +0.3**
DLF Lyons Farm 16.38 158 *eP* **P 08 28 32.0 +0.4**
MUD Monsted U'grnd 17.07 124⇑*iP* **P 08 28 39.0 -1.3**
MUD pmax pmax
comp=Z,76nm,1.1s
MUD MLR MLR
comp=Z,2µm,16.0s
MUD Monsted U'grnd 17.07 124⇑*iP* **P 08 28 39.0 -1.3**
comp=Z,76nm,1.1s
MUD *i* S **S 08 31 57.2 +8.3**
comp=Z,2µm,16.0s
APA Apatity 18.28 70k *iP* **P 08 28 51.0 -4.3**
APA pmax pmax
comp=Z,390nm,2.0s
APA pmax pmax
comp=Z,2µm,9.0s
APA MLR MLR
comp=Z,10µm,15.0s
LVZ Lovozero 18.55 69 *i* P **P 08 28 54.7 -4.0**
LVZ *i* S **S 08 32 22.7 +0.2**
LVZ pmax pmax
comp=Z,51nm,1.3s
LVZ pmax pmax
comp=N,17nm,1.2s
LVZ pmax pmax
comp=E,41nm,1.4s
LVZ pmax pmax
comp=Z,2µm,6.8s
LVZ pmax pmax
comp=N,752nm,6.6s
LVZ pmax pmax
comp=E,2µm,6.8s
LVZ MLR MLR
comp=N,2µm,14.0s
LVZ MLR MLR
comp=Z,6µm,14.0s
LVZ MLR MLR
comp=E,3µm,13.0s
COP Copenhagen 18.72 120⇑*iP* **P 08 28 59.1 -1.7**
COP MLR MLR
comp=Z,2µm,16.0s
COP Copenhagen 18.72 120⇑*iP* **P 08 28 59.1 -1.7**
COP *i* S **S 08 32 37.4 +11**
comp=Z,2µm,16.0s
KAF Kangasniemi 18.77 90 *ep* **P 08 28 58.8 -2.5**
FINES FINESS Array B 19.12 92 P P **08 29 04.1 -1.5**
FINES S S **08 32 37.5 +2.1**
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES MLR MLR
comp=Z,2µm,20.3s
FINES FINESS Array B 19.12 92 P P **08 29 04.1 -1.5**
comp=Z,1.1nm,0.3s,baz=323,slow=9.5,SNR=27
FINES S S **08 32 37.5 +2.0**
baz=95,slow=40,SNR=1.7
FINES LR LR 08 35 04.2
comp=Z,2µm,20.3s,baz=120,slow=33
WIT Witteveen 19.55 134 *eP* **P 08 29 16.2 +5.5**
BSD Bornholm Skovb 19.98 118⇓*eP* **P 08 29 15.2 -0.2**
BSD pmax pmax
comp=Z,120nm,1.0s
BSD Bornholm Skovb 19.98 118⇓*iP* **P 08 29 15.2 -0.2**
comp=Z,118nm,1.0s
BSD Bornholm Skovb 19.98 118⇓*eP* **P 08 29 15.2 -0.2**
comp=Z,118nm,1.0s
WTSB Winterswijk 20.36 134⇑*eP* **P 08 29 17.2 -2.1**
comp=Z,102nm,1.5s
WTSB *ex* x 08 29 28.4
MENF Mencas 20.56 144 *eP* **P 08 29 20.1 -1.4**
HGN Heimansgroeve 21.24 137⇑*eP* **P 08 29 26.8 -1.7**
comp=Z,358nm,1.5s,mb5.5
HGN *ex* x 08 30 01.2
HGN *eS* **S 08 33 30.1 +11**
HGN Heimansgroeve 21.24 137 P P **08 29 27.7 -0.7**
VSU Vasula 21.44 97 P P **08 29 31.9 +1.5**
BAIF Baives 21.48 141 *eP* **P 08 29 29.9 -1.0**
comp=Z,261nm,1.3s,mb5.1
BAIF Baives 21.48 141 *eP* **P 08 29 29.9 -1.0**
BAIF pmax pmax
comp=Z,131nm,1.3s,mb5.1
DOU Dourbes 21.54 140 P P **08 29 30.8 -0.7**
GIVF Givet 21.59 140 *eP* **P 08 29 30.9 -1.0**
comp=Z,343nm,1.3s,mb5.3
GIVF Givet 21.59 140 *eP* **P 08 29 30.9 -1.0**
GIVF pmax pmax
comp=Z,172nm,1.3s,mb5.3
ROSF Rostrenen 21.69 155 *eP* **P 08 29 32.1 -0.9**
comp=Z,276nm,1.1s,mb5.3
ROSF Rostrenen 21.69 155 *eP* **P 08 29 32.1 -0.9**
ROSF pmax pmax
comp=Z,138nm,1.1s,mb5.3
FLN La Foliniere 21.75 150 *eP* **P 08 29 32.0 -1.6**
comp=Z,235nm,1.2s,mb5.2
FLN *eR*
comp=Z,8µm,20.5s
FLN La Foliniere 21.75 150 *eP* **P 08 29 32.0 -1.6**
FLN pmax pmax
comp=Z,118nm,1.2s,mb5.2
FLN MLR MLR
comp=Z,8µm,20.5s,MS5.1
PUL Pulkovo 21.80 91 *i* P **P 08 29 33.5 -0.5**
PUL *i* S **S 08 33 28.4 -1.5**
PUL pmax pmax
comp=N,48nm,0.6s
PUL pmax pmax
comp=E,101nm,0.6s
PUL pmax pmax
comp=Z,153nm,0.6s,mb5.6
PUL pmax pmax
comp=Z,146nm,0.6s,mb5.6
PUL pmax pmax
comp=N,36nm,0.4s
PUL pmax pmax
comp=E,95nm,0.6s
PUL MLR MLR
comp=Z,3µm,14.0s,MS4.8
PUL MLR MLR
comp=N,2µm,15.0s,MS4.8
PUL MLR MLR
comp=E,2µm,12.0s,MS4.8
PUL Pulkovo 21.80 91 *i* P **P 08 29 33.5 -0.5**
comp=E,3µm,14.0s
PUL *i* S **S 08 33 28.4 -1.5**
comp=E,2µm,15.0s
RUE Ruedersdorf 21.87 123 *eP* **P 08 29 34.6 -0.1**
comp=E,57nm,0.5s,mb5.3
RUE Ruedersdorf 21.87 123 *eP* **P 08 29 34.6 -0.2**
comp=E,57nm,0.5s,mb5.3
SGMF Saint Gilles 21.88 154 *eP* **P 08 29 33.9 -1.0**
comp=E,361nm,1.1s,mb5.4
SGMF Saint Gilles 21.88 154 *eP* **P 08 29 33.9 -1.0**
SGMF pmax pmax
comp=Z,180nm,1.1s,mb5.4
GRR Gorron 22.04 151 *eP* **P 08 29 35.2 -1.3**
comp=Z,223nm,1.4s,mb5.1
GRR Gorron 22.04 151 *eP* **P 08 29 35.2 -1.3**
GRR pmax pmax
comp=Z,112nm,1.4s,mb5.1
QUIF Quistinic 22.12 155 *eP* **P 08 29 36.4 -0.9**
comp=Z,218nm,1.1s,mb5.2
QUIF Quistinic 22.12 155 *eP* **P 08 29 36.4 -0.9**
QUIF pmax pmax
comp=Z,109nm,1.1s,mb5.2
WLF Walferdange 22.31 138 *eP* **P 08 29 40.3 +1.1**
WLF pmax pmax
comp=Z,155nm,1.4s,mb5.2
WLF Walferdange 22.31 138 *eP* **P 08 29 40.3 +1.1**
comp=Z,155nm,1.4s,mb5.2
WLF Walferdange 22.31 138 *eP* **P 08 29 40.3 +1.1**
comp=Z,155nm,1.4s,mb5.2
ABH Alteburg 22.46 136 *eP* **P 08 29 40.1 -0.5**
ABH Alteburg 22.46 136 *eP* **P 08 29 41.5 +0.9**
RUP Ruppelstein 22.50 137⇑*eP* **P 08 29 40.4 -0.7**
RUP Ruppelstein 22.50 137 *eP* **P 08 29 41.5 +0.4**
CLL Collm 22.67 126⇓*iP* **P 08 29 43.1 +0.6**
CLL *i* 08 29 48.5
CLL *eS* **S 08 33 53.0 +7.3**
CLL pmax pmax
comp=Z,183nm,1.3s,mb5.3
CLL MLR MLR
comp=Z,4µm,11.2s,MS5.1
CLL Collm 22.67 126⇓*iP* **P 08 29 43.1 +0.6**
comp=Z,183nm,1.3s,mb5.3
CLL *i* 08 29 48.5
CLL *eS* **S 08 33 53.0 +7.3**
CLL LR LR
comp=Z,4µm,11.2s,MS5.1
CLL Collm 22.67 126⇓*P* **P 08 29 43.1 +0.6**
comp=Z,logA/T=2.1,mb5.3
CLL *i* *SP 08 29 48.5
CLL *e*PP PP 08 30 01.0 -10
CLL *e*PPP PPP 08 30 19.0 -2.0
CLL *e* 08 31 52.0
CLL *eS* **S 08 33 53.0 +7.3**
CLL *e*SSS SSS 08 34 40.0 -2.9
MOX Moxa 22.86 129 *eP* **P 08 29 44.9 +0.5**
MOX pmax pmax
comp=Z,102nm,1.3s,mb5.1
MOX MLR MLR
comp=Z,6µm,17.0s,MS5.1
MOX Moxa 22.86 129⇓*eP* **P 08 29 44.9 +0.5**
comp=Z,102nm,1.3s,mb5.1
MOX *eS* **S 08 33 57.0 +7.8**
MOX LR LR
comp=Z,6µm,17.0s,MS5.1
MOX Moxa 22.86 129⇓*iP* **P 08 29 44.9 +0.5**
comp=Z,logA/T=1.9,mb5.1
MOX S **S 08 33 57.0 +7.8**
MOX L 08 40 26.0
TOD Tromm 23.03 134 *eP* **P 08 29 45.2 -0.9**
TOD Tromm 23.03 134 *eP* **P 08 29 47.1 +1.0**
KTD Kalmit 23.11 135 *eP* **P 08 29 46.6 -0.3**
KTD Kalmit 23.11 135 *eP* **P 08 29 48.4 +1.5**
MEZF Maizieres J'vi 23.14 141 *eP* **P 08 29 47.7 +0.5**
comp=Z,309nm,1.2s,mb5.3
BRG Berggiesshubel 23.33 125 *eP* **P 08 29 49.0 0.0**
BRG *i* 08 29 55.5
BRG S **S 08 34 03.0 +5.5**
BRG pmax pmax
comp=Z,68nm,1.5s,mb4.9
BRG MLR MLR
comp=Z,5µm,16.4s,MS5.1
BRG Berggiesshubel 23.33 125 *eP* **P 08 29 49.0 0.0**
comp=Z,68nm,1.5s,mb4.8
BRG *i* 08 29 55.5
BRG S **S 08 34 03.0 +5.5**
BRG LR LR
comp=Z,5µm,16.4s,MS5.1
LANF Langenberg 23.35 136 *eP* **P 08 29 50.3 +1.1**
NKC Novy Kostel 23.46 128 *eP* **P 08 29 50.1 -0.2**
NKC *eS* **S 08 34 11.9 +12**
NKC AMS AMS 08 41 50.0
comp=Z,6µm,12.9s
SIND Sindeldorf 23.48 133 P P **08 29 52.5 +2.0**
SIND Sindeldorf 23.48 133 *eP* **P 08 29 50.6 +0.1**
GRA1 Grafenberg Arr 23.61 130 *eP* **P 08 29 52.2 +0.5**
GRA1 *ep*P 08 29 59.2
GRA1 LR LR
comp=Z,4µm,21.6s,MS4.8
GRF Grafenberg Arr 23.61 130 P P **08 29 52.2 +0.5**
GRFO Grafenberg 23.61 130 P P **08 29 51.9 +0.3**
THEF They Montfort 23.61 140 *eP* **P 08 29 53.0 +1.2**
SUW Suwalki 23.64 109 *eP* **P 08 29 52.2 +0.3**
SUW *eS* **S 08 34 07.0 +4.1**
SUW MLR MLR 08 37 32.3
comp=Z,6µm,25.7s,MS4.9
LCHF La Chataignera 23.72 152 *eP* **P 08 29 54.0 +1.2**
CDF Champ du Feu 23.75 137 *eP* **P 08 29 54.3 +1.2**
comp=Z,143nm,1.2s,mb5.0
CDF Champ du Feu 23.75 137 *eP* **P 08 29 54.3 +1.2**
CDF pmax pmax
comp=Z,72nm,1.2s,mb5.0
WLS Welschbruch 23.77 137 *eP* **P 08 29 54.9 +1.6**
PVCC Panska Ves 23.82 124 *eP* **P 08 29 52.9 -0.8**
PVCC *eS* **S 08 34 15.4 +9.3**
PVCC AMS AMS 08 37 40.0
comp=Z,4µm,22.6s
MFF Saint Martin d 23.89 151 *eP* **P 08 29 54.4 -0.1**
comp=Z,420nm,1.5s,mb5.3
MFF Saint Martin d 23.89 151 *eP* **P 08 29 54.4 -0.1**
MFF pmax pmax
comp=Z,210nm,1.5s,mb5.3
LBG Lerchenberg 23.89 135 *eP* **P 08 29 54.6 +0.1**
STU Stuttgart 23.90 134 *eP* **P 08 29 56.1 +1.5**
STU pmax pmax
comp=Z,162nm,1.5s,mb5.2
STU Stuttgart 23.90 134 *eP* **P 08 29 56.1 +1.6**
comp=Z,162nm,1.5s,mb5.2
ECH Echery 23.90 138 *eP* **P 08 29 56.1 +1.5**
HAU Haudompre 23.91 139 *eP* **P 08 29 55.5 +0.9**
comp=Z,133nm,1.3s,mb4.9
HAU *eR*
comp=Z,7µm,23.0s
HAU Haudompre 23.91 139 *eP* **P 08 29 55.5 +0.9**
HAU pmax pmax
comp=Z,67nm,1.3s,mb4.9
HAU MLR MLR
comp=Z,7µm,23.0s,MS5.1
LOR Lormes 24.04 144 *eP* **P 08 29 55.9 0.0**
comp=Z,144nm,1.3s,mb4.9
LOR *eR*
comp=Z,8µm,17.8s
LOR Lormes 24.04 144 *eP* **P 08 29 55.9 0.0**
LOR pmax pmax
comp=Z,72nm,1.3s,mb4.9
LOR MLR MLR
comp=Z,8µm,17.8s,MS5.2
KSP Ksiaz 24.07 122⇑*eP* **P 08 29 56.0 -0.1**
KSP *ep*P 08 30 00.5
KSP *eS* **S 08 34 16.0 +5.7**
KSP LR LR
comp=Z,8µm,15.0s,MS5.3
KSP Ksiaz 24.07 122 *eP* **P 08 29 56.4 +0.2**
comp=Z,4µm,7.7s
KSP *eS* **S 08 34 17.4 +7.1**
KSP MLR MLR 08 36 41.9
comp=Z,10µm,34.6s,MS5.1
LIBD Limburg 24.07 137 *eP* **P 08 29 57.8 +1.6**
LIBD Limburg 24.07 137 *eP* **P 08 29 55.9 -0.3**
BFO Black Forest 24.09 136 P P **08 29 56.4 0.0**
SSF Saint Saulge 24.16 144 *eP* **P 08 29 57.0 -0.1**
SSF pmax pmax
comp=Z,62nm,1.4s,mb4.8
SSF Saint Saulge 24.16 144 *eP* **P 08 29 57.0 -0.1**
comp=Z,62nm,1.4s,mb4.8
PRA Prague 24.19 125 P P **08 30 00.0 +2.7**
PRA AMS AMS 08 44 40.0
HINF Hinteralfeld 24.20 139 *eP* **P 08 29 58.4 +0.9**
comp=Z,139nm,1.4s,mb4.9
HINF pmax pmax
comp=Z,70nm,1.4s,mb4.9
MOF Molkenrain 24.24 138 *eP* **P 08 29 58.8 +0.9**
BUCH Bad Urach 24.24 134 P P **08 29 59.6 +1.7**
BUCH Bad Urach 24.24 134 *eP* **P 08 29 58.4 +0.5**
UPC Upice 24.27 123 *eP* **P 08 29 57.7 -0.5**
UPC *eS* **S 08 34 25.9 +12**
PRU Pruhonice 24.29 125 *eP* **P 08 29 58.4 0.0**
PRU MLR MLR
comp=Z,6µm,14.7s,MS5.2
PRU Pruhonice 24.29 125 *eP* **P 08 29 58.4 0.0**
PRU *eS* **S 08 34 25.1 +11**
PRU AMS AMS 08 42 10.0
comp=Z,6µm,14.7s
KIZ Kirchzarten 24.33 137 *eP* **P 08 29 59.3 +0.5**
HDH Heidenheim 24.34 133 P P **08 30 00.2 +1.4**
HDH Heidenheim 24.34 133 *eP* **P 08 29 59.7 +0.9**
WAR Warsaw 24.38 114 *eP* **P 08 30 01.1 +1.9**
WAR *eS* **S 08 34 22.5 +6.8**
WAR LR LR
comp=Z,3µm,24.2s,MS4.8
WAR Warsaw 24.38 114 *eP* **P 08 30 01.1 +1.9**
WAR *eS* **S 08 34 22.5 +6.8**
WAR MLR MLR 08 37 53.8
comp=Z,3µm,24.2s,MS4.8
SPAK Spaichingen 24.41 135 P P **08 30 01.4 +1.8**
SPAK Spaichingen 24.41 135 *eP* **P 08 30 00.7 +1.1**
FELD Feldberg 24.43 137 *eP* **P 08 30 00.8 +1.1**
FELD Feldberg 24.43 137 *eP* **P 08 29 59.7 0.0**
BGF Bois d'Agland 24.50 146 *eP* **P 08 30 00.4 -0.1**
comp=Z,131nm,1.1s,mb5.1
BGF Bois d'Agland 24.50 146 *eP* **P 08 30 00.4 -0.1**
BGF pmax pmax
comp=Z,65nm,1.1s,mb5.1
DPC Dobruska-Polom 24.51 122 *eP* **P 08 30 00.3 -0.2**
DPC MLR MLR
comp=Z,4µm,24.1s,MS4.9
DPC Dobruska-Polom 24.51 122 *eP* **P 08 30 00.3 -0.2**
DPC *eS* **S 08 34 29.0 +11**
DPC AMS AMS 08 37 50.0
comp=Z,4µm,24.1s
GUT Gutenstein 24.53 135 P P **08 30 02.1 +1.4**
GUT Gutenstein 24.53 135 *eP* **P 08 30 01.5 +0.8**
WET Wettzell 24.57 128 P P **08 30 01.2 +0.2**
SMF Signal de Mont 24.63 144 *eP* **P 08 30 01.7 0.0**
comp=Z,250nm,1.4s,mb5.2
SMF Signal de Mont 24.63 144 *eP* **P 08 30 01.7 0.0**
SMF pmax pmax
comp=Z,125nm,1.4s,mb5.2
LOMF Lomont 24.63 139 *eP* **P 08 30 03.0 +1.3**
TCF Toulx Ste Croi 24.64 147 *eP* **P 08 30 01.6 -0.1**
comp=Z,150nm,1.1s,mb5.1
TCF Toulx Ste Croi 24.64 147 *eP* **P 08 30 01.6 -0.1**
TCF pmax pmax
comp=Z,75nm,1.1s,mb5.1
BBS Basel-Blauen 24.69 138 *eP* **P 08 30 03.4 +1.2**
KHC Kasperske Hory 24.78 127 *eP* **P 08 30 03.8 +0.7**
KHC *eS* **S 08 34 30.4 +8.0**
KHC AMS AMS 08 42 20.0
comp=Z,7µm,13.7s
SULZ Sulz-Cheisache 24.78 137⇓*P* **P 08 30 04.0 +0.9**
SISB Singen-Sch Ber 24.84 136 P P **08 30 05.9 +2.2**
FUR Furstenfeldbru 25.01 132 P P **08 30 05.8 +0.5**
AGO Saint Agoulin 25.05 146 *eP* **P 08 30 07.6 +1.9**
GERES GERESS Array B 25.07 128 P P **08 30 06.8 +0.9**
GERES S **S 08 34 33.8 +6.4**
GERES pmax pmax
comp=Z,66nm,1.1s
GERES MLR MLR
comp=Z,3µm,20.5s
GERES GERESS Array B 25.07 128 P P **08 30 06.8 +0.9**
comp=Z,66nm,1.1s,mb5.1,baz=329,slow=7.8,SNR=116
GERES S **S 08 34 33.8 +6.4**
comp=Z,0.5nm,0.2s,baz=18,slow=21,SNR=2.1
GERES LR LR 08 39 15.2
comp=Z,3µm,20.5s,MS4.7,baz=311,slow=35
UBR Uberruh 25.14 134 *eP* **P 08 30 07.6 +1.0**
CABF La Chapelle 25.16 141 *eP* **P 08 30 06.8 +0.1**
comp=Z,69nm,1.2s,mb4.8
CABF La Chapelle 25.16 141 *eP* **P 08 30 06.8 +0.1**
CABF pmax pmax
comp=Z,35nm,1.2s,mb4.8
VERF Verneugheol 25.21 147 *eP* **P 08 30 07.3 +0.1**
PLDF La Plantade 25.23 145 *eP* **P 08 30 08.6 +1.2**
PYM Petit Puy Mans 25.31 146 *eP* **P 08 30 09.5 +1.3**
RAC Raciborz 25.32 120 *eP* **P 08 30 07.9 -0.3**
RAC *eS* **S 08 34 36.8 +5.2**
RAC LME 08 39 45.5
comp=Z,6µm,18.6s
RAC MLR MLR 08 40 10.2
comp=Z,4µm,18.8s,MS5.0
RAC LMN 08 41 14.8
comp=Z,4µm,17.4s
MORC Moravsky Berou 25.39 121 *eP* **P 08 30 08.1 -0.8**
MORC pmax pmax
comp=Z,123nm,1.3s,mb5.3
MORC Moravsky Berou 25.39 121 *eP* **P 08 30 08.1 -0.8**
comp=Z,123nm,1.3s,mb5.3
MORC Moravsky Berou 25.39 121 *iP* **P 08 30 08.3 -0.6**
MUO Muotathal 25.43 137⇑*P* **P 08 30 09.9 +0.6**
RJF Les Rejaudoux 25.45 149 *eP* **P 08 30 09.0 -0.5**
comp=Z,351nm,1.5s,mb5.4
RJF *eR*
comp=Z,8µm,19.5s
RJF Les Rejaudoux 25.45 149 *eP* **P 08 30 09.0 -0.5**
RJF pmax pmax
comp=Z,176nm,1.5s,mb5.4
RJF MLR MLR
comp=Z,8µm,19.5s,MS5.3
DAVA Damuels 25.45 135⇑*iP* **P 08 30 10.0 +0.5**
comp=Z,711nm,4.2s
VRAC Vranov 25.51 123 P P **08 30 11.0 +1.0**
VRAC S **S 08 34 40.1 +5.4**
VRAC pmax pmax
comp=Z,40nm,1.0s
VRAC Vranov 25.51 123 P P **08 30 11.0 +1.0**
comp=Z,40nm,1.0s,mb4.9,baz=337,slow=12,SNR=30
VRAC S **S 08 34 40.1 +5.3**
comp=Z,1.6nm,0.6s,baz=250,slow=12,SNR=2.1
VRAC Vranov 25.51 123 *iP* **P 08 30 10.6 +0.6**
OKC Ostrava-Krasne 25.52 120 *eP* **P 08 30 09.0 -1.1**
OKC *eS* **S 08 34 41.4 +6.5**
OKC AMS AMS 08 41 20.0
comp=Z,4µm,15.5s
LLS Linth-Limmern 25.64 136⇓*P* **P 08 30 12.2 +1.0**
LFF La Frestale 25.66 150 *eP* **P 08 30 11.3 -0.1**
comp=Z,202nm,1.3s,mb5.2
LFF La Frestale 25.66 150 *eP* **P 08 30 11.3 -0.1**
LFF pmax pmax
comp=Z,101nm,1.3s,mb5.2
KRUC Moravsky 25.67 124 P P **08 30 11.9 +0.4**
COLF Collangettes 25.67 145 *eP* **P 08 30 12.2 +0.6**
OJC Ojcow 25.71 118 *eP* **P 08 30 11.6 -0.3**
OJC *eS* **S 08 34 42.4 +4.3**
OJC MLR MLR 08 41 30.7
comp=Z,4µm,15.7s,MS5.1
MOTA Moosalm 25.72 133⇑*iP* **P 08 30 12.7 +0.7**
comp=Z,99nm,1.3s,mb5.2
MOTA Moosalm 25.72 133⇑*iP* **P 08 30 12.7 +0.7**
MOTA pmax pmax
comp=Z,99nm,1.3s,mb5.2
LKBD Leukerbad 25.73 139⇓*P* **P 08 30 14.8 +2.7**
WATA Walderalm 25.85 132⇓*iP* **P 08 30 13.6 +0.4**
comp=Z,54nm,1.3s,mb4.9
WATA Walderalm 25.85 132⇓*iP* **P 08 30 13.6 +0.4**
WATA pmax pmax
comp=Z,54nm,1.3s,mb4.9
SQTA Sankt Quirin 25.86 133⇓*iP* **P 08 30 14.3 +1.0**
comp=Z,126nm,1.3s,mb5.3
SQTA Sankt Quirin 25.86 133⇓*iP* **P 08 30 14.3 +1.0**
SQTA pmax pmax
comp=Z,126nm,1.3s,mb5.3
CAF Calviac 25.92 148 *eP* **P 08 30 13.2 -0.7**
comp=Z,100nm,1.2s,mb4.9
CAF Calviac 25.92 148 *eP* **P 08 30 13.2 -0.7**
CAF pmax pmax
comp=Z,50nm,1.2s,mb4.9
DAVOX Davos 25.92 135 P P **08 30 13.0 -0.9**
comp=Z,33nm,1.2s,mb4.8,baz=313,slow=12,SNR=16
DAVOX LR LR 08 40 34.5
comp=Z,5µm,19.5s,MS5.0,baz=311,slow=37
WTTA Wattenberg 25.93 132⇑*iP* **P 08 30 14.9 +0.9**
comp=Z,296nm,1.9s,mb5.5

WTTA Wattenberg 25.93 132⇑ *i*P P 08 30 14.9 +0.9
WTTA pmax pmax
comp=Z,296nm,1.9s,mb5.5
TUE Stuetta 26.07 136 P P 08 30 16.4 +1.1
VDL Val di Lei 26.09 136 ⇓P P 08 30 17.0 +1.6
MMK Mattmark 26.12 138 ⇓P P 08 30 17.3 +1.5
EPON Pontenova 26.12 164 P P 08 30 17.6 +1.8
comp=Z,194nm,1.8s,mb5.3
EPON Pontenova 26.12 164 P P 08 30 17.6 +1.8
comp=Z,194nm,1.8s,mb5.3,SNR=4.8
MOA Molin 26.13 128⇑ *i*P P 08 30 15.0 -0.8
comp=Z,294nm,2.9s,mb5.3
JAVC Velka Javorina 26.24 122 P P 08 30 18.5 +1.7
LPL La Plagne 26.34 141 *e*P P 08 30 18.4 +0.7
comp=Z,33nm,0.9s,mb4.6
LPL La Plagne 26.34 141 *e*P P 08 30 18.4 +0.7
LPL pmax pmax
comp=Z,16nm,0.9s,mb4.5
LPG La Plagne 26.36 141 *e*P P 08 30 18.8 +0.9
comp=Z,73nm,1.3s,mb4.7
LPG La Plagne 26.36 141 *e*P P 08 30 18.8 +0.9
LPG pmax pmax
comp=Z,37nm,1.3s,mb4.8
EARI Arriondas 26.36 161 P P 08 30 21.1 +3.0
comp=Z,266nm,1.5s,mb5.5
EARI Arriondas 26.36 161 P P 08 30 21.1 +3.1
comp=Z,266nm,1.5s,mb5.5,SNR=5.2
GRN Grenoble 26.37 142 *e*P P 08 30 18.6 +0.5
STS Santiago 26.43 166 P P 08 30 19.9 +1.3
STS pmax pmax
comp=Z,35nm,1.1s,mb4.8
STS Santiago 26.43 166 P P 08 30 19.9 +1.2
comp=Z,35nm,1.1s,mb4.8
STS Santiago 26.43 166 P P 08 30 19.9 +1.3
comp=Z,35nm,1.1s,mb4.8,SNR=7.9
SCHQ Schefferville 26.48 263 P P 08 30 18.1 -0.8
comp=Z,6.4nm,1.0s,mb4.1,baz=41,slow=9.4,SNR=7.4
SCHQ S S 08 34 52.9 +2.0
comp=Z,3.2nm,1.1s,baz=271,slow=3.5,SNR=2.3
SCHQ LR LR 08 40 03.1
comp=Z,3µm,18.4s,MS4.8,baz=45,slow=35
GDM Grand'Maison 26.49 142 *e*P P 08 30 19.8 +0.6
VIVF Saint-Julien-l 26.51 144 *e*P P 08 30 19.2 -0.1
comp=Z,71nm,1.2s,mb4.8
VIVF Saint-Julien-l 26.51 144 *e*P P 08 30 19.2 -0.1
VIVF pmax pmax
comp=Z,35nm,1.2s,mb4.8
KBA Koelnbreinsper 26.57 130⇑ *i*P P 08 30 20.8 +0.9
comp=Z,530nm,4.9s
KBA Koelnbreinsper 26.57 130⇑ *i*P P 08 30 20.8 +0.9
KBA pmax pmax
comp=Z,530nm,4.9s
NIE Niedzica 26.57 118 *e*P P 08 30 20.4 +0.5
ZST Bratislava 26.65 124 *e*P P 08 30 21.2 +0.6
ZST *e*S S 08 34 59.4 +5.7
ZST *e*L 08 44 20.4
ORIF Oris-en-Rattie 26.71 142 *e*P P 08 30 21.1 -0.1
comp=Z,119nm,1.2s,mb5.0
ORIF *e*R
comp=Z,7µm,18.2s
VYHS Vyhne 26.92 121 *e*P P 08 30 23.0 -0.1
VYHS *e*S S 08 35 03.6 +5.5
EALK Alkurruntz 26.95 155 P P 08 30 23.3 -0.1
comp=Z,102nm,2.5s,mb4.9
EALK Alkurruntz 26.95 155 P P 08 30 23.4 0.0
comp=Z,102nm,2.5s,mb4.9,SNR=5.5
ARSA Arzberg 27.04 127⇑ *i*P P 08 30 23.8 -0.3
comp=Z,421nm,3.4s
ERUA La Rua 27.05 164 P P 08 30 27.9 +3.6
ERUA pmax pmax
comp=Z,51nm,1.4s,mb4.9
ERUA La Rua 27.05 164 P P 08 30 27.9 +3.6
comp=Z,51nm,1.4s,mb4.9
ERUA La Rua 27.05 164 P P 08 30 27.9 +3.6
comp=Z,51nm,1.4s,mb4.8,SNR=6.4
LASF Ste Croix 27.09 146 *e*P P 08 30 25.3 +0.7
comp=Z,120nm,1.1s,mb5.0
MBDF Montbardon 27.09 141 *e*P P 08 30 25.3 +0.6
comp=Z,215nm,1.4s,mb5.2
MBDF Montbardon 27.09 141 *e*P P 08 30 25.3 +0.6
MBDF pmax pmax
comp=Z,108nm,1.4s,mb5.2
SJPF Ste Jean 27.10 154 *e*P P 08 30 24.5 -0.3
comp=Z,50nm,1.2s,mb4.6
SJPF Ste Jean 27.10 154 *e*P P 08 30 24.5 -0.3
SJPF pmax pmax
comp=Z,25nm,1.2s,mb4.6
KWP Kalwaria 27.16 115 *e*P P 08 30 28.6 +3.3
KWP pmax pmax
comp=Z,500nm,3.4s
KWP MLR MLR
comp=Z,5µm,23.9s,MS5.0
KWP Kalwaria 27.16 115 *e*P P 08 30 28.6 +3.3
comp=Z,500nm,3.4s
KWP MLR MLR 08 39 45.6
comp=Z,5µm,23.9s,MS5.0
ROBS Robic 27.38 130 *e*P P 08 30 23.7 -3.6
CRVS Cervenica-Dubn 27.39 117 *e*S S 08 35 14.8 +9.1
MOS Moscow 27.42 91 *e*P P 08 30 28.6 +1.1
MOS *e* 08 31 16.4
MOS *e*S S 08 35 09.3 +3.3
MOS *e*SS SS 08 36 16.7 -6.3
MOS pmax pmax
comp=Z,200nm,1.6s,mb5.4
MOS pmax pmax
comp=Z,104nm,1.5s,mb5.1
MOS MLR MLR
comp=Z,3µm,13.0s,MS5.1
MOS Moscow 27.42 91 *e*P P 08 30 28.6 +1.1
comp=Z,104nm,1.5s,mb5.1
ETSF Etsaut 27.42 153 *e*P P 08 30 28.2 +0.5
comp=Z,58nm,1.2s,mb4.7
ETSF Etsaut 27.42 153 *e*P P 08 30 28.2 +0.5
ETSF pmax pmax
comp=Z,29nm,1.2s,mb4.7
EPF Esparros 27.44 152 *e*P P 08 30 28.3 +0.4
comp=Z,97nm,1.3s,mb4.9
EPF Esparros 27.44 152 *e*P P 08 30 28.3 +0.4
EPF pmax pmax
comp=Z,48nm,1.3s,mb4.9
LVV L'vov 27.44 113 *i*P P 08 30 27.4 -0.4
LVV *e*S S 08 35 10.0 +3.5
LVV MLR MLR
comp=Z,2µm,18.4s,MS4.6
LVV L'vov 27.44 113 *i*P P 08 30 27.4 -0.4
comp=Z,2µm,18.4s
KECS Kecovo 27.45 119 *e*P P 08 30 27.6 -0.3
MTLF Montolieu 27.47 149 *e*P P 08 30 28.9 +0.7
comp=Z,43nm,1.2s,mb4.6
MTLF Montolieu 27.47 149 *e*P P 08 30 28.9 +0.7
MTLF pmax pmax
comp=Z,21nm,1.2s,mb4.5
PERS Pernice 27.48 128 *e*P P 08 30 27.9 -0.2
PERS *e* pP 08 30 32.4 +1.4
OBN Obninsk 27.52 93 *e*P P 08 30 28.7 +0.3
OBN *e* 08 30 33.7
OBN 08 31 16.0
OBN 08 33 48.0
OBN *i*S S 08 35 09.6 +2.0
OBN SS SS 08 36 18.0 -7.4
OBN pmax pmax
comp=Z,11nm,0.4s,mb4.8
OBN MLR MLR
comp=Z,2µm,14.0s,MS4.9
OBN Obninsk 27.52 93 *e*P P 08 30 28.7 +0.3
comp=Z,11nm,0.4s,mb4.8
OBN *i*S S 08 35 09.6 +2.0
comp=Z,2µm,14.0s
ECAL Calabor 27.54 164 P P 08 30 29.2 +0.5
comp=Z,133nm,1.5s,mb5.3
ECAL Calabor 27.54 164 P P 08 30 29.2 +0.4
comp=Z,133nm,1.5s,mb5.3,SNR=4.1
SMRF Simiane la Rot 27.54 143 *e*P P 08 30 29.0 +0.2
comp=Z,126nm,1.5s,mb5.0
KOLS Kolonicke sedl 27.63 116 *e*P P 08 30 31.8 +2.3
KOLS *e*SP sP 08 30 39.8 +6.0
KOLS *e* 08 30 58.3
EBIE Bielsa 27.74 152 P P 08 30 31.1 +0.5
comp=Z,183nm,1.8s,mb5.4
EBIE Bielsa 27.74 152 P P 08 30 31.1 +0.5
comp=Z,183nm,1.8s,mb5.4,SNR=7.9
PSZ Piszkesteto 27.76 120 *e*P P 08 30 30.0 -0.7
PSZ pmax pmax
comp=Z,65nm,1.4s,mb5.1
PSZ Piszkesteto 27.76 120 *e*P P 08 30 30.0 -0.7
comp=Z,65nm,1.4s,mb5.1
PSZ Piszkesteto 27.76 120⇓ *e*P P 08 30 31.3 +0.6
PSZ Piszkesteto 27.76 120⇓ *i*P P 08 30 31.3 +0.6
LJU Ljubljana 27.85 129 *e*P P 08 30 31.5 0.0
UZH Uzhgorod 27.90 116 *d i*P P 08 30 33.0 +1.0
UZH Uzhgorod 27.90 116 *i*P P 08 30 33.0 +1.0
AUTN L'Aution 27.94 141 *e*P P 08 30 36.8 +4.4
MVIF Mont Vial 27.97 141 *e*P P 08 30 36.3 +3.7
KOGS Kog 27.98 126 *e*P P 08 30 31.6 -1.0
KOGS *e* 08 30 38.0
SBF Sospel 28.06 141 *e*P P 08 30 34.0 +0.5
comp=Z,156nm,1.2s,mb5.2
SBF Sospel 28.06 141 *e*P P 08 30 34.0 +0.5
SBF pmax pmax
comp=Z,78nm,1.2s,mb5.2
CEY Cerknica 28.10 129 P P 08 30 33.6 -0.2
FRF La Foret Royal 28.17 142 *e*P P 08 30 36.2 +1.7
comp=Z,85nm,1.2s,mb5.0
FRF La Foret Royal 28.17 142 *e*P P 08 30 36.2 +1.7
FRF pmax pmax
comp=Z,42nm,1.2s,mb4.9
EGRA Graus 28.25 152 P P 08 30 34.9 -0.3
SNR=7.9
LMR La Mourre 28.36 142 *e*P P 08 30 37.9 +1.7
comp=Z,59nm,1.1s,mb4.8
LMR La Mourre 28.36 142 *e*P P 08 30 37.9 +1.7
LMR pmax pmax
comp=Z,30nm,1.1s,mb4.8
AKASG Malin Array Be 28.47 106 P P 08 30 35.0 -2.1
AKASG S S 08 35 27.4 +4.4
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 28.47 106 P P 08 30 35.0 -2.1
comp=Z,2.4nm,0.5s,mb4.1,baz=326,slow=9.2,SNR=16
AKASG S S 08 35 27.4 +4.5
comp=Z,0.1nm,0.2s,baz=307,slow=24,SNR=3.3
AKASG Malin Array Be 28.47 106 P P 08 30 35.0 -2.1
AKASG S S 08 35 27.4 +4.5
VLC Villacollemand 28.49 136 *e*P P 08 30 37.2 -0.2
comp=Z,139nm,1.0s,mb5.5
BOJS Bojanci 28.55 129 *e*P P 08 30 35.8 -2.0
PKSM Moragy 28.90 123 P P 08 30 41.3 +0.3
PKSM Moragy 28.90 123⇑ *e*P P 08 30 40.6 -0.4
PECR Pechory 29.31 84 *e*P P 08 30 47.4 +2.8
PECR *e*S S 08 35 32.0 -4.4
PECR pmax pmax
comp=Z,220nm,2.0s,mb5.5
PECR pmax pmax
comp=Z,500nm,4.0s
PECR smax
comp=N,800nm,7.0s
PECR smax
comp=E,800nm,8.0s
PECR MLR MLR
comp=E,2µm,15.0s,MS5.1
PECR MLR MLR
comp=Z,3µm,15.0s,MS5.0
PECR MLR MLR
comp=N,2µm,14.0s,MS5.1
PECR Pechory 29.31 84 *e*P P 08 30 47.4 +2.8
comp=N,800nm,7.0s
DRGR 29.65 118 P P 08 30 47.3 -0.5
PGF Pioggiola 29.67 139 *e*P P 08 30 48.8 +0.8
comp=N,120nm,1.4s,mb5.1
PGF Pioggiola 29.67 139 *e*P P 08 30 48.8 +0.8
PGF pmax pmax
comp=Z,60nm,1.4s,mb5.1
BURAR Bucovina Array 29.74 114 ⇓P P 08 30 53.6 +5.0
ESDC Sonseca Array 30.09 160 P P 08 30 51.8 0.0
comp=Z,3.0nm,0.7s,mb4.2,baz=351,slow=9.3,SNR=16
ESDC S S 08 35 54.5 +5.5
comp=Z,0.3nm,0.3s,baz=47,slow=40,SNR=3.0
ESDC Sonseca Array 30.09 160 P P 08 30 52.1 +0.3
comp=Z,5.1nm,0.9s,mb4.2
ESDC Sonseca Array 30.09 160 P P 08 30 52.1 +0.3
comp=Z,5.1nm,0.9s,mb4.2,SNR=6.7
ESLA Sonseca Array 30.09 160 *e*P P 08 30 52.3 +0.6
comp=Z,3.0nm,1.0s,mb4.0
ESLA LR LR
comp=Z,18µm,22.0s,MS5.7
EBAD Badajoz 30.66 165 P P 08 30 56.4 -0.4
EBAD Badajoz 30.66 165 P P 08 30 56.4 -0.4
SNR=7.9
VOR Voronezh 31.17 94 P P 08 31 02.0 +0.9
VOR pmax pmax
comp=Z,150nm,1.2s,mb5.7
VOR Voronezh 31.17 94 P P 08 31 02.0 +0.9
comp=Z,150nm,1.2s,mb5.7
EVIA Vianos 31.30 158 P P 08 31 02.7 +0.3
EVIA pmax pmax
comp=Z,38nm,1.3s,mb5.1
EVIA Vianos 31.30 158 P P 08 31 02.7 +0.3
comp=Z,38nm,1.3s,mb5.1
EVIA Vianos 31.30 158 P P 08 31 02.7 +0.3
comp=Z,38nm,1.3s,mb5.1,SNR=6.2
SOKR Solikamsk 31.33 70 *e i*P P 08 31 01.6 -0.9
SOKR S S 08 36 08.0 -0.3
SOKR pmax pmax
comp=Z,40nm,2.0s,mb4.9
SOKR MLR MLR
comp=Z,5µm,14.0s,MS5.3
SOKR Solikamsk 31.33 70 *i*P P 08 31 01.6 -0.9
comp=Z,40nm,2.0s,mb4.9
SOKR S S 08 36 08.0 -0.3
comp=Z,5µm,14.0s
KIS Kishinev 31.49 110 *e*P P 08 31 04.0 0.0
KIS *e* 08 32 10.0
KIS *e*S S 08 36 10.0 -0.9
KIS MLR MLR
comp=Z,6µm,16.0s,MS5.3
KIS MLR MLR
comp=N,5µm,17.0s,MS5.4
KIS MLR MLR
comp=E,4µm,16.0s,MS5.4
KIS MLR MLR
comp=Z,6µm,18.0s
KIS Kishinev 31.49 110 *e*P P 08 31 04.0 0.0
KIS *e*S S 08 36 10.0 -0.9
comp=Z,6µm,18.0s
ECAB El Cabril 31.50 163 P P 08 31 04.1 -0.1
ECAB El Cabril 31.50 163 P P 08 31 04.1 -0.1
SNR=7.9
EADA Adamuz 31.50 161 P P 08 31 04.8 +0.6
comp=Z,14nm,1.1s,mb4.7
EADA Adamuz 31.50 161 P P 08 31 04.8 +0.6
comp=Z,14nm,1.1s,mb4.7,SNR=6.8
DJES Djerdap 31.52 120⇑ *i*P P 08 31 03.4 -0.8
EBAN Banos Encina 31.60 160 P P 08 31 06.5 +1.4
EBAN pmax pmax
comp=Z,14nm,1.0s,mb4.8
EBAN Banos Encina 31.60 160 P P 08 31 06.5 +1.4
comp=Z,14nm,1.0s,mb4.7,SNR=9.1
GRUS Gruza 31.63 123⇓ *i*P P 08 31 05.2 -0.1
VRI Vrincioaia 31.78 114 P P 08 31 08.1 +1.6
MLR Muntele Rosu 31.85 115 ⇓P P 08 31 07.8 +0.6
EQES Quesada 32.05 159 P P 08 31 10.5 +1.5
comp=Z,21nm,1.1s,mb4.9
EQES Quesada 32.05 159 P P 08 31 10.5 +1.5
comp=Z,21nm,1.1s,mb4.9,SNR=8.2
BOLS Boljevac 32.06 121 *e*P P 08 31 06.6 -2.5
ELUQ Luque 32.14 161 P P 08 31 12.2 +2.4
ELUQ pmax pmax
comp=Z,4.0nm,0.2s,mb4.9
ELUQ Luque 32.14 161 P P 08 31 12.2 +2.4
comp=Z,4.4nm,0.2s,mb4.9
ELUQ Luque 32.14 161 P P 08 31 12.2 +2.4
comp=Z,4.4nm,0.2s,mb4.9,SNR=9.3
EMUR La Murta 32.26 156 P P 08 31 11.3 +0.5
EMUR La Murta 32.26 156 P P 08 31 11.3 +0.4
SNR=7.9
ELOJ Sierra Loja 32.56 161 P P 08 31 15.5 +2.0
ELOJ pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
ELOJ Sierra Loja 32.56 161 P P 08 31 15.5 +2.0
comp=Z,1.8nm,0.3s,mb4.5
ELOJ Sierra Loja 32.56 161 P P 08 31 15.5 +2.0
comp=Z,1.8nm,0.3s,mb4.5,SNR=5.3
ESPR Espera 32.65 164 P P 08 31 15.1 +0.9
comp=Z,40nm,1.3s,mb5.2,SNR=6.2
ZAPS Zavoj/Pirot 32.75 121 ⇓*i*P P 08 31 14.8 -0.3
CFR Carcaliu 32.85 113 ⇑P P 08 31 12.9 -3.0
EGUA Guajares 32.94 160 P P 08 31 18.8 +2.0
SNR=7.9
EMIJ Mijas 33.07 162 P P 08 31 18.6 +0.7
EMIJ Mijas 33.07 162 P P 08 31 18.6 +0.7
SNR=7.9
TIRR Tirgusor 33.58 113 ⇓P P 08 31 21.8 -0.5
SKO Skopje 33.59 123 *e*P P 08 31 21.0 -1.4
SKO *i* 08 31 27.2
PQI Presque Isle 33.66 255 PFAKE 08 31 40.0 +17
PQI LR LR
comp=Z,7µm,20.0s,MS5.3
CUC Castrocucco 33.81 132 P P 08 31 24.5 +0.2
DKH Dar Kharkhour 34.07 163 *i*P P 08 31 25.0 -1.6
ARU Arti 34.35 72⇑ *i*P P 08 31 27.6 -1.2
ARU *e* 08 32 40.2
ARU *e* 08 34 01.5
ARU *e*S S 08 36 55.5 +0.3
ARU *e*SS SS 08 39 04.2 -0.8
ARU *e* 08 41 57.1
ARU pmax pmax
comp=Z,17nm,1.0s,mb4.9
ARU MLR MLR
comp=N,4µm,17.0s,MS5.2
ARU MLR MLR
comp=E,2µm,17.0s,MS5.2
ARU MLR MLR
comp=Z,5µm,17.0s,MS5.3
ARU Arti 34.35 72 *i*P P 08 31 27.6 -1.2
comp=Z,17nm,1.0s,mb4.9
ARU Arti 34.35 72 *e*PcP PcP 08 34 01.5 -3.4
ARU *e*S S 08 36 55.5 +0.3
VAY Valandovo 34.53 122⇑ *i*P P 08 31 30.2 -0.3
SVE Sverdlovsk 34.75 70 *e*P P 08 31 30.0 -2.2
SVE *e*PPP PPP 08 32 50.0 -17
SVE *e* 08 34 04.0
SVE *e*S S 08 37 02.0 +0.6
SVE *e*SSS SSS 08 39 09.0 -32
SVE pmax pmax
comp=Z,56nm,1.9s,mb5.2
SVE MLR MLR
comp=N,3µm,14.0s,MS5.3
SVE MLR MLR
comp=E,2µm,14.0s,MS5.3
SVE MLR MLR
comp=Z,6µm,14.0s,MS5.5
SVE Sverdlovsk 34.75 70 *e*PcP PcP 08 34 04.0 -2.1
SVE *e*S S 08 37 02.0 +0.6
TOU Touzarine 34.77 161 *e*P P 08 31 30.0 -2.6
TIP Timpagrande 34.82 131 *e*P P 08 31 32.7 -0.4
ZAI Zaio 34.88 159 *e*P P 08 31 31.0 -2.6
SIM Simferopol' 35.09 106 P P 08 31 38.6 +3.3
SIM S S 08 37 11.6 +4.7
SIM pmax pmax
comp=Z,58nm,8.6s
SIM MLR MLR
comp=Z,2µm,14.0s,MS5.0
EMMW East Machias 35.17 253 PFAKE 08 31 50.0 +14
EMMW LR LR
comp=Z,12µm,20.0s,MS5.7
INK Inuvik 36.41 326 *e*P P 08 31 44.5 -1.7
INK pmax pmax
comp=Z,29nm,1.3s
INK Inuvik 36.41 326 *e*P P 08 31 44.5 -1.6
comp=Z,29nm,1.3s,mb5.0
CZD Col de Zad 36.53 163 *i*P P 08 31 47.0 -0.6
YKW3 Yellowknife Ar 36.55 310 *e*P P 08 31 47.3 -0.1
YKA Yellowknife Ar 36.60 309 P P 08 31 46.6 -1.2
comp=Z,4.8nm,0.7s,mb4.4,baz=37,slow=8.3,SNR=59
YKA PcP PcP 08 34 09.5 -1.9
comp=Z,0.9nm,0.7s,baz=34,slow=2.9,SNR=5.6
YKA S S 08 37 32.1 +2.2
comp=Z,0.1nm,0.3s,baz=176,slow=22,SNR=2.4
YKA LR LR 08 46 43.7
comp=Z,4µm,18.3s,MS5.3,baz=50,slow=36
YKA Yellowknife Ar 36.60 309 P P 08 31 46.6 -1.2
YKA PcP PcP 08 34 09.5 -1.9
YKA S S 08 37 32.1 +2.2
YKA LR LR 08 46 43.7
YKA Yellowknife Ar 36.60 309 S S 08 37 32.1 +2.2
FRNY Flat Rock 37.21 260 *e*P P 08 31 53.0 -0.1
HENT Hendek 37.65 113 *i*P P 08 31 58.2 +1.3
FFD Franklin Falls 37.72 256 *e*P P 08 31 54.6 -2.8
comp=Z,58nm,1.4s,mb5.1
TIXI Tiksi 37.89 17 *e*P P 08 31 58.8 +0.2
TIXI *e*S S 08 37 40.9 -8.7
TIXI *e*SS SS 08 40 23.4 -1.8
TIXI pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
TIXI MLR MLR
comp=Z,981nm,15.0s,MS4.7
TIXI Tiksi 37.89 17 *e*P P 08 31 58.8 +0.2
comp=Z,8.0nm,1.0s,mb4.4
GOF Gofitskoye 38.16 97⇑ *i*P P 08 32 02.2 +1.1
GOF pmax pmax
comp=Z,57nm,1.1s,mb5.2
GOF Gofitskoye 38.16 97 *i*P P 08 32 02.2 +1.1
comp=Z,57nm,1.1s,mb5.2
SOC Sochi 38.25 102 *e*P P 08 32 02.9 +1.0
SOC *e*PPP PPP 08 33 51.5 -3.5
SOC *e* 08 34 18.1
SOC *e*S S 08 37 55.8 +0.4
SOC *e*SSS SSS 08 41 08.7 +2.5
SOC pmax pmax
comp=Z,54nm,1.5s,mb5.1
SOC pmax pmax
comp=N,73nm,1.4s
SOC pmax pmax
comp=E,44nm,1.3s
SOC MLR MLR
comp=N,2µm,15.0s,MS5.0
SOC MLR MLR
comp=E,1µm,15.0s,MS5.0
SOC MLR MLR
comp=Z,3µm,15.0s,MS5.3
SOC Sochi 38.25 102 *e*P P 08 32 02.9 +1.0
comp=Z,73nm,1.4s,mb5.2
SOC *e*S S 08 37 55.8 +0.4
URLA Izmir 38.49 120 *i*P P 08 32 09.2 +5.3
ACCN Adirondack Com 38.50 258 *e*P P 08 32 05.1 +1.0
ELDT Eldivan 38.80 111 *i*P P 08 32 09.6 +3.1
ESKT Eskisehir 38.81 114 *i*P P 08 32 07.3 +0.7
KIV Kislovodsk 38.99 98 *i*P P 08 32 09.1 +1.0
KIV pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
KIV MLR MLR
comp=Z,1µm,13.0s,MS4.9
KIV Kislovodsk 38.99 98 *i*P P 08 32 09.1 +1.0
comp=Z,1µm,13.0s
BR131 Keskin Array S 39.55 111 *e*P P 08 32 12.2 -0.7
comp=Z,3.4nm,0.6s,mb4.2
BR131 LR LR
comp=Z,2µm,20.0s,MS5.0
BRTR Keskin Array B 39.56 111 P P 08 32 12.6 -0.3
BRTR 08 33 42.4
BRTR S S 08 38 18.8 +3.7
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 39.56 111 P P 08 32 12.6 -0.3
comp=Z,4.2nm,1.0s,mb4.1,baz=334,slow=3.7,SNR=7.3
BRTR PP PP 08 33 42.4 -5.3
comp=Z,2.7nm,1.0s,baz=337,slow=11,SNR=2.6
BRTR S S 08 38 18.8 +3.6
comp=Z,0.4nm,0.5s,baz=18,slow=27,SNR=2.2
BRTR Keskin Array B 39.56 111 P P 08 32 12.6 -0.3
BRTR PP PP 08 33 42.4 -5.3
BRTR S S 08 38 18.8 +3.6
CDAG Cicekdag 39.90 110 *i*P P 08 32 18.3 +2.6
KDHN Kadinhani 40.13 113 *i*P P 08 32 17.8 +0.2
ZEI Tsey 40.46 98 *e*P P 08 32 19.0 -1.2
ZEI *i* *PP pP 08 32 24.6 +1.4
ZEI *i* 08 33 56.1
ZEI pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
ZEI Tsey 40.46 98 *e*P P 08 32 19.0 -1.2
comp=Z,5.0nm,0.5s,mb4.5
ONI Oni 40.46 99 P P 08 32 16.3 -4.0
ULM Lac du Bonnet 40.63 285 P P 08 32 20.3 -1.2
comp=Z,9.8nm,1.1s,mb4.4,baz=19,slow=8.9,SNR=5.5
ULM S S 08 38 33.8 +2.8
comp=Z,1.7nm,0.7s,baz=172,slow=11,SNR=1.4
ULM LR LR 08 49 16.5
comp=Z,3µm,18.1s,MS5.2,baz=36,slow=36
AB31 Akbulak array 40.69 78 *i*P P 08 32 21.4 -0.7
AB31 pmax pmax
comp=Z,19nm,1.1s,mb4.6
AB31 Akbulak array 40.69 78 *i*P P 08 32 21.4 -0.7
comp=Z,19nm,1.1s,mb4.6
ZRNK Zerenda 40.73 68 P P 08 32 21.2 -1.1
ZRNK pmax pmax

comp=Z,18nm,1.4s,mb4.5
ZRNK Zerenda 40.73 68 P **P** **08 32 21.2 -1.1**
comp=Z,18nm,1.4s,mb4.5
IDI Anoyia 40.79 123 P **P** **08 32 22.7 -0.4**
AVNT Avonos 40.82 110 *i* P **P** **08 32 22.7 -0.5**
GVD Gavdhos 40.97 125 *eP* **P** **08 32 23.4 -1.2**
comp=Z,80nm,0.9s,mb5.3
BVA0 Borovoye Array 41.12 67 *i* P **P** **08 32 24.7 -0.9**
BVA0 pmax pmax
comp=Z,5.0nm,1.4s,mb4.0
BVA0 Borovoye Array 41.12 67 *i* P **P** **08 32 24.7 -0.9**
comp=Z,5.0nm,1.4s,mb4.0
AKAS Kas 41.39 118 *i* P **P** **08 32 27.3 -0.7**
VOSK Vostochnaya 41.57 66 P **P** **08 32 28.5 -0.6**
VOSK pmax pmax
comp=Z,38nm,1.1s,mb4.9
VOSK Vostochnaya 41.57 66 P **P** **08 32 28.5 -0.6**
comp=Z,38nm,1.1s,mb4.9
MAK Makhachkala 41.59 94 *eP* **P** **08 32 34.0 +4.6**
MAK *e* 08 34 11.0
MAK *e* 08 34 34.0
MAK *i* S **S** **08 38 50.0 +4.8**
MAK *i* SS SS 08 41 50.0 +5.0
MAK *e* 08 42 36.0
MAK pmax pmax
comp=Z,1μm,4.0s
MAK smax
comp=N,1μm,8.0s
MAK smax
comp=E,2μm,8.0s
TI2 Plekhanov 41.67 98 *eP* **P** **08 32 33.0 +2.9**
TI2 *e* 08 34 13.0
TI2 *eS* **S** **08 38 55.0 +8.6**
TI2 MLR MLR
comp=N,2μm,13.0s,MS5.2
TI2 MLR MLR
comp=E,2μm,13.0s,MS5.2
TI2 MLR MLR
comp=Z,2μm,13.0s,MS5.2
IMA Indian Mountai 41.99 335 *eP* **P** **08 32 32.8 +0.4**
ILAR Eielson Array 42.07 331 P **P** **08 32 32.8 -0.3**
ILAR S **S** **08 38 54.8 +2.7**
ILAR pmax pmax
comp=Z,7.0nm,1.0s
ILAR MLR MLR
comp=Z,2μm,19.2s
ILAR Eielson Array 42.07 331 P **P** **08 32 32.8 -0.3**
comp=Z,7.2nm,1.0s,mb4.2,baz=24,slow=6.7,SNR=59
ILAR S **S** **08 38 54.8 +2.6**
comp=Z,0.4nm,1.1s,baz=198,slow=4.5,SNR=2.9
ILAR LR LR 08 53 47.5
comp=Z,2μm,19.2s,MS5.0,baz=48,slow=42
COLA College 42.15 331 PFAKE 08 32 40.0 +6.3
COLA LR LR
comp=Z,1.0nm,19.0s
MALT Malatya 42.46 107 *eP* **P** **08 32 38.1 +1.5**
MALT pmax pmax
comp=Z,37nm,1.5s,mb4.8
MALT Malatya 42.46 107 *eP* **P** **08 32 38.1 +1.5**
comp=Z,37nm,1.5s,mb4.8
AAM Ann Arbor 43.04 268 PFAKE 08 32 50.0 +8.7
AAM LR LR
comp=Z,660nm,21.0s,MS4.5
GNI Garni 43.06 99 *i* P **P** **08 32 44.6 +3.1**
GNI pmax pmax
comp=Z,53nm,2.1s
GNI MLR MLR
comp=Z,1μm,20.0s
GNI Garni 43.06 99 *eP* **P** **08 32 44.3 +2.8**
comp=Z,62nm,1.3s,mb5.2
GNI LR LR
comp=Z,2μm,21.0s,MS4.9
SDMD Soldier's Deli 43.13 259 *eP* **P** **08 32 43.4 +1.4**
EDM Edmonton 43.93 301 *eP* **P** **08 32 47.9 -0.5**
MCWV Mont Chateau 43.98 262 *eP* **P** **08 32 50.7 +1.7**
comp=Z,26nm,1.1s,mb4.9
DLBC Dease Lake 44.13 316 *eP* **P** **08 32 48.1 -1.8**
MARD Mardin 44.18 105 *i* P **P** **08 32 54.3 +3.7**
MARD Mardin 44.18 105 *i* P **P** **08 32 54.3 +3.7**
DGMT Dagmar 45.02 290 *eP* **P** **08 32 57.9 +0.7**
comp=Z,67nm,1.5s,mb5.2
SML Sawmill 45.06 330 *eP* **P** **08 32 57.5 +0.1**
DIV Divide 45.21 328 *eP* **P** **08 32 58.0 -0.6**
comp=Z,54nm,1.1s,mb5.3
DIV LR LR
comp=Z,6μm,21.0s,MS5.5
BBSR BB Station 45.38 242 PFAKE 08 33 10.0 +10
BBSR LR LR
comp=Z,1μm,21.0s,MS4.8
PMR Palmer 45.41 330 *eP* **P** **08 33 00.8 +0.7**
PMR MLR MLR
comp=Z,2μm,17.0s,MS5.2
PWA Palmer West 45.49 331 *eP* **P** **08 33 00.5 -0.2**
EYAK Cordova Ski Ar 45.74 328 *eP* **P** **08 33 03.7 +1.0**
FWV Forest Hill 46.17 262 *eP* **P** **08 33 08.1 +1.6**
SPU Mount Spurr 46.30 332 *eP* **P** **08 33 07.0 -0.2**
BLA Blacksburg 46.36 261 *eP* **P** **08 33 08.8 +0.8**
BLA pmax pmax
comp=Z,27nm,1.1s,mb5.1
BLA Blacksburg 46.36 261 *eP* **P** **08 33 08.8 +0.8**
comp=Z,27nm,1.1s,mb5.1
ELN Prospectdale 46.47 261 *eP* **P** **08 33 09.1 +0.3**
SLKM Skilak Lake 46.62 330 *eP* **P** **08 33 10.0 +0.3**
SIT Sitka 46.66 319 PFAKE 08 33 20.0 +10
SIT LR LR
comp=Z,7μm,19.0s,MS5.6
SVW2 Sparrevohn 46.97 334 *eP* **P** **08 33 12.3 -0.1**
RSO Redoubt South 47.10 332 *eP* **P** **08 33 13.7 +0.2**
YAK Yakutsk 47.20 21 *i* P **P** **08 33 17.2 +2.9**
LAO LASA Array 47.25 290 *eP* **P** **08 33 16.3 +1.5**
comp=Z,107nm,1.6s,mb5.5
BOD Bodaibo 48.66 33 *eP* **P** **08 33 22.1 -3.6**
BOD pmax pmax
comp=Z,9.0nm,1.8s,mb4.5
RSSD Black Hills 48.74 287 *eP* **P** **08 33 26.2 -0.3**
RSSD pmax pmax
comp=Z,34nm,1.6s,mb5.1
RSSD Black Hills 48.74 287 *eP* **P** **08 33 26.2 -0.3**
comp=Z,34nm,1.6s,mb5.1
HRY Holter Researc 49.10 295 *eP* **P** **08 33 26.5 -2.8**
EIL Elat 49.16 115 *eP* **P** **08 33 29.6 -0.4**
comp=Z,56nm,1.7s,mb5.3
GCMT Greycliff 49.19 293 *eP* **P** **08 33 29.0 -0.9**
FVM French Village 49.29 271 *eP* **P** **08 33 31.1 +0.3**
FVM pmax pmax
comp=Z,17nm,1.3s,mb4.9
FVM French Village 49.29 271 *eP* **P** **08 33 31.1 +0.3**
comp=Z,17nm,1.3s,mb4.9
JSC Jenkinsville 49.29 260 *eP* **P** **08 33 32.0 +1.1**
CHMT Chamberlain Mo 49.39 296 *eP* **P** **08 33 30.6 -0.8**
NEW Newport 49.43 300 *eP* **P** **08 33 32.1 +0.3**
NEW pmax pmax
comp=Z,8.0nm,1.1s
NEW Newport 49.43 300 *eP* **P** **08 33 32.1 +0.3**
comp=Z,8.1nm,1.1s,mb4.7
CCM Cathedral Cave 49.52 272 *eP* **P** **08 33 30.8 -1.8**
CCM pmax pmax
comp=Z,15nm,1.2s,mb4.9
CCM MLR MLR
comp=Z,2μm,19.0s,MS5.2
CCM Cathedral Cave 49.52 272 *eP* **P** **08 33 30.8 -1.9**
comp=Z,15nm,1.2s,mb4.9
CCM LR LR
comp=Z,2μm,19.0s,MS5.2
MYNC Murphy 49.61 263 *eP* **P** **08 33 34.4 +1.1**
MYNC pmax pmax
comp=Z,34nm,1.2s,mb5.2
MYNC Murphy 49.61 263 *eP* **P** **08 33 34.4 +1.0**
comp=Z,34nm,1.2s,mb5.2
MSO Missoula 49.69 297 *eP* **P** **08 33 32.8 -0.9**
comp=Z,13nm,1.0s,mb4.9
KKAR Karatay Array 49.70 74 *i* P **P** **08 33 33.4 -0.6**
KKAR pmax pmax
comp=Z,15nm,1.6s,mb4.8
BOZ Bozeman (W) 49.97 294 *eP* **P** **08 33 35.3 -0.7**
BOZ pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BOZ Bozeman (W) 49.97 294 *eP* **P** **08 33 35.3 -0.7**
comp=Z,7.8nm,0.9s,mb4.7
MKAR Makanchi Array 50.39 62 P **P** **08 33 38.7 -0.4**
MKAR S **S** **08 40 54.6 +3.6**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR MLR MLR
comp=Z,3μm,19.1s
MKAR Makanchi Array 50.39 62 P **P** **08 33 38.7 -0.5**
comp=Z,2.4nm,0.7s,mb4.3,baz=342,slow=7.7,SNR=13
MKAR S **S** **08 40 54.6 +3.6**
comp=Z,0.2nm,0.5s,baz=166,slow=5.0,SNR=2.8
MKAR LR LR 08 58 13.7
comp=Z,3μm,19.1s,MS5.3,baz=348,slow=40
MKAR Makanchi Array 50.39 62 P **P** **08 33 38.7 -0.5**
MKAR S **S** **08 40 54.6 +3.6**
MKAR LR LR 08 58 13.7
LKWY Lake 50.52 292 *eP* **P** **08 33 41.1 +0.9**
LKWY pmax pmax
comp=Z,41nm,1.5s,mb5.1
LKWY Lake 50.52 292 *eP* **P** **08 33 41.1 +0.9**
comp=Z,41nm,1.5s,mb5.1
KSU1 Kansas State U 50.53 277 *eP* **P** **08 33 38.9 -1.5**
YMR Madison River 50.61 293 *eP* **P** **08 33 42.5 +1.6**
QLMT Earthquake Lak 50.63 293 *eP* **P** **08 33 40.5 -0.5**
YFT Old Faithful 50.76 293 *eP* **P** **08 33 43.8 +1.8**
MCMT McKenzie Canyo 51.10 295 *eP* **P** **08 33 44.6 +0.1**
IMW Indian Meadow 51.29 292 *eP* **P** **08 33 46.2 +0.2**
comp=Z,14nm,1.0s,mb4.8
MOOW Moose Ponds 51.35 292 *eP* **P** **08 33 47.3 +0.8**
comp=Z,15nm,1.4s,mb4.7
FRU Bishkek 51.36 70 P **P** **08 33 47.2 +0.7**
FRU *eS* **S** **08 41 15.0 +11**
FRU pmax pmax
comp=Z,100nm,2.3s,mb5.3
FRU MLR MLR
comp=N,3μm,15.0s,MS5.6
FRU MLR MLR
comp=Z,4μm,15.0s,MS5.5
FRU MLR MLR
comp=E,3μm,14.0s,MS5.6
FRU Bishkek 51.36 70 P **P** **08 33 47.2 +0.7**
comp=E,100nm,2.3s,mb5.3
MOY Mondy 51.41 45 *eP* **P** **08 33 47.8 +1.0**
LOHW Long Hollow 51.43 292 *eP* **P** **08 33 47.4 +0.3**
comp=E,23nm,1.6s,mb4.9
SNOW Snow King Moun 51.61 292 *eP* **P** **08 33 48.1 -0.3**
comp=E,36nm,1.4s,mb5.1
TPAW Teton Pass 51.65 292 *eP* **P** **08 33 50.0 +1.2**
comp=E,15nm,1.4s,mb4.7
IRK Irkutsk 51.70 42 *eP* **P** **08 33 44.0 -5.0**
IRK *e* 08 35 42.7
IRK pmax pmax
comp=Z,55nm,1.8s,mb5.2
PHWY Pilot Hill 51.72 286 *eP* **P** **08 33 48.1 -1.2**
REDW Red Top Meadow 51.73 292 *eP* **P** **08 33 50.5 +1.1**
comp=Z,19nm,1.2s,mb4.9
AAA Alma-Ata 51.76 68 P **P** **08 33 50.0 +0.4**
AAA MLR MLR
comp=Z,4μm,14.0s,MS5.6
AAA Alma-Ata 51.76 68 P **P** **08 33 50.0 +0.4**
comp=Z,4μm,14.0s
PDAR Pinedale Array 51.83 291 P **P** **08 33 48.8 -1.3**
comp=Z,7.4nm,1.1s,mb4.5,baz=27,slow=6.6,SNR=34
PDAR PP PP 08 35 45.5 -3.3
comp=Z,1.6nm,0.9s,baz=35,slow=11,SNR=3.5
PDAR S **S** **08 41 05.6 -5.3**
comp=Z,0.1nm,0.3s,baz=218,slow=15,SNR=2.6
PDAR LR LR 08 55 57.3
comp=Z,5μm,18.9s,MS5.5,baz=30,slow=36
PDAR Pinedale Array 51.83 291 P **P** **08 33 48.8 -1.3**
PDAR PP PP 08 35 45.5 -3.3
PDAR S **S** **08 41 05.6 -5.3**
PDAR LR LR 08 55 57.3
RRI2 Red Ridge 51.90 292 *eP* **P** **08 33 50.1 -0.6**
comp=Z,47nm,1.6s,mb5.2
CBKS Cedar Bluff 51.91 280 *eP* **P** **08 33 50.9 +0.1**
CBKS pmax pmax
comp=Z,61nm,1.3s,mb5.4
CBKS Cedar Bluff 51.91 280 *eP* **P** **08 33 50.9 +0.1**
comp=Z,61nm,1.3s,mb5.4
RWWY Rawlins 51.98 288 *eP* **P** **08 33 51.5 +0.2**
comp=Z,50nm,1.4s,mb5.2
TLY Talaya 52.06 43 ⇑ *iP* **P** **08 33 51.1 -0.7**
TLY *eS* **S** **08 41 15.3 +1.3**
TLY *eSS* SS 08 44 43.4 -5.9
TLY pmax pmax
comp=Z,11nm,1.5s,mb4.6
TLY MLR MLR
comp=Z,2μm,17.0s,MS5.2
TLY Talaya 52.06 43 *i* P **P** **08 33 51.1 -0.7**
comp=Z,11nm,1.5s,mb4.6
TLY *eS* **S** **08 41 15.3 +1.3**
AHID Auburn Hatcher 52.35 292 *eP* **P** **08 33 54.2 +0.2**
comp=Z,10nm,1.1s,mb4.7
BMO Blue Mountains 52.52 298 *eP* **P** **08 33 52.9 -2.5**
comp=Z,32nm,1.5s,mb5.0
HLID Hailey 52.74 295 *eP* **P** **08 33 56.6 -0.4**
comp=Z,12nm,1.4s,mb4.6
ISCO Idaho Springs 53.10 286 *eP* **P** **08 33 59.9 +0.2**
ISCO pmax pmax
comp=Z,17nm,1.3s,mb4.8
ISCO Idaho Springs 53.10 286 *eP* **P** **08 33 59.9 +0.2**
comp=Z,17nm,1.3s,mb4.8
ZAK Zakamensk 53.16 44 *eP* **P** **08 33 59.4 -0.6**
HWUT Hardware Ranch 53.54 292 *eP* **P** **08 34 02.8 -0.1**
comp=Z,32nm,1.5s,mb5.0
TCUT Toone Canyon 53.92 291 *eP* **P** **08 34 06.2 +0.5**
SPUT South Promonto 54.10 292 *eP* **P** **08 34 07.4 +0.4**
JLU Jordanelle 54.40 291 *eP* **P** **08 34 09.6 +0.4**
CTU Camp Tracy 54.41 291 *eP* **P** **08 34 09.7 +0.4**
DAU Daniels Canyon 54.50 291 *eP* **P** **08 34 10.9 +1.0**
COR Corvallis 54.63 303 PFAKE 08 34 20.0 +9.1
COR LR LR
comp=Z,3μm,19.0s,MS5.4
BGU Big Grassy Mou 54.64 293 *eP* **P** **08 34 11.5 +0.6**
WMQ Urumqi 54.75 59 *eP* **P** **08 34 11.5 -0.2**
WMQ AP pP 08 34 17.5 +2.7
WMQ XP sP 08 34 19.9 +3.9
WMQ PP PP 08 36 16.8 +0.8
WMQ S **S** **08 41 50.4 -0.1**
WMQ XS 08 41 58.0
WMQ AMB AMB
comp=Z,23nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,453nm,4.1s
WMQ LR LR
comp=N,3μm,13.7s,MS5.7
WMQ LR LR
comp=E,3μm,14.6s,MS5.7
WMQ LR LR
comp=Z,3μm,15.4s,MS5.5
SDCO Great Sand Dun 54.90 284 *eP* **P** **08 34 13.1 +0.1**
comp=Z,17nm,1.5s,mb4.8
DWPF Disney 54.95 257 PFAKE 08 34 30.0 +17
DWPF LR LR
comp=Z,2μm,20.0s,MS5.1
MPU Maple Canyon 54.98 291 *eP* **P** **08 34 14.3 +0.7**
WVOR Wild Horse Val 55.12 298 P **P** **08 34 13.0 -1.5**
WVOR pmax pmax
comp=Z,13nm,1.4s,mb4.8
WVOR Wild Horse Val 55.12 298 P **P** **08 34 13.0 -1.5**
comp=Z,13nm,1.4s,mb4.8
NLU North Lily Min 55.19 291 *eP* **P** **08 34 15.5 +0.5**
WMOK Wichita Mounta 55.20 277 *eP* **P** **08 34 14.3 -0.9**
WMOK pmax pmax
comp=Z,31nm,1.4s,mb5.2
WMOK Wichita Mounta 55.20 277 *eP* **P** **08 34 14.2 -1.0**
comp=Z,31nm,1.4s,mb5.2
WMOK Wichita Mounta 55.20 277 *eP* **P** **08 34 14.3 -0.9**
comp=Z,31nm,1.4s,mb5.2
SRU San Rafael 55.42 289 *eP* **P** **08 34 16.8 +0.1**
TMUT Trail Mountain 55.48 290 *eP* **P** **08 34 17.9 +0.7**
ELK Elko 55.53 294 *eP* **P** **08 34 16.4 -1.1**
ELK pmax pmax
comp=Z,28nm,1.8s
ELK Elko 55.53 294 *eP* **P** **08 34 16.4 -1.2**
comp=Z,28nm,1.8s,mb5.0
PV10 Paradox Valley 55.57 288 *eP* **P** **08 34 18.5 +0.8**
PV01 Paradox Valley 55.62 287 *eP* **P** **08 34 18.6 +0.4**
MOD Modoc 56.13 299 *eP* **P** **08 34 21.0 -0.8**
comp=Z,37nm,1.5s,mb5.2
SONM Songino Array 56.30 43 P **P** **08 34 22.7 -0.2**
comp=Z,1.3nm,1.0s,mb3.9,baz=326,slow=8.9,SNR=7.5
SONM LR LR 09 00 17.3
comp=Z,2μm,19.0s,MS5.1,baz=352,slow=38
ULN Ulaanbaatar 56.43 42 ⇑ *eP* **P** **08 34 23.4 -0.4**
ULN Ulaanbaatar 56.43 42 *eP* **P** **08 34 23.1 -0.8**
comp=Z,13nm,1.4s,mb4.8
ULN Ulaanbaatar 56.43 42 *eP* **P** **08 34 23.4 -0.4**
BMN Battle Mountai 56.47 296 PFAKE 08 34 40.0 +16
BMN LR LR
comp=Z,4μm,20.0s,MS5.5
MSU Marysvale 56.52 291 *eP* **P** **08 34 24.1 -0.5**
MVU Marysvale 56.54 291 *eP* **P** **08 34 26.1 +1.3**
comp=Z,33nm,1.4s,mb5.2
MVU LR LR
comp=Z,4μm,20.0s,MS5.5
YBH Yreka Blue Hor 57.04 301 *eP* **P** **08 34 26.3 -2.0**
YBH pmax pmax
comp=Z,5.0nm,1.1s
YBH Yreka Blue Hor 57.04 301 *eP* **P** **08 34 26.3 -2.0**
comp=Z,5.0nm,1.1s,mb4.5
ARUT Antelope Range 57.60 291 *eP* **P** **08 34 33.2 +0.9**
ANMO Albuquerque 57.75 284 ⇑ *eP* **P** **08 34 34.2 +0.8**
ANMO Albuquerque 57.75 284 *eP* **P** **08 34 34.0 +0.6**
comp=Z,19nm,1.6s,mb4.9
ANMO LR LR
comp=Z,3μm,20.0s,MS5.3
ANMO Albuquerque 57.75 284 *eP* **P** **08 34 34.2 +0.8**
TRCR Troy Canyon 57.81 293 *eP* **P** **08 34 31.5 -2.3**
WDC Whiskeytown Da 58.03 300 *eP* **P** **08 34 34.2 -1.1**
WDC pmax pmax
comp=Z,35nm,1.8s,mb5.1
WDC Whiskeytown Da 58.03 300 *eP* **P** **08 34 34.2 -1.1**
comp=Z,35nm,1.8s,mb5.1
WCN Washoe City 58.31 297 *eP* **P** **08 34 36.4 -0.9**
WCN pmax pmax
comp=Z,14nm,1.0s,mb5.0
WCN Washoe City 58.31 297 *eP* **P** **08 34 36.4 -0.8**
comp=Z,14nm,1.0s,mb5.0
FX1 Attu Island--F 58.32 353 P **P** **08 34 35.4 -1.7**
PET Petropavlovsk 58.36 3 *eP* **P** **08 34 38.9 +1.5**
PET *eS* **S** **08 42 39.5 +1.3**
PET *eSS* SS 08 46 34.3 +2.3
PET pmax pmax
comp=Z,100nm,16.5s
PET smax
comp=E,400nm,17.1s
PET smax
comp=E,500nm,20.5s
PET MLR MLR
comp=Z,700nm,17.0s,MS4.8
PET Petropavlovsk 58.36 3 *eP* **P** **08 34 38.9 +1.5**
comp=Z,100nm,16.5s
PET *eS* **S** **08 42 39.5 +1.3**
SMY Shemya 58.43 352 PFAKE 08 34 50.0 +12
SMY LR LR
comp=Z,1μm,20.0s,MS5.0
BNM Barren Site 58.53 284 *eP* **P** **08 34 39.8 +1.0**
NVAR Mina Array Bea 58.63 296 P **P** **08 34 38.1 -1.4**
comp=Z,1.2nm,0.8s,mb4.0,baz=49,slow=4.9,SNR=9.0
NVAR LR LR 08 59 47.6
comp=Z,3μm,18.7s,MS5.4,baz=30,slow=36
SJG San Juan 59.15 237 LR LR 08 55 49.4
comp=Z,1μm,21.9s,MS4.9,baz=16,slow=32
CLNB Carlsbad 59.26 280 *eP* **P** **08 34 44.5 +0.6**
GDL2 Guadalupe Moun 59.49 281 *eP* **P** **08 34 45.5 -0.1**
OMM Old Mammoth Mi 59.59 296 *eP* **P** **08 34 47.5 +1.3**
CMB Columbia Colle 59.67 297 PFAKE 08 35 00.0 +13
CMB LR LR
comp=Z,3μm,19.0s,MS5.5
NEN Nelson 60.01 291 *eP* **P** **08 34 48.0 -1.1**
MNTX Cornudas Mount 60.31 281 *eP* **P** **08 34 50.8 -0.3**
comp=Z,5.7nm,1.1s,mb4.5
DAC Darwin (Calif) 60.36 294 *eP* **P** **08 34 50.3 -1.1**
DAC pmax pmax
comp=Z,63nm,2.1s,mb5.3
DAC MLR MLR
comp=Z,3μm,21.0s,MS5.4
DAC Darwin (Calif) 60.36 294 *eP* **P** **08 34 50.2 -1.2**
comp=Z,63nm,2.1s,mb5.3
DAC LR LR
comp=Z,3μm,21.0s,MS5.4
DAC Darwin (Calif) 60.36 294 *eP* **P** **08 34 50.3 -1.1**
comp=Z,3μm,21.0s
TUC Tucson 61.65 286 *eP* **P** **08 35 00.3 0.0**
TUC pmax pmax
comp=Z,37nm,1.8s,mb5.2
TUC Tucson 61.65 286 *eP* **P** **08 35 00.3 0.0**
comp=Z,38nm,1.8s,mb5.2
TUC Tucson 61.65 286 *eP* **P** **08 35 00.3 0.0**
comp=Z,37nm,1.8s,mb5.2
LTX Lajitas 61.84 279 *eP* **P** **08 35 01.5 -0.1**
TXAR Lajitas Array 61.84 279 P **P** **08 35 00.1 -1.5**
comp=Z,1.5nm,1.0s,mb4.1,baz=45,slow=3.5,SNR=11
TXAR PP PP 08 37 14.2 -5.9
comp=Z,0.4nm,0.7s,baz=31,slow=5.3,SNR=2.7
TXAR LR LR 09 00 01.9
comp=Z,1μm,21.6s,MS5.1,baz=160,slow=34
GTA Gaotai 62.40 51 *eP* **P** **08 35 03.3 -1.9**
GTA AP pP 08 35 07.4 -0.9
GTA XP sP 08 35 10.1 +0.7
GTA PP PP 08 37 23.0 -1.5
GTA PPP PPP 08 38 53.9 -0.4
GTA S **S** **08 43 29.2 -1.0**
GTA XS 08 43 35.3
GTA PS PS 08 43 47.4 -1.0
GTA SS SS 08 47 34.8 -1.0
GTA AMB AMB
comp=Z,3.0nm,1.3s,mb4.3
GTA AMB AMB
comp=Z,173nm,6.9s
GTA LR LR
comp=N,2μm,15.6s,MS5.5
GTA LR LR
comp=E,1μm,16.7s,MS5.5
GTA LR LR
comp=Z,2μm,18.6s,MS5.4
DBIC Dimbokro 62.64 167 S **S** **08 43 38.0 +4.3**
comp=Z,7.5nm,1.0s,baz=239,slow=6.8,SNR=2.9
DBIC LR LR 09 01 41.6
comp=Z,1μm,18.1s,MS5.0,baz=341,slow=35
BTO Baotou 63.98 43 *eP* **P** **08 35 18.5 +3.0**
BTO AMB AMB
comp=Z,6.0nm,0.2s,mb5.3
MDJ Mudanjiang 64.10 26 P **P** **08 35 12.2 -4.0**
MDJ PCP PcP 08 35 44.8 -6.5
MDJ PP PP 08 37 36.5 -2.5
MDJ S **S** **08 43 46.9 -4.4**
MDJ SCS ScS 08 45 04.4 -2.1
MDJ SS SS 08 48 03.1 +1.2
MDJ AMB AMB
comp=Z,9.0nm,1.4s,mb4.6
MDJ AMB AMB
comp=Z,119nm,6.3s
MDJ LR LR
comp=N,428nm,27.2s
MDJ LR LR
comp=E,559nm,17.7s
MDJ LR LR
comp=Z,764nm,16.6s
HHC Hu-ho-hao-te 64.12 41 *eP* **P** **08 35 15.1 -1.3**
HHC AP pP 08 35 20.1 +0.6
HHC XP sP 08 35 22.2 +1.6
HHC PCP PcP 08 35 48.9 -2.5
HHC PP PP 08 37 39.1 -0.2
HHC SCP 08 39 49.8
HHC S **S** **08 43 54.0 +2.4**
HHC XS 08 44 01.6
HHC PS PS 08 44 13.6 +1.3
HHC SCS ScS 08 45 06.3 -0.4
HHC SS SS 08 48 01.3 -0.9
HHC AMB AMB
comp=Z,8.0nm,1.3s,mb4.6
HHC AMB AMB
comp=Z,134nm,7.2s
HHC LR LR
comp=N,484nm,25.2s,MS5.1
HHC LR LR
comp=E,2μm,22.8s,MS5.1
HHC LR LR
comp=Z,671nm,32.4s
CN2 Changchun 64.20 29 *eP* **P** **08 35 14.9 -1.9**
CN2 *eXP* sP 08 35 22.3 +1.2
CN2 *eS* **S** **08 43 51.6 -0.9**
CN2 SS SS 08 48 00.2 -3.2
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CN2 LR LR
comp=N,1μm,15.0s,MS5.2
CN2 LR LR
comp=E,700nm,15.0s,MS5.2
CN2 LR LR
comp=Z,1μm,16.0s,MS5.2
SNY Shenyang 65.76 31 ⇑ P **P** **08 35 28.5 +1.5**
SNY AP pP 08 35 32.7 +2.6
SNY XP sP 08 35 34.7 +3.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNY				S	S	08 44 17.3	+5.5
SNY				XS		08 44 21.8	
SNY				AMB	AMB		
	comp=Z,170nm,4.4s						
SNY				LR	LR		
	comp=N,860nm,15.6s						
SNY				LR	LR		
	comp=Z,790nm,18.2s,MS5.0						
LZH	Lanzhou	66.63	49	eP	P	08 35 28.0	-4.6
LZH				AP	pP	08 35 36.5	+0.8
LZH				XP	sP	08 35 43.8	+7.0
LZH				PP	PP	08 38 00.5	-0.8
LZH				S	S	08 44 27.0	+4.6
LZH				XS		08 44 37.0	
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,200nm,5.8s						
LZH				LR	LR		
	comp=N,5μm,15.2s						
LZH				LR	LR		
	comp=Z,4μm,18.0s,MS5.7						
KOLN	Koldanda	68.06	70	eP	P	08 35 42.6	+0.8
	comp=Z,62nm,1.3s,mb5.5						
GKN	Gorkha	68.20	69	eP	P	08 35 40.4	-2.2
	comp=Z,66nm,1.3s,mb5.5						
KKN	Kakani	68.61	68	eP	P	08 35 42.6	-2.6
	comp=Z,48nm,1.2s,mb5.3						
KKN	Kakani	68.61	68	eP	P	08 35 42.6	-2.6
KKN				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
ATD	Arta Tunnel	68.64	115	LR	LR	09 06 06.9	
	comp=Z,444nm,21.9s,MS4.7,baz=181,slow=36						
GUN	Gumba	68.70	68	eP	P	08 35 42.7	-3.1
	comp=Z,56nm,0.9s,mb5.5						
DMN	Daman	68.72	69	eP	P	08 35 44.2	-1.7
	comp=Z,85nm,1.4s,mb5.5						
LSA	Lhasa	68.78	63	P	P	08 35 49.0	+2.8
PKI	Pulchoki	68.86	68	eP	P	08 35 44.6	-2.1
SDV	Santo Domingo	69.23	238	eP	P	08 35 50.2	+1.0
	comp=Z,46nm,1.5s,mb5.2						
MAJO	Matsushiro	73.26	21	PFAKE		08 36 20.0	+7.0
MAJO				LR	LR		
	comp=Z,495nm,22.0s,MS4.8						
MAT	Matsushiro	73.26	21	S	S	08 45 46.0	+6.0
MJAR	Matsushiro Arr	73.27	21	P	P	08 36 14.4	+1.4
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,298nm,18.4s						
MJAR	Matsushiro Arr	73.27	21	P	P	08 36 14.4	+1.4
	comp=Z,0.8nm,0.3s,mb4.1,baz=347,slow=5.8,SNR=4.4						
MJAR				LR	LR	09 12 14.5	
	comp=Z,298nm,18.4s,MS4.6,baz=355,slow=39						
ROSC	El Rosal	74.18	241	P	P	08 36 20.6	+1.8
	comp=Z,9.5nm,1.1s,mb4.7,baz=90,slow=15,SNR=9.0						
ROSC				LR	LR	09 04 48.7	
	comp=Z,531nm,21.4s,MS4.8,baz=20,slow=32						
NJ2	Nanjing	74.22	38	eP	P	08 36 20.4	+1.8
NJ2				AP	pP	08 36 25.1	+3.4
NJ2				XP	sP	08 36 27.4	+4.6
NJ2				PP	PP	08 39 09.2	+3.0
NJ2				S	S	08 45 53.0	+2.2
NJ2				XS		08 46 04.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,280nm,10.2s						
NJ2				LR	LR		
	comp=N,6μm,17.6s,MS5.9						
NJ2				LR	LR		
	comp=E,2μm,21.2s,MS5.9						
NJ2				LR	LR		
	comp=Z,1μm,16.0s						
SSE	Sheshan	75.65	36	P	P	08 36 24.6	-2.3
SSE				AP	pP	08 36 27.9	-2.1
SSE				PP	PP	08 39 11.0	-7.5
SSE				S	S	08 46 03.2	-3.5
SSE				SCS	ScS	08 46 36.4	-0.9
SSE				SS	SS	08 50 52.7	-8.0
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,85nm,6.4s						
SSE				LR	LR		
	comp=N,787nm,18.8s,MS5.1						
SSE				LR	LR		
	comp=E,364nm,18.8s,MS5.1						
SSE				LR	LR		
	comp=Z,995nm,20.3s,MS5.1						
RCBR	Riachuelo	75.72	200	PFAKE		08 36 40.0	+12
RCBR				LR	LR		
	comp=Z,821nm,22.0s,MS5.0						
GYA	Guiyang	76.49	50⇑	iP	P	08 36 33.0	+1.3
GYA				PP	PP	08 39 25.2	-0.1
GYA				S	S	08 46 15.9	-0.1
GYA				SKS	SKS	08 46 39.8	-3.2
GYA				PS	PS	08 46 54.6	-0.9
GYA				SS	SS	08 51 11.3	-2.5
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
GYA				AMB	AMB		
	comp=Z,280nm,6.0s						
GYA				LR	LR		
	comp=N,940nm,22.4s,MS5.2						
GYA				LR	LR		
	comp=E,780nm,22.1s,MS5.2						
GYA				LR	LR		
	comp=Z,410nm,24.0s,MS4.7						
KMI	Kunming	76.63	54	P	P	08 36 31.0	-1.5
KMI				XP	sP	08 36 41.1	+4.4
KMI				PP	PP	08 39 21.2	-5.2
KMI				PPP	PPP	08 41 06.9	-7.1
KMI				S	S	08 46 10.3	-7.2
KMI				SS	SS	08 51 10.9	-5.0
KMI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
KMI				AMB	AMB		
	comp=Z,127nm,4.0s						
KMI				LR	LR		
	comp=N,906nm,20.1s,MS5.2						
KMI				LR	LR		
	comp=E,796nm,17.7s,MS5.2						
KMI				LR	LR		
	comp=Z,1μm,17.7s,MS5.2						
KMBO	Kilima Mbogo	78.81	124	LR	LR	09 15 50.2	
	comp=Z,468nm,18.1s,MS4.9,baz=319,slow=39						
QZH	Quanzhou	81.00	40	eP	P	08 36 59.0	+2.8
QZH				S	S	08 47 09.6	+5.7
QZH				LR	LR		
	comp=N,2μm,19.0s,MS5.6						
QZH				LR	LR		
	comp=E,1μm,16.1s,MS5.6						
QZH				LR	LR		
	comp=Z,3μm,15.3s,MS5.7						
CM31	Chiang Mai Arr	81.75	60	PFAKE		08 37 10.0	+10
CM31				LR	LR		
	comp=Z,721nm,19.0s,MS5.0						
CMAR	Chiang Mai Arr	81.75	60	iP	P	08 37 03.1	+2.9
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	81.75	60	P	P	08 37 00.6	+0.4
	comp=Z,1.0nm,0.3s,mb4.2,baz=322,slow=5.8,SNR=7.9						
CMAR				LR	LR	09 21 22.5	
	comp=Z,340nm,18.4s,MS4.7,baz=335,slow=42						
QIZ	Qiongzhong	84.42	50	P	P	08 37 15.2	+1.3
QIZ				S	S	08 47 37.9	-0.7
QIZ				PS	PS	08 48 37.1	+2.3
QIZ				SS	SS	08 53 08.4	-3.4
QIZ				AMB	AMB		
	comp=Z,63nm,4.2s						
QIZ				LR	LR		
	comp=E,1μm,19.9s						
QIZ				LR	LR		
	comp=Z,1μm,23.7s,MS5.2						
POHA	Pohakuloa	86.73	321	PFAKE		08 37 40.0	+15
POHA				LR	LR		
	comp=Z,12μm,20.0s						
BDFB	Brasilia	87.19	210	P	P	08 37 28.4	+0.8
	comp=Z,2.6nm,0.6s,mb4.7,baz=107,slow=3.9,SNR=5.1						
BDFB				LR	LR	09 10 24.6	
	comp=Z,2μm,20.0s,MS5.4,baz=8.3,slow=32						
LPAZ	La Paz	92.41	229	LR	LR	09 17 50.3	
	comp=Z,464nm,19.5s,MS4.9,baz=198,slow=34						
GUMO	Guam	96.71	18	PFAKE		08 38 20.0	+8.1
GUMO				LR	LR		
	comp=Z,499nm,20.0s,MS5.0						
LVC	Limon Verde	98.65	227	LR	LR	09 20 37.6	
	comp=Z,406nm,18.6s,MS5.0,baz=2.0,slow=34						
CPUP	Villa Florida	99.43	216	LR	LR	09 18 37.5	
	comp=Z,501nm,20.2s,MS5.0,baz=36,slow=32						
CPUP	Villa Florida	99.43	216	PFAKE		08 38 40.0	+16
CPUP				LR	LR		
	comp=Z,586nm,20.0s,MS5.1						
BOSA	Boshof	101.99	143	PFAKE		08 38 50.0	+15
BOSA				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
WRA	Warramunga Arr	127.93	35	PKIKP	PKPdf	08 43 46.6	-2.6
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRA	Warramunga Arr	127.93	35	PKP	PKPdf	08 43 46.6	-2.6
	comp=Z,1.3nm,1.0s,baz=340,slow=1.9,SNR=5.1						
MAW	Mawson	146.74	137	PKP2	PKPab	08 44 22.7	-1.1
MAW				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAW	Mawson	146.74	137	PKPbc	PKPbc	08 44 22.7	+2.5
	comp=Z,2.5nm,0.7s,baz=303,slow=11,SNR=6.2						
CASY	Casey	160.29	108	PFAKE		08 44 50.0	+9.2
CASY				LR	LR		
	comp=Z,657nm,20.0s						
VNDA	Vanda	171.32	178	PKP2	PKPab	08 46 11.0	+2.3
VNDA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
VNDA	Vanda	171.32	178	PKPab	PKPab	08 46 11.0	+2.2
	comp=Z,1.9nm,1.0s,baz=261,slow=4.9,SNR=5.8						

BJI 06 08:24:55.3,35.58N×95.38E,h17^{km},mb4.2,ML3.6,Ms3.6, Msz3.3,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	5.20	41	P	Pn	08 26 15.4	+1.1
GTA				SG	Sn	08 27 40.8	+26
GTA				Smax			
	comp=N,7.0nm,1.4s						
GTA				Smax			
	comp=E,10.0nm,1.0s						
GTA				LR	LR		
	comp=N,242nm,11.0s						
GTA				LR	LR		
	comp=E,209nm,6.5s						
GTA				LR	LR		
	comp=Z,295nm,10.7s						
LZH	Lanzhou	6.89	83	eP	Pn	08 26 39.9	+1.7
LZH				eS	Sn	08 27 56.0	-1.0
LZH				LR	LR		
	comp=N,610nm,7.0s						
LZH				LR	LR		
	comp=Z,240nm,9.6s						
WMQ	Urumqi	10.13	327	P	P	08 27 25.5	+2.4
WMQ				S	S	08 29 14.5	-2.9

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*CASC **06** 08:42:33.6±2.0,5.58N×82.47W,h35^{km}±999^{km},MD4.6*
*IDC **06** 08:42:34.5±2.6,6.01N×82.40W,mb3.5/4,mb1 4.0/7, mb1mx3.8/21,mbtmp3.8/7,ML3.4/3,MS3.6/3,Ms1 3.7/3, ms1mx3.4/19,Error ellipse: s-maj=65.9km s-min=24.0km az=22.0*
ISC 06 08:42:33.7±1.8,**5.75N**±0.06×**82.44W**±0.04,**h20**^{km}±16^{km}, **n23,**σ**1**^{s}**19**/30,**mb3.5**/4,**MS3.7**/1,**7C-4D,South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTP1	Petroterminal	2.44	0⇑	eP	Pn	08 43 15.1	+1.8
SFX2	San Felix	2.59	13⇑	iP	Pn	08 43 15.1	-0.3
SFX2				eS	Sn	08 43 49.4	+2.7
DVD	David	2.67	360⇓	iP	Pn	08 43 16.9	+0.3
AZU	Azuero	2.95	47⇓	eP	Pn	08 43 20.1	-0.6
AZU				eS	Sn	08 43 56.7	+0.8
ACR	Cerro Adams	2.97	346	eP	Pn	08 43 20.1	-0.8
AZU2	Pedas	2.98	53	eP	Pn	08 43 20.7	-0.3
AZU2				eS	Sn	08 43 54.8	-1.7
BRU	Baru	3.04	358⇑	eP	Pn	08 43 21.9	0.0
SVTC	San Vito de Co	3.06	350⇓	eP	Pn	08 43 22.2	+0.1
CNI	Changuinola	3.64	359⇑	eP	Pn	08 43 31.6	+1.1
BUS	Buena Vista	4.00	341⇑	eP	Pn	08 43 35.3	-0.2
BUS				eS	Sn	08 44 24.2	+1.8
UPA	Univ. de Panam	4.31	42⇑	eP	Pn	08 43 41.0	+1.1
UPA				eS	Sn	08 44 30.5	+0.3
SJS	Escuela Geolog	4.46	339⇓	eP	Pn	08 43 41.7	-0.4
SJS				eS	Sn	08 44 34.6	+0.6
PRS1	Puriscal	4.60	336	eP	Pn	08 43 41.5	-2.4
PRS1				eS	Sn	08 44 35.0	-2.5
TRTC	Tortuguero	4.96	345⇑	eP	Pn	08 43 49.0	-0.1
JTS	JuntasAbangare	5.15	331	Pn	Pn	08 43 50.5	-1.3
	14nm,0.3s,baz=276,slow=13,SNR=73						
JTS				Sn	Sn	08 44 49.9	-1.6
	7.7nm,0.3s,baz=283,slow=20,SNR=6.7						
JTS				LR	LR	08 45 45.7	
	comp=Z,874nm,20.4s,baz=172,slow=39						
ROSC	El Rosal	8.12	96	Pn	P	08 44 34.6	+1.1
	1.2nm,0.3s,baz=85,slow=14,SNR=3.2						
SDV	Santo Domingo	12.11	74	Pn	P	08 45 28.4	0.0
	0.5nm,0.3s,baz=273,slow=9.8,SNR=9.0						
SDV				Sn	S	08 47 41.8	-2.1
	0.6nm,0.3s,baz=9.6,slow=17,SNR=3.6						
SDV				LR	LR	08 50 02.1	
	comp=Z,154nm,19.9s,baz=43,slow=37						
LPAZ	La Paz	26.07	147	LR	LR	08 59 26.9	
	comp=Z,218nm,20.6s,MS3.7,baz=48,slow=38						
PDAR	Pinedale Array	43.99	331	P	P	08 50 42.9	+1.3
	0.3nm,0.7s,mb3.1,baz=153,slow=3.3,SNR=4.0						
NVAR	Mina Array Bea	45.98	320	P	P	08 50 59.1	+1.6
	0.5nm,0.7s,mb3.6,baz=126,slow=7.8,SNR=3.3						
YKA	Yellowknife Ar	61.37	344	P	P	08 52 49.6	-0.9
	0.3nm,0.4s,mb3.8,baz=144,slow=6.0,SNR=7.4						
ILAR	Eielson Array	74.11	336	P	P	08 54 10.3	+0.2
	0.4nm,0.8s,mb3.4,baz=108,slow=5.7,SNR=2.9						
WRA	Warramunga Arr	141.59	245	PKP	PKPdf	09 02 08.7	-0.2
	0.8nm,0.9s,baz=95,slow=2.7,SNR=4.9						

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*CSEM **06** 08:45:47.5±0.2,35.66N×3.42W,h25^{km},MD2.9,Error ellipse: s-maj=5.8km s-min=3.3km az=89.0*
*MDD **06** 08:45:48.7±0.4,35.75N×3.50W,mbLg2.0/4,Error ellipse: s-maj=3.7km s-min=3.1km az=120.0,PRXIMO*
*CNRM **06** 08:45:48.9,35.64N×3.34W,h10^{km},MD2.9*
ISC 06 08:45:47.2±0.7,**35.70N**±0.02×**3.51W**±0.04,**h10**^{km}±5^{km}, **n20,**σ**1**^{s}**10**/32,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	Alboran	0.45	58	Pg	Pg	08 45 56.6	+0.2
	30nm,0.1s,SNR=7.9						
EALB				Lg		08 46 02.4	
	576nm,0.2s,SNR=7.9						
EALB	Alboran	0.45	58	P	Pg	08 45 56.6	+0.1
	30nm,0.1s,SNR=7.9						
MPAL	Palemas	0.59	217	iP	Pb	08 46 00.5	+1.3
MPAL				iS	Sg	08 46 10.5	+3.3
EMEL	Melilla	0.60	131	Pg	Pg	08 46 00.6	+1.2
	232nm,0.1s,SNR=7.9						
EMEL				Lg		08 46 08.8	
	2μm,0.2s,SNR=7.9						
EMLI	Melilla	0.61	131	P	Pb	08 46 00.6	+1.1
	232nm,0.1s,SNR=7.9						
EMLI				S	Sg	08 46 08.8	+1.1
	2μm,0.2s,SNR=7.9						
TOU	Touzarine	0.76	195	iP	Pb	08 46 02.5	+0.3
TOU				iS	Sb	08 46 12.0	-0.4
ZAI	Zaio	0.96	139	eP	Pb	08 46 04.0	-1.5
ZAI				iS	Sb	08 46 16.0	-2.1
EGUA	Guajares	1.13	358	Pg	Pg	08 46 08.2	-1.7
	1.2nm,0.2s,SNR=7.9						
EGUA				Lg		08 46 23.2	
	1.4nm,0.1s,SNR=7.9						
EGUA	Guajares	1.13	358	P	Pb	08 46 08.2	-0.3
	1.2nm,0.2s,SNR=7.9						
EGUA				S	Sb	08 46 23.2	+0.2
	1.4nm,0.1s,SNR=7.9						
EBER	Berja	1.29	23	Pg	Pg	08 46 11.4	-1.7
	16nm,0.4s,SNR=7.9						
EBER				Lg		08 46 27.8	
	16nm,0.3s,SNR=7.9						
EBER	Berja	1.29	23	P	Pb	08 46 11.4	+0.1
	16nm,0.4s,SNR=7.9						
EBER				S	Sb	08 46 27.8	0.0
	16nm,0.3s,SNR=7.9						
EMIJ	Mijas	1.34	310	Pg	Pg	08 46 11.8	-2.2
	1.2nm,0.1s,SNR=7.9						
EMIJ				Lg		08 46 29.1	
	6.9nm,0.5s,SNR=7.9						
EMIJ	Mijas	1.34	310	P	Pb	08 46 11.8	-0.2
	1.2nm,0.1s,SNR=7.9						
EMIJ				S	Sb	08 46 29.1	+0.1
	6.9nm,0.5s,SNR=7.9						
TZK	Tazeka	1.70	199	iP	Pn	08 46 17.0	-0.3
TZK				iS	Sn	08 46 38.0	-1.3
EQES	Quesada	2.13	9	Pn	Pn	08 46 24.7	+1.3
	2.4nm,0.3s,SNR=10						
EQES				Sn	Sn	08 46 50.7	+0.6
	6.4nm,0.2s,SNR=7.9						
EQES	Quesada	2.13	9	P	Pn	08 46 24.7	+1.3
	2.4nm,0.3s,SNR=10						
EQES				S	Sn	08 46 50.7	+0.6
	6.4nm,0.2s,SNR=7.9						
EADA	Adamuz	2.61	341	Pn	Pn	08 46 31.5	+1.3
	0.2nm,0.1s,SNR=4.0						
EADA				Sn	Sn	08 47 02.4	+0.1
	1.2nm,0.2s,SNR=7.9						
EADA	Adamuz	2.61	341	S	Sn	08 47 02.4	+0.2
	1.2nm,0.2s,SNR=7.9						
ECAB	El Cabril	2.82	328	Sn	Sn	08 47 11.2	+3.5
	1.7nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	3.27	310	Pn	Pn	08 46 40.0	+0.3
	0.3nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	08 47 19.0	-0.1
	0.7nm,0.2s,SNR=7.9						

IDC 06 08:53:59.9±1.3,**14.86N**×**54.71E,mb3.6**/5,**mb1 3.7**/5, **mb1mx3.5**/20,**mbtmp3.6**/5,**Error ellipse: s-maj=42.2km s-min=29.5km az=113.0,Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	23.47	229	P	P	08 59 12.5	+0.3
	0.9nm,0.4s,baz=21,slow=11,SNR=4.5						
MKAR	Makanchi Array	39.28	30	P	P	09 01 32.2	+0.2
	0.3nm,0.6s,baz=227,slow=8.8,SNR=3.3						
FINES	FINESS Array B	50.85	343	P	P	09 03 01.6	-2.6
	0.5nm,0.6s,baz=127,slow=6.9,SNR=3.4						
ARCES	ARCESS Array B	57.62	348	P	P	09 03 50.5	-3.3
	0.5nm,0.5s,baz=148,slow=8.5,SNR=5.0						
WRA	Warramunga Arr	85.57	112	P	P	09 06 39.8	-2.1
	0.3nm,0.7s,baz=297,slow=4.0,SNR=5.1						

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*CSEM **06** 09:12:11.5±0.1,59.24N×27.29E,h2^{km},ML2.1,Error ellipse: s-maj=3.4km s-min=2.2km az=101.0,Suspected Mining explosion.*
*BER **06** 09:12:13.5±5.2,59.35N×27.37E,ML2.5(NAO), Suspected explosion*
*NAO **06** 09:12:15.2±2.0,59.41N×27.02E,ML2.5*
HEL 06 09:12:13.2±0.1,**59.30N**×**27.23E,ML2.1,ML2.5**(NAO), **Explosion,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	Vasula	0.88	197	eP	Pg	09 12 29.0	-1.7
VSU				eS	Sg	09 12 40.5	-2.0
VSU	Vasula	0.88	197	P	Pg	09 12 29.0	-1.8
VSU				S	Sg	09 12 40.4	-2.1
VJF	Virojoki	1.25	7	eP	Pb	09 12 35.7	-1.7
VJF				eS	Sb	09 12 52.5	-1.5
VJF	Virojoki	1.25	7	P	Pb	09 12 35.6	-1.8
VJF				S	Sb	09 12 52.4	-1.6
PVF	Pernaja	1.43	332	eP	Pb	09 12 38.9	-1.5
PVF				eS	Sb	09 12 56.7	-2.3
PVF	Pernaja	1.43	332	P	Pb	09 12 38.8	-1.6
PVF				S	Sb	09 12 56.7	-2.3
FIA0	FINESS Array S	2.23	346	eP	Pn	09 12 51.0	-0.9
FIA0				eS	Sn	09 13 20.5	0.0
FIA0	FINESS Array S	2.23	346	Pn	Pn	09 12 51.2	-0.6
	baz=164,slow=16						
FIA0				Pg	Pg	09 12 52.4	-5.2
	baz=161,slow=18						
FIA0				Lg		09 13 21.9	
	baz=168,slow=37						
FIA0				Rg		09 13 34.2	
	baz=167,slow=56						
FIA0	FINESS Array S	2.23	346	P	Pn	09 12 50.9	-0.9
FIA0	FINESS Array S	2.23	346	Pg	Pg	09 12 52.4	-5.2
	SNR=90						
FIA0				S	Sn	09 13 20.4	-0.1
KAF	Kangasniemi	2.86	351	eP	Pn	09 12 59.7	-1.2
KAF				eS	Sn	09 13 35.0	-1.5
KAF				MSG		09 13 45.3	
	comp=Z,5.2nm,0.3s						
KAF	Kangasniemi	2.86	351	P	Pn	09 12 59.7	-1.2
KAF				S	Sn	09 13 34.9	-1.6
	comp=Z,5.2nm,0.3s						
KEF	Keuruu	3.10	339	eP	Pn	09 13 03.6	-0.7
KEF				eS	Sn	09 13 41.7	-1.0
KEF				MSG		09 13 57.4	
	comp=Z,4.9nm,0.3s						
KEF	Keuruu	3.10	339	P	Pn	09 13 03.6	-0.7
KEF				S	Sn	09 13 41.7	-1.0
	comp=Z,4.9nm,0.3s						
SUF	Sumiainen	3.47	352	eP	Pn	09 13 08.3	-1.3
SUF				eS	Sn	09 13 49.7	-2.4
SUF				MSG		09 14 04.2	
	comp=Z,3.9nm,0.3s						
SUF	Sumiainen	3.47	352	P	Pn	09 13 08.3	-1.3
SUF				S	Sn	09 13 49.6	-2.4
	comp=Z,3.9nm,0.3s						
KJN	Kajaani	4.81	3	eP	Pn	09 13 26.5	-2.1
KJN				eSG	Sg	09 14 40.4	-13
KJN	Kajaani	4.81	3	P	Pn	09 13 26.4	-2.2
HFS	Hagfors	6.90	283	Pn	Pn	09 13 54.4	-3.7
	baz=116,slow=12						
HFS				Sn	Sn	09 15 08.6	-10
	baz=107,slow=28						
HFS				Lg		09 15 45.2	
	baz=91,slow=28						
HFS	Hagfors	6.90	283	eP	Pn	09 13 54.4	-3.7
HFS				eS	Sn	09 15 08.6	-10
HFS				eSG		09 15 45.2	
HFS	Hagfors	6.90	283	P	Pn	09 13 54.3	-3.8
HFS	Hagfors	6.90	283	Pn	Pn	09 13 54.4	-3.7
	SNR=50						
HFS				Sn	Sn	09 15 08.6	-10
	SNR=50						
KU4	Liikasenvaara	7.17	8	eP	Pn	09 13 57.9	-4.0
KU4				eS	Sn	09 15 16.6	-8.5
NB2	NORSAR Subarra	8.17	289	Pn	P	09 14 11.0	-4.9
	baz=90,slow=14						
NB2				Sn	Sn	09 15 47.2	-2.9
	baz=110,slow=28						
NB2				Lg		09 16 26.8	
	baz=92,slow=22						
NB2	NORSAR Subarra	8.17	289	eP	P	09 14 11.0	-4.9
NB2				e		09 15 47.2	
NB2				eSG		09 16 26.8	
NB2	NORSAR Subarra	8.17	289	Pn	P	09 14 11.0	-4.9
	SNR=50						
NB2				Sg		09 16 26.8	
ARA0	ARCESS Array S	10.30	357	Pn	P	09 14 39.7	-5.5
	baz=172,slow=14						
ARA0				Sn	S	09 16 28.1	-15
	baz=183,slow=18						
ARA0				Lg		09 17 28.6	
	baz=164,slow=37						
ARA0	ARCESS Array S	10.30	357	eP	P	09 14 39.7	-5.5
ARA0				eS	S	09 16 28.1	-15
ARA0				eSG		09 17 28.6	
ARA0	ARCESS Array S	10.30	357	Pn	P	09 14 39.7	-5.5
	SNR=50						
ARA0				Sn	S	09 16 28.1	-15
	SNR=50						

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*NEIC **06** 09:17:18.7±2.7,4.47N×77.50W,h53^{km}±22^{km},mb4.3/1, Error ellipse: s-maj=27.1km s-min=11.9km az=81.0*
*IDC **06** 09:17:19.0±4.1,4.48N×77.46W,h54^{km}±35^{km},mb3.7/9, mb1 3.9/11,mb1mx3.7/21,mbtmp4.0/11,ML2.4/1,MS3.4/2, Ms1 3.4/2,ms1mx3.1/21,Error ellipse: s-maj=31.1km s-min=18.0km az=78.0*
ISC 06 09:17:12.4±6.2,**4.50N**±0.09×**77.5W**±0.1,**h17**^{km}±44^{km},**n14,** σ**0**^{s}**76**/14,**mb3.8**/10,**Near west coast of Colombia**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.22**	**84**	P	**Pn**	**09 18 08.3**	**+5.0**
	9.8nm,0.3s,baz=306,slow=2.3,SNR=29						
ROSC				LR	LR	09 18 52.7	
	comp=Z,332nm,19.1s,baz=11,slow=30						
SDV	**Santo Domingo**	**8.13**	**57**	P	**P**	**09 19 12.5**	**0.0**
	4.8nm,0.3s,baz=268,slow=13,SNR=15						
SDV				S	**Sn**	**09 20 44.9**	**0.0**
	0.9nm,0.3s,baz=59,slow=22,SNR=3.2						
SDV				LR	LR	09 22 41.0	
	comp=Z,386nm,19.1s,baz=359,slow=40						
LPAZ	**La Paz**	**22.65**	**156**	P	**P**	**09 22 16.0**	**+1.7**
	1.2nm,0.9s,mb3.3,baz=344,slow=15,SNR=1.9						
SIV	**San Ignacio**	**26.07**	**142**	P	**P**	**09 22 46.3**	**-0.8**
	1.0nm,0.5s,mb3.6,baz=326,slow=10,SNR=11						
LVC	**Limon Verde**	**28.23**	**163**	P	**P**	**09 23 06.2**	**-0.6**
	7.8nm,1.0s,mb4.3						
BDFB	**Brasilia**	**35.42**	**125**	P	**P**	**09 24 09.3**	**-0.5**
	2.4nm,0.6s,mb4.3,baz=282,slow=7.5,SNR=3.8						
SCHQ	**Schefferville**	**50.93**	**8**	P	**P**	**09 26 14.9**	**+0.1**
	1.1nm,0.7s,mb3.9,baz=200,slow=10,SNR=5.3						
YKA	**Yellowknife Ar**	**64.00**	**342**	P	**P**	**09 27 45.8**	**-1.2**
	0.4nm,0.6s,mb3.6,baz=126,slow=7.2,SNR=6.2						
YKA	**Yellowknife Ar**	**64.00**	**342**	P	**P**	**09 27 45.8**	**-1.2**
DBIC	**Dimbokro**	**72.32**	**84**	P	**P**	**09 28 39.1**	**-0.5**
	3.1nm,0.6s,mb4.4,baz=223,slow=17,SNR=4.2						
ESDC	**Sonseca Array**	**74.51**	**50**	P	**P**	**09 28 52.6**	**+0.5**
	0.2nm,0.3s,mb3.6,baz=262,slow=5.7,SNR=6.5						
ILAR	**Eielson Array**	**77.23**	**336**	P	**P**	**09 29 07.6**	**+0.6**
	0.3nm,0.6s,mb3.4,baz=112,slow=3.4,SNR=7.8						
GERES	**GERESS Array B**	**87.47**	**41**	P	**P**	**09 30 01.0**	**+0.7**
	0.3nm,0.3s,mb4.0,baz=270,slow=2.7,SNR=5.2						
WRA	**Warramunga Arr**	**145.37**	**241**	PKPbc	PKPbc	09 36 52.6	+1.7
	1.0nm,0.7s,baz=109,slow=3.0,SNR=14						

*NEIC **06** 09:17:54.0,32.79S×71.50W,h32km,ML2.9(GUC),After GUC.*

GUC 06 09:17:54.0±0.8**,32.79S×71.50W,h32**km±3km**,MD3.7, ML2.9,12C-9D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.25**	**13**⇓	*i*P	Pb	09 18 01.2	+0.2
PACH				*i* S	Sb	09 18 06.3	+0.6
IHA	**Instituto Hidr**	**0.27**	**206**⇑	*i*P	Pb	09 18 01.2	+0.1
IHA				*i* S	Sb	09 18 06.4	+0.4
ROCH	**El Roble**	**0.46**	**114**⇑	*i*P	Pb	09 18 04.0	+0.2
ROCH				*i* S	Sb	09 18 11.3	+0.8
LCCH	**Las Cruces**	**0.69**	**185**⇓	*i*P	Pb	09 18 07.1	-0.5
LCCH				*i* S	Sb	09 18 16.3	-0.6
JACH	**Jahuel**	**0.78**	**83**⇑	*i*P	Pn	09 18 08.2	-0.6
JACH				*i* S	Sb	09 18 19.5	+0.3
PEL	**Peldehue**	**0.78**	**118**⇑	*i*P	Pn	09 18 08.8	+0.1
PEL				*i* S	Sb	09 18 20.0	+0.8
RCDM	**Rinconada Maip**	**0.91**	**140**	*e*P	Pn	09 18 10.5	-0.3
RCDM				*i* S	Sn	09 18 23.0	+0.1
RCDM				AMP		09 18 26.4	
	comp=N,1μm,0.1s						
SAN	**Santiago**	**0.97**	**134**⇑	*i*P	Pn	09 18 11.6	0.0
SAN				*i* S	Sn	09 18 25.0	+0.6
SAN				AMP		09 18 29.2	
	comp=N,527nm,0.8s						
STL	**Santa Lucia**	**0.97**	**132**⇑	*i*P	Pn	09 18 10.6	-1.0
STL				*i* S	Sn	09 18 24.4	0.0
STL				AMP		09 18 25.0	
	comp=E,147nm,0.3s						
TACH	**Talagante**	**0.99**	**151**⇓	*i*P	Pn	09 18 12.0	+0.2
TACH				*i* S	Sn	09 18 25.1	+0.3
DSCH	**Colegio Aleman**	**0.99**	**128**⇑	*i*P	Pn	09 18 11.9	0.0
DSCH				*i* S	Sn	09 18 25.5	+0.6
DSCH				AMP		09 18 31.6	
	comp=N,724nm,0.3s						
CLCH	**Cerro Calan**	**1.01**	**127**⇓	*i*P	Pn	09 18 12.2	0.0
CLCH				*i* S	Sn	09 18 26.2	+0.7
CLCH				AMP		09 18 31.9	
	comp=E,545nm,0.7s						
ANTU	**Antumapu**	**1.07**	**137**⇑	*i*P	Pn	09 18 14.1	+1.1
ANTU				*i* S	Sn	09 18 27.8	+0.9
ANTU				AMP		09 18 31.0	
	comp=E,704nm,0.3s						
FCH	**Farellones**	**1.15**	**118**⇓	*i*P	Pn	09 18 14.2	0.0
FCH				*i* S	Sn	09 18 29.8	+0.8
FCH				AMP		09 18 30.4	
	comp=N,444nm,0.3s						
LNV	**Longovilo**	**1.17**	**176**⇑	*i*P	Pn	09 18 14.1	-0.4
LNV				*i* S	Sn	09 18 30.2	+0.8
PCH	**Pirque**	**1.18**	**135**⇓	*i*P	Pn	09 18 14.8	+0.3
PCH				*i* S	Sn	09 18 30.3	+0.7
SJCH	**San Jose de Ma**	**1.29**	**132**⇓	*i*P	Pn	09 18 16.2	+0.1
SJCH				*i* S	Sn	09 18 33.2	+0.8
SJCH				AMP		09 18 35.0	
	comp=N,202nm,0.3s						
CHCH	**Chadas Angostu**	**1.35**	**148**⇓	*i*P	Pn	09 18 17.9	+0.9
CHCH				*i* S	Sn	09 18 35.6	+1.6
LMEL	**Las Melosas**	**1.52**	**135**⇑	*i*P	Pn	09 18 20.1	+0.7
LMEL				*i* S	Sn	09 18 40.2	+1.9
LMEL				AMP		09 18 42.6	
	comp=E,557nm,0.2s						
CACH	**El Canelo**	**1.53**	**151**⇑	*i*P	Pn	09 18 21.2	+1.6
CACH				*i* S	Sn	09 18 42.2	+3.7
CMCH	**Combarbala**	**1.66**	**15**⇓	*i*P	Pn	09 18 21.1	-0.4
CMCH				*i* S	Sn	09 18 43.2	+1.2
CMCH				AMP		09 18 50.5	
	comp=E,773nm,0.5s						
CICH	**Cipreses**	**1.78**	**150**	*e*P	Pn	09 18 24.4	+1.2
CICH				*i* S	Sn	09 18 47.4	+2.5
SFDO	**San Fernando**	**1.87**	**168**⇑	*i*P	Pn	09 18 25.1	+0.7

IDC 06 09:21:01.9±2.3**,68.91N×16.59W,mb3.5**/4**,mb1 3.7**/5**, mb1mx3.5**/24**,mbtmp3.5**/5**,ML3.3**/1**,MS3.6**/2**,Ms1 3.6**/2**, ms1mx3.0**/32**,Error ellipse: s-maj=61.6km s-min=28.2km az=40.0,Iceland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**19.02**	**92**	P	P	09 25 24.9	-2.3
	0.1nm,0.3s,baz=328,slow=13,SNR=4.2						
GERES	**GERESS Array B**	**25.00**	**128**	P	P	09 26 27.0	-1.2
	1.0nm,0.8s,baz=338,slow=7.2,SNR=6.6						
GERES				LR	LR	09 36 51.5	
	comp=Z,101nm,18.5s,baz=131,slow=38						
BVAR	**Borovoye Array**	**41.02**	**67**	P	P	09 28 47.1	-0.8
	0.2nm,0.4s,baz=337,slow=11,SNR=2.8						
ILAR	**Eielson Array**	**42.10**	**331**	P	P	09 28 54.9	-1.5
	0.6nm,1.1s,baz=9.5,slow=5.5,SNR=5.4						
MKAR	**Makanchi Array**	**50.29**	**62**	P	P	09 29 58.6	-2.9
	0.3nm,0.5s,baz=333,slow=6.4,SNR=3.8						
TXAR	**Lajitas Array**	**61.94**	**279**	LR	LR	10 00 16.0	
	comp=Z,54nm,20.5s,baz=300,slow=38						

*HEL **06** 09:28:59.6±0.9,55.31N×30.76E,ML2.2,Explosion*
*IDC **06** 09:29:02.9±1.8,55.44N×30.39E,mb1 3.2/4, mb1mx3.1/21,mbtmp3.2/4,ML3.1/3,Error ellipse: s-maj=27.5km s-min=13.0km az=82.0*

ISC 06 09:29:05.3±1.4**,55.72N**±0.05×**29.5E**±0.3**,n12,**σ**1s36**/20**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**3.13**	**333**	*e*PG	**Pg**	**09 30 08.2**	**+0.4**
VSU				*e*SB	**Sg**	**09 30 55.1**	**+5.6**
VJF	**Virojoki**	**4.94**	**349**	*e*S	**Sn**	**09 31 24.9**	**+3.7**
VJF				*e*SG	**Sg**	**09 31 49.1**	**-0.6**
AKASG	**Malin Array Be**	**5.03**	**182**	Pg	**Pn**	**09 30 24.8**	**+1.0**
	0.9nm,0.3s,baz=5.7,slow=18,SNR=3.0						
AKASG				Lg		09 31 27.2	
	2.0nm,0.3s,baz=3.7,slow=30,SNR=5.7						
PVF	**Pernaja**	**5.20**	**340**	*e*S	**Sn**	**09 31 31.0**	**+3.1**
FIA0	**FINESS Array S**	**6.01**	**344**	*e*P	**Pn**	**09 30 37.8**	**+0.3**
FIA0				*e*S	**Sn**	**09 31 48.2**	**+0.1**
FIA0				MSG		09 32 27.3	
	comp=Z,1.9nm,0.3s						
FINES	**FINESS Array B**	**6.01**	**344**	Pn	**Pn**	**09 30 36.7**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=155,slow=13,SNR=7.6						
FINES				Sn	**Sn**	**09 31 48.1**	**0.0**
	comp=Z,0.4nm,0.3s,baz=166,slow=24,SNR=3.4						
FINES				Lg		09 32 24.1	
	comp=Z,0.6nm,0.3s,baz=160,slow=27,SNR=7.4						
KAF	**Kangasniemi**	**6.62**	**347**	*e*P	**Pn**	**09 30 45.2**	**-1.0**
KAF				*e*S	**Sn**	**09 32 04.3**	**+1.0**
KAF				MSG		09 32 49.7	
	comp=Z,1.2nm,0.3s						
KEF	**Keuruu**	**6.89**	**342**	*e*S	**Sn**	**09 32 12.4**	**+2.3**
KEF				*e*SG	**Sg**	**09 32 52.8**	**-1.8**
KEF				MSG		09 33 03.5	
	comp=Z,1.3nm,0.3s						
SUF	**Sumiainen**	**7.22**	**348**	*e*P	**Pn**	**09 30 53.6**	**-1.1**
SUF				*e*S	**Sn**	**09 32 17.7**	**-0.8**
SUF				MSG		09 33 13.8	
	comp=Z,1.0nm,0.3s						
HFS	**Hagfors**	**9.48**	**304**	Pn	**P**	**09 31 25.9**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=119,slow=15,SNR=3.2						
HFS				Sn	**Sn**	**09 33 10.8**	**-3.9**
	comp=Z,0.0nm,0.3s,baz=101,slow=23,SNR=3.5						
NOA	**NORSAR Array B**	**10.95**	**307**	Pn	**P**	**09 31 44.9**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=240,slow=21,SNR=2.7						
ARCES	**ARCESS Array B**	**13.98**	**354**	Pn	**P**	**09 32 21.8**	**-4.8**
	comp=Z,0.1nm,0.3s,baz=168,slow=13,SNR=5.2						

*IDC **06** 10:24:26.6±10.0,29.70S×179.14W,h320km±101km, mb3.1/1,mb1 3.5/2,mb1mx3.1/13,mbtmp4.0/2,Error ellipse: s-maj=95.3km s-min=43.0km az=12.0*
*NEIC **06** 10:24:32.9±3.4,30.24S×179.29W,h384km±33km,Error ellipse: s-maj=58.6km s-min=17.2km az=52.0*

ISC 06 10:24:23.6±1.2**,29.81S**±0.06×**178.2W**±0.2**,h368**km±15km**, n38,**σ**1s16**/49**,mb3.0**/1**,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**8.73**	**198**	P	**P**	**10 26 28.2**	**+0.7**
PUZ				S	**S**	**10 28 02.0**	**-3.3**
PUZ	**Puketiti**	**8.73**	**198**	PN	**P**	**10 26 28.2**	**+0.7**
PUZ				SN	**S**	**10 28 06.2**	**+1.0**
MWZ	**Matawai**	**9.19**	**201**	*e*P	**P**	**10 26 33.5**	**+0.6**
MWZ				S	**S**	**10 28 14.8**	**-0.3**
MWZ	**Matawai**	**9.19**	**201**	PN	**P**	**10 26 33.1**	**+0.2**
MWZ				*e*SN	**S**	**10 28 14.8**	**-0.3**
URZ	**Urewera**	**9.26**	**203**	P	**P**	**10 26 33.6**	**-0.2**
	0.4nm,0.3s,baz=0.4,slow=23,SNR=15						
URZ				S	**S**	**10 28 17.1**	**+0.5**
	2.4nm,0.3s,baz=79,slow=19,SNR=7.9						
URZ	**Urewera**	**9.26**	**203**	*e*P	**P**	**10 26 33.5**	**-0.2**
URZ	**Urewera**	**9.26**	**203**	PN	**P**	**10 26 33.4**	**-0.3**
KNZ	**Kokohu**	**9.78**	**199**	*e*PN	**P**	**10 26 44.5**	**+4.6**
KNZ				*e*SN	**S**	**10 28 28.4**	**+0.6**
BKZ	**Black Stump Fm**	**10.29**	**204**	*e*PN	**P**	**10 26 45.4**	**-0.6**
BKZ				*e*SN	**S**	**10 28 40.4**	**+1.8**
NGZ	**Ngauruhoe**	**10.63**	**207**	*e*PN	**P**	**10 26 53.6**	**+3.6**
TUVZ	**Tukino**	**10.69**	**206**	*e*PN	**P**	**10 26 54.6**	**+3.8**
WNVZ	**Wahianoa**	**10.76**	**206**	*e*PN	**P**	**10 26 53.7**	**+2.1**
MOVZ	**Moawhango**	**10.77**	**206**	*e*PN	**P**	**10 26 54.0**	**+2.3**
PWZ	**Pawanui**	**10.95**	**200**	*e*PN	**P**	**10 26 52.7**	**-1.2**
PWZ				*e*SN	**S**	**10 28 54.0**	**+1.2**
TSZ	**Takapari Road**	**11.27**	**203**	*e*PN	**P**	**10 26 57.1**	**-0.5**
TSZ				SN	**S**	**10 29 00.1**	**+0.5**
WAZ	**Wanganui**	**11.37**	**207**	*e*PN	**P**	**10 26 57.2**	**-1.6**
BFZ	**Birch Farm**	**11.74**	**201**	PN	**P**	**10 27 03.0**	**-0.1**
BFZ				*e*SN	**S**	**10 29 09.0**	**-0.7**
MRZ	**Mangatainoka R**	**11.94**	**203**	*e*PN	**P**	**10 27 03.3**	**-2.2**
MRZ				*e*SN	**S**	**10 29 12.5**	**-1.5**
KIW	**Kapiti Island**	**12.35**	**205**	*e*PN	**P**	**10 27 09.4**	**-0.9**
KIW				*e*SN	**S**	**10 29 20.0**	**-2.8**
CAW	**Cannon Point**	**12.51**	**204**	*e*PN	**P**	**10 27 10.9**	**-1.3**
CAW				*e*SN	**S**	**10 29 26.3**	**+0.2**
SNZO	**South Karori**	**12.82**	**205**	*e*PN	**P**	**10 27 15.5**	**-0.2**
SNZO				*e*SN	**S**	**10 29 31.9**	**-0.7**
TCW	**Tory Channel**	**12.90**	**206**	SN	**S**	**10 29 33.7**	**-0.5**
NNZ	**Nelson**	**13.26**	**209**	*e*PN	**P**	**10 27 21.9**	**+1.1**
NNZ				*e*SN	**S**	**10 29 41.7**	**-0.2**
QRZ	**Quartz Range**	**13.31**	**212**	*e*PN	**P**	**10 27 21.2**	**-0.2**
THZ	**Tophouse**	**13.91**	**209**	*e*PN	**P**	**10 27 28.8**	**+0.7**
DSZ	**Denniston Nort**	**14.38**	**211**	*e*PN	**P**	**10 27 33.9**	**+0.8**
DSZ				*e*SN	**S**	**10 30 03.6**	**-1.2**
MQZ	**McQueen's Vall**	**15.65**	**205**	*e*SN	**S**	**10 30 31.9**	**+2.1**
DZM	**Mont Dzumac**	**15.77**	**296**	*e*P	**P**	**10 27 48.0**	**+0.2**
DZM	**Mont Dzumac**	**15.77**	**296**	P	**P**	**10 27 48.5**	**+0.6**
	2.2nm,0.3s,baz=138,slow=15,SNR=25						
NOUC	**Port Laguerre**	**15.87**	**295**	*e*P	**P**	**10 27 49.0**	**+0.1**
NOUC	**Port Laguerre**	**15.87**	**295**	*e*P	**P**	**10 27 49.0**	**+0.1**
RPZ	**Rata Peaks**	**16.29**	**209**	S	**S**	**10 30 45.3**	**+3.4**
	1.2nm,0.3s,baz=316,slow=20,SNR=12						
PPT	**Papeete**	**28.86**	**71**	*e*LR	LR	10 29 27.4	
	178nm,24.0s,baz=207						
WRA	**Warramunga Arr**	**43.87**	**272**	P	**P**	**10 31 56.1**	**-0.5**
	0.5nm,0.4s,mb3.0,baz=111,slow=7.3,SNR=11						
ARCES	**ARCESS Array B**	**137.97**	**348**	PKP	PKPdf	10 43 13.8	+10
	1.0nm,0.8s,baz=27,slow=2.0,SNR=5.3						
ARCES	**ARCESS Array B**	**137.97**	**348**	PKP	PKPdf	10 43 13.8	+10
FINES	**FINESS Array B**	**144.52**	**340**	PKP	PKPdf	10 43 22.2	+6.6
	1.9nm,0.4s,baz=45,slow=3.9,SNR=18						
NOA	**NORSAR Array B**	**148.14**	**351**	PKPbc	PKPdf	10 43 33.2	+12
	1.0nm,0.6s,baz=15,slow=4.3,SNR=4.4						

IDC 06 10:43:13.3±1.0**,19.95S×68.74W,h125**km±13km**,mb3.7**/1**, mb1 3.8**/4**,mb1mx3.4**/18**,mbtmp4.0**/4**,Error ellipse: s-maj=30.2km s-min=8.9km az=102.0,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.65**	**183**	P	P	10 43 55.1	-0.9
	8.4nm,0.3s,baz=4.9,slow=13,SNR=78						
LVC				S	S	10 44 28.6	+0.2
	25nm,0.3s,baz=350,slow=10,SNR=10						
LPAZ	**La Paz**	**3.69**	**9**	P	P	10 44 10.0	+0.2
	1.8nm,0.3s,baz=192,slow=7.9,SNR=64						
LPAZ				S	S	10 44 53.1	+0.1
	0.6nm,0.3s,baz=257,slow=16,SNR=4.3						
SIV	**San Ignacio**	**8.29**	**63**	P	P	10 45 11.3	-0.6
	2.8nm,0.3s,baz=258,slow=10,SNR=66						
SIV				S	S	10 46 42.9	-1.5
	0.1nm,0.3s,baz=323,slow=19,SNR=2.1						
YKA	**Yellowknife Ar**	**89.78**	**341**	P	P	10 55 56.9	-1.4
	0.7nm,0.6s,baz=133,slow=5.0,SNR=9.0						
SONM	**Songino Array**	**151.91**	**7**	PKPbc	PKPdf	11 02 53.6	+7.1
	0.4nm,0.5s,baz=0.7,slow=2.0,SNR=3.6						

*THE **06** 11:38:02.4,40.72N×21.48E,h20km,ML3.2*
*NEIC **06** 11:38:02.3,40.66N×21.64E,h11km,MD3.4(ATH),After ATH.*
*CSEM **06** 11:38:02.9±0.1,40.61N×21.55E,h20km,ML3.2,Error ellipse: s-maj=1.6km s-min=1.4km az=27.0*
*ATH **06** 11:38:03.1,40.58N×21.69E,h23km±1km,MD3.4/4*

ISC 06 11:38:02.6±0.5**,40.57N**±0.03×**21.64E**±0.03**,h6**km±5km**, n25,**σ**0s91**/40**,1C-3D,Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.28**	**160**⇑	*i*PB	**Pb**	**11 38 09.7**	**+0.1**
KZN				*e*SB	**Sb**	**11 38 14.6**	**+0.3**
KZN	**Kozani**	**0.28**	**160**	*e*Pb	**Pb**	**11 38 09.7**	**+0.1**
KZN				*e*Sb	**Sb**	**11 38 15.3**	**+1.0**
FNA	**Florina**	**0.29**	**316**	*e*Pg	**Pg**	**11 38 08.5**	**0.0**
FNA				*e*Sg	**Sg**	**11 38 13.8**	**+1.3**
GRG	**Griva**	**0.69**	**56**	*e*Pg	**Pg**	**11 38 16.4**	**0.0**
GRG				*e*Sg	**Sg**	**11 38 26.3**	**+0.6**
LIT	**Litokhoron**	**0.80**	**126**	*e*Pg	**Pg**	**11 38 19.4**	**+0.8**
LIT				*e*Sg	**Sg**	**11 38 33.0**	**+3.6**
OHR	**Ohrid**	**0.83**	**310**	*i* Pg	**Pg**	**11 38 17.8**	**-1.5**
OHR				⇓*i*Sg	**Sg**	**11 38 30.1**	**-0.3**
MEV	**Metsovon**	**0.85**	**202**	*e*Pg	**Pg**	**11 38 18.9**	**-0.6**
LSK	**Leskovik**	**0.90**	**242**	*e*Pg	**Pg**	**11 38 19.4**	**-1.2**
LSK				*i* Sg	**Sg**	**11 38 33.5**	**+0.9**
VAY	**Valandovo**	**1.03**	**43**⇓	*i*Pg	**Pg**	**11 38 22.8**	**-0.3**
VAY				*i*		11 38 24.0	
VAY				*i* Sg	**Sg**	**11 38 36.8**	**0.0**
VAY				*i*		11 38 39.2	
VAY	**Valandovo**	**1.03**	**43**⇓	*i*Pg	**Pg**	**11 38 22.8**	**-0.3**
VAY				*i* Sg	**Sg**	**11 38 36.8**	**0.0**
JAN	**Janina**	**1.10**	**214**	*e*PN	**Pn**	**11 38 24.3**	**-0.1**
JAN				*e*SN	**Sn**	**11 38 40.0**	**+0.1**
PLG	**Polygyros**	**1.39**	**98**	*e*PN	**Pn**	**11 38 28.5**	**0.0**
PLG				*e*SN	**Sn**	**11 38 46.7**	**-0.7**
PLG	**Polygyros**	**1.39**	**98**	*e*Pg	**Pn**	**11 38 28.5**	**0.0**
PLG				*e*Sb	**Sb**	**11 38 47.1**	**+0.7**
SKO	**Skopje**	**1.41**	**354**	*i* Pn	**Pn**	**11 38 28.5**	**-0.3**
SKO				*i* Sn	**Sn**	**11 38 48.0**	**+0.3**
KEK	**Kerkira**	**1.65**	**239**	*e*PN	**Pn**	**11 38 33.5**	**+1.2**
EVR	**Evrytania**	**1.66**	**175**	*e*Pn	**Pn**	**11 38 34.0**	**+1.6**
EVR				*e*Sn	**Sn**	**11 38 58.4**	**+4.2**
EVR	**Evrytania**	**1.66**	**175**	*e*PN	**Pn**	**11 38 33.0**	**+0.6**
EVR				*e*SN	**Sn**	**11 38 54.9**	**+0.7**
XOR	**Xorichti**	**1.70**	**135**	*e*Pb	**Pb**	**11 38 32.4**	**-1.4**
XOR	**Xorichti**	**1.70**	**135**	*e*Pb	**Pb**	**11 38 32.3**	**-1.5**
NEO	**Neokhori**	**1.75**	**136**	*e*PB	**Pb**	**11 38 33.1**	**-1.7**
NVR	**Nevrokopi**	**1.85**	**65**	*e*PN	**Pn**	**11 38 34.9**	**-0.2**
NVR	**Nevrokopi**	**1.85**	**65**	*e*Pn	**Pn**	**11 38 35.7**	**+0.6**
LKR	**Lokris**	**2.19**	**151**	*e*PN	**Pn**	**11 38 39.5**	**-0.5**
RLS	**Riolos of Patr**	**2.52**	**183**	*e*PB	**Pb**	**11 38 46.0**	**-1.8**
VLS	**Valsamata**	**2.53**	**199**	*e*PN	**Pn**	**11 38 45.8**	**+1.0**

MEX 06 12:06:25.8±0.4**,16.82N×100.25W,h3**km±3km**,MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.23**	**357**	*i* P	Pg	12 06 29.9	-0.5
CAIG				*i* S	Sg	12 06 33.6	+0.1
ACX	**Acapulco**	**0.33**	**81**	*i* P	Pg	12 06 32.0	-0.3
ACX				*i* S	Sg	12 06 36.5	-0.2

ATH 06 12:21:47.2,34.78N×29.03E,h31km**,MD3.5**/4**,Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**1.61**	**333**	*e*PN	Pn	12 22 15.5	+1.5
KARP	**Karpathos**	**1.71**	**297**	*e*PB	Pb	12 22 16.6	-1.3
XRY	**Khrisi**	**2.75**	**273**	*e*PN	Pn	12 22 31.0	+0.8
NPS	**Neapolis**	**2.85**	**281**	*e*PN	Pn	12 22 33.5	+1.9

JMA 06 12:25:13.1±0.3**,25.33N×123.32E,h153**km**,M3.7, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.91**	**198**	P	P	12 25 37.6	0.0
YOJ				S	S	12 25 56.5	0.0
IRIF	**Iriomote-Funau**	**1.06**	**159**	P	P	12 25 38.5	-0.3
IRIF				S	S	12 25 57.8	-0.8
JIJ	**Ishigaki jima**	**1.22**	**142**	P	P	12 25 40.2	-0.2
JIJ				S	S	12 26 00.0	-1.4
JKRS	**Kuro-shima**	**1.25**	**150**	P	P	12 25 40.8	+0.1
JKRS				S	S	12 26 01.0	-1.0
HATJ	**Hateruma jima**	**1.34**	**161**	P	P	12 25 41.4	-0.2
HATJ				S	S	12 26 03.9	+0.3
JTJ	**Tarama**	**1.43**	**118**	P	P	12 25 42.9	+0.4
JTJ				S	S	12 26 05.8	+0.6
JMJ	**Miyako jima 2**	**1.86**	**106**	P	P	12 25 46.2	-0.9
JMJ				S	S	12 26 13.2	-0.2
JOGS	**Gusukube**	**1.98**	**106**	P	P	12 25 49.3	+0.9
JOGS				S	S	12 26 16.1	+0.5
JKE	**Kume jima 2**	**3.28**	**72**	P	P	12 26 04.5	-0.3
JKE				S	S	12 26 45.7	+1.2
JAGN	**Aguni-jima**	**3.75**	**70**	P	P	12 26 10.2	-0.7
JAGN				S	S	12 26 53.8	-1.6
NAH1	**Naha**	**4.04**	**77**	*e*S	S	12 27 00.6	-1.5
JJT2	**Tamagusuku 2**	**4.08**	**78**	P	P	12 26 14.5	-0.7
JJT2				S	S	12 27 01.9	-1.1
JIH	**Iheya**	**4.51**	**67**	P	P	12 26 19.7	-1.2
JIH				*e*S	S	12 27 11.8	-1.4
JOW	**Kunigami**	**4.70**	**70**	P	P	12 26 21.7	-1.8
JOW				*e*S	S	12 27 12.6	-5.1
JTK	**Tokunoshima**	**5.60**	**63**	P	P	12 26 32.8	-2.6
JTK				*e*S	S	12 27 35.0	-4.3
JAM	**Amami Oshima**	**6.40**	**60**	P	P	12 26 42.7	-3.3

*IDC **06** 12:27:35.0±0.9,47.13N×27.38W,mb3.7/9,mb1 4.0/10, mb1mx3.8/26,mbtmp3.7/10,ML4.4/1,MS3.6/21,Ms1 3.6/21, ms1mx3.5/32,Error ellipse: s-maj=31.6km s-min=20.4km az=8.0*
*CSEM **06** 12:27:34.3±0.1,47.37N×26.15W,h33km,mb4.5/4,Error ellipse: s-maj=10.4km s-min=3.6km az=8.0*
*NEIC **06** 12:27:36.9±0.5,47.15N×27.31W,h10km,mb4.5/4,Error ellipse: s-maj=18.7km s-min=9.2km az=193.0*
*ZUR_RM **06** 12:27:36,47.15N×27.31W,h12km,Mw4.6/9,Moment Tensor Solution. s9 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.93; $M_{\theta\theta}$0.21; $M_{\phi\phi}$0.71; $M_{r\theta}$-0.01; $M_{\theta\phi}$0.11; $M_{\phi r}$0.40; Best double couple: M_0.922×10^{16} NP1:ϕ_s187°,δ58°,λ-94°. NP2:ϕ_s15°,δ32°,λ-83°. Principal axes: T .8252, Plg13°, Azm280°; N .1937, Plg4°, Azm189°; P -1.0189, Plg77°, Azm83°;*

ISC 06 12:27:30.9±0.6**,47.2N**±0.2×**26.23W**±0.10**,h10**km**,n51,** σ**1s13**/35**,mb4.1**/12**,MS3.6**/21**,5D,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**17.80**	**107**	P		12 31 54.0	
	0.2nm,0.3s,baz=298,slow=13,SNR=8.3						
DAVOX	**Davos**	**24.50**	**78**	LR	LR	12 41 44.0	
	comp=Z,172nm,21.5s,MS3.5,baz=84,slow=34						
NOA	**NORSAR Array B**	**25.51**	**43**	LR	LR	12 42 01.9	
	comp=Z,60nm,20.5s,MS3.1,baz=275,slow=33						
SCHQ	**Schefferville**	**26.34**	**302**	LR	LR	12 41 32.7	
	comp=Z,145nm,19.4s,MS3.5,baz=82,slow=33						
HFS	**Hagfors**	**26.49**	**46**	LR	LR	12 42 33.6	
	comp=Z,67nm,20.4s,MS3.2,baz=232,slow=33						
GERES	**GERESS Array B**	**26.55**	**72**	LR	LR	12 43 57.1	
	comp=Z,256nm,18.3s,MS3.8,baz=86,slow=36						
FINES	**FINESS Array B**	**32.66**	**45**	LR	LR	12 46 13.0	
	comp=Z,66nm,20.9s,MS3.3,baz=288,slow=34						
ARCES	**ARCESS Array B**	**33.56**	**30**	LR	LR	12 46 05.5	
	comp=Z,58nm,20.0s,MS3.3,baz=284,slow=33						
MLR	**Muntele Rosu**	**35.50**	**73**	LR	LR	12 49 27.4	
	comp=Z,119nm,20.9s,MS3.6,baz=278,slow=36						
AKASG	**Malin Array Be**	**35.86**	**63**	P	**P**	**12 34 42.4**	**+10**
	0.3nm,0.3s,mb3.6,baz=280,slow=8.7,SNR=4.9						
DBIC	**Dimbokro**	**44.35**	**149**	LR	LR	12 52 30.5	
	comp=Z,94nm,21.2s,MS3.7,baz=335,slow=34						
ULM	**Lac du Bonnet**	**44.51**	**301**	P	**P**	**12 35 43.2**	**-0.7**
	2.7nm,0.7s,mb4.2,baz=71,slow=9.3,SNR=2.9						
ULM				LR	LR	12 52 38.2	
	comp=Z,85nm,18.4s,MS3.7,baz=18,slow=34						
ULM	**Lac du Bonnet**	**44.51**	**301**	P	**P**	**12 35 43.2**	**-0.8**
SLNF	**Slenfeh**	**47.09**	**81**⇓	*i*P	**P**	**12 36 04.2**	**-0.4**
WRDH	**Warideh**	**47.26**	**81**⇑	*i*P	**P**	**12 36 06.1**	**+0.1**
HAF	**Haifa**	**47.90**	**85**	Pn	**P**	**12 36 10.4**	**-0.7**
BRBR	**Barbar**	**48.16**	**83**⇓	*i*P	**P**	**12 36 10.9**	**-2.1**
MARH	**Ras Al Marh**	**48.16**	**82**⇓	*i*P	**P**	**12 36 10.5**	**-2.5**
QASN	**Qassioun**	**48.31**	**83**⇑	*i*P	**P**	**12 36 12.9**	**-1.3**
RABH	**Abou Rabah**	**48.41**	**81**⇓	*i*P	**P**	**12 36 16.5**	**+1.5**
TOTH	**TOTAH**	**48.51**	**83**⇑	*i*P	**P**	**12 36 15.5**	**-0.2**
TCHB	**Talchebab**	**48.61**	**84**⇓	*i*P	**P**	**12 36 18.7**	**+2.2**
ROOS	**tl_alroos**	**48.62**	**82**⇑	*i*P	**P**	**12 36 18.6**	**+2.0**
YKA	**Yellowknife Ar**	**48.94**	**322**	P	**P**	**12 36 19.2**	**+0.6**
	0.5nm,0.7s,mb3.7,baz=66,slow=8.2,SNR=3.8						
YKA				LR	LR	12 54 23.7	
	comp=Z,47nm,19.3s,MS3.5,baz=65,slow=33						
GNI	**Garni**	**50.19**	**71**	LR	LR	12 58 28.3	
	comp=Z,40nm,18.4s,MS3.5,baz=163,slow=36						
EDM	**Edmonton**	**52.77**	**311**	*e*P	**P**	**12 36 48.3**	**+0.4**
EDM	**Edmonton**	**52.77**	**311**	*e*P	**P**	**12 36 48.3**	**+0.4**
HRY	**Holter Researc**	**55.48**	**304**	*e*P	**P**	**12 37 07.9**	**+0.1**
HRY	**Holter Researc**	**55.48**	**304**	*e*P	**P**	**12 37 07.9**	**+0.1**
CHMT	**Chamberlain Mo**	**56.16**	**304**	*e*P	**P**	**12 37 11.9**	**-0.8**
CHMT	**Chamberlain Mo**	**56.16**	**304**	*e*P	**P**	**12 37 11.9**	**-0.9**
PDAR	**Pinedale Array**	**56.41**	**299**	P	**P**	**12 37 12.8**	**-1.8**
	1.6nm,0.7s,mb4.1,baz=56,slow=8.7,SNR=18						
PDAR				LR	LR	12 58 52.5	
	comp=Z,68nm,19.8s,MS3.7,baz=78,slow=34						
MOOW	**Moose Ponds**	**56.55**	**300**	*e*P	**P**	**12 37 15.3**	**-0.2**
	4.0nm,0.9s,mb4.5						
MOOW	**Moose Ponds**	**56.55**	**300**	*e*P	**P**	**12 37 15.3**	**-0.3**
	4.0nm,0.9s,mb4.5						
IMW	**Indian Meadow**	**56.57**	**300**	*e*P	**P**	**12 37 15.7**	**-0.1**
	5.1nm,1.0s,mb4.5						
TPAW	**Teton Pass**	**56.82**	**300**	*e*P	**P**	**12 37 17.3**	**-0.2**
	3.8nm,0.9s,mb4.4						
PV10	**Paradox Valley**	**58.71**	**294**	*e*P	**P**	**12 37 31.5**	**+0.6**
PV10	**Paradox Valley**	**58.71**	**294**	*e*P	**P**	**12 37 31.5**	**+0.6**
ROSC	**El Rosal**	**58.99**	**240**	LR	LR	12 58 23.9	
	comp=Z,82nm,21.5s,MS3.8,baz=274,slow=32						
ILAR	**Eielson Array**	**59.21**	**335**	P	**P**	**12 37 35.9**	**+1.9**
	0.6nm,0.9s,mb3.6,baz=62,slow=3.5,SNR=6.5						
ILAR				LR	LR	13 00 45.2	
	comp=Z,39nm,18.9s,MS3.5,baz=180,slow=34						
MSU	**Marysvale**	**60.57**	**296**	*e*P	**P**	**12 37 44.4**	**+0.7**
MSU	**Marysvale**	**60.57**	**296**	*e*P	**P**	**12 37 44.4**	**+0.7**

MVU	Marysvale	60.59	296	eP	P	12 37 44.4	+0.5
	17nm,1.6s,mb4.9						
MVU	Marysvale	60.59	296	eP	P	12 37 44.4	+0.5
	17nm,1.6s,mb4.9						
TXAR	Lajitas Array	60.92	283	P	P	12 37 44.9	-1.3
	0.3nm,0.7s,mb3.5,baz=76,slow=5.2,SNR=4.6						
TXAR				LR	LR	13 02 30.7	
	comp=Z,89nm,21.1s,MS3.9,baz=100,slow=35						
ZAL	Zalesovo	63.56	38	LR	LR	13 06 57.0	
	comp=Z,74nm,18.8s,MS3.9,baz=353,slow=37						
NVAR	Mina Array Bea	64.32	299	P	P	12 38 08.8	+0.2
	0.4nm,0.7s,mb3.6,baz=63,slow=6.0,SNR=3.3						
NVAR				LR	LR	13 04 08.4	
	comp=Z,26nm,18.5s,MS3.5,baz=315,slow=34						
BDFB	Brasilia	65.55	203	P	P	12 38 17.9	+1.1
	1.5nm,0.5s,mb4.3,baz=75,slow=7.8,SNR=4.0						
BDFB				LR	LR	13 00 55.2	
	comp=Z,101nm,19.3s,MS4.0,baz=212,slow=31						
MKAR	Makanchi Array	67.50	45	P	sP	12 38 36.2	+3.2
	0.3nm,0.6s,baz=315,slow=6.1,SNR=3.1						
MKAR				LR	LR	13 07 56.6	
	comp=Z,62nm,19.1s,MS3.9,baz=123,slow=36						
KMBO	Kilima Mbogo	73.14	111	LR	LR	13 11 59.5	
	comp=Z,100nm,18.0s,MS4.1,baz=90,slow=36						
WRA	Warramunga Arr	148.53	37	PKPbc	PKPdf	12 47 23.7	+6.3
	0.5nm,0.6s,baz=327,slow=3.3,SNR=8.8						

*GRAL **06** 12:35:16.7±9.5, 33.36N×33.11E, MD3.6*
*ISK **06** 12:35:29.5, 34.89N×33.95E, h37^{km}, MD3.8*
*HLW **06** 12:35:31.9, 35.10N×33.71E, h27^{km}, Mb3.9*
*CSEM **06** 12:35:31.0±0.1, 35.03N×33.78E, h60^{km}, Mw3.4, Error ellipse: s-maj=1.5km s-min=1.1km az=68.0*
*NIC **06** 12:35:33.3±0.1, 35.10N×33.81E, h50^{km}, ML3.7, MW3.4*
*NEIC **06** 12:35:33.3, 35.10N×33.81E, h50^{km}, After NIC.*
*IDC **06** 12:35:33.3±1.5, 34.87N×33.55E, h82^{km}±29^{km}, mb3.4/3, mb1 3.6/7, mb1mx3.3/23, mbtmp3.8/7, Error ellipse: s-maj=23.0km s-min=12.1km az=38.0*
*GII **06** 12:35:36.3±0.4, 34.80N×33.88E, h25^{km}±30^{km}, ML3.3/11, Mw3.4/10*
ISC 06 12:35:31.2±0.2**, 34.99N**±0.01×**33.85E**±0.02**, h71**^{km}±4^{km}**, n104,** σ1^{s}**12**/136**, mb3.7**/2**, 14C-10D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PHNC	Paralimni	0.15	85	⇑iP	P	12 35 41.7	+0.1
PHNC				S	S	12 35 48.0	-1.4
CSS	Prodhromos	0.43	266	⇑P	P	12 35 43.5	0.0
	32nm,0.4s						
CSS				S	S	12 35 51.7	-0.9
CSS	Prodhromos	0.43	266	⇑eP	P	12 35 43.5	0.0
CSS				S	S	12 35 51.7	-0.9
CSS	Prodhromos	0.43	266	⇑eP	P	12 35 43.5	0.0
	32nm,0.4s						
MAMC	Mammari	0.55	289	P	P	12 35 44.7	0.0
LEF	Lefka	0.80	279	PG	P	12 35 46.2	-1.2
SZAC	Souni-Zanaja	0.83	254	⇓iP	P	12 35 49.0	+1.2
	38nm,0.1s						
SZAC				S	S	12 36 01.0	+0.8
ALFC	Alevga	1.04	280	⇓iP	P	12 35 50.9	+0.4
	54nm,0.2s						
ALFC				S	S	12 36 04.7	-0.1
PPCY	Paphos	1.24	266	P	P	12 35 54.2	+1.0
IKL	Isikli	1.25	354	PN	P	12 35 53.1	-0.2
MEST	Erdemli	1.61	8	iP	P	12 35 58.2	+0.1
MEST				iS	S	12 36 14.9	-3.2
ERMK	Ermenek	1.81	335	iP	P	12 36 01.9	+1.0
ERMK				iS	S	12 36 23.9	+1.0
BHL	Bhannes	1.84	126	SN	S	12 36 22.9	-0.6
HWQ	Hawqa	1.87	112	ePN	P	12 36 03.1	+1.4
HWQ				SN	S	12 36 25.3	+1.2
BIDA	Albida	2.03	89	⇓iP	P	12 36 04.5	+0.7
HTY	Hatay	2.18	58	PN	P	12 36 04.7	-1.3
HNTI	Hanita	2.20	150	Pn	P	12 36 07.3	+1.1
HNTI				Sn	S	12 36 32.1	-0.1
HDMB	Hadim	2.26	331	PN	P	12 36 07.9	+0.8
HDMB				SN	S	12 36 35.1	+1.3
HRI	Mount Hermon	2.32	137	Pn	P	12 36 10.1	+2.0
KSDI	Kefar Szold	2.34	140	Pn	P	12 36 09.6	+1.4
BRBR	Barbar	2.35	132	⇓iS	S	12 36 34.8	-1.2
BTCH	Batrach	2.37	63	⇓iP	P	12 36 09.1	+0.4
HAF	Haifa	2.41	156	Pn	P	12 36 10.4	+1.2
QASN	Qassioun	2.48	125	⇑iS	S	12 36 38.1	-1.2
COBT	Iskenderun	2.48	51	iP	P	12 36 10.7	+0.5
COBT				iS	S	12 36 39.1	-0.3
CEYT	Ceyhan	2.53	37	PN	P	12 36 09.5	-1.5
OFRI	'Ofer	2.54	158	Pn	P	12 36 11.4	+0.3
KSHT	Keshet	2.58	140	Pn	P	12 36 12.4	+0.8
TOTH	TOTAH	2.68	127	⇑iS	S	12 36 42.3	-2.2
DRWC	Darouich	2.81	54	⇑iP	P	12 36 14.7	-0.1
MMLI	Mount Malkishu	2.86	152	Pn	P	12 36 17.0	+1.3
TCHB	Talchebab	2.91	142	⇓iS	S	12 36 50.0	-0.2
SLTI	Sal'it	2.92	160	Pn	P	12 36 17.6	+1.2
SLTI				Sn	S	12 36 49.1	-1.2
SLTI	Sal'it	2.92	160	Pn	P	12 36 17.5	+1.1
SLTI				Sn	S	12 36 49.1	-1.3
NIG	Nigde	3.17	11	PN	P	12 36 19.7	-0.2
KONT	Konya--Tatoy	3.18	338	PN	P	12 36 20.4	+0.3
SALA	Sala	3.30	133	⇑iP	P	12 36 24.7	+2.9
SALA				⇑iS	S	12 36 59.3	-0.8
GAZ	Gaziantep	3.48	50	PN	P	12 36 23.0	-1.3
SLMH	Al Salmeh	3.54	69	⇓iP	P	12 36 25.7	+0.6
KAHT	Ahir Dag	3.59	42	iP	P	12 36 26.0	+0.2
KAHT				iS	S	12 37 05.2	-2.0
AMZI	Amatzia	3.63	166	Pn	P	12 36 26.7	+0.3
AMZI				Sn	S	12 37 06.0	-2.3
AKAS	Kas	3.67	291	iP	P	12 36 26.7	-0.2
AKAS				iS	S	12 37 02.5	-6.9
MKRJ	Makawir	3.74	156	Pn	P	12 36 30.0	+2.1
ASF	Jabal al Asfar	3.79	137	P	P	12 36 30.5	+2.0
	3.2nm,0.3s,baz=208,slow=11,SNR=12						
ASF				S	S	12 37 15.9	+3.7
	13nm,0.3s,baz=330,slow=20,SNR=15						
GZT	Gaziantep	3.82	51	iP	P	12 36 28.4	-0.5
GZT				iS	S	12 37 16.3	+3.4
AVNT	Avonos	3.87	12	iP	P	12 36 29.2	-0.4
AVNT				iS	S	12 37 12.4	-1.7
MZDA	Masada	3.88	161	Pn	P	12 36 30.4	+0.5
MZDA				Sn	S	12 37 13.6	-0.9
RTMM	Retamin	3.99	170	Pn	P	12 36 33.0	+1.6
HRSH	Kfar Ka'horesh	4.02	182	P	P	12 36 32.3	+0.5
HRSH				S	S	12 37 16.5	-1.5
RSH		4.02	182	P	P	12 36 32.3	+0.5
RSH				S	S	12 37 16.5	-1.5
MASH	Mash'abbe Sade	4.06	169	Pn	P	12 36 33.5	+1.2
KZIT	Kziot	4.10	173	Pn	P	12 36 33.5	+0.6
KZIT				Sn	S	12 37 18.3	-1.6
TKTP	Tekketepe	4.17	318	iP	P	12 36 33.0	-0.8
TKTP				iS	S	12 37 19.5	-2.1
KIZT	Kizilcal	4.19	338	ePN	P	12 36 34.8	+0.7
FETY	Fethiye	4.21	294	ePN	P	12 36 34.6	+0.2
AMAG	Maghara	4.37	187	⇑eP	P	12 36 37.1	+0.4
ZFRI	Zfri	4.56	165	Pn	P	12 36 41.0	+1.7
DALT	Dalyan (Mudla)	4.59	294	PN	P	12 36 40.3	+0.6
URFA	Urfa	4.70	57	ePN	P	12 36 40.4	-0.9
PRNI	Paran	4.73	168	Pn	P	12 36 42.4	+0.8
PRNI				Sn	S	12 37 34.3	-1.3
BRTR	Keskin Array B	4.73	358	P	P	12 36 43.2	+1.6
	0.3nm,0.3s,baz=191,slow=13,SNR=3.6						
BRTR	Keskin Array B	4.73	358	P	P	12 36 43.2	+1.6
KMTI	Karmit	4.93	171	Pn	P	12 36 45.5	+1.0
MALT	Malatya	4.95	47	ePN	P	12 36 44.3	-0.4
MALT	Malatya	4.95	47	eP	P	12 36 43.6	-1.1
MALT	Malatya	4.95	47	eP	P	12 36 43.6	-1.1
MALT	Malatya	4.95	47	ePn	P	12 36 44.3	-0.4
MYA	Malataya	4.96	47	ePN	P	12 36 44.3	-0.5
YER	Yerkesik	4.99	297	ePN	P	12 36 46.4	+1.1
HRFI	Mount Harif	5.04	168	Pn	P	12 36 46.8	+0.9
HRFI				Sn	S	12 37 42.2	-1.3
HNKL	Nakhl	5.05	179	P	P	12 36 46.8	+0.7
HNKL				S	S	12 37 41.3	-2.3
SUZ		5.21	190	⇑eP	P	12 36 48.6	+0.3
MBH	Mount Berech	5.26	170	Pn	P	12 36 49.9	+0.9
KOT	Kottamia	5.33	199	P	P	12 36 49.9	0.0
AQBJ	Aqaba	5.34	169	Pn	P	12 36 51.9	+1.7
EIL	Elat	5.39	170	P	P	12 36 50.9	+0.2
	1.5nm,0.3s,baz=359,slow=24,SNR=23						
EIL				S	S	12 37 50.3	-1.8
	6.0nm,0.3s,baz=112,slow=19,SNR=9.4						
EIL	Elat	5.39	170	eP	P	12 36 49.0	-1.7
EIL				S	S	12 37 50.3	-1.8
EIL	Elat	5.39	170	Pn	P	12 36 51.3	+0.6
EIL	Elat	5.39	170	eP	P	12 36 49.0	-1.7
EIL	Elat	5.39	170	Pn	P	12 36 51.3	+0.6
HBRG	Burj al 'Arab	5.55	219	⇑eP	P	12 36 52.8	-0.2
BDRM	Kayabasi	5.59	294	iP	P	12 36 52.0	-1.5
BDRM				iS	S	12 37 51.5	-5.6
ZNM		5.66	189	P	P	12 36 54.9	+0.4
BODT	Bodrum	5.69	293	ePN	P	12 36 55.3	+0.4
GLL	Jalalah	5.70	199	⇑eP	P	12 36 54.8	-0.2
HSAF	As Saff	5.70	201	⇓eP	P	12 36 55.0	+0.1
HSAF	As Saff	5.70	201	P	P	12 36 55.0	0.0
ZAF		5.80	191	P	P	12 36 56.5	+0.1
NUB		5.98	173	⇑eP	P	12 36 59.8	+0.9
HNAT	Natroun	6.00	208	⇑eP	P	12 36 59.0	-0.2
HDHB	Dhahab	6.28	174	⇑iP	P	12 37 04.0	+0.8
HKAT	Jabal Katrina	6.45	179	⇓eP	P	12 37 05.7	+0.2
HMAT	Matruh	6.88	237	⇑eP	P	12 37 10.6	-0.8
SANT	Santorini	6.97	284	P	P	12 37 09.3	-3.5
APE	Apeiranthos	7.05	289	ePN	P	12 37 14.2	+0.3
IDI	Anoyia	7.35	275	P	P	12 37 15.8	-2.1
	7.0nm,0.3s,baz=87,slow=19,SNR=17						
IDI				S	S	12 38 33.7	-6.9
	5.5nm,0.3s,baz=242,slow=24,SNR=5.6						
SLUM		8.03	247	⇑eP	P	12 37 25.6	-1.8
SWA1		8.96	233	⇑eP	P	12 37 38.9	-1.1
SWA2		9.14	233	⇓eP	P	12 37 40.8	-1.6
AKASG	Malin Array Be	16.06	349	P	P	12 39 15.6	+1.9
	0.4nm,0.3s,baz=170,slow=10,SNR=4.2						
GERES	GERESS Array B	20.32	319	P	P	12 40 02.7	-1.0
	0.7nm,0.4s,baz=121,slow=11,SNR=7.5						
FINES	FINESS Array B	26.93	352	P	P	12 41 07.0	-0.4
	0.9nm,0.4s,mb3.7,baz=151,slow=11,SNR=13						
FINES	FINESS Array B	26.93	352	P	P	12 41 07.0	-0.4
ARCES	ARCESS Array B	34.91	355	P	P	12 42 17.5	0.0
	0.5nm,0.4s,mb3.7,baz=164,slow=8.8,SNR=12						

*CSEM **06** 12:47:56.3±0.9, 37.31N×12.13W, h10^{km}, mb3.8/8, Error ellipse: s-maj=19.1km s-min=11.4km az=39.0*
MDD 06 12:47:53.9±3.3**, 37.03N**×**12.44W, mb3.8**/8**, Error ellipse: s-maj=31.2km s-min=20.0km az=45.0, PRXIMO, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	3.01	79	eP	Pn	12 48 41.6	-2.1
PTEO				eS	Sn	12 49 16.6	-4.4
	6.2nm,0.2s						
PTEO	Sao Teotonio	3.01	79	eP	Pn	12 48 41.6	-2.1
PTEO				eS	Sn	12 49 16.6	-4.4
	6.2nm,0.2s						
PBEJ	Beja	3.77	73	eP	Pn	12 48 52.5	-2.0
PBEJ				eS	Sn	12 49 35.1	-5.2
	2.8nm,0.3s						
PBEJ	Beja	3.77	73	eP	Pn	12 48 52.5	-2.0
PBEJ				eS	Sn	12 49 35.1	-5.2
	2.8nm,0.3s						
EGRO	El Granado	3.98	81	Pn	Pn	12 48 56.5	-1.1
	0.6nm,0.1s,SNR=7.7						
EGRO				Sn	Sn	12 49 39.8	-5.9
	3.5nm,0.2s,SNR=7.9						
EGRO	El Granado	3.98	81	P	Pn	12 48 56.5	-1.1
	0.6nm,0.1s,SNR=7.7						
EGRO				S	Sn	12 49 39.8	-5.9
	3.5nm,0.2s,SNR=7.9						
EBAD	Badajoz	4.62	66	Pn	Pn	12 49 04.0	-2.7
	0.7nm,0.1s,SNR=4.8						
EBAD				Sn	Sn	12 49 55.7	-6.3
	4.6nm,0.2s,SNR=7.9						
EBAD	Badajoz	4.62	66	P	Pn	12 49 04.0	-2.7
	0.7nm,0.1s,SNR=4.8						
EBAD				S	Sn	12 49 55.7	-6.2
	4.6nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	4.65	79	Pn	Pn	12 49 03.9	-3.1
	0.2nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	12 49 55.3	-7.3
	1.6nm,0.3s,SNR=10						
EMIN	Mina Concepcio	4.65	79	P	Pn	12 49 03.9	-3.2
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	12 49 55.3	-7.3
	1.6nm,0.3s,SNR=10						
ESPR	Espera	5.28	90	Pn	Pn	12 49 11.8	-4.1
	1.0nm,0.2s,SNR=7.9						
ESPR				Sn	Sn	12 50 11.0	-7.4
	2.3nm,0.2s,SNR=7.9						
ESPR	Espera	5.28	90	P	Pn	12 49 11.8	-4.1
	1.0nm,0.2s,SNR=7.9						
ESPR				S	Sn	12 50 11.0	-7.3
	2.3nm,0.2s,SNR=7.9						
ECAB	El Cabril	5.68	77	Pn	Pn	12 49 18.1	-3.4
	0.3nm,0.1s,SNR=7.9						
ECAB				Sn	Sn	12 50 19.9	-8.5
	1.3nm,0.3s,SNR=10						
ECAB	El Cabril	5.68	77	P	Pn	12 49 18.1	-3.4
	0.3nm,0.1s,SNR=7.9						
ECAB				S	Sn	12 50 19.9	-8.5
	1.3nm,0.3s,SNR=10						
ELOB	Lobios	5.90	34	Pn	Pn	12 49 21.9	-2.8
	0.4nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	12 50 26.1	-7.9
	1.0nm,0.1s,SNR=7.9						
ELOB	Lobios	5.90	34	P	Pn	12 49 21.9	-2.8
	0.4nm,0.1s,SNR=7.9						
ELOB				S	Sn	12 50 26.1	-7.9
	1.0nm,0.1s,SNR=7.9						
EADA	Adamuz	6.35	77	Pn	Pn	12 49 27.2	-3.8
	1.1nm,0.3s,SNR=5.6						
EADA				Sn	Sn	12 50 36.5	-8.7
	1.4nm,0.2s,SNR=7.9						
EADA	Adamuz	6.35	77	P	Pn	12 49 27.2	-3.8
	1.1nm,0.3s,SNR=5.6						
EADA				S	Sn	12 50 36.5	-8.6
	1.4nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	6.48	23	Pn	Pn	12 49 28.7	-4.2
	0.9nm,0.1s,SNR=7.9						
EMAZ				Sn	Sn	12 50 38.9	-10
	3.1nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	6.48	23	P	Pn	12 49 28.7	-4.2
	0.9nm,0.1s,SNR=7.9						
EMAZ				S	Sn	12 50 38.9	-10
	3.1nm,0.1s,SNR=7.9						

*THR **06** 12:48:01.3±0.4, 30.75N×56.66E, h14^{km}±3^{km}, ML3.2*
*CSEM **06** 12:48:01.4±0.2, 30.75N×56.64E, h16^{km}, ML3.2, Error ellipse: s-maj=8.9km s-min=4.4km az=52.0*
*TEH **06** 12:48:09.0, 30.76N×56.04E, h10^{km}, Mn3.2*
ISC 06 12:48:01.7±0.8**, 30.74N**±0.05×**56.7E**±0.1**, h14**^{km}**, n16,** σ**0**^{s}**75**/19**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRBR	Kerman	0.76	173	ePg	Pg	12 48 16.0	-1.0
KRBR				eSG	Sg	12 48 27.1	-0.3
KRBR				AML	AML	12 48 29.7	
	comp=N,1μm,0.1s						
KRBR	Kerman	0.76	173	ePg	Pg	12 48 16.0	-1.1
	SNR=90						
KRBR				eSg	Sg	12 48 27.0	-0.4
	SNR=90						
IBAF	Bafgh	1.26	312	Pg	Pn	12 48 23.2	-1.7
IMEH	Mehriz	1.87	291	Pn	Pn	12 48 34.2	+0.6
ICHK	Chekchek	2.44	308	Pn	Pn	12 48 41.5	-0.3
ISAD	Sadrabad	2.80	295	Pn	Pn	12 48 47.0	+0.1
BNDS	Bandar-Abbas	3.36	187	ePN	Pn	12 48 55.8	+1.0
BNDS				AML	AML	12 49 49.1	
	comp=N,38nm,0.6s						
ZHSF	Zahedan	3.74	107	ePn	Pn	12 49 00.8	+0.5
NASN	Na'in	3.87	303	ePN	Pn	12 49 02.9	+0.8
NASN				eSG	Sb	12 50 01.7	+5.4
NASN				AML	AML	12 50 06.5	
	comp=N,43nm,0.6s						
GHIR	Ghir-Karzin	4.03	234	ePN	Pn	12 49 04.9	+0.5
IVRN	Varamin	5.93	317	Sn	Sn	12 50 32.0	-7.8
IVRN	Varamin	5.93	317	Pn	Pn	12 49 30.8	-0.5
IVRN	Varamin	5.93	317	Pn	Pn	12 49 31.0	-0.3
IVRN	Varamin	5.93	317	Sn	Sn	12 50 32.0	-7.8
IDMV	Damavand	6.19	322	Pn	Pn	12 49 35.2	+0.3
IDMV	Damavand	6.19	322	Pn	Pn	12 49 35.0	+0.1

*KNET **06** 12:49:40.1±0.8, 41.82N×76.94E, h9^{km}±2^{km}, ml2.3, Error ellipse: s-maj=5.1km s-min=4.0km az=55.0*
*NNC **06** 12:49:43.1±4.8, 41.57N×76.73E, h3^{km}±26^{km}, mpv2.6, Error ellipse: s-maj=74.6km s-min=15.3km az=177.0*
ISC 06 12:49:43.9±1.5**, 41.78N**±0.09×**76.8E**±0.1**, h9**^{km}**, n11,** σ**1**^{s}**44**/19**, 9C-11D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULHL	Ulahol	0.61	319	⇓P	Pg	12 49 52.9	-3.4
	20nm,0.1s,SNR=288						
ULHL				⇑S	Sg	12 50 03.7	-0.8
	54nm,0.1s						
KZA	Kyzart	1.18	285	⇓P	Pb	12 50 04.5	-1.5
	17nm,0.3s,SNR=49						
KZA				⇓S	Sb	12 50 23.2	+2.0
	23nm,0.2s						
TKM2	Tokmak 2	1.44	323	⇓P	Pn	12 50 07.5	-2.8
	17nm,0.1s,SNR=15						
TKM2				⇑S	Sb	12 50 29.4	+0.7
	53nm,0.1s						
KBK	Karagaybulak	1.62	303	⇑P	Pn	12 50 12.0	-0.8
	12nm,0.2s,SNR=7.2						
UCH	Uchtor	1.75	286	⇓P	Pn	12 50 15.1	+0.4
	5.5nm,0.3s,SNR=10						
UCH				⇑S	Sn	12 50 41.3	+4.1
	13nm,0.3s						
AAK	Ala-Archa	1.90	297	⇑P	Pn	12 50 16.9	0.0
	5.0nm,0.1s						
AAK				⇓S	Sn	12 50 45.0	+3.9
	16nm,0.3s						
AAK	Ala-Archa	1.90	297	⇓P	Pn	12 50 16.8	0.0
	2.2nm,0.3s						
AAK				⇓S	Sn	12 50 44.8	+3.7
	16nm,0.6s						
CHMS	Chumysh	1.93	310	⇓P	Pn	12 50 16.7	-0.6
	5.0nm,0.2s,SNR=7.1						
USP	Ospenovka	2.24	312	⇑P	Pn	12 50 21.9	0.0
	6.0nm,0.2s,SNR=14						
USP				⇓S	Sn	12 50 54.6	+4.7
	12nm,0.2s						
KK31	Karatay Array	4.82	288	⇑Pg	Pg	12 51 12.8	-7.4
	0.8nm,0.6s,baz=94,slow=16,SNR=8.9						
KK31				⇓Lg		12 52 14.9	
	0.9nm,0.4s,baz=99,slow=29,SNR=8.6						
MK31	Makanchi Array	6.38	36	⇑Pn	Pn	12 51 23.6	+3.1
	0.1nm,0.3s,baz=209,slow=16						
MK31				⇑Sn	Sn	12 52 43.0	+8.7
	0.5nm,0.5s,baz=218,slow=26,SNR=4.3						

IDC 06 13:24:40.5±2.9**, 2.71N**×**95.43E, mb4.0**/4**, mb1 4.2**/5**, mb1mx3.8**/20**, mbtmp4.0**/5**, ML4.1**/1**, Error ellipse: s-maj=103.5km s-min=27.8km az=60.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.03	12	Pn	P	13 28 29.4	+0.2
	0.3nm,0.3s,baz=198,slow=11,SNR=14						
WRA	Warramunga Arr	44.33	122	P	P	13 32 52.8	-1.7
	0.5nm,0.6s,baz=299,slow=9.4,SNR=5.9						
MKAR	Makanchi Array	45.38	347	P	P	13 33 00.5	-2.0
	2.8nm,0.6s,baz=164,slow=7.6,SNR=22						
SONM	Songino Array	45.94	10	P	P	13 33 04.8	-2.1
	0.9nm,0.6s,baz=188,slow=8.9,SNR=6.6						
ZAL	Zalesovo	51.81	352	P	P	13 33 50.0	-2.2
	2.6nm,0.6s,baz=309,slow=6.5,SNR=12						

MAN 06 13:29:08.4, 11.36N×**125.47E, h24**^{km}**, mb3.7, ML2.5, MS2.0, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	Borongan	0.24	353	eP	Pb	13 29 16.1	+1.6
BESP				eS	Sb	13 29 22.1	+3.5
CNP	Catarman	1.39	325	eP	Pn	13 29 32.3	-0.3
CNP				eS	Sn	13 29 50.5	+0.2

IDC 06 13:55:00.4±1.3**, 28.50N**×**139.44E, h473**^{km}±19^{km}**, mb3.0**/4**, mb1 3.1**/6**, mb1mx2.8**/23**, mbtmp3.7**/6**, 1D, Error ellipse: s-maj=47.0km s-min=16.5km az=92.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.81	119	P	P	13 56 09.2	+0.7
	8.9nm,0.3s,baz=278,slow=23,SNR=4.5						
CBIJ				S	S	13 57 02.5	+0.2
	9.0nm,0.3s,baz=307,slow=22,SNR=3.3						
MJAR	Matsushiro Arr	8.09	353	P	P	13 56 58.0	-0.4
	0.5nm,0.3s,baz=170,slow=6.1,SNR=4.0						
FITZ	Fitzroy Crossi	48.21	198	P	P	14 02 57.4	-1.3
	1.8nm,0.6s,baz=1.3,slow=10,SNR=5.0						
WB2	Warramunga Arr	48.41	186	⇓iP	P	14 02 58.2	-2.0
WRA	Warramunga Arr	48.41	186	P	P	14 02 58.4	-1.8
	1.3nm,0.4s,baz=2.1,slow=7.7,SNR=49						
ILAR	Eielson Array	57.66	29	P	P	14 04 04.2	-1.7
	0.2nm,0.5s,baz=252,slow=6.0,SNR=4.1						
FINES	FINESS Array B	75.61	333	P	P	14 05 55.0	-1.5
	0.5nm,0.4s,baz=72,slow=4.4,SNR=6.2						

NEIC 06 14:03:18.0, 55.27N×**162.75W, h150**^{km}**, MG3.5**(AEIC)**, After AEIC., Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BALA	Baldy Mountain	0.08	196	P	P	14 03 37.4	-1.0
DT1	Dutton Round H	0.31	121	P	P	14 03 37.3	-1.7
DRIA	Deer Island	0.41	137	P	P	14 03 37.9	-1.6
HAG	Hague Volcano	0.48	84	P	P	14 03 38.7	-1.0
DOL	Dolgoi Island	0.52	103	P	P	14 03 38.6	-1.4
DOL				S	S	14 03 55.7	-1.0
PVV	Pavlof Volcano	0.56	79	P	P	14 03 38.7	-1.4
BLHA	Black Hill	0.58	42	P	P	14 03 38.7	-1.6
SSLN	Shishaldin Nor	0.85	238	P	P	14 03 40.9	-0.9
WTUG	Tugumak	1.03	246	P	P	14 03 41.8	-1.4
WTUG				S	S	14 04 00.7	-2.0
WESN	West Dahl Nort	1.27	237	P	P	14 03 44.6	-0.9
SDPT	Sand Point	1.30	86	P	P	14 03 44.3	-1.5
SDPT				S	S	14 04 05.2	-2.2
WESE	West Dahl East	1.33	234	P	P	14 03 45.4	-0.7
WESE				S	S	14 04 06.4	-1.5
AKUT	Akutan	2.09	238	P	P	14 03 53.2	-1.3
AKUT				S	S	14 04 20.5	-2.2
AKGG	Akutan Green G	2.17	242	P	P	14 03 54.3	-1.2
AKLV	Akutan Long Va	2.17	240	P	P	14 03 54.1	-1.4
MTBL	Makushin Table	2.63	242	P	P	14 03 59.8	-1.6
MNAT	Makushin Natee	2.68	240	P	P	14 04 00.1	-1.8
MSW	Makushin Switc	2.71	242	P	P	14 04 00.6	-1.8
OKCD	Okmok Cone D	3.64	242	P	P	14 04 12.4	-2.0
NIKO	Nikolski	4.27	240	P	P	14 04 20.9	-1.7
CAHL	Cahill	4.96	53	P	P	14 04 29.9	-1.9
KAHC	Katmai Hardscr	5.42	48	P	P	14 04 36.0	-1.8
KDAK	Kodiak Island	6.16	62	P	P	14 04 44.2	-3.5
ILIM	Iliamna	7.12	43	P	P	14 04 58.9	-1.8
ATKA	Atka Island	7.45	250	P	P	14 05 02.4	-2.7
CNPM	China Poot	7.54	51	P	P	14 05 02.9	-3.3
BRLK	Bradley Lake	7.81	50	P	P	14 05 06.5	-3.4
SLKM	Skilak Lake	8.48	47	eP	P	14 05 16.1	-2.7
GSMY	Great Sitkin M	8.54	253	P	P	14 05 17.1	-2.4
SEW	Seward	8.61	50	P	P	14 05 16.9	-3.5
MPA	Moose Pass	8.84	48	P	P	14 05 20.0	-3.5
ADAG	Mount Adagdak	8.87	254	P	P	14 05 21.3	-2.6
RC01	Rabbit Creek A	9.00	44	P	P	14 05 22.2	-3.5
KIKV	Kanaga Island	9.23	254	P	P	14 05 26.1	-2.5
EYAK	Cordova Ski Ar	10.46	53	eP	P	14 05 40.3	-4.4
DIV	Divide	10.69	50	eP	P	14 05 43.7	-4.0

*CSEM **06** 14:15:09.7±0.1, 35.37N×3.81W, h25^{km}, MD3.9, Error ellipse: s-maj=2.1km s-min=1.4km az=108.0*
*CNRM **06** 14:15:09.1, 35.46N×3.79W, h5^{km}, MD3.9*
*MDD **06** 14:15:10.2±0.2, 35.41N×3.90W, mbLg2.8/22, Error ellipse: s-maj=3.0km s-min=2.3km az=91.0, PRXIMO*
*CRAAG **06** 14:15:11.0, 35.50N×3.84E, Mb3.7*
*SFS **06** 14:15:11.0, 35.50N×3.84W*
*NEIC **06** 14:15:11.7, 35.51N×3.83W, MN2.7(MDD), After MDD.*
*INMG **06** 14:15:11.8±1.0, 35.46N×3.80W, h8^{km}±10^{km}, ML3.0, Error ellipse: s-maj=7.7km s-min=2.5km az=166.0*
*LDG **06** 14:15:16.2±1.2, 35.18N×4.49W, h10^{km}, Md3.8/1, Ml3.4/2, Error ellipse: s-maj=28.6km s-min=11.2km az=169.0*
ISC 06 14:15:08.9±0.2**, 35.41N**±0.01×**3.91W**±0.02**, h10**^{km}**, n93,**

σ1§32/169, 2C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.19**	**189**	P	**Pg**	**14 15 14.0**	**+0.9**
MPAL				S	**Sg**	**14 15 17.0**	**+1.2**
MPAL	**Palemas**	**0.19**	**189**	*i* P	**Pg**	**14 15 14.0**	**+0.9**
TOU	**Touzarine**	**0.46**	**164**	P	**Pg**	**14 15 19.0**	**+0.6**
TOU				S	**Sg**	**14 15 25.0**	**+0.3**
TOU	**Touzarine**	**0.46**	**164**	*i* P	**Pg**	**14 15 19.0**	**+0.6**
EMEL	**Melilla**	**0.78**	**98**	⇑P	**Pb**	**14 15 25.3**	**+1.1**
	47nm,0.2s,SNR=18						
EMEL				S	**Sb**	**14 15 34.6**	**0.0**
	2μm,0.3s,SNR=15						
EMLI	**Melilla**	**0.79**	**98**	P	**Pb**	**14 15 25.3**	**+1.0**
	47nm,0.2s,SNR=18						
EMLI				S	**Sb**	**14 15 34.6**	**-0.2**
	2μm,0.3s,SNR=15						
MELI	**Melilla**	**0.80**	**98**	P	**Pb**	**14 15 25.8**	**+1.3**
MELI				S	**Sb**	**14 15 35.5**	**+0.3**
MELI	**Melilla**	**0.80**	**98**	*i* P	**Pb**	**14 15 25.8**	**+1.3**
MELI				*e*S	**Sb**	**14 15 35.5**	**+0.3**
EALB	**Alboran**	**0.89**	**53**	⇑P	**Pb**	**14 15 26.1**	**+0.2**
	57nm,0.1s,SNR=18						
EALB				S	**Sb**	**14 15 36.6**	**-1.0**
	462nm,0.3s,SNR=9.1						
EALB	**Alboran**	**0.89**	**53**	P	**Pb**	**14 15 26.1**	**+0.2**
	57nm,0.1s,SNR=18						
EALB				S	**Sb**	**14 15 36.6**	**-1.0**
	462nm,0.3s,SNR=9.1						
ZAI	**Zaio**	**1.05**	**114**	*i* P	**Pb**	**14 15 27.0**	**-1.7**
ZAI				*i* S	**Sb**	**14 15 40.0**	**-2.3**
DKH	**Dar Kharkhour**	**1.19**	**274**	*i* P	**Pb**	**14 15 32.0**	**+0.9**
DKH				*i* S	**Sb**	**14 15 49.0**	**+2.6**
TZK	**Tazeka**	**1.34**	**190**	*i* P	**Pb**	**14 15 33.0**	**-0.7**
TZK				*i* S	**Sb**	**14 15 52.0**	**+1.3**
EMIJ	**Mijas**	**1.35**	**329**	P	**Pb**	**14 15 34.8**	**+0.9**
EMIJ				S	**Sb**	**14 15 51.9**	**+0.9**
EMIJ	**Mijas**	**1.35**	**329**	P	**Pb**	**14 15 34.1**	**+0.2**
	5.2nm,0.1s,SNR=14						
EMIJ				S	**Sb**	**14 15 51.9**	**+0.9**
	130nm,0.4s,SNR=7.6						
EMIJ	**Mijas**	**1.35**	**329**	P	**Pb**	**14 15 34.8**	**+0.9**
	1.2nm,0.1s,SNR=14						
EMIJ				S	**Sb**	**14 15 51.9**	**+0.9**
	130nm,0.4s,SNR=7.6						
MDAL	**Dalia**	**1.37**	**291**	*i* P	**Pn**	**14 15 33.5**	**-0.7**
MDAL				*i* S	**Sb**	**14 15 52.5**	**+0.8**
EGUA	**Guajares**	**1.45**	**11**	P	**Pn**	**14 15 34.8**	**-0.5**
	0.2nm,0.1s,SNR=7.9						
EGUA				S	**Sb**	**14 15 54.2**	**+0.3**
	73nm,0.8s,SNR=7.9						
REAL	**Reales**	**1.50**	**316**	P	**Pn**	**14 15 40.0**	**+3.9**
REAL				S	**Sb**	**14 15 54.0**	**-1.5**
ERON	**Agron**	**1.61**	**3**	P	**Pn**	**14 15 37.4**	**-0.1**
ERON				S	**Sn**	**14 15 57.5**	**-1.0**
ERON	**Agron**	**1.61**	**3**	P	**Pn**	**14 15 37.4**	**-0.1**
	0.6nm,0.1s,SNR=23						
ERON				S	**Sn**	**14 15 58.1**	**-0.4**
	122nm,0.4s,SNR=11						
ERON	**Agron**	**1.61**	**3**	P	**Pn**	**14 15 37.4**	**-0.2**
	0.6nm,0.1s,SNR=23						
ERON				S	**Sn**	**14 15 57.5**	**-1.0**
	122nm,0.4s,SNR=11						
TSY	**Tnine Yamani**	**1.69**	**269**	*i* P	**Pn**	**14 15 40.0**	**+1.3**
TSY				*i* S	**Sn**	**14 16 01.0**	**+0.5**
EBER	**Berja**	**1.70**	**29**	P	**Pn**	**14 15 39.0**	**+0.1**
	24nm,0.4s,SNR=10.0						
EBER				S	**Sn**	**14 16 00.6**	**-0.2**
	96nm,0.4s,SNR=7.1						
EBER	**Berja**	**1.70**	**29**	P	**Pn**	**14 15 39.0**	**+0.1**
	24nm,0.4s,SNR=10.0						
EBER				S	**Sn**	**14 16 00.6**	**-0.2**
	96nm,0.4s,SNR=7.1						
ELOJ	**Sierra Loja**	**1.75**	**354**	P	**Pn**	**14 15 41.5**	**+1.9**
ELOJ				S	**Sn**	**14 16 04.0**	**+2.0**
ELOJ	**Sierra Loja**	**1.75**	**354**	P	**Pn**	**14 15 41.9**	**+2.3**
	8.7nm,0.2s,SNR=20						
ELOJ				S	**Sn**	**14 16 02.0**	**0.0**
	83nm,0.5s,SNR=9.4						
ELOJ	**Sierra Loja**	**1.75**	**354**	P	**Pn**	**14 15 41.5**	**+1.9**
	17nm,0.3s,SNR=20						
ELOJ				S	**Sn**	**14 16 04.0**	**+2.0**
	83nm,0.5s,SNR=9.4						
ECOG	**Cogollos-Vega**	**1.88**	**8**	P	**Pn**	**14 15 42.9**	**+1.4**
	13nm,0.2s,SNR=11						
ECOG				S	**Sn**	**14 16 05.4**	**-0.2**
	13nm,0.3s,SNR=6.8						
LIJA	**Lijar**	**1.92**	**321**	⇓P	**Pn**	**14 15 46.0**	**+3.9**
OLHC	**Oulhaca**	**2.04**	**94**	P	**Pn**	**14 15 41.0**	**-2.8**
ENIJ	**Nijar**	**2.08**	**41**	P	**Pn**	**14 15 45.3**	**+1.0**
ENIJ				S	**Sn**	**14 16 08.4**	**-2.1**
ENIJ	**Nijar**	**2.08**	**41**	P	**Pn**	**14 15 47.2**	**+2.8**
	0.1nm,0.1s,SNR=4.0						
ENIJ				S	**Sn**	**14 16 08.4**	**-2.1**
	62nm,0.4s,SNR=4.0						
ENIJ	**Nijar**	**2.08**	**41**	P	**Pn**	**14 15 45.3**	**+1.0**
	0.1nm,0.1s,SNR=6.0						
ENIJ				S	**Sn**	**14 16 08.4**	**-2.1**
	40nm,0.4s,SNR=4.0						
ESPR	**Espera**	**2.15**	**313**	P	**Pn**	**14 15 47.4**	**+2.1**
ESPR				S	**Sn**	**14 16 13.7**	**+1.5**
ESPR	**Espera**	**2.15**	**313**	P	**Pn**	**14 15 48.6**	**+3.3**
	9.9nm,0.3s,SNR=7.6						
ESPR				S	**Sn**	**14 16 13.7**	**+1.5**
	32nm,0.3s,SNR=4.0						
ESPR	**Espera**	**2.15**	**313**	P	**Pn**	**14 15 47.4**	**+2.1**
	9.9nm,0.3s,SNR=7.6						
ESPR				S	**Sn**	**14 16 13.7**	**+1.5**
	37nm,0.7s,SNR=4.0						
ELUQ	**Luque**	**2.17**	**352**	P	**Pn**	**14 15 47.7**	**+2.2**
ELUQ				S	**Sn**	**14 16 12.7**	**0.0**
ELUQ	**Luque**	**2.17**	**352**	P	**Pn**	**14 15 47.9**	**+2.3**
	1.0nm,0.2s,SNR=12						
ELUQ				S	**Sn**	**14 16 12.7**	**0.0**
	47nm,0.4s,SNR=4.9						
ELUQ	**Luque**	**2.17**	**352**	P	**Pn**	**14 15 47.7**	**+2.1**
	1.0nm,0.2s,SNR=12						
ELUQ				S	**Sn**	**14 16 12.7**	**0.0**
	25nm,0.3s,SNR=4.9						
ODZI	**Dziouia**	**2.19**	**92**	P	**Pn**	**14 15 45.0**	**-0.9**
MIF	**Mishlifen**	**2.28**	**209**	*i* P	**Pn**	**14 15 46.0**	**-1.2**
MIF				*i* S	**Sn**	**14 16 14.0**	**-1.5**
EQES	**Quesada**	**2.48**	**15**	P	**Pn**	**14 15 51.8**	**+1.7**
	0.6nm,0.1s,SNR=27						
EQES				S	**Sn**	**14 16 20.2**	**-0.6**
	82nm,0.4s,SNR=5.4						
EQES	**Quesada**	**2.48**	**15**	P	**Pn**	**14 15 51.8**	**+1.7**
	0.6nm,0.1s,SNR=27						
EQES				S	**Sn**	**14 16 20.2**	**-0.5**
	82nm,0.4s,SNR=5.4						
CZD	**Col de Zad**	**2.55**	**202**	*i* P	**Pn**	**14 15 51.0**	**-0.1**
CZD				*i* S	**Sn**	**14 16 21.0**	**-1.5**
EHUE	**Huescar**	**2.62**	**23**	P	**Pn**	**14 15 53.9**	**+1.7**
	6.6nm,0.3s,SNR=8.8						
EHUE				S	**Sn**	**14 16 22.9**	**-1.4**
	25nm,0.4s,SNR=6.1						
EBAN	**Banos Encina**	**2.75**	**2**	P	**Pn**	**14 15 55.3**	**+1.3**
EBAN				S	**Sn**	**14 16 26.3**	**-1.3**
EBAN	**Banos Encina**	**2.75**	**2**	P	**Pn**	**14 15 56.4**	**+2.4**
	8.7nm,0.3s,SNR=10						
EBAN				S	**Sn**	**14 16 26.3**	**-1.3**
	72nm,0.7s,SNR=5.5						
EBAN	**Banos Encina**	**2.75**	**2**	P	**Pn**	**14 15 55.3**	**+1.4**
	8.7nm,0.3s,SNR=10						
EBAN				S	**Sn**	**14 16 26.3**	**-1.3**
	72nm,0.7s,SNR=5.5						
EADA	**Adamuz**	**2.80**	**349**	P	**Pn**	**14 15 56.3**	**+1.6**
	10nm,0.4s,SNR=18						
EADA				S	**Sn**	**14 16 27.5**	**-1.4**
	90nm,1.0s,SNR=4.0						
EADA	**Adamuz**	**2.80**	**349**	P	**Pn**	**14 15 56.3**	**+1.6**
	10nm,0.4s,SNR=18						
EADA				S	**Sn**	**14 16 27.5**	**-1.4**
	90nm,1.0s,SNR=4.0						
ECAB	**El Cabril**	**2.92**	**336**	P	**Pn**	**14 15 58.6**	**+2.2**
	4.8nm,0.3s,SNR=9.3						
ECAB				S	**Sn**	**14 16 31.8**	**-0.2**
	19nm,0.4s,SNR=5.1						
ECAB	**El Cabril**	**2.92**	**336**	P	**Pn**	**14 15 58.6**	**+2.2**
	4.8nm,0.3s,SNR=9.3						
ECAB				S	**Sn**	**14 16 31.8**	**-0.2**
	19nm,0.4s,SNR=5.1						
EMUR	**La Murta**	**3.24**	**41**	P	**Pn**	**14 16 02.0**	**+1.1**
EMUR				S	**Sn**	**14 16 36.2**	**-3.7**
EMUR	**La Murta**	**3.24**	**41**	P	**Pn**	**14 16 02.0**	**+1.1**
	0.6nm,0.1s,SNR=7.9						
EMUR				S	**Sn**	**14 16 35.4**	**-4.5**
	23nm,0.5s,SNR=6.1						
EMUR	**La Murta**	**3.24**	**41**	P	**Pn**	**14 16 02.0**	**+1.1**
	0.6nm,0.1s,SNR=7.9						
EMUR				S	**Sn**	**14 16 36.2**	**-3.7**
	23nm,0.5s,SNR=6.1						
EMIN	**Mina Concepcio**	**3.24**	**317**	P	**Pn**	**14 16 01.8**	**+0.9**
EMIN				S	**Sn**	**14 16 38.0**	**-1.9**
EMIN	**Mina Concepcio**	**3.24**	**317**	P	**Pn**	**14 16 01.9**	**+1.0**
	7.8nm,0.7s,SNR=15						
EMIN				S	**Sn**	**14 16 38.0**	**-1.9**
	17nm,0.5s,SNR=6.7						
EMIN	**Mina Concepcio**	**3.24**	**317**	P	**Pn**	**14 16 01.8**	**+0.9**
	7.8nm,0.7s,SNR=15						
EMIN				S	**Sn**	**14 16 38.0**	**-1.9**
	8.7nm,0.4s,SNR=6.7						
KIB	**El Ksiba**	**3.34**	**213**	*i* P	**Pn**	**14 16 02.0**	**-0.3**
KIB				*i* S	**Sn**	**14 16 41.0**	**-1.4**
ZFT	**Errachidia**	**3.39**	**186**	*i* P	**Pn**	**14 16 03.0**	**0.0**
ZFT				*i* S	**Sn**	**14 16 42.0**	**-1.7**
EVIA	**Vianos**	**3.41**	**19**	P	**Pn**	**14 16 05.2**	**+1.8**
	0.1nm,0.2s,SNR=10						
EGRO	**El Granado**	**3.58**	**307**	P	**Pn**	**14 16 06.9**	**+1.2**
	1.5nm,0.1s,SNR=22						
EGRO				S	**Sn**	**14 16 46.1**	**-2.4**
	14nm,0.3s,SNR=5.6						
EGRO	**El Granado**	**3.58**	**307**	P	**Pn**	**14 16 06.9**	**+1.2**
	1.5nm,0.1s,SNR=22						
EGRO				S	**Sn**	**14 16 46.1**	**-2.4**
	14nm,0.3s,SNR=5.6						
ETOB	**Tobarra**	**3.74**	**30**	P	**Pn**	**14 16 08.7**	**+0.7**
ETOB				S	**Sn**	**14 16 48.6**	**-4.0**
ETOB	**Tobarra**	**3.74**	**30**	P	**Pn**	**14 16 08.7**	**+0.7**
	4.9nm,0.3s,SNR=9.1						
ETOB				S	**Sn**	**14 16 49.6**	**-3.0**
	22nm,0.8s,SNR=5.4						
ETOB	**Tobarra**	**3.74**	**30**	P	**Pn**	**14 16 08.7**	**+0.7**
	4.9nm,0.3s,SNR=9.1						
ETOB				S	**Sn**	**14 16 48.6**	**-4.0**
	22nm,0.8s,SNR=5.4						
TZC	**Tazercounte**	**3.90**	**214**	*i* P	**Pn**	**14 16 10.0**	**-0.3**
TZC				*i* S	**Sn**	**14 16 55.0**	**-1.7**
PBEJ	**Beja**	**4.12**	**311**	*e*Pn	**Pn**	**14 16 14.7**	**+1.4**
PBEJ				*e*Sn	**Sn**	**14 17 00.6**	**-1.5**
EBAD	**Badajoz**	**4.16**	**324**	P	**Pn**	**14 16 14.4**	**+0.4**
	3.5nm,0.3s,SNR=12						
EBAD				S	**Sn**	**14 16 59.9**	**-3.4**
	13nm,0.5s,SNR=5.0						
EBAD	**Badajoz**	**4.16**	**324**	P	**Pn**	**14 16 14.4**	**+0.4**
	3.5nm,0.3s,SNR=12						
EBAD				S	**Sn**	**14 16 59.9**	**-3.4**
	13nm,0.5s,SNR=5.0						
ESDC	**Sonseca Array**	**4.26**	**359**	P	**Pn**	**14 16 15.4**	**+0.1**
	1.6nm,0.4s,baz=184,slow=13,SNR=5.1						
ESDC				S	**Sn**	**14 17 02.2**	**-3.5**
	1.3nm,0.3s,baz=184,slow=23,SNR=3.8						
ESDC	**Sonseca Array**	**4.26**	**359**	P	**Pn**	**14 16 15.4**	**0.0**
	1.6nm,0.4s,SNR=5.1						
ESLA	**Sonseca Array**	**4.26**	**359**	*e*P	**Pn**	**14 16 14.1**	**-1.2**
ESLA	**Sonseca Array**	**4.26**	**359**	*e*P	**Pn**	**14 16 14.1**	**-1.3**
PTEO	**Sao Teotonio**	**4.43**	**300**	*e*Pn	**Pn**	**14 16 19.4**	**+1.6**
PTEO				*e*Sn	**Sn**	**14 17 09.3**	**-0.8**
	18nm,0.5s						
EVO	**Evora**	**4.53**	**315**	*e*Pn	**Pn**	**14 16 21.1**	**+1.9**
EVO				*e*Sn	**Sn**	**14 17 10.6**	**-2.0**
	46nm,0.6s						
PCBR	**Castelo Branco**	**5.25**	**328**	*e*Pn	**Pn**	**14 16 29.8**	**+0.4**
PCBR				*e*Sn	**Sn**	**14 17 27.3**	**-3.5**
	10.0nm,0.7s						
PTOM	**Tomar**	**5.52**	**321**	*e*Pn	**Pn**	**14 16 33.6**	**+0.4**
PTOM				*e*Sn	**Sn**	**14 17 34.8**	**-2.7**
	26nm,0.4s						
MTE	**Manteigas**	**5.75**	**331**	*e*Pn	**Pn**	**14 16 36.7**	**+0.2**
MTE				*e*Sn	**Sn**	**14 17 39.8**	**-3.5**
	27nm,0.5s						
PVIS	**Viseu**	**6.16**	**330**	*e*Sn	**Sn**	**14 17 50.6**	**-3.0**
PVRL	**Vila Real**	**6.58**	**334**	*e*Pn	**Pn**	**14 16 47.9**	**-0.2**
PVRL				*e*Sn	**Sn**	**14 18 00.5**	**-3.5**
	13nm,0.4s						
PBRG	**Braganca**	**6.76**	**342**	*e*Pn	**Pn**	**14 16 50.8**	**+0.1**
ECAL	**Calabor**	**6.89**	**342**	P	**Pn**	**14 16 52.0**	**-0.5**
ECAL				S	**Sn**	**14 18 07.9**	**-3.8**
ECAL	**Calabor**	**6.89**	**342**	P	**Pn**	**14 16 52.0**	**-0.5**
	0.3nm,0.1s,SNR=4.0						
ECAL				S	**Sn**	**14 18 07.0**	**-4.8**
	8.6nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**6.89**	**342**	P	**Pn**	**14 16 52.0**	**-0.5**
	0.3nm,0.1s,SNR=4.0						
ELOB	**Lobios**	**7.22**	**334**	P	**Pn**	**14 16 55.9**	**-1.2**
	1.6nm,0.3s,SNR=7.9						
ELOB				S	**Sn**	**14 18 13.2**	**-6.8**
	3.5nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**7.22**	**334**	P	**Pn**	**14 16 55.9**	**-1.3**
	SNR=7.9						
ETSF	**Etsaut**	**7.92**	**18**	*e*Pn	**Pn**	**14 17 13.5**	**+6.6**
SJPF	**Ste Jean**	**7.97**	**14**	*e*Pn	**Pn**	**14 17 14.7**	**+7.1**
EPF	**Esparros**	**8.29**	**22**	*e*Pn	**P**	**14 17 20.3**	**+8.2**
EPF				*e*Sn	**Sn**	**14 18 51.2**	**+4.4**
	1.4nm,0.3s						
QUIF	**Quistinic**	**12.51**	**2**	*e*Pn	**P**	**14 18 14.5**	**+4.7**
SGMF	**Saint Gilles**	**12.87**	**4**	*e*Pn	**P**	**14 18 20.4**	**+5.7**

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*MDD **06** 14:37:05.8±0.3, 35.10N×4.61W, mb3.8/8, Error ellipse: s-maj=4.9km s-min=3.5km az=97.0, PRXIMO*

*IDC **06** 14:37:05.7±3.0, 35.30N×4.26W, mb3.8/3, mb1 3.9/5, mb1mx3.6/27, mbtmp3.7/5, ML4.1/2, Error ellipse: s-maj=50.0km s-min=27.9km az=70.0*

*CNRM **06** 14:37:05.7, 35.22N×4.50W, h16km, MD3.8*

*CSEM **06** 14:37:06.3±0.1, 35.14N×4.63W, h40km, MD3.8, Error ellipse: s-maj=3.4km s-min=2.0km az=99.0*

*NEIC **06** 14:37:09.8, 35.14N×4.51W, h36km, MG3.8(MDD), After MDD.*

*INMG **06** 14:37:09.6±1.4, 35.20N×4.54W, h30km±14km, ML3.1, Error ellipse: s-maj=6.5km s-min=4.1km az=11.0*

*SFS **06** 14:37:09.0, 35.30N×4.40W*

*LDG **06** 14:37:11.2±0.3, 35.35N×4.63W, h10km, Md3.8/1, Ml3.6/4, Error ellipse: s-maj=6.8km s-min=3.3km az=169.0*

ISC 06 14:37:04.4±0.3**, 35.19N**±0.02×**4.60W**±0.02**, h10km, n126, σ1§43**/226**, mb3.8**/3**, 4C-5D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDAL	**Dalia**	**1.01**	**315**	*i* P	**Pb**	**14 37 25.0**	**+1.5**
MDAL				*i* S	**Sb**	**14 37 37.0**	**+0.3**
TSY	**Tnine Yamani**	**1.14**	**280**	*i* P	**Pb**	**14 37 27.0**	**+1.3**
TSY				*i* S	**Sb**	**14 37 42.0**	**+1.6**
TZK	**Tazeka**	**1.15**	**163**	*i* P	**Pb**	**14 37 25.5**	**-0.4**
TZK				*i* S	**Sb**	**14 37 41.5**	**+0.9**
EMEL	**Melilla**	**1.34**	**85**	P	**Pb**	**14 37 30.7**	**+1.5**
	6.4nm,0.1s,SNR=5.1						
EMEL				S	**Sb**	**14 37 46.3**	**-0.1**
	240nm,0.3s,SNR=6.3						
EMLI	**Melilla**	**1.35**	**85**	P	**Pb**	**14 37 30.7**	**+1.4**
	6.4nm,0.1s,SNR=5.1						
EMLI				S	**Sb**	**14 37 46.3**	**-0.2**
	240nm,0.3s,SNR=6.3						
EMIJ	**Mijas**	**1.38**	**354**	⇑P	**Pn**	**14 37 29.8**	**0.0**
	1.5nm,0.1s,SNR=18						
EMIJ				S	**Sb**	**14 37 44.7**	**-2.7**
	296nm,0.3s,SNR=46						
REAL	**Reales**	**1.39**	**339**	*i* P	**Pn**	**14 37 30.5**	**+0.7**
REAL				*e*S	**Sb**	**14 37 46.0**	**-1.5**
EALB	**Alboran**	**1.48**	**59**	⇓P	**Pn**	**14 37 31.8**	**+0.7**
EALB				S	**Sb**	**14 37 49.0**	**-1.1**
EALB	**Alboran**	**1.48**	**59**	⇓P	**Pn**	**14 37 31.8**	**+0.6**
	6.6nm,0.1s,SNR=18						
EALB				S	**Sb**	**14 37 49.2**	**-0.9**
	386nm,0.2s,SNR=6.1						
EALB	**Alboran**	**1.48**	**59**	P	**Pn**	**14 37 31.8**	**+0.7**
	6.6nm,0.1s,SNR=18						
EALB				S	**Sb**	**14 37 49.0**	**-1.2**
	315nm,0.6s,SNR=6.1						
LIJA	**Lijar**	**1.83**	**339**	*i* P	**Pn**	**14 37 40.0**	**+3.7**
LIJA				*e*S	**Sn**	**14 37 58.0**	**-1.7**
EGUA	**Guajares**	**1.84**	**27**	⇑P	**Pn**	**14 37 37.9**	**+1.5**
	SNR=18						
EGUA				S	**Sn**	**14 37 57.9**	**-1.9**
	SNR=7.9						
MIF	**Mishlifen**	**1.85**	**197**	*i* P	**Pn**	**14 37 36.0**	**-0.5**
MIF				*i* S	**Sn**	**14 37 58.0**	**-2.2**
ERON	**Agron**	**1.93**	**19**	P	**Pn**	**14 37 38.4**	**+0.7**
ERON				S	**Sn**	**14 38 01.3**	**-0.9**
ERON	**Agron**	**1.93**	**19**	⇑P	**Pn**	**14 37 38.4**	**+0.7**
	1.3nm,0.1s,SNR=18						
ERON				S	**Sn**	**14 38 01.5**	**-0.7**
	53nm,0.2s,SNR=9.3						
ERON	**Agron**	**1.93**	**19**	P	**Pn**	**14 37 38.4**	**+0.7**
	1.3nm,0.1s,SNR=16						
ERON				S	**Sn**	**14 38 01.3**	**-0.9**
	56nm,0.2s,SNR=9.3						
ESPR	**Espera**	**1.96**	**329**	P	**Pn**	**14 37 42.0**	**+3.9**
ESPR				S	**Sn**	**14 38 05.2**	**+2.3**
ESPR	**Espera**	**1.96**	**329**	P	**Pn**	**14 37 40.2**	**+2.1**
	14nm,0.4s,SNR=7.7						
ESPR				S	**Sn**	**14 38 05.2**	**+2.3**
	52nm,0.6s,SNR=5.3						
ESPR	**Espera**	**1.96**	**329**	P	**Pn**	**14 37 42.0**	**+3.9**
	14nm,0.4s,SNR=7.7						
ESPR				S	**Sn**	**14 38 05.2**	**+2.2**
	52nm,0.6s,SNR=5.3						
ELOJ	**Sierra Loja**	**1.99**	**10**	P	**Pn**	**14 37 41.4**	**+3.0**
ELOJ				S	**Sn**	**14 38 03.5**	**-0.1**
ELOJ	**Sierra Loja**	**1.99**	**10**	P	**Pn**	**14 37 40.9**	**+2.4**
	3.6nm,0.2s,SNR=42						
ELOJ				S	**Sn**	**14 38 06.4**	**+2.8**
	135nm,0.4s,SNR=5.1						
ELOJ	**Sierra Loja**	**1.99**	**10**	P	**Pn**	**14 37 41.4**	**+3.0**
	3.6nm,0.2s,SNR=42						
ELOJ				S	**Sn**	**14 38 03.5**	**-0.1**
	35nm,0.2s,SNR=5.1						
CZD	**Col de Zad**	**2.18**	**190**	*i* P	**Pn**	**14 37 41.0**	**-0.3**
CZD				*i* S	**Sn**	**14 38 07.0**	**-1.6**
EBER	**Berja**	**2.19**	**39**	P	**Pn**	**14 37 42.7**	**+1.3**
	1.5nm,0.1s,SNR=17						
EBER				S	**Sn**	**14 38 07.1**	**-1.8**
	352nm,0.3s,SNR=4.3						
EBER	**Berja**	**2.19**	**39**	P	**Pn**	**14 37 42.7**	**+1.3**
	1.5nm,0.1s,SNR=17						
EBER				S	**Sn**	**14 38 07.1**	**-1.8**
	126nm,0.4s,SNR=4.3						
ECOG	**Cogollos-Vega**	**2.24**	**21**	P	**Pn**	**14 37 45.5**	**+3.4**
ECOG				S	**Sn**	**14 38 08.8**	**-1.3**
ECOG	**Cogollos-Vega**	**2.24**	**21**	P	**Pn**	**14 37 45.7**	**+3.5**
	19nm,0.2s,SNR=25						
ECOG				S	**Sn**	**14 38 14.5**	**+4.4**
	46nm,0.2s,SNR=6.8						
ECOG	**Cogollos-Vega**	**2.24**	**21**	P	**Pn**	**14 37 45.5**	**+3.4**
	19nm,0.2s,SNR=25						
ECOG				S	**Sn**	**14 38 08.8**	**-1.3**
	38nm,0.3s,SNR=6.8						
ELUQ	**Luque**	**2.38**	**6**	P	**Pn**	**14 37 47.5**	**+3.4**
ELUQ				S	**Sn**	**14 38 13.4**	**-0.2**
ELUQ	**Luque**	**2.38**	**6**	⇑P	**Pn**	**14 37 47.5**	**+3.4**
	2.9nm,0.2s,SNR=18						
ELUQ				S	**Sn**	**14 38 17.0**	**+3.4**
	98nm,0.3s,SNR=15						
ELUQ	**Luque**	**2.38**	**6**	P	**Pn**	**14 37 47.5**	**+3.4**
	2.9nm,0.2s,SNR=35						
ELUQ				S	**Sn**	**14 38 13.4**	**-0.2**
	99nm,0.2s,SNR=15						
ENIJ	**Nijar**	**2.63**	**47**	P	**Pn**	**14 37 48.8**	**+1.2**
ENIJ				S	**Sn**	**14 38 16.3**	**-3.6**
ENIJ	**Nijar**	**2.63**	**47**	P	**Pn**	**14 37 48.9**	**+1.3**
	1.3nm,0.1s,SNR=8.0						
ENIJ				S	**Sn**	**14 38 17.6**	**-2.3**
	70nm,0.3s,SNR=8.1						
ENIJ	**Nijar**	**2.63**	**47**	P	**Pn**	**14 37 48.8**	**+1.2**
	1.3nm,0.1s,SNR=8.0						
ENIJ				S	**Sn**	**14 38 16.3**	**-3.6**
	70nm,0.3s,SNR=8.1						
KIB	**El Ksiba**	**2.87**	**205**	*i* P	**Pn**	**14 37 50.0**	**-1.1**
KIB				*i* S	**Sn**	**14 38 24.0**	**-2.0**
EQES	**Quesada**	**2.88**	**25**	⇓P	**Pn**	**14 37 54.0**	**+2.8**
	0.9nm,0.1s,SNR=18						
EQES				S	**Sn**	**14 38 26.3**	**-0.1**
	263nm,0.4s,SNR=4.1						
EQES	**Quesada**	**2.88**	**25**	P	**Pn**	**14 37 54.0**	**+2.7**
	0.9nm,0.1s,SNR=18						
ECAB	**El Cabril**	**2.96**	**347**	P	**Pn**	**14 37 53.7**	**+1.4**
	0.3nm,0.1s,SNR=15						
ECAB				S	**Sn**	**14 38 27.0**	**-1.2**
	25nm,0.3s,SNR=9.0						
ECAB	**El Cabril**	**2.96**	**347**	P	**Pn**	**14 37 53.7**	**+1.4**
	0.3nm,0.1s,SNR=15						
ECAB				S	**Sn**	**14 38 27.0**	**-1.2**
	25nm,0.3s,SNR=9.0						
EADA	**Adamuz**	**2.97**	**0**	⇓P	**Pn**	**14 37 54.7**	**+2.2**
EADA				S	**Sn**	**14 38 28.1**	**-0.6**
EADA	**Adamuz**	**2.97**	**0**	⇓P	**Pn**	**14 37 54.8**	**+2.2**
	0.7nm,0.1s,SNR=18						
EADA				S	**Sn**	**14 38 29.0**	**+0.3**
	118nm,0.4s,SNR=5.4						
EADA	**Adamuz**	**2.97**	**0**	P	**Pn**	**14 37 54.7**	**+2.2**
	0.7nm,0.1s,SNR=18						
EADA				S	**Sn**	**14 38 28.1**	**-0.5**
	16nm,0.3s,SNR=5.4						
EBAN	**Banos Encina**	**3.04**	**12**	P	**Pn**	**14 37 55.7**	**+2.2**
EBAN				S	**Sn**	**14 38 29.0**	**-1.3**
EBAN	**Banos Encina**	**3.04**	**12**	P	**Pn**	**14 37 55.8**	**+2.3**
	2.0nm,0.1s,SNR=9.5						
EBAN				S	**Sn**	**14 38 33.5**	**+3.1**
	78nm,0.4s,SNR=12						
EBAN	**Banos Encina**	**3.04**	**12**	P	**Pn**	**14 37 55.7**	**+2.2**
	0.1nm,0.1s,SNR=9.5						
EMIN	**Mina Concepcio**	**3.07**	**328**	P	**Pn**	**14 37 55.5**	**+1.6**
EMIN				S	**Sn**	**14 38 29.0**	**-2.1**
EMIN	**Mina Concepcio**	**3.07**	**328**	P	**Pn**	**14 37 55.6**	**+1.7**
	0.4nm,0.1s,SNR=32						
EMIN				S	**Sn**	**14 38 30.4**	**-0.7**
	22nm,0.3s,SNR=8.1						
EMIN	**Mina Concepcio**	**3.07**	**328**	P	**Pn**	**14 37 55.5**	**+1.6**
	0.4nm,0.1s,SNR=32						
EMIN				S	**Sn**	**14 38 29.0**	**-2.1**
	22nm,0.3s,SNR=8.1						
EHUE	**Huescar**	**3.08**	**31**	P	**Pn**	**14 37 56.6**	**+2.6**
EHUE				S	**Sn**	**14 38 29.3**	**-2.0**
EHUE	**Huescar**	**3.08**	**31**	P	**Pn**	**14 37 56.6**	**+2.6**
	1.0nm,0.1s,SNR=12						
EHUE				S	**Sn**	**14 38 33.3**	**+2.1**
	29nm,0.2s,SNR=4.0						
EHUE	**Huescar**	**3.08**	**31**	P	**Pn**	**14 37 56.6**	**+2.6**
	1.0nm,0.1s,SNR=12						
EHUE				S	**Sn**	**14 38 29.3**	**-2.0**
	43nm,0.7s,SNR=5.6						
ZFT	**Errachidia**	**3.15**	**176**	*i* P	**Pn**	**14 37 54.0**	**-1.1**
ZFT				*i* S	**Sn**	**14 38 30.0**	**-3.2**
EGRO	**El Granado**	**3.30**	**316**	P	**Pn**	**14 37 58.9**	**+1.7**
EGRO				S	**Sn**	**14 38 35.1**	**-1.9**
EGRO	**El Granado**	**3.30**	**316**	P	**Pn**	**14 37 58.9**	**+1.7**
	0.8nm,0.1s,SNR=24						
EGRO				S	**Sn**	**14 38 36.0**	**-1.0**
	29nm,0.3s,SNR=5.1						
EGRO	**El Granado**	**3.30**	**316**	P	**Pn**	**14 37 58.9**	**+1.7**
	0.8nm,0.1s,SNR=24						
EGRO				S	**Sn**	**14 38 35.1**	**-1.9**
	29nm,0.3s,SNR=5.1						
EMUR	**La Murta**	**3.78**	**45**	P	**Pn**	**14 38 05.3**	**+1.3**
EMUR				S	**Sn**	**14 38 45.9**	**-3.2**
EMUR	**La Murta**	**3.78**	**45**	P	**Pn**	**14 38 05.3**	**+1.3**
	0.9nm,0.2s,SNR=5.3						
EMUR				S	**Sn**	**14 38 45.2**	**-3.9**
	42nm,0.4s,SNR=11						
EMUR	**La Murta**	**3.78**	**45**	P	**Pn**	**14 38 05.3**	**+1.3**
	0.9nm,0.2s,SNR=5.3						
EMUR				S	**Sn**	**14 38 45.9**	**-3.2**
	42nm,0.4s,SNR=11						
EVIA	**Vianos**	**3.83**	**25**	P	**Pn**	**14 38 07.0**	**+2.3**
	0.6nm,0.1s,SNR=5.1						
EVIA				S	**Sn**	**14 38 52.5**	**+2.2**
	34nm,0.4s,SNR=4.0						
EVIA	**Vianos**	**3.83**	**25**	P	**Pn**	**14 38 07.0**	**+2.3**
	0.6nm,0.1s,SNR=5.1						
EVIA				S	**Sn**	**14 38 47.5**	**-2.8**
	52nm,0.4s,SNR=5.3						
PBEJ	**Beja**	**3.87**	**318**	*e*Pn	**Pn**	**14 38 06.9**	**+1.7**
PBEJ				*e*Sn	**Sn**	**14 38 48.4**	**-2.8**
	16nm,0.3s						
PBEJ	**Beja**	**3.87**	**318**	*e*Pn	**Pn**	**14 38 06.9**	**+1.7**
PBEJ				*e*Sn	**Sn**	**14 38 48.4**	**-2.8**
	16nm,0.3s						
EBAD	**Badajoz**	**4.05**	**332**	P	**Pn**	**14 38 09.3**	**+1.4**
	0.4nm,0.1s,SNR=28						
EBAD				S	**Sn**	**14 38 54.1**	**-1.8**
	13nm,0.3s,SNR=6.1						
EBAD	**Badajoz**	**4.05**	**332**	P	**Pn**	**14 38 09.3**	**+1.4**
	0.4nm,0.1s,SNR=28						
EBAD				S	**Sn**	**14 38 54.1**	**-1.8**
	13nm,0.3s,SNR=6.1						
PTEO	**Sao Teotonio**	**4.08**	**306**	*e*Pn	**Pn**	**14 38 09.7**	**+1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTEO				eSn	Sn	14 38 54.7	-1.9
	26nm,0.3s						
PTEO	**Sao Teotonio**	**4.08**	**306**	ePn	**Pn**	**14 38 09.7**	**+1.5**
PTEO				eSn	**Sn**	**14 38 54.7**	**-1.9**
	26nm,0.3s						
ETOB	**Tobarra**	**4.22**	**34**	P	**Pn**	**14 38 12.6**	**+2.2**
ETOB				S	**Sn**	**14 38 57.7**	**-2.7**
ETOB	**Tobarra**	**4.22**	**34**	P	**Pn**	**14 38 12.6**	**+2.2**
	0.4nm,0.1s,SNR=26						
ETOB				S	**Sn**	**14 39 00.1**	**-0.3**
	16nm,0.3s,SNR=5.3						
ETOB	**Tobarra**	**4.22**	**34**	P	**Pn**	**14 38 12.6**	**+2.3**
	0.4nm,0.1s,SNR=26						
ETOB				S	**Sn**	**14 38 57.7**	**-2.6**
	16nm,0.3s,SNR=5.3						
EVO	**Evora**	**4.32**	**322**	ePn	**Pn**	**14 38 13.6**	**+2.0**
EVO				eSn	**Sn**	**14 39 00.1**	**-2.6**
	42nm,0.3s						
ESDC	**Sonseca Array**	**4.50**	**6**	Pn	**Pn**	**14 38 14.7**	**+0.4**
	4.8nm,0.3s,baz=184,slow=12,SNR=24						
ESDC				Sn	**Sn**	**14 39 04.0**	**-3.4**
	8.4nm,0.3s,baz=183,slow=22,SNR=17						
ESDC				Lg		14 39 24.0	
	12nm,0.3s,baz=180,slow=27,SNR=7.9						
ESLA	**Sonseca Array**	**4.50**	**6**	eP	**Pn**	**14 38 15.0**	**+0.7**
ESLA	**Sonseca Array**	**4.50**	**6**	eP	**Pn**	**14 38 15.0**	**+0.7**
EBEN	**Beniarda**	**4.96**	**44**	P	**Pn**	**14 38 20.9**	**+0.3**
EBEN				S	**Sn**	**14 39 13.1**	**-5.7**
EBEN	**Beniarda**	**4.96**	**44**	P	**Pn**	**14 38 20.9**	**+0.3**
	0.1nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**14 39 15.4**	**-3.3**
	10nm,0.4s,SNR=6.2						
EBEN	**Beniarda**	**4.96**	**44**	P	**Pn**	**14 38 20.9**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
CIA	**Chichaoua**	**5.02**	**225**	P	**Pn**	**14 38 20.0**	**-1.6**
CIA				S	**Sn**	**14 39 15.0**	**-5.4**
CIA	**Chichaoua**	**5.02**	**225**	iP	**Pn**	**14 38 20.0**	**-1.6**
PCBR	**Castelo Branco**	**5.18**	**335**	ePn	**Pn**	**14 38 24.0**	**+0.2**
PCBR				eSn	**Sn**	**14 39 19.2**	**-5.2**
	17nm,0.2s						
PCBR	**Castelo Branco**	**5.18**	**335**	ePn	**Pn**	**14 38 24.0**	**+0.2**
PCBR				eSn	**Sn**	**14 39 19.2**	**-5.2**
	17nm,0.2s						
PLOU	**Loures**	**5.19**	**317**	eSn	**Sn**	**14 39 20.2**	**-4.4**
	38nm,0.5s						
ECHE	**Chera**	**5.26**	**32**	P	**Pn**	**14 38 25.8**	**+0.9**
ECHE				S	**Sn**	**14 39 21.4**	**-5.0**
ECHE	**Chera**	**5.26**	**32**	P	**Pn**	**14 38 26.0**	**+1.0**
	3.2nm,0.3s,SNR=12						
ECHE				S	**Sn**	**14 39 24.4**	**-2.0**
	4.9nm,0.4s,SNR=7.9						
ECHE	**Chera**	**5.26**	**32**	P	**Pn**	**14 38 25.8**	**+0.9**
	3.2nm,0.3s,SNR=12						
ECHE				S	**Sn**	**14 39 21.4**	**-5.0**
	4.9nm,0.4s,SNR=7.9						
PTOM	**Tomar**	**5.36**	**327**	ePn	**Pn**	**14 38 26.8**	**+0.4**
PTOM				eSn	**Sn**	**14 39 24.4**	**-4.6**
	23nm,0.3s						
MTE	**Manteigas**	**5.70**	**337**	ePn	**Pn**	**14 38 32.3**	**+1.1**
MTE				eSn	**Sn**	**14 39 31.7**	**-5.8**
	24nm,0.6s						
EIBI	**Ibiza**	**6.10**	**49**	P	**Pn**	**14 38 36.5**	**-0.3**
	0.1nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**14 39 39.7**	**-7.7**
	2.3nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**6.10**	**49**	P	**Pn**	**14 38 36.5**	**-0.3**
	0.1nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**6.10**	**336**	ePn	**Pn**	**14 38 37.2**	**+0.3**
PVIS				eSn	**Sn**	**14 39 41.6**	**-5.9**
	15nm,0.3s						
EMOS	**Mosqueruela**	**6.11**	**31**	P	**Pn**	**14 38 37.2**	**+0.3**
EMOS				S	**Sn**	**14 39 42.6**	**-5.2**
EMOS	**Mosqueruela**	**6.11**	**31**	P	**Pn**	**14 38 37.2**	**+0.3**
	1.4nm,0.2s,SNR=7.9						
EMOS				S	**Sn**	**14 39 43.5**	**-4.2**
	5.0nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**6.11**	**31**	P	**Pn**	**14 38 37.2**	**+0.2**
	1.4nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**6.55**	**339**	ePn	**Pn**	**14 38 43.9**	**+0.7**
PVRL				eSn	**Sn**	**14 39 52.4**	**-6.4**
	25nm,0.2s						
ERTA	**Horta de San J**	**6.95**	**33**	P	**Pn**	**14 38 49.8**	**+1.1**
ERTA				S	**Sn**	**14 40 01.7**	**-6.9**
ERTA	**Horta de San J**	**6.95**	**33**	P	**Pn**	**14 38 49.8**	**+1.1**
	2.8nm,0.3s,SNR=5.9						
ERTA				S	**Sn**	**14 40 03.1**	**-5.6**
	5.6nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**6.95**	**33**	P	**Pn**	**14 38 49.8**	**+1.1**
	0.1nm,0.1s,SNR=5.9						
ECAL	**Calabor**	**6.95**	**347**	P	**Pn**	**14 38 49.4**	**+0.6**
	0.8nm,0.2s,SNR=5.8						
ECAL				S	**Sn**	**14 40 03.6**	**-5.1**
	5.2nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**6.95**	**347**	P	**Pn**	**14 38 49.4**	**+0.6**
	0.8nm,0.2s,SNR=5.8						
ELOB	**Lobios**	**7.20**	**339**	P	**Pn**	**14 38 52.9**	**+0.6**
	0.1nm,0.0s,SNR=9.1						
ELOB				S	**Sn**	**14 40 08.5**	**-6.4**
	4.0nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**7.20**	**339**	P	**Pn**	**14 38 52.9**	**+0.6**
	0.1nm,0.0s,SNR=9.1						
ETOS	**Mallorca**	**7.45**	**50**	P	**Pn**	**14 38 55.8**	**0.0**
ETOS				S	**Sn**	**14 40 13.0**	**-8.3**
ETOS	**Mallorca**	**7.45**	**50**	P	**Pn**	**14 38 55.8**	**0.0**
	0.7nm,0.2s,SNR=5.3						
ETOS				S	**Sn**	**14 40 14.2**	**-7.2**
	5.6nm,0.4s,SNR=7.9						
ETOS	**Mallorca**	**7.45**	**50**	P	**Pn**	**14 38 55.8**	**-0.1**
	0.7nm,0.2s,SNR=5.3						
ELAN	**Lanestosa**	**8.08**	**6**	P	**P**	**14 39 06.0**	**+1.4**
ELAN				S	**Sn**	**14 40 29.1**	**-7.9**
ELAN	**Lanestosa**	**8.08**	**6**	P	**P**	**14 39 06.0**	**+1.4**
	0.2nm,0.1s,SNR=8.3						
ELAN				S	**Sn**	**14 40 31.3**	**-5.7**
	0.6nm,0.2s,SNR=4.7						
ELAN	**Lanestosa**	**8.08**	**6**	P	**P**	**14 39 06.0**	**+1.4**
	0.2nm,0.1s,SNR=8.3						
EARI	**Arriondas**	**8.12**	**357**	P	**P**	**14 39 06.0**	**+0.9**
EARI				S	**Sn**	**14 40 30.0**	**-7.9**
EARI	**Arriondas**	**8.12**	**357**	P	**P**	**14 39 06.0**	**+0.9**
	1.2nm,0.3s,SNR=5.7						
EARI				S	**Sn**	**14 40 30.4**	**-7.4**
	23nm,0.9s,SNR=7.9						
EARI	**Arriondas**	**8.12**	**357**	P	**P**	**14 39 06.0**	**+0.9**
	1.2nm,0.3s,SNR=5.7						
ETSF	**Etsaut**	**8.31**	**21**	ePn	**P**	**14 39 07.6**	**-0.3**
ETSF				eSn	**Sn**	**14 40 34.7**	**-8.1**
	4.4nm,0.4s						
SJPF	**Ste Jean**	**8.33**	**17**	ePn	**P**	**14 39 07.9**	**-0.2**
SJPF				eSn	**Sn**	**14 40 34.7**	**-8.6**
	3.6nm,0.3s						
EPON	**Pontenova**	**8.36**	**347**	P	**P**	**14 39 08.4**	**-0.2**
EPON				S	**Sn**	**14 40 36.1**	**-8.0**
EPON	**Pontenova**	**8.36**	**347**	P	**P**	**14 39 08.4**	**-0.2**
	0.5nm,0.2s,SNR=7.9						
EPON				S	**Sn**	**14 40 37.0**	**-7.0**
	0.6nm,0.4s,SNR=4.0						
EPON	**Pontenova**	**8.36**	**347**	P	**P**	**14 39 08.4**	**-0.2**
EALK	**Alkurruntz**	**8.37**	**16**	P	**P**	**14 39 09.5**	**+0.9**
	0.7nm,0.1s,SNR=19						
EALK				S	**Sn**	**14 40 37.0**	**-7.2**
	2.2nm,0.2s,SNR=7.9						
EPF	**Esparros**	**8.72**	**25**	ePn	**P**	**14 39 12.9**	**-0.6**
EPF				eSn	**Sn**	**14 40 44.1**	**-8.7**
	6.0nm,0.4s						
LFF	**La Frestale**	**10.56**	**21**	ePn	**P**	**14 39 37.9**	**-0.9**
CAF	**Calviac**	**10.98**	**26**	ePn	**P**	**14 39 43.7**	**-0.8**
RJF	**Les Rejaudoux**	**11.13**	**23**	ePn	**P**	**14 39 45.1**	**-1.5**
QUIF	**Quistinic**	**12.76**	**4**	ePn	**P**	**14 40 07.2**	**-1.4**
SGMF	**Saint Gilles**	**13.14**	**6**	ePn	**P**	**14 40 12.9**	**-0.8**
ROSF	**Rostrenen**	**13.17**	**4**	ePn	**P**	**14 40 13.2**	**-0.9**
GERES	**GERESS Array B**	**19.19**	**39**	P	**P**	**14 41 29.4**	**-1.3**
	0.3nm,0.3s,baz=225,slow=11,SNR=7.1						
MLR	**Muntele Rosu**	**25.31**	**57**	P	**P**	**14 42 33.1**	**+0.6**
	1.4nm,0.5s,mb3.7,baz=246,slow=10.0,SNR=3.1						
HFS	**Hagfors**	**27.64**	**20**	P	**P**	**14 42 52.2**	**-1.6**
	0.8nm,0.5s,mb3.6,baz=196,slow=10,SNR=4.3						
MKAR	**Makanchi Array**	**63.42**	**50**	P	**P**	**14 47 33.8**	**-2.5**
	0.6nm,0.6s,mb3.9,baz=284,slow=5.0,SNR=6.7						

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*MDD **06** 14:50:39.3±0.7, 35.12N×4.58W, mb3.3/5, Error ellipse: s-maj=6.9km s-min=4.2km az=43.0, PRXIMO*
*CSEM **06** 14:50:39.5±0.1, 35.16N×4.42W, h30km, MD2.9, Error ellipse: s-maj=3.2km s-min=2.1km az=60.0*
*CNRM **06** 14:50:41.2, 35.21N×4.42W, h33km, MD2.9*
ISC 06 14:50:39.7±0.8**, 35.16N**±0.03×**4.54W**±0.05**, h29**km±7km**,**
n28, σ1°32/53**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.49**	**82**	iP	**Pb**	**14 50 50.0**	**+0.1**
MPAL				iS	**Sb**	**14 50 56.0**	**-0.9**
TOU	**Touzarine**	**0.67**	**107**	iP	**Pb**	**14 50 52.0**	**-0.8**
TOU				iS	**Sb**	**14 51 01.0**	**-0.9**
TZK	**Tazeka**	**1.11**	**165**	eP	**Pn**	**14 50 59.0**	**-0.5**
TZK				iS	**Sn**	**14 51 14.0**	**+0.1**
EMIJ	**Mijas**	**1.41**	**352**	P	**Pn**	**14 51 03.5**	**-0.3**
	3.1nm,0.2s,SNR=5.9						
EMIJ				S	**Sn**	**14 51 18.5**	**-3.0**
	28nm,0.2s,SNR=16						
EMIJ	**Mijas**	**1.41**	**352**	P	**Pn**	**14 51 03.5**	**-0.3**
	3.1nm,0.2s,SNR=5.9						
EMIJ				S	**Sn**	**14 51 18.4**	**-3.2**
	28nm,0.2s,SNR=16						
EALB	**Alboran**	**1.45**	**57**	P	**Pn**	**14 51 05.4**	**+1.1**
	7.7nm,0.5s,SNR=6.8						
EALB				S	**Sn**	**14 51 22.6**	**0.0**
	26nm,0.2s,SNR=8.0						
EALB	**Alboran**	**1.45**	**57**	P	**Pn**	**14 51 05.4**	**+1.0**
	7.7nm,0.5s,SNR=6.8						
EALB				S	**Sn**	**14 51 22.4**	**-0.2**
	21nm,0.3s,SNR=8.0						
ZAI	**Zaio**	**1.48**	**97**	eP	**Pn**	**14 51 03.0**	**-1.8**
ZAI				iS	**Sn**	**14 51 20.0**	**-3.4**
EGUA	**Guajares**	**1.85**	**25**	P	**Pn**	**14 51 11.2**	**+1.2**
	0.4nm,0.3s,SNR=7.9						
EGUA				S	**Sn**	**14 51 31.6**	**-0.9**
	3.3nm,0.4s,SNR=7.9						
ERON	**Agron**	**1.95**	**18**	P	**Pn**	**14 51 12.6**	**+1.1**
	0.7nm,0.1s,SNR=6.4						
ERON				S	**Sn**	**14 51 35.9**	**+0.8**
	3.0nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.95**	**18**	P	**Pn**	**14 51 12.3**	**+0.9**
	7.7nm,0.4s,SNR=6.4						
ERON				S	**Sn**	**14 51 34.6**	**-0.5**
	3.0nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.01**	**9**	S	**Sn**	**14 51 35.4**	**-1.3**
	9.5nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.19**	**37**	P	**Pn**	**14 51 16.7**	**+1.8**
	1.6nm,0.2s,SNR=7.4						
EBER				S	**Sn**	**14 51 42.0**	**+0.7**
	4.9nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.19**	**37**	P	**Pn**	**14 51 16.1**	**+1.2**
	14nm,0.4s,SNR=7.4						
EBER				S	**Sn**	**14 51 40.5**	**-0.8**
	4.9nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.40**	**5**	P	**Pn**	**14 51 20.2**	**+2.2**
	2.2nm,0.2s,SNR=6.7						
ELUQ				S	**Sn**	**14 51 50.8**	**+4.0**
	3.9nm,0.4s,SNR=5.5						
EQES	**Quesada**	**2.89**	**24**	P	**Pn**	**14 51 27.3**	**+2.4**
	0.9nm,0.1s,SNR=9.4						
EQES				S	**Sn**	**14 52 00.4**	**+1.4**
	11nm,0.6s,SNR=5.5						
ECAB	**El Cabril**	**2.99**	**347**	P	**Pn**	**14 51 27.2**	**+0.8**
	1.7nm,0.3s,SNR=9.1						
ECAB				S	**Sn**	**14 51 59.4**	**-2.3**
	2.0nm,0.2s,SNR=6.2						
ECAB	**El Cabril**	**2.99**	**347**	P	**Pn**	**14 51 27.2**	**+0.8**
	1.7nm,0.3s,SNR=9.1						
ECAB				S	**Sn**	**14 51 59.4**	**-2.3**
	2.0nm,0.2s,SNR=6.2						
EADA	**Adamuz**	**3.00**	**359**	P	**Pn**	**14 51 28.6**	**+2.2**
	0.4nm,0.1s,SNR=8.3						
EADA				S	**Sn**	**14 52 01.6**	**-0.2**
	4.8nm,0.3s,SNR=7.4						
EADA	**Adamuz**	**3.00**	**359**	P	**Pn**	**14 51 28.6**	**+2.1**
	0.4nm,0.1s,SNR=8.3						
EADA				S	**Sn**	**14 52 01.6**	**-0.3**
	4.8nm,0.3s,SNR=7.4						
EBAN	**Banos Encina**	**3.06**	**11**	P	**Pn**	**14 51 27.9**	**+0.6**
	0.8nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**14 52 03.5**	**+0.1**
	0.8nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.06**	**11**	P	**Pn**	**14 51 27.9**	**+0.6**
	0.8nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**14 52 00.5**	**-2.8**
	0.8nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.12**	**327**	P	**Pn**	**14 51 28.6**	**+0.5**
	0.6nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**14 52 03.2**	**-1.7**
	0.9nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.12**	**327**	P	**Pn**	**14 51 28.6**	**+0.5**
	0.6nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**14 52 03.0**	**-1.8**
	0.9nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.35**	**316**	P	**Pn**	**14 51 32.3**	**+0.8**
	6.2nm,0.9s,SNR=7.8						
EGRO				S	**Sn**	**14 52 09.2**	**-1.6**
	2.7nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.35**	**316**	P	**Pn**	**14 51 32.3**	**+0.8**
	6.2nm,0.9s,SNR=7.8						
EBAD	**Badajoz**	**4.10**	**332**	P	**Pn**	**14 51 43.0**	**+0.9**
	0.7nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**14 52 27.1**	**-2.6**
	3.8nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.22**	**34**	P	**Pn**	**14 51 44.8**	**+1.0**
	0.4nm,0.1s,SNR=4.0						

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*MEX **06** 14:58:43.6±1.5, 17.75N×94.81W, h156km±9km, MD4.4*
*NEIC **06** 14:58:43.4, 17.74N×94.81W, h157km, mb4.0/8, MD4.4(MEX), After MEX.*
*IDC **06** 14:58:44.6±5.0, 17.94N×94.40W, h144km±50km, mb3.5/11, mb1 3.7/12, mb1mx3.6/22, mbtmp4.0/12, Error ellipse: s-maj=37.8km s-min=13.7km az=53.0*
ISC 06 14:58:42.4±0.3**, 17.70N**±0.04×**94.83W**±0.03**, h145**km±3km**,**
n55, σ1°27/70**, mb3.7**/11**, 1C, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.51**	**49**	iP	**P**	**14 59 04.5**	**+0.8**
TUIG				iS	**S**	**14 59 20.3**	**+0.3**
CMIG	**Matias Romero**	**0.61**	**185**	⇑iP	**P**	**14 59 05.1**	**+0.9**
CMIG				iS	**S**	**14 59 20.9**	**-0.1**
CMIG	**Matias Romero**	**0.61**	**185**	iP	**P**	**14 59 05.2**	**+0.9**
CMIG				iS	**S**	**14 59 20.9**	**-0.1**
EVV	**El Vigia**	**0.90**	**327**	iP	**P**	**14 59 06.2**	**+0.1**
EVV				iS	**S**	**14 59 24.2**	**0.0**
OXX	**Oaxaca**	**1.91**	**251**	iP	**P**	**14 59 17.7**	**+1.1**
OXX				iS	**S**	**14 59 44.5**	**+1.7**
VHO	**Vista Hermosa**	**1.93**	**251**	iP	**P**	**14 59 17.7**	**+1.1**
VHO				iS	**S**	**14 59 45.3**	**+2.3**
VHO	**Vista Hermosa**	**1.93**	**251**	iP	**P**	**14 59 18.0**	**+1.3**
VHO				iS	**S**	**14 59 45.7**	**+2.7**
HUIG	**Huatulco**	**2.28**	**213**	iP	**P**	**14 59 20.5**	**-0.6**
HUIG				iS	**S**	**14 59 50.5**	**-0.3**
SCX	**San Cristobal**	**2.31**	**114**	iP	**P**	**14 59 22.4**	**+1.0**
SCX				iS	**S**	**14 59 51.4**	**+0.2**
LVIG	**Laguna Verde**	**2.51**	**323**	iP	**P**	**14 59 23.0**	**-1.1**
LVIG				iS	**S**	**14 59 53.2**	**-2.6**
IISM	**Ciudad Serdan**	**2.74**	**298**	iP	**P**	**14 59 27.0**	**+0.1**
IISM				iS	**S**	**14 59 59.0**	**-1.9**
CCIG	**Comitan**	**2.94**	**118**	iP	**P**	**14 59 29.6**	**+0.1**
CCIG				iS	**S**	**15 00 04.0**	**-1.4**
PNIG	**Pinotepa**	**3.42**	**248**	iP	**P**	**14 59 33.8**	**-1.9**
PNIG				iS	**S**	**15 00 14.8**	**-1.8**
PPM	**Popocatepetl**	**3.85**	**291**	iP	**P**	**14 59 42.7**	**+1.2**
YAIG	**Yautepec**	**4.19**	**287**	iP	**P**	**14 59 46.3**	**+0.4**
YAIG				iS	**S**	**15 00 33.4**	**-1.4**
UNM	**Universidad Na**	**4.43**	**292**	eP	**P**	**14 59 53.0**	**+3.8**
UNM	**Universidad Na**	**4.43**	**292**	eP	**P**	**14 59 50.0**	**+0.8**
PLIG	**Platanillo**	**4.50**	**279**	iP	**P**	**14 59 50.6**	**+0.5**
PLIG				iS	**S**	**15 00 40.4**	**-1.7**
ACX	**Acapulco**	**4.93**	**261**	iP	**P**	**14 59 53.0**	**-2.8**
MOIG	**Morelia**	**6.34**	**289**	iP	**P**	**15 00 13.2**	**-1.4**
MOIG				iS	**S**	**15 01 26.0**	**-0.2**
SFJM	**Santa Fe**	**8.24**	**291**	iP	**P**	**15 00 43.0**	**+2.9**
SFJM	**Santa Fe**	**8.24**	**291**	iP	**P**	**15 00 38.5**	**-1.6**
JTS	**JuntasAbangare**	**12.08**	**126**	eP	**P**	**15 01 30.9**	**0.0**
	9.1nm,0.4s						
LTX	**Lajitas**	**14.12**	**327**	eP	**P**	**15 01 58.8**	**+1.7**
	9.4nm,0.9s						
TXAR	**Lajitas Array**	**14.12**	**327**	P	**P**	**15 01 58.6**	**+1.5**
	0.1nm,0.3s,baz=148,slow=14,SNR=36						
GDL2	**Guadalupe Moun**	**16.81**	**331**	eP	**P**	**15 02 31.8**	**+1.2**
WMOK	**Wichita Mounta**	**17.33**	**349**	eP	**P**	**15 02 35.5**	**-1.4**
	4.5nm,1.0s						
AMTX	**Amarillo**	**18.17**	**342**	eP	**P**	**15 02 45.4**	**-1.1**
	10nm,0.6s						
LENM	**Lemitar**	**19.67**	**329**	eP	**P**	**15 03 03.4**	**+1.1**
LAZ	**Ladron**	**19.94**	**329**	eP	**P**	**15 03 06.7**	**+1.6**
ANMO	**Albuquerque**	**20.06**	**331**	P	**P**	**15 03 07.0**	**+0.7**
	4.7nm,0.8s,baz=158,slow=10,SNR=8.8						
ANMO	**Albuquerque**	**20.06**	**331**	eP	**P**	**15 03 07.1**	**+0.8**
	4.5nm,0.8s						
TWB	**Tillmans-White**	**20.27**	**38**	eP	**P**	**15 02 59.7**	**-8.7**
TUC	**Tucson**	**20.47**	**318**	eP	**P**	**15 03 11.7**	**+1.3**
	6.4nm,1.1s						
JSC	**Jenkinsville**	**20.49**	**34**	eP	**P**	**15 03 08.4**	**-2.2**
PV01	**Paradox Valley**	**23.65**	**332**	eP	**P**	**15 03 43.5**	**+2.0**
PV10	**Paradox Valley**	**24.06**	**332**	eP	**P**	**15 03 46.2**	**+0.8**
SDV	**Santo Domingo**	**25.10**	**107**	P	**P**	**15 03 53.2**	**-2.2**
	1.9nm,0.4s,mb4.0,baz=315,slow=5.7,SNR=3.6						
MSU	**Marysvale**	**25.68**	**327**	eP	**P**	**15 04 05.7**	**+5.0**
MVU	**Marysvale**	**25.69**	**327**	eP	**P**	**15 04 05.9**	**+5.1**
	3.6nm,0.9s,mb4.0						
PDAR	**Pinedale Array**	**27.95**	**336**	P	**P**	**15 04 20.9**	**-0.5**
	0.4nm,0.9s,mb3.2,baz=153,slow=6.0,SNR=2.9						
PDAR	**Pinedale Array**	**27.95**	**336**	P	**P**	**15 04 20.9**	**-0.5**
ELK	**Elko**	**28.92**	**327**	P	**P**	**15 04 30.9**	**+0.9**
	0.3nm,0.4s,mb3.4,baz=107,slow=19,SNR=4.5						
ELK	**Elko**	**28.92**	**327**	P	**P**	**15 04 30.8**	**+0.7**
	0.5nm,0.5s,mb3.5						
NVAR	**Mina Array Bea**	**29.10**	**320**	P	**P**	**15 04 33.1**	**+1.5**
	1.9nm,0.8s,mb3.9,baz=126,slow=11,SNR=14						
LPAZ	**La Paz**	**42.81**	**141**	P	**P**	**15 06 28.5**	**+0.7**
	2.2nm,0.5s,mb4.0,baz=325,slow=5.5,SNR=14						
LPAZ	**La Paz**	**42.81**	**141**	P	**P**	**15 06 28.5**	**+0.7**
SCHQ	**Schefferville**	**42.82**	**24**	P	**P**	**15 06 24.6**	**-2.8**
	1.5nm,0.8s,mb3.7,baz=235,slow=11,SNR=3.7						
CPUP	**Villa Florida**	**56.95**	**139**	P	**P**	**15 08 14.6**	**-0.6**
	2.8nm,0.8s,mb4.2,baz=356,slow=5.3,SNR=4.6						
CPUP	**Villa Florida**	**56.95**	**139**	P	**P**	**15 08 14.6**	**-0.6**
ILAR	**Eielson Array**	**58.38**	**337**	P	**P**	**15 08 23.9**	**-0.8**
	0.3nm,0.7s,mb3.2,baz=115,slow=6.6,SNR=4.9						
NB2	**NORSAR Subarra**	**82.19**	**28**	P	**P**	**15 10 48.1**	**-0.2**
	0.5nm,0.7s,mb3.2,baz=293,slow=5.0						
NOA	**NORSAR Array B**	**82.19**	**28**	P	**P**	**15 10 47.9**	**-0.5**
	0.1nm,0.4s,mb2.8,baz=291,slow=5.1,SNR=3.7						
ARCES	**ARCESS Array B**	**83.48**	**18**	P	**P**	**15 10 54.5**	**-0.2**
	1.4nm,0.9s,mb3.7,baz=326,slow=4.4,SNR=4.1						
WRA	**Warramunga Arr**	**133.54**	**259**	PKP	PKPdf	15 17 43.8	+1.2
	0.5nm,1.1s,baz=87,slow=2.9,SNR=4.9						

JSN 06 15:10:42.9±0.7**, 19.46N**×**77.92W, h9**km±6km**, MD3.5,**
5C-2D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBJ	**Montego Bay**	**1.06**	**177**	⇑eP	Pb	15 11 01.1	-1.8
MBJ				iS	Sb	15 11 14.9	-1.7
BBJ	**Bamboo Saint A**	**1.24**	**150**	iP	Pb	15 11 04.8	-1.3
BBJ				⇑eP		15 11 04.9	
CVJ	**Coleyville**	**1.28**	**163**	⇑iP	Pb	15 11 05.1	-1.7
MCJ	**Malvern**	**1.55**	**172**	⇓iP	Pn	15 11 08.9	-1.9
MCJ				eS	Sb	15 11 28.6	-2.2
STH	**Stony Hill**	**1.73**	**142**	⇑iP	Pn	15 11 11.4	-2.1
STH				eS	Sn	15 11 32.6	-3.3
PCJ	**Portland Cotta**	**1.86**	**157**	⇑eP	Pn	15 11 13.8	-1.4
PCJ				eS	Sn	15 11 36.9	-2.2
YHJ	**Yallahs**	**2.07**	**139**	⇓iP	Pn	15 11 16.4	-1.9

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*NEIC **06** 15:18:06.7, 28.39S×70.17W, h87km, After GUC.*
GUC 06 15:18:06.7±0.5**, 28.39S**×**70.17W, h87**km±9km**, ML3.9,**
3C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.55**	**251**	eP	P	15 18 22.2	+0.4
VACH				iS	S	15 18 33.3	+0.3
VACH				AMP		15 18 34.4	
	comp=N,23μm,0.1s						
LCO	**Las Campanas**	**0.77**	**217**	⇓iP	P	15 18 24.8	+0.8
LCO				iS	S	15 18 38.0	+1.3
LCO				AMP		15 18 38.6	
	comp=E,3μm,0.4s						
CPCH	**Copiapo**	**1.04**	**351**	⇑iP	P	15 18 27.0	+0.1
CPCH				iS	S	15 18 42.4	+0.1
CPCH				AMP		15 18 43.6	
	comp=E,22μm,0.1s						
TLL	**Tololo Astrono**	**1.85**	**197**	⇑iP	P	15 18 38.0	+0.6
TLL				iS	S	15 19 01.4	+1.4
TLL				AMP		15 19 04.6	
	comp=E,538nm,0.6s						
CRCH	**Chaqaral**	**2.08**	**349**	⇑iP	P	15 18 40.1	-0.3
CRCH				AMP		15 19 04.2	
	comp=N,390nm,0.7s						
FCH	**Farellones**	**4.92**	**181**	eP	P	15 19 19.6	-0.1
FCH				iS	S	15 20 15.3	-0.6

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*STR **06** 15:39:07.8±0.1, 48.04N×7.59E, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **06** 15:39:07.9, 47.96N×7.60E, h1km, ML2.2/9*
*NEIC **06** 15:39:08.5, 48.02N×7.56E, h5km, ML2.5(LDG), ML2.4(VIE), ML2.2(STR), After LDG.*
*LEDBW **06** 15:39:08.5±0.1, 48.01N×7.58E, h6km, ML2.2, Error ellipse: s-maj=4.0km s-min=2.0km az=47.0*
*CSEM **06** 15:39:08.4±0.1, 48.02N×7.58E, h10km, ML2.5/13, Error ellipse: s-maj=1.1km s-min=0.8km az=4.0*
*LDG **06** 15:39:08.5±0.0, 48.02N×7.56E, h5km, Md2.7/2, Ml2.5/12, Error ellipse: s-maj=1.0km s-min=0.6km az=168.0*
BGR 06 15:39:08.6±0.2**, 48.04N**×**7.57E, h5**km**, ML2.0**/2**, 6C-11D,**
Error ellipse: s-maj=2.2km s-min=2.2km az=41.0,
France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIBD	**Limburg**	**0.12**	**10**	⇑iPg	Pg	15 39 11.8	+0.6
LIBD				Sg	Sg	15 39 14.1	+1.4
FBB	**Freiburg**	**0.19**	**100**	⇓Pg	Pg	15 39 12.4	-0.1
FBB				Sg	Sg	15 39 15.0	-0.2
FBB	**Freiburg**	**0.19**	**100**	Pg	Pg	15 39 12.4	-0.2
FBB				Sg	Sg	15 39 15.0	-0.2
KIZ	**Kirchzarten**	**0.25**	**109**	⇓iPg	Pg	15 39 13.1	-0.5
KIZ				iSg	Sg	15 39 16.4	-0.6
ECH	**Echery**	**0.33**	**303**	Pg	Pg	15 39 14.9	-0.4
ECH	**Echery**	**0.33**	**303**	⇓iPg	Pg	15 39 15.1	-0.2
ECH				Sg	Sg	15 39 19.4	-0.3
FELD	**Feldberg**	**0.33**	**119**	⇓iPg	Pg	15 39 14.7	-0.6
FELD				Sg	Sg	15 39 19.3	-0.5
FELD	**Feldberg**	**0.33**	**119**	Pg	Pg	15 39 14.6	-0.7
FELD				Sg	Sg	15 39 19.2	-0.6
MOF	**Molkenrain**	**0.35**	**238**	Pg	Pg	15 39 14.8	-0.8
MOF	**Molkenrain**	**0.35**	**238**	Pg	Pg	15 39 15.3	-0.3
WLS	**Welschbruch**	**0.41**	**339**	Pg	Pg	15 39 16.6	-0.2
WLS				Sg	Sg	15 39 22.1	-0.1
WLS	**Welschbruch**	**0.41**	**339**	⇓iPg	Pg	15 39 16.8	0.0
WLS				Sg	Sg	15 39 22.2	+0.1
CDF	**Champ du Feu**	**0.42**	**332**	ePg	Pg	15 39 16.9	-0.3
CDF				eSg	Sg	15 39 22.7	-0.2
	46nm,0.2s						
HINF	**Hinteralfeld**	**0.53**	**246**	ePg	Pg	15 39 18.1	-1.2
HINF				ePn	Pn	15 39 20.5	-2.0
HINF				eSg	Sg	15 39 24.7	-1.7
	21nm,0.3s						
HINF				eSn	Sn	15 39 28.6	-3.2
BBS	**Basel-Blauen**	**0.57**	**184**	Pg	Pg	15 39 19.0	-1.1
BBS	**Basel-Blauen**	**0.57**	**184**	Pg	Pg	15 39 19.5	-0.6
BFO	**Black Forest**	**0.59**	**60**	Pg	Pg	15 39 19.6	-0.8
BFO				PmP		15 39 20.8	
BFO				Sg	Sg	15 39 27.7	-0.5
BFO				SmS		15 39 29.8	
SULZ	**Sulz-Cheisache**	**0.63**	**144**	ePg	Pg	15 39 20.1	-1.0
	SNR=3.7						
SULZ				eSg	Sg	15 39 28.3	-1.3
	SNR=5.3						
SULZ	**Sulz-Cheisache**	**0.63**	**144**	⇓iP*P		15 39 20.1	
SULZ				iS*S		15 39 28.3	
SLE	**Schleitheim**	**0.68**	**113**	ePg	Pg	15 39 21.1	-1.0
	SNR=14						
SLE				eSg	Sg	15 39 30.0	-1.2
	SNR=13						
SLE	**Schleitheim**	**0.68**	**113**	⇓iP*P		15 39 21.1	
BOURR	**Bourrignon**	**0.68**	**200**	ePg	Pg	15 39 21.4	-0.9
	SNR=4.8						
BOURR				eSg	Sg	15 39 30.5	-0.9
	SNR=5.3						
BOURR	**Bourrignon**	**0.68**	**200**	⇑iP*P		15 39 21.3	

BALST	Balsthal	0.71	173	⇑iP*P		15 39 21.7	
SPAK	Spaichingen	0.82	85	Pg	Pg	15 39 24.4	-0.6
HAU	Haudompre	0.82	268	ePg	Pg	15 39 23.8	-1.3
HAU				ePn	Pn	15 39 25.1	-1.5
HAU				eSg	Sg	15 39 34.2	-1.8
HAU				eSn	Sn	15 39 36.6	-2.6
	30nm,0.2s						
LOMF	Lomont	0.85	217	Pg	Pg	15 39 24.9	-0.7
LOMF				Sg	Sg	15 39 35.6	-1.4
LOMF	Lomont	0.85	217	Pg	Pg	15 39 25.1	-0.5
LOMF				eSg	Sg	15 39 35.6	-1.4
	SNR=2.6						
STEIN	Stein am Rhein	0.95	112	⇓iP*P		15 39 26.8	
ZUR	Zurich	0.95	134	ePg	Pg	15 39 26.8	-0.9
	SNR=4.6						
ZUR				eSg	Sg	15 39 39.7	-0.7
	SNR=4.3						
ZUR	Zurich	0.95	134	eP*P		15 39 26.7	
LANF	Langenberg	0.96	9	Pg	Pg	15 39 25.8	-2.0
LANF				Sg	Sg	15 39 39.3	-1.2
SISB	Singen-Sch Ber	1.00	110	Pg	Pg	15 39 27.8	-0.8
SISB				Sg	Sg	15 39 41.0	-1.0
LBG	Lerchenberg	1.03	52	Pn	Pn	15 39 27.5	-2.1
LBG				Pg	Pg	15 39 28.4	-0.8
LBG				Sg	Sg	15 39 42.0	-1.0
LBG	Lerchenberg	1.03	52	P	Pb	15 39 28.4	-0.1
LBG				S	Sb	15 39 42.0	-0.2
GUT	Gutenstein	1.04	88	Pn	Pn	15 39 28.2	-1.5
GUT				Pg	Pg	15 39 28.5	-0.8
GUT				Sn	Sn	15 39 40.8	-3.9
GUT				Sg	Sg	15 39 42.3	-0.8
GUT	Gutenstein	1.04	88	P	Pb	15 39 28.2	-0.5
GUT				S	Sb	15 39 40.8	-1.6
GUT				S	Sb	15 39 42.3	0.0
GUT	Gutenstein	1.04	88	P	Pb	15 39 28.2	-0.5
GUT				S	Sb	15 39 40.8	-1.6
GUT	Gutenstein	1.04	88	SG	Sg	15 39 42.3	-0.8
THEF	They Montfort	1.08	281	ePg	Pg	15 39 28.8	-1.4
	SNR=5.8						
THEF				⇓ePn	Pn	15 39 28.9	-1.4
THEF				eSg	Sg	15 39 42.6	-2.0
	SNR=5.5						
THEF	They Montfort	1.08	281	⇓eP	Pb	15 39 28.9	-0.5
THEF	They Montfort	1.08	281	Pg	Pg	15 39 28.7	-1.5
THEF				Sg	Sg	15 39 42.9	-1.7
WILA	Wila	1.09	124	ePg	Pg	15 39 29.2	-1.3
	SNR=8.0						
WILA				eSg	Sg	15 39 43.9	-1.2
	SNR=4.6						
BUCH	Bad Urach	1.26	70	⇑Pn	Pn	15 39 30.7	-2.2
BUCH				Pg	Pg	15 39 32.7	-1.1
BUCH				Sn	Sn	15 39 46.8	-3.5
BUCH				Sg	Sg	15 39 49.3	-1.3
BUCH	Bad Urach	1.26	70	S	Sb	15 39 46.8	-2.1
BNALP	Bannalp	1.30	153	⇓iP*P		15 39 33.2	
STU	Stuttgart	1.31	55	eSg	Sg	15 39 49.5	-2.7
	SNR=3.6						
LIENZ	Alp Oberkamor	1.50	119	ePg	Pg	15 39 36.8	-1.7
	SNR=2.4						
RFYF	Reffroy	1.52	294	ePn	Pn	15 39 34.8	-1.8
	baz=115						
RFYF				ePg	Pg	15 39 37.0	-2.0
RFYF				eSn	Sn	15 39 53.8	-3.2
	baz=118						
RFYF				eSg	Sg	15 39 56.6	-2.7
	10nm,0.2s						
RFYF	Reffroy	1.52	294	ePg	Pg	15 39 37.0	-2.0
RFYF				eSn	Sn	15 39 53.8	-3.2
RFYF				eSg	Sg	15 39 56.6	-2.7
	5.2nm,0.2s						
SFTF	Sexfontaines	1.71	277	ePg	Pg	15 39 40.3	-2.4
SFTF				eSn	Sn	15 39 58.1	-3.6
SFTF				eSg	Sg	15 40 02.3	-3.1
	9.8nm,0.2s						
DAVA	Damuels	1.73	115	⇑iPG	Pg	15 39 40.9	-2.3
DAVA				iSG	Sg	15 39 58.4	-7.9
	3.7nm,0.2s						
UBR	Uberruh	1.74	101	Pg	Pg	15 39 41.9	-1.6
UBR				Sg	Sg	15 40 04.8	-1.9
CABF	La Chapelle	1.75	216	ePn	Pn	15 39 37.5	-2.3
CABF				ePg	Pg	15 39 40.8	-2.7
CABF				eSg	Sg	15 40 03.7	-3.1
	5.7nm,0.4s						
MEZF	Maizieres J'vi	1.75	286	ePg	Pg	15 39 41.0	-2.5
MEZF				eSn	Sn	15 39 59.2	-3.5
MEZF				eSg	Sg	15 40 03.2	-3.6
	5.9nm,0.2s						
HDH	Heidenheim	1.84	72	Pg	Pg	15 39 43.5	-1.9
HDH				Sg	Sg	15 40 06.8	-3.2
SIND	Sindeldorf	1.88	45	Sg	Sg	15 40 08.1	-3.2
MOTA	Moosalm	2.48	105	⇑iPN	Pn	15 39 51.7	+1.3
MOTA				iPG	Pg	15 39 55.5	-2.7
MOTA				iSG	Sg	15 40 24.6	-6.7
	2.2nm,0.2s						
MOTA	Moosalm	2.48	105	iPg	Pg	15 39 55.5	-2.7
MOTA				iSg	Sg	15 40 24.6	-6.7
	2.2nm,0.2s						
LPL	La Plagne	2.59	193	ePg	Pg	15 39 56.4	-3.8
LPL				eSg	Sg	15 40 29.6	-5.1
	0.9nm,0.2s						
LOR	Lormes	2.62	254	ePn	Pn	15 39 49.8	-2.6
LOR				ePg	Pg	15 39 57.2	-3.8
	baz=74						
LOR				eSg	Sg	15 40 30.1	-5.9
	5.7nm,0.2s,baz=81						
LOR	Lormes	2.62	254	ePg	Pg	15 39 57.2	-3.8
LOR				eSg	Sg	15 40 30.1	-5.9
	2.8nm,0.2s						
SMF	Signal de Mont	2.89	243	ePn	Pn	15 39 53.2	-3.0
SMF				ePg	Pg	15 40 02.0	-4.4
SMF				eSg	Sg	15 40 39.1	-5.9
	3.3nm,0.2s						
SSF	Saint Saulge	2.92	252	ePn	Pn	15 39 53.5	-3.1
SSF				ePg	Pg	15 40 02.6	-4.3
SSF				eSn	Sn	15 40 26.7	-5.9
SSF				eSg	Sg	15 40 39.4	-6.5
	2.2nm,0.2s						
SSF	Saint Saulge	2.92	252	ePg	Pg	15 40 02.6	-4.3
SSF				eSn	Sn	15 40 26.7	-5.9
SSF				eSg	Sg	15 40 39.4	-6.5
	1.1nm,0.2s						
ORIF	Oris-en-Rattie	3.33	201	eSg	Sg	15 40 52.7	-6.8
	1.2nm,0.2s						
MBDF	Montbardon	3.36	190	eSg	Sg	15 40 53.8	-6.6
	0.8nm,0.3s						
BGF	Bois d'Agland	3.54	247	eSg	Sg	15 40 59.4	-7.1
	3.9nm,0.3s						
VIVF	Saint-Julien-l	3.76	213	eSg	Sg	15 41 06.1	-7.7
	1.5nm,0.2s						

OTT 06 15:58:36.5±0.3, 52.80N×67.28W, MN3.0/8, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	Schefferville	2.06	7	PN	Pn	15 59 12.5	-0.2
SCHQ				SG	Sg	15 59 40.2	-4.8
SCHQ				Trac		15 59 44.7	
	comp=Z,48nm,0.2s						
SMQ	Clarke City	2.60	172	PN	Pn	15 59 20.9	+0.3
SMQ				Trac		15 59 58.6	
	comp=Z,18nm,0.2s						
YOSQ	Ashton Mining	2.99	273	PN	Pn	15 59 24.8	-1.3
YOSQ				SN	Sn	16 00 01.4	-1.7
YOSQ				Trac		16 00 11.8	
	comp=Z,80nm,0.3s						
ICQ	Pointe Anglais	3.28	180	PN	Pn	15 59 27.3	-2.9
ICQ				SN	Sn	16 00 10.0	-0.5
ICQ				Trac		16 00 23.4	
	comp=Z,14nm,0.2s						
CNQ	Baie Comeau	3.54	189	PN	Pn	15 59 32.4	-1.5
CNQ				SN	Sn	16 00 11.5	-5.4
CNQ				Trac		16 00 25.7	
	comp=Z,10nm,0.2s						
GSQ	Grosses Roches	3.89	178	PN	Pn	15 59 37.8	-1.1
GSQ				SN	Sn	16 00 16.5	-10
GSQ				SG	Sg	16 00 34.4	-12
GSQ				Trac		16 00 40.0	
	comp=Z,11nm,0.2s						
LG4Q	La Grande 4	4.18	284	PN	Pn	15 59 41.0	-2.1
LG4Q				PG	Pg	15 59 49.6	-10
LG4Q				SG	Sg	16 00 46.4	-9.4
LG4Q				Trac		16 00 51.0	
	comp=Z,14nm,0.3s						
DAQ	Lac Daran	5.46	209	PN	Pn	15 59 57.7	-3.5
DAQ				SN	Sn	16 01 01.6	-4.1
DAQ				SG	Sg	16 01 25.7	-13
DAQ				Trac		16 01 37.3	
	comp=Z,5.7nm,0.2s						
LMQ	La Malbaie	5.61	202	PN	Pn	15 59 59.5	-3.8
LMQ				SN	Sn	16 01 03.2	-6.1
LMQ				Trac		16 01 07.8	
	comp=Z,9.5nm,0.2s						
WEMQ	Wemindji, Queb	6.48	277	PN	Pn	16 00 11.8	-3.7
WEMQ				PG	Pg	16 00 29.3	-17
WEMQ				SN	Sn	16 01 22.1	-9.0
WEMQ				LG		16 01 56.6	
WEMQ				Trac		16 02 02.2	
	comp=Z,11nm,0.2s						
DRLN	Deer Lake	7.11	116	PN	Pn	16 00 20.3	-4.0
DRLN				SN	Sn	16 01 36.6	-10
DRLN				SG	Sg	16 02 17.4	-16
LMN	Caledonia Moun	7.14	166	PN	Pn	16 00 20.6	-4.1
LMN				SN	Sn	16 01 39.8	-7.8
VLDQ	Val d'Or	8.01	238	PN	P	16 00 34.6	-2.4
VLDQ				SN	Sn	16 02 03.0	-6.4
VLDQ				LG		16 02 44.1	
MALO	McAlpine Lake	8.29	255	PN	P	16 00 35.7	-5.1
MALO				SN	Sn	16 02 04.1	-12
VIMO	Victor Mine	9.98	277	PN	P	16 00 58.7	-5.4
VIMO				SN	Sn	16 02 44.9	-13
SILO	Sutton Inlier	10.61	286	PN	P	16 01 06.2	-6.5
SILO				SN	S	16 03 00.2	-13
SILO				LG		16 03 58.6	

MAN 06 16:57:54.4, 18.37N×119.81E, h1km, mb4.0, ML2.8, MS2.5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	Dolores	1.12	130	eP	Pb	16 58 15.5	-0.8
ABRA				eS	Sb	16 58 33.3	+2.1
APYP	Conner	1.46	110	eP	Pn	16 58 20.5	-1.5
APYP				eS	Sb	16 58 42.0	+1.1
CAUP	Cauayan	2.39	126	eP	Pn	16 58 36.3	+1.0
BALP	Baler	3.12	147	eP	Pn	16 58 45.6	0.0

*NEIC **06** 17:07:39.0, 17.76N×100.85W, h80km, MD3.7(MEX), After MEX.*

MEX 06 17:07:38.9±0.4, 17.86N×100.99W, h40km±20km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	El Cayaco	1.06	139	iP	P	17 07 55.4	-2.0
CAIG				iS	S	17 08 08.6	-2.6
CAIG	El Cayaco	1.06	139	iP	P	17 07 55.5	-2.0
CAIG				iS	S	17 08 08.6	-2.6
ACX	Acapulco	1.42	134	iP	P	17 08 01.0	-1.6
ACX				iS	S	17 08 14.0	-6.3
PLIG	Platanillo	1.51	69	iP	P	17 08 02.0	-1.9
PLIG				iS	S	17 08 20.6	-2.0
YAIG	Yautepec	2.08	61	iP	P	17 08 09.8	-2.2
YAIG				iS	S	17 08 31.8	-5.0
YAIG	Yautepec	2.08	61	iP	P	17 08 09.8	-2.2
YAIG				iS	S	17 08 33.7	-3.1

*MOS **06** 17:40:09.4±0.9, 44.29N×6.66E, h7km, mb3.5/1, Error ellipse: s-maj=6.9km s-min=4.1km az=107.8*
*CSEM **06** 17:40:10.9±0.0, 44.28N×6.73E, h20km, ML3.0/14, Error ellipse: s-maj=1.1km s-min=0.8km az=48.0*
*NEIC **06** 17:40:11.2, 44.28N×6.71E, h3km, ML3.0(LDG), ML3.0(GEN), ML2.8(STR), After LDG.*
*LDG **06** 17:40:11.2±0.0, 44.28N×6.71E, h3km, Md2.9/2, Ml3.0/17, Error ellipse: s-maj=1.2km s-min=0.8km az=62.0*
*GEN **06** 17:40:11.4, 44.33N×6.78E, h2km, ML0.3*
*ROM **06** 17:40:12.5±0.4, 44.30N×6.93E, h22km±4km, Md3.0/3, Error ellipse: s-maj=6.0km s-min=3.7km az=55.0*

STR 06 17:40:11.3±0.1, 44.31N×6.74E, h5km±1km, Ml2.8, 2C, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	Saint Ours	0.18	17	Pg	Pg	17 40 15.4	+0.4
SURF				Sg	Sg	17 40 18.5	+1.1
DOI	San Damiano	0.41	62	⇑iPg	Pg	17 40 19.6	0.0
DOI				Sg	Sg	17 40 25.6	+0.5
	254nm,0.2s						
MBDF	Montbardon	0.42	3	ePg	Pg	17 40 19.3	-0.4
MBDF				eSg	Sg	17 40 25.9	+0.6
	101nm,0.3s						
STV	Sta Anna Valdi	0.42	99	P	Pg	17 40 19.5	-0.3
STV				S	Sg	17 40 24.7	-0.8
STV2	Anna di Valdie	0.43	99	P	Pg	17 40 19.4	-0.4
STV2				S	Sg	17 40 24.7	-0.8
STV2	Anna di Valdie	0.43	99	P	Pg	17 40 19.4	-0.4
TOUF	Mont Tournerai	0.47	129	Pg	Pg	17 40 20.2	-0.5
ENR	Entracque	0.50	99	P	Pg	17 40 20.9	-0.3
ENR				S	Sg	17 40 27.0	-0.9
MVIF	Mont Vial	0.51	144	Pg	Pg	17 40 20.9	-0.6
MVIF				Sg	Sg	17 40 28.2	-0.1
CALN	Calern	0.57	169	Pg	Pg	17 40 21.9	-0.8
AUTN	L'Aution	0.59	122	Pg	Pg	17 40 22.4	-0.6
AUTN				Sg	Sg	17 40 30.7	-0.2
RRL	Cesana Torines	0.61	3	P	Pg	17 40 22.9	-0.6
RRL				S	Sg	17 40 30.7	-1.0
BHB	Bricherasio	0.65	35	P	Pg	17 40 23.3	-1.0
BHB				S	Sg	17 40 31.2	-1.8
BHB	Bricherasio	0.65	35	P	Pg	17 40 23.3	-1.0
BHB				S	Sg	17 40 31.2	-1.8
SAOF	Saorge	0.67	119	Pg	Pg	17 40 23.9	-0.8
SAOF				Sg	Sg	17 40 32.9	-0.8
SBF	Sospel	0.67	131	ePg	Pg	17 40 23.9	-0.8
SBF				ePn	Pn	17 40 25.8	-1.3
SBF				eSg	Sg	17 40 32.0	-1.7
	153nm,0.2s						
SBF	Sospel	0.67	131	eP	Pg	17 40 23.9	-0.8
SBF				e		17 40 32.0	
REVF	Revere	0.73	141	Pg	Pg	17 40 25.2	-0.7
REVF				Sg	Sg	17 40 35.8	+0.2
FRF	La Foret Royal	0.75	185	ePg	Pg	17 40 24.5	-1.8
FRF				ePn	Pn	17 40 26.6	-1.7
FRF				eSg	Sg	17 40 33.9	-2.5
	168nm,0.2s						
FRF	La Foret Royal	0.75	185	eP	Pg	17 40 24.5	-1.8
FRF				e		17 40 33.9	
FENE	Fenestrelle	0.76	18	P	Pg	17 40 25.4	-1.0
FENE				S	Sg	17 40 35.0	-1.5
FENE	Fenestrelle	0.76	18	P	Pg	17 40 25.4	-1.0
FENE				S	Sg	17 40 35.0	-1.5
MONE	Monesi	0.77	107	P	Pg	17 40 25.7	-0.9
MONE				S	Sg	17 40 35.4	-1.4
MONE	Monesi	0.77	107	P	Pg	17 40 25.7	-0.9
MONE				S	Sg	17 40 35.4	-1.4
ROB	Roburent	0.81	91	P	Pb	17 40 26.5	-1.0
ROB				S	Sg	17 40 36.5	-1.9
NEGI	Negi	0.83	123	P	Pb	17 40 26.9	-1.0
NEGI				S	Sg	17 40 37.6	-1.5
NEGI	Negi	0.83	123	P	Pb	17 40 26.9	-1.0
NEGI				S	Sg	17 40 37.6	-1.5
ORIF	Oris-en-Rattie	0.86	315	ePg	Pg	17 40 26.6	-2.0
ORIF				eSg	Sg	17 40 38.2	-1.9
	257nm,0.5s						
SMRF	Simiane la Rot	0.90	249	ePg	Pg	17 40 27.8	-1.5
SMRF				ePn	Pn	17 40 28.8	-1.6
SMRF				eSg	Sg	17 40 39.0	-2.4
SMRF				eSn	Sn	17 40 41.2	-2.8
	141nm,0.2s						
IMI	Imperia	0.92	115	P	Pb	17 40 28.4	-0.9
IMI				S	Sb	17 40 40.6	-1.1
IMI	Imperia	0.92	115	Pg	Pg	17 40 28.5	-1.2
	223nm,0.3s						
IMI				S	Sb	17 40 40.6	-1.1
RSP	Reno Superiore	0.92	23	P	Pb	17 40 28.5	-0.8
LMR	La Mourre	0.99	190	ePg	Pg	17 40 28.5	-2.6
LMR				ePn	Pn	17 40 29.1	-2.6
LMR				eSg	Sg	17 40 41.3	-3.0
LMR				eSn	Sn	17 40 43.2	-3.0
	113nm,0.2s						
LMR	La Mourre	0.99	190	eP	Pb	17 40 28.5	-2.0
LMR				e		17 40 43.2	
GDM	Grand'Maison	1.00	334	Pg	Pg	17 40 29.6	-1.6
FIN	Finale Ligure	1.06	95	P	Pb	17 40 31.0	-0.7
FIN	Finale Ligure	1.06	95	⇑iPg	Pg	17 40 31.1	-1.4
FIN				Sg	Sg	17 40 44.9	-1.7
	45nm,0.2s						
OCF	Saint Nazaire	1.06	285	Pg	Pg	17 40 31.3	-1.3
OG26	St.-Nazaire-De	1.06	285	Pg	Pg	17 40 31.3	-1.3
GRN	Grenoble	1.17	323	Pg	Pg	17 40 33.7	-1.0
LSD	Ceresole Reale	1.19	14	P	Pb	17 40 33.1	-0.8
LPG	La Plagne	1.19	0	ePn	Pn	17 40 33.3	-1.2
LPG				eSg	Sg	17 40 49.8	-1.1
	29nm,0.4s						
LPL	La Plagne	1.21	360	ePn	Pn	17 40 33.6	-1.2
LPL				eSg	Sg	17 40 50.4	-1.1
	95nm,0.5s						
PCP	Pian Castagno	1.31	79	P	Pb	17 40 35.0	-1.1
TRAV		1.40	30	P	Pn	17 40 35.9	-1.7
TRAV		1.40	30	P	Pn	17 40 35.9	-1.6
VIVF	Saint-Julien-l	1.57	291	ePn	Pn	17 40 38.4	-1.7
VIVF				ePg	Pg	17 40 40.5	-2.3
VIVF				eSn	Sn	17 40 58.0	-3.0
	24nm,0.3s						
VIVF	Saint-Julien-l	1.57	291	eP	Pn	17 40 38.4	-1.7
VIVF				e		17 40 58.0	
ORO	Oropa	1.58	33	Pg	Pg	17 40 40.4	-2.6
	10.0nm,0.2s						
ORX	Oropa	1.59	33	P	Pn	17 40 38.4	-1.9
DIX	Grande Dixence	1.83	15	Pg	Pg	17 40 45.0	-2.9
MCGN	Macugnaga	1.87	28	Pg	Pg	17 40 43.8	-4.8
	5.0nm,0.3s						
OG05	Jujurieux	1.95	333	Pg	Pg	17 40 48.2	-2.1
OG01	Vacheresse	2.02	359	Pg	Pg	17 40 49.9	-1.7
LASF	Ste Croix	2.09	265	ePn	Pn	17 40 44.8	-2.6
LASF				eSn	Sn	17 41 09.0	-5.0
	5.8nm,0.2s						
CABF	La Chapelle	2.35	349	ePn	Pn	17 40 49.9	-1.2
CABF				ePg	Pg	17 40 55.2	-3.0
CABF				eSg	Sg	17 41 26.0	-3.4
	19nm,0.6s						
CABF	La Chapelle	2.35	349	eP	Pn	17 40 49.9	-1.2
CABF				e		17 41 26.0	
PGF	Pioggiola	2.41	136	ePn	Pn	17 40 49.9	-2.1
PGF				eSn	Sn	17 41 17.8	-4.5
	17nm,0.2s						
SMF	Signal de Mont	3.10	320	ePn	Pn	17 40 57.9	-4.0
SMF				eSg	Sg	17 41 49.0	-5.5
	5.9nm,0.3s						
CAF	Calviac	3.40	282	ePn	Pn	17 41 02.4	-3.6
MTLF	Montolieu	3.41	255	ePn	Pn	17 41 03.1	-3.2
MTLF				ePg	Pg	17 41 14.0	-5.4
MTLF				eSn	Sn	17 41 41.5	-6.2
MTLF				eSg	Sg	17 41 57.5	-7.4
	3.1nm,0.3s						
MTLF	Montolieu	3.41	255	eP	Pn	17 41 03.1	-3.2
MTLF				e		17 41 41.5	
HINF	Hinteralfeld	3.51	1	ePn	Pn	17 41 05.5	-2.1
HINF				ePg	Pg	17 41 17.5	-3.8
HINF				eSn	Sn	17 41 45.0	-5.1
	2.4nm,0.2s						
HINF	Hinteralfeld	3.51	1	eP	Pn	17 41 05.5	-2.1
HINF				e		17 41 45.0	
BGF	Bois d'Agland	3.54	311	ePn	Pn	17 41 05.3	-2.9
BGF				ePg	Pg	17 41 16.8	-5.3
BGF				eSg	Sg	17 42 03.2	-6.1
	11nm,0.4s						
SSF	Saint Saulge	3.56	322	ePn	Pn	17 41 06.5	-2.0
SSF				eSn	Sn	17 41 46.0	-5.5
SSF				eSg	Sg	17 42 03.7	-6.3
	2.2nm,0.4s						
LOR	Lormes	3.58	327	ePn	Pn	17 41 06.5	-2.2
	baz=148						
LOR	Lormes	3.58	327	ePn	Pn	17 41 06.5	-2.2
LOR				eSn	Sn	17 41 46.4	-5.5
LOR				eSg	Sg	17 42 04.2	-6.3
	2.6nm,0.4s						
HAU	Haudompre	3.71	356	ePn	Pn	17 41 08.5	-2.0
HAU				eSn	Sn	17 41 49.6	-5.5
HAU				eSg	Sg	17 42 08.7	-6.0
	6.0nm,0.3s						
TCF	Toulx Ste Croi	3.76	303	ePn	Pn	17 41 09.5	-1.7
SFTF	Sexfontaines	4.07	344	ePn	Pn	17 41 12.4	-3.2
CDF	Champ du Feu	4.12	5	ePn	Pn	17 41 12.5	-3.8
LFF	La Frestale	4.33	280	ePn	Pn	17 41 16.2	-3.1

*HEL **06** 17:44:44.6±0.1, 67.04N×20.77E, ML1.9, Explosion*
*IDC **06** 17:44:47.2±1.0, 67.05N×22.30E, mb1 2.6/3, mb1mx2.6/22, mbtmp2.5/3, ML2.4/3, Error ellipse: s-maj=20.7km s-min=9.3km az=103.0*

ISC 06 17:44:42.8±0.5, 66.96N±0.03×20.8E±0.1, n20, σ1§19/30, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	2.05	360	eP	Pn	17 45 19.3	+0.4
KIF				eS	Sn	17 45 45.6	+0.1
KTK1	Kautokeino	2.25	23	eP	Pn	17 45 22.3	+0.6
SGF	Sodankyl	2.27	75	eP	Pn	17 45 23.0	+1.0
SGF				eS	Sn	17 45 51.4	+0.4
MOR8	Moi Rana	2.68	256	ePB	Pn	17 45 28.2	+0.3
MOR8	Moi Rana	2.68	256	e	Pn	17 45 28.2	+0.3
TRO	Tromso	2.77	346	eSB	Sb	17 46 05.8	-1.9
OUL	Oulu	2.80	130	eP	Pn	17 45 32.1	+2.5
LOF	Lofoten	3.04	296	eP	Pn	17 45 32.1	-0.9
LOF	Lofoten	3.04	296	e	Pn	17 45 32.1	-0.9
ARCES	ARCESS Array B	3.11	32	Pn	Pn	17 45 32.5	-1.5
	0.3nm,0.3s,baz=208,slow=14,SNR=31						
ARCES				Sn	Sn	17 46 08.3	-4.2
	0.9nm,0.3s,baz=203,slow=23,SNR=5.3						
STOK	Stokkvaagen	3.18	262	eP	Pn	17 45 35.7	+0.7
STOK	Stokkvaagen	3.18	262	e	Pn	17 45 35.7	+0.7
KU4	Liikasenvaara	3.53	96	eP	Pn	17 45 40.2	+0.2
KU4				eS	Sn	17 46 22.6	-0.5
KJN	Kajaani	4.06	132	eP	Pn	17 45 49.3	+1.7
KJN				eS	Sn	17 46 36.1	-0.5
SUF	Sumiainen	4.83	150	eP	Pn	17 45 59.6	+1.3
SUF				eS	Sn	17 46 53.9	-1.9
SUF				MSG		17 47 07.0	
	comp=Z,0.8nm,0.1s						
KEF	Keuruu	5.12	158	eP	Pn	17 46 04.0	+1.5
KEF				eS	Sn	17 47 01.8	-1.4
KEF				MSG		17 47 13.4	
	comp=Z,1.2nm,0.1s						
KAF	Kangasniemi	5.41	152	eP	Pn	17 46 07.7	+1.1
KAF				eS	Sn	17 47 09.2	-1.3
KAF				MSG		17 47 19.2	
	comp=Z,1.1nm,0.1s						
FIA0	FINESS Array S	5.99	155	eP	Pn	17 46 14.7	-0.1
FIA0				eS	Sn	17 47 23.1	-2.0
FINES	FINESS Array B	5.99	155	Pn	Pn	17 46 15.5	+0.7
	comp=Z,0.1nm,0.3s,baz=344,slow=13,SNR=4.1						
FINES				Sn	Sn	17 47 23.8	-1.4
	comp=Z,0.2nm,0.3s,baz=346,slow=23,SNR=4.4						
NOA	NORSAR Array B	7.29	220	Pn	Pn	17 46 39.4	+6.3
	comp=Z,0.1nm,0.3s,baz=56,slow=13,SNR=2.2						

*BJI **06** 17:58:33.9, 53.22N×162.29E, h11km, mB5.1, mb5.0, Ms4.7, Msz4.4*
*KRSC **06** 17:58:35.4±2.4, 52.99N×162.76E, h42km±36km, ML5.6*
*HRVD **06** 17:58:38.8±0.3, 53.02N×162.99E, h12km, MW5.0/65, Centroid moment Tensor Solution. LP body waves: s43,c73;Mantle waves: s65,c129; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.12±.11; $M_{\theta\theta}$2.48±.12; $M_{\phi\phi}$1.63±.10; $M_{r\theta}$0.29±.33; $M_{\theta\phi}$2.46±.09; $M_{\phi r}$0.09±.31; Best double couple: $M_0$4.346×10^{16} NP1: ϕ_s48°, δ43°, λ-93°. NP2:ϕ_s232°, δ47°, λ-88°. Principal axes: T 4.56, Plg2°, Azm320°; N -.438, Plg2°, Azm50°; P -4.132, Plg87°, Azm184°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **06** 17:58:38.5±0.4, 52.97N×162.69E, h40km±2km, mb4.7/36, mb1 4.8/36, mb1mx4.8/37, mbtmp4.9/36, ML5.5/1, MS4.2/16, Ms1 4.2/16, ms1mx4.0/29 Error ellipse: s-maj=10.6km s-min=7.6km az=170.0*
*MOS **06** 17:58:38.5±1.2, 52.92N×162.56E, h56km, mb5.3/85, Error ellipse: s-maj=6.8km s-min=4.4km az=98.9*
MOS Felt (II) at Petropavlovsk-Kamchatskii.
*NEIC **06** 17:58:38.8±0.1, 52.95N×162.64E, mb5.1/110, Error ellipse: s-maj=4.5km s-min=2.4km az=174.0*

NEIC Felt [II] at Petropavlovsk-Kamchatskiy.

ISC 06 17:58:37.2±0.1**, 53.03N**±0.02×**162.61E**±0.02**, h40**km**, h40**km±.7km**:pP-P, n537,** σ1§01/555**, mb5.1**/174**, MS4.3**/95**, 22C-25D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.56	273	eP	P	17 59 02.7	-0.3
SPN				eS	S	17 59 22.5	+0.3
MKZ	Mys Kozlova	1.61	341	P	P	17 59 02.8	-0.9
MKZ				S	S	17 59 21.3	-2.2
MKZ	Mys Kozlova	1.61	341	eP	P	17 59 02.8	-0.9
MKZ				eS	S	17 59 22.8	-0.7
NLC	Nalytchevo	1.97	275	P	P	17 59 08.5	-0.3
NLC				S	S	17 59 30.8	-1.7
NLC	Nalytchevo	1.97	275	eP	P	17 59 08.5	-0.3
NLC				eS	S	17 59 31.7	-0.8
KII	Karymskiy	2.14	299	P	P	17 59 10.7	-0.5
KII	Karymskiy	2.14	299	iP	P	17 59 10.6	-0.6
KII				eS	S	17 59 36.2	-0.4
SDLR	Sedlovina	2.26	278	iP	P	17 59 13.1	+0.2
SDLR				eS	S	17 59 40.0	+0.3
UGLR	Uglovaya	2.29	276	eP	P	17 59 13.7	+0.4
UGLR				eS	S	17 59 41.9	+1.4
SMAR	Somma	2.30	277	eP	P	17 59 13.8	+0.2
SMAR				eS	S	17 59 41.8	+0.9
AVH	Avacha	2.34	277	iP	P	17 59 14.6	+0.5
AVH				eS	S	17 59 41.1	-0.8
PET	Petropavlovsk	2.39	271	P	P	17 59 14.6	-0.2
PET				S	S	17 59 41.5	-1.6
PET	Petropavlovsk	2.39	271	eP	P	17 59 14.0	-0.7
PET	Petropavlovsk	2.39	271	eP	P	17 59 14.6	-0.2
PET				eS	S	17 59 42.6	-0.5
KOK	Koryaka	2.41	278	iP	P	17 59 15.1	+0.1
KOK				iS	S	17 59 44.7	+1.2
RUS	Russkaya	2.56	258	P	P	17 59 16.2	-1.1
RUS				S	S	17 59 43.2	-4.2
RUS	Russkaya	2.56	258	eP	P	17 59 16.5	-0.8
RUS				eS	S	17 59 45.6	-1.8
TUMR	Tumrok	2.68	328	eP	P	17 59 19.1	+0.2
TUMR				eS	S	17 59 50.4	0.0
GRL	Gorelyy	2.80	262	iP	P	17 59 20.9	+0.3
GRL				eS	S	17 59 51.6	-1.8
GNL	Ganaly	2.87	285	iP	P	17 59 22.2	+0.5
GNL				eS	S	17 59 55.4	0.0
BKI	Bering	2.94	41	iP	P	17 59 19.5	-3.2
BKI				eS	S	17 59 50.8	-6.3
KMNR	Kamenistaya	3.06	334	iP	P	17 59 24.8	+0.5
KMNR				eS	S	18 00 01.4	+1.3
ZLN	Zelenaya	3.17	341	eP	P	17 59 26.1	+0.2
ZLN				eS	S	18 00 00.9	-2.0
KBTR	Krutoberegovo	3.18	2	P	P	17 59 23.8	-2.3
KBTR				S	S	17 59 57.0	-6.2
KBTR	Krutoberegovo	3.18	2	iP	P	17 59 24.2	-1.9
KBTR				iS	S	18 00 00.9	-2.3
KBG	Krutoberegovo	3.23	1	iP	P	17 59 24.2	-2.5
KBG				eS	S	18 00 00.8	-3.6
KBG				Smax			
	8µm,1.0s						
KPT	Kopyto	3.25	336	iP	P	17 59 27.2	+0.1
KPT				eS	S	18 00 04.0	-1.0
LGNR	Loginova	3.25	341	iP	P	17 59 27.7	+0.6
LGNR				eS	S	18 00 03.7	-1.3
CIRR	Tsirk	3.27	341	iP	P	17 59 27.3	-0.1
CIRR				eS	S	18 00 03.2	-2.3
APC	Apacha	3.30	270	iP	P	17 59 28.3	+0.6
APC				eS	S	18 00 07.0	+0.9
APC				Smax			
	3µm,0.6s						
KRSR	Krestovskiy	3.40	340	iP	P	17 59 28.9	-0.3
KRSR				eS	S	18 00 08.7	-0.1
KOZ	Kozyrevsk	3.42	333	P	P	17 59 30.0	+0.5
KOZ				S	S	18 00 07.6	-1.7
KOZ	Kozyrevsk	3.42	333	iP	P	17 59 29.9	+0.4
KOZ				eS	S	18 00 07.4	-1.9
KOZR	Kozyr	3.42	334	PN	P	17 59 30.0	+0.5
KLY	Klyuchi	3.48	342	P	P	17 59 29.3	-1.0
KLY				S	S	18 00 05.7	-5.0
KLY	Klyuchi	3.48	342	eP	P	17 59 29.2	-1.1
KLY				eS	S	18 00 08.2	-2.5
SVLR	Shiveluch	3.64	348	iP	P	17 59 28.3	-4.3
SVLR				eS	S	18 00 14.8	0.0
MIPR	Malaya Ipel'ka	3.64	260	eP	P	17 59 32.6	0.0
MIPR				eS	S	18 00 13.6	-1.3
ESO	Esso	3.69	323	iP	P	17 59 33.1	-0.1
ESO				eS	S	18 00 16.2	+0.2
ESO				Smax			
	2µm,0.8s						
SRDR	Sredinnyy	3.69	334	eP	P	17 59 32.9	-0.4
SRDR				eS	S	18 00 15.8	-0.4
PAU	Pauzhetka	3.89	249	eP	P	17 59 34.6	-1.5
PAU				eS	S	18 00 19.1	-2.1
SKR	Severo-Kuril's	4.66	242⇓	iPN	P	17 59 41.1	-5.9
SKR				pmax	pmax		
	comp=N,90nm,0.5s						
SKR				pmax	pmax		
	comp=E,220nm,0.5s						
SKR				MLR	MLR		
	comp=N,2µm,14.0s						
SKR				MLR	MLR		
	comp=E,2µm,14.0s						
SKR				MLR	MLR		
	comp=Z,2µm,14.0s						
ALID	Alaid	4.87	246	iP	P	17 59 47.9	-2.1
ALID				eS	S	18 00 42.6	-3.3
FX1	Attu Island--F	6.38	87	Pn	P	18 00 06.5	-4.7
	comp=Z,379nm,0.3s,baz=302,slow=4.0,SNR=1179						
FX1				Sn	S	18 01 11.2	-12
	comp=Z,178nm,0.3s,baz=119,slow=20,SNR=4.0						
FX1	Attu Island--F	6.38	87	eP	P	18 00 06.3	-4.8
SMY	Shemya	6.96	88	ePN	P	18 00 13.9	-5.4
SMY	Shemya	6.96	88	eP	P	18 00 14.6	-4.7
MA2	Magadan	9.28	320c	iPN	P	18 00 50.7	-0.7
MA2				pmax	pmax		
	comp=N,80nm,0.9s						
MA2				pmax	pmax		
	comp=E,100nm,0.9s						
MA2				pmax	pmax		
	comp=Z,200nm,0.9s						
MA2				MLR	MLR		
	comp=Z,2µm,18.0s						
MA2	Magadan	9.28	320	eP	P	18 00 50.5	-0.9
	comp=Z,369nm,0.9s						
SEY	Seymchan	11.29	335	ePN	P	18 01 17.3	-1.5
SEY				pmax	pmax		
	comp=E,10.0nm,0.9s						
SEY				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SEY				pmax	pmax		
	comp=N,10.0nm,0.7s						
OKH	Okha	11.79	280	ePN	P	18 01 20.0	-5.5
OKH				pmax	pmax		
	comp=Z,1µm,8.0s						
OKH				MLR	MLR		
	comp=Z,2µm,13.0s						
GSTR	Great Sitkin T	13.01	86	eP	P	18 01 37.4	-4.4
UGL	Uglegorsk	13.50	261	ePN	P	18 01 49.0	+0.8
UGL				e		18 04 24.0	
UGL				pmax	pmax		
	comp=Z,55nm,0.7s						
UGL				pmax	pmax		
	comp=Z,600nm,3.5s						
UGL				MLR	MLR		
	comp=N,500nm,18.0s						
UGL				MLR	MLR		
	comp=E,1µm,18.0s						
UGL				MLR	MLR		
	comp=Z,1µm,18.0s						
YSS	Yuzh-Sakhalins	14.12	252⇑	iP	P	18 01 55.0	-1.3
YSS				eS	S	18 04 30.0	-2.6
YSS				pmax	pmax		
	comp=N,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				MLR	MLR		
	comp=E,700nm,18.0s						
YSS				MLR	MLR		
	comp=Z,800nm,18.0s						
YSS				MLR	MLR		
	comp=N,500nm,16.0s						
YSS	Yuzh-Sakhalins	14.12	252	eP	P	18 01 54.6	-1.8
	comp=N,85nm,1.2s						
YUK	Yuzh-Kuril'sk	14.26	238	eP	P	18 01 50.0	-8.1
YUK				pmax	pmax		
	comp=Z,2µm,1.0s						
YUK				pmax	pmax		
	comp=N,250nm,0.5s						
YUK				pmax	pmax		
	comp=E,150nm,0.5s						
YUK				pmax	pmax		
	comp=Z,360nm,0.5s						
YUK				MLR	MLR		
	comp=Z,2µm,16.0s						
YUK				MLR	MLR		
	comp=E,2µm,15.0s						
ASAJ	Asahikawa	15.92	244	P	P	18 02 17.3	-2.4
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,621nm,18.1s						
ASAJ	Asahikawa	15.92	244	Pn	P	18 02 17.2	-2.5
	comp=Z,5.1nm,0.3s,baz=78,slow=15,SNR=47						
ASAJ				LR	LR	18 09 34.8	
	comp=Z,621nm,18.1s,baz=57,slow=41						
AKUT	Akutan	18.73	74	eP	P	18 02 55.1	+0.4
TNA	Tin City	19.34	38	eP	P	18 03 01.3	-0.3
	comp=Z,64nm,1.0s						
YAK	Yakutsk	19.63	310c	iP	P	18 03 00.5	-4.3
YAK				iS	S	18 06 36.2	-2.4
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,49nm,0.9s						
YAK				pmax	pmax		
	comp=E,11nm,1.1s						
YAK				pmax	pmax		
	comp=Z,61nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,33nm,1.2s						
YAK				smax			
	comp=E,15nm,1.0s						
YAK				smax			
	comp=N,15nm,0.9s						
YAK				smax			
	comp=Z,9.0nm,0.9s						
YAK				MLR	MLR		
	comp=N,405nm,15.0s						
YAK				MLR	MLR		
	comp=Z,1µm,15.0s						
YAK				MLR	MLR		
	comp=E,940nm,16.0s						
YAK	Yakutsk	19.63	310	eP	P	18 03 00.3	-4.5
	comp=E,117nm,0.8s						
CLNS	Chul'man	21.81	295	eP	P	18 03 29.0	+1.8
CLNS				e		18 03 49.0	
CLNS				ePPP	PPP	18 03 57.9	-5.2
CLNS				eS	S	18 07 24.1	+3.2
CLNS				e		18 07 27.9	
CLNS				eSS	SS	18 08 03.9	+4.2
CLNS				pmax	pmax		
	comp=N,21nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,35nm,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=E,23nm,0.8s						
CLNS				smax			
	comp=N,33nm,1.1s						
CLNS				smax			
	comp=Z,15nm,1.0s						
CLNS				smax			
	comp=E,28nm,1.3s						
CLNS				MLR	MLR		
	comp=N,400nm,13.0s,MS4.1						
CLNS				MLR	MLR		
	comp=E,200nm,13.0s,MS4.1						
CLNS				MLR	MLR		
	comp=Z,1µm,13.0s,MS4.5						
MDJ	Mudanjiang	23.14	262	P	P	18 03 39.6	-0.7
MDJ				PCP	PcP	18 07 29.6	-0.1
MDJ				S	S	18 07 50.2	+5.3
MDJ				SCP		18 11 08.2	
MDJ				SCS	ScS	18 14 53.9	+6.3
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,109nm,4.2s						
MDJ				LR	LR		
	comp=N,903nm,24.2s,MS4.2						
MDJ				LR	LR		
	comp=E,443nm,25.2s,MS4.2						
MDJ				LR	LR		
	comp=Z,525nm,17.7s						
TTA	Tatalina	23.64	49	eP	P	18 03 46.3	+1.3
MAJO	Matsushiro	23.73	236	eP	P	18 03 46.3	+0.1
MAJO				pmax	pmax		
	comp=Z,93nm,0.9s,mb5.2						
MAJO				MLR	MLR		
	comp=Z,440nm,21.0s,MS3.9						
MAJO	Matsushiro	23.73	236	eP	P	18 03 46.3	+0.1
	comp=Z,93nm,0.9s,mb5.2						
MAJO				LR	LR		
	comp=Z,440nm,21.0s,MS3.9						
MAT	Matsushiro	23.73	236	eP	P	18 03 46.0	-0.2
MAT				pmax	pmax		
	comp=Z,65nm,0.8s,mb5.1						
MAT	Matsushiro	23.73	236	eP	P	18 03 46.0	-0.2
	comp=Z,65nm,0.8s,mb5.1						
MAT				eS	S	18 08 07.0	+12
MAT	Matsushiro	23.73	236	P	P	18 03 46.4	+0.2
MAT				S	S	18 08 07.0	+12
MJAR	Matsushiro Arr	23.73	236	P	P	18 03 46.7	+0.5
MJAR				pmax	pmax		
	comp=Z,16nm,0.7s						
MJAR				MLR	MLR		
	comp=Z,316nm,18.3s						
MJAR	Matsushiro Arr	23.73	236	P	P	18 03 46.7	+0.5
	comp=Z,16nm,0.7s,mb4.6,baz=28,slow=6.7,SNR=51						
MJAR				LR	LR	18 14 27.6	
	comp=Z,316nm,18.2s,MS3.8,baz=50,slow=40						
MJAR	Matsushiro Arr	23.73	236	P	P	18 03 46.7	+0.5
MJAR				LR	LR	18 14 27.6	
SVW2	Sparrevohn	23.75	54	eP	P	18 03 47.6	+1.6
IMA	Indian Mountai	25.07	42	eP	P	18 03 58.7	-0.2
IMA				pmax	pmax		
	comp=Z,140nm,1.0s,mb5.5						
IMA	Indian Mountai	25.07	42	eP	P	18 03 58.9	0.0
RSO	Redoubt South	25.14	55	eP	P	18 03 59.9	+0.3
SPU	Mount Spurr	25.45	53	eP	P	18 04 02.4	-0.1
CN2	Changchun	26.07	264	eP	P	18 04 06.6	-1.9
CN2				eS	S	18 08 34.8	+0.2
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,900nm,21.0s,MS4.4						
CN2				LR	LR		
	comp=E,800nm,21.0s,MS4.4						
CN2				LR	LR		
	comp=Z,700nm,21.0s,MS4.2						
SLKM	Skilak Lake	26.39	55	eP	P	18 04 10.1	-1.1
HIA	Hailar	26.85	279	eP	P	18 04 13.3	-2.3
HIA				pmax	pmax		
	comp=Z,46nm,0.8s						
HIA	Hailar	26.85	279	eP	P	18 04 13.3	-2.2
	comp=Z,46nm,0.8s,mb5.0						
SML	Sawmill	27.21	52	eP	P	18 04 16.8	-1.9
BOD	Bodaibo	27.50	300	eP	P	18 04 18.3	-3.1
BOD				e		18 08 52.3	
BOD				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.7						
ILAR	Eielson Array	27.78	45	P	P	18 04 22.4	-1.5
ILAR				pmax	pmax		
	comp=Z,12nm,0.9s						
ILAR				MLR	MLR		
	comp=Z,346nm,18.4s						
ILAR	Eielson Array	27.78	45	P	P	18 04 22.4	-1.5
	comp=Z,12nm,0.9s,mb4.5,baz=260,slow=8.6,SNR=82						
ILAR				LR	LR	18 15 49.6	
	comp=Z,346nm,18.4s,MS4.0,baz=111,slow=37						
SNY	Shenyang	28.34	263	⇓P	P	18 04 29.2	+0.1
SNY				AP	pP	18 04 38.7	-1.4
SNY				XP	sP	18 04 42.5	-2.7
SNY				S	S	18 09 10.8	-0.5
SNY				AMB	AMB		
	comp=Z,20nm,2.4s,mb4.3						
SNY				AMB	AMB		
	comp=Z,130nm,9.2s						
SNY				LR	LR		
	comp=N,730nm,16.7s						
SNY				LR	LR		
	comp=Z,710nm,16.7s,MS4.3						
DIV	Divide	28.50	53	eP	P	18 04 29.2	-1.1
	comp=Z,67nm,1.0s,mb5.2						
DIV				LR	LR		
	comp=Z,1µm,20.0s,MS4.5						
EYAK	Cordova Ski Ar	28.58	54	eP	P	18 04 29.5	-1.6
INCN	Inchon	29.34	253	PFAKE		18 04 50.0	+12
INCN				LR	LR		
	comp=Z,354nm,20.0s,MS4.0						
CIT	Chita	29.40	288	eP	P	18 04 36.8	-1.7
CIT				e	pP	18 04 49.6	+0.1
CIT				e		18 05 30.2	
JNU	Nakatsue	30.17	241	LR	LR	18 16 48.7	
	comp=Z,168nm,18.9s,MS3.7,baz=8.6,slow=36						
DL2	Dalian	31.32	260	P	P	18 04 55.5	-0.2
DL2				S	S	18 10 01.2	+2.6
DL2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
DL2				LR	LR		
	comp=N,260nm,16.1s,MS4.1						
DL2				LR	LR		
	comp=E,190nm,16.5s,MS4.1						
DL2				LR	LR		
	comp=Z,320nm,16.1s,MS4.1						
INK	Inuvik	32.99	38	eP	P	18 05 09.7	-0.2
INK				pmax	pmax		
	comp=Z,26nm,1.0s						
INK	Inuvik	32.99	38	P	P	18 05 09.5	-0.4
	comp=Z,15nm,0.9s,mb4.9,baz=289,slow=6.9,SNR=15						
INK	Inuvik	32.99	38	eP	P	18 05 09.7	-0.3
	comp=Z,26nm,1.0s,mb5.1						
IRK	Irkutsk	34.56	293	eP	P	18 05 24.6	+1.0
IRK				e		18 06 57.2	
IRK				pmax	pmax		
	comp=Z,24nm,3.0s						
SIT	Sitka	34.70	58	eP	P	18 05 23.8	-1.0
SIT				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.5						
SIT				MLR	MLR		
	comp=Z,631nm,20.0s,MS4.4						
SIT	Sitka	34.70	58	eP	P	18 05 23.8	-0.9
	comp=Z,56nm,1.0s,mb5.5						
SIT				LR	LR		
	comp=Z,631nm,20.0s,MS4.4						
ULN	Ulaanbaatar	34.99	284	eP	P	18 05 27.0	-0.3
ULN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
ULN	Ulaanbaatar	34.99	284	eP	P	18 05 27.0	-0.3
	comp=Z,8.6nm,0.9s,mb4.7						
TLY	Talaya	35.16	292	eP	P	18 05 30.4	+1.7
TLY				eS	S	18 11 04.0	+5.9
TLY				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
TLY				MLR	MLR		
	comp=Z,604nm,18.0s,MS4.4						
SONM	Songino Array	35.39	285	P	P	18 05 30.0	-0.7
	comp=Z,5.0nm,0.7s,mb4.6,baz=62,slow=7.7,SNR=31						
SONM				pP	pP	18 05 42.4	+0.4
	comp=Z,6.3nm,0.6s,baz=60,slow=8.1,SNR=14						
SONM				PcP	PcP	18 07 59.7	-0.7
	comp=Z,6.4nm,0.9s,baz=58,slow=2.5,SNR=9.1						
SONM				pPcP		18 08 12.4	
	comp=Z,5.8nm,0.9s,baz=59,slow=2.1,SNR=6.5						
SONM				LR	LR	18 21 47.7	
	comp=Z,634nm,18.1s,MS4.4,baz=61,slow=39						
TIA	Tai'an	35.78	260	eP	P	18 05 33.6	-0.6
TIA				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
ZAK	Zakamensk	35.95	290	eP	P	18 05 34.9	-0.6
ZAK				e		18 07 57.6	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
HHC	Hu-ho-hao-te	36.16	271	eP	P	18 05 39.5	+2.1
HHC				PP	PP	18 07 00.4	-0.2
HHC				S	S	18 11 22.3	+8.6
HHC				SCP		18 11 46.9	
HHC				SCS	ScS	18 15 53.9	+5.0
HHC				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
HHC				LR	LR		
	comp=N,598nm,20.4s,MS4.5						
HHC				LR	LR		
	comp=E,478nm,19.2s,MS4.5						
HHC				LR	LR		
	comp=Z,481nm,18.0s,MS4.3						
JOW	Kunigami	36.54	238	P	P	18 05 40.9	+0.2
	comp=Z,57nm,1.0s,mb5.4,baz=157,slow=8.8,SNR=4.8						
MOY	Mondy	36.64	293	eP	P	18 05 42.3	+1.0
DLBC	Dease Lake	36.86	54	eP	P	18 05 44.6	+1.6
SSE	Sheshan	37.05	250	P	P	18 05 43.9	-1.0
SSE				PP	PP	18 07 07.0	-5.1
SSE				S	S	18 11 29.7	+2.2
SSE				XS		18 11 34.6	
SSE				AMB	AMB		
	comp=Z,35nm,0.9s,mb5.2						
SSE				LR	LR		
	comp=N,80nm,23.1s,MS3.6						
SSE				LR	LR		
	comp=E,90nm,23.1s,MS3.6						
SSE				LR	LR		
	comp=Z,103nm,18.2s,MS3.7						
NJ2	Nanjing	37.69	254	eP	P	18 05 50.3	0.0
NJ2				AP	pP	18 05 54.8	-6.8
NJ2				XP	sP	18 05 57.3	-9.3
NJ2				PP	PP	18 07 18.8	-0.8
NJ2				S	S	18 11 37.0	-0.1
NJ2				XS		18 11 46.0	
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,140nm,4.0s						
NJ2				LR	LR		
	comp=N,630nm,10.8s						
NJ2				LR	LR		
	comp=E,730nm,27.4s						
NJ2				LR	LR		
	comp=Z,420nm,20.4s						
WHN	Wuhan	41.42	257	⇓P	P	18 06 21.2	0.0
WHN				AMB	AMB		
	comp=Z,54nm,1.0s,mb5.1						
GUMO	Guam	41.81	206	PFAKE		18 06 40.0	+15
GUMO				LR	LR		
	comp=Z,369nm,21.0s,MS4.2						
YKW3	Yellowknife Ar	42.14	43	eP	P	18 06 26.5	-0.1
YKA	Yellowknife Ar	42.17	43	P	P	18 06 26.8	-0.1
YKA				*PP	pP	18 06 38.5	+0.2
YKA						18 08 19.7	
YKA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
YKA	Yellowknife Ar	42.17	43	P	P	18 06 26.8	-0.1
	comp=Z,6.1nm,0.6s,mb4.4,baz=296,slow=7.9,SNR=21						
YKA				pP	pP	18 06 38.5	+0.2
	comp=Z,4.1nm,0.6s,baz=297,slow=8.0,SNR=6.4						
YKA				PcP	PcP	18 08 19.7	-1.6
	comp=Z,1.8nm,0.8s,baz=303,slow=3.6,SNR=4.5						
YKA	Yellowknife Ar	42.17	43	P	P	18 06 26.8	-0.1
YKA				pP	pP	18 06 38.5	+0.2
YKA				PcP	PcP	18 08 19.7	-1.6
LZH	Lanzhou	43.86	272	eP	P	18 06 41.7	+0.7
LZH				AP	pP	18 06 45.8	-6.6
LZH				XP	sP	18 06 49.1	-8.3
LZH				PP	PP	18 08 26.0	+1.1
LZH				S	S	18 13 12.4	+3.6
LZH				XS		18 13 24.4	
LZH				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
LZH				LR	LR		
	comp=N,1µm,15.0s						
LZH				LR	LR		
	comp=Z,720nm,16.5s,MS4.7						
ZAL	Zalesovo	44.09	304	P	P	18 06 42.6	0.0
	comp=Z,1.8nm,0.4s,mb4.1,baz=64,slow=6.3,SNR=8.1						
ZAL				PcP	PcP	18 08 27.9	0.0
	comp=Z,4.6nm,0.9s,baz=28,slow=3.1,SNR=6.8						
ZAL				pPcP		18 08 39.8	
	comp=Z,6.0nm,0.9s,baz=64,slow=7.6,SNR=8.0						
ZAL				LR	LR	18 28 23.5	
	comp=Z,730nm,18.9s,MS4.6,baz=53,slow=40						
GTA	Gaotai	44.12	278	eP	P	18 06 43.8	+0.7
GTA				AP	pP	18 06 46.7	-7.8

GTA XP sP 18 06 48.7 -11
GTA PCP PcP 18 08 28.7 +0.5
GTA SCP 18 12 20.1
GTA PCS 18 12 21.0
GTA S **S** **18 13 17.3 +4.8**
GTA XS 18 13 24.6
GTA SS SS 18 16 25.2 +2.9
GTA SCS ScS 18 16 41.1 +5.4
GTA AMB AMB
comp=Z,6.0nm,0.8s,mb4.4
GTA AMB AMB
comp=Z,207nm,6.5s
GTA LR LR
comp=N,721nm,16.0s,MS4.8
GTA LR LR
comp=E,720nm,15.2s,MS4.8
GTA LR LR
comp=Z,267nm,24.3s
NVS Novosibirsk 44.39 306 *e*P **P** **18 06 43.2 -1.8**
NVS *e* 18 08 26.0
NVS *e*S **S** **18 13 13.1 -3.1**
NVS pmax pmax
comp=Z,41nm,1.2s,mb5.0
NVS pmax pmax
comp=N,24nm,1.4s
NVS pmax pmax
comp=E,48nm,1.4s
NVS smax
comp=N,21nm,1.6s
NVS smax
comp=E,23nm,2.0s
ENH Enshi 44.49 261 *e*P **P** **18 06 45.9 -0.3**
comp=E,64nm,0.8s,mb5.4
PNT Penticton 46.66 62 P **P** **18 07 02.7 -0.4**
TWW Teanaway 47.27 65 P **P** **18 07 08.4 +0.4**
CD2 Chengdu 47.48 266 P **P** **18 07 09.4 -0.4**
CD2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
COR Corvallis 47.48 69 PFAKE 18 07 20.0 +10
COR LR LR
comp=Z,164nm,19.0s,MS4.0
EBG Ellensburg 47.58 65 P **P** **18 07 10.6 +0.2**
EDM Edmonton 47.58 54 *e*P **P** **18 07 09.8 -0.5**
SSOR Sweet Springs 47.78 68 P **P** **18 07 12.3 +0.3**
OD2 Odessa Site #2 48.29 63 P **P** **18 07 15.3 -0.6**
WMQ Urumqi 48.42 291 *e*P **P** **18 07 16.2 -0.7**
WMQ AP pP 18 07 18.8 -10
WMQ PP PP 18 09 10.7 +1.4
WMQ S **S** **18 14 19.0 +5.4**
WMQ SCS ScS 18 17 09.9 +6.6
WMQ AMB AMB
comp=Z,26nm,0.8s,mb5.3
WMQ AMB AMB
comp=Z,316nm,5.0s
WMQ LR LR
comp=N,575nm,16.2s,MS4.8
WMQ LR LR
comp=E,631nm,14.8s,MS4.8
WMQ LR LR
comp=Z,1μm,14.8s,MS5.0
NEW Newport 48.61 61 *e*P **P** **18 07 18.0 -0.4**
NEW pmax pmax
comp=Z,12nm,1.0s
NEW MLR MLR
comp=Z,173nm,20.0s
NEW Newport 48.61 61 *e*P **P** **18 07 18.0 -0.4**
comp=Z,12nm,1.0s,mb4.9
NEW LR LR
comp=Z,173nm,20.0s,MS4.0
HUMO Hull Mountain 48.91 71 *e*P **P** **18 07 21.3 +0.5**
comp=Z,6.8nm,0.9s,mb4.7
HUMO LR LR
comp=Z,217nm,22.0s,MS4.1
GYA Guiyang 48.98 260 ⇓*i*P **P** **18 07 21.1 -0.4**
GYA PP PP 18 09 16.8 +1.7
GYA SCP 18 12 37.6
GYA S **S** **18 14 30.8 +9.1**
GYA AMB AMB
comp=Z,40nm,0.9s,mb5.5
GYA AMB AMB
comp=Z,250nm,5.8s
GYA LR LR
comp=N,750nm,20.1s,MS4.8
GYA LR LR
comp=E,500nm,17.5s,MS4.8
GYA LR LR
comp=Z,560nm,20.0s,MS4.5
MKAR Makanchi Array 49.54 297 P **P** **18 07 24.3 -1.3**
MKAR *PP pP 18 07 37.3 +0.2
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR MLR MLR
comp=Z,268nm,18.3s
MKAR Makanchi Array 49.54 297 P **P** **18 07 24.3 -1.3**
comp=Z,2.2nm,0.4s,mb4.6,baz=57,slow=6.5,SNR=33
MKAR pP pP 18 07 37.3 +0.2
comp=Z,4.5nm,0.5s,baz=59,slow=8.6,SNR=11
MKAR LR LR 18 30 45.5
comp=Z,268nm,18.3s,MS4.3,baz=24,slow=39
YBH Yreka Blue Hor 49.61 71 *e*P **P** **18 07 26.7 +0.5**
YBH pmax pmax
comp=Z,13nm,1.0s
YBH Yreka Blue Hor 49.61 71 P **P** **18 07 26.6 +0.4**
comp=Z,9.5nm,0.7s,mb4.9,baz=334,slow=2.3,SNR=29
YBH Yreka Blue Hor 49.61 71 *e*P **P** **18 07 26.7 +0.5**
comp=Z,13nm,1.0s,mb4.9
LAMM Antelope Mount 49.74 71 P **P** **18 07 27.9 +0.7**
WDC Whiskeytown Da 50.46 72 *e*P **P** **18 07 32.1 -0.6**
WDC pmax pmax
comp=Z,15nm,0.9s,mb5.0
WDC Whiskeytown Da 50.46 72 *e*P **P** **18 07 32.1 -0.6**
comp=Z,16nm,0.9s,mb5.0
BMO Blue Mountains 50.64 65 *e*P **P** **18 07 33.2 -0.8**
comp=Z,17nm,1.2s,mb4.8
BMO *e*PcP PcP 18 08 50.0 -1.2
BMO LR LR
comp=Z,187nm,19.0s,MS4.1
MOD Modoc 50.87 70 *e*P **P** **18 07 35.3 -0.5**
comp=Z,20nm,0.8s,mb5.1
MOD LR LR
comp=Z,174nm,20.0s,MS4.1
MSO Missoula 51.19 61 *e*P **P** **18 07 36.9 -1.3**
comp=Z,16nm,1.3s,mb4.8
MSO *e*PcP PcP 18 08 52.1 -1.2
MSO LR LR
comp=Z,149nm,19.0s,MS4.0
WVOR Wild Horse Val 51.46 68 *e*P **P** **18 07 40.0 -0.3**
WVOR pmax pmax
comp=Z,13nm,0.8s,mb4.9
WVOR MLR MLR
comp=Z,231nm,19.0s,MS4.2
WVOR Wild Horse Val 51.46 68 *e*P **P** **18 07 40.0 -0.3**
comp=Z,13nm,0.8s,mb4.9
WVOR LR LR
comp=Z,231nm,19.0s,MS4.2
CHMT Chamberlain Mo 51.50 61 *e*P **P** **18 07 39.5 -1.0**
VOSK Vostochnaya 51.52 309 P **P** **18 07 39.1 -1.4**
VOSK pmax pmax
comp=Z,43nm,1.1s,mb5.3
BVAR Borovoye Array 51.61 310 P **P** **18 07 40.2 -1.0**
comp=Z,13nm,0.6s,mb5.0,baz=53,slow=7.4,SNR=89
BVAR pP pP 18 07 52.7 -0.1
comp=Z,24nm,0.6s,baz=53,slow=7.4,SNR=18
BVAR PcP PcP 18 08 54.4 -0.3
comp=Z,6.4nm,0.7s,baz=45,slow=4.1,SNR=2.4
BVAR pPcP 18 09 05.8
comp=Z,7.0nm,0.7s,baz=75,slow=3.1,SNR=4.2
FFC Flin Flon 51.96 47 *e*P **P** **18 07 43.4 -0.4**
FFC pmax pmax
comp=Z,32nm,1.5s,mb5.0
FFC MLR MLR
comp=Z,59nm,19.0s,MS3.6
FFC Flin Flon 51.96 47 *e*P **P** **18 07 43.4 -0.4**
comp=Z,32nm,1.5s,mb5.0
FFC LR LR
comp=Z,59nm,19.0s,MS3.6
BEKR Beckwourth 52.18 72 *e*P **P** **18 07 45.3 -0.4**
comp=Z,10nm,0.8s,mb4.8
ZRNK Zerenda 52.30 310 P **P** **18 07 45.3 -1.0**
ZRNK pmax pmax
comp=Z,43nm,0.9s,mb5.4
ZRNK Zerenda 52.30 310 *e*P **P** **18 07 45.2 -1.1**
KMI Kunming 52.31 262 P **P** **18 07 44.8 -2.0**
KMI XP sP 18 07 57.3 -5.9
KMI PCP PcP 18 08 55.5 -2.2
KMI PP PP 18 09 43.3 -3.2

KMI PPP PPP 18 10 41.1 -10
KMI S **S** **18 15 09.2 +1.4**
KMI XS 18 15 24.9
KMI AMB AMB
comp=Z,22nm,1.5s,mb4.9
KMI AMB AMB
comp=Z,198nm,3.6s
KMI LR LR
comp=N,393nm,20.1s,MS4.6
KMI LR LR
comp=E,387nm,22.4s,MS4.6
KMI LR LR
comp=Z,356nm,17.8s,MS4.5
HRY Holter Researc 52.38 60 *e*P **P** **18 07 46.7 -0.3**
QIZ Qiongzhong 52.84 251 P **P** **18 07 52.1 +1.2**
QIZ S **S** **18 15 20.5 +5.4**
QIZ LR LR
comp=E,195nm,18.2s
QIZ LR LR
comp=Z,210nm,18.4s,MS4.2
WCN Washoe City 52.90 72 *e*P **P** **18 07 51.5 +0.4**
WCN pmax pmax
comp=Z,12nm,0.9s,mb4.8
WCN Washoe City 52.90 72 *e*P **P** **18 07 51.5 +0.4**
comp=Z,12nm,0.9s,mb4.8
SOKR Solikamsk 52.97 322 *e*P **P** **18 07 52.6 +1.3**
SOKR pmax pmax
comp=Z,60nm,1.1s,mb5.4
SOKR MLR MLR
comp=Z,870nm,15.0s,MS4.9
HLID Hailey 53.06 65 *e*P **P** **18 07 51.8 -0.4**
comp=Z,7.8nm,0.9s,mb4.6
MCMT McKenzie Canyo 53.07 62 *e*P **P** **18 07 51.4 -0.8**
BOZ Bozeman (W) 53.18 61 *e*P **P** **18 07 52.8 -0.2**
BOZ pmax pmax
comp=Z,17nm,0.8s,mb5.0
BOZ MLR MLR
comp=Z,194nm,21.0s,MS4.1
BOZ Bozeman (W) 53.18 61 *e*P **P** **18 07 52.8 -0.3**
comp=Z,17nm,0.8s,mb5.0
BOZ LR LR
comp=Z,194nm,21.0s,MS4.1
KEV Kevo 53.34 342 PFAKE 18 08 10.0 +16
KEV LR LR
comp=Z,194nm,20.0s,MS4.2
SVE Sverdlovsk 53.35 318 *e*P **P** **18 07 53.5 -0.7**
SVE *e* pP 18 08 04.0 -1.8
SVE *e* 18 09 05.0
SVE *e*S **S** **18 15 21.0 -0.5**
SVE MLR MLR
comp=N,200nm,14.0s,MS4.5
SVE MLR MLR
comp=E,200nm,14.0s,MS4.5
SVE MLR MLR
comp=Z,600nm,14.0s,MS4.8
CMB Columbia Colle 53.40 73 *e*P **P** **18 07 53.5 -1.3**
CMB pmax pmax
comp=Z,27nm,1.5s,mb5.0
CMB MLR MLR
comp=Z,133nm,19.0s,MS4.0
CMB Columbia Colle 53.40 73 *e*P **P** **18 07 53.5 -1.2**
comp=Z,27nm,1.5s,mb5.0
CMB LR LR
comp=Z,133nm,19.0s,MS4.0
BMN Battle Mountai 53.59 69 *e*P **P** **18 07 56.2 +0.1**
BMN pmax pmax
comp=Z,29nm,0.9s,mb5.2
BMN MLR MLR
comp=Z,139nm,22.0s,MS4.0
BMN Battle Mountai 53.59 69 *e*P **P** **18 07 56.2 0.0**
comp=Z,29nm,0.9s,mb5.2
BMN LR LR
comp=Z,139nm,22.0s,MS4.0
ARCES ARCESS Array B 53.81 343 P **P** **18 07 55.9 -1.5**
ARCES pmax pmax
comp=Z,6.0nm,0.6s
ARCES MLR MLR
comp=Z,201nm,18.1s
ARCES ARCESS Array B 53.81 343 P **P** **18 07 55.9 -1.5**
comp=Z,6.3nm,0.6s,mb4.7,baz=35,slow=9.2,SNR=22
ARCES LR LR 18 33 41.5
comp=Z,201nm,18.1s,MS4.2,baz=220,slow=39
ARE0 ARCESS Array S 53.81 343 *e*P **P** **18 07 56.4 -1.0**
QLMT Earthquake Lak 53.82 62 *e*P **P** **18 07 57.5 -0.3**
SUMG Summit 53.83 8 *e*P **P** **18 07 57.2 -0.3**
comp=Z,48nm,0.9s,mb5.4
APA Apatity 53.88 338 ⇓*i*P **P** **18 07 57.0 -0.9**
APA *e*S **S** **18 15 29.0 +0.5**
APA pmax pmax
comp=Z,12nm,0.8s,mb4.9
APA MLR MLR
comp=Z,600nm,16.0s,MS4.8
NVAR Mina Array Bea 54.33 72 P **P** **18 08 01.5 -0.1**
comp=Z,12nm,0.8s,mb4.9,baz=304,slow=5.8,SNR=78
YFT Old Faithful 54.39 62 *e*P **P** **18 08 03.5 +1.5**
YFT *e*PcP PcP 18 09 07.1 +1.8
ARU Arti 54.46 319 ⇓*i*P **P** **18 08 02.1 -0.2**
ARU *i* 18 09 05.6
ARU *i* 18 10 03.8
ARU *e*PPP PPP 18 11 12.5 -5.1
ARU *e*S **S** **18 15 38.8 +2.4**
ARU *e* 18 17 47.0
ARU *e*SS SS 18 19 22.0 +3.3
ARU pmax pmax
comp=Z,44nm,0.8s,mb5.4
ARU MLR MLR
comp=Z,500nm,16.5s,MS4.7
ARU MLR MLR
comp=N,400nm,16.0s,MS4.6
ARU MLR MLR
comp=E,100nm,17.0s,MS4.6
ARU Arti 54.46 319 *e*P **P** **18 08 01.9 -0.4**
comp=E,81nm,0.9s,mb5.7
ARU LR LR
comp=Z,123nm,20.0s,MS4.0
OMM Old Mammoth Mi 54.49 73 *e*P **P** **18 08 03.6 +0.8**
ELK Elko 54.49 68 *e*P **P** **18 08 02.6 -0.2**
ELK pmax pmax
comp=Z,18nm,0.8s
ELK MLR MLR
comp=Z,226nm,21.0s
ELK Elko 54.49 68 P **P** **18 08 03.1 +0.3**
comp=Z,18nm,0.8s,mb5.0,baz=68,slow=1.1,SNR=42
ELK Elko 54.49 68 *e*P **P** **18 08 02.6 -0.1**
comp=Z,18nm,0.8s,mb5.0
ELK LR LR
comp=Z,226nm,21.0s,MS4.2
LKWY Lake 54.55 61 PFAKE 18 08 20.0 +17
LKWY LR LR
comp=Z,387nm,21.0s,MS4.5
IMW Indian Meadow 54.71 62 *e*P **P** **18 08 04.4 +0.1**
comp=Z,28nm,1.1s,mb5.2
RRI2 Red Ridge 54.88 63 *e*P **P** **18 08 06.0 +0.5**
comp=Z,11nm,0.8s,mb4.9
MOOW Moose Ponds 54.91 62 *e*P **P** **18 08 05.8 0.0**
comp=Z,14nm,0.8s,mb5.0
MTUM Tungsten Hills 54.92 73 *e*P **P** **18 08 06.2 +0.3**
TPAW Teton Pass 54.98 62 *e*P **P** **18 08 07.0 +0.7**
comp=Z,11nm,1.0s,mb4.8
LOHW Long Hollow 55.08 62 *e*P **P** **18 08 07.0 0.0**
comp=Z,20nm,1.0s,mb5.1
REDW Red Top Meadow 55.12 63 *e*P **P** **18 08 07.9 +0.6**
comp=Z,13nm,1.0s,mb4.9
HVU Hansel Valley 55.15 65 *e*P **P** **18 08 07.6 +0.1**
TPH Tonopah 55.19 71 *e*P **P** **18 08 07.9 0.0**
TPH pmax pmax
comp=Z,43nm,0.9s,mb5.5
TPH MLR MLR
comp=Z,141nm,22.0s,MS4.0
TPH Tonopah 55.19 71 *e*P **P** **18 08 07.9 0.0**
comp=Z,43nm,0.9s,mb5.5
TPH LR LR
comp=Z,141nm,22.0s,MS4.0
LAO LASA Array 55.28 57 *e*P **P** **18 08 08.3 -0.1**
comp=Z,47nm,0.9s,mb5.5
LAO LR LR
comp=Z,302nm,20.0s,MS4.4
AHID Auburn Hatcher 55.39 63 *e*P **P** **18 08 09.2 0.0**
comp=Z,23nm,1.0s,mb5.2
AHID LR LR
comp=Z,205nm,20.0s,MS4.2
BGU Big Grassy Mou 55.59 66 *e*P **P** **18 08 10.3 -0.5**
SPUT South Promonto 55.65 65 *e*P **P** **18 08 11.2 +0.1**
TKM2 Tokmak 2 55.67 297 P **P** **18 08 11.5 +0.2**
SNR=14
ULHL Ulahol 55.79 296 P **P** **18 08 12.5 +0.3**

SNR=22
HWUT Hardware Ranch 55.93 65 *e*P **P** **18 08 12.7 -0.5**
comp=Z,30nm,0.9s,mb5.3
TRCR Troy Canyon 55.93 70 *e*P **P** **18 08 12.9 -0.3**
USP Ospenovka 56.02 298 P **P** **18 08 14.1 +0.3**
SNR=25
CHMS Chumysh 56.07 298 P **P** **18 08 14.2 +0.1**
SNR=14
KBK Karagaybulak 56.20 298 P **P** **18 08 15.4 +0.3**
SNR=11
BW06 Boulder Array 56.22 62 PFAKE 18 08 30.0 +15
BW06 LR LR
comp=Z,188nm,19.0s,MS4.2
PDAR Pinedale Array 56.22 62 P **P** **18 08 15.1 -0.2**
comp=Z,24nm,0.8s,mb5.3,baz=311,slow=2.5,SNR=167
DAC Darwin (Calif) 56.22 73 *e*P **P** **18 08 14.9 -0.4**
DAC pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
DAC MLR MLR
comp=Z,197nm,19.0s,MS4.2
DAC Darwin (Calif) 56.22 73 *e*P **P** **18 08 14.9 -0.5**
comp=Z,7.1nm,0.7s,mb4.8
DAC LR LR
comp=Z,197nm,19.0s,MS4.2
FRU Bishkek 56.26 298 ⇓*i*P **P** **18 08 16.0 +0.5**
FRU *i* pP 18 08 28.0 +0.8
FRU *e* 18 16 07.0
FRU pmax pmax
comp=Z,90nm,1.9s,mb5.5
NOQ North Oquirrh 56.28 66 *e*P **P** **18 08 15.8 +0.1**
TCUT Toone Canyon 56.35 65 *e*P **P** **18 08 16.4 +0.2**
KZA Kyzart 56.44 297 P **P** **18 08 17.6 +0.8**
SNR=10
CTU Camp Tracy 56.46 65 *e*P **P** **18 08 16.9 -0.1**
AAK Ala-Archa 56.46 298 P **P** **18 08 17.2 +0.3**
SNR=15
AAK Ala-Archa 56.46 298 *e*P **P** **18 08 15.9 -1.0**
AAK pmax pmax
comp=Z,68nm,1.0s,mb5.6
AAK MLR MLR
comp=Z,76nm,19.0s,MS3.8
AAK Ala-Archa 56.46 298 *e*P **P** **18 08 15.9 -1.0**
comp=Z,68nm,1.0s,mb5.6
AAK LR LR
comp=Z,76nm,19.0s,MS3.8
JLU Jordanelle 56.69 65 *e*P **P** **18 08 18.9 +0.3**
UCH Uchtor 56.73 297 P **P** **18 08 19.8 +0.9**
SNR=9.9
NLU North Lily Min 56.79 66 *e*P **P** **18 08 19.4 0.0**
MPU Maple Canyon 56.99 66 *e*P **P** **18 08 20.7 -0.1**
AML Almayashu 57.23 298 P **P** **18 08 22.8 +0.3**
SNR=17
MWC Mount Wilson 57.40 75 *e*P **P** **18 08 23.1 -0.7**
ARUT Antelope Range 57.54 69 *e*P **P** **18 08 24.6 -0.1**
MVU Marysvale 57.73 68 *e*P **P** **18 08 25.7 -0.3**
comp=Z,8.2nm,1.0s,mb4.7
MVU LR LR
comp=Z,268nm,20.0s,MS4.3
TMUT Trail Mountain 57.73 66 *e*P **P** **18 08 26.0 0.0**
MSU Marysvale 57.74 68 *e*P **P** **18 08 26.2 +0.1**
ULM Lac du Bonnet 57.74 48 P **P** **18 08 25.2 -0.8**
comp=Z,12nm,0.9s,mb4.9,baz=305,slow=8.1,SNR=11
ULM pP pP 18 08 36.9 -0.8
comp=Z,5.0nm,0.5s,baz=300,slow=4.8,SNR=4.1
ULM Lac du Bonnet 57.74 48 P **P** **18 08 25.2 -0.8**
ULM pP pP 18 08 36.9 -0.8
KSH Kashi 57.82 294 *e*P **P** **18 08 27.3 +0.6**
KSH *e*AP pP 18 08 31.1 -7.3
KSH *e*XP sP 18 08 35.5 -7.7
KSH *e*PCP PcP 18 09 19.0 +0.3
KSH *e*PP PP 18 10 37.2 +0.6
KSH *e*S **S** **18 16 25.0 +3.7**
KSH *e*XS 18 16 35.0
KSH *e*PS PS 18 16 41.0 +0.8
KSH *e*SCS ScS 18 18 12.1 +3.0
KSH *e*SS SS 18 20 16.0 +2.2
KSH AMB AMB
comp=Z,80nm,0.9s,mb5.8
KSH LR LR
comp=N,500nm,9.5s
KSH LR LR
comp=E,720nm,12.8s
RSSD Black Hills 58.16 58 *e*P **P** **18 08 28.4 -0.6**
RSSD pmax pmax
comp=Z,38nm,0.8s,mb5.5
RSSD Black Hills 58.16 58 *e*P **P** **18 08 28.4 -0.6**
comp=Z,38nm,0.8s,mb5.5
RWWY Rawlins 58.22 62 *e*P **P** **18 08 28.9 -0.5**
comp=Z,60nm,1.3s,mb5.5
KKAR Karatay Array 58.23 301 *i* P **P** **18 08 28.1 -1.3**
KKAR pmax pmax
comp=Z,14nm,0.6s,mb5.2
SRU San Rafael 58.24 66 *e*P **P** **18 08 29.4 -0.1**
NEN Nelson 58.25 72 *e*P **P** **18 08 29.8 +0.1**
NEN *e*PcP PcP 18 09 20.1 -0.3
NANT Nan 58.35 259 ⇓P **P** **18 08 28.0 -2.6**
comp=Z,122nm,1.0s,mb5.9
LDFC Landfair 58.50 72 *e*P **P** **18 08 30.8 -0.6**
SHL Shillong 58.52 271 ⇓*i*P **P** **18 08 31.2 -0.5**
SHL *e*S **S** **18 16 33.2 +2.5**
AB31 Akbulak array 58.98 312 *i* P **P** **18 08 33.2 -1.4**
AB31 pmax pmax
comp=Z,70nm,1.2s,mb5.6
CHG Chiang Mai 59.38 261 ⇓P **P** **18 08 38.0 +0.2**
comp=Z,38nm,0.8s,mb5.5
PHWY Pilot Hill 59.42 61 *e*P **P** **18 08 37.2 -0.6**
PV10 Paradox Valley 59.58 66 *e*P **P** **18 08 39.4 +0.6**
CM31 Chiang Mai Arr 59.66 260 *e*P **P** **18 08 39.9 +0.2**
comp=Z,22nm,0.7s,mb5.3
CMAR Chiang Mai Arr 59.66 260 *i* P **P** **18 08 40.2 +0.5**
CMAR pmax pmax
comp=Z,20nm,0.7s
CMAR Chiang Mai Arr 59.66 260 P **P** **18 08 40.0 +0.3**
comp=Z,20nm,0.7s,mb5.2,baz=25,slow=7.2,SNR=105
CMAR LR LR 18 37 53.8
comp=Z,182nm,18.1s,MS4.2,baz=309,slow=40
PECR Pechory 59.92 326 *e*P **P** **18 08 40.0 -1.0**
PV01 Paradox Valley 60.01 66 *e*P **P** **18 08 41.5 -0.4**
KAF Kangasniemi 60.12 338 *e*P **P** **18 08 41.3 -1.0**
comp=Z,22nm,0.6s,mb5.4,baz=29,slow=6.5
KAF Kangasniemi 60.12 338 *e*P **P** **18 08 41.3 -1.0**
KAF pmax pmax
comp=Z,22nm,0.6s,mb5.4
GUN Gumba 60.41 278 *e*P **P** **18 08 44.8 +0.1**
ISCO Idaho Springs 60.41 62 *e*P **P** **18 08 45.0 +0.4**
ISCO pmax pmax
comp=Z,28nm,1.0s,mb5.2
ISCO MLR MLR
comp=Z,239nm,20.0s,MS4.3
ISCO Idaho Springs 60.41 62 *e*P **P** **18 08 45.0 +0.4**
comp=Z,28nm,1.0s,mb5.2
ISCO LR LR
comp=Z,239nm,20.0s,MS4.3
FINES FINESS Array B 60.77 338 P **P** **18 08 46.3 -0.4**
FINES *PP pP 18 08 58.1 -0.4
FINES pmax pmax
comp=Z,26nm,0.5s
FINES MLR MLR
comp=Z,170nm,18.8s
FINES FINESS Array B 60.77 338 P **P** **18 08 46.3 -0.4**
comp=Z,26nm,0.5s,mb5.6,baz=36,slow=7.9,SNR=110
FINES pP pP 18 08 58.1 -0.4
comp=Z,15nm,0.6s,baz=27,slow=8.5,SNR=8.5
FINES LR LR 18 42 02.1
comp=Z,170nm,18.8s,MS4.2,baz=203,slow=43
KKN Kakani 60.85 278 *e*P **P** **18 08 47.8 +0.1**
comp=Z,371nm,1.4s,mb6.3
KKN Kakani 60.85 278 *e*P **P** **18 08 47.8 +0.1**
KKN pmax pmax
comp=Z,186nm,1.4s,mb6.0
PKI Pulchoki 60.94 278 *e*P **P** **18 08 48.4 +0.1**
comp=Z,205nm,1.1s,mb6.2
PKI Pulchoki 60.94 278 *e*P **P** **18 08 48.4 +0.1**
PKI pmax pmax
comp=Z,103nm,1.1s,mb5.9
GKN Gorkha 61.08 279 *e*P **P** **18 08 49.2 -0.1**
comp=Z,176nm,1.0s,mb6.1
DMN Daman 61.09 278 *e*P **P** **18 08 49.8 +0.5**
comp=Z,268nm,1.2s,mb6.3
KOLN Koldanda 61.87 279 *e*P **P** **18 08 53.0 -1.6**
comp=Z,104nm,1.0s,mb5.9
SDCO Great Sand Dun 61.96 64 PFAKE 18 09 10.0 +15
SDCO LR LR
comp=Z,224nm,21.0s,MS4.3
MOS Moscow 62.52 329 *e*P **P** **18 08 57.9 -0.6**

MOS e pP 18 09 09.2 -1.2
MOS eS **S** **18 17 26.2 +4.8**
TUC Tucson 62.98 72 *e*P **P** **18 09 01.4 -0.6**
TUC pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
TUC Tucson 62.98 72 *e*P **P** **18 09 01.4 -0.6**
comp=Z,7.3nm,0.9s,mb4.8
SDNR Sundarnagar 63.02 287 *e*P **P** **18 09 01.0 -1.2**
VSU Vasula 63.24 336 *d i*P **P** **18 09 02.8 -0.5**
OBN Obninsk 63.37 329 *e*P **P** **18 09 03.3 -0.9**
OBN *i* 18 09 21.3
OBN 18 11 23.0
OBN *e* 18 12 55.0
OBN eS **S** **18 17 34.1 +2.1**
OBN pmax pmax
comp=Z,16nm,0.8s,mb5.2
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.6
OBN Obninsk 63.37 329 *e*P **P** **18 09 03.0 -1.2**
comp=Z,19nm,0.8s,mb5.3
OBN LR LR
comp=Z,74nm,22.0s,MS3.8
ANMO Albuquerque 63.48 67 *e*P **P** **18 09 04.9 -0.3**
ANMO pmax pmax
comp=Z,15nm,0.9s
ANMO MLR MLR
comp=Z,151nm,20.0s
ANMO Albuquerque 63.48 67 P **P** **18 09 05.1 -0.1**
comp=Z,11nm,0.9s,mb5.0,baz=311,slow=9.0,SNR=15
ANMO Albuquerque 63.48 67 *e*P **P** **18 09 04.9 -0.3**
comp=Z,15nm,0.9s,mb5.1
ANMO LR LR
comp=Z,151nm,20.0s,MS4.2
NB2 NORSAR Subarra 64.01 345 P **P** **18 09 07.4 -0.7**
comp=Z,11nm,0.7s,mb5.0,baz=21,slow=6.5
NB2 NORSAR Subarra 64.01 345 P **P** **18 09 07.4 -0.7**
NB2 pmax pmax
comp=Z,11nm,0.7s,mb5.0
NOA NORSAR Array B 64.01 345 P **P** **18 09 07.4 -0.7**
NOA *PP pP 18 09 19.5 -0.5
NOA pmax pmax
comp=Z,18nm,0.8s
NOA MLR MLR
comp=Z,112nm,18.2s
NOA NORSAR Array B 64.01 345 P **P** **18 09 07.4 -0.7**
comp=Z,18nm,0.8s,mb5.2,baz=20,slow=6.5,SNR=42
NOA pP pP 18 09 19.5 -0.5
comp=Z,10nm,0.8s,baz=21,slow=5.8,SNR=8.6
NOA LR LR 18 44 06.1
comp=Z,112nm,18.2s,MS4.1,baz=35,slow=43
CBKS Cedar Bluff 64.23 59 PFAKE 18 09 20.0 +10
CBKS LR LR
comp=Z,228nm,19.0s,MS4.4
NAO01 NORSAR Array S 64.25 345 *e*P **P** **18 09 08.3 -1.3**
comp=Z,13nm,0.9s,mb5.0
HFS Hagfors 64.46 343 P **P** **18 09 10.1 -0.9**
HFS pmax pmax
comp=Z,8.0nm,0.5s
HFS MLR MLR
comp=Z,142nm,19.5s
HFS Hagfors 64.46 343 P **P** **18 09 10.1 -0.9**
comp=Z,8.4nm,0.5s,mb5.1,baz=45,slow=4.2,SNR=35
HFS LR LR 18 41 29.7
comp=Z,142nm,19.5s,MS4.2,baz=32,slow=40
SCHQ Schefferville 64.98 29 P **P** **18 09 13.4 -1.1**
comp=Z,8.1nm,0.7s,mb4.8,baz=353,slow=8.1,SNR=10
SCHQ LR LR 18 39 01.6
comp=Z,83nm,20.2s,MS3.9,baz=347,slow=37
SCHQ Schefferville 64.98 29 *e*P **P** **18 09 12.8 -1.6**
comp=Z,74nm,1.7s,mb5.4
SCHQ LR LR
comp=Z,191nm,20.0s,MS4.3
KONO Kongsberg 65.59 345 PFAKE 18 09 30.0 +12
KONO LR LR
comp=Z,187nm,19.0s,MS4.3
AMTX Amarillo 66.15 63 PFAKE 18 09 30.0 +7.7
AMTX LR LR
comp=Z,259nm,20.0s,MS4.4
MNTX Cornudas Mount 66.50 68 *e*P **P** **18 09 24.4 -0.2**
comp=Z,18nm,0.8s,mb5.1
MNTX LR LR
comp=Z,215nm,20.0s,MS4.4
KSM Kuching 67.07 239 *e*P **P** **18 09 28.4 -0.1**
WMOK Wichita Mounta 67.81 62 *e*P **P** **18 09 32.0 -0.8**
WMOK pmax pmax
comp=Z,23nm,0.9s,mb5.2
WMOK Wichita Mounta 67.81 62 *e*P **P** **18 09 31.9 -0.8**
comp=Z,23nm,0.9s,mb5.2
CCM Cathedral Cave 69.10 54 *e*P **P** **18 09 38.8 -1.9**
CCM pmax pmax
comp=Z,11nm,0.8s,mb4.8
CCM MLR MLR
comp=Z,217nm,20.0s,MS4.4
CCM Cathedral Cave 69.10 54 *e*P **P** **18 09 38.8 -1.9**
comp=Z,11nm,0.8s,mb4.8
CCM LR LR
comp=Z,217nm,20.0s,MS4.4
SADO Sadowa 69.16 42 P **P** **18 09 38.8 -2.2**
comp=Z,4.4nm,0.7s,mb4.5,baz=341,slow=8.0,SNR=5.7
LTX Lajitas 69.25 69 *e*P **P** **18 09 41.4 -0.4**
LTX pmax pmax
comp=Z,24nm,0.7s,mb5.2
LTX MLR MLR
comp=Z,252nm,22.0s,MS4.4
LTX Lajitas 69.25 69 *e*P **P** **18 09 41.4 -0.5**
comp=Z,24nm,0.7s,mb5.2
LTX LR LR
comp=Z,252nm,22.0s,MS4.4
TXAR Lajitas Array 69.25 69 P **P** **18 09 41.6 -0.2**
TXAR *PP pP 18 09 53.2 -0.7
TXAR pmax pmax
comp=Z,16nm,0.6s
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR Lajitas Array 69.25 69 P **P** **18 09 41.6 -0.2**
comp=Z,16nm,0.6s,mb5.2,baz=299,slow=4.4,SNR=193
TXAR pP pP 18 09 53.1 -0.7
comp=Z,7.6nm,0.5s,baz=298,slow=5.0,SNR=10
TXAR PKP2bc 18 37 48.8
comp=Z,0.8nm,0.9s,baz=153,slow=2.8,SNR=6.2
TXAR Lajitas Array 69.25 69 P **P** **18 09 41.6 -0.2**
TXAR pP pP 18 09 53.1 -0.7
TXAR ⇑*e* 18 37 48.8
AAM Ann Arbor 69.26 47 PFAKE 18 09 50.0 +8.4
AAM LR LR
comp=Z,202nm,19.0s,MS4.4
AKASG Malin Array Be 69.43 330 P **P** **18 09 41.9 -0.6**
AKASG *PP pP 18 09 54.0 -0.6
AKASG pmax pmax
comp=Z,16nm,0.7s
AKASG Malin Array Be 69.43 330 P **P** **18 09 41.9 -0.6**
comp=Z,16nm,0.7s,mb5.1,baz=28,slow=6.3,SNR=39
AKASG pP pP 18 09 54.0 -0.6
comp=Z,13nm,0.6s,baz=29,slow=6.2,SNR=11
GOF Gofitskoye 69.45 319 ⇑*i*P **P** **18 09 43.0 +0.3**
GOF *i* pP 18 09 54.0 -0.8
GOF eS S 18 18 51.0 +5.2
FVM French Village 69.56 54 *e*P **P** **18 09 41.9 -1.6**
FVM pmax pmax
comp=Z,19nm,0.8s,mb5.1
FVM French Village 69.56 54 *e*P **P** **18 09 41.9 -1.6**
comp=Z,19nm,0.8s,mb5.1
KAKA Kakadu 70.41 211 ⇓*i*P **P** **18 09 47.6 -1.5**
comp=Z,55nm,0.9s,mb5.5
KIV Kislovodsk 70.51 318 *i* P **P** **18 09 49.6 +0.4**
KIV pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KIV MLR MLR
comp=Z,200nm,13.0s,MS4.6
KIV Kislovodsk 70.51 318 *e*P **P** **18 09 51.2 +2.0**
comp=Z,12nm,0.8s,mb4.9
KIV LR LR
comp=Z,103nm,19.0s,MS4.1
PARMO Parma 70.93 54 *e*P **P** **18 09 51.4 -0.5**
ZEI Tsey 71.00 317 *e*P **P** **18 09 50.0 -2.2**
ZEI pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ALLY Alegheny Colle 71.31 45 *e*P **P** **18 09 51.7 -2.4**
GENY Geneseo 71.35 43 *e*P **P** **18 09 51.5 -2.8**
EKA Eskdalemuir Ar 71.36 351 P **P** **18 09 54.3 +0.2**
EKA pmax pmax
comp=Z,9.0nm,1.0s
EKA Eskdalemuir Ar 71.36 351 P **P** **18 09 54.2 +0.1**
comp=Z,8.5nm,1.0s,mb4.6,slow=4.2,SNR=6.2
NCB Newcomb 71.77 40 *e*P **P** **18 09 55.5 -1.3**
comp=Z,7.0nm,0.8s,mb4.6
NCB LR LR
comp=Z,140nm,19.0s,MS4.2
SOC Sochi 71.99 320 *e*P **P** **18 09 48.2 -10**
SOC *e* 18 10 19.8
SOC *eS* S 18 19 06.5 -8.8
SOC *e* 18 20 12.9
SOC pmax pmax
comp=N,43nm,1.2s
SOC pmax pmax
comp=Z,55nm,1.2s,mb5.4
SOC pmax pmax
comp=E,54nm,1.4s
SOC MLR MLR
comp=Z,562nm,13.0s,MS5.0
SOC MLR MLR
comp=N,600nm,18.0s,MS5.0
SOC MLR MLR
comp=E,389nm,17.0s,MS5.0
KWP Kalwaria 72.23 334 *e*P **P** **18 10 00.2 +0.8**
KWP Kalwaria 72.23 334 *e*P **P** **18 10 00.2 +0.8**
WVT Waverly 72.29 53 *e*P **P** **18 09 58.8 -1.2**
WVT pmax pmax
comp=Z,16nm,0.8s,mb5.0
WVT Waverly 72.29 53 *e*P **P** **18 09 58.8 -1.2**
comp=Z,16nm,0.8s,mb5.0
NATX Nacogdoches 72.30 61 PFAKE
NATX LR LR 18 10 10.0 +10
comp=Z,263nm,20.0s,MS4.5
OJC Ojcow 72.44 336 *e*P **P** **18 10 01.2 +0.6**
ACCN Adirondack Com 72.48 39 *e*P **P** **18 09 59.9 -1.0**
BINY Binghamton 72.57 42 *e*P **P** **18 09 59.9 -1.5**
comp=Z,12nm,0.9s,mb4.8
KSP Ksiaz 72.68 338 *e*P **P** **18 10 02.4 +0.5**
KSP *e**PP pP 18 10 14.4 +0.4
HYB Hyderabad 72.73 276 *e*P **P** **18 10 03.0 +0.1**
HYB Hyderabad 72.73 276 *i* P **P** **18 10 03.0 +0.1**
OXF Oxford 72.81 55 *e*P **P** **18 10 02.5 -0.5**
OXF pmax pmax
comp=Z,84nm,1.2s,mb5.5
OXF MLR MLR
comp=Z,283nm,20.0s,MS4.5
OXF Oxford 72.81 55 *e*P **P** **18 10 02.5 -0.6**
comp=Z,84nm,1.2s,mb5.5
OXF LR LR
comp=Z,283nm,20.0s,MS4.5
GNI Garni 72.81 315 *e*P **P** **18 10 03.3 +0.4**
GNI pmax pmax
comp=Z,52nm,1.3s
GNI MLR MLR
comp=Z,284nm,19.0s
GNI Garni 72.81 315 P **P** **18 10 04.0 +1.1**
comp=Z,2.6nm,0.4s,mb4.5,baz=347,slow=16,SNR=5.5
GNI Garni 72.81 315 *e*P **P** **18 10 03.3 +0.4**
comp=Z,52nm,1.3s,mb5.3
GNI LR LR
comp=Z,284nm,19.0s,MS4.6
KIS Kishinev 72.84 329 *e*P **P** **18 10 01.0 -2.0**
KIS MLR MLR
comp=N,300nm,16.0s,MS4.8
KIS MLR MLR
comp=E,300nm,16.0s,MS4.8
KIS MLR MLR
comp=Z,500nm,16.0s,MS4.9
KIS MLR MLR
comp=Z,500nm,16.0s
SIM Simferopol' **72.89 324** P **P** **18 10 03.9 +0.6**
SIM pmax pmax
comp=Z,15nm,0.9s,mb4.9
SIM MLR MLR
comp=Z,510nm,17.0s,MS4.9
CLL Collm 72.93 341 ⇓*i*P **P** **18 10 03.4 0.0**
CLL pmax pmax
comp=Z,27nm,1.2s,mb5.0
CLL MLR MLR
comp=Z,300nm,22.0s,MS4.5
CLL Collm 72.93 341 ⇓*i*P **P** **18 10 03.4 0.0**
comp=Z,27nm,1.2s,mb5.0
CLL *i* pP pP 18 10 08.2 -7.3
CLL LR LR
comp=Z,300nm,22.0s,MS4.5
CLL Collm 72.93 341 ⇓P **P** **18 10 03.4 0.0**
comp=Z,logA/T=1.4,mb5.1
CLL *i* 18 10 08.2
CLL *i* *PP pP 18 10 15.5 0.0
CLL *e*PP PP 18 12 42.0 -6.1
WVL Waterville 72.95 36 PFAKE 18 10 20.0 +16
WVL LR LR
comp=Z,3μm,19.0s,MS5.5
KOLS Kolonicke sedl 72.99 334 *e*P **P** **18 10 04.6 +0.8**
UPC Upice 73.05 338 *e*P **P** **18 10 04.6 +0.5**
UPC *e* pP 18 10 16.3 +0.1
UPC Upice 73.05 338 *e*P **P** **18 10 04.6 +0.5**
UPC *ex* x 18 10 09.4
UPC *e*PCP PcP 18 10 16.3 -4.7
PLAL Pickwick Lake 73.09 54 *e*P **P** **18 10 03.6 -1.1**
comp=Z,24nm,1.0s,mb5.1
PLAL LR LR
comp=Z,197nm,21.0s,MS4.4
DPC Dobruska-Polom 73.13 338 *e*P **P** **18 10 05.5 +0.9**
DPC *e*PCP PcP 18 10 17.5 -3.9
BRG Berggiesshubel 73.15 340 *e*P **P** **18 10 05.5 +0.8**
BRG *e* pP 18 10 17.4 +0.6
BRG pmax pmax
comp=Z,12nm,1.3s,mb4.7
BRG Berggiesshubel 73.15 340 *e*P **P** **18 10 05.5 +0.8**
comp=Z,12nm,1.3s,mb4.7
BRG *e* pP 18 10 17.4 +0.6
OKC Ostrava-Krasne 73.19 337 *e*P **P** **18 10 05.8 +0.9**
OKC *e*PCP PcP 18 10 17.4 -4.2
CRVS Cervenica-Dubn 73.23 334 *e*P **P** **18 10 06.9 +1.7**
PVCC Panska Ves 73.35 339 *e*P **P** **18 10 06.8 +0.9**
BURAR Bucovina Array 73.37 331 ⇓P **P** **18 10 06.6 +0.5**
MORC Moravsky Berou 73.39 337 *e*P **P** **18 10 07.3 +1.2**
MORC pmax pmax
comp=Z,17nm,1.0s,mb4.9
MORC Moravsky Berou 73.39 337 *e*P **P** **18 10 07.3 +1.2**
comp=Z,17nm,1.0s,mb4.9
MOX Moxa 73.84 341 *e*P **P** **18 10 09.7 +1.0**
MOX pmax pmax
comp=Z,23nm,1.3s,mb5.0
MOX MLR MLR
comp=Z,200nm,17.0s,MS4.5
MOX Moxa 73.84 341 *e*P **P** **18 10 09.7 +1.0**
comp=Z,23nm,1.3s,mb5.0
MOX LR LR
comp=Z,200nm,17.0s,MS4.5
MOX Moxa 73.84 341 *i* P **P** **18 10 09.7 +1.0**
comp=Z,logA/T=1.2,mb4.9
MOX L 18 49 50.0
PRU Pruhonice 73.86 339 *e*P **P** **18 10 09.5 +0.6**
PRU *e* pP 18 10 21.7 +0.8
PRU Pruhonice 73.86 339 *e*P **P** **18 10 09.5 +0.6**
PRU *ex* x 18 10 13.6
PRU *e*PCP PcP 18 10 21.7 -2.8
KECS Kecovo 73.87 335 *e*P **P** **18 10 09.7 +0.8**
KECS *e*pP pP 18 10 21.4 +0.4
KECS *e*PP PP 18 12 56.7 +1.0
SWET Sewanee 73.94 52 *e*P **P** **18 10 08.7 -1.0**
HRV Harvard--Oak R 74.03 39 PFAKE 18 10 20.0 +10
HRV LR LR
comp=Z,107nm,19.0s,MS4.2
VRAC Vranov 74.05 338 P **P** **18 10 11.0 +1.1**
VRAC pmax pmax
comp=Z,8.0nm,0.9s
VRAC Vranov 74.05 338 P **P** **18 10 11.0 +1.0**
comp=Z,8.4nm,0.9s,mb4.7,baz=24,slow=9.1,SNR=10
NKC Novy Kostel 74.07 341 *e*P **P** **18 10 10.7 +0.7**
CTA Charters Tower 74.19 196 ⇓*i*P **P** **18 10 09.8 -1.5**
comp=Z,13nm,0.9s,mb4.8
CTA *e*PCP PcP 18 10 32.6 +6.1
CTA Charters Tower 74.19 196 ⇓*i*P **P** **18 10 09.8 -1.5**
CTA *e* 18 10 32.6
CTA pmax pmax
comp=Z,13nm,0.9s
CTA Charters Tower 74.19 196 P **P** **18 10 09.9 -1.4**
comp=Z,15nm,0.9s,mb5.0,baz=2.6,slow=10.0,SNR=8.2
VYHS Vyhne 74.27 336 *i* P **P** **18 10 12.0 +0.7**
VYHS *e*pP pP 18 10 24.4 +1.0
VRI Vrincioaia 74.50 330 ⇑P **P** **18 10 16.6 +4.0**
PSZ Piszkesteto 74.54 335 *e*P **P** **18 10 14.3 +1.5**
PSZ pmax pmax
comp=Z,19nm,1.0s,mb5.0
PSZ Piszkesteto 74.54 335 *e*P **P** **18 10 14.3 +1.5**
comp=Z,19nm,1.0s,mb5.0
SDMD Soldier's Deli 74.56 44 *e*P **P** **18 10 11.5 -1.6**
CFR Carcaliu 74.68 328 P **P** **18 10 14.7 +1.0**
CFR Carcaliu 74.68 328 ⇑P **P** **18 10 14.2 +0.5**
ELN Prospectdale 74.69 48 *e*P **P** **18 10 12.0 -1.9**
HGN Heimansgroeve 74.72 345 *e*P **P** **18 10 14.2 +0.4**
comp=Z,18nm,0.8s,mb5.0
GRA1 Grafenberg Arr 74.83 341 *e*P **P** **18 10 15.8 +1.4**
comp=Z,19nm,1.1s,mb4.9
GRA1 *e*pP pP 18 10 20.5 -6.0
GRA1 *e* pP 18 10 27.7 +1.2
GRF Grafenberg Arr 74.83 341 P **P** **18 10 15.8 +1.4**
GRF pmax pmax
comp=Z,19nm,1.1s,mb4.9
DRGR 74.83 333 P **P** **18 10 15.8 +1.3**
DRGR 74.83 333 ⇑P **P** **18 10 15.4 +0.9**
BLA Blacksburg 74.85 47 PFAKE 18 10 30.0 +15
BLA LR LR
comp=Z,268nm,20.0s,MS4.5
KHC Kasperske Hory 74.88 340 *d i*P **P** **18 10 15.6 +0.8**
KHC Kasperske Hory 74.88 340 *e*P **P** **18 10 16.0 +1.2**
KHC *ex* x 18 10 20.4
MYNC Murphy 74.91 51 *e*P **P** **18 10 14.7 -0.6**
MYNC MLR MLR
comp=Z,372nm,19.0s,MS4.7
ZST Bratislava 74.97 337 *e*P **P** **18 10 16.8 +1.5**
ZST *e*pP pP 18 10 29.2 +1.8
MLR Muntele Rosu 75.08 330 P **P** **18 10 17.1 +1.1**
MLR pmax pmax
comp=Z,13nm,0.8s
MLR Muntele Rosu 75.08 330 P **P** **18 10 17.1 +1.1**
comp=Z,13nm,0.8s,mb4.9,baz=46,slow=3.6,SNR=15
MLR Muntele Rosu 75.08 330 ⇑P **P** **18 10 17.7 +1.7**
GERES GERESS Array B 75.12 339 P **P** **18 10 16.9 +0.7**
GERES *PP pP 18 10 28.6 +0.3
GERES pmax pmax
comp=Z,6.0nm,0.8s
GERES MLR MLR
comp=Z,170nm,19.3s
GERES GERESS Array B 75.12 339 P **P** **18 10 16.9 +0.7**
comp=Z,5.6nm,0.8s,mb4.5,baz=34,slow=4.8,SNR=35
GERES pP pP 18 10 28.6 +0.4
comp=Z,6.7nm,0.8s,baz=34,slow=4.8,SNR=13
GERES LR LR 18 51 56.8
comp=Z,170nm,19.3s,MS4.4,baz=16,slow=42
LRAL Lakeview Retre 75.19 55 *e*P **P** **18 10 15.8 -1.1**
comp=Z,5.7nm,0.8s,mb4.5
LRAL LR LR
comp=Z,269nm,20.0s,MS4.5
TIRR Tirgusor 75.24 328 ⇑P **P** **18 10 17.5 +0.6**
SNX Sinaia 75.33 330 ⇑P **P** **18 10 18.6 +1.2**
CBN Corbin 75.35 45 PFAKE 18 10 30.0 +12
CBN LR LR
comp=Z,293nm,19.0s,MS4.6
TOD Tromm 75.36 343 *e*P **P** **18 10 17.7 +0.2**
VOIR 75.39 331 ⇓P **P** **18 10 19.4 +1.6**
BAIF Baives 75.67 346 *e*P **P** **18 10 19.7 +0.4**
MOA Molln 75.94 339 ⇓*i*P **P** **18 10 21.8 +0.9**
comp=Z,11nm,1.2s,mb4.7
LANF Langenberg 76.14 343 *e*P **P** **18 10 22.5 +0.6**
ARSA Arzberg 76.23 338 ⇑*i*P **P** **18 10 23.7 +1.2**
comp=Z,11nm,0.8s,mb4.8
WRAB Tennant Creek 76.68 207 *e*P **P** **18 10 24.0 -1.6**
WRAB pmax pmax
comp=Z,77nm,0.9s,mb5.6
WRAB Tennant Creek 76.68 207 *e*P **P** **18 10 24.0 -1.6**
comp=Z,77nm,0.9s,mb5.6
WB2 Warramunga Arr 76.69 207 ⇓*i*P **P** **18 10 24.5 -1.2**
WB2 *e*PCP PcP 18 10 37.0 -0.3
WB2 *e* 18 10 45.2
WRA Warramunga Arr 76.69 207 P **P** **18 10 24.4 -1.3**
WRA *PP pP 18 10 36.9 -0.9
WRA pmax pmax
comp=Z,31nm,0.7s
WRA Warramunga Arr 76.69 207 P **P** **18 10 24.4 -1.3**
comp=Z,31nm,0.7s,mb5.3,baz=22,slow=6.2,SNR=169
WRA pP pP 18 10 36.9 -0.9
comp=Z,7.9nm,0.5s,baz=21,slow=6.1,SNR=5.8
CDF Champ du Feu 76.78 343 *e*P **P** **18 10 26.1 +0.5**
comp=Z,10nm,0.7s,mb4.6
KBA Koelnbreinsper 76.88 339 ⇑*i*P **P** **18 10 28.0 +1.8**
comp=Z,48nm,1.0s,mb5.4
KBA Koelnbreinsper 76.88 339 ⇑*i*P **P** **18 10 28.0 +1.8**
KBA pmax pmax
comp=Z,48nm,1.0s,mb5.4
JSC Jenkinsville 76.90 50 *e*P **P** **18 10 26.0 -0.6**
MALT Malatya 76.99 318 *e*P **P** **18 10 28.0 +1.0**
MALT pmax pmax
comp=Z,23nm,1.4s,mb4.9
MALT Malatya 76.99 318 *e*P **P** **18 10 28.0 +1.0**
comp=Z,23nm,1.4s,mb4.9
ECH Echery 76.99 343 *e*P **P** **18 10 26.8 0.0**
WTTA Wattenberg 77.06 340 ⇑*i*P **P** **18 10 28.8 +1.6**
comp=Z,34nm,1.5s,mb5.0
WTTA Wattenberg 77.06 340 ⇑*i*P **P** **18 10 28.8 +1.6**
WTTA pmax pmax
comp=Z,34nm,1.5s,mb5.1
MOTA Moosalm 77.09 341 ⇑*i*P **P** **18 10 28.8 +1.4**
comp=Z,14nm,1.0s,mb4.8
MOTA Moosalm 77.09 341 ⇑*i*P **P** **18 10 28.8 +1.4**
MOTA pmax pmax
comp=Z,14nm,1.0s,mb4.8
OBKA Obir 77.15 338 ⇑*i*P **P** **18 10 29.1 +1.4**
comp=Z,28nm,0.9s,mb5.2
FELD Feldberg 77.17 343 *e*P **P** **18 10 28.3 +0.5**
THEF They Montfort 77.18 344 *e*P **P** **18 10 28.3 +0.5**
SQTA Sankt Quirin 77.19 340 ⇑*i*P **P** **18 10 29.5 +1.6**
comp=Z,18nm,0.9s,mb5.0
SQTA Sankt Quirin 77.19 340 ⇑*i*P **P** **18 10 29.5 +1.6**
SQTA pmax pmax
comp=Z,18nm,0.9s,mb5.0
HAU Haudompre 77.33 344 *e*P **P** **18 10 28.9 +0.2**
HAU *e*R
comp=Z,147nm,21.5s
MOF Molkenrain 77.35 343 *e*P **P** **18 10 28.8 0.0**
HINF Hinteralfeld 77.43 344 *e*P **P** **18 10 30.1 +0.9**
FLN La Foliniere 77.57 349 *e*P **P** **18 10 30.5 +0.5**
comp=Z,59nm,1.1s,mb5.1
FLN *e*R
comp=Z,100nm,20.0s
FLN La Foliniere 77.57 349 *e*P **P** **18 10 30.5 +0.5**
FLN pmax pmax
comp=Z,30nm,1.1s,mb5.1
FLN MLR MLR
comp=Z,100nm,20.0s,MS4.1
BR131 Keskin Array S 77.62 322 *e*P **P** **18 10 30.7 +0.2**
comp=Z,12nm,1.0s,mb4.8
BRTR Keskin Array B 77.62 322 P **P** **18 10 31.1 +0.6**
BRTR *PP pP 18 10 43.0 +0.4
BRTR pmax pmax
comp=Z,8.0nm,0.9s
BRTR Keskin Array B 77.62 322 P **P** **18 10 31.1 +0.6**
comp=Z,7.8nm,0.9s,mb4.7,baz=45,slow=3.5,SNR=34
BRTR pP pP 18 10 43.0 +0.4
comp=Z,8.7nm,0.8s,baz=56,slow=4.5,SNR=11
FITZ Fitzroy Crossi 77.71 216 ⇓*i*P **P** **18 10 30.9 -0.5**
comp=Z,70nm,0.8s,mb5.6
FITZ *e*PCP PcP 18 10 43.7 +2.0
FITZ *e* 18 10 52.4
FITZ Fitzroy Crossi 77.71 216 P **P** **18 10 31.0 -0.4**
comp=Z,115nm,0.9s,mb5.8,baz=13,slow=3.9,SNR=109
DAVOX Davos 77.87 341 P **P** **18 10 33.2 +1.5**
comp=Z,11nm,0.9s,mb4.8,baz=331,slow=6.1,SNR=8.2
DAVOX Davos 77.87 341 P **P** **18 10 33.2 +1.5**
GRR Gorron 77.98 349 *e*P **P** **18 10 32.3 0.0**
ROSF Rostrenen 78.30 350 *e*P **P** **18 10 35.2 +1.2**
SGMF Saint Gilles 78.30 350 *e*P **P** **18 10 34.3 +0.3**
NHSC New Hope 78.38 50 *e*P **P** **18 10 34.8 +0.1**
NHSC LR LR
comp=Z,422nm,20.0s,MS4.8
LOR Lormes 78.44 345 *e*P **P** **18 10 34.8 0.0**
comp=Z,28nm,1.0s,mb4.9
LOR *e*R
comp=Z,185nm,21.2s
LOR Lormes 78.44 345 *e*P **P** **18 10 34.8 0.0**
LOR pmax pmax
comp=Z,14nm,1.0s,mb4.8
LOR MLR MLR
comp=Z,190nm,21.3s,MS4.4
VTS Vitosha 78.53 331 *e*P **P** **18 10 36.0 +0.6**
QUIF Quistinic 78.70 350 *e*P **P** **18 10 37.2 +1.0**
SSF Saint Saulge 78.70 346 *e*P **P** **18 10 36.3 +0.1**
SSF pmax pmax
comp=Z,15nm,1.1s,mb4.8
SSF Saint Saulge 78.70 346 *e*P **P** **18 10 36.3 +0.1**
comp=Z,15nm,1.1s,mb4.8
CABF La Chapelle 78.73 344 *e*P **P** **18 10 37.9 +1.5**

RZN Rozhen 78.90 329 eP P 18 10 35.0 -2.5
SMF Signal de Mont 79.06 345 eP P 18 10 39.2 +1.0
comp=Z,46nm,1.3s,mb5.0
SMF Signal de Mont 79.06 345 eP P 18 10 39.2 +1.0
SMF pmax pmax
comp=Z,23nm,1.3s,mb5.0
KKB Krupnik 79.23 330 eP P 18 10 39.0 -0.3
BGF Bois d'Agland 79.29 346 eP P 18 10 40.0 +0.5
MMB Musomiste 79.29 330 eP P 18 10 40.0 +0.4
TCF Toulx Ste Croi 79.65 346 eP P 18 10 41.8 +0.4
comp=Z,37nm,1.3s,mb4.9
TCF Toulx Ste Croi 79.65 346 eP P 18 10 41.8 +0.4
TCF pmax pmax
comp=Z,19nm,1.3s,mb4.9
MFF Saint Martin d 79.65 348 eP P 18 10 42.0 +0.6
LPL La Plagne 79.68 343 eP P 18 10 43.1 +1.5
LPL pmax pmax
comp=Z,13nm,0.8s,mb4.9
LPG La Plagne 79.69 343 eP P 18 10 43.5 +1.8
comp=Z,46nm,1.0s,mb5.0
LPG La Plagne 79.69 343 eP P 18 10 43.5 +1.8
LPG pmax pmax
comp=Z,23nm,1.0s,mb5.1
AGO Saint Agoulin 79.74 346 eP P 18 10 43.4 +1.5
PLDF La Plantade 79.75 345 eP P 18 10 44.0 +2.0
ORIF Oris-en-Rattie 80.40 343 eP P 18 10 47.0 +1.5
ORIF eR
comp=Z,107nm,21.8s
MBDF Montbardon 80.43 343 eP P 18 10 46.8 +1.1
VIVF Saint-Julien-l 80.67 344 eP P 18 10 48.3 +1.4
comp=Z,32nm,1.2s,mb4.8
VIVF Saint-Julien-l 80.67 344 eP P 18 10 48.3 +1.4
VIVF pmax pmax
comp=Z,16nm,1.2s,mb4.8
RJF Les Rejaudoux 80.71 347 eP P 18 10 48.1 +1.0
comp=Z,62nm,1.4s,mb5.0
RJF eR
comp=Z,145nm,21.0s
RJF Les Rejaudoux 80.71 347 eP P 18 10 48.1 +1.0
RJF pmax pmax
comp=Z,31nm,1.4s,mb5.0
RJF MLR MLR
comp=Z,150nm,21.0s,MS4.3
CAF Calviac 81.00 346 eP P 18 10 49.7 +1.1
comp=Z,54nm,1.4s,mb5.0
CAF Calviac 81.00 346 eP P 18 10 49.7 +1.1
CAF pmax pmax
comp=Z,27nm,1.4s,mb5.0
SBF Sospel 81.15 342 eP P 18 10 49.9 +0.5
LFF La Frestale 81.17 347 eP P 18 10 50.5 +1.0
SMRF Simiane la Rot 81.37 343 eP P 18 10 51.3 +0.7
PPT Papeete 81.50 134 LR LR 18 47 16.4
comp=Z,138nm,18.2s,MS4.3,baz=209,slow=36
LASF Ste Croix 81.56 345 eP P 18 10 52.6 +1.0
FRF La Foret Royal 81.58 343 eP P 18 10 52.3 +0.6
comp=Z,64nm,1.3s,mb5.1
FRF La Foret Royal 81.58 343 eP P 18 10 52.3 +0.6
FRF pmax pmax
comp=Z,32nm,1.3s,mb5.1
LMR La Mourre 81.83 343 eP P 18 10 54.0 +1.0
comp=Z,112nm,1.4s,mb5.3
LMR La Mourre 81.83 343 eP P 18 10 54.0 +1.0
LMR pmax pmax
comp=Z,56nm,1.4s,mb5.3
PGF Pioggiola 82.11 341 eP P 18 10 55.2 +0.7
MTLF Montolieu 82.53 346 eP P 18 10 58.2 +1.6
comp=Z,100nm,1.7s,mb5.3
MTLF Montolieu 82.53 346 eP P 18 10 58.2 +1.6
MTLF pmax pmax
comp=Z,50nm,1.7s,mb5.3
ASF Jabal al Asfar 82.91 316 P P 18 11 00.1 +1.3
comp=Z,11nm,0.8s,mb4.9,baz=236,slow=2.0,SNR=16
EPF Esparros 83.10 347 eP P 18 11 00.7 +1.2
comp=Z,64nm,1.5s,mb5.1
EPF Esparros 83.10 347 eP P 18 11 00.7 +1.2
EPF pmax pmax
comp=Z,32nm,1.5s,mb5.1
SJPF Ste Jean 83.22 348 eP P 18 11 01.2 +1.1
comp=Z,68nm,1.4s,mb5.2
SJPF Ste Jean 83.22 348 eP P 18 11 01.2 +1.1
SJPF pmax pmax
comp=Z,34nm,1.4s,mb5.2
ETSF Etsaut 83.35 348 eP P 18 11 02.5 +1.7
QURS Qurayyt al Mil 83.41 315 P P 18 11 02.8 +1.5
TIP Timpagrande 83.51 334 eP P 18 11 02.8 +1.2
HILS Ha'il 84.86 310 P P 18 11 09.8 +1.2
PBRG Braganca 85.09 352 eP P 18 11 10.9 +1.4
comp=Z,41nm,1.6s,mb5.3
PBRG i - pP 18 11 21.1 -0.7
BBSR BB Station 85.52 39 eP P 18 11 11.8 0.0
comp=Z,21nm,0.8s,mb5.4
PVRL Vila Real 85.70 353 eP P 18 11 14.1 +1.7
comp=Z,30nm,1.0s,mb5.5
PVRL i - pP 18 11 26.9 +2.1
EIL Elat 85.91 316 eP P 18 11 14.4 +0.7
comp=Z,19nm,1.0s,mb5.3
MZLS Mizel 86.07 306 P P 18 11 15.4 +0.7
ALWS Ilw as Safayha 86.17 316 P P 18 11 16.1 +1.0
JMQS Jabal Moqyreh 86.20 315 P P 18 11 16.5 +1.3
PVIS Viseu 86.27 353 eP P 18 11 16.3 +1.1
comp=Z,29nm,1.7s,mb5.2
PVIS i - pP 18 11 28.8 +1.2
JMOS Jabal al Moall 86.28 316 P P 18 11 16.7 +1.1
HAQS Haql 86.45 316 P P 18 11 17.7 +1.3
TBKS Tabuk 86.49 314 P P 18 11 17.8 +1.2
STKA Stephens Creek 86.52 198⇓iP P 18 11 16.4 -0.3
comp=Z,11nm,0.9s,mb5.1
STKA Stephens Creek 86.52 198 P P 18 11 16.6 0.0
comp=Z,13nm,0.8s,mb5.2,baz=355,slow=6.6,SNR=19
MTE Manteigas 86.55 352 eP P 18 11 18.1 +1.4
comp=Z,33nm,1.6s,mb5.3
MTE i - pP 18 11 31.1 +2.1
TAYS Tayyib Ism 86.92 316 P P 18 11 19.7 +1.0
ESDC Sonseca Array 86.94 350 P P 18 11 19.3 +0.7
comp=Z,8.8nm,0.8s,mb5.0,baz=3.4,slow=4.6,SNR=22
ESDC pP pP 18 11 32.3 +1.4
comp=Z,8.1nm,0.8s,baz=5.1,slow=5.0,SNR=8.0
ESLA Sonseca Array 86.94 350 eP P 18 11 19.8 +1.2
comp=Z,1.3nm,0.8s,mb4.2
ESLA LR LR
comp=Z,1µm,20.0s,MS5.2
PCBR Castelo Branco 87.10 352 eP P 18 11 20.5 +1.1
comp=Z,23nm,1.6s,mb5.2
PCBR i - pP 18 11 33.0 +1.3
BLJS Baljurashi 91.34 306 P P 18 11 40.3 +0.5
KLBR Kellerberrin 92.87 217 eP P 18 11 45.4 -1.3
comp=Z,20nm,1.0s,mb5.5
KLBR ePCP PcP 18 11 57.8 +10
RPZ Rata Peaks 96.64 174 LR LR 18 52 13.0
comp=Z,184nm,18.8s,MS4.6,baz=14,slow=33
MBAR Mbarara 114.29 305 PFAKE 18 17 30.0 +17
MBAR LR LR
comp=Z,26nm,19.0s,MS3.9
LPAZ La Paz 126.10 67 PKP PKPdf 18 17 36.8 +1.5
comp=Z,0.8nm,0.3s,baz=168,slow=2.1,SNR=6.9
LPAZ La Paz 126.10 67 PKP PKPdf 18 17 36.8 +1.5
LPAZ LR LR
comp=Z,100nm,21.0s,MS4.5
LSZ Lusaka 128.07 299 PFAKE 18 17 50.0 +11
LSZ LR LR
comp=Z,173nm,21.0s,MS4.7
VNDA Vanda 130.28 180 PKIKP PKPdf 18 17 42.2 +0.4
VNDA 18 17 54.5
VNDA pmax pmax
comp=Z,1.0nm,0.8s
VNDA Vanda 130.28 180 PKP PKPdf 18 17 42.2 +0.4
comp=Z,0.6nm,0.8s,baz=333,slow=2.3,SNR=4.2
VNDA pPKP 18 17 54.5
comp=Z,1.1nm,0.8s,baz=346,slow=4.2,SNR=4.8
VNDA Vanda 130.28 180 eP PKPdf 18 17 42.4 +0.5
SBA Scott Base 130.64 179 ePKIKP PKPdf 18 17 38.6 -3.9
BOSA Boshof 140.38 291 PKIKP PKPdf 18 17 57.2 -4.5
BOSA pmax pmax
comp=Z,2.0nm,0.7s
BOSA Boshof 140.38 291 PKhKP 18 17 57.1
comp=Z,1.5nm,0.7s,baz=188,slow=6.8,SNR=3.5
MAW Mawson 140.84 217 PKIKP PKPdf 18 18 02.5 +1.2
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 140.84 217 PKP PKPdf 18 18 02.5 +1.2
comp=Z,2.8nm,0.8s,baz=72,slow=4.1,SNR=6.1
SUR Sutherland 145.73 292 PKPbc PKPbc 18 18 13.8 +2.2
comp=Z,18nm,0.9s,baz=360,slow=3.3,SNR=7.7
TRQA Tornquist 145.98 82 eP PKPdf 18 18 12.4 +1.4
SYO Syowa Base 149.55 217 ⇑PKPdf PKPdf 18 18 20.0 +4.1
SYO Syowa Base 149.55 217 ⇓PKiKP 18 18 26.8
USHA Ushuaia 150.43 114 PKPbc PKPdf 18 18 23.9 +6.2
comp=Z,29nm,0.9s,baz=251,slow=3.7,SNR=13
PMSA Palmer Station 153.87 135 eP PKPdf 18 18 26.8 +4.4
SNAA Sanae 160.23 194 P PKPdf 18 18 30.7 +0.5
SNAA Sanae 160.23 194 PKPdf 18 18 31.9 +1.7
SNAA Sanae 160.23 194 PKPab 18 19 10.9 -2.1
SNAA Sanae 160.23 194 PKIKP PKPdf 18 18 30.9 +0.7
SNAA 18 19 10.6
SNAA pmax pmax
comp=Z,1.0nm,1.1s
SNAA pmax pmax
comp=Z,2.0nm,1.0s
SNAA Sanae 160.23 194 PKP PKPdf 18 18 30.9 +0.7
comp=Z,0.6nm,1.1s,baz=62,slow=2.8,SNR=2.9
SNAA PKPab PKPab 18 19 10.6 -2.4
comp=Z,1.6nm,1.0s,baz=179,slow=4.6,SNR=9.9
VNA3 Neumayer Olymp 161.40 188 P PKPdf 18 18 34.6 +3.2
VNA3 Neumayer Olymp 161.40 188 PKPdf 18 18 35.7 +4.3
VNA3 Neumayer Olymp 161.40 188 PKPab 18 19 18.2 +0.1
VNA2 Neumayer--Watz 161.49 190 P PKPdf 18 18 34.4 +2.9
VNA2 Neumayer--Watz 161.49 190 PKPdf 18 18 35.2 +3.7
VNA2 Neumayer--Watz 161.49 190 PKPab 18 19 18.6 +0.1
VNA1 Neumayer--Stat 161.84 190 P PKPab 18 19 20.6 +0.5

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*IDC **06** 18:01:46.6±17.0, 0.63N×123.92E, h156km±181km, mb3.7/4, mb1 3.8/5, mb1mx3.5/18, mbtmp4.2/5, ML4.5/1, Error ellipse: s-maj=106.0km s-min=27.3km az=59.0*

ISC 06 18:01:49.2±0.9**, 0.3N**±0.2×**123.2E**±0.4**, h200**km**, n8, σ0.s16/8, mb4.0**/5**, 1C, Minahassa Peninsula, Sulawesi**

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

FITZ Fitzroy Crossi 18.47 173 eP P 18 05 52.4 -0.1
4.5nm,0.8s
FITZ Fitzroy Crossi 18.47 173 P P 18 05 52.6 +0.1
1.0nm,0.3s,baz=2.5,slow=8.9,SNR=41
WRA Warramunga Arr 22.90 152 P P 18 06 36.7 0.0
4.9nm,0.4s,mb4.4,baz=335,slow=10,SNR=109
WB2 Warramunga Arr 22.91 152⇑iP P 18 06 37.0 +0.3
KLBR Kellerberrin 32.18 189 eP P 18 08 00.4 0.0
33nm,1.4s,mb4.7
STKA Stephens Creek 36.45 153 P P 18 08 36.3 -0.3
1.6nm,0.6s,mb3.8,baz=328,slow=9.5,SNR=5.1
SONM Songino Array 49.52 345 P P 18 10 21.4 0.0
1.3nm,0.7s,mb3.4,baz=159,slow=8.3,SNR=4.4
MKAR Makanchi Array 58.45 328 P P 18 11 26.3 0.0
0.8nm,0.3s,mb3.8,baz=126,slow=8.7,SNR=11

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*MOS **06** 18:08:02.0±0.9, 68.84N×16.93W, h10km, mb4.7/30, MS3.7/15, Error ellipse: s-maj=20.4km s-min=5.6km az=107.7*

*IDC **06** 18:08:02.9±0.7, 68.90N×16.88W, mb4.1/15, mb1 4.2/20, mb1mx4.1/31, mbtmp4.0/20, ML3.8/4, MS3.8/14, Ms1 3.8/14, ms1mx3.6/36, Error ellipse: s-maj=22.7km s-min=12.2km az=22.0*

*NEIC **06** 18:08:03.8±0.3, 68.80N×16.93W, h10km, mb4.6/32, Error ellipse: s-maj=7.6km s-min=4.3km az=219.0*

*ZUR_RM **06** 18:08:03, 68.80N×16.93W, h9km, Mw4.7/16, Moment Tensor Solution. s16 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.18; $M_{\theta\theta}$0.41; $M_{\phi\phi}$-0.23; $M_{r\theta}$0.12; $M_{\theta\phi}$0.98; $M_{\phi r}$-0.53; Best double couple: $M_0$1.17×10^{16} NP1:ϕ_s12°, δ79°, λ-153°. NP2:ϕ_s276°, δ64°, λ-13°. Principal axes: T 1.1557, Plg10°, Azm142°; N .0369, Plg61°, Azm33°; P -1.1926, Plg27°, Azm237°;*

*NAO **06** 18:08:04.7±17.0, 68.96N×16.55W*

*CSEM **06** 18:08:06.4, 68.60N×17.26W, h33km, mb4.6*

ISC 06 18:08:02.9±0.3**, 68.66N**±0.02×**17.01W**±0.09**, h10**km**, n176, σ1.s11**/192**, mb4.3**/48**, MS3.8**/15**, 9C-8D, Iceland region**

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

IGRI Grimsey 2.16 191 P Pn 18 08 39.6 +0.1
IGRI S Sn 18 09 05.5 -1.1
ILEI Leirhofn 2.27 175 P Pn 18 08 40.8 -0.3
ILEI S Sn 18 09 08.0 -1.4
IFLA Flatey 2.53 188 P Pn 18 08 45.0 +0.2
IFLA S Sn 18 09 15.4 -0.6
IBRE Brettingsstaoi 2.57 188 P Pn 18 08 45.3 -0.1
IBRE S Sn 18 09 16.0 -1.0
IHED Heoinshofoi 2.59 183 P Pn 18 08 45.5 -0.2
IHED S Sn 18 09 16.4 -1.2
IGIL Gilhagi 2.61 174 P Pn 18 08 45.4 -0.5
IGIL S Sn 18 09 16.7 -1.2
ISIG Siglufjorour 2.64 197 P Pn 18 08 46.6 +0.2
ISIG S Sn 18 09 17.1 -1.7
IGRA Granastaoir 2.76 185 P Pn 18 08 47.9 -0.2
IGRA S Sn 18 09 20.6 -1.3
IHLA Hella 2.78 192 P Pn 18 08 48.5 +0.1
IHLA S Sn 18 09 21.0 -1.3
IHRN Hraun 2.83 207 P Pn 18 08 50.3 +1.2
IHRN S Sn 18 09 24.2 +0.6
IREN Reynihlio 3.03 179 P Pn 18 08 52.2 +0.3
IREN S Sn 18 09 27.7 -0.9
IGRS Grimsstaoir 3.06 173 P Pn 18 08 51.8 -0.5
IGRS S Sn 18 09 29.9 +0.6
ISVA Svartarkot 3.34 182 P Pn 18 08 56.6 +0.3
ISVA S Sn 18 09 35.4 -1.1
IADA Aoalbol 3.70 170 P Pn 18 09 00.5 -1.0
IADA S Sn 18 09 45.1 -0.5
IHVA Hvannstoosfjol 3.75 173 P Pn 18 09 01.3 -0.8
JMIC Jan Mayen 3.76 48 Pn Pn 18 08 54.9 -7.4
12nm,0.3s,baz=241,slow=4.6,SNR=27
IBRU Bruarjokull 3.87 174 P Pn 18 09 03.1 -0.7
IHVE Hveravellir 3.94 196 P Pn 18 09 07.0 +2.2
ISKR Skrokkalda 4.15 188 P Pn 18 09 09.4 +1.5
IGRF Grimsfjall 4.27 181 P Pn 18 09 10.7 +1.1
IASB `sbjarnarst 4.29 206 P Pn 18 09 11.2 +1.4
IKUD Kuludalsa 4.77 206 P Pn 18 09 18.9 +2.2
IFAG Fagurholsmyri 4.81 178 P Pn 18 09 17.9 +0.7
IKRO Krokur 4.87 202 P Pn 18 09 20.3 +2.3
IVOG Vogar 5.18 207 P Pn 18 09 24.7 +2.2
SUMG Summit 8.11 309 eP P 18 09 58.7 -4.9
SPA0 Spitsbergen Ar 13.19 30 Pn P 18 11 08.3 -4.3
baz=239,slow=14
NB2 NORSAR Subarra 14.09 109 Pn P 18 11 23.5 -0.9
baz=311,slow=14
NB2 NORSAR Subarra 14.09 109 P P 18 11 23.7 -0.7
7.6nm,1.1s,baz=316,slow=11
NB2 NORSAR Subarra 14.09 109 P P 18 11 23.7 -0.7
NB2 pmax pmax
comp=Z,8.0nm,1.1s
NOA NORSAR Array B 14.09 109 Pn P 18 11 22.3 -2.1
comp=Z,0.4nm,0.3s,baz=310,slow=12,SNR=4.2
NOA LR LR 18 16 31.8
comp=Z,175nm,19.2s,baz=310,slow=36
NAO01 NORSAR Array S 14.12 110 eP P 18 11 24.6 -0.1
NAO01 NORSAR Array S 14.12 110 eP P 18 11 24.6 -0.1
EKA Eskdalemuir Ar 14.81 148 Pn P 18 11 34.4 +0.5
comp=Z,0.2nm,0.3s,baz=333,slow=13,SNR=5.3
EKA Eskdalemuir Ar 14.81 148 Pn P 18 11 34.3 +0.5
ARA0 ARCESS Array S 14.98 67 Pn P 18 11 32.9 -3.1
baz=297,slow=16
ARCES ARCESS Array B 14.98 67 Pn P 18 11 32.0 -4.0
comp=Z,0.1nm,0.3s,baz=298,slow=13,SNR=3.8
ARCES LR LR 18 15 53.4
comp=Z,385nm,21.4s,baz=283,slow=32
HFS Hagfors 15.60 108 Pn P 18 11 43.1 -0.9
baz=308,slow=11
HFS Hagfors 15.60 108 Pn P 18 11 42.8 -1.3
baz=333,slow=9.7,SNR=4.4
HFS LR LR 18 17 37.3
comp=Z,335nm,18.1s,baz=312,slow=37
MUD Monsted U'grnd 16.99 123 eP P 18 12 02.0 +0.2
MUD pmax pmax
comp=Z,30nm,1.1s
MUD Monsted U'grnd 16.99 123 i P P 18 12 02.0 +0.2
comp=Z,30nm,1.1s
MUD Monsted U'grnd 16.99 123 eP P 18 12 02.0 +0.2
comp=Z,30nm,1.1s
APA0 Apatity Array 18.25 70 P P 18 12 15.0 -2.5
baz=278,slow=9.3
APA Apatity 18.41 70⇑iP P 18 12 16.0 -3.5
APA pmax pmax
comp=Z,190nm,2.0s
APA MLR MLR
comp=Z,600nm,14.0s
KAF Kangasniemi 18.82 89 ep P 18 12 24.7 +0.1
FIA0 FINESS Array S 19.17 91 P P 18 12 27.6 -1.1
baz=324,slow=12
FINES FINESS Array B 19.17 91 P P 18 12 27.3 -1.4
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES MLR MLR
comp=Z,273nm,18.4s
FINES FINESS Array B 19.17 91 P P 18 12 27.3 -1.3
comp=Z,0.8nm,0.3s,baz=323,slow=10,SNR=11
FINES LR LR 18 19 06.4
comp=Z,273nm,18.4s,baz=303,slow=35
BSD Bornholm Skovb 19.92 117 eP P 18 12 41.4 +4.1
BSD pmax pmax
comp=Z,20nm,0.8s
BSD Bornholm Skovb 19.92 117 eP P 18 12 41.4 +4.1
comp=Z,20nm,0.8s
BSD Bornholm Skovb 19.92 117 i P P 18 12 41.4 +4.1
comp=Z,20nm,0.8s
HGN Heimansgroeve 21.11 137⇑eP P 18 12 49.6 0.0
comp=Z,86nm,1.1s,mb5.0
HGN Heimansgroeve 21.11 137⇑eP P 18 12 49.6 0.0
comp=Z,86nm,1.1s,mb5.0
HGN eS S 18 16 49.9 +10
BAIF Baives 21.34 140 eP P 18 12 51.4 -0.6
comp=Z,50nm,1.1s,mb4.5
BAIF Baives 21.34 140 eP P 18 12 51.4 -0.6
BAIF pmax pmax
comp=Z,25nm,1.1s,mb4.5
GIVF Givet 21.45 139 eP P 18 12 52.5 -0.6
comp=Z,78nm,1.1s,mb4.6
GIVF Givet 21.45 139 eP P 18 12 52.5 -0.6
GIVF pmax pmax
comp=Z,39nm,1.1s,mb4.7
VSU Vasula 21.46 97 d iP P 18 12 55.6 +2.4
VSU Vasula 21.46 97 i P P 18 12 55.6 +2.4
ROSF Rostrenen 21.50 154 eP P 18 12 53.5 -0.2
comp=Z,165nm,1.4s,mb5.0
ROSF Rostrenen 21.50 154 eP P 18 12 53.5 -0.2
ROSF pmax pmax
comp=Z,82nm,1.4s,mb5.0
FLN La Foliniere 21.57 149 eP P 18 12 53.9 -0.5
comp=Z,72nm,1.1s,mb4.7
FLN eR
comp=Z,368nm,19.8s
FLN La Foliniere 21.57 149 eP P 18 12 53.9 -0.5
FLN pmax pmax
comp=Z,36nm,1.1s,mb4.7
FLN MLR MLR
comp=Z,370nm,19.8s,MS3.8
SGMF Saint Gilles 21.70 153 eP P 18 12 55.8 +0.2
comp=Z,221nm,1.4s,mb5.1
SGMF Saint Gilles 21.70 153 eP P 18 12 55.8 +0.2
SGMF pmax pmax
comp=Z,110nm,1.4s,mb5.1
GRR Gorron 21.86 150 eP P 18 12 57.4 +0.1
QUIF Quistinic 21.93 154 eP P 18 12 57.9 -0.1
comp=Z,218nm,1.4s,mb5.1
QUIF Quistinic 21.93 154 eP P 18 12 57.9 -0.1
QUIF pmax pmax
comp=Z,109nm,1.4s,mb5.1
WLF Walferdange 22.18 137 eP P 18 13 02.2 +1.8
WLF pmax pmax
comp=Z,20nm,0.9s,mb4.5
WLF Walferdange 22.18 137 eP P 18 13 02.1 +1.8
comp=Z,20nm,0.9s,mb4.5
WLF Walferdange 22.18 137 eP P 18 13 02.2 +1.8
comp=Z,20nm,0.9s,mb4.5
CLL Collm 22.57 125⇓iP P 18 13 04.9 +0.7
CLL i 18 13 10.8
CLL eS S 18 17 16.0 +9.4
CLL pmax pmax
comp=Z,26nm,1.1s,mb4.6
CLL Collm 22.57 125⇓iP P 18 13 04.9 +0.7
comp=Z,26nm,1.1s,mb4.6
CLL i 18 13 10.8
CLL eS S 18 17 16.0 +9.4
CLL Collm 22.57 125 ⇓P P 18 13 04.9 +0.7
comp=Z,logA/T=1.4,mb4.6
CLL i *SP 18 13 10.8
CLL eS S 18 17 16.0 +9.4
MOX Moxa 22.75 128 eP P 18 13 06.7 +0.8
MOX pmax pmax
comp=Z,36nm,1.6s,mb4.5
MOX MLR MLR
comp=Z,200nm,18.0s,MS3.6
MOX Moxa 22.75 128 eP P 18 13 06.7 +0.8
comp=Z,36nm,1.6s,mb4.5
MOX eS S 18 17 20.0 +10
MOX LR LR
comp=Z,200nm,18.0s,MS3.6
MOX Moxa 22.75 128 i P P 18 13 06.7 +0.8
comp=Z,logA/T=1.4,mb4.6
MOX S S 18 17 20.0 +10
MOX L 18 23 56.0
BRG Berggiesshubel 23.24 124 eP P 18 13 10.6 -0.1
BRG pmax pmax
comp=Z,30nm,1.7s,mb4.5
BRG Berggiesshubel 23.24 124 eP P 18 13 10.6 -0.1
comp=Z,30nm,1.7s,mb4.4
BRG Berggiesshubel 23.24 124 eP P 18 13 10.6 -0.1
comp=Z,30nm,1.7s,mb4.4
NKC Novy Kostel 23.36 127 eP P 18 13 12.1 +0.2
GRA1 Grafenberg Arr 23.50 130 eP P 18 13 15.1 +1.9
comp=Z,30nm,1.4s,mb4.5
GRF Grafenberg Arr 23.50 130 P P 18 13 15.1 +1.9
GRF pmax pmax
comp=Z,30nm,1.4s,mb4.5
CDF Champ du Feu 23.62 137 eP P 18 13 15.4 +1.1
comp=Z,37nm,1.2s,mb4.4
CDF Champ du Feu 23.62 137 eP P 18 13 15.4 +1.1
CDF pmax pmax
comp=Z,19nm,1.2s,mb4.4
MFF Saint Martin d 23.72 150 eP P 18 13 15.2 -0.1
comp=Z,49nm,1.2s,mb4.5
MFF Saint Martin d 23.72 150 eP P 18 13 15.2 -0.1
MFF pmax pmax
comp=Z,24nm,1.2s,mb4.5
PVCC Panska Ves 23.73 124 eP P 18 13 16.0 +0.5
PVCC AMS AMS 18 24 00.0
comp=Z,200nm,16.0s
HAU Haudompre 23.77 139 eP P 18 13 15.6 -0.2
HAU eR
comp=Z,278nm,20.8s
LOR Lormes 23.88 143 eP P 18 13 16.3 -0.7
comp=Z,49nm,1.4s,mb4.5
LOR eR
comp=Z,288nm,18.0s
LOR Lormes 23.88 143 eP P 18 13 16.3 -0.7
LOR pmax pmax
comp=Z,25nm,1.4s,mb4.5
LOR MLR MLR
comp=Z,290nm,18.0s,MS3.8
KSP Ksiaz 23.99 121 eP P 18 13 17.9 -0.1
KSP e*PP 18 13 19.6
KSP eS S 18 17 35.0 +3.4
KSP Ksiaz 23.99 121 eP P 18 13 18.8 +0.8
SSF Saint Saulge 24.00 144 eP P 18 13 17.9 -0.2
SSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
SSF Saint Saulge 24.00 144 eP P 18 13 17.9 -0.2
comp=Z,8.7nm,1.0s,mb4.1
HINF Hinteralfeld 24.07 138 eP P 18 13 19.0 +0.3
UPC Upice 24.20 122 eP P 18 13 20.9 +0.9
PRU Pruhonice 24.20 125 eP P 18 13 21.0 +1.0
PRU AMS AMS 18 25 30.0
comp=Z,300nm,14.7s
BGF Bois d'Agland 24.34 145 eP P 18 13 21.5 0.0
comp=Z,19nm,0.8s,mb4.3
BGF Bois d'Agland 24.34 145 eP P 18 13 21.5 0.0
BGF pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
DPC Dobruska-Polom 24.43 122 eP P 18 13 22.9 +0.6
DPC AMS AMS 18 21 10.0
comp=Z,200nm,25.1s
SMF Signal de Mont 24.47 144 eP P 18 13 22.6 -0.1
TCF Toulx Ste Croi 24.47 147 eP P 18 13 23.5 +0.8
comp=Z,28nm,0.8s,mb4.4
TCF Toulx Ste Croi 24.47 147 eP P 18 13 23.5 +0.8
TCF pmax pmax
comp=Z,14nm,0.8s,mb4.4
KHC Kasperske Hory 24.68 127⇑eP P 18 13 26.1 +1.4
KHC Kasperske Hory 24.68 127 eP P 18 13 26.0 +1.3
KHC AMS AMS 18 25 50.0
comp=Z,300nm,15.1s
GERES GERESS Array B 24.97 127 P P 18 13 28.8 +1.3
GERES pmax pmax
comp=Z,17nm,1.0s
GERES MLR MLR

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,95nm,20.0s						
GERES	GERESS Array B	24.97	127	P	P	18 13 28.8	+1.3
	comp=Z,17nm,1.0s,mb4.5,baz=329,slow=7.8,SNR=26						
GERES				LR	LR	18 22 36.7	
	comp=Z,95nm,19.9s,MS3.3,baz=310,slow=35						
RJF	Les Rejaudoux	25.28	148	eP	P	18 13 30.5	+0.1
	comp=Z,21nm,0.9s,mb4.4						
RJF				eR			
	comp=Z,425nm,23.0s						
RJF	Les Rejaudoux	25.28	148	eP	P	18 13 30.5	+0.1
RJF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4						
RJF				MLR	MLR		
	comp=Z,420nm,23.0s,MS3.9						
MORC	Moravsky Berou	25.31	121	eP	P	18 13 30.9	+0.2
DAVA	Damuels	25.33	134	⇑iP	P	18 13 32.0	+1.1
	comp=Z,23nm,1.3s,mb4.5						
VRAC	Vranov	25.43	122	P	P	18 13 31.7	-0.1
VRAC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
VRAC	Vranov	25.43	122	P	P	18 13 31.7	-0.1
	comp=Z,9.1nm,0.8s,mb4.3,baz=333,slow=16,SNR=6.8						
OKC	Ostrava-Krasne	25.45	120	eP	P	18 13 32.9	+0.9
OKC				AMS	AMS	18 27 20.0	
	comp=Z,200nm,12.1s						
LFF	La Frestale	25.48	150	eP	P	18 13 32.4	0.0
	comp=Z,71nm,1.3s,mb4.7						
LFF	La Frestale	25.48	150	eP	P	18 13 32.4	0.0
LFF				pmax	pmax		
	comp=Z,35nm,1.3s,mb4.7						
MOTA	Moosalm	25.60	132	⇑iP	P	18 13 34.5	+1.1
	comp=Z,13nm,1.1s,mb4.4						
MOTA	Moosalm	25.60	132	⇑iP	P	18 13 34.5	+1.1
MOTA				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.4						
WATA	Walderalm	25.74	131	⇓iP	P	18 13 36.1	+1.4
	comp=Z,6.8nm,0.9s,mb4.2						
WATA	Walderalm	25.74	131	⇓iP	P	18 13 36.1	+1.4
WATA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.2						
SQTA	Sankt Quirin	25.74	132	⇓iP	P	18 13 38.3	+3.5
	comp=Z,16nm,0.8s,mb4.6						
SQTA	Sankt Quirin	25.74	132	⇓iP	P	18 13 38.3	+3.5
SQTA				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.6						
CAF	Calviac	25.75	148	eP	P	18 13 34.8	-0.1
	comp=Z,15nm,1.0s,mb4.2						
CAF	Calviac	25.75	148	eP	P	18 13 34.8	-0.1
CAF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
DAVOX	Davos	25.79	134	P	P	18 13 37.5	+2.3
	comp=Z,8.8nm,1.0s,mb4.2,baz=317,slow=15,SNR=4.7						
DAVOX				LR	LR	18 23 35.6	
	comp=Z,213nm,21.1s,MS3.6,baz=170,slow=36						
DAVOX	Davos	25.79	134	P	P	18 13 37.5	+2.2
WTTA	Wattenberg	25.82	131	⇑iP	P	18 13 37.4	+1.9
	comp=Z,18nm,1.0s,mb4.6						
WTTA	Wattenberg	25.82	131	⇑iP	P	18 13 37.4	+1.9
WTTA				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.6						
VIVF	Saint-Julien-l	26.35	144	eP	P	18 13 40.8	+0.3
SCHQ	Schefferville	26.41	264	P	P	18 13 41.8	+1.0
	comp=Z,1.8nm,0.6s,mb3.8,baz=24,slow=12,SNR=4.3						
SCHQ				LR	LR	18 23 24.5	
	comp=Z,168nm,18.3s,MS3.6,baz=330,slow=35						
ORIF	Oris-en-Rattie	26.56	142	eP	P	18 13 41.8	-0.6
	comp=Z,35nm,1.2s,mb4.5						
ORIF				eR			
	comp=Z,257nm,22.8s						
VYHS	Vyhne	26.85	120	eP	P	18 13 45.2	+0.2
SJPF	Ste Jean	26.92	154	eP	P	18 13 45.6	0.0
	comp=Z,55nm,1.5s,mb4.6						
SJPF	Ste Jean	26.92	154	eP	P	18 13 45.6	0.0
SJPF				pmax	pmax		
	comp=Z,28nm,1.5s,mb4.6						
LASF	Ste Croix	26.93	145	eP	P	18 13 45.4	-0.3
	comp=Z,36nm,1.2s,mb4.5						
MBDF	Montbardon	26.95	141	eP	P	18 13 45.8	-0.1
	comp=Z,31nm,1.1s,mb4.5						
MBDF	Montbardon	26.95	141	eP	P	18 13 45.8	-0.1
MBDF				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.5						
KECS	Kecovo	27.38	118	eP	P	18 13 49.2	-0.6
SMRF	Simiane la Rot	27.39	143	eP	P	18 13 48.9	-1.0
OBN	Obninsk	27.56	92	P	P	18 13 54.0	+2.6
OBN				MLR	MLR		
	comp=Z,200nm,17.0s,MS3.8						
OBN	Obninsk	27.56	92	P	P	18 13 54.0	+2.6
	comp=Z,200nm,17.0s						
KOLS	Kolonicke sedl	27.57	116	eP	P	18 13 57.9	+6.3
AKASG	Malin Array Be	28.45	105	P	P	18 13 58.0	-1.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	28.45	105	P	P	18 13 58.0	-1.5
	comp=Z,1.1nm,0.5s,mb3.7,baz=327,slow=8.9,SNR=6.8						
MLR	Muntele Rosu	31.80	115	LR	LR	18 28 36.2	
	comp=Z,185nm,18.8s,MS3.8,baz=128,slow=39						
VAE	Valguarnera	35.68	135	LR	LR	18 29 18.6	
	comp=Z,148nm,18.5s,MS3.8,baz=131,slow=36						
INK	Inuvik	36.57	326	P	P	18 15 06.7	-3.4
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	Inuvik	36.57	326	P	P	18 15 06.7	-3.4
	comp=Z,1.6nm,0.6s,mb4.0,baz=34,slow=6.9,SNR=4.0						
YKA	Yellowknife Ar	36.70	310	P	P	18 15 09.0	-2.3
YKA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
YKA				MLR	MLR		
	comp=Z,287nm,19.7s						
YKA	Yellowknife Ar	36.70	310	P	P	18 15 09.0	-2.3
	comp=Z,4.1nm,1.1s,mb4.2,baz=34,slow=8.4,SNR=6.1						
YKA				LR	LR	18 30 06.3	
	comp=Z,287nm,19.6s,MS4.1,baz=60,slow=36						
FFC	Flin Flon	39.05	293	eP	P	18 15 29.1	-1.9
FFC				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
FFC	Flin Flon	39.05	293	eP	P	18 15 29.1	-1.9
	comp=Z,9.7nm,1.0s,mb4.5						
BVAR	Borovoye Array	41.27	66	P	P	18 15 48.1	-1.3
	comp=Z,1.6nm,0.6s,mb3.8,baz=317,slow=8.1,SNR=10						
BVAR				PP	PP	18 17 23.9	-3.9
	comp=Z,1.4nm,0.9s,baz=342,slow=9.4,SNR=3.7						
BVAR	Borovoye Array	41.27	66	PP	PP	18 17 23.9	-3.9
ILAR	Eielson Array	42.25	331	P	P	18 15 56.0	-1.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	Eielson Array	42.25	331	P	P	18 15 56.0	-1.1
	comp=Z,1.0nm,0.7s,mb3.5,baz=22,slow=6.8,SNR=13						
MALT	Malatya	42.45	106	eP	P	18 15 58.2	-0.9
ZAL	Zalesovo	45.07	55	P	P	18 16 18.7	-1.4
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAL	Zalesovo	45.07	55	P	P	18 16 18.6	-1.5
	comp=Z,1.0nm,0.8s,mb3.7,baz=145,slow=8.6,SNR=4.5						
MKAR	Makanchi Array	50.54	61	P	P	18 17 01.0	-1.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	50.54	61	P	P	18 17 01.0	-1.9
	comp=Z,1.4nm,0.8s,mb3.9,baz=346,slow=5.9,SNR=9.1						
PDAR	Pinedale Array	51.86	291	P	P	18 17 12.8	-0.1
	comp=Z,3.1nm,1.1s,mb4.2,baz=34,slow=5.3,SNR=13						
PDAR				PP	PP	18 19 15.9	+4.3
	comp=Z,0.6nm,0.9s,baz=45,slow=7.7,SNR=3.9						
PDAR				LR	LR	18 39 18.2	
	comp=Z,156nm,19.3s,MS4.0,baz=24,slow=36						
ZAK	Zakamensk	53.37	44	eP	P	18 17 20.9	-3.2
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.5						
ELK	Elko	55.58	294	LR	LR	18 41 01.9	
	comp=Z,146nm,18.3s,MS4.1,baz=45,slow=36						
PV01	Paradox Valley	55.64	287	eP	P	18 17 41.4	+0.5
PV01	Paradox Valley	55.64	287	eP	P	18 17 41.4	+0.5
SONM	Songino Array	56.50	42	P	P	18 17 45.0	-2.0
	comp=Z,0.3nm,0.6s,mb3.5,baz=349,slow=7.3,SNR=3.1						
SONM				LR	LR	18 43 31.0	
	comp=Z,97nm,18.6s,MS3.9,baz=256,slow=38						
MSU	Marysvale	56.55	291	eP	P	18 17 47.4	0.0
MVU	Marysvale	56.57	291	P	P	18 17 50.3	+2.8
	comp=Z,3.8nm,1.2s,mb4.3						
NVAR	Mina Array Bea	58.69	296	LR	LR	18 44 09.9	
	comp=Z,118nm,18.7s,MS4.0,baz=45,slow=37						
TXAR	Lajitas Array	61.82	279	P	P	18 18 23.4	-0.7
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	Lajitas Array	61.82	279	P	P	18 18 23.4	-0.6
	comp=Z,0.9nm,0.9s,mb3.9,baz=45,slow=2.6,SNR=2.6						
TXAR	Lajitas Array	61.82	279	P	P	18 18 23.4	-0.6
CMAR	Chiang Mai Arr	81.91	60	P	P	18 20 24.6	+1.0
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	Chiang Mai Arr	81.91	60	P	P	18 20 24.6	+1.0
	comp=Z,0.6nm,0.6s,mb3.7,baz=321,slow=5.8,SNR=4.8						

*ISK **06** 18:18:39.2, 35.69N×33.03E, h80km, MD3.7*
*CSEM **06** 18:18:40.1±0.1, 35.88N×32.71E, h10km, Mw3.2, Error ellipse: s-maj=1.6km s-min=1.1km az=61.0*
*HLW **06** 18:18:42.9, 35.91N×32.77E, h25km, Mb3.6*
*IDC **06** 18:18:43.9±1.2, 35.79N×32.75E, h44km±19km, mb3.2/3, mb1 3.4/7, mb1mx3.3/22, mbtmp3.5/7, ML3.3/4, Error ellipse: s-maj=15.4km s-min=10.4km az=68.0*
*GRAL **06** 18:18:44.0±1.3, 35.42N×32.83E, h0km±568km, MD3.6*
*NIC **06** 18:18:45.1±0.3, 35.66N×32.90E, h25km, ML3.6, MW3.2*
*NEIC **06** 18:18:45.1, 35.66N×32.90E, h25km, ML3.7(ISK), ML3.6(NIC), After NIC.*
*GII **06** 18:18:47.8±0.5, 35.49N×33.28E, h5km±30km, ML3.0/3, Mw3.2/5*
ISC 06 18:18:42.4±0.2**, 35.77N**±0.02×**32.83E**±0.02**, h46**km±6km**,**
n83, σ1§**21**/116**, mb3.3**/3**, 13C-3D, Cyprus region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALFC	Alevga	0.64	197	⇑P	P	18 18 55.2	+0.1
	59nm,0.2s						
ALFC				S	S	18 19 03.6	-0.8
ALFC	Alevga	0.64	197	⇑eP	P	18 18 55.2	+0.1
ALFC				S	S	18 19 03.6	-0.8
ALFC	Alevga	0.64	197	⇑eP	P	18 18 55.2	+0.1
	59nm,0.2s						
LEF	Lefka	0.65	175	PG	P	18 18 54.7	-0.6
MAMC	Mammari	0.67	152	⇑eP	P	18 18 56.1	+0.5
IKL	Isikli	0.84	56	PG	P	18 18 57.2	-0.7
IKL				SG	S	18 19 08.0	-1.4
AKMC	Akamas	0.84	209	P	P	18 18 58.5	+0.5
ERMK	Ermenek	0.88	4	i P	P	18 18 58.8	+0.4
ERMK				i s	S	18 19 12.5	+2.2
CSS	Prodhromos	0.90	153	⇑P	P	18 18 58.4	-0.4
	22nm,0.2s						
CSS				S	S	18 19 09.1	-1.8
CSS	Prodhromos	0.90	153	PG	P	18 18 56.7	-2.1
CSS				SG	S	18 19 08.3	-2.6
CSS	Prodhromos	0.90	153	⇑iP	P	18 18 58.4	-0.4
CSS				S	S	18 19 09.1	-1.8
CSS	Prodhromos	0.90	153	⇑iP	P	18 18 58.4	-0.4
	22nm,0.2s						
PPCY	Paphos	0.96	204	P	P	18 19 00.6	+0.9
SZAC	Souni-Zanaja	1.01	177	P	P	18 19 00.9	+0.6
SZAC				S	S	18 19 12.4	-1.2
HDMB	Hadim	1.23	347	PN	P	18 19 04.1	+0.7
HDMB				SN	S	18 19 20.7	+1.6
PHNC	Paralimni	1.24	127	P	P	18 19 03.5	-0.1
MEST	Erdemli	1.34	52	i P	P	18 19 05.5	+0.3
MEST				i s	S	18 19 20.2	-1.9
KONT	Konya--Tatoy	2.21	350	PN	P	18 19 17.4	+0.1
ELL	Elmali	2.56	293	PN	P	18 19 22.6	+0.3
AKAS	Kas	2.65	281	i P	P	18 19 22.7	-1.0
AKAS				i s	S	18 19 52.6	-2.3
CEYT	Ceyhan	2.66	61	PN	P	18 19 20.3	-3.6
HTY	Hatay	2.71	82	PN	P	18 19 19.4	-5.1
NIG	Nigde	2.74	31	PN	P	18 19 23.1	-1.9
ISP	Isparta	2.79	319	ePN	P	18 19 24.7	-0.9
ISP	Isparta	2.79	319	P	P	18 19 26.8	+1.2
KDHN	Kadinhani	2.81	349	i P	P	18 19 26.7	+0.7
KDHN				i s	S	18 20 00.1	+1.3
COBT	Iskenderun	2.88	74	i P	P	18 19 26.8	-0.1
COBT				i s	S	18 19 59.9	-0.6
HWQ	Hawqa	2.96	119	ePN	P	18 19 28.6	+0.5
HWQ				SN	S	18 20 01.9	-0.7
BHL	Bhannes	2.98	128	ePN	P	18 19 28.0	-0.3
BHL				SN	S	18 20 00.8	-2.2
GOLH	Golhisar	3.01	300	i P	P	18 19 32.5	+3.7
GOLH				i s	S	18 20 08.9	+4.9
TKTP	Tekketepe	3.03	319	i P	P	18 19 30.8	+1.7
TKTP				i s	S	18 20 08.0	+3.5
MATL	Matirih	3.07	137	ePN	P	18 19 29.8	+0.2
FETY	Fethiye	3.15	287	ePN	P	18 19 30.4	-0.4
KIZT	Kizilcal	3.20	347	ePN	P	18 19 30.6	-0.9
HNTI	Hanita	3.31	143	Pn	P	18 19 33.7	+0.8
HNTI				Sn	S	18 20 10.3	-1.1
FKH	Fakeheh	3.31	116	ePN	P	18 19 33.8	+0.8
FKH				SN	S	18 20 11.4	0.0
FKH	Fakeheh	3.31	116	ePn	P	18 19 33.8	+0.8
FKH				Sn	S	18 20 11.4	0.0
HRI	Mount Hermon	3.46	135	Pn	P	18 19 35.7	+0.5
KSDI	Kefar Szold	3.47	137	Pn	P	18 19 36.0	+0.6
HAF	Haifa	3.49	148	Pn	P	18 19 36.8	+1.2
DNZL	Cakiroluk	3.59	303	i P	P	18 19 39.7	+2.7
DNZL				i s	S	18 20 20.9	+2.2
OFRI	‘Ofer	3.61	150	Pn	P	18 19 38.0	+0.7
OFRI	‘Ofer	3.61	150	⇓Pn	P	18 19 38.0	+0.7
DENT	Denizli	3.64	304	ePN	P	18 19 37.5	-0.1
KAMT	Kaman	3.67	11	ePN	P	18 19 35.9	-2.1
KSHT	Keshet	3.71	138	Pn	P	18 19 40.0	+1.2
GAZ	Gaziantep	3.80	67	ePN	P	18 19 35.2	-4.8
YER	Yerkesik	3.91	292	ePN	P	18 19 40.5	-1.0
MMLI	Mount Malkishu	3.96	146	Pn	P	18 19 43.7	+1.6
SLTI	Sal’it	3.97	152	Pn	P	18 19 43.9	+1.6
SLTI				Sn	S	18 20 26.9	-1.2
BRTR	Keskin Array B	4.00	9	P	P	18 19 42.0	-0.8
	0.3nm,0.3s,baz=180,slow=13,SNR=4.0						
BRTR				S	S	18 20 28.6	-0.5
	0.4nm,0.3s,baz=205,slow=23,SNR=4.0						
ESKT	Eskisehir	4.06	338	ePN	P	18 19 42.3	-1.4
BDRM	Kayabasi	4.53	288	i P	P	18 19 50.5	+0.2
BDRM				i s	S	18 20 40.5	-1.8
BODT	Bodrum	4.63	288	ePN	P	18 19 50.6	-1.1
MKRJ	Makawir	4.81	150	Pn	P	18 19 56.4	+2.2
HRSH	Kfar Ka’horesh	4.85	171	⇓eP	P	18 19 56.0	+1.2
HRSH				S	S	18 20 48.4	-2.0
RSH		4.85	171	P	P	18 19 56.0	+1.2
MZDA	Masada	4.92	154	Pn	P	18 19 58.0	+2.3
MZDA				Sn	S	18 20 51.5	-0.7
MZDA	Masada	4.92	154	Pn	P	18 19 58.0	+2.2
MZDA				Sn	S	18 20 51.5	-0.7
ASF	Jabal al Asfar	4.93	136	P	P	18 19 57.8	+2.0
	1.9nm,0.3s,baz=205,slow=14,SNR=11						
ASF				S	S	18 20 52.4	+0.1
	0.9nm,0.3s,baz=20,slow=16,SNR=2.8						
KZIT	Kziot	5.02	164	Sn	S	18 20 54.6	0.0
KZIT	Kziot	5.02	164	Sn	S	18 20 54.6	-0.1
AMAG	Maghara	5.12	176	⇓eP	P	18 19 59.7	+1.2
MALT	Malatya	5.15	59	eP	P	18 19 57.8	-1.2
MALT	Malatya	5.15	59	eP	P	18 19 57.8	-1.2
PRNI	Paran	5.70	161	Pn	P	18 20 08.4	+1.8
PRNI				Sn	S	18 21 10.8	-0.9
PRNI	Paran	5.70	161	Pn	P	18 20 08.4	+1.8
PRNI				Sn	S	18 21 10.7	-1.0
KMTI	Karmit	5.87	164	Pn	P	18 20 10.4	+1.5
KMTI	Karmit	5.87	164	Pn	P	18 20 10.4	+1.5
EIL	Elat	6.34	163	P	P	18 20 17.1	+1.6
	1.2nm,0.3s,baz=352,slow=15,SNR=8.0						
EIL				S	S	18 21 25.8	-1.7
	1.3nm,0.3s,baz=294,slow=36,SNR=6.0						
IDI	Anoyia	6.49	268	P	P	18 20 17.2	-0.6
	1.8nm,0.3s,baz=109,slow=14,SNR=16						
IDI				S	S	18 21 28.8	-2.5
	2.1nm,0.3s,baz=250,slow=18,SNR=7.8						
HMAT	Matruh	6.68	227	⇑eP	P	18 20 20.3	-0.1
NUB		6.89	167	P	P	18 20 24.5	+1.2
HKAT	Jabal Katrina	7.29	172	⇑eP	P	18 20 29.6	+0.7
SLUM		7.65	238	⇑eP	P	18 20 32.9	-1.0
AWBH		8.13	205	⇑eP	P	18 20 40.6	+0.1
SWA1		8.84	225	⇑eP	P	18 20 49.6	-0.7
SWA1				S	S	18 22 23.2	-6.4
SWA2		9.00	226	⇑eP	P	18 20 51.8	-0.8
HFRF	Wahat Farafira	9.41	205	P	P	18 20 58.2	0.0
GNI	Garni	10.37	62	P	P	18 21 07.9	-3.5
FINES	FINESS Array B	26.05	353	P	P	18 24 10.7	-2.2
	0.2nm,0.4s,mb3.0,baz=158,slow=10,SNR=5.2						
MKAR	Makanchi Array	38.19	58	P	P	18 25 59.8	+0.7
	0.5nm,0.7s,mb3.4,baz=282,slow=6.7,SNR=6.1						
SONM	Songino Array	54.20	53	P	P	18 28 06.1	+0.7
	0.4nm,0.5s,mb3.6,baz=280,slow=7.5,SNR=4.4						

*NEIC **06** 18:47:28.7, 46.96S×166.71E, h69km, ML4.2(WEL), After WEL.*
WEL 06 18:47:29.6±0.8**, 46.80S×166.66E, h12**km**, ML4.2**/6**, 1D, Error ellipse: s-maj=9.3km s-min=6.1km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	1.27	45	P	Pb	18 47 51.4	-1.6
WHZ				S	Sb	18 48 08.4	-0.7
WHZ	Wether Hill Ro	1.27	45	PN	Pn	18 47 51.4	-1.8
WHZ				S*	Sb	18 48 08.3	-0.8
MLZ	Mavora Lakes	1.79	36	eP	Pn	18 47 58.6	-2.1
MLZ				S	Sn	18 48 21.4	-2.1
MLZ	Mavora Lakes	1.79	36	PN	Pn	18 47 58.5	-2.2
MLZ				SN	Sn	18 48 21.3	-2.2
TUZ	Tuapeka	2.22	69	P	Pn	18 48 05.2	-1.6
TUZ	Tuapeka	2.22	69	PN	Pn	18 48 05.2	-1.7
TUZ				SN	Sn	18 48 33.2	-1.2
WKZ	Wanaka	2.57	41	PN	Pn	18 48 10.5	-1.3
ODZ	Otahua Downs	3.29	59	P	Pn	18 48 18.1	-3.9
ODZ				S	Sn	18 48 56.5	-4.9
ODZ	Otahua Downs	3.29	59	⇓PN	Pn	18 48 18.1	-4.0
ODZ				SN	Sn	18 48 56.5	-4.9
LBZ	Lake Benmore	3.46	47	eP	Pn	18 48 20.0	-4.4
LBZ	Lake Benmore	3.46	47	PN	Pn	18 48 19.9	-4.5
FOZ	Fox Glacier	3.88	35	eP	Pn	18 48 28.4	-2.0
FOZ	Fox Glacier	3.88	35	PN	Pn	18 48 28.4	-2.0
RPZ	Rata Peaks	4.37	47	eP	Pn	18 48 31.7	-5.8
RPZ	Rata Peaks	4.37	47	PN	Pn	18 48 31.6	-5.9
RPZ				SN	Sn	18 49 22.0	-7.0
WVZ	Waitaha Valley	4.71	39	eP	Pn	18 48 39.1	-3.2
LTZ	Lake Taylor	5.66	47	eP	Pn	18 48 50.4	-5.3

MAN 06 19:17:27.6, 13.62N×120.64E, h125km**, mb3.8, ML2.6, MS2.2, Mindoro**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.39	286	eP	P	19 17 47.1	+1.5
LUBP				eS	S	19 18 01.4	+2.1
BOAC	Boac	1.19	98	eP	P	19 17 52.3	+0.1
SJMP	San Jose	1.25	158	eP	P	19 17 51.7	-1.2
SJMP				eS	S	19 18 13.2	+1.2
BUSP	Coron	1.67	195	eP	P	19 17 58.3	+0.6
BUSP				eS	S	19 18 21.0	+0.5
POLP	Polilio Island	1.68	49	eP	P	19 17 58.5	+0.7

*ATH **06** 19:26:43.8, 36.50N×27.11E, h19km±4km, MD3.3/6*
*ISK **06** 19:26:44.7, 36.47N×27.08E, h14km, MD3.3*
*CSEM **06** 19:26:44.4±0.1, 36.48N×27.08E, h8km, MD3.3, Error ellipse: s-maj=2.9km s-min=2.1km az=106.0*
ISC 06 19:26:44.0±0.7**, 36.42N**±0.03×**27.09E**±0.04**, h8**km±5km**,**
n23, σ1§**04**/34**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NISR	Nisiros	0.20	10	ePB	Pg	19 26 47.5	-0.7
BODT	Bodrum	0.67	16	PG	Pg	19 26 56.5	-0.9
BODT				SG	Sg	19 27 06.4	0.0
BDRM	Kayabasi	0.71	24	i P	Pg	19 26 58.0	-0.3
BDRM				i s	Sg	19 27 09.4	+1.7
ARG	Arkhangelos	0.86	103	ePN	Pn	19 27 01.1	-1.2
ARG				eSN	Sn	19 27 13.0	-2.2
ARG	Arkhangelos	0.86	103	ePg	Pg	19 27 01.2	-0.1
ARG				eSb	Sb	19 27 15.0	+2.6
KARP	Karpathos	0.87	176	ePB	Pb	19 27 01.3	+0.4
KARP				eSN	Sn	19 27 15.3	0.0
KARP	Karpathos	0.87	176	ePg	Pg	19 27 01.8	+0.4
KARP				eSb	Sn	19 27 15.3	0.0
MLSB	Milas	1.04	32	PG	Pg	19 27 04.2	-0.6
YER	Yerkesik	1.20	53	PN	Pn	19 27 07.3	+0.2
YER				SN	Sn	19 27 23.5	-0.2
DALT	Dalyan (Mudla)	1.30	74	PN	Pn	19 27 09.1	+0.6
SMG	Samos	1.30	351	ePN	Pn	19 27 06.6	-2.0
SMG	Samos	1.30	351	ePb	Pb	19 27 07.8	-0.6
AYDN	Tasoluk	1.40	27	i P	Pn	19 27 10.7	+0.8
AYDN				i s	Sb	19 27 28.8	+1.1
APE	Apeiranthos	1.41	298	PN	Pn	19 27 10.2	+0.1
APE	Apeiranthos	1.41	298	ePN	Pn	19 27 10.7	+0.6
APE	Apeiranthos	1.41	298	ePb	Pb	19 27 10.8	+0.6
FETY	Fethiye	1.62	82	PN	Pn	19 27 13.3	+0.1
NPS	Neapolis	1.66	227	ePB	Pb	19 27 14.0	-0.5
NPS	Neapolis	1.66	227	ePn	Pn	19 27 14.5	+0.8
BLCB	Balcova	1.97	359	ePN	Pn	19 27 17.9	-0.1
URLA	Izmir	1.98	349	i P	Pn	19 27 20.8	+2.6
URLA				i s	Sn	19 27 42.8	-0.7
DNZL	Cakiroluk	2.02	50	i P	Pn	19 27 18.9	0.0
DNZL				i s	Sn	19 27 53.0	+8.5
GOLH	Golhisar	2.15	67	i P	Pn	19 27 17.9	-2.7
GOLH				i s	Sn	19 27 55.9	+8.1

*BJI **06** 19:42:37.1, 48.32N×131.67E, h7km, ML3.9*
SKHL 06 19:42:38.6±0.9**, 48.33N×131.73E, h21**km±3km**, 2C, Priamurye-Northeastern China border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRNR	Gornyy	3.91	50	ePn	Pn	19 43 38.0	-1.0
GRNR				sPn		19 43 46.0	
GRNR				ePg	Pn	19 43 49.0	+10
GRNR				AMB	AMB	19 43 50.0	
	31nm,0.8s						
GRNR				AMB	AMB	19 43 50.0	
	39nm,0.8s						
GRNR				AMB	AMB	19 43 50.0	
	62nm,0.8s						
GRNR				eSg	Sn	19 44 41.0	+16
GRNR				A		19 44 41.8	
	96nm,0.8s						
TEY	Ternei	4.70	133	eSg	Sn	19 45 06.0	+21
TEY				A		19 45 13.0	
	52nm,0.8s						
EKMR	Ekimchan	4.81	9	ePn	Pn	19 43 50.7	-1.1
EKMR				pPn		19 43 57.6	
EKMR				ePg	Pn	19 44 06.0	+14
EKMR				AMB	AMB	19 44 13.0	
	6.0nm,0.5s						
EKMR				AMB	AMB	19 44 13.0	
	5.0nm,0.5s						
EKMR				AMB	AMB	19 44 13.0	
	9.0nm,0.5s						
EKMR				eSg	Sn	19 45 09.1	+22
EKMR				A		19 45 20.0	
	64nm,0.7s						
EKMR				A		19 45 20.0	
	73nm,0.7s						
YASR	Yasnyy	5.50	336	⇑ePn	Pn	19 43 59.3	-2.3
YASR				AMB	AMB	19 44 00.2	
	10.0nm,0.5s						
YASR				AMB	AMB	19 44 00.2	
	6.0nm,0.5s						
YASR				AMB	AMB	19 44 00.2	
	16nm,0.5s						
YASR				⇑pPn		19 44 06.6	
YASR				eSg	Sn	19 45 30.6	+26
YASR				A		19 45 37.8	
	13nm,0.5s						
YASR				A		19 45 37.8	
	30nm,0.5s						
ZEA	Zeya	6.11	334	ePn	Pn	19 44 07.9	-2.2
ZEA				AMB	AMB	19 44 08.4	
	12nm,0.6s						
ZEA				pPn		19 44 15.2	
ZEA				eSg	Sn	19 45 50.1	+30
ZEA				A		19 45 51.0	
	52nm,0.8s						
ZEA				A		19 45 51.0	
	27nm,0.8s						
CN2	Changchun	6.29	226	eP	Pn	19 44 12.6	-0.1
CN2				SG	Sn	19 45 53.8	+29
CN2				Smax			
	comp=N,60nm,0.7s						
CN2				Smax			
	comp=E,50nm,0.7s						
BMKR	Bomnak	6.64	345	ePn	Pn	19 44 16.3	-1.3
BMKR				pPn		19 44 24.3	
BMKR				eSg	Sn	19 46 06.0	+33
BMKR				A		19 46 13.6	
	comp=E,37nm,0.6s						
KROS	Kirovskiy	6.80	336	ePn	Pn	19 44 17.3	-2.5
KROS				eSg	Sn	19 46 11.4	+34

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KROS				A		19 46 15.6	
	comp=E,18nm,0.5s						
NKL	Nikolayevsk	7.45	46	eSg	Sn	19 46 30.9	+37
NKL				A		19 46 44.9	
	comp=E,67nm,0.9s						
TYV	Tymovskoe	7.54	66	erx	rx	19 45 53.0	
TYV				eSg	Sn	19 46 35.0	+39
TYV				A		19 46 49.5	
	comp=E,23nm,1.0s						

IDC 06 19:52:23.4±5.0, 6.27S×147.00E, h43^{km}±54^{km}, mb3.5/5, mb1 3.7/7, mb1mx3.6/15, mbtmp3.7/7, ML3.0/2, MS3.0/1, Ms1 3.0/1, ms1mx2.6/21, Error ellipse: s-maj=42.4km s-min=30.8km az=111.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.12	177	P	P	19 53 09.6	-1.7
	12nm,0.3s,baz=350,slow=6.1,SNR=20						
PMG				S	S	19 53 46.8	-0.9
	8.9nm,0.3s,baz=12,slow=19,SNR=4.2						
CTA	Charters Tower	13.75	183	LR	LR	20 00 44.0	
	comp=Z,60nm,18.0s,baz=130,slow=36						
WRA	Warramunga Arr	18.33	221	P	P	19 56 32.9	-3.4
	0.1nm,0.3s,baz=46,slow=11,SNR=5.2						
FITZ	Fitzroy Crossi	23.93	239	P	P	19 57 33.6	-1.0
	5.4nm,1.0s,baz=58,slow=6.2,SNR=4.1						
STKA	Stephens Creek	25.97	191	P	P	19 57 52.3	-1.7
	3.6nm,1.0s,baz=11,slow=10,SNR=2.9						
SONM	Songino Array	64.64	331	P	P	20 02 57.4	-1.5
	0.3nm,0.5s,baz=135,slow=4.1,SNR=2.2						
MKAR	Makanchi Array	77.70	321	P	P	20 04 16.0	-1.5
	0.2nm,0.5s,baz=104,slow=6.9,SNR=3.4						
ILAR	Eielson Array	85.73	23	P	P	20 04 57.0	-1.9
	0.6nm,0.7s,baz=263,slow=5.5,SNR=5.5						

*IDC **06** 20:02:32.0±1.6, 8.67S×130.58E, mb3.9/3, mb1 4.0/5, mb1mx3.8/14, mbtmp3.9/5, ML3.7/2, Error ellipse: s-maj=60.1km s-min=27.0km az=91.0*

ISC 06 20:02:34.7±1.0, 8.90S±0.07×130.3E±0.1, h33^{km}, n8, σ1^{s}05/12, mb3.9/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	4.32	151	eP	P	20 03 45.5	+5.7
	22nm,0.6s						
FITZ	Fitzroy Crossi	10.21	206	eP	P	20 05 04.0	+1.8
	3.1nm,0.3s						
FITZ				eS	S	20 06 54.3	-2.4
FITZ	Fitzroy Crossi	10.21	206	Pn	P	20 05 03.9	+1.7
	1.3nm,0.3s,baz=24,slow=9.4,SNR=39						
FITZ				Sn	S	20 06 56.3	-0.4
	2.5nm,0.3s,baz=167,slow=11,SNR=10						
WRA	Warramunga Arr	11.64	161	Pn	P	20 05 21.8	+0.1
	0.3nm,0.3s,baz=343,slow=13,SNR=20						
WRA				Sn	S	20 07 30.8	-0.7
	0.6nm,0.3s,baz=335,slow=23,SNR=5.7						
WB2	Warramunga Arr	11.65	161	eP	P	20 05 22.2	+0.5
WB2				eS	S	20 07 31.9	+0.3
MJAR	Matsushiro Arr	45.80	9	P	P	20 10 52.2	-3.3
	0.7nm,0.5s,mb3.9,baz=200,slow=11,SNR=4.6						
SONM	Songino Array	60.34	342	P	P	20 12 42.5	-0.4
	0.5nm,0.6s,mb3.7,baz=161,slow=7.2,SNR=3.9						
MKAR	Makanchi Array	69.98	327	P	P	20 13 45.5	+0.5
	2.1nm,0.7s,mb4.2,baz=127,slow=7.8,SNR=27						

CASC 06 20:06:19.6±1.6, 10.79N×86.73W, h61^{km}±75^{km}, MD4.0, 5C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	1.26	19	⇑eP	P	20 06 41.8	+0.3
CRUN				eS	S	20 06 58.9	+1.1
APON	Apoyo	1.30	30	⇑eP	P	20 06 42.6	+0.6
CONN	Concepcion	1.33	54	⇑eP	P	20 06 41.9	-0.7
TICN	Ticuantepe	1.33	21	eP	P	20 06 42.3	-0.3
XAVN	Gruta Xavier	1.41	16	eP	P	20 06 42.6	-1.1
MGAN	Managua	1.43	19	⇑eP	P	20 06 43.5	-0.5
MGAN				eS	S	20 07 02.4	+0.4
WILN	Americas 2	1.47	21	eP	P	20 06 46.0	+1.6
WILN				eS	S	20 07 02.1	-0.6
APYN	Apoyeque	1.49	14	eP	P	20 06 44.3	-0.4
APYN				eS	S	20 07 03.1	-0.1
MOMJ	Momotombo	1.62	6	⇑eP	P	20 06 46.2	-0.3
LEON	Leon	1.63	354	eP	P	20 06 45.5	-1.2
MIRN	Miramar	1.65	0	⇓eP	P	20 06 46.3	-0.5
CNGN	Cerro Negro	1.71	1	eP	P	20 06 46.9	-0.7
TEL3	Telica 3	1.78	356	eP	P	20 06 48.3	-0.4
PYTN	Playitas	1.86	21	eP	P	20 06 49.0	-0.8

IDC 06 20:07:46.3±1.9, 15.12S×175.58W, h293^{km}±32^{km}, mb3.3/3, mb1 3.6/4, mb1mx3.3/15, mbtmp4.1/4, Error ellipse: s-maj=130.8km s-min=21.7km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	3.87	72	P	P	20 08 50.5	-0.7
	16nm,0.3s,baz=292,slow=5.1,SNR=7.5						
AFI				S	S	20 09 43.1	+1.2
	6.8nm,0.3s,baz=210,slow=23,SNR=2.8						
STKA	Stephens Creek	42.37	239	P	P	20 15 12.0	-1.9
	0.7nm,0.5s,baz=81,slow=19,SNR=2.9						
WRA	Warramunga Arr	47.86	257	P	P	20 15 55.7	-1.5
	2.3nm,0.5s,baz=91,slow=7.2,SNR=56						
PDAR	Pinedale Array	83.47	43	P	P	20 19 41.4	-1.1
	0.7nm,0.6s,baz=182,slow=2.6,SNR=5.5						
BRTR	Keskin Array B	144.60	319	PKP	PKPdf	20 26 48.4	+0.3
	2.6nm,0.9s,baz=90,slow=2.5,SNR=10						

*FUNV **06** 20:10:04.7, 10.43N×62.42W, MW2.6*
*NEIC **06** 20:10:08.6, 10.92N×62.14W, h5^{km}, MD3.1(TRN), After TRN.*
*TRN **06** 20:10:08.9, 10.93N×62.12W, h1^{km}, MD3.1*

ISC 06 20:10:04.2±0.8, 10.39N±0.05×62.43W±0.03, h14^{km}±5^{km}, n13, σ1^{s}15/22, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.33	38	⇑eP	Pg	20 10 10.5	-0.7
GUIV				eS	Sg	20 10 14.7	-1.1
GUNV	Guanoco	0.56	246	eP	Pg	20 10 15.4	-0.2
GUNV				eS	Sg	20 10 24.8	+1.5
CRUV	Carupano	0.84	290	eP	Pb	20 10 19.8	-0.3
CRUV				eS	Sb	20 10 30.8	-0.2
TPP	Pointe-a-Pierr	0.96	94	eS	Sb	20 10 40.0	+5.5
TRN	Trinidad (W)	1.04	76	eP	Pb	20 10 22.7	-0.7
TRN				eS	Sb	20 10 34.5	-2.2
ITEV	Isla Los Testi	1.18	324	eP	Pb	20 10 26.5	+0.6
ITEV				eS	Sb	20 10 42.4	+1.5
TBH	Brigand Hill	1.34	86	eP	Pb	20 10 29.9	+1.3
TBH				eS	Sb	20 10 46.9	+1.5
ORIV	Oritupano	1.63	217	eP	Pn	20 10 34.4	+1.6
TPR	Prospect	1.80	64	eP	Pn	20 10 35.5	+0.3
TPR				eS	Sn	20 10 58.0	+0.1
BOT	Bacolet	1.85	65	eP	Pn	20 10 36.6	+0.8
CUPV	Cœpira	3.33	265	eS	Sn	20 11 35.8	-0.8
CAOV	Caicara del Or	4.91	232	eP	Pn	20 11 18.6	-0.8
CAOV				eS	Sn	20 12 13.8	-2.8
BAUV	El Baul	5.72	256	eP	Pn	20 11 29.7	-1.1
BAUV				eS	Sn	20 12 32.5	-4.5

*TIR **06** 20:13:21.5, 41.35N×19.78E, h12^{km}, Ml2.4*
*CSEM **06** 20:13:21.6±0.1, 41.32N×19.79E, h2^{km}, MD2.8, Error ellipse: s-maj=2.5km s-min=1.5km az=50.0*
*ATH **06** 20:13:22.2, 41.42N×19.64E, h27^{km}±17^{km}, MD3.6/4*
*NEIC **06** 20:13:22.2, 41.28N×19.57E, h4^{km}, MD2.8(PDG), MD2.5(ATH), After PDG.*
*PDG **06** 20:13:22.2±0.1, 41.28N×19.57E, h4^{km}*

ISC 06 20:13:21.6±0.4, 41.27N±0.02×19.73E±0.04, h4^{km}, n42, σ1^{s}29/58, 1C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	Tirane	0.13	53	i Pg	Pg	20 13 24.0	-0.3
TIR				i Sg	Sg	20 13 26.5	+0.4
PRZA	Preza	0.17	345	i Pg	Pg	20 13 25.0	0.0
QSH	Qafa e Shtames	0.29	28	i Pg	Pg	20 13 26.4	-0.9
QSH				i Sg	Sg	20 13 31.4	+0.2
PHP	Peshkopia	0.68	52	i Pg	Pg	20 13 33.6	-1.6
ULC	Ulcinj	0.78	333	ePg	Pg	20 13 35.7	-1.5
ULC				eSg	Sg	20 13 47.0	-0.6
OHR	Ohrid	0.82	101	i Pg	Pg	20 13 37.0	-1.1
OHR				i Sg	Sg	20 13 50.3	+1.2
KBN	Korca	1.03	128	i Pg	Pg	20 13 43.2	+1.0
KBN	Korca	1.03	128	ePg	Pg	20 13 43.2	+1.0
BUM	Brajici-Budva	1.20	329	ePg	Pg	20 13 43.8	-1.8
BUM				eSg	Sg	20 14 01.3	-0.3
TTG	Podgorica	1.21	343	ePg	Pg	20 13 43.9	-1.8
TTG				eSg	Sg	20 14 02.4	+0.5
PVY	Plav	1.34	8	ePg	Pg	20 13 47.0	-1.3
PVY				eSg	Sg	20 14 08.4	+2.3
PVY	Plav	1.34	8	ePg	Pg	20 13 47.0	-1.3
FNA	Florina	1.34	111	eP	Pb	20 13 46.8	-0.1
SKO	Skopje	1.46	61	i Pn	Pn	20 13 49.0	+0.1
SKO				i Sn	Sn	20 14 08.2	-0.5
SKO				Lg		20 14 09.5	
	comp=Z,0.1nm,0.4s						
HCY	Herceg Novi	1.49	322	⇑iPg	Pg	20 13 48.3	-3.1
HCY				eSg	Sg	20 14 10.6	-0.7
KEK	Kerkira	1.56	178	ePB	Pb	20 13 50.5	-0.1
KEK	Kerkira	1.56	178	ePN	Pn	20 13 52.1	+1.9
KEK				eSN	Sn	20 14 14.1	+3.1
IVA	Berane	1.61	5	ePn	Pn	20 13 51.5	+0.5
IVA				eSn	Sn	20 14 16.4	+4.1
NKY	Niksic	1.64	341	⇓iPn	Pn	20 13 51.5	+0.2
NKY				eSn	Sn	20 14 15.8	+2.7
NKY	Niksic	1.64	341	⇓iPn	Pn	20 13 51.5	+0.2
JAN	Janina	1.82	152	ePB	Pb	20 13 49.0	-6.2
JAN	Janina	1.82	152	ePB	Pb	20 13 56.4	+1.2
KZN	Kozani	1.83	121	ePB	Pb	20 13 56.5	+1.3
KZN	Kozani	1.83	121	ePB	Pb	20 13 55.7	+0.5
KZN	Kozani	1.83	121	ePb	Pb	20 13 56.5	+1.3
BRY	Bratogost	1.85	332	ePn	Pn	20 13 54.9	+0.4
BRY				eSn	Sn	20 14 21.0	+2.4
BRY	Bratogost	1.85	332	ePn	Pn	20 13 54.8	+0.4
UPM	Unac-Piva	2.02	343	ePn	Pn	20 13 57.8	+0.9
UPM				eSn	Sn	20 14 25.9	+2.9
GRG	Griva	2.04	98	eP	Pn	20 13 57.3	+0.1
PLE	Pljevlja	2.07	353	ePn	Pn	20 13 58.7	+1.1
PLE				eSn	Sn	20 14 27.0	+2.8
STON	Ston	2.20	317	i Pn	Pn	20 13 58.1	-1.4
STON				i Sg	Sg	20 14 25.4	-9.4
KNT	Kendrikon	2.40	92	eP	Pn	20 14 02.6	+0.4
LIT	Litokhoron	2.40	118	eP	Pn	20 13 59.9	-2.5
THE	Thessaloniki	2.53	103	eP	Pn	20 14 04.0	-0.2
EVR	Evrytania	2.84	145	ePN	Pn	20 14 09.9	+1.3
EVR	Evrytania	2.84	145	ePN	Pn	20 14 10.5	+1.9
SRS	Serrai	2.92	92	eP	Pn	20 14 09.5	-0.2
XOR	Xorichti	3.26	125	eP	Pn	20 14 12.4	-2.1
XOR	Xorichti	3.26	125	eP	Pn	20 14 12.4	-2.1
PAIG	Paliouri	3.29	113	eP	Pn	20 14 13.9	-1.2
OUR	Ouranopolis	3.36	105	eP	Pn	20 14 14.9	-1.0
OUR	Ouranopolis	3.36	105	eP	Pn	20 14 14.9	-1.1

IDC 06 20:41:39.3±1.9, 4.31N×128.10E, mb3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=102.1km s-min=25.3km az=69.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.40	186	eP	P	20 46 40.6	-0.4
	5.4nm,1.5s						
FITZ	Fitzroy Crossi	22.40	186	P	P	20 46 40.4	-0.6
	1.3nm,0.4s,baz=339,slow=11,SNR=6.4						
WRA	Warramunga Arr	24.86	166	P	P	20 47 03.0	-2.2
	2.2nm,0.7s,baz=344,slow=9.9,SNR=28						
WB2	Warramunga Arr	24.87	166	eP	P	20 47 03.9	-1.3
STKA	Stephens Creek	38.21	161	P	P	20 49 01.2	-1.5
	1.4nm,0.5s,baz=353,slow=9.4,SNR=6.5						
MKAR	Makanchi Array	57.87	324	P	P	20 51 33.1	-2.3
	0.2nm,0.5s,baz=111,slow=8.3,SNR=5.4						

NEIC 06 21:03:44.7, 46.03S×166.36E, h65^{km}, ML3.8(WEL), After WEL., Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	1.11	84	P	P	21 04 04.1	-0.6
WHZ				S	S	21 04 18.4	-1.2
MLZ	Mavora Lakes	1.44	62	P	P	21 04 08.9	-0.4
WKZ	Wanaka	2.22	58	eP	P	21 04 21.0	+0.9
TUZ	Tuapeka	2.28	89	eP	P	21 04 20.2	-0.7
TUZ				S	S	21 04 46.9	-0.9
LBZ	Lake Benmore	3.16	60	eP	P	21 04 32.1	-1.2
ODZ	Otahua Downs	3.17	73	P	P	21 04 31.2	-2.2
FOZ	Fox Glacier	3.42	45	eP	P	21 04 36.9	0.0
RPZ	Rata Peaks	4.06	57	eP	P	21 04 43.7	-2.2
LTZ	Lake Taylor	5.33	55	eP	P	21 05 01.2	-2.4
PWZ	Pawanui	9.75	56	eP	P	21 06 07.3	+2.9

*NIC **06** 21:31:39.2±0.3, 36.74N×31.06E, h45^{km}, mb4.0, ML3.6, MW3.2*
*ISK **06** 21:31:41.6, 35.79N×30.88E, h33^{km}, MD3.7*
*CSEM **06** 21:31:41.9±0.1, 35.85N×30.86E, h30^{km}, Mw3.2, Error ellipse: s-maj=1.7km s-min=1.2km az=73.0*
*NEIC **06** 21:31:42.6±0.8, 36.05N×30.98E, h10^{km}, MD3.6(ISK), ML3.6(NIC), Error ellipse: s-maj=16.8km s-min=9.1km az=45.0*
*HLW **06** 21:31:45.6, 35.75N×30.91E, h26^{km}, Mb3.7*

ISC 06 21:31:42.7±0.3, 35.85N±0.03×30.86E±0.03, h33^{km}, n43, σ1^{s}01/52, 3C-3D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANTB	Antalya	1.06	351	PN	Pn	21 32 01.6	+0.1
AKAS	Kas	1.09	291	i P	P	21 32 05.3	+3.6
AKAS				i s	S	21 32 25.3	+10
ELL	Elmali	1.18	320	PN	Pn	21 32 03.2	0.0
PPCY	Paphos	1.55	128	P	P	21 32 12.8	+4.5
ALFC	Alevga	1.58	115	⇑P	P	21 32 10.9	+2.2
	9.4nm,0.3s						
ALFC				S	S	21 32 35.5	+7.4
BCK	Bucak	1.62	352	PN	Pn	21 32 10.2	+0.7
FETY	Fethiye	1.64	299	PN	Pn	21 32 09.5	-0.2
HDMB	Hadim	1.72	49	PN	Pn	21 32 09.5	-1.4
HDMB				SN	Sn	21 32 31.5	-0.4
GOLH	Golhisar	1.74	323	i P	P	21 32 15.9	+4.9
GOLH				i s	S	21 32 41.9	+10
LEF	Lefka	1.81	113	PN	Pn	21 32 10.8	-1.4
ERMK	Ermenek	1.84	64	i P	P	21 32 13.4	+1.0
ERMK				i s	S	21 32 39.4	+4.7
SZAC	Souni-Zanaja	1.98	123	P	P	21 32 17.1	+2.6
SZAC				S	S	21 32 47.2	+8.9
ISP	Isparta	2.01	352	ePN	Pn	21 32 14.5	-0.6
ISP	Isparta	2.01	352	eP	P	21 32 15.3	+0.4
DALT	Dalyan (Mudla)	2.02	298	ePN	Pn	21 32 14.4	-0.8
MAMC	Mammari	2.04	109	P	P	21 32 16.1	+0.8
CSS	Prodhromos	2.20	113	P	P	21 32 18.0	+0.4
CSS				S	S	21 32 49.6	+5.6
CSS	Prodhromos	2.20	113	ePn	Pn	21 32 16.4	-1.4
CSS	Prodhromos	2.20	113	P	P	21 32 18.0	+0.4
IKL	Isikli	2.32	80	ePN	Pn	21 32 18.8	-0.7
DENT	Denizli	2.40	323	ePN	Pn	21 32 20.2	-0.5
KONT	Konya--Tatoy	2.41	29	ePN	Pn	21 32 20.8	0.0
MEST	Erdemli	2.76	74	i P	P	21 32 27.9	+2.3
MEST				i s	S	21 32 58.8	+0.8
BDRM	Kayabasi	3.01	295	i P	P	21 32 32.7	+3.6
BDRM				i s	S	21 33 06.5	+2.1
BODT	Bodrum	3.11	294	ePN	Pn	21 32 30.2	-0.5
KIZT	Kizilcal	3.13	15	ePN	Pn	21 32 30.7	-0.4
ESKT	Eskisehir	3.67	360	ePN	Pn	21 32 38.2	-0.4
IZM	Izmir	3.84	313	ePN	Pn	21 32 40.7	-0.4
KAMT	Kaman	4.18	32	ePN	Pn	21 32 45.9	-0.1
SANT	Santorini	4.41	278	eP	P	21 32 49.8	+0.8
BR131	Keskin Array S	4.45	29	P	P	21 32 46.9	-2.8
HRSH	Kfar Ka'horesh	5.43	153	P	P	21 33 03.1	-0.3
RSH		5.43	153	P	P	21 33 03.1	-0.3
AMAG	Maghara	5.55	159	⇓P	P	21 33 04.5	-0.6
HMAT	Matruh	5.69	215	⇑P	P	21 33 07.4	+0.3
FYM	Al Fayyum	6.14	179	P	P	21 33 14.3	+0.9
SUZ		6.22	164	P	P	21 33 14.3	-0.2
HSAF	As Saff	6.24	174	⇓P	P	21 33 14.7	-0.1
GLL	Jalalah	6.29	173	P	P	21 33 15.3	-0.3
SLUM		6.41	229	⇑P	P	21 33 17.7	+0.5
SWA1		7.87	215	P	P	21 33 37.0	-0.7
SWA2		8.01	216	P	P	21 33 39.0	-0.6
HFRF	Wahat Farafira	8.94	195	⇓P	P	21 33 51.4	-1.1

CASC 06 21:35:03.5±1.6, 11.01N×86.66W, h65^{km}±43^{km}, MD3.9, ML3.8, 3C-7D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	1.03	20	⇓iP	P	21 35 22.7	+0.3
APON	Apoyo	1.07	33	⇓eP	P	21 35 22.9	0.0
APON				eS	S	21 35 37.7	+0.4
MASN	Masaya	1.09	27	eP	P	21 35 23.8	+0.6
MASN				eS	S	21 35 39.8	+2.0
TICN	Ticuantepe	1.10	22	eP	P	21 35 23.2	-0.2
TICN				eS	S	21 35 38.8	+0.8
TICN				i		21 35 39.7	
	comp=Z,2μm,0.4s						
CONN	Concepcion	1.15	61	⇓eP	P	21 35 24.0	0.0
CONN				eS	S	21 35 37.7	-1.5
XAVN	Gruta Xavier	1.18	16	⇑eP	P	21 35 24.3	0.0
XAVN				eS	S	21 35 40.5	+0.7
MGAN	Managua	1.20	19	⇓iP	P	21 35 24.6	0.0
MGAN				eS	S	21 35 40.3	-0.1
WILN	Americas 2	1.23	22	eP	P	21 35 24.6	-0.5
WILN				eS	S	21 35 41.2	0.0
APYN	Apoyeque	1.25	14	⇓eP	P	21 35 25.3	-0.1
APYN				eS	S	21 35 42.1	+0.4
MOMJ	Momotombo	1.39	5	⇓eP	P	21 35 26.9	-0.5
LEON	Leon	1.42	351	⇑iP	P	21 35 27.6	-0.2
LEON				eS	S	21 35 44.9	-0.7
MIRN	Miramar	1.42	358	⇑iP	P	21 35 27.8	0.0
CNGN	Cerro Negro	1.48	358	eP	P	21 35 27.6	-1.0
CNGN				eS	S	21 35 47.8	+0.6
TEL3	Telica 3	1.56	353	eP	P	21 35 29.8	+0.1
TEL3				eS	S	21 35 48.6	-0.4
TELN	Telica	1.59	354	eP	P	21 35 30.2	+0.1
TELN				eS	S	21 35 50.1	+0.4
PYTN	Playitas	1.63	21	eP	P	21 35 30.0	-0.6
CRIN	San Cristobal	1.72	347	⇓eP	P	21 35 32.0	+0.1

*CSEM **06** 22:02:55.7±0.1, 34.12N×32.20E, h40^{km}, Mw2.8, Error ellipse: s-maj=4.5km s-min=2.1km az=115.0*
*NIC **06** 22:02:58.1±0.3, 34.16N×32.25E, h25^{km}, ML3.3, MW2.8*
*NEIC **06** 22:02:58.1, 34.16N×32.25E, h25^{km}, ML3.3(NIC), After NIC.*
*HLW **06** 22:03:05.2, 33.45N×31.97E, h21^{km}, Mb3.2*

ISC 06 22:02:55.8±0.8, 34.1N±0.1×32.2E±0.1, h64^{km}±47^{km}, n11, σ0^{s}63/15, 5C-3D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PPCY	Paphos	0.75	7	⇑eP	P	22 03 11.3	+0.4
SZAC	Souni-Zanaja	0.82	41	⇓P	P	22 03 12.0	+0.2
SZAC				S	S	22 03 23.1	-0.7
ALFC	Alevga	1.06	17	⇑P	P	22 03 15.2	+0.2
ALFC				S	S	22 03 28.7	-0.6
CSS	Prodhromos	1.23	48	P	P	22 03 17.3	+0.1
	4.9nm,0.2s						
CSS				S	S	22 03 33.0	-0.2
MAMC	Mammari	1.31	38	P	P	22 03 19.4	+0.8
AMAG	Maghara	3.58	166	⇑eP	P	22 03 50.5	+0.3
HMAT	Matruh	5.29	236	⇑eP	P	22 04 14.8	+0.8
HMAT				S	S	22 05 05.8	-8.5
HKAT	Jabal Katrina	5.80	164	⇑eP	P	22 04 21.4	+0.4
SWA1		7.38	231	P	P	22 04 43.1	0.0
SWA2		7.56	232	⇓eP	P	22 04 45.4	-0.2
HFRF	Wahat Farafira	7.74	207	⇓eP	P	22 04 46.3	-1.8

*CSEM **06** 22:16:38.3±0.1, 36.48N×8.40W, h30^{km}, ML3.9/6, Error ellipse: s-maj=2.1km s-min=1.7km az=26.0*
*CNRM **06** 22:16:42.5, 36.40N×8.33W, h30^{km}, MD3.5*
*IGIL **06** 22:16:43.3, 36.70N×8.10W, h2^{km}, ML3.2*
*SFS **06** 22:16:43.0, 36.83N×8.08W*
*NEIC **06** 22:16:43.9, 36.73N×8.22W, h20^{km}, MN3.3(MDD), After MDD.*
NEIC Felt at Montenegro, Portugal.
*LDG **06** 22:16:44.9±0.2, 36.77N×8.11W, h10^{km}, Ml3.7/9, Error ellipse: s-maj=3.9km s-min=2.1km az=41.0*
*INMG **06** 22:16:45.0±1.1, 36.67N×8.18W, h24^{km}±12^{km}, ML3.1, Error ellipse: s-maj=11.5km s-min=2.7km az=44.0*

MDD 06 22:16:44.3±1.0, 36.69N×8.27W, h36^{km}, mbLg3.2/23, 9C-6D, Error ellipse: s-maj=10.1km s-min=4.8km az=51.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	0.92	337	eP	P	22 17 01.4	+0.5
PTEO				eS	S	22 17 13.7	+0.6
	311nm,0.2s						
EGRO	El Granado	1.05	37	⇓P	P	22 17 02.5	-0.2
EGRO				S	S	22 17 14.7	-1.7
EGRO	El Granado	1.05	37	⇓P	P	22 17 02.5	-0.2
	34nm,0.1s,SNR=18						
EGRO				S	S	22 17 15.1	-1.3
	553nm,0.2s,SNR=18						
EGRO	El Granado	1.05	37	P	P	22 17 02.5	-0.2
	34nm,0.1s,SNR=18						
PBEJ	Beja	1.37	14	eP	P	22 17 06.8	-0.5
PBEJ				eS	S	22 17 24.2	-0.2
	218nm,0.2s						
EMIN	Mina Concepcio	1.67	50	P	P	22 17 10.3	-1.3
EMIN				S	S	22 17 29.0	-2.9
EMIN	Mina Concepcio	1.67	50	P	P	22 17 10.2	-1.3
	2.4nm,0.1s,SNR=58						
EMIN				S	S	22 17 29.0	-2.9
	89nm,0.3s,SNR=13						
EMIN	Mina Concepcio	1.67	50	S	S	22 17 29.0	-2.9
	89nm,0.3s,SNR=13						
SCRT	Cerro San Cris	1.69	91	P	P	22 17 11.0	-0.8
SCRT	Cerro San Cris	1.69	91	eP	P	22 17 11.0	-0.8
CNIL	Conil	1.82	100	P	P	22 17 12.9	-0.7
EVO	Evora	1.85	6	ePn	P	22 17 13.2	-0.9
EVO				eSn	S	22 17 35.5	-0.9
	191nm,0.3s						
GIBL	Gibalbin	1.86	85	⇑P	P	22 17 13.0	-1.2
GIBL				S	S	22 17 33.8	-2.9
ESPR	Espera	1.95	84	⇑P	P	22 17 14.1	-1.4
ESPR				S	S	22 17 37.4	-1.6
ESPR	Espera	1.95	84	⇑P	P	22 17 14.1	-1.4
	313nm,0.1s,SNR=18						
ESPR				S	S	22 17 37.4	-1.6
	97nm,0.4s,SNR=5.0						
ESPR	Espera	1.95	84	P	P	22 17 14.1	-1.4
	313nm,0.1s,SNR=18						
ESPR				S	S	22 17 37.4	-1.6
	97nm,0.4s,SNR=5.0						
MOMI	Momias	2.09	99	P	P	22 17 16.6	-0.9
MOMI	Momias	2.09	99	eP	P	22 17 16.6	-0.9
ALJ	Aljibe	2.12	94	⇓P	P	22 17 17.1	-0.9
ALJ				S	S	22 17 41.0	-2.3
ALJ	Aljibe	2.12	94	i P	P	22 17 17.1	-0.8
ALJ				eS	S	22 17 41.0	-2.3
LIS	Lisbon	2.14	341	eP	P	22 17 19.1	+0.9
LIS				eS	S	22 17 44.3	+0.6
LIS				eS	S	22 17 44.3	+0.6
LIS				AML	AML	22 17 46.6	
	comp=E,220nm,0.3s						
EBAD	Badajoz	2.29	25	P	P	22 17 19.0	-1.4
EBAD				S	S	22 17 45.7	-1.9
EBAD	Badajoz	2.29	25	⇑P	P	22 17 19.0	-1.4
	comp=E,1.7nm,0.0s,SNR=18						
EBAD				S	S	22 17 45.7	-1.9
	comp=E,33nm,0.2s,SNR=7.8						
EBAD	Badajoz	2.29	25	P	P	22 17 19.0	-1.4
	comp=E,1.7nm,0.0s,SNR=136						
EBAD				S	S	22 17 45.7	-1.9
	comp=E,33nm,0.2s,SNR=7.8						
PLOU	Loures	2.30	343	ePn	P	22 17 20.5	0.0
PLOU				eSn	S	22 17 48.4	+0.6
	comp=E,111nm,0.4s						
PLOU	Loures	2.30	343	ePn	P	22 17 20.5	0.0
PLOU				eSn	S	22 17 48.4	+0.6
	comp=E,111nm,0.4s						
LIJA	Lijar	2.31	84	⇓P	P	22 17 19.4	-1.3
LIJA				S	S	22 17 45.0	-3.3

LIJA	**Lijar**	**2.31**	**84**	*i* P	P	22 17 19.4	-1.3
LIJA				*e*S	S	22 17 45.0	-3.3
ALMR	**Almeirim**	**2.47**	**355**	*e*P	P	22 17 22.6	-0.4
ALMR				AML	AML	22 17 23.8	
	comp=Z,88nm,0.2s						
ALMR				*e*S	S	22 17 51.6	-0.7
ALMR				*e*S	S	22 17 51.6	-0.7
REAL	**Reales**	**2.48**	**94**	P	P	22 17 22.0	-1.1
REAL				S	S	22 17 49.3	-3.1
REAL	**Reales**	**2.48**	**94**	*e*P	P	22 17 22.0	-1.1
REAL				*e*S	S	22 17 49.3	-3.1
EMIJ	**Mijas**	**2.82**	**92**	P	P	22 17 25.6	-2.4
EMIJ				S	S	22 17 58.4	-2.7
EMIJ	**Mijas**	**2.82**	**92**	P	P	22 17 25.5	-2.5
	comp=Z,8.3nm,0.5s,SNR=42						
EMIJ				S	S	22 17 58.4	-2.7
	comp=Z,13nm,0.3s,SNR=6.6						
EMIJ	**Mijas**	**2.82**	**92**	P	P	22 17 25.6	-2.4
	comp=Z,2.1nm,0.1s,SNR=42						
EMIJ				S	S	22 17 58.4	-2.7
	comp=Z,13nm,0.3s,SNR=6.6						
PTOM	**Tomar**	**2.92**	**358**	*e*Pn	P	22 17 28.7	-0.7
PTOM				*e*Sn	S	22 18 01.4	-2.3
	comp=Z,92nm,0.2s						
PCBR	**Castelo Branco**	**3.20**	**11**	*e*Pn	P	22 17 32.1	-1.4
PCBR				*e*Sn	S	22 18 07.9	-3.0
	comp=Z,47nm,0.3s						
PCBR	**Castelo Branco**	**3.20**	**11**	*e*Pn	P	22 17 32.1	-1.4
PCBR				*e*Sn	S	22 18 07.9	-3.0
	comp=Z,47nm,0.3s						
EADA	**Adamuz**	**3.29**	**62**	⇓P	P	22 17 32.7	-1.9
EADA				S	S	22 18 08.8	-4.3
EADA	**Adamuz**	**3.29**	**62**	⇓P	P	22 17 32.7	-2.0
	comp=Z,32nm,0.1s,SNR=18						
EADA				S	S	22 18 08.7	-4.3
	comp=Z,57nm,0.3s,SNR=15						
EADA	**Adamuz**	**3.29**	**62**	P	P	22 17 32.7	-2.0
	comp=Z,32nm,0.1s,SNR=18						
EADA				S	S	22 18 08.8	-4.3
ELUQ	**Luque**	**3.32**	**74**	⇑P	P	22 17 32.8	-2.2
	comp=Z,5.4nm,0.2s,SNR=18						
ELUQ				S	S	22 18 08.1	-5.7
	comp=Z,21nm,0.2s,SNR=6.9						
ELOJ	**Sierra Loja**	**3.33**	**81**	P	P	22 17 33.1	-2.1
	comp=Z,4.8nm,0.3s,SNR=15						
ELOJ				S	S	22 18 09.1	-5.1
	comp=Z,7.2nm,0.3s,SNR=5.5						
ERON	**Agron**	**3.60**	**83**	P	P	22 17 37.5	-1.5
ERON				S	S	22 18 18.0	-2.9
ERON	**Agron**	**3.60**	**83**	P	P	22 17 37.5	-1.6
	comp=Z,2.2nm,0.2s,SNR=14						
ERON				S	S	22 18 18.0	-2.9
	comp=Z,14nm,0.6s,SNR=5.0						
MTE	**Manteigas**	**3.75**	**9**	*e*Pn	P	22 17 39.2	-1.9
MTE				*e*Sn	S	22 18 20.6	-4.0
	comp=Z,67nm,0.5s						
MTE	**Manteigas**	**3.75**	**9**	*e*Pn	P	22 17 39.2	-1.9
MTE				*e*Sn	S	22 18 20.6	-4.0
	comp=Z,67nm,0.5s						
EGUA	**Guajares**	**3.78**	**86**	P	P	22 17 39.3	-2.4
	comp=Z,0.3nm,0.1s,SNR=7.9						
EGUA				S	S	22 18 21.0	-4.6
	SNR=7.9						
ECOG	**Cogollos-Vega**	**3.81**	**80**	P	P	22 17 40.7	-1.4
	comp=Z,18nm,0.2s,SNR=61						
ECOG				S	S	22 18 22.5	-3.9
	comp=Z,8.9nm,0.2s,SNR=5.0						
EBAN	**Banos Encina**	**3.86**	**66**	⇑P	P	22 17 40.3	-2.5
	comp=Z,16nm,0.1s,SNR=18						
EBAN				S	S	22 18 19.3	-8.3
	comp=Z,34nm,0.3s,SNR=13						
PVIS	**Viseu**	**4.03**	**4**	*e*Pn	P	22 17 43.4	-1.7
PVIS				*e*Sn	S	22 18 27.5	-4.3
	comp=Z,28nm,0.3s						
MIF	**Mishlifen**	**4.12**	**142**	*i* P	P	22 17 40.0	-6.4
TZK	**Tazeka**	**4.23**	**127**	*i* P	P	22 17 42.0	-6.0
TZK				*i* S	S	22 18 26.5	-10
EQES	**Quesada**	**4.30**	**73**	⇑P	P	22 17 45.9	-3.0
	comp=Z,7.5nm,0.1s,SNR=18						
EQES				S	S	22 18 33.4	-5.1
	comp=Z,19nm,0.4s,SNR=14						
EQES	**Quesada**	**4.30**	**73**	P	P	22 17 45.9	-3.1
	comp=Z,7.5nm,0.1s,SNR=18						
EQES				S	S	22 18 33.5	-5.1
EALB	**Alboran**	**4.30**	**99**	S	S	22 18 33.2	-5.4
	comp=Z,14nm,0.4s,SNR=7.9						
EALB	**Alboran**	**4.30**	**99**	S	S	22 18 33.2	-5.4
	SNR=7.9						
EBER	**Berja**	**4.33**	**86**	P	P	22 17 46.7	-2.7
	comp=Z,8.4nm,0.3s,SNR=8.6						
EBER				S	S	22 18 34.4	-4.9
	comp=Z,15nm,0.3s,SNR=7.9						
EBER	**Berja**	**4.33**	**86**	P	P	22 17 46.7	-2.7
	comp=Z,8.4nm,0.3s,SNR=8.6						
EBER				S	S	22 18 34.5	-4.8
CZD	**Col de Zad**	**4.51**	**143**	*i* P	P	22 17 46.0	-6.1
ESDC	**Sonseca Array**	**4.51**	**47**	P	P	22 17 49.7	-2.4
	comp=Z,1.8nm,0.2s,baz=232,slow=13,SNR=22						
ESDC				S	S	22 18 38.4	-5.7
	comp=Z,33nm,0.3s,baz=230,slow=24,SNR=54						
ESDC	**Sonseca Array**	**4.51**	**47**	P	P	22 17 49.7	-2.4
	comp=Z,1.8nm,0.2s,SNR=22						
ESDC				S	S	22 18 38.4	-5.7
	comp=Z,33nm,0.3s,SNR=54						
PVRL	**Vila Real**	**4.60**	**5**	*e*Pn	P	22 17 51.0	-2.2
PVRL				*e*Sn	S	22 18 41.3	-4.8
	comp=Z,30nm,0.5s						
EHUE	**Huescar**	**4.67**	**74**	P	P	22 17 51.0	-3.2
EHUE				S	S	22 18 40.5	-7.4
EHUE	**Huescar**	**4.67**	**74**	⇑P	P	22 17 51.0	-3.3
	comp=Z,1.5nm,0.1s,SNR=18						
EHUE				S	S	22 18 40.5	-7.4
	comp=Z,5.0nm,0.2s,SNR=5.2						
ENIJ	**Nijar**	**4.87**	**85**	P	P	22 17 54.4	-2.7
	comp=Z,1.3nm,0.1s,SNR=16						
ENIJ				S	S	22 18 45.6	-7.5
	comp=Z,4.6nm,0.2s,SNR=5.0						
EVIA	**Vianos**	**4.97**	**65**	P	P	22 17 55.1	-3.4
EVIA				S	S	22 18 47.6	-8.1
EVIA	**Vianos**	**4.97**	**65**	P	P	22 17 55.1	-3.5
	comp=Z,3.2nm,0.1s,SNR=12						
EVIA				S	S	22 18 47.6	-8.1
	comp=Z,16nm,0.4s,SNR=6.1						
ELOB	**Lobios**	**5.17**	**2**	P	P	22 17 59.2	-2.1
ELOB				S	S	22 18 53.3	-7.2
ELOB	**Lobios**	**5.17**	**2**	P	P	22 17 59.2	-2.1
	comp=Z,4.2nm,0.1s,SNR=44						
ELOB				S	S	22 18 53.3	-7.2
	comp=Z,8.4nm,0.3s,SNR=5.8						
ELOB	**Lobios**	**5.17**	**2**	P	P	22 17 59.2	-2.1
	comp=Z,4.2nm,0.1s,SNR=44						
PBRG	**Braganca**	**5.24**	**13**	*e*Pn	P	22 17 59.4	-2.9
PBRG				*e*Sn	S	22 18 55.8	-6.6
	comp=Z,14nm,0.6s						
ECAL	**Calabor**	**5.38**	**12**	P	P	22 18 01.8	-2.4
	comp=Z,1.9nm,0.1s,SNR=26						
ECAL				S	S	22 18 59.0	-6.7
	comp=Z,19nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**5.38**	**12**	P	P	22 18 01.8	-2.3
	comp=Z,1.9nm,0.1s,SNR=26						
EZAM	**Zamans**	**5.46**	**357**	P	P	22 18 01.5	-3.9
EZAM				S	S	22 19 01.4	-6.4
EZAM	**Zamans**	**5.46**	**357**	P	P	22 18 03.4	-1.9
	comp=Z,0.4nm,0.2s,SNR=5.3						
EZAM				S	S	22 19 01.4	-6.4
	comp=Z,5.5nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**5.46**	**357**	P	P	22 18 01.5	-3.8
	comp=Z,0.4nm,0.2s,SNR=5.3						
ZFT	**Errachidia**	**5.67**	**144**	*i* P	P	22 18 01.5	-6.7
ETOB	**Tobarra**	**5.68**	**68**	⇑P	P	22 18 04.5	-3.9
	comp=Z,5.4nm,0.1s,SNR=18						
ETOB				S	S	22 19 05.7	-7.6
	comp=Z,8.8nm,0.3s,SNR=6.1						
ETOB	**Tobarra**	**5.68**	**68**	P	P	22 18 04.5	-3.9
	comp=Z,5.4nm,0.1s,SNR=18						
EMUR	**La Murta**	**5.72**	**76**	P	P	22 18 05.8	-3.2
	comp=Z,0.6nm,0.1s,SNR=9.1						
EMUR				S	S	22 19 05.2	-9.3
	comp=Z,12nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**5.72**	**76**	P	P	22 18 05.8	-3.2
	comp=Z,0.6nm,0.1s,SNR=9.1						
ERUA	**La Rua**	**5.76**	**8**	S	S	22 19 07.7	-7.6
	comp=Z,6.4nm,0.3s,SNR=7.9						
STS	**Santiago**	**6.19**	**358**	P	P	22 18 12.6	-3.0
	comp=Z,9.7nm,0.1s,SNR=7.9						
STS				S	S	22 19 18.4	-7.6
	comp=Z,4.6nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.27**	**355**	P	P	22 18 13.2	-3.5
	comp=Z,2.4nm,0.1s,SNR=7.9						
EMAZ				S	S	22 19 20.7	-7.4
	comp=Z,5.2nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.27**	**355**	P	P	22 18 13.2	-3.6
	comp=Z,2.4nm,0.1s,SNR=7.9						
ECHE	**Chera**	**6.44**	**61**	P	P	22 18 16.0	-3.2
ECHE				S	S	22 19 22.5	-10
ECHE	**Chera**	**6.44**	**61**	P	P	22 18 16.1	-3.1
	comp=Z,1.4nm,0.1s,SNR=13						
ECHE				S	S	22 19 22.5	-10
	comp=Z,2.3nm,0.2s,SNR=7.9						
ECHE	**Chera**	**6.44**	**61**	P	P	22 18 16.0	-3.2
	comp=Z,1.4nm,0.1s,SNR=13						
EPON	**Pontenova**	**6.68**	**7**	P	P	22 18 20.2	-2.3
EPON				S	S	22 19 31.3	-7.1
EPON	**Pontenova**	**6.68**	**7**	P	P	22 18 20.2	-2.4
	comp=Z,0.7nm,0.1s,SNR=7.9						
EPON				S	S	22 19 30.6	-7.7
	comp=Z,2.6nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**6.68**	**7**	P	P	22 18 20.2	-2.3
	comp=Z,0.7nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**6.69**	**70**	P	P	22 18 17.4	-5.2
EBEN				S	S	22 19 28.2	-10
EBEN	**Beniarda**	**6.69**	**70**	P	P	22 18 18.2	-4.5
	comp=Z,5.1nm,0.6s,SNR=8.7						
EBEN				S	S	22 19 28.2	-10
	comp=Z,2.4nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**6.69**	**70**	P	P	22 18 17.4	-5.2
	comp=Z,5.1nm,0.6s,SNR=8.7						
EARI	**Arriondas**	**7.01**	**19**	P	P	22 18 24.0	-3.0
	comp=Z,5.7nm,1.0s,SNR=8.1						
EARI				S	S	22 19 36.5	-10
	comp=Z,0.7nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**7.01**	**19**	P	P	22 18 24.0	-3.1
	comp=Z,5.7nm,1.0s,SNR=8.1						
EMOS	**Mosqueruela**	**7.13**	**57**	P	P	22 18 26.3	-2.5
	comp=Z,1.2nm,0.1s,SNR=14						
EMOS				S	S	22 19 38.3	-11
	comp=Z,3.9nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**7.13**	**57**	P	P	22 18 26.3	-2.5
	comp=Z,1.2nm,0.1s,SNR=14						
ECRI	**Cripan**	**7.39**	**35**	P	P	22 18 29.2	-3.2
	comp=Z,2.3nm,0.2s,SNR=7.9						
ECRI				S	S	22 19 46.4	-10
	comp=Z,4.1nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**7.51**	**28**	P	P	22 18 30.9	-3.2
	comp=Z,0.7nm,0.1s,SNR=6.3						
ELAN				S	S	22 19 47.7	-11
	comp=Z,2.4nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**7.51**	**28**	P	P	22 18 30.9	-3.2
	comp=Z,20nm,1.1s,SNR=6.3						
ESAC	**San Caprasio**	**7.87**	**48**	S	S	22 19 55.9	-12
	comp=Z,12nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**7.95**	**55**	P	P	22 18 37.2	-3.0
	comp=Z,0.4nm,0.1s,SNR=7.9						
ERTA				S	S	22 19 58.2	-12
	comp=Z,1.5nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**7.95**	**55**	P	P	22 18 37.2	-3.0
	SNR=7.9						
EIBI	**Ibiza**	**7.96**	**70**	P	P	22 18 35.3	-5.0
	comp=Z,0.6nm,0.1s,SNR=7.9						
EIBI				S	S	22 19 58.8	-11
	comp=Z,2.3nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**7.96**	**70**	P	P	22 18 35.3	-5.0
	comp=Z,0.6nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**8.33**	**36**	P	P	22 18 43.6	-1.9
	comp=Z,0.8nm,0.1s,SNR=5.9						
EALK				S	S	22 20 08.9	-11
	comp=Z,27nm,0.5s,SNR=7.9						
SJPF	**Ste Jean**	**8.39**	**38**	*e*Pn	P	22 18 42.3	-4.0
SJPF				*e*Sn	S	22 20 10.3	-11
	comp=Z,14nm,0.4s						
SJPF	**Ste Jean**	**8.39**	**38**	Sn	S	22 20 10.3	-11
	comp=Z,7.0nm,0.4s						
ETSF	**Etsaut**	**8.58**	**41**	*e*Pn	P	22 18 45.1	-3.8
ETSF				*e*Sn	S	22 20 14.6	-11
	comp=Z,5.6nm,0.3s						
EGRA	**Graus**	**8.62**	**48**	P	P	22 18 46.4	-3.1
	comp=Z,0.7nm,0.2s,SNR=5.8						
EGRA				S	S	22 20 13.8	-13
	comp=Z,2.0nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**8.64**	**55**	P	P	22 18 45.7	-4.1
	comp=Z,0.1nm,0.1s,SNR=7.9						
EPOB				S	S	22 20 14.7	-12
	comp=Z,0.3nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**8.64**	**55**	P	P	22 18 45.7	-4.0
	comp=Z,0.1nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**8.82**	**45**	P	P	22 18 49.7	-2.6
	comp=Z,0.4nm,0.1s,SNR=7.9						
EBIE				S	S	22 20 18.8	-13
	comp=Z,2.0nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**8.82**	**45**	P	P	22 18 49.7	-2.6
	comp=Z,0.4nm,0.1s,SNR=7.9						
EPF	**Esparros**	**9.16**	**44**	*e*Pn	P	22 18 53.0	-3.9
EPF				*e*Sn	S	22 20 29.8	-10
	comp=Z,9.7nm,0.3s						
EMIR	**Miracle**	**9.21**	**53**	P	P	22 18 53.3	-4.4
	SNR=7.9						
EMIR				S	S	22 20 29.4	-12
	comp=Z,2.4nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**9.21**	**53**	P	P	22 18 53.3	-4.4
	SNR=7.9						
MTLF	**Montolieu**	**10.43**	**47**	*e*Pn	P	22 19 10.0	-4.4
MTLF				*e*Sn	S	22 20 59.1	-12
	comp=Z,0.9nm,0.2s						
LFF	**La Frestale**	**10.69**	**37**	*e*Sn	S	22 21 05.7	-12
	comp=Z,4.1nm,0.4s						
RJF	**Les Rejaudoux**	**11.34**	**38**	*e*Pn	P	22 19 22.1	-4.7
RJF				*e*Sn	S	22 21 19.4	-14
	comp=Z,1.1nm,0.2s						
CAF	**Calviac**	**11.35**	**40**	*e*Pn	P	22 19 23.0	-3.9
CAF				*e*Sn	S	22 21 19.9	-14
	comp=Z,3.5nm,0.3s						
MFF	**Saint Martin d**	**11.61**	**29**	*e*Pn	P	22 19 27.1	-3.3
MFF				*e*Sn	S	22 21 26.7	-13
LASF	**Ste Croix**	**11.82**	**48**	*e*Pn	P	22 19 29.0	-4.3
QUIF	**Quistinic**	**11.83**	**17**	*e*Pn	P	22 19 29.2	-4.2
QUIF				*e*Sn	S	22 21 33.0	-12
	comp=Z,1.7nm,0.3s						
ROSF	**Rostrenen**	**12.20**	**16**	*e*Pn	P	22 19 34.6	-3.8
ROSF				*e*Sn	S	22 21 41.0	-13
SGMF	**Saint Gilles**	**12.29**	**18**	*e*Pn	P	22 19 35.2	-4.5
SGMF				*e*Sn	S	22 21 43.7	-13
TCF	**Toulx Ste Croi**	**12.38**	**36**	*e*Pn	P	22 19 36.2	-4.7
PCNG	**Congro**	**13.69**	**280**	*e*S	S	22 22 22.9	-7.0
	comp=Z,172nm,0.2s						
PCNG	**Congro**	**13.69**	**280**	*e*S	S	22 22 22.9	-7.0
	comp=Z,172nm,0.2s						
VIF	**Vila Franca**	**13.72**	**280**	*e*S	S	22 22 24.1	-6.7
	comp=Z,20nm,0.2s						
VIF	**Vila Franca**	**13.72**	**280**	*e*S	S	22 22 24.1	-6.7
	comp=Z,20nm,0.2s						
MESC	**Monte Escuro**	**13.73**	**280**	*e*S	S	22 22 24.0	-6.9
MESC	**Monte Escuro**	**13.73**	**280**	*e*S	S	22 22 24.0	-6.9
PRCH	**Ribeira Ch**	**13.76**	**279**	*e*S	S	22 22 25.1	-6.4
	comp=Z,19nm,0.2s						
PRCH	**Ribeira Ch**	**13.76**	**279**	*e*S	S	22 22 25.1	-6.4
	comp=Z,19nm,0.2s						

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*NEIC **06** 22:26:36.6±0.8, 6.72N×72.95W, h165km±8km, mb3.7/1, Error ellipse: s-maj=21.6km s-min=12.1km az=117.0*
*IDC **06** 22:26:36.1±0.8, 6.70N×72.90W, h159km±10km, mb3.2/2, mb1 3.5/4, mb1mx3.2/21, mbtmp3.9/4, Error ellipse: s-maj=40.7km s-min=7.4km az=132.0*
*FUNV **06** 22:26:37.2, 6.87N×73.08W, h159km, MW3.4*
ISC 06 22:26:35.7±0.6**, 6.87N**±0.07×**72.90W**±0.07**, h163**km±6km**, n19, σ1s38**/29**, mb3.5**/3**, 1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.15**	**30**	⇓*i*P	**P**	**22 27 04.9**	**+1.7**
CAPV				*e*S	**S**	**22 27 24.8**	**+0.4**
ROSC	**El Rosal**	**2.46**	**216**	P	**P**	**22 27 16.7**	**-0.7**
	56nm,0.3s,baz=92,slow=9.3,SNR=45						
ROSC				S	**S**	**22 27 47.2**	**-2.3**
	90nm,0.3s,baz=89,slow=20,SNR=18						
SOCV	**Socops**	**2.46**	**55**	*e*P	**P**	**22 27 19.6**	**+2.1**
SOCV				*e*S	**S**	**22 27 49.7**	**0.0**
VIGV	**El Vigia**	**2.48**	**38**	*e*P	**P**	**22 27 19.2**	**+1.5**
VIGV				*e*S	**S**	**22 27 49.5**	**-0.5**
SDV	**Santo Domingo**	**3.01**	**48**	P	**P**	**22 27 26.4**	**+2.2**
	25nm,0.3s,baz=242,slow=6.3,SNR=66						
SDV				S	**S**	**22 28 03.9**	**+2.3**
	98nm,0.3s,baz=74,slow=23,SNR=40						
VIRV	**Villa del Rosa**	**3.64**	**8**	*e*P	**P**	**22 27 31.6**	**-0.9**
VIRV				*e*S	**S**	**22 28 12.7**	**-3.4**
QARV	**Quebrada Arrib**	**4.06**	**35**	*e*P	**P**	**22 27 38.3**	**+0.4**
QARV				*e*S	**S**	**22 28 24.1**	**-1.6**
SANV	**Sanarito**	**4.23**	**52**	*e*P	**P**	**22 27 41.1**	**+1.0**
SANV				*e*S	**S**	**22 28 29.2**	**-0.5**
CURV	**Curarigua**	**4.27**	**43**	*e*P	**P**	**22 27 41.8**	**+1.3**
CURV				*e*S	**S**	**22 28 28.2**	**-2.3**
TEPV	**Terepaima**	**4.79**	**50**	*e*P	**P**	**22 27 48.4**	**+1.1**
TEPV				*e*S	**S**	**22 28 41.4**	**-1.3**
SIQV	**Siquisique**	**4.84**	**39**	*e*P	**P**	**22 27 48.8**	**+0.8**
SIQV				*e*S	**S**	**22 28 40.9**	**-3.0**
BAUV	**El Baul**	**5.23**	**66**	*e*P	**P**	**22 27 52.9**	**-0.2**
BAUV				*e*S	**S**	**22 28 51.1**	**-2.1**
MONV	**Montecano**	**5.82**	**30**	*e*P	**P**	**22 28 01.0**	**+0.1**
MONV				*e*S	**S**	**22 29 02.9**	**-4.2**
LPAZ	**La Paz**	**23.49**	**168**	P	**P**	**22 31 31.4**	**-0.5**
	2.4nm,0.9s,mb3.6						
TXAR	**Lajitas Array**	**36.59**	**311**	P	**P**	**22 33 27.6**	**-0.2**
	0.3nm,0.6s,mb3.1,baz=133,slow=9.8,SNR=5.3						
SCHQ	**Schefferville**	**48.07**	**5**	P	**P**	**22 35 01.1**	**+0.8**
	0.8nm,0.4s,mb3.7,baz=181,slow=8.4,SNR=5.8						
MKAR	**Makanchi Array**	**122.20**	**20**	PKP	PKPdf	22 45 12.2	+1.0
	0.2nm,0.4s,baz=320,slow=2.1,SNR=4.2						
WB2	**Warramunga Arr**	**150.54**	**241**	*e*P	PKPdf	22 46 09.4	+6.2
WRA	**Warramunga Arr**	**150.55**	**241**	PKPbc	PKPdf	22 46 09.3	+6.1
	1.1nm,0.4s,baz=108,slow=2.8,SNR=42						

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*BJI **06** 22:41:57.2, 1.06N×97.32E, h24km, mB5.0, mb5.3, Ms4.6, Msz4.4*
*MOS **06** 22:41:58.7±0.8, 1.14N×97.20E, h33km, mb5.1/23, Error ellipse: s-maj=15.1km s-min=7.2km az=103.5*
*IDC **06** 22:41:59.0±0.5, 1.16N×97.18E, h22km±3km, mb4.3/19, mb1 4.4/20, mb1mx4.3/24, mbtmp4.4/20, ML4.9/1, MS3.9/6, Ms1 3.9/6, ms1mx3.5/28, Error ellipse: s-maj=20.5km s-min=10.9km az=52.0*
*NEIC **06** 22:41:59.0±0.3, 1.09N×97.16E, mb4.8/24, Error ellipse: s-maj=8.3km s-min=6.2km az=47.0*
ISC 06 22:41:57.6±0.4**, 1.12N**±0.05×**97.20E**±0.04**, h24**km**, h24**km±1.1km**: pP-P, n132, σ1s03**/129**, mb4.8**/66**, MS4.2**/19**, 8C-4D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.14**	**48**	P	**Pn**	**22 43 16.5**	**+1.3**
KULM	**Kulim**	**5.39**	**40**	*e*P	**Pn**	**22 43 19.2**	**+0.5**
KGM	**Kluang**	**6.18**	**82**	P	**Pn**	**22 43 31.9**	**+2.0**
SNG	**Songkhla**	**6.92**	**29**	P	**Pn**	**22 43 39.0**	**-1.3**
	384nm,0.8s						
KSM	**Kuching**	**13.11**	**88**	*e*P	**P**	**22 45 05.6**	**+0.4**
NST	**Nakhon Sawan**	**14.75**	**11**	P	**P**	**22 45 30.0**	**+3.1**
KKTK	**Khon Kaen**	**16.11**	**20**	P	**P**	**22 45 47.0**	**+2.5**
	679nm,0.7s						
CM31	**Chiang Mai Arr**	**17.32**	**6**	*e*P	**P**	**22 45 59.2**	**-0.5**
	15nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.32**	**6**	P	**P**	**22 45 58.1**	**-1.6**
	1.5nm,0.3s,baz=193,slow=12,SNR=21						
CMAR				LR	LR	22 54 10.7	
	comp=Z,430nm,19.1s,baz=180,slow=42						
CHG	**Chiang Mai**	**17.67**	**5**	⇓P	**P**	**22 46 03.2**	**-0.9**
	12nm,0.8s						
NANT	**Nan**	**17.91**	**11**	⇑P	**P**	**22 46 06.0**	**-1.0**
	525nm,1.0s						
KKM	**Kota Kinabalu**	**19.60**	**75**	*e*P	**P**	**22 46 27.0**	**-0.3**
KKM	**Kota Kinabalu**	**19.60**	**75**	P	**P**	**22 46 29.0**	**+1.7**
TSM	**Tawau**	**20.89**	**81**	P	**P**	**22 46 41.8**	**+0.9**
VIS	**Vishakhapatnam**	**21.40**	**321**	*i*	**P**	**22 46 51.3**	**+5.2**
QIZ	**Qiongzhong**	**21.69**	**34**	P	**P**	**22 46 48.9**	**-0.1**
QIZ				AMB	AMB		
	comp=Z,31nm,1.3s,mb4.6						
QIZ				LR	LR		
	comp=N,518nm,14.7s,MS4.3						
QIZ				LR	LR		
	comp=E,765nm,15.1s,MS4.3						
QIZ				LR	LR		
	comp=Z,802nm,13.0s,MS4.3						
QIZ	**Qiongzhong**	**21.69**	**34**	*e*P	**P**	**22 46 48.4**	**-0.6**
	comp=Z,19nm,0.8s,mb4.6						
KMI	**Kunming**	**24.46**	**12**	P	**P**	**22 47 18.1**	**+1.9**
KMI				AP		22 47 24.7	
KMI				XP		22 47 28.4	
KMI				AMB	AMB		
	comp=Z,100nm,0.9s,mb5.2						
KMI				LR	LR		
	comp=N,1μm,12.7s,MS4.7						
KMI				LR	LR		
	comp=E,842nm,13.9s,MS4.7						
KMI				LR	LR		
	comp=Z,2μm,13.9s,MS4.6						
HYB	**Hyderabad**	**24.47**	**313**	*e*P	**P**	**22 47 25.0**	**+8.7**
HYB	**Hyderabad**	**24.47**	**313**	*i* P	**P**	**22 47 25.0**	**+8.7**
SHL	**Shillong**	**24.84**	**349**	*e*P	**P**	**22 47 20.0**	**+0.1**
SHL				*e*S	**S**	**22 51 46.5**	**+8.1**
GYA	**Guiyang**	**26.79**	**19**	⇑*i*P	**P**	**22 47 37.3**	**-0.7**
GYA				AP	pP	22 47 46.8	+1.8
GYA				XP	sP	22 47 50.6	+2.4
GYA				S	**S**	**22 52 02.1**	**-8.7**
GYA				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,150nm,4.2s						
GYA				LR	LR		
	comp=N,1μm,13.2s,MS4.7						
GYA				LR	LR		
	comp=E,690nm,13.8s,MS4.7						
GYA				LR	LR		
	comp=Z,1μm,12.6s,MS4.7						
PKI	**Pulchoki**	**28.63**	**338**	*e*P	**P**	**22 47 55.5**	**+0.9**
	comp=Z,67nm,1.1s,mb5.3						
PKI	**Pulchoki**	**28.63**	**338**	*e*P	**P**	**22 47 55.5**	**+0.9**
PKI				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.0						
GUN	**Gumba**	**28.76**	**339**	*e*P	**P**	**22 47 56.8**	**+1.0**
	comp=Z,144nm,1.1s,mb5.6						
DMN	**Daman**	**28.78**	**337**	*e*P	**P**	**22 47 56.9**	**+0.9**
	comp=Z,54nm,1.0s,mb5.2						
KKN	**Kakani**	**28.88**	**338**	*e*P	**P**	**22 47 57.5**	**+0.6**
	comp=Z,71nm,1.0s,mb5.4						
KKN	**Kakani**	**28.88**	**338**	*e*P	**P**	**22 47 57.5**	**+0.6**
KKN				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.0						
LSA	**Lhasa**	**29.00**	**349**	P	**P**	**22 47 59.2**	**+1.2**
LSA	**Lhasa**	**29.00**	**349**	*e*P	**P**	**22 47 58.8**	**+0.8**
LSA				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.8						
LSA	**Lhasa**	**29.00**	**349**	*e*P	**P**	**22 47 58.8**	**+0.8**
	comp=Z,19nm,0.9s,mb4.8						
GKN	**Gorkha**	**29.32**	**337**	*e*P	**P**	**22 48 01.3**	**+0.5**
	comp=Z,86nm,1.0s,mb5.4						
KOLN	**Koldanda**	**29.53**	**335**	*e*P	**P**	**22 48 02.4**	**-0.4**
	comp=Z,35nm,0.6s,mb5.3						
CD2	**Chengdu**	**30.28**	**11**	P	**P**	**22 48 08.0**	**-1.4**
ENH	**Enshi**	**31.26**	**21**	*e*P	**P**	**22 48 16.8**	**-1.2**
	comp=Z,60nm,0.9s,mb5.4						
ENH				*e*pP	pP	22 48 22.7	-2.4
FITZ	**Fitzroy Crossi**	**33.88**	**126**	*e*P	**P**	**22 48 40.2**	**-0.8**
	comp=Z,9.5nm,0.8s,mb4.8						
FITZ				*i*	pP	22 48 47.2	-0.9
FITZ	**Fitzroy Crossi**	**33.88**	**126**	P	**P**	**22 48 39.8**	**-1.2**
	comp=Z,11nm,0.7s,mb4.9,baz=204,slow=3.0,SNR=15						
FITZ				pP	pP	22 48 46.9	-1.2
	comp=Z,10nm,0.6s,baz=322,slow=3.7,SNR=7.4						
XAN	**Xi'an**	**34.54**	**17**	P	**P**	**22 48 45.4**	**-1.2**
XAN				AP	pP	22 48 52.7	-1.0
XAN				S	**S**	**22 54 15.7**	**+2.7**
XAN				AMB	AMB		
	comp=Z,33nm,0.6s,mb5.4						
XAN				LR	LR		
	comp=N,439nm,12.7s,MS4.5						
XAN				LR	LR		
	comp=E,473nm,16.4s,MS4.5						
XAN				LR	LR		
	comp=Z,715nm,13.1s,MS4.6						
LZH	**Lanzhou**	**35.34**	**9**	⇑P	**P**	**22 48 53.6**	**+0.3**
LZH				AP	pP	22 49 04.7	+4.3
LZH				XP	sP	22 49 10.4	+6.9
LZH				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.5						
LZH				AMB	AMB		
	comp=Z,220nm,4.0s						
LZH				LR	LR		
	comp=N,970nm,16.0s						

LZH				LR	LR		
	comp=Z,860nm,16.8s,MS4.6						
NJ2	Nanjing	36.94	31	eP	P	22 49 07.2	+0.4
NJ2				AP	pP	22 49 16.9	+2.9
NJ2				XP	sP	22 49 20.9	+3.9
NJ2				PP	PP	22 50 34.0	+0.8
NJ2				S	S	22 54 47.0	-2.9
NJ2				XS		22 55 02.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,110nm,3.8s						
NJ2				LR	LR		
	comp=N,220nm,15.4s						
NJ2				LR	LR		
	comp=E,220nm,21.0s						
NJ2				LR	LR		
	comp=Z,130nm,10.1s						
SSE	Sheshan	37.48	35	P	P	22 49 10.4	-1.0
SSE				XP	sP	22 49 23.2	+1.6
SSE				PP	PP	22 50 36.3	-3.5
SSE				S	S	22 54 58.0	-0.3
SSE				XS		22 55 13.1	
SSE				SCS	ScS	22 59 21.0	-0.4
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,28nm,3.7s						
SSE				LR	LR		
	comp=N,120nm,21.1s,MS3.9						
SSE				LR	LR		
	comp=E,161nm,21.1s,MS3.9						
SSE				LR	LR		
	comp=Z,206nm,18.9s,MS4.0						
GTA	Gaotai	38.19	3	eP	P	22 49 17.8	+0.5
GTA				AP	pP	22 49 24.4	0.0
GTA				XP	sP	22 49 27.9	+0.4
GTA				PP	PP	22 50 48.1	0.0
GTA				PPP	PPP	22 51 09.4	-0.9
GTA				PCP	PcP	22 51 32.5	+0.4
GTA				S	S	22 55 06.5	-2.4
GTA				XS		22 55 20.0	
GTA				AMB	AMB		
	comp=Z,45nm,0.8s,mb5.2						
GTA				AMB	AMB		
	comp=Z,121nm,5.7s						
GTA				LR	LR		
	comp=N,323nm,14.1s,MS4.4						
GTA				LR	LR		
	comp=E,276nm,15.2s,MS4.4						
GTA				LR	LR		
	comp=Z,411nm,16.7s,MS4.3						
NWAO	Narrogin (SRO)	38.78	153	P	P	22 49 22.9	+0.6
	comp=Z,11nm,1.1s,mb4.5,baz=302,slow=15,SNR=2.0						
NWAO	Narrogin (SRO)	38.78	153	P	P	22 49 22.9	+0.6
BTO	Baotou	40.99	15	eP	P	22 49 41.0	+0.5
BTO				AMB	AMB		
	comp=Z,6.0nm,0.4s,mb4.6						
WRA	Warramunga Arr	41.99	122	P	P	22 49 48.6	-0.4
	comp=Z,7.6nm,0.7s,mb4.4,baz=301,slow=9.1,SNR=70						
WRA				pP	pP	22 49 55.6	-0.6
	comp=Z,8.1nm,0.7s,baz=302,slow=9.0,SNR=16						
WRAB	Tennant Creek	42.00	122	eP	P	22 49 48.3	-0.7
WRAB				e*PP	pP	22 49 56.0	-0.2
WRAB				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.7						
WRAB	Tennant Creek	42.00	122	eP	P	22 49 48.3	-0.8
	comp=Z,17nm,0.8s,mb4.7						
WRAB				epP	pP	22 49 56.0	-0.2
WB2	Warramunga Arr	42.00	122	eP	P	22 49 49.3	+0.2
WB2				i HMps	pP	22 49 56.0	-0.3
WMQ	Urumqi	43.36	350	eP	P	22 50 01.0	+1.2
JNU	Nakatsue	44.87	41	P	P	22 50 11.3	-0.9
	comp=Z,10.0nm,0.7s,mb4.7,baz=135,slow=4.3,SNR=6.9						
KZA	Kyzart	45.31	337	P	P	22 50 17.0	+1.5
	SNR=5.3						
UCH	Uchtor	45.73	336	P	P	22 50 20.1	+1.2
	SNR=20						
KS15	Wonju Array Si	45.89	34	eP	P	22 50 20.1	-0.1
TKM2	Tokmak 2	45.89	338	P	P	22 50 21.3	+1.1
	SNR=8.2						
KBK	Karagaybulak	45.92	337	P	P	22 50 22.6	+2.2
	SNR=6.9						
AML	Almayashu	45.98	336	P	P	22 50 22.2	+1.4
	SNR=13						
AAK	Ala-Archa	46.08	337	⇓eP	P	22 50 22.5	+0.9
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
AAK				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.1						
AAK	Ala-Archa	46.08	337	eP	P	22 50 20.7	-0.9
	comp=Z,6.9nm,0.8s,mb4.6						
FRU	Bishkek	46.20	337	eP	pP	22 50 32.0	+2.2
CHMS	Chumysh	46.28	337	P	P	22 50 24.0	+0.7
	SNR=5.5						
USP	Ospenovka	46.61	337	P	P	22 50 26.8	+0.9
	SNR=29						
SNY	Shenyang	46.98	27	⇑P	P	22 50 28.5	-0.3
SNY				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
SONM	Songino Array	47.22	8	P	P	22 50 31.0	+0.4
	comp=Z,12nm,0.8s,mb4.9,baz=191,slow=9.5,SNR=42						
SONM				PcP	PcP	22 52 02.1	0.0
	comp=Z,3.3nm,0.8s,baz=195,slow=4.2,SNR=4.9						
MKAR	Makanchi Array	47.32	346	P	P	22 50 31.7	+0.3
	comp=Z,11nm,0.7s,mb4.9,baz=160,slow=8.2,SNR=136						
MKAR				LR	LR	23 13 36.5	
	comp=Z,74nm,19.6s,MS3.7,baz=170,slow=40						
ULN	Ulaanbaatar	47.34	9	eP	P	22 50 32.1	+0.5
ULN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
ULN	Ulaanbaatar	47.34	9	eP	P	22 50 32.1	+0.5
	comp=Z,8.2nm,0.8s,mb4.7						
KKAR	Karatay Array	48.13	334	i P	P	22 50 37.7	-0.1
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
ZAK	Zakamensk	49.36	5	eP	P	22 50 47.0	-0.2
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
CN2	Changchun	49.38	27	⇑P	P	22 50 47.2	-0.2
CN2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.5						
TLY	Talaya	50.68	5	i P	P	22 50 57.9	+0.7
TLY				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
TLY				MLR	MLR		
	comp=Z,200nm,12.0s,MS4.3						
HIA	Hailar	51.72	19	eP	P	22 51 05.3	+0.1
HIA				pmax	pmax		
	comp=Z,25nm,0.8s						
HIA	Hailar	51.72	19	eP	P	22 51 05.3	+0.1
	comp=Z,25nm,0.8s,mb5.2						
MJAR	Matsushiro Arr	51.75	42	P	P	22 51 04.4	-1.2
	comp=Z,2.3nm,0.6s,mb4.3,baz=216,slow=7.6,SNR=11						
MDJ	Mudanjiang	51.94	29	P	P	22 51 07.0	+0.1
MDJ				AP	pP	22 51 14.3	0.0
MDJ				XP	sP	22 51 17.3	+0.2
MDJ				SS	SS	23 02 06.1	+4.1
MDJ				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,63nm,4.6s						
MDJ				LR	LR		
	comp=N,204nm,21.2s,MS4.4						
MDJ				LR	LR		
	comp=E,321nm,20.3s,MS4.4						
MDJ				LR	LR		
	comp=Z,205nm,16.6s,MS4.2						
MDJ	Mudanjiang	51.94	29	eP	P	22 51 07.3	+0.4
	comp=Z,15nm,0.8s,mb5.0						
CTA	Charters Tower	52.47	116	LR	LR	23 15 17.1	
	comp=Z,314nm,19.9s,MS4.3,baz=50,slow=38						
CIT	Chita	52.55	13	eP	P	22 51 11.3	-0.1
CIT				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.2						
STKA	Stephens Creek	53.30	132	eP	P	22 51 18.1	+0.8
	comp=Z,6.6nm,0.8s,mb4.6						
STKA				i	pP	22 51 25.1	+0.5
STKA	Stephens Creek	53.30	132	P	P	22 51 17.8	+0.6
	comp=Z,8.0nm,0.8s,mb4.7,baz=311,slow=8.8,SNR=12						
STKA				pP	pP	22 51 25.1	+0.5
	comp=Z,22nm,0.7s,baz=305,slow=7.0,SNR=19						
ZAL	Zalesovo	53.63	351	i P	P	22 51 19.8	+0.5
ZAL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZAL	Zalesovo	53.63	351	P	P	22 51 19.4	+0.1
	comp=Z,10.0nm,0.8s,mb4.8,baz=302,slow=5.4,SNR=60						
NVS	Novosibirsk	54.76	350	⇑iP	P	22 51 26.0	-1.6
NVS				eS	S	22 59 05.5	+0.5
NVS				pmax	pmax		
	comp=N,9.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
NVS				smax			
	comp=N,14nm,2.0s						
NVS				smax			
	comp=E,7.0nm,2.0s						
VOSK	Vostochnaya	55.88	341	P	P	22 51 34.6	-1.2
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
BVAR	Borovoye Array	56.33	341	P	P	22 51 37.5	-1.5
	comp=Z,6.8nm,0.7s,mb4.8,baz=143,slow=7.4,SNR=42						
BVAR				pP	pP	22 51 44.3	-2.0
	comp=Z,7.8nm,0.7s,baz=147,slow=9.7,SNR=18						
ZRNK	Zerenda	56.73	340	eP	P	22 51 40.4	-1.5
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ZRNK	Zerenda	56.73	340	eP	P	22 51 40.4	-1.5
	comp=Z,7.9nm,0.9s,mb4.7						
AB31	Akbulak array	57.59	332	P	P	22 51 46.7	-1.3
AB31				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
BOD	Bodaibo	58.09	11	⇓iP	P	22 51 50.6	-0.8
BOD				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
CLNS	Chul'man	59.82	17	eP	P	22 51 58.5	-4.9
CLNS				pmax	pmax		
	comp=N,12nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
CLNS				pmax	pmax		
	comp=E,9.0nm,0.9s						
KMBO	Kilima Mbogo	59.98	268	P	P	22 52 04.7	-0.4
	comp=E,1.3nm,0.8s,mb4.0,baz=48,slow=21,SNR=3.1						
KMBO	Kilima Mbogo	59.98	268	P	P	22 52 04.7	-0.4
YSS	Yuzh-Sakhalins	60.42	34	⇑eP	P	22 52 07.3	-0.3
YSS				e	pP	22 52 14.2	-0.9
YSS				S	S	23 00 12.0	-7.4
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
YSS				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.3						
YSS	Yuzh-Sakhalins	60.42	34	P	P	22 52 07.4	-0.2
GNI	Garni	61.35	316	i P	P	22 52 13.0	-1.1
GNI	Garni	61.35	316	P	P	22 52 14.1	0.0
	comp=Z,0.8nm,0.3s,mb4.3,baz=0.3,slow=17,SNR=1.7						
SVE	Sverdlovsk	62.77	338	eP	P	22 52 22.2	-1.1
SVE				e	pP	22 52 28.0	-2.8
SVE				e		22 53 05.0	
ARU	Arti	63.26	337	⇑iP	P	22 52 25.0	-1.5
ARU				e		22 53 01.5	
ARU				e		22 54 42.7	
ARU				ePPP	PPP	22 56 12.2	-6.4
ARU				eS	S	23 00 56.7	+1.4
ARU				eSS	SS	23 05 03.7	0.0
ARU				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
ARU	Arti	63.26	337	eP	P	22 52 25.1	-1.5
	comp=Z,7.9nm,0.8s,mb4.9						
KIV	Kislovodsk	64.37	319	i P	P	22 52 33.4	-0.6
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
MALT	Malatya	65.18	312	P	P	22 52 42.0	+2.6
MALT				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
MALT	Malatya	65.18	312	P	P	22 52 42.0	+2.5
	comp=Z,3.6nm,1.0s,mb4.4						
YAK	Yakutsk	65.50	16	⇓eP	P	22 52 40.2	-0.8
YAK				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.5						
YAK				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.4						
ANN	Anapa	68.16	318	eP	P	22 53 01.9	+3.7
BRTR	Keskin Array B	69.17	312	P	P	22 53 03.9	-0.6
	comp=Z,0.7nm,0.6s,mb3.8,baz=114,slow=6.5,SNR=3.3						
PET	Petropavlovsk	72.30	34	eP	P	22 53 23.0	-0.2
PET				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.3						
PET				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
PET	Petropavlovsk	72.30	34	eP	P	22 53 22.8	-0.4
OBN	Obninsk	72.69	328	eP	P	22 53 32.2	+6.8
OBN				e	pP	22 53 38.7	+5.7
OBN						22 56 07.0	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.1						
TIXI	Tiksi	73.27	10	eP	P	22 53 24.0	-4.5
TIXI				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
SEY	Seymchan	73.84	23	eP	P	22 53 32.1	+0.1
SEY				pmax	pmax		
	comp=E,5.0nm,0.8s						
SEY				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
BOSA	Boshof	74.73	240	P	P	22 53 37.9	0.0
	comp=Z,5.6nm,1.1s,mb4.4,baz=108,slow=4.3,SNR=5.4						
AKASG	Malin Array Be	75.32	322	P	P	22 53 39.2	-1.6
	comp=Z,1.4nm,0.6s,mb4.0,baz=92,slow=4.7,SNR=5.7						
FINES	FINESS Array B	80.07	333	P	P	22 54 06.4	-0.4
	comp=Z,2.1nm,0.8s,mb4.1,baz=146,slow=6.9,SNR=8.9						
FINES				pP	pP	22 54 13.2	-1.3
	comp=Z,1.2nm,0.6s,baz=103,slow=6.4,SNR=3.9						
KAF	Kangasniemi	80.16	333	ep	P	22 54 05.5	-1.7
	comp=Z,2.9nm,0.7s,mb4.3,baz=104,slow=5.0						
KAF	Kangasniemi	80.16	333	eP	P	22 54 05.5	-1.7
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ARCES	ARCESS Array B	82.61	340	P	P	22 54 20.2	+0.3
	comp=Z,3.9nm,1.0s,mb4.4,baz=90,slow=6.1,SNR=7.8						
BRG	Berggiesshubel	84.87	321	eP	pP	22 54 39.6	+0.1
BRG				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb4.0						
BRG	Berggiesshubel	84.87	321	eP	pP	22 54 39.6	+0.1
GERES	GERESS Array B	84.88	319	P	P	22 54 32.3	+0.5
	comp=Z,0.3nm,0.5s,mb3.7,baz=90,slow=6.7,SNR=7.2						
VNDA	Vanda	85.74	169	LR	LR	23 29 41.2	
	comp=Z,64nm,20.7s,MS4.0,baz=311,slow=33						
GRA1	Grafenberg Arr	86.55	320	eP	pP	22 54 47.3	-0.5
	comp=Z,6.0nm,1.2s						
GRF	Grafenberg Arr	86.55	320	P	pP	22 54 47.3	-0.5
GRF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.7						
NB2	NORSAR Subarra	87.08	331	P	P	22 54 42.2	-0.2
	comp=Z,2.4nm,0.9s,mb4.4,baz=97,slow=4.6						
NB2	NORSAR Subarra	87.08	331	P	P	22 54 42.2	-0.2
NB2				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.3						
NOA	NORSAR Array B	87.08	331	P	P	22 54 41.6	-0.8
	comp=Z,1.9nm,0.8s,mb4.4,baz=94,slow=4.9,SNR=8.3						
NOA				pP	pP	22 54 49.1	-1.0
	comp=Z,2.2nm,0.9s,baz=96,slow=4.7,SNR=7.1						
NOA				LR	LR	23 38 32.6	
	comp=Z,54nm,20.5s,MS3.9,baz=250,slow=39						
LPG	La Plagne	89.53	315	eP	P	22 54 56.0	+1.5
	comp=Z,11nm,0.9s,mb4.9						
LPG	La Plagne	89.53	315	eP	P	22 54 56.0	+1.5
LPG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8						
SNAA	Sanae	94.21	198	LR	LR	23 28 33.6	
	comp=Z,27nm,21.2s,MS3.7,baz=177,slow=30						
NVAR	Mina Array Bea	128.85	36	PKP	PKPdf	23 01 05.2	-3.3
	comp=Z,0.8nm,0.8s,baz=310,slow=0.7,SNR=5.5						
NVAR				pPKP		23 01 13.6	
	comp=Z,1.7nm,1.0s,baz=206,slow=1.3,SNR=7.1						
PDAR	Pinedale Array	130.12	26	PKP	PKPdf	23 01 05.7	-5.1
	comp=Z,0.3nm,0.6s,baz=45,slow=5.1,SNR=3.3						
PDAR				pPKP		23 01 15.0	
	comp=Z,0.8nm,0.7s,baz=357,slow=1.1,SNR=6.7						
PDAR				PP	PP	23 03 15.1	-8.1
	comp=Z,0.2nm,0.5s,baz=135,slow=2.6,SNR=2.4						
TXAR	Lajitas Array	143.74	32	PKP	PKPdf	23 01 31.1	-4.9
	comp=Z,1.2nm,0.8s,baz=271,slow=1.2,SNR=8.6						
CPUP	Villa Florida	144.94	222	PKP	PKPdf	23 01 35.0	-3.2
	comp=Z,6.5nm,0.9s,baz=135,slow=7.2,SNR=13						

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*IDC **06** 23:00:56.8±1.7, 12.04N×124.15E, mb3.6/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, MS3.6/1, Ms1 3.6/1, ms1mx2.8/29, Error ellipse: s-maj=65.9km s-min=26.9km az=61.0*

*NEIC **06** 23:00:58.0±0.8, 12.03N×124.17E, h10km, mb4.4/1, Error ellipse: s-maj=43.7km s-min=13.7km az=61.0*

NEIC Felt [IV PIVS] at Dimasalang, Masbate.

*MAN **06** 23:01:00.7, 12.15N×123.92E, h23km, mb4.9, ML3.8, MS3.8*

MAN DIMASALANG MASBATE - INTENSITY IV.

ISC 06 23:01:01.6±0.4**, 12.14N**±0.03×**123.92E**±0.03**, h42**km±8km**, n31, σ0.88**/38**, mb3.8**/5**, 2C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNP	Catarman	0.81	63	eP	P	23 01 15.7	-1.0
CNP				eS	S	23 01 28.5	+0.7
RCP	Roxas	1.29	243	⇓eP	P	23 01 22.7	-0.8
RCP				eS	S	23 01 41.0	+1.2
PLP	Palo	1.42	133	i P	P	23 01 25.0	-0.5
PLP				eS	S	23 01 43.9	+0.7
PVCP	Virac	1.46	9	eP	P	23 01 25.4	-0.6
BESP	Borongan	1.58	110	eP	P	23 01 27.8	0.0
KALP	Kalibo	1.61	253	eP	P	23 01 28.0	-0.2
KALP				eS	S	23 01 47.0	-0.9
AUQP	San Andres	1.69	314	eP	P	23 01 30.4	+1.2
LLP	Lapu-Lapu	1.82	179	⇑iP	P	23 01 30.6	-0.4
LLP				eS	S	23 01 52.9	-0.1
OTRP	Odiongan	1.87	277	eP	P	23 01 30.8	-1.0
GUIM	Jordan	1.99	221	eP	P	23 01 34.2	+0.6
MSLP	Maasin	2.20	155	eP	P	23 01 37.6	+1.0
GQP	Guinayangan	2.26	321	eP	P	23 01 37.7	+0.3
GQP				eS	S	23 02 07.7	+3.5
BOAC	Boac	2.41	303	eP	P	23 01 39.0	-0.5
TBP	Tagbilaran	2.44	181	eP	P	23 01 39.0	-0.9
TBP				eS	S	23 02 08.6	-0.1
AAP	Anini-y	2.58	229	eP	P	23 01 43.0	+1.0
SJMP	San Jose	2.75	277	eP	P	23 01 44.3	-0.1
SNPH	Sibulan	2.86	194	⇑eP	P	23 01 46.3	+0.3
SNPH				eS	S	23 02 33.4	+14
CUYO	Cuyo Island	3.12	246	eP	P	23 01 49.7	+0.1
LUBP	Lubang	3.91	294	eP	P	23 02 00.9	+0.1
BALP	Baler	4.24	328	eP	P	23 02 04.7	-0.7
PAGZ	Pagadian	4.30	187	eP	P	23 02 06.0	-0.4
BUKP	Musuan	4.38	165	eP	P	23 02 09.1	+1.5
ENPP	El Nido	4.50	258	eP	P	23 02 08.5	-0.6
CAUP	Cauayan	5.18	337	eP	P	23 02 18.2	-0.5
JOW	Kunigami	15.18	15	LR	LR	23 09 17.4	
	comp=Z,224nm,20.2s,baz=251,slow=33						
CMAR	Chiang Mai Arr	24.88	288	P	P	23 06 23.3	+1.1
	1.8nm,0.8s,mb3.6,baz=103,slow=8.7,SNR=7.8						
WRA	Warramunga Arr	33.49	162	P	P	23 07 36.6	-2.8
	0.7nm,0.8s,mb3.6,baz=343,slow=9.2,SNR=5.6						
SONM	Songino Array	38.49	341	P	P	23 08 21.5	+0.1
	0.9nm,1.1s,mb3.4,baz=135,slow=4.1,SNR=2.5						
STKA	Stephens Creek	46.93	159	eP	P	23 09 27.1	-3.2
MKAR	Makanchi Array	49.15	323	P	P	23 09 48.8	+1.4
	1.3nm,0.9s,mb4.0,baz=126,slow=10,SNR=6.7						
ZRNK	Zerenda	59.57	325	eP	P	23 11 03.2	-0.2
	3.3nm,1.1s,mb4.3						

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*NEIC **06** 23:05:14.9±3.5, 33.30S×179.78E, h338km±19km, mb4.0/1, Error ellipse: s-maj=65.3km s-min=27.7km az=81.0*

ISC 06 23:05:12.2±1.1**, 33.3S**±0.1×**179.9W**±0.3**, h355**km±19km**, n52, σ0.79**/65**, mb3.9**/1**, 1D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	4.98	197	eSN	S	23 07 35.1	-0.3
MWZ	Matawai	5.43	202	P	P	23 06 37.2	-0.2
MWZ	Matawai	5.43	202	PN	P	23 06 37.2	-0.2
URZ	Urewera	5.51	206	eP	P	23 06 37.7	-0.6
URZ	Urewera	5.51	206	PN	P	23 06 37.7	-0.5
URZ				SN	S	23 07 38.4	-7.4
URZ				eSN	S	23 07 45.6	-0.2
KNZ	Kokohu	6.03	199	eP	P	23 06 45.2	+1.1
KNZ	Kokohu	6.03	199	PN	P	23 06 45.2	+1.1
KNZ				eSN	S	23 07 57.0	+0.7
BKZ	Black Stump Fm	6.54	206	eP	P	23 06 50.8	+0.7
BKZ				S	S	23 08 06.9	0.0
BKZ	Black Stump Fm	6.54	206	PN	P	23 06 50.8	+0.8
BKZ				SN	S	23 08 06.9	0.0
NGZ	Ngauruhoe	6.90	211	P	P	23 06 55.9	+1.6
NGZ	Ngauruhoe	6.90	211	PN	P	23 06 55.5	+1.2
CNZ	Chateau	6.94	211	P	P	23 06 56.3	+1.5
CNZ	Chateau	6.94	211	PN	P	23 06 56.3	+1.5
TUVZ	Tukino	6.95	210	P	P	23 06 55.8	+0.9
TUVZ	Tukino	6.95	210	PN	P	23 06 55.6	+0.7
FWVZ	Far West T-bar	6.99	211	eP	P	23 06 55.7	+0.4
FWVZ	Far West T-bar	6.99	211	PN	P	23 06 55.7	+0.4
WNVZ	Wahianoa	7.03	210	P	P	23 06 56.4	+0.6
WNVZ	Wahianoa	7.03	210	PN	P	23 06 56.4	+0.6
MOVZ	Moawhango	7.03	209	P	P	23 06 55.8	0.0
MOVZ	Moawhango	7.03	209	PN	P	23 06 55.8	0.0
PWZ	Pawanui	7.19	201	PN	P	23 06 58.4	+0.7
PWZ				SN	S	23 08 21.6	+0.9
TSZ	Takapari Road	7.51	205	PN	P	23 07 01.5	-0.1
BFZ	Birch Farm	7.98	202	P	P	23 07 07.5	+0.5
BFZ	Birch Farm	7.98	202	PN	P	23 07 07.5	+0.5
BFZ				SN	S	23 08 38.5	+1.2
MRZ	Mangatainoka R	8.18	205	PN	P	23 07 08.6	-0.8
MRZ				eSN	S	23 08 37.4	-4.3
KIW	Kapiti Island	8.61	208	P	P	23 07 13.7	-0.7
KIW	Kapiti Island	8.61	208	PN	P	23 07 13.7	-0.7
KIW				eSN	S	23 08 49.7	-1.1
MTW	Mount Morrison	8.65	204	ePN	P	23 07 14.2	-0.8
TRWZ	Traveller	8.80	202	PN	P	23 07 16.9	+0.1
PAWZ	Paruwai Farm	8.88	204	PN	P	23 07 17.0	-0.7
PAWZ				SN	S	23 08 55.3	-1.3
DUWZ	D'Urville Isla	8.97	212	PN	P	23 07 18.2	-0.5
MRW	Makara Radio	9.00	207	PN	P	23 07 18.2	-0.9
SNZO	South Karori	9.07	207	P	P	23 07 18.7	-1.3
SNZO	South Karori	9.07	207	PN	P	23 07 18.7	-1.3
TCW	Tory Channel	9.16	209	PN	P	23 07 19.6	-1.4
TCW				SN	S	23 09 02.7	+0.1
TUWZ	Tuamarina	9.47	210	eSN	S	23 09 10.6	+1.1
NNZ	Nelson	9.54	212	eP	P	23 07 25.2	-0.4
NNZ	Nelson	9.54	212	PN	P	23 07 24.8	-0.8
QRZ	Quartz Range	9.64	217	eP	P	23 07 25.8	-1.0
QRZ	Quartz Range	9.64	217	PN	P	23 07 25.7	-1.1
THZ	Tophouse	10.19	212	eP	P	23 07 33.9	+0.5
THZ	Tophouse	10.19	212	PN	P	23 07 32.1	-1.3
THZ				eSN	S	23 09 25.1	0.0
KHZ	Kahutara	10.47	208	eP	P	23 07 36.4	-0.3
KHZ	Kahutara	10.47	208	PN	P	23 07 36.4	-0.3
LTZ	Lake Taylor	11.29	211	eP	P	23 07 46.1	-0.5
LTZ	Lake Taylor	11.29	211	PN	P	23 07 46.1	-0.5
MQZ	McQueen's Vall	11.91	207	eP	P	23 07 53.9	0.0
MQZ	McQueen's Vall	11.91	207	PN	P	23 07 53.9	0.0
MQZ				eSN	S	23 10 01.9	0.0
ODZ	Otahua Downs	13.82	209	eP	P	23 08 17.4	+1.2
WB2	Warramunga Arr	42.73	276	⇓iP	P	23 12 37.7	+0.5
WRAB	Tennant Creek	42.73	276	eP	P	23 12 37.6	+0.3
	3.3nm,0.3s,mb3.9						

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*NEIC **06** 23:08:45.9, 16.62N×94.96W, h96km, MD3.7(MEX), After MEX.*

MEX 06 23:08:46.2±1.3**, 16.62N**×**94.96W, h94**km±15km**, MD3.8, 1D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.47	9	⇓iP	P	23 09 00.1	-1.1
CMIG				i S	S	23 09 10.3	-2.3
HUIG	Huatulco	1.39	233	i P	P	23 09 08.7	-2.5
HUIG				i S	S	23 09 28.1	-1.7
OXX	Oaxaca	1.75	285	i P	P	23 09 14.5	-1.2
OXX				i S	S	23 09 37.0	-0.5
VHO	Vista Hermosa	1.76	285	i P	P	23 09 14.2	-1.6
VHO				i S	S	23 09 35.0	-2.7
CCIG	Comitan	2.73	97	i P	P	23 09 25.8	-3.3
CCIG				i S	S	23 10 00.4	-0.8

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*BJI **06** 23:10:14.8, 48.33N×131.67E, h10km, mB4.5, mb4.0, ML4.6, Ms3.8*

*IDC **06** 23:10:14.9±0.6, 48.28N×131.54E, mb4.2/17, mb1 4.4/17, mb1mx4.3/23, mbtmp4.2/17, MS3.7/2, Ms1 3.7/2, ms1mx2.9/22, Error ellipse: s-maj=17.3km s-min=16.4km az=87.0*

*SKHL **06** 23:10:15.7±0.1, 48.37N×131.65E, h22km±5km, mb4.6/7, Ms4.4/3, msh5.3/3*
*MOS **06** 23:10:15.1±1.3, 48.45N×131.65E, h10km, mb4.4/12, Error ellipse: s-maj=18.8km s-min=9.6km az=113.3*
*NEIC **06** 23:10:16.9±0.3, 48.35N×131.53E, h10km, mb4.2/9, Error ellipse: s-maj=8.3km s-min=6.8km az=132.0*
ISC 06 23:10:14.6±0.4, **48.47N**±0.03×**131.81E**±0.06, **h10km, n84,** σ1§**36**/90, **mb4.2**/23, **MS4.2**/1, **2C-3D,**
Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRNR	Gornyy	3.78	51	ePn	Pn	23 11 14.2	0.0
GRNR				pPn		23 11 19.0	
GRNR				sPn		23 11 23.3	
GRNR				ePg	Pg	23 11 25.7	-4.3
GRNR				AMB	AMB	23 11 29.0	
	340nm,0.6s						
GRNR				eSg	Sg	23 12 18.0	-2.4
GRNR				A		23 12 21.4	
	480nm,0.7s						
MDJ	Mudanjiang	4.15	202	P	Pn	23 11 17.5	-2.0
MDJ				PG	Pg	23 11 27.0	-10
MDJ				SG	Sg	23 12 18.0	-15
MDJ				Smax			
	comp=N,675nm,0.9s						
MDJ				Smax			
	comp=E,1µm,0.9s						
EKMR	Ekimchan	4.66	9	ePn	Pn	23 11 27.3	+0.6
EKMR				pPn		23 11 34.1	
EKMR				ePg	Pg	23 11 42.1	-5.5
EKMR				AMB	AMB	23 11 46.9	
	comp=E,27nm,0.5s						
EKMR				AMB	AMB	23 11 46.9	
	comp=E,47nm,0.5s						
EKMR				eSn	Sn	23 12 22.2	+0.7
EKMR				eSg	Sg	23 12 45.1	-4.6
EKMR				A		23 12 56.5	
	comp=E,840nm,0.8s						
EKMR				A		23 12 56.5	
	comp=E,420nm,0.7s						
TEY	Ternei	4.76	134	ePn	Pn	23 11 26.0	-2.2
TEY				erx	rx	23 12 42.0	
TEY				eSg	Sg	23 12 45.0	-8.1
TEY				A		23 12 50.9	
	comp=E,230nm,0.7s						
TEY				AMS	AMS	23 13 16.0	
	comp=E,1µm,5.0s						
TEY				AMS	AMS	23 13 16.0	
	comp=E,1µm,6.0s						
YASR	Yasnyy	5.40	335⇑	iPn	Pn	23 11 35.8	-1.3
YASR				AMB	AMB	23 11 36.4	
	comp=E,70nm,0.5s						
YASR				AMB	AMB	23 11 36.4	
	comp=E,30nm,0.5s						
YASR				AMB	AMB	23 11 36.4	
	comp=E,100nm,0.5s						
YASR				pPn		23 11 42.6	
YASR				i Sn	Sn	23 12 39.0	-1.0
YASR				i Sg	Sg	23 13 05.6	-8.6
YASR				A		23 13 14.1	
	comp=E,100nm,0.5s						
YASR				A		23 13 14.1	
	comp=E,210nm,0.5s						
ZEA	Zeya	6.00	333	ePn	Pn	23 11 44.2	-1.4
ZEA				AMB	AMB	23 11 46.6	
	comp=E,64nm,0.7s						
ZEA				eSg	Sg	23 13 25.1	-9.2
ZEA				A		23 13 26.5	
	comp=E,200nm,1.0s						
ZEA				A		23 13 26.5	
	comp=E,300nm,1.0s						
ZEA				A		23 13 27.1	
	comp=E,260nm,0.7s						
ZEA				AMS	AMS	23 14 02.0	
	comp=E,600nm,8.0s						
ZEA				AMS	AMS	23 14 02.0	
	comp=E,600nm,6.0s						
ZEA				AMS	AMS	23 14 02.0	
	comp=E,400nm,6.0s						
CN2	Changchun	6.43	226	eP	Pn	23 11 48.1	-3.6
CN2				SG	Sg	23 13 25.7	-23
CN2				Smax			
	comp=N,360nm,0.8s						
CN2				Smax			
	comp=E,270nm,0.8s						
BMKR	Bomnak	6.51	345⇓	ePn	Pn	23 11 53.5	+0.6
BMKR				AMB	AMB	23 11 54.1	
	comp=E,22nm,0.6s						
BMKR				pPn		23 11 59.4	
BMKR				eSg	Sg	23 13 42.5	-8.9
BMKR				A		23 13 50.2	
	comp=E,240nm,0.6s						
KROS	Kirovskiy	6.69	335⇑	iPn	Pn	23 11 54.2	-1.1
KROS				AMB	AMB	23 11 54.6	
	comp=E,10.0nm,0.5s						
KROS				AMB	AMB	23 11 54.6	
	comp=E,11nm,0.5s						
KROS				eSn	Sn	23 13 11.6	-0.8
KROS				i Sg	Sg	23 13 46.3	-11
KROS				A		23 13 52.8	
	comp=E,72nm,0.6s						
KROS				A		23 13 52.8	
	comp=E,91nm,0.6s						
UGL	Uglegorsk	6.81	81	eSg	Sg	23 13 51.0	-10
UGL				A		23 13 55.0	
	comp=E,2µm,4.0s						
UGL				A		23 13 55.0	
	comp=E,1µm,4.0s						
UGL				A		23 13 59.0	
	comp=E,330nm,0.9s						
NKL	Nikolayevsk	7.31	47	ePg	Pg	23 12 30.5	-10
NKL				AMB	AMB	23 12 33.0	
	comp=E,37nm,0.7s						
NKL				sPn		23 12 42.9	
NKL				eSg	Sg	23 14 09.0	-9.0
NKL				A		23 14 29.0	
	comp=E,980nm,1.5s						
NKL				A		23 14 29.0	
	comp=E,350nm,1.0s						
NKL				AMS	AMS	23 14 49.0	
	comp=E,1µm,6.0s						
TYV	Tymovskoe	7.43	67	ePn	Pn	23 12 05.5	-0.3
TYV				erx	rx	23 12 37.0	
TYV				eSg	Sg	23 14 13.3	-8.8
TYV				A		23 14 25.0	
	comp=E,600nm,3.0s						
TYV				A		23 14 30.5	
	comp=E,124nm,1.0s						
TYV				A		23 14 30.5	
	comp=E,115nm,1.0s						
TYV				AMS	AMS	23 16 13.0	
	comp=E,500nm,6.0s						
YSS	Yuzh-Sakhalins	7.54	98	eSg	Sg	23 14 14.9	-11
HIA	Hailar	8.00	280	eP	P	23 12 09.0	-4.7
HIA				pmax	pmax		
	comp=Z,14nm,0.5s						
HIA	Hailar	8.00	280	eP	P	23 12 09.0	-4.7
	comp=Z,14nm,0.5s						
OKH	Okha	8.66	50	eSg	Sg	23 14 52.0	-11
OKH				A		23 15 00.0	
	comp=Z,2µm,4.0s						
CLNS	Chul'man	9.37	336	eP	P	23 12 30.9	-1.7
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CLNS				pmax	pmax		
	comp=N,10.0nm,1.3s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.5s						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.6s						
CLNS				pmax	pmax		
	comp=E,11nm,0.6s						
CLNS				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MJAR	Matsushiro Arr	12.82	156	Pn	P	23 13 20.8	+1.3
	comp=Z,0.4nm,0.3s,baz=344,slow=12,SNR=4.9						
BOD	Bodaibo	14.16	318⇓	iP	P	23 13 45.1	+8.1
BOD				pmax	pmax		
	comp=Z,28nm,0.9s						
BOD				pmax	pmax		
	comp=Z,183nm,1.1s						
BOD	Bodaibo	14.16	318⇓	iP	P	23 13 45.1	+8.1
	comp=Z,28nm,0.9s						
HHC	Hu-ho-hao-te	16.26	250	eP	P	23 14 02.9	-1.6
HHC				AMB	AMB		
	comp=Z,7.0nm,1.3s						
HHC				AMB	AMB		
	comp=Z,114nm,8.3s						
HHC				LR	LR		
	comp=N,128nm,16.7s						
HHC				LR	LR		
	comp=E,81nm,15.5s						
HHC	Hu-ho-hao-te	16.26	250	eP	P	23 14 02.9	-1.6
	comp=E,7.0nm,1.3s						
SONM	Songino Array	16.95	277	Pn	P	23 14 14.5	+1.3
	comp=E,0.1nm,0.3s,baz=64,slow=12,SNR=10						
SONM				Lg		23 19 06.2	
	comp=E,0.1nm,0.3s,baz=80,slow=26,SNR=4.2						
SONM				LR	LR	23 20 37.7	
	comp=E,114nm,21.1s,baz=244,slow=37						
ZAK	Zakamensk	18.61	287	eP	P	23 14 34.7	+0.9
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZAK	Zakamensk	18.61	287	eP	P	23 14 34.7	+0.9
	comp=Z,3.0nm,0.8s						
TIXI	Tiksi	23.29	358	eP	P	23 15 23.6	+0.8
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
TIXI	Tiksi	23.29	358	eP	P	23 15 23.6	+0.8
	comp=Z,5.0nm,0.9s,mb3.9						
GTA	Gaotai	24.60	260	eP	P	23 15 39.5	+3.6
GTA				AP		23 15 46.0	
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.1						
GTA	Gaotai	24.60	260	eP	P	23 15 39.5	+3.6
	comp=Z,4.0nm,0.7s,mb4.1						
GTA				pP		23 15 46.0	
ZAL	Zalesovo	29.51	299	P	P	23 16 21.4	+0.6
ZAL						23 19 24.8	
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	Zalesovo	29.51	299	P	P	23 16 21.4	+0.6
	comp=Z,4.5nm,0.6s,mb4.4,baz=26,slow=7.9,SNR=23						
ZAL				PcP	PcP	23 19 24.8	-1.5
	comp=Z,0.8nm,0.4s,baz=210,slow=5.3,SNR=4.1						
ZAL	Zalesovo	29.51	299	P	P	23 16 21.4	+0.6
ZAL				e		23 19 24.8	
MKAR	Makanchi Array	32.95	286	P	P	23 16 50.7	-0.4
MKAR						23 19 33.9	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	32.95	286	P	P	23 16 50.6	-0.4
	comp=Z,1.5nm,0.5s,mb4.2,baz=82,slow=9.9,SNR=26						
MKAR				PcP	PcP	23 19 33.9	-1.5
	comp=Z,0.7nm,0.8s,baz=62,slow=4.4,SNR=4.8						
MKAR	Makanchi Array	32.95	286	P	P	23 16 50.7	-0.4
MKAR				e		23 19 33.9	
ZRNK	Zerenda	38.89	301	eP	P	23 17 42.4	+0.8
ZRNK				pmax	pmax		
	comp=Z,74nm,0.6s,mb5.6						
KKAR	Karatay Array	42.07	287	i P	P	23 18 08.0	+0.2
ARU	Arti	43.35	309	eP	P	23 18 18.7	+0.7
ILAR	Eielson Array	44.15	37	P	P	23 18 26.9	+2.5
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ILAR	Eielson Array	44.15	37	P	P	23 18 26.9	+2.4
	comp=Z,3.7nm,0.8s,mb4.2,baz=288,slow=8.9,SNR=26						
AB31	Akbulak array	45.60	299	i P	P	23 18 37.2	+0.9
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
AB31	Akbulak array	45.60	299	i P	P	23 18 37.2	+0.9
	comp=Z,4.0nm,0.6s,mb4.5						
INK	Inuvik	47.72	30	P	P	23 18 55.1	+2.4
INK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
INK	Inuvik	47.72	30	P	P	23 18 55.1	+2.4
	comp=Z,7.4nm,0.6s,mb4.9,baz=319,slow=7.5,SNR=18						
INK	Inuvik	47.72	30	eP	P	23 18 55.4	+2.6
ARCES	ARCESS Array B	50.73	334	P	P	23 19 17.1	+1.3
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	ARCESS Array B	50.73	334	P	P	23 19 17.1	+1.3
	comp=Z,0.8nm,0.6s,mb3.8,baz=76,slow=10.0,SNR=4.2						
KAF	Kangasniemi	54.89	326	ep	P	23 19 46.7	-0.3
FINES	FINESS Array B	55.40	326	P	P	23 19 50.2	-0.5
FINES						23 20 49.6	
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	55.40	326	P	P	23 19 50.2	-0.5
	comp=Z,1.5nm,0.4s,mb4.4,baz=72,slow=6.0,SNR=13						
FINES				PcP	PcP	23 20 49.6	-1.3
	comp=Z,0.6nm,0.5s,baz=82,slow=4.0,SNR=4.8						
YKA	Yellowknife Ar	57.49	30	P	P	23 20 06.6	+1.0
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	57.49	30	P	P	23 20 06.6	+1.0
	comp=Z,1.2nm,0.5s,mb4.2,baz=314,slow=7.0,SNR=7.0						
YKA	Yellowknife Ar	57.49	30	P	P	23 20 06.6	+1.0
NB2	NORSAR Subarra	60.84	331	P	P	23 20 28.5	-0.3
	comp=Z,1.3nm,0.5s,mb4.3,baz=39,slow=6.5						
NB2	NORSAR Subarra	60.84	331	P	P	23 20 28.5	-0.3
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
NOA	NORSAR Array B	60.84	331	P	P	23 20 28.5	-0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	60.84	331	P	P	23 20 28.5	-0.3
	comp=Z,1.4nm,0.6s,mb4.3,baz=40,slow=6.6,SNR=7.5						
AKASG	Malin Array Be	61.06	315	P	P	23 20 29.3	-1.2
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	Malin Array Be	61.06	315	P	P	23 20 29.3	-1.1
	comp=Z,1.7nm,0.6s,mb4.3,baz=44,slow=7.9,SNR=13						
AKASG	Malin Array Be	61.06	315	P	P	23 20 29.3	-1.2
	comp=Z,2.0nm,0.6s,mb4.4						
BRTR	Keskin Array B	66.28	304	P	P	23 21 04.7	-0.1
	comp=Z,0.4nm,0.5s,mb3.7,baz=55,slow=5.2,SNR=4.7						
FITZ	Fitzroy Crossi	66.50	186	P	P	23 21 05.4	-1.1
	comp=Z,2.6nm,0.6s,mb4.4,baz=170,slow=5.5,SNR=5.6						
WRA	Warramunga Arr	68.14	177	P	P	23 21 14.8	-2.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	Warramunga Arr	68.14	177	P	P	23 21 14.8	-2.1
	comp=Z,1.1nm,0.4s,mb4.2,baz=352,slow=6.7,SNR=35						
GERES	GERESS Array B	69.31	321	P	P	23 21 24.1	+0.5
	comp=Z,0.4nm,0.5s,mb3.6,baz=27,slow=6.0,SNR=5.4						
GERES				LR	LR	23 57 09.5	
	comp=Z,129nm,18.6s,MS4.2,baz=351,slow=41						
HLID	Hailey	71.49	45	eP	P	23 21 39.8	+2.8
	comp=Z,1.1nm,0.9s,mb3.8						
NVAR	Mina Array Bea	73.49	50	P	P	23 21 52.0	+3.2
	comp=Z,3.6nm,0.6s,mb4.5,baz=322,slow=4.5,SNR=27						
NVAR	Mina Array Bea	73.49	50	P	P	23 21 52.0	+3.2
PDAR	Pinedale Array	74.33	42	P	P	23 21 55.5	+1.9
	comp=Z,0.9nm,0.5s,mb4.0,baz=1.5,slow=2.6,SNR=10						
HWUT	Hardware Ranch	74.33	44	eP	P	23 21 56.8	+3.2
	comp=Z,4.6nm,0.8s,mb4.5						
ARUT	Antelope Range	76.43	48	eP	P	23 22 07.9	+2.2
STKA	Stephens Creek	80.47	172	P	P	23 22 28.1	+0.2
	comp=Z,2.4nm,0.7s,mb4.2,baz=328,slow=9.1,SNR=3.7						
TXAR	Lajitas Array	88.03	46	P	P	23 23 08.4	+2.4
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	Lajitas Array	88.03	46	P	P	23 23 08.4	+2.4
	comp=Z,1.2nm,0.9s,mb4.1,baz=288,slow=4.0,SNR=9.9						
BDFB	Brasilia	147.26	360	PKP2	PKPab	23 30 01.2	-0.9
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BDFB	Brasilia	147.26	360	PKPbc	PKPdf	23 30 01.2	+2.3
	comp=Z,1.1nm,0.5s,baz=345,slow=5.4,SNR=3.2						
SNAA	Sanae	148.88	206		PKPdf	23 30 01.5	+1.6
SNAA	Sanae	148.88	206		PKPdf	23 30 10.3	+10
SNAA	Sanae	148.88	206	PKP2	PKPab	23 30 01.7	-5.3
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SNAA	Sanae	148.88	206	PKPbc	PKPdf	23 30 01.7	+1.8
	comp=Z,1.2nm,0.9s,baz=75,slow=1.7,SNR=8.1						
SNAA	Sanae	148.88	206	P	PKPdf	23 30 01.5	+1.6
SNAA				P		23 30 10.3	
VNA2	Neumayer--Watz	150.52	206		PKPdf	23 30 15.3	+13
VNA2	Neumayer--Watz	150.52	206	P	PKPdf	23 30 08.2	+5.6
VNA2				P		23 30 15.3	
VNA3	Neumayer Olymp	151.01	205		PKPdf	23 30 09.1	+5.8

*NEIC **06** 23:23:08.6, 36.26S×72.84W, h6km, ML3.6(GUC), After GUC.*
GUC 06 23:23:08.6±0.8, **36.26S×72.84W, h6km**±4km, **MD3.9, ML3.6, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNCO	Chanco	0.58	26⇑	iP	Pg	23 23 20.7	+0.5
CNCO				i S	Sg	23 23 29.2	+1.2
CNCO				AMP		23 23 32.9	
	comp=E,8µm,0.4s						
CCHI	Chillan	0.71	119⇓	iP	Pg	23 23 22.8	+0.1
CCHI				i S	Sg	23 23 33.0	+0.8
CCHI				AMP		23 23 33.4	
	comp=E,5µm,0.2s						
SFDO	San Fernando	2.22	43	eP	Pn	23 23 46.3	-0.2
SFDO				eS	Sn	23 24 15.8	+1.4
LNV	Longovilo	2.58	27	eP	Pn	23 23 51.8	+0.2
CICH	Cipreses	2.77	46	eP	Pn	23 23 54.5	+0.2
CACH	El Canelo	2.82	41	eP	Pn	23 23 56.1	+1.1
LCCH	Las Cruces	2.97	21	i P	Pn	23 23 54.5	-2.6
TACH	Talagante	3.03	32	eP	Pn	23 23 57.8	-0.3
LMEL	Las Melosas	3.24	43	i P	Pn	23 24 01.2	+0.3
LMEL				i S	Sn	23 24 41.7	+1.5

*ATH **06** 23:26:08.7, 40.82N×27.65E, h12km±6km, MD3.8/3*
*ISK **06** 23:26:13.0, 40.75N×27.42E, h17km, MD3.5*
*CSEM **06** 23:26:13.1±0.1, 40.72N×27.46E, h16km, MD3.5, Error ellipse: s-maj=1.9km s-min=1.2km az=178.0*
*THE **06** 23:26:16.0, 40.69N×27.36E, h20km, ML3.4*
*SOF **06** 23:26:22.1, 41.08N×26.72E, h20km, MD3.0*
ISC 06 23:26:12.8±0.4, **40.80N**±0.03×**27.37E**±0.02, **h13km**±3km, **n59,** σ1§**03**/77, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MFT	Murefte	0.07	259	i PG	Pg	23 26 16.1	+0.6
RKY	Sarkoy-Tekirda	0.18	232	i PG	Pg	23 26 18.5	+1.4
TKR	Tekirdag	0.23	34	i PG	Pg	23 26 19.8	+1.9
MRMT	Marmara Adasi	0.26	139	i PG	Pg	23 26 17.5	-1.0
CRLT	Corlu	0.43	40	i PG	Pg	23 26 23.0	+1.3
BNT	Bandirma	0.61	136	i PG	Pg	23 26 24.5	-0.7
LPK	Lapseki	0.63	228	i PG	Pg	23 26 25.2	-0.4
CTT	Catalca	0.88	66	i PG	Pg	23 26 30.3	-0.1
CTT				i SG	Sg	23 26 42.1	-0.1
KCT	Karacabey	0.92	125	i PG	Pg	23 26 30.5	-0.8
ALN	Alexandroupoli	1.01	276	ePg	Pg	23 26 33.2	+0.1
ALN				eSg	Sg	23 26 46.6	0.0
EDRB	Edirne	1.15	336	i PN	Pn	23 26 36.1	+1.6
BTOK	Tokmak	1.15	154	i P	Pb	23 26 34.9	+0.8
BTOK				i s	Sb	23 26 51.2	+2.4
BALB	Balikesir	1.22	161	i PN	Pn	23 26 35.1	-0.5
BALB				i SN	Sn	23 26 51.6	-0.4
EZN	Ezine	1.26	220	i PN	Pn	23 26 36.1	0.0
ISK	Istanbul-Kandi	1.31	78	i PN	Pn	23 26 37.0	+0.2
BADT	Buyukada	1.33	87	i PN	Pn	23 26 36.6	-0.5
KLYT	Kilyos	1.34	70	i PN	Pn	23 26 37.7	+0.4
RDO	Rodhopi	1.43	285	ePB	Pb	23 26 39.5	+0.7
ULDT	Uludag	1.50	115	i P	Pn	23 26 40.7	+1.1
ULDT				i s	Sb	23 26 59.2	+0.4
DST	Dursunbey	1.53	141	i PN	Pn	23 26 39.0	-1.1
YLV	Yalova	1.54	98	PN	Pn	23 26 39.3	-0.9
AYVA	Ayvalik	1.58	199	i P	Pn	23 26 42.2	+1.6
AYVA				i s	Sn	23 27 02.6	+1.5
KDZ	Kurdzhali	1.70	301	P	Pn	23 26 44.0	+1.6
KDZ				Pg	Pg	23 26 46.0	-0.8
HRT	Hereke	1.75	89	PN	Pn	23 26 42.6	-0.5
SILT	Sile	1.76	78	PN	Pn	23 26 43.4	+0.2
JMB	Yambol	1.77	341	P	Pn	23 26 47.8	+4.4
PRK	Paraskevi	1.77	209	ePN	Pn	23 26 43.2	-0.2
PRK				eSN	Sn	23 27 08.4	+2.6
DIM	Dimitrovgrad	1.86	313	P	Pn	23 26 45.2	+0.5
DIM				Pg	Pg	23 26 48.5	-1.5
LIA	Limnos Island	1.90	242	ePN	Pn	23 26 45.1	-0.2
LIA				eSN	Sn	23 27 13.1	+3.9
AKS	Akhisar	1.95	170	PN	Pn	23 26 45.5	-0.5
LOS	Limnos	1.95	244	ePb	Pb	23 26 45.5	-2.2
LOS				eSb	Sb	23 27 09.0	-2.9
EYL	Eskiyayla	2.13	95	ePN	Pn	23 26 47.3	-1.3
GDZ	Gediz	2.36	136	i P	Pn	23 26 57.9	+6.1
GDZ				i s	Sn	23 27 27.6	+6.8
KDAG	Bornova	2.40	182	i P	Pn	23 26 57.0	+4.6
KDAG				i s	Sn	23 27 27.5	+5.6
PRD	Provadia	2.40	1	P	Pn	23 26 59.0	+6.6
IZM	Izmir	2.40	182	ePN	Pn	23 26 51.4	-1.1
MANT	Manisa	2.48	158	i P	Pn	23 26 53.4	-0.2
MANT				i s	Sn	23 27 30.0	+6.0
URLA	Izmir	2.51	194	i P	Pn	23 26 59.4	+5.4
URLA				i s	Sn	23 27 33.7	+9.0
OUR	Ouranopolis	2.62	261	ePn	Pn	23 26 55.1	-0.5
OUR				eSn	Sn	23 27 26.6	-1.0
HENT	Hendek	2.68	88	i P	Pn	23 27 02.0	+5.6
HENT				i s	Sn	23 27 37.7	+8.7
SZH	Strazhica	2.69	337	eP	Pn	23 27 04.0	+7.5
NVR	Nevrokopi	2.71	283	ePB	Pb	23 26 57.9	-2.8
ALT	Altintas	2.73	129	ePN	Pn	23 26 56.1	-1.1
PVL	Pavlikeni	2.85	329	eP	Pn	23 27 07.0	+8.1
MMB	Musomiste	2.86	287	P	Pn	23 27 06.0	+7.0
SRS	Serrai	2.88	278	ePn	Pn	23 26 59.5	+0.2
SRS				eSn	Sn	23 27 33.6	-0.5
PAIG	Paliouri	2.95	254	ePn	Pn	23 26 60.0	-0.3
ESKT	Eskisehir	2.96	114	ePN	Pn	23 26 59.2	-1.2
ESKT	Eskisehir	2.96	114	i P	Pn	23 27 00.1	-0.3
ESKT				i s	Sn	23 27 47.1	+11
PGB	Panagyurishte	2.97	307	P	Pn	23 27 09.0	+8.4
PLG	Polygyros	3.02	263	ePN	Pn	23 27 00.9	-0.4
PLG	Polygyros	3.02	263	ePn	Pn	23 27 01.0	-0.3
SOH	Sokhos	3.05	272	ePn	Pn	23 27 01.9	+0.2
KKB	Krupnik	3.40	290	P	Pn	23 27 16.0	+9.3
KNT	Kendrikon	3.40	278	ePn	Pn	23 27 07.4	+0.6
VTS	Vitosha	3.59	301	eP	Pn	23 27 21.0	+12
GRG	Griva	3.77	274	ePn	Pn	23 27 12.3	+0.4
FNA	Florina	4.55	272	ePn	Pn	23 27 22.8	-0.2
SKO	Skopje	4.61	287	eP	Sx	23 28 30.0	

*CSEM **06** 23:32:50.5±0.2, 35.66N×3.53W, h25km, MD3.0, Error ellipse: s-maj=5.7km s-min=3.8km az=93.0*
*MDD **06** 23:32:51.4±0.3, 35.74N×3.52W, mbLg1.9/10, Error ellipse: s-maj=3.6km s-min=2.8km az=103.0, PRXIMO*
*CNRM **06** 23:32:51.2, 35.69N×3.44W, h7km, MD3.0*
ISC 06 23:32:50.8±0.8, **35.73N**±0.02×**3.51W**±0.04, **h13km**±6km, **n27,** σ1§**00**/50, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EALB	Alboran	0.44	61	P	Pg	23 32 59.5	-0.4
	62nm,0.1s,SNR=8.6						
EALB				S	Sg	23 33 04.8	-1.1
	691nm,0.2s,SNR=38						
EALB	Alboran	0.44	61	P	Pg	23 32 59.6	-0.3
	62nm,0.1s,SNR=8.6						
MPAL	Palemas	0.61	215	i P	Pb	23 33 03.0	+0.2
MPAL				i S	Sb	23 33 11.0	-0.1
EMEL	Melilla	0.62	133	P	Pb	23 33 03.6	+0.6
	212nm,0.1s,SNR=32						
EMEL				S	Sb	23 33 11.8	+0.4
	556nm,0.2s,SNR=21						
EMLI	Melilla	0.63	133	P	Pb	23 33 03.6	+0.5
	212nm,0.1s,SNR=32						
EMLI				S	Sb	23 33 11.8	+0.3
	556nm,0.2s,SNR=21						
TOU	Touzarine	0.79	195	i P	Pb	23 33 05.0	-0.9
TOU				i S	Sb	23 33 16.0	-0.2
EGUA	Guajares	1.10	358	P	Pb	23 33 11.0	-0.3
	1.1nm,0.1s,SNR=7.9						
EGUA				S	Sb	23 33 25.6	+0.3
	3.9nm,0.2s,SNR=7.9						
EBER	Berja	1.27	23	P	Pb	23 33 15.1	+1.0
	2.2nm,0.2s,SNR=10.0						
EBER				S	Sb	23 33 31.0	+0.8
	13nm,0.3s,SNR=8.2						
EBER	Berja	1.27	23	P	Pb	23 33 15.1	+1.0
	2.2nm,0.2s,SNR=10.0						
EBER				S	Sb	23 33 31.0	+0.8
	13nm,0.3s,SNR=8.2						
EMIJ	Mijas	1.32	310	P	Pb	23 33 14.2	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.8nm,0.1s,SNR=7.0						
EMIJ				S	Sb	23 33 32.1	+0.6
	5.7nm,0.3s,SNR=6.5						
ELOJ	Sierra Loja	1.51	340	P	Pn	23 33 19.4	+1.7
	0.6nm,0.2s,SNR=7.9						
ELOJ				S	Sb	23 33 38.8	+1.7
	2.2nm,0.5s,SNR=7.9						
ELOJ	Sierra Loja	1.51	340	P	Pn	23 33 19.1	+1.4
	SNR=7.9						
ELOJ				S	Sb	23 33 38.8	+1.8
	SNR=7.9						
ENIJ	Nijar	1.63	40	P	Pn	23 33 17.1	-2.3
	2.1nm,0.4s,SNR=12						
ENIJ				S	Sn	23 33 40.9	+0.6
	8.2nm,0.3s,SNR=6.4						
ENIJ	Nijar	1.63	40	P	Pn	23 33 17.1	-2.3
	2.1nm,0.4s,SNR=12						
ENIJ				S	Sn	23 33 38.1	-2.2
	8.2nm,0.3s,SNR=6.4						
ELUQ	Luque	1.93	342	S	Sn	23 33 49.5	+1.6
	1.9nm,0.3s,SNR=7.9						
ELUQ	Luque	1.93	342	S	Sn	23 33 46.3	-1.6
	SNR=7.9						
EQES	Quesada	2.10	10	P	Pn	23 33 27.5	+1.3
	1.3nm,0.1s,SNR=17						
EQES				S	Sn	23 33 53.2	+0.9
	7.7nm,0.5s,SNR=5.8						
EQES	Quesada	2.10	10	P	Pn	23 33 27.5	+1.3
	1.3nm,0.1s,SNR=17						
EQES				S	Sn	23 33 53.2	+0.9
	7.7nm,0.5s,SNR=5.8						
EHUE	Huescar	2.21	19	P	Pn	23 33 28.6	+0.9
	0.3nm,0.2s,SNR=7.9						
EHUE				S	Sn	23 33 54.9	-0.2
	0.6nm,0.2s,SNR=7.9						
EHUE	Huescar	2.21	19	P	Pn	23 33 28.6	+0.9
	0.3nm,0.2s,SNR=7.9						
EHUE				S	Sn	23 33 54.6	-0.5
	SNR=7.9						
EADA	Adamuz	2.58	341	P	Pn	23 33 34.2	+1.2
	0.4nm,0.1s,SNR=4.7						
EADA				S	Sn	23 34 03.8	-0.7
	2.8nm,0.3s,SNR=4.6						
EADA	Adamuz	2.58	341	P	Pn	23 33 34.2	+1.2
	0.4nm,0.1s,SNR=4.7						
EADA				S	Sn	23 34 03.8	-0.7
	7.0nm,1.1s,SNR=4.6						
EMIN	Mina Concepcio	3.25	310	P	Pn	23 33 41.7	-0.9
	0.5nm,0.2s,SNR=7.9						
EMIN				S	Sn	23 34 20.9	-0.6
	0.6nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	3.25	310	P	Pn	23 33 41.7	-0.9
	0.5nm,0.2s,SNR=7.9						
EMIN				S	Sn	23 34 20.9	-0.7
	SNR=7.9						
ETOB	Tobarra	3.31	28	P	Pn	23 33 43.3	-0.1
	1.8nm,0.3s,SNR=6.5						
ETOB				S	Sn	23 34 20.6	-2.3
	0.6nm,0.2s						
ETOB	Tobarra	3.31	28	P	Pn	23 33 43.3	-0.1
	1.8nm,0.3s,SNR=6.5						
EBAD	Badajoz	4.12	318	P	Pn	23 33 54.6	-0.2
	0.1nm,0.1s,SNR=7.9						
EBAD				S	Sn	23 34 41.8	-1.6
	1.0nm,0.2s,SNR=7.9						

*CRAAG **07** 00:13:55.1, 35.13N×0.80W, Ml3.5*
*MDD **07** 00:13:58.1±0.5, 35.32N×0.85W, mb3.7/9, Error ellipse: s-maj=5.6km s-min=4.3km az=20.0, PRXIMO*
*CSEM **07** 00:13:58.8±0.1, 35.40N×0.83W, h21^{km}±2^{km}, mb3.8/11, Error ellipse: s-maj=8.3km s-min=3.2km az=123.0*
*NEIC **07** 00:13:59.2, 35.40N×0.89W, MG3.8(MDD), After MDD.*
ISC 07 00:13:58.2±0.8**, 35.45N**±0.04×**0.85W**±0.05**, h10^{km}, n35, σ1^{s}19**/58**, 1C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OTSS	Djebel Tessala	0.18	164	P	Pg	00 13 59.0	-3.2
ODZI	Dziouia	0.35	243	P	Pg	00 14 04.0	-1.4
USTO	Oran	0.37	41	P	Pg	00 14 08.0	+2.1
OLHC	Oulhaca	0.51	247	P	Pg	00 14 10.0	+1.5
EMLI	Melilla	1.72	266	P	Pn	00 14 28.3	-0.2
	32nm,0.1s,SNR=7.9						
EMLI				S	Sn	00 14 51.0	+0.3
	29nm,0.3s,SNR=7.9						
EMEL	Melilla	1.73	266	P	Pn	00 14 28.3	-0.3
	32nm,0.1s,SNR=7.9						
EMEL				S	Sn	00 14 51.0	+0.2
	29nm,0.3s,SNR=7.9						
EALB	Alboran	1.84	286	P	Pn	00 14 29.3	-1.0
	4.9nm,0.2s,SNR=7.9						
EALB				S	Sn	00 14 53.5	-0.2
	4.6nm,0.1s,SNR=7.9						
EALB	Alboran	1.84	286	P	Pn	00 14 29.3	-1.0
	4.9nm,0.2s,SNR=7.9						
EALB				S	Sn	00 14 53.5	-0.3
	4.6nm,0.1s,SNR=7.9						
ENIJ	Nijar	1.87	325	P	Pn	00 14 31.2	+0.5
	5.4nm,0.1s,SNR=19						
ENIJ				S	Sn	00 14 55.6	+1.1
	5.6nm,0.2s						
EBER	Berja	2.19	312	P	Pn	00 14 35.5	+0.2
	6.2nm,0.2s,SNR=11						
EBER	Berja	2.19	312	P	Pn	00 14 35.5	+0.2
	6.2nm,0.2s,SNR=11						
EMUR	La Murta	2.41	353	P	Pn	00 14 38.9	+0.6
	1.2nm,0.2s,SNR=7.4						
EMUR				S	Sn	00 15 07.9	-0.3
	3.2nm,0.2s,SNR=5.5						
EMUR	La Murta	2.41	353	P	Pn	00 14 38.9	+0.6
	1.2nm,0.2s,SNR=7.4						
EMUR				S	Sn	00 15 07.9	-0.2
	3.2nm,0.2s,SNR=5.5						
EHUE	Huescar	2.74	330	P	Pn	00 14 45.0	+1.8
	1.7nm,0.2s,SNR=15						
EHUE				S	Sn	00 15 17.0	+0.4
	0.5nm,0.2s,SNR=7.9						
ECOG	Cogollos-Vega	2.85	311	P	Pn	00 14 46.2	+1.5
	1.8nm,0.2s,SNR=7.9						
EQES	Quesada	2.95	323	P	Pn	00 14 48.4	+2.4
EQES				S	Sn	00 15 21.9	+0.1
EQES	Quesada	2.95	323	⇑P	Pn	00 14 48.6	+2.6
	5.7nm,0.2s,SNR=18						
EQES				S	Sn	00 15 21.9	+0.1
	2.0nm,0.2s						
EQES	Quesada	2.95	323	P	Pn	00 14 48.4	+2.3
	5.7nm,0.2s,SNR=18						
EQES				S	Sn	00 15 21.9	0.0
	2.0nm,0.2s						
ETOB	Tobarra	3.23	350	P	Pn	00 14 51.7	+1.6
	1.4nm,0.1s,SNR=23						
ETOB				S	Sn	00 15 29.1	0.0
	1.9nm,0.2s						
ETOB	Tobarra	3.23	350	P	Pn	00 14 51.7	+1.6
	1.4nm,0.1s,SNR=23						
ETOB				S	Sn	00 15 29.1	0.0
	1.9nm,0.2s						
EBEN	Beniarda	3.28	9	P	Pn	00 14 50.8	-0.1
	6.1nm,0.4s,SNR=7.9						
EBEN				S	Sn	00 15 29.2	-1.2
	3.8nm,0.4s,SNR=7.9						
EBEN	Beniarda	3.28	9	P	Pn	00 14 50.8	0.0
	6.1nm,0.4s,SNR=7.9						
EBEN				S	Sn	00 15 29.2	-1.2
	3.8nm,0.4s,SNR=7.9						
EMIJ	Mijas	3.37	290	P	Pn	00 14 50.9	-1.1
	0.7nm,0.2s,SNR=7.9						
EMIJ				S	Sn	00 15 30.3	-2.2
	1.7nm,0.3s,SNR=7.9						
EVIA	Vianos	3.44	338	P	Pn	00 14 53.1	0.0
	2.8nm,0.2s,SNR=7.9						
EVIA				S	Sn	00 15 32.9	-1.5
	3.2nm,0.3s,SNR=7.9						
EBAN	Banos Encina	3.59	320	P	Pn	00 14 55.7	+0.5
	0.6nm,0.1s,SNR=7.9						
EIBI	Ibiza	3.98	25	P	Pn	00 15 01.8	+1.1
	1.4nm,0.2s,SNR=7.9						
EIBI				S	Sn	00 15 45.4	-2.5
	3.4nm,0.3s,SNR=7.9						
EIBI	Ibiza	3.98	25	P	Pn	00 15 01.8	+1.1
	1.4nm,0.2s,SNR=7.9						
EIBI				S	Sn	00 15 45.4	-2.5
	3.4nm,0.3s,SNR=7.9						
EADA	Adamuz	4.04	313	P	Pn	00 15 00.8	-0.7
	1.1nm,0.5s,SNR=4.0						
EADA	Adamuz	4.04	313	P	Pn	00 15 00.8	-0.7
	1.1nm,0.5s,SNR=4.0						
ESDC	Sonseca Array	4.89	331	P	Pn	00 15 14.2	+0.7
	0.3nm,0.2s,baz=151,slow=13,SNR=5.1						
ESDC	Sonseca Array	4.89	331	P	Pn	00 15 14.2	+0.6
	0.3nm,0.2s,SNR=5.1						
EMOS	Mosqueruela	4.91	3	P	Pn	00 15 14.5	+0.6
	3.2nm,0.7s,SNR=8.2						
EMOS				S	Sn	00 16 09.2	-2.4
	32nm,1.5s						
EMOS	Mosqueruela	4.91	3	P	Pn	00 15 14.5	+0.5
	3.2nm,0.7s,SNR=8.2						
EMOS				S	Sn	00 16 09.2	-2.4
	32nm,1.5s						
ERTA	Horta de San J	5.58	9	P	Pn	00 15 22.7	-0.6
	6.5nm,0.7s,SNR=7.9						
ERTA				S	Sn	00 16 24.1	-4.1
	1.1nm,0.4s,SNR=7.9						
ERTA	Horta de San J	5.58	9	P	Pn	00 15 22.7	-0.6
	6.5nm,0.7s,SNR=7.9						
ERTA				S	Sn	00 16 24.1	-4.1
	1.1nm,0.4s,SNR=7.9						

IDC 07 00:19:58.6±2.5**, 1.65N**×**97.05E, mb4.0**/5**, mb1 4.1**/6**, mb1mx3.7**/20**, mbtmp3.9**/6**, Error ellipse: s-maj=93.2km s-min=25.6km az=57.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.80	6	Pn	P	00 23 56.7	-0.3
	baz=195,slow=12,SNR=5.4						
WRA	Warramunga Arr	42.40	122	P	P	00 27 55.2	-1.8
	0.5nm,0.3s,baz=304,slow=8.9,SNR=8.2						
SONM	Songino Array	46.71	9	P	P	00 28 29.3	-1.9
	1.9nm,0.6s,baz=190,slow=9.1,SNR=15						
MKAR	Makanchi Array	46.77	346	P	P	00 28 29.9	-1.7
	2.3nm,0.5s,baz=162,slow=8.1,SNR=32						
ZAL	Zalesovo	53.08	351	P	P	00 29 18.1	-1.9
	1.3nm,0.3s,baz=302,slow=6.6,SNR=8.3						
BVAR	Borovoye Array	55.77	341	P	P	00 29 36.4	-3.2
	0.7nm,0.5s,baz=139,slow=8.2,SNR=7.2						

*IDC **07** 00:21:28.6±1.4, 1.35N×96.74E, mb4.0/8, mb1 4.1/9, mb1mx3.9/20, mbtmp4.0/9, ML4.4/1, MS3.3/1, Ms1 3.5/1, ms1mx3.0/17, Error ellipse: s-maj=48.0km s-min=25.5km az=52.0*
ISC 07 00:21:32.2±1.1**, 1.4N**±0.2×**96.8E**±0.2**, h33^{km}, n9, σ0^{s}55**/9**, mb4.0**/8**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.04	7	P	P	00 25 29.7	+0.1
	0.5nm,0.3s,baz=195,slow=11,SNR=6.4						
CMAR				LR	LR	00 33 05.5	
	comp=Z,96nm,18.3s,baz=192,slow=41						
WRA	Warramunga Arr	42.46	122	P	P	00 29 26.1	-0.1
	0.6nm,0.5s,mb3.5,baz=303,slow=9.1,SNR=4.5						
MKAR	Makanchi Array	46.93	346	P	P	00 30 01.7	+0.2
	7.2nm,0.8s,mb4.6,baz=153,slow=8.1,SNR=29						
SONM	Songino Array	46.95	9	P	P	00 30 01.3	-0.4
	3.0nm,0.6s,mb4.4,baz=192,slow=8.9,SNR=17						
ZAL	Zalesovo	53.26	351	P	P	00 30 50.2	+0.3
	3.2nm,0.8s,mb4.3,baz=303,slow=6.3,SNR=16						
BVAR	Borovoye Array	55.91	341	P	P	00 31 08.6	-0.6
	1.1nm,0.6s,mb4.1,baz=143,slow=7.4,SNR=8.2						
BRTR	Keskin Array B	68.69	312	P	P	00 32 33.7	-1.0
	0.4nm,0.5s,mb3.6,baz=131,slow=5.8,SNR=3.5						
ARCES	ARCESS Array B	82.19	340	P	P	00 33 51.4	+0.4
	0.6nm,0.5s,mb3.8,baz=90,slow=6.1,SNR=5.9						
GERES	GERESS Array B	84.40	319	P	P	00 34 03.7	+1.0
	0.4nm,0.8s,mb3.6,baz=68,slow=5.3,SNR=3.3						

*ATH **07** 00:22:26.7, 37.71N×26.79E, h19^{km}±3^{km}, MD3.1/3*
*ISK **07** 00:22:27.3, 37.77N×26.87E, h24^{km}, MD3.1*
*CSEM **07** 00:22:27.0±0.3, 37.77N×26.85E, h12^{km}, MD3.1, Error ellipse: s-maj=9.2km s-min=6.8km az=92.0*
ISC 07 00:22:26.9±0.8**, 37.77N**±0.03×**26.77E**±0.05**, h4^{km}**±7^{km}**, n14, σ0^{s}93**/25**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMG	Samos	0.08	138	*e*PB	Pb	00 22 30.3	-0.3
SMG				*e*SB	Sb	00 22 32.5	-0.4
URLA	Izmir	0.61	347	*i* P	Pg	00 22 38.8	-0.2
URLA				*i* s	Sg	00 22 47.7	+0.6
IZM	Izmir	0.74	32	*i* PG	Pg	00 22 41.4	-0.3
KDAG	Bornova	0.74	32	*i* P	Pg	00 22 41.1	-0.6
KDAG				*i* s	Sg	00 22 51.7	0.0
BODT	Bodrum	0.82	148	PG	Pg	00 22 43.5	+0.1
BODT				SG	Sg	00 22 55.2	+0.8
BDRM	Kayabasi	0.88	142	*i* P	Pb	00 22 45.6	+1.3
BDRM				*i* s	Sg	00 22 57.7	+1.4
AYDN	Tasoluk	0.89	97	*i* P	Pb	00 22 44.6	+0.2
AYDN				*i* s	Sg	00 22 55.8	-0.6
MLSB	Milas	0.93	120	PG	Pg	00 22 43.6	-1.8
APE	Apeiranthos	1.21	235	PN	Pn	00 22 49.9	-0.6
APE				SN	Sn	00 23 07.1	-0.3
APE	Apeiranthos	1.21	235	*e*PN	Pn	00 22 49.5	-1.0
APE				*e*SN	Sn	00 23 05.8	-1.6
AKS	Akhisar	1.38	36	PN	Pn	00 22 51.7	-1.2
PRK	Paraskevi	1.53	345	*e*PN	Pn	00 22 56.4	+1.4
PRK				*e*SN	Sn	00 23 16.6	+1.1
PRK	Paraskevi	1.53	345	*e*Pn	Pn	00 22 56.3	+1.3
PRK				*e*Sn	Sn	00 23 16.1	+0.6
MANT	Manisa	1.58	62	*i* P	Pn	00 22 56.9	+1.1
MANT				*i* s	Sb	00 23 12.9	-3.7

*CRAAG **07** 00:29:59.1, 35.17N×0.79W, Ml2.9*
*MDD **07** 00:30:01.6±0.7, 35.28N×0.82W, mb3.6/6, Error ellipse: s-maj=9.6km s-min=4.9km az=1.0, PRXIMO*
*CSEM **07** 00:30:02.9±0.4, 35.49N×0.88W, h15^{km}, mb3.4/9, Error ellipse: s-maj=11.9km s-min=8.5km az=54.0*
*NEIC **07** 00:30:06.7, 35.67N×1.00W, MG3.4(MDD), After MDD.*
ISC 07 00:30:03.0±1.0**, 35.49N**±0.06×**0.92W**±0.07**, h10^{km}, n28, σ1^{s}29**/47**, 1C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OTSS	Djebel Tessala	0.23	154	P	Pg	00 30 02.0	-6.0
ODZI	Dziouia	0.33	232	P	Pg	00 30 08.0	-1.7
USTO	Oran	0.38	51	P	Pg	00 30 11.5	+0.7
ENIJ	Nijar	1.81	325	P	Pn	00 30 34.2	-0.3
ENIJ				S	Sn	00 30 56.2	-1.5
ENIJ	Nijar	1.81	325	P	Pn	00 30 34.2	-0.3
	1.9nm,0.1s,SNR=7.9						
ENIJ				S	Sn	00 30 59.1	+1.5
	1.8nm,0.3s,SNR=7.9						
ENIJ	Nijar	1.81	325	P	Pn	00 30 34.2	-0.3
	1.9nm,0.1s,SNR=7.9						
ENIJ				S	Sn	00 30 56.2	-1.4
	1.8nm,0.3s,SNR=7.9						
EBER	Berja	2.12	312	P	Pn	00 30 38.5	-0.5
	2.2nm,0.1s,SNR=4.5						
EBER	Berja	2.12	312	P	Pn	00 30 38.5	-0.5
	2.2nm,0.1s,SNR=4.5						
EMUR	La Murta	2.36	354	P	Pn	00 30 42.7	+0.3
EMUR				S	Sn	00 31 09.1	-2.5
EMUR	La Murta	2.36	354	P	Pn	00 30 42.7	+0.3
	2.7nm,0.4s,SNR=7.9						
EMUR				S	Sn	00 31 10.8	-0.8
	7.8nm,0.8s,SNR=7.9						
EMUR	La Murta	2.36	354	P	Pn	00 30 42.7	+0.3
	2.7nm,0.4s,SNR=7.9						
EMUR				S	Sn	00 31 09.1	-2.6
	7.8nm,0.8s,SNR=7.9						
EHUE	Huescar	2.68	330	P	Pn	00 30 48.3	+1.3
EHUE				S	Sn	00 31 18.1	-1.8
EHUE	Huescar	2.68	330	P	Pn	00 30 48.3	+1.3
	0.6nm,0.2s,SNR=6.9						
EHUE				S	Sn	00 31 22.6	+2.8
	0.2nm,0.2s						
EHUE	Huescar	2.68	330	P	Pn	00 30 48.3	+1.3
	0.6nm,0.2s,SNR=6.9						
EHUE				S	Sn	00 31 18.1	-1.7
	0.3nm,0.3s						
ECOG	Cogollos-Vega	2.78	311	P	Pn	00 30 49.1	+0.6
	1.1nm,0.2s,SNR=7.9						
EQES	Quesada	2.88	324	P	Pn	00 30 51.6	+1.7
EQES				S	Sn	00 31 24.7	-0.3
EQES	Quesada	2.88	324	⇑P	Pn	00 30 51.7	+1.8
	3.6nm,0.3s,SNR=18						
EQES				S	Sn	00 31 24.7	-0.3
	1.3nm,0.4s						
EQES	Quesada	2.88	324	P	Pn	00 30 51.6	+1.7
	3.6nm,0.3s,SNR=20						
EQES				S	Sn	00 31 24.7	-0.3
	1.3nm,0.4s						
ETOB	Tobarra	3.19	351	P	Pn	00 30 54.9	+0.7
ETOB				S	Sn	00 31 30.1	-2.6
ETOB	Tobarra	3.19	351	P	Pn	00 30 54.9	+0.7
	1.2nm,0.2s,SNR=11						
ETOB				S	Sn	00 31 34.0	+1.3
	0.9nm,0.2s						
ETOB	Tobarra	3.19	351	P	Pn	00 30 54.9	+0.7
	1.2nm,0.2s,SNR=11						
ETOB				S	Sn	00 31 30.1	-2.5
	2.0nm,0.4s						
EVIA	Vianos	3.39	338	P	Pn	00 30 57.6	+0.6
EVIA				S	Sn	00 31 33.9	-3.8
EVIA	Vianos	3.39	338	P	Pn	00 30 58.8	+1.8
	1.6nm,0.2s,SNR=7.9						
EVIA				S	Sn	00 31 40.1	+2.4
	1.5nm,0.3s,SNR=4.0						
EVIA	Vianos	3.39	338	P	Pn	00 30 57.6	+0.6
	1.6nm,0.2s,SNR=7.9						
EIBI	Ibiza	3.96	26	P	Pn	00 31 04.9	-0.3
	3.0nm,0.4s,SNR=7.9						
EIBI				S	Sn	00 31 49.5	-2.8
	3.0nm,0.4s,SNR=7.9						
EIBI	Ibiza	3.96	26	P	Pn	00 31 04.9	-0.3
	3.0nm,0.4s,SNR=7.9						
EIBI				S	Sn	00 31 49.5	-2.8
	3.0nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	4.88	4	P	Pn	00 31 18.2	+0.1
	3.0nm,0.7s,SNR=7.9						
EMOS	Mosqueruela	4.88	4	P	Pn	00 31 18.2	0.0

*SKHL **07** 00:35:37.9±0.2, 48.35N×131.58E, h10^{km}, mb3.5/3*
*BJI **07** 00:35:37.8, 48.38N×131.61E, h14^{km}, ML3.1*
ISC 07 00:35:28.7±0.8**, 48.40N**±0.03×**131.40E**±0.07**, h10^{km}, n8, σ1^{s}33**/12**, Priamurye-Northeastern China border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDJ	Mudanjiang	3.99	199	PG	Pg	00 36 51.0	+2.7
MDJ				SG	Sg	00 37 40.5	-1.0
MDJ				Smax			
	comp=N,18nm,0.7s						
MDJ				Smax			
	comp=E,31nm,0.5s						
GRNR	Gornyy	4.04	52	*e*Pg	Pg	00 36 50.0	+0.7
GRNR				AMB	AMB	00 36 51.2	
	comp=E,8.0nm,0.5s						
GRNR				*e*Sg	Sg	00 37 42.4	-0.7
GRNR				A		00 37 45.9	
	comp=E,39nm,0.5s						
EKMR	Ekimchan	4.78	11	*e*Pg	Pg	00 37 04.6	+0.5
EKMR				AMB	AMB	00 37 11.9	
	comp=E,3.0nm,0.5s						
EKMR				*e*Sg	Sg	00 38 08.0	+0.2
EKMR				A		00 38 16.5	
	comp=E,14nm,0.7s						
TEY	Ternei	4.91	131	*e*Sg	Sg	00 38 06.8	-5.4
YASR	Yasnyy	5.35	337	*e*Pn	Pn	00 36 59.1	+8.4
YASR				AMB	AMB	00 36 59.6	
	comp=E,5.0nm,0.5s						
YASR				*e*rx	rx	00 37 00.7	
YASR				*e*rx	rx	00 37 06.1	
YASR				*e*Sg	Sg	00 38 28.8	+1.8
YASR				A		00 38 34.8	
	comp=E,6.0nm,0.7s						
ZEA	Zeya	5.95	335	*e*Sg	Sg	00 38 47.0	+0.2
BMKR	Bomnak	6.52	347	*e*Sg	Sg	00 39 03.6	-2.1
BMKR				A		00 39 12.6	
	comp=E,4.0nm,0.6s						
KROS	Kirovskiy	6.64	337	*e*Sg	Sg	00 39 08.3	-1.7
KROS				A		00 39 11.7	
	comp=E,3.0nm,0.5s						

MAN 07 01:22:23.6, 10.42N×**125.12E, h1^{km}, mb4.7, ML3.5, MS3.4, 3C-1D, Leyte**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.38	222	*e*P	Pg	01 22 31.4	+0.3
MSLP				*e*S	Sg	01 22 38.0	+1.8
SCPH	Surigao	0.73	150	⇑*e*P	Pg	01 22 37.6	-0.6
SCPH				*e*S	Sg	01 22 49.4	+1.4
PLP	Palo	0.75	350	*i* P	Pg	01 22 39.1	+0.4
PLP				*e*S	Sg	01 22 50.5	+1.8
LLP	Lapu-Lapu	1.14	265	⇓*e*P	Pb	01 22 43.9	-1.9
LLP				*i* S	Sb	01 22 58.2	-2.6
BESP	Borongan	1.22	15	*e*P	Pb	01 22 46.3	-0.8
TBP	Tagbilaran	1.43	240	*e*P	Pn	01 22 48.6	-2.1
TBP				*i* S	Sb	01 23 10.3	+1.0
SNPH	Sibulan	2.14	240	*e*P	Pn	01 23 01.8	+0.9
SNPH				*e*S	Sn	01 23 41.6	+13
GUIM	Jordan	2.49	275	*e*P	Pn	01 23 05.9	-0.1
GUIM				*e*S	Sn	01 23 36.8	-0.7
DCPH	Dipolog City	2.52	224	⇑*e*P	Pn	01 23 01.0	-5.4
DCPH				*e*S	Sn	01 23 36.5	-1.6
BUKP	Musuan	2.52	181	*e*P	Pn	01 23 06.8	+0.5
RCP	Roxas	2.59	296	⇑*e*P	Pn	01 23 07.5	+0.2
PAGZ	Pagadian	3.07	214	*e*P	Pn	01 23 15.2	+1.0
PVCP	Virac	3.30	344	*e*P	Pn	01 23 23.5	+6.1

*CSEM **07** 01:32:12.0±0.2, 35.29N×3.89W, h30^{km}, MD2.8, Error ellipse: s-maj=5.1km s-min=4.6km az=50.0*
*CNRM **07** 01:32:12.0, 35.44N×3.89W, h30^{km}, MD2.8*
*MDD **07** 01:32:13.4±0.3, 35.45N×3.88W, mbLg1.9/13, Error ellipse: s-maj=3.7km s-min=2.7km az=89.0, PRXIMO*
*NEIC **07** 01:32:14.0, 35.51N×3.86W, MG3.1(MDD), After MDD.*
*SFS **07** 01:32:14.0, 35.51N×3.86W*
ISC 07 01:32:12.8±0.5**, 35.44N**±0.03×**3.92W**±0.03**, h17^{km}**±8^{km}**, n41, σ1^{s}02**/75**, 2C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPAL	Palemas	0.21	186	*i* P	Pb	01 32 17.0	-0.9
MPAL				*i* S	Sb	01 32 21.5	+0.2
TOU	Touzarine	0.49	164	*i* P	Pb	01 32 21.5	-1.1
TOU				*i* S	Sb	01 32 29.0	-0.2
EMEL	Melilla	0.80	100	P	Pb	01 32 28.0	+0.3
	294nm,0.2s,SNR=15						
EMEL				S	Sb	01 32 37.6	-0.5
	636nm,0.3s,SNR=5.5						
EMLI	Melilla	0.80	99	P	Pb	01 32 28.0	+0.1
	294nm,0.2s,SNR=15						
EMLI				S	Sb	01 32 37.6	-0.6
	636nm,0.3s,SNR=5.5						
MELI	Melilla	0.81	100	⇑P	Pb	01 32 28.9	+0.8
MELI				S	Sb	01 32 37.7	-0.9
MELI	Melilla	0.81	100	*i* P	Pb	01 32 28.9	+0.8
MELI				*e*S	Sb	01 32 37.7	-0.9
EALB	Alboran	0.88	55	P	Pb	01 32 28.7	-0.4
EALB				S	Sb	01 32 39.0	-1.4
EALB	Alboran	0.88	55	⇑P	Pb	01 32 28.8	-0.4
	96nm,0.2s,SNR=18						
EALB				S	Sb	01 32 39.0	-1.4
	35nm,0.2s,SNR=5.6						
EALB	Alboran	0.88	55	P	Pb	01 32 28.7	-0.4
	96nm,0.2s,SNR=40						
EALB				S	Sb	01 32 39.0	-1.4
	35nm,0.2s,SNR=5.6						
ZAI	Zaio	1.06	116	P	Pb	01 32 34.5	+2.2
EMIJ	Mijas	1.32	329	P	Pn	01 32 36.7	0.0
	1.0nm,0.1s,SNR=7.2						
EMIJ				S	Sb	01 32 53.5	+0.2
	8.4nm,0.2s						
EGUA	Guajares	1.42	11	P	Pn	01 32 38.3	+0.2
	1.3nm,0.2s,SNR=7.9						
EGUA				S	Sb	01 32 56.2	0.0
	4.1nm,0.2s,SNR=7.9						
ERON	Agron	1.58	3	P	Pn	01 32 41.8	+1.4
	1.7nm,0.2s,SNR=15						
ERON				S	Sn	01 33 00.2	-0.3
	5.6nm,0.3s						
ERON	Agron	1.58	3	P	Pn	01 32 41.8	+1.4
	1.7nm,0.2s,SNR=15						
ERON				S	Sn	01 32 59.6	-0.9
	5.6nm,0.3s						
EBER	Berja	1.68	29	P	Pn	01 32 40.9	-0.9

EBER				S	Sn	01 33 01.9	-1.1
EBER	Berja	1.68	29	P	Pn	01 32 40.8	-0.9
	1.3nm,0.1s,SNR=4.5						
EBER				S	Sn	01 33 02.0	-1.0
	6.1nm,0.2s						
EBER	Berja	1.68	29	P	Pn	01 32 40.8	-0.9
	1.3nm,0.1s,SNR=4.5						
EBER				S	Sn	01 33 01.9	-1.1
	6.1nm,0.2s						
ELOJ	Sierra Loja	1.72	354	P	Pn	01 32 42.7	+0.4
ELOJ				S	Sn	01 33 02.0	-2.0
ELOJ	Sierra Loja	1.72	354	P	Pn	01 32 42.7	+0.4
	0.7nm,0.3s,SNR=6.4						
ELOJ				S	Sn	01 33 06.0	+2.0
	2.7nm,0.4s,SNR=5.0						
ELOJ	Sierra Loja	1.72	354	P	Pn	01 32 42.7	+0.4
	0.7nm,0.3s,SNR=6.4						
ELOJ				S	Sn	01 33 02.0	-2.0
	2.7nm,0.4s,SNR=5.0						
ECOG	Cogollos-Vega	1.86	9	P	Pn	01 32 45.2	+0.9
	0.8nm,0.2s,SNR=7.9						
ESPR	Espera	2.12	313	P	Pn	01 32 49.5	+1.4
	0.6nm,0.2s,SNR=7.9						
ESPR				S	Sn	01 33 16.1	+1.8
	1.6nm,0.3s,SNR=7.9						
ESPR	Espera	2.12	313	P	Pn	01 32 49.5	+1.4
	0.6nm,0.2s,SNR=7.9						
ESPR				S	Sn	01 33 16.1	+1.8
	1.6nm,0.3s,SNR=7.9						
EQES	Quesada	2.46	16	P	Pn	01 32 54.7	+1.8
	1.3nm,0.4s,SNR=12						
EQES				S	Sn	01 33 22.9	+0.1
	8.0nm,0.3s,SNR=6.3						
EQES	Quesada	2.46	16	P	Pn	01 32 54.7	+1.8
	1.3nm,0.4s,SNR=12						
EQES				S	Sn	01 33 22.9	+0.1
	8.0nm,0.3s,SNR=6.3						
EHUE	Huescar	2.60	24	P	Pn	01 32 55.7	+0.7
	0.5nm,0.2s,SNR=6.0						
EHUE				S	Sn	01 33 26.3	-0.1
	1.5nm,0.2s,SNR=5.4						
EADA	Adamuz	2.78	349	P	Pn	01 32 58.5	+1.1
EADA				S	Sn	01 33 34.0	+3.2
EADA	Adamuz	2.78	349	P	Pn	01 32 58.5	+1.1
	0.4nm,0.2s,SNR=4.7						
EADA				S	Sn	01 33 34.2	+3.3
	3.2nm,0.4s						
EADA	Adamuz	2.78	349	P	Pn	01 32 58.5	+1.1
	0.4nm,0.2s,SNR=4.7						
EADA				S	Sn	01 33 34.0	+3.1
	3.2nm,0.4s						
EMIN	Mina Concepcio	3.21	317	P	Pn	01 33 04.1	+0.4
	0.8nm,0.4s,SNR=7.9						
EMIN				S	Sn	01 33 40.7	-1.2
	1.2nm,0.4s,SNR=7.9						
EMIN	Mina Concepcio	3.21	317	P	Pn	01 33 04.1	+0.4
	0.8nm,0.4s,SNR=7.9						
EMIN				S	Sn	01 33 40.7	-1.2
	1.2nm,0.4s,SNR=7.9						
EGRO	El Granado	3.56	307	P	Pn	01 33 08.9	+0.4
	1.2nm,0.2s,SNR=7.9						
EGRO				S	Sn	01 33 48.9	-1.7
	1.8nm,0.2s,SNR=7.9						
EGRO	El Granado	3.56	307	P	Pn	01 33 08.9	+0.4
	1.2nm,0.2s,SNR=7.9						
EGRO				S	Sn	01 33 48.9	-1.7
	1.8nm,0.2s,SNR=7.9						
ETOB	Tobarra	3.72	30	P	Pn	01 33 11.5	+0.6
	1.2nm,0.4s,SNR=6.4						
ETOB	Tobarra	3.72	30	P	Pn	01 33 11.5	+0.7
	1.2nm,0.4s,SNR=6.4						
PBEJ	Beja	4.09	310	*e*P	Pn	01 33 16.7	+0.6
PBEJ				*e*S	Sn	01 34 02.6	-1.6
EBAD	Badajoz	4.14	324	P	Pn	01 33 16.5	-0.2
	1.1nm,0.2s,SNR=7.9						
EBAD				S	Sn	01 34 03.2	-2.1
	2.3nm,0.2s,SNR=7.9						
EBAD	Badajoz	4.14	324	P	Pn	01 33 16.5	-0.3
	1.1nm,0.2s,SNR=7.9						
EBAD				S	Sn	01 34 03.2	-2.1
ESDC	Sonseca Array	4.23	360	P	Pn	01 33 18.3	+0.2
	0.2nm,0.2s,baz=178,slow=12,SNR=6.5						
ESDC	Sonseca Array	4.23	360	P	Pn	01 33 18.3	+0.2
PTEO	Sao Teotonio	4.41	300	*e*S	Sn	01 34 11.5	-0.7

*ATH **07** 01:40:29.5, 41.71N×23.19E, h19^{km}±2^{km}, MD3.4/3*
*THE **07** 01:40:29.6, 41.78N×23.22E, h10^{km}, ML3.0*
*NEIC **07** 01:40:29.8, 41.69N×23.19E, h16^{km}, MD3.4(ATH), After ATH.*
*CSEM **07** 01:40:29.3±0.2, 41.82N×23.22E, h2^{km}, MD3.4, Error ellipse: s-maj=2.9km s-min=1.7km az=170.0*
ISC 07 01:40:29.6±1.0**, 41.75N**±0.06×**23.23E**±0.04**, h10^{km}, n16, σ1^{s}02**/28**, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NVR	Nevrokopi	0.62	130	*e*PB	Pg	01 40 41.3	-0.8
NVR				*e*SN	Sg	01 40 50.7	+0.3
KNT	Kendrikon	0.64	203	*e*Pg	Pg	01 40 42.2	-0.3
KNT				*e*Sg	Sg	01 40 51.7	+0.6
VAY	Valandovo	0.66	229	*i* Pg	Pg	01 40 42.8	0.0
VAY				*i* Sg	Sg	01 40 52.7	+1.0
SRS	Serrai	0.69	157	*e*Pg	Pg	01 40 43.0	-0.4
SRS				*e*Sg	Sg	01 40 54.0	+1.3
SOH	Sokhos	0.93	174	*e*Pg	Pg	01 40 47.7	-0.6
GRG	Griva	1.01	219	*e*Pg	Pg	01 40 49.0	-0.8
GRG				*e*Sg	Sg	01 41 03.7	+0.3
THE	Thessaloniki	1.14	190	*e*Pg	Pg	01 40 51.6	-0.7
PLG	Polygyros	1.38	173	*e*Pn	Pn	01 40 55.0	-0.1
PLG				*e*Sn	Sn	01 41 12.3	-1.2
PLG	Polygyros	1.38	173	*e*PN	Pn	01 40 55.0	-0.1
PLG				*e*SN	Sn	01 41 12.5	-1.0
OUR	Ouranopolis	1.52	158	*e*Pg	Pg	01 40 57.4	-2.7
OUR				*e*Sg	Sg	01 41 19.4	-1.0
FNA	Florina	1.70	236	*e*Pb	Pb	01 40 59.6	-0.9
FNA				*e*Sb	Sb	01 41 23.9	+1.9
RDO	Rodhopi	1.83	108	*e*PN	Pb	01 41 02.3	-0.5
RDO				*e*SN	Sn	01 41 26.6	+1.6
RDO	Rodhopi	1.83	108	*e*Pb	Pb	01 41 02.3	-0.5
RDO				*e*Sn	Sn	01 41 27.8	+2.8
ALN	Alexandroupoli	2.28	111	*e*Pn	Pn	01 41 07.9	0.0
ALN				*e*Sn	Sn	01 41 38.6	+2.2
LIA	Limnos Island	2.37	141	*e*PN	Pn	01 41 09.4	+0.2
XOR	Xorichti	2.38	181	*e*Pn	Pn	01 41 09.6	+0.3

NDI 07 02:00:59.6±3.7**, 23.94N×70.33E, h14^{km}**±21^{km}**, MD3.5, ML3.3, 1C, Southern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BHJ	Bhuj	0.92	222⇑	*e*P	Pb	02 01 18.5	+1.6
BHJ				*e*S	Sb	02 01 29.7	+0.9
BHV	Bhavnagar	2.75	142	*e*P	Pn	02 01 42.5	-1.6
BHV				*e*S	Sn	02 02 17.0	-0.4
BOM	Bombay	5.53	155	*e*PG	Pg	02 02 46.0	-4.0
BOM				*e*		02 02 46.5	
	52nm,0.4s						
BOM				*e*S	Sn	02 03 22.4	-5.2
POO	Poona	6.30	148	*e*S	Sn	02 03 37.0	-10

*NEIC **07** 02:15:08.3, 17.06N×99.90W, h49^{km}, MD3.8(MEX), After MEX.*
MEX 07 02:15:08.3±0.9**, 17.06N×99.90W, h49^{km}**±11^{km}**, MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	Acapulco	0.19	184	*i* P	P	02 15 15.0	-1.4
ACX				*i* S	S	02 15 20.5	-1.6
CAIG	El Cayaco	0.35	268	*i* P	P	02 15 16.3	-1.6
CAIG				*i* S	S	02 15 22.8	-1.8
PLIG	Platanillo	1.38	16	*i* P	P	02 15 30.4	-1.3
PLIG				*i* S	S	02 15 47.9	-1.1
YAIG	Yautepec	1.96	24	*i* P	P	02 15 37.8	-2.0
YAIG				*i* S	S	02 16 00.8	-2.4
PPM	Popocatepetl	2.34	31	*e*P	P	02 15 44.0	-1.1
OXX	Oaxaca	3.04	89	*e*P	P	02 16 02.0	+6.9

*IDC **07** 02:17:00.7±0.4, 56.10N×164.55E, mb4.8/37, mb1 4.9/37, mb1mx4.9/38, mbtmp4.8/37, ML5.2/2, MS4.8/21, Ms1 4.9/21, ms1mx4.8/25, Error ellipse: s-maj=10.9km s-min=7.9km az=177.0*
*BJI **07** 02:17:01.7, 56.10N×164.60E, h33^{km}, mB5.4, mb5.3, Ms5.7, Msz5.4*
*KRSC **07** 02:17:04.9±0.6, 56.02N×164.58E, h40^{km}±13^{km}, ML5.8*
*BGS **07** 02:17:05.9, 56.07N×164.61E, h33^{km}, mb5.2*
*MOS **07** 02:17:05.0±0.9, 56.03N×164.57E, h44^{km}, mb5.5/103, MS5.1/60, Error ellipse: s-maj=6.6km s-min=3.8km az=89.8*
*HRVD **07** 02:17:05.7±0.1, 56.18N×164.89E, h15^{km}, MW5.6/75, Centroid moment Tensor Solution. LP body waves: s68,c143;Mantle waves: s75,c170; Half duration: 1^{s}6 Moment tensor: Scale 10^{17}Nm; M_{rr}0.07±.04; $M_{\theta\theta}$-2.79±.04; $M_{\phi\phi}$2.72±.03; $M_{r\theta}$0.59±.12; $M_{\theta\phi}$-0.86±.03; $M_{\phi r}$0.98±.11; Best double couple: $M_0$3.105×10^{17} NP1: ϕ_s306°,δ69°,λ178°. NP2:ϕ_s37°,δ88°,λ22°. Principal axes: T 3.112, Plg17°, Azm263°; N -.012, Plg68°, Azm42°; P -3.099, Plg14°, Azm169°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 02:17:05.7±0.1, 56.07N×164.61E, mb5.5/175, MS5.0/118, MW5.5 Error ellipse: s-maj=3.7km s-min=2.1km az=178.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^{17} Nm; M_{rr}0.52; $M_{\theta\theta}$-2.73; $M_{\phi\phi}$2.21; $M_{r\theta}$-0.41; $M_{\theta\phi}$-0.72; $M_{\phi r}$-0.08; Best double couple: $M_0$2.6×10^{17} NP1:ϕ_s127°, δ85°,λ-176°. NP2:ϕ_s37°,δ86°,λ-5°. Principal axes: T 2.31, Plg1°, Azm82°; N .57, Plg83°, Azm177°; P -2.88, Plg7°, Azm352°;*
NEIC Felt [II] at Petropavlovsk-Kamchatskiy.
ISC 07 02:17:03.8±0.1**, 56.00N**±0.02×**164.62E**±0.02**, h33^{km}**±.4^{km}**:pP-P, n716, σ1^{s}07**/726**, mb5.3**/249**, MS5.1**/174**, 119C-87D, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.03	283	P	P	02 17 21.0	-0.9
KBTR	Krutoberegovo	1.03	283	*i* P	P	02 17 21.8	-0.1
KBG	Krutoberegovo	1.10	284	*i* P	P	02 17 21.9	-1.0
BKI	Bering	1.11	135	*i* P	P	02 17 22.0	-1.0
BKI				*i* S	S	02 17 35.9	-1.3
BKI				Smax			
	137µm,0.7s						
SVLR	Shiveluch	1.98	288	*e*P	P	02 17 37.8	+2.3
ZLN	Zelenaya	2.14	272	*i* P	P	02 17 39.8	+2.0
CIRR	Tsirk	2.17	275	*i* P	P	02 17 39.8	+1.5
MKZ	Mys Kozlova	2.19	230	P	P	02 17 39.2	+0.6
MKZ				S	S	02 18 05.2	+0.4
MKZ	Mys Kozlova	2.19	230	*i* P	P	02 17 39.2	+0.6
MKZ				*e*S	S	02 18 05.1	+0.3
LGNR	Loginova	2.21	274	*i* P	P	02 17 40.8	+2.1
KLY	Klyuchi	2.24	280	P	P	02 17 38.9	-0.3
KLY	Klyuchi	2.24	280	*i* P	P	02 17 38.8	-0.4
KRSR	Krestovskiy	2.28	277	*i* P	P	02 17 40.8	+1.0
KPT	Kopyto	2.47	271	*i* P	P	02 17 44.2	+1.7
KMNR	Kamenistaya	2.48	266	*i* P	P	02 17 44.2	+1.5
TUMR	Tumrok	2.63	256	*i* P	P	02 17 45.9	+1.0
KOZR	Kozyr	2.65	273	PN	P	02 17 47.1	+2.0
KOZ	Kozyrevsk	2.66	273	P	P	02 17 47.1	+1.8
KOZ	Kozyrevsk	2.66	273	*i* P	P	02 17 46.9	+1.6
SRDR	Sredinnyy	2.76	279	*i* P	P	02 17 48.2	+1.5
ESO	Esso	3.33	271	*i* P	P	02 17 55.5	+0.8
ESO				*i* S	S	02 18 32.6	-1.0
ESO				Smax			
	6µm,1.1s						
OSSR	Ossora	3.37	346	*i* P	P	02 17 53.0	-2.3
OSSR				*e*S	S	02 18 30.5	-4.1
KII	Karymskiy	3.57	239	P	P	02 18 00.1	+2.0
KII				S	S	02 18 40.8	+1.1
KII	Karymskiy	3.57	239	*i* P	P	02 17 59.4	+1.3
KII				*i* S	S	02 18 39.4	-0.3
SPN	Mys Shipunski	3.95	225	P	P	02 18 03.2	-0.4
SPN				S	S	02 18 44.7	-4.7
SPN	Mys Shipunski	3.95	225	*i* P	P	02 18 04.0	+0.4
SPN				*i* S	S	02 18 47.1	-2.3
NLC	Nalytchevo	4.17	229	P	P	02 18 07.3	+0.5
NLC				S	S	02 18 52.6	-2.5
NLC	Nalytchevo	4.17	229	*e*P	P	02 18 07.2	+0.4
NLC				*e*S	S	02 18 54.4	-0.7
SDLR	Sedlovina	4.30	233	*i* P	P	02 18 09.8	+1.2
SDLR				*i* S	S	02 18 56.9	-1.4
SMAR	Somma	4.35	233	*i* P	P	02 18 10.4	+1.1
SMAR				*i* S	S	02 18 57.9	-1.6
UGLR	Uglovaya	4.38	233	*i* P	P	02 18 10.8	+1.2
AVH	Avacha	4.38	234	*i* P	P	02 18 11.1	+1.4
AVH				*i* S	S	02 18 59.1	-1.1
KOK	Koryaka	4.41	235	*i* P	P	02 18 11.2	+1.1
KOK				*i* S	S	02 18 59.3	-1.6
GNL	Ganaly	4.50	242	*i* P	P	02 18 12.8	+1.5
GNL				*i* S	S	02 19 01.9	-1.3
PET	Petropavlovsk	4.58	232	P	P	02 18 13.8	+1.3
PET				S	S	02 19 03.2	-2.0
PET	Petropavlovsk	4.58	232⇑	*i*PN	P	02 18 13.4	+0.9
PET				pmax	pmax		
	comp=Z,2µm,1.5s						
PET				pmax	pmax		
	comp=N,733nm,0.7s						
PET				pmax	pmax		
	comp=E,858nm,1.1s						
PET				pmax	pmax		
	comp=Z,880nm,0.6s						
PET				MLR	MLR		
	comp=N,61µm,23.0s						
PET				MLR	MLR		
	comp=E,42µm,19.0s						
PET				MLR	MLR		
	comp=Z,15µm,21.0s						
PET				MLR	MLR		
	comp=N,49µm,18.0s						
PET				MLR	MLR		
	comp=Z,10µm,10.0s						
PET				MLR	MLR		
	comp=E,36µm,14.0s						
PET	Petropavlovsk	4.58	232⇑	*i*P	P	02 18 13.4	+0.9
PET				*e*S	S	02 19 05.2	0.0
PET	Petropavlovsk	4.58	232	*i* P	P	02 18 13.4	+0.9
PET				*i* S	S	02 19 03.2	-2.0
RUS	Russkaya	5.06	228	P	P	02 18 19.7	+0.4
RUS				S	S	02 19 13.7	-3.6
RUS	Russkaya	5.06	228	*i* P	P	02 18 19.4	+0.1
RUS				*i* S	S	02 19 13.7	-3.6
GRL	Gorelyy	5.16	231	*e*P	P	02 18 21.6	+0.9
GRL				*e*S	S	02 19 17.2	-2.7
APC	Apacha	5.33	238	*i* P	P	02 18 24.4	+1.3
APC				*i* S	S	02 19 21.7	-2.5
APC				Smax			
	comp=E,1µm,1.2s						
FX1	Attu Island--F	5.88	118	Pn	P	02 18 27.7	-3.1
	comp=E,104nm,0.3s,baz=346,slow=2.9,SNR=183						
FX1				Sn	S	02 19 31.9	-6.1
	comp=E,135nm,0.3s,baz=51,slow=22,SNR=12						
FX1				LR	LR	02 20 34.5	
	comp=E,344nm,19.5s,baz=308,slow=36						
FX1	Attu Island--F	5.88	118	*e*P	P	02 18 27.6	-3.3
FX1				*e*S	S	02 19 29.0	-9.0
MIPR	Malaya Ipel'ka	5.94	234	*i* P	P	02 18 32.9	+1.3
PAU	Pauzhetka	6.48	229	*i* P	P	02 18 39.7	+0.4
KAMR	Kamenskoye	6.53	7	*i* P	P	02 18 38.5	-1.5
SKR	Severo-Kuril's	7.36	227	*e*PN	P	02 18 48.7	-2.9
SKR				pmax	pmax		
	comp=N,1µm,2.0s						
SKR				pmax	pmax		
	comp=E,1µm,2.0s						
SKR				pmax	pmax		
	comp=Z,1µm,2.0s						
SKR				pmax	pmax		
	comp=N,170nm,0.5s						
SKR				pmax	pmax		
	comp=E,380nm,0.5s						
SKR				pmax	pmax		
	comp=Z,650nm,0.5s						
SKR				MLR	MLR		
	comp=N,10µm,14.0s						
SKR				MLR	MLR		
	comp=E,19µm,14.0s						
SKR				MLR	MLR		
	comp=Z,16µm,14.0s						
ALID	Alaid	7.46	230	*e*P	P	02 18 52.8	-0.2
MA2	Magadan	8.22	302	*e*PN	P	02 19 04.7	+1.2
MA2				*i* S	S	02 20 37.8	+1.5
MA2				pmax	pmax		
	comp=Z,30nm,1.0s						
MA2				MLR	MLR		
	comp=Z,3µm,22.0s						
MA2	Magadan	8.22	302	*e*P	P	02 19 01.5	-2.0
	comp=Z,76nm,1.0s						
SEY	Seymchan	9.32	323	*e*PN	P	02 19 17.1	-1.7
SEY				pmax	pmax		
	comp=E,3.0nm,0.9s						
SEY				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GSTR	Great Sitkin T	12.00	101	*e*P	P	02 19 51.2	-4.0
BILL	Bilibino	12.11	3⇓	*e*PN	P	02 19 54.6	-2.1
BILL				pmax	pmax		
	comp=Z,65nm,0.6s						
BILL				MLR	MLR		
	comp=Z,8µm,15.0s						
BILL	Bilibino	12.11	3	*e*P	P	02 19 54.5	-2.1
	comp=Z,437nm,1.3s						
OKH	Okha	12.74	268	*i* PN	P	02 19 58.0	-7.2
OKH				pmax	pmax		
	comp=Z,3µm,5.0s						
OKH				MLR	MLR		
	comp=Z,11µm,12.0s						
UGL	Uglegorsk	15.32	253	*i* P	P	02 20 41.0	+2.1
UGL				S	S	02 23 31.0	+3.0
UGL				pmax	pmax		
	comp=Z,2µm,2.0s						
UGL				pmax	pmax		
	comp=Z,730nm,1.3s						
UGL				smax			
	comp=N,2µm,8.0s						
UGL				smax			
	comp=E,2µm,5.0s						
UGL				MLR	MLR		
	comp=N,4µm,13.0s						
UGL				MLR	MLR		
	comp=E,15µm,13.0s						
UGL				MLR	MLR		
	comp=Z,10µm,13.0s						
YSS	Yuzh-Sakhalins	16.29	245α	*i*P	P	02 20 52.0	+0.7
YSS				*e*S	S	02 23 50.0	-0.5
YSS				pmax	pmax		
	comp=N,240nm,1.1s						
YSS				pmax	pmax		
	comp=E,310nm,1.1s						
YSS				pmax	pmax		
	comp=Z,280nm,1.1s						
YSS				pmax	pmax		
	comp=N,1µm,6.0s						
YSS				pmax	pmax		
	comp=E,1µm,6.0s						
YSS				pmax	pmax		
	comp=Z,1µm,6.0s						
YSS				pmax	pmax		
	comp=N,190nm,1.0s						
YSS				pmax	pmax		
	comp=Z,400nm,1.0s						
YSS				MLR	MLR		
	comp=N,9µm,14.0s						
YSS				MLR	MLR		
	comp=Z,7µm,14.0s						
YSS				MLR	MLR		
	comp=E,6µm,16.0s						
YSS	Yuzh-Sakhalins	16.29	245⇑	*i*P	P	02 20 51.5	+0.2
	comp=E,330nm,0.9s						
TNA	Tin City	16.33	43	*e*P	P	02 20 54.5	+2.9
	comp=E,139nm,1.2s						
TNA				*e*pP		02 21 04.8	
AKUT	Akutan	17.00	84	*e*P	P	02 21 02.7	+2.5
ASAJ	Asahikawa	18.38	239	P	P	02 21 15.8	-1.7
ASAJ				S	S	02 24 38.2	+0.2
ASAJ				pmax	pmax		
	comp=Z,28nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,8µm,21.0s						
ASAJ	Asahikawa	18.38	239	P	P	02 21 15.8	-1.8
	comp=Z,28nm,0.3s,baz=33,slow=5.1,SNR=84						
ASAJ				S	S	02 24 38.1	+0.1
	comp=Z,0.7nm,0.3s,baz=90,slow=20,SNR=1.1						
ASAJ				LR	LR	02 27 54.2	
	comp=Z,8µm,21.0s,baz=48,slow=36						
YAK	Yakutsk	18.79	303	*e*P	P	02 21 20.8	-1.7
YAK				*e*S	S	02 24 47.4	+0.1
YAK				pmax	pmax		
	comp=Z,188nm,0.9s						
YAK				pmax	pmax		
	comp=N,37nm,1.1s						
YAK				pmax	pmax		
	comp=E,105nm,1.0s						
YAK				pmax	pmax		
	comp=Z,146nm,1.0s						
YAK				pmax	pmax		
	comp=N,73nm,1.3s						
YAK				pmax	pmax		
	comp=E,166nm,1.2s						
YAK				smax			
	comp=N,25nm,1.2s						
YAK				smax			
	comp=Z,21nm,2.0s						
YAK				smax			
	comp=E,17nm,0.9s						
YAK				MLR	MLR		
	comp=Z,3µm,15.0s						
YAK				MLR	MLR		
	comp=N,5µm,11.0s						
YAK				MLR	MLR		
	comp=E,3µm,13.0s						
YAK	Yakutsk	18.79	303⇑	*e*P	P	02 21 20.6	-1.8
	comp=E,273nm,1.0s						
SDPT	Sand Point	19.57	77	*e*P	P	02 21 28.6	-2.8
TTA	Tatalina	20.88	55	*e*P	P	02 21 45.0	-0.1
KLR	Kul'dur	20.92	265	*e*P	P	02 21 40.0	-5.6
KLR				*e*S	S	02 25 32.5	+0.5
KLR				pmax	pmax		
	comp=N,44nm,1.0s						
KLR				pmax	pmax		
	comp=Z,62nm,1.0s						
KLR				MLR	MLR		
	comp=E,5µm,12.0s						
KLR				MLR	MLR		
	comp=Z,12µm,12.0s,MS5.5						
SVW2	Sparrevohn	21.13	60	*e*P	P	02 21 47.2	-0.4
TIXI	Tiksi	21.71	330	*e*P	P	02 21 48.3	-5.0
TIXI				*e*S	S	02 25 47.2	+0.6
TIXI				pmax	pmax		
	comp=Z,316nm,0.8s,mb5.8						
TIXI				MLR	MLR		
	comp=Z,8µm,15.0s,MS5.2						
TIXI	Tiksi	21.71	330	*i* P	P	02 21 53.3	0.0
CLNS	Chul'man	21.78	289	*e*P	P	02 21 52.4	-1.8
CLNS				*e*PPP	PPP	02 22 22.0	-7.4
CLNS				*e*S	S	02 25 52.6	+4.5
CLNS				*e*SS	SS	02 26 35.9	+10
CLNS				pmax	pmax		
	comp=Z,118nm,1.1s,mb5.2						
CLNS				pmax	pmax		
	comp=N,44nm,0.9s						
CLNS				pmax	pmax		
	comp=E,99nm,1.0s						
CLNS				smax			
	comp=E,18nm,1.5s						
CLNS				smax			
	comp=Z,19nm,0.8s						
CLNS				smax			
	comp=N,43nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,4µm,14.0s,MS5.0						
CLNS				MLR	MLR		
	comp=N,6µm,13.0s,MS5.2						
CLNS				MLR	MLR		
	comp=E,400nm,12.0s,MS5.2						
IMA	Indian Mountai	22.12	46	*e*P	P	02 21 57.8	+0.3
IMA				pmax	pmax		
	comp=Z,690nm,1.0s,mb6.0						
IMA	Indian Mountai	22.12	46	*e*P	P	02 21 57.5	0.0
RSO	Redoubt South	22.57	61	*e*P	P	02 22 02.6	+0.7
SPU	Mount Spurr	22.83	59	*e*P	P	02 22 04.6	+0.3
SLKM	Skilak Lake	23.81	60	P	P	02 22 12.8	-1.1
SLKM	Skilak Lake	23.81	60	*e*P	P	02 22 14.3	+0.5
PWA	Palmer West	23.81	57	*e*P	P	02 22 14.5	+0.6
PMR	Palmer	24.17	58	*e*P	P	02 22 16.8	-0.6
PMR				MLR	MLR		
	comp=Z,4µm,19.0s,MS4.9						
SML	Sawmill	24.52	57⇑	*e*P	P	02 22 19.5	-1.3
SML				*e*S	S	02 26 47.0	+11
MDJ	Mudanjiang	24.82	258	P	P	02 22 21.5	-2.4
MDJ				AP		02 22 32.8	

MDJ XP 02 22 38.6
MDJ PP PP 02 22 58.4 -2.7
MDJ S **S** **02 26 39.1 -2.6**
MDJ XS 02 26 53.9
MDJ SS SS 02 27 33.3 -6.7
MDJ AMB AMB
comp=Z,75nm,0.8s,mb5.3
MDJ AMB AMB
comp=Z,185nm,5.1s
MDJ LR LR
comp=N,4μm,12.1s,MS5.4
MDJ LR LR
comp=E,6μm,12.3s,MS5.4
MDJ LR LR
comp=Z,9μm,12.9s,MS5.5
MDJ Mudanjiang 24.82 258⇑*iP* **P 02 22 21.4 -2.5**
comp=Z,64nm,0.9s,mb5.2
ILAR Eielson Array 24.91 50 P **P 02 22 23.7 -0.8**
ILAR S **S** **02 26 43.8 +0.9**
ILAR pmax pmax
comp=Z,16nm,0.8s
ILAR MLR MLR
comp=Z,2μm,18.9s
ILAR Eielson Array 24.91 50 P **P 02 22 23.7 -0.8**
comp=Z,16nm,0.8s,mb4.6,baz=266,slow=8.7,SNR=72
ILAR S **S** **02 26 43.8 +0.9**
comp=Z,0.9nm,0.7s,baz=265,slow=10.0,SNR=2.2
ILAR LR LR 02 33 04.6
comp=Z,2μm,18.9s,MS4.7,baz=108,slow=39
DIV Divide 25.84 58⇑*eP* **P 02 22 31.9 -1.5**
comp=Z,299nm,0.9s,mb5.8
DIV LR LR
comp=Z,6μm,19.0s,MS5.1
MID Middleton Isla 25.94 62 *eP* **P 02 22 33.7 -0.6**
EYAK Cordova Ski Ar 25.97 59⇑*iP* **P 02 22 33.5 -1.1**
MAJO Matsushiro 26.41 234 *eP* **P 02 22 40.0 +1.1**
MAJO pmax pmax
comp=Z,330nm,1.0s,mb5.8
MAJO MLR MLR
comp=Z,3μm,21.0s,MS4.8
MAJO Matsushiro 26.41 234 *eP* **P 02 22 40.0 +1.1**
comp=Z,330nm,1.0s,mb5.8
MAJO LR LR
comp=Z,3μm,21.0s,MS4.8
MAT Matsushiro 26.41 234 *eP* **P 02 22 40.0 +1.1**
MAT *eS* **S** **02 27 13.0 +5.0**
MAT pmax pmax
comp=Z,210nm,1.0s,mb5.6
MAT MLR MLR
comp=Z,3μm,20.0s,MS4.8
MAT Matsushiro 26.41 234 *eP* **P 02 22 40.0 +1.1**
comp=Z,210nm,1.0s,mb5.6
MAT *eS* **S** **02 27 13.0 +5.0**
MAT LR LR
comp=Z,3μm,20.0s,MS4.8
MAT Matsushiro 26.41 234 P **P 02 22 39.8 +0.9**
MAT S **S** **02 27 12.0 +4.0**
MJAR Matsushiro Arr 26.41 234 P **P 02 22 40.2 +1.3**
MJAR S **S** **02 27 14.0 +6.0**
MJAR pmax pmax
comp=Z,176nm,1.1s
MJAR MLR MLR
comp=Z,3μm,19.9s
MJAR Matsushiro Arr 26.41 234 P **P 02 22 40.2 +1.4**
comp=Z,176nm,1.1s,mb5.5,baz=19,slow=7.6,SNR=102
MJAR S **S** **02 27 14.0 +6.0**
comp=Z,1.3nm,0.3s,baz=44,slow=15,SNR=1.6
MJAR LR LR 02 34 04.1
comp=Z,3μm,19.9s,MS4.8,baz=55,slow=39
BOD Bodaibo 27.18 295 *eP* **P 02 22 42.6 -3.1**
BOD pmax pmax
comp=Z,17nm,1.2s,mb4.5
CN2 Changchun 27.63 260 *eP* **P 02 22 46.8 -3.2**
CN2 *eAP* pP 02 22 56.5 -3.0
CN2 *eS* **S** **02 27 35.1 +7.4**
CN2 AMB AMB
comp=Z,30nm,1.2s,mb4.8
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,9μm,15.0s,MS5.5
CN2 LR LR
comp=E,4μm,15.0s,MS5.5
CN2 LR LR
comp=Z,8μm,16.0s,MS5.4
HIA Hailar 27.64 275⇑*eP* **P 02 22 47.1 -2.9**
HIA pmax pmax
comp=Z,24nm,0.8s
HIA Hailar 27.64 275⇑*eP* **P 02 22 47.0 -3.0**
comp=Z,24nm,0.8s,mb4.9
JHJ Hachijo jima 2 28.63 227 LR LR 02 34 55.7
comp=Z,1μm,19.4s,MS4.5,baz=326,slow=38
CIT Chita 29.71 284 *eP* **P 02 23 07.0 -1.4**
CIT *e* pP 02 23 17.2 -0.9
CIT *e* 02 24 06.2
CIT *e* 02 29 53.6
CIT pmax pmax
comp=Z,90nm,2.1s,mb5.1
INK Inuvik 29.95 41 P **P 02 23 10.5 +0.1**
comp=Z,7.9nm,0.8s,mb4.5,baz=269,slow=10,SNR=7.4
INK S **S** **02 28 03.3 -1.2**
comp=Z,1.6nm,0.7s,baz=198,slow=19,SNR=1.3
INK Inuvik 29.95 41⇑*eP* **P 02 23 09.8 -0.7**
comp=Z,68nm,0.8s,mb5.4
SNY Shenyang 29.96 259⇑P **P 02 23 08.2 -2.6**
SNY AP pP 02 23 15.0 -5.5
SNY XP sP 02 23 19.9 -5.0
SNY S **S** **02 28 01.0 -4.1**
SNY AMB AMB
comp=Z,30nm,1.6s,mb4.8
SNY LR LR
comp=N,7μm,16.2s,MS5.4
SNY LR LR
comp=E,5μm,17.4s,MS5.4
SNY LR LR
comp=Z,6μm,14.4s,MS5.4
MIDW Midway 30.62 148 PFAKE 02 23 30.0 +13
MIDW LR LR
comp=Z,1μm,21.0s,MS4.6
KS15 Wonju Array Si 30.77 248 *eP* **P 02 23 17.1 -1.0**
INCN Inchon 31.40 250 P **P 02 23 21.1 -2.6**
INCN LR LR
comp=Z,3μm,20.0s,MS5.0
SIT Sitka 32.21 63 P **P 02 23 30.8 +0.3**
SIT pmax pmax
comp=Z,220nm,1.0s,mb5.9
SIT Sitka 32.21 63 *eP* **P 02 23 31.1 +0.6**
SIT LR LR
comp=Z,2μm,18.0s,MS4.9
DL2 Dalian 33.06 257 P **P 02 23 35.7 -2.4**
DL2 S **S** **02 28 51.8 -1.8**
DL2 AMB AMB
comp=Z,40nm,0.8s,mb5.4
DL2 LR LR
comp=N,4μm,17.5s,MS5.3
DL2 LR LR
comp=E,3μm,16.8s,MS5.3
DL2 LR LR
comp=Z,3μm,12.6s,MS5.2
CBIJ Chichi jima 33.10 219 P **P 02 23 39.5 +1.0**
comp=Z,86nm,0.9s,mb5.7,baz=287,slow=19,SNR=2.4
DLBC Dease Lake 34.23 58 P **P 02 23 48.8 +0.8**
comp=Z,28nm,1.0s,mb5.2,baz=298,slow=9.9,SNR=38
DLBC S **S** **02 29 16.9 +5.4**
comp=Z,0.7nm,0.5s,baz=198,slow=20,SNR=1.1
DLBC Dease Lake 34.23 58⇑*iP* **P 02 23 48.8 +0.9**
DLBC ⇓*ipP* pP 02 23 58.5 +0.7
IRK Irkutsk 34.58 290 *eP* **P 02 23 50.0 -1.1**
IRK pmax pmax
comp=Z,502nm,1.7s,mb6.2
TLY Talaya 35.21 289 *eP* **P 02 23 56.9 +0.5**
TLY *e* 02 25 21.9
TLY *eS* **S** **02 29 18.5 -8.2**
TLY pmax pmax
comp=Z,14nm,1.0s,mb4.8
TLY MLR MLR
comp=Z,5μm,18.0s,MS5.3
TLY Talaya 35.21 289 *eP* **P 02 23 56.2 -0.2**
comp=Z,16nm,1.1s,mb4.9
TLY LR LR
comp=Z,2μm,20.0s,MS4.8
ULN Ulaanbaatar 35.46 282⇑*iP* **P 02 23 58.3 -0.3**
ULN pmax pmax
comp=Z,79nm,1.3s,mb5.5
ULN MLR MLR
comp=Z,2μm,20.0s,MS4.9
ULN Ulaanbaatar 35.46 282⇑*iP* **P 02 23 58.3 -0.3**
comp=Z,79nm,1.3s,mb5.5
ULN LR LR
comp=Z,2μm,20.0s,MS4.9
SONM Songino Array 35.84 282 P **P 02 24 01.3 -0.5**
comp=Z,32nm,0.9s,mb5.3,baz=59,slow=7.2,SNR=74
SONM PcP PcP 02 26 29.3 +0.2
comp=Z,2.6nm,0.8s,baz=45,slow=2.0,SNR=2.0
SONM LR LR 02 40 02.5
comp=Z,3μm,18.3s,MS5.1,baz=57,slow=39
ZAK Zakamensk 36.10 288 *eP* **P 02 24 03.3 -0.7**
ZAK *e* 02 26 35.5
ZAK pmax pmax
comp=Z,15nm,1.1s,mb4.8
MOY Mondy 36.61 291 *eP* **P 02 24 06.1 -2.2**
MOY pmax pmax
comp=Z,46nm,1.9s,mb5.0
HHC Hu-ho-hao-te 37.33 269⇑P **P 02 24 13.1 -1.3**
HHC AP pP 02 24 22.2 -2.1
HHC XP sP 02 24 26.9 -1.7
HHC PP PP 02 25 42.0 -0.4
HHC PCP PcP 02 26 30.8 -2.9
HHC S **S** **02 29 59.1 -0.3**
HHC SCP 02 30 14.6
HHC XS 02 30 15.8
HHC SS SS 02 32 35.1 +3.1
HHC SCS ScS 02 34 21.0 -2.6
HHC AMB AMB
comp=Z,38nm,1.2s,mb5.1
HHC AMB AMB
comp=Z,231nm,9.5s
HHC LR LR
comp=N,8μm,17.9s,MS5.7
HHC LR LR
comp=E,8μm,16.7s,MS5.7
HHC LR LR
comp=Z,4μm,17.9s,MS5.2
TIA Tai'an 37.48 258 *eP* **P 02 24 13.2 -2.5**
TIA AMB AMB
comp=Z,36nm,1.0s,mb5.2
TIA LR LR
comp=N,2μm,14.0s,MS5.5
TIA LR LR
comp=E,5μm,14.0s,MS5.5
BBB Bella Bella 38.23 67 P **P 02 24 21.5 -0.4**
comp=E,73nm,1.2s,mb5.3,baz=266,slow=7.6,SNR=4.0
BTO Baotou 38.36 270 *eP* **P 02 24 22.8 -0.2**
BTO AMB AMB
comp=Z,87nm,1.1s,mb5.4
BTO LR LR
comp=N,10μm,15.5s,MS5.8
BTO LR LR
comp=E,6μm,15.7s,MS5.8
SSE Sheshan 39.18 249 P **P 02 24 29.5 -0.5**
SSE XP sP 02 24 46.2 +2.1
SSE PP PP 02 25 59.9 -4.1
SSE S **S** **02 30 26.1 -1.6**
SSE XS 02 30 45.8
SSE SCS ScS 02 34 36.7 +2.4
SSE AMB AMB
comp=Z,51nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,177nm,7.0s
SSE LR LR
comp=N,2μm,23.7s,MS4.9
SSE LR LR
comp=E,749nm,23.7s,MS4.9
SSE LR LR
comp=Z,1μm,20.4s,MS4.8
YKW3 Yellowknife Ar 39.20 46 *eP* **P 02 24 29.4 -0.4**
YKW3 ⇓*ipP* pP 02 24 38.8 -0.9
YKA Yellowknife Ar 39.24 46 P **P 02 24 29.5 -0.6**
YKA 02 26 39.5
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKA Yellowknife Ar 39.24 46 P **P 02 24 29.5 -0.6**
comp=Z,3.7nm,0.6s,mb4.3,baz=300,slow=8.0,SNR=10
YKA PcP PcP 02 26 39.5 +0.1
comp=Z,1.6nm,0.7s,baz=304,slow=3.3,SNR=2.8
YKA Yellowknife Ar 39.24 46 P **P 02 24 29.6 -0.6**
YKA PcP PcP 02 26 39.5 +0.1
NJ2 Nanjing 39.67 252 *eP* **P 02 24 33.0 -1.0**
NJ2 AP pP 02 24 42.9 -1.0
NJ2 XP sP 02 24 46.8 -1.4
NJ2 PP PP 02 26 08.2 -0.9
NJ2 S **S** **02 30 35.0 0.0**
NJ2 XS 02 30 50.0
NJ2 AMB AMB
comp=Z,70nm,0.9s,mb5.4
NJ2 AMB AMB
comp=Z,64nm,5.2s
NJ2 LR LR
comp=N,11μm,18.6s,MS5.8
NJ2 LR LR
comp=E,9μm,17.8s,MS5.8
PGC Sidney 42.72 68 P **P 02 25 00.2 +1.4**
comp=E,177nm,1.0s,mb5.8
PGC *ep*P pP 02 25 09.1 +0.3
OCWA Octopus Mounta 42.89 70 *eP* **P 02 25 02.2 +1.9**
comp=E,213nm,1.2s,mb5.8
OCWA ⇓*ipP* pP 02 25 11.2 +0.9
OCWA LR LR
comp=Z,2μm,19.0s,MS5.0
WHN Wuhan 43.27 255⇑P **P 02 25 02.2 -1.4**
WHN S **S** **02 31 26.0 -2.1**
WHN LR LR
comp=N,6μm,15.6s,MS5.8
WHN LR LR
comp=E,7μm,13.2s,MS5.8
WHN LR LR
comp=Z,7μm,18.4s
ZAL Zalesovo 43.46 302 P **P 02 25 04.0 -0.8**
ZAL 02 26 47.7
ZAL pmax pmax
comp=Z,2.0nm,0.3s
ZAL pmax pmax
comp=Z,2.0nm,0.4s
ZAL MLR MLR
comp=Z,1μm,18.7s
ZAL Zalesovo 43.46 302 P **P 02 25 04.0 -0.8**
comp=Z,1.6nm,0.3s,baz=88,slow=18,SNR=5.4
ZAL PP PP 02 26 47.6 -0.1
comp=Z,2.0nm,0.4s,baz=30,slow=16,SNR=2.1
ZAL LR LR 02 44 05.5
comp=Z,1μm,18.7s,MS4.9,baz=59,slow=38
ZAL Zalesovo 43.46 302 P **P 02 25 04.0 -0.8**
ZAL PP PP 02 26 47.6 -0.1
ZAL LR LR 02 44 05.5
NVS Novosibirsk 43.66 304 *eP* **P 02 25 05.3 -1.1**
NVS *e* 02 26 44.0
NVS *eS* **S** **02 31 32.9 -0.5**
NVS pmax pmax
comp=E,47nm,1.4s
NVS pmax pmax
comp=Z,53nm,1.4s,mb5.1
NVS pmax pmax
comp=N,51nm,1.7s
NVS smax
comp=N,21nm,2.0s
NVS smax
comp=E,55nm,2.5s
TATO Taipei 43.99 243 P **P 02 25 07.9 -1.6**
TATO *ep*P pP 02 25 13.2 -6.2
TATO LR LR
comp=Z,2μm,19.0s,MS5.1
KIP Kipapa 44.24 126 PFAKE 02 25 20.0 +8.5
KIP LR LR
comp=Z,1μm,19.0s,MS4.9
PNT Penticton 44.28 65 P **P 02 25 11.7 +0.2**
YHNB Yeheng 44.30 243 *eP* **P 02 25 11.9 0.0**
KBS Kingsbay 44.34 353 AMS AMS 02 43 51.2
comp=Z,488nm,19.1s,MS4.4
GTA Gaotai 44.90 277⇑*iP* **P 02 25 17.1 +0.5**
GTA AP pP 02 25 26.8 +0.3
GTA XP sP 02 25 30.9 +0.2
GTA PCP PcP 02 26 58.7 +0.5
GTA PP PP 02 27 03.3 +0.9
GTA PPP PPP 02 27 44.7 +1.6
GTA S **S** **02 31 52.6 +1.0**
GTA XS 02 32 09.7
GTA SS SS 02 35 08.8 +4.4
GTA SCS ScS 02 35 10.4 +1.7
GTA AMB AMB
comp=Z,83nm,1.1s,mb5.5
GTA AMB AMB
comp=Z,268nm,5.7s
GTA LR LR
comp=N,6μm,21.3s,MS5.7
GTA LR LR
comp=E,6μm,20.9s,MS5.7
GTA LR LR
comp=Z,4μm,21.7s,MS5.3
EDM Edmonton 44.94 57⇑*eP* **P 02 25 16.2 -0.5**
EDM ⇓*ipP* pP 02 25 26.5 -0.2
LZH Lanzhou 44.98 270⇑P **P 02 25 17.4 +0.1**
LZH AP pP 02 25 30.3 +3.0
LZH PP PP 02 27 02.0 -1.3
LZH S **S** **02 31 50.0 -2.9**
LZH XS 02 32 06.4
LZH SS SS 02 35 03.1 -3.0
LZH AMB AMB
comp=Z,60nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,670nm,5.4s
LZH LR LR
comp=Z,9μm,16.4s,MS5.8
GUMO Guam 44.98 208 PFAKE 02 25 30.0 +12
GUMO LR LR
comp=Z,935nm,20.0s,MS4.7
TWW Teanaway 45.02 68 P **P 02 25 18.7 +1.3**
EBG Ellensburg 45.32 69 P **P 02 25 20.8 +1.0**
COR Corvallis 45.39 73 P **P 02 25 21.9 +1.4**
COR *e**PP pP 02 25 31.0 +0.6
COR pmax pmax
comp=Z,223nm,1.2s,mb5.9
COR MLR MLR
comp=Z,527nm,19.0s,MS4.5
COR Corvallis 45.39 73 P **P 02 25 21.9 +1.4**
comp=Z,223nm,1.2s,mb5.9
COR *ep*P pP 02 25 30.9 +0.5
COR LR LR
comp=Z,527nm,19.0s,MS4.5
QZH Quanzhou 45.49 246⇑*iP* **P 02 25 21.4 -0.1**
QZH S **S** **02 31 54.1 -6.1**
QZH AMB AMB
comp=Z,640nm,2.5s,mb6.0
QZH LR LR
comp=N,3μm,14.5s,MS5.6
QZH LR LR
comp=E,4μm,15.4s,MS5.6
QZH LR LR
comp=Z,3μm,13.6s,MS5.5
HSP Hornsund 45.83 351 *eP* **P 02 25 23.4 -0.2**
OD2 Odessa Site #2 45.98 67 P **P 02 25 25.2 +0.1**
KEBM Edson Butte 45.98 75 *eP* **P 02 25 26.5 +1.4**
KEBM *ep*P pP 02 25 35.9 +0.7
ENH Enshi 46.15 260⇑*iP* **P 02 25 24.9 -1.8**
comp=Z,25nm,0.7s,mb5.2
NEW Newport 46.22 65 P **P 02 25 26.8 -0.2**
NEW pmax pmax
comp=Z,12nm,1.0s
NEW Newport 46.22 65 P **P 02 25 26.8 -0.2**
comp=Z,12nm,1.0s,mb4.8,baz=313,slow=6.3,SNR=11
NEW Newport 46.22 65 P **P 02 25 26.8 -0.2**
NEW ⇓*ipP* pP 02 25 36.5 -0.5
NEW LR LR
comp=Z,2μm,19.0s,MS5.1
HBO Huckleberry Mo 46.41 73 P **P 02 25 29.5 +1.0**
KBO Bosley Butte 46.48 76 *eP* **P 02 25 30.6 +1.5**
KBO *ep*P pP 02 25 40.2 +1.1
POHA Pohakuloa 46.83 124 PFAKE 02 25 40.0 +7.9
POHA LR LR
comp=Z,8μm,19.0s,MS5.7
BBOR Butler Butte 46.87 74 P **P 02 25 33.4 +1.3**
HUMO Hull Mountain 46.91 75⇑*eP* **P 02 25 32.1 -0.3**
comp=Z,93nm,1.2s,mb5.6
HUMO ⇓*ipP* pP 02 25 42.8 +0.4
HUMO LR LR
comp=Z,1μm,20.0s,MS4.9
KRMB Red Mountain 47.13 76 *eP* **P 02 25 35.0 +0.9**
KRMB *ep*P pP 02 25 45.5 +1.4
KWAJ Kwajalein Atol 47.13 176 PFAKE 02 25 50.0 +15
KWAJ LR LR
comp=Z,306nm,21.0s,MS4.2
WALA Waterton Lakes 47.32 62⇑*eP* **P 02 25 35.5 -0.1**
comp=Z,150nm,0.9s,mb5.9
WALA ⇓*ipP* pP 02 25 45.4 -0.2
DAG Danmarks Havn 47.48 1⇑*eP* **P 02 25 35.8 -0.7**
DAG pmax pmax
comp=Z,13nm,0.8s,mb4.9
DAG MLR MLR
comp=N,950nm,17.0s
DAG MLR MLR
comp=Z,1μm,17.0s,MS4.9
DAG Danmarks Havn 47.48 1⇑*eP* **P 02 25 35.8 -0.7**
comp=Z,13nm,0.8s,mb4.9
DAG LR LR
comp=Z,1μm,17.0s,MS4.9
DAG Danmarks Havn 47.48 1⇑*iP* **P 02 25 35.8 -0.7**
comp=Z,13nm,0.8s,mb4.9
comp=Z,1μm,17.0s
YBH Yreka Blue Hor 47.64 75⇑*eP* **P 02 25 39.0 +0.8**
YBH *e* pP 02 25 49.2 +1.0
YBH pmax pmax
comp=Z,132nm,1.1s
YBH MLR MLR
comp=Z,989nm,19.0s
YBH Yreka Blue Hor 47.64 75 P **P 02 25 39.3 +1.1**
comp=Z,16nm,1.1s,mb5.0,baz=288,slow=1.9,SNR=11
YBH Yreka Blue Hor 47.64 75⇑*eP* **P 02 25 39.0 +0.8**
comp=Z,132nm,1.1s,mb5.9
YBH ⇓*ep*P pP 02 25 49.2 +1.0
YBH LR LR
comp=Z,989nm,19.0s,MS4.8
KHMM Horse Mountain 47.67 77⇑*eP* **P 02 25 39.6 +1.1**
KHMM ⇓*ipP* pP 02 25 49.3 +0.9
BMO Blue Mountains 48.39 69⇑*eP* **P 02 25 43.9 -0.2**
comp=Z,112nm,1.3s,mb5.7
BMO ⇓*ipP* pP 02 25 53.6 -0.4
BMO LR LR
comp=Z,2μm,19.0s,MS5.0
WMQ Urumqi 48.49 290⇑*iP* **P 02 25 45.1 +0.3**
WMQ AP pP 02 25 55.7 +1.0
WMQ XP sP 02 25 59.6 +0.7
WMQ PP PP 02 27 38.0 +0.8
WMQ S **S** **02 32 43.0 +0.5**
WMQ SCS ScS 02 35 33.0 +1.1
WMQ AMB AMB
comp=Z,78nm,1.1s,mb5.7
WMQ AMB AMB
comp=Z,378nm,8.0s
WMQ LR LR
comp=Z,3μm,20.4s,MS5.3
WDC Whiskeytown Da 48.53 76 *eP* **P 02 25 44.9 -0.2**
WDC *e* pP 02 25 55.3 +0.2
WDC pmax pmax
comp=Z,136nm,1.2s,mb5.8
WDC MLR MLR
comp=Z,572nm,21.0s,MS4.5
WDC Whiskeytown Da 48.53 76 *eP* **P 02 25 44.9 -0.2**
comp=Z,136nm,1.2s,mb5.8
WDC ⇓*ep*P pP 02 25 55.3 +0.2
WDC LR LR
comp=Z,572nm,21.0s,MS4.5
MSO Missoula 48.79 64⇑*eP* **P 02 25 46.1 -1.0**
comp=Z,93nm,1.4s,mb5.6
MSO ⇓*ipP* pP 02 25 56.4 -0.7
MSO LR LR
comp=Z,966nm,22.0s,MS4.8
MOD Modoc 48.82 73⇑*eP* **P 02 25 47.5 +0.2**
comp=Z,21nm,0.4s,mb5.5
MOD ⇓*ipP* pP 02 25 57.7 +0.3
MOD LR LR
comp=Z,942nm,21.0s,MS4.8
CD2 Chengdu 48.85 266⇓*iP* **P 02 25 47.2 -0.6**
CD2 AMB AMB
comp=Z,13nm,0.8s,mb5.0
CHMT Chamberlain Mo 49.08 64 *eP* **P 02 25 48.4 -0.9**
CHMT *ep*P pP 02 25 59.0 -0.3
FFC Flin Flon 49.12 50⇑*eP* **P 02 25 48.7 -0.8**
FFC *i* pP 02 25 58.0 -1.5
FFC pmax pmax
comp=Z,28nm,0.9s,mb5.3
FFC Flin Flon 49.12 50⇑*eP* **P 02 25 48.7 -0.8**
comp=Z,28nm,0.9s,mb5.3
FFC ⇓*ipP* pP 02 25 58.0 -1.4
MKAR Makanchi Array 49.26 296 P **P 02 25 49.2 -1.5**
MKAR S **S** **02 32 51.2 -2.1**
MKAR pmax pmax
comp=Z,3.0nm,0.5s

MKAR MLR MLR
comp=Z,2µm,18.0s
MKAR Makanchi Array 49.26 296 P **P** **02 25 49.2 -1.5**
comp=Z,3.0nm,0.5s,mb4.6,baz=53,slow=6.6,SNR=34
MKAR S **S** **02 32 51.2 -2.1**
comp=Z,0.2nm,0.5s,baz=13,slow=16,SNR=1.6
MKAR LR LR 02 47 35.8
comp=Z,2µm,18.0s,MS5.2,baz=21,slow=37
WVOR Wild Horse Val 49.35 72⇑*eP* **P** **02 25 51.4 0.0**
WVOR *i* pP 02 26 01.2 -0.2
WVOR pmax pmax
comp=Z,125nm,1.2s,mb5.8
WVOR MLR MLR
comp=Z,2µm,20.0s,MS5.2
WVOR Wild Horse Val 49.35 72⇓*ip*P **P** **02 25 51.4 0.0**
comp=Z,125nm,1.2s,mb5.8
WVOR ⇓*ip*P pP 02 26 01.2 -0.2
WVOR LR LR
comp=Z,2µm,20.0s,MS5.2
HOPS Hopland 49.35 78 *eP* **P** **02 25 52.5 +1.0**
comp=Z,124nm,1.3s,mb5.8
HOPS ⇑*epP* pP 02 26 01.9 +0.5
HOPS *e* 02 26 19.1
HOPS LR LR
comp=Z,2µm,19.0s,MS5.0
GZH Guangzhou 49.74 250 P **P** **02 25 50.8 -3.9**
GZH S **S** **02 32 53.3 -7.0**
GZH LR LR
comp=N,2µm,17.1s,MS5.4
GZH LR LR
comp=E,3µm,17.3s,MS5.4
GZH LR LR
comp=Z,2µm,19.0s,MS5.2
HRY Holter Researc 49.93 63 *eP* **P** **02 25 55.7 -0.2**
HRY *epP* pP 02 26 05.6 -0.2
NSHM Saint Helena R 49.94 78 *eP* **P** **02 25 52.8 -3.2**
NSHM *epP* pP 02 26 06.5 +0.4
BEKR Beckwourth 50.22 75⇑*eP* **P** **02 25 58.2 0.0**
comp=Z,118nm,1.1s,mb5.8
BEKR ⇓*ip*P pP 02 26 08.0 -0.1
BVAR Borovoye Array 50.64 309 P **P** **02 26 00.9 -0.2**
comp=Z,35nm,0.9s,mb5.3,baz=58,slow=7.9,SNR=101
BVAR PP PP 02 27 58.5 +0.6
comp=Z,6.6nm,0.8s,baz=68,slow=7.8,SNR=2.4
BVAR S **S** **02 33 13.8 +1.6**
comp=Z,0.2nm,0.3s,baz=41,slow=15,SNR=1.1
BRVK Borovoye 50.66 309 PFAKE 02 26 10.0 +8.7
BRVK LR LR
comp=Z,1.0nm,22.0s
GYA Guiyang 50.67 259⇑*iP* **P** **02 26 01.0 -0.7**
GYA AP pP 02 26 10.8 -0.9
GYA XP sP 02 26 14.5 -1.4
GYA PP PP 02 27 57.7 -0.9
GYA S **S** **02 33 16.2 +3.2**
GYA XS 02 33 28.9
GYA SS SS 02 36 43.5 -1.4
GYA AMB AMB
comp=Z,40nm,1.1s,mb5.3
GYA AMB AMB
comp=Z,310nm,5.1s
GYA LR LR
comp=N,4µm,19.8s,MS5.5
GYA LR LR
comp=E,3µm,20.1s,MS5.5
GYA LR LR
comp=Z,2µm,19.5s,MS5.0
MCMT McKenzie Canyo 50.72 66 *eP* **P** **02 26 01.0 -0.8**
MCMT *epP* pP 02 26 11.0 -0.9
SUMG Summit 50.72 9⇓*iP* **P** **02 26 01.2 -0.4**
comp=Z,56nm,1.1s,mb5.4
BOZ Bozeman (W) 50.77 64⇑*eP* **P** **02 26 01.9 -0.3**
BOZ *i* pP 02 26 12.1 -0.1
BOZ pmax pmax
comp=Z,73nm,1.2s,mb5.5
BOZ MLR MLR
comp=Z,2µm,22.0s,MS5.0
BOZ Bozeman (W) 50.77 64⇓*eP* **P** **02 26 01.9 -0.4**
comp=Z,73nm,1.2s,mb5.5
BOZ ⇓*ip*P pP 02 26 12.1 -0.2
BOZ LR LR
comp=Z,2µm,22.0s,MS5.0
HLID Hailey 50.79 68⇑*iP* **P** **02 26 02.0 -0.4**
comp=Z,58nm,1.3s,mb5.3
HLID ⇓*ip*P pP 02 26 11.8 -0.6
HLID LR LR
comp=Z,2µm,20.0s,MS5.1
PAHR Pah Rah Range 50.86 75 *eP* **P** **02 26 04.0 +1.0**
comp=Z,69nm,1.1s,mb5.5
PAHR *epP* pP 02 26 13.2 +0.2
KEV Kevo 50.87 342 *eP* **P** **02 26 00.6 -2.1**
KEV *e**PP pP 02 26 11.0 -1.7
KEV pmax pmax
comp=Z,32nm,1.2s,mb5.1
KEV MLR MLR
comp=Z,1µm,19.0s,MS5.0
KEV Kevo 50.87 342 *eP* **P** **02 26 00.6 -2.1**
comp=Z,32nm,1.2s,mb5.1
KEV *epP* pP 02 26 11.0 -1.7
KEV LR LR
comp=Z,1µm,19.0s,MS5.0
WCN Washoe City 50.94 75⇑*iP* **P** **02 26 03.8 +0.1**
WCN *e* pP 02 26 14.0 +0.3
WCN pmax pmax
comp=Z,257nm,1.3s,mb6.0
WCN Washoe City 50.94 75⇑*iP* **P** **02 26 03.8 +0.1**
comp=Z,257nm,1.3s,mb6.0
WCN ⇓*epP* pP 02 26 14.0 +0.3
LVZ Lovozero 51.01 338 *iP* **P** **02 26 01.8 -2.0**
LVZ *i* 02 28 59.4
LVZ *i* S **S** **02 33 16.0 -1.2**
LVZ pmax pmax
comp=Z,24nm,1.0s,mb5.1
LVZ pmax pmax
comp=N,11nm,1.4s
LVZ pmax pmax
comp=E,6.0nm,1.2s
LVZ pmax pmax
comp=Z,226nm,3.5s
LVZ pmax pmax
comp=N,60nm,3.0s
LVZ pmax pmax
comp=E,339nm,2.4s
LVZ smax
comp=N,196nm,3.5s
LVZ smax
comp=Z,53nm,2.5s
LVZ smax
comp=E,115nm,4.3s
LVZ MLR MLR
comp=Z,1µm,18.0s,MS5.0
LVZ MLR MLR
comp=E,427nm,20.0s
ZRNK Zerenda 51.29 309⇓*eP* **P** **02 26 05.6 -0.5**
ZRNK pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ZRNK Zerenda 51.29 309⇓*eP* **P** **02 26 05.5 -0.5**
comp=Z,6.3nm,0.7s,mb4.7
ARCES ARCESS Array B 51.32 343 P **P** **02 26 04.8 -1.2**
comp=Z,22nm,0.9s,mb5.1,baz=27,slow=8.1,SNR=42
ARCES LR LR 02 52 00.5
comp=Z,1µm,19.7s,MS5.0,baz=40,slow=41
ARE0 ARCESS Array S 51.32 343⇓*eP* **P** **02 26 04.6 -1.5**
ARE0 *epP* pP 02 26 14.8 -1.3
SOKR Solikamsk 51.35 322*diP* **P** **02 26 05.9 -0.6**
SOKR S **S** **02 33 24.3 +2.3**
SOKR SS SS 02 36 58.0 +2.3
SOKR pmax pmax
comp=Z,70nm,0.9s,mb5.6
SOKR MLR MLR
comp=Z,2µm,15.0s,MS5.3
QLMT Earthquake Lak 51.44 65 *eP* **P** **02 26 07.3 0.0**
QLMT *epP* pP 02 26 17.4 +0.1
CMB Columbia Colle 51.51 77⇑*eP* **P** **02 26 07.8 -0.1**
CMB *e**PP pP 02 26 18.0 +0.1
CMB pmax pmax
comp=Z,142nm,1.5s,mb5.7
CMB MLR MLR
comp=Z,1µm,20.0s,MS4.9
CMB Columbia Colle 51.51 77⇑*eP* **P** **02 26 07.8 -0.2**
comp=Z,142nm,1.5s,mb5.7
CMB *epP* pP 02 26 18.0 +0.1
CMB LR LR
comp=Z,1µm,20.0s,MS4.9
BMN Battle Mountai 51.51 73⇑*eP* **P** **02 26 07.8 -0.1**
BMN *i* pP 02 26 18.0 +0.1
BMN pmax pmax
comp=Z,108nm,1.3s,mb5.6
BMN MLR MLR
comp=Z,1µm,21.0s,MS4.9
BMN Battle Mountai 51.51 73⇑*eP* **P** **02 26 07.8 -0.1**
comp=Z,108nm,1.3s,mb5.6
BMN ⇓*ip*P pP 02 26 18.0 +0.1
BMN LR LR
comp=Z,1µm,21.0s,MS4.9
GCMT Greycliff 51.66 63 *eP* **P** **02 26 09.0 +0.1**
GCMT *epP* pP 02 26 19.1 +0.2
YMR Madison River 51.79 65 *eP* **P** **02 26 10.2 +0.3**
YMR *epP* pP 02 26 20.1 +0.2
SAO San Andreas Ge 51.84 79 *eP* **P** **02 26 11.0 +0.6**
SAO *e**PP pP 02 26 20.6 +0.1
SAO pmax pmax
comp=Z,65nm,1.1s,mb5.5
SAO MLR MLR
comp=Z,1µm,20.0s,MS4.9
SAO San Andreas Ge 51.84 79 *eP* **P** **02 26 11.0 +0.6**
comp=Z,65nm,1.1s,mb5.5
SAO *epP* pP 02 26 20.6 +0.1
SAO LR LR
comp=Z,1µm,20.0s,MS4.9
YNR Norris Junctio 51.90 64 *eP* **P** **02 26 09.9 -0.9**
YNR *epP* pP 02 26 21.4 +0.6
SVE Sverdlovsk 51.95 317⇓*eP* **P** **02 26 11.0 +0.1**
SVE *e* pP 02 26 21.5 +0.5
SVE *e* 02 27 18.0
SVE *e* 02 29 12.0
SVE *eS* **S** **02 33 29.0 -1.2**
SVE pmax pmax
comp=Z,96nm,1.9s,mb5.4
SVE MLR MLR
comp=N,3µm,14.0s,MS5.6
SVE MLR MLR
comp=E,2µm,14.0s,MS5.6
SVE MLR MLR
comp=Z,4µm,14.0s,MS5.7
YFT Old Faithful 52.01 65 *eP* **P** **02 26 12.4 +0.8**
LKWY Lake 52.15 64 *eP* **P** **02 26 14.3 +1.7**
LKWY *e* pP 02 26 24.1 +1.4
LKWY pmax pmax
comp=Z,100nm,0.9s,mb5.8
LKWY MLR MLR
comp=Z,3µm,19.0s,MS5.3
LKWY Lake 52.15 64 *eP* **P** **02 26 14.3 +1.7**
comp=Z,100nm,0.9s,mb5.7
LKWY *epP* pP 02 26 24.1 +1.4
LKWY LR LR
comp=Z,3µm,19.0s,MS5.3
KTK1 Kautokeino 52.15 343 *eP* **P** **02 26 12.2 -0.1**
comp=Z,169nm,1.4s,mb5.8
KTK1 Kautokeino 52.15 343 *eP* **P** **02 26 12.2 -0.1**
KTK1 *epP* pP 02 26 22.9 +0.5
KTK1 AMb AMB 02 26 24.7
comp=Z,169nm,1.4s,mb5.8
TRO Tromso 52.23 346 *eP* **P** **02 26 10.2 -2.7**
comp=Z,42nm,1.5s,mb5.2
TRO Tromso 52.23 346 *eP* **P** **02 26 10.2 -2.7**
TRO AMb AMB 02 26 20.5
comp=Z,42nm,1.5s,mb5.2
TRO *eS* **S** **02 33 36.5 +2.5**
TRO *eSS* SS 02 37 17.5 +7.5
TRO AMS AMS 02 53 53.5
comp=Z,651nm,18.8s,MS4.7
LRV Little Rabbit 52.33 79 *eP* **P** **02 26 14.3 +0.2**
LRV *epP* pP 02 26 24.8 +0.6
ELK Elko 52.34 71⇑*eP* **P** **02 26 14.1 0.0**
ELK *i* pP 02 26 24.4 +0.2
ELK pmax pmax
comp=Z,78nm,1.1s
ELK MLR MLR
comp=Z,1µm,20.0s
ELK Elko 52.34 71 P **P** **02 26 15.0 +0.9**
comp=Z,6.0nm,0.8s,mb4.5,baz=268,slow=23,SNR=18
ELK Elko 52.34 71⇑*eP* **P** **02 26 14.1 -0.1**
comp=Z,78nm,1.1s,mb5.5
ELK ⇓*ip*P pP 02 26 24.4 +0.2
ELK LR LR
comp=Z,1µm,20.0s,MS5.0
IMW Indian Meadow 52.34 65⇑*eP* **P** **02 26 14.1 0.0**
comp=Z,168nm,1.2s,mb5.8
IMW ⇓*epP* pP 02 26 24.3 +0.2
NVAR Mina Array Bea 52.36 75 P **P** **02 26 14.8 +0.6**
comp=Z,7.7nm,1.0s,mb4.6,baz=309,slow=5.7,SNR=41
NVAR LR LR 02 46 54.0
comp=Z,735nm,21.9s,MS4.7,baz=310,slow=34
DGMT Dagmar 52.43 57 *eP* **P** **02 26 14.2 -0.5**
comp=Z,52nm,0.7s,mb5.6
DGMT *epP* pP 02 26 23.5 -1.2
DGMT LR LR
comp=Z,2µm,19.0s,MS5.2
RRI2 Red Ridge 52.54 66 *eP* **P** **02 26 15.7 +0.1**
comp=Z,41nm,0.8s,mb5.4
RRI2 *epP* pP 02 26 25.6 -0.1
MOOW Moose Ponds 52.55 65⇑*eP* **P** **02 26 15.8 +0.1**
comp=Z,93nm,1.2s,mb5.6
MOOW ⇓*ip*P pP 02 26 25.2 -0.5
OMM Old Mammoth Mi 52.57 76⇑*iP* **P** **02 26 16.4 +0.6**
OMM ⇓*epP* pP 02 26 26.2 +0.3
TPAW Teton Pass 52.63 66⇑*eP* **P** **02 26 16.3 +0.1**
comp=Z,126nm,1.0s,mb5.8
TPAW ⇓*epP* pP 02 26 26.6 +0.3
LOHW Long Hollow 52.72 65⇑*iP* **P** **02 26 17.1 +0.2**
comp=Z,146nm,1.3s,mb5.8
LOHW ⇓*ip*P pP 02 26 27.0 0.0
LAO LASA Array 52.72 60⇑*eP* **P** **02 26 16.3 -0.6**
comp=Z,137nm,1.0s,mb5.8
LAO ⇓*ip*P pP 02 26 26.4 -0.6
LAO LR LR
comp=Z,1µm,20.0s,MS5.0
SNOW Snow King Moun 52.75 66⇑*eP* **P** **02 26 17.3 +0.1**
comp=Z,100nm,1.3s,mb5.6
SNOW ⇓*epP* pP 02 26 27.4 +0.2
REDW Red Top Meadow 52.77 66⇓*eP* **P** **02 26 16.6 -0.6**
comp=Z,116nm,1.3s,mb5.7
REDW ⇓*epP* pP 02 26 27.6 +0.3
HVU Hansel Valley 52.90 68 *eP* **P** **02 26 19.4 +1.0**
HVU ⇓*epP* pP 02 26 28.4 0.0
MTUM Tungsten Hills 53.00 76 *eP* **P** **02 26 20.1 +1.0**
MTUM *epP* pP 02 26 30.2 +1.0
ARU Arti 53.02 318⇓*iP* **P** **02 26 18.6 -0.4**
ARU *e* 02 27 22.5
ARU *e* 02 28 14.5
ARU *ePPP* PPP 02 29 22.0 -4.4
ARU *eS* **S** **02 33 48.0 +3.1**
ARU *eSS* SS 02 37 22.1 -1.3
ARU pmax pmax
comp=Z,88nm,1.1s,mb5.6
ARU MLR MLR
comp=Z,2µm,18.0s,MS5.3
ARU MLR MLR
comp=N,2µm,16.0s,MS5.4
ARU MLR MLR
comp=E,2µm,16.0s,MS5.4
ARU Arti 53.02 318⇓*iP* **P** **02 26 18.6 -0.4**
comp=E,85nm,1.0s,mb5.6
ARU *epP* pP 02 26 29.1 0.0
ARU LR LR
comp=Z,465nm,19.0s,MS4.5
AHID Auburn Hatcher 53.07 66⇓*eP* **P** **02 26 19.9 +0.4**
comp=Z,76nm,1.3s,mb5.5
AHID ⇑*epP* pP 02 26 29.6 0.0
AHID LR LR
comp=Z,2µm,20.0s,MS5.0
TPH Tonopah 53.20 75⇑*iP* **P** **02 26 20.7 +0.1**
TPH *e* pP 02 26 31.0 +0.3
TPH pmax pmax
comp=Z,215nm,1.2s,mb6.0
TPH MLR MLR
comp=Z,805nm,21.0s,MS4.8
TPH Tonopah 53.20 75⇑*iP* **P** **02 26 20.7 +0.1**
comp=Z,215nm,1.2s,mb6.0
TPH ⇓*epP* pP 02 26 31.0 +0.3
TPH LR LR
comp=Z,805nm,21.0s,MS4.8
JMIC Jan Mayen 53.22 357 LR LR 02 48 13.0
comp=Z,282nm,19.1s,MS4.3,baz=75,slow=35
JMIC Jan Mayen 53.22 357 AMS AMS 02 51 21.0
comp=Z,606nm,18.1s,MS4.7
SPUT South Promonto 53.41 69⇑*eP* **P** **02 26 22.0 -0.1**
SPUT ⇓*epP* pP 02 26 31.9 -0.3
HWUT Hardware Ranch 53.66 68⇑*eP* **P** **02 26 23.9 -0.1**
comp=Z,112nm,1.2s,mb5.7
HWUT ⇓*epP* pP 02 26 33.7 -0.3
HWUT LR LR
comp=Z,2µm,19.0s,MS5.1
BW06 Boulder Array 53.86 65⇑*eP* **P** **02 26 25.0 -0.4**
comp=Z,116nm,1.2s,mb5.7
BW06 ⇓*ip*P pP 02 26 34.9 -0.6
BW06 LR LR
comp=Z,1µm,21.0s,MS5.0
PDAR Pinedale Array 53.86 65 P **P** **02 26 25.1 -0.2**
comp=Z,12nm,1.0s,mb4.8,baz=315,slow=4.2,SNR=68
PDAR LR LR 02 49 45.9
comp=Z,989nm,20.6s,MS4.8,baz=341,slow=36
TRCR Troy Canyon 53.89 73⇑*eP* **P** **02 26 25.3 -0.3**
TRCR ⇓*epP* pP 02 26 35.7 0.0
KMI Kunming 53.89 262 P **P** **02 26 25.8 -0.1**
KMI AP pP 02 26 35.3 -0.7
KMI XP sP 02 26 39.3 -0.7
KMI PP PP 02 28 26.5 -2.1
KMI PPP PPP 02 29 35.5 -2.7
KMI S **S** **02 33 53.1 -4.0**
KMI XS 02 34 13.3
KMI SS SS 02 37 35.1 -2.7
KMI SSS SSS 02 39 27.6 -4.4
KMI AMB AMB
comp=Z,38nm,1.4s,mb5.1
KMI AMB AMB
comp=Z,288nm,4.6s
KMI LR LR
comp=N,5µm,17.0s,MS5.7
KMI LR LR
comp=E,3µm,17.7s,MS5.7
KMI LR LR
comp=Z,3µm,18.4s,MS5.4
NOQ North Oquirrh 54.06 69⇑*eP* **P** **02 26 26.9 0.0**
NOQ *epP* pP 02 26 37.1 +0.1
TCUT Toone Canyon 54.09 68 *eP* **P** **02 26 27.0 -0.1**
CTU Camp Tracy 54.22 69 *eP* **P** **02 26 28.1 +0.1**
CTU *epP* pP 02 26 38.0 -0.2
DAC Darwin (Calif) 54.31 77⇑*eP* **P** **02 26 28.8 0.0**
DAC *i* pP 02 26 38.8 -0.2
DAC pmax pmax
comp=Z,135nm,1.3s,mb5.7
DAC MLR MLR
comp=Z,1µm,20.0s,MS5.0
DAC Darwin (Calif) 54.31 77⇑*eP* **P** **02 26 28.8 0.0**
comp=Z,135nm,1.3s,mb5.7
DAC ⇓*ip*P pP 02 26 38.8 -0.1
DAC LR LR
comp=Z,1µm,20.0s,MS5.0
LOF Lofoten 54.35 347 *eP* **P** **02 26 27.3 -1.4**
comp=Z,89nm,1.3s,mb5.5
LOF Lofoten 54.35 347 *eP* **P** **02 26 27.3 -1.4**
LOF *epP* pP 02 26 37.8 -1.0
LOF AMb AMB 02 26 39.6
comp=Z,89nm,1.3s,mb5.5
JLU Jordanelle 54.44 69⇑*eP* **P** **02 26 29.7 0.0**
JLU *epP* pP 02 26 40.0 +0.1
SFJD Kangerlussuaq 54.53 16 *iP* **P** **02 26 27.1 -2.9**
SFJD *i* S **S** **02 34 03.8 -1.3**
SFJD pmax pmax
comp=Z,27nm,1.6s,mb5.0
SFJD MLR MLR
comp=Z,1µm,19.0s,MS5.0
SFJD Kangerlussuaq 54.53 16 *i* P **P** **02 26 27.1 -2.9**
comp=Z,27nm,1.6s,mb5.0
SFJD *i* S **S** **02 34 03.8 -1.3**
comp=Z,1µm,19.0s
TPNV Topopah Spring 54.55 75 PFAKE 02 26 40.0 +9.4
TPNV LR LR
comp=Z,7.0nm,22.0s
NLU North Lily Min 54.59 70⇑*eP* **P** **02 26 30.9 +0.1**
NLU ⇓*epP* pP 02 26 41.0 +0.1
DAU Daniels Canyon 54.68 69 *eP* **P** **02 26 32.0 +0.5**
DAU *e**PP pP 02 26 41.8 +0.2
MPU Maple Canyon 54.77 69⇑*eP* **P** **02 26 32.4 +0.2**
MPU *epP* pP 02 26 42.6 +0.3
ULM Lac du Bonnet 54.92 51 P **P** **02 26 32.8 -0.2**
comp=Z,6.3nm,0.8s,mb4.7,baz=312,slow=6.3,SNR=6.4
ULM LR LR 02 53 15.4
comp=Z,2µm,18.4s,MS5.1,baz=323,slow=40
QIZ Qiongzhong 54.92 251⇑*iP* **P** **02 26 35.1 +1.6**
QIZ AP pP 02 26 45.0 +1.3
QIZ XP sP 02 26 49.6 +2.0
QIZ S **S** **02 34 13.5 +2.4**
QIZ XS 02 34 30.5
QIZ AMB AMB
comp=Z,152nm,1.4s,mb5.8
QIZ AMB AMB
comp=Z,355nm,5.7s
QIZ LR LR
comp=N,1µm,19.0s,MS5.3
QIZ LR LR
comp=E,2µm,18.8s,MS5.3
QIZ Qiongzhong 54.92 251⇑*iP* **P** **02 26 35.0 +1.6**
comp=E,260nm,1.4s,mb6.1
TKM2 Tokmak 2 55.36 297 P **P** **02 26 36.2 -0.2**
SNR=14
ARUT Antelope Range 55.45 72 *eP* **P** **02 26 37.4 +0.3**
ARUT *e**SP sP 02 26 51.4 +0.2
ARUT Antelope Range 55.45 72 *eP* **P** **02 26 37.4 +0.4**
ARUT *epP* pP 02 26 47.3 0.0
ARUT *esP* sP 02 26 51.4 +0.2
TMUT Trail Mountain 55.52 69⇑*eP* **P** **02 26 37.9 +0.3**
TMUT ⇓*epP* pP 02 26 48.1 +0.4
MELSS Ber_school_2 55.53 347 *eP* **P** **02 26 36.1 -1.1**
ULHL Ulahol 55.53 296 P **P** **02 26 37.5 -0.1**
SNR=13
MVU Marysvale 55.58 71⇑*eP* **P** **02 26 38.4 +0.5**
comp=E,99nm,1.3s,mb5.7
MVU ⇓*epP* pP 02 26 48.8 +0.6
MVU LR LR
comp=Z,1µm,21.0s,MS4.9
MWC Mount Wilson 55.58 79⇑*iP* **P** **02 26 38.0 -0.1**
MWC ⇓*ipP* pP 02 26 48.1 -0.1
MSU Marysvale 55.59 71⇑*eP* **P** **02 26 38.5 +0.5**
MSU *e**PP pP 02 26 49.2 +1.0
RSSD Black Hills 55.64 61⇑*eP* **P** **02 26 37.6 -0.7**
RSSD *i* pP 02 26 47.5 -1.0
RSSD pmax pmax
comp=Z,151nm,1.4s,mb5.8
RSSD MLR MLR
comp=Z,380nm,22.0s,MS4.4
RSSD Black Hills 55.64 61⇑*eP* **P** **02 26 37.6 -0.7**
comp=Z,151nm,1.4s,mb5.8
RSSD ⇓*ipP* pP 02 26 47.5 -1.0
RSSD LR LR
comp=Z,380nm,22.0s,MS4.4
USP Ospenovka 55.66 298 P **P** **02 26 38.6 +0.1**
SNR=33
CHMS Chumysh 55.73 297 P **P** **02 26 38.7 -0.3**
SNR=15
RWWY Rawlins 55.84 65⇑*iP* **P** **02 26 39.1 -0.7**
comp=Z,133nm,1.2s,mb5.8
RWWY ⇓*ipP* pP 02 26 49.3 -0.7
FRU Bishkek 55.92 297 *eP* **P** **02 26 40.0 -0.3**
FRU *e* pP 02 26 52.2 +1.6
SRU San Rafael 56.02 69⇑*eP* **P** **02 26 41.2 +0.1**
SRU *e**PP pP 02 26 51.6 +0.3
MOR8 Moi Rana 56.09 346 *eP* **P** **02 26 38.4 -2.8**
comp=Z,59nm,1.0s,mb5.6
MOR8 Moi Rana 56.09 346 *eP* **P** **02 26 38.4 -2.8**
MOR8 *epP* pP 02 26 49.3 -2.2
MOR8 AMb AMB 02 26 50.9
comp=Z,59nm,1.0s,mb5.6
AAK Ala-Archa 56.13 297 P **P** **02 26 42.2 +0.3**
SNR=15
AAK Ala-Archa 56.13 297*ciP* **P** **02 26 40.8 -1.0**
AAK pmax pmax
comp=Z,61nm,1.2s,mb5.5
AAK MLR MLR
comp=Z,2µm,13.0s,MS5.3
AAK Ala-Archa 56.13 297⇑*iP* **P** **02 26 40.6 -1.3**
comp=Z,72nm,0.9s,mb5.7
AAK LR LR
comp=Z,564nm,21.0s,MS4.6
KZA Kyzart 56.16 296 P **P** **02 26 43.1 +1.0**
SNR=14
NEN Nelson 56.27 75 *eP* **P** **02 26 43.0 0.0**
NEN *epP* pP 02 26 53.5 +0.2
UCH Uchtor 56.42 297 P **P** **02 26 44.2 +0.3**
SNR=17
LDFC Landfair 56.56 76⇑*eP* **P** **02 26 44.8 -0.3**
LDFC *epP* pP 02 26 54.7 -0.5
LDFC *e* 02 27 00.6
LSA Lhasa 56.85 275 P **P** **02 26 48.4 +1.2**

LSA PP PP 02 28 55.3 +0.2
LSA S **S** **02 34 32.9 -3.7**
LSA AMB AMB
comp=Z,100nm,1.0s,mb5.8
LSA AMB AMB
comp=Z,250nm,5.0s
LSA LR LR
comp=N,2µm,19.0s,MS5.4
LSA LR LR
comp=E,2µm,21.0s,MS5.4
LSA LR LR
comp=Z,910nm,19.0s,MS4.9
LSA Lhasa 56.85 275⇑ *i* P **P** **02 26 48.1 +0.9**
LSA *e**PP pP 02 26 58.2 +0.8
LSA pmax pmax
comp=Z,111nm,0.9s,mb5.9
LSA Lhasa 56.85 275⇑ *i* P **P** **02 26 48.1 +0.8**
comp=Z,111nm,0.9s,mb5.9
LSA *e*pP pP 02 26 58.2 +0.8
AML Almayashu 56.90 297 P **P** **02 26 48.0 +0.6**
SNR=19
PFO Pinyon Flat Ob 56.92 78⇑ *e*P **P** **02 26 47.1 -0.6**
PFO *e**PP pP 02 26 57.4 -0.5
PFO pmax pmax
comp=Z,67nm,1.3s,mb5.5
PFO MLR MLR
comp=Z,278nm,20.0s,MS4.4
PFO Pinyon Flat Ob 56.92 78⇑ *e*P **P** **02 26 47.1 -0.6**
comp=Z,67nm,1.3s,mb5.5
PFO *e*pP pP 02 26 57.4 -0.5
PFO LR LR
comp=Z,278nm,20.0s,MS4.4
PHWY Pilot Hill 57.01 64 *e*P **P** **02 26 48.1 -0.1**
PHWY *e*pP pP 02 26 57.6 -0.9
BAR Barrett 57.50 79 *e*P **P** **02 26 51.7 -0.1**
BAR *e*pP pP 02 27 01.4 -0.6
KSH Kashi 57.69 294 *e*P **P** **02 26 53.6 +0.6**
KSH *e*AP pP 02 27 04.0 +0.8
KSH *e*XP sP 02 27 08.2 +1.1
KSH *e*PP PP 02 29 03.0 +0.4
KSH *e*PCS 02 31 46.1
KSH *e*S **S** **02 34 46.4 -1.1**
KSH *e*XS 02 35 01.3
KSH *e*SCS ScS 02 36 36.5 +0.4
KSH AMB AMB
comp=Z,490nm,3.6s
KKAR Karatay Array 57.74 300 *i* P **P** **02 26 52.8 -0.5**
KKAR pmax pmax
comp=Z,103nm,1.1s,mb5.8
KAF Kangasniemi 57.80 338 *e*p **P** **02 26 52.1 -1.4**
comp=Z,54nm,1.2s,mb5.5,baz=23,slow=6.7
KAF Kangasniemi 57.80 338 *e*p pP 02 27 03.0 -0.7
comp=Z,92nm,1.4s,baz=23,slow=6.8
KAF Kangasniemi 57.80 338 *e*P **P** **02 26 52.1 -1.4**
KAF pmax pmax
comp=Z,54nm,1.2s,mb5.5
AB31 Akbulak array 57.88 312 P **P** **02 26 53.7 -0.5**
AB31 pmax pmax
comp=Z,28nm,0.9s,mb5.3
NSS Namsos 57.98 346 *e*P **P** **02 26 52.9 -1.8**
comp=Z,34nm,1.8s,mb5.1
NSS Namsos 57.98 346 *e*P **P** **02 26 52.9 -1.8**
NSS *e*pP pP 02 27 03.0 -1.9
NSS AMb AMB 02 27 03.5
comp=Z,34nm,1.8s,mb5.1
ISCO Idaho Springs 58.05 65⇑ *e*P **P** **02 26 56.0 +0.5**
ISCO *e**PP pP 02 27 05.6 -0.1
ISCO pmax pmax
comp=Z,166nm,1.3s,mb5.9
ISCO MLR MLR
comp=Z,3µm,21.0s,MS5.3
ISCO Idaho Springs 58.05 65⇑ *e*P **P** **02 26 56.0 +0.4**
comp=Z,166nm,1.3s,mb5.9
ISCO *e*pP pP 02 27 05.6 -0.2
ISCO LR LR
comp=Z,3µm,21.0s,MS5.3
PECR Pechory 58.14 326 *i* P **P** **02 26 55.0 -0.9**
PECR pmax pmax
comp=Z,280nm,2.0s,mb6.0
PECR pmax pmax
comp=Z,400nm,4.0s
FINES FINESS Array B 58.45 338 P **P** **02 26 56.5 -1.6**
FINES pmax pmax
comp=Z,15nm,0.9s
FINES MLR MLR
comp=Z,1µm,18.2s
FINES FINESS Array B 58.45 338 P **P** **02 26 56.5 -1.5**
comp=Z,15nm,0.9s,mb5.0,baz=34,slow=6.9,SNR=36
FINES LR LR 02 56 31.4
comp=Z,1µm,18.2s,MS5.0,baz=42,slow=41
FINES FINESS Array B 58.45 338 P **P** **02 26 56.5 -1.5**
FINES LR LR 02 56 31.4
PUL Pulkovo 59.01 335 *i* P **P** **02 27 10.5 +8.6**
PUL *i* S **S** **02 34 52.8 -12**
PUL pmax pmax
comp=Z,139nm,0.6s,mb6.2
PUL pmax pmax
comp=N,157nm,0.6s
PUL pmax pmax
comp=Z,151nm,0.6s,mb6.2
PUL MLR MLR
comp=Z,1µm,18.0s,MS5.0
PUL MLR MLR
comp=N,752nm,15.0s
PUL MLR MLR
comp=E,2µm,21.0s
PUL Pulkovo 59.01 335 *i* P **P** **02 27 01.8 -0.1**
SHL Shillong 59.62 271 *i* P **P** **02 27 06.0 -0.7**
comp=E,361nm,1.3s,mb6.2
SHL *e*S **S** **02 35 15.0 +2.1**
SDCO Great Sand Dun 59.66 67 *e*P **P** **02 27 06.9 +0.1**
comp=E,83nm,1.6s,mb5.5
SDCO *e*pP pP 02 27 17.2 +0.3
SDCO LR LR
comp=Z,2µm,19.0s,MS5.2
MOL Molde 60.42 348 *e*P **P** **02 27 11.0 -0.7**
MOL *e*pP pP 02 27 21.2 -0.7
MOS Moscow 60.59 329 *e*P **P** **02 27 10.9 -2.0**
MOS *i* pP 02 27 23.1 0.0
MOS *e* 02 27 51.7
MOS *e* 02 29 27.8
MOS *e*S **S** **02 35 28.2 +3.3**
MOS MLR MLR
comp=Z,1µm,15.6s,MS5.2
MOS MLR MLR
comp=N,2µm,14.5s
TUC Tucson 61.00 75 *e*P **P** **02 27 15.6 -0.4**
TUC *e**PP pP 02 27 24.9 -1.3
TUC pmax pmax
comp=Z,23nm,1.3s,mb5.2
TUC MLR MLR
comp=Z,849nm,19.0s,MS4.9
TUC Tucson 61.00 75 *e*P **P** **02 27 15.6 -0.3**
comp=Z,23nm,1.3s,mb5.2
TUC *e*pP pP 02 27 24.9 -1.3
TUC LR LR
comp=Z,849nm,19.0s,MS4.9
VSU Vasula 61.01 336 *d i* P **P** **02 27 14.7 -1.0**
VSU Vasula 61.01 336 *i* P **P** **02 27 14.7 -1.0**
GUN Gumba 61.16 278 *e*P **P** **02 27 17.2 +0.1**
comp=Z,260nm,0.5s
ANMO Albuquerque 61.29 69 *e*P **P** **02 27 17.4 -0.5**
ANMO *e* pP 02 27 27.7 -0.4
ANMO pmax pmax
comp=Z,16nm,1.0s
ANMO MLR MLR
comp=Z,849nm,20.0s
ANMO Albuquerque 61.29 69 *e*P **P** **02 27 17.4 -0.4**
comp=Z,16nm,1.0s,mb5.1
ANMO ⇓*e*pP pP 02 27 27.7 -0.4
ANMO LR LR
comp=Z,849nm,20.0s,MS4.9
CM31 Chiang Mai Arr 61.31 260⇑ *i* P **P** **02 27 18.7 +0.4**
comp=Z,68nm,0.8s,mb5.8
CM31 LR LR
comp=Z,2µm,20.0s,MS5.3
CMAR Chiang Mai Arr 61.31 260 P **P** **02 27 18.7 +0.4**
CMAR pmax pmax
comp=Z,52nm,0.8s
CMAR MLR MLR
comp=Z,2µm,20.0s
CMAR Chiang Mai Arr 61.31 260 P **P** **02 27 18.7 +0.5**
comp=Z,52nm,0.8s,mb5.7,baz=20,slow=7.3,SNR=171
CMAR LR LR 02 55 13.9
comp=Z,2µm,20.0s,MS5.3,baz=35,slow=37

NB2 NORSAR Subarra 61.44 346 P **P** **02 27 17.2 -1.3**
comp=Z,32nm,1.0s,mb5.4,baz=17,slow=7.0
NB2 NORSAR Subarra 61.44 346 P **P** **02 27 17.2 -1.3**
NB2 pmax pmax
comp=Z,32nm,1.0s,mb5.4
NB2 NORSAR Subarra 61.44 346 P **P** **02 27 17.2 -1.3**
baz=17,slow=6.9
NOA NORSAR Array B 61.44 346 P **P** **02 27 17.2 -1.3**
NOA pmax pmax
comp=Z,16nm,1.0s
NOA MLR MLR
comp=Z,360nm,19.0s
NOA NORSAR Array B 61.44 346 P **P** **02 27 17.2 -1.3**
comp=Z,16nm,1.0s,mb5.1,baz=17,slow=6.8,SNR=33
NOA LR LR 02 59 18.0
comp=Z,360nm,19.0s,MS4.5,slow=41
OBN Obninsk 61.44 329 *d i* P **P** **02 27 17.3 -1.3**
OBN *e* *i* S **S** **02 35 35.1 -0.6**
OBN *e*SS SS 02 39 31.2 -6.9
OBN pmax pmax
comp=Z,76nm,2.1s,mb5.5
OBN MLR MLR
comp=Z,1µm,17.0s,MS5.1
OBN Obninsk 61.44 329 ⇓ *i* P **P** **02 27 17.1 -1.5**
comp=Z,160nm,1.6s,mb5.9
OBN *e*pP pP 02 27 27.9 -0.9
OBN LR LR
comp=Z,335nm,20.0s,MS4.5
KKN Kakani 61.59 278 *e*P **P** **02 27 20.0 0.0**
comp=Z,239nm,0.7s
KKN Kakani 61.59 278 *e*P **P** **02 27 20.0 0.0**
KKN pmax pmax
comp=Z,119nm,0.7s,mb6.1
NAO01 NORSAR Array S 61.67 346⇑ *i* P **P** **02 27 18.8 -1.2**
comp=Z,45nm,1.2s,mb5.5
NAO01 *e*pP pP 02 27 28.5 -1.8
NAO01 LR LR
comp=Z,809nm,19.0s,MS4.9
PKI Pulchoki 61.69 278 *e*P **P** **02 27 20.6 -0.1**
comp=Z,325nm,0.8s
PKI Pulchoki 61.69 278 *e*P **P** **02 27 20.6 -0.1**
PKI pmax pmax
comp=Z,163nm,0.8s,mb6.2
CBKS Cedar Bluff 61.76 62 *e*P **P** **02 27 19.7 -1.3**
CBKS *e**PP pP 02 27 30.4 -0.8
CBKS pmax pmax
comp=Z,57nm,1.0s,mb5.7
CBKS MLR MLR
comp=Z,1µm,20.0s,MS5.1
CBKS Cedar Bluff 61.76 62 *e*P **P** **02 27 19.7 -1.3**
comp=Z,56nm,1.0s,mb5.7
CBKS *e*pP pP 02 27 30.4 -0.8
CBKS LR LR
comp=Z,1µm,20.0s,MS5.1
GKN Gorkha 61.78 279 *e*P **P** **02 27 21.1 -0.2**
comp=Z,583nm,1.1s
BNM Barren Site 61.81 70 *e*P **P** **02 27 21.9 +0.5**
BNM *e*pP pP 02 27 32.8 +1.2
BNM *e*PP PP 02 29 46.0 +6.3
SCHQ Schefferville 61.83 31 P **P** **02 27 19.6 -1.5**
comp=Z,3.0nm,0.8s,mb4.5,baz=354,slow=9.1,SNR=5.9
SCHQ LR LR 02 58 39.9
comp=Z,1µm,18.5s,MS5.0,baz=327,slow=40
SCHQ Schefferville 61.83 31 *e*P **P** **02 27 19.1 -2.1**
comp=Z,30nm,1.2s,mb5.3
SCHQ *e*pP pP 02 27 28.4 -3.1
SCHQ LR LR
comp=Z,2µm,20.0s,MS5.2
DMN Daman 61.83 278 *e*P **P** **02 27 21.8 +0.2**
comp=Z,619nm,1.4s
HFS Hagfors 61.94 344 P **P** **02 27 20.2 -1.7**
HFS pmax pmax
comp=Z,5.0nm,0.6s
HFS MLR MLR
comp=Z,634nm,19.1s
HFS Hagfors 61.94 344 P **P** **02 27 20.2 -1.7**
comp=Z,5.4nm,0.6s,mb4.8,baz=34,slow=5.3,SNR=34
HFS LR LR 02 58 29.3
comp=Z,634nm,19.1s,MS4.8,baz=28,slow=40
KOLN Koldanda 62.54 279 *e*P **P** **02 27 26.1 -0.3**
comp=Z,260nm,0.8s,mb6.4
KKM Kota Kinabalu 62.77 237⇑ *e*P **P** **02 27 28.9 +0.7**
KKM Kota Kinabalu 62.77 237 P **P** **02 27 30.9 +2.7**
BER Bergen 62.81 349 *e*S **S** **02 35 55.8 +2.9**
BER *e*SS SS 02 40 00.5 +0.5
BER AMS AMS 03 01 38.8
comp=Z,538nm,16.5s,MS4.8
KONO Kongsberg 63.00 346 ⇓ *i* P **P** **02 27 27.5 -1.5**
KONO *e**PP pP 02 27 37.7 -1.6
KONO pmax pmax
comp=Z,67nm,1.4s,mb5.6
KONO MLR MLR
comp=Z,494nm,20.0s,MS4.7
KONO Kongsberg 63.00 346 ⇓ *i* P **P** **02 27 27.5 -1.5**
comp=Z,67nm,1.4s,mb5.6
KONO *e*pP pP 02 27 37.7 -1.5
KONO LR LR
comp=Z,494nm,20.0s,MS4.7
KONO Kongsberg 63.00 346 *e*S **S** **02 35 56.4 +1.2**
KONO *e* 03 00 27.4
KSU1 Kansas State U 63.07 60 *e*P **P** **02 27 27.7 -2.1**
KSU1 *e*pP pP 02 27 38.2 -1.8
THN Thein Dam 63.21 289 *e*P **P** **02 27 33.8 +3.0**
SDNR Sundarnagar 63.27 287 *e*P **P** **02 27 29.4 -1.8**
SMLA Simla 63.45 287 ‖ *i* **P** **02 27 25.7 -6.7**
TSM Tawau 63.55 234 P **P** **02 27 36.4 +3.2**
DDI Dehra Dun 63.60 285 *e*P **P** **02 27 33.0 -0.3**
AMTX Amarillo 63.82 66 *e*P **P** **02 27 33.7 -1.0**
comp=Z,9.5nm,0.8s,mb4.9
AMTX LR LR
comp=Z,658nm,21.0s,MS4.8
MNTX Cornudas Mount 64.37 71⇑ *e*P **P** **02 27 37.8 -0.5**
comp=Z,46nm,1.1s,mb5.4
MNTX *e*pP pP 02 27 48.6 0.0
MNTX LR LR
comp=Z,682nm,20.0s,MS4.8
GDL2 Guadalupe Moun 64.52 70 *e*P **P** **02 27 39.0 -0.2**
CLNB Carlsbad 64.72 69 *e*P **P** **02 27 40.7 +0.2**
HNR Honiara 65.30 185 PFAKE 02 28 00.0 +15
HNR LR LR
comp=Z,1µm,20.0s,MS5.1
NDI New Delhi 65.33 285 *e*P **P** **02 27 42.5 -2.0**
WMOK Wichita Mounta 65.42 64‖ *e*P **P** **02 27 43.7 -1.2**
WMOK pmax pmax
comp=Z,63nm,1.4s,mb5.5
WMOK MLR MLR
comp=Z,2µm,20.0s,MS5.2
WMOK Wichita Mounta 65.42 64⇑ *e*P **P** **02 27 43.7 -1.2**
comp=Z,63nm,1.4s,mb5.5
WMOK LR LR
comp=Z,2µm,20.0s,MS5.2
ALBI Allahabad 65.46 279 *e* **P** **02 27 42.0 -3.4**
SUW Suwalki 65.89 336 *e*P **P** **02 27 46.8 -0.8**
SUW *e*pP pP 02 27 57.7 -0.3
SUW *e*S S 02 36 24.1 -6.7
SUW Suwalki 65.89 336 *e*P **P** **02 27 46.8 -0.9**
SUW *e*pP pP 02 27 57.7 -0.3
SUW *e*S S 02 36 24.1 -6.7
SUW MLR MLR 02 54 11.2
comp=Z,1µm,27.4s,MS5.0
SADO Sadowa 66.19 44 P **P** **02 27 48.8 -0.9**
comp=Z,5.7nm,1.2s,mb4.5,baz=359,slow=5.8,SNR=2.7
AAM Ann Arbor 66.40 49 PFAKE 02 28 00.0 +9.0
AAM LR LR
comp=Z,755nm,20.0s,MS4.9
CCM Cathedral Cave 66.45 57 *e*P **P** **02 27 50.6 -0.9**
CCM *e**PP pP 02 28 00.4 -1.5
CCM pmax pmax
comp=Z,46nm,1.2s,mb5.4
CCM MLR MLR
comp=Z,324nm,19.0s,MS4.6
CCM Cathedral Cave 66.45 57 *e*P **P** **02 27 50.6 -0.9**
comp=Z,46nm,1.2s,mb5.4
CCM *e*pP pP 02 28 00.4 -1.5
CCM LR LR
comp=Z,324nm,19.0s,MS4.6
BSD Bornholm Skovb 66.52 342 *i* P pP 02 28 02.0 0.0
BSD pmax pmax
comp=Z,15nm,1.1s,mb4.9
BSD Bornholm Skovb 66.52 342 *i* P pP 02 28 02.0 0.0
comp=Z,15nm,1.1s
KAC Achnashellach 66.56 354 *e*P **P** **02 27 51.6 -0.2**
KAC AMb AMB 02 28 01.4
comp=Z,31nm,1.6s,mb5.1

PMG Port Moresby 66.76 199 *e*P **P** **02 27 53.4 -0.4**
PMG *e**PP pP 02 28 04.6 +0.4
PMG MLR MLR
comp=Z,953nm,22.0s
KSB Sheil Bridge 66.86 354 *e*P **P** **02 27 52.9 -0.8**
KSB AMb AMB 02 28 03.8
comp=Z,30nm,1.8s,mb5.0
FVM French Village 66.89 56 ⇓ *i* P **P** **02 27 53.4 -0.9**
FVM *e**PP pP 02 28 02.9 -1.8
FVM pmax pmax
comp=Z,28nm,0.7s,mb5.4
FVM French Village 66.89 56 ⇓ *i* P **P** **02 27 53.4 -0.8**
comp=Z,28nm,0.7s,mb5.4
FVM *e*pP pP 02 28 02.9 -1.8
LTX Lajitas 67.14 71 ⇓ *i* P **P** **02 27 56.5 +0.6**
LTX pmax pmax
comp=Z,26nm,0.8s,mb5.3
LTX MLR MLR
comp=Z,1µm,20.0s,MS5.1
LTX Lajitas 67.14 71 ⇓ *i* P **P** **02 27 56.5 +0.5**
comp=Z,26nm,0.8s,mb5.3
LTX LR LR
comp=Z,1µm,20.0s,MS5.1
TXAR Lajitas Array 67.14 71 P **P** **02 27 56.1 +0.2**
TXAR pmax pmax
comp=Z,7.0nm,0.7s
TXAR Lajitas Array 67.14 71 P **P** **02 27 56.1 +0.1**
comp=Z,6.5nm,0.7s,mb4.8,baz=297,slow=4.6,SNR=52
KAR1 Arisaig 67.17 354 *e*P **P** **02 27 55.6 0.0**
KAR1 AMb AMB 02 27 57.1
comp=Z,52nm,1.7s,mb5.3
AKASG Malin Array Be 67.41 331 P **P** **02 27 55.7 -1.6**
AKASG 02 30 31.5
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 67.41 331 P **P** **02 27 55.7 -1.6**
comp=Z,1.9nm,0.4s,mb4.5,baz=25,slow=6.2,SNR=32
AKASG PP PP 02 30 31.5 +3.7
comp=Z,4.7nm,0.9s,baz=19,slow=9.6,SNR=6.2
AKASG Malin Array Be 67.41 331 P **P** **02 27 55.7 -1.6**
AKASG PP PP 02 30 31.5 +3.7
GOF Gofitskoye 67.97 319⇑ *i* P **P** **02 27 59.7 -1.2**
GOF *i* pP 02 28 09.4 -1.9
GOF *e* 02 30 33.0
GOF pmax pmax
comp=Z,90nm,1.7s,mb5.5
WAR Warsaw 68.02 337 *e*P **P** **02 28 02.1 +1.0**
WAR *e*pP pP 02 28 12.6 +1.1
WAR *e*S S 02 37 00.5 +4.0
WAR LR LR
comp=Z,1µm,27.3s,MS5.0
WAR Warsaw 68.02 337 *e*P **P** **02 28 02.1 +1.0**
WAR *e*pP pP 02 28 12.6 +1.1
WAR *e*S S 02 37 00.5 +4.0
WAR MLR MLR 02 56 30.5
comp=Z,1µm,27.3s,MS5.0
PARMO Parma 68.28 56 *e*P **P** **02 28 03.0 0.0**
PARMO *e*pP pP 02 28 12.8 -0.6
GENY Geneseo 68.39 45 P **P** **02 28 00.7 -2.9**
GENY *e*pP pP 02 28 11.6 -2.4
ALLY Alegheny Colle 68.40 47 P **P** **02 28 02.8 -0.8**
ALLY *e*pP pP 02 28 12.1 -2.0
BSEG Bad Segeberg 68.42 344 P **P** **02 28 03.5 0.0**
BSEG pmax pmax
comp=Z,65nm,1.6s,mb5.4
BSEG Bad Segeberg 68.42 344 *e*P **P** **02 28 03.5 0.0**
AJM Ajmer 68.46 286 *e*P **P** **02 28 03.5 -0.8**
AJM AMb AMB 02 28 06.4
comp=Z,79nm,1.3s,mb5.6
UALR University of 68.57 59 *e*P **P** **02 28 04.0 -0.9**
comp=Z,15nm,0.9s,mb4.9
UALR *e*pP pP 02 28 13.1 -2.1
EKA Eskdalemuir Ar 68.58 353 P **P** **02 28 04.0 -0.5**
EKA pmax pmax
comp=Z,8.0nm,1.0s
EKA Eskdalemuir Ar 68.58 353 P **P** **02 28 04.0 -0.6**
comp=Z,7.9nm,1.0s,mb4.6,baz=16,slow=5.8,SNR=7.9
PQI Presque Isle 68.59 36 PFAKE 02 28 20.0 +15
PQI LR LR
comp=Z,6µm,19.0s,MS5.9
ESK Eskdalemuir 68.60 353 *e*P **P** **02 28 03.5 -1.1**
ESK *e**PP pP 02 28 14.7 -0.4
ESK MLR MLR
comp=Z,147nm,20.0s,MS4.2
NCB Newcomb 68.75 42 *e*P **P** **02 28 06.0 +0.3**
comp=Z,14nm,0.9s,mb4.9
NCB LR LR
comp=Z,1µm,22.0s,MS5.0
GLAT Glass 68.82 56 *e*P **P** **02 28 04.4 -2.0**
GLAT *e*pP pP 02 28 17.1 +0.4
UTMT University of 68.95 56 *e*P **P** **02 28 07.3 +0.1**
comp=Z,135nm,1.3s,mb5.7
UTMT *e*pP pP 02 28 18.1 +0.5
KIV Kislovodsk 69.05 319 *e*P **P** **02 28 08.3 +0.7**
KIV *e* 02 28 32.1
KIV *e* 02 30 40.3
KIV *i* S S 02 37 14.2 +5.3
KIV pmax pmax
comp=N,12nm,1.2s
KIV pmax pmax
comp=Z,13nm,1.2s,mb4.7
KIV smax
comp=N,167nm,4.1s
KIV smax
comp=E,220nm,4.1s
KIV MLR MLR
comp=Z,985nm,15.0s,MS5.2
KIV MLR MLR
comp=E,798nm,19.0s
KIV Kislovodsk 69.05 319 *e*P **P** **02 28 04.3 -3.3**
comp=E,28nm,0.9s,mb5.2
KIV LR LR
comp=Z,332nm,22.0s,MS4.5
ACCN Adirondack Com 69.46 41 *e*P **P** **02 28 06.7 -3.4**
BHPL Bhopal 69.52 281 *e*P **P** **02 28 10.3 -0.5**
BHPL AMb AMB 02 28 12.8
comp=Z,138nm,1.3s,mb5.7
KSM Kuching 69.59 240 *e*P **P** **02 28 12.9 +1.5**
KSM *e*pP pP 02 28 23.7 +1.9
BINY Binghamton 69.59 44 P **P** **02 28 12.0 +1.0**
comp=Z,18nm,1.2s,mb4.9
BINY *e*pP pP 02 28 20.0 -1.4
WVT Waverly 69.61 55 *e*P **P** **02 28 11.3 +0.1**
WVT *e**PP pP 02 28 20.9 -0.7
WVT pmax pmax
comp=Z,16nm,0.8s,mb5.0
WVT MLR MLR
comp=Z,953nm,20.0s,MS5.0
WVT Waverly 69.61 55 *e*P **P** **02 28 11.3 +0.1**
comp=Z,16nm,0.8s,mb5.0
WVT *e*pP pP 02 28 20.9 -0.7
WVT LR LR
comp=Z,953nm,20.0s,MS5.0
ZEI Tsey 69.61 318 *e*P **P** **02 28 09.4 -1.7**
ZEI *i* *PP pP 02 28 21.2 -0.3
ZEI *i* 02 30 42.6
ZEI pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
HPK Haverah Park 69.83 351 *e*P **P** **02 28 11.9 -0.3**
HPK AMb AMB 02 28 12.8
comp=Z,191nm,1.6s,mb5.8
NATX Nacogdoches 69.86 63 *e*P **P** **02 28 10.4 -2.4**
comp=Z,33nm,0.8s,mb5.3
NATX LR LR
comp=Z,1µm,19.0s,MS5.2
WVL Waterville 69.88 38 PFAKE 02 28 20.0 +7.3
WVL LR LR
comp=Z,4µm,20.0s,MS5.6
DUS Dusheti 69.89 317 P pP 02 28 23.8 +0.6
ONI Oni 69.94 318 P **P** **02 28 13.1 0.0**
KWP Kalwaria 70.06 335 *e*P **P** **02 28 14.2 +0.5**
KWP *e* 02 28 34.4
KWP *e*S S 02 37 26.7 +5.9
KWP MLR MLR
comp=Z,2µm,25.1s,MS5.1
KWP Kalwaria 70.06 335 *e*P **P** **02 28 14.2 +0.5**
KWP *e*pP pP 02 28 19.9 -4.2
KWP *e*PcP PcP 02 28 34.4 -1.5
KWP *e*S S 02 37 26.7 +5.9
KWP Kalwaria 70.06 335 *e*P **P** **02 28 14.2 +0.5**
KWP *e*pP pP 02 28 19.9 -4.2
KWP *e*PcP PcP 02 28 34.4 -1.5

KWP eS S 02 37 26.7 +5.9
KWP MLR MLR 02 58 59.5
comp=Z,2µm,25.1s,MS5.1
TI2 Plekhanov 70.17 316 eP pP 02 28 23.0 -1.9
TI2 eS S 02 37 23.0 +0.8
ANN Anapa 70.17 323 eP **P** **02 28 20.3 +5.9**
ANN pmax pmax
comp=Z,54nm,1.2s,mb5.3
ANN MLR MLR
comp=N,3µm,21.0s,MS5.8
ANN MLR MLR
comp=E,6µm,21.0s,MS5.8
ANN MLR MLR
comp=Z,3µm,21.0s,MS5.5
TBLG Delisi 70.18 316 P **P** **02 28 14.6 +0.1**
TBLG Delisi 70.18 316 P pP 02 28 24.4 -0.6
OJC Ojcow 70.18 337⇓ iP **P** **02 28 14.7 +0.3**
OJC eSP sP 02 28 25.8 -2.7
OJC eS S 02 37 23.0 +0.8
OJC MLR MLR 03 00 31.2
comp=Z,1µm,20.6s,MS5.1
MTA Mtatsminda 70.19 316 P **P** **02 28 14.7 +0.1**
OXF Oxford 70.19 58 P **P** **02 28 15.1 +0.3**
OXF pmax pmax
comp=Z,150nm,1.2s,mb5.8
OXF Oxford 70.19 58⇑ eP **P** **02 28 13.6 -1.2**
comp=Z,155nm,1.3s,mb5.8
OXF epP pP 02 28 24.6 -0.5
OXF LR LR
comp=Z,989nm,20.0s,MS5.1
MCWV Mont Chateau 70.19 48 PFAKE 02 28 30.0 +15
MCWV LR LR
comp=Z,1µm,22.0s,MS5.1
KSP Ksiaz 70.33 339⇓ eP **P** **02 28 15.5 +0.2**
KSP eS S 02 37 22.5 -1.4
KSP eSS SS 02 41 49.0 -7.3
KSP eSSS SSS 02 45 06.0 +4.3
KSP MLR MLR
comp=Z,2µm,24.2s,MS5.3
KSP Ksiaz 70.33 339⇓ eP **P** **02 28 15.5 +0.2**
KSP epP pP 02 28 21.1 -4.6
KSP eS S 02 37 22.5 -1.4
KSP eSS SS 02 41 49.0 -7.3
KSP eSSS SSS 02 45 06.0 +4.3
KSP LR LR
comp=Z,2µm,24.2s,MS5.3
KSP Ksiaz 70.33 339 eP **P** **02 28 15.5 +0.2**
KSP epP pP 02 28 21.6 -4.1
KSP ePP PP 02 30 46.6 -6.4
KSP MLR MLR 02 58 35.7
comp=Z,2µm,25.3s,MS5.2
PLAL Pickwick Lake 70.43 56⇑ eP **P** **02 28 15.1 -1.1**
comp=Z,35nm,0.8s,mb5.3
PLAL epP pP 02 28 25.5 -1.1
PLAL LR LR
comp=Z,876nm,19.0s,MS5.0
CLZ Clausthal 70.44 343 P **P** **02 28 16.2 +0.3**
CLZ pmax pmax
comp=Z,55nm,1.3s,mb5.3
CLZ Clausthal 70.44 343 eP **P** **02 28 16.2 +0.3**
comp=Z,55nm,1.3s,mb5.3
SOC Sochi 70.45 321 eP **P** **02 28 12.6 -3.5**
SOC e 02 30 50.5
SOC ePPP PPP 02 32 41.5 +6.8
SOC eS S 02 37 20.9 -4.5
SOC eSP SP 02 37 54.7 +1.7
SOC pmax pmax
comp=Z,52nm,2.1s,mb5.1
SOC pmax pmax
comp=N,10.0nm,0.5s
SOC pmax pmax
comp=E,24nm,1.7s
SOC MLR MLR
comp=Z,2µm,18.0s,MS5.4
SOC MLR MLR
comp=N,1µm,15.0s,MS5.4
SOC MLR MLR
comp=E,1µm,15.0s,MS5.4
EMMW East Machias 70.50 37 PFAKE 02 28 30.0 +14
EMMW LR LR
comp=Z,6µm,21.0s,MS5.8
CLL Collm 70.51 342⇓ iP **P** **02 28 15.8 -0.6**
CLL *i* *SP sP 02 28 30.2 -0.3
CLL pmax pmax
comp=Z,39nm,1.5s,mb5.1
CLL Collm 70.51 342⇓ *i* P **P** **02 28 15.8 -0.6**
comp=Z,39nm,1.5s,mb5.1
CLL *i* pP pP 02 28 25.8 -0.9
CLL *i* sP sP 02 28 30.2 -0.3
CLL Collm 70.51 342 ⇓P **P** **02 28 15.8 -0.6**
comp=Z,logA/T=1.4,mb5.1
CLL *i* *PP pP 02 28 25.8 -0.9
CLL *i* *SP sP 02 28 30.2 -0.3
CLL ePP PP 02 30 48.0 -6.6
CLL e 02 31 19.0
CLL e 02 32 25.0
CLL ePPP PPP 02 32 50.0 +15
CLL eS S 02 37 24.0 -1.9
CLL e*SS 02 37 50.0
CLL eSSS SSS 02 45 18.0 +13
KBI1 Birley Grange 70.52 351 eP **P** **02 28 16.2 -0.2**
KBI1 AMb AMB 02 28 19.4
comp=Z,80nm,1.7s,mb5.4
VIS Vishakhapatnam 70.65 273 eP **P** **02 28 18.1 +0.3**
VIS AMb AMB 02 28 30.3
comp=Z,101nm,1.5s,mb5.5
VIS eS S 02 37 28.5 +0.4
UPC Upice 70.70 339⇓ eP **P** **02 28 17.3 -0.3**
BRG Berggiesshubel 70.75 341 eP **P** **02 28 17.9 0.0**
BRG *i* pP 02 28 28.8 +0.5
BRG S S 02 37 29.0 +0.2
BRG SS SS 02 41 56.0 -7.1
BRG MLR MLR
comp=N,2µm,17.9s,MS5.5
BRG MLR MLR
comp=E,1µm,17.7s,MS5.5
BRG MLR MLR
comp=Z,740nm,20.3s,MS4.9
BRG Berggiesshubel 70.75 341 eP **P** **02 28 17.9 +0.1**
comp=Z,22nm,1.4s,mb4.9
BRG *i* pP 02 28 28.8 +0.5
BRG S S 02 37 29.0 +0.2
BRG SS SS 02 41 56.0 -7.1
BRG LR LR
comp=Z,740nm,20.3s,MS4.9
KWE Weaver Farm 70.78 351 eP **P** **02 28 17.5 -0.5**
KWE AMb AMB 02 28 26.4
comp=Z,101nm,1.8s,mb5.5
DPC Dobruska-Polom 70.79 339⇓ iP **P** **02 28 18.4 +0.3**
DPC AMS AMS 03 05 20.0
comp=Z,1µm,15.4s
KOLS Kolonicke sedl 70.82 335 eP **P** **02 28 18.8 +0.5**
KOLS epP pP 02 28 29.3 +0.6
DCN Croghan 70.82 355 eP **P** **02 28 24.0 +5.8**
NIE Niedzica 70.82 336⇓ eP **P** **02 28 19.0 +0.7**
DLF Lyons Farm 70.83 354 eP **P** **02 28 25.0 +6.7**
WTSB Winterswijk 70.85 346 eP **P** **02 28 17.6 -0.9**
comp=Z,24nm,1.6s,mb4.9
KIS Kishinev 70.89 330 eP **P** **02 28 18.0 -0.8**
KIS e pP 02 28 28.0 -1.2
KIS e 02 28 37.0
KIS eS S 02 37 30.0 -0.4
KIS ePS PS 02 37 51.0 -12
KIS MLR MLR
comp=N,2µm,16.0s,MS5.5
KIS MLR MLR
comp=E,1µm,16.0s,MS5.5
KIS MLR MLR
comp=Z,3µm,16.0s,MS5.6
KIS MLR MLR
comp=Z,2µm,16.0s
OKC Ostrava-Krasne 70.90 338⇓ eP **P** **02 28 19.1 +0.3**
OKC eS S 02 37 33.7 +3.2
OKC AMS AMS 03 03 20.0
comp=Z,800nm,16.9s
PVCC Panska Ves 70.97 340⇓ eP **P** **02 28 19.2 0.0**
PVCC AMS AMS 03 06 40.0
comp=Z,2µm,14.2s
HRV Harvard--Oak R 71.00 41 PFAKE 02 28 30.0 +10
HRV LR LR
comp=Z,1µm,21.0s,MS5.2
CRVS Cervenica-Dubn 71.04 335 eP **P** **02 28 24.8 +5.1**
CRVS e 02 37 35.7
CRVS Cervenica-Dubn 71.04 335 e **P** **02 28 24.8 +5.1**

CRVS eS S 02 37 35.7 +3.6
MORC Moravsky Berou 71.09 338 eP **P** **02 28 19.9 0.0**
MORC pmax pmax
comp=Z,30nm,1.1s,mb5.1
MORC Moravsky Berou 71.09 338 eP **P** **02 28 20.1 +0.2**
comp=Z,30nm,1.1s,mb5.1
SIM Simferopol' 71.14 325 P **P** **02 28 20.1 -0.2**
SIM eS S 02 37 35.0 +1.7
SIM pmax pmax
comp=Z,20nm,1.0s,mb5.0
SIM MLR MLR
comp=Z,2µm,18.0s,MS5.4
WES Weston 71.19 40 PFAKE 02 28 30.0 +9.3
WES LR LR
comp=Z,1µm,19.0s,MS5.2
TZTN Tazewell 71.21 52 eP **P** **02 28 20.3 -0.6**
TZTN epP pP 02 28 31.1 -0.2
SWET Sewanee 71.23 55⇑ iP **P** **02 28 20.6 -0.5**
SWET epP pP 02 28 30.4 -1.1
MOX Moxa 71.39 342 eP **P** **02 28 21.8 +0.1**
MOX e pP 02 28 32.4 +0.3
MOX MLR MLR
comp=Z,500nm,22.0s,MS4.7
MOX Moxa 71.39 342 eP **P** **02 28 21.8 +0.1**
comp=Z,82nm,1.8s,mb5.4
MOX eS S 02 37 40.0 +3.9
MOX LR LR
comp=Z,500nm,22.0s,MS4.7
MOX Moxa 71.39 342 *i* P **P** **02 28 21.8 +0.1**
comp=Z,logA/T=1.7,mb5.4
MOX *i* pP 02 28 32.0 -0.1
MOX S S 02 37 40.0 +3.9
MOX L 03 01 21.0
PRU Pruhonice 71.49 340⇓ eP **P** **02 28 22.3 0.0**
PRU AMS AMS 03 03 00.0
comp=Z,1µm,18.2s
FWV Forest Hill 71.53 50 eP **P** **02 28 22.4 -0.4**
GNI Garni 71.53 316*d* iP **P** **02 28 24.0 +1.3**
GNI pmax pmax
comp=Z,49nm,1.9s
GNI MLR MLR
comp=Z,1µm,12.0s
GNI Garni 71.53 316 P **P** **02 28 23.6 +0.9**
comp=Z,2.1nm,0.3s,mb4.5,baz=90,slow=7.1,SNR=5.3
GNI Garni 71.53 316 eP **P** **02 28 23.6 +0.8**
comp=Z,64nm,1.1s,mb5.5
GNI LR LR
comp=Z,2µm,21.0s,MS5.3
NKC Novy Kostel 71.64 342⇓ iP **P** **02 28 23.1 -0.1**
NKC AMS AMS 03 02 10.0
comp=Z,1µm,18.9s
IPM Ipoh 71.66 250 P **P** **02 28 25.8 +1.9**
KECS Kecovo 71.66 336 eP **P** **02 28 23.7 +0.4**
KECS epP pP 02 28 34.2 +0.5
KECS e 02 31 07.5
VRAC Vranov 71.73 339 P **P** **02 28 24.6 +0.9**
VRAC pmax pmax
comp=Z,19nm,1.2s
VRAC Vranov 71.73 339 P **P** **02 28 24.6 +0.9**
comp=Z,19nm,1.1s,mb4.9,baz=32,slow=6.9,SNR=13
ELN Prospectdale 71.85 50 eP **P** **02 28 25.5 +0.8**
BLA Blacksburg 72.01 50 eP **P** **02 28 24.8 -0.8**
BLA pmax pmax
comp=Z,55nm,1.5s,mb5.3
BLA MLR MLR
comp=Z,1µm,20.0s,MS5.2
BLA Blacksburg 72.01 50 eP **P** **02 28 24.8 -0.8**
comp=Z,55nm,1.5s,mb5.3
BLA LR LR
comp=Z,1µm,20.0s,MS5.2
VYHS Vyhne 72.02 337 *i* P **P** **02 28 26.4 +0.9**
VYHS *e* pP 02 28 36.8 +0.9
VYHS ePP PP 02 31 05.9 -1.4
VYHS Vyhne 72.02 337 *i* P **P** **02 28 26.4 +0.9**
VYHS epP pP 02 28 36.8 +0.9
VYHS ePP PP 02 31 05.9 -1.4
HGN Heimansgroeve 72.14 346 eP **P** **02 28 26.4 +0.2**
comp=Z,31nm,1.5s,mb5.0
HGN *ex* x 02 28 36.0
HGN eS S 02 37 45.2 +0.3
HGN eSS SS 02 42 30.3 +5.9
MYNC Murphy 72.17 53 eP **P** **02 28 27.5 +0.9**
MYNC pmax pmax
comp=Z,20nm,0.9s,mb5.0
MYNC MLR MLR
comp=Z,2µm,19.0s,MS5.5
MYNC Murphy 72.17 53 eP **P** **02 28 27.5 +0.9**
comp=Z,20nm,0.9s,mb5.0
MYNC LR LR
comp=Z,2µm,19.0s,MS5.5
SMOL Smolenice 72.31 338 eP **P** **02 28 28.6 +1.4**
SMOL epP pP 02 28 39.6 +2.0
PSZ Piszkesteto 72.33 336 eP **P** **02 28 27.4 +0.1**
PSZ pmax pmax
comp=Z,61nm,1.5s,mb5.3
PSZ Piszkesteto 72.33 336 eP **P** **02 28 27.4 +0.2**
comp=Z,61nm,1.5s,mb5.3
PSZ Piszkesteto 72.33 336⇑ eP **P** **02 28 29.0 +1.7**
GRA1 Grafenberg Arr 72.37 342 eP **P** **02 28 28.0 +0.5**
comp=Z,38nm,1.1s,mb5.2
GRA1 LR LR
comp=Z,1µm,20.1s,MS5.1
GRF Grafenberg Arr 72.37 342 P **P** **02 28 28.0 +0.5**
GRF pmax pmax
comp=Z,38nm,1.1s,mb5.2
CBN Corbin 72.44 47 PFAKE 02 28 40.0 +12
CBN LR LR
comp=Z,2µm,20.0s,MS5.4
KHC Kasperske Hory 72.49 341⇓ eP **P** **02 28 28.6 +0.4**
KHC AMS AMS 03 03 30.0
comp=Z,1µm,18.9s
LRAL Lakeview Retre 72.54 57 eP **P** **02 28 27.9 -0.8**
comp=Z,23nm,0.6s,mb5.3
LRAL epP pP 02 28 37.8 -1.4
LRAL LR LR
comp=Z,992nm,21.0s,MS5.1
WET Wettzell 72.61 341 P **P** **02 28 29.4 +0.6**
WET pmax pmax
comp=Z,45nm,1.4s,mb5.2
WET Wettzell 72.61 341 eP **P** **02 28 29.4 +0.6**
comp=Z,45nm,1.4s,mb5.2
KGM Kluang 72.63 247 P **P** **02 28 31.9 +2.3**
ZST Bratislava 72.68 338 eP **P** **02 28 30.4 +1.1**
ZST epP pP 02 28 41.6 +1.9
ZST e 02 38 06.1
ZST eL 03 09 57.5
GEC2 GERESS Array S 72.74 340 P **P** **02 28 29.9 +0.3**
GEC2 pmax pmax
comp=Z,43nm,1.6s,mb5.1
GEC2 GERESS Array S 72.74 340 eP **P** **02 28 29.9 +0.3**
comp=Z,43nm,1.6s,mb5.1
GERES GERESS Array B 72.74 340 P **P** **02 28 29.7 +0.1**
comp=Z,5.7nm,1.0s,mb4.5,baz=34,slow=4.8,SNR=20
GERES LR LR 03 04 11.1
comp=Z,1µm,19.2s,MS5.2,baz=159,slow=39
SRO Srobarova 72.78 337 eP **P** **02 28 30.9 +1.0**
TOD Tromm 72.85 344 eP **P** **02 28 30.8 +0.5**
GIVF Givet 72.94 347 eP **P** **02 28 30.4 -0.4**
BAIF Baives 73.06 347 eP **P** **02 28 31.7 +0.2**
MLR Muntele Rosu 73.07 331 P **P** **02 28 32.7 +1.0**
comp=Z,4.1nm,0.7s,mb4.5,baz=212,slow=4.8,SNR=7.1
KAKA Kakadu 73.55 213 eP **P** **02 28 40.2 +5.1**
comp=Z,41nm,0.8s,mb5.4
HYB Hyderabad 73.57 277 eP **P** **02 28 33.0 -2.1**
HYB *e* pP 02 28 45.0 -0.5
HYB pmax pmax
comp=Z,80nm,1.0s,mb5.6
HYB Hyderabad 73.57 277 eP **P** **02 28 33.0 -2.1**
comp=Z,80nm,1.0s,mb5.6
HYB *e* pP 02 28 45.0 -0.5
HYB Hyderabad 73.57 277 *i* P **P** **02 28 33.0 -2.1**
comp=Z,80nm,1.0s,mb5.6
HYB *e* pP 02 28 45.0 -0.5
MOA Molln 73.59 340⇓ iP **P** **02 28 35.0 +0.4**
comp=Z,37nm,1.3s,mb5.2
LANF Langenberg 73.61 344 eP **P** **02 28 35.5 +0.7**
FUR Furstenfeldbru 73.84 342 P **P** **02 28 36.1 0.0**
FUR pmax pmax
comp=Z,62nm,1.5s,mb5.3
FUR Furstenfeldbru 73.84 342 eP **P** **02 28 36.1 0.0**
comp=Z,62nm,1.5s,mb5.3
ARSA Arzberg 73.91 339⇓ iP **P** **02 28 37.6 +1.1**
comp=Z,91nm,1.8s,mb5.4
JSC Jenkinsville 74.12 52 eP **P** **02 28 35.4 -2.6**
JSC e*PP pP 02 28 46.3 -2.1

BFO Black Forest 74.17 344 P **P** **02 28 37.8 -0.2**
BFO pmax pmax
comp=Z,631nm,4.2s
BFO Black Forest 74.17 344 eP **P** **02 28 37.8 -0.2**
comp=Z,631nm,4.2s
WLS Welschbruch 74.24 344 eP **P** **02 28 39.0 +0.6**
CDF Champ du Feu 74.25 345 eP **P** **02 28 38.3 -0.1**
ECH Echery 74.46 345 eP **P** **02 28 40.1 +0.4**
MEZF Maizieres J'vi 74.48 346 eP **P** **02 28 40.0 +0.2**
KBA Koelnbreinsper 74.50 340⇑ iP **P** **02 28 41.5 +1.5**
comp=Z,237nm,2.0s,mb5.8
KBA Koelnbreinsper 74.50 340⇑ iP **P** **02 28 41.5 +1.5**
KBA pmax pmax
comp=Z,237nm,2.0s,mb5.8
WATA Walderalm 74.58 341⇓ iP **P** **02 28 41.1 +0.7**
comp=Z,118nm,2.2s,mb5.4
WATA Walderalm 74.58 341⇓ iP **P** **02 28 41.1 +0.7**
WATA pmax pmax
comp=Z,118nm,2.2s,mb5.4
WTTA Wattenberg 74.64 341⇓ iP **P** **02 28 41.8 +1.0**
comp=Z,189nm,2.3s,mb5.6
WTTA Wattenberg 74.64 341⇓ iP **P** **02 28 41.8 +1.0**
WTTA pmax pmax
comp=Z,189nm,2.3s,mb5.6
FELD Feldberg 74.66 344 eP **P** **02 28 41.0 +0.2**
MOTA Moosalm 74.66 342⇑ iP **P** **02 28 41.8 +0.9**
comp=Z,84nm,1.6s,mb5.4
MOTA Moosalm 74.66 342⇑ iP **P** **02 28 41.8 +0.9**
MOTA pmax pmax
comp=Z,84nm,1.6s,mb5.4
GROS Grobnik 74.67 338 eP **P** **02 28 41.5 +0.6**
SQTA Sankt Quirin 74.76 342⇑ iP **P** **02 28 42.2 +0.8**
comp=Z,43nm,1.2s,mb5.3
SQTA Sankt Quirin 74.76 342⇑ iP **P** **02 28 42.2 +0.8**
SQTA pmax pmax
comp=Z,43nm,1.2s,mb5.2
HAU Haudompre 74.78 345 eP **P** **02 28 41.2 -0.3**
comp=Z,28nm,1.0s,mb4.9
HAU eR
comp=Z,826nm,22.2s
HAU Haudompre 74.78 345 eP **P** **02 28 41.2 -0.3**
HAU pmax pmax
comp=Z,14nm,1.0s,mb4.8
HAU MLR MLR
comp=Z,830nm,22.3s,MS5.0
OBKA Obir 74.81 339⇑ iP **P** **02 28 42.8 +1.0**
comp=Z,119nm,1.6s,mb5.6
MOF Molkenrain 74.82 344 eP **P** **02 28 42.1 +0.3**
FLN La Foliniere 74.87 350 eP **P** **02 28 42.2 +0.2**
comp=Z,86nm,1.1s,mb5.3
FLN eR
comp=Z,822nm,22.5s
FLN La Foliniere 74.87 350 eP **P** **02 28 42.2 +0.2**
FLN pmax pmax
comp=Z,43nm,1.1s,mb5.3
FLN MLR MLR
comp=Z,820nm,22.5s,MS5.0
HINF Hinteralfeld 74.89 345 eP **P** **02 28 42.4 +0.2**
comp=Z,26nm,1.1s,mb4.8
HINF Hinteralfeld 74.89 345 eP **P** **02 28 42.4 +0.2**
HINF pmax pmax
comp=Z,13nm,1.1s,mb4.8
BBS Basel-Blauen 75.14 344 eP **P** **02 28 44.0 +0.4**
LJU Ljubljana 75.26 339 eP **P** **02 28 45.2 +0.9**
LJU epP pP 02 28 55.3 +0.5
LJU *e* 02 31 33.2
LJU *e* 02 31 42.8
POO Poona 75.28 281 eP **P** **02 28 44.9 0.0**
POO AMb AMB 02 28 56.5
comp=Z,87nm,0.9s,mb5.7
GRR Gorron 75.28 350 eP **P** **02 28 44.3 -0.1**
comp=Z,72nm,1.1s,mb5.2
GRR Gorron 75.28 350 eP **P** **02 28 44.3 -0.1**
GRR pmax pmax
comp=Z,36nm,1.1s,mb5.2
LOMF Lomont 75.35 345 eP **P** **02 28 45.8 +1.0**
DAVOX Davos 75.42 342 P **P** **02 28 45.8 +0.6**
comp=Z,11nm,1.0s,mb4.7,baz=327,slow=7.6,SNR=7.9
MALT Malatya 75.54 319 eP **P** **02 28 46.0 -0.1**
MALT pmax pmax
comp=Z,29nm,1.3s,mb5.0
MALT Malatya 75.54 319 eP **P** **02 28 46.0 -0.1**
comp=Z,29nm,1.3s,mb5.0
ROSF Rostrenen 75.55 352 eP **P** **02 28 46.0 +0.1**
comp=Z,132nm,1.6s,mb5.3
ROSF Rostrenen 75.55 352 eP **P** **02 28 46.0 +0.1**
ROSF pmax pmax
comp=Z,66nm,1.6s,mb5.3
SGMF Saint Gilles 75.57 351 eP **P** **02 28 46.4 +0.4**
comp=Z,117nm,1.6s,mb5.3
SGMF Saint Gilles 75.57 351 eP **P** **02 28 46.4 +0.4**
SGMF pmax pmax
comp=Z,58nm,1.6s,mb5.3
NHSC New Hope 75.59 52 PFAKE 02 29 00.0 +13
NHSC LR LR
comp=Z,2µm,20.0s,MS5.5
TWB Tillmans-White 75.61 52 P **P** **02 28 45.4 -1.2**
BOJS Bojanci 75.63 338 eP **P** **02 28 46.9 +0.4**
BOLS Boljevac 75.66 333⇑ iP **P** **02 28 46.0 -0.7**
LOR Lormes 75.85 347 eP **P** **02 28 47.4 -0.3**
comp=Z,57nm,1.3s,mb5.1
LOR eR
comp=Z,903nm,20.8s
LOR Lormes 75.85 347 eP **P** **02 28 47.4 -0.3**
LOR pmax pmax
comp=Z,29nm,1.3s,mb5.0
LOR MLR MLR
comp=Z,900nm,20.8s,MS5.1
QUIF Quistinic 75.95 352 eP **P** **02 28 47.8 -0.4**
BR131 Keskin Array S 75.97 323 eP **P** **02 28 49.0 +0.5**
comp=Z,13nm,1.0s,mb4.8
BR131 LR LR
comp=Z,791nm,20.0s,MS5.0
BRTR Keskin Array B 75.97 323 P **P** **02 28 48.8 +0.3**
BRTR 02 31 34.4
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR pmax pmax
comp=Z,5.0nm,1.1s
BRTR Keskin Array B 75.97 323 P **P** **02 28 48.8 +0.3**
comp=Z,3.7nm,0.9s,mb4.3,baz=63,slow=2.8,SNR=13
BRTR PP PP 02 31 34.4 -6.5
comp=Z,5.2nm,1.1s,baz=16,slow=5.3,SNR=5.0
SSF Saint Saulge 76.10 347 eP **P** **02 28 49.0 -0.1**
SSF pmax pmax
comp=Z,27nm,1.6s,mb4.9
SSF Saint Saulge 76.10 347 eP **P** **02 28 49.0 -0.1**
comp=Z,27nm,1.6s,mb4.9
CABF La Chapelle 76.18 345 eP **P** **02 28 49.9 +0.3**
SMF Signal de Mont 76.46 347 eP **P** **02 28 51.8 +0.6**
comp=Z,71nm,1.5s,mb5.1
SMF Signal de Mont 76.46 347 eP **P** **02 28 51.8 +0.6**
SMF pmax pmax
comp=Z,36nm,1.5s,mb5.1
BGF Bois d'Agland 76.67 347 eP **P** **02 28 52.3 -0.1**
comp=Z,62nm,1.5s,mb5.0
BGF Bois d'Agland 76.67 347 eP **P** **02 28 52.3 -0.1**
BGF pmax pmax
comp=Z,31nm,1.5s,mb5.0
MFF Saint Martin d 76.97 349 eP **P** **02 28 54.3 +0.2**
comp=Z,54nm,1.3s,mb5.0
MFF Saint Martin d 76.97 349 eP **P** **02 28 54.3 +0.2**
MFF pmax pmax
comp=Z,27nm,1.3s,mb5.0
TCF Toulx Ste Croi 77.02 348 eP **P** **02 28 55.0 +0.7**
comp=Z,40nm,1.3s,mb4.9
TCF Toulx Ste Croi 77.02 348 eP **P** **02 28 55.0 +0.7**
TCF pmax pmax
comp=Z,20nm,1.3s,mb4.9
AGO Saint Agoulin 77.14 347 eP **P** **02 28 56.3 +1.3**
PLDF La Plantade 77.15 347 eP **P** **02 28 56.7 +1.6**
LPL La Plagne 77.16 344 eP **P** **02 28 56.1 +1.0**
comp=Z,66nm,1.2s,mb5.1
LPL La Plagne 77.16 344 eP **P** **02 28 56.1 +1.0**
LPL pmax pmax
comp=Z,33nm,1.2s,mb5.1
LPG La Plagne 77.17 344 eP **P** **02 28 56.3 +1.1**
comp=Z,96nm,1.2s,mb5.3
LPG La Plagne 77.17 344 eP **P** **02 28 56.3 +1.1**
LPG pmax pmax
comp=Z,48nm,1.2s,mb5.3
CTA Charters Tower 77.37 198⇑ iP **P** **02 28 57.5 +0.7**
comp=Z,26nm,0.9s,mb5.2
CTA Charters Tower 77.37 198⇑ iP **P** **02 28 57.5 +0.7**
CTA pmax pmax
comp=Z,26nm,0.9s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CTAO	Charters Tower	77.37	198	eP	P	02 28 57.4	+0.6
CTAO				e*PP	pP	02 29 08.5	+1.3
CTAO				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.4						
CTAO				MLR	MLR		
	comp=Z,688nm,22.0s,MS4.9						
CTAO	Charters Tower	77.37	198	eP	P	02 28 57.4	+0.6
	comp=Z,49nm,1.0s,mb5.4						
CTAO				epP	pP	02 29 08.5	+1.2
CTAO				LR	LR		
	comp=Z,688nm,22.0s,MS4.9						
SKO	Skopje	77.54	333	eP	pP	02 29 10.0	+2.2
VAY	Valandovo	77.85	332	eP	P	02 28 59.6	+0.5
VAY				i		02 29 03.5	
ORIF	Oris-en-Rattie	77.87	345	eP	P	02 29 00.1	+1.0
	comp=Z,188nm,1.8s,mb5.4						
ORIF				eR			
	comp=Z,908nm,20.8s						
MBDF	Montbardon	77.92	344	eP	P	02 28 59.9	+0.5
	comp=Z,27nm,1.0s,mb4.8						
MBDF	Montbardon	77.92	344	eP	P	02 28 59.9	+0.5
MBDF				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
RJF	Les Rejaudoux	78.07	348	eP	P	02 29 00.4	+0.2
	comp=Z,66nm,1.6s,mb5.0						
RJF				eR			
	comp=Z,1µm,19.0s						
RJF	Les Rejaudoux	78.07	348	eP	P	02 29 00.4	+0.2
RJF				pmax	pmax		
	comp=Z,33nm,1.6s,mb5.0						
RJF				MLR	MLR		
	comp=Z,1µm,19.0s,MS5.3						
VIVF	Saint-Julien-l	78.10	346	eP	P	02 29 00.9	+0.5
	comp=Z,129nm,1.9s,mb5.2						
VIVF	Saint-Julien-l	78.10	346	eP	P	02 29 00.9	+0.5
VIVF				pmax	pmax		
	comp=Z,64nm,1.9s,mb5.2						
CAF	Calviac	78.38	347	eP	P	02 29 02.4	+0.5
	comp=Z,86nm,1.6s,mb5.1						
CAF	Calviac	78.38	347	eP	P	02 29 02.4	+0.5
CAF				pmax	pmax		
	comp=Z,43nm,1.6s,mb5.1						
LFF	La Frestale	78.52	348	eP	P	02 29 02.9	+0.3
	comp=Z,74nm,1.3s,mb5.1						
LFF	La Frestale	78.52	348	eP	P	02 29 02.9	+0.3
LFF				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
SBF	Sospel	78.66	343	eP	P	02 29 03.7	+0.3
SMRF	Simiane la Rot	78.84	345	eP	P	02 29 05.5	+1.1
	comp=Z,140nm,1.6s,mb5.3						
AQU	L'Aquila	79.03	339	eP	P	02 29 06.4	+0.9
AQU				pmax	pmax		
	comp=Z,58nm,1.1s,mb5.4						
AQU	L'Aquila	79.03	339	eP	P	02 29 06.4	+0.9
	comp=Z,58nm,1.1s,mb5.4						
FRF	La Foret Royal	79.08	344	eP	P	02 29 06.0	+0.3
	comp=Z,68nm,1.3s,mb5.1						
FRF	La Foret Royal	79.08	344	eP	P	02 29 06.0	+0.3
FRF				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.1						
DWPF	Disney	79.27	55	PFAKE		02 29 20.0	+13
DWPF				LR	LR		
	comp=Z,160nm,19.0s,MS4.4						
LMR	La Mourre	79.32	344	eP	P	02 29 07.6	+0.5
CII	Carovilli	79.45	338	P	P	02 29 08.5	+0.7
	comp=Z,100nm,1.6s,mb5.5						
PGF	Pioggiola	79.68	342	eP	P	02 29 09.4	+0.4
	comp=Z,123nm,1.3s,mb5.4						
PGF	Pioggiola	79.68	342	eP	P	02 29 09.4	+0.4
PGF				pmax	pmax		
	comp=Z,61nm,1.3s,mb5.4						
WRAB	Tennant Creek	79.85	209	eP	P	02 29 10.0	-0.4
WRAB				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.3						
WRAB				MLR	MLR		
	comp=Z,303nm,20.0s,MS4.6						
WRAB	Tennant Creek	79.85	209	eP	P	02 29 10.0	-0.3
	comp=Z,33nm,0.8s,mb5.3						
WRAB				LR	LR		
	comp=Z,303nm,20.0s,MS4.6						
WB2	Warramunga Arr	79.86	209	⇑iP	P	02 29 11.2	+0.8
WRA	Warramunga Arr	79.86	209	P	P	02 29 11.0	+0.6
WRA						02 32 10.0	
WRA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
WRA	Warramunga Arr	79.86	209	P	P	02 29 11.0	+0.5
	comp=Z,7.8nm,0.9s,mb4.7,baz=22,slow=5.7,SNR=30						
WRA				PP	PP	02 32 10.0	-3.5
	comp=Z,4.2nm,1.2s,baz=14,slow=6.8,SNR=3.8						
MTLF	Montolieu	79.92	347	eP	P	02 29 10.7	+0.4
	comp=Z,47nm,1.4s,mb4.9						
MTLF	Montolieu	79.92	347	eP	P	02 29 10.7	+0.4
MTLF				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.9						
CSS	Prodhromos	80.36	321	P	P	02 29 12.8	0.0
	comp=Z,32nm,1.1s,mb5.2						
EPF	Esparros	80.45	348	eP	P	02 29 13.1	0.0
SJPF	Ste Jean	80.54	350	eP	P	02 29 13.6	0.0
	comp=Z,139nm,1.8s,mb5.3						
SJPF	Ste Jean	80.54	350	eP	P	02 29 13.6	0.0
SJPF				pmax	pmax		
	comp=Z,69nm,1.8s,mb5.3						
PALK	Pallekele	80.61	269	eP	P	02 29 15.5	+0.9
PALK				epP	pP	02 29 25.2	+0.2
PALK				LR	LR		
	comp=Z,333nm,20.0s,MS4.7						
ETSF	Etsaut	80.68	349	eP	P	02 29 15.0	+0.7
	comp=Z,45nm,1.2s,mb5.0						
ETSF	Etsaut	80.68	349	eP	P	02 29 15.0	+0.7
ETSF				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.9						
FITZ	Fitzroy Crossi	80.80	217	eP	P	02 29 18.6	+3.2
	comp=Z,31nm,1.1s,mb5.2						
EPON	Pontenova	80.80	354	P	P	02 29 20.0	+5.0
EBIE	Bielsa	80.81	348	P	P	02 29 17.6	+2.6
	comp=Z,158nm,3.7s						
ASF	Jabal al Asfar	81.56	317	P	P	02 29 19.8	+0.7
	comp=Z,16nm,1.0s,mb4.9,baz=282,slow=2.7,SNR=7.1						
QURS	Qurayyt al Mil	82.09	317	P	P	02 29 23.9	+1.9
BBSR	BB Station	82.48	40	eP	P	02 29 24.8	+0.9
	comp=Z,20nm,1.0s,mb5.0						
BBSR				LR	LR		
	comp=Z,703nm,21.0s,MS5.0						
PPT	Papeete	82.80	136	eS	S	02 39 04.5	-36
	comp=Z,645nm,27.0s						
PPT				eSS	SS	02 44 55.0	-11
	comp=Z,221nm,28.8s						
PPT				eLQ		02 50 49.3	
	comp=Z,3µm,28.5s						
PPT				eLR	LR	02 54 30.9	
	comp=Z,2µm,24.2s,baz=337						
IDI	Anoyia	82.82	328	P	P	02 29 25.1	-0.4
	comp=Z,3.2nm,0.8s,mb4.4,baz=58,slow=9.5,SNR=2.3						
HILS	Ha'il	83.82	311	P	P	02 29 32.4	+1.6
ESDC	Sonseca Array	84.20	351	P	P	02 29 33.2	+0.8
	comp=Z,1.4nm,0.7s,baz=351,slow=5.2,SNR=10.0						
ESDC	Sonseca Array	84.20	351	P	P	02 29 33.6	+1.2
	comp=Z,1.9nm,0.8s,mb4.3						
ESLA	Sonseca Array	84.20	351	eP	P	02 29 33.4	+0.9
	comp=Z,8.5nm,1.3s,mb4.7						
ESLA				LR	LR		
	comp=Z,5µm,20.0s,MS5.8						
EIBI	Ibiza	84.28	347	P	P	02 29 33.6	+0.7
	comp=Z,70nm,1.3s,mb5.6						
EIL	Elat	84.53	318	eP	P	02 29 33.1	-1.2
	comp=Z,46nm,1.4s,mb5.4						
EIL				epP	pP	02 29 45.5	+0.6
EBEN	Beniarda	84.79	348	P	P	02 29 37.1	+1.7
	comp=Z,246nm,2.3s,mb5.9						
ALWS	Ilw as Safayha	84.81	317	P	P	02 29 38.6	+2.8
JMOS	Jabal al Moall	84.92	317	P	P	02 29 38.5	+2.2
ETOB	Tobarra	84.99	349	P	P	02 29 40.2	+3.8
	comp=Z,135nm,1.7s,mb5.8						
HAQS	Haql	85.09	317	P	P	02 29 39.9	+2.8
EVIA	Vianos	85.10	350	P	P	02 29 38.5	+1.6
	comp=Z,22nm,1.0s,mb5.2						
TBKS	Tabuk	85.21	316	P	P	02 29 38.0	+0.3
MZLS	Mizel	85.26	307	P	P	02 29 39.8	+1.7
EBAD	Badajoz	85.35	353	P	P	02 29 36.9	-1.2
	comp=Z,79nm,1.5s,mb5.6						
EVO	Evora	85.63	354	eP	P	02 29 39.6	+0.1
	comp=Z,86nm,1.4s,mb5.5						
EVO				eR			
	comp=Z,927nm,21.8s						
EBAN	Banos Encina	85.69	351	P	P	02 29 41.3	+1.4
	comp=Z,3.7nm,0.8s,mb4.7						
MBWA	Marble Bar	85.72	221	eP	P	02 29 40.8	+0.5
	comp=Z,70nm,1.3s,mb5.7						
MBWA				LR	LR		
	comp=Z,296nm,20.0s,MS4.7						
EADA	Adamuz	85.75	351	P	P	02 29 42.0	+1.8
	comp=Z,78nm,1.6s,mb5.7						
EHUE	Huescar	85.92	350	P	P	02 29 42.7	+1.8
	comp=Z,23nm,1.2s,mb5.3						
EQES	Quesada	85.98	350	P	P	02 29 40.5	-0.8
	comp=Z,105nm,1.7s,mb5.8						
CMLA	Cha da Macela	86.21	8	PFAKE		02 29 50.0	+7.6
CMLA				LR	LR		
	comp=Z,208nm,22.0s,MS4.5						
RAO	Raoul Island	86.21	165	LR	LR	02 59 34.1	
	comp=Z,1µm,21.1s,MS5.2,baz=73,slow=30						
EMIN	Mina Concepcio	86.31	353	P	P	02 29 43.5	+0.6
ELOJ	Sierra Loja	86.73	351	P	P	02 29 47.0	+2.0
	comp=Z,15nm,1.3s,mb5.0						
EMIJ	Mijas	87.36	351	P	P	02 29 49.5	+1.5
	comp=Z,23nm,1.4s,mb5.2						
TBI	Tubuai	88.10	139	eS	S	02 40 06.3	-25
	comp=Z,385nm,32.8s						
TBI				eSS	SS	02 45 53.1	-31
	comp=Z,198nm,26.8s						
TBI				eLQ		02 52 28.6	
	comp=Z,1µm,36.0s						
TBI				eLR	LR	02 55 53.7	
	comp=Z,1µm,25.5s,baz=337						
STKA	Stephens Creek	89.70	199	⇑iP	P	02 30 01.0	+1.7
	comp=Z,14nm,0.9s,mb5.3						
STKA	Stephens Creek	89.70	199	P	P	02 30 01.0	+1.7
	comp=Z,8.3nm,0.8s,mb5.1,baz=352,slow=6.6,SNR=14						
STKA				LR	LR	03 10 12.9	
	comp=Z,464nm,18.6s,MS4.9,baz=13,slow=36						
TATS	Tathlith	89.94	306	P	P	02 30 06.4	+5.7
DJNS	Zahran al Janu	91.51	305	P	P	02 30 14.7	+6.6
RKT	Rikitea	93.87	127	eS	S	02 41 32.8	+10
	comp=Z,214nm,32.8s						
RKT				eSS	SS	02 47 38.0	-8.7
	comp=Z,313nm,30.2s						
RKT				eLQ		02 54 57.6	
	comp=Z,790nm,38.5s						
RKT				eLR	LR	02 59 24.5	
	comp=Z,1µm,32.5s,baz=324						
SJG	San Juan	94.72	48	PFAKE		02 30 30.0	+7.3
SJG				LR	LR		
	comp=Z,870nm,20.0s,MS5.2						
SNZO	South Karori	97.31	172	PFAKE		02 30 50.0	+16
SNZO				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
SDV	Santo Domingo	100.92	56	PFAKE		02 31 00.0	+9.1
SDV				LR	LR		
	comp=Z,636nm,20.0s,MS5.1						
MBAR	Mbarara	113.45	308	PFAKE		02 35 50.0	+12
MBAR				LR	LR		
	comp=Z,175nm,20.0s,MS4.7						
SAML	Samuel	120.05	58	PFAKE		02 36 00.0	+8.8
SAML				LR	LR		
	comp=Z,385nm,20.0s,MS5.0						
LPAZ	La Paz	123.86	67	PKP	PKPdf	02 35 59.5	+1.0
	comp=Z,0.3nm,0.6s,baz=180,slow=25,SNR=2.4						
LPAZ	La Paz	123.86	67	PKP	PKPdf	02 35 59.5	+1.0
LPAZ				LR	LR		
	comp=Z,413nm,19.0s,MS5.1						
RCBR	Riachuelo	127.37	26	PFAKE		02 36 20.0	+15
RCBR				LR	LR		
	comp=Z,482nm,20.0s,MS5.2						
LSZ	Lusaka	127.55	303	PFAKE		02 36 20.0	+14
LSZ				LR	LR		
	comp=Z,880nm,20.0s,MS5.4						
CASY	Casey	128.55	205	PFAKE		02 36 20.0	+14
CASY				LR	LR		
	comp=Z,634nm,20.0s,MS5.3						
BDFB	Brasilia	132.65	45	PKP	PKPdf	02 36 17.9	+2.7
	comp=Z,3.0nm,0.8s,baz=82,slow=7.8,SNR=3.1						
VNDA	Vanda	133.26	181	PKP	PKPdf	02 36 17.1	+2.2
	comp=Z,0.7nm,0.9s,baz=353,slow=4.3,SNR=3.2						
VNDA	Vanda	133.26	181	PKP	PKPdf	02 36 17.1	+2.2
VNDA				LR	LR		
	comp=Z,485nm,19.0s,MS5.2						
SBA	Scott Base	133.59	179	PFAKE		02 36 30.0	+14
SBA				LR	LR		
	comp=Z,277nm,19.0s,MS5.0						
TSUM	Tsumeb	135.72	313	PFAKE		02 36 30.0	+9.2
TSUM				LR	LR		
	comp=Z,852nm,21.0s,MS5.5						
LBTB	Lobatse	137.11	299	PFAKE		02 36 40.0	+17
LBTB				LR	LR		
	comp=Z,630nm,19.0s,MS5.4						
CPUP	Villa Florida	137.73	63	PFAKE		02 36 40.0	+16
CPUP				LR	LR		
	comp=Z,642nm,22.0s,MS5.3						
BOSA	Boshof	140.26	296	PKP	PKPdf	02 36 29.0	+0.1
	comp=Z,2.0nm,0.9s,baz=51,slow=6.5,SNR=2.8						
BOSA	Boshof	140.26	296	PKP	PKPdf	02 36 29.0	+0.1
BOSA				LR	LR		
	comp=Z,418nm,19.0s,MS5.2						
MAW	Mawson	143.90	220	PKP	PKPdf	02 36 34.5	+0.6
	comp=Z,4.1nm,0.8s,baz=11,slow=1.4,SNR=8.7						
MAW	Mawson	143.90	220	ePKPdf	PKPdf	02 36 34.0	+0.1
TRQA	Tornquist	144.35	80	ePKPdf	PKPdf	02 36 35.7	+0.1
TRQA				LR	LR		
	comp=Z,723nm,20.0s,MS5.4						
SUR	Sutherland	145.54	298	PKPbc	PKPbc	02 36 40.8	+2.3
	comp=Z,4.8nm,0.8s,baz=36,slow=19,SNR=3.5						
SUR	Sutherland	145.54	298	ePKPdf	PKPdf	02 36 41.2	+3.3
SUR				ePKPbc	PKPbc	02 36 45.2	+6.7
SUR				LR	LR		
	comp=Z,243nm,19.0s,MS5.0						
QSPA	South Pole Qui	145.75	180	eP	PKPdf	02 36 38.9	+2.1
USHA	Ushuaia	150.47	110	PKPbc	PKPdf	02 36 52.5	+7.3
	comp=Z,7.2nm,0.9s,baz=311,slow=8.7,SNR=4.4						
SYO	Syowa Base	152.61	220	⇓PKPbc	PKPdf	02 36 55.9	+8.0
PMSA	Palmer Station	155.02	130	PFAKE		02 37 00.0	+8.8
PMSA				LR	LR		
	comp=Z,524nm,19.0s,MS5.4						
SNAA	Sanae	163.39	194	e	PKPab	02 37 53.6	-0.5
SNAA	Sanae	163.39	194	PKPab	PKPab	02 37 53.9	-0.2
	comp=Z,1.5nm,0.9s,baz=118,slow=2.4,SNR=7.3						
SNAA	Sanae	163.39	194	⇑iPKPdf	PKPdf	02 37 00.4	-0.4
SNAA				e		02 37 13.8	
SNAA				e		02 37 53.6	
SNAA				e		02 38 03.6	
SNAA				e		02 38 08.3	
SNAA				e		02 40 35.1	
SNAA				e		02 41 41.3	
SNAA				e		02 41 51.7	
VNA3	Neumayer Olymp	164.50	187	⇑iPKPdf	PKPdf	02 36 57.4	-4.5
VNA3				e		02 37 09.2	
VNA3				e		02 37 14.4	
VNA3				e		02 37 58.2	
VNA3				e		02 38 09.6	
VNA3				e		02 38 14.5	
VNA3				e		02 41 47.0	
VNA2	Neumayer--Watz	164.62	190	⇑iPKPdf	PKPdf	02 37 02.4	+0.4
VNA2				e		02 37 13.7	
VNA2				e		02 37 17.0	
VNA2				e		02 37 59.0	
VNA2				e		02 38 10.6	
VNA2				e		02 38 15.6	
VNA2				e		02 40 31.1	
VNA2				e		02 41 48.7	
VNA2				e		02 41 59.5	
VNA1	Neumayer--Stat	164.97	189	⇑iPKPdf	PKPdf	02 37 05.3	+3.0
VNA1				e		02 37 17.1	
VNA1				e		02 37 21.3	
VNA1				e		02 38 01.6	
VNA1				e		02 38 12.1	
VNA1				e		02 38 17.2	
VNA1				e		02 41 52.4	
VNA1				e		02 42 01.2	

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*NEIC **07** 02:39:09.4, 19.06N×64.73W, h6km, MD3.7(RSPR), After RSPR.*

RSPR 07 02:39:09.4, 19.06N×64.73W, h6km±4km, MD3.7/15, 22C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	0.66	170	⇓iP	Pg	02 39 21.5	-1.1
TBVI	Tortola	0.66	170	⇓iP	Pg	02 39 21.6	-1.0
MTP	Monte Pirata	1.24	219	⇑eP	Pb	02 39 30.2	-2.6
MTP	Monte Pirata	1.24	219	eS	Sb	02 39 46.4	-2.5
MTP	Monte Pirata	1.24	219	eS	Sb	02 39 47.1	-1.8
MTP	Monte Pirata	1.24	219	⇑iP	Pb	02 39 30.2	-2.6
MTP				eS	Sb	02 39 47.1	-1.8
CDVI	St. Croix	1.30	181	⇑eP	Pb	02 39 32.5	-1.5
CDVI	St. Croix	1.30	181	eS	Sb	02 39 49.5	-1.2
CDVI	St. Croix	1.30	181	eS	Sb	02 39 49.5	-1.2
CDVI	St. Croix	1.30	181	⇑iP	Pb	02 39 32.6	-1.3
CDVI				eS	Sb	02 39 49.5	-1.2
CBYP	Canovanas	1.32	234	⇑eP	Pb	02 39 30.9	-3.3
CBYP	Canovanas	1.32	234	eS	Sb	02 39 47.7	-3.7
CBYP	Canovanas	1.32	234	eS	Sb	02 39 50.1	-1.3
CBYP	Canovanas	1.32	234	⇑eP	Pb	02 39 31.0	-3.3
CBYP				eS	Sb	02 39 50.1	-1.3
HUMP	Col San Antoni	1.40	229	⇑eP	Pn	02 39 32.3	-3.2
HUMP				eS	Sb	02 39 49.6	-3.9
HUMP	Col San Antoni	1.40	229	eS	Sb	02 39 50.4	-3.2
HUMP	Col San Antoni	1.40	229	⇑iP	Pn	02 39 32.3	-3.2
HUMP				eS	Sb	02 39 50.4	-3.2
CPD	Cerro la Pandu	1.52	228	⇑eP	Pn	02 39 34.3	-2.9
CPD	Cerro la Pandu	1.52	228	eS	Sb	02 39 53.3	-3.6
CPD	Cerro la Pandu	1.52	228	eS	Sb	02 39 54.5	-2.4
CPD	Cerro la Pandu	1.52	228	⇑eP	Pn	02 39 34.2	-3.0
CPD				eS	Sb	02 39 54.5	-2.4
SJG	San Juan	1.64	235	⇑eP	Pn	02 39 35.4	-3.6
SJG	San Juan	1.64	235	eS	Sb	02 39 55.9	-4.8
SJG	San Juan	1.64	235	⇑eP	Pn	02 39 35.8	-3.2
SJG				eS	Sb	02 39 56.6	-4.1
SJG	San Juan	1.64	235	eS	Sb	02 39 57.0	-3.7
SJG	San Juan	1.64	235	⇑eP	Pn	02 39 35.8	-3.2
SJG				eS	Sb	02 39 56.6	-4.1
SJG	San Juan	1.64	235	⇓eP	Pn	02 39 35.5	-3.6
SJG				eS	Sb	02 39 57.0	-3.7
ICM	Isla Caja Muer	2.06	236	⇑eP	Pn	02 39 42.5	-2.5
ICM	Isla Caja Muer	2.06	236	eS	Sn	02 40 07.7	-3.5
ICM	Isla Caja Muer	2.06	236	⇑eP	Pn	02 39 42.6	-2.3
ICM				eS	Sn	02 40 07.7	-3.5
LRS	Lares	2.14	249	⇑eP	Pn	02 39 42.6	-3.6
LRS				eS	Sn	02 40 08.8	-4.6
AGPR	Aguadilla, PR	2.33	256	⇑eP	Pn	02 39 45.5	-3.4
AGPR	Aguadilla, PR	2.33	256	eS	Sn	02 40 12.8	-5.3
AGPR	Aguadilla, PR	2.33	256	eS	Sn	02 40 13.5	-4.6
AGPR	Aguadilla, PR	2.33	256	⇓eP	Pn	02 39 45.5	-3.4
AGPR				eS	Sn	02 40 13.5	-4.6
LSP	Las Mesas	2.40	249	⇑eP	Pn	02 39 47.0	-2.9
LSP				eS	Sn	02 40 16.1	-3.8
LSP	Las Mesas	2.40	249	⇑eP	Pn	02 39 47.2	-2.7
LSP				eS	Sn	02 40 15.8	-4.1
MGP	Maguayo	2.47	245	⇑eP	Pn	02 39 47.4	-3.5
MGP				eS	Sn	02 40 17.6	-4.2
MGP	Maguayo	2.47	245	⇓eP	Pn	02 39 47.4	-3.5
MGP				eS	Sn	02 40 17.1	-4.6
CRPR	Cabo Rojo, PR	2.49	245	⇑eP	Pn	02 39 47.5	-3.6
CRPR	Cabo Rojo, PR	2.49	245	eS	Sn	02 40 17.2	-4.9
CRPR	Cabo Rojo, PR	2.49	245	eS	Sn	02 40 19.1	-3.1
CRPR	Cabo Rojo, PR	2.49	245	⇑eP	Pn	02 39 47.4	-3.7
CRPR				eS	Sn	02 40 19.1	-3.1
SDV	Santo Domingo	11.62	210	eP	P	02 41 55.6	-3.3

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*CSEM **07** 02:58:47.4±0.3, 35.40N×3.79W, h15km, MD2.5, Error ellipse: s-maj=12.3km s-min=7.1km az=107.0*
*CNRM **07** 02:58:48.5, 35.39N×3.73W, h2km, MD2.5*
*NEIC **07** 02:58:49.5, 35.52N×3.78W, MG2.6(MDD), After MDD.*

MDD 07 02:58:48.4±0.5, 35.42N×3.81W, mbLg1.5/4, Error ellipse: s-maj=6.3km s-min=3.2km az=121.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	Palemas	0.23	209	P	Pg	02 58 53.0	+0.1
MPAL				S	Sg	02 58 56.0	0.0
MPAL	Palemas	0.23	209	i P	Pg	02 58 53.0	+0.1
TOU	Touzarine	0.46	174	P	Pg	02 58 56.5	-1.2
TOU				S	Sg	02 59 02.5	-1.3
TOU	Touzarine	0.46	174	i P	Pg	02 58 56.5	-1.2
EMEL	Melilla	0.71	100	P	Pg	02 59 02.7	+0.1
	36nm,0.1s,SNR=5.5						
EMEL				S	Sg	02 59 11.5	-0.4
	109nm,0.6s,SNR=5.7						
EMLI	Melilla	0.71	100	P	Pg	02 59 02.7	+0.1
	36nm,0.1s,SNR=5.5						
EMLI				S	Sg	02 59 11.5	-0.6
	109nm,0.6s,SNR=5.7						
EALB	Alboran	0.81	51	P	Pg	02 59 04.0	-0.7
EALB				S	Sg	02 59 12.6	-2.9
EALB	Alboran	0.81	51	P	Pg	02 59 04.2	-0.5
	7.8nm,0.1s,SNR=6.6						
EALB				S	Sg	02 59 12.6	-2.9
	8.9nm,0.2s						
EALB	Alboran	0.81	51	P	Pg	02 59 03.9	-0.8
	7.8nm,0.1s,SNR=6.6						
EALB				S	Sg	02 59 12.6	-2.9
	12nm,0.2s						
TZK	Tazeka	1.37	193	i P	Pb	02 59 13.0	-1.6
TZK				i S	Sb	02 59 30.5	-2.0
EMIJ	Mijas	1.38	326	P	Pb	02 59 12.8	-2.0
EMIJ				S	Sb	02 59 27.4	-5.5
EMIJ	Mijas	1.38	326	P	Pb	02 59 12.8	-2.0
	0.3nm,0.1s,SNR=7.9						
EMIJ				S	Sb	02 59 27.6	-5.3
	1.6nm,0.2s,SNR=7.9						
EMIJ	Mijas	1.38	326	P	Pb	02 59 12.9	-1.9
	0.3nm,0.1s,SNR=7.9						
EMIJ				S	Sb	02 59 27.4	-5.5
	SNR=7.9						
EBER	Berja	1.65	27	P	Pn	02 59 17.9	-0.9
EBER				S	Sb	02 59 36.0	-4.6
EBER	Berja	1.65	27	P	Pn	02 59 17.9	-0.9
	3.3nm,0.8s,SNR=4.1						
EBER				S	Sb	02 59 39.3	-1.4
	1.3nm,0.2s						
EBER	Berja	1.65	27	P	Pn	02 59 17.9	-0.9
	3.3nm,0.8s,SNR=4.1						
EBER				S	Sb	02 59 36.0	-4.7
	3.4nm,0.6s						
EQES	Quesada	2.45	14	P	Pn	02 59 28.2	-2.1
	0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	02 59 57.3	-3.9
	1.5nm,0.3s,SNR=7.9						
EQES	Quesada	2.45	14	P	Pn	02 59 28.2	-2.0
	0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	02 59 57.3	-4.0

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*IDC **07** 03:18:06.4±1.3, 35.06S×109.53W, mb4.1/4, mb1 4.4/4, mb1mx4.0/16, mbtmp4.1/4, Error ellipse: s-maj=51.0km s-min=31.3km az=8.0*
*NEIC **07** 03:18:08.0±0.5, 34.96S×109.38W, h10km, mb4.4/5, Error ellipse: s-maj=19.5km s-min=12.0km az=72.0*

ISC 07 03:18:06.1±0.9, 35.0S±0.1×109.5W±0.2, h10km, n21, σ1§05/16, mb4.1/8, 2C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRQA	Tornquist	37.95	109	P	P	03 25 25.4	-0.1
	18nm,1.5s,mb4.6						
LPAZ	La Paz	41.32	74	P	P	03 25 56.0	+2.3
	3.7nm,1.1s,mb3.9,baz=181,slow=25,SNR=7.5						
LPAZ	La Paz	41.32	74	eP	P	03 25 54.3	+0.6
	7.3nm,1.2s,mb4.2						
SIV	San Ignacio	47.12	79	P	P	03 26 40.4	-0.1
	1.3nm,0.6s,mb4.0,baz=272,slow=8.0,SNR=8.9						
TEIG	Tepich	58.53	23	P	P	03 28 02.5	-2.7
VNA3	Neumayer Olymp	60.29	158	e	P	03 28 20.8	+4.0
VNA3	Neumayer Olymp	60.29	158	⇑iP	P	03 28 17.1	+0.3
VNA3				e	pP	03 28 20.8	+0.9
VNA2	Neumayer--Watz	61.10	158	e	P	03 28 26.6	+4.3
VNA2	Neumayer--Watz	61.10	158	⇑iP	P	03 28 22.7	+0.4
VNA2				e	pP	03 28 26.6	+1.2
SNAA	Sanae	62.11	160	eP	P	03 28 28.1	-0.9
	3.8nm,1.2s,mb4.4						
WMOK	Wichita Mounta	70.13	9	P	P	03 29 19.1	-1.7
	1.8nm,1.0s,mb4.0						
SDCO	Great Sand Dun	72.51	3	P	P	03 29 35.2	+0.2
NVAR	Mina Array Bea	73.55	353	P	P	03 29 42.2	+1.1
	1.6nm,0.9s,mb3.9,baz=162,slow=5.0,SNR=7.7						
DAU	Daniels Canyon	75.09	359	eP	P	03 29 50.4	+0.5
PDAR	Pinedale Array	77.43	360	P	P	03 30 03.1	+0.1
	1.5nm,0.9s,mb3.9,baz=180,slow=4.4,SNR=8.8						
HLID	Hailey	78.35	356	eP	P	03 30 08.7	+0.6
	3.5nm,1.1s,mb4.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AKASG	**Malin Array Be**	**146.41**	**49**	PKPbc	PKPbc	03 37 47.3	+0.5
	1.6nm,0.8s,baz=270,slow=4.5,SNR=8.0						
CMAR	**Chiang Mai Arr**	**149.88**	**244**	PKPbc	PKPdf	03 37 59.5	+4.4
	1.3nm,0.8s,baz=169,slow=2.3,SNR=5.4						
BR131	**Keskin Array S**	**150.45**	**70**	*e*PKPdf	PKPdf	03 37 59.5	+4.1
BRTR	**Keskin Array B**	**150.45**	**70**	PKPbc	PKPdf	03 37 59.5	+4.1
	2.5nm,1.0s,baz=180,slow=3.7,SNR=11						
SONM	**Songino Array**	**150.50**	**307**	PKPbc	PKPdf	03 37 58.4	+3.2
	1.6nm,0.8s,baz=90,slow=1.2,SNR=4.5						

IDC 07 03:34:19.2±4.4**, 1.48N×97.70E, mb3.7**/3**, mb1 3.8**/3**, mb1mx3.5**/18**, mbtmp3.7**/3**, Error ellipse: s-maj=170.1km s-min=31.1km az=57.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.76**	**123**	P	P	03 42 10.4	-1.8
	0.5nm,0.7s,baz=303,slow=9.2,SNR=4.7						
SONM	**Songino Array**	**46.78**	**8**	P	P	03 42 51.3	-1.0
	0.7nm,0.5s,baz=207,slow=6.4,SNR=4.2						
MKAR	**Makanchi Array**	**47.09**	**346**	P	P	03 42 52.3	-2.5
	1.1nm,0.7s,baz=152,slow=8.0,SNR=9.0						

IDC 07 03:48:52.7±2.9**, 1.15N×97.72E, mb3.7**/4**, mb1 3.9**/5**, mb1mx3.6**/20**, mbtmp3.7**/5**, ML3.8**/1**, MS3.1**/1**, Ms1 3.3**/1**, ms1mx2.9**/22**, Error ellipse: s-maj=105.0km s-min=29.9km az=57.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.24**	**4**	P	P	03 52 56.5	-0.1
	0.1nm,0.3s,baz=190,slow=10,SNR=5.5						
CMAR				LR	LR	04 00 26.3	
	comp=Z,54nm,18.2s,baz=317,slow=40						
WRA	**Warramunga Arr**	**41.57**	**122**	P	P	03 56 42.7	-1.4
	0.4nm,0.8s,baz=298,slow=7.9,SNR=3.3						
SONM	**Songino Array**	**47.10**	**8**	P	P	03 57 25.6	-2.6
	0.6nm,0.5s,baz=187,slow=10.0,SNR=4.1						
MKAR	**Makanchi Array**	**47.41**	**346**	P	P	03 57 29.4	-1.4
	1.1nm,0.5s,baz=163,slow=8.5,SNR=11						
BVAR	**Borovoye Array**	**56.47**	**341**	P	P	03 58 35.6	-3.1
	0.5nm,0.5s,baz=145,slow=8.0,SNR=3.3						

*STR **07** 04:06:31.8±0.3, 43.45N×0.57W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **07** 04:06:31.8, 43.45N×0.57W, h5km, ML2.7(LDG), ML2.3(STR), MN2.0(MDD), After STR.*
*LDG **07** 04:06:31.7±0.1, 43.40N×0.60W, h25km, Md2.9/3, Ml2.7/3, Error ellipse: s-maj=1.1km s-min=0.7km az=141.0*
*MDD **07** 04:06:32.9±0.4, 43.42N×0.58W, h3km±6km, mbLg1.8/12, Error ellipse: s-maj=3.0km s-min=1.9km az=3.0, PRXIMO*
*CSEM **07** 04:06:32.4±0.1, 43.42N×0.58W, h5km, ML2.9/5, Error ellipse: s-maj=1.4km s-min=1.0km az=143.0*
ISC 07 04:06:30.1±0.3**, 43.50N**±0.02×**0.56W**±0.02**, h8**km±3km**, n48,** σ**1.00**/91**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.40**	**224**	Pg	**Pg**	**04 06 38.8**	**+0.7**
ORDF				Sg	**Sg**	**04 06 44.3**	**+0.8**
ORDF	**Ordiarp**	**0.40**	**224**	P	**Pg**	**04 06 38.8**	**+0.7**
ORDF				S	**Sg**	**04 06 44.1**	**+0.6**
ATE	**Arette**	**0.42**	**194**	P	**Pg**	**04 06 38.6**	**-0.1**
ATE				S	**Sg**	**04 06 44.2**	**-0.2**
REYF	**Montagne du Re**	**0.44**	**164**	Pg	**Pg**	**04 06 39.3**	**+0.2**
REYF				Sg	**Sg**	**04 06 45.4**	**+0.3**
REYF	**Montagne du Re**	**0.44**	**164**	P	**Pg**	**04 06 39.5**	**+0.4**
REYF				S	**Sg**	**04 06 45.0**	**0.0**
LARF	**Larrau**	**0.56**	**215**	Pg	**Pg**	**04 06 41.4**	**+0.1**
LARF				Sg	**Sg**	**04 06 48.8**	**0.0**
LARF	**Larrau**	**0.56**	**215**	P	**Pg**	**04 06 41.3**	**+0.1**
LARF				S	**Sg**	**04 06 48.4**	**-0.3**
OSSF	**Osses**	**0.57**	**245**	Pg	**Pg**	**04 06 42.3**	**+0.8**
OSSF				Sg	**Sg**	**04 06 49.9**	**+0.8**
OSSF	**Osses**	**0.57**	**245**	P	**Pg**	**04 06 42.3**	**+0.8**
OSSF				S	**Sg**	**04 06 50.5**	**+1.4**
ETSF	**Etsaut**	**0.60**	**180**	*e*Pg	**Pg**	**04 06 41.5**	**-0.6**
ETSF				*e*Sg	**Sg**	**04 06 49.5**	**-0.6**
	48nm,0.4s						
SJPF	**Ste Jean**	**0.62**	**232**	*e*Pg	**Pg**	**04 06 42.7**	**+0.2**
SJPF				*e*Sg	**Sg**	**04 06 50.3**	**-0.6**
LABF	**Labassere**	**0.64**	**134**	P	**Pg**	**04 06 44.2**	**+1.2**
LABF				S	**Sg**	**04 06 53.5**	**+1.8**
FDAF	**Les Forges d'A**	**0.68**	**181**	P	**Pb**	**04 06 43.0**	**-0.7**
FDAF				S	**Sg**	**04 06 51.6**	**-1.1**
EALK	**Alkurruntz**	**0.75**	**249**	⇑Pg	**Pg**	**04 06 45.6**	**+0.6**
	4.7nm,0.3s,SNR=18						
EALK				Lg		04 06 56.9	
	37nm,0.3s,SNR=24						
VIEF	**Viey**	**0.75**	**145**	Pg	**Pg**	**04 06 45.2**	**+0.2**
VIEF				Sg	**Sg**	**04 06 54.8**	**-0.2**
VIEF	**Viey**	**0.75**	**145**	P	**Pb**	**04 06 45.4**	**+0.5**
VIEF				S	**Sb**	**04 06 55.3**	**+0.4**
EPF	**Esparros**	**0.80**	**125**	*e*Pn	**Pn**	**04 06 46.6**	**-0.8**
EPF				*e*Pg	**Pg**	**04 06 47.8**	**+1.6**
EPF				*e*Sg	**Sg**	**04 06 57.7**	**+0.7**
	36nm,0.2s						
IPRE	**Itoiz**	**0.91**	**221**	Pg	**Pg**	**04 06 48.1**	**-0.1**
	SNR=4.0						
IPRE				Lg		04 07 00.8	
	12nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**0.91**	**221**	Pg	**Pg**	**04 06 48.2**	**0.0**
	SNR=4.0						
RESF	**Ens**	**0.95**	**136**	Pg	**Pg**	**04 06 49.3**	**+0.2**
RESF				Sg	**Sg**	**04 07 02.9**	**+1.1**
RESF	**Ens**	**0.95**	**136**	P	**Pb**	**04 06 49.8**	**+1.4**
RESF				S	**Sb**	**04 07 02.3**	**+1.5**
EBIE	**Bielsa**	**0.96**	**147**	Pg	**Pg**	**04 06 49.3**	**0.0**
	2.8nm,0.3s,SNR=23						
EBIE				Lg		04 07 01.8	
	9.7nm,0.2s,SNR=12						
EBIE	**Bielsa**	**0.96**	**147**	Pg	**Pg**	**04 06 49.3**	**0.0**
	2.8nm,0.3s,SNR=23						
EGRA	**Graus**	**1.45**	**153**	Pg	**Pg**	**04 06 59.0**	**-0.1**
	2.0nm,0.2s,SNR=14						
EGRA				Lg		04 07 18.6	
	3.3nm,0.3s,SNR=5.6						
ECRI	**Cripan**	**1.68**	**239**	Pg	**Pg**	**04 07 03.2**	**-0.6**
	2.3nm,0.2s,SNR=7.9						
ECRI				Lg		04 07 25.3	
	2.1nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**1.72**	**32**	*e*Pg	**Pg**	**04 07 05.7**	**+1.3**
LFF				*e*Sg	**Sg**	**04 07 29.1**	**+1.8**
ESAC	**San Caprasio**	**1.77**	**178**	Pg	**Pg**	**04 07 04.7**	**-0.9**
ESAC				Sn	**Sn**	**04 07 24.9**	**+0.6**
ESAC				Lg		04 07 28.6	
ESAC	**San Caprasio**	**1.77**	**178**	Pg	**Pg**	**04 07 04.7**	**-0.9**
	25nm,0.3s,SNR=11						
ESAC				Sn	**Sn**	**04 07 24.8**	**+0.5**
	19nm,0.5s,SNR=5.8						
ESAC				Lg		04 07 28.6	
	44nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.77**	**178**	Pg	**Pg**	**04 07 04.7**	**-0.8**
	25nm,0.3s,SNR=11						
ESAC				Sn	**Sn**	**04 07 24.9**	**+0.6**
	33nm,0.3s,SNR=5.8						
MTLF	**Montolieu**	**2.03**	**93**	*e*P	**Pn**	**04 07 05.2**	**+0.3**
MTLF				*e*Pg	**Pg**	**04 07 10.0**	**-0.6**
MTLF				*e*Sn	**Sn**	**04 07 26.1**	**-4.6**
MTLF				*e*Sg	**Sg**	**04 07 36.9**	**-0.7**
	17nm,0.4s						
ELAN	**Lanestosa**	**2.12**	**264**	Pg	**Pg**	**04 07 11.9**	**-0.4**
	0.8nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**04 07 33.3**	**+0.4**
	0.8nm,0.2s,SNR=7.9						
ELAN				Lg		04 07 41.0	
	2.2nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**2.12**	**264**	Pg	**Pg**	**04 07 11.9**	**-0.4**
	SNR=7.9						
ELAN				Sn	**Sn**	**04 07 33.3**	**+0.4**
	SNR=7.9						
EMIR	**Miracle**	**2.20**	**135**	Pg	**Pg**	**04 07 12.7**	**-1.4**
	3.6nm,0.2s,SNR=7.8						
EMIR				Sn	**Sn**	**04 07 35.3**	**+0.1**
	SNR=7.9						
EMIR				Lg		04 07 42.5	
	12nm,0.4s,SNR=7.9						
EMIR	**Miracle**	**2.20**	**135**	Pg	**Pg**	**04 07 12.7**	**-1.4**
	3.6nm,0.2s,SNR=7.8						
EMIR				Sn	**Sn**	**04 07 35.3**	**+0.1**
	SNR=7.9						
RJF	**Les Rejaudoux**	**2.34**	**39**	*e*Pg	**Pg**	**04 07 17.0**	**+0.2**
RJF				*e*Sg	**Sg**	**04 07 48.6**	**+0.6**
CAF	**Calviac**	**2.37**	**52**	*e*Pn	**Pn**	**04 07 08.8**	**-1.0**
CAF				*e*Pg	**Pg**	**04 07 17.3**	**0.0**
CAF				*e*Sg	**Sg**	**04 07 49.6**	**+0.7**
CAF	**Calviac**	**2.37**	**52**	*e*Pg	**Pg**	**04 07 17.3**	**0.0**
CAF				*e*Sg	**Sg**	**04 07 49.6**	**+0.7**
EPOB	**Poblet**	**2.46**	**150**	Pg	**Pg**	**04 07 17.4**	**-1.8**
	0.6nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**04 07 40.6**	**-1.1**
	1.2nm,0.3s,SNR=4.0						
EPOB				Lg		04 07 48.6	
	3.0nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.46**	**150**	Pg	**Pg**	**04 07 17.4**	**-1.8**
	0.6nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**04 07 40.6**	**-1.1**
	SNR=4.0						
ERTA	**Horta de San J**	**2.62**	**165**	Pg	**Pg**	**04 07 19.4**	**-3.0**
	1.2nm,0.2s,SNR=7.9						
ERTA				Sn	**Sn**	**04 07 44.7**	**-1.1**
	0.9nm,0.2s,SNR=4.0						
ERTA				Lg		04 07 54.4	
	13nm,0.5s,SNR=7.9						
ERTA	**Horta de San J**	**2.62**	**165**	Pg	**Pg**	**04 07 19.4**	**-3.1**
	SNR=7.9						
ERTA				Sn	**Sn**	**04 07 44.7**	**-1.1**
	SNR=4.0						
MFF	**Saint Martin d**	**3.12**	**5**	*e*Sg	**Sg**	**04 08 12.4**	**-1.5**
EMOS	**Mosqueruela**	**3.13**	**179**	Pn	**Pn**	**04 07 22.3**	**+1.6**
EMOS				Pg	**Pg**	**04 07 29.9**	**-2.7**
EMOS				Sn	**Sn**	**04 07 58.6**	**-0.1**
EMOS				Lg		04 08 11.3	
EMOS	**Mosqueruela**	**3.13**	**179**	Pn	**Pn**	**04 07 22.3**	**+1.6**
	0.4nm,0.3s,SNR=7.9						
EMOS				Pg	**Pg**	**04 07 29.9**	**-2.7**
	0.5nm,0.3s,SNR=7.9						
EMOS				Sn	**Sn**	**04 07 58.6**	**-0.1**
	0.9nm,0.3s,SNR=7.9						
EMOS				Lg		04 08 09.4	
	1.8nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**3.13**	**179**	Pn	**Pn**	**04 07 22.3**	**+1.6**
	SNR=7.9						
EMOS	**Mosqueruela**	**3.13**	**179**	Pg	**Pg**	**04 07 29.9**	**-2.7**
	SNR=7.9						
EMOS				Sn	**Sn**	**04 07 58.6**	**-0.1**
	SNR=7.9						
LASF	**Ste Croix**	**3.25**	**78**	*e*Sg	**Sg**	**04 08 15.6**	**-2.7**
	1.1nm,0.2s						
BGF	**Bois d'Agland**	**3.90**	**37**	*e*Sg	**Sg**	**04 08 37.1**	**-2.7**
	13nm,0.4s						

*CRAAG **07** 04:11:39.8, 35.62N×0.43W, Ml4.0*
*CSEM **07** 04:11:40.8±0.1, 35.58N×0.67W, h40km, ML4.0, Error ellipse: s-maj=2.1km s-min=1.8km az=127.0*
*CNRM **07** 04:11:41.5, 35.90N×0.81E, h30km, MD3.9*
*MDD **07** 04:11:42.4±0.3, 35.73N×0.73W, mb4.3/22, Error ellipse: s-maj=4.2km s-min=3.3km az=34.0, PRXIMO*
MDD EMS: V BRAYA KERMA (DATOS INTENSIDAD: CRAAG).
*NEIC **07** 04:11:42.0, 35.71N×0.72W, MG4.3(MDD), After MDD.*
*LDG **07** 04:11:42.4±0.5, 35.91N×0.77W, h10km, Ml3.1/4, Error ellipse: s-maj=10.5km s-min=5.2km az=157.0*
*INMG **07** 04:11:42.4±1.0, 35.75N×0.68W, h6km±9km, Error ellipse: s-maj=7.5km s-min=3.1km az=137.0*
ISC 07 04:11:41.2±0.3**, 35.81N**±0.02×**0.72W**±0.03**, h10**km**, n121,** σ**1.33**/203**, 1D, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.16**	**119**	P	**Pg**	**04 11 47.0**	**+2.2**
OTSS	**Djebel Tessala**	**0.53**	**186**	P	**Pg**	**04 11 51.0**	**-0.9**
ODZI	**Dziouia**	**0.67**	**219**	P	**Pb**	**04 11 54.0**	**-0.4**
ODJA	**Bouhanifia**	**0.67**	**136**	P	**Pb**	**04 11 52.0**	**-2.5**
OLHC	**Oulhaca**	**0.80**	**226**	P	**Pb**	**04 11 57.0**	**+0.3**
OJBR	**Djebel Berber**	**0.90**	**104**	P	**Pb**	**04 11 57.0**	**-1.4**
OKGL	**Djebel Kef Gue**	**1.13**	**78**	P	**Pb**	**04 11 58.0**	**-4.3**
OJGS	**Djebel Guires**	**1.24**	**104**	P	**Pb**	**04 11 57.0**	**-7.2**
EANR	**'Ain N'Sour**	**1.48**	**84**	P	**Pn**	**04 12 09.0**	**+0.9**
ENIJ	**Nijar**	**1.67**	**314**	⇓P	**Pn**	**04 12 11.4**	**+0.7**
	33nm,0.3s,SNR=18						
ENIJ				S	**Sn**	**04 12 33.0**	**+0.7**
	95nm,0.2s						
ETRT	**Tiaret**	**1.70**	**104**	P	**Pn**	**04 12 11.0**	**-0.1**
ECHF	**Ech Chlef**	**1.71**	**78**	P	**Pn**	**04 12 15.0**	**+3.8**
ECHA	**Ech Chlef**	**1.73**	**78**	P	**Pn**	**04 12 15.0**	**+3.5**
CART	**Cartagena**	**1.79**	**353**	*e*Pn	**Pn**	**04 12 12.0**	**-0.4**
CART				*e*Sn	**Sn**	**04 12 32.2**	**-3.1**
CART	**Cartagena**	**1.79**	**353**	*e*Pn	**Pn**	**04 12 12.0**	**-0.4**
CART				*e*Sn	**Sn**	**04 12 32.2**	**-3.1**
ZAI	**Zaio**	**1.85**	**244**	*e*P	**Pn**	**04 12 09.5**	**-3.9**
ZAI				*i* S	**Sn**	**04 12 31.5**	**-5.6**
EALB	**Alboran**	**1.88**	**275**	P	**Pn**	**04 12 13.6**	**-0.1**
EALB				S	**Sn**	**04 12 37.4**	**-0.4**
EALB	**Alboran**	**1.88**	**275**	P	**Pn**	**04 12 13.7**	**0.0**
	15nm,0.2s,SNR=15						
EALB				S	**Sn**	**04 12 37.2**	**-0.5**
	42nm,0.3s						
EALB	**Alboran**	**1.88**	**275**	P	**Pn**	**04 12 13.6**	**-0.2**
	15nm,0.2s,SNR=15						
EALB				S	**Sn**	**04 12 37.4**	**-0.4**
	42nm,0.3s						
EBNR	**Beni Rached**	**1.89**	**75**	P	**Pn**	**04 12 17.0**	**+3.2**
EMLI	**Melilla**	**1.89**	**255**	P	**Pn**	**04 12 13.2**	**-0.6**
	31nm,0.2s,SNR=4.6						
EMLI				S	**Sn**	**04 12 38.2**	**+0.3**
	89nm,0.2s						
EMEL	**Melilla**	**1.89**	**255**	P	**Pn**	**04 12 13.2**	**-0.7**
	31nm,0.2s,SNR=4.6						
EMEL				S	**Sn**	**04 12 38.2**	**+0.1**
	89nm,0.2s						
EBER	**Berja**	**2.06**	**302**	P	**Pn**	**04 12 17.1**	**+0.8**
	17nm,0.2s,SNR=28						
EBER				S	**Sn**	**04 12 43.6**	**+1.3**
	40nm,0.2s,SNR=6.9						
EBER	**Berja**	**2.06**	**302**	P	**Pn**	**04 12 17.1**	**+0.8**
	17nm,0.2s,SNR=28						
EBER				S	**Sn**	**04 12 43.6**	**+1.4**
	40nm,0.2s,SNR=6.9						
EMUR	**La Murta**	**2.07**	**349**	P	**Pn**	**04 12 17.0**	**+0.6**
EMUR				S	**Sn**	**04 12 40.4**	**-2.1**
EMUR	**La Murta**	**2.07**	**349**	P	**Pn**	**04 12 17.0**	**+0.6**
	15nm,0.2s,SNR=35						
EMUR				S	**Sn**	**04 12 40.7**	**-1.8**
	62nm,0.2s,SNR=14						
EMUR	**La Murta**	**2.07**	**349**	P	**Pn**	**04 12 17.0**	**+0.6**
	15nm,0.2s,SNR=35						
EMUR				S	**Sn**	**04 12 40.3**	**-2.2**
	62nm,0.2s,SNR=14						
EHUE	**Huescar**	**2.50**	**324**	P	**Pn**	**04 12 24.6**	**+2.0**
EHUE				S	**Sn**	**04 12 55.2**	**+1.7**
EHUE	**Huescar**	**2.50**	**324**	P	**Pn**	**04 12 24.5**	**+1.9**
	2.6nm,0.2s,SNR=34						
EHUE				S	**Sn**	**04 12 56.2**	**+2.8**
	2.7nm,0.2s						
EHUE	**Huescar**	**2.50**	**324**	P	**Pn**	**04 12 24.6**	**+2.0**
	2.6nm,0.2s,SNR=34						
EHUE				S	**Sn**	**04 12 55.2**	**+1.7**
	2.7nm,0.2s						
EGUA	**Guajares**	**2.51**	**295**	P	**Pn**	**04 12 22.3**	**-0.5**
	3.9nm,0.3s,SNR=7.9						
EGUA				S	**Sn**	**04 12 55.2**	**+1.4**
	3.5nm,0.2s,SNR=7.9						
TOU	**Touzarine**	**2.62**	**252**	*e*P	**Pn**	**04 12 20.5**	**-3.8**
TOU				*e*S	**Sn**	**04 12 48.0**	**-8.5**
ECOG	**Cogollos-Vega**	**2.72**	**303**	P	**Pn**	**04 12 27.8**	**+2.1**
ECOG				S	**Sn**	**04 12 58.5**	**-0.5**
ECOG	**Cogollos-Vega**	**2.72**	**303**	P	**Pn**	**04 12 27.8**	**+2.1**
	12nm,0.2s,SNR=20						
ECOG				S	**Sn**	**04 12 58.5**	**-0.5**
	6.5nm,0.2s						
EQES	**Quesada**	**2.74**	**317**	P	**Pn**	**04 12 28.6**	**+2.5**
EQES				S	**Sn**	**04 13 01.3**	**+1.7**
EQES	**Quesada**	**2.74**	**317**	P	**Pn**	**04 12 28.6**	**+2.5**
	26nm,0.2s,SNR=108						
EQES				S	**Sn**	**04 13 02.6**	**+3.0**
	16nm,0.2s						
EQES	**Quesada**	**2.74**	**317**	P	**Pn**	**04 12 28.5**	**+2.5**
EQES				S	**Sn**	**04 13 01.3**	**+1.8**
	16nm,0.2s						
ERON	**Agron**	**2.76**	**297**	P	**Pn**	**04 12 28.0**	**+1.6**
ERON				S	**Sn**	**04 13 00.0**	**-0.1**
ERON	**Agron**	**2.76**	**297**	P	**Pn**	**04 12 27.4**	**+1.0**
	27nm,0.3s,SNR=33						
ERON				S	**Sn**	**04 13 02.2**	**+2.1**
	6.8nm,0.3s,SNR=8.4						
ERON	**Agron**	**2.76**	**297**	P	**Pn**	**04 12 28.0**	**+1.6**
	27nm,0.3s,SNR=33						
ERON				S	**Sn**	**04 13 00.0**	**-0.1**
	6.8nm,0.3s,SNR=8.4						
ETOB	**Tobarra**	**2.90**	**347**	P	**Pn**	**04 12 30.0**	**+1.6**
	18nm,0.2s,SNR=107						
ETOB				S	**Sn**	**04 13 04.3**	**+0.6**
	39nm,0.2s						
ETOB	**Tobarra**	**2.90**	**347**	P	**Pn**	**04 12 30.0**	**+1.6**
	18nm,0.2s,SNR=107						
ETOB				S	**Sn**	**04 13 04.3**	**+0.6**
	39nm,0.2s						
EBEN	**Beniarda**	**2.91**	**8**	P	**Pn**	**04 12 28.8**	**+0.3**
EBEN				S	**Sn**	**04 13 01.9**	**-2.0**
EBEN	**Beniarda**	**2.91**	**8**	P	**Pn**	**04 12 28.8**	**+0.2**
	4.3nm,0.2s,SNR=18						
EBEN				S	**Sn**	**04 13 01.9**	**-2.0**
	20nm,0.3s						
EBEN	**Beniarda**	**2.91**	**8**	P	**Pn**	**04 12 28.8**	**+0.3**
	4.3nm,0.2s,SNR=18						
EBEN				S	**Sn**	**04 13 01.9**	**-2.0**
	20nm,0.3s						
EMHD	**Djebel Mahouad**	**3.00**	**81**	P	**Pn**	**04 12 31.0**	**+1.2**
ELOJ	**Sierra Loja**	**3.07**	**297**	P	**Pn**	**04 12 33.0**	**+2.3**
ELOJ				S	**Sn**	**04 13 08.7**	**+0.8**
ELOJ	**Sierra Loja**	**3.07**	**297**	P	**Pn**	**04 12 32.9**	**+2.2**
	7.9nm,0.4s,SNR=18						
ELOJ				S	**Sn**	**04 13 08.7**	**+0.8**
	4.4nm,0.4s,SNR=6.8						
ELOJ	**Sierra Loja**	**3.07**	**297**	P	**Pn**	**04 12 33.0**	**+2.3**
	7.9nm,0.4s,SNR=18						
ELOJ				S	**Sn**	**04 13 08.7**	**+0.8**
	4.4nm,0.4s,SNR=6.8						
EVIA	**Vianos**	**3.16**	**334**	P	**Pn**	**04 12 33.8**	**+1.8**
EVIA				S	**Sn**	**04 13 10.4**	**+0.2**
EVIA	**Vianos**	**3.16**	**334**	P	**Pn**	**04 12 33.4**	**+1.4**
	13nm,0.3s,SNR=13						
EVIA				S	**Sn**	**04 13 10.4**	**+0.2**
	8.3nm,0.3s,SNR=6.6						
EVIA	**Vianos**	**3.16**	**334**	P	**Pn**	**04 12 33.8**	**+1.8**
	13nm,0.3s,SNR=13						
EVIA				S	**Sn**	**04 13 10.4**	**+0.2**
	8.3nm,0.3s,SNR=6.6						
TZK	**Tazeka**	**3.32**	**240**	*i* P	**Pn**	**04 12 30.0**	**-4.3**
TZK				*i* S	**Sn**	**04 13 06.0**	**-8.3**
EMIJ	**Mijas**	**3.36**	**284**	P	**Pn**	**04 12 33.9**	**-1.0**
EMIJ				S	**Sn**	**04 13 12.0**	**-3.2**
EMIJ	**Mijas**	**3.36**	**284**	P	**Pn**	**04 12 33.9**	**-1.0**
	1.3nm,0.1s,SNR=7.2						
EMIJ				S	**Sn**	**04 13 11.8**	**-3.5**
	16nm,0.4s						
EMIJ	**Mijas**	**3.36**	**284**	P	**Pn**	**04 12 33.9**	**-1.0**
	1.3nm,0.1s,SNR=7.2						
EMIJ				S	**Sn**	**04 13 12.0**	**-3.3**
	16nm,0.4s						
EBAN	**Banos Encina**	**3.40**	**315**	P	**Pn**	**04 12 36.8**	**+1.4**
	6.2nm,0.2s,SNR=13						
EBAN				S	**Sn**	**04 13 17.1**	**+1.0**
	6.1nm,0.2s						
EIBI	**Ibiza**	**3.61**	**26**	P	**Pn**	**04 12 38.4**	**0.0**
EIBI				S	**Sn**	**04 13 17.7**	**-3.7**
EIBI	**Ibiza**	**3.61**	**26**	P	**Pn**	**04 12 37.8**	**-0.5**
	7.9nm,0.2s,SNR=35						
EIBI				S	**Sn**	**04 13 18.0**	**-3.5**
	35nm,0.2s						
EIBI	**Ibiza**	**3.61**	**26**	P	**Pn**	**04 12 38.4**	**+0.1**
	7.9nm,0.2s,SNR=35						
EIBI				S	**Sn**	**04 13 17.7**	**-3.7**
	35nm,0.2s						
ECHE	**Chera**	**3.78**	**357**	P	**Pn**	**04 12 41.5**	**+0.7**
ECHE				S	**Sn**	**04 13 25.0**	**-0.8**
ECHE	**Chera**	**3.78**	**357**	P	**Pn**	**04 12 42.0**	**+1.2**
	0.5nm,0.1s,SNR=7.9						
ECHE				S	**Sn**	**04 13 25.0**	**-0.8**
	3.1nm,0.2s,SNR=7.9						
ECHE	**Chera**	**3.78**	**357**	P	**Pn**	**04 12 41.5**	**+0.7**
	0.5nm,0.1s,SNR=7.9						
ECHE				S	**Sn**	**04 13 25.0**	**-0.8**
	3.1nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.88**	**308**	P	**Pn**	**04 12 43.1**	**+0.8**
	1.6nm,0.3s,SNR=12						
EADA				S	**Sn**	**04 13 26.8**	**-1.6**
	3.5nm,0.2s						
EADA	**Adamuz**	**3.88**	**308**	P	**Pn**	**04 12 43.1**	**+0.9**
	1.6nm,0.3s,SNR=12						
EADA				S	**Sn**	**04 13 26.8**	**-1.6**
	3.5nm,0.2s						
CZD	**Col de Zad**	**4.52**	**233**	*e*P	**Pn**	**04 12 48.0**	**-3.3**
CZD				*i* S	**Sn**	**04 13 35.5**	**-9.1**
EMOS	**Mosqueruela**	**4.55**	**2**	P	**Pn**	**04 12 52.9**	**+1.2**
	6.1nm,0.1s,SNR=50						
EMOS				S	**Sn**	**04 13 43.6**	**-1.8**
	16nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**4.55**	**2**	P	**Pn**	**04 12 52.9**	**+1.2**
	6.1nm,0.1s,SNR=50						
EMOS				S	**Sn**	**04 13 43.6**	**-1.7**
	16nm,0.5s,SNR=7.9						
ESDC	**Sonseca Array**	**4.63**	**327**	P	**Pn**	**04 12 53.7**	**+0.8**
	18nm,0.2s,baz=141,slow=13,SNR=55						
ESDC				S	**Sn**	**04 13 44.5**	**-2.9**
	1.3nm,0.3s,baz=145,slow=23,SNR=7.6						
ESDC	**Sonseca Array**	**4.63**	**327**	P	**Pn**	**04 12 53.7**	**+0.8**
	18nm,0.2s,SNR=55						
ESDC				S	**Sn**	**04 13 44.5**	**-3.0**
	1.3nm,0.3s,SNR=7.6						
ZFT	**Errachidia**	**4.83**	**220**	*e*P	**Pn**	**04 12 51.0**	**-4.7**
ZFT				*i* S	**Sn**	**04 13 44.0**	**-8.4**
ETOS	**Mallorca**	**4.84**	**34**	P	**Pn**	**04 12 56.0**	**+0.1**
ETOS				S	**Sn**	**04 13 47.3**	**-5.4**
ETOS	**Mallorca**	**4.84**	**34**	P	**Pn**	**04 12 55.9**	**+0.1**
	2.5nm,0.3s,SNR=7.9						
ETOS				S	**Sn**	**04 13 48.7**	**-4.0**
	3.8nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**4.84**	**34**	P	**Pn**	**04 12 55.9**	**0.0**
	2.5nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.16**	**294**	P	**Pn**	**04 12 58.5**	**-1.9**
EMIN				S	**Sn**	**04 13 56.5**	**-4.2**
EMIN	**Mina Concepcio**	**5.16**	**294**	P	**Pn**	**04 12 58.5**	**-1.9**
	0.7nm,0.1s,SNR=14						
EMIN				S	**Sn**	**04 13 57.9**	**-2.8**
	2.0nm,0.4s						
EMIN	**Mina Concepcio**	**5.16**	**294**	P	**Pn**	**04 12 58.5**	**-1.9**
	0.7nm,0.1s,SNR=14						
EMIN				S	**Sn**	**04 13 56.5**	**-4.2**
	2.0nm,0.4s						
ERTA	**Horta de San J**	**5.20**	**9**	P	**Pn**	**04 13 01.8**	**+0.9**
ERTA				S	**Sn**	**04 13 59.0**	**-2.9**
ERTA	**Horta de San J**	**5.20**	**9**	P	**Pn**	**04 13 01.8**	**+0.9**
	2.4nm,0.2s,SNR=9.2						
ERTA				S	**Sn**	**04 13 59.4**	**-2.4**
	3.9nm,0.2s						
ERTA	**Horta de San J**	**5.20**	**9**	P	**Pn**	**04 13 01.8**	**+0.8**
	2.4nm,0.2s,SNR=9.2						
EGRO	**El Granado**	**5.70**	**290**	P	**Pn**	**04 13 07.0**	**-0.9**
EGRO				S	**Sn**	**04 14 09.8**	**-4.5**
EGRO	**El Granado**	**5.70**	**290**	P	**Pn**	**04 13 07.0**	**-0.9**
	1.9nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**04 14 11.4**	**-2.8**
	3.2nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**5.70**	**290**	P	**Pn**	**04 13 07.1**	**-0.9**
	1.9nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.71**	**14**	P	**Pn**	**04 13 07.7**	**-0.4**
EPOB				S	**Sn**	**04 14 08.1**	**-6.4**
EPOB	**Poblet**	**5.71**	**14**	P	**Pn**	**04 13 07.7**	**-0.4**
	2.4nm,0.3s,SNR=7.9						
EPOB				S	**Sn**	**04 14 09.7**	**-4.8**
	1.9nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.71**	**14**	P	**Pn**	**04 13 07.7**	**-0.4**
	2.4nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**5.81**	**302**	P	**Pn**	**04 13 08.7**	**-0.9**
EBAD				S	**Sn**	**04 14 13.2**	**-3.9**
EBAD	**Badajoz**	**5.81**	**302**	P	**Pn**	**04 13 08.7**	**-0.9**
	2.3nm,0.3s,SNR=12						
EBAD				S	**Sn**	**04 14 13.8**	**-3.4**
	5.8nm,0.2s						
EBAD	**Badajoz**	**5.81**	**302**	P	**Pn**	**04 13 08.7**	**-0.9**
	2.3nm,0.3s,SNR=12						
ESAC	**San Caprasio**	**5.91**	**2**	P	**Pn**	**04 13 12.2**	**+1.3**
	8.1nm,0.3s,SNR=7.9						
ESAC				S	**Sn**	**04 14 17.1**	**-2.4**
	18nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**5.91**	**2**	P	**Pn**	**04 13 12.2**	**+1.3**
	8.1nm,0.3s,SNR=7.9						
PBEJ	**Beja**	**6.14**	**293**	*e*Pn	**Pn**	**04 13 13.0**	**-1.1**
EMIR	**Miracle**	**6.34**	**15**	P	**Pn**	**04 13 16.6**	**-0.4**

	1.5nm,0.2s,SNR=7.9						
EMIR				S	Sn	04 14 26.9	-3.4
	3.1nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**6.34**	**15**	P	**Pn**	**04 13 16.6**	**-0.4**
	1.5nm,0.2s,SNR=7.9						
EVO	**Evora**	**6.42**	**297**	*e*Pn	**Pn**	**04 13 17.9**	**-0.3**
EVO				*e*Sn	**Sn**	**04 14 27.5**	**-4.9**
	7.0nm,0.5s						
PCBR	**Castelo Branco**	**6.69**	**309**	*e*Pn	**Pn**	**04 13 21.9**	**-0.1**
PCBR				*e*Sn	**Sn**	**04 14 34.9**	**-4.1**
EBIE	**Bielsa**	**6.90**	**5**	P	**Pn**	**04 13 24.0**	**-0.8**
	0.4nm,0.3s,SNR=7.9						
EBIE				S	**Sn**	**04 14 39.5**	**-4.8**
	1.7nm,0.6s,SNR=7.9						
EBIE	**Bielsa**	**6.90**	**5**	P	**Pn**	**04 13 24.0**	**-0.9**
	0.4nm,0.3s,SNR=7.9						
ECRI	**Cripan**	**6.93**	**349**	P	**Pn**	**04 13 27.0**	**+1.7**
	4.2nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**7.06**	**312**	*e*Pn	**Pn**	**04 13 27.6**	**+0.4**
ETSF	**Etsaut**	**7.08**	**1**	*e*Pn	**Pn**	**04 13 22.7**	**-4.7**
ETSF				*e*P		04 13 27.5	
ETSF				*e*Sn	**Sn**	**04 14 37.6**	**-11**
	2.1nm,0.4s						
ETSF	**Etsaut**	**7.08**	**1**	*e*P	**Pn**	**04 13 27.5**	**+0.1**
PTOM	**Tomar**	**7.18**	**304**	*e*Pn	**Pn**	**04 13 28.2**	**-0.7**
EPF	**Esparros**	**7.26**	**6**	*e*Pn	**Pn**	**04 13 24.8**	**-5.1**
EPF				*e*P		04 13 30.1	
EPF				*e*Sn	**Sn**	**04 14 39.7**	**-14**
	1.8nm,0.3s						
EPF	**Esparros**	**7.26**	**6**	*e*P	**Pn**	**04 13 30.1**	**+0.2**
SJPF	**Ste Jean**	**7.30**	**357**	*e*P	**Pn**	**04 13 31.2**	**+0.6**
SJPF				*e*Sn	**Sn**	**04 14 42.1**	**-12**
	2.2nm,0.5s						
EALK	**Alkurruntz**	**7.42**	**356**	P	**Pn**	**04 13 32.6**	**+0.4**
	5.6nm,0.4s,SNR=9.4						
EALK				S	**Sn**	**04 14 51.4**	**-6.0**
	11nm,0.8s						
PVIS	**Viseu**	**7.47**	**313**	*e*Pn	**Pn**	**04 13 32.9**	**0.0**
PBRG	**Braganca**	**7.61**	**324**	*e*Pn	**Pn**	**04 13 35.4**	**+0.6**
ELAN	**Lanestosa**	**7.70**	**345**	P	**Pn**	**04 13 36.9**	**+0.7**
	3.7nm,0.3s,SNR=11						
ELAN	**Lanestosa**	**7.70**	**345**	P	**Pn**	**04 13 36.8**	**+0.7**
ECAL	**Calabor**	**7.71**	**324**	P	**Pn**	**04 13 36.4**	**+0.2**
	4.7nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**7.71**	**324**	P	**Pn**	**04 13 36.4**	**+0.1**
PVRL	**Vila Real**	**7.73**	**317**	*e*Pn	**Pn**	**04 13 36.5**	**-0.1**
PVRL				*e*Sn	**Sn**	**04 15 01.9**	**-3.2**
EARI	**Arriondas**	**8.24**	**337**	P	**P**	**04 13 43.9**	**+0.2**
	5.2nm,0.3s,SNR=25						
EARI				S	**Sn**	**04 15 11.4**	**-6.4**
	105nm,1.6s						
EARI	**Arriondas**	**8.24**	**337**	P	**P**	**04 13 43.9**	**+0.2**
ELOB	**Lobios**	**8.33**	**319**	P	**P**	**04 13 44.3**	**-0.6**
	0.7nm,0.2s,SNR=7.9						
ELOB				S	**Sn**	**04 15 12.4**	**-7.5**
	2.0nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**8.33**	**319**	P	**P**	**04 13 44.3**	**-0.5**
EPON	**Pontenova**	**8.99**	**328**	P	**P**	**04 13 53.8**	**-0.3**
	2.7nm,0.4s,SNR=7.9						
EPON	**Pontenova**	**8.99**	**328**	P	**P**	**04 13 53.8**	**-0.3**
LFF	**La Frestale**	**9.19**	**7**	*e*Pn	**P**	**04 13 51.6**	**-5.2**

CASC 07 04:14:02.2±1.5**, 8.46N×82.74W, h20**km±15km**, MD3.6, 1C-1D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.29**	**94**	⇓*i*P	Pb	04 14 08.3	-0.4
DVD				*e*S	Sb	04 14 14.0	+0.9
BRU	**Baru**	**0.39**	**27**	*e*P	Pb	04 14 10.7	+0.3
BRU				*e*S	Sb	04 14 18.2	+2.3
PTP1	**Petroterminal**	**0.40**	**129**	⇑*i*P	Pb	04 14 05.0	-5.4
PTP1				*e*S	Sb	04 14 10.5	-5.6
BUS	**Buena Vista**	**1.48**	**317**	*e*S	Sn	04 14 49.4	+2.4
LCR2	**La Lucha 2**	**1.78**	**316**	*e*P	Pn	04 14 32.4	0.0
LCR2				*e*S	Sn	04 14 56.4	+1.7
PRS1	**Puriscal**	**2.17**	**315**	*e*P	Pn	04 14 36.4	-1.6
PRS1				*e*S	Sn	04 15 03.1	-1.4

NNC 07 04:19:13.8±5.9, 36.82N×70.10E, h168km±64km, mpv4.1, Error ellipse: s-maj=50.1km s-min=35.4km az=28.0

ISC 07 04:19:07.0±1.0**, 36.29N**±0.05×**70.1E**±0.1**, h189**km±17km**, n31, σ1§35**/38**, mb3.5**/1**, 3C-6D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**6.01**	**128**	*e*P	**P**	**04 20 37.8**	**+2.8**
THN				*e*		04 21 44.8	
DLH	**Dalhousie**	**6.10**	**126**	*e*P	**P**	**04 20 41.0**	**+4.8**
DLH				*e*S	**S**	**04 21 47.0**	**+1.4**
AML	**Almayashu**	**6.46**	**24**	P	**P**	**04 20 40.8**	**0.0**
	SNR=124						
KK31	**Karatay Array**	**6.81**	**2**	⇓P	**P**	**04 20 45.2**	**-0.3**
	4.6nm,0.3s,baz=195,slow=14,SNR=164						
KK31				⇓S	**S**	**04 21 56.2**	**-6.1**
	6.9nm,0.4s						
UCH	**Uchtor**	**6.83**	**28**	P	**P**	**04 20 45.9**	**0.0**
	SNR=42						
KZA	**Kyzart**	**7.01**	**33**	P	**P**	**04 20 47.8**	**-0.4**
	SNR=24						
BHK	**Bhakra**	**7.14**	**131**	*e*	**S**	**04 22 10.8**	**+0.8**
AAK	**Ala-Archa**	**7.18**	**27**	P	**P**	**04 20 50.0**	**-0.3**
	SNR=9.8						
AAK	**Ala-Archa**	**7.18**	**27**	⇓P	**P**	**04 20 50.1**	**-0.2**
	7.7nm,0.5s						
AAK				⇓S	**S**	**04 22 06.6**	**-4.3**
	28nm,0.5s						
KBK	**Karagaybulak**	**7.37**	**29**	P	**P**	**04 20 53.1**	**+0.3**
	SNR=6.5						
SDNR	**Sundarnagar**	**7.43**	**128**	*e*P	**P**	**04 20 55.0**	**+1.4**
SDNR				*e*S	**S**	**04 22 14.0**	**-2.8**
ULHL	**Ulahol**	**7.60**	**37**	P	**P**	**04 20 55.5**	**-0.4**
	SNR=7.9						
USP	**Ospenovka**	**7.74**	**24**	P	**P**	**04 20 57.3**	**-0.3**
	SNR=6.3						
SMLA	**Simla**	**7.80**	**129**	⇓*i*P	**P**	**04 20 57.4**	**-1.1**
SMLA				*i* S	**S**	**04 22 20.6**	**-4.9**
TKM2	**Tokmak 2**	**7.85**	**31**	P	**P**	**04 20 59.2**	**0.0**
	SNR=6.2						
JASL	**Jaisalmer**	**9.36**	**176**	*e*S	**S**	**04 23 02.7**	**+0.7**
NDI	**New Delhi**	**9.66**	**140**	*e*P	**P**	**04 21 23.0**	**+0.2**
NDI				*e*S	**S**	**04 23 07.5**	**-1.5**
AYAN	**Aya Nagar**	**9.77**	**141**	*e*S	**S**	**04 23 08.9**	**-2.8**
BISR	**Bishrakh**	**9.86**	**139**	*e*S	**S**	**04 23 10.9**	**-2.9**
SONA	**Sohna**	**9.94**	**142**	*e*S	**S**	**04 23 12.3**	**-3.3**
SONA				AML	AML	04 23 16.4	
	comp=N,18nm,0.3s						
SONA				AML	AML	04 23 16.5	
	comp=E,28nm,0.3s						
KOLN	**Koldanda**	**14.23**	**123**	*e*P	**P**	**04 22 21.8**	**+0.7**
GKN	**Gorkha**	**14.80**	**120**	*e*P	**P**	**04 22 29.4**	**+1.2**
	comp=E,32nm,0.5s						
AB31	**Akbulak array**	**14.94**	**333**	⇑P	**P**	**04 22 28.3**	**-1.6**
	comp=E,1.4nm,0.3s,baz=146,slow=14,SNR=98						
AB31				⇑S	**S**	**04 25 12.4**	**+2.0**
	comp=E,1.7nm,0.8s						
DMN	**Daman**	**15.37**	**120**	*e*P	**P**	**04 22 36.8**	**+1.5**
	comp=E,7.3nm,0.3s						
KKN	**Kakani**	**15.38**	**119**	*e*P	**P**	**04 22 36.4**	**+1.0**
	comp=E,29nm,0.5s						
PKI	**Pulchoki**	**15.60**	**120**	*e*P	**P**	**04 22 39.6**	**+1.4**
	comp=E,46nm,0.7s						
GUN	**Gumba**	**15.73**	**118**	*e*P	**P**	**04 22 42.0**	**+2.2**
VOSK	**Vostochnaya**	**16.44**	**2**	⇓P	**P**	**04 22 47.0**	**-1.3**
	comp=E,3.1nm,1.4s						
ZRNK	**Zerenda**	**16.68**	**358**	⇑P	**P**	**04 22 50.0**	**-1.1**
	comp=E,0.6nm,0.4s						
BVA0	**Borovoye Array**	**16.73**	**1**	P	**P**	**04 22 55.9**	**+4.1**
	comp=E,0.6nm,1.1s,baz=165,slow=12,SNR=9.1						
NB2	**NORSAR Subarra**	**44.13**	**323**	P	**P**	**04 26 57.0**	**-0.8**
	comp=E,0.6nm,0.5s,mb3.5,baz=98,slow=7.9						

NEIC 07 04:30:18.3, 38.41S×176.07E, h150km, MG3.5(WEL), After WEL.

WEL 07 04:30:17.9±0.3**, 38.42S×176.06E, h153**km±2km**, ML3.6**/16**, 2C, Error ellipse: s-maj=2.7km s-min=2.6km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTVZ	**Oturere**	**0.81**	**202**	PN	P	04 30 42.0	+0.2
OTVZ				SN	S	04 31 00.1	-0.1
BKZ	**Black Stump Fm**	**0.82**	**156**	P	P	04 30 41.9	0.0
BKZ				S	S	04 30 59.3	-1.0
BKZ	**Black Stump Fm**	**0.82**	**156**	⇑PN	P	04 30 41.9	0.0
BKZ				SN	S	04 30 59.3	-1.0
NGZ	**Ngauruhoe**	**0.84**	**205**	PN	P	04 30 42.0	0.0
URZ	**Urewera**	**0.84**	**80**	P	P	04 30 41.5	-0.5
URZ	**Urewera**	**0.84**	**80**	⇑PN	P	04 30 41.5	-0.4
URZ				SN	S	04 30 59.7	-0.8
CNZ	**Chateau**	**0.88**	**207**	P	P	04 30 42.2	0.0
CNZ	**Chateau**	**0.88**	**207**	PN	P	04 30 42.2	0.0
TUVZ	**Tukino**	**0.91**	**200**	P	P	04 30 42.4	-0.1
TUVZ	**Tukino**	**0.91**	**200**	PN	P	04 30 42.5	+0.1
TUVZ				SN	S	04 31 00.9	-0.5
FWVZ	**Far West T-bar**	**0.93**	**205**	*e*P	P	04 30 42.7	+0.1
FWVZ	**Far West T-bar**	**0.93**	**205**	PN	P	04 30 42.7	+0.1
WNVZ	**Wahianoa**	**0.98**	**201**	P	P	04 30 43.0	0.0
WNVZ	**Wahianoa**	**0.98**	**201**	PN	P	04 30 43.0	0.0
MOVZ	**Moawhango**	**1.02**	**193**	PN	P	04 30 42.9	-0.4
PKVZ	**Pokaka**	**1.04**	**212**	PN	P	04 30 43.1	-0.3
MWZ	**Matawai**	**1.16**	**87**	P	P	04 30 44.5	-0.1
MWZ				S	S	04 31 04.3	-0.9
MWZ	**Matawai**	**1.16**	**87**	PN	P	04 30 44.5	-0.1
KNZ	**Kokohu**	**1.40**	**116**	*e*P	P	04 30 47.0	0.0
KNZ	**Kokohu**	**1.40**	**116**	PN	P	04 30 47.0	0.0
TSZ	**Takapari Road**	**1.65**	**183**	PN	P	04 30 48.9	-0.7
PWZ	**Pawanui**	**1.73**	**159**	*e*P	P	04 30 50.1	-0.4
PWZ	**Pawanui**	**1.73**	**159**	PN	P	04 30 50.1	-0.4
PUZ	**Puketiti**	**1.76**	**80**	P	P	04 30 50.2	-0.7
PUZ				S	S	04 31 14.2	-2.1
PUZ	**Puketiti**	**1.76**	**80**	PN	P	04 30 50.2	-0.7
BFZ	**Birch Farm**	**2.27**	**176**	P	P	04 30 55.2	-1.7
BFZ	**Birch Farm**	**2.27**	**176**	PN	P	04 30 55.3	-1.6
MRZ	**Mangatainoka R**	**2.27**	**189**	PN	P	04 30 54.9	-2.0
KIW	**Kapiti Island**	**2.60**	**200**	P	P	04 30 58.2	-2.8
KIW	**Kapiti Island**	**2.60**	**200**	PN	P	04 30 58.2	-2.8
MTW	**Mount Morrison**	**2.77**	**189**	P	P	04 31 00.2	-3.0
MTW	**Mount Morrison**	**2.77**	**189**	PN	P	04 31 00.2	-3.0
CAW	**Cannon Point**	**2.80**	**196**	P	P	04 31 00.6	-2.9
CAW	**Cannon Point**	**2.80**	**196**	PN	P	04 31 00.6	-2.9
MRW	**Makara Radio**	**3.00**	**200**	P	P	04 31 02.7	-3.4
MSWZ	**Moikau Station**	**3.06**	**191**	P	P	04 31 03.4	-3.5
SNZO	**South Karori**	**3.07**	**199**	P	P	04 31 03.5	-3.5
TCW	**Tory Channel**	**3.11**	**206**	P	P	04 31 04.1	-3.5
BHW	**Baring Head**	**3.13**	**197**	P	P	04 31 04.1	-3.6
NNZ	**Nelson**	**3.48**	**216**	*e*P	P	04 31 08.2	-4.1
THZ	**Tophouse**	**4.13**	**215**	*e*P	P	04 31 16.5	-4.3

NNC 07 04:30:55.5±8.0, 37.86N×71.53E, h171km±147km, mpv3.8, Error ellipse: s-maj=89.6km s-min=45.8km az=24.0

ISC 07 04:30:54.2±3.3**, 37.9N**±0.2×**71.9E**±0.3**, h198**km±42km**, n9, σ1§11**/12**, 2C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.47**	**17**	P	**P**	**04 32 02.4**	**0.0**
	SNR=49						
UCH	**Uchtor**	**4.79**	**24**	P	**P**	**04 32 06.4**	**-0.1**
	SNR=9.5						
KZA	**Kyzart**	**4.92**	**30**	P	**P**	**04 32 07.3**	**-0.9**
	SNR=13						
AAK	**Ala-Archa**	**5.15**	**22**	P	**P**	**04 32 11.6**	**+0.5**
	SNR=6.2						
AAK	**Ala-Archa**	**5.15**	**22**	⇑P	**P**	**04 32 11.5**	**+0.3**
	5.2nm,0.5s						
AAK				⇓S	**S**	**04 33 14.9**	**+4.0**
	7.1nm,0.8s						
KK31	**Karatay Array**	**5.33**	**349**	⇓P	**P**	**04 32 13.9**	**+0.4**
	4.1nm,0.3s,baz=176,slow=12,SNR=54						
KK31				⇓S	**S**	**04 33 14.5**	**-0.6**
	2.9nm,0.5s						
ULHL	**Ulahol**	**5.49**	**36**	P	**P**	**04 32 14.3**	**-1.2**
	SNR=5.8						
TKM2	**Tokmak 2**	**5.78**	**28**	P	**P**	**04 32 19.3**	**+0.1**
	SNR=5.7						
AB31	**Akbulak array**	**14.29**	**327**	P	**P**	**04 34 10.6**	**+2.1**
	0.3nm,0.5s,baz=141,slow=12,SNR=8.0						
AB31				⇑S	**S**	**04 36 41.3**	**-0.9**
	0.3nm,0.5s						

STR 07 04:46:23.0±0.1, 43.00N×0.25E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

NEIC 07 04:46:23.2, 43.01N×0.25E, h4km, ML3.3(LDG), ML2.5(STR), ML2.4(MRB), MN2.7(MDD), After LDG.

LDG 07 04:46:23.2±0.0, 43.01N×0.25E, h4km, Md3.1/2, Ml3.3/15, Error ellipse: s-maj=0.9km s-min=0.8km az=23.0

CSEM 07 04:46:23.4±0.0, 43.01N×0.25E, h8km, ML3.2/22, Error ellipse: s-maj=0.8km s-min=0.7km az=147.0

MDD 07 04:46:23.7±0.2**, 42.98N×0.24E, h10**km**, mbLg2.6**/29**, 2C-1D, Error ellipse: s-maj=1.7km s-min=1.5km az=9.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.09**	**57**	*e*Pg	Pg	04 46 26.3	0.0
EPF				*e*Sg	Sg	04 46 28.6	+0.6
	2µm,0.2s						
LABF	**Labassere**	**0.14**	**298**	P	Pg	04 46 27.1	0.0
LABF				S	Sg	04 46 29.7	+0.4
VIEF	**Viey**	**0.19**	**238**	Pg	Pg	04 46 27.5	-0.4
VIEF				Sg	Sg	04 46 30.3	-0.4
VIEF	**Viey**	**0.19**	**238**	P	Pg	04 46 27.6	-0.3
VIEF				S	Sg	04 46 30.6	0.0
RESF	**Ens**	**0.19**	**157**	Pg	Pg	04 46 27.7	-0.2
RESF				Sg	Sg	04 46 30.8	0.0
RESF	**Ens**	**0.19**	**157**	P	Pg	04 46 27.8	-0.2
RESF				S	Sg	04 46 30.8	0.0
EBIE	**Bielsa**	**0.30**	**194**	Pg	Pg	04 46 29.6	-0.5
EBIE				Lg		04 46 33.6	
EBIE	**Bielsa**	**0.30**	**194**	⇑Pg	Pg	04 46 29.5	-0.5
	66nm,0.1s,SNR=18						
EBIE				Lg		04 46 33.6	
	324nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.30**	**194**	Pg	Pg	04 46 29.5	-0.6
	66nm,0.1s,SNR=741						
EBIE				Lg		04 46 33.6	
	324nm,0.1s,SNR=7.9						
MELF	**Melles**	**0.40**	**106**	Pg	Pg	04 46 30.6	-1.3
MELF				Sg	Sg	04 46 36.0	-1.3
MELF	**Melles**	**0.40**	**106**	P	Pg	04 46 30.6	-1.3
MELF				S	Sg	04 46 36.2	-1.1
REYF	**Montagne du Re**	**0.47**	**281**	Pg	Pg	04 46 32.1	-1.2
REYF				Sg	Sg	04 46 38.9	-0.8
REYF	**Montagne du Re**	**0.47**	**281**	P	Pg	04 46 32.1	-1.2
REYF				S	Sg	04 46 39.1	-0.7
ETSF	**Etsaut**	**0.59**	**262**	*e*Pg	Pg	04 46 34.5	-1.2
ETSF				*e*Sg	Sg	04 46 42.4	-1.3
MLS	**Moulis**	**0.63**	**92**	Pg	Pg	04 46 34.6	-1.8
MLS				Sg	Sg	04 46 44.2	-0.7
MLS	**Moulis**	**0.63**	**92**	P	Pb	04 46 34.5	-1.8
MLS				S	Sb	04 46 44.5	-0.3
ATE	**Arette**	**0.70**	**279**	P	Pb	04 46 36.2	-1.2
ATE				S	Sb	04 46 46.0	-0.8
SALF	**Salau**	**0.73**	**107**	Pg	Pg	04 46 37.0	-1.5
SALF				Sg	Sg	04 46 46.5	-1.8
SALF	**Salau**	**0.73**	**107**	P	Pb	04 46 36.9	-1.2
SALF				S	Sb	04 46 46.5	-1.4
EGRA	**Graus**	**0.79**	**176**	Pg	Pg	04 46 38.4	-1.1
EGRA				Lg		04 46 49.7	
EGRA	**Graus**	**0.79**	**176**	⇑Pg	Pg	04 46 38.4	-1.2
	8.8nm,0.2s,SNR=18						
EGRA				Lg		04 46 49.7	
	43nm,0.2s,SNR=4.0						
ORDF	**Ordiarp**	**0.89**	**285**	Pg	Pg	04 46 40.3	-1.3
ORDF				Sg	Sg	04 46 52.9	-0.7
ORDF	**Ordiarp**	**0.89**	**285**	P	Pb	04 46 40.0	-0.8
ORDF				S	Sb	04 46 52.5	+0.1
CSOR	**Sort**	**0.90**	**132**	Pg	Pg	04 46 40.2	-1.5
CSOR				Sg	Sg	04 46 52.3	-1.4
CSOR	**Sort**	**0.90**	**132**	Pg	Pg	04 46 40.2	-1.5
CSOR				Lg		04 46 52.2	
	26nm,0.2s						
CSOR	**Sort**	**0.90**	**132**	Pg	Pg	04 46 40.2	-1.5
CSOR				Sg	Sg	04 46 52.3	-1.4
LARF	**Larrau**	**0.90**	**274**	Pg	Pg	04 46 40.3	-1.5
LARF				Sg	Sg	04 46 52.3	-1.6
LARF	**Larrau**	**0.90**	**274**	P	Pb	04 46 40.1	-0.8
LARF				S	Sb	04 46 52.3	-0.5
PAND	**Andorre**	**1.07**	**115**	P	Pb	04 46 43.4	-0.4
PAND				S	Sb	04 46 57.3	-0.3
SJPF	**Ste Jean**	**1.08**	**277**	*e*Pg	Pg	04 46 43.4	-2.0
SJPF				*e*Sg	Sg	04 46 56.9	-3.0
SJPF				*e*Sn	Sn	04 46 58.3	-1.6
	57nm,0.3s						
CORG	**Organya**	**1.09**	**133**	Pg	Pg	04 46 44.3	-1.4
CORG				Sg	Sg	04 46 58.7	-1.6
CORG	**Organya**	**1.09**	**133**	Pg	Pg	04 46 44.3	-1.4
CORG				Lg		04 46 58.6	
	7.8nm,0.1s						
CORG	**Organya**	**1.09**	**133**	Pg	Pg	04 46 44.3	-1.4
CORG				Sg	Sg	04 46 58.7	-1.6
OSSF	**Osses**	**1.13**	**284**	Pg	Pg	04 46 43.4	-3.0
OSSF	**Osses**	**1.13**	**284**	P	Pb	04 46 43.6	-1.3
OSSF				S	Sb	04 46 59.9	+0.4
CAVN	**Les Avellanes**	**1.16**	**161**	Pg	Pg	04 46 45.4	-1.6
CAVN				Sg	Sg	04 47 00.8	-1.8
CAVN	**Les Avellanes**	**1.16**	**161**	Pg	Pg	04 46 45.4	-1.6
CAVN				Lg		04 47 00.7	
	70nm,0.1s						
CAVN	**Les Avellanes**	**1.16**	**161**	Pg	Pg	04 46 45.4	-1.6
CAVN				Sg	Sg	04 47 00.8	-1.8
IPRE	**Itoiz**	**1.19**	**262**	Pg	Pg	04 46 46.0	-1.5
	11nm,0.2s,SNR=7.9						
IPRE				Lg		04 47 02.6	
	33nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**1.19**	**262**	Pg	Pg	04 46 46.0	-1.5
	11nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**1.30**	**281**	Pg	Pg	04 46 46.4	-3.4
EALK				Lg		04 47 05.4	
EALK	**Alkurruntz**	**1.30**	**281**	Pg	Pg	04 46 46.2	-3.5
	12nm,0.2s,SNR=34						
EALK				Lg		04 47 05.5	
	65nm,0.2s,SNR=5.0						
EALK	**Alkurruntz**	**1.30**	**281**	Pg	Pg	04 46 46.4	-3.4
	12nm,0.2s,SNR=34						
ESAC	**San Caprasio**	**1.36**	**203**	Pg	Pg	04 46 49.4	-1.7
ESAC				Lg		04 47 07.3	
ESAC	**San Caprasio**	**1.36**	**203**	⇓Pg	Pg	04 46 49.4	-1.7
	108nm,0.2s,SNR=18						
ESAC				Lg		04 47 07.3	
	291nm,0.2s,SNR=5.0						
ESAC	**San Caprasio**	**1.36**	**203**	Pg	Pg	04 46 49.4	-1.6
	108nm,0.2s,SNR=59						
CLLI	**Llivia**	**1.37**	**111**	Pg	Pg	04 46 48.9	-2.3
CLLI				Sg	Sg	04 47 07.2	-2.4
CLLI	**Llivia**	**1.37**	**111**	Pg	Pg	04 46 48.9	-2.3
CLLI				Lg		04 47 07.1	
	18nm,0.2s						
CLLI	**Llivia**	**1.37**	**111**	Pg	Pg	04 46 48.9	-2.3
CLLI				Sg	Sg	04 47 07.2	-2.4
CARF	**Carcanieres**	**1.40**	**100**	Pg	Pg	04 46 50.1	-1.6
CARF				Sg	Sg	04 47 08.0	-2.4
CARF	**Carcanieres**	**1.40**	**100**	P	Pn	04 46 49.9	+0.5
CARF				S	Sb	04 47 07.8	+0.7
EMIR	**Miracle**	**1.43**	**138**	Pg	Pg	04 46 50.3	-2.0
	11nm,0.1s,SNR=12						
EMIR				Lg		04 47 09.6	
	26nm,0.2s,SNR=11						
EMIR	**Miracle**	**1.43**	**138**	Pg	Pg	04 46 50.3	-2.0
	11nm,0.1s,SNR=12						
VALF	**Valcebollere**	**1.43**	**113**	Pg	Pg	04 46 50.7	-1.7
VALF	**Valcebollere**	**1.43**	**113**	P	Pn	04 46 49.8	0.0
VALF				S	Sb	04 47 09.4	+1.2
MTLF	**Montolieu**	**1.49**	**75**	*e*Pn	Pn	04 46 48.9	-1.8
MTLF				*e*Pg	Pg	04 46 50.9	-2.7
MTLF				*e*Sn	Sn	04 47 07.8	-2.5
	69nm,0.2s						
MTLF				*e*Sg	Sg	04 47 10.2	-3.3
	75nm,0.3s						
CBRU	**Bruguera**	**1.59**	**115**	Pg	Pg	04 46 53.1	-2.4
CBRU				Sg	Sg	04 47 14.4	-2.5
CBRU	**Bruguera**	**1.59**	**115**	Pg	Pg	04 46 53.1	-2.5
CBRU				Lg		04 47 14.3	
	32nm,0.3s						
CBRU	**Bruguera**	**1.59**	**115**	Pg	Pg	04 46 53.2	-2.4
CBRU				Sg	Sg	04 47 14.4	-2.4
LRDF	**Laroque-de-Fa**	**1.69**	**91**	S	Sn	04 47 16.8	+1.5
EPOB	**Poblet**	**1.74**	**159**	Pg	Pg	04 46 54.5	-4.1
EPOB				Lg		04 47 17.6	
EPOB	**Poblet**	**1.74**	**159**	Pg	Pg	04 46 54.5	-4.1
	2.7nm,0.1s,SNR=18						
EPOB				Lg		04 47 17.9	
	42nm,0.2s,SNR=5.0						
EPOB	**Poblet**	**1.74**	**159**	Pg	Pg	04 46 54.5	-4.1
	2.7nm,0.1s,SNR=18						
CGAR	**Garraf**	**1.81**	**158**	Lg		04 47 29.5	
	5.3nm,0.2s						
LFF	**La Frestale**	**1.99**	**10**	*e*Pn	Pn	04 46 55.5	-2.3
LFF				*e*Pg	Pg	04 47 00.5	-3.0
LFF				*e*Sg	Sg	04 47 25.1	-4.9
	57nm,0.2s						
SJAF	**Saint Jean de**	**2.01**	**103**	S	Sn	04 47 27.3	+3.9
EJON	**La Jonquera**	**2.02**	**104**	Pn	Pn	04 46 57.8	-0.5
	0.5nm,0.2s,SNR=4.0						
EJON				Pg	Pg	04 47 01.0	-3.1
	2.1nm,0.2s,SNR=7.9						
EJON				Lg		04 47 27.9	
	12nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.02**	**104**	Pn	Pn	04 46 57.8	-0.5
	0.5nm,0.2s,SNR=4.0						
EJON	**La Jonquera**	**2.02**	**104**	Pg	Pg	04 47 01.0	-3.2
	2.1nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.02**	**178**	Pg	Pg	04 47 00.5	-3.7
ERTA				Lg		04 47 26.2	
ERTA	**Horta de San J**	**2.02**	**178**	Pg	Pg	04 47 00.5	-3.7
	4.8nm,0.1s,SNR=20						
ERTA				Lg		04 47 26.4	
	25nm,0.2s,SNR=19						
ERTA	**Horta de San J**	**2.02**	**178**	Pg	Pg	04 47 00.5	-3.7
	4.8nm,0.1s,SNR=20						
CFON	**Fontmartina**	**2.03**	**126**	Pn	Pn	04 46 58.8	+0.3
CFON				Sg	Sg	04 47 27.9	-3.5
CFON	**Fontmartina**	**2.03**	**126**	Pn	Pn	04 46 58.7	+0.3
CFON				Lg		04 47 27.9	
	60nm,0.2s						
CFON	**Fontmartina**	**2.03**	**126**	Pn	Pn	04 46 58.8	+0.4
CFON				Sg	Sg	04 47 28.0	-3.5
ECRI	**Cripan**	**2.06**	**260**	Pn	Pn	04 46 59.4	+0.6
	0.9nm,0.2s,SNR=7.9						
ECRI				Pg	Pg	04 47 02.0	-2.9
	11nm,0.2s,SNR=7.9						
ECRI				Lg		04 47 28.7	
	18nm,0.3s,SNR=7.9						
ECRI	**Cripan**	**2.06**	**260**	Pg	Pg	04 47 02.0	-2.9
	11nm,0.2s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.17**	**175**	*e*SN	Pg	04 47 06.0	-1.1
CAF	**Calviac**	**2.35**	**34**	*e*Pn	Pn	04 47 00.0	-2.9
CAF				*e*Pg	Pg	04 47 06.5	-4.1
CAF				*e*Sn	Sn	04 47 28.1	-4.0
CAF				*e*Sg	Sg	04 47 36.7	-5.3
RJF	**Les Rejaudoux**	**2.50**	**21**	*e*Pn	Pn	04 47 02.5	-2.6
RJF				*e*Pg	Pg	04 47 09.0	-4.6
RJF				*e*Sn	Sn	04 47 30.8	-5.0
RJF				*e*Sg	Sg	04 47 40.7	-6.2
	26nm,0.2s						
EMOS	**Mosqueruela**	**2.67**	**192**	Pn	Pn	04 47 07.7	+0.1
EMOS				Pg	Pg	04 47 12.5	-4.5
EMOS				Sn	Sn	04 47 38.5	-1.7
EMOS				Lg		04 47 46.8	
EMOS	**Mosqueruela**	**2.67**	**192**	Pn	Pn	04 47 07.6	+0.1
	0.2nm,0.1s,SNR=12						
EMOS				Pg	Pg	04 47 12.5	-4.5
	4.2nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	04 47 38.5	-1.7
	1.4nm,0.1s,SNR=7.9						
EMOS				Lg		04 47 46.0	
	5.1nm,0.1s,SNR=5.7						
EMOS	**Mosqueruela**	**2.67**	**192**	Pn	Pn	04 47 07.6	+0.1
	0.2nm,0.1s,SNR=12						
EMOS	**Mosqueruela**	**2.67**	**192**	Pg	Pg	04 47 12.5	-4.6
	4.2nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	04 47 38.5	-1.7
	1.4nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**2.70**	**277**	Pn	Pn	04 47 07.9	-0.1
	1.2nm,0.2s,SNR=7.9						
ELAN				Pg	Pg	04 47 12.9	-4.8
	1.5nm,0.2s,SNR=6.8						
ELAN				Sn	Sn	04 47 39.6	-1.4
	6.6nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**2.70**	**277**	Pn	Pn	04 47 07.9	-0.1
	1.2nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**2.70**	**277**	Pg	Pg	04 47 12.9	-4.8
	1.5nm,0.2s,SNR=6.8						
ELAN				Sn	Sn	04 47 39.6	-1.4
	6.6nm,0.2s,SNR=7.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LASF	Ste Croix	2.85	66	ePn	Pn	04 47 06.5	-3.6
LASF				ePg	Pg	04 47 15.7	-4.9
LASF				eSn	Sn	04 47 40.0	-4.8
LASF				eSg	Sg	04 47 52.5	-6.1
	26nm,0.2s						
ECHE	Chera	3.51	195	Pg	Pg	04 47 28.2	-5.6
	0.5nm,0.1s,SNR=4.0						
TCF	Toulx Ste Croi	3.59	22	ePn	Pn	04 47 17.0	-3.7
TCF				ePg	Pg	04 47 29.6	-5.9
TCF				eSn	Sn	04 47 57.4	-6.2
TCF				eSg	Sg	04 48 14.6	-8.8
	10nm,0.3s						
MFF	Saint Martin d	3.63	356	ePn	Pn	04 47 17.7	-3.5
MFF				eSn	Sn	04 47 58.3	-6.2
MFF				eSg	Sg	04 48 15.6	-9.0
	10.0nm,0.2s						
VIVF	Saint-Julien-l	3.71	58	ePn	Pn	04 47 19.0	-3.3
VIVF				ePg	Pg	04 47 31.3	-6.5
VIVF				eSn	Sn	04 48 00.7	-5.9
VIVF				eSg	Sg	04 48 18.4	-8.9
	7.9nm,0.2s						
ETOS	Mallorca	3.75	148	Pn	Pn	04 47 20.7	-2.2
	0.3nm,0.1s,SNR=7.9						
ETOS				Sn	Sn	04 48 03.1	-4.5
	0.5nm,0.2s,SNR=4.0						
ETOS	Mallorca	3.75	148	Pn	Pn	04 47 20.7	-2.2
	0.3nm,0.1s,SNR=7.9						
ETOS				Sn	Sn	04 48 03.1	-4.5
	0.5nm,0.2s,SNR=4.0						
EARI	Arriondas	4.00	276	Pn	Pn	04 47 25.6	-0.9
	0.7nm,0.2s,SNR=9.7						
EARI				Sn	Sn	04 48 10.9	-3.0
	0.4nm,0.1s,SNR=5.7						
EARI	Arriondas	4.00	276	Pn	Pn	04 47 25.5	-1.0
	0.7nm,0.2s,SNR=9.7						
EARI				Sn	Sn	04 48 10.9	-3.0
	0.4nm,0.1s,SNR=5.7						
BGF	Bois d'Agland	4.03	27	ePn	Pn	04 47 23.7	-3.2
BGF				ePg	Pg	04 47 37.9	-6.3
BGF				eSn	Sn	04 48 07.0	-7.6
BGF				eSg	Sg	04 48 28.7	-9.2
	46nm,0.4s						
EIBI	Ibiza	4.04	168	Sn	Sn	04 48 08.9	-6.0
	2.0nm,0.2s,SNR=7.9						
EIBI	Ibiza	4.04	168	Sn	Sn	04 48 08.1	-6.8
	2.0nm,0.2s,SNR=7.9						
SMF	Signal de Mont	4.47	34	ePn	Pn	04 47 29.4	-3.7
SMF				eSg	Sg	04 48 42.5	-10
	6.0nm,0.4s						
ETOB	Tobarra	4.54	198	Pn	Pn	04 47 32.9	-1.2
ETOB				Sn	Sn	04 48 21.7	-5.9
ETOB	Tobarra	4.54	198	Pn	Pn	04 47 32.9	-1.2
	0.3nm,0.1s,SNR=7.9						
ETOB				Sn	Sn	04 48 21.5	-6.0
	1.3nm,0.2s,SNR=7.9						
ETOB	Tobarra	4.54	198	Pn	Pn	04 47 32.9	-1.2
	0.3nm,0.1s,SNR=7.9						
ETOB				Sn	Sn	04 48 21.7	-5.9
	1.3nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	4.58	225	Pn	Pn	04 47 32.1	-2.5
	1.2nm,0.1s,baz=42,slow=14,SNR=6.6						
ESDC				Sn	Sn	04 48 23.6	-4.9
	4.0nm,0.1s,baz=45,slow=24,SNR=4.3						
ESDC	Sonseca Array	4.58	225	Pn	Pn	04 47 32.1	-2.5
	1.2nm,0.1s,SNR=6.6						
ESDC				Sn	Sn	04 48 23.6	-4.9
	4.0nm,0.1s,SNR=4.3						
SSF	Saint Saulge	4.69	28	ePn	Pn	04 47 32.3	-4.0
SSF				ePg	Pg	04 47 49.5	-7.9
SSF				eSg	Sg	04 48 48.2	-12
	4.1nm,0.3s						
LOR	Lormes	4.99	30	ePn	Pn	04 47 36.5	-4.0
LOR				eSg	Sg	04 48 58.7	-11
	4.6nm,0.3s						
ECAL	Calabor	5.26	261	Pn	Pn	04 47 41.6	-2.8
	0.5nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	04 48 38.9	-6.9
	10nm,0.4s,SNR=7.9						
ECAL	Calabor	5.26	261	Pn	Pn	04 47 41.6	-2.8
	0.5nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	04 48 38.9	-6.9
	10nm,0.4s,SNR=7.9						
EPON	Pontenova	5.42	276	Pn	Pn	04 47 44.7	-1.8
EPON				Sn	Sn	04 48 45.2	-4.4
EPON	Pontenova	5.42	276	Pn	Pn	04 47 44.7	-1.8
	0.6nm,0.2s,SNR=7.9						
EPON				Sn	Sn	04 48 43.4	-6.2
	4.7nm,0.3s,SNR=7.9						
EPON	Pontenova	5.42	276	Pn	Pn	04 47 44.7	-1.8
	0.6nm,0.2s,SNR=7.9						
EPON				Sn	Sn	04 48 45.2	-4.4
	4.7nm,0.3s,SNR=7.9						
ERUA	La Rua	5.47	266	Pn	Pn	04 47 44.6	-2.7
	1.9nm,0.2s,SNR=7.9						
QUIF	Quistinic	5.49	335	ePn	Pn	04 47 43.2	-4.3
SGMF	Saint Gilles	5.62	341	ePn	Pn	04 47 44.6	-4.8
SGMF				eSn	Sn	04 48 46.0	-8.9
	12nm,0.9s						
ROSF	Rostrenen	5.89	337	ePn	Pn	04 47 49.1	-4.1
EADA	Adamuz	6.05	219	Pn	Pn	04 47 52.8	-2.6
EADA				Sn	Sn	04 48 56.5	-8.9
EADA	Adamuz	6.05	219	Pn	Pn	04 47 52.8	-2.6
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	Sn	04 48 57.3	-8.1
	2.3nm,0.3s,SNR=7.9						
EADA	Adamuz	6.05	219	Pn	Pn	04 47 52.8	-2.6
ELOB	Lobios	6.24	263	Pn	Pn	04 47 54.9	-3.3
	0.2nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	04 49 02.9	-7.5
	0.7nm,0.1s,SNR=7.9						
ELOB	Lobios	6.24	263	Pn	Pn	04 47 54.9	-3.3
ELOB				Sn	Sn	04 49 02.9	-7.5

GUC 07 04:55:29.7±0.9, 34.90S×70.30W, h3km±10km, MD3.5, ML2.3, 6C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CICH	Cipreses	0.58	350	⇓iP	Pg	04 55 41.0	-0.3
CICH				iS	Sg	04 55 50.1	+1.0
SFDO	San Fernando	0.65	295	⇓iP	Pg	04 55 41.3	-1.4
SFDO				iS	Sg	04 55 51.2	-0.1
CACH	El Canelo	0.81	342	⇑iP	Pg	04 55 45.1	-0.8
CACH				iS	Sg	04 55 57.8	+1.0
CHCH	Chadas Angostu	1.00	343	⇑iP	Pb	04 55 48.9	-0.4
CHCH				iS	Sb	04 56 03.3	+0.6
LMEL	Las Melosas	1.05	5	⇑iP	Pb	04 55 49.3	-0.8
LMEL				iS	Sb	04 56 04.7	+0.7
LMEL				AMP		04 56 06.3	
	comp=E,150nm,0.1s						
PCH	Pirque	1.28	352	eP	Pb	04 55 53.6	-0.5
PCH				iS	Sb	04 56 11.5	+0.7
LNV	Longovilo	1.31	315	⇓iP	Pb	04 55 53.2	-1.4
LNV				iS	Sb	04 56 11.7	+0.1
TACH	Talagante	1.34	337	eP	Pb	04 55 54.5	-0.7
RCDM	Rinconada Maip	1.46	343	eP	Pn	04 55 56.1	-0.9
CLCH	Cerro Calan	1.51	353	⇑iP	Pn	04 55 57.5	-0.2
CLCH				iS	Sb	04 56 17.9	+0.6
CLCH				AMP		04 56 22.2	
	comp=N,69nm,0.5s						
FCH	Farellones	1.56	0	⇑iP	Pn	04 55 58.6	+0.1
FCH				iS	Sb	04 56 20.4	+1.4
FCH				AMP		04 56 22.4	
	comp=N,63nm,0.3s						
LCCH	Las Cruces	1.76	323	⇑iP	Pn	04 56 01.2	-0.1

NEIC 07 05:24:55.3, 53.20N×161.10W, h22km, mb4.3/1, ML3.8(AEIC), After AEIC.

IDC 07 05:24:56.3±1.3, 53.28N×161.12W, h30km±5km, mb3.6/9, mb1 3.8/12, mb1mx3.7/24, mbtmp3.7/12, ML3.6/2, MS3.0/2, Ms1 3.0/2, ms1mx2.4/26, Error ellipse: s-maj=33.8km s-min=18.8km az=28.0

ISC 07 05:24:53.0±1.2, 53.20N±0.04×161.08W±0.04, h23km±10km, h30km±.4km: pP-P, n57, σ0s.95/75, mb3.7/10, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DRIA	Deer Island	1.90	339	P	Pn	05 25 24.9	+0.3
DRIA				S	Sn	05 25 48.6	+0.5
DOL	Dolgoi Island	2.01	347	P	Pn	05 25 26.1	0.0
DOL				S	Sn	05 25 50.9	+0.2
DT1	Dutton Round H	2.04	340	P	Pn	05 25 26.5	-0.1
DT1				S	Sn	05 25 51.9	+0.4
DTNA	Dutton South F	2.07	341	P	Pn	05 25 27.2	+0.1
HAG	Hague Volcano	2.18	347	P	Pn	05 25 29.2	+0.6
SDPT	Sand Point	2.18	9	P	Pn	05 25 28.0	-0.7
SDPT				S	Sn	05 25 54.2	-1.0
PVV	Pavlof Volcano	2.22	349	P	Pn	05 25 29.4	+0.2
PVV				S	Sn	05 25 57.5	+1.4
BALA	Baldy Mountain	2.24	334	P	Pn	05 25 30.4	+1.0
PS1A	Pavlof South-1	2.26	350	P	Pn	05 25 30.1	+0.4
PS1A				S	Sn	05 25 58.8	+1.7
SSLS	Shishaldin Sou	2.30	312	P	Pn	05 25 31.2	+0.9
SSLS				S	Sn	05 25 58.5	+0.4
PN7A	Pavlof North-7	2.30	347	P	Pn	05 25 31.4	+1.0
PN6	Pavlof North-6	2.31	348	P	Pn	05 25 31.6	+1.2
PN6				S	Sn	05 25 58.8	+0.3
SSLN	Shishaldin Nor	2.36	314	P	Pn	05 25 32.0	+0.8
SSLW	Shishaldin Wes	2.39	312	P	Pn	05 25 32.0	+0.4
WESE	West Dahl East	2.44	303	P	Pn	05 25 32.5	+0.2
WESE				S	Sn	05 26 01.2	-0.5
WESN	West Dahl Nort	2.49	305	P	Pn	05 25 33.5	+0.5
WESS	West Dahl Sout	2.51	302	P	Pn	05 25 33.5	+0.2
WESS				S	Sn	05 26 02.3	-1.3
WTUG	Tugumak	2.56	312	P	Pn	05 25 34.5	+0.5
WFAR	Faris Peak	2.57	303	P	Pn	05 25 34.3	+0.2
WFAR				S	Sn	05 26 04.2	-0.8
BLHA	Black Hill	2.58	347	P	Pn	05 25 35.2	+1.0
WPOG	Pogromni	2.58	304	P	Pn	05 25 34.6	+0.2
AKA	Akutan	2.95	290	P	Pn	05 25 40.0	+0.5
AKUT	Akutan	2.95	290	P	Pn	05 25 39.7	+0.1
AKUT				S	Sn	05 26 13.9	-0.7
AHB	Akutan Harbor	2.97	290	P	Pn	05 25 39.9	+0.1
AHB				S	Sn	05 26 14.4	-0.6
AKLV	Akutan Long Va	3.06	290	P	Pn	05 25 41.1	0.0
AKLV				S	Sn	05 26 16.0	-1.4
AKGG	Akutan Green G	3.09	291	P	Pn	05 25 41.8	+0.2
AKGG				S	Sn	05 26 18.1	-0.1
LVA	Lava Point	3.10	290	P	Pn	05 25 41.9	+0.2
LVA				S	Sn	05 26 19.1	+0.6
MNAT	Makushin Natee	3.42	284	P	Pn	05 25 46.2	0.0
MTBL	Makushin Table	3.43	285	P	Pn	05 25 46.1	-0.2
MSW	Makushin Switc	3.48	284	P	Pn	05 25 46.7	-0.4
MSW				S	Sn	05 26 25.6	-2.4
ANPK	Aniakchak Peak	4.03	24	P	Pn	05 25 54.6	-0.3
ANPK				S	Sn	05 26 42.0	0.0
KJL	Kejulik	5.78	30	P	Pn	05 26 17.9	-1.7
KJL				S	Sn	05 27 22.3	-3.6
CAHL	Cahill	5.86	32	P	Pn	05 26 19.0	-1.8
ANCK	Angle Creek	5.92	30	P	Pn	05 26 19.9	-1.7
ANCK				S	Sn	05 27 25.3	-4.3
KAHC	Katmai Hardscr	6.44	30	P	Pn	05 26 26.8	-2.2
KDAK	Kodiak Island	6.66	43	P	Pn	05 26 28.8	-3.2
ILW	Iliamna West	8.15	29	P	P	05 26 51.7	-1.1
TT01	Tatalina	10.09	13	P	P	05 27 17.3	-2.3
ILAR	Eielson Array	13.67	26	Pn	P	05 28 02.0	-5.5
	0.3nm,0.3s,baz=219,slow=12,SNR=8.3						
ILAR				LR	LR	05 33 51.7	
	comp=Z,46nm,18.6s,baz=358,slow=39						
DLBC	Dease Lake	18.11	61	P	P	05 29 06.4	+1.9
	0.1nm,0.3s,baz=323,slow=8.4,SNR=3.2						
INK	Inuvik	19.98	30	Pn	P	05 29 25.8	-0.5
	0.8nm,0.3s,baz=244,slow=15,SNR=7.5						
INK				LR	LR	05 38 18.4	
	comp=Z,44nm,19.3s,baz=226,slow=40						
INK	Inuvik	19.98	30	eP	P	05 29 23.9	-2.4
	13nm,0.7s						
YKA	Yellowknife Ar	25.86	51	P	P	05 30 25.1	+1.0
	1.0nm,0.7s,mb3.4,baz=285,slow=7.2,SNR=4.8						
YKA	Yellowknife Ar	25.86	51	P	P	05 30 25.1	+1.0
NVAR	Mina Array Bea	32.72	99	P	P	05 31 26.7	+0.9
	0.8nm,0.8s,mb3.7,baz=295,slow=6.9,SNR=5.1						
ELK	Elko	33.09	93	P	P	05 31 29.3	+0.4
	0.8nm,0.8s,mb3.7,baz=97,slow=23,SNR=6.1						
PDAR	Pinedale Array	35.30	86	P	P	05 31 48.4	+0.4
	0.4nm,0.7s,mb3.5,baz=326,slow=5.3,SNR=3.9						
TXAR	Lajitas Array	47.76	96	P	P	05 33 30.3	+0.2
	1.4nm,0.8s,mb4.1,baz=303,slow=5.8,SNR=21						
TXAR	Lajitas Array	47.76	96	P	P	05 33 30.3	+0.2
FINES	FINESS Array B	65.56	356	P	P	05 35 35.8	-0.4
	0.9nm,0.7s,mb3.9,baz=45,slow=5.4,SNR=3.6						
FINES				pP	pP	05 35 45.1	+1.7
	2.6nm,0.9s,slow=3.8,SNR=5.2						
NB2	NORSAR Subarra	65.94	4	P	P	05 35 45.5	+6.8
	0.6nm,0.7s,mb3.7,baz=358,slow=6.5						
NOA	NORSAR Array B	65.94	4	pP	pP	05 35 46.0	+0.2
	1.1nm,0.8s,baz=357,slow=6.6,SNR=5.7						
MKAR	Makanchi Array	66.73	318	P	P	05 35 43.1	-0.8
	0.5nm,0.6s,mb3.7,baz=53,slow=6.1,SNR=5.3						
MKAR				pP	pP	05 35 52.7	+1.6
	0.8nm,0.6s,baz=45,slow=6.6,SNR=5.9						
MKAR	Makanchi Array	66.73	318	P	P	05 35 43.1	-0.8
MKAR				pP	pP	05 35 52.7	+1.6
AKASG	Malin Array Be	76.11	353	P	P	05 36 40.3	+0.4
	0.2nm,0.2s,mb3.7,baz=7.1,slow=5.7,SNR=5.0						
AKASG				pP	pP	05 36 49.4	+2.1
	2.7nm,0.7s,baz=6.6,slow=5.7,SNR=4.8						
GERES	GERESS Array B	78.24	4	P	P	05 36 53.6	+1.9
	0.2nm,0.3s,mb3.5,slow=1.0,SNR=2.9						
GERES				pP	pP	05 37 03.0	+4.0
	0.5nm,0.5s,slow=4.0,SNR=1.8						
BRTR	Keskin Array B	86.58	349	pP	pP	05 37 46.6	+4.1
	1.2nm,0.8s,baz=90,slow=2.5,SNR=5.5						

NEIC 07 05:31:39.8, 34.83S×71.77W, h37km, MD3.6(GUC), After GUC.

GUC 07 05:31:39.8±0.8, 34.83S×71.77W, h37km±3km, MD3.6, ML2.4, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFDO	San Fernando	0.66	71	⇑iP	P	05 31 53.4	+0.7
SFDO				iS	S	05 32 02.5	+0.6
LNV	Longovilo	0.92	19	eP	P	05 31 56.6	+0.2
LNV				iS	S	05 32 09.4	+0.8
CACH	El Canelo	1.20	54	eP	P	05 32 01.1	+0.7
CACH				iS	S	05 32 17.9	+2.2
CICH	Cipreses	1.23	66	⇓iP	P	05 32 01.5	+0.8
CICH				iS	S	05 32 17.8	+1.5
CHCH	Chadas Angostu	1.29	46	⇑iP	P	05 32 02.3	+0.7
CHCH				iS	S	05 32 19.7	+1.8
RCDM	Rinconada Maip	1.56	31	eP	P	05 32 06.0	+0.5
RCDM				AMP		05 32 28.0	
	comp=N,78nm,0.5s						
ANTU	Antumapu	1.57	37	iS	S	05 32 27.4	+2.4
ANTU				AMP		05 32 30.5	
	comp=E,90nm,0.3s						
LMEL	Las Melosas	1.63	53	iP	P	05 32 07.4	+0.9
LMEL				iS	S	05 32 28.8	+2.4
CLCH	Cerro Calan	1.76	36	eP	P	05 32 09.0	+0.6
CLCH				iS	S	05 32 30.8	+1.1

CSEM 07 06:20:26.1±0.1, 29.83N×31.81E, h30km, Mw3.6, Error ellipse: s-maj=2.8km s-min=1.2km az=149.0

HLW 07 06:20:27.2, 29.88N×31.84E, h21km, Mb3.5

SNSN 07 06:20:37.5, 29.40N×32.86E, Ml3.4

ISC 07 06:20:26.1±0.2, 29.91N±0.02×31.86E±0.02, h35km±5km, n83, σ0s.87/90, 17C-18D, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOT	Kottamia	0.03	313	⇑eP	P	06 20 31.3	-0.6
KOT				S	S	06 20 34.2	-1.7
HHAG	Hagoal	0.22	77	⇓eP	P	06 20 32.9	-0.2
HHAG				S	S	06 20 37.1	-0.8
GLL	Jalalah	0.35	202	⇑iP	P	06 20 34.6	-0.1
HSAF	As Saff	0.39	223	⇑iP	P	06 20 35.0	-0.2
HLW	Helwan	0.45	264	⇑iP	P	06 20 36.0	-0.1
AANS		0.55	314	⇓eP	P	06 20 38.2	+0.8
AANS				S	S	06 20 46.4	+0.8
SQR		0.57	268	⇑iP	P	06 20 38.0	+0.3
AYT	Al 'Ayyat	0.64	252	⇑iP	P	06 20 39.1	+0.4
FYM	Al Fayyum	0.74	253	⇑iP	P	06 20 40.8	+0.8
FYM				S	S	06 20 50.9	+0.6
SUZ		0.85	94	⇑eP	P	06 20 43.0	+1.4
SUZ		0.85	94	P	P	06 20 43.0	+1.4
ZAF		0.87	136	⇓P	P	06 20 42.9	+1.0
HMYD	Mayadein	0.92	263	⇓eP	P	06 20 44.0	+1.3
ZNM		1.03	121	⇓P	P	06 20 44.6	+0.3
HBNS	Bani Suwayf	1.10	211	⇑eP	P	06 20 46.6	+1.3
HNAT	Natroun	1.11	256	⇓eP	P	06 20 46.2	+0.8
AMAG	Maghara	1.38	58	⇑eP	P	06 20 50.6	+1.3
GRB	Gharib	1.82	153	⇓eP	P	06 20 56.2	+0.7
HNKL	Nakhl	1.84	89	⇓eP	P	06 20 56.9	+1.0
HBRG	Burj al 'Arab	1.87	291	⇑eP	P	06 20 57.5	+1.2
HRSH	Kfar Ka'horesh	1.92	56	⇑eP	P	06 20 58.3	+1.3
RSH		1.92	56	P	P	06 20 58.3	+1.3
HKAT	Jabal Katrina	2.32	126	⇓P	P	06 21 03.3	+0.6
KZIT	Kziot	2.41	65	Pn	P	06 21 04.4	+0.4
KZIT				Sn	S	06 21 31.3	-1.3
KMTI	Karmit	2.50	85	Pn	P	06 21 05.7	+0.5
ASUT		2.51	186	⇑P	P	06 21 06.1	+0.6
NUB		2.59	109	⇑eP	P	06 21 07.4	+0.9
HBST	Basata	2.60	105	P	P	06 21 06.9	+0.2
RMNI	Mount Ramon	2.61	74	Pn	P	06 21 07.2	+0.4
MBH	Mount Berech	2.66	92	Pn	P	06 21 08.2	+0.6
HDHB	Dhahab	2.69	115	P	P	06 21 08.5	+0.6
RTMM	Retamin	2.70	64	Pn	P	06 21 08.9	+0.8
EIL	Elat	2.70	94	⇑Pn	P	06 21 08.7	+0.5
EIL				Sn	S	06 21 40.8	+0.8
MASH	Mash'abbe Sade	2.75	66	Pn	P	06 21 08.6	-0.3
HRFI	Mount Harif	2.76	87	Pn	P	06 21 09.5	+0.5
PRNI	Paran	2.76	80	⇑Pn	P	06 21 09.5	+0.5
PRNI				Sn	S	06 21 42.1	+0.5
AQBJ	Aqaba	2.78	93	Pn	P	06 21 10.2	+0.9
HAQS	Haql	2.81	107	P	P	06 21 10.5	+0.8
ALWS	Ilw as Safayha	2.86	101	P	P	06 21 11.4	+1.1
JMOS	Jabal al Moall	2.93	104	P	P	06 21 12.1	+0.7
ZFRI	Zfri	2.95	77	Pn	P	06 21 12.0	+0.3
TAYS	Tayyib Ism	2.96	116	P	P	06 21 11.9	+0.1
AWBH		3.03	239	⇑eP	P	06 21 11.7	-1.1
AMZI	Amatzia	3.05	59	Pn	P	06 21 13.9	+0.7
AMZI				Sn	S	06 21 48.6	-0.4
YTIR	Yattir	3.16	62	Pn	P	06 21 15.0	+0.3
BDAS	Al Bad'	3.19	117	P	P	06 21 15.0	-0.2
MZDA	Masada	3.33	64	Pn	P	06 21 17.2	+0.1
MZDA				Sn	S	06 21 54.1	-1.9
DSI	Dead Sea	3.46	60	Pn	P	06 21 19.2	+0.3
SLTI	Sal'it	3.59	49	Pn	P	06 21 20.8	0.0
SLTI				Sn	S	06 22 00.1	-2.4
MKRJ	Makawir	3.65	62	Pn	P	06 21 21.9	+0.3
JMQS	Jabal Moqyreh	3.65	105	P	P	06 21 22.1	+0.4
HSFG		3.79	151	P	P	06 21 23.7	0.0
OFRI	'Ofer	3.81	44	Pn	P	06 21 22.9	-1.0
MMLI	Mount Malkishu	3.96	50	Pn	P	06 21 25.8	-0.3
MMLI				Sn	S	06 22 10.8	-1.2
HFRF	Wahat Farafira	4.16	229	⇑eP	P	06 21 28.2	-0.6
HNTI	Hanita	4.25	41	Pn	P	06 21 29.9	-0.3
HNTI				Sn	S	06 22 16.9	-2.4
HMAT	Matruh	4.28	287	⇓eP	P	06 21 30.0	-0.5
TBKS	Tabuk	4.44	111	P	P	06 21 32.5	-0.3
AKRG	Al Kharijah	4.55	196	⇓eP	P	06 21 33.3	-1.1
KSHT	Keshet	4.56	47	⇓Pn	P	06 21 35.2	+0.6
KSDI	Kefar Szold	4.61	44	Pn	P	06 21 34.7	-0.6
HQSR		4.70	151	⇓P	P	06 21 36.0	-0.6
HRI	Mount Hermon	4.71	44	Pn	P	06 21 35.7	-1.0
HDK1	Dakhla	4.86	207	⇓eP	P	06 21 37.9	-0.9
HEDF	Idfu	4.94	166	⇓eP	P	06 21 39.1	-0.7
LEF	Lefka	5.27	9	eP	Px	06 22 44.1	
SWA1		5.39	265	P	P	06 21 45.2	-1.0
SWA1		5.39	265	P	P	06 21 45.2	-1.1
APRS		5.61	191	⇑eP	P	06 21 48.1	-1.1
AKRL	Khor El Raml	6.26	173	⇓eP	P	06 21 57.3	-1.2
IKL	Isikli	6.50	13	eP	Px	06 22 59.7	
AKAS	Kas	6.59	344	iP	P	06 22 02.9	-0.2
AKAS				iS	S	06 23 11.3	-6.5
ASHG	Umm Shaghir	6.62	182	⇓eP	P	06 22 02.1	-1.4
UMJS	Umm Lajj	6.71	133	P	P	06 22 04.0	-0.9
HMSM	Jabal Masmas	7.00	180	⇓eP	P	06 22 07.4	-1.4
ELL	Elmali	7.02	347	eP	Px	06 23 08.4	
FETY	Fethiye	7.10	342	eP	Px	06 23 07.2	
HKFR	Khafra	7.30	184	P	P	06 22 11.9	-1.2
HSHL	Bi'r Shalatayn	7.48	154	P	P	06 22 14.3	-1.2
COBT	Iskenderun	7.55	28	iP	P	06 22 15.6	-1.0
GOLH	Golhisar	7.56	346	iP	P	06 22 16.8	+0.2
YER	Yerkesik	7.80	338	eP	Px	06 23 19.1	
BODT	Bodrum	8.08	333	eP	Px	06 23 20.9	

CASC 07 06:32:06.1±1.6, 13.17N×90.49W, h25km±5km, MD4.0, ML3.7, 10C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IXG	Ixpaco	1.00	2	⇑eP	Pb	06 32 23.8	-0.8
IXG				eS	Sb	06 32 37.9	+0.5
SBLS	San Blas	1.07	52	⇑eP	Pn	06 32 25.8	0.0
SBLS				eS	Sb	06 32 41.0	+1.5
RTR	El Retiro	1.09	48	⇑eP	Pn	06 32 26.2	+0.2
RTR				eS	Sb	06 32 41.8	+1.7
SNJE	San Jose	1.10	51	⇑eP	Pn	06 32 26.2	+0.1
SNJE				eS	Sb	06 32 42.0	+1.6
RBDL	Robledal	1.22	40	⇓eP	Pn	06 32 28.4	+0.6
RBDL				eS	Sn	06 32 45.0	+1.3
BOQS	Boqueron	1.30	64	⇑eP	Pn	06 32 28.8	-0.2
BOQS				eS	Sn	06 32 47.7	+2.0
FUG	Fuego 3	1.32	345	⇓eP	Pn	06 32 28.3	-0.9
FUG				eS	Sn	06 32 47.8	+1.7
SNET	Serv Nac Est T	1.33	67	eP	Pn	06 32 29.1	-0.3
SNET				i		06 32 30.9	
	comp=Z,1μm,0.2s						
SNET				eS	Sn	06 32 46.4	+0.1
LFU	La Fuente	1.46	67	eP	Pn	06 32 31.2	0.0
LFRS	El Faro	1.46	72	⇑eP	Pn	06 32 30.4	-0.9
LFRS				eS	Sn	06 32 49.6	-0.1
LBRS	Las Brisas	1.52	68	eP	Pn	06 32 31.9	-0.2
LBRS				eS	Sn	06 32 51.6	+0.5
LCBS	La Ceiba	1.55	72	⇑eP	Pn	06 32 31.6	-1.0
LCBS				eS	Sn	06 32 51.4	-0.6
MTO2	Montecristo 2	1.64	42	eP	Pn	06 32 34.5	+0.7
SNVI	San Vicente	1.67	74	⇑eP	Pn	06 32 33.8	-0.4
SNVI				eS	Sn	06 32 55.5	+0.5
SNVI				eS	Sn	06 32 56.4	+1.4
MRL	Marmol	2.04	22	⇑eP	Pn	06 32 39.8	+0.3
BLLM	Bellamira	2.21	83	⇑eP	Pn	06 32 42.6	+0.7

NNC 07 06:41:13.7±6.6, 37.09N×70.14E, mpv3.8, 2C-2D, Error ellipse: s-maj=63.2km s-min=29.9km az=22.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	6.01	3	P	Pn	06 42 47.2	+1.1
	3.4nm,0.3s,baz=170,slow=12,SNR=158						
KK31				S	Sn	06 43 58.4	+1.7
	7.5nm,0.7s,baz=188,slow=23,SNR=8.7						
AAK	Ala-Archa	6.47	30	⇓P	Pn	06 42 50.1	-2.4
	2.7nm,0.3s						
AAK				⇑S	Sn	06 44 04.5	-3.5
	4.8nm,0.5s						
AB31	Akbulak array	14.24	332	⇓P	P	06 44 36.3	-2.3
	0.9nm,0.6s,baz=148,slow=13,SNR=14						
AB31				⇑S	S	06 47 15.3	-3.1
	0.8nm,0.8s						

IDC 07 06:52:15.6±1.4, 3.78N×126.47E, mb4.0/5, mb1 4.2/5, mb1mx3.8/19, mbtmp4.0/5, Error ellipse: s-maj=99.7km s-min=21.0km az=70.0

ISC 07 06:52:19.0±1.2, 3.7N±0.2×126.2E±0.6, h33km, n7, σ0s.30/7, mb4.0/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.63	181	eP	P	06 57 08.6	+0.1
	2.1nm,0.5s,mb3.8						
FITZ	Fitzroy Crossi	21.63	181	P	P	06 57 08.9	+0.3
	3.8nm,0.8s,mb3.9,baz=356,slow=8.8,SNR=3.6						
WRA	Warramunga Arr	24.79	161	P	P	06 57 39.1	-0.4
	3.6nm,0.8s,mb3.9,baz=341,slow=10,SNR=17						
WB2	Warramunga Arr	24.79	161	eP	P	06 57 39.7	+0.1
STKA	Stephens Creek	38.26	159	P	P	06 59 38.2	+0.1
	2.3nm,0.7s,mb4.0,baz=345,slow=11,SNR=5.4						
MKAR	Makanchi Array	57.30	326	P	P	07 02 05.8	-0.3
	0.6nm,0.4s,mb4.0,baz=116,slow=8.0,SNR=14						
ARCES	ARCESS Array B	90.33	340	P	P	07 05 18.0	+0.4
	1.0nm,0.7s,mb4.3,baz=84,slow=8.2,SNR=3.7						

IDC 07 06:59:08.3±1.6, 17.02S×178.04W, mb4.0/3, mb1 4.3/3, mb1mx3.9/14, mbtmp4.0/3, Error ellipse:

s-maj=155.8km s-min=29.7km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.37**	**240**	P	P	07 06 40.0	-1.3
	1.9nm,0.4s,baz=88,slow=9.2,SNR=11						
WRA	**Warramunga Arr**	**45.14**	**259**	P	P	07 07 26.5	-2.2
	1.6nm,0.7s,baz=96,slow=6.9,SNR=31						
TXAR	**Lajitas Array**	**85.23**	**58**	P	P	07 11 47.3	-1.1
	0.6nm,0.8s,baz=217,slow=6.3,SNR=9.2						
TXAR				PP	PP	07 15 04.0	-3.7
	0.3nm,0.8s,baz=253,slow=9.4,SNR=3.9						

IDC 07 07:15:30.0±1.8**, 7.44N×93.81E, mb3.5**/3**, mb1 3.8**/4**, mb1mx3.6**/20**, mbtmp3.6**/4**, ML4.1**/1**, Error ellipse: s-maj=68.4km s-min=27.3km az=57.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.04**	**24**	Pn	P	07 18 24.0	-1.9
	0.4nm,0.3s,baz=207,slow=14,SNR=5.9						
MKAR	**Makanchi Array**	**40.44**	**348**	P	P	07 23 09.3	-2.4
	0.2nm,0.5s,baz=163,slow=7.3,SNR=3.5						
WRA	**Warramunga Arr**	**48.28**	**125**	P	P	07 24 13.2	-2.0
	0.5nm,0.5s,baz=305,slow=8.6,SNR=12						
FINES	**FINESS Array B**	**72.94**	**332**	P	P	07 27 01.4	-1.5
	0.9nm,0.6s,baz=120,slow=11,SNR=3.7						

CASC 07 07:33:28.9±1.9**, 10.84N×86.68W, h17**km±7km**, MD4.1, 9C-2D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.20**	**18**	*e*P	Pb	07 33 50.7	-0.1
CRUN				*e*S	Sb	07 34 08.4	+2.6
APON	**Apoyo**	**1.23**	**29**	⇑*e*P	Pb	07 33 50.7	-0.6
MASN	**Masaya**	**1.25**	**24**	*e*P	Pb	07 33 52.5	+0.8
CONN	**Concepcion**	**1.26**	**55**	⇑*e*P	Pb	07 33 51.0	-0.9
TICN	**Ticuantepe**	**1.27**	**20**	*e*P	Pb	07 33 51.5	-0.4
XAVN	**Gruta Xavier**	**1.35**	**15**	*e*P	Pn	07 33 52.4	-0.7
MGAN	**Managua**	**1.37**	**18**	⇑*e*P	Pn	07 33 52.4	-1.0
MGAN				*e*S	Sb	07 34 10.9	+0.2
WILN	**Americas 2**	**1.40**	**20**	⇑*e*P	Pn	07 33 52.8	-1.1
WILN				*e*S	Sb	07 34 13.3	+1.7
APYN	**Apoyeque**	**1.42**	**13**	⇓*e*P	Pn	07 33 53.3	-0.9
MOMJ	**Momotombo**	**1.57**	**5**	⇑*e*P	Pn	07 33 55.1	-1.1
LEON	**Leon**	**1.58**	**353**	⇑*e*P	Pn	07 33 55.1	-1.3
MIRN	**Miramar**	**1.59**	**359**	⇓*e*P	Pn	07 33 55.5	-1.1
CNGN	**Cerro Negro**	**1.65**	**359**	⇑*e*P	Pn	07 33 56.1	-1.3
CNGN				*e*S	Sn	07 34 18.6	+0.2
TEL3	**Telica 3**	**1.73**	**355**	⇑*e*P	Pn	07 33 57.2	-1.4
PYTN	**Playitas**	**1.80**	**20**	*e*P	Pn	07 33 57.8	-1.7
CRIN	**San Cristobal**	**1.88**	**349**	*e*P	Pn	07 34 01.1	+0.3
PRS1	**Puriscal**	**2.48**	**110**	*e*P	Pn	07 34 09.6	+0.2
SJS	**Escuela Geolog**	**2.74**	**109**	*e*P	Pn	07 34 12.9	-0.1
LCR2	**La Lucha 2**	**2.85**	**112**	*e*P	Pn	07 34 15.5	+0.8
TRTC	**Tortuguero**	**2.93**	**95**	*e*P	Pn	07 34 16.2	+0.5
TRTC				*e*S	Sn	07 34 50.3	-0.5
BUS	**Buena Vista**	**3.15**	**114**	⇑*e*P	Pn	07 34 19.2	+0.3
BUS				*e*S	Sn	07 34 56.9	+0.5

GUC 07 07:41:07.6±0.7**, 32.99S×72.12W, h10**km±10km**, MD3.7, ML2.4, 2C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.67**	**136**	⇑*i*P	Pb	07 41 20.3	-0.6
LCCH				*i* S	Sb	07 41 30.0	+0.1
LNV	**Longovilo**	**1.13**	**149**	*i* P	Pb	07 41 27.7	-1.0
TACH	**Talagante**	**1.19**	**124**	⇓*i*P	Pb	07 41 29.0	-0.8
TACH				*i* S	Sb	07 41 45.0	0.0
RCDM	**Rinconada Maip**	**1.21**	**115**	*e*P	Pb	07 41 29.3	-0.8
RCDM				*i* S	Sb	07 41 45.3	-0.3
PEL	**Peldehue**	**1.22**	**98**	*e*P	Pb	07 41 29.2	-1.0
JACH	**Jahuel**	**1.32**	**77**	*e*P	Pb	07 41 30.7	-1.3
JACH				*i* S	Sb	07 41 48.7	-0.2
DSCH	**Colegio Aleman**	**1.36**	**108**	*e*P	Pn	07 41 31.8	-0.9
DSCH				*i* S	Sb	07 41 49.8	-0.3
DSCH				AMP		07 41 55.1	
	comp=N,112nm,0.6s						
CLCH	**Cerro Calan**	**1.39**	**107**	*e*P	Pn	07 41 32.2	-0.9
CLCH				*i* S	Sb	07 41 51.2	+0.3
CLCH				AMP		07 41 57.9	
	comp=E,59nm,0.3s						
PCH	**Pirque**	**1.49**	**115**	⇑*i*P	Pn	07 41 34.1	-0.4
PCH				*i* S	Sb	07 41 54.1	+0.4
LMEL	**Las Melosas**	**1.82**	**119**	*e*P	Pn	07 41 38.9	-0.3
LMEL				*i* S	Sn	07 42 02.1	-0.4
LMEL				AMP		07 42 10.1	
	comp=N,108nm,0.2s						
CMCH	**Combarbala**	**2.05**	**28**	*e*P	Pn	07 41 42.7	+0.2
CMCH				*i* S	Sn	07 42 05.0	-3.3

BJI ***07*** *07:45:40.3, 29.00S×179.90E, h424km, mB5.0, mb5.0*
IDC ***07*** *07:45:40.9±0.6, 28.83S×179.98E, h418km±6km, mb4.2/13, mb1 4.4/15, mb1mx4.4/16, mbtmp5.0/15, Error ellipse: s-maj=13.8km s-min=10.2km az=142.0*
NEIC ***07*** *07:45:41.4±0.1, 28.96S×179.93E, mb4.8/46, Error ellipse: s-maj=6.7km s-min=3.3km az=115.0*
MOS ***07*** *07:45:43.9±2.2, 28.94S×179.68E, h454km, mb4.8/9, Error ellipse: s-maj=16.7km s-min=13.6km az=105.6*
ISC 07 07:45:40.7±0.2**, 29.09S**±0.02×**179.91E**±0.05**, h429**km**, h429**km±2.8km**: pP-P, n336,** σ1**s**23/245**, mb4.7**/59**, 47C-26D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.91**	**95**	P	**P**	**07 46 39.7**	**+0.5**
	218nm,0.3s,baz=100,slow=22,SNR=6.0						
RAO				S	**S**	**07 47 23.2**	**-2.0**
	169nm,0.3s,baz=67,slow=24,SNR=7.7						
RAO	**Raoul Island**	**1.91**	**95**	*e*Pn	**P**	**07 46 35.4**	**-3.8**
RAO				S	**S**	**07 47 23.2**	**-2.0**
OUZ	**Omahuta**	**8.13**	**220**	P	**P**	**07 47 43.9**	**+5.5**
OUZ	**Omahuta**	**8.13**	**220**	PN	**P**	**07 47 44.1**	**+5.7**
MTAZ	**Motutapu**	**8.75**	**207**	*e*P	**P**	**07 47 50.9**	**+5.4**
MTAZ	**Motutapu**	**8.75**	**207**	PN	**P**	**07 47 50.9**	**+5.4**
OTAZ	**Otara**	**8.89**	**207**	P	**P**	**07 47 52.1**	**+5.1**
OTAZ	**Otara**	**8.89**	**207**	PN	**P**	**07 47 51.8**	**+4.8**
MKAZ	**Moumakai**	**8.94**	**205**	*e*P	**P**	**07 47 52.4**	**+4.9**
MKAZ	**Moumakai**	**8.94**	**205**	PN	**P**	**07 47 52.3**	**+4.8**
WTAZ	**Waiatarua**	**9.02**	**208**	P	**P**	**07 47 53.5**	**+5.1**
WTAZ	**Waiatarua**	**9.02**	**208**	PN	**P**	**07 47 53.5**	**+5.0**
PUZ	**Puketiti**	**9.07**	**188**	*e*P	**P**	**07 47 51.5**	**+2.5**
PUZ	**Puketiti**	**9.07**	**188**	PN	**P**	**07 47 49.0**	**-0.1**
PUZ				SN	**S**	**07 49 31.8**	**+1.2**
LIRZ	**Lichensteins R**	**9.37**	**197**	P	**P**	**07 47 58.2**	**+5.8**
EDRZ	**Edgecumbe**	**9.38**	**196**	PN	**P**	**07 47 55.1**	**+2.6**
MWZ	**Matawai**	**9.44**	**192**	*e*P	**P**	**07 47 54.8**	**+1.6**
MWZ	**Matawai**	**9.44**	**192**	PN	**P**	**07 47 54.5**	**+1.3**
MWZ				SN	**S**	**07 49 41.3**	**+3.2**
URZ	**Urewera**	**9.44**	**194**	P	**P**	**07 47 55.6**	**+2.4**
	40nm,0.3s,baz=26,slow=6.1,SNR=97						
URZ				S	**S**	**07 49 42.3**	**+4.1**
	66nm,0.3s,baz=105,slow=22,SNR=16						
URZ	**Urewera**	**9.44**	**194**	*e*P	**P**	**07 47 54.3**	**+1.1**
URZ	**Urewera**	**9.44**	**194**	*e*PN	**P**	**07 47 53.5**	**+0.3**
URZ				*e*SN	**S**	**07 49 39.3**	**+1.1**
TAZ	**Tarawera**	**9.55**	**196**	P	**P**	**07 47 58.4**	**+3.9**
TAZ	**Tarawera**	**9.55**	**196**	PN	**P**	**07 47 57.9**	**+3.4**
UTU	**Utuhina**	**9.58**	**198**	P	**P**	**07 47 59.5**	**+4.7**
UTU	**Utuhina**	**9.58**	**198**	PN	**P**	**07 47 58.1**	**+3.3**
PATZ	**Paeroa**	**9.76**	**197**	P	**P**	**07 47 59.3**	**+2.5**
KNZ	**Kokohu**	**10.08**	**190**	*e*P	**P**	**07 48 01.5**	**+1.0**
KNZ				S	**S**	**07 49 52.3**	**+0.9**
KNZ	**Kokohu**	**10.08**	**190**	*e*PN	**P**	**07 48 01.9**	**+1.4**
KNZ				*e*SN	**S**	**07 49 52.1**	**+0.8**
HIZ	**Hauiti**	**10.30**	**203**	*e*P	**P**	**07 48 07.0**	**+4.0**
HIZ	**Hauiti**	**10.30**	**203**	PN	**P**	**07 48 07.0**	**+4.0**
BKZ	**Black Stump Fm**	**10.45**	**195**	*e*P	**P**	**07 48 03.3**	**-1.3**
BKZ	**Black Stump Fm**	**10.45**	**195**	*e*PN	**P**	**07 48 02.9**	**-1.8**
NGZ	**Ngauruhoe**	**10.68**	**198**	*e*P	**P**	**07 48 07.7**	**+0.4**
CNZ	**Chateau**	**10.71**	**199**	PN	**P**	**07 48 09.2**	**+1.5**
TUVZ	**Tukino**	**10.75**	**198**	P	**P**	**07 48 09.5**	**+1.4**
FWVZ	**Far West T-bar**	**10.77**	**198**	*e*P	**P**	**07 48 09.2**	**+0.9**
WNVZ	**Wahianoa**	**10.82**	**198**	*e*P	**P**	**07 48 09.3**	**+0.4**
VRZ	**Vera Road**	**10.88**	**202**	*e*P	**P**	**07 48 11.9**	**+2.3**
VRZ	**Vera Road**	**10.88**	**202**	PN	**P**	**07 48 12.1**	**+2.5**
MTVZ	**Mangateitei**	**10.91**	**198**	PN	**P**	**07 48 09.5**	**-0.4**
PWZ	**Pawanui**	**11.20**	**192**	*e*P	**P**	**07 48 12.4**	**-0.7**
PWZ	**Pawanui**	**11.20**	**192**	*e*PN	**P**	**07 48 11.1**	**-2.0**
PWZ				*e*SN	**S**	**07 50 11.7**	**-2.7**
PKE	**Pukeiti**	**11.21**	**204**	*e*P	**P**	**07 48 17.4**	**+4.2**
WAZ	**Wanganui**	**11.39**	**200**	*e*P	**P**	**07 48 15.5**	**+0.3**
WAZ	**Wanganui**	**11.39**	**200**	*e*PN	**P**	**07 48 14.2**	**-1.0**
WAZ				SN	**S**	**07 50 21.2**	**+2.8**
TSZ	**Takapari Road**	**11.42**	**195**	*e*P	**P**	**07 48 13.0**	**-2.5**
TSZ	**Takapari Road**	**11.42**	**195**	PN	**P**	**07 48 14.6**	**-0.9**
TSZ				*e*SN	**S**	**07 50 16.9**	**-2.1**
BFZ	**Birch Farm**	**11.95**	**194**	*e*P	**P**	**07 48 20.4**	**-1.0**
BFZ	**Birch Farm**	**11.95**	**194**	*e*PN	**P**	**07 48 20.1**	**-1.3**
BFZ				SN	**S**	**07 50 29.4**	**-0.4**
MRZ	**Mangatainoka R**	**12.08**	**196**	*e*P	**P**	**07 48 20.5**	**-2.3**
MRZ	**Mangatainoka R**	**12.08**	**196**	PN	**P**	**07 48 20.3**	**-2.6**
MRZ				SN	**S**	**07 50 30.2**	**-2.2**
KIW	**Kapiti Island**	**12.44**	**198**	*e*PN	**P**	**07 48 25.0**	**-1.8**
KIW				SN	**S**	**07 50 38.4**	**-1.3**
MTW	**Mount Morrison**	**12.57**	**195**	PN	**P**	**07 48 26.2**	**-2.1**
CAW	**Cannon Point**	**12.63**	**197**	P	**P**	**07 48 27.4**	**-1.5**
CAW	**Cannon Point**	**12.63**	**197**	*e*PN	**P**	**07 48 27.3**	**-1.5**
SNZO	**South Karori**	**12.91**	**198**	*e*P	**P**	**07 48 30.7**	**-1.3**
SNZO	**South Karori**	**12.91**	**198**	PN	**P**	**07 48 30.7**	**-1.3**
SNZO				SN	**S**	**07 50 47.7**	**-1.3**
TCW	**Tory Channel**	**12.94**	**199**	*e*P	**P**	**07 48 30.1**	**-2.2**
QRZ	**Quartz Range**	**13.18**	**205**	*e*P	**P**	**07 48 35.0**	**+0.2**
QRZ	**Quartz Range**	**13.18**	**205**	PN	**P**	**07 48 34.6**	**-0.2**
NNZ	**Nelson**	**13.22**	**202**	*e*P	**P**	**07 48 33.7**	**-1.6**
NNZ	**Nelson**	**13.22**	**202**	*e*PN	**P**	**07 48 33.8**	**-1.5**
NNZ				*e*SN	**S**	**07 50 54.3**	**-0.9**
TUWZ	**Tuamarina**	**13.24**	**200**	*e*PN	**P**	**07 48 33.0**	**-2.5**
THZ	**Tophouse**	**13.87**	**202**	*e*P	**P**	**07 48 41.3**	**-0.9**
THZ	**Tophouse**	**13.87**	**202**	*e*SN	**S**	**07 51 05.8**	**-2.0**
DZM	**Mont Dzumac**	**14.01**	**297**	*e*P	**P**	**07 48 45.2**	**+1.4**
DZM	**Mont Dzumac**	**14.01**	**297**	P	**P**	**07 48 45.5**	**+1.7**
	3.9nm,0.3s,baz=106,slow=13,SNR=55						
DZM	**Mont Dzumac**	**14.01**	**297**	*e*P	**P**	**07 48 45.2**	**+1.4**
NOUC	**Port Laguerre**	**14.11**	**296**	⇑*e*P	**P**	**07 48 46.4**	**+1.6**
NOUC				*e*S	**S**	**07 51 20.0**	**+7.5**
NOUC	**Port Laguerre**	**14.11**	**296**	⇑*e*P	**P**	**07 48 46.4**	**+1.6**
NOUC				*e*S	**S**	**07 51 20.0**	**+7.5**
DSZ	**Denniston Nort**	**14.25**	**205**	*e*P	**P**	**07 48 45.9**	**-0.2**
DSZ	**Denniston Nort**	**14.25**	**205**	*e*PN	**P**	**07 48 45.5**	**-0.5**
KHZ	**Kahutara**	**14.27**	**199**	*e*P	**P**	**07 48 45.5**	**-0.8**
KHZ	**Kahutara**	**14.27**	**199**	PN	**P**	**07 48 45.1**	**-1.2**
KHZ				*e*SN	**S**	**07 51 14.3**	**-1.2**
LTZ	**Lake Taylor**	**14.99**	**202**	*e*P	**P**	**07 48 52.4**	**-1.4**
LTZ	**Lake Taylor**	**14.99**	**202**	*e*SN	**S**	**07 51 30.0**	**+0.6**
WVZ	**Waitaha Valley**	**15.79**	**205**	*e*P	**P**	**07 49 02.9**	**+1.0**
RPZ	**Rata Peaks**	**16.23**	**204**	P	**P**	**07 49 05.4**	**-0.9**
	1.1nm,0.3s,baz=16,slow=4.7,SNR=10						
RPZ				S	**S**	**07 51 59.8**	**+7.1**
	2.0nm,0.3s,baz=181,slow=18,SNR=3.6						
RPZ	**Rata Peaks**	**16.23**	**204**	*e*P	**P**	**07 49 06.1**	**-0.2**
RPZ	**Rata Peaks**	**16.23**	**204**	*e*PN	**P**	**07 49 05.0**	**-1.4**
FOZ	**Fox Glacier**	**16.61**	**207**	*e*P	**P**	**07 49 10.4**	**+0.2**
FOZ	**Fox Glacier**	**16.61**	**207**	*e*PN	**P**	**07 49 10.2**	**+0.1**
AFI	**Afiamalu**	**16.96**	**29**	P	**P**	**07 49 11.3**	**-2.5**
	10nm,0.3s,baz=260,slow=5.7,SNR=9.2						
AFI				S	**S**	**07 52 04.3**	**-1.9**
	18nm,0.3s,baz=54,slow=17,SNR=7.9						
AFI	**Afiamalu**	**16.96**	**29**	⇑*e*P	**P**	**07 49 11.2**	**-2.6**
	177nm,0.9s						
AFI				*e*S	**S**	**07 52 02.5**	**-3.7**
LBZ	**Lake Benmore**	**17.12**	**204**	*e*P	**P**	**07 49 16.7**	**+1.4**
LBZ	**Lake Benmore**	**17.12**	**204**	*e*PN	**P**	**07 49 15.7**	**+0.3**
JCZ	**Jackson Bay**	**17.41**	**208**	*e*P	**P**	**07 49 19.3**	**+1.1**
JCZ	**Jackson Bay**	**17.41**	**208**	*e*PN	**P**	**07 49 18.3**	**+0.1**
ODZ	**Otahua Downs**	**17.54**	**202**	*e*PN	**P**	**07 49 20.7**	**+1.2**
TUZ	**Tuapeka**	**18.68**	**203**	*e*P	**P**	**07 49 34.9**	**+4.1**
MLZ	**Mavora Lakes**	**18.70**	**207**	*e*P	**P**	**07 49 33.7**	**+2.8**
MLZ	**Mavora Lakes**	**18.70**	**207**	*e*PN	**P**	**07 49 31.5**	**+0.5**
CNB	**Canberra Magne**	**26.52**	**249**	⇑*i*P	**P**	**07 50 46.5**	**+3.1**
	61nm,1.3s,mb4.9						
TAU	**Tasmania Unive**	**29.55**	**233**	⇓*e*P	**P**	**07 51 11.8**	**+1.9**
	134nm,1.3s,mb5.1						
TOO	**Toolangi**	**29.85**	**244**	⇑*i*P	**P**	**07 51 14.9**	**+2.4**
	44nm,1.1s,mb4.7						
CTA	**Charters Tower**	**31.80**	**279**	⇑*i*P	**P**	**07 51 30.9**	**+1.4**
	36nm,0.9s,mb4.7						
CTA				*e*SCP		07 57 11.8	
CTAO	**Charters Tower**	**31.80**	**279**	⇑*e*P	**P**	**07 51 30.8**	**+1.3**
	71nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**33.03**	**255**	⇑*i*P	**P**	**07 51 41.7**	**+1.9**
	39nm,0.9s,mb4.7						
STKA				*e*SCP		07 57 15.9	
STKA				*e*SCS	ScS	08 01 15.9	+1.0
STKA	**Stephens Creek**	**33.03**	**255**	P	**P**	**07 51 41.7**	**+1.9**
	18nm,0.3s,mb4.9,baz=98,slow=8.2,SNR=145						
STKA				ScP		07 57 15.3	
	7.4nm,1.0s,baz=81,slow=1.7,SNR=5.3						
PMG	**Port Moresby**	**36.40**	**296**	⇑*e*P	**P**	**07 52 07.9**	**-0.4**
PMG				pmax	pmax		
	comp=Z,51nm,1.0s						
PMG	**Port Moresby**	**36.40**	**296**	P	**P**	**07 52 09.3**	**+1.0**
	comp=Z,20nm,0.6s,mb4.6,baz=92,slow=6.5,SNR=6.5						
PMG				ScP		07 57 29.5	
	comp=Z,23nm,1.0s,baz=106,slow=5.9,SNR=3.5						
PMG	**Port Moresby**	**36.40**	**296**	⇑*e*P	**P**	**07 52 07.9**	**-0.4**
	comp=Z,51nm,1.0s,mb4.8						
WB2	**Warramunga Arr**	**42.23**	**272**	⇑*i*P	**P**	**07 52 56.1**	**+0.3**
WB2				*e*PCP	PcP	07 54 32.2	-8.9
WB2				*e*SCP		07 57 50.6	
WB2				*e*S	**S**	**07 58 42.4**	**-2.0**
WRAB	**Tennant Creek**	**42.23**	**272**	⇑*i*P	**P**	**07 52 55.9**	**+0.1**
WRAB				*e*S	**S**	**07 58 36.3**	**-8.1**
WRAB				pmax	pmax		
	comp=Z,256nm,1.0s,mb5.5						
WRAB	**Tennant Creek**	**42.23**	**272**	⇑*i*P	**P**	**07 52 55.9**	**0.0**
	comp=Z,256nm,1.0s,mb5.5						
WRAB				⇑*i*ScP		07 57 50.6	
WRAB				*e*S	**S**	**07 58 36.3**	**-8.2**
WRA	**Warramunga Arr**	**42.24**	**272**	P	**P**	**07 52 56.0**	**+0.1**
WRA				S	**S**	**07 58 43.0**	**-1.5**
WRA	**Warramunga Arr**	**42.24**	**272**	P	**P**	**07 52 56.0**	**+0.2**
	comp=Z,119nm,0.8s,mb5.3,baz=110,slow=8.0,SNR=649						
WRA				ScP		07 57 50.6	
	comp=Z,15nm,1.0s,baz=113,slow=4.2,SNR=19						
WRA				S	**S**	**07 58 43.0**	**-1.6**
	comp=Z,13nm,1.1s,baz=110,slow=14,SNR=11						
KAKA	**Kakadu**	**46.92**	**280**	⇑*i*P	**P**	**07 53 31.7**	**-0.9**
	comp=Z,48nm,0.8s,mb4.9						
SBA	**Scott Base**	**49.22**	**184**	⇑*i*P	**P**	**07 53 51.5**	**+2.2**
SBA				pmax	pmax		
	comp=Z,34nm,1.0s,mb4.6						
SBA	**Scott Base**	**49.22**	**184**	⇑*i*P	**P**	**07 53 51.5**	**+2.2**
	comp=Z,34nm,1.0s,mb4.6						
VNDA	**Vanda**	**49.23**	**185**	*e*P	**P**	**07 53 49.6**	**+0.3**
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
VNDA	**Vanda**	**49.23**	**185**	P	**P**	**07 53 51.0**	**+1.7**
	comp=Z,2.2nm,0.8s,mb3.5,baz=352,slow=8.0,SNR=15						
VNDA	**Vanda**	**49.23**	**185**	*e*P	**P**	**07 53 49.6**	**+0.2**
	comp=Z,5.0nm,1.1s,mb3.8						
FITZ	**Fitzroy Crossi**	**50.55**	**270**	⇑*i*P	**P**	**07 53 59.9**	**0.0**
	comp=Z,153nm,0.9s,mb5.2						
FITZ				*e*SCP		07 58 25.3	
FITZ				*e*S	**S**	**08 00 41.2**	**+0.8**
KLBR	**Kellerberrin**	**53.06**	**251**	⇑*i*P	**P**	**07 54 17.2**	**-1.0**
	comp=Z,78nm,0.9s,mb4.9						
NWAO	**Narrogin (SRO)**	**53.16**	**249**	*e*P	**P**	**07 54 17.2**	**-1.7**
MUN	**Mundaring**	**54.24**	**250**	⇑*i*P	**P**	**07 54 26.0**	**-0.6**
	comp=Z,25nm,1.0s,mb4.4						
MUN	**Mundaring**	**54.24**	**250**	⇑*i*P	**P**	**07 54 26.0**	**-0.6**
MUN				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.4						
GUMO	**Guam**	**54.28**	**317**	P	**P**	**07 54 25.6**	**-1.5**
GUMO				pmax	pmax		
	comp=Z,368nm,1.6s,mb5.4						
GUMO	**Guam**	**54.28**	**317**	P	**P**	**07 54 25.6**	**-1.5**
	comp=Z,368nm,1.6s,mb5.4						
MBWA	**Marble Bar**	**54.56**	**264**	⇑*i*P	**P**	**07 54 27.8**	**-1.3**
	comp=Z,114nm,1.0s,mb5.1						
CASY	**Casey**	**55.46**	**207**	⇑*i*P	**P**	**07 54 34.4**	**-0.4**
QSPA	**South Pole Qui**	**61.02**	**180**	*e*P	**P**	**07 55 14.3**	**+2.1**
	comp=Z,55nm,0.9s,mb5.0						
MIR	**Mirnyy**	**62.47**	**207**	*d i*P	**P**	**07 55 22.0**	**+0.1**
MIR				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.0						
KKM	**Kota Kinabalu**	**70.42**	**289**	⇑*i*P	**P**	**07 56 11.6**	**-0.4**
MAW	**Mawson**	**72.89**	**201**	⇑*i*P	**P**	**07 56 26.6**	**+1.1**
	comp=Z,16nm,1.1s,mb4.5						
MAW	**Mawson**	**72.89**	**201**	⇑*i*P	**P**	**07 56 26.6**	**+1.1**
MAW				pmax	pmax		
	comp=Z,16nm,1.1s						
MAW	**Mawson**	**72.89**	**201**	P	**P**	**07 56 26.7**	**+1.2**
	comp=Z,22nm,1.0s,mb4.6,baz=117,slow=9.0,SNR=25						
KSM	**Kuching**	**72.99**	**282**	*e*P	**P**	**07 56 27.3**	**+0.1**
PMSA	**Palmer Station**	**74.20**	**156**	*e*P	**P**	**07 56 33.9**	**+0.8**
	comp=Z,9.8nm,1.0s,mb4.4						
MJAR	**Matsushiro Arr**	**76.14**	**327**	P	**P**	**07 56 43.0**	**-1.5**
	comp=Z,6.0nm,0.8s,mb4.3,baz=167,slow=6.3,SNR=11						
MAJO	**Matsushiro**	**76.14**	**327**	*e*P	**P**	**07 56 42.4**	**-2.1**
MAJO				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.6						
MAJO	**Matsushiro**	**76.14**	**327**	*e*P	**P**	**07 56 42.4**	**-2.0**
	comp=Z,14nm,0.9s,mb4.6						
SYO	**Syowa Base**	**77.97**	**194**	⇓P	**P**	**07 56 52.5**	**-1.3**
SYO	**Syowa Base**	**77.97**	**194**	⇓PcP	PcP	07 57 03.2	+1.1
SNAA	**Sanae**	**79.50**	**179**	*e*	**P**	**07 57 07.6**	**+5.8**
SNAA	**Sanae**	**79.50**	**179**	*e*	pP	07 58 38.5	+0.4
SNAA	**Sanae**	**79.50**	**179**	⇑*i*P	**P**	**07 57 02.8**	**+1.0**
SNAA				*e*		07 57 07.6	
SNAA				*e*		08 06 38.0	
SNAA	**Sanae**	**79.50**	**179**	⇑*i*P	**P**	**07 57 02.8**	**+1.0**
SNAA				*e*		07 57 07.6	
SNAA				*e*	pP	07 58 38.5	+0.4
SNAA				*e*		07 59 18.9	
SNAA				*e*		08 06 38.0	
VNA3	**Neumayer Olymp**	**79.72**	**177**	*e*	**P**	**07 57 09.5**	**+6.5**
VNA3	**Neumayer Olymp**	**79.72**	**177**	⇑*i*P	**P**	**07 57 04.2**	**+1.2**
VNA3				*e*		07 57 09.5	
VNA3				*e*	pP	07 58 42.1	+2.8
VNA3				*e*		07 59 22.1	
VNA2	**Neumayer--Watz**	**80.14**	**178**	*e*	**P**	**07 57 11.5**	**+6.3**
VNA2	**Neumayer--Watz**	**80.14**	**178**	*e*	pP	07 58 43.7	+2.2
VNA2	**Neumayer--Watz**	**80.14**	**178**	⇑*i*P	**P**	**07 57 06.7**	**+1.5**
VNA2				*e*		07 57 11.5	
VNA2				*e*	pP	07 58 43.7	+2.2
VNA2				*e*		07 59 27.0	
VNA1	**Neumayer--Stat**	**80.38**	**177**	*e*	**P**	**07 57 12.8**	**+6.4**
VNA1	**Neumayer--Stat**	**80.38**	**177**	⇑*i*P	**P**	**07 57 08.2**	**+1.8**
VNA1				*e*		07 57 12.8	
VNA1				*e*	pP	07 58 46.4	+3.5
VNA1				*e*		07 59 28.5	
VNA1				*e*		08 06 42.5	
SSE	**Sheshan**	**81.88**	**312**	P	**P**	**07 57 15.7**	**+0.7**
SSE				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,74nm,4.5s						
KS15	**Wonju Array Si**	**82.19**	**321**	*e*P	**P**	**07 57 15.4**	**-1.0**
YSS	**Yuzh-Sakhalins**	**82.79**	**335**	⇓*e*P	**P**	**07 57 20.0**	**+0.8**
YSS				*e*		08 07 04.0	
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.1						
YSS	**Yuzh-Sakhalins**	**82.79**	**335**	*e*P	**P**	**07 57 18.5**	**-0.7**
	comp=Z,23nm,0.8s,mb5.0						
NJ2	**Nanjing**	**84.02**	**312**	*e*P	**P**	**07 57 25.8**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
BAR	**Barrett**	**85.96**	**49**	*e*P	**P**	**07 57 35.4**	**+0.3**
MWC	**Mount Wilson**	**86.02**	**47**	*e*P	**P**	**07 57 34.9**	**-0.5**
MDJ	**Mudanjiang**	**86.53**	**327**	P	**P**	**07 57 37.9**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
KHMM	**Horse Mountain**	**86.99**	**39**	*e*P	**P**	**07 57 40.4**	**+0.5**
CMB	**Columbia Colle**	**87.02**	**43**	⇓*i*P	**P**	**07 57 39.8**	**-0.3**
CMB				*e**PP	pP	07 59 19.7	+1.5
CMB				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
CMB	**Columbia Colle**	**87.02**	**43**	⇓*i*P	**P**	**07 57 39.8**	**-0.3**
	comp=Z,14nm,0.8s,mb4.8						
CMB				*e*pP	pP	07 59 19.7	+1.5
KRMB	**Red Mountain**	**87.34**	**39**	*e*P	**P**	**07 57 42.4**	**+0.9**
WDC	**Whiskeytown Da**	**87.46**	**40**	⇓*i*P	**P**	**07 57 41.6**	**-0.5**
	comp=Z,62nm,1.7s,mb5.1						
DAC	**Darwin (Calif)**	**87.61**	**46**	⇓*e*P	**P**	**07 57 42.8**	**-0.1**
	comp=Z,6.6nm,1.3s,mb4.2						
CN2	**Changchun**	**88.01**	**324**	*e*P	**P**	**07 57 44.7**	**+0.1**
CN2				*e*XP	sP	08 00 02.2	-4.0
CN2				*e*S	S	08 07 49.1	-0.8
CN2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
YBH	**Yreka Blue Hor**	**88.14**	**39**	P	**P**	**07 57 45.9**	**+0.6**
	comp=Z,18nm,1.1s,mb4.7,baz=184,slow=5.5,SNR=9.6						
YBH	**Yreka Blue Hor**	**88.14**	**39**	*e*P	**P**	**07 57 46.1**	**+0.8**
	comp=Z,24nm,1.2s,mb4.8						
YBH				*e*pP	pP	07 59 16.9	-6.7
WCN	**Washoe City**	**88.22**	**42**	*e*P	**P**	**07 57 46.2**	**+0.5**
	comp=Z,22nm,1.2s,mb4.8						
WCN				*e*pP	pP	07 59 33.4	+9.3
LDFC	**Landfair**	**88.46**	**48**	⇓*i*P	**P**	**07 57 47.8**	**+0.9**
NVAR	**Mina Array Bea**	**88.53**	**44**	P	**P**	**07 57 47.7**	**+0.5**
	comp=Z,9.1nm,0.9s,mb4.5,baz=209,slow=6.6,SNR=49						
HUMO	**Hull Mountain**	**88.60**	**38**	⇓*i*P	**P**	**07 57 47.7**	**+0.3**
	comp=Z,55nm,1.4s,mb5.1						
HUMO				*e*pP	pP	07 59 26.7	+0.9
LASM	**Arnica Sink**	**88.68**	**40**	P	**P**	**07 57 48.6**	**+0.7**
BBOR	**Butler Butte**	**88.94**	**38**	P	**P**	**07 57 49.7**	**+0.7**
TPH	**Tonopah**	**88.97**	**45**	⇓*i*P	**P**	**07 57 49.4**	**+0.1**
	comp=Z,31nm,1.2s,mb4.9						
KLR	**Kul'dur**	**89.00**	**331**	*e*P	**P**	**07 57 46.2**	**-2.9**
HSO	**Harness Mounta**	**89.15**	**38**	P	**P**	**07 57 51.1**	**+1.1**
ENH	**Enshi**	**89.36**	**305**	*e*P	**P**	**07 57 52.0**	**+0.7**
MPOR	**Mary's Peak**	**89.57**	**37**	P	**P**	**07 57 53.0**	**+1.1**
MOD	**Modoc**	**89.60**	**40**	⇓*i*P	**P**	**07 57 52.0**	**-0.1**
	comp=Z,40nm,1.2s,mb5.1						
TUC	**Tucson**	**89.73**	**52**	⇓*i*P	**P**	**07 57 54.2**	**+1.3**
	comp=Z,28nm,0.9s,mb5.1						
TUC				*e*pP	pP	07 59 30.1	-1.5
HBO	**Huckleberry Mo**	**89.78**	**38**	P	**P**	**07 57 53.5**	**+0.7**
FRIS	**Frissel Point**	**90.14**	**38**	P	**P**	**07 57 55.2**	**+0.7**
WIFE	**Three Sisters-**	**90.19**	**38**	P	**P**	**07 57 55.3**	**+0.6**
BMN	**Battle Mountai**	**90.44**	**43**	⇓*i*P	**P**	**07 57 55.9**	**0.0**
	comp=Z,21nm,1.4s,mb4.8						
WVOR	**Wild Horse Val**	**90.89**	**41**	⇓*i*P	**P**	**07 57 57.7**	**-0.2**
	comp=Z,21nm,1.0s,mb4.9						
WVOR				*e*pP	pP	07 59 37.3	+0.6
VIPM	**Ingram Point**	**91.13**	**38**	P	**P**	**07 57 59.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**91.25**	**290**	P	**P**	**07 58 01.5**	**+1.3**
	comp=Z,2.2nm,0.6s,mb4.2,baz=141,slow=4.5,SNR=7.3						
CMAR				PP	PP	08 01 47.3	+1.5
	comp=Z,0.4nm,0.3s,baz=135,slow=4.0,SNR=4.4						
MA2	**Magadan**	**91.56**	**346**	*e*P	**P**	**07 57 58.3**	**-2.4**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
MA2	**Magadan**	**91.56**	**346**	*e*P	**P**	**07 57 58.3**	**-2.3**
	comp=Z,38nm,1.4s,mb5.1						
KMI	**Kunming**	**91.61**	**298**	P	**P**	**07 58 04.4**	**+2.7**
KMI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
TRQA	**Tornquist**	**91.64**	**136**	P	**P**	**07 58 02.1**	**+0.5**
	comp=Z,8.0nm,1.2s,mb4.5						
ELK	**Elko**	**91.82**	**43**	⇓*i*P	**P**	**07 58 02.1**	**-0.2**
	comp=Z,8.3nm,1.0s,mb4.6						
MVU	**Marysvale**	**92.36**	**47**	⇓*e*P	**P**	**07 58 05.0**	**+0.1**
	comp=Z,9.0nm,1.1s,mb4.6						
MSU	**Marysvale**	**92.39**	**47**	*e*P	**P**	**07 58 06.0**	**+0.9**
SPU	**Mount Spurr**	**92.79**	**13**	P	**P**	**07 58 05.3**	**-1.1**
BMO	**Blue Mountains**	**93.16**	**39**	*e*P	**P**	**07 58 07.9**	**-0.6**
	comp=Z,1.3nm,0.7s,mb4.0						
MNTX	**Cornudas Mount**	**93.22**	**55**	*e*P	**P**	**07 58 08.4**	**-0.6**
	comp=Z,7.5nm,0.9s,mb4.6						
MNTX				*e*pP	pP	07 59 47.4	-0.6
TXAR	**Lajitas Array**	**93.23**	**58**	P	**P**	**07 58 09.5**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=212,slow=7.5,SNR=19						
TXAR				pP	pP	07 59 46.8	-1.3
	comp=Z,0.7nm,1.0s,baz=202,slow=6.7,SNR=3.5						
BGU	**Big Grassy Mou**	**93.27**	**44**	*e*P	**P**	**07 58 08.6**	**-0.4**
TMUT	**Trail Mountain**	**93.46**	**46**	⇓*e*P	**P**	**07 58 10.5**	**+0.6**
SRU	**San Rafael**	**93.79**	**47**	*e*P	**P**	**07 58 11.0**	**-0.4**
SPUT	**South Promonto**	**93.85**	**44**	⇓*e*P	**P**	**07 58 11.2**	**-0.4**
SPUT				*e*		07 58 19.9	
CTU	**Camp Tracy**	**93.92**	**45**	*e*P	**P**	**07 58 11.9**	**-0.1**
HVU	**Hansel Valley**	**93.93**	**44**	⇓*e*P	**P**	**07 58 12.2**	**+0.2**
OD2	**Odessa Site #2**	**94.01**	**37**	P	**P**	**07 58 12.1**	**-0.1**
HLID	**Hailey**	**94.02**	**42**	⇓*e*P	**P**	**07 58 12.5**	**+0.2**
	comp=Z,8.2nm,1.0s,mb4.7						
DAU	**Daniels Canyon**	**94.07**	**46**	*e*P	**P**	**07 58 13.2**	**+0.5**
ANMO	**Albuquerque**	**94.19**	**52**	*d i*P	**P**	**07 58 13.3**	**-0.1**
ANMO	**Albuquerque**	**94.19**	**52**	P	**P**	**07 58 14.2**	**+0.8**
	comp=Z,1.6nm,0.8s,mb4.1,baz=223,slow=5.0,SNR=8.4						
ANMO	**Albuquerque**	**94.19**	**52**	*e*P	**P**	**07 58 13.3**	**0.0**
	comp=Z,2.5nm,0.9s,mb4.2						

GDL2	Guadalupe Moun	94.22	55	eP	P	07 58 13.2	-0.4
TCUT	Toone Canyon	94.38	45	eP	P	07 58 14.1	0.0
NEW	Newport	95.39	37	eP	P	07 58 18.4	-0.1
	comp=Z,2.2nm,0.8s,mb4.2						
MCMT	McKenzie Canyo	95.67	41	eP	P	07 58 19.9	+0.1
SNOW	Snow King Moun	96.12	43	eP	P	07 58 21.5	-0.4
	comp=Z,8.5nm,1.1s,mb4.8						
IMW	Indian Meadow	96.25	43	eP	P	07 58 22.6	+0.1
	comp=Z,4.2nm,1.0s,mb4.5						
SDCO	Great Sand Dun	96.34	50	eP	P	07 58 21.0	-2.1
	comp=Z,12nm,1.5s,mb4.8						
PDAR	Pinedale Array	96.45	44	P	P	07 58 23.1	-0.4
	comp=Z,1.9nm,0.8s,mb4.3,baz=220,slow=2.1,SNR=16						
PDAR				pP	pP	07 59 59.2	-3.3
	comp=Z,0.2nm,0.4s,baz=225,slow=1.3,SNR=2.4						
QLMT	Earthquake Lak	96.50	42	eP	P	07 58 24.2	+0.6
YMR	Madison River	96.68	42	eP	P	07 58 26.1	+1.6
BOZ	Bozeman (W)	96.85	41	eP	P	07 58 23.1	-2.1
	comp=Z,3.0nm,0.9s,mb4.4						
ILAR	Eielson Array	97.07	14	P	P	07 58 24.2	-1.5
	comp=Z,1.8nm,1.0s,mb4.2,baz=238,slow=5.9,SNR=10.0						
ILAR				PP	PP	08 02 23.2	-6.5
	comp=Z,1.4nm,1.0s,baz=227,slow=7.0,SNR=5.2						
BILL	Bilibino	97.36	355	eP	P	07 58 25.6	-1.4
BILL				pmax	pmax		
	comp=Z,11nm,1.8s,mb4.7						
YAK	Yakutsk	99.35	338	eP	P	07 58 34.4	-1.7
YAK				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.5						
RSSD	Black Hills	100.58	45	eP	P	07 58 42.2	+0.2
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.8s						
RSSD	Black Hills	100.58	45	ePdif	P	07 58 42.2	+0.2
	comp=Z,1.5nm,0.8s						
ULN	Ulaanbaatar	100.59	319	eP	P	07 58 41.3	-0.6
MKAR	Makanchi Array	115.54	311	i PKIKP	PKPdf	08 03 32.7	+0.3
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	Makanchi Array	115.54	311	PKP	PKPdf	08 03 32.7	+0.2
	comp=Z,1.5nm,0.6s,baz=134,slow=0.4,SNR=14						
MKAR				PKKPbc		08 14 09.1	
	comp=Z,1.1nm,0.7s,baz=270,slow=6.1,SNR=5.8						
MKAR	Makanchi Array	115.54	311	PKP	PKPdf	08 03 32.7	+0.2
MKAR				PKKPbc		08 14 09.1	
ZAL	Zalesovo	115.86	319	PKP	PKPdf	08 03 33.3	+0.4
	comp=Z,0.9nm,0.4s,baz=50,slow=4.1,SNR=3.5						
KURK	Kurchatov	118.83	315	ePKPdf	PKPdf	08 03 38.2	-0.5
KURK				eSKP		08 06 33.9	
KKAR	Karatay Array	122.83	305	i PKIKP	PKPdf	08 03 47.0	+0.4
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KKAR	Karatay Array	122.83	305	i P	PKPdf	08 03 47.1	+0.5
VOSK	Vostochnaya	123.82	316	i PKIKP	PKPdf	08 03 48.3	0.0
BVA0	Borovoye Array	124.20	316	i PKIKP	PKPdf	08 03 49.1	0.0
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZRNK	Zerenda	125.03	316	⇓iPKIKP	PKPdf	08 03 50.5	-0.1
ZRNK				e		08 05 38.0	
SCHQ	Schefferville	126.47	41	PKP	PKPdf	08 03 52.8	-0.4
	comp=Z,5.7nm,0.9s,baz=269,slow=4.0,SNR=7.7						
ARU	Arti	130.93	321	i PKIKP	PKPdf	08 04 03.0	+1.2
ARU				e		08 06 22.3	
ARU	Arti	130.93	321	⇑iPKP	PKPdf	08 04 03.2	+1.4
SUMG	Summit	131.91	15	ePKPdf	PKPdf	08 04 04.1	+0.8
SUMG				eSKP		08 06 48.7	
KMBO	Kilima Mbogo	133.34	236	SKPbc		08 06 57.3	
	comp=Z,2.4nm,0.8s,baz=179,slow=2.4,SNR=5.2						
ARCES	ARCESS Array B	136.92	347	PKhKP		08 04 03.6	
	comp=Z,3.3nm,0.8s,baz=45,slow=3.4,SNR=11						
ARCES				PKP	PKPdf	08 04 14.3	+1.8
	comp=Z,1.7nm,0.6s,baz=45,slow=1.7,SNR=4.5						
ARCES				SKPbc		08 07 04.9	
	comp=Z,6.6nm,0.9s,baz=56,slow=4.4,SNR=12						
ARCES	ARCESS Array B	136.92	347	PKP	PKPdf	08 04 03.6	-9.0
ARCES				PKP	PKPdf	08 04 14.3	+1.7
ARCES				SKPbc		08 07 04.9	
ARE0	ARCESS Array S	136.92	347	ePKPpre		08 04 01.6	
MOS	Moscow	142.23	326	ePKHKP		08 04 12.8	
MOS				e		08 04 19.4	
MOS				pmax	pmax		
	comp=Z,50nm,0.6s						
KAF	Kangasniemi	142.70	340	epkp	PKPdf	08 04 18.6	-4.3
	baz=43,slow=3.3						
OBN	Obninsk	143.06	325	⇑iPKIKP	PKPdf	08 04 22.3	-1.4
OBN				e		08 06 06.5	
OBN				i SS	SS	08 25 34.4	-10
OBN				pmax	pmax		
	comp=Z,25nm,1.6s						
FINES	FINESS Array B	143.29	339	PKP	PKPdf	08 04 22.2	-1.7
	comp=Z,17nm,0.7s,baz=63,slow=4.3,SNR=83						
FINES				SKPbc		08 07 22.2	
	comp=Z,8.3nm,0.9s,baz=63,slow=4.3,SNR=14						
FINES	FINESS Array B	143.29	339	PKP	PKPdf	08 04 22.2	-1.7
FINES				SKPbc		08 07 22.2	
NSS	Namsos	143.73	351	⇓iP	PKPbc	08 04 21.9	-2.0
NSS				AMb	AMB	08 04 22.9	
	comp=Z,106nm,0.8s						
VSU	Vasula	145.29	335	d iPKIKP	PKPdf	08 04 28.7	+1.3
VSU	Vasula	145.29	335	i P	PKPdf	08 04 28.8	+1.4
MOL	Molde	146.14	354	eP	PKPdf	08 04 30.6	+1.9
MOL				AMb	AMB	08 04 32.8	
	comp=Z,46nm,1.4s						
ELZG	Elazig	146.41	297	i P	PKPdf	08 04 34.8	+4.8
ANN	Anapa	146.50	308	i PKP2	PKPab	08 04 33.0	-3.8
ANN				pmax	pmax		
	comp=Z,68nm,1.2s						
MALT	Malatya	146.86	296	ePKP2	PKPab	08 04 35.7	-2.7
NB2	NORSAR Subarra	147.16	350	PKPabc	PKPdf	08 04 33.6	+3.1
	comp=Z,27nm,0.7s,baz=26,slow=4.3						
NB2	NORSAR Subarra	147.16	350	PKPa		08 04 33.6	
	baz=26,slow=4.4						
NOA	NORSAR Array B	147.16	350	PKPbc	PKPdf	08 04 31.9	+1.4
	comp=Z,22nm,0.8s,baz=16,slow=4.3,SNR=68						
FOO	Floro	147.31	355	eP	PKPdf	08 04 34.2	+3.5
FOO				AMb	AMB	08 04 34.9	
	comp=Z,49nm,1.0s						
NAO01	NORSAR Array S	147.40	350	ePKPdf	PKPdf	08 04 34.3	+3.5
NAO01				ePKPbc	PKPdf	08 04 37.6	+6.7
HFS	Hagfors	147.58	347	PKPbc	PKPdf	08 04 34.5	+3.3
	comp=Z,28nm,0.7s,slow=1.5,SNR=66						
HFS	Hagfors	147.58	347	PKPbc	PKPdf	08 04 34.5	+3.3
GZT	Gaziantep	147.61	295	i P	PKPdf	08 04 36.4	+4.4
COBT	Iskenderun	148.70	293	i P	PKPdf	08 04 39.7	+6.0
KONO	Kongsberg	148.74	351	eP	PKPdf	08 04 37.3	+4.3
KONO				AMb	AMB	08 04 39.0	
	comp=Z,36nm,0.9s						
BOYT	Boyabat	149.10	303	i P	PKPdf	08 04 40.9	+6.6
AKASG	Malin Array Be	149.16	323	PKPbc	PKPdf	08 04 39.6	+5.6
	comp=Z,24nm,0.6s,baz=48,slow=2.6,SNR=29						
CTKT	Corum	149.34	301	i P	PKPdf	08 04 41.4	+6.8
EIL	Elat	149.53	280	ePKPbc	PKPdf	08 04 41.1	+5.8
EIL				epPKPdf		08 06 28.1	
AVNT	Avonos	149.59	298	i P	PKPdf	08 04 41.6	+6.5
KMY	Karmoy	149.66	355	eP	PKPdf	08 04 40.3	+5.8
KMY				AMb	AMB	08 04 41.8	
	comp=Z,76nm,1.1s						
CDAG	Cicekdag	149.84	300	i P	PKPdf	08 04 42.0	+6.5
SUW	Suwalki	149.88	332	ePKP	PKPdf	08 04 41.5	+6.4
SUW				e		08 04 48.3	
SUW	Suwalki	149.88	332	ePKP	PKPdf	08 04 41.5	+6.4
SUW				e		08 04 48.3	
BALT	Daday	150.18	304	i P	PKPdf	08 04 42.8	+6.8
BR131	Keskin Array S	150.38	300	ePKPbc	PKPdf	08 04 43.4	+7.0
BR131				ePKPab	PKPab	08 04 51.9	-0.7
BRTR	Keskin Array B	150.38	300	PKPbc	PKPdf	08 04 43.3	+7.0
	comp=Z,5.5nm,0.9s,baz=135,slow=3.5,SNR=24						
ELDT	Eldivan	150.38	302	i P	PKPdf	08 04 43.6	+7.3
MEST	Erdemli	150.39	294	i P	PKPdf	08 04 43.8	+7.4
SGKT	Sivrigoynuk	151.39	302	i P	PKPdf	08 04 45.0	+7.3
HENT	Hendek	152.18	303	i P	PKPdf	08 04 47.2	+8.3
ESKT	Eskisehir	152.53	300	i P	PKPdf	08 04 48.1	+8.8
KWP	Kalwaria	153.14	326	ePKP	PKPdf	08 04 48.0	+8.1
KWP				e		08 05 03.2	
KWP	Kalwaria	153.14	326	ePKP	PKPdf	08 04 48.0	+8.1
KWP				e		08 05 03.2	
EKA	Eskdalemuir Ar	153.68	4	PKPbc	PKPdf	08 04 49.2	+8.8
	comp=Z,1.1nm,0.5s,baz=350,slow=5.1,SNR=4.3						
EKA				PKPab	PKPab	08 05 03.5	-2.5
	comp=Z,2.3nm,0.7s,baz=324,slow=2.3,SNR=6.4						
BSEG	Bad Segeberg	154.03	346	ePKPab	PKPab	08 05 06.1	-1.4
KECS	Kecovo	154.99	326	ePKP2	PKPab	08 05 06.8	-4.9
KECS	Kecovo	154.99	326	e	PKPab	08 05 06.8	-4.9
OKC	Ostrava-Krasne	155.07	331	ePKPab	PKPab	08 05 10.8	-1.2
UPC	Upice	155.39	335	ePKPab	PKPab	08 05 12.6	-0.8
DPC	Dobruska-Polom	155.40	334	ePKPab	PKPab	08 05 12.5	-0.9
CLL	Collm	155.73	340	⇑ePKIKP	PKPdf	08 04 53.0	+10
CLL				i		08 05 13.4	
CLL				pmax	pmax		
	comp=Z,21nm,0.9s						
CLL	Collm	155.73	340	e	PKPdf	08 04 53.0	+10
CLL				i PKP2	PKPab	08 05 13.4	-1.4
VYHS	Vyhne	155.77	328	ePKP	PKPab	08 05 14.2	-0.8
BRG	Berggiesshubel	155.81	338	ePKP2	PKPab	08 05 14.2	-0.9
BRG				pmax	pmax		
	comp=Z,12nm,0.9s						
BRG	Berggiesshubel	155.81	338	ePKP	PKPab	08 05 14.2	-0.9
PVCC	Panska Ves	155.89	337	ePKPab	PKPab	08 05 14.8	-0.7
CLZ	Clausthal	155.97	344	ePKPab	PKPab	08 05 14.7	-1.1
PRU	Pruhonice	156.35	336	ePKPab	PKPab	08 05 16.4	-1.1
MOX	Moxa	156.73	341	ePKP2	PKPab	08 05 17.5	-1.6
MOX				pmax	pmax		
	comp=Z,24nm,1.6s						
NKC	Novy Kostel	156.84	339	ePKPab	PKPab	08 05 18.3	-1.3
DBIC	Dimbokro	157.25	168	PKP	PKPdf	08 04 48.2	+1.8
	comp=Z,4.6nm,0.8s,baz=142,slow=7.7,SNR=4.1						
DBIC	Dimbokro	157.25	168	PKP	PKPdf	08 04 48.2	+1.8
KHC	Kasperske Hory	157.42	336	ePKPab	PKPab	08 05 21.2	-0.9
GEC2	GERESS Array S	157.61	336	PKP2	PKPab	08 05 21.8	-1.2
GERES	GERESS Array B	157.61	336	PKP	PKPdf	08 04 47.6	+1.8
	comp=Z,0.3nm,0.2s,baz=342,slow=3.1,SNR=2.4						
GERES				PKPab	PKPab	08 05 21.8	-1.1
	comp=Z,2.4nm,0.7s,baz=56,slow=4.8,SNR=12						
WET	Wettzell	157.65	337	PKP2	PKPab	08 05 22.2	-0.9
GRF	Grafenberg Arr	157.69	340	PKP2	PKPab	08 05 22.5	-0.8
HGN	Heimansgroeve	157.88	350	ePKP	PKPab	08 05 22.3	-1.7
	comp=Z,25nm,0.8s						
GIVF	Givet	158.68	351	ePKP2	PKPab	08 05 25.6	-1.9
BAIF	Baives	158.80	352	⇑iPKP2	PKPab	08 05 26.3	-1.7
FUR	Furstenfeldbru	159.03	338	PKP2	PKPab	08 05 28.6	-0.5
BFO	Black Forest	159.72	344	PKP2	PKPab	08 05 30.6	-1.4
CDF	Champ du Feu	159.89	346	⇑iPKP2	PKPab	08 05 31.1	-1.7
	comp=Z,16nm,0.9s						
MEZF	Maizieres J'vi	160.21	350	ePKP2	PKPab	08 05 32.7	-1.5
FLN	La Foliniere	160.35	1	ePKP2	PKPab	08 05 32.3	-2.4
HAU	Haudompre	160.47	347	⇑iPKP2	PKPab	08 05 33.6	-1.7
	comp=Z,17nm,0.7s						
DAVOX	Davos	160.69	339	PKPab	PKPab	08 05 35.8	-0.5
	comp=Z,8.7nm,0.7s,baz=8.6,slow=4.0,SNR=6.6						
GRR	Gorron	160.72	2	ePKP2	PKPab	08 05 34.0	-2.3
LOR	Lormes	161.59	351	⇑iPKP2	PKPab	08 05 38.5	-1.7
	comp=Z,20nm,1.0s						
SSF	Saint Saulge	161.84	352	⇑iPKP2	PKPab	08 05 39.7	-1.6
	comp=Z,49nm,0.9s						
CABF	La Chapelle	161.85	346	⇑iPKP2	PKPab	08 05 40.1	-1.2
	comp=Z,16nm,0.8s						
SMF	Signal de Mont	162.20	351	⇑iPKP2	PKPab	08 05 41.3	-1.6
	comp=Z,54nm,0.8s						
BGF	Bois d'Agland	162.41	353	⇑iPKP2	PKPab	08 05 42.0	-1.8
MFF	Saint Martin d	162.51	0	ePKP2	PKPab	08 05 41.5	-2.7
	comp=Z,75nm,1.5s						
TCF	Toulx Ste Croi	162.73	355	⇑iPKP2	PKPab	08 05 43.5	-1.7
	comp=Z,24nm,1.0s						
LPL	La Plagne	162.74	344	⇑iPKP2	PKPab	08 05 44.7	-0.5
	comp=Z,33nm,0.9s						
LPG	La Plagne	162.75	344	⇑iPKP2	PKPab	08 05 45.0	-0.3
	comp=Z,30nm,0.9s						
MBDF	Montbardon	163.47	343	⇑iPKP2	PKPab	08 05 47.4	-1.0
	comp=Z,26nm,1.0s						
ORIF	Oris-en-Rattie	163.50	345	⇑iPKP2	PKPab	08 05 47.8	-0.8
	comp=Z,20nm,0.9s						
VIVF	Saint-Julien-l	163.81	348	⇑iPKP2	PKPab	08 05 48.8	-1.1
	comp=Z,36nm,1.2s						
SBF	Sospel	164.07	340	ePKP2	PKPab	08 05 52.2	+1.1
CAF	Calviac	164.10	354	ePKP2	PKPab	08 05 49.9	-1.3
SMRF	Simiane la Rot	164.47	345	ePKP2	PKPab	08 05 51.5	-1.3
FRF	La Foret Royal	164.58	341	ePKP2	PKPab	08 05 52.0	-1.3
LASF	Ste Croix	164.71	349	ePKP2	PKPab	08 05 52.8	-1.1
	comp=Z,25nm,1.1s						
MTLF	Montolieu	165.66	353	ePKP2	PKPab	08 05 56.0	-2.0
	comp=Z,11nm,0.9s						
ESDC	Sonseca Array	168.97	16	PKP	PKPdf	08 04 57.5	+0.9
	comp=Z,0.2nm,0.3s,SNR=4.6						

IDC 07 08:11:08.4±1.5, 55.75N×160.62W, mb3.7/6, mb1 3.9/7, mb1mx3.7/22, mbtmp3.6/7, ML3.3/1, Error ellipse: s-maj=27.8km s-min=21.5km az=82.0

NEIC 07 08:11:11.3, 55.40N×158.88W, h7km, ML3.5(AEIC), After AEIC.

ISC 07 08:11:08.6±0.7**, 55.10N**±0.07×**158.53W**±0.07**, h33**^{km}**, n41,** σ0^{s}**82**/48**, mb3.8**/3**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	Sand Point	1.14	283	P	P	08 11 27.0	-1.3
SDPT				S	S	08 11 39.5	-3.5
ANPB	Aniakchak Plen	1.71	5	P	P	08 11 37.0	+0.6
ANPK	Aniakchak Peak	1.76	7	P	P	08 11 37.3	+0.2
PS1A	Pavlof South-1	1.87	281	P	P	08 11 38.4	-0.3
PS1A				S	S	08 12 00.7	-0.7
PVV	Pavlof Volcano	1.89	280	P	P	08 11 38.6	-0.4
PVV				S	S	08 12 01.7	-0.2
DOL	Dolgoi Island	1.92	273	P	P	08 11 39.1	-0.3
DOL				S	S	08 12 03.0	+0.4
HAG	Hague Volcano	1.95	278	P	P	08 11 40.2	+0.3
HAG				S	S	08 12 03.4	0.0
PN6	Pavlof North-6	1.97	282	P	P	08 11 40.8	+0.5
PN6				S	S	08 12 04.5	+0.5
PN7A	Pavlof North-7	2.01	281	P	P	08 11 40.1	-0.7
BLHA	Black Hill	2.11	288	P	P	08 11 41.1	-1.1
BLHA				S	S	08 12 06.3	-1.1
DTNA	Dutton South F	2.14	273	P	P	08 11 41.7	-0.9
DRIA	Deer Island	2.15	268	P	P	08 11 43.0	+0.2
DRIA				S	S	08 12 10.1	+1.5
DT1	Dutton Round H	2.16	272	P	P	08 11 43.2	+0.3
DT1				S	S	08 12 09.5	+0.8
BALA	Baldy Mountain	2.44	274	P	P	08 11 46.8	-0.2
SSLN	Shishaldin Nor	3.17	267	P	P	08 11 58.1	+0.8
KJL	Kejulik	3.38	28	P	P	08 12 01.2	+0.9
CAHL	Cahill	3.45	30	P	P	08 12 01.9	+0.6
CNTC	Contact Creek	3.49	24	P	P	08 12 02.4	+0.5
ANCK	Angle Creek	3.53	27	P	P	08 12 03.0	+0.6
WESN	West Dahl Nort	3.54	264	P	P	08 12 03.5	+0.9
MGLS	Mageik LS	3.58	28	P	P	08 12 04.1	+0.9
MGLS				S	S	08 12 45.8	+0.9
WESS	West Dahl Sout	3.64	263	P	P	08 12 04.9	+0.9
KAHC	Katmai Hardscr	4.05	27	P	P	08 12 10.0	+0.2
KDAK	Kodiak Island	4.25	48	P	P	08 12 12.4	-0.4
AKUT	Akutan	4.32	260	P	P	08 12 13.9	+0.2
AHB	Akutan Harbor	4.35	260	P	P	08 12 14.3	+0.2
AKGG	Akutan Green G	4.43	261	P	P	08 12 16.4	+1.2
MTBL	Makushin Table	4.88	260	P	P	08 12 21.5	-0.2
MSW	Makushin Switc	4.96	259	P	P	08 12 22.4	-0.3
ILW	Iliamna West	5.75	28	P	P	08 12 34.0	+0.1
HIN	Hinchinbrook I	8.33	46	P	P	08 13 08.8	-1.1
ILAR	Eielson Array	11.29	26	Pn	P	08 13 45.7	-4.9
	0.1nm,0.3s,baz=222,slow=13,SNR=7.9						
ILAR				Sn	S	08 15 47.5	-9.1
	0.0nm,0.3s,baz=219,slow=23,SNR=3.8						
INK	Inuvik	17.57	31	P	P	08 15 11.6	-0.5
	0.2nm,0.3s,baz=238,slow=13,SNR=6.8						
NVAR	Mina Array Bea	31.66	105	P	sP	08 17 46.8	+2.0
	0.5nm,0.8s,baz=307,slow=4.5,SNR=3.9						
PDAR	Pinedale Array	33.75	91	P	pP	08 18 00.9	+2.4
	0.6nm,0.6s,baz=310,slow=4.9,SNR=8.4						
TXAR	Lajitas Array	46.55	100	P	pP	08 19 47.2	+2.6
	0.4nm,0.8s,baz=301,slow=5.5,SNR=5.7						
TXAR	Lajitas Array	46.55	100	P	pP	08 19 47.2	+2.6
ARCES	ARCESS Array B	55.64	358	P	P	08 20 41.9	-1.0
	0.8nm,0.7s,mb3.9,baz=351,slow=12,SNR=4.9						
FINES	FINESS Array B	63.74	358	P	P	08 21 35.9	-2.7
	0.8nm,0.7s,mb3.9,slow=9.7,SNR=2.7						
AKASG	Malin Array Be	74.37	355	P	P	08 22 42.5	-1.5
	0.5nm,0.5s,mb3.7,baz=7.4,slow=6.9,SNR=4.7						
AKASG	Malin Array Be	74.37	355	P	P	08 22 42.5	-1.5

STR 07 08:19:21.8±0.7, 44.67N×3.06E, h5km±1km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

NEIC 07 08:19:21.8, 44.67N×3.06E, h5km, ML3.0(STR), ML2.9(LDG), MN2.5(MDD), After STR.

LDG 07 08:19:21.9±0.0, 44.65N×3.03E, h8km, Md3.1/3, Ml2.9/15, Error ellipse: s-maj=0.7km s-min=0.7km az=114.0

CSEM 07 08:19:21.9±0.0, 44.65N×3.03E, h10km, ML2.9/16, Error ellipse: s-maj=0.9km s-min=0.7km az=87.0

MDD 07 08:19:23.0±0.4**, 44.65N**×**3.02E, h20**^{km}±5^{km}**, mbLg2.2**/20**, Error ellipse: s-maj=3.4km s-min=3.1km az=29.0, PRXIMO, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBL	Lubilhac	0.60	16	Pg	Pb	08 19 33.9	-0.8
LBL				Sg	Sb	08 19 41.7	-1.0
CAF	Calviac	0.73	292	ePg	Pb	08 19 35.8	-1.1
CAF				eSg	Sb	08 19 45.3	-1.1
	185nm,0.3s						
FRNF	Fournols	0.80	336	Pg	Pb	08 19 37.0	-1.1
FRNF				Sg	Sb	08 19 47.6	-0.8
LASF	Ste Croix	0.83	134	ePg	Pb	08 19 37.5	-1.1
LASF				ePn	Pn	08 19 38.4	-1.2
LASF				eSg	Sb	08 19 48.8	-0.6
	63nm,0.5s						
LASF	Ste Croix	0.83	134	Pg	Pb	08 19 37.5	-1.1
LASF				Lg		08 19 48.8	
	32nm,0.5s						
COLF	Collangettes	0.99	29	Pg	Pb	08 19 40.1	-1.2
COLF				Sg	Sb	08 19 53.1	-0.7
PYM	Petit Puy Mans	1.10	360	Pg	Pb	08 19 43.2	+0.1
VERF	Verneugheol	1.16	341	Pg	Pb	08 19 43.8	-0.4
VERF				Sg	Sb	08 19 58.8	0.0
VIVF	Saint-Julien-l	1.20	80	ePn	Pn	08 19 43.3	-1.5
VIVF				ePg	Pb	08 19 44.2	-0.6
VIVF				eSg	Sb	08 19 59.7	-0.2
	42nm,0.3s						
RJF	Les Rejaudoux	1.25	302	ePn	Pn	08 19 44.1	-1.4
RJF				ePg	Pn	08 19 45.5	0.0
RJF				eSn	Sn	08 19 59.8	-2.1
RJF				eSg	Sb	08 20 01.7	+0.3
	56nm,0.2s						
PLDF	La Plantade	1.38	18	Pg	Pn	08 19 47.8	+0.3
PLDF				Sg	Sb	08 20 05.7	+0.4
AGO	Saint Agoulin	1.40	3	Pg	Pn	08 19 48.5	+0.8
AGO				Sg	Sn	08 20 06.4	+0.6
MTLF	Montolieu	1.43	204	ePn	Pn	08 19 46.5	-1.7
MTLF				ePg	Pn	08 19 48.4	+0.2
MTLF				eSg	Sn	08 20 06.9	+0.3
	40nm,0.2s						
LFF	La Frestale	1.65	281	ePn	Pn	08 19 49.9	-1.3
LFF				eSg	Sn	08 20 14.0	+2.0
	36nm,0.2s						
TCF	Toulx Ste Croi	1.73	341	ePn	Pn	08 19 50.6	-1.8
TCF				ePg	Pn	08 19 54.1	+1.7
TCF				eSn	Sn	08 20 12.0	-2.1
TCF				eSg	Sn	08 20 16.2	+2.1
	12nm,0.2s						
BGF	Bois d'Agland	1.91	356	ePn	Pn	08 19 53.2	-1.8
BGF				ePg	Pn	08 19 57.5	+2.5
BGF				eSg	Sn	08 20 22.1	+3.5
	57nm,0.3s						
SMRF	Simiane la Rot	1.96	109	ePn	Pn	08 19 53.5	-2.2
SMRF				eSg	Sn	08 20 23.3	+3.4
	8.3nm,0.4s						
GRN	Grenoble	2.02	72	Pn	Pn	08 19 52.6	-4.0
ORIF	Oris-en-Rattie	2.06	82	ePn	Pn	08 19 55.1	-2.0
ORIF				ePg	Pn	08 20 00.6	+3.5
ORIF				eSg	Sn	08 20 26.5	+4.1
	5.3nm,0.3s						
SMF	Signal de Mont	2.07	16	ePn	Pn	08 19 55.3	-2.1
SMF				ePg	Pn	08 20 00.2	+2.8
SMF				eSg	Sn	08 20 26.4	+3.5
	12nm,0.2s						
EJON	La Jonquera	2.21	182	Pg	Pn	08 20 02.7	+3.5
	5.3nm,0.4s,SNR=7.9						
EJON				Lg		08 20 31.2	
	5.8nm,0.2s,SNR=6.2						
EJON	La Jonquera	2.21	182	Pg	Pn	08 20 02.7	+3.4
	5.3nm,0.4s,SNR=7.9						
SSF	Saint Saulge	2.43	8	ePn	Pn	08 20 00.5	-2.0
SSF				ePg	Pn	08 20 07.2	+4.7
SSF				eSg	Sn	08 20 37.4	+5.4
	6.6nm,0.2s						
SSF	Saint Saulge	2.43	8	ePg	Pn	08 20 07.2	+4.7
SSF				eSg	Sn	08 20 37.4	+5.4
	3.3nm,0.2s						
EPF	Esparros	2.53	231	ePn	Pn	08 20 01.5	-2.3
EPF				ePg	Pn	08 20 09.1	+5.3
EPF				eSg	Sn	08 20 42.1	+7.7
	13nm,0.2s						
HYF	Humbligny	2.63	354	ePg	Pn	08 20 10.7	+5.4
HYF				eSg	Sn	08 20 44.5	+7.5
LOR	Lormes	2.68	12	ePn	Pn	08 20 03.7	-2.3
	baz=190						
LOR				ePg	Pn	08 20 11.5	+5.5
	baz=192						
LOR				eSg	Sn	08 20 45.9	+7.6
LOR	Lormes	2.68	12	ePg	Pn	08 20 11.5	+5.5
LOR				eSg	Sn	08 20 45.9	+7.6
EBIE	Bielsa	2.87	228	Pn	Pn	08 20 08.9	+0.2
	0.3nm,0.2s,SNR=7.9						
EBIE				Pg	Pn	08 20 14.6	+5.9
	1.0nm,0.1s,SNR=7.9						
EBIE				Sn	Sn	08 20 44.6	+1.6
	1.5nm,0.1s,SNR=7.9						
EBIE				Lg		08 20 52.9	
	6.3nm,0.2s,SNR=8.0						
EBIE	Bielsa	2.87	228	Pn	Pn	08 20 08.9	+0.2
	SNR=7.9						
EBIE	Bielsa	2.87	228	Pg	Pn	08 20 14.6	+5.9
	1.0nm,0.1s,SNR=7.9						
EBIE				Sn	Sn	08 20 44.6	+1.6
	1.5nm,0.1s,SNR=7.9						
CABF	La Chapelle	2.91	47	ePn	Pn	08 20 06.5	-2.8
CABF				ePg	Pn	08 20 16.1	+6.8
CABF				eSg	Sn	08 20 52.5	+8.4
	4.1nm,0.3s						
MFF	Saint Martin d	2.95	312	ePn	Pn	08 20 07.3	-2.6
MFF				eSg	Sn	08 20 54.7	+10
	6.5nm,0.4s						
ETSF	Etsaut	3.13	237	ePn	Pn	08 20 20.1	+7.7
ETSF				eSg	Sn	08 21 00.2	+11
	5.9nm,0.3s						
SJPF	Ste Jean	3.43	245	ePn	Pn	08 20 13.8	-2.9
SJPF				ePg	Pn	08 20 25.6	+8.9
EPOB	Poblet	3.59	204	Lg		08 21 15.2	
	3.1nm,0.2s,SNR=7.9						
ESAC	San Caprasio	3.88	222	Lg		08 21 24.7	
	17nm,0.3s,SNR=7.9						
HAU	Haudompre	4.07	33	ePn	Pn	08 20 22.6	-3.2
MEZF	Maizieres J'vi	4.10	19	ePn	Pn	08 20 22.6	-3.6
ERTA	Horta de San J	4.19	209	Lg		08 21 33.3	
	1.6nm,0.2s,SNR=4.0						
QUIF	Quistinic	5.39	309	ePn	Pn	08 20 40.6	-3.8

NEIC 07 08:36:21.8±1.2, 20.09S×177.66W, h502km±15km, mb4.2/9, Error ellipse: s-maj=16.5km s-min=12.6km az=177.0

IDC 07 08:36:34.0±12.0, 20.51S×178.16W, h619km±131km, mb3.2/4, mb1 3.4/5, mb1mx3.1/14, mbtmp4.2/5, Error ellipse: s-maj=96.8km s-min=34.9km az=53.0

ISC 07 08:36:19.4±2.1**, 20.1S**±0.2×**177.7W**±0.1**, h487**^{km}±34^{km}**, n26,** σ0^{s}**84**/23**, mb4.0**/12**, 4C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.33	43	ePn	P	08 38 21.7	+1.6
AFI				eSn	S	08 39 54.8	-1.2
DZM	Mont Dzumac	14.97	260	P	P	08 39 37.2	+7.1
	0.5nm,0.3s,baz=72,slow=19,SNR=6.2						
CTA	Charters Tower	33.85	264	⇑iP	P	08 42 22.9	+1.2
	3.0nm,0.4s,mb4.1						
CTAO	Charters Tower	33.85	264	eP	P	08 42 22.2	+0.5
	4.5nm,0.5s,mb4.2						
STKA	Stephens Creek	38.26	244	eP	P	08 42 58.6	+0.5
	2.0nm,0.5s,mb3.8						
STKA	Stephens Creek	38.26	244	P	P	08 42 58.5	+0.4
	2.3nm,0.5s,mb3.9,baz=88,slow=11,SNR=14						
STKA	Stephens Creek	38.26	244	eP	P	08 42 58.3	+0.2
WB2	Warramunga Arr	44.96	262	eP	P	08 43 51.4	-0.4
WRAB	Tennant Creek	44.97	262	eP	P	08 43 51.7	-0.2
	16nm,1.1s,mb4.4						
WRA	Warramunga Arr	44.98	262	P	P	08 43 51.8	-0.1
	2.4nm,0.4s,mb4.0,baz=97,slow=7.6,SNR=167						
FITZ	Fitzroy Crossi	53.40	262	eP	P	08 44 54.9	+0.1
	4.6nm,0.6s,mb4.0						
MBWA	Marble Bar	58.26	257	eP	P	08 45 27.6	-0.8
	6.8nm,0.5s,mb4.2						
SBA	Scott Base	58.31	184	eP	P	08 45 29.0	+0.9
	2.6nm,0.7s,mb3.7						
VNDA	Vanda	58.35	185	P	P	08 45 28.0	-0.4
	0.3nm,0.2s,mb3.2,baz=351,slow=6.0,SNR=3.7						
VNDA	Vanda	58.35	185	P	P	08 45 28.0	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KLBR	Kellerberrin	58.52	245	eP	P	08 45 29.3	-0.8
	7.7nm,0.6s,mb4.2						
CASY	Casey	64.48	205	eP	P	08 46 06.5	-2.0
	2.2nm,0.6s,mb3.9						
QSPA	South Pole Qui	69.98	180	eP	P	08 46 42.3	+0.3
	5.0nm,0.6s,mb4.2						
VNA3	Neumayer Olymp	88.54	176⇑	i	P	08 48 19.6	-0.1
VNA2	Neumayer--Watz	88.98	177⇑	i	P	08 48 22.1	+0.3
VNA1	Neumayer--Stat	89.21	176⇑	i	P	08 48 23.2	+0.3
CMAR	Chiang Mai Arr	90.28	289	P	P	08 48 30.1	+1.1
	1.5nm,0.7s,mb3.9,baz=77,slow=1.1,SNR=6.4						
ARCES	ARCESS Array B	128.57	350	PKP	PKPdf	08 54 31.8	+2.0
	1.2nm,0.9s,baz=11,slow=6.2,SNR=3.9						
ARCES	ARCESS Array B	128.57	350	PKP	PKPdf	08 54 31.8	+2.0
AKASG	Malin Array Be	142.80	332	PKP	PKPdf	08 54 55.5	-0.6
	0.4nm,0.3s,baz=46,slow=4.5,SNR=5.0						
BRTR	Keskin Array B	146.79	313	PKPbc	PKPbc	08 55 08.2	+2.8
	0.8nm,0.5s,baz=117,slow=2.8,SNR=4.1						

IDC 07 08:46:34.1±3.8, 3.09S×101.56E, mb4.1/4, mb1 4.2/4, mb1mx3.8/17, mbtmp4.1/4, Error ellipse: s-maj=206.8km s-min=23.3km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.10	120	P	P	08 53 38.3	-1.5
	1.2nm,0.4s,baz=300,slow=9.3,SNR=29						
STKA	Stephens Creek	47.26	132	P	P	08 55 08.9	-2.3
	0.8nm,0.5s,baz=312,slow=11,SNR=3.9						
MKAR	Makanchi Array	52.50	343	P	P	08 55 48.6	-2.6
	0.8nm,0.4s,baz=156,slow=8.5,SNR=14						
ZAL	Zalesovo	58.53	348	P	P	08 56 32.9	-1.7
	1.5nm,0.3s,baz=58,slow=7.8,SNR=3.9						
TXAR	Lajitas Array	144.58	40	PKP	PKPdf	09 06 11.9	-3.3
	0.3nm,0.6s,baz=267,slow=1.1,SNR=8.1						

CSEM 07 08:59:51.2±0.1, 37.30N×13.94E, h27km, ML3.8/1, Error ellipse: s-maj=3.1km s-min=2.1km az=173.0, After ROM
ROM 07 08:59:51.2±0.3, 37.30N×13.94E, h27km±5km, Md2.5/4, Ml2.6/2, Error ellipse: s-maj=2.9km s-min=2.1km az=168.0, Sicily

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FAVR	Favara	0.22	261	Pg	Pb	08 59 57.7	+0.4
FAVR				Sg	Sb	09 00 02.8	+1.3
MCT	Mte Cammarata	0.41	324	Pg	Pb	09 00 01.0	+1.0
	92nm,0.3s						
CLTB	Caltabellotta	0.64	296	Pg	Pb	09 00 04.6	+0.9
	60nm,0.3s						
GIB	Gibilmanna	0.69	6	Pg	Pb	09 00 05.3	+0.7
	135nm,0.5s						
PLLN	Pollina	0.71	13	Pg	Pb	09 00 05.8	+0.9
AGST	Augusta-Monte	1.03	92	Pg	Pn	09 00 11.3	+1.3
AGST				Sg	Sb	09 00 27.9	+4.5
	179nm,0.3s						

IDC 07 09:04:08.9±1.7, 16.89S×178.20W, mb4.0/3, mb1 4.3/3, mb1mx3.9/14, mbtmp4.0/3, Error ellipse: s-maj=156.7km s-min=31.3km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.30	240	eP	P	09 11 40.2	-1.2
	1.7nm,0.5s						
STKA	Stephens Creek	39.30	240	P	P	09 11 40.0	-1.4
	2.2nm,0.4s,baz=98,slow=9.1,SNR=16						
WRA	Warramunga Arr	45.02	259	P	P	09 12 26.2	-2.2
	1.2nm,0.5s,baz=96,slow=7.2,SNR=49						
TXAR	Lajitas Array	85.28	58	P	P	09 16 48.2	-1.1
	0.4nm,0.7s,baz=225,slow=7.1,SNR=5.6						

IDC 07 09:05:09.3±3.6, 1.94N×97.83E, mb3.8/3, mb1 4.1/4, mb1mx3.7/20, mbtmp3.8/4, ML4.2/1, Error ellipse: s-maj=148.9km s-min=24.6km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.45	4	Pn	P	09 09 03.6	+0.4
	0.3nm,0.3s,baz=195,slow=11,SNR=6.2						
FITZ	Fitzroy Crossi	33.86	127	P	P	09 11 54.6	-1.3
	2.0nm,0.6s,baz=330,slow=7.8,SNR=4.4						
WRA	Warramunga Arr	41.90	123	P	P	09 13 01.1	-2.3
	1.8nm,0.5s,baz=305,slow=9.4,SNR=22						
MKAR	Makanchi Array	46.68	345	P	P	09 13 39.3	-2.3
	0.2nm,0.3s,baz=176,slow=8.0,SNR=3.2						

NEIC 07 09:10:11.2±0.5, 24.14S×67.04W, h166km±6km, mb4.1/7, Error ellipse: s-maj=8.7km s-min=7.0km az=93.0
IDC 07 09:10:11.2±1.1, 24.14S×67.01W, h166km±11km, mb3.4/6, mb1 3.7/10, mb1mx3.6/18, mbtmp4.0/10, Error ellipse: s-maj=18.6km s-min=11.6km az=82.0
GUC 07 09:10:13.2±0.8, 24.29S×67.39W, h180km, ML4.8
ISC 07 09:10:10.1±0.5, 24.21S±0.03×67.09W±0.06, h171km±6km, n29, σ1^{s}18/37, mb3.7/12, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.31	313	P	P	09 10 53.0	+2.6
	142nm,0.3s,baz=135,slow=5.9,SNR=3056						
LVC				S	S	09 11 22.6	+1.0
	259nm,0.3s,baz=274,slow=20,SNR=55						
CPN1	Cerro Paranal	3.05	261⇑	iP	P	09 11 01.3	+1.7
CPN1				iS	S	09 11 37.4	-0.2
CPN1				AMP		09 11 42.5	
	comp=E,930nm,0.2s						
ANCH	Antofagasta	3.08	279⇑	iP	P	09 11 01.7	+1.7
ANCH				iS	S	09 11 37.5	-0.9
ANCH				AMP		09 11 41.2	
	comp=N,2μm,0.1s						
CRCH	Chaqaral	3.84	236	eP	P	09 11 10.2	+0.6
CRCH				iS	S	09 11 54.6	-1.0
CRCH				AMP		09 11 55.5	
	comp=N,2μm,0.3s						
CPCH	Copiapo	4.30	222	eP	P	09 11 15.7	+0.1
CPCH				iS	S	09 12 04.8	-1.3
LCO	Las Campanas	5.78	213	eP	P	09 11 34.8	-0.1
LCO				iS	S	09 12 39.2	-1.4
CFAA	Coronel Fontan	7.44	188	P	P	09 11 58.3	+1.4
	comp=N,0.1nm,0.3s,baz=1.2,slow=12,SNR=16						
CFAA				S	S	09 13 18.6	-1.6
	comp=N,0.4nm,0.3s,baz=292,slow=24,SNR=12						
LPAZ	La Paz	7.94	353	P	P	09 12 04.5	+1.0
	comp=N,1.6nm,0.3s,baz=180,slow=8.8,SNR=48						
LPAZ				S	S	09 13 30.8	-1.2
	comp=N,0.3nm,0.3s,baz=31,slow=24,SNR=3.9						
LPAZ	La Paz	7.94	353	P	P	09 12 04.5	+1.0
LPAZ				S	S	09 13 30.8	-1.2
ARE	Arequipa	8.74	331	P	P	09 12 12.0	-2.1
ARE				eS	S	09 13 46.0	-4.9
CPUP	Villa Florida	9.08	106	ePn	P	09 12 18.9	+0.3
SIV	San Ignacio	9.93	36	P	P	09 12 28.3	-1.4
	comp=N,1.1nm,0.3s,baz=218,slow=13,SNR=43						
TRQA	Tornquist	14.48	164	eP	P	09 13 28.9	+0.9
	comp=N,6.0nm,0.7s						
BDFB	Brasilia	19.84	68	P	P	09 14 29.1	-0.6
	comp=N,2.4nm,0.3s,baz=248,slow=10,SNR=46						
BAO	Brasilia Array	19.86	68	P	P	09 14 29.0	-0.8
RCBR	Riachuelo	35.09	64	eP	P	09 16 47.9	-1.0
	comp=N,3.3nm,0.6s,mb4.1						
SNAA	Sanae	59.18	161	P	P	09 19 54.6	-0.3
	comp=N,0.6nm,0.8s,mb3.5,baz=319,slow=5.4,SNR=8.6						
WVT	Waverly	63.13	341	eP	P	09 20 19.3	-2.6
	comp=N,3.7nm,1.0s,mb4.2						
TXAR	Lajitas Array	63.80	325	P	P	09 20 25.3	-1.0
	comp=N,0.1nm,0.5s,mb2.9,baz=149,slow=7.3,SNR=4.1						
QSPA	South Pole Qui	66.00	180	eP	P	09 20 40.6	+0.9
	comp=N,3.1nm,0.5s,mb4.4						
ANMO	Albuquerque	69.67	326	eP	P	09 21 03.2	+0.1
	comp=N,1.4nm,0.9s,mb3.7						
SDCO	Great Sand Dun	71.42	329	eP	P	09 21 14.2	+0.6
	comp=N,1.8nm,0.9s,mb3.8						
VNDA	Vanda	74.49	190	P	P	09 21 32.8	+2.0
	comp=N,0.8nm,0.8s,mb3.5,baz=148,slow=0.8,SNR=4.9						
PDAR	Pinedale Array	77.28	329	P	P	09 21 46.9	-0.2
	comp=N,0.3nm,0.6s,mb3.1,baz=129,slow=8.0,SNR=4.0						
HLID	Hailey	80.22	327	eP	P	09 22 04.1	+1.2
	comp=N,2.8nm,0.9s,mb3.9						
BOSA	Boshof	80.71	117	P	P	09 22 06.2	+0.4
	comp=N,1.5nm,0.7s,mb3.7,baz=248,slow=3.7,SNR=4.5						
MAW	Mawson	81.27	163	P	P	09 22 09.4	+1.4
	comp=N,1.0nm,0.5s,mb3.7,baz=216,slow=8.7,SNR=4.3						
WRA	Warramunga Arr	131.41	207	PKP	PKPdf	09 29 04.4	+1.5
	comp=N,0.7nm,0.5s,baz=158,slow=1.7,SNR=28						
MKAR	Makanchi Array	146.73	40	PKPbc	PKPbc	09 29 31.4	+0.2
	comp=N,0.8nm,0.6s,baz=256,slow=5.0,SNR=12						

NEIC 07 09:27:23.5, 38.34S×177.15E, h92km, ML3.7(WEL), After WEL.
WEL 07 09:27:23.7±0.2, 38.32S×177.14E, h90km±1km, ML3.5/10, 2C, Error ellipse: s-maj=1.2km s-min=1.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.07	341	P	P	09 27 36.0	-0.5
URZ	Urewera	0.07	341⇑	P*	P	09 27 36.0	-0.5
URZ				S*	S	09 27 45.3	-0.8
MWZ	Matawai	0.31	92	P	P	09 27 37.2	-0.1
MWZ				S	S	09 27 47.0	-0.6
MWZ	Matawai	0.31	92	P*	P	09 27 37.2	-0.1
MWZ				S*	S	09 27 47.4	-0.2
EDRZ	Edgecumbe	0.38	304	P	P	09 27 37.5	-0.2
EDRZ	Edgecumbe	0.38	304	P*	P	09 27 37.5	-0.3
EDRZ				S*	S	09 27 48.0	-0.3
MARZ	Manawahe	0.50	313	P	P	09 27 38.3	-0.4
MARZ	Manawahe	0.50	313	P*	P	09 27 38.3	-0.4
TAZ	Tarawera	0.50	280	P	P	09 27 38.7	0.0
TAZ	Tarawera	0.50	280	P*	P	09 27 38.7	0.0
LIRZ	Lichensteins R	0.67	298	P*	P	09 27 39.9	-0.4
PATZ	Paeroa	0.69	265	P	P	09 27 40.3	-0.2
PATZ	Paeroa	0.69	265	P*	P	09 27 40.3	-0.1
UTU	Utuhina	0.76	281	P	P	09 27 41.2	+0.1
UTU	Utuhina	0.76	281	P*	P	09 27 41.2	+0.1
KNZ	Kokohu	0.81	149	eP	P	09 27 41.6	-0.1
KNZ	Kokohu	0.81	149	PN	P	09 27 41.6	-0.1
KNZ				SN	S	09 27 54.6	-0.3
PUZ	Puketiti	0.92	74	P	P	09 27 42.1	-0.6
PUZ	Puketiti	0.92	74⇑	PN	P	09 27 42.1	-0.7
BKZ	Black Stump Fm	0.98	211	P	P	09 27 43.2	-0.3
BKZ	Black Stump Fm	0.98	211	P*	P	09 27 43.2	-0.3
MXZ	Matakaoa Point	1.20	51	P	P	09 27 45.4	-0.8
MXZ				S	S	09 28 03.2	+0.4
MXZ	Matakaoa Point	1.20	51	P*	P	09 27 45.4	-0.7
OTVZ	Oturere	1.43	233	P*	P	09 27 48.6	-0.4
NGZ	Ngauruhoe	1.47	234	P*	P	09 27 49.3	-0.3
TUVZ	Tukino	1.50	230	P	P	09 27 49.3	-0.6
TUVZ	Tukino	1.50	230	P*	P	09 27 49.3	-0.6
CNZ	Chateau	1.52	234	P	P	09 27 49.9	-0.3
CNZ	Chateau	1.52	234	P*	P	09 27 49.9	-0.3
WPVZ	Whakapapa	1.52	234	eP	P	09 27 50.0	-0.3
WPVZ	Whakapapa	1.52	234	P*	P	09 27 50.0	-0.3
MOVZ	Moawhango	1.53	225	P	P	09 27 49.3	-1.0
MOVZ				S	S	09 28 09.0	-1.0
MOVZ	Moawhango	1.53	225	P*	P	09 27 49.3	-1.0
FWVZ	Far West T-bar	1.55	233	eP	P	09 27 49.9	-0.7
FWVZ	Far West T-bar	1.55	233	P*	P	09 27 50.0	-0.6
WNVZ	Wahianoa	1.57	230	P	P	09 27 50.1	-0.7
WNVZ	Wahianoa	1.57	230	P*	P	09 27 50.1	-0.7
WNVZ				S*	S	09 28 10.3	-0.5
MTVZ	Mangateitei	1.68	230	P*	P	09 27 51.4	-0.8
PWZ	Pawanui	1.72	187	P	P	09 27 51.3	-1.4
PWZ	Pawanui	1.72	187	PN	P	09 27 51.4	-1.4
TSZ	Takapari Road	1.96	207	P	P	09 27 54.1	-1.8
TSZ	Takapari Road	1.96	207	PN	P	09 27 54.1	-1.8
VRZ	Vera Road	2.03	246	P	P	09 27 56.5	-0.3
VRZ	Vera Road	2.03	246	PN	P	09 27 56.4	-0.5
WAZ	Wanganui	2.20	229	eP	P	09 27 58.6	-0.7
WAZ	Wanganui	2.20	229	PN	P	09 27 58.6	-0.7
BFZ	Birch Farm	2.45	196	eP	P	09 27 59.9	-2.9
BFZ	Birch Farm	2.45	196	PN	P	09 27 59.9	-2.9
MRZ	Mangatainoka R	2.63	207	eP	P	09 28 02.0	-3.2
MRZ	Mangatainoka R	2.63	207	PN	P	09 28 02.0	-3.2
KIW	Kapiti Island	3.06	213	PN	P	09 28 07.7	-3.5
MTW	Mount Morrison	3.10	203	PN	P	09 28 07.5	-4.2
CAW	Cannon Point	3.21	209	PN	P	09 28 09.6	-3.5

NEIC 07 09:56:27.2, 31.93S×71.62W, h54km, MD4.1(GUC), After GUC.
GUC 07 09:56:27.2±0.8, 31.93S×71.62W, h54km±9km, MD4.1, ML3.8, 8C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.62	166⇑	iP	P	09 56 40.8	+0.6
PACH				iS	S	09 56 50.8	+0.9
CMCH	Combarbala	0.92	35⇓	iP	P	09 56 44.5	+0.3
CMCH				iS	S	09 56 57.4	+0.6
CMCH				AMP		09 56 58.2	
	comp=E,11μm,0.3s						
IHA	Instituto Hidr	1.09	181⇑	iP	P	09 56 46.3	-0.3
IHA				iS	S	09 57 01.5	+0.7
JACH	Jahuel	1.15	131	eP	P	09 56 47.9	+0.6
JACH				iS	S	09 57 02.9	+0.7
ROCH	El Roble	1.16	154⇓	iP	P	09 56 47.7	+0.3
PEL	Peldehue	1.44	147	eP	P	09 56 51.6	+0.1
PEL				iS	S	09 57 09.2	-0.3
RCDM	Rinconada Maip	1.70	156	iP	P	09 56 55.0	0.0
RCDM				iS	S	09 57 15.5	-0.1
RCDM				AMP		09 57 18.9	
	comp=E,1μm,0.0s						
DSCH	Colegio Aleman	1.71	149⇓	iP	P	09 56 55.5	+0.3
DSCH				iS	S	09 57 16.6	+0.7
DSCH				AMP		09 57 17.9	
	comp=E,1μm,0.5s						
STL	Santa Lucia	1.71	151	eP	P	09 56 54.4	-0.8
STL				iS	S	09 57 15.4	-0.6
CLCH	Cerro Calan	1.72	148⇑	iP	P	09 56 55.6	+0.3
CLCH				iS	S	09 57 16.6	+0.4
FCH	Farellones	1.79	141	iP	P	09 56 56.8	+0.5
TACH	Talagante	1.81	162⇓	iP	P	09 56 56.6	+0.1
TACH				iS	S	09 57 18.6	+0.2
ANTU	Antumapu	1.83	153	eP	P	09 56 57.0	+0.1
ANTU				iS	S	09 57 19.2	+0.3
ANTU				AMP		09 57 20.1	
	comp=E,628nm,0.6s						
TLL	Tololo Astrono	1.89	22⇑	iP	P	09 56 58.0	+0.3
TLL				iS	S	09 57 21.8	+1.4
TLL				AMP		09 57 26.2	
	comp=E,855nm,0.2s						
PCH	Pirque	1.92	151⇓	iP	P	09 56 58.4	+0.2
SJCH	San Jose de Ma	2.01	148	iP	P	09 56 59.3	0.0
SJCH				iS	S	09 57 23.1	-0.2
LNV	Longovilo	2.02	175⇑	iP	P	09 56 58.7	-0.9
CHCH	Chadas Angostu	2.15	158⇑	iP	P	09 57 01.3	-0.2
LMEL	Las Melosas	2.25	148⇑	iP	P	09 57 03.4	+0.6
LMEL				iS	S	09 57 30.0	+0.6
LMEL				AMP		09 57 31.8	
	comp=N,782nm,0.2s						
CACH	El Canelo	2.34	159	eP	P	09 57 04.6	+0.5
ZON	Zonda	2.54	82	eP	P	09 57 09.0	+2.1
SFDO	San Fernando	2.72	169⇑	iP	P	09 57 09.0	-0.5

CASC 07 10:01:45.4±1.7, 10.77N×86.78W, MD4.2, 6C-6D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.30	21⇑	eP	Pb	10 02 10.9	+0.5
CRUN				eS	Sb	10 02 31.2	+3.8
APON	Apoyo	1.34	31	eP	Pb	10 02 10.9	-0.2
MASN	Masaya	1.36	27	eP	Pb	10 02 11.6	+0.1
TICN	Ticuantepe	1.37	23⇓	eP	Pb	10 02 11.8	+0.2
CONN	Concepcion	1.38	55⇑	eP	Pb	10 02 11.2	-0.6
XAVN	Gruta Xavier	1.44	18	eP	Pn	10 02 12.4	-0.4
MGAN	Managua	1.47	21⇓	eP	Pn	10 02 11.7	-1.5
MGAN				eS	Sb	10 02 34.2	+1.8
WILN	Americas 2	1.50	23	eP	Pn	10 02 13.1	-0.5
APYN	Apoyeque	1.52	16⇓	eP	Pn	10 02 13.5	-0.4
LEON	Leon	1.64	356⇑	eP	Pn	10 02 15.2	-0.5
MOMJ	Momotombo	1.65	8⇓	eP	Pn	10 02 15.6	-0.2
MIRN	Miramar	1.66	2⇓	eP	Pn	10 02 15.7	-0.3
CNGN	Cerro Negro	1.72	3⇑	eP	Pn	10 02 16.3	-0.5
TEL3	Telica 3	1.79	358⇓	eP	Pn	10 02 17.4	-0.4
TELN	Telica	1.83	358	eP	Pn	10 02 17.9	-0.4
PYTN	Playitas	1.90	22⇑	eP	Pn	10 02 18.3	-1.0
PYTN				eS	Sn	10 02 44.2	-0.1
CRIN	San Cristobal	1.94	352⇑	eP	Pn	10 02 19.8	-0.1
FORC	Fortuna	2.10	98	eP	Pn	10 02 21.7	-0.5
PRS1	Puriscal	2.55	108	eP	Pn	10 02 28.8	+0.1
LCR2	La Lucha 2	2.92	110	eP	Pn	10 02 34.5	+0.6
TRTC	Tortuguero	3.02	93	eP	Pn	10 02 35.5	+0.1
BUS	Buena Vista	3.21	112	eP	Pn	10 02 38.5	+0.4

IDC 07 10:09:20.7±0.6, 23.73S×111.74W, mb4.7/15, mb1 4.8/15, mb1mx4.7/19, mbtmp4.6/15, MS4.1/22, Ms1 4.1/22, ms1mx4.1/24, Error ellipse: s-maj=21.7km s-min=18.7km az=59.0
HRVD 07 10:09:22.4±0.4, 23.90S×111.69W, h14km±1km, MW4.9/51, Centroid moment Tensor Solution. LP body waves: s24,c31; Mantle waves: s51,c74; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.34±.19; $M_{\theta\theta}$-1.40±.13; $M_{\phi\phi}$-0.93±.13; $M_{r\theta}$-0.09±.28; $M_{\theta\phi}$1.35±.08; $M_{\phi r}$-1.15±.33; Best double couple: $M_0$2.702×10^{16} NP1:ϕ_s292°, δ41°, λ59°. NP2:ϕ_s149°, δ56°, λ114°. Principal axes: T 2.768, Plg69°, Azm111°; N -.13, Plg19°, Azm316°; P -2.635, Plg8°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 07 10:09:22.4±0.2, 23.75S×111.68W, h10km, mb5.3/67, MS4.4/22 Error ellipse: s-maj=7.6km s-min=4.2km az=79.0
MOS 07 10:09:23.1±1.0, 23.36S×111.46W, h10km, mb5.2/13, Error ellipse: s-maj=22.5km s-min=12.0km az=86.2
BJI 07 10:09:24.0, 23.70S×111.70W, h10km, mB5.3, Ms4.9, Msz4.9
ISC 07 10:09:20.4±0.3, 23.74S±0.05×111.64W±0.09, h10km, (h11km±2.3km:pP-P), n246, σ0^{s}75/156, mb5.1/77, MS4.3/46, 61C-7D, Easter Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	3.97	149	Pn	Pn	10 10 20.3	-2.4
	16nm,0.3s,baz=323,slow=16,SNR=6.4						
PAYG	Puerto Ayora	30.89	45	eP	P	10 15 34.8	-4.8
	65nm,1.2s,mb5.3						
PAYG				LR	LR		
	comp=Z,1μm,20.0s,MS4.5						
NNA	Nana	35.02	77	eP	P	10 16 16.9	+1.5
	comp=Z,25nm,1.3s,mb5.0						
PPT	Papeete	35.95	273	LR	LR	10 27 17.0	
	comp=Z,209nm,21.1s,MS3.9,baz=347,slow=30						
CFAA	Coronel Fontan	39.03	111	P	P	10 16 50.4	+1.3
	comp=Z,0.1nm,0.7s,baz=261,slow=10,SNR=4.2						
CFAA				LR	LR	10 28 54.6	
	comp=Z,46nm,20.1s,MS3.3,baz=268,slow=30						
LVC	Limon Verde	39.19	97	LR	LR	10 28 37.9	
	comp=Z,438nm,21.2s,MS4.3,baz=88,slow=30						
LPAZ	La Paz	41.42	88⇑	eP	P	10 17 11.6	+2.7
LPAZ				e		10 19 09.1	
LPAZ				pmax	pmax		
	comp=Z,47nm,1.5s						
LPAZ				MLR	MLR		
	comp=Z,310nm,21.0s						
LPAZ	La Paz	41.42	88	P	P	10 17 11.0	+2.1
	comp=Z,9.7nm,1.1s,mb4.3,baz=266,slow=6.9,SNR=26						
LPAZ				LR	LR	10 30 18.9	
	comp=Z,255nm,20.7s,MS4.1,baz=296,slow=30						
LPAZ	La Paz	41.42	88⇑	eP	P	10 17 11.6	+2.7
	comp=Z,47nm,1.5s,mb4.9						
LPAZ				e		10 17 24.1	
LPAZ				ePcP	PcP	10 19 09.1	+1.5
LPAZ				LR	LR		
	comp=Z,310nm,21.0s,MS4.2						
TRQA	Tornquist	44.44	121	eP	P	10 17 34.5	+1.2
	comp=Z,30nm,1.3s,mb4.9						
ROSC	El Rosal	46.16	57	P	P	10 17 47.2	-0.1
	comp=Z,3.1nm,0.4s,mb4.6,baz=107,slow=20,SNR=2.7						
ROSC				LR	LR	10 33 51.5	
	comp=Z,476nm,19.4s,MS4.5,baz=322,slow=32						
CPUP	Villa Florida	48.98	105	eP	P	10 18 09.2	0.0
CPUP				pmax	pmax		
	comp=Z,43nm,1.9s						
CPUP	Villa Florida	48.98	105	LR	LR	10 34 56.3	
	comp=Z,100nm,21.1s,MS3.8,baz=190,slow=31						
CPUP	Villa Florida	48.98	105	eP	P	10 18 09.2	-0.1
	comp=Z,43nm,1.9s,mb5.2						
PMSA	Palmer Station	51.21	156	eP	P	10 18 24.4	-1.4
SDV	Santo Domingo	51.54	56	P	P	10 18 29.3	+0.3
	comp=Z,8.3nm,0.9s,mb4.7,baz=269,slow=3.7,SNR=7.5						
SDV	Santo Domingo	51.54	56⇑	eP	P	10 18 29.3	+0.3
	comp=Z,30nm,1.4s,mb5.0						
SDV				LR	LR		
	comp=Z,507nm,19.0s,MS4.6						
TXAR	Lajitas Array	53.32	9	P	P	10 18 42.2	+0.1
	comp=Z,4.5nm,1.1s,mb4.3,baz=188,slow=8.8,SNR=27						
TXAR				PcP	PcP	10 19 49.7	0.0
	comp=Z,4.1nm,1.2s,baz=198,slow=4.0,SNR=5.9						
TXAR				LR	LR	10 37 26.9	
	comp=Z,160nm,18.0s,MS4.1,baz=150,slow=32						
LTX	Lajitas	53.32	9⇑	iP	P	10 18 42.6	+0.5
LTX				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7						
LTX				MLR	MLR		
	comp=Z,217nm,20.0s,MS4.2						
LTX	Lajitas	53.32	9⇑	iP	P	10 18 42.6	+0.4
	comp=Z,15nm,1.4s,mb4.7						
LTX				LR	LR		
	comp=Z,217nm,20.0s,MS4.2						
MNTX	Cornudas Mount	55.44	6⇑	iP	P	10 18 57.2	-0.5
	comp=Z,32nm,1.4s,mb5.2						
TUC	Tucson	55.73	1⇑	iP	P	10 18 59.8	0.0
TUC				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8						
TUC	Tucson	55.73	1⇑	iP	P	10 18 59.8	+0.1
	comp=Z,14nm,1.3s,mb4.8						
GDL2	Guadalupe Moun	56.05	7	eP	P	10 19 01.7	-0.3
BAR	Barrett	56.30	355	eP	P	10 19 04.0	+0.2
PFO	Pinyon Flat Ob	57.21	355	eP	P	10 19 10.7	+0.4
PFO				pmax	pmax		
	comp=Z,26nm,1.6s,mb5.0						
PFO	Pinyon Flat Ob	57.21	355	eP	P	10 19 10.7	+0.4
	comp=Z,26nm,1.6s,mb5.0						
AFI	Afiamalu	57.41	268	LR	LR	10 37 57.8	
	comp=Z,496nm,19.6s,MS4.6,baz=37,slow=30						
NATX	Nacogdoches	57.52	17	eP	P	10 19 12.8	+0.3
	comp=Z,154nm,1.4s,mb5.8						
LENM	Lemitar	57.75	5	eP	P	10 19 14.3	+0.3
BNM	Barren Site	57.76	5	eP	P	10 19 14.3	+0.1
ANMO	Albuquerque	58.57	5c	iP	P	10 19 19.9	+0.1
ANMO	Albuquerque	58.57	5	eP	P	10 19 18.5	-1.3
	comp=Z,6.4nm,1.3s,mb4.5						
ANMO				LR	LR		
	comp=Z,291nm,19.0s,MS4.4						
LDFC	Landfair	58.58	357⇑	iP	P	10 19 21.1	+1.2
AMTX	Amarillo	59.06	10⇓	eP	P	10 19 23.1	-0.1
	comp=Z,48nm,1.6s,mb5.3						
DWPF	Disney	59.20	31	eP	P	10 19 25.0	+0.7
	comp=Z,45nm,1.3s,mb5.3						
DAC	Darwin (Calif)	59.95	354	eP	P	10 19 29.8	+0.5
DAC				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.1						
DAC	Darwin (Calif)	59.95	354	eP	P	10 19 29.8	+0.5
	comp=Z,27nm,1.5s,mb5.0						
BDFB	Brasilia	60.03	95	P	P	10 19 31.1	+0.9
	comp=Z,4.9nm,0.8s,mb4.6,baz=234,slow=5.7,SNR=5.1						
BDFB				LR	LR	10 42 41.0	
	comp=Z,191nm,19.6s,MS4.2,baz=203,slow=33						
UALR	University of	61.00	18	eP	P	10 19 36.1	-0.4
	comp=Z,49nm,1.5s,mb5.4						
MTUM	Tungsten Hills	61.11	354	eP	P	10 19 37.7	+0.5
LRAL	Lakeview Retre	61.15	24⇑	eP	P	10 19 37.5	-0.1
	comp=Z,52nm,1.5s,mb5.4						
ARUT	Antelope Range	61.22	358	eP	P	10 19 38.4	+0.5
URZ	Urewera	61.40	238	LR	LR	10 37 58.3	
	comp=Z,102nm,20.6s,MS4.0,baz=340,slow=28						
SDCO	Great Sand Dun	61.42	6⇑	eP	P	10 19 38.8	-0.6
	comp=Z,34nm,1.4s,mb5.3						
SDCO				LR	LR		
	comp=Z,363nm,19.0s,MS4.5						
OXF	Oxford	61.65	21	eP	P	10 19 39.4	-1.6
OXF				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.3						
OXF				MLR	MLR		
	comp=Z,72nm,19.0s,MS3.9						
OXF	Oxford	61.65	21	eP	P	10 19 39.4	-1.6
	comp=Z,28nm,1.2s,mb5.3						

OXF LR LR
comp=Z,72nm,19.0s,MS3.9
TPH Tonopah 61.70 355 *eP* **P 10 19 42.0 +0.8**
TPH pmax pmax
comp=Z,51nm,1.4s,mb5.5
TPH MLR MLR
comp=Z,164nm,22.0s,MS4.1
TPH Tonopah 61.70 355 *eP* **P 10 19 42.0 +0.7**
comp=Z,50nm,1.4s,mb5.5
TPH LR LR
comp=Z,164nm,22.0s,MS4.1
TRCR Troy Canyon 61.87 356 *eP* **P 10 19 44.1 +1.8**
MVU Marysvale 61.91 359⇑ *eP* **P 10 19 43.3 +0.7**
comp=Z,20nm,1.5s,mb5.0
MVU *ePcP* PcP 10 20 23.9 +0.7
MSU Marysvale 61.92 360 *eP* **P 10 19 42.4 -0.3**
CMB Columbia Colle 61.99 352 *eP* **P 10 19 43.3 +0.1**
CMB pmax pmax
comp=Z,34nm,1.5s,mb5.3
CMB MLR MLR
comp=Z,243nm,19.0s,MS4.4
CMB Columbia Colle 61.99 352 *eP* **P 10 19 43.3 +0.1**
comp=Z,34nm,1.5s,mb5.3
CMB LR LR
comp=Z,243nm,19.0s,MS4.4
NVAR Mina Array Bea 62.15 354 P **P 10 19 44.9 +0.7**
comp=Z,16nm,1.0s,mb5.1,baz=171,slow=9.0,SNR=76
NVAR LR LR 10 41 32.5
comp=Z,122nm,18.4s,MS4.1,baz=205,slow=31
NVAR Mina Array Bea 62.15 354 P **P 10 19 44.9 +0.7**
NVAR LR LR 10 41 32.5
SRU San Rafael 62.52 1⇑ *iP* **P 10 19 46.0 -0.7**
PLAL Pickwick Lake 62.53 22⇑ *iP* **P 10 19 45.7 -1.1**
comp=Z,35nm,1.4s,mb5.3
SNZO South Karori 62.78 234 *eP* **P 10 19 42.4 -5.9**
comp=Z,77nm,1.3s,mb5.7
WCN Washoe City 63.16 353 *eP* **P 10 19 51.0 +0.1**
comp=Z,16nm,1.4s,mb5.0
NLU North Lily Min 63.36 360 *eP* **P 10 19 52.4 +0.2**
MPU Maple Canyon 63.42 0⇓ *eP* **P 10 19 53.5 +0.9**
ISCO Idaho Springs 63.45 5 *eP* **P 10 19 52.6 -0.2**
comp=Z,20nm,1.3s,mb5.1
SWET Sewanee 63.49 23 *eP* **P 10 19 52.5 -0.6**
UTMT University of 63.51 20 *eP* **P 10 19 51.3 -1.9**
WVT Waverly 63.65 21 *eP* **P 10 19 53.2 -1.0**
WVT pmax pmax
comp=Z,25nm,1.4s,mb5.0
WVT MLR MLR
comp=Z,162nm,20.0s,MS4.2
WVT Waverly 63.65 21 *eP* **P 10 19 53.1 -1.1**
comp=Z,25nm,1.4s,mb5.0
WVT LR LR
comp=Z,162nm,20.0s,MS4.2
BEKR Beckwourth 63.79 353 *eP* **P 10 19 54.8 -0.2**
comp=Z,22nm,1.5s,mb5.0
DAU Daniels Canyon 63.82 0 *eP* **P 10 19 55.8 +0.6**
JLU Jordanelle 64.00 0⇑ *iP* **P 10 19 56.6 +0.1**
MYNC Murphy 64.04 25⇑ *eP* **P 10 19 56.1 -0.7**
comp=Z,69nm,1.4s,mb5.5
BMN Battle Mountai 64.05 355⇑ *eP* **P 10 19 56.9 +0.2**
comp=Z,71nm,1.7s,mb5.4
KSU1 Kansas State U 64.07 13 *eP* **P 10 19 56.5 -0.4**
CTU Camp Tracy 64.09 360⇑ *eP* **P 10 19 57.2 +0.1**
ELK Elko 64.23 357⇑ *iP* **P 10 19 58.3 +0.4**
comp=Z,27nm,1.4s,mb5.1
BGU Big Grassy Mou 64.34 359⇑ *iP* **P 10 19 58.6 0.0**
CCM Cathedral Cave 64.38 18⇑ *iP* **P 10 19 57.9 -1.0**
comp=Z,42nm,1.4s,mb5.3
JSC Jenkinsville 64.52 28⇑ *eP* **P 10 20 00.1 +0.2**
TCUT Toone Canyon 64.52 0⇑ *eP* **P 10 19 59.5 -0.4**
TCUT *e* 10 20 18.2
FVM French Village 64.55 18⇑ *eP* **P 10 19 59.4 -0.7**
comp=Z,12nm,1.1s,mb4.8
HWUT Hardware Ranch 65.01 0 PFAKE 10 20 20.0 +17
HWUT LR LR
comp=Z,114nm,19.0s,MS4.1
SBA Scott Base 65.20 193⇑ *eP* **P 10 20 03.1 -0.5**
comp=Z,40nm,1.9s,mb5.1
KHMM Horse Mountain 65.25 350 *eP* **P 10 20 05.5 +1.0**
TZTN Tazewell 65.56 25⇑ *iP* **P 10 20 06.2 -0.4**
TZTN *e* 10 20 20.1
MOD Modoc 65.80 353⇑ *iP* **P 10 20 08.6 +0.6**
comp=Z,44nm,1.2s,mb5.4
WVOR Wild Horse Val 66.15 354⇑ *iP* **P 10 20 10.2 0.0**
comp=Z,47nm,1.3s,mb5.4
AHID Auburn Hatcher 66.17 0⇑ *iP* **P 10 20 09.2 -1.1**
comp=Z,27nm,1.4s,mb5.1
PDAR Pinedale Array 66.19 2 P **P 10 20 09.7 -0.9**
comp=Z,5.4nm,1.0s,mb4.5,baz=180,slow=5.9,SNR=34
PDAR LR LR 10 44 20.5
comp=Z,114nm,19.9s,MS4.1,baz=353,slow=32
PDAR Pinedale Array 66.19 2 P **P 10 20 09.7 -0.9**
PDAR LR LR 10 44 20.4
VNDA Vanda 66.25 194 P **P 10 20 09.6 -0.7**
comp=Z,2.5nm,1.1s,mb4.2,baz=86,slow=7.3,SNR=7.8
VNDA LR LR 10 43 33.8
comp=Z,227nm,18.3s,MS4.4,baz=118,slow=31
VNDA Vanda 66.25 194 *eP* **P 10 20 09.9 -0.4**
comp=Z,23nm,2.1s,mb4.8
VNDA LR LR
comp=Z,277nm,19.0s,MS4.5
RRI2 Red Ridge 66.75 0⇑ *eP* **P 10 20 13.5 -0.5**
comp=Z,56nm,1.4s,mb5.4
RRI2 *e* 10 20 23.1
REDW Red Top Meadow 66.77 1 *eP* **P 10 20 13.2 -1.0**
comp=Z,32nm,1.4s,mb5.2
HUMO Hull Mountain 66.83 351⇓ *eP* **P 10 20 14.9 +0.3**
comp=Z,27nm,1.3s,mb5.1
BLO Bloomington 66.84 21⇑ *eP* **P 10 20 13.9 -0.9**
comp=Z,20nm,1.2s,mb5.0
SNOW Snow King Moun 66.87 1⇑ *iP* **P 10 20 14.3 -0.5**
comp=Z,19nm,1.2s,mb5.0
TPAW Teton Pass 66.89 1⇑ *iP* **P 10 20 14.6 -0.4**
comp=Z,37nm,1.3s,mb5.2
HLID Hailey 67.01 358⇑ *iP* **P 10 20 16.1 +0.3**
comp=Z,37nm,1.3s,mb5.3
HLID LR LR
comp=Z,148nm,22.0s,MS4.2
LOHW Long Hollow 67.02 1⇑ *iP* **P 10 20 14.9 -0.8**
comp=Z,34nm,1.4s,mb5.2
MOOW Moose Ponds 67.15 1⇑ *iP* **P 10 20 15.6 -1.0**
comp=Z,22nm,1.4s,mb5.0
IMW Indian Meadow 67.30 1⇑ *iP* **P 10 20 16.6 -0.9**
comp=Z,45nm,1.4s,mb5.3
BLA Blacksburg 67.38 27⇑ *iP* **P 10 20 17.7 -0.4**
comp=Z,26nm,1.4s,mb5.1
RSSD Black Hills 67.88 6⇑ *eP* **P 10 20 20.4 -0.8**
comp=Z,35nm,1.3s,mb5.2
LKWY Lake 67.97 1 *eP* **P 10 20 22.2 +0.4**
comp=Z,14nm,1.1s,mb4.9
YMR Madison River 68.07 1⇑ *eP* **P 10 20 22.3 -0.1**
QLMT Earthquake Lak 68.23 0 *eP* **P 10 20 23.4 0.0**
MCMT McKenzie Canyo 68.24 359 *eP* **P 10 20 23.6 +0.2**
BROR Big Rock Looko 68.39 352 P **P 10 20 24.7 +0.3**
VIPM Ingram Point 68.41 353 P **P 10 20 25.6 +1.1**
BMO Blue Mountains 68.45 356⇑ *iP* **P 10 20 24.6 -0.1**
comp=Z,36nm,1.5s,mb5.2
COR Corvallis 68.82 351⇓ *eP* **P 10 20 28.0 +1.0**
comp=Z,149nm,1.6s,mb5.7
CROR Criterion Ridg 68.91 353 P **P 10 20 28.6 +1.0**
BOZ Bozeman (W) 69.05 0 *eP* **P 10 20 27.7 -0.7**
comp=Z,20nm,1.5s,mb4.8
MCWV Mont Chateau 69.70 26 *eP* **P 10 20 32.4 -0.1**
comp=Z,9.9nm,0.8s,mb4.8
HRY Holter Researc 70.11 360⇑ *eP* **P 10 20 34.5 -0.3**
LAO LASA Array 70.26 4⇑ *eP* **P 10 20 34.2 -1.5**
comp=Z,70nm,1.6s,mb5.3
MSO Missoula 70.26 358⇑ *eP* **P 10 20 35.3 -0.4**
comp=Z,20nm,1.4s,mb4.8
FL2 Flat Top 2 70.27 352 P **P 10 20 36.9 +1.0**
CHMT Chamberlain Mo 70.33 359⇑ *eP* **P 10 20 36.2 0.0**
AAM Ann Arbor 70.61 22 P **P 10 20 37.8 -0.2**
comp=Z,71nm,1.4s,mb5.4
SDMD Soldier's Deli 70.73 28 *eP* **P 10 20 39.1 +0.3**
ALLY Alegheny Colle 71.30 24 *eP* **P 10 20 42.6 +0.4**
WTV Waterville 71.49 354 P **P 10 20 44.2 +0.9**
VNA3 Neumayer Olymp 71.50 161 *e* **P 10 20 46.2 +3.3**
VNA3 Neumayer Olymp 71.50 161 *e* **P 10 20 47.8 +4.9**
VNA3 Neumayer Olymp 71.50 161⇑ *iP* **P 10 20 42.9 0.0**
VNA3 *e* *pP* 10 20 46.2 +0.1
VNA3 *e* *pP* 10 20 47.8 +1.7
BBSR BB Station 71.57 41 *eP* **P 10 20 45.2 +1.2**
BBSR LR LR
comp=Z,266nm,21.0s,MS4.5
NEW Newport 71.83 356 *eP* **P 10 20 45.2 -0.1**
comp=Z,54nm,1.4s,mb5.3
NEW LR LR
comp=Z,140nm,22.0s,MS4.2
VNA1 Neumayer--Stat 72.14 160⇑ *iP* **P 10 20 47.0 +0.3**
VNA1 *e* 10 21 01.3
DGMT Dagmar 72.18 5⇑ *iP* **P 10 20 47.4 +0.1**
comp=Z,93nm,1.4s,mb5.5
JCW Jim Creek 72.19 353 P **P 10 20 47.9 +0.5**
VNA2 Neumayer--Watz 72.31 160 *e* **P 10 20 50.3 +2.6**
VNA2 Neumayer--Watz 72.31 160 *e* **P 10 20 51.5 +3.8**
VNA2 Neumayer--Watz 72.31 160 *e* **P 10 21 02.2 +14**
VNA2 Neumayer--Watz 72.31 160⇑ *iP* **P 10 20 47.9 +0.2**
VNA2 *e* *pP* 10 20 50.3 -0.6
VNA2 *e* *pP* 10 20 51.5 +0.6
VNA2 *e* 10 21 02.2
WALA Waterton Lakes 72.49 358 *eP* **P 10 20 49.6 +0.5**
comp=Z,11nm,1.2s,mb4.7
SNAA Sanae 73.37 162 *e* **P 10 20 56.7 +2.9**
SNAA Sanae 73.37 162 *e* **P 10 20 58.1 +4.3**
SNAA Sanae 73.37 162 *e* **P 10 21 09.1 +15**
SNAA Sanae 73.37 162 *c iP* **P 10 20 53.8 0.0**
SNAA Sanae 73.37 162⇑ *iP* **P 10 20 53.8 0.0**
SNAA *e* *pP* 10 20 56.7 -0.3
SNAA *e* *pP* 10 20 58.1 +1.1
SNAA *e* 10 21 09.1
SADO Sadowa 74.36 23 P **P 10 21 00.0 -0.1**
comp=Z,9.2nm,0.9s,mb4.7,baz=216,slow=4.9,SNR=9.1
ULM Lac du Bonnet 74.97 10 P **P 10 21 03.4 -0.1**
comp=Z,7.9nm,0.6s,mb4.8,baz=207,slow=5.8,SNR=9.3
ULM LR LR 10 51 05.9
comp=Z,90nm,18.1s,MS4.1,baz=22,slow=33
ULM Lac du Bonnet 74.97 10 P **P 10 21 03.4 -0.1**
ULM LR LR 10 51 05.9
NCB Newcomb 75.60 27⇑ *iP* **P 10 21 07.3 0.0**
comp=Z,53nm,1.4s,mb5.3
NCB *e* 10 21 19.8
EDM Edmonton 76.64 359⇑ *iP* **P 10 21 12.5 -0.5**
BBB Bella Bella 76.96 350 LR LR 10 47 14.7
comp=Z,36nm,21.4s,MS3.6,baz=236,slow=30
FFC Flin Flon 78.58 6 *eP* **P 10 21 23.2 -0.4**
comp=Z,34nm,1.4s,mb5.1
TAU Tasmania Unive 81.81 227 P **P 10 21 41.9 +0.9**
comp=Z,20nm,1.0s,mb5.0
DLBC Dease Lake 83.28 350 P **P 10 21 49.5 +1.2**
comp=Z,20nm,1.1s,mb5.0,baz=186,slow=6.2,SNR=16
DLBC Dease Lake 83.28 350⇑ *iP* **P 10 21 49.3 +0.9**
CASY Casey 84.76 196 *eP* **P 10 21 56.0 +0.4**
comp=Z,47nm,2.1s,mb5.2
CASY LR LR
comp=Z,451nm,20.0s,MS4.8
HNR Honiara 84.83 262 LR LR 10 51 14.5
comp=Z,201nm,20.5s,MS4.5,baz=231,slow=30
SYO Syowa Base 85.19 170⇓ *iP* **P 10 21 56.5 -1.2**
SYO Syowa Base 85.19 170⇑ *iPKiKP* 10 27 06.2
YKA Yellowknife Ar 85.96 359 P **P 10 22 02.1 +0.4**
comp=Z,16nm,1.0s,mb5.2,baz=172,slow=4.5,SNR=37
YKA LR LR 10 56 08.3
comp=Z,100nm,19.0s,MS4.2,baz=215,slow=33
YKW3 Yellowknife Ar 86.03 359⇑ *iP* **P 10 22 02.1 +0.1**
SCHQ Schefferville 87.15 24 P **P 10 22 07.1 -0.6**
comp=Z,2.2nm,0.7s,mb4.5,baz=243,slow=2.3,SNR=3.2
SCHQ LR LR 10 58 18.8
comp=Z,71nm,20.0s,MS4.1,baz=148,slow=34
SCHQ Schefferville 87.15 24 P **P 10 22 06.0 -1.6**
comp=Z,3.6nm,0.8s,mb4.7
SCHQ LR LR
comp=Z,169nm,22.0s,MS4.4
MAW Mawson 88.85 178 LR LR 10 59 32.9
comp=Z,231nm,18.1s,MS4.6,baz=216,slow=34
SML Sawmill 90.19 344 *eP* **P 10 22 21.6 -0.4**
PMR Palmer 90.22 343 *eP* **P 10 22 21.9 -0.2**
STKA Stephens Creek 90.84 235 LR LR 10 57 26.3
comp=Z,161nm,20.7s,MS4.4,baz=95,slow=32
STKA Stephens Creek 90.84 235 *eP* **P 10 22 25.9 +0.2**
ILAR Eielson Array 92.34 346 P **P 10 22 32.5 +0.7**
comp=Z,1.0nm,1.0s,mb4.1,baz=199,slow=4.8,SNR=5.8
CTA Charters Tower 92.52 247 LR LR 10 56 07.0
comp=Z,160nm,20.1s,MS4.5,baz=41,slow=30
CTAO Charters Tower 92.52 247 PFAKE 10 22 50.0 +16
CTAO LR LR
comp=Z,156nm,19.0s,MS4.5
COLA College 92.65 345 PFAKE 10 22 50.0 +17
COLA LR LR
comp=Z,2.0nm,22.0s
INK Inuvik 93.17 352 P **P 10 22 35.7 +0.2**
comp=Z,13nm,1.3s,mb5.2,baz=148,slow=11,SNR=9.8
INK Inuvik 93.17 352 *eP* **P 10 22 35.1 -0.5**
comp=Z,23nm,1.4s,mb5.4
PMG Port Moresby 96.36 257 LR LR 10 59 02.7
comp=Z,130nm,18.1s,MS4.5,baz=169,slow=31
DBIC Dimbokro 108.00 91 PFAKE 10 28 00.0
DBIC LR LR
comp=Z,189nm,20.0s,MS4.7
MBWA Marble Bar 112.98 232 PFAKE 10 28 10.0 +8.6
MBWA LR LR
comp=Z,186nm,21.0s,MS4.7
MDJ Mudanjiang 126.52 309 PKP PKPdf 10 28 23.9 -3.1
MDJ PP PP
comp=Z,36nm,3.5s
BFO Black Forest 127.12 46 *e*PKP PKPdf 10 28 36.0 +7.9
BSEG Bad Segeberg 127.56 39 *e*PKP PKPdf 10 28 27.9 -0.9
ARCES ARCESS Array B 127.66 18 PKP PKPdf 10 28 27.4 -1.2
comp=Z,3.0nm,1.1s,baz=297,slow=8.1,SNR=5.9
CLZ Clausthal 127.97 42 *e*PKP PKPdf 10 28 29.3 -0.4
GRA1 Grafenberg Arr 128.85 44 *e*PKP PKPdf 10 28 32.8 +1.4
GRF Grafenberg Arr 128.85 44 PKIKP PKPdf 10 28 32.8 +1.4
MOX Moxa 128.94 43 *e*PKP PKPdf 10 28 30.9 -0.7
MOX Moxa 128.94 43 *i* P PKPdf 10 28 30.9 -0.7
CN2 Changchun 129.54 308 *e*PKP PKPdf 10 28 33.8 +0.9
CN2 PP PP 10 30 49.7 +5.5
CN2 PP PP
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,400nm,21.0s,MS5.1
WET Wettzell 130.00 45 *e*PKP PKPdf 10 28 33.2 -0.5
BRG Berggiesshubel 130.35 43 *i* PKIKP PKPdf 10 28 34.2 -0.1
BRG pmax pmax
comp=Z,11nm,1.1s
BRG Berggiesshubel 130.35 43 *i* P PKPdf 10 28 34.2 0.0
KHC Kasperske Hory 130.46 45⇑ *i*PKIKP PKPdf 10 28 33.2 -1.3
GEC2 GERESS Array S 130.59 45 *e*PKP PKPdf 10 28 34.4 -0.4
GERES GERESS Array B 130.59 45 PKP PKPdf 10 28 33.6 -1.2
comp=Z,0.4nm,0.3s,baz=45,slow=1.9,SNR=8.6
FINES FINESS Array B 132.59 26 PKP PKPdf 10 28 36.4 -1.8
comp=Z,1.2nm,0.7s,baz=135,slow=2.7,SNR=5.7
FINES FINESS Array B 132.59 26 PKP PKPdf 10 28 36.4 -1.8
SSE Sheshan 132.90 291 PKP PKPdf 10 28 39.8 +0.1
NJ2 Nanjing 134.95 292 *e*PKP PKPdf 10 28 45.1 +1.7
MBAR Mbarara 136.19 118 PFAKE 10 29 00.0 +14
MBAR LR LR
comp=Z,36nm,19.0s,MS4.1
OBN Obninsk 140.81 29*c i*PKIKP PKPdf 10 28 52.5 -0.9
OBN *e* 10 31 55.6
OBN pmax pmax
comp=Z,43nm,1.3s
OBN MLR MLR
comp=Z,100nm,22.0s,MS4.5
KMBO Kilima Mbogo 140.95 125 PFAKE 10 29 10.0 +15
KMBO LR LR
comp=Z,382μm,21.0s
TLY Talaya 141.17 325 *e*PKIKP PKPdf 10 28 52.1 -2.0
TLY pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 141.45 318 PKhKP 10 28 47.6
comp=Z,1.6nm,0.9s,baz=63,slow=2.8,SNR=5.7
ZAK Zakamensk 142.05 323 *e*PKIKP PKPdf 10 28 53.0 -2.7
ZAK pmax pmax
comp=Z,3.0nm,1.1s
KULM Kulim 143.91 245 *e*PKPdf PKPdf 10 28 53.9 -6.1
HENT Hendek 144.36 52 *i* P PKPbc 10 28 57.7 +1.2
TKTP Tekketepe 144.63 57 *i* P PKPbc 10 28 59.0 +1.6
ISP Isparta 144.82 57*c i*PKIKP PKPdf 10 28 59.5 -1.4
SIM Simferopol' 145.06 44 *e*PKIKP PKPdf 10 29 00.6 -0.5
SIM pmax pmax
comp=Z,51nm,1.1s
SGKT Sivrigoynuk 145.27 52 *i* P PKPbc 10 29 00.8 +1.8
GYA Guiyang 145.29 283⇑ *i*PKP PKPdf 10 29 00.4 -1.7
GYA PP PP
comp=Z,150nm,7.4s
GYA LR LR
comp=Z,310nm,21.4s,MS5.0
KDHN Kadinhani 145.89 56 *i* P PKPbc 10 29 03.0 +2.4
BALT Daday 145.91 50 *i* P PKPbc 10 29 02.2 +1.7
ELDT Eldivan 146.29 52 *i* P PKPbc 10 29 03.6 +2.1
SVE Sverdlovsk 146.47 8⇓ *i*PKP2 PKPab 10 29 03.3 -1.2
SVE pmax pmax
comp=Z,120nm,2.2s
ARU Arti 146.56 10 *i* PKP2 PKPab 10 29 03.1 -1.8
ARU *e* 10 32 24.3
ARU *e*SS SS 10 51 18.5 -5.6
ARU MLR MLR
comp=Z,40nm,20.0s,MS4.2
ARU MLR MLR
comp=N,50nm,21.0s,MS4.3
ARU MLR MLR
comp=E,30nm,20.0s,MS4.3
ARU Arti 146.56 10 *e*PKPdf PKPdf 10 29 02.7 -0.6
BR131 Keskin Array S 146.69 53 *e*PKPdf PKPdf 10 29 04.3 +0.3
BRTR Keskin Array B 146.69 53 PKPbc PKPbc 10 29 04.9 +2.5
comp=E,14nm,1.0s,baz=225,slow=1.7,SNR=44
ERMK Ermenek 146.96 59 *i* P PKPbc 10 29 15.3 +12
BOYT Boyabat 147.01 50 *i* P PKPdf 10 29 06.2 +1.7
NVS Novosibirsk 147.02 344 *i* PKIKP PKPdf 10 29 02.4 -1.7
NVS pmax pmax
comp=Z,32nm,1.7s
NVS pmax pmax
comp=N,8.0nm,1.6s
NVS pmax pmax
comp=E,20nm,1.5s
LZH Lanzhou 147.05 300 PKP PKPdf 10 29 04.5 -0.3
ANN Anapa 147.22 43 *e*PKP2 PKPab 10 29 05.6 -2.2
ANN pmax pmax
comp=Z,78nm,1.6s
CTKT Corum 147.22 51 *i* P PKPdf 10 29 06.1 +1.2
ZAL Zalesovo 147.40 342 PKP PKPdf 10 29 02.8 -1.9
comp=Z,4.1nm,0.6s,baz=92,slow=5.2,SNR=17
ZAL PKPbc PKPdf 10 29 05.7 +1.0
comp=Z,4.1nm,0.6s,baz=90,slow=3.3,SNR=17
ZAL Zalesovo 147.40 342 PKP PKPdf 10 29 02.8 -1.9
ZAL PKPbc PKPdf 10 29 05.7 +1.0
CSS Prodhromos 147.63 62 *e*PKPdf PKPdf 10 29 07.8 +2.1
CD2 Chengdu 147.85 291 *e*PKP PKPdf 10 29 07.8 +1.6
AVNT Avonos 147.88 54 *i* P PKPdf 10 29 08.6 +2.6
KMI Kunming 148.72 280 PKP PKPdf 10 29 09.1 +1.4
KMI LR LR
comp=Z,38nm,25.7s,MS4.1
GTA Gaotai 149.17 308 PKP PKPdf 10 29 09.8 +1.8
GTA APKP 10 29 15.1
GTA PP PP 10 32 47.1 +2.9
GTA PP PP
comp=Z,46nm,8.0s
GTA LR LR
comp=N,54nm,16.3s,MS4.6
GTA LR LR
comp=E,77nm,18.6s,MS4.6
GTA LR LR
comp=Z,80nm,11.0s
COBT Iskenderun 149.59 58 *i* P PKPdf 10 29 13.4 +4.6
EIL Elat 149.64 71 *e*PKPdf PKPdf 10 29 08.8 -0.3
EIL *e*PKPbc PKPdf 10 29 12.9 +3.8
GZT Gaziantep 150.35 56 *i* P PKPdf 10 29 14.5 +4.6
GOF Gofitskoye 150.39 38⇓ *i*PKHKP 10 29 09.3
GOF pmax pmax
comp=Z,60nm,1.9s
MALT Malatya 150.67 53 *e*PKIKP PKPdf 10 29 10.8 +0.4
BVA0 Borovoye Array 150.71 357 *i* PKIKP PKPdf 10 29 09.1 -0.9
BVA0 pmax pmax
comp=Z,10.0nm,1.5s
BVAR Borovoye Array 150.71 357 PKP PKPdf 10 29 08.7 -1.3
comp=Z,0.5nm,0.5s,SNR=8.7
BVAR PKPbc PKPdf 10 29 13.9 +3.9
comp=Z,13nm,1.0s,baz=270,slow=1.5,SNR=38
ZRNK Zerenda 150.82 359 *e*PKIKP PKPdf 10 29 09.3 -0.9
ZRNK *e* 10 29 14.4
KIV Kislovodsk 150.85 40 *e*PKIKP PKPdf 10 29 10.4 -0.1
KIV *e* 10 29 15.6
KIV Kislovodsk 150.85 40 *e*PKPdf PKPdf 10 29 10.4 -0.1
KIV *e*PKPbc PKPdf 10 29 15.6 +5.2
VOSK Vostochnaya 150.99 357 PKIKP PKPdf 10 29 09.6 -0.8
VOSK pmax pmax
comp=Z,62nm,1.5s
CMAR Chiang Mai Arr 151.02 265 PKP PKPdf 10 29 10.0 -1.5
comp=Z,0.6nm,0.4s,baz=114,slow=0.7,SNR=3.3
CMAR PKPbc PKPdf 10 29 16.1 +4.6
comp=Z,9.4nm,0.9s,baz=352,slow=0.5,SNR=39
ZEI Tsey 152.25 41 *e*PKIKP PKPdf 10 29 18.5 +5.9
AB31 Akbulak array 153.68 12 *i* PKIKP PKPdf 10 29 13.9 -0.5
AB31 pmax pmax
comp=Z,15nm,1.1s
GNI Garni 154.24 45 PFAKE 10 29 30.0 +15
GNI LR LR
comp=Z,181nm,19.0s,MS4.9
MKAR Makanchi Array 154.41 337 PKP PKPdf 10 29 14.1 -1.3
comp=Z,0.9nm,1.0s,slow=1.2,SNR=7.1
MKAR PKPbc PKPdf 10 29 21.8 +6.3
comp=Z,4.7nm,0.9s,baz=33,slow=2.4,SNR=20
MKAR PP PP 10 33 09.6 -4.4
comp=Z,0.4nm,0.8s,baz=27,slow=8.1,SNR=4.1
MKAR Makanchi Array 154.41 337 PKP PKPdf 10 29 14.1 -1.3
MKAR PKPbc PKPdf 10 29 21.8 +6.3
MKAR PP PP 10 33 09.6 -4.4
WMQ Urumqi 154.43 326 PKP PKPdf 10 29 14.2 -1.4
WMQ PP PP 10 33 16.0 +1.9
WMQ PP PP
comp=Z,168nm,10.3s
AAK Ala-Archa 160.48 346 *e*PKIKP PKPdf 10 29 19.1 -4.0

NEIC ***07*** *10:13:23.8±1.3, 7.11S×127.37E, h326km±15km, mb4.5/14, Error ellipse: s-maj=14.1km s-min=8.8km az=98.0*
IDC ***07*** *10:13:27.4±2.9, 7.21S×127.39E, h368km±33km, mb3.8/9, mb1 4.1/12, mb1mx3.9/18, mbtmp4.7/12, Error ellipse: s-maj=20.0km s-min=12.0km az=83.0*
ISC 07 10:13:22.9±1.4**, 7.11S**±0.05×**127.38E**±0.08**, h335**km±16km**, n31**, σ0**95/34**, mb4.1**/16**, 5C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.47**	**139**	*eP*	**P**		**10 15 10.8**	**-0.4**
	40nm,0.6s							
FITZ	**Fitzroy Crossi**	**11.05**	**189**	*eP*	**P**		**10 15 54.0**	**-0.6**
	36nm,0.2s							
FITZ	**Fitzroy Crossi**	**11.05**	**189**	P	**P**		**10 15 56.7**	**+2.1**
	18nm,0.3s,baz=13,slow=9.0,SNR=134							
FITZ				S	**S**		**10 17 55.3**	**+0.8**
	3.7nm,0.3s,baz=193,slow=14,SNR=5.5							
WRAB	**Tennant Creek**	**14.43**	**153**⇑	*iP*	**P**		**10 16 33.8**	**-0.8**
	97nm,0.7s							
WRAB				*eS*	**S**		**10 19 07.5**	**-0.1**
WRA	**Warramunga Arr**	**14.43**	**153**	P	**P**		**10 16 33.6**	**-1.1**
	13nm,0.3s,baz=327,slow=12,SNR=162							
WRA				S	**S**		**10 19 08.3**	**+0.5**
	1.3nm,0.3s,baz=329,slow=20,SNR=6.1							
WB2	**Warramunga Arr**	**14.43**	**153**⇑	*iP*	**P**		**10 16 34.1**	**-0.6**
WB2				*eS*	**S**		**10 19 08.5**	**+0.7**
MBWA	**Marble Bar**	**15.80**	**207**⇑	*iP*	**P**		**10 16 48.9**	**-0.6**
	47nm,0.6s							
MBWA				*eS*	**S**		**10 19 35.5**	**+0.4**
PMG	**Port Moresby**	**19.70**	**98**	P	**P**		**10 17 31.4**	**+2.3**
	2.4nm,0.3s,baz=287,slow=12,SNR=8.6							
PMG	**Port Moresby**	**19.70**	**98**	*eP*	**P**		**10 17 31.4**	**+2.3**
	21nm,0.6s							
KLBR	**Kellerberrin**	**25.96**	**199**	*eP*	**P**		**10 18 27.7**	**0.0**
	11nm,0.4s,mb4.4							
MUN	**Mundaring**	**26.84**	**201**⇑	*iP*	**P**		**10 18 35.4**	**-0.3**
	5.4nm,0.8s,mb3.8							
NWAO	**Narrogin (SRO)**	**27.36**	**199**	P	**P**		**10 18 39.9**	**-0.4**
	12nm,0.5s,mb4.4,baz=28,slow=7.2,SNR=31							
NWAO	**Narrogin (SRO)**	**27.36**	**199**	*eP*	**P**		**10 18 39.8**	**-0.5**
	12nm,0.6s,mb4.3							
NWAO				*e*			10 19 39.5	
STKA	**Stephens Creek**	**27.98**	**154**⇑	*iP*	**P**		**10 18 46.5**	**+0.7**
	17nm,0.4s,mb4.6							
STKA	**Stephens Creek**	**27.98**	**154**	P	**P**		**10 18 46.5**	**+0.7**
	23nm,0.5s,mb4.7,baz=328,slow=8.9,SNR=105							
QIZ	**Qiongzhong**	**31.20**	**327**	P	**P**		**10 19 09.9**	**-4.1**
	14nm,1.2s,mb4.0							
KS15	**Wonju Array Si**	**44.33**	**1**	P	**P**		**10 21 02.4**	**0.0**
MJAR	**Matsushiro**	**44.60**	**12**	P	**P**		**10 21 03.5**	**-1.0**
	5.0nm,0.8s,mb3.7,baz=190,slow=10,SNR=11							
MAJO	**Matsushiro**	**44.60**	**12**	*eP*	**P**		**10 21 03.3**	**-1.3**
	10.0nm,0.9s,mb4.0							
ULN	**Ulaanbaatar**	**57.61**	**344**	*eP*	**P**		**10 22 41.8**	**+1.2**
	4.6nm,0.8s,mb3.9							
SONM	**Songino Array**	**57.77**	**343**	P	**P**		**10 22 42.5**	**+0.9**
	2.0nm,0.5s,mb3.7,baz=165,slow=7.4,SNR=11							
CASY	**Casey**	**60.21**	**188**	*eP*	**P**		**10 22 58.4**	**+0.3**
	3.9nm,0.8s,mb3.9							
MKAR	**Makanchi Array**	**66.92**	**328**	P	**P**		**10 23 42.0**	**+0.4**
	1.7nm,0.6s,mb4.0,baz=123,slow=7.8,SNR=14							

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAL	Zalesovo	70.56	335	P	P	10 24 04.1	+0.5
	7.5nm,0.4s,mb4.8,baz=22,slow=5.3,SNR=12						
VNDA	Vanda	72.66	173	P	P	10 24 13.4	-2.2
	1.6nm,0.4s,mb4.1,baz=14,slow=3.6,SNR=22						
MAW	Mawson	73.90	201	P	P	10 24 20.1	-3.0
BVAR	Borovoye Array	76.79	329	P	P	10 24 40.2	+0.7
	1.4nm,0.5s,mb3.9,baz=124,slow=9.7,SNR=9.4						
ZRNK	Zerenda	77.47	328	eP	P	10 24 43.7	+0.4
	7.0nm,0.9s,mb4.4						
ILAR	Eielson Array	94.56	25	P	P	10 26 06.5	-0.1
	0.4nm,0.6s,mb3.6,baz=249,slow=5.8,SNR=6.2						
TXAR	Lajitas Array	127.21	58	PKP	PKPdf	10 31 51.5	+3.0
	0.1nm,0.4s,baz=210,slow=1.9,SNR=4.7						
TXAR	Lajitas Array	127.21	58	PKP	PKPdf	10 31 51.5	+3.0

IDC **07** *10:14:36.7±1.1,23.77S×111.81W,mb4.3/9,mb1 4.5/9, mb1mx4.3/17,mbtmp4.3/9,Error ellipse: s-maj=40.7km s-min=23.4km az=37.0*
NEIC **07** *10:14:38.1±0.3,23.78S×111.76W,h10^{km},mb4.8/14, Error ellipse: s-maj=15.4km s-min=7.7km az=77.0*
BJI **07** *10:14:38.1,23.80S×111.80W,h10^{km},mB5.3,Ms5.1, Msz4.6*
ISC 07 10:14:36.1±0.5**,23.78S**±0.07×**111.8W**±0.2**,h10^{km},n59, σ0^{s}90**/37**,mb4.4**/22**,MS4.5**/2**,5C-2D,Easter Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	39.35	97	P	P	10 22 09.3	+1.7
	1.3nm,0.6s,mb3.9,baz=214,slow=8.0,SNR=4.1						
LPAZ	La Paz	41.59	88	P	P	10 22 27.4	+1.3
	2.8nm,1.1s,mb3.8,baz=255,slow=6.7,SNR=8.9						
PMSA	Palmer Station	51.24	156	P	P	10 23 28.6	-13
TXAR	Lajitas Array	53.39	9	P	P	10 23 59.0	+0.7
	1.0nm,0.9s,mb3.7,baz=186,slow=11,SNR=7.8						
TXAR				PcP	PcP	10 25 07.0	+1.3
	0.8nm,1.1s,baz=180,slow=2.5,SNR=4.4						
TUC	Tucson	55.78	1	eP	P	10 24 16.0	+0.2
	1.9nm,1.1s,mb4.0						
LDFC	Landfair	58.62	357	eP	P	10 24 37.0	+1.2
ANMO	Albuquerque	58.63	5	P	P	10 24 35.1	-0.7
	1.4nm,0.9s,mb4.0						
BDFB	Brasilia	60.20	95	P	P	10 24 46.0	-1.0
	2.4nm,0.6s,mb4.4,baz=129,slow=8.4,SNR=3.1						
SDCO	Great Sand Dun	61.48	6	eP	P	10 24 55.2	-0.2
	6.1nm,1.2s,mb4.6						
TPH	Tonopah	61.73	355	eP	P	10 24 58.4	+1.3
CMB	Columbia Colle	62.01	352	eP	P	10 24 59.9	+0.9
	11nm,1.3s,mb4.8						
NVAR	Mina Array Bea	62.18	354	P	P	10 25 01.2	+1.1
	5.6nm,1.1s,mb4.6,baz=171,slow=8.2,SNR=21						
SWET	Sewanee	63.60	24	eP	P	10 25 07.8	-1.8
WVT	Waverly	63.76	22	eP	P	10 25 08.8	-1.8
	7.2nm,1.2s,mb4.6						
JLU	Jordanelle	64.05	0	eP	P	10 25 13.1	+0.7
ELK	Elko	64.27	357	eP	P	10 25 14.1	+0.2
	4.8nm,1.3s,mb4.4						
SBA	Scott Base	65.12	193	eP	P	10 25 18.8	+0.1
	21nm,1.7s,mb4.9						
PDAR	Pinedale Array	66.24	2	P	P	10 25 25.4	-1.1
	1.5nm,0.9s,mb4.0,baz=162,slow=4.7,SNR=11						
HLID	Hailey	67.05	358	eP	P	10 25 31.5	-0.1
	8.6nm,1.2s,mb4.7						
RSSD	Black Hills	67.94	6	⇓iP	P	10 25 37.1	-0.1
	7.3nm,1.3s,mb4.5						
MCMT	McKenzie Canyo	68.28	359	eP	P	10 25 39.6	+0.3
LAO	LASA Array	70.32	4	eP	P	10 25 50.6	-1.1
	8.3nm,1.2s,mb4.5						
VNA3	Neumayer Olymp	71.52	161	e	pP	10 26 03.8	+2.0
VNA3	Neumayer Olymp	71.52	161	e	PcP	10 26 16.8	-1.5
VNA3	Neumayer Olymp	71.52	161	⇑iP	P	10 25 58.6	-0.1
VNA3				e		10 26 03.8	
VNA3				e		10 26 16.8	
NEW	Newport	71.87	356	eP	P	10 26 00.8	-0.4
	10nm,1.3s,mb4.6						
VNA1	Neumayer--Stat	72.16	160	e	pP	10 26 07.9	+2.3
VNA1	Neumayer--Stat	72.16	160	e	PcP	10 26 19.3	-1.8
VNA1	Neumayer--Stat	72.16	160	⇑iP	P	10 26 02.8	+0.3
VNA1				e	pP	10 26 07.9	+2.3
VNA1				e		10 26 19.3	
VNA2	Neumayer--Watz	72.33	160	e	pP	10 26 08.9	+2.3
VNA2	Neumayer--Watz	72.33	160	e	PcP	10 26 18.6	-3.2
VNA2	Neumayer--Watz	72.33	160	⇑iP	P	10 26 03.7	+0.2
VNA2				e		10 26 08.9	
VNA2				e		10 26 18.6	
BRNJ	Basking Ridge	72.89	29	P	P	10 26 01.2	-6.2
SNAA	Sanae	73.38	162	e	pP	10 26 14.6	+1.9
SNAA	Sanae	73.38	162	e	PcP	10 26 23.5	-2.6
SNAA	Sanae	73.38	162	⇑iP	P	10 26 09.6	0.0
SNAA				e	pP	10 26 14.6	+1.9
SNAA				e		10 26 23.5	
ULM	Lac du Bonnet	75.04	11	P	P	10 26 18.7	-0.9
	3.3nm,0.8s,mb4.3,baz=316,slow=1.6,SNR=4.0						
ULM	Lac du Bonnet	75.04	11	P	P	10 26 18.7	-1.0
NCB	Newcomb	75.72	27	eP	P	10 26 22.9	-0.7
	15nm,1.3s,mb4.8						
EDM	Edmonton	76.69	359	eP	P	10 26 28.5	-0.4
DLBC	Dease Lake	83.30	350	P	P	10 27 05.3	+1.2
	5.2nm,1.1s,mb4.5,baz=166,slow=12,SNR=5.4						
DLBC	Dease Lake	83.30	350	eP	P	10 27 04.8	+0.7
CASY	Casey	84.67	196	eP	P	10 27 16.6	+5.8
	7.4nm,1.0s,mb4.8						
SYO	Syowa Base	85.17	170	⇓P	P	10 27 12.0	-1.3
YKA	Yellowknife Ar	86.00	359	P	P	10 27 18.1	+0.6
	3.9nm,1.0s,mb4.6,baz=168,slow=5.1,SNR=11						
CN2	Changchun	129.43	308	ePKP	PKPdf	10 33 49.8	+1.4
SSE	Sheshan	132.76	291	ePKP	PKPdf	10 33 56.2	+1.1
SSE				PP	PP		
	comp=Z,36nm,3.5s						
NJ2	Nanjing	134.81	292	ePKP	PKPdf	10 33 54.0	-4.9
NJ2				PP	PP	10 36 35.0	+1.2
NJ2				PKS	PKS	10 37 29.0	-1.9
NJ2				SKS	SKS	10 41 01.0	-8.1
NJ2				PP	PP		
	comp=Z,204nm,10.2s						
AKASG	Malin Array Be	139.68	38	PKP	PKPdf	10 34 05.5	-1.7
	comp=Z,0.1nm,0.2s,baz=252,slow=3.0,SNR=5.0						
GYA	Guiyang	145.14	283	⇑iPKP	PKPdf	10 34 16.3	-1.2
GYA				PP	PP		
	comp=Z,120nm,7.2s						
GYA				LR	LR		
	comp=N,130nm,19.8s,MS5.0						
GYA				LR	LR		
	comp=E,210nm,20.4s,MS5.0						
GYA				LR	LR		
	comp=Z,190nm,20.0s,MS4.9						
BR131	Keskin Array S	146.85	53	ePKPbc	PKPbc	10 34 21.0	+2.5
BRTR	Keskin Array B	146.85	53	PKPbc	PKPbc	10 34 20.5	+2.1
	comp=Z,4.0nm,0.9s,baz=225,slow=1.7,SNR=17						
ZAL	Zalesovo	147.39	342	PKPbc	PKPdf	10 34 21.9	+1.6
	comp=Z,1.6nm,0.4s,baz=182,slow=7.8,SNR=5.0						
KMI	Kunming	148.56	280	PKP	PKPdf	10 34 18.7	-4.5
KMI				LR	LR		
	comp=Z,38nm,30.9s,MS4.0						
GTA	Gaotai	149.07	308	PKP	PKPdf	10 34 27.4	+3.9
BVAR	Borovoye Array	150.75	357	PKPbc	PKPdf	10 34 29.6	+3.9
	comp=Z,3.4nm,0.9s,slow=3.0,SNR=11						
CMAR	Chiang Mai Arr	150.85	265	PKPbc	PKPdf	10 34 32.3	+5.4
	comp=Z,8.5nm,1.1s,baz=97,slow=0.4,SNR=13						
ZRNK	Zerenda	150.87	359	ePKPdf	PKPdf	10 34 25.0	-0.9
ZRNK				ePKPbc	PKPdf	10 34 30.4	+4.5
MKAR	Makanchi Array	154.39	337	PKPbc	PKPdf	10 34 37.9	+6.8
	comp=Z,1.1nm,0.8s,baz=54,slow=2.2,SNR=6.4						

THR **07** *10:42:43.1±0.6,32.08N×49.52E,h14^{km}±10^{km},ML2.9*
CSEM **07** *10:42:45.7±0.2,32.39N×49.25E,h2^{km},ML2.7,Error ellipse: s-maj=12.9km s-min=4.1km az=115.0*
KISR **07** *10:42:46.4±0.9,32.31N×49.56E,h33^{km},ML2.7*
ISC 07 10:42:45.9±0.8**,32.33N**±0.05×**49.36E**±0.09**,h2^{km},n8, σ0^{s}76**/14**,Western Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHGO	Shushtar	0.52	245	ePG	Pg	10 42 55.0	-1.4
SHGO				eSG	Sg	10 43 03.7	+0.3
SHGO				AML	AML	10 43 09.3	
	comp=N,543nm,0.2s						
SHGO	Shushtar	0.52	245	ePg	Pg	10 42 55.0	-1.4
	SNR=90						
SHGO				eSg	Sg	10 43 03.7	+0.3
	comp=N,543nm,0.2s,SNR=90						
ASAO	Ashtian	2.28	14	ePN	Pn	10 43 25.9	+0.8
ASAO				eSG	Sg	10 44 01.6	-0.2
ASAO				AML	AML	10 44 05.0	
	comp=N,58nm,0.6s						
NASN	Na'in	2.95	80	ePN	Pn	10 43 30.6	-4.1
MIB	Mutribah	3.06	215	eS	Sn	10 44 15.0	+1.1
KBD	Kabd	3.46	205	eP	Pn	10 43 42.1	+0.2
KBD				eS	Sn	10 44 24.2	+0.2
RDF	Al-Radifah	3.74	205	eP	Pn	10 43 46.1	+0.2
RDF				eS	Sn	10 44 30.1	-1.0
RDF				AML	AML	10 44 32.3	
	comp=Z,8.8nm,0.1s						
QRN	Al-Qurain	3.79	200	eP	Pn	10 43 46.8	+0.2
QRN				eS	Sn	10 44 32.1	-0.2
QRN				AML	AML	10 44 33.3	
	comp=Z,16nm,0.2s						

IDC **07** *11:27:25.8±5.0,29.42N×81.81E,mb3.3/1,mb1 3.7/3, mb1mx3.3/21,mbtmp3.4/3,ML3.7/2,MS3.7/2,Ms1 3.7/2, ms1mx3.0/17,Error ellipse: s-maj=158.7km s-min=40.8km az=67.0*
NDI **07** *11:27:42.5±6.3,33.14N×80.31E,h8^{km}±29^{km},MD3.1, ML2.8*
ISC 07 11:27:27.9±1.0**,29.6N**±0.1×**82.27E**±0.07**,h10^{km},n11, σ0^{s}92**/10**,mb3.3**/1**,MS3.7**/2**,Nepal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALBI	Allahabad	4.28	186	e	Sn	11 29 15.0	-10
NDI	New Delhi	4.51	260	e	Sn	11 29 26.0	-5.0
AYAN	Aya Nagar	4.63	258	i P	Pg	11 29 05.2	+4.9
AYAN				i	Sn	11 29 34.2	+0.1
SONA	Sohna	4.73	255	ePG	Sn	11 29 30.8	-5.9
SONA				eSG	Sx	11 30 49.5	
SONA				AML	AML	11 31 04.9	
	comp=N,14nm,0.3s						
SONA				AML	AML	11 31 05.8	
	comp=E,9.2nm,0.3s						
KKR	Kurukshetra	4.75	276	eS	Sn	11 29 36.2	-0.9
KHET	Khetri	5.86	257	e	Pg	11 29 26.0	+1.1
MKAR	Makanchi Array	17.18	0	P	P	11 31 30.1	+0.5
	comp=E,0.1nm,0.3s,baz=184,slow=12,SNR=5.8						
CMAR	Chiang Mai Arr	18.81	122	P	P	11 31 50.5	+0.6
	comp=E,0.2nm,0.3s,baz=312,slow=11,SNR=5.8						
ATD	Arta Tunnel	40.79	252	LR	LR	11 50 09.5	
	comp=E,36nm,18.8s,MS3.3,baz=234,slow=34						
HFS	Hagfors	54.23	325	LR	LR	12 02 22.1	
	comp=E,215nm,19.3s,MS4.2,baz=175,slow=39						
WRA	Warramunga Arr	70.30	128	P	P	11 38 42.3	-1.5
	comp=E,0.3nm,0.7s,mb3.3,baz=325,slow=6.3,SNR=4.9						

IDC **07** *11:29:56.8±1.1,22.94S×67.77W,h112^{km}±9^{km},mb3.3/3, mb1 3.8/6,mb1mx3.6/16,mbtmp4.0/6,Error ellipse: s-maj=18.0km s-min=17.0km az=121.0*
ISC 07 11:29:56.4±0.9**,22.9S**±0.1×**67.8W**±0.1**,h124^{km}**±10^{km}**,n9, σ0^{s}85**/11**,mb3.5**/3**,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.06	287	P	P	11 30 20.7	+0.9
	125nm,0.3s,baz=107,slow=5.5,SNR=463						
LVC				S	S	11 30 36.6	-0.7
	287nm,0.3s,baz=253,slow=19,SNR=130						
LPAZ	La Paz	6.61	357	P	P	11 31 33.5	+1.2
	4.6nm,0.3s,baz=168,slow=7.4,SNR=110						
CFAA	Coronel Fontan	8.66	182	P	P	11 31 60.0	0.0
	0.1nm,0.3s,baz=359,slow=14,SNR=5.3						
CFAA				S	S	11 33 31.2	-5.2
	0.2nm,0.3s,baz=243,slow=21,SNR=6.4						
SIV	San Ignacio	9.37	44	P	P	11 32 08.0	-1.5
	9.1nm,0.3s,baz=236,slow=11,SNR=77						
SIV				S	S	11 33 47.9	-5.6
	2.1nm,0.3s,baz=317,slow=22,SNR=6.7						
BDFB	Brasilia	20.03	72	P	P	11 34 22.4	+0.7
	0.7nm,0.3s,baz=217,slow=7.2,SNR=3.1						
TXAR	Lajitas Array	62.37	325	P	P	11 40 07.3	-1.0
	0.1nm,0.5s,mb3.1,baz=131,slow=8.3,SNR=3.2						
PDAR	Pinedale Array	75.84	330	P	P	11 41 30.6	-0.1
	0.3nm,0.5s,mb3.2,baz=108,slow=4.7,SNR=4.7						
YKA	Yellowknife Ar	92.86	340	P	P	11 42 56.0	+0.3
	0.4nm,0.4s,mb4.1,baz=143,slow=5.3,SNR=5.3						
MKAR	Makanchi Array	146.15	38	PKPbc	PKPbc	11 49 24.7	+2.8
	0.7nm,0.7s,baz=297,slow=3.2,SNR=7.3						

HEL **07** *11:37:05.3±1.9,60.79N×37.17E,ML2.2(NAO),Explosion*
NAO **07** *11:37:11.1±2.8,60.98N×36.62E,ML2.2*
HEL 07 11:37:06.5±0.3**,60.89N**×**36.97E,ML2.0,ML2.2**(NAO)**, Explosion,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAF	Kangasniemi	5.38	289	eS	Sn	11 39 24.9	-7.4
KAF				eSG	Sg	11 39 48.1	-16
KAF				MSG		11 39 51.9	
	comp=Z,1.1nm,0.3s						
FIA0	FINESS Array S	5.42	282	eP	Pn	11 38 26.7	-2.7
FIA0				eS	Sn	11 39 27.6	-5.8
FIA0				eSG	Sg	11 39 51.4	-14
FIA0	FINESS Array S	5.42	282	eP	Pn	11 38 26.4	-2.9
FIA0				eS	Sn	11 39 25.9	-7.4
FIA0				eSG	Sg	11 39 49.2	-17
FIA0				MSG		11 39 53.4	
	comp=Z,1.3nm,0.3s						
FIA0	FINESS Array S	5.42	282	Pn	Pn	11 38 26.7	-2.7
	baz=107,slow=16						
FIA0				Sn	Sn	11 39 27.6	-5.8
	baz=100,slow=28						
FIA0				Lg		11 39 51.4	
	baz=80,slow=28						
KJN	Kajaani	5.50	311	eP	Pn	11 38 28.2	-2.2
KJN				eS	Sn	11 39 27.7	-7.6
KJN				eSG	Sg	11 39 51.5	-17
PVF	Pernaja	5.57	272	eSG	Sg	11 39 53.8	-17
SUF	Sumiainen	5.58	295	eP	Pn	11 38 30.6	-1.0
SUF				eS	Sn	11 39 30.1	-7.3
SUF				eSG	Sg	11 39 53.3	-18
SUF				MSG		11 39 57.2	
	comp=Z,1.5nm,0.4s						
KEF	Keuruu	6.05	289	eP	Pn	11 38 35.4	-2.9
KEF				eS	Sn	11 39 41.2	-8.1
KEF				eSG	Sg	11 40 09.8	-17
KU4	Liikasenvaara	6.54	332	eP	Pn	11 38 41.3	-3.8
KU4				eS	Sn	11 39 52.1	-9.3
KU4				eSG	Sg	11 40 22.5	-21
ARA0	ARCESS Array S	10.04	336	Pn	P	11 39 27.4	-6.2
	baz=144,slow=16						
ARA0				Sn	S	11 41 14.6	-14
	baz=135,slow=28						
ARA0				Lg		11 42 15.9	
	baz=128,slow=37						
ARA0	ARCESS Array S	10.04	336	eP	P	11 39 27.4	-6.2
ARA0				eS	S	11 41 14.6	-14
ARA0				eSG	S	11 42 15.9	+48
ARA0	ARCESS Array S	10.04	336	eP	P	11 39 27.4	-6.2
ARA0				eS	S	11 41 14.6	-14
ARA0				e		11 42 15.9	
HFS	Hagfors	11.59	277	Pn	P	11 39 50.5	-4.3
	baz=74,slow=16						
HFS				Lg		11 43 06.6	
	baz=86,slow=37						
HFS	Hagfors	11.59	277	eP	P	11 39 50.5	-4.3
HFS	Hagfors	11.59	277	eP	P	11 39 50.5	-4.3
HFS				e		11 43 06.6	

IDC **07** *11:45:07.1±0.6,36.47N×23.17E,mb4.1/17,mb1 4.3/23, mb1mx4.3/30,mbtmp4.2/23,ML4.0/7,MS3.7/15,Ms1 3.7/15, ms1mx3.5/31,Error ellipse: s-maj=14.2km s-min=10.5km az=61.0*
PDG **07** *11:45:08.9±0.2,36.17N×22.78E,h40^{km}±11^{km}*
ATH **07** *11:45:09.1,36.41N×23.14E,h26^{km},MD4.3/23,ML4.3*
NEIC **07** *11:45:09.1,36.41N×23.14E,h26^{km},mb4.3/62, ML4.3(ATH),After ATH.*
MOS **07** *11:45:09.1±1.2,36.35N×23.04E,h27^{km},mb4.6/30,Error ellipse: s-maj=5.1km s-min=2.7km az=113.8*
ZUR_RM **07** *11:45:09,36.41N×23.14E,h24^{km},Mw4.7/16,Moment Tensor Solution. s16 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.03; $M_{\theta\theta}$-1.02; $M_{\phi\phi}$1.05; $M_{r\theta}$0.34; $M_{\theta\phi}$-0.14; $M_{\phi r}$0.46; Best double couple: $M_0$1.19×10^{16} NP1:ϕ_s41°,δ89°,λ29°. NP2:ϕ_s311°,δ61°,λ179°. Principal axes: T 1.22, Plg20°, Azm270°; N -.059, Plg61°, Azm42°; P -1.161, Plg19°, Azm172°;*
THE **07** *11:45:11.2,36.57N×23.31E,h10^{km},ML4.6*
BJI **07** *11:45:11.1,36.40N×23.10E,h26^{km},mB5.3,mb4.8,Ms5.1, Msz4.7*
CSEM **07** *11:45:12.1,36.66N×23.14E,h40^{km},mb4.5*
HLW **07** *11:45:20.9,35.82N×23.83E,h23^{km},Mb4.3*
ISC 07 11:45:07.8±0.4**,36.32N**±0.02×**23.06E**±0.02**,h19^{km}**±3^{km}**, n457,σ1^{s}25**/507**,mb4.4**/56**,MS3.6**/18**,16C-10D,Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.05	199	ePB	Sb	11 45 14.5	+1.0
VLI	Veliai	0.41	346	ePB	Pb	11 45 17.6	+1.4
VLI				eSB	Sb	11 45 22.4	+0.5
ITM	Ithomi	1.25	314	ePN	Pn	11 45 32.6	+2.2
ITM				eSN	Sn	11 45 48.8	+2.1
VAM	Vamos	1.30	134	ePN	Pn	11 45 33.4	+2.2
NAIG	Nisos Aigina	1.47	14	ePN	Pn	11 45 34.5	+0.8
NSAL	Nisos Salamina	1.61	12	ePN	Pn	11 45 36.5	+0.8
MGER	Gerania Oros	1.67	6	ePN	Pn	11 45 37.0	+0.6
GVD	Gavdhos	1.70	150	ePn	Pn	11 45 42.1	+5.2
ATH	Athens Observa	1.73	18	ePN	Pn	11 45 38.1	+0.8
ATH				eSN	Sn	11 45 59.3	+0.3
IDI	Anoyia	1.81	124	Pn	Pn	11 45 39.8	+1.3
	33nm,0.3s,baz=321,slow=13,SNR=123						
IDI				Sn	Sn	11 46 05.2	+4.0
	459nm,0.3s,baz=34,slow=15,SNR=14						
IDI				LR	LR	11 46 28.1	
	comp=Z,1μm,20.0s,baz=251,slow=44						
PTL	Penteli	1.84	20	ePN	Pn	11 45 39.5	+0.6
THR5	Thira Island,	1.85	86	ePb	Pb	11 45 40.7	-0.1
THR3	Thira Island,	1.90	87	ePb	Pb	11 45 41.4	-0.2
MPAR	Parnis Oros	1.90	16	ePB	Pb	11 45 40.2	-1.5
SANT	Santorini	1.94	88	eP	Pn	11 45 41.6	+1.3
SANT	Santorini	1.94	88	eP	Pn	11 45 41.6	+1.3
THR1	Thera Island	1.94	88	ePb	Pb	11 45 41.9	-0.5
THR1				eSb	Sb	11 46 06.3	0.0
APE	Apeiranthos	2.12	69	PN	Pn	11 45 43.4	+0.4
APE				SN	Sn	11 46 08.3	-0.8
APE	Apeiranthos	2.12	69	ePB	Pb	11 45 43.6	-1.8
LKR	Lokris	2.32	359	ePN	Pn	11 45 46.4	+0.6
NPS	Neapolis	2.33	116	ePN	Pn	11 45 47.2	+1.2
XRY	Khrisi	2.59	123	ePN	Pn	11 45 52.0	+2.3
VLS	Valsamata	2.70	314	ePB	Pb	11 45 54.1	-1.2
EVR	Evrytania	2.77	339	ePN	Pn	11 45 54.1	+1.9
AOS	Alonnisos	2.92	13	ePn	Pn	11 45 54.2	-0.1
NEO	Neokhori	2.98	3	ePN	Pn	11 45 55.5	+0.3
XOR	Xorichti	3.04	2	ePn	Pn	11 45 56.3	+0.3
LKD	Levkas	3.05	322	ePn	Pn	11 45 59.9	+3.7
KARP	Karpathos	3.42	102	ePN	Pn	11 46 03.2	+1.8
KARP				eSN	Sn	11 46 41.8	-0.1
URLA	Izmir	3.48	53	i P	Pn	11 46 02.4	+0.2
BODT	Bodrum	3.50	77	PN	Pn	11 46 03.6	+1.1
BDRM	Kayabasi	3.60	77	i P	Pn	11 46 05.1	+1.0
PAIG	Paliouri	3.63	8	ePn	Pn	11 46 03.9	-0.5
JAN	Janina	3.75	333	ePN	Pn	11 46 08.0	+1.8
BLCB	Balcova	3.79	56	ePN	Pn	11 46 06.0	-0.6
LIT	Litokhoron	3.80	353	ePn	Pn	11 46 07.0	+0.3
LIT				eSn	Sn	11 46 52.8	+1.4
PRK	Paraskevi	3.87	40	ePN	Pn	11 46 07.5	-0.4
MLSB	Milas	3.91	74	ePN	Pn	11 46 10.3	+1.9
IZM	Izmir	3.94	57	ePN	Pn	11 46 08.2	-0.6
LOS	Limnos	3.94	23	ePn	Pn	11 46 08.6	-0.2
LIA	Limnos Island	3.94	25	ePN	Pn	11 46 08.3	-0.6
KDAG	Bornova	3.94	57	i P	Pn	11 46 08.1	-0.8
KDAG	Bornova	3.94	57	i P	Pn	11 46 08.1	-0.8
PLG	Polygyros	4.05	4	ePN	Pn	11 46 10.0	-0.5
OUR	Ouranopolis	4.07	10	ePn	Pn	11 46 10.3	-0.4
AYDN	Tasoluk	4.09	70	i P	Pn	11 46 11.4	+0.5
ARG	Arkhangelos	4.10	90	ePN	Pn	11 46 13.2	+2.1
ARG				eSN	Sn	11 46 58.9	-0.2
AYVA	Ayvalik	4.14	43	i P	Pn	11 46 30.5	+19
KEK	Kerkira	4.25	324	ePN	Pn	11 46 14.8	+1.6
YER	Yerkesik	4.28	78	ePN	Pn	11 46 15.7	+2.1
LSK	Leskovik	4.28	334	i Pg	Pn	11 46 16.7	+3.0
LSK				i Sg	Pn	11 46 31.4	+18
SOH	Sokhos	4.50	3	ePn	Pn	11 46 17.1	+0.4
SOH	Sokhos	4.50	3	ePn	Pn	11 46 17.1	+0.4
DALT	Dalyan (Mudla)	4.52	83	ePN	Pn	11 46 19.3	+2.3
AKS	Akhisar	4.56	55	ePN	Pn	11 46 17.5	-0.1
FNA	Florina	4.64	344	ePn	Pn	11 46 20.4	+1.6
GRG	Griva	4.65	354	ePn	Pn	11 46 19.4	+0.4
SRS	Serrai	4.80	5	ePn	Pn	11 46 21.3	+0.2
KNT	Kendrikon	4.83	359	ePn	Pn	11 46 21.8	+0.3
CANB	Canakkale	4.85	39	ePN	Pn	11 46 21.1	-0.7
FETY	Fethiye	4.87	85	ePN	Pn	11 46 24.6	+2.6
MANT	Manisa	4.89	62	i P	Pn	11 46 30.2	+8.0
DNZL	Cakiroluk	4.99	72	i P	Pn	11 46 25.6	+1.9
VAY	Valandovo	5.00	356	i Pn	Pn	11 46 24.3	+0.4
VAY				i Pb	Pb	11 46 35.5	+0.9
VAY				i Sn	Sn	11 47 21.3	-0.6
VAY				i Sb	Sb	11 47 34.3	-0.6
VAY				i Sg	Sn	11 47 47.5	+26
VAY	Valandovo	5.00	356	i Pn	Pn	11 46 24.3	+0.4
VAY				i Sn	Sn	11 47 21.3	-0.6
BALB	Balikesir	5.05	48	ePN	Pn	11 46 22.9	-1.6
NVR	Nevrokopi	5.06	7	ePN	Pn	11 46 25.3	+0.6
OHR	Ohrid	5.09	340	ePn	Pn	11 46 28.5	+3.3
OHR				i Pg	Pn	11 46 44.0	+19
OHR				i Sg	Sn	11 47 49.7	+25
ALN	Alexandroupoli	5.13	26	ePn	Pn	11 46 24.2	-1.5
SLUM		5.14	159	⇓P	Pn	11 46 26.4	+0.5
SLUM				S	Sn	11 47 14.3	-11
RDO	Rodhopi	5.19	21	ePN	Pn	11 46 25.9	-0.6
BTOK	Tokmak	5.21	47	i P	Pn	11 46 29.7	+2.8
KSL	Kastellorizon	5.28	90	ePN	Pn	11 46 28.0	+0.2
MMB	Musomiste	5.28	5	i P	Pn	11 46 29.0	+1.2
AKAS	Kas	5.29	89	i P	Pn	11 46 32.1	+4.2
GOLH	Golhisar	5.30	78	i P	Pn	11 46 32.7	+4.6
RZN	Rozhen	5.51	13	i P	Pn	11 46 31.0	0.0
ELL	Elmali	5.54	84	ePN	Pn	11 46 33.7	+2.3
KKB	Krupnik	5.54	0	i P	Pn	11 46 32.0	+0.6
MFT	Murefte	5.55	35	ePN	Pn	11 46 30.9	-0.7
BNT	Bandirma	5.55	42	ePN	Pn	11 46 29.8	-1.8
TIR	Tirane	5.60	335	i Pn	Pn	11 46 30.5	-1.8
QSH	Qafa e Shtames	5.74	336	i Pn	Pn	11 46 36.0	+1.7
TIP	Timpagrande	5.75	302	eP	Pn	11 46 33.9	-0.5
TIP	Timpagrande	5.75	302	eP	Pn	11 46 33.9	-0.4
SKO	Skopje	5.78	348	ePn	Pn	11 46 38.9	+4.1
SKO				i		11 46 56.5	
SKO				i		11 47 10.8	
SKO				i Sg	Sn	11 48 24.5	+43
TKTP	Tekketepe	6.05	71	i P	Pn	11 46 39.8	+1.2
ULDT	Uludag	6.12	50	i P	Pn	11 46 39.0	-0.6
ISP	Isparta	6.15	74	ePN	Pn	11 46 41.8	+1.7
ISP	Isparta	6.15	74	eP	Pn	11 46 40.4	+0.3
ISP				pmax	pmax		
	comp=Z,131nm,1.0s						
ISP	Isparta	6.15	74	eP	Pn	11 46 40.4	+0.3
	comp=Z,131nm,1.0s						
ISP	Isparta	6.15	74	ePn	Pn	11 46 41.8	+1.7
HMAT	Matruh	6.21	146	⇓eP	Pn	11 46 40.5	-0.4
EDRB	Edirne	6.22	26	ePN	Pn	11 46 40.0	-1.0
VTS	Vitosha	6.26	1	i P	Pn	11 46 43.5	+1.9
PGB	Panagyurishte	6.28	8	i P	Pn	11 46 41.5	-0.4
ULC	Ulcinj	6.36	333	⇑iPn	Pn	11 46 42.2	-0.8
ULC				eSn	Sn	11 47 51.0	-4.9
YLV	Yalova	6.52	48	ePN	Pn	11 46 44.5	-0.8
BARS	Barje	6.56	352	⇓iP	Sn	11 48 06.5	+5.7
PVY	Plav	6.70	340	ePn	Pn	11 46 47.6	-0.3
PVY				eSn	Sn	11 48 00.6	-3.9
SG1	Sgolgore (BA)	6.73	314	ePn	Pn	11 46 47.8	-0.4
TTG	Podgorica	6.77	335	⇑iPn	Pn	11 46 47.4	-1.4
TTG				eSn	Sn	11 48 01.3	-4.8
BUM	Brajici-Budva	6.78	333	⇑iPn	Pn	11 46 47.5	-1.5
BUM				eSn	Sn	11 48 01.3	-5.2
BAI	Bari	6.79	317	ePn	Pn	11 46 48.5	-0.6
ESKT	Eskisehir	6.94	60	i P	Pn	11 46 52.2	+1.0
ZAPS	Zavoj/Pirot	6.97	357	⇑iPn	Pn	11 46 51.2	-0.4
ZAPS	Zavoj/Pirot	6.97	357	Pn	Pn	11 46 51.2	-0.4
IVA	Berane	6.98	341	⇑iPn	Pn	11 46 51.4	-0.3
IVA				eSn	Sn	11 48 07.4	-4.0
VAE	Valguarnera	7.02	282	Pn	Pn	11 46 52.5	+0.2
	comp=Z,3.1nm,0.3s,baz=58,slow=1.1,SNR=15						
VAE				Sn	Sn	11 48 16.5	+4.1
	comp=Z,12nm,0.3s,baz=96,slow=9.2,SNR=4.0						
VAE				LR	LR	11 49 57.6	

comp=Z,259nm,20.2s,baz=314,slow=41
HCY Herceg Novi 7.06 331 *e*Pn **Pn 11 46 51.1 -1.8**
HCY *e*Sn **Sn 11 48 07.6 -5.8**
CDT Castel del Mon 7.12 314 *e*Pn **Pn 11 46 53.0 -0.7**
NKY Niksic 7.20 335 *e*Pn **Pn 11 46 53.8 -1.0**
NKY *e*Sn **Sn 11 48 11.3 -5.5**
SWA2 7.34 163 ⇓P **Pn 11 46 56.6 -0.2**
TREB Trebinje 7.35 332 Pn **Pn 11 46 55.5 -1.4**
SWA1 7.39 162 ⇓P **Pn 11 46 57.8 +0.4**
SWA1 S **Sn 11 48 08.4 -13**
BRY Bratogost 7.43 333 *e*Pn **Pn 11 46 56.5 -1.6**
BRY *e*Sn **Sn 11 48 16.9 -5.9**
KIZT Kizilcal 7.46 67 *e*PN **Pn 11 46 59.2 +0.8**
KDHN Kadinhani 7.54 70 *i*P **Pn 11 47 03.1 +3.6**
PLE Pljevlja 7.54 339 *e*Pn **Pn 11 46 58.7 -0.9**
PLE *e*Sn **Sn 11 48 20.6 -4.9**
BOLS Boljevac 7.54 354 ⇓*i*Pn **Pn 11 47 03.7 +4.0**
UPM Unac-Piva 7.57 336 *e*Pn **Pn 11 46 59.4 -0.7**
UPM *e*Sn **Sn 11 48 20.9 -5.3**
HDMB Hadim 7.61 82 *e*PN **Pn 11 47 02.8 +2.2**
HENT Hendek 7.61 51 *i*P **Pn 11 47 02.2 +1.7**
MS1 Monte Sant'Ang 7.71 316 *e*Pn **Pn 11 47 01.8 -0.2**
STON Ston 7.73 329 *i*Pn **Pn 11 47 00.2 -2.1**
STON *i*Sn **Sn 11 48 22.6 -7.7**
GRUS Gruza 7.76 347 *e*Pn **Pn 11 47 01.7 -1.0**
ERMK Ermenek 7.95 85 *i*P **Pn 11 47 10.7 +5.4**
HBRG Burj al 'Arab 8.06 133 ⇑*e*P **P 11 47 05.8 -1.1**
DIVS Divcibare 8.11 344 ⇓*i*Pn **P 11 47 07.5 0.0**
DIVS Sn **Sn 11 48 32.4 -7.2**
SGKT Sivrigoynuk 8.24 56 *i*P **P 11 47 10.9 +1.6**
CSS Prodhromos 8.47 96 *e*P **P 11 47 12.9 +0.3**
comp=Z,25nm,0.6s
CSS Prodhromos 8.47 96 *e*P **P 11 47 12.9 +0.3**
comp=Z,25nm,0.6s
CII Carovilli 8.68 311 P **P 11 47 14.4 -1.1**
comp=Z,118nm,0.6s
CII Carovilli 8.68 311 P **P 11 47 14.4 -1.1**
comp=Z,118nm,0.6s
MEST Erdemli 8.94 85 *i*P **P 11 47 18.3 -0.7**
BR131 Keskin Array S 9.02 65 *e*P **P 11 47 21.0 +0.9**
comp=Z,18nm,0.9s
BR131 Keskin Array S 9.02 65 *e*P **P 11 47 21.0 +0.9**
comp=Z,18nm,0.9s
BRTR Keskin Array B 9.02 65 Pn **P 11 47 20.7 +0.6**
comp=Z,0.3nm,0.3s,baz=246,slow=12,SNR=52
ELDT Eldivan 9.14 60 *i*P **P 11 47 22.4 +0.5**
MLR Muntele Rosu 9.41 13 Pn **P 11 47 24.7 -0.9**
comp=Z,0.2nm,0.3s,baz=182,slow=6.4,SNR=8.2
CDAG Cicekdag 9.52 66 *i*P **P 11 47 31.9 +4.8**
BALT Daday 9.58 54 *i*P **P 11 47 28.9 +1.1**
AQU L'Aquila 9.60 312 *e*P **P 11 47 27.3 -0.8**
AQU pmax pmax
comp=Z,121nm,0.9s
AQU L'Aquila 9.60 312 *e*P **P 11 47 27.3 -0.8**
comp=Z,121nm,0.9s
AQU L'Aquila 9.60 312 *e*P **P 11 47 27.3 -0.8**
comp=Z,121nm,0.9s
KOT Kottamia 9.73 128 ⇓*e*P **P 11 47 27.3 -2.7**
GLL Jalalah 9.90 130 ⇓*e*P **P 11 47 30.2 -2.1**
CTKT Corum 10.15 61 *i*P **P 11 47 39.0 +3.2**
NVLJ Novalja 10.32 325 *i*Pn **P 11 47 36.8 -1.3**
NVLJ *i*Sn **S 11 49 26.3 -7.9**
NVLJ Novalja 10.32 325 *i*Pn **P 11 47 36.7 -1.3**
PKSM Moragy 10.42 343 ⇑*e*P **P 11 47 37.9 -1.5**
SUZ 10.44 125 P **P 11 47 38.6 -1.2**
HNTI Hanita 10.49 104 S **S 11 49 26.1 -12**
ZAF 10.63 129 P **P 11 47 40.9 -1.4**
MMA2 Mount Meron ar 10.69 104 P **P 11 47 39.7 -3.5**
SLTI Sal'it 10.72 109 S **S 11 49 31.8 -12**
ZNM 10.78 127 P **P 11 47 42.9 -1.4**
KSDI Kefar Szold 10.83 103 P **P 11 47 41.7 -3.3**
KSDI S **S 11 49 35.3 -11**
KZIT Kziot 10.89 116 P **P 11 47 41.3 -4.5**
KZIT S **S 11 49 35.5 -13**
BOJS Bojanci 10.90 330 *e*Pn **P 11 47 44.1 -1.9**
BOJS *e*Sn **S 11 49 40.6 -7.8**
BOJS *e* 11 50 00.5
MMLI Mount Malkishu 10.93 107 P **P 11 47 43.3 -3.1**
MMLI S **S 11 49 36.6 -13**
VISS Visnje 11.31 329 *e*Pn **P 11 47 50.7 -0.9**
MKRJ Makawir 11.48 111 P **P 11 47 50.9 -3.1**
KMTI Karmit 11.57 119 P **P 11 47 52.5 -2.6**
PRNI Paran 11.63 117 P **P 11 47 53.6 -2.3**
LJU Ljubljana 11.63 329 *e*Pn **P 11 47 55.5 -0.5**
LJU *e*Sn **S 11 49 56.0 -10**
GZT Gaziantep 11.67 81 *i*P **P 11 47 57.5 +0.9**
PSZ Piszkesteto 11.82 350 *e*P **P 11 47 57.8 -0.6**
PSZ pmax pmax
comp=Z,13nm,0.8s
PSZ Piszkesteto 11.82 350 *e*P **P 11 47 57.8 -0.6**
comp=Z,13nm,0.8s
PSZ Piszkesteto 11.82 350 *e*PP PP 11 48 04.6 -3.2
PSZ Piszkesteto 11.82 350 *e*P **P 11 47 57.8 -0.6**
comp=Z,13nm,0.8s
MBH Mount Berech 11.89 120 P **P 11 47 56.9 -2.5**
PERS Pernice 11.89 332 *e*Pn **P 11 47 57.8 -1.6**
VOY Vojsko 11.89 327 *e*Pn **P 11 47 57.9 -1.6**
VOY *e*Sn **S 11 50 02.8 -10**
EIL Elat 11.98 120 Pn **P 11 47 57.8 -3.0**
comp=Z,1.4nm,0.3s,baz=328,slow=18,SNR=14
EIL Sn **S 11 50 03.8 -11**
comp=Z,4.3nm,0.3s,baz=73,slow=19,SNR=8.3
EIL Elat 11.98 120 *e*P **P 11 47 56.9 -3.9**
comp=Z,16nm,0.8s
EIL Elat 11.98 120 P **P 11 47 57.5 -3.2**
EIL S **S 11 50 02.7 -12**
OBKA Obir 12.00 331 ⇑*i*Pn **P 11 47 59.4 -1.5**
OBKA *i*Sn **S 11 50 09.5 -5.8**
AQBJ Aqaba 12.02 120 P **P 11 47 57.0 -4.2**
ASF Jabal al Asfar 12.18 106 Pn **P 11 48 01.0 -2.3**
comp=Z,0.6nm,0.3s,baz=166,slow=8.0,SNR=9.6
ARSA Arzberg 12.27 335 ⇑*i*Pn **P 11 48 02.3 -2.2**
ARSA *i*Sn **S 11 50 16.1 -5.7**
ALWS Ilw as Safayha 12.28 121 P **P 11 48 02.1 -2.6**
CORF Corte 12.30 303 *e*P **P 11 48 06.2 +1.2**
HAQS Haql 12.35 123 P **P 11 48 03.5 -2.1**
JMOS Jabal al Moall 12.40 122 P **P 11 48 03.6 -2.6**
MALT Malatya 12.40 76 P **P 11 48 05.7 -0.6**
MALT pmax pmax
comp=Z,8.0nm,0.9s
MALT Malatya 12.40 76 P **P 11 48 05.7 -0.6**
comp=Z,8.3nm,0.9s
MALT Malatya 12.40 76 P **P 11 48 05.7 -0.6**
comp=Z,8.3nm,0.9s
PGF Pioggiola 12.51 304 *e*P **P 11 48 04.7 -3.1**
comp=Z,136nm,1.3s
PGF Pioggiola 12.51 304 *e*P **P 11 48 04.7 -3.1**
PGF pmax pmax
comp=Z,68nm,1.3s
VYHS Vyhne 12.55 347 *e* **P 11 48 17.3 +9.0**
TAYS Tayyib Ism 12.63 125 P **P 11 48 08.6 -0.8**
KBA Koelnbreinsper 12.95 329 *i*SN **S 11 50 31.9 -6.3**
KBA Koelnbreinsper 12.95 329 ⇑*i*Pn **P 11 48 12.0 -1.6**
KBA *i*Sn **S 11 50 31.9 -6.3**
KBA Koelnbreinsper 12.95 329 *i*P **P 11 48 12.0 -1.6**
JMQS Jabal Moqyreh 13.10 121 P **P 11 48 13.1 -2.6**
MOA Molln 13.22 333 ⇑*i*Pn **P 11 48 16.3 -0.9**
MOA *i*Sn **S 11 50 39.3 -5.5**
ANN Anapa 13.81 48 *e*P **P 11 48 20.5 -4.4**
ANN pmax pmax
comp=Z,41nm,1.0s
WTTA Wattenberg 13.84 326 *i*SN **S 11 50 54.1 -5.3**
WTTA Wattenberg 13.84 326 ⇑*i*Pn **P 11 48 23.7 -1.6**
WTTA *i*Sn **S 11 50 54.1 -5.3**
WTTA Wattenberg 13.84 326 *i*P **P 11 48 23.7 -1.6**
WATA Walderalm 13.92 326 *i*SN **S 11 50 54.7 -6.6**
WATA Walderalm 13.92 326 ⇑*i*Pn **P 11 48 24.8 -1.5**
WATA *i*Sn **S 11 50 54.7 -6.6**
WATA Walderalm 13.92 326 *i*P **P 11 48 24.8 -1.5**
OKC Ostrava-Krasne 13.97 347 *e*P **P 11 48 35.9 +8.9**
OKC *ex* x 11 48 42.1
OKC AMS AMS 11 54 50.0
comp=Z,300nm,16.6s
SQTA Sankt Quirin 14.01 325 *i*SN **S 11 50 58.2 -5.1**
SQTA Sankt Quirin 14.01 325 ⇑*i*Pn **P 11 48 26.0 -1.4**
SQTA *i*Sn **S 11 50 58.2 -5.1**
SQTA Sankt Quirin 14.01 325 *i*P **P 11 48 26.0 -1.4**
MORC Moravsky Berou 14.03 345 P **P 11 48 27.7 -0.1**
MORC pmax pmax
comp=Z,10.0nm,1.1s
MORC Moravsky Berou 14.03 345 P **P 11 48 27.7 -0.1**
comp=Z,10nm,1.1s
MORC Moravsky Berou 14.03 345 P **P 11 48 27.7 -0.1**
comp=Z,10nm,1.1s
SBF Sospel 14.12 307 *e*P **P 11 48 27.8 -1.1**
comp=Z,105nm,1.2s
SBF Sospel 14.12 307 *e*P **P 11 48 27.8 -1.1**
SBF pmax pmax
comp=Z,52nm,1.2s
MOTA Moosalm 14.14 325 *i*SN **S 11 50 59.8 -6.8**
MOTA Moosalm 14.14 325 ⇑*i*Pn **P 11 48 28.1 -1.2**
MOTA *i*Sn **S 11 50 59.8 -6.8**
MOTA Moosalm 14.14 325 *i*P **P 11 48 28.1 -1.2**
GEC2 GERESS Array S 14.27 334 *e*P **P 11 48 38.6 +7.7**
GERES GERESS Array B 14.27 334 Pn **P 11 48 30.7 -0.1**
comp=Z,0.3nm,0.3s,baz=151,slow=14,SNR=7.5
DAVOX Davos 14.35 321 Pn **P 11 48 32.5 +0.5**
comp=Z,0.6nm,0.3s,baz=146,slow=17,SNR=3.5
DAVOX Sn **S 11 51 05.3 -6.1**
comp=Z,0.7nm,0.3s,baz=336,slow=19,SNR=4.5
DAVOX LR LR 11 55 01.0
comp=Z,249nm,18.5s,baz=87,slow=42
CALN Calern 14.42 306 *e*P **P 11 48 35.3 +2.4**
FRF La Foret Royal 14.50 305 *e*P **P 11 48 33.7 -0.3**
KHC Kasperske Hory 14.55 335 *e*P **P 11 48 42.1 +7.5**
KHC *e*pP 11 48 47.8
KHC AMS AMS 11 55 10.0
comp=Z,700nm,13.2s
KHC Kasperske Hory 14.55 335 *e*P **P 11 48 35.7 +1.1**
FUR Furstenfeldbru 14.68 327 *e*P **P 11 48 43.0 +6.7**
comp=Z,60nm,0.7s
DAVA Damuels 14.69 322 ⇑*i*Pn **P 11 48 35.7 -0.7**
DAVA *i*Sn **S 11 51 14.2 -5.3**
WET Wettzell 14.81 333 *e*P **P 11 48 44.9 +6.9**
comp=Z,26nm,0.9s
DPC Dobruska-Polom 14.84 343 *e*P **P 11 48 44.9 +6.5**
DPC *e*pP 11 48 51.7
DPC AMS AMS 11 56 00.0
comp=Z,600nm,16.5s
MBDF Montbardon 14.94 309 *e*P **P 11 48 40.5 +0.8**
comp=Z,48nm,0.9s
MBDF Montbardon 14.94 309 *e*P **P 11 48 40.5 +0.8**
MBDF pmax pmax
comp=Z,24nm,0.9s
PRU Pruhonice 14.99 338 *e*P **P 11 48 46.7 +6.4**
PRU *ex* x 11 48 54.9
PRU AMS AMS 11 55 40.0
comp=Z,700nm,14.1s
AKASG Malin Array Be 15.04 15 Pn **P 11 48 39.1 -1.9**
comp=Z,0.4nm,0.3s,baz=204,slow=12,SNR=7.3
UPC Upice 15.06 342 *e*P **P 11 48 47.2 +6.0**
UPC *ex* x 11 48 56.0
LPG La Plagne 15.34 312 *e*P **P 11 48 44.7 -0.2**
comp=Z,28nm,0.9s
LPG La Plagne 15.34 312 *e*P **P 11 48 44.7 -0.2**
LPG pmax pmax
comp=Z,14nm,0.9s
LPL La Plagne 15.36 312 *e*P **P 11 48 45.4 +0.3**
SMRF Simiane la Rot 15.38 305 *e*P **P 11 48 45.8 +0.4**
comp=Z,44nm,1.1s
PVCC Panska Ves 15.46 339 *e*P **P 11 48 52.1 +5.6**
PVCC AMS AMS 11 55 50.0
comp=Z,600nm,13.2s
ORIF Oris-en-Rattie 15.59 309 *e*P **P 11 48 48.8 +0.6**
comp=Z,38nm,1.0s
ORIF *e*R
comp=Z,591nm,18.2s
NKC Novy Kostel 15.88 334 *e*P **P 11 48 50.9 -0.9**
NKC MLR MLR
comp=Z,700nm,14.1s
NKC Novy Kostel 15.88 334 *e*P **P 11 48 50.9 -0.9**
NKC *e*pP 11 48 59.4
NKC AMS AMS 11 56 10.0
comp=Z,700nm,14.1s
GRA1 Grafenberg Arr 15.89 331 *e*P **P 11 48 56.8 +4.8**
comp=Z,107nm,0.9s
GRF Grafenberg Arr 15.89 331 P **P 11 48 56.8 +4.8**
GRF pmax pmax
comp=Z,107nm,0.9s
BRG Berggiesshubel 15.95 339 *e*P **P 11 48 56.2 +3.4**
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG pmax pmax
comp=Z,15nm,0.8s
BRG MLR MLR
comp=N,610nm,11.4s
BRG MLR MLR
comp=E,300nm,11.4s
BRG MLR MLR
comp=Z,770nm,12.8s
BRG Berggiesshubel 15.95 339 *e*P **P 11 48 56.2 +3.5**
comp=Z,5.5nm,0.9s
BRG *i* 11 49 06.6
BBS Basel-Blauen 16.02 319 *e*P **P 11 48 54.5 +0.8**
FELD Feldberg 16.03 321 *e*P **P 11 48 53.8 0.0**
BFO Black Forest 16.17 322 P **P 11 48 57.8 +2.3**
BFO pmax pmax
comp=Z,18nm,1.1s
BFO Black Forest 16.17 322 *e*P **P 11 48 57.8 +2.3**
comp=Z,18nm,1.1s
CABF La Chapelle 16.32 314 *e*P **P 11 48 56.9 -0.6**
comp=Z,24nm,0.8s
CABF La Chapelle 16.32 314 *e*P **P 11 48 56.9 -0.6**
CABF pmax pmax
comp=Z,12nm,0.8s
LOMF Lomont 16.32 317 *e*P **P 11 48 59.0 +1.5**
VIVF Saint-Julien-l 16.33 307 *e*P **P 11 48 57.3 -0.4**
comp=Z,30nm,1.2s
VIVF Saint-Julien-l 16.33 307 *e*P **P 11 48 57.3 -0.4**
VIVF pmax pmax
comp=Z,15nm,1.2s
MOF Molkenrain 16.47 319 *e*P **P 11 48 59.9 +0.6**
MOX Moxa 16.52 334 *e*P **P 11 49 04.3 +4.3**
MOX pmax pmax
comp=Z,21nm,1.1s
MOX MLR MLR
comp=Z,300nm,13.0s
MOX Moxa 16.52 334 *e*P **P 11 49 04.3 +4.3**
comp=Z,21nm,1.1s
MOX Moxa 16.52 334 *i*P **P 11 49 04.3 +4.3**
comp=Z,logA/T=1.3
MOX L 11 56 38.0
HAKT HAKKARI 16.56 80 *i*P **P 11 49 04.0 +3.4**
HAKT HAKKARI 16.56 80 *i*P **P 11 49 04.0 +3.4**
LASF Ste Croix 16.56 304 *e*P **P 11 49 02.3 +1.7**
comp=Z,45nm,1.2s
HINF Hinteralfeld 16.59 319 *e*P **P 11 49 01.0 +0.1**
CLL Collm 16.62 337 *e*P **P 11 49 04.0 +2.8**
CLL *e*S **S 11 52 12.0 +7.5**
CLL Collm 16.62 337 *e*P **P 11 49 04.0 +2.8**
CLL *i* 11 49 11.5
CLL *e*S **S 11 52 12.0 +7.5**
CLL Collm 16.62 337 P **P 11 49 04.0 +2.8**
CLL *i*PP PP 11 49 11.5 -3.5
CLL *e* 11 49 19.0
CLL *e* 11 49 49.0
CLL *e*S **S 11 52 12.0 +7.5**
CLL *e*SS SS 11 52 30.0 +5.1
ECH Echery 16.68 320 *e*P **P 11 49 03.7 +1.6**
WLS Welschbruch 16.71 321 *e*P **P 11 49 05.1 +2.7**
CDF Champ du Feu 16.75 321 *e*P **P 11 49 03.8 +0.9**
KIV Kislovodsk 16.81 57 *e*P **P 11 49 06.6 +2.9**
KIV pmax pmax
comp=Z,19nm,0.8s
KIV Kislovodsk 16.81 57 *e*P **P 11 49 06.6 +2.8**
comp=Z,19nm,0.8s
KIV Kislovodsk 16.81 57 *e*P **P 11 49 06.6 +2.9**
comp=Z,19nm,0.8s
TOD Tromm 16.84 326 *e*P **P 11 49 04.2 +0.1**
LANF Langenberg 16.86 323 *e*P **P 11 49 07.4 +3.0**
HAU Haudompre 16.98 319 *e*P **P 11 49 06.0 +0.2**
comp=Z,20nm,0.6s
HAU *e*R
comp=Z,432nm,17.0s
ZEI Tsey 17.30 62 *e*P **P 11 49 10.2 +0.4**
MTLF Montolieu 17.45 300 *e*P **P 11 49 12.0 +0.3**
comp=Z,19nm,1.0s
MTLF Montolieu 17.45 300 *e*P **P 11 49 12.0 +0.3**
MTLF pmax pmax
comp=Z,10.0nm,1.0s
GNI Garni 17.45 71 P **P 11 49 13.3 +1.5**
GNI pmax pmax
comp=Z,9.0nm,0.8s
GNI Garni 17.45 71 P **P 11 49 13.3 +1.5**
comp=Z,8.6nm,0.8s
SMF Signal de Mont 17.66 312 *e*P **P 11 49 12.4 -2.0**
comp=Z,14nm,0.8s
SMF Signal de Mont 17.66 312 *e*P **P 11 49 12.4 -2.0**
SMF pmax pmax
comp=Z,7.0nm,0.8s
SUW Suwalki 17.69 0 P **P 11 49 14.8 +0.2**
EPOB Poblet 17.83 293 P **P 11 49 17.6 +1.1**
EPOB Poblet 17.83 293 P **P 11 49 17.6 +1.1**
SNR=7.9
CLZ Clausthal 17.95 334 P **P 11 49 20.5 +2.6**
CLZ pmax pmax
comp=Z,20nm,1.0s
CLZ Clausthal 17.95 334 *e*P **P 11 49 20.5 +2.6**
comp=Z,20nm,1.0s
LOR Lormes 17.96 313 *e*P **P 11 49 16.2 -1.9**
comp=Z,15nm,0.7s
LOR *e*R
comp=Z,196nm,21.2s
MEZF Maizieres J'vi 17.97 318 *e*P **P 11 49 19.4 +1.3**
CAF Calviac 18.07 305 *e*P **P 11 49 19.5 +0.1**
comp=Z,32nm,1.0s
CAF Calviac 18.07 305 *e*P **P 11 49 19.5 +0.1**
CAF pmax pmax
comp=Z,16nm,1.0s
SSF Saint Saulge 18.07 312 *e*P **P 11 49 17.3 -2.1**
SSF pmax pmax
comp=Z,13nm,0.9s
SSF Saint Saulge 18.07 312 *e*P **P 11 49 17.3 -2.1**
comp=Z,13nm,0.9s
BGF Bois d'Agland 18.23 310 *e*P **P 11 49 20.5 -1.0**
comp=Z,23nm,0.7s
BGF Bois d'Agland 18.23 310 *e*P **P 11 49 20.5 -1.0**
BGF pmax pmax
comp=Z,11nm,0.7s
TCF Toulx Ste Croi 18.51 309 *e*P **P 11 49 24.7 -0.2**
comp=Z,37nm,1.2s
TCF Toulx Ste Croi 18.51 309 *e*P **P 11 49 24.7 -0.2**
TCF pmax pmax
comp=Z,19nm,1.2s
EGRA Graus 18.54 295 P **P 11 49 25.6 +0.3**
comp=Z,2.8nm,0.6s
EGRA Graus 18.54 295 P **P 11 49 25.6 +0.3**
comp=Z,2.8nm,0.6s,SNR=4.6
RJF Les Rejaudoux 18.56 306 *e*P **P 11 49 25.3 -0.3**
RJF *e*R
comp=Z,304nm,18.5s
EPF Esparros 18.69 298 *e*P **P 11 49 28.1 +0.9**
EBIE Bielsa 18.76 297 P **P 11 49 30.2 +2.2**
comp=Z,7.2nm,0.6s
EBIE Bielsa 18.76 297 P **P 11 49 30.2 +2.2**
comp=Z,7.2nm,0.6s,SNR=7.7
HGN Heimansgroeve 18.97 325 *e*P **P 11 49 29.6 -0.7**
comp=Z,26nm,1.7s
HGN *e*S **S 11 53 14.2 +16**
ESAC San Caprasio 19.03 294 P **P 11 49 31.0 -0.2**
comp=Z,6.7nm,0.3s,SNR=5.8
GIVF Givet 19.07 322 *e*P **P 11 49 31.0 -0.6**
comp=Z,47nm,0.8s
GIVF Givet 19.07 322 *e*P **P 11 49 31.0 -0.6**
GIVF pmax pmax
comp=Z,24nm,0.8s
ECHE Chera 19.21 287 P **P 11 49 34.8 +1.5**
ECHE pmax pmax
comp=Z,10.0nm,0.8s
ECHE Chera 19.21 287 P **P 11 49 34.8 +1.5**
comp=Z,10nm,0.8s
ECHE Chera 19.21 287 P **P 11 49 34.8 +1.5**
comp=Z,10nm,0.8s,SNR=5.2
ETSF Etsaut 19.31 297 *e*P **P 11 49 33.3 -1.2**
comp=Z,22nm,0.8s
ETSF Etsaut 19.31 297 *e*P **P 11 49 33.3 -1.2**
ETSF pmax pmax
comp=Z,11nm,0.8s
BAIF Baives 19.35 321 *e*P **P 11 49 34.3 -0.6**
comp=Z,24nm,0.7s
BAIF Baives 19.35 321 *e*P **P 11 49 34.3 -0.6**
BAIF pmax pmax
comp=Z,12nm,0.7s
WTSB Winterswijk 19.44 329 *e*P **P 11 49 36.4 +0.5**
comp=Z,33nm,1.0s
BSEG Bad Segeberg 19.72 337 P **P 11 49 38.9 -0.1**
BSEG pmax pmax
comp=Z,38nm,1.1s
BSEG Bad Segeberg 19.72 337 *e*P **P 11 49 38.9 -0.1**
SJPF Ste Jean 19.83 297 *e*P **P 11 49 41.3 +1.0**
comp=Z,49nm,0.7s
SJPF Ste Jean 19.83 297 *e*P **P 11 49 41.3 +1.0**
SJPF pmax pmax
comp=Z,24nm,0.7s
EARA Aranguren 20.02 296 P **P 11 49 42.3 -0.1**
comp=Z,235nm,1.2s,SNR=7.9
EALK Alkurruntz 20.05 298 P **P 11 49 45.0 +2.3**
comp=Z,16nm,0.9s
EALK Alkurruntz 20.05 298 P **P 11 49 45.0 +2.3**
comp=Z,16nm,0.9s,SNR=6.0
MFF Saint Martin d 20.12 308 *e*P **P 11 49 43.2 -0.2**
comp=Z,36nm,0.9s
MFF Saint Martin d 20.12 308 *e*P **P 11 49 43.2 -0.2**
MFF pmax pmax
comp=Z,18nm,0.9s
ENIJ Nijar 20.27 279 P **P 11 49 45.0 0.0**
ENIJ pmax pmax
comp=Z,7.0nm,0.4s
ENIJ Nijar 20.27 279 P **P 11 49 45.0 0.0**
comp=Z,6.7nm,0.4s
ENIJ Nijar 20.27 279 P **P 11 49 45.0 0.0**
comp=Z,6.7nm,0.4s,SNR=7.9
EVIA Vianos 20.40 284 P **P 11 49 46.0 -0.3**
EVIA pmax pmax
comp=Z,4.0nm,0.4s
EVIA Vianos 20.40 284 P **P 11 49 46.0 -0.4**
comp=Z,3.5nm,0.4s
EVIA Vianos 20.40 284 P **P 11 49 46.0 -0.3**
comp=Z,3.5nm,0.4s,SNR=6.0
ECRI Cripan 20.67 296 P **P 11 49 47.9 -1.2**
comp=Z,1.9nm,0.3s,SNR=7.9
EBER Berja 20.82 279 P **P 11 49 51.0 +0.3**
EBER Berja 20.82 279 P **P 11 49 51.0 +0.3**
SNR=4.0
EQES Quesada 20.88 282 P **P 11 49 50.9 -0.4**
comp=Z,13nm,0.7s
EQES Quesada 20.88 282 P **P 11 49 50.9 -0.4**
comp=Z,13nm,0.7s,SNR=8.8
OBN Obninsk 20.96 22 *de*P **P 11 49 53.4 +1.4**
OBN *e*S **S 11 53 29.6 -10**
OBN pmax pmax
comp=Z,7.0nm,0.4s
OBN MLR MLR
comp=Z,100nm,21.0s,MS3.2
OBN Obninsk 20.96 22 *e*P **P 11 49 53.9 +1.9**
FLN La Foliniere 21.24 313 *e*P **P 11 49 54.1 -0.7**
comp=Z,32nm,0.6s,mb4.5
FLN *e*R
comp=Z,145nm,18.8s
FLN La Foliniere 21.24 313 *e*P **P 11 49 54.1 -0.7**
FLN pmax pmax
comp=Z,16nm,0.6s,mb4.5
FLN MLR MLR
comp=Z,150nm,18.8s,MS3.4
GRR Gorron 21.29 312 *e*P **P 11 49 55.7 +0.3**
comp=Z,41nm,0.7s,mb4.6
GRR Gorron 21.29 312 *e*P **P 11 49 55.7 +0.3**
GRR pmax pmax
comp=Z,21nm,0.7s,mb4.6
EGUA Guajares 21.36 279 P **P 11 49 56.3 +0.1**
SNR=7.9
ELAN Lanestosa 21.44 297 P **P 11 49 56.3 -0.6**
comp=Z,23nm,0.9s,mb4.5
ELAN Lanestosa 21.44 297 P **P 11 49 56.3 -0.7**
comp=Z,23nm,0.9s,mb4.5,SNR=8.7
ESDC Sonseca Array 21.52 287 P **P 11 49 58.3 +0.5**
comp=Z,5.2nm,0.8s,mb4.0,baz=110,slow=11,SNR=17
ESDC S **S 11 53 51.6 +1.0**
comp=Z,2.9nm,0.6s,baz=89,slow=29,SNR=6.5
ESDC Sonseca Array 21.52 287 P **P 11 49 56.9 -0.9**
comp=Z,6.3nm,0.7s,mb4.2
ESDC Sonseca Array 21.52 287 P **P 11 49 56.9 -0.9**
comp=Z,6.3nm,0.7s,mb4.2,SNR=11
ESLA Sonseca Array 21.52 287 *e*P **P 11 49 57.6 -0.2**
comp=Z,2.7nm,0.8s,mb3.7
ERON Agron 21.54 280 P **P 11 49 59.8 +1.8**
comp=Z,1.7nm,0.2s,mb4.1,SNR=11
ELOJ Sierra Loja 21.80 280 P **P 11 50 05.0 +4.4**
ELOJ pmax pmax
comp=Z,2.0nm,0.3s,mb4.0
ELOJ Sierra Loja 21.80 280 P **P 11 50 05.0 +4.4**
comp=Z,2.0nm,0.3s,mb4.0
ELOJ Sierra Loja 21.80 280 P **P 11 50 05.0 +4.4**
comp=Z,2.0nm,0.3s,mb4.0,SNR=5.7

MOS Moscow 21.81 23 eP P 11 49 58.9 -1.7
MOS e 11 50 19.2
MOS pmax pmax
comp=Z,66nm,0.6s,mb5.2
ELUQ Luque 21.85 281 P P 11 50 01.5 +0.4
ELUQ pmax pmax
comp=Z,6.0nm,0.3s,mb4.5
ELUQ Luque 21.85 281 P P 11 50 01.5 +0.4
comp=Z,5.8nm,0.3s,mb4.5
ELUQ Luque 21.85 281 P P 11 50 01.5 +0.4
comp=Z,5.8nm,0.3s,mb4.5,SNR=10
EADA Adamuz 22.05 283 P P 11 50 03.8 +0.7
comp=Z,4.4nm,0.6s,mb4.1
EADA Adamuz 22.05 283 P P 11 50 03.8 +0.7
comp=Z,4.4nm,0.6s,mb4.1,SNR=5.6
LTHS Al Lith 22.06 132 P P 11 50 11.6 +8.3
MUD Monsted U'grnd 22.21 339 eP P 11 50 07.4 +2.8
MUD e 11 54 13.7
MUD pmax pmax
comp=Z,9.0nm,0.4s,mb4.5
MUD MLR MLR
comp=Z,91nm,17.0s,MS3.3
MUD Monsted U'grnd 22.21 339 *i* P P 11 50 07.4 +2.8
comp=Z,8.6nm,0.4s,mb4.5
MUD e 11 54 13.7
comp=Z,90nm,17.0s
SGMF Saint Gilles 22.27 310 eP P 11 50 05.1 -0.1
VSU Vasula 22.28 5 eP P 11 50 06.7 +1.4
EMIJ Mijas 22.36 279 P P 11 50 07.6 +1.4
comp=Z,3.2nm,0.3s,mb4.2
EMIJ Mijas 22.36 279 P P 11 50 07.6 +1.4
comp=Z,3.2nm,0.3s,mb4.2,SNR=7.3
QUIF Quistinic 22.52 309 eP P 11 50 07.4 -0.3
comp=Z,134nm,1.3s,mb4.9
QUIF Quistinic 22.52 309 eP P 11 50 07.4 -0.3
QUIF pmax pmax
comp=Z,67nm,1.3s,mb4.9
ECAB El Cabril 22.71 283 P P 11 50 09.8 +0.1
comp=Z,10nm,0.6s,mb4.4
EARI Arriondas 22.73 297 P P 11 50 11.0 +1.2
comp=Z,33nm,0.8s,mb4.8
EARI Arriondas 22.73 297 P P 11 50 11.0 +1.2
comp=Z,33nm,0.8s,mb4.8,SNR=4.0
ROSF Rostrenen 22.75 310 eP P 11 50 10.5 +0.6
comp=Z,37nm,0.7s,mb4.6
ROSF Rostrenen 22.75 310 eP P 11 50 10.5 +0.6
ROSF pmax pmax
comp=Z,18nm,0.7s,mb4.6
PBRG Braganca 23.71 292 eP P 11 50 19.9 +0.6
ECAL Calabor 23.71 293 P P 11 50 20.3 +1.0
comp=Z,16nm,0.6s,mb4.6
EMIN Mina Concepcio 23.73 282 P P 11 50 20.6 +1.0
comp=Z,1.4nm,0.5s,mb3.6
MTE Manteigas 24.27 289 eP P 11 50 25.5 +0.7
HFS Hagfors 24.58 349 P P 11 50 26.4 -1.2
HFS S S 11 54 49.1 +4.5
HFS pmax pmax
comp=Z,3.0nm,0.4s
HFS Hagfors 24.58 349 P P 11 50 26.4 -1.2
comp=Z,3.1nm,0.4s,mb4.2,baz=157,slow=11,SNR=19
HFS S S 11 54 49.1 +4.5
comp=Z,4.1nm,0.9s,baz=180,slow=18,SNR=4.0
KONO Kongsberg 24.92 344 eP P 11 50 31.2 +0.4
FINES FINESS Array B 25.21 3 P P 11 50 31.7 -1.9
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES MLR MLR
comp=Z,62nm,21.3s
FINES FINESS Array B 25.21 3 P P 11 50 31.7 -1.9
comp=Z,1.9nm,0.6s,mb3.8,baz=163,slow=11,SNR=11
FINES LR LR 12 00 49.9
comp=Z,62nm,21.3s,MS3.1,baz=186,slow=38
HASS Wahat al Ahsa' 25.36 108 P P 11 50 42.3 +6.9
NAO01 NORSAR Array S 25.74 346 eP P 11 50 37.0 -1.5
comp=Z,4.7nm,0.6s,mb4.2
NB2 NORSAR Subarra 25.86 347 P P 11 50 39.1 -0.5
comp=Z,2.2nm,0.8s,mb3.7,baz=151,slow=10
NB2 NORSAR Subarra 25.86 347 P P 11 50 39.1 -0.5
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb3.7
NOA NORSAR Array B 25.86 347 P P 11 50 38.1 -1.5
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA MLR MLR
comp=Z,131nm,18.3s
NOA NORSAR Array B 25.86 347 P P 11 50 38.1 -1.5
comp=Z,1.8nm,0.6s,mb3.8,baz=156,slow=8.5,SNR=9.7
NOA LR LR 12 02 33.3
comp=Z,131nm,18.3s,MS3.5,baz=170,slow=41
KAF Kangasniemi 25.89 4 *ep* P 11 50 36.9 -3.1
comp=Z,2.7nm,0.7s,mb3.9
KAF Kangasniemi 25.89 4 eP P 11 50 36.9 -3.1
KAF pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
EKA Eskdalemuir Ar 26.11 325 P P 11 50 41.9 -0.1
EKA pmax pmax
comp=Z,39nm,0.7s
EKA Eskdalemuir Ar 26.11 325 P P 11 50 41.9 -0.1
comp=Z,39nm,0.7s,mb5.1,baz=125,slow=8.8,SNR=103
ESK Eskdalemuir 26.12 325 eP P 11 50 41.7 -0.4
ESK pmax pmax
comp=Z,43nm,0.7s,mb5.1
ESK Eskdalemuir 26.12 325 eP P 11 50 41.7 -0.4
comp=Z,43nm,0.7s,mb5.1
ARU Arti 31.18 39 eP P 11 51 30.3 +2.7
ARU ePPP PPP 11 52 40.1 -5.5
ARU e 11 54 22.4
ARU eS S 11 56 32.0 +0.5
ARU eSS SS 11 58 10.8 -6.5
ARU e 12 02 02.8
ARU MLR MLR
comp=N,40nm,18.0s,MS3.3
ARU MLR MLR
comp=Z,100nm,18.0s,MS3.5
ARU MLR MLR
comp=E,40nm,17.0s,MS3.3
SVE Sverdlovsk 32.38 39 eP P 11 51 43.8 +5.6
SVE e 11 51 57.0
ARCES ARCESS Array B 33.30 2 P P 11 51 45.0 -1.0
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 33.30 2 P P 11 51 45.0 -1.1
comp=Z,1.6nm,0.8s,mb4.0,baz=196,slow=8.8,SNR=9.4
ZRNK Zerenda 35.97 48 eP P 11 52 07.3 -1.8
ZRNK pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ZRNK Zerenda 35.97 48 eP P 11 52 07.3 -1.9
comp=Z,3.0nm,0.5s,mb4.5
KKAR Karatay Array 36.73 64 *i* P P 11 52 14.8 -0.8
KKAR pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
VOSK Vostochnaya 37.13 48 P P 11 52 17.2 -1.7
VOSK pmax pmax
comp=Z,5.0nm,1.3s,mb4.2
JMIC Jan Mayen 38.49 344 LR LR 12 08 44.1
comp=Z,59nm,18.1s,MS3.5,baz=242,slow=37
DBIC Dimbokro 39.02 228 eP P 11 52 34.3 -0.8
DBIC Dimbokro 39.02 228 P P 11 52 35.9 +0.8
comp=Z,2.2nm,0.3s,mb4.3,baz=20,slow=8.0,SNR=11
KMBO Kilima Mbogo 39.53 157 LR LR 12 09 41.9
comp=Z,87nm,19.6s,MS3.6,baz=86,slow=37
AAK Ala-Archa 39.69 65 eP P 11 52 39.4 -1.0
AAK pmax pmax
comp=Z,12nm,0.9s,mb4.6
AAK Ala-Archa 39.69 65 eP P 11 52 43.5 +3.1
AAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
AAK MLR MLR
comp=Z,100nm,19.0s,MS3.7
AAK Ala-Archa 39.69 65 eP P 11 52 39.4 -1.0
comp=Z,12nm,0.9s,mb4.6
FRU Bishkek 39.75 64 P P 11 52 46.0 +5.1
NVS Novosibirsk 44.49 46 eP P 11 53 18.4 -1.0
NVS pmax pmax
comp=Z,11nm,0.9s,mb4.6
NVS pmax pmax
comp=E,5.0nm,0.8s
MKAR Makanchi Array 44.58 57 P P 11 53 19.0 -1.3
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR MLR MLR
comp=Z,58nm,20.7s
MKAR Makanchi Array 44.58 57 P P 11 53 19.0 -1.2
comp=Z,3.3nm,0.5s,mb4.4,baz=280,slow=6.8,SNR=36
MKAR LR LR 12 14 42.3
comp=Z,58nm,20.7s,MS3.5,baz=296,slow=40
MKAR Makanchi Array 44.58 57 P P 11 53 19.0 -1.2
MKAR LR LR 12 14 42.3
ZAL Zalesovo 45.44 47 P P 11 53 25.4 -1.6
ZAL pmax pmax
comp=Z,4.0nm,0.4s
ZAL Zalesovo 45.44 47 P P 11 53 25.4 -1.7
comp=Z,3.6nm,0.3s,mb4.6,baz=182,slow=7.8,SNR=5.7
SUMG Summit 47.28 339 eP P 11 53 41.7 +0.3
comp=Z,5.6nm,0.9s,mb4.5
WMQ Urumqi 48.91 60 eP P 11 53 56.8 +2.4
WMQ AP pP 11 54 01.3 +1.2
WMQ XP sP 11 54 03.8 +1.4
KOLN Koldanda 51.30 81 eP P 11 54 14.3 +1.4
LSZ Lusaka 51.55 174 eP P 11 54 14.0 -0.9
LSZ pmax pmax
comp=Z,12nm,1.3s,mb4.7
LSZ Lusaka 51.55 174 eP P 11 54 14.0 -0.9
comp=Z,12nm,1.3s,mb4.7
GKN Gorkha 52.03 81 eP P 11 54 17.4 -1.0
DMN Daman 52.57 81 eP P 11 54 21.2 -1.3
comp=Z,33nm,0.6s,mb5.4
KKN Kakani 52.63 81 eP P 11 54 21.5 -1.4
comp=Z,25nm,0.6s,mb5.3
KKN Kakani 52.63 81 eP P 11 54 21.5 -1.4
KKN pmax pmax
comp=Z,12nm,0.6s,mb5.0
PKI Pulchoki 52.83 81 eP P 11 54 23.4 -1.0
GUN Gumba 53.06 80 eP P 11 54 24.1 -2.0
MATP Matopo 56.67 174 P P 11 54 53.2 +0.7
comp=Z,1.9nm,0.8s,mb4.2,baz=331,slow=10,SNR=2.9
TLY Talaya 57.06 47 eP P 11 54 59.2 +4.3
TLY pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
ZAK Zakamensk 57.26 49 eP P 11 55 00.1 +3.8
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
SONM Songino Array 60.07 51 P P 11 55 14.8 -1.1
comp=Z,1.2nm,0.8s,mb4.0,baz=288,slow=9.1,SNR=3.5
ULN Ulaanbaatar 60.47 50 eP P 11 55 19.5 +0.9
ULN pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ULN Ulaanbaatar 60.47 50 eP P 11 55 19.5 +0.9
comp=Z,5.4nm,0.9s,mb4.6
TIXI Tiksi 60.68 20 eP P 11 55 20.2 +0.5
TIXI pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
SCHQ Schefferville 61.19 319 P P 11 55 23.1 -0.3
comp=Z,6.4nm,0.7s,mb4.9,baz=58,slow=5.5,SNR=13
SCHQ Schefferville 61.19 319 eP P 11 55 23.0 -0.3
comp=Z,7.9nm,0.7s,mb5.0
BOSA Boshof 64.62 178 P P 11 55 48.0 +1.5
BOSA pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
BOSA MLR MLR
comp=Z,126nm,18.4s,MS4.1
BOSA Boshof 64.62 178 P P 11 55 48.0 +1.5
comp=Z,0.6nm,0.3s,mb4.1,baz=345,slow=6.9,SNR=3.2
BOSA LR LR 12 26 29.7
comp=Z,126nm,18.4s,MS4.1,baz=250,slow=38
HHC Hu-ho-hao-te 66.41 56 eP P 11 56 02.5 +4.8
HHC AP pP 11 56 08.5 +4.9
HHC XP sP 11 56 11.2 +5.5
HHC AMB AMB
comp=Z,34nm,2.4s,mb5.0
KMI Kunming 67.66 75 P P 11 56 08.9 +3.0
KMI S S 12 05 04.5 +3.8
KMI AMB AMB
comp=Z,8.0nm,0.9s,mb4.8
CMAR Chiang Mai Arr 68.13 83 P P 11 56 08.1 -0.9
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 68.13 83 P P 11 56 08.1 -0.9
comp=Z,1.8nm,0.8s,mb4.2,baz=300,slow=7.3,SNR=3.3
CN2 Changchun 73.66 47 eP P 11 56 42.0 +0.1
INK Inuvik 74.22 351 LR LR 12 30 42.2
comp=Z,37nm,18.7s,MS3.7,baz=348,slow=37
YKA Yellowknife Ar 75.81 341 P P 11 56 53.3 -0.5
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA MLR MLR
comp=Z,47nm,20.2s
YKA Yellowknife Ar 75.81 341 P P 11 56 53.3 -0.5
comp=Z,0.8nm,0.6s,mb3.8,baz=31,slow=5.5,SNR=5.7
YKA LR LR 12 30 55.3
comp=Z,47nm,20.2s,MS3.8,slow=36
NJ2 Nanjing 75.99 61 eP P 11 57 01.5 +6.0
SSE Sheshan 78.17 60 P P 11 57 09.1 +1.5
SSE AMB AMB
comp=Z,23nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,81nm,7.0s
ULM Lac du Bonnet 78.38 325 LR LR 12 35 21.3
comp=Z,48nm,18.4s,MS3.9,baz=357,slow=38
ILAR Eielson Array 78.93 356 P P 11 57 12.0 +1.0
comp=Z,0.4nm,0.8s,mb3.4,baz=359,slow=5.9,SNR=5.0
ILAR LR LR 12 35 10.0
comp=Z,35nm,18.5s,MS3.7,baz=179,slow=38
YSS Yuzh-Sakhalins 81.05 37 P P 11 57 24.2 +1.4
DLBC Dease Lake 82.94 346 LR LR 12 34 22.4
comp=Z,57nm,20.6s,MS3.9,baz=295,slow=36
MJAR Matsushiro Arr 85.80 47 P P 11 57 48.0 +0.8
MJAR pmax pmax
comp=Z,2.0nm,0.7s
MJAR Matsushiro Arr 85.80 47 P P 11 57 48.0 +0.8
comp=Z,2.0nm,0.7s,mb4.5,baz=331,slow=3.0,SNR=5.8
NEW Newport 88.61 335 P P 11 58 01.1 +0.6
NEW pmax pmax
comp=Z,3.0nm,0.7s
NEW Newport 88.61 335 P P 11 58 01.1 +0.6
comp=Z,3.1nm,0.7s,mb4.8
BW06 Boulder Array 90.21 327 eP P 11 58 08.4 +0.2
comp=Z,0.7nm,0.5s,mb4.2
PDAR Pinedale Array 90.21 327 P P 11 58 10.3 +2.1
comp=Z,0.5nm,0.7s,mb4.0,baz=117,slow=3.3,SNR=4.8
PDAR LR LR 12 41 08.8
comp=Z,57nm,19.2s,MS4.0,baz=242,slow=37
TXAR Lajitas Array 97.71 315 LR LR 12 44 43.2
comp=Z,46nm,19.3s,MS4.0,baz=155,slow=37
WRA Warramunga Arr 118.41 95 PKP PKPdf 12 03 58.9 +0.3
comp=Z,0.4nm,0.6s,baz=316,slow=1.8,SNR=5.1

IDC 07 11:59:16.3±1.6, 4.60S×153.23E, mb3.8/5, mb1 4.0/5, mb1mx3.8/14, mbtmp3.8/5, Error ellipse: s-maj=53.4km s-min=34.4km az=103.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.25**	**201**	P	P	12 05 19.9	-2.4
	1.2nm,0.7s,baz=22,slow=7.2,SNR=3.0						
CMAR	**Chiang Mai Arr**	**58.18**	**295**	P	P	12 09 13.3	-1.5
	0.8nm,0.7s,baz=116,slow=6.1,SNR=4.8						
SONM	**Songino Array**	**66.38**	**328**	P	P	12 10 06.6	-2.6
	0.5nm,0.5s,baz=147,slow=5.3,SNR=4.1						
MKAR	**Makanchi Array**	**80.45**	**319**	P	P	12 11 29.8	-1.8
	0.2nm,0.3s,baz=91,slow=7.3,SNR=4.0						
ILAR	**Eielson Array**	**81.81**	**22**	P	P	12 11 37.2	-1.0
	0.6nm,0.7s,baz=250,slow=5.7,SNR=11						
BVAR	**Borovoye Array**	**89.33**	**323**	P	P	12 12 10.7	-5.2
	0.4nm,0.3s,baz=90,slow=5.8,SNR=3.8						

*IDC **07** 12:01:37.2±0.8, 29.62S×178.55W, h208km, 13km, mb3.3/3, mb1 3.5/3, mb1mx3.3/12, mbtmp3.8/3, Error ellipse: s-maj=47.7km s-min=31.4km az=38.0*

ISC 07 12:01:35.0±1.0, 30.57S±0.08×178.6W±0.2, h200km, n20, σ1§17/27, mb3.3/3, 1C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.43**	**24**	P	P	12 02 07.2	-1.2
	150nm,0.3s,baz=64,slow=20,SNR=6.9						
RAO				S	S	12 02 28.8	-5.4
	389nm,0.3s,baz=55,slow=22,SNR=9.2						
PUZ	**Puketiti**	**7.93**	**198**	PN	P	12 03 28.5	+0.4
PUZ				SN	S	12 05 02.3	+5.7
URZ	**Urewera**	**8.46**	**204**	P	P	12 03 41.2	+6.1
	1.6nm,0.3s,baz=325,slow=14,SNR=13						
URZ				S	S	12 05 16.3	+7.4
	13nm,0.3s,baz=293,slow=20,SNR=25						
URZ	**Urewera**	**8.46**	**204**	PN	P	12 03 36.4	+1.3
URZ				SN	S	12 05 16.2	+7.3
KNZ	**Kokohu**	**8.98**	**199**	SN	S	12 05 26.6	+5.7
PWZ	**Pawanui**	**10.15**	**200**	ePN	P	12 03 57.4	+0.5
BFZ	**Birch Farm**	**10.94**	**201**	PN	P	12 04 07.5	+0.5
BFZ				eSN	S	12 06 08.7	+2.3
MRZ	**Mangatainoka R**	**11.14**	**204**	eSN	S	12 06 11.1	0.0
KIW	**Kapiti Island**	**11.55**	**205**	ePN	P	12 04 14.5	-0.4
KIW				eSN	S	12 06 20.9	+0.2
TCW	**Tory Channel**	**12.10**	**207**	eSN	S	12 06 31.6	-1.6
TUWZ	**Tuamarina**	**12.41**	**207**	ePN	P	12 04 23.9	-1.9
TUWZ				eSN	S	12 06 40.8	+0.3
NNZ	**Nelson**	**12.46**	**209**	eSN	S	12 06 42.7	+1.0
KHZ	**Kahutara**	**13.41**	**206**	ePN	P	12 04 37.4	-1.0
KHZ				eSN	S	12 07 03.9	+0.6
LTZ	**Lake Taylor**	**14.22**	**208**	eSN	S	12 07 20.1	-1.4
MQZ	**McQueen's Vall**	**14.85**	**206**	eSN	S	12 07 33.7	-2.0
STKA	**Stephens Creek**	**33.96**	**257**	P	P	12 08 02.6	+1.4
	0.6nm,0.4s,mb3.5,baz=112,slow=13,SNR=4.0						
WRA	**Warramunga Arr**	**43.61**	**273**	P	P	12 09 21.2	0.0
	0.3nm,0.3s,mb3.1,baz=110,slow=8.1,SNR=10						
VNDA	**Vanda**	**47.88**	**186**	P	P	12 10 00.8	+6.7
	0.9nm,0.6s,mb3.3,baz=26,slow=8.9,SNR=5.5						
SYO	**Syowa Base**	**76.84**	**193**	⇑P	P	12 13 07.5	+1.9
FINES	**FINESS Array B**	**145.13**	**339**	PKP	PKPdf	12 20 46.5	-1.0
	0.8nm,0.3s,baz=45,slow=3.9,SNR=12						

IDC 07 12:31:06.0±3.1, 5.06N×93.96E, mb3.7/3, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=100.6km s-min=29.8km az=63.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.18**	**20**	Pn	P	12 34 30.2	-0.2
	0.1nm,0.3s,baz=210,slow=14,SNR=7.1						
MKAR	**Makanchi Array**	**42.78**	**348**	P	P	12 39 05.7	-1.3
	1.2nm,0.7s,baz=167,slow=7.8,SNR=9.3						
SONM	**Songino Array**	**43.93**	**12**	P	P	12 39 13.3	-3.0
	0.2nm,0.5s,baz=214,slow=5.2,SNR=2.8						
WRA	**Warramunga Arr**	**46.83**	**123**	P	P	12 39 38.0	-1.7
	0.9nm,0.7s,baz=302,slow=9.1,SNR=6.0						

PRE 07 13:07:27.7±1.9, 26.10S×29.33E, ML3.5, Explosion, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BFT	**Belfast (SA)**	**0.77**	**57**	eP	Pg	13 07 43.1	0.0
BFT				eS	Sg	13 07 52.5	-0.7
SLR	**Silverton**	**1.01**	**291**	eP	Pb	13 07 46.2	-1.5
SLR				eS	Sg	13 08 01.7	+0.4
SLR				AML	AML	13 08 08.6	
	comp=Z,493nm,0.7s						
NWL	**Newcastle**	**1.71**	**161**	eP	Pn	13 08 00.0	+1.1
NWL				eS	Sb	13 08 21.6	0.0
NWL				AML	AML	13 08 26.2	
	comp=Z,1μm,0.7s						
PRYS	**Parys**	**1.94**	**245**	eP	Pn	13 08 03.0	+0.7
PRYS				eS	Sn	13 08 28.3	+0.5
PRYS				AML	AML	13 08 29.4	
	comp=Z,337nm,0.8s						
KSR	**Koster**	**2.20**	**276**	eP	Pn	13 07 46.0	-20
KSR				eS	Sn	13 08 12.6	-22
KSR				AML	AML	13 08 16.5	
	comp=Z,313nm,0.5s						
POGA	**Pongola**	**2.40**	**122**	eS	Sn	13 08 40.5	+1.0
POGA				AML	AML	13 08 54.7	
	comp=Z,112nm,0.4s						
SEK	**Senekal**	**2.68**	**214**	eS	Sn	13 08 45.8	-0.7
SEK				AML	AML	13 08 58.4	
	comp=Z,148nm,0.4s						
SWZ	**Schweizer**	**3.73**	**252**	eP	Pn	13 08 27.4	-0.4
SWZ				eS	Sn	13 09 11.6	-1.5
SWZ				AML	AML	13 09 23.4	
	comp=Z,382nm,0.6s						
BOSA	**Boshof**	**4.40**	**234**	eP	Pn	13 08 36.0	-1.3
BOSA				eS	Sn	13 09 26.0	-4.0
PKA	**Prieska**	**6.81**	**237**	eP	Pb	13 10 30.9	+64
PKA				eS	Sn	13 10 45.1	+15
PKA				AML	AML	13 10 51.5	
	comp=Z,33nm,0.8s						

*IDC **07** 13:13:22.8±0.7, 4.29N×84.73E, mb4.0/14, mb1 4.0/15, mb1mx4.0/22, mbtmp3.9/15, ML3.4/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/14, Error ellipse: s-maj=20.2km s-min=18.9km az=55.0*

*NEIC **07** 13:13:24.0±0.5, 4.19N×84.78E, h10km, mb4.6/7, Error ellipse: s-maj=14.5km s-min=10.9km az=220.0*

ISC 07 13:13:21.9±0.5, 4.32N±0.08×84.59E±0.07, h10km, n37, σ1§34/39, mb4.1/20, MS3.5/4, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**4.86**	**307**	ePn	**Pn**	**13 14 42.5**	**+5.7**
	387nm,0.4s						
PALK				eSn	**Sn**	**13 15 20.7**	**-13**
TRD	**Trivandrum**	**8.65**	**299**	*i* P	**P**	**13 15 33.4**	**+3.3**
TRD				eS	**Sn**	**13 17 06.4**	**-2.4**
TRD				AML	AML	13 17 10.1	
	comp=N,698nm,0.4s						
TRD				AML	AML	13 17 10.4	
	comp=E,461nm,0.1s						
MDRS	**Chennai**	**9.70**	**334**	eS	**Sn**	**13 17 26.2**	**-8.5**
MDRS				AML	AML	13 17 31.1	
	comp=N,1μm,0.2s						
MDRS				AML	AML	13 17 31.1	
	comp=E,818nm,0.3s						
VIS	**Vishakhapatnam**	**13.38**	**355**	eP	**P**	**13 16 32.5**	**-1.9**
VIS				e		13 18 47.2	
HYB	**Hyderabad**	**14.30**	**336**	eP	**P**	**13 16 45.0**	**-1.8**
HYB				eS	**S**	**13 19 11.0**	**-15**
HYB	**Hyderabad**	**14.30**	**336**	*i* P	**P**	**13 16 45.0**	**-1.8**
HYB				e		13 19 11.0	
HYB				eS	**S**	**13 19 18.0**	**-8.4**
LATR	**Latur**	**16.07**	**331**	*e*	**S**	**13 19 53.6**	**-14**
KAD	**Karad**	**16.46**	**322**	*e*	**S**	**13 20 06.2**	**-11**
DGAR	**Diego Garcia**	**16.81**	**226**	eP	**P**	**13 17 15.2**	**-3.9**
	comp=E,120nm,0.7s						
POO	**Poona**	**17.60**	**324**	*e*	**S**	**13 20 29.6**	**-14**
BLSP	**Bilaspur**	**17.87**	**353**	*e*	**S**	**13 20 34.9**	**-14**
CMAR	**Chiang Mai Arr**	**19.86**	**44**	P	**P**	**13 17 56.9**	**+0.7**
	comp=E,0.0nm,0.3s,baz=243,slow=14,SNR=2.6						
BHPL	**Bhopal**	**20.05**	**340**	*e*	**S**	**13 21 21.2**	**-17**
BHPL				e		13 21 29.0	
MKAR	**Makanchi Array**	**42.36**	**358**	P	**P**	**13 21 19.3**	**+1.4**
	comp=E,0.8nm,0.6s,mb3.5,baz=193,slow=9.6,SNR=6.6						
MKAR	**Makanchi Array**	**42.36**	**358**	P	**P**	**13 21 19.3**	**+1.4**
FITZ	**Fitzroy Crossi**	**46.19**	**120**	P	**P**	**13 21 48.5**	**-0.6**
	comp=E,3.2nm,0.7s,mb4.3,baz=244,slow=3.2,SNR=6.8						
SONM	**Songino Array**	**47.23**	**20**	P	**P**	**13 21 58.0**	**+1.0**
	comp=E,1.0nm,0.7s,mb3.8,baz=85,slow=8.5,SNR=6.1						
KMBO	**Kilima Mbogo**	**47.61**	**265**	P	**P**	**13 22 03.7**	**+3.3**
	comp=E,1.9nm,0.8s,mb4.2,baz=61,slow=20,SNR=3.8						
KMBO				LR	LR	13 38 19.0	
	comp=E,58nm,19.5s,MS3.6,baz=92,slow=31						
ZAL	**Zalesovo**	**49.47**	**0**	P	**P**	**13 22 15.2**	**+0.9**
	comp=E,1.6nm,0.5s,mb4.3,baz=324,slow=4.3,SNR=6.8						
BVAR	**Borovoye Array**	**49.95**	**349**	P	**P**	**13 22 18.8**	**+0.9**
	comp=E,0.3nm,0.5s,mb3.6,baz=135,slow=8.4,SNR=3.6						
ZRNK	**Zerenda**	**50.16**	**348**	eP	**P**	**13 22 19.7**	**+0.2**
	comp=E,1.3nm,0.6s,mb4.1						
MALT	**Malatya**	**53.88**	**315**	P	**P**	**13 22 51.3**	**+3.6**
	comp=E,5.2nm,1.2s,mb4.3						
WRA	**Warramunga Arr**	**54.49**	**118**	P	**P**	**13 22 51.3**	**-1.1**
	comp=E,1.7nm,0.8s,mb4.0,baz=295,slow=7.9,SNR=12						
WRAB	**Tennant Creek**	**54.50**	**118**	eP	**P**	**13 22 50.9**	**-1.5**
	comp=E,5.7nm,0.9s,mb4.5						
BRTR	**Keskin Array B**	**57.86**	**315**	P	**P**	**13 23 17.1**	**+0.8**
	comp=E,0.5nm,0.5s,mb3.9,baz=135,slow=5.7,SNR=4.4						
MATP	**Matopo**	**60.28**	**244**	P	**P**	**13 23 35.1**	**+1.7**
	comp=E,0.8nm,0.6s,mb3.9,baz=77,slow=7.2,SNR=6.5						
PMG	**Port Moresby**	**63.82**	**103**	eP	**P**	**13 23 54.6**	**-2.6**
	comp=E,16nm,0.7s,mb5.2						
STKA	**Stephens Creek**	**64.99**	**128**	LR	LR	13 48 36.6	
	comp=E,81nm,20.7s,MS3.9,baz=6.5,slow=33						
AKASG	**Malin Array Be**	**65.29**	**325**	P	**P**	**13 24 06.8**	**+0.6**
	comp=E,1.9nm,0.6s,mb4.3,baz=103,slow=4.8,SNR=9.0						
BOSA	**Boshof**	**65.70**	**236**	P	**P**	**13 24 10.6**	**+1.3**
	comp=E,1.9nm,0.7s,mb4.2,baz=108,slow=9.6,SNR=3.4						
BOSA	**Boshof**	**65.70**	**236**	P	**P**	**13 24 07.9**	**-1.3**
FINES	**FINESS Array B**	**71.59**	**334**	P	**P**	**13 24 45.5**	**+0.4**
	comp=E,0.9nm,0.5s,mb4.0,baz=128,slow=5.3,SNR=7.4						
KAF	**Kangasniemi**	**71.79**	**335**	*ep*	**P**	**13 24 46.1**	**-0.3**
	comp=E,1.8nm,0.7s,mb4.1,baz=115,slow=5.5						
CASY	**Casey**	**72.88**	**169**	*eP*	**P**	**13 24 52.2**	**-0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,7.6nm,1.3s,mb4.5						
GERES	**GERESS Array B**	**74.23**	**320**	P	**P**	**13 25 01.8**	**+0.9**
	comp=E,0.3nm,0.2s,mb3.8,baz=124,slow=4.8,SNR=5.6						
GERES				LR	LR	14 02 41.7	
	comp=E,16nm,18.6s,MS3.3,baz=59,slow=40						
ARCES	**ARCESS Array B**	**75.51**	**342**	P	**P**	**13 25 08.8**	**+0.9**
	comp=E,1.1nm,0.7s,mb3.9,baz=104,slow=5.0,SNR=6.2						
NOA	**NORSAR Array B**	**78.22**	**332**	LR	LR	14 02 22.1	
	comp=E,11nm,18.1s,MS3.2,slow=38						

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*NEIC **07** 13:30:56.0, 41.26N×19.75E, h10^{km}, MD3.5(ATH), MD3.2(PDG), After PDG.*
*PDG **07** 13:30:56.0±0.2, 41.26N×19.75E, h10^{km}±1^{km}*
*THE **07** 13:30:56.3, 41.29N×19.59E, h10^{km}, ML3.2*
*TIR **07** 13:30:56.0, 41.35N×19.77E, h19^{km}, Ml2.9*
*CSEM **07** 13:30:59.2±0.1, 41.37N×19.89E, h2^{km}, MD3.5, Error ellipse: s-maj=2.3km s-min=1.1km az=57.0*
*ATH **07** 13:31:05.2, 40.99N×19.84E, h41^{km}±28^{km}, MD3.5/3*
ISC 07 13:30:56.9±0.4**, 41.27N**±0.02×**19.71E**±0.03**, h2^{km}, n32, σ1^{s}43**/57**, 10C, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.14**	**56**	*i* Pg	**Pg**	**13 30 59.0**	**-0.7**
TIR				*i* Sg	**Sg**	**13 31 01.4**	**-0.2**
PRZA	**Preza**	**0.16**	**350**	*i* Pg	**Pg**	**13 31 00.0**	**-0.2**
PRZA				*i* Sg	**Sg**	**13 31 07.0**	**+4.7**
QSH	**Qafa e Shtames**	**0.29**	**30**	*i* Pg	**Pg**	**13 31 02.8**	**+0.1**
QSH				*i* Sg	**Sg**	**13 31 05.2**	**-1.4**
PHP	**Peshkopia**	**0.69**	**53**	*i* Pg	**Pg**	**13 31 08.0**	**-2.7**
PHP				*i* Sg	**Sg**	**13 31 18.8**	**-1.1**
ULC	**Ulcinj**	**0.77**	**334**	⇑*i*Pg	**Pg**	**13 31 10.4**	**-1.9**
ULC				*e*Sg	**Sg**	**13 31 23.3**	**+0.6**
OHR	**Ohrid**	**0.84**	**101**	⇑*i*Pg	**Pg**	**13 31 12.2**	**-1.4**
OHR				*i* Sg	**Sg**	**13 31 23.1**	**-1.7**
OHR				*i*		13 31 25.5	
KBN	**Korca**	**1.04**	**128**	*i* Pg	**Pg**	**13 31 18.5**	**+0.8**
KBN				*i* Sg	**Sg**	**13 31 40.0**	**+8.4**
BUM	**Brajici-Budva**	**1.20**	**330**	⇑*i*Pg	**Pg**	**13 31 18.5**	**-2.3**
BUM				*e*Sg	**Sg**	**13 31 38.0**	**+1.3**
TTG	**Podgorica**	**1.21**	**344**	⇑*i*Pg	**Pg**	**13 31 18.7**	**-2.3**
TTG				*e*Sg	**Sg**	**13 31 38.0**	**+1.0**
PVY	**Plav**	**1.34**	**8**	⇑*i*Pg	**Pg**	**13 31 20.2**	**-3.5**
PVY				*e*Sg	**Sg**	**13 31 41.7**	**+0.2**
FNA	**Florina**	**1.35**	**110**	*e*Pg	**Pg**	**13 31 22.7**	**-1.2**
FNA				*e*Sg	**Sg**	**13 31 43.3**	**+1.4**
SKO	**Skopje**	**1.48**	**61**	*i* Pn	**Pn**	**13 31 24.5**	**-0.1**
SKO				*i* Sn	**Sn**	**13 31 43.3**	**-1.4**
SKO				Lg		13 31 46.5	
	comp=Z,0.1nm,0.5s						
HCY	**Herceg Novi**	**1.48**	**323**	⇑*i*Pg	**Pg**	**13 31 23.6**	**-2.9**
HCY				*e*Sg	**Sg**	**13 31 46.7**	**+0.4**
KEK	**Kerkira**	**1.56**	**177**	*e*P	**Pn**	**13 31 28.0**	**+2.3**
KEK				*e*S	**Sb**	**13 31 44.7**	**-1.5**
KEK	**Kerkira**	**1.56**	**177**	*e*Pn	**Pn**	**13 31 28.0**	**+2.3**
KEK				*e*Sn	**Sn**	**13 31 45.5**	**-1.2**
IVA	**Berane**	**1.61**	**5**	⇑*i*Pn	**Pn**	**13 31 25.3**	**-1.1**
IVA				*e*Sn	**Sn**	**13 31 50.3**	**+2.3**
NKY	**Niksic**	**1.63**	**341**	⇑*i*Pn	**Pn**	**13 31 26.6**	**-0.2**
NKY				*e*Sn	**Sn**	**13 31 51.8**	**+3.2**
JAN	**Janina**	**1.83**	**151**	*e*P	**Pn**	**13 31 32.1**	**+2.4**
KZN	**Kozani**	**1.84**	**121**	*e*P	**Pn**	**13 31 33.0**	**+3.2**
BRY	**Bratogost**	**1.85**	**332**	⇑*i*Pn	**Pn**	**13 31 29.9**	**0.0**
BRY				*e*Sn	**Sn**	**13 31 57.4**	**+3.3**
UPM	**Unac-Piva**	**2.02**	**343**	*e*Pn	**Pn**	**13 31 32.5**	**+0.2**
UPM				*e*Sn	**Sn**	**13 32 01.3**	**+2.7**
GRG	**Griva**	**2.06**	**98**	*e*Pn	**Pn**	**13 31 32.6**	**-0.3**
GRG				*e*Sn	**Sn**	**13 32 01.6**	**+2.1**
PLE	**Pljevlja**	**2.07**	**354**	*e*Pn	**Pn**	**13 31 33.3**	**+0.2**
PLE				*e*Sn	**Sn**	**13 32 02.6**	**+2.8**
STON	**Ston**	**2.19**	**318**	*i* Pn	**Pn**	**13 31 33.3**	**-1.5**
STON				*i* Sn	**Sn**	**13 32 00.5**	**-2.3**
KNT	**Kendrikon**	**2.41**	**92**	*e*Pn	**Pn**	**13 31 37.4**	**-0.5**
KNT				*e*Sn	**Sn**	**13 32 09.9**	**+1.5**
LIT	**Litokhoron**	**2.42**	**118**	*e*Pn	**Pn**	**13 31 38.1**	**0.0**
LIT				*e*Sn	**Sn**	**13 32 10.2**	**+1.6**
THE	**Thessaloniki**	**2.55**	**103**	*e*Pn	**Pn**	**13 31 39.7**	**-0.2**
LKD	**Levkas**	**2.66**	**164**	*e*Pn	**Pn**	**13 31 40.7**	**-0.8**
SOH	**Sokhos**	**2.79**	**98**	*e*Pn	**Pn**	**13 31 43.5**	**0.0**
SOH				*e*Sn	**Sn**	**13 32 19.5**	**+1.3**
DIVS	**Divcibare**	**2.83**	**4**	⇑*i*Pn	**Pn**	**13 31 44.5**	**+0.5**
EVR	**Evrytania**	**2.85**	**145**	*e*P	**Pn**	**13 31 46.1**	**+1.9**
XOR	**Xorichti**	**3.27**	**124**	*e*Pn	**Pn**	**13 31 49.6**	**-0.6**

IDC 07 14:10:34.6±2.3**, 0.73N**×**96.95E, mb3.9**/5**, mb1 4.0**/6**, mb1mx3.7**/18**, mbtmp3.9**/6**, ML4.1**/1**, Error ellipse: s-maj=91.8km s-min=26.7km az=58.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.73**	**6**	P	P	14 14 43.1	-1.5
	0.2nm,0.3s,baz=196,slow=11,SNR=8.9						
WRA	**Warramunga Arr**	**42.00**	**121**	P	P	14 18 27.8	-1.7
	1.1nm,0.6s,baz=300,slow=9.0,SNR=7.0						
SONM	**Songino Array**	**47.63**	**9**	P	P	14 19 12.2	-2.2
	0.6nm,0.6s,baz=188,slow=10,SNR=5.0						
SONM				PcP	PcP	14 20 42.3	-2.1
	0.2nm,0.4s,baz=202,slow=3.4,SNR=3.6						
MKAR	**Makanchi Array**	**47.64**	**346**	P	P	14 19 12.5	-2.0
	1.2nm,0.6s,baz=160,slow=8.3,SNR=13						
ZAL	**Zalesovo**	**53.98**	**351**	P	P	14 20 00.3	-2.1
	2.1nm,0.6s,baz=292,slow=6.5,SNR=10						
ARCES	**ARCESS Array B**	**82.90**	**340**	P	P	14 23 00.5	-1.7
	0.4nm,0.6s,baz=104,slow=5.0,SNR=3.8						

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*SNSN **07** 14:45:55.8, 29.02N×34.70E, h24^{km}, Ml3.5*
*GII **07** 14:45:55.3±0.3, 28.99N×34.71E, h15^{km}±2^{km}, ML3.7/5, Mw3.5/5*
*CSEM **07** 14:45:55.5±0.1, 29.00N×34.76E, h15^{km}, Mw3.5, Error ellipse: s-maj=4.3km s-min=1.5km az=75.0*
ISC 07 14:45:55.5±1.1**, 28.98N**±0.04×**34.7E**±0.1**, h28^{km}**±6^{km}**, n23, σ0^{s}54**/28**, 2D, Egypt**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HAQS	**Haql**	**0.23**	**71**	P	**Pb**	**14 46 01.6**	**-0.1**
JMOS	**Jabal al Moall**	**0.41**	**63**	P	**Pb**	**14 46 04.1**	**-0.3**
TAYS	**Tayyib Ism**	**0.46**	**159**	P	**Pb**	**14 46 06.0**	**+1.0**
ALWS	**Ilw as Safayha**	**0.47**	**45**	P	**Pb**	**14 46 04.9**	**-0.3**
BDAS	**Al Bad'**	**0.66**	**146**	P	**Pb**	**14 46 08.9**	**+0.6**
EIL	**Elat**	**0.72**	**18**	Pg	**Pb**	**14 46 09.1**	**-0.3**
EIL	**Elat**	**0.72**	**18**	⇓Pg	**Pb**	**14 46 09.1**	**-0.3**
AQBJ	**Aqaba**	**0.81**	**23**	Pg	**Pb**	**14 46 10.3**	**-0.6**
MBH	**Mount Berech**	**0.83**	**14**	Pg	**Pb**	**14 46 11.0**	**-0.2**
JMQS	**Jabal Moqyreh**	**1.05**	**95**	P	**Pn**	**14 46 14.7**	**+0.2**
HRFI	**Mount Harif**	**1.09**	**16**	Pg	**Pn**	**14 46 15.0**	**-0.1**
HRFI				Sg	**Sb**	**14 46 30.0**	**+0.4**
KMTI	**Karmit**	**1.12**	**2**	Pg	**Pn**	**14 46 15.9**	**+0.4**
KMTI				Sg	**Sb**	**14 46 30.7**	**+0.4**
KMTI	**Karmit**	**1.12**	**2**	⇓Pg	**Pn**	**14 46 15.9**	**+0.4**
KMTI				Sg	**Sb**	**14 46 30.7**	**+0.4**
PRNI	**Paran**	**1.39**	**11**	Pn	**Pn**	**14 46 19.5**	**+0.1**
PRNI				Sn	**Sn**	**14 46 38.2**	**+1.2**
ZFRI	**Zfri**	**1.62**	**15**	Pn	**Pn**	**14 46 22.8**	**+0.1**
TBKS	**Tabuk**	**1.80**	**114**	P	**Pn**	**14 46 25.7**	**+0.5**
KZIT	**Kziot**	**1.94**	**353**	Pn	**Pn**	**14 46 27.1**	**-0.1**
KZIT				Sn	**Sn**	**14 46 51.4**	**+0.7**
MASH	**Mash'abbe Sade**	**2.01**	**2**	Pn	**Pn**	**14 46 28.1**	**-0.2**
RTMM	**Retamin**	**2.06**	**360**	Pn	**Pn**	**14 46 28.4**	**-0.5**
MZDA	**Masada**	**2.39**	**14**	Pn	**Pn**	**14 46 32.9**	**-0.8**
DSI	**Dead Sea**	**2.65**	**13**	Pn	**Pn**	**14 46 36.8**	**-0.5**
MKRJ	**Makawir**	**2.69**	**18**	Pn	**Pn**	**14 46 37.4**	**-0.5**
UMJS	**Umm Lajj**	**4.40**	**147**	P	**Pn**	**14 47 01.4**	**-0.9**

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*NEIC **07** 14:47:22.5±1.1, 51.48N×178.61E, h67^{km}±8^{km}, mb4.0/2, Error ellipse: s-maj=22.7km s-min=8.3km az=183.0*
*IDC **07** 14:47:23.5±3.7, 51.67N×178.48E, h71^{km}±28^{km}, mb3.3/9, mb1 3.6/10, mb1mx3.4/25, mbtmp3.6/10, Error ellipse: s-maj=50.8km s-min=14.8km az=180.0*
ISC 07 14:47:21.2±1.0**, 51.6N**±0.2×**178.58E**±0.07**, h70^{km}**±8^{km}**, n28, σ0^{s}94**/30**, mb3.7**/11**, Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.61**	**85**	P	**P**	**14 48 02.4**	**+0.3**
KIKV	**Kanaga Island**	**2.66**	**83**	P	**P**	**14 48 03.3**	**+0.6**
KINC	**Kanaga Island**	**2.69**	**82**	P	**P**	**14 48 03.7**	**+0.6**
ADAG	**Mount Adagdak**	**3.02**	**81**	P	**P**	**14 48 07.7**	**0.0**
GSSP	**Great Sitkin S**	**3.29**	**80**	P	**P**	**14 48 11.5**	**0.0**
GSMY	**Great Sitkin M**	**3.36**	**81**	P	**P**	**14 48 12.3**	**-0.1**
GSTR	**Great Sitkin T**	**3.36**	**80**	P	**P**	**14 48 12.5**	**0.0**
FX1	**Attu Island--F**	**3.56**	**293**	P	**P**	**14 48 14.8**	**-0.5**
	6.2nm,0.3s,baz=155,slow=16,SNR=36						
FX1				S	**S**	**14 48 55.9**	**-0.5**
	36nm,0.3s,baz=290,slow=20,SNR=11						
FX1	**Attu Island--F**	**3.56**	**293**	P	**P**	**14 48 16.9**	**+1.5**
ATKA	**Atka Island**	**4.51**	**80**	P	**P**	**14 48 28.3**	**-0.3**
ATKA				S	**S**	**14 49 19.8**	**-0.5**
SPIA	**Saint Paul Isl**	**8.57**	**45**	P	**P**	**14 49 27.3**	**+2.7**
DOL	**Dolgoi Island**	**12.19**	**66**	P	**P**	**14 50 13.1**	**-0.5**
HAG	**Hague Volcano**	**12.20**	**65**	P	**P**	**14 50 11.9**	**-1.7**
PVV	**Pavlof Volcano**	**12.27**	**64**	P	**P**	**14 50 14.3**	**-0.3**
SDPT	**Sand Point**	**13.01**	**65**	P	**P**	**14 50 22.8**	**-1.6**
SPU	**Mount Spurr**	**18.70**	**48**	P	**P**	**14 51 36.3**	**+0.3**
ILAR	**Eielson Array**	**22.10**	**40**	P	**P**	**14 52 12.9**	**+1.5**
	0.8nm,0.5s,mb3.3,baz=230,slow=8.1,SNR=9.5						
YKA	**Yellowknife Ar**	**36.25**	**46**	P	**P**	**14 54 18.8**	**0.0**
	0.9nm,0.7s,mb3.8,baz=286,slow=7.9,SNR=2.7						
SONM	**Songino Array**	**45.07**	**295**	P	**P**	**14 55 32.2**	**+0.8**
	0.5nm,0.7s,mb3.4,baz=72,slow=7.8,SNR=4.5						
NVAR	**Mina Array Bea**	**45.14**	**81**	P	**P**	**14 55 34.4**	**+2.3**
	0.6nm,0.6s,mb3.5,baz=300,slow=7.3,SNR=5.0						
NVAR				pP	pP	14 55 48.2	-1.4
	0.2nm,0.4s,baz=296,slow=6.1,SNR=3.8						
NVAR	**Mina Array Bea**	**45.14**	**81**	P	**P**	**14 55 34.4**	**+2.3**
NVAR				pP	pP	14 55 48.2	-1.4
PDAR	**Pinedale Array**	**47.79**	**71**	P	**P**	**14 55 52.1**	**-0.8**
	0.6nm,0.5s,mb3.7,baz=337,slow=3.3,SNR=6.4						
ANMO	**Albuquerque**	**54.64**	**77**	P	**P**	**14 56 43.9**	**-0.8**
	0.8nm,0.4s,mb4.1						
MNTX	**Cornudas Mount**	**57.52**	**79**	P	**P**	**14 57 05.1**	**-0.3**
	0.5nm,0.5s,mb3.8						
MKAR	**Makanchi Array**	**58.59**	**307**	P	**P**	**14 57 11.3**	**-1.3**
	0.3nm,0.4s,mb3.7,baz=54,slow=7.6,SNR=4.7						
BVAR	**Borovoye Array**	**59.63**	**318**	P	**P**	**14 57 19.5**	**-0.2**
	0.7nm,0.4s,mb4.1,baz=50,slow=6.9,SNR=7.4						
TXAR	**Lajitas Array**	**60.23**	**79**	P	**P**	**14 57 25.4**	**+1.3**
	0.4nm,0.7s,mb3.6,baz=281,slow=4.6,SNR=2.9						
TXAR				pP	pP	14 57 39.4	-3.1
	0.4nm,0.5s,baz=300,slow=4.1,SNR=5.3						
CMAR	**Chiang Mai Arr**	**69.36**	**274**	P	**P**	**14 58 22.9**	**-0.4**
	0.7nm,0.6s,mb3.6,baz=28,slow=7.0,SNR=4.3						

IDC 07 14:50:11.9±3.9**, 10.98N**×**91.66E, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.5**/19**, mbtmp3.7**/3**, Error ellipse: s-maj=141.3km s-min=29.1km az=64.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**36.57**	**349**	P	P	14 57 19.4	-1.9
	0.7nm,0.6s,baz=163,slow=7.5,SNR=7.0						
SONM	**Songino Array**	**38.77**	**16**	P	P	14 57 38.2	-1.6
	0.7nm,0.5s,baz=209,slow=7.5,SNR=7.7						
WRA	**Warramunga Arr**	**52.05**	**126**	P	P	14 59 23.7	-2.2
	0.6nm,0.4s,baz=308,slow=8.0,SNR=8.4						

MAN 07 15:07:15.6, 12.33N×**123.87E, h36^{km}, mb4.3, ML3.1, MS2.8, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.80**	**77**	*e*P	P	15 07 30.3	-0.1
CNP				*e*S	S	15 07 42.5	+1.3
PVCP	**Virac**	**1.29**	**12**	*e*P	P	15 07 37.2	-0.1
AUQP	**San Andres**	**1.53**	**310**	*e*P	P	15 07 41.7	+0.9
PLP	**Palo**	**1.59**	**137**	*e*P	P	15 07 41.9	+0.1
PLP				*e*S	S	15 08 05.4	+4.1
BESP	**Borongan**	**1.70**	**115**	*e*P	P	15 07 43.8	+0.5
GUIM	**Jordan**	**2.11**	**217**	*e*P	P	15 07 49.6	+0.5
CUYO	**Cuyo Island**	**3.16**	**243**	*e*P	P	15 08 03.6	-0.5

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*BJI **07** 15:10:31.3, 4.81S×144.32E, h107^{km}, mB5.2, mb4.9*
*NEIC **07** 15:10:39.1±0.5, 4.25S×143.55E, mb4.7/19, Error ellipse: s-maj=13.1km s-min=6.7km az=82.0*
*IDC **07** 15:10:39.1±0.8, 4.21S×143.67E, h110^{km}±6^{km}, mb4.0/10, mb1 4.2/13, mb1mx4.1/17, mbtmp4.4/13, MS3.5/3, Ms1 3.5/3, ms1mx3.1/19, Error ellipse: s-maj=22.4km s-min=11.3km az=73.0*
ISC 07 15:10:36.4±1.8**, 4.22S**±0.06×**143.51E**±0.08**, h94^{km}**±18^{km}**, h105^{km}**±2.8^{km}**:pP-P, n49, σ0^{s}79**/50**, mb4.5**/24**, 1C-2D, New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.30**	**145**	P	**P**	**15 12 08.5**	**+0.2**
	10nm,0.3s,baz=11,slow=5.0,SNR=34						
PMG				S	**S**	**15 13 20.3**	**+0.9**
	4.5nm,0.3s,baz=287,slow=22,SNR=2.0						
PMG	**Port Moresby**	**6.30**	**145**	*e*Pn	**P**	**15 12 08.2**	**0.0**
	130nm,1.0s						
PMG				*e*Sn	**S**	**15 13 19.3**	**-0.1**
KAKA	**Kakadu**	**13.82**	**232**	*e*P	**P**	**15 13 49.1**	**-0.3**
	19nm,0.4s						
CTA	**Charters Tower**	**16.00**	**171**	*e*P	**P**	**15 14 19.5**	**+2.3**
	6.6nm,0.7s						
CTA	**Charters Tower**	**16.00**	**171**	P	**P**	**15 14 18.1**	**+0.9**
	0.5nm,0.3s,baz=356,slow=11,SNR=8.1						
CTA				LR	LR	15 19 29.1	
	comp=Z,112nm,21.0s,baz=44,slow=33						
CTAO	**Charters Tower**	**16.00**	**171**	*e*P	**P**	**15 14 18.0**	**+0.8**
	18nm,1.0s						
WRAB	**Tennant Creek**	**17.99**	**209**	*e*P	**P**	**15 14 41.5**	**-0.3**
	36nm,0.6s						
WRAB				*e*S	**S**	**15 18 08.8**	**+13**
WB2	**Warramunga Arr**	**18.00**	**209**	*e*P	**P**	**15 14 41.6**	**-0.4**
WRA	**Warramunga Arr**	**18.01**	**209**	P	**P**	**15 14 42.3**	**+0.2**
	3.7nm,0.3s,baz=31,slow=11,SNR=144						
FITZ	**Fitzroy Crossi**	**22.28**	**230**	⇓*i*P	**P**	**15 15 26.2**	**-0.5**
	15nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**22.28**	**230**	P	**P**	**15 15 26.9**	**+0.2**
	15nm,0.4s,mb4.7,baz=38,slow=5.6,SNR=53						
STKA	**Stephens Creek**	**27.57**	**184**	⇑*i*P	**P**	**15 16 16.2**	**-0.6**
	5.2nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**27.57**	**184**	P	**P**	**15 16 16.3**	**-0.5**
	6.5nm,0.7s,mb4.2,baz=340,slow=8.8,SNR=20						
MBWA	**Marble Bar**	**28.59**	**232**	*e*P	**P**	**15 16 23.9**	**-2.1**
	18nm,1.4s,mb4.5						
KKM	**Kota Kinabalu**	**29.10**	**290**	*e*P	**P**	**15 16 29.9**	**-0.8**
KLBR	**Kellerberrin**	**36.43**	**219**	*e*P	**P**	**15 17 33.2**	**-0.7**
	7.2nm,0.7s,mb4.7						
MUN	**Mundaring**	**37.66**	**220**	*e*P	**P**	**15 17 44.5**	**+0.3**
	15nm,1.5s,mb4.6						
NWAO	**Narrogin (SRO)**	**37.66**	**218**	*e*P	**P**	**15 17 44.8**	**+0.6**
TAU	**Tasmania Unive**	**38.68**	**176**	*e*P	**P**	**15 17 51.9**	**-0.6**
QIZ	**Qiongzhong**	**40.40**	**306**	*e*P	**P**	**15 18 06.2**	**-0.8**
MJAR	**Matsushiro Arr**	**40.85**	**353**	P	**P**	**15 18 09.8**	**-0.7**
	1.9nm,0.7s,mb4.0,baz=172,slow=7.5,SNR=6.4						
MJAR				LR	LR	15 33 29.4	
	comp=Z,43nm,19.6s,baz=260,slow=34						
MJAR	**Matsushiro Arr**	**40.85**	**353**	P	**P**	**15 18 09.8**	**-0.7**
MJAR				LR	LR	15 33 29.4	
MAJO	**Matsushiro**	**40.85**	**353**	*e*P	**P**	**15 18 09.4**	**-1.1**
	11nm,1.0s,mb4.6						
KULM	**Kulim**	**43.84**	**282**	*e*P	**P**	**15 18 34.7**	**-0.7**
KS15	**Wonju Array Si**	**43.93**	**342**	P	**P**	**15 18 35.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**49.35**	**299**	P	**P**	**15 19 19.7**	**+1.1**
	2.4nm,0.7s,mb4.3,baz=121,slow=6.2,SNR=17						
CMAR				pP	pP	15 19 45.4	+4.2
	1.6nm,0.7s,baz=125,slow=6.3,SNR=4.0						
MDJ	**Mudanjiang**	**50.19**	**347**	P	**P**	**15 19 24.5**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,58nm,3.8s						
HIA	**Hailar**	**57.13**	**342**	P	**P**	**15 20 15.6**	**0.0**
	comp=Z,6.4nm,0.9s,mb4.7						
GTA	**Gaotai**	**59.17**	**321**	*e*P	**P**	**15 20 30.7**	**+0.8**
GTA				AP	pP	15 20 54.0	+0.7
GTA				XP	sP	15 21 06.5	+2.6
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.6						
GTA				AMB	AMB		
	comp=Z,37nm,7.6s						
LSA	**Lhasa**	**60.40**	**308**	*e*P	**P**	**15 20 40.2**	**+1.7**
	comp=Z,6.0nm,0.9s,mb4.6						
ULN	**Ulaanbaatar**	**60.91**	**333**	P	**P**	**15 20 37.1**	**-4.6**
	comp=Z,3.2nm,1.1s,mb4.3						
SONM	**Songino Array**	**61.20**	**332**	P	**P**	**15 20 44.2**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.7,baz=158,slow=6.7,SNR=5.2						
SONM				pP	pP	15 21 10.1	+3.0
	comp=Z,0.5nm,0.6s,baz=154,slow=8.5,SNR=2.6						
GUN	**Gumba**	**63.99**	**304**	*e*P	**P**	**15 21 04.0**	**+1.5**
PKI	**Pulchoki**	**64.27**	**303**	*e*P	**P**	**15 21 04.7**	**+0.4**
	comp=Z,14nm,1.1s,mb4.7						
KKN	**Kakani**	**64.45**	**303**	*e*P	**P**	**15 21 06.1**	**+0.6**
	comp=Z,24nm,0.8s,mb5.1						
DMN	**Daman**	**64.53**	**303**	*e*P	**P**	**15 21 05.9**	**-0.1**
	comp=Z,16nm,0.6s,mb5.1						
GKN	**Gorkha**	**65.06**	**303**	*e*P	**P**	**15 21 10.1**	**+0.7**
	comp=Z,29nm,0.5s,mb5.4						
KOLN	**Koldanda**	**65.85**	**303**	*e*P	**P**	**15 21 15.2**	**+0.7**
	comp=Z,15nm,0.6s,mb5.0						
WMQ	**Urumqi**	**69.20**	**320**	*e*P	**P**	**15 21 35.2**	**+0.1**
VNDA	**Vanda**	**73.90**	**176**	*e*P	**P**	**15 22 01.8**	**-0.7**
MKAR	**Makanchi Array**	**73.93**	**321**	P	**P**	**15 22 03.3**	**+0.1**
	comp=Z,1.1nm,0.5s,mb3.9,baz=101,slow=7.4,SNR=17						
ZAL	**Zalesovo**	**75.68**	**329**	P	**P**	**15 22 12.4**	**-0.7**
	comp=Z,4.3nm,0.2s,mb4.7,baz=114,slow=1.9,SNR=3.6						
MAW	**Mawson**	**82.55**	**202**	P	**P**	**15 22 50.3**	**+0.3**
	comp=Z,1.0nm,0.4s,mb4.0,baz=74,slow=7.4,SNR=4.2						
BVAR	**Borovoye Array**	**83.30**	**324**	P	**P**	**15 22 54.4**	**+0.3**
	comp=Z,1.5nm,0.5s,mb4.1,baz=106,slow=7.2,SNR=12						
BVAR				pP	pP	15 23 21.6	+2.7
	comp=Z,1.0nm,0.6s,baz=135,slow=10,SNR=3.1						
ZRNK	**Zerenda**	**84.09**	**324**	*e*P	**P**	**15 22 57.7**	**-0.3**
ILAR	**Eielson Array**	**85.24**	**24**	P	**P**	**15 23 01.7**	**-1.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=255,slow=4.9,SNR=8.6						
ILAR				pP	pP	15 23 30.8	+2.4
	comp=Z,0.7nm,0.7s,baz=247,slow=5.2,SNR=3.4						
SYO	**Syowa Base**	**91.05**	**200**	⇓P	**P**	**15 23 32.0**	**+0.9**
NEW	**Newport**	**99.37**	**42**	LR	LR	15 59 23.9	
	comp=Z,61nm,22.0s,baz=260,slow=30						
DBIC	**Dimbokro**	**148.42**	**276**	PKPbc	PKPdf	15 30 11.6	+2.1
	comp=Z,2.3nm,1.0s,baz=2.8,slow=3.7,SNR=3.5						

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*NEIC **07** 15:21:01.6, 43.04N×12.43W, MG3.9(MDD), After MDD.*
MDD 07 15:21:01.6±3.2**, 43.04N**×**12.43W, mbLg2.7**/5**, Error ellipse: s-maj=44.1km s-min=26.4km az=13.0, PRXIMO, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**2.54**	**91**	P	Pn	15 21 42.8	-1.8
	1.4nm,0.1s,SNR=7.9						
EMAZ				S	Sn	15 22 12.6	-4.1
	12nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**2.54**	**91**	P	Pn	15 21 42.8	-1.9
	1.4nm,0.1s,SNR=7.9						
EMAZ				S	Sn	15 22 12.6	-4.1
	12nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**2.90**	**107**	S	Sn	15 22 21.3	-4.6
	2.9nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**3.44**	**108**	P	Pn	15 21 55.1	-2.4
	1.5nm,0.1s,SNR=7.9						
ELOB				S	Sn	15 22 35.4	-4.1
	8.8nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**3.44**	**108**	P	Pn	15 21 55.1	-2.4
	1.5nm,0.1s,SNR=7.9						
ELOB				S	Sn	15 22 35.4	-4.2
	8.8nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**3.87**	**84**	P	Pn	15 22 01.8	-1.9
	0.2nm,0.1s,SNR=7.9						
EPON				S	Sn	15 22 45.0	-5.6
	2.6nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**3.87**	**84**	P	Pn	15 22 01.8	-1.9
	0.2nm,0.1s,SNR=7.9						
EPON				S	Sn	15 22 45.0	-5.6
	2.6nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**3.95**	**98**	P	Pn	15 22 01.9	-2.9
	2.8nm,0.1s,SNR=7.9						
ERUA				S	Sn	15 22 47.4	-5.1
	6.3nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**4.35**	**103**	P	Pn	15 22 08.3	-2.1
ECAL				S	Sn	15 22 57.1	-5.6
ECAL	**Calabor**	**4.35**	**103**	P	Pn	15 22 08.3	-2.1
	2.8nm,0.2s,SNR=4.0						
ECAL				S	Sn	15 22 57.1	-5.6
	0.8nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**4.35**	**103**	P	Pn	15 22 08.3	-2.2
	2.8nm,0.2s,SNR=4.0						
ECAL				S	Sn	15 22 57.1	-5.6
	0.8nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**5.29**	**85**	P	Pn	15 22 19.6	-4.1
	1.3nm,0.3s,SNR=4.0						
EARI				S	Sn	15 23 19.6	-6.7
	0.5nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**5.29**	**85**	P	Pn	15 22 19.6	-4.1
	1.3nm,0.3s,SNR=4.0						
EARI				S	Sn	15 23 19.6	-6.7
	SNR=7.9						

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*BJI **07** 15:52:50.0, 4.13S×154.00E, h188^{km}, mB4.7, mb4.7*
*HRVD **07** 15:52:51.3±0.2, 4.50S×153.74E, h196^{km}±1^{km}, MW5.2/67, Centroid moment Tensor Solution. LP body waves: s59,c94; Mantle waves: s67,c121; Half duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.48±.16; $M_{\theta\theta}$2.04±.19; $M_{\phi\phi}$3.44±.20; $M_{r\theta}$3.93±.15; $M_{\theta\phi}$-4.35±.19; $M_{\phi r}$3.91±.15; Best double couple: $M_0$8.297×10^{16} NP1: ϕ_s290°, δ53°, λ-137°. NP2: ϕ_s170°, δ57°, λ-46°. Principal axes: T 7.166, Plg3°, Azm231°; N 2.261, Plg35°, Azm323°; P -9.427, Plg55°, Azm137°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **07** 15:52:51.2±0.8, 4.28S×153.59E, h194^{km}, mb4.7/12 Error ellipse: s-maj=21.8km s-min=12.2km az=97.4*
*NEIC **07** 15:52:51.3±0.1, 4.43S×153.74E, mb5.0/45, Error ellipse: s-maj=6.1km s-min=4.9km az=100.0*
*IDC **07** 15:52:52.3±0.5, 4.50S×153.74E, h200^{km}±4^{km}, mb4.6/17, mb1 4.8/19, mb1mx4.8/20, mbtmp5.1/19, MS3.8/8, Ms1 3.8/8, ms1mx3.5/25, Error ellipse: s-maj=9.8km s-min=7.9km az=108.0*
ISC 07 15:52:50.5±0.2**, 4.42S**±0.03×**153.71E**±0.04**, h193^{km}, h193^{km}**±1.6^{km}**:pP-P, n215, σ0^{s}99**/163**, mb4.7**/72**, 7C-22D, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.94**	**129**	P	**P**	**15 54 45.0**	**+1.3**
	11nm,0.3s,baz=205,slow=2.3,SNR=12						
HNR				S	**S**	**15 56 14.6**	**+2.3**
	4.0nm,0.3s,baz=296,slow=23,SNR=2.7						
HNR	**Honiara**	**7.94**	**129**	*e*Pn	**P**	**15 54 45.0**	**+1.2**
	474nm,1.0s						
PMG	**Port Moresby**	**8.18**	**232**	*c i*P	**P**	**15 54 50.5**	**+3.6**
PMG	**Port Moresby**	**8.18**	**232**	P	**P**	**15 54 49.3**	**+2.4**
	145nm,0.3s,baz=54,slow=6.7,SNR=177						
PMG				S	**S**	**15 56 24.7**	**+7.0**
	37nm,0.3s,baz=267,slow=22,SNR=8.8						
PMG	**Port Moresby**	**8.18**	**232**	⇑*e*Pn	**P**	**15 54 50.2**	**+3.4**
	1μm,0.6s						
PMG				*e*Sn	**S**	**15 56 23.3**	**+5.5**
CTA	**Charters Tower**	**17.18**	**204**	⇓*i*P	**P**	**15 56 41.8**	**+1.3**
	98nm,0.8s						
CTA				*e*S	**S**	**16 00 01.8**	**+18**
CTA	**Charters Tower**	**17.18**	**204**	P	**P**	**15 56 41.9**	**+1.4**
	6.7nm,0.3s,baz=37,slow=10,SNR=58						
CTAO	**Charters Tower**	**17.18**	**204**	⇓*e*P	**P**	**15 56 41.7**	**+1.2**
	120nm,0.8s						
CTAO				*e*S	**S**	**16 00 01.9**	**+18**
DZM	**Mont Dzumac**	**21.45**	**146**	*e*P	**P**	**15 57 23.5**	**-0.7**
DZM	**Mont Dzumac**	**21.45**	**146**	P	**P**	**15 57 23.7**	**-0.6**
	23nm,0.8s,mb4.8,baz=28,slow=8.4,SNR=15						
DZM	**Mont Dzumac**	**21.45**	**146**	*e*P	**P**	**15 57 23.5**	**-0.7**
KAKA	**Kakadu**	**22.57**	**247**	⇑*i*P	**P**	**15 57 36.5**	**+1.1**
	369nm,0.6s						
KAKA				*e*S	**S**	**16 01 32.0**	**+7.1**
WRAB	**Tennant Creek**	**24.36**	**229**	*d i*P	**P**	**15 57 53.0**	**+0.6**
WB2	**Warramunga Arr**	**24.37**	**229**	⇓*i*P	**P**	**15 57 52.9**	**+0.5**
WB2				*e*S	**S**	**16 01 55.6**	**+0.5**
WB2				*e*SCS	ScS	16 08 35.2	+2.4
WRA	**Warramunga Arr**	**24.38**	**229**	*i* P	**P**	**15 57 53.0**	**+0.5**
WRA				pmax	pmax		
	comp=Z,61nm,0.5s						
WRA	**Warramunga Arr**	**24.38**	**229**	P	**P**	**15 57 53.0**	**+0.5**
	comp=Z,61nm,0.5s,mb5.5,baz=53,slow=10,SNR=72						
WRA				pP		15 58 30.4	
	comp=Z,36nm,1.1s,baz=51,slow=12,SNR=3.1						
WRA				PcP	PcP	16 01 25.9	-1.5
	comp=Z,9.1nm,0.7s,baz=47,slow=2.4,SNR=5.3						
WRA				S	**S**	**16 01 55.3**	**+0.1**

comp=Z,9.8nm,1.0s,baz=58,slow=15,SNR=5.3
RIV Riverview 29.36 184⇓ *i*P **P** **15 58 37.4 -0.2**
STKA Stephens Creek 29.59 201⇓ *i*P **P** **15 58 38.9 -0.8**
comp=Z,45nm,1.0s,mb5.1
STKA *e*S **S** **16 03 17.3 -1.8**
STKA Stephens Creek 29.59 201 P **P** **15 58 39.0 -0.7**
comp=Z,67nm,0.6s,mb5.4,baz=9.7,slow=8.5,SNR=223
STKA S **S** **16 03 16.9 -2.2**
comp=Z,13nm,1.1s,baz=278,slow=17,SNR=3.8
FITZ Fitzroy Crossi 30.64 241 *e*P **P** **15 58 47.9 -1.1**
comp=Z,30nm,0.6s,mb5.1
FITZ *e*S **S** **16 03 33.2 -2.6**
FITZ *e*SCP 16 05 05.3
FITZ Fitzroy Crossi 30.64 241 P **P** **15 58 48.5 -0.5**
comp=Z,51nm,0.7s,mb5.3,baz=55,slow=5.2,SNR=58
FITZ S **S** **16 03 31.9 -4.0**
comp=Z,20nm,1.0s,baz=150,slow=17,SNR=5.7
FITZ ScP 16 05 05.5
comp=Z,19nm,0.8s,baz=165,slow=3.6,SNR=4.1
CNB Canberra Magne 31.00 187⇓ *i*P **P** **15 58 51.9 -0.2**
comp=Z,51nm,0.8s,mb5.2
CBIJ Chichi jima 33.26 341 LR LR 16 10 50.1
comp=Z,64nm,19.2s,baz=118,slow=32
TOO Toolangi 33.84 192⇓ *i*P **P** **15 59 16.4 -0.1**
comp=Z,20nm,0.6s,mb4.8
MBWA Marble Bar 36.95 240 *e*P **P** **15 59 42.4 -0.4**
comp=Z,37nm,1.2s,mb4.8
TAU Tasmania Unive 38.74 188⇓ *e*P **P** **15 59 58.1 +0.4**
comp=Z,406nm,1.5s,mb5.7
KKM Kota Kinabalu 38.86 285 *e*P **P** **15 59 58.7 -0.1**
RPZ Rata Peaks 42.02 161 P **P** **16 00 23.9 -0.6**
comp=Z,51nm,0.7s,mb5.0
YHNB Yeheng 42.72 314 P **P** **16 00 29.3 -1.1**
KLBR Kellerberrin 43.23 227 *e*P **P** **16 00 32.9 -1.5**
comp=Z,39nm,0.9s,mb4.8
KLBR *e*S **S** **16 06 44.9 -1.1**
MJAR Matsushiro Arr 43.25 342 P **P** **16 00 35.0 +0.5**
comp=Z,0.7nm,0.3s,baz=176,slow=9.3,SNR=5.0
MJAR pP pP 16 01 17.4 +1.0
comp=Z,3.6nm,0.8s,baz=167,slow=8.6,SNR=5.0
MJAR PcP PcP 16 02 19.7 -0.8
comp=Z,3.5nm,0.8s,baz=178,slow=3.8,SNR=6.0
MJAR Matsushiro Arr 43.25 342 P **P** **16 00 35.0 +0.5**
MJAR pP pP 16 01 17.4 +1.0
MJAR PcP PcP 16 02 19.7 -0.8
MAT Matsushiro 43.25 342 P **P** **16 00 32.0 -2.5**
MAT Matsushiro 43.25 342 P **P** **16 00 32.3 -2.2**
MAT *e*S **S** **16 06 42.0 -4.3**
KSM Kuching 43.76 277⇑ *i*P **P** **16 00 39.5 +0.6**
NWAO Narrogin (SRO) 44.30 226 P **P** **16 00 42.1 -0.8**
comp=Z,9.3nm,0.6s,mb4.3,baz=73,slow=9.4,SNR=10.0
NWAO Narrogin (SRO) 44.30 226 *e*P **P** **16 00 41.3 -1.6**
comp=Z,81nm,1.6s,mb4.8
MUN Mundaring 44.55 228 *e*P **P** **16 00 44.4 -0.6**
comp=Z,26nm,1.2s,mb4.4
MUN *e*S **S** **16 07 05.1 0.0**
SSE Sheshan 47.02 321 P **P** **16 01 02.4 -1.9**
SSE AP pP 16 01 46.0 -0.8
SSE PCP PcP 16 02 32.0 -1.7
SSE PP PP 16 02 53.8 -2.6
SSE S **S** **16 07 38.2 -1.8**
SSE XS 16 08 55.0
SSE SCS ScS 16 10 38.5 +3.1
SSE AMB AMB
comp=Z,26nm,0.7s,mb4.7
SSE AMB AMB
comp=Z,67nm,6.2s
SSE LR LR
comp=N,50nm,25.9s
SSE LR LR
comp=E,66nm,26.1s
SSE LR LR
comp=Z,61nm,19.7s
KS15 Wonju Array Si 48.09 332 *e*P **P** **16 01 12.8 +0.2**
QIZ Qiongzhong 49.07 300 P **P** **16 01 22.1 +1.8**
QIZ AP pP 16 02 04.0 +0.9
QIZ S **S** **16 08 11.4 +2.5**
QIZ XS 16 09 24.9
QIZ AMB AMB
comp=Z,17nm,1.5s,mb4.2
QIZ AMB AMB
comp=Z,118nm,11.5s
QIZ Qiongzhong 49.07 300 *e*P **P** **16 01 18.7 -1.6**
comp=Z,11nm,0.9s,mb4.2
NJ2 Nanjing 49.13 320 *e*P **P** **16 01 20.9 +0.3**
NJ2 AP pP 16 02 06.1 +2.6
NJ2 XP sP 16 02 28.9 +3.7
NJ2 PP PP 16 03 17.6 +1.4
NJ2 S **S** **16 08 10.0 +0.3**
NJ2 XS 16 09 29.0
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb4.7
NJ2 AMB AMB
comp=Z,224nm,5.0s
NJ2 LR LR
comp=N,940nm,16.4s
NJ2 LR LR
comp=E,2μm,17.2s
NJ2 LR LR
comp=Z,2μm,18.2s
YSS Yuzh-Sakhalins 52.06 350⇑ *i*P **P** **16 01 42.0 -0.4**
YSS Yuzh-Sakhalins 52.06 350 *e*P **P** **16 01 41.5 -1.0**
comp=Z,10nm,0.9s,mb4.3
MDJ Mudanjiang 53.39 339 P **P** **16 01 51.6 -0.7**
MDJ AP pP 16 02 36.4 +0.5
MDJ XP sP 16 02 55.5 -1.7
MDJ PP PP 16 03 52.2 -3.8
MDJ S **S** **16 09 08.1 +0.5**
MDJ XS 16 10 21.7
MDJ SS SS 16 12 49.6 -0.7
MDJ AMB AMB
comp=Z,5.0nm,1.1s,mb3.9
MDJ LR LR
comp=N,70nm,28.2s
MDJ LR LR
comp=E,67nm,25.9s
MDJ LR LR
comp=Z,50nm,25.9s
KULM Kulim 53.87 280 *e*P **P** **16 01 55.3 -0.9**
CN2 Changchun 54.34 335 *e*P **P** **16 02 00.0 +0.8**
CN2 *e*AP pP 16 02 43.5 +0.6
CN2 *e*XP sP 16 03 04.3 +0.1
CN2 *e*S **S** **16 09 22.7 +2.5**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
ENH Enshi 54.57 312 P **P** **16 02 00.5 -0.6**
ENH *e*pP pP 16 02 48.5 +3.7
KLR Kul'dur 56.75 343 *e*P **P** **16 02 12.8 -3.5**
PET Petropavlovsk 57.38 4⇓ *i*P **P** **16 02 20.2 -0.5**
PET *e**PP pP 16 03 07.2 +2.3
PET *i* S **S** **16 10 02.0 +1.6**
PET *e*SS SS 16 13 53.8 -0.8
PET pmax pmax
comp=Z,20nm,1.4s,mb4.5
PET pmax pmax
comp=Z,28nm,1.4s,mb4.7
PET pmax pmax
comp=Z,100nm,13.6s
PET smax
comp=N,200nm,22.1s
PET pmax pmax
comp=E,200nm,16.0s
PET Petropavlovsk 57.38 4 *e*P **P** **16 02 19.8 -0.9**
comp=E,7.2nm,0.6s,mb4.5
PET *e*pP pP 16 03 07.0 +2.1
KMI Kunming 57.53 303 P **P** **16 02 23.0 +0.8**
KMI AP pP 16 03 03.2 -3.2
KMI XP sP 16 03 24.7 -2.8
KMI PP PP 16 04 31.9 -1.7
KMI PPP PPP 16 05 47.8 -9.2
KMI S **S** **16 10 04.6 +1.8**
KMI PS PS 16 10 47.0 -4.2
KMI XS 16 11 19.9
KMI SS SS 16 13 59.4 +2.0
KMI SSS SSS 16 16 38.8 +13
KMI AMB AMB
comp=Z,7.0nm,1.4s,mb4.1
KMI AMB AMB
comp=Z,74nm,5.6s
KMI LR LR
comp=N,99nm,16.8s
KMI LR LR
comp=E,98nm,14.4s
CMAR Chiang Mai Arr 58.54 295 P **P** **16 02 30.4 +1.1**
comp=E,5.5nm,0.7s,mb4.3,baz=118,slow=5.2,SNR=29
CMAR pP pP 16 03 15.0 +1.3
comp=E,4.7nm,0.9s,baz=112,slow=4.9,SNR=4.4
HHC Hu-ho-hao-te 59.28 324 *e*P **P** **16 02 33.2 -0.9**
HHC AMB AMB
comp=Z,5.0nm,1.1s,mb4.1
HHC LR LR
comp=N,114nm,18.0s
HHC LR LR
comp=E,105nm,16.8s
HHC LR LR
comp=Z,88nm,16.8s
FX1 Attu Island--F 59.41 14 P **P** **16 02 34.5 -0.3**
HIA Hailar 61.07 335 *e*P **P** **16 02 42.1 -3.9**
comp=Z,8.2nm,0.9s,mb4.4
HIA *e*pP pP 16 03 29.7 -1.1
LZH Lanzhou 61.60 315 *e*P **P** **16 02 50.0 +0.2**
LZH PCP PcP 16 03 30.0 +0.7
LZH AP pP 16 03 38.5 +3.8
LZH XP sP 16 03 58.5 +3.0
LZH PP PP 16 05 13.0 +3.2
LZH SCP 16 07 11.0
LZH AMB AMB
comp=Z,30nm,1.2s,mb4.8
MA2 Magadan 63.84 358 *e*P **P** **16 03 03.8 -0.4**
MA2 *e**PP pP 16 03 51.5 +2.1
MA2 *e*S **S** **16 11 19.7 -2.6**
MA2 *e**SS 16 12 39.9
MA2 pmax pmax
comp=Z,20nm,0.8s,mb4.8
MA2 Magadan 63.84 358 *e*P **P** **16 03 03.2 -1.0**
comp=Z,40nm,1.0s,mb5.0
MA2 *e*pP pP 16 03 51.5 +2.1
CIT Chita 65.75 334 *e*P **P** **16 03 16.8 +0.2**
GTA Gaotai 66.00 317 *e*P **P** **16 03 19.1 +0.6**
GTA PCP PcP 16 03 47.8 +0.4
GTA AP pP 16 04 03.0 -0.9
GTA XP sP 16 04 24.0 -0.6
GTA PP PP 16 05 49.4 +1.4
GTA PPP PPP 16 07 24.5 -0.1
GTA SCP 16 07 32.3
GTA PCS 16 07 51.3
GTA S S 16 11 49.9 +0.9
GTA SCS ScS 16 12 53.4 +1.5
GTA XS 16 13 06.3
GTA SS SS 16 16 09.2 -0.3
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.2
GTA AMB AMB
comp=Z,67nm,6.8s
GTA LR LR
comp=N,82nm,11.4s
GTA LR LR
comp=E,81nm,19.0s
GTA LR LR
comp=Z,69nm,16.7s
ULN Ulaanbaatar 66.16 328⇓ *e*P **P** **16 03 14.3 -5.0**
ULN Ulaanbaatar 66.16 328 *e*P **P** **16 03 13.9 -5.4**
comp=Z,5.5nm,0.9s,mb4.2
ULN *e*pP pP 16 03 59.6 -5.2
SONM Songino Array 66.50 327 P **P** **16 03 21.7 +0.2**
comp=Z,3.8nm,0.6s,mb4.2,baz=143,slow=5.6,SNR=32
SONM PcP PcP 16 03 48.8 -0.6
comp=Z,2.1nm,0.5s,baz=145,slow=3.5,SNR=6.8
SONM pP pP 16 04 06.7 -0.2
comp=Z,3.0nm,0.6s,baz=143,slow=6.2,SNR=3.2
SHL Shillong 66.90 300 *e*PN **P** **16 03 25.2 +0.8**
SHL *e*SN pP 16 04 11.2 +1.2
SEY Seymchan 67.18 359 *e*P **P** **16 03 25.3 -0.1**
SEY 16 05 52.9
SEY PPP PPP 16 07 38.8 +3.2
SEY *e*S S 16 12 03.8 +1.1
SEY SP SP 16 12 35.1 +8.4
SEY SS SS 16 16 28.5 +0.8
SEY pmax pmax
comp=E,3.0nm,1.1s
SEY pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
SEY smax
comp=N,130nm,20.0s
SEY smax
comp=E,70nm,21.5s
CASY Casey 68.64 197⇓ *i*P **P** **16 03 33.4 -1.0**
LSA Lhasa 68.78 304 *e*P **P** **16 03 37.2 +1.3**
LSA Lhasa 68.78 304 *e*P **P** **16 03 36.7 +0.8**
comp=E,8.8nm,0.6s,mb4.6
YAK Yakutsk 68.79 348 *e*P **P** **16 03 33.8 -1.6**
YAK *e*S S 16 12 21.5 -0.3
YAK pmax pmax
comp=Z,17nm,0.9s,mb4.7
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK Yakutsk 68.79 348 *e*P **P** **16 03 35.1 -0.3**
comp=E,45nm,1.1s,mb5.0
YAK *e*pP pP 16 04 19.4 -1.8
ZAK Zakamensk 69.65 328⇑ *i*P **P** **16 03 40.8 0.0**
ZAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.2
ZAK pmax pmax
comp=Z,8.0nm,1.9s,mb4.0
BOD Bodaibo 69.77 339 *e*P **P** **16 03 40.3 -1.1**
BOD pmax pmax
comp=Z,7.0nm,1.4s,mb4.1
MOY Mondy 71.57 329 *e*P **P** **16 03 52.3 0.0**
MOY pmax pmax
comp=Z,14nm,1.6s,mb4.3
GUN Gumba 72.71 301 *e*P **P** **16 04 00.6 +1.0**
comp=Z,45nm,0.7s,mb5.2
BILL Bilibino 72.84 5*d* *i*P **P** **16 03 59.5 0.0**
BILL *e*S S 16 13 12.0 +3.8
BILL pmax pmax
comp=Z,51nm,0.9s,mb5.2
BILL Bilibino 72.84 5⇓ *e*P **P** **16 03 59.1 -0.4**
comp=Z,49nm,0.9s,mb5.1
BILL *e*pP pP 16 04 42.0 -3.7
PKI Pulchoki 73.03 300 *e*P **P** **16 04 01.9 +0.4**
comp=Z,18nm,0.6s,mb4.9
VNDA Vanda 73.17 178 P **P** **16 04 00.6 -0.8**
comp=Z,8.0nm,0.7s,mb4.5,baz=331,slow=6.5,SNR=52
VNDA Vanda 73.17 178⇓ *i*P **P** **16 04 00.3 -1.1**
comp=Z,40nm,1.4s,mb4.9
VNDA *e*pP pP 16 04 44.9 -2.8
KKN Kakani 73.19 301 *e*P **P** **16 04 02.7 +0.3**
comp=Z,45nm,0.8s,mb5.1
DMN Daman 73.30 300 *e*P **P** **16 04 03.7 +0.7**
comp=Z,48nm,0.8s,mb5.2
SBA Scott Base 73.70 177 *e*P **P** **16 04 04.2 -0.2**
comp=Z,56nm,1.7s,mb4.9
PALK Pallekele 73.78 279 P **P** **16 04 06.5 +0.4**
comp=Z,16nm,1.0s,mb4.6
GKN Gorkha 73.79 301 *e*P **P** **16 04 06.1 +0.2**
comp=Z,13nm,0.4s,mb5.0
MIR Mirnyy 74.60 201*d* *i*P **P** **16 04 09.0 -0.8**
MIR pmax pmax
comp=Z,219nm,1.2s,mb5.7
MIR pmax pmax
comp=Z,300nm,1.6s,mb5.7
KOLN Koldanda 74.63 300 *e*P **P** **16 04 10.8 +0.1**
comp=Z,40nm,0.9s,mb5.0
WMQ Urumqi 76.08 317 *e*P **P** **16 04 18.5 0.0**
WMQ AP pP 16 05 04.0 -1.2
WMQ XP sP 16 05 24.7 -1.0
WMQ PP PP 16 07 13.3 +0.1
WMQ AMB AMB
comp=Z,189nm,6.7s
WMQ LR LR
comp=N,475nm,21.8s
WMQ LR LR
comp=E,324nm,22.0s
WMQ LR LR
comp=Z,621nm,22.2s
RSO Redoubt South 76.87 24 *e*P **P** **16 04 18.8 -3.8**
RSO *e*pP pP 16 05 10.0 +0.8
TIXI Tiksi 77.65 352 *e*P **P** **16 04 24.4 -2.2**
TIXI *e*S S 16 13 53.1 -7.6
TIXI pmax pmax
comp=Z,14nm,1.2s,mb4.5
SLKM Skilak Lake 77.94 25 *e*P **P** **16 04 28.3 -0.2**
SLKM *e*pP pP 16 05 12.8 -2.5
SML Sawmill 79.41 24⇓ *i*P **P** **16 04 36.0 -0.3**
SML *e*pP pP 16 05 21.2 -2.2
IMA Indian Mountai 79.80 19 *e*P **P** **16 04 39.3 +1.0**
comp=Z,123nm,1.0s,mb5.5
EYAK Cordova Ski Ar 79.88 26 *e*P **P** **16 04 38.8 -0.1**
EYAK *e*pP pP 16 05 26.1 +0.1
DIV Divide 80.14 25 *e*P **P** **16 04 40.5 +0.3**
comp=Z,111nm,1.1s,mb5.4
DIV pP pP 16 05 24.1 -3.3
MKAR Makanchi Array 80.64 319 *i* P **P** **16 04 43.6 +0.4**
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 80.64 319 P **P** **16 04 43.6 +0.4**
comp=Z,6.5nm,0.7s,mb4.4,baz=96,slow=7.5,SNR=100
MKAR pP pP 16 05 32.1 +1.7
comp=Z,5.8nm,1.0s,baz=101,slow=6.2,SNR=3.2
MKAR LR LR 16 41 11.9
comp=Z,39nm,20.5s,baz=256,slow=36
ZAL Zalesovo 81.35 326 *i* P **P** **16 04 46.8 0.0**
ZAL pmax pmax
comp=Z,6.0nm,0.5s
ZAL Zalesovo 81.35 326 P **P** **16 04 46.8 0.0**
comp=Z,6.1nm,0.5s,mb4.5,baz=358,slow=5.1,SNR=16
ILAR Eielson Array 81.47 22 P **P** **16 04 45.7 -1.5**
comp=Z,21nm,0.9s,mb4.8,baz=255,slow=5.3,SNR=103
ILAR pP pP 16 05 34.0 -0.4
comp=Z,4.9nm,0.9s,baz=240,slow=5.6,SNR=4.2
NVS Novosibirsk 82.52 327 *i* P **P** **16 04 51.8 -0.9**
NVS *e*S S 16 14 49.2 -2.3
NVS pmax pmax
comp=N,10.0nm,1.7s
NVS pmax pmax
comp=E,18nm,1.7s
NVS pmax pmax
comp=Z,23nm,1.7s,mb4.6
NVS smax
comp=E,14nm,2.0s
KSH Kashi 83.38 310 *e*P **P** **16 04 59.0 +1.5**
KSH *e*AP pP 16 05 47.3 +2.3
KSH *e*XP sP 16 06 06.1 +0.8
KSH *e*SKS SKS 16 14 56.1 -1.1
KSH *e*S S 16 15 01.1 +0.6
KSH *e*PS 16 15 09.0
KSH *e*SS SS 16 20 39.1 +5.4
KSH AMB AMB
comp=Z,80nm,0.9s,mb5.5
KSH LR LR
comp=N,340nm,5.8s
KSH LR LR
comp=E,230nm,5.1s
KURK Kurchatov 84.03 322 *e*P **P** **16 04 60.0 -0.6**
comp=E,20nm,1.0s,mb4.8
TKM2 Tokmak 2 84.33 314 P **P** **16 05 03.3 +1.1**
SNR=11
KZA Kyzart 84.42 313 P **P** **16 05 04.9 +2.2**
SNR=24
KBK Karagaybulak 84.74 313 P **P** **16 05 05.4 +1.1**
SNR=5.1
CHMS Chumysh 84.95 314 P **P** **16 05 06.1 +0.8**
SNR=9.1
UCH Uchtor 84.98 313 P **P** **16 05 07.3 +1.9**
SNR=17
FRU Bishkek 85.02 314 P **P** **16 05 06.0 +0.4**
FRU pmax pmax
comp=Z,50nm,1.8s,mb4.9
AAK Ala-Archa 85.07 313*d* *i*P **P** **16 05 06.0 +0.1**
AAK pmax pmax
comp=Z,12nm,1.0s,mb4.6
AAK Ala-Archa 85.07 313 *e*P **P** **16 05 05.4 -0.5**
comp=Z,12nm,0.9s,mb4.6
USP Ospenovka 85.18 314 P **P** **16 05 07.0 +0.6**
SNR=10
QSPA South Pole Qui 85.54 180⇓ *i*P **P** **16 05 07.3 -0.1**
comp=Z,37nm,0.8s,mb5.2
AML Almayashu 85.56 313 P **P** **16 05 09.8 +1.5**
SNR=25
MAW Mawson 86.27 203⇓ *i*P **P** **16 05 10.7 -0.4**
comp=Z,40nm,0.9s,mb5.1
MAW Mawson 86.27 203 P **P** **16 05 10.8 -0.3**
comp=Z,40nm,0.8s,mb5.2,baz=93,slow=6.1,SNR=62
MAW LR LR 16 41 41.3
comp=Z,65nm,21.6s,baz=236,slow=34
DLBC Dease Lake 86.59 31 LR LR 16 36 25.2
comp=Z,67nm,21.9s,baz=29,slow=30
DLBC Dease Lake 86.59 31 *e*P **P** **16 05 13.7 +0.8**
DLBC *e*pP pP 16 06 01.7 +1.1
INK Inuvik 87.78 21 *e*P **P** **16 05 17.6 -0.7**
comp=Z,30nm,1.2s,mb5.0
INK *e*pP pP 16 06 05.1 -1.1
HUMO Hull Mountain 88.06 47 *e*P **P** **16 05 21.1 +0.8**
comp=Z,7.2nm,1.2s,mb4.4
YBH Yreka Blue Hor 88.13 48 LR LR 16 37 29.3
comp=Z,65nm,19.9s,baz=257,slow=30
BVAR Borovoye Array 89.49 323 P **P** **16 05 26.0 -0.7**
comp=Z,12nm,0.8s,mb4.8,baz=108,slow=4.7,SNR=70
BVAR pP pP 16 06 16.8 +2.1
comp=Z,4.1nm,0.8s,baz=90,slow=5.9,SNR=4.8
BRVK Borovoye 89.55 323 P **P** **16 05 30.2 +3.2**
ZRNK Zerenda 90.31 323 *e*P **P** **16 05 29.2 -1.3**
comp=Z,19nm,1.1s,mb4.8
ZRNK *e*pP pP 16 06 16.6 -2.0
MTUM Tungsten Hills 90.84 53 *e*P **P** **16 05 34.7 +1.2**
NVAR Mina Array Bea 91.14 52 P **P** **16 05 35.7 +0.9**
comp=Z,4.3nm,0.9s,mb4.4,baz=255,slow=4.1,SNR=24
NVAR pP pP 16 06 23.2 +0.3
comp=Z,1.7nm,0.9s,baz=239,slow=4.6,SNR=3.1
WVOR Wild Horse Val 91.22 48 *e*P **P** **16 05 35.1 +0.1**
comp=Z,27nm,1.7s,mb4.9
DAC Darwin (Calif) 91.53 54 *e*P **P** **16 05 37.3 +0.6**
comp=Z,14nm,1.1s,mb4.8
DAC *e*pP pP 16 06 24.9 +0.1
BMO Blue Mountains 92.36 45 *e*P **P** **16 05 39.9 -0.4**
comp=Z,14nm,1.3s,mb4.7
BMO *e*pP pP 16 06 26.2 -2.2
NEW Newport 92.71 42 *e*P **P** **16 05 41.7 -0.1**
comp=Z,11nm,1.1s,mb4.8
LDFC Landfair 93.48 55 *e*P **P** **16 05 46.3 +0.7**
LDFC *e*pP pP 16 06 33.5 -0.3
LDFC *e*PP PP 16 09 31.5 -3.5
ELK Elko 93.65 50 LR LR 16 43 34.6
comp=Z,81nm,19.1s,baz=224,slow=32
NEN Nelson 93.72 55 *e*P **P** **16 05 47.4 +0.7**
NEN *e*pP pP 16 06 32.8 -2.1
NEN *e*PP PP 16 09 32.9 -4.0
SYO Syowa Base 94.32 199⇑ *i*P **P** **16 05 46.5 -2.1**
SYO Syowa Base 94.32 199⇓ PcP PcP 16 05 47.0 -2.2
YKA Yellowknife Ar 94.67 28 *i* P **P** **16 05 50.6 +0.2**
YKA pmax pmax
comp=Z,6.0nm,0.9s
YKA Yellowknife Ar 94.67 28 P **P** **16 05 50.6 +0.2**
comp=Z,6.4nm,0.9s,mb4.8,baz=270,slow=4.8,SNR=18
YKA pP pP 16 06 38.5 0.0
comp=Z,1.7nm,0.8s,baz=271,slow=4.6,SNR=3.0
YKA LR LR 16 45 14.1
comp=Z,50nm,19.8s,baz=310,slow=33
YKA Yellowknife Ar 94.67 28 P **P** **16 05 50.6 +0.2**
YKA pP pP 16 06 38.5 0.0
YKA LR LR 16 45 14.1
WALA Waterton Lakes 94.87 41 *e*P **P** **16 05 51.3 -0.3**
comp=Z,4.7nm,0.9s,mb4.6
WALA *e*pP pP 16 06 40.5 +0.7
EDM Edmonton 95.27 37 *e*P **P** **16 05 52.5 -0.8**
ARU Arti 96.51 326⇓ *i*P **P** **16 05 57.0 -1.9**
ARU *e* 16 09 52.7
ARU *e*S 16 16 13.8
ARU pmax pmax
comp=Z,5.0nm,1.4s,mb4.5
ARU Arti 96.51 326 *e*P **P** **16 05 56.8 -2.0**
BW06 Boulder Array 97.92 48 *e*P **P** **16 06 05.0 -0.6**
comp=Z,4.0nm,1.2s,mb4.6
PDAR Pinedale Array 97.92 48 P **P** **16 06 05.1 -0.5**
comp=Z,1.7nm,1.0s,mb4.3,baz=270,slow=3.0,SNR=11
PDAR PP PP 16 10 06.7 -2.4
comp=Z,0.5nm,0.9s,baz=281,slow=7.6,SNR=5.6
PDAR LR LR 16 46 55.8
comp=Z,44nm,18.5s,baz=174,slow=33
SNAA Sanae 102.52 187 PP 16 10 28.6 -14
SNAA Sanae 102.52 187 PP 16 10 37.3 -5.7
SNAA Sanae 102.52 187 *e*Pdif Pdif 16 06 24.1 -1.5
comp=Z,5.0nm,1.3s
TXAR Lajitas Array 103.15 61 PP PP 16 10 44.8 -4.1
comp=Z,2.7nm,1.1s,baz=259,slow=6.4,SNR=6.8
VNA3 Neumayer Olymp 103.69 185 16 10 34.5
VNA3 Neumayer Olymp 103.69 185 PP 16 10 44.2 -7.4
VNA2 Neumayer--Watz 103.76 186 16 10 35.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA2	Neumayer--Watz	103.76	186		PP	16 10 49.7	-2.4
ARCES	ARCESS Array B	106.77	343	PKiKP		16 10 51.3	
	comp=Z,2.5nm,0.8s,baz=63,slow=2.7,SNR=4.0						
ARCES				PKKPbc		16 22 10.1	
	comp=Z,1.4nm,0.8s,baz=180,slow=1.2,SNR=7.7						
OBN	Obninsk	108.91	327	eP	Pdif	16 06 52.7	-1.4
OBN				ePS	SP	16 20 31.4	-0.5
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
FINES	FINESS Array B	111.08	336	Pdiff	Pdif	16 07 01.1	-2.4
	comp=Z,0.4nm,0.5s,baz=108,slow=6.0,SNR=4.3						
FINES				PKKPbc		16 21 57.4	
	comp=Z,0.4nm,0.3s,baz=252,slow=2.7,SNR=8.2						
MALT	Malatya	112.48	310	ePKPdf	PKPdf	16 11 03.0	-0.8
AKASG	Malin Array Be	114.72	325	PKP	PKPdf	16 11 07.9	+0.1
	comp=Z,3.2nm,0.6s,baz=51,slow=3.0,SNR=12						
AKASG				PKKPbc		16 21 45.4	
	comp=Z,0.2nm,0.3s,baz=259,slow=3.8,SNR=4.1						
BRTR	Keskin Array B	115.73	312	PKP	PKPdf	16 11 10.4	+0.3
	comp=Z,0.9nm,0.6s,baz=117,slow=2.8,SNR=6.0						
BOSA	Boshof	120.58	233	PKP	PKPdf	16 11 20.3	+0.5
	comp=Z,6.8nm,0.7s,baz=136,slow=2.1,SNR=15						
BOSA	Boshof	120.58	233	ePKPdf	PKPdf	16 11 20.2	+0.4
LBTB	Lobatse	121.75	237	ePKPdf	PKPdf	16 11 22.3	+0.2
DPC	Dobruska-Polom	121.93	329	ePKPdf	PKPdf	16 11 22.8	+1.0
UPC	Upice	122.00	330	ePKPdf	PKPdf	16 11 23.2	+1.2
SUR	Sutherland	122.24	227	ePKPdf	PKPdf	16 11 24.2	+1.3
LSZ	Lusaka	122.62	249	ePKPdf	PKPdf	16 11 25.0	+1.1
PVCC	Panska Ves	122.70	330	ePKPdf	PKPdf	16 11 24.5	+1.2
BRG	Berggiesshubel	122.79	331	ePKIKP	PKPdf	16 11 24.7	+1.3
BRG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRG	Berggiesshubel	122.79	331	eP	PKPdf	16 11 24.7	+1.2
CLL	Collm	122.96	332	i PKIKP	PKPdf	16 11 24.5	+0.7
CLL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CLL	Collm	122.96	332	i PKIKP	PKPdf	16 11 24.5	+0.7
	comp=Z,logA/T=1.1						
NKC	Novy Kostel	123.93	331	ePKPdf	PKPdf	16 11 26.3	+0.6
MOX	Moxa	124.05	332	eP	PKPdf	16 11 28.0	+2.0
KHC	Kasperske Hory	124.09	329	ePKPdf	PKPdf	16 11 27.1	+1.0
GERES	GERESS Array B	124.20	329	PKP	PKPdf	16 11 27.4	+1.1
	comp=Z,2.5nm,0.5s,baz=78,slow=1.6,SNR=28						
GROS	Grobnik	124.70	326	ePKPbc	PKPdf	16 11 28.1	+0.7
GRA1	Grafenberg Arr	124.88	331	ePKP	PKPdf	16 11 28.4	+0.8
GRF	Grafenberg Arr	124.88	331	PKIKP	PKPdf	16 11 28.4	+0.8
BOJS	Bojanci	125.40	325	ePKPbc	PKPdf	16 11 29.7	+1.0
VISS	Visnje	125.46	326	ePKPbc	PKPdf	16 11 29.5	+0.7
LJU	Ljubljana	125.49	326	ePKPbc	PKPdf	16 11 30.0	+1.2
EKA	Eskdalemuir Ar	125.93	344	PKP	PKPdf	16 11 30.7	+1.3
	comp=Z,1.2nm,0.5s,baz=10,slow=3.0,SNR=7.4						
CFAA	Coronel Fontan	126.36	135	PKP	PKPdf	16 11 31.5	+0.6
	comp=Z,0.7nm,0.7s,baz=202,slow=1.5,SNR=17						
CFAA	Coronel Fontan	126.36	135	PKP	PKPdf	16 11 31.5	+0.6
GIVF	Givet	127.47	335	ePKP1	PKPdf	16 11 34.3	+1.8
DAVOX	Davos	127.50	329	PKP	PKPdf	16 11 34.7	+2.0
	comp=Z,3.0nm,0.5s,baz=229,slow=7.2,SNR=4.7						
CDF	Champ du Feu	127.64	332	ePKP1	PKPdf	16 11 33.2	+0.3
BAIF	Baives	127.76	336	ePKP1	PKPdf	16 11 34.9	+1.8
HINF	Hinteralfeld	128.26	332	ePKP1	PKPdf	16 11 34.3	+0.1
HAU	Haudompre	128.36	332	ePKP1	PKPdf	16 11 34.8	+0.5
	comp=Z,8.1nm,0.7s						
MEZF	Maizieres J'vi	128.58	334	ePKP1	PKPdf	16 11 35.7	+1.0
CABF	La Chapelle	129.50	331	ePKP1	PKPdf	16 11 38.8	+2.3
LPL	La Plagne	129.96	330	ePKP1	PKPdf	16 11 38.0	+0.5
	comp=Z,6.1nm,0.6s						
LPG	La Plagne	129.97	330	ePKP1	PKPdf	16 11 38.3	+0.8
	comp=Z,9.4nm,0.7s						
LOR	Lormes	130.04	333	ePKP1	PKPdf	16 11 39.4	+1.9
	comp=Z,38nm,1.4s						
SSF	Saint Saulge	130.35	334	ePKP1	PKPdf	16 11 40.0	+1.9
SMF	Signal de Mont	130.51	333	ePKP1	PKPdf	16 11 40.2	+1.7
	comp=Z,28nm,1.2s						
FLN	La Foliniere	130.65	338	ePKP1	PKPdf	16 11 40.4	+1.7
TSUM	Tsumeb	130.86	240	SKPbc		16 14 47.3	
	comp=Z,3.4nm,0.8s,baz=123,slow=2.1,SNR=8.1						
TSUM	Tsumeb	130.86	240	ePKPdf	PKPdf	16 11 40.4	+0.6
GRR	Gorron	131.10	338	ePKP1	PKPdf	16 11 41.2	+1.7
TCF	Toulx Ste Croi	131.52	334	ePKP1	PKPdf	16 11 42.4	+2.0
SGMF	Saint Gilles	131.84	339	ePKP1	PKPdf	16 11 42.5	+1.6
ROSF	Rostrenen	132.02	339	ePKP1	PKPdf	16 11 42.8	+1.5
MFF	Saint Martin d	132.27	336	ePKP1	PKPdf	16 11 43.7	+1.9
QUIF	Quistinic	132.34	339	ePKP1	PKPdf	16 11 43.3	+1.4
CAF	Calviac	132.63	333	ePKP1	PKPdf	16 11 45.0	+2.4
	comp=Z,21nm,1.2s						
LPAZ	La Paz	133.79	117	PKhKP		16 11 41.5	
	comp=Z,2.2nm,0.8s,baz=257,slow=5.4,SNR=3.7						
LPAZ				SKPbc		16 14 59.1	
	comp=Z,2.5nm,0.9s,baz=294,slow=4.1,SNR=7.6						
LPAZ	La Paz	133.79	117	PKP	PKPdf	16 11 41.5	-3.9
LPAZ				ePKPdf	PKPdf	16 11 47.1	+1.7
LPAZ				eSKP		16 14 58.4	
LPAZ				SKPbc		16 14 59.1	
SDV	Santo Domingo	135.75	82	PKP	PKPdf	16 11 50.3	+1.2
	comp=Z,26nm,0.8s,baz=272,slow=2.6,SNR=36						
SDV				SKPbc		16 15 04.3	
	comp=Z,3.4nm,0.6s,baz=221,slow=6.1,SNR=5.2						
SDV	Santo Domingo	135.75	82	ePKPdf	PKPdf	16 11 49.9	+0.8
SDV				eSKP		16 15 02.9	
SIV	San Ignacio	140.05	121	PKhKP		16 11 50.1	
	comp=Z,0.9nm,0.4s,baz=242,slow=5.3,SNR=7.7						
SIV				PKP	PKPdf	16 11 57.5	+0.6
	comp=Z,1.7nm,0.5s,baz=237,slow=5.1,SNR=8.1						
SIV				SKPbc		16 15 16.4	
	comp=Z,6.9nm,0.8s,baz=252,slow=3.2,SNR=19						
BDFB	Brasilia	150.67	133	PKPbc	PKPdf	16 12 21.1	+6.3
	comp=Z,12nm,0.4s,baz=227,slow=2.9,SNR=20						
BAO	Brasilia Array	150.69	133	PKPdf	PKPdf	16 12 15.0	+0.2
DBIC	Dimbokro	158.55	277	PKPab	PKPab	16 13 04.1	+0.1
	comp=Z,3.6nm,0.5s,baz=69,slow=6.1,SNR=7.1						

*IDC **07** 15:57:54.2±6.3, 7.86N×93.83E, h76km±57km, mb3.7/6, mb1 3.8/7, mb1mx3.5/21, mbtmp3.9/7, ML3.4/1, Error ellipse: s-maj=46.1km s-min=23.5km az=61.0*

ISC 07 15:57:53.2±7.1**, 7.9N**±0.2×**93.9E**±0.3**, h83**km±64km**, n9,** σ**0s63**/8**, mb3.8**/7**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.61	25	P	P	16 00 37.6	0.0
	0.1nm,0.3s,baz=214,slow=13,SNR=4.2						
WRA	Warramunga Arr	48.47	125	P	P	16 06 29.7	-0.1
	1.1nm,0.7s,mb3.8,baz=305,slow=8.7,SNR=3.6						
FINES	FINESS Array B	72.58	332	P	P	16 09 12.6	-0.5
	1.2nm,0.5s,mb4.0,baz=106,slow=5.2,SNR=12						
KAF	Kangasniemi	72.67	333	ep	P	16 09 12.8	-0.8
	0.7nm,0.3s,mb4.0,baz=106,slow=5.2						
ARCES	ARCESS Array B	75.17	340	P	P	16 09 28.8	+0.8
	1.4nm,0.9s,mb3.7,baz=108,slow=3.8,SNR=7.2						
BOSA	Boshof	75.37	238	P	P	16 09 30.0	+0.1
	1.0nm,0.4s,mb3.9,baz=51,slow=4.9,SNR=6.7						
GERES	GERESS Array B	77.65	318	P	P	16 09 42.6	+0.3
	0.5nm,0.4s,mb3.6,baz=90,slow=5.3,SNR=5.9						
HFS	Hagfors	78.32	330	P	P	16 09 45.9	+0.1
	0.5nm,0.4s,mb3.6,baz=146,slow=5.3,SNR=4.7						
CFAA	Coronel Fontan	151.10	213	PKPbc	PKPdf	16 17 39.0	+7.6
	0.2nm,0.3s,baz=179,slow=3.0,SNR=5.0						

*NEIC **07** 15:59:34.9±0.9, 51.47N×16.14E, h5km, ML2.9(VIE), ML2.4(CLL), Error ellipse: s-maj=9.9km s-min=5.7km az=184.0*

*CSEM **07** 15:59:35.6±0.1, 51.44N×16.09E, h0km, ML3.0/4, Error ellipse: s-maj=2.2km s-min=1.6km az=11.0*

*IPEC **07** 15:59:35.6±0.3, 51.45N×16.39E, ML2.3/4, Error ellipse: s-maj=3.4km s-min=1.9km az=91.0*

*PRU **07** 15:59:36.0, 51.42N×16.15E*

*IDC **07** 15:59:36.6±1.0, 51.44N×16.05E, mb1 3.3/5, mb1mx3.2/23, mbtmp3.2/5, ML2.9/4, Error ellipse: s-maj=16.6km s-min=9.3km az=121.0*

WAR 07 15:59:36.0, 51.46N×16.13E, h1km, ML2.9, 3C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	170	⇓iPg	Pg	15 59 47.4	-1.1
KSP				eSg	Sg	15 59 55.0	-1.8
KSP				e		16 00 00.0	
KSP	Ksiaz	0.63	170	i PG	Pg	15 59 47.4	-1.1
KSP				eSG	Sg	15 59 55.4	-1.4
KSP	Ksiaz	0.63	170	ePg	Pg	15 59 47.5	-1.0
KSP				eSg	Sg	15 59 55.0	-1.8
KSP	Ksiaz	0.63	170	ePg	Pg	15 59 47.3	-1.2
KSP				eSg	Sg	15 59 55.0	-1.8
UPC	Upice	0.96	185	ePG	Pg	15 59 53.4	-1.7
DPC	Dobruska-Polom	1.12	174	ePG	Pg	15 59 56.2	-2.1
DPC				eSG	Sg	16 00 10.8	-2.4
	25nm,0.3s						
DPC	Dobruska-Polom	1.12	174	ePg	Pg	15 59 56.2	-2.1
DPC				eSg	Sg	16 00 10.5	-2.7
PVCC	Panska Ves	1.36	227	ePG	Pg	16 00 00.9	-2.2
BRG	Berggiesshubel	1.50	248	eSg	Sg	16 00 24.0	-1.9
BRG	Berggiesshubel	1.50	248	Pn	Pn	16 00 02.2	-1.9
BRG				Pg	Pg	16 00 03.4	-2.5
BRG				Sg	Sg	16 00 24.0	-1.9
BRG	Berggiesshubel	1.50	248	Pn	Pn	16 00 02.2	-1.9
BRG	Berggiesshubel	1.50	248	Pg	Pg	16 00 03.4	-2.5
PRU	Pruhonice	1.79	215	ePG	Pg	16 00 08.1	-3.5
MORC	Moravsky Berou	1.91	151	ePn	Pn	16 00 08.2	-1.8
MORC				eSn	Sn	16 00 30.7	-4.3
MORC	Moravsky Berou	1.91	151	ePn	Pn	16 00 08.1	-1.9
MORC				eSn	Sn	16 00 30.7	-4.3
MORC				eSg	Sg	16 00 32.9	-6.7
	22nm,0.5s						
CLL	Collm	1.97	267	i Pn	Pn	16 00 08.6	-2.2
CLL				i Pg	Pg	16 00 12.2	-3.0
CLL				i Sg	Sg	16 00 37.9	-3.5
CLL	Collm	1.97	267	i PN	Pn	16 00 08.6	-2.2
CLL				i PG	Pg	16 00 12.2	-3.0
CLL				i		16 00 15.6	
CLL				i SG	Sg	16 00 37.9	-3.5
OKC	Ostrava-Krasne	2.07	141	ePG	Pg	16 00 13.8	-3.5
OKC				eSG	Sg	16 00 39.3	-5.6
VRAC	Vranov	2.17	172	Pn	Pn	16 00 14.1	+0.3
	baz=352,slow=16						
VRAC				Lg		16 00 43.6	
	2.7nm,0.3s,baz=93,slow=22,SNR=5.5						
VRAC	Vranov	2.17	172	ePn	Pn	16 00 13.3	-0.5
VRAC				eSg	Sg	16 00 43.2	-5.2
	11nm,0.3s						
KRUC	Moravsky	2.41	176	ePn	Pn	16 00 16.3	-0.8
KRUC				eSg	Sg	16 00 51.2	-4.9
	18nm,0.7s						
OJC	Ojcow	2.64	117	ePg	Pg	16 00 25.6	-3.0
OJC				eSg	Sg	16 00 59.5	-4.3
NKC	Novy Kostel	2.64	244	ePN	Pn	16 00 18.7	-1.7
NKC				ePG	Pg	16 00 25.1	-3.5
NKC				eSG	Sg	16 01 01.2	-2.6
	16nm,0.2s						
KHC	Kasperske Hory	2.85	216	ePN	Pn	16 00 21.8	-1.6
KHC				ePG	Pg	16 00 27.4	-5.5
KHC				eSG	Sg	16 01 05.2	-5.6
KHC	Kasperske Hory	2.85	216	ePg	Pg	16 00 27.4	-5.5
KHC				eSg	Sg	16 01 05.2	-5.6
MOX	Moxa	2.96	256	Pg	Pg	16 00 31.0	-4.2
MOX				Sg	Sg	16 01 11.0	-3.7
GERES	GERESS Array B	3.05	212	Pn	Pn	16 00 25.4	-0.8
	0.5nm,0.3s,baz=31,slow=13,SNR=15						
GERES				Pg	Pg	16 00 31.2	-5.7
	2.3nm,0.3s,baz=27,slow=15,SNR=30						
GERES				Lg		16 01 13.5	
	2.7nm,0.3s,baz=34,slow=29,SNR=24						
GERES	GERESS Array B	3.05	212	Pg	Pg	16 00 31.2	-5.6
NIE	Niedzica	3.37	126	eP	Pn	16 00 38.7	+7.9
NIE				eS	Sn	16 01 22.3	+10
MOA	Molln	3.81	199	⇑iPN	Pn	16 00 34.2	-2.9
MOA				i SG	Sg	16 01 36.8	-6.1
	4.4nm,0.4s						
ARSA	Arzberg	4.23	186	⇑iPN	Pn	16 00 39.7	-3.4
ARSA				i SG	Sg	16 01 50.4	-6.5
	12nm,0.7s						
KBA	Koelnbreinsper	4.75	204	⇑iPN	Pn	16 00 47.7	-2.7
KBA				i SG	Sg	16 02 07.2	-6.9
	5.2nm,0.7s						
AKASG	Malin Array Be	8.28	90	Pn	P	16 01 35.1	-5.0
	0.4nm,0.3s,baz=276,slow=11,SNR=4.1						
FINES	FINESS Array B	11.40	25	Pn	P	16 02 16.4	-6.5
	0.1nm,0.3s,baz=210,slow=11,SNR=3.4						
ARCES	ARCESS Array B	18.67	10	Pn	P	16 03 50.2	-6.8
	0.1nm,0.3s,baz=176,slow=14,SNR=5.7						

*NEIC **07** 16:28:29.7±1.9, 14.72S×167.25E, h176km±17km, mb4.3/8, Error ellipse: s-maj=16.0km s-min=11.0km az=181.0*

*IDC **07** 16:28:29.5±4.4, 14.68S×167.24E, h168km±35km, mb3.7/7, mb1 3.9/8, mb1mx3.7/16, mbtmp4.2/8, Error ellipse: s-maj=36.2km s-min=22.7km az=64.0*

ISC 07 16:28:28.8±2.4**, 14.8S**±0.1×**167.20E**±0.10**, h179**km±20km**, n31,** σ**0s99**/30**, mb4.1**/12**, 7C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.32	186	eP	P	16 30 14.7	+0.8
DZM				eS	S	16 31 35.0	-0.9
DZM	Mont Dzumac	7.32	186	P	P	16 30 14.6	+0.7
	2.3nm,0.3s,baz=77,slow=18,SNR=24						
DZM				S	S	16 31 39.0	+3.1
	1.4nm,0.3s,baz=303,slow=23,SNR=3.6						
DZM	Mont Dzumac	7.32	186	eP	P	16 30 14.7	+0.8
DZM				eS	S	16 31 35.0	-0.9
AFI	Afiamalu	20.38	90	eP	P	16 32 52.6	-0.6
	27nm,0.8s						
CTAO	Charters Tower	20.67	252	P	P	16 32 56.7	+0.6
STKA	Stephens Creek	28.93	229	⇑iP	P	16 34 14.7	+1.3
	6.8nm,0.6s,mb4.5						
STKA	Stephens Creek	28.93	229	P	P	16 34 14.7	+1.3
	8.9nm,0.6s,mb4.7,baz=37,slow=7.4,SNR=46						
STKA	Stephens Creek	28.93	229	eP	P	16 34 14.4	+0.9
WB2	Warramunga Arr	31.75	256	eP	P	16 34 36.7	-1.6
WRAB	Tennant Creek	31.75	256	eP	P	16 34 36.7	-1.6
WRA	Warramunga Arr	31.76	256	P	P	16 34 36.6	-1.8
	1.1nm,0.5s,mb3.8,baz=87,slow=9.5,SNR=9.3						
FITZ	Fitzroy Crossi	39.95	259	eP	P	16 35 47.7	+0.3
	7.4nm,0.9s,mb4.3						
MBWA	Marble Bar	45.48	255	eP	P	16 36 32.2	+0.1
	8.2nm,0.7s,mb4.5						
VNDA	Vanda	62.84	181	P	P	16 38 36.8	-0.5
	1.7nm,0.5s,mb4.1,baz=355,slow=7.6,SNR=15						
VNDA	Vanda	62.84	181	eP	P	16 38 36.4	-0.9
	1.9nm,0.6s,mb4.1						
SBA	Scott Base	63.11	180	eP	P	16 38 39.3	+0.2
	9.8nm,1.2s,mb4.5						
CASY	Casey	63.48	202	eP	P	16 38 41.4	-0.2
	3.7nm,0.6s,mb4.4						
CMAR	Chiang Mai Arr	74.90	294	P	P	16 39 53.0	+0.9
	1.0nm,0.7s,mb3.5,baz=152,slow=4.7,SNR=5.2						
MAW	Mawson	81.84	202	P	P	16 40 30.7	+1.8
	1.2nm,0.5s,mb3.8,baz=166,slow=4.2,SNR=7.1						
MAW	Mawson	81.84	202	eP	P	16 40 28.6	-0.2
	5.3nm,0.9s,mb4.2						
SONM	Songino Array	82.48	324	P	P	16 40 33.8	+1.2
	0.3nm,0.4s,mb3.2,baz=130,slow=5.5,SNR=3.9						
SNAA	Sanae	93.52	183	⇑	P	16 41 24.5	-0.3
SNAA	Sanae	93.52	183	⇑	pP	16 42 13.6	+3.8
SNAA	Sanae	93.52	183	eP	P	16 41 23.6	-1.2
	1.2nm,0.7s,mb4.1						
VNA3	Neumayer Olymp	94.19	181	⇑	P	16 41 28.5	+0.7
VNA3	Neumayer Olymp	94.19	181	⇑	pP	16 42 11.5	-1.3
VNA2	Neumayer--Watz	94.45	182	⇑	P	16 41 30.1	+1.0
VNA2	Neumayer--Watz	94.45	182	⇑	pP	16 42 16.1	+2.1
CPRX	Cap Rock	97.01	58	P	P	16 41 40.6	-1.0
MKAR	Makanchi Array	97.18	316	P	P	16 41 42.6	+0.6
	0.4nm,0.6s,mb3.9,baz=90,slow=5.8,SNR=4.8						
ARCES	ARCESS Array B	120.26	345	PKP	PKPdf	16 46 58.9	+0.8
	0.7nm,0.4s,baz=63,slow=2.0,SNR=16						

*NEIC **07** 16:30:07.8, 36.33N×23.02E, h30km, MD3.5(ATH), After ATH.*

*CSEM **07** 16:30:07.8, 36.33N×23.02E, h30km, MD3.5/11, After ATH*

ATH 07 16:30:07.8, 36.33N×23.02E, h30km±1km**, MD3.5**/11**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	Kithira	0.05	165	ePB	Pb	16 30 13.0	+0.1
VLI	Veliai	0.39	350	ePB	Pb	16 30 16.3	-0.3
ITM	Ithomi	1.22	314	ePN	Pn	16 30 31.6	+2.5
ITM				eSN	Sn	16 30 46.7	+2.0
VAM	Vamos	1.33	134	ePN	Pn	16 30 32.4	+1.8
VAM				eSN	Sn	16 30 49.8	+2.4
NAIG	Nisos Aigina	1.47	15	ePN	Pn	16 30 34.0	+1.3
NSAL	Nisos Salamina	1.61	13	ePB	Pb	16 30 35.5	-1.3
MGER	Gerania Oros	1.66	7	ePN	Pn	16 30 37.5	+2.1
MPAR	Parnis Oros	1.91	17	ePB	Pb	16 30 41.0	-0.8
APE	Apeiranthos	2.15	69	ePB	Pb	16 30 44.5	-1.4
LKR	Lokris	2.32	360	ePN	Pn	16 30 45.9	+1.1
NPS	Neapolis	2.36	116	ePN	Pn	16 30 46.5	+1.1
NPS				eSN	Sn	16 31 14.6	+0.9
EVR	Evrytania	2.75	340	ePN	Pn	16 30 52.6	+1.6
KARP	Karpathos	3.45	102	ePN	Pn	16 31 01.9	+1.0

CASC 07 16:31:02.2±2.6**, 8.44N×82.94W, h0**km±6km**, MD3.8, MW3.4, 3C-2D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.31	313	eP	Pg	16 31 09.4	+1.1
ACR				eS	Sg	16 31 15.5	+3.1
SVTC	San Vito de Co	0.34	357	⇓iP	Pg	16 31 11.0	+1.9
DVD	David	0.49	91	⇑eP	Pg	16 31 12.1	+0.2
DVD				eS	Sg	16 31 21.7	+3.3
BRU	Baru	0.52	46	⇓iP	Pg	16 31 14.3	+1.6
BRU				eS	Sg	16 31 24.4	+4.8
PTP1	Petroterminal	0.56	115	⇑iP	Pg	16 31 08.8	-4.6
PTP1				eS	Sg	16 31 13.8	-7.1
CNI	Changuinola	1.06	23	⇑iP	Pb	16 31 23.2	+0.1
SFX2	San Felix	1.07	98	eP	Pb	16 31 21.3	-2.1
LCR2	La Lucha 2	1.66	321	eP	Pn	16 31 31.2	-1.6
LCR2				eS	Sb	16 31 57.0	+2.1
PRS1	Puriscal	2.04	319	eP	Pn	16 31 38.0	-0.2
PRS1				eS	Sn	16 32 04.8	0.0
TRTC	Tortuguero	2.25	340	eP	Pn	16 31 39.0	-2.3

*NEIC **07** 16:35:24.1±1.0, 15.55S×175.00W, h281km±9km, mb4.3/13, Error ellipse: s-maj=16.3km s-min=7.4km az=139.0*

*IDC **07** 16:35:24.3±1.4, 15.57S×174.96W, h280km±12km, mb3.8/9, mb1 4.1/10, mb1mx3.8/17, mbtmp4.4/10, Error ellipse: s-maj=27.1km s-min=13.2km az=134.0*

ISC 07 16:35:23.2±1.0**, 15.5S**±0.1×**175.0W**±0.1**, h284**km±9km**, n81,** σ**0s59**/36**, mb4.1**/18**, 3C, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	3.55	63	P	P	16 36 24.4	+0.3
	22nm,0.3s,baz=129,slow=1.8,SNR=20						
AFI				S	S	16 37 11.5	-0.1
	62nm,0.3s,baz=63,slow=20,SNR=12						
AFI	Afiamalu	3.55	63	ePn	P	16 36 23.9	-0.2
STKA	Stephens Creek	42.60	240	P	P	16 42 53.4	-0.1
WB2	Warramunga Arr	48.26	257	eP	P	16 43 38.4	+0.4
WRAB	Tennant Creek	48.26	257	eP	P	16 43 38.3	+0.3
	5.6nm,0.9s,mb3.9						
WRA	Warramunga Arr	48.27	257	P	P	16 43 38.7	+0.6
	2.3nm,0.5s,mb3.8,baz=90,slow=6.8,SNR=38						
WRA				PcP	PcP	16 45 00.2	-0.5
	1.0nm,0.5s,baz=93,slow=3.5,SNR=5.5						
MBWA	Marble Bar	61.80	254	P	P	16 45 12.9	-1.6
	15nm,1.2s,mb4.5						
SBA	Scott Base	62.99	184	eP	P	16 45 21.6	+0.1
	4.8nm,0.7s,mb4.2						
VNDA	Vanda	63.09	185	P	P	16 45 21.9	-0.2
	3.3nm,0.9s,mb4.0,baz=4.4,slow=6.7,SNR=14						
VNDA	Vanda	63.09	185	eP	P	16 45 21.3	-0.8
	4.3nm,1.0s,mb4.0						
CMB	Columbia Colle	73.92	42	eP	P	16 46 29.1	-0.2
	6.9nm,0.9s,mb4.3						
YBH	Yreka Blue Hor	74.67	38	P	P	16 46 34.2	+0.7
	6.3nm,0.7s,mb4.4,baz=181,slow=1.7,SNR=18						
YBH	Yreka Blue Hor	74.67	38	eP	P	16 46 33.7	+0.2
	7.3nm,0.7s,mb4.4						
NVAR	Mina Array Bea	75.49	43	P	P	16 46 38.7	+0.5
	4.7nm,0.8s,mb4.2,baz=216,slow=7.4,SNR=26						
LDFC	Landfair	75.89	47	eP	P	16 46 39.0	-1.5
NEN	Nelson	76.36	47	eP	P	16 46 42.6	-0.5
WVOR	Wild Horse Val	77.53	39	eP	P	16 46 49.6	+0.3
	8.0nm,1.0s,mb4.4						
ELK	Elko	78.74	42	P	P	16 46 56.1	+0.2
	1.9nm,0.7s,mb3.9,baz=232,slow=1.1,SNR=7.6						
ELK	Elko	78.74	42	eP	P	16 46 55.5	-0.4
	6.0nm,1.1s,mb4.2						
BMO	Blue Mountains	79.69	38	eP	P	16 46 59.8	-1.1
	4.1nm,1.0s,mb4.1						
HLID	Hailey	80.74	40	eP	P	16 47 06.6	+0.2
	6.7nm,1.0s,mb4.3						
TXAR	Lajitas Array	82.00	57	P	P	16 47 13.6	+0.3
	1.9nm,1.0s,mb3.8,baz=220,slow=9.0,SNR=13						
ANMO	Albuquerque	82.10	51	eP	P	16 47 14.1	+0.5
	2.7nm,0.9s,mb4.0						
MCMT	McKenzie Canyo	82.36	39	eP	P	16 47 15.7	+0.9
GDL2	Guadalupe Moun	82.57	54	eP	P	16 47 16.7	+0.6
ILAR	Eielson Array	82.89	12	P	P	16 47 17.0	0.0
	1.5nm,0.7s,mb3.9,baz=219,slow=5.8,SNR=11						
CHMT	Chamberlain Mo	83.19	37	eP	P	16 47 18.8	-0.1
QLMT	Earthquake Lak	83.23	40	P	P	16 47 19.7	+0.5
PDAR	Pinedale Array	83.43	42	P	P	16 47 20.0	-0.2
	3.8nm,0.8s,mb4.3,baz=210,slow=2.7,SNR=21						
SDCO	Great Sand Dun	83.98	48	eP	P	16 47 22.3	-0.8
	2.9nm,0.9s,mb4.1						
MAW	Mawson	87.16	199	P	P	16 47 38.0	+0.1
	2.6nm,0.8s,mb4.1,baz=135,slow=5.7,SNR=6.3						
MAW	Mawson	87.16	199	eP	P	16 47 38.0	+0.1
	6.6nm,0.9s,mb4.5						
SNAA	Sanae	92.85	178		P	16 47 59.5	-4.9
VNA3	Neumayer Olymp	92.86	175		P	16 48 04.5	0.0
VNA2	Neumayer--Watz	93.34	176		P	16 48 07.2	+0.5
MKAR	Makanchi Array	109.79	315	PKiKP		16 53 20.9	
	0.3nm,0.6s,baz=207,slow=2.7,SNR=4.9						
ARCES	ARCESS Array B	124.51	351	PKP	PKPdf	16 53 48.9	+0.6
	3.2nm,0.7s,baz=45,slow=1.7,SNR=15						
FINES	FINESS Array B	131.72	347	PKP	PKPdf	16 54 02.3	0.0
	0.6nm,0.8s,baz=321,slow=2.4,SNR=4.9						
KOLS	Kolonicke sedl	143.80	341	ePKP	PKPdf	16 54 24.7	+0.4
HILS	Ha'il	143.88	295	P	PKPbc	16 54 26.5	+2.1
UPC	Upice	143.99	348	ePKP	PKPdf	16 54 25.1	+0.5
KMBO	Kilima Mbogo	144.04	245	PKP	PKPdf	16 54 25.8	-0.1
	2.9nm,0.7s,baz=22,slow=7.2,SNR=5.0						
DPC	Dobruska-Polom	144.07	348	ePKP	PKPdf	16 54 25.8	+1.1
OKC	Ostrava-Krasne	144.14	345	ePKP	PKPdf	16 54 25.7	+0.8
PVCC	Panska Ves	144.24	349	ePKP	PKPdf	16 54 25.9	+0.9
MOX	Moxa	144.57	353	ePKP	PKPdf	16 54 26.7	+1.1
MOX	Moxa	144.57	353	i P	PKPdf	16 54 26.7	+1.1
	logA/T=1.1						
KECS	Kecovo	144.75	342	i PKP	PKPdf	16 54 28.0	+2.0
PRU	Pruhonice	144.76	349	ePKP	PKPdf	16 54 27.4	+1.4
NKC	Novy Kostel	144.86	352	ePKP	PKPdf	16 54 27.7	+1.5
VYHS	Vyhne	145.21	344	ePKP	PKPdf	16 54 28.9	+2.1
BR131	Keskin Array S	145.25	320	eP	PKPdf	16 54 29.3	+2.1
BRTR	Keskin Array B	145.25	320	PKPbc	PKPbc	16 54 29.4	+1.5
	4.2nm,0.7s,baz=114,slow=2.8,SNR=25						
GRA1	Grafenberg Arr	145.55	353	ePKP	PKPdf	16 54 31.0	+3.7
BAIF	Baives	145.56	1	ePKP1	PKPbc	16 54 31.2	+2.9
KHC	Kasperske Hory	145.76	350	ePKP	PKPdf	16 54 29.7	+2.0
GERES	GERESS Array B	146.01	350	PKPbc	PKPbc	16 54 30.6	+1.2
	3.0nm,0.8s,baz=18,slow=3.1,SNR=22						
FLN	La Foliniere	146.56	7	ePKP1	PKPbc	16 54 32.1	+1.3
	16nm,0.8s						
SGMF	Saint Gilles	146.79	9	ePKP1	PKPbc	16 54 33.3	+2.0
GRR	Gorron	146.89	7	ePKP1	PKPbc	16 54 33.3	+1.8
	7.7nm,0.6s						
QUIF	Quistinic	147.02	10	ePKP1	PKPdf	16 54 33.9	+3.8
	36nm,1.0s						
CDF	Champ du Feu	147.16	357	ePKP1	PKPdf	16 54 34.4	+4.1
	22nm,1.1s						
HAU	Haudompre	147.60	358	ePKP1	PKPdf	16 54 35.5	+4.6
HINF	Hinteralfeld	147.77	358	ePKP1	PKPdf	16 54 35.7	+4.6
KBA	Koelnbreinsper	147.78	349	⇑iP	PKPdf	16 54 35.1	+3.9
WTTA	Wattenberg	147.88	351	⇑iP	PKPdf	16 54 36.2	+4.9
DAVA	Damuels	148.08	354	⇑iP	PKPdf	16 54 37.5	+5.9
LOR	Lormes	148.35	1	ePKP1	PKPdf	16 54 37.5	+5.4
	6.4nm,0.7s						
SSF	Saint Saulge	148.54	2	ePKP1	PKPdf	16 54 38.1	+5.7
MFF	Saint Martin d	148.73	7	ePKP1	PKPdf	16 54 38.0	+5.3
SMF	Signal de Mont	148.97	1	ePKP1	PKPdf	16 54 39.6	+6.5
CABF	La Chapelle	149.00	358	ePKP1	PKPdf	16 54 39.7	+6.6
	16nm,0.9s						
HAQS	Haql	149.28	301	P	PKPdf	16 54 40.9	+6.8
BDAS	Al Bad'	149.34	300	P	PKPdf	16 54 41.0	+6.8
TAYS	Tayyib Ism	149.49	300	P	PKPdf	16 54 41.4	+7.0
LPL	La Plagne	150.07	357	ePKP1	PKPdf	16 54 42.8	+8.0
LPG	La Plagne	150.09	357	ePKP1	PKPdf	16 54 42.9	+8.1
	11nm,0.9s						
RJF	Les Rejaudoux	150.18	5	ePKP1	PKPdf	16 54 41.3	+6.4
ORIF	Oris-en-Rattie	150.70	359	ePKP1	PKPdf	16 54 44.4	+8.7
	14nm,1.0s						
MBDF	Montbardon	150.86	357	ePKP1	PKPdf	16 54 44.7	+8.7
	3.7nm,0.6s						

ETSF	Etsaut	152.32	9	*e*PKP1	PKPdf	16 54 47.7	+9.5
	5.6nm,0.7s						

ISC 07 16:36:17.9±0.7,38.12N±0.04×28.89E±0.06,h10km,n7, σ0^{s}84/12,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	Denizli	0.39	163	PG	Pg	16 36 24.6	-1.3
DENT				SG	Sg	16 36 31.4	+0.3
DNZL	Cakiroluk	0.45	164	*i* P	Pg	16 36 27.0	0.0
DNZL				*i* S	Sg	16 36 33.0	-0.2
MANT	Manisa	0.45	325	*i* P	Pg	16 36 27.1	+0.1
MANT				*i* S	Sg	16 36 33.1	-0.1
KHL	Karahalli	0.54	68	PG	Pg	16 36 27.7	-1.1
AYDN	Tasoluk	0.92	240	*i* P	Pb	16 36 35.5	0.0
AYDN				*i* S	Sb	16 36 48.1	+0.4
TKTP	Tekketepe	1.13	94	*i* P	Pb	16 36 41.3	+2.2
TKTP				*i* S	Sb	16 36 59.6	+6.0
AKS	Akhisar	1.13	312	*e*PG	Pg	16 36 31.3	-9.3

NNC 07 16:41:56.5±7.3,40.74N×72.34E,h12km±34km,mpv3.6, Error ellipse: s-maj=45.7km s-min=27.0km az=14.0

ISC 07 16:41:51.5±2.8,40.0N±0.2×72.0E±0.1,h33km,n14, σ1^{s}61/15,5C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	2.45	31	P	P	16 42 26.8	-3.1
	SNR=370						
UCH	Uchtor	2.89	40	P	P	16 42 34.4	-1.8
	SNR=190						
KZA	Kyzart	3.19	49	P	P	16 42 41.2	+0.7
	SNR=60						
AAK	Ala-Archa	3.20	35	P	P	16 42 39.9	-0.7
	SNR=27						
AAK	Ala-Archa	3.20	35	⇑Pn	Pn	16 42 38.6	-2.2
	20nm,0.2s						
AAK				⇑Lg		16 43 11.8	
	158nm,0.6s						
KK31	Karatay Array	3.25	340	Pn	Pn	16 42 42.6	+1.1
	4.5nm,0.3s,baz=137,slow=13,SNR=88						
KK31				⇑Sn	S	16 43 19.2	-0.2
	3.8nm,0.2s,baz=164,slow=28,SNR=3.8						
KK31				⇓Lg		16 43 26.2	
	36nm,0.6s,baz=154,slow=27						
KBK	Karagaybulak	3.43	39	P	P	16 42 43.7	-0.1
	SNR=44						
CHMS	Chumysh	3.60	34	P	P	16 42 48.2	+1.9
	SNR=14						
USP	Ospenovka	3.73	29	P	P	16 42 50.0	+1.9
	SNR=88						
ULHL	Ulahol	3.89	54	P	P	16 42 54.1	+3.7
	SNR=9.7						
TKM2	Tokmak 2	3.95	42	P	P	16 42 54.2	+3.0
	SNR=13						
MK31	Makanchi Array	10.07	45	⇓Pn	P	16 44 13.6	-3.3
	0.5nm,0.5s,baz=223,slow=12,SNR=10						
MK31				⇑Lg		16 46 52.7	
	3.0nm,1.1s,baz=238,slow=30,SNR=3.6						
AB31	Akbulak array	12.57	321	Pn	P	16 44 50.0	-0.7
	0.2nm,0.4s,baz=126,slow=14,SNR=5.1						
AB31				⇑Sn	S	16 47 03.2	-7.3
	0.1nm,0.3s						
VOSK	Vostochnaya	12.70	357	⇓Lg		16 48 17.6	
	7.2nm,1.6s						

IDC 07 16:57:56.6±1.1,6.32N×37.73E,mb3.8/7,mb1 4.0/9, mb1mx3.8/20,mbtmp3.9/9,ML3.6/2,MS3.2/4,Ms1 3.2/4, ms1mx3.0/22,Error ellipse: s-maj=38.1km s-min=20.5km az=108.0

NEIC 07 16:57:57.4±0.5,6.29N×37.70E,h10km,mb4.7/4,Error ellipse: s-maj=15.2km s-min=8.3km az=119.0

ISC 07 16:57:55.6±0.6,6.28N±0.08×37.7E±0.1,h10km,n21, σ0^{s}83/22,mb4.2/11,MS3.3/2,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATD	Arta Tunnel	7.27	44	Pn	Pn	16 59 45.2	+0.7
	0.5nm,0.3s,baz=233,slow=20,SNR=3.9						
ATD				Pg	Pg	17 00 07.4	-13
	1.8nm,0.3s,baz=228,slow=18,SNR=7.6						
ATD				Lg		17 01 41.9	
	6.5nm,0.3s,baz=276,slow=22,SNR=9.4						
ATD				LR	LR	17 02 21.5	
	comp=Z,113nm,22.0s,baz=171,slow=37						
ATD	Arta Tunnel	7.27	44	Pn	Pn	16 59 45.2	+0.7
ATD				Pg	Pg	17 00 07.4	-13
ATD				Lg		17 01 41.9	
ATD				LR	LR	17 02 21.5	
KMBO	Kilima Mbogo	7.37	184	Pn	Pn	16 59 46.4	+0.4
	1.9nm,0.3s,baz=356,slow=15,SNR=19						
KMBO				Lg		17 01 45.5	
	5.5nm,0.3s,baz=62,slow=22,SNR=8.7						
KMBO				LR	LR	17 02 25.1	
	comp=Z,169nm,18.6s,baz=98,slow=36						
KMBO	Kilima Mbogo	7.37	184	Pn	Pn	16 59 46.4	+0.4
KMBO				Lg		17 01 45.5	
KMBO				LR	LR	17 02 25.1	
MBAR	Mbarara	9.77	226	P	P	17 00 16.6	-2.8
	2.4nm,0.7s						
EIL	Elat	23.41	354	P	P	17 03 05.9	+0.1
BRTR	Keskin Array B	33.50	354	P	P	17 04 38.3	+0.8
	0.3nm,0.4s,mb3.5,baz=180,slow=16,SNR=3.0						
BOSA	Boshof	36.71	199	P	P	17 05 06.2	+1.2
	1.7nm,0.8s,mb3.9,baz=9.9,slow=14,SNR=3.3						
DBIC	Dimbokro	42.30	273	LR	LR	17 23 04.0	
	comp=Z,63nm,19.8s,MS3.5,baz=66,slow=36						
GERES	GERESS Array B	47.05	338	P	P	17 06 30.2	+1.0
	0.2nm,0.5s,mb3.3,baz=153,slow=3.0,SNR=4.1						
GERES				LR	LR	17 26 47.9	
	comp=Z,23nm,18.1s,MS3.2,baz=158,slow=37						
KOLN	Koldanda	48.42	58	*e*P	P	17 06 40.3	0.0
	32nm,1.4s,mb5.1						
GKN	Gorkha	49.37	58	*e*P	P	17 06 47.0	-0.6
	16nm,1.0s,mb5.0						
DMN	Daman	49.65	59	*e*P	P	17 06 49.8	0.0
	14nm,0.9s,mb5.0						
KKN	Kakani	49.85	59	*e*P	P	17 06 51.2	-0.1
PKI	Pulchoki	49.90	59	*e*P	P	17 06 51.3	-0.4
	11nm,1.1s,mb4.8						
GUN	Gumba	50.40	59	*e*P	P	17 06 54.5	-1.0
MKAR	Makanchi Array	55.56	36	P	P	17 07 33.4	-0.2
	3.3nm,0.8s,mb4.4,baz=231,slow=5.8,SNR=32						
MKAR	Makanchi Array	55.56	36	P	P	17 07 33.4	-0.2
NOA	NORSAR Array B	58.14	345	P	P	17 07 50.4	-1.3
	1.3nm,0.9s,mb4.0,baz=149,slow=6.9,SNR=3.6						
ZAL	Zalesovo	60.80	30	P	P	17 08 09.6	-0.5
	1.1nm,0.7s,mb4.1,baz=238,slow=7.0,SNR=6.5						
SONM	Songino Array	71.10	42	P	P	17 09 17.2	+1.0
	0.2nm,0.4s,mb3.4,baz=120,slow=16,SNR=5.2						

MOS 07 17:41:08.3±1.1,26.87N×97.28E,h33km,mb4.5/12,Error ellipse: s-maj=15.4km s-min=9.3km az=111.7

NEIC 07 17:41:10.9±1.0,26.94N×97.25E,h36km±10km,mb4.4/10, Error ellipse: s-maj=10.2km s-min=7.4km az=219.0

BJI 07 17:41:10.6,27.01N×97.24E,h39km,mB4.7,mb4.5,ML4.0, Ms4.1,Msz4.0

IDC 07 17:41:11.1±4.1,26.93N×97.32E,h38km±36km,mb3.8/16, mb1 4.0/17,mb1mx3.9/23,mbtmp4.0/17,ML3.7/1,MS3.6/10, Ms1 3.6/10,ms1mx3.4/22,Error ellipse: s-maj=20.1km s-min=13.8km az=46.0

ISC 07 17:41:08.4±1.4,26.95N±0.04×97.17E±0.03,h32km±10km, n76,σ1^{s}46/79,mb4.2/28,MS3.6/9,2C,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKP	Lekhapani	1.06	291	*e*P	Pn	17 41 33.0	+5.9
LKP				*e*		17 41 58.0	
IMP	Imphal	3.63	234	*e*P	Pn	17 42 07.0	+3.2
IMP				*e*		17 42 32.0	
SHL	Shillong	4.94	255	*e*P	Pn	17 42 22.2	-0.3
SHL				*e*		17 43 29.0	
KMI	Kunming	5.33	109	P	Pn	17 42 30.6	+2.7
KMI				Smax			
	comp=N,117nm,1.2s						
KMI				Smax			
	comp=E,133nm,1.2s						
KMI				LR	LR		
	comp=N,1μm,9.0s						
KMI				LR	LR		
	comp=E,1μm,8.3s						
KMI				LR	LR		
	comp=Z,1μm,9.3s						
LSA	Lhasa	5.97	299	P	Pn	17 42 39.1	+2.1
LSA				S	Sn	17 43 41.8	-3.2
LSA				Smax			
	comp=N,30nm,1.5s						
LSA				Smax			
	comp=E,30nm,1.0s						
LSA	Lhasa	5.97	299	*e*P	Pn	17 42 38.3	+1.3
LSA				pmax	pmax		
	comp=Z,26nm,0.6s						
LSA	Lhasa	5.97	299	*e*Pn	Pn	17 42 38.3	+1.3
	comp=Z,26nm,0.6s						
CD2	Chengdu	6.99	54	P	Pn	17 42 53.2	+1.9
GYA	Guiyang	8.50	91	⇑*i*P	P	17 43 13.0	+0.6
GYA				S	Sn	17 44 49.6	+1.4
GYA				AMB	AMB		
	comp=Z,60nm,0.9s						
GYA				AMB	AMB		
	comp=Z,430nm,3.9s						
GYA				LR	LR		
	comp=N,480nm,10.1s						
GYA				LR	LR		
	comp=E,880nm,9.6s						
GYA				LR	LR		
	comp=Z,740nm,8.7s						
CMAR	Chiang Mai Arr	8.61	169	Pn	P	17 43 13.2	-0.6
	comp=Z,0.2nm,0.3s,baz=350,slow=13,SNR=9.4						
CMAR				LR	LR	17 47 00.6	
	comp=Z,90nm,19.8s,baz=340,slow=41						
GUN	Gumba	10.08	278	*e*P	P	17 43 32.9	-1.3
	comp=Z,135nm,0.4s						
PKI	Pulchoki	10.49	276	*e*P	P	17 43 37.5	-2.2
	comp=Z,86nm,0.5s						
KKN	Kakani	10.61	277	*e*P	P	17 43 39.3	-2.0
	comp=Z,110nm,0.5s						
LZH	Lanzhou	10.74	30	*e*P	P	17 43 43.8	+0.7
LZH				PP	PP	17 43 51.8	+1.0
LZH				XP		17 44 00.8	
LZH				S	S	17 45 41.1	-2.1
LZH				SS	SS	17 45 54.4	-2.5
LZH				AMB	AMB		
	comp=Z,20nm,1.0s						
LZH				AMB	AMB		
	comp=Z,130nm,4.0s						
LZH				LR	LR		
	comp=N,1μm,9.8s						
LZH				LR	LR		
	comp=Z,1μm,10.0s						
DMN	Daman	10.76	276	*e*P	P	17 43 41.1	-2.3
	comp=Z,62nm,0.6s						
GKN	Gorkha	11.18	278	*e*P	P	17 43 46.3	-2.9
	comp=Z,151nm,0.7s						
ENH	Enshi	11.31	70	*e*P	P	17 43 49.5	-1.5
	comp=Z,14nm,0.8s						
KOLN	Koldanda	12.09	277	*e*P	P	17 43 57.7	-3.8
	comp=Z,76nm,0.7s						
XAN	Xi'an	12.35	52	P	P	17 44 02.3	-2.6
XAN				AP		17 44 13.9	
XAN				LG2		17 47 53.5	
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s						
XAN				LR	LR		
	comp=N,102nm,8.5s						
XAN				LR	LR		
	comp=E,173nm,8.7s						
XAN				LR	LR		
	comp=Z,335nm,8.8s						
GTA	Gaotai	12.62	9	*e*P	P	17 44 07.0	-1.6
GTA				AP		17 44 16.3	
GTA				XP		17 44 21.0	
GTA				S	S	17 46 21.7	-7.3
GTA				LG2		17 47 48.4	
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s						
GTA				AMB	AMB		
	comp=Z,51nm,5.7s						
GTA				LR	LR		
	comp=N,529nm,11.0s						
GTA				LR	LR		
	comp=E,336nm,11.4s						
GTA				LR	LR		
	comp=Z,560nm,11.8s						
BLSP	Bilaspur	14.50	254	AMb	AMB	17 44 32.2	
	comp=Z,22nm,1.3s						
BLSP				*e*P		17 44 32.9	
BLSP				*e*		17 46 51.9	
BLSP				AML	AML	17 47 06.1	
	comp=N,14nm,0.3s						
BLSP				AML	AML	17 47 06.2	
	comp=E,25nm,0.3s						
VIS	Vishakhapatnam	15.75	237	*e*	P	17 44 38.4	-11
BHPL	Bhopal	18.26	263	*e*P	P	17 45 20.5	-0.8
BHPL				AMb	AMB	17 45 22.8	
	comp=Z,22nm,1.0s						
BHPL				*e*		17 48 32.4	
BHPL				AML	AML	17 48 45.7	
	comp=E,4.5nm,0.3s						
BHPL				AML	AML	17 48 46.1	
	comp=N,4.5nm,0.5s						
HHC	Hu-ho-hao-te	18.27	37	*e*P	P	17 45 21.0	-0.2
HHC				XP		17 45 36.6	
HHC				PP	PP	17 45 39.3	+3.1
HHC				S	S	17 48 39.1	-1.5
HHC				XS		17 48 53.5	
HHC				SS	SS	17 49 02.5	-1.8
HHC				PCP	PcP	17 49 52.9	-0.2
HHC				AMB	AMB		
	comp=Z,11nm,1.2s						
HHC				AMB	AMB		
	comp=Z,85nm,7.2s						
HHC				LR	LR		
	comp=N,481nm,13.5s						
HHC				LR	LR		
	comp=E,259nm,13.5s						
HHC				LR	LR		
	comp=Z,554nm,11.7s						
WMQ	Urumqi	18.50	338	*e*P	P	17 45 25.5	+1.5
WMQ				AP		17 45 35.0	
WMQ				XP		17 45 41.2	
WMQ				PP	PP	17 45 42.0	+2.5
WMQ				S	S	17 48 46.9	+1.1
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,35nm,4.2s						
WMQ				LR	LR		
	comp=N,354nm,9.3s						
WMQ				LR	LR		
	comp=E,252nm,9.4s						
WMQ				LR	LR		
	comp=Z,534nm,10.2s						
NJ2	Nanjing	19.54	70	*e*P	P	17 45 37.1	+0.9
NJ2				AP		17 45 47.1	
NJ2				XP		17 45 53.3	
NJ2				PP	PP	17 45 55.7	+1.7
NJ2				S	S	17 49 07.0	-2.2
NJ2				XS		17 49 22.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,40nm,5.1s						
NJ2				LR	LR		
	comp=N,400nm,12.6s						
NJ2				LR	LR		
	comp=E,1μm,11.0s						
NJ2				LR	LR		
	comp=Z,570nm,11.2s						
SONM	Songino Array	22.07	17	P	P	17 46 03.2	+1.0
	comp=Z,0.8nm,0.5s,mb3.4,baz=194,slow=10,SNR=7.5						
SONM				LR	LR	17 55 31.2	
	comp=Z,146nm,21.7s,MS3.4,baz=244,slow=39						
ULN	Ulaanbaatar	22.27	18	P	P	17 45 58.8	-5.4
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
ULN	Ulaanbaatar	22.27	18	P	P	17 45 58.8	-5.3
	comp=Z,7.5nm,1.0s,mb4.1						
MKAR	Makanchi Array	23.03	333	P	P	17 46 13.5	+1.8
	comp=Z,2.6nm,0.6s,mb3.8,baz=149,slow=7.1,SNR=19						
MKAR				PcP	PcP	17 50 02.5	+0.5
	comp=Z,0.2nm,0.5s,baz=180,slow=2.9,SNR=4.7						
ZAK	Zakamensk	23.86	10	⇑*i*P	P	17 46 21.5	+1.9
ZAK				*e*		17 50 02.5	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.4						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.2						
AAK	Ala-Archa	24.21	316	*e*P	P	17 46 25.7	+2.5
AAK				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.2						
AAK	Ala-Archa	24.21	316	*e*P	P	17 46 25.7	+2.5
	comp=Z,16nm,1.5s,mb4.2						
JOW	Kunigami	27.71	83	P	P	17 46 54.5	-1.4
	comp=Z,12nm,0.9s,mb4.5,baz=177,slow=21,SNR=3.0						
JOW				LR	LR	17 58 38.1	
	comp=Z,114nm,19.1s,MS3.5,baz=99,slow=38						
KSM	Kuching	28.30	151	*e*P	P	17 47 03.2	+1.9
ZAL	Zalesovo	28.47	345	P	P	17 47 02.4	-0.1
	comp=Z,0.7nm,0.4s,mb3.7,baz=285,slow=7.5,SNR=2.1						
JNU	Nakatsue	29.74	70	LR	LR	18 00 32.2	
	comp=Z,202nm,18.4s,MS3.8,baz=347,slow=39						
BVAR	Borovoye Array	32.80	330	P	P	17 47 41.6	+0.9
	comp=Z,0.8nm,0.6s,mb3.8,baz=136,slow=11,SNR=6.3						
BVAR				PcP	PcP	17 50 24.7	-0.8
	comp=Z,0.6nm,0.4s,baz=173,slow=4.2,SNR=4.1						
MJAR	Matsushiro Arr	35.96	64	P	P	17 48 07.1	-1.0
	comp=Z,1.6nm,0.5s,mb4.2,baz=264,slow=9.6,SNR=7.5						
MJAR				LR	LR	18 04 14.2	
	comp=Z,85nm,18.8s,MS3.5,baz=310,slow=38						
ARU	Arti	40.33	328	*e*P	P	17 48 48.2	+3.8
ARU				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.1						
ARU	Arti	40.33	328	P	P	17 48 45.0	+0.7
	comp=Z,14nm,1.8s,mb4.4						
YSS	Yuzh-Sakhalins	40.85	48	*e*P	P	17 48 50.0	+1.2
YSS	Yuzh-Sakhalins	40.85	48	P	P	17 48 47.0	-1.8
	comp=Z,8.9nm,0.9s,mb4.4						
GNI	Garni	45.03	301	*i* P	P	17 49 29.2	+6.3
GNI				pmax	pmax		
	comp=Z,14nm,1.1s						
GUMO	Guam	46.41	97	P	P	17 49 28.4	-5.7
MALT	Malatya	50.01	299	P	P	17 50 02.9	+1.1
MALT				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
MALT	Malatya	50.01	299	P	P	17 50 02.9	+1.1
	comp=Z,2.2nm,0.8s,mb4.2						
OBN	Obninsk	51.63	320	*e*P	P	17 50 20.9	+7.0
OBN				*e*		17 52 16.9	
OBN				*e*S	S	17 57 29.6	-1.7
OBN				*e*SS	SS	18 01 05.9	+0.4
OBN				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
MBWA	Marble Bar	52.58	153	*e*P	P	17 50 22.4	+0.9
	comp=Z,30nm,1.6s,mb5.0						
BRTR	Keskin Array B	53.58	301	P	P	17 50 29.6	+1.0
	comp=Z,1.3nm,0.6s,mb4.1,baz=115,slow=8.4,SNR=7.0						
AKASG	Malin Array Be	55.87	315	P	P	17 50 44.4	-0.7
	comp=Z,1.5nm,0.6s,mb4.2,baz=79,slow=6.5,SNR=5.0						
AKASG	Malin Array Be	55.87	315	P	P	17 50 44.4	-0.7
FINES	FINESS Array B	57.70	327	P	P	17 50 59.4	+1.4
	comp=Z,1.5nm,0.7s,mb4.2,baz=108,slow=6.0,SNR=5.0						
FINES	FINESS Array B	57.70	327	P	P	17 50 59.4	+1.4
WRA	Warramunga Arr	58.91	138	*i* P	P	17 51 06.3	-0.7
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	Warramunga Arr	58.91	138	P	P	17 51 06.3	-0.7
	comp=Z,2.3nm,0.6s,mb4.4,baz=328,slow=7.5,SNR=11						
WRAB	Tennant Creek	58.91	138	*e*P	P	17 51 04.9	-2.1
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
WRAB	Tennant Creek	58.91	138	*e*P	P	17 51 04.9	-2.1
	comp=Z,5.4nm,0.7s,mb4.7						
KMBO	Kilima Mbogo	63.99	254	P	P	17 51 40.7	-0.7
	comp=Z,4.6nm,0.8s,mb4.6,baz=48,slow=7.9,SNR=6.8						
NB2	NORSAR Subarra	64.89	328	P	P	17 51 46.4	0.0
	comp=Z,0.8nm,0.6s,mb3.9,baz=79,slow=6.5						
NB2	NORSAR Subarra	64.89	328	P	P	17 51 46.4	0.0
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NOA	NORSAR Array B	64.89	328	P	P	17 51 46.5	+0.1
	comp=Z,0.5nm,0.4s,mb3.9,baz=86,slow=5.9,SNR=5.7						
NOA				LR	LR	18 25 09.3	
	comp=Z,19nm,19.3s,MS3.3,baz=80,slow=41						
BRG	Berggiesshubel	65.45	316	*e*P	P	17 51 57.6	+7.4
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
GERES	GERESS Array B	66.08	314	P	P	17 51 56.8	+2.5
	comp=Z,0.5nm,0.4s,mb3.9,baz=63,slow=6.0,SNR=6.0						
GERES				LR	LR	18 24 42.5	
	comp=Z,32nm,21.9s,MS3.5,baz=143,slow=40						
STKA	Stephens Creek	72.21	141	P	P	17 52 31.9	-0.5
	comp=Z,1.1nm,0.5s,mb4.0,baz=307,slow=7.2,SNR=8.1						
STKA	Stephens Creek	72.21	141	*e*P	P	17 52 30.4	-2.0
ILAR	Eielson Array	76.12	23	P	P	17 52 53.9	-0.5
	comp=Z,2.0nm,1.0s,mb4.0,baz=294,slow=5.5,SNR=14						
ILAR				LR	LR	18 29 50.5	
	comp=Z,34nm,19.5s,MS3.7,baz=181,slow=38						
SML	Sawmill	77.23	26	*e*P	P	17 53 00.9	+0.3
LSZ	Lusaka	78.99	247	*e*P	P	17 53 11.6	+0.4
LSZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
LSZ	Lusaka	78.99	247	*e*P	P	17 53 11.6	+0.4
	comp=Z,2.7nm,0.8s,mb4.2						
LBTB	Lobatse	86.19	240	*e*P	P	17 53 47.9	-0.3
LBTB				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.7						
LBTB	Lobatse	86.19	240	*e*P	P	17 53 47.9	-0.3
	comp=Z,4.5nm,0.9s,mb4.7						
DLBC	Dease Lake	86.31	23	LR	LR	18 36 16.3	
	comp=Z,72nm,18.1s,MS4.1,baz=290,slow=38						
YKA	Yellowknife Ar	87.31	14	P	P	17 53 54.1	+1.4
	comp=Z,1.6nm,0.6s,mb4.4,baz=333,slow=4.5,SNR=4.6						
BOSA	Boshof	88.35	237	LR	LR	18 31 07.5	
	comp=Z,49nm,20.4s,MS3.9,baz=228,slow=34						
TXAR	Lajitas Array	120.58	21	PKP	PKPdf	17 59 58.7	-3.9
	comp=Z,0.7nm,0.8s,baz=230,slow=2.1,SNR=6.6						

IDC 07 18:22:14.3±1.8,1.79S×99.74E,mb3.8/9,mb1 4.0/9, mb1mx3.8/19,mbtmp3.8/9,Error ellipse: s-maj=80.9km s-min=19.4km az=54.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.14	358	P	P	18 26 50.4	-2.7
	0.4nm,0.6s,baz=181,slow=8.9,SNR=4.1						
FITZ	Fitzroy Crossi	30.14	124	P	P	18 28 26.3	-2.1
	2.0nm,0.8s,baz=319,slow=11,SNR=3.3						
WRA	Warramunga Arr	38.32	121	P	P	18 29 37.0	-1.7
	1.0nm,0.4s,baz=303,slow=9.0,SNR=6.8						
SONM	Songino Array	49.77	6	P	P	18 31 08.1	-2.5
	0.5nm,0.7s,baz=185,slow=9.7,SNR=5.2						
MKAR	Makanchi Array	50.76	345	P	P	18 31 16.5	-1.7
	0.9nm,0.7s,baz=156,slow=8.4,SNR=14						
ZAL	Zalesovo	56.91	350	P	P	18 32 01.7	-1.8
	0.9nm,0.4s,baz=55,slow=6.3,SNR=2.9						
BVAR	Borovoye Array	59.90	340	P	P	18 32 21.2	-3.1
	0.3nm,0.5s,baz=147,slow=8.6,SNR=4.8						
FINES	FINESS Array B	83.81	332	P	P	18 34 45.6	-1.1
	0.5nm,0.5s,baz=117,slow=4.3,SNR=5.2						
ARCES	ARCESS Array B	86.19	340	P	P	18 34 56.8	-1.7
	1.6nm,0.8s,baz=90,slow=6.1,SNR=4.4						
TXAR	Lajitas Array	144.69	37	PKP	PKPdf	18 41 53.8	-1.8
	0.5nm,0.5s,baz=237,slow=0.7,SNR=6.9						

NEIC 07 18:50:54.6±0.3,22.30S×68.63W,mb4.4/19,Error ellipse: s-maj=10.5km s-min=6.6km az=80.0

NEIC Felt [III] at Calama, Maria Elena, Quillagua and Tocopilla.

BJI 07 18:50:54.6,22.30S×68.60W,h114km,mB5.0

IDC 07 18:50:54.2±0.4,22.38S×68.75W,h112km±4km,mb3.9/8, mb1 4.0/9,mb1mx3.9/16,mbtmp4.2/9,MS2.9/2,Ms1 2.9/2, ms1mx2.6/21,Error ellipse: s-maj=20.4km s-min=13.6km az=84.0

GUC 07 18:50:55.1±0.6,22.45S×68.96W,h114km±4km,ML4.6

ISC 07 18:50:53.1±0.3,22.29S±0.04×68.72W±0.07,h113km, h113km±1.5km:pP-P,n70,σ1^{s}28/65,mb4.3/24,1C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	0.36	209	*e*P	P	18 51 11.7	+2.1
LVC				*i* S	S	18 51 24.2	+2.2
LVC				AMP		18 51 25.7	
	comp=N,22μm,0.7s						
LVC	Limon Verde	0.36	209	P	P	18 51 11.6	+2.1
	comp=N,649nm,0.3s,baz=351,slow=3.8						
LVC				S	S	18 51 23.7	+1.7
	comp=N,1μm,0.3s,baz=198,slow=19,SNR=164						
LVC	Limon Verde	0.36	209	⇓*e*P	P	18 51 11.1	+1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	0.78	142⇓	iP	P	18 51 15.9	+3.3
SPCH				i S	S	18 51 32.0	+4.8
SPCH				AMP		18 51 32.8	
	comp=N,19µm,0.3s						
ANCH	Antofagasta	2.08	228	i P	P	18 51 27.9	+0.1
ANCH				i S	S	18 51 52.0	-1.8
ANCH				AMP		18 51 54.2	
	comp=N,8µm,0.3s						
CPN1	Cerro Paranal	2.79	213	i P	P	18 51 37.0	-0.3
CPN1				i S	S	18 52 08.6	-2.1
CPN1				AMP		18 52 11.0	
	comp=N,3µm,0.9s						
CRCH	Chaqaral	4.39	203	eP	P	18 51 56.5	-2.4
CRCH				i S	S	18 52 44.4	-5.0
LPAZ	La Paz	6.00	5	P	P	18 52 22.6	+2.0
	comp=N,3.0nm,0.3s,baz=178,slow=4.2,SNR=36						
LPAZ				S	S	18 53 17.0	-12
	comp=N,2.6nm,0.3s,baz=197,slow=16,SNR=4.6						
LPAZ				LR	LR	18 54 53.2	
	comp=N,53nm,20.8s,baz=353,slow=39						
LPAZ	La Paz	6.00	5	eP	P	18 52 23.4	+2.7
	comp=N,53nm,1.0s						
ARE	Arequipa	6.36	335	eP	P	18 52 25.0	-0.7
ARE				eS	S	18 53 29.0	-8.5
CFAA	Coronel Fontan	9.29	177	P	P	18 53 02.9	-2.3
	comp=N,0.1nm,0.3s,baz=358,slow=10,SNR=7.3						
CFAA				S	S	18 54 38.0	-10
	comp=N,0.2nm,0.3s,baz=231,slow=19,SNR=2.0						
CFAA	Coronel Fontan	9.29	177	P	P	18 53 02.9	-2.3
CFAA				S	S	18 54 38.0	-10
SIV	San Ignacio	9.56	50	P	P	18 53 06.9	-2.2
	comp=N,3.6nm,0.3s,baz=249,slow=11,SNR=91						
SIV				S	S	18 54 46.4	-8.9
TRQA	Tornquist	16.75	161	eP	P	18 54 42.2	+0.1
	comp=N,8.9nm,0.6s						
BDFB	Brasilia	20.66	75	P	P	18 55 24.3	-1.5
	comp=N,12nm,0.6s,baz=259,slow=13,SNR=12						
BDFB				LR	LR	19 04 45.2	
	comp=N,74nm,19.2s,baz=18,slow=40						
BAO	Brasilia Array	20.68	75	P	P	18 55 19.5	-6.5
SDV	Santo Domingo	31.04	356	P	P	18 57 01.7	-1.0
	comp=N,1.4nm,0.4s,mb4.0,baz=68,slow=23,SNR=4.3						
SDV				pP	pP	18 57 27.9	+0.3
	comp=N,1.5nm,0.3s,baz=240,slow=5.8,SNR=2.5						
LRAL	Lakeview Retre	57.72	342	eP	P	19 00 31.9	-2.6
	comp=N,3.9nm,0.8s,mb4.5						
VNA3	Neumayer Olymp	59.27	161	P	P	19 00 46.9	+2.1
VNA3	Neumayer Olymp	59.27	161		pP	19 01 14.1	+1.9
VNA3	Neumayer Olymp	59.27	161		sP	19 01 27.5	+2.7
VNA3	Neumayer Olymp	59.27	161		PcP	19 01 32.5	+1.0
SWET	Sewanee	59.48	344	eP	P	19 00 45.0	-1.7
VNA2	Neumayer--Watz	59.85	161	P	P	19 00 50.2	+1.5
VNA2	Neumayer--Watz	59.85	161⇑	i	pP	19 01 17.9	+1.6
VNA2	Neumayer--Watz	59.85	161		sP	19 01 30.8	+2.0
VNA2	Neumayer--Watz	59.85	161		PcP	19 01 34.6	+0.8
PLAL	Pickwick Lake	59.85	342	eP	P	19 00 47.3	-1.9
	comp=N,16nm,1.1s,mb5.0						
ELN	Prospectdale	60.28	349	eP	P	19 00 52.0	-0.1
WVT	Waverly	60.85	342	eP	P	19 00 54.2	-1.8
	comp=N,16nm,0.9s,mb5.1						
WVT				epP	pP	19 01 22.9	-0.8
TXAR	Lajitas Array	61.38	325	P	P	19 00 59.0	-0.6
	comp=N,0.9nm,0.6s,mb4.0,baz=150,slow=8.8,SNR=11						
TXAR				pP	pP	19 01 26.7	-0.6
	comp=N,0.4nm,0.6s,baz=141,slow=13,SNR=2.8						
SNAA	Sanae	61.48	161	P	P	19 01 00.0	+0.2
SNAA	Sanae	61.48	161		pP	19 01 28.5	+1.1
SNAA	Sanae	61.48	161		sP	19 01 38.5	-1.4
SNAA	Sanae	61.48	161	P	P	19 00 59.7	0.0
	comp=N,0.2nm,0.5s,mb3.4,baz=279,slow=6.5,SNR=3.8						
SNAA				pP	pP	19 01 26.8	-0.6
	comp=N,1.7nm,0.9s,baz=291,slow=5.8,SNR=7.7						
CCM	Cathedral Cave	63.65	340	eP	P	19 01 13.2	-1.5
	comp=N,12nm,0.8s,mb4.8						
CCM				epP	pP	19 01 42.0	-0.5
GDL2	Guadalupe Moun	64.02	327	eP	P	19 01 17.0	-0.2
MNTX	Cornudas Mount	64.15	326	eP	P	19 01 16.5	-1.4
	comp=N,9.6nm,1.4s,mb4.4						
LAZ	Ladron	67.18	326	eP	P	19 01 38.3	+1.0
LAZ				epP	pP	19 02 02.6	-2.8
DBIC	Dimbokro	68.79	73	P	P	19 01 46.2	-1.3
	comp=N,5.3nm,1.2s,mb4.2,baz=234,slow=8.7,SNR=2.6						
SRU	San Rafael	72.53	327	eP	P	19 02 10.2	+0.5
SRU				epP	pP	19 02 38.0	-0.2
MSU	Marysvale	72.93	326	eP	P	19 02 13.2	+1.3
MSU				epP	pP	19 02 41.0	+0.5
MVU	Marysvale	72.94	326	eP	P	19 02 12.4	+0.3
	comp=N,5.9nm,0.9s,mb4.4						
MVU				epP	pP	19 02 41.6	+1.0
RWWY	Rawlins	72.96	331	eP	P	19 02 12.8	+0.8
	comp=N,7.3nm,0.8s,mb4.6						
ARUT	Antelope Range	73.07	324	eP	P	19 02 14.0	+1.2
ARUT				epP	pP	19 02 42.4	+1.0
RSSD	Black Hills	73.58	334	eP	P	19 02 16.6	+1.0
	comp=N,2.8nm,0.4s,mb4.3						
BW06	Boulder Array	74.88	330	eP	P	19 02 23.3	+0.1
	comp=N,5.0nm,1.4s,mb4.0						
PDAR	Pinedale Array	74.88	330	P	P	19 02 23.1	0.0
	comp=N,1.0nm,0.6s,mb3.7,baz=140,slow=7.9,SNR=11						
PDAR				pP	pP	19 02 52.8	+0.9
	comp=N,0.5nm,0.7s,baz=162,slow=4.7,SNR=2.5						
AHID	Auburn Hatcher	75.60	329	eP	P	19 02 27.4	+0.2
	comp=N,12nm,0.8s,mb4.7						
LOHW	Long Hollow	76.02	330	eP	P	19 02 30.1	+0.5
	comp=N,2.4nm,0.5s,mb4.2						
TPAW	Teton Pass	76.09	330	eP	P	19 02 31.1	+1.1
	comp=N,8.1nm,1.0s,mb4.4						
VNDA	Vanda	76.10	190	P	P	19 02 30.4	+1.0
ELK	Elko	76.17	325	eP	P	19 02 31.4	+0.9
	comp=N,1.4nm,0.7s,mb3.8						
ELK				epP	pP	19 03 00.7	+1.4
MOOW	Moose Ponds	76.19	330	eP	P	19 02 31.3	+0.7
	comp=N,3.5nm,0.8s,mb4.1						
MOOW				epP	pP	19 03 00.3	+1.0
IMW	Indian Meadow	76.39	330	eP	P	19 02 32.8	+1.1
	comp=N,5.3nm,0.7s,mb4.4						
SCHQ	Schefferville	76.82	1	P	P	19 02 33.1	-0.8
	comp=N,2.4nm,0.7s,mb4.0,baz=123,slow=2.2,SNR=3.9						
HLID	Hailey	77.80	328	eP	P	19 02 41.0	+1.4
	comp=N,4.6nm,0.6s,mb4.4						
BOZ	Bozeman (W)	78.05	331	P	P	19 02 40.8	0.0
BMO	Blue Mountains	80.17	327	eP	P	19 02 52.8	+0.4
	comp=N,2.5nm,0.9s,mb4.0						
BMO				epP	pP	19 03 21.3	-0.1
CASY	Casey	91.70	180	eP	P	19 03 50.0	+1.5
YKA	Yellowknife Ar	91.99	341	P	P	19 03 50.0	+0.1
	comp=N,3.9nm,0.7s,mb4.7,baz=131,slow=4.5,SNR=12						
YKA	Yellowknife Ar	91.99	341	P	P	19 03 50.0	+0.1
WRA	Warramunga Arr	132.36	210	PKP	PKPdf	19 09 55.9	+1.0
	comp=N,1.1nm,0.5s,baz=165,slow=1.6,SNR=9.4						
BVAR	Borovoye Array	136.34	35	PKP	PKPdf	19 10 03.9	+2.6
	comp=N,0.5nm,0.6s,baz=270,slow=2.9,SNR=4.0						
ZAL	Zalesovo	142.59	26	PKP	PKPdf	19 10 12.4	-0.1
	comp=N,1.7nm,0.6s,baz=25,slow=1.3,SNR=7.0						
MKAR	Makanchi Array	146.16	37	PKPbc	PKPbc	19 10 21.4	+1.4
	comp=N,3.0nm,0.8s,baz=315,slow=3.4,SNR=19						
MKAR				pPKPbc		19 10 52.3	
	comp=N,0.7nm,0.8s,slow=3.6,SNR=2.2						
MJAR	Matsushiro Arr	152.69	307	PKPbc	PKPdf	19 10 38.1	+8.7
	comp=N,1.2nm,0.7s,baz=81,slow=0.2,SNR=5.1						
SONM	Songino Array	154.21	8	PKP	PKPdf	19 10 33.0	+2.0
	comp=N,0.5nm,0.7s,baz=303,slow=2.2,SNR=5.7						
SONM				PKPbc	PKPdf	19 10 40.6	+10
	comp=N,0.6nm,0.5s,baz=297,slow=1.9,SNR=6.5						
SONM				PKPab	PKPab	19 10 55.9	-0.2
	comp=N,0.7nm,0.7s,baz=331,slow=5.6,SNR=5.9						
CN2	Changchun	155.55	335	ePKP	PKPdf	19 10 35.7	+2.7
NJ2	Nanjing	168.18	327	ePKP	PKPdf	19 10 48.8	+2.6

IDC ***07*** *19:00:54.6±2.0, 13.92N×92.54E, mb4.2/4, mb1 4.2/5, mb1mx3.7/21, mbtmp4.0/5, ML3.5/1, Error ellipse: s-maj=59.9km s-min=23.7km az=68.0*

ISC 07 19:00:50.8±1.0**, 14.4N**±0.1×**91.78E**±0.09**, h33**^{km}**, n12,** σ**0ˢ81**/10**, mb4.1**/2**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.99	58	Pn	Pn	19 02 47.4	-0.2
	0.2nm,0.3s,baz=249,slow=14,SNR=3.3						
VIS	Vishakhapatnam	8.78	293	i P	S	19 04 37.1	-0.2
PKI	Pulchoki	14.42	337	eP	P	19 04 15.3	+0.7
	10nm,0.6s						
GUN	Gumba	14.55	339	eP	P	19 04 15.3	-1.0
DMN	Daman	14.57	336	eP	P	19 04 18.2	+1.6
	18nm,0.7s						
KKN	Kakani	14.66	337	eP	P	19 04 18.3	+0.5
	7.8nm,0.6s						
GKN	Gorkha	15.11	335	eP	P	19 04 22.6	-1.0
	13nm,0.3s						
KOLN	Koldanda	15.36	332	eP	P	19 04 26.4	-0.4
	21nm,0.7s						
MKAR	Makanchi Array	33.29	348	P	pP	19 07 39.1	+2.0
	4.4nm,0.4s,baz=167,slow=13,SNR=16						
SONM	Songino Array	35.51	17	P	pP	19 07 54.9	-1.3
	0.6nm,0.7s,baz=198,slow=7.8,SNR=5.2						
FITZ	Fitzroy Crossi	46.43	133	P	P	19 09 17.3	+0.7
	1.5nm,0.4s,mb4.2,baz=0.9,slow=6.1,SNR=6.9						
WRA	Warramunga Arr	53.99	128	P	P	19 10 13.6	-0.6
	1.6nm,0.8s,mb4.0,baz=310,slow=7.4,SNR=5.0						

ISK ***07*** *19:05:07.5, 40.41N×37.40E, h5*^{km}*, MD4.0*

CSEM ***07*** *19:05:07.5±0.1, 40.43N×37.41E, h2*^{km}*, mb4.0/5, Error ellipse: s-maj=1.9km s-min=1.5km az=16.0*

IDC ***07*** *19:05:08.5±1.1, 40.27N×37.08E, mb3.7/9, mb1 3.8/12, mb1mx3.7/24, mbtmp3.7/12, ML3.5/3, MS2.8/2, Ms1 2.8/2, ms1mx2.4/30, Error ellipse: s-maj=20.7km s-min=14.0km az=34.0*

NEIC ***07*** *19:05:09.8±0.6, 40.39N×37.31E, h10*^{km}*, mb4.1/8, ML4.0(ISK), Error ellipse: s-maj=9.7km s-min=9.5km az=187.0*

ZUR_RM ***07*** *19:05:09, 40.39N×37.31E, h15*^{km}*, Mw4.2/10, Moment Tensor Solution. s10 Moment tensor: Scale* 10^{15}*Nm;* M_{rr}*-1.61;* $M_{\theta\theta}$*0.87;* $M_{\phi\phi}$*0.74;* $M_{r\theta}$*0.08;* $M_{\theta\phi}$*-1.29;* $M_{\phi r}$*0.08; Best double couple:* M_0*1.86×*10^{15} *NP1:*ϕ_s*308°, δ45°, λ-98°. NP2:*ϕ_s*139°, δ45°, λ-82°. Principal axes: T 2.093, Plg0°, Azm44°; N -.472, Plg6°, Azm313°; P -1.621, Plg84°, Azm135°;*

MOS ***07*** *19:05:10.9±2.5, 40.40N×37.05E, h10*^{km}*, mb4.1/12 Error ellipse: s-maj=9.4km s-min=6.4km az=97.7*

ISC 07 19:05:08.1±0.7**, 40.47N**±0.02×**37.38E**±0.02**, h1**^{km}±5^{km}**, n105,** σ**1ˢ16**/140**, mb3.9**/15**, 2C-3D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOKT	Tokat	0.66	257	i PG	Pg	19 05 21.1	0.0
TOKT				i SG	Sg	19 05 31.6	+1.7
SVST	Sivas	0.77	205	i P	Pg	19 05 21.9	-1.6
SVST				i S	Sg	19 05 31.6	-2.2
KELT	Kelkit	1.47	102	i P	Pn	19 05 35.6	-0.1
KELT				i S	Sb	19 05 56.8	+1.8
GUMT	Gumushane	1.60	90	i PN	Pn	19 05 38.2	+0.6
GUMT				i SN	Sn	19 05 59.9	+0.7
YOZ	Yozgat	1.79	243	i PN	Pn	19 05 41.0	+0.8
YOZ				i SN	Sn	19 06 04.9	+1.0
CTKT	Corum	1.98	275	i P	Pn	19 05 44.6	+1.6
CTKT				i S	Sn	19 06 13.6	+4.8
BNN	Bunyan	2.01	217	i PN	Pn	19 05 43.5	+0.1
BOYT	Boyabat	2.10	298	i P	Pn	19 05 46.1	+1.4
BOYT				i S	Sn	19 06 17.9	+6.1
BYBT	Boyabat	2.21	298	PN	Pn	19 05 47.3	+0.9
PTK	Pertek	2.21	135	PN	Pn	19 05 46.6	+0.2
MYA	Malataya	2.29	159	PN	Pn	19 05 46.6	-0.9
MALT	Malatya	2.31	159	PN	Pn	19 05 46.8	-0.9
MALT	Malatya	2.31	159	ePn	Pn	19 05 46.3	-1.4
MALT				eSn	Sn	19 06 13.8	-3.2
MALT	Malatya	2.31	159	ePn	Pn	19 05 46.8	-0.9
MALT				eSn	Sn	19 06 13.8	-3.2
ELZG	Elazig	2.33	147	i P	Pn	19 05 48.4	+0.4
ELZG				i S	Sn	19 06 19.9	+2.2
CDAG	Cicekdag	2.46	251	i P	Pn	19 05 50.2	+0.3
CDAG				i S	Sn	19 06 26.5	+5.5
AVNT	Avonos	2.58	230	i P	Pn	19 05 51.4	-0.2
AVNT				i S	Sn	19 06 29.1	+5.1
TOS	Tosya	2.61	284	PN	Pn	19 05 52.8	+0.8
CANT	Cankiri	2.87	274	PN	Pn	19 05 56.1	+0.4
BZK	Bozkurt	2.95	301	PN	Pn	19 05 57.7	+0.8
BR131	Keskin Array S	2.96	257	ePn	Pn	19 05 56.9	-0.2
BR131				eSn	Sn	19 06 29.5	-4.3
BR131	Keskin Array S	2.96	257	ePn	Pn	19 05 56.9	-0.2
BR131				eSn	Sn	19 06 29.5	-4.3
BRTR	Keskin Array B	2.96	257	Pn	Pn	19 05 57.5	+0.5
	10nm,0.3s,baz=75,slow=13,SNR=54						
BRTR				Sn	Sn	19 06 34.9	+1.1
	3.8nm,0.3s,baz=101,slow=21,SNR=4.7						
BRTR				Lg		19 06 43.1	
	6.0nm,0.3s,baz=97,slow=20,SNR=3.8						
BRTR	Keskin Array B	2.96	257	Pn	Pn	19 05 57.5	+0.4
BRTR				Sn	Sn	19 06 34.9	+1.1
ELDT	Eldivan	3.02	272	i P	Pn	19 05 58.3	+0.5
ELDT				i S	Sn	19 06 43.9	+8.8
KAMT	Kaman	3.03	250	PN	Pn	19 05 58.3	+0.3
EZM	Erzurum	3.10	99	PN	Pn	19 05 58.6	-0.5
ERZM	Erzurum	3.11	99	i P	Pn	19 06 06.2	+7.1
ERZM				i S	Sg	19 06 51.8	+0.3
GZT	Gaziantep	3.12	177	i P	Pn	19 05 58.7	-0.6
GZT				i S	Sn	19 06 45.9	+8.3
NIG	Nigde	3.19	223	PN	Pn	19 06 00.3	0.0
BALT	Daday	3.20	291	i P	Pn	19 06 01.3	+0.9
BALT				i S	Sg	19 06 54.7	0.0
URFA	Urfa	3.23	159	PN	Pn	19 06 00.6	-0.3
GAZ	Gaziantep	3.30	182	PN	Pn	19 06 00.8	-1.0
BCA	Borcka	3.36	72	ePN	Pn	19 06 02.2	-0.5
SOC	Sochi	3.56	28	eP	Pn	19 06 07.0	+1.4
SOC				e		19 06 48.5	
SOC				pmax	pmax		
	comp=Z,95nm,1.3s						
SOC				pmax	pmax		
	comp=N,80nm,1.1s						
SOC				pmax	pmax		
	comp=E,60nm,1.1s						
SOC				MLR	MLR		
	comp=Z,131nm,14.0s						
SOC				MLR	MLR		
	comp=N,71nm,8.0s						
SOC				MLR	MLR		
	comp=E,84nm,13.0s						
SOC	Sochi	3.56	28	eP	Pn	19 06 07.0	+1.4
	comp=E,95nm,1.3s						
SOC				eS	Sn	19 06 48.5	-0.4
	comp=E,71nm,8.0s						
ANTO	Ankara	3.56	262	ePN	Pn	19 06 05.7	+0.1
LOD	Lodumlu	3.58	262	ePN	Pn	19 06 06.6	+0.7
SAFT	Safranbolu	3.64	284	ePN	Pn	19 06 07.2	+0.5
CEYT	Ceyhan	3.69	201	ePN	Pn	19 06 06.5	-0.8
ANN	Anapa	4.33	1	eP	Pn	19 06 19.1	+2.7
ANN				e		19 07 08.1	
ANN				pmax	pmax		
	comp=Z,11nm,0.5s						
ANN				smax			
	comp=Z,26nm,0.6s						
ANN				smax			
	comp=N,41nm,0.3s						
ANN				smax			
	comp=E,105nm,0.6s						
ANN	Anapa	4.33	1	eS	Sn	19 07 08.1	-0.1
	comp=E,41nm,0.3s						
KIZT	Kizilcal	4.53	251	ePN	Pn	19 06 18.8	-0.6
ONI	Oni	5.02	63	P	Pn	19 06 26.4	+0.1
ONI				S	Sn	19 07 25.3	-0.4
SIM	Simferopol'	5.08	333	eP	Pn	19 06 30.8	+3.7
SIM				eS	Sn	19 07 25.0	-2.2
SIM				eS	Sn	19 07 28.0	+0.8
SIM				pmax	pmax		
	comp=Z,21nm,0.4s						
SIM				MLR	MLR		
	comp=Z,57nm,1.0s						
IKL	Isikli	5.13	216	ePN	Pn	19 06 28.1	+0.3
HDMB	Hadim	5.19	229	ePN	Pn	19 06 28.8	+0.2
CLDR	Caldiran	5.21	103	ePN	Pn	19 06 29.7	+0.8
KIV	Kislovodsk	5.26	47	eP	Pn	19 06 29.7	+0.1
KIV				eS	Sn	19 07 28.7	-3.0
KIV				pmax	pmax		
	comp=Z,43nm,1.0s						
KIV				pmax	pmax		
	comp=N,15nm,0.8s						
KIV				pmax	pmax		
	comp=E,13nm,1.1s						
KIV				MLR	MLR		
	comp=N,38nm,19.0s						
KIV				MLR	MLR		
	comp=E,40nm,19.0s						
KIV				MLR	MLR		
	comp=Z,47nm,19.0s						
KIV	Kislovodsk	5.26	47	ePn	Pn	19 06 29.7	+0.1
	comp=Z,37nm,0.6s						
KIV	Kislovodsk	5.26	47	ePn	Pn	19 06 29.7	+0.1
	comp=Z,37nm,0.6s						
KIV				eS	Sn	19 07 28.7	-3.0
ZEI	Tsey	5.40	63	eP	Pn	19 06 32.4	+0.8
ZEI				e		19 07 32.6	
ZEI				pmax	pmax		
	comp=Z,23nm,0.1s						
ZEI				pmax	pmax		
	comp=Z,19nm,0.1s						
ZEI				smax			
	comp=N,56nm,0.1s						
ZEI	Tsey	5.40	63	eP	Pn	19 06 32.4	+0.8
	comp=N,19nm,0.1s						
ZEI				eS	Sn	19 07 32.6	-2.7
	comp=N,56nm,0.1s						
GNI	Garni	5.64	91	Pg	Pb	19 06 48.7	+1.5
	comp=N,0.6nm,0.3s,baz=342,slow=19,SNR=2.8						
GNI	Garni	5.64	91	P	Pn	19 06 42.2	+7.2
GNI				Pg	Pb	19 06 48.7	+1.5
TBLG	Delisi	5.70	75	P	Pn	19 06 42.5	+6.6
GOF	Gofitskoye	6.19	40⇑	iP	Pn	19 06 49.7	+6.9
GOF				i S	Sn	19 07 58.8	+3.7
GOF				pmax	pmax		
	comp=Z,30nm,1.7s						
GOF				smax			
	comp=N,80nm,1.3s						
TIRR	Tirgusor	7.73	304 ⇑	P	Pn	19 07 01.4	-3.0
ASF	Jabal al Asfar	8.29	183	Pn	P	19 07 12.6	+0.3
	comp=N,0.2nm,0.3s,baz=124,slow=11,SNR=1.7						
ASF				Pg	P	19 07 32.2	+20
	comp=N,0.6nm,0.3s,baz=15,slow=15,SNR=4.8						
MLR	Muntele Rosu	9.76	305	Pn	P	19 07 29.3	-3.3
	comp=N,0.1nm,0.3s,baz=207,slow=2.8,SNR=3.0						
MLR				Sn	Sn	19 09 24.7	+0.7
	comp=N,0.3nm,0.3s,baz=264,slow=16,SNR=2.7						
MLR				LR	LR	19 12 30.6	
	comp=N,53nm,19.1s,baz=94,slow=46						
MLR	Muntele Rosu	9.76	305 ⇓	P	P	19 07 30.6	-2.0
MLR	Muntele Rosu	9.76	305	S	Sn	19 09 24.7	+0.6
BURAR	Bucovina Array	11.29	313 ⇓	P	P	19 07 52.1	-1.3
AKASG	Malin Array Be	11.71	334	P	P	19 07 56.7	-2.4
AKASG						19 10 05.0	
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	Malin Array Be	11.71	334	Pn	P	19 07 56.7	-2.4
	comp=Z,2.3nm,0.3s,baz=136,slow=13,SNR=11						
AKASG				Sn	S	19 10 05.0	-6.6
	comp=Z,0.6nm,0.3s,baz=139,slow=24,SNR=3.6						
OBN	Obninsk	14.66	358	eP	P	19 08 34.2	-4.1
OBN				eS	S	19 11 16.2	-6.2
OBN				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GERES	GERESS Array B	18.75	304	P	P	19 09 30.0	-0.3
	comp=Z,0.0nm,0.3s,baz=122,slow=15,SNR=3.2						
CLL	Collm	20.04	311	P	P	19 09 45.0	-0.1
	comp=Z,logA/T=0.7						
DAVOX	Davos	20.82	297	P	P	19 09 51.1	-2.1
	comp=Z,3.4nm,0.9s,baz=275,slow=11,SNR=2.9						
ARU	Arti	21.13	34⇓	iP	P	19 09 54.4	-2.0
ARU				eS	S	19 13 49.2	+1.8
ARU				eSSS	SSS	19 14 23.0	-11
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.0						
ARU	Arti	21.13	34	eP	P	19 09 52.3	-4.1
	comp=Z,15nm,1.3s,mb4.2						
ARU	Arti	21.13	34	i P	P	19 09 54.4	-2.0
	comp=Z,7.0nm,0.9s,mb4.0						
ARU				eS	S	19 13 49.2	+1.8
FINES	FINESS Array B	22.11	346	P	P	19 10 05.0	-1.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	22.11	346	P	P	19 10 05.0	-1.2
	comp=Z,1.4nm,0.6s,mb3.6,baz=140,slow=15,SNR=8.8						
SVE	Sverdlovsk	22.27	35	eP	P	19 10 08.0	+0.1
SVE				e		19 10 19.2	
KAF	Kangasniemi	22.68	346	ep	P	19 10 11.2	-0.6
	comp=Z,1.4nm,0.7s,mb3.5						
KAF	Kangasniemi	22.68	346	eP	P	19 10 11.2	-0.6
KAF				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4						
CDF	Champ du Feu	22.80	300	eP	P	19 10 07.3	-5.8
MBDF	Montbardon	22.86	291	eP	P	19 10 08.0	-5.7
	comp=Z,15nm,1.0s,mb4.1						
MBDF	Montbardon	22.86	291	eP	P	19 10 08.0	-5.7
MBDF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
LPG	La Plagne	22.88	293	eP	P	19 10 07.5	-6.4
	comp=Z,12nm,1.0s,mb4.0						
LPG	La Plagne	22.88	293	eP	P	19 10 07.5	-6.4
LPG				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
LPL	La Plagne	22.90	293	eP	P	19 10 07.7	-6.4
ORIF	Oris-en-Rattie	23.49	291	eP	P	19 10 14.2	-5.6
	comp=Z,11nm,0.8s,mb4.0						
ORIF	Oris-en-Rattie	23.49	291	eP	P	19 10 14.2	-5.6
ORIF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
HFS	Hagfors	24.58	331	P	P	19 10 30.8	+0.5
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
HFS				MLR	MLR		
	comp=Z,18nm,18.8s						
HFS	Hagfors	24.58	331	P	P	19 10 30.8	+0.5
	comp=Z,2.4nm,0.7s,mb3.8,baz=130,slow=12,SNR=9.3						
HFS				LR	LR	19 22 31.1	
	comp=Z,18nm,18.8s,baz=216,slow=42						
SMF	Signal de Mont	24.95	296	eP	P	19 10 30.0	-4.0
	comp=Z,21nm,1.1s,mb4.3						
SMF	Signal de Mont	24.95	296	eP	P	19 10 30.0	-4.0
SMF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.3						
BVAR	Borovoye Array	25.62	50	P	P	19 10 43.7	+3.5
	comp=Z,0.3nm,0.5s,mb3.1,baz=256,slow=9.2,SNR=2.9						
NB2	NORSAR Subarra	26.10	331	P	P	19 10 44.3	-0.3
	comp=Z,1.2nm,0.8s,mb3.5,baz=133,slow=9.3						
NB2	NORSAR Subarra	26.10	331	P	P	19 10 44.3	-0.3
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.4						
NOA	NORSAR Array B	26.10	331	P	P	19 10 44.7	+0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	NORSAR Array B	26.10	331	P	P	19 10 44.7	+0.1
	comp=Z,0.6nm,0.8s,mb3.2,baz=121,slow=9.7,SNR=3.3						
NOA	NORSAR Array B	26.10	331	P	P	19 10 44.7	+0.1
GRR	Gorron	28.19	299	eP	P	19 11 00.4	-3.5
	comp=Z,26nm,0.9s,mb4.6						
GRR	Gorron	28.19	299	eP	P	19 11 00.4	-3.5
GRR				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.6						
ARCES	ARCESS Array B	29.79	352	P	P	19 11 17.3	-0.8
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	ARCESS Array B	29.79	352	P	P	19 11 17.2	-0.9
	comp=Z,1.1nm,0.7s,mb3.7,baz=174,slow=12,SNR=6.7						
ESDC	Sonseca Array	31.44	282	P	P	19 11 31.0	-1.9
	comp=Z,1.2nm,0.6s,mb3.9,baz=67,slow=8.4,SNR=5.6						
MKAR	Makanchi Array	32.76	64	P	P	19 11 45.5	+1.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	32.76	64	P	P	19 11 45.5	+1.1
	comp=Z,0.5nm,0.5s,mb3.7,baz=263,slow=6.6,SNR=5.7						
MKAR	Makanchi Array	32.76	64	P	P	19 11 45.5	+1.1
BOSA	Boshof	69.65	191	P	P	19 16 17.8	-3.3
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BOSA	Boshof	69.65	191	P	P	19 16 17.8	-3.4
	comp=Z,1.7nm,0.6s,mb4.1,baz=38,slow=5.8,SNR=5.8						

NEIC ***07*** *19:18:36.2±3.7, 20.94S×169.84E, h53*^{km}*±24*^{km}*, mb4.6/1, Error ellipse: s-maj=37.9km s-min=20.3km az=216.0*

IDC ***07*** *19:18:37.8±6.8, 21.03S×169.62E, h53*^{km}*±52*^{km}*, mb3.9/4, mb1 4.1/5, mb1mx3.8/13, mbtmp4.1/5, ML3.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/18, Error ellipse: s-maj=45.6km s-min=37.7km az=32.0*

ISC 07 19:18:39.2±4.8**, 21.2S**±0.3×**169.6E**±0.2**, h77**^{km}±30^{km}**, n14,** σ**0ˢ47**/13**, mb4.2**/5**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.04	253	eP	P	19 19 26.2	+0.1
DZM				eS	S	19 20 02.0	+0.5
DZM	Mont Dzumac	3.04	253	P	P	19 19 26.2	0.0
	4.7nm,0.3s,baz=179,slow=18,SNR=91						

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
DZM				S	**S**	**19 20 00.9**	**-0.6**
	22nm,0.3s,baz=156,slow=18,SNR=14						
HNR	**Honiara**	**14.95**	**320**	LR	LR	19 26 37.0	
	comp=Z,35nm,20.4s,baz=187,slow=32						
STKA	**Stephens Creek**	**27.12**	**241**	P	**P**	**19 24 17.2**	**+0.3**
	3.2nm,0.8s,mb3.9,baz=39,slow=9.5,SNR=5.3						
WB2	**Warramunga Arr**	**32.97**	**266**	*e*P	**P**	**19 25 08.5**	**-0.3**
WRA	**Warramunga Arr**	**32.98**	**266**	P	**P**	**19 25 08.2**	**-0.7**
	0.8nm,0.5s,mb3.8,baz=95,slow=8.3,SNR=9.3						
FITZ	**Fitzroy Crossi**	**41.40**	**266**	*e*P	**P**	**19 26 20.9**	**+1.3**
	7.9nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**41.40**	**266**	P	**P**	**19 26 20.4**	**+0.8**
	11nm,0.7s,mb4.8,baz=126,slow=5.2,SNR=18						
KLBR	**Kellerberrin**	**47.18**	**246**	*e*P	**P**	**19 27 05.8**	**-0.2**
	46nm,1.6s,mb5.0						
VNDA	**Vanda**	**56.47**	**182**	P	**P**	**19 28 14.9**	**-0.1**
	0.7nm,0.8s,mb3.7,baz=338,slow=5.3,SNR=3.9						
VNA3	**Neumayer Olymp**	**87.78**	**180**		**P**	**19 31 20.2**	**-0.1**
VNA2	**Neumayer--Watz**	**88.08**	**181**		**P**	**19 31 21.8**	**+0.1**
ARCES	**ARCESS Array B**	**127.06**	**345**	PKP	PKPdf	19 37 33.2	-0.7
	1.0nm,0.7s,baz=72,slow=3.8,SNR=5.7						
GERES	**GERESS Array B**	**146.38**	**331**	PKPbc	PKPbc	19 38 11.7	+0.7
	1.0nm,0.5s,baz=31,slow=2.8,SNR=11						

*KNET **07** 19:22:04.5±0.2, 42.63N×74.83E, h17^{km}±2^{km}, ml3.4, Error ellipse: s-maj=2.1km s-min=1.9km az=73.0*
*NNC **07** 19:22:04.3±2.0, 42.74N×74.89E, mpv3.8, Error ellipse: s-maj=39.6km s-min=8.2km az=151.0*
ISC 07 19:22:05.5±0.4, **42.68N**±0.03×**74.84E**±0.03, **h15**^{km}±6^{km}, **n16**, σ**0**^{s}**95**/30, **18C-11D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
KBK	**Karagaybulak**	**0.08**	**104**	⇓P	**Pb**	**19 22 08.1**	**-0.7**
	5µm,0.1s						
KBK				⇑S	**Sb**	**19 22 10.2**	**-0.7**
	39µm,0.2s						
AAK	**Ala-Archa**	**0.26**	**260**	⇑P	**Pb**	**19 22 10.6**	**-0.6**
	508nm,0.2s,SNR=126						
AAK				⇓S	**Sb**	**19 22 14.3**	**-0.9**
	3µm,0.3s						
AAK	**Ala-Archa**	**0.26**	**260**	⇑P	**Pb**	**19 22 10.7**	**-0.6**
	144nm,0.4s						
AAK				⇑S	**Sb**	**19 22 14.0**	**-1.1**
	2µm,0.4s						
CHMS	**Chumysh**	**0.33**	**349**	⇑P	**Pb**	**19 22 12.6**	**+0.1**
	878nm,0.1s,SNR=1163						
CHMS				⇓S	**Sb**	**19 22 17.4**	**+0.2**
	7µm,0.2s						
UCH	**Uchtor**	**0.51**	**208**	P	**Pb**	**19 22 15.1**	**-0.4**
	532nm,0.3s,SNR=984						
UCH				⇑S	**Sb**	**19 22 21.5**	**-1.0**
	2µm,0.3s						
TKM2	**Tokmak 2**	**0.61**	**66**	⇑P	**Pb**	**19 22 17.5**	**+0.2**
	219nm,0.2s,SNR=58						
TKM2				⇑S	**Sb**	**19 22 26.0**	**+0.6**
	926nm,0.1s						
USP	**Ospenovka**	**0.64**	**337**	⇓P	**Pb**	**19 22 18.1**	**+0.3**
	175nm,0.2s,SNR=371						
USP				⇑S	**Sb**	**19 22 26.9**	**+0.7**
	1µm,0.2s						
KZA	**Kyzart**	**0.67**	**153**	P	**Pb**	**19 22 18.5**	**+0.1**
	150nm,0.2s,SNR=352						
KZA				⇓S	**Sb**	**19 22 27.6**	**+0.4**
	2µm,0.3s						
EKS2	**Erkin-Say**	**0.78**	**269**	P	**Pb**	**19 22 20.7**	**+0.5**
	78nm,0.1s,SNR=224						
EKS2				⇓S	**Sb**	**19 22 31.6**	**+1.3**
	192nm,0.2s						
AML	**Almayashu**	**1.01**	**238**	P	**Pb**	**19 22 24.3**	**+0.2**
	52nm,0.2s,SNR=196						
AML				⇑S	**Sb**	**19 22 37.5**	**+0.6**
	486nm,0.3s						
ULHL	**Ulahol**	**1.12**	**112**	⇓P	**Pb**	**19 22 26.6**	**+0.5**
	59nm,0.1s,SNR=48						
ULHL				⇑S	**Sb**	**19 22 41.0**	**+0.6**
	136nm,0.2s						
KK31	**Karatay Array**	**3.21**	**279**	⇓Pn	**Pn**	**19 22 57.9**	**+1.5**
	5.3nm,0.2s,baz=90,slow=14,SNR=554						
KK31				⇓Sn	**Sn**	**19 23 44.6**	**+10**
	26nm,0.3s,baz=95,slow=31						
KK31				⇑Lg		19 23 51.2	
	45nm,0.5s,baz=92,slow=27						
MK31	**Makanchi Array**	**6.72**	**50**	⇑Pn	**Pn**	**19 23 46.9**	**+0.9**
	5.8nm,0.5s,baz=230,slow=14,SNR=129						
MK31				⇓Sn	**Sn**	**19 25 01.9**	**-1.1**
	5.2nm,0.6s,baz=224,slow=24,SNR=6.0						
MK31				⇑Lg		19 25 32.8	
	5.3nm,0.3s,baz=223,slow=27,SNR=7.8						
VOSK	**Vostochnaya**	**10.38**	**347**	⇓Pn	**P**	**19 24 33.8**	**-3.1**
	0.4nm,0.3s						
ZRNK	**Zerenda**	**11.00**	**341**	⇑Pn	**P**	**19 24 42.3**	**-2.9**
	1.4nm,0.7s						
AB31	**Akbulak array**	**12.26**	**308**	⇑Pn	**P**	**19 24 59.1**	**-3.3**
	1.8nm,0.5s,baz=113,slow=13,SNR=40						
AB31				⇑Sn	**S**	**19 27 10.4**	**-9.4**
	1.1nm,0.6s,baz=112,slow=23,SNR=4.5						
AB31				⇑Lg		19 28 31.2	
	2.2nm,0.7s						

*ATH **07** 19:25:31.6, 37.78N×26.76E, h23^{km}±3^{km}, MD3.1/3*
*CSEM **07** 19:25:32.5±0.1, 37.81N×26.80E, h20^{km}, MD3.1, Error ellipse: s-maj=2.4km s-min=1.5km az=99.0*
*ISK **07** 19:25:33.0, 37.84N×26.81E, h28^{km}, MD3.0*
ISC 07 19:25:32.2±0.7, **37.79N**±0.03×**26.71E**±0.04, **h7**^{km}±5^{km}, **n16**, σ**0**^{s}**89**/28, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
SMG	**Samos**	**0.13**	**129**	*e*PB	**Pb**	**19 25 36.4**	**-0.2**
SMG				*e*SB	**Sb**	**19 25 38.7**	**-0.7**
URLA	**Izmir**	**0.57**	**351**	*i* P	**Pg**	**19 25 43.6**	**-0.1**
URLA				*i* S	**Sg**	**19 25 53.0**	**+1.5**
BLCB	**Balcova**	**0.65**	**24**	*i* PG	**Pg**	**19 25 45.1**	**-0.1**
IZM	**Izmir**	**0.75**	**36**	*i* PG	**Pg**	**19 25 47.1**	**-0.1**
IZM				*i* SG	**Sg**	**19 25 56.7**	**-0.5**
KDAG	**Bornova**	**0.75**	**36**	*i* P	**Pb**	**19 25 47.7**	**+0.4**
KDAG				*i* S	**Sg**	**19 25 56.8**	**-0.5**
BODT	**Bodrum**	**0.87**	**147**	PG	**Pg**	**19 25 49.6**	**-0.1**
BODT				SG	**Sg**	**19 26 01.9**	**+0.6**
BDRM	**Kayabasi**	**0.93**	**141**	*i* P	**Pb**	**19 25 50.8**	**+0.5**
BDRM				*i* S	**Sb**	**19 26 03.3**	**+0.6**
AYDN	**Tasoluk**	**0.94**	**98**	*i* P	**Pb**	**19 25 49.9**	**-0.4**
AYDN				*i* S	**Sb**	**19 26 03.9**	**+1.1**
MLSB	**Milas**	**0.98**	**120**	*e*PG	**Pg**	**19 25 50.9**	**-1.0**
APE	**Apeiranthos**	**1.18**	**233**	*e*PN	**Pn**	**19 25 55.2**	**0.0**
APE				*e*SN	**Sn**	**19 26 11.3**	**-0.3**
AKS	**Akhisar**	**1.39**	**38**	*e*PN	**Pn**	**19 25 56.4**	**-1.7**
YER	**Yerkesik**	**1.41**	**117**	*e*PN	**Pn**	**19 25 57.0**	**-1.5**
PRK	**Paraskevi**	**1.49**	**347**	*e*PN	**Pn**	**19 25 59.5**	**-0.1**
PRK				*e*SN	**Sn**	**19 26 19.3**	**-0.2**
MANT	**Manisa**	**1.62**	**64**	*i* P	**Pn**	**19 26 03.4**	**+2.0**
MANT				*i* S	**Sb**	**19 26 22.1**	**-0.4**
DNZL	**Cakiroluk**	**1.85**	**92**	*i* P	**Pn**	**19 26 07.9**	**+3.1**
DNZL				*i* S	**Sn**	**19 26 34.7**	**+6.0**
ULDT	**Uludag**	**3.01**	**38**	*i* P	**Pn**	**19 26 28.8**	**+7.4**
ULDT				*i* S	**Sn**	**19 27 07.3**	**+9.1**

*STR **07** 19:31:41.3±0.1, 43.06N×0.18E, h5^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **07** 19:31:41.3, 43.07N×0.17E, h10^{km}, ML2.7(LDG), ML2.5(STR), MN2.0(MDD), After LDG.*
*CSEM **07** 19:31:41.5±0.0, 43.07N×0.18E, h10^{km}, ML2.7/12, Error ellipse: s-maj=0.9km s-min=0.7km az=139.0*
*MDD **07** 19:31:42.2±0.2, 43.04N×0.16E, mbLg1.9/12, Error ellipse: s-maj=2.4km s-min=1.5km az=5.0, PRXIMO*
LDG 07 19:31:41.3±0.0, **43.07N**×**0.17E**, **h10**^{km}, **Md2.8**/2, **Ml2.7**/12, **3C, Error ellipse: s-maj=1.0km s-min=0.7km az=162.0, France**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
LABF	**Labassere**	**0.07**	**256**	P	Pg	19 31 44.5	+0.9
EPF	**Esparros**	**0.13**	**106**	*e*Pg	Pg	19 31 45.0	+0.6
EPF				*e*Sg	Sg	19 31 46.9	+0.4
	165nm,0.3s						
VIEF	**Viey**	**0.21**	**211**	Pg	Pg	19 31 45.9	0.0
VIEF				Sg	Sg	19 31 49.1	+0.2
VIEF	**Viey**	**0.21**	**211**	P	Pg	19 31 45.9	0.0
VIEF				S	Sg	19 31 49.1	+0.2
RESF	**Ens**	**0.29**	**154**	Pg	Pg	19 31 47.2	-0.1
RESF				Sg	Sg	19 31 51.4	+0.2
RESF	**Ens**	**0.29**	**154**	P	Pg	19 31 47.2	-0.1
RESF				S	Sg	19 31 51.3	+0.1
EBIE	**Bielsa**	**0.38**	**183**	⇑Pg	Pg	19 31 48.7	-0.4
	11nm,0.1s,SNR=18						
EBIE				Lg		19 31 53.5	
	40nm,0.0s,SNR=7.9						
EBIE	**Bielsa**	**0.38**	**183**	Pg	Pg	19 31 48.7	-0.4
	11nm,0.1s,SNR=18						
EBIE				Lg		19 31 53.5	
	40nm,0.0s,SNR=7.9						
REYF	**Montagne du Re**	**0.41**	**271**	Pg	Pg	19 31 49.3	-0.4
REYF				Sg	Sg	19 31 56.0	+0.6
REYF	**Montagne du Re**	**0.41**	**271**	P	Pg	19 31 49.0	-0.7
REYF				S	Sg	19 31 55.8	+0.5
MELF	**Melles**	**0.47**	**114**	Pg	Pg	19 31 49.9	-1.0
MELF				Sg	Sg	19 31 56.3	-1.0
MELF	**Melles**	**0.47**	**114**	P	Pg	19 31 49.9	-1.0
MELF				S	Sg	19 31 56.1	-1.2
ETSF	**Etsaut**	**0.56**	**253**	*e*Pg	Pg	19 31 52.0	-0.6
ETSF				*e*Sg	Sg	19 31 59.0	-1.2
	79nm,0.2s						
FDAF	**Les Forges d'A**	**0.60**	**246**	P	Pg	19 31 52.6	-0.7
FDAF				S	Sg	19 32 00.6	-0.7
ATE	**Arette**	**0.64**	**272**	P	Pb	19 31 53.9	-0.2
ATE				S	Sg	19 32 02.9	+0.2
MLS	**Moulis**	**0.69**	**99**	Pg	Pg	19 31 54.9	-0.2
MLS				Sg	Sg	19 32 03.8	-0.5
MLS	**Moulis**	**0.69**	**99**	P	Pb	19 31 54.5	-0.4
MLS				S	Sb	19 32 03.6	-0.6
SALF	**Salau**	**0.81**	**112**	Pg	Pg	19 31 56.6	-0.9
SALF				Sg	Sg	19 32 07.0	-1.4
SALF	**Salau**	**0.81**	**112**	P	Pb	19 31 56.7	-0.3
SALF				S	Sb	19 32 07.3	-0.4
LARF	**Larrau**	**0.85**	**269**	Pg	Pg	19 31 57.5	-0.9
LARF				Sg	Sg	19 32 09.3	-0.4
LARF	**Larrau**	**0.85**	**269**	P	Pb	19 31 57.6	-0.1
LARF				S	Sb	19 32 09.3	+0.4
EGRA	**Graus**	**0.88**	**173**	Pg	Pg	19 31 57.9	-1.0
	2.0nm,0.1s,SNR=7.9						
EGRA				Lg		19 32 10.6	
	8.3nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**1.02**	**273**	*e*Pn	Pn	19 32 00.2	-1.4
SJPF				*e*Pg	Pg	19 32 00.6	-1.2
SJPF				*e*Sg	Sg	19 32 13.8	-1.7
	11nm,0.2s						
SJPF	**Ste Jean**	**1.02**	**273**	*e*Pg	Pg	19 32 00.6	-1.2
SJPF				*e*Sg	Sg	19 32 13.8	-1.7
	5.3nm,0.2s						
PAND	**Andorre**	**1.15**	**118**	S	Sb	19 32 19.1	+1.5
IPRE	**Itoiz**	**1.15**	**257**	Lg		19 32 19.6	
	6.4nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**1.24**	**278**	Pg	Pg	19 32 04.9	-1.2
	2.1nm,0.1s,SNR=16						
EALK				Lg		19 32 21.2	
	4.0nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**1.32**	**258**	Pg	Pg	19 32 06.8	-0.9
	2.6nm,0.1s,SNR=7.9						
EARA				Lg		19 32 27.3	
	3.8nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.42**	**200**	⇑Pg	Pg	19 32 08.6	-1.2
ESAC				Lg		19 32 26.8	
ESAC	**San Caprasio**	**1.42**	**200**	⇑Pg	Pg	19 32 08.6	-1.2
	30nm,0.2s,SNR=18						
ESAC				Lg		19 32 26.8	
	47nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.42**	**200**	Pg	Pg	19 32 08.6	-1.2
	30nm,0.2s,SNR=18						
CARF	**Carcanieres**	**1.46**	**103**	S	Sb	19 32 28.4	+1.6
VALF	**Valcebollere**	**1.51**	**115**	P	Pn	19 32 10.9	+2.3
VALF				S	Sb	19 32 30.1	+1.9
MTLF	**Montolieu**	**1.52**	**79**	*e*Pn	Pn	19 32 07.1	-1.7
MTLF				*e*Pg	Pg	19 32 09.8	-1.9
MTLF				*e*Sg	Sg	19 32 29.2	-2.8
	12nm,0.2s						
EMIR	**Miracle**	**1.53**	**138**	Pg	Pg	19 32 10.4	-1.4
	3.7nm,0.1s,SNR=6.3						
EMIR				Lg		19 32 30.6	
	7.4nm,0.1s,SNR=8.1						
EMIR	**Miracle**	**1.53**	**138**	Pg	Pg	19 32 10.4	-1.4
	3.7nm,0.1s,SNR=6.3						
EPOB	**Poblet**	**1.84**	**158**	Pn	Pn	19 32 15.2	+1.9
EPOB				Lg		19 32 38.5	
EPOB	**Poblet**	**1.84**	**158**	Pn	Pn	19 32 15.0	+1.7
	1.2nm,0.1s,SNR=11						
EPOB				Sn	Sn	19 32 38.5	+1.6
	8.3nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.84**	**158**	Pn	Pn	19 32 15.2	+1.9
	1.2nm,0.1s,SNR=11						
LFF	**La Frestale**	**1.92**	**12**	*e*Pn	Pn	19 32 12.6	-1.8
LFF				*e*Pg	Pg	19 32 17.1	-2.5
LFF				*e*Sg	Sg	19 32 41.6	-3.6
	20nm,0.3s						
ECRI	**Cripan**	**2.02**	**258**	Pg	Pg	19 32 19.4	-2.4
ECRI				Lg		19 32 46.1	
ECRI	**Cripan**	**2.02**	**258**	Pg	Pg	19 32 19.6	-2.2
	2.5nm,0.1s,SNR=7.9						
ECRI				Lg		19 32 46.1	
	3.9nm,0.3s,SNR=7.9						
ECRI	**Cripan**	**2.02**	**258**	Pg	Pg	19 32 19.4	-2.3
	2.5nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**2.09**	**106**	Pg	Pg	19 32 21.6	-1.5
	0.3nm,0.1s,SNR=7.9						
EJON				Lg		19 32 49.6	
	1.9nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**2.09**	**106**	Pg	Pg	19 32 21.6	-1.5
	0.3nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.11**	**177**	Pg	Pg	19 32 20.2	-3.3
	1.3nm,0.2s,SNR=7.9						
ERTA				Lg		19 32 47.1	
	2.4nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.11**	**177**	Pg	Pg	19 32 20.2	-3.3
	1.3nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.31**	**36**	*e*Pn	Pn	19 32 17.8	-2.2
CAF				*e*Sn	Sn	19 32 44.6	-4.1
CAF				*e*Sg	Sg	19 32 53.3	-4.9
	13nm,0.2s						
RJF	**Les Rejaudoux**	**2.44**	**23**	*e*Pn	Pn	19 32 19.6	-2.3
RJF				*e*Pg	Pg	19 32 26.5	-3.5
RJF				*e*Sn	Sn	19 32 47.8	-4.3
RJF				*e*Sg	Sg	19 32 57.9	-4.6
	7.0nm,0.2s						
EMOS	**Mosqueruela**	**2.74**	**190**	Pn	Pn	19 32 26.3	+0.1
	0.3nm,0.1s,SNR=7.9						
EMOS				Pg	Pg	19 32 31.4	-4.7
	0.7nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	19 32 57.8	-2.0
	0.7nm,0.2s,SNR=7.9						
EMOS				Lg		19 33 07.5	
	1.0nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.74**	**190**	Pn	Pn	19 32 26.3	+0.1
	0.3nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.74**	**190**	Pg	Pg	19 32 31.4	-4.7
	0.7nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	19 32 57.8	-2.0
	0.7nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**2.86**	**68**	*e*Pn	Pn	19 32 25.4	-2.5
LASF				*e*Pg	Pg	19 32 34.2	-4.3
LASF				*e*Sg	Sg	19 33 11.2	-5.5
	4.8nm,0.2s						
TCF	**Toulx Ste Croi**	**3.54**	**24**	*e*Pn	Pn	19 32 34.5	-3.0
TCF				*e*Pg	Pg	19 32 46.6	-5.3
TCF				*e*Sn	Sn	19 33 13.2	-6.6
TCF				*e*Sg	Sg	19 33 32.8	-6.2
	4.6nm,0.4s						
MFF	**Saint Martin d**	**3.54**	**356**	*e*Pn	Pn	19 32 34.5	-3.1
MFF				*e*Pg	Pg	19 32 46.9	-5.2
MFF				*e*Sg	Sg	19 33 32.5	-6.8
	1.8nm,0.3s						
VIVF	**Saint-Julien-l**	**3.71**	**60**	*e*Pn	Pn	19 32 36.9	-3.1
VIVF				*e*Pg	Pg	19 32 50.2	-5.2
VIVF				*e*Sg	Sg	19 33 37.8	-7.1
	4.6nm,0.5s						
BGF	**Bois d'Agland**	**3.98**	**28**	*e*Pn	Pn	19 32 40.5	-3.3
BGF				*e*Pg	Pg	19 32 54.8	-5.9
BGF				*e*Sg	Sg	19 33 46.9	-6.8
	6.9nm,0.3s						
SMF	**Signal de Mont**	**4.43**	**35**	*e*Pn	Pn	19 32 46.4	-3.8
SMF				*e*Sg	Sg	19 34 00.2	-8.6
	1.3nm,0.2s						

*ISK **07** 19:33:09.0, 40.49N×37.36E, h2^{km}, MD3.9, ML4.0*
*CSEM **07** 19:33:09.3±0.1, 40.49N×37.36E, h5^{km}, mb3.7/2, Error ellipse: s-maj=2.0km s-min=1.2km az=1.0*
*MOS **07** 19:33:10.6±1.9, 40.33N×37.08E, h10^{km}, mb3.7/2, Error ellipse: s-maj=13.3km s-min=10.0km az=75.8*
*NEIC **07** 19:33:12.1±0.9, 40.33N×37.21E, h10^{km}, ML4.0(ISK), Error ellipse: s-maj=15.7km s-min=14.1km az=157.0*
*IDC **07** 19:33:13.8±1.1, 40.59N×37.14E, mb3.4/3, mb1 3.5/7, mb1mx3.4/23, mbtmp3.5/7, ML3.8/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/20, Error ellipse: s-maj=17.4km s-min=14.5km az=13.0*
ISC 07 19:33:10.3±0.3, **40.43N**±0.02×**37.35E**±0.03, **h5**^{km}, **n73**, σ**1**^{s}**13**/101, **mb3.4**/3, **1C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
TOKT	**Tokat**	**0.62**	**260**	*i* PG	**Pg**	**19 33 22.4**	**-0.4**
YOZ	**Yozgat**	**1.75**	**244**	*i* PN	**Pn**	**19 33 42.5**	**+1.0**
YOZ				*i* SN	**Sn**	**19 34 06.0**	**+1.6**
BNN	**Bunyan**	**1.96**	**217**	PN	**Pn**	**19 33 45.3**	**+0.7**
CTKT	**Corum**	**1.96**	**276**	*i* P	**Pn**	**19 33 45.8**	**+1.2**
CTKT				*i* S	**Sn**	**19 34 17.6**	**+7.7**
BOYT	**Boyabat**	**2.10**	**299**	*i* P	**Pn**	**19 33 47.4**	**+0.8**
BOYT				*i* S	**Sn**	**19 34 17.8**	**+4.4**
PTK	**Pertek**	**2.20**	**134**	PN	**Pn**	**19 33 48.6**	**+0.5**
BYBT	**Boyabat**	**2.21**	**299**	PN	**Pn**	**19 33 46.7**	**-1.5**
MYA	**Malataya**	**2.26**	**158**	PN	**Pn**	**19 33 48.3**	**-0.6**
MYA				SN	**Sn**	**19 34 18.3**	**+0.8**
MALT	**Malatya**	**2.27**	**158**	PN	**Pn**	**19 33 50.0**	**+0.9**
MALT	**Malatya**	**2.27**	**158**	*e*Pn	**Pn**	**19 33 47.3**	**-1.8**
MALT				*e*S	**Sn**	**19 34 18.4**	**+0.6**
MALT	**Malatya**	**2.27**	**158**	*e*Pn	**Pn**	**19 33 50.0**	**+0.9**
MALT				*e*S	**Sn**	**19 34 18.4**	**+0.5**
ELZG	**Elazig**	**2.31**	**146**	*i* P	**Pn**	**19 33 49.7**	**+0.1**
ELZG				*i* S	**Sn**	**19 34 23.4**	**+4.7**
CDAG	**Cicekdag**	**2.42**	**252**	*i* P	**Pn**	**19 33 51.2**	**0.0**
CDAG				*i* S	**Sn**	**19 34 28.7**	**+7.1**
TOS	**Tosya**	**2.60**	**285**	PN	**Pn**	**19 33 53.4**	**-0.3**
KAHT	**Ahir Dag**	**2.82**	**188**	*i* P	**Pn**	**19 33 56.7**	**-0.2**
KAHT				*i* S	**Sn**	**19 34 40.9**	**+9.1**
CANT	**Cankiri**	**2.85**	**275**	PN	**Pn**	**19 33 56.9**	**-0.4**
BR131	**Keskin Array S**	**2.93**	**257**	*e*Pn	**Pn**	**19 33 58.3**	**-0.2**
BR131				*e*Sn	**Sn**	**19 34 32.8**	**-1.7**
BR131	**Keskin Array S**	**2.93**	**257**	*e*Pn	**Pn**	**19 33 58.3**	**-0.2**
BR131				*e*Sn	**Sn**	**19 34 32.8**	**-1.7**
BRTR	**Keskin Array B**	**2.93**	**257**	P	**Pn**	**19 33 58.4**	**-0.1**
BRTR						19 34 36.1	
BRTR				pmax	pmax		
	comp=Z,18nm,0.3s						
BRTR				pmax	pmax		
	comp=Z,13nm,0.3s						
BRTR	**Keskin Array B**	**2.93**	**257**	Pn	**Pn**	**19 33 58.4**	**-0.1**
	comp=Z,18nm,0.3s,baz=76,slow=14,SNR=112						
BRTR				Pg	**Pg**	**19 34 06.0**	**-2.9**
	comp=Z,13nm,0.3s,baz=99,slow=17,SNR=33						
BRTR				Sn	**Sn**	**19 34 36.0**	**+1.5**
	comp=Z,8.4nm,0.3s,baz=90,slow=22,SNR=7.5						
BRTR				Lg		19 34 47.8	
	comp=Z,15nm,0.3s,baz=115,slow=23,SNR=8.0						
BRTR	**Keskin Array B**	**2.93**	**257**	Pn	**Pn**	**19 33 58.3**	**-0.2**
BRTR	**Keskin Array B**	**2.93**	**257**	P	**Pn**	**19 33 58.4**	**-0.1**
	comp=Z,13nm,0.3s						
BRTR	**Keskin Array B**	**2.93**	**257**	Pg	**Pg**	**19 34 05.9**	**-3.0**
BRTR				S	**Sn**	**19 34 36.1**	**+1.6**
BZK	**Bozkurt**	**2.95**	**302**	PN	**Pn**	**19 33 57.7**	**-1.0**
KAMT	**Kaman**	**2.99**	**250**	PN	**Pn**	**19 33 59.4**	**+0.1**
ELDT	**Eldivan**	**2.99**	**272**	*i* P	**Pn**	**19 33 59.8**	**+0.4**
ELDT				*i* S	**Sg**	**19 34 46.4**	**-3.6**
GZT	**Gaziantep**	**3.08**	**177**	*i* P	**Pn**	**19 33 59.6**	**-0.9**
GZT				*i* S	**Sg**	**19 34 48.5**	**-4.2**
EZM	**Erzurum**	**3.12**	**98**	PN	**Pn**	**19 34 00.9**	**-0.3**
ERZM	**Erzurum**	**3.12**	**98**	*i* P	**Pn**	**19 34 05.3**	**+4.1**
ERZM				*i* S	**Sg**	**19 34 53.0**	**-1.3**
NIG	**Nigde**	**3.14**	**223**	PN	**Pn**	**19 34 01.6**	**+0.1**
BALT	**Daday**	**3.19**	**291**	*i* P	**Pn**	**19 34 02.7**	**+0.5**
BALT				*i* S	**Sn**	**19 34 51.0**	**+10**
URFA	**Urfa**	**3.20**	**158**	PN	**Pn**	**19 34 02.3**	**0.0**
GAZ	**Gaziantep**	**3.26**	**182**	PN	**Pn**	**19 34 02.6**	**-0.5**
ANTO	**Ankara**	**3.54**	**262**	*e*PN	**Pn**	**19 34 07.2**	**+0.1**
LOD	**Lodumlu**	**3.55**	**263**	*e*PN	**Pn**	**19 34 08.0**	**+0.7**
SOC	**Sochi**	**3.61**	**28**	*e*P	**Pn**	**19 34 10.9**	**+2.8**
SOC				*e*		19 34 49.7	
SOC				pmax	pmax		
	comp=Z,25nm,0.8s						
SOC				pmax	pmax		
	comp=N,53nm,1.0s						
SOC				pmax	pmax		
	comp=E,54nm,1.2s						
SOC				MLR	MLR		
	comp=Z,101nm,15.0s						
SOC				MLR	MLR		
	comp=N,109nm,11.0s						
SOC				MLR	MLR		
	comp=E,122nm,14.0s						
SOC	**Sochi**	**3.61**	**28**	*e*S	**Sn**	**19 34 49.7**	**-2.0**
	comp=E,109nm,11.0s						
SAFT	**Safranbolu**	**3.63**	**284**	*e*PN	**Pn**	**19 34 07.2**	**-1.2**
CEYT	**Ceyhan**	**3.64**	**201**	*e*PN	**Pn**	**19 34 08.0**	**-0.5**
BTMT	**Batman**	**3.91**	**124**	*e*PN	**Pn**	**19 34 11.9**	**-0.5**
COBT	**Iskenderun**	**4.00**	**193**	*i* P	**Pn**	**19 34 12.5**	**-1.2**
COBT				*i* S		19 34 16.7	
SGKT	**Sivrigoynuk**	**4.04**	**274**	*i* P	**Pn**	**19 34 14.3**	**+0.2**
SGKT				*i* S	**Pg**	**19 34 34.3**	**+3.4**
MARD	**Mardin**	**4.11**	**138**	*i* P	**Pn**	**19 34 15.7**	**+0.5**
MARD				*i* S		19 34 23.3	
ANN	**Anapa**	**4.37**	**1**	*e*P	**Pn**	**19 34 20.4**	**+1.5**
ANN				*e*		19 35 10.8	
ANN				pmax	pmax		
	comp=Z,12nm,0.9s						
ANN				smax			
	comp=Z,23nm,0.5s						
ANN				smax			
	comp=N,16nm,0.6s						
ANN				smax			
	comp=E,21nm,0.6s						
ANN	**Anapa**	**4.37**	**1**	*e*S	**Sn**	**19 35 10.8**	**-0.1**
	comp=E,23nm,0.5s						
KDHN	**Kadinhani**	**4.47**	**246**	*i* P	**Pg**	**19 34 32.1**	**-7.6**
KDHN				*i* S	**Sg**	**19 35 31.8**	**-7.6**
KIZT	**Kizilcal**	**4.50**	**252**	*e*PN	**Pn**	**19 34 19.9**	**-0.8**
MEST	**Erdemli**	**4.59**	**214**	*i* P	**Pn**	**19 34 21.9**	**-0.1**
MEST				*i* S	**Pg**	**19 34 38.4**	**-3.5**
ONI	**Oni**	**5.06**	**63**	P	**Pn**	**19 34 30.0**	**+1.3**
ONI				S	**Sn**	**19 35 27.9**	**-0.5**
ESKT	**Eskisehir**	**5.07**	**262**	*e*PN	**Pn**	**19 34 28.6**	**-0.3**
ESKT	**Eskisehir**	**5.07**	**262**	*i* P	**Pn**	**19 34 29.7**	**+0.8**
ESKT				*i* S	**Pg**	**19 34 51.6**	**0.0**
IKL	**Isikli**	**5.08**	**216**	*e*PN	**Pn**	**19 34 29.5**	**+0.5**
CLDR	**Caldiran**	**5.22**	**102**	*e*PN	**Pn**	**19 34 30.9**	**-0.1**
KIV	**Kislovodsk**	**5.30**	**47**	⇓*e*P	**Pn**	**19 34 35.4**	**+3.3**
KIV	**Kislovodsk**	**5.30**	**47**	*e*Pn	**Pn**	**19 34 34.9**	**+2.8**
	comp=E,23nm,0.8s						
ZEI	**Tsey**	**5.44**	**62**	*e*P	**Pn**	**19 34 35.5**	**+1.5**
ZEI				*e*		19 35 39.8	
ZEI				pmax	pmax		
	comp=Z,31nm,0.1s						
ZEI				pmax	pmax		
	comp=Z,35nm,0.1s						
GNI	**Garni**	**5.66**	**90**	Pg	**Pg**	**19 34 55.4**	**-8.0**
	comp=Z,0.7nm,0.3s,baz=2.0,slow=5.2,SNR=5.4						
GNI				Sn	**Sn**	**19 35 42.1**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=116,slow=8.0,SNR=3.4						
GNI	**Garni**	**5.66**	**90**	Pn	**Pn**	**19 34 42.1**	**+4.9**
GNI				Pg	**Pg**	**19 34 55.4**	**-8.0**
GNI				Sn	**Sn**	**19 35 42.1**	**-1.4**
GNI	**Garni**	**5.66**	**90**	Pn	**Pn**	**19 34 42.1**	**+4.9**
GNI				S	**Sn**	**19 35 42.1**	**-1.4**
ISP	**Isparta**	**5.91**	**246**	Pn	**Pn**	**19 34 35.5**	**-5.2**
ISP				*e*S	**Sn**	**19 35 55.5**	**+5.8**
TIRR	**Tirgusor**	**7.74**	**304**	⇑P	**Pn**	**19 35 03.5**	**-2.9**
ASF	**Jabal al Asfar**	**8.25**	**183**	Pn	**P**	**19 35 17.7**	**+4.2**
	comp=Z,0.5nm,0.3s,baz=18,slow=17,SNR=2.8						
ASF				Lg		19 37 40.6	
	comp=Z,0.1nm,0.3s,baz=74,slow=24,SNR=6.6						
MLR	**Muntele Rosu**	**9.77**	**305**	Pn	**P**	**19 35 35.0**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=153,slow=4.9,SNR=3.9						
MLR				LR	LR	19 40 31.6	
	comp=Z,51nm,19.5s,baz=137,slow=46						
AKASG	**Malin Array Be**	**11.73**	**334**	P	**P**	**19 35 59.0**	**-2.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**11.73**	**334**	Pn	**P**	**19 35 59.0**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=141,slow=13,SNR=4.9						
AKASG	**Malin Array Be**	**11.73**	**334**	Pn	**P**	**19 35 59.0**	**-2.4**

CLL	**Collm**	**20.05**	**311**	P	**P**	**19 37 48.0**	**+1.1**
ARU	**Arti**	**21.18**	**34**	*e*P	**P**	**19 38 01.7**	**+3.1**
FINES	**FINESS Array B**	**22.14**	**346**	P	**P**	**19 38 06.8**	**-1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**22.14**	**346**	P	**P**	**19 38 06.8**	**-1.5**
	comp=Z,0.5nm,0.3s,mb3.4,baz=324,slow=36,SNR=3.9						
HFS	**Hagfors**	**24.60**	**331**	P	**P**	**19 38 31.8**	**-0.4**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**24.60**	**331**	P	**P**	**19 38 31.8**	**-0.4**
	comp=Z,0.9nm,0.5s,mb3.5,baz=124,slow=11,SNR=8.8						
MKAR	**Makanchi Array**	**32.80**	**64**	P	**P**	**19 39 48.3**	**+1.9**
	comp=Z,0.3nm,0.6s,mb3.4,baz=284,slow=6.5,SNR=5.1						

IDC 07 19:48:13.4±11.0**, 2.67N**×**93.99E, mb3.8**/4**, mb1 3.9**/5**, mb1mx3.6**/21**, mbtmp3.8**/5**, ML3.6**/1**, MS3.3**/2**, Ms1 3.4**/2**, ms1mx2.9**/18**, Error ellipse: s-maj=217.1km s-min=87.7km az=155.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.42**	**17**	Pn	P	19 52 06.0	-1.0
	0.1nm,0.3s,baz=217,slow=12,SNR=6.2						
CMAR				LR	LR	19 59 08.2	
	comp=Z,23nm,20.1s,baz=255,slow=40						
MKAR	**Makanchi Array**	**45.11**	**349**	P	P	19 56 31.8	-1.6
	1.0nm,0.7s,baz=169,slow=8.6,SNR=12						
SONM	**Songino Array**	**46.25**	**12**	P	P	19 56 39.5	-2.8
	0.6nm,0.7s,baz=193,slow=9.5,SNR=6.0						
ZAL	**Zalesovo**	**51.66**	**353**	P	P	19 57 22.9	-1.1
	0.7nm,0.3s,baz=195,slow=3.1,SNR=4.2						
BVAR	**Borovoye Array**	**53.85**	**343**	P	P	19 57 37.7	-2.7
	0.9nm,0.6s,baz=143,slow=7.4,SNR=8.6						
DBIC	**Dimbokro**	**98.47**	**277**	LR	LR	20 43 30.3	
	comp=Z,58nm,21.9s,baz=284,slow=34						

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*IDC **07** 19:52:11.3±1.4, 17.92N×147.36E, mb3.8/8, mb1 4.0/8, mb1mx3.8/20, mbtmp3.8/8, Error ellipse: s-maj=49.2km s-min=24.9km az=88.0*

*NEIC **07** 19:52:13.1±0.7, 17.82N×147.18E, h10^{km}, mb4.2/4, Error ellipse: s-maj=25.3km s-min=9.9km az=95.0*

ISC 07 19:52:11.4±0.9**, 17.88N**±0.07×**147.2E**±0.2**, h10**^{km}**, n14,** σ**0**^{s}**73**/15**, mb4.0**/10**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.83**	**208**	P	**Pn**	**19 53 23.6**	**-2.2**
GUMO				*e*S	**Sn**	**19 54 23.1**	**+0.5**
MJAR	**Matsushiro Arr**	**20.21**	**339**	P	**P**	**19 56 49.1**	**-0.2**
	1.1nm,0.6s,baz=159,slow=11,SNR=5.9						
MAJO	**Matsushiro**	**20.21**	**339**	P	**P**	**19 56 49.8**	**+0.5**
	9.6nm,0.9s						
HIA	**Hailar**	**38.36**	**331**	*e*P	**P**	**19 59 34.5**	**+0.2**
	3.5nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**39.64**	**199**	*e*P	**P**	**19 59 46.0**	**+0.7**
	5.2nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**39.66**	**199**	P	**P**	**19 59 46.1**	**+0.7**
	1.9nm,0.7s,mb3.9,baz=21,slow=9.2,SNR=11						
SONM	**Songino Array**	**44.67**	**321**	P	**P**	**20 00 26.3**	**+0.2**
	0.7nm,0.7s,mb3.6,baz=136,slow=9.0,SNR=6.4						
ZAL	**Zalesovo**	**59.54**	**323**	P	**P**	**20 02 17.6**	**+0.3**
	0.7nm,0.6s,mb3.9,baz=2.1,slow=6.9,SNR=8.0						
MKAR	**Makanchi Array**	**60.05**	**314**	P	**P**	**20 02 20.9**	**0.0**
	0.7nm,0.7s,mb3.8,baz=91,slow=8.9,SNR=10						
ILAR	**Eielson Array**	**63.74**	**26**	P	**P**	**20 02 44.5**	**-0.8**
	0.4nm,0.8s,mb3.5,baz=236,slow=6.5,SNR=4.1						
BVAR	**Borovoye Array**	**68.01**	**321**	P	**P**	**20 03 12.3**	**-0.6**
	2.4nm,0.7s,mb4.3,baz=89,slow=6.3,SNR=20						
DLBC	**Dease Lake**	**71.18**	**33**	P	**P**	**20 03 32.8**	**+0.7**
ARU	**Arti**	**74.56**	**325**	*e*P	**P**	**20 03 52.2**	**+0.2**
	4.2nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**88.22**	**336**	P	**P**	**20 05 02.8**	**-0.8**
	0.8nm,0.6s,mb4.1,baz=51,slow=8.9,SNR=3.4						

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*NEIC **07** 19:56:17.9±2.2, 48.41N×22.74E, h10^{km}, Error ellipse: s-maj=24.4km s-min=11.9km az=120.0*

ISC 07 19:56:16.1±1.9**, 48.37N**±0.07×**22.9E**±0.1**, h12**^{km}±8^{km}**, n9,** σ**0**^{s}**92**/14**, Ukraine - Moldova - Southwestern Russia region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLS	**Kolonicke sedl**	**0.69**	**325**	*e*PG	**Pg**	**19 56 30.3**	**+0.1**
KOLS				*e*SG	**Sg**	**19 56 39.4**	**-0.1**
CRVS	**Cervenica-Dubn**	**1.08**	**300**	*e*PN	**Pn**	**19 56 36.8**	**-0.3**
CRVS				*e*SN	**Sn**	**19 56 51.9**	**-0.2**
KWP	**Kalwaria**	**1.27**	**355**	*e*Pn	**Pn**	**19 56 41.0**	**+1.2**
KWP				*e*Sn	**Sn**	**19 56 56.6**	**-0.2**
KECS	**Kecovo**	**1.60**	**275**	*e*PN	**Pn**	**19 56 44.8**	**+0.3**
KECS				*e*SN	**Sn**	**19 57 07.2**	**+2.0**
PSZ	**Piszkesteto**	**2.05**	**258**	*e*Pn	**Pn**	**19 56 51.9**	**+1.0**
VYHS	**Vyhne**	**2.70**	**274**	*e*PN	**Pn**	**19 57 00.0**	**-0.2**
VYHS				*e*SN	**Sn**	**19 57 32.1**	**-0.9**
MORC	**Moravsky Berou**	**3.78**	**294**	*e*Pn	**Pn**	**19 57 13.9**	**-1.7**
CSS	**Prodhromos**	**15.48**	**146**	P	**P**	**20 00 02.8**	**+6.9**
	4.9nm,0.5s						
CART	**Cartagena**	**20.44**	**247**	P	**P**	**20 00 55.1**	**-0.9**
	27nm,0.8s						

IDC 07 20:51:33.2±3.7**, 1.57N**×**98.04E, mb3.5**/3**, mb1 3.6**/4**, mb1mx3.4**/19**, mbtmp3.4**/4**, ML3.6**/1**, Error ellipse: s-maj=133.4km s-min=27.8km az=60.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.80**	**3**	Pn	P	20 55 32.2	+0.5
	0.1nm,0.3s,baz=194,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**41.52**	**123**	P	P	20 59 22.7	-1.6
	0.3nm,0.5s,baz=303,slow=9.2,SNR=5.5						
SONM	**Songino Array**	**46.65**	**8**	P	P	21 00 02.9	-2.4
	0.6nm,0.7s,baz=207,slow=9.7,SNR=3.3						
MKAR	**Makanchi Array**	**47.09**	**345**	P	P	21 00 06.8	-1.9
	0.5nm,0.6s,baz=162,slow=8.4,SNR=6.2						

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*KNET **07** 21:00:06.2±0.3, 42.65N×74.83E, h16^{km}±2^{km}, ml3.4, Error ellipse: s-maj=2.1km s-min=1.7km az=152.0*

*NNC **07** 21:00:06.3±1.5, 42.71N×74.84E, h5^{km}±14^{km}, mpv3.6, Error ellipse: s-maj=31.1km s-min=16.7km az=164.0*

*MOS **07** 21:00:08.7±2.5, 42.72N×74.64E, h33^{km}, mb3.6/2, Error ellipse: s-maj=18.8km s-min=12.6km az=92.7*

*IDC **07** 21:00:09.1±2.2, 42.89N×74.76E, mb3.3/2, mb1 3.8/5, mb1mx3.5/24, mbtmp3.7/5, ML3.7/3, Error ellipse: s-maj=22.5km s-min=14.6km az=10.0*

ISC 07 21:00:07.4±0.4**, 42.68N**±0.03×**74.82E**±0.03**, h16**^{km}±4^{km}**, n28,** σ**1**^{s}**29**/44**, mb3.3**/2**, 21C-9D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.10**	**103**	⇓P	**Pb**	**21 00 10.3**	**-0.5**
	4µm,0.1s						
KBK				⇑S	**Sb**	**21 00 12.3**	**-0.9**
	54µm,0.2s						
AAK	**Ala-Archa**	**0.24**	**260**	⇑P	**Pb**	**21 00 12.6**	**-0.4**
	507nm,0.2s,SNR=221						
AAK				⇓S	**Sb**	**21 00 16.3**	**-0.5**
	3µm,0.3s						
AAK	**Ala-Archa**	**0.24**	**260**	⇑P	**Pb**	**21 00 12.7**	**-0.3**
	113nm,0.3s						
AAK				⇑S	**Sb**	**21 00 16.2**	**-0.6**
	2µm,0.4s						
CHMS	**Chumysh**	**0.32**	**351**	P	**Pb**	**21 00 14.6**	**+0.3**
	912nm,0.1s,SNR=259						
CHMS				⇑S	**Sb**	**21 00 19.5**	**+0.4**
	4µm,0.2s						
UCH	**Uchtor**	**0.51**	**207**	⇑P	**Pb**	**21 00 17.0**	**-0.4**
	511nm,0.2s,SNR=2097						
UCH				⇓S	**Sb**	**21 00 22.4**	**-1.9**
	1µm,0.2s						
TKM2	**Tokmak 2**	**0.62**	**67**	⇓P	**Pb**	**21 00 19.6**	**+0.2**
	158nm,0.2s,SNR=241						
TKM2				⇑S	**Sb**	**21 00 28.0**	**+0.4**
	1µm,0.2s						
USP	**Ospenovka**	**0.63**	**338**	P	**Pb**	**21 00 20.1**	**+0.5**
	174nm,0.2s,SNR=310						
USP				⇓S	**Sb**	**21 00 29.0**	**+1.0**
	1µm,0.2s						
KZA	**Kyzart**	**0.68**	**152**	P	**Pb**	**21 00 20.5**	**+0.1**
	177nm,0.2s,SNR=1188						
KZA				⇑S	**Sb**	**21 00 29.7**	**+0.4**
	2µm,0.2s						
EKS2	**Erkin-Say**	**0.77**	**269**	⇑P	**Pb**	**21 00 22.8**	**+0.8**
	99nm,0.1s,SNR=181						
EKS2				⇑S	**Sb**	**21 00 33.2**	**+1.2**
	286nm,0.2s						
AML	**Almayashu**	**1.00**	**237**	P	**Pb**	**21 00 26.3**	**+0.5**
	143nm,0.3s,SNR=299						
AML				⇑S	**Sb**	**21 00 39.7**	**+1.1**
	747nm,0.4s						
ULHL	**Ulahol**	**1.14**	**112**	⇓P	**Pb**	**21 00 28.6**	**+0.4**
	39nm,0.1s,SNR=216						
KK31	**Karatay Array**	**3.20**	**279**	⇓Pn	**Pn**	**21 01 00.2**	**+2.1**
	1.0nm,0.2s,baz=91,slow=14,SNR=336						
KK31				⇑Pg	**Pn**	**21 01 04.8**	**+6.8**
	13nm,0.2s,baz=97,slow=16,SNR=44						
KK31				⇑Lg		21 01 46.6	
	40nm,0.2s,baz=97,slow=30,SNR=18						
KKAR	**Karatay Array**	**3.20**	**279**	*e*PN	**Pn**	**21 01 00.2**	**+2.1**
KKAR				*e*		21 01 06.0	
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
MK31	**Makanchi Array**	**6.72**	**50**	⇓Pn	**Pn**	**21 01 48.9**	**+0.9**
	comp=Z,5.7nm,0.5s,baz=230,slow=14,SNR=121						
MK31				⇑Sn	**Sn**	**21 03 05.1**	**+0.1**
	comp=Z,8.2nm,0.7s,baz=225,slow=25						
MK31				⇑Lg		21 03 35.1	
	comp=Z,8.7nm,0.6s,baz=230,slow=24,SNR=3.6						
MKAR	**Makanchi Array**	**6.72**	**50**	Pn	**Pn**	**21 01 49.0**	**+1.0**
	comp=Z,2.2nm,0.3s,baz=237,slow=14,SNR=139						
MKAR				Sn	**Sn**	**21 03 05.0**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=239,slow=16,SNR=7.5						
MKAR				Lg		21 03 36.2	
	comp=Z,2.3nm,0.3s,baz=236,slow=26,SNR=5.7						
VOSK	**Vostochnaya**	**10.38**	**347**	⇑Pn	**P**	**21 02 35.7**	**-2.9**
	comp=Z,2.6nm,1.4s						
VOSK				⇑Lg		21 05 31.6	
	comp=Z,21nm,0.9s						
VOSK	**Vostochnaya**	**10.38**	**347**	P	**P**	**21 02 35.6**	**-3.0**
BVAR	**Borovoye Array**	**10.77**	**346**	Pn	**P**	**21 02 41.0**	**-3.0**
	comp=Z,0.8nm,0.3s,baz=152,slow=13,SNR=19						
BVAR				Sn	**S**	**21 04 36.8**	**-8.4**
	comp=Z,0.3nm,0.3s,baz=167,slow=25,SNR=3.9						
BVAR				Lg		21 05 44.2	
	comp=Z,0.8nm,0.3s,baz=169,slow=24,SNR=7.2						
ZRNK	**Zerenda**	**10.99**	**341**	⇑Pn	**P**	**21 02 44.3**	**-2.7**
	comp=Z,1.3nm,0.8s						
ZRNK				⇑Lg		21 05 49.2	
	comp=Z,12nm,0.8s						
ZRNK	**Zerenda**	**10.99**	**341**	P	**P**	**21 02 44.2**	**-2.8**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AB31	**Akbulak array**	**12.25**	**308**	⇓Pn	**P**	**21 03 01.1**	**-3.0**
	comp=Z,1.7nm,0.5s,baz=113,slow=14,SNR=47						
AB31				⇑Sn	**S**	**21 05 11.6**	**-10**
	comp=Z,0.3nm,0.3s						
AB31				⇑Lg		21 06 33.9	
	comp=Z,3.5nm,0.8s						
AB31	**Akbulak array**	**12.25**	**308**	*e*P	**P**	**21 03 01.1**	**-3.0**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**13.06**	**27**	Pn	**P**	**21 03 12.6**	**-2.2**
	comp=Z,0.9nm,0.3s,baz=247,slow=11,SNR=5.2						
ZAL				Sn	**S**	**21 05 31.0**	**-10**
	comp=Z,0.3nm,0.3s,baz=223,slow=16,SNR=3.8						
ZAL				Lg		21 07 00.0	
	comp=Z,0.1nm,0.3s,baz=184,slow=21,SNR=2.3						
ARU	**Arti**	**17.27**	**328**	*e*P	**P**	**21 04 06.3**	**-3.0**
ZAK	**Zakamensk**	**20.95**	**59**	*e*P	**P**	**21 04 52.6**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
SONM	**Songino Array**	**22.72**	**66**	P	**P**	**21 05 11.9**	**+2.4**
	comp=Z,0.4nm,0.8s,mb2.9,baz=278,slow=10,SNR=3.3						
FINES	**FINESS Array B**	**34.31**	**320**	P	**P**	**21 06 54.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	**34.31**	**320**	P	**P**	**21 06 54.7**	**-0.1**
	comp=Z,1.0nm,0.9s,mb3.8,baz=113,slow=11,SNR=3.6						

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*NEIC **07** 21:29:29.0, 60.13N×152.95W, h125^{km}, mb4.2/7, After AEIC.*

*IDC **07** 21:29:31.2±3.7, 60.48N×152.75W, h140^{km}±31^{km}, mb3.5/10, mb1 3.8/13, mb1mx3.6/23, mbtmp4.0/13, Error ellipse: s-maj=29.7km s-min=12.2km az=44.0*

ISC 07 21:29:27.0±0.2**, 60.21N**±0.02×**153.05W**±0.05**, h130**^{km}±2^{km}**, n107,** σ**0**^{s}**88**/130**, mb3.9**/17**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIM	**Iliamna**	**0.13**	**160**	P	**P**	**21 29 45.3**	**+0.5**
ILIM				S	**S**	**21 29 58.0**	**-0.3**
INE	**Iliamna NE**	**0.14**	**183**	P	**P**	**21 29 45.4**	**+0.5**
INE				S	**S**	**21 29 59.1**	**+0.7**
ILW	**Iliamna West**	**0.15**	**197**	P	**P**	**21 29 45.4**	**+0.6**
ILW				S	**S**	**21 29 58.0**	**-0.4**
IVE	**Iliamna Volcan**	**0.19**	**175**	P	**P**	**21 29 45.4**	**+0.5**
IVE				S	**S**	**21 29 59.0**	**+0.4**
IVS	**Iliamna South**	**0.20**	**185**	P	**P**	**21 29 45.7**	**+0.7**
IVS				S	**S**	**21 29 59.8**	**+1.2**
ILS	**Iliamna Low So**	**0.25**	**182**	P	**P**	**21 29 45.4**	**+0.3**
ILS				S	**S**	**21 29 59.6**	**+0.8**
RED	**Redoubt Volcan**	**0.26**	**33**	P	**P**	**21 29 45.5**	**+0.5**
RSO	**Redoubt South**	**0.30**	**29**	P	**P**	**21 29 46.2**	**+1.1**
RDT	**Redoubt**	**0.49**	**40**	P	**P**	**21 29 47.2**	**+1.0**
OPT	**Oil Point**	**0.56**	**189**	P	**P**	**21 29 47.0**	**+0.4**
OPT				S	**S**	**21 30 01.5**	**+0.1**
PDB	**Pedro Bay**	**0.71**	**234**	P	**P**	**21 29 48.2**	**+0.6**
PDB				S	**S**	**21 30 03.2**	**-0.1**
AUL	**Augustine Lava**	**0.85**	**193**	P	**P**	**21 29 49.0**	**+0.3**
AUL				S	**S**	**21 30 04.6**	**-0.7**
AUE	**Augustine Isla**	**0.86**	**191**	P	**P**	**21 29 48.8**	**0.0**
AUW	**Augustine West**	**0.86**	**194**	P	**P**	**21 29 49.1**	**+0.4**
AGU	**Augustine-Summ**	**0.87**	**193**	P	**P**	**21 29 49.1**	**+0.3**
AUI	**Augustine Isla**	**0.89**	**193**	P	**P**	**21 29 49.1**	**+0.1**
AUI				S	**S**	**21 30 05.2**	**-0.8**
NNL	**Ninilchik**	**0.89**	**100**	P	**P**	**21 29 50.4**	**+1.3**
HOM	**Homer**	**0.90**	**127**	P	**P**	**21 29 49.5**	**+0.4**
SPU	**Mount Spurr**	**1.10**	**26**	*e*P	**P**	**21 29 52.1**	**+1.0**
BGL	**Barrier Glacie**	**1.11**	**17**	P	**P**	**21 29 52.8**	**+1.6**
CNPM	**China Poot**	**1.14**	**126**	P	**P**	**21 29 51.6**	**+0.1**
CNPM				S	**S**	**21 30 09.0**	**-1.1**
MCNL	**McNeil River**	**1.21**	**213**	P	**P**	**21 29 52.3**	**0.0**
MCNL				S	**S**	**21 30 10.5**	**-1.0**
SLKM	**Skilak Lake**	**1.44**	**77**	P	**P**	**21 29 55.0**	**+0.2**
VOGL	**Vogel Lake**	**1.52**	**57**	P	**P**	**21 29 57.6**	**+1.9**
VOGL				S	**S**	**21 30 19.7**	**+2.1**
SYI	**Shuyak Island**	**1.64**	**168**	P	**P**	**21 29 56.2**	**-0.8**
SYI				S	**S**	**21 30 18.4**	**-1.5**
FIB	**Fire Island**	**1.71**	**54**	P	**P**	**21 29 59.2**	**+1.2**
FIB				S	**S**	**21 30 22.8**	**+1.3**
KAPH	**Katmai Pasha**	**1.74**	**203**	P	**P**	**21 29 58.2**	**-0.1**
SEW	**Seward**	**1.80**	**92**	P	**P**	**21 29 58.3**	**-0.7**
KAHC	**Katmai Hardscr**	**1.85**	**214**	P	**P**	**21 29 59.5**	**-0.1**
KAHC				S	**S**	**21 30 23.6**	**-0.8**
RC01	**Rabbit Creek A**	**1.86**	**60**	P	**P**	**21 29 59.8**	**+0.2**
KAHG	**Katmai Hook Gl**	**1.88**	**205**	P	**P**	**21 29 59.8**	**-0.1**
PWA	**Palmer West**	**2.12**	**45**	P	**P**	**21 30 03.1**	**+0.2**
ACHA	**Angle Creek He**	**2.32**	**211**	P	**P**	**21 30 05.2**	**-0.3**
PMR	**Palmer**	**2.37**	**52**	P	**P**	**21 30 05.7**	**-0.4**
PMR				S	**S**	**21 30 33.7**	**-2.2**
ANCK	**Angle Creek**	**2.37**	**213**	P	**P**	**21 30 06.2**	**-0.1**
CNTC	**Contact Creek**	**2.43**	**218**	P	**P**	**21 30 06.8**	**-0.1**
KDAK	**Kodiak Island**	**2.44**	**174**	P	**P**	**21 30 05.0**	**-2.1**
KDAK				S	**S**	**21 30 33.3**	**-4.3**
CAHL	**Cahill**	**2.45**	**209**	P	**P**	**21 30 07.0**	**-0.3**
KJL	**Kejulik**	**2.52**	**212**	P	**P**	**21 30 08.2**	**0.0**
GHO	**Glory Hole Cre**	**2.55**	**50**	P	**P**	**21 30 08.0**	**-0.6**
KNK	**Knik Glacier**	**2.56**	**60**	P	**P**	**21 30 08.1**	**-0.6**
CFI	**College Fiord**	**2.78**	**67**	P	**P**	**21 30 10.4**	**-1.1**
SML	**Sawmill**	**2.80**	**53**	P	**P**	**21 30 10.9**	**-1.0**
TT01	**Tatalina**	**3.06**	**334**	P	**P**	**21 30 16.2**	**+0.9**
HUR	**Hurricane**	**3.23**	**29**	P	**P**	**21 30 18.2**	**+0.7**
SCM	**Sheep Creek Mo**	**3.23**	**57**	P	**P**	**21 30 16.5**	**-1.0**
VLZ	**Valdez**	**3.43**	**71**	P	**P**	**21 30 18.9**	**-1.3**
KTH	**Kantishna Hill**	**3.51**	**16**	P	**P**	**21 30 21.4**	**+0.2**
KTH				S	**S**	**21 31 01.5**	**-1.1**
TRF	**Thorofare Moun**	**3.51**	**21**	P	**P**	**21 30 21.8**	**+0.6**
CVA	**Cordova**	**3.64**	**81**	P	**P**	**21 30 22.3**	**-0.7**
EYAK	**Cordova Ski Ar**	**3.64**	**81**	P	**P**	**21 30 22.1**	**-0.9**
DIV	**Divide**	**3.70**	**72**	P	**P**	**21 30 23.4**	**-0.3**
RND	**Reindeer**	**3.78**	**30**	P	**P**	**21 30 25.0**	**+0.2**
ANPK	**Aniakchak Peak**	**4.30**	**220**	P	**P**	**21 30 30.9**	**-0.9**
BWN	**Browne**	**4.32**	**21**	P	**P**	**21 30 32.6**	**+0.5**
PAX	**Paxson**	**4.56**	**49**	P	**P**	**21 30 34.9**	**-0.4**
PAX				S	**S**	**21 31 25.0**	**-2.8**
GLB	**Gilahina Butte**	**4.69**	**71**	P	**P**	**21 30 36.0**	**-1.0**
NEA	**Nenana**	**4.76**	**21**	P	**P**	**21 30 37.7**	**-0.2**
WRH	**Wood River Hil**	**4.87**	**26**	P	**P**	**21 30 38.8**	**-0.5**
MLY	**Manley**	**4.96**	**11**	P	**P**	**21 30 40.9**	**+0.3**
CCB	**Clear Creek Bu**	**5.08**	**26**	P	**P**	**21 30 41.6**	**-0.6**
HDA	**Harding Lake**	**5.08**	**31**	P	**P**	**21 30 42.2**	**-0.1**
MDM	**Murphy Dome**	**5.26**	**23**	P	**P**	**21 30 44.5**	**-0.2**
COLA	**College**	**5.27**	**25**	P	**P**	**21 30 44.7**	**0.0**
BALM	**Baldy**	**5.34**	**76**	P	**P**	**21 30 45.3**	**-0.4**
ILAR	**Eielson Array**	**5.40**	**29**	P	**P**	**21 30 46.0**	**-0.5**
	32nm,0.3s,baz=218,slow=14,SNR=981						
ILAR				S	**S**	**21 31 42.5**	**-5.5**
	8.7nm,0.3s,baz=201,slow=18,SNR=5.4						
YAH	**Yahtse**	**5.63**	**83**	P	**P**	**21 30 49.5**	**0.0**
IM3	**Indian Mountai**	**5.81**	**357**	P	**P**	**21 30 52.7**	**+0.7**
CTGM	**Chitina Glacie**	**5.83**	**77**	P	**P**	**21 30 52.3**	**+0.1**
IMA	**Indian Mountai**	**5.89**	**357**	*e*P	**P**	**21 30 51.7**	**-1.4**
BCA3	**Beaver Creek A**	**6.09**	**57**	P	**P**	**21 30 55.1**	**-0.6**
BLHA	**Black Hill**	**6.59**	**231**	P	**P**	**21 31 02.8**	**+0.2**
HAG	**Hague Volcano**	**6.81**	**228**	P	**P**	**21 31 04.9**	**-0.8**
PNL	**Peninsula**	**6.88**	**89**	P	**P**	**21 31 05.3**	**-1.3**
DOL	**Dolgoi Island**	**6.93**	**227**	P	**P**	**21 31 06.5**	**-0.7**
COLD	**Coldfoot**	**7.16**	**9**	P	**P**	**21 31 10.7**	**+0.3**
DRIA	**Deer Island**	**7.21**	**227**	P	**P**	**21 31 09.9**	**-1.2**
BALA	**Baldy Mountain**	**7.24**	**230**	P	**P**	**21 31 11.8**	**+0.3**
SSLN	**Shishaldin Nor**	**7.99**	**232**	P	**P**	**21 31 18.3**	**-3.3**
BM3	**Burnt Mountain**	**8.14**	**24**	P	**P**	**21 31 21.8**	**-1.8**
WESE	**West Dahl East**	**8.47**	**232**	P	**P**	**21 31 28.2**	**+0.2**
SIT	**Sitka**	**9.76**	**101**	*e*P	**P**	**21 31 44.6**	**-0.3**
INK	**Inuvik**	**11.69**	**38**	P	**P**	**21 32 10.0**	**-0.4**
	1.1nm,0.3s,baz=234,slow=16,SNR=15						
INK				S	**S**	**21 34 17.1**	**-1.6**
	0.3nm,0.3s,baz=151,slow=19,SNR=4.2						
INK	**Inuvik**	**11.69**	**38**	*e*P	**P**	**21 32 09.4**	**-1.0**
DLBC	**Dease Lake**	**11.88**	**89**	P	**P**	**21 32 14.3**	**+1.5**
	2.0nm,0.3s,baz=287,slow=13,SNR=20						
DLBC				S	**S**	**21 34 23.1**	**0.0**
	0.5nm,0.3s,baz=168,slow=20,SNR=3.2						
DLBC	**Dease Lake**	**11.88**	**89**	P	**P**	**21 32 13.3**	**+0.5**
YKA	**Yellowknife Ar**	**18.39**	**66**	P	**P**	**21 33 33.7**	**-0.3**
	0.7nm,0.3s,baz=277,slow=10.0,SNR=18						
NEW	**Newport**	**23.82**	**104**	*e*P	**P**	**21 34 30.2**	**+1.7**
	4.3nm,0.9s,mb4.0						
HLID	**Hailey**	**28.54**	**108**	P	**P**	**21 35 12.2**	**+0.2**
IMW	**Indian Meadow**	**29.95**	**104**	*e*P	**P**	**21 35 26.2**	**+1.5**
	13nm,0.8s,mb4.7						
TPAW	**Teton Pass**	**30.25**	**104**	*e*P	**P**	**21 35 28.1**	**+0.7**
	7.0nm,0.7s,mb4.5						
LOHW	**Long Hollow**	**30.33**	**104**	*e*P	**P**	**21 35 29.1**	**+1.1**
	8.0nm,0.9s,mb4.5						
ELK	**Elko**	**30.34**	**113**	*e*P	**P**	**21 35 29.1**	**+1.0**
	1.7nm,0.9s,mb3.8						
NVAR	**Mina Array Bea**	**30.84**	**119**	P	**P**	**21 35 33.6**	**+0.9**
	1.9nm,0.8s,mb3.9,baz=322,slow=7.7,SNR=13						
BW06	**Boulder Array**	**31.47**	**104**	*e*P	**P**	**21 35 38.5**	**+0.5**
	2.0nm,0.9s,mb3.9						
PDAR	**Pinedale Array**	**31.47**	**104**	P	**P**	**21 35 38.9**	**+0.8**
	2.1nm,0.8s,mb3.9,baz=315,slow=6.3,SNR=15						
PDAR				pP	pP	21 36 05.7	-0.6
	0.2nm,0.7s,baz=228,slow=24,SNR=3.2						
SRU	**San Rafael**	**33.83**	**109**	*e*P	**P**	**21 35 59.8**	**+1.4**
SDCO	**Great Sand Dun**	**37.31**	**105**	*e*P	**P**	**21 36 29.2**	**+1.4**
	7.0nm,1.4s,mb4.1						
MNTX	**Cornudas Mount**	**42.29**	**111**	*e*P	**P**	**21 37 09.8**	**+0.9**
TXAR	**Lajitas Array**	**45.08**	**111**	P	**P**	**21 37 32.8**	**+1.5**
	1.7nm,0.8s,mb3.8,baz=321,slow=6.1,SNR=23						
ARCES	**ARCESS Array B**	**50.55**	**1**	P	**P**	**21 38 12.9**	**-0.4**
	1.6nm,0.8s,mb3.7,baz=346,slow=10.0,SNR=4.4						
SONM	**Songino Array**	**54.65**	**306**	P	**P**	**21 38 45.4**	**+1.4**
	1.5nm,0.6s,mb3.9,baz=36,slow=7.1,SNR=12						
SONM				pP	pP	21 39 15.9	+1.3
	1.4nm,0.9s,baz=36,slow=6.9,SNR=3.7						
ZAL	**Zalesovo**	**57.21**	**323**	P	**P**	**21 39 02.6**	**+0.5**
	1.9nm,0.6s,mb4.1,baz=93,slow=5.9,SNR=8.4						
NOA	**NORSAR Array B**	**58.48**	**9**	P	**P**	**21 39 09.5**	**-1.4**
	0.4nm,0.8s,mb3.3,baz=326,slow=4.1,SNR=3.3						
FINES	**FINESS Array B**	**58.68**	**0**	P	**P**	**21 39 11.0**	**-1.3**
	0.6nm,0.8s,mb3.5,baz=27,slow=6.2,SNR=3.4						
MKAR	**Makanchi Array**	**64.26**	**321**	P	**P**	**21 39 48.9**	**-0.8**
	0.5nm,0.5s,mb3.6,baz=36,slow=6.5,SNR=9.4						
ESDC	**Sonseca Array**	**77.28**	**24**	P	**P**	**21 41 08.2**	**+0.3**
	0.1nm,0.4s,mb2.8,baz=351,slow=5.6,SNR=4.0						

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*IDC **07** 21:44:50.3±1.0, 55.42N×162.23E, mb3.6/5, mb1 3.9/6, mb1mx3.6/23, mbtmp3.6/6, ML3.2/1, MS2.9/1, Ms1 3.0/1, ms1mx1.9/32, Error ellipse: s-maj=30.2km s-min=17.3km az=11.0*

*KRSC **07** 21:44:53.2±0.9, 55.27N×162.51E, h15^{km}±2^{km}, ML4.3*

*MOS **07** 21:44:54.1±0.5, 55.25N×162.63E, h30^{km}, mb3.8/4, Error ellipse: s-maj=21.0km s-min=10.4km az=72.0*

ISC 07 21:44:54.8±0.4**, 55.26N**±0.02×**162.60E**±0.05**, h53**^{km}±7^{km}**, n48,** σ**0**^{s}**87**/82**, mb3.5**/5**, MS2.7**/1**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.86**	**216**	P	**P**	**21 45 10.5**	**-0.4**
MKZ				S	**S**	**21 45 23.5**	**+0.6**
MKZ	**Mys Kozlova**	**0.86**	**216**	*i* P	**P**	**21 45 10.3**	**-0.6**
MKZ				*i* S	**S**	**21 45 23.2**	**+0.3**
KBTR	**Krutoberegovo**	**0.96**	**7**	P	**P**	**21 45 11.7**	**-0.6**
KBTR				S	**S**	**21 45 26.5**	**+1.2**
KBTR	**Krutoberegovo**	**0.96**	**7**	*i* P	**P**	**21 45 12.1**	**-0.2**
KBTR				*e*S	**S**	**21 45 26.5**	**+1.2**
KBG	**Krutoberegovo**	**1.00**	**3**	*i* P	**P**	**21 45 13.7**	**+0.8**
KBG				*i* S	**S**	**21 45 27.4**	**+1.2**
ZLN	**Zelenaya**	**1.27**	**308**	*e*P	**P**	**21 45 16.0**	**-0.7**
ZLN				*e*S	**S**	**21 45 32.8**	**-0.1**
CIRR	**Tsirk**	**1.36**	**310**	*e*P	**P**	**21 45 17.8**	**-0.1**
CIRR				*e*S	**S**	**21 45 35.5**	**+0.4**
LGNR	**Loginova**	**1.36**	**308**	*e*P	**P**	**21 45 17.7**	**-0.3**
LGNR				*e*S	**S**	**21 45 35.8**	**+0.6**
TUMR	**Tumrok**	**1.41**	**272**	*i* P	**P**	**21 45 18.1**	**-0.5**
TUMR				*e*S	**S**	**21 45 36.4**	**+0.2**
KMNR	**Kamenistaya**	**1.44**	**291**	*i* P	**P**	**21 45 18.3**	**-0.7**
KMNR				*i* S	**S**	**21 45 36.7**	**-0.2**
KRSR	**Krestovskiy**	**1.50**	**311**	*e*P	**P**	**21 45 18.8**	**-1.1**
KRSR				*e*S	**S**	**21 45 37.5**	**-1.0**
KPT	**Kopyto**	**1.53**	**299**	*i* P	**P**	**21 45 20.0**	**-0.3**
KPT				*i* S	**S**	**21 45 39.5**	**+0.4**
KLY	**Klyuchi**	**1.53**	**315**	*e*P	**P**	**21 45 18.4**	**-1.9**
KLY				*e*S	**S**	**21 45 36.7**	**-2.5**
KOZR	**Kozyr**	**1.74**	**299**	PN	**P**	**21 45 23.3**	**+0.1**
KOZR				S	**S**	**21 45 45.6**	**+1.4**
KOZ	**Kozyrevsk**	**1.74**	**299**	*e*P	**P**	**21 45 23.3**	**0.0**
KOZ				*e*S	**S**	**21 45 45.6**	**+1.2**
BKI	**Bering**	**1.93**	**90**	*i* P	**P**	**21 45 25.4**	**-0.5**
BKI				*i* S	**S**	**21 45 48.0**	**-0.9**
BKI				Smax			
	260nm,0.9s						
SRDR	**Sredinnyy**	**1.95**	**304**	*i* P	**P**	**21 45 25.9**	**-0.2**
SRDR				*i* S	**S**	**21 45 49.8**	**+0.5**
ESO	**Esso**	**2.31**	**288**	*e*P	**P**	**21 45 30.9**	**-0.4**
ESO				*e*S	**S**	**21 45 58.3**	**-0.3**
ESO				Smax			
	160nm,1.1s						
SPN	**Mys Shipunski**	**2.64**	**216**	P	**P**	**21 45 34.9**	**-1.1**
SPN				S	**S**	**21 46 05.2**	**-1.7**
SPN	**Mys Shipunski**	**2.64**	**216**	*e*P	**P**	**21 45 35.0**	**-1.0**
SPN				*e*S	**S**	**21 46 05.5**	**-1.4**
NLC	**Nalytchevo**	**2.83**	**224**	P	**P**	**21 45 38.7**	**0.0**
NLC				S	**S**	**21 46 11.7**	**-0.1**
NLC	**Nalytchevo**	**2.83**	**224**	*e*P	**P**	**21 45 38.7**	**0.0**
NLC				*e*S	**S**	**21 46 12.2**	**+0.4**
SDLR	**Sedlovina**	**2.95**	**229**	*e*P	**P**	**21 45 40.7**	**+0.4**
SMAR	**Somma**	**2.99**	**230**	*e*P	**P**	**21 45 41.4**	**+0.4**
AVH	**Avacha**	**3.02**	**230**	*e*P	**P**	**21 45 41.7**	**+0.4**
AVH				*e*S	**S**	**21 46 17.2**	**+0.7**
UGLR	**Uglovaya**	**3.02**	**229**	*e*P	**P**	**21 45 41.6**	**+0.2**
KOK	**Koryaka**	**3.05**	**231**	*e*P	**P**	**21 45 42.4**	**+0.7**
GNL	**Ganaly**	**3.14**	**242**	*i* P	**P**	**21 45 43.2**	**+0.2**
GNL				*i* S	**S**	**21 46 19.6**	**+0.1**
PET	**Petropavlovsk**	**3.22**	**228**	P	**P**	**21 45 44.5**	**+0.3**
PET				S	**S**	**21 46 22.2**	**+0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PET	Petropavlovsk	3.22	228	ePN	P	21 45 44.8	+0.6
PET				eS	S	21 46 23.4	+1.7
PET				pmax	pmax		
	comp=Z,96nm,0.5s						
PET				smax			
	comp=E,315nm,0.9s						
PET				smax			
	comp=N,300nm,1.0s						
PET				smax			
	comp=E,300nm,0.9s						
PET				smax			
	comp=N,291nm,0.7s						
PET				MLR	MLR		
	comp=E,100nm,21.0s						
PET				MLR	MLR		
	comp=Z,100nm,20.0s						
PET	Petropavlovsk	3.22	228	eP	P	21 45 44.2	0.0
PET				eS	S	21 46 21.6	-0.1
RUS	Russkaya	3.72	222	P	P	21 45 51.4	+0.1
RUS				S	S	21 46 34.4	+0.1
RUS	Russkaya	3.72	222	eP	P	21 45 51.7	+0.4
RUS				eS	S	21 46 34.4	+0.1
GRL	Gorelyy	3.81	227	eP	P	21 45 53.8	+1.3
GRL				eS	S	21 46 38.0	+1.6
APC	Apacha	3.96	236	eP	P	21 45 54.9	+0.2
APC				eS	S	21 46 40.0	-0.4
APC				Smax			
	comp=Z,60nm,0.8s						
PAU	Pauzhetka	5.14	225	eP	P	21 46 11.0	-0.1
PAU				eS	S	21 47 08.0	-1.9
PAU				Smax			
	comp=Z,90nm,0.8s						
SKR	Severo-Kuril's	6.03	223	ePN	P	21 46 23.1	-0.3
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR	Severo-Kuril's	6.03	223	eP	P	21 46 23.1	-0.3
SKR				eS	S	21 47 32.0	0.0
FX1	Attu Island--F	6.66	107	Pn	P	21 46 32.2	-0.1
	comp=Z,1.5nm,0.3s,baz=276,slow=9.2,SNR=4.3						
FX1				Sn	S	21 47 42.8	-4.8
	comp=Z,2.0nm,0.3s,baz=105,slow=19,SNR=5.3						
MJAR	Matsushiro Arr	25.05	232	P	P	21 50 15.8	+0.5
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MJAR	Matsushiro Arr	25.05	232	P	P	21 50 15.8	+0.5
	comp=Z,1.5nm,0.6s,mb3.7,baz=24,slow=7.3,SNR=6.7						
ILAR	Eielson Array	26.26	48	P	P	21 50 27.8	+1.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,23nm,20.0s						
ILAR	Eielson Array	26.26	48	P	P	21 50 27.8	+1.5
	comp=Z,0.7nm,0.8s,mb3.2,baz=256,slow=7.4,SNR=4.8						
ILAR				LR	LR	22 00 09.6	
	comp=Z,23nm,20.0s,MS2.7,baz=171,slow=35						
MKAR	Makanchi Array	48.55	295	P	P	21 53 32.9	-1.3
	comp=Z,0.1nm,0.6s,mb3.0,baz=45,slow=8.2,SNR=3.2						
FINES	FINESS Array B	58.71	337	P	P	21 54 46.8	-1.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	58.71	337	P	P	21 54 46.8	-1.9
	comp=Z,0.5nm,0.7s,mb3.6,baz=59,slow=8.1,SNR=5.8						
TXAR	Lajitas Array	68.46	70	P	P	21 55 55.1	+2.0
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	Lajitas Array	68.46	70	P	P	21 55 55.1	+2.0
	comp=Z,0.6nm,0.6s,mb3.8,baz=290,slow=3.8,SNR=8.1						

*NEIC **07** 22:04:49.5±1.8, 51.43N×16.12E, h5km, ML2.6(VIE), ML2.0(BRG), Error ellipse: s-maj=19.1km s-min=6.8km az=204.0*
*PRU **07** 22:04:50.9, 51.37N×16.15E*
*CSEM **07** 22:04:51.2±0.4, 51.37N×16.13E, h2km, ML3.2/2, Error ellipse: s-maj=7.1km s-min=3.4km az=20.0*
WAR 07 22:04:50.3, 51.45N×16.17E, h1km, ML2.5, 1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
KSP	Ksiaz	0.61	173	ePg	Pg	22 05 01.2	-1.3
KSP				eSg	Sg	22 05 09.6	-1.1
KSP	Ksiaz	0.61	173	ePg	Pg	22 05 01.5	-1.0
KSP				eSg	Sg	22 05 09.5	-1.2
UPC	Upice	0.95	186	ePG	Pg	22 05 07.4	-1.8
DPC	Dobruska-Polom	1.10	175	ePG	Pg	22 05 10.0	-2.3
DPC				eSG	Sg	22 05 24.7	-2.4
	21nm,0.3s						
PVCC	Panska Ves	1.37	228	ePG	Pg	22 05 15.4	-2.2
BRG	Berggiesshubel	1.52	249	Pg	Pg	22 05 18.2	-2.4
BRG				Sg	Sg	22 05 38.7	-2.1
BRG	Berggiesshubel	1.52	249	Pg	Pg	22 05 18.2	-2.4
BRG				Sg	Sg	22 05 38.7	-2.1
PRU	Pruhonice	1.79	216	ePG	Pg	22 05 21.6	-4.5
PRU				eSG	Sg	22 05 44.4	-5.6
MORC	Moravsky Berou	1.89	152	ePn	Pn	22 05 21.9	-2.1
MORC				eSn	Sn	22 05 45.8	-3.0
MORC	Moravsky Berou	1.89	152	ePn	Pn	22 05 21.9	-2.1
MORC				eSg	Sg	22 05 45.5	-7.7
MORC				eSn	Sn	22 05 45.8	-3.0
CLL	Collm	1.99	267	ePG	Pg	22 05 26.0	-4.1
CLL				i SG	Sg	22 05 54.0	-2.6
OKC	Ostrava-Krasne	2.05	141	ePG	Pg	22 05 28.7	-2.4
VRAC	Vranov	2.16	173	ePn	Pn	22 05 27.4	-0.5
VRAC				eSg	Sg	22 05 55.8	-6.4
OJC	Ojcow	2.61	117	ePG	Pg	22 05 40.0	-2.4
OJC				eSG	Sg	22 06 13.0	-4.1
NKC	Novy Kostel	2.66	244	ePN	Pn	22 05 33.1	-1.9
NKC				ePG	Pg	22 05 40.1	-3.2
NKC				eSG	Sg	22 06 12.7	-6.0
	14nm,0.3s						
KHC	Kasperske Hory	2.85	217	ePN	Pn	22 05 36.8	-1.0
KHC				ePG	Pg	22 05 42.0	-5.3
KHC				eSG	Sg	22 06 18.7	-6.7
KHC	Kasperske Hory	2.85	217	Pg	Pg	22 05 42.0	-5.3
KHC				Sg	Sg	22 06 18.7	-6.7
MOA	Molln	3.81	200	⇓iPN	Pn	22 05 49.1	-2.3
MOA				i SG	Sg	22 06 52.4	-4.7
	3.6nm,0.5s						

*NEIC **07** 22:07:44.6, 38.23S×176.27E, h151km, MG4.0(WEL), After WEL.*
WEL 07 22:07:45.0±0.2, 38.22S×176.25E, h146km±2km, ML4.0/17, Error ellipse: s-maj=1.7km s-min=1.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
URZ	Urewera	0.68	94	P	P	22 08 06.8	-0.5
URZ	Urewera	0.68	94	PN	P	22 08 06.8	-0.5
URZ				SN	S	22 08 23.6	-0.9
URZ				SN	S	22 08 23.8	-0.7
RATZ	Rangitukua	0.75	210	P	P	22 08 07.7	-0.1
RATZ	Rangitukua	0.75	210	PN	P	22 08 07.7	0.0
RITZ	Rihia Road	0.82	202	P	P	22 08 08.6	+0.4
BKZ	Black Stump Fm	0.96	169	P	P	22 08 09.2	-0.1
BKZ	Black Stump Fm	0.96	169	PN	P	22 08 09.2	-0.1
BKZ				SN	S	22 08 27.3	-0.6
MWZ	Matawai	1.01	97	P	P	22 08 09.6	-0.1
MWZ	Matawai	1.01	97	PN	P	22 08 09.6	0.0
MWZ				SN	S	22 08 28.2	-0.4
WTVZ	West Tongariro	1.03	210	PN	P	22 08 09.8	-0.1
OTVZ	Oturere	1.05	206	PN	P	22 08 10.3	+0.4
TWVZ	Taurewa	1.06	216	PN	P	22 08 10.1	0.0
NGZ	Ngauruhoe	1.08	208	P	P	22 08 10.7	+0.4
NGZ	Ngauruhoe	1.08	208	PN	P	22 08 10.7	+0.3
CNZ	Chateau	1.12	209	P	P	22 08 10.7	0.0
CNZ	Chateau	1.12	209	PN	P	22 08 10.7	0.0
WPVZ	Whakapapa	1.13	209	ePN	P	22 08 10.7	0.0
TUVZ	Tukino	1.15	204	P	P	22 08 10.9	-0.1
TUVZ	Tukino	1.15	204	PN	P	22 08 11.0	0.0
FWVZ	Far West T-bar	1.17	207	eP	P	22 08 11.2	0.0
FWVZ	Far West T-bar	1.17	207	PN	P	22 08 10.9	-0.3
WNVZ	Wahianoa	1.22	204	P	P	22 08 11.5	-0.2
WNVZ	Wahianoa	1.22	204	PN	P	22 08 11.5	-0.1
MOVZ	Moawhango	1.25	198	PN	P	22 08 11.3	-0.7
MTVZ	Mangateitei	1.31	207	PN	P	22 08 12.3	-0.3
KNZ	Kokohu	1.38	126	eP	P	22 08 13.0	-0.3
KNZ	Kokohu	1.38	126	PN	P	22 08 13.0	-0.3
KNZ				SN	S	22 08 34.0	-1.0
VRZ	Vera Road	1.48	232	P	P	22 08 14.1	-0.2
VRZ	Vera Road	1.48	232	PN	P	22 08 14.1	-0.2
WAZ	Wanganui	1.82	212	P	P	22 08 17.3	-0.9
WAZ	Wanganui	1.82	212	PN	P	22 08 17.3	-0.8
TSZ	Takapari Road	1.85	187	P	P	22 08 17.3	-1.2
TSZ	Takapari Road	1.85	187	PN	P	22 08 17.4	-1.1
TSZ				SN	S	22 08 43.4	-0.8
PWZ	Pawanui	1.87	165	PN	P	22 08 17.8	-0.9
PWZ				SN	S	22 08 43.9	-0.7
BFZ	Birch Farm	2.46	180	eP	P	22 08 23.8	-2.2
BFZ	Birch Farm	2.46	180	PN	P	22 08 23.8	-2.2
BFZ				SN	S	22 08 54.6	-2.7
MRZ	Mangatainoka R	2.49	192	P	P	22 08 23.9	-2.5
MRZ	Mangatainoka R	2.49	192	SN	S	22 08 53.9	-4.3
KIW	Kapiti Island	2.83	201	P	P	22 08 27.4	-3.4
KIW	Kapiti Island	2.83	201	SN	S	22 09 00.5	-5.2
MTW	Mount Morrison	2.99	191	P	P	22 08 29.2	-3.6
CAW	Cannon Point	3.02	197	P	P	22 08 29.9	-3.4
MRW	Makara Radio	3.23	201	P	P	22 08 32.2	-3.8
MSWZ	Moikau Station	3.28	193	P	P	22 08 32.6	-4.0
SNZO	South Karori	3.31	201	P	P	22 08 32.8	-4.1
TCW	Tory Channel	3.35	206	P	P	22 08 33.5	-4.0
BHW	Baring Head	3.36	198	P	P	22 08 33.4	-4.2
NNZ	Nelson	3.72	216	eP	P	22 08 38.4	-4.0
QRZ	Quartz Range	3.88	227	eP	P	22 08 39.7	-4.7
BSWZ	Blackbirch Sta	3.94	207	P	P	22 08 40.9	-4.3

*IDC **07** 22:10:20.8±0.8, 65.19S×179.36E, mb4.5/6, mb1 4.7/7, mb1mx4.6/10, mbtmp4.6/7, ML4.2/1, MS4.7/7, Ms1 4.7/7, ms1mx4.5/11, Error ellipse: s-maj=30.6km s-min=20.1km az=54.0*
*HRVD **07** 22:10:21.8±0.2, 65.03S×179.29E, h12km, MW5.3/72, Centroid moment Tensor Solution. LP body waves: s56,c99;Mantle waves: s72,c139; Half duration: 1ˢ1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.14±.02; $M_{\theta\theta}$1.02±.02; $M_{\phi\phi}$-0.88±.02; $M_{r\theta}$-0.49±.04; $M_{\theta\phi}$-0.14±.02; $M_{\phi r}$0.21±.04; Best double couple: $M_0$1.078×10^{17} NP1: ϕ_s227°,δ65°,λ176°. NP2:ϕ_s319°,δ86°,λ25°. Principal axes: T 1.218, Plg20°, Azm186°; N -.284, Plg65°, Azm328°; P -.938, Plg14°, Azm90°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 22:10:21.8±0.5, 65.14S×179.26E, h10km, mb5.0/14 Error ellipse: s-maj=19.0km s-min=10.8km az=72.0*
*BJI **07** 22:10:21.7, 65.10S×179.30E, h10km, mB5.7, Ms4.8, Msz4.5*
*MOS **07** 22:10:21.3±2.0, 65.30S×178.62E, h10km, mb5.1/4, Error ellipse: s-maj=47.0km s-min=13.3km az=90.6*
ISC 07 22:10:21.1±0.6, 65.19S±0.07×178.8E±0.3, h10km, n68, σ1ˢ48/42, mb4.8/18, MS4.7/7, 2C-3D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
SBA	Scott Base	13.23	191	eP	P	22 13 28.5	-2.9
SBA				pmax	pmax		
	comp=Z,54nm,0.8s						
SBA	Scott Base	13.23	191	eP	P	22 13 28.5	-3.0
	comp=Z,54nm,0.8s						
VNDA	Vanda	13.42	196	eP	P	22 13 31.6	-2.3
VNDA				pmax	pmax		
	comp=Z,103nm,1.3s						
VNDA	Vanda	13.42	196	Pn	P	22 13 32.0	-1.8
	comp=Z,1.3nm,0.3s,baz=49,slow=17,SNR=74						
VNDA				Sn	S	22 15 51.0	-13
	comp=Z,0.1nm,0.3s,baz=302,slow=15,SNR=2.0						
VNDA				LR	LR	22 17 34.2	
	comp=Z,3μm,20.0s,baz=67,slow=32						
VNDA	Vanda	13.42	196	eP	P	22 13 31.6	-2.3
	comp=Z,103nm,1.3s						
RPZ	Rata Peaks	21.94	345	P	P	22 15 17.3	+1.0
	comp=Z,27nm,1.0s,mb4.6,baz=200,slow=12,SNR=6.4						
RPZ				LR	LR	22 22 03.1	
	comp=Z,3μm,18.9s,MS4.7,baz=162,slow=32						
QSPA	South Pole Qui	24.90	180	eP	P	22 15 45.9	+1.1
	comp=Z,42nm,1.0s,mb4.9						
CASY	Casey	26.82	236	eP	P	22 16 04.8	+2.0
	comp=Z,8.5nm,1.0s,mb4.2						
URZ	Urewera	26.98	357	LR	LR	22 24 52.1	
	comp=Z,3μm,20.0s,MS4.8,baz=335,slow=32						
RAO	Raoul Island	36.01	5	P	P	22 17 17.5	-6.5
RAO				pmax	pmax		
	comp=Z,744nm,1.2s						
RAO	Raoul Island	36.01	5	P	P	22 17 17.4	-6.6
	comp=Z,744nm,1.2s						
MAW	Mawson	39.94	212	P	P	22 17 58.0	+1.5
	comp=Z,4.2nm,1.0s,mb4.1,baz=143,slow=10,SNR=2.4						
MAW				LR	LR	22 34 23.2	
	comp=Z,3μm,19.6s,MS5.2,baz=143,slow=36						
STKA	Stephens Creek	40.31	307	eP	P	22 18 02.0	+2.0
	comp=Z,7.7nm,1.0s,mb4.4						
STKA	Stephens Creek	40.31	307	P	P	22 18 01.9	+2.0
	comp=Z,7.1nm,0.8s,mb4.4,baz=149,slow=7.3,SNR=14						
SYO	Syowa Base	43.06	200	⇓P	P	22 18 21.0	-0.9
SYO	Syowa Base	43.06	200	⇓pP	pP	22 18 23.8	-1.1
SNAA	Sanae	43.40	179		P	22 18 23.9	-0.7
SNAA	Sanae	43.40	179	⇓eP	P	22 18 24.9	+0.3
VNA3	Neumayer Olymp	43.72	176		P	22 18 28.1	+0.9
VNA2	Neumayer--Watz	44.09	177		P	22 18 31.3	+1.1
VNA1	Neumayer--Stat	44.35	177		P	22 18 33.7	+1.4
NWAO	Narrogin (SRO)	48.73	280	P	P	22 19 04.4	-3.0
NWAO				pmax	pmax		
	comp=Z,15nm,1.1s						
NWAO	Narrogin (SRO)	48.73	280	P	P	22 19 04.4	-3.0
	comp=Z,15nm,1.1s,mb4.9						
CTAO	Charters Tower	49.91	319	eP	P	22 19 17.3	+0.7
CTAO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
CTAO	Charters Tower	49.91	319	eP	P	22 19 17.3	+0.7
	comp=Z,12nm,1.0s,mb4.9						
PPT	Papeete	52.07	39	LR	LR	22 35 33.6	
	comp=Z,480nm,21.0s,MS4.5,baz=199,slow=29						
WB2	Warramunga Arr	53.77	305	⇑iP	P	22 19 44.9	-0.8
WRA	Warramunga Arr	53.78	305	P	P	22 19 45.0	-0.7
	comp=Z,20nm,0.7s,mb5.1,baz=157,slow=6.4,SNR=174						
WRAB	Tennant Creek	53.78	305	eP	P	22 19 44.5	-1.2
WRAB				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.4						
WRAB	Tennant Creek	53.78	305	eP	P	22 19 44.5	-1.2
	comp=Z,44nm,0.8s,mb5.4						
FITZ	Fitzroy Crossi	58.61	297	⇑iP	P	22 20 20.0	-0.4
	comp=Z,22nm,1.5s,mb5.0						
PMG	Port Moresby	59.88	323	P	P	22 20 32.5	+3.3
PMG				pmax	pmax		
	comp=Z,20nm,0.9s						
PMG	Port Moresby	59.88	323	P	P	22 20 32.5	+3.3
	comp=Z,20nm,0.9s,mb5.1						
KAKA	Kakadu	61.15	306	eP	P	22 20 37.1	-0.7
	comp=Z,17nm,0.8s,mb5.2						
TRQA	Tornquist	66.81	131	P	P	22 21 08.9	-5.7
	comp=Z,23nm,1.4s,mb5.0						
LVC	Limon Verde	78.55	119	eP	P	22 22 23.4	-0.6
	comp=Z,7.4nm,0.9s,mb4.6						
CPUP	Villa Florida	79.12	131	P	P	22 22 25.3	-1.7
	comp=Z,2.6nm,0.8s,mb4.2,baz=203,slow=7.7,SNR=4.0						
SUR	Sutherland	81.25	199	eP	P	22 22 39.9	+1.7
	comp=Z,27nm,1.3s,mb5.0						
KSM	Kuching	82.43	290	P	P	22 22 41.9	-2.8
BOSA	Boshof	84.27	203	P	P	22 22 55.7	+1.9
BOSA				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.8						
BOSA	Boshof	84.27	203	LR	LR	22 57 10.8	
	comp=Z,426nm,18.7s,MS4.8,baz=189,slow=33						
BOSA	Boshof	84.27	203	P	P	22 22 55.7	+1.9
	comp=Z,11nm,1.3s,mb4.8						
LPAZ	La Paz	84.63	117	eP	P	22 22 54.7	-1.1
LPAZ				pmax	pmax		
	comp=Z,8.0nm,1.5s						
LPAZ	La Paz	84.63	117	P	P	22 22 55.6	-0.2
	comp=Z,1.7nm,0.8s,mb4.2,baz=229,slow=3.9,SNR=7.6						
LPAZ				LR	LR	22 51 35.3	
	comp=Z,127nm,21.3s,MS4.3,baz=26,slow=29						
LPAZ	La Paz	84.63	117	eP	P	22 22 54.7	-1.1
	comp=Z,8.3nm,1.5s,mb4.6						
MDJ	Mudanjiang	115.95	323	PDIF	Pdif	22 25 13.7	-3.6
MDJ				PS	PS	22 39 48.9	-0.3
MDJ				SS	SS	22 46 15.5	+5.5
MDJ				PP	PP		
	comp=Z,55nm,4.4s						
MDJ				LR	LR		
	comp=N,40nm,22.4s,MS4.3						
MDJ				LR	LR		
	comp=E,64nm,20.1s,MS4.3						
MDJ				LR	LR		
	comp=Z,86nm,21.3s,MS4.3						
HHC	Hu-ho-hao-te	117.82	308	ePKP	PKPdf	22 29 04.3	-5.7
PDAR	Pinedale Array	121.04	55	PKP	PKPdf	22 29 20.0	+3.7
	comp=Z,1.3nm,1.2s,baz=243,slow=3.3,SNR=4.2						
SONM	Songino Array	125.72	308	PP	PP	22 31 15.8	-2.6
	comp=Z,0.3nm,0.3s,baz=166,slow=5.9,SNR=3.4						
WMQ	Urumqi	129.14	291	ePKP	PKPdf	22 29 28.4	-3.3
ILAR	Eielson Array	132.05	19	PKP	PKPdf	22 29 34.1	-2.6
	comp=Z,1.8nm,0.8s,baz=248,slow=3.1,SNR=14						
MKAR	Makanchi Array	133.74	289	PKP	PKPdf	22 29 37.5	-2.7
	comp=Z,0.6nm,0.8s,baz=135,slow=1.7,SNR=6.1						
MKAR				PP	PP	22 32 08.6	-2.0
	comp=Z,0.8nm,0.9s,baz=146,slow=5.2,SNR=3.7						
GNI	Garni	143.81	249	ePKIKP	PKPdf	22 29 53.6	-4.8
ZRNK	Zerenda	143.91	285	ePKIKP	PKPdf	22 29 53.2	-5.0
MALT	Malatya	144.62	240	ePKIKP	PKPdf	22 29 57.1	-2.8
MTA	Mtatsminda	145.10	250	P	PKPbc	22 29 59.1	+1.2
TBLG	Delisi	145.16	250	P	PKPbc	22 30 02.7	+4.7
DUS	Dusheti	145.47	251	P	PKPbc	22 30 01.1	+2.2
ZEI	Tsey	146.37	250	ePKIKP	PKPdf	22 30 00.4	-2.4
SANT	Santorini	147.09	222	ePKPbc	PKPdf	22 30 04.5	+0.3
SCHQ	Schefferville	147.17	76	PKPbc	PKPdf	22 30 03.8	+0.1
	comp=Z,2.7nm,0.9s,baz=225,slow=7.1,SNR=2.6						
BRTR	Keskin Array B	147.58	235	PKPbc	PKPdf	22 30 05.7	+0.8
	comp=Z,4.0nm,0.9s,baz=150,slow=5.5,SNR=16						
KIV	Kislovodsk	147.84	250	ePKP2	PKPab	22 30 05.3	-4.4
KIV	Kislovodsk	147.84	250	ePKPbc	PKPdf	22 30 05.3	+0.1
GOF	Gofitskoye	148.62	252	ePKP2	PKPab	22 30 08.5	-4.3
GOF				pmax	pmax		
	comp=Z,30nm,1.4s						
SVE	Sverdlovsk	150.07	284	ePKIKP	PKPdf	22 30 11.8	+3.5
ARU	Arti	150.66	281	ePKIKP	PKPdf	22 30 12.1	+2.9
ARCES	ARCESS Array B	168.88	305	PKPab	PKPab	22 31 38.7	-0.2
	comp=Z,4.3nm,0.9s,baz=45,slow=5.1,SNR=7.5						

CASC 07 22:44:52.7±2.1, 11.09N×86.61W, h30km±20km, MD3.9, 7C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
CRUN	El Crucero	0.94	19	⇑eP	Pn	22 45 09.9	0.0
CRUN				eS	Sb	22 45 24.2	+1.8
APON	Apoyo	0.98	33	eP	Pn	22 45 10.1	-0.5
TICN	Ticuantepe	1.01	22	eP	Pn	22 45 10.6	-0.4
CONN	Concepcion	1.07	64	⇓eP	Pn	22 45 10.8	-1.1
XAVN	Gruta Xavier	1.09	15	⇑eP	Pn	22 45 11.7	-0.4
XAVN				eS	Sn	22 45 26.9	+0.7
MGAN	Managua	1.11	19	⇑eP	Pn	22 45 12.1	-0.3
MGAN				eS	Sn	22 45 27.5	+0.7
WILN	Americas 2	1.14	21	⇓eP	Pn	22 45 13.3	+0.5
WILN				eS	Sn	22 45 28.6	+1.0
APYN	Apoyeque	1.16	13	⇓eP	Pn	22 45 13.0	-0.2
APYN				eS	Sn	22 45 29.2	+1.1
MOMJ	Momotombo	1.31	3	⇑eP	Pn	22 45 14.7	-0.6
MOMJ				eS	Sn	22 45 29.6	-2.3
MIRN	Miramar	1.34	356	⇓eP	Pn	22 45 15.6	-0.2
MIRN				eS	Sn	22 45 33.8	+1.0
LEON	Leon	1.35	348	eP	Pn	22 45 15.6	-0.2
CNGN	Cerro Negro	1.40	356	⇑eP	Pn	22 45 16.3	-0.4
TEL3	Telica 3	1.49	351	⇑eP	Pn	22 45 17.9	0.0
PYTN	Playitas	1.54	21	⇑iP	Pn	22 45 17.7	-0.8
PYTN				eS	Sn	22 45 39.5	+1.8
CRIN	San Cristobal	1.66	345	⇓eP	Pn	22 45 20.2	-0.1
CRIN				eS	Sn	22 45 40.2	-0.5
PRS1	Puriscal	2.51	116	eP	Pn	22 45 33.0	+0.5
TRTC	Tortuguero	2.89	100	eP	Pn	22 45 35.7	-2.2
LCR2	La Lucha 2	2.89	117	eP	Pn	22 45 37.5	-0.4
URSC	Urasca	3.05	114	eP	Pn	22 45 41.5	+1.3
BUS	Buena Vista	3.19	118	eP	Pn	22 45 43.0	+0.8

IDC 07 22:51:36.3±6.4, 17.22S×175.28E, h88km±59km, mb3.5/5, mb1 3.8/6, mb1mx3.6/13, mbtmp3.9/6, ML3.0/1, MS3.5/7, Ms1 3.5/7, ms1mx3.3/23, Error ellipse: s-maj=85.0km s-min=34.8km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
DZM	Mont Dzumac	9.62	238	P	P	22 53 52.6	-1.1
	0.1nm,0.3s,baz=57,slow=16,SNR=4.3						
DZM				LR	LR	22 56 13.8	
	comp=Z,143nm,19.4s,baz=48,slow=29						
AFI	Afiamalu	12.90	77	LR	LR	22 58 37.4	
	comp=Z,121nm,18.9s,baz=235,slow=33						
HNR	Honiara	16.80	295	LR	LR	23 00 48.2	
	comp=Z,156nm,18.8s,baz=134,slow=33						
CTA	Charters Tower	27.63	260	LR	LR	23 05 26.7	
	comp=Z,133nm,21.8s,baz=226,slow=30						
PMG	Port Moresby	28.42	282	LR	LR	23 07 39.5	
	comp=Z,177nm,18.5s,baz=241,slow=34						
PPT	Papeete	33.51	96	LR	LR	23 08 41.6	
	comp=Z,156nm,18.0s,baz=260,slow=31						
STKA	Stephens Creek	33.77	238	P	P	22 58 10.9	-0.8
	1.1nm,0.6s,baz=105,slow=9.2,SNR=3.4						
WRA	Warramunga Arr	38.83	259	P	P	22 58 51.2	-3.2
	0.7nm,0.8s,baz=93,slow=9.3,SNR=3.5						
FITZ	Fitzroy Crossi	47.19	261	LR	LR	23 16 34.3	
	comp=Z,45nm,19.9s,baz=93,slow=32						
CMAR	Chiang Mai Arr	83.01	292	P	P	23 03 56.9	+3.2
	0.8nm,0.4s,baz=124,slow=3.3,SNR=5.3						
ILAR	Eielson Array	86.70	15	P	P	23 04 09.0	-2.0
	0.7nm,0.7s,baz=227,slow=5.5,SNR=5.8						
SONM	Songino Array	89.17	321	P	P	23 04 23.8	+0.6
	0.8nm,0.9s,baz=127,slow=6.2,SNR=5.0						
TXAR	Lajitas Array	90.78	60	P	P	23 04 29.6	-1.6
	0.3nm,0.8s,baz=229,slow=8.3,SNR=3.6						
GERES	GERESS Array B	145.08	339	PKPbc	PKPbc	23 11 03.0	-0.6
	0.6nm,0.7s,baz=45,slow=1.4,SNR=5.6						

*ZUR **07** 22:54:58.9, 47.17N×9.17E, h10km±3km, ML2.0/18*
*BGR **07** 22:54:59.0±1.6, 47.16N×9.12E, h10km, ML2.5/2, Error ellipse: s-maj=16.7km s-min=6.7km az=19.0*
*LDG **07** 22:54:59.6±0.1, 47.15N×9.18E, h10km, Ml2.3/15, Error ellipse: s-maj=1.6km s-min=1.0km az=122.0*
*LEDBW **07** 22:54:59.8±0.6, 47.18N×9.17E, h10km, ML2.4, Error ellipse: s-maj=10.0km s-min=6.0km az=179.0*
*STR **07** 22:55:00.7±1.2, 47.24N×9.10E, h10km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 07 22:54:57.7±0.2, 47.15N±0.01×9.10E±0.02, h14km±2km, n67, σ1ˢ35/119, 11C-12D, Germany

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
PLONS	Plons	0.22	118	⇓iPg	Pg	22 55 03.2	+0.4
PLONS				i Sg	Sg	22 55 06.4	+0.3
WILA	Wila	0.29	333	⇓iPg	Pg	22 55 05.4	+1.3
LIENZ	Alp Oberkamor	0.30	62	eSg	Sg	22 55 08.6	-0.1
LIENZ	Alp Oberkamor	0.30	62	⇑iPg	Pg	22 55 04.1	-0.2
LLS	Linth-Limmern	0.31	192	ePg	Pg	22 55 06.0	+1.6
LLS				i Sg	Sg	22 55 11.0	+2.1
MUO	Muotathal	0.37	240	⇑iPg	Pg	22 55 07.7	+2.2
WEIN	Weingarten	0.39	348	i Sg	Sg	22 55 12.8	+1.6
WEIN	Weingarten	0.39	348	⇓iPg	Pg	22 55 06.9	+1.1
ZUR	Zurich	0.42	302	i Sg	Sg	22 55 15.0	+2.8
ZUR	Zurich	0.42	302	⇓iPg	Pg	22 55 08.3	+1.9
STEIN	Stein am Rhein	0.54	343	⇓iPg	Pg	22 55 10.1	+1.3
STEIN				eSg	Sg	22 55 17.9	+1.6
BNALP	Bannalp	0.54	239	ePg	Pg	22 55 11.1	+2.2
BNALP				eSg	Sg	22 55 19.8	+3.5
SISB	Singen-Sch Ber	0.54	350	⇓ePg	Pg	22 55 09.8	+1.0
SISB				Sg	Sg	22 55 17.7	+1.4
DAVA	Damuels	0.55	75	⇑iPG	Pg	22 55 08.9	0.0
DAVA				i SG	Sg	22 55 16.6	+0.2
	28nm,0.2s						
DAVOX	Davos	0.65	125	⇓iPg	Pg	22 55 11.3	+0.4
DAVOX				eSg	Sg	22 55 20.0	+0.2
VDL	Val di Lei	0.71	159	eSg	Sg	22 55 22.6	+0.8
VDL	Val di Lei	0.71	159	ePg	Pg	22 55 13.1	+0.9
SLE	Schleitheim	0.74	326	⇓iPg	Pg	22 55 13.6	+0.9
FUSIO	Fusio	0.76	204	⇑iPg	Pg	22 55 14.5	+1.4
SULZ	Sulz-Cheisache	0.77	300	⇓iP	Pb	22 55 14.8	+2.5
OBER	Oberstdorf	0.85	72	⇓iPg	Pg	22 55 14.8	-0.1
OBER				eSg	Sg	22 55 26.7	+0.4
UBR	Uberruh	0.86	52	⇑iPg	Pg	22 55 15.2	+0.1
UBR				Sg	Sg	22 55 27.0	+0.2
UBR				SmS		22 55 30.6	
GUT	Gutenstein	0.92	1	⇓ePg	Pg	22 55 16.1	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUT				PmP		22 55 17.6	
GUT				Sg	Sg	22 55 28.5	-0.1
GUT	Gutenstein	0.92	1	eP	Pb	22 55 16.1	+1.2
GUT				S	Sb	22 55 28.5	+1.8
SPAK	Spaichingen	0.97	347	SmS		22 55 32.3	
SPAK	Spaichingen	0.97	347	eP	Pb	22 55 18.7	+2.9
SPAK				eS	Sb	22 55 30.7	+2.4
FELD	Feldberg	1.04	315	P	Pb	22 55 19.8	+2.9
FELD	Feldberg	1.04	315	⇑eP	Pb	22 55 19.3	+2.3
FELD				eS	Sb	22 55 33.7	+3.5
BBS	Basel-Blauen	1.13	287	eP	Pb	22 55 22.1	+3.6
KIZ	Kirchzarten	1.14	316	⇑Pn	Pn	22 55 21.2	+2.0
KIZ				⇓Pg	Pg	22 55 21.5	+1.0
KIZ				Sg	Sg	22 55 37.2	+1.4
KIZ	Kirchzarten	1.14	316	PG	Pg	22 55 21.5	+1.0
KIZ				SG	Sg	22 55 37.2	+1.4
MUGIO	Muggio	1.23	182	eP	Pb	22 55 23.1	+2.9
BFO	Black Forest	1.29	336	ePg	Pg	22 55 23.8	+0.3
BFO				eSg	Sg	22 55 39.1	-1.8
BUCH	Bad Urach	1.31	7	Pn	Pn	22 55 22.6	+1.0
BUCH				Pg	Pg	22 55 23.8	-0.2
BUCH				Sg	Sg	22 55 41.6	+0.1
BUCH	Bad Urach	1.31	7	P	Pn	22 55 22.6	+1.0
BUCH				S	Sg	22 55 41.6	+0.1
BUCH	Bad Urach	1.31	7	SG	Sg	22 55 41.6	+0.1
MOTA	Moosalm	1.38	81	⇑iPG	Pg	22 55 24.2	-1.1
MOTA				i SG	Sg	22 55 43.5	-0.3
	14nm,0.2s						
SQTA	Sankt Quirin	1.44	87	⇑iPG	Pg	22 55 25.8	-0.7
SQTA				i SG	Sg	22 55 45.8	0.0
	28nm,0.2s						
MOF	Molkenrain	1.51	298	Pg	Pg	22 55 28.1	+0.2
MOF				Sg	Sg	22 55 48.0	-0.1
LBG	Lerchenberg	1.53	352	Pn	Pn	22 55 27.3	+2.5
LBG				Pg	Pg	22 55 27.9	-0.4
LBG				Sn	Sn	22 55 44.4	-0.1
LBG				Sg	Sg	22 55 47.8	-1.0
LBG	Lerchenberg	1.53	352	P	Pn	22 55 27.3	+2.5
LBG				P		22 55 27.9	
LBG				S	Sg	22 55 47.8	-1.0
LBG	Lerchenberg	1.53	352	PG	Pg	22 55 28.0	-0.4
HDH	Heidenheim	1.61	27	Pg	Pg	22 55 29.0	-1.1
HDH				Sg	Sg	22 55 49.6	-2.0
HDH	Heidenheim	1.61	27	S	Sg	22 55 49.6	-2.0
STU	Stuttgart	1.62	2	eSg	Sg	22 55 50.3	-1.6
HINF	Hinteralfeld	1.66	294	ePn	Pn	22 55 27.9	+1.2
HINF				ePg	Pg	22 55 31.5	+0.5
HINF				eSg	Sg	22 55 52.5	-0.8
	5.2nm,0.2s						
ECH	Echery	1.69	310	Pg	Pg	22 55 30.9	-0.7
WATA	Walderalm	1.70	83	⇑iPG	Pg	22 55 30.5	-1.2
WATA				i SG	Sg	22 55 54.0	-0.3
	6.7nm,0.1s						
WTTA	Wattenberg	1.73	85	⇑iPG	Pg	22 55 31.2	-1.2
WTTA				i SG	Sg	22 55 55.1	-0.4
	9.0nm,0.2s						
CDF	Champ du Feu	1.76	316	ePn	Pn	22 55 29.7	+1.6
CDF				ePg	Pg	22 55 33.6	+0.6
CDF				eSg	Sg	22 55 55.9	-0.6
	6.1nm,0.3s						
FUR	Furstenfeldbru	1.79	55	ePg	Pg	22 55 32.0	-1.5
FUR				eSg	Sg	22 55 55.3	-2.0
HAU	Haudompre	2.05	296	ePn	Pn	22 55 33.2	+1.0
HAU				ePg	Pg	22 55 38.1	-0.6
HAU				eSn	Sn	22 55 57.5	-0.2
HAU				eSg	Sg	22 56 04.8	-1.3
	8.5nm,0.3s						
CABF	La Chapelle	2.14	256	ePn	Pn	22 55 34.4	+0.9
CABF				ePg	Pg	22 55 40.4	-0.1
CABF				eSg	Sg	22 56 08.8	-0.2
	4.4nm,0.3s						
SIND	Sindeldorf	2.22	9	Sg	Sg	22 56 09.1	-2.8
LPL	La Plagne	2.32	226	ePg	Pg	22 55 43.4	-0.7
LPL				eSg	Sg	22 56 14.2	-0.8
	2.7nm,0.4s						
LPG	La Plagne	2.32	225	ePg	Pg	22 55 43.4	-0.7
LPG				eSg	Sg	22 56 14.4	-0.7
	3.6nm,0.5s						
RFYF	Reffroy	2.85	303	ePn	Pn	22 55 43.8	+0.1
RFYF				ePg	Pg	22 55 53.9	-0.8
RFYF				eSg	Sg	22 56 31.0	-1.8
	2.7nm,0.3s						
MBDF	Montbardon	2.92	215	ePg	Pg	22 55 54.5	-1.6
MBDF				eSg	Sg	22 56 32.7	-2.3
	1.8nm,0.4s						
SFTF	Sexfontaines	2.94	292	ePn	Pn	22 55 45.2	+0.2
SFTF				ePg	Pg	22 55 55.4	-1.1
SFTF				eSn	Sn	22 56 19.1	-1.2
SFTF				eSg	Sg	22 56 33.4	-2.3
	3.5nm,0.3s						
MEZF	Maizieres J'vi	3.04	298	ePn	Pn	22 55 46.3	-0.1
MEZF				ePg	Pg	22 55 56.9	-1.7
MEZF				eSg	Sg	22 56 36.6	-2.6
	1.4nm,0.3s						
ORIF	Oris-en-Rattie	3.17	226	ePg	Pg	22 55 59.0	-2.0
ORIF				eSg	Sg	22 56 40.5	-2.7
	2.0nm,0.3s						
WET	Wettzell	3.22	50	e(Sn)	Sn	22 56 24.8	-2.5
LOR	Lormes	3.58	274	ePg	Pg	22 56 06.8	-2.4
LOR				eSn	Sn	22 56 34.0	-2.4
LOR				eSg	Sg	22 56 53.4	-3.4
	1.9nm,0.3s						
SMF	Signal de Mont	3.64	264	eSg	Sg	22 56 55.7	-3.4
	2.0nm,0.3s						
VIVF	Saint-Julien-l	3.85	235	eSg	Sg	22 57 01.6	-4.3
	1.9nm,0.5s						
WERD	Werda	3.92	32	e(Sn)	Sn	22 56 42.1	-2.9
LASF	Ste Croix	4.80	232	eSn	Sn	22 57 03.4	-3.9
	0.7nm,0.2s						

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*MOS **07** 23:12:34.3±0.7, 48.19N×146.23E, h466^{km}, mb3.7/12, Error ellipse: s-maj=29.5km s-min=15.3km az=110.8*
*NEIC **07** 23:12:35.9±1.4, 48.15N×146.23E, h468^{km}±12^{km}, mb3.8/5, Error ellipse: s-maj=27.4km s-min=14.8km az=89.0*
*IDC **07** 23:12:36.6±6.7, 48.08N×146.24E, h478^{km}±74^{km}, mb3.2/7, mb1 3.3/8, mb1mx3.0/23, mbtmp4.0/8, Error ellipse: s-maj=55.3km s-min=19.2km az=78.0*
ISC 07 23:12:35.3±1.5**, 48.1N**±0.1×**146.2E**±0.3**, h477**^{km}±12^{km}**,**
n32, $\sigma 0^{s}73$/34**, mb3.6**/15**, 1D, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	2.60	245	ePN	P	23 13 42.7	+0.3
MDJ	Mudanjiang	11.98	259	P	P	23 15 13.8	-1.1
MJAR	Matsushiro Arr	12.97	210	PN	P	23 15 25.4	-0.1
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	12.97	210	P	P	23 15 25.4	-0.1
	comp=Z,0.8nm,0.3s,baz=8.9,slow=12,SNR=6.3						
YAK	Yakutsk	16.76	332	P	P	23 16 03.0	-0.8
ULN	Ulaanbaatar	26.00	284	eP	P	23 17 30.1	+0.1
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
ULN	Ulaanbaatar	26.00	284	eP	P	23 17 30.1	+0.1
	comp=Z,1.6nm,0.6s,mb3.6						
SONM	Songino Array	26.43	284	P	P	23 17 39.6	+5.7
	comp=Z,0.8nm,0.5s,mb3.4,baz=78,slow=9.1,SNR=6.4						
TLY	Talaya	27.34	294	eP	P	23 17 41.7	-0.1
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
TLY	Talaya	27.34	294	eP	P	23 17 41.7	-0.1
	comp=Z,4.0nm,0.9s,mb3.9						
MKAR	Makanchi Array	42.10	293	P	P	23 19 45.8	+0.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	42.10	293	P	P	23 19 45.8	+0.5
	comp=Z,1.0nm,0.5s,mb3.5,baz=68,slow=6.8,SNR=25						
BVAR	Borovoye Array	46.30	306	P	P	23 20 18.4	+0.5
	comp=Z,0.5nm,0.3s,mb3.5,baz=58,slow=8.2,SNR=6.4						
BRVK	Borovoye	46.34	306	eP	P	23 20 20.9	+2.6
	comp=Z,0.2nm,0.7s,mb2.7						
AAK	Ala-Archa	48.98	292	i P	P	23 20 38.9	+0.5
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
ARU	Arti	50.75	314	⇓iP	P	23 20 51.2	-0.2
ARU				e		23 21 57.5	
ARU				e		23 22 50.5	
ARU				eS	S	23 27 29.4	-0.7
ARU				e		23 29 48.0	
ARU				eSS	SS	23 31 09.4	-3.8
ARU				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.4						
ARU	Arti	50.75	314	eP	P	23 20 51.2	-0.3
	comp=Z,5.0nm,0.6s,mb4.0						
KAF	Kangasniemi	60.12	332	ep	P	23 21 55.4	-1.3
	comp=Z,0.8nm,0.7s,mb3.3,baz=41,slow=6.2						
KAF	Kangasniemi	60.12	332	eP	P	23 21 55.4	-1.3
KAF				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4						
FINES	FINESS Array B	60.69	332	P	P	23 22 00.5	0.0
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES	FINESS Array B	60.69	332	P	P	23 22 00.5	0.0
	comp=Z,2.5nm,0.5s,mb3.9,baz=41,slow=7.2,SNR=44						
OBN	Obninsk	61.42	322	eP	P	23 22 11.5	+6.1
OBN				e		23 24 34.6	
OBN				eS	S	23 29 40.5	-8.0
OBN				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb3.8						
NB2	NORSAR Subarra	65.29	338	P	P	23 22 30.3	+0.3
	comp=Z,1.5nm,0.5s,mb3.9,baz=31,slow=6.5						
NB2	NORSAR Subarra	65.29	338	P	P	23 22 30.3	+0.3
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
NOA	NORSAR Array B	65.29	338	P	P	23 22 30.6	+0.6
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	NORSAR Array B	65.29	338	P	P	23 22 30.6	+0.6
	comp=Z,1.5nm,0.5s,mb3.9,baz=30,slow=6.5,SNR=8.8						
HFS	Hagfors	65.41	336	P	P	23 22 30.8	+0.1
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	Hagfors	65.41	336	P	P	23 22 30.8	+0.1
	comp=Z,1.8nm,0.5s,mb4.0,baz=34,slow=5.3,SNR=22						
AKASG	Malin Array Be	67.69	322	P	P	23 22 44.8	-0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	67.69	322	P	P	23 22 44.8	-0.1
	comp=Z,0.8nm,0.4s,mb3.7,baz=38,slow=6.2,SNR=5.3						
WRA	Warramunga Arr	68.57	192	P	P	23 22 50.6	-0.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	68.57	192	P	P	23 22 50.6	-0.2
	comp=Z,0.5nm,0.5s,mb3.3,baz=7.0,slow=6.5,SNR=7.5						

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*BJI **07** 23:16:47.4, 62.30N×150.40W, h13^{km}, mB5.1, mb4.5, Ms4.4, Msz4.1*
*NEIC **07** 23:16:51.5, 62.27N×150.36W, h13^{km}, mb4.2/5, ML4.2(PMR), ML4.1(AEIC), After AEIC.*
NEIC Felt [IV] at Trapper Creek; [III] at Cantwell and Talkeetna; [II] at Palmer and Wasilla.
*IDC **07** 23:16:56.8±3.4, 62.60N×150.37W, h70^{km}±27^{km}, mb3.6/16, mb1 3.8/19, mb1mx3.7/27, mbtmp3.9/19, MS3.7/5, Ms1 3.6/5, ms1mx3.1/38, Error ellipse: s-maj=25.7km s-min=13.0km az=56.0*
ISC 07 23:16:50.5±0.5**, 62.33N**±0.02×**150.43W**±0.05**, h29**^{km}±4^{km}**,**
n98, $\sigma 1^{s}14$/106**, mb4.1**/23**, MS3.7**/5**, 2C, Central Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CUT	Chulitna	0.11	43	P	Pb	23 16 55.2	-0.5
PWA	Palmer West	0.72	159	P	Pb	23 17 02.8	-1.7
HUR	Hurricane	0.75	29	P	Pb	23 17 05.3	+0.3
GHO	Glory Hole Cre	0.90	127	P	Pn	23 17 05.8	-1.5
GHO				S	Sb	23 17 17.8	-1.4
PMR	Palmer	0.96	140	P	Pn	23 17 06.7	-1.4
PMR				S	Sb	23 17 18.9	-1.8
SML	Sawmill	1.11	117	P	Pn	23 17 09.8	-0.6
SML				S	Sn	23 17 24.6	-0.2
TRF	Thorofare Moun	1.13	3	P	Pn	23 17 12.0	+1.4
FIB	Fire Island	1.17	174	P	Pn	23 17 11.1	0.0
FIB				S	Sn	23 17 26.7	+0.4
KTH	Kantishna Hill	1.25	350	P	Pn	23 17 14.1	+1.7
KTH				S	Sn	23 17 30.8	+2.4
RC01	Rabbit Creek A	1.28	165	P	Pn	23 17 11.5	-1.3
RC01				S	Sn	23 17 28.1	-1.1
RND	Reindeer	1.30	33	P	Pn	23 17 14.0	+0.9
KNK	Knik Glacier	1.31	134	P	Pn	23 17 12.7	-0.5
VOGL	Vogel Lake	1.33	180	P	Pn	23 17 14.0	+0.5
CP2	Crater Peak Tw	1.37	220	P	Pn	23 17 14.2	+0.2
SPU	Mount Spurr	1.38	215	eP	Pn	23 17 13.1	-1.1
CKL	Chakachamna La	1.45	220	P	Pn	23 17 15.2	+0.1
CKL				S	Sn	23 17 34.8	+1.4
SCM	Sheep Creek Mo	1.54	107	P	Pn	23 17 16.2	-0.2
MCK	McKinley	1.57	25	P	Pn	23 17 18.5	+1.7
MCK				S	Sn	23 17 36.5	+0.1
CFI	College Fiord	1.71	131	P	Pn	23 17 18.5	-0.4
SLKM	Skilak Lake	1.83	177	P	Pn	23 17 19.6	-1.0
SLKM				S	Sn	23 17 43.3	+0.4
BWN	Browne	1.91	13	P	Pn	23 17 22.9	+1.3
MPA	Moose Pass	1.91	164	P	Pn	23 17 22.1	+0.4
RSO	Redoubt South	2.18	212	P	Pn	23 17 26.3	+0.7
SEW	Seward	2.28	168	P	Pn	23 17 28.4	+1.4
SEW				S	Sn	23 17 54.2	-0.2
VLZ	Valdez	2.29	120	P	Pn	23 17 27.8	+0.6
NEA	Nenana	2.34	14	P	Pn	23 17 28.2	+0.3
TZL	Tazlina	2.36	95	P	Pn	23 17 30.6	+2.3
PAX	Paxson	2.38	72	P	Pn	23 17 29.3	+0.8
WRH	Wood River Hil	2.40	25	P	Pn	23 17 29.2	+0.4
DIV	Divide	2.52	116	P	Pn	23 17 31.0	+0.5
ILIM	Iliamna	2.56	210	P	Pn	23 17 31.9	+0.8
BRLK	Bradley Lake	2.58	185	P	Pn	23 17 32.4	+1.0
CCB	Clear Creek Bu	2.61	26	P	Pn	23 17 31.9	+0.1
ILW	Iliamna West	2.62	211	P	Pn	23 17 32.2	+0.2
IVE	Iliamna Volcan	2.63	210	P	Pn	23 17 32.5	+0.4
TT01	Tatalina	2.65	285	P	Pn	23 17 32.9	+0.6
HIN	Hinchinbrook I	2.71	134	P	Pn	23 17 33.4	+0.3
MLY	Manley	2.72	357	P	Pn	23 17 33.5	+0.2
COLA	College	2.81	23	P	Pn	23 17 34.8	+0.2
MDM	Murphy Dome	2.82	19	P	Pn	23 17 35.1	+0.3
EYAK	Cordova Ski Ar	2.87	126	P	Pn	23 17 36.1	+0.6
CVA	Cordova	2.87	126	P	Pn	23 17 35.8	+0.3
ILAR	Eielson Array	2.92	31	P	Pn	23 17 36.7	+0.5
	8.7nm,0.3s,baz=210,slow=14,SNR=125						
ILAR				S	Sn	23 18 09.7	-1.1
	47nm,0.3s,baz=195,slow=22,SNR=9.4						
ILAR				Lg		23 18 22.4	
	126nm,0.3s,baz=216,slow=28,SNR=14						
OPT	Oil Point	3.01	208	P	Pn	23 17 39.0	+1.5
GLB	Gilahina Butte	3.26	103	P	Pn	23 17 41.8	+0.9
AGU	Augustine-Summ	3.32	208	P	Pn	23 17 43.7	+1.9
CRQM	Cirque	3.83	111	P	Pn	23 17 49.7	+0.7
IM3	Indian Mountai	3.95	340	P	Pn	23 17 50.8	0.0
TGL	Tana Glacier	3.96	110	P	Pn	23 17 51.0	0.0
IMA	Indian Mountai	4.02	341	eP	Pn	23 17 51.9	+0.1
BCA3	Beaver Creek A	4.05	76	P	Pn	23 17 53.2	+1.0
BALM	Baldy	4.06	105	P	Pn	23 17 52.5	+0.1
KAPH	Katmai Pasha	4.21	209	P	Pn	23 17 55.0	+0.5
KAHC	Katmai Hardscr	4.33	214	P	Pn	23 17 56.7	+0.5
YAH	Yahtse	4.62	111	P	Pn	23 18 00.2	-0.1
KDAK	Kodiak Island	4.68	194	P	Pn	23 18 00.6	-0.6
ANCK	Angle Creek	4.85	214	P	Pn	23 18 03.6	+0.1
CNTC	Contact Creek	4.89	216	P	Pn	23 18 04.0	-0.2
COLD	Coldfoot	4.92	1	P	Pn	23 18 04.3	-0.3
BM3	Burnt Mountain	5.68	23	P	Pn	23 18 14.3	-1.0
TNA	Tin City	8.35	301	P	P	23 18 49.8	-2.9
INK	Inuvik	9.25	42	P	P	23 19 04.3	-0.7
	0.8nm,0.3s,baz=251,slow=21,SNR=11						
INK				S	Sn	23 20 43.5	-5.8
	0.7nm,0.3s,baz=239,slow=7.2,SNR=2.1						
INK				Lg		23 21 41.4	
	0.6nm,0.3s,baz=249,slow=9.3,SNR=4.1						
INK	Inuvik	9.25	42	eP	P	23 19 03.4	-1.7
DLBC	Dease Lake	10.80	102	P	P	23 19 22.5	-3.8
	0.7nm,0.3s,baz=60,slow=7.8,SNR=9.1						
DLBC				Lg		23 22 37.0	
	0.0nm,0.3s,baz=64,slow=26,SNR=4.6						
DLBC				LR	LR	23 23 37.6	
	comp=Z,503nm,20.0s,baz=104,slow=37						
DLBC	Dease Lake	10.80	102	eP	P	23 19 21.7	-4.5
YKA	Yellowknife Ar	16.47	73	P	P	23 20 41.4	+0.7
	0.2nm,0.3s,baz=281,slow=12,SNR=3.6						
EDM	Edmonton	21.48	98	P	P	23 21 39.8	+1.3
NEW	Newport	23.27	112	P	P	23 21 58.6	+2.5
	2.9nm,0.8s,mb3.8,baz=334,slow=7.1,SNR=4.2						
NEW				LR	LR	23 31 06.3	
	comp=Z,117nm,19.5s,MS3.4,baz=9.3,slow=36						
NEW	Newport	23.27	112	eP	P	23 21 56.9	+0.8
	3.0nm,0.8s,mb3.8						
WALA	Waterton Lakes	24.09	106	P	P	23 22 04.2	+0.1
	4.2nm,0.7s,mb4.0						
YBH	Yreka Blue Hor	26.39	128	P	P	23 22 28.5	+2.6
	0.6nm,0.4s,mb3.5,baz=128,slow=5.4,SNR=2.7						
HLID	Hailey	28.14	115	P	P	23 22 41.9	+0.2
ELK	Elko	30.13	119	LR	LR	23 35 04.0	
	comp=Z,68nm,18.1s,MS3.3,baz=45,slow=36						
PDAR	Pinedale Array	30.88	110	PcP	PcP	23 26 01.3	-1.4
	0.4nm,0.6s,baz=342,slow=2.9,SNR=4.0						
NVAR	Mina Array Bea	30.91	126	P	P	23 23 07.6	+1.0
	0.6nm,0.6s,mb3.6,baz=320,slow=7.0,SNR=5.0						
ULM	Lac du Bonnet	31.59	87	LR	LR	23 36 13.9	
	comp=Z,92nm,20.9s,MS3.4,baz=115,slow=37						
RSSD	Black Hills	32.28	102	eP	P	23 23 18.9	+0.3
	3.3nm,0.8s,mb4.2						
DAG	Danmarks Havn	37.92	16	⇑eP	P	23 24 11.7	+5.4
	3.4nm,0.7s,mb4.2						
DAG	Danmarks Havn	37.92	16	⇑iP	P	23 24 11.7	+5.4
	3.4nm,0.7s,mb4.2						
TXAR	Lajitas Array	44.74	115	P	P	23 25 03.6	+0.8
	0.5nm,0.6s,mb3.5,baz=333,slow=6.0,SNR=7.7						
ARCES	ARCESS Array B	48.40	2	P	P	23 25 28.1	-2.9
	0.9nm,0.5s,mb4.0,baz=8.1,slow=6.4,SNR=3.0						
ARCES				PcP	PcP	23 26 53.9	-3.7
	1.1nm,0.6s,baz=333,slow=4.0,SNR=4.2						
CN2	Changchun	49.87	290	eP	P	23 25 40.8	-1.9
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
SONM	Songino Array	54.43	306	P	P	23 26 16.2	-0.6
	comp=Z,3.9nm,0.8s,mb4.4,baz=27,slow=7.7,SNR=23						
NOA	NORSAR Array B	56.16	11	P	P	23 26 26.4	-2.8
	comp=Z,0.3nm,0.8s,mb3.4,baz=342,slow=7.0,SNR=2.6						
ZAL	Zalesovo	56.24	324	P	P	23 26 28.0	-1.8
	comp=Z,1.9nm,0.6s,mb4.3,baz=80,slow=7.1,SNR=10						
FINES	FINESS Array B	56.52	2	P	P	23 26 29.4	-2.4
	comp=Z,0.7nm,0.6s,mb3.9,baz=350,slow=8.5,SNR=5.2						
HFS	Hagfors	57.26	9	P	P	23 26 33.8	-3.2
	comp=Z,0.9nm,0.6s,mb4.0,baz=53,slow=7.4,SNR=4.2						
EKA	Eskdalemuir Ar	59.91	21	P	P	23 26 53.9	-1.7
	comp=Z,1.2nm,0.7s,mb4.0,baz=344,slow=6.1,SNR=5.3						
BVAR	Borovoye Array	60.58	333	P	P	23 26 57.6	-2.5
	comp=Z,1.6nm,0.6s,mb4.3,baz=45,slow=6.3,SNR=14						
ZRNK	Zerenda	60.93	334	eP	P	23 26 59.6	-2.9
	comp=Z,2.9nm,0.8s,mb4.5						
ZRNK				e		23 27 06.5	
NJ2	Nanjing	62.48	287	eP	P	23 27 16.6	+3.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
MKAR	Makanchi Array	63.37	322	P	P	23 27 15.9	-3.0
	comp=Z,1.7nm,0.6s,mb4.3,baz=44,slow=6.9,SNR=23						
GTA	Gaotai	64.09	306	eP	P	23 27 22.4	-1.3
GTA				AP	pP	23 27 29.1	-3.6
GTA				XP	sP	23 27 32.8	-3.1
GTA				PP	PP	23 29 45.2	-1.2
GTA				PPP	PPP	23 31 16.4	-2.2
GTA				S	S	23 35 57.3	+0.4
GTA				SS	SS	23 40 08.4	+0.9
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.5						
GTA				AMB	AMB		
	comp=Z,99nm,4.2s						
GTA				LR	LR		
	comp=N,58nm,16.7s,MS4.0						
GTA				LR	LR		
	comp=E,67nm,15.6s,MS4.0						
GTA				LR	LR		
	comp=Z,105nm,18.6s,MS4.0						
AKASG	Malin Array Be	67.32	0	P	P	23 27 41.7	-2.5
	comp=Z,1.0nm,0.4s,mb4.2,baz=2.9,slow=6.0,SNR=7.4						
MLR	Muntele Rosu	72.50	3	P	P	23 28 15.2	-0.6
	comp=Z,0.4nm,0.4s,mb3.7,baz=258,slow=23,SNR=3.2						
BRTR	Keskin Array B	78.25	357	P	P	23 28 47.3	-1.2
	comp=Z,0.4nm,0.4s,mb3.7,baz=270,slow=3.7,SNR=3.6						
PPT	Papeete	79.63	179	LR	LR	23 58 54.9	
	comp=Z,84nm,18.1s,MS4.1,baz=145,slow=32						
BOSA	Boshof	146.17	7	PKPbc	PKPbc	23 36 27.4	+0.1
	comp=Z,1.5nm,0.5s,baz=23,slow=6.2,SNR=5.6						

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*NIED **07** 23:58:00, 31.60N×132.30E, h8^{km}, Mw3.8 Best double couple: $M_0$5.48×10^{14} NP1:ϕ_s164°, δ67°, λ-83°. NP2: ϕ_s326°, δ24°, λ-106°.*
JMA 07 23:58:13.7±0.1**, 31.58N×132.31E, h54**^{km}±4^{km}**, M3.6, 7C,**
Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNAR	Kushima--Naru	0.89	267	⇑P	P	23 58 30.3	+0.1
JNAR				S	S	23 58 42.2	-0.3
JTSN	Tsuno	0.95	314	⇑P	P	23 58 30.9	-0.2
JTSN				S	S	23 58 43.6	-0.4
JTZ	Takazaki	1.09	287	⇑P	P	23 58 32.9	-0.1
JTZ				S	S	23 58 47.9	+0.6
JTO	Tosashimizu	1.34	18	⇑P	P	23 58 36.4	-0.3
JTO				S	S	23 58 52.2	-1.5
JTN	Tanegashima 3	1.47	231	⇑P	P	23 58 38.2	-0.2
JTN				eS	S	23 58 55.9	-0.7
JIU2	Izumi 2	1.59	308	⇑P	P	23 58 40.6	+0.5
UWA2	Uwa jima 2	1.65	9	P	P	23 58 41.3	+0.4
UWA2				eS	S	23 58 59.2	-1.8
JSJ	Shimokoshiki	2.21	273	⇑P	P	23 58 48.1	-0.7

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*NEIC **07** 23:59:53.1±0.9, 17.69S×178.62W, h552^{km}±11^{km}, mb4.5/15, Error ellipse: s-maj=14.8km s-min=8.1km az=152.0*
*IDC **07** 23:59:54.1±1.8, 17.77S×178.58W, h560^{km}±21^{km}, mb3.4/12, mb1 3.6/14, mb1mx3.6/20, mbtmp4.3/14, Error ellipse: s-maj=29.9km s-min=11.7km az=150.0*
ISC 07 23:59:52.4±1.3**, 17.8S**±0.1×**178.65W**±0.09**, h555**^{km}±17^{km}**,**
n37, $\sigma 1^{s}02$/33**, mb4.0**/22**, 4D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.64	61	P	P	00 01 47.9	+0.3
	8.6nm,0.3s,baz=85,slow=9.8,SNR=10						
AFI	Afiamalu	7.64	61	ePn	P	00 01 46.0	-1.6
	28nm,0.5s						
DZM	Mont Dzumac	14.66	251	P	P	00 03 01.5	+3.4
	1.1nm,0.3s,baz=80,slow=18,SNR=20						
HNR	Honiara	22.38	289	P	P	00 04 09.1	-2.0
CTA	Charters Tower	33.24	260	eP	P	00 05 46.4	+0.8
	4.2nm,0.6s,mb4.2						
CTA	Charters Tower	33.24	260	P	P	00 05 46.1	+0.5
	4.6nm,0.6s,mb4.2,baz=88,slow=12,SNR=8.4						
CTAO	Charters Tower	33.24	260	eP	P	00 05 44.3	-1.3
	4.7nm,0.6s,mb4.2						
CNB	Canberra Magne	33.33	232	⇓iP	P	00 05 47.3	+1.2
	19nm,0.5s,mb4.9						
PMG	Port Moresby	34.21	280	P	P	00 05 55.9	+2.2
TOO	Toolangi	37.08	231	eP	P	00 06 18.3	+1.1
	12nm,0.7s,mb4.5						
STKA	Stephens Creek	38.50	241	eP	P	00 06 30.0	+1.3
	13nm,0.6s,mb4.7						
STKA	Stephens Creek	38.50	241	P	P	00 06 30.1	+1.4
	16nm,0.5s,mb4.8,baz=92,slow=10.0,SNR=69						
WB2	Warramunga Arr	44.42	259	⇓iP	P	00 07 15.6	-0.4
WRAB	Tennant Creek	44.42	259	eP	P	00 07 15.3	-0.7
	9.4nm,0.5s,mb4.6						
WRAB				ePcP	PcP	00 08 45.5	-2.5
WRA	Warramunga Arr	44.43	259	P	P	00 07 15.9	-0.2
	9.0nm,0.7s,mb4.4,baz=96,slow=7.1,SNR=144						
KAKA	Kakadu	47.36	269	eP	P	00 07 38.7	+0.2
	14nm,0.5s,mb4.8						
FITZ	Fitzroy Crossi	52.83	260	⇓iP	P	00 08 18.5	-0.2
	3.6nm,0.6s,mb3.9						
FITZ	Fitzroy Crossi	52.83	260	P	P	00 08 18.6	-0.1
	5.7nm,0.6s,mb4.1,baz=194,slow=3.1,SNR=16						
MBWA	Marble Bar	57.89	256	eP	P	00 08 52.8	-0.9
	19nm,1.1s,mb4.2						
KLBR	Kellerberrin	58.69	243	⇓iP	P	00 08 57.7	-1.3
	10nm,0.6s,mb4.2						
NWAO	Narrogin (SRO)	59.08	242	eP	P	00 09 00.7	-0.9
	24nm,1.3s,mb4.3						
SBA	Scott Base	60.55	184	eP	P	00 09 10.9	+0.2
	8.9nm,1.4s,mb3.9						
VNDA	Vanda	60.57	185	P	P	00 09 10.2	-0.7
	1.0nm,0.8s,mb3.2,baz=27,slow=4.5,SNR=3.8						
QSPA	South Pole Qui	72.29	180	eP	P	00 10 22.2	-0.6
	3.7nm,0.7s,mb3.9						
YBH	Yreka Blue Hor	78.56	39	P	P	00 10 58.9	+0.9
	0.6nm,0.4s,mb3.3,baz=56,slow=2.6,SNR=5.0						
NVAR	Mina Array Bea	79.48	44	P	P	00 11 01.6	-1.2
	1.1nm,0.8s,mb3.3,baz=216,slow=7.3,SNR=7.3						
ELK	Elko	82.71	43	P	P	00 11 19.9	+0.6
	0.3nm,0.4s,mb3.2,baz=273,slow=0.3,SNR=3.8						
ELK	Elko	82.71	43	P	P	00 11 19.9	+0.6
MAW	Mawson	83.92	200	P	P	00 11 24.3	-0.3
	0.9nm,0.4s,mb3.6,baz=231,slow=5.1,SNR=3.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**84.03**	**157**	*e*P	**P**	**00 11 25.1**	**-0.2**
	48nm,1.1s,mb4.9						
ILAR	**Eielson Array**	**85.80**	**13**	P	**P**	**00 11 33.6**	**-0.2**
	0.5nm,0.8s,mb3.2,baz=201,slow=10.0,SNR=4.4						
TXAR	**Lajitas Array**	**86.11**	**58**	P	**P**	**00 11 37.6**	**+1.3**
	0.9nm,0.7s,mb3.5,baz=270,slow=1.3,SNR=3.5						
PDAR	**Pinedale Array**	**87.41**	**44**	P	**P**	**00 11 42.5**	**+0.6**
	0.7nm,0.6s,mb3.5,baz=218,slow=2.1,SNR=8.1						
BVAR	**Borovoye Array**	**116.59**	**321**	PKP	PKPdf	00 17 33.5	+0.2
	0.5nm,0.4s,baz=146,slow=0.5,SNR=4.9						
BR131	**Keskin Array S**	**144.52**	**315**	*e*PKPdf	PKPdf	00 18 26.8	+1.0
BRTR	**Keskin Array B**	**144.52**	**315**	PKP	PKPdf	00 18 27.4	+1.7
	1.5nm,0.8s,baz=117,slow=2.8,SNR=8.7						
GERES	**GERESS Array B**	**147.42**	**345**	PKPbc	PKPdf	00 18 35.4	+5.1
	0.9nm,0.5s,baz=22,slow=2.5,SNR=11						

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*IDC **08** 00:09:57.5±1.8, 1.90N×96.56E, mb3.9/7, mb1 4.0/8, mb1mx3.7/20, mbtmp3.9/8, Error ellipse: s-maj=72.3km s-min=25.8km az=55.0*

*NEIC **08** 00:10:02.2±0.7, 1.95N×96.69E, h30km, mb4.0/1, Error ellipse: s-maj=17.1km s-min=11.2km az=56.0*

ISC 08 00:10:00.4±1.0**, 2.0N**±0.1×**96.7E**±0.1**, h30km, n11, σ0.s53**/11**, mb3.9**/9**, 2D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.14**	**50**	*e*Pn	**Pn**	**00 11 17.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.53**	**8**	Pn	**P**	**00 13 52.6**	**+0.6**
	baz=198,slow=12,SNR=11						
WRA	**Warramunga Arr**	**42.87**	**122**	P	**P**	**00 17 58.5**	**+0.3**
	1.1nm,0.7s,mb3.7,baz=301,slow=9.2,SNR=8.2						
WRAB	**Tennant Creek**	**42.88**	**122**	*e*P	**P**	**00 17 57.9**	**-0.2**
	2.5nm,0.8s,mb4.0						
MK31	**Makanchi Array**	**46.38**	**346**	⇓Pn	**P**	**00 18 25.8**	**-0.1**
	1.3nm,0.8s,mb3.9,baz=176,slow=13,SNR=7.0						
MK31				⇓Lg		00 19 21.2	
	0.5nm,0.5s,baz=175,slow=24						
MKAR	**Makanchi Array**	**46.38**	**346**	P	**P**	**00 18 26.1**	**+0.2**
	1.1nm,0.6s,mb4.0,baz=159,slow=7.0,SNR=11						
SONM	**Songino Array**	**46.45**	**9**	P	**P**	**00 18 26.5**	**0.0**
	0.4nm,0.3s,mb3.8,baz=182,slow=7.4,SNR=5.3						
ZAL	**Zalesovo**	**52.72**	**351**	P	**P**	**00 19 14.3**	**-0.2**
	1.1nm,0.4s,mb4.1,baz=275,slow=7.6,SNR=4.8						
BVAR	**Borovoye Array**	**55.36**	**341**	P	**P**	**00 19 32.6**	**-1.3**
	0.5nm,0.6s,mb3.7,baz=149,slow=8.6,SNR=4.8						
FINES	**FINESS Array B**	**79.09**	**333**	P	**P**	**00 22 03.6**	**+0.3**
	0.5nm,0.6s,mb3.6,baz=104,slow=12,SNR=2.7						
ARCES	**ARCESS Array B**	**81.64**	**340**	P	**P**	**00 22 17.5**	**+0.7**
	1.7nm,0.8s,mb4.0,baz=113,slow=6.9,SNR=5.0						

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*IDC **08** 01:16:38.9±1.5, 23.80S×115.33W, mb3.8/4, mb1 4.1/4, mb1mx3.9/16, mbtmp3.8/4, MS3.9/6, Ms1 3.9/6, ms1mx3.6/16, Error ellipse: s-maj=49.3km s-min=35.0km az=21.0*

*NEIC **08** 01:16:39.8±0.9, 23.88S×115.41W, h10km, mb4.4/4, Error ellipse: s-maj=27.1km s-min=22.0km az=206.0*

ISC 08 01:16:46.1±4.5**, 22.8S**±0.7×**114.5W**±0.5**, h10km, n22, σ0.s97**/10**, mb4.0**/7**, MS3.9**/5**, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.43**	**134**	LR	LR	01 19 55.9	
	comp=Z,1µm,18.1s,baz=119,slow=31						
TAOE	**Nuku Hiva Isla**	**28.18**	**295**	*e*LR	LR	01 29 26.1	
	2µm,25.1s						
TBI	**Tubuai**	**32.09**	**262**	*e*LQ		01 29 13.1	
	213nm,38.0s						
TBI				*e*LR	LR	01 30 45.4	
	244nm,27.2s,baz=95						
PPT	**Papeete**	**33.24**	**272**	*e*LQ		01 28 58.1	
	199nm,23.8s						
PPT				*e*LR	LR	01 31 16.5	
	313nm,28.0s,baz=113						
PPT	**Papeete**	**33.24**	**272**	LR	LR	01 33 31.7	
	comp=Z,81nm,18.9s,MS3.5,baz=10.0,slow=31						
LPAZ	**La Paz**	**44.08**	**90**	P	**P**	**01 24 55.6**	**-0.7**
	1.9nm,1.0s,mb3.8,baz=270,slow=8.1,SNR=6.2						
LPAZ				LR	LR	01 39 03.4	
	comp=Z,112nm,20.1s,MS3.8,baz=26,slow=30						
LPAZ	**La Paz**	**44.08**	**90**	*e*P	**P**	**01 24 55.8**	**-0.6**
	9.9nm,1.7s,mb4.3						
LPAZ				LR	LR	01 39 03.4	
SDV	**Santo Domingo**	**53.26**	**59**	P	**P**	**01 26 08.7**	**+1.1**
	1.9nm,0.4s,mb4.3,baz=248,slow=7.7,SNR=3.3						
SDV	**Santo Domingo**	**53.26**	**59**	P	**P**	**01 26 08.4**	**+0.8**
	2.2nm,0.4s,mb4.4						
MNTX	**Cornudas Mount**	**54.84**	**10**	*e*P	**P**	**01 26 19.4**	**+0.4**
	4.2nm,1.3s,mb4.3						
SDCO	**Great Sand Dun**	**60.77**	**8**	P	**P**	**01 27 00.3**	**-0.3**
	0.8nm,0.5s,mb4.1						
NVAR	**Mina Array Bea**	**60.95**	**357**	P	**P**	**01 27 01.6**	**-0.2**
	0.3nm,0.5s,mb3.7,baz=174,slow=8.2,SNR=3.7						
BDFB	**Brasilia**	**62.79**	**96**	LR	LR	01 52 20.6	
	comp=Z,121nm,19.3s,MS4.1,baz=140,slow=34						
PDAR	**Pinedale Array**	**65.35**	**4**	P	**P**	**01 27 29.1**	**-1.7**
	0.4nm,0.7s,mb3.6,baz=243,slow=2.0,SNR=3.9						
VNDA	**Vanda**	**66.57**	**194**	LR	LR	01 48 32.4	
	comp=Z,75nm,20.4s,MS3.9,baz=84,slow=29						
YKA	**Yellowknife Ar**	**84.94**	**360**	P	**P**	**01 29 23.8**	**+1.5**
	1.0nm,0.8s,mb4.0,baz=173,slow=5.4,SNR=5.0						
YKA	**Yellowknife Ar**	**84.94**	**360**	P	**P**	**01 29 23.8**	**+1.5**
MAW	**Mawson**	**89.90**	**179**	LR	LR	02 02 59.7	
	comp=Z,83nm,20.4s,MS4.2,baz=64,slow=31						
BRTR	**Keskin Array B**	**148.18**	**50**	PKPbc	PKPdf	01 36 29.2	-3.0
	1.4nm,1.0s,baz=315,slow=2.0,SNR=4.5						
CMAR	**Chiang Mai Arr**	**148.41**	**268**	PKPbc	PKPdf	01 36 25.4	-7.7
	0.5nm,0.3s,baz=135,slow=1.3,SNR=3.2						
BVAR	**Borovoye Array**	**149.54**	**354**	PKPbc	PKPdf	01 36 31.8	-2.1
	1.3nm,0.8s,slow=1.4,SNR=3.7						
BVAR				PKPab	PKPab	01 36 39.6	-3.0
	1.2nm,0.9s,baz=27,slow=3.2,SNR=4.4						
ZRNK	**Zerenda**	**149.72**	**356**	*e*PKPbc	PKPdf	01 36 31.5	-2.7
ZRNK				*e*PKPab	PKPab	01 36 37.4	-6.0

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*KRSC **08** 01:27:46.7±1.6, 53.20N×170.48E, h32km±10km, ML5.0*

*IDC **08** 01:27:51.0±0.6, 53.73N×169.73E, mb4.3/24, mb1 4.5/25, mb1mx4.5/28, mbtmp4.3/25, ML4.7/1, MS3.7/13, Ms1 3.7/13, ms1mx3.6/22, Error ellipse: s-maj=17.8km s-min=9.1km az=19.0*

*MOS **08** 01:27:53.8±0.9, 53.59N×169.76E, h33km, mb4.6/36, Error ellipse: s-maj=10.7km s-min=8.4km az=93.1*

*NEIC **08** 01:27:56.2±0.8, 53.59N×169.80E, h39km±7km, mb4.6/37, Error ellipse: s-maj=8.4km s-min=4.0km az=184.0*

*BJI **08** 01:27:56.2, 53.60N×169.80E, h39km, mB4.9, mb4.9, Ms4.1, Msz3.8*

ISC 08 01:27:53.0±0.9**, 53.54N**±0.05×**169.76E**±0.03**, h29km**±6km**, h32km**±1.1km**:pP-P, n177, σ0.s97**/191**, mb4.5**/66**, MS3.8**/21**, 1C-1D, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**2.15**	**106**	PN	**Pn**	**01 28 28.2**	**+0.6**
FX1						01 28 53.8	
FX1				pmax	pmax		
	comp=Z,788nm,0.3s						
FX1				MLR	MLR		
	comp=Z,960nm,19.1s						
FX1	**Attu Island--F**	**2.15**	**106**	Pn	**Pn**	**01 28 28.2**	**+0.6**
	comp=Z,788nm,0.3s,baz=320,slow=3.8,SNR=1366						
FX1				Sn	**Sn**	**01 28 53.8**	**+0.3**
FX1				LR	LR	01 29 17.0	
	comp=Z,960nm,19.1s,baz=262,slow=39						
FX1	**Attu Island--F**	**2.15**	**106**	*e*Pn	**Pn**	**01 28 28.3**	**+0.7**
FX1				*e*Sn	**Sn**	**01 28 55.2**	**+1.7**
BKI	**Bering**	**2.77**	**308**	*i* P	**Pn**	**01 28 37.1**	**+0.6**
BKI				*i* S	**Sn**	**01 29 14.8**	**+5.4**
BKI				Smax			
	comp=Z,2µm,0.9s						
KBTR	**Krutoberegovo**	**4.82**	**306**	*e*P	**Pn**	**01 29 07.0**	**+1.4**
KBTR				*e*S	**Sn**	**01 30 05.3**	**+4.2**
MKZ	**Mys Kozlova**	**4.84**	**285**	*i* P	**Pn**	**01 29 05.2**	**-0.7**
KBG	**Krutoberegovo**	**4.90**	**307**	*e*P	**Pn**	**01 29 07.0**	**+0.3**
ZLN	**Zelenaya**	**5.75**	**299**	*i* P	**Pn**	**01 29 20.7**	**+2.1**
SPN	**Mys Shipunski**	**5.86**	**270**	*i* P	**Pn**	**01 29 19.2**	**-1.0**
SPN				*i* S	**Sn**	**01 30 26.6**	**-0.5**
TUMR	**Tumrok**	**5.88**	**291**	*e*P	**Pn**	**01 29 20.6**	**+0.1**
TUMR				*e*S	**Sn**	**01 30 28.6**	**+0.9**
KMNR	**Kamenistaya**	**5.96**	**296**	*e*P	**Pn**	**01 29 20.9**	**-0.7**
KPT	**Kopyto**	**6.04**	**298**	*e*P	**Pn**	**01 29 23.2**	**+0.5**
KII	**Karymskiy**	**6.13**	**279**	*i* P	**Pn**	**01 29 23.5**	**-0.6**
NLC	**Nalytchevo**	**6.25**	**271**	*i* P	**Pn**	**01 29 25.1**	**-0.6**
KOZ	**Kozyrevsk**	**6.25**	**298**	*e*P	**Pn**	**01 29 26.5**	**+0.8**
SRDR	**Sredinnyy**	**6.42**	**300**	*i* P	**Pn**	**01 29 29.0**	**+0.8**
SDLR	**Sedlovina**	**6.51**	**272**	*i* P	**Pn**	**01 29 28.6**	**-0.8**
UGLR	**Uglovaya**	**6.56**	**271**	*i* P	**Pn**	**01 29 29.8**	**-0.2**
SMAR	**Somma**	**6.56**	**272**	*e*P	**Pn**	**01 29 29.6**	**-0.5**
AVH	**Avacha**	**6.60**	**272**	*i* P	**Pn**	**01 29 30.0**	**-0.7**
AVH				*i* S	**Sn**	**01 30 44.5**	**-1.2**
KOK	**Koryaka**	**6.66**	**272**	*i* P	**Pn**	**01 29 30.6**	**-0.9**
PET	**Petropavlovsk**	**6.68**	**270**	*e*PN	**Pn**	**01 29 31.7**	**-0.1**
PET	**Petropavlovsk**	**6.68**	**270**	*e*P	**Pn**	**01 29 31.6**	**-0.2**
OSSR	**Ossora**	**6.82**	**330**	P	**Pn**	**01 29 34.2**	**+0.4**
ESO	**Esso**	**6.84**	**295**	*e*P	**Pn**	**01 29 35.4**	**+1.4**
RUS	**Russkaya**	**6.88**	**265**	*i* P	**Pn**	**01 29 33.6**	**-1.0**
RUS				*i* S	**Sn**	**01 30 50.7**	**-2.1**
GNL	**Ganaly**	**7.04**	**276**	*e*P	**Pn**	**01 29 36.0**	**-0.8**
GRL	**Gorelyy**	**7.12**	**267**	*e*P	**Pn**	**01 29 37.7**	**-0.2**
APC	**Apacha**	**7.59**	**270**	*i* P	**Pn**	**01 29 44.6**	**0.0**
PAU	**Pauzhetka**	**8.17**	**260**	*i* P	**P**	**01 29 52.1**	**-0.5**
SKR	**Severo-Kuril's**	**8.87**	**257**	*e*PN	**P**	**01 29 57.0**	**-5.3**
SKR				pmax	pmax		
	comp=N,30nm,0.7s						
SKR				pmax	pmax		
	comp=E,50nm,0.7s						
SKR				pmax	pmax		
	comp=Z,100nm,0.7s						
ALID	**Alaid**	**9.13**	**259**	*e*P	**P**	**01 30 04.0**	**-1.9**
KAMR	**Kamenskoye**	**9.14**	**350**	*e*P	**P**	**01 30 04.8**	**-1.2**
SEY	**Seymchan**	**13.08**	**323**	*e*PN	**P**	**01 31 02.1**	**+2.8**
SEY				*e*S	**S**	**01 33 30.2**	**+5.4**
SEY				pmax	pmax		
	comp=N,10.0nm,1.0s						
SEY				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SEY				pmax	pmax		
	comp=E,6.0nm,0.9s						
SEY				smax			
	comp=N,10.0nm,3.4s						
SEY				smax			
	comp=E,10.0nm,5.1s						
SEY				MLR	MLR		
	comp=E,260nm,13.0s						
SEY				MLR	MLR		
	comp=Z,450nm,13.0s						
SEY				MLR	MLR		
	comp=N,120nm,10.0s						
BILL	**Bilibino**	**14.64**	**355**	*e*P	**P**	**01 31 21.2**	**+1.5**
BILL				pmax	pmax		
	comp=Z,17nm,0.8s						
BILL	**Bilibino**	**14.64**	**355**	*e*Pn	**P**	**01 31 21.2**	**+1.5**
	comp=Z,16nm,0.8s						
YSS	**Yuzh-Sakhalins**	**18.41**	**260**	*i* P	**P**	**01 32 08.3**	**+0.6**
ASAJ	**Asahikawa**	**20.11**	**253**	P	**P**	**01 32 28.1**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,162nm,20.1s						
ASAJ	**Asahikawa**	**20.11**	**253**	P	**P**	**01 32 28.1**	**+1.1**
	comp=Z,2.5nm,0.3s,baz=139,slow=16,SNR=4.2						
ASAJ				LR	LR	01 39 31.0	
	comp=Z,162nm,20.1s,MS3.4,baz=156,slow=35						
SPU	**Mount Spurr**	**21.69**	**54**	*e*P	**P**	**01 32 42.9**	**-0.2**
YAK	**Yakutsk**	**22.65**	**308**	*e*P	**P**	**01 32 54.8**	**+2.4**
YAK				*e**PP		01 33 15.3	
YAK				*e*S	**S**	**01 37 02.1**	**+8.2**
YAK				*e**SS		01 37 38.2	
YAK				pmax	pmax		
	comp=Z,28nm,0.9s,mb4.7						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.0s						
YAK				smax			
	comp=E,3.0nm,1.1s						
YAK				smax			
	comp=N,3.0nm,1.0s						
KLR	**Kul'dur**	**23.91**	**275**	*e*P	**P**	**01 33 04.0**	**-0.8**
ILAR	**Eielson Array**	**24.36**	**45**	P	**P**	**01 33 08.9**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ILAR				MLR	MLR		
	comp=Z,183nm,18.1s						
ILAR	**Eielson Array**	**24.36**	**45**	P	**P**	**01 33 08.8**	**-0.3**
	comp=Z,8.4nm,0.6s,mb4.4,baz=242,slow=6.1,SNR=62						
ILAR				LR	LR	01 43 08.6	
	comp=Z,183nm,18.1s,MS3.6,baz=192,slow=38						
EYAK	**Cordova Ski Ar**	**24.78**	**56**	*e*P	**P**	**01 33 13.1**	**0.0**
TIXI	**Tiksi**	**25.32**	**331**	⇓*i*P	**P**	**01 33 17.7**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.6						
MDJ	**Mudanjiang**	**27.46**	**268**	P	**P**	**01 33 38.8**	**+0.7**
MDJ				AP	pP	01 33 47.5	+0.8
MDJ				XP	sP	01 33 51.5	+1.0
MDJ				PCP	PcP	01 36 56.7	+0.1
MDJ				S	**S**	**01 38 18.1**	**+3.0**
MDJ				XS		01 38 32.7	
MDJ				SCP		01 40 34.7	
MDJ				PCS		01 40 39.0	
MDJ				SCS	ScS	01 44 26.5	+2.6
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,52nm,4.1s						
MDJ				LR	LR		
	comp=N,146nm,21.2s						
MDJ				LR	LR		
	comp=E,131nm,26.6s						
MDJ				LR	LR		
	comp=Z,188nm,22.6s,MS3.6						
MJAR	**Matsushiro Arr**	**27.72**	**245**	P	**P**	**01 33 41.4**	**+0.8**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MJAR	**Matsushiro Arr**	**27.72**	**245**	P	**P**	**01 33 41.4**	**+0.9**
	comp=Z,1.4nm,0.4s,mb4.0,baz=16,slow=9.1,SNR=5.4						
MAJO	**Matsushiro**	**27.72**	**245**	*e*P	**P**	**01 33 41.2**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.4						
MAJO	**Matsushiro**	**27.72**	**245**	*e*P	**P**	**01 33 41.2**	**+0.6**
	comp=Z,12nm,1.1s,mb4.4						
JHJ	**Hachijo jima 2**	**29.52**	**238**	LR	LR	01 46 00.4	
	comp=Z,65nm,18.3s,MS3.3,baz=134,slow=37						
INK	**Inuvik**	**29.93**	**39**	*e*P	**P**	**01 33 59.0**	**-1.2**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**29.93**	**39**	P	**P**	**01 33 59.6**	**-0.6**
	comp=Z,3.1nm,0.5s,mb4.3,baz=292,slow=9.7,SNR=9.8						
INK	**Inuvik**	**29.93**	**39**	*e*P	**P**	**01 33 59.0**	**-1.2**
	comp=Z,3.3nm,0.6s,mb4.2						
CN2	**Changchun**	**30.39**	**270**	*e*P	**P**	**01 34 04.8**	**+0.4**
CN2				*e*AP	pP	01 34 13.3	+0.3
CN2				*e*S	**S**	**01 39 01.2**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CN2				LR	LR		
	comp=Z,200nm,21.0s,MS3.7						
DLBC	**Dease Lake**	**33.03**	**57**	*e*P	**P**	**01 34 28.4**	**+1.0**
YKW3	**Yellowknife Ar**	**38.77**	**46**	*e*P	**P**	**01 35 15.0**	**-1.0**
YKA	**Yellowknife Ar**	**38.80**	**46**	P	**P**	**01 35 16.3**	**0.0**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YKA	**Yellowknife Ar**	**38.80**	**46**	P	**P**	**01 35 16.3**	**0.0**
	comp=Z,4.3nm,0.8s,mb4.3,baz=294,slow=7.8,SNR=10						
TLY	**Talaya**	**38.90**	**295**	*e*P	**P**	**01 35 09.9**	**-7.4**
TLY				*e*S	**S**	**01 41 11.2**	**-2.0**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
TLY				MLR	MLR		
	comp=Z,296nm,19.0s,MS4.1						
ULN	**Ulaanbaatar**	**38.97**	**288**	*e*P	**P**	**01 35 19.5**	**+1.5**
ULN	**Ulaanbaatar**	**38.97**	**288**	*e*P	**P**	**01 35 18.9**	**+0.9**
	comp=Z,6.0nm,1.1s,mb4.2						
SONM	**Songino Array**	**39.36**	**288**	P	**P**	**01 35 22.9**	**+1.7**
	comp=Z,1.0nm,0.6s,mb3.7,baz=63,slow=8.3,SNR=5.0						
SONM				LR	LR	01 52 11.8	
	comp=Z,88nm,19.7s,MS3.6,baz=245,slow=37						
ZAK	**Zakamensk**	**39.75**	**293**	*e*P	**P**	**01 35 25.0**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.5						
SSE	**Sheshan**	**41.31**	**257**	*e*P	**P**	**01 35 38.3**	**+0.9**
SSE				AP	pP	01 35 49.4	+3.2
SSE				XP	sP	01 35 53.2	+3.4
SSE				S	**S**	**01 41 50.4**	**+0.8**
SSE				XS		01 42 06.6	
SSE				SCS	ScS	01 45 39.9	+2.8
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,66nm,3.5s						
SSE				LR	LR		
	comp=N,37nm,23.8s,MS3.2						
SSE				LR	LR		
	comp=E,18nm,23.7s,MS3.2						
SSE				LR	LR		
	comp=Z,35nm,19.3s,MS3.2						
NJ2	**Nanjing**	**41.98**	**260**	*e*P	**P**	**01 35 45.4**	**+2.5**
NJ2				AP	pP	01 35 55.2	+3.6
NJ2				XP	sP	01 35 59.2	+4.0
NJ2				PP	PP	01 37 26.3	+3.1
NJ2				S	**S**	**01 42 01.0**	**+1.5**
NJ2				XS		01 42 16.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,40nm,4.5s						
NJ2				LR	LR		
	comp=N,210nm,17.0s,MS4.2						
NJ2				LR	LR		
	comp=E,250nm,20.5s,MS4.2						
NJ2				LR	LR		
	comp=Z,500nm,16.9s,MS4.5						
NEW	**Newport**	**44.54**	**66**	*e*P	**P**	**01 36 03.5**	**+0.1**
NEW				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NEW	**Newport**	**44.54**	**66**	*e*P	**P**	**01 36 03.5**	**+0.1**
	comp=Z,2.4nm,0.8s,mb4.1						
YBH	**Yreka Blue Hor**	**45.34**	**76**	*e*P	**P**	**01 36 11.3**	**+1.4**
YBH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
YBH	**Yreka Blue Hor**	**45.34**	**76**	*e*P	**P**	**01 36 11.3**	**+1.4**
	comp=Z,6.5nm,1.1s,mb4.4						
WALA	**Waterton Lakes**	**45.80**	**63**	*e*P	**P**	**01 36 13.8**	**+0.4**
	comp=Z,16nm,1.0s,mb4.9						
WVOR	**Wild Horse Val**	**47.24**	**73**	*e*P	**P**	**01 36 25.4**	**+0.4**
WVOR				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5						
WVOR	**Wild Horse Val**	**47.24**	**73**	*e*P	**P**	**01 36 25.4**	**+0.5**
	comp=Z,7.5nm,1.4s,mb4.4						
ZAL	**Zalesovo**	**47.31**	**307**	P	**P**	**01 36 24.3**	**-1.0**
ZAL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ZAL				MLR	MLR		
	comp=Z,141nm,18.3s						
ZAL	**Zalesovo**	**47.31**	**307**	P	**P**	**01 36 24.3**	**-1.0**
	comp=Z,3.3nm,1.1s,mb4.2,baz=57,slow=3.0,SNR=9.1						
ZAL				LR	LR	01 59 03.5	
	comp=Z,141nm,18.3s,MS4.0,baz=48,slow=40						
HRY	**Holter Researc**	**48.34**	**64**	*e*P	**P**	**01 36 33.5**	**+0.1**
HLID	**Hailey**	**48.91**	**69**	*e*P	**P**	**01 36 37.7**	**-0.1**
	comp=Z,2.2nm,0.9s,mb4.2						
MCMT	**McKenzie Canyo**	**48.97**	**67**	*e*P	**P**	**01 36 37.8**	**-0.6**
BOZ	**Bozeman (W)**	**49.12**	**65**	*e*P	**P**	**01 36 39.5**	**+0.1**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BOZ	**Bozeman (W)**	**49.12**	**65**	*e*P	**P**	**01 36 39.5**	**+0.1**
	comp=Z,2.7nm,0.8s,mb4.3						
QLMT	**Earthquake Lak**	**49.74**	**66**	*e*P	**P**	**01 36 44.4**	**+0.1**
NVAR	**Mina Array Bea**	**50.06**	**77**	P	**P**	**01 36 46.5**	**-0.2**
	comp=Z,3.3nm,0.9s,mb4.4,baz=305,slow=6.4,SNR=18						
NVAR				LR	LR	01 54 59.2	
	comp=Z,34nm,18.1s,MS3.4,baz=185,slow=32						
ELK	**Elko**	**50.28**	**73**	*e*P	**P**	**01 36 48.8**	**+0.4**
ELK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ELK	**Elko**	**50.28**	**73**	*e*P	**P**	**01 36 48.8**	**+0.3**
	comp=Z,3.5nm,1.1s,mb4.3						
IMW	**Indian Meadow**	**50.62**	**67**	*e*P	**P**	**01 36 51.3**	**+0.3**
	comp=Z,5.5nm,1.0s,mb4.4						
MOOW	**Moose Ponds**	**50.82**	**67**	*e*P	**P**	**01 36 52.8**	**+0.3**
	comp=Z,1.2nm,0.7s,mb3.9						
LOHW	**Long Hollow**	**50.99**	**67**	*e*P	**P**	**01 36 53.8**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.2						
LAO	**LASA Array**	**51.33**	**61**	*e*P	**P**	**01 36 56.2**	**-0.1**
	comp=Z,6.7nm,0.8s,mb4.6						
BGU	**Big Grassy Mou**	**51.41**	**71**	*e*P	**P**	**01 36 56.4**	**-0.7**
HWUT	**Hardware Ranch**	**51.78**	**69**	*e*P	**P**	**01 36 59.7**	**-0.1**
	comp=Z,2.1nm,0.8s,mb4.1						
BW06	**Boulder Array**	**52.12**	**67**	*e*P	**P**	**01 37 02.3**	**0.0**
	comp=Z,7.1nm,1.1s,mb4.5						
PDAR	**Pinedale Array**	**52.12**	**67**	P	**P**	**01 37 02.6**	**+0.2**
	comp=Z,5.5nm,0.9s,mb4.5,baz=309,slow=4.0,SNR=30						
WMQ	**Urumqi**	**52.18**	**295**	*e*P	**P**	**01 37 05.7**	**+2.9**
SUMG	**Summit**	**52.65**	**10**	*e*P	**P**	**01 37 05.6**	**-0.4**
	comp=Z,19nm,1.1s,mb4.9						
MKAR	**Makanchi Array**	**53.05**	**301**	P	**P**	**01 37 08.6**	**-0.7**
	comp=Z,0.4nm,0.4s,mb3.7,baz=53,slow=7.2,SNR=3.1						
MKAR				LR	LR	02 01 13.5	
	comp=Z,164nm,18.2s,MS4.1,baz=2.7,slow=38						
TMUT	**Trail Mountain**	**53.54**	**71**	*e*P	**P**	**01 37 13.9**	**+1.0**
NEN	**Nelson**	**53.98**	**77**	*e*P	**P**	**01 37 14.8**	**-1.4**
SRU	**San Rafael**	**54.05**	**71**	*e*P	**P**	**01 37 17.5**	**+0.8**
ULM	**Lac du Bonnet**	**54.12**	**52**	P	**P**	**01 37 16.2**	**-0.8**
	comp=Z,3.8nm,0.8s,mb4.4,baz=319,slow=8.9,SNR=4.2						
ULM				LR	LR	02 03 42.3	
	comp=Z,70nm,19.3s,MS3.7,baz=308,slow=40						
ULM	**Lac du Bonnet**	**54.12**	**52**	*e*P	**P**	**01 37 16.4**	**-0.6**
	comp=Z,6.7nm,0.8s,mb4.6						
RSSD	**Black Hills**	**54.19**	**62**	*e*P	**P**	**01 37 16.8**	**-0.8**
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
RSSD	**Black Hills**	**54.19**	**62**	*e*P	**P**	**01 37 16.8**	**-0.8**
	comp=Z,3.5nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**54.50**	**345**	P	**P**	**01 37 18.2**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**54.50**	**345**	P	**P**	**01 37 18.2**	**-1.3**
	comp=Z,2.1nm,0.7s,mb4.2,baz=23,slow=9.2,SNR=9.8						
BVAR	**Borovoye Array**	**54.50**	**313**	P	**P**	**01 37 19.4**	**-0.4**
	comp=Z,7.0nm,0.6s,mb4.8,baz=61,slow=7.2,SNR=17						
ZRNK	**Zerenda**	**55.15**	**314**	*e*P	**P**	**01 37 23.9**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ZRNK	**Zerenda**	**55.15**	**314**	*e*P	**P**	**01 37 23.9**	**-0.7**
	comp=Z,8.5nm,0.9s,mb4.8						
SVE	**Sverdlovsk**	**55.76**	**321**	*e*P	**P**	**01 37 32.8**	**+3.9**
SVE				MLR	MLR		
	comp=N,100nm,15.0s,MS4.4						
SVE				MLR	MLR		
	comp=E,200nm,15.0s,MS4.4						
SVE				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.5						
ISCO	**Idaho Springs**	**56.31**	**67**	*e*P	**P**	**01 37 34.0**	**+0.9**
ISCO				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
ISCO	**Idaho Springs**	**56.31**	**67**	*e*P	**P**	**01 37 34.0**	**+0.9**
	comp=Z,13nm,1.1s,mb4.9						
KMI	**Kunming**	**56.63**	**268**	P	**P**	**01 37 37.5**	**+1.9**
KMI				S	**S**	**01 45 24.5**	**+0.5**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.9						
KMI				LR	LR		
	comp=Z,75nm,29.8s,MS3.6						
ARU	**Arti**	**56.82**	**322**	⇑*i*P	**P**	**01 37 35.9**	**-0.6**
ARU				*e*		01 38 29.7	
ARU				*e*		01 39 39.1	
ARU				*e*S	**S**	**01 45 25.4**	**-0.6**
ARU				*e*SS	SS	01 49 14.0	-1.3
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
ARU	**Arti**	**56.82**	**322**	*e*P	**P**	**01 37 35.6**	**-0.9**
	comp=Z,8.5nm,0.8s,mb4.8						
SDCO	**Great Sand Dun**	**57.83**	**69**	*e*P	**P**	**01 37 44.4**	**+0.5**
	comp=Z,15nm,1.4s,mb4.8						
TUC	**Tucson**	**58.72**	**77**	*e*P	**P**	**01 37 50.9**	**+0.8**
TUC				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
TUC	**Tucson**	**58.72**	**77**	*e*P	**P**	**01 37 50.9**	**+0.8**
	comp=Z,11nm,1.1s,mb4.8						
ANMO	**Albuquerque**	**59.29**	**72**	*e*P	**P**	**01 37 54.6**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ANMO	**Albuquerque**	**59.29**	**72**	P	**P**	**01 37 54.2**	**+0.2**
	comp=Z,3.6nm,0.8s,mb4.4,baz=321,slow=7.2,SNR=12						
ANMO				LR	LR	02 01 59.8	
	comp=Z,64nm,19.4s,MS3.8,slow=35						
ANMO	**Albuquerque**	**59.29**	**72**	*e*P	**P**	**01 37 54.6**	**+0.5**
	comp=Z,7.5nm,1.2s,mb4.6						
BNM	**Barren Site**	**59.77**	**73**	*e*P	**P**	**01 37 57.4**	**-0.1**
AAK	**Ala-Archa**	**59.93**	**302**	*i* P	**P**	**01 37 57.2**	**-1.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.0						
KAF	Kangasniemi	61.14	341	ep	P	01 38 04.6	-1.7
KSU1	Kansas State U	61.67	62	eP	P	01 38 08.0	-2.3
FINES	FINESS Array B	61.80	341	P	P	01 38 09.8	-1.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES				MLR	MLR		
	comp=Z,63nm,20.0s						
FINES	FINESS Array B	61.80	341	P	P	01 38 09.8	-1.1
	comp=Z,1.5nm,0.6s,mb4.3,baz=72,slow=6.0,SNR=8.5						
FINES				LR	LR	02 08 14.8	
	comp=Z,63nm,20.0s,MS3.8,baz=182,slow=39						
FINES	FINESS Array B	61.80	341	P	P	01 38 09.8	-1.1
FINES				LR	LR	02 08 14.8	
MNTX	Cornudas Mount	62.28	74	eP	P	01 38 14.8	+0.3
	comp=Z,18nm,1.1s,mb5.1						
SCHQ	Schefferville	62.33	33	P	P	01 38 13.6	-0.9
	comp=Z,6.6nm,0.9s,mb4.8,baz=323,slow=6.4,SNR=7.4						
SCHQ	Schefferville	62.33	33	eP	P	01 38 13.4	-1.1
	comp=Z,29nm,1.7s,mb5.1						
GDL2	Guadalupe Moun	62.49	72	eP	P	01 38 16.2	+0.3
NB2	NORSAR Subarra	64.50	349	P	P	01 38 27.6	-0.9
	comp=Z,4.1nm,0.7s,mb4.6,baz=14,slow=6.5						
NB2	NORSAR Subarra	64.50	349	P	P	01 38 27.6	-0.9
NB2				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
NOA	NORSAR Array B	64.50	349	P	P	01 38 28.0	-0.5
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA	NORSAR Array B	64.50	349	P	P	01 38 28.0	-0.5
	comp=Z,3.6nm,0.7s,mb4.5,baz=16,slow=6.6,SNR=19						
LTX	Lajitas	65.02	74	eP	P	01 38 32.5	+0.1
LTX				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
LTX	Lajitas	65.02	74	eP	P	01 38 32.5	+0.1
	comp=Z,19nm,1.0s,mb5.1						
TXAR	Lajitas Array	65.02	74	P	P	01 38 32.8	+0.4
TXAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TXAR	Lajitas Array	65.02	74	P	P	01 38 32.8	+0.4
	comp=Z,7.0nm,0.6s,mb4.8,baz=303,slow=4.4,SNR=92						
OBN	Obninsk	65.04	332	eP	P	01 38 31.8	-0.3
OBN				e	pP	01 38 41.3	+0.1
OBN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
HFS	Hagfors	65.07	347	P	P	01 38 31.3	-0.8
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	Hagfors	65.07	347	P	P	01 38 31.3	-0.8
	comp=Z,2.2nm,0.5s,mb4.4,baz=27,slow=3.3,SNR=12						
HFS	Hagfors	65.07	347	P	P	01 38 31.3	-0.8
CCM	Cathedral Cave	65.24	59	eP	P	01 38 32.0	-1.6
CCM				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
CCM	Cathedral Cave	65.24	59	eP	P	01 38 32.0	-1.7
	comp=Z,6.5nm,1.0s,mb4.6						
WVT	Waverly	68.46	58	eP	P	01 38 53.5	-0.6
WVT				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
WVT	Waverly	68.46	58	eP	P	01 38 53.5	-0.6
	comp=Z,9.2nm,0.9s,mb4.8						
OXF	Oxford	68.91	60	eP	P	01 38 56.5	-0.4
OXF				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.2						
OXF	Oxford	68.91	60	eP	P	01 38 56.5	-0.4
	comp=Z,35nm,1.0s,mb5.2						
PLAL	Pickwick Lake	69.23	59	eP	P	01 38 57.9	-1.0
	comp=Z,9.4nm,0.8s,mb4.8						
SWET	Sewanee	70.13	58	eP	P	01 39 02.9	-1.5
FWV	Forest Hill	70.76	53	P	P	01 39 06.7	-1.4
AKASG	Malin Array Be	70.96	335	P	P	01 39 08.8	-0.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	70.96	335	P	P	01 39 08.8	-0.3
	comp=Z,1.4nm,0.5s,mb4.2,baz=24,slow=5.4,SNR=6.7						
AKASG	Malin Array Be	70.96	335	P	P	01 39 08.8	-0.3
MYNC	Murphy	71.15	56	eP	P	01 39 09.6	-0.9
MYNC				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
MYNC	Murphy	71.15	56	eP	P	01 39 09.6	-0.9
	comp=Z,5.4nm,0.6s,mb4.7						
BLA	Blacksburg	71.24	52	eP	P	01 39 10.6	-0.4
BLA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
BLA	Blacksburg	71.24	52	eP	P	01 39 10.6	-0.4
	comp=Z,7.0nm,0.8s,mb4.6						
LRAL	Lakeview Retre	71.31	60	eP	P	01 39 10.1	-1.5
	comp=Z,3.5nm,0.7s,mb4.4						
GOF	Gofitskoye	71.76	323	eP	P	01 39 14.2	+0.2
KWP	Kalwaria	73.51	338	eP	P	01 39 25.7	+1.6
KWP	Kalwaria	73.51	338	eP	P	01 39 25.7	+1.6
OJC	Ojcow	73.56	340	eP	P	01 39 25.4	+1.0
DPC	Dobruska-Polom	74.09	343	eP	P	01 39 28.4	+0.9
PRU	Pruhonice	74.75	344	eP	P	01 39 31.2	-0.1
PRU				epP	pP	01 39 41.0	+0.5
GNI	Garni	75.36	320	i P	P	01 39 37.4	+2.4
GNI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GNI				MLR	MLR		
	comp=Z,100nm,21.0s						
KHC	Kasperske Hory	75.74	344	eP	P	01 39 37.8	+0.8
GERES	GERESS Array B	76.00	344	P	P	01 39 39.3	+0.9
	comp=Z,1.0nm,0.7s,mb3.9,baz=34,slow=4.8,SNR=10						
GERES				LR	LR	02 19 12.9	
	comp=Z,45nm,19.3s,MS3.8,baz=154,slow=41						
PPT	Papeete	78.98	141	LR	LR	02 07 19.6	
	comp=Z,90nm,21.6s,MS4.1,baz=327,slow=30						
MALT	Malatya	79.32	323	P	P	01 39 58.3	+1.3
MALT				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
MALT	Malatya	79.32	323	P	P	01 39 58.3	+1.3
	comp=Z,2.9nm,1.0s,mb4.2						
BRTR	Keskin Array B	79.69	327	P	P	01 39 58.4	-0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	Keskin Array B	79.69	327	P	P	01 39 58.4	-0.6
	comp=Z,1.2nm,0.8s,mb3.9,baz=63,slow=2.8,SNR=5.2						
ESDC	Sonseca Array	87.00	355	P	P	01 40 35.2	-1.0
	comp=Z,0.8nm,0.7s,mb4.1,baz=350,slow=5.0,SNR=5.3						
STKA	Stephens Creek	88.51	204	P	P	01 40 44.1	+0.5
	comp=Z,5.0nm,0.9s,mb4.8,baz=23,slow=6.5,SNR=7.5						
SIV	San Ignacio	125.61	67	PKP	PKPdf	01 46 52.6	-4.1
	comp=Z,0.9nm,0.6s,baz=84,slow=2.0,SNR=5.8						

*CASC **08** 01:45:41.9±0.4, 7.56N×72.97W, h147^{km}±143^{km}, MD4.6, mb3.5(NEIC)*
*FUNV **08** 01:45:42.3, 6.73N×73.09W, h5^{km}, MW3.2*
*IDC **08** 01:45:43.7±0.6, 6.69N×72.93W, h158^{km}±6^{km}, mb3.5/11, mb1 3.7/13, mb1mx3.6/22, mbtmp4.0/13, Error ellipse: s-maj=16.5km s-min=7.4km az=131.0*
*NEIC **08** 01:45:44.8±0.6, 6.69N×72.92W, h169^{km}±5^{km}, mb3.5/4, Error ellipse: s-maj=9.2km s-min=8.2km az=105.0*
ISC 08 01:45:42.9±0.4**, 6.84N**±0.04×**73.01W**±0.03**, h158**^{km}±5^{km}**, n43,** σ1§**09**/52**, mb3.6**/15**, 3C-2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	2.36	214	P	P	01 46 25.2	+1.9
	134nm,0.3s,baz=285,slow=12,SNR=549						
ROSC				S	S	01 46 53.8	-0.4
	117nm,0.3s,baz=107,slow=18,SNR=11						
SDV	Santo Domingo	3.12	49	P	P	01 46 35.0	+2.2
	111nm,0.3s,baz=236,slow=4.0,SNR=379						
SDV				S	S	01 47 11.8	+0.9
	71nm,0.3s,baz=65,slow=18,SNR=25						
SDV	Santo Domingo	3.12	49	ePn	P	01 46 34.8	+2.1
SDV				eSn	S	01 47 11.4	+0.5
VIRV	Villa del Rosa	3.69	9	⇑iP	P	01 46 40.6	+0.4
VIRV				eS	S	01 47 23.4	-0.8
QARV	Quebrada Arrib	4.16	36	⇓iP	P	01 46 48.0	+1.7
QARV				eS	S	01 47 34.7	-0.3
SANV	Sanarito	4.34	52	eP	P	01 46 49.5	+0.9
SANV				eS	S	01 47 38.9	-0.4
CURV	Curarigua	4.37	44	eP	P	01 46 49.8	+0.8
CURV				eS	S	01 47 39.5	-0.4
DABV	Dabajuro	4.69	30	eP	P	01 46 54.4	+1.2
DABV				eS	S	01 47 47.0	-0.4
TEPV	Terepaima	4.89	50	eP	P	01 46 56.9	+1.0
TEPV				eS	S	01 47 52.1	-0.2
SIQV	Siquisique	4.94	40	eP	P	01 46 57.3	+0.9
BAUV	El Baul	5.35	67	eS	S	01 48 02.2	-0.9
PAYV	Puerto Ayacuch	5.51	104	⇓iP	P	01 47 04.3	+0.3
MONV	Montecano	5.91	30	eP	P	01 47 09.7	+0.5
MONV				eS	S	01 48 15.5	-0.9
TURV	Turiamo	6.25	55	eP	P	01 47 14.3	+0.5
TURV				eS	S	01 48 23.2	-1.4
CAOV	Caicara del Or	6.66	85	⇑iP	P	01 47 18.9	-0.5
CAOV				eP		01 47 19.5	
CAOV				eS	S	01 48 32.1	-2.3
UPA	Univ. de Panam	6.80	289	eP	P	01 47 19.3	-1.9
ACLA	Agua Clara, Si	7.09	291	eP	P	01 47 22.4	-2.7
ZANG	Zanguenga, Cho	7.11	288	eP	P	01 47 23.3	-2.1
ZANG				eS	S	01 48 42.5	-2.6
AZU	Azuero	7.26	278	⇑eP	P	01 47 27.1	-0.3
BRU	Baru	9.66	282	eP	P	01 48 00.3	+1.1
JTS	JuntasAbangare	12.29	287	ePn	P	01 48 41.3	+7.7
LPAZ	La Paz	23.48	168	P	P	01 50 38.4	-1.0
	0.3nm,0.3s,mb3.2,baz=356,slow=25,SNR=3.1						
LPAZ	La Paz	23.48	168	P	P	01 50 38.4	-1.0
CCM	Cathedral Cave	35.20	335	eP	P	01 52 23.6	-0.2
	4.5nm,0.8s,mb4.2						
TXAR	Lajitas Array	36.53	312	P	P	01 52 35.6	+0.5
	0.2nm,0.4s,mb3.1,baz=135,slow=10,SNR=3.2						
TXAR				PcP	PcP	01 54 55.4	-0.2
	0.3nm,0.6s,baz=127,slow=6.3,SNR=3.4						
MNTX	Cornudas Mount	39.04	314	eP	P	01 52 56.9	+0.9
	0.5nm,0.4s,mb3.5						
SDCO	Great Sand Dun	42.60	321	eP	P	01 53 26.4	+1.2
	0.9nm,0.7s,mb3.5						
TUC	Tucson	43.32	311	eP	P	01 53 32.7	+1.7
	0.9nm,0.7s,mb3.5						
SCHQ	Schefferville	48.12	5	P	P	01 54 09.2	+0.8
	5.7nm,0.5s,mb4.5,baz=189,slow=7.2,SNR=21						
PDAR	Pinedale Array	48.13	324	P	P	01 54 09.1	+0.3
	0.4nm,0.5s,mb3.3,baz=124,slow=11,SNR=4.0						
YKA	Yellowknife Ar	63.29	340	P	P	01 55 55.9	-1.0
	2.3nm,0.6s,mb4.2,baz=132,slow=6.8,SNR=14						
DBIC	Dimbokro	67.63	86	P	P	01 56 23.5	-1.9
	2.7nm,0.6s,mb4.1,baz=64,slow=18,SNR=18						
INK	Inuvik	73.05	340	P	P	01 56 56.6	-0.5
	1.2nm,0.6s,mb3.8,baz=78,slow=9.1,SNR=6.0						
ILAR	Eielson Array	77.00	335	P	P	01 57 19.4	-0.1
	0.4nm,0.9s,mb3.1,baz=184,slow=3.8,SNR=5.2						
NB2	NORSAR Subarra	81.26	29	P	P	01 57 42.8	+0.2
	0.5nm,0.5s,mb3.4,baz=266,slow=5.3						
NOA	NORSAR Array B	81.26	29	P	P	01 57 43.2	+0.6
	0.6nm,0.6s,mb3.4,baz=267,slow=5.3,SNR=4.0						
NOA	NORSAR Array B	81.26	29	P	P	01 57 43.2	+0.6
GERES	GERESS Array B	82.74	42	P	P	01 57 50.2	-0.2
	0.1nm,0.3s,mb3.1,baz=243,slow=3.0,SNR=3.8						
ARCES	ARCESS Array B	86.62	20	P	P	01 58 09.5	+0.3
	0.9nm,0.6s,mb3.8,baz=270,slow=2.4,SNR=7.5						
MKAR	Makanchi Array	122.27	20	PKP	PKPdf	02 04 20.1	+0.9
	0.5nm,0.4s,baz=305,slow=2.3,SNR=6.5						
WRAB	Tennant Creek	150.43	241	ePKPbc	PKPdf	02 05 16.9	+6.0
WRA	Warramunga Arr	150.44	241	PKPbc	PKPdf	02 05 17.1	+6.2
	1.5nm,0.4s,baz=108,slow=2.7,SNR=15						
CMAR	Chiang Mai Arr	153.64	17	PKPbc	PKPdf	02 05 25.4	+10
	1.3nm,0.5s,baz=328,slow=3.5,SNR=5.4						

GUC 08 02:44:08.6±0.7**, 20.00S**×**68.64W, h120**^{km}**, ML4.2, 1C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.61	185	eP	P	02 44 51.1	+0.5
LVC				i S	S	02 45 23.7	+1.4
LVC				AMP		02 45 30.0	
	comp=E,845nm,0.3s						
SPCH	San Pedro de A	2.92	172	i P	P	02 44 56.2	+1.5
ANCH	Antofagasta	4.01	204	⇑iP	P	02 45 10.1	+0.7
ANCH				i S	S	02 45 56.8	+0.8
CPN1	Cerro Paranal	4.88	199	i P	P	02 45 22.3	+1.2

*TRN **08** 03:48:25.5, 11.51N×60.86W, h26^{km}, MD2.8*
FUNV 08 03:48:10.2, 10.29N×62.29W, h22^{km}**, MW2.0, 1C-1D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.36	10	eP	Pb	03 48 17.9	-0.2
GUIV				eS	Sb	03 48 23.3	-0.1
GUNV	Guanoco	0.66	259	⇑eP	Pb	03 48 22.4	-0.5
GUNV				eS	Sb	03 48 32.4	+0.8
TRN	Trinidad (W)	0.94	67	eP	Pb	03 48 44.9	+17
TRN				eS	Sb	03 48 59.7	+20
CRUV	Carupano	1.01	293	eP	Pb	03 48 27.9	-1.0
CRUV				eS	Sb	03 48 40.8	-1.0
ITEV	Isla Los Testi	1.35	322	eP	Pn	03 48 33.8	-0.2
ITEV				eS	Sn	03 48 50.5	-0.8
BOT	Bacolet	1.77	60	eP	Pn	03 48 35.0	-5.0
GRW	Mount Saint Ca	1.96	18	⇓iP	Pn	03 48 45.5	+2.7
GRW				eS	Sn	03 48 59.3	-7.6

*NEIC **08** 03:53:20.7±2.2, 30.36N×139.86E, h41^{km}±18^{km}, Error ellipse: s-maj=30.5km s-min=19.5km az=68.0*
*IDC **08** 03:53:21.0±3.7, 30.42N×139.90E, h41^{km}±33^{km}, mb3.5/6, mb1 3.6/8, mb1mx3.5/23, mbtmp3.6/8, ML3.2/2, MS3.5/5, Ms1 3.6/5, ms1mx3.1/17, Error ellipse: s-maj=39.8km s-min=23.3km az=80.0*
ISC 08 03:53:16.4±3.1**, 30.29N**±0.07×**140.1E**±0.2**, h29**^{km}±24^{km}**, n17,** σ1§**17**/14**, mb3.7**/6**, MS3.5**/2**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.83	356	P	Pn	03 54 03.1	+2.2
	11nm,0.3s,baz=263,slow=19,SNR=5.0						
JHJ				S	Sn	03 54 33.1	-1.3
	9.3nm,0.3s,baz=236,slow=18,SNR=2.4						
CBIJ	Chichi jima	3.69	149	P	Pn	03 54 13.3	+0.2
	5.7nm,0.3s,baz=292,slow=19,SNR=2.7						
CBIJ				S	Sn	03 54 54.3	-1.9
	14nm,0.3s,baz=190,slow=24,SNR=3.4						
MJAR	Matsushiro Arr	6.42	347	P	Pn	03 54 51.5	-0.2
	0.6nm,0.3s,baz=161,slow=13,SNR=5.3						
MAJO	Matsushiro	6.43	347	ePn	Pn	03 54 50.7	-1.0
MAT	Matsushiro	6.43	347	P	Pn	03 54 52.0	+0.3
	8.2nm,0.8s						
MAT	Matsushiro	6.43	347	P	Pn	03 54 52.1	+0.4
JNU	Nakatsue	8.31	292	LR	LR	03 58 21.1	
	comp=Z,414nm,19.3s,baz=108,slow=37						
JOW	Kunigami	10.91	254	LR	LR	03 59 59.7	
	comp=Z,356nm,19.2s,baz=217,slow=37						
ASAJ	Asahikawa	13.95	8	LR	LR	04 02 36.8	
	comp=Z,106nm,19.5s,baz=116,slow=40						
SONM	Songino Array	31.14	314	P	P	03 59 33.3	-1.5
	0.3nm,0.4s,mb3.5,baz=117,slow=3.2,SNR=2.4						
CMAR	Chiang Mai Arr	39.05	262	LR	LR	04 17 27.2	
	comp=Z,76nm,18.1s,MS3.6,baz=75,slow=37						
MKAR	Makanchi Array	47.02	307	P	P	04 01 47.1	0.0
	0.3nm,0.5s,mb3.5,baz=90,slow=10,SNR=2.9						
WRA	Warramunga Arr	50.24	187	P	P	04 02 13.3	+1.1
	0.7nm,0.5s,mb3.9,baz=6.6,slow=7.9,SNR=6.6						
BVAR	Borovoye Array	54.44	316	P	P	04 02 42.5	-0.8
	0.5nm,0.6s,mb3.6,baz=90,slow=7.9,SNR=3.6						
ARCES	ARCESS Array B	69.92	340	LR	LR	04 37 58.5	
	comp=Z,26nm,19.9s,MS3.5,baz=279,slow=38						
FINES	FINESS Array B	74.26	333	P	P	04 04 53.4	+1.1
	0.2nm,0.4s,mb3.4,baz=45,slow=8.1,SNR=4.4						
TXAR	Lajitas Array	95.16	52	P	P	04 06 40.2	+1.6
	0.6nm,0.8s,mb4.1,baz=310,slow=4.1,SNR=6.0						

*IDC **08** 03:55:40.9±1.8, 10.13N×78.32W, mb3.8/6, mb1 4.1/7, mb1mx3.8/20, mbtmp3.8/7, ML2.5/1, Error ellipse: s-maj=69.5km s-min=27.9km az=42.0*
*NEIC **08** 03:55:48.3±1.0, 9.43N×78.59W, h85^{km}±13^{km}, mb3.9/6, Error ellipse: s-maj=23.8km s-min=9.3km az=206.0*
*CASC **08** 03:55:49.0±1.7, 9.22N×78.69W, h30^{km}±7^{km}, MD4.1, MW3.8, mb3.9(NEIC)*
ISC 08 03:55:46.2±0.4**, 9.34N**±0.04×**78.65W**±0.04**, h80**^{km}±5^{km}**, n30,** σ0§**92**/41**, mb3.7**/12**, 8C-3D, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UPA	Univ. de Panam	0.94	248	⇓iP	P	03 56 04.9	+0.1
UPA				eS	S	03 56 17.3	-1.6
UPD1	Univ de Panama	1.01	141	⇓iP	P	03 56 06.0	+0.4
UPD1				eS	S	03 56 19.6	-0.6
ACLA	Agua Clara, Si	1.04	271	⇑iP	P	03 56 05.8	-0.3
ACLA				eS	S	03 56 19.6	-1.3
ZANG	Zanguenga, Cho	1.26	252	⇓eP	P	03 56 09.3	+0.4
ZANG				eS	S	03 56 25.7	-0.2
PINA	Piqa, Costa Ab	1.40	267	⇑iP	P	03 56 12.4	+1.6
PINA				eS	S	03 56 29.6	+0.7
AZU	Azuero	2.23	226	⇑iP	P	03 56 21.7	-0.2
AZU				eS	S	03 56 47.6	-0.7
AZU2	Pedas	2.25	217	⇑iP	P	03 56 23.1	+0.9
AZU2				eS	S	03 56 48.6	-0.4
DVD	David	3.86	257	eP	P	03 56 45.7	+1.0
BRU	Baru	3.90	262	eP	P	03 56 47.5	+2.3
ROSC	El Rosal	6.18	136	Pn	P	03 57 19.6	+2.9
	2.3nm,0.3s,baz=90,slow=22,SNR=13						
ROSC				Sn	S	03 58 27.2	+0.5
	0.5nm,0.3s,baz=81,slow=21,SNR=2.3						
JTS	JuntasAbangare	6.28	279	ePn	P	03 57 18.4	+0.3
	13nm,0.5s						
SDV	Santo Domingo	7.93	93	Pn	P	03 57 38.6	-2.1
	1.2nm,0.3s,baz=348,slow=23,SNR=8.7						
SDV				Sn	S	03 59 03.7	-5.9
	6.1nm,0.3s,baz=284,slow=13,SNR=4.6						
SDV	Santo Domingo	7.93	93	ePn	P	03 57 39.2	-1.5
SDV				eSn	S	03 59 02.7	-6.9
YHJ	Yallahs	8.75	14	⇑eP	P	03 57 52.8	+0.8
HOJ	Hope	8.80	12	⇑eP	P	03 57 52.9	+0.2
STH	Stony Hill	8.86	11	⇑eP	P	03 57 53.8	+0.3
STH				eS	S	03 59 24.0	-8.6
GWJ	Greenwich	8.88	12	⇑eP	P	03 57 53.3	-0.4
SAML	Samuel	23.82	139	eP	P	04 00 52.3	-0.5
	3.9nm,1.1s,mb3.6						
TXAR	Lajitas Array	30.74	314	P	P	04 01 54.9	-1.2
	0.5nm,0.8s,mb3.3,baz=129,slow=8.0,SNR=7.0						
SDCO	Great Sand Dun	37.22	324	eP	P	04 02 52.1	+0.5
	1.7nm,1.0s,mb3.9						
PDAR	Pinedale Array	42.89	326	P	P	04 03 38.8	+0.4
	0.8nm,0.7s,mb3.6,baz=129,slow=11,SNR=8.6						
LOHW	Long Hollow	44.02	326	eP	P	04 03 47.6	0.0
	1.7nm,0.7s,mb3.9						
MOOW	Moose Ponds	44.19	326	eP	P	04 03 49.1	+0.2
	1.3nm,0.7s,mb3.8						
BOZ	Bozeman (W)	45.92	328	eP	P	04 04 02.3	-0.4
	1.4nm,0.8s,mb3.7						
HLID	Hailey	46.14	324	eP	P	04 04 04.3	-0.1
	0.8nm,0.8s,mb3.5						
YKA	Yellowknife Ar	59.09	341	P	P	04 05 38.4	-1.8
	0.9nm,0.7s,mb3.9,baz=130,slow=7.4,SNR=5.0						
YKA	Yellowknife Ar	59.09	341	P	P	04 05 38.4	-1.8
ILAR	Eielson Array	72.39	335	P	P	04 07 04.5	-0.7
	0.3nm,0.6s,mb3.3,baz=86,slow=4.3,SNR=4.2						
GERES	GERESS Array B	84.59	42	P	P	04 08 13.1	+1.2
	0.7nm,0.8s,mb3.6,baz=252,slow=6.2,SNR=4.1						
ARCES	ARCESS Array B	86.21	20	P	P	04 08 18.8	-0.6
	2.4nm,0.9s,mb4.1,baz=297,slow=4.0,SNR=6.0						

*IDC **08** 04:29:54.2±0.5, 2.28N×126.73E, mb4.7/20, mb1 4.8/20, mb1mx4.8/22, mbtmp4.7/20, MS3.7/5, Ms1 3.7/5, ms1mx3.4/16, Error ellipse: s-maj=25.5km s-min=11.2km az=76.0*
*BJI **08** 04:29:59.7, 2.30N×126.70E, h66^{km}, mB4.9, mb4.8, Ms3.9, Msz3.9*
*HRVD **08** 04:30:02.8±0.5, 2.48N×126.72E, h38^{km}±1^{km}, MW4.9/44, Centroid moment Tensor Solution. LP body waves: s25,c31;Mantle waves: s44,c54; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.89±.21; $M_{\theta\theta}$0.07±.12; $M_{\phi\phi}$-1.96±.15; $M_{r\theta}$0.59±.15; $M_{\theta\phi}$-1.40±.15; $M_{\phi r}$-1.12±.18; Best double couple: $M_0$2.691×10^{16} NP1:ϕ_s54°,δ44°,λ134°. NP2:ϕ_s181°,δ60°,λ56°. Principal axes: T 2.587, Plg59°, Azm41°; N .207, Plg29°, Azm199°; P -2.795, Plg9°, Azm294°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **08** 04:30:02.7±1.3, 2.28N×126.64E, h82^{km}, mb4.9/27 Error ellipse: s-maj=16.0km s-min=7.1km az=111.8*
*NEIC **08** 04:30:02.8±1.4, 2.27N×126.71E, h67^{km}±12^{km}, mb5.0/26, Error ellipse: s-maj=10.3km s-min=5.2km az=70.0*
ISC 08 04:29:59.4±0.2**, 2.30N**±0.04×**126.67E**±0.07**, h50**^{km}**, h50**^{km}±6.9^{km}**:pP-P, n126,** σ1§**08**/122**, mb4.8**/63**, MS3.9**/11**, 9C-3D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	11.07	290	ePn	P	04 32 40.6	+2.7
KAKA	Kakadu	15.97	159	eP	P	04 33 44.1	+1.7
	62nm,0.4s						
KSM	Kuching	16.38	267	eP	P	04 33 51.3	+3.9
FITZ	Fitzroy Crossi	20.30	183	eP	P	04 34 32.3	-1.4
	29nm,0.4s						
FITZ				e		04 34 37.5	
FITZ				eS	S	04 38 16.7	+3.2
FITZ	Fitzroy Crossi	20.30	183	P	P	04 34 32.3	-1.4
	38nm,0.5s,baz=12,slow=8.1,SNR=79						
FITZ				S	S	04 38 16.6	+3.1
	4.9nm,0.6s,baz=183,slow=19,SNR=3.6						
YHNB	Yeheng	22.82	347	eP	P	04 34 59.5	+0.4
WRAB	Tennant Creek	23.34	162	c iP	P	04 35 03.9	-0.3
WRAB	Tennant Creek	23.34	162	eP	P	04 35 03.6	-0.6
	73nm,0.6s,mb5.3						
WRA	Warramunga Arr	23.35	162	P	P	04 35 03.5	-0.7
	31nm,0.4s,mb5.1,baz=337,slow=11,SNR=215						
WRA				S	S	04 39 12.8	+3.1
	3.3nm,0.9s,baz=335,slow=22,SNR=4.9						
WB2	Warramunga Arr	23.35	162	⇓iP	P	04 35 03.8	-0.5
WB2				eS	S	04 39 13.1	+3.3
QIZ	Qiongzhong	23.41	316	eP	P	04 35 05.2	+0.4
QIZ				S	S	04 39 08.4	-2.4
QIZ				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.4						
QIZ				LR	LR		
	comp=E,204nm,22.2s						
QIZ				LR	LR		
	comp=Z,268nm,29.4s						
MBWA	Marble Bar	24.28	196	eP	P	04 35 13.0	-0.3
	comp=Z,19nm,0.8s,mb4.6						
CBIJ	Chichi jima	28.79	30	LR	LR	04 48 13.3	
	comp=Z,77nm,18.1s,MS3.4,baz=208,slow=38						
SSE	Sheshan	29.11	350	eP	P	04 35 54.5	-3.2
SSE				S	S	04 40 45.5	+0.9
SSE				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,11nm,3.5s						
SSE				LR	LR		
	comp=N,171nm,27.5s,MS3.6						
SSE				LR	LR		
	comp=E,78nm,27.5s,MS3.6						
SSE				LR	LR		
	comp=Z,219nm,25.3s,MS3.7						
CTA	Charters Tower	29.39	140	P	P	04 35 58.6	-1.7
	comp=Z,1.8nm,0.5s,mb4.1,baz=294,slow=10.0,SNR=2.6						
WHN	Wuhan	30.42	339	eP	P	04 36 09.7	+0.3
NJ2	Nanjing	30.50	347	eP	P	04 36 08.1	-2.0
NJ2				PP	PP	04 37 08.0	-3.2
NJ2				S	S	04 41 05.0	-1.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,40nm,6.3s						
NJ2				LR	LR		
	comp=N,450nm,20.6s,MS4.2						
NJ2				LR	LR		
	comp=E,320nm,16.8s,MS4.2						
NJ2				LR	LR		
	comp=Z,230nm,16.4s,MS3.9						
JNU	Nakatsue	30.92	7	P	P	04 36 13.5	-0.3
	comp=Z,4.8nm,0.7s,mb4.5,baz=247,slow=7.7						
CMAR	Chiang Mai Arr	31.57	302	P	P	04 36 19.6	+0.1
	comp=Z,12nm,1.0s,mb4.7,baz=116,slow=7.0,SNR=29						
ENH	Enshi	32.24	331	eP	P	04 36 24.9	-0.5
	comp=Z,18nm,0.9s,mb4.9						
KMI	Kunming	32.36	317	P	P	04 36 26.4	-0.1
KMI				AP	pP	04 36 44.2	+4.6
KMI				XP	sP	04 36 51.5	+5.6
KMI				SS	SS	04 43 36.5	+3.2
KMI				AMB	AMB		
	comp=Z,12nm,1.5s,mb4.5						
KMI				AMB	AMB		
	comp=Z,41nm,4.2s						
KMI				LR	LR		
	comp=N,134nm,17.6s,MS3.9						
KMI				LR	LR		
	comp=E,171nm,20.4s,MS3.9						
KMI				LR	LR		
	comp=Z,272nm,25.0s,MS3.8						
KLBR	Kellerberrin	34.75	193	⇑iP	P	04 36 46.4	-0.6

comp=Z,16nm,0.4s,mb5.3
MUN Mundaring 35.50 195 *e*P **P 04 36 52.8 -0.6**
comp=Z,13nm,0.8s,mb4.9
MUN Mundaring 35.50 195 *e*P **P 04 36 52.8 -0.6**
MUN pmax pmax
comp=Z,13nm,0.8s,mb4.9
MAJO Matsushiro 35.70 16 *e*P **P 04 36 53.5 -1.6**
MAJO pmax pmax
comp=Z,21nm,1.0s,mb5.0
MAJO Matsushiro 35.70 16 *e*P **P 04 36 53.5 -1.6**
comp=Z,21nm,1.0s,mb5.0
MAT Matsushiro 35.70 16 P **P 04 36 52.0 -3.1**
MAT pmax pmax
comp=Z,13nm,1.0s,mb4.8
MAT Matsushiro 35.70 16 P **P 04 36 52.0 -3.1**
comp=Z,13nm,1.0s,mb4.8
MJAR Matsushiro Arr 35.70 16 P **P 04 36 54.4 -0.7**
comp=Z,8.5nm,0.6s,mb4.8,baz=195,slow=9.8,SNR=12
NWAO Narrogin (SRO) 36.15 194 P **P 04 36 58.2 -0.7**
comp=Z,8.0nm,0.4s,mb5.0,baz=18,slow=9.0,SNR=14
STKA Stephens Creek 36.82 159‖ *i*P **P 04 37 03.5 -1.1**
comp=Z,18nm,0.8s,mb5.0
STKA Stephens Creek 36.82 159 P **P 04 37 03.7 -0.8**
comp=Z,14nm,0.5s,mb5.1,baz=332,slow=7.9,SNR=31
LZH Lanzhou 39.71 331‖ P **P 04 37 30.2 +1.6**
LZH AP pP 04 37 43.2 +1.3
LZH XP sP 04 37 47.4 -0.6
LZH AMB AMB
comp=Z,60nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,150nm,4.9s
LZH LR LR
comp=E,470nm,18.6s
LZH LR LR
comp=Z,350nm,19.6s,MS4.2
SHL Shillong 40.69 308 *e*P **P 04 37 36.0 -0.8**
HHC Hu-ho-hao-te 40.73 342 *e*P **P 04 37 37.8 +0.8**
HHC AP pP 04 37 52.3 +1.9
HHC XP sP 04 37 58.3 +1.8
HHC PP PP 04 39 17.4 +2.9
HHC PCP PcP 04 39 33.0 -5.3
HHC SCP 04 43 17.2
HHC S **S 04 43 44.7 +1.1**
HHC XS 04 44 08.7
HHC SS SS 04 46 42.2 +1.1
HHC AMB AMB
comp=Z,13nm,1.4s,mb4.4
HHC LR LR
comp=N,208nm,21.6s,MS4.1
HHC LR LR
comp=E,231nm,21.6s,MS4.1
HHC LR LR
comp=Z,346nm,28.8s
MDJ Mudanjiang 42.22 3 *e*P **P 04 37 50.5 +1.3**
comp=Z,9.3nm,0.8s,mb4.5
LSA Lhasa 43.35 313 *e*P **P 04 37 59.6 +1.0**
LSA Lhasa 43.35 313 *e*P **P 04 37 59.1 +0.5**
LSA pmax pmax
comp=Z,11nm,0.7s,mb4.7
LSA Lhasa 43.35 313 *e*P **P 04 37 59.1 +0.5**
comp=Z,11nm,0.7s,mb4.7
ASAJ Asahikawa 43.97 17 P **P 04 38 04.3 +0.8**
comp=Z,5.4nm,0.5s,mb4.5,baz=204,slow=22,SNR=4.3
GTA Gaotai 44.30 330 *e*P **P 04 38 06.2 +0.1**
GTA AMB AMB
comp=Z,3.0nm,1.1s,mb3.9
GUN Gumba 46.53 307 *e*P **P 04 38 24.0 0.0**
comp=Z,60nm,0.5s,mb5.8
PKI Pulchoki 46.76 307 *e*P **P 04 38 25.3 -0.6**
KKN Kakani 46.95 307 *e*P **P 04 38 26.9 -0.5**
comp=Z,15nm,0.4s,mb5.3
KKN Kakani 46.95 307 *e*P **P 04 38 26.9 -0.5**
KKN pmax pmax
comp=Z,8.0nm,0.4s,mb5.0
KLR Kul'dur 46.96 5 *e*P **P 04 38 24.8 -2.3**
DMN Daman 47.02 306 *e*P **P 04 38 27.3 -0.6**
comp=Z,77nm,1.2s,mb5.5
GKN Gorkha 47.56 307 *e*P **P 04 38 31.2 -1.0**
comp=Z,18nm,0.5s,mb5.4
KOLN Koldanda 48.30 306 *e*P **P 04 38 37.7 -0.2**
comp=Z,41nm,0.5s,mb5.7
ULN Haanbaatar 48.46 342*c i*P **P 04 38 35.7 -3.1**
SONM Songino Array 48.63 342 P **P 04 38 40.3 +0.1**
comp=Z,2.8nm,0.5s,mb4.6,baz=157,slow=9.1,SNR=14
SONM LR LR 05 00 49.3
comp=Z,57nm,21.3s,MS3.5,baz=230,slow=38
HYB Hyderabad 49.56 291 *i* P **P 04 38 48.0 +0.3**
CIT Chita 50.76 350 *e*P **P 04 38 57.4 +1.0**
CIT pmax pmax
comp=Z,28nm,1.5s,mb5.0
ZAK Zakamensk 51.85 341 *e*P **P 04 39 04.5 -0.2**
ZAK *e* 04 40 17.7
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
TLY Talaya 52.87 342 *e*P **P 04 39 12.9 +0.6**
TLY pmax pmax
comp=Z,11nm,1.2s,mb4.7
TLY Talaya 52.87 342 *e*P **P 04 39 12.5 +0.2**
comp=Z,4.9nm,0.7s,mb4.5
MOY Mondy 53.70 340 *e*P **P 04 39 19.3 +0.8**
MOY pmax pmax
comp=Z,23nm,2.1s,mb4.7
WMQ Urumqi 53.86 326 *e*P **P 04 39 22.2 +2.4**
MKAR Makanchi Array 58.70 326 P **P 04 39 53.5 -0.7**
comp=Z,3.6nm,0.4s,mb4.8,baz=119,slow=7.4,SNR=36
MKAR PcP PcP 04 40 43.9 +0.4
comp=Z,5.4nm,1.0s,baz=112,slow=6.5,SNR=4.3
MKAR LR LR 05 06 26.4
comp=Z,79nm,21.6s,MS3.8,baz=166,slow=37
MKAR Makanchi Array 58.70 326 P **P 04 39 53.5 -0.7**
MKAR PcP PcP 04 40 43.9 +0.4
MKAR LR LR 05 06 26.4
YAK Yakutsk 59.63 2 *e*P **P 04 40 00.4 -0.1**
YAK pmax pmax
comp=Z,12nm,0.9s,mb4.9
YAK pmax pmax
comp=N,4.0nm,1.1s
KZA Kyzart 60.63 318 P **P 04 40 07.8 +0.1**
SNR=12
RPZ Rata Peaks 60.63 144 P **P 04 40 06.7 -1.0**
comp=N,18nm,0.8s,mb5.3,baz=85,slow=4.6,SNR=6.4
RPZ LR LR 05 03 51.6
comp=N,203nm,19.3s,MS4.3,baz=354,slow=34
TKM2 Tokmak 2 60.78 319 P **P 04 40 08.4 -0.3**
SNR=8.3
UCH Uchtor 61.19 318 P **P 04 40 11.0 -0.4**
SNR=14
AAK Ala-Archa 61.38 318 P **P 04 40 13.5 +0.8**
AAK pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
AAK Ala-Archa 61.38 318 *e*P **P 04 40 12.7 +0.1**
comp=Z,14nm,1.4s,mb4.9
USP Ospenovka 61.65 319 P **P 04 40 14.0 -0.5**
SNR=16
AML Almayashu 61.70 318 P **P 04 40 15.4 +0.6**
SNR=15
ZAL Zalesovo 61.84 333 *i* P **P 04 40 15.6 0.0**
ZAL pmax pmax
comp=Z,3.0nm,0.4s
ZAL Zalesovo 61.84 333 P **P 04 40 15.2 -0.4**
comp=Z,3.1nm,0.4s,mb4.8,baz=8.4,slow=4.1,SNR=5.1
EKS2 Erkin-Say 61.87 318 P **P 04 40 16.3 +0.4**
SNR=6.4
NVS Novosibirsk 63.12 334 *e*P **P 04 40 21.6 -2.5**
FX1 Attu Island--F 63.35 29 *e*P **P 04 40 25.9 +0.2**
SEY Seymchan 63.43 13 *e*P **P 04 40 27.8 +1.7**
SEY *e* 04 44 14.2
SEY *e*S **S 04 48 57.4 +3.9**
SEY pmax pmax
comp=E,3.0nm,0.8s
SEY pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
SEY pmax pmax
comp=N,10.0nm,1.0s
SEY smax
comp=N,70nm,20.2s
SEY smax
comp=E,70nm,26.6s
KKAR Karatay Array 64.24 318 *i* P **P 04 40 30.9 -0.7**
KKAR pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
VOSK Vostochnaya 68.03 327 P **P 04 40 54.7 -0.8**
VOSK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6

ZRNK Zerenda 69.20 327 P **P 04 41 02.3 -0.5**
ZRNK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ZRNK Zerenda 69.20 327 *e*P **P 04 41 02.1 -0.8**
comp=Z,70nm,0.6s,mb5.8
CASY Casey 69.39 187 *e*P **P 04 41 04.3 +0.5**
MIR Mirnyy 72.76 193 *d i*P **P 04 41 24.4 +0.5**
MIR pmax pmax
comp=Z,26nm,1.2s,mb5.0
AB31 Akbulak array 73.22 321 P **P 04 41 26.7 -0.3**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
SVE Sverdlovsk 75.15 329 *e*P **P 04 41 38.8 +0.8**
SVE *e* 04 42 06.5
SVE pmax pmax
comp=Z,60nm,1.7s,mb5.2
ARU Arti 76.11 328‖ *i*P **P 04 41 43.1 -0.4**
ARU *e* pP 04 41 54.2 -3.7
ARU *e* 04 44 34.7
ARU *e*S S 04 51 26.6 +4.7
ARU *e*SS SS 04 56 19.6 +0.8
ARU pmax pmax
comp=Z,14nm,0.7s,mb5.0
ARU Arti 76.11 328 *e*P **P 04 41 42.8 -0.7**
comp=Z,9.7nm,0.5s,mb5.0
VNDA Vanda 82.02 173 *e*P **P 04 42 15.4 +0.2**
VNDA pmax pmax
comp=Z,4.0nm,0.4s
VNDA Vanda 82.02 173 P **P 04 42 15.7 +0.5**
comp=Z,4.7nm,0.4s,mb4.8,baz=318,slow=5.9,SNR=43
VNDA Vanda 82.02 173 *e*P **P 04 42 15.4 +0.2**
comp=Z,4.5nm,0.4s,mb4.8
GNI Garni 82.35 310 *e*P **P 04 42 21.9 +4.3**
GNI pmax pmax
comp=Z,17nm,1.9s
MAW Mawson 82.40 200 *e*P **P 04 42 18.4 +1.2**
comp=Z,9.5nm,1.3s,mb4.6
MAW Mawson 82.40 200 *e*P **P 04 42 18.4 +1.2**
MAW pmax pmax
comp=Z,10.0nm,1.3s
MAW Mawson 82.40 200 P **P 04 42 18.7 +1.5**
comp=Z,7.2nm,0.7s,mb4.7,baz=65,slow=5.4,SNR=18
ZEI Tsey 83.14 313 *e*P **P 04 42 20.3 -1.2**
ZEI pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
ONI Oni 83.46 312 P **P 04 42 26.8 +3.7**
SPU Mount Spurr 83.78 29 *e*P **P 04 42 25.2 +0.8**
GOF Gofitskoye 83.88 315 *e*P **P 04 42 22.2 -3.1**
KIV Kislovodsk 84.08 314 *e*P **P 04 42 26.8 +0.5**
KIV pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
KIV MLR MLR
comp=Z,100nm,30.0s,MS4.0
SLKM Skilak Lake 84.61 30 *e*P **P 04 42 29.7 +1.2**
SML Sawmill 85.62 28 *e*P **P 04 42 35.3 +1.8**
SOC Sochi 86.22 313 *e*P **P 04 42 37.2 +0.3**
SOC *e*S S 04 53 02.9 -3.4
SOC *e*SS SS 04 58 40.0 -9.5
SOC pmax pmax
comp=Z,13nm,0.8s,mb5.2
SOC pmax pmax
comp=N,15nm,0.9s
SOC pmax pmax
comp=E,8.0nm,0.6s
ILAR Eielson Array 86.41 25 P **P 04 42 37.5 +0.1**
comp=E,0.9nm,0.6s,mb4.2,baz=249,slow=4.9,SNR=11
MALT Malatya 87.21 308 *e*P **P 04 42 43.5 +1.6**
MALT pmax pmax
comp=Z,21nm,1.5s,mb5.2
MALT Malatya 87.21 308 *e*P **P 04 42 43.5 +1.6**
comp=Z,21nm,1.5s,mb5.2
MOS Moscow 87.58 326 *e*P **P 04 42 44.9 +1.7**
MOS pmax pmax
comp=Z,50nm,0.8s,mb5.8
ANN Anapa 87.86 315 *e*P **P 04 42 43.9 -0.9**
ANN pmax pmax
comp=Z,38nm,1.0s,mb5.6
OBN Obninsk 88.19 325 *e*P **P 04 42 44.8 -1.3**
OBN pmax pmax
comp=Z,9.0nm,0.4s,mb5.3
BRTR Keskin Array B 90.89 310 P **P 04 42 59.5 +0.3**
comp=Z,1.3nm,0.5s,mb4.5,baz=117,slow=5.5,SNR=8.3
INK Inuvik 91.51 21 *e*P **P 04 43 01.8 +0.4**
INK pmax pmax
comp=Z,7.0nm,1.2s
INK Inuvik 91.51 21 *e*P **P 04 43 01.8 +0.4**
comp=Z,6.8nm,1.2s,mb4.8
ARCES ARCESS Array B 91.77 340 P **P 04 43 04.3 +1.8**
comp=Z,1.8nm,0.8s,mb4.5,baz=76,slow=5.0,SNR=5.7
QSPA South Pole Qui 92.21 180 *e*P **P 04 43 05.8 +1.3**
comp=Z,4.0nm,0.9s,mb4.8
KAF Kangasniemi 92.83 332 *ep* **P 04 43 06.8 -0.8**
AKASG Malin Array Be 92.96 321 P **P 04 43 08.7 +0.2**
comp=Z,0.5nm,0.3s,mb4.4,baz=62,slow=4.5,SNR=9.1
FINES FINESS Array B 93.06 332 P **P 04 43 09.4 +0.7**
comp=Z,1.1nm,0.6s,mb4.5,baz=63,slow=4.3,SNR=8.0
FINES LR LR 05 32 10.6
comp=Z,34nm,18.7s,MS3.8,baz=320,slow=40
NOA NORSAR Array B 100.04 333 P P 04 43 40.3 -0.1
comp=Z,0.8nm,0.8s,baz=69,slow=4.5,SNR=3.4
SNAA Sanae 103.82 195‖ *i*Pdif Pdif 04 43 53.3 -3.7
SNAA *e* 04 44 06.2
SNAA *e* 04 44 13.0
VNA2 Neumayer--Watz 105.43 194‖ *i*P Pdif 04 44 03.2 -0.9
VNA3 Neumayer Olymp 105.75 193‖ *i*P Pdif 04 43 59.4 -6.1
VNA1 Neumayer--Stat 105.83 194 *i*P Pdif 04 44 06.2 +0.3
SCHQ Schefferville 121.98 9 PKP PKPdf 04 48 49.6 +1.3
comp=Z,1.5nm,0.5s,baz=300,slow=5.5,SNR=5.3
TXAR Lajitas Array 122.51 53 PKP PKPdf 04 48 52.6 +2.6
comp=Z,0.2nm,0.5s,baz=269,slow=0.3,SNR=6.0
WVT Waverly 130.04 37 *e*PKPdf PKPdf 04 49 06.3 +2.0
JTS JuntasAbangare 146.12 68 *e*PKP2 PKPab 04 49 37.7 -0.2
SDV Santo Domingo 159.48 57 *e*PKPdf PKPdf 04 49 55.5 +2.3
LPAZ La Paz 159.86 135 PKP PKPdf 04 49 57.1 +3.6
comp=Z,0.6nm,0.3s,baz=189,slow=2.9,SNR=5.1
LPAZ La Paz 159.86 135 *e*PKPdf PKPdf 04 49 57.9 +4.4

PRE 08 04:32:10.1±1.5**,26.45S**×**27.28E,h2**km**,ML3.7,South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.48**	**171**	*e*P	Pg	04 32 20.2	+0.4
PRYS				*e*S	Sg	04 32 25.6	-0.6
PRYS				AML	AML	04 32 26.1	
	comp=Z,945nm,0.1s						
KSR	**Koster**	**0.68**	**330**	*e*P	Pg	04 32 01.5	-22
KSR				*e*S	Sg	04 32 10.4	-22
KSR				AML	AML	04 32 18.4	
	comp=Z,1μm,0.3s						
SLR	**Silverton**	**1.15**	**52**	*e*P	Pb	04 32 32.3	0.0
SLR				*e*S	Sb	04 32 48.2	+0.6
SLR				AML	AML	04 32 51.4	
	comp=Z,1μm,0.4s						
SWZ	**Schweizer**	**1.89**	**247**	*e*P	Pn	04 32 44.6	+0.9
SWZ				*e*S	Sn	04 33 09.5	+1.2
SWZ				AML	AML	04 33 12.6	
	comp=Z,4μm,0.2s						
SEK	**Senekal**	**1.89**	**171**	*e*P	Pn	04 32 44.9	+1.1
SEK				*e*S	Sn	04 33 09.1	+0.6
SEK				AML	AML	04 33 10.3	
	comp=Z,637nm,0.2s						
NWL	**Newcastle**	**2.70**	**119**	*e*P	Pn	04 32 55.1	-0.2
NWL				*e*S	Sn	04 33 27.9	-1.1
NWL				AML	AML	04 33 33.0	
	comp=Z,363nm,0.4s						
BOSA	**Boshof**	**2.81**	**219**	*e*P	Pn	04 32 56.6	-0.3
BOSA				*e*S	Sn	04 33 30.4	-1.3
POGA	**Pongola**	**3.98**	**104**	*e*P	Pn	04 33 13.3	-0.2
PKA	**Prieska**	**5.12**	**230**	*e*P	Pn	04 33 14.1	-16
PKA				*e*S	Sn	04 34 25.6	-4.7
PKA				AML	AML	04 34 34.8	
	comp=Z,80nm,0.5s						
UPI	**Upington**	**5.69**	**249**	*e*P	Pn	04 33 36.1	-1.5
UPI				*e*S	Sn	04 34 38.8	-5.6
UPI				AML	AML	04 35 12.6	
	comp=Z,45nm,0.4s						
CVNA	**Calvinia**	**8.28**	**231**	*e*P	P	04 34 12.0	-2.0

IDC 08 04:37:17.7±1.5**,16.92S**×**175.82E,mb4.1**/5**,mb1 4.3**/5**, mb1mx4.0**/15**,mbtmp4.1**/5**,MS3.7**/6**,Ms1 3.7**/6**, ms1mx3.4**/22**,Error ellipse: s-maj=44.8km**

s-min=31.3km az=128.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**12.33**	**78**	LR	LR	04 44 01.5	
	comp=Z,190nm,18.8s,baz=78,slow=33						
RAO	**Raoul Island**	**13.56**	**156**	LR	LR	04 44 32.1	
	comp=Z,298nm,18.4s,baz=87,slow=32						
URZ	**Urewera**	**21.29**	**177**	P	P	04 42 05.2	-3.0
	7.7nm,0.8s,baz=336,slow=10.0,SNR=3.5						
PMG	**Port Moresby**	**28.86**	**281**	LR	LR	04 53 47.5	
	comp=Z,208nm,18.4s,baz=1.7,slow=34						
PPT	**Papeete**	**33.03**	**96**	*e*LR	LR	04 52 29.6	
	265nm,28.0s,baz=263						
PPT	**Papeete**	**33.03**	**96**	LR	LR	04 52 58.5	
	comp=Z,62nm,20.8s,baz=348,slow=28						
TBI	**Tubuai**	**33.16**	**107**	*e*LR	LR	04 52 14.1	
	190nm,30.0s,baz=287						
STKA	**Stephens Creek**	**34.37**	**238**	P	P	04 44 08.3	-0.3
	3.0nm,0.8s,baz=98,slow=9.4,SNR=4.9						
WRA	**Warramunga Arr**	**39.40**	**259**	P	P	04 44 48.8	-2.3
	1.2nm,0.7s,baz=91,slow=8.7,SNR=4.7						
TAOE	**Nuku Hiva Isla**	**43.59**	**85**	*e*LR	LR	04 57 13.9	
	4μm,36.2s						
FITZ	**Fitzroy Crossi**	**47.75**	**261**	P	P	04 45 55.8	-3.0
	11nm,1.1s,baz=100,slow=5.0,SNR=3.7						
ILAR	**Eielson Array**	**86.27**	**15**	P	P	04 50 01.2	-1.0
	0.3nm,0.7s,baz=233,slow=4.5,SNR=4.1						
ILAR				LR	LR	05 21 04.7	
	comp=Z,44nm,21.5s,baz=181,slow=39						
YKA	**Yellowknife Ar**	**95.80**	**26**	LR	LR	05 32 40.5	
	comp=Z,44nm,18.6s,baz=255,slow=35						
GERES	**GERESS Array B**	**144.98**	**339**	PKP	PKPdf	04 56 56.2	-2.5
	0.1nm,0.3s,baz=14,slow=4.0,SNR=2.4						

*IDC **08** 05:15:49.0*±*0.6,45.83S*×*76.70W,mb4.2/12,mb1 4.3/13, mb1mx4.3/18,mbtmp4.2/13,ML3.3/1,MS4.3/14,Ms1 4.3/14, ms1mx4.2/16,Error ellipse: s-maj=26.9km s-min=15.4km az=94.0*

*NEIC **08** 05:15:54.8*±*1.9,45.82S*×*76.61W,h38*km*±*17*km*,mb4.8/20, Error ellipse: s-maj=15.9km s-min=7.4km az=84.0*

*MOS **08** 05:15:55.1*±*1.1,45.34S*×*75.19W,h33*km*,mb4.9/1,Error ellipse: s-maj=99.9km s-min=31.1km az=104.4*

ISC 08 05:15:53.0±0.4**,45.79S**±0.06×**76.5W**±0.1**,h33**km**, (h38**km**±2.1**km**:pP-P),n89,**σ**1.5**05**/53,mb4.5/27,MS4.4**/13**, 3C-5D,Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USHA	**Ushuaia**	**10.41**	**153**	Pn	P	**05 18 19.8**	**-3.1**
	0.3nm,0.3s,baz=327,slow=16,SNR=5.0						
CFAA	**Coronel Fontan**	**15.54**	**27**	Pn	P	**05 19 26.7**	**-4.5**
	baz=208,slow=16						
CFAA				LR	LR	05 25 41.1	
	comp=Z,262nm,19.4s,baz=202,slow=38						
CFAA	**Coronel Fontan**	**15.54**	**27**	Pn	P	**05 19 26.7**	**-4.5**
CFAA				LR	LR	05 25 41.1	
LPA	**La Plata**	**17.79**	**59**	*ce*P	P	**05 19 58.0**	**-1.5**
LPA				*e*pP		05 20 06.0	
LVC	**Limon Verde**	**23.93**	**17**	P	P	**05 21 05.4**	**+0.6**
	10nm,1.2s,mb4.1,baz=194,slow=8.6,SNR=9.8						
LVC				LR	LR	05 31 12.3	
	comp=Z,456nm,18.4s,MS4.0,baz=70,slow=38						
LVC	**Limon Verde**	**23.93**	**17**	*e*P	P	**05 21 07.0**	**+2.2**
	73nm,1.5s,mb4.9						
CPUP	**Villa Florida**	**24.72**	**45**	P	P	**05 21 14.2**	**+1.7**
	36nm,1.1s,mb4.8,baz=204,slow=12,SNR=24						
CPUP				LR	LR	05 31 44.3	
	comp=Z,2μm,18.8s,MS4.6,baz=201,slow=38						
CPUP	**Villa Florida**	**24.72**	**45**	*e*P	P	**05 21 14.4**	**+1.9**
	65nm,1.0s,mb5.1						
LPAZ	**La Paz**	**30.23**	**16**	P	P	**05 22 04.2**	**+1.3**
	6.6nm,1.2s,mb4.2,baz=172,slow=6.8,SNR=9.6						
LPAZ	**La Paz**	**30.23**	**16**	*e*P	P	**05 22 04.5**	**+1.7**
	26nm,1.6s,mb4.7						
RPN	**Rapa Nui**	**32.02**	**294**	LR	LR	05 31 42.8	
	comp=Z,1μm,22.0s,MS4.5,baz=313,slow=30						
SIV	**San Ignacio**	**32.39**	**28**	P	P	**05 22 20.7**	**-1.2**
	5.7nm,1.0s,mb4.3,baz=222,slow=10.0,SNR=12						
BDFB	**Brasilia**	**38.37**	**48**	P	P	**05 23 12.7**	**0.0**
	4.1nm,1.0s,mb4.1,baz=180,slow=10,SNR=3.3						
BDFB				LR	LR	05 40 01.5	
	comp=Z,2μm,20.6s,MS4.9,baz=216,slow=38						
VNA3	**Neumayer Olymp**	**40.08**	**152**	*e*	P	**05 23 33.1**	**+6.7**
VNA3	**Neumayer Olymp**	**40.08**	**152**	*e*	pP	05 23 35.8	-0.4
VNA3	**Neumayer Olymp**	**40.08**	**152**	*e*	sP	05 23 38.0	-2.4
VNA3	**Neumayer Olymp**	**40.08**	**152**‖	*i*P	P	**05 23 26.9**	**+0.5**
VNA3				*e*	pP	05 23 38.0	+1.8
VNA3				*e*		05 25 30.4	
VNA1	**Neumayer--Stat**	**40.53**	**152**	*e*	P	**05 23 36.8**	**+6.7**
VNA1	**Neumayer--Stat**	**40.53**	**152**	*e*	sP	05 23 42.6	-1.5
VNA1	**Neumayer--Stat**	**40.53**	**152**‖	*i*P	P	**05 23 30.9**	**+0.8**
VNA1				*e*	pP	05 23 42.6	+2.7
VNA1				*e*		05 25 32.2	
VNA2	**Neumayer--Watz**	**40.82**	**152**	*e*	P	**05 23 39.3**	**+6.8**
VNA2	**Neumayer--Watz**	**40.82**	**152**	*e*	pP	05 23 41.9	-0.4
VNA2	**Neumayer--Watz**	**40.82**	**152**	*e*	sP	05 23 44.2	-2.3
VNA2	**Neumayer--Watz**	**40.82**	**152**‖	*i*P	P	**05 23 33.2**	**+0.7**
VNA2				*e*	pP	05 23 44.2	+1.9
VNA2				*e*		05 25 32.7	
SNAA	**Sanae**	**42.26**	**153**‖	*i*	P	**05 23 44.5**	**+0.3**
SNAA	**Sanae**	**42.26**	**153**	*e*	P	**05 23 50.5**	**+6.3**
SNAA	**Sanae**	**42.26**	**153**	*e*	pP	05 23 52.5	-1.6
SNAA	**Sanae**	**42.26**	**153**	*e*	sP	05 23 56.4	-1.8
SNAA	**Sanae**	**42.26**	**153**	*e*P	P	**05 23 45.1**	**+0.9**
SNAA	**Sanae**	**42.26**	**153**	P	P	**05 23 44.0**	**-0.2**
	3.0nm,1.2s,mb3.8,baz=255,slow=6.2,SNR=10						
SNAA	**Sanae**	**42.26**	**153**	*e*P	P	**05 23 43.0**	**-1.2**
	35nm,1.5s,mb4.8						
SNAA				*e*		05 23 50.5	
SNAA				*e*	pP	05 23 52.5	-1.6
SNAA				*e*		05 23 56.4	
SNAA				*e*		05 25 37.3	
QSPA	**South Pole Qui**	**44.46**	**180**	*e*P	P	**05 24 01.9**	**-0.1**
	2.8nm,0.7s,mb4.1						
ROSC	**El Rosal**	**50.45**	**3**	P	P	**05 24 49.8**	**+0.1**
	2.4nm,0.7s,mb4.3,baz=107,slow=15,SNR=4.5						
ROSC				LR	LR	05 44 39.4	
	comp=Z,254nm,18.5s,MS4.3,baz=305,slow=34						
SBA	**Scott Base**	**50.84**	**194**	*e*P	P	**05 24 52.2**	**+0.3**
	4.8nm,1.0s,mb4.4						
VNDA	**Vanda**	**51.88**	**194**	P	P	**05 24 59.5**	**-0.1**
	0.9nm,0.3s,mb4.2,baz=139,slow=8.2,SNR=11						
VNDA				LR	LR	05 44 47.6	
	comp=Z,154nm,18.3s,MS4.1,baz=133,slow=34						
VNDA	**Vanda**	**51.88**	**194**	*e*P	P	**05 24 59.6**	**0.0**
	7.6nm,1.2s,mb4.5						
RKT	**Rikitea**	**52.01**	**275**	*e*S	S	**05 32 11.5**	**-9.5**
	236nm,26.2s						
RKT				*e*LR	LR	05 39 31.1	
	1μm,27.2s,baz=134						
SDV	**Santo Domingo**	**54.67**	**7**	*e*P	P	**05 25 24.2**	**+3.1**
	3.3nm,0.8s,mb4.4						
JTS	**JuntasAbangare**	**56.34**	**350**	*e*P	P	**05 25 32.4**	**-0.7**
	55nm,1.6s,mb5.3						
TBI	**Tubuai**	**61.98**	**265**	*e*S	S	**05 34 36.1**	**+3.6**
	415nm,31.0s						
TBI				*e*LR	LR	05 44 04.9	
	1μm,27.5s,baz=136						
MAW	**Mawson**	**62.84**	**164**	LR	LR	05 51 49.0	
	comp=Z,328nm,19.4s,MS4.5,baz=224,slow=34						
PPT	**Papeete**	**65.89**	**269**	*e*S	S	05 35 46.2	+25
	188nm,26.5s						
PPT				*e*SS	SS	05 39 12.0	-25
	99nm,30.2s						
PPT				*e*LR	LR	05 45 48.3	
	745nm,26.2s,baz=129						
PPT	**Papeete**	**65.89**	**269**	LR	LR	05 46 55.1	
	comp=Z,401nm,20.8s,MS4.6,baz=158,slow=28						
BOSA	**Boshof**	**77.57**	**118**	P	P	**05 27 48.1**	**+0.8**
	3.5nm,0.9s,mb4.3,baz=163,slow=7.0,SNR=4.0						
BOSA				LR	LR	05 58 40.3	
	comp=Z,215nm,18.7s,MS4.5,baz=221,slow=33						
LTX	**Lajitas**	**78.74**	**336**	*e*P	P	**05 27 53.5**	**-0.2**
	3.7nm,1.1s,mb4.2						
TXAR	**Lajitas Array**	**78.74**	**336**	P	P	**05 27 53.6**	**0.0**
	1.8nm,0.9s,mb4.0,baz=153,slow=8.4,SNR=18						
TXAR				LR	LR	05 56 46.4	
	comp=Z,79nm,19.9s,MS4.0,baz=120,slow=31						
SWET	**Sewanee**	**81.08**	**352**	*e*P	P	**05 28 04.5**	**-1.6**
MNTX	**Cornudas Mount**	**81.45**	**335**	*e*P	P	**05 28 06.1**	**-2.0**
	8.7nm,1.5s,mb4.5						
GDL2	**Guadalupe Moun**	**81.63**	**336**	*e*P	P	**05 28 08.2**	**-0.9**
DBIC	**Dimbokro**	**82.14**	**72**	LR	LR	05 59 39.4	
	comp=Z,122nm,19.6s,MS4.3,baz=277,slow=32						

WVT	**Waverly**	**82.18**	**351**	eP	**P**	**05 28 09.4**	**-2.4**
	30nm,1.6s,mb5.0						
AMTX	**Amarillo**	**83.47**	**339**	eP	**P**	**05 28 17.9**	**-0.4**
	40nm,1.7s,mb5.2						
TUC	**Tucson**	**83.72**	**331**	eP	**P**	**05 28 19.7**	**0.0**
	2.3nm,1.0s,mb4.3						
CCM	**Cathedral Cave**	**84.51**	**348**	eP	**P**	**05 28 23.0**	**-0.5**
	21nm,0.9s,mb5.3						
ANMO	**Albuquerque**	**84.81**	**336**	i P	**P**	**05 28 26.1**	**+1.0**
ANMO	**Albuquerque**	**84.81**	**336**	eP	**P**	**05 28 25.7**	**+0.6**
	24nm,1.8s,mb5.0						
SDCO	**Great Sand Dun**	**87.16**	**337**	eP	**P**	**05 28 36.7**	**+0.2**
	15nm,1.8s,mb4.9						
NEN	**Nelson**	**88.15**	**330**	eP	**P**	**05 28 41.5**	**+0.2**
ISCO	**Idaho Springs**	**89.12**	**338**	eP	**P**	**05 28 46.3**	**+0.4**
	28nm,1.8s,mb5.3						
ARUT	**Antelope Range**	**89.59**	**332**	eP	**P**	**05 28 48.2**	**0.0**
MSU	**Marysvale**	**89.84**	**333**	eP	**P**	**05 28 50.0**	**+0.7**
MVU	**Marysvale**	**89.84**	**333**	eP	**P**	**05 28 50.3**	**+1.0**
	5.8nm,1.4s,mb4.7						
NVAR	**Mina Array Bea**	**91.87**	**328**	P	**P**	**05 29 00.1**	**+1.4**
	0.5nm,0.9s,mb3.9,baz=153,slow=7.0,SNR=3.9						
HWUT	**Hardware Ranch**	**92.47**	**334**	eP	**P**	**05 29 01.1**	**-0.4**
	1.8nm,0.6s,mb4.6						
PDAR	**Pinedale Array**	**92.95**	**336**	P	**P**	**05 29 02.9**	**-0.7**
	0.4nm,0.7s,mb3.9,baz=117,slow=3.3,SNR=5.0						
PDAR				LR	LR	06 04 45.0	
	comp=Z,57nm,18.9s,MS4.0,baz=344,slow=32						
STKA	**Stephens Creek**	**95.35**	**212**	LR	LR	06 03 28.8	
	comp=Z,192nm,19.4s,MS4.6,baz=115,slow=30						
PMG	**Port Moresby**	**112.56**	**228**	i PKIKP	PKPdf	05 34 30.1	+4.0
GERES	**GERESS Array B**	**122.53**	**52**	PKP	PKPdf	05 34 44.5	-0.2
	0.3nm,0.2s,baz=225,slow=5.7,SNR=4.9						
ILAR	**Eielson Array**	**123.02**	**331**	PKP	PKPdf	05 34 45.2	0.0
	0.8nm,0.9s,baz=175,slow=2.3,SNR=9.8						
NOA	**NORSAR Array B**	**127.62**	**38**	PKP	PKPdf	05 34 53.7	-0.4
	1.1nm,0.9s,baz=244,slow=2.2,SNR=3.5						
NOA	**NORSAR Array B**	**127.62**	**38**	PKP	PKPdf	05 34 53.7	-0.4
BRTR	**Keskin Array B**	**129.82**	**71**	PKP	PKPdf	05 34 59.1	+0.3
	0.6nm,0.6s,baz=198,slow=7.8,SNR=5.0						
HYB	**Hyderabad**	**144.90**	**136**	eP	PKPdf	05 35 27.0	+0.2
HYB	**Hyderabad**	**144.90**	**136**	i PKP	PKPdf	05 35 27.0	+0.2
SEY	**Seymchan**	**147.76**	**320**	ePKIKP	PKPdf	05 35 34.2	+4.0
SEY				pmax	pmax		
	comp=Z,15nm,1.3s						
ARU	**Arti**	**150.35**	**53**d	iPKP2	PKPdf	05 35 41.1	+6.6
ARU	**Arti**	**150.35**	**53**	ePKPbc	PKPdf	05 35 41.5	+7.0
AB31	**Akbulak array**	**150.67**	**67**	i PKHKP		05 35 37.2	
AB31				pmax	pmax		
	comp=Z,77nm,1.5s						
SVE	**Sverdlovsk**	**151.48**	**52**	ePKIKP	PKPdf	05 35 44.7	+8.5
SVE				e		05 35 51.0	
MJAR	**Matsushiro Arr**	**152.48**	**263**	PKPbc	PKPdf	05 35 44.0	+5.7
	comp=Z,1.0nm,0.3s,baz=161,slow=2.2,SNR=4.7						
CMAR	**Chiang Mai Arr**	**152.48**	**171**	PKPbc	PKPdf	05 35 47.2	+8.4
	comp=Z,2.3nm,0.8s,baz=217,slow=4.3,SNR=8.4						
YSS	**Yuzh-Sakhalins**	**153.09**	**287**	i PKIKP	PKPdf	05 35 42.3	+3.5
ZRNK	**Zerenda**	**156.59**	**60**	ePKPdf	PKPdf	05 35 44.9	+1.6
AAK	**Ala-Archa**	**159.01**	**88**⇑	iPKIKP	PKPdf	05 35 49.5	+2.8
NVS	**Novosibirsk**	**164.24**	**48**	ePKIKP	PKPdf	05 35 51.7	0.0
MKAR	**Makanchi Array**	**165.29**	**78**	i PKIKP	PKPdf	05 35 54.1	+1.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**165.29**	**78**	PKP	PKPdf	05 35 54.1	+1.1
	comp=Z,0.6nm,0.9s,baz=90,slow=1.2,SNR=5.8						
MKAR				PKPab	PKPab	05 36 52.4	-0.3
	comp=Z,0.3nm,0.5s,baz=256,slow=5.0,SNR=4.6						
ZAL	**Zalesovo**	**165.46**	**49**	i PKIKP	PKPdf	05 35 54.1	+1.2
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**165.46**	**49**	PKP	PKPdf	05 35 53.5	+0.7
	comp=Z,0.9nm,0.5s,baz=171,slow=15,SNR=5.2						

IDC 08 05:34:17.1±17.0**, 1.34N×96.67E, mb4.0**/3**, mb1 4.0**/4**, mb1mx3.6**/20**, mbtmp3.9**/4**, Error ellipse: s-maj=431.1km s-min=114.5km az=125.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.16**	**7**	P	P	05 38 18.1	-1.8
	baz=197,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**46.98**	**347**	P	P	05 42 49.7	-2.1
	1.4nm,0.7s,baz=160,slow=7.8,SNR=13						
ZAL	**Zalesovo**	**53.33**	**351**	P	P	05 43 38.2	-2.0
	1.8nm,0.6s,baz=336,slow=2.7,SNR=4.0						
BVAR	**Borovoye Array**	**55.95**	**341**	P	P	05 43 56.8	-2.5
	0.5nm,0.5s,baz=143,slow=7.4,SNR=3.9						

*CSEM **08** 05:40:57.9±0.1, 34.33N×26.44E, h40km, MD3.8, Error ellipse: s-maj=3.7km s-min=1.6km az=77.0*
*HLW **08** 05:40:59.3, 34.33N×26.59E, h21km, Mb3.3*
*ATH **08** 05:41:01.0, 34.67N×26.35E, h37km±7km, MD3.8/7*
*NEIC **08** 05:41:01.1, 34.68N×26.35E, h36km, MD3.8(ATH), After ATH.*
*IDC **08** 05:41:04.4±3.6, 34.55N×25.96E, h99km±37km, mb3.5/4, mb1 3.5/6, mb1mx3.3/22, mbtmp3.8/6, Error ellipse: s-maj=112.8km s-min=38.6km az=38.0*
ISC 08 05:40:57.6±0.5**, 34.28N**±0.04×**26.38E**±0.09**, h59**km±10km**, n22, σ1.26s**/24**, mb3.6**/4**, 2C-2D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.82**	**317**	ePN	**P**	**05 41 13.0**	**-0.4**
NPS	**Neapolis**	**1.16**	**328**	ePN	**P**	**05 41 17.3**	**-0.8**
KARP	**Karpathos**	**1.42**	**27**	ePN	**P**	**05 41 21.9**	**+0.1**
IDI	**Anoyia**	**1.58**	**310**	P	**P**	**05 41 26.2**	**+2.3**
	4.0nm,0.3s,baz=133,slow=15,SNR=17						
VAM	**Vamos**	**2.11**	**303**	ePB	**P**	**05 41 34.0**	**+2.6**
SANT	**Santorini**	**2.22**	**341**	ePn	**P**	**05 41 32.3**	**-0.5**
ARG	**Arkhangelos**	**2.41**	**36**	ePN	**P**	**05 41 35.8**	**+0.3**
APE	**Apeiranthos**	**2.87**	**346**	ePN	**P**	**05 41 40.9**	**-1.1**
HMAT	**Matruh**	**3.23**	**169**⇑	eP	**P**	**05 41 48.2**	**+1.0**
HMAT				S	**S**	**05 42 23.9**	**-0.8**
VLI	**Veliai**	**3.71**	**312**	ePN	**P**	**05 41 53.7**	**-0.2**
VLI	**Veliai**	**3.71**	**312**	ePn	**P**	**05 41 53.1**	**-0.8**
HBRG	**Burj al ‘Arab**	**4.71**	**141**	P	**P**	**05 42 07.8**	**-0.1**
SWA1		**5.03**	**187**⇓	eP	**P**	**05 42 14.0**	**+1.5**
SWA1				S	**S**	**05 43 08.3**	**-1.7**
SWA2		**5.08**	**189**⇓	eP	**P**	**05 42 14.5**	**+1.4**
GLL	**Jalalah**	**6.52**	**135**⇑	eP	**P**	**05 42 31.8**	**-1.4**
AKASG	**Malin Array Be**	**16.54**	**6**	P	**P**	**05 44 47.9**	**+1.0**
	1.1nm,0.3s,baz=193,slow=11,SNR=6.4						
AKASG	**Malin Array Be**	**16.54**	**6**	P	**P**	**05 44 47.8**	**+0.9**
GERES	**GERESS Array B**	**17.33**	**331**	P	**P**	**05 44 55.6**	**-1.3**
	0.1nm,0.3s,baz=142,slow=11,SNR=2.8						
FINES	**FINESS Array B**	**27.18**	**360**	P	**P**	**05 46 35.8**	**-1.4**
	0.5nm,0.3s,mb3.5,baz=166,slow=11,SNR=8.1						
ARCES	**ARCESS Array B**	**35.31**	**359**	P	**P**	**05 47 46.8**	**-1.8**
	1.1nm,0.8s,mb3.8,baz=174,slow=8.2,SNR=8.0						
MKAR	**Makanchi Array**	**43.43**	**56**	P	**P**	**05 48 58.0**	**+1.8**
	1.0nm,0.7s,mb3.6,baz=281,slow=6.2,SNR=9.1						
SONM	**Songino Array**	**59.27**	**51**	P	**P**	**05 50 56.7**	**+1.5**
	0.2nm,0.3s,mb3.6,baz=281,slow=7.3,SNR=3.9						

*ATH **08** 05:44:23.9, 38.79N×23.25E, h31km±2km, MD2.9/6, ML3.1*
*NEIC **08** 05:44:23.7, 38.79N×23.19E, h34km, ML3.0(ATH), After ATH.*
*CSEM **08** 05:44:24.7±0.2, 38.81N×23.35E, h25km, ML3.0, Error ellipse: s-maj=6.1km s-min=3.0km az=87.0*
*THE **08** 05:44:27.5, 38.98N×23.43E, h10km, ML2.6*
ISC 08 05:44:24.0±0.6**, 38.79N**±0.02×**23.37E**±0.05**, h16**km±7km**, n22, σ0.80s**/33**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.32**	**244**	ePB	**Pb**	**05 44 31.2**	**+0.3**
LKR				eSB	**Sb**	**05 44 35.9**	**+0.4**
LKR	**Lokris**	**0.32**	**244**	ePb	**Pb**	**05 44 31.2**	**+0.3**
LKR				eSb	**Sb**	**05 44 35.2**	**-0.3**
NEO	**Neokhori**	**0.53**	**348**⇑	iPN	**Pn**	**05 44 35.0**	**-1.5**
NEO	**Neokhori**	**0.53**	**348**	ePn	**Pn**	**05 44 35.0**	**-1.5**
AOS	**Alonnisos**	**0.55**	**46**	ePg	**Pb**	**05 44 35.1**	**+0.3**
AOS				eSg	**Sb**	**05 44 41.1**	**-1.0**
XOR	**Xorichti**	**0.59**	**347**	ePg	**Pb**	**05 44 36.1**	**+0.6**
XOR				eSg	**Sb**	**05 44 41.9**	**-1.4**
MPAR	**Parnis Oros**	**0.70**	**156**	ePN	**Pn**	**05 44 38.5**	**-0.5**
MPAR				eSN	**Sn**	**05 44 50.0**	**+0.6**
MGER	**Gerania Oros**	**0.81**	**186**	ePN	**Pn**	**05 44 39.5**	**-1.1**
MGER				eSN	**Sn**	**05 44 52.0**	**-0.2**
MGER	**Gerania Oros**	**0.81**	**186**	ePn	**Pn**	**05 44 41.0**	**+0.4**
PTL	**Penteli**	**0.84**	**152**	ePN	**Pn**	**05 44 40.7**	**-0.3**
PTL				eSN	**Sn**	**05 44 52.5**	**-0.4**
ATH	**Athens Observa**	**0.86**	**161**	ePN	**Pn**	**05 44 41.0**	**-0.3**
ATH				eSN	**Sn**	**05 44 54.0**	**+0.5**
ATH	**Athens Observa**	**0.86**	**161**	ePb	**Pb**	**05 44 40.6**	**+0.5**
ATH				eSn	**Sn**	**05 44 53.7**	**+0.2**
NSAL	**Nisos Salamina**	**0.89**	**175**	ePN	**Pn**	**05 44 41.5**	**-0.2**
NAIG	**Nisos Aigina**	**1.04**	**175**	ePN	**Pn**	**05 44 44.0**	**+0.2**
NAIG	**Nisos Aigina**	**1.04**	**175**	ePn	**Pn**	**05 44 45.0**	**+1.2**
PAIG	**Paliouri**	**1.16**	**12**	ePg	**Pb**	**05 44 45.9**	**+0.7**
PAIG				eSg	**Sb**	**05 44 59.9**	**+0.1**
LIT	**Litokhoron**	**1.47**	**333**	ePg	**Pn**	**05 44 51.0**	**+0.9**
LIT				eSg	**Sn**	**05 45 09.8**	**+0.7**
OUR	**Ouranopolis**	**1.61**	**17**	ePg	**Pn**	**05 44 52.5**	**+0.5**
OUR	**Ouranopolis**	**1.61**	**17**	ePg	**Pn**	**05 44 52.5**	**+0.5**
VLS	**Valsamata**	**2.27**	**255**	ePn	**Pn**	**05 44 58.7**	**-2.7**
GRG	**Griva**	**2.29**	**341**	ePn	**Pn**	**05 45 02.5**	**+0.9**
GRG	**Griva**	**2.29**	**341**	ePn	**Pn**	**05 45 02.5**	**+0.8**

*IDC **08** 05:45:27.6±1.9, 3.21S×130.29E, mb4.2/3, mb1 4.2/5, mb1mx3.9/18, mbtmp4.1/5, ML3.9/2, Error ellipse: s-maj=78.3km s-min=24.6km az=76.0*
*NEIC **08** 05:45:34.1±1.2, 3.37S×130.23E, h50km, mb4.0/3, Error ellipse: s-maj=43.1km s-min=13.9km az=72.0*
ISC 08 05:45:30.4±1.1**, 3.3S**±0.1×**130.2E**±0.3**, h33**km**, n10, σ0.99s**/11**, mb4.1**/4**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.59**	**167**	eP	**P**	**05 47 47.8**	**-1.4**
	9.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.37**	**197**	eP	**P**	**05 49 06.3**	**-0.4**
	12nm,1.2s						
FITZ	**Fitzroy Crossi**	**15.37**	**197**	Pn	**P**	**05 49 06.2**	**-0.5**
	0.3nm,0.3s,baz=9.0,slow=11,SNR=6.1						
WRAB	**Tennant Creek**	**17.00**	**167**	eP	**P**	**05 49 27.8**	**+0.5**
	8.8nm,0.6s						
WRA	**Warramunga Arr**	**17.00**	**167**	P	**P**	**05 49 26.5**	**-0.9**
	0.4nm,0.3s,baz=350,slow=12,SNR=9.6						
WRA				S	**S**	**05 52 30.1**	**-3.9**
	0.2nm,0.3s,baz=351,slow=24,SNR=4.2						
WB2	**Warramunga Arr**	**17.01**	**167**	eP	**P**	**05 49 28.7**	**+1.3**
STKA	**Stephens Creek**	**30.35**	**161**	P	**P**	**05 51 42.6**	**+1.1**
	1.2nm,0.4s,mb4.0,baz=338,slow=9.2,SNR=4.7						
NWAO	**Narrogin (SRO)**	**31.88**	**201**	P	**P**	**05 51 56.1**	**+1.1**
	3.1nm,0.7s,mb4.3,baz=41,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**65.31**	**326**	P	**P**	**05 56 11.1**	**-0.3**
	1.6nm,0.8s,mb4.1,baz=129,slow=7.8,SNR=9.4						
ZRNK	**Zerenda**	**75.82**	**327**	eP	**P**	**05 57 14.5**	**-0.4**
	1.1nm,0.6s,mb4.0						

*STR **08** 06:26:58.3±1.0, 43.45N×0.53W, h2km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **08** 06:26:58.3, 43.45N×0.53W, h2km, ML2.5(LDG), ML2.4(STR), MN1.9(MDD), After STR.*
*LDG **08** 06:26:58.3±0.1, 43.40N×0.58W, h20km, Md2.4/2, Ml2.5/4, Error ellipse: s-maj=2.1km s-min=1.1km az=139.0*
*CSEM **08** 06:26:58.8±0.1, 43.42N×0.58W, h10km, ML2.7/5, Error ellipse: s-maj=1.8km s-min=1.1km az=136.0*
*MDD **08** 06:26:59.3±0.4, 43.43N×0.57W, mbLg1.8/15, Error ellipse: s-maj=3.1km s-min=2.0km az=1.0, PRXIMO*
ISC 08 06:26:57.1±0.4**, 43.48N**±0.02×**0.54W**±0.03**, h2**km±12km**, n38, σ0.96s**/54**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.39**	**227**	P	**Pg**	**06 27 05.4**	**+0.5**
ORDF				S	**Sg**	**06 27 10.7**	**+0.5**
ATE	**Arette**	**0.41**	**196**	P	**Pg**	**06 27 05.2**	**-0.2**
ATE				S	**Sg**	**06 27 10.9**	**+0.1**
REYF	**Montagne du Re**	**0.42**	**165**	Pg	**Pg**	**06 27 05.7**	**+0.1**
REYF				Sg	**Sg**	**06 27 11.9**	**+0.6**
LARF	**Larrau**	**0.55**	**216**	Pg	**Pg**	**06 27 07.9**	**-0.2**
LARF				Sg	**Sg**	**06 27 15.1**	**-0.3**
OSSF	**Osses**	**0.57**	**247**	Pg	**Pg**	**06 27 08.9**	**+0.4**
OSSF				Sg	**Sg**	**06 27 17.7**	**+1.6**
OSSF	**Osses**	**0.57**	**247**	P	**Pg**	**06 27 08.9**	**+0.4**
OSSF				S	**Sg**	**06 27 17.0**	**+0.9**
ETSF	**Etsaut**	**0.58**	**181**	ePg	**Pg**	**06 27 08.2**	**-0.5**
ETSF				eSg	**Sg**	**06 27 15.8**	**-0.7**
	27nm,0.3s						
SJPF	**Ste Jean**	**0.62**	**234**	ePg	**Pg**	**06 27 09.1**	**-0.4**
SJPF				eSg	**Sg**	**06 27 16.5**	**-1.2**
	28nm,0.3s						
LABF	**Labassere**	**0.62**	**134**	P	**Pg**	**06 27 10.5**	**+0.9**
LABF				S	**Sg**	**06 27 20.4**	**+2.5**
FDAF	**Les Forges d’A**	**0.66**	**182**	P	**Pg**	**06 27 09.8**	**-0.5**
FDAF				S	**Sg**	**06 27 18.6**	**-0.5**
VIEF	**Viey**	**0.73**	**145**	P	**Pg**	**06 27 12.0**	**+0.4**
VIEF				S	**Sg**	**06 27 21.6**	**+0.4**
EALK	**Alkurruntz**	**0.75**	**250**	Pg	**Pg**	**06 27 12.2**	**+0.1**
	12nm,0.3s,SNR=20						
EALK				Lg		06 27 23.4	
	48nm,0.4s,SNR=18						
EPF	**Esparros**	**0.79**	**125**	ePg	**Pg**	**06 27 14.1**	**+1.3**
EPF				eSg	**Sg**	**06 27 24.1**	**+0.8**
	30nm,0.2s						
IPRE	**Itoiz**	**0.90**	**222**	Pg	**Pg**	**06 27 17.3**	**+2.2**
	1.8nm,0.1s,SNR=4.0						
IPRE				Lg		06 27 28.2	
	21nm,0.3s,SNR=7.9						
IPRE	**Itoiz**	**0.90**	**222**	Pg	**Pg**	**06 27 17.3**	**+2.2**
	1.8nm,0.1s,SNR=4.0						
RESF	**Ens**	**0.93**	**136**	S	**Sb**	**06 27 28.8**	**+0.6**
EBIE	**Bielsa**	**0.94**	**147**	Pg	**Pg**	**06 27 15.7**	**-0.1**
EBIE				Lg		06 27 28.2	
EBIE	**Bielsa**	**0.94**	**147**	Pg	**Pg**	**06 27 15.8**	**0.0**
	2.2nm,0.2s,SNR=9.5						
EBIE				Lg		06 27 28.2	
	7.1nm,0.2s,SNR=8.5						
EBIE	**Bielsa**	**0.94**	**147**	Pg	**Pg**	**06 27 15.7**	**-0.2**
	2.2nm,0.2s,SNR=9.5						
EGRA	**Graus**	**1.43**	**154**	Pg	**Pg**	**06 27 26.9**	**+1.2**
EGRA				Lg		06 27 47.1	
EGRA	**Graus**	**1.43**	**154**	Pg	**Pg**	**06 27 26.0**	**+0.3**
	1.6nm,0.2s,SNR=4.0						
EGRA				Lg		06 27 47.3	
	4.2nm,0.3s,SNR=4.0						
EGRA	**Graus**	**1.43**	**154**	Pg	**Pg**	**06 27 26.9**	**+1.2**
	1.6nm,0.2s,SNR=5.1						
ECRI	**Cripan**	**1.69**	**240**	Pg	**Pg**	**06 27 30.7**	**-0.1**
ECRI				Lg		06 27 52.1	
ECRI	**Cripan**	**1.69**	**240**	Pg	**Pg**	**06 27 30.7**	**-0.1**
	2.1nm,0.2s,SNR=4.0						
ECRI				Lg		06 27 52.1	
	3.7nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**1.73**	**32**	ePg	**Pg**	**06 27 32.1**	**+0.5**
LFF				eSg	**Sg**	**06 27 55.7**	**+1.1**
	11nm,0.3s						
ESAC	**San Caprasio**	**1.76**	**178**	Pg	**Pg**	**06 27 30.9**	**-1.3**
	9.0nm,0.2s,SNR=8.5						
ESAC				Lg		06 27 54.7	
	37nm,0.3s,SNR=5.3						
ESAC	**San Caprasio**	**1.76**	**178**	Pg	**Pg**	**06 27 30.9**	**-1.3**
	9.0nm,0.2s,SNR=8.5						
MTLF	**Montolieu**	**2.02**	**93**	ePg	**Pg**	**06 27 36.2**	**-1.2**
MTLF				eSn	**Sn**	**06 27 52.6**	**-6.0**
MTLF				eSg	**Sg**	**06 28 03.3**	**-0.9**
	12nm,0.4s						
MTLF	**Montolieu**	**2.02**	**93**	Pg	**Pg**	**06 27 36.2**	**-1.2**
MTLF				Lg		06 28 03.3	
	5.8nm,0.4s						
ELAN	**Lanestosa**	**2.12**	**264**	Lg		06 28 06.7	
	2.7nm,0.3s,SNR=4.0						
EMIR	**Miracle**	**2.19**	**135**	Pg	**Pg**	**06 27 39.4**	**-1.3**
	4.0nm,0.2s,SNR=4.0						
EMIR				Lg		06 28 09.2	
	3.2nm,0.2s,SNR=4.0						
EMIR	**Miracle**	**2.19**	**135**	Pg	**Pg**	**06 27 39.4**	**-1.3**
	4.0nm,0.2s,SNR=4.0						
RJF	**Les Rejaudoux**	**2.35**	**38**	ePg	**Pg**	**06 27 43.4**	**-0.6**
RJF				eSg	**Sg**	**06 28 14.9**	**-0.3**
	3.8nm,0.2s						
CAF	**Calviac**	**2.37**	**51**	ePg	**Pg**	**06 27 43.6**	**-0.8**
CAF				eSg	**Sg**	**06 28 15.9**	**0.0**
	6.0nm,0.3s						
EPOB	**Poblet**	**2.44**	**150**	Pg	**Pg**	**06 27 43.0**	**-2.8**
	0.6nm,0.1s,SNR=7.9						
EPOB				Lg		06 28 15.2	
	0.5nm,0.1s,SNR=4.0						
EPOB	**Poblet**	**2.44**	**150**	Pg	**Pg**	**06 27 43.0**	**-2.9**
	SNR=7.9						
ERTA	**Horta de San J**	**2.60**	**165**	Pg	**Pg**	**06 27 46.6**	**-2.5**
	0.6nm,0.1s,SNR=7.9						
ERTA				Lg		06 28 20.7	
	2.3nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.60**	**165**	Pg	**Pg**	**06 27 46.6**	**-2.5**
	0.6nm,0.1s,SNR=7.9						

*IDC **08** 06:42:32.6±1.1, 7.70S×127.48E, mb4.2/6, mb1 4.4/8, mb1mx4.2/17, mbtmp4.3/8, ML4.6/2, MS2.7/1, Ms1 2.7/1, ms1mx2.5/21, Error ellipse: s-maj=41.6km s-min=18.2km az=62.0*
*NEIC **08** 06:42:40.1±1.9, 7.80S×127.43E, h55km±18km, mb4.4/1, Error ellipse: s-maj=17.4km s-min=13.9km az=209.0*
ISC 08 06:42:39.2±1.7**, 8.2S**±0.2×**127.5E**±0.1**, h33**km**, n14, σ1.38s**/20**, mb4.0**/6**, 1D, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.59**	**133**	eP	**P**	**06 44 19.1**	**+2.9**
	7.8nm,0.1s						
KAKA				eS	**S**	**06 45 31.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**10.03**	**190**	eP	**P**	**06 45 05.8**	**+1.6**
	15nm,0.4s						
FITZ				eS	**S**	**06 46 53.6**	**-3.1**
FITZ	**Fitzroy Crossi**	**10.03**	**190**	Pn	**P**	**06 45 05.9**	**+1.8**
	6.2nm,0.3s,baz=15,slow=8.5,SNR=44						
FITZ				Sn	**S**	**06 46 52.8**	**-3.9**
	14nm,0.3s,baz=184,slow=19,SNR=8.7						
FITZ				LR	LR	06 49 18.5	
	comp=Z,46nm,21.3s,baz=87,slow=39						
WRAB	**Tennant Creek**	**13.41**	**151**	ePn	**P**	**06 45 49.0**	**-0.7**
	17nm,0.8s						
WRAB				eSn	**S**	**06 48 11.2**	**-7.4**
WRA	**Warramunga Arr**	**13.42**	**151**	Pn	**P**	**06 45 49.1**	**-0.7**
	2.1nm,0.3s,baz=328,slow=13,SNR=42						
WRA				Sn	**S**	**06 48 10.9**	**-7.7**
	4.9nm,0.3s,baz=336,slow=22,SNR=16						
WB2	**Warramunga Arr**	**13.42**	**151**	eP	**P**	**06 45 48.8**	**-1.0**
WB2				eS	**S**	**06 48 11.9**	**-6.9**
MBWA	**Marble Bar**	**14.95**	**209**	ePn	**P**	**06 46 12.1**	**+2.3**
MBWA				eP		06 46 16.8	
CTA	**Charters Tower**	**21.63**	**125**	P	**P**	**06 47 29.6**	**+1.0**
	4.0nm,0.7s,mb3.9,baz=297,slow=15,SNR=4.1						
NWAO	**Narrogin (SRO)**	**26.41**	**200**	P	**P**	**06 48 14.9**	**+0.1**
	8.0nm,0.6s,mb4.5,baz=32,slow=7.1,SNR=11						
STKA	**Stephens Creek**	**26.96**	**153**⇓	iP	**P**	**06 48 19.8**	**-0.1**
	4.1nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**26.96**	**153**	P	**P**	**06 48 20.0**	**+0.1**
	5.2nm,0.4s,mb4.4,baz=320,slow=8.7,SNR=26						
CMAR	**Chiang Mai Arr**	**38.69**	**313**	P	**P**	**06 49 56.8**	**-5.1**
	1.0nm,0.4s,mb3.9,baz=139,slow=8.5,SNR=4.7						
MKAR	**Makanchi Array**	**67.91**	**328**	P	**P**	**06 53 29.6**	**-7.1**
	0.5nm,0.5s,mb3.8,baz=125,slow=7.7,SNR=11						
VNDA	**Vanda**	**71.59**	**173**	P	**P**	**06 53 57.5**	**-1.2**
	0.5nm,0.4s,mb3.8,baz=314,slow=6.6,SNR=6.3						

*STR **08** 06:42:53.3±0.4, 43.45N×0.55W, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **08** 06:42:53.3, 43.45N×0.55W, h5km, ML2.8(LDG), ML2.5(STR), MN2.1(MDD), After STR.*
*LDG **08** 06:42:53.8±0.1, 43.38N×0.60W, h19km, Md2.5/2, Ml2.8/9, Error ellipse: s-maj=3.2km s-min=2.0km az=143.0*
*MDD **08** 06:42:54.4±0.4, 43.42N×0.58W, mbLg2.1/18, Error ellipse: s-maj=3.2km s-min=2.1km az=1.0, PRXIMO*
*CSEM **08** 06:42:54.1±0.2, 43.41N×0.59W, h1km, ML2.9/10, Error ellipse: s-maj=3.0km s-min=1.5km az=16.0*
ISC 08 06:42:52.1±0.3**, 43.47N**±0.02×**0.53W**±0.03**, h11**km±4km**, n50, σ1.26s**/75**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.39**	**230**	Pg	**Pg**	**06 42 59.9**	**-0.3**
ORDF				Sg	**Sg**	**06 43 05.9**	**+0.3**
ATE	**Arette**	**0.40**	**198**	P	**Pg**	**06 43 00.2**	**-0.2**
ATE				S	**Sg**	**06 43 05.8**	**-0.1**
REYF	**Montagne du Re**	**0.41**	**166**	Pg	**Pg**	**06 43 00.7**	**+0.2**
REYF				Sg	**Sg**	**06 43 06.7**	**+0.6**
LARF	**Larrau**	**0.55**	**218**	Pg	**Pg**	**06 43 02.9**	**-0.3**
LARF				Sg	**Sg**	**06 43 10.2**	**-0.4**
ETSF	**Etsaut**	**0.57**	**182**	ePg	**Pg**	**06 43 02.8**	**-0.8**
ETSF				eSg	**Sg**	**06 43 11.0**	**-0.3**
	44nm,0.3s						
OSSF	**Osses**	**0.58**	**249**	Pg	**Pg**	**06 43 03.7**	**-0.1**
OSSF				Sg	**Sg**	**06 43 12.6**	**+1.0**
LABF	**Labassere**	**0.61**	**134**	P	**Pg**	**06 43 06.0**	**+1.7**
LABF				S	**Sg**	**06 43 14.8**	**+2.2**
SJPF	**Ste Jean**	**0.62**	**235**	ePg	**Pg**	**06 43 04.0**	**-0.6**
SJPF				eSn	**Sn**	**06 43 11.8**	**-4.6**
	38nm,0.2s						
FDAF	**Les Forges d’A**	**0.65**	**183**	P	**Pb**	**06 43 04.6**	**-0.3**
VIEF	**Viey**	**0.71**	**145**	Pg	**Pg**	**06 43 06.7**	**+0.3**
VIEF				Sg	**Sg**	**06 43 16.9**	**+1.0**
EALK	**Alkurruntz**	**0.76**	**251**	Pg	**Pg**	**06 43 07.0**	**-0.4**
EALK				Lg		06 43 17.4	
EALK	**Alkurruntz**	**0.76**	**251**	Pg	**Pg**	**06 43 07.1**	**-0.2**
	34nm,0.4s,SNR=31						
EALK				Lg		06 43 17.4	
	60nm,0.4s,SNR=9.3						
EALK	**Alkurruntz**	**0.76**	**251**	Pg	**Pg**	**06 43 07.0**	**-0.3**
	34nm,0.4s,SNR=31						
EPF	**Esparros**	**0.77**	**124**	ePg	**Pg**	**06 43 09.1**	**+1.5**
EPF				eSg	**Sg**	**06 43 19.0**	**+1.1**
	50nm,0.2s						
IPRE	**Itoiz**	**0.90**	**223**	Pg	**Pg**	**06 43 11.6**	**+1.4**
	3.2nm,0.1s,SNR=7.9						
IPRE				Lg		06 43 22.0	
	44nm,0.4s,SNR=7.9						
IPRE	**Itoiz**	**0.90**	**223**	Pg	**Pg**	**06 43 11.6**	**+1.5**
	3.2nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.92**	**148**	Pg	**Pg**	**06 43 10.4**	**-0.2**
	2.4nm,0.1s,SNR=14						
EBIE				Lg		06 43 23.1	
	12nm,0.2s,SNR=12						
EBIE	**Bielsa**	**0.92**	**148**	Pg	**Pg**	**06 43 10.4**	**-0.2**
	2.4nm,0.1s,SNR=14						
EARA	**Aranguren**	**1.04**	**228**	Pg	**Pg**	**06 43 13.7**	**+0.8**
	9.4nm,0.3s,SNR=4.0						
EARA				Lg		06 43 25.9	
	178nm,0.3s,SNR=7.9						
EARA	**Aranguren**	**1.04**	**228**	Pg	**Pg**	**06 43 13.6**	**+0.7**
	9.4nm,0.3s,SNR=4.0						
MELF	**Melles**	**1.11**	**122**	Pg	**Pg**	**06 43 14.6**	**+0.2**
EGRA	**Graus**	**1.42**	**154**	Pg	**Pg**	**06 43 20.3**	**-0.1**
	3.0nm,0.2s,SNR=8.0						
EGRA				Lg		06 43 40.1	
	11nm,0.4s,SNR=5.0						
SALF	**Salau**	**1.44**	**119**	P	**Pn**	**06 43 21.7**	**+3.5**
SALF				S	**Sb**	**06 43 42.8**	**+6.1**
ECRI	**Cripan**	**1.69**	**240**	Pg	**Pg**	**06 43 24.7**	**-1.1**
ECRI				Lg		06 43 47.3	
ECRI	**Cripan**	**1.69**	**240**	Pg	**Pg**	**06 43 24.8**	**-1.0**
	3.7nm,0.2s,SNR=7.9						
ECRI				Lg		06 43 47.3	
	7.5nm,0.3s,SNR=7.9						
ECRI	**Cripan**	**1.69**	**240**	Pg	**Pg**	**06 43 24.7**	**-1.1**
	3.7nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**1.73**	**31**	ePg	**Pg**	**06 43 27.8**	**+1.1**
LFF				eSg	**Sg**	**06 43 51.6**	**+1.8**
	23nm,0.3s						
ESAC	**San Caprasio**	**1.75**	**179**	Pg	**Pg**	**06 43 25.8**	**-1.1**
	24nm,0.2s,SNR=14						
ESAC				Lg		06 43 48.3	
	51nm,0.2s,SNR=55						
ESAC	**San Caprasio**	**1.75**	**179**	Pg	**Pg**	**06 43 25.8**	**-1.2**
	24nm,0.2s,SNR=14						
MTLF	**Montolieu**	**2.00**	**93**	eP	**Pn**	**06 43 28.5**	**+2.2**
MTLF				ePg	**Pg**	**06 43 31.8**	**-0.3**
MTLF				eSn	**Sn**	**06 43 47.7**	**-3.8**
MTLF				eSg	**Sg**	**06 43 58.2**	**-0.7**
	17nm,0.4s						
ELAN	**Lanestosa**	**2.13**	**265**	Pg	**Pg**	**06 43 32.4**	**-2.3**
	0.4nm,0.1s,SNR=7.9						
ELAN				Lg		06 44 00.9	
	6.1nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**2.13**	**265**	Pg	**Pg**	**06 43 32.4**	**-2.3**
	0.4nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.17**	**135**	Pg	**Pg**	**06 43 34.0**	**-1.4**
	2.7nm,0.1s,SNR=7.1						
EMIR				Lg		06 44 03.8	
	7.1nm,0.2s,SNR=5.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EMIR	Miracle	2.17	135	Pg	Pg	06 43 34.0	-1.4
	2.7nm,0.1s,SNR=7.1						
RJF	Les Rejaudoux	2.35	38	ePg	Pg	06 43 40.9	+1.9
RJF				eSg	Sg	06 44 10.5	+0.2
	8.6nm,0.2s						
CAF	Calviac	2.37	51	eSg	Sg	06 44 11.5	+0.6
	7.3nm,0.2s						
EPOB	Poblet	2.43	150	Pg	Pg	06 43 38.9	-1.7
EPOB				Lg		06 44 09.5	
EPOB	Poblet	2.43	150	Pg	Pg	06 43 38.9	-1.7
	2.1nm,0.2s,SNR=7.9						
EPOB				Lg		06 44 10.7	
	1.4nm,0.1s,SNR=7.9						
EPOB	Poblet	2.43	150	Pg	Pg	06 43 38.9	-1.6
	2.1nm,0.2s,SNR=7.9						
ERTA	Horta de San J	2.59	165	Pg	Pg	06 43 41.0	-2.8
	1.4nm,0.1s,SNR=5.7						
ERTA				Lg		06 44 15.6	
	5.1nm,0.2s,SNR=7.9						
ERTA	Horta de San J	2.59	165	Pg	Pg	06 43 41.0	-2.8
	1.4nm,0.1s,SNR=5.7						
EMOS	Mosqueruela	3.10	179	Pn	Pn	06 43 43.8	+1.9
EMOS				Sn	Sn	06 44 19.2	-0.2
EMOS				Lg		06 44 30.1	
EMOS	Mosqueruela	3.10	179	Pn	Pn	06 43 43.8	+1.9
	0.6nm,0.1s,SNR=4.0						
EMOS				Sn	Sn	06 44 19.2	-0.2
	2.5nm,0.2s,SNR=4.0						
EMOS				Lg		06 44 30.6	
	1.1nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	3.10	179	Pn	Pn	06 43 43.8	+1.9
	0.6nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	06 44 19.2	-0.2
	2.5nm,0.2s,SNR=7.9						
LASF	Ste Croix	3.23	78	ePn	Pn	06 43 43.1	-0.7
LASF				ePg	Pg	06 43 54.7	-1.9
LASF				eSn	Sn	06 44 20.6	-2.1
LASF				eSg	Sg	06 44 37.1	-2.6
	7.2nm,0.4s						
EARI	Arriondas	3.42	269	Pn	Pn	06 43 48.2	+1.8
	0.2nm,0.1s,SNR=4.0						
EARI				Sn	Sn	06 44 26.6	-0.7
	0.5nm,0.3s,SNR=7.9						
EARI	Arriondas	3.42	269	Pn	Pn	06 43 48.2	+1.8
	0.2nm,0.1s,SNR=4.0						
EARI				Sn	Sn	06 44 26.6	-0.8
TCF	Toulx Ste Croi	3.42	34	eSn	Sn	06 44 28.1	+0.6
	4.0nm,0.3s						
BGF	Bois d'Agland	3.91	37	eSg	Sg	06 44 58.5	-3.7
	18nm,0.4s						
VIVF	Saint-Julien-l	3.99	68	ePg	Pg	06 44 09.4	-2.3
VIVF				eSg	Sg	06 45 01.8	-3.1
	4.5nm,0.5s						

*NEIC **08** 07:02:07.1±0.4, 31.52S×66.82W, h123^{km}±5^{km}, mb4.2/2, Error ellipse: s-maj=7.0km s-min=5.3km az=106.0*
*GUC **08** 07:02:07.7±0.8, 31.49S×67.01W, h142^{km}±76^{km}, ML4.9*
*IDC **08** 07:02:07.4±1.1, 31.50S×66.86W, h124^{km}±11^{km}, mb3.7/5, mb1 3.8/9, mb1mx3.6/18, mbtmp4.1/9, Error ellipse: s-maj=23.8km s-min=16.7km az=124.0*
ISC 08 07:02:06.5±0.6**, 31.49S**±0.04×**66.90W**±0.06**, h132**^{km}±7^{km}**, n44,** σ**0**^{s}**79**/57**, mb3.8**/7**, 9C-4D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	1.15	264	P	P	07 02 32.1	+0.8
	40nm,0.3s,baz=81,slow=9.3,SNR=6722						
CFAA				S	S	07 02 50.1	0.0
	35nm,0.3s,baz=264,slow=20,SNR=36						
CFAA	Coronel Fontan	1.15	264	P	P	07 02 32.1	+0.8
CFAA				S	S	07 02 50.1	0.0
ZON	Zonda	1.52	268	⇓iP	P	07 02 35.0	-0.4
ZON				eS	S	07 02 57.0	-0.4
JACH	Jahuel	3.35	248	eP	P	07 02 59.1	+0.4
JACH				i S	S	07 03 38.0	-0.5
JACH	Jahuel	3.35	248	⇑iP	P	07 02 59.4	+0.7
JACH				i S	S	07 03 33.6	-4.8
FCH	Farellones	3.40	237	⇓iP	P	07 03 00.2	+0.9
FCH				i S	S	07 03 40.9	+1.2
CMCH	Combarbala	3.52	274	⇓iP	P	07 03 01.8	+0.8
CMCH				i S	S	07 03 42.0	-0.6
CMCH				AMP		07 03 46.4	
	comp=E,3μm,0.9s						
CMCH	Combarbala	3.52	274	⇓iP	P	07 03 01.8	+0.8
TLL	Tololo Astrono	3.61	290	eP	P	07 03 03.8	+1.7
TLL				i S	S	07 03 44.3	-0.3
TLL				AMP		07 03 48.8	
	comp=N,832nm,0.6s						
TLL	Tololo Astrono	3.61	290	⇑iP	P	07 03 04.0	+1.8
CLCH	Cerro Calan	3.61	237	i P	P	07 03 02.5	+0.3
CLCH				i S	S	07 03 44.0	-0.7
CLCH				AMP		07 03 47.3	
	comp=N,1μm,0.5s						
DSCH	Colegio Aleman	3.64	238	i P	P	07 03 02.6	+0.1
DSCH				i S	S	07 03 44.5	-0.7
DSCH				AMP		07 03 50.4	
	comp=E,1μm,0.5s						
LMEL	Las Melosas	3.64	229	eP	P	07 03 03.0	+0.4
LMEL				i S	S	07 03 45.4	0.0
PCH	Pirque	3.72	234	eP	P	07 03 03.9	+0.4
PCH	Pirque	3.72	234	⇑iP	P	07 03 04.1	+0.6
ROCH	El Roble	3.78	246	⇑iP	P	07 03 04.2	-0.2
RCDM	Rinconada Maip	3.85	238	⇑iP	P	07 03 05.0	-0.4
RCDM				i S	S	07 03 49.8	-0.6
CHCH	Chadas Angostu	3.99	231	eP	P	07 03 07.2	0.0
CHCH	Chadas Angostu	3.99	231	i P	P	07 03 07.3	+0.1
PACH	Papudo	3.99	254	⇑iP	P	07 03 06.2	-1.0
SCR	San Cristobal	4.00	239	eP	P	07 03 03.2	-4.1
SCR				i S	S	07 03 45.8	-8.1
TACH	Talagante	4.03	237	⇑iP	P	07 03 07.2	-0.5
CICH	Cipreses	4.09	225	eP	P	07 03 09.3	+0.8
LCO	Las Campanas	4.11	306	⇑iP	P	07 03 10.0	+1.1
LCO				i S	S	07 03 56.2	-0.4
LCO				AMP		07 04 02.8	
	comp=E,458nm,0.2s						
LCO	Las Campanas	4.11	306	⇑iP	P	07 03 10.5	+1.6
LCO				i S	S	07 03 56.1	-0.6
VACH	Vallenar	4.43	310	i S	S	07 04 03.1	-1.2
TRQA	Tornquist	7.70	150	ePn	P	07 03 55.6	-1.5
	comp=E,24nm,0.7s						
LVC	Limon Verde	9.02	348	P	P	07 04 15.4	+0.6
	comp=E,3.4nm,0.3s,baz=186,slow=9.7,SNR=32						
LVC				S	S	07 05 50.1	-5.0
	comp=E,0.7nm,0.3s,baz=311,slow=19,SNR=2.5						
LVC	Limon Verde	9.02	348	ePn	P	07 04 15.3	+0.5
LVC				S	S	07 05 50.1	-5.0
CPUP	Villa Florida	9.84	61	P	P	07 04 24.1	-1.6
	comp=E,0.3nm,0.3s,baz=233,slow=15,SNR=8.1						
LPAZ	La Paz	15.18	355	P	P	07 05 36.7	+1.6
	comp=E,1.1nm,0.3s,baz=158,slow=11,SNR=14						
LPAZ	La Paz	15.18	355	ePn	P	07 05 36.6	+1.5
LPAZ				eP		07 05 38.4	
SIV	San Ignacio	16.32	20	P	P	07 05 48.8	-0.5
	comp=E,0.6nm,0.3s,baz=214,slow=12,SNR=13						
NNA	Nana	21.47	333	eP	P	07 06 45.4	-0.3
	comp=E,21nm,1.2s,mb4.3						
USHA	Ushuaia	23.35	182	P	P	07 07 04.3	+0.7
	comp=E,6.7nm,0.7s,mb4.2,baz=344,slow=5.0,SNR=9.1						
BDFB	Brasilia	23.36	52	P	P	07 07 04.6	+0.5
	comp=E,0.9nm,0.4s,mb3.6,baz=194,slow=7.7,SNR=4.5						
TXAR	Lajitas Array	69.87	326	P	P	07 13 04.4	-0.7
	comp=E,0.1nm,0.4s,mb2.9,baz=152,slow=8.3,SNR=4.6						
WVT	Waverly	70.07	342	eP	P	07 13 05.5	-0.7
	comp=E,1.2nm,0.6s,mb3.8						
DBIC	Dimbokro	70.26	69	P	P	07 13 07.8	+0.1
	comp=E,4.4nm,0.9s,mb4.2,baz=198,slow=7.9,SNR=4.1						
BOSA	Boshof	77.33	116	P	P	07 13 48.6	+0.2
	comp=E,1.2nm,0.4s,mb3.9,baz=243,slow=5.8,SNR=5.3						
WRA	Warramunga Arr	124.95	205	PKP	PKPdf	07 20 52.6	+1.0
	comp=E,0.2nm,0.3s,baz=163,slow=1.8,SNR=11						
ZAL	Zalesovo	149.76	34	PKPbc	PKPdf	07 21 42.9	+7.7
	comp=E,2.8nm,0.4s,baz=89,slow=18,SNR=5.9						
ZAL	Zalesovo	149.76	34	PKPbc	PKPdf	07 21 42.9	+7.7
MKAR	Makanchi Array	151.86	48	PKPbc	PKPdf	07 21 47.5	+8.9
	comp=E,1.7nm,0.6s,baz=287,slow=1.8,SNR=25						
MKAR				PKPab	PKPab	07 21 56.6	-0.6
	comp=E,1.0nm,0.8s,baz=270,slow=2.4,SNR=6.1						

JMA 08 07:06:24.9±0.3**, 33.05N**×**139.20E, h251**^{km}**, M3.5, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKO	Kozu shima	1.14	357	P	P	07 07 00.5	-0.6
JIM2	Oshima 3	1.67	7	P	P	07 07 05.2	+0.2
JIZS	Izushimoda	1.69	351	P	P	07 07 04.8	-0.3
BSO1	Boso 1	2.18	42	P	P	07 07 09.1	-0.3
BSO1				eS	S	07 07 44.4	+0.4
JOD2	Odawara 2	2.21	358	P	P	07 07 10.2	+0.5
JOD2				eS	S	07 07 45.4	+0.9
JRY	Ryogami san	2.97	355	P	P	07 07 18.7	+1.2
JRY				S	S	07 07 57.3	-1.1
JAG	Ashikaga	3.37	3	P	P	07 07 21.8	-0.2
JAG				S	S	07 08 03.6	-2.8

*NEIC **08** 07:26:15.8±0.4, 60.54S×34.30W, h10^{km}, mb4.7/7, Error ellipse: s-maj=20.0km s-min=7.3km az=57.0*
*IDC **08** 07:26:16.8±0.7, 60.85S×36.10W, mb4.1/6, mb1 4.2/6, mb1mx4.1/14, mbtmp4.1/6, MS3.7/8, Ms1 3.6/8, ms1mx3.6/14, Error ellipse: s-maj=34.2km s-min=19.1km az=50.0*
*BJI **08** 07:26:18.8, 60.50S×34.30W, h10^{km}, mB5.5*
ISC 08 07:26:14.5±0.6**, 60.5S**±0.1×**34.4W**±0.3**, h10**^{km}**, (h30**^{km}±1.0^{km}**:pP-P), n41,** σ**1**^{s}**03**/26**, mb4.4**/10**, MS3.6**/6**, 4C, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	14.59	147	e	P	07 29 43.8	+1.3
VNA3	Neumayer Olymp	14.59	147	⇑iP	P	07 29 41.0	-1.5
VNA3				e		07 30 08.4	
VNA3				e		07 30 41.9	
VNA3				e		07 32 14.1	
VNA3				e		07 32 18.0	
VNA3				e		07 32 38.1	
VNA1	Neumayer--Stat	14.66	145	e	P	07 29 44.7	+1.3
VNA1	Neumayer--Stat	14.66	145	⇑iP	P	07 29 42.3	-1.1
VNA1				e		07 30 10.1	
VNA1				e		07 32 18.9	
VNA1				e		07 32 22.2	
VNA1				e		07 32 40.3	
VNA2	Neumayer--Watz	15.05	145	e	P	07 29 49.6	+1.1
VNA2	Neumayer--Watz	15.05	145	e	P	07 30 07.5	+19
VNA2	Neumayer--Watz	15.05	145	⇑iP	P	07 29 47.4	-1.1
VNA2				e		07 30 07.5	
VNA2				e		07 30 40.4	
VNA2				e		07 32 24.6	
VNA2				e		07 32 28.1	
VNA2				e		07 32 45.6	
SNAA	Sanae	16.70	145	⇑i	P	07 30 10.2	+0.5
SNAA	Sanae	16.70	145	e	P	07 30 20.7	+11
SNAA	Sanae	16.70	145	Pn	P	07 30 10.1	+0.4
	0.5nm,0.3s,baz=316,slow=12,SNR=34						
SNAA				Sn	S	07 33 07.3	-7.1
	0.2nm,0.3s,baz=278,slow=20,SNR=9.3						
SNAA				LR	LR	07 35 20.5	
	comp=Z,111nm,19.9s,baz=227,slow=32						
SNAA	Sanae	16.70	145	ePn	P	07 30 09.8	+0.1
USHA	Ushuaia	18.90	272	LR	LR	07 35 46.6	
	comp=Z,902nm,21.4s,baz=94,slow=32						
QSPA	South Pole Qui	29.70	180	eP	P	07 32 22.0	-0.1
	13nm,0.8s,mb4.7						
CFAA	Coronel Fontan	36.51	307	P	P	07 33 19.5	-2.1
	0.4nm,0.7s,mb3.4,baz=182,slow=7.5,SNR=9.8						
CFAA				LR	LR	07 48 11.7	
	comp=Z,14nm,20.4s,MS2.7,baz=176,slow=36						
CFAA	Coronel Fontan	36.51	307	P	P	07 33 19.5	-2.1
CFAA				LR	LR	07 48 11.7	
CPUP	Villa Florida	37.61	325	P	P	07 33 32.4	+1.4
	5.3nm,0.9s,mb4.3,baz=146,slow=11,SNR=9.1						
CPUP	Villa Florida	37.61	325	eP	P	07 33 32.1	+1.1
	15nm,1.2s,mb4.6						
MAW	Mawson	38.84	143	P	P	07 33 44.9	+4.0
	3.8nm,0.9s,mb4.1,baz=249,slow=8.7,SNR=4.7						
MAW				LR	LR	07 47 47.3	
	comp=Z,87nm,21.9s,MS3.5,baz=114,slow=33						
SBA	Scott Base	41.25	187	eP	P	07 34 00.7	0.0
	12nm,1.3s,mb4.4						
SBA				epP	pP	07 34 08.9	+5.3
VNDA	Vanda	41.83	185	P	P	07 34 04.9	-0.2
	3.6nm,1.0s,mb4.0,baz=201,slow=7.5,SNR=12						
VNDA	Vanda	41.83	185	eP	P	07 34 05.2	+0.1
	6.1nm,1.2s,mb4.1						
VNDA				epP	pP	07 34 14.2	+6.1
SUR	Sutherland	45.43	77	P	P	07 34 44.5	+10
	5.2nm,0.8s,mb4.4,baz=160,slow=12,SNR=2.9						
BDFB	Brasilia	45.90	342	LR	LR	07 50 17.8	
	comp=Z,92nm,19.9s,MS3.7,baz=11,slow=31						
LPAZ	La Paz	50.41	316	P	P	07 35 14.6	+0.6
	1.9nm,1.1s,mb4.0,baz=177,slow=10,SNR=4.3						
LPAZ				LR	LR	07 55 22.6	
	comp=Z,94nm,21.1s,MS3.8,baz=18,slow=35						
LPAZ	La Paz	50.41	316	eP	P	07 35 14.7	+0.7
	13nm,1.7s,mb4.7						
BOSA	Boshof	50.69	79	LR	LR	07 53 03.2	
	comp=Z,85nm,20.9s,MS3.7,baz=216,slow=31						
SAML	Samuel	55.77	325	eP	P	07 35 53.9	+0.1
	14nm,1.1s,mb4.9						
SAML				epP	pP	07 36 03.6	+6.7
LSZ	Lusaka	63.44	73	P	P	07 36 45.8	-0.8
	9.7nm,1.0s,mb4.9						
KMBO	Kilima Mbogo	80.07	74	LR	LR	08 10 04.4	
	comp=Z,101nm,18.4s,MS4.2,baz=79,slow=32						
CMAR	Chiang Mai Arr	126.57	121	PKP	PKPdf	07 45 21.9	+1.0
	1.4nm,0.8s,baz=258,slow=2.1,SNR=5.0						
YKA	Yellowknife Ar	136.95	318	PKP	PKPdf	07 45 36.6	-2.5
	1.0nm,0.7s,baz=134,slow=2.2,SNR=3.7						
MKAR	Makanchi Array	141.65	82	PKhKP		07 45 44.7	
	1.3nm,0.8s,baz=247,slow=3.3,SNR=12						
MKAR	Makanchi Array	141.65	82	PKP	PKPdf	07 45 44.7	-3.4
LZH	Lanzhou	143.96	114	ePKP	PKPdf	07 45 52.5	+0.2
LZH				APKP		07 46 03.0	
XAN	Xi'an	144.45	121	PKP	PKPdf	07 45 53.9	+0.6
XAN				APKP		07 46 02.6	
GTA	Gaotai	144.77	106	ePKP	PKPdf	07 45 56.3	+2.6
INK	Inuvik	146.72	318	PKPbc	PKPbc	07 45 56.2	+1.7
	8.6nm,1.0s,baz=129,slow=3.1,SNR=20						
INK	Inuvik	146.72	318	ePKPbc	PKPbc	07 45 56.0	+1.4
ZAL	Zalesovo	147.53	74	PKPbc	PKPdf	07 46 03.1	+5.3
	2.4nm,0.3s,baz=200,slow=1.7,SNR=12						
ILAR	Eielson Array	150.03	308	PKPbc	PKPdf	07 46 05.2	+3.6
	7.2nm,1.1s,baz=150,slow=2.2,SNR=36						
ULN	Ulaanbaatar	154.56	102	ePKPab	PKPab	07 46 30.2	-0.8

*STR **08** 07:48:42.2±0.3, 43.45N×0.56W, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **08** 07:48:42.2, 43.45N×0.56W, h5^{km}, ML3.0(LDG), ML2.6(STR), MN2.3(MDD), After STR.*
*LDG **08** 07:48:42.8±0.1, 43.40N×0.58W, h10^{km}, Md2.8/2, Ml3.0/10, Error ellipse: s-maj=2.2km s-min=1.5km az=128.0*
*MDD **08** 07:48:43.3±0.3, 43.42N×0.57W, h3^{km}±6^{km}, mbLg2.3/23, Error ellipse: s-maj=2.8km s-min=1.9km az=180.0, PRXIMO*
*CSEM **08** 07:48:43.2±0.1, 43.43N×0.59W, h8^{km}, ML2.9/12, Error ellipse: s-maj=1.2km s-min=1.0km az=141.0*
ISC 08 07:48:40.5±0.3**, 43.49N**±0.02×**0.53W**±0.02**, h10**^{km}±3^{km}**, n55,** σ**1**^{s}**11**/87**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORDF	Ordiarp	0.41	227	Pg	Pg	07 48 49.0	+0.2
ORDF				Sg	Sg	07 48 54.6	+0.2
ATE	Arette	0.43	197	P	Pg	07 48 49.1	-0.1
ATE				S	Sg	07 48 54.6	-0.4
REYF	Montagne du Re	0.43	167	Pg	Pg	07 48 49.7	+0.4
REYF				Sg	Sg	07 48 55.8	+0.5
LARF	Larrau	0.56	217	Pg	Pg	07 48 51.7	-0.2
LARF				Sg	Sg	07 48 59.1	-0.4
OSSF	Osses	0.58	246	Pg	Pg	07 48 52.7	+0.4
OSSF				Sg	Sg	07 49 01.2	+1.0
ETSF	Etsaut	0.59	182	ePg	Pg	07 48 51.8	-0.7
ETSF				eSg	Sg	07 49 00.0	-0.5
	42nm,0.2s						
SJPF	Ste Jean	0.64	234	ePg	Pg	07 48 53.3	0.0
SJPF				eSg	Sg	07 49 00.7	-1.1
	87nm,0.3s						
FDAF	Les Forges d'A	0.67	182	P	Pb	07 48 53.7	-0.2
FDAF				S	Sb	07 49 02.4	-0.5
VIEF	Viey	0.73	146	Pg	Pg	07 48 55.6	+0.4
VIEF				Sg	Sg	07 49 06.1	+1.1
EALK	Alkurruntz	0.77	249	Pg	Pg	07 48 56.1	+0.2
	41nm,0.3s,SNR=48						
EALK				Lg		07 49 06.5	
	120nm,0.3s,SNR=19						
EPF	Esparros	0.78	126	ePg	Pg	07 48 58.3	+2.1
EPF				eSg	Sg	07 49 08.2	+1.4
	96nm,0.2s						
IPRE	Itoiz	0.92	222	Pg	Pg	07 49 00.2	+1.3
	7.5nm,0.2s,SNR=7.9						
IPRE				Lg		07 49 09.9	
	78nm,0.4s,SNR=7.9						
RESF	Ens	0.93	137	S	Sb	07 49 12.3	+1.9
EBIE	Bielsa	0.94	148	Pg	Pg	07 48 59.4	0.0
	8.2nm,0.1s,SNR=19						
EBIE				Lg		07 49 11.8	
	20nm,0.2s,SNR=11						
EBIE	Bielsa	0.94	148	Pg	Pg	07 48 59.5	+0.1
EARA	Aranguren	1.05	227	Pg	Pg	07 49 01.9	+0.3
	8.8nm,0.3s,SNR=7.9						
EARA				Lg		07 49 14.8	
	280nm,0.2s,SNR=7.9						
MELF	Melles	1.13	123	Pg	Pg	07 49 03.5	+0.5
MLS	Moulis	1.30	114	S	Sb	07 49 22.6	+1.5
EGRA	Graus	1.44	154	Pg	Pg	07 49 09.3	+0.1
	11nm,0.4s,SNR=11						
EGRA				Lg		07 49 28.9	
	13nm,0.3s,SNR=6.8						
SALF	Salau	1.46	120	P	Pn	07 49 11.4	+4.5
SALF				S	Sb	07 49 31.6	+6.0
ECRI	Cripan	1.70	239	Pg	Pg	07 49 13.9	-0.6
ECRI				Lg		07 49 36.5	
ECRI	Cripan	1.70	239	Pg	Pg	07 49 14.2	-0.3
	6.0nm,0.2s,SNR=7.9						
ECRI				Lg		07 49 36.5	
	14nm,0.2s,SNR=7.9						
ECRI	Cripan	1.70	239	Pg	Pg	07 49 13.9	-0.6
	6.0nm,0.2s,SNR=7.9						
LFF	La Frestale	1.71	32	ePg	Pg	07 49 16.4	+1.8
LFF				eSg	Sg	07 49 39.7	+2.2
	35nm,0.3s						
ESAC	San Caprasio	1.77	179	Pg	Pg	07 49 14.8	-1.1
	76nm,0.3s,SNR=13						
ESAC				Lg		07 49 36.8	
	103nm,0.3s,SNR=6.4						
ESAC	San Caprasio	1.77	179	Pg	Pg	07 49 14.8	-1.1
	76nm,0.3s,SNR=13						
MTLF	Montolieu	2.01	93	ePg	Pg	07 49 20.2	-0.4
MTLF				eSn	Sn	07 49 35.8	-4.3
MTLF				eSg	Sg	07 49 47.3	0.0
	34nm,0.4s						
CARF	Carcanieres	2.08	111	S	Sn	07 49 49.9	+7.9
ELAN	Lanestosa	2.14	264	Pg	Pg	07 49 21.7	-1.5
	3.2nm,0.3s,SNR=4.7						
ELAN				Lg		07 49 49.9	
	11nm,0.4s,SNR=4.7						
ELAN	Lanestosa	2.14	264	Pg	Pg	07 49 21.7	-1.4
	3.2nm,0.3s,SNR=4.7						
EMIR	Miracle	2.19	135	Pg	Pg	07 49 23.2	-1.0
	8.4nm,0.3s,SNR=5.8						
EMIR				Lg		07 49 51.4	
	14nm,0.3s,SNR=4.8						
EMIR	Miracle	2.19	135	Pg	Pg	07 49 23.2	-1.0
	8.4nm,0.3s,SNR=5.8						
RJF	Les Rejaudoux	2.33	38	ePg	Pg	07 49 27.4	+0.4
RJF				eSn	Sn	07 49 48.5	+0.2
RJF				eSg	Sg	07 49 59.5	+1.4
	11nm,0.2s						
CAF	Calviac	2.35	52	ePg	Pg	07 49 27.7	+0.3
CAF				eSg	Sg	07 49 59.6	+0.8
	13nm,0.2s						
EPOB	Poblet	2.45	150	Pn	Pn	07 49 22.1	+1.0
	0.5nm,0.1s,SNR=7.9						
EPOB				Pg	Pg	07 49 27.6	-1.8
	1.5nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	07 49 49.9	-1.4
	1.2nm,0.1s,SNR=4.0						
EPOB				Lg		07 49 58.6	
	4.4nm,0.2s,SNR=7.9						
EPOB	Poblet	2.45	150	Pn	Pn	07 49 22.1	+1.0
	0.5nm,0.1s,SNR=7.9						
EPOB	Poblet	2.45	150	Pg	Pg	07 49 27.6	-1.8
	1.5nm,0.1s,SNR=7.9						
EPOB				Sn	Sn	07 49 49.9	-1.4
	1.2nm,0.1s,SNR=4.0						
ERTA	Horta de San J	2.61	166	Pn	Pn	07 49 24.1	+0.6
	0.6nm,0.1s,SNR=7.9						
ERTA				Pg	Pg	07 49 30.0	-2.7
	2.5nm,0.2s,SNR=6.5						
ERTA				Lg		07 50 04.7	
	7.9nm,0.2s,SNR=7.9						
ERTA	Horta de San J	2.61	166	Pn	Pn	07 49 24.1	+0.6
	0.6nm,0.1s,SNR=7.9						
ERTA	Horta de San J	2.61	166	Pg	Pg	07 49 30.0	-2.7
	2.5nm,0.2s,SNR=6.5						
EJON	La Jonquera	2.72	111	Pg	Pg	07 49 33.6	-1.1
	0.6nm,0.1s,SNR=4.0						
EJON				Lg		07 50 11.3	
	0.8nm,0.2s,SNR=4.0						
EJON	La Jonquera	2.72	111	Pg	Pg	07 49 33.6	-1.1
	0.6nm,0.1s,SNR=4.0						
MFF	Saint Martin d	3.12	5	ePg	Pg	07 49 42.5	-0.3
MFF				eSg	Sg	07 50 24.0	-0.4
	7.1nm,0.3s						
EMOS	Mosqueruela	3.13	179	Pn	Pn	07 49 32.4	+1.6
	1.0nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	07 50 01.3	-7.3
	2.6nm,0.2s,SNR=7.9						
EMOS				Lg		07 50 20.8	
	5.9nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	3.13	179	Pn	Pn	07 49 32.4	+1.6
	1.0nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	07 50 01.3	-7.2
	2.6nm,0.2s,SNR=7.9						
LASF	Ste Croix	3.23	78	ePg	Pg	07 49 44.1	-0.8
LASF				eSn	Sn	07 50 08.7	-2.4
LASF				eSg	Sg	07 50 26.1	-1.9
	14nm,0.4s						
TCF	Toulx Ste Croi	3.41	34	eSn	Sn	07 50 14.5	-1.1
TCF				eSg	Sg	07 50 33.8	-0.1
	6.1nm,0.3s						
EARI	Arriondas	3.42	268	Pn	Pn	07 49 37.0	+2.1
	0.4nm,0.3s,SNR=7.9						
EARI				Sn	Sn	07 50 16.0	+0.1
	0.2nm,0.1s,SNR=7.9						
EARI	Arriondas	3.42	268	Pn	Pn	07 49 37.0	+2.1
	0.4nm,0.3s,SNR=7.9						
EARI				Sn	Sn	07 50 16.0	+0.1
	0.2nm,0.1s,SNR=7.9						
BGF	Bois d'Agland	3.89	37	ePn	Pn	07 49 43.5	+1.9
BGF				eSg	Sg	07 50 48.5	-1.4
	28nm,0.4s						
VIVF	Saint-Julien-l	3.98	68	ePg	Pg	07 49 57.9	-2.1
VIVF				eSg	Sg	07 50 50.5	-2.6
	6.3nm,0.5s						
EPON	Pontenova	4.83	270	Sn	Sn	07 50 51.0	-0.6
	0.7nm,0.2s,SNR=4.0						
ECAL	Calabor	4.83	253	Pn	Pn	07 49 54.7	-0.2
	0.8nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	07 50 47.8	-3.8
	2.9nm,0.3s,SNR=7.9						
ECAL	Calabor	4.83	253	Pn	Pn	07 49 54.7	-0.3
	0.8nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	07 50 47.8	-3.9
PPT	Papeete	143.24	305	eLR	LR	08 06 15.8	
	222nm,25.8s,baz=155						

*IDC **08** 08:30:38.8±1.0, 23.98S×115.01W, mb3.9/7, mb1 4.3/7, mb1mx4.1/19, mbtmp3.9/7, MS4.3/18, Ms1 4.3/18, ms1mx4.1/28, Error ellipse: s-maj=49.7km s-min=28.2km az=89.0*
*NEIC **08** 08:30:40.4±0.5, 23.91S×115.04W, h10^{km}, mb4.5/15, Error ellipse: s-maj=33.4km s-min=12.0km az=84.0*
ISC 08 08:30:38.7±0.7**, 23.9S**±0.1×**115.0W**±0.3**, h10**^{km}**, n50,** σ**0**^{s}**88**/31**, mb4.2**/21**, MS4.4**/17**, 2D, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	6.06	124	LR	LR	08 33 56.4	
	comp=Z,6μm,18.4s,baz=354,slow=33						
PPT	Papeete	32.88	274	LR	LR	08 47 29.0	
	comp=Z,420nm,18.6s,MS4.2,baz=299,slow=31						
LVC	Limon Verde	42.22	98	LR	LR	08 51 44.1	
	comp=Z,776nm,19.4s,MS4.6,baz=260,slow=30						
LPAZ	La Paz	44.50	89	LR	LR	08 53 14.3	
	comp=Z,439nm,19.7s,MS4.4,baz=257,slow=30						
USHA	Ushuaia	46.19	144	LR	LR	08 54 03.4	
	comp=Z,792nm,19.4s,MS4.7,baz=279,slow=30						
TXAR	Lajitas Array	54.01	12	P	P	08 40 06.8	+1.4

0.4nm,0.9s,mb3.4,baz=192,slow=8.3,SNR=5.5
TXAR LR LR 08 58 48.3
comp=Z,118nm,18.2s,MS4.0,baz=205,slow=31
SDV Santo Domingo 54.20 58 P **P 08 40 07.0 0.0**
2.0nm,0.7s,mb4.2,baz=261,slow=6.6,SNR=4.2
AFI Afiamalu 54.33 270 LR LR 08 57 00.1
comp=Z,845nm,18.5s,MS4.8,baz=118,slow=29
RAO Raoul Island 55.96 250 LR LR 08 57 13.9
comp=Z,327nm,21.4s,MS4.4,baz=45,slow=28
MNTX Cornudas Mount 56.01 10 *e*P **P 08 40 20.3 +0.3**
2.6nm,1.0s,mb4.2
ANMO Albuquerque 59.05 8 LR LR 09 01 59.7
comp=Z,214nm,18.1s,MS4.3,baz=118,slow=32
NVAR Mina Array Bea 62.04 357 P **P 08 41 03.0 +1.2**
1.8nm,0.8s,mb4.2,baz=172,slow=9.4,SNR=11
NVAR LR LR 09 01 41.5
comp=Z,231nm,21.5s,MS4.3,baz=185,slow=30
BDFB Brasilia 63.09 96 LR LR 09 06 29.9
comp=Z,431nm,18.0s,MS4.7,baz=257,slow=34
SJG San Juan 63.34 53 LR LR 09 04 40.3
comp=Z,100nm,21.4s,MS4.0,baz=204,slow=32
ISCO Idaho Springs 63.94 8 *e*P **P 08 41 14.9 +0.6**
1.9nm,1.0s,mb4.1
DAU Daniels Canyon 64.04 3 *e*P **P 08 41 13.4 -1.6**
ELK Elko 64.28 360 *e*P **P 08 41 17.7 +1.2**
3.2nm,1.1s,mb4.3
BGU Big Grassy Mou 64.48 2 *e*P **P 08 41 18.1 +0.2**
VNDA Vanda 65.39 194 LR LR 09 02 51.5
comp=Z,228nm,18.1s,MS4.4,baz=138,slow=30
MOD Modoc 65.62 356 *e*P **P 08 41 25.7 +0.5**
6.2nm,1.1s,mb4.5
WVOR Wild Horse Val 66.05 357 *e*P **P 08 41 29.6 +1.7**
20nm,1.8s,mb4.8
BW06 Boulder Array 66.49 4 *e*P **P 08 41 30.1 -0.6**
1.8nm,0.9s,mb4.1
PDAR Pinedale Array 66.49 4 P **P 08 41 30.3 -0.4**
1.0nm,0.8s,mb3.9,baz=162,slow=4.7,SNR=9.1
PDAR LR LR 09 05 13.7
comp=Z,131nm,21.4s,MS4.1,baz=358,slow=31
HLID Hailey 67.10 0 *e*P **P 08 41 35.2 +0.7**
5.7nm,1.0s,mb4.6
SNOW Snow King Moun 67.11 3 *e*P **P 08 41 34.1 -0.5**
1.7nm,0.7s,mb4.2
TPAW Teton Pass 67.13 3 *e*P **P 08 41 35.1 +0.3**
9.1nm,1.0s,mb4.8
MOOW Moose Ponds 67.39 3 *e*P **P 08 41 36.2 -0.2**
4.9nm,1.3s,mb4.4
IMW Indian Meadow 67.53 3 *e*P **P 08 41 37.1 -0.2**
4.8nm,1.1s,mb4.4
MCMT McKenzie Canyo 68.39 2 *e*P **P 08 41 42.6 0.0**
BMO Blue Mountains 68.42 358 *e*P **P 08 41 41.6 -1.2**
1.6nm,0.8s,mb4.1
HRY Holter Researc 70.30 2 P **P 08 41 51.8 -2.5**
MSO Missoula 70.37 1 *e*P **P 08 41 54.1 -0.6**
3.7nm,1.3s,mb4.2
CHMT Chamberlain Mo 70.46 1 *e*P **P 08 41 55.3 +0.1**
LAO LASA Array 70.67 6 *e*P **P 08 41 54.9 -1.6**
3.2nm,0.7s,mb4.4
NEW Newport 71.82 359 P **P 08 42 03.3 -0.2**
3.0nm,1.0s,mb4.2,baz=199,slow=5.9,SNR=4.9
NEW Newport 71.82 359 *e*P **P 08 42 03.7 +0.2**
4.7nm,1.1s,mb4.3
VNA3 Neumayer Olymp 72.40 161 ⇓*i*P **P 08 42 01.9 -4.6**
VNA3 *e* 08 42 11.2
VNA1 Neumayer--Stat 73.06 161 P **P 08 42 11.1 +0.8**
VNA1 *e* 08 42 21.3
VNA2 Neumayer--Watz 73.21 161 ⇓*i*P **P 08 42 11.1 -0.1**
VNA2 *e* 08 42 21.1
SNAA Sanae 74.19 162 P **P 08 42 16.5 -0.4**
0.7nm,1.0s,mb3.5,baz=234,slow=8.4,SNR=3.7
ULM Lac du Bonnet 75.71 13 LR LR 09 11 55.6
comp=Z,108nm,19.3s,MS4.2,baz=186,slow=33
YKA Yellowknife Ar 86.06 0 P **P 08 43 20.3 -0.1**
0.8nm,0.7s,mb4.0,baz=184,slow=4.8,SNR=3.8
YKA LR LR 09 17 58.2
comp=Z,153nm,18.1s,MS4.4,baz=205,slow=33
YKA Yellowknife Ar 86.06 0 P **P 08 43 20.3 -0.1**
YKA LR LR 09 17 58.2
SCHQ Schefferville 88.56 26 LR LR 09 22 47.9
comp=Z,50nm,19.5s,MS3.9,baz=98,slow=35
MAW Mawson 88.79 179 LR LR 09 17 45.8
comp=Z,303nm,20.5s,MS4.7,baz=352,slow=32
CMAR Chiang Mai Arr 147.94 267 PKPbc PKPdf 08 50 27.1 +2.2
1.5nm,0.6s,baz=90,slow=1.8,SNR=4.7
BRTR Keskin Array B 149.21 52 PKPbc PKPdf 08 50 29.7 +3.4
2.5nm,0.8s,baz=180,slow=3.7,SNR=6.6
BVAR Borovoye Array 150.60 353 PKPbc PKPdf 08 50 32.9 +4.8
1.3nm,0.6s,baz=315,slow=2.0,SNR=6.8
MKAR Makanchi Array 153.24 333 PKPbc PKPdf 08 50 36.9 +4.8
1.4nm,0.6s,baz=55,slow=3.2,SNR=4.2
MKAR Makanchi Array 153.24 333 PKPbc PKPdf 08 50 36.9 +4.8

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*CSEM **08** 08:31:59.1, 22.26S×179.49W, h33km, mb5.5*
*MOS **08** 08:32:41.0±1.0, 22.37S×179.09W, h400km, mb5.0/16, Error ellipse: s-maj=10.9km s-min=9.9km az=87.2*
*BJI **08** 08:32:43.8, 22.18S×178.47W, h445km, mB5.0, mb5.0*
*BGS **08** 08:32:45.3±1.6, 22.59S×179.09W, h439km*
*IDC **08** 08:32:45.9±0.5, 22.50S×179.13W, h440km±5km, mb4.4/27, mb1 4.6/28, mb1mx4.6/28, mbtmp5.2/28, Error ellipse: s-maj=10.0km s-min=7.8km az=150.0*
*HRVD **08** 08:32:45.2±0.3, 22.54S×178.99W, h449km±2km, MW5.3/53, Centroid moment Tensor Solution. LP body waves: s53,c87; Half duration: 1.2s Moment tensor: Scale 10^{17}Nm; M_{rr}0.85±.04; $M_{\theta\theta}$0.16±.07; $M_{\phi\phi}$-1.01±.06; $M_{r\theta}$0.64±.06; $M_{\theta\phi}$0.16±.05; $M_{\phi r}$0.60±.06; Best double couple: $M_0$1.284×10^{17} NP1:ϕ_s148°, δ37°, λ41°. NP2:ϕ_s22°, δ67°, λ119°. Principal axes: T 1.384, Plg58°, Azm333°; N -.198, Plg27°, Azm190°; P -1.185, Plg17°, Azm91°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **08** 08:32:45.1±0.1, 22.59S×179.09W, mb4.8/70 Error ellipse: s-maj=4.3km s-min=2.8km az=130.0*
ISC 08 08:32:44.5±0.1, **22.58S**±0.03×**179.14W**±0.04, **h440**km, **h440**km±1.3km**:pP-P, n695, σ0.89**/270, **mb4.8**/103, **102C-36D, South of Fiji Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 6.73 171 *e*P **P 08 34 25.1 -2.0**
RAO *e*S **S 08 35 47.6 -0.6**
RAO pmax pmax
comp=Z,3µm,0.4s
RAO Raoul Island 6.73 171 P **P 08 34 25.9 -1.2**
comp=Z,1µm,0.3s,baz=118,slow=5.7,SNR=37
RAO S **S 08 35 43.2 -5.0**
comp=Z,432nm,0.3s,baz=236,slow=22,SNR=6.2
RAO Raoul Island 6.73 171 *e*P **P 08 34 25.1 -2.0**
comp=Z,3µm,0.4s
RAO *e*S **S 08 35 47.6 -0.6**
AFI Afiamalu 11.10 40 *e*P **P 08 35 08.4 -7.2**
AFI *e*S **S 08 37 03.8 -12**
AFI pmax pmax
comp=Z,198nm,0.9s
AFI Afiamalu 11.10 40 P **P 08 35 09.1 -6.5**
comp=Z,14nm,0.3s,baz=21,slow=2.9,SNR=21
AFI S **S 08 37 04.0 -12**
comp=Z,37nm,0.3s,baz=101,slow=20,SNR=8.5
AFI Afiamalu 11.10 40 *e*P **P 08 35 08.4 -7.2**
comp=Z,198nm,0.9s
AFI *e*S **S 08 37 03.8 -12**
DZM Mont Dzumac 13.35 269 *e*P **P 08 35 40.9 +0.9**
DZM *e*S **S 08 38 07.2 +6.3**
DZM Mont Dzumac 13.35 269 P **P 08 35 42.3 +2.2**
comp=Z,10nm,0.3s,baz=82,slow=16,SNR=90
DZM S **S 08 38 13.0 +12**
baz=341,slow=19,SNR=4.1
DZM Mont Dzumac 13.35 269 *e*P **P 08 35 40.9 +0.9**
DZM *e*S **S 08 38 07.2 +6.3**
NOUC Port Laguerre 13.48 269 *e*P **P 08 35 43.3 +1.9**
NOUC *e*S **S 08 38 10.4 +7.0**
NOUC Port Laguerre 13.48 269 *e*P **P 08 35 43.3 +1.9**
NOUC *e*S **S 08 38 10.4 +7.0**
PUZ Puketiti 15.60 188 *e*P **P 08 36 02.3 -1.0**
PUZ Puketiti 15.60 188 PN **P 08 36 01.1 -2.2**
PUZ SN **S 08 38 40.0 -3.9**
URZ Urewera 15.96 191 P **P 08 36 07.1 +0.2**
comp=Z,36nm,0.3s,baz=348,slow=2.6,SNR=36
URZ S **S 08 38 57.4 +6.9**
comp=Z,50nm,0.3s,baz=154,slow=23,SNR=13
URZ Urewera 15.96 191 *e*P **P 08 36 05.4 -1.5**
URZ Urewera 15.96 191 *e*PN **P 08 36 03.7 -3.2**
URZ *e*SN **S 08 38 53.2 +2.7**
MWZ Matawai 15.96 190 *e*P **P 08 36 06.0 -0.9**
MWZ Matawai 15.96 190 *e*PN **P 08 36 05.6 -1.4**
MWZ *e*SN **S 08 38 53.8 +3.2**
KNZ Kokohu 16.61 189 *e*P **P 08 36 12.0 -1.5**
KNZ Kokohu 16.61 189 *e*PN **P 08 36 12.1 -1.4**
KNZ SN **S 08 39 02.7 +0.1**
HIZ Hauiti 16.70 197 *e*PN **P 08 36 13.3 -1.0**
BKZ Black Stump Fm 16.95 192 SN **S 08 39 10.7 +1.9**
PWZ Pawanui 17.72 190 *e*P **P 08 36 24.4 -0.3**
PWZ Pawanui 17.72 190 *e*PN **P 08 36 22.9 -1.7**
PWZ SN **S 08 39 24.6 +1.9**
RAR Rarotonga 18.03 89 *e*P **P 08 36 27.3 -0.5**
RAR pmax pmax
comp=Z,152nm,1.0s
RAR Rarotonga 18.03 89 *e*P **P 08 36 27.3 -0.5**
comp=Z,152nm,1.0s
SNZO South Karori 19.38 194 PN **P 08 36 40.4 -0.5**
QRZ Quartz Range 19.50 199 P **P 08 36 43.1 +1.1**
QRZ Quartz Range 19.50 199 PN **P 08 36 43.0 +0.9**
NNZ Nelson 19.62 197 *e*P **P 08 36 42.3 -0.9**
NNZ Nelson 19.62 197 *e*PN **P 08 36 42.0 -1.2**
NNZ *e*SN **S 08 39 54.7 -1.1**
TUWZ Tuamarina 19.68 196 *e*PN **P 08 36 42.3 -1.3**
THZ Tophouse 20.26 197 *e*P **P 08 36 49.3 +0.1**
THZ Tophouse 20.26 197 *e*PN **P 08 36 48.7 -0.5**
THZ *e*SN **S 08 40 06.9 +0.2**
LTZ Lake Taylor 21.38 198 *e*P **P 08 36 59.0 -0.9**
LTZ Lake Taylor 21.38 198 PN **P 08 36 58.9 -1.0**
WVZ Waitaha Valley 22.11 200 *e*P **P 08 37 05.7 -0.9**
RPZ Rata Peaks 22.59 199 P **P 08 37 10.8 -0.2**
comp=Z,14nm,0.3s,mb4.8,baz=183,slow=19,SNR=30
RPZ Rata Peaks 22.59 199 *e*P **P 08 37 09.9 -1.1**
RPZ Rata Peaks 22.59 199 *e*PN **P 08 37 09.3 -1.8**
HNR Honiara 23.93 300 P **P 08 37 23.2 -0.3**
comp=Z,115nm,0.6s,mb5.5,baz=228,slow=0.4,SNR=2.9
PPT Papeete 28.19 85 P **P 08 38 00.1 -1.3**
comp=Z,59nm,0.7s,mb5.0,baz=235,slow=7.1,SNR=6.2
CNB Canberra Magne 30.21 238 *e*P **P 08 38 20.3 +1.6**
comp=Z,20nm,1.0s,mb4.4
CNB *e*S **S 08 42 49.1 +2.8**
CNB *e*SCP 08 44 10.1
CTA Charters Tower 32.29 268 *e*P **P 08 38 37.6 +0.9**
comp=Z,45nm,0.4s,mb5.2
CTA *e*PCP PcP 08 41 13.1 +0.1
CTA *e*S **S 08 43 18.4 -0.2**
CTA *e*SCP 08 44 16.5
CTA *e*SCS ScS 08 48 18.6 +5.7
CTA Charters Tower 32.29 268 *e*P **P 08 38 37.6 +0.9**
CTA *e* 08 41 13.1
CTA *e*S **S 08 43 18.4 -0.2**
CTA *e* 08 48 18.6
CTA pmax pmax
comp=Z,45nm,0.4s
CTA Charters Tower 32.29 268 P **P 08 38 37.6 +0.9**
comp=Z,57nm,0.5s,mb5.2,baz=95,slow=10,SNR=147
CTA PcP PcP 08 41 13.3 +0.3
comp=Z,14nm,0.7s,baz=130,slow=1.6,SNR=4.5
CTA ScP 08 44 17.1
comp=Z,9.5nm,0.9s,baz=110,slow=3.4,SNR=4.3
CTAO Charters Tower 32.29 268⇑*i*P **P 08 38 37.4 +0.7**
CTAO *e* 08 41 12.8
CTAO *e*S **S 08 43 17.7 -0.9**
CTAO pmax pmax
comp=Z,57nm,0.5s,mb5.2
CTAO Charters Tower 32.29 268⇑*i*P **P 08 38 37.4 +0.7**
comp=Z,57nm,0.5s,mb5.2
CTAO *e*PcP PcP 08 41 12.8 -0.2
CTAO *e*S **S 08 43 17.7 -0.9**
TOO Toolangi 33.83 236 *e*P **P 08 38 50.5 +0.9**
comp=Z,12nm,0.9s,mb4.2
TOO Toolangi 33.83 236 *e*P **P 08 38 50.5 +0.9**
TOO pmax pmax
comp=Z,12nm,0.9s,mb4.2
TAU Tasmania Unive 34.41 226 *e*P **P 08 38 56.1 +1.7**
TAU pmax pmax
comp=Z,25nm,0.6s,mb4.7
TAU Tasmania Unive 34.41 226 *e*P **P 08 38 56.1 +1.7**
comp=Z,25nm,0.6s,mb4.7
PMG Port Moresby 34.84 287⇑*i*P **P 08 38 58.7 +0.4**
PMG pmax pmax
comp=Z,145nm,0.8s
PMG Port Moresby 34.84 287 P **P 08 38 58.7 +0.4**
comp=Z,150nm,0.8s,mb5.4,baz=93,slow=5.5,SNR=32
PMG Port Moresby 34.84 287⇑*i*P **P 08 38 58.7 +0.4**
comp=Z,145nm,0.8s,mb5.4
STKA Stephens Creek 35.96 246⇑*i*P **P 08 39 08.5 +1.0**
comp=Z,6.9nm,0.6s,mb4.2
STKA *e*sP sP 08 41 23.8 +5.1
STKA *e*S **S 08 44 13.4 -1.0**
STKA *e*SCP 08 44 29.8
STKA *e*SCS ScS 08 48 35.8 +3.3
STKA Stephens Creek 35.96 246 P **P 08 39 08.5 +1.0**
comp=Z,6.4nm,0.4s,mb4.3,baz=93,slow=9.4,SNR=46
STKA PcP PcP 08 41 24.0 +0.5
comp=Z,7.6nm,0.7s,baz=74,slow=3.9,SNR=3.3
STKA ScP 08 44 29.8
comp=Z,8.9nm,0.9s,baz=78,slow=1.7,SNR=5.9
STKA PKiKP 08 48 40.7
comp=Z,1.8nm,0.6s,baz=22,slow=3.2,SNR=7.5
WB2 Warramunga Arr 43.29 264⇑*i*P **P 08 40 06.6 -0.6**
WB2 *e*PCP PcP 08 41 47.5 +0.1
WB2 *e*SCP 08 44 59.2
WB2 *e*PCS 08 45 38.8
WB2 *e*S **S 08 45 57.5 -4.4**
WB2 *e*SCS ScS 08 49 20.4 +4.1
WRAB Tennant Creek 43.29 264*c i*P **P 08 40 06.4 -0.9**
WRAB Tennant Creek 43.29 264⇑*i*P **P 08 40 06.4 -0.9**
comp=Z,54nm,1.0s,mb4.8
WRAB *e*PcP PcP 08 41 47.2 -0.2
WRAB *e*ScP 08 44 55.5
WRAB *e*S **S 08 45 58.6 -3.4**
WRA Warramunga Arr 43.30 264 P **P 08 40 06.7 -0.6**
WRA 08 41 47.4
WRA S **S 08 45 59.8 -2.2**
WRA Warramunga Arr 43.30 264 P **P 08 40 06.7 -0.7**
comp=Z,17nm,0.6s,mb4.5,baz=101,slow=9.4,SNR=246
WRA pP pP 08 41 32.2 +0.2
comp=Z,2.9nm,0.7s,baz=100,slow=7.0,SNR=1.1
WRA PcP PcP 08 41 47.4 -0.1
comp=Z,12nm,0.8s,baz=98,slow=4.1,SNR=11
WRA ScP 08 44 59.1
comp=Z,9.7nm,0.9s,baz=98,slow=4.1,SNR=14
WRA S **S 08 45 59.8 -2.2**
comp=Z,3.6nm,0.9s,baz=102,slow=14,SNR=10
WRA PKiKP 08 48 47.0
comp=Z,1.9nm,0.7s,baz=80,slow=0.5,SNR=23
KAKA Kakadu 47.00 274⇑*i*P **P 08 40 35.2 -1.0**
comp=Z,28nm,0.4s,mb4.9
KAKA *e*SCP 08 45 13.2
KAKA *e*S **S 08 46 51.5 -2.5**
FITZ Fitzroy Crossi 51.73 264⇑*i*P **P 08 41 11.1 -0.5**
comp=Z,36nm,0.4s,mb5.0
FITZ *e*S **S 08 47 58.9 +0.3**
FITZ *e*SP SP 08 48 12.9 +4.1
FITZ Fitzroy Crossi 51.73 264 P **P 08 41 11.1 -0.5**
comp=Z,44nm,0.5s,mb5.0,baz=120,slow=3.1,SNR=155
FITZ PcP PcP 08 42 17.3 -0.6
comp=Z,5.6nm,0.4s,baz=174,slow=8.1,SNR=3.4
SBA Scott Base 55.74 184 *e*P **P 08 41 39.8 +0.3**
SBA *e* 08 42 32.6
SBA pmax pmax
comp=Z,26nm,1.2s,mb4.4
SBA Scott Base 55.74 184 *e*P **P 08 41 39.8 +0.3**
comp=Z,26nm,1.2s,mb4.4
SBA *e*PcP PcP 08 42 32.6 +0.1
SBA *e*pP pP 08 43 11.8 +2.2
VNDA Vanda 55.76 185 *e*P **P 08 41 40.3 +0.6**
VNDA *e* 08 42 31.9
VNDA pmax pmax
comp=Z,6.0nm,0.6s
VNDA Vanda 55.76 185 P **P 08 41 40.8 +1.2**
comp=Z,6.4nm,0.7s,mb4.1,baz=356,slow=8.3,SNR=21
VNDA PcP PcP 08 42 32.4 -0.2
comp=Z,4.0nm,0.8s,baz=293,slow=6.1,SNR=4.0
VNDA Vanda 55.76 185 *e*P **P 08 41 40.3 +0.6**
comp=Z,5.7nm,0.6s,mb4.1
VNDA *e*PcP PcP 08 42 31.9 -0.7
VNDA *e*pP pP 08 43 13.0 +3.3
KLBR Kellerberrin 56.23 246⇑*i*P **P 08 41 42.4 -1.2**
comp=Z,29nm,0.7s,mb4.7
MBWA Marble Bar 56.39 259⇑*i*P **P 08 41 43.5 -1.2**
comp=Z,36nm,0.8s,mb4.8
NWAO Narrogin (SRO) 56.51 245 P **P 08 41 44.8 -0.6**
comp=Z,13nm,0.6s,mb4.4,baz=82,slow=7.9,SNR=8.8
MUN Mundaring 57.49 246 *e*P **P 08 41 51.7 -0.4**
comp=Z,18nm,0.7s,mb4.5
CASY Casey 61.64 206⇓*i*P **P 08 42 19.3 0.0**
QSPA South Pole Qui 67.50 180⇑*e*P **P 08 42 57.4 +1.2**
comp=Z,31nm,0.6s,mb5.1
QSPA *e*pP pP 08 44 30.0 -1.1
MIR Mirnyy 68.67 205*d i*P **P 08 43 03.6 +0.1**
MIR pmax pmax
comp=Z,86nm,1.6s,mb5.1
MJAR Matsushiro Arr 71.27 325 P **P 08 43 18.4 -1.1**
comp=Z,7.3nm,0.6s,mb4.4,baz=166,slow=6.9,SNR=22
MAJO Matsushiro 71.27 325 *e*P **P 08 43 18.1 -1.4**
MAJO pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
MAJO Matsushiro 71.27 325 *e*P **P 08 43 18.1 -1.5**
comp=Z,9.0nm,0.8s,mb4.3
MAT Matsushiro 71.27 325 *e*P **P 08 43 19.0 -0.5**
MAT pmax pmax
comp=Z,11nm,0.8s,mb4.4
MAT Matsushiro 71.27 325 *e*P **P 08 43 19.0 -0.5**
comp=Z,11nm,0.8s,mb4.5
MAT Matsushiro 71.27 325 P **P 08 43 18.5 -1.0**
KSM Kuching 72.67 279 *e*P **P 08 43 27.4 -0.8**
YHNB Yeheng 74.42 306 *e*P **P 08 43 37.3 -0.7**
FX1 Attu Island--F 75.44 355 P **P 08 43 42.1 -0.9**
comp=Z,183nm,0.6s,mb5.9,baz=213,slow=1.5,SNR=62
FX1 Attu Island--F 75.44 355 *e*P **P 08 43 41.9 -1.1**
SKR Severo-Kuril's 76.15 344 *e*P **P 08 43 44.0 -3.0**
SKR pmax pmax
comp=Z,120nm,1.0s,mb5.5
QZH Quanzhou 76.68 304 P **P 08 43 50.6 +0.1**
QZH AMB AMB
comp=Z,60nm,0.7s,mb5.3
YSS Yuzh-Sakhalins 77.28 334α*e*P **P 08 43 53.2 -0.1**
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 77.28 334 *e*P **P 08 43 53.4 +0.1**
comp=Z,62nm,1.0s,mb5.2
PET Petropavlovsk 77.72 346 *e*P **P 08 43 54.2 -1.4**
PET pmax pmax
comp=Z,34nm,0.7s,mb5.1
PET Petropavlovsk 77.72 346 *e*P **P 08 43 54.2 -1.3**
comp=Z,34nm,0.7s,mb5.1
SSE Sheshan 78.22 311 *e*P **P 08 43 59.0 +0.3**
SSE AMB AMB
comp=Z,16nm,0.8s,mb4.7
SSE AMB AMB
comp=Z,79nm,6.3s
MAW Mawson 79.26 200⇓*i*P **P 08 44 04.6 +1.2**
comp=Z,6.3nm,0.6s,mb4.4
MAW Mawson 79.26 200⇓*i*P **P 08 44 04.6 +1.2**
MAW pmax pmax
comp=Z,6.0nm,0.6s
MAW Mawson 79.26 200 P **P 08 44 04.4 +1.0**
comp=Z,8.5nm,0.7s,mb4.5,baz=128,slow=8.4,SNR=22
MAW pP pP 08 45 42.0 +0.3
comp=Z,4.1nm,0.9s,baz=99,slow=9.6,SNR=3.0
NJ2 Nanjing 80.40 310 *e*P **P 08 44 11.0 +0.9**
NJ2 AP pP 08 45 50.5 +1.7
NJ2 XP sP 08 46 35.8 +1.9
NJ2 PP PP 08 47 23.1 +1.9
NJ2 S S 08 53 36.0 -2.6
NJ2 XS 08 56 33.0
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb4.9
NJ2 AMB AMB
comp=Z,40nm,5.7s
HOPS Hopland 80.63 41 *e*P **P 08 44 11.4 +0.2**
comp=Z,36nm,1.1s,mb5.0
MWC Mount Wilson 80.99 47 *e*P **P 08 44 13.4 +0.2**
KHMM Horse Mountain 81.43 39 *e*P **P 08 44 15.9 +0.6**
MDJ Mudanjiang 81.62 326 P **P 08 44 15.9 -0.2**
MDJ AP pP 08 45 51.7 -3.4
MDJ XP sP 08 46 36.8 -3.4
MDJ S S 08 53 52.8 +2.2
MDJ XS 08 56 41.6
MDJ SS SS 08 59 18.6 -4.5
MDJ AMB AMB
comp=Z,27nm,1.1s,mb4.9
MDJ AMB AMB
comp=Z,150nm,4.7s
MDJ Mudanjiang 81.62 326 *e*P **P 08 44 16.4 +0.2**
comp=Z,21nm,0.9s,mb4.9
CMB Columbia Colle 81.70 43⇑*i*P **P 08 44 16.6 -0.1**
comp=Z,28nm,1.1s,mb4.9
PFO Pinyon Flat Ob 81.74 49⇑*i*P **P 08 44 16.9 -0.2**
comp=Z,6.7nm,1.0s,mb4.3
WDC Whiskeytown Da 81.94 40 *e*P **P 08 44 17.2 -0.7**
comp=Z,28nm,1.1s,mb4.9
OMM Old Mammoth Mi 82.34 44 *e*P **P 08 44 19.8 -0.2**
MTUM Tungsten Hills 82.46 44 *e*P **P 08 44 20.8 +0.1**
DAC Darwin (Calif) 82.48 46 *e*P **P 08 44 20.7 0.0**
comp=Z,3.7nm,0.8s,mb4.2
YBH Yreka Blue Hor 82.57 39 P **P 08 44 21.7 +0.7**
comp=Z,16nm,0.9s,mb4.7,baz=201,slow=3.7,SNR=39
YBH Yreka Blue Hor 82.57 39 *e*P **P 08 44 21.2 +0.2**
comp=Z,16nm,0.9s,mb4.7
LBCM Butte Creek Ri 82.81 40 P **P 08 44 22.6 +0.4**
BEKR Beckwourth 82.82 42⇑*e*P **P 08 44 22.5 +0.1**
comp=Z,9.2nm,0.7s,mb4.6
WHN Wuhan 82.83 307 ⇓P **P 08 44 23.5 +0.9**
WCN Washoe City 82.86 42⇑*i*P **P 08 44 23.0 +0.5**
comp=Z,29nm,1.1s,mb4.9
USHA Ushuaia 82.97 147 P **P 08 44 23.4 +0.6**
comp=Z,8.4nm,0.7s,mb4.6,baz=229,slow=6.2,SNR=11
HUMO Hull Mountain 82.98 38⇑*i*P **P 08 44 23.9 +0.8**
comp=Z,28nm,1.0s,mb5.0
SNY Shenyang 83.12 321 ⇑P **P 08 44 24.0 +0.2**
SNY AMB AMB
comp=Z,20nm,0.9s,mb4.8
NVAR Mina Array Bea 83.26 44 P **P 08 44 24.9 +0.3**
comp=Z,14nm,0.8s,mb4.7,baz=213,slow=6.2,SNR=61
NVAR pP pP 08 46 03.5 -0.4
comp=Z,0.4nm,0.6s,baz=35,slow=38,SNR=2.8
CN2 Changchun 83.30 323⇑*i*P **P 08 44 25.2 +0.5**
CN2 PP PP 08 47 46.4 +1.9
CN2 *e*S S 08 54 08.0 +0.6
CN2 AMB AMB
comp=Z,50nm,1.0s,mb5.2
LDFC Landfair 83.48 48⇑*i*P **P 08 44 26.4 +0.7**
LDFC *e*pP pP 08 46 04.9 -0.3
TPH Tonopah 83.75 44 *e*P **P 08 44 27.0 0.0**
comp=Z,32nm,1.0s,mb5.0
KLR Kul'dur 83.78 330 *e*P **P 08 44 24.8 -2.1**
KLR pmax pmax
comp=Z,54nm,2.0s,mb4.9
NEN Nelson 83.98 48 *e*P **P 08 44 28.6 +0.3**
MOD Modoc 84.09 40⇑*i*P **P 08 44 28.7 +0.1**
comp=Z,18nm,1.1s,mb4.7
BROR Big Rock Looko 84.31 37 P **P 08 44 30.3 +0.6**
SYO Syowa Base 84.47 193 ⇓P **P 08 44 28.3 -1.6**
SYO Syowa Base 84.47 193 ⇓PcP PcP 08 44 29.1 -3.9
SYO Syowa Base 84.47 193 ⇑pP pP 08 46 07.0 -2.6
FRIS Frissel Point 84.47 37 P **P 08 44 31.0 +0.5**
TUC Tucson 85.09 52⇑*i*P **P 08 44 34.8 +1.0**
comp=Z,24nm,1.3s,mb4.8
TUC *e*pP pP 08 46 13.9 +0.3
BMN Battle Mountai 85.10 43⇑*e*P **P 08 44 33.8 +0.1**
comp=Z,16nm,1.1s,mb4.7
WVOR Wild Horse Val 85.40 40 *e*P **P 08 44 35.4 +0.4**
comp=Z,14nm,1.0s,mb4.6
RSO Redoubt South 85.49 13 *e*P **P 08 44 34.6 -0.5**
MA2 Magadan 85.50 345 *e*P **P 08 44 34.6 -0.5**
MA2 pmax pmax
comp=Z,50nm,0.8s,mb5.3
MA2 Magadan 85.50 345⇑*i*P **P 08 44 34.6 -0.5**
comp=Z,153nm,1.3s,mb5.6
KKTK Khon Kaen 85.57 290 P **P 08 44 38.5 +2.1**
comp=Z,494nm,1.0s
SNAA Sanae 85.97 179 *e* **P 08 44 38.7 +1.6**
SNAA Sanae 85.97 179 *e* pP 08 46 17.7 +0.6
SNAA Sanae 85.97 179 *e*S S 08 54 31.5 -0.8
SNAA Sanae 85.97 179*c i*P **P 08 44 36.8 -0.3**
SNAA Sanae 85.97 179 P **P 08 44 37.1 0.0**
comp=Z,1.7nm,0.7s,mb3.9,baz=204,slow=5.2,SNR=36
SNAA pP pP 08 46 18.0 +0.9
comp=Z,3.4nm,0.9s,baz=178,slow=3.2,SNR=5.4
SNAA Sanae 85.97 179⇑*i*P **P 08 44 36.7 -0.4**
SNAA *e* pP 08 46 17.7 +0.6
SNAA *e*S S 08 54 31.5 -0.8
SNAA *e* 08 54 39.2
SNAA *e* 09 02 33.9
SLKM Skilak Lake 86.07 14 *e*P **P 08 44 37.0 -0.8**
VNA3 Neumayer Olymp 86.14 177 *e* **P 08 44 40.4 +2.5**
VNA3 Neumayer Olymp 86.14 177 *e* pP 08 46 17.7 -0.3
VNA3 Neumayer Olymp 86.14 177 *e*S S 08 54 30.0 -4.0

VNA3 Neumayer Olymp 86.14 177⇑ *iP* **P** **08 44 37.9 0.0**
VNA3 *e* pP 08 46 17.7 -0.3
VNA3 *eS* S 08 54 30.0 -4.0
VNA3 *e* 08 54 36.2
VNA3 *e* 09 02 33.4
SPU Mount Spurr 86.29 13 *eP* **P** **08 44 37.6 -1.3**
WPW White Pass 86.33 36 P **P** **08 44 40.1 +0.7**
ENH Enshi 86.33 305⇑ *iP* **P** **08 44 40.3 +0.5**
comp=Z,62nm,1.0s,mb5.3
ELK Elko 86.52 43 *eP* **P** **08 44 40.4 -0.1**
comp=Z,6.9nm,1.0s,mb4.3
ELK *epP* pP 08 46 21.9 +1.3
VNA2 Neumayer--Watz 86.57 177 *e* **P** **08 44 42.0 +2.0**
VNA2 Neumayer--Watz 86.57 177 *e* pP 08 46 21.1 +1.0
VNA2 Neumayer--Watz 86.57 177 *eS* S 08 54 40.2 +2.2
VNA2 Neumayer--Watz 86.57 177⇑ *iP* **P** **08 44 40.2 +0.2**
VNA2 *e* pP 08 46 21.1 +1.0
VNA2 *eS* S 08 54 40.2 +2.2
VNA2 *e* 08 54 48.8
VNA2 *e* 09 02 32.6
PGC Sidney 86.58 33 *eP* **P** **08 44 40.4 -0.1**
comp=Z,30nm,0.8s,mb5.1
BBB Bella Bella 86.73 29 P **P** **08 44 42.2 +1.0**
comp=Z,20nm,0.7s,mb4.9,baz=272,slow=2.0,SNR=4.9
GYA Guiyang 86.76 300⇑ *iP* **P** **08 44 42.6 +0.6**
GYA AP pP 08 46 23.7 +1.5
GYA XP sP 08 47 08.6 +1.9
GYA PP PP 08 48 16.3 +3.3
GYA S S 08 54 42.5 +1.7
GYA PS PS 08 56 48.2 +1.4
GYA SS SS 09 00 42.8 +4.5
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
VNA1 Neumayer--Stat 86.80 177 *e* **P** **08 44 43.7 +2.6**
VNA1 Neumayer--Stat 86.80 177 *e* pP 08 46 22.4 +1.1
VNA1 Neumayer--Stat 86.80 177⇑ *iP* **P** **08 44 41.6 +0.5**
VNA1 *e* pP 08 46 22.4 +1.1
VNA1 *e* 09 02 32.5
TWW Teanaway 86.97 36 P **P** **08 44 43.7 +1.2**
LTY Liberty 87.15 36 P **P** **08 44 43.3 0.0**
EYAK Cordova Ski Ar 87.17 16⇑ *iP* **P** **08 44 42.4 -0.7**
PWA Palmer West 87.17 14 *eP* **P** **08 44 42.4 -0.6**
MVU Marysvale 87.28 46 *eP* **P** **08 44 44.6 +0.5**
comp=Z,7.3nm,1.1s,mb4.3
PMR Palmer 87.28 14 *eP* **P** **08 44 42.6 -1.0**
PMR LR LR
comp=Z,200nm,21.0s
MSU Marysvale 87.31 46 *eP* **P** **08 44 44.9 +0.6**
MSU *epP* pP 08 46 25.5 +0.9
RPW Rockport 87.44 34 P **P** **08 44 44.8 +0.2**
BMO Blue Mountains 87.59 39⇑ *iP* **P** **08 44 45.1 -0.3**
comp=Z,11nm,1.0s,mb4.5
SML Sawmill 87.65 14⇑ *iP* **P** **08 44 44.4 -0.9**
DIV Divide 87.66 15⇑ *iP* **P** **08 44 44.9 -0.5**
comp=Z,413nm,1.0s
BGU Big Grassy Mou 88.02 44 *eP* **P** **08 44 46.9 -0.7**
SEY Seymchan 88.16 347 *i* P **P** **08 44 47.4 -0.2**
SEY *e* 08 54 28.9
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY pmax pmax
comp=E,10.0nm,0.8s
SEY pmax pmax
comp=Z,20nm,0.8s,mb4.9
SEY Seymchan 88.16 347⇑ *iP* **P** **08 44 47.3 -0.3**
OD2 Odessa Site #2 88.29 36 P **P** **08 44 49.1 +0.5**
TMUT Trail Mountain 88.36 46 *eP* **P** **08 44 50.0 +0.8**
XAN Xi'an 88.55 308 P **P** **08 44 50.9 +0.7**
XAN AMB AMB
comp=Z,37nm,0.9s,mb5.1
HLID Hailey 88.59 41⇑ *iP* **P** **08 44 50.6 +0.5**
comp=Z,18nm,1.0s,mb4.8
SPUT South Promonto 88.60 44 *eP* **P** **08 44 50.9 +0.6**
SRU San Rafael 88.72 46⇑ *iP* **P** **08 44 50.9 0.0**
CTU Camp Tracy 88.73 45 *eP* **P** **08 44 50.8 -0.1**
MNTX Cornudas Mount 88.81 55⇑ *iP* **P** **08 44 51.9 +0.4**
comp=Z,16nm,1.0s,mb4.7
MNTX *epP* pP 08 46 31.7 -0.4
DAU Daniels Canyon 88.90 45 *eP* **P** **08 44 51.9 +0.1**
PNT Penticton 88.96 34 P **P** **08 44 51.9 +0.1**
BNM Barren Site 89.03 52 *eP* **P** **08 44 52.8 +0.4**
LTX Lajitas 89.06 58⇑ *iP* **P** **08 44 53.1 +0.4**
comp=Z,26nm,1.3s,mb4.8
LTX *epP* pP 08 46 33.2 -0.2
TXAR Lajitas Array 89.06 58 P **P** **08 44 53.7 +1.0**
comp=Z,8.8nm,0.9s,mb4.5,baz=216,slow=6.5,SNR=76
TXAR pP pP 08 46 33.0 -0.4
comp=Z,0.3nm,0.8s,baz=307,slow=38,SNR=3.1
TXAR PKKPbc 09 02 28.9
comp=Z,0.6nm,0.7s,baz=68,slow=4.0,SNR=9.2
TXAR PKPPKP 09 10 39.4
comp=Z,0.5nm,1.0s,baz=90,slow=5.4,SNR=4.1
TXAR Lajitas Array 89.06 58 P **P** **08 44 53.7 +1.0**
TXAR pP pP 08 46 33.0 -0.5
TXAR PKKPbc 09 02 28.9
TXAR P'P' 09 10 39.4
TCUT Toone Canyon 89.17 44 *eP* **P** **08 44 53.2 +0.3**
HWUT Hardware Ranch 89.32 44 *eP* **P** **08 44 53.2 -0.4**
comp=Z,6.5nm,0.9s,mb4.4
KMI Kunming 89.35 297⇑ P **P** **08 44 55.9 +1.7**
KMI AP pP 08 46 36.6 +1.7
KMI S S 08 55 05.4 +1.0
KMI AMB AMB
comp=Z,17nm,1.3s,mb4.6
ANMO Albuquerque 89.53 52 *c iP* **P** **08 44 54.9 +0.2**
ANMO Albuquerque 89.53 52 P **P** **08 44 55.0 +0.3**
comp=Z,15nm,1.2s,mb4.7,baz=221,slow=5.2,SNR=24
ANMO pP pP 08 46 36.0 +0.5
comp=Z,0.5nm,0.4s,baz=221,slow=6.0,SNR=2.5
ANMO Albuquerque 89.53 52⇑ *eP* **P** **08 44 55.0 +0.3**
comp=Z,13nm,1.1s,mb4.7
ANMO *epP* pP 08 46 35.6 +0.1
NEW Newport 89.67 36 P **P** **08 44 54.9 -0.2**
comp=Z,5.0nm,0.9s,mb4.3,baz=209,slow=4.0,SNR=8.3
NEW Newport 89.67 36 *eP* **P** **08 44 54.7 -0.4**
comp=Z,5.4nm,0.9s,mb4.4
HIA Hailar 89.77 325 *eP* **P** **08 44 55.0 -0.5**
HIA pmax pmax
comp=Z,18nm,1.0s
HIA Hailar 89.77 325 *eP* **P** **08 44 55.0 -0.5**
comp=Z,18nm,1.0s,mb4.9
GDL2 Guadalupe Moun 89.81 55 *eP* **P** **08 44 56.1 0.0**
GDL2 *epP* pP 08 46 36.9 -0.1
CMAR Chiang Mai Arr 89.81 290 P **P** **08 44 58.0 +1.6**
comp=Z,30nm,0.9s,mb5.1,baz=127,slow=3.2,SNR=72
CMAR pP pP 08 46 38.5 +1.3
comp=Z,0.7nm,0.3s,baz=332,slow=40,SNR=1.7
CHG Chiang Mai 89.96 290⇑ P **P** **08 44 58.5 +1.5**
comp=Z,46nm,0.9s,mb5.3
HHC Hu-ho-hao-te 90.05 315 *eP* **P** **08 44 58.0 +1.0**
HHC XP sP 08 47 25.4 +3.1
HHC SKS SKS 08 54 44.1 -0.5
HHC S S 08 55 00.9 -9.3
HHC AMB AMB
comp=Z,35nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,79nm,8.4s
CLNB Carlsbad 90.21 55 *eP* **P** **08 44 58.1 +0.2**
AHID Auburn Hatcher 90.22 43 *eP* **P** **08 44 57.7 0.0**
comp=Z,15nm,0.8s,mb4.9
MCMT McKenzie Canyo 90.22 41 *eP* **P** **08 44 57.8 +0.1**
DLBC Dease Lake 90.37 23 P **P** **08 44 58.7 +0.7**
comp=Z,15nm,0.8s,mb4.9,baz=214,slow=4.8,SNR=33
DLBC Dease Lake 90.37 23 *eP* **P** **08 44 58.2 +0.2**
RRI2 Red Ridge 90.38 42⇑ *iP* **P** **08 44 58.9 +0.4**
comp=Z,36nm,1.0s,mb5.2
IMA Indian Mountai 90.47 10 *eP* **P** **08 44 58.5 +0.2**
ILAR Eielson Array 90.57 13 P **P** **08 44 57.6 -1.1**
comp=Z,20nm,0.4s,mb5.3,baz=224,slow=5.4,SNR=151
ILAR PP PP 08 48 37.0 -5.4
comp=Z,4.9nm,1.0s,baz=217,slow=7.7,SNR=4.8
ILAR PKIKP 08 49 49.0
comp=Z,0.8nm,0.4s,baz=276,slow=2.7,SNR=13
MSO Missoula 90.65 39 *eP* **P** **08 44 58.4 -1.2**
comp=Z,2.4nm,0.9s,mb4.0
REDW Red Top Meadow 90.68 43⇑ *eP* **P** **08 45 00.1 +0.2**
comp=Z,33nm,1.0s,mb5.1
TPAW Teton Pass 90.68 43 *eP* **P** **08 45 00.0 +0.2**
comp=Z,34nm,2.0s,mb4.8
SNOW Snow King Moun 90.79 43⇑ *eP* **P** **08 45 00.6 +0.3**
comp=Z,5.0nm,0.4s,mb4.7
IMW Indian Meadow 90.90 42⇑ *iP* **P** **08 45 01.3 +0.5**
comp=Z,26nm,1.0s,mb5.0
MOOW Moose Ponds 90.94 42 *eP* **P** **08 45 00.6 -0.4**
comp=Z,4.2nm,1.0s,mb4.2
LOHW Long Hollow 90.96 43⇑ *iP* **P** **08 45 01.2 +0.1**
comp=Z,16nm,1.1s,mb4.8
BILL Bilibino 90.99 355 *eP* **P** **08 45 00.3 -0.4**
BILL pmax pmax
comp=Z,98nm,1.0s,mb5.6
BILL Bilibino 90.99 355 *eP* **P** **08 45 00.3 -0.3**
comp=Z,98nm,1.0s,mb5.6
QLMT Earthquake Lak 91.08 41 *eP* **P** **08 45 02.4 +0.8**
CHMT Chamberlain Mo 91.09 39 *eP* **P** **08 45 00.9 -0.8**
BW06 Boulder Array 91.19 44⇑ *iP* **P** **08 45 01.7 -0.5**
comp=Z,15nm,1.1s,mb4.7
PDAR Pinedale Array 91.19 44 P **P** **08 45 01.9 -0.3**
comp=Z,13nm,1.0s,mb4.7,baz=207,slow=3.3,SNR=52
PDAR PKKPbc 09 02 22.6
comp=Z,0.6nm,0.7s,baz=90,slow=3.0,SNR=5.2
YMR Madison River 91.28 41 *eP* **P** **08 45 02.7 +0.2**
BOZ Bozeman (W) 91.38 40⇑ *iP* **P** **08 45 02.9 -0.1**
comp=Z,6.5nm,0.8s,mb4.5
BOZ *epP* pP 08 46 43.3 -0.7
SDCO Great Sand Dun 91.51 50 *eP* **P** **08 45 03.5 -0.3**
comp=Z,13nm,1.3s,mb4.7
WALA Waterton Lakes 91.88 37 *eP* **P** **08 45 05.2 -0.1**
comp=Z,6.3nm,1.0s,mb4.5
ISCO Idaho Springs 92.38 48 *eP* **P** **08 45 07.0 -0.8**
comp=Z,1.7nm,0.8s,mb4.0
LZH Lanzhou 93.19 308 *eP* **P** **08 45 12.5 +0.9**
LZH AP pP 08 46 55.5 +2.8
LZH XP sP 08 47 40.0 +2.9
LZH PP PP 08 49 10.0 +6.2
LZH SKS SKS 08 55 02.0 -0.3
LZH S S 08 55 43.1 +5.5
LZH AMB AMB
comp=Z,26nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,160nm,5.0s
YAK Yakutsk 93.64 338 *eP* **P** **08 45 12.6 -0.4**
YAK pmax pmax
comp=Z,26nm,0.8s,mb5.3
YAK pmax pmax
comp=N,3.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 93.64 338 *eP* **P** **08 45 11.6 -1.4**
comp=E,72nm,0.7s,mb5.8
EDM Edmonton 94.42 33 *eP* **P** **08 45 15.7 -1.1**
CIT Chita 94.58 325 *eP* **P** **08 45 19.0 +1.5**
CFAA Coronel Fontan 94.72 127 P **P** **08 45 18.8 +0.1**
comp=E,0.6nm,0.6s,baz=234,slow=4.2,SNR=12
CFAA PP PP 08 49 10.6 -4.7
comp=E,0.2nm,0.9s,baz=233,slow=7.3,SNR=3.9
LAO LASA Array 95.17 41 *eP* **P** **08 45 20.7 +0.4**
comp=E,9.7nm,1.0s,mb4.8
RSSD Black Hills 95.38 44 *eP* **P** **08 45 20.3 -1.0**
RSSD pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
RSSD Black Hills 95.38 44 *eP* **P** **08 45 20.3 -1.0**
comp=Z,2.2nm,0.6s,mb4.4
RSSD *epP* pP 08 47 01.5 -1.1
ULN Ulaanbaatar 96.24 319 *eP* **P** **08 45 19.0 -6.2**
ULN pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
ULN Ulaanbaatar 96.24 319 *eP* **P** **08 45 19.0 -6.1**
comp=Z,5.7nm,0.8s,mb4.8
INK Inuvik 96.55 16 P **P** **08 45 25.7 -0.4**
comp=Z,10nm,0.6s,mb5.1,baz=236,slow=4.1,SNR=64
INK PP PP 08 49 23.6 -4.9
comp=Z,6.0nm,1.1s,baz=237,slow=8.5,SNR=4.8
INK Inuvik 96.55 16⇑ *eP* **P** **08 45 25.3 -0.8**
comp=Z,25nm,1.1s,mb5.3
SONM Songino Array 96.62 319 P **P** **08 45 26.8 -0.1**
comp=Z,1.8nm,0.8s,mb4.3,baz=63,slow=2.8,SNR=4.6
SONM PP PP 08 49 23.2 -6.4
comp=Z,3.2nm,1.2s,baz=117,slow=5.5,SNR=4.5
GTA Gaotai 97.47 309 *eP* **P** **08 45 31.5 +0.5**
GTA AMB AMB
comp=Z,5.0nm,0.7s,mb4.8
YKA Yellowknife Ar 98.84 25 P **P** **08 45 35.9 -0.6**
comp=Z,2.6nm,0.7s,mb4.7,baz=247,slow=4.3,SNR=7.9
YKA Yellowknife Ar 98.84 25 *eP* **P** **08 45 35.9 -0.6**
ZAK Zakamensk 99.56 321 *eP* **P** **08 45 41.0 +0.9**
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.5
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.5
TIXI Tiksi 100.48 345 *eP* P 08 45 40.9 -2.8
TIXI pmax pmax
comp=Z,2.0nm,0.7s
LPAZ La Paz 102.23 113 PKKPbc 09 01 54.0
comp=Z,1.1nm,0.7s,baz=3.3,slow=4.1,SNR=4.3
GUN Gumba 104.40 294 *eP* 08 50 15.9
comp=Z,11nm,0.4s
PKI Pulchoki 104.70 294 *eP* 08 50 15.9
comp=Z,22nm,0.7s
KKN Kakani 104.87 294 *eP* 08 50 16.4
comp=Z,19nm,0.7s
DMN Daman 104.96 294 *eP* 08 50 16.6
GKN Gorkha 105.48 294 *eP* 08 50 16.5
comp=Z,14nm,0.7s
KOLN Koldanda 106.28 294 *eP* 08 50 17.6
SIV San Ignacio 108.29 117 PKKPbc 09 01 34.2
comp=Z,1.7nm,0.7s,baz=341,slow=2.2,SNR=9.0
ZAL Zalesovo 111.44 321 PKiKP 08 50 27.9
comp=Z,4.8nm,0.5s,baz=1.1,slow=1.1,SNR=11
MKAR Makanchi Array 111.84 313 Pdiff Pdif 08 46 37.7 +3.4
comp=Z,1.0nm,0.7s,baz=90,slow=7.3,SNR=4.3
MKAR PKiKP 08 50 28.6
comp=Z,4.8nm,0.5s,baz=198,slow=0.7,SNR=42
MKAR PKKPbc 09 01 21.9
comp=Z,1.1nm,0.9s,baz=304,slow=4.4,SNR=6.5
MKAR PKKPab 09 01 33.0
comp=Z,0.6nm,0.6s,baz=263,slow=4.9,SNR=5.3
MKAR Makanchi Array 111.84 313 Pdif Pdif 08 46 37.7 +3.4
MKAR PKPdf PKPdf 08 50 28.6 +0.7
MKAR PKKPbc 09 01 21.9
MKAR PKKPab 09 01 33.0
NVS Novosibirsk 112.48 322 *i* PKIKP PKPdf 08 50 27.9 -1.0
ULHL Ulahol 115.40 307 P PKPdf 08 50 35.4 +0.4
SNR=7.8
TKM2 Tokmak 2 115.96 308 P PKPdf 08 50 36.9 +0.9
SNR=14
KZA Kyzart 116.11 307 P PKPdf 08 50 38.3 +1.9
SNR=16
KBK Karagaybulak 116.40 308 P PKPdf 08 50 38.1 +1.2
SNR=6.8
CHMS Chumysh 116.59 308 P PKPdf 08 50 38.1 +0.8
SNR=6.5
FRU Bishkek 116.67 308 *e*PKIKP PKPdf 08 50 38.0 +0.6
UCH Uchtor 116.67 307 P PKPdf 08 50 39.1 +1.7
SNR=29
AAK Ala-Archa 116.73 308 *d iP*KIKP PKPdf 08 50 37.6 +0.1
AAK Ala-Archa 116.73 308 *e*PKPdf PKPdf 08 50 37.5 0.0
USP Osipenovka 116.80 308 P PKPdf 08 50 38.5 +0.8
SNR=18
EKS2 Erkin-Say 117.26 308 P PKPdf 08 50 40.0 +1.4
SNR=6.3
AML Almayashu 117.26 307 P PKPdf 08 50 40.3 +1.7
SNR=8.3
BDFB Brasilia 118.91 124 PKKPbc 09 01 00.2
comp=Z,3.7nm,0.6s,baz=311,slow=1.4,SNR=5.5
VOSK Vostochnaya 119.62 319 PKIKP PKPdf 08 50 42.0 -0.9
VOSK pmax pmax
comp=Z,18nm,0.8s
KKAR Karatay Array 119.69 308 *i* PKIKP PKPdf 08 50 43.4 +0.1
KKAR pmax pmax
comp=Z,7.0nm,0.6s
BVAR Borovoye Array 119.97 319 PKP PKPdf 08 50 43.4 -0.2
comp=Z,12nm,0.4s,baz=90,slow=1.5,SNR=60
ZRNK Zerenda 120.81 319 *e*PKIKP PKPdf 08 50 45.2 0.0
SCHQ Schefferville 120.96 39 PKP PKPdf 08 50 45.6 +0.2
comp=Z,2.9nm,0.6s,baz=258,slow=3.6,SNR=7.2
SUR Sutherland 122.12 200 *e*PKPdf PKPdf 08 50 49.5 +1.3
BOSA Boshof 123.93 206 PKP PKPdf 08 50 53.5 +1.7
comp=Z,1.0nm,0.3s,baz=144,slow=2.7,SNR=6.8
BOSA PKKPbc 09 00 39.0
comp=Z,4.6nm,0.8s,baz=4.0,slow=3.9,SNR=8.1
BOSA Boshof 123.93 206 *e*PKPdf PKPdf 08 50 53.0 +1.2
DAG Danmarks Havn 124.90 5⇑ *i*PKIKP PKPdf 08 50 52.8 +0.3
DAG pmax pmax
comp=Z,13nm,1.0s
DAG Danmarks Havn 124.90 5⇑ *iP* PKPdf 08 50 52.8 +0.3
comp=Z,13nm,1.0s
SUMG Summit 125.41 14 *e*PKPdf PKPdf 08 50 54.6 +1.0
ARU Arti 126.28 324 *i* PKIKP PKPdf 08 50 55.6 0.0
ARU *e* 08 53 00.9
ARU Arti 126.28 324 *e*PKPdf PKPdf 08 50 55.7 +0.1
SOKR Solikamsk 126.31 328 *d iP*KIKP PKPdf 08 50 56.2 +0.7
SOKR pmax pmax
comp=Z,80nm,1.0s
AB31 Akbulak array 126.84 315 *i* PKIKP PKPdf 08 50 56.4 -0.4
AB31 pmax pmax
comp=Z,13nm,0.9s
LBTB Lobatse 126.95 208 *e*PKPdf PKPdf 08 50 58.8 +1.1
JMDO Jabal Madar 127.40 282⇓ P PKPdf 08 50 59.7 +1.0
SMDO Samad 127.58 282 P PKPdf 08 51 01.2 +2.1
SNR=7.1
BIDO Bidbid 127.61 283⇑ P PKPdf 08 51 00.9 +1.8
BSY Bisya 128.29 282⇑ P PKPdf 08 51 00.7 +0.3
SNR=15
ASHO Ashiyiah 129.67 284⇓ P PKPdf 08 51 04.5 +1.4
SNR=9.2
KEV Kevo 130.29 348 *e*PKPdf PKPdf 08 51 02.9 -0.1
WHFO Wadi Hawf 130.35 275 P PKPdf 08 51 05.1 +0.6
SNR=6.1
ABTO Aybut 130.64 274⇓ P PKPdf 08 51 06.5 +1.5
SNR=6.1
ARCES ARCESS Array B 130.76 349 PKP PKPdf 08 51 04.5 +0.6
comp=Z,24nm,0.6s,slow=1.2,SNR=60
ARCES SKPbc 08 53 48.4
comp=Z,8.1nm,0.9s,baz=27,slow=3.4,SNR=7.0
ARCES ARCESS Array B 130.76 349 PKP PKPdf 08 51 04.5 +0.6
ARCES SKPbc 08 53 48.4
ARE0 ARCESS Array S 130.76 349 *e*PKPdf PKPdf 08 51 04.3 +0.4
ARE0 *e*SKPbc 08 53 47.6
LSZ Lusaka 133.83 218 *e*PKPdf PKPdf 08 51 12.4 +1.3
LSZ *e*SKPbc 08 54 00.2
KAF Kangasniemi 136.83 343 *ep* 08 51 05.4
MOS Moscow 137.19 330 *e*PKIKP 08 51 12.1
MOS *e* 08 54 03.9
QRN Al-Qurain 137.35 288 *eP* PKPdf 08 51 19.3 +2.1
QRN AMb AMB 08 51 22.0
comp=Z,124nm,0.5s
KMBO Kilima Mbogo 137.42 241 PKhKP 08 51 11.2
comp=Z,1.4nm,0.7s,baz=223,slow=22,SNR=3.5
KMBO PKP PKPdf 08 51 21.3 +3.6
comp=Z,6.4nm,0.9s,baz=316,slow=2.9,SNR=9.5
KMBO SKPbc 08 54 12.3
comp=Z,11nm,1.0s,baz=7.6,slow=0.7,SNR=10.0
FINES FINESS Array B 137.44 342 PKHKP 08 51 06.7
comp=Z,1.8nm,0.4s,baz=63,slow=4.3,SNR=17
FINES PKP PKPdf 08 51 18.9 +2.5
comp=Z,18nm,0.6s,baz=45,slow=2.7,SNR=33
FINES SKPbc 08 54 09.4
comp=Z,2.7nm,0.6s,baz=135,slow=2.7,SNR=4.5
KBD Kabd 137.57 289 *eP* PKPdf 08 51 19.8 +2.2
RDF Al-Radifah 137.69 289 *eP* PKPdf 08 51 19.3 +1.5
RDF AMb AMB 08 51 23.0
comp=Z,132nm,0.8s
OBN Obninsk 138.04 330⇓ *i*PKIKP PKPdf 08 51 18.5 +0.8
OBN *i* 08 54 11.4
OBN pmax pmax
comp=Z,56nm,1.1s
OBN Obninsk 138.04 330 *e*PKPdf PKPdf 08 51 18.5 +0.8
RYDS Riyadh 138.09 282 P PKPdf 08 51 20.7 +2.1
VOR Voronezh 138.57 324 PKIKP PKPdf 08 51 20.0 +1.3
VOR pmax pmax
comp=Z,110nm,1.4s
GOF Gofitskoye 139.01 313⇓ *i*PKIKP PKPdf 08 51 19.0 -0.7
GOF pmax pmax
comp=Z,40nm,1.7s
ZEI Tsey 139.09 310 *e*PKIKP PKPdf 08 51 16.5 -3.4
ZEI *i* 08 54 14.7
GNI Garni 139.09 306 *eP* PKPdf 08 51 21.4 +1.4
GNI Garni 139.09 306 *c iP*KIKP PKPdf 08 51 21.5 +1.5
GNI Garni 139.09 306 PKP PKPdf 08 51 21.4 +1.4
comp=Z,5.3nm,0.4s,baz=19,slow=5.1,SNR=7.1
GNI Garni 139.09 306 *e*PKPdf PKPdf 08 51 21.1 +1.1
KAMS Al Khamasin 139.35 275 P PKPdf 08 51 22.5 +1.5
ONI Oni 139.46 310 P PKPdf 08 51 17.1 -3.5
KIV Kislovodsk 139.59 312⇓ *e*PKHKP 08 51 16.3
KIV *i* 08 51 22.1
KIV pmax pmax
comp=Z,9.0nm,0.8s
KIV pmax pmax
comp=Z,29nm,1.3s
KIV Kislovodsk 139.59 312 *i* PKP PKPdf 08 51 22.2 +1.4
VSU Vasula 139.63 339⇑ *i*PKIKP PKPdf 08 51 20.9 +0.5
CLDR Caldiran 139.92 304 *eP* PKPdf 08 51 16.6 -5.0
HAKT HAKKARI 140.38 302 *i* P PKPdf 08 51 16.3 -6.1
NB2 NORSAR Subarra1 40.90 352 PKPabc PKPdf 08 51 17.7 -4.9
comp=Z,25nm,0.8s,baz=15,slow=3.5
NB2 NORSAR Subarra1 40.90 352 PKPa PKPdf 08 51 17.7 -4.9
baz=15,slow=3.5
NB2 NORSAR Subarra1 40.90 352 PKPab 08 51 17.7
NOA NORSAR Array B 140.90 352 PKhKP 08 51 17.6
comp=Z,20nm,0.8s,baz=16,slow=4.6,SNR=79
BCA Borcka 141.08 309 *eP* PKPdf 08 51 19.7 -3.9
NAO01 NORSAR Array S 141.13 352 *e*PKPpre 08 51 17.9
BLJS Baljurashi 142.01 274 P PKPdf 08 51 25.6 -0.2
BEST Besiri 142.21 303 *i* P PKPdf 08 51 24.6 -1.0
KONO Kongsberg 142.45 353 *eP* PKPdf 08 51 22.0 -3.3
ODD1 Odda 142.48 355 *eP* PKPdf 08 51 22.8 -2.6
ODD1 AMb AMB 08 51 27.5
comp=Z,33nm,1.6s
ANN Anapa 142.80 315 *d iP*KIKP PKPdf 08 51 24.9 -1.5
ANN pmax pmax
comp=Z,144nm,1.2s
MBAR Mbarara 142.88 236 *c iP*KHKP 08 51 26.3
MBAR Mbarara 142.88 236 *e*PKPpre 08 51 25.8
GUMT Gumushane 142.92 308 *eP* PKPdf 08 51 26.1 -0.6
LTHS Al Lith 143.18 274 P PKPbc 08 51 28.1 +1.7
KMY Karmoy 143.27 356 *eP* PKPbc 08 51 25.6 +0.2
KMY AMb AMB 08 51 27.2
comp=Z,118nm,1.7s
PTK Pertek 143.41 305 *eP* PKPbc 08 51 28.1 +1.6
ELZG Elazig 143.82 305 *i* P PKPbc 08 51 29.6 +1.8
SNART Snartemo 143.99 354 *eP* PKPbc 08 51 28.1 +0.5
SNART AMb AMB 08 51 29.7
comp=Z,190nm,1.0s
MLA1 Latheron 144.18 4 *eP* PKPbc 08 51 27.9 -0.3
URFA Urfa 144.21 303 *eP* PKPbc 08 51 30.3 +1.3
REB Eisghbrachaidh 144.22 6 *eP* PKPbc 08 51 27.9 -0.4
AKASG Malin Array Be 144.27 329 PKP PKPdf 08 51 28.3 -0.4
comp=Z,33nm,0.4s,baz=40,slow=3.9,SNR=186
AKASG SKPbc 08 54 27.6
comp=Z,2.6nm,0.6s,baz=48,slow=2.5,SNR=4.1
RRH Rhenigidale 144.28 7 *eP* PKPbc 08 51 28.4 -0.1
MYA Malataya 144.29 305 *eP* PKPbc 08 51 31.2 +2.0
MALT Malatya 144.29 305 *eP* PKPbc 08 51 29.4 +0.2
MALT Malatya 144.29 305 *e*PKPdf PKPdf 08 51 30.3 +1.1
SUW Suwalki 144.37 337⇑ *e*PKP PKPdf 08 51 29.3 +0.5
SUW Suwalki 144.37 337⇑ *e*PKP PKPdf 08 51 29.2 +0.5
RRR Rubha Reidh 144.43 6 *eP* PKPdf 08 51 28.8 0.0
MVH1 Achvaich 144.50 5 *eP* PKPdf 08 51 29.0 +0.2
KSK Scoval 144.72 7 *eP* PKPdf 08 51 30.3 +1.0
KAC Achnashellach 144.83 6 *eP* PKPdf 08 51 30.1 +0.6
SIM Simferopol' 144.85 317 *c e*PKIKP PKPdf 08 51 31.8 +1.9
SIM *e* 08 54 55.0
SIM pmax pmax
comp=Z,141nm,0.9s
KBRS Khaybar 144.90 283 P PKPdf 08 51 32.6 +2.0
MCD Coleburn Disti 144.91 4 *eP* PKPdf 08 51 30.3 +0.7
MDO Dochfour 144.97 5 *eP* PKPdf 08 51 30.7 +1.0
SVST Sivas 144.97 308 *i* P PKPdf 08 51 33.3 +3.0
KSB Sheil Bridge 145.11 6 *eP* PKPdf 08 51 31.4 +1.4
MME1 Meikle Cairn 145.19 4 *eP* PKPdf 08 51 30.9 +0.8
GZT Gaziantep 145.20 303 *i* P PKPdf 08 51 32.6 +1.9
KAR1 Arisaig 145.35 6 *eP* PKPdf 08 51 31.8 +1.4
GAZ Gaziantep 145.51 303 *eP* PKPdf 08 51 34.8 +3.4
MUD Monsted U'grnd 145.62 352 *i* PKIKP PKPdf 08 51 32.4 +1.6
MUD pmax pmax
comp=Z,120nm,0.7s
MUD Monsted U'grnd 145.62 352 *i* P PKPdf 08 51 32.4 +1.6
comp=Z,115nm,0.7s
MUD *i* 08 51 51.8
KAHT Ahir Dag 145.66 304 *i* P PKPdf 08 51 34.6 +3.1
COP Copenhagen 145.84 348⇑ *i*PKP2 PKPab 08 51 33.6 -3.1
COP pmax pmax
comp=Z,55nm,0.5s
COP Copenhagen 145.84 348⇑ *iP* PKPdf 08 51 33.6 +2.4
comp=Z,55nm,0.5s
BOYT Boyabat 145.85 311 *i* P PKPdf 08 51 35.3 +3.6
BSD Bornholm Skovb 145.85 346 *i*PKIKP PKPdf 08 51 33.4 +2.1
BSD pmax pmax
comp=Z,260nm,0.8s
BSD Bornholm Skovb 145.85 346⇑ *iP* PKPdf 08 51 33.4 +2.1
comp=Z,263nm,0.8s
BSD *i* 08 51 42.0
BYBT Boyabat 145.93 312 *eP* PKPdf 08 51 35.6 +3.7

YNBS Yanbu' al Bahr 145.95 280 P PKPdf 08 51 34.4 +1.9
BNN Bunyan 146.07 307 *e*P PKPdf 08 51 34.0 +1.8
CTKT Corum 146.23 310 *i* P PKPdf 08 51 36.2 +3.8
BZK Bozkurt 146.25 313 *e*P PKPdf 08 51 36.9 +4.5
QURS Qurayyt al Mil 146.47 293 P PKPdf 08 51 37.5 +4.5
WAR Warsaw 146.57 337 *e*PKP PKPdf 08 51 36.8 +4.2
WAR Warsaw 146.57 337 *e*PKP PKPdf 08 51 36.8 +4.3
HTY Hatay 146.61 302 *e*P PKPdf 08 51 37.5 +4.4
TOS Tosya 146.61 311 *e*P PKPdf 08 51 38.0 +5.0
UMJS Umm Lajj 146.63 282 P PKPdf 08 51 35.4 +1.9
CEYT Ceyhan 146.69 304 *e*P PKPdf 08 51 37.6 +4.3
ASF Jabal al Asfar 146.73 295 PKP PKPdf 08 51 35.6 +2.1
comp=Z,56nm,0.9s,baz=325,slow=0.8,SNR=40
ASF PKPbc PKPbc 08 51 39.2 +3.7
comp=Z,42nm,0.7s,baz=333,slow=2.8,SNR=56
AVNT Avonos 146.83 307 *i* P PKPdf 08 51 34.0 +0.6
KIS Kishinev 146.84 324α *i* PKIKP PKPdf 08 51 34.0 +0.8
KIS *e* 08 58 30.0
KIS pmax pmax
comp=Z,400nm,1.0s
KIS pmax pmax
comp=Z,500nm,1.0s
BALT Daday 146.85 312 *i* P PKPdf 08 51 37.3 +3.9
CDAG Cicekdag 146.93 309 *i* P PKPdf 08 51 37.1 +3.6
GMK Mull of Kintyr 146.93 7 *e*P PKPdf 08 51 34.4 +1.3
CANT Cankiri 147.06 311 *e*P PKPdf 08 51 38.2 +4.4
GCL Cushendall 147.13 7 *e*P PKPdf 08 51 34.6 +1.3
ESK Eskdalemuir 147.17 4 *e*PKPbc PKPdf 08 51 37.3 +3.9
ELDT Eldivan 147.24 311 *i* P PKPdf 08 51 35.3 +1.2
TBKS Tabuk 147.35 287 P PKPdf 08 51 37.7 +3.1
BR131 Keskin Array S 147.39 309 *e*PKPdf PKPdf 08 51 35.0 +0.7
BR131 *e*PKPbc PKPdf 08 51 38.7 +4.4
BRTR Keskin Array B 147.39 309 PKP PKPdf 08 51 35.1 +0.8
comp=Z,40nm,0.8s,baz=140,slow=3.7,SNR=46
BRTR PKPbc PKPdf 08 51 39.5 +5.1
comp=Z,31nm,0.7s,baz=140,slow=4.5,SNR=58
IAS Iasi 147.39 325 PKP2 PKPab 08 51 39.1 -3.9
SAFT Safranbolu 147.45 312 *e*P PKPdf 08 51 38.8 +4.4
KAMT Kaman 147.46 309 *e*P PKPdf 08 51 35.3 +0.8
BHL Bhannes 147.48 298 *e*P PKPdf 08 51 39.8 +5.2
GAL1 Galloway 147.49 6 *e*P PKPdf 08 51 34.9 +0.9
KSHT Keshet 147.52 296 P PKPdf 08 51 35.0 +0.3
KSDI Kefar Szold 147.61 297 P PKPdf 08 51 35.2 +0.3
BSEG Bad Segeberg 147.88 349 *e*PKPdf PKPdf 08 51 36.5 +1.9
BSEG *e*PKPbc PKPdf 08 51 39.8 +5.2
BSEG *e*PKPab PKPab 08 51 44.2 -0.5
JMQS Jabal Moqyreh 147.91 289 P PKPdf 08 51 37.2 +1.8
TLCR 147.92 321 ⇑P PKPdf 08 51 40.1 +5.1
MMLI Mount Malkishu 147.93 295 P PKPdf 08 51 36.2 +0.8
ANTO Ankara 147.93 310 *e*P PKPdf 08 51 36.2 +1.0
LOD Lodumlu 147.95 310 *e*P PKPdf 08 51 40.4 +5.2
KWP Kalwaria 147.98 333 *e*PKPdf PKPdf 08 51 36.3 +1.4
KWP *e*PKPbc PKPdf 08 51 39.8 +4.9
KWP ⇑*e*PKP PKPdf 08 51 40.2 +5.3
KWP Kalwaria 147.98 333⇑ *e*PKP PKPdf 08 51 40.2 +5.3
HNTI Hanita 148.03 297 P PKPdf 08 51 35.8 +0.3
MEST Erdemli 148.04 303 *i* P PKPdf 08 51 36.2 +0.7
MZDA Masada 148.14 293 P PKPdf 08 51 36.3 +0.5
SGKT Sivrigoynuk 148.16 312 *i* P PKPdf 08 51 41.0 +5.5
OFRI 'Ofer 148.26 296 P PKPdf 08 51 36.2 +0.3
SLTI Sal'it 148.28 295 P PKPdf 08 51 36.8 +0.8
BURAR Bucovina Array 148.30 328 ⇓P PKPdf 08 51 41.4 +5.9
CFR Carcaliu 148.31 322 PKP2 PKPdf 08 51 41.3 +5.7
CFR Carcaliu 148.31 322 ⇑P PKPdf 08 51 41.0 +5.4
ZFRI Zfri 148.39 292 P PKPdf 08 51 37.1 +0.9
IKL Isikli 148.50 303 *e*P PKPdf 08 51 41.7 +5.5
RUE Ruedersdorf 148.54 345 *e*PKPbc PKPdf 08 51 41.4 +5.6
PHNC Paralimni 148.55 301 P PKPdf 08 51 42.6 +6.3
PRNI Paran 148.56 292 P PKPdf 08 51 37.5 +1.0
JMOS Jabal al Moall 148.57 289 P PKPdf 08 51 38.0 +1.5
TIRR Tirgusor 148.57 321 PKP2 PKPab 08 51 41.8 -6.0
TIRR Tirgusor 148.57 321 ⇓P PKPdf 08 51 41.3 +5.3
AQBJ Aqaba 148.58 290 P PKPdf 08 51 37.5 +1.0
ALWS Ilw as Safayha 148.60 290 P PKPdf 08 51 38.7 +2.1
BDAS Al Bad' 148.62 288 P PKPdf 08 51 38.1 +1.5
DCN Croghan 148.66 9 *e*P PKPdf 08 51 37.1 +1.2
DCN Croghan 148.66 9⇑ *i*P PKPdf 08 51 40.8 +4.9
EIL Elat 148.67 290 *e*PKPdf PKPdf 08 51 37.9 +1.2
EIL *e*PKPbc PKPdf 08 51 42.9 +6.2
EIL Elat 148.67 290 P PKPdf 08 51 37.7 +1.0
OJC Ojcow 148.67 336 *e*PKP PKPdf 08 51 36.8 +0.8
MASH Mash'abbe Sade 148.67 293 P PKPdf 08 51 37.5 +0.9
VRI Vrincioaia 148.67 324 PKP2 PKPdf 08 51 42.2 +6.0
MBH Mount Berech 148.69 290 P PKPdf 08 51 37.9 +1.2
KOLS Kolonicke sedl 148.70 332 *e*PKP PKPdf 08 51 37.8 +1.7
KOLS *e* 08 51 42.3
HARR Harsova 148.72 321 PKP2 PKPdf 08 51 42.4 +6.1
HARR Harsova 148.72 321 ⇓P PKPdf 08 51 42.5 +6.2
HAQS Haql 148.73 289 P PKPdf 08 51 38.1 +1.3
TAYS Tayyib Ism 148.81 288 P PKPdf 08 51 38.4 +1.4
DLF Lyons Farm 148.82 9 *e*P PKPdf 08 51 37.4 +1.3
DLF Lyons Farm 148.82 9⇑ *i*P PKPdf 08 51 41.1 +5.0
KMTI Karmit 148.82 291 P PKPdf 08 51 37.8 +0.9
HENT Hendek 148.85 313 *i* P PKPdf 08 51 37.4 +0.8
DSB Dublin 148.89 8 *e*PKPdf PKPdf 08 51 36.3 +0.1
DSB *e*PKPbc PKPdf 08 51 41.6 +5.3
DSB *e*PKPab PKPab 08 51 47.5 -1.3
UZH Uzhgorod 148.92 332 *i* PKIKP PKPdf 08 51 37.0 +0.5
KDHN Kadinhani 148.93 308 *i* P PKPdf 08 51 42.3 +5.5
KIZT Kizilcal 148.97 309 *e*P PKPdf 08 51 42.5 +5.7
ERMK Ermenek 148.97 304 *i* P PKPdf 08 51 42.5 +5.6
CRVS Cervenica-Dubn 149.06 333 *e*PKP PKPdf 08 51 43.3 +6.6
CSS Prodhromos 149.12 301 ⇑P PKPdf 08 51 43.2 +6.0
comp=Z,1.1nm,0.6s
CSS Prodhromos 149.12 301⇑ *e*P PKPdf 08 51 43.2 +6.0
NIE Niedzica 149.12 335 *e*PKP PKPdf 08 51 39.0 +2.2
NIE *e* 08 51 43.5
PSN Preselentsi 149.15 320 *e*P PKPdf 08 51 42.0 +5.0
MAMC Mammari 149.15 301 ⇑P PKPdf 08 51 43.6 +6.3
HDMB Hadim 149.19 305 *e*P PKPdf 08 51 43.0 +5.7
ISR Istrita 149.24 323 PKP2 PKPdf 08 51 44.2 +7.1
KSP Ksiaz 149.33 341 *e*PKPdf PKPdf 08 51 38.2 +1.2
KSP *i* PKPdf PKPdf 08 51 43.7 +6.7
KSP *e*PKPab PKPab 08 51 48.2 -2.5
KSP Ksiaz 149.33 341⇑ *e*PKP PKPdf 08 51 43.8 +6.7
RAC Raciborz 149.36 338 *e*PKPdf PKPdf 08 51 38.9 +1.8
LEF Lefka 149.43 301 *e*P PKPdf 08 51 44.2 +6.5
ESKT Eskisehir 149.45 310 *e*P PKPdf 08 51 44.2 +6.6
ESKT Eskisehir 149.45 310 *i* P PKPdf 08 51 43.9 +6.2
EYL Eskiyayla 149.47 313 *e*P PKPdf 08 51 44.1 +6.5
GPA Golpazari 149.49 312 *e*P PKPdf 08 51 44.2 +6.5
WIT Witteveen 149.49 353 *e*PKP PKPdf 08 51 44.9 +7.7
SZAC Souni-Zanaja 149.53 301 P PKPdf 08 51 44.3 +6.4
comp=Z,6.7nm,0.7s
SBD1 Bryn Du 149.56 5 *e*P PKPdf 08 51 38.7 +1.3
OKC Ostrava-Krasne 149.58 338 *e*PKHKP 08 51 39.0
OKC *e* 08 51 50.2
OKC Ostrava-Krasne 149.58 338 *e*PKPDF PKPdf 08 51 39.0 +1.5
OKC ⇑*i*PKPB PKPdf 08 51 44.0 +6.5
OKC *e*PKPAB PKPab 08 51 50.2 -1.6
ALFC Alevga 149.65 301 ⇑P PKPdf 08 51 44.1 +6.0
comp=Z,3.1nm,1.0s
ALFC Alevga 149.65 301⇑ *e*P PKPdf 08 51 44.1 +6.0
HRT Hereke 149.68 314 *e*P PKPdf 08 51 44.4 +6.4
UPC Upice 149.71 341 *e*PKHKP 08 51 39.2
UPC *e* 08 51 50.9
UPC Upice 149.71 341 *e*PKPDF PKPdf 08 51 39.2 +1.5
UPC ⇑*i*PKPB PKPdf 08 51 44.6 +6.9
UPC *e*PKPAB PKPab 08 51 50.9 -1.4
DPC Dobruska-Polom 149.75 340 *e*PKIKP PKPdf 08 51 37.7 0.0
DPC *e* 08 51 51.9
DPC Dobruska-Polom 149.75 340 *e*PKPDF PKPdf 08 51 37.7 0.0
DPC ⇑*i*PKPB PKPdf 08 51 44.8 +7.1
DPC *e*PKPAB PKPab 08 51 51.9 -0.6
KECS Kecovo 149.79 334 *e*PKP PKPdf 08 51 44.7 +6.8
KECS *e* 08 51 51.6
CLL Collm 149.81 345⇑ *e*PKIKP PKPdf 08 51 39.0 +1.2
CLL *i* 08 51 51.5
CLL pmax pmax
comp=Z,321nm,0.8s
CLL pmax pmax
comp=Z,103nm,0.9s
CLL Collm 149.81 345 *e*PKP PKPdf 08 51 39.0 +1.2
CLL ⇑*i*PKP PKPdf 08 51 44.5 +6.7
CLL ⇓*i*PKP PKPab 08 51 51.5 -1.2
CLL Collm 149.81 345 *e*PKIKP PKPdf 08 51 39.0 +1.2
CLL *i* PKP1 PKPdf 08 51 44.5 +6.7
CLL *i* PKP2 PKPab 08 51 51.5 -1.2
CLL *e* 08 51 59.0
MORC Moravsky Berou 149.84 338 PKHKP 08 51 45.1
MORC Moravsky Berou 149.84 338 *e*PKPdf PKPdf 08 51 39.1 +1.2
MORC *e*PKPbc PKPdf 08 51 44.8 +6.9
VOIR 149.85 325 ⇓P PKPdf 08 51 45.0 +6.9
CLZ Clausthal 149.88 348 *e*PKPdf PKPdf 08 51 39.4 +1.5
CLZ *e*PKPbc PKPdf 08 51 44.9 +7.0
LIKS Likavka 149.88 336 *e*PKP PKPdf 08 51 46.1 +8.1
PRD Provadia 149.89 319 *e*P PKPdf 08 51 40.0 +1.8
ISK Istanbul-Kandi 149.97 314 *e*P PKPdf 08 51 44.2 +5.8
BRG Berggiesshubel 149.97 343 *i* PKHKP PKPdf 08 51 39.8 +1.7
BRG *i* 08 51 52.7
BRG pmax pmax
comp=Z,31nm,1.4s
BRG pmax pmax
comp=Z,226nm,0.8s
BRG pmax pmax
comp=Z,59nm,1.1s
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG Berggiesshubel 149.97 343 *i* PKP PKPdf 08 51 39.8 +1.8
BRG *i* PKP PKPdf 08 51 45.5 +7.4
BRG *i* PKP PKPdf 08 51 52.7 +15
BRG *e*pPKP 08 53 33.9
HLM1 Long Mynd 149.97 5 *e*P PKPdf 08 51 39.2 +1.1
HLM1 AMb AMB 08 51 45.8
comp=Z,216nm,1.1s
YLV Yalova 150.00 313 *e*P PKPdf 08 51 44.7 +6.3
SSP1 Stoney Pound 150.06 5 *e*P PKPdf 08 51 39.0 +0.9
SSP1 AMb AMB 08 51 46.2
comp=Z,286nm,0.9s
DRGR 150.09 329 PKHKP 08 51 45.4
DRGR 150.09 329 ⇑P PKPdf 08 51 44.6 +6.2
PVCC Panska Ves 150.11 342 *e*PKPDF PKPdf 08 51 39.5 +1.2
PVCC ⇑*i*PKPB PKPdf 08 51 45.5 +7.2
PVCC *e*PKPAB PKPab 08 51 53.8 -0.2
ALT Altintas 150.16 310 *e*P PKPdf 08 51 46.1 +7.3
WTSB Winterswijk 150.31 353 *e*PKP PKPdf 08 51 39.5 +1.0
comp=Z,56nm,0.9s
WTSB *ex* x 08 51 45.4
WTSB *ex* x 08 51 52.9
ULDT Uludag 150.36 313 *i* P PKPdf 08 51 39.7 +0.7
ISP Isparta 150.36 308 *e*P PKPdf 08 51 44.6 +5.5
ISP Isparta 150.36 308 PKIKP PKPdf 08 51 45.8 +6.7
ISP Isparta 150.36 308 *e*PKPbc PKPdf 08 51 45.1 +6.0
HTR Trewern Hill 150.38 5 *e*P PKPdf 08 51 39.0 +0.3
TKTP Tekketepe 150.42 308 *i* P PKPdf 08 51 40.8 +1.6
VYHS Vyhne 150.44 335 *e*PKP PKPdf 08 51 40.4 +1.5
VYHS *e* 08 51 46.0
VYHS *e* 08 51 55.7
HAE Alders End 150.48 4 *e*P PKPdf 08 51 39.5 +0.7
HAE AMb AMB 08 51 46.9
comp=Z,243nm,1.5s
MCH1 Michaelchurch 150.48 5 *e*P PKPdf 08 51 40.1 +1.3
PSZ Piszkesteto 150.48 334 PKIKP PKPdf 08 51 46.1 +7.2
PSZ Piszkesteto 150.48 334 *e*PKPdf PKPdf 08 51 40.3 +1.4
PSZ *e*PKPbc PKPdf 08 51 45.8 +6.9
PSZ Piszkesteto 150.48 334⇑ *e*PKP/F PKPdf 08 51 39.5 +0.6
PSZ *i* 08 51 45.9
VRAC Vranov 150.56 339 PKIKP PKPdf 08 51 46.7 +7.7
GDZ Gediz 150.59 311 *i* P PKPdf 08 51 46.3 +6.9
PRU Pruhonice 150.60 342 *e*PKIKP PKPdf 08 51 40.0 +0.9
PRU *e* 08 51 53.7
PRU Pruhonice 150.60 342 *e*PKPDF PKPdf 08 51 40.0 +0.9
PRU ⇑*i*PKPB PKPdf 08 51 46.3 +7.2
PRU *e*PKPAB PKPab 08 51 53.7 -2.3
PRU *ex* x 08 53 33.1
MOX Moxa 150.75 346 *e*PKIKP PKPdf 08 51 40.7 +1.4
MOX *e* 08 51 54.7
MOX pmax pmax
comp=Z,156nm,1.1s
MOX Moxa 150.75 346 *e*PKP PKPdf 08 51 40.7 +1.4
MOX *i* PKP PKPdf 08 51 46.6 +7.3
MOX *e*PKPab PKPab 08 51 54.7 -1.9
MOX Moxa 150.75 346⇓ *i*P PKPdf 08 51 40.7 +1.4
MOX PP2 08 51 47.0
MOX PKP2 PKPab 08 51 55.0 -1.6
HGH Gray Hill 150.85 5 *e*P PKPdf 08 51 40.3 +0.9
HGH AMb AMB 08 51 47.6
comp=Z,277nm,1.1s
NKC Novy Kostel 150.94 345 *e*PKIKP PKPdf 08 51 40.6 +1.1
NKC *e* 08 51 54.9
NKC Novy Kostel 150.94 345 *e*PKPDF PKPdf 08 51 40.6 +1.1
NKC ⇑*i*PKPB PKPdf 08 51 47.1 +7.6
NKC *e*PKPAB PKPab 08 51 54.9 -2.5
SMOL Smolenice 150.95 337 *e*PKP PKPdf 08 51 48.1 +8.5
SMOL *e* 08 51 58.0
EDRB Edirne 151.05 318 *e*P PKPdf 08 51 47.2 +7.3
BNT Bandirma 151.07 314 *e*P PKPdf 08 51 47.9 +7.8
MRMT Marmara Adasi 151.16 315 *e*P PKPdf 08 51 46.4 +6.2
SRO Srobarova 151.20 335 *e*PKP PKPdf 08 51 48.4 +8.4
SRO2 Moca 151.21 335 *e*PKP PKPdf 08 51 47.8 +7.8
ELL Elmali 151.21 306 *e*P PKPdf 08 51 47.9 +7.5
MFT Murefte 151.27 315 *e*P PKPdf 08 51 47.0 +6.7
SRO1 Iza 151.27 335 *e*PKP PKPdf 08 51 48.3 +8.2
BTOK Tokmak 151.28 313 *i* P PKPdf 08 51 47.9 +7.5
GOLH Golhisar 151.29 307 *i* P PKPdf 08 51 48.0 +7.5
ZST Bratislava 151.34 337 *e*PKIKP PKPdf 08 51 42.1 +1.9
ZST *e* 08 51 58.6
ZST Bratislava 151.34 337 *e*PKP PKPdf 08 51 42.1 +1.9
ZST *e* 08 51 48.2
ZST *e* 08 51 58.6
BALB Balikesir 151.44 313 *e*P PKPdf 08 51 47.7 +7.1
DENT Denizli 151.47 308 *e*P PKPdf 08 51 49.4 +8.7
DNZL Cakiroluk 151.49 308 *i* P PKPdf 08 51 48.7 +8.0
MANT Manisa 151.50 310 *i* P PKPdf 08 51 48.2 +7.4
HGN Heimansgroeve 151.59 353 *e*PKP PKPdf 08 51 41.9 +1.4
comp=Z,24nm,1.2s
HGN *ex* x 08 51 48.3
comp=Z,81nm,1.0s
HGN *ex* x 08 51 58.3
HGN pPKP 08 53 21.7
AKAS Kas 151.62 305 *i* P PKPdf 08 51 47.8 +6.8
KHC Kasperske Hory 151.65 342 *e*PKIKP PKPdf 08 51 41.9 +1.3
KHC *e* 08 51 59.4
KHC Kasperske Hory 151.65 342 *e*PKPDF PKPdf 08 51 41.9 +1.3
KHC ⇑*i*PKPB PKPdf 08 51 48.8 +8.2
KHC *e*PKPAB PKPab 08 51 59.4 -1.1
DIM Dimitrovgrad 151.68 319 *e*P PKPdf 08 51 48.0 +7.1
DJES Djerdap 151.71 326⇓ *i*PKP PKPdf 08 51 48.0 +7.2
GRA1 Grafenberg Arr 151.73 346 *e*PKPdf PKPdf 08 51 42.2 +1.5
GRA1 *e*PKPbc PKPdf 08 51 49.3 +8.6
GRA1 *e*PKPab PKPab 08 52 00.1 -0.7
GRF Grafenberg Arr 151.73 346 *e*PKP PKPdf 08 51 42.2 +1.5
GRF *e*PKP PKPdf 08 51 49.3 +8.6
GRF *e*PKP PKPab 08 52 00.1 -0.7
CANB Canakkale 151.81 314 *e*P PKPdf 08 51 49.4 +8.3
WET Wettzell 151.83 343 *e*PKPdf PKPdf 08 51 42.6 +1.8
WET *e*PKPbc PKPdf 08 51 49.4 +8.6
WET *e*PKPab PKPab 08 52 00.0 -1.2
AKS Akhisar 151.85 311 *e*P PKPdf 08 51 49.4 +8.2
FETY Fethiye 151.87 306 *e*P PKPdf 08 51 49.2 +7.9
GEC2 GERESS Array S 151.87 342 *e*PKPdf PKPdf 08 51 42.6 +1.7
GEC2 *e*PKPbc PKPdf 08 51 49.2 +8.3
GEC2 *e*PKPab PKPab 08 52 00.3 -1.1
GERES GERESS Array B 151.87 342 PKP PKPdf 08 51 42.6 +1.7
comp=Z,5.7nm,0.9s,baz=90,slow=1.3,SNR=27
GERES PKPbc PKPdf 08 51 49.5 +8.6
comp=Z,43nm,0.9s,slow=1.3,SNR=93
KDZ Kurdzhali 151.98 318 *e*P PKPdf 08 51 41.0 -0.3
PGB Panagyurishte 152.19 321 *e*P PKPdf 08 51 50.0 +8.4
ABH Alteburg 152.25 351 PKP PKPdf 08 51 42.5 +1.1
ABH Alteburg 152.25 351⇓ *e*P PKPdf 08 51 43.0 +1.6
YER Yerkesik 152.27 308 *e*P PKPdf 08 51 50.5 +8.6
TOD Tromm 152.31 349 PKP PKPdf 08 51 42.3 +0.8
TOD Tromm 152.31 349⇓ *e*P PKPdf 08 51 43.1 +1.6
AYDN Tasoluk 152.34 309 *i* P PKPdf 08 51 50.1 +8.2
GIVF Givet 152.35 354 *e*PKIKP PKPdf 08 51 43.4 +1.9
RZN Rozhen 152.38 319 *e*P PKPdf 08 51 43.0 +1.1
SIND Sindeldorf 152.40 348⇓ *e*P PKPdf 08 51 43.2 +1.6
AYVA Ayvalik 152.41 313 *i* P PKPdf 08 51 42.4 +0.4
BAIF Baives 152.45 355 *e*PKIKP PKPdf 08 51 43.4 +1.7
comp=Z,20nm,0.9s
IZM Izmir 152.45 311 *e*P PKPdf 08 51 50.4 +8.4
RUP Ruppelstein 152.49 351 PKP PKPdf 08 51 42.8 +1.1
RUP Ruppelstein 152.49 351⇓ *e*P PKPdf 08 51 43.6 +1.9
BOLS Boljevac 152.56 326⇑ *i*PKP PKPdf 08 51 50.4 +8.4
MLSB Milas 152.57 308 *e*P PKPdf 08 51 50.0 +7.7
ZAPS Zavoj/Pirot 152.57 324⇓ *i*PKP PKPdf 08 51 42.9 +0.9
MOA Molln 152.59 340⇓ *i*P PKPdf 08 51 42.9 +1.0
comp=Z,9.7nm,1.4s
MOA *i* 08 51 51.0
comp=Z,19nm,0.7s
MOA *i* 08 52 04.5
comp=Z,48nm,1.1s
BLCB Balcova 152.61 311 *e*P PKPdf 08 51 49.9 +7.6
SVIS Svilajnac 152.61 327⇓ *i*PKP PKPdf 08 51 50.8 +8.7
WLF Walferdange 152.65 353 *e*PKPbc PKPdf 08 51 51.0 +9.0
WLF *e*PKPab PKPab 08 52 03.3 -1.3
ARSA Arzberg 152.70 338⇓ *i*P PKPdf 08 51 43.4 +1.3
comp=Z,6.6nm,1.0s
ARSA *i* 08 51 51.3
comp=Z,22nm,1.4s
ARSA *i* 08 52 04.5
comp=Z,18nm,0.8s
VTS Vitosha 152.71 322 PKIKP PKPdf 08 51 50.7 +8.4
VTS Vitosha 152.71 322 *e*P PKPdf 08 51 43.0 +0.7
URLA Izmir 152.93 311 *i* P PKPdf 08 51 43.7 +1.0
HDH Heidenheim 153.00 346⇓ *e*P PKPdf 08 51 44.0 +1.5
BODT Bodrum 153.00 308 *e*P PKPdf 08 51 50.9 +8.0
MMB Musomiste 153.03 320 *e*P PKPdf 08 51 40.0 -2.8
STU Stuttgart 153.03 348 *e*PKPdf PKPdf 08 51 44.5 +2.0
STU *e*PKPbc PKPdf 08 51 51.7 +9.2
STU *e*PKPab PKPab 08 52 04.5 -1.8
LANF Langenberg 153.08 350 PKP PKPdf 08 51 43.7 +1.1
FUR Furstenfeldbru 153.15 344 *e*PKPdf PKPdf 08 51 44.1 +1.4
FUR *e*PKPbc PKPdf 08 51 52.5 +10
FUR *e*PKPab PKPab 08 52 06.1 -0.7
GRUS Gruza 153.16 327⇓ *i*PKP PKPdf 08 51 44.1 +1.3
KKB Krupnik 153.24 321 *e*P PKPdf 08 51 44.0 +1.0
BUCH Bad Urach 153.31 347 *e*P PKPdf 08 51 44.6 +1.7
DIVS Divcibare 153.37 328⇑ *i*PKP PKPdf 08 51 43.9 +0.8
PERS Pernice 153.37 338 *e*PKPdf PKPdf 08 51 44.4 +1.3
PERS *e* 08 51 52.5
PERS *e*PKPab PKPab 08 52 06.7 -1.0
KBA Koelnbreinsper 153.56 341⇓ *i*P PKPdf 08 51 44.1 +0.8
comp=Z,14nm,1.3s
KBA *i* 08 51 53.0
comp=Z,26nm,0.9s
KBA *i* 08 52 08.6
comp=Z,26nm,0.6s
BFO Black Forest 153.62 349 *e*PKPdf PKPdf 08 51 44.8 +1.5
BFO *e*PKPbc PKPdf 08 51 53.3 +10
BFO *e*PKPab PKPab 08 52 07.4 -1.4
OBKA Obir 153.68 338⇑ *i*P PKPdf 08 51 45.3 +1.8
comp=Z,6.0nm,0.8s
OBKA *i* 08 51 52.7
comp=Z,34nm,1.9s
OBKA *i* 08 52 07.6
comp=Z,24nm,0.8s
WLS Welschbruch 153.71 350 PKP PKPdf 08 51 44.0 +0.6
CDF Champ du Feu 153.72 350 *e*PKIKP PKPdf 08 51 45.0 +1.5
comp=Z,34nm,1.3s
GUT Gutenstein 153.72 347 *e*P PKPdf 08 51 44.7 +1.2
BBLS Bajina Basta - 153.82 329⇓ *i*PKP PKPdf 08 51 44.7 +1.0
WATA Walderalm 153.84 343⇑ *i*P PKPdf 08 51 44.0 +0.3
comp=Z,19nm,1.1s
WATA *i* 08 51 54.0
comp=Z,9.9nm,0.5s
WATA *i* 08 52 10.1
comp=Z,34nm,1.0s
FLN La Foliniere 153.85 2 *e*PKIKP PKPdf 08 51 45.2 +1.6
comp=Z,45nm,0.8s
UBR Uberruh 153.88 346 *e*P PKPdf 08 51 45.3 +1.6
WTTA Wattenberg 153.89 343⇓ *i*P PKPdf 08 51 45.5 +1.8
comp=Z,22nm,0.9s
WTTA *i* 08 51 54.2
comp=Z,52nm,1.0s
WTTA *i* 08 52 10.4
comp=Z,46nm,0.6s
MEZF Maizieres J'vi 153.92 354 *e*PKIKP PKPdf 08 51 45.8 +2.1
LIBD Limburg 153.92 350 *e*P PKPdf 08 51 45.1 +1.4
ECH Echery 153.93 350 PKP PKPdf 08 51 44.9 +1.1
MOTA Mooosalm 153.95 344⇑ *i*P PKPdf 08 51 45.6 +1.8
comp=Z,17nm,0.8s
MOTA *i* 08 51 54.2
comp=Z,21nm,0.9s
MOTA *i* 08 52 10.3
comp=Z,48nm,1.0s
SQTA Sankt Quirin 154.04 344⇑ *i*P PKPdf 08 51 45.9 +2.0
comp=Z,18nm,0.8s
SQTA *i* 08 51 54.5
comp=Z,17nm,0.7s
SQTA *i* 08 52 11.2
comp=Z,14nm,0.6s
KIZ Kirchzarten 154.06 349 *e*P PKPdf 08 51 45.5 +1.6
THEF They Montfort 154.08 352 PKP PKPdf 08 51 44.7 +0.7
ROSF Rostrenen 154.09 6 *e*PKIKP PKPdf 08 51 45.2 +1.2
LJU Ljubljana 154.09 338 *e*PKPdf PKPdf 08 51 45.8 +1.8
LJU *e* 08 51 53.4
LJU *i* PKPab PKPab 08 52 10.0 -0.8
LJU Ljubljana 154.09 338 *e*PKPdf PKPdf 08 51 45.8 +1.8
LJU *e* 08 51 53.4
LJU *e* 08 51 54.4
LJU *i* PKPab PKPab 08 52 10.0 -0.8
SKO Skopje 154.11 323 *i* PKIKP PKPdf 08 51 45.0 +0.8
SKO *i* PKHKP 08 51 53.5
SKO *i* PKP2 PKPab 08 52 10.5 -0.5
FELD Feldberg 154.12 349 PKP PKPdf 08 51 44.5 +0.5
FELD Feldberg 154.12 349 *e*P PKPdf 08 51 45.8 +1.8
GRR Gorron 154.21 3 *e*PKIKP PKPdf 08 51 45.8 +1.7
comp=Z,38nm,1.0s
SGMF Saint Gilles 154.24 5 *e*PKIKP PKPdf 08 51 45.5 +1.3
HAU Haudompre 154.25 351 *e*PKIKP PKPdf 08 51 45.9 +1.7
comp=Z,36nm,1.2s
MOF Molkenrain 154.29 350 PKP PKPdf 08 51 45.2 +1.0
BOJS Bojanci 154.29 336 *i* PKPdf PKPdf 08 51 46.0 +1.6
BOJS *e* 08 51 54.6
BOJS *e*PKPab PKPab 08 52 11.3 -0.4
DAVA Damuels 154.30 346⇑ *i*P PKPdf 08 51 45.4 +1.1
comp=Z,15nm,0.9s
DAVA *i* 08 51 54.9
comp=Z,32nm,1.1s
DAVA *i* 08 52 11.6
comp=Z,40nm,0.8s
VOY Vojsko 154.32 339 *e*PKPdf PKPdf 08 51 45.7 +1.4
VOY *e* 08 51 54.3
VOY *e*PKPab PKPab 08 52 10.5 -1.3
HINF Hinteralfeld 154.36 351 *e*PKIKP PKPdf 08 51 46.0 +1.6
QUIF Quistinic 154.51 6 *e*PKIKP PKPdf 08 51 45.8 +1.2
BBS Basel-Blauen 154.60 349 PKP PKPdf 08 51 44.9 +0.2
BBS Basel-Blauen 154.60 349 *e*P PKPdf 08 51 46.3 +1.6
LOMF Lomont 154.82 350 PKP PKPdf 08 51 46.2 +1.2
LOR Lormes 155.25 355 *e*PKIKP PKPdf 08 51 47.4 +1.8
comp=Z,46nm,1.1s
HYF Humbligny 155.33 357 *e*PKIKP PKPdf 08 51 48.2 +2.5
SSF Saint Saulge 155.48 356 *e*PKIKP PKPdf 08 51 47.8 +1.9
comp=Z,42nm,1.0s
CABF La Chapelle 155.65 351 *e*PKIKP PKPdf 08 51 48.5 +2.4
comp=Z,43nm,1.1s
SMF Signal de Mont 155.87 355 *e*PKIKP PKPdf 08 51 48.1 +1.7
comp=Z,30nm,1.0s
MFF Saint Martin d 156.02 2 *e*PKIKP PKPdf 08 51 48.5 +1.9
comp=Z,38nm,0.9s
BGF Bois d'Agland 156.03 357 *e*PKIKP PKPdf 08 51 48.6 +2.0
comp=Z,38nm,0.7s
TCF Toulx Ste Croi 156.32 358 *e*PKIKP PKPdf 08 51 48.9 +1.9
comp=Z,40nm,0.9s
AGO Saint Agoulin 156.51 356 PKP PKPdf 08 51 49.4 +2.2
PLDF La Plantade 156.56 355 PKP PKPdf 08 51 49.4 +2.1
LPL La Plagne 156.62 350 *e*PKIKP PKPdf 08 51 49.7 +2.3
LPG La Plagne 156.64 350 *e*PKIKP PKPdf 08 51 49.9 +2.5
comp=Z,61nm,1.3s
PYM Petit Puy Mans 156.82 356 PKP PKPdf 08 51 50.4 +2.8
LBL Lubilhac 157.32 356 PKP PKPdf 08 51 50.9 +2.6
RJF Les Rejaudoux 157.33 359 *e*PKIKP PKPdf 08 51 50.3 +2.0
comp=Z,32nm,1.0s
ORIF Oris-en-Rattie 157.34 351 *e*PKIKP PKPdf 08 51 50.3 +1.9
comp=Z,27nm,1.0s
MBDF Montbardon 157.38 349 *e*PKIKP PKPdf 08 51 50.4 +2.0
VIVF Saint-Julien-l 157.56 353 *e*PKIKP PKPdf 08 51 50.7 +2.1
comp=Z,44nm,1.2s
CAF Calviac 157.69 358 *e*PKIKP PKPdf 08 51 51.0 +2.2
comp=Z,53nm,1.2s
LFF La Frestale 157.70 0 *e*PKIKP PKPdf 08 51 50.7 +1.9
SMRF Simiane la Rot 158.31 351 *e*PKIKP PKPdf 08 51 51.9 +2.3
comp=Z,53nm,1.0s
LASF Ste Croix 158.42 354 *e*PKIKP PKPdf 08 51 51.9 +2.1
comp=Z,44nm,1.1s
FRF La Foret Royal 158.53 348 *e*PKIKP PKPdf 08 51 52.2 +2.3
TIP Timpagrande 158.61 324 *e*PKPdf PKPdf 08 51 51.8 +1.6
TIP *e*PKPab PKPab 08 52 28.4 -2.0
LMR La Mourre 158.78 349 *e*PKIKP PKPdf 08 51 52.6 +2.4
ELAN Lanestosa 159.10 9 P PKPab 08 52 30.7 -1.7
MTLF Montolieu 159.26 357 *e*PKIKP PKPdf 08 51 52.7 +1.9
comp=Z,59nm,1.3s
EALK Alkurruntz 159.32 5 P PKPab 08 52 31.6 -1.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	159.45	4	ePKIKP	PKPdf	08 51 53.3	+2.3
EPF	Esparros	159.60	1	ePKIKP	PKPdf	08 51 53.3	+2.2
	comp=Z,29nm,1.1s						
ETSF	Etsaut	159.70	3	ePKIKP	PKPdf	08 51 53.8	+2.6
	comp=Z,26nm,0.9s						
PBRG	Braganca	159.80	17	ePKPab	PKPab	08 52 35.3	-0.1
ECRI	Cripan	159.83	7	P	PKPab	08 52 34.9	-0.6
EBIE	Bielsa	159.94	2	P	PKPab	08 52 35.1	-0.9
PVRL	Vila Real	160.01	19	ePKPab	PKPab	08 52 35.4	-0.9
EJON	La Jonquera	160.12	356	P	PKPab	08 52 38.2	+1.5
EGRA	Graus	160.44	1	P	PKPab	08 52 37.9	-0.3
PVIS	Viseu	160.47	20	ePKPab	PKPab	08 52 38.0	-0.3
EMIR	Miracle	160.71	358	P	PKPab	08 52 38.7	-0.7
MTE	Manteigas	160.86	20	ePKPdf	PKPdf	08 51 54.9	+2.4
MTE	Manteigas	160.86	20	ePKPab	PKPab	08 52 39.1	-0.9
PTOM	Tomar	161.27	23	ePKPdf	PKPdf	08 51 56.2	+3.3
PTOM	Tomar	161.27	23	ePKPab	PKPab	08 52 40.9	-1.0
EPOB	Poblet	161.28	359	P	PKPab	08 52 40.6	-1.2
PCBR	Castelo Branco	161.39	20	ePKPdf	PKPdf	08 51 55.7	+2.7
PCBR	Castelo Branco	161.39	20	ePKPab	PKPab	08 52 41.1	-1.3
EBR	Ebro Roquetas	161.81	1	ePDIFF		08 52 43.5	
EVO	Evora	162.38	24	ePKIKP	PKPdf	08 51 56.5	+2.5
	comp=Z,57nm,1.0s						
ESDC	Sonseca Array	162.47	12	PKPab	PKPab	08 52 46.2	-0.8
	comp=Z,6.7nm,0.6s,baz=346,slow=4.1,SNR=32						
ESDC				PP	PP	08 56 30.1	-2.8
	comp=Z,0.4nm,0.3s,baz=326,slow=4.6,SNR=5.2						
ESDC	Sonseca Array	162.47	12	P	PKPab	08 52 46.2	-0.9
PBEJ	Beja	162.88	24	ePKPdf	PKPdf	08 51 58.0	+3.4
PBEJ	Beja	162.88	24	ePKPab	PKPab	08 52 48.0	-0.9
ECHE	Chera	162.97	5	P	PKPab	08 52 49.3	+0.1
DBIC	Dimbokro	163.25	160	PKP	PKPdf	08 51 56.8	+1.1
	comp=Z,10nm,0.8s,baz=120,slow=0.6,SNR=12						
DBIC				PKPab	PKPab	08 52 50.1	-1.1
	comp=Z,3.7nm,0.6s,baz=157,slow=8.6,SNR=4.7						
EVIA	Vianos	163.74	9	P	PKPab	08 52 52.1	-0.5
EADA	Adamuz	163.78	16	P	PKPab	08 52 52.1	-0.7
ETOB	Tobarra	163.85	7	P	PKPab	08 52 52.8	-0.3
EBAN	Banos Encina	163.96	13	P	PKPab	08 52 53.2	-0.4
EQES	Quesada	164.46	12	P	PKPab	08 52 55.2	-0.5
EHUE	Huescar	164.53	10	P	PKPab	08 52 55.4	-0.7

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*IDC **08** 08:35:18.7±1.1, 23.18S×67.80W, h104^{km}±14^{km}, mb4.1/3, mb1 4.2/5, mb1mx3.8/16, mbtmp4.6/5, Error ellipse: s-maj=20.7km s-min=13.2km az=109.0*

*NEIC **08** 08:35:19.6, 23.30S×68.05W, h104^{km}, mb4.5/4, After GUC.*

*GUC **08** 08:35:19.6±0.8, 23.30S×68.05W, h104^{km}±14^{km}, ML4.5*

ISC 08 08:35:16.3±0.8**, 23.31S**±0.04×**67.73W**±0.09**, h88**^{km}±12^{km}**, n33,** σ1^{s}**29**/44**, mb4.6**/3**, 7C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.29	302	eP	P	08 35 41.7	+1.9
LVC				i S	S	08 35 58.7	+1.4
LVC				AMP		08 36 00.3	
	comp=E,20μm,0.5s						
LVC	Limon Verde	1.29	302	P	P	08 35 42.3	+2.6
	comp=E,2μm,0.3s,baz=123,slow=6.6						
LVC				S	S	08 35 58.9	+1.6
	comp=E,1μm,0.3s,baz=228,slow=22,SNR=140						
ANCH	Antofagasta	2.49	261	⇑iP	P	08 35 56.1	+0.4
ANCH				i S	S	08 36 22.8	-2.4
ANCH				AMP		08 36 24.9	
	comp=N,3μm,0.1s						
CPN1	Cerro Paranal	2.77	241	⇑iP	P	08 36 01.2	+1.5
CPN1				i S	S	08 36 32.4	+0.2
CPN1				AMP		08 36 39.4	
	comp=E,2μm,0.5s						
CRCH	Chaqaral	4.00	220	⇑iP	P	08 36 17.8	+1.1
CRCH				i S	S	08 37 02.4	-0.3
CPCH	Copiapo	4.67	210	eP	P	08 36 26.1	+0.2
CPCH				i S	S	08 37 18.3	-1.0
VACH	Vallenar	5.91	207	⇑iP	P	08 36 42.1	-0.7
VACH				i S	S	08 37 47.6	-2.2
VACH	Vallenar	5.91	207	⇑iP	P	08 36 42.1	-0.7
LCO	Las Campanas	6.27	205	⇑iP	P	08 36 47.7	-0.2
LCO				i S	S	08 37 57.8	-0.9
LCO	Las Campanas	6.27	205	⇑iP	P	08 36 47.7	-0.2
LPAZ	La Paz	7.00	357	P	P	08 36 57.9	-0.1
	comp=E,3.0nm,0.3s,baz=172,slow=8.0,SNR=105						
LPAZ				S	S	08 38 13.9	-2.8
	comp=E,0.8nm,0.3s,baz=220,slow=9.9,SNR=3.6						
LPAZ	La Paz	7.00	357	eP	P	08 36 57.6	-0.4
	comp=E,8.3nm,0.4s						
ARE	Arequipa	7.68	332	P	P	08 37 13.0	+5.7
ARE				eS	S	08 38 17.0	-16
CFAA	Coronel Fontan	8.27	183	P	P	08 37 17.5	+2.2
	comp=E,0.2nm,0.3s,baz=354,slow=13,SNR=29						
CFAA				S	S	08 38 47.1	-0.8
	comp=E,0.3nm,0.3s,baz=255,slow=18,SNR=6.0						
CFAA	Coronel Fontan	8.27	183	P	P	08 37 17.5	+2.2
CFAA				S	S	08 38 47.1	-0.8
SIV	San Ignacio	9.61	42	P	P	08 37 32.8	-0.8
	comp=E,30nm,0.3s,baz=230,slow=11,SNR=273						
SIV				S	S	08 39 17.0	-3.6
	comp=E,2.5nm,0.3s,baz=136,slow=20,SNR=4.6						
SAML	Samuel	14.93	18	eP	P	08 38 40.0	-4.0
	comp=E,2.5nm,0.4s						
TRQA	Tornquist	15.50	163	eP	P	08 38 54.2	+3.2
	comp=E,28nm,0.9s						
BDFB	Brasilia	20.08	71	P	P	08 39 46.0	+0.9
	comp=E,11nm,0.5s,baz=254,slow=11,SNR=19						
BAO	Brasilia Array	20.10	71	P	P	08 39 41.5	-3.9
VNA3	Neumayer Olymp	58.02	161	e	P	08 45 02.0	+0.1
VNA3	Neumayer Olymp	58.02	161	e	P	08 45 02.0	+0.1
VNA1	Neumayer--Stat	58.22	160	e	P	08 45 04.4	+1.1
VNA1	Neumayer--Stat	58.22	160	e	P	08 45 04.4	+1.1
VNA2	Neumayer--Watz	58.59	160	e	P	08 45 06.1	+0.2
VNA2	Neumayer--Watz	58.59	160	e	P	08 45 06.1	+0.2
SNAA	Sanae	60.22	161	e	P	08 45 17.0	-0.1
SNAA	Sanae	60.22	161	P	P	08 45 17.2	+0.1
	comp=E,2.3nm,0.6s,mb4.4,baz=286,slow=7.3,SNR=12						
SNAA	Sanae	60.22	161	e	P	08 45 17.0	-0.1
QSPA	South Pole Qui	66.89	180	⇓iP	P	08 46 01.0	+0.4
	comp=E,14nm,0.5s,mb5.0						
MAW	Mawson	82.29	163	P	P	08 47 29.7	+0.7
	comp=E,3.1nm,0.5s,mb4.4,baz=218,slow=9.8,SNR=4.0						
WRA	Warramunga Arr	131.92	208	PKP	PKPdf	08 54 19.6	-0.7
	comp=E,0.9nm,0.6s,baz=151,slow=1.6,SNR=23						
MKAR	Makanchi Array	146.41	38	PKPbc	PKPbc	08 54 45.5	-1.3
	comp=E,1.4nm,0.7s,baz=333,slow=2.7,SNR=6.6						

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*MOS **08** 08:37:44.1±1.0, 36.13N×70.99E, h101^{km}, mb3.8/4, Error ellipse: s-maj=18.9km s-min=8.5km az=94.9*

*IDC **08** 08:37:44.2±9.4, 36.12N×71.25E, h85^{km}±77^{km}, mb3.6/6, mb1 3.8/8, mb1mx3.5/23, mbtmp4.0/8, ML4.0/2, Error ellipse: s-maj=61.2km s-min=26.5km az=34.0*

*NEIC **08** 08:37:45.6±2.2, 36.23N×71.19E, h95^{km}±21^{km}, mb3.9/3, Error ellipse: s-maj=26.2km s-min=6.2km az=61.0*

*BJI **08** 08:37:46.1, 36.26N×71.08E, h110^{km}, mb3.8*

*NNC **08** 08:37:53.2±3.2, 36.75N×71.10E, h136^{km}±39^{km}, mpv4.2, Error ellipse: s-maj=26.8km s-min=22.7km az=11.0*

ISC 08 08:37:47.5±0.5**, 36.33N**±0.03×**71.28E**±0.07**, h129**^{km}±8^{km}**, n62,** σ1^{s}**01**/76**, mb3.6**/7**, 5C-7D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.55	168	⇓P	P	08 38 29.9	+0.9
CHCP	Chirah Chowk	3.12	148	P	P	08 38 38.1	+1.6
CHCP				S	S	08 39 15.0	+1.1
THW	Thamme Wali	3.55	174	⇑P	P	08 38 42.5	+0.3
SBDP	Sheikh Budin	4.04	186	⇑P	P	08 38 48.0	-0.7
DRP	Derazinda	4.66	191	⇓P	P	08 38 56.7	-0.3
KSH	Kashi	4.89	48	P	P	08 39 03.5	+3.4
KSH				S	S	08 39 58.3	+2.2
THN	Thein Dam	5.35	135	eP	P	08 39 06.8	+0.6
THN				eS	S	08 40 07.1	-0.1
DLH	Dalhousie	5.41	133	eP	P	08 39 07.0	-0.1
DLH				eS	S	08 40 07.0	-1.8
AML	Almayashu	6.09	17	P	P	08 39 16.3	0.0
	SNR=66						
UCH	Uchtor	6.40	22	P	P	08 39 20.6	+0.1
	SNR=44						
KZA	Kyzart	6.52	27	P	P	08 39 22.1	0.0
	SNR=27						
EKS2	Erkin-Say	6.61	16	P	P	08 39 23.3	-0.1
	SNR=32						
SDNR	Sundarnagar	6.75	134	eP	P	08 39 25.6	+0.3
SDNR				eS	S	08 40 35.8	-5.4
AAK	Ala-Archa	6.77	21	P	P	08 39 26.2	+0.7
	SNR=18						
AAK	Ala-Archa	6.77	21	⇓P	P	08 39 26.0	+0.5
	14nm,0.5s						
AAK				⇑S	S	08 40 38.7	-2.9
	88nm,0.6s						
AAK	Ala-Archa	6.77	21	ePn	P	08 39 24.1	-1.5
	21nm,0.4s						
AAK				eSn	S	08 40 39.2	-2.4
KK31	Karatay Array	6.79	355	⇓P	P	08 39 24.5	-1.3
	4.5nm,0.2s,baz=175,slow=12,SNR=314						
KK31				⇑S	S	08 40 36.2	-5.9
	26nm,0.3s,baz=162,slow=17,SNR=11						
KKAR	Karatay Array	6.79	355	PN	P	08 39 24.4	-1.4
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.2s						
KBK	Karagaybulak	6.93	23	P	P	08 39 28.1	+0.4
	SNR=7.0						
FRU	Bishkek	6.99	21	ePN	P	08 39 32.0	+3.5
ULHL	Ulahol	7.05	32	P	P	08 39 29.5	+0.1
	SNR=16						
SMLA	Simla	7.14	135	i P	P	08 39 48.2	+18
SMLA				i S	S	08 41 05.6	+15
CHMS	Chumysh	7.18	21	P	P	08 39 31.5	+0.4
	SNR=12						
USP	Ospenovka	7.36	19	P	P	08 39 33.4	-0.1
	SNR=11						
TKM2	Tokmak 2	7.38	26	P	P	08 39 34.1	+0.4
	SNR=26						
KHET	Khetri	9.08	154	eS	S	08 41 29.4	-8.1
KHET				AML	AML	08 41 33.7	
	comp=N,30nm,1.0s						
AYAN	Aya Nagar	9.25	146	eS	S	08 41 37.3	-4.3
SONA	Sohna	9.44	147	e	x	08 40 19.8	
SONA				eS	S	08 41 37.5	-8.3
SONA				AML	AML	08 41 44.0	
	comp=E,25nm,0.2s						
SONA				AML	AML	08 41 45.0	
	comp=N,18nm,0.4s						
MK31	Makanchi Array	13.30	35	P	P	08 40 51.5	-0.6
	comp=N,1.0nm,0.3s,baz=210,slow=8.2,SNR=30						
MKAR	Makanchi Array	13.30	35	i P	P	08 40 51.5	-0.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	13.30	35	P	P	08 40 51.8	-0.3
	comp=Z,0.2nm,0.3s,baz=225,slow=12,SNR=11						
GKN	Gorkha	14.03	123	eP	P	08 41 00.0	-1.4
	comp=Z,19nm,0.3s						
GKN				eS	S	08 43 26.1	-8.0
DMN	Daman	14.60	123	eP	P	08 41 07.1	-1.6
	comp=Z,8.8nm,0.3s						
KKN	Kakani	14.60	122	eP	P	08 41 07.8	-1.0
	comp=Z,20nm,0.4s						
KKN				eS	S	08 43 40.1	-7.4
KKN	Kakani	14.60	122	eP	P	08 41 07.8	-1.0
KKN				eS	S	08 43 40.1	-7.4
KKN				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PKI	Pulchoki	14.83	122	eP	P	08 41 10.8	-0.8
GUN	Gumba	14.94	120	eP	P	08 41 13.9	+0.8
	comp=Z,19nm,0.4s						
AB31	Akbulak array	15.34	331	⇑P	P	08 41 16.4	-1.6
	comp=Z,0.9nm,0.3s,baz=140,slow=13,SNR=88						
AB31				⇓S	S	08 43 52.3	-12
	comp=Z,3.7nm,0.3s						
AB31	Akbulak array	15.34	331	P	P	08 41 15.9	-2.0
VOSK	Vostochnaya	16.39	359	⇓P	P	08 41 31.3	+0.2
	comp=Z,6.1nm,1.0s						
VOSK	Vostochnaya	16.39	359	P	P	08 41 31.2	+0.1
VOSK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZRNK	Zerenda	16.70	355	⇓P	P	08 41 34.5	-0.3
	comp=Z,7.3nm,0.9s						
ZRNK	Zerenda	16.70	355	P	P	08 41 34.3	-0.5
ZRNK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ZRNK	Zerenda	16.70	355	eP	P	08 41 33.9	-0.9
	comp=Z,6.7nm,0.5s						
BVAR	Borovoye Array	16.70	358	P	P	08 41 35.0	+0.1
	comp=Z,2.0nm,0.3s,baz=165,slow=8.8,SNR=37						
ZAL	Zalesovo	19.96	24	P	P	08 42 11.8	+0.4
ZAL				pmax	pmax		
	comp=Z,11nm,0.3s						
ZAL	Zalesovo	19.96	24	P	P	08 42 11.8	+0.4
	comp=Z,11nm,0.3s,baz=243,slow=4.6,SNR=18						
ARU	Arti	21.87	341	eP	P	08 42 30.8	+0.4
ARU				eS	S	08 46 31.6	+13
ARU	Arti	21.87	341	eP	P	08 42 31.3	+0.9
	comp=Z,7.2nm,1.0s,mb4.1						
GTA	Gaotai	22.70	74	eP	P	08 42 42.4	+3.8
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb3.9						
FINES	FINESS Array B	37.75	326	P	P	08 44 53.3	+1.3
	comp=Z,0.4nm,0.4s,mb3.4,baz=120,slow=11,SNR=5.3						
ARCES	ARCESS Array B	41.39	338	P	P	08 45 23.2	+1.2
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	ARCESS Array B	41.39	338	P	P	08 45 23.2	+1.2
	comp=Z,0.9nm,0.6s,mb3.6,baz=112,slow=8.3,SNR=9.6						
NB2	NORSAR Subarra	44.65	323	P	P	08 45 48.1	-0.3
	comp=Z,0.5nm,0.5s,mb3.4,baz=97,slow=7.9						
NB2	NORSAR Subarra	44.65	323	P	P	08 45 48.1	-0.3
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
NB2	NORSAR Subarra	44.65	323	P	P	08 45 48.1	-0.3
	comp=Z,0.5nm,0.5s,mb3.4						
NOA	NORSAR Array B	44.65	323	P	P	08 45 48.5	+0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	NORSAR Array B	44.65	323	P	P	08 45 48.5	+0.1
	comp=Z,0.5nm,0.5s,mb3.4,baz=96,slow=7.7,SNR=6.5						
NOA	NORSAR Array B	44.65	323	P	P	08 45 48.5	+0.1
INK	Inuvik	74.04	9	P	P	08 49 11.4	+1.3
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	74.04	9	P	P	08 49 11.4	+1.2
	comp=Z,0.9nm,0.5s,mb3.8,baz=30,slow=3.7,SNR=8.3						
WRA	Warramunga Arr	81.71	122	P	P	08 49 53.1	-0.1
	comp=Z,0.2nm,0.3s,mb3.2,baz=326,slow=4.8,SNR=6.5						

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*IDC **08** 09:11:10.8±1.2, 49.48S×124.92E, mb4.0/4, mb1 4.2/4, mb1mx4.0/11, mbtmp4.0/4, MS3.5/2, Ms1 3.4/2, ms1mx3.2/16, Error ellipse: s-maj=58.2km s-min=22.1km az=106.0*

*NEIC **08** 09:11:12.9±0.9, 49.46S×125.08E, h10^{km}, mb4.2/2, Error ellipse: s-maj=50.4km s-min=16.5km az=110.0*

ISC 08 09:11:10.8±1.2**, 49.5S**±0.2×**125.1E**±0.6**, h10**^{km}**, n15,** σ1^{s}**00**/12**, mb4.0**/4**, MS3.4**/2**, 3C, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.49	41	P	P	09 16 02.5	+0.8
	13nm,0.8s,mb4.3,baz=202,slow=11,SNR=29						
STKA				LR	LR	09 23 02.7	
	comp=Z,134nm,21.0s,MS3.3,baz=208,slow=33						
WRA	Warramunga Arr	30.39	17	P	P	09 17 24.4	-0.8
	1.3nm,0.9s,mb3.6,baz=194,slow=8.1,SNR=6.5						
VNDA	Vanda	31.39	166	P	P	09 17 33.1	-0.4
	1.5nm,0.7s,mb3.9,baz=315,slow=8.7,SNR=9.6						
VNDA	Vanda	31.39	166	eP	P	09 17 32.4	-1.0
	1.8nm,0.8s,mb4.0						
MAW	Mawson	35.26	216	LR	LR	09 29 09.0	
	comp=Z,77nm,21.6s,MS3.4,baz=252,slow=31						
SNAA	Sanae	53.69	198	⇑i	P	09 20 33.4	-0.8
SNAA	Sanae	53.69	198	e	P	09 20 40.1	+5.9
SNAA	Sanae	53.69	198	P	P	09 20 33.6	-0.7
	1.5nm,1.2s,mb3.8,baz=146,slow=7.5,SNR=7.7						
SNAA	Sanae	53.69	198	eP	P	09 20 33.1	-1.2
	4.4nm,1.0s,mb4.3						
SNAA				e		09 20 40.1	
VNA2	Neumayer--Watz	55.18	197	e	P	09 20 51.1	+5.9
VNA2	Neumayer--Watz	55.18	197	⇑iP	P	09 20 46.5	+1.3
VNA2				e	pP	09 20 51.1	+2.8
VNA3	Neumayer Olymp	55.34	196	e	P	09 20 53.1	+6.7
VNA3	Neumayer Olymp	55.34	196	⇑iP	P	09 20 48.1	+1.7
VNA3				e	pP	09 20 53.1	+3.6
HFS	Hagfors	140.85	312	PKP	PKPdf	09 30 38.5	-4.4
	1.8nm,0.8s,baz=186,slow=15,SNR=4.0						
EKA	Eskdalemuir Ar	148.54	301	PKPbc	PKPdf	09 30 58.0	+1.9
	1.8nm,0.9s,baz=54,slow=7.2,SNR=4.5						

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*NEIC **08** 09:24:39.4, 53.56N×164.79W, h23^{km}, mb4.1/1, ML4.2(AEIC), After AEIC.*

*IDC **08** 09:24:39.1±6.0, 53.79N×164.84W, h24^{km}±40^{km}, mb3.8/8, mb1 4.0/11, mb1mx3.7/28, mbtmp3.9/11, ML3.7/3, MS3.4/4, Ms1 3.4/4, ms1mx2.9/40, Error ellipse: s-maj=28.2km s-min=15.6km az=174.0*

ISC 08 09:24:38.6±0.8**, 53.59N**±0.07×**164.73W**±0.05**, h42**^{km}±8^{km}**, n56,** σ0^{s}**73**/56**, mb3.9**/7**, MS3.3**/4**, Unimak Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKA	Akutan	0.82	312	P	P	09 24 53.6	-0.2
AKA				S	S	09 25 05.1	+0.1
AHB	Akutan Harbor	0.83	310	P	P	09 24 53.9	0.0
WESE	West Dahl East	0.89	6	P	P	09 24 54.3	-0.4
WESS	West Dahl Sout	0.89	0	P	P	09 24 54.7	-0.1
WESS				S	S	09 25 07.7	+1.0
AKLV	Akutan Long Va	0.92	309	P	P	09 24 55.0	-0.3
AKLV				S	S	09 25 07.4	-0.1
LVA	Lava Point	0.96	307	P	P	09 24 55.8	0.0
LVA				S	S	09 25 09.4	+0.9
AKGG	Akutan Green G	0.96	310	P	P	09 24 55.9	+0.1
AKGG				S	S	09 25 09.1	+0.5
WESN	West Dahl Nort	0.98	5	P	P	09 24 56.1	0.0
WPOG	Pogromni	1.01	360	P	P	09 24 56.4	-0.1
MNAT	Makushin Natee	1.20	285	P	P	09 24 58.8	-0.3
MNAT				S	S	09 25 13.2	-1.2
SSLS	Shishaldin Sou	1.21	21	P	P	09 24 58.8	-0.4
MTBL	Makushin Table	1.22	289	P	P	09 24 59.0	-0.3
SSLW	Shishaldin Wes	1.24	17	P	P	09 24 59.3	-0.4
MSW	Makushin Switc	1.26	286	P	P	09 24 59.6	-0.4
SSLN	Shishaldin Nor	1.30	19	P	P	09 25 00.3	-0.3
MCIR	Makushin Cirqu	1.33	287	P	P	09 25 01.1	0.0
MSOM	Makushin Julie	1.34	281	P	P	09 25 00.6	-0.6
BALA	Baldy Mountain	1.97	35	P	P	09 25 11.0	+0.8
OKER	East Rim	1.99	267	P	P	09 25 10.6	+0.2
DRIA	Deer Island	2.00	45	P	P	09 25 10.3	-0.2
DT1	Dutton Round H	2.09	42	P	P	09 25 11.8	-0.1
DTNA	Dutton South F	2.13	42	P	P	09 25 12.8	+0.3
DOL	Dolgoi Island	2.29	46	P	P	09 25 14.6	-0.2
HAG	Hague Volcano	2.39	43	P	P	09 25 16.5	+0.3
PN7A	Pavlof North-7	2.44	40	P	P	09 25 17.7	+0.8
PVV	Pavlof Volcano	2.48	43	P	P	09 25 17.0	-0.4
PN6	Pavlof North-6	2.48	40	P	P	09 25 18.7	+1.2
PS1A	Pavlof South-1	2.53	42	P	P	09 25 18.2	0.0
BLHA	Black Hill	2.62	35	P	P	09 25 19.4	-0.2
SPIA	Saint Paul Isl	4.78	321	P	P	09 25 51.1	+1.1
KJL	Kejulik	6.83	45	P	P	09 26 18.9	+0.1
CAHL	Cahill	6.94	46	P	P	09 26 19.8	-0.6
RSO	Redoubt South	9.48	39	P	P	09 26 55.9	+0.3
SPU	Mount Spurr	10.22	37	eP	P	09 27 05.4	-0.1
SML	Sawmill	12.00	40	eP	P	09 27 28.2	-1.4
DIV	Divide	12.68	46	eP	P	09 27 37.3	-1.5
FX1	Attu Island--F	13.25	276	Pn	P	09 27 48.5	+2.2
	1.5nm,0.3s,baz=252,slow=18,SNR=13						
ILAR	Eielson Array	14.40	32	Pn	P	09 27 57.0	-4.2
	0.1nm,0.3s,baz=226,slow=12,SNR=12						
DLBC	Dease Lake	19.84	62	P	P	09 29 09.3	+0.9
	0.1nm,0.3s,baz=292,slow=8.0,SNR=6.7						
DLBC	Dease Lake	19.84	62	eP	P	09 29 08.9	+0.5
INK	Inuvik	20.79	33	P	P	09 29 15.0	-3.2
	3.1nm,0.5s,baz=247,slow=10,SNR=29						
INK				LR	LR	09 37 59.9	
	comp=Z,141nm,19.7s,MS3.3,baz=243,slow=39						
INK	Inuvik	20.79	33	eP	P	09 29 15.0	-3.3
	9.0nm,1.1s						
BBB	Bella Bella	21.99	79	LR	LR	09 36 50.8	
	comp=Z,53nm,19.8s,MS3.0,baz=310,slow=33						
YKA	Yellowknife Ar	27.31	51	P	P	09 30 21.4	+0.5
	2.1nm,0.8s,mb3.7,baz=274,slow=10,SNR=7.0						
YKA	Yellowknife Ar	27.31	51	P	P	09 30 21.4	+0.5
YBH	Yreka Blue Hor	30.24	96	LR	LR	09 40 31.6	
	comp=Z,64nm,21.2s,MS3.2,baz=18,slow=31						
NVAR	Mina Array Bea	34.95	97	P	P	09 31 29.9	+1.6
	1.2nm,0.8s,mb3.9,baz=297,slow=6.7,SNR=9.0						
TXAR	Lajitas Array	49.97	94	P	P	09 33 30.7	+0.3
	1.1nm,0.4s,mb4.2,baz=299,slow=5.5,SNR=36						
SCHQ	Schefferville	52.60	46	LR	LR	09 56 49.1	
	comp=Z,55nm,19.2s,MS3.6,baz=89,slow=37						
FINES	FINESS Array B	64.99	354	P	P	09 35 14.3	-1.3
	0.7nm,0.6s,mb3.9,baz=18,slow=6.0,SNR=4.2						
HFS	Hagfors	66.62	1	P	P	09 35 25.6	-0.4
	0.7nm,0.4s,mb4.1,baz=63,slow=3.3,SNR=8.4						
EKA	Eskdalemuir Ar	70.39	11	P	P	09 35 50.0	+0.5
	0.4nm,0.4s,mb3.7,slow=5.8,SNR=4.0						
AKASG	Malin Array Be	75.42	351	P	P	09 36 18.6	-0.5
	0.2nm,0.3s,mb3.5,baz=13,slow=6.2,SNR=5.1						
MATP	Matopo	145.37	338	PKPbc	PKPbc	09 44 13.3	+1.1
	1.7nm,0.6s,baz=56,slow=7.3,SNR=3.8						
MATP	Matopo	145.37	338	PKPbc	PKPbc	09 44 13.3	+1.1
TSUM	Tsumeb	145.63	356	PKPbc	PKPbc	09 44 14.9	+2.0
	0.9nm,0.2s,baz=258,slow=11,SNR=2.8						

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*NEIC **08** 09:25:40.3, 38.13N×20.36E, h5^{km}, MD3.6(ATH), After ATH.*

*CSEM **08** 09:25:40.3, 38.13N×20.36E, h5^{km}, MD3.6/6, After ATH*

ATH 08 09:25:40.3, 38.13N×20.36E, h5^{km}±4^{km}**, MD3.6**/6**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.19	75	ePG	Pg	09 25 44.1	0.0
VLS				eSG	Sg	09 25 47.5	+0.8
RLS	Riolos of Patr	0.88	94	ePB	Pb	09 25 57.7	+0.1
EVR	Evrytania	1.38	55	ePB	Pb	09 26 07.2	+1.0
ITM	Ithomi	1.56	127	ePG	Pg	09 26 09.2	-2.3
JAN	Janina	1.57	14	ePB	Pb	09 26 10.0	+0.5
KEK	Kerkira	1.64	345	ePB	Pb	09 26 11.3	+0.6
VLI	Veliai	2.49	124	ePN	Pn	09 26 25.0	+2.9

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*NEIC **08** 10:37:28.8, 33.24S×68.55W, h5^{km}, ML3.7(GUC), After GUC.*

GUC 08 10:37:28.8±0.7**, 33.24S×68.55W, h5**^{km}±11^{km}**, MD4.0, ML3.7, 2C-4D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FCH	Farellones	1.46	266	⇓iP	Pn	10 37 54.9	-1.0
FCH				i S	Sb	10 38 15.7	+0.9
CLCH	Cerro Calan	1.67	264	⇓iP	Pn	10 37 58.6	-0.3
CLCH				i S	Sn	10 38 21.0	+0.1
CLCH				AMP		10 38 27.2	
	comp=E,355nm,0.6s						
PCH	Pirque	1.69	257	eP	Pn	10 37 58.5	-0.6
ZON	Zonda	1.70	356	⇓iP	Pn	10 37 58.0	-1.3
ZON				eS	Sn	10 38 22.0	+0.4
JACH	Jahuel	1.81	288	eP	Pn	10 38 00.9	0.0
JACH				i S	Sn	10 38 24.4	0.0
CHCH	Chadas Angostu	1.89	248	⇑iP	Pn	10 38 01.9	-0.1
CHCH				i S	Sn	10 38 26.6	+0.3
CICH	Cipreses	1.89	235	⇑iP	Pn	10 38 01.7	-0.4
CICH				i S	Sn	10 38 27.2	+0.6
CACH	El Canelo	1.92	242	⇓iP	Pn	10 38 02.3	-0.1
CACH				i S	Sn	10 38 28.0	+0.8
TACH	Talagante	2.04	258	eP	Pn	10 38 04.3	+0.2
ROCH	El Roble	2.08	277	eP	Pn	10 38 05.1	+0.3
CMCH	Combarbala	2.93	314	eP	Pn	10 38 17.1	+0.3
CMCH				AMP		10 39 03.4	
	comp=N,890nm,0.8s						
TRQA	Tornquist	7.19	134	ePn	Pn	10 39 09.4	-7.7
LPAZ	La Paz	16.89	1	eP	P	10 41 27.1	-0.4
	comp=N,1.2nm,0.8s						

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*NEIC **08** 10:43:23.9±1.2, 25.03S×179.98E, h483^{km}±12^{km}, mb4.4/14, Error ellipse: s-maj=11.6km s-min=10.8km az=103.0*

*IDC **08** 10:43:29.8±1.7, 25.03S×179.71E, h535^{km}±16^{km}, mb3.6/13, mb1 3.8/14, mb1mx3.7/18, mbtmp4.5/14, Error ellipse: s-maj=14.5km s-min=13.6km az=16.0*

ISC 08 10:43:21.1±1.6**, 25.05S**±0.06×**179.87E**±0.10**, h455**^{km}±18^{km}**, n62,** σ1^{s}**04**/49**, mb4.2**/22**, 1C-6D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.66	281	P	P	10 46 12.8	+4.0
	0.2nm,0.3s,baz=85,slow=15,SNR=4.5						
URZ	Urewera	13.37	189	P	P	10 46 16.4	+0.1
	3.9nm,0.3s,baz=27,slow=2.2,SNR=22						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ				S	S	10 48 37.3	+0.2
	1.4nm,0.3s,baz=54,slow=20,SNR=6.6						
URZ	Urewera	13.37	189	ePN	P	10 46 14.8	-1.5
AFI	Afiamalu	13.59	37	P	P	10 46 17.6	-1.2
	4.7nm,0.3s,baz=187,slow=11,SNR=10.0						
QRZ	Quartz Range	16.88	199	ePN	P	10 46 53.5	+1.3
TUWZ	Tuamarina	17.06	195	PN	P	10 46 53.6	-0.3
THZ	Tophouse	17.64	197	ePN	P	10 46 58.9	-0.8
LTZ	Lake Taylor	18.76	198	ePN	P	10 47 10.6	-0.1
RPZ	Rata Peaks	19.96	199	P	P	10 47 21.9	-0.3
	1.6nm,0.3s,baz=15,slow=4.1,SNR=9.7						
HNR	Honiara	24.51	306	P	P	10 48 04.5	+0.1
	126nm,0.8s,mb5.4,baz=90,slow=1.7,SNR=3.8						
CNB	Canberra Magne	28.18	242	eP	P	10 48 38.9	+2.1
	27nm,1.3s,mb4.5						
CTA	Charters Tower	31.38	272	⇓iP	P	10 49 06.1	+1.5
	25nm,0.4s,mb5.0						
CTA	Charters Tower	31.38	272	P	P	10 49 06.1	+1.5
	32nm,0.5s,mb5.0,baz=98,slow=10,SNR=92						
CTAO	Charters Tower	31.38	272	eP	P	10 49 05.8	+1.2
	39nm,0.8s,mb4.9						
STKA	Stephens Creek	34.20	250	⇓iP	P	10 49 29.4	+1.1
	4.0nm,0.4s,mb4.2						
STKA	Stephens Creek	34.20	250	P	P	10 49 29.8	+1.5
	4.4nm,0.4s,mb4.3,baz=94,slow=11,SNR=18						
PMG	Port Moresby	34.77	291	P	P	10 49 34.6	+1.3
	20nm,0.7s,mb4.6,baz=83,slow=5.7,SNR=5.5						
WB2	Warramunga Arr	42.21	267	⇓iP	P	10 50 34.0	-0.2
WB2				eS	S	10 56 15.6	-5.5
WRAB	Tennant Creek	42.21	267	eP	P	10 50 33.7	-0.5
	39nm,1.0s,mb4.8						
WRA	Warramunga Arr	42.22	267	P	P	10 50 34.0	-0.3
	6.9nm,0.3s,mb4.6,baz=99,slow=6.8,SNR=470						
WRA				S	S	10 56 16.3	-5.0
	1.8nm,0.9s,baz=96,slow=14,SNR=11						
KAKA	Kakadu	46.30	276	eP	P	10 51 05.7	-0.6
	4.6nm,0.2s,mb4.6						
FITZ	Fitzroy Crossi	50.63	267	eP	P	10 51 38.8	-0.2
	17nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	50.63	267	P	P	10 51 39.0	0.0
	27nm,0.7s,mb4.7,baz=124,slow=4.5,SNR=31						
SBA	Scott Base	53.23	183	eP	P	10 51 58.5	+1.4
	5.8nm,0.9s,mb3.9						
VNDA	Vanda	53.23	185	P	P	10 51 57.5	+0.3
	0.9nm,0.5s,mb3.4,baz=6.7,slow=7.2,SNR=7.3						
VNDA				PcP	PcP	10 52 56.9	-1.0
	1.0nm,0.8s,baz=332,slow=3.9,SNR=4.6						
VNDA	Vanda	53.23	185	eP	P	10 51 57.1	0.0
	1.0nm,0.5s,mb3.4						
KLBR	Kellerberrin	54.44	248	eP	P	10 52 04.8	-1.6
	6.8nm,0.5s,mb4.2						
MBWA	Marble Bar	55.06	261	eP	P	10 52 09.2	-1.7
	4.1nm,0.3s,mb4.2						
CASY	Casey	59.03	206	eP	P	10 52 35.8	-1.5
	7.7nm,0.7s,mb4.1						
KSM	Kuching	72.19	280	eP	P	10 53 59.2	-1.4
MJAR	Matsushiro Arr	72.78	326	P	P	10 54 02.7	-0.9
	3.5nm,0.8s,mb3.9,baz=166,slow=6.3,SNR=10						
MJAR	Matsushiro Arr	72.78	326	P	P	10 54 02.7	-0.9
MAJO	Matsushiro	72.78	326	P	P	10 54 02.8	-0.9
	2.5nm,0.4s,mb4.1						
MAW	Mawson	76.63	201	P	P	10 54 25.4	+0.8
	4.9nm,0.6s,mb4.2,baz=128,slow=6.2,SNR=12						
ASAJ	Asahikawa	76.83	333	P	P	10 54 27.1	+1.0
	3.5nm,0.8s,mb4.0,baz=158,slow=5.4,SNR=3.3						
SYO	Syowa Base	81.87	193	⇑P	P	10 54 50.2	-1.9
SNAA	Sanae	83.52	179	⇓i	P	10 54 59.8	-0.5
SNAA	Sanae	83.52	179	P	P	10 55 00.2	-0.2
	0.5nm,0.5s,mb3.3,baz=204,slow=11,SNR=17						
SNAA	Sanae	83.52	179	eP	P	10 54 59.8	-0.5
	1.3nm,0.5s,mb3.7						
VNA3	Neumayer Olymp	83.74	177	⇓i	P	10 55 01.3	-0.1
VNA2	Neumayer--Watz	84.15	178	⇓i	P	10 55 03.5	0.0
VNA1	Neumayer--Stat	84.39	177		P	10 55 05.3	+0.6
NVAR	Mina Array Bea	85.66	44	P	P	10 55 12.9	+1.3
	0.6nm,0.8s,mb3.3,baz=209,slow=6.5,SNR=5.2						
CMAR	Chiang Mai Arr	89.81	290	P	P	10 55 32.6	+1.0
	1.8nm,0.7s,mb4.0,baz=133,slow=3.2,SNR=7.7						
TXAR	Lajitas Array	91.14	58	P	P	10 55 38.7	+1.3
	0.6nm,0.8s,mb3.6,baz=217,slow=6.3,SNR=8.6						
TXAR	Lajitas Array	91.14	58	P	P	10 55 38.7	+1.3
MKAR	Makanchi Array	112.84	312	PKiKP		11 01 03.9	
	0.2nm,0.4s,baz=266,slow=0.8,SNR=4.3						
BVAR	Borovoye Array	121.22	318	PKP	PKPdf	11 01 21.0	0.0
	1.4nm,0.4s,baz=118,slow=2.0,SNR=9.0						
ARCES	ARCESS Array B	132.99	348	PKP	PKPdf	11 01 43.0	0.0
	1.2nm,0.5s,baz=45,slow=1.7,SNR=11						
ARCES				SKP		11 04 26.6	
	2.3nm,0.9s,baz=13,slow=2.6,SNR=8.0						
FINES	FINESS Array B	139.49	341	PKhKP		11 01 47.1	
	0.4nm,0.3s,baz=90,slow=3.8,SNR=7.0						
FINES				SKPbc		11 04 45.9	
	0.4nm,0.4s,baz=45,slow=5.4,SNR=5.5						
NB2	NORSAR Subarra	143.20	351	PKPabc	PKPdf	11 01 59.7	-1.9
	6.6nm,1.1s,baz=14,slow=3.1						
NOA	NORSAR Array B	143.20	351	PKP	PKPdf	11 02 00.0	-1.5
	2.3nm,0.7s,baz=16,slow=4.9,SNR=9.7						
NAO01	NORSAR Array S	143.43	351	ePKPdf	PKPdf	11 02 00.8	-1.1
HFS	Hagfors	143.65	348	PKP	PKPdf	11 02 01.3	-1.0
	8.9nm,0.5s,baz=53,slow=3.9,SNR=65						
AKASG	Malin Array Be	145.87	326	PKPbc	PKPbc	11 02 08.4	+0.5
	1.8nm,0.4s,baz=44,slow=4.4,SNR=16						
ASF	Jabal al Asfar	146.85	291	PKPbc	PKPbc	11 02 13.4	+2.6
	4.6nm,0.8s,baz=329,slow=6.5,SNR=4.7						
BR131	Keskin Array S	148.16	306	ePKPbc	PKPdf	11 02 15.3	+4.8
BRTR	Keskin Array B	148.16	306	PKPbc	PKPdf	11 02 15.6	+5.0
	1.2nm,0.4s,baz=122,slow=3.3,SNR=6.8						
EKA	Eskdalemuir Ar	149.67	3	PKPbc	PKPdf	11 02 18.1	+5.7
	0.8nm,0.4s,baz=352,slow=3.5,SNR=7.1						
OJC	Ojcow	150.52	334	ePKP	PKPdf	11 02 21.2	+7.3
MLR	Muntele Rosu	150.74	321	PKPbc	PKPdf	11 02 20.4	+6.0
	1.7nm,0.4s,baz=294,slow=1.0,SNR=3.8						
CLL	Collm	151.92	342	ePKP1	PKPdf	11 02 24.0	+8.1

*THR **08** 10:48:24.3±0.5, 27.23N×52.34E, h18^{km}±4^{km}, ML3.6*
*IDC **08** 10:48:25.1±7.7, 27.33N×52.88E, mb3.8/7, mb1 3.9/9, mb1mx3.7/24, mbtmp3.8/9, ML3.7/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/21, Error ellipse: s-maj=149.1km s-min=27.5km az=175.0*
*CSEM **08** 10:48:25.9±0.1, 27.34N×52.59E, h12^{km}, mb3.8/3, Error ellipse: s-maj=3.1km s-min=1.9km az=141.0*
*TEH **08** 10:48:28.3, 27.29N×52.73E, h10^{km}, Mn3.9*
*NEIC **08** 10:48:31.3±2.1, 27.60N×52.73E, h28^{km}±13^{km}, mb3.8/3, ML3.6(THR), Error ellipse: s-maj=18.6km s-min=9.2km az=185.0*

ISC 08 10:48:25.2±0.5**, 27.30N**±0.04×**52.60E**±0.04**, h10**^{km}**, n55, σ1^{s}39**/59**, mb3.6**/7**, MS3.4**/2**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.04	19	ePG	Pg	10 48 46.9	+0.9
GHIR				eSG	Sg	10 49 02.9	+3.0
GHIR				AML	AML	10 49 09.8	
	comp=N,2μm,0.5s						
GHIR	Ghir-Karzin	1.04	19	ePg	Pg	10 48 46.0	0.0
GHIR				eSg	Sg	10 49 02.0	+2.1
IMOK	Mook	1.74	3	Pn	Pn	10 48 57.4	+1.6
ISRV	Sarvestan	2.12	12	Pn	Pn	10 49 03.1	+1.9
SHI	Shiraz	2.33	358	Pn	Pn	10 49 06.4	+2.2
BNDS	Bandar-Abbas	3.18	87	ePn	Pn	10 49 18.0	+1.7
BNDS				eSg	Sg	10 50 10.0	-1.0
BNDS	Bandar-Abbas	3.18	87	ePN	Pn	10 49 18.8	+2.5
BNDS				eSG	Sg	10 50 10.8	-0.2
BNDS				AML	AML	10 50 18.0	
	comp=N,81nm,0.6s						
BNDS	Bandar-Abbas	3.18	87	ePn	Pn	10 49 18.0	+1.7
BNDS				eSg	Sg	10 50 10.8	-0.2
	SNR=91						
HASS	Wahat al Ahsa'	3.35	232	P	Pn	10 49 19.9	+1.2
IMEH	Mehriz	4.44	23	Pn	Pn	10 49 35.5	+1.3
ISAD	Sadrabad	4.69	11	Pn	Pn	10 49 38.5	+0.7
IBAF	Bafgh	5.00	30	Pn	Pn	10 49 42.3	+0.2
ICHK	Chekchek	5.17	17	Pn	Pn	10 49 44.6	+0.1
NASN	Na'in	5.48	2	ePn	Pn	10 49 48.0	-0.9
NASN				Sn	Sn	10 50 50.0	-2.8
NASN	Na'in	5.48	2	ePN	Pn	10 49 48.7	-0.3
NASN				SN	Sn	10 50 50.6	-2.2
NASN				AML	AML	10 50 55.9	
	comp=N,18nm,0.4s						
NASN	Na'in	5.48	2	ePn	Pn	10 49 48.7	-0.2
	SNR=52						
NASN				Sn	Sn	10 50 50.0	-2.8
IZEF	Zefreh	5.58	358	Pn	Pn	10 49 46.3	-4.0
SHGO	Shushtar	5.82	326	ePn	Pn	10 49 51.4	-2.3
SHGO	Shushtar	5.82	326	ePn	Pn	10 49 51.3	-2.4
	SNR=52						
IKLH	Kalahroud	6.06	352	Pn	Pn	10 49 55.4	-1.7
RYDS	Riyadh	6.20	241	P	Pn	10 50 00.0	+0.9
ISFB	Sefidab	7.04	358	Pn	Pn	10 50 10.3	-0.5
MZLS	Mizel	7.42	246	P	Pn	10 50 17.1	+0.8
ASAO	Ashtian	7.55	344	ePn	Pn	10 50 16.0	-2.1
ASAO	Ashtian	7.55	344	ePN	Pn	10 50 16.1	-2.0
IVRN	Varamin	7.71	355	Pn	Pn	10 50 19.3	-0.9
IVRN	Varamin	7.71	355	Lg		10 52 29.1	
IDMV	Damavand	8.27	357	Pn	P	10 50 27.0	-1.0
ARSS	Ar Rass	8.50	263	P	P	10 50 31.6	+0.3
SNGE	Sanandaj	8.97	331	ePn	P	10 50 34.0	-3.8
SNGE	Sanandaj	8.97	331	ePN	P	10 50 35.0	-2.8
IDHR	Dehrash	9.10	326	Pn	P	10 50 39.6	0.0
HILS	Ha'il	9.61	273	P	P	10 50 45.3	-1.4
KAMS	Al Khamasin	10.11	228	P	P	10 50 52.7	-0.9
TATS	Tathlith	11.39	229	P	P	10 51 10.2	-0.9
DJNS	Zahran al Janu	12.69	223	P	P	10 51 27.1	-1.5
ASF	Jabal al Asfar	14.48	293	Pn	P	10 51 54.3	+2.1
	comp=N,0.2nm,0.3s,baz=359,slow=9.0,SNR=2.6						
ASF				LR	LR	10 58 39.8	
	comp=N,60nm,21.7s,baz=153,slow=42						
EIL	Elat	15.70	283	Pn	P	10 52 10.4	+2.3
	comp=N,0.2nm,0.3s,baz=224,slow=25,SNR=3.3						
MALT	Malatya	16.18	316	eP	P	10 52 15.8	+1.5
	comp=N,9.2nm,1.0s						
MALT	Malatya	16.18	316	eP	P	10 52 15.8	+1.5
	comp=N,9.2nm,1.0s						
ATD	Arta Tunnel	18.17	212	LR	LR	11 00 40.5	
	comp=N,230nm,19.2s,baz=213,slow=40						
BRTR	Keskin Array B	20.04	313	P	P	10 53 01.9	+0.7
	comp=N,1.1nm,0.4s,baz=223,slow=25,SNR=5.9						
BR131	Keskin Array S	20.04	313	eP	P	10 53 01.2	+0.1
	comp=N,2.8nm,0.6s						
BR131	Keskin Array S	20.04	313	eP	P	10 53 01.2	0.0
	comp=N,2.8nm,0.6s						
MLR	Muntele Rosu	27.91	318	P	P	10 54 19.3	+2.0
	comp=N,0.7nm,0.3s,mb3.7,baz=163,slow=18,SNR=4.9						
ZRNK	Zerenda	28.39	21	eP	P	10 54 20.6	-1.0
	comp=N,0.9nm,0.5s,mb3.7						
ZRNK	Zerenda	28.39	21	eP	P	10 54 20.6	-0.9
BVAR	Borovoye Array	28.91	22	P	P	10 54 25.1	-1.1
	comp=N,1.0nm,0.5s,mb3.8,baz=194,slow=6.1,SNR=7.4						
AKASG	Malin Array Be	29.36	329	P	P	10 54 30.9	+0.5
	comp=N,0.9nm,0.6s,mb3.7,baz=125,slow=7.3,SNR=4.7						
MKAR	Makanchi Array	30.39	42	P	P	10 54 37.2	-2.3
	comp=N,0.4nm,0.5s,mb3.4,baz=229,slow=8.9,SNR=5.6						
KMBO	Kilima Mbogo	31.89	210	LR	LR	11 08 58.6	
	comp=N,96nm,18.6s,MS3.5,baz=79,slow=38						
FINES	FINESS Array B	38.49	340	P	P	10 55 48.2	-0.8
	comp=N,0.9nm,0.5s,mb3.8,baz=144,slow=10,SNR=7.8						
NB2	NORSAR Subarra	43.66	332	P	P	10 56 30.0	-1.4
	comp=N,0.1nm,0.6s,mb2.7,baz=118,slow=8.6						
NOA	NORSAR Array B	43.66	332	P	P	10 56 31.1	-0.3
	comp=N,1.1nm,0.8s,mb3.6,baz=122,slow=7.8,SNR=6.2						
ARCES	ARCESS Array B	45.11	347	LR	LR	11 16 54.4	
	comp=N,34nm,20.7s,MS3.3,baz=73,slow=38						

*LDG **08** 10:52:31.6±0.4, 13.28S×167.41E, h10^{km}, Mb4.7/3, Error ellipse: s-maj=51.7km s-min=12.9km az=89.0*
*BJI **08** 10:52:45.4, 14.60S×167.30E, h185^{km}, mB4.5, mb4.4*
*NEIC **08** 10:52:50.5±1.9, 14.61S×167.31E, h185^{km}±16^{km}, mb4.4/13, Error ellipse: s-maj=10.9km s-min=10.3km az=52.0*
*IDC **08** 10:52:57.4±1.6, 14.72S×167.27E, h247^{km}±14^{km}, mb4.0/18, mb1 4.1/18, mb1mx4.1/21, mbtmp4.6/18, Error ellipse: s-maj=12.8km s-min=10.4km az=161.0*

ISC 08 10:52:51.1±1.8**, 14.66S**±0.08×**167.21E**±0.07**, h201**^{km}±16^{km}**, n99, σ1^{s}10**/56**, mb4.2**/27**, 28C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.40	186	eP	P	10 54 36.8	-0.5
DZM				eS	S	10 55 59.3	-1.0
DZM	Mont Dzumac	7.40	186	P	P	10 54 37.6	+0.3
	3.6nm,0.3s,baz=41,slow=18,SNR=46						
DZM				S	S	10 56 02.3	+1.9
	2.0nm,0.3s,baz=335,slow=23,SNR=3.1						
DZM	Mont Dzumac	7.40	186	eP	P	10 54 36.8	-0.5
DZM				eS	S	10 55 59.3	-1.0
AFI	Afiamalu	20.38	91	P	P	10 57 15.4	+1.8
	26nm,0.7s,baz=170,slow=23,SNR=6.2						
CTA	Charters Tower	20.71	252	eP	P	10 57 20.0	+3.0
	5.9nm,1.1s						
CTA	Charters Tower	20.71	252	P	P	10 57 18.1	+1.1
	7.9nm,1.1s,baz=93,slow=12,SNR=7.4						
CTAO	Charters Tower	20.71	252	eP	P	10 57 16.0	-0.9
	7.1nm,0.8s						
URZ	Urewera	25.08	161	P	P	10 57 57.9	-0.8
	3.7nm,0.5s,mb4.3,baz=97,slow=23,SNR=5.2						
CNB	Canberra Magne	26.08	215	eP	P	10 58 09.1	+1.1
	24nm,1.5s,mb4.6						
STKA	Stephens Creek	28.99	229	⇑iP	P	10 58 35.4	+1.1
	20nm,0.4s,mb5.1						
STKA	Stephens Creek	28.99	229	P	P	10 58 35.5	+1.2
	23nm,0.5s,mb5.1,baz=50,slow=8.2,SNR=84						
STKA				PcP	PcP	11 01 37.7	0.0
	5.0nm,0.6s,baz=34,slow=4.2,SNR=6.3						
RPZ	Rata Peaks	29.14	174	P	P	10 58 34.5	-0.9
	6.1nm,0.6s,mb4.4,baz=334,slow=22,SNR=6.1						
TOO	Toolangi	29.87	216	eP	P	10 58 42.9	+0.9
	7.2nm,1.0s,mb4.3						
WB2	Warramunga Arr	31.78	256	⇑iP	P	10 58 58.1	-0.7
WRAB	Tennant Creek	31.78	256	eP	P	10 58 57.3	-1.5
WRA	Warramunga Arr	31.79	256	P	P	10 58 58.0	-0.8
	3.4nm,0.6s,mb4.1,baz=85,slow=8.9,SNR=105						
WRA				S	S	11 03 53.1	+0.1
	1.0nm,1.0s,baz=86,slow=13,SNR=5.0						
FITZ	Fitzroy Crossi	39.97	259	eP	P	11 00 08.2	+0.5
	9.1nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	39.97	259	P	P	11 00 08.5	+0.8
	9.6nm,0.4s,mb4.6,baz=103,slow=4.5,SNR=45						
MBWA	Marble Bar	45.51	255	eP	P	11 00 52.9	+0.4
	7.7nm,0.8s,mb4.1						
KLBR	Kellerberrin	48.09	241	eP	P	11 01 11.7	-0.7
	9.3nm,0.5s,mb4.4						
NWAO	Narrogin (SRO)	48.73	239	P	P	11 01 18.0	+0.7
	24nm,0.6s,mb4.7,baz=64,slow=5.1,SNR=32						
MUN	Mundaring	49.45	240	eP	P	11 01 22.6	-0.1
	12nm,0.9s,mb4.2						
MJAR	Matsushiro Arr	57.82	333	P	P	11 02 21.8	-1.9
	1.4nm,0.6s,mb3.8,baz=154,slow=13,SNR=4.9						
ASAJ	Asahikawa	62.66	340	P	P	11 02 56.8	+0.3
	2.2nm,0.3s,mb4.2,baz=187,slow=5.1,SNR=6.1						
VNDA	Vanda	62.92	181	P	P	11 02 57.1	-0.6
	2.8nm,0.5s,mb4.2,baz=352,slow=6.9,SNR=25						
VNDA	Vanda	62.92	181	eP	P	11 02 57.1	-0.7
	7.5nm,1.0s,mb4.3						
SBA	Scott Base	63.20	180	eP	P	11 02 59.8	+0.2
	4.2nm,0.4s,mb4.4						
CASY	Casey	63.57	202	⇑iP	P	11 03 01.8	-0.2
NJ2	Nanjing	65.59	316	eP	P	11 03 10.5	-5.1
NJ2				S	S	11 11 50.0	+6.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,40nm,5.3s						
NJ2				LR	LR		
	comp=N,210nm,16.4s						
NJ2				LR	LR		
	comp=E,180nm,19.4s						
NJ2				LR	LR		
	comp=Z,70nm,11.4s						
MDJ	Mudanjiang	68.20	332	P	P	11 03 24.7	-7.0
MDJ				PCP	PcP	11 03 50.9	-5.3
MDJ				S	S	11 12 21.1	+6.9
MDJ				AMB	AMB		
	comp=Z,6.0nm,2.3s,mb3.8						
MDJ				AMB	AMB		
	comp=Z,44nm,5.4s						
MDJ				LR	LR		
	comp=N,25nm,23.2s						
MDJ				LR	LR		
	comp=E,28nm,21.8s						
MDJ				LR	LR		
	comp=Z,27nm,19.6s						
CN2	Changchun	69.56	329	eP	P	11 03 36.5	-3.5
CMAR	Chiang Mai Arr	74.87	294	P	P	11 04 13.2	+1.4
	comp=Z,2.1nm,0.7s,mb3.9,baz=123,slow=5.0,SNR=8.6						
MAW	Mawson	81.92	202	⇑iP	P	11 04 49.9	+0.9
	comp=Z,5.6nm,0.6s,mb4.4						
MAW	Mawson	81.92	202	P	P	11 04 49.5	+0.4
	comp=Z,6.3nm,0.6s,mb4.4,baz=125,slow=5.6,SNR=17						
ULN	Ulaanbaatar	82.05	324	eP	P	11 04 44.9	-5.2
	comp=Z,2.5nm,0.8s,mb3.9						
SONM	Songino Array	82.41	324	P	P	11 04 53.4	+1.5
	comp=Z,1.5nm,0.4s,mb3.9,baz=140,slow=5.1,SNR=8.5						
GTA	Gaotai	82.58	314	eP	P	11 04 54.6	+1.6
GTA				PP	PP	11 08 06.7	-0.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1						
GTA				AMB	AMB		
	comp=Z,55nm,6.1s						
GTA				LR	LR		
	comp=N,115nm,20.5s						
GTA				LR	LR		
	comp=E,183nm,27.0s						
GTA				LR	LR		
	comp=Z,82nm,16.3s						
YBH	Yreka Blue Hor	85.41	45	P	P	11 05 07.3	+0.1
	comp=Z,0.8nm,0.7s,mb3.6,baz=168,slow=8.0,SNR=3.6						
ILAR	Eielson Array	86.48	18	P	P	11 05 09.7	-2.1
	comp=Z,2.3nm,0.7s,mb4.0,baz=236,slow=4.6,SNR=30						
NVAR	Mina Array Bea	87.27	49	P	P	11 05 16.3	0.0
	comp=Z,0.8nm,0.8s,mb3.5,baz=216,slow=3.5,SNR=6.9						
NVAR	Mina Array Bea	87.27	49	P	P	11 05 16.3	0.0
SYO	Syowa Base	88.75	197	⇑P	P	11 05 21.5	-1.0
WMQ	Urumqi	92.64	315	eP	P	11 05 39.0	-2.2
SNAA	Sanae	93.61	183	⇑i	P	11 05 44.4	-0.6
SNAA	Sanae	93.61	183	e	P	11 05 47.8	+2.8
VNA3	Neumayer Olymp	94.28	181	⇑i	P	11 05 47.4	-0.6
VNA3	Neumayer Olymp	94.28	181	e	P	11 05 52.1	+4.1
VNA2	Neumayer--Watz	94.54	182	⇑i	P	11 05 49.0	-0.2
VNA2	Neumayer--Watz	94.54	182	e	P	11 05 52.6	+3.4
VNA1	Neumayer--Stat	94.84	182	⇑i	P	11 05 50.2	-0.4
TXAR	Lajitas Array	96.29	61	P	P	11 05 58.4	+0.2
	comp=Z,0.2nm,0.6s,mb3.6,baz=224,slow=5.5,SNR=5.1						
MKAR	Makanchi Array	97.12	316	P	P	11 06 02.4	+0.9
	comp=Z,2.7nm,0.7s,mb4.6,baz=90,slow=6.4,SNR=32						
ARCES	ARCESS Array B	120.17	345	PKP	PKPdf	11 11 18.4	+0.9
	comp=Z,5.3nm,0.6s,baz=79,slow=1.8,SNR=47						
ARCES	ARCESS Array B	120.17	345	PKP	PKPdf	11 11 18.4	+0.9
KAF	Kangasniemi	125.11	339	epkp	PKPdf	11 11 27.6	+0.4
FINES	FINESS Array B	125.64	338	PKP	PKPdf	11 11 29.2	+1.0
	comp=Z,0.9nm,0.3s,baz=100,slow=2.2,SNR=11						
NB2	NORSAR Subarra	130.55	345	PKPdf	PKPdf	11 11 39.0	+1.3
	comp=Z,0.9nm,0.6s,baz=33,slow=1.8						
NOA	NORSAR Array B	130.55	345	PKP	PKPdf	11 11 39.4	+1.7
	comp=Z,1.5nm,0.7s,baz=33,slow=2.0,SNR=8.6						
NOA				SKP		11 14 47.9	
	comp=Z,2.7nm,0.7s,baz=31,slow=3.0,SNR=19						
NOA	NORSAR Array B	130.55	345	PKP	PKPdf	11 11 39.4	+1.7
NOA				SKP		11 14 47.9	
AKASG	Malin Array Be	130.65	326	PKP	PKPdf	11 11 39.1	+1.0
	comp=Z,0.3nm,0.3s,baz=48,slow=2.4,SNR=6.1						
BRTR	Keskin Array B	132.43	311	PKP	PKPdf	11 11 43.7	+1.8
	comp=Z,0.7nm,0.5s,baz=90,slow=2.5,SNR=3.6						
GERES	GERESS Array B	139.56	333	PKP	PKPdf	11 11 56.3	+1.6
	comp=Z,0.7nm,0.6s,slow=1.3,SNR=7.7						
BAIF	Baives	142.08	342	ePKP1	PKPdf	11 11 59.9	+0.9
CDF	Champ du Feu	142.49	338	ePKP1	PKPdf	11 11 59.3	-0.4
HAU	Haudompre	143.17	338	ePKP1	PKPbc	11 12 00.5	+1.2
MEZF	Maizieres J'vi	143.19	340	ePKP1	PKPbc	11 12 00.9	+1.6
AQU	L'Aquila	144.35	326	ePKPdf	PKPdf	11 12 04.1	+0.9
TIP	Timpagrande	144.36	319	ePKPdf	PKPdf	11 12 04.2	+0.9
CABF	La Chapelle	144.45	337	ePKP1	PKPbc	11 12 04.8	+1.7
	comp=Z,26nm,0.8s						
FLN	La Foliniere	144.52	346	ePKP1	PKPbc	11 12 03.8	+0.6
	comp=Z,15nm,0.6s						
LOR	Lormes	144.66	340	⇑iPKP1	PKPbc	11 12 04.9	+1.3
	comp=Z,12nm,0.7s						
SSF	Saint Saulge	144.95	340	⇑iPKP1	PKPbc	11 12 06.1	+1.6
	comp=Z,67nm,0.8s						
GRR	Gorron	144.96	346	⇑iPKP1	PKPbc	11 12 05.6	+1.1
	comp=Z,51nm,0.6s						
HYF	Humbligny	145.04	342	ePKP1	PKPbc	11 12 06.5	+1.8
LPL	La Plagne	145.11	336	⇑iPKP1	PKPbc	11 12 07.1	+2.2
	comp=Z,39nm,0.7s						
LPG	La Plagne	145.12	336	⇑iPKP1	PKPbc	11 12 07.3	+2.3
	comp=Z,42nm,0.7s						
SMF	Signal de Mont	145.21	340	⇑iPKP1	PKPbc	11 12 06.7	+1.6
	comp=Z,59nm,1.0s						
SGMF	Saint Gilles	145.45	348	⇑iPKP1	PKPbc	11 12 07.1	+1.4
	comp=Z,29nm,0.6s						
ROSF	Rostrenen	145.51	349	ePKP1	PKPbc	11 12 07.4	+1.5
	comp=Z,30nm,0.9s						
BGF	Bois d'Agland	145.61	341	⇑iPKP1	PKPbc	11 12 08.0	+1.8
	comp=Z,33nm,0.7s						
MBDF	Montbardon	145.74	335	⇑iPKP1	PKPbc	11 12 08.4	+1.9
	comp=Z,25nm,0.8s						
QUIF	Quistinic	145.90	348	ePKP1	PKPbc	11 12 07.4	+0.6
ORIF	Oris-en-Rattie	145.94	336	⇑iPKP1	PKPbc	11 12 09.4	+2.4
	comp=Z,67nm,0.7s						
TCF	Toulx Ste Croi	146.05	341	⇑iPKP1	PKPbc	11 12 09.3	+2.0
	comp=Z,16nm,0.7s						
SBF	Sospel	146.16	333	ePKP1	PKPbc	11 12 09.4	+1.8
	comp=Z,95nm,0.8s						
MFF	Saint Martin d	146.44	344	⇑iPKP1	PKPbc	11 12 10.3	+2.1
	comp=Z,51nm,0.9s						
VIVF	Saint-Julien-l	146.46	337	⇑iPKP1	PKPbc	11 12 10.8	+2.6
	comp=Z,19nm,0.9s						
PGF	Pioggiola	146.47	330	ePKP1	PKPbc	11 12 10.5	+2.2
	comp=Z,97nm,0.9s						
FRF	La Foret Royal	146.74	334	⇑iPKP1	PKPbc	11 12 11.1	+2.2
	comp=Z,89nm,1.0s						
SMRF	Simiane la Rot	146.85	335	⇑iPKP1	PKPbc	11 12 12.0	+2.8
	comp=Z,58nm,1.0s						
LMR	La Mourre	146.99	334	ePKP1	PKPbc	11 12 11.9	+2.4
	comp=Z,93nm,1.1s						
RJF	Les Rejaudoux	147.15	341	ePKP1	PKPdf	11 12 12.6	+4.8
	comp=Z,20nm,0.7s						
CAF	Calviac	147.31	340	⇑iPKP1	PKPdf	11 12 13.2	+5.1
	comp=Z,16nm,0.8s						
LASF	Ste Croix	147.43	337	ePKP1	PKPdf	11 12 13.5	+5.2
	comp=Z,53nm,1.0s						
LFF	La Frestale	147.72	342	⇑iPKP1	PKPdf	11 12 14.1	+5.3
	comp=Z,45nm,0.7s						
MTLF	Montolieu	148.66	339	⇑iPKP1	PKPdf	11 12 16.7	+6.4
	comp=Z,42nm,0.8s						
EPF	Esparros	149.56	341	ePKP1	PKPdf	11 12 18.7	+6.9
	comp=Z,28nm,1.0s						
SJPF	Ste Jean	149.96	343	ePKP1	PKPdf	11 12 19.7	+7.3
	comp=Z,42nm,1.2s						
ETSF	Etsaut	149.96	342	⇑iPKP1	PKPdf	11 12 20.3	+7.9
	comp=Z,24nm,0.6s						

*NEIC **08** 11:06:56.6, 32.11S×72.18W, h31^{km}, ML3.3(GUC), After GUC.*

GUC 08 11:06:56.6±0.7**, 32.11S**×**72.18W, h31**^{km}±3^{km}**, MD3.9, ML3.3, 1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.76	125	⇓iP	Pn	11 07 10.8	-0.5
PACH				i S	Sb	11 07 21.8	+0.5
ROCH	El Roble	1.31	132	i P	Pn	11 07 19.9	+0.8
ROCH				i S	Sn	11 07 37.5	+1.8
CMCH	Combarbala	1.36	47	eP	Pn	11 07 20.2	+0.3
CMCH				i S	Sn	11 07 38.5	+1.4
CMCH				AMP		11 07 46.5	
	comp=E,1μm,0.5s						
JACH	Jahuel	1.46	114	eP	Pn	11 07 22.0	+0.8
JACH				i S	Sn	11 07 40.7	+1.3
LCCH	Las Cruces	1.46	160	eP	Pn	11 07 21.4	+0.1
TACH	Talagante	1.86	146	eP	Pn	11 07 28.0	+1.0
CLCH	Cerro Calan	1.89	133	eP	Pn	11 07 28.0	+0.6
CLCH				i S	Sn	11 07 52.6	+2.2
CLCH				AMP		11 08 00.9	
	comp=E,232nm,0.6s						
FCH	Farellones	2.00	128	i P	Pn	11 07 30.1	+1.0
PCH	Pirque	2.06	138	eP	Pn	11 07 30.7	+0.8
PCH				i S	Sn	11 07 56.1	+1.4
CHCH	Chadas Angostu	2.23	145	eP	Pn	11 07 33.2	+1.0
TLL	Tololo Astrono	2.26	32	eP	Pn	11 07 33.9	+1.2
TLL				AMP		11 08 15.7	
	comp=N,330nm,0.6s						
CACH	El Canelo	2.40	147	eP	Pn	11 07 35.8	+1.1
SFDO	San Fernando	2.69	159	eP	Pn	11 07 39.2	+0.5

MAN 08 11:09:18.7, 9.48N×**125.58E, h9**^{km}**, mb3.6, ML2.3, MS1.8, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.31	344	⇓eP	Pg	11 09 26.0	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH				*e*S	Sg	11 09 36.3	+6.8
BUTP	**Butuan**	**0.51**	**175**	*e*P	Pg	11 09 28.7	-0.2
BUTP				*e*S	Sg	11 09 41.4	+5.6
BUKP	**Musuan**	**1.67**	**198**	*e*P	Pn	11 09 47.8	-0.5

*NEIC **08** 11:11:31.0, 37.51S×175.73E, h5km, ML3.8(WEL), After WEL.*
NEIC Felt in the Te Aroha area.
WEL 08 11:11:30.6±0.1**, 37.52S×175.73E, h6**km±1km**, ML3.9**/6**, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	**Tahuroa Road**	**0.28**	**221**	P	Pg	11 11 36.4	+0.1
TOZ				S	Sg	11 11 40.5	+0.4
TOZ	**Tahuroa Road**	**0.28**	**221**	PG	Pg	11 11 36.4	+0.1
TOZ				SG	Sg	11 11 40.4	+0.2
MYRZ	**Mayor Island**	**0.47**	**60**	PG	Pg	11 11 40.1	+0.1
TGRZ	**Tauranga**	**0.47**	**117**	P	Pg	11 11 39.8	-0.2
TGRZ				S	Sg	11 11 46.6	+0.3
TGRZ	**Tauranga**	**0.47**	**117**	PG	Pg	11 11 39.7	-0.3
TGRZ				SG	Sg	11 11 46.4	+0.1
MKAZ	**Moumakai**	**0.61**	**312**	P	Pg	11 11 42.8	0.0
MKAZ	**Moumakai**	**0.61**	**312**	P*	Pb	11 11 42.5	-0.7
LIRZ	**Lichensteins R**	**0.71**	**133**	P	Pg	11 11 44.7	-0.1
LIRZ	**Lichensteins R**	**0.71**	**133**	P*	Pb	11 11 44.4	-0.6
UTU	**Utuhina**	**0.75**	**151**	P	Pg	11 11 45.7	+0.1
UTU	**Utuhina**	**0.75**	**151**	P*	Pb	11 11 45.4	-0.3
KUZ	**Kuaotunu**	**0.77**	**359**	P	Pb	11 11 45.6	-0.4
KUZ	**Kuaotunu**	**0.77**	**359**	P*	Pb	11 11 45.3	-0.7
KUZ				S*	Sb	11 11 56.0	-0.5
OTAZ	**Otara**	**0.86**	**311**	P	Pb	11 11 47.8	+0.3
OTAZ	**Otara**	**0.86**	**311**	P*	Pb	11 11 47.6	+0.1
MARZ	**Manawahe**	**0.88**	**122**	P	Pb	11 11 47.8	-0.1
MARZ	**Manawahe**	**0.88**	**122**	P*	Pb	11 11 47.2	-0.6
TAZ	**Tarawera**	**0.94**	**140**	P	Pb	11 11 49.3	+0.4
TAZ	**Tarawera**	**0.94**	**140**	P*	Pb	11 11 48.2	-0.7
PATZ	**Paeroa**	**0.95**	**154**	*e*P*	Pb	11 11 48.9	-0.2
MTAZ	**Motutapu**	**0.98**	**318**	P	Pb	11 11 49.8	+0.1
MTAZ	**Motutapu**	**0.98**	**318**	P*	Pb	11 11 49.5	-0.2
EDRZ	**Edgecumbe**	**0.99**	**127**	P	Pb	11 11 49.8	+0.1
EDRZ	**Edgecumbe**	**0.99**	**127**	*e*P*	Pb	11 11 49.0	-0.7
KAAZ	**Kauri Point**	**1.08**	**310**	P	Pb	11 11 51.8	+0.5
WTAZ	**Waiatarua**	**1.09**	**302**	P	Pb	11 11 52.2	+0.6
WIZ	**White Island**	**1.16**	**91**	P	Pb	11 11 53.6	+1.0
HIZ	**Hauiti**	**1.21**	**215**	P	Pb	11 11 52.8	-0.8
HIZ	**Hauiti**	**1.21**	**215**	P*	Pb	11 11 52.7	-0.9
HIZ				S*	Sb	11 12 08.7	-0.6
URZ	**Urewera**	**1.32**	**125**	*e*P	Pb	11 11 54.8	-0.5
URZ	**Urewera**	**1.32**	**125**	P*	Pb	11 11 54.4	-0.9
URZ				S*	Sb	11 12 12.3	0.0
RATZ	**Rangitukua**	**1.35**	**179**	P	Pb	11 11 56.5	+0.6
RATZ	**Rangitukua**	**1.35**	**179**	*e*PN	Pn	11 11 54.9	-1.1
WTVZ	**West Tongariro**	**1.60**	**184**	P	Pn	11 12 00.6	+1.0
WTVZ	**West Tongariro**	**1.60**	**184**	*e*PN	Pn	11 11 59.5	-0.1
NGZ	**Ngauruhoe**	**1.66**	**184**	P	Pn	11 12 01.7	+1.3
CNZ	**Chateau**	**1.68**	**185**	P	Pn	11 12 02.2	+1.4
TUVZ	**Tukino**	**1.75**	**182**	P	Pn	11 12 04.1	+2.4
WCZ	**Waipu Caves**	**1.93**	**324**	*e*P	Pn	11 12 02.8	-1.5
THZ	**Tophouse**	**4.77**	**206**	*e*P	Pn	11 12 43.6	-1.1

CASC 08 11:38:19.3±1.0**, 10.96N×86.68W, h22**km±3km**, MD4.1, ML3.7, 6C-3D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.08**	**20**⇑	*e*P	Pb	11 38 39.5	+0.3
APON	**Apoyo**	**1.12**	**32**⇑	*e*P	Pn	11 38 39.2	-0.6
MASN	**Masaya**	**1.14**	**27**	*e*P	Pn	11 38 39.4	-0.7
TICN	**Ticuantepe**	**1.15**	**22**⇓	*e*P	Pn	11 38 39.8	-0.4
CONN	**Concepcion**	**1.19**	**60**⇑	*e*P	Pn	11 38 39.9	-1.0
XAVN	**Gruta Xavier**	**1.23**	**16**⇓	*e*P	Pn	11 38 41.0	-0.3
XAVN				*e*S	Sb	11 38 58.1	+1.0
MGAN	**Managua**	**1.25**	**20**⇑	*e*P	Pn	11 38 41.2	-0.4
MGAN				*e*S	Sb	11 38 57.8	+0.1
	comp=E,1μm,0.6s						
WILN	**Americas 2**	**1.28**	**22**⇓	*e*P	Pn	11 38 41.9	-0.2
WILN				*e*S	Sb	11 38 59.1	+0.4
APYN	**Apoyeque**	**1.30**	**14**	*e*P	Pn	11 38 42.1	-0.2
MOMJ	**Momotombo**	**1.44**	**5**	*e*P	Pn	11 38 44.1	-0.2
LEON	**Leon**	**1.46**	**352**⇑	*e*P	Pn	11 38 44.4	-0.3
MIRN	**Miramar**	**1.47**	**359**	*e*P	Pn	11 38 44.5	-0.3
CNGN	**Cerro Negro**	**1.53**	**359**	*e*P	Pn	11 38 45.3	-0.3
TELN	**Telica**	**1.64**	**355**	*e*S	Sn	11 39 07.2	-0.5
PYTN	**Playitas**	**1.68**	**21**⇑	*e*P	Pn	11 38 46.7	-1.1
PYTN				*e*S	Sn	11 39 09.7	+1.0
CRIN	**San Cristobal**	**1.76**	**348**	*e*P	Pn	11 38 47.8	-1.2

IDC 08 11:55:31.2±1.8**, 11.68N×143.64E, mb3.6**/3**, mb1 4.0**/3**, mb1mx3.6**/19**, mbtmp3.6**/3**, MS2.9**/2**, Ms1 2.9**/2**, ms1mx2.6**/19**, Error ellipse: s-maj=165.7km s-min=30.3km az=112.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**21.23**	**170**	LR	LR	12 07 38.8	
	comp=Z,30nm,21.7s,baz=260,slow=34						
JNU	**Nakatsue**	**24.34**	**333**	LR	LR	12 08 04.5	
	comp=Z,29nm,19.1s,baz=258,slow=31						
WRA	**Warramunga Arr**	**32.73**	**196**	P	P	12 02 05.6	-2.3
	0.3nm,0.4s,baz=20,slow=9.5,SNR=8.3						
ILAR	**Eielson Array**	**70.80**	**25**	P	P	12 06 48.9	-2.4
	0.3nm,0.6s,baz=248,slow=6.3,SNR=6.7						
NVAR	**Mina Array Bea**	**89.05**	**51**	P	P	12 08 29.7	-0.1
	0.2nm,0.4s,baz=297,slow=4.0,SNR=3.7						

*IDC **08** 12:16:17.1±2.6, 1.48N×96.89E, mb4.0/5, mb1 4.1/6, mb1mx3.8/20, mbtmp4.0/6, ML3.7/1, MS3.2/1, Ms1 3.4/1, ms1mx2.8/18, Error ellipse: s-maj=98.6km s-min=26.0km az=56.0*
*NEIC **08** 12:16:21.6±1.1, 1.49N×96.96E, h30km, mb4.0/1, Error ellipse: s-maj=22.2km s-min=16.9km az=53.0*
ISC 08 12:16:19.5±1.4**, 1.5N**±0.2×**96.9E**±0.2**, h30**km**, n8,** σ**0**^{s}**69**/8**, mb3.9**/6**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.29**	**45**	*e*Pn	**Pn**	**12 17 38.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**16.97**	**7**	Pn	**P**	**12 20 18.1**	**+1.4**
	0.1nm,0.3s,baz=197,slow=12,SNR=6.9						
CMAR				LR	LR	12 26 59.4	
	comp=Z,73nm,19.2s,baz=190,slow=38						
WRA	**Warramunga Arr**	**42.42**	**122**	P	**P**	**12 24 14.1**	**+0.5**
	0.3nm,0.5s,mb3.2,baz=301,slow=9.2,SNR=5.9						
SONM	**Songino Array**	**46.88**	**9**	P	**P**	**12 24 48.4**	**-0.6**
	0.4nm,0.4s,mb3.7,baz=192,slow=8.9,SNR=3.5						
MKAR	**Makanchi Array**	**46.89**	**346**	P	**P**	**12 24 49.3**	**+0.2**
	5.6nm,0.9s,mb4.5,baz=158,slow=7.8,SNR=31						
ZAL	**Zalesovo**	**53.22**	**351**	P	**P**	**12 25 37.6**	**+0.3**
	1.9nm,0.3s,mb4.4,baz=14,slow=5.5,SNR=3.1						
BVAR	**Borovoye Array**	**55.88**	**341**	P	**P**	**12 25 56.2**	**-0.6**
	0.6nm,0.5s,mb3.9,baz=149,slow=8.6,SNR=6.4						
ZRNK	**Zerenda**	**56.28**	**340**	P	**P**	**12 25 59.2**	**-0.5**
	1.1nm,0.8s,mb3.9						

*IDC **08** 12:26:47.3±2.0, 11.57S×166.89E, mb4.1/4, mb1 4.3/4, mb1mx3.9/15, mbtmp4.0/4, Error ellipse: s-maj=87.9km s-min=26.5km az=136.0*
*NEIC **08** 12:27:09.9±1.3, 12.17S×166.92E, h200km, mb4.1/1, Error ellipse: s-maj=57.1km s-min=16.3km az=136.0*
ISC 08 12:27:08.1±2.2**, 12.3S**±0.4×**167.0E**±0.4**, h200**km**, n8,** σ**0**^{s}**70**/7**, mb3.8**/5**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**21.39**	**246**	*e*P	**P**	**12 31 41.7**	**+0.9**
	4.1nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**30.44**	**226**	P	**P**	**12 33 04.1**	**-0.1**
	0.9nm,0.4s,mb3.8,baz=73,slow=11,SNR=4.5						
STKA	**Stephens Creek**	**30.44**	**226**	P	**P**	**12 33 04.1**	**-0.1**
WRA	**Warramunga Arr**	**32.27**	**252**	P	**P**	**12 33 18.8**	**-1.4**
	0.6nm,0.4s,mb3.5,baz=78,slow=9.3,SNR=18						
FITZ	**Fitzroy Crossi**	**40.30**	**257**	P	**P**	**12 34 28.1**	**+0.5**
	baz=45,slow=2.9						
ILAR	**Eielson Array**	**84.31**	**18**	P	**P**	**12 39 18.4**	**+0.1**
	1.8nm,0.6s,mb4.0,baz=232,slow=5.3,SNR=43						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**95.30**	**317**	P	**P**	**12 40 10.4**	**-0.1**
	0.3nm,0.5s,mb3.7,baz=90,slow=4.9,SNR=5.0						
ARCES	**ARCESS Array B**	**117.86**	**346**	PKP	PKPdf	12 45 31.7	+1.5
	0.7nm,0.4s,baz=62,slow=1.8,SNR=11						

*CSEM **08** 12:27:23.9±0.1, 29.69N×52.19E, h5km, ML3.5, Error ellipse: s-maj=2.6km s-min=2.0km az=156.0*
*THR **08** 12:27:24.0±0.4, 29.74N×52.11E, h18km±8km, ML3.5*
*KISR **08** 12:27:24.9±0.9, 29.92N×52.12E, h33km, ML3.3*
*TEH **08** 12:27:25.1, 29.53N×52.15E, h10km, Mn3.5*
*SNSN **08** 12:27:51.4, 28.87N×49.89E, h10km, Ml3.5*
ISC 08 12:27:23.3±0.4**, 29.63N**±0.04×**52.17E**±0.04**, h5**km**, n29,** σ**1**^{s}**18**/35**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.30**	**88**	Pg	**Pg**	**12 27 29.3**	**0.0**
IMOK	**Mook**	**0.75**	**141**	Pg	**Pg**	**12 27 37.6**	**-0.7**
ISRV	**Sarvestan**	**0.86**	**107**	Pg	**Pg**	**12 27 38.2**	**-2.3**
GHIR	**Ghir-Karzin**	**1.52**	**152**	*e*PG	**Pg**	**12 27 54.1**	**+0.5**
GHIR				AML	AML	12 28 20.9	
	comp=N,748nm,0.4s						
IGAR	**Garneh**	**2.61**	**0**	Pn	**Pn**	**12 28 09.5**	**+2.6**
ISAD	**Sadrabad**	**2.62**	**29**	Pn	**Pn**	**12 28 08.5**	**+1.4**
IMEH	**Mehriz**	**2.74**	**50**	Pn	**Pn**	**12 28 09.9**	**+1.1**
NASN	**Na'in**	**3.21**	**10**	*e*PN	**Pn**	**12 28 14.7**	**-0.7**
ICHK	**Chekchek**	**3.24**	**36**	Pn	**Pn**	**12 28 17.1**	**+1.3**
IZEF	**Zefreh**	**3.26**	**2**	Pn	**Sn**	**12 28 55.3**	**-0.5**
IBAF	**Bafgh**	**3.52**	**55**	Pn	**Pn**	**12 28 20.6**	**+0.8**
IKLH	**Kalahroud**	**3.71**	**352**	Pn	**Pn**	**12 28 22.2**	**-0.4**
QRN	**Al-Qurain**	**3.82**	**258**	*e*P	**Pn**	**12 28 25.3**	**+1.1**
QRN				*e*S	**Sn**	**12 29 11.2**	**+1.1**
QRN				AML	AML	12 29 11.5	
	comp=Z,32nm,0.2s						
KBD	**Kabd**	**3.94**	**264**	*e*P	**Pn**	**12 28 26.9**	**+1.2**
KBD				AML	AML	12 29 08.9	
	comp=Z,70nm,0.4s						
KBD				*e*S	**Sn**	**12 29 12.9**	**0.0**
KBD	**Kabd**	**3.94**	**264**	*e*P	**Pn**	**12 28 26.9**	**+1.2**
KBD				*e*S	**Sn**	**12 29 12.9**	**0.0**
KRBR	**Kerman**	**4.00**	**84**	*e*PN	**Pn**	**12 28 27.4**	**+0.6**
KRBR				*e*SG	**Sg**	**12 29 29.7**	**-6.9**
KRBR				AML	AML	12 29 45.6	
	comp=N,55nm,0.7s						
KRBR	**Kerman**	**4.00**	**84**	*e*Pn	**Pn**	**12 28 27.4**	**+0.7**
	SNR=52						
KRBR				*e*Sg	**Sg**	**12 29 29.7**	**-6.9**
	comp=N,55nm,0.7s,SNR=91						
RDF	**Al-Radifah**	**4.10**	**261**	*e*P	**Pn**	**12 28 28.8**	**+0.7**
RDF				AML	AML	12 29 15.9	
	comp=Z,25nm,0.4s						
RDF				*e*S	**Sn**	**12 29 16.7**	**-0.4**
RDF	**Al-Radifah**	**4.10**	**261**	*e*P	**Pn**	**12 28 28.8**	**+0.7**
RDF				*e*S	**Sn**	**12 29 16.7**	**-0.4**
HASS	**Wahat al Ahsa'**	**4.94**	**207**	P	**Pn**	**12 28 48.4**	**+8.3**
ASAO	**Ashtian**	**5.23**	**340**	*e*Pn	**Pn**	**12 28 42.1**	**-2.0**
IVRN	**Varamin**	**5.36**	**356**	Pn	**Pn**	**12 28 45.4**	**-0.6**
IVRN	**Varamin**	**5.36**	**356**	Lg		12 30 15.1	
IDMV	**Damavand**	**5.93**	**359**	Pn	**Pn**	**12 28 53.5**	**-0.5**
SNGE	**Sanandaj**	**6.80**	**324**	*e*PN	**Pn**	**12 29 03.6**	**-2.7**
IDHR	**Dehrash**	**7.04**	**317**	Pn	**Pn**	**12 29 09.3**	**-0.4**
MZLS	**Mizel**	**8.36**	**230**	P	**P**	**12 29 25.8**	**-2.3**
ARSS	**Ar Rass**	**8.75**	**247**	P	**P**	**12 29 28.9**	**-4.7**
HILS	**Ha'il**	**9.40**	**259**	P	**P**	**12 29 38.0**	**-4.5**

*CSEM **08** 12:44:53.2±0.1, 29.61N×52.25E, h8km, ML3.3, Error ellipse: s-maj=3.3km s-min=2.4km az=6.0*
*TEH **08** 12:44:54.1, 29.52N×52.10E, h10km, Mn3.3*
*KISR **08** 12:44:56.4±1.0, 29.88N×51.97E, h33km, ML3.1*
ISC 08 12:44:53.3±0.5**, 29.60N**±0.06×**52.18E**±0.04**, h10**km**, n15,** σ**1**^{s}**21**/19**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.29**	**81**	Pg	**Pg**	**12 44 58.9**	**-0.5**
IMOK	**Mook**	**0.72**	**139**	Pg	**Pg**	**12 45 07.0**	**-0.7**
ISRV	**Sarvestan**	**0.84**	**104**	Pg	**Pg**	**12 45 08.8**	**-1.3**
IGAR	**Garneh**	**2.64**	**0**	Pn	**Pn**	**12 45 37.9**	**+1.2**
ISAD	**Sadrabad**	**2.65**	**29**	Pn	**Pn**	**12 45 38.9**	**+2.1**
IMEH	**Mehriz**	**2.76**	**49**	Pn	**Pn**	**12 45 39.7**	**+1.3**
ICHK	**Chekchek**	**3.26**	**35**	Pn	**Pn**	**12 45 46.0**	**+0.5**
IZEF	**Zefreh**	**3.29**	**2**	Pn	**Pn**	**12 45 44.7**	**-1.3**
IBAF	**Bafgh**	**3.53**	**55**	Pn	**Pn**	**12 45 50.7**	**+1.3**
IKLH	**Kalahroud**	**3.75**	**352**	Pn	**Pn**	**12 45 50.7**	**-1.7**
QRN	**Al-Qurain**	**3.82**	**258**	*e*P	**Pn**	**12 45 54.9**	**+1.4**
QRN				*e*S	**Sn**	**12 46 39.4**	**+0.4**
QRN				AML	AML	12 46 39.8	
	comp=Z,20nm,0.3s						
KBD	**Kabd**	**3.94**	**265**	*e*P	**Pn**	**12 45 56.4**	**+1.3**
KBD				*e*S	**Sn**	**12 46 41.2**	**-0.8**
KBD				AML	AML	12 46 41.3	
	comp=Z,48nm,0.3s						
RDF	**Al-Radifah**	**4.10**	**262**	*e*P	**Pn**	**12 45 58.5**	**+1.1**
RDF				*e*S	**Sn**	**12 46 44.7**	**-1.3**
RDF				AML	AML	12 46 48.4	
	comp=Z,20nm,0.5s						
IVRN	**Varamin**	**5.40**	**356**	Pn	**Pn**	**12 46 14.7**	**-1.1**
IVRN				Sn	**Sn**	**12 47 14.9**	**-3.9**
IDMV	**Damavand**	**5.97**	**359**	Pn	**Pn**	**12 46 22.8**	**-1.0**

IDC 08 13:24:44.3±2.2**, 12.64S×166.91E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/15**, mbtmp3.8**/3**, Error ellipse: s-maj=116.0km s-min=30.4km az=134.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.13**	**226**	P	P	13 30 56.1	-2.1
	1.4nm,0.4s,baz=61,slow=11,SNR=8.3						
WRA	**Warramunga Arr**	**32.06**	**253**	P	P	13 31 13.2	-2.0
	0.2nm,0.3s,baz=83,slow=8.6,SNR=12						
ILAR	**Eielson Array**	**84.66**	**18**	P	P	13 37 20.1	-0.7
	0.2nm,0.4s,baz=240,slow=5.1,SNR=6.6						
ARCES	**ARCESS Array B**	**118.16**	**346**	PKP	PKPdf	13 43 31.7	-3.2
	1.0nm,0.8s,baz=45,slow=1.7,SNR=4.3						

*FUNV **08** 13:47:38.8, 10.58N×62.19W, h48km, MW2.7*
*NEIC **08** 13:47:40.0, 10.71N×62.12W, h34km, MD2.6(TRN), After TRN.*
*TRN **08** 13:47:40.0, 10.71N×62.12W, h34km, MD2.6*
ISC 08 13:47:37.4±0.6**, 10.61N**±0.05×**62.21W**±0.03**, h57**km±8km**, n13,** σ**1**^{s}**11**/22**, 1C-2D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.04**	**342**⇓	*e*P	**P**	**13 47 46.2**	**+0.4**
GUIV				*e*S	**S**	**13 47 51.7**	**-0.4**
TRN	**Trinidad (W)**	**0.79**	**87**	*e*P	**P**	**13 47 53.7**	**+0.9**
TRN				*e*S	**S**	**13 48 03.5**	**-0.6**
TPP	**Pointe-a-Pierr**	**0.80**	**111**	*e*P	**P**	**13 47 54.3**	**+1.5**
TPP				*e*S	**S**	**13 48 02.2**	**-2.0**
GUNV	**Guanoco**	**0.85**	**239**	*e*P	**P**	**13 47 54.0**	**+0.6**
GUNV				*e*S	**S**	**13 48 05.8**	**+0.5**
CRUV	**Carupano**	**1.01**	**274**⇓	*e*P	**P**	**13 47 56.1**	**+0.4**
CRUV				*e*S	**S**	**13 48 08.8**	**-0.5**
TBH	**Brigand Hill**	**1.13**	**96**	*e*P	**P**	**13 47 58.5**	**+1.2**
ITEV	**Isla Los Testi**	**1.17**	**309**⇑	*e*P	**P**	**13 47 58.8**	**+0.9**
ITEV				*e*S	**S**	**13 48 13.8**	**+0.6**
TPR	**Prospect**	**1.52**	**68**	*e*P	**P**	**13 48 04.1**	**+1.2**
TPR				*e*S	**S**	**13 48 20.4**	**-1.3**
BOT	**Bacolet**	**1.57**	**69**	*e*P	**P**	**13 48 05.1**	**+1.6**
GRW	**Mount Saint Ca**	**1.64**	**19**	*e*P	**P**	**13 48 04.3**	**-0.1**
GRW				*e*S	**S**	**13 48 21.9**	**-2.5**
ORIV	**Oritupano**	**1.93**	**218**	*e*P	**P**	**13 48 08.7**	**+0.2**
ORIV				*e*S	**S**	**13 48 30.6**	**-1.0**
CUPV	**Cœpira**	**3.56**	**262**	*e*P	**P**	**13 48 30.8**	**-0.8**
BAUV	**El Baul**	**5.98**	**254**	*e*P	**P**	**13 49 03.2**	**-2.2**

*ISK **08** 13:56:35.6, 37.79N×27.57E, h10km, MD3.2*
*CSEM **08** 13:56:35.7±0.1, 37.79N×27.62E, h5km, MD3.2, Error ellipse: s-maj=2.9km s-min=1.8km az=63.0*
*ATH **08** 13:56:36.9, 37.74N×27.57E, h10km±1km, MD3.6/5*
*NEIC **08** 13:56:36.9, 37.74N×27.57E, h10km, MD3.6(ATH), MD3.1(ISK), After ATH.*
ISC 08 13:56:36.2±0.3**, 37.78N**±0.02×**27.56E**±0.03**, h5**km**, n29,** σ**0**^{s}**93**/40**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.28**	**114**	*i* P	**Pg**	**13 56 41.9**	**0.0**
AYDN				*i* S	**Sg**	**13 56 45.5**	**-0.1**
MLSB	**Milas**	**0.51**	**160**	PG	**Pg**	**13 56 46.2**	**-0.2**
MLSB				SG	**Sg**	**13 56 53.1**	**-0.2**
SMG	**Samos**	**0.58**	**263**	*e*PG	**Pg**	**13 56 47.8**	**0.0**
SMG				*e*SB	**Sb**	**13 56 56.4**	**-0.2**
IZM	**Izmir**	**0.66**	**339**	PG	**Pg**	**13 56 49.2**	**-0.3**
IZM				SG	**Sg**	**13 56 57.4**	**-0.9**
KDAG	**Bornova**	**0.67**	**340**	*i* P	**Pg**	**13 56 49.4**	**-0.2**
KDAG				*i* S	**Sg**	**13 56 58.0**	**-0.4**
BDRM	**Kayabasi**	**0.72**	**187**	*i* P	**Pg**	**13 56 49.5**	**-1.0**
BDRM				*i* S	**Sg**	**13 57 00.3**	**+0.2**
BLCB	**Balcova**	**0.73**	**326**	PG	**Pg**	**13 56 50.8**	**-0.1**
BODT	**Bodrum**	**0.74**	**196**	PG	**Pg**	**13 56 50.9**	**-0.1**
YER	**Yerkesik**	**0.86**	**138**	PG	**Pg**	**13 56 52.8**	**-0.6**
URLA	**Izmir**	**0.96**	**308**	*i* P	**Pb**	**13 56 55.4**	**+0.5**
URLA				*i* S	**Sb**	**13 57 07.2**	**-0.5**
MANT	**Manisa**	**1.06**	**48**	*i* P	**Pb**	**13 56 56.7**	**0.0**
AKS	**Akhisar**	**1.12**	**10**	PN	**Pn**	**13 56 57.2**	**-1.2**
DENT	**Denizli**	**1.17**	**91**	*e*PN	**Pn**	**13 56 57.6**	**-1.6**
DNZL	**Cakiroluk**	**1.18**	**94**	*i* P	**Pb**	**13 56 58.5**	**-0.3**
DNZL				*i* S	**Sb**	**13 57 15.7**	**+1.5**
DALT	**Dalyan (Mudla)**	**1.32**	**139**	*e*PN	**Pn**	**13 57 00.9**	**-0.5**
ARG	**Arkhangelos**	**1.62**	**164**	*e*PB	**Pb**	**13 57 06.9**	**+0.6**
FETY	**Fethiye**	**1.67**	**133**	*e*PN	**Pn**	**13 57 06.3**	**0.0**
AYVA	**Ayvalik**	**1.67**	**336**	*i* P	**Pn**	**13 57 07.7**	**+1.3**
AYVA				*i* S	**Sn**	**13 57 30.3**	**+1.8**
APE	**Apeiranthos**	**1.76**	**247**	*e*PN	**Pn**	**13 57 06.3**	**-1.4**
APE	**Apeiranthos**	**1.76**	**247**	*e*PN	**Pn**	**13 57 09.8**	**+2.1**
PRK	**Paraskevi**	**1.78**	**326**	*e*PN	**Pn**	**13 57 10.4**	**+2.5**
BALB	**Balikesir**	**1.88**	**8**	*e*PN	**Pn**	**13 57 08.5**	**-0.8**
GDZ	**Gediz**	**2.00**	**48**	*i* P	**Pn**	**13 57 13.3**	**+2.3**
DST	**Dursunbey**	**2.01**	**24**	*e*PN	**Pn**	**13 57 10.7**	**-0.5**
ELL	**Elmali**	**2.14**	**118**	*e*PN	**Pn**	**13 57 12.7**	**-0.3**
TKTP	**Tekketepe**	**2.20**	**82**	*i* P	**Pn**	**13 57 18.8**	**+4.9**
TKTP				*i* S	**Sn**	**13 57 53.2**	**+11**
KARP	**Karpathos**	**2.25**	**188**	*e*PN	**Pn**	**13 57 15.9**	**+1.3**
CANB	**Canakkale**	**2.27**	**350**	*e*PN	**Pn**	**13 57 14.0**	**-0.9**
ULDT	**Uludag**	**2.66**	**27**	*i* P	**Pn**	**13 57 25.0**	**+4.5**
ULDT				*i* S	**Sn**	**13 58 03.1**	**+10**

*NIED **08** 14:00:00, 34.00N×141.70E, h56km, Mw3.8 Best double couple: M₀5.38×10^14 NP1:φs306°, δ53°, λ-122°. NP2: φs172°, δ48°, λ-55°.*
*JMA **08** 14:00:33.8±0.3, 33.99N×141.72E, h51km±4km, M3.6*
*IDC **08** 14:00:38.7±4.1, 34.06N×141.45E, h74km±42km, mb3.1/2, mb1 3.5/3, mb1mx3.1/22, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=46.0km s-min=11.1km az=90.0*
ISC 08 14:00:34.6±1.0**, 34.02N**±0.04×**141.68E**±0.07**, h58**km±11km**, n19,** σ**0**^{s}**84**/34**, mb3.5**/2**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.86**	**318**	P	**P**	**14 00 50.1**	**-0.8**
BSO1				S	**S**	**14 01 03.4**	**+0.4**
BSO3	**Boso 3**	**1.24**	**309**	P	**P**	**14 00 56.0**	**-0.2**
BSO3				*e*S	**S**	**14 01 13.7**	**+1.5**
BSO4	**Boso 4**	**1.47**	**312**	P	**P**	**14 00 59.9**	**+0.5**
BSO4				S	**S**	**14 01 17.3**	**-0.5**
KTR	**Katsuura**	**1.59**	**315**	P	**P**	**14 01 01.6**	**+0.5**
KTR				S	**S**	**14 01 21.5**	**+0.9**
JHJ2	**Mitsune**	**1.80**	**240**	P	**P**	**14 01 04.2**	**+0.2**
JHJ2				*e*S	**S**	**14 01 26.2**	**+0.6**
JMY	**Miyakejima3**	**1.80**	**272**	P	**P**	**14 01 03.3**	**-0.6**
JMY				*e*S	**S**	**14 01 26.4**	**+0.8**
JHJ	**Hachijo jima 2**	**1.82**	**241**	P	**P**	**14 01 04.1**	**-0.1**
	230nm,0.3s,baz=26,slow=23,SNR=395						
JHJ				S	**S**	**14 01 26.6**	**+0.4**
	250nm,0.3s,baz=65,slow=23,SNR=13						
JIM2	**Oshima 3**	**1.98**	**291**	P	**P**	**14 01 05.5**	**-1.0**
JKO	**Kozu shima**	**2.12**	**275**	P	**P**	**14 01 08.1**	**-0.3**
JKO				*e*S	**S**	**14 01 33.1**	**-0.4**
JIZS	**Izushimoda**	**2.42**	**288**	P	**P**	**14 01 12.2**	**-0.5**
JIZS				*e*S	**S**	**14 01 39.4**	**-1.7**
JOD2	**Odawara 2**	**2.47**	**301**	P	**P**	**14 01 12.3**	**-1.1**
JOD2				*e*S	**S**	**14 01 44.0**	**+1.6**
JYN	**Shimob**	**2.97**	**301**	P	**P**	**14 01 19.9**	**-0.6**
JYN				*e*S	**S**	**14 01 54.9**	**-0.2**
JAG	**Ashikaga**	**3.01**	**323**	P	**P**	**14 01 20.8**	**-0.3**
JRY	**Ryogami san**	**3.03**	**312**	P	**P**	**14 01 20.9**	**-0.4**
JRY				*e*S	**S**	**14 01 57.9**	**+1.4**
SHZ3	**Shizuoka 3**	**3.05**	**291**	P	**P**	**14 01 21.8**	**+0.2**
SHZ3				*e*S	**S**	**14 01 57.8**	**+0.8**
MJAR	**Matsushiro Arr**	**3.79**	**313**	P	**P**	**14 01 32.5**	**+0.5**
	4.2nm,0.3s,baz=161,slow=13,SNR=48						
MJAR				S	**S**	**14 02 13.9**	**-1.9**
	5.1nm,0.3s,baz=154,slow=25,SNR=10						
MAT	**Matsushiro**	**3.79**	**313**	P	**P**	**14 01 32.9**	**+0.8**
MAT				S	**S**	**14 02 14.6**	**-1.3**
ILAR	**Eielson Array**	**51.94**	**31**	P	**P**	**14 09 40.4**	**+1.1**
	0.3nm,0.6s,mb3.4,baz=278,slow=5.8,SNR=4.5						
WRA	**Warramunga Arr**	**54.11**	**189**	P	**P**	**14 09 55.9**	**-0.1**
	0.2nm,0.3s,mb3.5,baz=3.0,slow=7.7,SNR=14						

*IDC **08** 14:26:36.2±3.2, 1.12N×97.33E, mb3.8/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, ML3.9/1, MS3.5/2, Ms1 3.6/2, ms1mx3.0/15, Error ellipse: s-maj=113.2km s-min=27.6km az=59.0*
*NEIC **08** 14:26:40.2±1.1, 1.10N×97.22E, h30km, mb4.1/2, Error ellipse: s-maj=25.4km s-min=12.7km az=68.0*
ISC 08 14:26:38.9±1.4**, 1.1N**±0.1×**97.2E**±0.2**, h33**km**, n10,** σ**0**^{s}**55**/9**, mb3.9**/6**, MS3.9**/1**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.37**	**39**	*e*Pn	**Pn**	**14 27 59.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**17.30**	**5**	P	**P**	**14 30 39.9**	**+0.2**
	0.1nm,0.3s,baz=193,slow=12,SNR=5.6						
CMAR				LR	LR	14 38 50.7	
	comp=Z,69nm,18.4s,baz=185,slow=42						
ENH	**Enshi**	**31.24**	**21**	*e*P	**P**	**14 32 56.6**	**-1.2**
	2.7nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**41.97**	**122**	P	**P**	**14 34 28.5**	**-0.3**
	0.5nm,0.7s,mb3.2,baz=301,slow=9.1,SNR=6.0						
WRAB	**Tennant Creek**	**41.98**	**122**	P	**P**	**14 34 29.3**	**+0.4**
	1.2nm,0.6s,mb3.7						
SONM	**Songino Array**	**47.20**	**8**	P	**P**	**14 35 10.9**	**+0.5**
	1.0nm,0.5s,mb4.0,baz=188,slow=8.7,SNR=9.5						
MKAR	**Makanchi Array**	**47.32**	**346**	P	**P**	**14 35 11.8**	**+0.4**
	0.7nm,0.6s,mb3.8,baz=165,slow=8.6,SNR=6.1						
MKAR	**Makanchi Array**	**47.32**	**346**	P	**P**	**14 35 11.8**	**+0.4**
ZAL	**Zalesovo**	**53.63**	**351**	P	**P**	**14 35 59.0**	**-0.3**
	1.1nm,0.3s,mb4.2,baz=285,slow=3.0,SNR=5.5						
BOSA	**Boshof**	**74.76**	**240**	LR	LR	15 08 29.6	
	comp=Z,62nm,18.1s,MS3.9,baz=202,slow=34						

*MOS **08** 14:41:25.2±1.9, 78.62N×18.40W, h10km, mb4.2/7, Error ellipse: s-maj=75.7km s-min=27.2km az=96.2*
*IDC **08** 14:41:26.7±1.1, 78.69N×18.23W, mb3.8/6, mb1 3.9/8, mb1mx3.6/25, mbtmp3.7/8, ML3.3/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/29, Error ellipse: s-maj=35.3km s-min=18.9km az=27.0*
*NEIC **08** 14:41:27.9±0.5, 78.71N×18.17W, h10km, mb4.1/3, Error ellipse: s-maj=13.0km s-min=9.4km az=182.0*
*CSEM **08** 14:41:27.9±0.2, 78.71N×18.17W, h10km, mb4.1/3, Error ellipse: s-maj=10.5km s-min=5.5km az=155.0, After NEIC*
ISC 08 14:41:25.6±0.6**, 78.58N**±0.09×**18.5W**±0.3**, h10**km**, n23,** σ**0**^{s}**94**/23**, mb3.9**/9**, Eastern Kalaallit Nunaat**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUMG	**Summit**	**7.75**	**230**	*e*Pn	**Pn**	**14 43 22.7**	**+1.4**
	24nm,0.4s						
SUMG				*e*Sn	**Sn**	**14 44 48.7**	**-1.4**
JMIC	**Jan Mayen**	**8.05**	**156**	LR	LR	14 46 37.2	
	comp=Z,36nm,19.6s,baz=71,slow=38						
ARCES	**ARCESS Array B**	**14.60**	**104**	Pn	**P**	**14 44 54.2**	**+0.6**
	0.1nm,0.3s,baz=332,slow=13,SNR=2.7						
ARCES	**ARCESS Array B**	**14.60**	**104**	Pn	**P**	**14 44 54.2**	**+0.6**
NOA	**NORSAR Array B**	**19.91**	**135**	P	**P**	**14 45 58.5**	**-1.2**
	0.1nm,0.3s,baz=343,slow=11,SNR=2.7						
HFS	**Hagfors**	**21.13**	**132**	P	**P**	**14 46 13.6**	**+1.2**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HFS	Hagfors	21.13	132	P	P	14 46 13.6	+1.1
	comp=Z,1.0nm,0.4s,mb3.5,baz=349,slow=7.6,SNR=10.0						
KAF	Kangasniemi	21.36	114	ep	P	14 46 14.4	-0.3
FINES	FINESS Array B	21.94	115	P	P	14 46 21.3	+0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	FINESS Array B	21.94	115	P	P	14 46 21.3	+0.7
	comp=Z,2.4nm,0.4s,mb4.0,baz=346,slow=9.7,SNR=25						
FINES	FINESS Array B	21.94	115	P	P	14 46 21.3	+0.7
ARU	Arti	32.91	85	eP	P	14 48 01.3	-0.1
ARU				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ARU	Arti	32.91	85	eP	P	14 48 01.3	-0.1
	comp=Z,2.8nm,0.5s,mb4.5						
ILAR	Eielson Array	33.66	323	P	P	14 48 08.4	+0.6
	comp=Z,0.4nm,0.8s,mb3.4,baz=11,slow=6.8,SNR=6.4						
ZRNK	Zerenda	38.24	78	eP	P	14 48 47.0	+0.1
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
ZRNK	Zerenda	38.24	78	eP	P	14 48 47.0	+0.2
	comp=Z,1.4nm,0.8s,mb3.7						
ZAL	Zalesovo	40.26	63	P	P	14 49 03.3	-0.3
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	Zalesovo	40.26	63	P	P	14 49 03.3	-0.3
	comp=Z,1.4nm,0.3s,mb4.2,baz=140,slow=1.6,SNR=4.2						
MKAR	Makanchi Array	46.66	68	P	P	14 49 55.1	-0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	Makanchi Array	46.66	68	P	P	14 49 55.1	-0.2
	comp=Z,1.0nm,0.4s,mb4.1,baz=356,slow=5.4,SNR=15						
ULN	Ulaanbaatar	49.73	46	eP	P	14 50 17.1	-2.1
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
ULN	Ulaanbaatar	49.73	46	eP	P	14 50 17.1	-2.1
	comp=Z,1.1nm,0.5s,mb4.1						
TXAR	Lajitas Array	60.51	272	P	P	14 51 38.4	+0.7
	comp=Z,0.3nm,0.4s,mb3.8,baz=44,slow=6.3,SNR=4.8						

WEL 08 14:59:58.9±0.4**, 37.77S×176.07E, h267**^{km}±5^{km}**, ML3.6**/11**, Error ellipse: s-maj=12.2km s-min=7.4km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.96	121	PN	P	15 00 35.4	-0.3
URZ				SN	S	15 01 03.4	-1.0
MWZ	Matawai	1.28	117	PN	P	15 00 37.6	0.0
MWZ				SN	S	15 01 07.1	-0.8
KRVZ	Karewarewa	1.37	194	PN	P	15 00 37.8	-0.4
BKZ	Black Stump Fm	1.44	167	PN	P	15 00 38.8	+0.1
BKZ				SN	S	15 01 09.2	-0.5
BKZ				SN	S	15 01 09.4	-0.2
MOVZ	Moawhango	1.66	189	PN	P	15 00 40.1	-0.1
TSZ	Takapari Road	2.29	182	PN	P	15 00 45.0	-0.7
BFZ	Birch Farm	2.91	177	PN	P	15 00 50.9	-1.0
KIW	Kapiti Island	3.22	196	PN	P	15 00 53.5	-1.7
KIW				SN	S	15 01 37.0	-2.0
MTW	Mount Morrison	3.42	187	PN	P	15 00 55.1	-2.2
CAW	Cannon Point	3.42	193	PN	P	15 00 55.4	-2.0
CAW				SN	S	15 01 41.7	-1.3
MRW	Makara Radio	3.62	197	PN	P	15 00 57.4	-2.2
SNZO	South Karori	3.69	196	PN	P	15 00 58.1	-2.4
SNZO				SN	S	15 01 46.2	-2.1
TCW	Tory Channel	3.71	201	PN	P	15 00 58.6	-2.0
TUWZ	Tuamarina	4.01	204	PN	P	15 01 01.9	-2.1
NNZ	Nelson	4.03	210	PN	P	15 01 01.5	-2.7
NNZ				SN	S	15 01 52.6	-2.5
QRZ	Quartz Range	4.11	221	PN	P	15 01 02.1	-3.0
THZ	Tophouse	4.68	210	PN	P	15 01 08.6	-3.3
THZ				SN	S	15 02 06.2	-2.6
KHZ	Kahutara	5.03	202	ePN	P	15 01 13.2	-2.9
LTZ	Lake Taylor	5.79	209	SN	S	15 02 28.2	-4.8
MQZ	McQueen's Vall	6.48	203	SN	S	15 02 42.4	-5.8

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*IDC **08** 15:04:53.2±2.6, 3.77N×94.16E, mb3.5/4, mb1 3.6/5, mb1mx3.5/21, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=89.4km s-min=26.2km az=59.0*
*NEIC **08** 15:04:59.3±1.1, 4.12N×94.73E, h30^{km}, mb4.1/2, Error ellipse: s-maj=27.4km s-min=14.6km az=53.0*
ISC 08 15:04:56.2±1.4**, 3.9N**±0.2×**94.3E**±0.3**, h30**^{km}**, n10, σ0^{s}81**/10**, mb3.7**/6**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.45	78	ePn	Pn	15 06 24.7	-7.0
CMAR	Chiang Mai Arr	15.13	17	Pn	P	15 08 29.2	-0.6
	0.1nm,0.3s,baz=202,slow=12,SNR=4.7						
MKAR	Makanchi Array	43.96	348	P	P	15 13 02.4	-0.1
	0.4nm,0.4s,mb3.5,baz=169,slow=6.2,SNR=6.1						
SONM	Songino Array	44.96	12	P	P	15 13 12.7	+2.2
	0.1nm,0.3s,mb3.1,baz=210,slow=12,SNR=2.1						
SONM	Songino Array	44.96	12	P	P	15 13 12.7	+2.2
WRA	Warramunga Arr	45.91	123	P	P	15 13 18.3	-0.1
	0.6nm,0.5s,mb3.8,baz=301,slow=9.2,SNR=16						
WRAB	Tennant Creek	45.92	123	eP	P	15 13 18.4	0.0
	1.3nm,0.5s,mb4.1						
WB2	Warramunga Arr	45.92	123	eP	P	15 13 18.4	-0.1
BVAR	Borovoye Array	52.77	342	P	P	15 14 10.2	-0.5
	0.7nm,0.7s,mb3.7,baz=149,slow=8.6,SNR=4.2						
ZRNK	Zerenda	53.14	341	P	P	15 14 13.5	-0.1
	0.7nm,0.3s,mb4.1						

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*NEIC **08** 15:06:32.4, 49.33N×6.79E, h1^{km}, ML2.8(LDG), After LDG.*
*CSEM **08** 15:06:32.3±0.2, 49.33N×6.79E, h2^{km}, ML2.8/10, Error ellipse: s-maj=3.0km s-min=1.5km az=57.0, Suspected Mining induced.*
*BNS **08** 15:06:33.9±1.0, 49.40N×6.85E, h1^{km}, ML1.9*
LDG 08 15:06:32.4±0.1**, 49.33N×6.79E, h1**^{km}**, Md3.1**/3**, Ml2.8**/10**, Error ellipse: s-maj=1.8km s-min=1.4km az=96.0, Suspected Mining induced., Germany**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WLF	Walferdange	0.53	309	ePg	Pg	15 06 42.9	-0.1
BGG	Burgeitz	0.94	22	ePg	Pg	15 06 50.6	-0.7
BGG				eSg	Sg	15 07 02.2	-1.6
	30nm,0.5s						
CDF	Champ du Feu	0.98	160	ePg	Pg	15 06 50.8	-1.1
CDF				eSg	Sg	15 07 03.4	-1.5
	57nm,0.5s						
RFYF	Reffroy	1.11	231	ePg	Pg	15 06 53.9	-0.7
	baz=42						
RFYF				eSg	Sg	15 07 07.6	-1.9
	22nm,0.2s						
STB	Steinbach	1.26	2	ePg	Pg	15 06 56.1	-1.6
STB				eSg	Sg	15 07 12.4	-2.1
	24nm,0.7s						
KLL	Kalltalsperre	1.35	347	eSg	Sg	15 07 13.9	-3.4
HAU	Haudompre	1.36	192	ePn	Pn	15 06 56.7	-1.8
HAU				ePg	Pg	15 06 57.5	-2.0
HAU				eSn	Sn	15 07 13.0	-4.4
HAU				eSg	Sg	15 07 15.3	-2.3
	26nm,0.3s						
MEZF	Maizieres J'vi	1.41	235	ePg	Pg	15 06 58.2	-2.4
	baz=55						
MEZF				eSg	Sg	15 07 17.5	-2.0
	16nm,0.4s						
BFO	Black Forest	1.43	134	ePg	Pg	15 06 59.0	-2.0
BFO				eSg	Sg	15 07 17.2	-2.8
GIVF	Givet	1.49	302	ePg	Pg	15 06 59.3	-2.8
GIVF				eSn	Sn	15 07 17.2	-3.5
GIVF				eSg	Sg	15 07 20.3	-1.7
	19nm,0.5s						
HINF	Hinteralfeld	1.52	178	ePn	Pn	15 06 59.2	-1.6
HINF				ePg	Pg	15 07 00.2	-2.5
HINF				eSn	Sn	15 07 17.4	-4.0
HINF				eSg	Sg	15 07 20.1	-2.8
	21nm,0.2s						
SFTF	Sexfontaines	1.61	226	ePg	Pg	15 07 00.7	-3.9
SFTF				eSn	Sn	15 07 20.1	-3.8
SFTF				eSg	Sg	15 07 23.3	-2.9
	16nm,0.5s						
BAIF	Baives	1.82	294	ePn	Pn	15 07 03.8	-1.4
BAIF				ePg	Pg	15 07 06.3	-2.5
BAIF				eSg	Sg	15 07 30.1	-3.1
BAIF	Baives	1.82	294	ePg	Pg	15 07 06.3	-2.5
BAIF				eSg	Sg	15 07 30.1	-3.1
CABF	La Chapelle	2.76	190	ePn	Pn	15 07 16.1	-2.5
CABF				ePg	Pg	15 07 24.3	-3.3
CABF				eSg	Sg	15 07 59.7	-4.7
	13nm,0.6s						
LOR	Lormes	2.84	225	ePn	Pn	15 07 16.4	-3.3
	baz=42						
LOR				ePg	Pg	15 07 23.5	-5.6
	baz=43						
LOR				eSg	Sg	15 08 01.7	-5.3
	9.8nm,0.5s						
LOR	Lormes	2.84	225	ePg	Pg	15 07 23.5	-5.6
LOR				eSg	Sg	15 08 01.7	-5.3
	4.9nm,0.5s						
SMF	Signal de Mont	3.34	217	ePn	Pn	15 07 23.9	-2.9
SMF				ePg	Pg	15 07 33.8	-5.2
SMF				eSn	Sn	15 08 02.3	-5.3
SMF				eSg	Sg	15 08 18.4	-5.1
	18nm,0.9s						

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*CASC **08** 15:16:58.8±1.0, 15.15N×91.59W, h167^{km}±7^{km}, MD4.2, ML4.3, mb4.6(NEIC)*
*IDC **08** 15:16:59.9±0.7, 15.24N×91.19W, h175^{km}±4^{km}, mb3.8/17, mb1 3.9/18, mb1mx3.9/21, mbtmp4.2/18, Error ellipse: s-maj=22.4km s-min=9.0km az=56.0*
*MEX **08** 15:17:00.2±0.7, 15.20N×91.80W, h191^{km}±7^{km}, MD4.5*
*NEIC **08** 15:17:00.2, 15.18N×91.78W, h188^{km}, mb4.6/9, MD4.4(MEX), After MEX.*
ISC 08 15:16:58.0±0.3**, 15.08N**±0.04×**91.64W**±0.04**, h177**^{km}±2^{km}**, h176**^{km}±1.7^{km}**:pP-P, n73, σ1^{s}21**/79**, mb4.1**/21**, 2C-4D, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TP2	Tecpan 2	0.67	116⇓	eP	P	15 17 24.1	+0.6
TP2				eS	S	15 17 43.8	+0.5
TP2				AML	AML	15 17 46.2	
	comp=E,5μm,0.5s						
FUG	Fuego 3	0.99	129⇓	eP	P	15 17 25.5	0.0
PCG	Pacaya	1.21	124	eP	P	15 17 28.1	+0.7
CCIG	Comitan	1.29	338	i P	P	15 17 28.8	+0.8
CCIG				i S	S	15 17 51.2	-0.1
IXG	Ixpaco	1.46	128⇓	eP	P	15 17 29.8	+0.2
IXG				eS	S	15 17 54.6	+0.5
MRL	Marmol	1.88	90⇓	eP	P	15 17 34.6	+0.7
MRL				eS	S	15 18 00.9	-0.7
SCX	San Cristobal	1.91	330	i P	P	15 17 34.0	-0.2
SCX				i S	S	15 18 01.0	-1.1
CMIG	Matias Romero	3.71	303	i P	P	15 17 54.9	-1.1
CMIG				i S	S	15 18 36.6	-4.1
SCIG		3.89	6	i P	P	15 17 57.8	-0.5
SCIG				i S	S	15 18 42.7	-2.2
TUIG	Tuzandepetl	3.97	318	i P	P	15 17 58.6	-0.7
TUIG				i S	S	15 18 45.6	-1.0
TUIG	Tuzandepetl	3.97	318	i P	P	15 17 58.6	-0.7
TUIG				eS	S	15 18 41.7	-4.9
HUIG	Huatulco	4.36	280	i P	P	15 18 02.5	-1.9
HUIG				i S	S	15 18 51.8	-3.9
EVV	El Vigia	4.89	314	eP	P	15 18 10.0	-1.2
OXX	Oaxaca	5.28	293	i P	P	15 18 17.5	+1.3
OXX				i S	S	15 19 12.0	-4.9
PNIG	Pinotepa	6.38	283	i P	P	15 18 30.6	-0.2
PNIG				i S	S	15 19 38.9	-4.1
LVIG	Laguna Verde	6.49	316	i P	P	15 18 32.0	-0.2
IISM	Ciudad Serdan	6.72	306	i P	P	15 18 36.0	+0.7
PPM	Popocatepetl	7.77	302	i P	P	15 18 52.0	+2.9
YAIG	Yautepec	8.04	299⇑	iP	P	15 18 54.9	+2.2
YAIG				i S	S	15 20 11.0	-11
YAIG	Yautepec	8.04	299⇑	iP	P	15 18 54.9	+2.2
YAIG				i S	S	15 20 19.7	-2.6
JTS	JuntasAbangare	8.07	125	ePn	P	15 18 53.6	+0.4
	comp=E,61nm,0.4s						
ACX	Acapulco	8.16	284	i P	P	15 18 54.0	-0.2
PLIG	Platanillo	8.22	295	i P	P	15 18 57.0	+2.0
UNM	Universidad Na	8.35	301	eP	P	15 18 57.0	+0.2
CAIG	El Cayaco	8.52	284	i P	P	15 18 59.6	+0.6
MOIG	Morelia	10.20	298	i P	P	15 19 24.8	+3.7
MOIG	Morelia	10.20	298	i P	P	15 19 21.3	+0.3
SOR	Soroa	11.20	45	eP	P	15 19 33.6	-0.4
TXAR	Lajitas Array	18.01	324	P	P	15 21 00.3	+2.2
	comp=E,0.4nm,0.3s,baz=142,slow=11,SNR=12						
TXAR				PcP	PcP	15 25 23.6	-0.8
	comp=E,0.1nm,0.3s,baz=182,slow=4.1,SNR=3.6						
TXAR				ScP		15 28 42.7	
	comp=E,0.1nm,0.3s,baz=135,slow=3.5,SNR=4.8						
TXAR	Lajitas Array	18.01	324	P	P	15 21 00.3	+2.2
TXAR				PcP	PcP	15 25 23.6	-0.8
TXAR				ScP		15 28 42.7	
LRAL	Lakeview Retre	18.37	12	eP	P	15 21 02.8	+1.1
	comp=E,8.2nm,0.7s						
PLAL	Pickwick Lake	20.08	9	eP	P	15 21 19.1	-0.3
	comp=E,7.2nm,0.4s						
SWET	Sewanee	20.70	13	eP	P	15 21 26.3	+0.7
MNTX	Cornudas Mount	20.77	325	eP	P	15 21 27.8	+1.5
	comp=E,1.6nm,0.6s						
MYNC	Murphy	21.03	17	eP	P	15 21 31.2	+2.4
	comp=E,30nm,0.7s,mb4.7						
GLAT	Glass	21.21	5	eP	P	15 21 31.9	+1.3
WVT	Waverly	21.24	9	eP	P	15 21 30.9	0.0
	comp=E,10nm,0.6s,mb4.3						
JSC	Jenkinsville	21.29	24	eP	P	15 21 32.5	+1.0
SDV	Santo Domingo	21.44	104	P	P	15 21 31.8	-1.2
	comp=E,32nm,0.6s,mb4.8,baz=304,slow=6.9,SNR=20						
SDV	Santo Domingo	21.44	104	eP	P	15 21 31.5	-1.5
	comp=E,27nm,0.6s,mb4.8						
PARMO	Parma	21.56	4	eP	P	15 21 35.5	+1.4
AMTX	Amarillo	21.69	337	eP	P	15 21 36.5	+1.1
	comp=E,8.5nm,0.7s,mb4.3						
TZTN	Tazewell	22.56	17	eP	P	15 21 45.1	+1.3
CCM	Cathedral Cave	22.89	1	eP	P	15 21 47.2	+0.2
	comp=E,53nm,1.1s,mb4.9						
ELN	Prospectdale	24.09	22	eP	P	15 21 59.0	+0.5
SADO	Sadowa	31.43	17	P	P	15 23 03.4	-1.3
	comp=E,6.9nm,0.6s,mb4.6,baz=218,slow=9.0,SNR=6.1						
PDAR	Pinedale Array	31.60	334	P	P	15 23 08.0	+1.8
	comp=E,0.2nm,0.4s,mb3.2,baz=142,slow=10,SNR=2.3						
NVAR	Mina Array Bea	33.07	320	P	P	15 23 21.6	+2.7
	comp=E,2.0nm,0.6s,mb4.0,baz=140,slow=7.7,SNR=18						
NVAR				pP	pP	15 23 57.9	+1.6
	comp=E,2.8nm,0.8s,baz=127,slow=8.9,SNR=8.9						
NVAR				PcP	PcP	15 25 59.0	+0.8
	comp=E,0.4nm,0.3s,baz=141,slow=3.3,SNR=4.1						
NVAR				ScP		15 29 27.2	
	comp=E,1.6nm,0.8s,baz=121,slow=5.3,SNR=11						
NVAR	Mina Array Bea	33.07	320	P	P	15 23 21.6	+2.7
NVAR				pP	pP	15 23 57.9	+1.6
NVAR				PcP	PcP	15 25 59.0	+0.8
NVAR				ScP		15 29 27.2	
ULM	Lac du Bonnet	35.25	355	P	P	15 23 35.7	-1.5
	comp=E,3.6nm,0.7s,mb4.1,baz=165,slow=7.6,SNR=4.1						
ULM	Lac du Bonnet	35.25	355	P	P	15 23 35.7	-1.5
LPAZ	La Paz	38.86	142	P	P	15 24 08.6	+0.7
	comp=E,5.4nm,0.6s,mb4.3,baz=328,slow=7.1,SNR=37						
LPAZ				ScP		15 29 48.3	
	comp=E,0.7nm,0.4s,baz=347,slow=5.9,SNR=6.1						
SIV	San Ignacio	43.18	134	P	P	15 24 42.1	-1.1
	comp=E,17nm,0.7s,mb4.8,baz=308,slow=8.3,SNR=100						
SIV				PcP	PcP	15 26 29.5	-0.4
	comp=E,2.2nm,0.6s,baz=303,slow=3.2,SNR=5.1						
LVC	Limon Verde	43.57	149	P	P	15 24 46.5	+0.2
	comp=E,2.0nm,0.5s,mb4.0,baz=296,slow=9.9,SNR=3.7						
SCHQ	Schefferville	44.10	20	P	P	15 24 48.9	-1.1
	comp=E,3.2nm,0.7s,mb4.1,baz=207,slow=9.2,SNR=3.7						
YKA	Yellowknife Ar	50.06	346	P	P	15 25 35.4	-0.9
	comp=E,2.3nm,0.7s,mb3.9,baz=152,slow=6.9,SNR=6.4						
YKA				pP	pP	15 26 15.4	-0.7
	comp=E,2.7nm,0.7s,baz=149,slow=7.9,SNR=5.4						
YKA				sP	sP	15 26 34.1	-1.8
	comp=E,1.7nm,0.7s,baz=149,slow=7.5,SNR=2.4						
YKA	Yellowknife Ar	50.06	346	P	P	15 25 35.4	-0.9
YKA				pP	pP	15 26 15.4	-0.7
YKA				sP	sP	15 26 34.1	-1.8
BDFB	Brasilia	52.81	123	P	P	15 25 55.8	-1.8
	comp=E,2.7nm,0.4s,mb4.3,baz=289,slow=10.0,SNR=3.7						
CPUP	Villa Florida	52.98	141	P	P	15 25 56.8	-1.9
	comp=E,2.4nm,0.6s,mb4.1,baz=321,slow=11,SNR=5.9						
INK	Inuvik	59.51	343	P	P	15 26 43.7	-0.8
	comp=E,1.3nm,0.6s,mb3.9,baz=107,slow=11,SNR=5.1						
INK				pP	pP	15 27 24.0	-1.6
	comp=E,1.9nm,0.9s,baz=108,slow=9.4,SNR=3.7						
INK	Inuvik	59.51	343	P	P	15 26 43.7	-0.8
INK				pP	pP	15 27 24.0	-1.6
ILAR	Eielson Array	61.99	336	P	P	15 27 00.2	-1.0
	comp=E,0.5nm,0.5s,mb3.6,baz=91,slow=6.4,SNR=7.0						
ILAR				pP	pP	15 27 41.8	-1.0
	comp=E,0.6nm,0.8s,baz=165,slow=4.4,SNR=3.4						
ESDC	Sonseca Array	78.78	52	P	P	15 28 40.1	-2.5
	comp=E,0.7nm,0.5s,mb3.5,baz=274,slow=6.0,SNR=4.1						
NB2	NORSAR Subarra	83.04	29	P	pP	15 29 47.8	-0.5
	comp=E,0.4nm,0.7s,baz=287,slow=5.0						
NOA	NORSAR Array B	83.04	29	pP	pP	15 29 47.2	-1.1
	comp=E,0.9nm,0.9s,baz=289,slow=5.3,SNR=4.6						
ARCES	ARCESS Array B	85.01	18	P	P	15 29 13.7	-0.5
	comp=E,1.6nm,0.9s,mb3.8,baz=304,slow=4.4,SNR=8.3						
GERES	GERESS Array B	88.56	40	pP	pP	15 30 15.1	-0.8
	comp=E,0.5nm,0.8s,baz=270,slow=4.0,SNR=2.8						
FINES	FINESS Array B	89.38	25	P	P	15 29 34.1	-1.1
	comp=E,0.3nm,0.4s,mb3.5,baz=315,slow=2.7,SNR=5.6						
FINES				pP	pP	15 30 18.8	-0.8
	comp=E,1.5nm,1.0s,slow=7.6,SNR=3.3						
MAW	Mawson	124.95	168	PKP	PKPdf	15 35 38.2	+1.6
	comp=E,1.0nm,0.4s,baz=90,slow=7.7,SNR=7.4						
WB2	Warramunga Arr	135.98	257	eP	PKPdf	15 36 01.1	+2.4
WRA	Warramunga Arr	135.99	257	PKhKP		15 35 53.0	
	comp=E,0.4nm,1.0s,baz=87,slow=3.8,SNR=7.9						
WRA				PKP	PKPdf	15 36 01.2	+2.4
	comp=E,0.8nm,0.4s,baz=87,slow=2.6,SNR=34						
WRA				SKPbc		15 39 18.8	
	comp=E,0.5nm,0.8s,baz=87,slow=2.6,SNR=5.5						
FITZ	Fitzroy Crossi	144.19	260	PKP	PKPdf	15 36 14.3	+0.9
	comp=E,1.6nm,0.5s,baz=19,slow=3.0,SNR=6.4						
CMAR	Chiang Mai Arr	145.08	342	PKPbc	PKPbc	15 36 15.6	+0.2
	comp=E,1.9nm,0.8s,baz=342,slow=2.7,SNR=8.7						

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*IDC **08** 15:44:21.3±0.6, 12.16N×143.83E, mb4.4/18, mb1 4.6/18, mb1mx4.5/25, mbtmp4.4/18, MS3.5/10, Ms1 3.5/10, ms1mx3.4/24, Error ellipse: s-maj=25.2km s-min=14.7km az=80.0*
*MOS **08** 15:44:24.5±1.0, 12.14N×143.71E, h33^{km}, mb4.8/7, Error ellipse: s-maj=18.0km s-min=10.8km az=98.4*
*NEIC **08** 15:44:27.1±1.3, 12.14N×143.76E, h39^{km}±11^{km}, mb4.6/8, Error ellipse: s-maj=12.8km s-min=9.5km az=102.0*
*BJI **08** 15:44:30.5, 12.81N×143.53E, h39^{km}, mB4.9, mb4.6*
ISC 08 15:44:25.0±1.5**, 12.11N**±0.07×**143.73E**±0.08**, h35**^{km}±12^{km}**, n58, σ0^{s}91**/54**, mb4.4**/32**, MS3.5**/9**, 1D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.84	37	ePn	P	15 44 54.1	-0.6
GUMO				eSn	S	15 45 17.8	+0.8
SAPN	Saipan	3.66	32⇓	eP	P	15 45 21.1	+0.5
SAPN				eS	S	15 46 02.0	-1.1
SARN	Sarigan	4.97	23	P	P	15 45 39.4	+0.2
CBIJ	Chichi jima	14.98	355	LR	LR	15 53 30.1	
	comp=Z,108nm,18.8s,baz=103,slow=37						
JOW	Kunigami	20.63	317	LR	LR	15 55 10.9	
	comp=Z,96nm,19.2s,MS3.2,baz=0.3,slow=32						
JHJ	Hachijo jima 2	21.22	351	LR	LR	15 55 52.7	
	comp=Z,109nm,18.0s,MS3.3,baz=119,slow=33						
PMG	Port Moresby	21.65	171	LR	LR	15 57 10.6	
	comp=Z,74nm,18.1s,MS3.1,baz=40,slow=36						
JNU	Nakatsue	24.00	333	P	P	15 49 39.8	+2.2
	11nm,0.8s,mb4.3,baz=77,slow=5.2,SNR=5.5						
MJAR	Matsushiro Arr	24.83	349	P	P	15 49 44.5	-1.1
	4.2nm,1.0s,mb3.9,baz=181,slow=10,SNR=7.0						
MJAR				LR	LR	15 59 00.5	
	comp=Z,213nm,18.5s,MS3.7,baz=190,slow=36						
WRA	Warramunga Arr	33.17	196	P	P	15 51 00.2	-0.5
	1.6nm,0.6s,mb4.1,baz=19,slow=9.8,SNR=20						
KSM	Kuching	34.78	255	eP	P	15 51 16.0	+1.3
FITZ	Fitzroy Crossi	34.93	211	P	P	15 51 15.4	-0.4
	3.1nm,0.8s,mb4.3,baz=178,slow=16,SNR=3.2						
DZM	Mont Dzumac	40.62	147	P	P	15 52 03.9	+0.3
	4.4nm,0.7s,mb4.2,baz=284,slow=8.3,SNR=5.6						
STKA	Stephens Creek	43.78	183	P	P	15 52 28.5	-0.9
	0.7nm,0.4s,mb3.8,baz=56,slow=13,SNR=6.7						
FX1	Attu Island--F	46.99	24	eP	P	15 52 54.5	-0.1
SONM	Songino Array	47.31	326	P	P	15 52 57.8	+0.6
	1.0nm,0.4s,mb4.1,baz=147,slow=7.5,SNR=11						
SONM				PcP	PcP	15 54 28.3	+0.1
	1.0nm,0.5s,baz=155,slow=4.1,SNR=4.3						
SONM				LR	LR	16 12 29.5	
	comp=Z,89nm,19.8s,MS3.7,baz=74,slow=36						
GTA	Gaotai	47.34	313	eP	P	15 52 58.5	+1.0
GTA				AP	pP	15 53 04.2	-3.6
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
ZAK	Zakamensk	50.46	327	eP	P	15 53 21.0	-0.5
ZAK				e		15 54 39.1	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.7s,mb3.6						
YAK	Yakutsk	50.86	352	eP	P	15 53 24.3	-0.1
YAK				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
YAK	Yakutsk	50.86	352	eP	P	15 53 24.2	-0.1
	comp=Z,14nm,0.7s,mb5.0						
WMQ	Urumqi	57.36	315	eP	P	15 54 13.6	+1.3
MKAR	Makanchi Array	61.79	317	i P	P	15 54 42.7	0.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	61.79	317	P	P	15 54 42.6	0.0
	comp=Z,1.3nm,0.6s,mb4.2,baz=91,slow=8.4,SNR=13						
MKAR				LR	LR	16 22 45.4	
	comp=Z,42nm,18.7s,MS3.6,baz=252,slow=37						
ZAL	Zalesovo	62.19	325	P	P	15 54 44.9	-0.4
	comp=Z,0.9nm,0.4s,mb4.2,baz=30,slow=6.9,SNR=3.3						
ZAL				LR	LR	16 22 45.4	
	comp=Z,62nm,18.3s,MS3.8,baz=162,slow=37						
SML	Sawmill	69.03	28	eP	P	15 55 27.7	-1.2
KKAR	Karatay Array	69.59	312	i P	P	15 55 33.2	+0.5
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
VOSK	Vostochnaya	70.01	322	P	P	15 55 34.0	-1.1
VOSK				pmax	pmax		
	comp=Z,25nm,1.9s,mb4.8						
ILAR	Eielson Array	70.37	25	P	P	15 55 34.9	-2.1
	comp=Z,3.8nm,0.5s,mb4.6,baz=250,slow=5.9,SNR=39						
BVA0	Borovoye Array	70.40	322	i P	P	15 55 37.8	+0.4
BVAR	Borovoye Array	70.40	322	P	P	15 55 37.8	+0.3
	comp=Z,4.5nm,0.3s,mb4.8,baz=106,slow=8.2,SNR=34						
ZRNK	Zerenda	71.22	322	P	P	15 55 42.3	-0.1
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZRNK	Zerenda	71.22	322	eP	P	15 55 42.1	-0.3
	comp=Z,3.5nm,0.8s,mb4.3						
INK	Inuvik	76.15	22	eP	P	15 56 10.1	-0.7
INK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
INK	Inuvik	76.15	22	eP	P	15 56 10.1	-0.7
	comp=Z,10nm,0.9s,mb4.8						
AB31	Akbulak array	76.89	318	i P	P	15 56 15.4	0.0
AB31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ARU	Arti	77.34	325	eP	P	15 56 17.0	-0.8
ARU	Arti	77.34	325	eP	P	15 56 16.8	-1.0
	comp=Z,3.0nm,0.4s,mb4.6						
YKW3	Yellowknife Ar	84.65	27	eP	P	15 56 56.4	+0.3
YKA	Yellowknife Ar	84.67	27	P	P	15 56 56.5	+0.3
	comp=Z,3.6nm,0.4s,mb4.9,baz=286,slow=5.1,SNR=14						
YKA	Yellowknife Ar	84.67	27	P	P	15 56 56.5	+0.3
YBH	Yreka Blue Hor	84.67	49	eP	P	15 56 58.5	+1.8
YBH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YBH	Yreka Blue Hor	84.67	49	eP	P	15 56 58.5	+1.7
	comp=Z,3.1nm,0.7s,mb4.5						
BMO	Blue Mountains	87.81	45	eP	P	15 57 12.9	+0.9
BMO				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
BMO	Blue Mountains	87.81	45	eP	P	15 57 12.9	+0.9
	comp=Z,3.6nm,1.0s,mb4.6						
ARCES	ARCESS Array B	88.14	342	P	P	15 57 13.3	+0.4
	comp=Z,3.2nm,0.4s,mb4.9,baz=70,slow=7.2,SNR=64						
ARE0	ARCESS Array S	88.14	342	eP	P	15 57 12.9	-0.1
NVAR	Mina Array Bea	88.70	51	P	P	15 57 17.8	+1.3
	comp=Z,2.8nm,0.7s,mb4.7,baz=261,slow=5.4,SNR=21						
HLID	Hailey	90.16	45	eP	P	15 57 24.1	+0.9
	comp=Z,2.0nm,0.9s,mb4.5						
ELK	Elko	90.38	48	eP	P	15 57 25.7	+1.4
ELK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ELK	Elko	90.38	48	eP	P	15 57 25.7	+1.4
	comp=Z,3.2nm,1.1s,mb4.6						
KAF	Kangasniemi	91.59	335	ep	P	15 57 27.9	-1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,3.0nm,0.5s,mb4.9,baz=58,slow=4.3						
FINES	FINESS Array B	92.02	335	P	P	15 57 30.6	-0.8
	comp=Z,4.9nm,0.4s,mb5.2,baz=72,slow=4.5,SNR=80						
FINES				LR	LR	16 40 53.2	
	comp=Z,18nm,19.9s,MS3.5,baz=354,slow=37						
PDAR	Pinedale Array	93.78	45	P	P	15 57 40.1	+0.2
	comp=Z,0.4nm,0.6s,mb4.0,baz=331,slow=1.2,SNR=4.5						
HFS	Hagfors	97.72	337	P	P	15 57 56.2	-1.2
	comp=Z,1.2nm,0.5s,mb4.7,baz=90,slow=3.0,SNR=18						
NB2	NORSAR Subarra	98.02	339	P	P	15 57 57.9	-0.8
	comp=Z,0.6nm,0.5s,mb4.4,baz=56,slow=4.8						
NOA	NORSAR Array B	98.02	339	P	P	15 57 57.3	-1.4
	comp=Z,0.7nm,0.6s,mb4.4,baz=52,slow=4.4,SNR=3.8						
NOA				LR	LR	16 43 31.8	
	comp=Z,15nm,20.6s,MS3.5,baz=190,slow=36						
DBIC	Dimbokro	143.62	299	PKP	PKPdf	16 03 56.8	-0.5
	comp=Z,2.0nm,0.5s,baz=306,slow=2.1,SNR=5.5						
LPAZ	La Paz	148.85	101	PKPbc	PKPdf	16 04 14.3	+8.3
	comp=Z,1.5nm,0.6s,baz=59,slow=5.1,SNR=8.9						

*NEIC **08** 16:07:40.5, 34.98S×70.52W, h2^{km}, ML2.6(GUC), After GUC.*

GUC 08 16:07:40.5±0.7**, 34.98S×70.52W, h2**^{km}±4^{km}**, MD3.5, ML2.6, 7C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFDO	San Fernando	0.54	311	⇓iP	Pg	16 07 51.4	0.0
SFDO				iS	Sg	16 08 00.2	+1.6
CICH	Cipreses	0.66	7	⇑iP	Pg	16 07 52.7	-1.0
CICH				iS	Sg	16 08 02.9	+0.5
CACH	El Canelo	0.86	356	⇑iP	Pg	16 07 56.5	-1.2
CACH				iS	Sg	16 08 09.2	+0.1
CHCH	Chadas Angostu	1.05	354	⇓iP	Pb	16 07 60.0	-1.0
LMEL	Las Melosas	1.16	13	⇓iP	Pb	16 08 02.1	-0.8
LMEL				iS	Sb	16 08 18.6	+0.4
LMEL				AMP		16 08 21.1	
	comp=N,171nm,0.1s						
LNV	Longovilo	1.26	324	⇑iP	Pb	16 08 03.5	-1.1
LNV				iS	Sb	16 08 21.2	0.0
PCH	Pirque	1.35	0	⇑iP	Pb	16 08 05.6	-0.6
PCH				iS	Sb	16 08 24.5	+0.6
TACH	Talagante	1.36	345	⇑iP	Pb	16 08 05.4	-1.1
TACH				iS	Sb	16 08 24.3	0.0
RCDM	Rinconada Maip	1.50	351	⇑iP	Pn	16 08 08.0	-0.6
RCDM				iS	Sb	16 08 28.5	+0.2
RCDM				AMP		16 08 29.8	
	comp=E,304nm,0.2s						
FCH	Farellones	1.66	7	eP	Pn	16 08 11.0	+0.2
FCH				iS	Sb	16 08 34.0	+1.3
FCH				AMP		16 08 35.2	
	comp=E,119nm,0.3s						
LCCH	Las Cruces	1.73	330	eP	Pn	16 08 11.3	-0.6
ROCH	El Roble	2.04	348	⇑iP	Pn	16 08 16.9	+0.6
JACH	Jahuel	2.29	358	eP	Pn	16 08 20.6	+0.8

*ISK **08** 16:14:37.3, 38.45N×41.46E, h9^{km}, MD3.8*
*CSEM **08** 16:14:37.3, 38.45N×41.46E, h9^{km}, MD3.8, After ISK*

ISC 08 16:14:38.0±0.4**, 38.50N**±0.03×**41.45E**±0.03**, h9**^{km}**, n24,** σ**0^{s}85**/35**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTMT	Batman	0.30	173	iPG	Pg	16 14 44.1	-0.2
DIY	Diyarbakir	1.13	238	PN	Pn	16 14 59.8	-0.1
DIY				SN	Sn	16 15 15.7	0.0
MARD	Mardin	1.29	204	iP	Pb	16 15 01.6	-0.4
MARD				iS	Sb	16 15 19.3	+0.7
ERZM	Erzurum	1.41	358	iP	Pn	16 15 03.9	0.0
ERZM				iS	Sb	16 15 20.6	-1.3
EZM	Erzurum	1.41	357	PN	Pn	16 15 03.8	-0.1
EZM				SN	Sn	16 15 24.6	+1.9
VANT	Van	1.53	91	ePN	Pn	16 15 03.9	-1.7
TVAN	Van	1.54	88	iP	Pn	16 15 05.5	-0.3
TVAN				iS	Sb	16 15 26.3	+0.6
TVAN	Van	1.54	88	iP	Pn	16 15 05.5	-0.3
TVAN				iS	Sb	16 15 26.3	+0.6
PTK	Pertek	1.65	284	PN	Pn	16 15 07.8	+0.4
ELZG	Elazig	1.93	271	iP	Pn	16 15 11.6	+0.3
ELZG				iS	Sn	16 15 40.2	+4.3
HAKT	HAKKARI	2.02	117	iP	Pn	16 15 12.5	-0.1
HAKT				iS	Sn	16 15 39.5	+1.3
HKR	Hakkari	2.03	116	PN	Pn	16 15 12.8	0.0
CLDR	Caldiran	2.04	71	PN	Pn	16 15 13.2	+0.3
URFA	Urfa	2.33	244	ePN	Pn	16 15 16.1	-0.9
KELT	Kelkit	2.37	315	iP	Pg	16 15 22.4	-2.8
KELT				iS	Sg	16 15 58.1	+1.3
MALT	Malatya	2.38	267	PN	Pn	16 15 16.9	-0.9
MYA	Malataya	2.38	267	PN	Pn	16 15 18.0	+0.2
GUMT	Gumushane	2.48	323	ePN	Pn	16 15 19.4	+0.1
ATAB	Bozova	2.69	249	iP	Pn	16 15 28.1	+5.9
ATAB				iS	Sn	16 15 56.0	+0.7
BCA	Borcka	2.95	3	ePN	Pn	16 15 26.2	+0.3
GNI	Garni	3.04	56	ePN	Pn	16 15 27.0	-0.3
GZT	Gaziantep	3.27	251	iS	Pn	16 15 35.5	+5.0
GAZ	Gaziantep	3.60	250	ePN	Pn	16 15 34.9	-0.3
KAHT	Ahir Dag	3.71	258	iP	Pg	16 15 47.9	-4.1
KAHT				iS	Sg	16 16 34.8	-6.7

*IDC **08** 16:31:00.7±3.0, 0.90N×97.35E, mb4.1/4, mb1 4.3/5, mb1mx3.8/19, mbtmp4.0/5, ML4.1/1, MS3.2/2, Ms1 3.3/2, ms1mx2.8/24, Error ellipse: s-maj=108.7km s-min=25.1km az=59.0*
*NEIC **08** 16:31:05.2±0.9, 0.94N×97.41E, h30^{km}, mb3.9/2, Error ellipse: s-maj=22.7km s-min=12.0km az=65.0*

ISC 08 16:31:03.2±1.3**, 1.0N**±0.1×**97.4E**±0.2**, h30**^{km}**, n8,** σ**0^{s}54**/8**, mb4.0**/6**, MS3.3**/1**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.41	37	ePn	Pn	16 32 23.4	-0.6
CMAR	Chiang Mai Arr	17.46	5	P	P	16 35 07.2	+0.8
	0.2nm,0.3s,baz=196,slow=11,SNR=18						
CMAR				LR	LR	16 42 05.6	
	comp=Z,51nm,18.4s,baz=190,slow=38						
WRA	Warramunga Arr	41.75	122	P	P	16 38 52.0	+0.2
	0.8nm,0.5s,mb3.6,baz=302,slow=9.0,SNR=13						
WRAB	Tennant Creek	41.76	122	eP	P	16 38 51.9	+0.1
	1.6nm,0.6s,mb3.8						
SONM	Songino Array	47.35	8	P	P	16 39 36.9	+0.5
	0.6nm,0.4s,mb3.9,baz=197,slow=9.4,SNR=6.0						
SONM				LR	LR	17 01 53.2	
	comp=Z,32nm,19.4s,MS3.3,baz=251,slow=39						
MKAR	Makanchi Array	47.52	346	P	P	16 39 37.9	+0.1
	1.7nm,0.5s,mb4.3,baz=162,slow=8.5,SNR=27						
ZAL	Zalesovo	53.82	351	P	P	16 40 25.5	0.0
	3.5nm,0.4s,mb4.6,baz=319,slow=5.5,SNR=14						
ZRNK	Zerenda	56.94	340	eP	P	16 40 47.1	-1.1
	0.9nm,0.7s,mb3.9						

*IDC **08** 16:46:19.5±1.5, 4.88N×96.40E, mb3.6/7, mb1 3.8/8, mb1mx3.6/20, mbtmp3.6/8, ML3.6/1, MS3.4/2, Ms1 3.6/2, ms1mx3.0/25, Error ellipse: s-maj=69.5km s-min=20.9km az=59.0*
*NEIC **08** 16:46:23.7±0.9, 4.82N×96.22E, h30^{km}, Error ellipse: s-maj=22.2km s-min=13.0km az=220.0*

ISC 08 16:46:19.8±7.9**, 4.8N**±0.2×**96.2E**±0.2**, h17**^{km}±55^{km}**, n13,** σ**1^{s}12**/12**, mb3.6**/7**, MS3.7**/1**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	4.49	83	ePn	Pn	16 47 29.9	+1.1
CMAR	Chiang Mai Arr	13.88	11	Pn	P	16 49 37.1	-1.3
	0.1nm,0.3s,baz=202,slow=14,SNR=4.2						
CMAR				LR	LR	16 55 42.9	
	comp=Z,105nm,18.4s,baz=200,slow=41						
SHL	Shillong	21.10	349	eP	P	16 51 07.5	+1.5
HYB	Hyderabad	21.36	307	eP	P	16 51 08.5	-0.2
HYB	Hyderabad	21.36	307	iP	P	16 51 08.5	-0.2
MKAR	Makanchi Array	43.57	346	P	P	16 54 22.6	-2.0
	0.2nm,0.5s,mb3.1,baz=158,slow=6.8,SNR=4.5						
SONM	Songino Array	43.81	10	P	P	16 54 26.0	-0.6
	0.6nm,0.6s,mb3.5,baz=188,slow=10,SNR=2.4						
WRA	Warramunga Arr	44.83	124	P	P	16 54 34.5	-0.7
	1.4nm,0.8s,mb3.9,baz=302,slow=9.4,SNR=4.2						
BVAR	Borovoye Array	52.58	341	P	P	16 55 34.8	0.0
	0.2nm,0.5s,mb3.4,baz=146,slow=5.2,SNR=2.4						
STKA	Stephens Creek	56.51	133	P	P	16 56 03.1	-0.7
	2.2nm,0.7s,mb4.3,baz=321,slow=7.7,SNR=3.5						
FINES	FINESS Array B	76.39	332	P	P	16 58 10.7	+0.9
	0.5nm,0.8s,mb3.5,baz=101,slow=9.7,SNR=3.6						
ARCES	ARCESS Array B	78.86	340	P	P	16 58 25.1	+1.8
	1.0nm,0.8s,mb3.8,baz=90,slow=7.3,SNR=5.7						
NOA	NORSAR Array B	83.42	331	LR	LR	17 40 04.4	
	comp=Z,29nm,18.1s,MS3.7,baz=195,slow=39						

*NEIC **08** 16:47:04.6±1.8, 6.27S×147.89E, h50^{km}±16^{km}, mb4.5/5, Error ellipse: s-maj=17.5km s-min=13.8km az=110.0*
*IDC **08** 16:47:04.1±3.8, 6.23S×147.83E, h42^{km}±35^{km}, mb3.7/4, mb1 4.0/7, mb1mx3.7/16, mbtmp4.0/7, ML3.8/3, MS3.4/4, Ms1 3.4/4, ms1mx3.2/18, Error ellipse: s-maj=45.2km s-min=22.8km az=92.0*

ISC 08 16:47:04.1±2.7**, 6.3S**±0.1×**147.9E**±0.2**, h65**^{km}±25^{km}**, n22,** σ**0^{s}89**/20**, mb4.1**/7**, 1D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.16	194	P	P	16 47 52.5	-0.1
	17nm,0.3s,baz=43,slow=11,SNR=46						
PMG				S	S	16 48 29.7	+0.4
	22nm,0.3s,baz=339,slow=19,SNR=3.4						
PMG	Port Moresby	3.16	194	ePn	P	16 47 52.0	-0.7
PMG				S	S	16 48 29.8	+0.4
CTA	Charters Tower	13.78	187	P	P	16 50 18.4	+0.4
	0.1nm,0.3s,baz=8.9,slow=16,SNR=3.3						
CTA				LR	LR	16 55 38.3	
	comp=Z,172nm,19.5s,baz=160,slow=37						
CTA	Charters Tower	13.78	187	P	P	16 50 18.4	+0.4
CTA				LR	LR	16 55 38.3	
KAKA	Kakadu	16.52	246	eP	P	16 50 54.7	+1.5
	11nm,0.5s						
WRAB	Tennant Creek	18.89	223	eP	P	16 51 20.0	-2.1
	11nm,0.7s						
WB2	Warramunga Arr	18.89	223	⇓iP	P	16 51 21.2	-0.9
WRA	Warramunga Arr	18.90	223	P	P	16 51 21.3	-0.9
	1.4nm,0.3s,baz=51,slow=11,SNR=52						
DZM	Mont Dzumac	23.79	133	LR	LR	17 00 30.2	
	comp=Z,107nm,18.1s,baz=204,slow=34						
FITZ	Fitzroy Crossi	24.68	240	eP	P	16 52 21.7	+1.1
	30nm,0.6s,mb4.9						
FITZ	Fitzroy Crossi	24.68	240	P	P	16 52 21.7	+1.1
	39nm,0.5s,mb5.1,baz=43,slow=5.5,SNR=72						
FITZ				LR	LR	17 03 41.2	
	comp=Z,133nm,18.5s,baz=94,slow=40						
STKA	Stephens Creek	26.11	192	eP	P	16 52 34.7	+0.9
	4.1nm,0.6s,mb4.0						
STKA	Stephens Creek	26.11	192	P	P	16 52 34.4	+0.5
	5.5nm,0.6s,mb4.2,baz=340,slow=8.7,SNR=24						
STKA	Stephens Creek	26.11	192	eP	P	16 52 34.3	+0.4
MBWA	Marble Bar	31.02	239	eP	P	16 53 17.6	-0.4
	4.5nm,0.5s,mb4.5						
CBIJ	Chichi jima	33.67	351	LR	LR	17 05 56.0	
	comp=Z,30nm,20.4s,baz=138,slow=34						
KLBR	Kellerberrin	37.78	224	eP	P	16 54 16.2	+0.4
	5.2nm,0.4s,mb4.7						
MJAR	Matsushiro Arr	43.59	349	P	P	16 55 03.4	-0.3
	1.0nm,0.8s,mb3.6,baz=175,slow=13,SNR=3.6						
MKAR	Makanchi Array	78.32	320	P	P	16 58 58.6	-0.4
	0.3nm,0.5s,mb3.3,baz=90,slow=8.3,SNR=5.6						
BVAR	Borovoye Array	87.56	324	P	P	16 59 46.9	+0.7
	0.3nm,0.5s,mb3.6,baz=108,slow=9.1,SNR=3.3						
GERES	GERESS Array B	122.68	326	PKP	PKPdf	17 05 55.0	+2.3
	0.3nm,0.5s,baz=45,slow=1.4,SNR=3.8						
BDFB	Brasilia	153.08	144	PKPbc	PKPdf	17 06 59.0	+11
	1.7nm,0.3s,baz=276,slow=4.0,SNR=4.5						

*IDC **08** 17:13:31.9±1.1, 9.24S×124.26E, mb4.1/5, mb1 4.4/7, mb1mx4.2/15, mbtmp4.2/7, ML4.4/2, MS3.5/4, Ms1 3.5/4, ms1mx3.2/19, Error ellipse: s-maj=52.2km s-min=24.6km az=65.0*
*BJI **08** 17:13:33.0, 9.69S×124.55E, h42^{km}, mB4.9, mb4.7, Ms4.9*
*MOS **08** 17:13:33.6±1.0, 9.40S×124.22E, h33^{km}, mb4.8/7, Error ellipse: s-maj=40.6km s-min=11.6km az=123.1*
*NEIC **08** 17:13:34.7±0.4, 9.45S×124.06E, h25^{km}, mb4.6/10, Error ellipse: s-maj=17.3km s-min=7.5km az=64.0*

ISC 08 17:13:33.1±0.4**, 9.58S**±0.06×**124.1E**±0.1**, h33**^{km}**, n35,** σ**1^{s}09**/34**, mb4.5**/17**, MS3.5**/3**, 1C, Timor region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	8.60	170	Pn	P	17 15 41.2	+3.1
	6.9nm,0.3s,baz=9.0,slow=8.9,SNR=47						
FITZ				Sn	Sn	17 17 14.0	-1.2
	4.8nm,0.3s,baz=144,slow=1.2,SNR=6.9						
FITZ				LR	LR	17 20 00.2	
	comp=Z,149nm,20.9s,baz=257,slow=44						
MBWA	Marble Bar	12.26	200	Pn	P	17 16 28.4	+0.1
WRA	Warramunga Arr	14.28	137	Pn	P	17 16 56.2	+1.2
	1.2nm,0.3s,baz=311,slow=14,SNR=74						
WRA				Sn	S	17 19 28.3	-4.8
	1.6nm,0.3s,baz=315,slow=24,SNR=10						
WRAB	Tennant Creek	14.28	137	eP	P	17 16 56.2	+1.2
WRAB				e		17 19 29.7	
WRAB				pmax	pmax		
	comp=Z,15nm,0.7s						
WRAB	Tennant Creek	14.28	137	ePn	P	17 16 56.2	+1.2
	comp=Z,15nm,0.7s						
WRAB				eSn	S	17 19 29.7	-3.4
CMAR	Chiang Mai Arr	37.32	318	P	P	17 20 45.5	+1.2
	comp=Z,1.1nm,0.8s,mb3.8,baz=140,slow=6.7,SNR=6.7						
CMAR				PcP	PcP	17 23 05.0	+1.4
	comp=Z,0.8nm,0.7s,baz=166,slow=3.7,SNR=4.9						
CMAR				LR	LR	17 35 44.7	
	comp=Z,42nm,21.4s,MS3.2,baz=200,slow=36						
CBIJ	Chichi jima	40.46	25	LR	LR	17 34 33.7	
	comp=Z,38nm,21.9s,MS3.2,baz=134,slow=32						
MJAR	Matsushiro Arr	47.76	15	P	P	17 22 08.2	-0.9
	comp=Z,1.8nm,0.8s,mb4.1,baz=184,slow=8.7,SNR=6.5						
LSA	Lhasa	50.32	322	eP	P	17 22 29.8	+0.9
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
LSA	Lhasa	50.32	322	eP	P	17 22 29.8	+0.8
	comp=Z,4.1nm,0.6s,mb4.6						
HHC	Hu-ho-hao-te	51.50	348	eP	P	17 22 38.3	+0.6
HHC				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,71nm,10.8s						
PKI	Pulchoki	52.62	316	eP	P	17 22 45.7	-0.5
	comp=Z,23nm,1.2s,mb5.0						
PKI	Pulchoki	52.62	316	eP	P	17 22 45.7	-0.5
PKI				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
KKN	Kakani	52.84	316	eP	P	17 22 47.3	-0.6
	comp=Z,11nm,0.8s,mb4.9						
KKN	Kakani	52.84	316	eP	P	17 22 47.3	-0.6
KKN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
DMN	Daman	52.85	316	eP	P	17 22 47.7	-0.3
	comp=Z,17nm,1.0s,mb4.9						
GKN	Gorkha	53.42	316	eP	P	17 22 51.4	-0.8
	comp=Z,3.0nm,0.2s,mb4.8						
KOLN	Koldanda	54.00	315	eP	P	17 22 55.6	-0.9
	comp=Z,12nm,0.8s,mb4.9						
ULN	Ulaanbaatar	59.16	347	eP	P	17 23 23.1	-10
SONM	Songino Array	59.28	346	P	P	17 23 32.0	-1.9
	comp=Z,1.1nm,0.8s,mb3.9,baz=164,slow=9.4,SNR=6.7						
ZAK	Zakamensk	62.41	345	eP	P	17 23 53.0	-2.0
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.9						
WMQ	Urumqi	62.59	331	eP	P	17 23 57.5	+1.2
MKAR	Makanchi Array	67.36	330	P	P	17 24 27.6	+0.5
	comp=Z,4.3nm,0.6s,mb4.7,baz=134,slow=7.6,SNR=57						
AAK	Ala-Archa	68.90	323	eP	P	17 24 37.1	+0.4
AAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
AAK	Ala-Archa	68.90	323	eP	P	17 24 36.8	0.0
	comp=Z,4.9nm,0.7s,mb4.5						
MAW	Mawson	70.45	201	LR	LR	17 50 50.3	
	comp=Z,143nm,19.1s,MS4.2,baz=224,slow=32						
ZAL	Zalesovo	71.47	337	P	P	17 24 52.6	+0.5
	comp=Z,1.9nm,0.4s,mb4.4,baz=322,slow=5.5,SNR=13						
YAK	Yakutsk	71.52	3	eP	P	17 24 53.1	+0.8
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
YAK	Yakutsk	71.52	3	eP	P	17 24 53.1	+0.8
	comp=Z,9.2nm,0.7s,mb4.8						
ZRNK	Zerenda	77.89	329	eP	P	17 25 29.0	-0.2
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ZRNK	Zerenda	77.89	329	eP	P	17 25 29.0	-0.2
	comp=Z,2.0nm,0.9s,mb4.0						
ARU	Arti	84.87	329c	iP	P	17 26 06.6	+0.9
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
ARU	Arti	84.87	329	eP	P	17 26 06.1	+0.4
	comp=Z,4.6nm,0.8s,mb4.7						
PDAR	Pinedale Array	122.83	45	PKP	PKPdf	17 32 30.4	+4.3
	comp=Z,0.5nm,0.8s,SNR=4.1						
TXAR	Lajitas Array	131.25	59	PKP	PKPdf	17 32 47.3	+4.6
	comp=Z,0.2nm,0.5s,baz=270,slow=1.3,SNR=3.5						

*BJI **08** 18:08:19.5, 35.20N×27.10E, h17^{km}, mB4.8, mb4.6, Ms4.6, Msz4.2*
*HLW **08** 18:08:20.6, 35.49N×27.16E, h28^{km}, Mb4.2*
*MOS **08** 18:08:20.1±1.4, 35.09N×27.05E, h10^{km}, mb4.4/24, Error ellipse: s-maj=5.6km s-min=3.5km az=115.7*
*ISK **08** 18:08:21.6, 35.02N×26.92E, h75^{km}, ML4.3*
*ATH **08** 18:08:22.6, 35.21N×27.11E, h18^{km}±1^{km}, MD4.3/21, ML4.4*
*NEIC **08** 18:08:22.5, 35.20N×27.12E, h17^{km}, mb4.1/42, ML4.4(ATH), After ATH.*
*ZUR_RM **08** 18:08:22, 35.20N×27.12E, h18^{km}, Mw4.4/19, Moment Tensor Solution. s19 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.50; $M_{\theta\theta}$-2.36; $M_{\phi\phi}$2.86; $M_{r\theta}$0.89; $M_{\theta\phi}$2.12; $M_{\phi r}$-1.91; Best double couple: $M_0$3.98×10^{15} NP1:ϕ_s336°, δ86°, λ-147°. NP2:ϕ_s244°, δ57°, λ-5°. Principal axes: T 4.129, Plg19°, Azm105°; N -.302, Plg57°, Azm343°; P -3.828, Plg26°, Azm205°;*
*NIC **08** 18:08:23.7±0.3, 35.46N×27.02E, h25^{km}, mb4.6, ML4.1, MW3.7*
*CSEM **08** 18:08:23.5±0.0, 35.12N×27.18E, h40^{km}, mb4.3/19, Ms3.0, Mw3.8, Error ellipse: s-maj=1.3km s-min=0.9km az=47.0*
*IDC **08** 18:08:26.9±1.1, 35.19N×27.17E, h45^{km}±12^{km}, mb3.8/16, mb1 3.9/23, mb1mx3.9/29, mbtmp4.0/23, ML4.0/7, MS3.4/7, Ms1 3.4/7, ms1mx3.1/35, Error ellipse: s-maj=12.1km s-min=8.2km az=175.0*

ISC 08 18:08:20.3±0.1**, 35.07N**±0.01×**27.09E**±0.02**, h10**^{km}**, n354,** σ**1^{s}27**/382**, mb4.2**/43**, MS3.4**/7**, 22C-15D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.48	7	ePB	Pg	18 08 29.6	-0.4
KARP				eSB	Sg	18 08 35.6	-0.9
XRY	Khrisi	1.17	261	ePN	Pn	18 08 45.2	+2.6
NPS	Neapolis	1.23	279	ePN	Pn	18 08 45.7	+2.2
ARG	Arkhangelos	1.42	36	⇑iPN	Pn	18 08 46.8	+0.5
IDI	Anoyia	1.82	278	P	Pn	18 08 55.4	+3.4
	0.6nm,0.3s,baz=6.6,slow=24,SNR=3.0						
IDI				S	Sn	18 09 20.2	+4.9
	148nm,0.3s,baz=129,slow=22,SNR=7.4						
THR1	Thera Island	1.86	315	eP	Pn	18 08 54.1	+1.5
SANT	Santorini	1.86	315	eP	Pn	18 08 52.2	-0.3
SANT	Santorini	1.86	315	iP	Pn	18 08 53.2	+0.7
SANT				iS	Sn	18 09 15.4	-0.8
SANT	Santorini	1.86	315	eP	Pn	18 08 52.2	-0.4
THR3	Thira Island,	1.92	315	eP	Pn	18 08 54.5	+1.1
THR4	Thira Island,	1.96	316	eP	Pn	18 08 55.6	+1.7
THR5	Thira Island,	1.96	314	eP	Pn	18 08 55.6	+1.7
BODT	Bodrum	2.00	5	PN	Pn	18 08 54.9	+0.4
BDRM	Kayabasi	2.01	8	iP	Pn	18 08 54.8	+0.1
BDRM				iS	Sn	18 09 20.0	-0.2
DALT	Dalyan (Mudla)	2.11	36	PN	Pn	18 08 58.5	+2.4
FETY	Fethiye	2.25	45	PN	Pn	18 08 59.7	+1.6
YER	Yerkesik	2.27	25	PN	Pn	18 08 59.2	+0.7
MLSB	Milas	2.29	14	PN	Pn	18 08 59.4	+0.7
MLSB				SN	Sn	18 09 27.9	+0.7
KSL	Kastellorizon	2.30	61	ePN	Pn	18 09 01.7	+2.9
AKAS	Kas	2.35	60	iP	Pn	18 09 01.6	+2.0
AKAS				iS	Sg	18 09 47.3	+8.7
APE	Apeiranthos	2.36	328	PN	Pn	18 08 59.4	-0.4
APE	Apeiranthos	2.36	328	ePb	Pb	18 09 01.0	-1.6
VAM	Vamos	2.39	279	ePN	Pn	18 09 03.3	+3.1
GVD	Gavdhos	2.48	266	eP	Pn	18 09 03.6	+2.1
SMG	Samos	2.64	356	ePN	Pn	18 09 04.6	+0.8
AYDN	Tasoluk	2.66	14	iP	Pn	18 09 05.8	+1.7
AYDN				iS	Sn	18 09 36.6	-0.1
ELL	Elmali	2.83	53	PN	Pn	18 09 08.3	+1.8
GOLH	Golhisar	2.94	42	iP	Pn	18 09 10.3	+2.2
GOLH				iS	Sn	18 09 53.1	+9.3
DNZL	Cakiroluk	3.05	31	iP	Pn	18 09 11.3	+1.6
DNZL				iS	Sn	18 09 52.8	+6.2
DENT	Denizli	3.10	30	PN	Pn	18 09 11.9	+1.6
URLA	Izmir	3.31	353	iP	Pn	18 09 12.7	-0.5
URLA				iS	Sg	18 10 06.7	-3.7
BLCB	Balcova	3.31	359	PN	Pn	18 09 14.2	+0.9
IZM	Izmir	3.32	2	PN	Pn	18 09 14.4	+0.9
KDAG	Bornova	3.33	2	iP	Pn	18 09 14.8	+1.2
KDAG				iS	Sn	18 10 04.3	+11
ANTB	Antalya	3.42	57	PN	Pn	18 09 17.5	+2.7
KYTH	Kithira	3.52	291	ePN	Pn	18 09 19.0	+2.8
MANT	Manisa	3.61	19	iP	Pn	18 09 18.7	+1.2
MANT				iS	Sn	18 09 56.4	-4.3
BCK	Bucak	3.70	49	PN	Pn	18 09 20.2	+1.4
VLI	Veliai	3.75	297	ePN	Pn	18 09 20.7	+1.1
KHL	Karahalli	3.79	30	PN	Pn	18 09 20.9	+0.8
AKS	Akhisar	3.84	8	PN	Pn	18 09 21.5	+0.6
SLUM		3.90	204	⇑P	Pn	18 09 23.6	+2.0
ISP	Isparta	3.90	44	PN	Pn	18 09 22.2	+0.5
ISP	Isparta	3.90	44	P	Pn	18 09 21.8	+0.1
ISP	Isparta	3.90	44	ePn	Pn	18 09 22.2	+0.5
TKTP	Tekketepe	3.94	40	iP	Pn	18 09 23.4	+1.2
TKTP				iS	Sn	18 10 19.2	+10
PTL	Penteli	3.95	320	ePb	Pb	18 09 26.7	-3.0
NAIG	Nisos Aigina	3.96	314	ePN	Pn	18 09 24.7	+2.3
HMAT	Matruh	3.96	180	P	Pn	18 09 24.9	+2.3
HMAT				S	Sn	18 10 11.4	+1.7
ATH	Athens Observa	3.97	318	ePN	Pn	18 09 24.0	+1.3
ATH	Athens Observa	3.97	318	ePb	Pb	18 09 26.0	-4.1
NSAL	Nisos Salamina	4.07	315	ePN	Pn	18 09 26.0	+1.9
NSAL	Nisos Salamina	4.07	315	ePn	Pn	18 09 27.0	+2.9
MPAR	Parnis Oros	4.09	320	ePN	Pn	18 09 25.5	+1.1
PRK	Paraskevi	4.22	351	ePN	Pn	18 09 26.0	-0.2
PRK	Paraskevi	4.22	351	ePn	Pn	18 09 25.8	-0.4
MGER	Gerania Oros	4.24	314	ePN	Pn	18 09 27.7	+1.2
MGER	Gerania Oros	4.24	314	ePn	Pn	18 09 30.0	+3.5
AKMC	Akamas	4.30	89	⇑P	Pn	18 09 27.5	+0.2
PPCY	Paphos	4.32	91	⇑eP	Pn	18 09 28.1	+0.5
GDZ	Gediz	4.44	25	iP	Pn	18 09 29.8	+0.4
GDZ				iS	Pg	18 09 49.5	+0.5
ALFC	Alevga	4.51	87	⇑eP	Pn	18 09 30.6	+0.2
	11nm,0.3s						
ALFC				S	Sn	18 10 22.4	-1.2
BALB	Balikesir	4.61	8	ePN	Pn	18 09 30.9	-0.8
ALT	Altintas	4.65	30	ePN	Pn	18 09 32.7	+0.4
ITM	Ithomi	4.68	298	ePN	Pn	18 09 35.9	+3.1
ITM	Ithomi	4.68	298	ePn	Pn	18 09 36.0	+3.2
DST	Dursunbey	4.69	15	ePN	Pn	18 09 32.4	-0.5
LEF	Lefka	4.75	88	ePN	Pn	18 09 34.4	+0.6
HDMB	Hadim	4.76	65	ePN	Pn	18 09 34.5	+0.6
SZAC	Souni-Zanaja	4.77	92	P	Pn	18 09 34.3	+0.3
	6.3nm,0.4s						
SZAC				S	Sn	18 10 30.0	0.0
AOS	Alonnisos	4.83	329	eP	Pn	18 09 36.2	+1.3
CANB	Canakkale	4.94	360	ePN	Pn	18 09 35.8	-0.6
ERMK	Ermenek	4.98	70	iP	Pn	18 09 38.6	+1.6
ERMK				iS	Sn	18 10 35.7	+0.3
MAMC	Mammari	5.02	87	P	Pn	18 09 37.8	+0.2
HBRG	Burj al ‘Arab	5.04	152	⇓eP	Pn	18 09 38.7	+0.8
HBRG				S	Sn	18 10 35.9	-1.0
CSS	Prodhromos	5.12	89	⇑eP	Pn	18 09 38.6	-0.3
	3.2nm,0.5s						
CSS				S	Sn	18 10 38.5	-0.3
KONT	Konya--Tatoy	5.12	54	ePN	Pn	18 09 40.1	+1.1
XOR	Xorichti	5.30	325	eP	Pn	18 09 42.3	+0.8
KDHN	Kadinhani	5.30	48	iP	Pn	18 09 41.3	-0.2
KDHN				iS	Sn	18 10 26.7	-17
BNT	Bandirma	5.32	7	ePN	Pn	18 09 41.1	-0.6
ESKT	Eskisehir	5.36	33	ePN	Pn	18 09 42.3	0.0
KIZT	Kizilcal	5.40	44	ePN	Pn	18 09 43.2	+0.3
RLS	Riolos of Patr	5.42	305	ePN	Pn	18 09 46.2	+3.0
RLS	Riolos of Patr	5.42	305	ePn	Pn	18 09 46.7	+3.5
IKL	Isikli	5.49	76	ePN	Pn	18 09 44.3	+0.1
MRMT	Marmara Adasi	5.54	4	ePN	Pn	18 09 43.4	-1.4
PAIG	Paliouri	5.56	332	eP	Pn	18 09 46.0	+0.9
PHNC	Paralimni	5.69	89	P	Pn	18 09 47.9	+0.9
EVR	Evrytania	5.71	314	ePN	Pn	18 09 49.7	+2.4
YLV	Yalova	5.78	18	ePN	Pn	18 09 47.6	-0.6

OUR Ouranopolis 5.80 336 *e*P **Pn** 18 09 49.4 +0.8
SWA1 5.91 192 ⇓P **Pn** 18 09 51.7 +1.7
SWA1 S **Sn** 18 10 58.0 -0.6
SWA1 5.91 192 P **Pn** 18 09 51.7 +1.7
SWA1 S **Sn** 18 10 58.0 -0.6
MEST Erdemli 5.92 73 *i* P **Pn** 18 09 50.6 +0.3
MEST *i* S **Sn** 18 10 49.8 -9.2
SWA2 5.97 194⇓*e*P **Pn** 18 09 52.6 +1.6
VLS Valsamata 6.08 303 *e*PN **Pn** 18 09 55.0 +2.5
HRT Hereke 6.09 19 *e*PN **Pn** 18 09 51.6 -1.1
RDO Rodhopi 6.19 349 *e*PN **Pn** 18 09 53.6 -0.4
RDO Rodhopi 6.19 349 *e*Pn **Pn** 18 09 53.2 -0.8
LIT Litokhoron 6.21 325 *e*P **Pn** 18 09 55.4 +1.0
LIT Litokhoron 6.21 325 *e*P **Pn** 18 09 55.3 +1.0
LKD Levkas 6.31 307 *e*P **Pn** 18 09 56.5 +0.7
FYM Al Fayyum 6.32 147⇑*e*P **Pn** 18 09 56.3 +0.4
SOH Sokhos 6.46 334 *e*P **Pn** 18 09 59.8 +2.0
KOT Kottamia 6.50 141 ⇓P **Pn** 18 09 58.5 0.0
LOD Lodumlu 6.59 41 *e*PN **Pn** 18 09 58.9 -0.8
ANTO Ankara 6.59 42 *e*PN **Pn** 18 09 58.7 -1.0
SRS Serrai 6.64 336 *e*P **Pn** 18 10 02.5 +2.2
KDZ Kurdzhali 6.70 349 *i* P **Pn** 18 10 00.0 -1.2
GLL Jalalah 6.72 143⇑*e*P **Pn** 18 10 01.7 +0.1
EDRB Edirne 6.77 358 *e*PN **Pn** 18 10 00.4 -1.9
AMAG Maghara 6.78 129 ⇓P **Pn** 18 10 01.6 -0.7
KAMT Kaman 6.80 49 *e*PN **Pn** 18 10 01.7 -1.0
RZN Rozhen 6.87 345 *i* P **Pn** 18 10 02.0 -1.6
HRSH Kfar Ka'horesh 6.91 125⇑*e*P **Pn** 18 10 03.0 -1.2
RSH 6.91 125 P **Pn** 18 10 03.0 -1.2
KNT Kendrikon 6.92 333 *e*P **Pn** 18 10 05.6 +1.3
GRG Griva 6.95 329 *e*P **Pn** 18 10 05.9 +1.2
BR131 Keskin Array S 6.98 46 *e*P **Pn** 18 10 04.2 -1.0
6.3nm,0.6s
BR131 Keskin Array S 6.98 46 *e*P **Pn** 18 10 04.2 -1.0
6.3nm,0.6s
BRTR Keskin Array B 6.98 46 P **Pn** 18 10 04.3 -0.9
BRTR S **Sn** 18 11 24.4 -1.0
BRTR pmax pmax
comp=Z,1.0nm,0.3s
BRTR Keskin Array B 6.98 46 P **Pn** 18 10 04.3 -0.9
comp=Z,0.7nm,0.3s,baz=221,slow=13,SNR=35
BRTR S **Sn** 18 11 24.4 -1.1
comp=Z,0.3nm,0.3s,baz=217,slow=25,SNR=6.5
IGT Igoumenitsa 6.99 312 *e*P **Pn** 18 10 06.3 +1.0
HNTI Hanita 6.99 104 Pn **Pn** 18 10 06.2 +0.9
HNTI Sn **Sn** 18 11 20.9 -4.8
OFRI 'Ofer 7.00 108 Pn **Pn** 18 10 06.2 +0.7
SLTI Sal'it 7.20 111 Pn **Pn** 18 10 08.1 -0.2
FNA Florina 7.28 323 *e*P **Pn** 18 10 09.3 0.0
HWQ Hawqa 7.34 94 *e*PN **Pn** 18 10 08.7 -1.5
HWQ Hawqa 7.34 94 *e*Pn **Pn** 18 10 08.6 -1.6
KSDI Kefar Szold 7.34 102 Pn **Pn** 18 10 10.1 -0.2
KZIT Kziot 7.41 122 Pn **Pn** 18 10 10.7 -0.5
KZIT Sn **Sn** 18 11 31.0 -5.1
KEK Kerkira 7.43 311 *e*PN **Pn** 18 10 12.0 +0.5
KKB Krupnik 7.48 336 *i* P **Pn** 18 10 13.0 +0.8
KSHT Keshet 7.53 104 Pn **Pn** 18 10 13.0 +0.1
COBT Iskenderun 7.58 76 *i* P **Pn** 18 10 12.2 -1.4
COBT *i* S **Pb** 18 10 31.7 -0.2
MASH Mash'abbe Sade 7.63 120 Pn **Pn** 18 10 13.2 -1.1
FKH Fakeheh 7.72 94 *e*PN **Pn** 18 10 14.4 -1.0
MZDA Masada 7.88 116 Pn **Pn** 18 10 17.3 -0.5
HFRF Wahat Farafira 7.96 172⇓*e*P **Pn** 18 10 20.2 +1.3
VTS Vitosha 8.10 339 *i* P **P** 18 10 22.0 +1.2
KMTI Karmit 8.12 125 Pn **P** 18 10 20.6 -0.5
KMTI Sn **Sn** 18 11 48.1 -5.8
PRD Provadia 8.12 2 *i* P **P** 18 10 22.0 +0.8
PRNI Paran 8.16 123 Pn **P** 18 10 20.4 -1.2
PRNI Sn **Sn** 18 11 49.4 -5.4
ZFRI Zfri 8.16 121 Pn **P** 18 10 20.2 -1.4
SKO Skopje 8.19 329 *e*Pn **P** 18 10 24.0 +1.9
MBH Mount Berech 8.45 126 Pn **P** 18 10 25.4 -0.3
EIL Elat 8.55 127 P **P** 18 10 27.0 -0.1
comp=Z,1.9nm,0.3s,baz=336,slow=28,SNR=17
EIL S **Sn** 18 11 59.1 -5.5
comp=Z,5.3nm,0.3s,baz=320,slow=28,SNR=7.4
EIL Elat 8.55 127 *e*P **P** 18 10 26.5 -0.6
comp=Z,14nm,0.6s
EIL Elat 8.55 127 Pn **P** 18 10 26.8 -0.3
AQBJ Aqaba 8.58 126 Pn **P** 18 10 27.2 -0.3
ASF Jabal al Asfar 8.67 107 P **P** 18 10 28.6 -0.2
comp=Z,1.4nm,0.3s,baz=174,slow=6.7,SNR=6.3
HBST Basata 8.71 130 P **P** 18 10 28.4 -1.0
TR2 8.73 138⇑*e*P **P** 18 10 29.2 -0.4
TR2 8.73 138 P **P** 18 10 29.2 -0.4
GZT Gaziantep 8.76 72 *i* P **P** 18 10 28.4 -1.7
GZT *i* S P 18 10 55.6 +26
HKAT Jabal Katrina 8.78 136⇓*e*P **P** 18 10 29.4 -0.8
NUB 8.79 131 ⇓P **P** 18 10 29.6 -0.8
ALWS Ilw as Safayha 8.86 128 P **P** 18 10 30.8 -0.6
HAQS Haql 8.95 130 P **P** 18 10 32.1 -0.5
JMOS Jabal al Moall 8.99 129 P **P** 18 10 32.4 -0.8
TIP Timpagrande 9.21 299 *e*P **P** 18 10 32.5 -3.8
TAYS Tayyib Ism 9.27 132 P **P** 18 10 35.9 -1.2
BDAS Al Bad' 9.50 132 P **P** 18 10 41.1 +0.9
HHRG Al Ghardaqah 9.59 143⇑*e*P **P** 18 10 41.5 0.0
MALT Malatya 9.66 67 *e*P **P** 18 10 40.4 -2.0
MALT pmax pmax
comp=Z,4.0nm,0.6s
MALT Malatya 9.66 67 *e*P **P** 18 10 40.4 -2.1
comp=Z,4.3nm,0.6s
MALT Malatya 9.66 67 *e*P **P** 18 10 40.4 -2.0
comp=Z,4.3nm,0.6s
JMQS Jabal Moqyreh 9.67 127 P **P** 18 10 41.5 -1.2
HDK1 Dakhla 9.70 168⇓*e*P **P** 18 10 44.3 +1.3
TLCR 10.19 7 *i* P **P** 18 10 48.4 -1.3
MLR Muntele Rosu 10.45 356 P **P** 18 10 53.1 -0.1
comp=Z,0.2nm,0.3s,baz=168,slow=7.2,SNR=12
MLR LR LR 18 15 22.3
comp=Z,213nm,18.1s,baz=182,slow=40
HDK2 Wahat Dakhilah 10.83 171⇓*e*P **P** 18 10 59.5 +1.0
HDK2 Wahat Dakhilah 10.83 171 P **P** 18 10 59.5 +0.9
SIM Simferopol' 11.23 26 P **P** 18 11 09.0 +5.0
SIM MLR MLR
comp=Z,100nm,15.0s
SOC Sochi 12.94 45 *e*P **P** 18 11 26.1 -0.9
SOC *e* 18 13 52.6
SOC pmax pmax
comp=N,8.0nm,0.8s
SOC pmax pmax
comp=E,4.0nm,0.8s
SOC pmax pmax
comp=Z,7.0nm,0.8s
SOC MLR MLR
comp=N,143nm,12.0s
SOC MLR MLR
comp=E,165nm,12.0s
SOC MLR MLR
comp=Z,169nm,12.0s
GNI Garni 14.87 65 LR LR 18 18 49.4
comp=Z,259nm,18.1s,baz=288,slow=42
KIV Kislovodsk 14.93 49 P **P** 18 11 51.7 -1.4
KIV pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 14.93 49 P **P** 18 11 51.7 -1.5
comp=Z,9.9nm,0.8s
KIV Kislovodsk 14.93 49 P **P** 18 11 51.7 -1.4
comp=Z,9.9nm,0.8s
ZEI Tsey 15.16 55 *e*P **P** 18 11 55.4 -0.7
AKASG Malin Array Be 15.70 5 P **P** 18 12 04.0 +0.9
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 15.70 5 P **P** 18 12 04.0 +0.9
comp=Z,1.6nm,0.3s,baz=194,slow=11,SNR=11
AKASG Malin Array Be 15.70 5 P **P** 18 12 04.0 +0.9
GOF Gofitskoye 15.74 46⇓*i*P **P** 18 12 05.4 +1.8
GOF pmax pmax
comp=Z,30nm,1.3s
KBA Koelnbreinsper 15.83 323⇓*i*P **P** 18 12 02.5 -2.2
comp=Z,25nm,1.0s
KBA Koelnbreinsper 15.83 323⇓*i*P **P** 18 12 02.5 -2.2
KBA pmax pmax
comp=Z,25nm,1.0s
PGF Pioggiola 15.94 303 *e*P **P** 18 12 03.8 -2.4
comp=Z,20nm,0.7s
PGF Pioggiola 15.94 303 *e*P **P** 18 12 03.8 -2.4
PGF pmax pmax
comp=Z,10.0nm,0.7s
MOA Molln 15.96 327⇑*i*P **P** 18 12 03.8 -2.6
OKC Ostrava-Krasne 16.15 339 AMS AMS 18 18 20.0
comp=Z,200nm,13.4s
VRAC Vranov 16.19 335 P **P** 18 12 11.7 +2.3
comp=Z,0.3nm,0.3s,baz=156,slow=11,SNR=2.8

MORC Moravsky Berou 16.28 337 P **P** 18 12 08.6 -1.9
MORC pmax pmax
comp=Z,5.0nm,0.7s
MORC Moravsky Berou 16.28 337 P **P** 18 12 08.6 -1.9
comp=Z,4.5nm,0.7s
MORC Moravsky Berou 16.28 337 P **P** 18 12 08.6 -1.9
comp=Z,4.5nm,0.7s
WTTA Wattenberg 16.81 321⇓*i*P **P** 18 12 14.9 -2.3
comp=Z,5.3nm,0.5s
WTTA Wattenberg 16.81 321⇓*i*P **P** 18 12 14.9 -2.3
WTTA pmax pmax
comp=Z,5.0nm,0.5s
WATA Walderalm 16.89 321⇑*i*P **P** 18 12 18.5 +0.3
comp=Z,6.1nm,0.5s
WATA Walderalm 16.89 321⇑*i*P **P** 18 12 18.5 +0.3
WATA pmax pmax
comp=Z,6.0nm,0.5s
GEC2 GERESS Array S 16.95 328 P **P** 18 12 23.1 +4.1
GEC2 pmax pmax
comp=Z,13nm,1.2s
GEC2 GERESS Array S 16.95 328 *e*P **P** 18 12 23.1 +4.1
comp=Z,13nm,1.2s
GERES GERESS Array B 16.95 328 P **P** 18 12 19.2 +0.1
comp=Z,0.2nm,0.3s,baz=144,slow=12,SNR=13
SQTA Sankt Quirin 17.00 320⇑*i*P **P** 18 12 20.6 +0.9
comp=Z,2.8nm,0.5s
SQTA Sankt Quirin 17.00 320⇑*i*P **P** 18 12 20.6 +0.9
SQTA pmax pmax
comp=Z,3.0nm,0.5s
MOTA Moosalm 17.14 321⇑*i*P **P** 18 12 21.4 0.0
comp=Z,4.3nm,0.7s
MOTA Moosalm 17.14 321⇑*i*P **P** 18 12 21.4 0.0
MOTA pmax pmax
comp=Z,4.0nm,0.7s
DPC Dobruska-Polom 17.17 336 *e*P **P** 18 12 22.8 +1.0
DPC AMS AMS 18 20 50.0
comp=Z,100nm,13.7s
KHC Kasperske Hory 17.22 329 *e*P **P** 18 12 22.4 0.0
KHC AMS AMS 18 20 30.0
comp=Z,200nm,10.2s
UPC Upice 17.41 336 *e*P **P** 18 12 25.6 +0.9
DAVOX Davos 17.45 317 LR LR 18 19 31.4
comp=Z,115nm,18.8s,baz=89,slow=38
SBF Sospel 17.50 306 *e*P **P** 18 12 25.1 -0.9
comp=Z,35nm,0.8s
SBF Sospel 17.50 306 *e*P **P** 18 12 25.1 -0.9
SBF pmax pmax
comp=Z,18nm,0.8s
PRU Pruhonice 17.51 332 *e*P **P** 18 12 27.3 +1.3
PRU AMS AMS 18 20 00.0
comp=Z,200nm,12.1s
WET Wettzell 17.54 328 P **P** 18 12 26.5 +0.2
WET pmax pmax
comp=Z,8.0nm,1.1s
WET Wettzell 17.54 328 *e*P **P** 18 12 26.5 +0.2
comp=Z,8.0nm,1.1s
DAVA Damuels 17.75 319⇑*i*P **P** 18 12 27.5 -1.6
comp=Z,5.4nm,0.5s
FRF La Foret Royal 17.92 304 *e*P **P** 18 12 28.7 -2.4
PVCC Panska Ves 17.94 333 *e*P **P** 18 12 34.1 +2.8
MBDF Montbardon 18.29 308 *e*P **P** 18 12 34.7 -1.1
comp=Z,18nm,0.7s
MBDF Montbardon 18.29 308 *e*P **P** 18 12 34.7 -1.1
MBDF pmax pmax
comp=Z,9.0nm,0.7s
BRG Berggiesshubel 18.45 333 *e*P **P** 18 12 39.4 +1.7
BRG pmax pmax
comp=Z,9.0nm,1.6s
BRG MLR MLR
comp=N,117nm,18.5s
BRG MLR MLR
comp=E,138nm,26.5s
BRG MLR MLR
comp=Z,110nm,15.3s
BRG Berggiesshubel 18.45 333 *e*P **P** 18 12 39.4 +1.7
comp=Z,8.6nm,1.6s
BRG Berggiesshubel 18.45 333 *e*P **P** 18 12 38.5 +0.8
comp=Z,4.0nm,0.8s
LPG La Plagne 18.64 310 *e*P **P** 18 12 40.1 0.0
comp=Z,19nm,0.7s
LPG La Plagne 18.64 310 *e*P **P** 18 12 40.1 0.0
LPG pmax pmax
comp=Z,10.0nm,0.7s
LPL La Plagne 18.66 310 *e*P **P** 18 12 39.8 -0.5
comp=Z,8.0nm,0.3s
LPL La Plagne 18.66 310 *e*P **P** 18 12 39.8 -0.5
LPL pmax pmax
comp=Z,4.0nm,0.3s
GRA1 Grafenberg Arr 18.68 326 *e*P **P** 18 12 41.0 +0.5
comp=Z,17nm,1.0s
GRF Grafenberg Arr 18.68 326 P **P** 18 12 41.0 +0.5
GRF pmax pmax
comp=Z,17nm,1.0s
GRF Grafenberg Arr 18.68 326 *e*P **P** 18 12 41.0 +0.5
GRF pmax pmax
comp=Z,17nm,1.0s
GRF Grafenberg Arr 18.68 326 *e*P **P** 18 12 41.0 +0.5
comp=Z,17nm,1.0s
GUNZ Gunzen 18.69 329 *e*P **P** 18 12 41.0 +0.4
comp=Z,6.0nm,0.9s
WERD Werda 18.76 330 *e*P **P** 18 12 40.6 -0.9
comp=Z,20nm,1.7s
ORIF Oris-en-Rattie 18.95 308 *e*P **P** 18 12 42.7 -1.1
comp=Z,10nm,0.7s
ORIF *e*R
comp=Z,149nm,21.8s
CLL Collm 19.15 332 *i* *SP 18 12 50.7
CLL *i* PP PP 18 12 55.7 -7.4
CLL *e*S **S** 18 16 15.0 -1.4
CLL Collm 19.15 332 *e*P **P** 18 12 45.3 -0.9
comp=Z,11nm,1.1s
MOX Moxa 19.20 329 *e*P **P** 18 12 50.0 +3.3
MOX pmax pmax
comp=Z,10.0nm,1.1s
MOX Moxa 19.20 329 *e*P **P** 18 12 50.0 +3.3
comp=Z,10.0nm,1.1s
MOX Moxa 19.20 329 *e*P **P** 18 12 50.0 +3.3
comp=Z,logA/T=1.0
MOX L 18 22 05.0
CABF La Chapelle 19.57 312 *e*P **P** 18 12 48.9 -2.1
comp=Z,27nm,0.7s
CABF La Chapelle 19.57 312 *e*P **P** 18 12 48.9 -2.1
CABF pmax pmax
comp=Z,14nm,0.7s
VIVF Saint-Julien-l 19.71 306 *e*P **P** 18 12 50.8 -1.9
comp=Z,9.2nm,0.6s
VIVF Saint-Julien-l 19.71 306 *e*P **P** 18 12 50.8 -1.9
VIVF pmax pmax
comp=Z,5.0nm,0.6s
HINF Hinteralfeld 19.74 316 *e*P **P** 18 12 51.1 -1.8
comp=Z,5.0nm,0.5s
HINF Hinteralfeld 19.74 316 *e*P **P** 18 12 51.1 -1.8
HINF pmax pmax
comp=Z,3.0nm,0.5s
CDF Champ du Feu 19.83 318 *e*P **P** 18 12 52.3 -1.7
comp=Z,14nm,0.9s
CDF Champ du Feu 19.83 318 *e*P **P** 18 12 52.3 -1.7
CDF pmax pmax
comp=Z,7.0nm,0.9s
HAU Haudompre 20.12 316 *e*P **P** 18 12 55.8 -1.3
HAU *e*R
comp=Z,121nm,20.0s
MTLF Montolieu 20.92 301 *e*P **P** 18 13 03.3 -2.1
comp=Z,3.0nm,0.5s
MTLF Montolieu 20.92 301 *e*P **P** 18 13 03.3 -2.1
MTLF pmax pmax
comp=Z,2.0nm,0.5s
SMF Signal de Mont 20.96 311 *e*P **P** 18 13 03.8 -2.0
comp=Z,20nm,0.7s
SMF Signal de Mont 20.96 311 *e*P **P** 18 13 03.8 -2.0
SMF pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 21.09 15⇑*i*P **P** 18 13 07.9 +0.8
OBN pmax pmax
comp=Z,16nm,1.2s,mb4.2
OBN Obninsk 21.09 15 *i* P **P** 18 13 07.9 +0.8
comp=Z,16nm,1.2s,mb4.2
MEZF Maizieres J'vi 21.12 316 *e*P **P** 18 13 05.8 -1.6
comp=Z,8.1nm,0.5s,mb4.0
LOR Lormes 21.23 312 *e*P **P** 18 13 06.6 -1.9
comp=Z,17nm,0.8s,mb4.1
LOR *e*R
comp=Z,74nm,22.2s
LOR Lormes 21.23 312 *e*P **P** 18 13 06.6 -1.9
LOR pmax pmax
comp=Z,9.0nm,0.8s,mb4.2

LOR MLR MLR
comp=Z,70nm,22.3s,MS3.0
SSF Saint Saulge 21.35 311 *e*P **P** 18 13 07.9 -1.8
SSF pmax pmax
comp=Z,25nm,1.0s,mb4.5
SSF Saint Saulge 21.35 311 *e*P **P** 18 13 07.9 -1.8
comp=Z,25nm,1.0s,mb4.5
CAF Calviac 21.48 305 *e*P **P** 18 13 09.7 -1.3
BGF Bois d'Agland 21.55 310 *e*P **P** 18 13 10.0 -1.8
comp=Z,13nm,0.7s,mb4.2
BGF Bois d'Agland 21.55 310 *e*P **P** 18 13 10.0 -1.8
BGF pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
TCF Toulx Ste Croi 21.86 308 *e*P **P** 18 13 13.5 -1.3
MOS Moscow 21.90 16 *e*P **P** 18 13 17.3 +2.1
MOS *e* 18 13 41.8
MOS *e*PPP PPP 18 13 49.9 -0.7
MOS pmax pmax
comp=Z,20nm,0.7s,mb4.7
RJF Les Rejaudoux 21.97 305 *e*P **P** 18 13 14.1 -1.9
comp=Z,20nm,0.8s,mb4.3
RJF *e*R
comp=Z,90nm,19.0s
RJF Les Rejaudoux 21.97 305 *e*P **P** 18 13 14.1 -1.9
RJF pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
RJF MLR MLR
comp=Z,90nm,19.0s,MS3.2
GIVF Givet 22.12 320 *e*P **P** 18 13 16.8 -0.6
EPF Esparros 22.18 299 *e*P **P** 18 13 16.7 -1.4
LFF La Frestale 22.38 304 *e*P **P** 18 13 18.2 -1.9
BAIF Baives 22.42 319 *e*P **P** 18 13 18.6 -1.8
comp=Z,24nm,0.7s,mb4.4
BAIF Baives 22.42 319 *e*P **P** 18 13 18.6 -1.8
BAIF pmax pmax
comp=Z,12nm,0.7s,mb4.4
ETSF Etsaut 22.80 298 *e*P **P** 18 13 22.9 -1.3
comp=Z,3.6nm,0.5s,mb3.8
ETSF Etsaut 22.80 298 *e*P **P** 18 13 22.9 -1.3
ETSF pmax pmax
comp=Z,2.0nm,0.4s,mb3.9
SJPF Ste Jean 23.32 299 *e*P **P** 18 13 28.3 -1.0
MFF Saint Martin d 23.49 308 *e*P **P** 18 13 28.9 -2.0
comp=Z,6.7nm,0.6s,mb4.0
MFF Saint Martin d 23.49 308 *e*P **P** 18 13 28.9 -2.0
MFF pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
FLN La Foliniere 24.50 312 *e*P **P** 18 13 39.2 -1.5
FLN *e*R
comp=Z,78nm,22.5s
GRR Gorron 24.58 311 *e*P **P** 18 13 39.5 -2.0
comp=Z,7.5nm,0.5s,mb4.2
GRR Gorron 24.58 311 *e*P **P** 18 13 39.5 -2.0
GRR pmax pmax
comp=Z,4.0nm,0.4s,mb4.3
ESDC Sonseca Array 25.04 290 P **P** 18 13 45.7 -0.3
comp=Z,1.5nm,0.5s,mb3.8,baz=85,slow=9.7,SNR=8.7
SGMF Saint Gilles 25.59 310 *e*P **P** 18 13 48.6 -2.5
QUIF Quistinic 25.86 309 *e*P **P** 18 13 49.5 -4.1
ROSF Rostrenen 26.07 310 *e*P **P** 18 13 53.3 -2.2
comp=Z,9.2nm,0.7s,mb4.1
ROSF Rostrenen 26.07 310 *e*P **P** 18 13 53.3 -2.2
ROSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
FINES FINESS Array B 26.40 359 P **P** 18 13 56.6 -1.8
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 26.40 359 P **P** 18 13 56.5 -1.9
comp=Z,0.5nm,0.4s,mb3.4,baz=169,slow=9.7,SNR=9.1
HFS Hagfors 26.55 345 P **P** 18 13 57.3 -2.5
HFS pmax pmax
comp=Z,1.0nm,0.4s
HFS MLR MLR
comp=Z,107nm,18.5s
HFS Hagfors 26.55 345 P **P** 18 13 57.3 -2.5
comp=Z,1.1nm,0.4s,mb3.8,baz=97,slow=12,SNR=11
HFS LR LR 18 25 28.7
comp=Z,107nm,18.5s,MS3.4,baz=351,slow=39
KAF Kangasniemi 27.07 359 *e*p **P** 18 14 02.4 -2.2
NAO01 NORSAR Array S 27.82 343 P **P** 18 14 05.2 -6.2
NB2 NORSAR Subarra 27.91 343 P **P** 18 14 09.0 -3.2
comp=Z,0.1nm,0.4s,baz=147,slow=9.3
NOA NORSAR Array B 27.91 343 P **P** 18 14 10.5 -1.7
comp=Z,0.5nm,0.6s,mb3.4,baz=144,slow=9.3,SNR=3.6
NOA NORSAR Array B 27.91 343 P **P** 18 14 10.6 -1.6
AB31 Akbulak array 27.92 49 *i* P **P** 18 14 11.6 -0.8
EKA Eskdalemuir Ar 29.04 324 P **P** 18 14 21.1 -1.4
EKA pmax pmax
comp=Z,1.0nm,0.5s
EKA Eskdalemuir Ar 29.04 324 P **P** 18 14 21.1 -1.4
comp=Z,0.9nm,0.5s,mb3.7,baz=122,slow=9.7,SNR=7.6
ARU Arti 30.20 35⇑*i*P **P** 18 14 34.0 +1.2
ARU *e* 18 15 26.1
ARU *e* 18 17 39.2
ARU *e*S **S** 18 19 31.7 +0.9
ARU *e*SSS SSS 18 21 12.6 -17
ARU *e* 18 25 09.2
ARU pmax pmax
comp=Z,3.0nm,1.4s,mb3.8
ARU Arti 30.20 35 *i* P **P** 18 14 34.0 +1.2
comp=Z,3.0nm,1.4s,mb3.8
KKAR Karatay Array 34.33 63 *i* P **P** 18 15 11.2 +2.2
ZRNK Zerenda 34.44 46 *e*P **P** 18 15 09.2 -0.7
ZRNK pmax pmax
comp=Z,236nm,0.6s
ZRNK Zerenda 34.44 46 *e*P **P** 18 15 09.2 -0.6
comp=Z,236nm,0.6s
ZRNK Zerenda 34.44 46 *e*P **P** 18 15 09.2 -0.7
comp=Z,236nm,0.6s
ARCES ARCESS Array B 34.53 359 P **P** 18 15 07.8 -2.7
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES MLR MLR
comp=Z,55nm,18.1s
ARCES ARCESS Array B 34.53 359 P **P** 18 15 07.8 -2.7
comp=Z,0.6nm,0.5s,mb3.8,baz=178,slow=6.7,SNR=7.4
ARCES LR LR 18 29 57.6
comp=Z,54nm,18.1s,MS3.3,baz=115,slow=38
BVA0 Borovoye Array 35.27 46 *i* P **P** 18 15 17.3 +0.3
BVA0 pmax pmax
comp=Z,1.0nm,1.2s,mb3.6
BVA0 Borovoye Array 35.27 46 *i* P **P** 18 15 17.3 +0.3
comp=Z,1.0nm,1.2s,mb3.6
VOSK Vostochnaya 35.55 46 P **P** 18 15 17.9 -1.5
VOSK pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
VOSK Vostochnaya 35.55 46 P **P** 18 15 17.9 -1.5
comp=Z,4.0nm,1.2s,mb4.2
AAK Ala-Archa 37.28 64 P **P** 18 15 35.8 +1.8
AAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
AAK Ala-Archa 37.28 64 *e*P **P** 18 15 32.7 -1.4
comp=Z,4.6nm,0.7s,mb4.4
AAK Ala-Archa 37.28 64 *e*P **P** 18 15 32.7 -1.3
comp=Z,4.6nm,0.7s,mb4.4
FRU Bishkek 37.35 63 *e*P **P** 18 15 36.0 +1.4
DBIC Dimbokro 40.77 234 P **P** 18 16 03.6 +0.2
DBIC pmax pmax
comp=Z,2.0nm,0.6s
DBIC Dimbokro 40.77 234 P **P** 18 16 03.5 +0.2
comp=Z,2.3nm,0.6s,mb4.0,baz=21,slow=12,SNR=6.5
DBIC Dimbokro 40.77 234 P **P** 18 16 03.5 +0.1
MKAR Makanchi Array 42.50 57 *i* P **P** 18 16 17.9 +0.7
MKAR pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 42.50 57 P **P** 18 16 17.6 +0.3
comp=Z,8.5nm,0.6s,mb4.7,baz=279,slow=6.8,SNR=78
MKAR Makanchi Array 42.50 57 P **P** 18 16 17.5 +0.3
NVS Novosibirsk 43.03 45 *i* P **P** 18 16 21.3 -0.2
ZAL Zalesovo 43.91 46 P **P** 18 16 29.0 +0.4
ZAL pmax pmax
comp=Z,2.0nm,0.4s
ZAL MLR MLR
comp=Z,30nm,19.2s
ZAL Zalesovo 43.91 46 P **P** 18 16 29.0 +0.4
comp=Z,1.6nm,0.4s,mb4.1,baz=212,slow=7.8,SNR=7.9
ZAL LR LR 18 39 41.0
comp=Z,30nm,19.2s,MS3.2,baz=230,slow=43
WMQ Urumqi 46.68 60 *e*P **P** 18 16 48.7 -2.1
KOLN Koldanda 48.23 82 *e*P **P** 18 17 04.4 +1.2
comp=Z,11nm,0.8s,mb5.0
GKN Gorkha 48.98 81 *e*P **P** 18 17 09.5 +0.5
comp=Z,13nm,0.6s,mb5.2
DMN Daman 49.51 82 *e*P **P** 18 17 13.7 +0.6
comp=Z,6.8nm,0.5s,mb4.9
KKN Kakani 49.58 81 *e*P **P** 18 17 14.3 +0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,7.6nm,0.6s,mb4.9						
KKN	Kakani	49.58	81	eP	P	18 17 14.3	+0.7
KKN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
PKI	Pulchoki	49.77	82	eP	P	18 17 15.8	+0.7
	comp=Z,18nm,1.0s,mb5.0						
PKI	Pulchoki	49.77	82	eP	P	18 17 15.8	+0.7
PKI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
TSUM	Tsumeb	54.72	191	P	P	18 17 53.0	+0.8
	comp=Z,2.3nm,0.7s,mb4.3,baz=13,slow=7.0,SNR=8.0						
TSUM	Tsumeb	54.72	191	P	P	18 17 53.0	+0.8
TLY	Talaya	55.50	47	eP	P	18 17 56.8	-0.7
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
TLY	Talaya	55.50	47	eP	P	18 17 56.8	-0.7
	comp=Z,5.0nm,1.0s,mb4.5						
ZAK	Zakamensk	55.61	49	eP	P	18 17 58.0	-0.3
ZAK				i		18 17 59.0	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
ZAK	Zakamensk	55.61	49	eP	P	18 17 58.0	-0.3
	comp=Z,4.0nm,1.0s,mb4.4						
GTA	Gaotai	56.60	62	eP	P	18 18 05.8	+0.2
GTA				PP	PP	18 20 16.0	+2.8
GTA				S	S	18 25 57.4	+1.7
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,61nm,5.3s						
GTA				LR	LR		
	comp=N,39nm,19.0s,MS3.8						
GTA				LR	LR		
	comp=E,49nm,15.2s,MS3.8						
GTA				LR	LR		
	comp=Z,92nm,13.7s,MS4.0						
SONM	Songino Array	58.31	51	P	P	18 18 18.1	+0.5
	comp=Z,2.2nm,0.6s,mb4.4,baz=290,slow=7.9,SNR=26						
ULN	Ulaanbaatar	58.72	51c	iP	P	18 18 15.1	-5.3
ULN	Ulaanbaatar	58.72	51	eP	P	18 18 14.9	-5.5
	comp=Z,2.0nm,0.6s,mb4.3						
BOSA	Boshof	63.36	182	P	P	18 18 53.7	+1.6
BOSA				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3						
BOSA	Boshof	63.36	182	P	P	18 18 53.7	+1.6
	comp=Z,1.1nm,0.4s,mb4.3,baz=346,slow=9.8,SNR=3.9						
SCHQ	Schefferville	64.28	320	P	P	18 18 56.0	-1.6
	comp=Z,1.3nm,0.4s,mb4.3,baz=37,slow=15,SNR=2.0						
CMAR	Chiang Mai Arr	65.00	84	iP	P	18 19 03.1	+0.1
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	Chiang Mai Arr	65.00	84	P	P	18 19 02.1	-0.8
	comp=Z,1.4nm,0.6s,mb4.2,baz=296,slow=8.1,SNR=8.8						
GYA	Guiyang	67.26	73	P	P	18 19 17.7	+0.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
CN2	Changchun	72.05	49	eP	P	18 19 42.0	-4.3
NJ2	Nanjing	73.70	62	eP	P	18 19 56.3	+0.1
NJ2				AP	pP	18 20 06.6	+7.2
NJ2				XP	sP	18 20 10.6	+10
NJ2				PP	PP	18 22 40.5	-2.0
NJ2				S	S	18 29 27.0	+1.4
NJ2				AMB	AMB		
	comp=Z,40nm,4.7s						
NJ2				LR	LR		
	comp=N,800nm,19.4s						
NJ2				LR	LR		
	comp=E,230nm,25.6s						
NJ2				LR	LR		
	comp=Z,100nm,11.3s						
MDJ	Mudanjiang	74.12	46	P	P	18 19 53.9	-4.5
MDJ				AMB	AMB		
	comp=Z,2.0nm,1.4s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,45nm,7.5s						
SSE	Sheshan	75.89	62	eP	P	18 20 03.1	-5.8
SSE				AMB	AMB		
	comp=Z,116nm,3.5s						
ILAR	Eielson Array	80.38	357	P	P	18 20 33.7	+0.9
	comp=Z,0.2nm,0.5s,mb3.3,baz=342,slow=2.9,SNR=3.0						
ULM	Lac du Bonnet	81.26	327	LR	LR	18 53 11.6	
	comp=Z,24nm,21.8s,MS3.5,baz=210,slow=33						
MJAR	Matsushiro Arr	84.20	49	P	P	18 20 53.9	+0.8
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MJAR	Matsushiro Arr	84.20	49	P	P	18 20 53.9	+0.8
	comp=Z,1.0nm,0.8s,mb4.0,baz=314,slow=3.4,SNR=4.3						
VNDA	Vanda	133.15	168	PKIKP	PKPdf	18 27 37.0	-1.5
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VNDA	Vanda	133.15	168	PKP	PKPdf	18 27 37.0	-1.6
	comp=Z,0.5nm,0.4s,baz=309,slow=5.8,SNR=9.0						

*IDC **08** 18:09:54.8±1.2, 11.37N×144.34E, mb3.8/4, mb1 4.2/4, mb1mx3.8/20, mbtmp3.8/4, MS2.8/2, Ms1 2.8/2, ms1mx2.3/29, Error ellipse: s-maj=53.1km s-min=28.9km az=107.0*

*NEIC **08** 18:09:59.8±0.8, 11.39N×144.34E, h35^{km}, mb4.3/2, Error ellipse: s-maj=40.1km s-min=15.1km az=104.0*

ISC 08 18:09:55.5±5.8**, 11.4N**±0.1×**144.3E**±0.3**, h19**^{km}±43^{km}**, n10, σ0^{s}85**/9**, mb3.9**/6**, MS2.5**/1**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.28	13	ePn	Pn	18 10 33.2	+0.4
GUMO				eSn	Sn	18 11 00.1	-0.5
CBIJ	Chichi jima	15.78	353	LR	LR	18 19 19.2	
	comp=Z,40nm,19.3s,baz=222,slow=36						
JNU	Nakatsue	24.93	332	LR	LR	18 23 24.7	
	comp=Z,16nm,19.6s,MS2.5,baz=192,slow=32						
WRAB	Tennant Creek	32.61	198	eP	P	18 16 27.9	-0.6
	2.7nm,0.6s,mb4.3						
WRA	Warramunga Arr	32.62	198	P	P	18 16 28.4	-0.2
	1.6nm,0.5s,mb4.2,baz=21,slow=9.7,SNR=25						
MKAR	Makanchi Array	62.73	317	P	P	18 20 22.1	+0.4
	0.1nm,0.4s,mb3.3,baz=90,slow=7.1,SNR=4.2						
ILAR	Eielson Array	70.80	25	P	P	18 21 11.6	-1.0
	0.6nm,0.6s,mb3.7,baz=264,slow=4.5,SNR=4.8						
ZRNK	Zerenda	72.17	322	eP	P	18 21 21.2	+0.2
	4.1nm,1.5s,mb4.1						
NVAR	Mina Array Bea	88.72	51	P	P	18 22 52.2	+2.8
	0.6nm,0.7s,mb4.0,baz=280,slow=5.5,SNR=5.1						
NVAR	Mina Array Bea	88.72	51	P	P	18 22 52.2	+2.8

*MOS **08** 18:13:45.8±1.0, 41.22N×140.20E, h168^{km}, mb3.9/8, Error ellipse: s-maj=28.9km s-min=9.6km az=74.6*

*IDC **08** 18:13:46.1±1.5, 41.19N×140.22E, h152^{km}±13^{km}, mb3.4/9, mb1 3.5/11, mb1mx3.4/24, mbtmp3.8/11, Error ellipse: s-maj=21.4km s-min=13.7km az=118.0*

*JMA **08** 18:13:47.1±0.1, 41.16N×140.29E, h157^{km}±1^{km}, M3.0*

*NEIC **08** 18:13:47.4±0.7, 41.19N×140.17E, h163^{km}±8^{km}, mb3.8/4, Error ellipse: s-maj=14.8km s-min=7.8km az=110.0*

ISC 08 18:13:45.9±0.3**, 41.16N**±0.03×**140.30E**±0.07**, h163**^{km}±2^{km}**, n50, σ0^{s}82**/63**, mb3.9**/18**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSI2	Shiura 2	0.14	141	P	P	18 14 08.3	+0.3
JSI2				S	S	18 14 24.3	-0.5
JSR	Shiriuchi	0.38	14	P	P	18 14 08.7	0.0
JSR				eS	S	18 14 25.0	-1.1
JOT	Ohata	0.61	69	P	P	18 14 10.1	+0.5
JOT				eS	S	18 14 27.6	-0.3
JIW	Iwasaki	0.61	201	P	P	18 14 10.1	+0.4
JTM	Tenmabayashi	0.69	122	P	P	18 14 10.6	+0.5
JTM				eS	S	18 14 28.3	-0.4
JKB	Kayabe	0.91	37	P	P	18 14 12.1	+0.7
JOSM	Okushiri--Mats	1.11	326	P	P	18 14 13.3	+0.3
JOSM				eS	S	18 14 32.9	-1.0
JANG	Nango	1.22	130	P	P	18 14 14.1	+0.1
JANG				eS	S	18 14 34.8	-0.9
JOM	Ohasama	1.85	155	P	P	18 14 20.8	+0.3
JOM				eS	S	18 14 46.4	-0.8
JEW	Eniwo	1.88	27	P	P	18 14 22.0	+1.1
JEW				eS	S	18 14 49.7	+1.9
JNBK	Urakawa-nobuka	2.15	58	P	P	18 14 24.6	+0.6
JNBK				eS	S	18 14 54.0	+0.7
JSK	Shakotan	2.19	3	P	P	18 14 25.3	+0.8
JYK	Kaneyama	2.24	179	P	P	18 14 25.3	+0.2
JYK				eS	S	18 14 55.0	-0.2
JMK	Ichinoseki	2.32	162	P	P	18 14 25.6	-0.4
ASAJ	Asahikawa	3.41	29	P	P	18 14 39.9	+0.3
ASAJ				S	S	18 15 19.2	-1.7
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ	Asahikawa	3.41	29	P	P	18 14 39.9	+0.3
	comp=Z,8.4nm,0.3s,baz=242,slow=12,SNR=79						
ASAJ				S	S	18 15 19.2	-1.7
	comp=Z,3.1nm,0.3s,baz=310,slow=28,SNR=7.5						
MAJO	Matsushiro	4.89	200	eP	P	18 15 00.0	+1.0
MAT	Matsushiro	4.89	200	P	P	18 15 00.0	+1.0
MAT	Matsushiro	4.89	200	P	P	18 14 59.7	+0.7
MJAR	Matsushiro Arr	4.89	200	P	P	18 14 59.2	+0.2
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	4.89	200	P	P	18 14 59.2	+0.2
	comp=Z,1.2nm,0.3s,baz=6.1,slow=12,SNR=14						
YUK	Yuzh-Kuril'sk	5.01	53	eP	P	18 14 59.0	-1.5
YUK				iS	S	18 15 54.3	-3.9
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
YUK				smax			
	comp=N,360nm,0.5s						
YUK				smax			
	comp=E,190nm,0.5s						
YSS	Yuzh-Sakhalins	6.05	16	eP	P	18 15 14.1	-0.2
MKAR	Makanchi Array	41.30	298	P	P	18 21 16.6	0.0
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	Makanchi Array	41.30	298	P	P	18 21 16.6	-0.1
	comp=Z,1.5nm,0.4s,mb3.9,baz=84,slow=12,SNR=20						
GUN	Gumba	46.04	271	eP	P	18 21 55.4	+0.5
	comp=Z,20nm,0.5s,mb5.0						
ILAR	Eielson Array	46.53	34	P	P	18 21 58.8	+0.7
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	46.53	34	P	P	18 21 58.8	+0.6
	comp=Z,1.3nm,0.8s,mb3.6,baz=269,slow=5.9,SNR=11						
KKN	Kakani	46.56	271	eP	P	18 21 59.1	+0.2
	comp=Z,10nm,0.8s,mb4.5						
PKI	Pulchoki	46.58	271	eP	P	18 21 59.1	+0.1
	comp=Z,7.3nm,0.8s,mb4.4						
DMN	Daman	46.79	271	eP	P	18 22 01.0	+0.3
GKN	Gorkha	46.93	272	eP	P	18 22 01.5	-0.3
	comp=Z,9.5nm,0.5s,mb4.7						
KOLN	Koldanda	47.84	272	eP	P	18 22 09.4	+0.5
	comp=Z,15nm,1.3s,mb4.5						
INK	Inuvik	51.14	28	eP	P	18 22 33.8	+0.2
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	Inuvik	51.14	28	eP	P	18 22 33.8	+0.3
	comp=Z,2.0nm,0.7s,mb3.9						
ARCES	ARCESS Array B	59.84	338	P	P	18 23 34.1	-1.8
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	ARCESS Array B	59.84	338	P	P	18 23 34.0	-1.8
	comp=Z,0.7nm,0.7s,mb3.6,baz=22,slow=6.5,SNR=3.6						
WRA	Warramunga Arr	61.04	186	P	P	18 23 42.7	-2.0
	comp=Z,0.2nm,0.4s,mb3.3,baz=3.9,slow=7.3,SNR=5.1						
FINES	FINESS Array B	64.78	331	P	P	18 24 07.5	-1.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	64.78	331	P	P	18 24 07.5	-1.1
	comp=Z,0.6nm,0.5s,mb3.7,baz=45,slow=8.1,SNR=7.0						
HFS	Hagfors	69.98	335	P	P	18 24 40.0	-1.0
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HFS	Hagfors	69.98	335	P	P	18 24 40.0	-1.0
	comp=Z,0.7nm,0.3s,mb3.9,baz=40,slow=7.1,SNR=13						
NOA	NORSAR Array B	70.06	336	P	P	18 24 40.7	-0.8
	comp=Z,0.2nm,0.6s,mb3.0,baz=44,slow=5.4,SNR=2.9						
FFC	Flin Flon	70.71	33	eP	P	18 24 44.8	-0.7
FFC				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
FFC	Flin Flon	70.71	33	eP	P	18 24 44.8	-0.7
	comp=Z,3.5nm,0.8s,mb4.1						
BOZ	Bozeman (W)	72.36	44	eP	P	18 24 56.4	+0.9
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
BOZ	Bozeman (W)	72.36	44	eP	P	18 24 56.4	+0.9
	comp=Z,1.1nm,0.6s,mb3.8						
NVAR	Mina Array Bea	73.22	54	P	P	18 25 01.2	+0.6
	comp=Z,0.5nm,0.6s,mb3.4,baz=306,slow=4.0,SNR=4.3						
BW06	Boulder Array	75.40	46	P	P	18 25 13.5	+0.5
	comp=Z,0.7nm,0.4s,mb3.6						
PDAR	Pinedale Array	75.40	46	P	P	18 25 13.9	+0.9
	comp=Z,0.6nm,0.4s,mb3.5,baz=1.7,slow=0.8,SNR=7.5						

*NIED **08** 18:32:00, 40.70N×140.30E, h135^{km}, Mw3.9 Best double couple: $M_0$7.92×10^{14} NP1:ϕ_s160°, δ80°, λ62°. NP2:ϕ_s51°, δ30°, λ159°.*

*MOS **08** 18:32:13.9±1.1, 40.75N×140.19E, h152^{km}, mb4.0/11, Error ellipse: s-maj=18.7km s-min=8.5km az=76.3*

*IDC **08** 18:32:14.0±1.1, 40.70N×140.22E, h138^{km}±10^{km}, mb3.6/16, mb1 3.8/18, mb1mx3.7/26, mbtmp4.0/18, Error ellipse: s-maj=14.4km s-min=9.0km az=121.0*

*JMA **08** 18:32:15.0±0.1, 40.65N×140.28E, h147^{km}±1^{km}, M3.6*

*NEIC **08** 18:32:15.5±0.6, 40.70N×140.26E, h153^{km}±5^{km}, mb4.2/13, Error ellipse: s-maj=7.5km s-min=5.5km az=125.0*

ISC 08 18:32:13.8±0.2**, 40.68N**±0.03×**140.33E**±0.06**, h152**^{km}±2^{km}**, n72, σ0^{s}90**/90**, mb3.9**/25**, 1C, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIW	Iwasaki	0.26	251	P	P	18 32 35.2	+0.4
JIW				S	S	18 32 50.9	0.0
JSI2	Shiura 2	0.38	10	P	P	18 32 35.5	+0.2
JSI2				S	S	18 32 50.9	-0.8
JAH	Hinai	0.54	154	P	P	18 32 36.2	+0.2
JAH				S	S	18 32 52.1	-0.9
JTM	Tenmabayashi	0.57	79	P	P	18 32 36.6	+0.5
JTM				S	S	18 32 53.0	-0.3
JSR	Shiriuchi	0.85	5	P	P	18 32 38.5	+0.7
JSR				eS	S	18 32 55.8	-0.5
JOT	Ohata	0.89	38	P	P	18 32 39.1	+1.1
JOT				eS	S	18 32 57.7	+1.0
JANG	Nango	0.95	108	P	P	18 32 38.9	+0.4
JANG				S	S	18 32 57.2	-0.3
JKB	Kayabe	1.32	24	P	P	18 32 42.9	+1.0
JOM	Ohasama	1.41	148	P	P	18 32 42.9	0.0
JOM				S	S	18 33 05.0	-0.3
JOSM	Okushiri--Mats	1.54	336	P	P	18 32 44.7	+0.5
JOSM				eS	S	18 33 08.0	+0.3
JYK	Kaneyama	1.76	179	P	P	18 32 46.8	+0.2
JYK				S	S	18 33 10.9	-0.9
JMK	Ichinoseki	1.86	158	P	P	18 32 47.6	0.0
JMK				eS	S	18 33 12.9	-0.9
ASAJ	Asahikawa	3.83	25	P	P	18 33 12.8	+0.2
ASAJ				S	S	18 33 55.4	-2.4
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ASAJ	Asahikawa	3.83	25	P	P	18 33 12.8	+0.2
	comp=Z,10nm,0.3s,baz=247,slow=11,SNR=80						
ASAJ				S	S	18 33 55.4	-2.4
	comp=Z,4.7nm,0.3s,baz=185,slow=18,SNR=4.4						
MAJO	Matsushiro	4.45	203	eP	P	18 33 21.6	+0.8
MAT	Matsushiro	4.45	203	eP	P	18 33 22.0	+1.2
MAT				eS	S	18 34 14.0	+1.5
MAT	Matsushiro	4.45	203	P	P	18 33 21.6	+0.8
MAT				S	S	18 34 14.3	+1.8
MJAR	Matsushiro Arr	4.45	203	P	P	18 33 21.5	+0.7
MJAR				S	S	18 34 11.4	-1.1
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	Matsushiro Arr	4.45	203	P	P	18 33 21.5	+0.7
	comp=Z,2.2nm,0.3s,baz=11,slow=14,SNR=21						
MJAR				S	S	18 34 11.4	-1.1
	slow=24,SNR=2.3						
YUK	Yuzh-Kuril'sk	5.30	49	eP	P	18 33 30.7	-1.3
YUK				iS	S	18 34 27.1	-5.5
YUK				pmax	pmax		
	comp=Z,220nm,0.4s						
YUK				pmax	pmax		
	comp=N,230nm,0.6s						
YUK				smax			
	comp=N,320nm,0.4s						
YUK				smax			
	comp=E,360nm,0.4s						
YSS	Yuzh-Sakhalins	6.51	15⇑	iP	P	18 33 48.0	-0.3
YSS				eS	S	18 35 01.8	+0.1
YSS				smax			
	comp=N,20nm,0.8s						
YSS	Yuzh-Sakhalins	6.51	15	ePn	P	18 33 48.0	-0.3
	comp=N,16nm,0.3s						
JHJ	Hachijo jima 2	7.56	183	P	P	18 33 59.0	-3.2
	comp=N,6.0nm,0.3s,baz=237,slow=20,SNR=13						
JHJ				S	S	18 35 19.0	-7.8
	comp=N,14nm,0.3s,baz=55,slow=23,SNR=8.6						
MDJ	Mudanjiang	8.84	300	ePn	P	18 34 20.1	+0.9
	comp=N,7.0nm,0.8s						
MA2	Magadan	20.02	16	eP	P	18 36 35.8	-0.5
MA2				pmax	pmax		
	comp=Z,12nm,0.9s						
MA2	Magadan	20.02	16	eP	P	18 36 35.8	-0.5
	comp=Z,12nm,0.9s						
YHNB	Yeheng	22.49	231	P	P	18 37 02.8	+1.9
SONM	Songino Array	25.18	298	P	P	18 37 26.4	0.0
	comp=Z,0.5nm,0.6s,mb3.2,baz=112,slow=6.7,SNR=5.7						
FX1	Attu Island--F	25.35	50	P	P	18 37 29.1	+1.2
FX1				pmax	pmax		
	comp=Z,4.0nm,0.5s						
FX1	Attu Island--F	25.35	50	P	P	18 37 29.1	+1.3
	comp=Z,3.6nm,0.5s,mb4.2,baz=294,slow=20,SNR=4.0						
ZAL	Zalesovo	38.91	309	P	P	18 39 25.8	0.0
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	Zalesovo	38.91	309	P	P	18 39 25.8	0.0
	comp=Z,0.9nm,0.4s,mb3.7,baz=305,slow=4.1,SNR=3.7						
MKAR	Makanchi Array	41.55	298	P	P	18 39 47.1	-0.4
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	41.55	298	P	P	18 39 47.1	-0.4
	comp=Z,2.2nm,0.7s,mb3.9,baz=84,slow=11,SNR=26						
GUN	Gumba	46.08	272	eP	P	18 40 24.4	+0.3
	comp=Z,14nm,0.4s,mb4.9						
KKN	Kakani	46.59	272	eP	P	18 40 27.8	-0.3
	comp=Z,15nm,0.8s,mb4.7						
KKN	Kakani	46.59	272	eP	P	18 40 27.8	-0.3
KKN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
PKI	Pulchoki	46.61	271	eP	P	18 40 27.1	-1.1
DMN	Daman	46.82	272	eP	P	18 40 28.5	-1.4
ILAR	Eielson Array	46.91	34	P	P	18 40 30.7	+0.6
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	Eielson Array	46.91	34	P	P	18 40 30.6	+0.6
	comp=Z,2.2nm,0.6s,mb4.0,baz=275,slow=6.1,SNR=20						
GKN	Gorkha	46.98	272	eP	P	18 40 31.0	-0.1
	comp=Z,5.2nm,0.3s,mb4.6						
BVAR	Borovoye Array	47.54	310	P	P	18 40 35.1	-0.1
	comp=Z,0.7nm,0.3s,mb3.8,baz=79,slow=9.6,SNR=15						
BVAR				PcP	PcP	18 42 02.2	-0.9
	comp=Z,0.5nm,0.5s,baz=117,slow=3.3,SNR=4.1						
KOLN	Koldanda	47.88	273	eP	P	18 40 38.0	-0.2
	comp=Z,6.6nm,0.5s,mb4.6						
ZRNK	Zerenda	48.37	310	eP	P	18 40 41.9	+0.3
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
ZRNK	Zerenda	48.37	310	eP	P	18 40 41.9	+0.3
	comp=Z,1.2nm,0.6s,mb3.7						
KULM	Kulim	50.03	236	eP	P	18 40 54.8	0.0
INK	Inuvik	51.56	28	P	P	18 41 06.4	+0.7
INK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
INK	Inuvik	51.56	28	P	P	18 41 06.3	+0.7
	comp=Z,2.9nm,0.4s,mb4.3,baz=296,slow=9.1,SNR=18						
INK	Inuvik	51.56	28	eP	P	18 41 05.9	+0.3
	comp=Z,3.0nm,0.4s,mb4.3						
ARCES	ARCESS Array B	60.30	338	P	P	18 42 06.9	-1.1
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	ARCESS Array B	60.30	338	P	P	18 42 06.9	-1.1
	comp=Z,1.2nm,0.5s,mb4.0,baz=63,slow=7.1,SNR=12						
WRA	Warramunga Arr	60.56	186	P	P	18 42 08.7	-1.8
	comp=Z,0.3nm,0.4s,mb3.5,baz=3.4,slow=7.3,SNR=11						
KAF	Kangasniemi	64.69	332	ep	P	18 42 35.7	-1.4
	comp=Z,1.0nm,0.6s,mb3.8,baz=49,slow=6.2						
FINES	FINESS Array B	65.21	331	P	P	18 42 39.4	-1.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	65.21	331	P	P	18 42 39.4	-1.0
	comp=Z,1.2nm,0.6s,mb3.9,baz=49,slow=7.4,SNR=15						
FINES	FINESS Array B	65.21	331	P	P	18 42 39.4	-1.0
SUMG	Summit	67.04	360	eP	P	18 42 51.9	0.0
	comp=Z,2.1nm,0.6s,mb4.1						
NB2	NORSAR Subarra	70.51	336	P	P	18 43 12.6	-0.6
	comp=Z,0.6nm,0.5s,mb3.6,baz=38,slow=6.2						
NB2	NORSAR Subarra	70.51	336	P	P	18 43 12.6	-0.6
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
NOA	NORSAR Array B	70.51	336	P	P	18 43 12.4	-0.8
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	70.51	336	P	P	18 43 12.4	-0.8
	comp=Z,0.8nm,0.6s,mb3.6,baz=38,slow=6.2,SNR=5.7						
AKASG	Malin Array Be	70.92	321	P	P	18 43 14.6	-1.3
	comp=Z,0.3nm,0.4s,mb3.4,baz=46,slow=6.3,SNR=5.0						
NVAR	Mina Array Bea	73.49	53	P	P	18 43 33.2	+2.0
	comp=Z,1.1nm,0.7s,mb3.7,baz=294,slow=4.1,SNR=8.7						
BW06	Boulder Array	75.72	46	eP	P	18 43 44.7	+0.9
	comp=Z,1.1nm,0.4s,mb3.8						
PDAR	Pinedale Array	75.72	46	P	P	18 43 44.7	+0.9
	comp=Z,1.0nm,0.4s,mb3.8,baz=53,slow=0.8,SNR=22						
ULM	Lac du Bonnet	76.93	33	P	P	18 43 49.5	-0.9
	comp=Z,2.7nm,0.7s,mb4.0,baz=343,slow=6.5,SNR=3.7						
SDCO	Great Sand Dun	81.44	47	eP	P	18 44 16.5	+1.5
	comp=Z,1.2nm,0.8s,mb3.6						
TXAR	Lajitas Array	88.55	52	P	P	18 44 51.2	+0.9
	comp=Z,0.4nm,0.5s,mb3.6,baz=315,slow=1.8,SNR=5.7						
TXAR	Lajitas Array	88.55	52	P	P	18 44 51.2	+0.9
LPAZ	La Paz	145.40	54	PKPbc	PKPbc	18 51 36.7	+2.3
	comp=Z,0.2nm,0.3s,baz=179,slow=24,SNR=3.9						
LPAZ	La Paz	145.40	54	PKPbc	PKPbc	18 51 36.7	+2.3

*IDC **08** 18:40:22.4±1.0, 31.57S×179.18W, h222^{km}±8^{km}, mb4.4/4, mb1 4.2/8, mb1mx3.8/18, mbtmp4.7/8, Error ellipse: s-maj=23.1km s-min=10.6km az=128.0*

*NEIC **08** 18:40:23.8±1.2, 31.61S×179.22W, h237^{km}±12^{km}, mb4.5/8, Error ellipse: s-maj=13.8km s-min=11.1km az=118.0*

ISC 08 18:40:25.9±1.0**, 31.66S**±0.05×**179.9W**±0.1**, h227**^{km}±9^{km}**, n68, σ1^{s}30**/72**, mb4.6**/8**, 9C-3D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.96	36	S	S	18 41 44.5	-12
	295nm,0.3s,baz=96,slow=23,SNR=8.8						
PUZ	Puketiti	6.57	193	ePN	P	18 42 01.2	-0.3
PUZ				SN	S	18 43 19.3	+3.1
MWZ	Matawai	6.98	197	PN	P	18 42 06.7	-0.1
MWZ				SN	S	18 43 27.8	+2.2
URZ	Urewera	7.02	199	P	P	18 42 08.1	+0.8
	1.8nm,0.3s,baz=342,slow=18,SNR=17						
URZ				S	S	18 43 29.5	+2.9
	14nm,0.3s,baz=171,slow=23,SNR=20						
URZ	Urewera	7.02	199	ePN	P	18 42 07.1	-0.2
URZ				SN	S	18 43 29.0	+2.4
KNZ	Kokohu	7.61	194	ePN	P	18 42 15.0	+0.2
BKZ	Black Stump Fm	8.04	200	ePN	P	18 42 19.2	-1.2
BKZ				SN	S	18 43 54.6	+4.5
MOVZ	Moawhango	8.50	203	ePN	P	18 42 27.7	+1.5
TSZ	Takapari Road	9.02	201	ePN	P	18 42 33.0	0.0
BFZ	Birch Farm	9.52	198	ePN	P	18 42 41.4	+2.0
BFZ				SN	S	18 44 23.5	-0.5
MRZ	Mangatainoka R	9.69	201	ePN	P	18 42 38.4	-3.2
MRZ				SN	S	18 44 24.2	-3.7
KIW	Kapiti Island	10.09	203	ePN	P	18 42 46.0	-0.6
KIW				SN	S	18 44 37.7	+0.7
MTW	Mount Morrison	10.17	200	ePN	P	18 42 46.2	-1.5
CAW	Cannon Point	10.26	202	ePN	P	18 42 47.0	-1.8
TRWZ	Traveller	10.34	199	ePN	P	18 42 48.5	-1.4
TRWZ				SN	S	18 44 40.3	-2.6
PAWZ	Paruwai Farm	10.40	200	SN	S	18 44 42.4	-1.9
MSWZ	Moikau Station	10.48	200	ePN	P	18 42 52.8	+1.2
MSWZ				SN	S	18 44 45.2	-0.9
MRW	Makara Radio	10.49	203	ePN	P	18 42 52.4	+0.7
MRW				SN	S	18 44 46.5	+0.2
SNZO	South Karori	10.56	203	Pn	P	18 42 53.5	+0.9
SNZO				eSn	S	18 44 48.4	+0.6
TCW	Tory Channel	10.62	204	ePN	P	18 42 51.6	-1.8
TCW				SN	S	18 44 48.7	-0.5
TUWZ	Tuamarina	10.93	205	ePN	P	18 42 54.7	-2.6
TUWZ				SN	S	18 44 56.1	-0.3
NNZ	Nelson	10.96	208	ePN	P	18 42 57.8	+0.1
NNZ				SN	S	18 44 57.8	+0.8
QRZ	Quartz Range	10.99	212	ePN	P	18 43 00.5	+2.4
BSWZ	Blackbirch Sta	11.20	205	ePN	P	18 43 00.7	-0.1
BSWZ				SN	S	18 45 03.2	+0.6

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THZ	Tophouse	11.61	208	ePN	P	18 43 05.3	-0.7
THZ				SN	S	18 45 14.0	+2.1
KHZ	Kahutara	11.94	204	ePN	P	18 43 09.2	-0.8
KHZ				SN	S	18 45 19.1	-0.4
DSZ	Denniston Nort	12.05	211	SN	S	18 45 23.2	+1.1
LTZ	Lake Taylor	12.72	207	ePN	P	18 43 19.0	-0.9
MQZ	McQueen's Vall	13.38	204	SN	S	18 45 49.2	-2.9
RPZ	Rata Peaks	13.98	208	P	P	18 43 35.3	-0.2
	0.8nm,0.3s,baz=46,slow=15,SNR=6.8						
RPZ				S	S	18 46 04.0	-1.6
	1.8nm,0.3s,baz=68,slow=19,SNR=12						
DZM	Mont Dzumac	15.45	305	P	P	18 43 54.8	+1.2
	0.8nm,0.3s,baz=151,slow=18,SNR=14						
AFI	Afiamalu	19.18	25	P	P	18 44 26.8	-7.5
	2.1nm,0.3s,baz=174,slow=9.2,SNR=2.5						
CTA	Charters Tower	32.41	283	⇓iP	P	18 46 37.0	+0.5
	4.6nm,0.4s,mb4.4						
CTA	Charters Tower	32.41	283	P	P	18 46 37.0	+0.5
	4.9nm,0.4s,mb4.4,baz=101,slow=9.8,SNR=11						
CTAO	Charters Tower	32.41	283	eP	P	18 46 36.6	0.0
	6.0nm,0.5s,mb4.4						
STKA	Stephens Creek	32.60	259	eP	P	18 46 40.2	+2.1
	13nm,0.8s,mb4.5						
STKA	Stephens Creek	32.60	259	P	P	18 46 40.2	+2.1
	15nm,0.7s,mb4.7,baz=99,slow=9.4,SNR=36						
WB2	Warramunga Arr	42.51	275	⇓iP	P	18 48 00.4	-0.3
WRAB	Tennant Creek	42.51	275	eP	P	18 47 59.9	-0.9
	33nm,0.6s,mb4.9						
WRA	Warramunga Arr	42.52	275	P	P	18 48 00.4	-0.3
	21nm,0.4s,mb4.9,baz=112,slow=8.0,SNR=417						
FITZ	Fitzroy Crossi	50.72	272	⇑iP	P	18 49 04.6	0.0
	6.6nm,1.5s,mb3.8						
FITZ	Fitzroy Crossi	50.72	272	P	P	18 49 03.7	-0.9
	4.7nm,0.4s,mb4.3,baz=172,slow=7.7,SNR=23						
QSPA	South Pole Qui	58.46	180	⇓iP	P	18 50 00.9	+1.4
	28nm,0.6s,mb5.1						
SNAA	Sanae	76.94	179	⇑i	P	18 51 53.9	-0.2
SNAA	Sanae	76.94	179	⇑i	P	18 51 56.1	+2.0
SNAA	Sanae	76.94	179	eP	P	18 51 53.3	-0.8
	6.4nm,0.8s,mb4.3						
VNA3	Neumayer Olymp	77.16	177	⇑i	P	18 51 55.7	+0.4
VNA3	Neumayer Olymp	77.16	177	⇑i	P	18 51 58.6	+3.3
VNA3	Neumayer Olymp	77.16	177	⇑iP	P	18 51 58.6	+3.3
VNA2	Neumayer--Watz	77.57	177	⇑i	P	18 51 58.3	+0.7
VNA2	Neumayer--Watz	77.57	177	⇑i	P	18 51 59.4	+1.8
VNA1	Neumayer--Stat	77.81	177	⇑i	P	18 51 59.8	+0.9
YSS	Yuzh-Sakhalins	85.17	335	eP	P	18 52 34.6	-2.9
	5.8nm,0.7s,mb4.4						
MKAR	Makanchi Array	117.31	310	PKP	PKPdf	18 58 41.4	-2.6
	0.5nm,0.6s,baz=198,slow=1.4,SNR=7.2						
BVAR	Borovoye Array	126.14	315	PKP	PKPdf	18 58 58.1	-2.7
	0.9nm,0.4s,baz=135,slow=2.1,SNR=11						
ARCES	ARCESS Array B	139.44	347	PKhKP		18 59 14.7	
	1.2nm,0.6s,baz=64,slow=2.0,SNR=8.2						
ARCES				PKP	PKPdf	18 59 22.8	-2.5
	1.8nm,0.7s,baz=70,slow=3.1,SNR=11						
ARCES	ARCESS Array B	139.44	347	PKP	PKPdf	18 59 14.7	-11
ARCES				PKP	PKPdf	18 59 22.8	-2.5
KAF	Kangasniemi	145.15	339	epkp	PKPdf	18 59 31.7	-3.5
FINES	FINESS Array B	145.72	338	PKPbc	PKPbc	18 59 34.5	-2.8
	12nm,0.5s,baz=62,slow=3.5,SNR=208						
FINES	FINESS Array B	145.72	338	PKPbc	PKPbc	18 59 34.5	-2.8
ASF	Jabal al Asfar	148.83	281	PKPbc	PKPdf	18 59 45.8	+3.6
	3.9nm,0.7s,baz=354,slow=3.1,SNR=9.1						
NB2	NORSAR Subarra	149.71	349	PKPbc	PKPdf	18 59 44.9	+2.1
	1.6nm,0.8s,baz=20,slow=4.1						
NOA	NORSAR Array B	149.71	349	PKPbc	PKPdf	18 59 44.7	+1.9
	3.5nm,0.8s,baz=16,slow=4.2,SNR=16						
NOA	NORSAR Array B	149.71	349	PKPbc	PKPdf	18 59 44.7	+1.9
AKASG	Malin Array Be	151.24	320	PKPbc	PKPdf	18 59 49.4	+4.0
	1.6nm,0.5s,baz=58,slow=2.6,SNR=23						
AKASG	Malin Array Be	151.24	320	PKPbc	PKPdf	18 59 49.4	+4.0
BRTR	Keskin Array B	151.70	296	PKPbc	PKPdf	18 59 50.8	+4.3
	1.9nm,0.6s,baz=135,slow=3.5,SNR=10						
GERES	GERESS Array B	159.98	333	PKPab	PKPab	19 00 35.2	-4.8
	0.6nm,0.6s,baz=45,slow=3.8,SNR=7.9						

*BJI **08** 18:53:49.0, 7.68S×127.15E, h403km, mB4.3, mb4.3*
*NEIC **08** 18:53:56.9±1.0, 6.84S×126.83E, h403km±13km, mb4.4/17, Error ellipse: s-maj=10.2km s-min=6.9km az=67.0*
*IDC **08** 18:53:56.4±3.2, 6.86S×126.82E, h391km±39km, mb3.8/9, mb1 3.9/11, mb1mx3.7/18, mbtmp4.6/11, Error ellipse: s-maj=22.2km s-min=12.0km az=71.0*
ISC 08 18:53:54.8±1.0**, 6.89S**±0.05×**126.88E**±0.07**, h398**km±12km**, h405**km±3.8km**:pP-P, n39,** σ**0s77**/47**, mb4.2**/25**, 5C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	7.97	137	⇑iP	P	18 55 52.6	+2.4
	12nm,0.5s						
KAKA				eS	S	18 57 19.5	-1.7
FITZ	Fitzroy Crossi	11.21	186	⇑iP	P	18 56 28.5	+0.4
	18nm,0.4s						
FITZ	Fitzroy Crossi	11.21	186	P	P	18 56 28.6	+0.5
	3.9nm,0.3s,baz=9.5,slow=8.0,SNR=62						
FITZ				S	S	18 58 29.7	+0.1
	0.3nm,0.3s,baz=145,slow=4.7,SNR=4.5						
WRAB	Tennant Creek	14.86	152	eP	P	18 57 08.0	-0.3
	16nm,0.8s						
WRAB				eS	S	18 59 43.9	+0.4
WRA	Warramunga Arr	14.86	152	P	P	18 57 08.3	0.0
	2.1nm,0.3s,baz=324,slow=12,SNR=121						
WRA				S	S	18 59 43.3	-0.3
	0.2nm,0.3s,baz=327,slow=17,SNR=8.2						
WB2	Warramunga Arr	14.87	152	⇑iP	P	18 57 08.4	+0.1
WB2				eS	S	18 59 43.2	-0.5
MBWA	Marble Bar	15.79	205	eP	P	18 57 17.6	-0.1
	14nm,0.4s						
KSM	Kuching	18.51	296	eP	P	18 57 44.9	-0.3
KLBR	Kellerberrin	26.02	198	⇑iP	P	18 58 55.4	0.0
	7.1nm,0.4s,mb4.5						
MUN	Mundaring	26.88	200	eP	P	18 59 02.6	-0.4
	7.4nm,1.2s,mb4.0						
NWAO	Narrogin (SRO)	27.42	198	P	P	18 59 07.9	+0.1
	8.8nm,0.5s,mb4.4,baz=13,slow=6.0,SNR=15						
STKA	Stephens Creek	28.40	153	⇑iP	P	18 59 17.5	+1.0
	4.7nm,0.5s,mb4.1						
STKA				epP		19 00 30.2	
STKA	Stephens Creek	28.40	153	P	P	18 59 17.6	+1.2
	6.9nm,0.5s,mb4.2,baz=327,slow=10.0,SNR=24						
KULM	Kulim	28.84	294	eP	P	18 59 20.8	+0.3
CMAR	Chiang Mai Arr	37.33	313	P	P	19 00 33.0	+0.5
	2.4nm,0.7s,mb3.6,baz=140,slow=7.7,SNR=14						
CMAR				PcP	PcP	19 02 43.5	+0.8
	0.5nm,0.5s,baz=173,slow=3.0,SNR=4.2						
SSE	Sheshan	38.16	352	eP	P	19 00 40.0	+0.8
SSE				AMB	AMB		
	comp=Z,32nm,0.8s,mb4.7						
SSE				AMB	AMB		
	comp=Z,56nm,4.2s						
NJ2	Nanjing	39.47	349	eP	P	19 00 50.5	+0.5
NJ2				AP	pP	19 02 09.8	+2.9
NJ2				PP	PP	19 02 33.6	+2.9
NJ2				XP	sP	19 02 55.8	+5.1
NJ2				S	S	19 06 21.0	-1.9
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,40nm,6.4s						
MAJO	Matsushiro	44.49	13	eP	P	19 01 29.4	-0.9
	comp=Z,6.0nm,0.5s,mb4.2						
MAT	Matsushiro	44.49	13	eP	P	19 01 29.0	-1.3
MAT	Matsushiro	44.49	13	P	P	19 01 29.4	-0.9
MJAR	Matsushiro Arr	44.49	13	P	P	19 01 29.9	-0.4
	comp=Z,6.0nm,0.6s,mb4.1,baz=197,slow=9.9,SNR=18						
CN2	Changchun	50.47	359	eP	P	19 02 16.6	+0.7
MDJ	Mudanjiang	51.32	2	P	P	19 02 22.7	+0.5
MDJ				AP	pP	19 03 43.7	+0.4
MDJ				PP	PP	19 04 24.7	+0.8
MDJ				XP	sP	19 04 28.4	+2.0
MDJ				SCP		19 06 47.4	
MDJ				PCS		19 07 27.8	
MDJ				S	S	19 09 12.3	+2.7
MDJ				SCS	ScS	19 11 29.8	+2.3
MDJ				XS		19 11 37.5	
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb3.6						
MDJ				AMB	AMB		
	comp=Z,21nm,4.4s						
GTA	Gaotai	52.44	334	eP	P	19 02 30.9	+0.4
GTA				AP	pP	19 03 53.5	+1.5
GTA				PP	PP	19 04 37.2	+2.8
GTA				XP	sP	19 04 38.8	+3.8
GTA				PPP	PPP	19 05 58.2	+5.1
GTA				S	S	19 09 27.3	+2.6
GTA				XS		19 11 53.3	
GTA				SS	SS	19 13 20.0	+10
GTA				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.3						
GTA				AMB	AMB		
	comp=Z,87nm,6.1s						
GUN	Gumba	52.58	313	eP	P	19 02 31.5	-0.2
	comp=Z,28nm,0.4s,mb4.8						
ASAJ	Asahikawa	52.72	14	P	P	19 02 32.6	+0.2
	comp=Z,2.2nm,0.6s,mb3.5,baz=228,slow=12,SNR=3.3						
PKI	Pulchoki	52.73	312	eP	P	19 02 32.4	-0.4
	comp=Z,19nm,0.4s,mb4.6						
KKN	Kakani	52.95	313	eP	P	19 02 34.0	-0.4
	comp=Z,15nm,0.5s,mb4.5						
DMN	Daman	52.98	312	eP	P	19 02 34.2	-0.4
	comp=Z,17nm,0.6s,mb4.5						
RPZ	Rata Peaks	53.24	141	P	P	19 02 37.0	+0.7
	baz=350,slow=6.1						
GKN	Gorkha	53.54	312	eP	P	19 02 38.3	-0.4
	comp=Z,35nm,0.3s,mb5.0						
KOLN	Koldanda	54.18	311	eP	P	19 02 42.9	-0.3
	comp=Z,12nm,0.3s,mb4.6						
ULN	Ulaanbaatar	57.26	344	eP	P	19 02 59.2	-5.2
	comp=Z,1.9nm,0.5s,mb3.7						
SONM	Songino Array	57.41	344	P	P	19 03 05.9	+0.4
	comp=Z,1.9nm,0.4s,mb3.8,baz=172,slow=6.7,SNR=24						
MKAR	Makanchi Array	66.47	328	P	P	19 04 04.9	+0.1
	comp=Z,2.9nm,0.4s,mb4.3,baz=119,slow=8.1,SNR=92						
ZAL	Zalesovo	70.15	335	P	P	19 04 26.9	-0.1
	comp=Z,5.8nm,0.4s,mb4.4,baz=344,slow=3.9,SNR=22						
BVAR	Borovoye Array	76.34	329	P	P	19 05 02.9	+0.2
	comp=Z,2.4nm,0.6s,mb4.0,baz=134,slow=8.9,SNR=14						
ZRNK	Zerenda	77.02	328	eP	P	19 05 05.9	-0.4
	comp=Z,7.7nm,1.0s,mb4.3						
ARU	Arti	83.99	329	eP	P	19 05 40.6	-1.9
	comp=Z,1.7nm,0.4s,mb4.1						

*NEIC **08** 19:12:35.6, 39.70S×174.25E, h148km, MG4.1(WEL), After WEL.*
WEL 08 19:12:36.6±0.2**, 39.73S**×**174.29E, h137**km±2km**, ML4.1**/15**, 14C-3D, Error ellipse: s-maj=1.7km s-min=0.8km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAEZ	Rainy Point	0.45	11	P	P	19 12 56.1	-0.7
RAEZ	Rainy Point	0.45	11	PN	P	19 12 55.9	-0.9
RAEZ				SN	S	19 13 10.5	-1.7
NRZ	Ngariki Road	0.47	325	P	P	19 12 56.3	-0.6
NRZ	Ngariki Road	0.47	325	PN	P	19 12 56.2	-0.7
NRZ				SN	S	19 13 11.4	-1.1
NEZ	North Egmont	0.48	342	P	P	19 12 56.7	-0.2
NEZ	North Egmont	0.48	342	PN	P	19 12 56.3	-0.7
WAZ	Wanganui	0.54	93	P	P	19 12 57.4	+0.1
WAZ	Wanganui	0.54	93	PN	P	19 12 57.4	+0.1
WAZ				SN	S	19 13 12.4	-0.7
NWEZ	Newall Road	0.56	324	ePN	P	19 12 56.7	-0.6
PKE	Pukeiti	0.58	336	P	P	19 12 57.1	-0.4
PKE	Pukeiti	0.58	336	PN	P	19 12 56.8	-0.7
VRZ	Vera Road	0.70	32	P	P	19 12 57.4	-0.8
VRZ	Vera Road	0.70	32	⇓PN	P	19 12 57.3	-0.9
VRZ				SN	S	19 13 13.2	-1.5
PKVZ	Pokaka	0.93	62	PN	P	19 12 59.3	-0.5
PKVZ				SN	S	19 13 16.6	-0.9
MTVZ	Mangateitei	0.98	70	PN	P	19 12 59.8	-0.4
MTVZ				SN	S	19 13 17.1	-1.1
TRVZ	Turoa	1.06	67	PN	P	19 13 00.7	-0.4
TRVZ				eSN	S	19 13 19.1	-0.6
DRZ	Dome Shelter	1.09	66	P	P	19 13 01.3	+0.1
DRZ	Dome Shelter	1.09	66	PN	P	19 13 01.0	-0.2
DRZ				SN	S	19 13 19.1	-0.9
FWVZ	Far West T-bar	1.09	65	P	P	19 13 00.9	-0.3
FWVZ	Far West T-bar	1.09	65	PN	P	19 13 00.9	-0.4
WNVZ	Wahianoa	1.09	69	P	P	19 13 01.0	-0.3
WNVZ	Wahianoa	1.09	69	PN	P	19 13 00.8	-0.4
TWVZ	Taurewa	1.10	54	P	P	19 13 00.8	-0.6
TWVZ	Taurewa	1.10	54	PN	P	19 13 00.7	-0.7
WPVZ	Whakapapa	1.10	62	P	P	19 13 01.0	-0.4
WPVZ	Whakapapa	1.10	62	PN	P	19 13 01.0	-0.4
DUWZ	D'Urville Isla	1.11	194	⇑PN	P	19 13 01.1	-0.4
TUVZ	Tukino	1.15	67	P	P	19 13 01.8	-0.1
TUVZ	Tukino	1.15	67	PN	P	19 13 01.6	-0.3
NGZ	Ngauruhoe	1.16	62	P	P	19 13 01.6	-0.4
NGZ	Ngauruhoe	1.16	62	PN	P	19 13 01.5	-0.4
MOVZ	Moawhango	1.18	75	P	P	19 13 01.5	-0.7
MOVZ	Moawhango	1.18	75	⇓PN	P	19 13 01.5	-0.6
WTVZ	West Tongariro	1.18	59	P	P	19 13 01.7	-0.5
WTVZ	West Tongariro	1.18	59	PN	P	19 13 01.7	-0.5
OTVZ	Oturere	1.21	63	PN	P	19 13 02.2	-0.2
KIW	Kapiti Island	1.23	157	P	P	19 13 02.6	-0.1
KIW	Kapiti Island	1.23	157	⇑PN	P	19 13 02.5	-0.2
KIW				SN	S	19 13 20.0	-2.7
HIZ	Hauiti	1.29	20	P	P	19 13 02.3	-1.0
HIZ	Hauiti	1.29	20	⇓PN	P	19 13 02.2	-1.1
KATZ	Kakaramea	1.32	56	P	P	19 13 03.4	-0.3
KATZ	Kakaramea	1.32	56	PN	P	19 13 02.9	-0.8
TSZ	Takapari Road	1.33	105	P	P	19 13 03.5	-0.3
TSZ				S	S	19 13 24.1	-0.5
TSZ	Takapari Road	1.33	105	PN	P	19 13 03.4	-0.4
TSZ				SN	S	19 13 22.3	-2.3
MRZ	Mangatainoka R	1.36	134	P	P	19 13 04.0	-0.1
MRZ				S	S	19 13 23.1	-2.1
MRZ	Mangatainoka R	1.36	134	⇑PN	P	19 13 04.0	-0.1
MRZ				SN	S	19 13 22.8	-2.4
RATZ	Rangitukua	1.44	54	P	P	19 13 04.8	-0.1
RATZ	Rangitukua	1.44	54	PN	P	19 13 04.8	-0.1
TCW	Tory Channel	1.48	180	P	P	19 13 05.1	-0.4
TCW	Tory Channel	1.48	180	⇑PN	P	19 13 05.0	-0.4
CAW	Cannon Point	1.50	157	P	P	19 13 05.5	-0.2
CAW	Cannon Point	1.50	157	⇑PN	P	19 13 05.5	-0.2
WATZ	Wairara	1.51	48	P	P	19 13 05.5	-0.3
WATZ	Wairara	1.51	48	PN	P	19 13 05.4	-0.4
MRW	Makara Radio	1.54	168	P	P	19 13 05.8	-0.2
MRW	Makara Radio	1.54	168	⇑PN	P	19 13 05.8	-0.2
WEL	Wellington	1.60	167	P	P	19 13 06.3	-0.4
WEL	Wellington	1.60	167	⇑PN	P	19 13 06.3	-0.5
SNZO	South Karori	1.61	169	⇑PN	P	19 13 06.4	-0.5
SNZO				SN	S	19 13 26.9	-3.1
MTW	Mount Morrison	1.71	147	P	P	19 13 07.4	-0.5
MTW	Mount Morrison	1.71	147	PN	P	19 13 07.4	-0.5
TUWZ	Tuamarina	1.72	189	PN	P	19 13 07.0	-1.2
QRZ	Quartz Range	1.74	230	⇑PN	P	19 13 06.8	-1.5
BHW	Baring Head	1.74	165	P	P	19 13 07.7	-0.6
BHW	Baring Head	1.74	165	⇑PN	P	19 13 07.7	-0.6
BFZ	Birch Farm	1.78	123	eP	P	19 13 08.2	-0.5
BFZ	Birch Farm	1.78	123	PN	P	19 13 08.2	-0.5
BKZ	Black Stump Fm	1.80	73	P	P	19 13 07.9	-1.1
BKZ	Black Stump Fm	1.80	73	PN	P	19 13 07.8	-1.1
MSWZ	Moikau Station	1.84	157	⇑PN	P	19 13 08.9	-0.6
PAWZ	Paruwai Farm	1.87	153	⇑PN	P	19 13 09.3	-0.5
TRWZ	Traveller	1.98	148	PN	P	19 13 10.4	-0.7
PWZ	Pawanui	2.00	100	P	P	19 13 10.8	-0.6
PWZ	Pawanui	2.00	100	PN	P	19 13 10.8	-0.6
BSWZ	Blackbirch Sta	2.01	189	P	P	19 13 10.9	-0.6
BSWZ	Blackbirch Sta	2.01	189	PN	P	19 13 10.8	-0.7
CMWZ	Cape Campbell	2.02	182	P	P	19 13 11.5	-0.1
CMWZ	Cape Campbell	2.02	182	⇑PN	P	19 13 11.5	-0.1
TOZ	Tahuroa Road	2.21	26	P	P	19 13 12.2	-1.8
TOZ	Tahuroa Road	2.21	26	PN	P	19 13 12.2	-1.8
THZ	Tophouse	2.29	207	P	P	19 13 13.5	-1.6
THZ	Tophouse	2.29	207	PN	P	19 13 13.3	-1.8
URZ	Urewera	2.64	57	P	P	19 13 17.2	-2.4
URZ	Urewera	2.64	57	PN	P	19 13 17.1	-2.5
KNZ	Kokohu	2.72	76	PN	P	19 13 18.4	-2.2
KHZ	Kahutara	2.75	192	P	P	19 13 19.4	-1.6
KHZ	Kahutara	2.75	192	⇑PN	P	19 13 19.4	-1.6
DSZ	Denniston Nort	2.76	222	P	P	19 13 19.0	-2.2
DSZ	Denniston Nort	2.76	222	PN	P	19 13 19.0	-2.2
MWZ	Matawai	2.88	62	P	P	19 13 20.4	-2.3
MWZ	Matawai	2.88	62	PN	P	19 13 20.3	-2.4
LTZ	Lake Taylor	3.41	206	eP	P	19 13 26.7	-3.0
LTZ	Lake Taylor	3.41	206	PN	P	19 13 26.6	-3.1
PUZ	Puketiti	3.51	63	P	P	19 13 28.0	-3.0
PUZ	Puketiti	3.51	63	PN	P	19 13 27.8	-3.2
CRLZ	Canterbury Las	4.04	197	P	P	19 13 33.7	-4.4
CRLZ	Canterbury Las	4.04	197	PN	P	19 13 33.6	-4.5
MQZ	McQueen's Vall	4.16	197	eP	P	19 13 35.0	-4.7
MQZ	McQueen's Vall	4.16	197	PN	P	19 13 34.9	-4.7
RPZ	Rata Peaks	4.66	210	eP	P	19 13 43.6	-2.7
RPZ	Rata Peaks	4.66	210	ePN	P	19 13 43.2	-3.2
ODZ	Otahua Downs	5.96	206	eP	P	19 13 59.8	-3.9
ODZ	Otahua Downs	5.96	206	ePN	P	19 13 59.7	-4.0
JCZ	Jackson Bay	5.99	222	eP	P	19 13 59.0	-5.1
JCZ	Jackson Bay	5.99	222	ePN	P	19 13 58.5	-5.6
TUZ	Tuapeka	7.10	207	eP	P	19 14 15.3	-3.9
TUZ	Tuapeka	7.10	207	ePN	P	19 14 14.9	-4.3
WHZ	Wether Hill Ro	7.73	215	SN	S	19 15 43.5	-10

*ISK **08** 19:28:31.7, 38.28N×35.55E, h5km, MD3.8*
*CSEM **08** 19:28:31.7, 38.28N×35.55E, h5km, MD3.8, After ISK*
ISC 08 19:28:33.3±0.4**, 38.31N**±0.03×**35.56E**±0.04**, h5**km**, n27,** σ**0s89**/36**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNN	Bunyan	0.59	23	i PG	Pg	19 28 44.3	-0.8
AVNT	Avonos	0.72	311	i P	Pg	19 28 46.4	-1.4
AVNT				i S	Sg	19 29 01.9	+4.5
NIG	Nigde	0.77	255	i PG	Pg	19 28 46.8	-2.0
BSTP	Nigde	1.20	253	i P	Pb	19 28 55.6	-0.5
BSTP				i S	Sb	19 29 14.9	+3.2
KAHT	Ahir Dag	1.24	123	i P	Pb	19 28 56.4	-0.5
KAHT				i S	Sb	19 29 18.9	+5.8
CEYT	Ceyhan	1.31	173	i PN	Pn	19 28 57.0	-1.3
YOZ	Yozgat	1.34	352	PN	Pn	19 28 58.1	-0.6
CDAG	Cicekdag	1.60	325	i P	Pn	19 29 02.8	+0.3
CDAG				i S	Sb	19 29 29.8	+6.2
GAZ	Gaziantep	1.74	130	PN	Pn	19 29 04.2	-0.2
GAZ				SN	Sn	19 29 27.7	+0.6
KAMT	Kaman	1.79	307	PN	Pn	19 29 05.3	+0.2
SVST	Sivas	1.82	36	i P	Pn	19 29 08.8	+3.2
SVST				i S	Sn	19 29 36.7	+7.4
GZT	Gaziantep	1.85	120	i P	Pn	19 29 05.9	-0.2
GZT				i S	Sn	19 29 39.4	+9.3
COBT	Iskenderun	1.87	162	i P	Pn	19 29 05.5	-0.9
COBT				i S	Sn	19 29 37.1	+6.5
CORM	Corum	2.00	339	PN	Pn	19 29 09.1	+0.9
MEST	Erdemli	2.05	214	i P	Pn	19 29 09.5	+0.6
MEST				i S	Sn	19 29 37.8	+2.5
TOKT	Tokat	2.15	21	PN	Pn	19 29 10.6	+0.3
MYA	Malataya	2.26	89	ePN	Pn	19 29 12.0	+0.2
MALT	Malatya	2.26	89	PN	Pn	19 29 12.3	+0.4
IKL	Isikli	2.55	216	PN	Pn	19 29 15.7	-0.3
ANTO	Ankara	2.65	307	PN	Pn	19 29 17.7	+0.2
LOD	Lodumlu	2.68	307	ePN	Pn	19 29 18.0	0.0
URFA	Urfa	2.73	108	ePN	Pn	19 29 18.5	0.0
HDMB	Hadim	2.78	242	PN	Pn	19 29 19.5	+0.1
KIZT	Kizilcal	2.94	282	ePN	Pn	19 29 21.4	-0.2
PTK	Pertek	3.06	78	ePN	Pn	19 29 23.5	+0.2
BYBT	Boyabat	3.21	349	ePN	Pn	19 29 25.8	+0.3
BZK	Bozkurt	3.83	342	ePN	Pn	19 29 34.6	+0.3

MEX 08 19:47:01.9±2.0**, 17.05N**×**92.68W, h5**km**, MD4.1, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCX	San Cristobal	0.32	173	i P	Pg	19 47 06.0	-2.2
SCX				i S	Sg	19 47 13.0	+0.5
CCIG	Comitan	0.92	146	i P	Pb	19 47 17.6	-2.4
CCIG				i S	Sb	19 47 31.6	-0.7
CMIG	Matias Romero	2.11	271	i P	Pn	19 47 35.0	-3.4
CMIG				i S	Sn	19 48 00.7	-4.6
OXX	Oaxaca	3.87	271	eP	Pn	19 48 08.5	+5.1

NNC 08 19:54:36.6±6.5**, 37.87N**×**71.53E, h216**km±97km**, mpv3.2, 2C-2D, Error ellipse: s-maj=71.5km s-min=47.4km az=29.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.27	25	⇓P	P	19 55 54.1	-1.4
	2.0nm,0.4s						
AAK				⇑S	S	19 56 57.7	+0.8
	10nm,0.7s						
KK31	Karatay Array	5.29	352	P	P	19 55 54.8	-0.9
	0.6nm,0.2s,baz=176,slow=12,SNR=37						
KK31				⇓S	S	19 56 57.9	+0.8
	1.4nm,0.2s,baz=173,slow=22,SNR=10						
AB31	Akbulak array	14.12	327	P	P	19 57 51.3	+3.0
	0.1nm,0.2s,baz=147,slow=13,SNR=7.8						
AB31				⇑S	S	20 00 22.2	+2.3
	1.2nm,0.6s						

NNC 08 20:09:57.8±9.4**, 37.67N**×**69.16E, h31**km±61km**, mpv3.2, 5C-2D, Error ellipse: s-maj=67.3km s-min=63.0km az=171.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	5.53	10	Pn	Pn	20 11 18.4	-1.8
	0.9nm,0.6s,baz=201,slow=14,SNR=17						
KK31				⇓Pg	Pn	20 11 39.9	+20
	1.7nm,0.5s,baz=190,slow=12,SNR=4.0						
KK31				⇑Sn	Sn	20 12 22.6	-0.8
	1.4nm,0.4s,baz=200,slow=39,SNR=4.1						
KK31				⇑Lg		20 12 52.3	
	8.0nm,0.6s,baz=194,slow=30,SNR=3.7						
AAK	Ala-Archa	6.43	38	⇓Pn	Pn	20 11 30.1	-2.8
	1.5nm,0.3s						
AAK				⇑Lg		20 13 19.9	
	15nm,1.2s						
AB31	Akbulak array	13.36	333	⇑P	P	20 13 06.0	-1.8
	0.2nm,0.3s,baz=146,slow=15,SNR=17						
AB31				⇑S	S	20 15 30.5	-5.7
	0.7nm,0.6s,baz=152,slow=23,SNR=6.0						

*NNC **08** 20:31:20.9±4.8, 39.61N×71.66E, mpv3.1, Error ellipse: s-maj=43.7km s-min=32.7km az=29.0*
ISC 08 20:31:14.5±2.7**, 38.9N**±0.2×**71.5E**±0.2**, h33**km**, n10,** σ**0s56**/12**, 5C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	3.63	26	P	P	20 32 10.3	+0.7
	SNR=31						
UCH	Uchtor	4.03	33	P	P	20 32 15.6	+0.2
	SNR=8.3						
KZA	Kyzart	4.26	40	P	P	20 32 18.3	-0.4
	SNR=8.8						
KK31	Karatay Array	4.28	350	Pn	Pn	20 32 20.4	+1.3
	2.1nm,0.4s,baz=151,slow=11,SNR=92						
KK31				⇑Pg	P	20 32 33.3	+14
	1.3nm,0.3s,baz=171,slow=16,SNR=8.2						
KK31				⇑Sn	Sn	20 33 08.1	-0.3
	2.1nm,0.3s						
KK31				⇓Lg		20 33 22.0	
	7.5nm,0.6s,baz=162,slow=29,SNR=7.4						
AAK	Ala-Archa	4.36	30	P	P	20 32 20.5	+0.4
	SNR=5.3						
AAK	Ala-Archa	4.36	30	⇑Pn	Pn	20 32 20.2	0.0
	4.0nm,0.4s						
AAK				⇑Lg		20 33 17.4	
	13nm,0.7s						
CHMS	Chumysh	4.77	30	P	P	20 32 25.6	-0.3
	SNR=14						
USP	Ospenovka	4.91	26	P	P	20 32 27.4	-0.4
	SNR=5.8						
TKM2	Tokmak 2	5.07	36	P	P	20 32 29.6	-0.5
	SNR=6.5						
AB31	Akbulak array	13.28	325	⇑Pn	P	20 34 22.4	-0.7
	0.2nm,0.4s,baz=134,slow=10,SNR=9.4						

*LJU **08** 20:33:21.4, 46.50N×14.65E, h12km, ML2.1*
*NEIC **08** 20:33:21.8±0.3, 46.50N×14.64E, h10km, ML2.5(VIE), ML2.1(LJU), Error ellipse: s-maj=4.2km s-min=3.5km az=174.0*
*PRU **08** 20:33:23.1, 46.54N×14.71E*
ISC 08 20:33:21.4±0.3**, 46.53N**±0.02×**14.65E**±0.02**, h3**km±5km**, n37,** σ**1s00**/60**, 8C-9D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OBKA	Obir	0.07	257	⇓iPG	Pg	20 33 24.4	+1.4
OBKA				i SG	Sg	20 33 26.0	+1.9
	650nm,0.1s						
PERS	Pernice	0.34	71	⇑iPg	Pg	20 33 29.0	+0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PERS				*i* Sg	Sg	20 33 33.8	+1.1
	comp=Z,94nm,0.1s						
BISS	**Bistriski jare**	**0.35**	**69**	*i* Pg	**Pg**	**20 33 29.2**	**+0.8**
BISS				*i* Sg	**Sg**	**20 33 34.1**	**+1.1**
	comp=Z,530nm,0.1s						
LJU	**Ljubljana**	**0.49**	**190**	⇓*i*Pg	**Pg**	**20 33 31.0**	**-0.2**
LJU				*i* Sg	**Sg**	**20 33 37.0**	**-0.8**
	comp=Z,50nm,0.1s						
GORS	**Gorjuse**	**0.50**	**246**	*e*Pg	**Pg**	**20 33 31.5**	**0.0**
GORS				*e*Sg	**Sg**	**20 33 38.6**	**+0.4**
	comp=Z,24nm,0.1s						
PDKS	**Podkum**	**0.52**	**153**	⇓*i*Pg	**Pg**	**20 33 31.7**	**-0.2**
	comp=Z,42nm,0.1s						
GROS	**Grobnik**	**0.59**	**96**	*i* Pg	**Pg**	**20 33 33.2**	**0.0**
	comp=Z,44nm,0.1s						
DOBS	**Dobrina**	**0.68**	**123**	*i* Pg	**Pg**	**20 33 34.7**	**-0.3**
	comp=Z,44nm,0.1s						
CADS	**Cadrg**	**0.70**	**245**	*i* Pg	**Pg**	**20 33 35.1**	**-0.3**
CADS				*i* Sg	**Sg**	**20 33 45.7**	**+0.9**
	comp=Z,24nm,0.1s						
VOY	**Vojsko**	**0.72**	**227**	*e*Sg	**Sg**	**20 33 45.3**	**-0.2**
VOJS	**Vojsko**	**0.73**	**227**	*i* Pg	**Pg**	**20 33 35.5**	**-0.4**
VISS	**Visnje**	**0.73**	**170**	*i* Pg	**Pg**	**20 33 35.3**	**-0.8**
	comp=Z,15nm,0.1s						
JAVS	**Javornik**	**0.75**	**213**	*i* Pg	**Pg**	**20 33 35.8**	**-0.7**
JAVS				*e*Sg	**Sg**	**20 33 45.9**	**-0.7**
	comp=Z,13nm,0.1s						
LSR	**Lussari**	**0.78**	**267**	⇓*e*Pg	**Pg**	**20 33 37.4**	**+0.4**
LSR				*e*Sg	**Sg**	**20 33 49.0**	**+1.6**
DRE	**Drenchia**	**0.78**	**244**	⇑*i*Pg	**Pg**	**20 33 37.0**	**-0.1**
DRE				*i* Sg	**Sg**	**20 33 48.7**	**+1.2**
CEY	**Cerknica**	**0.80**	**191**	*i* Pg	**Pg**	**20 33 36.4**	**-1.1**
	comp=Z,12nm,0.1s						
ROBS	**Robic**	**0.84**	**251**	*i* Pg	**Pg**	**20 33 37.5**	**-0.8**
ROBS				*i* Sg	**Sg**	**20 33 49.7**	**+0.3**
	comp=Z,6.0nm,0.1s						
GOLS	**Golise**	**0.85**	**127**	⇓*i*Pg	**Pg**	**20 33 38.1**	**-0.2**
ARSA	**Arzberg**	**0.94**	**39**	⇑*i*PG	**Pg**	**20 33 40.4**	**+0.2**
ARSA				*i* SG	**Sg**	**20 33 52.6**	**-0.1**
	comp=Z,14nm,0.1s						
GCIS	**Gornji Cirnik**	**0.94**	**134**	*i* Pg	**Pg**	**20 33 40.3**	**0.0**
COLI	**Coloredo**	**0.97**	**246**	⇓*i*Pg	**Pg**	**20 33 40.0**	**-0.7**
COLI				*i* Sg	**Sg**	**20 33 54.6**	**+1.0**
BAD	**Bernadia**	**1.02**	**254**	⇑*i*Pg	**Pg**	**20 33 40.9**	**-0.9**
BAD				*i* Sg	**Sg**	**20 33 55.5**	**+0.2**
KBA	**Koelnbreinsper**	**1.06**	**302**	⇓*i*PG	**Pg**	**20 33 42.4**	**-0.1**
KBA				*i* SG	**Sg**	**20 33 56.9**	**+0.3**
	comp=Z,30nm,0.3s						
BOJS	**Bojanci**	**1.10**	**158**	*i* Pg	**Pg**	**20 33 42.6**	**-0.9**
KOGS	**Kog**	**1.10**	**93**	*i* Pg	**Pg**	**20 33 42.9**	**-0.6**
KOGS				*e*Sg	**Sg**	**20 33 58.8**	**+0.5**
MOA	**Molln**	**1.35**	**349**	⇑*i*PN	**Pn**	**20 33 46.5**	**-0.7**
MOA				*i* SG	**Sg**	**20 34 07.6**	**+1.2**
	comp=Z,3.3nm,0.3s						
NVLJ	**Novalja**	**1.97**	**175**	*i* Pn	**Pn**	**20 33 57.3**	**+1.3**
NVLJ				*i* Sn	**Sn**	**20 34 22.6**	**+1.1**
WTTA	**Wattenberg**	**2.20**	**291**	⇑*i*PG	**Pg**	**20 34 03.3**	**-2.0**
WTTA				*i* SG	**Sg**	**20 34 34.9**	**+0.3**
	comp=Z,3.4nm,0.4s						
WATA	**Walderalm**	**2.26**	**292**	⇓*i*PG	**Pg**	**20 34 04.1**	**-2.4**
WATA				*i* SG	**Sg**	**20 34 35.8**	**-0.9**
SQTA	**Sankt Quirin**	**2.46**	**288**	⇓*i*PG	**Pg**	**20 34 08.1**	**-2.5**
SQTA				*i* SG	**Sg**	**20 34 46.3**	**+2.8**
	comp=Z,3.1nm,0.3s						
MOTA	**Moosalm**	**2.57**	**290**	⇑*i*PG	**Pg**	**20 34 09.1**	**-3.6**
MOTA				*i* SG	**Sg**	**20 34 46.7**	**-0.2**
	comp=Z,6.8nm,0.7s						
KHC	**Kasperske Hory**	**2.71**	**345**	*e*PN	**Pn**	**20 34 07.4**	**+0.8**
KHC				*e*SG	**Sg**	**20 34 49.2**	**-2.3**
DAVA	**Damuels**	**3.36**	**285**	⇑*i*PN	**Pn**	**20 34 16.7**	**+0.8**
DAVA				*i* SG	**Sg**	**20 35 13.2**	**-0.1**
	comp=Z,2.2nm,0.4s						
PRU	**Pruhonice**	**3.46**	**359**	*e*SG	**Sg**	**20 35 11.6**	**-5.2**
NKC	**Novy Kostel**	**3.99**	**339**	*e*SG	**Sg**	**20 35 28.8**	**-5.5**
PVCC	**Panska Ves**	**4.00**	**359**	*e*SG	**Sg**	**20 35 31.3**	**-3.5**
UPC	**Upice**	**4.08**	**12**	*e*SG	**Sg**	**20 35 33.0**	**-4.4**

*IDC **08** 20:35:59.0±4.5, 5.15S×153.97E, h144^{km}±37^{km}, mb3.8/9, mb1 3.9/10, mb1mx3.8/17, mbtmp4.3/10, MS2.7/1, Ms1 2.7/1, ms1mx2.5/14, Error ellipse: s-maj=31.3km s-min=17.7km az=61.0*
*NEIC **08** 20:35:59.0±2.1, 5.16S×153.93E, h144^{km}±17^{km}, mb4.3/7, Error ellipse: s-maj=15.5km s-min=10.6km az=51.0*
*BJI **08** 20:35:59.0, 5.20S×153.90E, h143^{km}, mb4.4*
ISC 08 20:35:58.9±3.3**, 5.2S**±0.1×**153.9E**±0.1**, h156^{km}**±28^{km}**, n30, σ0^{s}69**/30**, mb4.2**/18**, 2C-1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.92**	**238**	P	**P**	**20 37 52.3**	**+0.2**
	18nm,0.3s,baz=62,slow=6.7,SNR=26						
PMG				S	**S**	**20 39 20.7**	**+0.2**
	4.6nm,0.3s,baz=102,slow=21,SNR=4.9						
PMG	**Port Moresby**	**7.92**	**238**	*e*Pn	**P**	**20 37 51.6**	**-0.6**
	85nm,0.8s						
CTA	**Charters Tower**	**16.59**	**206**	LR	LR	20 45 27.6	
	comp=Z,26nm,21.0s,baz=192,slow=34						
DZM	**Mont Dzumac**	**20.69**	**145**	P	**P**	**20 40 28.3**	**0.0**
	2.4nm,0.5s,baz=325,slow=18,SNR=6.0						
KAKA	**Kakadu**	**22.50**	**249**	*e*P	**P**	**20 40 46.4**	**+0.4**
	18nm,1.1s,mb4.4						
WRAB	**Tennant Creek**	**24.04**	**231**	*e*P	**P**	**20 41 01.6**	**+0.6**
	11nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**24.05**	**231**	⇓*i*P	**P**	**20 41 01.8**	**+0.8**
WRA	**Warramunga Arr**	**24.05**	**231**	P	**P**	**20 41 01.7**	**+0.6**
	6.9nm,0.5s,mb4.5,baz=56,slow=10.0,SNR=131						
WRA				pP		20 41 29.8	
	2.3nm,0.6s,baz=53,slow=13,SNR=7.7						
STKA	**Stephens Creek**	**28.96**	**202**	⇑*i*P	**P**	**20 41 44.9**	**-1.0**
	1.3nm,0.3s,mb4.1						
STKA	**Stephens Creek**	**28.96**	**202**	P	**P**	**20 41 44.9**	**-1.0**
	1.7nm,0.3s,mb4.2,baz=115,slow=22,SNR=15						
FITZ	**Fitzroy Crossi**	**30.48**	**243**	⇑*i*P	**P**	**20 41 58.1**	**-1.4**
	14nm,0.6s,mb4.8						
MBWA	**Marble Bar**	**36.77**	**241**	P	**P**	**20 42 52.6**	**-0.6**
	6.7nm,0.9s,mb4.3						
KSM	**Kuching**	**44.08**	**277**	*e*P	**P**	**20 43 53.1**	**-0.4**
KULM	**Kulim**	**54.22**	**280**	*e*P	**P**	**20 45 09.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**59.07**	**295**	P	**P**	**20 45 45.1**	**-0.2**
	3.2nm,0.9s,mb4.2,baz=115,slow=4.7,SNR=10						
HHC	**Hu-ho-hao-te**	**60.03**	**324**	*e*P	**P**	**20 45 55.1**	**+3.5**
HHC				AMB	AMB		
	comp=Z,9.0nm,2.5s,mb4.2						
GTA	**Gaotai**	**66.71**	**317**	*e*P	**P**	**20 46 35.7**	**+0.2**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.0						
SONM	**Songino Array**	**67.26**	**327**	P	**P**	**20 46 38.2**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.6,baz=144,slow=5.8,SNR=5.0						
LSA	**Lhasa**	**69.39**	**304**	*e*P	**P**	**20 46 53.2**	**+1.0**
	comp=Z,3.0nm,0.6s,mb4.2						
VNDA	**Vanda**	**72.40**	**178**	P	**P**	**20 47 09.5**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.4,slow=6.4,SNR=4.3						
VNDA	**Vanda**	**72.40**	**178**	*e*P	**P**	**20 47 09.5**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.6						
PKI	**Pulchoki**	**73.61**	**301**	*e*P	**P**	**20 47 17.4**	**+0.1**
KKN	**Kakani**	**73.77**	**301**	*e*P	**P**	**20 47 18.4**	**+0.1**
DMN	**Daman**	**73.88**	**301**	*e*P	**P**	**20 47 19.6**	**+0.7**
	comp=Z,25nm,1.0s,mb4.9						
GKN	**Gorkha**	**74.38**	**301**	*e*P	**P**	**20 47 21.9**	**+0.2**
	comp=Z,29nm,1.0s,mb5.0						
KOLN	**Koldanda**	**75.21**	**300**	*e*P	**P**	**20 47 26.8**	**+0.3**
	comp=Z,11nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**81.36**	**319**	P	**P**	**20 47 59.2**	**-0.3**
	comp=Z,1.4nm,0.8s,mb3.6,baz=103,slow=5.4,SNR=11						
MAW	**Mawson**	**85.64**	**203**	P	**P**	**20 48 21.3**	**+0.6**
	comp=Z,2.5nm,0.6s,mb4.1,baz=92,slow=6.4,SNR=12						
BVAR	**Borovoye Array**	**90.23**	**323**	P	**P**	**20 48 42.0**	**-0.8**
	comp=Z,1.1nm,0.7s,mb3.9,baz=124,slow=5.3,SNR=8.3						
BVAR	**Borovoye Array**	**90.23**	**323**	P	**P**	**20 48 42.0**	**-0.8**

*MOS **08** 20:37:32.8±1.3, 37.39N×72.07E, h125^{km}, mb3.9/6, Error ellipse: s-maj=18.3km s-min=10.5km az=108.5*
*NEIC **08** 20:37:34.0±1.4, 37.37N×72.15E, h122^{km}±17^{km}, mb4.1/7, Error ellipse: s-maj=15.8km s-min=6.2km az=59.0*
*NNC **08** 20:37:38.2±5.6, 37.80N×71.70E, h126^{km}±78^{km}, mpv3.9, Error ellipse: s-maj=49.6km s-min=40.1km az=4.0*
*IDC **08** 20:37:40.4±8.2, 38.16N×71.72E, h119^{km}±62^{km}, mb3.6/5, mb1 3.4/8, mb1mx3.2/24, mbtmp3.8/8, Error ellipse: s-maj=135.8km s-min=34.3km az=153.0*
ISC 08 20:37:34.2±0.4**, 37.46N**±0.03×**72.20E**±0.07**, h144^{km}**±8^{km}**, n62, σ1^{s}19**/70**, mb3.8**/5**, 3C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.64**	**184**	P	**P**	**20 38 31.8**	**+1.4**
CEP				S	**S**	**20 39 13.0**	**-0.5**
CHCP	**Chirah Chowk**	**3.89**	**167**	P	**P**	**20 38 35.9**	**+2.1**
THW	**Thamme Wali**	**4.67**	**185**	P	**P**	**20 38 44.2**	**+0.1**
AML	**Almayashu**	**4.80**	**13**	P	**P**	**20 38 45.8**	**-0.1**
	SNR=88						
UCH	**Uchtor**	**5.08**	**20**	P	**P**	**20 38 50.3**	**+0.8**
	SNR=7.3						
KZA	**Kyzart**	**5.17**	**26**	P	**P**	**20 38 52.2**	**+1.4**
	SNR=9.7						
SBDP	**Sheikh Budin**	**5.28**	**193**	P	**P**	**20 38 51.1**	**-1.0**
AAK	**Ala-Archa**	**5.46**	**18**	P	**P**	**20 38 55.4**	**+0.9**
	SNR=5.0						
AAK	**Ala-Archa**	**5.46**	**18**	⇑P	**P**	**20 38 55.3**	**+0.8**
	4.5nm,0.5s						
AAK				⇑S	**S**	**20 39 55.3**	**-1.4**
	15nm,0.6s						
AAK	**Ala-Archa**	**5.46**	**18**	PN	**P**	**20 38 55.2**	**+0.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AAK	**Ala-Archa**	**5.46**	**18**	*e*Pn	**P**	**20 38 54.3**	**-0.2**
	comp=Z,6.8nm,0.5s						
SARP	**Sargodha**	**5.54**	**176**	P	**P**	**20 38 55.6**	**0.0**
KK31	**Karatay Array**	**5.78**	**348**	⇓P	**P**	**20 38 56.2**	**-2.7**
	comp=Z,9.5nm,0.3s,baz=165,slow=10,SNR=451						
KK31				S	**S**	**20 39 57.8**	**-6.8**
	comp=Z,31nm,0.4s,baz=172,slow=20,SNR=19						
KKAR	**Karatay Array**	**5.78**	**348**	*e*PN	**P**	**20 38 56.1**	**-2.7**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
THN	**Thein Dam**	**5.79**	**149**	*e*P	**P**	**20 39 01.1**	**+2.2**
THN				*e*		20 40 04.5	
DLH	**Dalhousie**	**5.80**	**147**	*e*S	**S**	**20 39 57.0**	**-8.0**
DLH				*e*		20 40 04.0	
CHMS	**Chumysh**	**5.86**	**19**	P	**P**	**20 39 00.2**	**+0.2**
	SNR=6.8						
DRP	**Derazinda**	**5.94**	**197**	P	**P**	**20 39 00.7**	**-0.2**
DRP				S	**S**	**20 40 03.0**	**-5.3**
TKM2	**Tokmak 2**	**6.04**	**24**	P	**P**	**20 39 03.6**	**+1.3**
	SNR=6.0						
USP	**Ospenovka**	**6.06**	**16**	P	**P**	**20 39 02.4**	**-0.2**
	SNR=12						
PONG	**Pong**	**6.30**	**150**	*e*	**S**	**20 40 17.0**	**-0.1**
SDNR	**Sundarnagar**	**7.13**	**145**	*e*P	**P**	**20 39 17.4**	**+0.3**
SDNR				*e*		20 40 34.0	
KHET	**Khetri**	**9.84**	**161**	*e*P	**P**	**20 39 53.3**	**+0.2**
KHET				*e*S	**S**	**20 41 34.4**	**-7.4**
KHET				AML	AML	20 41 41.1	
	comp=N,17nm,0.1s						
KHET				AML	AML	20 41 41.3	
	comp=E,13nm,0.3s						
ASOR	**Ausora**	**9.86**	**150**	*e*	**P**	**20 39 47.7**	**-5.6**
BISR	**Bishrakh**	**9.89**	**152**	*e*	**S**	**20 41 40.1**	**-3.0**
KUDL	**Kundal**	**9.97**	**158**	*e*P	**P**	**20 39 53.5**	**-1.2**
KUDL				*e*S	**S**	**20 41 37.3**	**-7.5**
SONA	**Sohna**	**10.06**	**155**	*e*P	**P**	**20 39 56.2**	**+0.2**
SONA				*e*S	**S**	**20 41 34.5**	**-13**
SONA				AML	AML	20 41 43.9	
	comp=E,30nm,0.4s						
SONA				AML	AML	20 41 47.6	
	comp=N,24nm,0.6s						
MKAR	**Makanchi Array**	**11.95**	**36**	P	**P**	**20 40 22.2**	**+1.4**
	comp=N,0.1nm,0.3s,baz=229,slow=13,SNR=4.1						
MKAR	**Makanchi Array**	**11.95**	**36**	P	**P**	**20 40 22.2**	**+1.4**
KOLN	**Koldanda**	**13.62**	**132**	*e*P	**P**	**20 40 42.5**	**+0.2**
GKN	**Gorkha**	**14.08**	**128**	*e*P	**P**	**20 40 47.2**	**-1.0**
	comp=N,17nm,0.4s						
KKN	**Kakani**	**14.63**	**127**	*e*P	**P**	**20 40 54.1**	**-1.1**
	comp=N,11nm,0.5s						
KKN	**Kakani**	**14.63**	**127**	*e*P	**P**	**20 40 54.1**	**-1.1**
KKN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
DMN	**Daman**	**14.65**	**128**	*e*P	**P**	**20 40 55.2**	**-0.3**
	comp=Z,16nm,0.7s						
AB31	**Akbulak array**	**14.76**	**327**	P	**P**	**20 40 52.2**	**-4.4**
	comp=Z,1.0nm,0.3s,baz=143,slow=12,SNR=79						
AB31				⇑S	**S**	**20 43 22.4**	**-14**
	comp=Z,4.0nm,0.5s						
AB31	**Akbulak array**	**14.76**	**327**	*e*P	**P**	**20 40 52.2**	**-4.5**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PKI	**Pulchoki**	**14.87**	**128**	*e*P	**P**	**20 40 58.4**	**+0.2**
	comp=Z,4.5nm,0.2s						
PKI	**Pulchoki**	**14.87**	**128**	*e*P	**P**	**20 40 58.4**	**+0.2**
PKI				pmax	pmax		
	comp=Z,2.0nm,0.2s						
GUN	**Gumba**	**14.93**	**126**	*e*P	**P**	**20 40 58.7**	**-0.3**
VOSK	**Vostochnaya**	**15.29**	**357**	⇓P	**P**	**20 41 01.2**	**-2.1**
	comp=Z,1.9nm,1.1s						
BVAR	**Borovoye Array**	**15.62**	**356**	P	**P**	**20 41 04.8**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=147,slow=10,SNR=9.9						
ZRNK	**Zerenda**	**15.65**	**353**	⇓P	**P**	**20 41 10.3**	**+2.5**
	comp=Z,4.0nm,0.7s						
LSA	**Lhasa**	**17.57**	**111**	*e*P	**P**	**20 41 31.8**	**+0.3**
LSA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LSA	**Lhasa**	**17.57**	**111**	*e*P	**P**	**20 41 31.8**	**+0.3**
	comp=Z,1.4nm,0.6s						
ZAL	**Zalesovo**	**18.63**	**24**	P	**P**	**20 41 43.8**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=271,slow=10,SNR=3.4						
ARU	**Arti**	**21.06**	**339**	P	**P**	**20 42 07.6**	**-0.3**
ARU	**Arti**	**21.06**	**339**	P	**P**	**20 42 07.6**	**-0.3**
GNI	**Garni**	**21.53**	**286**	P	**P**	**20 42 14.7**	**+2.0**
GNI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GNI	**Garni**	**21.53**	**286**	P	**P**	**20 42 14.7**	**+2.0**
	comp=Z,3.2nm,0.6s,mb3.9,baz=172,slow=16,SNR=3.5						
AKASG	**Malin Array Be**	**33.11**	**307**	P	**P**	**20 43 58.7**	**+0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**33.11**	**307**	P	**P**	**20 43 58.7**	**+0.4**
	comp=Z,1.0nm,0.5s,mb3.9,baz=104,slow=9.7,SNR=6.0						
FINES	**FINESS Array B**	**37.23**	**325**	P	**P**	**20 44 33.0**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**37.23**	**325**	P	**P**	**20 44 33.0**	**-0.1**
	comp=Z,1.0nm,0.3s,mb3.9,baz=124,slow=9.0,SNR=25						
FINES	**FINESS Array B**	**37.23**	**325**	P	**P**	**20 44 33.0**	**-0.1**
KAF	**Kangasniemi**	**37.35**	**326**	*e*p	**P**	**20 44 32.5**	**-1.5**
ARCES	**ARCESS Array B**	**40.63**	**337**	P	**P**	**20 45 02.2**	**+1.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**40.63**	**337**	P	**P**	**20 45 02.2**	**+1.1**
	comp=Z,1.6nm,0.6s,mb3.8,baz=111,slow=8.0,SNR=8.3						
ARCES	**ARCESS Array B**	**40.63**	**337**	P	**P**	**20 45 02.2**	**+1.1**
NB2	**NORSAR Subarra**	**44.20**	**322**	P	**P**	**20 45 30.5**	**+0.5**
	comp=Z,1.0nm,0.5s,mb3.7,baz=92,slow=7.9						
NB2	**NORSAR Subarra**	**44.20**	**322**	P	**P**	**20 45 30.5**	**+0.5**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
NOA	**NORSAR Array B**	**44.20**	**322**	P	**P**	**20 45 30.4**	**+0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**44.20**	**322**	P	**P**	**20 45 30.4**	**+0.3**
	comp=Z,0.8nm,0.5s,mb3.6,baz=93,slow=7.7,SNR=6.9						

MEX 08 21:03:51.9±0.8**, 17.09N**×**92.67W, h5^{km}, MD3.8, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**0.36**	**174**	*e*P	Pg	21 04 00.0	+0.9
SCX				*i* S	Sg	21 04 03.0	-0.9
CCIG	**Comitan**	**0.96**	**148**	*i* P	Pb	21 04 07.8	-2.8
CCIG				*i* S	Sb	21 04 21.7	-1.7
CMIG	**Matias Romero**	**2.12**	**270**	*i* P	Pn	21 04 24.7	-3.7
CMIG				*i* S	Sn	21 04 50.4	-5.0

*NEIC **08** 21:10:55.9±0.3, 50.30N×18.72E, h5^{km}, ML3.9(FUR), ML3.8(SZGRF), ML3.5(VIE), Error ellipse: s-maj=4.4km s-min=3.7km az=189.0*
*MOS **08** 21:10:55.9±1.1, 50.33N×18.68E, h10^{km}, mb4.0/1, Error ellipse: s-maj=6.9km s-min=5.7km az=81.7*
*PRU **08** 21:10:57.9, 50.24N×18.61E*
*IDC **08** 21:10:57.1±0.7, 50.06N×18.71E, mb3.9/1, mb1 3.4/8, mb1mx3.3/25, mbtmp3.4/8, ML3.2/8, Error ellipse: s-maj=9.2km s-min=6.2km az=149.0*
*IPEC **08** 21:10:57.2±0.1, 50.23N×18.70E, h8^{km}±1^{km}, ML3.0/3, Error ellipse: s-maj=1.8km s-min=0.7km az=167.0*
*BGR **08** 21:10:58.7±0.7, 50.02N×18.51E, h1^{km}, ML3.8/10, Error ellipse: s-maj=7.8km s-min=4.4km az=4.0*
*CSEM **08** 21:10:58.1±0.1, 50.24N×18.60E, h2^{km}, ML4.0/8, Error ellipse: s-maj=1.9km s-min=1.3km az=22.0*
WAR 08 21:10:57.2, 50.22N×18.73E, h0^{km}, ML3.1, 8C-5D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.37**	**249**	*e*Pg	Pg	21 11 05.0	+0.4
RAC				*e*Sg	Sg	21 11 10.6	+1.1
OKC	**Ostrava-Krasne**	**0.53**	**225**	*e*PG	Pg	21 11 07.5	-0.3
OKC				*e*SG	Sg	21 11 16.5	+1.6
OKC	**Ostrava-Krasne**	**0.53**	**225**	Pg	Pg	21 11 07.5	-0.3
OKC				*e*Sg	Sg	21 11 15.1	+0.2
OJC	**Ojcow**	**0.69**	**89**	*e*Pg	Pg	21 11 10.4	-0.5
OJC				*e*Sg	Sg	21 11 20.1	0.0
MORC	**Moravsky Berou**	**0.88**	**241**	*e*Pg	Pg	21 11 13.4	-1.4
MORC				*e*Sg	Sg	21 11 24.6	-2.0
MORC	**Moravsky Berou**	**0.88**	**241**	⇑P	Pg	21 11 13.4	-1.4
MORC	**Moravsky Berou**	**0.88**	**241**	*e*Pg	Pg	21 11 13.4	-1.4
MORC				*e*Sg	Sg	21 11 24.6	-2.0
LIKS	**Likavka**	**1.19**	**168**	*e*PN	Pn	21 11 20.5	-0.5
LIKS				*e*SN	Sn	21 11 37.3	-0.8
NIE	**Niedzica**	**1.30**	**127**	⇑*e*Pg	Pg	21 11 21.5	-1.6
NIE				*e*Sg	Sg	21 11 39.9	-0.6
JAVC	**Velka Javorina**	**1.52**	**207**	*e*Pn	Pn	21 11 25.1	-0.6
DPC	**Dobruska-Polom**	**1.55**	**276**	*e*P	Pn	21 11 24.6	-1.5
DPC				*e*		21 11 45.1	
DPC				smax			
	comp=N,354nm,0.6s						
DPC	**Dobruska-Polom**	**1.55**	**276**	*e*PG	Pg	21 11 24.6	-3.5
DPC				*e*SG	Sg	21 11 45.1	-3.7
	comp=N,354nm,0.6s						
DPC	**Dobruska-Polom**	**1.55**	**276**	*e*Pn	Pn	21 11 25.0	-1.1
DPC				Sg	Sg	21 11 45.1	-3.7
	comp=N,354nm,0.6s						
KOLL	**Kolacno**	**1.65**	**188**	*e*P	Pn	21 11 26.3	-1.3
KOLL				*e*		21 11 51.5	
KOLL	**Kolacno**	**1.65**	**188**	*e*PN	Pn	21 11 26.3	-1.3
KOLL				*e*PG	Pg	21 11 28.8	-1.4
KOLL				*e*SG	Sg	21 11 51.5	-0.7
KOLL	**Kolacno**	**1.65**	**188**	*e*Pg	Pg	21 11 28.8	-1.4
KOLL				*e*Sg	Sg	21 11 51.5	-0.7
VRAC	**Vranov**	**1.66**	**238**	Pg	Pg	21 11 26.4	-3.8
	comp=N,10nm,0.3s,baz=61,slow=14,SNR=61						
VRAC				Lg		21 11 47.3	
	comp=N,55nm,0.3s,baz=61,slow=14,SNR=32						
VRAC	**Vranov**	**1.66**	**238**	⇓P	Pn	21 11 27.3	-0.3
VRAC	**Vranov**	**1.66**	**238**	*e*Pn	Pn	21 11 26.3	-1.3
VRAC	**Vranov**	**1.66**	**238**	*e*Pg	Pg	21 11 27.1	-3.2
VRAC				*e*Sg	Sg	21 11 48.2	-4.1
	comp=N,166nm,0.4s						
KSP	**Ksiaz**	**1.68**	**293**	*e*P	Pn	21 11 26.3	-1.6
KSP				*e*		21 11 49.2	
KSP	**Ksiaz**	**1.68**	**293**	*e*Pn	Pn	21 11 26.3	-1.6
KSP				*i* Pg	Pg	21 11 28.3	-2.4
KSP				*e*Sg	Sg	21 11 49.2	-3.8
KSP	**Ksiaz**	**1.68**	**293**	*e*PN	Pn	21 11 26.0	-1.9
KSP				*i* PG	Pg	21 11 28.3	-2.4
KSP				*e*SG	Sg	21 11 49.3	-3.7
KSP	**Ksiaz**	**1.68**	**293**	*e*Pn	Pn	21 11 26.3	-1.6
KSP				*e*Pg	Pg	21 11 28.2	-2.4
KSP				*e*Sg	Sg	21 11 49.2	-3.8
KSP	**Ksiaz**	**1.68**	**293**	*i* Pg	Pg	21 11 28.3	-2.4
KSP				*e*Sg	Sg	21 11 49.2	-3.8
VYHS	**Vyhne**	**1.72**	**178**	*e*PN	Pn	21 11 27.1	-1.5
VYHS				*e*SN	Sn	21 11 51.4	-0.2
UPC	**Upice**	**1.77**	**281**	*e*PG	Pg	21 11 28.7	-3.7
UPC				*e*SG	Sg	21 11 51.6	-4.3
STHS	**Stebnicka Huta**	**1.81**	**115**	*e*PN	Pn	21 11 31.4	+1.5
STHS				*e*SN	Sn	21 11 58.2	+4.3
SMOL	**Smolenice**	**1.90**	**207**	*e*PN	Pn	21 11 30.4	-0.8
SMOL				*e*SN	Sn	21 11 54.7	-1.4
KRUC	**Moravsky**	**1.91**	**234**	*e*Pn	Pn	21 11 29.1	-2.1
KRUC				*e*Sg	Sg	21 11 55.7	-5.0
	comp=N,71nm,0.3s						
KECS	**Kecovo**	**2.08**	**146**	*e*P	Pn	21 11 32.3	-1.4
KECS				*e*		21 11 57.7	
KECS	**Kecovo**	**2.08**	**146**	*e*PN	Pn	21 11 32.3	-1.4
KECS				*e*PG	Pg	21 11 36.7	-2.0
KECS				*e*SN	Sn	21 11 57.7	-2.9
CRVS	**Cervenica-Dubn**	**2.21**	**125**	*e*PN	Pn	21 11 37.5	+1.9
CRVS				*e*SN	Sn	21 12 08.3	+4.3
ZST	**Bratislava**	**2.29**	**208**	*e*PN	Pn	21 11 35.3	-1.3
ZST				*e*SN	Sn	21 12 01.2	-4.7
PSZ	**Piszkesteto**	**2.42**	**161**	*e*Pn	Pn	21 11 36.9	-1.7
PSZ				*e*Pg	Pg	21 11 43.6	-1.9
PSZ	**Piszkesteto**	**2.42**	**161**	⇑*e*Pn	Pn	21 11 37.9	-0.7
PSZ	**Piszkesteto**	**2.42**	**161**	*e*Pn	Pn	21 11 36.9	-1.7
KWP	**Kalwaria**	**2.64**	**101**	*e*P	Pn	21 11 42.6	+0.9
KWP				*e*		21 12 20.4	
KWP	**Kalwaria**	**2.64**	**101**	*e*Pn	Pn	21 11 42.6	+0.9
KWP				*e*Pg	Pg	21 11 49.8	0.0
KWP				*e*Sn	Sn	21 12 20.4	+5.6
KWP				*e*Sg	Sg	21 12 29.1	+4.1
KWP	**Kalwaria**	**2.64**	**101**	*e*Pn	Pn	21 11 42.6	+0.9
KWP				*e*Pg	Pg	21 11 49.8	0.0
KWP				*e*Sn	Sn	21 12 20.4	+5.6
KWP				*e*Sg	Sg	21 12 29.1	+4.1
KWP	**Kalwaria**	**2.64**	**101**	*e*Pg	Pg	21 11 49.8	0.0
KWP				*e*S	Sn	21 12 20.4	+5.6
KOLS	**Kolonicke sedl**	**2.64**	**118**	*e*PN	Pn	21 11 42.4	+0.7
KOLS				*e*PG	Pg	21 11 49.2	-0.7
PVCC	**Panska Ves**	**2.68**	**278**	*e*PN	Pn	21 11 40.7	-1.6
PRU	**Pruhonice**	**2.71**	**267**	*e*P	Pn	21 11 39.9	-2.7
PRU				*e*		21 12 19.6	
PRU	**Pruhonice**	**2.71**	**267**	*e*PN	Pn	21 11 39.9	-2.7
PRU				*e*PG	Pg	21 11 45.8	-5.4
PRU				*e*SG	Sg	21 12 19.6	-7.7
PRU	**Pruhonice**	**2.71**	**267**	*e*Pg	Pg	21 11 45.8	-5.4
PRU				*e*Sg	Sg	21 12 19.6	-7.7
UZH	**Uzhgorod**	**2.82**	**123**	*e*P	Pn	21 11 49.7	+5.5
UZH				*e*S	Sn	21 12 26.6	+7.3
BRG	**Berggiesshubel**	**3.12**	**284**	*e*Pg	Pg	21 11 53.0	-6.5
BRG				*e*Sg	Sg	21 12 35.4	-5.8
BRG	**Berggiesshubel**	**3.12**	**284**	*e*Sg	Sg	21 12 34.4	-6.8
BRG	**Berggiesshubel**	**3.12**	**284**	P	Pn	21 11 55.3	+6.7
BRG				MLR	MLR		
	comp=N,430nm,5.9s						
BRG				MLR	MLR		
	comp=E,201nm,5.0s						
BRG				MLR	MLR		
	comp=Z,321nm,6.3s						
BRG	**Berggiesshubel**	**3.12**	**284**	Pg	Pg	21 11 55.3	-4.2
BRG				Sg	Sg	21 12 34.4	-6.8
KHC	**Kasperske Hory**	**3.52**	**254**	*e*PN	Pn	21 11 51.5	-2.7
KHC				*e*PG	Pg	21 12 00.1	-7.3
KHC				*e*SG	Sg	21 12 47.0	-7.3
	comp=Z,147nm,0.6s						
GEC2	**GERESS Array S**	**3.55**	**249**	*e*Pn	Pn	21 11 52.3	-2.3
GEC2				*e*Sg	Sg	21 12 45.1	-10
GEC2	**GERESS Array S**	**3.55**	**249**	*e*Pn	Pn	21 11 52.3	-2.4
GEC2				*e*Sg	Sg	21 12 45.1	-10
GERES	**GERESS Array B**	**3.55**	**249**	Pn	Pn	21 11 52.1	-2.6
	comp=Z,1.1nm,0.3s,baz=69,slow=14,SNR=32						
GERES				Pg	Pg	21 12 01.8	-6.3
	comp=Z,2.5nm,0.3s,baz=63,slow=15,SNR=25						
GERES				Lg		21 12 45.7	
	comp=Z,7.2nm,0.3s,baz=69,slow=25,SNR=7.4						
GERES	**GERESS Array B**	**3.55**	**249**	Pg	Pg	21 12 01.8	-6.3
ARSA	**Arzberg**	**3.65**	**217**	⇓*i*PN	Pn	21 11 54.6	-1.4
ARSA				*i* SG	Sg	21 12 56.5	-2.1
	comp=Z,27nm,0.6s						
MOA	**Molln**	**3.77**	**233**	⇑*i*PG	Pg	21 12 06.9	-5.6
MOA				*i* SG	Sg	21 12 54.5	-8.3
	comp=Z,65nm,0.7s						
CLL	**Collm**	**3.80**	**289**	*e*Pn	Pn	21 11 57.0	-1.2
CLL				*e*Sg	Sg	21 12 57.7	-5.9
CLL	**Collm**	**3.80**	**289**	*e*PN	Pn	21 11 58.0	-0.2
CLL				*i*		21 12 07.2	
CLL				*i* PG	Pg	21 12 11.9	-1.1
CLL				*e*SG	Sg	21 13 00.0	-3.6
RUE	**Ruedersdorf**	**3.84**	**308**	*e*Pg	Pg	21 12 08.6	-5.3
RUE	**Ruedersdorf**	**3.84**	**308**	*e*Pg	Pg	21 12 08.6	-5.3
WET	**Wettzell**	**3.95**	**256**	*e*Pn	Pn	21 11 57.4	-2.9
WET				*e*Sg	Sg	21 12 58.2	-10
WET	**Wettzell**	**3.95**	**256**	*e*Pn	Pn	21 11 57.4	-2.9
WET				*e*Sg	Sg	21 12 58.2	-10
PKSM	**Moragy**	**4.01**	**181**	*e*P	Pn	21 11 58.7	-2.4
TANN	**Tannenbergstha**	**4.02**	**275**	*e*Pn	Pn	21 11 58.9	-2.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TANN				eSg	Sg	21 13 02.6	-8.5
NKC	Novy Kostel	4.03	273	ePN	Pn	21 11 59.2	-2.3
NKC				eSG	Sg	21 13 01.5	-10
	comp=Z,75nm,0.6s						
GUNZ	Gunzen	4.11	275	ePn	Pn	21 12 00.7	-1.9
WERD	Werda	4.12	276	ePn	Pn	21 12 01.3	-1.5
WERD				eSg	Sg	21 13 05.1	-9.3
NOTT	Nottersdorf	4.28	267	eSg	Sg	21 13 09.9	-10
DRGR		4.33	141	⇓P	Pn	21 12 03.9	-1.8
MOX	Moxa	4.57	278	ePn	Pn	21 12 07.1	-2.0
MOX	Moxa	4.57	278	i P	Pn	21 12 06.2	-2.9
MOX				Sg	Sg	21 13 21.0	-8.3
MOX	Moxa	4.57	278	ePn	Pn	21 12 06.2	-2.9
MOX				eSg	Sg	21 13 20.6	-8.7
SUW	Suwalki	4.69	34	eP	Pn	21 12 09.4	-1.4
SUW				e		21 13 09.3	
SUW	Suwalki	4.69	34	ePn	Pn	21 12 09.4	-1.4
SUW				ePg	Pg	21 12 26.6	-4.2
SUW				eSn	Sn	21 13 09.3	+2.5
SUW				eSg	Sg	21 13 33.8	+0.5
SUW	Suwalki	4.69	34	ePn	Pn	21 12 09.4	-1.4
SUW				ePg	Pg	21 12 26.6	-4.2
SUW				eSn	Sn	21 13 09.3	+2.6
SUW				eSg	Sg	21 13 33.8	+0.5
KBA	Koelnbreinsper	4.75	231	⇑iPG	Pg	21 12 24.5	-7.6
KBA				i SG	Sg	21 13 30.8	-4.6
	comp=Z,27nm,0.7s						
GRA1	Grafenberg Arr	4.88	267	ePn	Pn	21 12 10.4	-3.1
GRA1	Grafenberg Arr	4.88	267	Pn	Pn	21 12 10.4	-3.1
GRF	Grafenberg Arr	4.88	267	ePn	Pn	21 12 10.4	-3.1
BURAR	Bucovina Array	5.01	119	⇓P	Pn	21 12 13.6	-1.7
WATA	Walderalm	5.54	241	⇑iSG	Sg	21 13 51.3	-10
	comp=Z,18nm,0.5s						
WTTA	Wattenberg	5.54	241	⇑iSG	Sg	21 13 53.2	-8.6
	comp=Z,32nm,0.7s						
MOTA	Moosalm	5.80	243	⇑iSG	Sg	21 14 00.0	-10
	comp=Z,29nm,0.7s						
SQTA	Sankt Quirin	5.81	242	⇓iSG	Sg	21 14 03.9	-6.7
	comp=Z,17nm,0.5s						
AKASG	Malin Array Be	6.72	82	P	Pn	21 12 34.9	-4.6
AKASG						21 13 49.6	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	6.72	82	Pn	Pn	21 12 34.9	-4.6
	comp=Z,0.3nm,0.3s,baz=261,slow=13,SNR=2.3						
AKASG				Pg	Pg	21 12 54.5	-17
	comp=Z,0.6nm,0.3s,baz=268,slow=12,SNR=6.2						
AKASG				Sn	Sn	21 13 49.6	-8.1
	comp=Z,1.1nm,0.3s,baz=273,slow=21,SNR=5.2						
AKASG				Lg		21 14 26.6	
	comp=Z,1.5nm,0.3s,baz=268,slow=26,SNR=5.3						
AKASG	Malin Array Be	6.72	82	Pn	Pn	21 12 34.9	-4.6
AKASG				Pg	Pg	21 12 54.5	-17
AKASG				Sn	Sn	21 13 49.6	-8.1
AKASG				Lg		21 14 26.6	
MLR	Muntele Rosu	6.77	131	Pn	Pn	21 12 35.6	-4.7
	comp=Z,0.1nm,0.3s,baz=245,slow=7.6,SNR=3.0						
DAVOX	Davos	6.81	243	Pn	Pn	21 12 38.0	-2.8
	comp=Z,0.6nm,0.3s,baz=44,slow=12,SNR=6.0						
DAVOX				Sn	Sn	21 13 53.9	-6.1
	comp=Z,0.6nm,0.3s,baz=155,slow=23,SNR=4.6						
DAVOX				Lg		21 14 34.2	
	comp=Z,1.5nm,0.3s,baz=216,slow=20,SNR=6.5						
HFS	Hagfors	10.35	346	Pn	P	21 13 23.7	-6.1
	comp=Z,0.0nm,0.3s,baz=143,slow=14,SNR=4.6						
HFS				Sn	S	21 15 16.5	-11
	comp=Z,0.1nm,0.3s,baz=143,slow=29,SNR=4.2						
NOA	NORSAR Array B	11.64	342	Pn	P	21 13 40.1	-7.4
	comp=Z,0.3nm,0.3s,baz=154,slow=12,SNR=4.0						
NOA				Sn	S	21 15 45.2	-14
	comp=Z,0.1nm,0.3s,baz=191,slow=8.0,SNR=2.4						
NOA				Lg		21 17 09.0	
	baz=242,slow=21,SNR=2.4						
NOA	NORSAR Array B	11.64	342	Pn	P	21 13 40.1	-7.4
NOA				Sn	S	21 15 45.2	-14
NOA				Lg		21 17 09.0	
FINES	FINESS Array B	11.98	17	Pn	P	21 13 44.6	-7.4
	comp=Z,0.3nm,0.3s,baz=200,slow=12,SNR=14						
FINES				Sn	S	21 15 52.0	-15
	comp=Z,0.4nm,0.3s,baz=198,slow=22,SNR=6.3						
FINES				Lg		21 17 18.6	
	comp=Z,0.1nm,0.3s,baz=239,slow=22,SNR=3.0						
ARCES	ARCESS Array B	19.65	7	Pn	P	21 15 25.7	-4.2
	comp=Z,0.2nm,0.3s,baz=186,slow=11,SNR=4.2						
GNI	Garni	20.82	109	P	P	21 15 40.0	-2.5
GNI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GNI	Garni	20.82	109	P	P	21 15 40.0	-2.5
	comp=Z,3.6nm,0.6s,baz=291,slow=16,SNR=3.6						

MEX 08 21:20:51.9±0.4, 20.34N×104.60W, h66km±20km, MD4.0, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	Chamela	0.94	207	i P	P	21 21 07.9	-1.7
CJM				eS	S	21 21 20.6	-2.2
SFJM	Santa Fe	1.47	84	i P	P	21 21 15.0	-1.8
SFJM				i S	S	21 21 33.0	-2.2
MOIG	Morelia	3.27	101	eP	P	21 21 41.3	-0.8
MOIG				i S	S	21 22 17.1	-2.8

*IDC **08** 21:28:19.0±0.4, 1.12N×97.32E, mb4.8/24, mb1 4.9/25, mb1mx4.8/27, mbtmp4.8/25, ML4.7/1, MS4.1/11, Ms1 4.2/11, ms1mx4.1/15, Error ellipse: s-maj=17.6km s-min=11.4km az=56.0*

*BJI **08** 21:28:22.4, 0.83N×97.41E, h47km, mB5.0, mb5.1, Ms4.8, Msz4.5*

*MOS **08** 21:28:22.7±1.0, 1.24N×97.39E, h33km, mb5.2/33, Error ellipse: s-maj=14.3km s-min=6.2km az=115.1*

*HRVD **08** 21:28:23.7±0.6, 0.88N×97.29E, h12km, MW4.7/45, Centroid moment Tensor Solution. LP body waves: s9,c12;Mantle waves: s45,c76; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.41±.08; $M_{\theta\theta}$-1.05±.05; $M_{\phi\phi}$0.64±.08; $M_{r\theta}$0.69±.18; $M_{\theta\phi}$0.88±.06; $M_{\phi r}$0.10±.21; Best double couple: $M_0$1.41×10^{16} NP1:ϕ_s337°,δ57°,λ171°. NP2:ϕ_s72°,δ82°,λ33°. Principal axes: T 1.215, Plg28°, Azm300°; N .389, Plg56°, Azm84°; P -1.604, Plg17°, Azm201°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 21:28:23.7±0.2, 1.18N×97.27E, mb5.0/70 Error ellipse: s-maj=6.2km s-min=4.6km az=221.0*

ISC 08 21:28:22.3±1.2**, 1.19N**±0.04×**97.30E**±0.03**, h28**km±8km**, h31**km±1.2km**:pP-P, n265,** σ0.96/270**, mb5.0**/124**, MS4.4**/29**, 35C-7D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.02	48	P	Pn	21 29 39.3	+1.5
KULM	Kulim	5.27	39	⇑iPn	Pn	21 29 42.3	+0.9
KGM	Kluang	6.08	82	P	Pn	21 29 53.4	+0.7
SNG	Songkhla	6.81	29	P	Pn	21 30 02.5	-0.5
	320nm,0.9s						
KSM	Kuching	13.01	89	ePn	P	21 31 27.9	-0.2
NST	Nakhon Sawan	14.66	11	P	P	21 31 49.5	-0.4
KKTK	Khon Kaen	16.01	20	P	P	21 32 10.5	+3.1
CMAR	Chiang Mai Arr	17.24	5	i P	P	21 32 22.7	-0.2
CMAR				pmax	pmax		
	comp=Z,12nm,0.7s						
CMAR	Chiang Mai Arr	17.24	5	P	P	21 32 22.3	-0.6
	comp=Z,0.9nm,0.3s,baz=196,slow=12,SNR=32						
CMAR				PcP	PcP	21 37 06.6	+0.4
	comp=Z,0.1nm,0.3s,baz=153,slow=3.2,SNR=4.2						
CMAR				LR	LR	21 39 28.7	
	comp=Z,820nm,18.6s,baz=180,slow=39						
PALK	Pallekele	17.61	291	eP	P	21 32 27.3	-0.3
	comp=Z,25nm,0.7s						
KKM	Kota Kinabalu	19.48	75	eP	P	21 32 50.4	+0.2
TSM	Tawau	20.78	81	P	P	21 33 06.2	+2.2
VIS	Vishakhapatnam	21.41	321	eP	P	21 33 10.3	0.0
VIS				AMb	AMB	21 33 19.4	
	comp=Z,124nm,1.0s,mb5.2						
VIS				AMb	AMB	21 33 51.5	
	comp=Z,88nm,1.5s,mb4.9						
QIZ	Qiongzhong	21.58	34	P	P	21 33 12.3	+0.3
QIZ				S	S	21 37 04.3	-0.2
QIZ				XS		21 37 19.6	
QIZ				LR	LR		
	comp=N,905nm,14.3s						
QIZ				LR	LR		
	comp=Z,500nm,11.8s,MS4.1						
KMI	Kunming	24.37	12	⇑P	P	21 33 41.8	+2.4
KMI				AP		21 33 50.4	
KMI				XP		21 33 54.6	
KMI				PP	PP	21 34 17.3	+2.3
KMI				PPP	PPP	21 34 30.2	+4.8
KMI				PCP	PcP	21 37 21.0	+1.3
KMI				S	S	21 37 58.9	+4.7
KMI				SS	SS	21 38 54.3	+5.6
KMI				AMB	AMB		
	comp=Z,86nm,1.2s,mb5.1						
KMI				LR	LR		
	comp=N,1µm,14.8s,MS4.7						
KMI				LR	LR		
	comp=E,962nm,12.9s,MS4.7						
KMI				LR	LR		
	comp=Z,2µm,15.4s,MS4.6						
HYB	Hyderabad	24.49	312	eP	P	21 33 41.0	+0.3
	comp=Z,60nm,1.0s,mb5.0						
HYB	Hyderabad	24.49	312	i P	P	21 33 41.0	+0.3
	comp=Z,60nm,1.0s,mb5.0						
SHL	Shillong	24.79	348	eP	P	21 33 45.0	+1.5
SHL				e		21 38 17.0	
BLSP	Bilaspur	25.52	326	eP	P	21 33 51.6	+1.2
GYA	Guiyang	26.69	19	P	P	21 34 01.1	-0.1
GYA				AP	pP	21 34 10.2	+0.9
GYA				XP	sP	21 34 14.4	+1.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GYA				AMB	AMB		
	comp=Z,260nm,7.5s						
GYA				LR	LR		
	comp=N,1µm,14.4s,MS4.7						
GYA				LR	LR		
	comp=E,1µm,13.5s,MS4.7						
GYA				LR	LR		
	comp=Z,2µm,16.2s,MS4.7						
PKI	Pulchoki	28.60	338	eP	P	21 34 19.2	+0.7
	comp=Z,167nm,1.3s,mb5.6						
GUN	Gumba	28.73	339	eP	P	21 34 21.1	+1.4
	comp=Z,170nm,0.8s,mb5.8						
DMN	Daman	28.75	337	eP	P	21 34 20.3	+0.4
KKN	Kakani	28.84	338	eP	P	21 34 21.5	+0.8
	comp=Z,105nm,1.0s,mb5.5						
LSA	Lhasa	28.95	349	P	P	21 34 23.8	+2.2
LSA	Lhasa	28.95	349	eP	P	21 34 22.6	+1.0
	comp=Z,16nm,0.7s,mb4.8						
BHPL	Bhopal	29.20	320	⇑eP	P	21 34 24.8	+0.8
BHPL				AMb	AMB	21 34 32.1	
	comp=Z,16nm,1.0s,mb4.7						
BHPL				AMb	AMB	21 34 33.5	
	comp=Z,19nm,1.8s,mb4.5						
GKN	Gorkha	29.29	337	eP	P	21 34 25.5	+0.8
	comp=Z,82nm,0.9s,mb5.5						
KOLN	Koldanda	29.51	335	eP	P	21 34 27.8	+1.1
	comp=Z,73nm,0.7s,mb5.5						
CD2	Chengdu	30.19	11	eP	P	21 34 32.0	-0.7
ENH	Enshi	31.15	21	eP	P	21 34 39.7	-1.5
	comp=Z,27nm,0.8s,mb5.1						
QZH	Quanzhou	31.32	39	eP	P	21 34 42.8	+0.1
QZH				eS	S	21 39 46.0	-0.7
QZH				LR	LR		
	comp=N,3µm,17.8s,MS5.2						
QZH				LR	LR		
	comp=E,3µm,16.2s,MS5.2						
QZH				LR	LR		
	comp=Z,1µm,11.9s,MS4.8						
LGTI	Lohaghat	32.46	332	⇓iP	P	21 34 54.5	+1.9
WHN	Wuhan	33.38	27	eP	P	21 34 59.4	-1.2
FITZ	Fitzroy Crossi	33.84	126	eP	P	21 35 02.0	-2.8
	comp=Z,9.9nm,0.6s,mb4.9						
FITZ	Fitzroy Crossi	33.84	126	P	P	21 35 01.7	-3.1
	comp=Z,12nm,0.6s,mb5.0,baz=331,slow=3.1,SNR=22						
DDI	Dehra Dun	34.25	330	eP	P	21 35 08.0	-0.2
DDI				e		21 38 48.2	
XAN	Xi'an	34.44	17	P	P	21 35 08.3	-1.5
XAN				AP	pP	21 35 18.7	+0.6
XAN				S	S	21 40 35.1	-0.1
XAN				AMB	AMB		
	comp=Z,37nm,0.9s,mb5.3						
XAN				LR	LR		
	comp=N,351nm,14.8s,MS4.6						
XAN				LR	LR		
	comp=E,811nm,14.8s,MS4.6						
XAN				LR	LR		
	comp=Z,588nm,16.7s,MS4.4						
LZH	Lanzhou	35.25	9	eP	P	21 35 16.6	-0.1
LZH				AP	pP	21 35 26.4	+1.4
LZH				XP	sP	21 35 30.9	+2.4
LZH				AMB	AMB		
	comp=Z,60nm,1.4s,mb5.3						
LZH				AMB	AMB		
	comp=Z,210nm,4.1s						
LZH				LR	LR		
	comp=E,870nm,12.6s						
LZH				LR	LR		
	comp=Z,1µm,19.2s						
SDNR	Sundarnagar	35.75	329	eP	P	21 35 21.0	0.0
SDNR				e		21 38 08.4	
NJ2	Nanjing	36.82	31	eP	P	21 35 27.8	-2.2
NJ2				AP	pP	21 35 37.5	-0.8
NJ2				PP	PP	21 36 53.7	-2.1
NJ2				S	S	21 41 09.0	-2.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,40nm,6.3s						
NJ2				LR	LR		
	comp=N,1µm,20.1s,MS4.9						
NJ2				LR	LR		
	comp=E,1µm,18.5s,MS4.9						
NJ2				LR	LR		
	comp=Z,540nm,14.6s,MS4.5						
THN	Thein Dam	37.13	329	eP	P	21 35 31.8	-0.8
THN				e		21 36 40.3	
THN				e		21 37 39.8	
SSE	Sheshan	37.37	35	eP	P	21 35 33.8	-0.8
SSE				AP	pP	21 35 42.6	-0.3
SSE				S	S	21 41 21.0	+0.7
SSE				XS		21 41 36.1	
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,91nm,3.5s						
SSE				LR	LR		
	comp=N,250nm,13.2s,MS4.6						
SSE				LR	LR		
	comp=E,547nm,13.3s,MS4.6						
SSE				LR	LR		
	comp=Z,478nm,14.3s,MS4.4						
MUN	Mundaring	37.54	153	eP	P	21 35 38.2	+2.2
	comp=Z,7.1nm,0.9s,mb4.4						
KLBR	Kellerberrin	37.94	151	eP	P	21 35 41.5	+2.1
	comp=Z,16nm,0.8s,mb4.8						
GTA	Gaotai	38.11	3	eP	P	21 35 41.2	+0.5
GTA				AP	pP	21 35 49.8	+0.7
GTA				XP	sP	21 35 54.2	+1.7
GTA				PP	PP	21 37 12.0	+0.7
GTA				PPP	PPP	21 37 36.0	+2.5
GTA				PCP	PcP	21 37 56.2	+0.3
GTA				S	S	21 41 34.7	+3.2
GTA				XS		21 41 49.6	
GTA				SS	SS	21 44 15.2	+5.4
GTA				AMB	AMB		
	comp=Z,33nm,1.0s,mb5.0						
GTA				AMB	AMB		
	comp=Z,115nm,8.7s						
GTA				LR	LR		
	comp=N,332nm,13.7s,MS4.4						
GTA				LR	LR		
	comp=E,290nm,17.1s,MS4.4						
GTA				LR	LR		
	comp=Z,352nm,13.3s,MS4.3						
NWAO	Narrogin (SRO)	38.80	153	P	P	21 35 45.0	-1.7
	comp=Z,29nm,0.8s,mb5.1,baz=319,slow=8.1,SNR=12						
NWAO	Narrogin (SRO)	38.80	153	eP	P	21 35 48.6	+2.0
	comp=Z,53nm,1.3s,mb5.1						
JOW	Kunigami	39.18	47	P	P	21 35 48.8	-1.0
	comp=Z,16nm,0.6s,mb5.0,baz=124,slow=2.8,SNR=4.4						
CHCP	Chirah Chowk	39.38	328	P	P	21 35 50.8	-0.6
THW	Thamme Wali	39.57	325	P	P	21 35 52.3	-0.7
DRP	Derazinda	39.72	323	P	P	21 35 54.7	+0.4
SBDP	Sheikh Budin	39.75	324	P	P	21 35 53.7	-0.8
CEP	Cherat	40.24	326	P	P	21 35 58.0	-0.5
BTO	Baotou	40.90	15	eP	P	21 36 04.6	+0.8
BTO				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.4						
HHC	Hu-ho-hao-te	41.54	16	eP	P	21 36 10.0	+0.9
HHC				AP	pP	21 36 18.7	+1.2
HHC				XP	sP	21 36 23.5	+2.5
HHC				PP	PP	21 37 53.4	+5.2
HHC				PCP	PcP	21 38 06.6	-0.3
HHC				SCP		21 41 52.0	
HHC				PCS		21 41 58.0	
HHC				S	S	21 42 27.9	+5.0
HHC				XS		21 42 43.5	
HHC				SCS	ScS	21 46 06.1	-2.4
HHC				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.5						
HHC				AMB	AMB		
	comp=Z,82nm,8.4s						
HHC				LR	LR		
	comp=N,459nm,14.4s,MS4.6						
HHC				LR	LR		
	comp=E,482nm,19.2s,MS4.6						
HHC				LR	LR		
	comp=Z,447nm,16.8s,MS4.4						
WRA	Warramunga Arr	41.95	122	i P	P	21 36 11.6	-1.2
WRA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
WRA	Warramunga Arr	41.95	122	P	P	21 36 10.8	-2.0
	comp=Z,8.3nm,0.6s,mb4.5,baz=300,slow=9.0,SNR=42						
WRAB	Tennant Creek	41.95	122	⇓iP	P	21 36 11.3	-1.5
WRAB	Tennant Creek	41.95	122	eP	P	21 36 11.5	-1.3
	comp=Z,13nm,0.6s,mb4.7						
WB2	Warramunga Arr	41.96	122	eP	P	21 36 11.2	-1.6
WMQ	Urumqi	43.30	350	P	P	21 36 22.0	-1.5
WMQ				AP	pP	21 36 31.9	+0.1
WMQ				PP	PP	21 38 04.8	-1.4
WMQ				S	S	21 42 46.1	-2.6
WMQ				AMB	AMB		
	comp=Z,49nm,1.2s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,98nm,4.1s						
WMQ				LR	LR		
	comp=Z,164nm,16.2s,MS4.0						
DL2	Dalian	43.64	28	P	P	21 36 27.6	+1.3
DL2				S	S	21 42 56.9	+3.2
DL2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
DL2				LR	LR		
	comp=N,140nm,16.7s,MS4.3						
DL2				LR	LR		
	comp=E,300nm,16.5s,MS4.3						
DL2				LR	LR		
	comp=Z,330nm,16.7s,MS4.3						
KS15	Wonju Array Si	45.77	34	eP	P	21 36 43.7	+0.3
KBK	Karagaybulak	45.89	337	P	P	21 36 46.2	+2.0
	SNR=14						
AAK	Ala-Archa	46.05	337c	iP	P	21 36 45.6	+0.1
AAK	Ala-Archa	46.05	337	eP	P	21 36 45.6	+0.1
	comp=Z,63nm,2.0s,mb5.2						
SNY	Shenyang	46.87	27	⇓P	P	21 36 52.2	+0.2
SNY				S	S	21 43 47.6	+7.5
SNY				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
SNY				LR	LR		
	comp=N,390nm,15.9s,MS4.8						
SNY				LR	LR		
	comp=E,610nm,14.7s,MS4.8						
SNY				LR	LR		
	comp=Z,310nm,16.5s,MS4.3						
SONM	Songino Array	47.13	8	P	P	21 36 54.7	+0.7
	comp=Z,13nm,0.7s,mb5.0,baz=192,slow=9.1,SNR=38						
SONM				PcP	PcP	21 38 24.7	-1.2
	comp=Z,7.0nm,0.9s,baz=192,slow=3.9,SNR=5.3						
SONM				LR	LR	21 58 58.9	
	comp=Z,512nm,20.0s,MS4.5,baz=306,slow=39						
ULN	Ulaanbaatar	47.26	9c	iP	P	21 36 50.2	-4.8
ULN	Ulaanbaatar	47.26	9	eP	P	21 36 50.0	-5.0
	comp=Z,9.8nm,0.8s,mb4.8						
ULN				ePcP	PcP	21 38 20.4	-5.9
MKAR	Makanchi Array	47.27	346	i P	P	21 36 55.4	+0.2
MKAR				pmax	pmax		
	comp=Z,28nm,0.9s						
MKAR	Makanchi Array	47.27	346	P	P	21 36 55.6	+0.4
	comp=Z,18nm,0.7s,mb5.1,baz=159,slow=7.8,SNR=113						
MKAR				LR	LR	22 00 43.5	
	comp=Z,167nm,20.7s,MS4.0,baz=171,slow=41						
KKAR	Karatay Array	48.11	334	i P	P	21 36 59.4	-2.3
KKAR				pmax	pmax		
	comp=Z,73nm,0.2s						
CN2	Changchun	49.27	27	⇓P	P	21 37 10.8	+0.1
CN2				eAP	pP	21 37 21.8	+2.6
CN2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3						
CN2				LR	LR		
	comp=N,500nm,16.0s,MS4.8						
CN2				LR	LR		
	comp=E,500nm,16.0s,MS4.8						
CN2				LR	LR		
	comp=Z,400nm,16.0s,MS4.5						
ZAK	Zakamensk	49.27	5	⇑iP	P	21 37 11.0	+0.4
ZAK				e		21 38 32.9	
ZAK				e		21 39 05.8	
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb4.0						
TLY	Talaya	50.59	5	eP	P	21 37 20.8	+0.1
TLY				eS	S	21 44 38.4	+6.3
TLY				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
TLY				MLR	MLR		
	comp=Z,420nm,17.0s,MS4.5						
TLY	Talaya	50.59	5	eP	P	21 37 20.9	+0.2
IRK	Irkutsk	51.21	5	eP	P	21 37 37.0	+12
HIA	Hailar	51.62	19	eP	P	21 37 27.7	-0.8
	comp=Z,13nm,0.8s,mb4.9						
MJAR	Matsushiro Arr	51.63	42	P	P	21 37 27.8	-1.1
	comp=Z,0.7nm,0.5s,baz=225,slow=7.1,SNR=4.5						
MJAR				LR	LR	21 58 40.2	
	comp=Z,118nm,20.9s,baz=205,slow=35						
MDJ	Mudanjiang	51.83	29	P	P	21 37 29.3	-0.9
MDJ				AP	pP	21 37 38.4	-0.3
MDJ				PCP	PcP	21 38 41.2	-1.8
MDJ				PP	PP	21 39 27.3	-1.4
MDJ				SCP		21 42 35.2	
MDJ				PCS		21 42 39.5	
MDJ				S	S	21 44 53.3	+4.1
MDJ				XS		21 45 06.7	
MDJ				SCS	ScS	21 47 16.9	+1.8
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,53nm,6.4s						
MDJ				LR	LR		
	comp=N,364nm,16.5s,MS4.7						
MDJ				LR	LR		
	comp=E,533nm,19.1s,MS4.7						
MDJ				LR	LR		
	comp=Z,319nm,13.9s						
MDJ	Mudanjiang	51.83	29	eP	P	21 37 30.7	+0.5
	comp=Z,10nm,0.8s,mb4.8						
CTAO	Charters Tower	52.41	117	eP	P	21 37 34.9	0.0
	comp=Z,5.1nm,0.8s,mb4.5						
CIT	Chita	52.46	13	eP	P	21 37 35.5	+0.7
CIT				e		21 37 52.1	
CIT				pmax	pmax		
	comp=Z,52nm,2.2s,mb5.1						
STKA	Stephens Creek	53.28	132	⇓iP	P	21 37 40.3	-0.9
	comp=Z,23nm,0.8s,mb5.2						
STKA	Stephens Creek	53.28	132	P	P	21 37 40.4	-0.8
	comp=Z,29nm,0.8s,mb5.3,baz=311,slow=7.1,SNR=36						
STKA				LR	LR	22 03 38.5	
	comp=Z,358nm,18.1s,MS4.5,baz=113,slow=40						
ZAL	Zalesovo	53.57	351	i P	P	21 37 43.5	+0.5
ZAL				pmax	pmax		
	comp=Z,14nm,0.6s						
ZAL	Zalesovo	53.57	351	P	P	21 37 42.9	-0.2
	comp=Z,14nm,0.6s,mb5.1,baz=314,slow=5.8,SNR=68						
QRN	Al-Qurain	54.45	305	eP	P	21 37 49.9	+0.1
QRN				AMb	AMB	21 37 51.0	
	comp=Z,56nm,0.6s,mb5.7						
NVS	Novosibirsk	54.70	350	⇑iP	P	21 37 49.9	-1.4
NVS				i		21 39 48.7	
NVS				eS	S	21 45 28.6	+0.6
NVS				pmax	pmax		

comp=Z,21nm,1.1s,mb5.1
NVS pmax pmax
comp=N,12nm,1.3s
NVS pmax pmax
comp=E,11nm,1.3s
NVS pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
NVS smax
comp=N,6.0nm,1.4s
NVS smax
comp=E,8.0nm,1.8s
KBD Kabd 54.78 305 *e*P **P 21 37 52.2 -0.1**
RDF Al-Radifah 54.81 305 *e*P **P 21 37 52.4 -0.1**
RDF AMb AMB 21 37 53.5
comp=Z,96nm,0.8s,mb5.9
UMR Umm Al-Rimmam 54.90 306 *e*P **P 21 37 52.6 -0.6**
UMR AMb AMB 21 37 54.1
comp=Z,66nm,0.8s,mb5.7
NAY Al-Naaiem 55.18 305 *e*P **P 21 37 55.3 +0.2**
NAY AMb AMB 21 37 56.2
comp=Z,47nm,0.7s,mb5.6
MIB Mutribah 55.30 306 *e*P **P 21 37 56.2 +0.2**
MIB AMb AMB 21 37 57.3
comp=Z,92nm,0.7s,mb6.0
VOSK Vostochnaya 55.84 341 P **P 21 37 58.3 -1.3**
VOSK pmax pmax
comp=Z,11nm,0.9s,mb4.9
VOSK Vostochnaya 55.84 341 *i* P **P 21 37 58.3 -1.3**
KLR Kul'dur 56.22 27 *e*P **P 21 38 00.0 -2.4**
KLR MLR MLR
comp=N,700nm,13.5s,MS5.0
KLR MLR MLR
comp=E,500nm,13.5s,MS5.0
KLR MLR MLR
comp=Z,900nm,13.5s,MS5.0
BVA0 Borovoye Array 56.29 341 *i* P **P 21 38 01.7 -1.1**
BVA0 pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
BVAR Borovoye Array 56.29 341 P **P 21 38 01.8 -1.0**
comp=Z,9.4nm,0.7s,mb4.9,baz=149,slow=8.6,SNR=82
ZRNK Zerenda 56.69 340 P **P 21 38 04.4 -1.3**
ZRNK pmax pmax
comp=Z,11nm,1.0s,mb4.8
ZRNK Zerenda 56.69 340 *e*P **P 21 38 04.0 -1.7**
BOD Bodaibo 58.00 10 *e*P **P 21 38 14.6 -0.2**
BOD pmax pmax
comp=Z,11nm,0.9s,mb4.9
TOO Toolangi 58.87 136 *e*P **P 21 38 24.3 +3.1**
comp=Z,9.6nm,0.8s,mb4.9
CLNS Chul'man 59.72 17 *e*P **P 21 38 26.2 -0.6**
CLNS pmax pmax
comp=Z,12nm,1.1s,mb4.8
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,3.0nm,1.1s
CLNS MLR MLR
comp=N,200nm,14.0s,MS4.4
CLNS MLR MLR
comp=Z,300nm,14.0s,MS4.6
CLNS MLR MLR
comp=E,50nm,13.0s,MS4.4
KMBO Kilima Mbogo 60.08 268 *i* P **P 21 38 29.8 -0.1**
KMBO pmax pmax
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 60.08 268 P **P 21 38 29.8 -0.1**
comp=Z,3.5nm,1.0s,mb4.3,baz=34,slow=18,SNR=6.1
KMBO Kilima Mbogo 60.08 268 P **P 21 38 29.8 -0.1**
YSS Yuzh-Sakhalins 60.30 34 *e*P **P 21 38 31.0 +0.1**
YSS *e* pP 21 38 39.6 0.0
YSS *e* 21 39 08.4
YSS MLR MLR
comp=Z,200nm,16.0s,MS4.3
YSS MLR MLR
comp=E,200nm,15.0s
YSS Yuzh-Sakhalins 60.30 34⇓ *i*P **P 21 38 30.1 -0.8**
GNI Garni 61.37 316 P **P 21 38 38.1 -0.2**
comp=E,12nm,0.8s,mb5.1,baz=148,slow=9.0,SNR=5.1
GNI Garni 61.37 316 *e*P **P 21 38 37.5 -0.8**
comp=E,19nm,0.9s,mb5.2
DGRG David-gareji 61.50 318 P **P 21 38 39.1 0.0**
UMJS Umm Lajj 61.50 298 P **P 21 38 46.8 +0.7**
SVE Sverdlovsk 62.73 338⇑ *e*P **P 21 38 46.5 -0.6**
SVE *e* 21 38 58.0
SVE *e*S S 21 47 38.0 +26
SVE pmax pmax
comp=Z,40nm,1.6s,mb5.3
SVE MLR MLR
comp=N,100nm,16.0s,MS4.2
SVE MLR MLR
comp=E,100nm,16.0s,MS4.2
SVE MLR MLR
comp=Z,100nm,16.0s,MS4.1
ZEI Tsey 63.07 318 *e*P **P 21 38 46.5 -3.1**
ZEI *i* *PP pP 21 38 56.3 -1.9
ZEI *i* 21 41 09.7
ZEI pmax pmax
comp=Z,18nm,0.8s,mb5.2
ARU Arti 63.23 337⇑ *i*P **P 21 38 48.9 -1.5**
ARU *e* 21 39 25.2
ARU *e* 21 41 06.2
ARU *e*PPP PPP 21 42 36.2 -6.1
ARU *e*S **S 21 47 19.2 +0.6**
ARU *e*SS SS 21 51 26.6 -0.3
ARU pmax pmax
comp=Z,13nm,1.1s,mb5.0
ARU Arti 63.23 337 *e*P **P 21 38 48.2 -2.2**
comp=Z,18nm,1.2s,mb5.1
TBKS Tabuk 63.84 301 P **P 21 38 55.2 +0.2**
QURS Qurayyt al Mil 63.99 305 P **P 21 38 56.2 +0.3**
KIV Kislovodsk 64.38 319*c* *i*P **P 21 38 57.2 -1.0**
KIV pmax pmax
comp=Z,32nm,1.0s,mb5.3
KIV Kislovodsk 64.38 319 *e*P **P 21 38 56.5 -1.7**
comp=Z,29nm,1.0s,mb5.3
ASF Jabal al Asfar 64.55 305 P **P 21 38 59.7 +0.2**
comp=Z,12nm,0.9s,mb5.0,baz=341,slow=4.7,SNR=21
JMQS Jabal Moqyreh 64.57 301 P **P 21 38 59.8 0.0**
GOF Gofitskoye 64.63 320⇑ *i*P **P 21 38 58.2 -1.6**
GOF pmax pmax
comp=Z,20nm,1.3s,mb5.0
BDAS Al Bad' **65.13 301** P **P 21 39 03.0 -0.3**
MALT Malatya 65.21 312 *e*P **P 21 39 02.9 -0.8**
comp=Z,10nm,0.9s,mb4.9
JMOS Jabal al Moall 65.29 302 P **P 21 39 04.1 -0.3**
TAYS Tayyib Ism 65.36 301 P **P 21 39 04.4 -0.3**
ALWS Ilw as Safayha 65.36 302 P **P 21 39 04.6 -0.2**
YAK Yakutsk 65.40 16 *e*P **P 21 39 03.5 -1.0**
YAK *e**PP pP 21 39 13.2 0.0
YAK *e* 21 39 32.3
YAK *e* 21 41 33.9
YAK *e*S S 21 47 51.4 +6.0
YAK *e*SS SS 21 52 04.8 +4.4
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=Z,16nm,1.0s,mb5.0
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
YAK smax
comp=N,2.0nm,1.1s
YAK smax
comp=E,3.0nm,1.1s
YAK MLR MLR
comp=Z,167nm,16.0s,MS4.3
YAK MLR MLR
comp=N,125nm,15.0s,MS4.3
YAK MLR MLR
comp=E,86nm,13.0s,MS4.3
YAK Yakutsk 65.40 16 *e*P **P 21 39 01.8 -2.7**
comp=E,48nm,1.2s,mb5.4
HAQS Haql 65.42 301 P **P 21 39 04.9 -0.2**
EIL Elat 65.54 302 P **P 21 39 05.7 -0.2**
comp=E,22nm,0.8s,mb5.2,baz=101,slow=4.5,SNR=28
EIL Elat 65.54 302 *e*P **P 21 39 05.2 -0.7**
comp=E,23nm,0.8s,mb5.3
SOKR Solikamsk 66.13 339⇑ *i*P **P 21 39 08.8 -0.3**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SOC Sochi 66.19 318 *e*P **P 21 39 10.3 +0.5**
SOC *e* 21 39 34.3
SOC *e*PPP PPP 21 43 20.0 +6.8
SOC *e*S S 21 47 59.7 +4.4
SOC *e* 21 48 54.6
SOC pmax pmax
comp=Z,31nm,0.9s,mb5.3
SOC pmax pmax
comp=N,23nm,1.0s
SOC pmax pmax
comp=E,10.0nm,1.0s
MBAR Mbarara 66.58 269 *e*P **P 21 39 11.4 -1.4**
comp=E,12nm,1.1s,mb4.9
ANN Anapa 68.17 318 *e*P **P 21 39 21.9 -0.4**
ANN *e*S S 21 48 19.9 +0.8
ANN pmax pmax
comp=Z,34nm,1.2s,mb5.2
BR131 Keskin Array S 69.19 312 *e*P **P 21 39 27.0 -1.7**
comp=Z,6.7nm,0.8s,mb4.6
BRTR Keskin Array B 69.19 312 P **P 21 39 26.9 -1.8**
comp=Z,6.8nm,0.8s,mb4.6,baz=131,slow=7.2,SNR=40
VOR Voronezh 69.83 326 *e*P **P 21 39 31.0 -1.4**
VOR pmax pmax
comp=Z,40nm,1.4s,mb5.2
LSZ Lusaka 70.20 253 *e*P **P 21 39 34.0 -1.3**
comp=Z,6.0nm,1.4s,mb4.3
SIM Simferopol' **70.44 318**⇑ *e*P **P 21 39 35.3 -0.9**
SIM PS PS 21 49 24.0 +7.2
SIM pmax pmax
comp=Z,18nm,1.0s,mb5.0
ISP Isparta 71.06 310 *e*P **P 21 39 37.1 -3.0**
ISP Isparta 71.06 310 *e*P **P 21 39 37.2 -3.0**
MOS Moscow 72.39 329 *e*P **P 21 39 47.1 -0.7**
MOS pmax pmax
comp=Z,40nm,1.2s,mb5.2
OBN Obninsk 72.68 328⇓ *i*P **P 21 39 46.9 -2.6**
OBN pmax pmax
comp=Z,33nm,1.6s,mb5.0
OBN Obninsk 72.68 328 *e*P **P 21 39 47.5 -2.0**
comp=Z,3.7nm,0.6s,mb4.5
MAW Mawson 72.72 193 P **P 21 39 48.8 -0.7**
comp=Z,9.8nm,0.6s,mb4.9,baz=12,slow=6.3,SNR=30
MAW LR LR 22 05 25.6
comp=Z,232nm,18.4s,MS4.5,baz=266,slow=31
TIXI Tiksi 73.18 10 *e*P **P 21 39 49.2 -2.9**
TIXI pmax pmax
comp=Z,13nm,0.9s,mb4.9
SEY Seymchan 73.73 23 *e*P **P 21 39 55.3 -0.2**
SEY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TIRR Tirgusor 74.20 316 P **P 21 39 58.0 -0.5**
CFR Carcaliu 74.56 317 P **P 21 40 00.2 -0.4**
HARR Harsova 74.59 316 P **P 21 40 00.5 -0.3**
APE Apeiranthos 74.78 308 *i* P **P 21 39 59.7 -2.3**
BOSA Boshof 74.86 240 P **P 21 40 01.7 -1.0**
comp=Z,3.7nm,0.8s,mb4.3,baz=93,slow=5.9,SNR=9.6
BOSA LR LR 22 09 23.1
comp=Z,144nm,21.3s,MS4.2,baz=41,slow=33
BOSA Boshof 74.86 240 *e*P **P 21 40 01.6 -1.1**
comp=Z,17nm,1.4s,mb4.8
IDI Anoyia 74.98 306 P **P 21 40 02.4 -0.9**
comp=Z,16nm,0.7s,mb5.0,baz=103,slow=4.0,SNR=12
AKASG Malin Array Be 75.32 322 *i* P **P 21 40 03.6 -1.3**
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKASG Malin Array Be 75.32 322 P **P 21 40 03.4 -1.5**
comp=Z,6.8nm,0.9s,mb4.6,baz=89,slow=4.7,SNR=40
VRI Vrincioaia 75.69 317 P **P 21 40 07.5 +0.4**
MLR Muntele Rosu 76.14 317 P **P 21 40 10.4 +0.8**
KWP Kalwaria 79.14 320 *e*P **P 21 40 26.3 +0.2**
SUR Sutherland 79.24 237 *e*P **P 21 40 27.3 +0.3**
comp=Z,19nm,1.0s,mb5.0
KOLS Kolonicke sedl 79.29 320 *e*P **P 21 40 28.1 +1.2**
KOLS *e* pP 21 40 37.5 +1.7
KOLS Kolonicke sedl 79.29 320 *e*P **P 21 40 28.1 +1.2**
KOLS *e* 21 40 32.1
KOLS *e*pP pP 21 40 37.5 +1.7
SUW Suwalki 79.74 325 *e*P **P 21 40 28.6 -0.6**
SUW Suwalki 79.74 325 *e*P **P 21 40 28.6 -0.6**
CRVS Cervenica-Dubn 79.81 319 *e*P **P 21 40 30.0 +0.3**
CRVS *e*pP pP 21 40 38.5 -0.1
SYO Syowa Base 80.02 198 ⇑P **P 21 40 31.7 +1.2**
SYO Syowa Base 80.02 198 ⇑PcP PcP 21 40 36.0 -2.2
STHS Stebnicka Huta 80.04 320 *e*P **P 21 40 32.3 +1.4**
STHS *e* pP 21 40 41.9 +2.1
STHS Stebnicka Huta 80.04 320 *e*P **P 21 40 32.3 +1.4**
STHS *e* 21 40 34.8
STHS *e*pP pP 21 40 41.9 +2.1
FINES FINESS Array B 80.05 332 *i* P **P 21 40 30.5 -0.3**
FINES pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 80.05 332 P **P 21 40 30.1 -0.6**
comp=Z,4.7nm,0.7s,mb4.5,baz=102,slow=5.4,SNR=27
FINES LR LR 22 23 06.2
comp=Z,70nm,18.5s,MS4.0,baz=121,slow=41
KAF Kangasniemi 80.13 333 *e*p **P 21 40 30.2 -1.0**
comp=Z,6.1nm,0.7s,mb4.6,baz=103,slow=5.0
KECS Kecovo 80.38 319 *e*P **P 21 40 32.6 -0.2**
KECS *e* pP 21 40 42.9 +1.3
KECS Kecovo 80.38 319 *e*P **P 21 40 32.6 -0.2**
KECS *e* 21 40 35.7
KECS *e*pP pP 21 40 42.9 +1.3
PSZ Piszkesteto 80.68 318 *e*P **P 21 40 33.5 -0.9**
comp=Z,8.3nm,1.0s,mb4.6
VYHS Vyhne 81.46 319 *e*P **P 21 40 38.6 +0.1**
OKC Ostrava-Krasne 82.09 320 *e*P **P 21 40 41.8 +0.1**
MORC Moravsky Berou 82.47 320 *e*P **P 21 40 43.0 -0.7**
comp=Z,16nm,1.3s,mb4.8
MORC *e*pP pP 21 40 54.1 +1.5
ZST Bratislava 82.57 318 *e*P **P 21 40 45.0 +0.8**
ZST *e* 21 40 50.6
ARCES ARCESS Array B 82.58 340 P **P 21 40 44.3 +0.4**
comp=Z,5.3nm,0.8s,mb4.6,baz=98,slow=4.9,SNR=26
ARE0 ARCESS Array S 82.58 340 *e*P **P 21 40 43.7 -0.2**
KOGS Kog 82.96 317 *e*P **P 21 40 46.5 +0.2**
DPC Dobruska-Polom 83.32 320 *e*P **P 21 40 48.4 +0.4**
KSP Ksiaz 83.39 321 *e*P **P 21 40 49.0 +0.6**
KSP Ksiaz 83.39 321 *e*P **P 21 40 49.0 +0.6**
UPC Upice 83.53 321 *e*P **P 21 40 49.4 +0.3**
PRU Pruhonice 84.42 320 *e*P **P 21 40 54.1 +0.4**
PRU AMS AMS 22 25 40.0
comp=Z,100nm,21.6s
PVCC Panska Ves 84.45 320 *e*P **P 21 40 54.3 +0.5**
AQU L'Aquila 84.68 312 *e*P **P 21 40 54.4 -0.7**
comp=Z,14nm,0.8s,mb5.1
BRG Berggiesshubel 84.88 321 *e*P **P 21 40 56.3 +0.4**
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BRG Berggiesshubel 84.88 321 *e*P **P 21 40 56.3 +0.4**
comp=Z,9.0nm,1.0s,mb4.8
GEC2 GERESS Array S 84.88 319 P **P 21 40 56.5 +0.5**
GEC2 pmax pmax
comp=Z,19nm,1.1s,mb5.1
GEC2 GERESS Array S 84.88 319 *e*P **P 21 40 56.5 +0.5**
comp=Z,19nm,1.1s,mb5.1
GERES GERESS Array B 84.88 319 P **P 21 40 56.1 +0.1**
comp=Z,7.7nm,0.9s,mb4.8,baz=104,slow=5.5,SNR=55
KHC Kasperske Hory 84.98 319 *e*P **P 21 40 56.4 -0.1**
KHC AMS AMS 22 25 10.0
comp=Z,100nm,21.2s
WET Wettzell 85.44 319 P **P 21 40 59.1 +0.3**
WET pmax pmax
comp=Z,12nm,1.1s,mb4.9
WET Wettzell 85.44 319 *e*P **P 21 40 59.1 +0.3**
comp=Z,12nm,1.1s,mb4.9
CLL Collm 85.50 321⇑ *i*P **P 21 40 59.2 +0.2**
CLL *e**PP pP 21 41 05.0 -2.9
CLL pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
CLL Collm 85.50 321⇑ *i*P **P 21 40 59.2 +0.2**
comp=Z,8.0nm,1.1s,mb4.8
CLL *e*pP pP 21 41 05.0 -2.9
CLL Collm 85.50 321 ⇑P **P 21 40 59.2 +0.2**
comp=Z,logA/T=0.9,mb4.8
CLL *e**PP pP 21 41 05.0 -2.9
CLL *e**SP sP 21 41 10.0 -0.8
CLL *e*S S 21 51 42.0 +15
NKC Novy Kostel 85.79 320 *e*P **P 21 41 00.9 +0.5**
VNDA Vanda 85.80 169 P **P 21 40 59.8 -0.1**
comp=Z,1.8nm,0.9s,mb4.3,baz=305,slow=3.6,SNR=7.1
VNDA LR LR 22 14 55.1
comp=Z,115nm,19.6s,MS4.3,baz=298,slow=33
VNDA Vanda 85.80 169 *e*P **P 21 41 00.8 +0.9**
comp=Z,1.7nm,0.8s,mb4.3
MOX Moxa 86.34 320 *e*P **P 21 41 03.8 +0.6**
MOX pmax pmax
comp=Z,16nm,1.5s,mb5.0
MOX Moxa 86.34 320 *e*P **P 21 41 03.8 +0.6**
comp=Z,16nm,1.5s,mb5.0
MOX Moxa 86.34 320 *i* P **P 21 41 03.8 +0.6**
comp=Z,logA/T=1.0,mb5.0
GRA1 Grafenberg Arr 86.55 320 *e*P **P 21 41 04.9 +0.7**
comp=Z,14nm,1.0s,mb5.2
GRF Grafenberg Arr 86.55 320 P **P 21 41 04.9 +0.7**
GRF pmax pmax
comp=Z,14nm,1.0s,mb5.2
GRF Grafenberg Arr 86.55 320 *e*P **P 21 41 04.9 +0.7**
comp=Z,14nm,1.0s,mb5.2
SBA Scott Base 86.90 169 *e*P **P 21 41 06.4 +1.1**
comp=Z,5.7nm,0.9s,mb4.8
NB2 NORSAR Subarra 87.06 331 P **P 21 41 06.4 0.0**
comp=Z,6.3nm,0.8s,mb4.9,baz=95,slow=4.8
NOA NORSAR Array B 87.06 331 P **P 21 41 06.1 -0.3**
comp=Z,5.7nm,0.8s,mb4.8,baz=94,slow=4.9,SNR=26
NOA LR LR 22 23 58.5
comp=Z,52nm,20.0s,MS3.9,baz=45,slow=38
CLZ Clausthal 87.16 322 P **P 21 41 07.9 +0.7**
CLZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
CLZ Clausthal 87.16 322 *e*P **P 21 41 07.9 +0.7**
comp=Z,8.0nm,1.0s,mb4.9
NAO01 NORSAR Array S 87.21 331 *e*P **P 21 41 07.1 -0.1**
comp=Z,3.4nm,0.8s,mb4.6
BSEG Bad Segeberg 87.26 324 P **P 21 41 08.4 +0.8**
BSEG pmax pmax
comp=Z,17nm,1.1s,mb5.2
BSEG Bad Segeberg 87.26 324 *e*P **P 21 41 08.4 +0.8**
PGF Pioggiola 87.94 312 *e*P **P 21 41 11.7 +0.6**
comp=Z,32nm,1.1s,mb5.2
MUD Monsted U'grnd 87.97 326⇑ *i*P **P 21 41 11.9 +1.0**
MUD pmax pmax
comp=Z,14nm,1.0s,mb5.2
MUD Monsted U'grnd 87.97 326⇑ *i*P **P 21 41 11.9 +1.0**
comp=Z,14nm,1.0s,mb5.2
BFO Black Forest 88.43 318 *e*P **P 21 41 13.7 +0.4**
SBF Sospel 89.08 314 *e*P **P 21 41 16.8 +0.2**
comp=Z,30nm,0.9s,mb5.3
CDF Champ du Feu 89.13 318⇑ *i*P **P 21 41 16.6 -0.1**
LPG La Plagne 89.54 315⇑ *i*P **P 21 41 19.3 +0.6**
comp=Z,21nm,0.9s,mb5.2
LPL La Plagne 89.56 315⇑ *i*P **P 21 41 19.3 +0.6**
comp=Z,22nm,0.9s,mb5.2
FRF La Foret Royal 89.66 313⇑ *i*P **P 21 41 19.7 +0.4**
comp=Z,23nm,0.9s,mb5.2
HAU Haudompre 89.76 318⇑ *i*P **P 21 41 19.7 +0.1**
comp=Z,12nm,0.8s,mb5.0
WLF Walferdange 89.84 319 *e*P **P 21 41 19.8 -0.1**
comp=Z,12nm,1.0s,mb5.2
CABF La Chapelle 89.98 316⇑ *i*P **P 21 41 21.4 +0.7**
comp=Z,19nm,1.0s,mb5.1
ORIF Oris-en-Rattie 90.17 315⇑ *i*P **P 21 41 22.3 +0.7**
SMRF Simiane la Rot 90.42 314 *e*P **P 21 41 22.9 +0.1**
comp=Z,18nm,0.9s,mb5.1
MEZF Maizieres J'vi 90.61 318⇑ *i*P **P 21 41 24.1 +0.6**
comp=Z,19nm,0.9s,mb5.1
GIVF Givet 90.69 320⇑ *i*P **P 21 41 24.4 +0.5**
comp=Z,16nm,0.8s,mb5.1
VIVF Saint-Julien-l 91.03 315 *e*P **P 21 41 26.0 +0.4**
comp=Z,26nm,1.3s,mb5.1
BAIF Baives 91.08 320⇑ *i*P **P 21 41 26.6 +0.9**
comp=Z,31nm,0.9s,mb5.3
LOR Lormes 91.47 317⇑ *i*P **P 21 41 28.0 +0.5**
comp=Z,34nm,1.0s,mb5.3
SMF Signal de Mont 91.52 317⇑ *i*P **P 21 41 28.1 +0.3**
comp=Z,24nm,0.9s,mb5.2
LASF Ste Croix 91.66 314 *e*P **P 21 41 29.4 +0.9**
comp=Z,26nm,1.1s,mb5.1
SSF Saint Saulge 91.73 317⇑ *i*P **P 21 41 29.2 +0.5**
comp=Z,19nm,1.2s,mb5.0
BGF Bois d'Agland 92.21 316⇑ *i*P **P 21 41 31.8 +0.8**
comp=Z,38nm,1.0s,mb5.4
HYF Humbligny 92.30 317 *e*P **P 21 41 32.5 +1.2**
TCF Toulx Ste Croi 92.67 316 *e*P **P 21 41 33.8 +0.7**
CAF Calviac 92.88 315 *e*P **P 21 41 35.0 +0.9**
MTLF Montolieu 92.89 313⇑ *i*P **P 21 41 34.9 +0.7**
comp=Z,8.3nm,0.8s,mb4.9
RJF Les Rejaudoux 93.23 315 *e*P **P 21 41 36.7 +1.0**
LFF La Frestale 93.82 315 *e*P **P 21 41 38.6 +0.2**
comp=Z,8.4nm,0.8s,mb4.9
MFF Saint Martin d 94.26 317 *e*P **P 21 41 40.8 +0.4**
comp=Z,15nm,1.1s,mb5.0
EPF Esparros 94.29 313 *e*P **P 21 41 41.4 +0.8**
comp=Z,3.1nm,0.8s,mb4.5
ETSF Etsaut 94.96 313 *e*P **P 21 41 44.7 +1.0**
SJPF Ste Jean 95.42 313 *e*P **P 21 41 46.7 +0.9**
ILAR Eielson Array 99.67 23 LR LR 22 29 07.0
comp=Z,76nm,21.4s,MS4.2,baz=354,slow=37
MSO Missoula 124.89 26 *e*PKPdf PKPdf 21 47 21.1 -3.9
NVAR Mina Array Bea 128.74 36 PKP PKPdf 21 47 29.8 -2.9
comp=Z,0.8nm,0.8s,baz=311,slow=0.8,SNR=6.0
PDAR Pinedale Array 130.01 26 PKP PKPdf 21 47 31.1 -3.9
comp=Z,0.7nm,0.8s,baz=90,slow=1.5,SNR=4.0
PV10 Paradox Valley 133.75 29 *e*PKPdf PKPdf 21 47 40.0 -2.1
TXAR Lajitas Array 143.63 32 PKP PKPdf 21 47 54.4 -5.8
comp=Z,1.4nm,0.8s,baz=17,slow=1.1,SNR=11
LRAL Lakeview Retre 145.72 6 *e*PKPbc PKPbc 21 47 59.7 0.0
LPAZ La Paz 159.23 223 PKP PKPdf 21 48 20.9 -2.8
comp=Z,1.1nm,0.8s,baz=68,slow=3.4,SNR=3.4
LPAZ La Paz 159.23 223 PKP PKPdf 21 48 20.9 -2.8

*MOS **08** 21:35:18.1*≙*2.4, 35.95N×70.94E, h86km, mb4.0/5, Error ellipse: s-maj=24.8km s-min=13.1km az=108.3*
*NNC **08** 21:35:29.4*≙*10.0, 36.87N×71.06E, h201km*≙*170km, mpv4.8, Error ellipse: s-maj=112.7km s-min=69.3km az=38.0*
*NEIC **08** 21:35:33.4*≙*0.7, 36.02N×71.97E, h250km, mb4.1/5, Error ellipse: s-maj=18.8km s-min=6.9km az=49.0*
*IDC **08** 21:35:42.3*≙*16.0, 37.19N×71.58E, h244km*≙*133km, mb3.2/3, mb1 3.4/6, mb1mx3.0/22, mbtmp4.0/6, Error ellipse: s-maj=169.5km s-min=68.6km az=167.0*
ISC 08 21:35:21.5≙**1.7, 36.28N**≙**0.07×71.4E**≙**0.2, h109km**≙**19km, n33,σ0°92/37, mb3.8/3, 4C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.28**	**134**	*e*	**P**		**21 36 42.0**	**+2.7**
DLH				*e*	**S**		**21 37 39.0**	**-0.5**
AML	**Almayashu** SNR=527	**6.09**	**16**	P	**P**		**21 36 50.7**	**+0.3**
UCH	**Uchtor** SNR=35	**6.40**	**21**	P	**P**		**21 36 55.2**	**+0.6**
KZA	**Kyzart** SNR=37	**6.50**	**26**	P	**P**		**21 36 56.8**	**+0.8**
EKS2	**Erkin-Say** SNR=75	**6.62**	**15**	P	**P**		**21 36 58.0**	**+0.3**
AAK	**Ala-Archa** SNR=12	**6.77**	**19**	P	**P**		**21 37 00.2**	**+0.5**
AAK	**Ala-Archa** 34nm,0.5s	**6.77**	**19**	⇑P	**P**		**21 37 00.0**	**+0.4**
AAK				⇓S	**S**		**21 38 14.5**	**-1.2**
KK31	**Karatay Array** 26nm,1.0s	**6.85**	**354**	⇑P	**P**		**21 36 59.4**	**-1.4**
KK31	34nm,0.3s,baz=179,slow=13,SNR=59			⇑S	**S**		**21 38 12.0**	**-5.7**
ULHL	**Ulahol** SNR=9.4 17nm,0.4s	**7.02**	**31**	P	**P**		**21 37 04.9**	**+1.7**
CHMS	**Chumysh** SNR=24	**7.17**	**20**	P	**P**		**21 37 05.1**	**-0.1**
USP	**Ospenovka** SNR=24	**7.36**	**18**	P	**P**		**21 37 06.9**	**-0.9**
TKM2	**Tokmak 2** SNR=17	**7.36**	**25**	P	**P**		**21 37 08.3**	**+0.5**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=212,slow=11,SNR=4.9	**13.26**	**34**	P	**P**		**21 38 32.9**	**+6.5**
KOLN	**Koldanda** 4.3nm,0.2s	**13.35**	**126**	*e*P	**P**		**21 38 27.2**	**-0.3**
GKN	**Gorkha** 19nm,0.6s	**13.89**	**123**	*e*P	**P**		**21 38 33.6**	**-0.9**
DMN	**Daman** 11nm,0.5s	**14.46**	**123**	*e*P	**P**		**21 38 41.5**	**-0.3**
KKN	**Kakani**	**14.46**	**122**	*e*P	**P**		**21 38 41.7**	**-0.2**
PKI	**Pulchoki** 10nm,0.6s	**14.69**	**122**	*e*P	**P**		**21 38 44.5**	**-0.3**
PKI	**Pulchoki** comp=Z,5.0nm,0.6s	**14.69**	**122**	*e*P	**P**		**21 38 44.5**	**-0.3**
AB31	**Akbulak array** comp=Z,2.6nm,0.3s	**15.45**	**331**	⇓P	**P**		**21 38 52.0**	**-2.2**
AB31	comp=Z,2.7nm,0.5s			⇑S	**S**		**21 41 29.7**	**-13**
BVAR	**Borovoye Array** comp=Z,0.6nm,0.3s,baz=173,slow=12,SNR=8.3	**16.76**	**358**	P	**P**		**21 39 10.6**	**+0.1**
ZAL	**Zalesovo**	**19.95**	**24**	P	**P**		**21 39 46.4**	**-0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ZAL	**Zalesovo**	**19.95**	**24**	P	**P**	**21 39 46.4**	**-0.5**
	comp=Z,3.5nm,0.3s,baz=259,slow=6.4,SNR=11						
FINES	**FINESS Array B**	**37.86**	**326**	P	**P**	**21 42 29.8**	**+0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**37.86**	**326**	P	**P**	**21 42 29.8**	**+0.9**
	comp=Z,0.7nm,0.5s,mb3.8,baz=125,slow=8.7,SNR=7.6						
FINES	**FINESS Array B**	**37.86**	**326**	P	**P**	**21 42 29.8**	**+0.9**
ARCES	**ARCESS Array B**	**41.48**	**338**	P	**P**	**21 42 59.5**	**+0.8**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**41.48**	**338**	P	**P**	**21 42 59.5**	**+0.9**
	comp=Z,0.8nm,0.7s,mb3.7,baz=106,slow=8.8,SNR=3.8						
NB2	**NORSAR Subarra**	**44.77**	**323**	P	**P**	**21 43 25.4**	**+0.1**
	comp=Z,1.0nm,0.5s,mb3.8,baz=97,slow=7.9						
NB2	**NORSAR Subarra**	**44.77**	**323**	P	**P**	**21 43 25.4**	**+0.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
NOA	**NORSAR Array B**	**44.77**	**323**	P	**P**	**21 43 25.8**	**+0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**44.77**	**323**	P	**P**	**21 43 25.8**	**+0.5**
	comp=Z,1.2nm,0.5s,mb3.9,baz=96,slow=7.7,SNR=12						
NOA	**NORSAR Array B**	**44.77**	**323**	P	**P**	**21 43 25.8**	**+0.5**

CASC 08 22:09:50.2±3.0**, 13.69N×90.93W, h12**km±31km**, MD3.7, ML3.2, 3D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.67**	**44**	⇓eP	Pb	22 10 03.3	0.0
IXG				eS	Sb	22 10 13.3	+1.0
TP2	**Tecpan 2**	**1.09**	**355**	⇓eP	Pb	22 10 10.1	-0.5
TP2				eS	Sb	22 10 25.3	+0.7
TP2				AML	AML	22 10 26.8	
	comp=E,524nm,0.4s						
RTR	**El Retiro**	**1.26**	**80**	eP	Pb	22 10 29.7	+16
RTR				eS	Sb	22 10 47.1	+18
SBLS	**San Blas**	**1.28**	**83**	eP	Pb	22 10 29.6	+16
SBLS				eS	Sb	22 10 46.4	+16
RBDL	**Robledal**	**1.28**	**71**	eP	Pb	22 10 30.2	+16
RBDL				eS	Sb	22 10 47.3	+17
SNJE	**San Jose**	**1.30**	**82**	eP	Pb	22 10 30.1	+16
SNJE				eS	Sb	22 10 46.5	+16
MRL	**Marmol**	**1.82**	**41**	⇓iP	Pn	22 10 20.5	-1.2
MRL				eS	Sn	22 10 47.1	+2.3
SNVI	**San Vicente**	**2.03**	**92**	eP	Pn	22 10 39.7	+15
SNVI				eS	Sn	22 11 05.4	+15

*ATH **08** 22:13:40.9, 38.98N×22.10E, h5km± 1km, MD3.3/3*
*CSEM **08** 22:13:40.8±0.1, 39.02N×22.19E, h2km, MD3.2, Error ellipse: s-maj=2.1km s-min=1.7km az=68.0*
*NEIC **08** 22:13:41.0, 39.00N×22.08E, h5km, MD3.2(ATH), After ATH.*
*THE **08** 22:13:43.8, 39.02N×22.25E, h20km, ML2.5*
ISC 08 22:13:39.5±0.4**, 39.03N**±0.03×**22.19E**±0.03**, h2**km**, n25,** σ**1s24**/39**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.32**	**250**	ePG	**Pg**	**22 13 45.4**	**-0.4**
EVR				eSG	**Sg**	**22 13 49.4**	**-0.7**
EVR	**Evrytania**	**0.32**	**250**	ePg	**Pg**	**22 13 45.3**	**-0.5**
EVR				eSg	**Sg**	**22 13 48.6**	**-1.5**
LKR	**Lokris**	**0.73**	**120**	ePB	**Pb**	**22 13 56.1**	**+1.5**
LKR	**Lokris**	**0.73**	**120**	ePb	**Pb**	**22 13 56.5**	**+1.9**
XOR	**Xorichti**	**0.85**	**66**	ePg	**Pg**	**22 13 58.4**	**+2.0**
XOR				eSg	**Sg**	**22 14 10.0**	**+2.3**
NEO	**Neokhori**	**0.85**	**70**	ePB	**Pb**	**22 13 58.8**	**+2.2**
NEO				eSB	**Sb**	**22 14 11.7**	**+3.5**
MEV	**Metsovon**	**1.06**	**316**	ePg	**Pg**	**22 13 59.9**	**-0.8**
LIT	**Litokhoron**	**1.10**	**12**	ePg	**Pg**	**22 14 02.3**	**+0.9**
LIT				eSg	**Sg**	**22 14 16.6**	**+0.6**
RLS	**Riolos of Patr**	**1.12**	**211**	ePN	**Pn**	**22 14 00.8**	**-1.3**
RLS				eSB	**Sb**	**22 14 16.0**	**-0.1**
RLS	**Riolos of Patr**	**1.12**	**211**	ePn	**Pn**	**22 14 01.3**	**-0.8**
JAN	**Janina**	**1.22**	**302**	ePB	**Pb**	**22 14 04.3**	**+1.5**
JAN				eSB	**Sb**	**22 14 19.4**	**+0.5**
LKD	**Levkas**	**1.24**	**256**	ePg	**Pg**	**22 14 04.9**	**+0.6**
LKD				eSg	**Sg**	**22 14 21.6**	**+0.7**
AOS	**Alonnisos**	**1.32**	**83**	ePg	**Pg**	**22 14 05.3**	**-0.5**
AOS				eSg	**Sg**	**22 14 21.3**	**-2.2**
PAIG	**Paliouri**	**1.46**	**52**	ePg	**Pg**	**22 14 07.3**	**-1.4**
PAIG				eSg	**Sg**	**22 14 24.9**	**-3.3**
VLS	**Valsamata**	**1.51**	**236**	ePB	**Pb**	**22 14 08.4**	**+0.4**
VLS				eSB	**Sb**	**22 14 28.1**	**+0.6**
IGT	**Igoumenitsa**	**1.53**	**290**	ePg	**Pg**	**22 14 09.1**	**-0.9**
FNA	**Florina**	**1.86**	**341**	ePb	**Pb**	**22 14 13.3**	**-0.6**
FNA				eSb	**Sb**	**22 14 37.1**	**-0.6**
OUR	**Ouranopolis**	**1.90**	**46**	ePb	**Pb**	**22 14 13.4**	**-1.1**
GRG	**Griva**	**1.94**	**5**	ePb	**Pb**	**22 14 14.1**	**-1.0**
GRG				eSb	**Sb**	**22 14 38.5**	**-1.3**
KEK	**Kerkira**	**1.98**	**291**	ePN	**Pn**	**22 14 17.5**	**+3.2**
KEK				eSN	**Sn**	**22 14 44.1**	**+4.1**
KEK	**Kerkira**	**1.98**	**291**	ePn	**Pn**	**22 14 17.4**	**+3.1**
SOH	**Sokhos**	**2.00**	**26**	ePn	**Pn**	**22 14 15.1**	**+0.4**
KNT	**Kendrikon**	**2.20**	**14**	ePn	**Pn**	**22 14 17.8**	**+0.3**
SRS	**Serrai**	**2.35**	**27**	ePn	**Pn**	**22 14 19.8**	**+0.2**
VLI	**Veliai**	**2.38**	**165**	ePg	**Pg**	**22 14 25.0**	**-1.9**

*NEIC **08** 22:20:43.4, 19.43N×64.89W, h32km, MD3.5(RSPR), After RSPR.*
RSPR 08 22:20:43.4, 19.43N×64.89W, h32km±25km**, MD3.5**/14**, MD3.5**/14**, 13C-1D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.05**	**165**	⇑eP	Pn	22 20 59.8	-2.2
TBVI				eS	Sn	22 21 13.6	-2.0
STVI	**Saint Thomas**	**1.07**	**183**	⇑eP	Pn	22 20 59.7	-2.7
STVI				eS	Sn	22 21 13.2	-3.0
CBYP	**Canovanas**	**1.47**	**218**	⇓eP	Pn	22 21 05.6	-2.4
CBYP				eS	Sn	22 21 24.5	-1.8
MTP	**Monte Pirata**	**1.47**	**205**	⇑eP	Pn	22 21 05.8	-2.2
MTP				eS	Sn	22 21 23.2	-3.2
HUMP	**Col San Antoni**	**1.57**	**215**	⇑eP	Pn	22 21 07.2	-2.3
HUMP				eS	Sn	22 21 26.1	-2.7
CDVI	**St. Croix**	**1.67**	**176**	⇑eP	Pn	22 21 10.1	-0.9
CDVI				eS	Sn	22 21 30.1	-1.4
CPD	**Cerro la Pandu**	**1.69**	**215**	⇑eP	Pn	22 21 09.1	-2.1
CPD				eS	Sn	22 21 29.1	-2.8
SJG	**San Juan**	**1.77**	**222**	⇑eP	Pn	22 21 09.9	-2.4
SJG				eS	Sn	22 21 32.1	-1.9
SJG	**San Juan**	**1.77**	**222**	⇑eP	Pn	22 21 09.8	-2.5
SJG				eS	Sn	22 21 31.9	-2.1
PORP	**Portuguez**	**2.15**	**231**	⇑eP	Pn	22 21 15.5	-2.2
PORP				eS	Sn	22 21 41.1	-2.4
LRS	**Lares**	**2.17**	**239**	⇑eP	Pn	22 21 16.6	-1.5
LRS				eS	Sn	22 21 42.5	-1.6
ICM	**Isla Caja Muer**	**2.17**	**226**	⇑eP	Pn	22 21 16.0	-2.1
ICM				eS	Sn	22 21 41.2	-3.0
LSP	**Las Mesas**	**2.42**	**239**	⇑eP	Pn	22 21 20.0	-1.7
CRPR	**Cabo Rojo, PR**	**2.53**	**236**	⇑eP	Pn	22 21 21.5	-1.8

*NEIC **08** 22:38:34.2, 15.99N×97.66W, h10km, MD3.6(MEX), After MEX.*
MEX 08 22:38:33.9±0.6**, 15.93N×97.68W, h35**km±45km**, MD3.7, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.63**	**317**	eP	P	22 38 45.0	-1.4
PNIG				i S	S	22 38 52.6	-2.8
PNIG	**Pinotepa**	**0.63**	**317**	eP	P	22 38 45.0	-1.4
PNIG				i S	S	22 38 52.7	-2.7
OXX	**Oaxaca**	**1.47**	**38**	i P	P	22 38 56.0	-2.3
OXX				i S	S	22 39 14.0	-2.6
HUIG	**Huatulco**	**1.52**	**96**	eP	P	22 38 59.0	-0.1
HUIG				i S	S	22 39 14.6	-3.2
HUIG	**Huatulco**	**1.52**	**96**	i P	P	22 38 57.8	-1.3
HUIG				i S	S	22 39 14.6	-3.2
ACX	**Acapulco**	**2.34**	**294**	eP	P	22 39 12.0	+1.2
ACX				i S	S	22 39 44.0	+5.3
CMIG	**Matias Romero**	**2.92**	**66**	i P	P	22 39 16.1	-2.9
CMIG				i S	S	22 39 49.3	-4.0

*MAN **08** 22:45:56.6, 5.02N×124.26E, h3km, mb4.4, ML3.2, MS3.0*
*IDC **08** 22:46:07.3±13.0, 4.42N×124.53E, h171km±135km, mb3.6/7, mb1 3.8/7, mb1mx3.4/20, mbtmp4.1/7, MS3.1/1, Ms1 3.1/1, ms1mx2.6/18, Error ellipse: s-maj=53.0km s-min=21.1km az=84.0*
*NEIC **08** 22:46:14.8±0.5, 4.45N×124.82E, h250km, mb4.3/4, Error ellipse: s-maj=29.4km s-min=9.6km az=74.0*
ISC 08 22:45:52.9±1.4**, 4.59N**±0.07×**124.3E**±0.1**, h49**km±15km**, n17,** σ**1s37**/22**, mb4.1**/10**, MS3.0**/1**, 2C-2D, Celebes Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.52**	**18**	⇓eP	**P**	**22 46 33.5**	**+1.1**
KCP				i S	**S**	**22 47 03.4**	**+1.4**
CTBH	**Cotabato--PC H**	**2.62**	**358**	⇓eP	**P**	**22 46 34.8**	**+1.1**
CTBH				i S	**S**	**22 47 02.4**	**-2.0**
BUKP	**Musuan**	**3.35**	**13**	eP	**P**	**22 46 42.7**	**-1.4**
BUKP				eS	**S**	**22 47 14.3**	**-8.7**
IPIL	**Ipil**	**3.62**	**331**	eP	**P**	**22 46 49.3**	**+1.3**
IPIL				eS	**S**	**22 47 28.9**	**-1.0**
DCPH	**Dipolog City**	**4.08**	**346**	⇑eP	**P**	**22 46 54.9**	**+0.4**
DCPH				eS	**S**	**22 47 39.6**	**-1.9**
FITZ	**Fitzroy Crossi**	**22.58**	**177**	⇑iP	**P**	**22 50 52.9**	**+2.4**
	18nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**22.58**	**177**	P	**P**	**22 50 52.4**	**+1.9**
	20nm,0.5s,mb4.8,baz=1.6,slow=6.9,SNR=49						
MBWA	**Marble Bar**	**25.98**	**190**	eP	**P**	**22 51 25.5**	**+2.3**
	8.9nm,0.9s,mb4.3						
WRAB	**Tennant Creek**	**26.29**	**158**	eP	**P**	**22 51 24.3**	**-1.7**
	3.1nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**26.29**	**158**	P	**P**	**22 51 24.3**	**-1.7**
	2.4nm,0.6s,mb3.9,baz=334,slow=10,SNR=9.5						
WB2	**Warramunga Arr**	**26.30**	**158**	eP	**P**	**22 51 24.4**	**-1.6**
MJAR	**Matsushiro Arr**	**34.27**	**20**	P	**P**	**22 52 37.9**	**+1.4**
	0.6nm,0.5s,mb3.8,baz=194,slow=10.0,SNR=3.5						
MJAR				LR	LR	23 05 31.6	
	comp=Z,27nm,18.6s,MS3.0,baz=110,slow=34						
STKA	**Stephens Creek**	**39.82**	**157**	P	**P**	**22 53 22.3**	**-0.9**
	1.6nm,0.5s,mb4.0,baz=323,slow=7.5,SNR=3.5						
MKAR	**Makanchi Array**	**55.50**	**326**	P	**P**	**22 55 26.3**	**+1.0**
	1.1nm,0.6s,mb4.1,baz=119,slow=8.4,SNR=8.3						
BVAR	**Borovoye Array**	**65.30**	**327**	P	**P**	**22 56 32.1**	**0.0**
	0.5nm,0.7s,mb3.6,baz=117,slow=9.7,SNR=4.3						
ZRNK	**Zerenda**	**66.02**	**327**	eP	**P**	**22 56 36.4**	**-0.2**
	1.3nm,0.6s,mb4.1						
BRTR	**Keskin Array B**	**87.63**	**309**	P	**P**	**22 58 38.4**	**+0.8**
	0.9nm,0.7s,mb4.1,baz=127,slow=6.2,SNR=5.1						

*ATH **08** 23:04:49.7, 39.63N×23.83E, h30km±2km, MD3.3/8*
*NEIC **08** 23:04:49.7, 39.63N×23.83E, h30km, MD3.3(ATH), After ATH.*
*CSEM **08** 23:04:50.6±0.1, 39.65N×23.85E, h15km, ML2.9, Error ellipse: s-maj=2.1km s-min=1.7km az=96.0*
*THE **08** 23:04:51.1, 39.65N×23.78E, h8km, ML2.9*
ISC 08 23:04:50.5±0.5**, 39.62N**±0.03×**23.84E**±0.05**, h22**km±5km**, n25,** σ**0s84**/38**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.33**	**338**	ePg	**Pb**	**23 04 57.1**	**-0.7**
PAIG				eSg	**Sb**	**23 05 01.7**	**-0.9**
AOS	**Alonnisos**	**0.45**	**176**	ePg	**Pb**	**23 04 59.9**	**+0.1**
AOS				eSg	**Sb**	**23 05 07.4**	**+1.3**
XOR	**Xorichti**	**0.56**	**243**	ePg	**Pb**	**23 05 01.6**	**0.0**
XOR				eSg	**Sb**	**23 05 09.9**	**+0.7**
NEO	**Neokhori**	**0.57**	**237**	ePN	**Pn**	**23 05 01.8**	**-1.4**
NEO				eSN	**Sn**	**23 05 10.5**	**-1.4**
OUR	**Ouranopolis**	**0.72**	**9**	ePg	**Pb**	**23 05 04.5**	**+0.2**
PLG	**Polygyros**	**0.81**	**338**	ePN	**Pn**	**23 05 04.9**	**-1.6**
LOS	**Limnos**	**1.01**	**72**	ePg	**Pb**	**23 05 09.6**	**+0.4**
LIA	**Limnos Island**	**1.07**	**75**	ePN	**Pn**	**23 05 10.4**	**+0.1**
LIT	**Litokhoron**	**1.14**	**295**	ePg	**Pn**	**23 05 11.2**	**-0.1**
LIT				eSg	**Sb**	**23 05 27.0**	**+1.1**
LIT	**Litokhoron**	**1.14**	**295**	ePg	**Pn**	**23 05 11.2**	**-0.1**
LIT				eSg	**Sb**	**23 05 27.0**	**+1.1**
LKR	**Lokris**	**1.17**	**214**	ePN	**Pn**	**23 05 11.5**	**-0.2**
THE	**Thessaloniki**	**1.21**	**327**	ePg	**Pn**	**23 05 12.9**	**+0.6**
THE				eSg	**Sn**	**23 05 29.1**	**+1.0**
SOH	**Sokhos**	**1.25**	**343**	ePg	**Pn**	**23 05 13.3**	**+0.4**
SOH				eSg	**Sn**	**23 05 31.1**	**+1.8**
SOH	**Sokhos**	**1.25**	**343**	ePg	**Pn**	**23 05 13.3**	**+0.4**
SOH				eSg	**Sn**	**23 05 31.0**	**+1.8**
MPAR	**Parnis Oros**	**1.47**	**183**	ePN	**Pn**	**23 05 16.0**	**0.0**
SRS	**Serrai**	**1.50**	**353**	ePg	**Pn**	**23 05 16.4**	**-0.1**
SRS				eSg	**Sn**	**23 05 36.2**	**+0.6**
KNT	**Kendrikon**	**1.70**	**335**	ePb	**Pb**	**23 05 19.9**	**-1.0**
KNT				eSb	**Sb**	**23 05 42.0**	**+0.2**
KNT	**Kendrikon**	**1.70**	**335**	ePb	**Pb**	**23 05 19.9**	**-0.9**
KNT				eSb	**Sb**	**23 05 42.0**	**+0.1**
NVR	**Nevrokopi**	**1.73**	**1**	ePN	**Pn**	**23 05 19.6**	**-0.1**
EVR	**Evrytania**	**1.73**	**247**	ePN	**Pn**	**23 05 20.5**	**+0.8**
GRG	**Griva**	**1.73**	**321**	ePb	**Pb**	**23 05 20.0**	**-1.3**
RDO	**Rodhopi**	**2.00**	**40**	ePN	**Pn**	**23 05 23.0**	**-0.6**
ALN	**Alexandroupoli**	**2.12**	**52**	ePn	**Pn**	**23 05 25.1**	**-0.1**
ALN				eSn	**Sn**	**23 05 55.6**	**+4.5**
FNA	**Florina**	**2.21**	**302**	ePn	**Pn**	**23 05 26.6**	**-0.1**
FNA	**Florina**	**2.21**	**302**	ePn	**Pn**	**23 05 26.5**	**-0.2**

*LDG **08** 23:17:19.6±0.1, 45.60N×3.65E, h10km, Md2.6/1, Ml2.0/12, Error ellipse: s-maj=2.0km s-min=1.5km az=76.0*
*STR **08** 23:17:20.2±0.2, 45.59N×3.63E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 08 23:17:17.9±0.4**, 45.59N**±0.02×**3.65E**±0.03**, h10**km**, n21,** σ**1s29**/37**, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COLF	**Collangettes**	**0.08**	**157**	Pg	**Pg**	**23 17 22.3**	**+2.0**
COLF				Sg	**Sg**	**23 17 24.1**	**+2.2**
PLDF	**La Plantade**	**0.38**	**357**	Pg	**Pg**	**23 17 27.6**	**+2.0**
PLDF				Sg	**Sg**	**23 17 32.7**	**+1.9**
LBL	**Lubilhac**	**0.46**	**218**	Pg	**Pg**	**23 17 29.4**	**+2.2**
PYM	**Petit Puy Mans**	**0.48**	**290**	Pg	**Pg**	**23 17 29.6**	**+2.1**
AGO	**Saint Agoulin**	**0.58**	**322**	Pg	**Pg**	**23 17 31.7**	**+2.0**
AGO				Sg	**Sg**	**23 17 39.3**	**+1.7**
VERF	**Verneugheol**	**0.83**	**281**	Pg	**Pg**	**23 17 35.5**	**+0.9**
VERF				Sg	**Sg**	**23 17 46.2**	**+0.5**
VIVF	**Saint-Julien-l**	**1.03**	**135**	ePg	**Pg**	**23 17 38.9**	**+0.3**
VIVF				eSg	**Sg**	**23 17 52.1**	**-0.3**
	9.4nm,0.2s						
SMF	**Signal de Mont**	**1.06**	**7**	ePg	**Pg**	**23 17 39.5**	**+0.4**
SMF				eSg	**Sg**	**23 17 52.4**	**-0.9**
	3.3nm,0.2s						
SMF				eSn	**Sn**	**23 17 53.4**	**-0.2**
BGF	**Bois d'Agland**	**1.11**	**330**	ePn	**Pn**	**23 17 39.8**	**+0.3**
BGF				ePg	**Pg**	**23 17 40.7**	**+0.5**
BGF				eSg	**Sg**	**23 17 53.9**	**-1.2**
	4.2nm,0.2s						
TCF	**Toulx Ste Croi**	**1.22**	**305**	ePn	**Pn**	**23 17 41.8**	**+0.8**
TCF				eSn	**Sn**	**23 17 56.8**	**-0.8**
TCF				eSg	**Sg**	**23 17 58.3**	**-0.3**
	3.3nm,0.3s						
CAF	**Calviac**	**1.30**	**240**	ePn	**Pn**	**23 17 41.8**	**-0.4**
CAF	**Calviac**	**1.30**	**240**	eSn	**Sn**	**23 18 00.4**	**+0.7**
	2.4nm,0.2s						
SSF	**Saint Saulge**	**1.47**	**356**	ePg	**Pg**	**23 17 46.3**	**-1.0**
SSF				eSg	**Sg**	**23 18 05.8**	**-1.2**
	3.0nm,0.2s						
LASF	**Ste Croix**	**1.52**	**174**	ePg	**Pg**	**23 17 47.9**	**-0.4**
LASF				eSn	**Sn**	**23 18 03.7**	**-1.6**
LASF				eSg	**Sg**	**23 18 07.6**	**-1.1**
	2.9nm,0.3s						
RJF	**Les Rejaudoux**	**1.53**	**260**	ePg	**Pg**	**23 17 47.8**	**-0.6**
RJF				eSg	**Sg**	**23 18 07.9**	**-0.9**
	1.5nm,0.3s						
LOR	**Lormes**	**1.68**	**5**	ePg	**Pg**	**23 17 49.8**	**-1.7**
LOR				eSg	**Sg**	**23 18 12.0**	**-1.9**
	1.6nm,0.2s						
HYF	**Humbligny**	**1.81**	**338**	ePg	**Pg**	**23 17 53.3**	**-0.8**
CABF	**La Chapelle**	**1.98**	**58**	ePg	**Pg**	**23 17 56.9**	**-0.5**
LFF	**La Frestale**	**2.15**	**253**	eSg	**Sg**	**23 18 27.4**	**-2.3**
	1.3nm,0.3s						
MTLF	**Montolieu**	**2.47**	**205**	eSg	**Sg**	**23 18 37.1**	**-3.2**
	1.0nm,0.2s						
MFF	**Saint Martin d**	**2.83**	**292**	eSg	**Sg**	**23 18 47.2**	**-4.8**
	3.6nm,0.9s						

*NEIC **08** 23:33:09.4, 38.30S×176.12E, h161km, MG3.9(WEL), After WEL.*
WEL 08 23:33:09.8±0.3**, 38.30S×176.13E, h157**km±2km**, ML3.8**/5**, 3C, Error ellipse: s-maj=3.2km s-min=2.9km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.77**	**87**	P	P	23 33 33.4	-0.3
URZ	**Urewera**	**0.77**	**87**	PN	P	23 33 33.4	-0.4
URZ				SN	S	23 33 51.5	-0.7
BKZ	**Black Stump Fm**	**0.91**	**162**	P	P	23 33 34.9	+0.3
BKZ				S	S	23 33 53.5	-0.3
BKZ	**Black Stump Fm**	**0.91**	**162**	PN	P	23 33 34.8	+0.1
BKZ				SN	S	23 33 53.2	-0.6
NGZ	**Ngauruhoe**	**0.97**	**205**	P	P	23 33 35.3	+0.3
NGZ	**Ngauruhoe**	**0.97**	**205**	PN	P	23 33 35.3	+0.3
CNZ	**Chateau**	**1.01**	**207**	P	P	23 33 35.5	+0.2
CNZ	**Chateau**	**1.01**	**207**	PN	P	23 33 35.4	0.0
TUVZ	**Tukino**	**1.03**	**201**	P	P	23 33 35.8	+0.2
TUVZ	**Tukino**	**1.03**	**201**	PN	P	23 33 35.8	+0.2
MWZ	**Matawai**	**1.10**	**92**	P	P	23 33 36.3	+0.1
MWZ	**Matawai**	**1.10**	**92**	PN	P	23 33 36.2	0.0
MWZ				SN	S	23 33 56.1	-0.5
WNVZ	**Wahianoa**	**1.11**	**202**	P	P	23 33 36.3	0.0
WNVZ	**Wahianoa**	**1.11**	**202**	PN	P	23 33 36.3	0.0
MOVZ	**Moawhango**	**1.14**	**195**	P	P	23 33 36.2	-0.4
MOVZ	**Moawhango**	**1.14**	**195**	⇑PN	P	23 33 36.2	-0.4
PKVZ	**Pokaka**	**1.16**	**212**	PN	P	23 33 36.5	-0.3
MTVZ	**Mangateitei**	**1.20**	**205**	PN	P	23 33 36.8	-0.4
KNZ	**Kokohu**	**1.40**	**121**	PN	P	23 33 39.3	+0.1
PUZ	**Puketiti**	**1.69**	**83**	eP	P	23 33 41.6	-0.6
PUZ				S	S	23 34 05.5	-1.7
PUZ	**Puketiti**	**1.69**	**83**	PN	P	23 33 41.5	-0.6
PUZ				SN	S	23 34 05.5	-1.7
WAZ	**Wanganui**	**1.70**	**211**	eP	P	23 33 41.5	-0.8
WAZ	**Wanganui**	**1.70**	**211**	PN	P	23 33 41.4	-0.9
TSZ	**Takapari Road**	**1.76**	**184**	P	P	23 33 42.2	-0.7
TSZ	**Takapari Road**	**1.76**	**184**	⇑PN	P	23 33 42.1	-0.8
PWZ	**Pawanui**	**1.81**	**162**	P	P	23 33 43.2	-0.3
PWZ	**Pawanui**	**1.81**	**162**	PN	P	23 33 43.2	-0.3
MXZ	**Matakaoa Point**	**1.87**	**67**	P	P	23 33 43.8	-0.3
MXZ	**Matakaoa Point**	**1.87**	**67**	PN	P	23 33 43.5	-0.6
BFZ	**Birch Farm**	**2.38**	**178**	P	P	23 33 48.5	-1.7
BFZ	**Birch Farm**	**2.38**	**178**	PN	P	23 33 48.5	-1.7
MRZ	**Mangatainoka R**	**2.40**	**190**	⇑PN	P	23 33 48.3	-2.2
MRZ				SN	S	23 34 17.7	-4.0
KIW	**Kapiti Island**	**2.73**	**200**	P	P	23 33 51.6	-3.0
KIW	**Kapiti Island**	**2.73**	**200**	PN	P	23 33 51.5	-3.1
MTW	**Mount Morrison**	**2.89**	**189**	P	P	23 33 53.6	-3.1
MTW	**Mount Morrison**	**2.89**	**189**	PN	P	23 33 53.5	-3.2
CAW	**Cannon Point**	**2.92**	**196**	P	P	23 33 54.0	-3.1
CAW	**Cannon Point**	**2.92**	**196**	PN	P	23 33 53.7	-3.4
CAW				SN	S	23 34 26.7	-6.6
DUWZ	**D'Urville Isla**	**3.03**	**214**	PN	P	23 33 54.8	-3.6
TRWZ	**Traveller**	**3.11**	**186**	PN	P	23 33 56.1	-3.4
PAWZ	**Paruwai Farm**	**3.12**	**190**	SN	S	23 34 31.5	-6.3
MRW	**Makara Radio**	**3.12**	**200**	P	P	23 33 56.1	-3.6
MRW	**Makara Radio**	**3.12**	**200**	PN	P	23 33 56.0	-3.7
MSWZ	**Moikau Station**	**3.18**	**192**	P	P	23 33 56.8	-3.6
MSWZ	**Moikau Station**	**3.18**	**192**	PN	P	23 33 56.8	-3.6
TCW	**Tory Channel**	**3.24**	**206**	P	P	23 33 57.6	-3.6
TCW	**Tory Channel**	**3.24**	**206**	PN	P	23 33 57.3	-3.9
BHW	**Baring Head**	**3.25**	**197**	P	P	23 33 57.4	-3.9
BHW	**Baring Head**	**3.25**	**197**	PN	P	23 33 57.2	-4.1
TUWZ	**Tuamarina**	**3.55**	**208**	PN	P	23 34 00.8	-4.4
NNZ	**Nelson**	**3.60**	**215**	eP	P	23 34 01.2	-4.7
NNZ	**Nelson**	**3.60**	**215**	PN	P	23 34 01.4	-4.4
QRZ	**Quartz Range**	**3.76**	**227**	eP	P	23 34 03.1	-4.7
QRZ	**Quartz Range**	**3.76**	**227**	PN	P	23 34 03.0	-4.9
BSWZ	**Blackbirch Sta**	**3.82**	**206**	ePN	P	23 34 04.2	-4.5
THZ	**Tophouse**	**4.25**	**215**	ePN	P	23 34 08.7	-5.6
KHZ	**Kahutara**	**4.56**	**205**	SN	S	23 35 05.7	-5.6
MQZ	**McQueen's Vall**	**6.01**	**205**	SN	S	23 35 34.5	-11
ODZ	**Otahua Downs**	**7.89**	**210**	SN	S	23 36 18.6	-12

*NNC **08** 23:53:08.6±10.0, 41.10N×73.21E, mpv2.7, Error ellipse: s-maj=103.2km s-min=44.7km az=157.0*
*KNET **08** 23:53:09.5±0.6, 41.16N×73.44E, h2km±2km, ml2.7, Error ellipse: s-maj=4.6km s-min=2.9km az=124.0*
ISC 08 23:53:09.3±1.4**, 41.09N**±0.09×**73.3E**±0.1**, h2**km**, n10,** σ**1s07**/18**, 9C-10D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.09**	**18**	P	**Pb**	**23 53 28.9**	**-1.7**
	50nm,0.1s,SNR=226						
AML				⇓S	**Sb**	**23 53 43.9**	**-1.3**
	72nm,0.1s						
UCH	**Uchtor**	**1.48**	**39**	⇑P	**Pn**	**23 53 35.6**	**-1.5**
	14nm,0.2s,SNR=25						
UCH				⇓S	**Sb**	**23 53 55.9**	**-0.5**
	38nm,0.2s						
KZA	**Kyzart**	**1.79**	**56**	⇑P	**Pn**	**23 53 40.9**	**-0.6**
	24nm,0.4s,SNR=40						
KZA				⇓S	**Sn**	**23 54 05.1**	**-0.2**
	17nm,0.2s						
AAK	**Ala-Archa**	**1.80**	**31**	⇑P	**Pn**	**23 53 41.5**	**-0.1**
	11nm,0.2s,SNR=8.1						
AAK				⇑S	**Sn**	**23 54 05.5**	**+0.1**
	44nm,0.2s						
AAK	**Ala-Archa**	**1.80**	**31**	⇓Pn	**Pn**	**23 53 42.4**	**+0.7**
	4.7nm,0.3s						
AAK				⇑Lg		23 54 05.2	
	11nm,0.2s						
CHMS	**Chumysh**	**2.21**	**30**	⇓P	**Pn**	**23 53 48.5**	**+1.0**
	13nm,0.3s,SNR=10						
CHMS				⇑S	**Sn**	**23 54 18.0**	**+2.1**
	39nm,0.4s						
USP	**Ospenovka**	**2.37**	**23**	⇓P	**Pn**	**23 53 50.4**	**+0.6**
	7.7nm,0.2s,SNR=25						
USP				⇓S	**Sn**	**23 54 23.1**	**+3.3**
	56nm,0.3s						
ULHL	**Ulahol**	**2.52**	**62**	⇑P	**Pn**	**23 53 52.1**	**+0.1**
	2.1nm,0.1s,SNR=7.5						
TKM2	**Tokmak 2**	**2.53**	**43**	⇓P	**Pn**	**23 53 52.6**	**+0.5**
	11nm,0.3s,SNR=9.5						
TKM2				⇓S	**Sn**	**23 54 27.8**	**+3.9**
	18nm,0.2s						
KK31	**Karatay Array**	**2.87**	**316**	⇑Pn	**Pn**	**23 53 57.1**	**+0.2**
	0.2nm,0.2s,baz=166,slow=41,SNR=58						
KK31				⇑Pg	**Pg**	**23 54 00.5**	**-6.0**
	2.0nm,0.3s,baz=122,slow=15,SNR=9.3						
KK31				⇓Lg		23 54 39.3	
	5.7nm,0.3s,baz=130,slow=28,SNR=11						

*ATH **08** 23:57:34.6, 40.29N×27.66E, h11km±4km, MD3.6/5*
*ISK **08** 23:57:35.9, 40.30N×27.52E, h11km, MD3.2*
*CSEM **08** 23:57:35.4±0.1, 40.30N×27.55E, h5km, MD3.2, Error ellipse: s-maj=1.7km s-min=1.4km az=175.0*
*NEIC **08** 23:57:36.8, 40.31N×27.73E, h47km, MD3.6(ATH), MD3.1(ISK), After ATH.*
ISC 08 23:57:35.7±0.6**, 40.32N**±0.03×**27.54E**±0.03**, h1**km±5km**, n43,** σ**1s10**/56**, 3C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNT	**Bandirma**	**0.30**	**84**	i PG	**Pg**	**23 57 42.1**	**+0.5**
BNT				i SG	**Sg**	**23 57 47.3**	**+1.8**
CANB	**Canakkale**	**0.47**	**230**	i PG	**Pg**	**23 57 45.2**	**0.0**
MFT	**Murefte**	**0.50**	**337**	i PG	**Pg**	**23 57 46.6**	**+0.9**
LPK	**Lapseki**	**0.59**	**275**	PG	**Pg**	**23 57 47.6**	**0.0**
KCT	**Karacabey**	**0.63**	**95**	PG	**Pg**	**23 57 48.2**	**-0.1**
BTOK	**Tokmak**	**0.68**	**146**	i P	**Pg**	**23 57 49.8**	**+0.6**
BTOK				i S	**Sg**	**23 57 58.9**	**+0.7**
BALB	**Balikesir**	**0.73**	**159**	PG	**Pg**	**23 57 50.1**	**-0.2**
EZN	**Ezine**	**1.05**	**242**	PG	**Pg**	**23 57 56.0**	**-0.7**
CTT	**Catalca**	**1.07**	**39**	PN	**Pn**	**23 57 56.9**	**-0.7**
ORLT	**Orhaneli**	**1.08**	**104**	PN	**Pn**	**23 57 57.2**	**-0.6**
DST	**Dursunbey**	**1.10**	**130**	PN	**Pn**	**23 57 57.0**	**-1.2**
AYVA	**Ayvalik**	**1.21**	**213**	i P	**Pb**	**23 57 59.4**	**+0.4**
ULDT	**Uludag**	**1.24**	**98**	i P	**Pb**	**23 58 00.9**	**+1.4**
ULDT				i S	**Sb**	**23 58 17.0**	**+1.1**
BADT	**Buyukada**	**1.31**	**66**	ePN	**Pn**	**23 58 01.3**	**+0.1**
ISK	**Istanbul-Kandi**	**1.38**	**57**	ePN	**Pn**	**23 58 01.1**	**-0.9**
YLV	**Yalova**	**1.42**	**80**	ePN	**Pn**	**23 58 02.5**	**-0.2**
PRK	**Paraskevi**	**1.45**	**223**	ePB	**Pb**	**23 58 03.1**	**-0.1**
PRK				eSB	**Sb**	**23 58 22.7**	**+0.6**
PRK	**Paraskevi**	**1.45**	**223**	eP	**Pn**	**23 58 02.6**	**-0.5**
PRK				eS	**Sb**	**23 58 22.3**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKS	Akhisar	1.46	171	ePN	Pn	23 58 02.6	-0.6
EDRB	Edirne	1.64	339	ePN	Pn	23 58 05.6	-0.1
HRT	Hereke	1.70	72	ePN	Pn	23 58 06.7	0.0
RDO	Rodhopi	1.73	299	ePN	Pn	23 58 07.7	+0.7
LIA	Limnos Island	1.85	257	ePG	Pg	23 58 10.2	-2.5
LIA				eSN	Sn	23 58 35.3	+2.0
KDAG	Bornova	1.93	186	i P	Pn	23 58 13.1	+3.1
KDAG				i S	Sn	23 58 38.9	+3.7
IZM	Izmir	1.94	186	ePN	Pn	23 58 09.2	-0.8
GDZ	Gediz	1.94	129	i P	Pn	23 58 12.8	+2.6
GDZ				i S	Px	23 58 18.6	
BLCB	Balcova	1.97	191	ePN	Pn	23 58 09.8	-0.8
MANT	Manisa	2.00	156	i P	Pn	23 58 14.4	+3.5
MANT				i S	Sn	23 58 34.2	-2.7
URLA	Izmir	2.09	201	i P	Pn	23 58 17.3	+5.0
URLA				i S	Sn	23 58 39.9	+0.6
ALT	Altintas	2.36	122	ePN	Pn	23 58 15.6	-0.5
HENT	Hendek	2.61	78	i P	Pn	23 58 26.0	+6.3
HENT				i S	Sn	23 58 46.0	-6.4
SMG	Samos	2.67	192	ePB	Pb	23 58 19.5	-4.5
ESKT	Eskisehir	2.67	106	ePN	Pn	23 58 20.2	-0.4
ESKT	Eskisehir	2.67	106	i P	Pn	23 58 27.6	+7.0
ESKT				i S	Sn	23 59 03.7	+10
NVR	Nevrokopi	2.97	291	ePN	Pn	23 58 25.2	+0.4
NVR	Nevrokopi	2.97	291	eP	Pn	23 58 24.7	-0.1
TKTP	Tekketepe	3.14	136	i P	Pn	23 58 37.1	+10
TKTP				i S	Sn	23 59 03.9	-2.1
SGKT	Sivrigoynuk	3.46	84	i P	Pg	23 58 43.5	-1.3
SGKT				i S	Sn	23 59 22.3	+8.3
KIZT	Kizilcal	3.65	112	ePN	Pn	23 58 34.1	-0.4
VTS	Vitosha	3.96	306	⇑P	Pg	23 58 49.5	-5.3
TIRR	Tirgusor	4.18	9	⇑P	Pn	23 58 41.0	-1.1
CFR	Carcaliu	4.87	5	⇑P	Pn	23 58 51.0	-0.8
MLR	Muntele Rosu	5.29	348	⇓P	Pn	23 58 59.2	+1.4

CASC 09 00:00:12.4±0.9**, 13.88N**×**90.27W, h125**^{km}±4^{km}**, MD3.5, 1C-2D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.35	328	⇑eP	P	00 00 30.4	+0.2
IXG				eS	S	00 00 44.5	+0.8
RTR	El Retiro	0.60	88	eP	P	00 00 51.3	+20
RTR				eS	S	00 01 06.3	+20
RBDL	Robledal	0.61	67	eP	P	00 00 50.7	+19
RBDL				eS	S	00 01 06.2	+20
SBLS	San Blas	0.63	93	eP	P	00 00 51.2	+19
SBLS				eS	S	00 01 06.5	+20
SNJE	San Jose	0.64	91	eP	P	00 00 51.3	+19
SNJE				eS	S	00 01 07.4	+21
TP2	Tecpan 2	1.16	321	⇓eP	P	00 00 37.2	+0.4
TP2				eS	S	00 00 57.1	+1.9
MRL	Marmol	1.31	25	⇓eP	P	00 00 39.0	+0.5
MRL				eS	S	00 00 58.5	+0.3

ISC 09 00:46:14.7±0.7**, 45.03N**±0.03×**15.05E**±0.05**, h10**^{km}**, n14,** σ**0**^{s}**94**/26**, 1D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NVLJ	Novalja	0.48	196	i Pg	Pg	00 46 24.7	+0.2
NVLJ				i Sg	Sg	00 46 32.1	+1.2
BOJS	Bojanci	0.50	16	⇓iPg	Pg	00 46 24.8	+0.1
BOJS				i Sg	Sg	00 46 31.7	+0.2
	comp=Z,16nm,0.1s						
VISS	Visnje	0.79	349	i Pg	Pg	00 46 30.0	-0.6
VISS				i Sg	Sg	00 46 41.2	+0.1
	comp=Z,5.0nm,0.1s						
CEY	Cerknica	0.84	328	i Pg	Pg	00 46 30.8	-0.6
CEY				eSg	Sg	00 46 43.0	+0.3
	comp=Z,5.0nm,0.1s						
GCIS	Gornji Cirnik	0.93	26	i Pg	Pg	00 46 33.9	+0.5
GCIS				i Sg	Sg	00 46 46.7	+0.8
	comp=Z,9.0nm,0.2s						
PDKS	Podkum	1.03	358	i Pg	Pg	00 46 34.7	-0.7
PDKS				i Sg	Sg	00 46 50.2	+1.0
	comp=Z,5.0nm,0.1s						
LJU	Ljubljana	1.08	340	i Pg	Pg	00 46 37.0	+0.6
JAVS	Javornik	1.11	322	i Pg	Pg	00 46 36.3	-0.6
JAVS				i Sg	Sg	00 46 52.8	+1.0
DOBS	Dobrina	1.16	14	i Pg	Pg	00 46 37.8	-0.1
DOBS				i Sg	Sg	00 46 54.6	+1.2
VOJS	Vojsko	1.30	321	i Pg	Pg	00 46 40.4	-0.3
VOJS				i Sg	Sg	00 47 00.1	+2.1
CADS	Cadrg	1.52	323	i Pg	Pg	00 46 44.0	-0.9
CADS				i Sg	Sg	00 47 05.8	+0.7
	comp=Z,8.0nm,0.2s						
PERS	Pernice	1.61	2	i Pg	Pg	00 46 44.6	-2.2
PERS				i Sg	Sg	00 47 07.3	-1.0
ROBS	Robic	1.63	319	ePg	Pg	00 46 45.2	-2.0
ROBS				eSg	Sg	00 47 08.0	-1.0
KOGS	Kog	1.65	30	i Sg	Sg	00 47 09.4	-0.2

GUC 09 00:57:40.1±0.8**, 28.95S**×**70.18W, h100**^{km}**, ML3.9, 2C-1D, Central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.46	262	eP	P	00 57 56.4	+0.6
LCO				i S	S	00 58 08.8	+1.3
LCO				AMP		00 58 09.9	
	comp=E,1μm,0.2s						
VACH	Vallenar	0.63	306	⇓iP	P	00 57 57.6	+0.5
VACH				i S	S	00 58 10.0	+0.2
VACH				AMP		00 58 10.6	
	comp=N,17μm,0.1s						
TLL	Tololo Astrono	1.33	204	eP	P	00 58 06.2	+1.4
TLL				i S	S	00 58 25.1	+2.0
TLL				AMP		00 58 26.7	
	comp=E,844nm,0.2s						
CPCH	Copiapo	1.59	354	eP	P	00 58 08.2	+0.3
CPCH				i S	S	00 58 28.5	0.0
CPCH				AMP		00 58 32.3	
	comp=E,7μm,0.1s						
CMCH	Combarbala	2.33	198	⇑iP	P	00 58 17.6	-0.1
CMCH				i S	S	00 58 46.0	+0.3
CMCH				AMP		00 58 48.0	
	comp=N,815nm,0.7s						
CRCH	Chaqaral	2.62	351	⇑iP	P	00 58 20.6	-1.0

CASC 09 01:07:19.2±1.3**, 11.28N**×**85.91W, h166**^{km}±7^{km}**, MD3.8, ML3.3, 7C-5D, Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CONN	Concepcion	0.40	44	⇑eP	P	01 07 42.6	+0.2
APON	Apoyo	0.65	346	⇓eP	P	01 07 43.8	+0.3
CRUN	El Crucero	0.80	331	eP	P	01 07 45.6	+1.3
TICN	Ticuantepe	0.81	337	⇓iP	P	01 07 45.0	+0.6
WILN	Americas 2	0.92	343	⇑iP	P	01 07 45.4	+0.3
WILN				eS	S	01 08 05.4	+0.4
MGAN	Managua	0.93	339	⇑eP	P	01 07 45.5	+0.4
MGAN				i		01 07 46.4	
	comp=N,383nm,0.4s						
MGAN				eS	S	01 08 05.2	+0.1
XAVN	Gruta Xavier	0.96	335	⇑iP	P	01 07 45.7	+0.4
COPN	Copaltepe	1.12	323	⇓eP	P	01 07 46.8	+0.1
PYTN	Playitas	1.26	353	⇑eP	P	01 07 47.8	-0.2
PYTN				eS	S	01 08 10.9	+0.6
MOMJ	Momotombo	1.28	331	⇑eP	P	01 07 48.2	0.0
MIRN	Miramar	1.40	326	⇓eP	P	01 07 49.4	+0.1
CNGN	Cerro Negro	1.44	328	⇓eP	P	01 07 49.5	-0.2
LEON	Leon	1.49	320	⇑eP	P	01 07 49.7	-0.5
LEON				eS	S	01 08 13.9	-0.2
CRIN	San Cristobal	1.80	322	eP	P	01 07 53.5	+0.1
CRIN				eS	S	01 08 21.2	+1.4

*BJI **09** 01:12:05.9, 64.00N×149.60W, h141^{km}, mB4.7, mb4.7*
*NEIC **09** 01:12:08.0, 64.03N×149.56W, h141^{km}, mb4.5/15, After AEIC.*
*IDC **09** 01:12:07.2±1.4, 64.20N×149.73W, h140^{km}±9^{km}, mb3.7/13, mb1 3.9/16, mb1mx3.7/27, mbtmp4.1/16, Error ellipse: s-maj=18.9km s-min=14.3km az=55.0*
ISC 09 01:12:06.6±0.2**, 64.00N**±0.02×**149.59W**±0.06**, h143**^{km}±2^{km}**, n115,** σ**0**^{s}**95**/138**, mb4.2**/30**, Central Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BWN	Browne	0.18	18	P	P	01 12 27.2	+0.8
MCK	McKinley	0.40	133	P	P	01 12 28.2	+1.0
MCK				S	S	01 12 43.1	+0.1
NEA	Nenana	0.62	21	P	P	01 12 28.5	+0.2
TRF	Thorofare Moun	0.64	209	P	P	01 12 29.6	+1.2
TRF				S	S	01 12 45.7	+0.6
RND	Reindeer	0.68	151	P	P	01 12 29.5	+0.8
RND				S	S	01 12 45.8	+0.2
KTH	Kantishna Hill	0.74	233	P	P	01 12 30.2	+1.1
KTH				S	S	01 12 46.5	+0.3
WRH	Wood River Hil	0.81	54	P	P	01 12 30.0	+0.6
WRH				S	S	01 12 46.6	-0.4
CCB	Clear Creek Bu	1.01	50	P	P	01 12 31.4	+0.5
HUR	Hurricane	1.03	181	P	P	01 12 32.3	+1.1
MDM	Murphy Dome	1.13	31	P	P	01 12 32.5	+0.3
MDM				S	S	01 12 51.1	-0.6
MLY	Manley	1.15	335	P	P	01 12 32.5	+0.2
COLA	College	1.16	40	P	P	01 12 32.6	+0.2
COLA				S	S	01 12 52.3	+0.1
HDA	Harding Lake	1.22	70	P	P	01 12 33.5	+0.4
HDA				S	S	01 12 53.6	+0.2
GLM	Gilmore Dome	1.37	43	P	P	01 12 34.9	+0.2
ILAR	Eielson Array	1.41	56	P	P	01 12 34.9	-0.2
	398nm,0.3s,baz=241,slow=10						
ILAR				S	S	01 12 55.2	-1.6
	27nm,0.3s,baz=243,slow=18,SNR=11						
IL1	Eielson Array	1.41	56	P	P	01 12 35.1	+0.1
CUT	Chulitna	1.63	191	P	P	01 12 38.2	+0.7
DDM	Donnelly Dome	1.66	96	P	P	01 12 38.3	+0.5
PAX	Paxson	2.12	117	P	P	01 12 44.1	+0.9
PAX				S	S	01 13 09.1	-2.1
GHO	Glory Hole Cre	2.26	172	P	P	01 12 45.8	+0.9
GHO				S	S	01 13 15.2	+0.9
SML	Sawmill	2.28	165	P	P	01 12 45.5	+0.3
PWA	Palmer West	2.37	183	P	P	01 12 47.1	+0.8
SCM	Sheep Creek Mo	2.41	154	P	P	01 12 47.5	+0.6
PMR	Palmer	2.43	175	P	P	01 12 47.6	+0.5
PMR				S	S	01 13 17.7	-0.3
KNK	Knik Glacier	2.65	168	P	P	01 12 50.7	+0.7
IM3	Indian Mountai	2.66	320	P	P	01 12 49.6	-0.4
IMA	Indian Mountai	2.70	322	eP	P	01 12 50.3	-0.3
TZL	Tazlina	2.73	134	P	P	01 12 51.9	+0.9
FIB	Fire Island	2.86	186	P	P	01 12 53.7	+1.1
RC01	Rabbit Creek A	2.93	181	P	P	01 12 53.6	+0.1
CFI	College Fiord	2.96	163	P	P	01 12 54.4	+0.5
CRP	Crater Peak	2.99	204	P	P	01 12 55.2	+0.8
BGL	Barrier Glacie	3.04	206	P	P	01 12 55.6	+0.7
VOGL	Vogel Lake	3.04	188	P	P	01 12 56.4	+1.3
VOGL				S	S	01 13 33.5	+1.5
SPU	Mount Spurr	3.05	203	eP	P	01 12 54.8	-0.4
TT01	Tatalina	3.09	252	P	P	01 12 55.6	0.0
CKL	Chakachamna La	3.09	205	P	P	01 12 55.7	+0.1
COLD	Coldfoot	3.25	356	P	P	01 12 57.2	-0.5
VLZ	Valdez	3.25	151	P	P	01 12 56.9	-0.9
VLZ				S	S	01 13 36.0	-0.9
DIV	Divide	3.38	147	P	P	01 12 58.5	-1.0
DIV				S	S	01 13 37.5	-2.4
SLKM	Skilak Lake	3.52	185	P	P	01 13 01.5	+0.2
BCA3	Beaver Creek A	3.62	102	P	P	01 13 01.7	-0.9
GLB	Gilahina Butte	3.70	131	P	P	01 13 04.0	+0.4
GLB				S	S	01 13 45.2	-2.1
RSO	Redoubt South	3.85	204	P	P	01 13 05.4	-0.2
HIN	Hinchinbrook I	3.90	157	P	P	01 13 05.6	-0.6
EYAK	Cordova Ski Ar	3.90	151	P	P	01 13 05.6	-0.7
EYAK				S	S	01 13 50.5	-1.6
CVA	Cordova	3.91	151	P	P	01 13 06.1	-0.3
SEW	Seward	3.92	179	P	P	01 13 06.0	-0.4
SEW				S	S	01 13 50.4	-2.0
BM3	Burnt Mountain	4.00	29	P	P	01 13 06.9	-0.7
ILIM	Iliamna	4.24	203	P	P	01 13 10.2	-0.6
ILW	Iliamna West	4.29	204	P	P	01 13 11.2	-0.3
BRLK	Bradley Lake	4.30	189	P	P	01 13 11.2	-0.3
BRLK				S	S	01 13 59.1	-2.4
BALM	Baldy	4.49	128	P	P	01 13 14.0	-0.1
CNPM	China Poot	4.56	191	P	P	01 13 14.5	-0.5
CNPM				S	S	01 14 05.4	-2.3
CTGM	Chitina Glacie	4.89	125	P	P	01 13 20.1	+0.6
AUL	Augustine Lava	4.98	203	P	P	01 13 21.1	+0.5
AGU	Augustine-Summ	5.00	203	P	P	01 13 20.8	-0.1
YAH	Yahtse	5.18	131	P	P	01 13 23.0	-0.2
YAH				S	S	01 14 23.1	+0.6
MCNL	McNeil River	5.34	207	P	P	01 13 25.1	-0.3
MCNL				S	S	01 14 23.6	-2.7
KAHC	Katmai Hardscr	5.97	208	P	P	01 13 33.1	-0.6
KDAK	Kodiak Island	6.41	194	P	P	01 13 39.4	-0.4
ACHA	Angle Creek He	6.44	208	P	P	01 13 39.9	-0.3
PNL	Peninsula	6.49	127	P	P	01 13 41.0	+0.1
CAHL	Cahill	6.58	207	P	P	01 13 41.5	-0.6
KJL	Kejulik	6.64	209	P	P	01 13 42.0	-0.8
INK	Inuvik	7.80	49	P	P	01 13 57.1	-1.4
	4.1nm,0.3s,baz=242,slow=16,SNR=89						
INK				S	S	01 15 21.8	-3.8
	0.4nm,0.3s,baz=164,slow=4.0,SNR=4.3						
INK	Inuvik	7.80	49	eP	P	01 13 56.2	-2.2
	41nm,0.9s						
DLBC	Dease Lake	10.93	112	P	P	01 14 39.5	-0.2
	0.2nm,0.3s,baz=300,slow=12,SNR=9.0						
DLBC	Dease Lake	10.93	112	eP	P	01 14 39.1	-0.6
YKW3	Yellowknife Ar	15.68	79	eP	P	01 15 38.3	-2.0
YKA	Yellowknife Ar	15.71	80	P	P	01 15 39.1	-1.6
	0.5nm,0.3s,baz=292,slow=11,SNR=21						
EDM	Edmonton	21.41	103	eP	P	01 16 44.6	+0.9
FX1	Attu Island--F	22.08	257	P	P	01 16 49.6	-0.7
	14nm,0.7s,mb4.5,baz=231,slow=21,SNR=6.4						
NEW	Newport	23.61	116	P	P	01 17 05.5	+0.5
	8.2nm,0.9s,mb4.2,baz=328,slow=7.0,SNR=8.6						
NEW	Newport	23.61	116	eP	P	01 17 05.8	+0.8
	9.7nm,1.0s,mb4.3						
WALA	Waterton Lakes	24.27	111	eP	P	01 17 12.2	+0.9
	14nm,0.9s,mb4.5						
HRY	Holter Researc	26.99	112	eP	P	01 17 36.4	0.0
YBH	Yreka Blue Hor	27.19	132	P	P	01 17 40.0	+1.6
	0.7nm,0.7s,mb3.4,baz=150,slow=4.1,SNR=5.2						
MCMT	McKenzie Canyo	28.12	115	eP	P	01 17 47.4	+0.6
HLID	Hailey	28.57	119	eP	P	01 17 51.0	+0.2
	4.1nm,0.8s,mb4.2						
LAO	LASA Array	29.35	105	eP	P	01 17 57.5	-0.2
	15nm,1.1s,mb4.6						
IMW	Indian Meadow	29.66	114	eP	P	01 18 01.9	+1.5
	16nm,0.8s,mb4.8						
RRI2	Red Ridge	29.96	115	eP	P	01 18 03.8	+0.6
	8.2nm,0.7s,mb4.6						
TPAW	Teton Pass	29.99	115	eP	P	01 18 04.2	+0.8
	5.0nm,0.8s,mb4.3						
LOHW	Long Hollow	30.03	114	eP	P	01 18 04.8	+1.0
	8.2nm,0.7s,mb4.6						
ELK	Elko	30.68	123	P	P	01 18 09.9	+0.4
	0.5nm,0.3s,mb3.7,baz=312,slow=8.5,SNR=4.2						
BW06	Boulder Array	31.15	114	eP	P	01 18 13.6	-0.1
	9.3nm,0.8s,mb4.6						
PDAR	Pinedale Array	31.15	114	P	P	01 18 14.2	+0.6
	8.4nm,0.8s,mb4.5,baz=328,slow=6.0,SNR=72						
ULM	Lac du Bonnet	31.17	90	P	P	01 18 12.9	-0.8
	3.0nm,0.6s,mb4.2,baz=320,slow=11,SNR=3.3						
NVAR	Mina Array Bea	31.63	129	P	P	01 18 18.6	+0.7
	5.4nm,0.7s,mb4.4,baz=327,slow=7.3,SNR=39						
RSSD	Black Hills	32.33	106	eP	P	01 18 23.8	-0.1
	2.9nm,0.8s,mb4.1						
DAU	Daniels Canyon	32.48	118	eP	P	01 18 25.3	+0.1
MVU	Marysvale	33.77	121	eP	P	01 18 37.0	+0.8
	4.9nm,1.1s,mb4.2						
MSU	Marysvale	33.77	121	eP	P	01 18 37.8	+1.6
SRU	San Rafael	33.88	118	eP	P	01 18 37.8	+0.6
ISCO	Idaho Springs	35.25	112	eP	P	01 18 49.8	+1.0
	3.2nm,0.9s,mb4.0						
ANMO	Albuquerque	39.09	117	P	P	01 19 22.3	+1.2
	1.0nm,0.5s,mb3.8,baz=316,slow=8.1,SNR=4.5						
ANMO	Albuquerque	39.09	117	P	P	01 19 22.3	+1.2
BNM	Barren Site	39.73	118	eP	P	01 19 27.3	+1.0
SCHQ	Schefferville	40.16	63	P	P	01 19 27.6	-2.0
	4.1nm,1.0s,mb4.0,baz=324,slow=8.7,SNR=4.1						
AMTX	Amarillo	41.07	112	eP	P	01 19 37.3	0.0
	11nm,0.8s,mb4.5						
GDL2	Guadalupe Moun	42.34	117	eP	P	01 19 48.5	+1.0
CLNB	Carlsbad	42.47	116	eP	P	01 19 49.5	+0.8
TXAR	Lajitas Array	45.16	118	P	P	01 20 10.9	+0.7
	5.3nm,0.8s,mb4.2,baz=328,slow=6.8,SNR=62						
OXF	Oxford	46.59	100	eP	P	01 20 21.0	-0.4
	11nm,0.4s,mb4.8						
MDJ	Mudanjiang	47.27	286	P	P	01 20 26.6	0.0
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.9s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,40nm,5.9s						
CN2	Changchun	49.67	289	eP	P	01 20 43.7	-1.5
CN2				eAP	pP	01 21 13.0	-5.0
CN2				eS	S	01 27 40.0	-1.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
NOA	NORSAR Array B	54.44	11	P	P	01 21 18.5	-2.0
	comp=Z,0.3nm,0.9s,mb3.0,baz=331,slow=10,SNR=2.7						
FINES	FINESS Array B	54.83	3	P	P	01 21 20.4	-2.9
	comp=Z,0.3nm,0.4s,mb3.3,baz=18,slow=8.8,SNR=3.2						
FINES	FINESS Array B	54.83	3	P	P	01 21 20.4	-2.9
SSE	Sheshan	62.20	284	eP	P	01 22 14.6	-0.2
SSE				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,118nm,3.5s						
NJ2	Nanjing	62.36	287	eP	P	01 22 12.5	-3.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
WMQ	Urumqi	63.45	317	eP	P	01 22 25.4	+2.5
GERES	GERESS Array B	66.73	12	P	P	01 22 42.3	-1.5
	comp=Z,0.2nm,0.6s,mb3.1,baz=349,slow=6.8,SNR=5.6						
BOSA	Boshof	144.45	8	PKP	PKPdf	01 31 23.9	-1.1
	comp=Z,1.5nm,0.6s,baz=111,slow=17,SNR=5.0						

*NNC **09** 01:15:38.6±8.6, 39.23N×71.57E, mpv3.4, Error ellipse: s-maj=67.1km s-min=40.0km az=177.0*
ISC 09 01:15:36.5±2.9**, 38.9N**±0.2×**71.4E**±0.2**, h99**^{km}±64^{km}**, n8,** σ**0**^{s}**57**/10**, 2C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.64	28	P	P	01 16 31.2	-0.8
	SNR=16						
UCH	Uchtor	4.05	34	P	P	01 16 37.6	-0.1
	SNR=14						
EKS2	Erkin-Say	4.14	25	P	P	01 16 39.1	+0.3
	SNR=7.3						
KK31	Karatay Array	4.23	351	⇓Pn	P	01 16 39.9	-0.3
	4.5nm,0.5s,baz=167,slow=11,SNR=95						
KK31				⇓Sn	S	01 17 29.0	+0.3
	5.9nm,0.5s,baz=173,slow=23,SNR=4.8						
KK31				⇑Lg		01 17 43.7	
	5.9nm,0.5s,baz=162,slow=29						
KZA	Kyzart	4.29	42	P	P	01 16 41.5	+0.5
	SNR=8.6						
AAK	Ala-Archa	4.38	31	Pn	P	01 16 43.3	+1.2
	6.9nm,0.8s						
AAK				⇑Sn	S	01 17 32.1	-0.2
	8.2nm,0.6s						
USP	Ospenovka	4.92	27	P	P	01 16 48.7	-0.9
	SNR=6.8						
AB31	Akbulak array	13.20	325	P	P	01 18 41.1	0.0
	1.1nm,0.9s,baz=135,slow=14,SNR=12						

*MOS **09** 01:47:37.8±1.1, 1.68N×127.45E, h112^{km}, mb4.8/23, Error ellipse: s-maj=15.3km s-min=7.2km az=114.0*
*BJI **09** 01:47:38.5, 1.36N×127.59E, h139^{km}, mB5.1, mb4.9*
*HRVD **09** 01:47:39.1±0.7, 1.65N×127.35E, h117^{km}±7^{km}, MW4.8/36, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s36,c51; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.52±.17; $M_{\theta\theta}$-1.28±.17; $M_{\phi\phi}$1.80±.22; $M_{r\theta}$-0.45±.08; $M_{\theta\phi}$0.44±.17; $M_{\phi r}$-1.07±.13; Best double couple: $M_0$1.899×10^{16} NP1:ϕ_s140°,δ55°,λ-177°. NP2: ϕ_s48°,δ87°,λ-35°. Principal axes: T 2.31, Plg22°, Azm100°; N -.822, Plg55°, Azm224°; P -1.489, Plg26°, Azm359°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 01:47:39.1±0.2, 1.69N×127.54E, mb4.9/24 Error ellipse: s-maj=8.8km s-min=4.7km az=67.0*
*IDC **09** 01:47:40.0±2.9, 1.68N×127.48E, h119^{km}±27^{km}, mb4.4/21, mb1 4.4/22, mb1mx4.4/26, mbtmp4.7/22, Error ellipse: s-maj=18.4km s-min=8.2km az=72.0*
ISC 09 01:47:39.3±0.2**, 1.61N**±0.04×**127.47E**±0.05**, h125**^{km}**, h125**^{km}±3.4^{km}**: pP-P, n136,** σ**1**^{s}**08**/139**, mb4.8**/72**, 9C-6D, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	5.87	336	⇓eP	P	01 49 04.8	-0.3
KCP				i S	S	01 50 06.5	-5.2
TSM	Tawau	9.95	286	P	P	01 49 59.1	-1.1
TSM	Tawau	9.95	286	P	P	01 49 59.1	-1.1
TSM	Tawau	9.95	286	P	P	01 49 59.1	-1.1
KKM	Kota Kinabalu	12.06	292	eP	P	01 50 29.4	+1.3
KKM	Kota Kinabalu	12.06	292	P	P	01 50 30.0	+1.9
KKM	Kota Kinabalu	12.06	292	P	P	01 50 30.0	+1.9
KKM	Kota Kinabalu	12.06	292	P	P	01 50 30.0	+1.9
KAKA	Kakadu	15.06	161	eP	P	01 51 05.6	-1.2
	24nm,0.6s						
KSM	Kuching	17.16	270	eP	P	01 51 31.6	-1.3
FITZ	Fitzroy Crossi	19.67	185	eP	P	01 52 00.4	-0.4
	32nm,0.6s						
FITZ	Fitzroy Crossi	19.67	185	P	P	01 51 59.2	-1.6
	3.3nm,0.3s,baz=13,slow=7.8,SNR=60						
WRAB	Tennant Creek	22.45	163	eP	P	01 52 29.2	+0.7
WRAB				pmax	pmax		
	comp=Z,69nm,0.5s,mb5.2						
WRAB	Tennant Creek	22.45	163	eP	P	01 52 29.2	+0.7
	comp=Z,70nm,0.5s,mb5.2						
WRA	Warramunga Arr	22.45	163	P	P	01 52 29.5	+0.9
	comp=Z,45nm,0.5s,mb5.0,baz=342,slow=11,SNR=13						
WRA				pP		01 52 51.8	
	comp=Z,27nm,0.7s,baz=339,slow=11,SNR=5.6						
WRA				S	S	01 56 28.5	+6.8
	comp=Z,3.6nm,0.7s,baz=343,slow=17,SNR=6.9						
WB2	Warramunga Arr	22.45	163	eP	P	01 52 29.6	+1.0
WB2				eS	S	01 56 28.5	+6.8
PMG	Port Moresby	22.46	120	P	P	01 52 28.8	+0.1
	comp=Z,18nm,0.7s,mb4.5,baz=332,slow=6.1,SNR=4.8						
YHNB	Yeheng	23.67	346	eP	P	01 52 40.1	-0.3
MBWA	Marble Bar	23.86	198	eP	P	01 52 42.2	0.0
QIZ	Qiongzhong	24.46	316	P	P	01 52 47.4	-0.6
QIZ				S	S	01 56 58.4	+2.3
QIZ				XS		01 57 43.9	
QIZ				AMB	AMB		
	comp=Z,37nm,0.9s,mb4.7						
QZH	Quanzhou	24.73	340	⇑iP	P	01 52 52.0	+1.4
QZH				AMB	AMB		
	comp=Z,110nm,0.6s,mb5.5						
CTA	Charters Tower	28.36	140	P	P	01 53 22.5	-1.4
	comp=Z,12nm,0.9s,mb4.4,baz=331,slow=10,SNR=3.1						
CBIJ	Chichi jima	29.01	28	P	P	01 53 27.2	-2.4
	comp=Z,33nm,0.8s,mb5.0,baz=267,slow=19,SNR=3.4						
SSE	Sheshan	29.93	349	eP	P	01 53 37.9	+0.1
SSE				S	S	01 58 27.4	+2.8
SSE				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.7						
SSE				AMB	AMB		
	comp=Z,75nm,5.6s						
SSE				LR	LR		
	comp=N,268nm,15.4s						
SSE				LR	LR		
	comp=E,729nm,15.5s						
SSE				LR	LR		
	comp=Z,530nm,15.9s						
NJ2	Nanjing	31.35	346	eP	P	01 53 51.6	+1.3
NJ2				AP	pP	01 54 19.0	+1.2
NJ2				XP	sP	01 54 33.7	+1.3
NJ2				PP	PP	01 55 00.4	+2.3
NJ2				S	S	01 58 49.0	+2.0
NJ2				XS		01 59 38.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,240nm,4.8s						
NJ2				LR	LR		
	comp=N,2μm,15.0s						
NJ2				LR	LR		
	comp=E,2μm,13.9s						
NJ2				LR	LR		
	comp=Z,630nm,18.1s						
WHN	Wuhan	31.35	338	⇑P	P	01 53 51.5	+1.1
JNU	Nakatsue	31.51	5	P	P	01 53 48.4	-3.4
GYA	Guiyang	31.79	323	⇑iP	P	01 53 54.5	+0.3
GYA				AP	pP	01 54 25.6	+3.9
GYA				XP	sP	01 54 41.8	+5.5
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
GYA				LR	LR		
	comp=N,580nm,17.0s						

GYA LR LR
comp=E,420nm,17.2s
GYA LR LR
comp=Z,640nm,17.6s
CMAR Chiang Mai Arr 32.61 303 P **P 01 53 59.0 -2.3**
comp=Z,4.0nm,1.0s,mb4.2,baz=117,slow=7.7,SNR=12
ENH Enshi 33.23 331 *e*P **P 01 54 06.0 -0.5**
comp=Z,34nm,0.9s,mb5.2
KMI Kunming 33.41 316 ⇑P **P 01 54 09.4 +1.3**
KMI AP pP 01 54 39.0 +3.1
KMI XP sP 01 54 54.7 +4.1
KMI PP PP 01 55 26.5 +2.4
KMI PCP PcP 01 56 49.0 +2.1
KMI AMB AMB
comp=Z,16nm,1.2s,mb4.7
KMI LR LR
comp=N,2µm,15.4s
KMI LR LR
comp=E,2µm,17.0s
KMI LR LR
comp=Z,2µm,14.4s
KLBR Kellerberrin 34.28 195 *e*P **P 01 54 15.8 +0.3**
comp=Z,9.4nm,0.5s,mb4.9
MUN Mundaring 35.07 197 *e*P **P 01 54 22.8 +0.6**
comp=Z,3.8nm,0.6s,mb4.4
MUN Mundaring 35.07 197 *e*P **P 01 54 22.8 +0.6**
MUN pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
NWAO Narrogin (SRO) 35.68 195 P **P 01 54 28.4 +1.0**
comp=Z,8.0nm,0.6s,mb4.8,baz=347,slow=9.6,SNR=11
STKA Stephens Creek 35.89 159⇑*i*P **P 01 54 29.7 +0.5**
comp=Z,15nm,0.6s,mb5.1
STKA Stephens Creek 35.89 159 P **P 01 54 29.8 +0.6**
comp=Z,21nm,0.7s,mb5.2,baz=332,slow=9.2,SNR=64
MAJO Matsushiro 36.15 15 *e*P **P 01 54 29.7 -1.6**
MAJO pmax pmax
comp=Z,11nm,0.7s,mb4.9
MAJO Matsushiro 36.15 15 *e*P **P 01 54 29.7 -1.6**
comp=Z,11nm,0.7s,mb4.9
MAT Matsushiro 36.15 15 *e*P **P 01 54 29.0 -2.3**
MAT pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MAT Matsushiro 36.15 15 *e*P **P 01 54 29.0 -2.3**
comp=Z,9.6nm,0.7s,mb4.8
MAT Matsushiro 36.15 15 P **P 01 54 28.9 -2.4**
MJAR Matsushiro Arr 36.15 15 P **P 01 54 29.9 -1.4**
comp=Z,9.6nm,0.7s,mb4.8,baz=189,slow=9.8,SNR=17
CD2 Chengdu 36.79 325 P **P 01 54 36.6 -0.1**
CD2 AMB AMB
comp=Z,16nm,1.0s,mb4.9
SNY Shenyang 40.19 355 ⇓P **P 01 55 05.2 +0.3**
SNY AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
SNY LR LR
comp=N,290nm,16.0s
SNY LR LR
comp=E,600nm,12.9s
SNY LR LR
comp=Z,360nm,13.6s
LZH Lanzhou 40.70 330 P **P 01 55 10.5 +1.4**
LZH AP pP 01 55 38.4 +0.8
LZH XP sP 01 55 53.0 +0.6
LZH AMB AMB
comp=Z,130nm,1.0s,mb5.7
LZH AMB AMB
comp=Z,210nm,4.0s
LZH LR LR
comp=N,4µm,15.0s
LZH LR LR
comp=Z,3µm,17.0s
HHC Hu-ho-hao-te 41.63 342 *e*P **P 01 55 17.5 +0.7**
HHC AP pP 01 55 49.3 +4.0
HHC XP sP 01 56 03.7 +3.7
HHC PP PP 01 56 58.8 +1.1
HHC PCP PcP 01 57 09.6 -2.4
HHC AMB AMB
comp=Z,14nm,1.3s,mb4.5
HHC AMB AMB
comp=Z,81nm,9.6s
HHC LR LR
comp=N,280nm,24.0s
HHC LR LR
comp=E,872nm,21.6s
HHC LR LR
comp=Z,254nm,20.4s
SHL Shillong 41.74 308 *e*P **P 01 55 19.0 +1.2**
SHL *e* 01 57 56.0
CN2 Changchun 42.05 358 *e*P **P 01 55 22.5 +2.4**
MDJ Mudanjiang 42.87 2 P **P 01 55 27.1 +0.3**
MDJ AMB AMB
comp=Z,24nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,47nm,6.5s
MDJ LR LR
comp=N,90nm,19.1s
MDJ LR LR
comp=E,214nm,17.5s
MDJ LR LR
comp=Z,174nm,19.9s
MDJ Mudanjiang 42.87 2 *e*P **P 01 55 26.4 -0.3**
comp=Z,19nm,0.9s,mb4.8
LSA Lhasa 44.40 313 P **P 01 55 41.0 +1.7**
LSA AMB AMB
comp=Z,200nm,5.0s
LSA LR LR
comp=N,440nm,21.0s
LSA LR LR
comp=E,410nm,15.0s
LSA LR LR
comp=Z,660nm,22.0s
LSA Lhasa 44.40 313 *e*P **P 01 55 40.9 +1.6**
LSA pmax pmax
comp=Z,14nm,0.6s,mb4.9
LSA Lhasa 44.40 313 *e*P **P 01 55 40.9 +1.6**
comp=Z,14nm,0.6s,mb4.9
ASAJ Asahikawa 44.41 16 P **P 01 55 39.2 +0.1**
comp=Z,6.5nm,0.4s,mb4.7,baz=239,slow=11,SNR=8.4
DZM Mont Dzumac 44.73 124 P **P 01 55 43.6 +1.6**
comp=Z,2.9nm,0.6s,mb4.2,baz=252,slow=13,SNR=6.9
GTA Gaotai 45.29 330 *e*P **P 01 55 47.2 +0.9**
GTA AP pP 01 56 15.7 +0.6
GTA XP sP 01 56 31.0 +1.5
GTA PCP PcP 01 57 25.5 +1.1
GTA PP PP 01 57 34.5 -0.1
GTA PPP PPP 01 58 19.4 +0.5
GTA AMB AMB
comp=Z,22nm,1.0s,mb4.8
GTA AMB AMB
comp=Z,85nm,7.2s
GTA LR LR
comp=N,587nm,19.0s
GTA LR LR
comp=E,1µm,21.3s
GTA LR LR
comp=Z,953nm,16.4s
BOK Bokaro 45.89 302 *e*P **P 01 55 47.8 -3.4**
BOK AMb AMB 01 55 53.2
comp=Z,16nm,0.7s,mb4.8
VIS Vishakhapatnam 46.20 293 *e*P **P 01 55 51.6 -2.1**
VIS AMb AMB 01 55 58.6
comp=Z,26nm,1.5s,mb4.7
YSS Yuzh-Sakhalins 47.09 14⇑*e*P **P 01 56 02.0 +1.7**
GUN Gumba 47.58 307 *e*P **P 01 56 04.9 +0.5**
comp=Z,54nm,0.6s,mb5.6
PKI Pulchoki 47.81 307 *e*P **P 01 56 05.7 -0.5**
comp=Z,56nm,1.2s,mb5.3
PKI Pulchoki 47.81 307 *e*P **P 01 56 05.7 -0.5**
PKI pmax pmax
comp=Z,28nm,1.2s,mb5.0
KKN Kakani 48.00 307 *e*P **P 01 56 07.6 -0.1**
comp=Z,24nm,0.7s,mb5.1
KKN Kakani 48.00 307 *e*P **P 01 56 07.6 -0.1**
KKN pmax pmax
comp=Z,12nm,0.7s,mb4.8
DMN Daman 48.07 307 *e*P **P 01 56 08.3 +0.1**
comp=Z,35nm,0.9s,mb5.2
BLSP Bilaspur 48.55 298 *e*P **P 01 56 11.9 -0.2**
BLSP *e* 01 59 49.3
GKN Gorkha 48.61 307 *e*P **P 01 56 12.0 -0.4**
comp=Z,42nm,1.0s,mb5.3
KOLN Koldanda 49.35 306 *e*P **P 01 56 18.4 +0.3**
comp=Z,49nm,0.7s,mb5.6
ULN Ulaanbaatar 49.35 342 *e*P **P 01 56 12.5 -5.3**
ULN pmax pmax
comp=Z,32nm,1.1s,mb5.2
ULN Ulaanbaatar 49.35 342 *e*P **P 01 56 12.5 -5.3**

comp=Z,32nm,1.1s,mb5.2
SONM Songino Array 49.53 341 P **P 01 56 19.0 -0.2**
comp=Z,7.0nm,0.7s,mb4.7,baz=156,slow=7.5,SNR=37
HYB Hyderabad 50.55 291 *e*P **P 01 56 27.0 -0.3**
HYB Hyderabad 50.55 291 *i* P **P 01 56 27.0 -0.3**
CIT Chita 51.58 349 *e*P **P 01 56 35.1 +0.4**
ZAK Zakamensk 52.76 341 *e*P **P 01 56 43.0 -0.5**
ZAK *e* 01 57 51.5
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
BHPL Bhopal 53.03 298 *e*P **P 01 56 44.9 -1.0**
BHPL AMb AMB 01 56 46.5
comp=Z,39nm,1.0s,mb5.4
TLY Talaya 53.76 342 *e*P **P 01 56 51.2 +0.3**
TLY pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MOY Mondy 54.62 340 *e*P **P 01 56 57.9 +0.8**
MOY pmax pmax
comp=Z,22nm,2.0s,mb4.8
DDI Dehra Dun 54.81 307 *e*P **P 01 56 58.8 0.0**
WMQ Urumqi 54.88 326 ⇑P **P 01 57 00.0 +0.9**
WMQ AP pP 01 57 31.3 +2.4
WMQ XP sP 01 57 46.2 +3.4
WMQ PP PP 01 59 06.1 +1.5
WMQ AMB AMB
comp=Z,68nm,2.4s,mb5.2
WMQ AMB AMB
comp=Z,175nm,6.2s
THN Thein Dam 57.44 308 *e*P **P 01 57 16.3 -1.2**
MKAR Makanchi Array 59.71 326 *i* P **P 01 57 32.9 -0.2**
MKAR pmax pmax
comp=Z,18nm,0.5s
MKAR Makanchi Array 59.71 326 P **P 01 57 32.7 -0.3**
comp=Z,28nm,0.6s,mb5.5,baz=119,slow=8.5,SNR=220
MKAR Makanchi Array 59.71 326 P **P 01 57 32.7 -0.3**
KSH Kashi 60.06 316 *e*P **P 01 57 37.1 +1.5**
KSH *e*AP pP 01 58 07.0 +1.1
KSH *e*XP sP 01 58 21.0 +1.2
KSH *e*PP PP 01 59 53.0 +1.6
KSH *e*S **S 02 05 36.0 -0.6**
KSH *e*PS PS 02 06 12.1 +0.2
KSH *e*SCS ScS 02 07 12.0 +2.2
KSH *e*SS SS 02 09 37.2 +0.7
KSH AMB AMB
comp=Z,80nm,0.9s,mb5.8
KSH LR LR
comp=N,210nm,5.3s
KSH LR LR
comp=E,330nm,10.6s
YAK Yakutsk 60.30 1 *e*P **P 01 57 35.6 -1.2**
YAK pmax pmax
comp=Z,24nm,0.8s,mb5.3
YAK Yakutsk 60.30 1 *e*P **P 01 57 36.2 -0.6**
comp=Z,51nm,0.8s,mb5.6
MA2 Magadan 60.58 13 *e*P **P 01 57 39.2 +0.4**
MA2 pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ULHL Ulahol 61.09 319 P **P 01 57 43.0 +0.5**
SNR=9.8
KZA Kyzart 61.67 318 P **P 01 57 47.6 +1.2**
SNR=30
TKM2 Tokmak 2 61.82 319 P **P 01 57 47.8 +0.4**
SNR=25
UCH Uchtor 62.23 318 P **P 01 57 51.2 +1.1**
SNR=31
CHMS Chumysh 62.41 319 P **P 01 57 51.3 -0.1**
SNR=5.6
AAK Ala-Archa 62.42 318 P **P 01 57 51.5 +0.1**
AAK pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
AAK Ala-Archa 62.42 318 *e*P **P 01 57 50.8 -0.6**
comp=Z,3.2nm,0.5s,mb4.6
USP Ospenovka 62.69 319 P **P 01 57 53.1 -0.1**
SNR=26
AML Almayashu 62.74 318 P **P 01 57 54.6 +1.1**
SNR=33
ZAL Zalesovo 62.80 333 P **P 01 57 52.6 -1.1**
comp=Z,5.2nm,0.6s,mb4.6,baz=349,slow=7.5,SNR=19
SEY Seymchan 63.93 12 *e*P **P 01 58 02.5 +1.6**
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
NVS Novosibirsk 64.09 333⇓*i*P **P 01 58 00.3 -1.8**
NVS pmax pmax
comp=Z,12nm,0.8s,mb4.8
NVS pmax pmax
comp=N,4.0nm,0.6s
NVS pmax pmax
comp=E,5.0nm,1.0s
KKAR Karatay Array 65.28 317 *i* P **P 01 58 09.8 -0.3**
KKAR pmax pmax
comp=Z,16nm,0.8s,mb4.9
VOSK Vostochnaya 69.04 327 P **P 01 58 32.5 -0.9**
VOSK pmax pmax
comp=Z,37nm,1.3s,mb5.0
BVA0 Borovoye Array 69.49 327 *i* P **P 01 58 35.7 -0.4**
BVA0 pmax pmax
comp=Z,4.0nm,1.2s,mb4.1
BVAR Borovoye Array 69.49 327 P **P 01 58 35.8 -0.4**
comp=Z,9.2nm,0.6s,mb4.8,baz=135,slow=8.4,SNR=64
TIXI Tiksi 69.94 0 *e*P **P 01 58 34.9 -3.7**
TIXI pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
ZRNK Zerenda 70.21 327 P **P 01 58 39.7 -0.8**
ZRNK pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
ZRNK Zerenda 70.21 327 *e*P **P 01 58 39.4 -1.1**
comp=Z,25nm,0.7s,mb5.2
BILL Bilibino 71.41 14 *e*P **P 01 58 48.2 +0.8**
BILL pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
AB31 Akbulak array 74.25 321 *i* P **P 01 59 04.0 -0.4**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
SVE Sverdlovsk 76.15 329⇓*e*P **P 01 59 14.8 -0.2**
SVE *e* pP 01 59 44.0 -2.6
SVE pmax pmax
comp=Z,40nm,1.1s,mb5.1
SVE MLR MLR
comp=N,200nm,16.0s
SVE MLR MLR
comp=E,100nm,16.0s
SVE MLR MLR
comp=Z,200nm,16.0s
ARU Arti 77.11 328⇓*i*P **P 01 59 19.2 -1.2**
ARU *e* 01 59 29.6
ARU *e* 02 02 12.2
ARU *e*S S 02 09 05.3 +7.9
ARU *e*SS SS 02 14 02.5 +2.3
ARU pmax pmax
comp=Z,17nm,0.8s,mb4.8
ARU MLR MLR
comp=N,200nm,23.0s
ARU MLR MLR
comp=Z,200nm,23.0s
ARU MLR MLR
comp=E,200nm,22.0s
ARU Arti 77.11 328 *e*P **P 01 59 19.2 -1.2**
comp=E,19nm,0.8s,mb4.9
VNDA Vanda 81.24 173 *e*P **P 01 59 42.8 +0.5**
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA Vanda 81.24 173 P **P 01 59 42.9 +0.6**
comp=Z,2.0nm,0.4s,mb4.3,baz=316,slow=6.3,SNR=22
VNDA Vanda 81.24 173 *e*P **P 01 59 42.8 +0.5**
comp=Z,3.5nm,0.8s,mb4.2
GNI Garni 83.40 310⇓*i*P **P 01 59 51.7 -2.4**
GNI pmax pmax
comp=Z,13nm,1.7s
DJNS Zahran al Janu 83.73 288 P **P 01 59 57.9 +1.7**
TATS Tathlith 83.81 289 P **P 01 59 56.0 -0.6**
ZEI Tsey 84.19 313 *e*P **P 01 59 56.4 -1.6**
ZEI pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
KIV Kislovodsk 85.13 314*ce*P **P 02 00 03.2 +0.5**
KIV *e* pP 02 00 31.3 -3.7
KIV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KIV MLR MLR
comp=Z,100nm,14.0s
HILS Ha'il 85.43 297 P **P 02 00 06.1 +1.5**
BLJS Baljurashi 85.58 290 P **P 02 00 07.4 +2.0**

ILAR Eielson Array 86.69 25 P **P 02 00 09.6 -0.2**
comp=Z,0.3nm,0.5s,baz=254,slow=4.5,SNR=8.5
ANN Anapa 88.91 315⇑*e*P **P 02 00 20.2 -0.6**
ANN pmax pmax
comp=Z,20nm,0.8s,mb5.2
OBN Obninsk 89.21 325 *e*P **P 02 00 21.3 -0.7**
OBN pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
OBN MLR MLR
comp=Z,100nm,19.0s
ASF Jabal al Asfar 89.64 302 P **P 02 00 25.2 +0.7**
comp=Z,4.8nm,0.9s,mb4.6,baz=348,slow=4.8,SNR=9.1
BRTR Keskin Array B 91.94 310 P **P 02 00 34.1 -1.0**
comp=Z,1.4nm,0.9s,mb4.2,baz=117,slow=5.5,SNR=7.4
ARCES ARCESS Array B 92.68 340 P **P 02 00 36.6 -1.2**
comp=Z,1.0nm,0.5s,mb4.4,baz=81,slow=5.3,SNR=13
ARE0 ARCESS Array S 92.68 340 P **P 02 00 36.0 -1.8**
FINES FINESS Array B 94.04 332 P **P 02 00 44.3 +0.2**
comp=Z,0.8nm,0.6s,mb4.2,baz=187,slow=34,SNR=7.6
FINES pP pP 02 01 15.4 -1.5
comp=Z,0.3nm,0.4s,baz=63,slow=3.1,SNR=1.7
MLR Muntele Rosu 96.93 316 P **P 02 00 56.9 -0.8**
comp=Z,2.2nm,0.5s,mb4.8,baz=172,slow=7.1,SNR=8.1
NB2 NORSAR Subarra101.00 334 P P 02 01 14.4 -1.4
comp=Z,0.5nm,0.8s,baz=65,slow=4.5
NOA NORSAR Array B 101.00 334 P P 02 01 13.8 -1.9
comp=Z,0.7nm,0.7s,baz=67,slow=4.7,SNR=4.3
NOA NORSAR Array B 101.00 334 P P 02 01 13.8 -2.0
LPAZ La Paz 158.81 134 PKPab PKPab 02 08 03.3 +1.6
comp=Z,0.8nm,0.8s,baz=252,slow=7.5,SNR=3.6

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*BJI **09** 01:51:12.2, 6.88S×103.34E, h30km, mB4.9, mb4.7, Ms5.1, Msz4.8*
*IDC **09** 01:51:14.1±0.5, 6.19S×103.27E, mb4.4/26, mb1 4.4/26, mb1mx4.4/27, mbtmp4.4/26, MS4.3/19, Ms1 4.4/19, ms1mx4.3/26, Error ellipse: s-maj=18.2km s-min=12.6km az=53.0*
*HRVD **09** 01:51:18.8±0.5, 6.44S×103.25E, h16km±2km, MW4.9/50, Centroid moment Tensor Solution. LP body waves: s13,c17;Mantle waves: s50,c73; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.67±.15; $M_{\theta\theta}$-0.09±.10; $M_{\phi\phi}$0.75±.14; $M_{r\theta}$-0.16±.33; $M_{\theta\phi}$2.31±.10; $M_{\phi r}$-0.44±.34; Best double couple: $M_0$2.386×10^{16} NP1:ϕ_s265°, δ80°, λ0°. NP2:ϕ_s175°, δ90°, λ170°. Principal axes: T 2.739, Plg7°, Azm130°; N -.705, Plg80°, Azm353°; P -2.034, Plg7°, Azm221°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 01:51:18.8±0.3, 6.22S×103.29E, h30km, mb4.9/15 Error ellipse: s-maj=10.4km s-min=7.0km az=56.0*
*MOS **09** 01:51:26.1±1.6, 4.85S×103.36E, h33km, mb4.8/17, Error ellipse: s-maj=30.9km s-min=11.1km az=105.0*
ISC 09 01:51:18.4±0.3**, 6.23S**±0.05×**103.33E**±0.06**, h40km, h40km**±3.0km**:pP-P, n123,** σ1**§24**/104**, mb4.6**/57**, MS4.4**/25**, 4C-5D, Southwest of Sumatera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
KGM Kluang 8.19 360 P **P 01 53 20.4 +2.9**
KKM Kota Kinabalu 17.72 47 P **P 01 55 25.0 +1.0**
FITZ Fitzroy Crossi 24.76 120 *e*P **P 01 56 37.9 -0.1**
34nm,0.8s,mb4.9
FITZ *e*S **S 02 01 14.0 +19**
FITZ Fitzroy Crossi 24.76 120 P **P 01 56 38.1 +0.1**
42nm,0.7s,mb5.1,baz=265,slow=3.3,SNR=16
FITZ S **S 02 01 12.3 +18**
7.8nm,0.8s,baz=168,slow=11,SNR=3.3
FITZ LR LR 02 06 06.6
comp=Z,1µm,20.1s,MS4.3,baz=292,slow=36
CMAR Chiang Mai Arr 24.91 350 P **P 01 56 38.3 -1.1**
6.5nm,0.7s,mb4.3,baz=181,slow=8.8,SNR=18
CMAR LR LR 02 07 00.1
comp=Z,826nm,22.0s,MS4.2,baz=180,slow=38
NWAO Narrogin (SRO) 29.55 156 LR LR 02 06 29.1
comp=Z,1µm,21.6s,MS4.5,baz=336,slow=31
KMI Kunming 31.17 359 P **P 01 57 39.5 +3.4**
KMI AP pP 01 57 49.0 +2.0
KMI XP sP 01 57 51.8 -0.4
KMI S **S 02 02 43.7 +5.7**
KMI XS 02 02 58.2
KMI AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
KMI AMB AMB
comp=Z,98nm,3.9s
KMI LR LR
comp=N,2µm,13.6s,MS5.0
KMI LR LR
comp=E,2µm,15.6s,MS5.0
KMI LR LR
comp=Z,2µm,13.6s,MS4.9
WRA Warramunga Arr 33.06 117 P **P 01 57 51.8 -0.8**
comp=Z,3.4nm,0.6s,mb4.4,baz=287,slow=12,SNR=9.9
WRA PcP PcP 02 00 35.0 -0.6
comp=Z,1.7nm,0.5s,baz=302,slow=2.0,SNR=3.3
WRAB Tennant Creek 33.06 117 *e*P **P 01 57 52.2 -0.5**
WB2 Warramunga Arr 33.07 117 *e*P **P 01 57 51.3 -1.4**
LSA Lhasa 37.59 342 *e*P **P 01 58 31.2 +0.1**
LSA Lhasa 37.59 342 P **P 01 58 31.2 +0.1**
comp=Z,11nm,0.8s,mb4.7
GUN Gumba 37.89 334 *e*P **P 01 58 33.3 -0.3**
comp=Z,40nm,0.7s,mb5.3
DMN Daman 37.97 333 *e*P **P 01 58 32.8 -1.5**
comp=Z,26nm,0.9s,mb4.9
KKN Kakani 38.05 334 *e*P **P 01 58 34.7 -0.2**
comp=Z,29nm,0.8s,mb5.0
GKN Gorkha 38.52 333 *e*P **P 01 58 38.1 -0.7**
comp=Z,48nm,1.0s,mb5.2
KOLN Koldanda 38.80 331 *e*P **P 01 58 40.9 -0.3**
comp=Z,34nm,0.8s,mb5.2
XAN Xi'an 40.40 7 P **P 01 58 53.2 -1.2**
XAN AP pP 01 59 04.3 -1.3
XAN AMB AMB
comp=Z,13nm,1.0s,mb4.6
JOW Kunigami 40.79 35 LR LR 02 15 37.9
comp=Z,147nm,21.9s,MS3.8,baz=65,slow=36
SSE Sheshan 40.85 24 P **P 01 58 56.8 -1.4**
SSE AP pP 01 59 05.8 -3.6
SSE XP sP 01 59 09.6 -4.7
SSE S **S 02 05 03.8 -2.7**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,76nm,5.0s
SSE LR LR
comp=N,312nm,19.0s,MS4.3
SSE LR LR
comp=E,249nm,19.0s,MS4.3
SSE LR LR
comp=Z,245nm,16.3s,MS4.2
PMG Port Moresby 43.52 97 P **P 01 59 23.5 +3.2**
comp=Z,25nm,0.8s,mb5.0,baz=277,slow=9.2,SNR=5.6
CTA Charters Tower 43.86 113 P **P 01 59 23.3 +0.3**
comp=Z,6.1nm,1.0s,mb4.3,baz=249,slow=8.6,SNR=2.9
CTA LR LR 02 16 33.7
comp=Z,328nm,21.5s,MS4.2,baz=283,slow=35
STKA Stephens Creek 43.89 131 *e*P **P 01 59 22.7 -0.4**
comp=Z,11nm,0.7s,mb4.7
STKA Stephens Creek 43.89 131 P **P 01 59 22.7 -0.4**
comp=Z,13nm,0.8s,mb4.7,baz=299,slow=8.3,SNR=16
STKA LR LR 02 19 14.0
comp=Z,998nm,19.3s,MS4.7,baz=252,slow=38
GTA Gaotai 45.52 356 *e*P **P 01 59 36.1 0.0**
GTA AMB AMB
comp=Z,8.0nm,0.7s,mb4.8
GTA AMB AMB
comp=Z,104nm,7.2s
GTA LR LR
comp=N,1µm,15.6s,MS5.0
GTA LR LR
comp=E,1µm,16.3s,MS5.0
GTA LR LR
comp=Z,953nm,17.1s,MS4.8
HHC Hu-ho-hao-te 47.45 8 *e*P **P 01 59 51.5 +0.3**
HHC AP pP 02 00 01.3 -1.3
HHC XP sP 02 00 03.7 -3.7
HHC PCP PcP 02 01 22.8 +1.2
HHC PP PP 02 01 42.0 0.0
HHC SCP 02 05 10.6
HHC S **S 02 06 40.5 -1.4**
HHC SCS ScS 02 09 39.1 +0.2
HHC SS SS 02 10 06.7 +3.1
HHC AMB AMB
comp=Z,17nm,1.2s,mb4.8

HHC AMB AMB
comp=Z,110nm,10.8s
HHC LR LR
comp=N,1µm,15.6s
HHC LR LR
comp=E,872nm,21.6s
HHC LR LR
comp=Z,963nm,16.8s,MS4.8
WMQ Urumqi 51.78 346 *e*P **P 02 00 26.4 +2.0**
JHJ Hachijo jima 2 52.23 39 LR LR 02 22 08.0
comp=Z,167nm,19.5s,MS4.1,baz=166,slow=36
MJAR Matsushiro Arr 53.63 35 P **P 02 00 36.7 -1.6**
comp=Z,1.5nm,0.4s,mb4.3,baz=223,slow=8.8,SNR=4.1
CN2 Changchun 53.66 20 *e*P **P 02 00 39.3 +0.9**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
CN2 LR LR
comp=N,400nm,15.0s,MS4.8
CN2 LR LR
comp=E,600nm,15.0s,MS4.8
CN2 LR LR
comp=Z,500nm,16.0s,MS4.7
SONM Songino Array 53.90 3 P **P 02 00 39.7 -0.4**
comp=Z,4.6nm,0.6s,mb4.6,baz=184,slow=7.9,SNR=19
ULN Ulaanbaatar 53.96 3⇑*i*P **P 02 00 35.1 -5.4**
ULN Ulaanbaatar 53.96 3 *e*P **P 02 00 34.7 -5.8**
comp=Z,3.8nm,1.1s,mb4.2
AAK Ala-Archa 55.25 334 *e*P **P 02 00 49.9 -0.1**
AAK pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
OPO Ambohidratompo 55.98 252 P **P 02 00 56.3 +0.8**
comp=Z,3.2nm,0.8s,mb4.4,baz=86,slow=14,SNR=3.3
MKAR Makanchi Array 56.00 343 *i* P **P 02 00 53.5 -1.8**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 56.00 343 P **P 02 00 53.6 -1.7**
comp=Z,2.5nm,0.7s,mb4.4,baz=147,slow=7.7,SNR=8.6
MKAR LR LR 02 29 34.6
comp=Z,232nm,21.3s,MS4.2,baz=176,slow=41
ZAK Zakamensk 56.38 360 *e*P **P 02 00 57.3 -0.7**
ZAK *e* 02 01 59.4
ZAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
KKAR Karatay Array 57.41 332 *i* P **P 02 01 08.5 +3.0**
KKAR pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
TLY Talaya 57.68 0 *e*P **P 02 01 06.3 -0.9**
TLY pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
TLY Talaya 57.68 0 *e*P **P 02 01 08.0 +0.7**
comp=Z,6.6nm,0.8s,mb4.7
KLR Kul'dur 60.54 21 *e*P **P 02 01 22.0 -5.1**
ASAJ Asahikawa 61.34 31 P **P 02 01 33.4 +0.8**
comp=Z,4.5nm,0.5s,mb4.8,baz=216,slow=2.8,SNR=5.4
ASAJ LR LR 02 28 15.0
comp=Z,116nm,21.9s,MS4.0,baz=3.1,slow=36
ZAL Zalesovo 61.94 348 *i* P **P 02 01 38.6 +2.2**
ZAL pmax pmax
comp=Z,4.0nm,0.8s
ZAL Zalesovo 61.94 348 P **P 02 01 36.0 -0.4**
comp=Z,4.2nm,0.8s,mb4.6,baz=332,slow=4.2,SNR=12
ZAL LR LR 02 31 54.2
comp=Z,375nm,20.2s,MS4.5,baz=324,slow=39
ATD Arta Tunnel 62.70 286 LR LR 02 23 09.1
comp=Z,56nm,19.8s,MS3.7,baz=349,slow=31
YSS Yuzh-Sakhalins 63.41 29 *e*P **P 02 01 47.6 +1.3**
YSS *e* pP 02 02 00.0 +1.9
VOSK Vostochnaya 64.83 339 P **P 02 01 54.0 -1.4**
VOSK pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
BVA0 Borovoye Array 65.28 339 P **P 02 01 58.0 -0.4**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
BVAR Borovoye Array 65.28 339 P **P 02 01 55.4 -3.0**
comp=Z,3.1nm,0.5s,mb4.6,baz=148,slow=7.8,SNR=6.6
ZRNK Zerenda 65.73 338 P **P 02 01 57.5 -3.7**
ZRNK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ZRNK Zerenda 65.73 338 *e*P **P 02 01 59.3 -1.9**
comp=Z,58nm,0.6s,mb5.8
KMBO Kilima Mbogo 66.10 272 P **P 02 02 03.8 -0.4**
comp=Z,1.2nm,0.7s,mb4.0,baz=49,slow=19,SNR=2.6
AB31 Akbulak array 66.92 331 *i* P **P 02 02 06.8 -2.0**
AB31 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MAW Mawson 67.08 196 P **P 02 02 08.8 -0.7**
comp=Z,1.1nm,0.6s,mb4.1,baz=349,slow=19,SNR=2.9
MAW LR LR 02 26 47.9
comp=Z,371nm,18.9s,MS4.6,baz=41,slow=32
RPZ Rata Peaks 69.67 134 LR LR 02 34 10.0
comp=Z,642nm,18.1s,MS4.9,baz=277,slow=37
GNI Garni 70.85 316⇑*i*P **P 02 02 35.8 +2.5**
GNI pmax pmax
comp=Z,15nm,1.2s
GNI Garni 70.85 316 P **P 02 02 33.7 +0.4**
comp=Z,1.7nm,0.3s,mb4.5,slow=14,SNR=1.7
YAK Yakutsk 71.04 13 *e*P **P 02 02 34.2 +0.2**
YAK pmax pmax
comp=Z,19nm,0.6s,mb5.2
SVE Sverdlovsk 71.84 337 *e*P **P 02 02 38.7 -0.1**
SVE *e* 02 02 47.0
SVE *e* 02 03 05.0
ARU Arti 72.39 336⇓*i*P **P 02 02 45.9 +3.8**
ARU *e* 02 03 02.1
ARU *e* 02 05 25.0
ARU pmax pmax
comp=Z,13nm,1.0s,mb4.8
ARU Arti 72.39 336 *e*P **P 02 02 43.4 +1.3**
comp=Z,14nm,1.0s,mb4.8
ZEI Tsey 72.58 318 *e*P **P 02 02 45.4 +1.9**
ZEI *i* *PP pP 02 02 59.7 +4.3
ZEI *i* 02 05 28.9
ZEI pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
URZ Urewera 73.44 128 LR LR 02 32 16.9
comp=Z,494nm,21.1s,MS4.8,baz=24,slow=34
ASF Jabal al Asfar 73.74 306 P **P 02 02 49.9 -0.6**
comp=Z,4.8nm,0.9s,mb4.4,baz=295,slow=2.2,SNR=8.0
KIV Kislovodsk 73.89 319⇓*i*P **P 02 02 55.2 +4.0**
KIV pP 02 03 08.9 +5.8
KIV *e* 02 13 06.8
KIV pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
KIV MLR MLR
comp=Z,100nm,16.0s,MS4.2
EIL Elat 74.59 303 P **P 02 02 55.7 +0.2**
comp=Z,8.1nm,1.0s,mb4.6,baz=296,slow=4.8,SNR=6.2
EIL Elat 74.59 303 P **P 02 02 55.7 +0.1**
MA2 Magadan 75.55 23 *i* P **P 02 03 01.3 +0.9**
BOSA Boshof 76.58 242 P **P 02 03 07.5 +0.6**
comp=Z,4.7nm,0.9s,mb4.4,baz=87,slow=5.4,SNR=5.1
BOSA LR LR 02 32 07.6
comp=Z,250nm,19.2s,MS4.5,baz=283,slow=32
VNDA Vanda 77.40 169 P **P 02 03 09.8 -0.8**
comp=Z,2.1nm,0.8s,mb4.1,baz=311,slow=7.1,SNR=4.9
VNDA LR LR 02 33 08.2
comp=Z,190nm,21.5s,MS4.4,baz=318,slow=32
VNDA Vanda 77.40 169 *e*P **P 02 03 09.2 -1.5**
comp=Z,2.9nm,0.9s,mb4.2
BRTR Keskin Array B 78.61 312 P **P 02 03 16.6 -1.3**
comp=Z,1.8nm,0.8s,mb4.0,baz=133,slow=5.6,SNR=3.6
TIXI Tiksi 79.52 8 *e*P **P 02 03 23.0 +0.7**
TIXI pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MOS Moscow 81.81 329 *e*P **P 02 03 43.7 +9.1**
OBN Obninsk 82.11 328α*i*P **P 02 03 40.7 +4.5**
OBN pmax pmax
comp=Z,22nm,1.2s,mb5.0
OBN Obninsk 82.11 328 *e*P **P 02 03 40.1 +3.9**
comp=Z,10nm,0.8s,mb4.8
IDI Anoyia 84.20 306 P **P 02 03 46.6 -0.8**
comp=Z,6.9nm,1.1s,mb4.7,slow=6.1,SNR=3.3
AKASG Malin Array Be 84.84 322 P **P 02 03 49.4 -0.8**
comp=Z,0.5nm,0.5s,mb3.9,baz=87,slow=4.3,SNR=3.1
MLR Muntele Rosu 85.63 316 P **P 02 03 57.6 +3.4**
comp=Z,7.4nm,1.0s,mb4.9,baz=190,slow=4.7,SNR=11
BILL Bilibino 85.97 20 *e*P **P 02 03 57.9 +2.6**
BILL pmax pmax
comp=Z,2.0nm,0.4s,mb4.7
VSU Vasula 88.31 329*d i*P **P 02 04 09.7 +2.9**
SNAA Sanae 89.16 198 *e* **P 02 04 11.9 +1.3**
SNAA Sanae 89.16 198 *e* **P 02 04 15.2 +4.6**
SNAA Sanae 89.16 198 *e* **P 02 04 19.4 +8.8**
SNAA Sanae 89.16 198 PKPdf **P 02 04 10.7 +0.1**
SNAA *e* 02 04 11.9
SNAA *e* 02 04 15.2
SNAA *e* 02 04 19.4
FINES FINESS Array B 89.37 332 *i* P **P 02 04 15.1 +3.3**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 89.37 332 P **P 02 04 12.7 +0.9**
comp=Z,1.9nm,0.6s,mb4.6,baz=108,slow=6.7,SNR=7.6
FINES LR LR 02 49 21.1
comp=Z,173nm,20.4s,MS4.5,baz=285,slow=39
KAF Kangasniemi 89.43 333 *e*p **P 02 04 12.8 +0.7**
comp=Z,4.8nm,0.8s,mb4.9
KAF Kangasniemi 89.43 333 *e*P **P 02 04 12.8 +0.7**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
VNA2 Neumayer--Watz 90.80 198 *e* **P 02 04 20.2 +1.9**
VNA2 Neumayer--Watz 90.80 198 *e* **P 02 04 23.3 +5.0**
VNA2 Neumayer--Watz 90.80 198 *e* **P 02 04 27.0 +8.7**
VNA2 Neumayer--Watz 90.80 198⇓*i*PKPdf **P 02 04 18.7 +0.4**
VNA2 *e* 02 04 20.2
VNA2 *e* 02 04 23.3
VNA2 *e* 02 04 27.0
VNA1 Neumayer--Stat 91.17 198 *e* **P 02 04 22.0 +1.9**
VNA1 Neumayer--Stat 91.17 198 *e* **P 02 04 25.2 +5.1**
VNA1 Neumayer--Stat 91.17 198 *e* **P 02 04 29.4 +9.3**
VNA1 Neumayer--Stat 91.17 198⇓*i*PKPdf **P 02 04 20.6 +0.5**
VNA1 *e* 02 04 22.0
VNA1 *e* 02 04 25.2
VNA1 *e* 02 04 29.4
VNA3 Neumayer Olymp 91.36 197 *e* **P 02 04 22.3 +1.4**
VNA3 Neumayer Olymp 91.36 197 *e* **P 02 04 25.5 +4.6**
VNA3 Neumayer Olymp 91.36 197 *e* **P 02 04 29.5 +8.6**
VNA3 Neumayer Olymp 91.36 197 PKPdf **P 02 04 21.2 +0.3**
VNA3 *e* 02 04 22.3
VNA3 *e* 02 04 25.5
VNA3 *e* 02 04 29.5
ARCES ARCESS Array B 91.55 340 P **P 02 04 21.9 +0.1**
comp=Z,1.4nm,0.7s,mb4.4,baz=72,slow=7.7,SNR=7.1
ARCES LR LR 02 50 16.4
comp=Z,256nm,21.3s,MS4.6,baz=268,slow=39
GERES GERESS Array B 94.39 319 P **P 02 04 34.6 -0.7**
comp=Z,0.1nm,0.3s,mb3.7,baz=93,slow=23,SNR=3.1
HFS Hagfors 95.17 330 P **P 02 04 38.2 -0.3**
comp=Z,0.7nm,0.7s,mb4.2,baz=80,slow=8.8,SNR=2.4
NOA NORSAR Array B 96.43 331 LR LR 02 54 25.8
comp=Z,128nm,18.7s,MS4.4,baz=55,slow=39
NVAR Mina Array Bea 130.57 43 PKP PKPdf 02 10 28.4 +2.8
comp=Z,0.4nm,0.6s,baz=231,slow=5.8,SNR=2.7
PDAR Pinedale Array 133.45 33 PKP PKPdf 02 10 32.8 +1.8
comp=Z,0.3nm,0.8s,baz=333,slow=2.0,SNR=3.1
MSU Marysvale 134.57 40 *e*PKP PKPdf 02 10 37.6 +4.4
PV10 Paradox Valley 136.60 38 *e*PKP PKPdf 02 10 42.1 +5.2
ANMO Albuquerque 140.37 40 PKP PKPdf 02 10 47.1 +3.2
comp=Z,0.9nm,0.8s,baz=39,slow=6.1,SNR=3.4
BDFB Brasilia 144.25 232 PKP PKPdf 02 10 52.0 +0.9
comp=Z,3.6nm,0.9s,baz=137,slow=7.0,SNR=3.0
CCM Cathedral Cave 145.66 21 *e*PKP PKPdf 02 10 53.6 +0.7
LTX Lajitas 145.69 45 *e*PKP PKPdf 02 10 56.1 +2.8
TXAR Lajitas Array 145.69 45 PKPbc PKPbc 02 10 56.4 +2.3
comp=Z,10.0nm,0.9s,baz=298,slow=2.0,SNR=53
BLO Bloomington 146.02 14 *e*PKP PKPdf 02 10 55.7 +2.2
GNAR Gosnell 147.97 21 *e*PKPbc PKPdf 02 11 04.4 +7.5
WVT Waverly 148.53 17 *e*PKP PKPdf 02 11 01.6 +3.8
TZTN Tazewell 149.18 11 PKP PKPdf 02 11 03.5 +4.7
SWET Sewanee 149.92 15 *e*PKP PKPdf 02 11 04.7 +4.7
MYNC Murphy 150.48 12 *e*PKPbc PKPdf 02 11 10.7 +10
LPAZ La Paz 156.09 201 PKP PKPdf 02 11 13.8 +4.6
comp=Z,1.6nm,0.9s,baz=130,slow=2.7,SNR=5.6
LPAZ PKPab PKPab 02 11 40.2 +0.9
comp=Z,1.6nm,0.7s,baz=156,slow=2.7,SNR=7.4
LPAZ La Paz 156.09 201 PKP PKPdf 02 11 13.8 +4.6
LPAZ PKPab PKPab 02 11 40.2 +0.9

IDC 09 02:05:09.6±8.3**, 6.75N**×**95.66E, mb3.7**/7**, mb1 3.8**/7**, mb1mx3.6**/20**, mbtmp3.7**/7**, Error ellipse: s-maj=214.3km s-min=74.7km az=126.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.52**	**346**	P	P	02 12 57.0	-3.2
	0.9nm,0.8s,baz=162,slow=7.7,SNR=3.7						
ZAL	**Zalesovo**	**47.86**	**351**	P	P	02 13 50.5	-0.6
	1.1nm,0.3s,baz=252,slow=3.2,SNR=2.4						
BRTR	**Keskin Array B**	**64.30**	**311**	P	P	02 15 47.9	-1.3
	0.5nm,0.6s,baz=121,slow=7.2,SNR=4.6						
FINES	**FINESS Array B**	**74.40**	**332**	P	P	02 16 48.4	-2.5
	0.3nm,0.6s,baz=90,slow=3.8,SNR=6.4						
GERES	**GERESS Array B**	**79.66**	**318**	P	P	02 17 19.2	-1.3
	0.1nm,0.3s,baz=131,slow=9.0,SNR=3.0						
HFS	**Hagfors**	**80.18**	**330**	P	P	02 17 20.9	-2.2
	0.9nm,0.8s,baz=127,slow=7.4,SNR=7.3						
NB2	**NORSAR Subarra**	**81.44**	**331**	P	P	02 17 30.4	+0.7
	0.6nm,0.6s,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**81.44**	**331**	P	P	02 17 29.7	-0.1
	0.5nm,0.8s,baz=96,slow=5.5,SNR=3.0						

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*NEIC **09** 02:05:32.9±2.8, 34.52N×5.80W, h10km, MG3.7(MDD), Error ellipse: s-maj=31.9km s-min=9.5km az=194.0*
*MDD **09** 02:05:35.6±0.8, 34.61N×5.60W, h14km±6km, mb3.8/8, Error ellipse: s-maj=5.6km s-min=3.4km az=98.0, PRXIMO*
*CSEM **09** 02:05:35.9±0.1, 34.55N×5.56W, h40km, ML3.1/11, Error ellipse: s-maj=3.1km s-min=2.1km az=94.0*
*CNRM **09** 02:05:36.0, 34.65N×5.57W, h18km, MD3.7*
*LDG **09** 02:05:38.5±0.2, 34.82N×5.71W, h2km, Ml3.3/4, Error ellipse: s-maj=4.9km s-min=2.8km az=2.0*
*IDC **09** 02:05:38.9±5.3, 35.00N×4.23W, mb3.8/3, mb1 3.8/6, mb1mx3.5/27, mbtmp3.7/6, ML3.9/3, Error ellipse: s-maj=98.9km s-min=43.6km az=63.0*
*INMG **09** 02:05:38.9±1.1, 34.95N×5.71W, ML2.8, Error ellipse: s-maj=14.9km s-min=3.6km az=5.0*
ISC 09 02:05:35.5±0.2**, 34.66N**±0.02×**5.67W**±0.03**, h49**km±6km**, n88, σ1§13**/151**, mb3.7**/3**, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSY	**Tnine Yamani**	**0.76**	**341**	P	**P**	**02 05 51.0**	**+1.0**
TSY				S	**S**	**02 06 00.0**	**-0.7**
TSY	**Tnine Yamani**	**0.76**	**341**	*i* P	**P**	**02 05 51.0**	**+1.0**
DKH	**Dar Kharkhour**	**0.86**	**17**	P	**P**	**02 05 51.5**	**+0.1**
DKH				S	**S**	**02 06 03.5**	**+0.2**
DKH	**Dar Kharkhour**	**0.86**	**17**	*i* P	**P**	**02 05 51.5**	**+0.1**
RTC	**Rabat Centre**	**1.19**	**236**	*i* P	**P**	**02 05 56.5**	**+0.5**
RTC				*i* S	**S**	**02 06 12.0**	**+0.7**
MDAL	**Dalia**	**1.25**	**7**	P	**P**	**02 05 57.0**	**+0.1**
MDAL				S	**S**	**02 06 12.0**	**-0.8**
MDAL	**Dalia**	**1.25**	**7**	*i* P	**P**	**02 05 57.0**	**+0.1**
MIF	**Mishlifen**	**1.30**	**164**	*e*P	**P**	**02 05 57.0**	**-0.6**
MIF				*i* S	**S**	**02 06 13.0**	**-1.1**
TZK	**Tazeka**	**1.35**	**114**	*i* P	**P**	**02 05 57.0**	**-1.4**
TZK				*i* S	**S**	**02 06 12.5**	**-2.9**
MPAL	**Palemas**	**1.52**	**68**	*i* P	**P**	**02 06 00.5**	**-0.3**
MPAL				*i* S	**S**	**02 06 18.0**	**-1.6**
TOU	**Touzarine**	**1.60**	**79**	*i* P	**P**	**02 06 01.5**	**-0.4**
TOU				*i* S	**S**	**02 06 21.0**	**-0.5**
CZD	**Col de Zad**	**1.70**	**162**	*i* P	**P**	**02 06 03.0**	**-0.3**
CZD				*i* S	**S**	**02 06 23.0**	**-1.0**
EMIJ	**Mijas**	**2.04**	**21**	Pn	**P**	**02 06 08.9**	**+0.9**
	2.9nm,0.1s,SNR=9.1						
EMIJ				Sn	**S**	**02 06 33.4**	**+1.2**
	4.1nm,0.1s,SNR=5.0						
KIB	**El Ksiba**	**2.10**	**189**	*e*P	**P**	**02 06 10.0**	**+1.1**
KIB				*i* S	**S**	**02 06 35.0**	**+1.1**
ESPR	**Espera**	**2.21**	**356**	Pn	**P**	**02 06 12.4**	**+1.9**
	3.1nm,0.2s,SNR=7.9						
ESPR				Sn	**S**	**02 06 37.7**	**+1.0**
	2.3nm,0.1s,SNR=7.9						
ESPR	**Espera**	**2.21**	**356**	Pn	**P**	**02 06 12.4**	**+1.9**
	3.1nm,0.2s,SNR=7.9						
ESPR				Sn	**S**	**02 06 37.7**	**+1.0**
	2.3nm,0.1s,SNR=7.9						
ZAI	**Zaio**	**2.42**	**82**	*e*P	**P**	**02 06 13.0**	**-0.5**
ZAI				*i* S	**S**	**02 06 40.0**	**-2.0**
TZC	**Tazercounte**	**2.60**	**196**	*e*P	**P**	**02 06 18.0**	**+2.0**
TZC				*i* S	**S**	**02 06 46.0**	**-0.5**
EGUA	**Guajares**	**2.76**	**38**	Pn	**P**	**02 06 18.7**	**+0.3**
	1.3nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.77**	**26**	Pn	**P**	**02 06 22.4**	**+3.9**
	1.8nm,0.2s,SNR=7.9						
ELOJ				Sn	**S**	**02 06 51.8**	**+0.9**
	1.1nm,0.2s,SNR=7.9						
ERON	**Agron**	**2.80**	**32**	Pn	**P**	**02 06 18.9**	**0.0**
ERON	**Agron**	**2.80**	**32**	Pn	**P**	**02 06 18.9**	**0.0**
	5.6nm,0.2s,SNR=7.9						
ZFT	**Errachidia**	**2.84**	**157**	*i* P	**P**	**02 06 19.0**	**-0.4**
ZFT				*i* S	**S**	**02 06 49.0**	**-3.6**
ECOG	**Cogollos-Vega**	**3.12**	**32**	Pn	**P**	**02 06 26.3**	**+2.9**
	2.1nm,0.1s,SNR=9.3						
ECOG				Sn	**S**	**02 06 59.8**	**+0.1**
	1.6nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.18**	**44**	Pn	**P**	**02 06 25.6**	**+1.3**
EBER				Sn	**S**	**02 07 02.7**	**+1.5**
EBER	**Berja**	**3.18**	**44**	Pn	**P**	**02 06 25.5**	**+1.3**
	2.6nm,0.2s,SNR=7.9						
EBER				Sn	**S**	**02 07 02.7**	**+1.5**
	2.2nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.18**	**44**	Pn	**P**	**02 06 25.5**	**+1.3**
	2.6nm,0.2s,SNR=7.9						
EBER				Sn	**S**	**02 07 02.7**	**+1.5**
	2.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.21**	**346**	Pn	**P**	**02 06 25.2**	**+0.5**
	0.9nm,0.1s,SNR=22						
EMIN				Sn	**S**	**02 06 59.7**	**-2.3**
	4.7nm,0.1s,SNR=6.0						
EMIN	**Mina Concepcio**	**3.21**	**346**	Pn	**P**	**02 06 25.2**	**+0.5**
	0.9nm,0.1s,SNR=22						
EMIN				Sn	**S**	**02 06 59.7**	**-2.3**
	4.7nm,0.1s,SNR=6.0						
EGRO	**El Granado**	**3.23**	**333**	Pn	**P**	**02 06 25.8**	**+0.9**
	1.5nm,0.2s,SNR=136						
EGRO				Sn	**S**	**02 07 01.9**	**-0.5**
	12nm,0.1s,SNR=5.3						
EGRO	**El Granado**	**3.23**	**333**	Pn	**P**	**02 06 25.8**	**+0.9**
	1.5nm,0.2s,SNR=136						
EGRO				Sn	**S**	**02 07 01.9**	**-0.5**
	12nm,0.1s,SNR=5.3						
EADA	**Adamuz**	**3.61**	**14**	Pn	**P**	**02 06 31.2**	**+0.9**
	1.5nm,0.1s,SNR=29						
EADA				Sn	**S**	**02 07 10.2**	**-1.9**
	2.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.61**	**14**	Pn	**P**	**02 06 31.2**	**+0.9**
	1.5nm,0.1s,SNR=29						
EADA				Sn	**S**	**02 07 10.2**	**-1.9**
	2.7nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	**3.64**	**50**	Pn	**P**	**02 06 33.2**	**+2.5**
	1.0nm,0.2s,SNR=7.9						
ENIJ				Sn	**S**	**02 07 15.6**	**+2.8**
	1.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.77**	**33**	Pn	**P**	**02 06 34.5**	**+1.8**
EQES				Sn	**S**	**02 07 14.9**	**-1.4**
EQES	**Quesada**	**3.77**	**33**	Pn	**P**	**02 06 34.5**	**+1.8**
	2.5nm,0.1s,SNR=25						
EQES				Sn	**S**	**02 07 14.9**	**-1.4**
	1.4nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.77**	**33**	Pn	**P**	**02 06 34.5**	**+1.9**
	2.5nm,0.1s,SNR=25						
EQES				Sn	**S**	**02 07 14.9**	**-1.4**
	1.4nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.80**	**320**	*e*Pn	**P**	**02 06 33.7**	**+0.7**
PTEO				*e*Sn	**S**	**02 07 15.9**	**-1.0**
	31nm,0.3s						
PBEJ	**Beja**	**3.80**	**333**	*e*Pn	**P**	**02 06 33.5**	**+0.5**
PBEJ				*e*Sn	**S**	**02 07 15.5**	**-1.5**
	14nm,0.3s						
EBAN	**Banos Encina**	**3.81**	**23**	Pn	**P**	**02 06 34.5**	**+1.3**
	4.7nm,0.1s,SNR=20						
EBAN				Sn	**S**	**02 07 16.3**	**-1.0**
	3.4nm,0.1s,SNR=7.9						
OUK	**Oukaimeden**	**3.91**	**209**	*i* P	**P**	**02 06 33.5**	**-1.0**
OUK				*i* S	**S**	**02 07 19.0**	**-0.6**
EHUE	**Huescar**	**4.01**	**37**	Pn	**P**	**02 06 38.0**	**+2.0**
	1.5nm,0.3s,SNR=12						
EHUE				Sn	**S**	**02 07 23.1**	**+0.9**
	1.0nm,0.2s,SNR=7.9						
CIA	**Chichaoua**	**4.03**	**221**	*i* P	**P**	**02 06 35.5**	**-0.8**
CIA				*i* S	**S**	**02 07 23.0**	**+0.2**
EBAD	**Badajoz**	**4.23**	**346**	Pn	**P**	**02 06 40.1**	**+1.0**
	0.3nm,0.2s,SNR=20						
EBAD				Sn	**S**	**02 07 24.4**	**-3.4**
	5.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.23**	**346**	Pn	**P**	**02 06 40.1**	**+1.0**
	0.3nm,0.2s,SNR=20						
EBAD				Sn	**S**	**02 07 24.4**	**-3.4**
	5.2nm,0.1s,SNR=7.9						
EVO	**Evora**	**4.30**	**335**	*e*Pn	**P**	**02 06 41.1**	**+1.0**
EVO				*e*Sn	**S**	**02 07 28.6**	**-1.0**
	57nm,0.3s						
EVIA	**Vianos**	**4.72**	**32**	Pn	**P**	**02 06 46.9**	**+1.0**
	1.9nm,0.2s,SNR=7.0						
EVIA				Sn	**S**	**02 07 36.9**	**-3.1**
	2.2nm,0.2s,SNR=7.9						
PLOU	**Loures**	**5.06**	**327**	*e*Pn	**P**	**02 06 51.8**	**+1.0**
PLOU				*e*Sn	**S**	**02 07 46.0**	**-2.7**
	20nm,0.3s						
ETOB	**Tobarra**	**5.17**	**39**	Pn	**P**	**02 06 53.3**	**+1.0**
	1.2nm,0.1s,SNR=20						
ETOB				Sn	**S**	**02 07 47.9**	**-3.6**
	0.4nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**5.17**	**39**	Pn	**P**	**02 06 53.3**	**+1.0**
	1.2nm,0.1s,SNR=20						
ETOB				Sn	**S**	**02 07 47.9**	**-3.6**
	0.4nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.19**	**15**	Pn	**P**	**02 06 51.9**	**-0.6**
	1.4nm,0.3s,baz=199,slow=13,SNR=18						
ESDC				Sn	**S**	**02 07 46.4**	**-5.4**
	3.3nm,0.3s,baz=200,slow=22,SNR=14						
ESDC	**Sonseca Array**	**5.19**	**15**	Pn	**P**	**02 06 52.5**	**0.0**
	1.9nm,0.1s,baz=198,slow=13,SNR=28						
ESDC				Sn	**S**	**02 07 47.4**	**-4.5**
	SNR=7.9						
ESDC	**Sonseca Array**	**5.19**	**15**	Pn	**P**	**02 06 52.5**	**0.0**
	1.9nm,0.1s,SNR=28						
ESDC				Sn	**S**	**02 07 47.4**	**-4.4**
	SNR=7.9						
PCBR	**Castelo Branco**	**5.37**	**345**	*e*Pn	**P**	**02 06 55.5**	**+0.5**
PCBR				*e*Sn	**S**	**02 07 52.7**	**-3.7**
	7.2nm,0.3s						
PTOM	**Tomar**	**5.41**	**337**	*e*Pn	**P**	**02 06 56.2**	**+0.6**
PTOM				*e*Sn	**S**	**02 07 54.4**	**-3.1**
	13nm,0.3s						
MTE	**Manteigas**	**5.92**	**346**	*e*Pn	**P**	**02 07 03.2**	**+0.5**
MTE				*e*Sn	**S**	**02 08 05.6**	**-4.6**
	11nm,0.6s						
PVIS	**Viseu**	**6.30**	**344**	*e*Sn	**S**	**02 08 13.3**	**-6.3**
PVRL	**Vila Real**	**6.80**	**347**	*e*Pn	**P**	**02 07 15.4**	**+0.3**
PVRL				*e*Sn	**S**	**02 08 27.2**	**-4.8**
	7.2nm,0.2s						
EMOS	**Mosqueruela**	**7.03**	**34**	Pn	**P**	**02 07 20.0**	**+1.6**
	0.2nm,0.2s,SNR=7.9						
EMOS				Sn	**S**	**02 08 33.1**	**-4.6**
	0.5nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**7.03**	**34**	Pn	**P**	**02 07 20.0**	**+1.7**
	0.2nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**7.18**	**354**	*e*Pn	**P**	**02 07 20.3**	**-0.1**
PBRG				*e*Sn	**S**	**02 08 36.9**	**-4.6**
	2.6nm,0.1s						
ECAL	**Calabor**	**7.32**	**354**	Pn	**P**	**02 07 22.0**	**-0.3**
	0.7nm,0.1s,SNR=7.9						
ECAL				Sn	**S**	**02 08 38.4**	**-6.4**
	1.5nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**7.32**	**354**	Pn	**P**	**02 07 22.0**	**-0.3**
	0.7nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**7.44**	**346**	Pn	**P**	**02 07 22.1**	**-1.8**
	0.1nm,0.1s,SNR=7.9						
ELOB				Sn	**S**	**02 08 40.1**	**-7.8**
	0.5nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**7.44**	**346**	Pn	**P**	**02 07 22.1**	**-1.9**
	0.1nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**8.64**	**2**	Pn	**P**	**02 07 40.5**	**0.0**
	0.1nm,0.1s,SNR=7.9						
EARI				Sn	**S**	**02 09 08.9**	**-8.7**
	0.2nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**8.64**	**2**	Pn	**P**	**02 07 40.5**	**0.0**
	0.1nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**8.73**	**353**	Pn	**P**	**02 07 41.4**	**-0.4**
	0.6nm,0.2s,SNR=7.9						
EPON				Sn	**S**	**02 09 11.2**	**-8.8**
	0.3nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**8.73**	**353**	Pn	**P**	**02 07 41.4**	**-0.4**
	0.6nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**8.73**	**11**	Pn	**P**	**02 07 41.2**	**-0.6**
	0.8nm,0.2s,SNR=7.9						
ELAN				Sn	**S**	**02 09 14.1**	**-5.9**
	3.5nm,0.5s,SNR=7.9						
ELAN	**Lanestosa**	**8.73**	**11**	Pn	**P**	**02 07 41.2**	**-0.6**

	0.8nm,0.2s,SNR=7.9						
ELAN				Sn	S	02 09 14.1	-5.9
	3.5nm,0.5s,SNR=7.9						
SJPF	**Ste Jean**	**9.12**	**21**	*e*Pn	**P**	**02 07 47.5**	**+0.3**
SJPF				*e*Sn	**S**	**02 09 22.9**	**-6.7**
	1.1nm,0.3s						
EALK	**Alkurruntz**	**9.14**	**19**	Pn	**P**	**02 07 47.2**	**-0.2**
	0.2nm,0.2s,SNR=7.9						
EALK				Sn	**S**	**02 09 23.1**	**-6.9**
	2.3nm,0.3s,SNR=7.9						
ETSF	**Etsaut**	**9.14**	**24**	*e*Pn	**P**	**02 07 47.4**	**0.0**
ETSF				*e*Sn	**S**	**02 09 23.3**	**-6.7**
	0.7nm,0.3s						
EPF	**Esparros**	**9.58**	**27**	*e*Pn	**P**	**02 07 52.4**	**-1.0**
EPF				*e*Sn	**S**	**02 09 33.9**	**-6.8**
	0.9nm,0.3s						
LFF	**La Frestale**	**11.38**	**24**	*e*Pn	**P**	**02 08 17.6**	**-0.4**
CAF	**Calviac**	**11.85**	**28**	*e*Pn	**P**	**02 08 23.8**	**-0.4**
TCF	**Toulx Ste Croi**	**13.06**	**25**	*e*Pn	**P**	**02 08 40.3**	**-0.1**
QUIF	**Quistinic**	**13.38**	**7**	*e*Pn	**P**	**02 08 44.1**	**-0.4**
BGF	**Bois d'Agland**	**13.52**	**26**	*e*Pn	**P**	**02 08 45.7**	**-0.7**
SGMF	**Saint Gilles**	**13.78**	**9**	*e*Pn	**P**	**02 08 49.3**	**-0.5**
ROSF	**Rostrenen**	**13.78**	**7**	*e*Pn	**P**	**02 08 49.0**	**-0.8**
FLN	**La Foliniere**	**14.61**	**14**	*e*Pn	**P**	**02 09 00.4**	**-0.2**
VAE	**Valguarnera**	**16.48**	**74**	Pn	**P**	**02 09 15.1**	**-9.4**
	2.5nm,0.3s,baz=171,slow=19,SNR=6.9						
GERES	**GERESS Array B**	**20.16**	**39**	P	**P**	**02 10 03.9**	**-4.2**
	0.1nm,0.3s,baz=230,slow=10,SNR=4.9						
HFS	**Hagfors**	**28.44**	**20**	P	**P**	**02 11 28.2**	**+0.8**
	0.6nm,0.3s,mb3.6,baz=198,slow=9.4,SNR=11						
FINES	**FINESS Array B**	**33.56**	**27**	P	**P**	**02 12 12.9**	**+0.5**
	0.4nm,0.8s,mb3.4,baz=248,slow=7.5,SNR=7.9						
MKAR	**Makanchi Array**	**64.44**	**50**	P	**P**	**02 16 09.9**	**+1.2**
	1.1nm,0.7s,mb4.0,baz=304,slow=5.2,SNR=7.1						

*NEIC **09** 02:07:35.9±3.4, 14.84N×94.44W, h23km±20km, mb4.0/3, MD4.1(MEX), Error ellipse: s-maj=22.8km s-min=8.7km az=192.0*
*MEX **09** 02:07:37.4±1.3, 14.84N×94.51W, h20km±22km, MD4.4*
*IDC **09** 02:07:38.1±3.0, 15.88N×93.66W, mb3.8/13, mb1 4.0/13, mb1mx3.9/22, mbtmp3.8/13, MS3.6/3, Ms1 3.5/3, ms1mx2.9/23, Error ellipse: s-maj=95.5km s-min=19.8km az=37.0*
ISC 09 02:07:37.4±1.2**, 15.00N**±0.07×**94.48W**±0.04**, h36**km±9km**, n29, σ1ˢ18**/35**, mb3.9**/16**, MS3.5**/3**, 1C, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.75**	**296**	*e*P	**P**	**02 08 04.8**	**-1.0**
HUIG				⇑*e*S	**S**	**02 08 25.1**	**-1.9**
CMIG	**Matias Romero**	**2.12**	**349**	*i* P	**P**	**02 08 10.8**	**-0.2**
CMIG				*i* S	**S**	**02 08 37.4**	**+1.0**
SCX	**San Cristobal**	**2.48**	**45**	*i* P	**P**	**02 08 16.0**	**-0.2**
SCX				*i* S	**S**	**02 08 48.0**	**+2.4**
CCIG	**Comitan**	**2.59**	**60**	*e*P	**P**	**02 08 17.4**	**-0.5**
CCIG				*e*S	**S**	**02 08 46.8**	**-1.6**
OXX	**Oaxaca**	**2.99**	**314**	*i* P	**P**	**02 08 25.0**	**+1.4**
OXX				*i* S	**S**	**02 08 57.0**	**-1.6**
VHO	**Vista Hermosa**	**2.99**	**314**	*i* P	**P**	**02 08 24.6**	**+1.1**
VHO				*i* S	**S**	**02 08 59.8**	**+1.1**
TUIG	**Tuzandepetl**	**3.02**	**1**	*e*P	**P**	**02 08 23.9**	**0.0**
TUIG				*e*S	**S**	**02 08 57.6**	**-1.8**
EVV	**El Vigia**	**3.54**	**346**	*e*P	**P**	**02 08 35.0**	**+3.7**
EVV				*i* S	**S**	**02 09 18.0**	**+5.4**
PPM	**Popocatepetl**	**5.67**	**316**	*e*P	**P**	**02 08 54.0**	**-7.3**
BNM	**Barren Site**	**22.00**	**332**	*e*P	**P**	**02 12 30.9**	**+0.8**
ROSC	**El Rosal**	**22.23**	**115**	P	**P**	**02 12 34.1**	**+1.5**
	2.1nm,0.4s,mb4.0,baz=111,slow=13,SNR=3.8						
ANMO	**Albuquerque**	**22.61**	**334**	P	**P**	**02 12 37.3**	**+1.1**
	1.2nm,0.7s,mb3.4,baz=150,slow=14,SNR=5.2						
ANMO				LR	LR	02 21 48.0	
	comp=Z,87nm,18.5s,MS3.2,baz=129,slow=38						
SDV	**Santo Domingo**	**24.09**	**102**	P	**P**	**02 12 50.6**	**-0.3**
	2.1nm,0.5s,mb3.8,baz=270,slow=20,SNR=4.1						
SDCO	**Great Sand Dun**	**24.68**	**339**	*e*P	**P**	**02 12 57.0**	**+0.7**
	4.2nm,1.1s,mb3.9						
PDAR	**Pinedale Array**	**30.56**	**338**	P	**P**	**02 13 49.7**	**-0.2**
	0.6nm,0.9s,mb3.4,baz=129,slow=9.5,SNR=4.2						
NVAR	**Mina Array Bea**	**31.41**	**322**	P	**P**	**02 13 59.4**	**+2.0**
	0.6nm,0.6s,mb3.6,baz=128,slow=9.4,SNR=4.4						
LOHW	**Long Hollow**	**31.68**	**337**	*e*P	**P**	**02 13 59.9**	**+0.2**
	1.5nm,0.6s,mb4.0						
HLID	**Hailey**	**33.18**	**333**	*e*P	**P**	**02 14 13.4**	**+0.6**
	0.9nm,0.6s,mb3.9						
RPN	**Rapa Nui**	**44.28**	**199**	LR	LR	02 28 12.6	
	comp=Z,108nm,21.2s,MS3.7,baz=149,slow=27						
YKA	**Yellowknife Ar**	**49.53**	**348**	P	**P**	**02 16 24.7**	**-1.7**
	0.7nm,0.5s,mb4.0,baz=153,slow=7.3,SNR=4.5						
BDFB	**Brasilia**	**55.08**	**122**	LR	LR	02 43 55.7	
	comp=Z,48nm,19.9s,MS3.6,baz=90,slow=40						
ILAR	**Eielson Array**	**60.99**	**337**	P	**P**	**02 17 48.8**	**-0.5**
	0.9nm,0.7s,mb4.0,baz=162,slow=4.0,SNR=9.8						
EKA	**Eskdalemuir Ar**	**78.56**	**36**	P	**P**	**02 19 34.4**	**-2.3**
	1.5nm,0.7s,mb4.0,baz=279,slow=4.6,SNR=8.9						
NB2	**NORSAR Subarra**	**84.41**	**28**	P	**P**	**02 20 06.4**	**-0.7**
	0.7nm,0.6s,mb4.0,baz=292,slow=5.0						
NOA	**NORSAR Array B**	**84.41**	**28**	P	**P**	**02 20 06.7**	**-0.4**
	0.9nm,0.7s,mb4.0,baz=292,slow=5.2,SNR=9.6						
HFS	**Hagfors**	**85.89**	**28**	P	**P**	**02 20 14.3**	**-0.1**
	0.9nm,0.7s,mb4.1,baz=225,slow=2.1,SNR=5.3						
ARCES	**ARCESS Array B**	**85.94**	**18**	P	**P**	**02 20 15.2**	**+0.7**
	1.3nm,0.9s,mb4.2,baz=290,slow=5.9,SNR=8.3						
GERES	**GERESS Array B**	**90.35**	**39**	P	**P**	**02 20 35.2**	**-0.9**
	0.3nm,0.7s,mb3.7,baz=333,slow=3.0,SNR=3.8						
FINES	**FINESS Array B**	**90.61**	**24**	P	**P**	**02 20 36.8**	**-0.2**
	0.2nm,0.4s,mb3.8,baz=297,slow=4.3,SNR=4.3						

MEX 09 02:09:54.7±0.9**, 14.54N**×**94.20W, h15**km**, MD4.4, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**2.21**	**304**	*i* P	Pn	02 10 29.0	-2.4
HUIG				*i* S	Sn	02 10 54.0	-4.7
CCIG	**Comitan**	**2.63**	**49**	*i* P	Pn	02 10 34.6	-2.9
CCIG				*i* S	Sn	02 11 04.4	-4.9
SCX	**San Cristobal**	**2.65**	**34**	*i* P	Pn	02 10 33.5	-4.2
SCX				*i* S	Sn	02 11 06.0	-3.7
TUIG	**Tuzandepetl**	**3.48**	**356**	*i* P	Pn	02 10 43.4	-6.1

*IDC **09** 02:14:49.3±0.8, 55.59N×162.41E, mb3.8/12, mb1 4.0/14, mb1mx3.9/27, mbtmp3.9/14, ML3.9/2, Error ellipse: s-maj=23.8km s-min=13.3km az=24.0*
*NEIC **09** 02:14:54.1±5.7, 55.56N×162.56E, h34km±45km, mb4.2/2, Error ellipse: s-maj=23.3km s-min=9.1km az=169.0*
*MOS **09** 02:14:55.0±1.3, 55.27N×162.68E, h74km, mb4.2/8, Error ellipse: s-maj=18.0km s-min=9.3km az=73.7*
*KRSC **09** 02:14:56.3±0.7, 55.24N×162.70E, h46km±11km, ML4.5*
ISC 09 02:14:55.5±0.3**, 55.24N**±0.02×**162.77E**±0.05**, h75**km±4km**, n71, σ1ˢ14**/110**, mb3.8**/14**, 1D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.92**	**222**	*i* P	**P**	**02 15 13.3**	**-0.1**
MKZ				*i* S	**S**	**02 15 25.7**	**-1.1**
KBTR	**Krutoberegovo**	**0.97**	**1**	*i* P	**P**	**02 15 13.8**	**-0.3**
KBTR				*i* S	**S**	**02 15 26.9**	**-1.1**
ZLN	**Zelenaya**	**1.36**	**306**	*i* P	**P**	**02 15 19.9**	**+0.6**
ZLN				*i* S	**S**	**02 15 36.7**	**-0.2**
CIRR	**Tsirk**	**1.44**	**308**	*i* P	**P**	**02 15 21.0**	**+0.6**
CIRR				*e*S	**S**	**02 15 38.6**	**-0.1**
LGNR	**Loginova**	**1.45**	**306**	*i* P	**P**	**02 15 21.7**	**+1.2**
LGNR				*i* S	**S**	**02 15 40.6**	**+1.7**
TUMR	**Tumrok**	**1.50**	**273**	*i* P	**P**	**02 15 21.8**	**+0.6**
TUMR				*i* S	**S**	**02 15 40.0**	**-0.1**
KMNR	**Kamenistaya**	**1.53**	**291**	*i* P	**P**	**02 15 22.2**	**+0.7**
KMNR				*i* S	**S**	**02 15 41.0**	**+0.2**
KRSR	**Krestovskiy**	**1.59**	**309**	*i* P	**P**	**02 15 22.3**	**+0.1**
KRSR				*i* S	**S**	**02 15 41.6**	**-0.4**
SVLR	**Shiveluch**	**1.60**	**327**	*e*P	**P**	**02 15 21.4**	**-1.0**
SVLR				*e*S	**S**	**02 15 39.7**	**-2.6**
KPT	**Kopyto**	**1.62**	**298**	*i* P	**P**	**02 15 23.2**	**+0.5**
KPT				*e*S	**S**	**02 15 42.9**	**+0.1**
KOZR	**Kozyr**	**1.83**	**298**	PN	**P**	**02 15 26.4**	**+0.9**
KOZR				S	**S**	**02 15 49.2**	**+1.6**
BKI	**Bering**	**1.83**	**90**	*i* P	**P**	**02 15 26.0**	**+0.5**
BKI				*i* S	**S**	**02 15 46.5**	**-1.2**
BKI				Smax			
	1μm,0.2s						
KOZ	**Kozyrevsk**	**1.84**	**298**	P	**P**	**02 15 26.4**	**+0.8**
KOZ				S	**S**	**02 15 49.2**	**+1.4**
KOZ	**Kozyrevsk**	**1.84**	**298**	*i* P	**P**	**02 15 26.5**	**+0.9**
KOZ				*i* S	**S**	**02 15 49.2**	**+1.4**
SRDR	**Sredinnyy**	**2.04**	**303**	*i* P	**P**	**02 15 28.8**	**+0.5**
SRDR				*e*S	**S**	**02 15 51.8**	**-0.8**
KII	**Karymskiy**	**2.28**	**239**	*e*P	**P**	**02 15 32.6**	**+0.8**
KII				*e*S	**S**	**02 15 58.8**	**+0.1**
ESO	**Esso**	**2.41**	**288**	*e*P	**P**	**02 15 33.5**	**-0.1**
ESO				*e*S	**S**	**02 15 59.3**	**-2.7**
ESO				Smax			
	210nm,0.7s						
SPN	**Mys Shipunski**	**2.69**	**218**	P	**P**	**02 15 36.7**	**-0.8**
SPN				S	**S**	**02 16 05.5**	**-3.5**
SPN	**Mys Shipunski**	**2.69**	**218**	*i* P	**P**	**02 15 36.6**	**-0.9**
SPN				*i* S	**S**	**02 16 06.2**	**-2.8**
NLC	**Nalytchevo**	**2.89**	**226**	P	**P**	**02 15 40.3**	**-0.1**
NLC				S	**S**	**02 16 11.8**	**-2.3**
NLC	**Nalytchevo**	**2.89**	**226**	*i* P	**P**	**02 15 40.2**	**-0.2**
NLC				*i* S	**S**	**02 16 11.8**	**-2.3**
SDLR	**Sedlovina**	**3.01**	**231**	*i* P	**P**	**02 15 42.6**	**+0.5**
SDLR				*e*S	**S**	**02 16 16.8**	**-0.3**
SMAR	**Somma**	**3.06**	**231**	*i* P	**P**	**02 15 43.4**	**+0.7**
SMAR				*i* S	**S**	**02 16 18.9**	**+0.6**
AVH	**Avacha**	**3.09**	**232**	*i* P	**P**	**02 15 44.1**	**+1.0**
AVH				*e*S	**S**	**02 16 18.3**	**-0.7**
UGLR	**Uglovaya**	**3.09**	**230**	*i* P	**P**	**02 15 44.1**	**+1.0**
UGLR				*i* S	**S**	**02 16 19.3**	**+0.4**
KOK	**Koryaka**	**3.12**	**233**	*e*P	**P**	**02 15 44.2**	**+0.7**
KOK				*e*S	**S**	**02 16 19.2**	**-0.5**
GNL	**Ganaly**	**3.22**	**243**	*i* P	**P**	**02 15 45.9**	**+1.0**
GNL				*e*S	**S**	**02 16 21.7**	**-0.5**
PET	**Petropavlovsk**	**3.29**	**229**	P	**P**	**02 15 46.5**	**+0.6**
PET				S	**S**	**02 16 23.1**	**-0.9**
PET	**Petropavlovsk**	**3.29**	**229**	⇓*i*PN	**P**	**02 15 46.4**	**+0.5**
PET				*e*S	**S**	**02 16 23.5**	**-0.5**
PET				smax			
	comp=N,170nm,0.5s						
PET				smax			
	comp=E,342nm,0.4s						
PET	**Petropavlovsk**	**3.29**	**229**	*e*P	**P**	**02 15 46.1**	**+0.2**
PET	**Petropavlovsk**	**3.29**	**229**	*i* P	**P**	**02 15 46.5**	**+0.6**
PET				*e*S	**S**	**02 16 23.0**	**-1.0**
RUS	**Russkaya**	**3.78**	**224**	P	**P**	**02 15 52.4**	**-0.3**
RUS				S	**S**	**02 16 33.1**	**-3.2**
RUS	**Russkaya**	**3.78**	**224**	*e*P	**P**	**02 15 52.3**	**-0.4**
RUS				*e*S	**S**	**02 16 33.0**	**-3.3**
GRL	**Gorelyy**	**3.87**	**228**	*i* P	**P**	**02 15 54.9**	**+0.9**
GRL				*e*S	**S**	**02 16 37.4**	**-1.2**
OSSR	**Ossora**	**4.02**	**2**	*e*P	**P**	**02 15 56.2**	**+0.1**
OSSR				*i* S	**S**	**02 16 39.7**	**-2.6**
OSSR				Smax			
	comp=E,140nm,0.3s						
APC	**Apacha**	**4.04**	**237**	*i* P	**P**	**02 15 57.9**	**+1.6**
APC				*e*S	**S**	**02 16 42.8**	**0.0**
APC				Smax			
	comp=E,50nm,0.5s						
MIPR	**Malaya Ipel'ka**	**4.64**	**233**	*e*P	**P**	**02 16 06.9**	**+2.2**
PAU	**Pauzhetka**	**5.20**	**226**	*i* P	**P**	**02 16 13.2**	**+0.8**
PAU				*i* S	**S**	**02 17 09.2**	**-2.5**
PAU				Smax			
	comp=E,80nm,0.8s						
SKR	**Severo-Kuril's**	**6.08**	**224**	*e*PN	**P**	**02 16 21.2**	**-3.4**
SKR				pmax	pmax		
	comp=E,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
ALID	**Alaid**	**6.18**	**228**	*e*P	**P**	**02 16 26.2**	**+0.3**
ALID				*e*S	**S**	**02 17 30.9**	**-4.9**
FX1	**Attu Island--F**	**6.56**	**107**	Pn	**P**	**02 16 30.7**	**-0.5**
	comp=Z,10.0nm,0.3s,baz=310,slow=2.9,SNR=32						
FX1				Sn	**S**	**02 17 39.4**	**-5.8**
	comp=Z,21nm,0.3s,baz=162,slow=18,SNR=25						
FX1	**Attu Island--F**	**6.56**	**107**	*e*P	**P**	**02 16 29.9**	**-1.3**
KAMR	**Kamenskoye**	**7.45**	**12**	*e*P	**P**	**02 16 44.9**	**+1.3**
KAMR				*e*S	**S**	**02 18 04.4**	**-2.9**
KAMR				Smax			
	comp=Z,20nm,1.3s						
ASAJ	**Asahikawa**	**17.09**	**238**	P	**P**	**02 18 50.6**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**17.09**	**238**	P	**P**	**02 18 50.6**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=348,slow=9.3,SNR=4.2						
MJAR	**Matsushiro Arr**	**25.12**	**232**	P	**P**	**02 20 16.3**	**+1.8**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MJAR	**Matsushiro Arr**	**25.12**	**232**	P	**P**	**02 20 16.3**	**+1.7**
	comp=Z,0.9nm,0.3s,mb3.6,baz=349,slow=24,SNR=5.4						
ILAR	**Eielson Array**	**26.19**	**48**	P	**P**	**02 20 25.6**	**+1.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**26.19**	**48**	P	**P**	**02 20 25.6**	**+1.3**
	comp=Z,0.5nm,0.8s,mb3.0,baz=266,slow=8.0,SNR=6.4						
MKAR	**Makanchi Array**	**48.65**	**295**	P	**P**	**02 23 31.7**	**-1.5**
	comp=Z,0.4nm,0.4s,mb3.7,baz=58,slow=4.5,SNR=5.1						
ZRNK	**Zerenda**	**50.96**	**309**	*e*P	**P**	**02 23 48.5**	**-2.3**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**50.96**	**309**	*e*P	**P**	**02 23 48.5**	**-2.3**
	comp=Z,1.5nm,0.6s,mb4.2						
HLID	**Hailey**	**52.05**	**66**	P	**P**	**02 24 00.6**	**+1.4**
BW06	**Boulder Array**	**55.13**	**64**	P	**P**	**02 24 22.8**	**+1.0**
KAF	**Kangasniemi**	**58.11**	**338**	*e*p	**P**	**02 24 37.0**	**-5.8**
	comp=Z,0.7nm,0.3s,mb4.2,baz=25,slow=6.5						
KAF	**Kangasniemi**	**58.11**	**338**	*e*P	**P**	**02 24 37.0**	**-5.8**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
FINES	**FINESS Array B**	**58.76**	**337**	P	**P**	**02 24 45.8**	**-1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**58.76**	**337**	P	**P**	**02 24 45.8**	**-1.4**
	comp=Z,1.2nm,0.5s,mb4.2,baz=32,slow=7.5,SNR=22						
NB2	**NORSAR Subarra**	**61.90**	**345**	P	**P**	**02 25 07.4**	**-1.3**
	comp=Z,0.5nm,0.5s,mb3.8,baz=18,slow=7.0						
NOA	**NORSAR Array B**	**61.90**	**345**	P	**P**	**02 25 07.4**	**-1.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**61.90**	**345**	P	**P**	**02 25 07.4**	**-1.3**
	comp=Z,0.7nm,0.6s,mb3.9,baz=18,slow=6.8,SNR=6.5						
HFS	**Hagfors**	**62.37**	**343**	P	**P**	**02 25 09.8**	**-2.0**
	comp=Z,0.9nm,0.5s,mb4.1,baz=56,slow=5.3,SNR=14						
AKASG	**Malin Array Be**	**67.56**	**330**	P	**P**	**02 25 43.8**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**67.56**	**330**	P	**P**	**02 25 43.8**	**-1.4**
	comp=Z,0.8nm,0.3s,mb4.0,baz=32,slow=6.5,SNR=7.2						
TXAR	**Lajitas Array**	**68.38**	**70**	P	**P**	**02 25 52.3**	**+1.6**
	comp=Z,0.3nm,0.7s,mb3.2,baz=297,slow=2.8,SNR=4.3						
EKA	**Eskdalemuir Ar**	**69.19**	**351**	P	**P**	**02 25 55.1**	**-0.1**
	comp=Z,0.4nm,0.4s,mb3.6,baz=15,slow=5.7,SNR=5.9						
GERES	**GERESS Array B**	**73.09**	**339**	P	**P**	**02 26 19.2**	**+0.6**
	comp=Z,0.3nm,0.4s,mb3.5,baz=45,slow=5.7,SNR=4.6						
MLR	**Muntele Rosu**	**73.21**	**330**	P	**P**	**02 26 20.1**	**+0.7**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MLR	**Muntele Rosu**	**73.21**	**330**	P	**P**	**02 26 20.1**	**+0.8**
	comp=Z,1.3nm,0.5s,mb4.0,baz=261,slow=4.8,SNR=4.0						
BRTR	**Keskin Array B**	**75.93**	**322**	P	**P**	**02 26 35.6**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**75.93**	**322**	P	**P**	**02 26 35.6**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.5,baz=66,slow=4.6,SNR=4.7						

*IDC **09** 02:37:11.6±2.6, 19.52N×145.34E, h186km±24km, mb3.8/15, mb1 4.1/18, mb1mx3.9/28, mbtmp4.5/18, MS3.6/1, Ms1 3.6/1, ms1mx2.4/31, Error ellipse: s-maj=18.4km s-min=11.4km az=92.0*
*NEIC **09** 02:37:12.8±0.9, 19.48N×145.31E, h200km±9km, mb4.2/8, Error ellipse: s-maj=9.8km s-min=5.5km az=83.0*
ISC 09 02:37:11.7±1.1**, 19.50N**±0.05×**145.2E**±0.1**, h200**km±10km**, n52, σ0ˢ77**/57**, mb4.0**/21**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.88**	**183**	*e*P	**P**	**02 38 38.3**	**+0.1**
JHHJ	**Haha-jima-NKT**	**7.63**	**339**	P	**P**	**02 39 01.0**	**+0.1**
JHHJ				*e*S	**S**	**02 40 24.7**	**-1.5**
CBIJ	**Chichi jima**	**8.06**	**340**	P	**P**	**02 39 05.9**	**-0.6**
	36nm,0.3s,baz=254,slow=8.2,SNR=24						
CBIJ				S	**S**	**02 40 34.9**	**-1.4**
	29nm,0.3s,baz=167,slow=24,SNR=5.6						
CBIJ	**Chichi jima**	**8.06**	**340**	P	**P**	**02 39 06.1**	**-0.4**
CBIJ				*e*S	**S**	**02 40 35.2**	**-1.1**
JHJ	**Hachijo jima 2**	**14.41**	**341**	P	**P**	**02 40 28.0**	**+0.3**
	7.5nm,0.3s,baz=87,slow=18,SNR=3.6						
BSO3	**Boso 3**	**15.80**	**346**	P	**P**	**02 40 47.7**	**+2.8**
BSO4	**Boso 4**	**16.02**	**345**	P	**P**	**02 40 48.4**	**+0.8**
JOD2	**Odawara 2**	**16.61**	**342**	P	**P**	**02 40 54.9**	**+0.2**
JIE	**Ise**	**16.65**	**335**	P	**P**	**02 40 55.4**	**+0.3**
HMMJ	**Hamamatsu 2**	**16.68**	**338**	P	**P**	**02 40 56.1**	**+0.7**
JNY	**Yasuok**	**17.08**	**339**	P	**P**	**02 41 01.0**	**+0.9**
JHU	**Hanno**	**17.11**	**343**	P	**P**	**02 41 00.1**	**-0.3**
JHU				*e*S	**S**	**02 44 08.5**	**+5.8**
JAO	**Obara**	**17.21**	**338**	P	**P**	**02 41 01.6**	**+0.1**
JRY	**Ryogami san**	**17.37**	**343**	P	**P**	**02 41 03.4**	**+0.2**
JRY				*e*S	**S**	**02 44 12.7**	**+4.6**
JHO	**Hitachi**	**17.53**	**348**	P	**P**	**02 41 05.3**	**+0.4**
JAG	**Ashikaga**	**17.61**	**344**	P	**P**	**02 41 05.7**	**-0.1**
JAG				*e*S	**S**	**02 44 17.6**	**+4.5**
MJAR	**Matsushiro Arr**	**18.06**	**342**	P	**P**	**02 41 09.6**	**-1.0**
	8.5nm,0.3s,baz=165,slow=9.4,SNR=38						
MAJO	**Matsushiro**	**18.06**	**342**	*e*P	**P**	**02 41 10.3**	**-0.3**
	65nm,0.6s						
MAT	**Matsushiro**	**18.06**	**342**	*e*P	**P**	**02 41 10.0**	**-0.6**
	59nm,0.8s						
MAT	**Matsushiro**	**18.06**	**342**	P	**P**	**02 41 10.3**	**-0.3**
JHS	**Saijyo**	**18.79**	**328**	P	**P**	**02 41 18.9**	**+0.8**
JMK	**Ichinoseki**	**19.69**	**351**	P	**P**	**02 41 29.1**	**+1.8**
ASAJ	**Asahikawa**	**24.64**	**355**	P	**P**	**02 42 15.6**	**+0.2**
	8.2nm,0.6s,mb4.6,baz=245,slow=9.7,SNR=9.8						
WRAB	**Tennant Creek**	**40.60**	**196**	*e*P	**P**	**02 44 33.0**	**-0.7**
	5.3nm,0.8s,mb4.0						
WB2	**Warramunga Arr**	**40.61**	**196**	*e*P	**P**	**02 44 34.0**	**+0.3**
WRA	**Warramunga Arr**	**40.62**	**196**	P	**P**	**02 44 33.2**	**-0.5**
	2.4nm,0.6s,mb3.8,baz=15,slow=8.8,SNR=7.5						
FITZ	**Fitzroy Crossi**	**42.02**	**208**	*e*P	**P**	**02 44 46.0**	**+0.8**
	4.3nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**42.02**	**208**	P	**P**	**02 44 45.9**	**+0.7**
	5.3nm,0.6s,mb4.2,baz=9.5,slow=8.6,SNR=12						
FITZ				LR	LR	03 02 46.6	
	comp=Z,74nm,20.8s,baz=355,slow=36						
SONM	**Songino Array**	**42.23**	**321**	P	**P**	**02 44 47.5**	**+0.9**
	2.3nm,0.4s,mb4.0,baz=125,slow=6.5,SNR=22						
DZM	**Mont Dzumac**	**46.23**	**152**	P	**P**	**02 45 17.5**	**-1.3**
	3.1nm,0.8s,mb3.7,baz=292,slow=13,SNR=6.9						
ZAL	**Zalesovo**	**57.11**	**322**	P	**P**	**02 46 38.5**	**-0.7**
	1.3nm,0.3s,mb4.0,baz=20,slow=8.4,SNR=5.0						
MKAR	**Makanchi Array**	**57.58**	**314**	P	**P**	**02 46 42.8**	**+0.2**
	1.1nm,0.4s,mb3.8,baz=89,slow=9.3,SNR=8.5						
ILAR	**Eielson Array**	**63.14**	**26**	P	**P**	**02 47 18.4**	**-1.6**
	1.6nm,0.5s,mb3.9,baz=257,slow=5.4,SNR=18						
ZRNK	**Zerenda**	**66.41**	**320**	*e*P	**P**	**02 47 40.5**	**-0.6**
	0.9nm,0.5s,mb3.7						
INK	**Inuvik**	**68.83**	**23**	P	**P**	**02 47 54.5**	**-1.3**
	2.2nm,0.9s,mb3.8,baz=279,slow=5.2,SNR=7.4						
YKA	**Yellowknife Ar**	**77.50**	**28**	P	**P**	**02 48 45.5**	**-0.8**
	2.2nm,0.5s,mb4.0,baz=290,slow=5.6,SNR=9.2						
YKA	**Yellowknife Ar**	**77.50**	**28**	P	**P**	**02 48 45.5**	**-0.8**
YBH	**Yreka Blue Hor**	**78.79**	**50**	P	**P**	**02 48 54.2**	**+0.4**
	1.8nm,0.7s,mb3.8,baz=309,slow=3.2,SNR=6.8						
BEKR	**Beckwourth**	**81.04**	**51**	*e*P	**P**	**02 49 05.7**	**-0.1**
	5.3nm,0.8s,mb4.2						
CMB	**Columbia Colle**	**81.58**	**53**	*e*P	**P**	**02 49 08.7**	**+0.1**
	3.6nm,0.5s,mb4.3						
ARCES	**ARCESS Array B**	**81.60**	**342**	P	**P**	**02 49 07.8**	**-0.2**
	1.3nm,0.6s,mb3.7,baz=72,slow=7.7,SNR=10						
ARCES	**ARCESS Array B**	**81.60**	**342**	P	**P**	**02 49 07.8**	**-0.2**
NVAR	**Mina Array Bea**	**83.01**	**52**	P	**P**	**02 49 16.8**	**+0.9**
	6.0nm,0.6s,mb4.5,baz=275,slow=4.0,SNR=39						
HLID	**Hailey**	**84.01**	**46**	*e*P	**P**	**02 49 21.0**	**+0.1**
	0.8nm,0.5s,mb3.7						
ELK	**Elko**	**84.45**	**49**	*e*P	**P**	**02 49 23.3**	**+0.2**
	3.2nm,0.7s,mb4.2						
HRY	**Holter Researc**	**84.54**	**42**	*e*P	**P**	**02 49 24.0**	**+0.6**
FINES	**FINESS Array B**	**85.97**	**335**	P	**P**	**02 49 29.3**	**-0.8**
	0.9nm,0.4s,mb3.8,baz=74,slow=4.5,SNR=26						
BW06	**Boulder Array**	**87.60**	**45**	P	**P**	**02 49 38.8**	**+0.4**
PDAR	**Pinedale Array**	**87.60**	**45**	P	**P**	**02 49 38.2**	**-0.2**
	0.6nm,0.4s,mb3.7,baz=167,slow=1.9,SNR=9.1						
PV10	**Paradox Valley**	**89.78**	**49**	*e*P	**P**	**02 49 49.0**	**+0.3**
SDCO	**Great Sand Dun**	**92.57**	**49**	*e*P	**P**	**02 50 01.9**	**+0.2**
LPAZ	**La Paz**	**148.14**	**90**	PKPbc	PKPdf	02 56 36.6	+5.7
	1.3nm,0.5s,baz=1.6,slow=25,SNR=14						

IDC 09 02:38:19.0±12.0**, 6.33S**×**103.93E, mb3.9**/3**, mb1 4.0**/3**, mb1mx3.6**/17**, mbtmp3.9**/3**, Error ellipse: s-maj=240.6km s-min=171.5km az=11.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**25.11**	**349**	P	P	02 43 45.6	-1.6
	1.2nm,0.7s,baz=178,slow=9.6,SNR=6.1						
SONM	**Songino Array**	**53.97**	**2**	P	P	02 47 44.9	-2.0
	1.8nm,0.6s,baz=181,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**56.27**	**342**	P	P	02 48 01.1	-2.6
	0.9nm,0.6s,baz=144,slow=8.1,SNR=4.2						

*NEIC **09** 03:09:52.1, 18.17N×67.85W, h106km, MD3.5(RSPR), After RSPR.*
RSPR 09 03:09:52.1, 18.17N×**67.85W, h106**km±1km**, MD3.5**/14**, MD3.5**/14**, 15C, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**0.67**	**86**	*e*S	S	03 10 23.4	-0.2
CRPR	**Cabo Rojo, PR**	**0.72**	**103**	⇑*e*P	P	03 10 09.3	-1.2
CRPR				*e*S	S	03 10 24.1	-0.2
LSP	**Las Mesas**	**0.72**	**89**	⇑*e*P	P	03 10 09.9	-0.6
LSP				*e*S	S	03 10 23.4	-0.9
MGP	**Maguayo**	**0.74**	**102**	⇑*e*P	P	03 10 09.6	-1.1
MGP				*e*S	S	03 10 24.5	-0.1
AGPR	**Aguadilla, PR**	**0.76**	**67**	⇑*i*P	P	03 10 10.3	-0.6
AGPR				*e*S	S	03 10 24.6	-0.4
LRS	**Lares**	**0.96**	**82**	⇑*e*P	P	03 10 12.2	-0.7
LRS				*e*S	S	03 10 27.9	-0.6
PORP	**Portuguez**	**1.16**	**95**	⇑*e*P	P	03 10 14.4	-0.8
PORP				*e*S	S	03 10 32.5	+0.1
ICM	**Isla Caja Muer**	**1.29**	**102**	⇑*e*P	P	03 10 15.8	-0.9
ICM				*e*S	S	03 10 34.4	-0.7
SJG	**San Juan**	**1.61**	**92**	⇑*e*P	P	03 10 20.2	-0.4
SJG				*e*S	S	03 10 40.8	-1.1
SJG	**San Juan**	**1.61**	**92**	⇑*e*P	P	03 10 20.0	-0.6
SJG	**San Juan**	**1.61**	**92**	*e*S	S	03 10 41.8	0.0
SJG	**San Juan**	**1.61**	**92**	⇑*e*P	P	03 10 20.0	-0.6
SJG				*e*S	S	03 10 41.8	0.0
CPD	**Cerro la Pandu**	**1.84**	**94**	⇑*e*P	P	03 10 22.7	-0.7
CPD				*e*S	S	03 10 46.0	-0.8
CBYP	**Canovanas**	**1.90**	**87**	⇑*e*P	P	03 10 23.2	-0.9
CBYP				*e*S	S	03 10 47.9	0.0
HUMP	**Col San Antoni**	**1.90**	**90**	⇑*e*P	P	03 10 24.0	-0.2
HUMP				*e*S	S	03 10 47.9	-0.1
MTP	**Monte Pirata**	**2.18**	**92**	⇑*e*P	P	03 10 27.7	-0.1
MTP				*e*S	S	03 10 53.6	-0.9
STVI	**Saint Thomas**	**2.75**	**86**	⇑*e*P	P	03 10 34.5	-1.0
STVI				*e*S	S	03 11 07.9	-0.4
TBVI	**Tortola**	**3.08**	**85**	*e*S	S	03 11 15.6	-0.9

*SKHL **09** 03:23:08.4±2.5, 49.55N×148.91E, h530km±10km, mb4.8/2, msh4.4/1*
*MOS **09** 03:23:11.7±1.1, 49.26N×147.44E, h554km, mb3.8/20, Error ellipse: s-maj=17.7km s-min=10.9km az=104.5*
*IDC **09** 03:23:11.9±1.2, 49.21N×147.54E, h547km±15km, mb3.1/13, mb1 3.3/16, mb1mx3.2/24, mbtmp4.0/16, Error ellipse: s-maj=16.2km s-min=12.2km az=145.0*
*NEIC **09** 03:23:12.3±1.1, 49.22N×147.57E, h553km±15km, mb3.7/4, Error ellipse: s-maj=9.1km s-min=8.5km az=147.0*
ISC 09 03:23:11.4±0.5**, 49.23N**±0.07×**147.6E**±0.1**, h554**km±6km**, n65, σ0ˢ90**/68**, mb3.7**/24**, 7C-7D, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**3.57**	**299**	⇑*i*P	**P**	**03 24 29.1**	**-2.0**
TYV				*e*S	**S**	**03 25 34.0**	**-0.2**
TYV				pmax	pmax		
	comp=N,72nm,0.8s						
TYV				pmax	pmax		
	comp=E,91nm,0.8s						
TYV				pmax	pmax		
	comp=Z,103nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TYV				smax			
	comp=N,41nm,1.0s						
TYV				smax			
	comp=E,23nm,1.0s						
TYV	Tymovskoe	3.57	299⇑	iP	P	03 24 29.1	-2.0
TYV				AMB	AMB	03 24 29.6	
	comp=E,200nm,2.0s						
TYV				AMB	AMB	03 24 29.8	
	comp=E,72nm,0.8s						
TYV				AMB	AMB	03 24 29.8	
	comp=E,91nm,0.8s						
TYV				AMB	AMB	03 24 29.8	
	comp=E,103nm,0.8s						
TYV				eS	S	03 25 34.0	-0.2
TYV				A		03 25 35.0	
	comp=E,41nm,1.0s						
TYV				A		03 25 35.0	
	comp=E,23nm,1.0s						
UGL	Uglegorsk	3.63	270	eP	P	03 24 32.0	+0.6
UGL				AMB	AMB	03 24 33.0	
	comp=E,300nm,1.0s						
UGL				AMB	AMB	03 24 33.3	
	comp=E,170nm,0.4s						
UGL				A		03 25 38.0	
	comp=E,300nm,3.0s						
UGL				A		03 25 38.0	
	comp=E,200nm,3.0s						
YSS	Yuzh-Sakhalins	3.96	237⇑	eP	P	03 24 34.8	+1.0
YSS				eS	S	03 25 40.3	+1.1
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				smax			
	comp=N,30nm,1.0s						
YSS				smax			
	comp=E,40nm,0.8s						
YSS	Yuzh-Sakhalins	3.96	237⇑	eP	P	03 24 34.8	+1.0
YSS				AMB	AMB	03 24 35.5	
	comp=E,20nm,0.7s						
YSS				eS	S	03 25 40.3	+1.1
YSS				A		03 25 42.0	
	comp=E,40nm,0.8s						
YSS				A		03 25 42.0	
	comp=E,30nm,1.0s						
KUR	Kuril'sk	4.01	177⇓	iP	P	03 24 30.4	-3.7
KUR				AMB	AMB	03 24 30.7	
	comp=E,40nm,0.5s						
KUR				AMB	AMB	03 24 30.7	
	comp=E,140nm,0.5s						
KUR				eS	S	03 25 39.0	-0.8
KUR				A		03 25 40.0	
	comp=E,70nm,0.9s						
ASAJ	Asahikawa	6.16	216	P	P	03 24 51.6	-0.8
ASAJ				S	S	03 26 12.8	+0.2
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	6.16	216	P	P	03 24 51.6	-0.8
	comp=Z,0.8nm,0.3s,baz=267,slow=29,SNR=6.0						
ASAJ				S	S	03 26 12.8	+0.1
	baz=329,slow=19,SNR=4.0						
MJAR	Matsushiro Arr	14.41	212	P	P	03 26 15.6	+1.3
	comp=Z,0.3nm,0.3s,baz=9.8,slow=8.5,SNR=5.9						
YAK	Yakutsk	16.25	329	eP	P	03 26 33.7	+1.5
YAK				pmax	pmax		
	comp=Z,72nm,0.7s						
YAK	Yakutsk	16.25	329	eP	P	03 26 33.6	+1.5
	comp=Z,72nm,0.7s						
FX1	Attu Island--F	16.46	67	P	P	03 26 37.2	+3.0
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1	Attu Island--F	16.46	67	P	P	03 26 37.2	+3.0
	comp=Z,0.8nm,0.3s,baz=342,slow=6.4,SNR=4.6						
BOD	Bodaibo	21.54	306	eP	P	03 27 18.8	-3.2
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb3.9						
ULN	Ulaanbaatar	26.65	283	eP	P	03 28 02.6	-4.9
SONM	Songino Array	27.08	283	P	P	03 28 10.5	-0.8
	comp=Z,0.4nm,0.6s,mb3.2,baz=82,slow=8.7,SNR=4.4						
SONM				ScP		03 34 01.4	
	comp=Z,1.3nm,0.8s,baz=114,slow=2.1,SNR=7.5						
TLY	Talaya	27.77	292⇓	iP	P	03 28 17.7	+0.4
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
ZAK	Zakamensk	28.30	289	eP	P	03 28 22.5	+0.5
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
ILAR	Eielson Array	36.99	40	P	P	03 29 35.4	+0.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	Eielson Array	36.99	40	P	P	03 29 35.4	+0.5
	comp=Z,0.7nm,0.5s,mb3.5,baz=264,slow=6.9,SNR=16						
ZAL	Zalesovo	38.16	302	P	P	03 29 43.6	-0.9
ZAL						03 31 45.5	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	Zalesovo	38.16	302	P	P	03 29 43.6	-0.9
	comp=Z,1.6nm,0.6s,mb3.8,baz=56,slow=5.5,SNR=4.5						
ZAL				PcP	PcP	03 31 45.5	+0.1
	comp=Z,0.8nm,0.4s,baz=71,slow=1.9,SNR=4.1						
INK	Inuvik	41.58	33	P	P	03 30 11.3	-0.4
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	Inuvik	41.58	33	P	P	03 30 11.3	-0.4
	comp=Z,1.6nm,0.4s,mb3.9,baz=295,slow=6.9,SNR=21						
INK	Inuvik	41.58	33	P	P	03 30 11.3	-0.4
MKAR	Makanchi Array	42.53	293	P	P	03 30 20.2	+0.7
MKAR					pP	03 31 59.2	0.0
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	Makanchi Array	42.53	293	P	P	03 30 20.2	+0.7
	comp=Z,4.0nm,0.8s,mb4.0,baz=68,slow=8.5,SNR=17						
MKAR				PcP	PcP	03 31 59.2	-0.6
	comp=Z,0.4nm,0.6s,baz=45,slow=2.0,SNR=3.1						
ZRNK	Zerenda	47.17	306	eP	P	03 30 55.4	+0.1
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
ZRNK	Zerenda	47.17	306	eP	P	03 30 55.4	+0.1
	comp=Z,2.9nm,0.8s,mb3.9						
AAK	Ala-Archa	49.44	292⇓	iP	P	03 31 11.8	-0.6
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
ARU	Arti	50.65	314⇓	iP	P	03 31 20.9	-0.2
ARU				e		03 32 27.7	
ARU				e		03 33 23.8	
ARU				eS	S	03 38 06.7	+12
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
ARCES	ARCESS Array B	54.23	338	P	P	03 31 46.2	-0.4
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	ARCESS Array B	54.23	338	P	P	03 31 46.2	-0.4
	comp=Z,0.9nm,0.6s,mb3.3,baz=45,slow=10,SNR=8.2						
KAF	Kangasniemi	59.57	332	ep	P	03 32 19.8	-3.3
	comp=Z,1.8nm,0.7s,mb3.5,baz=39,slow=6.3						
KAF	Kangasniemi	59.57	332	eP	P	03 32 19.8	-3.3
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.6						
FINES	FINESS Array B	60.16	332	P	P	03 32 26.3	-0.6
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FINES	FINESS Array B	60.16	332	P	P	03 32 26.3	-0.6
	comp=Z,3.8nm,0.7s,mb3.9,baz=35,slow=7.7,SNR=38						
OBN	Obninsk	61.12	322	i P	P	03 32 33.8	+0.5
OBN						03 33 09.0	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.7						
FFC	Flin Flon	61.16	38	P	P	03 32 33.2	-0.4
FFC				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.4						
FFC	Flin Flon	61.16	38	P	P	03 32 33.2	-0.5
	comp=Z,1.0nm,0.5s,mb3.4						
HLID	Hailey	63.11	54	P	P	03 32 46.2	-0.1
NB2	NORSAR Subarra	64.61	338	P	P	03 32 55.6	+0.1
	comp=Z,2.5nm,0.7s,mb3.8,baz=28,slow=6.5						
NOA	NORSAR Array B	64.61	338	P	P	03 32 55.0	-0.5
NOA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NOA	NORSAR Array B	64.61	338	P	P	03 32 55.0	-0.5
	comp=Z,2.9nm,0.5s,mb3.9,baz=30,slow=6.4,SNR=17						
BW06	Boulder Array	66.20	52	eP	P	03 33 05.7	-0.1
PDAR	Pinedale Array	66.20	52	P	P	03 33 06.0	+0.3
	comp=Z,0.4nm,0.5s,mb3.2,baz=48,slow=1.4,SNR=5.4						
KIV	Kislovodsk	66.38	310	eP	P	03 33 08.0	+1.2
KIV				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
AKASG	Malin Array Be	67.37	323	i P	P	03 33 12.6	-0.1
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	Malin Array Be	67.37	323	P	P	03 33 12.0	-0.7
	comp=Z,2.3nm,0.4s,mb4.0,baz=36,slow=6.3,SNR=16						
AKASG	Malin Array Be	67.37	323	P	P	03 33 12.0	-0.7
WRAB	Tennant Creek	69.85	193	P	P	03 33 27.7	-0.4
WRA	Warramunga Arr	69.86	193	P	P	03 33 27.5	-0.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	69.86	193	P	P	03 33 27.5	-0.7
	comp=Z,1.2nm,0.5s,mb3.7,baz=7.6,slow=6.3,SNR=10						
CLL	Collm	72.60	332⇓	iP	P	03 33 43.7	+0.2
CLL				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.1						
CLL	Collm	72.60	332⇓	iP	P	03 33 43.7	+0.2
	comp=Z,8.0nm,1.1s,mb4.1						
CLL	Collm	72.60	332	⇓P	P	03 33 43.7	+0.2
	comp=Z,logA/T=0.9,mb4.1						
BRTR	Keskin Array B	74.01	313	P	P	03 33 52.4	+0.8
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	74.01	313	P	P	03 33 52.4	+0.7
	comp=Z,0.6nm,0.6s,mb3.2,baz=34,slow=4.5,SNR=5.0						
GERES	GERESS Array B	74.53	330	P	P	03 33 54.6	+0.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	74.53	330	P	P	03 33 54.6	+0.2
	comp=Z,0.9nm,0.5s,mb3.5,baz=36,slow=6.0,SNR=16						
SNAA	Sanae	153.74	201⇑	iP	PKPdf	03 41 54.3	-2.9
VNA2	Neumayer--Watz	155.30	199	e	PKPdf	03 42 02.5	+3.2
VNA2	Neumayer--Watz	155.30	199⇑	iPKPdf	PKPdf	03 41 57.1	-2.2
VNA2				e		03 42 02.5	
VNA3	Neumayer Olymp	155.53	198	e	PKPdf	03 42 01.8	+2.2
VNA3	Neumayer Olymp	155.53	198⇑	iPKPdf	PKPdf	03 41 56.6	-3.0
VNA3				e		03 42 01.8	

PRE 09 03:49:29.5±2.3, 29.74S×26.38E, h5km, ML3.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HVD	Hendrik Verwoe	1.15	222	eP	Pb	03 49 52.5	+1.0
HVD				eS	Sb	03 50 06.9	+0.2
HVD				AML	AML	03 50 09.9	
	comp=Z,390nm,0.2s						
BOSA	Boshof	1.50	318	eP	Pn	03 49 53.5	-3.6
BOSA				eS	Sb	03 50 29.6	+13
SEK	Senekal	1.78	38	eP	Pn	03 50 02.9	+1.6
SEK				eS	Sn	03 50 25.7	+1.1
SEK				AML	AML	03 50 30.5	
	comp=Z,760nm,0.4s						
SWZ	Schweizer	2.71	340	eP	Pn	03 50 15.3	+0.8
SWZ				eS	Sn	03 50 46.9	-1.3
PRYS	Parys	2.94	17	eP	Pn	03 50 18.0	+0.3
PRYS				eS	Sn	03 50 52.2	-1.6
PRYS				AML	AML	03 51 01.4	
	comp=Z,47nm,0.3s						
SOE	Somerset East	3.04	193	eP	Pn	03 49 25.3	-54
SOE				eS	Sn	03 50 02.1	-54
SOE				AML	AML	03 50 09.4	
	comp=Z,107nm,0.3s						
NWL	Newcastle	3.73	58	eP	Pn	03 50 28.3	-0.6
NWL				eS	Sn	03 51 10.5	-3.3
NWL				AML	AML	03 51 16.8	
	comp=Z,94nm,0.5s						
KSR	Koster	3.90	7	eP	Pn	03 50 29.5	-2.0
KSR				eS	Sn	03 51 10.8	-7.5
SLR	Silverton	4.33	23	eS	Sn	03 51 25.5	-3.6
SLR				AML	AML	03 51 50.0	
	comp=Z,37nm,0.6s						
UPI	Upington	4.70	286	eP	Pn	03 50 42.4	-0.3
UPI				eS	Sn	03 51 33.7	-4.7
UPI				AML	AML	03 52 01.3	
	comp=Z,47nm,0.4s						
POGA	Pongola	5.17	64	eP	Pn	03 50 48.7	-0.7
CVNA	Calvinia	5.96	251	eS	Sn	03 52 05.2	-5.0
CER	Ceres	7.04	237	eS	Sn	03 52 36.3	-0.9
CER				AML	AML	03 53 09.0	
	comp=Z,23nm,0.5s						

CNRM 09 04:05:29.7, 35.30N×4.81W, MD3.1
CSEM 09 04:05:34.4±0.3, 35.15N×4.38W, h8km, MD3.1, Error ellipse: s-maj=8.0km s-min=5.9km az=74.0
MDD 09 04:05:35.1±0.7, 35.15N×4.56W, mbLg2.2/13, Error ellipse: s-maj=6.6km s-min=4.2km az=43.0, PRXIMO
ISC 09 04:05:34.0±0.5, 35.17N±0.03×4.60W±0.03, h10km, n32, σ1§66/56, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	Palemas	0.54	84	i P	Pg	04 05 43.0	-1.9
MPAL				i S	Sg	04 05 52.0	-0.2
DKH	Dar Kharkhour	0.70	297	P	Pb	04 05 38.0	-10
DKH				S	Sb	04 05 45.0	-12
TOU	Touzarine	0.72	107	i P	Pb	04 05 47.0	-1.3
TOU				i S	Sb	04 05 59.0	+1.0
TZK	Tazeka	1.14	162	i P	Pb	04 05 55.5	+0.2
TZK				i S	Sb	04 06 10.0	+0.1
EMIJ	Mijas	1.40	354	P	Pn	04 05 59.5	-0.2
	1.2nm,0.1s,SNR=11						
EMIJ				S	Sb	04 06 14.8	-2.7
	20nm,0.1s,SNR=22						
EGUA	Guajares	1.85	27	P	Pn	04 06 07.3	+1.1
	1.1nm,0.2s,SNR=7.9						
EGUA				S	Sn	04 06 28.1	-1.8
	1.8nm,0.2s,SNR=7.9						
ERON	Agron	1.95	19	S	Sn	04 06 32.2	-0.1
	3.7nm,0.2s,SNR=7.9						
ERON	Agron	1.95	19	S	Sn	04 06 28.5	-3.8
	3.7nm,0.2s,SNR=7.9						
ESPR	Espera	1.98	329	P	Pn	04 06 11.0	+3.1
	0.7nm,0.3s,SNR=4.0						
ESPR				S	Sn	04 06 34.6	+1.6
	4.0nm,0.2s,SNR=4.0						
ESPR	Espera	1.98	329	P	Pn	04 06 11.0	+3.1
	0.7nm,0.3s,SNR=4.0						
ELOJ	Sierra Loja	2.00	10	P	Pn	04 06 13.2	+4.8
	2.9nm,0.2s,SNR=7.9						
ELOJ				S	Sn	04 06 36.1	+2.4
	1.6nm,0.6s,SNR=7.9						
CZD	Col de Zad	2.17	190	P	Pn	04 06 08.0	-2.7
CZD				S	Sn	04 06 35.0	-2.9
EBER	Berja	2.21	38	P	Pn	04 06 12.5	+1.2
	1.4nm,0.2s,SNR=7.9						
EBER				S	Sn	04 06 37.0	-1.9
	19nm,0.3s,SNR=7.9						
EBER	Berja	2.21	38	P	Pn	04 06 12.5	+1.2
	1.4nm,0.2s,SNR=7.9						
EBER				S	Sn	04 06 37.0	-1.9
	19nm,0.3s,SNR=7.9						
ECOG	Cogollos-Vega	2.26	21	P	Pn	04 06 15.9	+3.9
	1.6nm,0.2s,SNR=7.9						
ECOG				S	Sn	04 06 44.0	+3.8
	3.8nm,0.2s,SNR=7.9						
ENIJ	Nijar	2.64	46	S	Sn	04 06 48.1	-1.8
	4.3nm,0.2s,SNR=7.9						
ENIJ	Nijar	2.64	46	S	Sn	04 06 46.9	-2.9
	4.3nm,0.2s,SNR=7.9						
EQES	Quesada	2.90	25	P	Pn	04 06 23.1	+2.0
	1.0nm,0.1s,SNR=16						
EQES				S	Sn	04 06 56.8	+0.4
	12nm,0.4s,SNR=6.0						
EQES	Quesada	2.90	25	P	Pn	04 06 23.1	+2.0
	1.0nm,0.1s,SNR=16						
EQES				S	Sn	04 06 56.8	+0.4
	12nm,0.4s,SNR=6.0						
EADA	Adamuz	2.99	0	P	Pn	04 06 24.1	+1.7
	0.5nm,0.1s,SNR=7.9						
EADA				S	Sn	04 06 57.8	-0.9
	2.6nm,0.1s,SNR=7.9						
EADA	Adamuz	2.99	0	P	Pn	04 06 24.1	+1.7
	0.5nm,0.1s,SNR=7.9						
EADA				S	Sn	04 06 57.8	-0.9
	2.6nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	3.08	328	P	Pn	04 06 25.2	+1.4
	0.7nm,0.1s,SNR=9.5						
EMIN				S	Sn	04 06 59.4	-1.7
	0.7nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	3.08	328	P	Pn	04 06 25.2	+1.5
	0.7nm,0.1s,SNR=9.5						
EHUE	Huescar	3.09	31	P	Pn	04 06 26.9	+3.0
	0.9nm,0.2s,SNR=8.9						
EHUE				S	Sn	04 07 00.6	-0.7
	1.5nm,0.2s,SNR=7.9						
EGRO	El Granado	3.31	316	P	Pn	04 06 28.6	+1.6
	1.0nm,0.1s,SNR=16						
EGRO				S	Sn	04 07 05.5	-1.4
	5.7nm,0.3s,SNR=7.9						
PBEJ	Beja	3.88	318	eP	Pn	04 06 37.5	+2.5
PBEJ				eS	Sn	04 07 18.8	-2.3
EBAD	Badajoz	4.06	332	P	Pn	04 06 38.8	+1.1
	0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	04 07 23.4	-2.6
	5.3nm,0.2s,SNR=7.9						
PTEO	Sao Teotonio	4.09	307	eP	Pn	04 06 39.6	+1.6
PTEO				eS	Sn	04 07 24.9	-1.6
ETOB	Tobarra	4.24	34	P	Pn	04 06 42.4	+2.2
	0.4nm,0.1s,SNR=6.7						
ETOB				S	Sn	04 07 25.8	-4.6
	0.7nm,0.2s,SNR=7.9						
PCBR	Castelo Branco	5.19	335	eP	Pn	04 06 54.9	+1.2
PCBR				eS	Sn	04 07 50.1	-4.2
PTOM	Tomar	5.38	327	eP	Pn	04 06 56.9	+0.6
PVRL	Vila Real	6.57	339	eS	Sn	04 08 22.8	-6.0

IDC 09 04:11:28.7±26.0, 23.55N×94.82E, h199km±237km, mb3.2/4, mb1 3.2/4, mb1mx2.9/20, mbtmp3.7/4, Error ellipse: s-maj=295.7km s-min=23.6km az=54.0
ISC 09 04:11:14.8±1.2, 22.8N±0.1×93.6E±0.2, h100km, n6, σ1§07/7, mb3.7/4, 1C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	Imphal	1.98	9⇑	iP	S	04 12 12.0	+0.1
SHL	Shillong	3.16	330	eP	P	04 12 05.5	+1.8
SHL				eSN	S	04 12 38.5	-2.1
MKAR	Makanchi Array	25.61	342	P	P	04 16 36.6	+0.3
	1.3nm,0.6s,mb3.5,baz=147,slow=10.0,SNR=8.0						
WRA	Warramunga Arr	58.20	134	P	P	04 21 00.1	-0.9
	0.3nm,0.5s,mb3.6,baz=324,slow=7.4,SNR=4.7						
ARCES	ARCESS Array B	61.19	338	P	P	04 21 20.6	-0.3
	2.8nm,1.0s,mb4.2,baz=102,slow=8.3,SNR=3.6						
HFS	Hagfors	65.50	327	P	P	04 21 49.8	+0.6
	0.6nm,0.7s,mb3.5,baz=124,slow=5.2,SNR=4.1						

PRU 09 04:17:11.4, 50.28N×18.98E
WAR 09 04:17:11.6, 50.21N×19.07E, h0km, ML2.4, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.47	88	ePG	Pg	04 17 21.0	+0.1
OJC				eSG	Sg	04 17 28.0	+0.8
RAC	Raciborz	0.58	258	ePG	Pg	04 17 24.0	+0.9
RAC				e(SG)	Sg	04 17 30.0	-0.8
OKC	Ostrava-Krasne	0.70	239	ePG	Pg	04 17 25.0	-0.6
OKC				eSG	Sg	04 17 34.8	-0.1
NIE	Niedzica	1.13	134	ePG	Pg	04 17 34.0	-0.1
NIE				eSG	Sg	04 17 50.0	+0.9
STHS	Stebnicka Huta	1.61	118	ePN	Pn	04 17 42.8	+1.4
STHS				eSN	Sn	04 18 05.9	+2.7
VYHS	Vyhne	1.72	185	ePN	Pn	04 17 42.1	-0.8
VYHS				eSG	Sg	04 18 05.0	-3.9
DPC	Dobruska-Polom	1.77	276	ePG	Pg	04 17 42.3	-4.6
DPC				eSG	Sg	04 18 06.5	-4.0
	26nm,0.6s						
KSP	Ksiaz	1.88	291	ePN	Pn	04 17 44.0	-1.3
KSP				ePG	Pg	04 17 46.0	-3.2
KSP				eSG	Sg	04 18 11.0	-3.3
KECS	Kecovo	1.96	151	ePN	Pn	04 17 48.5	+2.2
KECS				eSN	Sn	04 18 12.6	+0.7
UPC	Upice	1.98	280	eSG	Sg	04 18 13.3	-4.3
CRVS	Cervenica-Dubn	2.03	129	ePN	Pn	04 17 50.0	+2.6
PRU	Pruhonice	2.92	267	ePG	Pg	04 18 04.3	-5.7
PRU				eSG	Sg	04 18 41.6	-7.4
KHC	Kasperske Hory	3.73	255	ePN	Pn	04 18 09.5	-2.1
KHC				ex	x	04 18 15.5	
KHC				eSG	Sg	04 19 09.2	-6.5
CLL	Collm	4.01	288	eSG	Sg	04 19 23.0	-2.0

NEIC 09 04:40:26.7±0.5, 23.43S×66.69W, h197km±5km, mb3.8/5, Error ellipse: s-maj=10.1km s-min=6.9km az=84.0
IDC 09 04:40:26.1±1.1, 23.44S×66.71W, h192km±10km, mb3.4/4, mb1 3.6/9, mb1mx3.5/18, mbtmp4.0/9, Error ellipse: s-maj=16.5km s-min=15.1km az=159.0
GUC 09 04:40:27.9±0.8, 23.64S×67.13W, h206km±19km, ML4.2
ISC 09 04:40:25.3±0.6, 23.50S±0.04×66.77W±0.07, h200km±6km, n42, σ1§23/48, mb3.6/8, 8C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.44	294⇑	iP	P	04 41 01.6	+2.9
LVC	Limon Verde	2.16	294⇑	iP	P	04 41 07.7	+1.9
LVC				i S	S	04 41 38.1	+1.0
LVC				AMP		04 41 40.3	
	comp=E,254nm,0.6s						
LVC	Limon Verde	2.16	294	P	P	04 41 07.7	+1.9
	comp=E,66nm,0.3s,baz=114,slow=6.8,SNR=904						
LVC				S	S	04 41 37.7	+0.7
	comp=E,34nm,0.3s,baz=288,slow=21,SNR=10						
ANCH	Antofagasta	3.34	266⇑	iP	P	04 41 20.6	+1.1
ANCH				i S	S	04 42 00.3	-1.2
CPN1	Cerro Paranal	3.51	251⇑	iP	P	04 41 22.4	+0.8
CPN1				i S	S	04 42 03.4	-1.6
CPN1				AMP		04 42 05.4	
	comp=E,1μm,0.5s						
CRCH	Chaqaral	4.50	230	i S	S	04 42 24.5	-2.8
CPCH	Copiapo	5.03	219	i S	S	04 42 37.8	-1.5
VACH	Vallenar	6.20	214	i S	S	04 43 02.8	-3.6
LPAZ	La Paz	7.28	350	P	P	04 42 11.1	+1.1
	comp=E,2.3nm,0.3s,baz=165,slow=7.7,SNR=89						
LPAZ				S	S	04 43 31.5	-0.2
	comp=E,0.3nm,0.3s,baz=306,slow=22,SNR=3.8						
CFAA	Coronel Fontan	8.18	189	P	P	04 42 21.6	-0.1
	comp=E,0.4nm,0.3s,baz=12,slow=12,SNR=30						
CFAA				S	S	04 43 48.7	-4.0
	comp=E,1.1nm,0.3s,baz=226,slow=16,SNR=15						
ARE	Arequipa	8.29	327	P	P	04 42 29.0	+6.0
SIV	San Ignacio	9.19	37	P	P	04 42 33.6	-1.2
	comp=E,1.5nm,0.3s,baz=224,slow=11,SNR=44						
SIV				S	S	04 44 14.7	-1.5
	comp=E,0.1nm,0.3s,baz=255,slow=19,SNR=2.0						
SAML	Samuel	14.87	14	eP	P	04 43 45.8	-1.2
	comp=E,6.4nm,0.6s						
TRQA	Tornquist	15.08	165	eP	P	04 43 50.2	+0.6
BDFB	Brasilia	19.31	70	P	P	04 44 37.2	+0.1
	comp=E,0.7nm,0.3s,baz=243,slow=11,SNR=15						
BAO	Brasilia Array	19.33	70	P	P	04 44 32.6	-4.7
VNA3	Neumayer Olymp	57.56	161	e	P	04 49 58.8	+3.1
VNA3	Neumayer Olymp	57.56	161	e	P	04 50 00.5	+4.8
VNA3	Neumayer Olymp	57.56	161⇑	iP	P	04 49 56.7	+1.0
VNA3				e		04 49 58.8	
VNA3				e		04 50 00.5	
VNA3				e		04 50 17.1	
VNA1	Neumayer--Stat	57.75	160	e	P	04 50 00.0	+2.9
VNA1	Neumayer--Stat	57.75	160	e	P	04 50 01.6	+4.5
VNA1	Neumayer--Stat	57.75	160⇑	iP	P	04 49 58.4	+1.3
VNA1				e		04 50 00.0	
VNA1				e		04 50 01.6	
VNA2	Neumayer--Watz	58.12	161	e	P	04 50 02.2	+2.6
VNA2	Neumayer--Watz	58.12	161	e	P	04 50 03.8	+4.2
VNA2	Neumayer--Watz	58.12	161	e	P	04 50 19.4	+20
VNA2	Neumayer--Watz	58.12	161⇑	iP	P	04 50 00.6	+1.0
VNA2				e		04 50 02.2	
VNA2				e		04 50 03.8	
VNA2				e		04 50 19.4	
SNAA	Sanae	59.76	161	e	P	04 50 12.9	+2.0
SNAA	Sanae	59.76	161	e	P	04 50 14.9	+4.0
SNAA	Sanae	59.76	161	e	P	04 50 27.7	+17
SNAA	Sanae	59.76	161⇑	iP	P	04 50 10.4	-0.5
SNAA				e		04 50 12.9	
SNAA				e		04 50 14.9	
SNAA				e		04 50 27.7	
TXAR	Lajitas Array	63.39	324	P	P	04 50 34.7	-1.0
	comp=E,0.2nm,0.4s,mb3.1,baz=148,slow=7.1,SNR=9.0						
TXAR	Lajitas Array	63.39	324	P	P	04 50 34.7	-1.0
MNTX	Cornudas Mount	66.16	324	eP	P	04 50 52.5	-1.0
	comp=E,0.9nm,0.6s,mb3.6						
DBIC	Dimbokro	67.44	72	P	P	04 51 00.3	-1.5
	comp=E,2.8nm,0.9s,mb3.9,baz=225,slow=8.3,SNR=5.2						
DBIC	Dimbokro	67.44	72	P	P	04 51 00.3	-1.5
ANMO	Albuquerque	69.25	326	eP	P	04 51 12.8	+0.3

	comp=E,1.0nm,0.6s,mb3.6						
SDCO	Great Sand Dun	70.97	328	eP	P	04 51 23.1	+0.2
	comp=E,0.9nm,0.6s,mb3.6						
BW06	Boulder Array	76.82	329	P	P	04 51 56.2	-0.4
PDAR	Pinedale Array	76.82	329	P	P	04 51 57.4	+0.9
	comp=E,0.3nm,0.5s,mb3.2,baz=151,slow=8.5,SNR=4.0						
HLID	Hailey	79.78	327	eP	P	04 52 13.4	+0.8
	comp=E,1.6nm,0.6s,mb3.8						
BOSA	Boshof	80.77	117	P	P	04 52 18.6	+0.4
	comp=E,0.9nm,0.4s,mb3.8,baz=238,slow=4.5,SNR=5.0						
MKAR	Makanchi Array	146.00	39	PKPbc	PKPbc	04 59 42.8	+1.5
	comp=E,0.5nm,0.7s,baz=288,slow=4.6,SNR=3.6						

*IDC **09** 05:06:25.1±1.6, 11.06N×86.73W, mb3.6/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.6/4, Error ellipse: s-maj=68.5km s-min=12.2km az=34.0*
*CASC **09** 05:06:29.1±2.3, 11.11N×86.60W, h6km±7km, MD4.2, ML3.9, mb3.6(NEIC)*
*NEIC **09** 05:06:31.9±1.9, 11.36N×86.23W, h48km±19km, mb3.6/3, Error ellipse: s-maj=36.4km s-min=10.9km az=47.0*
ISC 09 05:06:30.4±0.8**, 11.08N**±0.05×**86.61W**±0.08**, h53**km±9km**, n33, σ0.87**/45**, mb3.6**/7**, 8C-6D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	0.94	19	⇓eP	P	05 06 47.9	+0.3
APON	Apoyo	0.98	33	⇓eP	P	05 06 47.4	-0.8
MASN	Masaya	1.00	27	eP	P	05 06 47.7	-0.8
MASN				⇑eP		05 06 48.0	
TICN	Ticuantepe	1.01	21	eP	P	05 06 48.4	-0.2
CONN	Concepcion	1.08	64	⇓eP	P	05 06 48.3	-1.2
CONN				eS	S	05 07 02.1	-1.5
COPN	Copaltepe	1.09	1	⇑eP	P	05 06 49.5	-0.2
COPN				eS	S	05 07 03.4	-0.5
XAVN	Gruta Xavier	1.09	15	⇓eP	P	05 06 49.4	-0.3
XAVN				eS	S	05 07 04.9	+0.8
MGAN	Managua	1.11	19	⇓eP	P	05 06 49.8	-0.2
MGAN				eS	S	05 07 04.7	+0.2
MGAN				i		05 07 06.5	
	comp=E,3μm,0.6s						
WILN	Americas 2	1.15	21	⇑eP	P	05 06 50.2	-0.2
WILN				eS	S	05 07 06.0	+0.7
MOMJ	Momotombo	1.32	3	eP	P	05 06 52.4	-0.6
MIRN	Miramar	1.35	356	⇓eP	P	05 06 53.0	-0.4
LEON	Leon	1.35	348	⇑eP	P	05 06 53.2	-0.3
CNGN	Cerro Negro	1.41	356	eP	P	05 06 53.9	-0.4
TEL3	Telica 3	1.50	351	⇑eP	P	05 06 55.2	-0.3
TEL3				eS	S	05 07 14.2	+0.2
PYTN	Playitas	1.54	20	⇑eP	P	05 06 55.3	-0.8
PYTN				eS	S	05 07 17.1	+2.0
CRIN	San Cristobal	1.66	345	⇑eP	P	05 06 57.4	-0.3
CRIN				eS	S	05 07 19.9	+1.9
JTS	JuntasAbangare	1.81	116	Pn	P	05 06 58.6	-1.2
JTS				Pg	P	05 07 00.4	+0.6
JTS				Lg		05 07 25.8	
FORC	Fortuna	2.00	108	⇑eP	P	05 07 03.7	+1.3
FORC				eS	S	05 07 31.2	+4.9
PRS1	Puriscal	2.51	116	eP	P	05 07 10.1	+0.3
PRS1				eS	S	05 07 43.4	+4.2
SJS	Escuela Geolog	2.76	114	eP	P	05 07 13.5	+0.2
LCR2	La Lucha 2	2.89	117	eP	P	05 07 16.2	+1.1
LCR2				eS	S	05 07 54.1	+5.3
TRTC	Tortuguero	2.89	100	eP	P	05 07 13.8	-1.3
URSC	Urasca	3.05	114	eP	P	05 07 18.2	+0.8
BUS	Buena Vista	3.19	118	eP	P	05 07 20.9	+1.6
SDV	Santo Domingo	15.89	96	ePn	P	05 10 08.3	-3.9
TXAR	Lajitas Array	24.15	321	P	P	05 11 43.1	+0.4
	comp=E,1.8nm,0.7s,mb3.6,baz=135,slow=10.0,SNR=28						
SAML	Samuel	30.64	130	eP	P	05 12 40.5	-1.8
	comp=E,0.3nm,0.5s,mb3.4						
SAML				e	pP	05 12 50.6	-5.2
SDCO	Great Sand Dun	31.50	331	P	P	05 12 50.1	+0.5
	comp=E,0.7nm,0.6s,mb3.7						
SIV	San Ignacio	36.91	136	P	P	05 13 36.4	+0.2
	comp=E,0.7nm,0.7s,mb3.6,baz=315,slow=8.9,SNR=5.4						
BW06	Boulder Array	37.36	332	P	P	05 13 39.1	-0.5
PDAR	Pinedale Array	37.36	332	P	P	05 13 39.2	-0.5
	comp=E,0.6nm,0.6s,mb3.6,baz=132,slow=8.7,SNR=7.3						
HLID	Hailey	40.33	328	P	P	05 14 05.2	+0.8
	comp=E,0.7nm,0.5s,mb3.6						
ILAR	Eielson Array	67.59	336	P	P	05 17 22.9	-0.4
	comp=E,0.3nm,0.5s,mb3.6,baz=140,slow=4.1,SNR=4.7						

*MOS **09** 05:34:06.1±1.7, 49.27N×153.58E, h400km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=42.5km az=61.0*
KRSC 09 05:34:06.4±0.8**, 49.09N**×**153.21E, h370**km±9km**, ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	Alaid	2.33	39	i P	P	05 35 01.2	-1.1
PAU	Pauzhetka	3.32	43	i P	P	05 35 10.3	-0.2
PAU				eS	S	05 35 56.7	-4.1
GRL	Gorelyy	4.64	40	eP	P	05 35 22.7	-1.0
GRL				eS	S	05 36 18.4	-5.8
RUS	Russkaya	4.75	43	P	P	05 35 25.1	+0.3
RUS				S	S	05 36 22.7	-3.6
RUS	Russkaya	4.75	43	eP	P	05 35 25.1	+0.3
RUS				eS	S	05 36 23.4	-2.9
KOK	Koryaka	5.42	37	eP	P	05 35 32.9	+0.9
KOK				eS	S	05 36 35.8	-3.4
UGLR	Uglovaya	5.43	38	eP	P	05 35 33.3	+1.1
UGLR				eS	S	05 36 36.5	-3.0
AVH	Avacha	5.44	38	eP	P	05 35 32.3	+0.1
AVH				eS	S	05 36 35.1	-4.5
SMAR	Somma	5.46	38	eP	P	05 35 34.1	+1.6
SMAR				eS	S	05 36 37.5	-2.6
GNL	Ganaly	5.48	31	eP	P	05 35 32.9	+0.2
GNL				eS	S	05 36 35.6	-4.9
SDLR	Sedlovina	5.50	38	eP	P	05 35 33.2	+0.2
SDLR				eS	S	05 36 36.2	-4.7
NLC	Nalytchevo	5.62	41	i P	P	05 35 33.2	-1.1
NLC				eS	S	05 36 36.2	-7.1
SPN	Mys Shipunski	5.88	44	P	P	05 35 37.0	-0.1
SPN				S	S	05 36 42.8	-5.5
SPN	Mys Shipunski	5.88	44	eP	P	05 35 37.1	0.0
SPN				eS	S	05 36 42.7	-5.6
MKZ	Mys Kozlova	7.60	41	P	P	05 35 55.6	-1.4
MKZ				S	S	05 37 14.9	-9.2
MKZ	Mys Kozlova	7.60	41	eP	P	05 35 55.9	-1.1
MKZ				eS	S	05 37 17.1	-7.0
KBTR	Krutoberegovo	9.21	36	P	P	05 36 12.0	-3.9
KBTR	Krutoberegovo	9.21	36	eP	P	05 36 14.5	-1.4
KBTR				eS	S	05 37 48.7	-10
BKI	Bering	9.94	47	eS	S	05 37 59.7	-14

*NIED **09** 05:55:00, 47.70N×146.70E, h600km, Mw4.3 Best double couple: $M_0$3.71×10^15 NP1:ϕ_s349°, δ57°, λ-119°. NP2: ϕ_s215°, δ43°, λ-53°.*
*SKHL **09** 05:55:46.9±2.5, 48.34N×147.88E, h415km±15km, mb5.4/1, msh5.2/3*
*BJI **09** 05:55:48.4, 48.23N×146.32E, h476km, mB4.6, mb4.6*
*MOS **09** 05:55:48.7±1.1, 48.20N×146.30E, h486km, mb4.1/15, Error ellipse: s-maj=18.2km s-min=11.0km az=100.9*
*JMA **09** 05:55:49.2±0.5, 47.66N×146.75E, h518km, M4.2*
*IDC **09** 05:55:49.3±1.0, 48.17N×146.35E, h480km±14km, mb3.3/16, mb1 3.5/19, mb1mx3.4/25, mbtmp4.2/19, Error ellipse: s-maj=14.9km s-min=10.7km az=152.0*
*NEIC **09** 05:55:50.2±0.6, 48.18N×146.39E, h491km±7km, mb4.3/11, Error ellipse: s-maj=10.0km s-min=7.2km az=140.0*
ISC 09 05:55:48.4±0.4**, 48.08N**±0.04×**146.51E**±0.09**, h489**km±3km**, n96, σ1.07**/118**, mb4.0**/29**, 4C-3D, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	2.78	247	⇑iPN	P	05 56 59.7	+2.0
YSS				i S	S	05 57 53.7	+1.2
YSS				pmax	pmax		
	comp=Z,180nm,0.8s						
YSS				pmax	pmax		
	comp=N,70nm,0.4s						
YSS				pmax	pmax		
	comp=E,70nm,0.9s						
YSS				smax			
	comp=N,410nm,1.1s						
YSS				smax			
	comp=E,360nm,1.1s						
YSS	Yuzh-Sakhalins	2.78	247	eP	P	05 56 59.5	+1.8
YSS	Yuzh-Sakhalins	2.78	247	⇑iP	P	05 56 59.7	+2.0
YSS				AMB	AMB	05 57 00.3	
	comp=E,180nm,0.8s						
YSS				AMB	AMB	05 57 00.3	
	comp=E,70nm,0.9s						
YSS				i S	S	05 57 53.7	+1.2
YSS				A		05 57 56.0	
	comp=E,410nm,1.1s						
YSS				A		05 57 56.0	
	comp=E,360nm,1.1s						
UGL	Uglegorsk	3.11	290	eP	P	05 57 00.5	+0.5
UGL				AMB	AMB	05 57 02.0	
	comp=E,500nm,1.0s						
UGL				AMB	AMB	05 57 02.0	
	comp=E,98nm,0.4s						
UGL				AMB	AMB	05 57 02.0	
	comp=E,163nm,0.4s						
UGL				AMB	AMB	05 57 02.0	
	comp=E,316nm,0.4s						
UGL				eS	S	05 57 58.0	+1.5
UGL				A		05 57 59.0	
	comp=E,500nm,1.5s						
UGL				A		05 57 59.0	
	comp=E,1μm,1.5s						
UGL				A		05 57 59.0	
	comp=E,139nm,0.5s						
UGL				A		05 57 59.0	
	comp=E,116nm,0.5s						
TYV	Tymovskoe	3.75	319	⇑iPN	P	05 57 03.0	-1.7
TYV				eS	S	05 58 03.4	-1.7
TYV				pmax	pmax		
	comp=N,15nm,0.6s						
TYV				pmax	pmax		
	comp=Z,19nm,0.6s						
TYV				pmax	pmax		
	comp=E,24nm,0.8s						
TYV				smax			
	comp=N,55nm,1.0s						
TYV				smax			
	comp=E,32nm,1.0s						
TYV	Tymovskoe	3.75	319	i P	P	05 57 03.0	-1.7
TYV				AMB	AMB	05 57 03.8	
	comp=E,15nm,0.6s						
TYV				AMB	AMB	05 57 03.8	
	comp=E,19nm,0.6s						
TYV				eS	S	05 58 03.4	-1.7
TYV				A		05 58 05.0	
	comp=E,55nm,1.0s						
TYV				A		05 58 05.0	
	comp=E,32nm,1.0s						
TYV				A		05 58 06.0	
	comp=E,400nm,4.0s						
TYV				A		05 58 06.0	
	comp=E,500nm,4.0s						
YUK	Yuzh-Kuril'sk	4.08	187	⇑iPN	P	05 57 05.8	-1.6
YUK				i S	S	05 58 08.9	-1.0
YUK				pmax	pmax		
	comp=Z,260nm,0.5s						
YUK				smax			
	comp=N,760nm,0.5s						
YUK				smax			
	comp=E,380nm,0.5s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK	Yuzh-Kuril'sk	4.08	187	i P	P	05 57 05.8	-1.6
YUK				AMB	AMB	05 57 06.5	
	comp=E,260nm,0.5s						
YUK				i S	S	05 58 08.9	-1.0
YUK				A		05 58 15.0	
	comp=E,760nm,0.5s						
YUK				A		05 58 15.0	
	comp=E,380nm,0.5s						
YUK				A		05 58 15.0	
	comp=E,2μm,0.5s						
JSE	Soyaes	4.14	222	P	P	05 57 08.9	+1.0
JSE				eS	S	05 58 11.5	+0.7
JWK2	Keihoku	4.21	231	P	P	05 57 10.3	+1.8
JWK2				eS	S	05 58 14.0	+2.0
JRA	Rausu	4.26	194	P	P	05 57 08.9	-0.1
JTKR	Abashiri--Toko	4.49	205	P	P	05 57 11.6	+0.6
JTKR				eS	S	05 58 17.0	+0.6
NEM2	Nemuro 2	4.75	187	P	P	05 57 10.8	-2.5
NEM2				eS	S	05 58 16.0	-4.5
ASAJ	Asahikawa	4.81	216	PN	P	05 57 14.1	+0.2
ASAJ				S	S	05 58 21.8	+0.3
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ	Asahikawa	4.81	216	P	P	05 57 14.1	+0.2
	comp=Z,5.7nm,0.3s,baz=344,slow=2.9,SNR=30						
ASAJ				S	S	05 58 21.8	+0.3
	comp=Z,1.1nm,0.3s,baz=136,slow=30,SNR=16						
JKK2	Kamakawa 2	4.96	213	P	P	05 57 15.9	+0.7
JKK2				eS	S	05 58 24.3	+0.4
JYG	Yagishiri	5.08	226	P	P	05 57 16.8	+0.5
JAR	Ashorobuto	5.16	203	P	P	05 57 16.8	-0.3
JAR				eS	S	05 58 26.8	-0.4
JAK	Akkeshi	5.24	195	P	P	05 57 16.4	-1.5
JAK				eS	S	05 58 24.0	-4.7
JHR	Hokuryu	5.47	219	P	P	05 57 20.8	+0.7
JFR	Furan	5.63	211	P	P	05 57 22.0	+0.3
JFR				eS	S	05 58 35.2	-0.2
JCH	Churui	5.90	203	P	P	05 57 22.5	-1.8
JCH				eS	S	05 58 34.2	-5.9
JSK	Shakotan	6.34	224	P	P	05 57 28.7	+0.1
JNBK	Urakawa-nobuka	6.38	206	P	P	05 57 27.1	-1.9
JNBK				eS	S	05 58 43.0	-5.7
JKB	Kayabe	7.31	214	P	P	05 57 36.8	-1.7
JKB				eS	S	05 59 02.0	-3.8
JOT	Ohata	7.75	212	P	P	05 57 41.3	-1.8
JOT				eS	S	05 59 08.5	-5.5
JANG	Nango	8.50	207	P	P	05 57 50.2	-0.9
JANG				eS	S	05 59 25.2	-3.2
JOM	Ohasama	9.39	206	P	P	05 58 00.7	+0.1
JOM				eS	S	05 59 42.7	-3.0
KLR	Kul'dur	9.84	282	ePN	P	05 58 03.2	-2.0
JMK	Ichinoseki	9.90	205	P	P	05 58 06.6	+0.7
JMK				eS	S	05 59 56.8	+1.4
MDJ	Mudanjiang	12.19	260	P	P	05 58 29.1	-0.9
MDJ				AMB	AMB		
	comp=Z,24nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,63nm,5.9s						
MDJ	Mudanjiang	12.19	260	eP	P	05 58 29.0	-1.0
	comp=Z,12nm,0.8s						
MAJO	Matsushiro	13.06	211	ePN	P	05 58 40.2	+1.1
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s						
MAJO	Matsushiro	13.06	211	eP	P	05 58 40.2	+1.0
	comp=Z,12nm,0.8s						
MAT	Matsushiro	13.06	211	eP	P	05 58 40.0	+0.9
	comp=Z,7.6nm,0.9s						
MAT	Matsushiro	13.06	211	P	P	05 58 40.0	+0.9
MJAR	Matsushiro Arr	13.06	211	P	P	05 58 40.0	+0.9
	comp=Z,1.8nm,0.3s,baz=18,slow=10,SNR=24						
CN2	Changchun	15.25	262	eP	P	05 59 00.9	-0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
FX1	Attu Island--F	17.58	64	P	P	05 59 26.7	+2.1
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FX1	Attu Island--F	17.58	64	P	P	05 59 26.7	+2.2
	comp=Z,2.7nm,0.3s,baz=251,slow=4.7,SNR=12						
SONM	Songino Array	26.66	285	P	P	06 00 48.3	0.0
	comp=Z,0.5nm,0.4s,mb3.3,baz=72,slow=7.8,SNR=4.3						
SONM				PcP	PcP	06 03 56.3	-0.4
	comp=Z,0.6nm,0.5s,baz=102,slow=2.8,SNR=4.3						
GTA	Gaotai	34.37	273	eP	P	06 01 56.0	+1.5
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.0						
ILAR	Eielson Array	38.34	39	P	P	06 02 27.1	+0.2
	comp=Z,1.6nm,0.5s,mb3.7,baz=254,slow=6.1,SNR=20						
MKAR	Makanchi Array	42.32	293	P	P	06 02 59.1	-0.1
MKAR						06 04 41.4	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	42.32	293	P	P	06 02 59.0	-0.1
	comp=Z,3.5nm,0.5s,mb4.0,baz=67,slow=7.8,SNR=32						
MKAR				PcP	PcP	06 04 41.4	-0.9
	comp=Z,1.1nm,0.7s,baz=72,slow=3.8,SNR=5.3						
INK	Inuvik	42.94	33	P	P	06 03 04.1	+0.3
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	Inuvik	42.94	33	P	P	06 03 04.1	+0.4
	comp=Z,0.8nm,0.3s,mb3.6,baz=286,slow=6.0,SNR=21						
BVAR	Borovoye Array	46.50	306	P	P	06 03 31.3	-0.4
	comp=Z,2.4nm,0.5s,mb3.9,baz=79,slow=7.6,SNR=13						
BVAR				PcP	PcP	06 04 56.1	-0.6
	comp=Z,1.8nm,0.4s,baz=45,slow=4.2,SNR=8.5						
SHL	Shillong	48.01	262	eP	P	06 03 43.0	-0.6
ULHL	Ulahol	48.32	291	P	P	06 03 46.2	+0.6
	SNR=12						
CMAR	Chiang Mai Arr	48.48	249	P	P	06 03 47.6	+0.4
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR	Chiang Mai Arr	48.48	249	P	P	06 03 47.6	+0.4
	comp=Z,1.2nm,0.5s,mb3.5,baz=33,slow=7.2,SNR=4.5						
USP	Ospenovka	48.86	293	P	P	06 03 49.9	+0.2
	SNR=10						
KZA	Kyzart	49.03	291	P	P	06 03 52.3	+1.3
	SNR=9.0						
EKS2	Erkin-Say	49.63	292	P	P	06 03 55.8	+0.3
	SNR=7.1						
AML	Almayashu	49.97	292	P	P	06 03 59.1	+1.0
	SNR=5.2						
GUN	Gumba	50.47	269	eP	P	06 04 02.2	+0.3
	comp=Z,16nm,0.5s,mb4.6						
KKN	Kakani	50.95	270	eP	P	06 04 06.3	+0.8
	comp=Z,13nm,0.5s,mb4.5						
KKN	Kakani	50.95	270	eP	P	06 04 06.3	+0.8
KKN				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.2						
PKI	Pulchoki	51.01	269	eP	P	06 04 06.1	+0.2
	comp=Z,5.9nm,0.4s,mb4.2						
DMN	Daman	51.19	270	eP	P	06 04 07.5	+0.3
	comp=Z,17nm,0.5s,mb4.6						
GKN	Gorkha	51.24	270	eP	P	06 04 07.8	+0.2
	comp=Z,24nm,0.5s,mb4.8						
KKAR	Karatay Array	51.40	295	i P	P	06 04 07.9	-0.6
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
KOLN	Koldanda	52.09	271	eP	P	06 04 14.0	+0.2
	comp=Z,22nm,0.8s,mb4.5						
AB31	Akbulak array	54.07	306	i P	P	06 04 26.8	-0.8
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
ARCES	ARCESS Array B	55.04	338	P	P	06 04 33.0	-1.2
ARCES						06 05 27.8	
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	ARCESS Array B	55.04	338	P	P	06 04 33.0	-1.2
	comp=Z,1.1nm,0.5s,mb3.5,baz=48,slow=8.1,SNR=16						
ARCES				PcP	PcP	06 05 27.8	-0.6
	comp=Z,0.5nm,0.5s,baz=37,slow=4.5,SNR=3.4						
KAF	Kangasniemi	60.26	332	ep	P	06 05 08.0	-1.7
	baz=40,slow=6.2						
FINES	FINESS Array B	60.83	332	P	P	06 05 12.4	-1.1
FINES				pmax	pmax		
	comp=Z,8.0nm,0.5s						
FINES	FINESS Array B	60.83	332	P	P	06 05 12.4	-1.1
	comp=Z,7.7nm,0.5s,mb4.3,baz=40,slow=7.6,SNR=86						
OBN	Obninsk	61.59	322	eP	P	06 05 17.3	-1.3
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.5						
NB2	NORSAR Subarra	65.41	338	P	P	06 05 42.0	-0.8
	comp=Z,4.2nm,0.5s,mb4.3,baz=30,slow=6.5						
NB2	NORSAR Subarra	65.41	338	P	P	06 05 42.0	-0.8
NB2				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
NOA	NORSAR Array B	65.41	338	P	P	06 05 42.1	-0.7
NOA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
NOA	NORSAR Array B	65.41	338	P	P	06 05 42.1	-0.7
	comp=Z,5.3nm,0.4s,mb4.5,baz=31,slow=6.4,SNR=36						
NVAR	Mina Array Bea	65.69	59	P	P	06 05 47.0	+2.0
	comp=Z,0.5nm,0.5s,mb3.4,baz=311,slow=3.8,SNR=5.7						
KIV	Kislovodsk	66.58	310	eP	P	06 05 51.2	+0.8
KIV				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.7						
PDAR	Pinedale Array	67.48	51	P	P	06 05 57.2	+1.3
	comp=Z,0.2nm,0.3s,mb3.2,baz=333,slow=3.8,SNR=4.4						
AKASG	Malin Array Be	67.85	322	P	P	06 05 57.1	-0.9
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKASG	Malin Array Be	67.85	322	P	P	06 05 57.1	-0.9
	comp=Z,3.7nm,0.5s,mb4.3,baz=36,slow=6.3,SNR=18						
WRA	Warramunga Arr	68.58	192	P	P	06 06 03.0	0.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	68.58	192	P	P	06 06 03.0	0.0
	comp=Z,1.3nm,0.7s,mb3.6,baz=6.0,slow=6.8,SNR=12						
CLL	Collm	73.28	332	⇓iP	P	06 06 29.5	-0.3
CLL				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
CLL	Collm	73.28	332	⇓iP	P	06 06 29.5	-0.3
	comp=Z,8.0nm,0.9s,mb4.2						
CLL	Collm	73.28	332	⇓P	P	06 06 29.5	-0.3
	comp=Z,logA/T=0.9,mb4.2						
SCHQ	Schefferville	73.68	19	P	P	06 06 31.8	-0.3
	comp=Z,1.6nm,0.8s,mb3.6,baz=302,slow=8.4,SNR=3.0						
BRTR	Keskin Array B	74.26	312	P	P	06 06 35.9	+0.2
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	Keskin Array B	74.26	312	P	P	06 06 35.9	+0.2
	comp=Z,1.5nm,0.7s,mb3.6,baz=74,slow=4.5,SNR=8.2						
KHC	Kasperske Hory	74.97	330	eP	P	06 06 39.5	+0.1
GERES	GERESS Array B	75.17	330	P	P	06 06 40.3	-0.2
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	75.17	330	P	P	06 06 40.3	-0.2
	comp=Z,1.0nm,0.5s,mb3.6,baz=18,slow=4.2,SNR=8.7						
GRF	Grafenberg Arr	75.25	332	P	P	06 06 41.4	+0.5
GRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
GRF	Grafenberg Arr	75.25	332	eP	P	06 06 41.4	+0.5
GRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
GRF	Grafenberg Arr	75.25	332	eP	P	06 06 41.4	+0.5
	comp=Z,4.0nm,0.9s,mb4.0						
BDFB	Brasilia	145.50	25	PKP2	PKPab	06 14 33.3	-1.5
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BDFB	Brasilia	145.50	25	PKPbc	PKPbc	06 14 33.3	+2.3
	comp=Z,2.1nm,0.7s,baz=22,slow=5.4,SNR=2.8						

IDC 09 07:03:14.8±1.6**, 11.87N**×**142.60E, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.6**/21**, mbtmp3.6**/5**, Error ellipse: s-maj=53.6km s-min=32.5km az=90.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.64	195	P	P	07 09 48.6	-2.2
	0.5nm,0.9s,baz=17,slow=8.7,SNR=2.4						
SONM	Songino Array	46.91	327	P	P	07 11 47.6	-1.2
	0.3nm,0.5s,baz=135,slow=8.2,SNR=2.2						
MKAR	Makanchi Array	61.21	317	P	P	07 13 31.7	-2.1
	0.5nm,0.6s,baz=92,slow=8.0,SNR=6.7						
BVAR	Borovoye Array	69.91	322	P	P	07 14 27.3	-2.3
	0.8nm,0.5s,baz=90,slow=8.6,SNR=4.7						
ILAR	Eielson Array	71.06	25	P	P	07 14 34.5	-1.9
	0.2nm,0.5s,baz=256,slow=6.6,SNR=5.6						

*IDC **09** 07:04:49.3±1.1, 11.93N×142.56E, mb4.0/7, mb1 4.1/7, mb1mx3.9/19, mbtmp4.0/7, Error ellipse: s-maj=41.9km s-min=27.0km az=79.0*
*NEIC **09** 07:04:58.7±2.4, 11.87N×142.43E, h72km±23km, mb4.1/1, Error ellipse: s-maj=28.6km s-min=18.8km az=88.0*
ISC 09 07:04:58.2±3.3**, 11.8N**±0.2×**142.6E**±0.3**, h89**km±35km**, n11, σ0.16**/10**, mb3.9**/8**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.88	52	eP	P	07 05 43.1	0.0
WRA	Warramunga Arr	32.56	194	P	P	07 11 23.3	0.0
	0.5nm,0.6s,mb3.5,baz=14,slow=9.7,SNR=6.1						
SONM	Songino Array	46.94	327	P	P	07 13 21.8	0.0
	0.6nm,0.5s,mb3.6,baz=148,slow=6.8,SNR=6.4						
MKAR	Makanchi Array	61.23	317	P	P	07 15 06.2	+0.1
	1.3nm,0.6s,mb4.2,baz=92,slow=8.4,SNR=17						
MKAR	Makanchi Array	61.23	317	P	P	07 15 06.2	+0.1
BVAR	Borovoye Array	69.94	322	P	P	07 16 01.9	+0.2
	2.1nm,0.5s,mb4.3,baz=105,slow=7.3,SNR=15						
ZRNK	Zerenda	70.76	322	eP	P	07 16 06.5	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.9nm,1.0s,mb4.1						
ILAR	Eielson Array	71.14	25	P	P	07 16 08.9	+0.1
	0.6nm,0.5s,mb3.7,baz=248,slow=6.2,SNR=9.5						
ARCES	ARCESS Array B	88.08	342	P	P	07 17 39.6	+0.1
	1.4nm,0.9s,mb4.0,baz=59,slow=7.1,SNR=7.1						
FINES	FINESS Array B	91.81	335	P	P	07 17 56.8	-0.4
	0.5nm,0.5s,mb4.0,baz=90,slow=5.6,SNR=6.3						
LPAZ	La Paz	149.92	102	PKPbc	PKPdf	07 24 44.3	+10
	0.3nm,0.4s,baz=326,slow=3.6,SNR=4.7						

BJI 09 07:32:27.4, 35.35N×123.16E, h16km, ML3.6, 1D, Yellow Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DL2	Dalian	3.75	341	⇓P	Pn	07 33 26.3	+0.3
DL2				S	Sn	07 34 07.5	-2.8
DL2				SG	Sn	07 34 27.0	+17
DL2				Smax			
	comp=N,80nm,0.5s						
DL2				Smax			
	comp=E,80nm,0.6s						
NJ2	Nanjing	4.87	229	eP	Pn	07 33 41.2	-0.6
NJ2				SG	Sn	07 34 59.7	+21
NJ2				Smax			
	comp=N,130nm,0.7s						
NJ2				Smax			
	comp=E,120nm,0.5s						
TIA	Tai'an	4.98	282	PG	Pn	07 33 59.6	+16
TIA				SG	Sn	07 35 02.0	+21
TIA				Smax			
	comp=N,53nm,0.9s						
TIA				Smax			
	comp=E,34nm,0.4s						

*NEIC **09** 07:33:31.9±0.9, 17.41S×178.31W, h637km±12km, mb4.0/2, Error ellipse: s-maj=60.1km s-min=9.9km az=154.0*
*IDC **09** 07:33:32.0±1.8, 17.41S×178.34W, h635km±26km, mb3.0/5, mb1 3.4/7, mb1mx3.2/16, mbtmp4.2/7, Error ellipse: s-maj=82.4km s-min=15.9km az=151.0*
ISC 09 07:33:31.3±1.2**, 17.4S**±0.5×**178.4W**±0.3**, h640**km±20km**, n15, σ0^{s}53**/13**, mb3.6**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.25	62	P	P	07 35 25.1	-0.4
	6.6nm,0.3s,baz=90,slow=10,SNR=11						
DZM	Mont Dzumac	15.02	250	P	P	07 36 40.4	+1.3
	0.9nm,0.3s,baz=85,slow=17,SNR=21						
CTAO	Charters Tower	33.55	260	eP	P	07 39 22.3	-0.1
STKA	Stephens Creek	38.89	241	eP	P	07 40 05.5	-0.5
	2.9nm,1.1s,mb3.6						
STKA	Stephens Creek	38.89	241	P	P	07 40 05.6	-0.4
	2.3nm,0.6s,mb3.8,baz=88,slow=7.6,SNR=9.7						
WB2	Warramunga Arr	44.74	259	eP	P	07 40 51.5	-0.6
WRAB	Tennant Creek	44.74	259	eP	P	07 40 51.6	-0.5
WRA	Warramunga Arr	44.75	259	P	P	07 40 52.0	-0.2
	3.3nm,0.4s,mb4.0,baz=94,slow=7.0,SNR=119						
KAKA	Kakadu	47.62	269	eP	P	07 41 14.2	+0.3
	5.0nm,0.5s,mb4.1						
ILAR	Eielson Array	85.40	13	P	P	07 45 03.7	+0.1
	0.2nm,0.4s,mb3.1,baz=223,slow=4.8,SNR=5.8						
TXAR	Lajitas Array	85.71	58	P	P	07 45 06.5	+0.5
	0.6nm,0.7s,mb3.4,baz=210,slow=6.3,SNR=10						
TXAR	Lajitas Array	85.71	58	P	P	07 45 06.5	+0.5
PDAR	Pinedale Array	86.98	43	P	P	07 45 11.7	+0.1
	0.4nm,0.6s,mb3.2,baz=214,slow=3.3,SNR=4.0						
ARCES	ARCESS Array B	125.83	350	PKP	PKPdf	07 51 21.4	-0.1
	1.0nm,0.8s,baz=45,slow=1.3,SNR=3.8						
GERES	GERESS Array B	147.14	345	PKPbc	PKPdf	07 52 04.6	+4.0
	0.1nm,0.3s,baz=56,slow=3.5,SNR=4.2						

*NEIC **09** 07:45:29.8, 34.93S×70.53W, h2km, ML2.5(GUC), After GUC.*
GUC 09 07:45:29.8±0.8**, 34.93S**×**70.53W, h2**km±5km**, MD3.4, ML2.5, 6C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFDO	San Fernando	0.51	308	⇑iP	Pg	07 45 40.0	0.0
SFDO				iS	Sg	07 45 48.5	+1.7
CICH	Cipreses	0.62	8	⇓iP	Pg	07 45 41.5	-0.6
CICH				iS	Sg	07 45 51.2	+0.8
CACH	El Canelo	0.82	356	⇑iP	Pg	07 45 45.1	-1.0
CACH				iS	Sg	07 45 57.7	+0.7
CHCH	Chadas Angostu	1.00	354	⇓iP	Pb	07 45 48.7	-0.9
CHCH				iS	Sb	07 46 03.3	+0.2
LMEL	Las Melosas	1.12	14	⇑iP	Pb	07 45 50.3	-1.2
LMEL				iS	Sb	07 46 06.7	+0.3
LMEL				AMP		07 46 08.5	
	comp=E,100nm,0.1s						
LNV	Longovilo	1.22	323	⇓iP	Pb	07 45 52.2	-1.1
LNV				iS	Sb	07 46 09.7	+0.3
PCH	Pirque	1.31	0	eP	Pb	07 45 54.0	-0.9
TACH	Talagante	1.32	345	⇑iP	Pb	07 45 54.1	-0.9
TACH				iS	Sb	07 46 12.5	+0.2
ANTU	Antumapu	1.36	356	⇑iP	Pb	07 45 55.3	-0.5
ANTU				AMP		07 46 16.3	
	comp=E,186nm,0.6s						
RCDM	Rinconada Maip	1.46	351	eP	Pn	07 45 56.4	-0.9
RCDM				iS	Sb	07 46 16.4	+0.1
RCDM				AMP		07 46 23.8	
	comp=E,152nm,0.1s						
CLCH	Cerro Calan	1.53	360	eP	Pn	07 45 58.0	-0.3
CLCH				AMP		07 46 21.9	
	comp=N,141nm,0.6s						
FCH	Farellones	1.61	7	eP	Pn	07 45 59.2	-0.3
FCH				AMP		07 46 23.8	
	comp=E,96nm,0.1s						
LCCH	Las Cruces	1.69	329	⇑iP	Pn	07 46 00.3	-0.3
ROCH	El Roble	2.00	348	eP	Pn	07 46 05.5	+0.6
JACH	Jahuel	2.25	359	i P	Pn	07 46 09.4	+0.8
JACH				eS	Sn	07 46 38.8	+1.5
LVC	Limon Verde	12.36	7	eP	P	07 48 27.2	-2.6
SAML	Samuel	26.72	16	eP	P	07 51 07.0	-5.6
RCBR	Riachuelo	43.10	56	eP	P	07 53 29.6	-3.7
RCBR				PP	PP	07 55 11.3	-4.6

*LDG **09** 08:42:39.5±0.8, 12.21S×168.20E, h10km, Error ellipse: s-maj=229.7km s-min=17.9km az=95.0*
*IDC **09** 08:43:00.6±3.7, 13.22S×167.06E, h188km±36km, mb3.5/10, mb1 3.6/11, mb1mx3.6/17, mbtmp4.0/11, MS2.6/1, Ms1 2.6/1, ms1mx2.2/17, Error ellipse: s-maj=25.0km s-min=19.0km az=157.0*
*NEIC **09** 08:43:01.9±0.3, 13.23S×167.05E, h200km, Error ellipse: s-maj=12.7km s-min=10.5km az=116.0*
ISC 09 08:43:02.5±3.2**, 13.3S**±0.2×**167.1E**±0.1**, h223**km±33km**, n28, σ0^{s}89**/13**, mb3.6**/9**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.72	184	P	P	08 45 06.5	+0.6
	0.3nm,0.3s,baz=237,slow=19,SNR=5.9						
DZM				S	S	08 46 41.9	-0.5
	0.1nm,0.3s,baz=320,slow=20,SNR=2.2						
DZM				LR	LR	08 47 43.8	
	comp=Z,35nm,18.4s,baz=15,slow=32						
AFI	Afiamalu	20.59	94	P	P	08 47 25.5	0.0
	22nm,0.9s,baz=274,slow=19,SNR=2.4						
CTA	Charters Tower	21.01	249	P	P	08 47 30.2	+0.6
	1.4nm,0.6s,mb3.7,baz=93,slow=12,SNR=3.1						
STKA	Stephens Creek	29.76	227	P	P	08 48 50.6	+0.1
	1.6nm,0.6s,mb3.9,baz=67,slow=9.1,SNR=6.7						
STKA	Stephens Creek	29.76	227	eP	P	08 48 50.9	+0.4
WRA	Warramunga Arr	31.98	254	P	P	08 49 08.4	-1.6
	0.5nm,0.6s,mb3.2,baz=85,slow=8.8,SNR=3.3						
MJAR	Matsushiro Arr	56.56	332	P	P	08 52 22.2	-1.8
	1.4nm,0.6s,mb3.8,baz=167,slow=9.8,SNR=5.1						
VNDA	Vanda	64.26	181	P	P	08 53 15.2	-0.2
	0.4nm,0.8s,mb3.1,baz=355,slow=6.5,SNR=2.9						
CMAR	Chiang Mai Arr	74.18	294	P	P	08 54 18.0	+1.0
	1.2nm,0.4s,mb3.9,baz=112,slow=4.9,SNR=4.7						
SONM	Songino Array	81.24	324	P	P	08 54 55.2	+0.3
	0.4nm,0.7s,mb3.2,baz=117,slow=6.4,SNR=3.2						
ILAR	Eielson Array	85.26	18	P	P	08 55 14.6	-0.3
	1.3nm,0.6s,mb3.9,baz=242,slow=5.0,SNR=50						
MKAR	Makanchi Array	96.04	317	P	P	08 56 06.9	+1.4
	0.8nm,0.5s,mb4.2,baz=96,slow=6.9,SNR=6.4						
ARCES	ARCESS Array B	118.84	346	PKP	PKPdf	09 01 25.5	+1.7
	0.9nm,0.5s,baz=92,slow=1.4,SNR=16						
FINES	FINESS Array B	124.34	339	PKP	PKPdf	09 01 36.5	+1.9
	0.4nm,0.4s,baz=90,slow=5.7,SNR=5.8						
GRR	Gorron	143.62	346	ePKP1	PKPbc	09 02 13.3	+3.8
SSF	Saint Saulge	143.64	341	ePKP1	PKPbc	09 02 11.3	+1.7
	12nm,1.1s						
SGMF	Saint Gilles	144.11	348	ePKP1	PKPbc	09 02 12.3	+1.4
	5.1nm,0.5s						
QUIF	Quistinic	144.56	349	ePKP1	PKPbc	09 02 13.5	+1.3
	12nm,0.6s						
ORIF	Oris-en-Rattie	144.66	337	ePKP1	PKPbc	09 02 14.9	+2.3
	14nm,0.8s						
TCF	Toulx Ste Croi	144.73	342	ePKP1	PKPbc	09 02 14.6	+1.9
	16nm,1.0s						
MFF	Saint Martin d	145.11	345	ePKP1	PKPbc	09 02 15.8	+2.0
	21nm,0.8s						
VIVF	Saint-Julien-l	145.16	338	ePKP1	PKPbc	09 02 16.6	+2.7
RJF	Les Rejaudoux	145.83	342	ePKP1	PKPbc	09 02 17.2	+1.6
CAF	Calviac	146.00	341	ePKP1	PKPbc	09 02 19.0	+3.0
LASF	Ste Croix	146.13	338	ePKP1	PKPbc	09 02 17.7	+1.3
	6.9nm,0.9s						
MTLF	Montolieu	147.35	339	ePKP1	PKPdf	09 02 22.1	+5.0
	6.2nm,0.6s						
ETSF	Etsaut	148.64	342	ePKP1	PKPdf	09 02 27.1	+8.0
	4.4nm,0.7s						
ESDC	Sonseca Array	152.58	345	PKPbc	PKPdf	09 02 35.5	+10
	0.2nm,0.3s,baz=108,slow=4.1,SNR=4.2						
ESDC				PKPab	PKPab	09 02 46.5	+0.2
	0.2nm,0.3s,baz=40,slow=3.6,SNR=4.3						

*IDC **09** 08:48:12.4±9.5, 56.09S×27.07W, h98km±82km, mb3.9/4, mb1 4.0/5, mb1mx3.7/13, mbtmp4.2/5, ML4.2/1, Error ellipse: s-maj=55.7km s-min=24.4km az=49.0*
*NEIC **09** 08:48:13.3±2.9, 56.11S×27.10W, h108km±25km, mb4.6/1, Error ellipse: s-maj=25.9km s-min=13.6km az=54.0*
ISC 09 08:48:15.1±4.6**, 56.2S**±0.3×**27.3W**±0.7**, h132**km±39km**, n25, σ1^{s}03**/14**, mb4.1**/5**, 4C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.66	158	e	P	08 52 04.2	+2.7
VNA1	Neumayer--Stat	16.66	158	e		08 52 16.1	
VNA1	Neumayer--Stat	16.66	158	⇑iP	P	08 52 01.0	-0.5
VNA1				e		08 52 04.2	
VNA1				e		08 52 16.1	
VNA3	Neumayer Olymp	16.85	160	e	P	08 52 05.5	+1.7
VNA3	Neumayer Olymp	16.85	160	e		08 52 17.6	
VNA3	Neumayer Olymp	16.85	160	⇑iP	P	08 52 02.8	-1.0
VNA3				e		08 52 05.5	
VNA3				e		08 52 17.6	
VNA2	Neumayer--Watz	17.05	158	e	P	08 52 07.6	+1.3
VNA2	Neumayer--Watz	17.05	158	e		08 52 19.4	
VNA2	Neumayer--Watz	17.05	158	⇑iP	P	08 52 05.5	-0.8
VNA2				e		08 52 07.6	
VNA2				e		08 52 19.4	
SNAA	Sanae	18.61	156	e	P	08 52 24.5	+0.3
SNAA	Sanae	18.61	156	P	P	08 52 22.0	-2.2
	0.8nm,0.3s,baz=304,slow=10,SNR=143						
SNAA	Sanae	18.61	156	⇑iP	P	08 52 21.9	-2.3
SNAA				e		08 52 24.5	
QSPA	South Pole Qui	34.03	180	eP	P	08 54 46.9	-0.7
	5.4nm,0.5s,mb4.5						
MAW	Mawson	40.04	143	P	P	08 55 37.8	-0.2
	1.7nm,0.3s,mb4.1,baz=232,slow=7.2,SNR=5.8						
VNDA	Vanda	46.40	183	P	P	08 56 29.3	+0.3
	1.4nm,0.5s,mb3.8,baz=184,slow=7.4,SNR=22						
LPAZ	La Paz	50.43	305	P	P	08 57 00.8	-0.1
	0.8nm,0.3s,mb3.8,baz=126,slow=6.5,SNR=5.6						
STKA	Stephens Creek	91.74	171	P	P	09 01 09.2	+0.9
	1.3nm,0.6s,mb4.1,baz=214,slow=3.6,SNR=4.3						
FINES	FINESS Array B	124.56	28	PKP	PKPdf	09 06 57.9	+0.5
	0.7nm,0.4s,baz=175,slow=2.7,SNR=17						
KAF	Kangasniemi	125.18	28	ep	PKPdf	09 06 58.6	0.0
	0.7nm,0.5s						
ARCES	ARCESS Array B	131.12	22	PKP	PKPdf	09 07 10.0	+0.2
	0.4nm,0.5s,baz=225,slow=1.7,SNR=11						
ARCES	ARCESS Array B	131.12	22	PKP	PKPdf	09 07 10.0	+0.2
INK	Inuvik	145.90	320	PKPbc	PKPbc	09 07 38.4	+1.1
	4.9nm,0.6s,baz=94,slow=2.7,SNR=33						
ILAR	Eielson Array	150.19	311	PKPbc	PKPdf	09 07 49.7	+6.5
	3.9nm,0.7s,baz=138,slow=2.9,SNR=52						
ILAR				pPKPbc		09 08 16.3	
	1.2nm,0.7s,baz=142,slow=2.4,SNR=4.5						
SONM	Songino Array	150.79	87	PKPbc	PKPdf	09 07 52.1	+7.4
	0.9nm,0.4s,baz=226,slow=2.8,SNR=8.2						
MCK	McKinley	150.84	309	ePKPbc	PKPdf	09 07 51.6	+7.3

*IDC **09** 08:55:09.5±1.1, 24.71N×108.91W, mb4.0/10, mb1 4.3/15, mb1mx4.1/26, mbtmp4.1/15, ML4.1/4, MS3.6/9, Ms1 3.6/9, ms1mx3.4/24, Error ellipse: s-maj=21.3km s-min=18.1km az=83.0*
*NEIC **09** 08:55:11.0±0.6, 24.67N×108.97W, h10km, mb4.2/36, Error ellipse: s-maj=7.9km s-min=4.9km az=205.0*
ISC 09 08:55:11.7±2.6**, 24.74N**±0.08×**108.90W**±0.05**, h25**km±17km**, n96, σ0^{s}86**/92**, mb4.2**/19**, MS3.6**/9**, Gulf of California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LTX	Lajitas	6.54	44	eP	Pn	08 56 47.9	-0.9
	53nm,0.8s						
TXAR	Lajitas Array	6.54	44	Pn	Pn	08 56 48.0	-0.8
	0.6nm,0.3s,baz=223,slow=13,SNR=37						
TXAR				Sn	Sn	08 58 03.2	-0.1
	3.8nm,0.3s,baz=198,slow=18,SNR=4.9						
TXAR				Lg		08 58 36.5	
	9.3nm,0.3s,baz=223,slow=29,SNR=10						
MNTX	Cornudas Mount	7.60	23	eP	Pn	08 57 01.8	-1.9
	20nm,0.7s						
TUC	Tucson	7.72	348	eP	Pn	08 57 01.8	-3.7
GDL2	Guadalupe Moun	8.44	27	eP	P	08 57 14.7	-0.7
CLNB	Carlsbad	8.70	29	eP	P	08 57 19.7	+0.7
BNM	Barren Site	9.59	11	eP	P	08 57 29.5	-1.8
ANMO	Albuquerque	10.39	11	Pn	P	08 57 42.4	-0.1
	baz=200,slow=12,SNR=23						
ANMO				Lg		09 00 39.1	
	baz=265,slow=15,SNR=2.5						
ANMO	Albuquerque	10.39	11	eP	P	08 57 42.1	-0.4
PFO	Pinyon Flat Ob	11.03	325	eP	P	08 57 49.1	-2.0
AMTX	Amarillo	11.89	30	eP	P	08 58 02.3	-0.5
SDCO	Great Sand Dun	13.29	12	eP	P	08 58 21.0	-0.4
	22nm,1.5s						
PV01	Paradox Valley	13.36	1	eP	P	08 58 22.9	+0.5
ARUT	Antelope Range	13.57	344	eP	P	08 58 25.9	+0.7
PV10	Paradox Valley	13.60	360	eP	P	08 58 25.0	-0.5
DAC	Darwin (Calif)	13.72	329	eP	P	08 58 26.9	-0.2
MSU	Marysvale	14.01	349	eP	P	08 58 32.3	+1.4
SRU	San Rafael	14.40	355	eP	P	08 58 36.4	+0.4
TMUT	Trail Mountain	14.65	353	eP	P	08 58 39.2	0.0
TPH	Tonopah	15.06	334	eP	P	08 58 45.8	+1.1
	32nm,1.3s						
ISCO	Idaho Springs	15.27	10	eP	P	08 58 47.8	+0.4
	22nm,1.3s						
MPU	Maple Canyon	15.41	352	eP	P	08 58 50.8	+1.6
DAU	Daniels Canyon	15.76	353	eP	P	08 58 53.4	-0.3
NVAR	Mina Array Bea	15.81	332	Pn	P	08 58 55.4	+1.0
	0.4nm,0.3s,baz=151,slow=11,SNR=45						
JLU	Jordanelle	15.96	353	eP	P	08 58 56.4	+0.1
CBKS	Cedar Bluff	16.04	27	eP	P	08 58 57.9	+0.7
	49nm,1.1s						
CTU	Camp Tracy	16.09	352	eP	P	08 58 58.7	+0.8
CMB	Columbia Colle	16.47	326	eP	P	08 59 01.9	-0.9
	8.4nm,1.2s						
TCUT	Toone Canyon	16.47	353	eP	P	08 59 03.7	+1.0
BGU	Big Grassy Mou	16.51	349	eP	P	08 59 04.3	+1.0
PHWY	Pilot Hill	16.77	9	eP	P	08 59 07.8	+1.3
ELK	Elko	16.82	343	Pn	P	08 59 08.1	+0.9
	0.1nm,0.3s,baz=189,slow=8.0,SNR=14						
ELK	Elko	16.82	343	eP	P	08 59 08.0	+0.8
	40nm,1.8s						
RWWY	Rawlins	16.96	4	eP	P	08 59 11.4	+2.4
	23nm,1.2s						
HWUT	Hardware Ranch	16.97	353	eP	P	08 59 09.5	+0.4
	11nm,1.1s						
BMN	Battle Mountai	17.13	338	eP	P	08 59 11.5	+0.4
	15nm,1.1s						
WCN	Washoe City	17.17	330	eP	P	08 59 12.6	+1.0
	39nm,1.3s						
HVU	Hansel Valley	17.30	350	eP	P	08 59 13.9	+0.8
KSU1	Kansas State U	17.69	33	eP	P	08 59 19.5	+1.4
BEKR	Beckwourth	17.90	330	eP	P	08 59 21.1	+0.4
	11nm,1.2s						
BW06	Boulder Array	17.99	358	eP	P	08 59 21.3	-0.4
	12nm,1.2s						
PDAR	Pinedale Array	17.99	358	P	P	08 59 21.7	-0.1
	0.3nm,0.3s,baz=167,slow=10,SNR=33						
PDAR				Lg		09 04 36.3	
	0.1nm,0.3s,baz=45,slow=32,SNR=2.2						
AHID	Auburn Hatcher	18.07	355	eP	P	08 59 22.9	+0.1
	20nm,1.4s						
REDW	Red Top Meadow	18.65	356	eP	P	08 59 28.8	-1.1
	6.7nm,0.8s						
SNOW	Snow King Moun	18.74	356	eP	P	08 59 30.5	-0.5
	13nm,0.8s						
TPAW	Teton Pass	18.78	355	eP	P	08 59 31.9	+0.4
	12nm,1.1s						
LOHW	Long Hollow	18.88	356	eP	P	08 59 32.4	-0.3
	7.5nm,0.9s						
MOOW	Moose Ponds	19.02	356	eP	P	08 59 34.3	-0.1
	13nm,1.1s						
IMW	Indian Meadow	19.18	356	eP	P	08 59 36.2	-0.1
	15nm,1.0s						
HLID	Hailey	19.32	348	eP	P	08 59 37.3	-0.5
	11nm,1.0s						
WVOR	Wild Horse Val	19.40	338	eP	P	08 59 37.4	-1.3
	17nm,1.1s						
TEIG	Tepich	19.57	99	eP	P	08 59 40.4	-0.5
YFT	Old Faithful	19.73	356	eP	P	08 59 41.7	-0.7
RSSD	Black Hills	19.74	10	eP	P	08 59 43.1	+0.6
	6.8nm,1.1s						
LKWY	Lake	19.82	357	eP	P	08 59 42.6	-0.8
	13nm,1.0s						
YMR	Madison River	19.95	356	eP	P	08 59 43.6	-1.3
CCM	Cathedral Cave	20.04	44	eP	P	08 59 45.7	-0.1
	10nm,1.1s						
QLMT	Earthquake Lak	20.15	355	eP	P	08 59 46.4	-0.5
MCMT	McKenzie Canyo	20.30	352	eP	P	08 59 48.7	+0.3
KHMM	Horse Mountain	20.31	326	eP	P	08 59 47.3	-1.2
YBH	Yreka Blue Hor	20.46	329	P	P	08 59 50.9	+0.7
	1.0nm,0.7s,baz=124,slow=3.5,SNR=3.9						
PLAL	Pickwick Lake	20.71	56	eP	P	08 59 51.7	-1.1
	5.3nm,0.9s						
BOZ	Bozeman (W)	20.98	355	eP	P	08 59 54.3	-1.2
	12nm,1.3s						
BMO	Blue Mountains	21.20	343	eP	P	08 59 56.5	-1.2
	22nm,1.2s,mb4.4						
WVT	Waverly	21.38	53	eP	P	08 59 59.9	+0.4
	14nm,1.0s,mb4.2						
LAO	LASA Array	22.01	5	eP	P	09 00 05.3	-0.5
	21nm,1.1s,mb4.5						
HRY	Holter Researc	22.05	355	eP	P	09 00 06.3	+0.1
CHMT	Chamberlain Mo	22.40	352	eP	P	09 00 10.2	+0.4
MSO	Missoula	22.41	351	eP	P	09 00 09.9	+0.1
	16nm,1.2s,mb4.3						
MYNC	Murphy	23.76	59	eP	P	09 00 24.9	+1.8
	19nm,1.0s,mb4.5						
DGMT	Dagmar	23.98	8	eP	P	09 00 25.3	+0.3
	12nm,1.0s,mb4.3						
NEW	Newport	24.36	347	P	P	09 00 29.6	+0.8
	11nm,0.6s,mb4.5,baz=167,slow=11,SNR=23						
NEW				LR	LR	09 10 59.9	
	comp=Z,81nm,20.7s,MS3.2,baz=165,slow=39						
NEW	Newport	24.36	347	eP	P	09 00 28.9	0.0
	25nm,1.1s,mb4.6						
WALA	Waterton Lakes	24.59	352	eP	P	09 00 30.8	-0.3
	22nm,1.1s,mb4.6						
ULM	Lac du Bonnet	27.40	18	LR	LR	09 13 05.5	
	comp=Z,68nm,18.8s,MS3.2,baz=267,slow=39						
EDM	Edmonton	28.64	354	eP	P	09 01 07.2	-1.1
BBB	Bella Bella	31.07	337	LR	LR	09 13 35.5	
	comp=Z,94nm,19.4s,MS3.5,baz=234,slow=36						
DLBC	Dease Lake	36.86	342	P	P	09 02 20.9	+1.2
	2.0nm,0.6s,mb4.1,baz=155,slow=11,SNR=4.0						
DLBC				LR	LR	09 17 33.7	
	comp=Z,75nm,20.1s,MS3.5,baz=294,slow=36						
DLBC	Dease Lake	36.86	342	eP	P	09 02 20.1	+0.3
YKA	Yellowknife Ar	37.94	356	P	P	09 02 28.0	-0.7
	2.6nm,0.9s,mb4.0,baz=170,slow=7.9,SNR=20						
SDV	Santo Domingo	39.71	107	eP	P	09 02 46.0	+2.0
	3.5nm,0.9s,mb4.1						
SCHQ	Schefferville	43.12	35	LR	LR	09 21 23.8	
	comp=Z,75nm,19.2s,MS3.6,baz=62,slow=36						
SML	Sawmill	45.59	335	eP	P	09 03 31.4	+0.1
INK	Inuvik	46.08	348	P	P	09 03 34.3	-0.8
	1.1nm,1.0s,mb3.8,baz=166,slow=5.4,SNR=2.9						
INK				LR	LR	09 22 56.4	
	comp=Z,122nm,18.1s,MS3.9,baz=152,slow=36						
SPU	Mount Spurr	46.73	333	eP	P	09 03 39.9	-0.4
ILAR	Eielson Array	46.91	339	P	P	09 03 41.4	-0.3
	3.1nm,0.8s,mb4.3,baz=154,slow=6.5,SNR=43						
MCK	McKinley	46.96	337	eP	P	09 03 42.1	0.0
	3.7nm,1.0s,mb4.3						
MCK				e	pP	09 03 48.9	-0.8
SVW2	Sparrevohn	48.18	332	eP	P	09 03 50.9	-0.8
SAML	Samuel	55.74	121	P	P	09 04 48.5	-0.5
	2.0nm,0.7s,mb4.3						
CPUP	Villa Florida	71.12	132	P	P	09 06 30.0	-0.3
	2.8nm,1.1s,mb4.1,baz=303,slow=6.4,SNR=2.9						
ARCES	ARCESS Array B	80.46	15	P	P	09 07 22.6	+0.3
	2.1nm,0.7s,mb4.2,baz=342,slow=3.8,SNR=12						
NB2	NORSAR Subarra	81.87	25	P	P	09 07 30.9	+1.0
	1.0nm,0.9s,mb3.8,baz=308,slow=5.3						
NOA	NORSAR Array B	81.87	25	P	P	09 07 30.9	+1.1
	0.8nm,0.9s,mb3.6,baz=310,slow=4.3,SNR=2.9						
NOA				LR	LR	09 42 48.1	
	comp=Z,29nm,18.8s,MS3.7,baz=320,slow=35						
FINES	FINESS Array B	86.78	20	P	P	09 07 55.0	+0.4
	1.3nm,0.7s,mb4.3,baz=315,slow=2.7,SNR=9.9						
GERES	GERESS Array B	90.64	34	LR	LR	09 49 53.5	
	comp=Z,50nm,19.2s,MS4.0,baz=145,slow=36						
DBIC	Dimbokro	99.85	78	LR	LR	09 56 05.6	
	comp=Z,35nm,19.4s,MS3.9,baz=304,slow=37						

*IDC **09** 08:55:48.8±4.3, 7.60S×127.57E, h112km±41km, mb3.7/8, mb1 3.9/9, mb1mx3.8/16, mbtmp4.1/9, Error ellipse: s-maj=46.0km s-min=15.5km az=58.0*
*NEIC **09** 08:55:50.5±2.1, 7.69S×127.47E, h130km±21km, mb4.1/1, Error ellipse: s-maj=17.0km s-min=10.4km az=220.0*
ISC 09 08:55:45.2±3.2**, 7.7S**±0.1×**127.4E**±0.1**, h96**km±33km**, n19, σ0^{s}88**/23**, mb3.9**/8**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.47	189	eP	P	08 58 17.6	+3.7
	12nm,0.3s						
FITZ				eS	S	09 00 09.8	-0.1
FITZ	Fitzroy Crossi	10.47	189	P	P	08 58 17.5	+3.7
	6.5nm,0.3s,baz=17,slow=9.3,SNR=57						
FITZ				S	S	09 00 09.1	-0.8
	8.1nm,0.3s,baz=7.8,slow=8.0,SNR=4.5						
WRAB	Tennant Creek	13.89	152	eP	P	08 58 58.5	-0.6
	53nm,0.6s						
WRAB				eS	S	09 01 23.6	-7.5
WRA	Warramunga Arr	13.89	152	P	P	08 58 58.6	-0.5
	3.7nm,0.3s,baz=320,slow=14,SNR=104						
WRA				S	S	09 01 22.5	-8.7
	4.5nm,0.3s,baz=325,slow=23,SNR=19						
WB2	Warramunga Arr	13.90	152	eP	P	08 58 58.7	-0.4
WB2				i		08 59 00.5	
WB2				i		08 59 07.1	
WB2				eS	S	09 01 24.0	-7.3
PMG	Port Moresby	19.60	96	P	P	09 00 08.9	+0.4
	2.6nm,0.3s,baz=246,slow=14,SNR=9.4						
CTA	Charters Tower	22.01	126	P	P	09 00 33.8	+1.0
	2.9nm,0.4s,mb4.0,baz=298,slow=10,SNR=8.6						
CTAO	Charters Tower	22.01	126	eP	P	09 00 33.8	+1.0
	6.3nm,0.8s,mb4.0						
LUBP	Lubang	22.46	342	eP	P	09 00 28.0	-9.2
STKA	Stephens Creek	27.44	153	eP	P	09 01 24.2	0.0
	3.0nm,0.5s,mb4.1						
STKA	Stephens Creek	27.44	153	P	P	09 01 23.6	-0.5
	4.1nm,0.6s,mb4.2,baz=321,slow=11,SNR=7.3						
STKA	Stephens Creek	27.44	153	eP	P	09 01 23.6	-0.6
STKA				eP		09 01 24.2	
CMAR	Chiang Mai Arr	38.28	313	P	P	09 02 59.2	+1.2
	1.1nm,0.3s,mb4.1,baz=140,slow=7.2,SNR=5.9						
SONM	Songino Array	58.34	344	P	P	09 05 32.1	-0.6
	1.1nm,0.6s,mb4.1,baz=172,slow=7.4,SNR=11						
MKAR	Makanchi Array	67.44	328	P	P	09 06 32.5	-0.3
	0.6nm,0.5s,mb3.7,baz=122,slow=7.3,SNR=3.8						
MKAR				pP	pP	09 06 58.6	+1.3
	0.5nm,0.5s,baz=112,slow=7.7,SNR=3.3						
ZAL	Zalesovo	71.11	335	P	P	09 06 53.9	-1.1
	1.5nm,0.5s,mb4.1,baz=342,slow=4.3,SNR=3.9						
VNDA	Vanda	72.07	173	P	P	09 07 01.1	+0.7
	0.3nm,0.4s,mb3.5,baz=297,slow=4.5,SNR=3.9						
BVAR	Borovoye Array	77.31	329	P	P	09 07 30.6	-0.2
	0.4nm,0.5s,mb3.4,baz=108,slow=9.1,SNR=3.7						

LPAZ	La Paz	151.62	147	PKPbc	PKPdf	09 15 31.2	+8.4
	0.4nm,0.4s,baz=9.0,slow=24,SNR=4.0						
LPAZ				PKPab	PKPab	09 15 41.1	+0.6
	1.2nm,0.6s,baz=178,slow=6.1,SNR=7.4						

*NIED **09** 09:00:00, 39.30N×142.10E, h47km, Mw3.7 Best double couple: M₀3.77×10¹⁴ NP1:φs21°, δ74°, λ94°. NP2:φs188°, δ16°, λ77°.*
*IDC **09** 09:00:26.6±1.4, 39.27N×142.43E, h59km±8km, mb3.3/5, mb1 3.4/8, mb1mx3.2/25, mbtmp3.6/8, Error ellipse: s-maj=40.8km s-min=13.7km az=94.0*
*JMA **09** 09:00:27.2, 39.34N×142.06E, h47km±1km, M3.6*
JMA Felt II J1.
*NEIC **09** 09:00:27.8±1.1, 39.34N×142.22E, mb4.0/1, Error ellipse: s-maj=25.8km s-min=10.0km az=110.0*
ISC 09 09:00:25.7±0.8**, 39.34N**±0.03×**142.14E**±0.10**, h55**km±5km**, h58**km±5.2km**:pP-P, n23, σ0.74**/36**, mb3.6**/6**, 9D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.34	315	P	P	09 00 36.0	+0.3
MIYJ				S	S	09 00 42.2	-0.9
OFUJ	Ofunato	0.44	235	⇓P	P	09 00 37.1	+0.4
OFUJ				S	S	09 00 44.0	-0.7
JTH	Tanohata	0.64	341	⇓P	P	09 00 39.6	+0.7
JTH				S	S	09 00 48.4	-0.3
JOM	Ohasama	0.67	282	⇓P	P	09 00 39.6	+0.3
JOM				eS	S	09 00 48.9	-0.5
JMK	Ichinoseki	0.81	242	⇓P	P	09 00 41.4	+0.3
JMK				S	S	09 00 51.6	-1.0
JKZ	Kuzumaki	0.90	316	⇓P	P	09 00 43.2	+0.9
JKZ				S	S	09 00 54.9	+0.1
JIO	Ouri	1.07	215	⇓P	P	09 00 45.1	+0.3
JIO				S	S	09 00 57.9	-1.0
JANG	Nango	1.14	336	⇓P	P	09 00 46.1	+0.4
JANG				S	S	09 01 00.3	-0.3
JAH	Hinai	1.44	307	⇓P	P	09 00 50.3	+0.4
JAH				eS	S	09 01 07.5	-0.4
JYK	Kaneyama	1.44	254	⇓P	P	09 00 50.3	+0.3
MAJO	Matsushiro	4.17	229	eP	P	09 01 29.3	+0.9
MAT	Matsushiro	4.17	229	eP	P	09 01 30.0	+1.6
MAT				S	S	09 02 24.0	+7.6
MAT	Matsushiro	4.17	229	P	P	09 01 29.7	+1.3
MAT				eS	S	09 02 18.0	+1.6
MJAR	Matsushiro Arr	4.17	229	P	P	09 01 30.0	+1.5
	1.0nm,0.3s,baz=37,slow=10,SNR=19						
ASAJ	Asahikawa	4.79	4	P	P	09 01 37.8	+0.7
	0.6nm,0.3s,baz=292,slow=23,SNR=3.0						
ASAJ				S	S	09 02 31.5	-0.4
	0.5nm,0.3s,baz=60,slow=28,SNR=3.0						
JHJ	Hachijo jima 2	6.49	198	P	P	09 01 59.5	-1.3
	2.4nm,0.3s,baz=59,slow=23,SNR=5.1						
JHJ				S	S	09 03 08.8	-5.4
	5.3nm,0.3s,baz=250,slow=23,SNR=3.5						
MKAR	Makanchi Array	43.42	300	P	P	09 08 24.4	0.0
	0.4nm,0.5s,mb3.4,baz=78,slow=8.4,SNR=3.8						
MKAR				pP	pP	09 08 41.4	+2.5
	0.7nm,0.6s,baz=85,slow=15,SNR=4.7						
BVAR	Borovoye Array	49.47	311	P	P	09 09 11.1	-0.9
	0.5nm,0.5s,mb3.8,baz=90,slow=7.2,SNR=3.5						
ZRNK	Zerenda	50.30	311	P	P	09 09 18.0	-0.3
	0.6nm,0.4s,mb4.0						
WRA	Warramunga Arr	59.41	189	P	P	09 10 23.6	-1.4
	0.3nm,0.4s,mb3.6,baz=5.9,slow=7.3,SNR=4.9						
WRA				pP	pP	09 10 36.7	-3.3
	0.2nm,0.4s,baz=6.0,slow=7.0,SNR=2.5						
FINES	FINESS Array B	67.05	332	P	P	09 11 14.5	0.0
	0.3nm,0.6s,mb3.5,baz=22,slow=7.5,SNR=3.6						
FINES				pP	pP	09 11 30.9	+1.0
	0.4nm,0.6s,baz=56,slow=10.0,SNR=2.4						
NOA	NORSAR Array B	72.29	337	P	P	09 11 46.2	-0.3
	0.1nm,0.4s,mb3.1,baz=37,slow=6.2,SNR=3.2						
NOA	NORSAR Array B	72.29	337	P	P	09 11 46.2	-0.3

IDC 09 09:06:47.4±3.5**, 52.46N**×**173.50E, h31**km±21km**, mb3.5**/5**, mb1 3.7**/5**, mb1mx3.4**/22**, mbtmp3.7**/5**, Error ellipse: s-maj=40.0km s-min=29.8km az=160.0, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	Attu Island--F	0.47	334	Pg	Pb	09 06 58.7	+1.4
	baz=180,slow=2.0						
PDAR	Pinedale Array	50.44	69	pP	pP	09 15 51.7	-1.5
	0.9nm,1.1s,baz=304,slow=6.5,SNR=3.2						
MKAR	Makanchi Array	55.54	304	P	P	09 16 19.2	-2.5
	0.4nm,0.3s,baz=52,slow=6.7,SNR=6.0						
SCHQ	Schefferville	61.97	35	P	P	09 17 03.8	-2.6
	1.9nm,1.0s,baz=350,slow=6.1,SNR=3.7						
TXAR	Lajitas Array	63.12	76	P	P	09 17 12.1	-2.1
	0.2nm,0.5s,baz=299,slow=5.5,SNR=6.3						
NOA	NORSAR Array B	65.97	351	P	P	09 17 30.1	-2.1
	0.2nm,0.5s,baz=354,slow=4.5,SNR=2.4						
WRA	Warramunga Arr	79.74	217	P	P	09 18 52.1	-1.7
	0.3nm,0.5s,baz=36,slow=5.4,SNR=5.9						

*MOS **09** 09:20:57.3±1.7, 48.59N×151.39E, h232km, mb3.7/3, Error ellipse: s-maj=41.9km s-min=19.2km az=54.6*
*IDC **09** 09:21:01.4±2.9, 48.49N×151.05E, h261km±31km, mb3.1/7, mb1 3.4/8, mb1mx3.1/23, mbtmp3.8/8, Error ellipse: s-maj=25.6km s-min=17.1km az=126.0*
ISC 09 09:20:57.1±0.9**, 48.5N**±0.2×**151.5E**±0.2**, h227**km±8km**, n14, σ1.13**/15**, mb3.3**/7**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.72	52	ePN	P	09 21 55.6	-1.5
SKR				eS	S	09 22 43.9	+0.2
SKR				pmax	pmax		
	comp=Z,40nm,0.4s						
SKR				smax			
	comp=N,50nm,0.5s						
SKR				smax			
	comp=E,60nm,0.5s						
YSS	Yuzh-Sakhalins	6.09	259	PN	P	09 22 27.2	+0.6
ASAJ	Asahikawa	7.55	238	PN	P	09 22 46.1	+0.7
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	7.55	238	P	P	09 22 46.0	+0.7
	comp=Z,0.8nm,0.3s,baz=73,slow=13,SNR=14						
ILAR	Eielson Array	35.89	40	P	P	09 27 37.6	+0.9
	comp=Z,0.2nm,0.5s,mb2.9,baz=285,slow=10,SNR=6.6						
INK	Inuvik	40.78	33	P	P	09 28 18.3	+1.1
INK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
INK	Inuvik	40.78	33	P	P	09 28 18.2	+1.1
	comp=Z,1.8nm,0.3s,mb4.0,baz=308,slow=7.1,SNR=28						
FINES	FINESS Array B	61.99	334	P	P	09 30 51.6	-3.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	61.99	334	P	P	09 30 51.6	-3.0
	comp=Z,0.5nm,0.5s,mb3.5,baz=37,slow=6.9,SNR=8.6						
PDAR	Pinedale Array	64.60	54	P	P	09 31 12.2	+0.4
	comp=Z,0.5nm,0.4s,mb3.5,baz=14,slow=1.2,SNR=6.4						
NOA	NORSAR Array B	66.22	340	P	P	09 31 21.3	-0.5
	comp=Z,0.1nm,0.5s,mb2.7,baz=14,slow=4.5,SNR=2.5						
WRA	Warramunga Arr	69.83	197	P	P	09 31 43.2	-1.5
	comp=Z,0.3nm,0.5s,mb3.2,baz=18,slow=6.7,SNR=4.5						
TXAR	Lajitas Array	77.58	60	P	P	09 32 30.3	+1.0
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	Lajitas Array	77.58	60	P	P	09 32 30.3	+1.0
	comp=Z,0.5nm,0.5s,mb3.4,baz=292,slow=4.8,SNR=16						

IDC 09 09:25:04.7±2.4**, 2.43N**×**95.99E, mb3.8**/5**, mb1 4.0**/6**, mb1mx3.7**/20**, mbtmp3.9**/6**, ML4.0**/1**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.6**/30**, Error ellipse: s-maj=89.7km s-min=26.8km az=58.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.19	10	Pn	P	09 28 55.7	+0.3
	0.2nm,0.3s,baz=200,slow=11,SNR=5.7						
WRA	Warramunga Arr	43.71	122	P	P	09 33 11.8	-1.8
	0.3nm,0.3s,baz=299,slow=9.5,SNR=6.2						
MKAR	Makanchi Array	45.77	347	P	P	09 33 28.2	-1.6
	1.6nm,0.4s,baz=155,slow=9.1,SNR=16						
SONM	Songino Array	46.12	10	P	P	09 33 30.1	-2.5
	1.1nm,0.6s,baz=190,slow=8.5,SNR=11						
SONM				PcP	PcP	09 35 07.6	-1.6
	0.5nm,0.7s,baz=193,slow=5.1,SNR=3.6						
ZAL	Zalesovo	52.16	352	P	P	09 34 16.9	-2.3
	1.5nm,0.5s,baz=209,slow=1.0,SNR=6.7						
BVAR	Borovoye Array	54.70	341	P	P	09 34 34.8	-3.1
	0.5nm,0.7s,baz=149,slow=8.4,SNR=3.6						
KMBO	Kilima Mbogo	58.83	267	LR	LR	09 54 20.5	
	comp=Z,76nm,21.9s,baz=91,slow=30						

MAN 09 09:43:01.0, 17.82N×120.97E, h1km, mb3.9, ML2.6, MS2.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	0.27	82	eP	Pg	09 43 06.0	-0.2
APYP				eS	Sg	09 43 18.4	+8.6
ABRA	Dolores	0.30	235	eP	Pg	09 43 06.7	-0.3
CVP	Callao Caves	0.82	98	eP	Pg	09 43 08.0	-9.4
CVP				eS	Sg	09 43 31.0	+2.6
CAUP	Cauayan	1.20	137	eP	Pb	09 43 24.6	+0.5

*NIED **09** 09:44:00, 23.30N×121.70E, h47km, Mw3.9 Best double couple: M₀8.23×10¹⁴ NP1:φs208°, δ68°, λ71°. NP2:φs71°, δ28°, λ130°.*
*NEIC **09** 09:44:17.4±1.6, 23.24N×121.89E, h55km±13km, mb4.1/1, Error ellipse: s-maj=20.9km s-min=16.3km az=211.0*
*JMA **09** 09:44:18.7±0.3, 23.33N×121.70E, h91km, M3.6*
*IDC **09** 09:44:20.7±3.5, 23.15N×122.05E, h93km±35km, mb3.4/10, mb1 3.5/11, mb1mx3.4/21, mbtmp3.7/11, MS2.9/2, Ms1 2.9/2, ms1mx2.5/19, Error ellipse: s-maj=25.3km s-min=21.1km az=80.0*
ISC 09 09:44:18.1±1.5**, 23.3N**±0.1×**121.64E**±0.05**, h65**km±10km**, n27, σ0.82**/34**, mb3.6**/11**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.85	357	eP	P	09 44 33.3	-1.3
YHNB	Yeheng	1.37	350	eP	P	09 44 41.5	-0.1
TATO	Taipei	1.66	355	eP	P	09 44 46.2	+0.6
YOJ	Yonaguni jima	1.69	48	P	P	09 44 46.7	+0.7
YOJ				S	S	09 45 07.5	+0.8
HATJ	Hateruma jima	2.12	69	P	P	09 44 52.0	+0.1
HATJ				eS	S	09 45 17.3	+0.3
IRIF	Iriomote-Funau	2.16	62	P	P	09 44 53.2	+0.6
IRIF				eS	S	09 45 19.1	+0.9
JKRS	Kuro-shima	2.35	67	P	P	09 44 55.8	+0.5
JKRS				S	S	09 45 23.7	+0.7
JIJ	Ishigaki jima	2.52	65	P	P	09 44 57.3	-0.3
JIJ				S	S	09 45 26.7	-0.4
JTJ	Tarama	3.09	64	P	P	09 45 05.3	-0.4
JTJ				eS	S	09 45 41.8	+0.1
JMJ	Miyako jima 2	3.66	65	eS	S	09 45 55.1	-0.7
JOGS	Gusukube	3.73	67	P	P	09 45 14.4	-0.2
JOGS				eS	S	09 45 57.5	-0.1
JKE	Kume jima 2	5.55	56	P	P	09 45 38.7	-1.2
JOW	Kunigami	6.96	58	P	P	09 45 56.6	-3.0
	1.5nm,0.3s,baz=90,slow=28,SNR=7.4						
JOW				S	S	09 47 13.8	-4.3
	0.5nm,0.3s,baz=129,slow=26,SNR=2.3						
MJAR	Matsushiro Arr	19.45	44	LR	LR	09 56 12.5	
	comp=Z,27nm,21.2s,baz=125,slow=37						
CMAR	Chiang Mai Arr	21.74	261	P	P	09 49 09.0	+3.3
	1.3nm,0.8s,mb3.4,baz=67,slow=7.3,SNR=4.6						
SONM	Songino Array	27.32	337	P	P	09 49 58.2	-0.5
	0.4nm,0.5s,mb3.2,baz=152,slow=9.2,SNR=4.2						
SONM				LR	LR	10 02 07.9	
	comp=Z,39nm,19.0s,baz=343,slow=39						
MKAR	Makanchi Array	39.25	316	P	P	09 51 43.2	+1.5
	2.0nm,0.7s,mb4.0,baz=111,slow=9.8,SNR=24						
WRA	Warramunga Arr	44.75	163	P	P	09 52 22.5	-4.6
	0.4nm,0.6s,mb3.4,baz=344,slow=8.7,SNR=4.1						
ZRNK	Zerenda	49.39	321	eP	P	09 53 03.3	+0.3
	1.1nm,0.6s,mb4.1						
ARCES	ARCESS Array B	70.49	338	P	P	09 55 27.4	+0.1
	0.6nm,0.7s,mb3.6,baz=45,slow=8.6,SNR=6.0						
KAF	Kangasniemi	72.11	331	ep	P	09 55 35.7	-1.4
	baz=72,slow=5.5						
FINES	FINESS Array B	72.40	330	P	P	09 55 38.6	-0.2
	0.9nm,0.5s,mb4.0,baz=59,slow=4.6,SNR=11						
AKASG	Malin Array Be	73.79	319	P	P	09 55 46.5	-0.7
	0.2nm,0.3s,mb3.5,baz=58,slow=6.8,SNR=4.1						
BRTR	Keskin Array B	74.02	307	P	P	09 55 49.5	+0.8
	0.6nm,0.4s,mb3.9,baz=113,slow=2.8,SNR=4.1						
NB2	NORSAR Subarra	79.18	332	P	P	09 56 17.1	-0.1
	0.4nm,0.7s,mb3.5,baz=61,slow=5.6						
NOA	NORSAR Array B	79.18	332	P	P	09 56 17.0	-0.3
	0.5nm,0.7s,mb3.6,baz=59,slow=5.7,SNR=4.0						
GERES	GERESS Array B	83.77	321	P	P	09 56 41.8	+0.4
	0.3nm,0.7s,mb3.6,baz=45,slow=4.2,SNR=4.6						

*IDC **09** 10:02:35.9±1.0, 14.44N×91.02W, h80km±7km, mb3.6/10, mb1 3.8/11, mb1mx3.6/21, mbtmp3.9/11, MS3.0/3, Ms1 3.0/3, ms1mx2.9/24, Error ellipse: s-maj=37.1km s-min=15.1km az=48.0*
*CASC **09** 10:02:36.4±3.0, 14.33N×91.43W, h62km±28km, MD4.5, ML3.8, mb4.2(NEIC)*
*MEX **09** 10:02:37.9±1.1, 14.48N×91.81W, h161km±37km, MD4.7*
*NEIC **09** 10:02:37.3±1.2, 14.29N×91.28W, h94km±11km, mb4.2/6, Error ellipse: s-maj=20.2km s-min=9.2km az=221.0*
ISC 09 10:02:36.7±0.5**, 14.45N**±0.06×**91.30W**±0.06**, h89**km±4km**, h75**km±8.0km**:pP-P, n70, σ1.25**/69**, mb3.8**/12**, 7C-6D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	0.45	90	⇓iP	P	10 02 48.9	-2.1
PCG	Pacaya	0.67	95	eP	P	10 02 51.6	-1.5
PCG				eS	S	10 03 05.3	+0.1
IXG	Ixpaco	0.86	108	⇑eP	P	10 02 53.3	-1.7
IXG				eS	S	10 03 08.2	-0.5
RBDL	Robledal	1.60	102	⇓eP	Px	10 03 25.8	
RBDL				eS	Sx	10 03 47.8	
MRL	Marmol	1.67	68	eP	P	10 03 06.4	+1.3
SBLS	San Blas	1.74	110	⇑eP	Px	10 03 27.4	
SBLS				eS	Sx	10 03 50.1	
SNJE	San Jose	1.74	109	⇑eP	Px	10 03 27.8	
SNJE				eS	Sx	10 03 49.6	
CCIG	Comitan	1.99	336	i P	P	10 03 09.8	+0.5
CCIG				i S	S	10 03 37.1	+3.8
BOQS	Boqueron	2.08	110	⇑eP	Px	10 03 32.3	
BOQS				eS	Sx	10 03 59.6	
LFU	La Fuente	2.23	108	eP	Px	10 03 34.0	
LFU				eS	Sx	10 04 04.1	
SNVI	San Vicente	2.53	109	eP	Px	10 03 38.4	
SNVI				eS	Sx	10 04 10.8	
SCX	San Cristobal	2.61	331	eP	P	10 03 18.0	+0.1
BLLM	Bellamira	3.14	108	eP	Px	10 03 48.0	
BLLM				eS	Sx	10 04 27.6	
CNCH	Conchagua	3.56	109	eP	Px	10 03 52.5	
CNCH				eS	Sx	10 04 37.0	
CMIG	Matias Romero	4.34	308	i P	P	10 03 38.0	-3.8
CMIG				i S	S	10 04 21.3	-10
CRIN	San Cristobal	4.48	112	eP	P	10 03 45.2	+1.4
SCIG		4.49	1	⇓iP	P	10 03 43.9	0.0
SCIG				i S	S	10 04 35.4	+0.1
TEL3	Telica 3	4.72	113	⇓eP	P	10 03 46.3	-0.7
TEL3				eS	S	10 04 41.1	+0.2
TELN	Telica	4.72	112	eP	P	10 03 47.6	+0.7
TELN				eS	S	10 04 39.5	-1.3
LEON	Leon	4.74	115	eP	P	10 03 47.4	+0.1
HUIG	Huatulco	4.83	286	i S	S	10 04 32.0	-12
CNGN	Cerro Negro	4.88	113	eP	P	10 03 47.7	-1.4
MIRN	Miramar	4.89	114	eP	P	10 03 49.5	+0.2
MOMJ	Momotombo	5.06	113	eP	P	10 03 51.6	0.0
COPN	Copaltepe	5.11	116	⇓eP	P	10 03 51.7	-0.6
XAVN	Gruta Xavier	5.36	115	eP	P	10 03 55.9	+0.3
MGAN	Managua	5.43	114	eP	P	10 03 59.2	+2.6
MGAN				eS	S	10 04 58.0	-0.4
MGAN				i		10 05 09.0	
	comp=N,161nm,0.6s						
TICN	Ticuantepe	5.49	115	⇓eP	P	10 03 58.2	+0.7
APON	Apoyo	5.69	116	eP	P	10 04 02.6	+2.5
OXX	Oaxaca	5.84	297	eP	P	10 04 02.5	+0.2
JTS	JuntasAbangare	7.45	123	LR	LR	10 07 37.6	
	comp=N,83nm,20.2s,baz=82,slow=42						
JTS	JuntasAbangare	7.45	123	eP	P	10 04 23.0	-1.6
	comp=N,21nm,0.6s						
PRS1	Puriscal	8.15	122	eP	P	10 04 35.6	+1.6
PPM	Popocatepetl	8.38	304	eP	P	10 04 38.0	+0.7
LCR2	La Lucha 2	8.53	122	⇑eP	P	10 04 39.5	+0.3
LCR2				eS	S	10 06 13.8	-0.9
URSC	Urasca	8.67	121	⇑eP	P	10 04 42.4	+1.3
BUS	Buena Vista	8.84	123	⇑eP	P	10 04 44.4	+1.1
SVTC	San Vito de Co	9.92	124	eP	P	10 05 01.0	+2.8
SVTC				eS	S	10 06 50.6	+2.1
MOIG	Morelia	10.79	300	eP	P	10 05 10.2	+0.4
MOIG	Morelia	10.79	300	i P	P	10 05 02.5	-7.4
TXAR	Lajitas Array	18.71	324	P	P	10 06 50.7	0.0
	comp=N,0.2nm,0.3s,baz=149,slow=9.9,SNR=22						
TXAR	Lajitas Array	18.71	324	P	P	10 06 50.7	-0.1
LRAL	Lakeview Retre	18.91	11	eP	P	10 06 54.5	+1.5
	comp=N,7.8nm,0.4s						
OXF	Oxford	20.05	5	eP	P	10 07 04.3	-0.7
	comp=N,9.7nm,0.6s						
UALR	University of	20.26	358	eP	P	10 07 08.6	+1.3
	comp=N,7.5nm,0.6s						
SDV	Santo Domingo	20.98	103	P	P	10 07 11.7	-3.0
	comp=N,1.9nm,0.5s,baz=336,slow=11,SNR=3.9						
SDV				LR	LR	10 14 25.4	
	comp=N,48nm,19.7s,baz=184,slow=34						
CLNB	Carlsbad	21.13	329	eP	P	10 07 16.7	+0.6
SWET	Sewanee	21.24	12	eP	P	10 07 18.6	+1.4
GDL2	Guadalupe Moun	21.32	328	eP	P	10 07 18.3	+0.3
MNTX	Cornudas Mount	21.47	325	eP	P	10 07 18.8	-0.7
	comp=N,5.4nm,0.7s,mb4.0						
AMTX	Amarillo	22.40	337	eP	P	10 07 27.9	-0.7
	comp=N,11nm,0.6s,mb4.4						
BNM	Barren Site	24.02	327	eP	P	10 07 45.6	+1.3
SJG	San Juan	24.41	78	LR	LR	10 16 29.7	
	comp=N,38nm,19.9s,baz=95,slow=34						
ANMO	Albuquerque	24.56	329	P	P	10 07 50.4	+0.7
	comp=N,0.8nm,0.7s,mb3.2,baz=152,slow=12,SNR=6.9						
TUC	Tucson	25.14	318	eP	P	10 07 54.5	-0.6
	comp=N,2.8nm,0.8s,mb3.7						
MSU	Marysvale	30.25	326	eP	P	10 08 41.8	+0.4
ARUT	Antelope Range	30.43	324	eP	P	10 08 43.8	+0.8
PDAR	Pinedale Array	32.30	334	P	P	10 08 57.6	-1.6
	comp=N,0.3nm,0.5s,mb3.2,baz=90,slow=13,SNR=3.6						
PDAR				PcP	PcP	10 11 43.6	-1.9
	comp=N,0.5nm,0.6s,baz=154,slow=4.7,SNR=5.1						
NVAR	Mina Array Bea	33.76	320	P	P	10 09 13.1	+1.2
	comp=N,4.6nm,0.8s,mb4.4,baz=130,slow=9.5,SNR=35						
NVAR				pP	pP	10 09 29.6	-3.2
	comp=N,2.2nm,0.7s,baz=129,slow=8.5,SNR=8.0						
NVAR				PcP	PcP	10 11 48.9	-0.6
	comp=N,1.6nm,0.7s,baz=121,slow=3.9,SNR=10						
NVAR	Mina Array Bea	33.76	320	P	P	10 09 13.1	+1.2
NVAR				pP	pP	10 09 29.6	-3.2
NVAR				PcP	PcP	10 11 48.9	-0.6
MCMT	McKenzie Canyo	35.37	333	eP	P	10 09 27.0	+1.3
LPAZ	La Paz	38.16	142	P	P	10 09 47.7	-1.6
	comp=N,0.5nm,0.6s,mb3.5,baz=337,slow=7.7,SNR=2.2						
LPAZ				pP	pP	10 10 04.5	-5.8
	comp=N,0.9nm,0.8s,baz=329,slow=11,SNR=3.8						
LPAZ	La Paz	38.16	142	P	P	10 09 47.7	-1.6
LPAZ				pP	pP	10 10 04.5	-5.8
YBH	Yreka Blue Hor	38.44	321	P	P	10 09 51.1	-0.2
	comp=N,1.1nm,0.8s,mb3.7,baz=93,slow=1.9,SNR=4.3						
YBH				PcP	PcP	10 12 01.2	-2.3
	comp=N,0.5nm,0.6s,baz=158,slow=6.6,SNR=3.7						
SCHQ	Schefferville	44.57	20	P	P	10 10 39.0	-2.5
	comp=N,1.7nm,0.6s,mb4.0,baz=217,slow=9.9,SNR=7.6						
YKA	Yellowknife Ar	50.75	346	P	P	10 11 27.5	-2.0
	comp=N,0.9nm,0.6s,mb4.0,baz=150,slow=7.4,SNR=6.7						
YKA				pP	pP	10 11 49.6	-1.6
	comp=N,0.2nm,0.4s,baz=148,slow=8.1,SNR=4.1						
YKA				PcP	PcP	10 12 42.8	-2.6
	comp=N,1.1nm,0.6s,baz=155,slow=3.6,SNR=8.0						
INK	Inuvik	60.20	343	eP	P	10 12 34.6	-2.8
ILAR	Eielson Array	62.70	337	P	P	10 12 52.0	-2.3
	comp=N,1.1nm,0.5s,mb4.0,baz=66,slow=5.4,SNR=15						
ARCES	ARCESS Array B	85.50	18	P	P	10 15 03.4	-2.1
	comp=N,0.8nm,0.6s,mb3.9,baz=284,slow=5.0,SNR=9.1						
CMAR	Chiang Mai Arr	145.78	343	PKPbc	PKPbc	10 22 06.6	-0.1
	comp=N,9.8nm,0.7s,baz=335,slow=3.2,SNR=20						

*BJI **09** 10:06:59.2, 2.46N×126.61E, h40km, mB5.7, mb5.7, Ms5.6, Msz5.4*
*HRVD **09** 10:07:01.3±0.1, 2.97N×126.51E, h26km, MW5.9/75, Centroid moment Tensor Solution. LP body waves: s73,c147;Mantle waves: s75,c195; Half duration: 2.2 Moment tensor: Scale 10¹⁸Nm; Mrr0.34±.01; Mθθ0.42±.01; Mφφ-0.76±.01; Mrθ0.01±.02; Mθφ-0.28±.01; Mφr-0.62±.03; Best double couple: M₀.886×10¹⁸ NP1:φs53°, δ35°, λ152°. NP2:φs167°, δ74°, λ58°. Principal axes: T .687, Plg50°, Azm41°; N .397, Plg30°, Azm176°; P -1.085, Plg23°, Azm281°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **09** 10:07:01.3±1.3, 2.83N×126.63E, h33km, mb6.0/58, MS5.4/37 Error ellipse: s-maj=8.9km s-min=4.7km az=111.9*
*NEIC **09** 10:07:01.3±2.3, 2.75N×126.53E, h22km±15km, mb5.8/72, MS5.2/40, MW5.8, Error ellipse: s-maj=6.4km s-min=4.8km az=68.0, Moment Tensor Solution. s16 Moment tensor: Scale 10¹⁷Nm; Mrr5.28; Mθθ-0.39; Mφφ-4.89; Mrθ-0.13; Mθφ0.94; Mφr-3.44; Best double couple: M₀6.2×10¹⁷ NP1: φs342°, δ29°, λ78°. NP2:φs176°, δ62°, λ97°. Principal axes: T 6.36, Plg72°, Azm101°; N -.28, Plg6°, Azm353°; P -6.08, Plg17°, Azm261°;*
NEIC Felt [III] at Manado, Indonesia.
*IDC **09** 10:07:03.0±1.1, 2.79N×126.52E, h33km±7km, mb5.3/33, mb1 5.3/33, mb1mx5.3/34, mbtmp5.5/33, MS5.1/16, Ms1 5.2/16, ms1mx5.1/24 Error ellipse: s-maj=13.3km s-min=8.0km az=78.0*
ISC 09 10:07:02.7±0.5**, 2.73N**±0.02×**126.62E**±0.03**, h49**km±3km**, h45**km±5.1km**:pP-P, n648, σ1.19**/482**, mb5.8**/143**, MS5.3**/97**, 85C-25D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	4.44	347	Pn	P	10 08 09.9	+0.7
DAV	Davao City (W)	4.44	347	⇓eP	P	10 08 10.0	+0.7
KCP	Kidapawan	4.52	340	⇑eP	P	10 08 13.1	+2.6
KCP				i S	S	10 09 02.2	-0.1
CTBH	Cotabato--PC H	5.05	332	⇑eP	P	10 08 18.4	+0.6
CTBH				i S	S	10 09 13.1	-2.6
BUKP	Musuan	5.35	343	eP	P	10 08 22.6	+0.6
BUKP				eS	S	10 09 17.9	-5.2
BIPH	Bislig	5.43	357	⇑iP	P	10 08 27.0	+3.9
BIPH				eS	S	10 09 32.2	+7.1
CGP	Cagayan de Oro	6.01	341	⇑eP	P	10 08 34.2	+3.1
ZMPH	Zamboanga City	6.18	313	⇓iP	P	10 08 32.6	-1.1
BUTP	Butuan	6.28	351	eP	P	10 08 37.3	+2.3
IPIL	Ipil	6.45	321	eP	P	10 08 36.3	-1.0
DCPH	Dipolog City	6.67	331	⇓eP	P	10 08 41.6	+1.1
SCPH	Surigao	7.10	351	⇓eP	P	10 08 47.1	+0.6
SNPH	Sibulan	7.38	333	⇑eP	P	10 08 53.5	+3.1
TBP	Tagbilaran	7.44	339	eP	P	10 08 49.3	-2.0
LLP	Lapu-Lapu	7.99	341	eP	P	10 09 00.5	+1.7
	596μm,1.0s						
GUIM	Jordan	8.81	333	eP	P	10 09 10.0	-0.1
TSM	Tawau	8.87	280	P	P	10 09 11.2	+0.2
AAP	Anini-y	8.94	329	eP	P	10 09 15.2	+3.3
RCP	Roxas	9.58	337	eP	P	10 09 22.3	+1.4
PPR	Puerto Princes	10.51	312	⇑iP	P	10 09 37.7	+4.1
BATP	Bataraza	10.64	305	eP	P	10 09 35.7	+0.2
KKM	Kota Kinabalu	10.89	288	⇓eP	P	10 09 39.2	+0.5
KKM	Kota Kinabalu	10.89	288	P	P	10 09 40.3	+1.6
BUSP	Coron	11.20	326	eP	P	10 09 51.3	+8.4
BOAC	Boac	11.66	336	eP	P	10 09 53.1	+4.0
GQP	Guinayangan	11.85	340	eP	P	10 09 57.0	+5.3
LUBP	Lubang	12.62	330	eP	P	10 10 05.0	+2.9
BALP	Baler	13.86	339	eP	P	10 10 20.4	+2.1
PCPH	Palayan	13.87	337	⇓eP	P	10 10 18.1	-0.4
SCZP	Santa Cruz	14.55	333	eP	P	10 10 36.6	+9.1
CAUP	Cauayan	14.89	342	eP	P	10 10 31.4	-0.6
BOLP	Bolinao	15.09	334	eP	P	10 10 36.3	+1.8
CVP	Callao Caves	15.61	343	i P	P	10 10 41.0	-0.1
ABRA	Dolores	15.92	339	eP	P	10 10 46.9	+1.8
APYP	Conner	15.94	341	eP	P	10 10 45.6	+0.3
KSM	Kuching	16.35	266	⇓eP	P	10 10 51.8	+1.3
KAKA	Kakadu	16.39	159	⇓iP	P	10 10 46.8	-4.2
	388nm,0.6s						
FITZ	Fitzroy Crossi	20.72	183	⇑iP	P	10 11 38.8	-2.7
	316nm,0.6s						
FITZ				eS	S	10 15 25.4	+0.2
FITZ	Fitzroy Crossi	20.72	183	P	P	10 11 39.5	-2.0

190nm,0.5s,baz=8.2,slow=9.9,SNR=268
FITZ S **S** **10 15 24.9 -0.3**
58nm,0.8s,baz=168,slow=15,SNR=3.0
GUMO Guam 21.02 58 *e*P **P** **10 11 41.5 -3.1**
GUMO pmax pmax
comp=Z,180nm,0.8s,mb5.5
GUMO Guam 21.02 58 *e*P **P** **10 11 42.9 -1.8**
comp=Z,181nm,0.8s,mb5.5
GUMO LR LR
comp=Z,5µm,20.0s,MS4.9
NACB Ninganchiao 21.87 348 *e*P **P** **10 11 50.4 -2.7**
YHNB Yeheng 22.40 347 *e*P **P** **10 11 55.5 -2.7**
TATO Taipei 22.67 348 P **P** **10 11 59.2 -1.8**
comp=Z,170nm,0.9s,mb5.5
TATO LR LR
comp=Z,10µm,20.0s,MS5.3
HKC Hong Kong 22.91 329 P **P** **10 12 06.0 +2.6**
HKC S **S** **10 16 08.0 +2.4**
QIZ Qiongzhong 23.07 316 P **P** **10 12 04.4 -0.6**
QIZ PP PP 10 12 33.3 -2.9
QIZ PPP PPP 10 12 44.8 -1.8
QIZ S **S** **10 16 07.7 -0.7**
QIZ SS SS 10 16 51.1 -4.6
QIZ AMB AMB
comp=Z,121nm,1.1s,mb5.2
QIZ LR LR
comp=N,11µm,17.4s,MS5.5
QIZ LR LR
comp=E,7µm,15.7s,MS5.5
QIZ LR LR
comp=Z,13µm,25.4s
QIZ Qiongzhong 23.07 316 *e*P **P** **10 12 04.5 -0.5**
comp=Z,120nm,0.9s,mb5.3
QIZ LR LR
comp=Z,7µm,21.0s,MS5.1
KGM Kluang 23.29 269 P **P** **10 12 08.5 +1.2**
QZH Quanzhou 23.41 341⇑ *i*P **P** **10 12 07.3 -0.9**
QZH S **S** **10 16 13.0 -1.3**
QZH AMB AMB
comp=Z,210nm,0.8s,mb5.6
QZH LR LR
comp=N,31µm,27.5s
QZH LR LR
comp=E,9µm,15.8s
QZH LR LR
comp=Z,46µm,25.2s,MS5.8
PMG Port Moresby 23.75 121 *e*P **P** **10 12 11.4 -0.2**
PMG pmax pmax
comp=Z,220nm,1.4s
PMG MLR MLR
comp=Z,8µm,20.0s
PMG Port Moresby 23.75 121 P **P** **10 12 12.0 +0.4**
comp=Z,12nm,0.6s,baz=286,slow=13,SNR=4.3
PMG Port Moresby 23.75 121 *e*P **P** **10 12 11.4 -0.2**
comp=Z,220nm,1.4s,mb5.4
PMG LR LR
comp=Z,8µm,20.0s,MS5.2
WRAB Tennant Creek 23.76 162*c i*P **P** **10 12 10.3 -1.4**
WRAB Tennant Creek 23.76 162⇑ *e*P **P** **10 12 10.0 -1.7**
comp=Z,686nm,0.8s,mb6.1
WRAB LR LR
comp=Z,3µm,22.0s,MS4.7
WRA Warramunga Arr 23.77 162 P **P** **10 12 10.4 -1.3**
comp=Z,118nm,0.5s,mb5.6,baz=342,slow=10,SNR=184
WRA S **S** **10 16 19.9 -0.7**
comp=Z,24nm,0.8s,baz=341,slow=15,SNR=5.7
WRA P3KPbc 10 45 32.1
comp=Z,1.5nm,1.0s,baz=159,slow=4.2,SNR=4.5
WB2 Warramunga Arr 23.77 162 *e*P **P** **10 12 10.1 -1.7**
WB2 *e*S **S** **10 16 21.8 +1.1**
GZH Guangzhou 23.98 329 P **P** **10 12 16.8 +3.0**
GZH S **S** **10 16 30.9 +6.6**
GZH AMB AMB
comp=Z,653nm,1.2s,mb5.9
GZH LR LR
comp=N,7µm,23.9s,MS5.2
GZH LR LR
comp=E,7µm,21.0s,MS5.2
GZH LR LR
comp=Z,10µm,20.8s,MS5.3
JOW Kunigami 24.02 4 P **P** **10 12 14.8 +0.6**
comp=Z,588nm,1.0s,mb6.0,baz=186,slow=8.0,SNR=40
JOW S **S** **10 16 31.6 +6.7**
comp=Z,13nm,0.9s,baz=3.9,slow=28,SNR=3.2
UBT Ubonrachathani 24.66 302 P **P** **10 12 20.5 0.0**
MBWA Marble Bar 24.68 196⇑ *e*P **P** **10 12 19.7 -0.9**
comp=Z,223nm,1.0s,mb5.7
MBWA LR LR
comp=Z,3µm,21.0s,MS4.8
IPM Ipoh 25.61 275 P **P** **10 12 31.2 +1.7**
KULM Kulim 26.03 276 *e*P **P** **10 12 31.6 -1.8**
SNG Songkhla 26.27 281 P **P** **10 12 40.0 +4.3**
comp=Z,290nm,1.0s,mb5.8
KKTK Khon Kaen 27.04 302 P **P** **10 12 41.0 -1.7**
comp=Z,741nm,0.8s,mb6.3
NNT Nongplab 28.36 292 P **P** **10 12 54.9 +0.3**
CBIJ Chichi jima 28.45 30 P **P** **10 12 53.4 -1.9**
comp=Z,285nm,0.8s,mb5.9,baz=226,slow=1.1,SNR=22
CBIJ LR LR 10 23 05.0
comp=Z,2µm,21.1s,MS4.8,baz=215,slow=34
SSE Sheshan 28.68 350 *e*P **P** **10 12 57.3 -0.1**
SSE S **S** **10 17 48.3 +6.9**
SSE AMB AMB
comp=Z,69nm,1.8s,mb5.1
SSE AMB AMB
comp=Z,479nm,11.2s
SSE LR LR
comp=N,4µm,31.0s,MS5.1
SSE LR LR
comp=E,6µm,31.0s,MS5.1
SSE LR LR
comp=Z,8µm,22.8s
CTA Charters Tower 29.75 140 *e*P **P** **10 13 05.6 -1.4**
comp=Z,29nm,0.6s,mb5.2
CTA Charters Tower 29.75 140 P **P** **10 13 05.9 -1.1**
CTA S **S** **10 17 58.6 0.0**
CTA pmax pmax
comp=Z,19nm,0.8s
CTA smax
comp=E,16nm,1.1s
CTA Charters Tower 29.75 140 P **P** **10 13 05.9 -1.1**
comp=E,19nm,0.8s,mb4.9,baz=318,slow=11,SNR=21
CTA S **S** **10 17 58.5 0.0**
comp=E,16nm,1.1s,baz=148,slow=23,SNR=3.2
CTAO Charters Tower 29.75 140 *e*P **P** **10 13 05.1 -1.9**
CTAO pmax pmax
comp=Z,67nm,0.9s,mb5.4
CTAO MLR MLR
comp=Z,9µm,22.0s,MS5.3
CTAO Charters Tower 29.75 140 *e*P **P** **10 13 05.1 -1.9**
comp=Z,67nm,0.9s,mb5.4
CTAO LR LR
comp=Z,9µm,22.0s,MS5.3
NANT Nan 29.98 304⇑ P **P** **10 13 08.0 -1.1**
comp=Z,150nm,0.6s,mb5.9
WHN Wuhan 30.01 338⇑ P **P** **10 13 08.0 -1.2**
WHN AMB AMB
comp=Z,64nm,1.0s,mb5.3
WHN LR LR
comp=Z,14µm,20.4s,MS5.6
NJ2 Nanjing 30.07 347 *e*P **P** **10 13 09.3 -0.4**
NJ2 PP PP 10 14 07.1 -2.0
NJ2 S **S** **10 18 04.0 +0.5**
NJ2 AMB AMB
comp=Z,150nm,1.0s,mb5.7
NJ2 AMB AMB
comp=Z,590nm,10.3s
NJ2 LR LR
comp=N,17µm,24.6s,MS5.7
NJ2 LR LR
comp=E,12µm,21.4s,MS5.7
NJ2 LR LR
comp=Z,11µm,26.8s
GYA Guiyang 30.39 323⇑ *i*P **P** **10 13 11.7 -0.9**
GYA PCP PcP 10 16 12.8 +1.2
GYA S **S** **10 18 03.0 -5.5**
GYA SCS ScS 10 23 47.2 +3.9
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,300nm,4.2s
GYA LR LR
comp=N,9µm,20.7s,MS5.5
GYA LR LR
comp=E,6µm,21.3s,MS5.5
GYA LR LR
comp=Z,9µm,19.8s,MS5.4
JNU Nakatsue 30.50 7 P **P** **10 13 12.3 -1.2**
comp=Z,240nm,0.9s,mb5.9,baz=186,slow=4.6,SNR=46
JNU S **S** **10 18 10.4 +0.2**
comp=Z,12nm,1.0s,baz=126,slow=17,SNR=1.5
CHRT Chiangrai 31.26 305⇓ P **P** **10 13 17.0 -3.3**
comp=Z,579nm,0.8s,mb6.5
CMAR Chiang Mai Arr 31.30 302 P **P** **10 13 19.9 -0.7**
comp=Z,66nm,1.0s,mb5.4,baz=114,slow=7.3,SNR=71
CMAR ScP 10 19 53.9
comp=Z,18nm,1.2s,baz=157,slow=1.1,SNR=13
CMAR LR LR 10 27 51.2
comp=Z,4µm,19.0s,MS5.1,baz=110,slow=40
CHG Chiang Mai 31.45 303⇓ P **P** **10 13 20.9 -1.2**
comp=Z,108nm,1.0s,mb5.6
ENH Enshi 31.84 331 *e*P **P** **10 13 23.6 -1.8**
comp=Z,366nm,1.1s,mb6.1
ENH LR LR
comp=Z,9µm,21.0s,MS5.4
KMI Kunming 32.02 316⇑ P **P** **10 13 26.8 -0.1**
KMI PP PP 10 14 34.9 +0.7
KMI PCP PcP 10 16 18.6 +2.6
KMI S **S** **10 18 33.4 -0.7**
KMI AMB AMB
comp=Z,64nm,1.4s,mb5.3
KMI LR LR
comp=N,6µm,15.9s,MS5.4
KMI LR LR
comp=E,5µm,18.4s,MS5.4
KMI LR LR
comp=Z,10µm,28.9s
KS15 Wonju Array Si 34.57 2⇑ *e*P **P** **10 13 48.7 -0.1**
INCN Inchon 34.59 0 *e*P **P** **10 13 48.4 -0.7**
comp=Z,198nm,1.0s,mb6.0
INCN LR LR
comp=Z,3µm,22.0s,MS5.0
KLBR Kellerberrin 35.15 193⇓ *i*P **P** **10 13 53.1 -0.8**
comp=Z,64nm,0.6s,mb5.7
XAN Xi'an 35.26 334 P **P** **10 13 52.5 -2.3**
XAN AP pP 10 14 00.0 -7.7
XAN PP PP 10 15 18.7 +3.6
XAN SS SS 10 21 47.5 +4.2
XAN AMB AMB
comp=Z,93nm,0.8s,mb5.8
XAN LR LR
comp=N,6µm,24.5s,MS5.3
XAN LR LR
comp=E,5µm,24.5s,MS5.3
XAN LR LR
comp=Z,9µm,26.6s,MS5.4
MJAR Matsushiro Arr 35.31 16 P **P** **10 13 53.3 -1.9**
comp=Z,30nm,0.9s,mb5.2,baz=195,slow=9.1,SNR=42
MJAR PcP PcP 10 16 26.7 +1.6
comp=Z,9.3nm,0.6s,baz=185,slow=3.4,SNR=7.1
MJAR S **S** **10 19 22.9 -2.1**
comp=Z,4.1nm,1.1s,baz=198,slow=9.1,SNR=3.9
MJAR ScP 10 20 10.0
comp=Z,4.5nm,1.0s,baz=177,slow=4.4,SNR=4.7
MAJO Matsushiro 35.31 16⇑ *e*P **P** **10 13 52.7 -2.5**
MAJO pmax pmax
comp=Z,424nm,1.6s,mb6.1
MAJO MLR MLR
comp=Z,7µm,20.0s,MS5.4
MAJO Matsushiro 35.31 16⇑ *e*P **P** **10 13 52.7 -2.5**
comp=Z,424nm,1.6s,mb6.1
MAJO LR LR
comp=Z,7µm,20.0s,MS5.4
MAT Matsushiro 35.31 16 *e*P **P** **10 13 52.0 -3.2**
MAT *e*S **S** **10 19 19.0 -6.0**
MAT pmax pmax
comp=Z,641nm,2.0s,mb6.2
MAT MLR MLR
comp=Z,10µm,22.0s,MS5.5
MAT Matsushiro 35.31 16 *e*P **P** **10 13 52.0 -3.2**
comp=Z,641nm,2.0s,mb6.2
MAT *e*S **S** **10 19 19.0 -6.0**
MAT LR LR
comp=Z,10µm,22.0s,MS5.5
MAT Matsushiro 35.31 16 P **P** **10 13 52.2 -3.0**
MAT S **S** **10 19 19.0 -6.0**
HNR Honiara 35.33 110 S **S** **10 19 28.4 +2.8**
comp=Z,52nm,0.7s,baz=11,slow=9.4,SNR=2.2
HNR LR LR 10 29 15.9
comp=Z,3µm,19.1s,MS5.1,baz=290,slow=38
HNR Honiara 35.33 110 PFAKE 10 14 10.0 +14
HNR LR LR
comp=Z,3µm,20.0s,MS5.0
CD2 Chengdu 35.39 325 P **P** **10 13 54.0 -2.0**
CD2 S **S** **10 19 23.0 -3.3**
CD2 AMB AMB
comp=Z,315nm,1.4s,mb6.0
CD2 LR LR
comp=E,11µm,22.0s
MUN Mundaring 35.90 195 *e*P **P** **10 13 59.9 -0.4**
comp=E,30nm,0.5s,mb5.5
MUN Mundaring 35.90 195 *e*P **P** **10 13 59.9 -0.4**
MUN pmax pmax
comp=Z,30nm,0.5s,mb5.5
DL2 Dalian 36.30 353⇑ P **P** **10 14 04.0 +0.4**
DL2 S **S** **10 19 39.6 -0.6**
DL2 AMB AMB
comp=Z,310nm,0.9s,mb6.2
DL2 LR LR
comp=N,2µm,20.2s,MS5.0
DL2 LR LR
comp=E,1µm,19.4s,MS5.0
DL2 LR LR
comp=Z,3µm,23.5s,MS5.1
NWAO Narrogin (SRO) 36.55 193 *e*P **P** **10 14 05.1 -0.7**
NWAO pmax pmax
comp=Z,96nm,1.0s
NWAO MLR MLR
comp=Z,2µm,22.0s
NWAO Narrogin (SRO) 36.55 193 P **P** **10 14 05.5 -0.3**
comp=Z,23nm,0.3s,mb5.4,baz=23,slow=8.1,SNR=81
NWAO Narrogin (SRO) 36.55 193 *e*P **P** **10 14 05.1 -0.7**
comp=Z,96nm,1.0s,mb5.6
NWAO LR LR
comp=Z,2µm,22.0s,MS4.9
TIY Taiyuan 37.17 341⇑ P **P** **10 14 09.8 -1.1**
TIY S **S** **10 19 49.0 -4.6**
TIY LR LR
comp=N,9µm,22.0s
STKA Stephens Creek 37.24 159⇑ *i*P **P** **10 14 10.1 -1.4**
comp=N,119nm,0.7s,mb5.8
STKA Stephens Creek 37.24 159 P **P** **10 14 10.5 -1.0**
comp=N,124nm,0.6s,mb5.9,baz=333,slow=8.7,SNR=149
STKA S **S** **10 19 53.6 -1.0**
comp=N,23nm,1.2s,baz=101,slow=20,SNR=3.8
IMP Imphal 38.39 308 *i* P **P** **10 14 19.0 -2.1**
SNY Shenyang 39.02 356⇑ P **P** **10 14 26.8 +0.5**
SNY AP pP 10 14 37.3 -2.0
SNY XP sP 10 14 44.7 -0.5
SNY S **S** **10 20 18.5 -3.2**
SNY AMB AMB
comp=Z,60nm,1.2s,mb5.2
SNY LR LR
comp=N,4µm,22.1s,MS5.2
SNY LR LR
comp=E,2µm,24.3s,MS5.2
SNY LR LR
comp=Z,6µm,26.9s,MS5.2
LZH Lanzhou 39.31 330⇑ P **P** **10 14 29.0 +0.3**
LZH AP pP 10 14 34.4 -7.3
LZH S **S** **10 20 18.0 -8.1**
LZH AMB AMB
comp=Z,1µm,1.2s,mb6.4
LZH AMB AMB
comp=Z,2µm,4.0s
LZH LR LR
comp=E,22µm,20.3s
LZH LR LR
comp=Z,28µm,21.3s,MS6.1
HHC Hu-ho-hao-te 40.31 342⇑ P **P** **10 14 37.0 0.0**
HHC PP PP 10 16 15.0 +1.3
HHC PCP PcP 10 16 39.0 -1.5
HHC PCS 10 20 31.6
HHC S **S** **10 20 43.6 +2.6**
HHC SS SS 10 23 33.8 -1.8
HHC SCS ScS 10 24 40.9 +4.2
HHC AMB AMB
comp=Z,110nm,1.3s,mb5.4
HHC AMB AMB
comp=Z,330nm,8.4s
HHC LR LR
comp=N,7µm,27.6s,MS5.4
HHC LR LR
comp=E,4µm,24.0s,MS5.4
HHC LR LR
comp=Z,12µm,28.8s,MS5.6
SHL Shillong 40.39 307 *e*P **P** **10 14 37.0 -0.8**
SHL *e* 10 20 28.5
BTO Baotou 40.59 340 *e*P **P** **10 14 38.8 -0.4**
BTO AMB AMB
comp=Z,37nm,1.0s,mb5.0
BTO LR LR
comp=N,2µm,19.2s,MS5.3
BTO LR LR
comp=E,3µm,17.1s,MS5.3
CN2 Changchun 40.91 359 *e*P **P** **10 14 41.3 -0.6**
CN2 PP PP 10 16 18.7 -1.0
CN2 *e*S **S** **10 20 50.1 +0.2**
CN2 *e*SS SS 10 23 52.8 +4.4
CN2 AMB AMB
comp=Z,90nm,1.0s,mb5.3
CN2 AMB AMB
comp=Z,640nm,5.0s
CN2 LR LR
comp=N,2µm,21.0s,MS5.2
CN2 LR LR
comp=E,3µm,21.0s,MS5.2
CN2 LR LR
comp=Z,4µm,21.0s,MS5.2
MDJ Mudanjiang 41.80 3 P **P** **10 14 50.0 +0.8**
MDJ PP PP 10 16 26.6 -2.8
MDJ PCP PcP 10 16 45.2 -0.1
MDJ PCS 10 20 36.9
MDJ S **S** **10 21 07.3 +4.3**
MDJ AMB AMB
comp=Z,379nm,1.3s,mb5.9
MDJ AMB AMB
comp=Z,788nm,8.2s
MDJ LR LR
comp=N,4µm,29.5s,MS5.4
MDJ LR LR
comp=E,5µm,28.6s,MS5.4
MDJ LR LR
comp=Z,6µm,26.7s,MS5.3
MDJ Mudanjiang 41.80 3⇑ *e*P **P** **10 14 49.7 +0.5**
comp=Z,365nm,1.0s,mb6.0
MDJ LR LR
comp=Z,3µm,21.0s,MS5.2
CAL Calcutta 42.03 301 *e* pP 10 15 04.8 +0.4
CAL *e* 10 16 49.9
WAKE Wake Island 42.44 64 PFAKE 10 15 10.0 +15
WAKE LR LR
comp=Z,3µm,20.0s,MS5.1
LSA Lhasa 43.02 312 P **P** **10 14 59.8 +0.3**
LSA AP pP 10 15 14.7 +2.2
LSA XS 10 21 41.7
LSA SS SS 10 24 24.9 -2.9
LSA AMB AMB
comp=Z,500nm,0.9s,mb6.2
LSA AMB AMB
comp=Z,330nm,7.0s
LSA LR LR
comp=N,4µm,26.0s,MS5.4
LSA LR LR
comp=E,4µm,23.0s,MS5.4
LSA LR LR
comp=Z,5µm,26.0s,MS5.3
LSA Lhasa 43.02 312 *e*P **P** **10 14 59.5 0.0**
LSA pmax pmax
comp=Z,74nm,0.7s,mb5.5
LSA MLR MLR
comp=Z,3µm,22.0s,MS5.2
LSA Lhasa 43.02 312 *e*P **P** **10 14 59.5 0.0**
comp=Z,74nm,0.7s,mb5.5
LSA LR LR
comp=Z,3µm,22.0s,MS5.2
CNB Canberra Magne 43.43 153 *e*P **P** **10 15 02.5 -0.2**
comp=Z,69nm,1.1s,mb5.3
ASAJ Asahikawa 43.58 17 P **P** **10 15 04.3 +0.5**
ASAJ S **S** **10 21 28.4 -0.6**
ASAJ pmax pmax
comp=Z,51nm,0.7s
ASAJ smax
comp=E,2.0nm,0.6s
ASAJ Asahikawa 43.58 17 P **P** **10 15 04.3 +0.5**
comp=E,51nm,0.7s,mb5.4,baz=242,slow=18,SNR=32
ASAJ S **S** **10 21 28.4 -0.6**
comp=E,2.0nm,0.6s,baz=289,slow=23,SNR=2.0
ASAJ LR LR 10 31 31.6
comp=E,5µm,21.5s,MS5.4,baz=209,slow=34
TOO Toolangi 43.75 158 *e*P **P** **10 15 06.2 +0.9**
comp=E,20nm,0.7s,mb5.0
TOO Toolangi 43.75 158 *e*P **P** **10 15 06.2 +0.9**
TOO pmax pmax
comp=Z,20nm,0.7s,mb5.0
GTA Gaotai 43.90 330 *e*P **P** **10 15 05.2 -1.2**
GTA PP PP 10 16 50.0 -0.7
GTA PCP PcP 10 16 53.7 +1.3
GTA PCS 10 20 45.0
GTA S **S** **10 21 32.5 -1.3**
GTA SCS ScS 10 25 02.8 +4.3
GTA AMB AMB
comp=Z,34nm,1.2s,mb5.0
GTA AMB AMB
comp=Z,594nm,6.8s
GTA LR LR
comp=N,8µm,23.2s,MS5.6
GTA LR LR
comp=E,4µm,24.3s,MS5.6
GTA LR LR
comp=Z,11µm,25.5s,MS5.7
YUK Yuzh-Kuril'sk 44.53 20 *e*P **P** **10 15 10.0 -1.4**
YUK *e*SP pP 10 15 21.0 -3.5
YUK *e* 10 17 03.0
YUK *e*S **S** **10 21 41.0 -1.8**
YUK *e* 10 25 09.0
YUK pmax pmax
comp=Z,2µm,3.0s
YUK smax
comp=N,2µm,6.0s
YUK smax
comp=E,2µm,6.0s
BOK Bokaro 44.58 302 *e*P **P** **10 15 12.2 0.0**
BOK AMb AMB 10 15 15.4
comp=Z,145nm,1.2s,mb5.7
VIS Vishakhapatnam 44.99 292 *e*P **P** **10 15 16.5 +1.0**
VIS AMb AMB 10 15 18.7
comp=Z,232nm,1.1s,mb5.9
PALK Pallekele 45.95 277 *e*P **P** **10 15 21.2 -1.9**
comp=Z,37nm,0.9s,mb5.3
PALK LR LR
comp=Z,1µm,21.0s,MS4.9
NOUC Port Laguerre 45.95 125 *e*P **P** **10 15 22.1 -0.9**
DZM Mont Dzumac 46.05 124 *e*P **P** **10 15 23.9 +0.1**
DZM Mont Dzumac 46.05 124 P **P** **10 15 24.0 +0.2**
comp=Z,24nm,1.0s,mb5.1,baz=314,slow=6.1,SNR=16
DZM Mont Dzumac 46.05 124 *e*P **P** **10 15 23.9 0.0**
GUN Gumba 46.23 307 *e*P **P** **10 15 24.6 -0.6**
comp=Z,440nm,0.7s,mb6.5
YSS Yuzh-Sakhalins 46.23 15*o e*P **P** **10 15 24.4 -0.5**
YSS *e* 10 16 58.0
YSS *e* 10 17 18.3
YSS *e*PPP PPP 10 18 00.0 +1.2
YSS *e*S **S** **10 22 08.0 +0.8**
YSS *e*SS SS 10 25 12.0 -13
YSS pmax pmax
comp=N,140nm,1.2s
YSS pmax pmax
comp=E,90nm,1.2s
YSS pmax pmax
comp=Z,240nm,1.2s,mb6.0
YSS MLR MLR
comp=N,3µm,25.0s
YSS MLR MLR
comp=Z,3µm,25.0s,MS5.1
YSS Yuzh-Sakhalins 46.23 15⇑ *e*P **P** **10 15 24.3 -0.6**
comp=Z,176nm,1.0s,mb6.0
YSS LR LR
comp=Z,2µm,21.0s,MS5.1
PKI Pulchoki 46.46 306 *e*P **P** **10 15 25.0 -2.0**
comp=Z,607nm,1.4s,mb6.3
PKI Pulchoki 46.46 306 *e*P **P** **10 15 25.0 -2.0**
PKI pmax pmax
comp=Z,303nm,1.4s,mb6.0
KLR Kul'dur 46.54 5⇓ *i*P **P** **10 15 24.2 -3.1**
KLR *e* 10 17 10.0
KLR *e*S **S** **10 22 10.5 -1.0**
KLR *e*SS SS 10 25 23.5 -6.9

KLR pmax pmax
comp=N,50nm,1.4s
KLR pmax pmax
comp=E,90nm,1.4s
KLR pmax pmax
comp=Z,170nm,1.4s,mb5.8
KLR MLR MLR
comp=E,2µm,16.0s
KLR MLR MLR
comp=Z,2µm,16.0s,MS5.2
KKN Kakani 46.66 306 *e*P **P 10 15 27.5 -1.1**
comp=Z,426nm,1.1s,mb6.3
KKN Kakani 46.66 306 *e*P **P 10 15 27.5 -1.1**
KKN pmax pmax
comp=Z,213nm,1.1s,mb6.0
DMN Daman 46.73 306 *e*P **P 10 15 27.6 -1.5**
comp=Z,556nm,1.2s,mb6.4
HIA Hailar 46.74 354 *e*P **P 10 15 29.0 +0.1**
HIA pmax pmax
comp=Z,168nm,1.0s
HIA MLR MLR
comp=Z,5µm,21.0s
HIA Hailar 46.74 354 *e*P **P 10 15 29.0 +0.1**
comp=Z,168nm,1.0s,mb5.9
HIA LR LR
comp=Z,5µm,21.0s,MS5.5
MDRS Chennai 46.99 285 *e* **P 10 15 43.0 +12**
MDRS *e* 10 17 38.0
MDRS *e* 10 22 19.0
MDRS *e* 10 26 28.0
GKN Gorkha 47.27 306 *e*P **P 10 15 32.1 -1.2**
comp=Z,393nm,1.0s,mb6.3
BLSP Bilaspur 47.28 298 *e*P **P 10 15 32.9 -0.6**
BLSP AMb AMB 10 15 36.9
comp=Z,429nm,1.2s,mb6.2
KOLN Koldanda 48.01 306 *e*P **P 10 15 38.1 -1.1**
comp=Z,1µm,1.2s,mb6.8
ULN Ulaanbaatar 48.03 342⇑ *e*P **P 10 15 33.2 -5.9**
ULN pmax pmax
comp=Z,137nm,1.0s,mb5.9
ULN MLR MLR
comp=Z,2µm,20.0s,MS5.2
ULN Ulaanbaatar 48.03 342⇑ *e*P **P 10 15 33.2 -5.8**
comp=Z,137nm,1.0s,mb5.9
ULN *i* P 10 15 37.9
ULN LR LR
comp=Z,2µm,20.0s,MS5.2
SONM Songino Array 48.21 342 P **P 10 15 39.6 -0.8**
comp=Z,65nm,0.8s,mb5.7,baz=160,slow=5.9,SNR=175
SONM PcP PcP 10 17 08.5 +1.1
comp=Z,21nm,0.9s,baz=158,slow=5.3,SNR=4.1
SONM ScP 10 21 00.1
comp=Z,6.6nm,1.0s,baz=135,slow=1.7,SNR=6.1
SONM S **S** **10 22 36.8 +1.7**
comp=Z,0.4nm,0.5s,baz=319,slow=11,SNR=2.6
SONM ScS ScS 10 25 29.0 +2.9
comp=Z,0.1nm,0.3s,baz=106,slow=10,SNR=1.9
SONM LR LR 10 39 09.9
comp=Z,2µm,19.8s,MS5.2,baz=153,slow=40
TAU Tasmania Unive 49.12 160 PFAKE
TAU LR LR 10 16 00.0 +12
comp=Z,906nm,19.0s,MS4.8
HYB Hyderabad 49.36 291⇑ *e*P **P 10 15 48.0 -1.7**
HYB *e*S **S** **10 22 48.0 -3.6**
HYB pmax pmax
comp=Z,379nm,1.2s,mb6.3
HYB Hyderabad 49.36 291⇑ *e*P **P 10 15 48.0 -1.7**
comp=Z,379nm,1.2s,mb6.3
HYB *e*S **S** **10 22 48.0 -3.6**
HYB Hyderabad 49.36 291⇑ *i*P **P 10 15 48.0 -1.7**
comp=Z,379nm,1.2s,mb6.3
HYB *e* pP 10 16 04.0 +1.1
HYB *e*S **S** **10 22 48.0 -3.6**
HYB LR LR 10 34 20.0
comp=Z,8.7nm,28.0s
CIT Chita 50.33 350 *e*P **P 10 15 57.0 +0.4**
CIT *e* 10 16 02.4
CIT *e* pP 10 16 15.0 +5.1
CIT pmax pmax
comp=Z,721nm,1.7s,mb6.4
LGTI Lohaghat 51.38 306 *e*P **P 10 16 04.0 -0.9**
LGTI *e* 10 17 22.7
LATR Latur 51.42 291⇓ *i*P **P 10 16 03.8 -1.5**
ZAK Zakamensk 51.43 341 *e*P **P 10 16 04.2 -0.8**
ZAK *e* 10 17 20.3
ZAK pmax pmax
comp=Z,21nm,1.1s,mb5.0
ZAK pmax pmax
comp=Z,29nm,1.0s,mb5.2
ZAK pmax pmax
comp=Z,14nm,1.3s,mb4.7
PTH Pithoragarh 51.44 306 *e*P **P 10 16 04.0 -1.4**
PTH *e* 10 21 16.0
AKL Akola 51.49 294⇑ *i*P **P 10 16 08.4 +2.6**
AKL *i* 10 16 28.6
BHPL Bhopal 51.76 298 *e*P **P 10 16 06.1 -1.8**
BHPL AMb AMB 10 16 09.8
comp=Z,365nm,1.0s,mb6.3
TLY Talaya 52.44 342 *c i*P **P 10 16 12.3 -0.3**
TLY *e* 10 16 30.9
TLY *e*PPP PPP 10 19 09.1 -9.0
TLY *e*S **S** **10 23 33.4 -0.3**
TLY pmax pmax
comp=Z,159nm,1.2s,mb5.8
TLY Talaya 52.44 342⇑ *e*P **P 10 16 12.0 -0.5**
comp=Z,143nm,1.1s,mb5.8
TLY LR LR
comp=Z,555nm,22.0s,MS4.6
IRK Irkutsk 52.75 343⇑ *i*P **P 10 16 14.1 -0.8**
IRK *e* 10 23 41.0
IRK *e* 10 26 00.2
IRK pmax pmax
comp=Z,276nm,2.6s,mb5.7
MOY Mondy 53.28 340 *e*P **P 10 16 18.7 -0.2**
MOY pmax pmax
comp=Z,341nm,2.5s,mb5.8
KAD Karad 53.44 289 *e*P **P 10 16 18.0 -2.5**
KAD AMb AMB 10 16 22.3
comp=Z,203nm,1.1s,mb6.0
DDI Dehra Dun 53.47 306 *e*P **P 10 16 18.8 -1.7**
DDI *e*S **S** **10 23 52.8 +5.0**
WMQ Urumqi 53.48 326⇑⇑ P **P 10 16 19.5 -1.0**
WMQ AP pP 10 16 25.9 -7.9
WMQ PP PP 10 18 23.9 +1.2
WMQ S **S** **10 23 52.5 +4.6**
WMQ AMB AMB
comp=Z,158nm,1.1s,mb5.9
WMQ AMB AMB
comp=Z,1µm,4.9s
WMQ LR LR
comp=N,7µm,24.5s,MS5.7
WMQ LR LR
comp=E,2µm,21.0s,MS5.7
WMQ LR LR
comp=Z,6µm,22.8s,MS5.6
NDI New Delhi 53.58 304 *e* **P 10 16 16.0 -5.4**
NDI *e* 10 23 44.0
SKR Severo-Kuril's 53.88 23 *e*P **P 10 16 21.2 -2.0**
SKR *e*S **S** **10 23 56.0 +2.9**
SKR pmax pmax
comp=Z,40nm,0.5s,mb5.6
SKR smax
comp=N,1µm,6.0s
SKR smax
comp=E,2µm,6.0s
POO Poona 53.96 291 *e*P **P 10 16 22.4 -1.9**
POO AMb AMB 10 16 26.3
comp=Z,319nm,1.3s,mb6.1
CLNS Chul'man 53.97 359 *e*P **P 10 16 23.4 -0.4**
CLNS *e**PP pP 10 16 30.4 -6.9
CLNS *e* 10 17 25.1
CLNS *e* 10 18 21.4
CLNS *e*S **S** **10 24 00.4 +6.1**
CLNS *e*SS SS 10 27 39.1 +3.6
CLNS pmax pmax
comp=Z,159nm,0.8s,mb6.0
CLNS pmax pmax
comp=N,68nm,0.7s
CLNS pmax pmax
comp=E,47nm,0.9s
CLNS pmax pmax
comp=Z,19nm,1.0s,mb5.0
CLNS pmax pmax
comp=N,38nm,0.8s
CLNS pmax pmax
comp=E,33nm,1.0s
CLNS smax
comp=E,158nm,10.6s
CLNS smax
comp=Z,164nm,11.5s
CLNS smax
comp=N,1µm,13.2s
SMLA Simla 54.47 307⇓ *i*P **P 10 16 23.9 -4.0**
comp=N,369nm,2.0s,mb6.0
SMLA *i* 10 23 57.2
SDNR Sundarnagar 54.76 307 *e*P **P 10 16 29.0 -1.0**
DGAR Diego Garcia 54.98 259 PFAKE
DGAR LR LR
comp=Z,752nm,20.0s,MS4.8
AJM Ajmer 55.08 301⇑ *i*P **P 10 16 30.0 -2.4**
BHK Bhakra 55.17 307 *e*P **P 10 16 32.0 -1.0**
PONG Pong 55.73 307 *e*P **P 10 16 36.0 -1.0**
BOD Bodaibo 55.84 352 *e*P **P 10 16 38.9 +1.5**
BOD pmax pmax
comp=Z,96nm,1.9s,mb5.5
DLH Dalhousie 55.93 308 *e*P **P 10 16 37.0 -1.4**
DLH *e* pP 10 16 46.0 -5.9
THN Thein Dam 56.09 308 *e*P **P 10 16 36.8 -2.8**
THN *e* 10 26 25.6
PET Petropavlovsk 56.69 23 *c i*P **P 10 16 43.0 -0.6**
PET *e*S **S** **10 24 32.3 +1.6**
PET *e*PS PS 10 24 48.8 -1.2
PET pmax pmax
comp=Z,49nm,0.8s,mb5.6
PET pmax pmax
comp=Z,200nm,12.5s
PET smax
comp=E,600nm,10.4s
PET MLR MLR
comp=Z,1µm,20.0s,MS5.1
PET Petropavlovsk 56.69 23 *e*P **P 10 16 42.9 -0.7**
comp=Z,232nm,1.3s,mb6.0
MKAR Makanchi Array 58.31 326 P **P 10 16 53.7 -1.4**
MKAR 10 17 46.9
MKAR S **S** **10 24 52.4 +0.4**
MKAR 10 26 40.5
MKAR Makanchi Array 58.31 326 P **P 10 16 53.7 -1.4**
comp=Z,33nm,0.5s,mb5.6,baz=121,slow=8.3,SNR=257
MKAR PcP PcP 10 17 46.9 +1.4
comp=Z,34nm,0.7s,baz=119,slow=5.2,SNR=5.7
MKAR ScP 10 21 42.6
comp=Z,3.5nm,0.8s,baz=117,slow=6.4,SNR=4.6
MKAR S **S** **10 24 52.4 +0.4**
comp=Z,1.9nm,1.1s,baz=180,slow=4.9,SNR=3.6
MKAR ScS ScS 10 26 40.5 +3.8
comp=Z,1.9nm,1.1s,baz=90,slow=2.9,SNR=3.8
MKAR LR LR 10 43 11.1
comp=Z,6µm,21.0s,MS5.7,baz=140,slow=37
MKAR PKP2bc 10 46 46.3
comp=Z,1.6nm,1.0s,baz=270,slow=2.9,SNR=5.4
MKAR Makanchi Array 58.31 326 P **P 10 16 53.7 -1.4**
MKAR PcP PcP 10 17 46.9 +1.4
MKAR ScP 10 21 42.6
MKAR S **S** **10 24 52.4 +0.4**
MKAR ScS ScS 10 26 40.5 +3.8
MKAR LR LR 10 43 11.1
MKAR ⇑ *e* 10 46 46.3
KSH Kashi 58.68 316⇑ *e*P **P 10 16 58.4 +0.7**
KSH *e*AP pP 10 17 04.0 -7.3
KSH *e*PCP PcP 10 17 49.5 +2.5
KSH *e*PP PP 10 19 10.0 +0.5
KSH *e*PCS 10 21 49.3
KSH *e*S **S** **10 25 00.0 +3.1**
KSH *e*SCS ScS 10 26 44.4 +4.9
KSH *e*SS SS 10 28 57.3 +5.3
KSH AMB AMB
comp=Z,590nm,1.1s,mb6.5
KSH LR LR
comp=N,2µm,13.6s
KSH LR LR
comp=E,8µm,19.7s
YAK Yakutsk 59.21 2 *c i*P **P 10 17 00.4 -0.7**
YAK pmax pmax
comp=Z,403nm,1.1s,mb6.4
YAK MLR MLR
comp=Z,2µm,18.0s,MS5.3
YAK Yakutsk 59.21 2⇑ *e*P **P 10 17 00.1 -1.0**
comp=Z,355nm,0.9s,mb6.4
ULHL Ulahol 59.69 319 P **P 10 17 03.8 -0.9**
SNR=35
MA2 Magadan 59.70 14 *e*P **P 10 17 04.1 -0.4**
MA2 pmax pmax
comp=Z,159nm,1.1s,mb6.0
MA2 Magadan 59.70 14 *e*P **P 10 17 04.1 -0.4**
comp=Z,159nm,1.1s,mb6.0
KZA Kyzart 60.28 318 P **P 10 17 09.5 +0.8**
SNR=98
TKM2 Tokmak 2 60.42 319 P **P 10 17 08.9 -0.8**
SNR=52
UCH Uchtor 60.84 318 P **P 10 17 12.6 +0.1**
SNR=215
RPZ Rata Peaks 61.01 145 LR LR 10 44 12.5
comp=Z,4µm,21.3s,MS5.5,baz=304,slow=36
CHMS Chunysh 61.02 319 P **P 10 17 13.1 -0.6**
SNR=18
AAK Ala-Archa 61.02 318 P **P 10 17 15.6 +1.9**
SNR=19
AAK Ala-Archa 61.02 318⇑ *e*P **P 10 17 12.2 -1.6**
AAK pmax pmax
comp=Z,132nm,1.4s,mb5.9
AAK MLR MLR
comp=Z,533nm,21.0s,MS4.7
AAK Ala-Archa 61.02 318⇑ *e*P **P 10 17 12.2 -1.6**
comp=Z,132nm,1.4s,mb5.9
AAK LR LR
comp=Z,533nm,21.0s,MS4.7
FRU Bishkek 61.03 319⇓ *i*P **P 10 17 14.2 +0.4**
FRU *e* 10 25 30.0
FRU pmax pmax
comp=Z,380nm,2.5s,mb6.1
FRU MLR MLR
comp=Z,5µm,21.0s,MS5.6
USP Ospenovka 61.30 319 P **P 10 17 15.3 -0.3**
SNR=32
AML Almayashu 61.35 317 P **P 10 17 15.8 -0.2**
SNR=148
ZAL Zalesovo 61.43 333 P **P 10 17 14.9 -1.5**
comp=Z,24nm,0.6s,mb5.5,baz=352,slow=7.2,SNR=67
ZAL S **S** **10 25 32.9 +0.9**
comp=Z,1.8nm,0.5s,baz=229,slow=16,SNR=4.9
ZAL ScS ScS 10 27 02.7 +3.0
comp=Z,1.6nm,0.3s,baz=244,slow=23,SNR=2.1
ZAL LR LR 10 48 10.5
comp=Z,2µm,20.4s,MS5.2,baz=337,slow=40
EKS2 Erkin-Say 61.52 318 P **P 10 17 16.7 -0.4**
SNR=50
RAO Raoul Island 61.84 125 LR LR 10 44 22.7
comp=Z,1µm,18.3s,MS5.1,baz=316,slow=36
NVS Novosibirsk 62.71 333⇑ *i*P **P 10 17 22.6 -2.3**
NVS *i*S **S** **10 25 45.1 -3.1**
NVS *e* 10 27 09.1
NVS pmax pmax
comp=Z,95nm,0.9s,mb5.9
NVS pmax pmax
comp=N,52nm,0.8s
NVS smax
comp=E,108nm,1.9s
NVS smax
comp=N,65nm,2.1s
FX1 Attu Island--F 63.00 30 P **P 10 17 26.9 0.0**
comp=N,151nm,0.8s,baz=86,slow=2.6,SNR=45
FX1 LR LR 10 42 14.9
comp=N,89nm,21.7s,baz=247,slow=34
FX1 Attu Island--F 63.00 30 *e*P **P 10 17 26.9 0.0**
SEY Seymchan 63.03 13 *i*P **P 10 17 24.4 -2.5**
SEY 10 18 08.8
SEY 10 19 50.5
SEY *e* 10 21 20.1 +1.6
SEY *e*PPP PPP 10 25 53.5 +1.4
SEY *e*S **S** 10 26 10.8
SEY *e* 10 26 10.8
SEY 10 27 10.5
SEY *e*SS SS 10 30 03.4 +3.1
SEY pmax pmax
comp=Z,140nm,1.5s,mb5.9
SEY pmax pmax
comp=E,60nm,1.2s
SEY Seymchan 63.03 13 *i*P **P 10 17 27.1 +0.2**
AFI Afiamalu 63.25 107 LR LR 10 42 25.4
comp=E,399nm,21.2s,MS4.6,baz=290,slow=34
KKAR Karatay Array 63.89 317 *i*P **P 10 17 31.4 -1.4**
VOSK Vostochnaya 67.64 327 *i*P **P 10 17 55.1 -1.5**
BVA0 Borovoye Array 68.10 327 *i*P **P 10 17 58.0 -1.4**
BVA0 pmax pmax
comp=Z,36nm,1.6s,mb5.2
BVAR Borovoye Array 68.10 327 P **P 10 17 58.1 -1.3**
comp=Z,21nm,0.5s,mb5.4,baz=127,slow=7.4,SNR=88
BVAR S S 10 26 51.8 -2.3
comp=Z,1.0nm,0.5s,baz=237,slow=41,SNR=3.0
BVAR ScS ScS 10 27 52.8 +2.1
comp=Z,0.6nm,0.5s,baz=229,slow=43,SNR=1.9
BVAR PKP2bc 10 46 18.7
comp=Z,0.3nm,0.5s,baz=288,slow=4.7,SNR=5.3
BVAR Borovoye Array 68.10 327 P **P 10 17 58.1 -1.3**
BVAR S S 10 26 51.8 -2.3
BVAR ScS ScS 10 27 52.8 +2.1
BVAR ⇑ *e* 10 46 18.7
ZRNK Zerenda 68.82 327 P **P 10 18 02.4 -1.5**
ZRNK pmax pmax
comp=Z,339nm,1.8s,mb6.0
ZRNK Zerenda 68.82 327 *e*P **P 10 18 02.8 -1.1**
TIXI Tiksi 68.84 1 *e*P **P 10 17 59.8 -4.0**
TIXI *e*S S 10 26 56.0 -6.7
TIXI *e*SS SS 10 31 23.3 -6.9
TIXI pmax pmax
comp=Z,85nm,1.1s,mb5.6
TIXI Tiksi 68.84 1⇑ *i*P **P 10 18 02.9 -0.9**
CASY Casey 69.81 187 *e*P **P 10 18 09.5 -0.3**
DRV Dumont d'Urvil 69.89 174 P pP 10 18 22.0 -2.2
DRV S S 10 27 21.0 +5.9
DRV L 10 36 00.0
BILL Bilibino 70.55 15 *i*P **P 10 18 14.1 -0.1**
BILL *e* 10 18 38.2
BILL *e* 10 20 47.7
BILL pmax pmax
comp=Z,69nm,1.5s,mb5.4
BILL MLR MLR
comp=Z,3µm,21.0s,MS5.6
BILL Bilibino 70.55 15 *e*P **P 10 18 13.5 -0.7**
comp=Z,30nm,0.8s,mb5.3
NIKO Nikolski 72.70 35 P **P 10 18 28.8 +1.5**
AB31 Akbulak array 72.86 321 *i*P **P 10 18 27.5 -0.8**
AB31 pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
AB31 Akbulak array 72.86 321 *i*P **P 10 18 27.6 -0.7**
MIR Mirnyy 73.16 193 *c i*P **P 10 18 30.0 +0.2**
MIR *i* pP 10 18 47.0 +3.2
MIR pmax pmax
comp=Z,216nm,2.0s,mb5.7
SVE Sverdlovsk 74.75 329 *α i*P **P 10 18 39.3 +0.1**
SVE *e*S S 10 28 07.0 -3.6
SVE *e*PS PS 10 28 36.0 -17
SVE pmax pmax
comp=Z,540nm,1.3s,mb6.3
SVE MLR MLR
comp=N,200nm,20.0s,MS5.3
SVE MLR MLR
comp=E,2µm,20.0s,MS5.3
SVE MLR MLR
comp=Z,2µm,20.0s,MS5.4
AKUT Akutan 74.80 34 *e*P **P 10 18 40.9 +1.4**
AKUT LR LR
comp=Z,2µm,23.0s,MS5.5
ARU Arti 75.72 328⇓ *i*P **P 10 18 43.6 -1.1**
ARU *e* 10 21 36.5
ARU *e*PPP PPP 10 23 22.0 -1.4
ARU *i*S S 10 28 23.4 +2.1
ARU *e* 10 28 52.7
ARU *e*SS SS 10 33 11.0 -5.3
ARU pmax pmax
comp=Z,202nm,1.0s,mb6.0
ARU MLR MLR
comp=Z,2µm,24.0s,MS5.4
ARU MLR MLR
comp=N,1µm,21.0s,MS5.5
ARU MLR MLR
comp=E,2µm,21.0s,MS5.5
ARU Arti 75.72 328 *e*P **P 10 18 43.5 -1.2**
comp=E,182nm,0.9s,mb6.0
HASS Wahat al Ahsa' 77.02 295 P **P 10 18 52.5 -0.3**
SOKR Solikamsk 77.53 331 *c i*P **P 10 18 54.3 -0.5**
SOKR S S 10 28 38.8 -2.1
SOKR pmax pmax
comp=Z,220nm,1.7s,mb5.8
SOKR MLR MLR
comp=Z,4µm,22.0s,MS5.7
SDPT Sand Point 78.08 34 *e*P **P 10 18 59.5 +1.5**
SDPT LR LR
comp=Z,3µm,23.0s,MS5.6
QRN Al-Qurain 78.79 299 *e*P **P 10 19 02.0 -0.4**
QRN AMb AMB 10 19 08.2
comp=Z,133nm,0.4s,mb6.2
KBD Kabd 79.01 299 *e*P **P 10 19 03.5 -0.2**
RDF Al-Radifah 79.12 299 *e*P **P 10 19 03.5 -0.7**
RYDS Riyadh 79.75 294 P **P 10 19 07.6 -0.2**
MAK Makhachkala 80.18 313 *e*P **P 10 19 10.0 +0.3**
MAK *i* pP 10 19 26.0 +2.2
MAK *e*S S 10 29 10.0 +0.6
MAK *e*PS PS 10 29 56.0 -5.3
MAK pmax pmax
comp=Z,700nm,2.0s,mb6.2
MAK pmax pmax
comp=Z,500nm,12.0s
MAK smax
comp=N,2µm,8.0s
MAK smax
comp=E,2µm,8.0s
LBOS 80.98 284⇓ *e*P **P 10 19 14.2 -0.3**
MZLS Mizel 81.06 294 P **P 10 19 15.1 +0.4**
DGRG David-gareji 81.64 311 P **P 10 19 18.9 +1.5**
DGRG S S 10 29 31.6 +7.1
SVW2 Sparrevohn 81.73 29 *e*P **P 10 19 19.5 +2.1**
TTA Tatalina 81.84 27 *e*P **P 10 19 20.0 +2.1**
GNI Garni 82.04 310 P **P 10 19 21.6 +2.1**
GNI S S 10 29 31.1 +2.5
GNI pmax pmax
comp=Z,9.0nm,0.6s
GNI smax
comp=E,3.0nm,0.4s
GNI Garni 82.04 310 P **P 10 19 21.6 +2.1**
comp=E,8.5nm,0.6s,mb4.9,baz=303,slow=19,SNR=16
GNI S S 10 29 31.1 +2.5
comp=E,3.3nm,0.3s,baz=7.5,slow=22,SNR=2.2
GNI Garni 82.04 310⇑ *e*P **P 10 19 20.8 +1.3**
comp=E,208nm,1.4s,mb5.9
MTA Mtatsminda 82.09 312 P **P 10 19 20.4 +0.7**
TI2 Plekhanov 82.12 312⇑ *i*P **P 10 19 23.0 +3.1**
TI2 *e*S S 10 29 33.0 +3.6
TI2 MLR MLR
comp=N,1µm,20.0s,MS5.2
TI2 MLR MLR
comp=E,500nm,20.0s,MS5.2
TI2 MLR MLR
comp=Z,1µm,20.0s,MS5.2
TBLG Delisi 82.13 312 P **P 10 19 20.5 +0.6**
VNDA Vanda 82.45 173 *e*P **P 10 19 20.8 -0.1**
VNDA pmax pmax
comp=Z,33nm,0.9s
VNDA Vanda 82.45 173 P **P 10 19 20.8 -0.1**
comp=Z,19nm,0.8s,mb5.0,baz=317,slow=5.6,SNR=58
VNDA S S 10 29 34.0 +1.9
comp=Z,0.4nm,0.9s,baz=81,slow=23,SNR=7.3
VNDA Vanda 82.45 173 *e*P **P 10 19 20.8 -0.1**
comp=Z,33nm,0.9s,mb5.3
DJNS Zahran al Janu 82.59 287 P **P 10 19 24.2 +1.5**
CLDR Calderan 82.63 309 P Px 10 18 23.9
TATS Tathlith 82.64 289 P **P 10 19 23.9 +1.0**
HAKT HAKKARI 82.73 307 *i*P **P 10 19 23.2 +0.2**
MAW Mawson 82.78 200 *e*P **P 10 19 23.9 +1.2**
comp=Z,12nm,0.6s,mb5.1
MAW Mawson 82.78 200 P **P 10 19 23.8 +1.1**
MAW S S 10 29 38.5 +2.9
MAW pmax pmax
comp=Z,15nm,1.0s
MAW smax
comp=E,1.0nm,0.3s
MAW Mawson 82.78 200 P **P 10 19 23.8 +1.1**
comp=E,15nm,1.0s,mb5.0,baz=70,slow=9.0,SNR=13
MAW S S 10 29 38.5 +3.0
comp=E,0.5nm,0.3s,baz=298,slow=14,SNR=2.0
ZEI Tsey 82.81 313 *e*P **P 10 19 24.3 +0.9**
ZEI *i* 10 22 33.1
ZEI *e*S S 10 29 37.5 +1.1
ZEI pmax pmax

comp=Z,89nm,1.1s,mb5.7
RSO Redoubt South 83.01 30 *e*P **P 10 19 24.2 +0.2**
ONI Oni 83.13 312 P **P 10 19 25.3 +0.4**
KARS Kars 83.32 310 *e*P Px 10 18 29.4
IMA Indian Mountai 83.34 24 *e*P **P 10 19 27.2 +1.7**
IMA pmax pmax
comp=Z,1µm,1.4s,mb6.7
IMA Indian Mountai 83.34 24 *e*P **P 10 19 27.9 +2.4**
SBA Scott Base 83.36 172 *e*P **P 10 19 26.7 +1.2**
SBA pmax pmax
comp=Z,62nm,1.2s,mb5.5
SBA Scott Base 83.36 172 *e*P **P 10 19 26.7 +1.2**
comp=Z,62nm,1.2s,mb5.5
SPU Mount Spurr 83.44 29 *e*P **P 10 19 27.0 +0.9**
GOF Gofitskoye 83.55 315⇑ *i*P **P 10 19 26.0 -1.1**
GOF *i*S S 10 29 39.5 -4.2
GOF pmax pmax
comp=Z,57nm,1.2s,mb5.6
GOF smax
comp=E,31nm,1.0s
PECR Pechory 83.60 326 *i*P **P 10 19 27.4 +0.4**
PECR *i* 10 19 35.4
PECR *i*S S 10 29 44.7 +0.7
PECR pmax pmax
comp=Z,660nm,2.0s,mb6.4
PECR pmax pmax
comp=Z,1µm,2.4s,mb6.6
PECR smax
comp=E,2µm,5.2s
PECR smax
comp=N,900nm,4.4s
PECR MLR MLR
comp=Z,2µm,26.0s,MS5.5
PECR MLR MLR
comp=N,2µm,21.0s,MS5.7
PECR MLR MLR
comp=E,2µm,24.0s,MS5.7
KIV Kislovodsk 83.75 314α *i*P **P 10 19 28.8 +0.7**
KIV *e* 10 19 36.6
KIV *e*PPP PPP 10 24 38.8 +0.8
KIV *i* 10 29 45.5
KIV *i*S PS PS 10 31 06.4 +20
KIV pmax pmax
comp=Z,98nm,1.6s
KIV pmax pmax
comp=Z,568µm,2.5s
KIV Kislovodsk 83.75 314 *e*P **P 10 19 28.6 +0.5**
comp=Z,86nm,1.1s,mb5.8
KIV LR LR
comp=Z,287nm,22.0s,MS4.6
BCHG Becho 83.79 313 P **P 10 19 30.0 +1.6**
HILS Ha'il 84.17 297 P **P 10 19 31.6 +1.0**
SLKM Skilak Lake 84.27 30 *e*P **P 10 19 30.7 +0.4**
BLJS Baljurashi 84.40 290 P **P 10 19 33.3 +1.3**
BCA Borcka 84.46 311 P Px 10 18 32.5
ERZM Erzurum 84.62 310 *i*P **P 10 19 34.8 +2.1**
EZM Erzurum 84.62 310 *e*P Px 10 18 35.0
BEST Besiri 84.67 308 *i*P **P 10 19 34.0 +1.1**
PMR Palmer 84.87 29 *e*P **P 10 19 34.0 +0.7**
PMR MLR MLR
comp=Z,1µm,21.0s,MS5.2
PPT Papeete 84.91 108 *e*P **P 10 19 26.9 -7.6**
PPT *e*PP PP 10 23 35.6 +42
comp=Z,186nm,27.2s
PPT *e*S S 10 30 28.9 +31
comp=Z,555nm,26.0s
PPT *e*SS SS 10 35 57.3 +23
comp=Z,1µm,28.2s
PPT *e*LQ 10 44 55.5
comp=Z,3µm,31.2s
PPT *e*LR LR 10 47 22.6
comp=Z,6µm,30.0s,baz=302
PPT Papeete 84.91 108 LR LR 10 57 35.2
comp=Z,552nm,18.2s,MS5.0,baz=275,slow=36
MCK McKinley 85.11 26 *e*P **P 10 19 35.1 +0.7**
MCK pmax pmax
comp=Z,131nm,1.6s,mb5.8
MCK McKinley 85.11 26 *e*P **P 10 19 35.1 +0.6**
comp=Z,131nm,1.6s,mb5.8
SML Sawmill 85.27 28 *e*P **P 10 19 36.0 +0.7**
TBI Tubuai 85.49 114 *e*P **P 10 19 34.9 -2.4**
TBI *e*PP PP 10 23 00.6 +3.0
comp=Z,226nm,28.8s
TBI *e*LQ 10 43 42.1
comp=Z,1µm,34.2s
TBI *e*LR LR 10 47 45.7
comp=Z,3µm,28.8s,baz=293
LTHS Al Lith 85.51 290 P **P 10 19 39.0 +1.5**
SOC Sochi 85.89 313*d* *i*P **P 10 19 38.3 -0.5**
SOC *e*PPP PPP 10 24 58.5 +1.0
SOC *e*S S 10 29 59.9 -6.9
SOC pmax pmax
comp=Z,186nm,1.0s,mb6.3
SOC pmax pmax
comp=N,90nm,0.9s
SOC pmax pmax
comp=E,39nm,1.0s
SOC MLR MLR
comp=Z,2µm,22.0s,MS5.4
SOC MLR MLR
comp=N,1µm,21.0s,MS5.5
SOC MLR MLR
comp=E,1µm,22.0s,MS5.5
ILAR Eielson Array 86.05 25 P **P 10 19 39.3 +0.2**
comp=E,3.6nm,0.5s,mb4.9,baz=258,slow=5.2,SNR=44
ILAR PP PP 10 22 56.9 -4.3
comp=E,7.2nm,1.3s,baz=254,slow=6.6,SNR=5.2
ILAR S S 10 30 00.1 -7.7
comp=E,0.4nm,1.0s,baz=227,slow=10,SNR=3.2
ILAR PKKPbc 10 37 41.0
comp=E,0.6nm,0.8s,baz=118,slow=2.2,SNR=5.0
ILAR PKPPKP 10 45 46.8
comp=E,0.8nm,1.1s,baz=29,slow=3.0,SNR=4.6
ILAR LR LR 10 58 05.7
comp=E,782nm,21.3s,MS5.1,baz=230,slow=36
ILAR Eielson Array 86.05 25 P **P 10 19 39.3 +0.2**
ILAR PP PP 10 22 56.9 -4.3
ILAR S S 10 30 00.1 -7.7
ILAR PKKPbc 10 37 41.0
ILAR P'P' 10 45 46.8
ILAR LR LR 10 58 05.7
GUMT Gumushane 86.07 310 *e*P Px 10 18 41.4
PTK Pertek 86.15 309 P Px 10 18 41.7
KELT Kelkit 86.24 310 *i*P **P 10 19 42.8 +2.2**
VOR Voronezh 86.28 321 *e*P **P 10 19 40.3 -0.1**
VOR *e*S S 10 30 11.8 +1.5
VOR pmax pmax
comp=Z,970nm,1.4s,mb6.8
VOR pmax pmax
comp=N,70nm,1.5s
VOR pmax pmax
comp=E,600nm,1.4s
VOR smax
comp=E,500nm,1.4s
VOR smax
comp=Z,80nm,1.7s
VOR smax
comp=N,130nm,1.6s
KBRS Khaybar 86.45 296 P **P 10 19 43.4 +1.5**
ELZG Elazig 86.47 308 *i*P **P 10 19 43.7 +2.0**
DIV Divide 86.47 29 *e*P **P 10 19 43.1 +1.9**
comp=N,409nm,1.2s,mb6.5
EYAK Cordova Ski Ar 86.48 30 P **P 10 19 43.0 +1.7**
URFA Urfa 86.61 307 *e*P Px 10 18 44.4
MALT Malatya 86.91 308 P Px 10 18 45.1
MALT Malatya 86.91 308 *e*P **P 10 19 44.7 +0.8**
MALT pmax pmax
comp=Z,246nm,1.4s,mb6.2
MALT Malatya 86.91 308 *e*P **P 10 19 44.7 +0.8**
comp=Z,246nm,1.4s,mb6.2
MYA Malataya 86.91 308 *e*P Px 10 18 46.0
MOS Moscow 87.20 326α *i*P **P 10 19 45.9 +1.0**
MOS *i* pP 10 20 01.0 +1.8
MOS *e* 10 23 13.2
MOS *e* 10 30 08.3
MOS *i*S S 10 30 19.1 +0.1
MOS pmax pmax
comp=Z,1µm,2.5s,mb6.8
MOS pmax pmax
comp=Z,361nm,1.4s,mb6.4
MOS pmax pmax
comp=N,121nm,1.0s
MOS smax
comp=N,2µm,3.5s
MOS smax
comp=E,1µm,3.5s
MOS MLR MLR
comp=Z,4µm,24.2s,MS5.7
ANN Anapa 87.52 315⇓ *i*P **P 10 19 46.1 -0.6**
ANN *e* 10 30 11.1
ANN *e*S S 10 30 24.7 +2.4
ANN pmax pmax
comp=N,71nm,1.2s
ANN pmax pmax
comp=E,59nm,1.2s
ANN pmax pmax
comp=Z,288nm,1.2s,mb6.4
GZT Gaziantep 87.61 307 *i*P **P 10 19 48.7 +1.3**
YNBS Yanbu' al Bahr 87.64 294 P **P 10 19 48.7 +0.9**
OBN Obninsk 87.81 325α *i*P **P 10 19 47.9 +0.1**
OBN *i* pP 10 19 57.6 -4.6
OBN *i* 10 30 12.6
OBN *i* 10 30 25.7
OBN *e*SS SS 10 36 23.3 +7.4
OBN pmax pmax
comp=Z,200nm,0.7s,mb6.5
OBN pmax pmax
comp=Z,199nm,1.0s,mb6.3
OBN MLR MLR
comp=Z,2µm,21.0s,MS5.6
OBN Obninsk 87.81 325 *e*P **P 10 19 47.8 0.0**
comp=Z,292nm,1.0s,mb6.5
GAZ Gaziantep 87.90 307 P Px 10 18 49.8
QURS Qurayyt al Mil 88.00 301 P **P 10 19 50.8 +1.5**
KAHT Ahir Dag 88.15 307 *i*P **P 10 19 51.2 +1.3**
UMJS Umm Lajj 88.23 295 P **P 10 19 51.8 +1.3**
LVZ Lovozero 88.24 338 *i*P **P 10 19 46.2 -3.4**
LVZ *i*S 10 30 09.7
LVZ pmax pmax
comp=Z,41nm,1.1s,mb5.6
LVZ pmax pmax
comp=N,6.0nm,1.0s
LVZ pmax pmax
comp=E,6.0nm,0.9s
LVZ pmax pmax
comp=Z,233nm,2.4s,mb6.0
LVZ pmax pmax
comp=N,53nm,2.0s
LVZ pmax pmax
comp=E,45nm,2.2s
LVZ smax
comp=E,1µm,4.6s
LVZ smax
comp=Z,423nm,6.2s
LVZ smax
comp=N,387nm,3.6s
LVZ MLR MLR
comp=Z,4µm,23.0s,MS5.8
LVZ MLR MLR
comp=N,383nm,17.0s
LVZ MLR MLR
comp=E,3µm,23.0s
LVZ Lovozero 88.24 338 *i*P **P 10 19 50.7 +1.1**
ASF Jabal al Asfar 88.33 302 P **P 10 19 52.2 +1.3**
comp=E,310nm,1.3s,mb6.4,baz=341,slow=1.6,SNR=86
ASF S 10 30 17.6
comp=E,0.9nm,0.3s,baz=312,slow=8.6,SNR=1.7
COBT Iskenderun 88.69 306 *i*P **P 10 19 53.7 +1.2**
APA Apatity 88.73 337⇑ *i*P **P 10 19 52.0 +0.1**
APA *i* pP 10 20 09.0 +2.7
APA *i*PPP PPP 10 25 22.0 -0.5
APA *e* 10 30 19.0
APA *i*S S 10 30 38.0 +4.9
APA *e*SS SS 10 36 29.0 +0.3
APA pmax pmax
comp=Z,65nm,1.4s,mb5.8
APA MLR MLR
comp=Z,2µm,20.0s,MS5.5
TBKS Tabuk 88.79 298 P **P 10 19 54.5 +1.3**
HTY Hatay 88.80 306 *e*P Px 10 18 53.6
BNN Bunyan 88.91 309 P Px 10 18 54.3
KSHT Keshet 89.21 303 P **P 10 19 56.0 +0.9**
BHL Bhannes 89.30 304 *e*P **P 10 19 55.8 +0.3**
KSDI Kefar Szold 89.33 303 P **P 10 19 56.3 +0.7**
JMQS Jabal Moqyreh 89.35 299 P **P 10 19 57.2 +1.4**
KMBO Kilima Mbogo 89.42 269 P **P 10 19 57.5 +1.1**
comp=E,61nm,1.2s,mb5.8,baz=62,slow=5.8,SNR=49
KMBO S 10 30 26.5
comp=Z,0.6nm,0.6s,baz=25,slow=20,SNR=1.7
KMBO LR LR 10 58 48.0
comp=Z,731nm,21.1s,MS5.1,baz=88,slow=35
BOYT Boyabat 89.51 311 *i*P **P 10 19 56.6 +0.3**
MMLI Mount Malkishu 89.57 302 P **P 10 19 57.7 +1.0**
CTKT Corum 89.64 310 *i*P **P 10 19 57.6 +0.7**
AVNT Avonos 89.69 309 *i*P **P 10 19 57.8 +0.6**
HNTI Hanita 89.74 303 P **P 10 19 58.0 +0.5**
CORM Corum 89.78 310 P Px 10 18 58.9
SIM Simferopol' 89.87 315*ce*P **P 10 19 58.7 +0.9**
SIM *e* 10 23 32.0
SIM *e* 10 30 27.0
SIM *e*S S 10 30 47.0 +2.9
SIM pmax pmax
comp=Z,60nm,0.8s,mb6.0
ZFRI Zfri 89.88 300 P **P 10 19 58.7 +0.5**
HAF Haifa 89.89 303 P **P 10 19 58.6 +0.4**
SLTI Sal'it 89.90 302 P **P 10 19 58.9 +0.6**
NIG Nigde 89.92 308 *e*P Px 10 18 56.9
OFRI 'Ofer 89.93 302 P **P 10 19 58.8 +0.4**
JMOS Jabal al Moall 90.01 299 P **P 10 19 59.8 +0.9**
AQBJ Aqaba 90.03 300 P **P 10 19 59.4 +0.4**
PRNI Paran 90.03 300 P **P 10 19 59.6 +0.6**
ALWS Ilw as Safayha 90.04 299 P **P 10 20 00.2 +1.2**
BDAS Al Bad' 90.06 298 P **P 10 20 00.1 +1.0**
EIL Elat 90.12 300 S 10 30 29.5
comp=Z,1.0nm,0.6s,baz=78,slow=34,SNR=3.1
EIL Elat 90.12 300 *e*P **P 10 19 59.7 +0.3**
comp=Z,121nm,1.3s,mb6.1
EIL Elat 90.12 300 P **P 10 19 59.8 +0.4**
MBH Mount Berech 90.14 300 P **P 10 20 00.0 +0.5**
HAQS Haql 90.17 299 P **P 10 20 00.6 +0.9**
MASH Mash'abbe Sade 90.19 301 P **P 10 19 59.8 +0.1**
TAYS Tayyib Ism 90.25 298 P **P 10 20 00.9 +0.9**
KMTI Karmit 90.29 300 P **P 10 20 00.5 +0.3**
MEST Erdemli 90.38 306 *i*P **P 10 20 00.5 0.0**
KZIT Kziot 90.53 301 P **P 10 20 01.4 +0.1**
KAMT Kaman 90.54 309 *e*P Px 10 19 00.6
BR131 Keskin Array S 90.57 310 *e*P **P 10 20 01.0 -0.3**
comp=Z,26nm,0.9s,mb5.6
BRTR Keskin Array B 90.57 310 P **P 10 20 01.1 -0.2**
BRTR S 10 30 27.9
BRTR Keskin Array B 90.57 310 P **P 10 20 01.1 -0.2**
comp=Z,24nm,0.8s,mb5.6,baz=117,slow=5.5,SNR=80
BRTR PP PP 10 23 28.7 -10
comp=Z,3.1nm,1.1s,baz=101,slow=7.3,SNR=4.9
BRTR S 10 30 27.9
comp=Z,0.3nm,0.3s,baz=150,slow=32,SNR=2.6
BALT Daday 90.64 311 *i*P **P 10 20 02.1 +0.6**
ELDT Eldivan 90.68 310 *i*P **P 10 20 01.8 0.0**
IKL Isikli 90.78 306 *e*P Px 10 19 02.6
KEV Kevo 90.79 340 *e*P **P 10 20 00.6 -1.0**
KEV pmax pmax
comp=Z,54nm,1.4s,mb5.7
KEV Kevo 90.79 340 *e*P **P 10 20 00.6 -0.9**
comp=Z,54nm,1.4s,mb5.7
PUL Pulkovo 90.85 330 *i*P **P 10 19 54.8 -7.2**
PUL MLR MLR
comp=Z,2µm,21.0s,MS5.5
PUL MLR MLR
comp=N,1µm,24.0s,MS5.5
PUL MLR MLR
comp=E,2µm,21.0s,MS5.5
INK Inuvik 91.13 21 *e*P **P 10 20 03.6 +0.4**
INK pmax pmax
comp=Z,89nm,1.4s
INK Inuvik 91.13 21 P **P 10 20 03.6 +0.5**
comp=Z,26nm,1.1s,mb5.5,baz=280,slow=5.6,SNR=40
INK S 10 30 31.9
comp=Z,0.8nm,0.8s,baz=82,slow=23,SNR=9.2
INK PKKPbc 10 37 27.2
comp=Z,1.3nm,0.7s,baz=150,slow=3.6,SNR=5.8
INK Inuvik 91.13 21 *e*P **P 10 20 03.6 +0.4**
comp=Z,89nm,1.4s,mb5.9
CSS Prodhromos 91.16 305 *e*P **P 10 20 03.6 -0.5**
comp=Z,67nm,1.0s,mb5.9
SAFT Safranbolu 91.18 311 *e*P Px 10 19 02.0
ANTO Ankara 91.21 310 *e*P Px 10 19 02.2
ARCES ARCESS Array B 91.35 340 P **P 10 20 04.0 -0.2**
comp=Z,26nm,0.8s,mb5.6,baz=76,slow=5.0,SNR=56
ARCES S 10 30 33.9
comp=Z,1.0nm,0.8s,baz=27,slow=14,SNR=2.1
ARCES PKKP PKKP 10 37 26.1 +13
comp=Z,0.8nm,0.7s,baz=236,slow=4.4,SNR=6.0
ARCES LR LR 11 06 21.5
comp=Z,1µm,21.1s,MS5.3,baz=76,slow=39
ARE0 ARCESS Array S 91.35 340 *e*P **P 10 20 03.4 -0.8**
SYO Syowa Base 91.46 201⇑P **P 10 20 05.5 +0.8**
LEF Lefka 91.50 305 *e*P Px 10 19 06.7
HDMB Hadim 91.69 307 *e*P Px 10 19 06.2
SGKT Sivrigoynuk 91.72 311 *i*P **P 10 20 06.1 -0.5**
KBS Kingsbay 91.97 350 *e*P **P 10 20 07.2 +0.3**
KBS *e* 10 30 53.8
KBS Kingsbay 91.97 350 *e*P **P 10 20 07.9 +1.0**
KBS *e*PP PP 10 23 46.9 -2.3
KBS *e*SKSa 10 30 41.2
KBS AMS AMS 11 06 55.6
comp=Z,1µm,18.6s,MS5.3
KIZT Kizilcal 92.00 309 *e*P Px 10 19 07.5
SIT Sitka 92.11 33 P **P 10 20 11.0 +3.0**
SIT pmax pmax
comp=Z,66nm,1.3s,mb5.8
SIT Sitka 92.11 33 *e*P **P 10 20 10.9 +2.9**
SIT LR LR
comp=Z,1µm,22.0s,MS5.3
KAF Kangasniemi 92.43 332 *e*p **P 10 20 08.2 -1.1**
comp=Z,11nm,0.6s,mb5.4
KAF Kangasniemi 92.43 332 *e*P **P 10 20 08.2 -1.1**
KAF pmax pmax
comp=Z,11nm,0.6s,mb5.4
HENT Hendek 92.57 311 *i*P **P 10 20 10.0 -0.4**
AKASG Malin Array Be 92.60 321 P **P 10 20 09.4 -1.0**
comp=Z,15nm,0.7s,mb5.5,baz=68,slow=4.2,SNR=54
AKASG PP PP 10 23 50.0 -4.8
comp=Z,4.6nm,0.8s,baz=70,slow=7.9,SNR=4.2
AKASG S 10 30 40.3
comp=Z,0.1nm,0.3s,baz=209,slow=28,SNR=2.7
AKASG ScS ScS 10 31 08.7 -1.0
comp=Z,0.2nm,0.3s,baz=76,slow=9.5,SNR=8.0
QSPA South Pole Qui 92.64 180 *e*P **P 10 20 11.8 +1.9**
comp=Z,26nm,0.9s,mb5.7
FINES FINESS Array B 92.66 332 P **P 10 20 09.7 -0.7**
comp=Z,8.7nm,0.7s,mb5.3,baz=90,slow=7.6,SNR=30
FINES S 10 30 40.0
comp=Z,0.7nm,0.9s,baz=315,slow=11,SNR=2.5
FINES ScS ScS 10 31 10.6 +0.6
comp=Z,2.0nm,1.0s,baz=24,slow=19,SNR=4.0
FINES LR LR 11 10 32.4
comp=Z,508nm,19.1s,MS5.0,baz=72,slow=41
VSU Vasula 92.86 329 *i*P **P 10 20 11.9 +0.5**
ISP Isparta 93.17 308 *e*P Px 10 19 12.3
ISP Isparta 93.17 308 *e*P **P 10 20 12.1 -1.2**
ISP pmax pmax
comp=Z,96nm,1.3s,mb6.1
ISP Isparta 93.17 308 *e*P **P 10 20 12.1 -1.2**
comp=Z,96nm,1.3s,mb6.1
TKTP Tekketepe 93.30 308 *i*P **P 10 20 12.9 -1.0**
KIS Kishinev 93.35 317α *i*P **P 10 20 12.0 -1.9**
KIS *e* pP 10 20 30.0 +1.7
KIS *e* 10 30 44.0
KIS *e*S S 10 31 12.0 -2.7
KIS pmax pmax
comp=Z,200nm,1.0s,mb6.5
KIS pmax pmax
comp=Z,300nm,1.0s,mb6.7
HRT Hereke 93.50 311 *e*P Px 10 19 15.0
TRO Tromso 93.56 340 *e*P **P 10 20 12.4 -1.9**
TRO *e* 10 31 11.7
TRO MLR MLR
comp=Z,1070µm,17.7s
TRO Tromso 93.56 340 *e*P **P 10 20 13.8 -0.4**
TRO *e*SKSa 10 30 46.6
TRO AMS AMS 11 08 08.6
comp=Z,1µm,17.7s,MS5.3
TAOE Nuku Hiva Isla 93.60 99 *e*LR LR 10 50 37.9
comp=Z,14µm,26.2s
YLV Yalova 93.75 311 *e*P Px 10 19 15.2
ELL Elmali 93.76 307 *e*P Px 10 19 16.3
TIRR Tirgusor 93.97 315 P **P 10 20 17.0 +0.3**
ULDT Uludag 93.98 310 *i*P **P 10 20 16.8 -0.1**
CFR Carcaliu 94.06 315 P **P 10 20 17.5 +0.4**
IAS Iasi 94.17 318 P **P 10 20 19.7 +2.1**
HARR Harsova 94.28 315 P **P 10 20 18.7 +0.6**
DNZL Cakiroluk 94.34 308 *i*P **P 10 20 18.6 0.0**
MANT Manisa 94.63 309 *i*P **P 10 20 19.9 0.0**
DLBC Dease Lake 94.66 31 P **P 10 20 21.2 +1.8**
comp=Z,14nm,0.8s,mb5.4,baz=275,slow=5.0,SNR=33
DLBC Dease Lake 94.66 31 *e*P **P 10 20 21.2 +1.7**
BNT Bandirma 94.88 311 *e*P Px 10 19 20.2
VRI Vrincioaia 94.94 316 P **P 10 20 22.0 +0.9**
YER Yerkesik 95.01 307 *e*P Px 10 19 22.8
MLSB Milas 95.39 308 *e*P Px 10 19 23.1
MLR Muntele Rosu 95.54 316 P **P 10 20 24.2 +0.3**
comp=Z,29nm,0.8s,mb5.7,baz=341,slow=1.4,SNR=45
MLR PP PP 10 24 17.5 0.0
comp=Z,19nm,1.2s,baz=102,slow=12,SNR=3.5
MLR S 10 30 56.4
comp=Z,0.5nm,0.3s,baz=118,slow=14,SNR=3.3
EDRB Edirne 95.55 312 *e*P Px 10 19 23.6
CANB Canakkale 95.57 310 *e*P Px 10 19 23.7
SUW Suwalki 95.68 325 *e*P **P 10 20 24.1 -0.2**
SUW MLR MLR 11 05 26.8
comp=Z,3µm,23.7s,MS5.7
URLA Izmir 96.17 309 *i*P **P 10 20 26.2 -0.7**
KDZ Kurdzhali 96.56 312 *e*P **P 10 20 29.0 +0.4**
KDZ Kurdzhali 96.56 312 *e*P **P 10 20 29.0 +0.4**
KWP Kalwaria 96.91 321 *e*P **P 10 20 30.5 +0.5**
KWP Kalwaria 96.91 321 *e*P **P 10 20 30.5 +0.5**
KWP MLR MLR 11 07 47.5
comp=Z,3µm,26.0s,MS5.7
RZN Rozhen 97.07 312 *i*P **P 10 20 31.5 +0.6**
RZN Rozhen 97.07 312 *i*P **P 10 20 31.5 +0.6**
PGB Panagyurishte 97.32 313 *e*P **P 10 20 32.0 0.0**
PGB Panagyurishte 97.32 313 *e*P **P 10 20 32.0 0.0**
KOLS Kolonicke sedl 97.34 320 *e*P **P 10 20 34.6 +2.6**
WAR Warsaw 97.35 323 *e*P **P 10 20 32.6 +0.7**
WAR LR LR
comp=Z,4µm,28.9s,MS5.7
WAR Warsaw 97.35 323 *e*P **P 10 20 32.6 +0.6**
WAR MLR MLR 11 04 35.3
comp=Z,4µm,28.9s,MS5.7
DRGR 97.51 318 P **P 10 20 33.6 +0.8**
MMB Musomiste 97.81 312 *i*P **P 10 20 34.0 -0.3**
MMB Musomiste 97.81 312 *i*P **P 10 20 34.0 -0.3**
CRVS Cervenica-Dubn 97.87 320 *e*P **P 10 20 39.0 +4.7**
CRVS Cervenica-Dubn 97.87 320 *e* **P 10 20 39.0 +4.7**
STHS Stebnicka Huta 97.89 321 *e*P **P 10 20 36.9 +2.5**
NSS Namsos 97.91 337 *e*P **P 10 20 32.5 -1.7**
NSS Namsos 97.91 337 *e*P **P 10 20 33.5 -0.7**
IDI Anoyia 97.99 306 S 10 31 12.1
comp=Z,4.6nm,0.8s,baz=239,slow=15,SNR=3.0
VTS Vitosha 98.00 313 P **P 10 20 35.6 +0.5**
VTS Vitosha 98.00 313 *i*P **P 10 20 35.5 +0.4**
VTS Vitosha 98.00 313 *i*P **P 10 20 35.5 +0.4**
KKB Krupnik 98.24 313 *i*P **P 10 20 36.0 -0.2**
KKB Krupnik 98.24 313 *i*P **P 10 20 36.0 -0.2**
NIE Niedzica 98.48 321 *e*P **P 10 20 40.1 +3.0**
MATP Matopo 98.55 250 P **P 10 20 39.6 +1.5**
comp=Z,4.9nm,0.9s,mb5.0,baz=98,slow=6.0,SNR=7.8
KECS Kecovo 98.59 320 PDIF **P 10 20 39.9 +2.3**
OJC Ojcow 98.60 322 *e*P **P 10 20 38.1 +0.5**
OJC *e*PP PP 10 24 40.5 -0.8
OJC ⇑*e*SKSa 10 31 17.4
OJC *e*S S 10 32 02.6 +3.5
OJC MLR MLR 11 18 37.8
comp=Z,1µm,23.0s,MS5.2
BOLS Boljevac 98.65 315⇑ *i*P **P 10 20 37.6 -0.4**
VAY Valandovo 98.72 312⇑ *i*P **P 10 20 37.6 -0.8**
RKT Rikitea 98.79 113 *e*P **P 10 20 34.5 -4.6**
RKT *e*S x 10 34 22.6
comp=Z,2µm,32.8s
RKT *e*LQ 10 49 54.0
comp=Z,1µm,36.0s
RKT *e*LR LR 10 53 36.2
comp=Z,3µm,30.2s,baz=271
LSZ Lusaka 98.84 255 *e*P **P 10 20 40.3 +0.8**
LSZ pmax pmax
comp=Z,51nm,1.6s,mb5.8
LSZ MLR MLR
comp=Z,2µm,22.0s,MS5.5
LSZ Lusaka 98.84 255 *e*P **P 10 20 40.2 +0.7**
comp=Z,51nm,1.6s,mb5.8
LSZ LR LR
comp=Z,2µm,22.0s,MS5.5
HFS Hagfors 98.85 332 P **P 10 20 37.3 -1.2**

HFS pmax pmax
comp=Z,8.0nm,0.9s
HFS pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 98.85 332 P **P** **10 20 37.3 -1.2**
comp=Z,8.4nm,0.9s,mb5.3,baz=72,slow=4.7,SNR=23
HFS PKKPbc 10 37 08.2
comp=Z,0.7nm,0.5s,baz=180,slow=3.0,SNR=5.2
PSZ Piszkesteto 99.12 319 P **P** **10 20 40.8 +0.8**
PSZ pmax pmax
comp=Z,43nm,1.4s,mb5.8
PSZ Piszkesteto 99.12 319 *e*P **P** **10 20 40.0 0.0**
comp=Z,43nm,1.4s,mb5.8
PSZ Piszkesteto 99.12 319⇓ *e*P **P** **10 20 40.8 +0.8**
GRUS Gruza 99.52 315⇑ *i*P **P** **10 20 42.0 +0.1**
NB2 NORSAR Subarra 99.63 334 P **P** **10 20 41.0 -1.0**
comp=Z,14nm,0.9s,mb5.4,baz=67,slow=4.6
NB2 NORSAR Subarra 99.63 334 P **P** **10 20 41.0 -1.0**
NB2 pmax pmax
comp=Z,14nm,0.9s,mb5.4
NB2 NORSAR Subarra 99.63 334 P **P** **10 20 41.0 -1.0**
baz=67,slow=4.6
NOA NORSAR Array B 99.63 334 P **P** **10 20 40.7 -1.3**
comp=Z,11nm,0.9s,mb5.3,baz=68,slow=4.5,SNR=24
NOA PP PP 10 24 53.1 +4.3
comp=Z,3.9nm,1.2s,baz=53,slow=8.4,SNR=2.3
NOA S 10 31 18.5
comp=Z,0.2nm,0.6s,baz=35,slow=23,SNR=2.0
NOA PKKPbc 10 37 05.3
comp=Z,1.0nm,0.9s,baz=253,slow=2.2,SNR=3.6
NOA LR LR 11 11 22.9
comp=Z,2μm,22.0s,MS5.6,baz=65,slow=39
NOA NORSAR Array B 99.63 334 P **P** **10 20 40.7 -1.3**
NOA PP PP 10 24 53.1 +4.3
NOA S 10 31 18.5
NOA PKKPbc 10 37 05.3
NOA LR LR 11 11 22.9
VYHS Vyhne 99.65 320 PDIF **P** **10 20 43.5 +1.0**
OKC Ostrava-Krasne 99.73 321 *e*PDIF **P** **10 20 43.1 +0.3**
OKC *ex* x 10 20 57.7
OKC *e*PP PP 10 24 48.6 -1.3
OKC AMS AMS 11 06 30.0
comp=Z,1μm,23.0s
NAO01 NORSAR Array S 99.86 333 *e*Pdif **P** **10 20 42.2 -0.8**
comp=Z,11nm,0.9s,mb5.3
DIVS Divcibare 99.97 315⇓ *i*P **P** **10 20 43.2 -0.8**
MORC Moravsky Berou 100.12 322 *e*P P 10 20 44.4 -0.2
MORC pmax pmax
comp=Z,12nm,1.1s
MORC Moravsky Berou 100.12 322 *e*Pdif P 10 20 44.4 -0.2
comp=Z,12nm,1.1s
YKW3 Yellowknife Ar 100.42 24 *e*Pdif P 10 20 46.9 +1.3
BBLS Bajina Basta - 100.44 315⇑ *i*P P 10 20 44.8 -1.4
YKA Yellowknife Ar 100.45 24 P P 10 20 46.4 +0.7
comp=Z,3.2nm,0.8s,baz=300,slow=4.8,SNR=28
YKA PP PP 10 24 53.2 -2.2
comp=Z,0.7nm,0.7s,baz=298,slow=7.3,SNR=3.8
YKA S 10 31 21.8
comp=Z,0.1nm,0.3s,baz=125,slow=44,SNR=2.6
YKA PKKPbc 10 37 06.6
comp=Z,0.3nm,0.3s,baz=90,slow=2.1,SNR=4.4
YKA Yellowknife Ar 100.45 24 P P 10 20 46.4 +0.7
YKA PP PP 10 24 53.2 -2.2
YKA S 10 31 21.8
YKA PKKPbc 10 37 06.6
KSP Ksiaz 100.57 323 *e*P P 10 20 47.4 +0.8
KSP *e* 10 31 23.0
KSP *e*S S 10 32 19.0 +3.3
KSP MLR MLR
comp=Z,6μm,26.4s,MS6.0
KSP Ksiaz 100.57 323 *e*P P 10 20 47.4 +0.8
KSP *e*pP 10 21 02.7
KSP *e*PP PP 10 25 08.5 +12
KSP *e*SKS SKS 10 31 23.0 +3.0
KSP *e*S S 10 32 19.0 +3.3
KSP LR LR
comp=Z,6μm,26.4s,MS6.0
KSP Ksiaz 100.57 323 *e*P P 10 20 48.6 +2.0
KSP MLR MLR 11 08 04.8
comp=Z,5μm,26.4s,MS5.9
DPC Dobruska-Polom 100.70 322 *e*P P 10 20 48.0 +0.8
DPC *e* 10 24 56.0
DPC *e* 10 31 24.3
DPC *e* 10 32 17.2
DPC MLR MLR
comp=Z,2μm,20.8s,MS5.6
DPC Dobruska-Polom 100.70 322 *e*P P 10 20 48.0 +0.8
DPC *e* 10 21 02.2
DPC *e*PP PP 10 24 56.0 -1.7
DPC *e*SKS SKS 10 31 24.3 +3.6
DPC *e* 10 32 17.2
DPC LR LR
comp=Z,2μm,20.8s,MS5.6
DPC Dobruska-Polom 100.70 322 *e*PDIF P 10 20 48.0 +0.8
DPC *ex* x 10 21 02.2
DPC *e*PP PP 10 24 56.0 -1.7
DPC *e*SKS SKS 10 31 24.3 +3.6
DPC *e*SDIF 10 32 17.2
DPC AMS AMS 11 09 50.0
comp=Z,2μm,20.8s
JMIC Jan Mayen 100.80 346 *e*P P 10 20 49.1 +1.9
JMIC LR LR
comp=Z,814μm,21.3s
JMIC Jan Mayen 100.80 346 *e*P P 10 20 47.3 +0.1
JMIC AMS AMS 11 11 25.3
comp=Z,814nm,21.3s,MS5.2
UPC Upice 100.84 323 *e*P P 10 20 47.7 -0.1
UPC *e* 10 21 02.6
VRAC Vranov 100.85 321 P P 10 20 49.1 +1.2
comp=Z,5.8nm,0.6s,baz=56,slow=7.2,SNR=9.1
VRAC S 10 31 27.2
comp=Z,2.7nm,0.3s,baz=111,slow=23,SNR=2.0
ZST Bratislava 100.85 320 *e*P P 10 20 48.6 +0.7
ZST *e* 10 31 26.4
ZST Bratislava 100.85 320 PDIF P 10 20 48.6 +0.7
ZST Bratislava 100.85 320⇑ *e*SKSp 10 31 26.4
KONO Kongsberg 100.94 333 *e*P P 10 20 49.2 +1.2
COP Copenhagen 101.12 328 *i*P 10 21 10.3
COP *i* 10 25 08.3
comp=Z,870nm,21.0s
PVCC Panska Ves 101.71 323 *e*P P 10 20 52.0 +0.3
PVCC MLR MLR
comp=Z,2μm,21.2s,MS5.7
PVCC Panska Ves 101.71 323 *e*PDIF P 10 20 52.0 +0.3
PVCC *ex* x 10 21 10.6
PVCC AMS AMS 11 10 10.0
comp=Z,2μm,21.2s
PRU Pruhonice 101.91 322 *e*P P 10 20 52.5 0.0
PRU *e* 10 25 04.0
PRU *e* 10 31 29.9
PRU *e* 10 32 33.8
PRU MLR MLR
comp=Z,2μm,21.5s,MS5.6
PRU Pruhonice 101.91 322 *e*PDIF P 10 20 52.5 0.0
PRU *ex* x 10 21 11.3
PRU *e*PP PP 10 25 04.0 -2.4
PRU *e*SKS SKS 10 31 29.9 +3.5
PRU *e*SDIF 10 32 33.8
PRU AMS AMS 11 10 30.0
comp=Z,2μm,21.5s
BRG Berggiesshubel 101.97 323 *i*P P 10 20 54.1 +1.3
BRG 10 31 28.0
BRG S S 10 32 30.0 +2.6
BRG pmax pmax
comp=Z,18nm,1.2s
BRG pmax pmax
comp=Z,15nm,1.1s
BRG pmax pmax
comp=Z,16nm,1.1s
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG pmax pmax
comp=N,3.0nm,0.9s
BRG MLR MLR
comp=N,2μm,25.2s,MS5.6
BRG MLR MLR
comp=E,2μm,22.5s,MS5.6
BRG MLR MLR
comp=Z,1μm,20.8s,MS5.5
BRG Berggiesshubel 101.97 323 *i*P P 10 20 54.1 +1.2
comp=Z,18nm,1.2s
BRG *i*pP 10 21 11.5
BRG *i* 10 21 28.7
BRG *i* 10 24 36.0
BRG *i* 10 28 59.5
BRG SKS SKS 10 31 28.0 +1.2
BRG S S 10 32 30.0 +2.6
BRG *e* 10 37 23.5
BRG SS SS 10 40 10.0 +34
BRG LR LR
comp=Z,1μm,20.8s,MS5.5
ARSA Arzberg 102.14 319⇑ *i*P Pdif 10 20 55.8 +2.1
comp=Z,12nm,1.6s
CLL Collm 102.38 324⇓ *i*P Pdif 10 20 54.8 +0.2
CLL *e* 10 31 31.0
CLL *e*S S 10 32 33.0 +2.2
CLL pmax pmax
comp=Z,45nm,2.0s
CLL pmax pmax
comp=Z,8.0nm,1.0s
CLL MLR MLR
comp=Z,2μm,18.5s,MS5.7
CLL Collm 102.38 324⇓ *i*Pdif Pdif 10 20 54.8 +0.2
comp=Z,45nm,2.0s
CLL *e*pP 10 21 11.0
CLL Collm 102.38 324⇓ *i*PDIF Pdif 10 20 54.8 +0.2
CLL *e* 10 21 11.0
CLL *i* 10 24 30.9
CLL *i* PP PP 10 25 09.6 -0.5
CLL *e**SPP 10 25 21.0
CLL *e* 10 31 31.0
CLL *e* 10 32 11.0
CLL *e* 10 32 33.0
CLL *e* 10 33 18.0
CLL *e*PPS PPS 10 35 00.0 -6.7
MUD Monsted U'grnd 102.49 330 *i*P 10 21 12.3
MUD *i* 10 25 24.0
MUD *i*S S 10 32 34.7 +3.1
comp=Z,1μm,21.0s
BER Bergen 102.51 334 *e*P Pdif 10 20 59.9 +4.9
BER LR LR
comp=Z,1752μm,24.0s
BER Bergen 102.51 334 *e*P Pdif 10 20 59.9 +4.9
BER *e*SKSa 10 31 33.7
BER AMS AMS 11 11 18.6
comp=Z,2μm,24.0s,MS5.5
MOA Molln 102.77 320⇑ *i*P Pdif 10 20 59.2 +2.8
comp=Z,19nm,1.3s
KHC Kasperske Hory 102.78 322 *e*PDIF Pdif 10 20 56.8 +0.3
KHC *ex* x 10 21 12.2
KHC *ex* x 10 23 20.5
KHC *e*PP PP 10 25 11.6 -1.7
KHC *e*SKS SKS 10 31 35.0 +4.4
KHC *e*SDIF 10 32 38.3
KHC AMS AMS 11 10 50.0
comp=Z,2μm,20.7s
GEC2 GERESS Array S 102.80 321 *e*P Pdif 10 20 58.2 +1.7
GEC2 *e* 10 25 14.1
GEC2 *e* 10 31 36.1
GEC2 *e* 10 32 41.1
GERES GERESS Array B 102.80 321 P Pdif 10 20 56.3 -0.3
comp=Z,4.9nm,0.9s,baz=76,slow=5.5,SNR=24
GERES PP PP 10 25 12.8 -0.6
comp=Z,5.6nm,1.0s,baz=74,slow=7.1,SNR=7.6
GERES PKKPbc 10 36 55.7
comp=Z,0.6nm,0.8s,baz=207,slow=3.0,SNR=3.6
BSEG Bad Segeberg 102.92 327 *e*P Pdif 10 20 58.3 +1.3
BSEG *e* 10 25 14.2
BSEG *e* 10 31 35.4
HUMO Hull Mountain 103.03 45 PFAKE 10 21 10.0 +12
HUMO LR LR
comp=Z,757nm,22.0s,MS5.2
VISS Visnje 103.03 318 *e*Pdiff Pdif 10 20 58.0 +0.4
VISS *e* 10 21 18.7
VISS *e* 10 24 29.0
VISS *e*SKSac 10 31 36.3
VISS *e*Sdiff 10 32 40.1
VISS *e* 10 35 27.2
NKC Novy Kostel 103.09 323 *e*P Pdif 10 20 58.4 +0.6
NKC *e* 10 31 35.5
NKC Novy Kostel 103.09 323 *e*PDIF Pdif 10 20 58.4 +0.6
NKC *ex* x 10 21 11.8
NKC *e*SKS SKS 10 31 35.5 +3.5
NKC AMS AMS 11 09 30.0
comp=Z,2μm,22.2s
LJU Ljubljana 103.17 318 *e*Pdiff Pdif 10 20 58.6 +0.4
LJU *e*PP PP 10 25 16.1 -0.3
WET Wettzell 103.21 322 *e*P Pdif 10 20 59.2 +0.9
WET *e* 10 25 16.8
WET *e* 10 31 38.1
WET *e* 10 32 44.0
MOX Moxa 103.44 324 *e*P Pdif 10 21 01.1 +1.8
MOX pmax pmax
comp=Z,16nm,1.4s
MOX MLR MLR
comp=Z,800nm,20.0s,MS5.2
MOX Moxa 103.44 324 *e*P Pdif 10 21 01.1 +1.8
comp=Z,16nm,1.4s
MOX LR LR
comp=Z,800nm,20.0s,MS5.2
MOX Moxa 103.44 324 *i*P Pdif 10 21 01.1 +1.8
comp=Z,logA/T=1.1
MOX PP PP 10 25 18.0 -0.1
MOX SKS SKS 10 31 40.0 +6.4
MOX S S 10 32 44.0 +4.3
MOX L 11 13 49.0
KBA Koelnbreinsper 103.61 320⇑ *i*P Pdif 10 21 02.0 +1.8
comp=Z,11nm,1.4s
KBA Koelnbreinsper 103.61 320⇑ *i*P Pdif 10 21 02.0 +1.8
KBA pmax pmax
comp=Z,11nm,1.4s
CADS Cadrg 103.63 319 *e*Pdiff Pdif 10 21 01.3 +1.0
CLZ Clausthal 103.71 325 *e*P Pdif 10 21 02.7 +2.2
CLZ *e* 10 31 40.0
CLZ *e* 10 32 48.0
GRA1 Grafenberg Arr 104.02 323 *e*Pdif Pdif 10 21 02.9 +1.0
GRA1 *e*PP PP 10 25 22.4 +0.1
GRA1 *e*SKSac 10 31 41.2
GRA1 *e*Sdif 10 32 52.5
GRA1 LR LR
comp=Z,1μm,19.4s,MS5.5
GRF Grafenberg Arr 104.02 323 *e*P Pdif 10 21 02.9 +1.0
GRF *e* 10 25 22.4
GRF *e* 10 31 41.2
GRF *e* 10 32 52.5
GRF MLR MLR
comp=Z,1μm,19.4s,MS5.5
GRF Grafenberg Arr 104.02 323 *e*P Pdif 10 21 02.9 +1.0
GRF *e* 10 25 22.4
GRF *e* 10 31 41.3
GRF S S 10 32 52.5 +8.0
GRF MLR MLR
comp=Z,1μm,19.4s,MS5.5
SNAA Sanae 104.22 195 *e* 10 25 14.1
SNAA Sanae 104.22 195 *e* 10 25 18.8
SNAA Sanae 104.22 195 *e* 10 36 50.0
SNAA Sanae 104.22 195 *e* 10 37 07.9
SNAA Sanae 104.22 195 P Pdif 10 21 05.7 +3.4
SNAA 10 25 24.0
SNAA pmax pmax
comp=Z,2.0nm,1.0s
SNAA pmax pmax
comp=Z,2.0nm,1.1s
SNAA Sanae 104.22 195 Pdiff Pdif 10 21 05.7 +3.4
comp=Z,0.3nm,0.6s,baz=145,slow=3.7,SNR=7.1
SNAA PP PP 10 25 24.0 +0.7
comp=Z,1.9nm,1.0s,baz=107,slow=10,SNR=3.7
SNAA PKKPbc 10 36 51.9
comp=Z,1.8nm,1.1s,baz=317,slow=4.6,SNR=9.8
SNAA Sanae 104.22 195⇑ *i*Pdif Pdif 10 21 06.7 +4.4
SNAA *e* 10 25 14.1
SNAA *e* 10 25 18.8
SNAA *e* 10 36 50.0
SNAA *e* 10 37 07.9
FUR Furstenfeldbru 104.55 321 *e*P Pdif 10 21 26.5 +2.2
FUR *e* 10 25 25.8
FUR *e* 10 31 44.0
WTTA Wattenberg 104.64 320⇑ *i*P Pdif 10 21 06.9 +2.2
comp=Z,24nm,1.4s
WTTA Wattenberg 104.64 320⇑ *i*P Pdif 10 21 06.9 +2.2
WTTA pmax pmax
comp=Z,24nm,1.4s
SQTA Sankt Quirin 104.93 320⇑ *i*P Pdif 10 21 09.5 +3.5
comp=Z,6.5nm,0.8s
SQTA Sankt Quirin 104.93 320⇑ *i*P Pdif 10 21 09.5 +3.5
SQTA pmax pmax
comp=Z,7.0nm,0.8s
MOTA Moosalm 104.95 321⇑ *i*P Pdif 10 21 06.0 -0.1
comp=Z,11nm,1.1s
MOTA Moosalm 104.95 321⇑ *i*P Pdif 10 21 06.0 -0.1
MOTA pmax pmax
comp=Z,11nm,1.1s
NEW Newport 105.08 38 Pdiff Pdif 10 21 07.0 +0.4
comp=Z,2.3nm,0.7s,baz=58,slow=3.6,SNR=6.2
MOD Modoc 105.12 45 PFAKE 10 25 30.0
MOD LR LR
comp=Z,871nm,22.0s,MS5.2
DAVA Damuels 105.75 321⇓ *i*P Pdif 10 21 12.9 +3.3
comp=Z,7.5nm,1.2s
VNA2 Neumayer--Watz 105.83 194 *e* 10 36 46.5
VNA2 Neumayer--Watz 105.83 194 *e* 10 37 03.0
VNA2 Neumayer--Watz 105.83 194 *e*P 10 25 25.8
VNA2 *e* 10 36 46.5
VNA2 *e* 10 37 03.0
DAVOX Davos 105.94 320 Pdiff Pdif 10 21 12.2 +1.8
comp=Z,3.7nm,0.6s,baz=163,slow=19,SNR=6.2
DAVOX PP PP 10 25 33.2 -3.5
comp=Z,7.6nm,1.0s,baz=98,slow=3.0,SNR=4.7
VNA3 Neumayer Olymp 106.16 193 *e* 10 36 45.5
VNA3 Neumayer Olymp 106.16 193 *e* 10 37 01.5
VNA3 Neumayer Olymp 106.16 193⇑ *i*Pdif Pdif 10 21 11.7 +0.9
VNA3 *e* 10 25 18.7
VNA3 *e* 10 25 24.6
VNA3 *e* 10 36 45.5
VNA3 *e* 10 37 01.5
VNA1 Neumayer--Stat 106.23 194 *e* 10 36 46.7
VNA1 Neumayer--Stat 106.23 194 *e* 10 37 04.3
VNA1 Neumayer--Stat 106.23 194⇑ *i*Pdif Pdif 10 21 11.3 +0.2
VNA1 *e* 10 25 17.2
VNA1 *e* 10 25 23.2
VNA1 *e* 10 36 46.7
VNA1 *e* 10 37 04.3
HINF Hinteralfeld 107.42 322 *e*PP PP 10 25 42.5 -5.6
comp=Z,42nm,1.5s
HAU Haudompre 107.65 323 *e*PP PP 10 25 44.9 -4.8
comp=Z,18nm,1.0s
NVAR Mina Array Bea 107.65 48 Pdiff Pdif 10 21 19.2 +1.0
baz=243,slow=2.0
NVAR PKiKP 10 25 28.5
comp=Z,1.4nm,0.9s,baz=256,slow=1.1,SNR=5.8
NVAR PP PP 10 25 47.2 -2.8
comp=Z,2.0nm,0.9s,baz=259,slow=7.1,SNR=7.5
NVAR PKKPbc 10 36 41.8
comp=Z,1.0nm,0.9s,baz=116,slow=5.0,SNR=5.0
NVAR PKKP PKKP 10 36 55.9 +11
comp=Z,1.6nm,0.7s,baz=133,slow=4.9,SNR=8.6
LPG La Plagne 108.44 320 *e*PP PP 10 25 49.6 -6.1
comp=Z,104nm,1.5s
HLID Hailey 108.61 42 *e*PKiKP 10 25 30.0
EKA Eskdalemuir Ar 109.05 332 PKKPbc 10 36 36.4
comp=Z,0.8nm,0.7s,baz=244,slow=4.1,SNR=7.2
ELK Elko 109.10 45 *e*PKiKP 10 25 28.4
MCMT McKenzie Canyo 109.14 40 *e*PKiKP 10 25 30.9
BOZ Bozeman (W) 109.58 39 PKiKP 10 25 32.6
FFC Flin Flon 110.17 28 PFAKE 10 25 40.0 +11
FFC LR LR
comp=Z,317nm,22.0s,MS4.8
SFJD Kangerlussuaq 110.41 359 *i*P PP 10 26 06.2 -3.3
SFJD *e*S 10 33 39.7
SFJD *i* 10 35 25.2
comp=Z,140nm,22.0s
TCF Toulx Ste Croi 110.94 322 *e*PP PP 10 26 08.3 -5.5
REDW Red Top Meadow 111.06 41 *e*PKiKP 10 25 34.3
SNOW Snow King Moun 111.08 41 *e*PKiKP 10 25 35.4
LOHW Long Hollow 111.12 41 *e*PKiKP 10 25 33.9
AHID Auburn Hatcher 111.15 42 *e*PKPdif PKPdf 10 25 34.4 +3.3
HWUT Hardware Ranch 111.33 43 PFAKE 10 25 50.0 +19
HWUT LR LR
comp=Z,1μm,20.0s,MS5.5
NOQ North Oquirrh 111.33 44 PKiKP 10 25 35.5
MVU Marysvale 112.11 46 *e*PKiKP 10 25 37.5
MSU Marysvale 112.13 46 *e*PKiKP PKPdf 10 25 37.4 +4.3
PDAR Pinedale Array 112.18 41 Pdiff Pdif 10 21 38.9 +1.0
comp=Z,0.1nm,0.4s,baz=277,slow=7.3,SNR=2.9
PDAR PKiKP 10 25 36.0
comp=Z,1.0nm,0.5s,baz=188,slow=0.8,SNR=17
PDAR PKKPbc 10 36 27.1
comp=Z,1.0nm,0.6s,baz=106,slow=4.8,SNR=6.8
LAO LASA Array 112.40 36 *e*PKiKP 10 25 37.9
SRU San Rafael 113.08 45 PKiKP PKPdf 10 25 37.3 +2.4
RWWY Rawlins 114.22 42 *e*PKiKP 10 25 41.1
PV10 Paradox Valley 114.44 45 *e*PKPdf PKPdf 10 25 40.1 +2.4
PV01 Paradox Valley 114.87 46 *e*PKiKP 10 25 42.1
RSSD Black Hills 115.04 38 *e*PKiKP 10 25 41.2
ULM Lac du Bonnet 115.89 29 PKP PKPdf 10 25 42.6 +2.4
comp=Z,2.6nm,0.5s,baz=287,slow=1.7,SNR=4.2
ISCO Idaho Springs 116.18 43 *e*PKiKP 10 25 44.3
SDCO Great Sand Dun 117.22 45 *e*PKPdf PKPdf 10 25 45.9 +2.9
ANMO Albuquerque 117.77 48 PKP PKPdf 10 25 47.1 +3.0
comp=Z,6.4nm,0.9s,baz=215,slow=2.7,SNR=25
ANMO PKKPbc 10 36 11.9
comp=Z,0.2nm,0.3s,baz=107,slow=6.3,SNR=3.1
ANMO Albuquerque 117.77 48 *e*PKPdf PKPdf 10 25 47.3 +3.1
BNM Barren Site 117.99 49 *e*PKPdf PKPdf 10 25 48.8 +4.2
ESDC Sonseca Array 118.13 318 PP PP 10 27 02.4 -2.9
comp=Z,3.4nm,1.0s,baz=43,slow=7.9,SNR=3.0
PVRL Vila Real 119.68 322 *e*PKPdf PKPdf 10 25 51.9 +4.1
MNTX Cornudas Mount 119.97 51 *e*PKPdf PKPdf 10 25 51.4 +2.8
MTE Manteigas 120.07 321 *e*PKPdf PKPdf 10 25 50.1 +1.6
MTE Manteigas 120.07 321 *e*LQ 11 03 00.0
MTE *e*LR LR 11 12 19.0
comp=Z,1μm,23.2s
PVIS Viseu 120.11 321 *e*PKPdf PKPdf 10 25 52.7 +4.1
PCBR Castelo Branco 120.34 320 *e*PKPdf PKPdf 10 25 52.7 +3.6
GDL2 Guadalupe Moun 120.53 50 *e*PKPdf PKPdf 10 25 52.5 +2.9
CLNB Carlsbad 120.88 50 *e*PKPdf PKPdf 10 25 53.1 +2.8
PTOM Tomar 121.06 320 *e*PKPdf PKPdf 10 25 55.0 +4.5
AMTX Amarillo 121.29 46 *e*PKPdf PKPdf 10 25 53.2 +2.2
EVO Evora 121.41 319 *e*PKiKP PKPdf 10 25 51.2 0.0
comp=Z,34nm,1.1s
SCHQ Schefferville 121.57 9 PKP PKPdf 10 25 52.3 +1.3
comp=Z,5.6nm,0.8s,baz=52,slow=2.8,SNR=8.3
SCHQ PKKPbc 10 35 54.6
comp=Z,1.3nm,0.7s,baz=203,slow=7.7,SNR=3.3
SCHQ Schefferville 121.57 9 *e*PKPdf PKPdf 10 25 53.1 +2.0
PBEJ Beja 121.59 319 *e*PKPdf PKPdf 10 25 54.6 +3.1
LTX Lajitas 122.29 53 *e*PKiKP PKPdf 10 25 55.3 +2.2
TXAR Lajitas Array 122.29 53 PKP PKPdf 10 25 55.7 +2.6
comp=Z,4.7nm,0.9s,baz=213,slow=0.9,SNR=37
TXAR PKKPbc 10 35 49.4
comp=Z,1.1nm,0.8s,baz=140,slow=5.5,SNR=6.9
TXAR Lajitas Array 122.29 53 PKP PKPdf 10 25 55.7 +2.6
TXAR PKKPbc 10 35 49.4
PTEO Sao Teotonio 122.42 319 *e*PKPdf PKPdf 10 25 56.6 +3.4
KSU1 Kansas State U 122.45 39 *e*PKPdf PKPdf 10 25 54.6 +1.4
CCM Cathedral Cave 126.41 37 *e*PKiKP PKPdf 10 26 03.3 +2.4
USHA Ushuaia 126.63 169 PKP PKPdf 10 26 04.4 +3.6
comp=Z,12nm,1.1s,baz=243,slow=2.3,SNR=5.3
FVM French Village 126.94 37 PKiKP PKPdf 10 26 03.8 +1.9
FVM *e* 10 26 20.3
FVM French Village 126.94 37 *e*PKPdf PKPdf 10 26 04.0 +2.0
UALR University of 127.77 41 *e*PKPdf PKPdf 10 26 07.2 +3.6
NATX Nacogdoches 127.93 45 *e*PKPdf PKPdf 10 26 08.2 +4.2
PARMO Parma 128.22 37 *e*PKPdf PKPdf 10 26 07.0 +2.5
BLO Bloomington 128.35 33 *e*PKiKP PKPdf 10 26 07.3 +2.7
GNAR Gosnell 128.51 38 *e*PKPdf PKPdf 10 26 08.7 +3.7
GLAT Glass 128.76 37 *e*PKPdf PKPdf 10 26 08.1 +2.6
WVT Waverly 129.72 37 *e*PKiKP PKPdf 10 26 08.1 +0.8
OXF Oxford 129.82 39 *e*PKiKP PKPdf 10 26 10.0 +2.5
PLAL Pickwick Lake 130.35 38 *e*PKPdf PKPdf 10 26 09.5 +1.0
DBIC Dimbokro 130.67 281 PKP PKPdf 10 26 12.4 +2.7
comp=Z,8.6nm,0.7s,baz=86,slow=5.6,SNR=7.3
DBIC SKPbc 10 29 34.2
comp=Z,52nm,1.1s,baz=38,slow=5.4,SNR=11
DBIC Dimbokro 130.67 281 PKP PKPdf 10 26 12.4 +2.7
DBIC SKPbc 10 29 34.2
SWET Sewanee 131.47 36 *e*PKPdf PKPdf 10 26 12.9 +2.2
TZTN Tazewell 131.87 33 *e*PKPdf PKPdf 10 26 13.8 +2.4
LRAL Lakeview Retre 132.31 39 *e*PKPdf PKPdf 10 26 15.1 +2.8
MYNC Murphy 132.62 35 *e*PKiKP PKPdf 10 26 15.9 +3.1
ELN Prospectdale 132.81 30 *e*PKPdf PKPdf 10 26 15.5 +2.4
BLA Blacksburg 132.99 30 *e*PKiKP PKPdf 10 26 16.4 +2.9
COW Cow Castle Cre 135.78 33 *e*PKPdf PKPdf 10 26 22.1 +3.4
TRQA Tornquist 143.97 168 *e*PKPpre 10 26 32.9
CLCH Cerro Calan 145.52 154 *e*P PKPdf 10 26 37.3 +1.3
JTS JuntasAbangare 146.01 67 PKP2 PKPab 10 26 41.6 +0.6
JTS pmax pmax
comp=Z,13nm,0.5s
JTS JuntasAbangare 146.01 67 PKPbc PKPbc 10 26 41.6 +3.1
comp=Z,13nm,0.5s,baz=340,slow=4.6,SNR=19

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JTS	**JuntasAbangare**	**146.01**	**67**	ePKPdf	PKPdf	10 26 40.8	+3.4
CMCH	**Combarbala**	**147.18**	**151**	eP	PKPdf	10 26 43.1	+4.1
LPA	**La Plata**	**147.70**	**173**	cePKP	PKPdf	10 26 38.0	-1.7
CFAA	**Coronel Fontan**	**148.04**	**156**	PKP	PKPdf	10 26 43.0	+2.7
	comp=Z,4.3nm,0.5s,baz=223,slow=2.3,SNR=36						
CFAA				PKPbc	PKPdf	10 26 46.8	+6.4
	comp=Z,4.3nm,0.5s,baz=224,slow=2.3,SNR=49						
LVC	**Limon Verde**	**155.14**	**144**	PKPbc	PKPdf	10 27 04.5	+14
	comp=Z,5.4nm,0.6s,baz=165,slow=3.2,SNR=7.6						
LVC				PKPab	PKPab	10 27 20.5	+2.2
	comp=Z,15nm,0.9s,baz=220,slow=3.6,SNR=7.0						
LVC	**Limon Verde**	**155.14**	**144**	ePKPbc	PKPdf	10 27 04.0	+13
SJG	**San Juan**	**155.77**	**31**	PKPab	PKPab	10 27 21.0	-0.1
	comp=Z,9.7nm,0.3s,baz=28,slow=2.1,SNR=6.3						
CPUP	**Villa Florida**	**156.22**	**171**	PKIKP	PKPdf	10 26 55.6	+3.3
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CPUP				pmax	pmax		
	comp=Z,16nm,1.0s						
CPUP	**Villa Florida**	**156.22**	**171**	PKP	PKPdf	10 26 55.6	+3.3
	comp=Z,2.4nm,0.8s,baz=55,slow=2.5,SNR=5.1						
CPUP				PKPab	PKPab	10 27 24.8	+1.9
	comp=Z,16nm,1.0s,baz=203,slow=4.4,SNR=8.8						
CPUP	**Villa Florida**	**156.22**	**171**	ePKPdf	PKPdf	10 26 55.3	+3.0
ROSC	**El Rosal**	**157.75**	**70**	PKP	PKPdf	10 26 58.7	+4.0
	comp=Z,7.2nm,0.4s,baz=256,slow=22,SNR=8.4						
ROSC				PKPab	PKPab	10 27 32.4	+2.5
	comp=Z,24nm,0.8s,baz=82,slow=19,SNR=7.5						
SDV	**Santo Domingo**	**159.29**	**56**	PKP	PKPdf	10 26 59.4	+2.9
	comp=Z,16nm,1.0s,baz=299,slow=1.1,SNR=18						
SDV				PKPab	PKPab	10 27 38.2	+1.8
	comp=Z,18nm,0.7s,baz=328,slow=3.6,SNR=12						
SDV	**Santo Domingo**	**159.29**	**56**	ePKPdf	PKPdf	10 26 58.7	+2.2
LPAZ	**La Paz**	**160.19**	**134**	PKIKP	PKPdf	10 27 01.7	+4.3
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LPAZ	**La Paz**	**160.19**	**134**	PKP	PKPdf	10 27 01.7	+4.3
	comp=Z,4.3nm,0.9s,baz=24,slow=2.2,SNR=20						
LPAZ	**La Paz**	**160.19**	**134**	ePKPdf	PKPdf	10 27 01.3	+3.9
SIV	**San Ignacio**	**164.80**	**151**	PKP	PKPdf	10 27 05.2	+3.2
	comp=Z,3.0nm,0.8s,baz=269,slow=0.8,SNR=11						
SIV				PKPab	PKPab	10 28 00.5	+0.3
	comp=Z,12nm,0.9s,baz=217,slow=4.5,SNR=7.8						
SAML	**Samuel**	**168.46**	**123**	ePKPdf	PKPdf	10 27 07.7	+2.9

*IDC **09** 10:18:21.2±4.1, 2.64N×126.75E, h38^{km}±34^{km}, mb3.8/9, mb1 4.1/9, mb1mx3.9/19, mbtmp4.1/9, Error ellipse: s-maj=48.8km s-min=13.5km az=71.0*

*NEIC **09** 10:18:23.3±3.2, 2.64N×126.82E, h60^{km}±30^{km}, mb4.5/5, Error ellipse: s-maj=34.7km s-min=9.1km az=67.0*

ISC 09 10:18:26.1±3.4**, 2.6N**±0.1×**126.5E**±0.2**, h99**^{km}±32^{km}**, n17, σ0^{s}78**/18**, mb4.0**/9**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.86**	**289**	eP	**P**	**10 20 60.0**	**+0.2**
KAKA	**Kakadu**	**16.27**	**159**	eP	**P**	**10 22 11.2**	**+1.1**
	18nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.56**	**182**	eP	**P**	**10 22 57.8**	**-1.1**
	17nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.56**	**182**	P	**P**	**10 22 57.7**	**-1.2**
	16nm,0.7s,baz=9.6,slow=6.4,SNR=18						
WRA	**Warramunga Arr**	**23.65**	**161**	P	**P**	**10 23 28.3**	**-1.0**
	6.7nm,0.4s,mb4.3,baz=341,slow=11,SNR=26						
WRA				S	**S**	**10 27 42.2**	**+8.7**
	0.9nm,0.9s,baz=319,slow=17,SNR=4.1						
WB2	**Warramunga Arr**	**23.65**	**161**	eP	**P**	**10 23 28.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**31.31**	**302**	P	**P**	**10 24 38.5**	**-0.7**
	1.7nm,0.9s,mb3.8,baz=113,slow=7.5,SNR=5.1						
KLBR	**Kellerberrin**	**34.99**	**193**	eP	**P**	**10 25 11.8**	**+1.0**
	15nm,1.2s,mb4.7						
STKA	**Stephens Creek**	**37.12**	**159**	eP	**P**	**10 25 28.6**	**-0.3**
	4.4nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**37.12**	**159**	P	**P**	**10 25 28.7**	**-0.2**
	5.0nm,0.6s,mb4.6,baz=327,slow=8.4,SNR=12						
SONM	**Songino Array**	**48.33**	**342**	P	**P**	**10 26 58.7**	**-0.7**
	0.7nm,0.7s,mb3.6,baz=145,slow=9.2,SNR=4.0						
MKAR	**Makanchi Array**	**58.40**	**326**	P	**P**	**10 28 13.6**	**+0.1**
	1.3nm,0.6s,mb4.1,baz=126,slow=8.4,SNR=6.1						
MKAR	**Makanchi Array**	**58.40**	**326**	P	**P**	**10 28 13.6**	**+0.1**
BVAR	**Borovoye Array**	**68.18**	**327**	P	**P**	**10 29 18.7**	**+1.0**
	0.9nm,0.6s,mb3.8,baz=141,slow=9.2,SNR=2.6						
VNDA	**Vanda**	**82.31**	**173**	P	**P**	**10 30 38.7**	**+1.0**
	0.8nm,0.7s,mb3.7,baz=330,slow=7.2,SNR=5.8						
VNDA	**Vanda**	**82.31**	**173**	eP	**P**	**10 30 38.8**	**+1.1**
	0.9nm,0.9s,mb3.6						
ILAR	**Eielson Array**	**86.22**	**25**	P	**P**	**10 30 57.4**	**0.0**
	0.5nm,1.0s,mb3.4,baz=248,slow=4.9,SNR=2.6						

*JMA **09** 10:22:37.9, 37.21N×138.83E, h11^{km}±1^{km}, M4.3 Broadband fault plane solution: P waves. NP1:ϕ_s220°, δ46°, λ108°. NP2:ϕ_s15°, δ47°, λ72°. Principal axes: T Plg77°, Azm211°; N Plg13°, Azm27°; P Plg1°, Azm117°;*

JMA Felt IV J1.

*NEIC **09** 10:22:38.0±1.9, 37.17N×138.80E, h19^{km}±12^{km}, mb4.4/1 Error ellipse: s-maj=12.4km s-min=10.4km az=153.0*

NEIC Recorded [4 JMA] in Niigata and [1 JMA] in Gumma and Nagano Prefectures. Also recorded [1 JMA] on Sadoga-shima.

*MOS **09** 10:22:37.9±0.9, 37.18N×138.82E, h33^{km}, mb4.2/12, Error ellipse: s-maj=26.1km s-min=10.2km az=75.5*

*IDC **09** 10:22:37.7±3.3, 37.23N×138.70E, h15^{km}±22^{km}, mb3.8/15, mb1 4.0/17, mb1mx3.9/27, mbtmp3.9/17, ML3.7/2, Error ellipse: s-maj=20.8km s-min=13.0km az=109.0*

ISC 09 10:22:36.1±0.3**, 37.28N**±0.02×**138.75E**±0.03**, h11**^{km}**, n51, σ0^{s}91**/61**, mb3.9**/16**, 8D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.22**	**97**	⇓P	**Pg**	**10 22 41.3**	**+0.4**
JHK				S	**Sg**	**10 22 44.2**	**+0.1**
JIZZ	**Izumozaki**	**0.26**	**354**	⇓P	**Pg**	**10 22 45.1**	**+3.5**
JKT	**Katashina**	**0.65**	**141**	⇓P	**Pb**	**10 22 48.6**	**-0.3**
JKT				S	**Sb**	**10 22 56.7**	**-1.0**
JNS	**Sasagawa**	**0.71**	**40**	⇓P	**Pb**	**10 22 51.0**	**+1.1**
JNS				S	**Sb**	**10 23 00.7**	**+1.3**
JGK	**Kuni**	**0.72**	**187**	P	**Pb**	**10 22 50.7**	**+0.6**
JGK				S	**Sb**	**10 23 00.4**	**+0.7**
JFY	**Yanaizu**	**0.78**	**80**	⇓P	**Pb**	**10 22 51.4**	**+0.3**
JFY				S	**Sb**	**10 23 01.4**	**0.0**
MAJO	**Matsushiro**	**0.85**	**211**	⇓iP	**Pb**	**10 22 52.9**	**+0.5**
MAT	**Matsushiro**	**0.85**	**211**	eP	**Pb**	**10 22 53.0**	**+0.6**
MAT				eS	**Sb**	**10 23 04.0**	**+0.5**
MAT	**Matsushiro**	**0.85**	**211**	P	**Pb**	**10 22 53.0**	**+0.6**
MAT				S	**Sb**	**10 23 03.8**	**+0.3**
MAT	**Matsushiro**	**0.85**	**211**	P	**Pb**	**10 22 53.1**	**+0.7**
MAT				S	**Sb**	**10 23 04.2**	**+0.7**
MJAR	**Matsushiro Arr**	**0.85**	**211**	Pg	**Pg**	**10 22 53.1**	**-0.1**
	214nm,0.3s,baz=30,slow=17,SNR=1204						
MJAR				Lg		10 23 04.1	
	593nm,0.3s,baz=37,slow=33,SNR=58						
JSD	**Sado**	**0.85**	**333**	⇓P	**Pb**	**10 22 54.2**	**+1.8**
JSD				S	**Sb**	**10 23 06.6**	**+3.0**
JAG	**Ashikaga**	**1.02**	**146**	⇓P	**Pb**	**10 22 55.6**	**+0.3**
JAG				S	**Sb**	**10 23 08.2**	**-0.3**
JHJ	**Hachijo jima 2**	**4.23**	**168**	Pn	**Pn**	**10 23 42.9**	**+0.8**
	30nm,0.3s,baz=327,slow=18,SNR=11						
JHJ				Sn	**Sn**	**10 24 33.5**	**+1.5**
	5.7nm,0.3s,baz=270,slow=20,SNR=2.3						
ASAJ	**Asahikawa**	**7.43**	**22**	P	**Pn**	**10 24 26.9**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.43**	**22**	Pn	**Pn**	**10 24 26.9**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=200,slow=10,SNR=10						
KS15	**Wonju Array Si**	**8.65**	**274**	eP	**P**	**10 24 44.7**	**+0.5**
YSS	**Yuzh-Sakhalins**	**10.12**	**16**	P	**P**	**10 25 04.2**	**-0.1**
ENH	**Enshi**	**25.24**	**263**	eP	**P**	**10 28 03.0**	**-0.6**
SONM	**Songino Array**	**25.89**	**304**	P	**P**	**10 28 09.5**	**+0.1**
	comp=Z,2.6nm,1.0s,mb3.7,baz=109,slow=9.5,SNR=6.2						
BVAR	**Borovoye Array**	**48.83**	**312**	P	**P**	**10 31 22.6**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.9,baz=90,slow=8.9,SNR=4.4						
BVAR				PcP	PcP	10 32 47.0	-1.1
	comp=Z,0.5nm,0.5s,baz=56,slow=5.2,SNR=3.5						
ZRNK	**Zerenda**	**49.66**	**312**	eP	**P**	**10 31 28.1**	**-1.4**
ILAR	**Eielson Array**	**50.43**	**32**	P	**P**	**10 31 35.0**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**50.43**	**32**	P	**P**	**10 31 35.0**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=269,slow=5.2,SNR=9.1						
INK	**Inuvik**	**55.14**	**27**	P	**P**	**10 32 10.0**	**-0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**55.14**	**27**	P	**P**	**10 32 10.0**	**-0.3**
	comp=Z,1.0nm,0.6s,mb4.0,baz=329,slow=4.6,SNR=6.0						
WRA	**Warramunga Arr**	**57.06**	**185**	P	**P**	**10 32 22.4**	**-2.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA	**Warramunga Arr**	**57.06**	**185**	P	**P**	**10 32 22.4**	**-2.3**
	comp=Z,1.7nm,0.5s,mb4.3,baz=1.4,slow=7.5,SNR=7.4						
ARCES	**ARCESS Array B**	**63.01**	**339**	P	**P**	**10 33 04.2**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**63.01**	**339**	P	**P**	**10 33 04.2**	**-0.6**
	comp=Z,1.1nm,0.6s,mb4.1,baz=60,slow=9.8,SNR=6.7						
YKA	**Yellowknife Ar**	**64.66**	**29**	P	**P**	**10 33 13.9**	**-1.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**64.66**	**29**	P	**P**	**10 33 13.9**	**-1.7**
	comp=Z,0.8nm,0.7s,mb3.9,baz=301,slow=6.7,SNR=4.8						
KAF	**Kangasniemi**	**67.10**	**332**	ep	**P**	**10 33 29.6**	**-1.7**
	comp=Z,1.7nm,0.6s,mb4.2,baz=51,slow=6.0						
KAF	**Kangasniemi**	**67.10**	**332**	eP	**P**	**10 33 29.6**	**-1.7**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**67.59**	**331**	P	**P**	**10 33 33.4**	**-1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**67.59**	**331**	P	**P**	**10 33 33.4**	**-1.0**
	comp=Z,1.1nm,0.7s,mb4.0,baz=56,slow=6.9,SNR=8.3						
AKASG	**Malin Array Be**	**72.79**	**321**	P	**P**	**10 34 05.5**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**72.79**	**321**	P	**P**	**10 34 05.5**	**-0.6**
	comp=Z,1.1nm,0.6s,mb4.0,baz=48,slow=6.3,SNR=6.7						
AKASG	**Malin Array Be**	**72.79**	**321**	P	**P**	**10 34 05.5**	**-0.6**
HFS	**Hagfors**	**72.97**	**335**	P	**P**	**10 34 07.4**	**+0.4**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**72.97**	**335**	P	**P**	**10 34 07.4**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=72,slow=4.6,SNR=4.7						
NB2	**NORSAR Subarra**	**73.12**	**336**	P	**P**	**10 34 07.3**	**-0.5**
	comp=Z,0.9nm,0.6s,mb3.9,baz=41,slow=6.2						
NOA	**NORSAR Array B**	**73.12**	**336**	P	**P**	**10 34 06.4**	**-1.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**73.12**	**336**	P	**P**	**10 34 06.4**	**-1.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=40,slow=5.9,SNR=7.2						
NVAR	**Mina Array Bea**	**76.53**	**52**	P	**P**	**10 34 28.3**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=285,slow=4.7,SNR=4.3						
BRTR	**Keskin Array B**	**77.08**	**310**	P	**P**	**10 34 30.9**	**0.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**77.08**	**310**	P	**P**	**10 34 30.9**	**0.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=90,slow=6.2,SNR=3.8						
PDAR	**Pinedale Array**	**79.00**	**44**	P	**P**	**10 34 41.1**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.5,slow=3.0,SNR=4.1						
CLL	**Collm**	**79.81**	**329**	e*PP	pP	10 34 52.0	+2.9
GERES	**GERESS Array B**	**81.36**	**327**	P	**P**	**10 34 53.8**	**0.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**81.36**	**327**	P	**P**	**10 34 53.8**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=34,slow=7.1,SNR=4.2						

IDC 09 10:26:16.4±1.8**, 2.64N**×**126.56E, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.8**/18**, mbtmp4.0**/4**, Error ellipse: s-maj=105.0km s-min=24.6km az=68.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.63**	**182**	P	P	10 30 59.3	-0.9
	4.8nm,0.5s,baz=5.2,slow=12,SNR=8.7						
WRA	**Warramunga Arr**	**23.71**	**162**	P	P	10 31 29.1	-1.9
	1.6nm,0.4s,baz=338,slow=11,SNR=17						
WB2	**Warramunga Arr**	**23.71**	**162**	eP	P	10 31 30.1	-0.9
STKA	**Stephens Creek**	**37.18**	**159**	P	P	10 33 29.4	-1.7
	1.7nm,0.5s,baz=332,slow=10,SNR=7.9						
MKAR	**Makanchi Array**	**58.35**	**326**	P	P	10 36 13.2	-2.6
	0.5nm,0.5s,baz=118,slow=6.5,SNR=5.0						

*IDC **09** 10:46:26.4±1.0, 2.68N×126.72E, mb4.1/10, mb1 4.3/10, mb1mx4.1/20, mbtmp4.1/10, Error ellipse: s-maj=58.2km s-min=15.4km az=70.0*

*NEIC **09** 10:46:37.2±2.6, 2.60N×126.58E, h88^{km}±23^{km}, mb4.4/5, Error ellipse: s-maj=33.6km s-min=8.8km az=62.0*

ISC 09 10:46:36.1±3.4**, 2.6N**±0.1×**126.6E**±0.2**, h92**^{km}±31^{km}**, n19, σ0^{s}96**/19**, mb4.0**/11**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.85**	**289**	eP	**P**	**10 49 10.1**	**+0.1**
KAKA	**Kakadu**	**16.31**	**159**	eP	**P**	**10 50 22.3**	**+1.3**
	12nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.60**	**182**	eP	**P**	**10 51 08.1**	**-1.9**
	15nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.60**	**182**	P	**P**	**10 51 08.0**	**-2.0**
	18nm,0.7s,baz=354,slow=8.9,SNR=3.1						
WRAB	**Tennant Creek**	**23.68**	**161**	eP	**P**	**10 51 39.7**	**-0.5**
	17nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**23.68**	**161**	P	**P**	**10 51 39.3**	**-1.0**
	3.5nm,0.4s,mb4.1,baz=333,slow=11,SNR=15						
WB2	**Warramunga Arr**	**23.69**	**161**	eP	**P**	**10 51 39.9**	**-0.4**
MBWA	**Marble Bar**	**24.55**	**195**	eP	**P**	**10 51 49.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**31.29**	**302**	P	**P**	**10 52 50.1**	**+0.3**
	0.7nm,0.6s,mb3.6,baz=135,slow=8.9,SNR=4.4						
NWAO	**Narrogin (SRO)**	**36.43**	**193**	P	**P**	**10 53 33.7**	**-0.1**
	9.2nm,1.1s,mb4.6,baz=16,slow=10,SNR=5.5						
STKA	**Stephens Creek**	**37.16**	**159**	eP	**P**	**10 53 40.4**	**+0.5**
	3.0nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**37.16**	**159**	P	**P**	**10 53 39.7**	**-0.2**
	4.0nm,0.5s,mb4.6,baz=338,slow=8.6,SNR=15						
SONM	**Songino Array**	**48.29**	**342**	P	**P**	**10 55 09.4**	**-0.5**
	0.4nm,0.5s,mb3.5,baz=169,slow=7.9,SNR=4.0						
MKAR	**Makanchi Array**	**58.37**	**326**	P	**P**	**10 56 23.4**	**-0.7**
	0.8nm,0.4s,mb4.1,baz=114,slow=7.9,SNR=7.5						
MKAR	**Makanchi Array**	**58.37**	**326**	P	**P**	**10 56 23.4**	**-0.7**
BVAR	**Borovoye Array**	**68.15**	**327**	P	**P**	**10 57 27.6**	**-0.7**
	0.5nm,0.4s,mb3.7,baz=127,slow=7.4,SNR=5.3						
ZRNK	**Zerenda**	**68.87**	**327**	eP	**P**	**10 57 32.5**	**-0.3**
	1.2nm,0.4s,mb4.1						
VNDA	**Vanda**	**82.35**	**173**	P	**P**	**10 58 49.9**	**+1.2**
	0.7nm,0.8s,mb3.5,baz=316,slow=7.0,SNR=3.5						
ARCES	**ARCESS Array B**	**91.43**	**340**	P	**P**	**10 59 34.9**	**+2.2**
	0.8nm,0.8s,mb3.9,baz=80,slow=5.5,SNR=3.3						

IDC 09 10:52:14.9±1.9**, 2.65N**×**126.63E, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.6**/18**, mbtmp3.8**/4**, Error ellipse: s-maj=107.3km s-min=25.9km az=68.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.65**	**183**	P	P	10 56 57.5	-1.4
	3.1nm,0.6s,baz=14,slow=10,SNR=7.3						
WRA	**Warramunga Arr**	**23.70**	**162**	P	P	10 57 27.7	-1.7
	1.2nm,0.4s,baz=338,slow=10,SNR=11						
STKA	**Stephens Creek**	**37.16**	**159**	P	P	10 59 27.7	-1.9
	1.0nm,0.5s,baz=339,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**58.38**	**326**	P	P	11 02 12.2	-2.3
	0.3nm,0.5s,baz=106,slow=8.8,SNR=3.7						

IDC 09 10:55:40.5±2.5**, 0.55N**×**98.15E, mb3.9**/4**, mb1 4.0**/4**, mb1mx3.7**/18**, mbtmp3.9**/4**, Error ellipse: s-maj=102.0km s-min=26.9km az=54.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.89**	**122**	P	P	11 03 24.4	-1.8
	1.8nm,0.6s,baz=302,slow=8.9,SNR=12						
SONM	**Songino Array**	**47.64**	**8**	P	P	11 04 19.4	-1.0
	0.5nm,0.5s,baz=180,slow=8.6,SNR=2.3						
MKAR	**Makanchi Array**	**48.10**	**345**	P	P	11 04 21.0	-3.0
	2.1nm,0.5s,baz=154,slow=8.7,SNR=16						
FINES	**FINESS Array B**	**81.01**	**332**	P	P	11 07 57.5	-1.0
	0.9nm,0.9s,baz=117,slow=8.5,SNR=3.9						

*IDC **09** 10:58:30.8±1.0, 2.68N×126.66E, mb3.8/7, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=63.9km s-min=18.1km az=73.0*

*NEIC **09** 10:58:31.9±0.5, 2.68N×126.79E, h10^{km}, mb4.3/2, Error ellipse: s-maj=41.2km s-min=9.8km az=73.0*

ISC 09 10:58:33.9±0.7**, 2.6N**±0.1×**126.5E**±0.3**, h33**^{km}**, n12, σ0^{s}59**/12**, mb4.0**/7**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.59**	**182**	eP	**P**	**11 03 13.3**	**+0.5**
	4.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.59**	**182**	P	**P**	**11 03 13.2**	**+0.3**
	4.5nm,0.5s,baz=8.9,slow=9.4,SNR=20						
WRAB	**Tennant Creek**	**23.70**	**161**	eP	**P**	**11 03 43.0**	**-0.8**
	5.5nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**23.70**	**161**	P	**P**	**11 03 44.0**	**+0.2**
	2.9nm,0.4s,mb4.0,baz=340,slow=11,SNR=17						
WB2	**Warramunga Arr**	**23.70**	**161**	eP	**P**	**11 03 44.8**	**+0.9**
STKA	**Stephens Creek**	**37.18**	**158**	P	**P**	**11 05 44.0**	**+0.1**
	3.0nm,0.7s,mb4.3,baz=327,slow=11,SNR=4.6						
STKA	**Stephens Creek**	**37.18**	**158**	eP	**P**	**11 05 42.1**	**-1.7**
SONM	**Songino Array**	**48.28**	**342**	P	**P**	**11 07 14.3**	**+0.5**
	0.4nm,0.4s,mb3.8,baz=162,slow=9.0,SNR=3.6						
MKAR	**Makanchi Array**	**58.33**	**326**	P	**P**	**11 08 27.8**	**-0.3**
	0.5nm,0.4s,mb3.9,baz=117,slow=8.5,SNR=6.9						
BVAR	**Borovoye Array**	**68.12**	**327**	P	**P**	**11 09 32.4**	**-0.1**
	0.6nm,0.4s,mb4.0,baz=110,slow=4.5,SNR=4.9						
ZRNK	**Zerenda**	**68.83**	**327**	eP	**P**	**11 09 36.9**	**-0.1**
ILAR	**Eielson Array**	**86.23**	**25**	P	**P**	**11 11 13.2**	**+0.2**
	0.2nm,0.5s,mb3.6,baz=260,slow=4.6,SNR=4.6						

IDC 09 11:09:48.7±2.2**, 6.57S**×**129.43E, mb3.8**/3**, mb1 4.1**/5**, mb1mx3.9**/15**, mbtmp3.9**/5**, ML4.1**/2**, Error ellipse: s-maj=82.2km s-min=29.4km az=79.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.05**	**198**	Pn	P	11 12 42.8	-2.0
	0.9nm,0.3s,baz=25,slow=9.6,SNR=46						
FITZ				Sn	S	11 14 41.7	-19
	3.7nm,0.3s,baz=102,slow=5.6,SNR=7.4						
WRA	**Warramunga Arr**	**14.13**	**161**	Pn	P	11 13 09.4	-3.1
	1.0nm,0.3s,baz=334,slow=13,SNR=29						
WRA				Sn	S	11 15 33.4	-18
	2.2nm,0.3s,baz=333,slow=22,SNR=11						
CMAR	**Chiang Mai Arr**	**39.02**	**310**	P	P	11 17 17.6	-1.3
	1.2nm,0.7s,baz=144,slow=7.5,SNR=5.4						
SONM	**Songino Array**	**57.85**	**342**	P	P	11 19 43.4	-1.1
	0.4nm,0.5s,baz=148,slow=6.6,SNR=3.6						
MKAR	**Makanchi Array**	**67.55**	**327**	P	P	11 20 46.1	-3.0
	0.4nm,0.3s,baz=122,slow=8.1,SNR=12						

IDC 09 11:17:33.4±1.8**, 2.61N**×**126.54E, mb4.0**/4**, mb1 4.2**/4**, mb1mx3.8**/18**, mbtmp4.1**/4**, Error ellipse: s-maj=108.8km s-min=24.6km az=68.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.60**	**182**	P	P	11 22 15.8	-1.2
	5.3nm,0.6s,baz=10,slow=6.2,SNR=7.2						
WRA	**Warramunga Arr**	**23.69**	**161**	P	P	11 22 46.3	-1.5
	2.5nm,0.6s,baz=338,slow=11,SNR=14						
STKA	**Stephens Creek**	**37.16**	**159**	P	P	11 24 46.2	-1.9
	3.0nm,0.5s,baz=340,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**58.36**	**326**	P	P	11 27 30.4	-2.5
	0.5nm,0.5s,baz=121,slow=8.2,SNR=5.5						

*IDC **09** 11:19:46.8±0.4, 2.80N×126.59E, mb5.0/32, mb1 5.0/32, mb1mx5.0/33, mbtmp5.0/32, MS4.6/5, Ms1 4.6/5, ms1mx4.1/25, Error ellipse: s-maj=16.1km s-min=10.4km az=80.0*

*MOS **09** 11:19:49.9±1.2, 2.79N×126.54E, h33^{km}, mb5.3/43, MS4.5/8, Error ellipse: s-maj=15.1km s-min=6.8km az=105.9*

*BJI **09** 11:19:50.6, 2.97N×126.69E, h43^{km}, mB5.0, mb5.1, Ms4.8, Msz4.5*

*HRVD **09** 11:19:54.3±0.2, 2.90N×126.52E, h25^{km}±1^{km}, MW5.4/65, Centroid moment Tensor Solution. LP body waves: s44,c70;Mantle waves: s65,c126; Half duration: 1^{s}3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.33±.05; $M_{\theta\theta}$1.11±.04; $M_{\phi\phi}$-1.44±.05; $M_{r\theta}$-0.53±.10; $M_{\theta\phi}$-0.75±.04; $M_{\phi r}$-0.98±.11; Best double couple: $M_0$1.767×10^{17} NP1:ϕ_s326°, δ58°, λ-3°. NP2:ϕ_s58°, δ88°, λ-148°. Principal axes: T 1.409, Plg20°, Azm188°; N .716, Plg58°, Azm62°; P -2.126, Plg24°, Azm287°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **09** 11:19:54.3±1.6, 2.79N×126.62E, h54^{km}±13^{km}, mb5.3/48 Error ellipse: s-maj=8.5km s-min=6.1km az=78.0*

ISC 09 11:19:51.9±0.2**, 2.79N**±0.03×**126.65E**±0.04**, h49**^{km}**, h49**^{km}±5.0^{km}**:pP-P, n290, σ1^{s}32**/274**, mb5.2**/117**, MS4.6**/26**, 13C-15D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.39**	**346**	i P	**P**	**11 21 01.0**	**+3.3**
KCP	**Kidapawan**	**4.47**	**340**	⇑eP	**P**	**11 21 02.2**	**+3.2**
BIPH	**Bislig**	**5.37**	**357**	eP	**P**	**11 21 14.9**	**+3.4**
BIPH				i S	**S**	**11 22 19.8**	**+6.9**
CGP	**Cagayan de Oro**	**5.96**	**341**	⇓eP	**P**	**11 21 24.9**	**+5.2**
ZMPH	**Zamboanga City**	**6.17**	**312**	i P	**P**	**11 21 21.7**	**-0.9**
DCPH	**Dipolog City**	**6.63**	**330**	eP	**P**	**11 21 33.1**	**+3.9**
SCPH	**Surigao**	**7.04**	**351**	⇓eP	**P**	**11 21 40.0**	**+5.0**
SNPH	**Sibulan**	**7.34**	**333**	eP	**P**	**11 21 47.6**	**+8.5**
TBP	**Tagbilaran**	**7.40**	**338**	eP	**P**	**11 21 40.4**	**+0.6**
TSM	**Tawau**	**8.89**	**280**	P	**P**	**11 22 00.6**	**+0.2**
RCP	**Roxas**	**9.54**	**336**	eP	**P**	**11 22 11.6**	**+2.1**
KALP	**Kalibo**	**9.81**	**334**	eP	**P**	**11 22 32.0**	**+19**
KKM	**Kota Kinabalu**	**10.89**	**288**	eP	**P**	**11 22 30.2**	**+2.2**
KKM	**Kota Kinabalu**	**10.89**	**288**	P	**P**	**11 22 30.5**	**+2.4**
CVP	**Callao Caves**	**15.56**	**343**	⇑iP	**P**	**11 23 30.0**	**+0.3**
KSM	**Kuching**	**16.38**	**266**	eP	**P**	**11 23 43.7**	**+3.6**
KAKA	**Kakadu**	**16.44**	**160**	eP	**P**	**11 23 37.3**	**-3.5**
	923nm,1.5s						
FITZ	**Fitzroy Crossi**	**20.78**	**183**	⇑iP	**P**	**11 24 28.2**	**-3.2**
	102nm,0.9s						
FITZ				eS	**S**	**11 28 16.6**	**+1.0**
FITZ	**Fitzroy Crossi**	**20.78**	**183**	P	**P**	**11 24 28.2**	**-3.2**
	82nm,0.5s,baz=6.4,slow=9.1,SNR=84						
FITZ				S	**S**	**11 28 18.3**	**+2.7**
	34nm,1.0s,baz=188,slow=21,SNR=6.9						
YHNB	**Yeheng**	**22.34**	**347**	eP	**P**	**11 24 44.7**	**-2.2**
QIZ	**Qiongzhong**	**23.04**	**316**	P	**P**	**11 24 53.6**	**-0.4**
QIZ				S	**S**	**11 28 57.5**	**+0.3**
QIZ				AMB	AMB		
	comp=Z,36nm,0.9s,mb4.8						
QIZ				LR	LR		
	comp=N,2μm,17.9s,MS4.6						
QIZ				LR	LR		
	comp=E,1μm,16.9s,MS4.6						
QIZ				LR	LR		
	comp=Z,2μm,26.6s						
QIZ	**Qiongzhong**	**23.04**	**316**	eP	**P**	**11 24 53.8**	**-0.2**
	comp=Z,32nm,0.8s,mb4.8						
KGM	**Kluang**	**23.32**	**269**	P	**P**	**11 25 01.4**	**+4.7**
QZH	**Quanzhou**	**23.36**	**341**	P	**P**	**11 24 56.3**	**-0.7**
QZH				S	**S**	**11 29 04.0**	**+1.3**
QZH				AMB	AMB		
	comp=Z,140nm,1.2s,mb5.3						
QZH				LR	LR		
	comp=N,2μm,19.0s,MS4.8						
QZH				LR	LR		
	comp=E,2μm,17.5s,MS4.8						
QZH				LR	LR		
	comp=Z,8μm,30.7s						
WRAB	**Tennant Creek**	**23.81**	**162**	eP	**P**	**11 24 59.4**	**-2.0**
	comp=Z,181nm,0.7s,mb5.6						
WRA	**Warramunga Arr**	**23.82**	**162**	P	**P**	**11 24 59.3**	**-2.1**
WRA				S	**S**	**11 29 10.2**	**-0.5**
WRA				pmax	pmax		
	comp=Z,93nm,0.6s						
WRA				smax			
	comp=N,3.0nm,0.9s						
WRA	**Warramunga Arr**	**23.82**	**162**	P	**P**	**11 24 59.3**	**-2.1**
	comp=N,93nm,0.6s,mb5.4,baz=341,slow=11,SNR=117						
WRA				S	**S**	**11 29 10.2**	**-0.5**
	comp=N,3.4nm,0.9s,baz=343,slow=14,SNR=4.9						
WB2	**Warramunga Arr**	**23.82**	**162**	⇑iP	**P**	**11 24 59.5**	**-2.0**
WB2				eS	**S**	**11 29 13.3**	**+2.6**
GZH	**Guangzhou**	**23.95**	**329**	P	**P**	**11 25 04.8**	**+2.1**
GZH				LR	LR		
	comp=N,1μm,22.7s,MS4.5						

GZH LR LR
comp=E,1µm,18.7s,MS4.5
GZH LR LR
comp=Z,2µm,29.9s
JOW Kunigami 23.96 4 P **P** **11 25 02.5 -0.3**
comp=Z,73nm,1.0s,mb5.1,baz=189,slow=8.5,SNR=9.0
MBWA Marble Bar 24.74 196 *eP* **P** **11 25 09.2 -1.3**
comp=Z,74nm,0.9s,mb5.2
IPM Ipoh 25.63 275 P **P** **11 25 23.7 +4.8**
KULM Kulim 26.05 276 *eP* **P** **11 25 23.6 +0.7**
KKTK Khon Kaen 27.03 301 P **P** **11 25 30.0 -1.8**
comp=Z,463nm,0.7s,mb6.1
CBIJ Chichi jima 28.38 30 P **P** **11 25 42.5 -1.5**
comp=Z,99nm,0.8s,mb5.5,baz=122,slow=2.8,SNR=9.4
SSE Sheshan 28.63 350 *eP* **P** **11 25 39.4 -6.7**
SSE AMB AMB
comp=Z,25nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,43nm,3.5s
SSE LR LR
comp=N,549nm,29.6s,MS4.3
SSE LR LR
comp=E,1µm,29.6s,MS4.3
SSE LR LR
comp=Z,929nm,28.9s,MS4.2
NST Nakhon Sawan 29.08 298 P **P** **11 25 49.8 -0.5**
CTA Charters Tower 29.78 141 *eP* **P** **11 25 55.1 -1.4**
comp=Z,5.4nm,0.5s,mb4.5
CTA Charters Tower 29.78 141 P **P** **11 25 55.1 -1.4**
CTA pmax pmax
comp=Z,9.0nm,0.6s
CTA Charters Tower 29.78 141 P **P** **11 25 55.1 -1.4**
comp=Z,8.6nm,0.6s,mb4.7,baz=325,slow=11,SNR=12
CTAO Charters Tower 29.78 141 *eP* **P** **11 25 55.0 -1.6**
comp=Z,27nm,1.1s,mb4.9
WHN Wuhan 29.96 338 *eP* **P** **11 25 58.0 0.0**
NANT Nan 29.97 304 ⇑P **P** **11 25 57.0 -1.2**
comp=Z,150nm,0.6s,mb5.9
NJ2 Nanjing 30.02 347 *eP* **P** **11 25 57.2 -1.3**
NJ2 AP pP 11 26 06.6 -4.6
NJ2 XP sP 11 26 10.7 -6.5
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb5.0
NJ2 AMB AMB
comp=Z,240nm,11.7s
NJ2 LR LR
comp=N,2µm,27.1s,MS4.8
NJ2 LR LR
comp=E,2µm,23.8s,MS4.8
NJ2 LR LR
comp=Z,1µm,24.3s,MS4.5
GYA Guiyang 30.36 323 ⇑*iP* **P** **11 26 03.2 +1.6**
GYA AMB AMB
comp=Z,20nm,0.7s,mb5.0
GYA AMB AMB
comp=Z,100nm,3.5s
JNU Nakatsue 30.44 7 P **P** **11 26 00.6 -1.6**
comp=Z,24nm,0.9s,mb5.0,baz=249,slow=12,SNR=5.5
CHRT Chiangrai 31.25 305 ⇓P **P** **11 26 06.0 -3.5**
comp=Z,105nm,0.9s,mb5.7
CMAR Chiang Mai Arr 31.29 302 P **P** **11 26 09.1 -0.7**
CMAR 11 29 03.9
CMAR pmax pmax
comp=Z,9.0nm,0.9s
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR pmax pmax
comp=N,1.0nm,0.5s
CMAR MLR MLR
comp=Z,629nm,18.7s
CMAR Chiang Mai Arr 31.29 302 P **P** **11 26 09.1 -0.7**
comp=Z,8.5nm,0.9s,mb4.6,baz=112,slow=6.4,SNR=21
CMAR PcP PcP 11 29 03.9 +0.6
comp=Z,1.3nm,0.6s,baz=162,slow=2.9,SNR=2.9
CMAR ScP 11 32 46.6
comp=Z,0.8nm,0.5s,baz=140,slow=2.0,SNR=4.9
CMAR LR LR 11 40 12.6
comp=Z,629nm,18.7s,MS4.3,baz=120,slow=39
CHG Chiang Mai 31.45 302 ⇓P **P** **11 26 09.8 -1.4**
comp=Z,20nm,0.7s,mb5.1
ENH Enshi 31.80 331 *eP* **P** **11 26 12.8 -1.5**
comp=Z,51nm,1.0s,mb5.3
KMI Kunming 31.99 316 P **P** **11 26 15.9 0.0**
KMI S **S** **11 31 23.1 +0.2**
KMI AMB AMB
comp=Z,17nm,2.0s,mb4.5
KMI LR LR
comp=N,664nm,18.0s,MS4.6
KMI LR LR
comp=E,906nm,20.9s,MS4.6
KMI LR LR
comp=Z,1µm,26.9s
TIA Tai'an 34.41 346 P **P** **11 26 36.0 -0.7**
KS15 Wonju Array Si 34.51 2 *eP* **P** **11 26 38.0 +0.4**
KLBR Kellerberrin 35.22 193 *eP* **P** **11 26 42.9 -0.8**
comp=Z,59nm,1.0s,mb5.5
XAN Xi'an 35.22 334 P **P** **11 26 41.5 -2.2**
XAN PP PP 11 28 05.6 +1.8
XAN AMB AMB
comp=Z,14nm,0.8s,mb4.9
XAN LR LR
comp=N,904nm,27.4s,MS4.5
XAN LR LR
comp=E,612nm,26.4s,MS4.5
XAN LR LR
comp=Z,1µm,26.9s,MS4.5
MAJO Matsushiro 35.24 16 *eP* **P** **11 26 42.6 -1.3**
comp=Z,26nm,0.9s,mb5.2
MAT Matsushiro 35.24 16 *eP* **P** **11 26 42.0 -1.9**
comp=Z,21nm,0.9s,mb5.1
MAT S **S** **11 32 09.0 -4.2**
MAT Matsushiro 35.24 16 P **P** **11 26 41.9 -2.0**
MAT *eS* **S** **11 32 09.0 -4.2**
MJAR Matsushiro Arr 35.24 16 P **P** **11 26 42.2 -1.7**
MJAR 11 29 14.4
MJAR pmax pmax
comp=Z,7.0nm,0.7s
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR Matsushiro Arr 35.24 16 P **P** **11 26 42.2 -1.7**
comp=Z,7.1nm,0.7s,mb4.7,baz=199,slow=10,SNR=18
MJAR PcP PcP 11 29 14.4 +0.3
comp=Z,3.4nm,0.9s,baz=186,slow=2.5,SNR=5.4
CD2 Chengdu 35.36 325 ⇑*iP* **P** **11 26 43.4 -1.5**
CD2 AMB AMB
comp=Z,22nm,1.0s,mb5.0
MUN Mundaring 35.97 195 ⇓*iP* **P** **11 26 50.3 +0.2**
comp=Z,35nm,1.6s,mb5.0
DL2 Dalian 36.24 353 P **P** **11 26 52.9 +0.6**
DL2 S **S** **11 32 26.1 -2.4**
DL2 AMB AMB
comp=Z,40nm,0.8s,mb5.4
DL2 LR LR
comp=N,240nm,17.1s,MS4.3
DL2 LR LR
comp=E,380nm,19.4s,MS4.3
DL2 LR LR
comp=Z,500nm,23.9s,MS4.2
NWAO Narrogin (SRO) 36.62 193 P **P** **11 26 54.8 -0.8**
NWAO pmax pmax
comp=Z,27nm,0.6s
NWAO Narrogin (SRO) 36.62 193 P **P** **11 26 54.8 -0.8**
comp=Z,27nm,0.6s,mb5.2,baz=16,slow=8.8,SNR=35
NWAO Narrogin (SRO) 36.62 193 *eP* **P** **11 26 54.6 -1.0**
comp=Z,29nm,0.8s,mb5.2
STKA Stephens Creek 37.28 159 *eP* **P** **11 26 59.5 -1.6**
comp=Z,60nm,0.7s,mb5.5
STKA Stephens Creek 37.28 159 P **P** **11 26 59.6 -1.5**
comp=Z,70nm,0.7s,mb5.6,baz=332,slow=8.1,SNR=31
STKA PcP PcP 11 29 20.4 +0.1
comp=Z,14nm,0.7s,baz=353,slow=6.2,SNR=3.1
SNY Shenyang 38.97 356 ⇑P **P** **11 27 16.0 +1.0**
SNY S **S** **11 33 02.2 -7.8**
SNY AMB AMB
comp=Z,20nm,0.8s,mb4.9
SNY LR LR
comp=N,550nm,22.1s,MS4.6
SNY LR LR
comp=E,810nm,24.5s,MS4.6
SNY LR LR
comp=Z,840nm,25.9s,MS4.5
LZH Lanzhou 39.27 330 P **P** **11 27 17.6 0.0**
LZH PP PP 11 28 50.0 -2.1
LZH S **S** **11 33 09.0 -5.7**
LZH AMB AMB
comp=Z,90nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,230nm,4.0s
LZH LR LR
comp=E,3µm,20.5s
LZH LR LR
comp=Z,4µm,21.7s,MS5.2
HHC Hu-ho-hao-te 40.26 342 ⇓P **P** **11 27 25.7 -0.1**
HHC AP pP 11 27 40.7 +1.9
HHC PP PP 11 29 04.6 +2.1
HHC PCP PcP 11 29 28.6 -0.9
HHC SCP 11 33 11.6
HHC PCS 11 33 20.0
HHC S **S** **11 33 27.1 -2.4**
HHC XS 11 33 51.1
HHC SS SS 11 36 19.8 -3.9
HHC SCS ScS 11 37 25.7 0.0
HHC AMB AMB
comp=Z,14nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,177nm,9.6s
HHC LR LR
comp=N,758nm,24.0s,MS4.6
HHC LR LR
comp=E,769nm,22.8s,MS4.6
HHC LR LR
comp=Z,1µm,32.4s
SHL Shillong 40.37 307 *eP* **P** **11 27 25.5 -1.4**
SHL *eS* **S** **11 33 29.0 -2.3**
BTO Baotou 40.54 340 *eP* **P** **11 27 27.9 -0.2**
CN2 Changchun 40.85 359 *eP* **P** **11 27 30.9 +0.2**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
CN2 LR LR
comp=N,500nm,23.0s,MS4.5
CN2 LR LR
comp=E,700nm,23.0s,MS4.5
CN2 LR LR
comp=Z,500nm,25.0s,MS4.3
MDJ Mudanjiang 41.74 3 P **P** **11 27 38.7 +0.8**
MDJ AP pP 11 27 51.3 +0.3
MDJ SCP 11 33 16.8
MDJ PCS 11 33 22.7
MDJ S **S** **11 33 54.7 +3.4**
MDJ AMB AMB
comp=Z,66nm,1.1s,mb5.2
MDJ AMB AMB
comp=Z,84nm,3.7s
MDJ LR LR
comp=N,600nm,26.7s,MS4.6
MDJ LR LR
comp=E,830nm,27.8s,MS4.6
MDJ LR LR
comp=Z,760nm,26.3s,MS4.5
MDJ Mudanjiang 41.74 3 *eP* **P** **11 27 38.5 +0.6**
comp=Z,63nm,1.0s,mb5.2
LSA Lhasa 43.00 312 P **P** **11 27 49.0 +0.5**
LSA AMB AMB
comp=Z,20nm,0.8s,mb4.9
LSA LR LR
comp=N,690nm,30.0s,MS4.5
LSA LR LR
comp=E,560nm,28.0s,MS4.5
LSA LR LR
comp=Z,890nm,28.0s,MS4.5
LSA Lhasa 43.00 312 *eP* **P** **11 27 48.9 +0.3**
comp=Z,29nm,0.6s,mb5.2
CNB Canberra Magne 43.47 153 *eP* **P** **11 27 52.3 0.0**
comp=Z,65nm,1.3s,mb5.2
ASAJ Asahikawa 43.51 17 P **P** **11 27 53.3 +0.8**
ASAJ pmax pmax
comp=Z,34nm,0.7s
ASAJ Asahikawa 43.51 17 P **P** **11 27 53.3 +0.8**
comp=Z,34nm,0.7s,mb5.2,baz=238,slow=14,SNR=34
GTA Gaotai 43.86 330 *eP* **P** **11 27 54.7 -0.7**
GTA PP PP 11 29 36.7 -2.8
GTA PCP PcP 11 29 44.5 +3.0
GTA PCS 11 33 35.8
GTA S **S** **11 34 21.9 -0.6**
GTA SS SS 11 37 29.3 -2.3
GTA SCS ScS 11 37 50.4 +2.9
GTA AMB AMB
comp=Z,13nm,0.9s,mb4.7
GTA AMB AMB
comp=Z,147nm,9.9s
GTA LR LR
comp=N,1µm,21.7s,MS4.8
GTA LR LR
comp=E,704nm,23.9s,MS4.8
GTA LR LR
comp=Z,2µm,22.4s,MS4.9
DZM Mont Dzumac 46.06 124 P **P** **11 28 12.5 -0.7**
comp=Z,6.2nm,0.6s,mb4.7,slow=9.1,SNR=9.8
YSS Yuzh-Sakhalins 46.17 15 ⇑*eP* **P** **11 28 14.3 +0.7**
YSS *e**SP sP 11 28 30.1 -2.4
YSS *e* 11 29 51.7
YSS *eS* **S** **11 34 52.0 -3.4**
YSS *eSS* SS 11 38 05.0 -8.3
YSS pmax pmax
comp=Z,50nm,0.7s,mb5.5
YSS MLR MLR
comp=N,500nm,20.0s
YSS MLR MLR
comp=Z,500nm,20.0s,MS4.5
YSS Yuzh-Sakhalins 46.17 15 *eP* **P** **11 28 13.6 -0.1**
comp=Z,32nm,0.6s,mb5.4
GUN Gumba 46.22 307 *eP* **P** **11 28 13.2 -1.1**
comp=Z,158nm,0.6s,mb6.1
PKI Pulchoki 46.45 306 *eP* **P** **11 28 15.0 -1.1**
comp=Z,29nm,0.7s,mb5.3
KLR Kul'dur 46.48 5 *eP* **P** **11 28 13.2 -2.8**
KLR *e* 11 34 51.5
KKN Kakani 46.65 306 *eP* **P** **11 28 16.2 -1.5**
comp=Z,48nm,0.7s,mb5.5
HIA Hailar 46.68 354 *eP* **P** **11 28 18.4 +0.8**
comp=Z,98nm,1.5s,mb5.5
DMN Daman 46.71 306 *eP* **P** **11 28 16.8 -1.4**
comp=Z,53nm,0.8s,mb5.5
GKN Gorkha 47.25 306 *eP* **P** **11 28 20.9 -1.5**
comp=Z,46nm,0.6s,mb5.6
BLSP Bilaspur 47.28 298 *eP* **P** **11 28 22.3 -0.4**
BLSP *e* 11 28 27.3
BLSP AMb AMB 11 28 27.5
comp=Z,76nm,1.0s,mb5.6
ULN Ulaanbaatar 47.98 342 *iP* **P** **11 28 22.6 -5.3**
ULN Ulaanbaatar 47.98 342 *eP* **P** **11 28 22.4 -5.6**
comp=Z,38nm,1.0s,mb5.4
KOLN Koldanda 48.00 306 *eP* **P** **11 28 27.0 -1.3**
comp=Z,68nm,0.5s,mb5.9
SONM Songino Array 48.16 342 P **P** **11 28 28.6 -0.7**
comp=Z,14nm,0.8s,mb5.0,baz=162,slow=7.8,SNR=23
HYB Hyderabad 49.36 291 ⇑*eP* **P** **11 28 37.5 -1.4**
comp=Z,120nm,1.0s,mb5.9
HYB Hyderabad 49.36 291 ⇑*iP* **P** **11 28 37.5 -1.4**
comp=Z,120nm,1.0s,mb5.9
NGP Nagpur 49.76 295 *eP* **P** **11 28 41.2 -0.7**
NGP AMb AMB 11 28 46.8
comp=Z,71nm,1.2s,mb5.5
CIT Chita 50.27 350 *eP* **P** **11 28 45.9 +0.4**
CIT *e* 11 35 56.9
CIT pmax pmax
comp=Z,113nm,2.1s,mb5.5
ZAK Zakamensk 51.38 341 *eP* **P** **11 28 52.1 -1.8**
ZAK *e* 11 30 06.9
ZAK pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
ZAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
AKL Akola 51.49 294 *eP* **P** **11 28 57.7 +2.6**
AKL AMb AMB 11 28 58.5
comp=Z,133nm,0.6s,mb6.0
BHPL Bhopal 51.76 298 *eP* **P** **11 28 56.2 -0.8**
BHPL AMb AMB 11 28 56.9
comp=Z,38nm,0.7s,mb5.5
TLY Talaya 52.40 342 *eP* **P** **11 29 01.5 +0.1**
TLY pmax pmax
comp=Z,23nm,1.2s,mb5.0
TLY Talaya 52.40 342 *eP* **P** **11 29 00.7 -0.7**
comp=Z,20nm,1.0s,mb5.0
MOY Mondy 53.23 340 *eP* **P** **11 29 07.8 +0.1**
MOY pmax pmax
comp=Z,90nm,1.8s,mb5.4
KAD Karad 53.45 289 *eP* **P** **11 29 07.5 -2.2**
KAD *e* 11 29 09.4
KAD AMb AMB 11 29 09.6
comp=Z,39nm,0.7s,mb5.5
WMQ Urumqi 53.45 325 P **P** **11 29 08.5 -0.9**
NDI New Delhi 53.57 304 *eP* **P** **11 29 08.5 -2.0**
NDI AMb AMB 11 29 09.6
comp=Z,52nm,0.6s,mb5.6
CLNS Chul'man 53.91 359 *eP* **P** **11 29 12.7 +0.1**
CLNS pmax pmax
comp=Z,31nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,34nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,0.8s
POO Poona 53.97 291 *eP* **P** **11 29 11.9 -1.7**
POO AMb AMB 11 29 17.4
comp=Z,84nm,1.0s,mb5.6
SDNR Sundarnagar 54.75 307 *eP* **P** **11 29 18.0 -1.1**
BOD Bodaibo 55.78 352 *eP* **P** **11 29 25.1 -1.1**
BOD pmax pmax
comp=Z,14nm,1.3s,mb4.8
THN Thein Dam 56.08 308 *eP* **P** **11 29 26.2 -2.5**
PET Petropavlovsk 56.62 23 ⇑*iP* **P** **11 29 33.2 +0.9**
PET *e* 11 31 37.8
PET *eS* **S** **11 37 12.1 -6.9**
PET pmax pmax
comp=Z,31nm,1.0s,mb5.3
PET pmax pmax
comp=Z,200nm,12.8s
PET MLR MLR
comp=Z,300nm,22.0s,MS4.3
PET Petropavlovsk 56.62 23 *eP* **P** **11 29 32.9 +0.6**
comp=Z,27nm,1.0s,mb5.2
MKAR Makanchi Array 58.28 326 *iP* **P** **11 29 42.5 -1.6**
MKAR pmax pmax
comp=Z,14nm,0.7s
MKAR Makanchi Array 58.28 326 P **P** **11 29 42.5 -1.5**
comp=Z,14nm,0.7s,mb5.1,baz=122,slow=8.4,SNR=93
MKAR LR LR 11 56 09.8
comp=Z,1µm,21.9s,MS5.0,baz=143,slow=38
KSH Kashi 58.65 316 *eP* **P** **11 29 47.0 +0.2**
KSH *e*AP pP 11 29 57.0 -3.3
KSH *e*XP sP 11 30 02.1 -3.9
KSH *e*PP PP 11 31 55.4 -3.1
KSH *e*PCS 11 34 39.0
KSH *eS* **S** **11 37 37.0 -8.8**
KSH *e*SCS ScS 11 39 30.0 +1.4
KSH AMB AMB
comp=Z,100nm,1.0s,mb5.8
KSH LR LR
comp=N,320nm,5.8s
KSH LR LR
comp=E,440nm,5.4s
YAK Yakutsk 59.15 2 *iP* **P** **11 29 49.2 -0.7**
YAK pmax pmax
comp=Z,112nm,1.0s,mb5.8
YAK Yakutsk 59.15 2 *eP* **P** **11 29 49.6 -0.3**
comp=Z,83nm,0.8s,mb5.8
MA2 Magadan 59.63 14 *eP* **P** **11 29 54.3 +1.0**
MA2 *e* 11 38 00.0
MA2 pmax pmax
comp=Z,40nm,0.3s,mb5.9
AAK Ala-Archa 61.00 318 *iP* **P** **11 30 01.0 -1.8**
AAK pmax pmax
comp=Z,22nm,1.6s,mb5.0
AAK Ala-Archa 61.00 318 *eP* **P** **11 30 01.6 -1.2**
comp=Z,9.9nm,0.8s,mb5.0
FRU Bishkek 61.00 318 *eP* **P** **11 30 04.0 +1.1**
FRU pmax pmax
comp=Z,83nm,2.5s,mb5.4
RPZ Rata Peaks 61.04 145 LR LR 11 56 59.2
comp=Z,538nm,19.3s,MS4.7,baz=311,slow=36
ZAL Zalesovo 61.39 333 P **P** **11 30 03.6 -1.7**
ZAL pmax pmax
comp=Z,6.0nm,0.9s
ZAL Zalesovo 61.39 333 P **P** **11 30 03.5 -1.7**
comp=Z,6.4nm,0.9s,mb4.8,baz=345,slow=6.6,SNR=20
NVS Novosibirsk 62.67 333 *eP* **P** **11 30 11.1 -2.8**
NVS *i* S **S** **11 38 35.6 -1.3**
NVS *e* 11 40 00.7
NVS pmax pmax
comp=Z,34nm,1.2s,mb5.3
NVS pmax pmax
comp=N,21nm,1.0s
NVS pmax pmax
comp=E,23nm,1.0s
NVS smax
comp=N,44nm,2.1s
NVS smax
comp=E,27nm,1.9s
FX1 Attu Island--F 62.94 30 P **P** **11 30 16.3 +0.6**
FX1 pmax pmax
comp=Z,50nm,0.7s
FX1 Attu Island--F 62.94 30 P **P** **11 30 16.3 +0.7**
comp=Z,50nm,0.7s,mb5.8,baz=29,slow=5.1,SNR=18
FX1 Attu Island--F 62.94 30 *eP* **P** **11 30 16.1 +0.4**
SEY Seymchan 62.96 13 *eP* **P** **11 30 16.4 +0.7**
SEY *eS* **S** **11 38 32.2 -8.2**
SEY 11 40 05.5
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=E,4.0nm,0.9s
SEY pmax pmax
comp=Z,30nm,0.9s,mb5.4
SEY smax
comp=N,400nm,12.1s
SEY smax
comp=E,100nm,7.5s
SEY MLR MLR
comp=E,800nm,24.0s,MS5.0
SEY MLR MLR
comp=Z,1µm,24.0s,MS5.0
SEY MLR MLR
comp=N,800nm,23.0s,MS5.0
SEY Seymchan 62.96 13 *iP* **P** **11 30 17.1 +1.4**
KKAR Karatay Array 63.86 317 *iP* **P** **11 30 20.5 -1.4**
KKAR pmax pmax
comp=Z,13nm,0.7s,mb5.1
KKAR Karatay Array 63.86 317 *iP* **P** **11 30 20.6 -1.3**
VOSK Vostochnaya 67.61 327 P **P** **11 30 44.0 -1.6**
VOSK pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
VOSK Vostochnaya 67.61 327 *iP* **P** **11 30 44.0 -1.6**
BVA0 Borovoye Array 68.06 327 *iP* **P** **11 30 46.8 -1.6**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
BVAR Borovoye Array 68.06 327 P **P** **11 30 46.8 -1.7**
comp=Z,5.9nm,0.5s,mb4.9,baz=134,slow=9.2,SNR=43
TIXI Tiksi 68.78 1 *iP* **P** **11 30 52.6 0.0**
TIXI pmax pmax
comp=Z,24nm,1.1s,mb5.0
ZRNK Zerenda 68.78 327 P **P** **11 30 51.5 -1.4**
ZRNK pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
ZRNK Zerenda 68.78 327 *eP* **P** **11 30 51.6 -1.3**
comp=Z,22nm,0.6s,mb5.3
CASY Casey 69.88 187 *eP* **P** **11 30 59.2 -0.2**
BILL Bilibino 70.48 15 *iP* **P** **11 31 04.6 +1.6**
BILL pmax pmax
comp=Z,11nm,1.1s,mb4.7
BILL Bilibino 70.48 15 *iP* **P** **11 31 04.7 +1.7**
AB31 Akbulak array 72.83 321 *iP* **P** **11 31 16.2 -1.2**
AB31 pmax pmax
comp=Z,22nm,1.0s,mb5.0
MIR Mirnyy 73.23 193 *eP* **P** **11 31 19.0 -0.4**
MIR pmax pmax
comp=Z,43nm,1.4s,mb5.2
SVE Sverdlovsk 74.72 329 ⇓*eP* **P** **11 31 27.2 -1.0**
SVE *e* pP 11 31 44.0 +1.8
SVE pmax pmax
comp=Z,60nm,1.0s,mb5.5
SVE MLR MLR
comp=N,100nm,16.0s,MS4.6
SVE MLR MLR
comp=E,200nm,16.0s,MS4.6
SVE MLR MLR
comp=Z,200nm,16.0s,MS4.5
ARU Arti 75.69 328 ⇓*iP* **P** **11 31 32.7 -1.1**
ARU *e* 11 34 17.8
ARU *eS* S 11 41 02.1 -8.0
ARU pmax pmax
comp=Z,38nm,1.0s,mb5.3
ARU Arti 75.69 328 *eP* **P** **11 31 32.7 -1.1**
comp=Z,38nm,0.7s,mb5.4
OPO Ambohidratompo 80.91 251 P **P** **11 32 04.0 +0.8**
comp=Z,5.9nm,0.8s,mb4.6,baz=115,slow=19,SNR=7.5
MZLS Mizel 81.06 294 P **P** **11 32 04.4 +0.5**

Code	Station	Δ	AZ	Op	ISC	Time	Res
KAMS	**Al Khamasin**	**81.61**	**290**	P	**P**	**11 32 08.7**	**+1.9**
SVW2	**Sparrevohn**	**81.66**	**29**	eP	**P**	**11 32 07.9**	**+1.6**
TTA	**Tatalina**	**81.77**	**27**	eP	**P**	**11 32 08.0**	**+1.2**
GNI	**Garni**	**82.02**	**310**	eP	**P**	**11 32 11.8**	**+3.2**
GNI	**Garni**	**82.02**	**310**	i P	**P**	**11 32 11.6**	**+3.0**
GNI				pmax	pmax		
	comp=Z,41nm,1.5s						
GNI	**Garni**	**82.02**	**310**	P	**P**	**11 32 10.8**	**+2.2**
	comp=Z,3.0nm,0.4s,mb4.6,baz=206,slow=23,SNR=5.0						
GNI	**Garni**	**82.02**	**310**	eP	**P**	**11 32 10.2**	**+1.7**
	comp=Z,35nm,1.1s,mb5.2						
VNDA	**Vanda**	**82.51**	**173**	P	**P**	**11 32 10.2**	**-0.2**
VNDA				pmax	pmax		
	comp=Z,12nm,0.9s						
VNDA	**Vanda**	**82.51**	**173**	P	**P**	**11 32 10.2**	**-0.2**
	comp=Z,12nm,0.9s,mb4.9,baz=317,slow=5.5,SNR=31						
VNDA	**Vanda**	**82.51**	**173**	eP	**P**	**11 32 09.9**	**-0.4**
	comp=Z,13nm,0.8s,mb5.0						
DJNS	**Zahran al Janu**	**82.59**	**287**	P	**P**	**11 32 14.0**	**+2.0**
CLDR	**Caldiran**	**82.61**	**309**	eP	**P**	**11 32 14.7**	**+3.0**
HKR	**Hakkari**	**82.69**	**307**	eP	**P**	**11 32 29.5**	**+17**
ZEI	**Tsey**	**82.79**	**313**	eP	**P**	**11 32 12.0**	**-0.5**
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
MAW	**Mawson**	**82.85**	**200**	eP	**P**	**11 32 14.6**	**+2.4**
	comp=Z,6.2nm,0.8s,mb4.7						
MAW	**Mawson**	**82.85**	**200**	P	**P**	**11 32 13.3**	**+1.1**
MAW				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MAW	**Mawson**	**82.85**	**200**	P	**P**	**11 32 13.3**	**+1.0**
	comp=Z,7.6nm,0.8s,mb4.8,baz=29,slow=2.6,SNR=12						
ARSS	**Ar Rass**	**82.87**	**296**	P	**P**	**11 32 13.4**	**+0.2**
RSO	**Redoubt South**	**82.94**	**30**	eP	**P**	**11 32 13.6**	**+0.7**
AFFS	**‘Afif**	**83.07**	**294**	P	**P**	**11 32 16.5**	**+2.2**
ONI	**Oni**	**83.11**	**312**	P	**P**	**11 32 17.3**	**+3.2**
IMA	**Indian Mountai**	**83.27**	**24**	eP	**P**	**11 32 16.3**	**+1.9**
	comp=Z,15nm,0.7s,mb5.1						
SPU	**Mount Spurr**	**83.37**	**29**	eP	**P**	**11 32 15.8**	**+0.8**
ATD	**Arta Tunnel**	**83.38**	**281**	P	**P**	**11 32 16.4**	**+0.3**
	comp=Z,11nm,0.6s,mb5.0,baz=94,slow=14,SNR=7.8						
SBA	**Scott Base**	**83.42**	**172**	eP	**P**	**11 32 15.5**	**+0.5**
	comp=Z,23nm,1.2s,mb5.1						
PECR	**Pechory**	**83.56**	**326**	eP	**P**	**11 32 16.0**	**-0.1**
PECR				pmax	pmax		
	comp=Z,500nm,1.4s,mb6.5						
KIV	**Kislovodsk**	**83.73**	**314κ**	iP	**P**	**11 32 19.7**	**+2.5**
KIV				pmax	pmax		
	comp=Z,26nm,1.6s,mb5.1						
KIV				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.7						
KIV	**Kislovodsk**	**83.73**	**314**	i P	**P**	**11 32 19.5**	**+2.3**
HILS	**Ha’il**	**84.16**	**297**	P	**P**	**11 32 20.9**	**+1.0**
SLKM	**Skilak Lake**	**84.20**	**30**	eP	**P**	**11 32 19.1**	**-0.1**
BLJS	**Baljurashi**	**84.41**	**290**	P	**P**	**11 32 24.0**	**+2.8**
PWA	**Palmer West**	**84.45**	**28**	eP	**P**	**11 32 21.6**	**+1.2**
	comp=Z,38nm,0.9s,mb5.5						
EZM	**Erzurum**	**84.61**	**310**	eP	**P**	**11 32 24.4**	**+2.6**
MCK	**McKinley**	**85.04**	**26**	eP	**P**	**11 32 23.9**	**+0.6**
	comp=Z,14nm,1.0s,mb5.0						
LTHS	**Al Lith**	**85.52**	**290**	P	**P**	**11 32 29.1**	**+2.4**
SOC	**Sochi**	**85.87**	**313d**	iP	**P**	**11 32 27.2**	**-0.7**
SOC				e		11 32 32.9	
SOC				eS	S	11 42 46.5	-9.3
SOC				pmax	pmax		
	comp=Z,33nm,0.7s,mb5.7						
SOC				pmax	pmax		
	comp=N,5.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.5s						
ILAR	**Eielson Array**	**85.98**	**25**	P	**P**	**11 32 28.5**	**+0.6**
ILAR						11 35 45.9	
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ILAR	**Eielson Array**	**85.98**	**25**	P	**P**	**11 32 28.4**	**+0.5**
	comp=Z,1.6nm,0.7s,mb4.4,baz=233,slow=5.1,SNR=25						
ILAR				PP	PP	11 35 45.9	-4.0
	comp=Z,1.8nm,1.1s,baz=255,slow=7.1,SNR=5.9						
GUMT	**Gumushane**	**86.05**	**310**	eP	**P**	**11 32 30.6**	**+1.8**
PTK	**Pertek**	**86.13**	**309**	P	**P**	**11 32 31.1**	**+1.9**
VOR	**Voronezh**	**86.25**	**321**	eP	**P**	**11 32 30.0**	**+0.5**
VOR				pmax	pmax		
	comp=Z,150nm,1.7s,mb6.0						
VOR				pmax	pmax		
	comp=E,150nm,1.6s						
KBRS	**Khaybar**	**86.45**	**296**	P	**P**	**11 32 32.7**	**+1.6**
URFA	**Urfa**	**86.60**	**307**	eP	**P**	**11 32 32.6**	**+1.0**
MALT	**Malatya**	**86.89**	**308**	eP	**P**	**11 32 31.9**	**-1.1**
MALT	**Malatya**	**86.89**	**308**	eP	**P**	**11 32 33.9**	**+0.9**
	comp=E,33nm,1.0s,mb5.5						
MYA	**Malataya**	**86.89**	**308**	eP	**P**	**11 32 34.3**	**+1.3**
MOS	**Moscow**	**87.17**	**326**	eP	**P**	**11 32 34.1**	**+0.2**
MOS				e	pP	11 32 52.0	+3.7
MOS				e		11 43 10.1	
MOS				pmax	pmax		
	comp=Z,83nm,0.8s,mb6.0						
ANN	**Anapa**	**87.50**	**315**	eP	**P**	**11 32 35.8**	**0.0**
ANN				i		11 43 11.2	
ANN				pmax	pmax		
	comp=Z,67nm,0.8s,mb5.9						
YNBS	**Yanbu‘ al Bahr**	**87.64**	**294**	P	**P**	**11 32 39.6**	**+2.7**
OBN	**Obninsk**	**87.78**	**325κ**	iP	**P**	**11 32 37.5**	**+0.6**
OBN				e	pP	11 32 50.3	-0.9
OBN						11 36 12.0	
OBN						11 43 20.0	
OBN				pmax	pmax		
	comp=Z,33nm,0.6s,mb5.7						
OBN				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.8						
OBN	**Obninsk**	**87.78**	**325**	eP	**P**	**11 32 37.0**	**+0.1**
	comp=Z,34nm,0.6s,mb5.8						
GAZ	**Gaziantep**	**87.89**	**307**	eP	**P**	**11 32 38.5**	**+0.7**
UMJS	**Umm Lajj**	**88.23**	**295**	P	**P**	**11 32 40.8**	**+1.0**
ASF	**Jabal al Asfar**	**88.32**	**302**	P	**P**	**11 32 41.2**	**+1.2**
	comp=Z,38nm,0.9s,mb5.6,baz=320,slow=1.5,SNR=17						
TBKS	**Tabuk**	**88.79**	**298**	P	**P**	**11 32 43.9**	**+1.5**
JMQS	**Jabal Moqyreh**	**89.35**	**299**	P	**P**	**11 32 46.3**	**+1.3**
MKRJ	**Makawir**	**89.42**	**301**	P	**P**	**11 32 46.5**	**+1.2**
KMBO	**Kilima Mbogo**	**89.45**	**269**	P	**P**	**11 32 47.7**	**+1.9**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KMBO	**Kilima Mbogo**	**89.45**	**269**	P	**P**	**11 32 47.7**	**+1.9**
	comp=Z,1.3nm,0.2s,mb4.8,baz=43,slow=22,SNR=6.9						
MMLI	**Mount Malkishu**	**89.56**	**302**	P	**P**	**11 32 48.5**	**+2.6**
SIM	**Simferopol’**	**89.85**	**315**	P	**P**	**11 32 45.3**	**-1.6**
SIM				eS	S	11 43 17.0	-16
SIM				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.6						
ZFRI	**Zfri**	**89.87**	**300**	P	**P**	**11 32 48.3**	**+0.9**
JMOS	**Jabal al Moall**	**90.00**	**299**	P	**P**	**11 32 49.3**	**+1.2**
AQBJ	**Aqaba**	**90.02**	**300**	P	**P**	**11 32 49.1**	**+0.9**
PRNI	**Paran**	**90.03**	**300**	P	**P**	**11 32 48.9**	**+0.7**
ALWS	**Ilw as Safayha**	**90.03**	**299**	P	**P**	**11 32 49.4**	**+1.2**
EIL	**Elat**	**90.11**	**300**	eP	**P**	**11 32 48.7**	**+0.1**
EIL	**Elat**	**90.11**	**300**	P	**P**	**11 32 49.0**	**+0.4**
MBH	**Mount Berech**	**90.14**	**300**	P	**P**	**11 32 49.4**	**+0.7**
HAQS	**Haql**	**90.17**	**299**	P	**P**	**11 32 49.9**	**+1.1**
TAYS	**Tayyib Ism**	**90.25**	**298**	P	**P**	**11 32 50.0**	**+0.8**
BR131	**Keskin Array S**	**90.56**	**310**	eP	**P**	**11 32 50.1**	**-0.3**
	comp=Z,8.3nm,0.8s,mb5.1						
BRTR	**Keskin Array B**	**90.56**	**310**	P	**P**	**11 32 50.2**	**-0.2**
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BRTR	**Keskin Array B**	**90.56**	**310**	P	**P**	**11 32 50.1**	**-0.3**
	comp=Z,7.7nm,0.8s,mb5.1,baz=122,slow=5.2,SNR=20						
INK	**Inuvik**	**91.06**	**21**	P	**P**	**11 32 52.5**	**+0.4**
INK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
INK	**Inuvik**	**91.06**	**21**	P	**P**	**11 32 52.5**	**+0.4**
	comp=Z,5.8nm,1.0s,mb4.9,baz=268,slow=3.8,SNR=8.5						
INK	**Inuvik**	**91.06**	**21**	eP	**P**	**11 32 52.2**	**+0.1**
	comp=Z,18nm,1.3s,mb5.2						
CSS	**Prodhromos**	**91.14**	**305**	eP	**P**	**11 32 51.7**	**-1.6**
	comp=Z,26nm,0.8s,mb5.6						
ARCES	**ARCESS Array B**	**91.30**	**340**	P	**P**	**11 32 53.0**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,225nm,21.3s						
ARCES	**ARCESS Array B**	**91.30**	**340**	P	**P**	**11 32 53.0**	**-0.2**
	comp=Z,7.1nm,0.7s,mb5.1,baz=84,slow=5.7,SNR=15						
ARCES				LR	LR	12 16 04.5	
	comp=Z,225nm,21.3s,MS4.6,baz=84,slow=37						
ARE0	**ARCESS Array S**	**91.30**	**340**	eP	**P**	**11 32 52.7**	**-0.4**
SYO	**Syowa Base**	**91.52**	**201**	⇓P	**P**	**11 32 54.8**	**+0.6**
SYO	**Syowa Base**	**91.52**	**201**	⇑pP	pP	11 33 01.0	-7.7
AKASG	**Malin Array Be**	**92.57**	**321**	P	**P**	**11 32 59.5**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**92.57**	**321**	P	**P**	**11 32 59.5**	**0.0**
	comp=Z,3.3nm,0.7s,mb4.9,baz=69,slow=4.0,SNR=19						
FINES	**FINESS Array B**	**92.62**	**332**	P	**P**	**11 32 59.7**	**+0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**92.62**	**332**	P	**P**	**11 32 59.7**	**+0.3**
	comp=Z,2.5nm,0.8s,mb4.7,baz=63,slow=4.3,SNR=13						
FINES	**FINESS Array B**	**92.62**	**332**	P	**P**	**11 32 59.7**	**+0.3**
QSPA	**South Pole Qui**	**92.70**	**180**	⇓iP	**P**	**11 33 00.8**	**+1.4**
	comp=Z,10.0nm,1.0s,mb5.2						
DLBC	**Dease Lake**	**94.59**	**31**	P	**P**	**11 33 10.2**	**+1.8**
	comp=Z,3.2nm,0.7s,mb4.9,baz=299,slow=3.6,SNR=9.4						
DLBC	**Dease Lake**	**94.59**	**31**	eP	**P**	**11 33 10.1**	**+1.7**
SUW	**Suwalki**	**95.64**	**325**	P	**P**	**11 33 16.3**	**+3.0**
OJC	**Ojcow**	**98.57**	**322**	eP	**P**	**11 33 29.8**	**+3.1**
HFS	**Hagfors**	**98.81**	**332**	P	**P**	**11 33 27.4**	**-0.1**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**98.81**	**332**	P	**P**	**11 33 27.4**	**-0.1**
	comp=Z,1.4nm,0.5s,mb4.8,baz=101,slow=7.6,SNR=8.9						
NB2	**NORSAR Subarra**	**99.59**	**334**	P	**P**	**11 33 32.3**	**+1.2**
	comp=Z,1.9nm,0.9s,mb4.5,baz=73,slow=4.5						
NB2	**NORSAR Subarra**	**99.59**	**334**	P	**P**	**11 33 32.3**	**+1.2**
	baz=72,slow=4.4						
NOA	**NORSAR Array B**	**99.59**	**334**	P	**P**	**11 33 30.4**	**-0.7**
	comp=Z,2.6nm,0.9s,mb4.7,baz=69,slow=4.4,SNR=7.0						
NOA				LR	LR	12 23 52.1	
	comp=Z,226nm,21.5s,MS4.6,baz=55,slow=39						
YKA	**Yellowknife Ar**	**100.39**	**24**	P	P	11 33 35.2	+0.5
YKA						11 37 43.9	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**100.39**	**24**	P	P	11 33 35.2	+0.6
	comp=Z,1.1nm,0.8s,baz=302,slow=4.7,SNR=9.5						
YKA				PP	PP	11 37 43.9	-0.1
	comp=Z,0.8nm,0.9s,baz=297,slow=7.8,SNR=3.6						
YKA				PKiKP		11 38 03.6	
	comp=Z,0.2nm,0.5s,baz=294,slow=1.8,SNR=5.1						
YKA	**Yellowknife Ar**	**100.39**	**24**	P	P	11 33 35.2	+0.6
YKA				PP	PP	11 37 43.9	-0.1
BRG	**Berggiesshubel**	**101.94**	**323**	eP	P	11 33 45.3	+3.4
	comp=Z,6.3nm,1.0s						
GERES	**GERESS Array B**	**102.77**	**321**	P	Pdif	11 33 46.6	+1.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**102.77**	**321**	P	Pdif	11 33 46.6	+1.0
	comp=Z,0.5nm,0.5s,baz=45,slow=3.8,SNR=6.9						
NVAR	**Mina Array Bea**	**107.59**	**48**	PP	PP	11 38 30.8	-8.0
	comp=Z,0.4nm,0.7s,baz=270,slow=2.7,SNR=3.0						
NEN	**Nelson**	**111.11**	**50**	ePKiKP		11 38 23.6	
PDAR	**Pinedale Array**	**112.11**	**41**	PKiKP		11 38 25.6	
	comp=Z,0.6nm,0.6s,baz=64,slow=1.3,SNR=5.1						
LAO	**LASA Array**	**112.33**	**36**	ePKiKP		11 38 25.6	
PV10	**Paradox Valley**	**114.37**	**45**	ePKiKP		11 38 30.0	
RSSD	**Black Hills**	**114.98**	**38**	ePKiKP		11 38 29.1	
ULM	**Lac du Bonnet**	**115.82**	**29**	PKP	PKPdf	11 38 33.1	+3.8
	comp=Z,1.6nm,0.5s,baz=256,slow=3.6,SNR=3.3						
ISCO	**Idaho Springs**	**116.11**	**43**	ePKPdf	PKPdf	11 38 33.2	+3.1
ANMO	**Albuquerque**	**117.71**	**48**	PKIKP	PKPdf	11 38 36.8	+3.5
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ANMO	**Albuquerque**	**117.71**	**48**	PKP	PKPdf	11 38 36.8	+3.5
	comp=Z,1.5nm,0.7s,baz=264,slow=2.8,SNR=8.9						
ANMO	**Albuquerque**	**117.71**	**48**	ePKPdf	PKPdf	11 38 35.8	+2.6
MNTX	**Cornudas Mount**	**119.90**	**51**	ePKPdf	PKPdf	11 38 40.3	+2.6
AMTX	**Amarillo**	**121.23**	**46**	ePKPdf	PKPdf	11 38 42.8	+2.7
SCHQ	**Schefferville**	**121.50**	**9**	PKP	PKPdf	11 38 42.1	+1.9
	comp=Z,2.9nm,0.9s,slow=1.0,SNR=3.7						
CCM	**Cathedral Cave**	**126.34**	**37**	ePKPdf	PKPdf	11 38 51.5	+1.5
WVT	**Waverly**	**129.66**	**37**	ePKPdf	PKPdf	11 38 57.9	+1.4
PLAL	**Pickwick Lake**	**130.28**	**38**	ePKPdf	PKPdf	11 38 59.2	+1.6
DBIC	**Dimbokro**	**130.69**	**281**	PKIKP	PKPdf	11 39 01.4	+2.5
DBIC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
DBIC	**Dimbokro**	**130.69**	**281**	PKP	PKPdf	11 39 01.4	+2.5
	comp=Z,5.2nm,1.0s,baz=155,slow=4.6,SNR=4.4						
DBIC	**Dimbokro**	**130.69**	**281**	ePKPdf	PKPdf	11 39 01.2	+2.3
LRAL	**Lakeview Retre**	**132.24**	**39**	ePKPdf	PKPdf	11 39 02.2	+0.8
MYNC	**Murphy**	**132.55**	**35**	ePKPdf	PKPdf	11 39 04.0	+2.1
TRQA	**Tornquist**	**144.02**	**168**	ePKPdf	PKPdf	11 39 21.8	-0.7
JTS	**JuntasAbangare**	**145.96**	**67**	ePKPdf	PKPdf	11 39 29.1	+2.5
CPUP	**Villa Florida**	**156.28**	**171**	PKP2	PKPab	11 40 13.9	+1.6
CPUP				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CPUP	**Villa Florida**	**156.28**	**171**	PKPab	PKPab	11 40 13.9	+1.5
	comp=Z,4.1nm,0.7s,baz=247,slow=3.0,SNR=6.9						
ROSC	**El Rosal**	**157.71**	**70**	PKPab	PKPab	11 40 19.4	+0.5
	comp=Z,5.2nm,0.4s,baz=274,slow=13,SNR=3.9						
SDV	**Santo Domingo**	**159.23**	**56**	ePKPdf	PKPdf	11 39 48.7	+3.0
LPAZ	**La Paz**	**160.22**	**134**	PKIKP	PKPdf	11 39 50.7	+4.1
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPAZ	**La Paz**	**160.22**	**134**	PKP	PKPdf	11 39 50.6	+4.0
	comp=Z,3.6nm,0.9s,baz=256,slow=4.2,SNR=10						
LPAZ				PKPab	PKPab	11 40 31.6	+2.1
	comp=Z,2.9nm,0.8s,baz=182,slow=1.8,SNR=5.1						
LPAZ	**La Paz**	**160.22**	**134**	ePKPdf	PKPdf	11 39 50.4	+3.7

*MOS **09** 11:36:37.3±0.9, 8.63S×118.79E, h109km, mb5.3/25, Error ellipse: s-maj=27.6km s-min=9.4km az=120.3*
*BJI **09** 11:36:40.1, 8.60S×118.80E, h118km, mB5.3, mb5.3*
*HRVD **09** 11:36:41.2±0.3, 8.79S×118.83E, h106km±7km, MW5.2/64, Centroid moment Tensor Solution. LP body waves: s5,c5; Mantle waves: s64,c114; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr0.58±.55; Mθθ-2.35±.45; Mφφ1.77±.52; Mrθ4.16±.22; Mθφ1.11±.36; Mφr5.65±.29; Best double couple: M0 7.246×10^16 NP1:φs314°,δ15°,λ-178°. NP2: φs222°,δ89°,λ-75°. Principal axes: T 8.15, Plg42°, Azm297°; N -1.808, Plg15°, Azm42°; P -6.342, Plg44°, Azm147°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **09** 11:36:41.1±0.5, 8.54S×118.83E, h114km±4km, mb4.8/33, mb1 4.8/34, mb1mx4.8/35, mbtmp5.2/34, MS4.1/6, Ms1 4.1/6, ms1mx3.7/28 Error ellipse: s-maj=10.4km s-min=7.9km az=66.0*
*NEIC **09** 11:36:41.2±0.1, 8.56S×118.79E, mb5.3/39, Error ellipse: s-maj=6.8km s-min=4.4km az=61.0*
NEIC Felt [II] at Sumbawa Besar.
ISC 09 11:36:38.8±0.2**, 8.58S**±0.03×**118.87E**±0.04**, h115**km±1.7km**: pP-P, n306, σ1**s**12**/221**, mb5.2**/99**, 22C-16D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.53**	**146**	eP	**P**	**11 39 18.7**	**-2.2**
	164nm,0.6s						
FITZ				eS	**S**	**11 41 17.3**	**-10**
FITZ				i SCP		11 48 25.4	
FITZ				i SCS	ScS	11 52 00.1	+1.2
FITZ	**Fitzroy Crossi**	**11.53**	**146**	P	**P**	**11 39 18.8**	**-2.1**
	21nm,0.3s,baz=347,slow=6.0,SNR=265						
FITZ				S	**S**	**11 41 16.9**	**-11**
	60nm,0.3s,baz=181,slow=13,SNR=11						
FITZ				LR	LR	11 44 35.2	
	comp=Z,755nm,18.1s,baz=283,slow=41						
MBWA	**Marble Bar**	**12.53**	**176**	eP	**P**	**11 39 29.9**	**-4.2**
	0.2nm,0.3s						
TSM	**Tawau**	**12.83**	**356**	P	**P**	**11 39 46.7**	**+8.8**
KSM	**Kuching**	**13.13**	**319**	eP	**P**	**11 39 45.8**	**+3.8**
KAKA	**Kakadu**	**13.96**	**108**	eP	**P**	**11 39 51.0**	**-1.6**
	245nm,0.5s						
KAKA				eS	**S**	**11 42 18.6**	**-6.4**
KKM	**Kota Kinabalu**	**14.77**	**350**	eP	**P**	**11 40 07.8**	**+4.8**
KKM	**Kota Kinabalu**	**14.77**	**350**	P	**P**	**11 40 08.5**	**+5.4**
SNPH	**Sibulan**	**18.33**	**14**	eP	**P**	**11 40 51.4**	**+4.7**
KGM	**Kluang**	**18.74**	**303**	P	**P**	**11 40 52.7**	**+1.4**
WRA	**Warramunga Arr**	**18.75**	**129**	i P	**P**	**11 40 50.0**	**-1.4**
WRA				pmax	pmax		
	comp=Z,89nm,0.6s						
WRA	**Warramunga Arr**	**18.75**	**129**	P	**P**	**11 40 50.0**	**-1.4**
	comp=Z,12nm,0.3s,baz=302,slow=13,SNR=128						
WRA				S	**S**	**11 44 07.0**	**-6.2**
	comp=Z,4.5nm,0.3s,baz=303,slow=22,SNR=11						
WRA				ScP		11 48 38.3	
	comp=Z,2.0nm,0.3s,baz=324,slow=2.2,SNR=9.0						
WRAB	**Tennant Creek**	**18.76**	**129**	i P	**P**	**11 40 50.3**	**-1.2**
WRAB	**Tennant Creek**	**18.76**	**129**	eP	**P**	**11 40 50.1**	**-1.4**
	comp=Z,127nm,0.6s						
WB2	**Warramunga Arr**	**18.76**	**129**	⇓iP	**P**	**11 40 50.2**	**-1.3**
WB2				eS	**S**	**11 44 06.3**	**-7.1**
WB2				i SCP		11 48 38.5	
WB2				i SCS	ScS	11 52 17.1	-0.7
IPM	**Ipoh**	**22.08**	**306**	P	**P**	**11 41 26.5**	**+1.1**
KULM	**Kulim**	**22.80**	**307**	eP	**P**	**11 41 32.6**	**+0.1**
KLBR	**Kellerberrin**	**22.92**	**182**	⇓iP	**P**	**11 41 33.2**	**-0.3**
	comp=Z,232nm,0.7s,mb5.6						
KLBR				eS	**S**	**11 45 38.0**	**+7.0**
MUN	**Mundaring**	**23.41**	**186**	⇓iP	**P**	**11 41 38.0**	**-0.3**
	comp=Z,95nm,0.9s,mb5.1						
MUN				eS	**S**	**11 45 51.2**	**+12**
NWAO	**Narrogin (SRO)**	**24.27**	**183**	P	**P**	**11 41 46.4**	**-0.1**
	comp=Z,259nm,0.8s,mb5.6,baz=5.9,slow=8.6,SNR=204						
NWAO	**Narrogin (SRO)**	**24.27**	**183**	eP	**P**	**11 41 46.1**	**-0.4**
	comp=Z,272nm,0.9s,mb5.6						
PMG	**Port Moresby**	**27.95**	**94**	P	**P**	**11 42 21.1**	**+0.3**
	comp=Z,17nm,0.7s,mb4.7,baz=225,slow=4.5,SNR=8.3						
CTA	**Charters Tower**	**28.84**	**116**	⇓iP	**P**	**11 42 29.3**	**+0.6**
	comp=Z,19nm,0.6s,mb4.9						
CTA	**Charters Tower**	**28.84**	**116**	P	**P**	**11 42 29.3**	**+0.6**
	comp=Z,22nm,0.7s,mb4.9,baz=288,slow=11,SNR=53						
CTA				LR	LR	11 55 11.3	
	comp=Z,386nm,20.3s,baz=298,slow=38						
CTAO	**Charters Tower**	**28.84**	**116**	eP	**P**	**11 42 29.1**	**+0.5**
	comp=Z,30nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**31.36**	**141**	⇓iP	**P**	**11 42 50.8**	**0.0**
	comp=Z,50nm,0.6s,mb5.4						
STKA	**Stephens Creek**	**31.36**	**141**	P	**P**	**11 42 50.8**	**0.0**
	comp=Z,61nm,0.6s,mb5.5,baz=312,slow=9.0,SNR=181						
STKA				LR	LR	11 56 42.3	
	comp=Z,450nm,18.8s,baz=230,slow=38						
GZH	**Guangzhou**	**31.93**	**350**	P	**P**	**11 43 02.1**	**+6.2**
NANT	**Nan**	**32.58**	**327**	⇓P	**P**	**11 43 03.0**	**+1.5**
	comp=Z,125nm,0.9s,mb5.7						
CMAR	**Chiang Mai Arr**	**33.29**	**324**	P	**P**	**11 43 08.1**	**+0.4**
	comp=Z,5.8nm,0.5s,mb4.7,baz=154,slow=7.2,SNR=24						
CMAR				PcP	PcP	11 45 48.6	+1.2
	comp=Z,6.1nm,0.6s,baz=177,slow=2.8,SNR=7.8						
CMAR				ScP		11 49 21.6	
	comp=Z,8.2nm,0.8s,baz=174,slow=3.2,SNR=20						
CHRT	**Chiangrai**	**33.95**	**327**	⇑P	**P**	**11 43 13.0**	**-0.3**
	comp=Z,342nm,0.7s,mb6.3						
JOW	**Kunigami**	**36.37**	**14**	P	**P**	**11 43 34.9**	**+1.1**
	comp=Z,25nm,0.6s,mb5.3,baz=289,slow=15,SNR=8.1						
JOW				LR	LR	11 59 47.6	
	comp=Z,172nm,19.9s,baz=168,slow=38						
GYA	**Guiyang**	**36.79**	**342**	⇑iP	**P**	**11 43 39.5**	**+2.2**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
KMI	**Kunming**	**37.00**	**335**	⇑P	**P**	**11 43 41.8**	**+2.7**
KMI				AP	pP	11 44 09.8	+4.7
KMI				XP	sP	11 44 22.0	+3.3
KMI				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
TOO	**Toolangi**	**37.58**	**144**	⇓iP	**P**	**11 43 45.7**	**+1.9**
	comp=Z,25nm,0.6s,mb5.2						
CNB	**Canberra Magne**	**38.54**	**138**	eP	**P**	**11 43 53.4**	**+1.6**
	comp=Z,32nm,0.7s,mb5.3						
WHN	**Wuhan**	**39.14**	**354**	⇓P	**P**	**11 43 59.4**	**+2.6**
SSE	**Sheshan**	**39.51**	**3**	eP	**P**	**11 43 57.2**	**-2.7**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,74nm,4.4s						
ENH	**Enshi**	**39.67**	**347**	eP	**P**	**11 44 02.6**	**+1.4**
	comp=Z,90nm,0.8s,mb5.7						
NJ2	**Nanjing**	**40.40**	**360**	eP	**P**	**11 44 10.0**	**+2.8**
NJ2				PP	PP	11 45 48.7	+3.4
NJ2				S	**S**	**11 50 00.0**	**-6.5**
NJ2				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.3						
NJ2				LR	LR		
	comp=N,510nm,12.1s						
NJ2				LR	LR		
	comp=E,410nm,17.9s						
NJ2				LR	LR		
	comp=Z,510nm,16.0s						
HNR	**Honiara**	**40.57**	**94**	P	**P**	**11 44 09.6**	**+0.9**
	comp=Z,137nm,0.6s,mb6.0,baz=200,slow=4.2,SNR=9.1						
HNR	**Honiara**	**40.57**	**94**	eP	**P**	**11 44 09.5**	**+0.8**
	comp=Z,130nm,0.8s,mb5.8						
CD2	**Chengdu**	**41.85**	**340**	⇑iP	**P**	**11 44 20.2**	**+1.0**
CD2				AMB	AMB		
	comp=Z,47nm,1.0s,mb5.2						
CBIJ	**Chichi jima**	**42.06**	**32**	P	**P**	**11 44 22.1**	**+1.2**
	comp=Z,35nm,0.5s,mb5.3,baz=300,slow=16,SNR=7.3						
SHL	**Shillong**	**42.91**	**323**	eP	**P**	**11 44 28.0**	**+0.1**
JNU	**Nakatsue**	**43.02**	**15**	P	**P**	**11 44 29.7**	**+1.0**
	comp=Z,19nm,0.9s,mb4.8,baz=217,slow=5.1,SNR=5.7						
XAN	**Xi’an**	**43.42**	**348**	P	**P**	**11 44 32.6**	**+0.7**
XAN				AMB	AMB		
	comp=Z,47nm,1.2s,mb5.1						
JHJ	**Hachijo jima 2**	**46.00**	**25**	P	**P**	**11 44 52.8**	**+0.2**
	comp=Z,49nm,0.7s,mb5.3,baz=228,slow=15,SNR=3.3						
LSA	**Lhasa**	**46.48**	**326**	SP	**P**	**11 44 57.4**	**+1.1**
LSA				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.4						
LSA	**Lhasa**	**46.48**	**326**	eP	**P**	**11 44 57.6**	**+1.3**
	comp=Z,44nm,0.6s,mb5.4						
KS15	**Wonju Array Si**	**46.55**	**10**	eP	**P**	**11 44 59.1**	**+2.3**
LZH	**Lanzhou**	**46.62**	**343**	P	**P**	**11 44 58.5**	**+1.1**
LZH				AP	pP	11 45 26.5	+2.4
LZH				XP	sP	11 45 38.5	+1.4
LZH				PCP	PcP	11 46 30.0	+0.1
LZH				SCP		11 50 13.0	
LZH				SCS	ScS	11 54 40.0	+2.3
LZH				AMB	AMB		
	comp=Z,120nm,1.6s,mb5.4						
LZH				AMB	AMB		
	comp=Z,560nm,4.0s						
DL2	**Dalian**	**47.31**	**3**	P	**P**	**11 45 05.1**	**+2.4**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
DZM	**Mont Dzumac**	**47.61**	**112**	P	**P**	**11 45 07.2**	**+1.9**
	comp=Z,9.2nm,0.9s,mb4.6,baz=270,slow=11,SNR=13						
DZM				LR	LR	12 05 50.1	
	comp=Z,289nm,19.9s,baz=26,slow=37						
GUN	**Gumba**	**48.31**	**320**	eP	**P**	**11 45 10.0**	**-0.6**
	comp=Z,153nm,0.7s,mb5.9						
PKI	**Pulchoki**	**48.38**	**319**	eP	**P**	**11 45 11.1**	**-0.1**
	comp=Z,45nm,0.5s,mb5.5						
MAJO	**Matsushiro**	**48.42**	**21**	eP	**P**	**11 45 10.2**	**-1.2**
MAT	**Matsushiro**	**48.42**	**21**	eP	**P**	**11 45 10.0**	**-1.4**
	comp=Z,15nm,0.8s,mb4.9						
MAT	**Matsushiro**	**48.42**	**21**	P	**P**	**11 45 09.9**	**-1.5**
MJAR	**Matsushiro Arr**	**48.42**	**21**	P	**P**	**11 45 10.6**	**-0.8**
	comp=Z,8.4nm,0.8s,mb4.6,baz=202,slow=8.5,SNR=6.8						
MJAR				pP	pP	11 45 38.7	+0.4
	comp=Z,16nm,1.1s,baz=194,slow=9.1,SNR=6.3						
MJAR				ScP		11 50 19.5	
	comp=Z,6.2nm,0.8s,baz=200,slow=5.3,SNR=12						
MJAR	**Matsushiro Arr**	**48.42**	**21**	P	**P**	**11 45 10.6**	**-0.8**
MJAR				pP	pP	11 45 38.7	+0.4
MJAR				ScP		11 50 19.5	
DMN	**Daman**	**48.60**	**319**	eP	**P**	**11 45 12.1**	**-0.8**
	comp=Z,42nm,0.6s,mb5.6						
KKN	**Kakani**	**48.61**	**319**	eP	**P**	**11 45 11.9**	**-1.1**
	comp=Z,83nm,1.0s,mb5.6						
GKN	**Gorkha**	**49.17**	**319**	eP	**P**	**11 45 16.1**	**-1.2**
	comp=Z,66nm,0.5s,mb5.8						
BTO	**Baotou**	**49.62**	**351**	eP	**P**	**11 45 19.8**	**-0.7**
HHC	**Hu-ho-hao-te**	**49.64**	**353**	⇑P	**P**	**11 45 21.3**	**+0.6**
HHC				AP	pP	11 45 50.7	+3.0
HHC				XP	sP	11 46 05.1	+4.7
HHC				PCS		11 50 37.2	
HHC				S	**S**	**11 52 19.1**	**+0.2**
HHC				XS		11 53 10.6	
HHC				SCS	ScS	11 55 00.9	+3.4
HHC				SS	SS	11 55 46.5	-2.6
HHC				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.0						
HHC				LR	LR		
	comp=N,518nm,19.2s						
HHC				LR	LR		
	comp=E,769nm,22.8s						
HHC				LR	LR		
	comp=Z,327nm,21.6s						
KOLN	**Koldanda**	**49.70**	**318**	eP	**P**	**11 45 19.9**	**-1.4**

comp=Z,62nm,0.5s,mb5.8
SNY Shenyang 50.35 5 ⇑P **P 11 45 26.0 -0.1**
GTA Gaotai 50.92 341 P **P 11 45 31.7 +1.3**
GTA AMB AMB
comp=Z,23nm,1.2s,mb5.1
GTA AMB AMB
comp=Z,329nm,8.4s
GTA LR LR
comp=N,141nm,19.0s
GTA LR LR
comp=E,105nm,18.3s
GTA LR LR
comp=Z,161nm,15.2s
CN2 Changchun 52.47 6 *eP* **P 11 45 41.9 -0.2**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
MDJ Mudanjiang 53.83 9 P **P 11 45 52.5 +0.5**
MDJ AMB AMB
comp=Z,57nm,0.7s,mb5.7
MDJ Mudanjiang 53.83 9 *eP* **P 11 45 52.5 +0.5**
comp=Z,39nm,0.6s,mb5.6
ULN Ulaanbaatar 57.16 351 ⇑*iP* **P 11 46 11.2 -4.7**
ULN Ulaanbaatar 57.16 351 *eP* **P 11 46 10.9 -5.0**
comp=Z,45nm,1.3s,mb5.3
RPZ Rata Peaks 57.20 137 P **P 11 46 16.7 +0.4**
comp=Z,43nm,0.7s,mb5.6,baz=229,slow=3.7,SNR=20
RPZ pP pP 11 46 44.6 +0.6
comp=Z,37nm,0.8s,baz=25,slow=2.4,SNR=4.1
SONM Songino Array 57.24 350 P **P 11 46 16.9 +0.4**
comp=Z,32nm,0.8s,mb5.4,baz=170,slow=7.3,SNR=119
SONM PcP PcP 11 47 09.7 +0.3
comp=Z,6.1nm,0.6s,baz=175,slow=5.8,SNR=2.9
SONM ScP 11 50 58.4
comp=Z,3.2nm,0.7s,baz=170,slow=4.6,SNR=8.3
HIA Hailar 57.60 1 *eP* **P 11 46 18.8 -0.2**
comp=Z,8.2nm,0.7s,mb4.9
CASY Casey 57.90 184 ⇓*iP* **P 11 46 19.8 -1.0**
THN Thein Dam 57.92 317 *eP* **P 11 46 18.8 -2.7**
YSS Yuzh-Sakhalins 59.24 19 *iP* **P 11 46 28.7 -1.7**
YSS pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
YSS Yuzh-Sakhalins 59.24 19 P **P 11 46 30.7 +0.3**
comp=Z,9.0nm,0.3s,mb5.3
WMQ Urumqi 59.32 334 P **P 11 46 30.4 -0.6**
URZ Urewera 59.92 129 P **P 11 46 35.0 -0.3**
comp=Z,12nm,0.5s,mb5.2,baz=47,slow=23,SNR=15
URZ Urewera 59.92 129 *e*PN **P 11 46 34.8 -0.4**
MWZ Matawai 60.26 129 *e*PN **P 11 46 37.5 0.0**
ZAK Zakamensk 60.26 349 ⇓*iP* **P 11 46 37.1 -0.3**
ZAK *e* 11 47 21.4
ZAK *e* 11 54 33.6
ZAK pmax pmax
comp=Z,12nm,1.0s,mb4.9
ZAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
MIR Mirnyy 60.53 192 *diP* **P 11 46 38.5 -0.4**
MIR pmax pmax
comp=Z,49nm,1.0s,mb5.5
CIT Chita 60.53 356 *eP* **P 11 46 39.9 +0.7**
CIT *e* pP 11 47 08.4 +1.2
CIT *e* 11 47 21.3
CIT pmax pmax
comp=Z,121nm,1.5s,mb5.7
PUZ Puketiti 60.76 129 PN **P 11 46 41.0 +0.1**
TLY Talaya 61.44 349 *eP* **P 11 46 45.6 +0.3**
TLY pmax pmax
comp=Z,29nm,0.9s,mb5.3
TLY Talaya 61.44 349 *eP* **P 11 46 45.5 +0.2**
comp=Z,20nm,0.8s,mb5.2
IRK Irkutsk 61.86 350 *eP* **P 11 46 47.7 -0.4**
IRK *e* pP 11 47 12.5 -3.8
IRK pmax pmax
comp=Z,48nm,2.0s,mb5.2
MOY Mondy 61.95 347 *eP* **P 11 46 49.0 +0.3**
MOY pmax pmax
comp=Z,48nm,2.4s,mb5.1
KSH Kashi 62.19 323 *eP* **P 11 46 50.0 -0.5**
KSH *e*PCP PcP 11 47 30.0 +0.9
KSH *e*PP PP 11 49 09.0 -1.7
KSH *e*PCS 11 51 31.1
KSH *e*S **S 11 55 10.4 +5.3**
KSH AMB AMB
comp=Z,440nm,2.4s,mb6.1
KSH LR LR
comp=N,1µm,16.9s
KSH LR LR
comp=E,870nm,16.3s
MKAR Makanchi Array 64.03 333 *iP* **P 11 47 01.7 -0.8**
MKAR pmax pmax
comp=Z,27nm,0.6s
MKAR Makanchi Array 64.03 333 P **P 11 47 01.8 -0.7**
comp=Z,23nm,0.5s,mb5.3,baz=151,slow=7.4,SNR=300
MKAR pP pP 11 47 30.8 0.0
comp=Z,25nm,0.8s,baz=129,slow=7.8,SNR=3.0
MKAR PcP PcP 11 47 35.9 -0.7
comp=Z,23nm,0.6s,baz=142,slow=6.5,SNR=3.5
MKAR Makanchi Array 64.03 333 P **P 11 47 01.8 -0.7**
MKAR pP pP 11 47 30.8 0.0
MKAR PcP PcP 11 47 35.9 -0.7
KZA Kyzart 64.27 325 P **P 11 47 04.0 -0.2**
SNR=12
TKM2 Tokmak 2 64.63 326 P **P 11 47 05.5 -1.0**
SNR=13
UCH Uchtor 64.79 325 P **P 11 47 07.2 -0.4**
SNR=13
AAK Ala-Archa 65.06 325 P **P 11 47 09.2 -0.1**
SNR=8.3
AAK Ala-Archa 65.06 325*c iP* **P 11 47 07.5 -1.8**
AAK pmax pmax
comp=Z,12nm,0.6s,mb4.9
AAK Ala-Archa 65.06 325 *eP* **P 11 47 07.2 -2.0**
comp=Z,13nm,0.6s,mb5.0
FRU Bishkek 65.12 326 *eP* **P 11 47 09.0 -0.7**
FRU pmax pmax
comp=Z,66nm,2.0s,mb5.1
AML Almayashu 65.19 324 P **P 11 47 09.3 -0.9**
SNR=57
USP Ospenovka 65.47 326 P **P 11 47 10.7 -1.2**
SNR=11
EKS2 Erkin-Say 65.48 325 P **P 11 47 11.4 -0.6**
SNR=18
BOD Bodaibo 66.29 357 *eP* **P 11 47 16.8 0.0**
BOD pmax pmax
comp=Z,86nm,0.9s,mb5.6
SMDO Samad 67.27 299 P **P 11 47 21.5 -2.1**
SNR=7.3
BIDO Bidbid 67.36 300 P **P 11 47 22.6 -1.6**
SNR=6.8
KKAR Karatay Array 67.64 324 *iP* **P 11 47 23.8 -1.8**
KKAR pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
BSY Bisya 67.89 299 ⇑P **P 11 47 25.4 -2.1**
AFI Afiamalu 68.04 102 LR LR 12 18 22.2
comp=Z,116nm,18.7s,baz=229,slow=37
ZAL Zalesovo 68.60 339 P **P 11 47 30.7 -0.6**
comp=Z,39nm,0.6s,mb5.4,baz=342,slow=4.5,SNR=134
ZAL Zalesovo 68.60 339 P **P 11 47 30.7 -0.6**
RBK Rabkut 68.93 292 ⇓P **P 11 47 28.5 -5.4**
WHFO Wadi Hawf 69.44 293 P **P 11 47 34.6 -2.4**
SNR=11
MAW Mawson 69.58 200 ⇓*iP* **P 11 47 37.5 +0.4**
comp=Z,16nm,0.7s,mb5.0
MAW Mawson 69.58 200 P **P 11 47 37.6 +0.5**
comp=Z,21nm,0.7s,mb5.1,baz=69,slow=7.5,SNR=33
ABTO Aybut 69.72 292 P **P 11 47 36.9 -1.8**
SNR=6.2
NVS Novosibirsk 69.88 339 *eP* **P 11 47 37.3 -1.8**
NVS pmax pmax
comp=Z,53nm,1.3s,mb5.2
NVS pmax pmax
comp=N,40nm,1.4s
OPO Ambohidratompo 70.01 253 P **P 11 47 41.3 +0.8**
comp=N,6.9nm,0.7s,mb4.6,baz=81,slow=4.0,SNR=13
YAK Yakutsk 70.90 5*c iP* **P 11 47 44.9 -0.2**
YAK pmax pmax
comp=Z,88nm,0.8s,mb5.6
YAK Yakutsk 70.90 5 *eP* **P 11 47 44.9 -0.2**
comp=Z,67nm,0.6s,mb5.7
VNDA Vanda 72.42 171 P **P 11 47 54.6 +0.7**
comp=Z,6.1nm,0.4s,mb4.7,baz=317,slow=6.1,SNR=95
VNDA pP pP 11 48 23.0 +0.1
comp=Z,8.4nm,0.9s,baz=350,slow=3.9,SNR=4.0
VNDA Vanda 72.42 171 *eP* **P 11 47 54.4 +0.5**
comp=Z,13nm,0.9s,mb4.8
VOSK Vostochnaya 73.40 332 P **P 11 47 58.8 -1.2**
VOSK pmax pmax
comp=Z,15nm,0.9s,mb4.8
VOSK Vostochnaya 73.40 332 *iP* **P 11 47 58.8 -1.2**
SBA Scott Base 73.42 171 *eP* **P 11 48 01.1 +1.4**
comp=Z,13nm,0.8s,mb4.8
BVA0 Borovoye Array 73.87 332 *iP* **P 11 48 01.9 -0.8**
BVA0 pmax pmax
comp=Z,16nm,1.7s,mb4.5
BVAR Borovoye Array 73.87 332 P **P 11 48 02.0 -0.7**
comp=Z,12nm,0.8s,mb4.7,baz=143,slow=7.4,SNR=66
ZRNK Zerenda 74.47 331 P **P 11 48 05.3 -0.9**
ZRNK pmax pmax
comp=Z,28nm,0.9s,mb5.0
ZRNK Zerenda 74.47 331 *eP* **P 11 48 05.2 -1.0**
SEY Seymchan 75.80 15*diP* **P 11 48 14.8 +1.3**
SEY Seymchan 75.80 15 *iP* **P 11 48 14.8 +1.3**
FX1 Attu Island--F 76.59 30 P **P 11 48 18.9 +0.7**
comp=Z,9.9nm,0.5s,mb4.8,baz=235,slow=18,SNR=8.0
FX1 Attu Island--F 76.59 30 *eP* **P 11 48 18.8 +0.6**
AB31 Akbulak array 77.14 325 *iP* **P 11 48 20.4 -1.0**
AB31 pmax pmax
comp=Z,11nm,0.5s,mb4.8
AB31 Akbulak array 77.14 325 *iP* **P 11 48 20.5 -0.9**
QRN Al-Qurain 77.73 302 *eP* **P 11 48 24.2 -0.8**
QRN AMb AMB 11 48 25.1
comp=Z,84nm,0.6s,mb5.6
KBD Kabd 78.04 302 *eP* **P 11 48 25.6 -1.1**
KBD AMb AMB 11 48 26.5
comp=Z,111nm,0.6s,mb5.8
RDF Al-Radifah 78.09 302 *eP* **P 11 48 25.8 -1.2**
RDF AMb AMB 11 48 26.9
comp=Z,70nm,0.6s,mb5.6
ATD Arta Tunnel 78.19 284 P **P 11 48 28.5 +0.7**
comp=Z,28nm,0.9s,mb5.0,baz=103,slow=2.0,SNR=10.0
SYO Syowa Base 78.19 201 ⇑P **P 11 48 25.0 -1.8**
MZLS Mizel 78.79 297 P **P 11 48 30.8 -0.1**
DJNS Zahran al Janu 78.81 290 P **P 11 48 31.6 +0.4**
TATS Tathlith 79.28 292 P **P 11 48 33.7 +0.1**
TIXI Tiksi 80.33 3*c iP* **P 11 48 38.0 -0.3**
TIXI pmax pmax
comp=Z,33nm,0.8s,mb5.2
TIXI Tiksi 80.33 3 ⇑*iP* **P 11 48 38.0 -0.3**
SVE Sverdlovsk 80.65 332⇑*eP* **P 11 48 39.8 -0.4**
SVE *e* pP 11 49 08.0 -1.7
SVE pmax pmax
comp=Z,60nm,1.2s,mb5.3
AFFS 'Afif 80.72 296 P **P 11 48 41.2 -0.1**
ARSS Ar Rass 80.98 298 P **P 11 48 42.5 -0.1**
BLJS Baljurashi 81.08 292 P **P 11 48 44.2 +0.9**
QSPA South Pole Qui 81.41 180 *eP* **P 11 48 45.1 +1.3**
comp=Z,20nm,0.7s,mb5.1
ARU Arti 81.44 331 ⇑*iP* **P 11 48 43.0 -1.4**
ARU *e* 11 51 49.1
ARU *e*S S 11 58 52.7 +8.2
ARU *e*SS SS 12 04 07.6 +1.5
ARU pmax pmax
comp=Z,34nm,1.5s,mb5.0
ARU Arti 81.44 331 *eP* **P 11 48 42.9 -1.5**
comp=Z,58nm,1.4s,mb5.2
KMBO Kilima Mbogo 81.54 270 P **P 11 48 47.1 +1.3**
comp=Z,30nm,0.9s,mb5.1,baz=65,slow=7.3,SNR=39
LTHS Al Lith 82.26 292 P **P 11 48 49.7 +0.4**
HILS Ha'il 82.59 299 P **P 11 48 51.5 +0.6**
GNI Garni 83.56 312*c iP* **P 11 48 55.5 -0.1**
GNI pmax pmax
comp=Z,22nm,1.5s
GNI Garni 83.56 312 ⇑*iP* **P 11 48 55.5 -0.1**
KBRS Khaybar 84.45 297 P **P 11 49 01.4 +1.0**
ZEI Tsey 84.92 314 *eP* **P 11 49 00.3 -2.0**
ZEI *i* 11 52 18.8
ZEI pmax pmax
comp=Z,19nm,0.9s,mb5.0
ONI Oni 85.18 314 P **P 11 49 04.1 +0.5**
YNBS Yanbu' al Bahr 85.28 295 P **P 11 49 05.5 +1.0**
UMJS Umm Lajj 86.06 296 P **P 11 49 09.9 +1.5**
KIV Kislovodsk 86.10 315*a iP* **P 11 49 08.2 +0.1**
KIV *e* 11 59 32.2
KIV pmax pmax
comp=Z,15nm,1.1s,mb4.8
KIV Kislovodsk 86.10 315 *eP* **P 11 49 05.5 -2.5**
QURS Qurayyt al Mil 87.27 302 P **P 11 49 15.6 +1.5**
TBKS Tabuk 87.31 299 P **P 11 49 15.7 +1.4**
MATP Matopo 87.39 250 P **P 11 49 16.1 +1.2**
comp=Z,11nm,0.5s,mb5.0,baz=108,slow=4.3,SNR=49
ASF Jabal al Asfar 87.79 303 P **P 11 49 17.9 +1.4**
comp=Z,6.1nm,0.5s,mb4.9,baz=51,slow=1.8,SNR=27
MALT Malatya 87.84 309 *eP* **P 11 49 17.3 +0.6**
comp=Z,27nm,1.5s,mb5.1
JMQS Jabal Moqyreh 88.02 299 P **P 11 49 18.8 +1.1**
MBAR Mbarara 88.06 270*c iP* **P 11 49 18.4 +0.1**
MBAR Mbarara 88.06 270 *eP* **P 11 49 18.4 +0.1**
comp=Z,103nm,1.3s,mb5.7
SOC Sochi 88.08 314 *eP* **P 11 49 16.8 -0.9**
SOC *e*S S 11 59 39.7 -10
SOC *e*SSS SSS 12 09 16.7 -0.5
SOC pmax pmax
comp=Z,17nm,0.8s,mb5.1
SOC pmax pmax
comp=N,6.0nm,0.6s
SOC pmax pmax
comp=E,7.0nm,0.5s
LSZ Lusaka 88.42 255 *eP* **P 11 49 20.8 +0.9**
comp=E,28nm,0.8s,mb5.3
BDAS Al Bad' 88.60 299 P **P 11 49 21.3 +0.8**
JMOS Jabal al Moall 88.73 300 P **P 11 49 22.2 +1.1**
ALWS Ilw as Safayha 88.79 300 P **P 11 49 22.4 +1.1**
TAYS Tayyib Ism 88.82 299 P **P 11 49 22.3 +0.8**
HAQS Haql 88.86 299 P **P 11 49 22.8 +1.1**
PPT Papeete 88.92 107 *e*LR LR 12 17 10.9
comp=E,536nm,29.5s,baz=278
EIL Elat 88.95 300 *eP* **P 11 49 22.7 +0.6**
comp=E,65nm,1.6s,mb5.4
BOSA Boshof 89.09 241 P **P 11 49 23.9 +1.2**
comp=E,6.4nm,0.7s,mb4.8,baz=107,slow=5.7,SNR=18
LBTB Lobatse 89.36 245 P **P 11 49 25.3 +1.2**
comp=E,7.7nm,0.8s,mb4.8,baz=160,slow=5.3,SNR=14
LBTB pP pP 11 49 54.6 +0.4
comp=E,12nm,0.9s,baz=116,slow=5.3,SNR=5.4
LBTB Lobatse 89.36 245 *eP* **P 11 49 25.2 +1.0**
comp=E,6.7nm,0.8s,mb4.7
ANN Anapa 89.95 315 *eP* **P 11 49 24.6 -1.8**
ANN *e*S S 11 59 44.1 -23
ANN pmax pmax
comp=Z,59nm,1.3s,mb5.6
SNAA Sanae 91.37 196 *e* **P 11 49 41.0 +8.6**
SNAA Sanae 91.37 196 *e* pP 11 50 03.6 +1.0
SNAA Sanae 91.37 196 *e* sP 11 50 14.2 -0.8
SNAA Sanae 91.37 196 P **P 11 49 34.3 +1.9**
comp=Z,2.6nm,0.8s,mb4.4,baz=133,slow=4.5,SNR=25
SNAA pP pP 11 50 03.6 +0.9
comp=Z,1.0nm,0.6s,baz=159,slow=4.1,SNR=3.7
SNAA Sanae 91.37 196 ⇓*iP* **P 11 49 33.8 +1.4**
SNAA *e* 11 49 41.0
SNAA *e* pP 11 50 03.6 +1.0
SNAA *e* 11 50 14.2
BRTR Keskin Array B 91.77 310 P **P 11 49 34.1 -0.9**
comp=Z,2.1nm,0.7s,mb4.5,baz=127,slow=6.2,SNR=14
OBN Obninsk 92.59 325 *eP* **P 11 49 37.7 -0.7**
OBN 11 53 22.0
OBN *e*PS PS 12 02 00.4 -1.6
OBN *e*SS SS 12 06 45.0 -3.3
OBN pmax pmax
comp=Z,32nm,0.8s,mb5.7
OBN Obninsk 92.59 325 P **P 11 49 37.9 -0.4**
VNA2 Neumayer--Watz 93.00 195 *e* **P 11 49 50.2 +10**
VNA2 Neumayer--Watz 93.00 195 *e* pP 11 50 11.8 +1.6
VNA2 Neumayer--Watz 93.00 195 *e* sP 11 50 22.5 0.0
VNA2 Neumayer--Watz 93.00 195 ⇓*iP* **P 11 49 41.8 +1.9**
VNA2 *e* 11 49 50.2
VNA2 *e* pP 11 50 11.8 +1.6
VNA2 *e* 11 50 22.5
VNA3 Neumayer Olymp 93.39 195 *e* **P 11 49 52.1 +10**
VNA3 Neumayer Olymp 93.39 195 *e* pP 11 50 12.7 +0.8
VNA3 Neumayer Olymp 93.39 195 *e* sP 11 50 23.5 -0.7
VNA3 Neumayer Olymp 93.39 195 ⇑*iP* **P 11 49 43.5 +1.8**
VNA3 *e* 11 49 52.1
VNA3 *e* pP 11 50 12.7 +0.8
VNA3 *e* 11 50 23.5
VNA1 Neumayer--Stat 93.40 195 *e* **P 11 49 52.6 +11**
VNA1 Neumayer--Stat 93.40 195 *e* pP 11 50 14.1 +2.1
VNA1 Neumayer--Stat 93.40 195 *e* sP 11 50 24.1 -0.2
VNA1 Neumayer--Stat 93.40 195 ⇑*iP* **P 11 49 43.9 +2.2**
VNA1 *e* 11 49 52.6
VNA1 *e* pP 11 50 14.1 +2.1
VNA1 *e* 11 50 24.1
AKASG Malin Array Be 96.34 320 P **P 11 49 53.9 -1.7**
comp=Z,1.8nm,0.5s,mb4.7,baz=79,slow=4.5,SNR=13
RSO Redoubt South 96.60 30 *eP* **P 11 49 56.8 +0.3**
SLKM Skilak Lake 97.85 30 *eP* **P 11 50 01.9 -0.3**
VSU Vasula 98.36 328 *iP* **P 11 50 04.1 -0.5**
KAF Kangasniemi 98.72 332 *ep* **P 11 50 04.4 -1.7**
comp=Z,5.2nm,0.8s,mb5.1
KAF Kangasniemi 98.72 332 *eP* **P 11 50 04.4 -1.7**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb5.1
FINES FINESS Array B 98.81 331 *iP* **P 11 50 06.0 -0.5**
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 98.81 331 P **P 11 50 05.3 -1.2**
comp=Z,6.0nm,0.7s,mb5.2,baz=108,slow=6.0,SNR=39
FINES PKiKP 11 54 38.1
comp=Z,1.0nm,0.5s,baz=113,slow=3.8,SNR=8.9
SML Sawmill 98.82 29 *eP* **P 11 50 06.9 +0.3**
ARCES ARCESS Array B 99.16 339 P **P 11 50 07.5 -0.4**
comp=Z,3.3nm,0.6s,mb5.1,baz=124,slow=4.4,SNR=29
ARCES PKiKP 11 54 39.0
comp=Z,0.8nm,0.5s,baz=45,slow=1.7,SNR=8.3
ARE0 ARCESS Array S 99.16 339 *eP* **P 11 50 07.4 -0.6**
ILAR Eielson Array 99.52 26 P **P 11 50 09.2 -0.5**
comp=Z,1.2nm,0.6s,mb4.7,baz=240,slow=4.9,SNR=15
ILAR PKKPbc 12 06 33.2
comp=Z,0.6nm,0.7s,baz=126,slow=1.9,SNR=7.4
NB2 NORSAR Subarra105.99 331 P Pdif 11 50 37.5 -0.9
comp=Z,0.1nm,0.6s,baz=81,slow=5.0
NB2 NORSAR Subarra105.99 331 P Pdif 11 50 37.5 -0.9
comp=Z,0.1nm,0.6s
NOA NORSAR Array B 105.99 331 Pdiff Pdif 11 50 37.6 -0.8
comp=Z,0.6nm,0.7s,baz=78,slow=4.5,SNR=3.8
NOA PKiKP 11 54 51.9
comp=Z,0.4nm,0.6s,baz=100,slow=2.7,SNR=3.6
GERES GERESS Array B 106.39 318 PKiKP 11 54 52.4
comp=Z,0.9nm,0.6s,baz=63,slow=3.0,SNR=5.7
GRA1 Grafenberg Arr 107.90 319 *e*PKP 11 54 56.0
GRF Grafenberg Arr 107.90 319 *e*PKP 11 54 56.0
HINF Hinteralfeld 111.06 318 *e*PKIKP PKPdf 11 55 00.7 +2.1
comp=Z,4.2nm,0.5s
HAU Haudompre 111.36 318 *e*PKIKP PKPdf 11 55 02.2 +3.1
LPG La Plagne 111.54 316 *e*PKIKP PKPdf 11 55 02.5 +3.0
LPL La Plagne 111.55 316 *e*PKIKP PKPdf 11 55 02.7 +3.1
comp=Z,3.2nm,0.4s
CABF La Chapelle 111.80 317 *e*PKIKP PKPdf 11 55 02.3 +2.3
comp=Z,7.5nm,0.7s
MEZF Maizieres J'vi 112.10 319 *e*PKIKP PKPdf 11 55 03.1 +2.6
BAIF Baives 112.29 321 *e*PKIKP PKPdf 11 55 03.2 +2.3
comp=Z,5.0nm,0.8s
SMRF Simiane la Rot 112.64 314 *e*PKIKP PKPdf 11 55 04.3 +2.6
VIVF Saint-Julien-l 113.11 315 *e*PKIKP PKPdf 11 55 05.3 +2.7
LOR Lormes 113.16 318 *e*PKIKP PKPdf 11 55 04.7 +2.0
SSF Saint Saulge 113.44 318 *e*PKIKP PKPdf 11 55 05.3 +2.1
comp=Z,9.4nm,0.7s
LASF Ste Croix 113.83 314 *e*PKIKP PKPdf 11 55 06.8 +2.7
YKA Yellowknife Ar 113.86 24 PKiKP 11 55 05.6
comp=Z,2.0nm,0.5s,baz=309,slow=2.0,SNR=43
YKA SKP 11 58 27.6
comp=Z,0.7nm,0.6s,baz=299,slow=2.1,SNR=4.2
YKA PKKPbc 12 05 48.3
comp=Z,0.6nm,0.7s,baz=112,slow=3.3,SNR=5.2
YKA Yellowknife Ar 113.86 24 PKPdf PKPdf 11 55 05.6 +1.9
YKA SKP 11 58 27.6
YKA PKKPbc 12 05 48.4
BGF Bois d'Agland 114.00 317 *e*PKIKP PKPdf 11 55 06.6 +2.2
comp=Z,14nm,0.5s
TCF Toulx Ste Croi 114.49 317 *e*PKIKP PKPdf 11 55 07.3 +1.9
comp=Z,3.0nm,0.5s
CAF Calviac 114.90 316 *e*PKIKP PKPdf 11 55 08.6 +2.3
comp=Z,6.0nm,0.6s
MTLF Montolieu 115.15 314 *e*PKIKP PKPdf 11 55 09.7 +2.9
RJF Les Rejaudoux 115.19 316 *e*PKIKP PKPdf 11 55 09.0 +2.2
comp=Z,6.2nm,0.7s
LDF La Druitiere 115.41 320 *e*PKIKP PKPdf 11 55 08.3 +1.2
FLN La Foliniere 115.58 320 *e*PKIKP PKPdf 11 55 08.4 +1.0
LFF La Frestale 115.81 316 *e*PKIKP PKPdf 11 55 10.3 +2.3
comp=Z,17nm,0.6s
GRR Gorron 115.94 320 *e*PKIKP PKPdf 11 55 09.9 +1.8
comp=Z,7.5nm,0.5s
MFF Saint Martin d 115.98 318 *e*PKIKP PKPdf 11 55 10.1 +1.9
comp=Z,6.6nm,0.5s
EPF Esparros 116.56 314 *e*PKIKP PKPdf 11 55 11.8 +2.4
ETSF Etsaut 117.23 314 *e*PKIKP PKPdf 11 55 13.4 +2.7
comp=Z,6.0nm,0.6s
ROSF Rostrenen 117.48 320 *e*PKIKP PKPdf 11 55 13.2 +2.2
comp=Z,4.4nm,0.6s
SJPF Ste Jean 117.65 314 *e*PKIKP PKPdf 11 55 14.1 +2.6
comp=Z,12nm,0.7s
EDM Edmonton 118.87 33 *eP* PKPdf 11 55 15.3 +1.7
ESDC Sonseca Array 120.53 311 PKiKP 11 55 19.4
comp=Z,1.7nm,0.6s,baz=24,slow=2.8,SNR=9.0
ESDC SKP 11 58 42.3
comp=Z,0.3nm,0.4s,baz=50,slow=2.2,SNR=4.6
NVAR Mina Array Bea 120.85 50 SKP 11 58 45.3
comp=Z,0.9nm,0.7s,baz=285,slow=1.2,SNR=4.5
MSO Missoula 121.21 40 *eP* PKPdf 11 55 20.1 +1.7
CHMT Chamberlain Mo 121.61 39 *eP* PKPdf 11 55 21.2 +2.0
HLID Hailey 122.11 43 *eP* PKPdf 11 55 23.2 +3.0
ELK Elko 122.47 47 *eP* PKPdf 11 55 24.0 +3.1
BOZ Bozeman (W) 123.16 40 *eP* PKPdf 11 55 24.8 +2.7
FFC Flin Flon 123.69 27 *eP* PKPdf 11 55 24.6 +1.6
EVO Evora 123.88 311 *e*PKIKP PKPdf 11 55 26.2 +2.4
comp=Z,17nm,0.9s
DBIC Dimbokro 124.23 272 PKP PKPdf 11 55 27.1 +2.1
comp=Z,6.9nm,0.6s,baz=106,slow=4.8,SNR=7.8
DBIC pPKP 11 55 56.8
comp=Z,6.3nm,0.8s,baz=71,slow=3.9,SNR=2.8
NEN Nelson 124.25 53 *eP* PKPdf 11 55 27.9 +3.4
SNOW Snow King Moun 124.62 42 *eP* PKPdf 11 55 29.0 +3.9
MSU Marysvale 125.43 48 *eP* PKPdf 11 55 29.7 +2.9
PDAR Pinedale Array 125.70 43 PKP PKPdf 11 55 29.4 +2.3
comp=Z,0.5nm,0.6s,baz=133,slow=2.3,SNR=7.8
TMUT Trail Mountain 125.87 47 *eP* PKPdf 11 55 31.5 +3.9
LAO LASA Array 126.03 37 *eP* PKPdf 11 55 30.9 +3.2
SRU San Rafael 126.44 47 *eP* PKPdf 11 55 32.5 +3.8
RWWY Rawlins 127.74 43 *eP* PKPdf 11 55 34.4 +3.2
PV01 Paradox Valley 128.22 48 *e*PKPdf PKPdf 11 55 35.5 +3.4
ULM Lac du Bonnet 129.45 28 SKPbc 11 58 45.5
comp=Z,4.4nm,0.6s,baz=313,slow=5.6,SNR=6.9
ANMO Albuquerque 130.97 51 *eP* PKPdf 11 55 40.8 +3.3
MNTX Cornudas Mount 132.95 54 *e*PKPdf PKPdf 11 55 44.8 +3.4
SCHQ Schefferville 133.65 5 PKP PKPdf 11 55 44.1 +2.2
comp=Z,3.1nm,0.6s,baz=348,slow=1.1,SNR=12
SCHQ SKPbc 11 59 01.8
comp=Z,22nm,1.0s,baz=17,slow=3.9,SNR=15
CFAA Coronel Fontan 139.47 171 SKP 11 59 19.9
comp=Z,1.1nm,0.7s,baz=262,slow=2.1,SNR=11
CCM Cathedral Cave 140.03 38 *e*PKPpre 11 55 48.6
WVT Waverly 143.35 38 *e*PKPpre 11 55 58.5
OXF Oxford 143.40 41 *e*PKPpre 11 55 58.1
PLAL Pickwick Lake 143.95 39 *e*PKPpre 11 55 59.9
MCWV Mont Chateau 144.82 25 *e*PKPdf PKPdf 11 56 04.0 +1.5
HRV Harvard--Oak R 144.99 13 *e*PKPdf PKPdf 11 56 04.1 +1.5
CPUP Villa Florida 145.10 186 PKPbc PKPbc 11 56 06.1 +2.3
comp=Z,2.8nm,0.8s,baz=178,slow=3.8,SNR=72
CPUP SKPbc 11 59 33.8
comp=Z,7.2nm,0.6s,baz=182,slow=1.8,SNR=11
CPUP Villa Florida 145.10 186 *e*PKPdf PKPdf 11 56 06.1 +2.7
CPUP *e*SKP 11 59 33.6
SWET Sewanee 145.10 37 *e*PKPdf PKPdf 11 56 04.0 +0.8
TZTN Tazewell 145.50 33 *eP* PKPdf 11 56 05.9 +2.2
TZTN *e*SKP 11 59 32.8
PAL Palisades 145.77 17 *e*PKPdf PKPdf 11 56 07.0 +2.9
BRNJ Basking Ridge 145.87 18 *e*PKPdf PKPdf 11 56 07.8 +3.6
LRAL Lakeview Retre 145.89 41 *e*PKPdf PKPdf 11 56 06.6 +2.1
LRAL *e*SKPbc 11 59 34.5
FWV Forest Hill 146.08 29 *e*PKPdf PKPdf 11 56 07.4 +2.7
FWV *e*SKP 11 59 34.4
MYNC Murphy 146.25 35 *e*PKPdf PKPdf 11 56 07.9 +2.9
MYNC *e*SKP 11 59 35.4
LVC Limon Verde 148.08 166 PKPbc PKPdf 11 56 16.2 +7.8
comp=Z,10.0nm,0.7s,baz=224,slow=1.8,SNR=14
LVC Limon Verde 148.08 166 *e*PKPbc PKPdf 11 56 13.9 +5.5
JSC Jenkinsville 148.43 33 *e*PKPbc PKPdf 11 56 14.3 +5.6
COW Cow Castle Cre 149.41 33 *e*PKPbc PKPdf 11 56 17.5 +7.3
RCBR Riachuelo 151.06 241 *e*PKPbc PKPdf 11 56 21.7 +8.5
BAO Brasilia Array 152.65 208 PKPdf PKPdf 11 56 11.0 -4.5
BDFB Brasilia 152.65 208 PKP PKPdf 11 56 19.4 +3.9
comp=Z,3.1nm,0.5s,baz=201,slow=4.0,SNR=3.8
BDFB PKPbc PKPdf 11 56 25.7 +10
comp=Z,5.0nm,0.6s,baz=143,slow=5.1,SNR=6.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	154.34	164	PKP	PKPdf	11 56 22.9	+5.1
	comp=Z,0.4nm,0.3s,baz=170,slow=6.1,SNR=3.4						
LPAZ				PKPbc	PKPdf	11 56 30.8	+13
	comp=Z,2.8nm,0.6s,baz=225,slow=7.4,SNR=16						
LPAZ	La Paz	154.34	164	PKP	PKPdf	11 56 22.9	+5.1
LPAZ				*e*PKPbc	PKPdf	11 56 30.8	+13
SIV	San Ignacio	155.59	180	PKP	PKPdf	11 56 23.5	+4.0
	comp=Z,1.1nm,0.6s,baz=198,slow=3.2,SNR=7.9						
SIV				PKPab	PKPab	11 56 49.4	+0.8
	comp=Z,2.2nm,0.6s,baz=142,slow=5.0,SNR=6.3						
SJG	San Juan	169.34	27	PKPab	PKPab	11 57 47.9	-0.3
	comp=Z,10nm,0.5s,baz=328,slow=15,SNR=3.9						

*IDC **09** 11:43:31.0±8.0, 13.03N×143.36E, h126km±74km, mb3.7/8, mb1 3.8/8, mb1mx3.7/22, mbtmp4.1/8, Error ellipse: s-maj=34.5km s-min=15.6km az=68.0*
*NEIC **09** 11:43:31.7±1.7, 13.04N×143.34E, h136km±16km, mb3.9/2, Error ellipse: s-maj=29.0km s-min=14.0km az=68.0*
ISC 09 11:43:30.8±2.0**, 13.0N**±0.1×**143.3E**±0.3**, h144**km±21km**, n15, σ0s90**/12**, mb3.9**/10**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.59	69	*e*P	P	11 44 01.2	0.0
MJAR	Matsushiro Arr	23.87	350	P	P	11 48 32.2	+0.1
	3.3nm,0.9s,mb3.9,baz=180,slow=11,SNR=5.6						
WRA	Warramunga Arr	33.93	195	P	P	11 50 01.2	-1.1
	2.5nm,0.5s,mb4.2,baz=19,slow=9.6,SNR=3.8						
HIA	Hailar	41.05	336	*e*P	P	11 51 00.2	-1.3
	2.2nm,0.5s,mb4.0						
DZM	Mont Dzumac	41.59	147	P	P	11 51 07.5	+1.3
	19nm,1.2s,mb4.6,baz=290,slow=15,SNR=9.9						
SONM	Songino Array	46.36	326	P	P	11 51 45.8	+1.7
	1.2nm,0.5s,mb3.8,baz=150,slow=8.0,SNR=4.3						
MKAR	Makanchi Array	60.87	317	P	P	11 53 31.1	+0.7
	0.7nm,0.5s,mb3.7,baz=97,slow=9.3,SNR=3.6						
BVAR	Borovoye Array	69.45	322	P	P	11 54 25.7	+0.4
	1.9nm,0.4s,mb4.2,baz=106,slow=7.3,SNR=13						
ILAR	Eielson Array	69.72	25	P	P	11 54 26.0	-0.7
	0.5nm,0.5s,mb3.5,baz=246,slow=5.9,SNR=6.3						
ZRNK	Zerenda	70.28	322	*e*P	P	11 54 30.3	-0.1
	0.8nm,0.5s,mb3.7						
FINES	FINESS Array B	91.05	335	P	P	11 56 18.9	-0.8
	0.3nm,0.3s,mb3.8,baz=90,slow=6.9,SNR=4.9						
FINES	FINESS Array B	91.05	335	P	P	11 56 18.9	-0.8
CFAA	Coronel Fontan	145.60	128	PKPbc	PKPbc	12 02 55.0	+1.7
	0.4nm,0.5s,baz=272,slow=6.5,SNR=4.1						
LPAZ	La Paz	149.39	100	PKPbc	PKPdf	12 03 07.2	+8.3
	1.1nm,0.7s,baz=315,slow=1.4,SNR=5.5						
LPAZ	La Paz	149.39	100	PKPbc	PKPdf	12 03 07.2	+8.3

*IDC **09** 11:48:29.2±1.0, 2.66N×126.59E, mb4.2/9, mb1 4.4/9, mb1mx4.1/20, mbtmp4.3/9, MS3.6/2, Ms1 3.5/2, ms1mx3.2/31, Error ellipse: s-maj=68.4km s-min=15.7km az=72.0*
*NEIC **09** 11:48:35.1±4.5, 2.66N×126.84E, h44km±41km, mb4.5/3, Error ellipse: s-maj=31.5km s-min=9.3km az=61.0*
ISC 09 11:48:32.4±0.6**, 2.57N**±0.10×**126.4E**±0.2**, h33**km**, n20, σ0s58**/17**, mb4.2**/9**, MS3.6**/2**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	10.68	289	P	P	11 51 05.6	-0.7
KSM	Kuching	16.07	266	*e*P	P	11 52 25.4	+7.7
FITZ	Fitzroy Crossi	20.56	182	*e*P	P	11 53 10.8	-0.2
	13nm,0.6s						
FITZ	Fitzroy Crossi	20.56	182	P	P	11 53 11.0	0.0
	15nm,0.5s,baz=12,slow=8.0,SNR=15						
WRAB	Tennant Creek	23.70	161	*e*P	P	11 53 41.9	-0.5
WRA	Warramunga Arr	23.71	161	P	P	11 53 42.1	-0.4
	7.9nm,0.6s,mb4.3,baz=340,slow=11,SNR=18						
WB2	Warramunga Arr	23.71	161	*e*P	P	11 53 42.3	-0.2
CBIJ	Chichi jima	28.71	30	LR	LR	12 06 21.6	
	comp=Z,93nm,18.4s,MS3.4,baz=51,slow=38						
NWAO	Narrogin (SRO)	36.35	193	P	P	11 55 36.5	+1.1
	4.8nm,0.7s,mb4.5,baz=23,slow=15,SNR=4.3						
STKA	Stephens Creek	37.19	158	*e*P	P	11 55 41.9	-0.6
	7.5nm,0.6s,mb4.7						
STKA	Stephens Creek	37.19	158	P	P	11 55 42.1	-0.5
	7.7nm,0.6s,mb4.7,baz=336,slow=9.9,SNR=11						
SONM	Songino Array	48.27	342	P	P	11 57 12.6	+0.3
	1.5nm,0.8s,mb4.1,baz=153,slow=8.3,SNR=7.4						
MKAR	Makanchi Array	58.29	326	P	P	11 58 26.2	-0.2
	1.2nm,0.6s,mb4.1,baz=132,slow=8.5,SNR=9.3						
BVAR	Borovoye Array	68.08	327	P	P	11 59 30.9	0.0
	0.6nm,0.4s,mb3.9,baz=162,slow=9.1,SNR=4.9						
ZRNK	Zerenda	68.80	327	*e*P	P	11 59 35.0	-0.4
	2.1nm,0.5s,mb4.3						
VNDA	Vanda	82.33	173	P	P	12 00 53.0	+1.1
	1.3nm,0.8s,mb3.9,baz=316,slow=9.1,SNR=7.4						
MAW	Mawson	82.55	200	LR	LR	12 37 19.9	
	comp=Z,32nm,19.1s,MS3.7,baz=325,slow=35						
SML	Sawmill	85.53	28	*e*P	P	12 01 08.0	-0.2
BRTR	Keskin Array B	90.46	310	P	P	12 01 33.3	+0.9
	0.5nm,0.5s,mb4.1,baz=117,slow=3.2,SNR=2.8						
CFAA	Coronel Fontan	148.01	156	PKPbc	PKPdf	12 08 17.4	+5.3
	0.3nm,0.6s,baz=188,slow=2.4,SNR=6.2						

*MOS **09** 11:51:43.5±1.7, 41.51N×143.00E, h48km, mb4.2/7, Error ellipse: s-maj=21.4km s-min=9.6km az=78.2*
*JMA **09** 11:51:44.7±0.1, 41.56N×142.77E, h32km±3km, M4.1 Broadband fault plane solution: P waves. NP1:φs99°, δ29°, λ-23°. NP2:φs209°, δ79°, λ-117°. Principal axes: T Plg29°, Azm321°; N Plg26°, Azm215°; P Plg49°, Azm90°;*
*NEIC **09** 11:51:48.2±0.9, 41.54N×142.63E, h64km±8km, mb4.2/1 Error ellipse: s-maj=13.4km s-min=7.9km az=111.0*
*IDC **09** 11:51:48.4±2.2, 41.59N×142.65E, h64km±17km, mb3.6/12, mb1 3.7/14, mb1mx3.6/23, mbtmp3.8/14, Error ellipse: s-maj=21.3km s-min=14.6km az=109.0*
ISC 09 11:51:44.8±0.5**, 41.56N**±0.04×**142.76E**±0.05**, h49**km±5km**, n45, σ0s95**/58**, mb3.8**/13**, 6C-3D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JEM	Erimo	0.54	33	⇓P	P	11 51 55.6	-0.9
JEM				*e*S	S	11 52 02.2	-2.7
JNBK	Urakawa-nobuka	0.72	360	⇑P	P	11 51 58.3	-0.4
JNBK				*e*S	S	11 52 08.5	-0.5
JCH	Churui	1.14	23	⇑P	P	11 52 04.8	+0.2
JCH				*e*S	S	11 52 19.3	-0.1
JBT2	Biratori 2	1.25	347	⇑P	P	11 52 06.5	+0.3
JBT2				*e*S	S	11 52 22.0	-0.2
JOT	Ohata	1.30	263	⇑P	P	11 52 07.2	+0.3
JOT				*e*S	S	11 52 23.2	-0.2
JKB	Kayabe	1.33	285	⇑P	P	11 52 07.1	-0.4
JKB				*e*S	S	11 52 23.3	-1.0
JTM	Tenmabayashi	1.49	239	⇓P	P	11 52 10.5	+0.8
JTM				*e*S	S	11 52 29.1	+0.9
JANG	Nango	1.52	219	P	P	11 52 10.0	0.0
JANG				*e*S	S	11 52 29.1	+0.4
JOB	Onbets	1.56	30	⇓P	P	11 52 11.6	+1.0
JOB				*e*S	S	11 52 32.3	+2.5
JNB	Noboribetsu	1.57	306	⇑P	P	11 52 10.3	-0.5
JNB				*e*S	S	11 52 29.5	-0.6
JFR	Furan	1.60	356	P	P	11 52 11.3	+0.1
JEW	Eniwo	1.61	323	P	P	11 52 11.5	+0.2
ASAJ	Asahikawa	2.56	357	P	P	11 52 26.7	+2.0
ASAJ				S	S	11 52 57.3	+2.5
ASAJ				pmax	pmax		
	comp=Z,29nm,0.3s						
ASAJ	Asahikawa	2.56	357	P	P	11 52 26.7	+2.0
	comp=Z,29nm,0.3s,baz=223,slow=10,SNR=101						
ASAJ				S	S	11 52 57.2	+2.5
	comp=Z,28nm,0.3s,baz=99,slow=33,SNR=10						
YUK	Yuzh-Kuril'sk	3.36	42	*e*P	P	11 52 30.5	-5.7
YUK				*e*S	S	11 53 12.9	-2.3
YUK				smax			
	comp=N,270nm,0.3s						
YUK				smax			
	comp=E,140nm,0.3s						
YSS	Yuzh-Sakhalins	5.39	360	*e*P	P	11 53 06.2	+1.6
YSS	Yuzh-Sakhalins	5.39	360	*e*P	P	11 53 06.6	+1.9
	comp=E,7.1nm,0.4s						
MAJO	Matsushiro	6.14	217	*e*P	P	11 53 13.8	-1.3
MAJO				pmax	pmax		
	comp=Z,11nm,0.8s						
MAJO	Matsushiro	6.14	217	*e*P	P	11 53 13.8	-1.3
	comp=Z,11nm,0.8s						
MAT	Matsushiro	6.14	217	P	P	11 53 15.0	-0.1
MAT	Matsushiro	6.14	217	P	P	11 53 14.7	-0.4
MJAR	Matsushiro Arr	6.14	217	P	P	11 53 16.4	+1.3
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	6.14	217	P	P	11 53 16.4	+1.3
	comp=Z,0.7nm,0.3s,baz=25,slow=13,SNR=13						
SONM	Songino Array	26.42	296	P	P	11 57 18.3	-0.2
	comp=Z,0.8nm,0.4s,mb3.6,baz=80,slow=8.4,SNR=7.0						
SONM	Songino Array	26.42	296	P	P	11 57 18.3	-0.2
ZAL	Zalesovo	39.79	308	P	P	11 59 13.7	-0.6
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAL	Zalesovo	39.79	308	P	P	11 59 13.7	-0.6
	comp=Z,2.0nm,0.5s,mb4.1,baz=23,slow=9.1,SNR=5.7						
MKAR	Makanchi Array	42.75	298	P	P	11 59 38.6	-0.1
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	Makanchi Array	42.75	298	P	P	11 59 38.6	-0.1
	comp=Z,1.7nm,0.5s,mb4.0,baz=83,slow=11,SNR=8.7						
ILAR	Eielson Array	45.15	35	P	P	11 59 57.7	-0.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	Eielson Array	45.15	35	P	P	11 59 57.6	-0.1
	comp=Z,0.6nm,0.7s,mb3.5,baz=257,slow=4.9,SNR=7.3						
BVAR	Borovoye Array	48.39	310	P	P	12 00 23.5	0.0
	comp=Z,2.3nm,0.5s,mb4.5,baz=75,slow=9.4,SNR=13						
ZRNK	Zerenda	49.22	310	*e*P	P	12 00 29.3	-0.5
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ZRNK	Zerenda	49.22	310	*e*P	P	12 00 29.3	-0.5
	comp=Z,2.0nm,0.8s,mb4.2						
YKA	Yellowknife Ar	59.39	32	P	P	12 01 43.9	-0.1
	comp=Z,0.4nm,0.6s,mb3.7,baz=306,slow=6.7,SNR=5.0						
YKA	Yellowknife Ar	59.39	32	P	P	12 01 43.9	-0.1
WRA	Warramunga Arr	61.69	189	P	P	12 01 59.5	-0.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	61.69	189	P	P	12 01 59.5	-0.7
	comp=Z,0.9nm,0.6s,mb4.1,baz=7.4,slow=6.9,SNR=6.3						
FINES	FINESS Array B	65.31	332	P	P	12 02 22.6	-0.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	65.31	332	P	P	12 02 22.6	-0.7
	comp=Z,0.6nm,0.5s,mb3.9,baz=45,slow=8.1,SNR=7.7						
NOA	NORSAR Array B	70.42	337	P	P	12 02 55.0	-0.2
	comp=Z,0.4nm,0.6s,mb3.5,baz=34,slow=6.4,SNR=3.5						
AKASG	Malin Array Be	71.37	322	P	P	12 03 00.4	-0.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	71.37	322	P	P	12 03 00.4	-0.7
	comp=Z,0.9nm,0.4s,mb4.0,baz=47,slow=6.4,SNR=6.1						
NVAR	Mina Array Bea	71.49	55	P	P	12 03 03.5	+1.5
	comp=Z,0.3nm,0.6s,mb3.4,baz=297,slow=5.2,SNR=3.8						
GERES	GERESS Array B	79.41	329	P	P	12 03 46.9	0.0
	comp=Z,0.2nm,0.4s,mb3.4,baz=11,slow=5.0,SNR=3.0						

*BJI **09** 12:03:04.1, 2.36N×126.65E, h78km, mB5.1, mb5.1, Ms4.6, Msz4.5*
*IDC **09** 12:03:04.9±3.2, 2.69N×126.56E, h39km±27km, mb4.6/25, mb1 4.6/25, mb1mx4.6/26, mbtmp4.8/25, MS4.3/7, Ms1 4.3/7, ms1mx4.0/18, Error ellipse: s-maj=18.2km s-min=8.6km az=81.0*
*HRVD **09** 12:03:06.3±0.3, 2.97N×126.56E, h26km±1km, MW5.3/58, Centroid moment Tensor Solution. LP body waves: s37,c49; Mantle waves: s58,c93; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; Mrr0.52±.05; Mθθ0.18±.03; Mφφ-0.70±.04; Mrθ0.37±.08; Mθφ-0.36±.03; Mφr-0.56±.07; Best double couple: M0.987×10^{17} NP1:φs51°, δ40°, λ148°. NP2:φs167°, δ70°, λ55°. Principal axes: T 1.015, Plg52°, Azm36°; N -.056, Plg33°, Azm180°; P -.96, Plg17°, Azm282°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 12:03:06.3±1.4, 2.67N×126.61E, h55km±13km, mb5.1/37 Error ellipse: s-maj=9.4km s-min=5.6km az=72.0*
*MOS **09** 12:03:09.3±1.4, 2.79N×126.64E, h96km, mb4.9/24, Error ellipse: s-maj=22.0km s-min=7.6km az=113.4*
ISC 09 12:03:04.0±0.8**, 2.66N**±0.03×**126.60E**±0.05**, h49**km±6km**, n187, σ1s13**/192**, mb5.1**/96**, MS4.4**/26**, 20C-8D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	4.50	347	*e*P	P	12 04 15.5	+4.1
KCP	Kidapawan	4.57	341	⇓*e*P	P	12 04 15.2	+2.7
CTBH	Cotabato--PC H	5.10	333	⇓*e*P	P	12 04 21.1	+1.3
CTBH				*e*S	S	12 05 20.3	+2.1
BIPH	Bislig	5.49	358	*e*P	P	12 04 26.6	+1.4
BIPH				*e*S	S	12 05 28.1	+0.1
ZMPH	Zamboanga City	6.21	314	⇓*i*P	P	12 04 33.8	-1.5
TSM	Tawau	8.86	281	P	P	12 05 12.2	+0.1
KKM	Kota Kinabalu	10.88	288	*e*P	P	12 05 42.1	+2.2
KKM	Kota Kinabalu	10.88	288	P	P	12 05 42.7	+2.7
KSM	Kuching	16.32	266	*e*P	P	12 06 54.1	+2.7
KAKA	Kakadu	16.34	159	⇑*i*P	P	12 06 51.6	0.0
	76nm,0.8s						
FITZ	Fitzroy Crossi	20.65	183	⇑*i*P	P	12 07 40.9	-1.2
	41nm,0.6s						
FITZ				*e*S	S	12 11 26.2	+1.0
FITZ	Fitzroy Crossi	20.65	183	P	P	12 07 41.0	-1.1
	55nm,0.6s,baz=10,slow=7.9,SNR=57						
FITZ				S	S	12 11 29.9	+4.8
	12nm,0.9s,baz=164,slow=18,SNR=5.8						
YHNB	Yeheng	22.45	347	*e*P	P	12 07 58.7	-1.4
QIZ	Qiongzhong	23.10	316	P	P	12 08 06.8	+0.3
QIZ				S	S	12 12 12.4	+2.2
QIZ				LR	LR		
	comp=N,858nm,15.7s						
QIZ				LR	LR		
	comp=Z,1μm,26.1s						
QIZ	Qiongzhong	23.10	316	*e*P	P	12 08 07.7	+1.2
KGM	Kluang	23.27	269	P	P	12 08 12.8	+4.6
WRAB	Tennant Creek	23.71	162	*i* P	P	12 08 12.1	-0.3
WRAB	Tennant Creek	23.71	162	*e*P	P	12 08 12.1	-0.3
	comp=Z,235nm,1.4s,mb5.4						
WRA	Warramunga Arr	23.71	162	*i* P	P	12 08 12.2	-0.3
WRA				pmax	pmax		
	comp=Z,35nm,0.8s						
WRA	Warramunga Arr	23.71	162	P	P	12 08 12.2	-0.3
	comp=Z,35nm,0.8s,mb4.8,baz=336,slow=11,SNR=65						
WRA				S	S	12 12 26.3	+5.4
	comp=Z,6.9nm,0.9s,baz=336,slow=14,SNR=6.2						
WB2	Warramunga Arr	23.72	162	⇑*i*P	P	12 08 12.2	-0.3
WB2				*e*S	S	12 12 26.1	+5.1
GZH	Guangzhou	24.03	329	P	P	12 08 19.1	+3.6
GZH				S	S	12 12 32.4	+6.1
GZH				LR	LR		
	comp=N,752nm,20.5s,MS4.3						
GZH				LR	LR		
	comp=E,727nm,20.5s,MS4.3						
GZH				LR	LR		
	comp=Z,1μm,20.8s,MS4.4						
JOW	Kunigami	24.09	4	P	P	12 08 17.7	+1.6
	comp=Z,50nm,0.8s,mb5.0,baz=188,slow=7.0,SNR=9.5						
MBWA	Marble Bar	24.61	196	*e*P	P	12 08 21.6	+0.3
	comp=Z,21nm,0.9s,mb4.7						
IPM	Ipoh	25.59	275	P	P	12 08 37.3	+6.6
KULM	Kulim	26.02	277	*e*P	P	12 08 33.6	-1.0
CBIJ	Chichi jima	28.52	30	P	P	12 08 55.2	-2.0
	comp=Z,60nm,0.7s,mb5.4,baz=262,slow=8.5,SNR=6.5						
CBIJ				LR	LR	12 18 31.8	
	comp=Z,462nm,20.6s,MS4.1,baz=206,slow=32						
SSE	Sheshan	28.74	350	*e*P	P	12 08 58.2	-1.0
SSE				S	S	12 13 47.0	+3.4
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,56nm,3.5s						
SSE				LR	LR		
	comp=N,492nm,27.8s,MS4.1						
SSE				LR	LR		
	comp=E,365nm,27.8s,MS4.1						
SSE				LR	LR		
	comp=Z,643nm,25.0s,MS4.1						
CTA	Charters Tower	29.72	140	*e*P	P	12 09 07.6	-0.4
	comp=Z,3.4nm,0.5s,mb4.3						
CTA	Charters Tower	29.72	140	P	P	12 09 07.6	-0.4
	comp=Z,4.8nm,0.6s,mb4.4,baz=307,slow=12,SNR=7.4						
CTAO	Charters Tower	29.72	140	*e*P	P	12 09 06.8	-1.1
	comp=Z,69nm,1.8s,mb5.1						
NANT	Nan	30.00	304	⇑P	P	12 09 10.0	-0.5
	comp=Z,188nm,0.5s,mb6.1						
NJ2	Nanjing	30.13	347	*e*P	P	12 09 11.0	-0.5
NJ2				PP	PP	12 10 10.1	-1.0
NJ2				S	S	12 14 09.0	+3.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,160nm,5.5s						
NJ2				LR	LR		
	comp=N,3μm,27.2s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,23.9s,MS4.8						
NJ2				LR	LR		
	comp=Z,1μm,27.5s,MS4.5						
GYA	Guiyang	30.43	323	P	P	12 09 14.1	-0.1
GYA				PCP	PcP	12 12 14.3	+1.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CHRT	Chiangrai	31.28	305	⇑P	P	12 09 20.0	-1.8
	comp=Z,105nm,1.0s,mb5.6						
CMAR	Chiang Mai Arr	31.31	302	P	P	12 09 21.7	-0.4
	comp=Z,10nm,0.9s,mb4.7,baz=118,slow=6.8,SNR=29						
CHG	Chiang Mai	31.47	303	⇓P	P	12 09 23.3	-0.2
	comp=Z,17nm,0.7s,mb5.0						
ENH	Enshi	31.89	331	*e*P	P	12 09 26.4	-0.6
	comp=Z,19nm,0.8s,mb5.0						
KMI	Kunming	32.05	316	P	P	12 09 30.6	+2.1
KMI				AP	pP	12 09 44.1	+2.8
KMI				PP	PP	12 10 39.0	+3.1
KMI				PPP	PPP	12 10 52.2	+1.1
KMI				S	S	12 14 36.8	+1.0
KMI				SS	SS	12 16 35.9	+5.0
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.6						
KMI				AMB	AMB		
	comp=Z,72nm,4.4s						
KMI				LR	LR		
	comp=N,411nm,19.5s,MS4.3						
KMI				LR	LR		
	comp=E,522nm,23.4s,MS4.3						
KMI				LR	LR		
	comp=Z,1μm,23.4s,MS4.5						
KS15	Wonju Array Si	34.63	2	*e*P	P	12 09 51.2	+0.5
KLBR	Kellerberrin	35.09	193	*e*P	P	12 09 54.4	-0.2
	comp=Z,109nm,1.8s,mb5.5						
XAN	Xi'an	35.31	334	P	P	12 09 54.7	-1.8
XAN				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
XAN				LR	LR		
	comp=N,634nm,24.2s,MS4.4						
XAN				LR	LR		
	comp=E,558nm,24.9s,MS4.4						
XAN				LR	LR		
	comp=Z,1μm,27.1s,MS4.5						
MJAR	Matsushiro Arr	35.38	16	P	P	12 09 55.4	-1.7
	comp=Z,8.9nm,1.1s,mb4.6,baz=197,slow=10.0,SNR=15						
MJAR				LR	LR	12 24 34.2	
	comp=Z,239nm,18.2s,MS4.0,baz=205,slow=36						
MAJO	Matsushiro	35.38	16	*e*P	P	12 09 54.9	-2.2
	comp=Z,38nm,1.3s,mb5.2						
MAT	Matsushiro	35.38	16	*e*P	P	12 09 54.0	-3.0
	comp=Z,27nm,1.1s,mb5.1						
MAT				*e*S	S	12 15 43.0	+16
MAT	Matsushiro	35.38	16	P	P	12 09 54.2	-2.9
MAT				S	S	12 15 42.6	+15
CD2	Chengdu	35.43	325	*e*P	P	12 09 56.0	-1.6
MUN	Mundaring	35.83	195	*e*P	P	12 10 02.1	+1.1
	comp=Z,7.6nm,0.6s,mb4.8						
DL2	Dalian	36.36	353	P	P	12 10 06.4	+1.1
DL2				S	S	12 15 44.2	+1.8
DL2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
DL2				LR	LR		
	comp=N,370nm,19.8s,MS4.2						
DL2				LR	LR		
	comp=E,150nm,18.4s,MS4.2						
DL2				LR	LR		
	comp=Z,450nm,23.3s,MS4.2						
NWAO	Narrogin (SRO)	36.49	193	P	P	12 10 07.4	+1.0
	comp=Z,10nm,0.6s,mb4.9,baz=33,slow=7.0,SNR=9.1						
NWAO	Narrogin (SRO)	36.49	193	*e*P	P	12 10 06.5	0.0
STKA	Stephens Creek	37.18	159	⇑*i*P	P	12 10 11.9	-0.4
	comp=Z,17nm,0.6s,mb5.0						
STKA				*e*		12 11 35.8	
STKA				*e*S	S	12 15 54.9	-0.2
STKA	Stephens Creek	37.18	159	P	P	12 10 12.3	0.0
	comp=Z,18nm,0.6s,mb5.1,baz=334,slow=8.6,SNR=42						
SNY	Shenyang	39.09	356	⇑P	P	12 10 28.8	+0.7
SNY				S	S	12 16 27.0	+3.2
SNY				SS	SS	12 19 14.0	+3.9
SNY				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.3						
SNY				LR	LR		
	comp=N,490nm,29.0s						
SNY				LR	LR		
	comp=E,480nm,21.4s						
SNY				LR	LR		
	comp=Z,580nm,28.9s,MS4.2						
LZH	Lanzhou	39.36	330	⇑P	P	12 10 30.0	-0.4
LZH				XS		12 17 03.3	
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,200nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,20.9s						
LZH				LR	LR		
	comp=Z,4μm,21.2s,MS5.2						
HHC	Hu-ho-hao-te	40.37	342	*e*P	P	12 10 37.0	-1.7
HHC				AP	pP	12 10 52.9	+1.1
HHC				PP	PP	12 12 15.6	+0.1
HHC				PCP	PcP	12 12 40.8	-1.1
HHC				SCP		12 16 23.8	
HHC				PCS		12 16 33.4	
HHC				S	S	12 16 37.0	-6.0
HHC				SCS	ScS	12 20 37.9	-0.4
HHC				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.6						
HHC				AMB	AMB		
	comp=Z,138nm,9.6s						
HHC				LR	LR		
	comp=N,879nm,26.4s,MS4.5						
HHC				LR	LR		
	comp=E,381nm,24.0s,MS4.5						
HHC				LR	LR		
	comp=Z,2μm,28.8s,MS4.7						
SHL	Shillong	40.41	307	*e*P	P	12 10 38.5	-0.7
CN2	Changchun	40.98	359	*e*P	P	12 10 43.0	-0.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CN2				LR	LR		
	comp=N,400nm,21.0s,MS4.3						
CN2				LR	LR		
	comp=E,300nm,21.0s,MS4.3						
CN2				LR	LR		
	comp=Z,500nm,23.0s,MS4.3						
MDJ	Mudanjiang	41.86	3	P	P	12 10 51.7	+0.7
MDJ				AMB	AMB		
	comp=Z,55nm,0.9s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,76nm,6.1s						
MDJ				LR	LR		
	comp=N,642nm,27.3s,MS4.3						
MDJ				LR	LR		
	comp=E,130nm,30.0s,MS4.3						
MDJ				LR	LR		
	comp=Z,839nm,28.4s,MS4.5						
MDJ	Mudanjiang	41.86	3	*e*P	P	12 10 51.9	+0.9
	comp=Z,36nm,0.8s,mb5.0						
LSA	Lhasa	43.05	312	*e*P	P	12 11 01.7	+0.8
	comp=Z,14nm,0.6s,mb4.9						
ASAJ	Asahikawa	43.65	17	P	P	12 11 06.3	+0.7
	comp=Z,13nm,0.7s,mb4.8,baz=237,slow=9.7,SNR=13						
GTA	Gaotai	43.95	330	*e*P	P	12 11 08.0	-0.1
GTA				PP	PP	12 12 53.0	+0.6
GTA				PCP	PcP	12 12 55.2	+1.4
GTA				S	S	12 17 35.0	-0.7
GTA				SS	SS	12 20 44.4	-0.7
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.3						
GTA				AMB	AMB		
	comp=Z,92nm,7.6s						
GTA				LR	LR		
	comp=N,855nm,26.6s,MS4.6						
GTA				LR	LR		
	comp=E,574nm,24.3s,MS4.6						
GTA				LR	LR		
	comp=Z,1μm,25.9s,MS4.8						
GUN	Gumba	46.25	307	*e*P	P	12 11 26.3	-0.3

comp=Z,103nm,0.7s,mb5.8
YSS Yuzh-Sakhalins 46.30 15⇑ *e*P **P** **12 11 26.2 -0.5**
YSS *e* 12 11 47.2
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.3
YSS MLR MLR
comp=Z,200nm,20.0s,MS4.1
YSS Yuzh-Sakhalins 46.30 15 *e*P **P** **12 11 26.9 +0.2**
comp=Z,19nm,0.6s,mb5.2
PKI Pulchoki 46.48 306 *e*P **P** **12 11 27.7 -0.7**
comp=Z,40nm,1.1s,mb5.3
KLR Kul'dur 46.60 5 *e*P **P** **12 11 26.3 -2.8**
KLR pmax pmax
comp=Z,20nm,1.2s,mb4.9
KKN Kakani 46.68 306 *e*P **P** **12 11 28.5 -1.5**
comp=Z,58nm,1.0s,mb5.5
DMN Daman 46.74 306 *e*P **P** **12 11 29.7 -0.8**
comp=Z,51nm,0.9s,mb5.5
HIA Hailar 46.80 354 *e*P **P** **12 11 30.9 +0.3**
comp=Z,12nm,0.8s,mb4.9
GKN Gorkha 47.29 306 *e*P **P** **12 11 33.8 -0.9**
comp=Z,74nm,1.1s,mb5.5
BLSP Bilaspur 47.29 298 *e*P **P** **12 11 34.2 -0.6**
BLSP *e* 12 11 35.9
BLSP AMb AMB 12 11 36.1
comp=Z,28nm,0.9s,mb5.2
KOLN Koldanda 48.03 306 *e*P **P** **12 11 40.0 -0.6**
comp=Z,69nm,0.6s,mb5.8
ULN Ulaanbaatar 48.09 342*c i*P **P** **12 11 35.3 -5.4**
ULN Ulaanbaatar 48.09 342 *e*P **P** **12 11 35.2 -5.6**
comp=Z,8.4nm,0.6s,mb5.0
SONM Songino Array 48.26 342 P **P** **12 11 41.6 -0.5**
comp=Z,11nm,0.8s,mb4.9,baz=155,slow=8.2,SNR=39
SONM PcP PcP 12 13 09.0 +0.2
comp=Z,3.7nm,0.8s,baz=151,slow=4.3,SNR=4.4
SONM LR LR 12 35 11.4
comp=Z,333nm,20.9s,MS4.3,baz=154,slow=40
HYB Hyderabad 49.36 291⇓ *e*P **P** **12 11 50.5 -0.4**
HYB Hyderabad 49.36 291 ⇓ *i*P **P** **12 11 50.5 -0.4**
CIT Chita 50.39 350 *e*P **P** **12 11 59.0 +0.6**
CIT pmax pmax
comp=Z,63nm,1.9s,mb5.3
ZAK Zakamensk 51.48 341 *e*P **P** **12 12 05.3 -1.4**
ZAK *e* 12 13 20.1
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BHPL Bhopal 51.77 298 *e*P **P** **12 12 08.7 -0.5**
BHPL AMb AMB 12 12 09.3
comp=Z,48nm,0.8s,mb5.5
TLY Talaya 52.50 342 *e*P **P** **12 12 13.5 -0.8**
TLY pmax pmax
comp=Z,14nm,0.9s,mb4.9
TLY MLR MLR
comp=Z,147nm,18.0s,MS4.1
TLY Talaya 52.50 342 *e*P **P** **12 12 14.0 -0.3**
comp=Z,13nm,0.8s,mb4.9
IRK Irkutsk 52.80 343 *e*P **P** **12 12 15.7 -0.8**
IRK pmax pmax
comp=Z,33nm,3.2s
MOY Mondy 53.34 340 *e*P **P** **12 12 20.9 +0.4**
MOY pmax pmax
comp=Z,34nm,1.8s,mb5.0
KAD Karad 53.44 290 *e*P **P** **12 12 20.9 -0.8**
KAD *e* 12 12 21.9
KAD AMb AMB 12 12 22.3
comp=Z,40nm,1.6s,mb5.1
DDI Dehra Dun 53.49 306 *e*P **P** **12 12 20.5 -1.4**
WMQ Urumqi 53.52 326 *e*P **P** **12 12 21.5 -0.5**
POO Poona 53.97 291 *e*P **P** **12 12 24.8 -0.8**
POO *e* 12 12 29.6
POO AMb AMB 12 12 29.8
comp=Z,52nm,0.9s,mb5.5
BOD Bodaibo 55.90 352 *e*P **P** **12 12 38.5 -0.6**
BOD pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BOD pmax pmax
comp=Z,18nm,1.7s,mb4.8
THN Thein Dam 56.11 308 *e*P **P** **12 12 38.8 -2.2**
MKAR Makanchi Array 58.36 326 *e*P **P** **12 12 56.2 -0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 58.36 326 P **P** **12 12 55.3 -1.3**
comp=Z,5.1nm,0.4s,mb4.9,baz=120,slow=8.4,SNR=48
MKAR PcP PcP 12 13 46.7 -0.2
comp=Z,5.6nm,0.8s,baz=117,slow=8.1,SNR=4.0
MKAR LR LR 12 39 13.3
comp=Z,522nm,21.2s,MS4.6,baz=181,slow=37
MKAR Makanchi Array 58.36 326 P **P** **12 12 55.3 -1.3**
MKAR PcP PcP 12 13 46.7 -0.2
MKAR LR LR 12 39 13.2
KSH Kashi 58.71 316 *e*P **P** **12 12 59.4 +0.2**
KSH *e*PCP PcP 12 13 49.0 +0.6
KSH *e*PP PP 12 15 11.0 0.0
KSH *e*PCS 12 17 48.7
KSH *e*S **S** **12 20 59.1 +0.6**
KSH *e*SS SS 12 24 53.4 -0.3
KSH LR LR
comp=N,290nm,4.8s
KSH LR LR
comp=E,310nm,4.7s
YAK Yakutsk 59.27 2*c i*P **P** **12 13 02.4 -0.4**
YAK pmax pmax
comp=Z,55nm,0.6s,mb5.8
YAK Yakutsk 59.27 2 *e*P **P** **12 13 01.9 -0.9**
comp=Z,70nm,0.8s,mb5.7
KZA Kyzart 60.31 318 P **P** **12 13 11.1 +0.9**
SNR=15
TKM2 Tokmak 2 60.46 319 P **P** **12 13 11.6 +0.4**
SNR=12
UCH Uchtor 60.87 318 P **P** **12 13 14.7 +0.7**
SNR=35
AAK Ala-Archa 61.06 318 *i*P **P** **12 13 13.6 -1.7**
AAK pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
AAK Ala-Archa 61.06 318 *e*P **P** **12 13 15.0 -0.3**
comp=Z,6.5nm,0.8s,mb4.8
USP Ospenovka 61.33 319 P **P** **12 13 16.6 -0.5**
SNR=18
AML Almayashu 61.38 317 P **P** **12 13 18.6 +1.1**
SNR=29
ZAL Zalesovo 61.48 333 *i*P **P** **12 13 16.9 -1.0**
ZAL pmax pmax
comp=Z,3.0nm,0.5s
ZAL Zalesovo 61.48 333 P **P** **12 13 16.2 -1.7**
comp=Z,3.1nm,0.5s,mb4.7,baz=0.1,slow=6.3,SNR=11
EKS2 Erkin-Say 61.55 318 P **P** **12 13 18.6 +0.1**
SNR=16
NVS Novosibirsk 62.76 333⇑ *i*P **P** **12 13 24.2 -2.3**
NVS pmax pmax
comp=Z,12nm,0.7s,mb5.1
NVS pmax pmax
comp=N,7.0nm,0.7s
NVS pmax pmax
comp=E,7.0nm,0.7s
FX1 Attu Island--F 63.07 30 P **P** **12 13 29.1 +0.5**
comp=E,40nm,0.9s,mb5.5,baz=323,slow=2.2,SNR=10
FX1 Attu Island--F 63.07 30 *e*P **P** **12 13 29.5 +0.9**
SEY Seymchan 63.10 13 *e*P **P** **12 13 29.4 +0.8**
SEY *e* 12 14 02.2
SEY *e* 12 15 41.7
SEY *e* 12 22 19.8
SEY *e* 12 23 07.3
SEY pmax pmax
comp=N,9.0nm,1.4s
SEY pmax pmax
comp=Z,30nm,1.4s,mb5.2
SEY Seymchan 63.10 13 *i*P **P** **12 13 29.8 +1.2**
KKAR Karatay Array 63.92 317 *i*P **P** **12 13 33.4 -0.9**
KKAR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
KKAR Karatay Array 63.92 317 *i*P **P** **12 13 33.5 -0.8**
VOSK Vostochnaya 67.69 327 P **P** **12 13 56.6 -1.5**
VOSK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
VOSK Vostochnaya 67.69 327 *i*P **P** **12 13 56.7 -1.4**
BVA0 Borovoye Array 68.14 327 *i*P **P** **12 14 00.0 -1.0**
BVA0 pmax pmax
comp=Z,2.0nm,1.3s,mb4.0
BVAR Borovoye Array 68.14 327 P **P** **12 13 59.6 -1.4**
comp=Z,4.4nm,0.6s,mb4.6,baz=128,slow=9.6,SNR=27
ZRNK Zerenda 68.86 327 P **P** **12 14 04.7 -0.7**
ZRNK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ZRNK Zerenda 68.86 327 *e*P **P** **12 14 04.5 -1.0**
comp=Z,78nm,0.8s,mb5.7
TIXI Tiksi 68.91 1 *i*P **P** **12 14 05.3 -0.1**
TIXI pmax pmax
comp=Z,15nm,0.7s,mb5.0
CASY Casey 69.75 187 *e*P **P** **12 14 11.3 +0.6**
comp=Z,12nm,0.9s,mb4.8
BILL Bilibino 70.61 15 *e*P **P** **12 14 16.2 +0.3**
BILL *e* 12 14 35.7
BILL pmax pmax
comp=Z,11nm,1.1s,mb4.7
BILL MLR MLR
comp=Z,200nm,20.0s,MS4.4
MIR Mirnyy 73.09 193 *e*P **P** **12 14 32.0 +1.4**
MIR pmax pmax
comp=Z,42nm,1.8s,mb5.1
SVE Sverdlovsk 74.80 329⇑ *e*P **P** **12 14 41.0 +0.3**
SVE *e* 12 15 09.0
SVE pmax pmax
comp=Z,68nm,1.8s,mb5.3
SVE MLR MLR
comp=N,100nm,16.0s,MS4.6
SVE MLR MLR
comp=E,200nm,16.0s,MS4.6
SVE MLR MLR
comp=Z,100nm,16.0s,MS4.2
ARU Arti 75.77 328⇑ *i*P **P** **12 14 45.6 -0.6**
ARU *e* 12 17 35.7
ARU *e*S S 12 24 26.7 +3.7
ARU *e* 12 24 57.3
ARU *e*SS SS 12 29 16.6 -1.6
ARU pmax pmax
comp=Z,26nm,0.9s,mb5.2
ARU Arti 75.77 328 ⇑ *i*P **P** **12 14 45.8 -0.4**
QRN Al-Qurain 78.80 299 *e*P **P** **12 15 04.0 +0.2**
QRN AMb AMB 12 15 05.5
comp=Z,72nm,0.7s,mb5.7
UMR Umm Al-Rimmam 79.02 299 *e*P **P** **12 15 05.4 +0.5**
RDF Al-Radifah 79.13 299 *e*P **P** **12 15 05.4 -0.1**
RDF AMb AMB 12 15 07.0
comp=Z,25nm,0.6s,mb5.3
OPO Ambohidratompo 80.82 251 P **P** **12 15 16.2 +1.5**
comp=Z,6.0nm,0.8s,mb4.6,baz=55,slow=7.5,SNR=7.1
VNDA Vanda 82.39 173 P **P** **12 15 23.1 +1.3**
comp=Z,3.8nm,0.6s,mb4.5,baz=319,slow=6.9,SNR=20
VNDA Vanda 82.39 173 *e*P **P** **12 15 19.3 -2.6**
comp=Z,6.2nm,0.9s,mb4.5
MAW Mawson 82.71 200 P **P** **12 15 25.1 +1.5**
comp=Z,2.4nm,0.7s,mb4.3,baz=83,slow=7.4,SNR=3.2
ZEI Tsey 82.84 313 *e*P **P** **12 15 25.3 +0.6**
ZEI *i* 12 18 36.6
ZEI pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
RSO Redoubt South 83.08 30 *e*P **P** **12 15 26.8 +1.3**
ATD Arta Tunnel 83.36 281 LR LR 12 50 51.4
comp=Z,87nm,19.2s,MS4.1,baz=276,slow=34
SPU Mount Spurr 83.50 29 *e*P **P** **12 15 28.6 +1.0**
PECR Pechory 83.64 326 *e*P **P** **12 15 29.0 +0.5**
PECR pmax pmax
comp=Z,110nm,2.0s,mb5.6
KIV Kislovodsk 83.78 314 *e*P **P** **12 15 30.3 +0.8**
KIV *e* 12 15 51.7
KIV pmax pmax
KIV MLR MLR
comp=Z,200nm,23.0s,MS4.4
KIV Kislovodsk 83.78 314 *i*P **P** **12 15 29.8 +0.3**
SLKM Skilak Lake 84.33 30 *e*P **P** **12 15 33.0 +1.2**
PPT Papeete 84.91 108 LR LR 12 46 36.3
comp=Z,344nm,20.7s,MS4.7,baz=66,slow=31
MCK McKinley 85.17 26 *e*P **P** **12 15 37.1 +1.1**
comp=Z,30nm,1.7s,mb5.1
SML Sawmill 85.33 28 *e*P **P** **12 15 38.6 +1.8**
SOC Sochi 85.92 313*c i*P **P** **12 15 40.2 0.0**
SOC *e*PPP PPP 12 21 05.3 +6.3
SOC *e*S S 12 26 02.0 -6.3
SOC *e*SSS SSS 12 35 15.8 -3.4
SOC pmax pmax
comp=N,5.0nm,0.5s
SOC pmax pmax
comp=Z,29nm,0.5s,mb5.8
SOC pmax pmax
comp=E,3.0nm,0.4s
SOC MLR MLR
comp=N,125nm,22.0s,MS4.5
SOC MLR MLR
comp=E,184nm,22.0s,MS4.5
SOC MLR MLR
comp=Z,236nm,22.0s,MS4.5
ILAR Eielson Array 86.12 25 P **P** **12 15 41.2 +0.6**
comp=Z,0.9nm,0.8s,mb4.1,baz=233,slow=5.5,SNR=12
VOR Voronezh 86.31 321 *e*P **P** **12 15 42.0 +0.1**
VOR pmax pmax
comp=E,30nm,1.2s
VOR pmax pmax
comp=Z,110nm,1.2s,mb6.0
DIV Divide 86.54 29 *e*P **P** **12 15 45.2 +2.5**
comp=Z,110nm,1.2s,mb6.0
MALT Malatya 86.93 308 *e*P **P** **12 15 46.9 +1.7**
comp=Z,16nm,0.8s,mb5.3
MOS Moscow 87.24 326 *e*P **P** **12 15 46.4 +0.1**
MOS *e* 12 26 22.0
MOS pmax pmax
comp=Z,72nm,0.8s,mb6.0
ANN Anapa 87.55 315 *e*P **P** **12 15 47.6 -0.5**
ANN *e*S S 12 26 12.6 -11
ANN pmax pmax
comp=Z,57nm,0.8s,mb5.8
OBN Obninsk 87.86 325*ce*P **P** **12 15 49.4 +0.1**
OBN *e* 12 16 29.6
OBN pmax pmax
comp=Z,31nm,0.6s,mb5.7
OBN MLR MLR
comp=Z,200nm,23.0s,MS4.5
OBN Obninsk 87.86 325 *e*P **P** **12 15 49.8 +0.5**
comp=Z,35nm,0.7s,mb5.7
KMBO Kilima Mbogo 89.40 269 *i*P **P** **12 16 00.2 +2.6**
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 89.40 269 P **P** **12 15 59.6 +2.0**
comp=Z,5.9nm,0.9s,mb4.9,baz=52,slow=5.4,SNR=10
SIM Simferopol' 89.90 315 P **P** **12 16 00.1 +0.9**
SIM *e*S S 12 26 44.0 -1.6
SIM pmax pmax
comp=Z,16nm,0.9s,mb5.3
EIL Elat 90.13 300 *e*P **P** **12 16 01.9 +1.2**
comp=Z,8.9nm,0.8s,mb5.2
BR131 Keskin Array S 90.60 310 *e*P **P** **12 16 02.5 -0.1**
comp=Z,9.0nm,0.9s,mb5.1
BRTR Keskin Array B 90.60 310 P **P** **12 16 02.6 0.0**
comp=Z,7.5nm,0.9s,mb5.0,baz=117,slow=5.5,SNR=34
ARCES ARCESS Array B 91.40 340 P **P** **12 16 05.1 -0.6**
comp=Z,4.8nm,0.9s,mb4.8,baz=76,slow=5.0,SNR=13
ARE0 ARCESS Array S 91.40 340 *e*P **P** **12 16 05.3 -0.4**
KAF Kangasniemi 92.48 332 *ep* **P** **12 16 07.6 -3.2**
comp=Z,1.8nm,0.7s,mb4.5
KAF Kangasniemi 92.48 332 *e*P **P** **12 16 07.6 -3.2**
KAF pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
AKASG Malin Array Be 92.63 321 P **P** **12 16 11.6 -0.1**
comp=Z,1.1nm,0.4s,mb4.6,baz=66,slow=4.4,SNR=1.6
FINES FINESS Array B 92.71 332 P **P** **12 16 11.5 -0.3**
comp=Z,2.0nm,0.8s,mb4.6,baz=108,slow=6.0,SNR=8.1
TIRR Tirgusor 94.00 315 ⇓ **P** **12 16 19.3 +1.2**
VRI Vrincioaia 94.97 316 ⇑ **P** **12 16 25.0 +2.5**
MLR Muntele Rosu 95.57 316 ⇑ **P** **12 16 23.4 -1.9**
BURAR Bucovina Array 95.71 318 ⇑ **P** **12 16 27.6 +1.8**
SUW Suwalki 95.72 325 *eP* **P** **12 16 26.5 +0.8**
DRGR 97.54 318 ⇓ **P** **12 16 36.0 +1.8**
NB2 NORSAR Subarra 99.68 334 P **P** **12 16 42.2 -1.3**
comp=Z,2.6nm,1.0s,mb4.6,baz=67,slow=4.6
NOA NORSAR Array B 99.68 334 P **P** **12 16 42.2 -1.3**
comp=Z,1.1nm,0.8s,mb4.4,baz=68,slow=4.6,SNR=6.6
NOA LR LR 13 07 57.4
comp=Z,142nm,20.4s,MS4.5,baz=55,slow=39
YKA Yellowknife Ar 100.52 24 *i*P P **12 16 48.6 +1.3**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 100.52 24 P P **12 16 48.6 +1.3**
comp=Z,0.9nm,0.8s,baz=301,slow=4.3,SNR=8.5
BRG Berggiesshubel 102.01 323 *e*P Pdif **12 17 03.5 +9.2**
BRG pmax pmax
comp=Z,4.0nm,1.2s
GERES GERESS Array B 102.83 321 P Pdif **12 16 58.7 +0.8**
comp=Z,0.2nm,0.5s,baz=100,slow=11,SNR=2.6
GERES PP PP 12 21 15.2 +0.1
comp=Z,0.2nm,0.4s,baz=111,slow=8.4,SNR=3.7
ELK Elko 109.16 45 P 12 21 32.1
RSSD Black Hills 115.11 38 *e*P PKPdf **12 21 42.5 +2.4**
SCHQ Schefferville 121.64 9 PKP PKPdf **12 21 56.2 +3.7**
comp=Z,1.3nm,0.5s,baz=207,slow=4.5,SNR=4.3
SCHQ Schefferville 121.64 9 PKP PKPdf **12 21 56.2 +3.7**
CCM Cathedral Cave 126.47 37 *e*P PKPdf **12 22 03.5 +1.2**
CPUP Villa Florida 156.16 171 PKPab PKPab **12 23 25.1 +1.3**
comp=Z,3.3nm,0.9s,baz=190,slow=3.5,SNR=5.7
LPAZ La Paz 160.16 134 PKP PKPdf **12 23 03.0 +4.4**
comp=Z,0.9nm,0.8s,baz=180,slow=6.1,SNR=4.6
LPAZ PKPab PKPab 12 23 43.9 +2.6
comp=Z,1.6nm,1.0s,baz=15,slow=4.7,SNR=2.9
LPAZ La Paz 160.16 134 PKP PKPdf **12 23 03.0 +4.4**
LPAZ PKPab PKPab **12 23 43.9 +2.6**

IDC 09 12:15:36.5±10.0, **0.06S**×**97.72E, mb3.8/3, mb1 4.0/3, mb1mx3.5/17, mbtmp3.8/3, Error ellipse: s-maj=500.0km s-min=30.6km az=53.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.94**	**121**	P	P	12 23 21.0	-1.6
	0.2nm,0.3s,baz=297,slow=8.9,SNR=5.1						
MKAR	**Makanchi Array**	**48.58**	**346**	P	P	12 24 21.3	-2.4
	0.8nm,0.5s,baz=159,slow=8.4,SNR=6.0						
ZAL	**Zalesovo**	**54.87**	**351**	P	P	12 25 08.8	-2.0
	1.2nm,0.4s,baz=245,slow=2.8,SNR=4.2						

*IDC **09** 12:25:36.5*±*0.6, 13.61N*×*92.89E, mb4.2/18, mb1 4.4/19, mb1mx4.3/24, mbtmp4.2/19, ML3.9/1, Error ellipse: s-maj=21.8km s-min=13.2km az=57.0*
*BJI **09** 12:25:37.9, 13.36N*×*93.07E, h31km, mB4.9, mb4.4*
*NEIC **09** 12:25:38.1*±*0.3, 13.66N*×*92.89E, h10km, mb4.4/12, Error ellipse: s-maj=9.8km s-min=5.5km az=52.0*

ISC 09 12:25:39.6±0.5, **13.66N**±0.06×**92.91E**±0.07, **h33km, n52, σ1s01/51, mb4.3/25, 2D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.51**	**50**	Pn	**Pn**	**12 27 28.6**	**-1.0**
	0.5nm,0.3s,baz=242,slow=15,SNR=18						
CMAR				Sn	**Sn**	**12 28 50.0**	**-4.4**
	1.2nm,0.3s,baz=237,slow=27,SNR=4.9						
SHL	**Shillong**	**11.88**	**355**	*e*P	**P**	**12 28 28.5**	**-1.2**
SHL				*e*S	**S**	**12 30 30.5**	**-12**
HYB	**Hyderabad**	**14.33**	**287**	*e*P	**P**	**12 29 14.0**	**+12**
PKI	**Pulchoki**	**15.51**	**334**	*e*P	**P**	**12 29 16.5**	**-1.0**
PKI				*e*S	**S**	**12 31 56.4**	**-12**
GUN	**Gumba**	**15.62**	**336**	*e*P	**P**	**12 29 18.6**	**-0.4**
DMN	**Daman**	**15.67**	**334**	*e*P	**P**	**12 29 18.5**	**-1.1**
	32nm,0.7s						
KKN	**Kakani**	**15.76**	**334**	*e*P	**P**	**12 29 20.4**	**-0.3**
	16nm,0.5s						
LSA	**Lhasa**	**16.04**	**354**	*e*P	**P**	**12 29 29.0**	**+4.6**
LSA	**Lhasa**	**16.04**	**354**	*e*P	**P**	**12 29 27.9**	**+3.5**
	8.6nm,0.5s						
GKN	**Gorkha**	**16.22**	**333**	*e*P	**P**	**12 29 25.6**	**-1.0**
	25nm,0.4s						
KOLN	**Koldanda**	**16.51**	**330**	*e*P	**P**	**12 29 28.5**	**-1.7**
	33nm,0.7s						
GYA	**Guiyang**	**18.12**	**43**	P	**P**	**12 29 52.7**	**+2.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s						
ENH	**Enshi**	**22.52**	**40**	*e*P	**P**	**12 30 37.7**	**-0.2**
	comp=Z,17nm,0.8s,mb4.5						
LZH	**Lanzhou**	**24.39**	**22**	⇓P	**P**	**12 30 57.0**	**+0.9**
LZH				AP		12 31 04.0	
LZH				XP		12 31 08.0	
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
XAN	**Xi'an**	**24.95**	**33**	P	**P**	**12 31 01.2**	**-0.3**
XAN				AP		12 31 06.0	
XAN				AMB	AMB		
	comp=Z,27nm,0.8s,mb4.8						
GTA	**Gaotai**	**26.36**	**12**	*e*P	**P**	**12 31 16.0**	**+1.4**
GTA				AP	pP	12 31 20.3	-3.7
GTA				XP	sP	12 31 23.6	-4.4
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb3.7						
MKAR	**Makanchi Array**	**34.21**	**347**	P	**P**	**12 32 24.6**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.0,baz=164,slow=8.8,SNR=9.8						
SONM	**Songino Array**	**35.87**	**16**	P	**P**	**12 32 39.2**	**+0.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=198,slow=7.8,SNR=10						
ZAL	**Zalesovo**	**40.69**	**353**	P	**P**	**12 33 19.3**	**+0.9**
	comp=Z,1.2nm,0.5s,mb3.8,baz=299,slow=8.8,SNR=7.1						
BVAR	**Borovoye Array**	**43.16**	**340**	P	**P**	**12 33 38.9**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.5,baz=153,slow=9.9,SNR=4.5						
ZRNK	**Zerenda**	**43.57**	**339**	*e*P	**P**	**12 33 42.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**45.15**	**133**	*e*P	**P**	**12 33 54.3**	**-0.9**
	comp=Z,7.5nm,1.1s,mb4.4						
FITZ	**Fitzroy Crossi**	**45.15**	**133**	P	**P**	**12 33 54.3**	**-0.9**
	comp=Z,7.4nm,0.7s,mb4.6,baz=318,slow=4.9,SNR=17						
FITZ				PcP	PcP	12 35 35.5	-0.2
	comp=Z,3.4nm,0.6s,baz=338,slow=5.4,SNR=4.6						
MAJO	**Matsushiro**	**46.38**	**52**	*e*P	**P**	**12 34 05.0**	**+0.3**
	comp=Z,70nm,0.8s						
MJAR	**Matsushiro Arr**	**46.39**	**52**	P	**P**	**12 34 06.1**	**+1.3**
	comp=Z,3.3nm,0.8s,mb4.3,baz=263,slow=10,SNR=7.8						
MJAR	**Matsushiro Arr**	**46.39**	**52**	P	**P**	**12 34 06.1**	**+1.3**
NWAO	**Narrogin (SRO)**	**51.83**	**154**	P	**P**	**12 34 45.0**	**-1.7**
	comp=Z,2.4nm,0.4s,mb4.5,baz=309,slow=6.5,SNR=3.6						
NWAO	**Narrogin (SRO)**	**51.83**	**154**	*e*P	**P**	**12 34 46.1**	**-0.7**
WRA	**Warramunga Arr**	**52.69**	**128**	P	**P**	**12 34 52.6**	**-0.7**
	comp=Z,6.7nm,0.5s,mb4.8,baz=298,slow=9.8,SNR=124						
WRA				PcP	PcP	12 36 03.0	+0.1
	comp=Z,3.6nm,0.5s,baz=319,slow=3.1,SNR=26						
WRAB	**Tennant Creek**	**52.70**	**128**	*e*P	**P**	**12 34 52.6**	**-0.8**
	comp=Z,16nm,0.6s,mb5.1						
WRAB				*e*PcP	PcP	12 36 03.3	+0.3
WB2	**Warramunga Arr**	**52.70**	**128**	⇓*i*P	**P**	**12 34 52.5**	**-0.9**
BRTR	**Keskin Array B**	**57.83**	**308**	P	**P**	**12 35 30.0**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=117,slow=8.3,SNR=7.1						
AKASG	**Malin Array Be**	**62.93**	**320**	P	**P**	**12 36 03.8**	**-1.2**
	comp=Z,0.1nm,0.2s,mb3.5,baz=83,slow=4.7,SNR=2.3						
STKA	**Stephens Creek**	**65.00**	**135**	P	**P**	**12 36 18.6**	**-0.2**
	comp=Z,2.5nm,0.5s,mb4.5,baz=331,slow=9.0,SNR=3.5						
FINES	**FINESS Array B**	**67.07**	**331**	P	**P**	**12 36 31.4**	**0.0**
	comp=Z,1.6nm,0.7s,mb4.2,baz=108,slow=6.0,SNR=11						
FINES	**FINESS Array B**	**67.07**	**331**	P	**P**	**12 36 31.4**	**0.0**
ARCES	**ARCESS Array B**	**69.45**	**340**	P	**P**	**12 36 46.6**	**+0.5**
	comp=Z,1.8nm,0.5s,mb4.2,baz=93,slow=6.8,SNR=24						
BRG	**Berggiesshubel**	**72.58**	**319**	*e*P	**P**	**12 37 06.5**	**+1.3**
	comp=Z,2.5nm,0.8s,mb4.2						
GERES	**GERESS Array B**	**72.76**	**317**	P	**P**	**12 37 07.2**	**+0.9**
	comp=Z,1.1nm,0.5s,mb4.0,baz=108,slow=4.2,SNR=9.4						
FX1	**Attu Island--F**	**73.36**	**39**	P	**P**	**12 37 10.7**	**+0.9**
	comp=Z,10.0nm,0.6s,mb4.9,baz=45,slow=2.4,SNR=6.4						
FX1	**Attu Island--F**	**73.36**	**39**	*e*P	**P**	**12 37 10.7**	**+0.9**
NB2	**NORSAR Subarra**	**74.14**	**330**	P	**P**	**12 37 13.7**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.1,baz=89,slow=5.6						
NOA	**NORSAR Array B**	**74.14**	**330**	P	**P**	**12 37 13.8**	**-0.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=90,slow=5.8,SNR=10						
NOA	**NORSAR Array B**	**74.14**	**330**	P	**P**	**12 37 13.8**	**-0.3**
GRA1	**Grafenberg Arr**	**74.35**	**318**	*e*P	**P**	**12 37 17.1**	**+1.5**
	comp=Z,4.0nm,1.1s,mb4.3						
GRF	**Grafenberg Arr**	**74.35**	**318**	*e*P	**P**	**12 37 17.1**	**+1.5**
	comp=Z,4.0nm,1.1s,mb4.3						
BOSA	**Boshof**	**77.59**	**236**	P	**P**	**12 37 37.1**	**+2.0**
	comp=Z,3.5nm,0.7s,mb4.4,baz=77,slow=4.3,SNR=6.9						
ILAR	**Eielson Array**	**89.86**	**22**	P	**P**	**12 38 36.2**	**+0.2**
	comp=Z,1.0nm,0.8s,mb4.2,baz=309,slow=4.7,SNR=14						
PDAR	**Pinedale Array**	**120.18**	**19**	PKP	PKPdf	12 44 30.3	+2.8
	comp=Z,0.2nm,0.5s,baz=297,slow=2.0,SNR=3.4						
TBI	**Tubuai**	**120.45**	**109**	*e*LR	LR	12 44 13.4	
	comp=Z,386nm,32.0s,baz=290						
NVAR	**Mina Array Bea**	**120.51**	**28**	PKP	PKPdf	12 44 32.0	+3.7
	comp=Z,0.7nm,0.7s,baz=334,slow=1.2,SNR=5.3						
TXAR	**Lajitas Array**	**134.36**	**20**	PKP	PKPdf	12 44 57.7	+2.7
	comp=Z,0.2nm,0.5s,baz=227,slow=1.2,SNR=5.9						

*NEIC **09** 12:38:11.5, 34.18S*×*70.13W, h2km, ML2.8(GUC), After GUC.*

GUC 09 12:38:11.5±0.7, **34.18S**×**70.13W, h2km**±**1km, MD3.6, ML2.8, 6C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	**0.28**	**239**⇑	*i*P	Pg	12 38 17.2	+0.2
CICH				*i* S	Sg	12 38 21.8	+1.0
LMEL	**Las Melosas**	**0.34**	**350**⇑	*i*P	Pg	12 38 18.6	+0.4
LMEL				*i* S	Sg	12 38 24.2	+1.5

LMEL AMP 12 38 25.6
comp=N,2μm,0.3s
CACH El Canelo 0.39 279 *e*P Pg 12 38 19.5 +0.1
CACH *i* S Sg 12 38 25.6 +1.0
CHCH Chadas Angostu 0.50 299⇓*i*P Pg 12 38 21.9 +0.5
CHCH *i* S Sg 12 38 29.4 +1.3
SJCH San Jose de Ma 0.57 341⇑*i*P Pg 12 38 22.6 -0.2
SJCH *i* S Sg 12 38 31.7 +1.3
SJCH AMP 12 38 33.7
comp=N,752nm,0.3s
PCH Pirque 0.64 330⇓*i*P Pg 12 38 24.4 +0.1
PCH *i* S Sg 12 38 34.3 +1.5
ANTU Antumapu 0.74 325⇓*i*P Pg 12 38 26.3 0.0
ANTU *i* S Sg 12 38 37.5 +1.4
ANTU AMP 12 38 38.1
comp=E,1μm,0.4s
SAN Santiago 0.85 328 *i* P Pg 12 38 28.1 -0.3
SAN *i* S Sg 12 38 40.8 +1.1
SAN AMP 12 38 41.2
comp=N,872nm,0.1s
CLCH Cerro Calan 0.85 336⇑*i*P Pg 12 38 28.1 -0.3
CLCH *i* S Sg 12 38 41.1 +1.3
CLCH AMP 12 38 44.4
comp=E,490nm,0.4s
SFDO San Fernando 0.85 239⇑*i*P Pg 12 38 27.4 -1.1
SFDO *i* S Sg 12 38 39.8 -0.1
TACH Talagante 0.85 308⇓*i*P Pg 12 38 28.1 -0.4
TACH *i* S Sg 12 38 40.8 +0.9
FCH Farellones 0.86 351 *e*P Pg 12 38 27.8 -0.8
FCH *i* S Sg 12 38 41.5 +1.4
RCDM Rinconada Maip 0.89 321⇓*i*P Pg 12 38 28.8 -0.4
RCDM *i* S Sg 12 38 42.1 +1.0
RCDM AMP 12 38 42.3
comp=E,1μm,0.1s
LNV Longovilo 1.08 281⇑*i*P Pb 12 38 31.9 -0.7
LNV *i* S Sb 12 38 47.2 +0.2
PEL Peldehue 1.13 336 *e*P Pb 12 38 33.2 -0.2
LCCH Las Cruces 1.39 300 *e*P Pb 12 38 36.9 -0.9
LCCH *i* S Sb 12 38 56.0 +0.2
ROCH El Roble 1.41 328 *e*P Pb 12 38 38.0 -0.2
ROCH *i* S Sb 12 38 57.8 +1.3
JACH Jahuel 1.54 345 *e*P Pn 12 38 39.7 -0.4
JACH *i* S Sb 12 39 00.9 +0.6

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*MOS **09** 12:42:16.0±1.2, 46.66N×152.76E, h53^{km}, mb4.3/9, Error ellipse: s-maj=17.5km s-min=13.0km az=139.7*
*NEIC **09** 12:42:18.3±0.6, 46.83N×152.77E, mb4.8/6, Error ellipse: s-maj=19.8km s-min=8.7km az=154.0*
*IDC **09** 12:42:18.0±0.9, 46.65N×152.71E, h54^{km}±7^{km}, mb3.6/14, mb1 3.9/16, mb1mx3.8/25, mbtmp3.9/16, Error ellipse: s-maj=24.5km s-min=15.2km az=155.0*
ISC 09 12:42:15.1±1.1**, 46.4N**±0.1×**152.8E**±0.1**, h51**^{km}±11^{km}**, h49**^{km}±1.7^{km}**: pP-P, n62,** σ1^{s}**18**/69**, mb4.0**/19**, Kuril Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
YUK Yuzh-Kuril'sk 5.47 247 *e*PN **P 12 43 36.2 +0.2**
YUK *e*S **S 12 44 44.0 +5.6**
YUK smax
comp=N,190nm,0.5s
YUK smax
comp=E,230nm,0.5s
NEM2 Nemuro 2 5.89 241 P **P 12 43 41.0 -0.9**
NEM2 *e*S **S 12 44 45.3 -3.6**
JRA Rausu 5.98 248 P **P 12 43 45.1 +1.9**
JNK Nakash 6.41 247 P **P 12 43 50.1 +0.9**
JAK Akkeshi 6.73 242 P **P 12 43 52.6 -1.1**
JAK *e*S **S 12 45 05.5 -4.3**
JTKR Abashiri--Toko 6.76 252 P **P 12 43 55.4 +1.2**
YSS Yuzh-Sakhalins 6.94 278 *e*PN **P 12 43 57.7 +0.9**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS Yuzh-Sakhalins 6.94 278 *e*P **P 12 43 58.1 +1.3**
comp=Z,14nm,0.8s
JMP Maruseppu 7.11 253 P **P 12 44 00.3 +1.3**
JAR Ashorobuto 7.15 247 P **P 12 44 00.3 +0.7**
JAR *e*S **S 12 45 19.0 -1.3**
JOB Onbets 7.31 244 P **P 12 44 01.2 -0.6**
JKK2 Kamakawa 2 7.56 254 P **P 12 44 07.2 +1.8**
ASAJ Asahikawa 7.57 256 PN **P 12 44 07.5 +2.0**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 7.57 256 P **P 12 44 07.5 +2.0**
comp=Z,1.0nm,0.3s,baz=95,slow=16,SNR=14
ASAJ Asahikawa 7.57 256 P **P 12 44 08.2 +2.7**
JCH Churui 7.76 244 P **P 12 44 06.4 -1.6**
JCH *e*S **S 12 45 30.6 -4.8**
JEM Erimo 8.22 241 P **P 12 44 14.7 +0.3**
JBT2 Biratori 2 8.30 248 P **P 12 44 15.9 +0.3**
JNBK Urakawa-nobuka 8.32 244 P **P 12 44 14.5 -1.3**
JKB Kayabe 9.61 246 P **P 12 44 31.9 -1.5**
JKB *e*S **S 12 46 13.6 -7.5**
JTM Tenmabayashi 10.21 241 P **P 12 44 39.0 -2.7**
OFUJ Ofunato 11.00 232 *e*S **S 12 46 44.2 -11**
JIO Ouri 11.62 231 *e*S **S 12 46 58.3 -12**
FX1 Attu Island--F 14.65 56 P **P 12 45 39.3 -1.3**
comp=Z,2.7nm,0.3s,baz=104,slow=20,SNR=12
FX1 S **S 12 48 08.4 -14**
comp=Z,0.9nm,0.3s,baz=236,slow=15,SNR=6.9
FX1 Attu Island--F 14.65 56 *e*P **P 12 45 39.5 -1.1**
MJAR Matsushiro Arr 14.72 233 P **P 12 45 49.1 +7.4**
comp=Z,0.4nm,0.3s,baz=34,slow=8.6,SNR=7.8
SONM Songino Array 31.25 290 P **P 12 48 32.1 +0.2**
comp=Z,0.3nm,0.4s,mb3.5,baz=78,slow=13,SNR=2.7
ILAR Eielson Array 36.93 38 P **P 12 49 20.4 -0.1**
ILAR *PP pP 12 49 33.8 0.0
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 36.93 38 P **P 12 49 20.4 -0.2**
comp=Z,0.2nm,0.6s,mb3.1,baz=264,slow=6.7,SNR=6.6
ILAR pP pP 12 49 33.8 -0.1
comp=Z,0.5nm,0.7s,baz=259,slow=7.3,SNR=4.0
INK Inuvik 42.03 32 *e*P **P 12 50 01.8 -0.8**
INK pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 42.03 32 *e*P **P 12 50 01.8 -0.9**
comp=Z,1.5nm,0.8s,mb3.7
MKAR Makanchi Array 46.91 297 P **P 12 50 40.5 -1.6**
MKAR 12 52 13.3
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 46.91 297 P **P 12 50 40.5 -1.6**
comp=Z,0.7nm,0.5s,mb3.8,baz=80,slow=6.8,SNR=5.4
MKAR PcP PcP 12 52 13.3 -1.2
comp=Z,0.4nm,0.5s,baz=56,slow=5.2,SNR=3.5
LSA Lhasa 50.09 273 *e*P **P 12 51 08.5 +1.5**
LSA pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
LSA Lhasa 50.09 273 *e*P **P 12 51 08.5 +1.5**
comp=Z,4.2nm,0.7s,mb4.6
YKA Yellowknife Ar 51.30 36 P **P 12 51 17.0 +1.3**
comp=Z,0.4nm,0.8s,mb3.4,baz=297,slow=7.3,SNR=3.2
YKA pP pP 12 51 29.8 +0.4
comp=Z,0.2nm,0.6s,baz=295,slow=7.0,SNR=2.4
YKA Yellowknife Ar 51.30 36 P **P 12 51 17.0 +1.3**
YKA pP pP 12 51 29.8 +0.4
CMAR Chiang Mai Arr 52.10 256 P **P 12 51 23.9 +1.7**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 52.10 256 P **P 12 51 23.9 +1.7**
comp=Z,1.2nm,0.8s,mb3.9,baz=38,slow=7.3,SNR=5.4
GUN Gumba 54.83 275 *e*P **P 12 51 43.2 +0.9**
KKN Kakani 55.31 275 *e*P **P 12 51 46.4 +0.5**
comp=Z,12nm,0.6s,mb5.1
KKN Kakani 55.31 275 *e*P **P 12 51 46.4 +0.5**
KKN pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
PKI Pulchoki 55.36 275 *e*P **P 12 51 46.0 -0.2**
DMN Daman 55.55 275 *e*P **P 12 51 48.1 +0.5**
comp=Z,23nm,0.9s,mb5.2
GKN Gorkha 55.62 276 *e*P **P 12 51 47.9 -0.2**
comp=Z,31nm,0.9s
KOLN Koldanda 56.48 276 *e*P **P 12 51 54.3 0.0**
comp=Z,14nm,0.8s,mb5.0
FINES FINESS Array B 64.25 335 P **P 12 52 44.7 -1.8**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 64.25 335 P **P 12 52 44.6 -1.9**
comp=Z,2.1nm,0.6s,mb4.3,baz=27,slow=8.5,SNR=5.2
PDAR Pinedale Array 65.10 54 P **P 12 52 52.9 +0.5**
comp=Z,0.3nm,0.8s,mb3.4,baz=319,slow=8.3,SNR=3.4
WRA Warramunga Arr 68.14 199 P **P 12 53 12.7 +0.7**
comp=Z,0.4nm,0.8s,mb3.5,baz=21,slow=7.1,SNR=3.7
NB2 NORSAR Subarra 68.47 341 P **P 12 53 11.7 -1.6**
comp=Z,0.3nm,0.6s,mb3.5,baz=32,slow=6.2
NOA NORSAR Array B 68.47 341 P **P 12 53 12.0 -1.3**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 68.47 341 P **P 12 53 12.0 -1.3**
comp=Z,2.5nm,0.7s,mb4.3,baz=27,slow=6.3,SNR=5.0
HFS Hagfors 68.69 339 P **P 12 53 13.2 -1.5**
comp=Z,2.9nm,0.5s,mb4.5,baz=72,slow=9.4,SNR=5.6
MLR Muntele Rosu 77.21 325 P **P 12 54 04.6 -0.4**
MLR pmax pmax
comp=Z,2.0nm,0.6s
MLR Muntele Rosu 77.21 325 P **P 12 54 04.6 -0.4**
comp=Z,2.1nm,0.6s,mb4.2,baz=148,slow=2.0,SNR=4.6
TXAR Lajitas Array 77.83 60 P **P 12 54 09.9 +1.2**
TXAR *PP pP 12 54 24.5 +1.3
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 77.83 60 P **P 12 54 09.8 +1.1**
comp=Z,0.4nm,0.7s,mb3.4,baz=318,slow=4.8,SNR=5.7
TXAR pP pP 12 54 24.4 +1.2
comp=Z,1.4nm,0.6s,baz=305,slow=4.3,SNR=13
BRTR Keskin Array B 78.48 317 P **P 12 54 12.5 +0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 78.48 317 P **P 12 54 12.5 +0.4**
comp=Z,0.5nm,0.5s,mb3.7,baz=90,slow=3.7,SNR=5.7
GERES GERESS Array B 78.66 334 P **P 12 54 12.8 0.0**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 78.66 334 P **P 12 54 12.8 0.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=37,slow=4.9,SNR=2.9

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*BER **09** 12:48:04.8±2.8, 72.20N×3.39W, h10^{km}, MD3.7, ML3.0*
*BJI **09** 12:48:04.1, 71.60N×3.00W, h10^{km}, mB4.8, mb4.7, Ms4.6, Msz4.5*
*MOS **09** 12:48:06.7±1.4, 71.66N×2.46W, h10^{km}, mb4.5/51, Error ellipse: s-maj=23.8km s-min=3.7km az=96.7*
*IDC **09** 12:48:06.3±0.6, 71.63N×2.82W, mb3.9/13, mb1 4.2/18, mb1mx4.1/27, mbtmp4.0/18, ML3.7/5, MS3.7/3, Ms1 3.7/3, ms1mx3.4/22, Error ellipse: s-maj=18.2km s-min=11.8km az=41.0*
*NEIC **09** 12:48:08.2±0.3, 71.62N×2.96W, h10^{km}, mb4.4/51, MD3.7(BER), Error ellipse: s-maj=6.8km s-min=4.1km az=63.0*
*CSEM **09** 12:48:08.9, 71.67N×2.12W, h20^{km}, mb4.5*
ISC 09 12:48:06.4±0.3**, 71.68N**±0.03×**2.6W**±0.1**, h10**^{km}**, n218,** σ1^{s}**22**/221**, mb4.2**/66**, MS3.5**/10**, 13C-4D, Jan Mayen Island region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JMIC Jan Mayen 2.04 253 Pn **Pn 12 48 40.6 -0.5**
7.5nm,0.3s,baz=34,slow=3.6,SNR=4.2
JMIC LR LR 12 49 24.2
comp=Z,644nm,18.2s,baz=16,slow=40
JMIC Jan Mayen 2.04 253 *e*P **Pn 12 48 36.5 -4.7**
JMIC Pn **Pn 12 48 40.6 -0.5**
JMIC LR LR 12 49 24.2
LOF Lofoten 6.58 115 *e*P **Pn 12 49 45.4 -0.3**
HSP Hornsund 7.21 34 *e*P **Pn 12 49 53.5 -1.0**
HSP Hornsund 7.21 34 *e*P **Pn 12 49 53.4 -1.1**
HSP Hornsund 7.21 34 P **Pn 12 49 53.1 -1.4**
TRO Tromso 7.41 96 *e*P **Pn 12 49 53.2 -4.1**
STOK Stokkvaagen 7.74 126 *e*P **Pn 12 50 01.3 -0.5**
KBS Kingsbay 8.12 20 *e*P **P 12 50 06.9 -0.3**
KBS pmax pmax
comp=Z,17nm,0.8s
KBS Kingsbay 8.12 20 *e*P **P 12 50 06.9 -0.3**
comp=Z,17nm,0.8s
KBS Kingsbay 8.12 20 *e*P **P 12 50 06.9 -0.3**
comp=Z,17nm,0.8s
MOR8 Moi Rana 8.23 124 *e*P **P 12 50 07.3 -1.4**
MOR8 *e*S **Sn 12 51 35.1 -7.6**
MOR8 AML AML 12 51 39.2
comp=Z,11nm,0.5s
NSS Namsos 8.97 136 *e*P **P 12 50 16.3 -2.7**
KTK1 Kautokeino 9.06 95 *e*Pn **P 12 50 19.0 -1.1**
ARCES ARCESS Array B 9.53 89 P **P 12 50 24.7 -1.8**
ARCES pmax pmax
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 9.53 89 Pn **P 12 50 24.7 -1.8**
comp=Z,0.6nm,0.3s,baz=290,slow=12,SNR=50
ARCES ARCESS Array B 9.53 89 Pn **P 12 50 24.7 -1.8**
MOL Molde 9.94 152 *e*P **P 12 50 32.4 +0.2**
MOL *e*S **Sn 12 52 18.9 -6.0**
MOL Molde 9.94 152 *e*P **P 12 50 32.4 +0.2**
MOL *e*S **Sn 12 52 18.9 -6.0**
MOL AML AML 12 52 26.8
comp=Z,7.8nm,0.7s
FOO Floro 10.56 160 *e*P **P 12 50 36.6 -4.0**
SUMG Summit 10.95 292 *e*P **P 12 50 42.0 -3.9**
comp=Z,13nm,0.7s
SUMG Summit 10.95 292 *e*P **P 12 50 42.0 -3.9**
comp=Z,13nm,0.7s
NB2 NORSAR Subarra 11.98 146 P **P 12 50 57.3 -2.8**
comp=Z,1.6nm,0.7s,baz=352,slow=12
NB2 NORSAR Subarra 11.98 146 P **P 12 50 57.3 -2.8**
NB2 pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 11.98 146 P **P 12 50 57.2 -2.9**
NOA pmax pmax
comp=Z,1.0nm,0.3s
NOA MLR MLR
comp=Z,380nm,21.0s
NOA NORSAR Array B 11.98 146 Pn **P 12 50 57.2 -2.8**
comp=Z,0.5nm,0.3s,baz=336,slow=13,SNR=15
NOA LR LR 12 55 22.1
comp=Z,380nm,21.0s,baz=335,slow=36
NOA NORSAR Array B 11.98 146 Pn **P 12 50 57.2 -2.8**
NOA LR LR 12 55 22.1
NAO01 NORSAR Array S 12.11 147 *e*P **P 12 50 59.5 -2.3**
comp=Z,2.8nm,0.6s
KONO Kongsberg 13.04 152 *e*P **P 12 51 12.3 -1.8**
HFS Hagfors 13.29 142 Pn **P 12 51 15.0 -2.5**
comp=Z,0.3nm,0.3s,baz=342,slow=14,SNR=32
KAF Kangasniemi 14.66 116 *e*p **P 12 51 33.2 -2.0**
comp=Z,9.7nm,1.1s
KAF Kangasniemi 14.66 116 *e*P **P 12 51 33.2 -2.0**
KAF pmax pmax
comp=Z,10.0nm,1.1s
FINES FINESS Array B 15.13 118 Pn **P 12 51 40.3 -1.1**
comp=Z,0.2nm,0.3s,baz=329,slow=11,SNR=21
FINES LR LR 12 57 26.6
comp=Z,303nm,20.6s,baz=40,slow=37
MUD Monsted U'grnd 16.07 156 *e*P **P 12 51 53.6 0.0**
MUD pmax pmax
comp=Z,8.0nm,1.0s
MUD Monsted U'grnd 16.07 156 *i* P **P 12 51 53.6 0.0**
comp=Z,8.3nm,1.0s
MUD Monsted U'grnd 16.07 156 *e*P **P 12 51 53.6 0.0**
comp=Z,8.3nm,1.0s
EKA Eskdalemuir Ar 16.42 181 Pn **P 12 51 56.9 -1.2**
comp=Z,0.4nm,0.3s,baz=358,slow=11,SNR=14
EKA Eskdalemuir Ar 16.42 181 Pn **P 12 51 56.8 -1.2**
ESK Eskdalemuir 16.43 181 *e*P **P 12 51 57.1 -1.2**
ESK pmax pmax
comp=Z,16nm,1.0s
ESK Eskdalemuir 16.43 181 *e*P **P 12 51 57.1 -1.2**
comp=Z,16nm,1.0s
ESK Eskdalemuir 16.43 181 *e*P **P 12 51 57.1 -1.2**
comp=Z,16nm,1.0s
VSU Vasula 17.83 123 *i* P **P 12 52 14.9 -0.8**
RGN Rugen 18.52 150 *e*P **P 12 52 24.3 -0.1**
comp=Z,125nm,1.3s
BSEG Bad Segeberg 18.68 156 *e*P **P 12 52 26.6 +0.3**
comp=Z,31nm,1.1s
IBBN Ibbenburen 19.98 161 *e*P **P 12 52 39.6 -1.8**
comp=Z,29nm,1.5s
NRDL Niedersach Rie 20.06 157 *e*P **P 12 52 41.4 -0.9**
comp=Z,20nm,1.2s
RUE Ruedersdorf 20.59 151 *e*P **P 12 52 46.9 -0.8**
comp=Z,48nm,1.4s
CLZ Clausthal 20.74 157 *e*P **P 12 52 48.8 -0.5**
CLZ pmax pmax
comp=Z,25nm,1.2s
CLZ Clausthal 20.74 157 *e*P **P 12 52 48.8 -0.5**
comp=Z,25nm,1.2s
BUG Bochum--Univer 20.79 162 *e*P **P 12 52 48.9 -0.9**
comp=Z,23nm,0.9s
SUW Suwalki 20.95 134 *e*P **P 12 52 51.0 -0.4**
SUW pmax pmax
comp=Z,88nm,1.1s
SUW Suwalki 20.95 134 *e*P **P 12 52 51.0 -0.4**
comp=Z,88nm,1.1s
SUW Suwalki 20.95 134 *e*P **P 12 52 51.0 -0.4**
comp=Z,88nm,1.1s
CLL Collm 21.61 153⇑*i*P **P 12 52 57.4 -0.8**
CLL *i* 12 53 01.3
CLL pmax pmax
comp=Z,6.0nm,1.0s,mb4.0
CLL MLR MLR
comp=Z,300nm,23.0s,MS3.6
CLL Collm 21.61 153⇑*i*P **P 12 52 57.4 -0.8**
comp=Z,6.0nm,1.0s,mb4.0
CLL *i* 12 53 01.3
CLL *i* 12 53 04.7
CLL LR LR
comp=Z,300nm,23.0s,MS3.6
CLL Collm 21.61 153 ⇑P **P 12 52 57.4 -0.8**
comp=Z,logA/T=0.8,mb4.0
CLL *i* *PP 12 53 01.3
CLL *i* *SP 12 53 04.7
CLL *e*S **S 12 56 59.0 +6.5**
CLL Collm 21.61 153 *e*P **P 12 52 57.4 -0.8**
comp=Z,26nm,1.2s,mb4.5
MNK Minsk 21.62 127 *e*P **P 12 52 56.0 -2.2**
GIVF Givet 21.92 167 *e*P **P 12 53 00.5 -0.7**
comp=Z,53nm,1.1s,mb4.6
GIVF Givet 21.92 167 *e*P **P 12 53 00.5 -0.7**
GIVF pmax pmax
comp=Z,26nm,1.1s,mb4.6
BAIF Baives 21.92 168 *e*P **P 12 53 00.4 -0.9**
comp=Z,53nm,1.1s,mb4.6
BAIF Baives 21.92 168 *e*P **P 12 53 00.4 -0.9**
BAIF pmax pmax
comp=Z,26nm,1.1s,mb4.6
MOX Moxa 22.07 155 *e*P **P 12 53 03.2 +0.4**
MOX pmax pmax
comp=Z,33nm,1.5s,mb4.5
MOX Moxa 22.07 155 *e*P **P 12 53 03.2 +0.4**
comp=Z,33nm,1.5s,mb4.5
MOX Moxa 22.07 155 *i* P **P 12 53 03.2 +0.4**
comp=Z,logA/T=1.3,mb4.5
MOX Moxa 22.07 155 *e*P **P 12 53 02.8 0.0**
comp=Z,25nm,1.3s,mb4.5
BRG Berggiesshubel 22.18 151 *e*P **P 12 53 03.8 0.0**
BRG pmax pmax
comp=Z,11nm,1.1s,mb4.2
BRG MLR MLR
comp=N,240nm,22.8s,MS3.6
BRG MLR MLR
comp=E,130nm,22.3s,MS3.6
BRG MLR MLR
comp=Z,250nm,18.0s,MS3.7
BRG Berggiesshubel 22.18 151 *e*P **P 12 53 03.8 0.0**
comp=Z,11nm,1.1s,mb4.2
BRG LR LR
comp=Z,250nm,18.0s,MS3.7
BRG Berggiesshubel 22.18 151 *e*P **P 12 53 03.4 -0.4**
comp=Z,11nm,1.0s,mb4.2
WERD Werda 22.36 154 *e*P **P 12 53 05.6 0.0**
comp=Z,25nm,1.1s,mb4.6
ABH Alteburg 22.36 163 *e*P **P 12 53 06.0 +0.3**
GUNZ Gunzen 22.44 154 *e*P **P 12 53 05.9 -0.5**
comp=Z,15nm,0.9s,mb4.4
RUP Ruppelstein 22.50 163 *e*P **P 12 53 10.0 +3.0**
KSP Ksiaz 22.58 148 *e*P **P 12 53 07.9 +0.3**
KSP *e*pP 12 53 14.0
NKC Novy Kostel 22.59 154 *e*P **P 12 53 07.6 -0.1**
TOD Tromm 22.76 161 *e*P **P 12 53 10.0 +0.6**
UPC Upice 22.86 148 *e*P **P 12 53 11.4 +1.0**
GRA1 Grafenberg Arr 22.95 157 *e*P **P 12 53 12.4 +1.1**
comp=Z,12nm,1.1s,mb4.2
GRA1 LR LR
comp=Z,300nm,20.1s,MS3.7
GRF Grafenberg Arr 22.95 157 *e*P **P 12 53 12.4 +1.1**
GRF pmax pmax
comp=Z,12nm,1.1s,mb4.2
GRF MLR MLR
comp=Z,300nm,20.1s,MS3.7
GRF Grafenberg Arr 22.95 157 *e*P **P 12 53 12.4 +1.1**
GRF pmax pmax
comp=Z,12nm,1.1s,mb4.2
GRF MLR MLR
comp=Z,300nm,20.1s,MS3.7
GRF Grafenberg Arr 22.95 157 *e*P **P 12 53 12.4 +1.1**
comp=Z,12nm,1.1s,mb4.2
GRF LR LR
comp=Z,300nm,20.1s,MS3.7
GRF Grafenberg Arr 22.95 157 *e*P **P 12 53 12.4 +1.1**
comp=Z,12nm,1.1s,mb4.2
FLN La Foliniere 23.02 176 *e*P **P 12 53 11.7 -0.3**
comp=Z,27nm,0.9s,mb4.4
FLN *e*R
comp=Z,162nm,22.2s
FLN La Foliniere 23.02 176 *e*P **P 12 53 11.7 -0.3**
FLN pmax pmax
comp=Z,14nm,0.9s,mb4.4
FLN MLR MLR
comp=Z,160nm,22.3s,MS3.4
DPC Dobruska-Polom 23.06 148 *e*P **P 12 53 13.0 +0.6**
DPC AMS AMS 13 03 00.0
comp=Z,400nm,17.4s
PRU Pruhonice 23.13 151 *e*P **P 12 53 13.9 +0.9**
PRU AMS AMS 13 03 40.0
comp=Z,200nm,18.1s
LDF La Druitiere 23.20 176 *e*P **P 12 53 14.5 +0.8**
comp=Z,76nm,1.4s,mb4.6
LDF La Druitiere 23.20 176 *e*P **P 12 53 14.5 +0.8**
LDF pmax pmax
comp=Z,38nm,1.4s,mb4.6
GRR Gorron 23.39 177 *e*P **P 12 53 15.6 +0.1**
ROSF Rostrenen 23.43 181 *e*P **P 12 53 15.0 -0.9**
comp=Z,66nm,1.3s,mb4.6
ROSF Rostrenen 23.43 181 *e*P **P 12 53 15.0 -0.9**
ROSF pmax pmax
comp=Z,33nm,1.3s,mb4.6
OBN Obninsk 23.45 114 P **P 12 53 17.0 +0.9**
OBN *i* 12 53 23.4
OBN MLR MLR
comp=Z,200nm,14.0s,MS3.7
MEZF Maizieres J'vi 23.53 167 *e*P **P 12 53 18.2 +1.3**
WET Wettzell 23.71 154 *e*P **P 12 53 19.9 +1.2**
WET pmax pmax
comp=Z,10.0nm,1.2s,mb4.1
WET Wettzell 23.71 154 *e*P **P 12 53 19.9 +1.2**
comp=Z,10.0nm,1.2s,mb4.1
CDF Champ du Feu 23.79 164 *e*P **P 12 53 20.8 +1.3**
comp=Z,19nm,1.2s,mb4.1
CDF Champ du Feu 23.79 164 *e*P **P 12 53 20.8 +1.3**
CDF pmax pmax
comp=Z,10.0nm,1.2s,mb4.1
WLS Welschbruch 23.80 163 *e*P **P 12 53 21.3 +1.8**
KHC Kasperske Hory 23.82 153 *e*P **P 12 53 20.9 +1.2**
KHC AMS AMS 13 03 50.0
comp=Z,200nm,18.0s
MORC Moravsky Berou 23.82 146 *e*P **P 12 53 20.2 +0.4**
MORC pmax pmax
comp=Z,4.0nm,0.9s,mb3.9
MORC Moravsky Berou 23.82 146 *e*P **P 12 53 20.2 +0.4**
comp=Z,4.0nm,0.9s,mb3.9
MORC Moravsky Berou 23.82 146 *e*P **P 12 53 20.2 +0.4**
comp=Z,4.0nm,0.9s,mb3.9
OKC Ostrava-Krasne 23.87 146 *e*P **P 12 53 22.9 +2.7**
OKC AMS AMS 13 03 20.0
comp=Z,300nm,16.6s
BFO Black Forest 23.97 162 *e*P **P 12 53 22.1 +0.9**
BFO pmax pmax
comp=Z,17nm,1.3s,mb4.3
BFO Black Forest 23.97 162 *e*P **P 12 53 22.1 +0.9**
comp=Z,17nm,1.3s,mb4.3
ECH Echery 23.98 164 *e*P **P 12 53 22.2 +0.9**
VRAC Vranov 24.11 148 P **P 12 53 23.7 +1.1**
VRAC pmax pmax
comp=Z,5.0nm,0.9s
VRAC Vranov 24.11 148 P **P 12 53 23.7 +1.1**
comp=Z,4.7nm,0.9s,mb3.9,baz=358,slow=14,SNR=4.4
GEC2 GERESS Array S 24.12 153 *e*P **P 12 53 24.5 +1.9**
GEC2 pmax pmax
comp=Z,8.0nm,1.3s,mb4.0
GEC2 GERESS Array S 24.12 153 *e*P **P 12 53 24.5 +1.9**
comp=Z,8.0nm,1.3s,mb4.0
GERES GERESS Array B 24.12 153 P **P 12 53 23.5 +0.9**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 24.12 153 P **P 12 53 23.5 +0.9**
comp=Z,2.3nm,0.7s,mb3.7,baz=350,slow=8.1,SNR=21

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HAU	Haudompre	24.12	165	eP	P	12 53 22.4	-0.3
	comp=Z,16nm,1.0s,mb4.1						
HAU				eR			
	comp=Z,113nm,22.0s						
HAU	Haudompre	24.12	165	eP	P	12 53 22.4	-0.3
HAU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.1						
HAU				MLR	MLR		
	comp=Z,110nm,22.0s,MS3.3						
HINF	Hinteralfeld	24.35	164	eP	P	12 53 26.8	+1.9
FELD	Feldberg	24.39	163	eP	P	12 53 26.0	+0.7
LOR	Lormes	24.68	169	eP	P	12 53 28.0	-0.1
	comp=Z,26nm,1.0s,mb4.4						
LOR				eR			
	comp=Z,103nm,22.0s						
LOR	Lormes	24.68	169	eP	P	12 53 28.0	-0.1
LOR				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.4						
LOR				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.3						
SSF	Saint Saulge	24.87	170	eP	P	12 53 29.1	-0.8
SSF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.3						
SSF	Saint Saulge	24.87	170	eP	P	12 53 29.1	-0.8
	comp=Z,12nm,1.1s,mb4.3						
DAVA	Damuels	25.17	160	⇓iP	P	12 53 35.7	+2.9
	comp=Z,25nm,1.1s,mb4.7						
MOA	Molln	25.17	153	⇓iP	P	12 53 35.1	+2.3
	comp=Z,6.8nm,1.2s,mb4.0						
MFF	Saint Martin d	25.19	176	eP	P	12 53 31.3	-1.7
	comp=Z,18nm,1.0s,mb4.3						
MFF	Saint Martin d	25.19	176	eP	P	12 53 31.3	-1.7
MFF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
MOTA	Moosalm	25.25	158	⇑iP	P	12 53 35.4	+1.9
	comp=Z,10nm,1.1s,mb4.3						
MOTA	Moosalm	25.25	158	⇑iP	P	12 53 35.4	+1.9
MOTA				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
VYHS	Vyhne	25.29	145	eP	P	12 53 36.8	+2.9
SMF	Signal de Mont	25.30	170	eP	P	12 53 34.7	+0.7
	comp=Z,35nm,1.1s,mb4.5						
SMF	Signal de Mont	25.30	170	eP	P	12 53 34.7	+0.7
SMF				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.5						
WATA	Walderalm	25.32	157	⇑iP	P	12 53 37.3	+3.1
	comp=Z,4.8nm,0.9s,mb4.0						
WATA	Walderalm	25.32	157	⇑iP	P	12 53 37.3	+3.1
WATA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
BGF	Bois d'Agland	25.34	171	eP	P	12 53 33.4	-1.0
	comp=Z,24nm,0.9s,mb4.4						
BGF	Bois d'Agland	25.34	171	eP	P	12 53 33.4	-1.0
BGF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.4						
SQTA	Sankt Quirin	25.38	158	⇑iP	P	12 53 36.7	+1.9
	comp=Z,7.7nm,0.9s,mb4.2						
SQTA	Sankt Quirin	25.38	158	⇑iP	P	12 53 36.7	+1.9
SQTA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
WTTA	Wattenberg	25.39	157	⇓iP	P	12 53 36.6	+1.7
	comp=Z,14nm,1.0s,mb4.4						
WTTA	Wattenberg	25.39	157	⇓iP	P	12 53 36.6	+1.7
WTTA				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
AKASG	Malin Array Be	25.44	129	P	P	12 53 34.8	-0.5
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AKASG	Malin Array Be	25.44	129	P	P	12 53 34.8	-0.5
	comp=Z,5.0nm,0.6s,mb4.2,baz=334,slow=9.2,SNR=6.6						
CABF	La Chapelle	25.48	166	eP	P	12 53 36.2	+0.4
	comp=Z,35nm,1.1s,mb4.5						
CABF	La Chapelle	25.48	166	eP	P	12 53 36.2	+0.4
CABF				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.5						
TCF	Toulx Ste Croi	25.57	172	eP	P	12 53 35.1	-1.5
	comp=Z,26nm,1.1s,mb4.4						
TCF	Toulx Ste Croi	25.57	172	eP	P	12 53 35.1	-1.5
TCF				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.4						
KBA	Koelnbreinsper	25.80	154	⇑iP	P	12 53 41.0	+2.3
	comp=Z,5.3nm,0.7s,mb4.2						
KBA	Koelnbreinsper	25.80	154	⇑iP	P	12 53 41.0	+2.3
KBA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
AGO	Saint Agoulin	25.85	171	eP	P	12 53 40.7	+1.5
ARSA	Arzberg	25.94	151	⇑iP	P	12 53 41.9	+1.8
	comp=Z,5.1nm,0.8s,mb4.1						
PYM	Petit Puy Mans	26.15	171	eP	P	12 53 42.7	+0.7
RJF	Les Rejaudoux	26.53	174	eP	P	12 53 44.6	-0.9
	comp=Z,19nm,0.9s,mb4.3						
RJF				eR			
	comp=Z,178nm,22.8s						
RJF	Les Rejaudoux	26.53	174	eP	P	12 53 44.6	-0.9
RJF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.3						
RJF				MLR	MLR		
	comp=Z,180nm,22.8s,MS3.6						
LPL	La Plagne	26.62	165	eP	P	12 53 46.7	+0.4
	comp=Z,18nm,0.9s,mb4.3						
LPL	La Plagne	26.62	165	eP	P	12 53 46.7	+0.4
LPL				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.3						
LPG	La Plagne	26.64	165	eP	P	12 53 46.7	+0.2
	comp=Z,19nm,1.1s,mb4.2						
LPG	La Plagne	26.64	165	eP	P	12 53 46.7	+0.2
LPG				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.2						
LFF	La Frestale	26.87	175	eP	P	12 53 47.1	-1.5
CAF	Calviac	26.93	173	eP	P	12 53 48.5	-0.7
VIVF	Saint-Julien-l	27.13	169	eP	P	12 53 51.8	+0.8
	comp=Z,18nm,1.0s,mb4.2						
VIVF	Saint-Julien-l	27.13	169	eP	P	12 53 51.8	+0.8
VIVF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
ORIF	Oris-en-Rattie	27.15	167	eP	P	12 53 50.9	-0.3
	comp=Z,20nm,1.0s,mb4.3						
ORIF	Oris-en-Rattie	27.15	167	eP	P	12 53 50.9	-0.3
ORIF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
MBDF	Montbardon	27.41	165	eP	P	12 53 53.3	-0.2
	comp=Z,24nm,0.9s,mb4.4						
MBDF	Montbardon	27.41	165	eP	P	12 53 53.3	-0.2
MBDF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.4						
LASF	Ste Croix	27.86	170	eP	P	12 53 57.2	-0.5
	comp=Z,15nm,1.1s,mb4.2						
SJPF	Ste Jean	28.66	178	eP	P	12 54 02.4	-2.4
EPF	Esparros	28.77	176	eP	P	12 54 04.6	-1.2
	comp=Z,18nm,1.0s,mb4.5						
EPF	Esparros	28.77	176	eP	P	12 54 04.6	-1.2
EPF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
ETSF	Etsaut	28.88	177	eP	P	12 54 05.0	-1.8
	comp=Z,14nm,1.0s,mb4.3						
ETSF	Etsaut	28.88	177	eP	P	12 54 05.0	-1.8
ETSF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
ARU	Arti	29.12	89	⇑iP	P	12 54 09.8	+1.0
ARU				e		12 55 02.2	
ARU				e		12 57 15.8	
ARU				eS	S	12 59 00.4	+1.1
ARU				eSS	SS	13 00 23.3	-5.5
ARU				eSSS	SSS	13 00 50.5	+1.6
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
ARU	Arti	29.12	89	eP	P	12 54 09.5	+0.7
	comp=Z,4.9nm,0.9s,mb4.2						
ARU	Arti	29.12	89	eP	P	12 54 09.5	+0.7
	comp=Z,4.9nm,0.9s,mb4.2						
ARU	Arti	29.12	89	ePcP	PcP	12 57 15.8	-1.1
ARU				eS	S	12 59 00.4	+1.1
ESDC	Sonseca Array	32.09	182	P	P	12 54 34.1	-1.2
	comp=Z,1.2nm,0.8s,mb3.8,baz=13,slow=8.8,SNR=3.7						
KIV	Kislovodsk	35.22	117	eP	P	12 55 03.3	+0.9
KIV						12 56 23.0	
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
KIV				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.7						
KIV	Kislovodsk	35.22	117	eP	P	12 55 03.3	+0.9
	comp=Z,100nm,14.0s						
INK	Inuvik	36.52	332	eP	P	12 55 12.2	-0.9
INK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
INK	Inuvik	36.52	332	eP	P	12 55 12.2	-0.9
	comp=Z,9.6nm,1.1s,mb4.5						
INK	Inuvik	36.52	332	eP	P	12 55 12.2	-0.9
	comp=Z,9.6nm,1.1s,mb4.5						
BR131	Keskin Array S	36.81	130	eP	P	12 55 17.4	+1.6
	comp=Z,4.4nm,0.9s,mb4.3						
BR131	Keskin Array S	36.81	130	eP	P	12 55 17.4	+1.6
	comp=Z,4.3nm,0.9s,mb4.3						
BRTR	Keskin Array B	36.81	130	P	P	12 55 17.4	+1.6
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR	Keskin Array B	36.81	130	P	P	12 55 17.4	+1.6
	comp=Z,2.8nm,0.9s,mb4.1,baz=333,slow=5.5,SNR=12						
YKA	Yellowknife Ar	38.26	316	iP	P	12 55 31.0	+3.2
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA	Yellowknife Ar	38.26	316	P	P	12 55 26.8	-0.9
	comp=Z,2.9nm,0.9s,mb4.0,baz=27,slow=9.0,SNR=7.7						
YKA				PcP	PcP	12 57 41.4	-1.1
	comp=Z,1.5nm,0.9s,baz=24,slow=2.9,SNR=9.4						
YKA	Yellowknife Ar	38.26	316	P	P	12 55 26.8	-1.0
YKA				PcP	PcP	12 57 41.4	-1.1
YKA	Yellowknife Ar	38.26	316	PcP	PcP	12 57 41.4	-1.1
GNI	Garni	39.32	117	LR	LR	13 12 20.3	
	comp=Z,73nm,19.2s,MS3.5,baz=160,slow=37						
MALT	Malatya	39.34	125	eP	P	12 55 39.4	+2.4
MALT				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.3						
MALT	Malatya	39.34	125	eP	P	12 55 39.4	+2.3
	comp=Z,7.9nm,1.2s,mb4.3						
MALT	Malatya	39.34	125	eP	P	12 55 39.4	+2.4
	comp=Z,7.9nm,1.2s,mb4.3						
ILAR	Eielson Array	41.66	338	P	P	12 55 56.0	+0.4
ILAR						12 57 51.5	
ILAR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	41.66	338	P	P	12 55 56.0	+0.4
	comp=Z,2.6nm,1.1s,mb3.8,baz=8.0,slow=7.4,SNR=13						
ILAR				PcP	PcP	12 57 51.5	-1.6
	comp=Z,0.7nm,0.8s,baz=320,slow=2.3,SNR=5.8						
ILAR	Eielson Array	41.66	338	PcP	PcP	12 57 51.5	-1.6
	comp=Z,1.0nm,0.8s						
FFC	Flin Flon	42.03	301	eP	P	12 55 59.1	+0.3
FFC				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3						
FFC	Flin Flon	42.03	301	eP	P	12 55 59.1	+0.3
	comp=Z,7.5nm,1.0s,mb4.3						
FFC	Flin Flon	42.03	301	eP	P	12 55 59.1	+0.3
	comp=Z,8.0nm,1.0s,mb4.3						
MKAR	Makanchi Array	44.87	76	P	P	12 56 22.7	+0.7
MKAR						12 58 03.1	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	44.87	76	P	P	12 56 22.6	+0.7
	comp=Z,1.3nm,0.7s,mb3.9,baz=340,slow=6.7,SNR=12						
MKAR				PcP	PcP	12 58 03.1	-1.0
	comp=Z,0.4nm,0.7s,baz=358,slow=3.0,SNR=3.6						
AAK	Ala-Archa	46.18	85	iP	P	12 56 33.1	+0.7
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
AAK	Ala-Archa	46.18	85	iP	P	12 56 33.1	+0.7
	comp=Z,3.0nm,1.0s,mb4.2						
TLY	Talaya	46.58	55	iP	P	12 56 36.3	+0.9
TLY				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
TLY	Talaya	46.58	55	iP	P	12 56 36.3	+0.9
	comp=Z,2.0nm,1.3s,mb3.9						
ZAK	Zakamensk	47.66	56	eP	P	12 56 48.0	+3.9
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.7						
SONM	Songino Array	50.82	55	P	P	12 57 10.0	+1.7
	comp=Z,0.9nm,0.8s,mb3.7,baz=333,slow=8.3,SNR=6.2						
CHMT	Chamberlain Mo	52.11	306	eP	P	12 57 19.0	+0.8
MSO	Missoula	52.37	306	eP	P	12 57 23.0	+2.9
	comp=Z,2.8nm,1.0s,mb4.2						
IMW	Indian Meadow	54.30	302	eP	P	12 57 34.2	-0.2
	comp=Z,2.3nm,0.7s,mb4.2						
PDAR	Pinedale Array	54.98	301	P	P	12 57 37.8	-1.7
	comp=Z,0.6nm,0.8s,mb3.6,slow=4.5,SNR=2.8						
HLID	Hailey	55.53	305	eP	P	12 57 42.0	-1.4
	comp=Z,3.8nm,1.2s,mb4.3						
PV01	Paradox Valley	59.02	298	eP	P	12 58 08.3	0.0
CN2	Changchun	59.11	42	eP	P	12 58 09.0	+0.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
MSU	Marysvale	59.66	301	eP	P	12 58 16.8	+4.2
NVAR	Mina Array Bea	61.35	306	P	P	12 58 23.6	-0.5
	comp=Z,0.2nm,0.4s,mb3.6,baz=346,slow=3.7,SNR=3.7						
TXAR	Lajitas Array	65.84	290	P	P	12 58 52.7	-1.0
	comp=Z,0.4nm,0.8s,mb3.5,baz=36,slow=7.8,SNR=3.8						
TXAR	Lajitas Array	65.84	290	P	P	12 58 52.7	-1.0
MJAR	Matsushiro Arr	68.58	33	P	P	12 59 10.9	0.0
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MJAR	Matsushiro Arr	68.58	33	P	P	12 59 10.9	0.0
	comp=Z,5.2nm,0.9s,mb4.5,baz=349,slow=5.5,SNR=9.8						
SSE	Sheshan	70.32	49	eP	P	12 59 20.6	-0.9
SSE				AMB	AMB		
	comp=Z,19nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,88nm,3.5s						

MOS 09 12:57:20.5±1.3**, 55.96N**×**112.13E, h19**km**, mb4.2**/1**, 3C,**
Error ellipse: s-maj=26.4km s-min=17.2km az=79.9,
Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOA	Uoyan	0.29	307	⇑iPG	Pb	12 57 25.8	-1.1
YOA				e		12 57 30.6	
YOA				pmax	pmax		
	comp=Z,724nm,0.4s						
YOA				smax			
	comp=E,9µm,0.4s						
KMO	Kumora	0.53	262	⇑iPG	Pb	12 57 30.3	-0.6
KMO				e		12 57 38.1	
KMO				pmax	pmax		
	comp=Z,156nm,0.3s						
KMO				smax			
	comp=N,679nm,0.9s						
UKT	Uakit	0.97	119	⇑iPG	Pb	12 57 38.3	-0.1
UKT				e		12 57 51.5	
UKT				pmax	pmax		
	comp=Z,95nm,0.2s						
UKT				smax			
	comp=N,571nm,2.3s						
YLYR	Ulyunkhan	1.22	207	ePG	Pn	12 57 43.0	+0.3
YLYR				e		12 57 59.7	
YLYR				pmax	pmax		
	comp=Z,99nm,0.2s						
YLYR				smax			
	comp=E,1µm,0.4s						
NIZ	Nizh Angarsk	1.47	264	ePN	Pn	12 57 47.3	+1.0
NIZ				e		12 58 07.5	
NIZ				pmax	pmax		
	comp=Z,37nm,0.4s						
NIZ				smax			
	comp=N,254nm,0.9s						
BOD	Bodaibo	2.13	28	ePN	Pn	12 57 55.3	-0.4
BOD				e		12 57 59.2	
SYVR	Suvo	2.62	209	ePN	Pn	12 58 03.1	+0.4
SYVR				e		12 58 06.1	
SYVR				e		12 58 41.7	
SYVR				pmax	pmax		
	comp=Z,100nm,0.2s						
SYVR				smax			
	comp=N,242nm,0.4s						

*IDC **09** 12:58:13.8±0.6, 13.57N×92.88E, mb4.1/16, mb1 4.3/17, mb1mx4.2/23, mbtmp4.1/17, ML3.9/1, MS3.7/4, Ms1 3.7/4, ms1mx3.4/24, Error ellipse: s-maj=23.7km s-min=14.1km az=53.0*

*NEIC **09** 12:58:14.9±3.7, 13.66N×92.83E, h5km±23km, mb4.4/16, Error ellipse: s-maj=12.5km s-min=6.5km az=49.0*

*BJI **09** 12:58:18.6, 13.73N×93.51E, h10km, mB4.2, mb4.3, Ms3.4*

ISC 09 12:58:16.7±0.4**, 13.59N**±0.05×**92.75E**±0.05**, h33**km**, n54,**
σ**1**§**25**/58**, mb4.2**/26**, MS3.7**/3**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	Nongplab	6.88	98	P	P	12 59 57.8	0.0
NST	Nakhon Sawan	7.44	73	P	P	13 00 04.0	-1.6
CMAR	Chiang Mai Arr	7.67	50	Pn	Pn	13 00 06.0	-3.1
	0.5nm,0.3s,baz=241,slow=15,SNR=17						
CMAR				Sn	Sn	13 01 27.2	-8.6
	0.8nm,0.3s,baz=236,slow=24,SNR=5.9						
CMAR				LR	LR	13 03 49.5	
	comp=Z,310nm,18.9s,baz=235,slow=44						
CHG	Chiang Mai	7.90	48	PG	P	13 00 13.3	+1.3
CHG				SG	S	13 01 30.8	-10
CHRT	Chiangrai	9.19	46	PG	P	13 00 30.0	+0.1
CHRT				SG	S	13 02 15.0	+1.8
NANT	Nan	9.23	55	P	P	13 00 32.0	+1.5
	62nm,0.7s						
VIS	Vishakhapatnam	9.96	296	iP	P	13 00 38.1	-2.5
VIS				iS	S	13 02 18.0	-14
KKTK	Khon Kaen	10.11	73	P	P	13 00 42.0	-0.8
	340nm,0.6s						
KULM	Kulim	11.34	136	eP	P	13 01 00.4	+0.9
SHL	Shillong	11.94	356	eP	P	13 01 01.3	-6.3
SHL				eS	S	13 03 06.8	-14
PKI	Pulchoki	15.51	335	eP	P	13 01 53.6	-1.0
	27nm,0.5s						
GUN	Gumba	15.62	337	eP	P	13 01 53.8	-2.3
	25nm,0.5s						
DMN	Daman	15.67	334	eP	P	13 01 55.9	-0.8
	57nm,0.8s						
KKN	Kakani	15.75	335	eP	P	13 01 56.9	-0.9
	39nm,0.8s						
LSA	Lhasa	16.10	355	P	P	13 02 05.8	+3.6
LSA	Lhasa	16.10	355	eP	P	13 02 05.9	+3.7
	9.7nm,0.6s						
GKN	Gorkha	16.21	333	eP	P	13 02 02.5	-1.1
	33nm,0.4s						
KOLN	Koldanda	16.49	330	eP	P	13 02 06.1	-1.0
	49nm,0.6s						
ENH	Enshi	22.68	40	eP	P	13 03 15.2	-1.4
	9.7nm,0.6s,mb4.4						
LZH	Lanzhou	24.52	22	eP	P	13 03 36.0	+1.6
LZH				AP		13 03 40.0	
LZH				XP		13 03 43.5	
LZH				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.4						
XAN	Xi'an	25.10	33	P	P	13 03 38.6	-1.4
XAN				AP	pP	13 03 50.1	+0.8
XAN				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.5						
GTA	Gaotai	26.47	12	eP	P	13 03 55.0	+2.3
GTA				AP	pP	13 04 00.3	-1.8
GTA				XP	sP	13 04 03.9	-2.2
GTA				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.0						
YHNB	Yeheng	29.14	64	eP	P	13 04 17.8	+0.8
MKAR	Makanchi Array	34.25	347	P	P	13 05 01.3	-0.3
	comp=Z,1.3nm,0.8s,mb3.9,baz=164,slow=8.8,SNR=10						
SONM	Songino Array	35.99	16	P	P	13 05 17.2	+0.8
	comp=Z,0.7nm,0.5s,mb3.9,baz=202,slow=7.8,SNR=4.9						
ZAL	Zalesovo	40.74	353	P	P	13 05 57.1	+1.1
	comp=Z,1.1nm,0.3s,mb3.9,baz=325,slow=3.0,SNR=4.3						
ZAL				LR	LR	13 26 39.3	
	comp=Z,141nm,20.8s,MS3.8,baz=280,slow=42						
BVAR	Borovoye Array	43.17	340	P	P	13 06 16.3	+0.3
	comp=Z,0.3nm,0.4s,mb3.3,baz=135,slow=8.4,SNR=4.3						
ZRNK	Zerenda	43.58	339	eP	P	13 06 19.2	0.0
	comp=Z,1.9nm,0.9s,mb3.8						
FITZ	Fitzroy Crossi	45.21	133	eP	P	13 06 31.6	-1.2
	comp=Z,5.4nm,1.1s,mb4.3						
FITZ	Fitzroy Crossi	45.21	133	P	P	13 06 31.5	-1.4
	comp=Z,5.1nm,0.6s,mb4.5,baz=1.7,slow=4.0,SNR=14						
MAT	Matsushiro	46.56	52	P	P	13 06 43.0	-0.2
MAT	Matsushiro	46.56	52	P	P	13 06 42.5	-0.7
MJAR	Matsushiro Arr	46.56	52	P	P	13 06 43.3	+0.1
	comp=Z,2.7nm,0.8s,mb4.2,baz=256,slow=11,SNR=6.2						
MJAR				LR	LR	13 28 19.8	
	comp=Z,96nm,21.9s,MS3.7,baz=260,slow=39						
NWAO	Narrogin (SRO)	51.84	154	eP	P	13 07 24.0	0.0
WRA	Warramunga Arr	52.77	128	P	P	13 07 29.8	-1.3
	comp=Z,5.4nm,0.5s,mb4.7,baz=300,slow=10.0,SNR=62						
WRA				PcP	PcP	13 08 40.3	-0.1
	comp=Z,2.8nm,0.5s,baz=318,slow=3.1,SNR=18						
WRAB	Tennant Creek	52.77	128	eP	P	13 07 30.1	-1.1
	comp=Z,14nm,0.6s,mb5.1						
WRAB				ePcP	PcP	13 08 40.5	+0.1
WB2	Warramunga Arr	52.78	128	eP	P	13 07 29.9	-1.3
BR131	Keskin Array S	57.75	309	P	P	13 08 07.7	+0.8
BRTR	Keskin Array B	57.75	309	P	P	13 08 07.5	+0.6
	comp=Z,1.4nm,0.8s,mb4.1,baz=122,slow=8.6,SNR=6.2						
MLR	Muntele Rosu	64.19	314	P	P	13 08 51.0	+0.6
	comp=Z,0.9nm,0.4s,mb4.2,baz=15,slow=10,SNR=2.7						
STKA	Stephens Creek	65.06	135	eP	P	13 08 55.8	-0.5
	comp=Z,1.0nm,0.6s,mb4.0						
STKA	Stephens Creek	65.06	135	P	P	13 08 55.9	-0.5
	comp=Z,2.5nm,0.7s,mb4.3,baz=344,slow=7.3,SNR=6.6						
FINES	FINESS Array B	67.06	331	P	P	13 09 09.0	+0.5
	comp=Z,0.7nm,0.6s,mb3.9,baz=90,slow=7.6,SNR=7.2						
ARCES	ARCESS Array B	69.46	340	P	P	13 09 24.4	+1.1
	comp=Z,1.1nm,0.5s,mb4.0,baz=93,slow=6.8,SNR=22						
ARCES				LR	LR	13 42 20.7	
	comp=Z,42nm,19.6s,MS3.7,baz=77,slow=38						
MORC	Moravsky Berou	70.20	318	eP	P	13 09 30.9	+2.8
	comp=Z,3.7nm,1.0s,mb4.3						
BRG	Berggiesshubel	72.53	319	eP	P	13 09 47.5	+5.4
	comp=Z,2.9nm,0.6s,mb4.4						
GERES	GERESS Array B	72.70	317	P	P	13 09 45.0	+1.8
	comp=Z,1.4nm,0.6s,mb4.1,baz=76,slow=5.5,SNR=10						
NB2	NORSAR Subarra	74.12	330	P	P	13 09 52.0	+0.8
	comp=Z,0.7nm,0.6s,mb3.8,baz=91,slow=5.6						
NOA	NORSAR Array B	74.12	330	P	P	13 09 51.4	+0.2
	comp=Z,0.9nm,0.7s,mb3.8,baz=90,slow=5.7,SNR=5.5						
GRF	Grafenberg Arr	74.30	318	eP	P	13 09 58.7	+6.2
	comp=Z,5.0nm,1.2s,mb4.3						
BOSA	Boshof	77.52	236	P	P	13 10 13.4	+2.2
	comp=Z,4.4nm,1.0s,mb4.4,baz=81,slow=8.5,SNR=4.9						
CASY	Casey	80.73	173	eP	P	13 10 28.8	+0.9
	comp=Z,6.5nm,0.6s,mb4.7						
ILAR	Eielson Array	89.99	22	P	P	13 11 13.9	+0.2
	comp=Z,0.7nm,0.8s,mb4.1,baz=272,slow=5.7,SNR=6.0						
NVAR	Mina Array Bea	120.65	28	PKP	PKPdf	13 17 09.5	+3.8
	comp=Z,0.5nm,0.8s,slow=0.9,SNR=3.6						

*IDC **09** 13:22:03.3±2.0, 13.09S×166.56E, mb4.0/7, mb1 4.1/8, mb1mx4.0/16, mbtmp4.0/8, ML4.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/20, Error ellipse: s-maj=55.9km s-min=32.0km az=131.0*

*NEIC **09** 13:22:10.1±2.1, 12.92S×166.40E, h39km±17km, mb4.1/2, Error ellipse: s-maj=23.9km s-min=14.2km az=68.0*

ISC 09 13:22:08.3±0.9**, 13.04S**±0.06×**166.2E**±0.1**, h33**km**, n13,**
σ**1**§**02**/17**, mb3.9**/8**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.12	300	Pn	Pn	13 23 52.7	-0.3
	12nm,0.3s,baz=187,slow=10,SNR=5.8						
HNR				Sn	Sn	13 25 12.9	-0.7
	10.0nm,0.3s,baz=199,slow=18,SNR=2.5						
HNR				LR	LR	13 26 09.4	
	comp=Z,118nm,18.8s,baz=161,slow=33						
DZM	Mont Dzumac	8.98	179	eP	P	13 24 19.4	+0.8
DZM				eS	S	13 25 58.0	-1.7
DZM	Mont Dzumac	8.98	179	Pn	P	13 24 19.5	+0.8
	0.6nm,0.3s,baz=3.8,slow=21,SNR=12						
DZM				Sn	Sn	13 26 00.4	+0.4
	baz=89,slow=18,SNR=2.5						
DZM	Mont Dzumac	8.98	179	eP	P	13 24 19.4	+0.8
DZM				eS	S	13 25 58.0	-1.7
CTAO	Charters Tower	20.36	247	eP	P	13 26 47.0	+2.1
	3.5nm,0.8s						
STKA	Stephens Creek	29.36	226	P	P	13 28 10.7	+0.2
	1.6nm,0.8s,mb3.8,baz=79,slow=5.2,SNR=2.3						
WRA	Warramunga Arr	31.29	253	P	P	13 28 26.8	-1.0
	0.9nm,0.9s,mb3.6,baz=86,slow=9.2,SNR=5.4						
CMAR	Chiang Mai Arr	73.33	294	P	P	13 33 39.6	+0.5
	0.2nm,0.4s,mb3.4,baz=127,slow=4.5,SNR=3.1						
QSPA	South Pole Qui	76.97	180	P	P	13 33 59.0	+0.1
	4.9nm,1.0s,mb4.4						
SONM	Songino Array	80.54	324	P	P	13 34 19.7	+0.8
	0.4nm,0.4s,mb3.7,baz=135,slow=3.5,SNR=4.7						
ILAR	Eielson Array	85.25	18	P	P	13 34 40.2	-2.4
	0.2nm,0.6s,mb3.4,baz=216,slow=7.8,SNR=4.6						
MKAR	Makanchi Array	95.28	317	P	P	13 35 30.8	+0.6
	1.0nm,0.7s,mb4.4,baz=101,slow=6.2,SNR=7.4						
ZAL	Zalesovo	95.44	324	P	P	13 35 30.9	+0.2
	0.7nm,0.3s,mb4.5,baz=274,slow=4.0,SNR=5.3						

IGQ 09 13:22:38.0,3.09S×81.16W,h5km±18km,mb4.2,6C-3D, Error ellipse: s-maj=20.6km s-min=5.1km az=133.7, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	Jama	2.97	19	P	Pn	13 23 27.9	+1.2
JAMA				S	Sn	13 24 03.1	-0.1
CUSU	Cusua	3.14	59	P	Pn	13 23 30.2	+1.1
QIL1	Quilotoa	3.15	45	P	Pn	13 23 29.2	-0.1
QIL1				S	Sn	13 24 06.4	-1.4
JUIV	Juive	3.16	58	P	Pn	13 23 30.2	+0.8
ULBA	Ulba	3.20	59	P	Pn	13 23 31.0	+1.0
RUN5	Runtun	3.20	59	P	Pn	13 23 31.0	+1.0
RUN5				S	Sn	13 24 10.1	+1.1
PISA	Pisayambo	3.43	54	P	Pn	13 23 35.5	+2.2
CAMI	Rancho Maria	3.58	48	⇑P	Pn	13 23 37.6	+2.2
NAS1	Nasa	3.63	48	⇑P	Pn	13 23 38.5	+2.5
TAMB	Tambo	3.67	50	⇓P	Pn	13 23 38.6	+1.9
VC1	Cotopaxi 1	3.68	49	P	Pn	13 23 38.8	+2.0
JUA2	San Juan 2	3.83	42	⇑P	Pn	13 23 40.4	+1.5
JUA2				S	Sn	13 24 26.7	+1.6
TERV	Terraza Guagua	3.86	41	P	Pn	13 23 40.7	+1.3
TERV				S	Sn	13 24 28.0	+2.2
GGP	Refugio Guagua	3.87	42	⇓P	Pn	13 23 41.0	+1.5
PINO	Pino	3.87	41	⇓P	Pn	13 23 40.3	+0.7
PINO				S	Sn	13 24 27.9	+1.9
YANA	Yana	3.93	41	⇑P	Pn	13 23 41.2	+0.9
YANA				S	Sn	13 24 28.4	+1.0
JOR1	San Jorge 1	3.97	39	P	Pn	13 23 39.1	-1.8
JOR1				S	Sn	13 24 24.1	-4.4
ANTI	Antisana	3.98	49	P	Pn	13 23 42.8	+1.7
CAYR	Refugio Cayamb	4.41	46	P	Pn	13 23 48.7	+1.5
COTA	Cotacachi	4.42	40	⇑P	Pn	13 23 48.8	+1.4
COTA				S	Sn	13 24 41.7	+1.8
CAYA	Cayambe	4.46	45	P	Pn	13 23 51.6	+3.7
CAYA				S	Sn	13 24 47.2	+6.2
ECEN	Cerro Negro	5.03	39	⇑P	Pn	13 23 57.7	+1.7
ECEN				S	Sn	13 24 58.7	+3.4

NEIC 09 13:47:13.8,10.33N×62.42W,h5km,MD3.6(TRN),After TRN.
TRN 09 13:47:14.3,10.31N×62.41W,h3km,MD3.6
FUNV 09 13:47:15.1,10.39N×62.47W,h10km,MW3.0
ISC 09 13:47:13.9±0.6,10.30N±0.04×62.54W±0.02,h16km±6km, n21,σ1^{s}35/42,1D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUNV	Guanoco	0.42	250	eP	Pb	13 47 24.4	+1.8
GUNV				eS	Sb	13 47 32.5	+4.1
GUIV	Guiria	0.46	42	eP	Pb	13 47 22.0	-1.2
GUIV				eS	Sb	13 47 27.8	-1.7
CRUV	Carupano	0.78	298	eP	Pb	13 47 29.5	+1.0
CRUV				eS	Sb	13 47 39.0	+0.3
TPP	Pointe-a-Pierr	1.07	89	eP	Pb	13 47 32.6	-1.0
TPP				eS	Sb	13 47 46.2	-0.9
TRN	Trinidad (W)	1.17	73	⇓iP	Pb	13 47 33.4	-1.9
TRN				eS	Sb	13 47 48.9	-1.1
ITEV	Isla Los Testi	1.20	331	eP	Pb	13 47 35.9	+0.2
ITEV				eS	Sb	13 47 52.5	+1.8
TBH	Brigand Hill	1.46	83	eP	Pn	13 47 40.3	+0.5
TBH				eS	Sn	13 47 59.5	+0.8
ORIV	Oritupano	1.50	215	eP	Pn	13 47 42.7	+2.4
ORIV				eS	Sn	13 48 03.7	+4.2
TPR	Prospect	1.94	63	eP	Pn	13 47 47.1	+0.4
TPR				eS	Sn	13 48 12.5	+1.7
BOT	Bacolet	1.99	64	eP	Pn	13 47 47.9	+0.7
GRW	Mount Saint Ca	2.04	25	eP	Pn	13 47 48.0	0.0
GRW				eS	Sn	13 48 14.9	+1.6
GRW	Mount Saint Ca	2.04	25	eP	Pn	13 47 51.2	+3.2
GRW				eS	Sn	13 48 11.3	-1.9
GRW				eS	Sn	13 48 14.9	+1.6
GRHS	Sauteurs	2.10	25	eP	Pn	13 47 55.3	+6.4
GRHS				eS	Sn	13 48 16.7	+1.8
IBAV	Isla La Blanqu	2.50	307	eP	Pn	13 47 54.2	-0.5
IBAV				eS	Sn	13 48 24.4	-0.8
CUPV	Cœpira	3.21	266	eP	Pn	13 48 05.8	+1.0
CUPV				eS	Sn	13 48 43.6	+0.7
BIRV	Birongo	3.67	273	eP	Pn	13 48 12.0	+0.7
BIRV				eS	Sn	13 48 53.0	-1.7
MERV	Las Mercedes	3.85	255	eP	Pn	13 48 14.9	+1.1
MERV				eS	Sn	13 48 58.1	-1.0
ORCV	Isla La Orchil	3.89	293	eP	Pn	13 48 14.2	-0.2
ORCV				eS	Sn	13 48 57.8	-2.4
FUNV	FUNVISIS	4.20	273	eP	Pn	13 48 19.3	+0.4
FUNV				eS	Sn	13 49 06.1	-2.1
CAOV	Caicara del Or	4.77	232	eP	Pn	13 48 26.2	-0.7
CAOV				eS	Sn	13 49 20.7	-1.7
BAUV	El Baul	5.59	256	eP	Pn	13 48 37.8	-0.7
BAUV				eS	Sn	13 49 39.9	-3.2

ATH 09 13:52:15.1,39.07N×21.87E,h18km±1km,MD3.5/6
THE 09 13:52:15.7,39.09N×21.85E,h5km,ML3.2
NEIC 09 13:52:15.4,39.07N×21.89E,h14km,MD3.5(ATH),After ATH.
CSEM 09 13:52:15.8±0.1,39.08N×21.88E,h5km,MD3.5,Error ellipse: s-maj=1.8km s-min=1.6km az=139.0
ISC 09 13:52:14.1±0.6,39.05N±0.03×21.87E±0.03,h3km±6km, n30,σ0^{s}81/37,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.14	200	ePB	Pb	13 52 19.4	+0.3
EVR				eSB	Sb	13 52 22.4	+0.2
MEV	Metsovon	0.89	326	ePg	Pg	13 52 31.3	-0.6
MEV				eSg	Sg	13 52 43.6	-0.1
LKR	Lokris	0.97	114	ePN	Pn	13 52 34.3	-0.1
LKR	Lokris	0.97	114	ePn	Pn	13 52 34.6	+0.2
JAN	Janina	1.00	308	ePN	Pn	13 52 34.1	-0.8
LKD	Levkas	1.01	251	ePg	Pg	13 52 34.6	+0.3
RLS	Riolos of Patr	1.04	198	ePN	Pn	13 52 35.8	+0.3
XOR	Xorichti	1.07	72	ePg	Pg	13 52 36.2	+0.7
XOR				eSg	Sg	13 52 51.3	+1.4
NEO	Neokhori	1.08	76	ePN	Pn	13 52 35.6	-0.5
NEO	Neokhori	1.08	76	ePn	Pn	13 52 36.3	+0.2
LIT	Litokhoron	1.15	24	ePg	Pg	13 52 36.7	-0.4
LIT				eSg	Sg	13 52 53.2	+0.7
KZN	Kozani	1.26	356	ePN	Pn	13 52 38.6	0.0
IGT	Igoumenitsa	1.29	292	ePg	Pg	13 52 39.4	-0.5
IGT				eSg	Sg	13 52 56.6	-0.4
VLS	Valsamata	1.33	229	ePB	Pb	13 52 39.7	+0.3
LSK	Leskovik	1.47	319	i Pg	Pg	13 52 43.5	0.0
LSK				i Sg	Sg	13 53 05.3	+2.1
AOS	Alonnisos	1.57	85	ePg	Pg	13 52 43.3	-2.1
PAIG	Paliouri	1.65	57	ePb	Pb	13 52 44.2	-0.7
NSAL	Nisos Salamina	1.69	132	ePN	Pn	13 52 46.0	+1.2
KEK	Kerkira	1.74	293	ePg	Pg	13 52 48.6	-0.2
FNA	Florina	1.77	348	ePb	Pb	13 52 46.6	-0.4
PLG	Polygyros	1.79	42	ePB	Pb	13 52 46.0	-1.4
PLG	Polygyros	1.79	42	ePb	Pb	13 52 45.8	-1.6
ITM	Ithomi	1.87	179	ePg	Pg	13 52 51.0	-0.4
ITM	Ithomi	1.87	179	ePN	Pn	13 52 48.7	+1.4
OUR	Ouranopolis	2.07	51	ePn	Pn	13 52 50.1	-0.1
SOH	Sokhos	2.10	32	ePn	Pn	13 52 51.1	+0.4
SOH				eSn	Sn	13 53 17.6	-0.1
VLI	Veliai	2.48	160	ePB	Pb	13 52 57.5	-1.5
VLI	Veliai	2.48	160	ePb	Pb	13 52 57.4	-1.6
NVR	Nevrokopi	2.76	33	ePN	Pn	13 53 00.9	+0.9
NVR	Nevrokopi	2.76	33	ePn	Pn	13 53 00.3	+0.3

IDC 09 13:58:29.8±1.4,2.30N×97.07E,mb4.0/9,mb1 4.1/10, mb1mx3.9/21,mbtmp4.0/10,ML4.1/1,Error ellipse: s-maj=62.4km s-min=21.2km az=53.0
NEIC 09 13:58:34.1±0.6,2.27N×96.93E,h30km,mb4.1/1,Error ellipse: s-maj=17.7km s-min=10.1km az=55.0
ISC 09 13:58:32.6±0.8,2.3N±0.1×96.9E±0.1,h33km,n16, σ0^{s}95/16,mb4.0/10,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	4.78	51	eP	P	13 59 44.9	+0.7
CMAR	Chiang Mai Arr	16.21	7	Pn	P	14 02 19.2	-0.3
	0.2nm,0.3s,baz=201,slow=12,SNR=8.1						
WRA	Warramunga Arr	42.84	123	P	P	14 06 29.5	-0.2
	1.7nm,0.7s,mb3.9,baz=300,slow=9.3,SNR=5.5						
WRAB	Tennant Creek	42.84	123	eP	P	14 06 25.0	-4.7
SONM	Songino Array	46.12	9	P	P	14 06 55.5	-0.2
	0.6nm,0.3s,mb3.9,baz=190,slow=8.4,SNR=6.8						
SONM				PcP	PcP	14 08 32.1	+0.3
	0.5nm,0.6s,baz=228,slow=2.4,SNR=3.9						
MKAR	Makanchi Array	46.14	346	P	P	14 06 55.9	+0.1
	2.2nm,0.8s,mb4.1,baz=153,slow=8.1,SNR=12						
ZAL	Zalesovo	52.46	351	P	P	14 07 44.4	+0.2
	2.1nm,0.4s,mb4.4,baz=325,slow=3.8,SNR=7.8						
CTA	Charters Tower	53.23	117	P	P	14 07 48.9	-1.6
	2.0nm,0.8s,mb4.1,baz=304,slow=8.2,SNR=3.6						
CTAO	Charters Tower	53.23	117	P	P	14 07 50.4	-0.1
STKA	Stephens Creek	54.28	133	eP	P	14 07 58.2	+0.2
BVAR	Borovoye Array	55.16	341	P	P	14 08 03.3	-0.8
	2.2nm,0.6s,mb4.3,baz=158,slow=8.0,SNR=15						
ZRNK	Zerenda	55.56	340	eP	P	14 08 06.4	-0.7
	1.3nm,0.6s,mb4.1						
ARU	Arti	62.10	337	eP	P	14 08 50.5	-1.9
FINES	FINESS Array B	78.93	332	P	P	14 10 35.0	+0.7
	1.0nm,0.7s,mb3.8,baz=180,slow=9.7,SNR=4.3						
ARCES	ARCESS Array B	81.44	340	P	P	14 10 48.5	+1.0
	0.5nm,0.6s,mb3.7,baz=90,slow=4.9,SNR=8.2						
GERES	GERESS Array B	83.83	319	P	P	14 11 02.6	+2.4
	0.1nm,0.3s,mb3.4,baz=172,slow=9.4,SNR=3.6						

NEIC 09 14:12:58.3,37.96S×176.24E,h164km,MG3.8(WEL), After WEL.
WEL 09 14:12:59.4±0.3,38.00S×176.30E,h156km±3km,ML3.7/17, 3C,Error ellipse: s-maj=3.7km s-min=3.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.69	112	P	P	14 13 22.5	-0.3
URZ	Urewera	0.69	112	PN	P	14 13 22.5	-0.3
URZ				SN	S	14 13 40.6	-0.2
MWZ	Matawai	1.03	109	P	P	14 13 25.3	+0.3
MWZ	Matawai	1.03	109	PN	P	14 13 25.4	+0.4
MWZ				SN	S	14 13 44.2	-0.6
BKZ	Black Stump Fm	1.18	173	P	P	14 13 26.3	-0.1
BKZ	Black Stump Fm	1.18	173	⇑PN	P	14 13 26.3	-0.1
BKZ				SN	S	14 13 46.8	-0.5
NGZ	Ngauruhoe	1.29	205	P	P	14 13 28.0	+0.4
NGZ	Ngauruhoe	1.29	205	ePN	P	14 13 28.2	+0.6
TUVZ	Tukino	1.36	201	P	P	14 13 28.4	+0.1
TUVZ	Tukino	1.36	201	PN	P	14 13 28.4	+0.1
TUVZ				SN	S	14 13 51.8	+1.2
FWVZ	Far West T-bar	1.38	205	P	P	14 13 28.5	0.0
FWVZ	Far West T-bar	1.38	205	PN	P	14 13 28.6	+0.2
FWVZ				SN	S	14 13 52.1	+1.1
WNVZ	Wahianoa	1.43	202	P	P	14 13 28.9	-0.1
WNVZ	Wahianoa	1.43	202	PN	P	14 13 28.9	-0.1
MOVZ	Moawhango	1.47	197	P	P	14 13 28.7	-0.6
MOVZ	Moawhango	1.47	197	PN	P	14 13 28.7	-0.6
MOVZ				SN	S	14 13 51.4	-1.1
KNZ	Kokohu	1.48	134	eP	P	14 13 29.4	-0.1
KNZ	Kokohu	1.48	134	PN	P	14 13 29.4	-0.1
KNZ				SN	S	14 13 50.6	-2.2
MTVZ	Mangateitei	1.53	205	PN	P	14 13 29.8	-0.2
PUZ	Puketiti	1.55	93	eP	P	14 13 29.7	-0.5
PUZ	Puketiti	1.55	93	⇑PN	P	14 13 29.6	-0.6
PUZ				SN	S	14 13 52.7	-1.3
MXZ	Matakaoa Point	1.65	75	P	P	14 13 30.9	-0.4
MXZ	Matakaoa Point	1.65	75	PN	P	14 13 30.9	-0.4
MXZ				SN	S	14 13 54.5	-1.4
WAZ	Wanganui	2.03	210	eP	P	14 13 34.5	-1.0
WAZ	Wanganui	2.03	210	PN	P	14 13 34.7	-0.8
PWZ	Pawanui	2.07	168	P	P	14 13 35.3	-0.7
PWZ	Pawanui	2.07	168	PN	P	14 13 35.2	-0.8
PWZ				SN	S	14 14 03.0	-1.3
TSZ	Takapari Road	2.07	187	P	P	14 13 34.7	-1.3
TSZ	Takapari Road	2.07	187	PN	P	14 13 34.8	-1.2
TSZ				SN	S	14 14 02.2	-2.0
MRZ	Mangatainoka R	2.71	192	P	P	14 13 41.4	-2.6
MRZ	Mangatainoka R	2.71	192	⇑PN	P	14 13 41.4	-2.6
MRZ				SN	S	14 14 14.6	-3.6
KIW	Kapiti Island	3.05	200	P	P	14 13 45.2	-3.1
MTW	Mount Morrison	3.21	191	P	P	14 13 46.7	-3.7
CAW	Cannon Point	3.25	197	P	P	14 13 47.3	-3.5
MRW	Makara Radio	3.45	200	P	P	14 13 49.7	-3.7
WEL	Wellington	3.49	199	P	P	14 13 50.2	-3.7
MSWZ	Moikau Station	3.50	193	P	P	14 13 50.2	-3.9
SNZO	South Karori	3.52	200	P	P	14 13 50.3	-4.1
TCW	Tory Channel	3.57	205	P	P	14 13 51.2	-3.7
QRZ	Quartz Range	4.06	225	eP	P	14 13 56.3	-5.0
KHZ	Kahutara	4.89	205	eP	P	14 14 07.3	-5.0
LTZ	Lake Taylor	5.68	211	eP	P	14 14 17.1	-5.6

NNC 09 14:15:00.0±17.0,37.40N×71.28E,h103km±406km,mpv4.3, Error ellipse: s-maj=139.3km s-min=109.6km az=5.0
ISC 09 14:14:52.7±1.3,36.87N±0.07×71.6E±0.2,h100km,n14, σ0^{s}67/18,3C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.49	16	P	P	14 16 13.6	+0.1
	SNR=216						
THN	Thein Dam	5.57	141	eP	P	14 16 16.1	+1.6
THN				eS	S	14 17 17.6	-0.2
DLH	Dalhousie	5.61	139	eS	S	14 17 18.0	-0.9
UCH	Uchtor	5.80	22	P	P	14 16 17.6	0.0
	SNR=81						
AAK	Ala-Archa	6.17	20	P	P	14 16 23.0	+0.3
	SNR=13						
AAK	Ala-Archa	6.17	20	⇓P	P	14 16 22.4	-0.3
	12nm,0.5s						
AAK				⇑S	S	14 17 28.1	-4.4
	25nm,0.7s						
KK31	Karatay Array	6.28	353	⇓P	P	14 16 24.3	0.0
	18nm,0.5s,baz=179,slow=13,SNR=219						
KK31				⇑S	S	14 17 28.1	-7.1
	50nm,0.6s,baz=174,slow=22						
KBK	Karagaybulak	6.32	23	P	P	14 16 25.9	+1.0
	SNR=6.2						
CHMS	Chumysh	6.58	21	P	P	14 16 27.7	-0.8
	SNR=9.7						
USP	Ospenovka	6.76	18	P	P	14 16 30.8	-0.1
	SNR=6.4						
TKM2	Tokmak 2	6.77	26	P	P	14 16 31.1	0.0
	SNR=11						
SDNR	Sundarnagar	6.96	139	eS	S	14 17 46.0	-5.8
SMLA	Simla	7.35	140	i S	S	14 17 52.6	-8.9
AB31	Akbulak array	15.01	329	⇓P	P	14 18 19.8	-0.6
	0.5nm,0.3s,baz=166,slow=11						
AB31				⇑S	S	14 20 56.2	-8.0
	2.8nm,0.6s,baz=165,slow=11						

NEIC 09 14:17:29.6±0.6,0.24N×96.27E,mb4.0/1,Error ellipse: s-maj=18.2km s-min=10.0km az=61.0
IDC 09 14:17:29.3±1.2,0.11N×96.03E,h26km±5km,mb3.8/9, mb1 3.9/10,mb1mx3.7/19,mbtmp3.9/10,ML4.0/1,Error ellipse: s-maj=52.3km s-min=17.0km az=54.0
ISC 09 14:17:28.0±0.8,0.3N±0.1×96.3E±0.1,h26km, h26km±.3km:pP-P,n17,σ0^{s}59/16,mb3.9/10,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.59	41	eP	Pn	14 19 04.8	-1.0
CMAR	Chiang Mai Arr	18.25	8	P	P	14 21 43.0	+1.5
	0.2nm,0.3s,baz=201,slow=14,SNR=6.0						
FITZ	Fitzroy Crossi	34.10	124	P	P	14 24 13.0	0.0
	2.2nm,0.8s,mb4.1,baz=323,slow=10,SNR=4.2						
WRA	Warramunga Arr	42.29	121	P	P	14 25 22.0	+0.5
	1.1nm,1.0s,mb3.5,baz=298,slow=8.7,SNR=3.2						
WRAB	Tennant Creek	42.30	121	P	P	14 25 21.4	-0.2
	2.6nm,0.8s,mb3.9						
MKAR	Makanchi Array	47.94	347	P	P	14 26 06.1	-0.3
	1.1nm,0.8s,mb4.0,baz=160,slow=7.8,SNR=8.4						
MKAR	Makanchi Array	47.94	347	P	P	14 26 06.1	-0.3
SONM	Songino Array	48.18	9	P	P	14 26 08.4	+0.2
	0.5nm,0.4s,mb3.9,baz=185,slow=10,SNR=6.0						
STKA	Stephens Creek	53.38	131	P	P	14 26 48.4	+0.4
	2.3nm,0.8s,mb4.2,baz=307,slow=5.1,SNR=4.5						
STKA	Stephens Creek	53.38	131	eP	P	14 26 48.1	+0.1
ZAL	Zalesovo	54.33	352	P	P	14 26 54.5	0.0
	1.5nm,0.4s,mb4.2,baz=334,slow=1.7,SNR=5.7						
ZAL				pP	pP	14 27 02.2	-0.2
	1.2nm,0.4s,baz=333,slow=7.1,SNR=2.4						
ARCES	ARCESS Array B	83.12	340	P	P	14 29 52.8	+0.1
	0.5nm,0.4s,mb3.9,baz=93,slow=4.5,SNR=13						
ARCES				pP	pP	14 30 01.2	+0.3
	0.4nm,0.5s,baz=90,slow=4.9,SNR=1.8						
GERES	GERESS Array B	84.94	319	P	P	14 30 01.6	-0.6
	0.3nm,0.5s,mb3.7,baz=104,slow=4.0,SNR=3.1						
GERES	GERESS Array B	84.94	319	P	P	14 30 01.6	-0.6
NOA	NORSAR Array B	87.40	331	P	P	14 30 13.8	-0.3
	0.7nm,0.7s,mb4.0,baz=97,slow=4.7,SNR=3.7						
NOA				pP	pP	14 30 22.0	-0.3
	0.4nm,0.7s,baz=56,slow=5.8,SNR=3.1						
NOA	NORSAR Array B	87.40	331	P	P	14 30 13.8	-0.3
NOA				pP	pP	14 30 22.0	-0.3
TXAR	Lajitas Array	144.91	31	PKPbc	PKPbc	14 37 05.0	+1.3
	0.4nm,0.6s,baz=270,slow=1.9,SNR=6.6						
TXAR				pPKPbc		14 37 13.3	
	0.4nm,0.6s,baz=291,slow=1.3,SNR=3.4						

NEIC 09 14:21:32.0,27.82S×70.69W,h58km,After GUC.
GUC 09 14:21:32.0±1.1,27.82S×70.69W,h58km±21km,ML4.2, 2C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	0.55	33	⇑iP	P	14 21 44.7	+0.2
CPCH				i S	S	14 21 54.2	+0.6
CPCH				AMP		14 21 55.4	
	comp=E,102μm,0.1s						
VACH	Vallenar	0.75	184	⇓iP	P	14 21 47.5	+0.7
VACH				i S	S	14 21 58.3	+0.4
VACH				AMP		14 21 59.2	
	comp=E,31μm,0.2s						
LCO	Las Campanas	1.18	180	eP	P	14 21 53.4	+0.7
LCO				i S	S	14 22 09.2	+1.1
LCO				AMP		14 22 12.7	
	comp=E,2μm,0.2s						
CRCH	Chaqaral	1.47	3	⇑iP	P	14 21 56.9	0.0
CRCH				i S	S	14 22 14.9	-0.3
CRCH				AMP		14 22 18.9	
	comp=E,2μm,0.3s						
TLL	Tololo Astrono	2.34	182	eP	P	14 22 10.7	+1.8
TLL				i S	S	14 22 39.1	+2.7
TLL				AMP		14 22 53.0	
	comp=E,2μm,0.6s						
CPN1	Cerro Paranal	3.20	5	eP	P	14 22 19.5	-1.6
CPN1				i S	S	14 22 56.2	-1.9
CPN1				AMP		14 23 17.9	
	comp=E,516nm,0.8s						

NEIC 09 14:37:19.5,38.07N×20.18E,h16km,MD3.7(ATH),After ATH.
CSEM 09 14:37:19.1±0.2,37.75N×20.02E,h40km,MD3.7,Error ellipse: s-maj=8.2km s-min=3.0km az=85.0
ATH 09 14:37:20.3,37.95N×20.33E,h19km±2km,MD3.7/3
THE 09 14:37:20.5,38.07N×20.14E,h1km,ML3.4
HLW 09 14:37:23.3,37.72N×20.33E,h29km,Mb3.3
ISC 09 14:37:16.8±0.7,37.84N±0.05×20.13E±0.07,h10km,n27, σ1^{s}37/31,mb3.1/1,3D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.50	48	ePb	Pb	14 37 27.0	-0.1
VLS				eSb	Sb	14 37 32.4	-1.7
VLS	Valsamata	0.50	48	⇓iPB	Pb	14 37 27.0	-0.1
VLS				eSB	Sb	14 37 32.3	-1.8
LKD	Levkas	0.96	25	ePg	Pg	14 37 34.5	-1.4
RLS	Riolos of Patr	1.08	78	ePN	Pn	14 37 37.9	0.0
RLS	Riolos of Patr	1.08	78	ePb	Pb	14 37 37.8	+0.6
ITM	Ithomi	1.58	114	ePn	Pn	14 37 50.7	+5.6
ITM	Ithomi	1.58	114	ePN	Pn	14 37 47.6	+2.5
IGT	Igoumenitsa	1.69	5	ePg	Pg	14 37 47.0	-3.6
IGT				eSg	Sg	14 38 07.8	-5.4
EVR	Evrytania	1.70	51	ePN	Pn	14 37 48.3	+1.5
EVR	Evrytania	1.70	51	ePn	Pn	14 37 49.8	+3.0
KEK	Kerkira	1.88	352	ePn	Pn	14 37 50.2	+0.8
JAN	Janina	1.90	17	ePN	Pn	14 37 51.8	+2.2
MEV	Metsovon	2.12	24	ePb	Pb	14 37 54.1	-0.8
LKR	Lokris	2.40	70	ePN	Pn	14 37 58.2	+1.4
VLI	Veliai	2.51	116	ePB	Pb	14 38 01.8	+0.2
KZN	Kozani	2.77	27	ePB	Pb	14 38 04.3	-1.8
NEO	Neokhori	2.83	58	ePN	Pn	14 38 04.0	+1.0
NEO	Neokhori	2.83	58	ePn	Pn	14 38 03.8	+0.8
XOR	Xorichti	2.84	57	ePn	Pn	14 38 04.2	+1.1
LIT	Litokhoron	2.91	39	ePn	Pn	14 38 05.6	+1.5
TIP	Timpagrande	2.96	298	eP	Pn	14 38 07.0	+2.2
TIP	Timpagrande	2.96	298	eP	Pn	14 38 07.0	+2.2
HMAT	Matruh	8.86	137	P	P	14 39 26.2	-1.7
JAVS	Javornik	9.22	333	i Pn	P	14 39 31.0	-1.9
SWA2		9.66	151	⇓eP	P	14 39 38.0	-0.9
SWA1		9.74	150	⇓P	P	14 39 39.1	-0.9
SWA1				S	Sn	14 41 18.1	-13
NB2	NORSAR Subarra	23.89	349	P	P	14 42 30.6	-0.4
	0.4nm,0.5s,mb3.1,baz=161,slow=11						

MOS 09 14:44:14.2±0.6,29.70N×141.49E,h36km,mb4.7/10,Error ellipse: s-maj=17.5km s-min=7.2km az=108.7
JMA 09 14:44:15.0±0.1,29.82N×141.86E,h50km,M5.1
BJI 09 14:44:18.2,29.82N×141.60E,h79km,mB4.4,mb4.5, Ms4.0,Msz3.8
NEIC 09 14:44:19.3±0.3,29.73N×141.31E,mb4.5/16,Error ellipse: s-maj=8.7km s-min=5.9km az=80.0
IDC 09 14:44:19.5±0.6,29.73N×141.37E,h60km±4km,mb4.1/18, mb1 4.4/20,mb1mx4.3/23,mbtmp4.4/20,MS3.4/7, Ms1 3.4/7,ms1mx3.2/25,Error ellipse: s-maj=15.9km s-min=13.0km az=71.0
ISC 09 14:44:18.2±0.3,29.87N±0.03×141.36E±0.06,h60km, h60km±2.2km:pP-P,n109,σ1^{s}33/115,mb4.4/39,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.86	165	P	P	14 44 58.0	-4.6
	49nm,0.3s,baz=348,slow=7.0,SNR=39						
CBIJ				S	S	14 45 25.9	-10
	285nm,0.3s,baz=287,slow=22,SNR=7.9						
CBIJ	Chichi jima	2.86	165	P	P	14 44 57.8	-4.7
CBIJ				S	S	14 45 27.9	-7.9
JHJ2	Mitsune	3.49	338	P	P	14 45 11.3	-0.1
JHJ	Hachijo jima 2	3.51	338	P	P	14 45 11.3	-0.3
	77nm,0.3s,baz=62,slow=23,SNR=24						
JHJ				S	S	14 45 43.2	-8.9
	85nm,0.3s,baz=256,slow=16,SNR=6.7						
JHJ				LR	LR	14 46 07.3	
	comp=Z,134nm,20.0s,baz=95,slow=30						
BSO1	Boso 1	4.78	356	P	P	14 45 27.8	-1.7
BSO1				S	S	14 46 23.8	-0.3
BSO2	Boso 2	4.89	354	S	S	14 46 28.5	+1.5
BSO3	Boso 3	4.97	352	P	P	14 45 31.6	-0.5
JOD2	Odawara 2	5.71	341	P	P	14 45 43.6	+1.3
JHU	Hanno	6.21	344	P	P	14 45 48.6	-0.8
JHU				S	S	14 46 56.8	-3.1
JNY	Yasuok	6.22	333	P	P	14 45 50.9	+1.5
JAO	Obara	6.40	328	P	P	14 45 53.7	+1.7
JYT	Yasato	6.41	352	P	P	14 45 51.0	-1.2
JYT				S	S	14 47 02.5	-2.3
JRY	Ryogami san	6.47	342	P	P	14 45 53.3	+0.3
JRY				S	S	14 47 06.2	+0.1
JNT	Takato	6.57	337	P	P	14 45 58.0	+3.6
JAG	Ashikaga	6.73	347	P	P	14 45 55.4	-1.2
JAG				S	S	14 47 10.4	-2.2
JHO	Hitachi	6.75	355	P	P	14 45 54.4	-2.6
JGK	Kuni	7.05	342	P	P	14 46 01.4	+0.3
JNG	Nsakai	7.07	338	P	P	14 46 03.2	+1.9
MJAR	Matsushiro Arr	7.16	339	P	P	14 46 02.1	-0.5
	14nm,0.3s,baz=164,slow=12,SNR=128						
MJAR				S	S	14 47 24.4	+1.2
	5.0nm,0.3s,baz=146,slow=12,SNR=4.1						
MAJO	Matsushiro	7.16	339	eP	P	14 46 01.8	-0.8
MAJO				pmax	pmax		
	comp=Z,49nm,0.5s						
MAJO	Matsushiro	7.16	339	eP	P	14 46 01.8	-0.7
	comp=Z,49nm,0.5s						
MAT	Matsushiro	7.16	339	eP	P	14 46 02.0	-0.6
MAT				S	S	14 47 21.0	-2.2
MAT				pmax	pmax		
	comp=Z,46nm,0.6s						
MAT	Matsushiro	7.16	339	eP	P	14 46 02.0	-0.6
	comp=Z,46nm,0.6s						
MAT				S	S	14 47 21.0	-2.2

MAT Matsushiro 7.16 339 P **P** 14 46 01.5 -1.1
MAT eS **S** 14 47 20.5 -2.7
MAT Matsushiro 7.16 339 P **P** 14 46 02.9 +0.3
JFK Kawauchi 7.49 357 P **P** 14 46 03.6 -3.5
JHK Hiroka 7.61 346 P **P** 14 46 07.5 -1.4
JYK Kaneyama 9.06 355 P **P** 14 46 26.2 -2.6
JOW Kunigami 11.91 258 P **P** 14 47 10.2 +2.7
comp=Z,2.1nm,0.3s,baz=99,slow=15,SNR=7.9
KS15 Wonju Array Si 13.52 307 *eP* **P** 14 47 34.3 +5.7
ASAJ Asahikawa 14.25 4 P **P** 14 47 35.0 -3.3
comp=Z,3.1nm,0.3s,baz=216,slow=8.4,SNR=18
ASAJ LR LR 14 53 38.6
comp=Z,86nm,21.1s,baz=186,slow=39
YSS Yuzh-Sakhalins 17.09 3 *eP* **P** 14 48 13.4 -0.9
YSS pmax pmax
comp=Z,13nm,0.7s
YSS Yuzh-Sakhalins 17.09 3 *eP* **P** 14 48 13.4 -1.0
comp=Z,13nm,0.7s
MDJ Mudanjiang 17.42 331 P **P** 14 48 19.8 +1.3
MDJ AMB AMB
comp=Z,60nm,0.6s
MDJ AMB AMB
comp=Z,77nm,5.0s
MDJ Mudanjiang 17.42 331 *eP* **P** 14 48 19.2 +0.7
comp=Z,45nm,0.6s
CN2 Changchun 18.81 322 *eP* **P** 14 48 35.1 -0.2
CN2 AMB AMB
comp=Z,20nm,0.7s
KLR Kul'dur 20.67 342 *eP* **P** 14 48 55.7 +0.4
HIA Hailar 25.39 326 *eP* **P** 14 49 41.7 +0.3
HIA pmax pmax
comp=Z,9.0nm,0.6s
HIA Hailar 25.39 326 *eP* **P** 14 49 41.7 +0.3
comp=Z,9.0nm,0.6s,mb4.5
HHC Hu-ho-hao-te 26.53 302 *eP* **P** 14 49 54.6 +2.5
HHC S **S** 14 54 26.8 +6.8
HHC AMB AMB
comp=Z,14nm,1.2s,mb4.4
HHC AMB AMB
comp=Z,81nm,12.0s
HHC LR LR
comp=N,102nm,16.8s
HHC LR LR
comp=E,152nm,16.8s
SONM Songino Array 32.25 314 P **P** 14 50 43.1 +0.1
comp=E,1.3nm,0.4s,mb4.1,baz=126,slow=9.2,SNR=10
FX1 Attu Island--F 32.70 36 *eP* **P** 14 50 46.5 -0.3
KMI Kunming 34.47 272 P **P** 14 51 03.6 +1.2
KMI AP *pP* 14 51 17.6 +0.1
KMI PP PP 14 52 19.0 -0.8
KMI S **S** 14 56 24.1 -1.4
KMI SS SS 14 58 37.0 -2.5
KMI AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
KMI LR LR
comp=N,106nm,13.1s
KMI LR LR
comp=E,84nm,15.0s
KMI LR LR
comp=Z,93nm,15.6s
ZAK Zakamensk 35.08 317 *eP* **P** 14 51 08.2 +0.9
ZAK pmax pmax
comp=Z,1.0nm,1.2s,mb3.6
CMAR Chiang Mai Arr 40.13 263 P **P** 14 51 50.1 +0.3
comp=Z,2.3nm,0.6s,mb4.1,baz=98,slow=4.1,SNR=12
CMAR LR LR 15 08 11.6
comp=Z,40nm,19.5s,baz=200,slow=36
ZAL Zalesovo 46.95 318 P **P** 14 52 45.3 +0.7
comp=Z,2.2nm,0.4s,mb4.4,baz=14,slow=7.8,SNR=7.9
ZAL PcP PcP 14 54 16.6 -0.1
comp=Z,1.3nm,0.5s,baz=353,slow=2.8,SNR=3.8
NVS Novosibirsk 47.97 319 *eP* **P** 14 52 52.2 -0.3
NVS pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
MKAR Makanchi Array 48.18 308 P **P** 14 52 54.0 -0.3
comp=Z,0.9nm,0.4s,mb4.1,baz=84,slow=9.7,SNR=12
MKAR PcP PcP 14 54 21.2 0.0
comp=Z,0.6nm,0.5s,baz=90,slow=4.3,SNR=2.8
MKAR ScP 14 58 11.2
comp=Z,0.8nm,0.8s,baz=90,slow=4.3,SNR=5.0
CTA Charters Tower 49.89 174 *eP* **P** 14 53 05.6 -2.2
comp=Z,2.5nm,0.6s,mb4.4
CTA Charters Tower 49.89 174 *eP* **P** 14 53 05.6 -2.2
CTA pmax pmax
comp=Z,3.0nm,0.6s
CTAO Charters Tower 49.89 174 *eP* **P** 14 53 05.5 -2.3
WRAB Tennant Creek 49.97 189 *eP* **P** 14 53 05.2 -3.3
WRAB pmax pmax
comp=Z,12nm,0.4s,mb5.3
WRAB Tennant Creek 49.97 189 *eP* **P** 14 53 05.2 -3.3
comp=Z,12nm,0.4s,mb5.3
WB2 Warramunga Arr 49.98 189 *eP* **P** 14 53 05.0 -3.5
WRA Warramunga Arr 49.98 189 P **P** 14 53 05.2 -3.4
comp=Z,11nm,0.5s,mb5.1,baz=7.7,slow=8.0,SNR=30
WRA ScP 14 58 18.1
comp=Z,1.4nm,0.9s,baz=8.6,slow=4.6,SNR=4.8
FITZ Fitzroy Crossi 50.04 200 *eP* **P** 14 53 07.5 -1.5
comp=Z,4.0nm,0.4s,mb4.8
MCK McKinley 54.70 31 *eP* **P** 14 53 42.5 -0.7
MCK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
MCK McKinley 54.70 31 *eP* **P** 14 53 42.5 -0.7
comp=Z,5.0nm,1.0s,mb4.5
MBWA Marble Bar 54.84 205 *eP* **P** 14 53 42.6 -2.2
SML Sawmill 54.90 33 *eP* **P** 14 53 43.9 -0.7
VOSK Vostochnaya 55.20 316 P **P** 14 53 46.7 -0.2
VOSK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BVA0 Borovoye Array 55.53 316 *i P* **P** 14 53 49.5 +0.2
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
BRVK Borovoye 55.59 316 P **P** 14 53 49.2 -0.5
ILAR Eielson Array 55.65 30 P **P** 14 53 48.5 -1.5
comp=Z,4.7nm,1.0s,mb4.5,baz=264,slow=6.0,SNR=37
ZRNK Zerenda 56.37 316 P **P** 14 53 55.2 -0.1
ZRNK pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
ZRNK Zerenda 56.37 316 *eP* **P** 14 53 55.0 -0.3
comp=Z,73nm,0.7s
KKAR Karatay Array 56.90 304 P **P** 14 53 58.9 -0.4
KKAR pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
SVE Sverdlovsk 60.60 321 *eP* **P** 14 54 25.0 +0.3
SVE *e* *pP* 14 54 43.0 +2.1
INK Inuvik 60.83 25 *eP* **P** 14 54 25.2 -0.9
INK pmax pmax
comp=Z,2.0nm,0.4s
INK Inuvik 60.83 25 P **P** 14 54 25.7 -0.4
comp=Z,2.6nm,0.4s,mb4.7,baz=282,slow=5.1,SNR=29
INK Inuvik 60.83 25 *eP* **P** 14 54 25.2 -0.9
comp=Z,2.3nm,0.4s,mb4.7
STKA Stephens Creek 61.41 180 *eP* **P** 14 54 27.6 -2.9
comp=Z,2.2nm,0.6s,mb4.5
STKA Stephens Creek 61.41 180 P **P** 14 54 27.6 -2.9
comp=Z,2.8nm,0.7s,mb4.5,baz=348,slow=6.2,SNR=8.9
ARU Arti 61.80 321 *eP* **P** 14 54 32.6 -0.2
ARU Arti 61.80 321 *eP* **P** 14 54 32.5 -0.3
comp=Z,11nm,0.8s,mb5.0
AB31 Akbulak array 62.66 313 *eP* **P** 14 54 38.8 +0.1
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.8
YKA Yellowknife Ar 70.06 29 P **P** 14 55 24.9 -0.4
comp=Z,1.2nm,0.6s,mb4.0,baz=293,slow=6.2,SNR=10
YKA Yellowknife Ar 70.06 29 P **P** 14 55 24.9 -0.4
ARCES ARCESS Array B 70.69 340 P **P** 14 55 29.9 +0.9
comp=Z,6.1nm,0.7s,mb4.7,baz=59,slow=7.1,SNR=26
KAF Kangasniemi 74.67 334 *ep* **P** 14 55 51.9 -0.6
comp=Z,4.3nm,0.4s,mb4.7,baz=52,slow=5.4
KAF Kangasniemi 74.67 334 *eP* **P** 14 55 51.9 -0.6
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
YBH Yreka Blue Hor 74.85 50 LR LR 15 24 22.6
comp=Z,42nm,21.1s,baz=266,slow=32
FINES FINESS Array B 75.15 333 P **P** 14 55 55.8 +0.5
comp=Z,3.1nm,0.4s,mb4.6,baz=71,slow=4.3,SNR=92
SUMG Summit 77.83 360 *eP* **P** 14 56 12.3 +2.2
HLID Hailey 79.33 46 *eP* **P** 14 56 20.1 +1.2
comp=Z,2.9nm,0.9s,mb4.2
NVAR Mina Array Bea 79.38 52 P **P** 14 56 20.1 +0.7
comp=Z,0.5nm,0.3s,mb3.9,baz=284,slow=5.5,SNR=5.5
BOZ Bozeman (W) 79.93 43 *eP* **P** 14 56 23.2 +1.1
comp=Z,3.7nm,0.9s,mb4.3
AKASG Malin Array Be 79.96 323 P **P** 14 56 22.6 +0.4
comp=Z,0.8nm,0.3s,mb4.1,baz=48,slow=6.2,SNR=13
AKASG pP pP 14 56 39.9 +0.8
comp=Z,0.8nm,0.4s,baz=46,slow=5.9,SNR=4.4

QLMT Earthquake Lak 80.49 44 *eP* **P** 14 56 26.9 +1.8
NB2 NORSAR Subarra 80.78 338 P **P** 14 56 26.8 +0.5
comp=Z,5.1nm,0.9s,mb4.5,baz=42,slow=5.0
NOA NORSAR Array B 80.78 338 P **P** 14 56 26.9 +0.6
comp=Z,3.3nm,0.8s,mb4.3,baz=42,slow=5.2,SNR=16
NOA pP pP 14 56 43.9 +0.8
comp=Z,2.5nm,0.8s,baz=42,slow=5.3,SNR=7.4
NOA LR LR 15 34 12.6
comp=Z,28nm,19.7s,baz=25,slow=37
IMW Indian Meadow 81.29 44 *eP* **P** 14 56 31.5 +2.1
comp=Z,4.5nm,0.8s,mb4.5
TPAW Teton Pass 81.50 45 *eP* **P** 14 56 32.2 +1.7
comp=Z,1.6nm,0.6s,mb4.1
HWUT Hardware Ranch 82.15 46 *eP* **P** 14 56 35.2 +1.3
comp=Z,3.0nm,0.6s,mb4.4
PDAR Pinedale Array 82.75 45 P **P** 14 56 37.6 +0.7
comp=Z,1.5nm,0.8s,mb4.1,baz=297,slow=3.3,SNR=15
DAU Daniels Canyon 83.00 47 *eP* **P** 14 56 39.9 +1.6
DAU pP pP 14 56 58.9 +3.6
BR131 Keskin Array S 83.60 312 *eP* **P** 14 56 42.6 +1.4
comp=Z,9.1nm,0.9s,mb4.9
BR131 *epP* pP 14 56 57.4 -0.8
BRTR Keskin Array B 83.60 312 P **P** 14 56 42.6 +1.4
comp=Z,3.6nm,0.6s,mb4.7,baz=108,slow=3.9,SNR=15
BRTR pP pP 14 56 57.6 -0.6
comp=Z,4.6nm,0.6s,baz=92,slow=3.4,SNR=6.6
PV10 Paradox Valley 85.57 48 *eP* **P** 14 56 52.7 +1.6
PV01 Paradox Valley 86.01 48 *eP* **P** 14 56 54.0 +0.7
PV01 *epP* pP 14 57 11.7 +1.3
GERES GERESS Array B 88.77 328 P **P** 14 57 07.1 +0.8
comp=Z,0.3nm,0.4s,mb4.0,baz=45,slow=3.8,SNR=4.8
GERES LR LR 15 41 13.6
comp=Z,23nm,18.6s,baz=247,slow=38
TXAR Lajitas Array 94.52 53 P **P** 14 57 34.9 +1.6
comp=Z,2.5nm,0.8s,mb4.7,baz=290,slow=2.7,SNR=24
TXAR pP pP 14 57 52.4 +1.8
comp=Z,1.4nm,0.6s,baz=297,slow=2.8,SNR=7.7
TXAR LR LR 15 38 47.0
comp=Z,43nm,20.7s,baz=290,slow=34
VNA2 Neumayer--Watz 135.41 194 PKPdf 15 03 35.0 +4.3
VNA2 Neumayer--Watz 135.41 194 PKPdf 15 03 37.8 +7.1
VNA3 Neumayer Olymp 135.62 193 PKPdf 15 03 34.6 +3.6
VNA3 Neumayer Olymp 135.62 193 PKPdf 15 03 38.2 +7.2
SAML Samuel 149.00 53 *e*PKPbc PKPdf 15 04 01.0 +5.1
LPAZ La Paz 149.79 70 PKPbc PKPdf 15 04 04.7 +7.6
comp=Z,2.3nm,0.7s,baz=33,slow=2.8,SNR=15
LPAZ pPKPbc 15 04 22.3
comp=Z,3.1nm,0.7s,baz=318,slow=3.6,SNR=6.5
LPAZ La Paz 149.79 70 *e*PKPbc PKPdf 15 04 04.0 +6.9

ISK ***09*** *14:51:27.4,38.27N×41.97E,h11km,MD3.7*
CSEM ***09*** *14:51:27.4±0.1,38.27N×41.97E,h11km,MD3.7, Error ellipse: s-maj=7.6km s-min=3.0km az=170.0, After ISK*
ISC 09 14:51:28.4±0.5**,38.35N**±0.04×**42.02E**±0.04**,h10**km**,n16,**
σ**1§31/22,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTMT	**Batman**	**0.45**	**250**	*i*	PG	**Pg**		**14 51 38.7**	**+1.2**
BEST	**Besiri**	**0.75**	**233**	*i*	P	**Pb**		**14 51 44.2**	**+1.1**
BEST				*i*	S	**Sb**		**14 51 56.6**	**+3.5**
TVAN	**Van**	**1.10**	**80**	*i*	P	**Pb**		**14 51 46.0**	**-3.1**
TVAN				*i*	S	**Sb**		**14 51 58.8**	**-4.6**
MARD	**Mardin**	**1.43**	**224**	*i*	P	**Pn**		**14 51 55.4**	**+0.9**
MARD				*i*	S	**Sb**		**14 52 15.8**	**+3.0**
DIY	**Diyarbakir**	**1.48**	**253**		PN	**Pn**		**14 51 53.6**	**-1.8**
HAKT	**HAKKARI**	**1.55**	**120**	*i*	P	**Pn**		**14 51 55.6**	**-0.6**
HAKT				*i*	S	**Sb**		**14 52 17.7**	**+1.4**
HKR	**Hakkari**	**1.56**	**119**		PN	**Pn**		**14 51 55.9**	**-0.6**
HKR					SN	**Sn**		**14 52 16.8**	**-0.1**
ERZM	**Erzurum**	**1.64**	**342**	*i*	P	**Pn**		**14 51 58.6**	**+1.1**
ERZM				*i*	S	**Sn**		**14 52 20.5**	**+1.7**
EZM	**Erzurum**	**1.64**	**342**		PN	**Pn**		**14 51 57.9**	**+0.4**
CLDR	**Caldiran**	**1.68**	**61**		PN	**Pn**		**14 51 57.7**	**-0.5**
PTK	**Pertek**	**2.13**	**286**		PN	**Pn**		**14 52 03.7**	**-0.9**
URFA	**Urfa**	**2.69**	**251**	*e*	PN	**Pn**		**14 52 10.8**	**-1.8**
GNI	**Garni**	**2.78**	**49**	*e*	PN	**Pn**		**14 52 14.8**	**+1.0**
MALT	**Malatya**	**2.83**	**270**		PN	**Pn**		**14 52 13.4**	**-1.1**
MYA	**Malataya**	**2.83**	**271**	*e*	PN	**Pn**		**14 52 13.6**	**-0.9**
GAZ	**Gaziantep**	**3.99**	**254**	*e*	PN	**Pn**		**14 52 29.6**	**-1.4**

MAN 09 14:54:06.4,13.78N×122.32E,h6km,mb4.0,ML2.8,MS2.5, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.56**	**235**	*e*	P		Pg	14 54 17.4	-0.4
BOAC				*e*	S		Sg	14 54 27.1	+1.9
AUQP	**San Andres**	**0.57**	**143**	*e*	P		Pg	14 54 18.3	+0.5
POLP	**Polillo Island**	**1.01**	**339**	*e*	P		Pb	14 54 26.1	+0.2
POLP				*e*	S		Sb	14 54 41.1	+1.9
PVCP	**Virac**	**1.79**	**96**	*e*	P		Pn	14 54 37.5	-0.6
LUBP	**Lubang**	**2.02**	**269**	*e*	P		Pn	14 54 41.9	+0.6
LUBP	**Lubang**	**2.02**	**269**	*e*	P		Pn	14 54 42.1	+0.7
CNP	**Catarman**	**2.61**	**119**	*e*	P		Pn	14 54 55.0	+5.2
BUSP	**Coron**	**2.72**	**230**	*e*	P		Pn	14 54 54.2	+2.7

BJI ***09*** *15:18:17.9, 1.49N×127.62E,h121km,mB4.8,mb5.0*
HRVD ***09*** *15:18:19.5±0.8, 1.83N×127.47E,h128km±12km, MW4.7/39, Centroid moment Tensor Solution. LP body waves: s3,c3;Mantle waves: s39,c47; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr~0.07±.18; Mθθ~0.77±.17; Mφφ0.83±.23; Mrθ~0.40±.08; Mφθ0.13±.17; Mφr~0.87±.11; Best double couple: M0 1.204×10^16^ NP1: φs133°,δ41°,λ-180°. NP2:φs43°,δ90°,λ-49°. Principal axes: T 1.411, Plg32°, Azm100°; N -.414, Plg41°, Azm223°; P -.998, Plg33°, Azm346°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***09*** *15:18:19.0±0.9, 1.72N×127.40E,h117km,mb4.8/19 Error ellipse: s-maj=16.4km s-min=7.5km az=112.3*
NEIC ***09*** *15:18:19.5±1.3, 1.62N×127.39E,h106km±13km,mb4.9/26, Error ellipse: s-maj=8.9km s-min=4.8km az=63.0*
IDC ***09*** *15:18:20.6±1.8, 1.63N×127.34E,h113km±15km,mb4.3/20, mb1 4.4/21,mb1mx4.3/24,mbtmp4.7/21,MS3.0/1, Ms1 3.0/1,ms1mx2.6/21,Error ellipse: s-maj=18.0km s-min=8.3km az=75.0*
ISC 09 15:18:18.3±0.8**,1.63N**±0.03×**127.37E**±0.06**,h107**km±6km**, n126,**σ**0§98/130,mb4.8/60,7C-8D,Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**5.40**	**348**	*eP*		**P**		**15 19 38.9**	**+1.2**
KCP	**Kidapawan**	**5.81**	**337**	*ieP*		**P**		**15 19 43.8**	**+0.4**
KCP				*e*	S	**S**		**15 20 48.1**	**-1.1**
CTBH	**Cotabato--PC H**	**6.37**	**331**	*i*	P	**P**		**15 19 50.4**	**-0.7**
CTBH				*i*	S	**S**		**15 20 58.2**	**-4.8**
BIPH	**Bislig**	**6.59**	**351**	*i*	P	**P**		**15 20 02.0**	**+7.9**
BIPH				*i*	S	**S**		**15 21 09.5**	**+1.2**
BUKP	**Musuan**	**6.62**	**340**	*eP*		**P**		**15 19 54.8**	**+0.2**
BUKP				*e*	S	**S**		**15 21 07.2**	**-2.0**
PAGZ	**Pagadian**	**7.35**	**327**	*eP*		**P**		**15 20 02.6**	**-1.9**
IPIL	**Ipil**	**7.77**	**322**	*eP*		**P**		**15 20 08.8**	**-1.4**
SCPH	**Surigao**	**8.32**	**347**	*ieP*		**P**		**15 20 19.0**	**+1.5**
KKM	**Kota Kinabalu**	**11.97**	**292**	*eP*		**P**		**15 21 06.3**	**-0.1**
LUBP	**Lubang**	**13.94**	**330**	*eP*		**P**		**15 21 34.1**	**+1.8**
KAKA	**Kakadu** 25nm,0.6s	**15.11**	**161**	*eP*		**P**		**15 21 46.0**	**-1.3**
CAUP	**Cauayan**	**16.17**	**341**	*eP*		**P**		**15 22 01.4**	**+0.8**
KSM	**Kuching**	**17.06**	**270**	*eP*		**P**		**15 22 12.2**	**+0.5**
APYP	**Conner**	**17.22**	**340**	*eP*		**P**		**15 22 13.5**	**-0.1**
FITZ	**Fitzroy Crossi** 22nm,0.6s	**19.68**	**185**	*ii*	P	**P**		**15 22 40.4**	**-1.0**
FITZ	**Fitzroy Crossi** 3.4nm,0.3s,baz=10,slow=7.2,SNR=53	**19.68**	**185**		P	**P**		**15 22 40.8**	**-0.6**
FITZ					ScP			15 30 21.5	
	0.7nm,0.3s,baz=177,slow=2.8,SNR=5.3								
FITZ					LR	LR		15 30 43.1	
	comp=Z,45nm,20.5s,baz=268,slow=38								
WRAB	**Tennant Creek**	**22.49**	**163**	*ci*	P	**P**		**15 23 10.1**	**+0.5**
WRAB	**Tennant Creek** 87nm,0.4s,mb5.4	**22.49**	**163**	*eP*		**P**		**15 23 10.1**	**+0.5**
WRA	**Warramunga Arr**	**22.50**	**163**	*i*	P	**P**		**15 23 10.1**	**+0.5**
WRA					pmax	pmax			
	comp=Z,56nm,0.5s								
WRA	**Warramunga Arr**	**22.50**	**163**		P	**P**		**15 23 10.1**	**+0.5**
	comp=Z,56nm,0.5s,mb5.2,baz=341,slow=11,SNR=118								
WRA					S	**S**		**15 27 10.3**	**+5.9**

comp=Z,4.0nm,0.8s,baz=343,slow=17,SNR=5.9
WRA ScP 15 30 27.9
comp=Z,2.1nm,0.8s,baz=341,slow=3.1,SNR=8.6
WB2 Warramunga Arr 22.50 163 *i P* **P** **15 23 10.1 +0.3**
WB2 *eS* **S** **15 27 09.9 +5.3**
PMG Port Moresby 22.55 119 P **P** **15 23 10.9 +0.5**
comp=Z,7.6nm,0.5s,mb4.3,baz=289,slow=21,SNR=6.9
YHNB Yeheng 23.63 346 *eP* **P** **15 23 20.7 +0.1**
MBWA Marble Bar 23.85 198 *eP* **P** **15 23 22.9 +0.1**
comp=Z,10nm,0.7s,mb4.3
QIZ Qiongzhong 24.38 316 P **P** **15 23 27.6 -0.3**
JOW Kunigami 25.08 2 P **P** **15 23 35.5 +0.9**
comp=Z,28nm,0.9s,mb4.7,baz=174,slow=7.3,SNR=5.4
CTA Charters Tower 28.43 140 *eP* **P** **15 24 10.6 +5.3**
comp=Z,8.9nm,0.8s,mb4.3
CTA Charters Tower 28.43 140 P **P** **15 24 05.9 +0.6**
comp=Z,11nm,0.9s,mb4.4,baz=305,slow=14,SNR=4.4
CTAO Charters Tower 28.43 140 *eP* **P** **15 24 10.4 +5.1**
CTAO pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
CTAO Charters Tower 28.43 140 *eP* **P** **15 24 10.4 +5.0**
comp=Z,9.7nm,0.8s,mb4.4
CBIJ Chichi jima 29.04 28 P **P** **15 24 09.4 -1.2**
comp=Z,19nm,0.3s,mb5.1,baz=138,slow=20,SNR=5.7
SSE Sheshan 29.89 349 *eP* **P** **15 24 15.4 -2.8**
SSE AMB AMB
comp=Z,26nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,23nm,3.5s
WHN Wuhan 31.30 338 *i*P **P** **15 24 32.0 +1.4**
NJ2 Nanjing 31.31 346 *eP* **P** **15 24 32.3 +1.6**
NJ2 PP PP 15 25 35.5 -1.9
NJ2 S **S** **15 29 31.0 +2.5**
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,170nm,4.9s
NJ2 LR LR
comp=N,180nm,17.5s
NJ2 LR LR
comp=E,160nm,18.4s
NJ2 LR LR
comp=Z,110nm,19.4s
GYA Guiyang 31.71 323 *i*P **P** **15 24 35.0 +0.8**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
CMAR Chiang Mai Arr 32.52 303 *i* P **P** **15 24 41.2 -0.1**
CMAR pmax pmax
comp=Z,5.0nm,1.1s
CMAR Chiang Mai Arr 32.52 303 P **P** **15 24 40.0 -1.3**
comp=Z,5.0nm,1.1s,mb4.3,baz=124,slow=7.9,SNR=12
CMAR ScP 15 30 59.6
comp=Z,1.5nm,1.0s,baz=133,slow=3.8,SNR=6.4
ENH Enshi 33.16 331 *eP* **P** **15 24 47.1 +0.3**
comp=Z,30nm,0.9s,mb5.1
KMI Kunming 33.33 317 P **P** **15 24 49.1 +0.9**
KMI AMB AMB
comp=Z,14nm,1.2s,mb4.7
KLBR Kellerberrin 34.27 195 *i*P **P** **15 24 55.2 -1.1**
comp=Z,8.9nm,0.5s,mb4.8
MUN Mundaring 35.06 197 *eP* **P** **15 25 02.4 -0.5**
comp=Z,6.0nm,0.4s,mb4.8
MUN Mundaring 35.06 197 *eP* **P** **15 25 02.4 -0.5**
MUN pmax pmax
comp=Z,6.0nm,0.4s,mb4.8
NWAO Narrogin (SRO) 35.68 195 P **P** **15 25 08.1 -0.1**
comp=Z,8.4nm,0.4s,mb5.0,baz=22,slow=6.0,SNR=17
NWAO Narrogin (SRO) 35.68 195 P **P** **15 25 08.1 -0.1**
STKA Stephens Creek 35.95 159 *i*P **P** **15 25 10.3 -0.1**
comp=Z,14nm,0.5s,mb5.2
STKA Stephens Creek 35.95 159 P **P** **15 25 10.4 0.0**
comp=Z,17nm,0.5s,mb5.2,baz=331,slow=8.8,SNR=78
MJAR Matsushiro Arr 36.16 15 P **P** **15 25 11.0 -1.2**
comp=Z,6.3nm,0.6s,mb4.7,baz=187,slow=9.9,SNR=16
MAT Matsushiro 36.16 15 *eP* **P** **15 25 11.0 -1.2**
MAT pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
MAT Matsushiro 36.16 15 *eP* **P** **15 25 11.0 -1.2**
comp=Z,7.5nm,0.7s,mb4.7
MAT Matsushiro 36.16 15 P **P** **15 25 10.6 -1.6**
XAN Xi'an 36.57 334 P **P** **15 25 15.1 -0.6**
XAN AMB AMB
comp=Z,61nm,0.8s,mb5.6
CD2 Chengdu 36.72 325 P **P** **15 25 17.0 +0.1**
CD2 AMB AMB
comp=Z,22nm,1.2s,mb5.0
LZH Lanzhou 40.63 330 *i*P **P** **15 25 51.0 +1.6**
LZH AMB AMB
comp=Z,60nm,1.2s,mb5.3
HHC Hu-ho-hao-te 41.58 342 *eP* **P** **15 25 58.0 +0.8**
HHC AMB AMB
comp=Z,13nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,64nm,8.4s
SHL Shillong 41.65 308 *eP* **P** **15 25 58.3 +0.4**
MDJ Mudanjiang 42.85 2 *eP* **P** **15 26 08.0 +0.5**
comp=Z,16nm,1.0s,mb4.7
LSA Lhasa 44.31 313 P **P** **15 26 21.4 +1.9**
LSA Lhasa 44.31 313 *eP* **P** **15 26 21.6 +2.1**
LSA pmax pmax
comp=Z,12nm,0.6s,mb4.8
LSA Lhasa 44.31 313 *eP* **P** **15 26 21.6 +2.1**
comp=Z,12nm,0.6s,mb4.8
ASAJ Asahikawa 44.42 16 P **P** **15 26 20.9 +0.8**
comp=Z,5.9nm,0.4s,mb4.7,baz=253,slow=14,SNR=16
DZM Mont Dzumac 44.82 124 P **P** **15 26 25.4 +1.8**
comp=Z,2.7nm,0.5s,mb4.2,baz=3.3,slow=16,SNR=12
GTA Gaotai 45.22 330 *eP* **P** **15 26 27.7 +1.1**
GTA S **S** **15 32 55.0 -2.7**
GTA AMB AMB
comp=Z,19nm,1.0s,mb4.8
GTA AMB AMB
comp=Z,60nm,6.5s
GTA LR LR
comp=N,60nm,14.5s
GTA LR LR
comp=E,76nm,17.9s
GTA LR LR
comp=Z,53nm,13.3s
YSS Yuzh-Sakhalins 47.09 14 *i*P **P** **15 26 40.4 -0.9**
YSS pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
YSS Yuzh-Sakhalins 47.09 14 *eP* **P** **15 26 40.4 -0.8**
comp=Z,4.5nm,0.5s,mb4.5
GUN Gumba 47.49 307 *eP* **P** **15 26 45.4 +0.8**
comp=Z,47nm,0.5s,mb5.5
KLR Kul'dur 47.57 4 *eP* **P** **15 26 41.7 -3.3**
PKI Pulchoki 47.72 307 *eP* **P** **15 26 46.5 +0.1**
comp=Z,13nm,0.6s,mb5.0
PKI Pulchoki 47.72 307 *eP* **P** **15 26 46.5 +0.1**
PKI pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
KKN Kakani 47.91 307 *eP* **P** **15 26 48.2 +0.3**
comp=Z,24nm,0.7s,mb5.1
KKN Kakani 47.91 307 *eP* **P** **15 26 48.2 +0.3**
KKN pmax pmax
comp=Z,12nm,0.7s,mb4.8
DMN Daman 47.98 307 *eP* **P** **15 26 48.9 +0.5**
comp=Z,68nm,1.2s,mb5.3
GKN Gorkha 48.52 307 *eP* **P** **15 26 52.7 +0.1**
comp=Z,47nm,1.1s,mb5.3
KOLN Koldanda 49.26 306 *eP* **P** **15 26 58.0 -0.3**
comp=Z,51nm,0.6s,mb5.6
ULN Ulaanbaatar 49.30 342 *eP* **P** **15 26 53.2 -5.2**
ULN pmax pmax
comp=Z,22nm,1.0s,mb5.0
ULN Ulaanbaatar 49.30 342 *eP* **P** **15 26 53.2 -5.1**
comp=Z,22nm,1.0s,mb5.0
SONM Songino Array 49.48 341 P **P** **15 27 00.2 +0.4**
comp=Z,5.4nm,0.6s,mb4.7,baz=157,slow=7.9,SNR=35
HYB Hyderabad 50.45 291 *eP* **P** **15 27 07.5 0.0**
HYB Hyderabad 50.45 291 *iP* **P** **15 27 07.5 0.0**
ZAK Zakamensk 52.71 341 *eP* **P** **15 27 23.3 -0.8**
ZAK *e* 15 28 31.9
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
TLY Talaya 53.72 342 *i P* **P** **15 27 30.0 -1.5**
TLY pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
MOY Mondy 54.56 340 *eP* **P** **15 27 38.0 +0.3**
MOY pmax pmax
comp=Z,12nm,1.6s,mb4.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**54.72**	**307**	*e*	**P**	**15 27 38.5**	**-0.6**
SDNR	**Sundarnagar**	**56.02**	**307**	*e*P	**P**	**15 27 49.4**	**+0.9**
THN	**Thein Dam**	**57.35**	**308**	*e*P	**P**	**15 27 56.7**	**-1.2**
MKAR	**Makanchi Array**	**59.64**	**326**	*i* P	**P**	**15 28 11.8**	**-1.7**
MKAR				pmax	pmax		
	comp=Z,22nm,0.4s						
MKAR	**Makanchi Array**	**59.64**	**326**	P	**P**	**15 28 13.8**	**+0.2**
	comp=Z,22nm,0.4s,mb5.5,baz=120,slow=8.2,SNR=162						
KSH	**Kashi**	**59.98**	**316**	*e*P	**P**	**15 28 17.7**	**+1.7**
KSH				*e*PCP	PcP	15 29 02.6	+1.9
KSH				*e*PP	PP	15 30 32.2	+0.8
KSH				*e*PPP	PPP	15 31 59.0	+0.7
KSH				*e*PCS		15 33 03.7	
KSH				*e*S	**S**	**15 36 27.3**	**+9.2**
KSH				AMB	AMB		
	comp=Z,80nm,0.9s,mb5.8						
KSH				AMB	AMB		
	comp=Z,140nm,3.6s						
KSH				LR	LR		
	comp=N,410nm,6.0s						
KSH				LR	LR		
	comp=E,260nm,6.8s						
YAK	**Yakutsk**	**60.28**	**1**	*d i*P	**P**	**15 28 16.7**	**-1.0**
YAK				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.5						
YAK	**Yakutsk**	**60.28**	**1**	*e*P	**P**	**15 28 16.9**	**-0.8**
	comp=Z,40nm,0.9s,mb5.5						
KZA	**Kyzart**	**61.59**	**318**	P	**P**	**15 28 28.2**	**+1.4**
	SNR=11						
TKM2	**Tokmak 2**	**61.74**	**319**	P	**P**	**15 28 28.4**	**+0.6**
	SNR=20						
UCH	**Uchtor**	**62.15**	**318**	P	**P**	**15 28 31.8**	**+1.2**
	SNR=24						
CHMS	**Chumysh**	**62.33**	**319**	P	**P**	**15 28 31.8**	**0.0**
	SNR=5.4						
AAK	**Ala-Archa**	**62.34**	**318**	*e*P	**P**	**15 28 31.6**	**-0.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9						
AAK	**Ala-Archa**	**62.34**	**318**	*e*P	**P**	**15 28 31.6**	**-0.3**
	comp=Z,4.8nm,0.4s,mb4.9						
USP	**Ospenovka**	**62.62**	**319**	P	**P**	**15 28 33.9**	**+0.3**
	SNR=23						
AML	**Almayashu**	**62.66**	**318**	P	**P**	**15 28 35.1**	**+1.2**
	SNR=25						
ZAL	**Zalesovo**	**62.74**	**333**	*i* P	**P**	**15 28 33.6**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ZAL	**Zalesovo**	**62.74**	**333**	P	**P**	**15 28 33.6**	**-0.8**
	comp=Z,5.5nm,0.5s,mb4.7,baz=352,slow=7.5,SNR=17						
EKS2	**Erkin-Say**	**62.83**	**318**	P	**P**	**15 28 35.9**	**+0.8**
	SNR=9.3						
SEY	**Seymchan**	**63.93**	**12**	*d i*P	**P**	**15 28 42.6**	**+0.6**
NVS	**Novosibirsk**	**64.03**	**333**⇓	*i*P	**P**	**15 28 40.9**	**-1.8**
NVS				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.8						
NVS				pmax	pmax		
	comp=N,5.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,7.0nm,0.8s						
KKAR	**Karatay Array**	**65.20**	**318**	*i* P	**P**	**15 28 50.2**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.8						
VOSK	**Vostochnaya**	**68.97**	**327**	P	**P**	**15 29 13.0**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
BVA0	**Borovoye Array**	**69.42**	**327**	P	**P**	**15 29 16.1**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ZRNK	**Zerenda**	**70.14**	**327**	*e*P	**P**	**15 29 20.6**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.2						
ZRNK	**Zerenda**	**70.14**	**327**	*e*P	**P**	**15 29 20.6**	**-0.6**
	comp=Z,26nm,0.7s,mb5.2						
AB31	**Akbulak array**	**74.18**	**321**	P	**P**	**15 29 44.6**	**-0.5**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
SVE	**Sverdlovsk**	**76.08**	**329**	*e*P	**P**	**15 29 55.0**	**-0.7**
SVE				*e*		15 30 34.0	
SVE				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.0						
ARU	**Arti**	**77.05**	**328**⇑	*i*P	**P**	**15 29 59.9**	**-1.2**
ARU				*e*		15 30 09.7	
ARU				*e*S	S	15 39 45.2	+5.7
ARU				*e*SS	SS	15 44 43.6	+2.1
ARU				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
ARU	**Arti**	**77.05**	**328**	*e*P	**P**	**15 30 00.2**	**-1.0**
	comp=Z,18nm,0.9s,mb4.8						
VNDA	**Vanda**	**81.27**	**173**	*e*P	**P**	**15 30 23.3**	**-0.3**
VNDA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
VNDA	**Vanda**	**81.27**	**173**	P	**P**	**15 30 24.2**	**+0.6**
	comp=Z,2.0nm,0.4s,mb4.3,baz=313,slow=7.1,SNR=24						
VNDA	**Vanda**	**81.27**	**173**	*e*P	**P**	**15 30 23.3**	**-0.3**
	comp=Z,9.3nm,1.2s,mb4.5						
MAW	**Mawson**	**82.02**	**200**	P	**P**	**15 30 28.3**	**+0.7**
	comp=Z,1.6nm,0.5s,mb4.1,baz=332,slow=4.8,SNR=7.9						
KIV	**Kislovodsk**	**85.05**	**314**	*e*P	**P**	**15 30 52.3**	**+8.9**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**86.72**	**25**	P	**P**	**15 30 50.7**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=250,slow=5.3,SNR=6.1						
OBN	**Obninsk**	**89.14**	**325**	*e*P	**P**	**15 31 02.1**	**-0.7**
OBN				*e*		15 31 35.8	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
BRTR	**Keskin Array B**	**91.85**	**310**	P	**P**	**15 31 15.2**	**-0.7**
	comp=Z,1.0nm,0.6s,mb4.2,baz=124,slow=4.5,SNR=6.1						
ARCES	**ARCESS Array B**	**92.63**	**340**	P	**P**	**15 31 18.1**	**-0.7**
	comp=Z,3.0nm,0.8s,mb4.7,baz=79,slow=5.5,SNR=12						
FINES	**FINESS Array B**	**93.98**	**332**	P	**P**	**15 31 24.5**	**-0.5**
	comp=Z,0.4nm,0.5s,mb4.0,baz=90,slow=7.6,SNR=7.3						
NB2	**NORSAR Subarra**	**100.94**	**334**	P	P	15 31 54.9	-1.8
	comp=Z,1.3nm,0.9s,baz=70,slow=4.5						
NB2	**NORSAR Subarra**	**100.94**	**334**	P	P	15 31 54.9	-1.8
NB2				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	**NORSAR Array B**	**100.94**	**334**	P	P	15 31 55.3	-1.3
	comp=Z,1.1nm,0.9s,baz=67,slow=4.5,SNR=4.0						
FFC	**Flin Flon**	**110.78**	**28**	*e*P	PKPdf	15 36 48.2	+10
TXAR	**Lajitas Array**	**122.35**	**53**	PKP	PKPdf	15 37 03.0	+1.6
	comp=Z,0.1nm,0.3s,baz=292,slow=1.9,SNR=3.1						

MDD 09 15:24:17.5±4.2**,32.85N**×**6.76W,mb3.6**/5**,Error ellipse: s-maj=51.6km s-min=37.6km az=85.0,PRXIMO SIN SOLUCIN,Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**4.05**	**23**	P	Pn	15 25 19.4	-2.7
	0.5nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.71**	**353**	P	Pn	15 25 29.3	-2.2
	0.6nm,0.1s,SNR=6.4						
EGRO				S	Sn	15 26 20.5	-7.3
	1.0nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.71**	**353**	P	Pn	15 25 29.3	-2.2
	0.6nm,0.1s,SNR=6.4						
EGRO				S	Sn	15 26 20.5	-7.2
	1.0nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.91**	**1**	P	Pn	15 25 30.8	-3.5
	0.5nm,0.2s,SNR=7.9						
EMIN				S	Sn	15 26 25.8	-6.9
	1.7nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.91**	**1**	P	Pn	15 25 30.8	-3.5
	0.5nm,0.2s,SNR=7.9						
EMIN				S	Sn	15 26 25.8	-6.9
	1.7nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**5.33**	**11**	P	Pn	15 25 37.4	-2.8
	0.3nm,0.1s,SNR=7.9						
ECAB				S	Sn	15 26 35.3	-8.0
	0.3nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**5.33**	**11**	P	Pn	15 25 37.4	-2.8
	0.3nm,0.1s,SNR=7.9						
ECAB				S	Sn	15 26 35.3	-7.9
	0.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.60**	**18**	P	Pn	15 25 40.7	-3.3
	0.6nm,0.1s,SNR=7.9						
EADA				S	Sn	15 26 42.7	-7.2
	0.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.60**	**18**	P	Pn	15 25 40.7	-3.3
	0.6nm,0.1s,SNR=7.9						
EADA				S	Sn	15 26 42.7	-7.3
	0.3nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.90**	**358**	P	Pn	15 25 44.7	-3.6
	0.8nm,0.1s,SNR=7.5						
EBAD	**Badajoz**	**5.90**	**358**	P	Pn	15 25 44.7	-3.5

0.8nm,0.1s,SNR=7.5

*IDC **09** 15:51:34.0±30.0,36.31N×70.14E,h146^{km}±207^{km}, mb3.3/2,mb1 3.3/4,mb1mx2.9/22,mbtmp3.8/4,ML3.6/2, Error ellipse: s-maj=257.6km s-min=103.8km az=4.0*

*NNC **09** 15:51:46.2±16.0,37.43N×69.82E,mpv3.3,Error ellipse: s-maj=133.9km s-min=99.4km az=168.0*

ISC 09 15:51:44.1±4.6**,36.9N**±0.3×**70.5E**±0.2**,h228**^{km}±29^{km}**,n7,** σ**0^{s}85**/9**,mb3.2**/1**,1C-3D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.23**	**360**	⇓P	**P**	**15 53 14.7**	**-0.8**
	0.8nm,0.3s,baz=178,slow=12,SNR=48						
KK31				⇑S	**S**	**15 54 19.4**	**-7.3**
	3.4nm,0.4s,baz=190,slow=25,SNR=9.6						
AAK	**Ala-Archa**	**6.52**	**27**	⇓P	**P**	**15 53 19.2**	**0.0**
	1.1nm,0.3s						
AAK				⇓S	**S**	**15 54 33.7**	**+0.2**
	22nm,0.9s						
MKAR	**Makanchi Array**	**13.23**	**38**	P	**P**	**15 54 44.4**	**-0.1**
	0.2nm,0.3s,baz=210,slow=11,SNR=15						
AB31	**Akbulak array**	**14.58**	**331**	P	**P**	**15 55 02.7**	**+1.6**
	0.2nm,0.3s,baz=165,slow=11,SNR=11						
BVAR	**Borovoye Array**	**16.16**	**360**	P	**P**	**15 55 19.0**	**-1.2**
	0.2nm,0.3s,baz=198,slow=12,SNR=5.0						
ZAL	**Zalesovo**	**19.73**	**26**	P	**P**	**15 55 58.9**	**+1.0**
	2.5nm,0.3s,baz=247,slow=6.2,SNR=7.3						
ARCES	**ARCESS Array B**	**40.67**	**338**	P	**P**	**15 59 02.7**	**-0.6**
	0.8nm,0.9s,mb3.2,baz=113,slow=9.2,SNR=6.5						

*IDC **09** 15:54:48.8±1.7,2.64N×126.58E,mb3.8/4,mb1 4.1/4, mb1mx3.7/18,mbtmp3.9/4,Error ellipse: s-maj=107.0km s-min=22.9km az=68.0*

*NEIC **09** 15:54:52.4±0.8,2.90N×127.33E,h35^{km},mb4.4/2,Error ellipse: s-maj=27.8km s-min=11.5km az=61.0*

ISC 09 15:54:50.9±0.9**,2.7N**±0.1×**126.7E**±0.2**,h33**^{km}**,n11,** σ**0^{s}50**/11**,mb4.0**/5**,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.92**	**288**	*e*P	**P**	**15 57 35.0**	**+7.0**
KSM	**Kuching**	**16.39**	**266**	P	**P**	**15 58 40.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**20.74**	**183**	P	**P**	**15 59 31.0**	**-0.4**
	3.6nm,0.5s						
YHNB	**Yeheng**	**22.39**	**347**	P	**P**	**15 59 47.5**	**-0.4**
WRAB	**Tennant Creek**	**23.77**	**162**	*e*P	**P**	**16 00 01.8**	**+0.3**
	6.7nm,0.9s,mb4.1						
WRAB				*e*		16 00 09.3	
WRA	**Warramunga Arr**	**23.77**	**162**	P	**P**	**16 00 01.8**	**+0.3**
	1.1nm,0.4s,mb3.7,baz=340,slow=11,SNR=10						
STKA	**Stephens Creek**	**37.24**	**159**	P	**P**	**16 02 02.1**	**+0.7**
	1.4nm,0.5s,mb4.0,baz=330,slow=7.7,SNR=7.2						
STKA	**Stephens Creek**	**37.24**	**159**	*e*P	**P**	**16 02 01.6**	**+0.2**
MKAR	**Makanchi Array**	**58.32**	**326**	P	**P**	**16 04 45.7**	**+0.6**
	0.3nm,0.5s,mb3.6,baz=125,slow=6.8,SNR=9.7						
MKAR	**Makanchi Array**	**58.32**	**326**	P	**P**	**16 04 45.7**	**+0.6**
SBA	**Scott Base**	**83.37**	**172**	P	**P**	**16 07 14.7**	**-0.9**
	9.4nm,1.9s,mb4.5						

IDC 09 16:01:54.1±2.0**,2.24N**×**125.61E,mb3.6**/3**,mb1 3.8**/3**, mb1mx3.5**/17**,mbtmp3.6**/3**,Error ellipse: s-maj=230.3km s-min=26.8km az=63.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.65**	**159**	P	P	16 07 07.3	-0.9
	0.7nm,0.4s,baz=338,slow=11,SNR=3.6						
STKA	**Stephens Creek**	**37.17**	**157**	P	P	16 09 07.2	-1.6
	1.1nm,0.5s,baz=339,slow=8.6,SNR=4.7						
MKAR	**Makanchi Array**	**58.15**	**326**	P	P	16 11 49.6	-2.5
	0.2nm,0.6s,baz=120,slow=6.9,SNR=4.7						

IDC 09 16:43:31.6±7.0**,1.91N**×**96.25E,mb3.8**/4**,mb1 3.9**/5**, mb1mx3.6**/19**,mbtmp3.7**/5**,ML3.5**/1**,Error ellipse: s-maj=179.6km s-min=88.2km az=126.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.65**	**9**	Pn	P	16 47 26.3	-1.9
	0.1nm,0.3s,baz=206,slow=10,SNR=5.9						
MKAR	**Makanchi Array**	**46.33**	**347**	P	P	16 51 59.1	-2.0
	1.0nm,0.7s,baz=160,slow=8.4,SNR=12						
SONM	**Songino Array**	**46.58**	**9**	P	P	16 52 00.9	-2.2
	0.3nm,0.5s,baz=190,slow=7.5,SNR=3.7						
ZAL	**Zalesovo**	**52.70**	**352**	P	P	16 52 48.5	-1.6
	1.0nm,0.5s,baz=343,slow=7.1,SNR=4.9						
ARCES	**ARCESS Array B**	**81.55**	**340**	P	P	16 55 50.6	-1.6
	0.7nm,0.8s,baz=90,slow=6.3,SNR=4.5						

*CASC **09** 16:56:19.2±1.0,7.52N×72.71W,h138^{km}±186^{km},MD5.3, mb4.7(NEIC)*

*NEIC **09** 16:56:24.7±0.2,6.75N×72.92W,mb4.7/73,Error ellipse: s-maj=4.8km s-min=3.3km az=215.0*

NEIC Felt at Los Santos and Medellin.

*BJI **09** 16:56:24.7,6.80N×72.90W,h157^{km},mB5.0*

*IDC **09** 16:56:25.1±0.5,6.77N×72.94W,h160^{km}±4^{km},mb4.4/18, mb1 4.6/22,mb1mx4.5/25,mbtmp4.9/22,MS3.5/6, Ms1 3.5/6,ms1mx3.1/22,Error ellipse: s-maj=9.2km s-min=6.1km az=113.0*

*FUNV **09** 16:56:25.2,6.84N×73.08W,h176^{km},MW4.4*

ISC 09 16:56:23.1±0.2**,6.72N**±0.03×**72.95W**±0.02**,h157**^{km}**, h157**^{km}±1.5^{km}**:pP-P,n240,** σ**1^{s}03**/226**,mb4.6**/81**,18C-10D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.30**	**29**	*e*S	**S**	**16 57 15.6**	**+2.1**
ROSC	**El Rosal**	**2.31**	**217**	P	**P**	**16 57 06.4**	**+3.6**
	1μm,0.3s,baz=124,slow=23,SNR=442						
ROSC				LR	LR	16 57 36.8	
	comp=Z,566nm,20.8s,baz=40,slow=30						
ROSC				S	**S**	**16 57 37.2**	**+4.0**
	6μm,0.3s,baz=114,slow=20,SNR=19						
SOCV	**Socops**	**2.59**	**53**	*e*P	**P**	**16 57 08.1**	**+1.9**
SOCV				*e*S	**S**	**16 57 40.0**	**+0.7**
VIGV	**El Vigia**	**2.62**	**37**	*e*P	**P**	**16 57 08.1**	**+1.4**
VIGV				*e*S	**S**	**16 57 39.7**	**-0.4**
SDV	**Santo Domingo**	**3.14**	**47**	P	**P**	**16 57 16.0**	**+2.7**
	182nm,0.3s,baz=256,slow=7.9,SNR=560						
SDV				S	**S**	**16 57 53.5**	**+1.8**
	188nm,0.3s,baz=284,slow=21,SNR=29						
SDV	**Santo Domingo**	**3.14**	**47**	*e*P	**P**	**16 57 15.5**	**+2.2**
VIRV	**Villa del Rosa**	**3.79**	**8**	*e*P	**P**	**16 57 21.1**	**-0.6**
VIRV				*e*S	**S**	**16 58 02.5**	**-4.2**
QARV	**Quebrada Arrib**	**4.21**	**34**	*e*P	**P**	**16 57 27.3**	**+0.2**
QARV				*e*S	**S**	**16 58 13.2**	**-3.2**
SANV	**Sanarito**	**4.36**	**50**	*e*S	**S**	**16 58 17.7**	**-2.2**
SIQV	**Siquisique**	**4.98**	**38**	*e*P	**P**	**16 57 37.2**	**-0.1**
SIQV				*e*S	**S**	**16 58 30.5**	**-4.1**
BAUV	**El Baul**	**5.34**	**65**⇓	*e*P	**P**	**16 57 42.6**	**+0.7**
CAOV	**Caicara del Or**	**6.60**	**84**⇓	*e*P	**P**	**16 57 59.6**	**+0.8**
UPA	**Univ. de Panam**	**6.90**	**289**⇓	*i*P	**P**	**16 58 00.4**	**-2.4**
AZU2	**Pedas**	**7.07**	**277**	*e*P	**P**	**16 58 03.6**	**-1.5**
AZU	**Azuero**	**7.35**	**279**⇑	*i*P	**P**	**16 58 08.1**	**-0.7**
PTP1	**Petroterminal**	**9.52**	**279**	*e*P	**P**	**16 58 44.6**	**+7.0**
DVD	**David**	**9.58**	**281**	*e*P	**P**	**16 58 39.0**	**+0.7**
SVTC	**San Vito de Co**	**10.13**	**282**	*e*P	**P**	**16 58 46.3**	**+0.6**
BUS	**Buena Vista**	**11.07**	**285**	*e*P	**P**	**16 58 58.4**	**+0.5**
URSC	**Urasca**	**11.16**	**287**	*e*P	**P**	**16 58 59.0**	**-0.1**
TRTC	**Tortuguero**	**11.31**	**291**	*e*P	**P**	**16 58 59.2**	**-1.9**
LCR2	**La Lucha 2**	**11.35**	**286**	*e*P	**P**	**16 59 01.8**	**+0.2**
YHJ	**Yallahs**	**11.63**	**343**⇑	*e*P	**P**	**16 59 07.2**	**+2.0**
PCJ	**Portland Cotta**	**11.70**	**340**	*e*P	**P**	**16 59 08.3**	**+2.2**
PCJ				*e*S	**S**	**17 01 04.1**	**-10**
PRS1	**Puriscal**	**11.70**	**287**	*e*P	**P**	**16 59 07.9**	**+1.7**
PRS1				*e*S	**S**	**17 01 18.1**	**+3.9**
HOJ	**Hope**	**11.81**	**342**⇓	*e*P	**P**	**16 59 10.7**	**+3.1**
GWJ	**Greenwich**	**11.87**	**342**⇑	*e*P	**P**	**16 59 10.9**	**+2.5**
STH	**Stony Hill**	**11.90**	**342**⇑	*e*P	**P**	**16 59 11.0**	**+2.3**
STH				*e*S	**S**	**17 01 08.9**	**-10**
TPP	**Pointe-a-Pierr**	**11.91**	**72**	*e*P	**P**	**16 59 21.1**	**+12**
TRN	**Trinidad (W)**	**12.06**	**70**⇓	*i*P	**P**	**16 59 21.2**	**+10**
MCJ	**Malvern**	**12.06**	**338**⇑	*e*P	**P**	**16 59 12.8**	**+2.0**
MCJ				*e*S	**S**	**17 01 12.9**	**-9.5**
MCJ				*e*S	**S**	**17 01 14.4**	**-8.0**
BNJ	**Bonny Gate**	**12.17**	**342**⇑	*e*P	**P**	**16 59 14.6**	**+2.4**
BNJ				*e*S	**S**	**17 01 16.3**	**-8.8**
CVJ	**Coleyville**	**12.28**	**339**⇑	*e*P	**P**	**16 59 16.1**	**+2.5**
TBH	**Brigand Hill**	**12.32**	**72**⇑	*i*P	**P**	**16 59 25.7**	**+11**
JTS	**JuntasAbangare**	**12.39**	**287**	P	**P**	**16 59 15.2**	**0.0**
	3.6nm,0.3s,baz=81,slow=9.5,SNR=26						
JTS				LR	LR	17 04 16.7	
	comp=Z,150nm,18.5s,baz=274,slow=38						
JTS	**JuntasAbangare**	**12.39**	**287**	*e*P	**P**	**16 59 15.1**	**-0.1**
	97nm,0.8s						
MBJ	**Montego Bay**	**12.56**	**338**⇑	*i*P	**P**	**16 59 20.3**	**+3.1**
TPR	**Prospect**	**12.81**	**69**	*e*P	**P**	**16 59 26.4**	**+5.9**
SJG	**San Juan**	**13.12**	**30**	P	**P**	**16 59 24.9**	**+0.4**
	9.8nm,0.3s,baz=210,slow=13,SNR=13						
SJG				S	**S**	**17 01 39.1**	**-8.0**
	2.1nm,0.3s,baz=31,slow=23,SNR=7.7						
SJG	**San Juan**	**13.12**	**30**	P	**P**	**16 59 24.5**	**0.0**
	24nm,0.4s						
SAML	**Samuel**	**18.36**	**148**	*e*P	**P**	**17 00 28.4**	**-0.1**
	12nm,0.6s						
LPAZ	**La Paz**	**23.35**	**168**	P	**P**	**17 01 21.2**	**+2.7**
	8.4nm,0.8s,mb4.2,baz=352,slow=7.9,SNR=47						
LPAZ				S	**S**	**17 05 21.9**	**+5.8**
	11nm,1.0s,baz=240,slow=20,SNR=4.8						
LPAZ	**La Paz**	**23.35**	**168**	*e*P	**P**	**17 01 20.4**	**+1.9**
	13nm,1.2s,mb4.2						
SIV	**San Ignacio**	**25.45**	**153**	P	**P**	**17 01 38.1**	**-0.2**
	4.3nm,0.8s,mb4.0,baz=335,slow=9.4,SNR=27						
COW	**Cow Castle Cre**	**27.49**	**346**	*e*P	**P**	**17 01 57.8**	**+0.9**
LVC	**Limon Verde**	**29.42**	**172**	P	**P**	**17 02 13.5**	**-0.7**
	2.5nm,0.6s,mb4.2,baz=8.2,slow=8.0,SNR=4.5						
LVC				ScP		17 08 42.6	
	7.9nm,0.9s,baz=319,slow=1.7,SNR=6.5						
MYNC	**Murphy**	**30.04**	**341**	*e*P	**P**	**17 02 20.1**	**+0.5**
	14nm,0.8s,mb4.7						
PLAL	**Pickwick Lake**	**31.39**	**336**	*e*P	**P**	**17 02 31.4**	**0.0**
	25nm,0.8s,mb5.0						
WVT	**Waverly**	**32.29**	**337**	*e*P	**P**	**17 02 38.7**	**-0.5**
	26nm,0.6s,mb5.1						
GNAR	**Gosnell**	**33.05**	**334**	*e*P	**P**	**17 02 46.0**	**+0.2**
BDFB	**Brasilia**	**33.22**	**132**	P	**P**	**17 02 48.7**	**+1.3**
	9.4nm,0.6s,mb4.7,baz=299,slow=10,SNR=10.0						
BDFB				LR	LR	17 17 24.0	
	comp=Z,193nm,18.3s,baz=93,slow=38						
BAO	**Brasilia Array**	**33.23**	**132**	P	**P**	**17 02 43.0**	**-4.5**
BLO	**Bloomington**	**34.55**	**341**	*e*P	**P**	**17 02 59.0**	**+0.5**
	56nm,0.6s,mb5.4						
FVM	**French Village**	**34.93**	**336**	*e*P	**P**	**17 03 01.5**	**-0.2**
	48nm,0.8s,mb5.2						
CCM	**Cathedral Cave**	**35.34**	**335**	*e*P	**P**	**17 03 04.9**	**-0.2**
	75nm,0.7s,mb5.4						
ALLY	**Alegheny Colle**	**35.37**	**351**	*e*P	**P**	**17 03 06.4**	**+1.0**
BINY	**Binghamton**	**35.43**	**356**	*e*P	**P**	**17 03 06.9**	**+1.0**
	14nm,0.7s,mb4.7						
CPUP	**Villa Florida**	**36.18**	**156**	LR	LR	17 19 27.7	
	comp=Z,77nm,18.6s,baz=316,slow=38						
LTX	**Lajitas**	**36.66**	**312**	*e*P	**P**	**17 03 16.2**	**-0.1**
	7.5nm,0.6s,mb4.5						
TXAR	**Lajitas Array**	**36.66**	**312**	P	**P**	**17 03 16.3**	**0.0**
	8.3nm,0.7s,mb4.5,baz=127,slow=9.3,SNR=131						
TXAR				ScP		17 09 07.4	
	0.2nm,0.6s,baz=159,slow=7.7,SNR=2.0						
AAM	**Ann Arbor**	**36.68**	**347**	*e*P	**P**	**17 03 18.0**	**+1.6**
MSNY	**Massena**	**38.16**	**358**	*e*P	**P**	**17 03 29.9**	**+1.1**
CFAA	**Coronel Fontan**	**38.37**	**174**	P	**P**	**17 03 30.3**	**-0.4**
	0.2nm,0.3s,baz=25,slow=3.6,SNR=4.3						
CFAA				ScP		17 09 12.9	
	0.2nm,0.5s,baz=327,slow=1.7,SNR=6.7						
CFAA	**Coronel Fontan**	**38.37**	**174**	P	**P**	**17 03 30.3**	**-0.4**
CFAA				ScP		17 09 12.9	
AMTX	**Amarillo**	**38.54**	**321**	*e*P	**P**	**17 03 32.1**	**0.0**
	34nm,0.8s,mb5.0						
KSU1	**Kansas State U**	**38.66**	**330**	*e*P	**P**	**17 03 31.9**	**-1.1**
GDL2	**Guadalupe Moun**	**38.72**	**315**	*e*P	**P**	**17 03 34.0**	**+0.5**
MNTX	**Cornudas Mount**	**39.16**	**314**	*e*P	**P**	**17 03 37.2**	**-0.1**
	19nm,0.8s,mb4.8						
MNTX				*e*PcP	PcP	17 05 43.5	-0.5
BNM	**Barren Site**	**41.38**	**316**	*e*P	**P**	**17 03 55.5**	**+0.1**
BNM				*e*PcP	PcP	17 05 51.0	-0.1
ANMO	**Albuquerque**	**41.71**	**317**	*e*P	**P**	**17 03 58.8**	**+0.6**
	2.2nm,0.5s,mb4.0						
ANMO				*e*pP	pP	17 04 32.3	-0.7
LAZ	**Ladron**	**41.87**	**316**	*e*P	**P**	**17 04 00.3**	**+0.8**
LAZ				*e*pP	pP	17 04 34.0	-0.3
TUC	**Tucson**	**43.44**	**311**	*e*P	**P**	**17 04 12.6**	**+0.4**
	7.0nm,0.8s,mb4.3						
TUC				*e*pP	pP	17 04 45.7	-1.5
ISCO	**Idaho Springs**	**44.09**	**323**	*e*P	**P**	**17 04 18.1**	**+0.8**
	21nm,0.9s,mb4.8						
ISCO				*e*PcP	PcP	17 06 01.0	+0.8
PV01	**Paradox Valley**	**44.92**	**319**	*e*P	**P**	**17 04 23.8**	**-0.2**
PHWY	**Pilot Hill**	**44.97**	**325**	*e*P	**P**	**17 04 24.7**	**+0.4**
RSSD	**Black Hills**	**46.11**	**329**	*e*P	**P**	**17 04 33.1**	**-0.2**
	7.4nm,0.8s,mb4.4						
RWWY	**Rawlins**	**46.22**	**324**	*e*P	**P**	**17 04 34.8**	**+0.6**
	26nm,0.9s,mb4.9						
SRU	**San Rafael**	**46.73**	**319**	*e*P	**P**	**17 04 38.4**	**+0.2**
TMUT	**Trail Mountain**	**47.27**	**319**	*e*P	**P**	**17 04 42.3**	**-0.2**
ULM	**Lac du Bonnet**	**47.44**	**340**	P	**P**	**17 04 42.4**	**-1.2**
	35nm,0.6s,mb5.2,baz=147,slow=7.8,SNR=30						
ULM				LR	LR	17 25 35.2	
	comp=Z,41nm,19.9s,baz=106,slow=37						
ULM	**Lac du Bonnet**	**47.44**	**340**	*e*P	**P**	**17 04 42.5**	**-1.1**
	22nm,0.9s,mb4.8						
MSU	**Marysvale**	**47.49**	**318**	*e*P	**P**	**17 04 44.9**	**+0.7**
MSU				*e*pP	pP	17 05 21.1	+1.4
MVU	**Marysvale**	**47.51**	**318**	*e*P	**P**	**17 04 44.8**	**+0.4**
	29nm,0.8s,mb5.0						
MVU				*e*pP	pP	17 05 22.0	+2.2
DAU	**Daniels Canyon**	**47.92**	**320**	*e*P	**P**	**17 04 47.9**	**+0.4**
DAU				*e*pP	pP	17 05 24.8	+1.8
MPU	**Maple Canyon**	**47.94**	**320**	*e*P	**P**	**17 04 47.9**	**+0.3**
NEN	**Nelson**	**47.97**	**313**	*e*P	**P**	**17 04 48.0**	**+0.2**
NEN				*e*pP	pP	17 05 23.5	+0.1
ARUT	**Antelope Range**	**47.98**	**316**	*e*P	**P**	**17 04 48.4**	**+0.5**
ARUT				*e*pP	pP	17 05 24.9	+1.4
NLU	**North Lily Min**	**48.20**	**319**	*e*P	**P**	**17 04 50.0**	**+0.4**
SCHQ	**Schefferville**	**48.22**	**5**	P	**P**	**17 04 49.7**	**+0.1**
	74nm,0.7s,mb5.4,baz=189,slow=5.8,SNR=113						
SCHQ				ScP		17 09 53.6	
	5.7nm,0.8s,baz=172,slow=1.7,SNR=6.6						
SCHQ	**Schefferville**	**48.22**	**5**	*e*P	**P**	**17 04 49.3**	**-0.3**
	97nm,0.8s,mb5.5						
PDAR	**Pinedale Array**	**48.26**	**324**	P	**P**	**17 04 49.8**	**-0.3**
	9.3nm,0.7s,mb4.5,baz=128,slow=8.7,SNR=79						
PDAR				pP	pP	17 05 24.6	-1.0
	3.8nm,0.9s,baz=117,slow=9.9,SNR=2.7						
PDAR				PcP	PcP	17 06 14.0	-0.9
	1.7nm,0.5s,baz=120,slow=6.9,SNR=5.5						
PDAR				ScP		17 09 54.0	
	0.9nm,0.8s,baz=119,slow=4.7,SNR=4.6						
CTU	**Camp Tracy**	**48.39**	**320**	*e*P	**P**	**17 04 51.2**	**+0.1**
TCUT	**Toone Canyon**	**48.41**	**321**	*e*P	**P**	**17 04 51.5**	**+0.3**
HWUT	**Hardware Ranch**	**48.79**	**322**	*e*P	**P**	**17 04 52.8**	**-1.3**
	16nm,0.7s,mb4.8						
LAO	**LASA Array**	**49.01**	**330**	*e*P	**P**	**17 04 55.0**	**-0.8**
	7.7nm,0.6s,mb4.5						
AHID	**Auburn Hatcher**	**49.17**	**323**	*e*P	**P**	**17 04 56.5**	**-0.5**
	14nm,0.7s,mb4.7						
DGMT	**Dagmar**	**49.32**	**333**	*e*P	**P**	**17 04 58.3**	**+0.3**
	125nm,0.6s,mb5.7						
BGU	**Big Grassy Mou**	**49.33**	**320**	*e*P	**P**	**17 04 58.2**	**-0.1**
BGU				*e*pP	pP	17 05 33.0	-1.0
REDW	**Red Top Meadow**	**49.38**	**324**	*e*P	**P**	**17 04 58.4**	**-0.2**
	42nm,0.8s,mb5.1						
REDW				*e*pP	pP	17 05 34.6	+0.3
SNOW	**Snow King Moun**	**49.38**	**324**	*e*P	**P**	**17 04 58.7**	**+0.1**
	18nm,0.6s,mb4.9						
LOHW	**Long Hollow**	**49.38**	**324**	*e*P	**P**	**17 04 58.5**	**-0.1**
	18nm,0.6s,mb4.9						
TPAW	**Teton Pass**	**49.51**	**324**	*e*P	**P**	**17 04 59.5**	**-0.1**
	19nm,0.6s,mb4.9						
MOOW	**Moose Ponds**	**49.54**	**324**	*e*P	**P**	**17 04 59.6**	**-0.2**
	14nm,0.8s,mb4.7						
HVU	**Hansel Valley**	**49.63**	**321**	*e*P	**P**	**17 04 60.0**	**-0.6**
RRI2	**Red Ridge**	**49.64**	**324**	*e*P	**P**	**17 05 00.6**	**0.0**
	45nm,0.7s,mb5.2						
TRCR	**Troy Canyon**	**49.74**	**316**	*e*P	**P**	**17 05 01.7**	**+0.3**
IMW	**Indian Meadow**	**49.74**	**324**	*e*P	**P**	**17 05 01.3**	**-0.1**
	19nm,0.6s,mb4.9						
QLMT	**Earthquake Lak**	**50.59**	**325**	*e*P	**P**	**17 05 08.7**	**+1.0**
ELK	**Elko**	**50.67**	**319**	*e*P	**P**	**17 05 08.0**	**-0.4**
	5.9nm,0.8s,mb4.3						
BOZ	**Bozeman (W)**	**51.19**	**326**	*e*P	**P**	**17 05 11.9**	**-0.5**
	13nm,0.7s,mb4.7						
MCMT	**McKenzie Canyo**	**51.40**	**324**	*e*P	**P**	**17 05 14.6**	**+0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MTUM	**Tungsten Hills**	**51.40**	**313**	*e*P	**P**	**17 05 14.2**	**+0.2**
HLID	**Hailey**	**51.62**	**322**	*e*P	**P**	**17 05 15.4**	**-0.2**
	18nm,1.0s,mb4.7						
NVAR	**Mina Array Bea**	**51.68**	**315**	P	**P**	**17 05 15.8**	**-0.3**
	6.9nm,0.7s,mb4.4,baz=120,slow=7.6,SNR=11						
NVAR				PcP	PcP	17 06 28.1	+0.6
	5.1nm,0.7s,baz=126,slow=5.3,SNR=7.3						
OMM	**Old Mammoth Mi**	**51.82**	**313**	*e*P	**P**	**17 05 17.2**	**0.0**
BMN	**Battle Mountai**	**51.84**	**317**	*e*P	**P**	**17 05 16.9**	**-0.4**
	16nm,1.1s,mb4.6						
HRY	**Holter Researc**	**51.95**	**327**	*e*P	**P**	**17 05 16.6**	**-1.4**
CHMT	**Chamberlain Mo**	**52.85**	**326**	*e*P	**P**	**17 05 23.9**	**-0.8**
CMB	**Columbia Colle**	**53.00**	**313**	*e*P	**P**	**17 05 25.3**	**-0.7**
	3.4nm,1.0s,mb4.0						
WCN	**Washoe City**	**53.07**	**315**	*e*P	**P**	**17 05 26.7**	**+0.3**
	12nm,0.9s,mb4.6						
FFC	**Flin Flon**	**53.24**	**339**	*e*P	**P**	**17 05 26.1**	**-1.3**
	63nm,0.8s,mb5.4						
WVOR	**Wild Horse Val**	**53.72**	**319**	*e*P	**P**	**17 05 30.6**	**-0.5**
	19nm,0.7s,mb4.9						
BEKR	**Beckwourth**	**53.73**	**315**	*e*P	**P**	**17 05 30.7**	**-0.6**
	15nm,1.1s,mb4.6						
BMO	**Blue Mountains**	**54.07**	**322**	*e*P	**P**	**17 05 31.8**	**-1.8**
	4.4nm,0.6s,mb4.4						
MOD	**Modoc**	**54.58**	**318**	*e*P	**P**	**17 05 35.7**	**-1.7**
	7.3nm,0.7s,mb4.5						
NSHM	**Saint Helena R**	**54.80**	**313**	*e*P	**P**	**17 05 37.7**	**-1.3**
WDC	**Whiskeytown Da**	**55.55**	**315**	*e*P	**P**	**17 05 41.1**	**-3.4**
	5.6nm,0.8s,mb4.5						
NEW	**Newport**	**55.77**	**326**	*e*P	**P**	**17 05 44.6**	**-1.4**
	14nm,1.3s,mb4.6						
YBH	**Yreka Blue Hor**	**56.13**	**317**	*e*P	**P**	**17 05 46.5**	**-2.1**
	7.6nm,0.6s,mb4.7						
KHMM	**Horse Mountain**	**56.50**	**315**	*e*P	**P**	**17 05 50.9**	**-0.3**
EDM	**Edmonton**	**56.79**	**332**	*e*P	**P**	**17 05 51.6**	**-1.5**
YKA	**Yellowknife Ar**	**63.42**	**340**	P	**P**	**17 06 36.4**	**-1.6**
	35nm,0.6s,mb5.3,baz=130,slow=6.9,SNR=296						
YKA				pP	pP	17 07 14.4	-1.0
	4.9nm,0.8s,baz=130,slow=5.4,SNR=1.5						
YKA	**Yellowknife Ar**	**63.42**	**340**	P	**P**	**17 06 36.4**	**-1.6**
YKA				pP	pP	17 07 14.4	-1.0
YKW3	**Yellowknife Ar**	**63.47**	**340**	*e*P	**P**	**17 06 36.9**	**-1.4**
DLBC	**Dease Lake**	**67.49**	**331**	*e*P	**P**	**17 07 04.3**	**+0.2**
DBIC	**Dimbokro**	**67.57**	**86**	P	**P**	**17 07 04.5**	**-0.8**
	34nm,0.7s,mb5.2,baz=267,slow=6.6,SNR=42						
DBIC				pP	pP	17 07 42.1	-1.0
	7.5nm,0.7s,baz=262,slow=11,SNR=2.1						
DBIC	**Dimbokro**	**67.57**	**86**	*e*P	**P**	**17 07 04.1**	**-1.2**
	35nm,0.7s,mb5.2						
SUMG	**Summit**	**69.05**	**11**	*e*P	**P**	**17 07 13.7**	**+0.2**
	75nm,0.8s,mb5.5						
ESDC	**Sonseca Array**	**69.58**	**50**	P	**P**	**17 07 15.1**	**-2.1**
	0.6nm,0.6s,baz=276,slow=6.3,SNR=4.8						
SJPF	**Ste Jean**	**72.10**	**47**	*e*P	**P**	**17 07 31.5**	**-0.7**
GRR	**Gorron**	**73.12**	**42**	*e*P	**P**	**17 07 36.6**	**-1.5**
INK	**Inuvik**	**73.18**	**340**	*e*P	**P**	**17 07 37.6**	**-0.5**
	20nm,0.7s,mb5.0						
EPF	**Esparros**	**73.23**	**47**	*e*P	**P**	**17 07 39.2**	**+0.3**
MFF	**Saint Martin d**	**73.34**	**43**	*e*P	**P**	**17 07 38.1**	**-1.3**
	12nm,0.8s,mb4.4						
FLN	**La Foliniere**	**73.43**	**41**	*e*P	**P**	**17 07 38.6**	**-1.3**
FLN				*e*R			
	28nm,21.0s						
LDF	**La Druitiere**	**73.64**	**41**	*e*P	**P**	**17 07 39.6**	**-1.5**
	6.7nm,0.8s,mb4.2						
LFF	**La Frestale**	**73.74**	**45**	*e*P	**P**	**17 07 41.1**	**-0.7**
MTLF	**Montolieu**	**74.63**	**47**	*e*P	**P**	**17 07 46.2**	**-0.7**
DAG	**Danmarks Havn**	**75.72**	**11**⇓	*e*P	**P**	**17 07 52.0**	**-0.5**
	17nm,0.8s,mb4.7						
DAG	**Danmarks Havn**	**75.72**	**11**⇓	*i*P	**P**	**17 07 52.0**	**-0.5**
	17nm,0.8s,mb4.7						
EYAK	**Cordova Ski Ar**	**75.75**	**331**	*e*P	**P**	**17 07 53.8**	**+0.9**
DIV	**Divide**	**75.88**	**331**	*e*P	**P**	**17 07 54.2**	**+0.6**
	22nm,0.7s,mb4.9						
SMF	**Signal de Mont**	**76.07**	**44**	*e*P	**P**	**17 07 53.4**	**-1.6**
LOR	**Lormes**	**76.14**	**43**	*e*P	**P**	**17 07 53.7**	**-1.6**
LOR				*e*R			
	33nm,21.2s						
VIVF	**Saint-Julien-l**	**76.51**	**46**	*e*P	**P**	**17 07 56.6**	**-0.9**
	14nm,1.0s,mb4.2						
BAIF	**Baives**	**76.63**	**40**	*e*P	**P**	**17 07 57.3**	**-0.7**
GIVF	**Givet**	**77.03**	**40**	*e*P	**P**	**17 08 00.6**	**+0.4**
MEZF	**Maizieres J'vi**	**77.04**	**42**	*e*P	**P**	**17 07 59.9**	**-0.5**
ILAR	**Eielson Array**	**77.13**	**335**	P	**P**	**17 08 00.3**	**-0.2**
	7.4nm,0.7s,mb4.4,baz=112,slow=4.4,SNR=70						
ILAR				LR	LR	17 41 16.9	
	comp=Z,35nm,18.9s,baz=358,slow=35						
SML	**Sawmill**	**77.21**	**332**	*e*P	**P**	**17 08 01.0**	**0.0**
ORIF	**Oris-en-Rattie**	**77.37**	**46**	*e*P	**P**	**17 08 02.1**	**-0.2**
ORIF				*e*R			
	37nm,30.8s						
PMR	**Palmer**	**77.55**	**332**	*e*P	**P**	**17 08 02.8**	**-0.1**
MCK	**McKinley**	**77.81**	**334**	*e*P	**P**	**17 08 04.5**	**+0.2**
	3.9nm,0.3s,mb4.5						
WLF	**Walferdange**	**77.85**	**41**	*e*P	**P**	**17 08 05.7**	**+0.9**
	13nm,1.0s,mb4.5						
HAU	**Haudompre**	**77.87**	**42**	*e*P	**P**	**17 08 06.2**	**+1.3**
HAU				*e*R			
	51nm,22.5s						
PWA	**Palmer West**	**77.92**	**332**	*e*P	**P**	**17 08 05.1**	**+0.2**
SLKM	**Skilak Lake**	**77.92**	**330**	*e*P	**P**	**17 08 04.5**	**-0.5**
HINF	**Hinteralfeld**	**78.20**	**43**	*e*P	**P**	**17 08 05.8**	**-0.9**
CDF	**Champ du Feu**	**78.52**	**42**	*e*P	**P**	**17 08 07.2**	**-1.2**
	6.3nm,0.9s,mb4.0						
SPU	**Mount Spurr**	**78.89**	**331**	*e*P	**P**	**17 08 09.7**	**-0.5**
BFO	**Black Forest**	**79.21**	**42**	*e*P	**P**	**17 08 12.7**	**+0.5**
	5.0nm,0.9s,mb4.1						
IMA	**Indian Mountai**	**80.13**	**336**	*e*P	**P**	**17 08 17.2**	**+0.4**
DAVA	**Damuels**	**80.23**	**43**⇓	*i*P	**P**	**17 08 18.0**	**+0.3**
SVW2	**Sparrevohn**	**80.59**	**331**	*e*P	**P**	**17 08 18.1**	**-1.2**
CLZ	**Clausthal**	**80.62**	**39**	*e*P	**P**	**17 08 19.8**	**+0.1**
	8.0nm,0.8s,mb4.4						
BSEG	**Bad Segeberg**	**80.64**	**37**	*e*P	**P**	**17 08 20.0**	**+0.3**
MOTA	**Moosalm**	**81.07**	**43**⇑	*i*P	**P**	**17 08 21.1**	**-1.0**
	2.8nm,0.9s,mb3.9						
SQTA	**Sankt Quirin**	**81.14**	**43**⇓	*i*P	**P**	**17 08 23.1**	**+0.6**
	7.0nm,0.8s,mb4.3						
GRA1	**Grafenberg Arr**	**81.14**	**41**	*e*P	**P**	**17 08 23.1**	**+0.7**
	8.0nm,1.1s,mb4.3						
GRF	**Grafenberg Arr**	**81.14**	**41**	*e*P	**P**	**17 08 23.1**	**+0.7**
	8.0nm,1.1s,mb4.3						
NB2	**NORSAR Subarra**	**81.33**	**29**	P	**P**	**17 08 23.5**	**+0.3**
	9.6nm,0.7s,mb4.5,baz=268,slow=5.3						
NB2	**NORSAR Subarra**	**81.33**	**29**	P	**P**	**17 08 23.5**	**+0.3**
	9.6nm,0.7s,mb4.5						
NOA	**NORSAR Array B**	**81.33**	**29**	P	**P**	**17 08 23.6**	**+0.5**
	8.3nm,0.7s,mb4.5,baz=268,slow=5.3,SNR=36						
MOX	**Moxa**	**81.40**	**40**	*e*P	**P**	**17 08 20.0**	**-3.7**
NKC	**Novy Kostel**	**81.93**	**40**	*e*P	**P**	**17 08 26.9**	**+0.4**
WET	**Wettzell**	**82.23**	**41**	*e*P	**P**	**17 08 28.5**	**+0.4**
	6.0nm,1.2s,mb4.1						
CLL	**Collm**	**82.27**	**39**	*i* P	**P**	**17 08 28.5**	**+0.3**
	5.0nm,0.7s,mb4.2						
CLL	**Collm**	**82.27**	**39**	P	**P**	**17 08 28.5**	**+0.3**
	logA/T=0.9,mb4.3						
KBA	**Koelnbreinsper**	**82.60**	**43**⇑	*i*P	**P**	**17 08 31.0**	**+1.0**
	4.9nm,0.8s,mb4.3						
KHC	**Kasperske Hory**	**82.69**	**41**	*e*P	**P**	**17 08 27.8**	**-2.6**
GEC2	**GERESS Array S**	**82.78**	**42**	*e*P	**P**	**17 08 31.2**	**+0.3**
	6.0nm,0.8s,mb4.4						
GERES	**GERESS Array B**	**82.78**	**42**	P	**P**	**17 08 30.6**	**-0.3**
	4.3nm,0.7s,mb4.3,baz=263,slow=3.4,SNR=40						
BRG	**Berggiesshubel**	**82.87**	**40**	*e*P	**P**	**17 08 33.2**	**+1.9**
	4.6nm,0.8s,mb4.3						
MOA	**Molln**	**83.19**	**43**⇓	*i*P	**P**	**17 08 32.8**	**-0.2**
	6.5nm,0.9s,mb4.4						
PVCC	**Panska Ves**	**83.28**	**40**	*e*P	**P**	**17 08 34.2**	**+0.8**
PRU	**Pruhonice**	**83.29**	**40**	*e*P	**P**	**17 08 34.1**	**+0.7**
ARSA	**Arzberg**	**84.08**	**43**⇑	*i*P	**P**	**17 08 38.2**	**+0.7**
	4.6nm,0.8s,mb4.3						
UPC	**Upice**	**84.20**	**40**	*e*P	**P**	**17 08 37.2**	**-0.8**
DPC	**Dobruska-Polom**	**84.41**	**40**	*e*P	**P**	**17 08 40.1**	**+1.1**
MORC	**Moravsky Berou**	**85.24**	**41**	*e*P	**P**	**17 08 42.9**	**-0.3**
	3.6nm,0.8s,mb4.2						
ARCES	**ARCESS Array B**	**86.70**	**20**	P	**P**	**17 08 50.5**	**+0.7**
	8.3nm,0.7s,mb4.7,baz=271,slow=3.5,SNR=55						
VNA3	**Neumayer Olymp**	**88.02**	**163**⇑	*i*	**P**	**17 08 57.3**	**+1.1**
VNA3	**Neumayer Olymp**	**88.02**	**163**		**P**	**17 09 04.7**	**+8.5**
VNA1	**Neumayer--Stat**	**88.17**	**162**⇑	*i*	**P**	**17 08 58.4**	**+1.6**
VNA1	**Neumayer--Stat**	**88.17**	**162**⇑	*i*	**P**	**17 09 06.5**	**+10**
KAF	**Kangasniemi**	**88.42**	**28**	*e*p	**P**	**17 08 57.3**	**-0.9**
	7.2nm,0.9s,mb4.5,baz=280,slow=4.5						
FINES	**FINESS Array B**	**88.45**	**28**	P	**P**	**17 08 58.2**	**-0.1**
	5.8nm,0.9s,mb4.4,baz=270,slow=3.8,SNR=19						
VNA2	**Neumayer--Watz**	**88.55**	**163**⇑	*i*	**P**	**17 08 59.9**	**+1.3**
VNA2	**Neumayer--Watz**	**88.55**	**163**		**P**	**17 09 07.1**	**+8.5**
SNAA	**Sanae**	**90.19**	**163**⇑	*i*	**P**	**17 09 06.4**	**+0.1**
SNAA	**Sanae**	**90.19**	**163**		**P**	**17 09 14.4**	**+8.1**
SNAA	**Sanae**	**90.19**	**163**	P	**P**	**17 09 06.6**	**+0.3**
	1.6nm,0.6s,mb4.1,baz=338,slow=4.3						
AKASG	**Malin Array Be**	**92.49**	**38**	PKKPbc		17 26 28.0	
	0.1nm,0.2s,baz=86,slow=2.5,SNR=4.4						
ZRNK	**Zerenda**	**112.38**	**24**	*e*PKiKP		17 14 41.9	
ZAL	**Zalesovo**	**116.73**	**15**	PKP	PKPdf	17 14 50.8	+2.2
	7.3nm,0.8s,baz=180,slow=2.1,SNR=34						
MKAR	**Makanchi Array**	**122.36**	**20**	PKP	PKPdf	17 15 00.9	+1.2
	4.4nm,0.5s,baz=294,slow=2.6,SNR=106						
ULN	**Ulaanbaatar**	**125.65**	**0**	*e*PKPdf	PKPdf	17 15 01.9	-4.1
SONM	**Songino Array**	**125.68**	**1**	PKP	PKPdf	17 15 08.0	+1.9
	4.9nm,0.6s,baz=328,slow=1.2,SNR=42						
SONM				SKP		17 18 29.5	
	1.1nm,1.0s,SNR=4.4						
HHC	**Hu-ho-hao-te**	**132.48**	**355**	*e*PKP	PKPdf	17 15 22.6	+3.3
HHC				XPKP		17 16 19.1	
HHC				PP	PP	17 17 49.0	+0.6
HHC				PKS	PKS	17 18 58.5	+4.1
HHC				SKS	SKS	17 22 12.7	+0.1
HHC				SKKS		17 24 23.4	
HHC				SS	SS	17 35 14.2	+1.7
HHC				PP	PP		
	comp=Z,50nm,10.8s						
HHC				LR	LR		
	comp=N,126nm,18.0s						
HHC				LR	LR		
	comp=E,129nm,15.6s						
HHC				LR	LR		
	comp=Z,63nm,13.2s						
GTA	**Gaotai**	**133.62**	**8**	*e*PKP	PKPdf	17 15 24.1	+2.7
LZH	**Lanzhou**	**137.31**	**4**	*e*PKP	PKPdf	17 15 31.0	+2.6
KOLN	**Koldanda**	**138.89**	**32**	*e*P	PKPdf	17 15 31.6	+0.1
	comp=Z,18nm,1.2s						
STKA	**Stephens Creek**	**139.21**	**228**	PKP	PKPdf	17 15 33.8	+1.8
	comp=Z,6.4nm,0.7s,baz=20,slow=0.5,SNR=13						
STKA	**Stephens Creek**	**139.21**	**228**	*e*PKPpre		17 15 27.5	
STKA				*e*PKPdf	PKPdf	17 15 33.8	+1.8
GKN	**Gorkha**	**139.25**	**31**	*e*P	PKPdf	17 15 31.9	-0.2
	comp=Z,43nm,0.9s						
CTA	**Charters Tower**	**139.74**	**247**	PKhKP		17 15 25.6	
	comp=Z,2.5nm,0.7s,baz=84,slow=7.8,SNR=6.3						
CTA				PKP	PKPdf	17 15 35.0	+1.9
	comp=Z,5.1nm,0.7s,baz=96,slow=3.7,SNR=9.8						
KKN	**Kakani**	**139.75**	**31**	*e*P	PKPdf	17 15 31.3	-1.7
	comp=Z,20nm,0.8s						
DMN	**Daman**	**139.81**	**31**	*e*P	PKPdf	17 15 30.8	-2.3
	comp=Z,14nm,0.7s						
GUN	**Gumba**	**139.95**	**30**	*e*P	PKPdf	17 15 31.8	-1.6
PKI	**Pulchoki**	**140.00**	**31**	*e*P	PKPdf	17 15 31.9	-1.6
	comp=Z,43nm,1.3s						
LSA	**Lhasa**	**140.69**	**22**	PKP	PKPdf	17 15 38.1	+3.3
LSA	**Lhasa**	**140.69**	**22**	*e*PKPdf	PKPdf	17 15 37.8	+3.1
LSA				*e*		17 15 48.5	
SHL	**Shillong**	**144.68**	**24**⇑	*i*P	PKPbc	17 15 42.2	+0.5
GYA	**Guiyang**	**147.02**	**1**	PKP	PKPdf	17 15 48.3	+2.7
KMI	**Kunming**	**148.07**	**7**	PKP	PKPdf	17 15 50.8	+3.3
KMI				LR	LR		
	comp=Z,42nm,22.5s						
WB2	**Warramunga Arr**	**150.43**	**241**	*e*P	PKPdf	17 15 58.1	+6.9
WRAB	**Tennant Creek**	**150.44**	**241**	*e*PKPdf	PKPdf	17 15 53.5	+2.2
WRAB				*e*PKPbc	PKPdf	17 15 57.9	+6.6
WRA	**Warramunga Arr**	**150.44**	**241**	PKP	PKPdf	17 15 53.0	+1.8
	comp=Z,5.5nm,0.6s,baz=107,slow=2.5,SNR=32						
WRA				PKPbc	PKPdf	17 15 57.9	+6.7
	comp=Z,29nm,0.5s,baz=110,slow=2.5,SNR=50						
WRA				pPKPbc		17 16 40.3	
	comp=Z,13nm,0.6s,baz=112,slow=2.2,SNR=4.4						
CMAR	**Chiang Mai Arr**	**153.73**	**18**	PKP	PKPdf	17 15 58.9	+2.8
	comp=Z,6.9nm,0.8s,baz=292,slow=2.2,SNR=34						
CMAR				PKPbc	PKPdf	17 16 06.0	+10
	comp=Z,19nm,0.6s,baz=321,slow=3.0,SNR=64						
KAKA	**Kakadu**	**154.29**	**255**	*e*P	PKPdf	17 16 06.6	+10
	comp=Z,9.2nm,0.6s						

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*IDC **09** 17:09:27.6±5.3, 35.05S×179.06W, h35km±40km, mb4.4/10, mb1 4.5/10, mb1mx4.4/13, mbtmp4.6/10, ML5.7/1, MS3.9/7, Ms1 3.9/7, ms1mx3.6/15, Error ellipse: s-maj=21.1km s-min=19.6km az=95.0*

*NEIC **09** 17:09:49.8, 36.18S×179.30E, h74km, mb4.8/8, ML4.8(WEL), After WEL.*

ISC 09 17:09:23.1±1.4**, 35.32S**±0.05×**178.84W**±0.08**, h17**km±10km**, n158,** σ1s**29**/143**, mb4.5**/17**, MS3.9**/7**, 6C-2D, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.21**	**225**	P	**Pn**	**17 10 14.9**	**+1.0**
MXZ	**Matakaoa Point**	**3.21**	**225**	PN	**Pn**	**17 10 14.6**	**+0.7**
MXZ				SN	**Sn**	**17 10 53.4**	**+1.4**
PUZ	**Puketiti**	**3.60**	**219**	P	**Pn**	**17 10 20.6**	**+1.1**
PUZ	**Puketiti**	**3.60**	**219**	PN	**Pn**	**17 10 20.4**	**+0.9**
PUZ				*e*SN	**Sn**	**17 11 03.3**	**+1.2**
WIZ	**White Island**	**3.88**	**234**	*e*PN	**Pn**	**17 10 24.5**	**+1.0**
MWZ	**Matawai**	**4.19**	**223**	*e*P	**Pn**	**17 10 28.6**	**+0.8**
MWZ	**Matawai**	**4.19**	**223**	PN	**Pn**	**17 10 28.0**	**+0.2**
MWZ				SN	**Sn**	**17 11 17.2**	**+0.3**
URZ	**Urewera**	**4.38**	**227**	Pn	**Pn**	**17 10 31.9**	**+1.4**
	373nm,0.3s,baz=268,slow=2.0,SNR=1664						
URZ				Sn	**Sn**	**17 11 22.1**	**+0.4**
	118nm,0.3s,baz=324,slow=22,SNR=9.9						
URZ	**Urewera**	**4.38**	**227**	*e*P	**Pn**	**17 10 30.9**	**+0.4**
URZ	**Urewera**	**4.38**	**227**	PN	**Pn**	**17 10 30.8**	**+0.3**
URZ				*e*SN	**Sn**	**17 11 21.5**	**-0.2**
MYRZ	**Mayor Island**	**4.43**	**242**	PN	**Pn**	**17 10 31.7**	**+0.5**
MARZ	**Manawahe**	**4.48**	**232**	P	**Pn**	**17 10 32.4**	**+0.5**
MARZ	**Manawahe**	**4.48**	**232**	PN	**Pn**	**17 10 32.4**	**+0.4**
EDRZ	**Edgecumbe**	**4.51**	**231**	P	**Pn**	**17 10 33.5**	**+1.1**
EDRZ	**Edgecumbe**	**4.51**	**231**	*e*PN	**Pn**	**17 10 33.1**	**+0.8**
TGRZ	**Tauranga**	**4.62**	**237**	P	**Pn**	**17 10 34.5**	**+0.6**
TGRZ	**Tauranga**	**4.62**	**237**	PN	**Pn**	**17 10 34.4**	**+0.5**
KNZ	**Kokohu**	**4.62**	**216**	*e*P	**Pn**	**17 10 33.6**	**-0.4**
KNZ	**Kokohu**	**4.62**	**216**	PN	**Pn**	**17 10 33.8**	**-0.2**
KNZ				SN	**Sn**	**17 11 27.4**	**-0.5**
KUZ	**Kuaotunu**	**4.63**	**251**	P	**Pn**	**17 10 34.5**	**+0.4**
KUZ	**Kuaotunu**	**4.63**	**251**	⇑PN	**Pn**	**17 10 34.5**	**+0.4**
LIRZ	**Lichensteins R**	**4.68**	**234**	PN	**Pn**	**17 10 35.6**	**+0.8**
TAZ	**Tarawera**	**4.73**	**231**	P	**Pn**	**17 10 37.2**	**+1.7**
UTU	**Utuhina**	**4.90**	**233**	P	**Pn**	**17 10 39.1**	**+1.2**
PATZ	**Paeroa**	**4.97**	**231**	P	**Pn**	**17 10 40.2**	**+1.2**
TOZ	**Tahuroa Road**	**5.15**	**241**	P	**Pn**	**17 10 42.0**	**+0.6**
TOZ	**Tahuroa Road**	**5.15**	**241**	PN	**Pn**	**17 10 42.0**	**+0.5**
MKAZ	**Moumakai**	**5.16**	**248**	P	**Pn**	**17 10 42.5**	**+0.9**
MTAZ	**Motutapu**	**5.27**	**252**	P	**Pn**	**17 10 43.7**	**+0.6**
MTAZ	**Motutapu**	**5.27**	**252**	PN	**Pn**	**17 10 43.7**	**+0.7**
OTAZ	**Otara**	**5.30**	**250**	P	**Pn**	**17 10 44.6**	**+1.1**
WHTZ	**Whakaora**	**5.33**	**230**	P	**Pn**	**17 10 45.1**	**+1.1**
BKZ	**Black Stump Fm**	**5.35**	**223**	P	**Pn**	**17 10 44.2**	**0.0**
BKZ	**Black Stump Fm**	**5.35**	**223**	PN	**Pn**	**17 10 43.4**	**-0.7**
BKZ				*e*SN	**Sn**	**17 11 45.1**	**-1.0**
HATZ	**Hinemaiaia**	**5.39**	**227**	P	**Pn**	**17 10 44.9**	**+0.1**
HATZ	**Hinemaiaia**	**5.39**	**227**	PN	**Pn**	**17 10 45.1**	**+0.3**
WATZ	**Wairara**	**5.50**	**230**	P	**Pn**	**17 10 46.9**	**+0.5**
WTAZ	**Waiatarua**	**5.56**	**251**	P	**Pn**	**17 10 48.6**	**+1.3**
RATZ	**Rangitukua**	**5.57**	**229**	P	**Pn**	**17 10 48.0**	**+0.6**
WCZ	**Waipu Caves**	**5.58**	**262**	PN	**Pn**	**17 10 48.0**	**+0.5**
RITZ	**Rihia Road**	**5.59**	**228**	P	**Pn**	**17 10 47.8**	**+0.2**
RITZ	**Rihia Road**	**5.59**	**228**	PN	**Pn**	**17 10 47.7**	**+0.1**
RITZ				SN	**Sn**	**17 11 51.1**	**-1.0**
KRVZ	**Karewarewa**	**5.79**	**228**	PN	**Pn**	**17 10 50.6**	**+0.1**
PWZ	**Pawanui**	**5.80**	**215**	*e*P	**Pn**	**17 10 49.1**	**-1.5**
PWZ	**Pawanui**	**5.80**	**215**	PN	**Pn**	**17 10 49.0**	**-1.6**
PWZ				SN	**Sn**	**17 11 53.7**	**-3.9**
OTVZ	**Oturere**	**5.82**	**227**	PN	**Pn**	**17 10 50.3**	**-0.6**
NGZ	**Ngauruhoe**	**5.87**	**227**	P	**Pn**	**17 10 51.0**	**-0.6**
NGZ	**Ngauruhoe**	**5.87**	**227**	PN	**Pn**	**17 10 51.0**	**-0.5**
TUVZ	**Tukino**	**5.90**	**226**	P	**Pn**	**17 10 51.2**	**-0.7**
TUVZ	**Tukino**	**5.90**	**226**	PN	**Pn**	**17 10 51.2**	**-0.8**
TWVZ	**Taurewa**	**5.90**	**229**	P	**Pn**	**17 10 51.9**	**-0.1**
TWVZ	**Taurewa**	**5.90**	**229**	PN	**Pn**	**17 10 51.9**	**-0.1**
CNZ	**Chateau**	**5.92**	**227**	P	**Pn**	**17 10 52.4**	**+0.2**
WPVZ	**Whakapapa**	**5.92**	**227**	P	**Pn**	**17 10 52.4**	**+0.1**
MOVZ	**Moawhango**	**5.93**	**225**	P	**Pn**	**17 10 51.0**	**-1.4**
FWVZ	**Far West T-bar**	**5.95**	**227**	P	**Pn**	**17 10 52.5**	**-0.2**
DRZ	**Dome Shelter**	**5.95**	**227**	P	**Pn**	**17 10 53.2**	**+0.4**
WNVZ	**Wahianoa**	**5.97**	**226**	P	**Pn**	**17 10 52.5**	**-0.5**
HIZ	**Hauiti**	**5.97**	**236**	*e*P	**Pn**	**17 10 53.6**	**+0.6**
RAO	**Raoul Island**	**6.10**	**8**	Pn	**Pn**	**17 10 43.0**	**-12**
	88nm,0.3s,baz=45,slow=23,SNR=2.9						
RAO				Sn	**Sn**	**17 11 52.7**	**-12**
	120nm,0.3s,baz=248,slow=23,SNR=3.8						
OUZ	**Omahuta**	**6.18**	**269**	P	**Pn**	**17 10 55.5**	**-0.5**
TSZ	**Takapari Road**	**6.27**	**220**	P	**Pn**	**17 10 55.0**	**-2.3**
VRZ	**Vera Road**	**6.36**	**231**	P	**Pn**	**17 10 58.7**	**+0.2**
WAZ	**Wanganui**	**6.61**	**226**	P	**Pn**	**17 11 01.0**	**-1.0**
BFZ	**Birch Farm**	**6.61**	**214**	*e*P	**Pn**	**17 10 58.4**	**-3.6**
RAEZ	**Rainy Point**	**6.69**	**232**	P	**Pn**	**17 11 03.2**	**+0.1**
NEZ	**North Egmont**	**6.87**	**233**	P	**Pn**	**17 11 05.9**	**+0.2**
PKE	**Pukeiti**	**6.90**	**234**	P	**Pn**	**17 11 07.2**	**+1.1**
MRZ	**Mangatainoka R**	**6.91**	**218**	P	**Pn**	**17 11 02.9**	**-3.4**
MTW	**Mount Morrison**	**7.33**	**216**	P	**Pn**	**17 11 08.4**	**-3.7**
KIW	**Kapiti Island**	**7.41**	**220**	P	**Pn**	**17 11 10.0**	**-3.2**
CAW	**Cannon Point**	**7.50**	**218**	P	**Pn**	**17 11 10.8**	**-3.8**
MSWZ	**Moikau Station**	**7.65**	**216**	P	**Pn**	**17 11 12.5**	**-4.1**
MRW	**Makara Radio**	**7.78**	**219**	P	**Pn**	**17 11 15.7**	**-2.7**
WEL	**Wellington**	**7.79**	**218**	P	**Pn**	**17 11 15.2**	**-3.3**
BHW	**Baring Head**	**7.83**	**217**	P	**Pn**	**17 11 16.4**	**-2.7**
SNZO	**South Karori**	**7.84**	**218**	P	**Pn**	**17 11 14.1**	**-5.1**
TCW	**Tory Channel**	**7.99**	**221**	P	**Pn**	**17 11 17.4**	**-4.0**
NNZ	**Nelson**	**8.49**	**224**	*e*P	**P**	**17 11 22.6**	**-5.7**
BSWZ	**Blackbirch Sta**	**8.56**	**220**	P	**P**	**17 11 25.2**	**-4.1**
QRZ	**Quartz Range**	**8.74**	**228**	*e*P	**P**	**17 11 26.7**	**-5.1**
THZ	**Tophouse**	**9.12**	**223**	*e*P	**P**	**17 11 31.3**	**-5.7**
KHZ	**Kahutara**	**9.24**	**218**	*e*P	**P**	**17 11 34.4**	**-4.3**
DSZ	**Denniston Nort**	**9.73**	**226**	*e*P	**P**	**17 11 39.6**	**-5.9**
LTZ	**Lake Taylor**	**10.16**	**220**	P	**P**	**17 11 45.3**	**-6.0**
CRLZ	**Canterbury Las**	**10.55**	**216**	*e*P	**P**	**17 11 51.7**	**-5.0**
MQZ	**McQueen's Vall**	**10.64**	**216**	*e*P	**P**	**17 11 52.0**	**-5.9**
WVZ	**Waitaha Valley**	**11.19**	**223**	*e*P	**P**	**17 12 05.1**	**-0.3**
RPZ	**Rata Peaks**	**11.44**	**220**	Pn	**P**	**17 12 03.4**	**-5.5**
	6.5nm,0.3s,baz=111,slow=2.6,SNR=35						
RPZ				Sn	**S**	**17 14 03.9**	**-13**
	12nm,0.3s,baz=15,slow=22,SNR=19						
RPZ	**Rata Peaks**	**11.44**	**220**	*e*P	**P**	**17 12 03.4**	**-5.5**
FOZ	**Fox Glacier**	**12.09**	**224**	*e*P	**P**	**17 12 12.0**	**-5.6**
LBZ	**Lake Benmore**	**12.36**	**220**	*e*P	**P**	**17 12 15.3**	**-5.9**
ODZ	**Otahua Downs**	**12.60**	**216**	*e*P	**P**	**17 12 18.5**	**-5.9**
JCZ	**Jackson Bay**	**12.93**	**224**	*e*P	**P**	**17 12 23.2**	**-5.7**
WKZ	**Wanaka**	**13.27**	**221**	*e*P	**P**	**17 12 27.9**	**-5.5**
EAZ	**Earnscleugh**	**13.39**	**219**	*e*P	**P**	**17 12 29.7**	**-5.3**
TUZ	**Tuapeka**	**13.75**	**216**	*e*P	**P**	**17 12 34.5**	**-5.0**
DZM	**Mont Dzumac**	**18.43**	**312**	*e*P	**P**	**17 13 39.3**	**-0.4**
DZM	**Mont Dzumac**	**18.43**	**312**	P	**P**	**17 13 39.3**	**-0.3**
	1.4nm,0.3s,baz=125,slow=11,SNR=35						
AFI	**Afiamalu**	**22.25**	**18**	P	**P**	**17 14 18.4**	**-2.4**
	36nm,0.7s,mb4.9,baz=253,slow=8.2,SNR=6.8						
TBI	**Tubuai**	**28.15**	**73**	*e*LQ		17 20 50.9	
	294nm,22.5s						
TBI				*e*LR	LR	17 22 23.2	
	242nm,24.2s,baz=225						
PPT	**Papeete**	**31.44**	**63**	*e*LR	LR	17 23 22.7	
	266nm,26.2s,baz=235						
PPT	**Papeete**	**31.44**	**63**	LR	LR	17 26 48.7	
	comp=Z,270nm,18.0s,MS4.0,baz=341,slow=33						
HNR	**Honiara**	**32.23**	**318**	LR	LR	17 26 07.1	
	comp=Z,118nm,18.0s,MS3.6,baz=135,slow=31						
STKA	**Stephens Creek**	**32.98**	**264**	*e*P	**P**	**17 15 59.4**	**+0.2**
	4.0nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**32.98**	**264**	P	**P**	**17 15 59.4**	**+0.1**
	3.9nm,0.5s,mb4.6,baz=104,slow=11,SNR=7.5						
CTA	**Charters Tower**	**34.22**	**287**	*e*P	**P**	**17 16 09.1**	**-1.0**
	12nm,0.8s,mb4.9						
CTA	**Charters Tower**	**34.22**	**287**	P	**P**	**17 16 09.1**	**-1.0**
	7.3nm,0.5s,mb4.9,baz=119,slow=11,SNR=17						
CTA				LR	LR	17 26 27.4	
	comp=Z,109nm,20.6s,MS3.6,baz=51,slow=30						
CTAO	**Charters Tower**	**34.22**	**287**	*e*P	**P**	**17 16 09.0**	**-1.1**
	14nm,0.8s,mb5.0						
RKT	**Rikitea**	**39.88**	**84**	*e*LR	LR	17 27 27.4	
	238nm,27.8s						
PMG	**Port Moresby**	**40.32**	**301**	LR	LR	17 31 37.3	
	comp=Z,229nm,18.7s,MS4.0,baz=239,slow=33						
SBA	**Scott Base**	**43.09**	**184**	*e*P	**P**	**17 17 42.1**	**+19**
	5.4nm,0.7s,mb4.4						
VNDA	**Vanda**	**43.14**	**186**	P	**P**	**17 17 27.3**	**+3.5**
	0.4nm,0.7s,mb3.3,baz=10,slow=7.1,SNR=3.7						
VNDA				LR	LR	17 31 06.5	
	comp=Z,82nm,18.7s,MS3.7,baz=44,slow=30						
WB2	**Warramunga Arr**	**43.80**	**278**	*e*P	**P**	**17 17 28.0**	**-1.9**
WRA	**Warramunga Arr**	**43.81**	**278**	P	**P**	**17 17 27.9**	**-2.1**
	14nm,0.4s,mb5.0,baz=118,slow=7.6,SNR=21						
KAKA	**Kakadu**	**49.28**	**285**	*e*P	**P**	**17 18 14.3**	**+1.1**
	9.6nm,0.6s,mb5.0						
NWAO	**Narrogin (SRO)**	**52.14**	**253**	P	**P**	**17 18 32.4**	**-2.4**
	4.9nm,0.4s,mb4.8,baz=112,slow=5.4,SNR=10.0						
KLBR	**Kellerberrin**	**52.23**	**255**	*e*P	**P**	**17 18 33.0**	**-2.5**
	26nm,1.5s,mb5.0						
MUN	**Mundaring**	**53.30**	**254**	*e*P	**P**	**17 18 41.9**	**-1.5**
	15nm,1.8s,mb4.6						
QSPA	**South Pole Qui**	**54.80**	**180**⇓	*i*P	**P**	**17 18 56.8**	**+3.0**
	9.9nm,0.7s,mb5.0						
MBWA	**Marble Bar**	**55.14**	**267**	*e*P	**P**	**17 18 53.4**	**-3.6**
MAW	**Mawson**	**67.47**	**201**	P	**P**	**17 20 20.1**	**+0.5**
	0.8nm,0.5s,mb4.0,baz=130,slow=7.9,SNR=2.3						
MAW				LR	LR	17 48 58.1	
	comp=Z,205nm,19.8s,MS4.3,baz=238,slow=35						
SYO	**Syowa Base**	**72.18**	**194**	⇑P	**P**	**17 20 47.8**	**-0.6**
SYO	**Syowa Base**	**72.18**	**194**	⇑P	**P**	**17 20 57.8**	**+9.4**
SNAA	**Sanae**	**73.27**	**179**		**P**	**17 20 56.0**	**+1.4**
SNAA	**Sanae**	**73.27**	**179**		**P**	**17 20 58.2**	**+3.6**
SNAA	**Sanae**	**73.27**	**179**		PcP	17 21 10.5	-0.8
SNAA	**Sanae**	**73.27**	**179**		PcP	17 21 16.8	+5.5
SNAA	**Sanae**	**73.27**	**179**	P	**P**	**17 20 56.1**	**+1.4**
	1.8nm,0.9s,mb4.0,baz=196,slow=11,SNR=9.2						
SNAA	**Sanae**	**73.27**	**179**	P	**P**	**17 20 56.0**	**+1.4**
VNA3	**Neumayer Olymp**	**73.45**	**176**		**P**	**17 20 58.3**	**+2.6**
VNA3	**Neumayer Olymp**	**73.45**	**176**		**P**	**17 21 00.5**	**+4.8**
VNA3	**Neumayer Olymp**	**73.45**	**176**		PcP	17 21 13.7	+1.6
VNA3	**Neumayer Olymp**	**73.45**	**176**		PcP	17 21 19.6	+7.5
VNA2	**Neumayer--Watz**	**73.88**	**177**⇓	*i*	**P**	**17 21 01.0**	**+2.8**
VNA2	**Neumayer--Watz**	**73.88**	**177**		**P**	**17 21 03.3**	**+5.1**
VNA2	**Neumayer--Watz**	**73.88**	**177**⇑	*i*	PcP	17 21 16.2	+2.3
VNA2	**Neumayer--Watz**	**73.88**	**177**⇑	*i*	PcP	17 21 19.2	+5.3
VNA1	**Neumayer--Stat**	**74.11**	**177**⇑	*i*	**P**	**17 21 02.3**	**+2.8**
VNA1	**Neumayer--Stat**	**74.11**	**177**		**P**	**17 21 04.7**	**+5.2**
VNA1	**Neumayer--Stat**	**74.11**	**177**		PcP	17 21 18.0	+3.0
VNA1	**Neumayer--Stat**	**74.11**	**177**		PcP	17 21 21.6	+6.6
LVC	**Limon Verde**	**92.15**	**120**	P	**P**	**17 22 36.2**	**+3.0**
	5.3nm,0.8s,mb4.9,baz=246,slow=8.2,SNR=6.5						
CMAR	**Chiang Mai Arr**	**94.36**	**289**	P	**P**	**17 22 45.6**	**+2.2**
	1.0nm,0.5s,mb4.5,baz=146,slow=3.8,SNR=5.7						
TXAR	**Lajitas Array**	**95.61**	**58**	P	**P**	**17 22 50.3**	**+1.3**
	0.5nm,0.7s,mb4.0,baz=202,slow=6.7,SNR=6.0						
TXAR				LR	LR	18 01 34.1	
	comp=Z,44nm,18.7s,MS4.0,baz=70,slow=33						
LPAZ	**La Paz**	**96.74**	**115**	P	**P**	**17 22 56.5**	**+2.1**
	1.0nm,0.7s,mb4.3,baz=154,slow=2.7,SNR=5.9						
MKAR	**Makanchi Array**	**120.32**	**308**	PKP	PKPdf	17 28 13.3	-3.8
	1.1nm,0.7s,baz=82,slow=0.7,SNR=12						
ZAL	**Zalesovo**	**121.18**	**317**	PKP	PKPdf	17 28 15.1	-3.6
	1.0nm,0.5s,baz=325,slow=5.0,SNR=5.5						
ARCES	**ARCESS Array B**	**143.21**	**346**	PKhKP		17 28 52.2	
	2.8nm,0.7s,baz=37,slow=3.0,SNR=24						
DGRG	**David-gareji**	**145.10**	**294**	P	PKPbc	17 29 00.4	+0.6
KAF	**Kangasniemi**	**148.87**	**337**	*e*pkp	PKPdf	17 29 09.3	+0.5
	9.4nm,0.4s						
FINES	**FINESS Array B**	**149.44**	**337**	PKPbc	PKPdf	17 29 11.2	+1.5
	8.6nm,0.8s,baz=63,slow=3.1,SNR=85						
DBIC	**Dimbokro**	**150.96**	**168**	PKPbc	PKPdf	17 29 17.9	+4.3
	7.8nm,0.7s,baz=153,slow=2.4,SNR=10						
DBIC				pPKPbc		17 29 29.8	
	17nm,0.7s,baz=163,slow=4.2,SNR=9.2						
EIL	**Elat**	**151.03**	**268**	*e*P	PKPdf	17 29 16.7	+3.5
NB2	**NORSAR Subarra**	**153.47**	**349**	PKPabc	PKPdf	17 29 20.3	+4.6
	4.4nm,0.8s,baz=15,slow=2.5						
NOA	**NORSAR Array B**	**153.47**	**349**	PKPbc	PKPdf	17 29 20.6	+5.0
	2.5nm,0.7s,baz=12,slow=4.0,SNR=16						
BRTR	**Keskin Array B**	**153.95**	**289**	PKPbc	PKPdf	17 29 22.3	+5.3
	1.2nm,0.7s,baz=153,slow=2.8,SNR=8.3						
AKASG	**Malin Array Be**	**154.56**	**316**	PKPbc	PKPdf	17 29 22.9	+5.5
	3.4nm,0.7s,baz=56,slow=2.3,SNR=12						

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*IDC **09** 17:23:51.8±1.8, 18.02S×178.35W, h455km±22km, mb3.0/5, mb1 3.3/7, mb1mx3.1/17, mbtmp4.0/7, Error ellipse: s-maj=33.6km s-min=15.1km az=153.0*

*NEIC **09** 17:23:52.6±1.0, 18.14S×178.38W, h467km±12km, mb3.9/6, Error ellipse: s-maj=17.0km s-min=10.1km az=153.0*

ISC 09 17:23:50.4±1.2**, 18.2S**±0.2×**178.4W**±0.1**, h454**km±16km**, n21,** σ0s**85**/18**, mb3.7**/9**, 2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.62**	**57**	P	**P**	**17 25 44.0**	**+1.1**

	4.1nm,0.3s,baz=52,slow=14,SNR=7.3						
AFI				S	**S**	**17 27 10.9**	**-1.1**
	3.0nm,0.3s,baz=180,slow=22,SNR=4.1						
DZM	**Mont Dzumac**	**14.79**	**252**	P	**P**	**17 27 01.5**	**+1.1**
	0.1nm,0.3s,baz=146,slow=19,SNR=3.7						
CTA	**Charters Tower**	**33.44**	**261**	P	**P**	**17 29 52.4**	**+0.9**
	1.8nm,0.5s,mb3.7,baz=107,slow=13,SNR=5.1						
CTAO	**Charters Tower**	**33.44**	**261**	*e*P	**P**	**17 29 52.0**	**+0.6**
	3.6nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**17 30 33.9**	**+0.1**
WRAB	**Tennant Creek**	**44.62**	**260**	*e*P	**P**	**17 31 21.4**	**-1.3**
	4.2nm,0.9s,mb3.9						
WRA	**Warramunga Arr**	**44.62**	**260**	P	**P**	**17 31 22.4**	**-0.3**
	0.8nm,0.7s,mb3.3,baz=95,slow=6.8,SNR=4.8						
MBWA	**Marble Bar**	**58.05**	**256**	P	**P**	**17 33 00.1**	**-0.8**
	19nm,1.3s,mb4.3						
SBA	**Scott Base**	**60.17**	**184**	*e*P	**P**	**17 33 14.9**	**+0.6**
	1.4nm,0.8s,mb3.4						
VNDA	**Vanda**	**60.20**	**185**	P	**P**	**17 33 14.6**	**+0.1**
	0.3nm,0.5s,mb3.0,baz=9.3,slow=8.2,SNR=5.6						
VNDA	**Vanda**	**60.20**	**185**	*e*P	**P**	**17 33 13.9**	**-0.6**
	1.4nm,1.0s,mb3.4						
CASY	**Casey**	**65.92**	**205**	*e*P	**P**	**17 33 49.7**	**-1.8**
	9.1nm,1.1s,mb4.3						
KS15	**Wonju Array Si**	**74.93**	**318**	P	**P**	**17 34 45.2**	**0.0**
TXAR	**Lajitas Array**	**86.10**	**58**	P	**P**	**17 35 44.6**	**+1.2**
	0.9nm,0.7s,mb3.5,baz=216,slow=5.8,SNR=12						
PDAR	**Pinedale Array**	**87.51**	**43**	P	**P**	**17 35 49.7**	**-0.1**
	0.6nm,0.7s,mb3.5,baz=225,slow=2.1,SNR=4.7						
VNA3	**Neumayer Olymp**	**90.49**	**176**		**P**	**17 36 03.1**	**+0.2**
VNA2	**Neumayer--Watz**	**90.93**	**177**		**P**	**17 36 05.4**	**+0.4**
AKASG	**Malin Array Be**	**140.80**	**332**	PKP	PKPdf	17 42 26.6	-0.7
	0.1nm,0.3s,baz=333,slow=2.1,SNR=6.6						
CLL	**Collm**	**145.72**	**347**	⇓*i*P	PKPdf	17 42 37.5	+1.8
CLL				⇓*i*PKP	PKPdf	17 42 43.3	+7.6
CLL				*i* PKP	PKPdf	17 42 52.7	+17
CLL				*e*pPKP		17 44 58.0	
BRG	**Berggiesshubel**	**145.92**	**346**	*e*P	PKPdf	17 42 38.6	+2.5
GERES	**GERESS Array B**	**147.87**	**345**	PKPbc	PKPdf	17 42 43.3	+4.0
	0.5nm,0.5s,baz=21,slow=3.4,SNR=11						

*KRSC **09** 17:29:30.9±0.7, 54.46N×161.96E, h35^{km}±2^{km}, ML4.3*
*MOS **09** 17:29:30.2±0.9, 54.43N×162.05E, h44^{km}, mb4.1/1, Error ellipse: s-maj=19.3km s-min=11.5km az=76.9*
*IDC **09** 17:29:34.9±1.6, 56.30N×163.82E, mb3.4/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, ML4.2/1, Error ellipse: s-maj=71.4km s-min=13.9km az=34.0*
ISC 09 17:29:30.6±0.5, **54.44N**±0.02×**162.05E**±0.05, **h41**^{km}±7^{km}, **n42**, σ**0^{s}89**/79, **mb3.5**/2, **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.22**	**301**	P	**P**	**17 29 37.6**	**-0.5**
MKZ				S	**S**	**17 29 42.6**	**-0.7**
MKZ	**Mys Kozlova**	**0.22**	**301**	*i* P	**P**	**17 29 37.7**	**-0.4**
MKZ				*i* S	**S**	**17 29 42.6**	**-0.7**
TUMR	**Tumrok**	**1.39**	**308**	*i* P	**P**	**17 29 53.5**	**-0.4**
TUMR				*e*S	**S**	**17 30 10.6**	**-0.6**
KII	**Karymskiy**	**1.58**	**256**	P	**P**	**17 29 56.6**	**0.0**
KII				S	**S**	**17 30 15.6**	**-0.4**
KII	**Karymskiy**	**1.58**	**256**	*e*P	**P**	**17 29 56.6**	**0.0**
KII				*e*S	**S**	**17 30 15.7**	**-0.3**
KMNR	**Kamenistaya**	**1.68**	**322**	*e*P	**P**	**17 29 58.0**	**0.0**
KMNR				*e*S	**S**	**17 30 17.7**	**-0.7**
ZLN	**Zelenaya**	**1.73**	**336**	*i* P	**P**	**17 29 59.5**	**+0.8**
ZLN				*e*S	**S**	**17 30 20.4**	**+0.6**
SPN	**Mys Shipunski**	**1.81**	**223**	P	**P**	**17 29 58.9**	**-0.9**
SPN				S	**S**	**17 30 19.0**	**-2.7**
SPN	**Mys Shipunski**	**1.81**	**223**	*i* P	**P**	**17 29 58.9**	**-0.9**
SPN				*i* S	**S**	**17 30 19.6**	**-2.1**
LGNR	**Loginova**	**1.82**	**335**	*e*P	**P**	**17 30 01.4**	**+1.4**
LGNR				*e*S	**S**	**17 30 23.6**	**+1.7**
KBTR	**Krutoberegovo**	**1.82**	**14**	P	**P**	**17 30 00.8**	**+0.8**
KBTR				S	**S**	**17 30 21.8**	**-0.2**
KBTR	**Krutoberegovo**	**1.82**	**14**	*i* P	**P**	**17 30 00.7**	**+0.7**
KBTR				*e*S	**S**	**17 30 21.8**	**-0.2**
CIRR	**Tsirk**	**1.83**	**337**	*e*P	**P**	**17 30 01.0**	**+0.8**
CIRR				*e*S	**S**	**17 30 22.7**	**+0.4**
KPT	**Kopyto**	**1.85**	**326**	*e*P	**P**	**17 30 00.8**	**+0.4**
KPT				*e*S	**S**	**17 30 22.7**	**-0.1**
KRSR	**Krestovskiy**	**1.97**	**335**	*e*P	**P**	**17 30 02.4**	**+0.3**
KRSR				*e*S	**S**	**17 30 25.0**	**-0.7**
KLY	**Klyuchi**	**2.04**	**338**	P	**P**	**17 30 02.8**	**-0.3**
KLY				S	**S**	**17 30 26.3**	**-1.1**
KLY	**Klyuchi**	**2.04**	**338**	*i* P	**P**	**17 30 02.7**	**-0.4**
KLY				*e*S	**S**	**17 30 26.4**	**-1.0**
KOZR	**Kozyr**	**2.04**	**324**	PN	**P**	**17 30 03.8**	**+0.7**
KOZR				S	**S**	**17 30 27.6**	**+0.1**
KOZ	**Kozyrevsk**	**2.04**	**323**	*i* P	**P**	**17 30 03.8**	**+0.6**
KOZ				*e*S	**S**	**17 30 27.6**	**0.0**
NLC	**Nalytchevo**	**2.05**	**233**	P	**P**	**17 30 02.7**	**-0.5**
NLC				S	**S**	**17 30 26.5**	**-1.2**
NLC	**Nalytchevo**	**2.05**	**233**	*i* P	**P**	**17 30 02.6**	**-0.6**
NLC				*i* S	**S**	**17 30 26.5**	**-1.2**
SDLR	**Sedlovina**	**2.21**	**239**	*i* P	**P**	**17 30 05.9**	**+0.4**
SDLR				*i* S	**S**	**17 30 31.6**	**-0.2**
SMAR	**Somma**	**2.26**	**240**	*i* P	**P**	**17 30 06.9**	**+0.6**
SMAR				*i* S	**S**	**17 30 32.7**	**-0.4**
UGLR	**Uglovaya**	**2.28**	**238**	*i* P	**P**	**17 30 07.1**	**+0.6**
UGLR				*i* S	**S**	**17 30 33.7**	**+0.2**
AVH	**Avacha**	**2.29**	**240**	*i* P	**P**	**17 30 07.7**	**+1.0**
AVH				*i* S	**S**	**17 30 34.1**	**+0.2**
SRDR	**Sredinnyy**	**2.30**	**326**	*i* P	**P**	**17 30 06.8**	**-0.1**
SRDR				*e*S	**S**	**17 30 33.0**	**-1.2**
KOK	**Koryaka**	**2.33**	**242**	*e*P	**P**	**17 30 08.1**	**+0.9**
KOK				*e*S	**S**	**17 30 34.5**	**-0.3**
BKI	**Bering**	**2.39**	**70**	*e*P	**P**	**17 30 08.8**	**+0.6**
BKI				*e*S	**S**	**17 30 34.4**	**-2.1**
BKI				Smax			
	70nm,0.4s						
ESO	**Esso**	**2.43**	**309**	*i* P	**P**	**17 30 08.3**	**-0.4**
ESO				*e*S	**S**	**17 30 35.5**	**-1.9**
ESO				Smax			
	90nm,0.9s						
PET	**Petropavlovsk**	**2.47**	**236**	P	**P**	**17 30 09.7**	**+0.4**
PET				S	**S**	**17 30 37.6**	**-0.8**
PET	**Petropavlovsk**	**2.47**	**236**	*e*P	**P**	**17 30 09.6**	**+0.3**
PET				*e*S	**S**	**17 30 37.6**	**-0.8**
GNL	**Ganaly**	**2.53**	**254**	*i* P	**P**	**17 30 11.1**	**+0.9**
GNL				*i* S	**S**	**17 30 41.3**	**+1.2**
RUS	**Russkaya**	**2.92**	**228**	P	**P**	**17 30 16.0**	**+0.3**
RUS				S	**S**	**17 30 47.9**	**-2.0**
RUS	**Russkaya**	**2.92**	**228**	*e*P	**P**	**17 30 15.9**	**+0.2**
RUS				*e*S	**S**	**17 30 48.0**	**-1.9**
GRL	**Gorelyy**	**3.04**	**233**	*e*P	**P**	**17 30 18.3**	**+0.9**
GRL				*e*S	**S**	**17 30 53.0**	**+0.1**
APC	**Apacha**	**3.28**	**244**	*i* P	**P**	**17 30 21.7**	**+0.9**
APC				*e*S	**S**	**17 30 58.8**	**-0.3**
APC				Smax			
	60nm,0.8s						
PAU	**Pauzhetka**	**4.35**	**229**	*e*P	**P**	**17 30 37.9**	**+1.9**
PAU				*e*S	**S**	**17 31 27.1**	**+1.0**
PAU				Smax			
	90nm,1.2s						
FX1	**Attu Island--F**	**6.79**	**99**	PN	**P**	**17 31 09.1**	**-1.1**
FX1				pmax	pmax		
	comp=Z,17nm,0.3s						
FX1	**Attu Island--F**	**6.79**	**99**	Pn	**P**	**17 31 09.1**	**-1.1**
	comp=Z,17nm,0.3s,baz=318,slow=4.6,SNR=71						
FX1				Sn	**S**	**17 32 21.1**	**-6.0**
	baz=352,slow=18,SNR=2.2						
MKAR	**Makanchi Array**	**48.62**	**296**	P	pP	17 38 21.8	-1.5
	comp=Z,0.3nm,0.7s,baz=39,slow=9.2,SNR=4.3						
FINES	**FINESS Array B**	**59.33**	**337**	P	**P**	**17 39 27.0**	**-3.1**
	comp=Z,0.4nm,0.5s,mb3.7,baz=22,slow=7.5,SNR=4.0						
TXAR	**Lajitas Array**	**69.05**	**69**	P	**P**	**17 40 34.4**	**+0.6**
	comp=Z,0.2nm,0.5s,mb3.3,baz=302,slow=6.2,SNR=4.4						

*THR **09** 18:13:27.8±0.3, 27.40N×57.94E, h14^{km}±6^{km}, ML3.2*
*CSEM **09** 18:13:29.5±0.2, 27.41N×57.91E, h30^{km}, ML4.4/1, Error ellipse: s-maj=6.0km s-min=4.9km az=122.0*
*OMAN **09** 18:13:39.4±25.0, 26.85N×57.79E, h120^{km}, Error ellipse: s-maj=11.6km s-min=4.6km az=8.0*
ISC 09 18:13:28.6±0.8, **27.45N**±0.06×**57.85E**±0.06, **h10**^{km}, **n9**, σ**1^{s}09**/13, **4C-1D**, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.49**	**268**	*e*PG	**Pg**	**18 13 56.7**	**-1.7**
BNDS				*e*SG	**Sg**	**18 14 17.7**	**-0.7**
BNDS				AML	AML	18 14 20.2	
	comp=E,358nm,0.3s						
BNDS	**Bandar-Abbas**	**1.49**	**268**	*e*Pg	**Pg**	**18 13 56.7**	**-1.7**
	SNR=90						
BNDS				*e*Sg	**Sg**	**18 14 17.7**	**-0.7**
	comp=E,358nm,0.3s,SNR=90						
BANOM	**Banah**	**2.06**	**223**	⇑P	**Pn**	**18 14 04.5**	**+0.9**
	SNR=6.2						
BANOM				⇑S	**Sn**	**18 14 30.2**	**+0.6**
KRBR	**Kerman**	**2.70**	**339**	*e*PN	**Pn**	**18 14 14.1**	**+1.2**
KRBR				AML	AML	18 14 50.4	
	comp=E,61nm,0.3s						
ASHO	**Ashiyiah**	**3.19**	**211**	P	**Pn**	**18 14 21.6**	**+1.8**
	SNR=19						
ZHSF	**Zahedan**	**3.36**	**49**	*e*PN	**Pn**	**18 14 21.6**	**-0.6**
HOQ	**Hoqain**	**3.88**	**187**	⇑P	**Pn**	**18 14 28.3**	**-1.4**
HOQ				⇓S	**Sn**	**18 15 09.3**	**-6.5**
GHIR	**Ghir-Karzin**	**4.38**	**282**	*e*PN	**Pn**	**18 14 37.4**	**+0.6**
WBK	**Wadi Bani Khal**	**4.92**	**168**	⇑P	**Pn**	**18 14 43.8**	**-0.6**
	SNR=5.5						

*CSEM **09** 18:22:57.2, 22.27S×179.68W, h33^{km}, mb5.9*
*BGS **09** 18:23:49.2±5.4, 23.42S×179.16E, h467^{km}*
*NEIC **09** 18:23:54.0±0.1, 23.42S×179.16E, mb4.7/35, Error ellipse: s-maj=6.2km s-min=3.8km az=107.0*
*MOS **09** 18:23:55.0±3.0, 22.60S×178.66E, h516^{km}, mb4.9/4, Error ellipse: s-maj=16.8km s-min=15.0km az=28.6*
*IDC **09** 18:23:55.3±0.5, 23.32S×179.17E, h550^{km}±5^{km}, mb4.4/19, mb1 4.4/21, mb1mx4.4/22, mbtmp5.3/21, Error ellipse: s-maj=11.2km s-min=9.5km az=79.0*
*BJI **09** 18:23:57.1, 22.55S×178.80E, h544^{km}, mB4.6, mb4.7*
ISC 09 18:23:55.6±0.6, **23.48S**±0.04×**179.03E**±0.05, **h571**^{km}±8^{km}, **h556**^{km}±4.6^{km}**:pP-P**, **n441**, σ**1^{s}14**/196, **mb4.8**/63, **29C-21D**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.36**	**155**	P	**P**	**18 25 39.8**	**+0.7**
	96nm,0.3s,baz=286,slow=23,SNR=4.8						
RAO				S	**S**	**18 27 01.3**	**-0.1**
	51nm,0.3s,baz=259,slow=23,SNR=4.7						
DZM	**Mont Dzumac**	**11.70**	**274**	*e*P	**P**	**18 26 31.8**	**+0.4**
DZM				*e*S	**S**	**18 28 49.3**	**+13**
DZM	**Mont Dzumac**	**11.70**	**274**	P	**P**	**18 26 32.5**	**+1.1**
	0.6nm,0.3s,baz=96,slow=15,SNR=12						
DZM	**Mont Dzumac**	**11.70**	**274**	*e*P	**P**	**18 26 31.8**	**+0.4**
DZM				*e*S	**S**	**18 28 49.3**	**+13**
AFI	**Afiamalu**	**12.90**	**44**	P	**P**	**18 26 37.8**	**-5.6**
	17nm,0.3s,baz=28,slow=2.8,SNR=78						
AFI				S	**S**	**18 28 49.2**	**-8.9**
	4.0nm,0.3s,baz=204,slow=23,SNR=7.0						
WCZ	**Waipu Caves**	**13.06**	**197**	PN	**P**	**18 26 48.2**	**+3.2**
KUZ	**Kuaotunu**	**13.52**	**191**	*e*P	**P**	**18 26 51.2**	**+1.6**
KUZ	**Kuaotunu**	**13.52**	**191**	PN	**P**	**18 26 51.2**	**+1.6**
MTAZ	**Motutapu**	**13.73**	**194**	*e*P	**P**	**18 26 54.2**	**+2.6**
MTAZ	**Motutapu**	**13.73**	**194**	PN	**P**	**18 26 54.2**	**+2.6**
OTAZ	**Otara**	**13.88**	**194**	P	**P**	**18 26 55.6**	**+2.5**
MKAZ	**Moumakai**	**13.98**	**193**	P	**P**	**18 26 56.9**	**+2.7**
MXZ	**Matakaoa Point**	**14.05**	**182**	*e*P	**P**	**18 26 54.4**	**-0.4**
MXZ	**Matakaoa Point**	**14.05**	**182**	*e*PN	**P**	**18 26 52.9**	**-1.8**
PUZ	**Puketiti**	**14.56**	**182**	*e*P	**P**	**18 26 58.4**	**-1.4**
PUZ	**Puketiti**	**14.56**	**182**	PN	**P**	**18 26 58.0**	**-1.8**
PUZ				SN	**S**	**18 29 27.6**	**-0.6**
URZ	**Urewera**	**14.82**	**186**	P	**P**	**18 27 00.8**	**-1.6**
	34nm,0.3s,baz=27,slow=2.1,SNR=44						
URZ				S	**S**	**18 29 33.6**	**+0.7**
	4.3nm,0.3s,baz=242,slow=8.2,SNR=12						
URZ	**Urewera**	**14.82**	**186**	*e*P	**P**	**18 27 00.4**	**-2.0**
URZ	**Urewera**	**14.82**	**186**	PN	**P**	**18 27 00.4**	**-2.0**
URZ				SN	**S**	**18 29 33.5**	**+0.5**
MWZ	**Matawai**	**14.86**	**185**	*e*P	**P**	**18 27 01.1**	**-1.7**
MWZ	**Matawai**	**14.86**	**185**	PN	**P**	**18 27 00.5**	**-2.2**
MWZ				*e*SN	**S**	**18 29 31.3**	**-2.3**
HIZ	**Hauiti**	**15.40**	**192**	*e*P	**P**	**18 27 10.4**	**+2.3**
HIZ	**Hauiti**	**15.40**	**192**	PN	**P**	**18 27 10.0**	**+2.0**
KNZ	**Kokohu**	**15.53**	**184**	*e*PN	**P**	**18 27 09.4**	**+0.1**
BKZ	**Black Stump Fm**	**15.78**	**187**	*e*P	**P**	**18 27 09.5**	**-2.3**
BKZ	**Black Stump Fm**	**15.78**	**187**	PN	**P**	**18 27 09.5**	**-2.3**
NGZ	**Ngauruhoe**	**15.91**	**190**	P	**P**	**18 27 13.7**	**+0.7**
CNZ	**Chateau**	**15.95**	**190**	P	**P**	**18 27 14.9**	**+1.6**
CNZ	**Chateau**	**15.95**	**190**	PN	**P**	**18 27 14.7**	**+1.4**
VRZ	**Vera Road**	**16.01**	**192**	*e*P	**P**	**18 27 16.2**	**+2.2**
VRZ	**Vera Road**	**16.01**	**192**	PN	**P**	**18 27 16.2**	**+2.2**
WAZ	**Wanganui**	**16.58**	**191**	*e*P	**P**	**18 27 21.0**	**+1.6**
WAZ	**Wanganui**	**16.58**	**191**	PN	**P**	**18 27 20.9**	**+1.5**
PWZ	**Pawanui**	**16.60**	**186**	*e*P	**P**	**18 27 18.1**	**-1.5**
PWZ	**Pawanui**	**16.60**	**186**	PN	**P**	**18 27 18.0**	**-1.6**
TSZ	**Takapari Road**	**16.73**	**188**	P	**P**	**18 27 19.8**	**-1.0**
TSZ	**Takapari Road**	**16.73**	**188**	PN	**P**	**18 27 20.0**	**-0.8**
MRZ	**Mangatainoka R**	**17.37**	**189**	*e*P	**P**	**18 27 25.2**	**-1.8**
MRZ	**Mangatainoka R**	**17.37**	**189**	PN	**P**	**18 27 24.8**	**-2.2**
KIW	**Kapiti Island**	**17.67**	**190**	P	**P**	**18 27 29.6**	**-0.2**
KIW	**Kapiti Island**	**17.67**	**190**	PN	**P**	**18 27 29.4**	**-0.4**
MTW	**Mount Morrison**	**17.87**	**189**	*e*P	**P**	**18 27 30.2**	**-1.5**
MTW	**Mount Morrison**	**17.87**	**189**	PN	**P**	**18 27 30.0**	**-1.7**
TCW	**Tory Channel**	**18.12**	**192**	PN	**P**	**18 27 33.8**	**-0.3**
QRZ	**Quartz Range**	**18.14**	**196**	PN	**P**	**18 27 35.7**	**+1.5**
QRZ				*e*SN	**S**	**18 30 33.3**	**+2.9**
TUWZ	**Tuamarina**	**18.40**	**192**	PN	**P**	**18 27 35.6**	**-1.0**
THZ	**Tophouse**	**18.93**	**194**	*e*P	**P**	**18 27 41.3**	**-0.4**
THZ	**Tophouse**	**18.93**	**194**	PN	**P**	**18 27 41.3**	**-0.4**
THZ				SN	**S**	**18 30 40.2**	**-3.5**
DSZ	**Denniston Nort**	**19.19**	**197**	*e*P	**P**	**18 27 45.0**	**+0.9**
DSZ	**Denniston Nort**	**19.19**	**197**	PN	**P**	**18 27 44.8**	**+0.7**
DSZ				SN	**S**	**18 30 48.2**	**+0.2**
KHZ	**Kahutara**	**19.43**	**192**	*e*P	**P**	**18 27 45.2**	**-1.1**
KHZ	**Kahutara**	**19.43**	**192**	PN	**P**	**18 27 45.2**	**-1.2**
LTZ	**Lake Taylor**	**20.05**	**195**	P	**P**	**18 27 51.0**	**-1.1**
LTZ	**Lake Taylor**	**20.05**	**195**	PN	**P**	**18 27 51.0**	**-1.0**
LTZ				*e*SN	**S**	**18 31 00.2**	**-2.1**
WVZ	**Waitaha Valley**	**20.71**	**197**	*e*P	**P**	**18 27 57.8**	**-0.4**
RPZ	**Rata Peaks**	**21.23**	**196**	P	**P**	**18 28 03.1**	**+0.3**
	27nm,0.4s,mb5.2,baz=52,slow=1.0,SNR=25						
RPZ				S	**S**	**18 31 21.6**	**+0.1**
	25nm,0.9s,baz=158,slow=23,SNR=4.9						
RPZ	**Rata Peaks**	**21.23**	**196**	*e*P	**P**	**18 28 01.8**	**-1.1**
RPZ	**Rata Peaks**	**21.23**	**196**	PN	**P**	**18 28 01.5**	**-1.3**
RPZ				*e*SN	**S**	**18 31 19.7**	**-1.8**
FOZ	**Fox Glacier**	**21.46**	**199**	*e*P	**P**	**18 28 04.0**	**-1.0**
FOZ	**Fox Glacier**	**21.46**	**199**	PN	**P**	**18 28 03.7**	**-1.3**
LBZ	**Lake Benmore**	**22.08**	**197**	*e*P	**P**	**18 28 07.5**	**-3.1**
JCZ	**Jackson Bay**	**22.21**	**200**	*e*P	**P**	**18 28 11.7**	**-0.1**
JCZ	**Jackson Bay**	**22.21**	**200**	PN	**P**	**18 28 11.6**	**-0.2**
WKZ	**Wanaka**	**22.81**	**199**	*e*P	**P**	**18 28 16.3**	**-0.9**
WKZ	**Wanaka**	**22.81**	**199**	PN	**P**	**18 28 15.8**	**-1.4**
HNR	**Honiara**	**22.98**	**304**	P	**P**	**18 28 17.7**	**-1.3**
	85nm,0.8s,mb5.4,baz=322,slow=0.3,SNR=6.0						
TUZ	**Tuapeka**	**23.68**	**196**	*e*P	**P**	**18 28 24.7**	**-0.2**
TUZ	**Tuapeka**	**23.68**	**196**	PN	**P**	**18 28 24.0**	**-1.0**
CNB	**Canberra Magne**	**28.30**	**239**	⇑*i*P	**P**	**18 29 07.3**	**+1.6**
	100nm,1.1s,mb5.4						
CTA	**Charters Tower**	**30.59**	**270**	P	**P**	**18 29 26.1**	**+0.8**
	128nm,0.5s,mb5.7,baz=97,slow=10,SNR=335						
CTA				ScP		18 34 59.1	
	10nm,1.1s,baz=157,slow=0.9,SNR=4.1						
CTAO	**Charters Tower**	**30.59**	**270**	*e*P	**P**	**18 29 26.0**	**+0.7**
	112nm,0.6s,mb5.6						
TOO	**Toolangi**	**31.94**	**236**	⇑*i*P	**P**	**18 29 38.0**	**+1.4**
	21nm,0.9s,mb4.7						
PMG	**Port Moresby**	**33.52**	**289**	P	**P**	**18 29 50.8**	**+0.8**
	258nm,0.8s,mb5.8,baz=105,slow=5.2,SNR=80						
STKA	**Stephens Creek**	**34.06**	**247**	⇑*i*P	**P**	**18 29 55.6**	**+1.2**
	27nm,0.9s,mb4.8						
STKA				*i* PCP	PcP	18 32 16.9	+1.0
STKA				*e*S	**S**	**18 34 41.1**	**-0.7**
STKA	**Stephens Creek**	**34.06**	**247**	P	**P**	**18 29 55.8**	**+1.3**
	34nm,0.9s,mb4.9,baz=91,slow=9.3,SNR=41						
STKA				PcP	PcP	18 32 17.2	+1.3
	11nm,0.6s,baz=98,slow=3.8,SNR=8.1						
STKA				ScP		18 35 10.2	
	1.9nm,0.6s,baz=336,slow=21,SNR=3.1						
WB2	**Warramunga Arr**	**41.54**	**266**	⇑*i*P	**P**	**18 30 55.1**	**-0.4**
WB2				*i* SCP		18 35 40.0	
WB2				*e*S	**S**	**18 36 28.3**	**-3.3**
WRAB	**Tennant Creek**	**41.54**	**266**	⇓*i*P	**P**	**18 30 54.7**	**-0.8**
WRAB				*i* *PP	pP	18 32 37.4	+0.7
WRAB				*i*		18 32 45.5	
WRAB	**Tennant Creek**	**41.54**	**266**	*e*P	**P**	**18 30 54.9**	**-0.6**
	101nm,0.8s,mb5.4						
WRAB				*e*PcP		18 35 39.9	
WRA	**Warramunga Arr**	**41.55**	**266**	P	**P**	**18 30 55.3**	**-0.3**
WRA				PP	PP	18 32 40.6	-2.6
WRA				S	**S**	**18 36 29.5**	**-2.2**
WRA	**Warramunga Arr**	**41.55**	**266**	P	**P**	**18 30 55.3**	**-0.3**
	22nm,0.3s,mb5.1,baz=96,slow=8.3,SNR=123						
WRA				PcP	PcP	18 32 40.6	+0.9
	7.3nm,0.8s,baz=95,slow=4.1,SNR=8.1						
WRA				ScP		18 35 39.9	
	10nm,1.0s,baz=102,slow=4.2,SNR=14						
WRA				S	**S**	**18 36 29.5**	**-2.3**
	3.3nm,0.7s,baz=100,slow=13,SNR=5.2						
KAKA	**Kakadu**	**45.39**	**275**	*e*P	**P**	**18 31 25.3**	**-0.3**
	50nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**49.98**	**266**	*e*P	**P**	**18 32 00.0**	**0.0**
	47nm,0.7s,mb5.0						
FITZ				*e*S	**S**	**18 38 29.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**49.98**	**266**	P	**P**	**18 32 00.5**	**+0.4**
	43nm,0.4s,mb5.2,baz=130,slow=3.1,SNR=143						
KLBR	**Kellerberrin**	**54.33**	**247**	*e*P	**P**	**18 32 30.4**	**-0.6**
	62nm,0.9s,mb4.9						
MBWA	**Marble Bar**	**54.57**	**260**	*e*P	**P**	**18 32 32.0**	**-0.8**
	48nm,0.8s,mb4.8						
NWAO	**Narrogin (SRO)**	**54.60**	**245**	*e*P	**P**	**18 32 32.2**	**-0.7**
VNDA	**Vanda**	**54.72**	**185**	P	**P**	**18 32 34.3**	**+1.1**
	4.3nm,0.8s,mb3.8,baz=0.2,slow=7.7,SNR=22						
VNDA				PcP	PcP	18 33 27.3	+0.3
	2.6nm,0.7s,baz=333,slow=2.8,SNR=4.1						
VNDA	**Vanda**	**54.72**	**185**	*e*P	**P**	**18 32 33.9**	**+0.7**
	2.9nm,0.6s						
SBA	**Scott Base**	**54.74**	**183**	*e*P	**P**	**18 32 35.3**	**+2.0**
	19nm,0.8s,mb4.4						
SBA				*e*PcP	PcP	18 33 27.5	+0.5
MUN	**Mundaring**	**55.58**	**246**	*e*P	**P**	**18 32 39.7**	**-0.1**
	21nm,0.6s,mb4.5						
CASY	**Casey**	**60.10**	**206**	*e*P	**P**	**18 33 08.9**	**-0.8**
QSPA	**South Pole Qui**	**66.60**	**180**	⇓*i*P	**P**	**18 33 52.5**	**+1.7**
	30nm,0.6s,mb5.0						
JHJ	**Hachijo jima 2**	**67.59**	**325**	P	**P**	**18 33 56.9**	**-0.8**
	95nm,0.6s,mb5.5,baz=97,slow=12,SNR=4.4						
KKM	**Kota Kinabalu**	**67.93**	**287**	*e*P	**P**	**18 33 59.2**	**-0.8**
JOW	**Kunigami**	**70.06**	**313**	P	**P**	**18 34 12.2**	**-0.3**
	75nm,0.7s,mb5.3,baz=146,slow=6.4,SNR=19						
MJAR	**Matsushiro Arr**	**71.06**	**326**	P	**P**	**18 34 17.2**	**-0.9**
	24nm,0.8s,mb4.8,baz=166,slow=6.1,SNR=60						
MAT	**Matsushiro**	**71.06**	**326**	*e*P	**P**	**18 34 17.0**	**-1.1**
	23nm,0.7s,mb4.8						
MAT	**Matsushiro**	**71.06**	**326**	P	**P**	**18 34 16.6**	**-1.5**
MAT				S	S	18 42 49.0	-0.4
KSM	**Kuching**	**71.16**	**280**	*e*P	**P**	**18 34 18.9**	**-0.2**
JNU	**Nakatsue**	**72.63**	**319**	P	**P**	**18 34 27.5**	**+0.2**
	22nm,0.6s,mb4.8,baz=77,slow=7.9,SNR=4.5						
YHNB	**Yeheng**	**73.59**	**307**	*e*P	**P**	**18 34 32.8**	**-0.2**
ASAJ	**Asahikawa**	**75.10**	**334**	P	**P**	**18 34 42.1**	**+1.2**
	23nm,0.8s,mb4.7,baz=207,slow=4.2,SNR=17						
KS15	**Wonju Array Si**	**77.38**	**321**	*e*P	**P**	**18 34 52.6**	**-0.9**
YSS	**Yuzh-Sakhalins**	**77.39**	**335**	⇑*i*P	**P**	**18 34 54.0**	**+0.7**
YSS				*e**PP	pP	18 36 50.0	-4.2
YSS				*e*S	S	18 44 03.0	+5.3
YSS				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.0						
YSS	**Yuzh-Sakhalins**	**77.39**	**335**	*e*P	**P**	**18 34 53.3**	**0.0**
	comp=Z,35nm,0.6s,mb5.0						
SSE	**Sheshan**	**77.55**	**312**	*e*P	**P**	**18 34 53.3**	**-1.2**
SSE				AMB	AMB		
	comp=Z,23nm,0.8s,mb4.6						
SSE				AMB	AMB		
	comp=Z,80nm,5.2s						
MAW	**Mawson**	**77.83**	**201**	⇓*i*P	**P**	**18 34 56.7**	**+1.5**
	comp=Z,8.3nm,0.5s,mb4.3						
MAW	**Mawson**	**77.83**	**201**	P	**P**	**18 34 56.8**	**+1.6**
	comp=Z,11nm,0.6s,mb4.4,baz=123,slow=5.9,SNR=50						
PET	**Petropavlovsk**	**78.22**	**348**	⇑*i*P	**P**	**18 34 56.8**	**-0.8**
PET				*i* S	S	18 44 05.6	-0.6
PET				*e*SP	SP	18 44 48.1	-6.3
PET				pmax	pmax		
	comp=Z,34nm,0.6s,mb4.8						
PET				smax			
	comp=N,100nm,14.5s						
NJ2	**Nanjing**	**79.72**	**312**	*e*P	**P**	**18 35 04.7**	**-1.2**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.6						
MDJ	**Mudanjiang**	**81.43**	**327**	P	**P**	**18 35 14.9**	**+0.5**
MDJ				S	S	18 44 41.3	+2.4
MDJ				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,72nm,6.0s						
MDJ	**Mudanjiang**	**81.43**	**327**	*e*P	**P**	**18 35 14.9**	**+0.4**
	comp=Z,16nm,0.8s,mb4.5						
KULM	**Kulim**	**81.50**	**280**	*e*P	**P**	**18 35 14.4**	**-1.0**
WHN	**Wuhan**	**82.05**	**308**	⇑P	**P**	**18 35 18.6**	**+0.7**
CN2	**Changchun**	**83.03**	**324**	*e*P	**P**	**18 35 22.5**	**0.0**
CN2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.0						
SYO	**Syowa Base**	**83.21**	**194**	⇑P	**P**	**18 35 21.8**	**-1.1**
TIA	**Tai'an**	**83.31**	**314**	*e*P	**P**	**18 35 25.0**	**+0.9**
TIA				AMB	AMB		
	comp=Z,47nm,1.0s,mb5.0						
CMB	**Columbia Colle**	**83.51**	**44**	*e*P	**P**	**18 35 24.6**	**-0.5**
	comp=Z,14nm,0.9s,mb4.5						
CMB				*e*pP	pP	18 37 26.2	-2.0
WDC	**Whiskeytown Da**	**83.72**	**41**	*e*P	**P**	**18 35 26.1**	**0.0**
	comp=Z,14nm,1.1s,mb4.4						
KLR	**Kul'dur**	**83.74**	**331**	*e*P	**P**	**18 35 24.4**	**-1.5**
YBH	**Yreka Blue Hor**	**84.33**	**40**	*e*P	**P**	**18 35 29.4**	**+0.4**
	comp=Z,19nm,1.3s,mb4.5						
YBH				*e*pP	pP	18 37 32.0	-0.3
BEKR	**Beckwourth**	**84.62**	**42**	*e*P	**P**	**18 35 30.0**	**-0.4**
	comp=Z,7.1nm,0.7s,mb4.3						
SNAA	**Sanae**	**85.09**	**179**	P	**P**	**18 35 31.9**	**-0.1**
SNAA	**Sanae**	**85.09**	**179**		**P**	**18 35 33.2**	**+1.2**
VNA3	**Neumayer Olymp**	**85.34**	**177**	P	**P**	**18 35 34.4**	**+1.2**
VNA3	**Neumayer Olymp**	**85.34**	**177**		**P**	**18 35 36.9**	**+3.7**
ENH	**Enshi**	**85.48**	**306**	*e*P	**P**	**18 35 35.5**	**+0.7**
	comp=Z,78nm,1.4s,mb5.0						
VNA2	**Neumayer--Watz**	**85.74**	**178**	⇑*i*P	**P**	**18 35 36.9**	**+1.7**
VNA2	**Neumayer--Watz**	**85.74**	**178**		**P**	**18 35 39.2**	**+4.0**
MA2	**Magadan**	**85.96**	**346**	*de*P	**P**	**18 35 35.6**	**-0.8**
MA2				*e**SP	tx	18 38 16.9	
MA2				*e*S	S	18 45 16.5	-5.5
MA2				*e*PS	tx	18 46 30.3	
MA2				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
VNA1	**Neumayer--Stat**	**85.99**	**178**	P	**P**	**18 35 38.2**	**+1.9**
VNA1	**Neumayer--Stat**	**85.99**	**178**		**P**	**18 35 40.2**	**+3.9**
NST	**Nakhon Sawan**	**86.34**	**289**	P	**P**	**18 35 35.5**	**-3.7**
SVW2	**Sparrevohn**	**86.75**	**12**	*e*P	**P**	**18 35 39.1**	**-1.0**
BMN	**Battle Mountai**	**86.90**	**43**	*e*P	**P**	**18 35 41.8**	**+0.5**
	comp=Z,11nm,0.9s,mb4.5						
TUC	**Tucson**	**86.97**	**53**	*e*P	**P**	**18 35 42.7**	**+0.8**
	comp=Z,25nm,1.5s,mb4.6						
NANT	**Nan**	**87.19**	**292**	⇓P	**P**	**18 35 45.0**	**+1.8**
SPU	**Mount Spurr**	**87.55**	**14**	*e*P	**P**	**18 35 41.9**	**-2.0**
KMI	**Kunming**	**88.29**	**298**	P	**P**	**18 35 50.1**	**+1.9**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
KMI				AMB	AMB		
	comp=Z,76nm,3.9s						
ELK	**Elko**	**88.33**	**44**	*e*P	**P**	**18 35 47.9**	**-0.2**
	comp=Z,12nm,1.1s,mb4.5						
CHRT	**Chiangrai**	**88.44**	**292**	⇓P	**P**	**18 35 49.0**	**0.0**
	comp=Z,132nm,0.9s,mb5.7						
CMAR	**Chiang Mai Arr**	**88.55**	**291**	P	**P**	**18 35 51.5**	**+2.0**
	comp=Z,9.2nm,0.9s,mb4.6,baz=134,slow=3.2,SNR=31						
CMAR				pP	pP	18 37 51.2	-2.9
	comp=Z,4.2nm,1.0s,baz=132,slow=4.0,SNR=3.2						
CMAR				PKKPbc		18 53 28.6	
	comp=Z,0.9nm,0.6s,baz=302,slow=4.8,SNR=6.6						
PMR	**Palmer**	**88.56**	**15**	*e*P	**P**	**18 35 47.6**	**-1.0**
SEY	**Seymchan**	**88.68**	**348**	⇓*i*P	**P**	**18 35 48.7**	**-0.4**
CHG	**Chiang Mai**	**88.70**	**291**	⇓P	**P**	**18 35 52.2**	**+1.9**
	comp=Z,21nm,0.8s,mb5.0						
SML	**Sawmill**	**88.94**	**15**	*e*P	**P**	**18 35 49.6**	**-0.8**
DIV	**Divide**	**88.98**	**16**	*e*P	**P**	**18 35 49.4**	**-1.2**
	comp=Z,41nm,0.9s,mb5.3						
MVU	**Marysvale**	**89.12**	**47**	*e*P	**P**	**18 35 52.9**	**+1.0**
	comp=Z,16nm,1.4s,mb4.7						
MSU	**Marysvale**	**89.15**	**47**	*e*P	**P**	**18 35 52.6**	**+0.7**
BMO	**Blue Mountains**	**89.36**	**40**	*e*P	**P**	**18 35 52.6**	**-0.1**
	comp=Z,3.2nm,0.8s,mb4.2						
HHC	**Hu-ho-hao-te**	**89.50**	**316**	*e*P	**P**	**18 35 54.7**	**+1.2**
HHC				XP	sP	18 38 51.0	-3.8
HHC				PP	PP	18 39 35.3	-1.5
HHC				SKS	SKS	18 45 31.4	+2.3
HHC				S	S	18 45 51.7	-2.9

HHC SS SS 18 52 02.2 -10
HHC AMB AMB
comp=Z,17nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,63nm,12.0s
BGU Big Grassy Mou 89.84 45 *e*P **P 18 35 54.7 -0.4**
TMUT Trail Mountain 90.20 47 *e*P **P 18 35 57.9 +1.2**
HLID Hailey 90.37 42 *e*P **P 18 35 57.6 +0.2**
comp=Z,2.6nm,0.7s,mb4.2
SPUT South Promonto 90.42 45 *e*P **P 18 35 57.9 +0.2**
HVU Hansel Valley 90.45 44 *e*P **P 18 35 58.3 +0.4**
MCK McKinley 90.49 14 *e*P **P 18 35 56.3 -1.2**
comp=Z,2.0nm,0.6s,mb4.1
CTU Camp Tracy 90.55 45 *e*P **P 18 35 58.8 +0.5**
SRU San Rafael 90.56 47 *e*P **P 18 35 58.6 +0.1**
MNTX Cornudas Mount 90.71 56 *e*P **P 18 35 59.1 -0.1**
comp=Z,9.0nm,1.0s,mb4.7
BNM Barren Site 90.91 53 *e*P **P 18 36 00.2 +0.1**
TXAR Lajitas Array 90.97 58 P **P 18 36 01.1 +0.6**
comp=Z,4.1nm,0.8s,mb4.4,baz=218,slow=5.6,SNR=26
TXAR pP pP 18 38 01.6 -4.1
comp=Z,0.4nm,0.8s,baz=212,slow=12,SNR=1.6
TXAR PKKPbc 18 53 23.9
comp=Z,0.6nm,0.6s,baz=90,slow=3.8,SNR=8.3
LTX Lajitas 90.97 58 *e*P **P 18 36 00.2 -0.4**
comp=Z,13nm,1.1s,mb4.8
TCUT Toone Canyon 90.99 45 *e*P **P 18 36 01.2 +0.8**
ANMO Albuquerque 91.40 52 *i* P **P 18 36 02.2 -0.2**
ANMO *i* 18 39 50.6
ANMO Albuquerque 91.40 52 *e*P **P 18 36 01.9 -0.4**
comp=Z,6.3nm,1.0s,mb4.5
GDL2 Guadalupe Moun 90.71 56 *e*P **P 18 36 04.2 +0.3**
BILL Bilibino 91.74 355⇓*i*P **P 18 36 02.3 -0.8**
BILL pmax pmax
comp=Z,16µm,0.8s
BILL Bilibino 91.74 355 *e*P **P 18 36 03.0 0.0**
comp=Z,11nm,0.7s,mb5.0
ILAR Eielson Array 91.84 14 P **P 18 36 02.2 -1.4**
comp=Z,2.3nm,0.6s,mb4.4,baz=228,slow=5.4,SNR=14
ILAR pP pP 18 38 05.6 -3.3
comp=Z,4.7nm,1.1s,baz=230,slow=6.2,SNR=7.7
LZH Lanzhou 92.42 308 P **P 18 36 08.5 +1.5**
LZH AMB AMB
comp=Z,40nm,1.0s,mb5.4
PDAR Pinedale Array 93.01 44 P **P 18 36 09.2 -0.3**
comp=Z,2.3nm,0.7s,mb4.3,baz=209,slow=2.8,SNR=24
PDAR pP pP 18 38 10.7 -4.2
comp=Z,0.8nm,0.9s,baz=225,slow=4.2,SNR=4.1
PDAR PKKPbc 18 53 16.0
comp=Z,0.3nm,0.6s,baz=56,slow=5.3,SNR=4.3
YAK Yakutsk 93.87 339 *e*P **P 18 36 12.8 -0.1**
YAK *i* 18 40 11.5
YAK pmax pmax
comp=Z,13nm,1.6s,mb4.8
ULN Ulaanbaatar 95.84 320 *e*P **P 18 36 16.8 -5.3**
comp=Z,1.7nm,0.6s,mb4.5
ULN *e*pP pP 18 38 22.9 -4.8
SONM Songino Array 96.21 320 P **P 18 36 24.5 +0.6**
comp=Z,2.3nm,1.0s,mb4.4,baz=117,slow=5.5,SNR=11
SONM PKKPbc 18 53 07.9
comp=Z,0.8nm,0.6s,baz=270,slow=1.2,SNR=6.9
GTA Gaotai 96.75 310 *e*P **P 18 36 27.7 +1.2**
GTA AMB AMB
comp=Z,7.0nm,1.4s,mb4.7
ZAK Zakamensk 99.19 321⇑*e*P **P 18 36 37.6 +0.4**
ZAK *e* 18 38 36.8
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb4.1
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb4.1
ZAL Zalesovo 111.08 321 PKiKP 18 41 24.4
comp=Z,1.2nm,0.3s,baz=297,slow=2.5,SNR=5.0
MKAR Makanchi Array 111.22 313 Pdiff Pdif 18 37 31.9 +1.5
comp=Z,0.6nm,0.7s,baz=97,slow=5.0,SNR=7.3
MKAR PKiKP 18 41 25.4
comp=Z,2.1nm,0.6s,baz=286,slow=0.1,SNR=12
MKAR PKKPbc 18 52 23.7
comp=Z,0.5nm,0.6s,baz=284,slow=5.0,SNR=7.2
MKAR PKKPab 18 52 35.3
comp=Z,1.9nm,0.9s,baz=283,slow=3.9,SNR=10
AAK Ala-Archa 115.94 307 *i* PKiKP PKPdf 18 41 33.4 -0.4
OPO Ambohidratompo117.10 233 PKP PKPdf 18 41 38.9 +2.4
comp=Z,2.3nm,0.6s,baz=260,slow=12,SNR=5.1
KKAR Karatay Array 118.91 308 *i* PKiKP PKPdf 18 41 40.3 +0.8
KKAR pmax pmax
comp=Z,16nm,0.7s
VOSK Vostochnaya 119.18 319 PKiKP PKPdf 18 41 39.8 0.0
VOSK pmax pmax
comp=Z,5.0nm,0.6s
BVAR Borovoye Array 119.54 319 PKP PKPdf 18 41 41.0 +0.5
comp=Z,5.6nm,0.4s,baz=110,slow=1.3,SNR=34
ZRNK Zerenda 120.38 319 PKiKP PKPdf 18 41 42.3 +0.2
ZRNK pmax pmax
comp=Z,4.0nm,0.6s
ZRNK Zerenda 120.38 319 *e*PKPdf PKPdf 18 41 42.4 +0.2
SUR Sutherland 120.68 201 *e*PKPdf PKPdf 18 41 42.9 -0.4
BOSA Boshof 122.37 207 PKP PKPdf 18 41 48.8 +2.2
comp=Z,6.1nm,0.8s,baz=160,slow=0.7,SNR=12
BOSA PKKPbc 18 51 45.2
comp=Z,1.3nm,0.6s,baz=329,slow=2.6,SNR=7.2
BOSA Boshof 122.37 207 *e*PKPdf PKPdf 18 41 48.4 +1.8
SCHQ Schefferville 122.71 39 PKP PKPdf 18 41 47.1 +0.5
comp=Z,2.5nm,0.5s,baz=237,slow=8.7,SNR=5.2
SVE Sverdlovsk 124.82 324 *e*PKiKP PKPdf 18 41 51.5 +1.0
LBTB Lobatse 125.34 210 *e*PKPdf PKPdf 18 41 54.4 +1.9
ARU Arti 126.02 324 *i* PKiKP PKPdf 18 41 53.0 +0.1
ARU *e* 18 43 57.9
ARU Arti 126.02 324 *e*PKPdf PKPdf 18 41 53.6 +0.8
AB31 Akbulak array 126.29 315 *i* PKiKP PKPdf 18 41 54.9 +1.3
AB31 pmax pmax
comp=Z,4.0nm,0.8s
MATP Matopo 127.75 216 PKP PKPdf 18 41 59.0 +1.8
comp=Z,3.1nm,0.5s,baz=156,slow=0.8,SNR=13
MATP SKPbc 18 44 27.4
comp=Z,2.7nm,0.7s,baz=158,slow=3.6,SNR=7.6
ARCES ARCESS Array B 131.30 348 PKhKP 18 41 53.6
comp=Z,0.5nm,0.4s,baz=11,slow=0.6,SNR=12
ARCES PKP PKPdf 18 42 03.0 +0.3
comp=Z,1.9nm,0.6s,baz=95,slow=1.2,SNR=5.4
ARCES SKPbc 18 44 36.4
comp=Z,7.5nm,0.9s,baz=18,slow=3.8,SNR=11
KMBO Kilima Mbogo 135.52 242 PKP PKPdf 18 42 16.2 +4.2
comp=Z,3.1nm,0.7s,baz=45,slow=7.9,SNR=6.6
KMBO Kilima Mbogo 135.52 242 PKP PKPdf 18 42 16.2 +4.2
KAF Kangasniemi 137.17 342 *e*p PKPdf 18 42 02.9 -11
comp=Z,7.2nm,0.6s
KAF Kangasniemi 137.17 342 *e*PKHKP 18 42 02.9
KAF pmax pmax
comp=Z,7.0nm,0.6s
FINES FINESS Array B 137.77 341 PKhKP 18 42 06.5
comp=Z,2.3nm,0.6s,baz=65,slow=3.0,SNR=28
FINES PKP PKPdf 18 42 15.7 +0.9
comp=Z,6.5nm,0.7s,baz=90,slow=2.8,SNR=13
FINES SKPbc 18 44 58.0
comp=Z,6.4nm,0.9s,baz=72,slow=6.0,SNR=12
MZLS Mizel 137.88 280 P PKPdf 18 42 19.5 +3.5
OBN Obninsk 137.96 328 *i* PKiKP PKPdf 18 42 15.0 -0.3
OBN pmax pmax
comp=Z,30nm,1.7s
KIV Kislovodsk 138.92 311 *i* PKiKP PKPdf 18 42 19.3 +1.9
KIV pmax pmax
comp=Z,11nm,1.4s
BLJS Baljurashi 140.38 273 P PKPdf 18 42 23.7 +3.2
ERZM Erzurum 140.83 305 *i* P PKPdf 18 42 18.2 -2.7
MBAR Mbarara 140.98 237 *e*PKPpre 18 42 19.1
NB2 NORSAR Subarra141.53 350 PKPabc PKPdf 18 42 17.4 -3.9
comp=Z,10nm,0.6s,baz=14,slow=3.1
NOA NORSAR Array B141.53 350 PKhKP 18 42 17.6
comp=Z,11nm,0.7s,baz=16,slow=4.7,SNR=70
NOA SKPab 18 45 23.7
comp=Z,2.9nm,1.0s,baz=21,slow=4.1,SNR=3.5
NAO01 NORSAR Array S 141.77 351 *e*PKPdf PKPdf 18 42 18.4 -3.4
ANN Anapa 142.24 314 *i* PKHKP 18 42 21.4
ANN pmax pmax
comp=Z,33nm,1.4s
KELT Kelkit 142.36 306 *i* P PKPdf 18 42 23.6 +0.1
ELZG Elazig 142.93 303 *i* P PKPdf 18 42 25.3 +0.7
KONO Kongsberg 143.10 351 *e*PKPdf PKPdf 18 42 22.7 -1.5
MALT Malatya 143.40 303 PKHKP 18 42 26.4
MALT Malatya 143.40 303 *e*PKPdf PKPdf 18 42 26.0 +0.7
AKASG Malin Array Be 144.14 327 PKP PKPdf 18 42 26.2 0.0
comp=Z,21nm,0.5s,baz=44,slow=4.3,SNR=199
AKASG SKPbc 18 45 15.2
comp=Z,2.1nm,0.7s,baz=40,slow=2.3,SNR=5.6
OWE Westray 144.16 2 *e*P PKPbc 18 42 25.7 -0.2
SVST Sivas 144.16 306 *i* P PKPbc 18 42 29.4 +2.8
GZT Gaziantep 144.26 302 *i* P PKPdf 18 42 28.6 +1.8
SIM Simferopol' 144.34 316*de*PKIKP PKPdf 18 42 28.5 +1.8
SIM pmax pmax
comp=Z,45nm,0.7s
YNBS Yanbu' al Bahr 144.45 279 P PKPdf 18 42 30.9 +3.4
SUW Suwalki 144.52 335 *e*PKP PKPdf 18 42 27.8 +1.1
SUW *e* 18 42 29.5
SUW Suwalki 144.52 335 *e*PKP PKPdf 18 42 27.9 +1.1
SUW *e* 18 42 29.5
OHO Hoy 144.65 2 *e*P PKPdf 18 42 27.7 +0.9
OBR Brabster 144.87 2 *e*P PKPdf 18 42 28.8 +1.6
ORI Reay 144.91 3 *e*P PKPdf 18 42 28.8 +1.6
OTO Tongue 144.93 3 *e*P PKPdf 18 42 28.7 +1.4
BOYT Boyabat 145.16 310 *i* P PKPdf 18 42 31.4 +3.2
UMJS Umm Lajj 145.16 281 P PKPdf 18 42 33.0 +4.2
QURS Qurayyt al Mil 145.25 292 P PKPdf 18 42 33.7 +5.0
COBT Iskenderun 145.46 301 *i* P PKPdf 18 42 32.6 +3.7
CTKT Corum 145.50 308 *i* P PKPdf 18 42 32.6 +3.8
FKH Fakeheh 145.73 297 *e*P PKPdf 18 42 33.8 +4.3
MCD Coleburn Disti 145.90 2 *e*P PKPdf 18 42 30.9 +1.9
MDO Dochfour 145.99 3 *e*P PKPdf 18 42 31.3 +2.2
AVNT Avonos 146.00 305 *i* P PKPdf 18 42 33.4 +3.6
TBKS Tabuk 146.00 286 P PKPdf 18 42 34.6 +4.5
MME1 Meikle Cairn 146.17 2 *e*P PKPdf 18 42 31.5 +2.0
BALT Daday 146.18 310 *i* P PKPdf 18 42 34.0 +4.0
MUD Monsted U'grnd 146.24 350 *i* PKIKP PKPdf 18 42 32.6 +3.0
MUD pmax pmax
comp=Z,12nm,0.5s
MUD Monsted U'grnd 146.24 350 *i* P PKPdf 18 42 32.6 +3.0
comp=Z,12nm,0.5s
BSD Bornholm Skovb 146.27 344⇓*i*P PKPdf 18 42 32.7 +3.0
COP Copenhagen 146.34 346 *e*PKIKP PKPdf 18 42 33.2 +3.4
COP pmax pmax
comp=Z,36nm,0.5s
COP Copenhagen 146.34 346 *i* P PKPdf 18 42 33.2 +3.4
comp=Z,36nm,0.5s
BHL Bhannes 146.40 296 *e*P PKPdf 18 42 35.0 +4.4
KSDI Kefar Szold 146.49 295 P PKPdf 18 42 32.6 +1.8
ELDT Eldivan 146.52 309 *i* P PKPdf 18 42 34.9 +4.3
JMQS Jabal Moqyreh 146.59 287 P PKPdf 18 42 36.0 +5.0
BR131 Keskin Array S 146.62 307 *e*PKPbc PKPbc 18 42 34.1 +1.3
BRTR Keskin Array B 146.62 307 PKP PKPdf 18 42 32.0 +1.3
comp=Z,14nm,0.9s,baz=88,slow=1.3,SNR=44
BRTR PKPbc PKPbc 18 42 34.9 +2.0
comp=Z,14nm,0.7s,baz=146,slow=5.4,SNR=45
BRTR pPKPbc 18 44 40.2
comp=Z,1.4nm,0.7s,baz=93,slow=0.2,SNR=3.7
MKRJ Makawir 146.67 292 P PKPdf 18 42 32.9 +1.8
MMLI Mount Malkishu 146.77 294 P PKPdf 18 42 33.6 +2.3
MEST Erdemli 147.10 302 *i* P PKPdf 18 42 36.4 +4.7
SLTI Sal'it 147.12 293 P PKPdf 18 42 34.1 +2.3
OFRI 'Ofer 147.12 294 P PKPdf 18 42 33.6 +1.8
AYUS 'Ayunuah 147.13 286 P PKPdf 18 42 37.2 +5.2
ZFRI Zfri 147.14 290 P PKPdf 18 42 34.2 +2.3
ANTO Ankara 147.19 308 PKHKP 18 42 34.4
JMOS Jabal al Moall 147.26 288 P PKPdf 18 42 37.7 +5.5
BDAS Al Bad' 147.28 286 P PKPdf 18 42 37.7 +5.5
ALWS Ilw as Safayha 147.29 288 P PKPdf 18 42 37.6 +5.4
PRNI Paran 147.30 290 P PKPdf 18 42 34.7 +2.5
EIL Elat 147.38 289 *e*PKPbc PKPdf 18 42 37.6 +5.2
EIL Elat 147.38 289 P PKPdf 18 42 34.9 +2.5
MBH Mount Berech 147.41 289 P PKPdf 18 42 35.0 +2.6
HAQS Haql 147.42 288 P PKPdf 18 42 37.8 +5.4
TAYS Tayyib Ism 147.48 287 P PKPdf 18 42 38.3 +5.7
PHNC Paralimni 147.53 299 P PKPdf 18 42 38.0 +5.6
TLCR 147.53 319⇓P PKPdf 18 42 37.4 +5.3
KZIT Kziot 147.79 291 P PKPdf 18 42 35.8 +2.8
CFR Carcaliu 147.94 320 PKIKP PKPdf 18 42 38.4 +5.7
CFR Carcaliu 147.94 320⇑P PKPdf 18 42 38.5 +5.8
KWP Kalwaria 147.97 331 *e*PKP PKPdf 18 42 38.1 +5.5
KWP *e* 18 42 39.5
KWP Kalwaria 147.97 331 *e*PKP PKPdf 18 42 38.1 +5.5
KWP *e* 18 42 39.5
ERMK Ermenek 148.05 302 *i* P PKPdf 18 42 39.7 +6.5
CSS Prodhromos 148.10 299⇓P PKPdf 18 42 38.9 +5.6
comp=Z,0.8nm,0.5s
BURAR Bucovina Array 148.13 326⇓P PKPdf 18 42 39.8 +6.9
TIRR Tirgusor 148.16 318 PKIKP PKPdf 18 42 38.7 +5.6
TIRR Tirgusor 148.16 318⇑P PKPdf 18 42 38.8 +5.7
ESK Eskdalemuir 148.16 2 *e*PKPbc PKPdf 18 42 37.0 +4.2
BWH Wardlaw 148.28 3 *e*P PKPdf 18 42 37.5 +4.6
HARR Harsova 148.33 319⇑P PKPdf 18 42 39.7 +6.4
BBH Bruntsheil 148.36 2 *e*P PKPdf 18 42 37.7 +4.6
VRI Vrincioaia 148.38 322⇑P PKPdf 18 42 39.4 +6.0
BSEG Bad Segeberg 148.42 347 *e*PKPbc PKPdf 18 42 39.1 +5.9
BSEG *e*PKPab PKPab 18 42 52.0 -0.6
BSEG *e*pKPPbc 18 44 52.8
SZAC Souni-Zanaja 148.51 299⇑P PKPdf 18 42 40.2 +6.3
SZAC Souni-Zanaja 148.51 299⇑*e*P PKPdf 18 42 40.2 +6.3
BTA Talkin 148.59 2 *e*P PKPdf 18 42 38.8 +5.4
ALFC Alevga 148.65 299 P PKPdf 18 42 40.1 +5.9
comp=Z,1.7nm,0.4s
KOLS Kolonicke sedl 148.67 330 *i* PKP PKPdf 18 42 40.7 +7.0
KOLS Kolonicke sedl 148.67 330 *e*PKP PKPdf 18 42 40.7 +7.0
BDL Dobcross Hall 148.69 2 *e*P PKPdf 18 42 39.0 +5.5
PSN Preselentsi 148.70 317 *i* P PKPdf 18 42 41.5 +7.6
PSN Preselentsi 148.70 317 *i* P PKPdf 18 42 41.5 +7.6
ESKT Eskisehir 148.72 308 *i* P PKPdf 18 42 40.1 +6.0
BBO1 Bothel 148.74 3 *e*P PKPdf 18 42 38.3 +4.7
OJC Ojcow 148.78 334 *e*PKP PKPdf 18 42 40.0 +6.2
STHS Stebnicka Huta 148.78 332 *e*PKP PKPdf 18 42 40.9 +7.0
LCP Cassop 148.79 1 *e*P PKPdf 18 42 39.2 +5.5
RUE Ruedersdorf 148.93 342 *e*PKPbc PKPdf 18 42 40.3 +6.3
MLR Muntele Rosu 149.04 322 PKHKP 18 42 41.1
MLR Muntele Rosu 149.04 322⇓P PKPdf 18 42 41.0 +6.6
CRVS Cervenica-Dubn 149.06 331 *e*PKP PKPdf 18 42 42.0 +7.7
NIE Niedzica 149.18 332 *e*PKP PKPdf 18 42 36.8 +2.3
NIE *e* 18 42 41.6
LWH Whinny Nab 149.19 360 *e*P PKPdf 18 42 40.0 +5.7
WIM Isle of Man 149.25 4 *e*P PKPdf 18 42 40.1 +5.6
WIM AMb AMB 18 42 42.6
comp=Z,87nm,1.9s
ISP Isparta 149.54 305 *e*PKPbc PKPdf 18 42 41.8 +6.3
KSP Ksiaz 149.58 338 *i* PKHKP 18 42 42.2
KSP 18 42 49.8
KSP Ksiaz 149.58 338 *e*PKPdf PKPdf 18 42 42.2 +7.1
KSP *e* 18 42 49.8
KSP Ksiaz 149.58 338 *e*PKP PKPdf 18 42 42.3 +7.2
KSP *e* 18 43 43.1
VOIR 149.58 322⇓P PKPdf 18 42 42.6 +7.3
TKTP Tekketepe 149.62 306 *i* P PKPdf 18 42 41.8 +6.2
OKC Ostrava-Krasne 149.73 335 *e*PKHKP 18 42 42.4
OKC *e* 18 42 50.3
OKC Ostrava-Krasne 149.73 335⇑*e*PKPB 18 42 42.4
OKC *e*PKPAB PKPab 18 42 50.3 -0.8
KECS Kecovo 149.81 331 *e*PKP PKPdf 18 42 42.5 +6.9
DRGR 149.96 327 PKHKP 18 42 43.1
DRGR 149.96 327⇑P PKPdf 18 42 42.5 +6.6
UPC Upice 149.96 338 *e*PKP PKPdf 18 42 43.1 +7.4
UPC *e* 18 42 51.7
UPC *e* 18 44 56.9
UPC Upice 149.96 338⇑*e*PKPB 18 42 43.1
UPC *e*PKPAB PKPab 18 42 51.7 -0.3
UPC *ex* x 18 44 56.9
LIKS Likavka 149.97 333 *e*PKP PKPdf 18 42 45.3 +9.5
LHO Holmfirth 149.97 1 *e*P PKPdf 18 42 41.7 +6.0
DPC Dobruska-Polom 149.98 338 *e*PKPDF PKPdf 18 42 38.0 +2.2
DPC ⇑*e*PKPB 18 42 43.2
DPC *e*PKPAB PKPab 18 42 50.9 -1.2
DPC *ex* x 18 44 56.8
MORC Moravsky Berou 150.01 336 *e*PKPbc PKPdf 18 42 42.1 +6.3
WME Myndd Eilian 150.03 4 *e*P PKPdf 18 42 42.2 +6.5
WME AMb AMB 18 42 43.7
comp=Z,23nm,0.5s
WCB1 Church Bay 150.03 4 *e*P PKPdf 18 42 41.4 +5.7
WCB1 AMb AMB 18 42 43.6
comp=Z,57nm,0.9s
WLF1 Llynfaes 150.12 4 *e*P PKPdf 18 42 42.0 +6.0
WLF1 AMb AMB 18 42 44.4
comp=Z,50nm,1.4s
WIT Witteveen 150.14 351 *e*P PKPdf 18 42 43.9 +8.0
YRC Rhoscolyn 150.15 4 *e*P PKPdf 18 42 42.0 +6.0
YRC AMb AMB 18 42 44.4
comp=Z,42nm,1.2s
WPM1 Penmaenmawr 150.19 4 *e*P PKPdf 18 42 42.4 +6.4
WPM1 AMb AMB 18 42 44.9
comp=Z,72nm,1.0s
CLL Collm 150.20 342⇓*e*PKIKP PKPdf 18 42 37.0 +0.9
CLL *i* 18 42 43.3
CLL *i* 18 42 52.7
CLL pmax pmax
comp=Z,82nm,0.8s
CLL pmax pmax
comp=Z,33nm,1.3s
CLL Collm 150.20 342 *e*PKIKP PKPdf 18 42 37.0 +0.9
CLL *i* PKP1 PKPdf 18 42 43.3 +7.2
CLL *i* PKP2 PKPab 18 42 52.7 -0.3
CLL *e**PKP 18 44 52.0
CLL *e**PPKP2 18 44 58.0
BRG Berggiesshubel 150.31 341 *e*PKIKP PKPdf 18 42 37.9 +1.6
BRG *i* 18 42 43.8
BRG *i* 18 42 51.7
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG pmax pmax
comp=Z,65nm,1.0s
BRG pmax pmax
comp=Z,21nm,0.8s
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 150.31 341 *e*PKP PKPdf 18 42 37.9 +1.6
BRG *i* PKP PKPdf 18 42 43.8 +7.6
BRG *i* PKP PKPdf 18 42 51.7 +15
BRG *e* 18 44 57.1
BRG *e* 18 47 18.4
SZH Strazhica 150.31 318 *i* P PKPdf 18 42 44.5 +8.0
SZH Strazhica 150.31 318 *i* P PKPdf 18 42 44.5 +8.0
JMB Yambol 150.33 316 *i* P PKPdf 18 42 45.0 +8.4
JMB Yambol 150.33 316 *i* P PKPdf 18 42 45.0 +8.4
CLZ Clausthal 150.37 346 *e*PKPdf PKPdf 18 42 38.2 +1.9
CLZ *e*PKPbc PKPdf 18 42 44.0 +7.7
CLZ *e*PKPab PKPab 18 42 53.2 -0.5
PVCC Panska Ves 150.42 340 *e*PKPDF PKPdf 18 42 38.7 +2.3
PVCC ⇑*e*PKPB 18 42 44.1
PVCC *ex* x 18 44 57.6
PSZ Piszkesteto 150.50 331 PKHKP 18 42 45.3
PSZ Piszkesteto 150.50 331 *e*PKPbc PKPdf 18 42 44.2 +7.5
PSZ Piszkesteto 150.50 331 *e*PKP/p 18 42 43.7
VYHS Vyhne 150.52 333 *i* PKP PKPdf 18 42 44.5 +7.8
BTOK Tokmak 150.62 310 *i* P PKPdf 18 42 45.1 +8.0
KOLL Kolacno 150.63 333 *i* PKHKP 18 42 45.0
KOLL Kolacno 150.63 333 *e*PKP PKPdf 18 42 45.0 +8.2
DNZL Cakiroluk 150.69 306 *i* P PKPdf 18 42 45.5 +8.2
PVL Pavlikeni 150.70 319 *e*P PKPdf 18 42 47.0 +10
PVL Pavlikeni 150.70 319 *e*P PKPdf 18 42 47.0 +10
MANT Manisa 150.76 308 *i* P PKPdf 18 42 45.4 +8.1
PRU Pruhonice 150.89 339 *e*PKPDF PKPdf 18 42 39.3 +2.1
PRU ⇑*e*PKPB 18 42 44.8
PRU *e*PKPAB PKPab 18 42 55.4 -0.5
PRU *ex* x 18 44 59.5
WTSB Winterswijk 150.94 350 *e*P PKPdf 18 42 38.0 +0.9
comp=Z,18nm,1.3s
WTSB *ex* x 18 42 44.7
comp=Z,79nm,0.6s
SMOL Smolenice 151.08 334 *e*PKP PKPdf 18 42 47.0 +10
MOX Moxa 151.17 343 *e*PKIKP PKPdf 18 42 45.4 +7.9
MOX pmax pmax
comp=Z,43nm,1.6s
MOX Moxa 151.17 343 *e*P PKPdf 18 42 38.0 +0.5
comp=Z,logA/T=1.4
MOX PP2 18 42 45.0
MOX PKP2 PKPab 18 42 57.0 -0.1
MOX pPKP 18 45 02.0
DIM Dimitrovgrad 151.21 316 *i* P PKPdf 18 42 47.0 +9.1
DIM Dimitrovgrad 151.21 316 *i* P PKPdf 18 42 47.0 +9.1
SRO Srobarova 151.26 332 *e*PKP PKPdf 18 42 46.5 +8.7
SRO2 Moca 151.27 332 *e*PKP PKPdf 18 42 46.5 +8.7
NKC Novy Kostel 151.32 342 *e*PKPAB PKPab 18 42 57.2 -0.5
ZST Bratislava 151.46 334 *e*PKP PKPdf 18 42 47.0 +9.0
KDZ Kurdzhali 151.49 316 *i* P PKPdf 18 42 47.0 +8.7
KDZ Kurdzhali 151.49 316 *i* P PKPdf 18 42 47.0 +8.7
PGB Panagyurishte 151.79 318 *e*P PKPdf 18 42 48.0 +9.3
PGB Panagyurishte 151.79 318 *e*P PKPdf 18 42 48.0 +9.3
RZN Rozhen 151.92 316 *i* P PKPdf 18 42 48.0 +9.1
RZN Rozhen 151.92 316 *i* P PKPdf 18 42 48.0 +9.1
KHC Kasperske Hory 151.95 339 *e*PKPDF PKPdf 18 42 39.7 +1.0
KHC ⇑*e*PKPB 18 42 47.3
KHC *e*PKPAB PKPab 18 42 59.8 -0.6
KHC *ex* x 18 44 56.0
GRA1 Grafenberg Arr 152.15 343 *e*PKPab PKPab 18 43 01.6 +0.4
GRF Grafenberg Arr 152.15 343 *e*PKP PKPab 18 43 01.6 +0.4
GEC2 GERESS Array S 152.16 339 *e*PKPdf PKPdf 18 42 40.7 +1.7
GEC2 *e*PKPbc PKPdf 18 42 47.5 +8.5
GEC2 *e*PKPab PKPab 18 43 01.0 -0.3
GERES GERESS Array B 152.16 339 PKP PKPdf 18 42 40.6 +1.6
comp=Z,0.8nm,0.8s,baz=180,slow=1.3,SNR=8.8
GERES PKPbc PKPdf 18 42 47.6 +8.6
comp=Z,5.1nm,0.5s,baz=21,slow=2.1,SNR=50
GERES PKPab PKPab 18 43 00.4 -0.9
comp=Z,4.9nm,0.6s,baz=30,slow=3.8,SNR=16
GERES pPKPbc 18 44 56.5
comp=Z,2.8nm,0.9s,baz=45,slow=1.9,SNR=6.7
WET Wettzell 152.16 340 *e*PKPdf PKPdf 18 42 40.5 +1.5
WET *e*PKPbc PKPdf 18 42 47.6 +8.6
WET *e*PKPab PKPab 18 43 01.0 -0.3
HGN Heimansgroeve 152.25 351 *e*P PKPdf 18 42 39.9 +0.9
comp=Z,9.1nm,1.8s
HGN *ex* x 18 42 48.1
HGN *ex* x 18 42 60.0
VTS Vitosha 152.34 319 *i* P PKPdf 18 42 49.0 +10
VTS Vitosha 152.34 319 *i* P PKPdf 18 42 49.0 +10
MMB Musomiste 152.59 317 *i* P PKPdf 18 42 49.0 +9.2
MMB Musomiste 152.59 317 *i* P PKPdf 18 42 49.0 +9.2
MOA Molln 152.82 337⇓*i*P PKPdf 18 42 41.8 +1.9
comp=Z,8.3nm,1.7s
MOA *i* 18 42 49.1
comp=Z,3.7nm,0.6s
MOA *i* 18 43 04.1
comp=Z,14nm,1.1s
MOA *i* 18 45 02.2
comp=Z,4.6nm,1.1s
KKB Krupnik 152.84 318 *e*P PKPdf 18 42 50.0 +10
KKB Krupnik 152.84 318 *e*P PKPdf 18 42 50.0 +10
ARSA Arzberg 152.85 335⇓*i*P PKPdf 18 42 36.7 -3.3
comp=Z,1.5nm,0.8s
ARSA *i* 18 42 49.7
comp=Z,4.4nm,0.9s
ARSA *i* 18 43 02.4
comp=Z,12nm,1.2s
GIVF Givet 153.05 352 *e*PKIKP PKPdf 18 42 41.4 +1.2
BAIF Baives 153.17 353 *e*PKIKP PKPdf 18 42 41.4 +1.1
DIVS Divcibare 153.19 325⇑*i*PKP PKPdf 18 42 50.1 +10
STU Stuttgart 153.51 345 PKPdf PKPdf 18 42 41.4 +0.6
FUR Furstenfeldbru 153.51 341 *e*PKPbc PKPdf 18 42 51.4 +11
FUR *e*PKPab PKPab 18 43 06.4 -0.6
SKO Skopje 153.76 320 *e*P PKPdf 18 42 50.5 +9.1
SKO *i* 18 43 09.0
comp=Z,0.0nm,0.8s
KBA Koelnbreinsper 153.80 337⇑*i*P PKPdf 18 42 42.3 +1.0
comp=Z,4.9nm,1.0s
KBA *i* 18 42 52.2
comp=Z,5.9nm,0.6s
KBA *i* 18 43 07.4
comp=Z,7.9nm,0.5s
KBA *i* 18 45 03.5
comp=Z,5.6nm,1.0s
GOLS Golise 153.82 333 *e*PKPdf PKPdf 18 42 42.8 +1.5
GOLS *e*PKPbc PKPdf 18 42 51.2 +10
GOLS *e*PKPab PKPab 18 43 07.8 -0.6
OBKA Obir 153.84 335⇓*i*P PKPdf 18 42 42.6 +1.3
comp=Z,9.6nm,1.5s
OBKA *i* 18 42 51.0
comp=Z,15nm,1.9s
OBKA *i* 18 43 07.2
comp=Z,10nm,0.8s
BFO Black Forest 154.13 346 *e*PKPbc PKPdf 18 42 52.4 +11
BFO *e*PKPab PKPab 18 43 08.5 -1.1
WATA Walderalm 154.16 340⇑*i*P PKPdf 18 42 44.2 +2.5
comp=Z,2.4nm,0.4s
WATA *i* 18 42 52.6
comp=Z,4.2nm,0.4s
WATA *i* 18 43 09.1
comp=Z,11nm,0.5s
WTTA Wattenberg 154.21 340⇑*i*P PKPdf 18 42 43.5 +1.7
comp=Z,10nm,1.1s
WTTA *i* 18 42 53.0
comp=Z,6.3nm,0.4s
WTTA *i* 18 43 10.0
comp=Z,17nm,0.6s
LJU Ljubljana 154.24 335 *e*PKPdf PKPdf 18 42 43.9 +2.0
LJU *i* PKPbc PKPdf 18 42 52.8 +11
LJU *i* PKPab PKPab 18 43 09.3 -0.8

CDF	Champ du Feu	154.28	347	ePKIKP	PKPdf	18 42 42.6	+0.8
MOTA	Moosalm	154.30	341	⇑iP	PKPdf	18 42 44.2	+2.3
	comp=Z,6.8nm,1.2s						
MOTA				i		18 42 53.5	
	comp=Z,7.1nm,1.0s						
MOTA				i		18 43 10.3	
	comp=Z,9.4nm,0.8s						
SQTA	Sankt Quirin	154.38	341	⇑iP	PKPdf	18 42 44.7	+2.7
	comp=Z,5.7nm,1.1s						
SQTA				i		18 42 52.9	
	comp=Z,3.8nm,0.5s						
SQTA				i		18 43 10.5	
	comp=Z,7.2nm,0.6s						
SQTA				i		18 45 08.0	
	comp=Z,5.5nm,1.1s						
BOJS	Bojanci	154.38	333	ePKPdf	PKPdf	18 42 44.4	+2.3
MEZF	Maizieres J'vi	154.58	351	ePKIKP	PKPdf	18 42 43.6	+1.3
DAVA	Damuels	154.71	343	⇓iP	PKPdf	18 42 44.9	+2.4
	comp=Z,5.7nm,1.1s						
DAVA				i		18 42 54.8	
	comp=Z,2.4nm,0.5s						
DAVA				i		18 43 12.3	
	comp=Z,12nm,0.7s						
DAVA				i		18 45 19.3	
	comp=Z,4.7nm,0.9s						
FLN	La Foliniere	154.77	359	ePKIKP	PKPdf	18 42 44.0	+1.5
	comp=Z,4.7nm,0.6s						
HAU	Haudompre	154.84	348	ePKIKP	PKPdf	18 42 43.6	+0.9
	comp=Z,30nm,1.3s						
HINF	Hinteralfeld	154.93	348	ePKIKP	PKPdf	18 42 43.5	+0.7
	comp=Z,32nm,1.5s						
LDF	La Druitiere	154.93	359	ePKIKP	PKPdf	18 42 44.4	+1.6
	comp=Z,13nm,0.9s						
GRR	Gorron	155.15	360	ePKIKP	PKPdf	18 42 45.0	+1.9
	comp=Z,39nm,1.2s						
SGMF	Saint Gilles	155.25	3	ePKIKP	PKPdf	18 42 45.1	+1.9
	comp=Z,24nm,1.1s						
LOR	Lormes	155.95	352	ePKIKP	PKPdf	18 42 45.2	+1.1
	comp=Z,35nm,1.4s						
SSF	Saint Saulge	156.20	352	ePKIKP	PKPdf	18 42 45.5	+1.0
CABF	La Chapelle	156.23	348	ePKIKP	PKPdf	18 42 45.9	+1.4
	comp=Z,32nm,1.3s						
SMF	Signal de Mont	156.57	352	ePKIKP	PKPdf	18 42 45.8	+0.8
	comp=Z,11nm,1.1s						
BGF	Bois d'Agland	156.77	353	ePKIKP	PKPdf	18 42 46.3	+1.1
MFF	Saint Martin d	156.92	359	ePKIKP	PKPdf	18 42 46.3	+0.9
	comp=Z,21nm,1.2s						
TCF	Toulx Ste Croi	157.10	354	ePKIKP	PKPdf	18 42 46.6	+0.9
	comp=Z,21nm,1.3s						
LPL	La Plagne	157.15	346	ePKIKP	PKPdf	18 42 47.3	+1.5
LPG	La Plagne	157.16	346	ePKIKP	PKPdf	18 42 47.2	+1.4
ORIF	Oris-en-Rattie	157.90	347	ePKIKP	PKPdf	18 42 47.7	+0.9
RJF	Les Rejaudoux	158.14	355	ePKIKP	PKPdf	18 42 48.1	+1.1
	comp=Z,30nm,1.4s						
VIVF	Saint-Julien-l	158.19	349	ePKIKP	PKPdf	18 42 48.0	+0.9
	comp=Z,29nm,1.5s						
CAF	Calviac	158.47	354	ePKIKP	PKPdf	18 42 48.8	+1.4
LFF	La Frestale	158.55	357	ePKIKP	PKPdf	18 42 48.5	+1.0
SMRF	Simiane la Rot	158.86	347	ePKIKP	PKPdf	18 42 48.9	+1.0
FRF	La Foret Royal	159.01	344	ePKIKP	PKPdf	18 42 47.8	-0.2
LMR	La Mourre	159.26	344	ePKIKP	PKPdf	18 42 48.6	+0.3
MTLF	Montolieu	160.02	353	ePKIKP	PKPdf	18 42 50.2	+1.0
EPF	Esparros	160.47	357	ePKIKP	PKPdf	18 42 50.9	+1.2
	comp=Z,42nm,1.4s						
ETSF	Etsaut	160.63	359	ePKIKP	PKPdf	18 42 50.8	+1.0
PBRG	Braganca	161.10	13	ePKPab	PKPab	18 43 39.1	-0.6
PVRL	Vila Real	161.38	16	ePKPab	PKPab	18 43 40.3	-0.6
PVIS	Viseu	161.86	17	ePKPab	PKPab	18 43 42.4	-0.7
MTE	Manteigas	162.25	17	ePKPdf	PKPdf	18 42 54.9	+3.4
PTOM	Tomar	162.72	20	ePKPdf	PKPdf	18 42 53.6	+1.6
PTOM	Tomar	162.72	20	ePKPab	PKPab	18 43 45.8	-1.0
PCBR	Castelo Branco	162.79	17	ePKPdf	PKPdf	18 42 54.5	+2.5
PCBR	Castelo Branco	162.79	17	ePKPab	PKPab	18 43 45.6	-1.5
DBIC	Dimbokro	162.87	167	PKP	PKPdf	18 42 54.8	+1.9
	comp=Z,7.6nm,0.7s,baz=238,slow=0.3,SNR=7.4						
DBIC				PKPab	PKPab	18 43 48.1	-0.1
	comp=Z,6.9nm,1.1s,baz=222,slow=4.3,SNR=3.9						
ESDC	Sonseca Array	163.66	8	PKPab	PKPab	18 43 50.2	-0.7
	comp=Z,2.4nm,0.6s,baz=348,slow=4.4,SNR=13						
EVO	Evora	163.84	20	ePKIKP	PKPdf	18 42 54.6	+1.5
	comp=Z,32nm,1.1s						
PBEJ	Beja	164.35	21	ePKPdf	PKPdf	18 42 55.7	+2.1

*CSEM **09** 18:29:53.7±0.3, 38.97N×29.14W, ML2.1, Error ellipse: s-maj=16.6km s-min=1.7km az=99.0, After PDA*

*PDA **09** 18:29:53.7±0.3, 38.97N×29.14W, MD3.4, ML2.1, Error ellipse: s-maj=16.6km s-min=1.7km az=99.0*

SVSA 09 18:29:53.7±0.3**, 38.97N×29.14W, MD3.4, ML2.1, Error ellipse: s-maj=16.6km s-min=1.7km az=99.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CALA	Caldeira	0.52	138	eP	Pg	18 30 03.2	-0.8
CALA				eS	Sg	18 30 10.2	-0.8
HOR	Horta	0.60	138	eP	Pg	18 30 04.3	-1.3
HOR				eS	Sg	18 30 12.3	-1.3
PICO	Pico	0.73	130	i P	Pg	18 30 06.4	-1.9
PICO				eS	Sg	18 30 16.0	-2.0
PMAN	Manadas	0.89	112	erx		18 30 20.7	
PMAN	Manadas	0.89	112	e-		18 30 20.7	
PGRA	Graciosa	0.91	86	eS	Sg	18 30 20.1	-3.8
	36nm,0.2s						
PGRA	Graciosa	0.91	86	eS	Sg	18 30 20.1	-3.8
	36nm,0.2s						
PSBA	Serra de Santa	1.43	98	eS	Sb	18 30 32.9	-6.8
	9.8nm,0.2s						

*BJI **09** 18:35:05.0, 4.51N×94.15E, h43km, mB5.0, mb4.9, Ms4.3, Msz4.2*

*MOS **09** 18:35:11.5±0.8, 5.50N×94.42E, h33km, mb4.9/12, Error ellipse: s-maj=22.0km s-min=9.1km az=110.2*

*NEIC **09** 18:35:13.8±0.2, 5.21N×94.25E, mb4.6/20, Error ellipse: s-maj=7.8km s-min=4.9km az=209.0*

*IDC **09** 18:35:13.7±0.6, 5.23N×94.24E, h42km±4km, mb4.3/20, mb1 4.4/21, mb1mx4.3/25, mbtmp4.6/21, ML5.0/1, MS4.1/22, Ms1 4.1/22, ms1mx3.9/37, Error ellipse: s-maj=15.8km s-min=11.5km az=59.0*

ISC 09 18:35:11.7±0.3**, 5.26N**±0.05×**94.31E**±0.04**, h41km, h41km**±1.8km**:pP-P, n149,** σ1.00/147**, mb4.7**/61**, MS4.2**/31**, 13C-12D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PKT	Phuket	4.76	54	P	P	18 36 28.0	+5.0
KULM	Kulim	6.31	89	eP	P	18 36 45.6	+1.0
SNG	Songkhla	6.55	73	P	P	18 36 49.0	+1.0
	408nm,1.0s						
IPM	Ipoh	6.72	95	P	P	18 36 50.4	0.0
IPM	Ipoh	6.72	95	P	P	18 36 52.0	+1.6
KGM	Kluang	9.55	109	P	P	18 37 29.0	-0.7
KGM	Kluang	9.55	109	P	P	18 37 28.3	-1.4
CMAR	Chiang Mai Arr	13.88	19	P	P	18 38 30.4	+2.4
	2.6nm,0.3s,baz=205,slow=14,SNR=22						
CMAR				LR	LR	18 44 45.2	
	comp=Z,216nm,18.4s,baz=210,slow=41						
CMAR				ScP		18 47 20.4	
	0.1nm,0.3s,baz=227,slow=3.4,SNR=10						
VIS	Vishakhapatnam	16.40	320	i P	P	18 38 51.6	-9.0
KSM	Kuching	16.40	103	eP	P	18 39 01.8	+1.1
HYB	Hyderabad	19.59	309	eP	P	18 39 39.0	-0.4
HYB				eS	S	18 43 23.0	+10
HYB	Hyderabad	19.59	309	i P	P	18 39 39.0	-0.4
SHL	Shillong	20.33	354	eP	P	18 39 44.0	-3.2
SHL				eS	S	18 43 36.0	+8.1
QIZ	Qiongzhong	20.41	47	eP	P	18 39 44.9	-3.2
QIZ				S	S	18 43 26.2	-3.3
QIZ				LR	LR		
	comp=N,798nm,15.1s,MS4.3						
QIZ				LR	LR		
	comp=E,554nm,16.6s,MS4.3						
QIZ				LR	LR		
	comp=Z,693nm,18.0s,MS4.1						
KMI	Kunming	21.35	21	⇓P	P	18 39 59.7	+2.1
KMI				AP		18 40 05.6	
KMI				XP		18 40 09.2	
KMI				AMB	AMB		
	comp=Z,14nm,1.6s,mb4.0						
KMI				LR	LR		
	comp=N,295nm,17.4s,MS3.9						
KMI				LR	LR		
	comp=E,354nm,18.7s,MS3.9						
KMI				LR	LR		
	comp=Z,240nm,25.5s						
KKM	Kota Kinabalu	21.81	87	eP	P	18 40 02.2	-0.1
KKM	Kota Kinabalu	21.81	87	P	P	18 40 03.6	+1.3
TSM	Tawau	23.50	91	P	P	18 40 19.5	+0.6
PKI	Pulchoki	23.76	340	eP	P	18 40 21.4	0.0
	comp=Z,25nm,0.7s,mb4.8						
DMN	Daman	23.90	339	eP	P	18 40 23.0	+0.3
	comp=Z,38nm,0.6s,mb5.0						
GUN	Gumba	23.92	341	eP	P	18 40 23.2	+0.3
	comp=Z,47nm,0.7s,mb5.0						
KKN	Kakani	24.00	340	eP	P	18 40 23.8	+0.1
	comp=Z,21nm,0.6s,mb4.8						
GYA	Guiyang	24.16	28	⇓iP	P	18 40 27.0	+1.7
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
GYA				AMB	AMB		
	comp=Z,210nm,4.5s						
GYA				LR	LR		
	comp=N,850nm,18.9s,MS4.4						
GYA				LR	LR		
	comp=E,720nm,16.8s,MS4.4						
GYA				LR	LR		
	comp=Z,820nm,21.5s,MS4.2						
GKN	Gorkha	24.42	339	eP	P	18 40 28.2	+0.3
	comp=Z,80nm,0.6s,mb5.3						
LSA	Lhasa	24.50	353	P	P	18 40 28.2	-0.4
LSA				AP		18 40 42.0	
LSA				S	S	18 44 46.6	+3.2
LSA				AMB	AMB		
	comp=Z,130nm,0.8s,mb5.4						
LSA				LR	LR		
	comp=N,120nm,21.0s,MS3.8						
LSA				LR	LR		
	comp=E,290nm,22.0s,MS3.8						
LSA				LR	LR		
	comp=Z,280nm,21.0s,MS3.7						
LSA	Lhasa	24.50	353	eP	P	18 40 29.9	+1.4
	comp=Z,13nm,0.5s,mb4.6						
KOLN	Koldanda	24.60	337	eP	P	18 40 30.0	+0.4
	comp=Z,74nm,0.6s,mb5.4						
CD2	Chengdu	27.02	18	P	P	18 40 51.0	-1.2
DDI	Dehra Dun	29.27	330	e	P	18 41 19.0	+6.6
WHN	Wuhan	31.44	35	⇓P	P	18 41 32.3	+0.6
XAN	Xi'an	31.69	23	P	P	18 41 32.4	-1.4
XAN				AP	pP	18 41 42.2	-2.8
XAN				S	S	18 46 34.0	-5.3
XAN				AMB	AMB		
	comp=Z,19nm,0.7s,mb5.0						
XAN				LR	LR		
	comp=N,160nm,17.4s,MS4.0						
XAN				LR	LR		
	comp=E,164nm,13.4s,MS4.0						
XAN				LR	LR		
	comp=Z,351nm,19.9s						
LZH	Lanzhou	31.91	15	P	P	18 41 35.8	+0.1
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
LZH				LR	LR		
	comp=E,330nm,12.9s						
LZH				LR	LR		
	comp=Z,420nm,18.9s						
GTA	Gaotai	34.36	8	eP	P	18 41 56.5	-0.4
GTA				AP	pP	18 42 03.5	-4.7
GTA				XP	sP	18 42 07.7	-5.7
GTA				AMB	AMB		
	comp=Z,15nm,0.6s,mb5.1						
NJ2	Nanjing	35.18	38	eP	P	18 42 04.3	+0.3
NJ2				AP	pP	18 42 14.0	-1.3
NJ2				XP	sP	18 42 17.9	-2.6
NJ2				PP	PP	18 43 23.0	-0.7
NJ2				S	S	18 47 33.0	-0.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,90nm,6.6s						
NJ2				LR	LR		
	comp=N,800nm,21.0s,MS4.5						
NJ2				LR	LR		
	comp=E,440nm,17.2s,MS4.5						
NJ2				LR	LR		
	comp=Z,460nm,17.0s,MS4.3						
SSE	Sheshan	36.02	41	eP	P	18 42 08.7	-2.4
SSE				AP	pP	18 42 17.7	-4.8
SSE				XP	sP	18 42 22.7	-5.0
SSE				PP	PP	18 43 31.8	-2.0
SSE				S	S	18 47 44.9	-1.6
SSE				SCS	ScS	18 52 20.7	-2.3
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,83nm,3.5s						
SSE				LR	LR		
	comp=N,334nm,17.8s,MS4.2						
SSE				LR	LR		
	comp=E,210nm,17.7s,MS4.2						
SSE				LR	LR		
	comp=Z,379nm,16.2s,MS4.2						
TIA	Tai'an	37.26	31	eP	P	18 42 21.1	-0.4
KSH	Kashi	37.92	337	eP	P	18 42 23.0	-4.0
KSH				eAP	pP	18 42 32.2	-6.2
KSH				AMB	AMB		
	comp=Z,170nm,6.2s						
FITZ	Fitzroy Crossi	38.65	128	eP	P	18 42 32.6	-0.6
	comp=Z,17nm,0.8s,mb4.8						
FITZ	Fitzroy Crossi	38.65	128	P	P	18 42 32.5	-0.7
	comp=Z,24nm,0.8s,mb5.0,baz=332,slow=5.4,SNR=24						
JOW	Kunigami	38.84	53	P	P	18 42 36.0	+1.3
	comp=Z,19nm,0.5s,mb5.1,baz=168,slow=9.6,SNR=6.9						
WMQ	Urumqi	38.85	352	eP	P	18 42 36.0	+1.4
UCH	Uchtor	40.81	337	P	P	18 42 52.2	+1.3
	SNR=7.1						
KBK	Karagaybulak	41.02	338	P	P	18 42 54.2	+1.5
	SNR=8.8						
AML	Almayashu	41.05	336	P	P	18 42 54.1	+1.2
	SNR=12						
EKS2	Erkin-Say	41.47	337	P	P	18 42 57.3	+0.9
	SNR=5.7						
USP	Ospenovka	41.71	338	P	P	18 42 58.9	+0.5
	SNR=7.5						
MKAR	Makanchi Array	42.67	348	i P	P	18 43 06.2	+0.1
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MKAR	Makanchi Array	42.67	348	P	P	18 43 06.3	+0.2
	comp=Z,11nm,0.6s,mb4.8,baz=168,slow=8.1,SNR=61						
MKAR				S	S	18 49 27.8	+1.6
	comp=Z,0.4nm,0.9s,baz=180,slow=16,SNR=2.5						
MKAR				LR	LR	19 03 31.1	
	comp=Z,148nm,20.0s,MS3.9,baz=170,slow=40						
MKAR	Makanchi Array	42.67	348	P	P	18 43 06.3	+0.2
MKAR				S	S	18 49 27.8	+1.6
MKAR				LR	LR	19 03 31.1	
KKAR	Karatay Array	43.17	334	i P	P	18 43 10.5	+0.2
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.3						
SONM	Songino Array	43.67	12	P	P	18 43 14.0	-0.3
	comp=Z,4.2nm,0.7s,mb4.3,baz=194,slow=8.0,SNR=26						
SONM				PcP	PcP	18 45 01.2	-0.3
	comp=Z,1.3nm,0.6s,baz=184,slow=3.3,SNR=4.1						
SONM				ScP		18 48 49.7	
	comp=Z,0.6nm,0.5s,baz=180,slow=2.5,SNR=4.8						
SONM				LR	LR	19 03 43.9	
	comp=Z,149nm,20.3s,MS3.9,baz=50,slow=39						
ZAK	Zakamensk	45.60	8	eP	P	18 43 29.3	-0.4
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.5s						
WRA	Warramunga Arr	46.64	124	P	P	18 43 38.5	+0.1
	comp=Z,15nm,0.7s,mb5.0,baz=302,slow=9.1,SNR=40						
WRA				S	S	18 50 22.3	-1.5
	comp=Z,2.1nm,1.2s,baz=292,slow=18,SNR=5.0						
WRAB	Tennant Creek	46.65	124	⇓iP	P	18 43 38.7	+0.3
WRAB	Tennant Creek	46.65	124	eP	P	18 43 38.1	-0.2
	comp=Z,58nm,1.0s,mb5.5						
WB2	Warramunga Arr	46.65	124	⇑iP	P	18 43 38.3	-0.1
TLY	Talaya	46.92	8	i P	P	18 43 37.5	-2.6
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CN2	Changchun	47.16	31	eP	P	18 43 39.5	-2.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2				LR	LR		
	comp=N,200nm,18.0s,MS4.3						
CN2				LR	LR		
	comp=E,250nm,18.0s,MS4.3						
CN2				LR	LR		
	comp=Z,300nm,16.0s,MS4.3						
HIA	Hailar	48.86	22	P	P	18 43 54.9	-0.4
ZAL	Zalesovo	49.15	353	P	P	18 43 58.1	+0.7
	comp=Z,6.3nm,0.4s,mb5.0,baz=305,slow=5.9,SNR=25						
NVS	Novosibirsk	50.24	352	eP	P	18 44 04.6	-1.2
NVS				eS	S	18 51 09.1	-4.8
NVS				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
NVS				pmax	pmax		
	comp=N,13nm,1.6s						
NVS				smax			
	comp=N,27nm,1.8s						
NVS				smax			
	comp=E,18nm,1.6s						
MJAR	Matsushiro Arr	50.81	46	P	P	18 44 11.4	+1.0
	comp=E,0.7nm,0.6s,mb3.8,baz=216,slow=31,SNR=4.4						
MJAR				LR	LR	19 08 37.8	
	comp=E,158nm,18.1s,MS4.1,baz=235,slow=39						
VOSK	Vostochnaya	51.07	342	P	P	18 44 11.5	-0.6
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BVA0	Borovoye Array	51.51	342	i P	P	18 44 14.5	-0.9
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BVAR	Borovoye Array	51.51	342	P	P	18 44 14.9	-0.5
	comp=Z,4.9nm,0.6s,mb4.6,baz=145,slow=9.1,SNR=15						
BVAR				pP	pP	18 44 27.7	+0.6
	comp=Z,6.4nm,0.8s,baz=149,slow=8.6,SNR=7.6						
ZRNK	Zerenda	51.89	341	P	P	18 44 17.5	-0.8
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	Zerenda	51.89	341	eP	P	18 44 17.4	-0.8
	comp=Z,94nm,0.8s						
AB31	Akbulak array	52.61	332	i P	P	18 44 23.0	-0.7
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
BOD	Bodaibo	54.65	13	eP	P	18 44 36.8	-1.8
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
CTA	Charters Tower	56.91	118	P	P	18 44 55.0	-0.5
	comp=Z,6.5nm,1.0s,mb4.6,baz=280,slow=9.7,SNR=5.2						
CTA				LR	LR	19 11 25.3	
	comp=Z,204nm,19.8s,MS4.2,baz=233,slow=38						
ASAJ	Asahikawa	57.29	40	LR	LR	19 10 47.2	
	comp=Z,148nm,19.6s,MS4.1,baz=270,slow=37						
KMBO	Kilima Mbogo	57.34	265	P	P	18 44 56.3	-2.3
	comp=Z,4.1nm,1.0s,mb4.4,baz=72,slow=10,SNR=4.2						
KMBO				LR	LR	19 04 55.6	
	comp=Z,280nm,21.6s,MS4.3,baz=91,slow=31						
SVE	Sverdlovsk	57.89	339	eP	P	18 45 00.0	-1.8
SVE				e	pP	18 45 13.0	-0.7
STKA	Stephens Creek	58.20	133	eP	P	18 45 03.9	-0.5
	comp=Z,7.6nm,0.9s,mb4.7						
STKA	Stephens Creek	58.20	133	P	P	18 45 04.0	-0.4
	comp=Z,5.8nm,0.9s,mb4.6,baz=324,slow=8.7,SNR=6.4						
STKA				LR	LR	19 15 03.0	
	comp=Z,141nm,18.8s,MS4.1,baz=206,slow=41						
ARU	Arti	58.36	338	⇑iP	P	18 45 03.8	-1.3
ARU				e		18 45 50.2	
ARU				e		18 47 12.5	
ARU				eS	S	18 53 03.7	+0.7
ARU				eSS	SS	18 56 49.8	-7.2
ARU				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.7						
YSS	Yuzh-Sakhalins	58.75	37	⇓eP	P	18 45 08.0	0.0
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
YSS	Yuzh-Sakhalins	58.75	37	eP	P	18 45 08.0	+0.1
	comp=Z,16nm,1.1s,mb5.0						
KIV	Kislovodsk	59.38	319	⇓eP	P	18 45 11.4	-1.0
KIV				e		18 45 28.4	
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
KIV				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.9						
GOF	Gofitskoye	59.62	320	eP	P	18 45 05.0	-9.1
ASF	Jabal al Asfar	59.80	304	LR	LR	19 11 28.5	
	comp=Z,338nm,19.4s,MS4.5,baz=299,slow=36						
EIL	Elat	60.89	301	LR	LR	19 12 33.5	
	comp=Z,264nm,18.4s,MS4.4,baz=180,slow=37						
YAK	Yakutsk	62.41	18	⇑iP	P	18 45 30.9	-1.8
YAK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.9						
YAK	Yakutsk	62.41	18	eP	P	18 45 30.7	-2.0
	comp=Z,7.7nm,0.7s,mb4.9						
BRTR	Keskin Array B	64.27	312	P	P	18 45 44.2	-1.0
	comp=Z,6.6nm,0.7s,mb4.8,baz=130,slow=7.6,SNR=17						
BR131	Keskin Array S	64.27	312	eP	P	18 45 43.6	-1.6
	comp=Z,5.7nm,0.6s,mb4.8						
OBN	Obninsk	67.68	328	κ iP	P	18 46 05.6	-1.1
OBN				e	pP	18 46 19.6	+0.8
OBN						18 46 34.0	
OBN				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.1						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.0						
MATP	Matopo	69.44	246	P	P	18 46 18.9	+0.7
	comp=Z,8.1nm,0.9s,mb4.6,baz=83,slow=6.3,SNR=10						
MATP				LR	LR	19 13 39.1	
	comp=Z,307nm,19.1s,MS4.6,baz=6.5,slow=33						
CFR	Carcaliu	69.58	316	⇓P	P	18 46 18.6	-0.1
AKASG	Malin Array Be	70.31	322	P	P	18 46 21.4	-1.5
	comp=Z,2.9nm,0.5s,mb4.5,baz=87,slow=5.2,SNR=15						
VRI	Vrincioaia	70.71	317	⇑P	P	18 46 26.2	+0.7
MLR	Muntele Rosu	71.16	316	⇑P	P	18 46 28.5	+0.3
SEY	Seymchan	71.23	24	⇓iP	P	18 46 27.3	-1.0
VOIR		71.77	316	⇑P	P	18 46 31.1	-0.7
BURAR	Bucovina Array	72.10	318	⇑P	P	18 46 34.2	+0.5
LBTB	Lobatse	73.16	242	LR	LR	19 14 59.6	
	comp=Z,240nm,18.5s,MS4.5,baz=94,slow=33						
DRGR		73.62	317	⇑P	P	18 46 43.0	+0.2
KOLS	Kolonicke sedl	74.28	319	eP	P	18 46 46.5	-0.1
BOSA	Boshof	74.36	239	P	P	18 46 47.8	+0.4
	comp=Z,7.2nm,0.9s,mb4.6,baz=77,slow=6.0,SNR=12						
BOSA				LR	LR	19 13 05.5	
	comp=Z,131nm,19.3s,MS4.2,baz=55,slow=31						
STHS	Stebnicka Huta	75.03	320	eP	P	18 46 51.6	+0.7
FINES	FINESS Array B	75.09	332	P	P	18 46 50.4	-0.6
	comp=Z,4.5nm,0.4s,mb4.7,baz=105,slow=5.3,SNR=51						
FINES				pP	pP	18 47 03.5	+0.3
	comp=Z,3.2nm,0.8s,baz=108,slow=6.0,SNR=4.7						
FINES				LR	LR	19 24 02.3	
	comp=Z,96nm,21.2s,MS4.1,baz=308,slow=39						
FINES	FINESS Array B	75.09	332	P	P	18 46 50.4	-0.6
FINES				pP	pP	18 47 03.5	+0.3
FINES				LR	LR	19 24 02.3	
KAF	Kangasniemi	75.19	333	ep	P	18 46 50.4	-1.1
	comp=Z,3.5nm,0.5s,mb4.5,baz=104,slow=5.4						
KAF	Kangasniemi	75.19	333	eP	P	18 46 50.4	-1.1
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
KECS	Kecovo	75.38	319	i P	P	18 46 53.2	+0.3
PSZ	Piszkesteto	75.69	318	eP	P	18 46 54.0	-0.6
	comp=Z,4.0nm,0.8s,mb4.4						
OJC	Ojcow	76.08	320	eP	P	18 46 57.1	+0.3
OKC	Ostrava-Krasne	77.08	320	eP	P	18 47 02.8	+0.3
OKC				ex	x	18 47 16.3	
MORC	Moravsky Berou	77.47	320	eP	P	18 47 04.3	-0.4
	comp=Z,4.7nm,1.0s,mb4.4						
ZST	Bratislava	77.58	318	i P	P	18 47 06.0	+0.7
ARCES	ARCESS Array B	77.77	340	P	P	18 47 05.8	-0.2
	comp=Z,0.4nm,0.4s,mb3.7,baz=105,slow=6.9,SNR=8.4						
ARCES				pP	pP	18 47 19.3	+1.1
	comp=Z,2.0nm,0.7s,baz=27,slow=2.7,SNR=4.7						
ARCES	ARCESS Array B	77.77	340	P	P	18 47 05.8	-0.2
ARCES				pP	pP	18 47 19.3	+1.1
DPC	Dobruska-Polom	78.31	320	eP	P	18 47 10.1	+0.8
DPC				ex	x	18 47 23.1	
GOLS	Golise	78.38	316	eP	P	18 47 10.4	+0.6
BILL	Bilibino	78.44	21	⇑iP	P	18 47 10.8	+1.1
BILL				pmax	pmax		
	comp=Z,15nm,2.7s,mb4.4						
UPC	Upice	78.52	320	eP	P	18 47 11.0	+0.6
UPC				ex	x	18 47 23.9	
ARSA	Arzberg	78.55	317	⇑iP	P	18 47 11.8	+1.1
	comp=Z,8.0nm,1.4s,mb4.5						
PERS	Pernice	78.78	316	i P	P	18 47 12.6	+0.7
SUR	Sutherland	79.00	236	LR	LR	19 20 42.9	
	comp=Z,142nm,19.1s,MS4.3,baz=285,slow=35						
OBKA	Obir	79.16	316	⇑iP	P	18 47 12.8	-1.2
	comp=Z,7.9nm,1.1s,mb4.6						
TSUM	Tsumeb	79.26	249	LR	LR	19 20 13.3	
	comp=Z,178nm,18.0s,MS4.5,baz=319,slow=34						
PRU	Pruhonice	79.42	320	eP	P	18 47 15.9	+0.6
PRU				ex	x	18 47 29.0	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GERES	GERESS Array B	79.89	319	P	P	18 47 18.6	+0.7
	comp=Z,4.0nm,0.7s,mb4.5,baz=105,slow=5.0,SNR=22						
GERES				pP	pP	18 47 30.9	+0.8
	comp=Z,2.7nm,0.8s,baz=90,slow=5.3,SNR=6.6						
GERES				LR	LR	19 25 51.5	
	comp=Z,50nm,19.3s,MS3.9,baz=306,slow=38						
KHC	Kasperske Hory	79.98	319	eP	P	18 47 18.5	+0.1
KHC				epP	pP	18 47 31.0	+0.3
CLL	Collm	80.49	321	i P	P	18 47 20.6	-0.4
CLL				i	pP	18 47 33.6	+0.3
CLL				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
CLL	Collm	80.49	321	i P	P	18 47 20.6	-0.4
	comp=Z,5.0nm,1.2s,mb4.3						
CLL				i	pP	18 47 33.6	+0.3
CLL	Collm	80.49	321	P	P	18 47 20.6	-0.4
	comp=Z,logA/T=0.6,mb4.3						
CLL				i *PP	pP	18 47 33.6	+0.3
WTTA	Wattenberg	81.19	317⇓	iP	P	18 47 25.0	+0.1
	comp=Z,3.4nm,0.5s,mb4.5						
MOX	Moxa	81.33	320	eP	P	18 47 26.0	+0.5
MOX				epP	pP	18 47 38.0	+0.2
MOX	Moxa	81.33	320	eP	P	18 47 26.0	+0.5
MOX				pP	pP	18 47 38.0	+0.2
SQTA	Sankt Quirin	81.48	317⇑	iP	P	18 47 26.5	+0.1
	comp=Z,4.6nm,0.5s,mb4.7						
GRA1	Grafenberg Arr	81.55	319	eP	P	18 47 27.5	+0.9
	comp=Z,11nm,1.3s,mb4.6						
GRA1				epP	pP	18 47 40.5	+1.5
GRF	Grafenberg Arr	81.55	319	P	P	18 47 27.5	+0.9
GRF				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
GRF	Grafenberg Arr	81.55	319	eP	P	18 47 27.5	+0.9
	comp=Z,11nm,1.3s,mb4.6						
GRF				epP	pP	18 47 40.5	+1.5
MOTA	Moosalm	81.56	317⇑	iP	P	18 47 27.0	+0.2
NB2	NORSAR Subarra	82.08	331	P	P	18 47 28.6	-0.6
	comp=Z,1.3nm,0.6s,mb4.0,baz=99,slow=4.8						
NOA	NORSAR Array B	82.08	331	P	P	18 47 28.9	-0.3
	comp=Z,1.1nm,0.6s,mb3.9,baz=95,slow=5.0,SNR=6.4						
NOA				pP	pP	18 47 41.5	0.0
	comp=Z,2.4nm,0.9s,baz=94,slow=5.4,SNR=7.0						
NOA				LR	LR	19 26 46.1	
	comp=Z,78nm,21.6s,MS4.0,baz=90,slow=38						
NOA	NORSAR Array B	82.08	331	P	P	18 47 28.9	-0.3
NOA				pP	pP	18 47 41.5	0.0
NOA				LR	LR	19 26 46.1	
DAVOX	Davos	82.39	316	LR	LR	19 27 39.1	
	comp=Z,52nm,19.4s,MS3.9,baz=186,slow=38						
DAVA	Damuels	82.39	317⇓	iP	P	18 47 32.6	+1.6
	comp=Z,8.3nm,1.2s,mb4.5						
RPZ	Rata Peaks	84.09	135	LR	LR	19 25 08.5	
	comp=Z,127nm,18.3s,MS4.3,baz=200,slow=36						
LPG	La Plagne	84.58	315	eP	P	18 47 43.0	+0.8
	comp=Z,4.6nm,0.6s,mb4.5						
URZ	Urewera	87.58	129	LR	LR	19 23 38.4	
	comp=Z,66nm,21.5s,MS4.0,baz=206,slow=33						
VNDA	Vanda	90.34	168	P	P	18 48 10.2	+0.9
	comp=Z,0.7nm,0.8s,mb4.0,baz=299,slow=6.5,SNR=2.5						
DBIC	Dimbokro	98.46	278	LR	LR	19 29 43.9	
	comp=Z,85nm,21.4s,MS4.2,baz=58,slow=33						
PDAR	Pinedale Array	127.52	22	PKP	PKPdf	18 54 14.8	+1.8
	comp=Z,0.7nm,0.9s,baz=270,slow=1.5,SNR=4.8						
MSU	Marysvale	130.00	27	PKPdf	PKPdf	18 54 20.2	+2.4
ANMO	Albuquerque	135.48	25	PKPdf	PKPdf	18 54 32.5	+4.3
CPUP	Villa Florida	145.75	229	PKPbc	PKPbc	18 54 49.2	+1.7
	comp=Z,2.7nm,0.6s,baz=144,slow=8.7,SNR=10						

IDC 09 18:46:44.7±1.9**, 2.64N**×**126.52E, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.5**/18**, mbtmp3.6**/4**, Error ellipse: s-maj=110.5km s-min=26.2km az=68.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.62	182	P	P	18 51 27.4	-1.1
	2.3nm,0.5s,baz=354,slow=10.0,SNR=5.8						
WRA	Warramunga Arr	23.71	161	P	P	18 51 57.9	-1.6
	0.7nm,0.4s,baz=338,slow=11,SNR=5.8						
STKA	Stephens Creek	37.19	159	P	P	18 53 57.6	-2.0
	0.9nm,0.7s,baz=340,slow=11,SNR=2.9						
MKAR	Makanchi Array	58.33	326	P	P	18 56 41.5	-2.5
	0.2nm,0.4s,baz=117,slow=8.1,SNR=3.8						

*IDC **09** 19:05:34.9±1.1, 35.85N×45.75E, mb3.8/12, mb1 3.9/17, mb1mx3.8/26, mbtmp3.8/17, ML3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/35, Error ellipse: s-maj=20.4km s-min=16.8km az=171.0*

*NEIC **09** 19:05:35.6±1.5, 35.91N×45.75E, h2km±11km, mb4.2/23, ML4.0(TEH), Error ellipse: s-maj=6.0km s-min=4.6km az=190.0*

*TEH **09** 19:05:36.6, 35.82N×45.63E, h10km, Mn4.0*

*CSEM **09** 19:05:36.9±0.1, 35.83N×45.74E, h30km, mb4.3/23, Error ellipse: s-maj=2.2km s-min=1.6km az=31.0*

*THR **09** 19:05:36.7±0.6, 35.91N×45.80E, h18km±12km, ML3.6*

*MOS **09** 19:05:37.6±1.0, 35.61N×45.56E, h33km, mb4.4/24, Error ellipse: s-maj=13.0km s-min=5.1km az=127.3*

ISC 09 19:05:34.8±0.2**, 35.79N**±0.03×**45.69E**±0.03**, h10**km**, n152,** σ**1.s18**/150**, mb4.1**/38**, MS3.0**/1**, 4C-6D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	1.23	152	Pg	Pg	19 05 59.6	+0.2
ILIN	Laeen	1.35	130	Pn	Pn	19 06 00.4	+0.6
IVIS	Veys	1.58	143	Pn	Pn	19 06 05.4	+2.3
IGHG	Ghaleghazi	1.63	154	Pn	Pg	19 06 07.6	+0.3
IAZR	Azarshahr	1.90	7	Pn	Pn	19 06 05.9	-1.7
IBST	Bostanabad	2.13	26	Pn	Pn	19 06 09.4	-1.6
IKOM	Komasi	2.20	137	Pn	Pg	19 06 17.9	-0.8
HKR	Hakkari	2.38	319	PN	Px	19 05 16.8	
HAKT	HAKKARI	2.38	318	i P	Pn	19 06 17.1	+2.7
ISHB	Shabestar	2.49	359	Pn	Pn	19 06 15.9	-0.1
ISRB	Sarab	2.58	37	Pn	Pn	19 06 18.1	+0.8
IMRD	Marand	2.92	0	Pn	Pn	19 06 22.6	+0.4
TVAN	Van	3.29	327	i P	Pn	19 06 30.2	+2.8
IRAZ	Razeghan	3.47	95	Pn	Pn	19 06 34.2	+4.1
IRAZ				Lg		19 07 26.7	
GRMI	Germi	3.49	30	ePN	Pn	19 06 30.4	+0.1
GRMI				AML	AML	19 07 22.4	
	comp=N,234nm,0.5s						
CLDR	Caldiran	3.63	338	PN	Px	19 05 32.9	
MAKU	Maku	3.65	348	ePn	Pn	19 06 32.9	+0.4
MAKU				eSg	Sg	19 07 27.3	-8.9
IGZV	Gazvin	3.71	79	Pn	Pn	19 06 33.9	+0.4
IGZV				Lg		19 07 31.2	
ASAO	Ashtian	3.76	108	ePN	Pn	19 06 35.8	+1.7
ASAO				AML	AML	19 07 53.8	
	comp=N,91nm,0.7s						
BEST	Besiri	4.12	302	i P	Pn	19 06 40.1	+0.9
BTMT	Batman	4.13	307	ePN	Px	19 05 41.0	
THKV	Tehran--Karaj	4.21	87	ePN	Pn	19 06 40.8	+0.2
MARD	Mardin	4.24	292	i P	Pn	19 06 42.0	+1.1
GNI	Garni	4.41	351	ePN	Px	19 05 45.5	
GNI	Garni	4.41	351	Pn	Pn	19 06 45.9	+2.4
	comp=N,2.4nm,0.3s,baz=7.6,slow=15,SNR=7.6						
GNI				Pg	Pg	19 06 54.0	-8.9
	comp=N,4.7nm,0.3s,baz=198,slow=2.6,SNR=45						
GNI				Lg		19 07 58.8	
	comp=N,4.6nm,0.3s,baz=335,slow=15,SNR=3.2						
GNI	Garni	4.41	351	ePn	Pn	19 06 42.6	-0.8
GNI				Pg	Pg	19 06 54.0	-8.9
GNI				Lg		19 07 58.8	
GNI	Garni	4.41	351	ePn	Pn	19 06 42.7	-0.7
SHGO	Shushtar	4.49	144	ePN	Pn	19 06 46.7	+2.2
SHGO				AML	AML	19 08 20.5	
	comp=N,76nm,0.6s						
DIY	Diyarbakir	4.86	297	ePN	Px	19 05 52.0	
IVRN	Varamin	4.99	97	Pn	Pn	19 06 54.2	+2.5
DAMV	Damavand	5.11	90	ePN	Pn	19 06 53.4	+0.1
DAMV				AML	AML	19 08 31.6	
	comp=N,25nm,0.6s						
IDMV	Damavand	5.17	91	Pn	Pn	19 06 54.3	+0.2
ERZM	Erzurum	5.35	321	i P	Pg	19 07 15.3	-6.3
EZM	Erzurum	5.35	321	ePN	Px	19 05 59.4	
IKLH	Kalahroud	5.45	115	Pn	Pn	19 07 01.0	+3.0
DGRG	David-gareji	5.66	358	P	Pn	19 07 02.9	+1.9
DGRG				S	Sg	19 08 40.7	-2.4
IFIR	Firoozkooh	5.75	89	Pn	Pn	19 07 00.4	-1.9
URFA	Urfa	5.77	289	ePN	Px	19 06 02.7	
PTK	Pertek	5.90	304	ePN	Px	19 06 02.9	
ILAS	Lasjerd	5.94	92	Pn	Pb	19 07 20.9	+2.7
ELZG	Elazig	6.00	299	i P	Pn	19 07 06.0	+0.1
ISHM	Shahmirzad	6.18	88	Pn	Pn	19 07 09.1	+0.8
IZEF	Zefreh	6.20	116	Pn	Pn	19 07 07.2	-1.5
MALT	Malatya	6.33	296	ePN	Px	19 06 08.8	
MALT	Malatya	6.33	296	eP	Pn	19 07 09.8	-0.7
IGAR	Garneh	6.46	121	Pn	Pn	19 07 02.4	-10
GZT	Gaziantep	6.72	286	i P	Pn	19 07 16.2	+0.2
GAZ	Gaziantep	6.97	284	eP	Px	19 06 14.5	
ZEI	Tsey	7.11	349	eP	Pn	19 07 25.7	+4.3
ZEI				pmax	pmax		
	comp=Z,28nm,0.1s						
ASF	Jabal al Asfar	8.15	246	Pn	P	19 07 36.7	+0.7
	comp=Z,0.5nm,0.3s,baz=29,slow=18,SNR=2.9						
ASF				Lg		19 09 59.1	
	comp=Z,0.6nm,0.3s,baz=299,slow=18,SNR=5.2						
KIV	Kislovodsk	8.47	345⇑	eP	P	19 07 44.0	+3.5
KIV				pmax	pmax		
	comp=Z,14nm,1.5s						
KIV	Kislovodsk	8.47	345	Pn	P	19 07 42.0	+1.5
SOC	Sochi	9.04	331	eP	P	19 07 50.8	+2.4
SOC				e		19 09 27.8	
SOC				pmax	pmax		
	comp=Z,13nm,1.1s						
SOC				pmax	pmax		
	comp=N,11nm,1.0s						
SOC				pmax	pmax		
	comp=E,11nm,1.1s						
SOC				MLR	MLR		
	comp=Z,146nm,15.0s						
SOC				MLR	MLR		
	comp=N,180nm,14.0s						
SOC				MLR	MLR		
	comp=E,85nm,12.0s						
SOC	Sochi	9.04	331	eP	P	19 07 50.8	+2.4
	comp=E,11nm,1.0s						
SOC				eS	Sn	19 09 27.8	-3.5
	comp=E,180nm,14.0s						
BRTR	Keskin Array B	10.32	296	Pn	P	19 08 06.0	0.0
	comp=E,0.1nm,0.3s,baz=125,slow=15,SNR=6.0						
ANN	Anapa	10.98	328⇓	iP	P	19 08 20.4	+5.4
ANN				eS	S	19 10 19.9	+0.9
ANN				pmax	pmax		
	comp=Z,21nm,1.4s						
BANOM	Banah	13.40	134	⇓P	P	19 08 46.0	-1.6
	SNR=10						
BANOM				⇓S	S	19 11 08.4	-9.2
ASHO	Ashiyiah	14.23	138	⇓P	P	19 08 56.0	-2.5
ASHO				⇓S	S	19 11 28.7	-8.7
IDI	Anoyia	16.94	274	Pn	P	19 09 36.1	+2.6
	comp=Z,0.2nm,0.3s,baz=67,slow=15,SNR=2.4						
IDI	Anoyia	16.94	274	Pn	P	19 09 36.0	+2.5
AKASG	Malin Array Be	19.06	327	P	P	19 09 56.9	-2.8
	comp=Z,0.4nm,0.3s,baz=133,slow=12,SNR=6.3						
AKASG	Malin Array Be	19.06	327	i P	P	19 09 58.8	-0.8
WHFO	Wadi Hawf	19.19	156	⇑P	P	19 09 58.7	-2.7
	SNR=7.0						
ABTO	Aybut	19.57	158	⇑P	P	19 10 04.6	-1.1
	SNR=6.0						
RBK	Rabkut	19.72	155	⇑P	P	19 10 06.2	-1.2
	SNR=6.1						
OBN	Obninsk	20.32	345	P	P	19 10 12.0	-1.6
OBN				e		19 10 28.4	
KWP	Kalwaria	21.72	317	eP	P	19 10 27.6	-0.3
KWP				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
KWP	Kalwaria	21.72	317	eP	P	19 10 27.6	-0.3
	comp=Z,6.0nm,0.8s,mb4.1						
KWP	Kalwaria	21.72	317	eP	P	19 10 27.6	-0.3
	comp=Z,6.0nm,0.8s,mb4.1						
ARU	Arti	22.41	19	eP	P	19 10 38.2	+3.4
ARU				e		19 11 05.7	
ARU				eS	S	19 14 37.5	+1.5
ARU	Arti	22.41	19	eP	P	19 10 32.7	-2.1
	comp=Z,7.5nm,1.0s,mb4.1						
PSZ	Piszkesteto	22.60	310	eP	P	19 10 34.2	-2.4
PSZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
PSZ	Piszkesteto	22.60	310	eP	P	19 10 34.2	-2.4
	comp=Z,6.1nm,0.9s,mb4.0						
TIP	Timpagrande	23.16	287	P	P	19 10 42.2	0.0
AAK	Ala-Archa	23.27	64	i P	P	19 10 49.5	+6.3
AAK				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb3.6						
SVE	Sverdlovsk	23.34	21⇓	eP	P	19 10 49.5	+5.8
SVE				e		19 11 26.0	
SVE				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.3						
ZRNK	Zerenda	23.75	36	eP	P	19 10 46.5	-1.2
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.6						
ZRNK	Zerenda	23.75	36	eP	P	19 10 46.5	-1.3
	comp=Z,1.6nm,0.8s,mb3.5						
ATD	Arta Tunnel	24.29	187	LR	LR	19 20 53.5	
	comp=Z,46nm,20.0s,MS3.0,baz=236,slow=38						
BVAR	Borovoye Array	24.47	38	P	P	19 10 54.4	-0.4
	comp=Z,0.7nm,0.5s,mb3.4,baz=240,slow=12,SNR=9.5						
MORC	Moravsky Berou	24.76	313	P	P	19 10 55.9	-1.8
MORC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
MORC	Moravsky Berou	24.76	313	P	P	19 10 55.9	-1.8
	comp=Z,2.1nm,0.8s,mb3.7						
DPC	Dobruska-Polom	25.71	314	eP	P	19 11 07.4	+0.7
UPC	Upice	25.96	314	eP	P	19 11 09.8	+0.9
PRU	Pruhonice	26.64	312	eP	P	19 11 16.1	+0.9
GERES	GERESS Array B	26.79	309	P	P	19 11 17.1	+0.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	26.79	309	P	P	19 11 17.1	+0.5
	comp=Z,0.5nm,0.5s,mb3.3,baz=106,slow=8.3,SNR=8.4						
PVCC	Panska Ves	26.82	313	eP	P	19 11 17.8	+0.9
KHC	Kasperske Hory	26.96	310	eP	P	19 11 17.3	-0.8
FINES	FINESS Array B	28.52	340	P	P	19 11 31.7	-0.5
	comp=Z,0.4nm,0.5s,mb3.4,baz=149,slow=11,SNR=6.8						
GRA1	Grafenberg Arr	28.59	310	eP	P	19 11 33.4	+0.4
	comp=Z,2.0nm,0.8s,mb3.9						
GRF	Grafenberg Arr	28.59	310	eP	P	19 11 33.4	+0.4
GRF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
GRF	Grafenberg Arr	28.59	310	eP	P	19 11 33.4	+0.4
GRF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
GRF	Grafenberg Arr	28.59	310	eP	P	19 11 33.4	+0.4
	comp=Z,2.0nm,0.8s,mb3.9						
DAVOX	Davos	28.83	303	P	P	19 11 35.6	+0.5
	comp=Z,1.8nm,0.4s,mb4.1,baz=88,slow=4.6,SNR=7.8						
PGF	Pioggiola	29.07	295	eP	P	19 11 37.8	+0.5
	comp=Z,26nm,1.0s,mb4.6						
PGF	Pioggiola	29.07	295	eP	P	19 11 37.8	+0.5
PGF				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
MKAR	Makanchi Array	29.36	57	P	P	19 11 40.6	+0.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	29.36	57	P	P	19 11 40.6	+0.6
	comp=Z,0.7nm,0.8s,mb3.4,baz=248,slow=7.8,SNR=7.0						
SBF	Sospel	30.25	297	eP	P	19 11 48.5	+0.6
	comp=Z,31nm,0.9s,mb4.8						
SBF	Sospel	30.25	297	eP	P	19 11 48.5	+0.6
SBF				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
MBDF	Montbardon	30.77	299	eP	P	19 11 52.8	+0.4
	comp=Z,5.0nm,0.7s,mb4.2						
MBDF	Montbardon	30.77	299	eP	P	19 11 52.8	+0.4
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
LPG	La Plagne	30.83	300	eP	P	19 11 53.4	+0.4
	comp=Z,3.6nm,0.6s,mb4.1						
LPG	La Plagne	30.83	300	eP	P	19 11 53.4	+0.4
LPG				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
LPL	La Plagne	30.85	300	eP	P	19 11 53.4	+0.3
CABF	La Chapelle	31.39	302	eP	P	19 11 57.7	-0.2
	comp=Z,7.1nm,0.6s,mb4.4						
CABF	La Chapelle	31.39	302	eP	P	19 11 57.7	-0.2
CABF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
HFS	Hagfors	31.88	330	P	P	19 12 01.4	-0.6
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	Hagfors	31.88	330	P	P	19 12 01.4	-0.6
	comp=Z,1.2nm,0.5s,mb4.0,baz=135,slow=10,SNR=14						
VIVF	Saint-Julien-l	32.27	299	eP	P	19 12 04.4	-1.2
LASF	Ste Croix	32.84	298	eP	P	19 12 11.2	+0.6
	comp=Z,5.0nm,0.7s,mb4.3						
SMF	Signal de Mont	32.94	302	eP	P	19 12 11.3	-0.1
	comp=Z,6.6nm,0.6s,mb4.4						
SMF	Signal de Mont	32.94	302	eP	P	19 12 11.3	-0.1
SMF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BAIF	Baives	33.10	309	eP	P	19 12 13.0	+0.2
	comp=Z,3.1nm,0.5s,mb4.2						
BAIF	Baives	33.10	309	eP	P	19 12 13.0	+0.2
BAIF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
NOA	NORSAR Array B	33.40	330	P	P	19 12 14.2	-1.1
	comp=Z,0.3nm,0.5s,mb3.5,baz=125,slow=8.4,SNR=2.9						
TCF	Toulx Ste Croi	34.05	302	eP	P	19 12 20.6	-0.4
	comp=Z,6.7nm,0.9s,mb4.3						
TCF	Toulx Ste Croi	34.05	302	eP	P	19 12 20.6	-0.4
TCF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
CAF	Calviac	34.12	299	eP	P	19 12 21.4	-0.3
RJF	Les Rejaudoux	34.51	300	eP	P	19 12 24.6	-0.5
LFF	La Frestale	35.06	299	eP	P	19 12 29.2	-0.6
	comp=Z,7.7nm,0.5s,mb4.6						
LFF	La Frestale	35.06	299	eP	P	19 12 29.2	-0.6
LFF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
ARCES	ARCESS Array B	35.57	348	P	P	19 12 33.0	-0.8
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ARCES	ARCESS Array B	35.57	348	P	P	19 12 33.0	-0.9
	comp=Z,1.3nm,0.9s,mb3.9,baz=149,slow=7.1,SNR=7.7						
ARCES	ARCESS Array B	35.57	348	P	P	19 12 33.0	-0.9
MFF	Saint Martin d	35.68	302	eP	P	19 12 34.3	-0.7
	comp=Z,5.5nm,0.7s,mb4.3						
MFF	Saint Martin d	35.68	302	eP	P	19 12 34.3	-0.7
MFF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
LDF	La Druitiere	35.74	305	eP	P	19 12 35.0	-0.6
FLN	La Foliniere	35.99	306	eP	P	19 12 37.3	-0.4
GRR	Gorron	36.22	305	eP	P	19 12 39.3	-0.3
	comp=Z,8.8nm,0.6s,mb4.6						
GRR	Gorron	36.22	305	eP	P	19 12 39.3	-0.3
GRR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
SJPF	Ste Jean	36.57	296	eP	P	19 12 42.4	-0.1
	comp=Z,4.6nm,0.7s,mb4.1						
SJPF	Ste Jean	36.57	296	eP	P	19 12 42.4	-0.1
SJPF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
SGMF	Saint Gilles	37.35	305	eP	P	19 12 48.7	-0.4
QUIF	Quistinic	37.75	304	eP	P	19 12 52.3	-0.1
	comp=Z,7.1nm,0.5s,mb4.3						
QUIF	Quistinic	37.75	304	eP	P	19 12 52.3	-0.1
QUIF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
ROSF	Rostrenen	37.83	305	eP	P	19 12 52.6	-0.5
	comp=Z,20nm,1.1s,mb4.5						
ROSF	Rostrenen	37.83	305	eP	P	19 12 52.6	-0.5
ROSF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
EKA	Eskdalemuir Ar	38.42	316	P	P	19 12 58.1	+0.2
EKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
EKA	Eskdalemuir Ar	38.42	316	P	P	19 12 58.1	+0.2
	comp=Z,0.7nm,0.4s,mb3.7,baz=106,slow=8.3,SNR=11						
ESK	Eskdalemuir	38.44	316	P	P	19 13 00.0	+1.9
ESK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
ESK	Eskdalemuir	38.44	316	P	P	19 13 00.0	+1.9
	comp=Z,2.3nm,0.6s,mb4.1						
ESK	Eskdalemuir	38.44	316	P	P	19 13 00.0	+1.9
	comp=Z,2.0nm,0.6s,mb4.0						
ESDC	Sonseca Array	39.06	291	P	P	19 13 03.4	-0.1
	comp=Z,1.2nm,0.5s,mb3.9,baz=72,slow=8.2,SNR=10						
ESLA	Sonseca Array	39.06	291	P	P	19 13 02.3	-1.2
	comp=Z,1.1nm,0.9s,mb3.6						
CMAR	Chiang Mai Arr	49.84	96	P	P	19 14 28.9	-1.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR	Chiang Mai Arr	49.84	96	P	P	19 14 28.9	-1.3
	comp=Z,0.8nm,0.7s,mb3.9,baz=299,slow=9.3,SNR=4.9						
DBIC	Dimbokro	54.52	250	P	P	19 15 04.1	-1.3
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DBIC	Dimbokro	54.52	250	P	P	19 15 04.0	-1.3
	comp=Z,2.2nm,0.6s,mb4.4,baz=42,slow=9.9,SNR=5.7						
YAK	Yakutsk	56.38	34	i P	P	19 15 19.4	+1.2
YAK				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9						
YAK	Yakutsk	56.38	34	i P	P	19 15 19.4	+1.2
	comp=Z,5.0nm,0.4s,mb4.9						

*NEIC **09** 19:32:19.6±0.3, 52.29N×177.00W, h162km±3km, mb3.8/3, Error ellipse: s-maj=13.3km s-min=4.8km az=159.0*

*IDC **09** 19:32:21.0±1.7, 52.46N×177.03W, h172km±13km, mb3.4/8, mb1 3.6/10, mb1mx3.3/22, mbtmp3.8/10, Error ellipse: s-maj=26.9km s-min=11.7km az=169.0*

ISC 09 19:32:18.4±0.3**, 52.3N**±0.1×**176.97W**±0.07**, h162**km±3km**, n46,** σ**0.s94**/54**, mb3.7**/11**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KINC	Kanaga Island	0.37	195	P	P	19 32 41.9	+0.9
KINC				S	S	19 32 57.4	-1.0
ADAG	Mount Adagdak	0.39	144	P	P	19 32 41.6	+0.5
ADAG				S	S	19 32 55.9	-2.5
KIKV	Kanaga Island	0.43	197	P	P	19 32 42.2	+0.9
KIKV				S	S	19 32 58.6	-0.2
KIWB	Kanaga Island	0.45	194	P	P	19 32 42.1	+0.7
GSSP	Great Sitkin S	0.53	112	P	P	19 32 42.3	+0.7
GSSP				S	S	19 32 58.6	-0.9
KIMD	Kanaga Island	0.56	197	P	P	19 32 42.5	+0.7
KIMD				S	S	19 32 59.2	-0.6
GSTD	Great Sitkin T	0.56	115	P	P	19 32 42.2	+0.4
GSTD				S	S	19 32 58.9	-0.9
GSCK	Great Sitkin C	0.57	119	P	P	19 32 42.5	+0.6
GSTR	Great Sitkin T	0.59	109	P	P	19 32 42.7	+0.7
GSTR				S	S	19 33 00.1	0.0
GSMY	Great Sitkin M	0.61	113	P	P	19 32 42.5	+0.4
GSMY				S	S	19 32 59.5	-0.7
ATKA	Atka Island	1.71	92	P	P	19 32 51.4	+0.1
ATKA				S	S	19 33 14.7	-2.1
NIKO	Nikolski	4.99	79	P	P	19 33 33.2	+0.5
OKER	East Rim	5.53	74	P	P	19 33 41.3	+1.5
OKFG	Magazine Ridge	5.60	75	P	P	19 33 42.4	+1.6
FX1	Attu Island--F	6.04	280	P	P	19 33 48.4	+1.8
	2.6nm,0.3s,baz=261,slow=3.7,SNR=11						
FX1				S	S	19 34 55.0	-0.2
	2.3nm,0.3s,baz=111,slow=21,SNR=8.2						
FX1	Attu Island--F	6.04	280	P	P	19 33 50.2	+3.5
MCIR	Makushin Cirqu	6.29	71	P	P	19 33 51.3	+1.3
MSW	Makushin Switc	6.35	71	P	P	19 33 51.3	+0.6
MNAT	Makushin Natee	6.40	72	P	P	19 33 52.2	+0.8
MTBL	Makushin Table	6.42	71	P	P	19 33 52.9	+1.2
DOL	Dolgoi Island	9.40	66	P	P	19 34 31.0	-0.2
SPU	Mount Spurr	16.21	47	P	P	19 35 58.7	+0.7
SML	Sawmill	18.11	47	P	P	19 36 18.4	-1.7
DIV	Divide	19.10	50	eP	P	19 36 31.3	+0.7
	26nm,0.4s						
ILAR	Eielson Array	19.82	39	P	P	19 36 37.2	-0.8
	0.3nm,0.3s,baz=254,slow=12,SNR=12						
ILAR				ScP		19 44 06.8	
	0.1nm,0.3s,baz=285,slow=3.3,SNR=7.6						
INK	Inuvik	26.06	36	P	P	19 37 37.0	-1.0
	0.6nm,0.3s,mb3.7,baz=254,slow=15,SNR=7.5						
INK				ScP		19 44 23.5	
	2.2nm,0.9s,baz=287,slow=4.6,SNR=6.4						
INK	Inuvik	26.06	36	P	P	19 37 37.0	-1.0
INK				ScP		19 44 23.5	
YKA	Yellowknife Ar	33.78	48	P	P	19 38 45.2	-1.0
	0.9nm,0.6s,mb3.6,baz=281,slow=7.7,SNR=9.3						
YKA				ScP		19 44 48.3	
	0.2nm,0.5s,baz=286,slow=2.8,SNR=4.0						
YKA	Yellowknife Ar	33.78	48	P	P	19 38 45.2	-1.0
YKA				ScP		19 44 48.3	
MAT	Matsushiro	35.05	261	eP	P	19 38 58.0	+0.8
MAT	Matsushiro	35.05	261	P	P	19 38 57.7	+0.5
MJAR	Matsushiro Arr	35.05	261	P	P	19 38 58.3	+1.0
	1.1nm,0.5s,mb3.8,baz=32,slow=6.1,SNR=5.9						
HLID	Hailey	41.61	76	eP	P	19 39 51.6	+0.1
	0.9nm,0.7s,mb3.5						
ELK	Elko	42.77	80	eP	P	19 40 01.2	+0.2
	3.3nm,0.9s,mb4.0						
BW06	Boulder Array	44.96	74	eP	P	19 40 18.3	-0.2

PDAR	Pinedale Array	44.96	74	P	P	19 40 18.7	+0.2
	3.1nm,0.7s,mb4.1,baz=316,slow=4.1,SNR=30						
PDAR				ScP		19 45 32.6	
	0.2nm,0.5s,baz=304,slow=3.3,SNR=2.7						
SRU	San Rafael	46.63	79	P	P	19 40 31.1	-0.6
SONM	Songino Array	47.25	297	ScP		19 45 41.2	
	0.8nm,0.8s,baz=63,slow=2.8,SNR=5.3						
SDCO	Great Sand Dun	50.52	77	*e*P	P	19 41 01.4	-0.3
	1.7nm,0.7s,mb3.8						
BNM	Barren Site	52.24	81	*e*P	P	19 41 13.9	-0.7
ARCES	ARCESS Array B	57.38	351	P	P	19 41 49.3	-2.0
	0.3nm,0.5s,mb3.4,baz=29,slow=11,SNR=3.9						
TXAR	Lajitas Array	57.40	83	P	P	19 41 51.5	-0.5
	1.1nm,0.8s,mb3.8,baz=304,slow=4.5,SNR=11						
TXAR				PcP	PcP	19 42 43.9	+0.1
	0.3nm,0.7s,baz=270,slow=2.5,SNR=3.4						
TXAR	Lajitas Array	57.40	83	P	P	19 41 51.5	-0.5
TXAR				PcP	PcP	19 42 43.9	+0.1
MKAR	Makanchi Array	60.35	309	P	P	19 42 10.5	-1.6
	0.2nm,0.3s,mb3.4,baz=46,slow=7.2,SNR=10						
WRA	Warramunga Arr	83.46	225	P	P	19 44 28.7	-0.2
	0.7nm,0.5s,mb3.6,baz=35,slow=6.4,SNR=3.3						
BOSA	Boshof	151.15	316	PKPbc	PKPdf	19 51 52.1	+6.5
	1.4nm,0.7s,baz=2.3,slow=6.3,SNR=5.8						

MAN 09 19:34:15.2, 9.22N×125.48E, h1km, mb4.3, ML3.1, MS2.9, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.29	150	*e*P	Pg	19 34 21.0	0.0
BUTP				*e*S	Sg	19 34 26.6	+1.7
SCPH	Surigao	0.56	1	⇑*e*P	Pg	19 34 26.1	-0.3
SCPH				*e*S	Sg	19 34 35.0	+1.2
CGP	Cagayan de Oro	1.08	225	⇓*e*P	Pb	19 34 36.6	+0.1
CGP				*i* S	Sb	19 34 53.1	+2.1
BUKP	Musuan	1.40	197	*e*P	Pb	19 34 41.5	-0.3
MATI	Mati	2.39	161	*e*P	Pn	19 34 56.0	-0.1
PAGZ	Pagadian	2.48	237	*e*P	Pn	19 34 57.7	+0.3
LUBP	Lubang	6.81	312	*e*P	Pn	19 35 00.4	-58

IDC 09 19:40:08.4±1.3, 2.69N×126.65E, mb3.8/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.8/5, Error ellipse: s-maj=98.6km s-min=19.9km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.68	183	P	P	19 44 51.3	-1.5
	5.0nm,0.7s,baz=8.0,slow=12,SNR=7.2						
WRA	Warramunga Arr	23.72	162	P	P	19 45 21.7	-1.5
	1.6nm,0.4s,baz=339,slow=10,SNR=9.2						
WB2	Warramunga Arr	23.73	162	*e*P	P	19 45 22.4	-0.8
STKA	Stephens Creek	37.19	159	P	P	19 47 21.4	-1.9
	1.8nm,0.6s,baz=343,slow=10,SNR=5.9						
SONM	Songino Array	48.25	342	P	P	19 48 51.5	-1.6
	0.2nm,0.4s,baz=164,slow=8.5,SNR=3.6						
MKAR	Makanchi Array	58.36	326	P	P	19 50 05.2	-2.6
	0.3nm,0.4s,baz=117,slow=7.8,SNR=8.8						

IDC 09 19:51:57.9±2.3, 10.90N×91.76E, mb3.7/4, mb1 3.8/5, mb1mx3.5/20, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=69.6km s-min=24.1km az=69.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.23	42	Pn	P	19 54 24.6	-4.6
	0.1nm,0.3s,baz=237,slow=16,SNR=3.4						
MKAR	Makanchi Array	36.66	349	P	P	19 59 06.2	-1.9
	0.1nm,0.4s,baz=162,slow=7.7,SNR=3.5						
SONM	Songino Array	38.82	16	P	P	19 59 25.6	-0.7
	0.2nm,0.5s,baz=196,slow=10.0,SNR=3.6						
FITZ	Fitzroy Crossi	44.15	130	P	P	20 00 08.3	-2.1
	2.5nm,0.4s,baz=344,slow=8.0,SNR=11						
WRA	Warramunga Arr	51.93	126	P	P	20 01 08.7	-2.3
	0.6nm,0.4s,baz=306,slow=8.5,SNR=2.9						

*IDC **09** 20:04:20.9±1.8, 43.77N×105.43W, mb3.5/1, mb1 3.7/4, mb1mx3.4/22, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=55.7km s-min=9.6km az=151.0*
*NEIC **09** 20:04:22.7±0.5, 43.74N×105.20W, ML3.1, Error ellipse: s-maj=7.0km s-min=5.7km az=117.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 09 20:04:21.3±0.6, 43.77N±0.05×105.24W±0.07, n31, σ1.26/31, mb3.8/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.94	68	*e*P	Pg	20 04 40.3	+0.2
PHWY	Pilot Hill	2.47	184	*e*P	Pn	20 05 03.9	+0.4
RWWY	Rawlins	2.53	216	*e*P	Pn	20 05 06.0	+1.6
LAO	LASA Array	3.00	347	*e*P	Pn	20 05 10.9	-0.1
PDAR	Pinedale Array	3.31	254	Pn	Pn	20 05 16.0	+0.6
	3.9nm,0.3s,baz=75,slow=14,SNR=72						
PDAR				Lg		20 05 59.5	
	9.1nm,0.3s,baz=76,slow=34,SNR=6.1						
PDAR	Pinedale Array	3.31	254	Pn	Pn	20 05 16.0	+0.6
PDAR				Lg		20 05 59.5	
GCMT	Greycliff	3.74	304	*e*P	Pn	20 05 21.7	+0.1
LOHW	Long Hollow	3.89	270	*e*P	Pn	20 05 26.2	+2.6
ISCO	Idaho Springs	3.98	184	*e*P	Pn	20 05 25.0	+0.1
MOOW	Moose Ponds	3.99	272	*e*P	Pn	20 05 25.8	+0.7
SNOW	Snow King Moun	4.01	268	*e*P	Pn	20 05 29.9	+4.4
REDW	Red Top Meadow	4.10	266	*e*P	Pn	20 05 27.6	+1.0
IMW	Indian Meadow	4.12	274	*e*P	Pn	20 05 27.2	+0.2
TPAW	Teton Pass	4.15	268	*e*P	Pn	20 05 28.5	+1.1
RRI2	Red Ridge	4.44	267	*e*P	Pn	20 05 32.2	+0.8
DGMT	Dagmar	4.76	8	*e*P	Pn	20 05 36.9	+0.8
BOZ	Bozeman (W)	4.92	295	*e*P	Pn	20 05 40.7	+2.3
HWUT	Hardware Ranch	5.14	247	*e*P	Pn	20 05 40.7	-0.7
	5.3nm,0.3s						
TCUT	Toone Canyon	5.28	242	*e*P	Pn	20 05 40.2	-3.1
HRY	Holter Researc	5.50	305	*e*P	Pn	20 05 46.1	-0.5
SPUT	South Promonto	5.86	248	*e*P	Pn	20 05 50.5	-1.0
PV10	Paradox Valley	6.10	209	P	Pn	20 05 56.7	+1.7
SRU	San Rafael	6.12	222	*e*P	Pn	20 05 53.1	-2.0
TMUT	Trail Mountain	6.32	227	*e*P	Pn	20 05 57.7	-0.4
BGU	Big Grassy Mou	6.43	246	*e*P	Pn	20 05 59.4	-0.2
CHMT	Chamberlain Mo	6.46	302	*e*P	Pn	20 05 58.8	-1.2
MSO	Missoula	6.86	300	*e*P	Pn	20 06 03.8	-1.7
	0.9nm,0.3s						
MSU	Marysvale	7.41	227	*e*P	Pn	20 06 12.4	-1.0
ELK	Elko	8.01	251	Pn	P	20 06 19.5	-2.2
	0.5nm,0.3s,baz=69,slow=10,SNR=8.1						
ULM	Lac du Bonnet	9.11	41	Pn	P	20 06 32.4	-4.6
	1.2nm,0.3s,baz=232,slow=12,SNR=5.9						
ARCES	ARCESS Array B	61.38	18	P	P	20 14 37.9	-2.9
	0.4nm,0.6s,mb3.8,baz=333,slow=6.0,SNR=3.8						

*NIED **09** 20:26:00, 31.20N×143.10E, h8km, Mw4.3 Best double couple: $M_0$3.11×10^15 NP1: ϕ_s197°, δ74°, λ-108°. NP2: ϕ_s67°, δ24°, λ-42°.*
*IDC **09** 20:26:09.7±0.5, 31.22N×142.90E, mb4.3/22, mb1 4.5/25, mb1mx4.4/29, mbtmp4.3/25, ML4.2/3, MS3.2/8, Ms1 3.2/8, ms1mx3.0/31, Error ellipse: s-maj=15.0km s-min=13.8km az=95.0*
*JMA **09** 20:26:10.0±0.4, 31.24N×143.07E, h51km, M4.9*
*MOS **09** 20:26:13.0±1.1, 31.29N×142.81E, h33km, mb4.6/23, Error ellipse: s-maj=16.4km s-min=8.3km az=113.4*
*NEIC **09** 20:26:14.8±0.2, 31.23N×142.86E, mb4.5/14, MW4.3(NIED), Error ellipse: s-maj=7.3km s-min=6.3km az=60.0*
*BJI **09** 20:26:16.2, 31.20N×142.90E, h33km, mB4.5, mb4.2, Ms3.9, Msz3.6*
ISC 09 20:26:13.1±0.3, 31.28N±0.04×142.77E±0.05, h34km, h34km±.9km: pP-P, n100, σ1.03/106, mb4.3/39, MS3.4/5, 1C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	3.10	307	P	P	20 27 01.1	+0.2
JHJ2				*e*S	S	20 27 37.4	+0.2
JHJ	Hachijo jima 2	3.13	307	Pn	P	20 27 01.2	-0.1
	58nm,0.3s,baz=26,slow=20,SNR=21						
JHJ				Sn	S	20 27 36.2	-1.7
	253nm,0.3s,baz=67,slow=22,SNR=11						
JHJ				LR	LR	20 28 15.6	
	comp=Z,794nm,21.0s,baz=87,slow=39						
BSO1	Boso 1	3.69	336	P	P	20 27 08.2	-1.0
BSO1				S	S	20 27 52.8	+0.6
BSO2	Boso 2	3.86	335	*e*S	S	20 27 56.3	-0.1
BSO3	Boso 3	4.00	332	P	P	20 27 12.7	-0.9
BSO3				*e*S	S	20 28 00.4	+0.5
CBIJ	Chichi jima	4.20	187	Pn	P	20 27 12.6	-3.9
	16nm,0.3s,baz=112,slow=23,SNR=22						
CBIJ				Sn	S	20 27 58.8	-6.2
	70nm,0.3s,baz=272,slow=22,SNR=9.8						
JKO	Kozu shima	4.22	314	*e*S	S	20 28 06.3	+0.8
BSO4	Boso 4	4.23	332	P	P	20 27 16.6	-0.3
BSO4				*e*S	S	20 28 06.4	+0.6
JOD2	Odawara 2	5.03	323	P	P	20 27 27.3	-1.0
JRY	Ryogami san	5.72	327	P	P	20 27 36.6	-1.3
JRY				*e*S	S	20 28 40.0	-3.4
JIE	Ise	5.97	303	P	P	20 27 42.7	+1.2
JIE				*e*S	S	20 28 49.7	0.0
MJAR	Matsushiro Arr	6.48	325	P	P	20 27 47.5	-1.1
MJAR						20 28 59.1	
MJAR				pmax	pmax		
	comp=Z,16nm,0.3s						
MJAR	Matsushiro Arr	6.48	325	Pn	P	20 27 47.5	-1.1
	comp=Z,16nm,0.3s,baz=160,slow=11,SNR=172						
MJAR				Sn	S	20 28 59.1	-3.1
	comp=Z,9.0nm,0.3s,baz=163,slow=18,SNR=10						
MAT	Matsushiro	6.48	325	*e*P	P	20 27 48.0	-0.6
MAT				*e*S	S	20 28 59.0	-3.2
MAT				pmax	pmax		
	comp=Z,38nm,0.9s						
MAT	Matsushiro	6.48	325	*e*P	P	20 27 48.0	-0.6
	comp=Z,38nm,0.9s						
MAT				*e*S	S	20 28 59.0	-3.2
MAT	Matsushiro	6.48	325	P	P	20 27 47.7	-0.9
MAT				S	S	20 28 59.0	-3.2
JMK	Ichinoseki	7.76	351	P	P	20 28 02.2	-4.3
JNU	Nakatsue	10.24	283	LR	LR	20 32 17.2	
	comp=Z,156nm,21.5s,baz=227,slow=36						
ASAJ	Asahikawa	12.82	359	P	P	20 29 11.5	-4.2
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,57nm,18.3s						
ASAJ	Asahikawa	12.82	359	Pn	P	20 29 11.5	-4.2
	comp=Z,2.3nm,0.3s,baz=216,slow=10,SNR=16						
ASAJ				LR	LR	20 35 29.5	
	comp=Z,57nm,18.3s,baz=352,slow=44						
JOW	Kunigami	13.43	254	LR	LR	20 33 43.9	
	comp=Z,85nm,18.6s,baz=296,slow=34						
YSS	Yuzh-Sakhalins	15.66	360	⇑*e*P	P	20 29 49.9	-2.9
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS	Yuzh-Sakhalins	15.66	360	*e*P	P	20 29 49.5	-3.2
	comp=Z,15nm,0.8s						
SNY	Shenyang	18.63	310	⇓P	P	20 30 40.1	+10
SNY				AMB	AMB		
	comp=Z,20nm,0.5s						
HIA	Hailar	24.97	323	*e*P	P	20 31 37.4	+2.5
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HIA	Hailar	24.97	323	*e*P	P	20 31 37.4	+2.5
	comp=Z,5.6nm,0.6s,mb4.3						
HHC	Hu-ho-hao-te	26.86	300	*e*P	P	20 31 54.1	+1.6
HHC				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.2						
HHC				AMB	AMB		
	comp=Z,70nm,10.8s						
HHC				LR	LR		
	comp=N,104nm,16.8s,MS3.7						
HHC				LR	LR		
	comp=E,165nm,16.8s,MS3.7						
HHC				LR	LR		
	comp=Z,135nm,15.6s,MS3.6						
ULN	Ulaanbaatar	31.78	312	*e*P	P	20 32 33.3	-3.2
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
ULN	Ulaanbaatar	31.78	312	*e*P	P	20 32 33.3	-3.2
	comp=Z,3.3nm,0.6s,mb4.3						
SONM	Songino Array	32.20	311	P	P	20 32 42.1	+2.0
	comp=Z,1.0nm,0.5s,mb3.9,baz=113,slow=8.3,SNR=12						
SONM				LR	LR	20 44 31.4	
	comp=Z,47nm,21.1s,MS3.1,baz=252,slow=34						
ZAK	Zakamensk	34.92	315	*e*P	P	20 33 04.9	+1.3
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.5						
GTA	Gaotai	35.70	295	*e*P	P	20 33 14.5	+4.2
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
CMAR	Chiang Mai Arr	41.51	263	P	P	20 33 59.0	0.0
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR	Chiang Mai Arr	41.51	263	P	P	20 33 59.0	0.0
	comp=Z,1.0nm,0.7s,mb3.5,baz=52,slow=6.0,SNR=6.5						
NVS	Novosibirsk	47.74	318	*e*P	P	20 34 48.7	+0.2
MKAR	Makanchi Array	48.30	307	P	P	20 34 54.2	+1.2
MKAR						20 36 20.1	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,16nm,18.8s						
MKAR	Makanchi Array	48.30	307	P	P	20 34 54.1	+1.2
	comp=Z,3.2nm,0.5s,mb4.6,baz=88,slow=9.2,SNR=31						
MKAR				PcP	PcP	20 36 20.1	+0.3
	comp=Z,1.6nm,0.7s,baz=83,slow=5.6,SNR=2.5						
MKAR				LR	LR	20 57 48.0	
	comp=Z,16nm,18.8s,MS3.0,baz=129,slow=39						
WRAB	Tennant Creek	51.55	190	*e*P	P	20 35 16.4	-1.8
WRA	Warramunga Arr	51.56	190	P	P	20 35 16.9	-1.3
WRA						20 36 32.3	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	Warramunga Arr	51.56	190	P	P	20 35 16.9	-1.4
	comp=Z,2.1nm,0.4s,mb4.4,baz=12,slow=8.0,SNR=12						
WRA				PcP	PcP	20 36 32.3	+0.2
	comp=Z,2.1nm,0.8s,baz=2.1,slow=3.9,SNR=4.7						
FITZ	Fitzroy Crossi	51.78	201	P	P	20 35 19.2	-0.7
	comp=Z,15nm,0.8s,mb5.0,baz=5.6,slow=8.4,SNR=8.9						
ILAR	Eielson Array	53.83	30	P	P	20 35 33.2	-1.4
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	Eielson Array	53.83	30	P	P	20 35 33.2	-1.4
	comp=Z,1.7nm,0.7s,mb4.1,baz=265,slow=6.1,SNR=19						
VOSK	Vostochnaya	55.05	315	P	P	20 35 43.3	-0.4
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
BVAR	Borovoye Array	55.37	316	P	P	20 35 46.5	+0.6
	comp=Z,1.7nm,0.4s,mb4.4,baz=100,slow=9.0,SNR=15						
THN	Thein Dam	56.08	290	*e*P	P	20 35 51.2	-0.1
ZRNK	Zerenda	56.21	316	*e*P	P	20 35 52.0	0.0
ZRNK				*e**PP	pP	20 36 02.3	0.0
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ZRNK	Zerenda	56.21	316	*e*P	P	20 35 52.0	0.0
	comp=Z,2.7nm,0.6s,mb4.5						
ZRNK				*e*pP	pP	20 36 02.3	0.0
MBWA	Marble Bar	56.63	206	*e*P	P	20 35 54.3	-1.1
MBWA				*e*pP	pP	20 36 03.8	-1.9
KKAR	Karatay Array	57.12	304	*i* P	P	20 35 59.2	+0.5
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
DZM	Mont Dzumac	57.70	154	P	P	20 36 02.3	-0.6
	comp=Z,5.0nm,0.9s,mb4.5,slow=4.0,SNR=6.5						
INK	Inuvik	59.04	26	P	P	20 36 11.4	-0.3
INK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
INK	Inuvik	59.04	26	P	P	20 36 11.4	-0.3
	comp=Z,3.7nm,0.6s,mb4.6,baz=292,slow=6.2,SNR=15						
INK	Inuvik	59.04	26	*e*P	P	20 36 10.7	-1.1
ARU	Arti	61.47	321	*e*P	P	20 36 28.0	-0.5
ARU				*e**PP	pP	20 36 38.5	-0.3
ARU				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
ARU	Arti	61.47	321	*e*P	P	20 36 28.0	-0.5
	comp=Z,9.7nm,1.1s,mb4.8						
ARU				*e*pP	pP	20 36 38.5	-0.3
DLBC	Dease Lake	62.53	36	P	P	20 36 35.2	-0.3
	comp=Z,0.9nm,0.3s,mb4.3,baz=245,slow=7.4,SNR=4.0						
DLBC	Dease Lake	62.53	36	P	P	20 36 35.2	-0.3
AB31	Akbulak array	62.59	313	*i* P	P	20 36 36.0	-0.1
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3						
YKA	Yellowknife Ar	68.25	29	P	P	20 37 11.2	-0.9
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	Yellowknife Ar	68.25	29	P	P	20 37 11.2	-0.8
	comp=Z,1.8nm,0.6s,mb4.3,baz=293,slow=6.0,SNR=17						
YKA	Yellowknife Ar	68.25	29	P	P	20 37 11.2	-0.8
ARCES	ARCESS Array B	69.78	341	P	P	20 37 21.7	+0.3
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	ARCESS Array B	69.78	341	P	P	20 37 21.7	+0.3
	comp=Z,2.1nm,0.7s,mb4.2,baz=68,slow=6.5,SNR=12						
YBH	Yreka Blue Hor	73.02	51	P	P	20 37 41.3	0.0
YBH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YBH	Yreka Blue Hor	73.02	51	P	P	20 37 41.3	0.0
	comp=Z,3.0nm,0.7s,mb4.3,baz=312,slow=2.6,SNR=12						
NEW	Newport	73.50	43	P	P	20 37 44.3	+0.3
NEW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NEW	Newport	73.50	43	P	P	20 37 44.3	+0.3
	comp=Z,3.5nm,0.8s,mb4.4,baz=315,slow=3.5,SNR=6.2						
KAF	Kangasniemi	73.95	334	*e*p	P	20 37 46.5	+0.2
	comp=Z,3.5nm,0.6s,mb4.5,baz=50,slow=5.5						
KAF	Kangasniemi	73.95	334	*e*P	P	20 37 46.5	+0.2
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
FINES	FINESS Array B	74.44	334	P	P	20 37 50.0	+0.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	FINESS Array B	74.44	334	P	P	20 37 50.0	+0.8
	comp=Z,2.3nm,0.7s,mb4.2,baz=76,slow=4.3,SNR=19						
BMO	Blue Mountains	75.04	46	*e*P	P	20 37 52.6	-0.4
	comp=Z,4.0nm,0.9s,mb4.3						
BMO				*e*pP	pP	20 38 03.2	-0.3
BEKR	Beckwourth	75.47	52	*e*P	P	20 37 55.4	-0.1
	comp=Z,3.8nm,0.8s,mb4.4						
BEKR				*e*pP	pP	20 38 06.3	+0.3
KIV	Kislovodsk	75.58	313	*e*P	P	20 37 57.9	+1.8
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
KIV	Kislovodsk	75.58	313	*e*P	P	20 37 58.0	+2.0
	comp=Z,5.8nm,0.8s,mb4.6						
CMB	Columbia Colle	76.33	54	*e*P	P	20 38 00.1	-0.3
CMB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CMB	Columbia Colle	76.33	54	*e*P	P	20 38 00.1	-0.3
	comp=Z,2.6nm,0.8s,mb4.2						
SUMG	Summit	76.43	0	*e*P	P	20 38 01.1	+0.8
	comp=Z,3.4nm,0.8s,mb4.3						
HLID	Hailey	77.49	47	*e*P	P	20 38 07.7	+0.8
	comp=Z,1.4nm,0.9s,mb3.9						
ELK	Elko	78.42	49	P	P	20 38 12.9	+0.9
ELK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ELK	Elko	78.42	49	P	P	20 38 12.9	+0.9
	comp=Z,1.2nm,0.5s,mb4.1,baz=304,slow=4.8,SNR=8.1						
AKASG	Malin Array Be	79.56	324	P	P	20 38 18.6	+0.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	79.56	324	P	P	20 38 18.6	+0.5
	comp=Z,1.3nm,0.5s,mb4.1,baz=46,slow=5.9,SNR=15						
NB2	NORSAR Subarra	79.93	338	P	P	20 38 20.0	+0.2
	comp=Z,9.2nm,1.2s,mb4.6,baz=40,slow=5.0						
NB2	NORSAR Subarra	79.93	338	P	P	20 38 20.0	+0.2
NB2				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
NOA	NORSAR Array B	79.93	338	P	P	20 38 20.3	+0.5
NOA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,14nm,19.0s						
NOA	NORSAR Array B	79.93	338	P	P	20 38 20.2	+0.4
	comp=Z,3.7nm,0.9s,mb4.3,baz=39,slow=5.1,SNR=19						
NOA				LR	LR	21 21 02.5	
	comp=Z,14nm,19.0s,MS3.3,baz=335,slow=41						
PDAR	Pinedale Array	80.90	45	P	P	20 38 25.6	+0.2
	comp=Z,1.3nm,0.7s,mb4.0,baz=288,slow=2.8,SNR=12						
BR131	Keskin Array S	83.54	313	*e*P	P	20 38 40.5	+1.5
	comp=Z,3.9nm,0.8s,mb4.6						
BRTR	Keskin Array B	83.55	313	P	P	20 38 40.9	+1.9
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRTR	Keskin Array B	83.55	313	P	P	20 38 40.9	+1.9
	comp=Z,4.2nm,0.8s,mb4.6,baz=90,slow=3.7,SNR=24						
CLL	Collm	86.66	331	P	P	20 38 55.0	+0.8
GERES	GERESS Array B	88.20	329	P	P	20 39 02.2	+0.5
	comp=Z,0.3nm,0.6s,mb3.7,baz=22,slow=7.2,SNR=4.7						
GERES				LR	LR	21 21 05.5	
	comp=Z,22nm,19.5s,MS3.6,baz=131,slow=37						
TXAR	Lajitas Array	92.70	53	P	P	20 39 23.9	+0.7
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	92.70	53	P	P	20 39 23.9	+0.7
	comp=Z,1.4nm,0.7s,mb4.5,baz=279,slow=2.3,SNR=17						
BOSA	Boshof	126.43	256	PKIKP	PKPdf	20 45 14.7	+1.6
BOSA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BOSA	Boshof	126.43	256	PKP	PKPdf	20 45 14.7	+1.6
	comp=Z,0.6nm,0.5s,baz=124,slow=3.6,SNR=3.3						
LPAZ	La Paz	148.16	69	PKP2	PKPab	20 45 59.1	-2.0
LPAZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LPAZ	La Paz	148.16	69	PKPbc	PKPdf	20 45 59.1	+6.4
	comp=Z,7.4nm,1.0s,baz=6.7,slow=4.6,SNR=17						

IDC 09 20:27:41.1±1.8, 2.67N×126.53E, mb4.0/4, mb1 4.2/4, mb1mx3.8/17, mbtmp4.1/4, Error ellipse: s-maj=107.2km s-min=24.3km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.66	182	P	P	20 32 23.9	-1.3
	9.5nm,0.9s,baz=9.3,slow=10.0,SNR=7.1						
WRA	Warramunga Arr	23.74	161	P	P	20 32 54.4	-1.7
	2.3nm,0.4s,baz=338,slow=10,SNR=5.5						
STKA	Stephens Creek	37.22	159	P	P	20 34 54.4	-1.9
	1.6nm,0.5s,baz=340,slow=10,SNR=9.9						
MKAR	Makanchi Array	58.31	326	P	P	20 37 37.8	-2.4
	0.5nm,0.4s,baz=118,slow=7.4,SNR=6.1						

*MAN **09** 21:14:05.2, 20.17N×121.17E, h35km, mb4.6, ML3.5, MS3.3*
*IDC **09** 21:14:35.8±5.8, 23.20N×118.65E, mb3.6/6, mb1 3.7/6, mb1mx3.5/18, mbtmp3.6/6, Error ellipse: s-maj=133.0km s-min=110.9km az=27.0*
ISC 09 21:14:06.4±0.7, 20.09N±0.05×121.21E±0.08, h33km, n11, σ0.93/11, mb3.4/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	Basco	0.79	64	*e*P	P	21 14 21.0	0.0
BBP				*e*S	S	21 14 31.6	-0.2
APYP	Conner	2.22	179	*e*P	P	21 14 40.8	-0.7
APYP				*e*S	S	21 15 06.4	-1.6
CVP	Callao Caves	2.44	166	*e*P	P	21 14 44.0	-0.7
CVP				*e*S	S	21 15 16.0	+2.2
ABRA	Dolores	2.47	191	*e*P	P	21 14 45.3	+0.1
CAUP	Cauayan	3.18	169	*e*P	P	21 14 56.2	+0.9
SONM	Songino Array	30.17	340	P	P	21 20 14.9	-0.7
	0.6nm,0.6s,mb3.5,baz=153,slow=11,SNR=4.9						
MKAR	Makanchi Array	41.36	319	P	P	21 21 51.5	+0.6
	0.8nm,0.8s,mb3.4,baz=113,slow=9.7,SNR=8.0						
BVAR	Borovoye Array	50.89	323	P	P	21 23 06.7	+0.5
	0.2nm,0.4s,mb3.4,baz=113,slow=11,SNR=3.7						
ARCES	ARCESS Array B	73.33	339	P	pP	21 25 45.6	-0.8
	0.6nm,0.7s,baz=72,slow=7.7,SNR=4.1						
FINES	FINESS Array B	74.99	330	P	pP	21 25 57.3	+1.2
	1.6nm,0.9s,baz=90,slow=6.9,SNR=6.1						
NOA	NORSAR Array B	81.84	332	P	pP	21 26 35.4	+1.6
	0.4nm,0.7s,baz=65,slow=4.7,SNR=3.3						

IGQ 09 21:33:09.7, 3.08S×78.28W, h12km±5km, mb4.3, 2C, Error ellipse: s-maj=12.1km s-min=4.0km az=174.1, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	Arrayan	1.57	354	⇑P	Pn	21 33 38.7	+1.2
ARRY				S	Sb	21 33 59.0	+1.1
IGUA	Igualata	1.62	347	P	Pn	21 33 41.6	+3.4
ULBA	Ulba	1.62	355	P	Pn	21 33 39.8	+1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CUSU	**Cusua**	**1.64**	**353**	P	Pn	21 33 39.7	+1.2
CUSU				S	Sn	21 34 02.4	+2.8
JUIV	**Juive**	**1.65**	**354**	P	Pn	21 33 40.5	+1.7
RUN5	**Runtun**	**1.66**	**355**	P	Pn	21 33 39.3	+0.5
PISA	**Pisayambo**	**2.01**	**357**	P	Pn	21 33 43.5	-0.3
QIL1	**Quilotoa**	**2.31**	**344**	P	Pn	21 33 52.9	+4.7
TAMB	**Tambo**	**2.37**	**358**	P	Pn	21 33 49.8	+0.8
CAMI	**Rancho Maria**	**2.40**	**355**	P	Pn	21 33 51.9	+2.5
CAMI				S	Sn	21 34 25.1	+6.3
VC1	**Cotopaxi 1**	**2.42**	**357**	P	Pn	21 33 52.6	+2.8
NAS1	**Nasa**	**2.44**	**355**	P	Pn	21 33 52.0	+2.0
ANTI	**Antisana**	**2.61**	**3**	⇑P	Pn	21 33 53.1	+0.7
JUA2	**San Juan 2**	**2.86**	**353**	P	Pn	21 34 00.7	+4.7
GGP	**Refugio Guagua**	**2.90**	**354**	P	Pn	21 34 01.3	+4.7
TERV	**Terraza Guagua**	**2.90**	**354**	P	Pn	21 34 01.5	+4.9
PINO	**Pino**	**2.92**	**354**	P	Pn	21 34 01.9	+5.1
YANA	**Yana**	**2.95**	**354**	P	Pn	21 34 02.3	+4.9
ECOPE	**Copete-Rev Vol**	**3.02**	**13**	P	Pn	21 33 58.0	-0.3
CONE	**Cono NE Rev Vo**	**3.05**	**12**	P	Pn	21 33 60.0	+1.2
CONE				S	Sn	21 34 36.1	+0.5
JOR1	**San Jorge 1**	**3.08**	**353**	P	Pn	21 34 00.5	+1.4
CAYR	**Refugio Cayamb**	**3.08**	**5**	P	Pn	21 34 01.2	+2.0
CAYR				S	Sn	21 34 40.7	+4.3
CAYA	**Cayambe**	**3.14**	**5**	P	Pn	21 34 01.9	+1.9
CAYA				S	Sn	21 34 41.4	+3.6
COTA	**Cotacachi**	**3.39**	**359**	P	Pn	21 34 12.4	+8.9
ECEN	**Cerro Negro**	**3.89**	**5**	P	Pn	21 34 17.9	+7.3

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*CSEM **09** 21:43:22.7±0.1, 36.99N×27.80E, h5^{km}, MD3.2, Error ellipse: s-maj=2.4km s-min=2.1km az=43.0*
*ATH **09** 21:43:23.1, 36.91N×27.72E, h10^{km}, MD3.0/3*
*ISK **09** 21:43:23.0, 37.01N×27.79E, h5^{km}, MD3.2*
ISC 09 21:43:23.0±0.5**, 36.95N**±0.04×**27.80E**±0.04**, h5**^{km}**, n16, σ0^{s}86**/22**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.30**	**292**	*i* P	**Pg**	**21 43 28.9**	**-0.2**
BDRM				*i* S	**Sg**	**21 43 33.8**	**+0.5**
MLSB	**Milas**	**0.34**	**357**	*i* PG	**Pg**	**21 43 29.4**	**-0.5**
BODT	**Bodrum**	**0.41**	**286**	*i* PG	**Pg**	**21 43 30.8**	**-0.4**
BODT				*i* SG	**Sg**	**21 43 37.5**	**+0.9**
YER	**Yerkesik**	**0.43**	**65**	*i* PG	**Pg**	**21 43 31.3**	**-0.3**
DALT	**Dalyan (Mudla)**	**0.70**	**105**	PG	**Pg**	**21 43 37.7**	**+0.7**
AYDN	**Tasoluk**	**0.71**	**5**	*i* P	**Pg**	**21 43 36.4**	**-0.8**
AYDN				*i* S	**Sg**	**21 43 46.2**	**-0.4**
ARG	**Arkhangelos**	**0.78**	**160**	*e*PB	**Pb**	**21 43 37.9**	**-0.8**
SMG	**Samos**	**1.07**	**315**	*e*PB	**Pb**	**21 43 43.2**	**-0.5**
FETY	**Fethiye**	**1.08**	**107**	*e*PN	**Pn**	**21 43 44.2**	**-0.5**
DNZL	**Cakiroluk**	**1.24**	**53**	*i* P	**Pb**	**21 43 46.4**	**-0.2**
DNZL				*i* S	**Sb**	**21 44 03.2**	**+0.6**
KARP	**Karpathos**	**1.50**	**200**	*e*PB	**Pb**	**21 43 50.0**	**-0.9**
IZM	**Izmir**	**1.50**	**344**	*e*PN	**Pn**	**21 43 50.8**	**0.0**
BLCB	**Balcova**	**1.55**	**337**	*e*PN	**Pn**	**21 43 50.9**	**-0.5**
AKAS	**Kas**	**1.62**	**116**	*e*P	**Pn**	**21 43 55.4**	**+3.0**
AKAS				*e*S	**Sb**	**21 44 21.0**	**+7.2**
URLA	**Izmir**	**1.70**	**326**	*e*P	**Pn**	**21 43 56.5**	**+3.0**
URLA				*e*S	**Sn**	**21 44 21.3**	**+5.4**
ELL	**Elmali**	**1.71**	**96**	*e*PN	**Pn**	**21 43 54.3**	**+0.6**

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*NEIC **09** 22:42:04.1±3.7, 7.52S×112.70E, h261^{km}±35^{km}, mb4.4/2, Error ellipse: s-maj=44.4km s-min=7.6km az=59.0*
*IDC **09** 22:42:04.6±8.7, 7.51S×112.69E, h267^{km}±92^{km}, mb3.2/6, mb1 3.4/7, mb1mx3.2/17, mbtmp3.9/7, Error ellipse: s-maj=82.5km s-min=17.8km az=54.0*
ISC 09 22:42:07.2±4.4**, 7.4S**±0.2×**113.0E**±0.3**, h307**^{km}±41^{km}**, n12, σ0^{s}87**/13**, mb3.7**/8**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**13.69**	**14**	P	**P**	**22 45 11.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**16.30**	**132**	*e*P	**P**	**22 45 42.8**	**+2.1**
	1.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**16.30**	**132**	P	**P**	**22 45 38.7**	**-2.0**
	0.2nm,0.3s,baz=333,slow=11,SNR=4.6						
FITZ				S	**S**	**22 48 30.8**	**-1.1**
	0.4nm,0.3s,slow=20,SNR=4.6						
WRA	**Warramunga Arr**	**24.18**	**123**	P	**P**	**22 46 58.8**	**+0.7**
	3.5nm,0.5s,mb4.0,baz=298,slow=11,SNR=14						
WRAB	**Tennant Creek**	**24.19**	**123**	*e*P	**P**	**22 46 58.7**	**+0.6**
	11nm,0.8s,mb4.2						
CMAR	**Chiang Mai Arr**	**29.16**	**332**	P	**P**	**22 47 41.6**	**-1.3**
	0.8nm,0.3s,mb3.6,baz=177,slow=7.7,SNR=4.8						
STKA	**Stephens Creek**	**36.12**	**136**	P	**P**	**22 48 42.6**	**+0.4**
	1.1nm,0.3s,mb3.8,baz=309,slow=9.2,SNR=9.0						
ENH	**Enshi**	**37.56**	**355**	P	**P**	**22 48 55.2**	**+0.9**
	13nm,0.9s,mb4.3						
LSA	**Lhasa**	**42.41**	**331**	P	**P**	**22 49 34.4**	**+0.4**
SONM	**Songino Array**	**55.26**	**355**	P	**P**	**22 51 11.4**	**+0.4**
	0.4nm,0.5s,mb3.1,baz=173,slow=12,SNR=4.1						
MKAR	**Makanchi Array**	**60.43**	**336**	P	**P**	**22 51 46.2**	**-0.5**
	0.6nm,0.3s,mb3.5,baz=148,slow=6.8,SNR=16						
BVAR	**Borovoye Array**	**70.15**	**334**	P	**P**	**22 52 48.0**	**-0.3**
	0.2nm,0.4s,mb3.2,baz=108,slow=4.6,SNR=3.1						

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*BJI **09** 23:29:50.7, 0.35S×120.87E, h89^{km}, mB4.9, mb4.8*
*NEIC **09** 23:29:54.5±1.2, 0.29N×120.48E, h59^{km}±12^{km}, mb4.9/14, Error ellipse: s-maj=12.6km s-min=5.8km az=58.0*
*IDC **09** 23:29:58.3±5.8, 0.30N×120.53E, h94^{km}±54^{km}, mb4.0/16, mb1 4.1/17, mb1mx4.1/21, mbtmp4.3/17, ML4.6/1, Error ellipse: s-maj=23.4km s-min=12.6km az=72.0*
ISC 09 23:29:49.9±2.7**, 0.31N**±0.05×**120.54E**±0.07**, h31**^{km}±19^{km}**, n59, σ0^{s}91**/59**, mb4.7**/29**, 1C, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZMPH	**Zamboanga City**	**6.78**	**13**	⇑*i*P	**Pn**	**23 31 28.6**	**-1.4**
KKM	**Kota Kinabalu**	**7.15**	**323**	*e*P	**Pn**	**23 31 33.8**	**-1.4**
KSM	**Kuching**	**10.29**	**277**	*e*P	**P**	**23 32 19.2**	**+0.3**
KAKA	**Kakadu**	**17.51**	**138**	*e*P	**P**	**23 33 56.7**	**+3.0**
	50nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.97**	**165**	*e*P	**P**	**23 34 11.3**	**-0.2**
	17nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.97**	**165**	P	**P**	**23 34 11.2**	**-0.3**
	1.5nm,0.3s,baz=10.0,slow=12,SNR=11						
KULM	**Kulim**	**20.47**	**284**	*e*P	**P**	**23 34 27.2**	**-0.8**
MBWA	**Marble Bar**	**21.35**	**182**	P	**P**	**23 34 35.4**	**-1.5**
YHNB	**Yeheng**	**24.23**	**2**	*e*P	**P**	**23 35 06.1**	**+0.7**
WRAB	**Tennant Creek**	**24.24**	**147**	*e*P	**P**	**23 35 06.1**	**+0.6**
	26nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**24.24**	**147**	P	**P**	**23 35 06.3**	**+0.8**
	11nm,1.0s,mb4.3,baz=330,slow=9.5,SNR=18						
WB2	**Warramunga Arr**	**24.25**	**147**	*e*P	**P**	**23 35 06.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**27.84**	**312**	P	**P**	**23 35 39.1**	**+0.1**
	2.2nm,0.7s,mb3.9,baz=138,slow=8.4,SNR=9.6						
ENH	**Enshi**	**31.60**	**342**	*e*P	**P**	**23 36 11.4**	**-1.0**
NWAO	**Narrogin (SRO)**	**33.20**	**185**	P	**P**	**23 36 25.8**	**-0.5**
	11nm,0.8s,mb4.8,baz=15,slow=12,SNR=6.3						
NWAO	**Narrogin (SRO)**	**33.20**	**185**	*e*P	**P**	**23 36 25.4**	**-0.9**
CBIJ	**Chichi jima**	**33.80**	**36**	P	**P**	**23 36 31.4**	**-0.2**
	38nm,0.7s,mb5.4,baz=264,slow=7.7,SNR=4.6						
STKA	**Stephens Creek**	**37.70**	**150**	P	**P**	**23 37 05.7**	**+1.1**
	11nm,0.8s,mb4.6,baz=325,slow=8.5,SNR=14						
STKA	**Stephens Creek**	**37.70**	**150**	*e*P	**P**	**23 37 05.7**	**+1.0**
LZH	**Lanzhou**	**38.84**	**338**	*e*P	**P**	**23 37 15.0**	**+0.9**
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.8						
MJAR	**Matsushiro Arr**	**39.60**	**23**	P	**P**	**23 37 19.4**	**-1.1**
	comp=Z,3.5nm,0.9s,mb4.1,baz=197,slow=11,SNR=6.9						
LSA	**Lhasa**	**40.48**	**319**	*e*P	**P**	**23 37 29.8**	**+2.1**
LSA	**Lhasa**	**40.48**	**319**	*e*P	**P**	**23 37 29.9**	**+2.2**
	comp=Z,17nm,0.7s,mb4.9						
GUN	**Gumba**	**43.08**	**313**	*e*P	**P**	**23 37 50.1**	**+0.9**
	comp=Z,138nm,0.7s						
PKI	**Pulchoki**	**43.24**	**312**	*e*P	**P**	**23 37 51.0**	**+0.5**
	comp=Z,58nm,0.8s,mb5.4						
KKN	**Kakani**	**43.46**	**312**	*e*P	**P**	**23 37 52.8**	**+0.6**
	comp=Z,72nm,0.9s,mb5.4						
DMN	**Daman**	**43.49**	**312**	*e*P	**P**	**23 37 53.2**	**+0.7**
	comp=Z,96nm,0.9s,mb5.5						
GKN	**Gorkha**	**44.05**	**312**	*e*P	**P**	**23 37 57.5**	**+0.5**
	comp=Z,118nm,0.8s,mb5.7						
HYB	**Hyderabad**	**44.67**	**295**	*e*P	**P**	**23 38 02.0**	**-0.1**
HYB	**Hyderabad**	**44.67**	**295**	*i* P	**P**	**23 38 02.0**	**-0.1**
KOLN	**Koldanda**	**44.71**	**311**	*e*P	**P**	**23 38 02.9**	**+0.5**
	comp=Z,100nm,0.9s,mb5.7						
MDJ	**Mudanjiang**	**44.85**	**9**	P	**P**	**23 38 03.7**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.9						
MDJ	**Mudanjiang**	**44.85**	**9**	*e*P	**P**	**23 38 04.4**	**+1.1**
	comp=Z,5.7nm,0.6s,mb4.6						
ULN	**Ulaanbaatar**	**48.80**	**348**	*e*P	**P**	**23 38 29.3**	**-4.9**
	comp=Z,7.9nm,0.8s,mb4.8						
SONM	**Songino Array**	**48.91**	**347**	P	**P**	**23 38 35.5**	**+0.4**
	comp=Z,4.0nm,0.7s,mb4.6,baz=165,slow=8.4,SNR=36						
DZM	**Mont Dzumac**	**49.95**	**120**	P	**P**	**23 38 44.1**	**+0.7**
	comp=Z,3.8nm,0.7s,mb4.5,baz=266,slow=13,SNR=3.8						
MKAR	**Makanchi Array**	**57.08**	**330**	P	**P**	**23 39 35.7**	**-0.1**
	comp=Z,7.8nm,0.8s,mb4.8,baz=135,slow=8.6,SNR=45						
MKAR	**Makanchi Array**	**57.08**	**330**	P	**P**	**23 39 35.7**	**-0.1**
KZA	**Kyzart**	**58.18**	**321**	P	**P**	**23 39 44.5**	**+1.0**
	SNR=9.6						
TKM2	**Tokmak 2**	**58.43**	**322**	P	**P**	**23 39 45.5**	**+0.2**
	SNR=9.4						
KBK	**Karagaybulak**	**58.68**	**322**	P	**P**	**23 39 48.1**	**+1.1**
	SNR=6.3						
UCH	**Uchtor**	**58.72**	**321**	P	**P**	**23 39 48.1**	**+0.8**
	SNR=8.9						
AAK	**Ala-Archa**	**58.95**	**322**	*e*P	**P**	**23 39 48.8**	**-0.2**
	comp=Z,4.2nm,0.6s,mb4.7						
AML	**Almayashu**	**59.18**	**321**	P	**P**	**23 39 51.3**	**+0.8**
	SNR=14						
USP	**Ospenovka**	**59.29**	**322**	P	**P**	**23 39 51.3**	**+0.1**
	SNR=7.9						
ARU	**Arti**	**74.61**	**329**	*e*P	**P**	**23 41 27.0**	**-0.8**
	comp=Z,12nm,0.9s,mb4.8						
VNDA	**Vanda**	**80.90**	**172**	P	**P**	**23 42 01.2**	**-1.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=302,slow=7.7,SNR=8.2						
VNDA	**Vanda**	**80.90**	**172**	*e*P	**P**	**23 42 01.1**	**-1.1**
SBA	**Scott Base**	**81.87**	**171**	*e*P	**P**	**23 42 05.2**	**-2.0**
KMBO	**Kilima Mbogo**	**83.30**	**269**	P	**P**	**23 42 15.7**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.1,baz=119,slow=6.3,SNR=4.5						
ASF	**Jabal al Asfar**	**84.45**	**302**	P	**P**	**23 42 21.3**	**-0.1**
	comp=Z,3.2nm,0.7s,mb4.5,baz=29,slow=5.7,SNR=7.6						
BR131	**Keskin Array S**	**87.42**	**310**	P	**P**	**23 42 33.3**	**-2.5**
BRTR	**Keskin Array B**	**87.42**	**310**	P	**P**	**23 42 34.4**	**-1.5**
	comp=Z,1.1nm,0.7s,mb4.2,baz=127,slow=6.2,SNR=7.3						
MCK	**McKinley**	**89.96**	**26**	P	**P**	**23 42 46.8**	**-0.6**
QSPA	**South Pole Qui**	**90.24**	**180**	*e*P	**P**	**23 42 47.8**	**-0.5**
AKASG	**Malin Array Be**	**90.60**	**321**	P	**P**	**23 42 49.2**	**-1.4**
	comp=Z,0.2nm,0.3s,mb3.9,baz=70,slow=4.8,SNR=4.9						
ILAR	**Eielson Array**	**90.83**	**25**	P	**P**	**23 42 50.6**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.9,baz=255,slow=6.0,SNR=4.3						
ARCES	**ARCESS Array B**	**91.48**	**339**	P	**P**	**23 42 54.0**	**-0.2**
	comp=Z,0.9nm,0.7s,mb4.2,baz=79,slow=6.2,SNR=4.7						
FINES	**FINESS Array B**	**91.88**	**331**	P	**P**	**23 42 55.8**	**-0.4**
	comp=Z,0.7nm,0.6s,mb4.2,baz=76,slow=7.9,SNR=6.1						

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*NIED **09** 23:37:00, 33.60N×141.00E, h41^{km}, Mw5.8 Best double couple: M0 5.54×10^{17} NP1:φs343°, δ51°, λ64°. NP2:φs201°, δ46°, λ119°.*
*BGS **09** 23:37:01.2±1.3, 31.91N×143.15E, h53^{km}, mb5.7*
*JMA **09** 23:37:08.8±0.2, 33.51N×141.13E, h55^{km}, M5.8*
JMA Felt III J1.
*MOS **09** 23:37:08.7±0.8, 33.41N×140.93E, h46^{km}, mb6.0/112, MS5.4/44, Error ellipse: s-maj=7.7km s-min=3.8km az=110.8*
*BJI **09** 23:37:10.0, 33.46N×141.02E, h75^{km}, mB5.5, mb5.4, Ms5.6, Msz5.4*
*HRVD **09** 23:37:11.1±0.1, 33.37N×141.20E, h33^{km}, MW5.8/75, Centroid moment Tensor Solution. LP body waves: s67, c152; Mantle waves: s75, c230; Half duration: 1^{s}9 Moment tensor: Scale 10^{17}Nm; Mrr4.04±.07; Mθθ1.70±.06; Mφφ-5.74±.06; Mrθ-2.39±.10; Mθφ-0.62±.05; Mφr0.12±.09; Best double couple: M0 5.67×10^{17} NP1:φs337°, δ53°, λ48°. NP2:φs213°, δ54°, λ131°. Principal axes: T 5.547, Plg58°, Azm184°; N .244, Plg32°, Azm5°; P -5.792, Plg0°, Azm275°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **09** 23:37:11.1±0.1, 33.42N×140.83E, mb5.8/178, ME5.5, MW5.8, MW5.8(NIED) Error ellipse: s-maj=2.9km s-min=2.7km az=1.0 Broadband fault plane solution: P waves. NP1:φs210°, δ45°, λ90°. NP2:φs30°, δ45°, λ90°. Principal axes: T Plg90°, Azm0°; N Plg0°, Azm0°; P Plg0°, Azm120°; Moment Tensor Solution. s37 Moment tensor: Scale 10^{17} Nm; Mrr4.48; Mθθ1.17; Mφφ-5.64; Mrθ-2.44; Mθφ-0.74; Mφr0.02; Best double couple: M0 5.8×10^{17} NP1: φs341°, δ50°, λ52°. NP2:φs211°, δ53°, λ126°. Principal axes: T 5.78, Plg62°, Azm184°; N -.05, Plg28°, Azm7°; P -5.73, Plg1°, Azm277°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Tokyo and Yokohama, Honshu. Recorded [3 JMA] on Hachijo-jima; [2 JMA] on Aoga-shima, Kozu-shima, Mikura-jima and Miyake-jima; [1 JMA] on Nii-jima and O-shima. Also recorded [2 JMA] in Chiba, Kanagawa and Shizuoka; [1 JMA] in Fukushima, Miyagi, Nagano, Saitama and Tokyo Prefectures, Honshu.
*IDC **09** 23:37:12.2±1.1, 33.47N×140.93E, h60^{km}±9^{km}, mb5.3/24, mb1 5.4/27, mb1mx5.4/27, mbtmp5.6/27, MS5.2/26, Ms1 5.2/26, ms1mx5.1/40 Error ellipse: s-maj=11.8km s-min=8.0km az=84.0*
ISC 09 23:37:10.2±0.3**, 33.38N**±0.02×**140.93E**±0.02**, h59**^{km}±2^{km}**, h54**^{km}±1.5^{km}**: pP-P, n1030, σ0^{s}96**/1015**, mb5.8**/257**, MS5.4**/76**, 273C-62D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.97**	**254**	⇓P	**P**	**23 37 29.3**	**+1.3**
JHJ2				S	**S**	**23 37 44.0**	**+2.7**
JHJ	**Hachijo jima 2**	**0.99**	**255**	P	**P**	**23 37 29.1**	**+0.8**
	49μm,0.3s,baz=146,slow=5.7,SNR=4042						
JHJ				S	**S**	**23 37 44.2**	**+2.4**
	baz=58,slow=19						
JHJ				LR	LR	23 37 53.5	
	comp=Z,92μm,18.1s,baz=316,slow=42						
BSO1	**Boso 1**	**1.27**	**2**	⇑P	**P**	**23 37 29.0**	**-3.2**
JMY	**Miyakejima3**	**1.36**	**301**	⇓P	**P**	**23 37 33.5**	**-0.1**
BSO3	**Boso 3**	**1.46**	**346**	⇑P	**P**	**23 37 32.7**	**-2.2**
BSO4	**Boso 4**	**1.68**	**343**	⇑P	**P**	**23 37 36.1**	**-1.8**
JKO	**Kozu shima**	**1.69**	**299**	⇓P	**P**	**23 37 38.4**	**+0.3**
JKO				*e*S	**S**	**23 37 59.5**	**+0.8**
NJJJ	**Nii jima 2**	**1.71**	**307**	⇓P	**P**	**23 37 38.0**	**-0.2**
JIM2	**Oshima 3**	**1.82**	**317**	⇓P	**P**	**23 37 38.7**	**-1.2**
JIZS	**Izushimoda**	**2.16**	**309**	⇓P	**P**	**23 37 44.5**	**-0.1**
JIZS				*e*S	**S**	**23 38 10.1**	**-0.1**
KTJJ	**Kamata 2**	**2.18**	**315**	⇓P	**P**	**23 37 43.7**	**-1.2**
JOD2	**Odawara 2**	**2.42**	**321**	⇓P	**P**	**23 37 47.1**	**-1.2**
TOK	**Tokyo**	**2.49**	**338**	P	**P**	**23 37 47.9**	**-1.5**
JSG	**Sagara**	**2.62**	**300**	⇓P	**P**	**23 37 52.2**	**+1.1**
TK02	**Tokai 2**	**2.70**	**283**	⇓P	**P**	**23 37 53.4**	**+1.1**
TK04	**Tokai 4**	**2.73**	**292**	⇓P	**P**	**23 37 53.7**	**+1.0**
SHZ3	**Shizuoka 3**	**2.81**	**307**	⇓P	**P**	**23 37 54.5**	**+0.7**
TK01	**Tokai 1**	**2.81**	**279**	P	**P**	**23 37 54.4**	**+0.5**
JYN	**Shimob**	**2.89**	**318**	⇓P	**P**	**23 37 54.3**	**-0.6**
HMMJ	**Hamamatsu 2**	**3.04**	**300**	⇓P	**P**	**23 37 57.3**	**+0.2**
JYZW	**Yoshizawa**	**3.10**	**302**	P	**P**	**23 37 58.4**	**+0.5**
JRY	**Ryogami san**	**3.11**	**328**	⇓P	**P**	**23 37 56.6**	**-1.5**
JNY	**Yasuok**	**3.21**	**309**	⇓P	**P**	**23 38 00.3**	**+0.8**
JAG	**Ashikaga**	**3.27**	**339**	⇓P	**P**	**23 37 57.8**	**-2.5**
JAA	**Atsumi**	**3.38**	**293**	⇓P	**P**	**23 38 02.2**	**+0.3**
JNT	**Takato**	**3.39**	**318**	⇓P	**P**	**23 38 02.4**	**+0.4**
JAO	**Obara**	**3.57**	**303**	⇓P	**P**	**23 38 05.2**	**+0.7**
JKT	**Katashina**	**3.65**	**338**	P	**P**	**23 38 03.1**	**-2.5**
JIE	**Ise**	**3.65**	**287**	⇓P	**P**	**23 38 06.1**	**+0.4**
JGF	**Kuroka**	**3.69**	**308**	⇓P	**P**	**23 38 06.7**	**+0.5**
JNG	**Nsakai**	**3.81**	**323**	P	**P**	**23 38 07.8**	**-0.1**
MJAR	**Matsushiro Arr**	**3.86**	**325**	P	**P**	**23 38 07.7**	**-0.9**
MJAR				S	**S**	**23 38 52.0**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,370nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,17μm,21.5s						
MJAR	**Matsushiro Arr**	**3.86**	**325**	P	**P**	**23 38 07.7**	**-0.9**
	comp=Z,370nm,0.3s,baz=149,slow=11,SNR=2183						
MJAR				S	**S**	**23 38 52.0**	**-1.2**
	comp=Z,286nm,0.3s,baz=143,slow=19,SNR=6.9						
MJAR				LR	LR	23 38 55.2	
	comp=Z,17μm,21.5s,baz=145,slow=27						
MJAR	**Matsushiro Arr**	**3.86**	**325**	P	**P**	**23 38 07.7**	**-0.9**
MJAR				S	**S**	**23 38 52.0**	**-1.2**
MJAR				LR	LR	23 38 55.2	
MAJO	**Matsushiro**	**3.86**	**325**	Pn	**P**	**23 38 08.2**	**-0.5**
MAJO	**Matsushiro**	**3.86**	**325**	*e*P	**P**	**23 38 07.9**	**-0.7**
MAT	**Matsushiro**	**3.86**	**325**	*e*P	**P**	**23 38 08.0**	**-0.7**
MAT				*e*S	**S**	**23 38 52.0**	**-1.2**
MAT	**Matsushiro**	**3.86**	**325**	P	**P**	**23 38 08.0**	**-0.7**
MAT				S	**S**	**23 38 51.5**	**-1.7**
JKN2	**Miekihoku**	**3.97**	**284**	⇓P	**P**	**23 38 10.7**	**+0.6**
TSUJ	**Tsu 2**	**3.97**	**291**	⇓P	**P**	**23 38 10.6**	**+0.5**
JGN	**Niukaw**	**4.11**	**315**	⇓P	**P**	**23 38 13.0**	**+0.9**
JEG	**Eigenji**	**4.14**	**296**	P	**P**	**23 38 13.7**	**+1.1**
JGM	**Miyama**	**4.17**	**305**	P	**P**	**23 38 13.8**	**+0.8**
JJN	**Nakama**	**4.35**	**329**	P	**P**	**23 38 14.2**	**-1.2**
JWZ	**Kozaga**	**4.36**	**273**	P	**P**	**23 38 16.0**	**+0.4**
JIZZ	**Izumozaki**	**4.52**	**337**	P	**P**	**23 38 16.9**	**-0.9**
JWY	**Kouya**	**4.52**	**282**	P	**P**	**23 38 18.8**	**+1.0**
JHE	**Heguri**	**4.54**	**288**	P	**P**	**23 38 18.6**	**+0.5**
JFM	**Mihama**	**4.61**	**299**	⇓P	**P**	**23 38 19.5**	**+0.4**
JNS	**Sasagawa**	**4.62**	**344**	P	**P**	**23 38 17.1**	**-2.1**
JWM	**Minabe**	**4.67**	**277**	P	**P**	**23 38 20.8**	**+0.8**
JWT	**Wachi**	**4.95**	**294**	P	**P**	**23 38 24.4**	**+0.5**
JMIK	**Miki**	**5.08**	**288**	⇓P	**P**	**23 38 26.8**	**+1.2**
JSD	**Sado**	**5.13**	**336**	⇓P	**P**	**23 38 23.4**	**-2.9**
JAJ2	**Tsuna**	**5.13**	**283**	⇓P	**P**	**23 38 27.3**	**+0.9**
JKS	**Kasai**	**5.29**	**289**	P	**P**	**23 38 29.1**	**+0.6**
JKY	**Yasaka**	**5.30**	**297**	⇓P	**P**	**23 38 29.1**	**+0.3**
JAI	**Aioi**	**5.42**	**276**	P	**P**	**23 38 31.3**	**+0.9**
MRT2	**Murotomisaki 2**	**5.68**	**272**	P	**P**	**23 38 34.7**	**+0.8**
JAD	**Aida**	**5.81**	**287**	P	**P**	**23 38 36.3**	**+0.5**
JJS	**Sakaide**	**5.90**	**282**	P	**P**	**23 38 37.8**	**+0.8**
JYW	**Yuwa**	**6.17**	**355**	P	**P**	**23 38 37.7**	**-3.1**
CBIJ	**Chichi jima**	**6.36**	**170**	P	**P**	**23 38 40.1**	**-3.3**
	comp=Z,944nm,0.3s,baz=9.5,slow=5.7,SNR=268						
CBIJ				S	**S**	**23 39 47.4**	**-8.1**
	comp=Z,821nm,0.3s,baz=198,slow=23,SNR=6.3						
CBIJ	**Chichi jima**	**6.36**	**170**	P	**P**	**23 38 39.5**	**-4.0**
JJG	**Jouge**	**6.58**	**283**	⇓P	**P**	**23 38 47.4**	**+0.9**
JHS	**Saijyo**	**6.67**	**286**	⇓P	**P**	**23 38 48.6**	**+0.7**
JTO	**Tosashimizu**	**6.84**	**268**	P	**P**	**23 38 50.8**	**+0.6**
UWA2	**Uwa jima 2**	**6.95**	**271**	P	**P**	**23 38 52.8**	**+1.0**
JHM	**Kurahashi**	**7.04**	**278**	P	**P**	**23 38 54.0**	**+1.1**
JHT	**Toyohira**	**7.18**	**283**	⇓P	**P**	**23 38 55.6**	**+0.7**
JGT	**Gotsu**	**7.31**	**285**	⇓P	**P**	**23 38 57.9**	**+1.2**
JHIK	**Hikimi**	**7.56**	**281**	P	**P**	**23 39 00.8**	**+0.6**
JNU	**Nakatsue**	**8.42**	**271**	P	**P**	**23 39 13.0**	**+1.0**
	comp=Z,16nm,0.3s,baz=82,slow=13,SNR=49						
JNU				LR	LR	23 41 36.4	
	comp=Z,6μm,21.1s,baz=80,slow=31						
ASAJ	**Asahikawa**	**10.80**	**6**	P	**P**	**23 39 37.6**	**-6.8**
	comp=Z,25nm,0.3s,baz=243,slow=8.8,SNR=93						
ASAJ				S	**S**	**23 41 31.9**	**-13**
	comp=Z,10nm,0.3s,baz=344,slow=20,SNR=4.7						
YUK	**Yuzh-Kuril'sk**	**11.31**	**18**	*e*P	**P**	**23 39 42.2**	**-9.2**
YUK				pmax	pmax		
	comp=N,320nm,0.4s						
YUK				pmax	pmax		
	comp=E,350nm,0.4s						
YUK				pmax	pmax		
	comp=Z,990nm,0.4s						
YUK				pmax	pmax		
	comp=Z,2μm,1.0s						
YUK				pmax	pmax		
	comp=N,10μm,3.0s						
YUK				pmax	pmax		
	comp=E,11μm,4.0s						
YUK				MLR	MLR		
	comp=N,15μm,19.0s						
YUK				MLR	MLR		
	comp=E,16μm,18.0s						
YUK				MLR	MLR		
	comp=Z,15μm,18.0s						
JMZ	**Minamidaito 2**	**11.31**	**231**	P	**P**	**23 39 55.5**	**+4.0**
KS15	**Wonju Array Si**	**11.39**	**295**	*e*P	**P**	**23 39 55.0**	**+2.6**
INCN	**Inchon**	**12.35**	**293**	*e*P	**P**	**23 40 07.8**	**+2.4**
	comp=Z,343nm,1.0s						
JOW	**Kunigami**	**12.75**	**243**	P	**P**	**23 40 12.7**	**+2.1**
	comp=Z,4.1nm,0.3s,baz=62,slow=11,SNR=18						
JOW				LR	LR	23 44 41.8	
	comp=Z,22μm,21.3s,baz=75,slow=35						
YSS	**Yuzh-Sakhalins**	**13.63**	**5**	⇑*e*P	**P**	**23 40 15.0**	**-7.1**
YSS				*e*S	**S**	**23 42 45.0**	**-7.5**
YSS				pmax	pmax		
	comp=N,270nm,0.9s						
YSS				pmax	pmax		
	comp=Z,240nm,0.9s						
YSS				MLR	MLR		
	comp=N,10μm,20.0s						
YSS				MLR	MLR		
	comp=E,9μm,19.0s						
YSS				MLR	MLR		
	comp=Z,7μm,19.0s						
YSS	**Yuzh-Sakhalins**	**13.63**	**5**	*e*P	**P**	**23 40 16.0**	**-6.1**
	comp=Z,440nm,1.1s						
MDJ	**Mudanjiang**	**14.25**	**325**	P	**P**	**23 40 28.2**	**-2.0**
MDJ				PP	PP	23 40 40.6	-1.3
MDJ				S	**S**	**23 43 09.4**	**+2.2**
MDJ				SS	SS	23 43 22.4	-2.8
MDJ				PCP	PcP	23 45 43.4	-1.9
MDJ				PCS		23 49 19.3	
MDJ				AMB	AMB		
	comp=Z,61nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,1μm,8.0s						
MDJ				LR	LR		
	comp=N,6μm,21.2s						
MDJ				LR	LR		
	comp=E,11μm,21.9s						
MDJ				LR	LR		
	comp=Z,11μm,24.1s						
MDJ	**Mudanjiang**	**14.25**	**325**	*e*P	**P**	**23 40 28.0**	**-2.2**
	comp=Z,312nm,1.3s						
UGL	**Uglegorsk**	**15.71**	**3**	P	**P**	**23 40 44.0**	**-4.9**
UGL				pmax	pmax		
	comp=Z,140nm,0.7s						
UGL				pmax	pmax		
	comp=N,2μm,2.5s						
UGL				pmax	pmax		
	comp=Z,2μm,2.5s						
UGL				pmax	pmax		
	comp=E,500nm,1.0s						
CN2	**Changchun**	**15.93**	**315**	*e*P	**P**	**23 40 48.7**	**-3.2**
CN2				*e*S	**S**	**23 43 43.3**	**-3.2**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,11μm,21.0s						
CN2				LR	LR		
	comp=E,10μm,21.0s						
CN2				LR	LR		
	comp=Z,10μm,17.0s						
SNY	**Shenyang**	**16.11**	**307**	⇓P	**P**	**23 40 53.5**	**-0.6**
SNY				AMB	AMB		
	comp=Z,20nm,0.9s						
SNY				AMB	AMB		
	comp=Z,4μm,11.8s						
SNY				LR	LR		
	comp=N,6μm,12.0s						
SNY				LR	LR		
	comp=E,9μm,21.2s						
SNY				LR	LR		
	comp=Z,11μm,20.1s						
DL2	**Dalian**	**16.53**	**295**	PR		23 41 00.1	
DL2				AP		23 41 09.9	
DL2				S	**S**	**23 44 04.6**	**+4.4**
DL2				XS		23 44 19.4	
DL2				SCS	ScS	23 52 54.2	-0.6
DL2				AMB	AMB		
	comp=Z,120nm,1.2s						
DL2				AMB	AMB		
	comp=Z,690nm,6.0s						
DL2				LR	LR		
	comp=N,3μm,14.1s						
DL2				LR	LR		
	comp=E,8μm,17.4s						
DL2				LR	LR		
	comp=Z,10μm,17.4s						
SSE	**Sheshan**	**16.86**	**268**	⇓P	**P**	**23 41 05.8**	**+2.2**
SSE				AP		23 41 19.4	
SSE				XP		23 41 25.8	
SSE				S	**S**	**23 44 14.9**	**+7.1**
SSE				AMB	AMB		
	comp=Z,140nm,2.1s						
SSE				AMB	AMB		
	comp=Z,2μm,7.1s						
SSE				LR	LR		
	comp=N,8μm,18.1s						
SSE				LR	LR		

Code	Station	Dist	Azm	Phase	ISC	Time	Res
	comp=E,3µm,18.0s						
SSE				LR	LR		
	comp=Z,9µm,15.5s						
SARN	**Sarigan**	**17.17**	**164**	⇓*e*P	**P**	**23 41 07.0**	**-0.6**
JIJ	**Ishigaki jima**	**17.21**	**243**	P	**P**	**23 41 09.6**	**+1.5**
KLR	**Kul'dur**	**17.25**	**339**	*e*P	**P**	**23 41 00.0**	**-8.3**
KLR				*e*		23 44 13.0	
KLR				smax			
	comp=N,430nm,2.2s						
KLR				smax			
	comp=E,270nm,2.2s						
KLR				MLR	MLR		
	comp=E,9µm,14.0s						
KLR				MLR	MLR		
	comp=Z,20µm,14.0s						
JKRS	**Kuro-shima**	**17.38**	**243**	P	**P**	**23 41 10.6**	**+0.4**
IRIF	**Iriomote-Funau**	**17.54**	**244**	P	**P**	**23 41 12.7**	**+0.5**
YOJ	**Yonaguni jima**	**18.01**	**245**	P	**P**	**23 41 18.7**	**+0.7**
SAPN	**Saipan**	**18.61**	**165**	*e*P	**P**	**23 41 22.9**	**-2.3**
NJ2	**Nanjing**	**18.62**	**272**	*e*P	**P**	**23 41 25.7**	**+0.4**
NJ2				AP		23 41 35.3	
NJ2				PP	PP	23 41 42.5	+0.7
NJ2				S	**S**	**23 44 51.0**	**+3.5**
NJ2				AMB	AMB		
	comp=Z,130nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,5µm,10.6s						
NJ2				LR	LR		
	comp=N,13µm,18.1s						
NJ2				LR	LR		
	comp=E,22µm,22.8s						
NJ2				LR	LR		
	comp=Z,12µm,18.3s						
TATO	**Taipei**	**18.91**	**249**	*e*P	**P**	**23 41 27.1**	**-1.6**
	comp=Z,504nm,1.1s						
YHNB	**Yeheng**	**19.15**	**248**	*e*P	**P**	**23 41 29.1**	**-2.3**
NACB	**Ninganchiao**	**19.25**	**247**	*e*P	**P**	**23 41 28.8**	**-3.6**
TIA	**Tai'an**	**19.74**	**285**	⇓P	**P**	**23 41 37.1**	**-0.6**
TIA				*e*S	**S**	**23 45 14.0**	**+2.2**
TIA				AMB	AMB		
	comp=Z,51nm,0.8s						
TIA				LR	LR		
	comp=N,10µm,14.0s						
TIA				LR	LR		
	comp=E,19µm,14.0s						
GUMO	**Guam**	**20.03**	**169**	*e*P	**P**	**23 41 40.1**	**-0.8**
GUMO				pmax	pmax		
	comp=Z,4µm,1.2s						
GUMO	**Guam**	**20.03**	**169**	*e*P	**P**	**23 41 40.1**	**-0.8**
	comp=Z,4µm,1.2s						
SKR	**Severo-Kuril's**	**20.57**	**28**	*e*P	**P**	**23 41 40.5**	**-5.8**
SKR				*e*		23 41 55.0	
SKR				*e*		23 42 04.0	
SKR				*e*		23 42 20.0	
SKR				*e*S	**S**	**23 45 28.0**	**0.0**
SKR				*e*SS	SS	23 45 54.0	-7.6
SKR				pmax	pmax		
	comp=N,120nm,1.0s						
SKR				pmax	pmax		
	comp=E,120nm,1.0s						
SKR				pmax	pmax		
	comp=Z,310nm,1.0s						
SKR				pmax	pmax		
	comp=N,1µm,4.0s						
SKR				pmax	pmax		
	comp=Z,2µm,4.0s						
SKR				pmax	pmax		
	comp=E,1µm,1.0s						
SKR				smax			
	comp=E,3µm,12.0s						
SKR				smax			
	comp=N,1µm,10.0s						
SKR				smax			
	comp=N,40nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
SKR				MLR	MLR		
	comp=N,5µm,18.0s						
SKR				MLR	MLR		
	comp=Z,7µm,18.0s,MS5.1						
SKR				MLR	MLR		
	comp=E,3µm,12.0s						
BBP	**Basco**	**21.22**	**237**	*e*P	**P**	**23 41 51.4**	**-1.6**
HIA	**Hailar**	**22.36**	**322**	*e*P	**P**	**23 42 00.5**	**-3.6**
HIA				pmax	pmax		
	comp=Z,187nm,0.7s						
HIA	**Hailar**	**22.36**	**322**	*e*P	**P**	**23 42 00.5**	**-3.6**
	comp=Z,187nm,0.7s,mb5.6						
WHN	**Wuhan**	**22.71**	**270**	⇑P	**P**	**23 42 07.7**	**0.0**
WHN				S	**S**	**23 46 11.0**	**+3.5**
WHN				AMB	AMB		
	comp=Z,319nm,0.7s,mb5.9						
WHN				AMB	AMB		
	comp=Z,744nm,5.0s						
WHN				LR	LR		
	comp=N,7µm,17.0s,MS5.3						
WHN				LR	LR		
	comp=E,6µm,15.0s,MS5.3						
WHN				LR	LR		
	comp=Z,20µm,15.1s,MS5.7						
CVP	**Callao Caves**	**23.20**	**232**	*e*P	**P**	**23 42 11.0**	**-1.6**
PET	**Petropavlovsk**	**23.38**	**28***c*	*i*P	**P**	**23 42 13.7**	**-0.3**
PET				*e*		23 42 44.6	
PET				*e*S	**S**	**23 46 19.6**	**+0.4**
PET				*e*SS	SS	23 47 06.4	-3.3
PET				pmax	pmax		
	comp=N,149nm,1.9s						
PET				pmax	pmax		
	comp=E,84nm,2.0s						
PET				pmax	pmax		
	comp=Z,175nm,1.8s,mb5.2						
PET				pmax	pmax		
	comp=Z,2µm,4.0s						
PET				pmax	pmax		
	comp=Z,500nm,22.0s						
PET				pmax	pmax		
	comp=N,400nm,22.1s						
PET				pmax	pmax		
	comp=E,200nm,20.9s						
PET				pmax	pmax		
	comp=Z,1µm,13.3s						
PET				smax			
	comp=N,2µm,6.3s						
PET				smax			
	comp=E,5µm,20.4s						
PET				MLR	MLR		
	comp=Z,2µm,14.0s,MS4.8						
PET				MLR	MLR		
	comp=Z,3µm,15.0s						
PET	**Petropavlovsk**	**23.38**	**28**	*e*P	**P**	**23 42 13.4**	**-0.7**
	comp=Z,430nm,1.4s,mb5.7						
APYP	**Conner**	**23.47**	**234**	*e*P	**P**	**23 42 12.9**	**-2.3**
TIY	**Taiyuan**	**23.54**	**289**	⇓P	**P**	**23 42 16.6**	**+0.9**
TIY				S	**S**	**23 46 20.0**	**-2.1**
TIY				LR	LR		
	comp=N,11µm,14.0s						
TIY				LR	LR		
	comp=Z,3µm,13.0s,MS5.0						
CAUP	**Cauayan**	**23.74**	**231**	*e*P	**P**	**23 42 18.2**	**+0.4**
ABRA	**Dolores**	**23.98**	**234**	*e*P	**P**	**23 42 18.0**	**-2.1**
HHC	**Hu-ho-hao-te**	**24.49**	**296**	⇓P	**P**	**23 42 23.9**	**-1.1**
HHC				AP		23 42 38.9	
HHC				PP	PP	23 43 00.9	-1.5
HHC				PCP	PcP	23 45 58.9	-4.5
HHC				S	**S**	**23 46 41.8**	**+3.5**
HHC				XS		23 47 06.0	
HHC				SCP		23 49 32.1	
HHC				PCS		23 49 38.7	
HHC				AMB	AMB		
	comp=Z,33nm,1.2s						
HHC				AMB	AMB		
	comp=Z,1µm,7.7s						
HHC				LR	LR		
	comp=N,9µm,20.9s						
HHC				LR	LR		
	comp=E,7µm,17.6s						
HHC				LR	LR		
	comp=Z,10µm,18.7s						
BALP	**Baler**	**24.79**	**230**	*e*P	**P**	**23 42 27.1**	**-1.0**
PVCP	**Virac**	**24.92**	**222**	*e*P	**P**	**23 42 28.1**	**-1.2**
PCPH	**Palayan**	**25.23**	**230**	⇓*e*P	**P**	**23 42 29.8**	**-2.4**
POLP	**Polilio Island**	**25.33**	**227**	*e*P	**P**	**23 42 34.6**	**+1.5**
BOLP	**Bolinao**	**25.41**	**233**	*e*P	**P**	**23 42 30.8**	**-3.2**
BTO	**Baotou**	**25.63**	**295**	*e*P	**P**	**23 42 35.6**	**-0.1**
BTO				LR	LR		
	comp=N,8µm,15.3s,MS5.5						
BTO				LR	LR		
	comp=E,11µm,18.9s,MS5.5						
SCZP	**Santa Cruz**	**25.85**	**232**	*e*P	**P**	**23 42 36.0**	**-2.0**
CLNS	**Chul'man**	**25.91**	**340**	*e*P	**P**	**23 42 38.4**	**+0.2**
CLNS				*e**PP	pP	23 42 47.7	-4.9
CLNS				*e*		23 46 04.3	
CLNS				*e*S	**S**	**23 47 02.2**	**+0.5**
CLNS				*e*SS	SS	23 48 03.0	-8.1
CLNS				pmax	pmax		
	comp=Z,595nm,1.2s,mb6.0						
CLNS				pmax	pmax		
	comp=N,357nm,1.3s						
CLNS				pmax	pmax		
	comp=E,116nm,0.9s						
CLNS				smax			
	comp=N,9µm,15.0s						
CLNS				smax			
	comp=E,1µm,14.0s						
CLNS				smax			
	comp=Z,6µm,14.0s						
CLNS				MLR	MLR		
	comp=N,4µm,14.0s,MS5.2						
CLNS				MLR	MLR		
	comp=Z,6µm,14.0s,MS5.3						
CLNS				MLR	MLR		
	comp=E,200nm,13.0s,MS5.2						
HKC	**Hong Kong**	**26.03**	**252**	P	**P**	**23 42 40.0**	**+0.3**
BOAC	**Boac**	**26.37**	**226**	*e*P	**P**	**23 42 40.7**	**-2.1**
XAN	**Xi'an**	**26.58**	**280**	P	**P**	**23 42 43.3**	**-1.3**
XAN				S	**S**	**23 47 05.7**	**-7.3**
XAN				AMB	AMB		
	comp=Z,74nm,0.7s,mb5.3						
XAN				LR	LR		
	comp=N,4µm,14.7s,MS5.4						
XAN				LR	LR		
	comp=E,7µm,15.3s,MS5.4						
XAN				LR	LR		
	comp=Z,9µm,15.1s,MS5.5						
ENH	**Enshi**	**26.84**	**272**	*e*P	**P**	**23 42 44.9**	**-2.1**
	comp=Z,283nm,1.0s,mb5.8						
WAKE	**Wake Island**	**26.90**	**115**	*e*P	**P**	**23 42 46.5**	**-1.2**
	comp=Z,251nm,1.1s,mb5.7						
MA2	**Magadan**	**27.00**	**11***c*	*i*P	**P**	**23 42 47.1**	**-1.2**
MA2				*e*		23 43 28.2	
MA2				*e*PPP	PPP	23 43 50.2	+2.2
MA2				*e*		23 46 08.1	
MA2				*e*S	**S**	**23 47 20.4**	**+0.8**
MA2				*e*SSS	SSS	23 48 49.9	-6.7
MA2				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.1						
MA2				pmax	pmax		
	comp=N,50nm,1.1s						
MA2				pmax	pmax		
	comp=E,20nm,0.9s						
MA2				MLR	MLR		
	comp=Z,21µm,22.0s,MS5.7						
MA2	**Magadan**	**27.00**	**11**	*e*P	**P**	**23 42 44.8**	**-3.4**
	comp=Z,151nm,0.8s,mb5.6						
LUBP	**Lubang**	**27.14**	**229**	*e*P	**P**	**23 42 46.4**	**-3.5**
LUBP	**Lubang**	**27.14**	**229**	*e*P	**P**	**23 42 46.2**	**-3.7**
CIT	**Chita**	**27.16**	**322**	*e*P	**P**	**23 42 49.7**	**-0.1**
CIT				*e*	pP	23 43 00.1	-4.2
CIT				*e*		23 47 23.5	
CIT				*e*		23 53 33.0	
CIT				pmax	pmax		
	comp=Z,795nm,1.6s,mb6.0						
BUSP	**Coron**	**28.50**	**227**	*e*P	**P**	**23 42 59.2**	**-3.0**
ULN	**Ulaanbaatar**	**29.23**	**310***d*	*i*P	**P**	**23 43 03.3**	**-5.1**
BUKP	**Musuan**	**29.32**	**214**	*e*P	**P**	**23 43 07.2**	**-2.3**
YAK	**Yakutsk**	**29.56**	**349***c*	*i*P	**P**	**23 43 09.6**	**-1.6**
YAK				*e**PP	pP	23 43 23.0	-2.9
YAK				*e*PPP	PPP	23 44 12.8	-10
YAK				*e*		23 46 13.4	
YAK				*e*S	**S**	**23 48 01.2**	**+0.7**
YAK				*e*SS	SS	23 49 42.6	+5.3
YAK				pmax	pmax		
	comp=Z,173nm,1.0s,mb5.7						
YAK				pmax	pmax		
	comp=N,102nm,1.3s						
YAK				pmax	pmax		
	comp=E,36nm,1.1s						
YAK				smax			
	comp=N,736nm,19.3s						
YAK				smax			
	comp=Z,537nm,17.2s						
YAK				smax			
	comp=E,704nm,15.4s						
YAK				MLR	MLR		
	comp=Z,7µm,22.0s,MS5.2						
YAK				MLR	MLR		
	comp=N,6µm,21.0s,MS5.2						
YAK				MLR	MLR		
	comp=E,3µm,18.0s,MS5.2						
YAK	**Yakutsk**	**29.56**	**349**	*e*P	**P**	**23 43 09.5**	**-1.7**
	comp=E,915nm,1.4s,mb6.3						
ENPP	**El Nido**	**29.59**	**227**	*e*P	**P**	**23 43 09.5**	**-2.4**
SONM	**Songino Array**	**29.65**	**309**	P	**P**	**23 43 12.3**	**+0.2**
	comp=E,92nm,0.9s,mb5.5,baz=110,slow=8.0,SNR=189						
SONM				ScP		23 49 52.7	
	comp=E,4.0nm,0.9s,baz=153,slow=2.8,SNR=3.5						
SONM				LR	LR	23 55 31.3	
	comp=E,13µm,19.3s,MS5.6,baz=109,slow=37						
FX1	**Attu Island--F**	**30.17**	**40**	P	**P**	**23 43 17.5**	**+0.8**
	comp=E,99nm,0.9s,baz=293,slow=4.2,SNR=13						
FX1				PcP	PcP	23 46 16.4	-0.3
	comp=E,29nm,0.4s,baz=232,slow=1.8,SNR=14						
FX1				LR	LR	23 52 31.4	
	comp=E,226nm,20.3s,baz=257,slow=30						
FX1	**Attu Island--F**	**30.17**	**40**	*e*P	**P**	**23 43 17.2**	**+0.5**
GYA	**Guiyang**	**30.39**	**266**	⇓*i*P	**P**	**23 43 16.7**	**-2.2**
GYA				AP	pP	23 43 30.8	-2.9
GYA				PP	PP	23 44 23.1	+3.0
GYA				PCP	PcP	23 46 18.0	+0.4
GYA				S	**S**	**23 48 05.6**	**-8.4**
GYA				AMB	AMB		
	comp=Z,60nm,0.6s,mb5.5						
GYA				AMB	AMB		
	comp=Z,300nm,4.2s						
GYA				LR	LR		
	comp=N,4µm,20.6s,MS5.2						
GYA				LR	LR		
	comp=E,4µm,23.9s,MS5.2						
GYA				LR	LR		
	comp=Z,4µm,23.0s,MS5.0						
SEY	**Seymchan**	**30.45**	**10**	*i* P	**P**	**23 43 18.0**	**-1.0**
SEY				*e*PPP	PPP	23 44 21.6	-13
SEY						23 46 19.0	
SEY				*e*S	**S**	**23 48 15.1**	**+0.6**
SEY				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.1						
SEY				pmax	pmax		
	comp=N,5.0nm,0.6s						
SEY				pmax	pmax		
	comp=E,4.0nm,0.6s						
SEY				smax			
	comp=N,200nm,5.1s						
SEY				smax			
	comp=E,20nm,3.1s						
SEY	**Seymchan**	**30.45**	**10**	⇑*i*P	**P**	**23 43 18.1**	**-0.9**
BOD	**Bodaibo**	**30.47**	**331**	*e*P	**P**	**23 43 18.4**	**-0.9**
BOD				pmax	pmax		
	comp=Z,168nm,1.2s,mb5.7						
LZH	**Lanzhou**	**30.48**	**286**	P	**P**	**23 43 18.8**	**-0.8**
LZH				XP	sP	23 43 41.7	+0.1
LZH				PP	PP	23 44 20.0	-1.1
LZH				S	**S**	**23 48 08.2**	**-7.1**
LZH				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,650nm,4.2s						
LZH				LR	LR		
	comp=E,22µm,15.0s						
LZH				LR	LR		
	comp=Z,25µm,15.8s,MS6.0						
QIZ	**Qiongzhong**	**31.20**	**251**	P	**P**	**23 43 24.2**	**-1.9**
QIZ				AP	pP	23 43 39.3	-1.6
QIZ				PP	PP	23 44 30.1	-0.4
QIZ				PPP	PPP	23 44 46.0	+0.3
QIZ				S	**S**	**23 48 25.2**	**-1.6**
QIZ				SS	SS	23 50 14.5	-1.3
QIZ				LR	LR		
	comp=N,2µm,24.2s,MS5.0						
QIZ				LR	LR		
	comp=E,3µm,26.8s,MS5.0						
QIZ				LR	LR		
	comp=Z,5µm,27.9s,MS5.1						
CD2	**Chengdu**	**31.46**	**276**	P	**P**	**23 43 26.0**	**-2.3**
CD2				AP	pP	23 43 41.0	-2.2
CD2				PP	PP	23 44 29.0	-4.8
CD2				S	**S**	**23 48 27.0**	**-3.8**
CD2				AMB	AMB		
	comp=Z,67nm,0.8s,mb5.5						
CD2				LR	LR		
	comp=E,13µm,16.0s						
ZAK	**Zakamensk**	**32.35**	**313**	*e*P	**P**	**23 43 36.0**	**+0.2**
ZAK				*e*		23 48 48.6	
ZAK				pmax	pmax		
	comp=Z,97nm,1.1s,mb5.5						
IRK	**Irkutsk**	**32.37**	**317**	*e*P	**P**	**23 43 35.4**	**-0.6**
IRK				*e*		23 48 50.3	
IRK				pmax	pmax		
	comp=Z,299nm,2.1s,mb5.8						
TLY	**Talaya**	**32.54**	**315**	*e*P	**P**	**23 43 38.0**	**+0.5**
TLY				*e*		23 44 56.8	
TLY				*e*S	**S**	**23 48 44.4**	**-3.0**
TLY				pmax	pmax		
	comp=Z,444nm,1.1s,mb6.3						
TLY				MLR	MLR		
	comp=Z,5µm,18.0s,MS5.2						
TLY	**Talaya**	**32.54**	**315**	*e*P	**P**	**23 43 37.8**	**+0.2**
	comp=Z,438nm,1.1s,mb6.3						
GTA	**Gaotai**	**33.42**	**292**	P	**P**	**23 43 44.3**	**-1.0**
GTA				PP	PP	23 44 57.6	-1.0
GTA				PCP	PcP	23 46 25.8	+0.1
GTA				S	**S**	**23 49 01.4**	**+0.2**
GTA				SCP		23 50 04.4	
GTA				PCS		23 50 10.9	
GTA				SS	SS	23 51 04.9	-2.5
GTA				AMB	AMB		
	comp=Z,54nm,0.7s,mb5.6						
GTA				AMB	AMB		
	comp=Z,507nm,7.2s						
GTA				LR	LR		
	comp=N,7µm,20.1s,MS5.5						
GTA				LR	LR		
	comp=E,5µm,17.9s,MS5.5						
GTA				LR	LR		
	comp=Z,6µm,15.6s,MS5.4						
MOY	**Mondy**	**34.10**	**315**	*e*P	**P**	**23 43 54.2**	**+3.2**
MOY				pmax	pmax		
	comp=Z,271nm,1.6s,mb5.9						
KMI	**Kunming**	**34.17**	**266**	⇑P	**P**	**23 43 51.6**	**-0.3**
KMI				AP	pP	23 44 04.8	-2.0
KMI				PP	PP	23 45 08.1	+0.2
KMI				S	**S**	**23 49 10.0**	**-3.0**
KMI				SS	SS	23 51 21.9	-2.8
KMI				SCS	ScS	23 54 07.5	+0.1
KMI				AMB	AMB		
	comp=Z,90nm,0.8s,mb5.8						
KMI				LR	LR		
	comp=N,5µm,16.4s,MS5.6						
KMI				LR	LR		
	comp=E,9µm,17.8s,MS5.6						
KMI				LR	LR		
	comp=Z,11µm,17.2s,MS5.7						
KKM	**Kota Kinabalu**	**35.59**	**226**	*e*P	**P**	**23 44 02.5**	**-1.6**
KKM	**Kota Kinabalu**	**35.59**	**226**	P	**P**	**23 44 03.1**	**-1.0**
TSM	**Tawau**	**36.05**	**222**	P	**P**	**23 44 06.7**	**-1.3**
GSTR	**Great Sitkin T**	**36.06**	**46**	*e*P	**P**	**23 44 09.9**	**+2.2**
UBT	**Ubonrachathani**	**37.13**	**250**	⇓P	**P**	**23 44 17.0**	**0.0**
BILL	**Bilibino**	**37.64**	**15**	*e*P	**P**	**23 44 19.2**	**-1.6**
BILL				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.4						
BILL	**Bilibino**	**37.64**	**15**	*e*P	**P**	**23 44 19.2**	**-1.6**
	comp=Z,72nm,1.0s,mb5.4						
KKTK	**Khon Kaen**	**38.26**	**253**	P	**P**	**23 44 26.0**	**-0.4**
	comp=Z,2µm,0.6s						
TIXI	**Tiksi**	**38.87**	**354**	*e*P	**P**	**23 44 26.0**	**-4.9**
TIXI				*e*S	**S**	**23 50 16.7**	**-7.7**
TIXI				*e*SS	SS	23 53 13.8	+4.0
TIXI				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.8						
CHRT	**Chiangrai**	**38.92**	**260**	⇑P	**P**	**23 44 30.0**	**-1.8**
	comp=Z,421nm,1.0s,mb6.1						
CMAR	**Chiang Mai Arr**	**40.30**	**259**	P	**P**	**23 44 42.7**	**-0.6**
CMAR						23 46 47.4	
CMAR				pmax	pmax		
	comp=Z,23nm,0.7s						
CMAR	**Chiang Mai Arr**	**40.30**	**259**	P	**P**	**23 44 42.6**	**-0.7**
	comp=Z,23nm,0.7s,mb5.0,baz=50,slow=7.2,SNR=60						
CMAR				PcP	PcP	23 46 47.4	+0.7
	comp=Z,15nm,0.9s,baz=40,slow=2.4,SNR=6.6						
NST	**Nakhon Sawan**	**40.78**	**254**	⇓P	**P**	**23 44 47.0**	**-0.3**
	comp=Z,83nm,1.0s,mb5.3						
IMP	**Imphal**	**41.67**	**271**	*e*	**S**	**23 51 04.0**	**-2.6**
WMQ	**Urumqi**	**42.24**	**300**	⇑*i*P	**P**	**23 45 00.3**	**+1.3**
WMQ				AP	pP	23 45 13.7	-0.5
WMQ				XP	sP	23 45 20.8	-0.5
WMQ				PP	PP	23 46 41.8	+1.4
WMQ				S	**S**	**23 51 16.4**	**+1.6**
WMQ				XS		23 51 39.7	
WMQ				AMB	AMB		
	comp=Z,286nm,1.7s,mb5.6						
WMQ				LR	LR		
	comp=N,12µm,19.0s,MS5.8						
WMQ				LR	LR		
	comp=E,3µm,17.5s,MS5.8						
WMQ				LR	LR		
	comp=Z,3µm,19.0s,MS5.2						
LSA	**Lhasa**	**42.26**	**279**	P	**P**	**23 45 00.2**	**+0.8**
LSA				AP	pP	23 45 18.0	+3.3
LSA				XP	sP	23 45 23.6	+1.9
LSA				S	**S**	**23 51 04.3**	**-11**
LSA				XS		23 51 51.1	
LSA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
LSA				AMB	AMB		
	comp=Z,140nm,4.0s						
LSA				LR	LR		
	comp=N,720nm,17.0s						
LSA				LR	LR		
	comp=E,760nm,17.0s						
LSA				LR	LR		
	comp=Z,2µm,22.0s						
LSA	**Lhasa**	**42.26**	**279**	*e*P	**P**	**23 45 00.1**	**+0.7**
LSA				pmax	pmax		
	comp=Z,24nm,0.7s,mb4.9						
LSA	**Lhasa**	**42.26**	**279**	*e*P	**P**	**23 45 00.1**	**+0.7**
	comp=Z,24nm,0.7s,mb4.9						
KSM	**Kuching**	**42.79**	**229**	*e*P	**P**	**23 45 03.3**	**-0.7**
PMG	**Port Moresby**	**42.96**	**171**	P	**P**	**23 45 05.3**	**0.0**
PMG						23 46 55.7	
PMG				pmax	pmax		
	comp=Z,171nm,1.1s						
PMG	**Port Moresby**	**42.96**	**171**	P	**P**	**23 45 05.3**	**0.0**
	comp=Z,171nm,1.1s,mb5.7,baz=354,slow=6.4,SNR=25						
PMG				PcP	PcP	23 46 55.7	+0.2
	comp=Z,58nm,0.8s,baz=332,slow=0.9,SNR=2.7						
SHL	**Shillong**	**43.08**	**273**	*e*P	**P**	**23 45 06.0**	**-0.1**
SHL				*e*		23 51 14.0	
NVS	**Novosibirsk**	**45.14**	**316**	*i* P	**P**	**23 45 21.7**	**-0.6**
NVS				*e*S	**S**	**23 51 55.9**	**-0.8**
NVS				*e*		23 55 09.3	
NVS				pmax	pmax		
	comp=Z,582nm,1.9s,mb6.1						
NVS				pmax	pmax		
	comp=E,295nm,1.7s						
NVS				smax			
	comp=E,629nm,3.1s						
SNG	**Songkhla**	**45.49**	**244**	P	**P**	**23 45 24.0**	**-1.6**
	comp=E,414nm,1.0s,mb6.2						
MKAR	**Makanchi Array**	**45.80**	**305**	P	**P**	**23 45 27.7**	**0.0**
MKAR				pmax	pmax		
	comp=Z,126nm,1.0s						
MKAR				pmax	pmax		
	comp=N,6.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,6µm,21.2s						
MKAR	**Makanchi Array**	**45.80**	**305**	P	**P**	**23 45 27.6**	**-0.1**
	comp=Z,126nm,1.0s,mb5.8,baz=90,slow=9.7,SNR=274						
MKAR				ScP		23 50 52.0	
	comp=Z,6.2nm,0.6s,baz=90,slow=4.9,SNR=4.1						
MKAR				LR	LR	00 05 15.1	
	comp=Z,6µm,21.2s,MS5.5,baz=83,slow=37						
HNR	**Honiara**	**46.26**	**154**	P	**P**	**23 45 32.4**	**+0.6**
	comp=Z,101nm,0.7s,mb5.9,baz=222,slow=2.0,SNR=4.7						
HNR				LR	LR	00 03 57.8	
	comp=Z,3µm,19.3s,MS5.2,baz=324,slow=35						
KAKA	**Kakadu**	**46.54**	**191**	⇑*i*P	**P**	**23 45 32.6**	**-1.4**
	comp=Z,317nm,0.6s,mb6.4						

KULM **Kulim** 46.70 242 *e*P P 23 45 33.7 -1.6
IPM **Ipoh** 46.90 241 P P 23 45 36.2 -0.5
KGM **Kluang** 47.03 236 P P 23 45 38.1 +0.2
GUN **Gumba** 47.22 279 *e*P P 23 45 38.9 -0.2
comp=Z,287nm,0.8s,mb6.3
PKI **Pulchoki** 47.73 279 *e*P P 23 45 42.6 -0.5
comp=Z,89nm,0.7s,mb5.9
PKI **Pulchoki** 47.73 279 *e*P P 23 45 42.6 -0.5
PKI pmax pmax
comp=Z,44nm,0.7s,mb5.6
KKN **Kakani** 47.76 279 *e*P P 23 45 42.6 -0.8
comp=Z,269nm,0.8s,mb6.3
KKN **Kakani** 47.76 279 *e*P P 23 45 42.6 -0.8
KKN pmax pmax
comp=Z,134nm,0.8s,mb6.0
DMN **Daman** 47.97 279 *e*P P 23 45 45.0 0.0
comp=Z,108nm,0.7s,mb6.0
GKN **Gorkha** 48.21 279 *e*P P 23 45 46.1 -0.8
comp=Z,523nm,1.2s,mb6.4
SVW2 **Sparrevohn** 48.69 35 *e*P P 23 45 50.4 +0.3
KOLN **Koldanda** 49.15 280 *e*P P 23 45 53.9 -0.2
comp=Z,190nm,0.7s,mb6.2
RSO **Redoubt South** 50.04 36 *e*P P 23 46 00.4 -0.1
IMA **Indian Mountai** 50.05 29 P P 23 46 00.8 +0.3
IMA pmax pmax
comp=Z,330nm,1.2s,mb6.2
IMA **Indian Mountai** 50.05 29 *e*P P 23 46 00.2 -0.3
SPU **Mount Spurr** 50.41 35 *e*P P 23 46 02.5 -0.8
ULHL **Ulahol** 50.77 300 P P 23 46 06.3 0.0
SNR=54
TKM2 **Tokmak 2** 51.09 301 P P 23 46 09.2 +0.5
SNR=166
PTH **Pithoragarh** 51.29 283 *e*P P 23 46 11.0 +0.6
PTH *e* 23 52 38.0
SLKM **Skilak Lake** 51.30 36 *e*P P 23 46 08.1 -1.9
LGTI **Lohaghat** 51.30 283 *e*P P 23 46 10.8 +0.3
FIB **Fire Island** 51.32 35 *e*P P 23 46 06.5 -3.7
PWA **Palmer West** 51.46 35 *e*P P 23 46 10.2 -1.0
KZA **Kyzart** 51.52 300 P P 23 46 13.3 +1.3
SNR=103
KSH **Kashi** 51.61 297⇑ *i*P P 23 46 14.0 +1.3
KSH *e*AP pP 23 46 30.2 +2.0
KSH *e*XP sP 23 46 37.1 +2.1
KSH *e*PCP PcP 23 47 26.7 +0.8
KSH *e*PP PP 23 48 13.0 +1.8
KSH *e*SCP 23 51 17.3
KSH *e*PCS 23 51 23.4
KSH *e*S **S** **23 53 29.0 +1.4**
KSH *e*SCS ScS 23 55 56.0 +1.9
KSH *e*SS SS 23 57 03.3 +1.0
KSH AMB AMB
comp=Z,560nm,1.4s,mb6.3
KSH LR LR
comp=N,5μm,14.1s,MS5.8
KSH LR LR
comp=E,6μm,14.1s,MS5.8
KBK **Karagaybulak** 51.61 301 P P 23 46 12.9 +0.2
SNR=107
CHMS **Chumysh** 51.68 301 P P 23 46 12.7 -0.5
SNR=52
USP **Ospenovka** 51.80 302 P P 23 46 13.7 -0.3
SNR=111
FRU **Bishkek** 51.81 301⇑ *i*P P 23 46 14.5 +0.4
FRU *e* 23 53 34.0
FRU pmax pmax
comp=Z,540nm,1.6s,mb6.2
FRU MLR MLR
comp=Z,4μm,16.0s,MS5.6
PMR **Palmer** 51.82 35 *e*P P 23 46 12.1 -1.8
PMR MLR MLR
comp=Z,2μm,23.0s,MS5.0
MCK **McKinley** 51.91 32 *e*P P 23 46 13.2 -1.4
MCK pmax pmax
comp=Z,48nm,1.2s,mb5.3
MCK **McKinley** 51.91 32 *e*P P 23 46 13.2 -1.3
comp=Z,48nm,1.2s,mb5.3
AAK **Ala-Archa** 51.94 301 P P 23 46 15.1 -0.1
SNR=35
AAK **Ala-Archa** 51.94 301 *i*P P 23 46 14.1 -1.0
AAK pmax pmax
comp=Z,155nm,1.3s,mb5.8
AAK MLR MLR
comp=Z,5μm,17.0s,MS5.6
AAK **Ala-Archa** 51.94 301 *e*P P 23 46 13.8 -1.3
comp=Z,107nm,1.0s,mb5.7
UCH **Uchtor** 52.02 300 P P 23 46 16.4 +0.7
SNR=110
SML **Sawmill** 52.19 35 *e*P P 23 46 15.5 -1.2
BLSP **Bilaspur** 52.62 274 *e*P P 23 46 19.1 -1.4
BLSP AMb AMB 23 46 23.6
comp=Z,94nm,1.3s,mb5.5
AML **Almayashu** 52.64 300 P P 23 46 21.1 +0.8
SNR=284
DDI **Dehra Dun** 52.77 285 *e*P P 23 46 20.3 -1.2
DDI *e* 23 53 05.8
BVA0 **Borovoye Array** 52.78 314 *i*P P 23 46 19.7 -1.6
BVA0 pmax pmax
comp=Z,64nm,1.7s,mb5.3
ILAR **Eielson Array** 52.81 31 P P 23 46 19.5 -1.8
ILAR pmax pmax
comp=Z,30nm,0.8s
ILAR MLR MLR
comp=Z,1μm,20.4s
ILAR **Eielson Array** 52.81 31 P P 23 46 19.4 -1.9
comp=Z,30nm,0.8s,mb5.3,baz=270,slow=6.4,SNR=109
ILAR LR LR 00 09 54.0
comp=Z,1μm,20.4s,MS4.9,baz=268,slow=37
SMLA **Simla** 53.21 286 *i* pP 23 46 39.4 -1.1
FITZ **Fitzroy Crossi** 53.23 198 *e*P P 23 46 24.7 -0.4
comp=Z,749nm,1.6s,mb6.4
FITZ *e*S **S** **23 53 52.8 +2.7**
FITZ **Fitzroy Crossi** 53.23 198 P P 23 46 24.9 -0.2
comp=Z,357nm,0.8s,mb6.4,baz=9.5,slow=7.8,SNR=206
WRAB **Tennant Creek** 53.38 188 *e*P P 23 46 25.2 -1.0
comp=Z,897nm,0.6s
WB2 **Warramunga Arr** 53.39 188⇑ *i*P P 23 46 25.4 -0.9
WB2 *e*S **S** **23 53 50.7 -1.5**
WRA **Warramunga Arr** 53.40 188 P P 23 46 25.4 -0.9
comp=Z,488nm,0.4s,mb6.8,baz=5.9,slow=7.7,SNR=988
WRA ScP 23 51 26.3
comp=Z,6.4nm,0.8s,baz=5.1,slow=5.2,SNR=3.8
WRA PKPPKP 00 16 44.8
comp=Z,1.0nm,0.7s,baz=178,slow=2.0,SNR=5.2
WRA PKP2bc 00 17 02.2
comp=Z,2.3nm,1.0s,baz=200,slow=2.2,SNR=4.8
WRA **Warramunga Arr** 53.40 188 P P 23 46 25.4 -0.9
WRA ScP 23 51 26.3
WRA P'P' 00 16 44.8
WRA ⇑*e* 00 17 02.2
CTA **Charters Tower** 53.41 174⇑ *i*P P 23 46 25.6 -0.8
comp=Z,64nm,1.3s,mb5.4
CTA **Charters Tower** 53.41 174⇑ *i*P P 23 46 25.6 -0.8
CTA pmax pmax
comp=Z,64nm,1.3s
CTA **Charters Tower** 53.41 174 P P 23 46 26.2 -0.2
baz=348,slow=9.8
CTAO **Charters Tower** 53.41 174 *e*P P 23 46 25.6 -0.8
CTAO pmax pmax
comp=Z,132nm,1.2s,mb5.7
CTAO **Charters Tower** 53.41 174 *e*P P 23 46 25.6 -0.8
comp=Z,132nm,1.2s,mb5.7
DIV **Divide** 53.45 35 *e*P P 23 46 25.1 -1.0
comp=Z,461nm,1.1s,mb6.3
EYAK **Cordova Ski Ar** 53.51 36 *e*P P 23 46 25.7 -0.8
ZRNK **Zerenda** 53.62 314 *e*P P 23 46 26.6 -0.9
ZRNK pmax pmax
comp=Z,200nm,0.9s,mb6.0
ZRNK **Zerenda** 53.62 314 *e*P P 23 46 26.6 -0.9
comp=Z,200nm,0.9s,mb6.0
DLH **Dalhousie** 53.68 288 *e*P P 23 46 27.0 -1.2
DLH *e* pP 23 46 45.0 +1.1
BHK **Bhakra** 53.71 287 *e*P P 23 46 30.1 +1.7
PONG **Pong** 53.90 288 *e*P P 23 46 29.0 -0.8
THN **Thein Dam** 53.92 288 *e*P P 23 46 27.8 -2.1
THN *e* 23 53 33.9
NDI **New Delhi** 54.05 283 *e*P P 23 46 28.5 -2.5
comp=Z,25nm,1.0s,mb5.1
KKAR **Karatay Array** 54.67 302 *i*P P 23 46 34.4 -0.9
KKAR pmax pmax
comp=Z,135nm,0.8s,mb6.0
KKAR **Karatay Array** 54.67 302 *i*P P 23 46 34.5 -0.8
KIP **Kipapa** 54.82 86 *e*P P 23 46 37.4 +0.7
KIP pmax pmax
comp=Z,90nm,1.2s,mb5.7
KIP **Kipapa** 54.82 86 *e*P P 23 46 37.4 +0.7
comp=Z,90nm,1.2s,mb5.7
BHPL **Bhopal** 56.07 277 *e*P P 23 46 43.9 -1.8
BHPL AMb AMB 23 46 48.5
comp=Z,155nm,1.1s,mb6.0
AJM **Ajmer** 57.01 282⇑ *i*P P 23 46 51.0 -1.4
SVE **Sverdlovsk** 57.65 320⇑ *i*P P 23 46 56.0 -0.5
SVE *e*PPP PPP 23 50 26.0 -2.4
SVE *e*S **S** **23 54 48.0 -0.5**
SVE *e*PS PS 23 55 12.0 +1.5
SVE *e*SS SS 23 58 42.0 +1.2
SVE pmax pmax
comp=Z,104nm,1.5s,mb5.6
SVE MLR MLR
comp=N,2μm,14.0s,MS5.5
SVE MLR MLR
comp=E,2μm,14.0s,MS5.5
SVE MLR MLR
comp=Z,4μm,14.0s,MS5.6
HYB **Hyderabad** 57.77 270 *e*P P 23 46 56.5 -1.3
HYB pmax pmax
comp=Z,120nm,1.0s,mb5.9
HYB **Hyderabad** 57.77 270 *e*P P 23 46 56.5 -1.3
comp=Z,120nm,1.0s,mb5.9
HYB **Hyderabad** 57.77 270 *i* P P 23 46 56.5 -1.3
comp=Z,120nm,1.0s,mb5.9
HYB *e*S **S** **23 54 52.0 +1.5**
INK **Inuvik** 57.83 26 *e*P P 23 46 56.1 -1.4
INK pmax pmax
comp=Z,126nm,1.2s
INK **Inuvik** 57.83 26 LR LR 00 14 57.0
comp=Z,2μm,20.1s,MS5.2,baz=260,slow=39
INK PKP2bc 00 16 53.1
comp=Z,4.2nm,1.0s,baz=124,slow=2.1,SNR=3.7
INK **Inuvik** 57.83 26 *e*P P 23 46 56.1 -1.4
comp=Z,126nm,1.2s,mb5.8
MBWA **Marble Bar** 57.88 203 *e*P P 23 46 57.3 -1.3
comp=Z,324nm,1.0s,mb6.3
MDRS **Chennai** 58.52 265 *e* P 23 47 00.0 -3.0
MDRS *e* 23 50 53.0
MDRS *e* 23 53 39.0
MDRS *e* 23 58 41.0
ARU **Arti** 58.86 320⇑ *i*P P 23 46 03.7 -1.1
ARU *e* 23 47 50.4
ARU *e* 23 49 14.4
ARU *i*S **S** **23 55 05.6 +1.4**
ARU *e*SS SS 23 59 01.5 +1.3
ARU pmax pmax
comp=Z,224nm,0.8s,mb6.2
ARU MLR MLR
comp=N,1μm,18.0s,MS5.4
ARU MLR MLR
comp=E,2μm,18.0s,MS5.4
ARU MLR MLR
comp=Z,3μm,18.0s,MS5.5
ARU **Arti** 58.86 320 *e*P P 23 47 03.6 -1.2
comp=Z,322nm,0.9s,mb6.3
LATR **Latur** 58.96 273 *e*P P 23 47 05.7 -0.3
SOKR **Solikamsk** 59.01 324*d* *i*P P 23 47 06.6 +0.8
SOKR S **S** **23 55 07.7 +1.6**
SOKR pmax pmax
comp=Z,190nm,1.1s,mb6.0
SOKR MLR MLR
comp=Z,4μm,18.0s,MS5.6
SIT **Sitka** 59.44 39 *e*P P 23 47 08.5 -0.3
SIT pmax pmax
comp=Z,135nm,1.4s,mb5.8
SIT **Sitka** 59.44 39 *e*P P 23 47 08.5 -0.3
comp=Z,135nm,1.4s,mb5.8
NOUC **Port Laguerre** 60.25 153⇑ *e*P P 23 47 15.2 +0.4
NOUC **Port Laguerre** 60.25 153⇑ *e*P P 23 47 15.2 +0.4
DZM **Mont Dzumac** 60.27 153⇑ *e*P P 23 47 15.8 +0.7
DZM **Mont Dzumac** 60.27 153 P P 23 47 15.9 +0.8
comp=Z,117nm,1.0s,mb5.9,baz=7.1,slow=7.1,SNR=50
POO **Poona** 61.17 274 *e*P P 23 47 20.3 -0.8
POO AMb AMB 23 47 24.6
comp=Z,282nm,1.6s,mb6.2
PALK **Pallekele** 61.24 259 *e*P P 23 47 20.7 -1.0
comp=Z,52nm,0.8s,mb5.7
KAD **Karad** 61.48 273 *e*P P 23 47 22.1 -1.1
KAD AMb AMB 23 47 26.5
comp=Z,217nm,1.1s,mb6.2
DLBC **Dease Lake** 61.77 37 *e*P P 23 47 24.4 -0.2
BOM **Bombay** 61.86 275 *e*P P 23 47 25.3 -0.5
comp=Z,1μm,1.7s,mb6.7
BOM *e* 23 55 47.9
BHUJ **Bhuj** 62.48 281 *e*P P 23 47 29.7 -0.2
BHUJ AMb AMB 23 47 32.8
comp=Z,283nm,1.5s,mb6.2
KBS **Kingsbay** 64.18 350 *e*P P 23 47 39.7 -0.5
KBS pmax pmax
comp=Z,173nm,1.1s,mb6.0
KBS **Kingsbay** 64.18 350 *e*P P 23 47 39.7 -0.6
comp=Z,173nm,1.1s,mb6.0
KBS **Kingsbay** 64.18 350⇑ *i*P P 23 47 39.6 -0.6
KBS AMb AMB 23 47 43.9
comp=Z,115nm,1.6s,mb5.7
KBS *e*S **S** **23 56 12.3 +1.0**
KBS AMS AMS 00 15 38.9
comp=Z,484nm,16.5s,MS4.8
STKA **Stephens Creek** 64.91 179⇑ *i*P P 23 47 45.1 -0.6
comp=Z,64nm,0.6s,mb5.8
STKA **Stephens Creek** 64.91 179 P P 23 47 45.3 -0.4
comp=Z,91nm,0.7s,mb5.9,baz=348,slow=6.8,SNR=172
HSP **Hornsund** 64.92 348 *e*P P 23 47 44.8 -0.2
LVZ **Lovozero** 65.28 336 *i*P P 23 47 46.3 -1.2
LVZ *i*S S 23 56 25.2 +0.3
LVZ pmax pmax
comp=Z,128nm,1.2s,mb5.8
LVZ pmax pmax
comp=N,116nm,2.5s
LVZ pmax pmax
comp=E,109nm,2.3s
LVZ pmax pmax
comp=Z,93nm,1.2s,mb5.7
LVZ pmax pmax
comp=N,20nm,1.0s
LVZ pmax pmax
comp=E,17nm,0.9s
LVZ smax
comp=E,346nm,4.3s
LVZ smax
comp=Z,289nm,4.9s
LVZ smax
comp=N,404nm,5.5s
LVZ MLR MLR
comp=Z,3μm,24.0s,MS5.5
LVZ MLR MLR
comp=E,2μm,21.0s
LVZ **Lovozero** 65.28 336⇑ *i*P P 23 47 46.1 -1.4
APA **Apatity** 65.86 336*j* *i*P P 23 47 50.0 -1.2
APA *i* pP 23 48 02.0 -5.4
APA *i* pP 23 48 06.0 -1.4
APA *i* 23 48 17.6
APA *i*S S 23 56 32.0 +0.1
APA *e*PS PS 23 56 52.0 -10
APA pmax pmax
comp=Z,130nm,1.2s,mb5.8
APA MLR MLR
comp=Z,2μm,15.0s,MS5.5
PECR **Pechory** 66.47 323*d* *i*P P 23 47 54.4 -0.8
PECR *e* 23 48 16.4
PECR *e* 23 50 20.0
PECR *e*S S 23 56 40.4 +0.8
PECR pmax pmax
comp=Z,2μm,1.5s
PECR pmax pmax
comp=Z,1μm,4.0s
PECR smax
comp=N,700nm,4.4s
PECR smax
comp=E,1μm,4.4s
PECR MLR MLR
comp=Z,4μm,18.0s
PECR MLR MLR
comp=N,2μm,17.0s
PECR MLR MLR
comp=E,4μm,17.0s
KEV **Kevo** 66.72 340 *e*P P 23 47 55.9 -0.7
KEV pmax pmax
comp=Z,147nm,1.4s,mb5.8
KEV **Kevo** 66.72 340 *e*P P 23 47 55.9 -0.7
comp=Z,147nm,1.4s,mb5.8
YKW3 **Yellowknife Ar** 67.14 29 *e*P P 23 47 57.8 -1.6
YKA **Yellowknife Ar** 67.17 29 P P 23 47 58.2 -1.3
comp=Z,12nm,0.8s,mb5.0,baz=296,slow=6.2,SNR=55
YKA PKP2bc 00 16 28.2
comp=Z,2.8nm,1.1s,baz=102,slow=2.9,SNR=5.2
YKA LR LR 00 19 47.9
comp=Z,1μm,19.9s,MS5.0,baz=275,slow=38
YKA **Yellowknife Ar** 67.17 29 P P 23 47 58.2 -1.3
YKA ⇑*e* 00 16 28.2
YKA LR LR 00 19 47.9
ARCES **ARCESS Array B** 67.28 340 P P 23 47 59.5 -0.6
comp=Z,46nm,0.9s,mb5.5,baz=55,slow=7.7,SNR=109
ARCES PKP2bc 00 16 27.1
comp=Z,6.1nm,1.0s,baz=243,slow=2.7,SNR=5.9
ARCES LR LR 00 22 52.1
comp=Z,3μm,18.4s,MS5.5,baz=60,slow=41
ARCES **ARCESS Array B** 67.28 340 P P 23 47 59.5 -0.6
ARCES ⇑*e* 00 16 27.1
ARCES LR LR 00 22 52.1
ARE0 **ARCESS Array S** 67.28 340 *e*P P 23 47 59.4 -0.7
RIV **Riverview** 67.54 171 *e*P P 23 48 04.1 +1.7
KLBR **Kellerberrin** 68.23 201⇑ *i*P P 23 48 06.3 -0.4
comp=Z,769nm,1.0s,mb6.7
KLBR *e*S S 23 57 03.4 +2.3
KTK1 **Kautokeino** 68.24 340⇑ *i*P P 23 48 06.4 +0.3
comp=Z,148nm,1.0s,mb6.0
KTK1 **Kautokeino** 68.24 340⇑ *i*P P 23 48 06.4 +0.3
KTK1 AMb AMB 23 48 10.3
comp=Z,148nm,1.1s,mb6.0
CNB **Canberra Magne** 68.79 173 *e*P P 23 48 10.5 +0.4
comp=Z,131nm,1.5s,mb5.6
TRO **Tromso** 69.04 341 *e*P P 23 48 09.8 -1.3
TRO AMb AMB 23 48 13.0
comp=Z,98nm,1.5s,mb5.5
TRO *e*S S 23 57 09.7 -0.5
TRO *e*SS SS 00 01 37.8 -0.9
TRO AMS AMS 00 22 37.2
comp=Z,3μm,19.0s,MS5.5
MUN **Mundaring** 69.06 202⇑ *i*P P 23 48 11.6 -0.3
comp=Z,100nm,0.7s,mb5.8
MUN *e*S S 23 57 14.4 +3.3
MUN **Mundaring** 69.06 202⇑ *i*P P 23 48 11.6 -0.3
MUN *e*S S 23 57 14.4 +3.3
MUN pmax pmax
comp=Z,100nm,0.7s,mb5.8
OCWA **Octopus Mounta** 69.15 46 *e*P P 23 48 12.4 +0.4
comp=Z,168nm,1.4s,mb5.8
PGC **Sidney** 69.17 45 *e*P P 23 48 11.8 -0.4
comp=Z,133nm,1.1s,mb5.8
DAG **Danmarks Havn** 69.37 355⇓ *i*P P 23 48 12.3 -0.7
DAG pmax pmax
comp=Z,135nm,1.3s,mb5.7
DAG **Danmarks Havn** 69.37 355⇓ *i*P P 23 48 12.3 -0.7
comp=Z,134nm,1.3s,mb5.7
NWAO **Narrogin (SRO)** 69.63 201 *e*P P 23 48 15.2 -0.1
NWAO pmax pmax
comp=Z,472nm,0.7s
NWAO **Narrogin (SRO)** 69.63 201 *e*P P 23 48 15.2 0.0
comp=Z,472nm,0.7s,mb6.5
MOS **Moscow** 69.96 324α *i*P P 23 48 16.3 -0.6
MOS *e* 23 48 38.5
MOS *e* 23 50 49.9
MOS *e*S S 23 57 21.7 +0.6
MOS *e*PS PS 23 57 42.8 -13
MOS *e* 23 58 18.9
MOS pmax pmax
comp=Z,800nm,2.8s,mb6.2
MOS pmax pmax
comp=Z,268nm,1.4s,mb6.0
MOS pmax pmax
comp=E,125nm,1.0s
MOS smax
comp=N,700nm,3.3s
MOS smax
comp=E,900nm,3.5s
MOS MLR MLR
comp=Z,2μm,16.0s,MS5.6
MAK **Makhachkala** 70.42 309*d* *i*P P 23 48 20.0 +0.1
MAK *i* pP 23 48 36.0 -0.3
MAK *e* 23 51 02.0
MAK *e*PPP PPP 23 52 46.0 +7.2
MAK *i*S S 23 57 28.0 +1.3
MAK *e*PS PS 23 57 59.0 -3.3
MAK *e* 23 58 17.0
MAK pmax pmax
comp=Z,2μm,4.0s
MAK smax
comp=N,1μm,5.0s
MAK smax
comp=E,600nm,5.0s
MAK MLR MLR
comp=N,5μm,18.0s,MS6.0
MAK MLR MLR
comp=E,7μm,18.0s,MS6.0
MAK MLR MLR
comp=Z,4μm,18.0s,MS5.7
TOO **Toolangi** 70.72 176⇑ *i*P P 23 48 22.0 +0.2
comp=Z,29nm,0.6s,mb5.4
TOO **Toolangi** 70.72 176⇑ *i*P P 23 48 22.0 +0.2
TOO pmax pmax
comp=Z,29nm,0.6s,mb5.4
OBN **Obninsk** 70.79 324α *i*P P 23 48 21.1 -0.8
OBN *i* pP 23 48 36.3 -2.0
OBN *i*S S 23 57 30.6 -0.2
OBN *i*SS SS 00 02 11.0 +5.0
OBN pmax pmax
comp=Z,300nm,1.8s,mb5.9
OBN pmax pmax
comp=Z,218nm,1.2s,mb6.0
OBN MLR MLR
comp=Z,3μm,16.0s,MS5.6
OBN **Obninsk** 70.79 324 *e*P P 23 48 21.1 -0.8
comp=Z,241nm,1.2s,mb6.0
PUL **Pulkovo** 71.14 330 *i*P P 23 48 23.1 -0.8
PUL *i*S S 23 57 28.3 -6.4
PUL pmax pmax
comp=Z,200nm,0.9s,mb6.0
PUL pmax pmax
comp=N,50nm,0.4s
PUL pmax pmax
comp=E,347nm,1.1s
PUL smax
comp=N,445nm,1.8s
PUL smax
comp=Z,146nm,2.0s
PUL smax
comp=E,481nm,1.9s
PUL MLR MLR
comp=N,1μm,18.0s,MS5.4
PUL MLR MLR
comp=E,1μm,21.0s,MS5.4
PUL MLR MLR
comp=Z,3μm,21.0s,MS5.5
PUL **Pulkovo** 71.14 330⇑ *i*P P 23 48 23.6 -0.3
VOR **Voronezh** 71.15 320 *e*P P 23 48 23.3 -0.9
VOR *e* 23 48 33.0
VOR *e*S S 23 57 35.0 0.0
VOR pmax pmax
comp=N,50nm,1.5s
VOR pmax pmax
comp=E,60nm,1.5s
VOR pmax pmax
comp=Z,150nm,1.5s,mb5.7
VOR smax
comp=E,90nm,1.6s
VOR smax
comp=N,40nm,1.5s
KEBM **Edson Butte** 71.31 51 *e*P P 23 48 26.2 +0.9
KAF **Kangasniemi** 71.37 333 *e*p P 23 48 21.4 -3.9
baz=51,slow=5.7
WBK **Wadi Bani Khal** 71.49 285 P P 23 48 27.5 +0.8
SNR=13
LOF **Lofoten** 71.49 342 *e*P P 23 48 27.3 +1.3
comp=N,84nm,1.8s,mb5.4
LOF **Lofoten** 71.49 342 *e*P P 23 48 27.3 +1.3
LOF AMb AMB 23 48 40.0
comp=Z,84nm,1.8s,mb5.4
KBO **Bosley Butte** 71.70 51 *e*P P 23 48 28.2 +0.7
BIDO **Bidbid** 71.73 286 P P 23 48 29.0 +1.0
SNR=28
FINES **FINESS Array B** 71.86 333 P P 23 48 27.6 -0.6
FINES pmax pmax
comp=Z,129nm,1.1s
FINES MLR MLR
comp=Z,3μm,20.3s
FINES **FINESS Array B** 71.86 333 P P 23 48 27.6 -0.6
comp=Z,129nm,1.1s,mb5.8,baz=72,slow=6.0,SNR=237
FINES LR LR 00 23 07.4
comp=Z,3μm,20.2s,MS5.5,baz=174,slow=38
SMDO **Samad** 72.01 286 P P 23 48 30.3 +0.5

SNR=26
BANOM **Banah** 72.02 290 ⇑P P 23 48 30.3 +0.5
SNR=19
KRMB **Red Mountain** 72.23 52 *e*P P 23 48 30.7 -0.1
GOF **Gofitskoye** 72.25 313 *i*P P 23 48 30.5 -0.3
GOF *PP pP 23 48 41.5 -5.8
GOF *i* S S 23 57 48.5 +0.7
GOF pmax pmax
comp=Z,454nm,1.4s,mb6.2
GOF smax
comp=E,1μm,2.5s
JMDO **Jabal Madar** 72.30 285 P P 23 48 31.5 0.0
SNR=21
HOQ **Hoqain** 72.35 287 P P 23 48 32.1 +0.3
SNR=29
EDM **Edmonton** 72.47 37 *e*P P 23 48 31.0 -0.9
DGRG **David-gareji** 72.53 308 P P 23 48 32.9 +0.4
DGRG S S 23 57 50.2 -0.8
MOR8 **Moi Rana** 72.65 340⇑ *i*P P 23 48 31.2 -1.5
comp=E,185nm,1.1s,mb5.9
MOR8 **Moi Rana** 72.65 340⇑ *i*P P 23 48 31.2 -1.5
MOR8 AMb AMB 23 48 35.0
comp=Z,185nm,1.1s,mb5.9
DUS **Dusheti** 72.65 309 P P 23 48 33.8 +0.6
KHMM **Horse Mountain** 72.67 52 *e*P P 23 48 34.4 +1.1
MTA **Mtatsminda** 72.79 309 P P 23 48 34.0 0.0
TI2 **Plekhanov** 72.80 309α *i*P P 23 48 36.8 +2.7
TI2 *i* S S 23 57 59.0 +5.0
TI2 MLR MLR
comp=N,3μm,17.0s,MS5.8
TI2 MLR MLR
comp=E,2μm,17.0s,MS5.8
TBLG **Delisi** 72.81 309 P P 23 48 34.2 +0.1
ASHO **Ashiyiah** 72.81 288 P P 23 48 34.7 +0.2
SNR=15
ZEI **Tsey** 72.83 310 *e*P P 23 48 32.2 -2.1
ZEI *i* *PP pP 23 48 42.7 -8.0
ZEI pmax pmax
comp=Z,29nm,0.5s,mb5.5
BSY **Bisya** 72.85 286 ⇑P P 23 48 35.2 +0.5
SNR=12
YBH **Yreka Blue Hor** 72.92 51 *e*P P 23 48 35.4 +0.6
YBH pmax pmax
comp=Z,27nm,0.9s
YBH **Yreka Blue Hor** 72.92 51 LR LR 00 16 52.8
comp=Z,1μm,21.4s,MS5.2,baz=298,slow=33
YBH **Yreka Blue Hor** 72.92 51 *e*P P 23 48 35.4 +0.7
comp=Z,27nm,0.9s,mb5.2
STOK **Stokkvaagen** 72.93 341 *e*P P 23 48 33.8 -0.6
comp=Z,152nm,1.4s,mb5.7
STOK **Stokkvaagen** 72.93 341 *e*P P 23 48 33.8 -0.6
STOK AMb AMB 23 48 37.7
comp=Z,152nm,1.4s,mb5.7
KIV **Kislovodsk** 73.01 312*c* *i*P P 23 48 36.0 +0.7
KIV pmax pmax
comp=Z,503nm,1.4s,mb6.3
KIV MLR MLR
comp=Z,2μm,15.0s,MS5.5
KIV **Kislovodsk** 73.01 312 *e*P P 23 48 35.7 +0.4
comp=Z,630nm,1.3s,mb6.4
NEW **Newport** 73.04 43 *e*P P 23 48 35.3 -0.1
NEW pmax pmax
comp=Z,78nm,1.3s
NEW **Newport** 73.04 43 LR LR 00 18 39.8
comp=Z,795nm,20.4s,MS5.0,baz=316,slow=34
NEW **Newport** 73.04 43 *e*P P 23 48 35.3 -0.1
comp=Z,78nm,1.3s,mb5.5
ONI **Oni** 73.22 310 P P 23 48 37.2 +0.7
VSU **Vasula** 73.40 330⇑ *i*P P 23 48 36.0 -1.3
GNI **Garni** 73.58 307*c* *i*P P 23 48 39.9 +1.2
GNI pmax pmax
comp=Z,220nm,1.4s
GNI MLR MLR
comp=Z,3μm,19.0s
GNI **Garni** 73.58 307 *e*P P 23 48 39.7 +1.0
comp=Z,249nm,1.1s,mb6.0
GNI *e*PP PP 23 51 20.3 -4.9
WDC **Whiskeytown Da** 73.60 52 *e*P P 23 48 38.9 +0.1
WDC pmax pmax
comp=Z,37nm,1.0s,mb5.3
WDC **Whiskeytown Da** 73.60 52 *e*P P 23 48 38.9 +0.1
comp=Z,38nm,1.0s,mb5.3
JMIC **Jan Mayen** 73.67 350 LR LR 00 24 30.6
comp=Z,732nm,19.5s,MS5.0,baz=192,slow=39
JMIC **Jan Mayen** 73.67 350 *e*P P 23 48 39.8 +1.2
JMIC LR LR
comp=Z,572nm,12.6s
JMIC **Jan Mayen** 73.67 350 *e*P P 23 48 39.8 +1.2
JMIC *e*S S 23 58 05.1 +1.9
JMIC AMS AMS 00 22 10.4
comp=Z,572nm,12.6s,MS5.1
HOPS **Hopland** 74.04 54 *e*P P 23 48 41.7 +0.3
comp=Z,19nm,1.2s,mb4.9
SUMG **Summit** 74.33 360 *e*P P 23 48 43.5 +1.1
comp=Z,127nm,0.8s,mb5.9
WALA **Waterton Lakes** 74.42 41 *e*P P 23 48 43.6 +0.2
comp=Z,120nm,1.3s,mb5.7
NSS **Namsos** 74.56 340 *e*P P 23 48 42.0 -1.8
NSS AMb AMB 23 48 46.4
comp=Z,91nm,1.8s,mb5.4
NSS AMS AMS 00 25 30.1
comp=Z,3μm,15.5s,MS5.7
NSHM **Saint Helena R** 74.59 54 *e*P P 23 48 43.4 -1.2
BMO **Blue Mountains** 74.72 46 *e*P P 23 48 45.4 +0.2
comp=Z,96nm,1.1s,mb5.6
SOC **Sochi** 75.05 312*c* *i*P P 23 48 46.8 -0.3
SOC *e* pP 23 49 00.6 -3.0
SOC *e* 23 51 34.2
SOC *e*PPP PPP 23 53 17.7 -5.4
SOC *i* S S 23 58 20.4 +1.3
SOC *e* 23 58 39.7
SOC *e*SS SS 00 03 04.0 -7.1
SOC pmax pmax
comp=Z,201nm,1.2s,mb5.9
SOC pmax pmax
comp=N,39nm,0.9s
SOC pmax pmax
comp=E,43nm,1.1s
SOC MLR MLR
comp=N,1μm,17.0s,MS5.3
SOC MLR MLR
comp=E,745nm,17.0s,MS5.3
SOC MLR MLR
comp=Z,2μm,17.0s,MS5.4
IZAR **Zarasai** 75.28 328 *e*P P 23 48 48.0 -0.1
IZAR AMb AMB 23 48 51.8
comp=Z,52nm,1.2s,mb5.3
TVAN **Van** 75.30 306 *i*P P 23 48 49.4 +0.8
MNK **Minsk** 75.32 326 *e*P P 23 48 45.0 -3.4
IDID **Didziasalis** 75.33 327⇑ *i*P P 23 48 48.5 0.0
IDID AMb AMB 23 48 52.6
comp=Z,40nm,1.1s,mb5.3
BEKR **Beckwourth** 75.40 52 *e*P P 23 48 49.3 +0.1
comp=Z,92nm,1.2s,mb5.6
ISAL **Salakas** 75.44 328⇑ *i*P P 23 48 49.2 +0.1
ISAL AMb AMB 23 48 53.4
comp=Z,69nm,1.1s,mb5.5
IIGN **Ignalina** 75.53 328 *e*P P 23 48 49.7 +0.1
MSO **Missoula** 75.63 43 *e*P P 23 48 50.2 -0.2
comp=Z,61nm,1.4s,mb5.3
SCO **Scoresbysund** 75.70 354 *i*P P 23 48 50.1 -0.2
SCO pmax pmax
comp=Z,63nm,0.8s,mb5.6
SCO **Scoresbysund** 75.70 354 *i*P P 23 48 50.1 -0.2
comp=Z,63nm,0.8s,mb5.6
ANN **Anapa** 75.78 314⇑ *i*P P 23 48 50.9 -0.4
ANN *i* 23 49 01.2
ANN *e**PP pP 23 49 06.2 -1.6
ANN *i* 23 51 42.5
ANN *i*S S 23 58 27.9 +0.7
ANN *e*SS SS 00 03 27.9 +5.1
ANN pmax pmax
comp=Z,367nm,1.4s,mb6.1
ANN smax
comp=N,492nm,2.7s
ANN smax
comp=E,222nm,1.3s
ANN MLR MLR
comp=N,2μm,22.0s
ANN MLR MLR
comp=Z,2μm,22.0s,MS5.4
ANN MLR MLR
comp=E,404nm,11.0s
ERZM **Erzurum** 75.94 309 *i*P P 23 48 53.6 +1.3
CHMT **Chamberlain Mo** 75.98 43 *e*P P 23 48 52.0 -0.3

WCN **Washoe City** 76.09 52 *e*P P 23 48 53.9 +0.7
WCN pmax pmax
comp=Z,142nm,1.5s,mb5.7
WCN **Washoe City** 76.09 52 *e*P P 23 48 53.9 +0.7
comp=Z,142nm,1.5s,mb5.7
PAHR **Pah Rah Range** 76.12 52 *e*P P 23 48 53.8 +0.5
comp=Z,20nm,1.0s,mb5.0
TAU **Tasmania Unive** 76.15 175 *e*P P 23 48 54.0 +0.6
TAU pmax pmax
comp=Z,43nm,0.8s,mb5.4
TAU **Tasmania Unive** 76.15 175 *e*P P 23 48 54.0 +0.6
comp=Z,43nm,0.8s,mb5.4
SAO **San Andreas Ge** 76.28 55 *e*P P 23 48 54.1 -0.2
SAO pmax pmax
comp=Z,56nm,1.1s,mb5.4
SAO **San Andreas Ge** 76.28 55 *e*P P 23 48 54.1 -0.2
comp=Z,56nm,1.1s,mb5.4
CMB **Columbia Colle** 76.34 53 *e*P P 23 48 54.8 +0.2
CMB pmax pmax
comp=Z,155nm,1.3s,mb5.8
CMB **Columbia Colle** 76.34 53 *e*P P 23 48 54.8 +0.2
comp=Z,155nm,1.3s,mb5.8
HRY **Holter Researc** 76.90 42 *e*P P 23 48 57.9 +0.3
AKASG **Malin Array Be** 76.95 323 P P 23 48 56.9 -0.8
AKASG pmax pmax
comp=Z,41nm,0.6s
AKASG **Malin Array Be** 76.95 323 P P 23 48 56.9 -0.8
comp=Z,41nm,0.6s,mb5.6,baz=46,slow=6.1,SNR=367
KUZ **Kuaotunu** 76.96 152 PN P 23 48 59.3 +1.2
KIEV **Kiev** 76.96 323 P P 23 48 57.2 -0.5
KIEV S S 23 58 39.9 0.0
FFC **Flin Flon** 77.00 32 *e*P P 23 48 57.4 -0.5
FFC pmax pmax
comp=Z,66nm,1.1s,mb5.5
FFC **Flin Flon** 77.00 32 *e*P P 23 48 57.4 -0.5
comp=Z,66nm,1.1s,mb5.5
KBD **Kabd** 77.04 296 *e*P P 23 48 58.8 +0.1
KBD AMb AMB 23 49 00.5
comp=Z,1μm,0.5s
BEST **Besiri** 77.06 307 *i*P P 23 48 59.1 +0.5
QRN **Al-Qurain** 77.09 296 *e*P P 23 48 59.3 +0.3
QRN AMb AMB 23 49 01.1
comp=Z,482nm,0.5s,mb6.7
BMN **Battle Mountai** 77.14 50 *e*P P 23 48 59.8 +0.8
BMN pmax pmax
comp=Z,161nm,1.3s,mb5.8
BMN **Battle Mountai** 77.14 50 *e*P P 23 48 59.8 +0.8
comp=Z,161nm,1.3s,mb5.8
HLID **Hailey** 77.17 46 *e*P P 23 48 59.8 +0.7
comp=Z,78nm,1.1s,mb5.5
KELT **Kelkit** 77.18 310 *i*P P 23 49 00.6 +1.3
HFS **Hagfors** 77.25 336 LR LR 00 27 09.2
comp=Z,4μm,20.1s,MS5.8,baz=26,slow=39
RDF **Al-Radifah** 77.27 296 *e*P P 23 49 00.1 +0.1
RDF AMb AMB 23 49 02.6
comp=Z,635nm,0.6s,mb6.7
NAY **Al-Naaiem** 77.34 297 *e*P P 23 49 00.8 +0.4
NAY AMb AMB 23 49 03.3
comp=Z,359nm,0.9s,mb6.3
MCMT **McKenzie Canyo** 77.39 44 *e*P P 23 49 00.4 +0.1
NB2 **NORSAR Subarra** 77.40 337 P P 23 48 59.6 -0.4
comp=Z,216nm,1.2s,mb6.0,baz=41,slow=5.6
NB2 **NORSAR Subarra** 77.40 337 P P 23 48 59.6 -0.4
NB2 pmax pmax
comp=Z,216nm,1.2s,mb6.0
NB2 **NORSAR Subarra** 77.40 337 P P 23 48 59.6 -0.4
baz=41,slow=5.6
NOA **NORSAR Array B** 77.40 337 P P 23 48 59.7 -0.3
NOA pmax pmax
comp=Z,177nm,1.1s
NOA MLR MLR
comp=Z,2μm,19.4s
NOA **NORSAR Array B** 77.40 337 P P 23 48 59.7 -0.3
comp=Z,177nm,1.1s,mb5.9,baz=38,slow=5.5,SNR=403
NOA LR LR 00 27 56.5
comp=Z,2μm,19.4s,MS5.5,baz=45,slow=39
NOA **NORSAR Array B** 77.40 337 P P 23 48 59.7 -0.3
NOA LR LR 00 27 56.5
HASS **Wahat al Ahsa'** 77.56 292 P P 23 49 01.0 -0.6
BOZ **Bozeman (W)** 77.62 43 *e*P P 23 49 02.2 +0.6
BOZ pmax pmax
comp=Z,91nm,1.1s,mb5.6
BOZ **Bozeman (W)** 77.62 43 *e*P P 23 49 02.2 +0.6
comp=Z,91nm,1.1s,mb5.6
NAO01 **NORSAR Array S** 77.65 337 *e*P P 23 49 00.6 -0.8
comp=Z,108nm,1.1s,mb5.7
SIM **Simferopol'** 77.66 316*c* *e*P P 23 49 01.9 +0.1
SIM *e* 23 51 58.0
SIM *e*S S 23 58 49.0 +1.4
SIM pmax pmax
comp=Z,115nm,0.8s,mb5.9
SIM MLR MLR
comp=Z,2μm,20.0s,MS5.3
SUW **Suwalki** 77.75 328⇑ *i*P P 23 49 01.7 -0.4
SUW *e*PP PP 23 51 55.3 -4.5
SUW *e*S S 23 58 49.3 +0.9
SUW *e*SS SS 00 03 50.3 -1.9
SUW **Suwalki** 77.75 328⇑ *i*P P 23 49 01.7 -0.4
comp=Z,1μm,4.2s
SUW *e*PP PP 23 51 55.3 -4.5
SUW *e*S S 23 58 49.3 +0.9
SUW *e*SS SS 00 03 50.2 -2.0
SUW LME 00 23 03.5
comp=Z,2μm,22.2s
SUW LMN 00 23 20.5
comp=Z,2μm,23.3s
SUW MLR MLR 00 23 27.4
comp=Z,2μm,24.8s,MS5.3
RBK **Rabkut** 77.92 283 ⇑P P 23 49 03.5 -0.2
SNR=17
WHFO **Wadi Hawf** 78.06 284 ⇑P P 23 49 04.1 -0.4
SNR=14
HIZ **Hauiti** 78.17 153 PN P 23 49 06.3 +1.6
comp=Z,346nm,0.6s,mb6.4
QLMT **Earthquake Lak** 78.21 44 *e*P P 23 49 05.6 +0.8
ELK **Elko** 78.23 49 *e*P P 23 49 06.0 +1.0
ELK pmax pmax
comp=Z,71nm,1.0s
ELK **Elko** 78.23 49 LR LR 00 22 48.9
comp=Z,771nm,18.5s,MS5.1,baz=0.6,slow=35
ELK **Elko** 78.23 49 *e*P P 23 49 06.0 +1.0
comp=Z,71nm,1.0s,mb5.5
ELZG **Elazig** 78.25 308 *i*P P 23 49 06.7 +1.5
OSL **Oslo** 78.39 337 *e*P P 23 49 05.1 -0.4
comp=Z,168nm,1.3s,mb5.8
OSL **Oslo** 78.39 337 *e*P P 23 49 05.1 -0.4
OSL AMb AMB 23 49 08.9
comp=Z,168nm,1.3s,mb5.8
TPH **Tonopah** 78.42 52 *e*P P 23 49 06.6 +0.5
TPH pmax pmax
comp=Z,184nm,1.4s,mb5.8
TPH **Tonopah** 78.42 52 *e*P P 23 49 06.6 +0.5
comp=Z,184nm,1.4s,mb5.8
YMR **Madison River** 78.57 44 *e*P P 23 49 08.3 +1.5
GCMT **Greycliff** 78.65 42 *e*P P 23 49 08.0 +0.7
YNR **Norris Junctio** 78.71 44 *e*P P 23 49 09.4 +1.9
MALT **Malatya** 78.72 308 *e*P P 23 49 09.1 +1.3
MALT pmax pmax
comp=Z,173nm,1.2s,mb5.9
MALT **Malatya** 78.72 308 *e*P P 23 49 09.1 +1.3
comp=Z,173nm,1.2s,mb5.9
ABTO **Aybut** 78.73 283 ⇑P P 23 49 08.1 -0.1
SNR=8.2
YFT **Old Faithful** 78.78 44 *e*P P 23 49 10.5 +2.6
SVST **Sivas** 78.86 310 *i*P P 23 49 09.7 +1.2
KONO **Kongsberg** 78.98 337 *e*P P 23 49 07.9 -0.8
KONO pmax pmax
comp=Z,72nm,1.1s,mb5.5
KONO **Kongsberg** 78.98 337 *e*P P 23 49 07.8 -0.9
comp=Z,72nm,1.1s,mb5.5
KONO **Kongsberg** 78.98 337⇑ *i*P P 23 49 08.2 -0.6
KONO *e*S S 23 59 03.0 +1.6
IMW **Indian Meadow** 79.04 44 *e*P P 23 49 11.0 +1.5
comp=Z,94nm,0.9s,mb5.7
OTVZ **Oturere** 79.04 153 PN P 23 49 10.8 +1.3
RRI2 **Red Ridge** 79.14 45 *e*P P 23 49 11.1 +1.1
comp=Z,208nm,1.3s,mb5.9
DAC **Darwin (Calif)** 79.16 54 *e*P P 23 49 10.4 +0.2
DAC pmax pmax
comp=Z,67nm,1.0s,mb5.5
DAC **Darwin (Calif)** 79.16 54 *e*P P 23 49 10.4 +0.2
comp=Z,67nm,1.0s,mb5.5
HVU **Hansel Valley** 79.17 47 *e*P P 23 49 11.1 +0.9
BOYT **Boyabat** 79.21 313 *i*P P 23 49 10.8 +0.4
MOOW **Moose Ponds** 79.24 44 *e*P P 23 49 11.6 +1.1

comp=Z,199nm,1.7s,mb5.8
TPAW **Teton Pass** 79.27 45 *e*P P 23 49 12.0 +1.3
comp=Z,153nm,1.3s,mb5.8
TRCR **Troy Canyon** 79.34 51 *e*P P 23 49 11.9 +0.7
LOHW **Long Hollow** 79.40 44 *e*P P 23 49 12.7 +1.3
comp=Z,55nm,1.2s,mb5.4
SNOW **Snow King Moun** 79.40 45 *e*P P 23 49 12.7 +1.3
comp=Z,70nm,1.0s,mb5.5
REDW **Red Top Meadow** 79.41 45 *e*P P 23 49 12.4 +1.0
comp=Z,141nm,1.3s,mb5.7
KIS **Kishinev** 79.42 320*c* *i*P P 23 49 10.0 -1.4
KIS *i* 23 49 20.0
KIS *e*PPP PPP 23 54 10.0 +5.7
KIS *e*S S 23 59 04.0 -2.2
KIS *e* 23 59 22.0
KIS *e*PS PS 23 59 56.0 -2.4
KIS pmax pmax
comp=Z,500nm,4.0s
BGU **Big Grassy Mou** 79.50 48 *e*P P 23 49 12.8 +0.8
SPUT **South Promonto** 79.64 47 *e*P P 23 49 13.8 +1.1
BER **Bergen** 79.72 339 *e*P P 23 49 13.2 +0.5
BER AMb AMB 23 49 17.1
comp=Z,135nm,0.9s,mb5.9
BER *e*S S 23 59 09.8 +0.6
BER AMS AMS 00 28 28.4
comp=Z,2μm,14.8s,MS5.5
CTKT **Corum** 79.74 312 *i*P P 23 49 14.2 +0.9
GZT **Gaziantep** 79.82 308 *i*P P 23 49 15.2 +1.4
WAR **Warsaw** 79.90 327 *e*P P 23 49 14.3 +0.4
comp=Z,0.8nm,2.2s
WAR *e*S S 23 59 13.9 +2.7
WAR *e*SKS SKS 23 59 26.2 +5.5
WAR LR LR
comp=Z,3μm,18.4s
WAR **Warsaw** 79.90 327 *e*P P 23 49 14.3 +0.5
comp=Z,800nm,2.2s,mb6.3
WAR *e*S S 23 59 13.9 +2.8
WAR *e*SKS SKS 23 59 26.2 +5.5
WAR MLR MLR 00 28 27.2
comp=Z,3μm,18.4s,MS5.6
DGMT **Dagmar** 79.95 38 *e*P P 23 49 13.9 -0.3
comp=Z,105nm,1.1s,mb5.7
MWC **Mount Wilson** 79.97 56 *e*P P 23 49 14.4 -0.3
MWC *e**PP pP 23 49 29.9 -1.4
LAO **LASA Array** 80.01 40 *e*P P 23 49 15.0 +0.5
comp=Z,103nm,1.1s,mb5.7
HWUT **Hardware Ranch** 80.01 47 *e*P P 23 49 15.5 +0.8
comp=Z,148nm,1.2s,mb5.8
NNZ **Nelson** 80.03 156 PN P 23 49 14.6 -0.2
BALT **Daday** 80.07 313 *i*P P 23 49 16.3 +1.3
KAHT **Ahir Dag** 80.12 309 *i*P P 23 49 16.6 +1.3
NOQ **North Oquirrh** 80.23 48 *e*P P 23 49 16.8 +0.9
NOQ *e*pP pP 23 49 31.5 -1.1
MRZ **Mangatainoka R** 80.32 154 *e*PN P 23 49 16.4 0.0
TCUT **Toone Canyon** 80.39 47 *e*P P 23 49 17.9 +1.1
CTU **Camp Tracy** 80.43 47 *e*P P 23 49 17.5 +0.5
RYDS **Riyadh** 80.44 293 P P 23 49 15.7 -1.7
BSD **Bornholm Skovb** 80.47 332⇑ *i*P P 23 49 16.2 -0.6
BSD *i* pP 23 49 34.1 +0.6
BSD pmax pmax
comp=Z,61nm,1.1s,mb5.4
BSD **Bornholm Skovb** 80.47 332⇑ *i*P P 23 49 16.2 -0.6
comp=Z,61nm,1.1s,mb5.5
BSD *i* pP 23 49 34.1 +0.6
PDAR **Pinedale Array** 80.52 45 P P 23 49 17.7 +0.3
comp=Z,12nm,0.9s,mb4.8,baz=297,slow=3.3,SNR=42
PDAR PKKPbc 00 07 57.8
comp=Z,0.5nm,0.8s,baz=108,slow=4.7,SNR=3.5
PDAR PKPPKP 00 16 03.0
comp=Z,0.9nm,1.0s,baz=117,slow=3.3,SNR=5.2
PDAR LR LR 00 24 34.8
comp=Z,843nm,19.3s,MS5.1,baz=130,slow=35
TLCR 80.53 318 ⇓P P 23 49 17.8 +0.4
BFZ **Birch Farm** 80.58 154 PN P 23 49 18.2 +0.4
ELDT **Eldivan** 80.66 313 *i*P P 23 49 19.1 +0.9
NLU **North Lily Min** 80.66 48 *e*P P 23 49 19.0 +0.8
JLU **Jordanelle** 80.67 47 *e*P P 23 49 19.0 +0.8
AVNT **Avonos** 80.76 310 *i*P P 23 49 19.3 +0.5
STAV **Stavanger** 80.78 338 *e*P P 23 49 18.6 +0.2
comp=Z,102nm,1.4s,mb5.6
STAV **Stavanger** 80.78 338 *e*P P 23 49 18.6 +0.2
STAV AMb AMB 23 49 22.2
comp=Z,102nm,1.4s,mb5.6
KWP **Kalwaria** 80.86 325⇑ *i*P P 23 49 19.9 +0.9
KWP *e*S S 23 59 23.0 +1.7
KWP **Kalwaria** 80.86 325⇑ *i*P P 23 49 19.9 +0.8
comp=Z,700nm,2.0s,mb6.2
KWP *e*S S 23 59 23.1 +1.8
KWP LME 00 20 46.0
comp=Z,7μm,24.0s
KWP LMN 00 20 52.6
comp=Z,5μm,22.8s
KWP MLR MLR 00 26 42.2
comp=Z,3μm,23.6s,MS5.5
DAU **Daniels Canyon** 80.90 47 *e*P P 23 49 20.8 +1.4
MPU **Maple Canyon** 80.90 48 *e*P P 23 49 20.3 +0.8
MPU *e*pP pP 23 49 35.1 -1.0
CFR **Carcaliu** 80.92 319 P P 23 49 20.2 +0.8
CFR **Carcaliu** 80.92 319 ⇓P P 23 49 19.8 +0.4
BURAR **Bucovina Array** 80.93 322 ⇑P P 23 49 20.1 +0.7
BR131 **Keskin Array S** 80.98 312 *e*P P 23 49 20.2 +0.3
comp=Z,49nm,0.8s,mb5.5
BRTR **Keskin Array B** 80.98 312 P P 23 49 20.4 +0.5
BRTR 00 07 57.4
BRTR pmax pmax
comp=Z,61nm,1.0s
BRTR **Keskin Array B** 80.98 312 P P 23 49 20.4 +0.5
comp=Z,61nm,1.0s,mb5.5,baz=108,slow=3.9,SNR=158
BRTR PKKPbc 00 07 57.4
comp=Z,2.2nm,0.8s,baz=187,slow=2.8,SNR=12
COP **Copenhagen** 81.00 333⇑ *i*P P 23 49 19.5 -0.1
COP *i* S S 23 59 23.7 +1.1
COP pmax pmax
comp=Z,96nm,0.9s,mb5.7
COP **Copenhagen** 81.00 333⇑ *i*P P 23 49 19.5 -0.1
comp=Z,96nm,0.9s,mb5.7
COP *i* S S 23 59 23.7 +1.1
COP *i* 00 04 50.6
ARUT **Antelope Range** 81.05 51 *e*P P 23 49 21.0 +0.7
KHZ **Kahutara** 81.15 156 PN P 23 49 20.2 -0.5
COBT **Iskenderun** 81.16 308 *i*P P 23 49 22.1 +1.2
TIRR **Tirgusor** 81.21 318 P P 23 49 21.4 +0.4
TIRR **Tirgusor** 81.21 318 ⇑P P 23 49 21.3 +0.3
VRI **Vrincioaia** 81.25 320 P P 23 49 21.9 +0.7
VRI **Vrincioaia** 81.25 320 ⇓P P 23 49 22.0 +0.8
HARR **Harsova** 81.33 318 ⇑P P 23 49 22.1 +0.5
NEN **Nelson** 81.36 53 *e*P P 23 49 22.4 +0.5
ANTO **Ankara** 81.42 312 P P 23 49 23.2 +1.0
PFO **Pinyon Flat Ob** 81.42 55 *e*P P 23 49 22.7 +0.4
PFO pmax pmax
comp=Z,171nm,1.1s,mb5.9
PFO **Pinyon Flat Ob** 81.42 55 *e*P P 23 49 22.7 +0.3
comp=Z,171nm,1.1s,mb5.9
MVU **Marysvale** 81.42 49 *e*P P 23 49 23.5 +1.2
comp=Z,97nm,1.0s,mb5.7
MSU **Marysvale** 81.44 49 *e*P P 23 49 23.7 +1.4
SGKT **Sivrigoynuk** 81.45 313 *i*P P 23 49 23.2 +0.9
LDFC **Landfair** 81.51 54 *e*P P 23 49 23.2 +0.5
RGN **Rugen** 81.51 332 P P 23 49 20.8 -1.5
comp=Z,144nm,1.1s,mb5.8
KOLS **Kolonicke sedl** 81.54 324 *i*P P 23 49 22.9 +0.3
TMUT **Trail Mountain** 81.59 48 *e*P P 23 49 24.1 +1.0
MUD **Monsted U'grnd** 81.60 335⇑ *i*P P 23 49 22.6 -0.1
MUD *i* 23 52 34.0
MUD *i*S S 23 59 30.4 +1.7
MUD *i* 00 04 49.6
MUD pmax pmax
comp=Z,95nm,1.2s,mb5.6
MUD **Monsted U'grnd** 81.60 335⇑ *i*P P 23 49 22.6 -0.1
comp=Z,95nm,1.2s,mb5.6
MUD *i* 23 52 34.0
MUD *i*S S 23 59 30.4 +1.7
MUD *i* 00 04 49.6
MUD *i* 00 09 41.8
STHS **Stebnicka Huta** 81.71 325 *i*P P 23 49 24.3 +0.8
UZH **Uzhgorod** 81.73 324 *e*P P 23 49 25.0 +1.4
UZH *e*S S 23 59 35.0 +4.7
BAR **Barrett** 81.79 56 *e*P P 23 49 24.2 0.0
PSN **Preselentsi** 81.83 317 *i*P P 23 49 26.0 +1.8
PSN **Preselentsi** 81.83 317 *i*P P 23 49 26.0 +1.8
ISR **Istrita** 81.83 319 P P 23 49 25.8 +1.6
OJC **Ojcow** 81.85 326⇑ *i*P P 23 49 24.6 +0.4
OJC *e*S S 23 59 33.4 +2.0

OJC MLR MLR
comp=Z,3µm,19.2s,MS5.7
OJC Ojcow 81.85 326 ⇑ *i*P **P** **23 49 24.6 +0.4**
OJC *e*PcP PcP 23 49 30.8 +0.7
OJC *e*S S 23 59 33.4 +2.0
OJC MLR MLR 00 29 29.9
comp=Z,3µm,19.2s,MS5.7
MLR Muntele Rosu 81.91 320 P **P** **23 49 25.0 +0.4**
MLR pmax pmax
comp=Z,32nm,0.7s
MLR MLR MLR
comp=Z,3µm,21.9s
MLR Muntele Rosu 81.91 320 P **P** **23 49 25.0 +0.4**
comp=Z,32nm,0.7s,mb5.4,baz=350,slow=4.8,SNR=44
MLR LR LR 00 29 12.1
comp=Z,3µm,21.9s,MS5.7,baz=45,slow=38
MLR Muntele Rosu 81.91 320 ⇓ P **P** **23 49 25.3 +0.7**
CRVS Cervenica-Dubn 81.96 325 *e*P **P** **23 49 26.1 +1.3**
CRVS *e*S S 23 59 35.4 +2.9
HENT Hendek 82.00 314 *i* P **P** **23 49 24.9 -0.2**
SRU San Rafael 82.13 48 *e*P **P** **23 49 26.8 +0.9**
ARSS Ar Rass 82.13 296 P **P** **23 49 26.1 0.0**
NIE Niedzica 82.16 325 ⇑ *i*P **P** **23 49 26.7 +0.9**
SNX Sinaia 82.23 320 P **P** **23 49 27.7 +1.4**
HILS Ha'il 82.39 298 P **P** **23 49 27.7 +0.2**
VOIR 82.43 320 ⇓ P **P** **23 49 28.0 +0.7**
MEST Erdemli 82.50 309 *i* P **P** **23 49 28.3 +0.5**
MTUR Matau 82.56 320 P **P** **23 49 30.1 +2.2**
RWWY Rawlins 82.56 45 *e*P **P** **23 49 28.8 +0.7**
comp=Z,181nm,1.4s,mb5.9
BUC1 Bucharest 82.60 319 P **P** **23 49 28.9 +0.7**
RAC Raciborz 82.68 327 ⇑ *e*P **P** **23 49 29.4 +1.0**
RAC *e*PP PP 23 52 40.9 +0.4
RAC *e*S S 23 59 41.5 +1.7
RAC MLR MLR 00 29 23.7
comp=Z,3µm,19.9s,MS5.7
KECS Kecovo 82.72 325 *i* P **P** **23 49 29.2 +0.5**
KECS *e*S S 23 59 43.0 +2.8
KECS Kecovo 82.72 325 *i* pP **P** **23 49 29.2 +0.5**
KECS Kecovo 82.72 325 *e*S S 23 59 43.0 +2.8
DRGR 82.76 322 P **P** **23 49 29.8 +0.9**
DRGR 82.76 322 ⇑ P **P** **23 49 29.3 +0.4**
ULM Lac du Bonnet 82.78 33 P **P** **23 49 28.4 -0.6**
comp=Z,25nm,1.0s,mb5.2,baz=294,slow=4.9,SNR=25
ULM LR LR 00 30 29.2
comp=Z,925nm,19.5s,MS5.2,baz=119,slow=39
ULM Lac du Bonnet 82.78 33 *e*P **P** **23 49 26.9 -2.0**
comp=Z,19nm,1.0s,mb5.1
ESKT Eskisehir 82.83 313 *i* P **P** **23 49 29.3 -0.1**
RSSD Black Hills 82.83 41 *e*P **P** **23 49 29.2 -0.1**
RSSD pmax pmax
comp=Z,95nm,1.4s,mb5.6
RSSD Black Hills 82.83 41 *e*P **P** **23 49 29.1 -0.2**
comp=Z,95nm,1.4s,mb5.6
RUE Ruedersdorf 82.86 331 *e*P **P** **23 49 28.9 -0.4**
comp=Z,317nm,1.5s,mb6.1
OKC Ostrava-Krasne 82.88 327 ⇑ *i*P **P** **23 49 29.8 +0.4**
OKC *e* pP 23 49 44.8 -1.4
OKC *e*PP PP 23 52 41.5 -0.6
OKC *e*SKS SKS 23 59 44.0 +2.4
OKC Ostrava-Krasne 82.88 327 ⇑ *i*P **P** **23 49 29.8 +0.4**
OKC *e*pP pP 23 49 44.8 -1.4
OKC *e*PP PP 23 52 41.5 -0.6
OKC *e*SKS SKS 23 59 44.0 +2.4
OKC AMS AMS 00 29 10.0
comp=Z,3µm,19.1s
KSP Ksiaz 82.99 328 ⇑ *i*P **P** **23 49 30.5 +0.5**
KSP *e*pP pP 23 49 45.2 -1.6
KSP *e*PP PP 23 52 38.5 -4.5
KSP *e*S S 23 59 43.0 +0.1
KSP *e*SS SS 00 05 05.0 -5.8
KSP LR LR
comp=Z,5µm,19.8s,MS5.9
KSP Ksiaz 82.99 328 ⇑ *i*P **P** **23 49 30.6 +0.6**
comp=Z,500nm,1.8s,mb6.2
KSP *e*PP PP 23 52 39.0 -4.0
KSP *e*S S 23 59 46.6 +3.7
KSP *e*SS SS 00 05 10.4 -0.4
KSP MLR MLR 00 27 28.2
comp=Z,4µm,22.6s,MS5.7
BHL Bhannes 83.07 306 *e*P **P** **23 49 31.3 +0.5**
BSEG Bad Segeberg 83.13 333 *e*P **P** **23 49 30.6 0.0**
MORC Moravsky Berou 83.20 327 *e*P **P** **23 49 31.6 +0.5**
MORC pmax pmax
comp=Z,211nm,1.5s,mb6.0
MORC Moravsky Berou 83.20 327 *e*P **P** **23 49 31.6 +0.5**
comp=Z,211nm,1.5s,mb6.0
ASF Jabal al Asfar 83.21 304 P **P** **23 49 32.7 +1.1**
comp=Z,41nm,0.9s,mb5.5,baz=286,slow=1.3,SNR=51
DPC Dobruska-Polom 83.33 328 ⇑ *i*P **P** **23 49 32.5 +0.8**
DPC *e* pP 23 49 47.3 -1.2
DPC *e*PP PP 23 52 44.0 -1.7
DPC *e*SKS SKS 23 59 48.1 +3.4
DPC LR LR
comp=Z,3µm,18.0s,MS5.7
DPC Dobruska-Polom 83.33 328 ⇑ *i*P **P** **23 49 32.5 +0.8**
DPC *e*pP pP 23 49 47.3 -1.2
DPC *e*PP PP 23 52 44.0 -1.7
DPC *e*SKS SKS 23 59 48.1 +3.4
DPC AMS AMS 00 30 40.0
comp=Z,3µm,18.0s
SZH Strazhica 83.35 318 *i* P **P** **23 49 33.0 +1.0**
SZH Strazhica 83.35 318 *i* P **P** **23 49 33.0 +1.0**
UPC Upice 83.36 328 ⇑ *i*P **P** **23 49 32.4 +0.5**
UPC *e*pP pP 23 49 47.2 -1.4
UPC *e*PP PP 23 52 44.2 -1.7
UPC *e*SKS SKS 23 59 47.0 +2.1
QURS Qurayyt al Mil 83.37 303 P **P** **23 49 33.7 +1.4**
PPT Papeete 83.38 116 *e*P **P** **23 49 21.7 -11**
PPT *e*S S 00 00 24.7 +37
comp=Z,497nm,25.8s
PPT *e*SS SS 00 05 20.5 +3.6
comp=Z,520nm,27.8s
PPT *e*LQ 00 11 18.5
comp=Z,2µm,28.5s
PPT *e*LR LR 00 14 47.5
comp=Z,4µm,24.0s,baz=311
PPT Papeete 83.38 116 *e*LR LR 00 14 51.3
comp=Z,1µm,23.8s,baz=298
PPT Papeete 83.38 116 P **P** **23 49 33.5 +0.8**
comp=Z,12nm,0.3s,mb5.3,baz=351,slow=4.4,SNR=3.3
PPT LR LR 00 18 32.5
comp=Z,1µm,20.5s,MS5.3,baz=285,slow=30
HRI Mount Hermon 83.38 306 P **P** **23 49 33.1 +0.7**
PSZ Piszkesteto 83.39 325 *e*P **P** **23 49 32.9 +0.8**
PSZ pmax pmax
comp=Z,219nm,1.1s,mb6.1
PSZ Piszkesteto 83.39 325 *e*P **P** **23 49 32.9 +0.8**
comp=Z,219nm,1.1s,mb6.1
PSZ Piszkesteto 83.39 325 ⇑ *i*P **P** **23 49 33.0 +0.9**
VAH Vaihoa 83.45 113 *e*LR LR 00 15 26.8
comp=Z,5µm,21.6s
KSDI Kefar Szold 83.48 305 P **P** **23 49 33.7 +0.9**
KSHT Keshet 83.49 305 P **P** **23 49 33.9 +1.0**
PV10 Paradox Valley 83.50 48 *e*P **P** **23 49 34.2 +1.4**
VYHS Vyhne 83.50 325 *e*P **P** **23 49 33.6 +1.0**
JMB Yambol 83.50 317 *i* P **P** **23 49 34.0 +1.3**
JMB Yambol 83.50 317 *i* P **P** **23 49 34.0 +1.3**
PHNC Paralimni 83.51 308 ⇑ P **P** **23 49 31.1 -1.9**
PHNC Paralimni 83.51 308 ⇑ *e*P **P** **23 49 31.1 -1.9**
KOLL Kolacno 83.65 326 *i* P **P** **23 49 34.4 +1.1**
PVL Pavlikeni 83.72 318 *i* P **P** **23 49 35.5 +1.7**
PVL Pavlikeni 83.72 318 *i* P **P** **23 49 35.5 +1.7**
MUKL Al Mukalla 83.73 283 *e*P **P** **23 49 34.8 +0.4**
PHWY Pilot Hill 83.83 44 *e*P **P** **23 49 35.1 +0.7**
CRAR CRAIOVA 83.83 320 P **P** **23 49 35.3 +1.0**
HNTI Hanita 83.87 306 P **P** **23 49 35.5 +0.7**
PV01 Paradox Valley 83.94 48 *e*P **P** **23 49 35.9 +0.9**
VRAC Vranov 83.96 327 P **P** **23 49 36.1 +1.2**
PVCC Panska Ves 83.97 329 ⇑ *i*P **P** **23 49 35.7 +0.8**
PVCC *e*pP pP 23 49 51.1 -0.6
PVCC *e*PP PP 23 52 50.8 0.0
PVCC *e*SKS SKS 23 59 51.1 +2.1
PVCC AMS AMS 00 30 30.0
comp=Z,3µm,17.3s
BRG Berggiesshubel 83.99 329 ⇑ *i*P **P** **23 49 35.4 +0.4**
BRG *i* pP 23 49 53.4 +1.6
BRG *i* 23 52 46.8
BRG 23 59 53.0
BRG *e*S S 23 59 54.3 +1.5
BRG pmax pmax
comp=Z,56nm,1.1s,mb5.6
BRG pmax pmax
comp=Z,112nm,2.0s,mb5.7
BRG MLR MLR
comp=N,1µm,16.0s,MS5.7
BRG MLR MLR
comp=E,2µm,16.0s,MS5.7
BRG MLR MLR
comp=Z,2µm,17.8s,MS5.6
BRG Berggiesshubel 83.99 329 ⇑ *i*P **P** **23 49 35.4 +0.4**
comp=Z,56nm,1.1s,mb5.6
BRG *i* pP 23 49 53.4 +1.7
BRG *i* PP PP 23 52 46.8 -4.1
BRG SKS SKS 23 59 53.0 +3.9
BRG *e*S S 23 59 54.3 +1.4
BRG *e* 00 13 04.3
BRG *e*P'P' 00 13 08.8
BRG LR LR
comp=Z,2µm,17.8s,MS5.6
CSS Prodhromos 83.99 308 ⇑ P **P** **23 49 34.8 -0.6**
comp=Z,2.1nm,1.0s
CSS Prodhromos 83.99 308 *e*P **P** **23 49 35.7 +0.3**
comp=Z,247nm,1.0s,mb6.3
TKTP Tekketepe 84.06 312 *i* P **P** **23 49 35.9 +0.2**
CLL Collm 84.06 330 ⇑ *i*P **P** **23 49 35.4 +0.1**
CLL *i* *PP pP 23 49 51.6 -0.5
CLL *e*S S 23 59 51.0 -2.5
CLL pmax pmax
comp=Z,158nm,1.3s,mb6.0
CLL MLR MLR
comp=Z,4µm,16.2s,MS5.8
CLL Collm 84.06 330 ⇑ *i*P **P** **23 49 35.4 +0.1**
comp=Z,158nm,1.3s,mb6.0
CLL *i* pP pP 23 49 51.6 -0.5
CLL *e*S S 23 59 51.0 -2.5
CLL LR LR
comp=Z,4µm,16.2s,MS5.8
CLL Collm 84.06 330 ⇑ P **P** **23 49 35.4 +0.1**
comp=Z,logA/T=2.1,mb6.0
CLL *i* *PP pP 23 49 51.6 -0.5
CLL *i* *SP sP 23 49 59.7 +1.2
CLL *e*PP PP 23 52 50.0 -1.4
CLL *e*PPP 23 53 00.0
CLL *e*SPP 23 53 09.0
CLL *e*S S 23 59 51.0 -2.5
CLL *e*SCS ScS 00 00 06.0 +2.0
CLL *e*PPS PPS 00 01 12.0 -7.6
CLL *e*SS SS 00 05 23.0 -2.8
CLL *e*SSS SSS 00 08 52.0 -1.2
ISP Isparta 84.06 312 *e*P **P** **23 49 35.5 -0.2**
ISP pmax pmax
comp=Z,90nm,1.0s,mb5.8
ISP Isparta 84.06 312 *e*P **P** **23 49 35.5 -0.1**
comp=Z,90nm,1.0s,mb5.8
MMLI Mount Malkishu 84.08 305 P **P** **23 49 37.0 +1.1**
BUD Budapest 84.12 325 ⇑ *e*P **P** **23 49 36.4 +0.7**
KAMS Al Khamasin 84.14 290 P **P** **23 49 36.3 -0.1**
SMOL Smolenice 84.15 326 *i* P **P** **23 49 37.4 +1.6**
HAF Haifa 84.15 305 P **P** **23 49 36.7 +0.5**
SRO Srobarova 84.23 325 *i* P **P** **23 49 37.6 +1.3**
OFRI 'Ofer 84.27 305 P **P** **23 49 37.5 +0.7**
DJES Djerdap 84.30 321 ⇑ P **P** **23 49 36.7 0.0**
SRO1 Iza 84.30 325 *e*P **P** **23 49 38.0 +1.4**
ALFC Alevga 84.36 309 ⇑ P **P** **23 49 36.2 -1.0**
comp=Z,3.6nm,0.9s
ALFC Alevga 84.36 309 ⇑ *e*P **P** **23 49 36.2 -1.0**
DIM Dimitrovgrad 84.37 317 *e*P **P** **23 49 39.0 +1.9**
DIM Dimitrovgrad 84.37 317 *e*P **P** **23 49 39.0 +1.9**
PRA Prague 84.37 329 ⇑ P **P** **23 49 37.0 +0.1**
BTOK Tokmak 84.38 314 *i* P **P** **23 49 37.6 +0.4**
PRU Pruhonice 84.38 329 ⇑ *i*P **P** **23 49 37.4 +0.4**
PRU *e* pP 23 49 52.7 -1.1
PRU *e*PP PP 23 52 52.2 -1.9
PRU *e*SKS SKS 23 59 53.4 +1.6
PRU LR LR
comp=Z,2µm,18.5s,MS5.6
PRU Pruhonice 84.38 329 ⇑ *i*P **P** **23 49 37.4 +0.4**
PRU *e*pP pP 23 49 52.7 -1.1
PRU *e*PP PP 23 52 52.2 -1.9
PRU *e*SKS SKS 23 59 53.4 +1.6
PRU AMS AMS 00 30 50.0
comp=Z,2µm,18.5s
SZAC Souni-Zanaja 84.41 308 P **P** **23 49 36.8 -0.7**
MVH1 Achvaich 84.44 342 ⇑ *e*P **P** **23 49 37.5 +0.5**
MKRJ Makawir 84.44 304 P **P** **23 49 38.6 +0.9**
SLTI Sal'it 84.45 305 P **P** **23 49 38.8 +1.0**
MCD Coleburn Disti 84.50 342 ⇑ *e*P **P** **23 49 37.5 +0.2**
REB Eisgbrachaidh 84.54 343 ⇑ *e*P **P** **23 49 38.2 +0.7**
PPCY Paphos 84.69 308 ⇑ P **P** **23 49 37.8 -1.1**
PPCY Paphos 84.69 308 ⇑ *e*P **P** **23 49 37.8 -1.1**
ISCO Idaho Springs 84.69 45 *e*P **P** **23 49 40.1 +1.3**
ISCO pmax pmax
comp=Z,49nm,1.0s,mb5.6
ISCO Idaho Springs 84.69 45 *e*P **P** **23 49 40.1 +1.3**
comp=Z,49nm,1.0s,mb5.6
KDZ Kurdzhali 84.69 317 *i* P **P** **23 49 40.0 +1.3**
KDZ Kurdzhali 84.69 317 *i* P **P** **23 49 40.0 +1.3**
CLZ Clausthal 84.72 332 *e*P **P** **23 49 39.0 +0.4**
CLZ pmax pmax
comp=Z,252nm,1.3s,mb6.2
CLZ Clausthal 84.72 332 *e*P **P** **23 49 39.0 +0.4**
comp=Z,252nm,1.3s,mb6.2
MZDA Masada 84.78 304 P **P** **23 49 40.0 +0.6**
PLD Plovdiv 84.80 318 *e*P **P** **23 49 41.0 +1.7**
PLD Plovdiv 84.80 318 *e*P **P** **23 49 41.0 +1.7**
PGB Panagyurishte 84.80 319 *e*P **P** **23 49 40.0 +0.7**
PGB Panagyurishte 84.80 319 *e*P **P** **23 49 40.0 +0.7**
ALN Alexandroupoli 84.82 316 *e*P **P** **23 49 39.9 +0.5**
MANT Manisa 84.86 313 *i* P **P** **23 49 40.0 +0.3**
RRR Rubha Reidh 84.91 343 ⇑ *e*P **P** **23 49 39.8 +0.4**
MDO Dochfour 84.91 342 ⇑ *e*P **P** **23 49 39.4 -0.1**
RZN Rozhen 85.06 318 *i* P **P** **23 49 42.0 +1.4**
RZN Rozhen 85.06 318 *i* P **P** **23 49 42.0 +1.4**
RRH Rhenigidale 85.06 343 ⇑ *e*P **P** **23 49 40.7 +0.5**
DNZL Cakiroluk 85.07 312 *i* P **P** **23 49 41.3 +0.6**
NKC Novy Kostel 85.10 330 ⇑ *i*P **P** **23 49 40.9 +0.4**
NKC *ex* x 23 49 56.1
NKC *e*PP PP 23 52 58.7 -1.1
NKC *e*SKS SKS 23 59 58.0 +1.4
NKC AMS AMS 00 30 40.0
comp=Z,2µm,16.9s
MOX Moxa 85.14 330 ⇑ *e*P **P** **23 49 40.9 +0.2**
MOX *e**PP pP 23 50 02.0 +4.4
MOX *e* 23 52 57.0
MOX *e*S S 00 00 10.0 +5.8
MOX pmax pmax
comp=Z,280nm,1.9s,mb6.1
MOX MLR MLR
comp=Z,2µm,22.0s,MS5.4
MOX Moxa 85.14 330 ⇑ *e*P **P** **23 49 40.9 +0.2**
comp=Z,280nm,1.9s,mb6.1
MOX *e*pP pP 23 50 02.0 +4.4
MOX *e*sP sP 23 50 10.0 +6.1
MOX *e*PP PP 23 52 57.0 -3.1
MOX *e*S S 00 00 10.0 +5.8
MOX *e*SS SS 00 05 51.0 +9.1
MOX *e*PKKP PKKP 00 07 46.0 +17
MOX *e*LQ 00 12 10.0
MOX LR LR
comp=Z,2µm,22.0s,MS5.4
MOX Moxa 85.14 330 ⇑ *i*P **P** **23 49 40.9 +0.2**
comp=Z,logA/T=2.2,mb6.1
MOX pP pP 23 50 02.0 +4.4
MOX sP sP 23 50 10.0 +6.1
MOX PP PP 23 52 57.0 -3.1
MOX S S 00 00 10.0 +5.8
MOX SS SS 00 05 51.0 +9.1
MOX PKKP PKKP 00 07 46.0 +17
MOX LQ 00 12 10.0
MOX L 00 31 22.0
BOLS Boljevac 85.14 321 ⇓ *i*P **P** **23 49 40.5 -0.4**
ZAPS Zavoj/Pirot 85.15 320 ⇑ *i*P **P** **23 49 41.4 +0.5**
KBRS Khaybar 85.16 298 P **P** **23 49 42.6 +1.2**
SVIS Svilajnac 85.22 321 ⇓ *i*P **P** **23 49 41.3 +0.1**
BEO Belgrade 85.25 322 ⇓ *i*P **P** **23 49 41.9 +0.4**
VTS Vitosha 85.31 319 P **P** **23 49 42.6 +0.8**
VTS Vitosha 85.31 319 *i* P **P** **23 49 42.5 +0.7**
VTS Vitosha 85.31 319 *i* P **P** **23 49 42.5 +0.7**
ZFRI Zfri 85.35 304 P **P** **23 49 42.8 +0.5**
WIT Witteveen 85.37 334 ⇑ *e*P **P** **23 49 42.5 +0.7**
WIT *e*pP pP 23 49 58.6 0.0
TATS Tathlith 85.42 290 P **P** **23 49 43.9 +1.0**
KHC Kasperske Hory 85.44 328 ⇑ *i*P **P** **23 49 42.7 +0.5**
KHC *e* pP 23 49 55.4 -3.7
KHC *e* 23 53 03.4
KHC *e* 00 00 00.3
KHC *e* 00 00 01.1
KHC MLR MLR
comp=Z,2µm,19.0s,MS5.5
KHC Kasperske Hory 85.44 328 ⇑ *i*P **P** **23 49 42.8 +0.6**
KHC Kasperske Hory 85.44 328 ⇑ *i*P **P** **23 49 42.7 +0.5**
KHC *e*pP pP 23 49 55.4 -3.7
KHC *e*PP PP 23 53 03.4 +0.9
KHC *e*SKS SKS 00 00 00.3 +1.4
KHC AMS AMS 00 28 50.0
comp=Z,2µm,19.0s
AYVA Ayvalik 85.47 315 *i* P **P** **23 49 42.5 -0.1**
PRNI Paran 85.59 304 P **P** **23 49 44.0 +0.5**
GEC2 GERESS Array S 85.60 328 *e*P **P** **23 49 43.0 0.0**
GEC2 pmax pmax
comp=Z,106nm,1.5s,mb5.8
GEC2 GERESS Array S 85.60 328 *e*P **P** **23 49 43.0 0.0**
comp=Z,106nm,1.5s,mb5.8
GERES GERESS Array B 85.60 328 P **P** **23 49 43.2 +0.2**
comp=Z,17nm,0.8s,mb5.3,baz=37,slow=5.2,SNR=158
GERES PKJKPbc 00 07 46.1
comp=Z,1.7nm,0.9s,baz=207,slow=3.0,SNR=11
GERES PKPPKP 00 15 51.6
comp=Z,0.7nm,0.8s,baz=243,slow=3.0,SNR=5.3
GERES LR LR 00 32 31.0
comp=Z,2µm,18.7s,MS5.5,baz=244,slow=39
KZIT Kziot 85.68 304 P **P** **23 49 44.2 +0.3**
MMB Musomiste 85.69 318 *i* P **P** **23 49 44.0 +0.4**
MMB Musomiste 85.69 318 *i* P **P** **23 49 44.0 +0.4**
KSL Kastellorizon 85.69 311 *e*P **P** **23 49 43.5 -0.3**
KDAG Bornova 85.70 314 *i* P **P** **23 49 44.0 +0.2**
WET Wettzell 85.74 329 *e*P **P** **23 49 44.2 +0.5**
WET pmax pmax
comp=Z,103nm,1.5s,mb5.8
WET Wettzell 85.74 329 *e*P **P** **23 49 44.2 +0.5**
comp=Z,103nm,1.5s,mb5.8
TBKS Tabuk 85.74 301 P **P** **23 49 44.9 +0.6**
PRK Paraskevi 85.76 315 *e*P **P** **23 49 45.0 +1.0**
GRUS Gruza 85.76 321 ⇑ *i*P **P** **23 49 44.1 +0.2**
NVR Nevrokopi 85.77 318 *e*P **P** **23 49 43.2 -0.9**
KKB Krupnik 85.86 319 *i* P **P** **23 49 45.0 +0.5**
KKB Krupnik 85.86 319 *i* P **P** **23 49 45.0 +0.5**
AQBJ Aqaba 85.92 303 P **P** **23 49 45.4 +0.3**
ARSA Arzberg 85.95 326 *i* P **P** **23 49 45.3 +0.5**
comp=Z,81nm,1.3s,mb5.8
MBH Mount Berech 85.98 303 P **P** **23 49 45.7 +0.3**
DIVS Divcibare 86.00 322 ⇓ *i*P **P** **23 49 45.1 0.0**
WTSB Winterswijk 86.00 334 ⇑ *e*P **P** **23 49 44.8 -0.1**
comp=Z,77nm,2.0s,mb5.6
WTSB *e*pP pP 23 50 00.4 -1.3
LOS Limnos 86.01 316 *e*P **P** **23 49 45.3 +0.1**
GRA1 Grafenberg Arr 86.03 330 *e*P **P** **23 49 45.8 +0.7**
comp=Z,324nm,1.2s,mb6.4
GRA1 *e*pP pP 23 50 02.0 0.0
GRA1 *e*sP sP 23 50 09.3 +1.0
GRA1 *e*PP PP 23 53 07.8 +0.6
GRA1 *e*S S 00 00 05.9 -6.9
GRA1 *e*SS SS 00 06 04.1 +8.8
GRA1 Grafenberg Arr 86.03 330 *e*PKKP PKKP 00 07 45.5 +18
GRF Grafenberg Arr 86.03 330 *e*P **P** **23 49 45.8 +0.7**
GRF *e**PP pP 23 50 02.0 0.0
GRF *e* 23 53 07.8
GRF *e*S S 00 00 05.9 -6.9
GRF pmax pmax
comp=Z,324nm,1.2s,mb6.4
GRF Grafenberg Arr 86.03 330 *e*P **P** **23 49 45.8 +0.7**
comp=Z,324nm,1.2s,mb6.4
GRF *e*pP pP 23 50 02.0 0.0
GRF *e*sP sP 23 50 09.3 +1.0
GRF *e*PP PP 23 53 07.8 +0.6
GRF *e*S S 00 00 05.9 -6.9
GRF *e*SS SS 00 06 04.1 +8.8
GRF *e*PKKP PKKP 00 07 45.5 +18
EIL Elat 86.03 303 *e*P **P** **23 49 45.6 0.0**
comp=Z,215nm,1.2s,mb6.2
EIL Elat 86.03 303 P **P** **23 49 45.9 +0.3**
TUC Tucson 86.05 54 *e*P **P** **23 49 46.1 +0.5**
TUC pmax pmax
comp=Z,55nm,1.4s,mb5.6
TUC Tucson 86.05 54 *e*P **P** **23 49 46.1 +0.4**
comp=Z,55nm,1.4s,mb5.6
SDCO Great Sand Dun 86.07 47 *e*P **P** **23 49 46.8 +1.2**
comp=Z,65nm,1.1s,mb5.8
SRS Serrai 86.08 318 *e*P **P** **23 49 45.0 -0.6**
MOA Molln 86.09 327 ⇑ *i*P **P** **23 49 45.9 +0.5**
comp=Z,94nm,1.2s,mb5.9
MOA *i* 23 53 02.0
comp=Z,27nm,1.2s
ALWS Ilw as Safayha 86.16 303 P **P** **23 49 46.8 +0.5**
JMOS Jabal al Moall 86.21 303 P **P** **23 49 47.0 +0.5**
OUR Ouranopolis 86.38 317 *e*P **P** **23 49 44.7 -2.4**
HAQS Haql 86.41 303 P **P** **23 49 48.0 +0.5**
SMG Samos 86.41 313 *e*P **P** **23 49 40.0 -7.3**
SOH Sokhos 86.41 318 *e*P **P** **23 49 46.6 -0.6**
KNT Kendrikon 86.44 318 *e*P **P** **23 49 47.6 +0.3**
BBLS Bajina Basta - 86.46 322 ⇑ *i*P **P** **23 49 47.8 +0.4**
ESK Eskdalemuir 86.46 340 *e*P **P** **23 49 47.4 +0.3**
ESK pmax pmax
comp=Z,99nm,1.1s,mb6.0
ESK Eskdalemuir 86.46 340 *e*P **P** **23 49 47.4 +0.3**
comp=Z,99nm,1.1s,mb6.0
LCP Cassop 86.46 339 ⇑ *e*P **P** **23 49 47.7 +0.6**
VAY Valandovo 86.51 318 ⇑ *i*P **P** **23 49 47.7 0.0**
ARG Arkhangelos 86.56 312 *e*P **P** **23 49 48.5 +0.4**
LWH Whinny Nab 86.57 339 ⇑ *e*P **P** **23 49 48.3 +0.6**
BDAS Al Bad' 86.65 302 P **P** **23 49 49.2 +0.5**
PLG Polygyros 86.65 317 *e*P **P** **23 49 48.2 -0.2**
SKO Skopje 86.69 319 ⇑ *i*P **P** **23 49 49.2 +0.6**
BLJS Baljurashi 86.70 292 P **P** **23 49 50.2 +1.1**
TAYS Tayyib Ism 86.74 302 P **P** **23 49 49.6 +0.4**
THE Thessaloniki 86.75 318 *e*P **P** **23 49 47.8 -1.1**
PAIG Paliouri 86.82 317 *e*P **P** **23 49 48.6 -0.6**
PLE Pljevlja 86.84 321 ⇑ *i*P **P** **23 49 50.1 +0.8**
GRG Griva 86.85 318 *e*P **P** **23 49 48.4 -0.9**
IVA Berane 86.90 321 ⇑ *i*P **P** **23 49 50.1 +0.6**
UMJS Umm Lajj 86.92 298 P **P** **23 49 50.8 +0.7**
YNBS Yanbu' al Bahr 86.93 297 P **P** **23 49 50.8 +0.6**
OBKA Obir 86.95 326 ⇑ *i*P **P** **23 49 49.7 0.0**
comp=Z,21nm,1.1s,mb5.3
SIND Sindeldorf 86.96 331 *e*P **P** **23 49 49.7 0.0**
TBI Tubuai 87.01 120 *e*P **P** **23 49 44.3 -6.3**
TBI *e*PP PP 23 52 57.5 -19
comp=Z,198nm,38.0s
TBI *e*S 00 01 42.9
comp=Z,1µm,35.5s
TBI *e*LQ 00 12 49.8
comp=Z,2µm,31.5s
TBI *e*LR LR 00 16 37.4
comp=Z,4µm,24.2s,baz=304
PVY Plav 87.05 321 ⇑ *i*P **P** **23 49 49.9 -0.4**
GCD Castle Douglas 87.06 341 *e*P **P** **23 49 50.1 0.0**
KBA Koelnbreinsper 87.08 327 ⇑ *i*P **P** **23 49 50.3 0.0**
comp=Z,36nm,1.1s,mb5.5
KBA *i* 23 53 15.9
comp=Z,75nm,1.3s
KBA Koelnbreinsper 87.08 327 ⇑ *i*P **P** **23 49 50.3 0.0**
KBA *i* 23 53 15.9
KBA pmax pmax
comp=Z,36nm,1.1s,mb5.5
GMK Mull of Kintyr 87.09 342 ⇑ *e*P **P** **23 49 50.4 +0.2**
TOD Tromm 87.09 331 ⇑ *e*P **P** **23 49 50.6 +0.3**
LBOS 87.13 285 *e*P **P** **23 49 52.2 +1.0**
LAZ Ladron 87.16 50 *e*P **P** **23 49 52.1 +1.0**
FUR Furstenfeldbru 87.17 329 *e*P **P** **23 49 51.2 +0.5**
FUR pmax pmax
comp=Z,517nm,2.1s,mb6.4
FUR Furstenfeldbru 87.17 329 *e*P **P** **23 49 51.2 +0.5**
comp=Z,517nm,2.1s,mb6.4
HPK Haverah Park 87.18 339 ⇑ *e*P **P** **23 49 51.2 +0.6**
UPM Unac-Piva 87.18 322 ⇑ *i*P **P** **23 49 51.3 +0.4**
AOS Alonnisos 87.21 316 *e*P **P** **23 49 50.6 -0.6**
LMK Market Rasen 87.21 338 ⇑ *e*P **P** **23 49 51.1 +0.3**
ANMO Albuquerque 87.25 49 *e*P **P** **23 49 52.2 +0.7**
ANMO pmax pmax
comp=Z,64nm,1.5s
ANMO Albuquerque 87.25 49 LR LR 00 26 24.0

comp=Z,2µm,20.4s,MS5.5,slow=34
ANMO Albuquerque 87.25 49 *e*P **P 23 49 52.2 +0.7**
comp=Z,64nm,1.5s,mb5.6
GAL1 Galloway 87.27 341⇑*i*P **P 23 49 51.2 +0.1**
HGN Heimansgroeve 87.29 333⇑*i*P **P 23 49 51.2 0.0**
comp=Z,89nm,0.9s,mb6.0
HGN *e*pP pP 23 50 07.2 -1.0
LJU Ljubljana 87.30 326⇑*i*P **P 23 49 51.2 -0.2**
LJU *e* pP 23 50 06.6 -1.7
LJU *e*PP PP 23 53 19.0 +0.5
HDH Heidenheim 87.31 330⇑*e*P **P 23 49 50.9 -0.5**
BOJS Bojanci 87.35 325⇑*e*P **P 23 49 51.6 -0.1**
BOJS *e* pP 23 50 07.1 -1.5
ABH Alteburg 87.37 332⇑*e*P **P 23 49 52.0 +0.3**
ABH Alteburg 87.37 332⇑*e*P **P 23 49 51.9 +0.2**
LIT Litokhoron 87.38 318 *e*P **P 23 49 51.0 -0.9**
LTHS Al Lith 87.41 292 P **P 23 49 52.8 +0.3**
NKY Niksic 87.41 321⇑*i*P **P 23 49 51.8 -0.2**
LENM Lemitar 87.41 50 P **P 23 49 53.1 +0.8**
GCL Cushendall 87.47 342⇑*e*P **P 23 49 51.7 -0.3**
XOR Xorichti 87.47 317 *e*P **P 23 49 51.2 -1.2**
CADS Cadrg 87.53 326⇑*e*P **P 23 49 51.4 -1.1**
FNA Florina 87.54 319 *e*P **P 23 49 51.9 -0.8**
TTG Podgorica 87.54 321⇑*i*P **P 23 49 52.5 -0.2**
STU Stuttgart 87.58 330 *e*P **P 23 49 52.9 +0.2**
STU pmax pmax
comp=Z,144nm,1.3s,mb6.0
STU Stuttgart 87.58 330 *e*P **P 23 49 52.9 +0.1**
comp=Z,144nm,1.3s,mb6.0
BRY Bratogost 87.58 322⇑*i*P **P 23 49 52.3 -0.6**
KARP Karpathos 87.59 312 *e*P **P 23 49 53.0 -0.1**
LHO Holmfirth 87.61 339⇑*e*P **P 23 49 53.1 +0.4**
VOY Vojsko 87.61 326 *e*P **P 23 49 51.8 -1.1**
VOY *e* pP 23 50 09.5 -0.3
ROBS Robic 87.63 327 *i*P **P 23 49 51.6 -1.3**
BNM Barren Site 87.65 50 *e*P **P 23 49 54.1 +0.8**
WATA Walderalm 87.67 328⇑*i*P **P 23 49 53.2 0.0**
comp=Z,6.4nm,0.5s,mb5.1
WATA *i* 23 53 17.7
comp=Z,37nm,1.2s
WATA Walderalm 87.67 328⇑*i*P **P 23 49 53.2 0.0**
WATA *i* 23 53 17.7
WATA pmax pmax
comp=Z,6.0nm,0.5s,mb5.1
WTTA Wattenberg 87.70 328⇑*i*P **P 23 49 53.6 +0.3**
comp=Z,41nm,1.3s,mb5.5
WTTA *i* 23 53 26.1
comp=Z,53nm,1.3s
WTTA Wattenberg 87.70 328⇑*i*P **P 23 49 53.6 +0.3**
WTTA *i* 23 53 26.1
WTTA pmax pmax
comp=Z,41nm,1.3s,mb5.5
RUP Ruppelstein 87.71 332⇑*e*P **P 23 49 53.6 +0.3**
RUP Ruppelstein 87.71 332⇑*e*P **P 23 49 53.7 +0.4**
BUCH Bad Urach 87.77 330⇑*e*P **P 23 49 53.8 +0.2**
BUM Brajici-Budva 87.82 321⇑*i*P **P 23 49 53.9 -0.1**
LBG Lerchenberg 87.83 331⇑*e*P **P 23 49 54.0 +0.1**
MOTA Moosalm 87.87 328⇑*i*P **P 23 49 54.3 +0.2**
comp=Z,27nm,1.2s,mb5.3
MOTA *i* 23 53 20.7
comp=Z,31nm,1.1s
MOTA Moosalm 87.87 328⇑*i*P **P 23 49 54.3 +0.2**
MOTA *i* 23 53 20.7
MOTA pmax pmax
comp=Z,27nm,1.2s,mb5.3
ULC Ulcinj 87.87 321⇑*i*P **P 23 49 54.5 +0.2**
WIM Isle of Man 87.90 341⇑*e*P **P 23 49 54.3 +0.2**
WIM AMb AMB 23 49 57.5
comp=Z,148nm,1.4s,mb6.0
SQTA Sankt Quirin 87.92 328⇑*i*P **P 23 49 54.8 +0.4**
comp=Z,11nm,0.8s,mb5.2
SQTA *i* 23 53 19.6
comp=Z,75nm,1.5s
SQTA Sankt Quirin 87.92 328⇑*i*P **P 23 49 54.8 +0.4**
SQTA *i* 23 53 19.6
SQTA pmax pmax
comp=Z,11nm,0.8s,mb5.1
HCY Herceg Novi 87.93 321⇑*i*P **P 23 49 54.3 -0.2**
LANF Langenberg 87.98 331⇑*e*P **P 23 49 54.8 +0.2**
STON Ston 88.04 322 *i*P **P 23 49 54.0 -1.0**
UBR Uberruh 88.05 329 *e*P **P 23 49 54.8 -0.1**
WLF Walferdange 88.09 333 *e*P **P 23 49 55.1 0.0**
WLF pmax pmax
comp=Z,158nm,1.4s,mb6.0
WLF Walferdange 88.09 333 *e*P **P 23 49 55.1 0.0**
comp=Z,158nm,1.4s,mb6.0
SANT Santorini 88.11 313 *e*P **P 23 49 54.5 -1.1**
comp=Z,38nm,0.9s,mb5.6
GUT Gutenstein 88.16 330⇑*e*P **P 23 49 55.3 -0.2**
GMM Mts of Mourne 88.17 341⇑*i*P **P 23 49 55.2 -0.2**
AGG Agios Georgios 88.20 317 *e*P **P 23 49 53.3 -2.6**
NVLJ Novalja 88.23 325 *i*P **P 23 49 54.9 -1.0**
GIVF Givet 88.24 333⇑*i*P **P 23 49 55.6 -0.2**
comp=Z,174nm,1.3s,mb5.8
GIVF Givet 88.24 333⇑*i*P **P 23 49 55.6 -0.2**
GIVF pmax pmax
comp=Z,87nm,1.3s,mb5.8
SPAK Spaichingen 88.28 330 *e*P **P 23 49 56.1 +0.1**
BFO Black Forest 88.29 331 *e*P **P 23 49 56.2 +0.1**
BFO pmax pmax
comp=Z,64nm,1.3s,mb5.7
BFO Black Forest 88.29 331 *e*P **P 23 49 56.2 +0.1**
comp=Z,64nm,1.3s,mb5.7
MEV Metsovon 88.30 318 *e*P **P 23 49 54.9 -1.5**
DAVA Damuels 88.45 329⇑*i*P **P 23 49 57.1 +0.2**
comp=Z,58nm,1.2s,mb5.7
WPM1 Penmaenmawr 88.46 340⇑*e*P **P 23 49 57.2 +0.4**
WPM1 AMb AMB 23 50 00.3
comp=Z,163nm,1.4s,mb6.1
BAIF Baives 88.50 334⇑*i*P **P 23 49 57.0 -0.1**
comp=Z,83nm,1.2s,mb5.7
BAIF Baives 88.50 334⇑*i*P **P 23 49 57.0 -0.1**
BAIF pmax pmax
comp=Z,42nm,1.2s,mb5.6
WCB1 Church Bay 88.54 340⇑*e*P **P 23 49 57.1 0.0**
WCB1 AMb AMB 23 50 00.4
comp=Z,80nm,1.4s,mb5.9
WLF1 Llynfaes 88.58 340⇑*e*P **P 23 49 57.4 +0.1**
WLF1 AMb AMB 23 50 00.8
comp=Z,101nm,1.3s,mb6.0
SBD1 Bryn Du 88.58 339⇑*i*P **P 23 49 57.9 +0.5**
WLS Welschbruch 88.62 331⇑*e*P **P 23 49 57.8 +0.2**
YLL Llanberis 88.64 340⇑*e*P **P 23 49 57.9 +0.2**
CDF Champ du Feu 88.65 331⇑*i*P **P 23 49 57.6 -0.2**
comp=Z,96nm,1.1s,mb5.7
CDF Champ du Feu 88.65 331⇑*i*P **P 23 49 57.6 -0.2**
CDF pmax pmax
comp=Z,48nm,1.1s,mb5.7
YRC Rhoscolyn 88.66 340⇑*e*P **P 23 49 57.5 -0.2**
YRC AMb AMB 23 50 01.0
comp=Z,63nm,1.4s,mb5.8
SLE Schleitheim 88.66 330⇑*i*P **P 23 49 57.2 -0.7**
LIBD Limburg 88.73 331 *e*P **P 23 49 58.4 +0.2**
NPS Neapolis 88.74 312 *e*P **P 23 49 58.2 -0.4**
KIZ Kirchzarten 88.75 331⇑*e*P **P 23 49 58.0 -0.3**
CBKS Cedar Bluff 88.76 43 P **P 23 49 59.0 +0.4**
CBKS pmax pmax
comp=Z,91nm,1.1s,mb6.0
CBKS Cedar Bluff 88.76 43 *e*P **P 23 49 57.5 -1.1**
comp=Z,91nm,1.2s,mb6.0
WILA Wila 88.76 330⇑*i*P **P 23 49 58.0 -0.4**
FELD Feldberg 88.78 330 *e*P **P 23 49 58.3 -0.1**
FUORN Ofenpass 88.80 328⇑*i*P **P 23 49 59.0 +0.4**
HLM1 Long Mynd 88.81 339⇑*e*P **P 23 49 58.4 0.0**
DAVOX Davos 88.84 329 LR LR 00 34 01.1
comp=Z,4µm,20.2s,MS5.8,baz=23,slow=38
DAVOX Davos 88.84 329⇑*i*P **P 23 49 58.9 +0.1**
PLONS Plons 88.85 329⇑*i*P **P 23 49 58.5 -0.3**
ECH Echery 88.85 331⇑*e*P **P 23 49 58.6 -0.2**
YRE Yr Eifl 88.86 340⇑*e*P **P 23 49 58.8 +0.2**
YRE AMb AMB 23 50 02.2
comp=Z,113nm,1.4s,mb6.0
XRY Khrisi 88.94 312 *e*P **P 23 49 58.5 -1.0**
SCHQ Schefferville 88.95 16 P **P 23 49 59.7 +0.6**
comp=Z,13nm,0.9s,mb5.3,baz=0.3,slow=5.4,SNR=18
SCHQ PKKPbc 00 07 36.9
comp=Z,2.9nm,0.7s,baz=207,slow=4.5,SNR=6.9
SCHQ LR LR 00 31 35.0
comp=Z,936nm,20.5s,MS5.2,baz=336,slow=37
SCHQ Schefferville 88.95 16 *e*P **P 23 49 59.0 -0.1**
comp=Z,46nm,1.1s,mb5.7
SSP1 Stoney Pound 88.96 339⇑*i*P **P 23 49 59.3 +0.2**
IGT Igoumenitsa 88.98 318 *e*P **P 23 49 58.9 -0.7**
SULZ Sulz-Cheisache 89.01 330⇑*i*P **P 23 49 58.9 -0.6**

BERNI Berninapass 89.06 328⇑*i*P **P 23 50 00.1 +0.3**
HAE Alders End 89.12 338⇑*i*P **P 23 50 00.3 +0.3**
DLF Lyons Farm 89.16 341⇑*i*P **P 23 50 00.1 0.0**
DSB Dublin 89.17 341 *e*P **P 23 49 59.8 -0.4**
comp=Z,9.6nm,0.7s,mb5.2
MUO Muotathal 89.23 330⇑*e*P **P 23 50 00.2 -0.4**
VDL Val di Lei 89.25 329⇑*i*P **P 23 50 00.9 +0.2**
HINF Hinteralfeld 89.30 331⇑*i*P **P 23 50 00.2 -0.7**
comp=Z,26nm,0.9s,mb5.2
HINF Hinteralfeld 89.30 331⇑*i*P **P 23 50 00.2 -0.7**
HINF pmax pmax
comp=Z,13nm,0.9s,mb5.3
MCH1 Michaelchurch 89.30 339⇑*i*P **P 23 50 01.0 +0.3**
HTR Trewern Hill 89.31 339⇑*e*P **P 23 50 01.0 +0.2**
BBS Basel-Blauen 89.31 330 *e*P **P 23 50 00.8 -0.1**
DCN Croghan 89.32 342⇑*i*P **P 23 50 00.7 -0.1**
BALST Balsthal 89.33 330⇑*i*P **P 23 50 00.6 -0.5**
HAU Haudompre 89.35 331⇑*i*P **P 23 50 00.5 -0.6**
comp=Z,50nm,1.1s,mb5.5
HAU *e*R
comp=Z,3µm,22.2s
HAU Haudompre 89.35 331⇑*i*P **P 23 50 00.5 -0.6**
HAU pmax pmax
comp=Z,25nm,1.1s,mb5.5
HAU MLR MLR
comp=Z,3µm,22.3s,MS5.6
LKD Levkas 89.37 317 *e*P **P 23 49 59.6 -1.8**
BNALP Bannalp 89.40 330⇑*i*P **P 23 50 01.2 -0.2**
VLI Veliai 89.40 315 *e*P **P 23 50 00.0 -1.6**
MEZF Maizieres J'vi 89.46 332⇑*i*P **P 23 50 01.9 +0.3**
comp=Z,321nm,1.8s,mb6.1
BOURR Bourrignon 89.48 331⇑*i*P **P 23 50 01.5 -0.2**
VAM Vamos 89.52 313 *e*P **P 23 50 02.7 +0.5**
HGH Gray Hill 89.55 338⇑*i*P **P 23 50 02.0 0.0**
HASLI Hasliberg 89.60 330⇑*i*P **P 23 50 02.1 -0.2**
FUSIO Fusio 89.62 329⇑*i*P **P 23 50 02.4 0.0**
KYTH Kithira 89.64 314 *e*P **P 23 50 00.0 -2.8**
LOMF Lomont 89.68 331 *e*P **P 23 50 02.6 -0.1**
ITM Ithomi 89.68 316 *e*P **P 23 50 01.7 -1.3**
MUGIO Muggio 89.88 329⇑*i*P **P 23 50 02.5 -1.1**
WIMIS Wimmis 89.90 330⇑*i*P **P 23 50 03.3 -0.4**
GVD Gavdhos 89.96 313 *e*P **P 23 50 03.4 -0.9**
comp=Z,44nm,0.7s,mb5.9
LKBD Leukerbad 90.11 330⇑*i*P **P 23 50 04.6 -0.1**
MMK Mattmark 90.24 329⇑*i*P **P 23 50 05.5 +0.2**
AMTX Amarillo 90.27 47 *e*P **P 23 50 06.3 +0.6**
comp=Z,79nm,1.0s,mb6.0
SENIN Lac Senin 90.27 330⇑*i*P **P 23 50 05.3 -0.2**
KSU1 Kansas State U 90.31 41 *e*P **P 23 50 05.7 -0.2**
GDL2 Guadalupe Moun 90.35 50 *e*P **P 23 50 06.7 +0.5**
ATD Arta Tunnel 90.37 284 LR LR 00 35 37.9
comp=Z,803nm,21.5s,MS5.1,baz=235,slow=39
GRYON Gryon 90.44 330⇑*e*P **P 23 50 05.8 -0.5**
DIX Grande Dixence 90.45 330⇑*i*P **P 23 50 06.4 +0.1**
GRAM 90.53 327 P **P 23 50 05.2 -1.6**
ORX Oropa 90.56 329 P **P 23 50 05.6 -1.3**
VALM 90.56 327 P **P 23 50 04.6 -2.3**
CABF La Chapelle 90.58 331⇑*i*P **P 23 50 06.7 -0.2**
comp=Z,66nm,1.2s,mb5.5
CABF La Chapelle 90.58 331⇑*i*P **P 23 50 06.7 -0.2**
CABF pmax pmax
comp=Z,33nm,1.2s,mb5.5
SALAN Lac Salanfe 90.58 330⇑*i*P **P 23 50 06.7 -0.3**
AQU L'Aquila 90.58 324 *e*P **P 23 50 07.2 +0.1**
AQU pmax pmax
comp=Z,98nm,1.0s,mb6.1
AQU L'Aquila 90.58 324 *e*P **P 23 50 07.2 +0.2**
comp=Z,98nm,1.0s,mb6.1
CII Carovilli 90.61 323 *e*P **P 23 50 07.5 +0.3**
comp=Z,167nm,1.4s,mb6.2
SARO Sassorosso 90.62 327 P **P 23 50 05.3 -1.9**
CLNB Carlsbad 90.62 50 *e*P **P 23 50 07.8 +0.3**
VLC Villacollemand 90.64 327 *e*P **P 23 50 08.6 +1.3**
comp=Z,51nm,1.1s,mb5.8
EMV Vieux Emosson 90.68 330⇑*i*P **P 23 50 07.3 -0.1**
BACM 90.70 327 P **P 23 50 06.2 -1.3**
CODM 90.71 327 P **P 23 50 05.3 -2.3**
TRAV 90.76 329 P **P 23 50 05.9 -1.9**
VINC Vinca 90.77 327 P **P 23 50 05.9 -1.9**
MAIM 90.79 327 P **P 23 50 05.3 -2.7**
LOR Lormes 90.93 332⇑*i*P **P 23 50 08.3 -0.2**
comp=Z,141nm,1.5s,mb5.8
LOR *e*R
comp=Z,1µm,22.8s
LOR Lormes 90.93 332⇑*i*P **P 23 50 08.3 -0.2**
LOR pmax pmax
comp=Z,70nm,1.5s,mb5.8
LOR MLR MLR
comp=Z,1µm,22.8s,MS5.3
LSD Ceresole Reale 91.05 329 P **P 23 50 09.1 -0.1**
PCP Pian Castagno 91.18 328 P **P 23 50 08.5 -1.3**
LPL La Plagne 91.19 330⇑*i*P **P 23 50 09.9 +0.1**
comp=Z,137nm,1.1s,mb5.9
LPL La Plagne 91.19 330⇑*i*P **P 23 50 09.9 +0.1**
LPL pmax pmax
comp=Z,69nm,1.1s,mb5.9
TIP Timpagrande 91.19 320 *e*P **P 23 50 09.8 -0.2**
LPG La Plagne 91.19 330⇑*i*P **P 23 50 10.0 +0.2**
comp=Z,223nm,1.3s,mb6.0
LPG La Plagne 91.19 330⇑*i*P **P 23 50 10.0 +0.2**
LPG pmax pmax
comp=Z,112nm,1.3s,mb6.0
SSF Saint Saulge 91.24 332⇑*i*P **P 23 50 09.8 -0.2**
SSF pmax pmax
comp=Z,33nm,1.2s,mb5.5
SSF Saint Saulge 91.24 332⇑*i*P **P 23 50 09.8 -0.2**
comp=Z,33nm,1.2s,mb5.5
RSP Reno Superiore 91.25 329 P **P 23 50 08.7 -1.4**
FLN La Foliniere 91.27 336⇑*i*P **P 23 50 09.7 -0.4**
comp=Z,54nm,0.9s,mb5.6
FLN *e*R
comp=Z,2µm,19.5s
FLN La Foliniere 91.27 336⇑*i*P **P 23 50 09.7 -0.4**
FLN pmax pmax
comp=Z,27nm,0.9s,mb5.6
FLN MLR MLR
comp=Z,2µm,19.5s,MS5.5
LDF La Druitiere 91.29 335⇑*i*P **P 23 50 09.8 -0.4**
comp=Z,80nm,1.2s,mb5.6
LDF La Druitiere 91.29 335⇑*i*P **P 23 50 09.8 -0.4**
LDF pmax pmax
comp=Z,40nm,1.2s,mb5.6
HYF Humbligny 91.40 333 *e*P **P 23 50 11.0 +0.3**
FENE Fenestrelle 91.43 329 P **P 23 50 08.5 -2.5**
SMF Signal de Mont 91.45 332⇑*i*P **P 23 50 10.7 -0.3**
comp=Z,102nm,1.2s,mb5.7
SMF Signal de Mont 91.45 332⇑*i*P **P 23 50 10.7 -0.3**
SMF pmax pmax
comp=Z,51nm,1.2s,mb5.7
BHB Bricherasio 91.50 329 P **P 23 50 09.9 -1.3**
FIN Finale Ligure 91.59 328 P **P 23 50 09.8 -1.9**
RRL Cesana Torines 91.64 329 P **P 23 50 11.1 -0.8**
ROB Roburent 91.67 328 P **P 23 50 10.1 -1.9**
GRR Gorron 91.72 336⇑*i*P **P 23 50 12.1 -0.1**
comp=Z,130nm,1.0s,mb5.9
MBDF Montbardon 91.80 329⇑*i*P **P 23 50 12.0 -0.6**
comp=Z,100nm,0.9s,mb5.8
MBDF Montbardon 91.80 329⇑*i*P **P 23 50 12.0 -0.6**
MBDF pmax pmax
comp=Z,50nm,0.9s,mb5.8
MONE Monesi 91.89 328 P **P 23 50 10.1 -3.0**
BGF Bois d'Agland 91.91 333⇑*i*P **P 23 50 12.9 -0.2**
comp=Z,60nm,1.1s,mb5.5
BGF Bois d'Agland 91.91 333⇑*i*P **P 23 50 12.9 -0.2**
BGF pmax pmax
comp=Z,30nm,1.1s,mb5.5
ENR Entracque 91.92 329 P **P 23 50 10.9 -2.3**
STV2 Anna di Valdie 91.94 329 P **P 23 50 10.5 -2.8**
STV Sta Anna Valdi 91.95 329 P **P 23 50 10.7 -2.6**
IMI Imperia 91.96 328 P **P 23 50 11.7 -1.7**
ORIF Oris-en-Rattie 92.03 330⇑*i*P **P 23 50 13.5 -0.2**
comp=Z,76nm,0.9s,mb5.7
ORIF *e*R
comp=Z,3µm,20.5s
SAOF Saorge 92.05 328 *e*P **P 23 50 13.4 -0.4**
PLDF La Plantade 92.09 332⇑*e*P **P 23 50 14.9 +1.0**
NEGI Negi 92.09 328 P **P 23 50 11.4 -2.6**
AUTN L'Aution 92.10 328⇑*e*P **P 23 50 13.7 -0.3**
TOUF Mont Tournerai 92.16 329⇑*e*P **P 23 50 14.0 -0.3**
SBF Sospel 92.20 328⇑*i*P **P 23 50 13.6 -0.9**
comp=Z,102nm,0.9s,mb5.9
AGO Saint Agoulin 92.22 332⇑*e*P **P 23 50 15.4 +0.9**
MVIF Mont Vial 92.30 329⇑*e*P **P 23 50 14.3 -0.6**
REVF Revere 92.33 328 *e*P **P 23 50 14.5 -0.6**

TCF Toulx Ste Croi 92.38 333⇑*i*P **P 23 50 15.3 +0.1**
comp=Z,138nm,1.5s,mb5.8
SGMF Saint Gilles 92.41 337⇑*i*P **P 23 50 15.4 +0.1**
comp=Z,108nm,1.0s,mb5.8
PYM Petit Puy Mans 92.51 332⇑*e*P **P 23 50 16.9 +1.0**
CALN Calern 92.53 329⇑*e*P **P 23 50 15.6 -0.4**
PGF Pioggiola 92.53 327⇑*i*P **P 23 50 15.5 -0.6**
comp=Z,112nm,1.3s,mb5.8
ROSF Rostrenen 92.58 337⇑*i*P **P 23 50 16.2 +0.1**
comp=Z,114nm,1.1s,mb5.9
VIVF Saint-Julien-l 92.58 331⇑*i*P **P 23 50 16.1 -0.1**
comp=Z,177nm,1.3s,mb6.0
LTX Lajitas 92.67 52 *e*P **P 23 50 17.6 +0.6**
comp=Z,118nm,1.1s,mb6.2
TXAR Lajitas Array 92.67 52 P **P 23 50 17.8 +0.8**
comp=Z,30nm,0.6s,mb5.9,baz=297,slow=2.8,SNR=273
STOF St-Etienne Org 92.75 329 *e*P **P 23 50 17.4 +0.4**
FRF La Foret Royal 92.79 329⇑*i*P **P 23 50 16.3 -0.9**
comp=Z,63nm,1.0s,mb5.7
LBL Lubilhac 92.85 332 *e*P **P 23 50 16.9 -0.5**
QUIF Quistinic 92.91 337⇑*i*P **P 23 50 17.5 -0.1**
comp=Z,101nm,1.2s,mb5.8
SMRF Simiane la Rot 92.92 329⇑*i*P **P 23 50 17.7 -0.1**
comp=Z,99nm,1.2s,mb5.8
MFF Saint Martin d 92.99 334⇑*i*P **P 23 50 18.2 +0.1**
comp=Z,133nm,1.1s,mb6.0
TAVF Tavernes 93.00 329⇑*e*P **P 23 50 18.3 +0.1**
LMR La Mourre 93.03 329⇑*i*P **P 23 50 17.6 -0.7**
comp=Z,199nm,1.4s,mb6.0
PUYF Puyloubier 93.22 329 *e*P **P 23 50 18.0 -1.2**
PRAF Pradon 93.23 330 *e*P **P 23 50 18.0 -1.2**
BERF Bertagne 93.40 329 *e*P **P 23 50 19.4 -0.6**
RJF Les Rejaudoux 93.47 333⇑*i*P **P 23 50 20.4 +0.2**
comp=Z,122nm,1.3s,mb5.9
RJF *e*R
comp=Z,3µm,22.2s
LASF Ste Croix 93.55 331⇑*i*P **P 23 50 20.8 +0.1**
comp=Z,102nm,1.0s,mb5.9
CAF Calviac 93.57 332⇑*i*P **P 23 50 21.2 +0.5**
comp=Z,182nm,1.4s,mb6.0
CCM Cathedral Cave 93.95 39 *e*P **P 23 50 22.2 -0.4**
comp=Z,39nm,1.0s,mb5.8
SLM Saint Louis 94.04 38 *e*P **P 23 50 23.0 0.0**
comp=Z,19nm,0.6s,mb5.7
LFF La Frestale 94.07 333⇑*i*P **P 23 50 23.4 +0.4**
comp=Z,50nm,0.8s,mb5.7
FVM French Village 94.43 38 *e*P **P 23 50 24.8 0.0**
comp=Z,12nm,0.8s,mb5.4
MTLF Montolieu 94.83 331⇑*i*P **P 23 50 26.7 +0.2**
comp=Z,74nm,1.2s,mb5.7
MLS Moulis 95.60 332⇑*e*P **P 23 50 30.3 +0.3**
VALF Valcebollere 95.69 331 *e*P **P 23 50 31.0 +0.6**
EPF Esparros 95.84 332 *e*P **P 23 50 31.1 0.0**
RESF Ens 96.03 332⇑*e*P **P 23 50 33.1 +1.2**
HBAR Harrisburg 96.14 40 *e*P **P 23 50 30.4 -2.2**
ETSF Etsaut 96.30 333⇑*i*P **P 23 50 33.7 +0.5**
comp=Z,14nm,0.6s,mb5.2
SJPF Ste Jean 96.37 333 *e*P **P 23 50 33.7 +0.2**
comp=Z,28nm,1.3s,mb5.2
RKT Rikitea 97.74 112 *e*P **P 23 50 28.9 -11**
RKT *e*PP PP 23 54 33.8 -7.7
comp=Z,224nm,28.5s
RKT *e*S S 00 01 08.5 -49
comp=Z,1µm,33.0s
RKT *e*SS SS 00 08 40.3 -2.6
comp=Z,827nm,30.5s
RKT *e*LQ 00 17 28.5
comp=Z,561nm,27.5s
RKT *e*LR LR 00 20 27.8
comp=Z,2µm,25.8s,baz=306
DRV Dumont d'Urvil 99.73 180 Pdif **P 23 50 54.0 +5.8**
DRV Dumont d'Urvil 99.73 180 PP PP 23 54 58.0 +2.5
DRV SP SP 00 03 50.0 +4.6
ESDC Sonseca Array 100.37 333 P P 23 50 51.7 -0.1
comp=Z,1.0nm,0.7s,baz=25,slow=2.5,SNR=5.3
ESDC PKKPbc 00 07 07.5
comp=Z,1.2nm,0.8s,baz=237,slow=1.8,SNR=5.6
KMBO Kilima Mbogo 102.03 277 P Pdif 23 50 60.0 +0.2
comp=Z,2.4nm,0.8s,baz=51,slow=13,SNR=4.4
KMBO Kilima Mbogo 102.03 277 P P Pdif 23 50 60.0 +0.1
VNDA Vanda 111.38 175 PKiKP 23 55 38.4
comp=Z,5.9nm,0.8s,baz=310,slow=4.1,SNR=21
VNDA PKKPbc 00 06 34.2
comp=Z,1.5nm,0.9s,baz=268,slow=3.8,SNR=3.7
VNDA Vanda 111.38 175 *e*PKiKP 23 55 37.9
SBA Scott Base 112.07 174 *e*PKiKP 23 55 39.6
MAW Mawson 116.07 205 PKP PKPdf 23 55 47.6 +1.7
comp=Z,8.0nm,0.8s,baz=37,slow=1.9,SNR=13
JTS JuntasAbangare 118.43 53 PKP PKPdf 23 55 52.9 +1.2
comp=Z,4.4nm,0.3s,baz=2.9,slow=15,SNR=4.1
JTS JuntasAbangare 118.43 53 PKP PKPdf 23 55 52.9 +1.2
SJG San Juan 122.64 31 PKP PKPdf 23 56 00.5 +0.7
comp=Z,14nm,0.9s,baz=207,slow=2.3,SNR=3.3
QSPA South Pole Qui 123.13 180 *e*PKPdf PKPdf 23 56 00.5 +1.1
LBTB Lobatse 123.72 260 PKKPbc 00 05 51.0
comp=Z,2.6nm,0.8s,baz=230,slow=2.2,SNR=4.4
LBTB Lobatse 123.72 260 *e*PKPdf PKPdf 23 56 03.3 +1.6
SYO Syowa Base 124.76 205 ⇓P Pdif 23 52 33.2 -5.2
SYO Syowa Base 124.76 205 ⇓P PKPdf 23 56 02.0 -0.5
BOSA Boshof 125.42 257 PKP PKPdf 23 56 06.4 +1.5
comp=Z,16nm,0.8s,baz=86,slow=2.1,SNR=31
BOSA Boshof 125.42 257 *e*PKPdf PKPdf 23 56 05.7 +0.8
SDV Santo Domingo 128.35 41 PKP PKPdf 23 56 12.5 +1.6
comp=Z,71nm,0.8s,baz=314,slow=0.8,SNR=68
DBIC Dimbokro 128.62 314 PKP PKPdf 23 56 12.9 +1.4
comp=Z,4.8nm,0.4s,baz=53,slow=4.0,SNR=10
DBIC PP PP 23 58 20.4 -1.9
comp=Z,19nm,1.0s,baz=353,slow=5.7,SNR=3.9
DBIC Dimbokro 128.62 314 *e*PKPdf PKPdf 23 56 12.1 +0.6
ROSC El Rosal 129.40 48 PKP PKPdf 23 56 15.3 +2.4
comp=Z,23nm,0.9s,baz=87,slow=9.0,SNR=20
SNAA Sanae 137.14 196 PKPdf 23 56 21.6 -4.3
SNAA Sanae 137.14 196 PKPdf 23 56 29.2 +3.3
SNAA Sanae 137.14 196 PKPdf 23 56 40.3 +14
SNAA Sanae 137.14 196 PKPdf 23 56 46.2 +20
SNAA Sanae 137.14 196 PKhKP 23 56 14.1
comp=Z,2.8nm,0.8s,baz=200,slow=1.6,SNR=20
SNAA PKP PKPdf 23 56 27.1 +1.2
comp=Z,8.7nm,1.0s,baz=121,slow=2.2,SNR=8.9
SNAA PP PP 23 59 08.7 -5.4
comp=Z,11nm,1.0s,baz=135,slow=5.3,SNR=6.8
VNA2 Neumayer--Watz 138.70 195⇑*i* PKPdf 23 56 33.1 +4.4
VNA2 Neumayer--Watz 138.70 195 PKPdf 23 56 42.0 +13
VNA3 Neumayer Olymp 138.94 194 PKPdf 23 56 33.9 +4.7
VNA3 Neumayer Olymp 138.94 194 PKPdf 23 56 38.4 +9.2
VNA1 Neumayer--Stat 139.10 195 PKPdf 23 56 35.2 +5.7
VNA1 Neumayer--Stat 139.10 195 PKPdf 23 56 42.9 +13
PMSA Palmer Station 145.07 162 *e*PKPdf PKPdf 23 56 41.7 +1.8
ARE Arequipa 146.30 68 *e*P PKPdf 23 56 47.0 +3.5
ARE *e* 23 57 03.0
LPAZ La Paz 148.77 64 PKP PKPdf 23 56 50.8 +3.3
comp=Z,118nm,0.9s,baz=347,slow=4.0,SNR=77
LPAZ PKPbc PKPdf 23 56 54.3 +6.8
comp=Z,118nm,0.9s,baz=357,slow=3.9,SNR=48
LPAZ La Paz 148.77 64 *e*PKPdf PKPdf 23 56 49.9 +2.5
USHA Ushuaia 150.29 145 PKP PKPdf 23 56 50.9 +2.1
comp=Z,15nm,1.0s,baz=339,slow=3.5
USHA PKPbc PKPdf 23 56 57.2 +8.5
comp=Z,226nm,0.9s,baz=188,slow=1.1,SNR=6.8
LVC Limon Verde 151.65 75 PKPbc PKPdf 23 57 01.4 +10
comp=Z,66nm,0.7s,baz=310,slow=0.8,SNR=20
RCBR Riachuelo 152.43 353 *e*PKPdf PKPdf 23 56 54.8 +1.6
RCBR *e*PKPbc PKPdf 23 57 01.7 +8.5
SIV San Ignacio 153.65 54 PKP PKPdf 23 56 57.0 +2.2
comp=Z,25nm,1.0s,baz=290,slow=0.7,SNR=89
SIV PKPbc PKPdf 23 57 04.6 +10
comp=Z,40nm,0.9s,baz=315,slow=2.1,SNR=30
SIV PKPab PKPab 23 57 16.8 -1.1
comp=Z,31nm,0.9s,baz=13,slow=2.2,SNR=9.8
CFAA Coronel Fontan 155.37 94 PKP PKPdf 23 56 58.6 +1.9
comp=Z,1.9nm,1.0s,baz=314,slow=1.4,SNR=7.4
CFAA PKPab PKPab 23 57 25.1 +0.4
baz=287,slow=4.2
BDFB Brasilia 160.57 27 PKP PKPdf 23 57 06.0 +2.6
comp=Z,16nm,1.2s,baz=33,slow=0.9,SNR=7.0
BDFB PKPab PKPab 23 57 47.0 -0.5
comp=Z,9.5nm,0.8s,baz=301,slow=1.7,SNR=5.5
BDFB PP PP 00 01 27.8 -3.1
comp=Z,11nm,1.1s,baz=349,slow=6.7,SNR=4.0
BAO Brasilia Array 160.57 27 PKPdf PKPdf 23 57 05.0 +1.6
TRQA Tornquist 160.84 111 *e*PKPdf PKPdf 23 57 04.3 +1.2
CPUP Villa Florida 162.69 71 PKP PKPdf 23 57 06.8 +1.6
comp=Z,12nm,1.1s,baz=316,slow=0.9,SNR=16
CPUP PKPab PKPab 23 57 56.0 -0.4
comp=Z,12nm,1.0s,baz=301,slow=4.6,SNR=4.9
CPUP Villa Florida 162.69 71 *e*PKPdf PKPdf 23 57 07.0 +1.8

*MOS **09** 23:47:24.7±0.9, 9.28N×93.12E, h33km, mb5.2/14, Error ellipse: s-maj=17.6km s-min=8.4km az=115.3*
*BJI **09** 23:47:25.2, 9.20N×93.11E, h48km, mB5.8, mb5.2, Ms4.8, Msz4.5*
*NEIC **09** 23:47:27.9±0.2, 9.32N×93.01E, mb4.8/47, Error ellipse: s-maj=8.6km s-min=4.6km az=47.0*
*IDC **09** 23:47:27.9±0.7, 9.41N×93.08E, h37km±5km, mb4.4/17, mb1 4.5/17, mb1mx4.4/23, mbtmp4.6/17, Error ellipse: s-maj=25.3km s-min=10.9km az=51.0*
ISC 09 23:47:26.2±0.3**, 9.30N**±0.05×**93.02E**±0.04**, h40km, h40km**±1.1km**:pP-P, n158,** $\sigma 0^{s}99$/152**, mb4.8**/66**, MS4.7**/1**, 11C-9D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.36**	**63**	P	**P**	**23 49 14.8**	**+1.0**
KULM	**Kulim**	**8.55**	**117**	*e*P	**P**	**23 49 31.2**	**+0.8**
NST	**Nakhon Sawan**	**9.40**	**47**	⇑P	**P**	**23 49 44.3**	**+2.2**
CMAR	**Chiang Mai Arr**	**10.76**	**32**	Pn	**P**	**23 50 02.0**	**+1.1**
	1.4nm,0.3s,baz=221,slow=15,SNR=14						
CMAR				ScP		23 59 28.0	
	0.1nm,0.3s,baz=238,slow=2.9,SNR=4.6						
VIS	**Vishakhapatnam**	**12.60**	**313**	*i* P	**P**	**23 50 23.0**	**-2.7**
VIS				*i* S	S	23 52 20.7	-25
HYB	**Hyderabad**	**16.21**	**301**	*e*P	**P**	**23 51 22.0**	**+9.2**
HYB				*e*S	**S**	**23 54 14.0**	**+3.1**
HYB	**Hyderabad**	**16.21**	**301**	*i* P	**P**	**23 51 16.0**	**+3.2**
HYB				*e*S	**S**	**23 54 14.0**	**+3.1**
BLSP	**Bilaspur**	**16.49**	**322**	*e*S	**S**	**23 54 07.4**	**-10**
LATR	**Latur**	**18.35**	**301**	*e*S	**S**	**23 54 50.5**	**-9.2**
KSM	**Kuching**	**18.88**	**113**	*e*P	**P**	**23 51 48.6**	**+2.6**
QIZ	**Qiongzhong**	**18.95**	**57**	P	**P**	**23 51 46.8**	**+0.1**
PKI	**Pulchoki**	**19.54**	**339**	*e*P	**P**	**23 51 53.6**	**+0.3**
	50nm,0.6s						
PKI	**Pulchoki**	**19.54**	**339**	*e*P	**P**	**23 51 54.6**	**+1.3**
	136nm,0.9s						
PKI				*e*S	**S**	**23 55 24.0**	**-2.2**
DMN	**Daman**	**19.68**	**339**	*e*P	**P**	**23 51 55.9**	**+1.0**
	27nm,0.4s						
DMN	**Daman**	**19.68**	**339**	*e*P	**P**	**23 51 56.4**	**+1.5**
	119nm,0.9s						
GUN	**Gumba**	**19.70**	**341**	*e*P	**P**	**23 51 55.7**	**+0.7**
	80nm,0.5s						
GUN	**Gumba**	**19.70**	**341**	*e*P	**P**	**23 51 55.9**	**+0.9**
	157nm,0.6s						
KKN	**Kakani**	**19.79**	**339**	*e*P	**P**	**23 51 57.0**	**+1.0**
	64nm,0.6s						
KKN	**Kakani**	**19.79**	**339**	*e*P	**P**	**23 51 57.0**	**+1.0**
	64nm,0.6s						
GKN	**Gorkha**	**20.21**	**338**	*e*P	**P**	**23 52 00.9**	**+0.4**
	159nm,0.8s						
GKN	**Gorkha**	**20.21**	**338**	*e*P	**P**	**23 52 00.9**	**+0.4**
	99nm,0.6s						
LSA	**Lhasa**	**20.37**	**355**	P	**P**	**23 52 01.1**	**-1.0**
LSA	**Lhasa**	**20.37**	**355**	*e*P	**P**	**23 52 01.2**	**-0.9**
	5µm,0.2s						
KOLN	**Koldanda**	**20.41**	**335**	*e*P	**P**	**23 52 02.6**	**+0.1**
	80nm,0.6s						
KOLN	**Koldanda**	**20.41**	**335**	*e*P	**P**	**23 52 03.2**	**+0.7**
	80nm,0.6s						
KOLN				*e*S	**S**	**23 55 42.3**	**-1.6**
GYA	**Guiyang**	**21.41**	**35**	P	**P**	**23 52 12.5**	**-0.3**
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.5						
LGTI	**Lohaghat**	**23.34**	**331**	*e*P	**P**	**23 52 35.0**	**+3.1**
ENH	**Enshi**	**25.92**	**34**	*e*P	**P**	**23 52 55.2**	**-1.4**
	comp=Z,36nm,0.5s,mb5.2						
LZH	**Lanzhou**	**28.43**	**19**	*e*P	**P**	**23 53 18.0**	**-1.4**
LZH				AP	pP	23 53 28.5	-1.8
LZH				XP	sP	23 53 32.5	-2.9
LZH				AMB	AMB		
	comp=Z,60nm,1.5s,mb5.0						
SNPH	**Sibulan**	**29.82**	**87**	*e*P	**P**	**23 53 32.8**	**+0.9**
GTA	**Gaotai**	**30.59**	**10**	*e*P	**P**	**23 53 38.2**	**-0.4**
GTA				AP	pP	23 53 47.5	-2.2
GTA				XP	sP	23 53 52.1	-2.7
GTA				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.3						
GTA				AMB	AMB		
	comp=Z,1µm,6.5s						
GTA				LR	LR		
	comp=N,552nm,13.7s,MS4.7						
GTA				LR	LR		
	comp=E,989nm,15.2s,MS4.7						
GTA				LR	LR		
	comp=Z,518nm,9.1s						
UCH	**Uchtor**	**36.61**	**337**	P	**P**	**23 54 32.1**	**+1.6**
	SNR=9.0						
TKM2	**Tokmak 2**	**36.80**	**338**	P	**P**	**23 54 33.0**	**+0.9**
	SNR=10						
KBK	**Karagaybulak**	**36.81**	**338**	P	**P**	**23 54 34.0**	**+1.8**
	SNR=27						
AML	**Almayashu**	**36.85**	**336**	P	**P**	**23 54 34.5**	**+2.0**
	SNR=34						
AAK	**Ala-Archa**	**36.96**	**337**	P	**P**	**23 54 35.2**	**+1.7**
	SNR=8.3						
AAK	**Ala-Archa**	**36.96**	**337**	P	**P**	**23 54 35.1**	**+1.6**
AAK				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.1						
AAK	**Ala-Archa**	**36.96**	**337**	*e*P	**P**	**23 54 33.6**	**+0.2**
	comp=Z,24nm,0.7s,mb5.1						
CHMS	**Chumysh**	**37.18**	**338**	P	**P**	**23 54 36.5**	**+1.2**
	SNR=18						
EKS2	**Erkin-Say**	**37.27**	**336**	P	**P**	**23 54 37.7**	**+1.7**
	SNR=5.2						
USP	**Ospenovka**	**37.50**	**338**	P	**P**	**23 54 39.1**	**+1.1**
	SNR=12						
MKAR	**Makanchi Array**	**38.47**	**348**	P	**P**	**23 54 45.5**	**-0.5**
	comp=Z,10nm,0.6s,mb4.8,baz=177,slow=8.0,SNR=31						
MKAR				PcP	PcP	23 56 59.2	0.0
	comp=Z,1.8nm,0.5s,baz=209,slow=4.5,SNR=4.4						
KKAR	**Karatay Array**	**39.00**	**334**	*e*P	**P**	**23 54 51.9**	**+1.5**
KKAR				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.7						
DL2	**Dalian**	**39.06**	**36**	P	**P**	**23 54 52.0**	**+1.0**
DL2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
SONM	**Songino Array**	**40.04**	**14**	P	**P**	**23 54 59.0**	**-0.1**
	comp=Z,7.7nm,0.5s,mb4.7,baz=202,slow=7.3,SNR=36						
SONM				PcP	PcP	23 57 04.4	+0.3
	comp=Z,3.8nm,0.7s,baz=198,slow=3.7,SNR=7.6						
SONM				ScP		00 00 47.4	
	comp=Z,1.4nm,1.0s,baz=182,slow=3.2,SNR=3.6						
ULN	**Ulaanbaatar**	**40.23**	**15**	*e*P	**P**	**23 54 54.2**	**-6.4**
	comp=Z,5.9nm,0.6s,mb4.5						
ZAK	**Zakamensk**	**41.83**	**10**	*e*P	**P**	**23 55 11.6**	**-2.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
FITZ	**Fitzroy Crossi**	**42.17**	**130**	P	**P**	**23 55 15.9**	**-1.2**
	comp=Z,8.0nm,0.5s,mb4.6,baz=329,slow=2.3,SNR=7.5						
FITZ				PcP	PcP	23 57 12.1	+0.6
	comp=Z,18nm,0.5s,baz=325,slow=1.1,SNR=11						
FITZ				ScP		00 00 57.1	
	comp=Z,5.5nm,0.6s,baz=336,slow=5.4,SNR=5.9						
HIA	**Hailar**	**45.67**	**24**	*e*P	**P**	**23 55 44.1**	**-0.8**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HIA	**Hailar**	**45.67**	**24**	*e*P	**P**	**23 55 44.1**	**-0.8**
	comp=Z,9.9nm,0.5s,mb5.0						
MUN	**Mundaring**	**46.65**	**153**	*e*P	**P**	**23 55 53.8**	**+0.9**
	comp=Z,16nm,0.5s,mb5.2						
MUN	**Mundaring**	**46.65**	**153**	*e*P	**P**	**23 55 53.8**	**+0.9**
MUN				pmax	pmax		
	comp=Z,16nm,0.5s,mb5.2						
KLBR	**Kellerberrin**	**47.05**	**151**	*e*P	**P**	**23 55 56.5**	**+0.5**
	comp=Z,8.2nm,0.5s,mb4.9						
BVA0	**Borovoye Array**	**47.29**	**342**	*i* P	**P**	**23 55 56.9**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
NWAO	**Narrogin (SRO)**	**47.92**	**152**	P	**P**	**23 56 03.4**	**+0.6**
	comp=Z,20nm,0.6s,mb5.3,baz=320,slow=6.6,SNR=16						
AB31	**Akbulak array**	**48.45**	**331**	P	**P**	**23 56 07.1**	**+0.4**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
MJAR	**Matsushiro Arr**	**49.05**	**49**	P	**P**	**23 56 11.8**	**+0.3**
	comp=Z,1.8nm,0.5s,mb4.4,baz=209,slow=6.2,SNR=5.1						
MJAR				PcP	PcP	23 57 35.0	-0.2
	comp=Z,4.7nm,0.8s,baz=234,slow=2.4,SNR=7.4						
WRA	**Warramunga Arr**	**49.99**	**126**	P	**P**	**23 56 18.1**	**-0.8**
	comp=Z,16nm,0.5s,mb5.3,baz=304,slow=8.5,SNR=63						
WRA				PcP	PcP	23 57 39.2	+0.4
	comp=Z,4.4nm,0.5s,baz=310,slow=3.1,SNR=12						
WRA				ScP		00 01 28.3	
	comp=Z,1.3nm,0.6s,baz=315,slow=3.8,SNR=5.5						
WRAB	**Tennant Creek**	**49.99**	**126**	*e*P	**P**	**23 56 16.8**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,30nm,0.5s,mb5.6						
WRAB	**Tennant Creek**	**49.99**	**126**	*e*P	**P**	**23 56 16.8**	**-2.2**
	comp=Z,30nm,0.5s,mb5.6						
WB2	**Warramunga Arr**	**50.00**	**126**	*e*P	**P**	**23 56 16.7**	**-2.3**
BOD	**Bodaibo**	**51.03**	**14**	*e*P	**P**	**23 56 25.4**	**-1.0**
BOD				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
GNI	**Garni**	**52.65**	**314**	*e*P	**P**	**23 56 37.4**	**-1.3**
GNI				pmax	pmax		
	comp=Z,22nm,1.0s						
GNI	**Garni**	**52.65**	**314**	*e*P	**P**	**23 56 37.4**	**-1.4**
	comp=Z,22nm,1.0s,mb5.0						
ARU	**Arti**	**54.15**	**337**	*e*P	**P**	**23 56 48.7**	**-0.9**
ARU				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0						
ARU	**Arti**	**54.15**	**337**	*e*P	**P**	**23 56 48.7**	**-0.9**
	comp=Z,22nm,1.1s,mb5.0						
KIV	**Kislovodsk**	**55.52**	**318**α	*i*P	**P**	**23 57 00.1**	**+0.4**
KIV				*e*	pP	23 57 12.6	+1.2
KIV				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.4						
KIV	**Kislovodsk**	**55.52**	**318**	*e*P	**P**	**23 56 59.7**	**0.0**
YSS	**Yuzh-Sakhalins**	**56.36**	**39**⇑	*i*P	**P**	**23 57 04.8**	**-0.9**
YSS				pmax	pmax		
	comp=Z,50nm,0.7s,mb5.7						
YSS	**Yuzh-Sakhalins**	**56.36**	**39**	*e*P	**P**	**23 57 04.7**	**-1.1**
	comp=Z,31nm,0.6s,mb5.5						
YAK	**Yakutsk**	**59.01**	**19**	*e*P	**P**	**23 57 22.1**	**-2.1**
YAK				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.3						
YAK	**Yakutsk**	**59.01**	**19**	*e*P	**P**	**23 57 22.1**	**-2.1**
	comp=Z,27nm,0.8s,mb5.3						
CTA	**Charters Tower**	**59.97**	**120**	*e*P	**P**	**23 57 31.6**	**+0.2**
	comp=Z,9.9nm,0.6s,mb5.0						
CTA	**Charters Tower**	**59.97**	**120**	*e*P	**P**	**23 57 31.6**	**+0.2**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CTA	**Charters Tower**	**59.97**	**120**	P	**P**	**23 57 30.7**	**-0.7**
	comp=Z,12nm,0.7s,mb5.0,baz=294,slow=8.8,SNR=16						
BR131	**Keskin Array S**	**60.66**	**310**	*e*P	**P**	**23 57 34.7**	**-1.1**
	comp=Z,0.2nm,0.5s						
BRTR	**Keskin Array B**	**60.66**	**310**	P	**P**	**23 57 34.9**	**-0.9**
	comp=Z,6.5nm,0.8s,mb4.8,baz=123,slow=7.3,SNR=26						
BRTR				pP	pP	23 57 47.8	+0.2
	comp=Z,4.7nm,0.7s,baz=121,slow=7.4,SNR=7.6						
STKA	**Stephens Creek**	**61.89**	**134**	*e*P	**P**	**23 57 43.6**	**-0.6**
	comp=Z,3.6nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**61.89**	**134**	P	**P**	**23 57 43.9**	**-0.3**
	comp=Z,4.5nm,0.5s,mb4.8,baz=309,slow=3.9,SNR=13						
OBN	**Obninsk**	**63.59**	**328**	*e*P	**P**	**23 57 54.5**	**-0.6**
OBN				*e*		23 58 09.9	
OBN				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
TIRR	**Tirgusor**	**65.47**	**315**	⇑P	**P**	**23 58 06.6**	**-0.9**
CFR	**Carcaliu**	**65.80**	**315**	⇓P	**P**	**23 58 09.3**	**-0.3**
HARR	**Harsova**	**65.85**	**315**	⇓P	**P**	**23 58 09.8**	**-0.1**
AKASG	**Malin Array Be**	**66.35**	**321**	P	**P**	**23 58 11.4**	**-1.6**
	comp=Z,3.6nm,0.6s,mb4.6,baz=87,slow=5.1,SNR=18						
AKASG				pP	pP	23 58 23.2	-1.7
	comp=Z,0.6nm,0.4s,baz=88,slow=5.0,SNR=3.6						
VRI	**Vrincioaia**	**66.91**	**316**	⇑P	**P**	**23 58 16.7**	**+0.1**
MLR	**Muntele Rosu**	**67.38**	**315**	P	**P**	**23 58 20.3**	**+0.8**
	comp=Z,7.6nm,0.9s,mb4.7,baz=71,slow=4.2,SNR=10						
MLR	**Muntele Rosu**	**67.38**	**315**	⇓P	**P**	**23 58 19.9**	**+0.3**
VOIR		**67.99**	**315**	⇑P	**P**	**23 58 24.2**	**+0.8**
BURAR	**Bucovina Array**	**68.25**	**318**	⇓P	**P**	**23 58 25.5**	**+0.5**
DRGR		**69.81**	**316**	⇓P	**P**	**23 58 34.4**	**-0.2**
KWP	**Kalwaria**	**70.23**	**319**	*e*P	**P**	**23 58 36.7**	**-0.4**
FINES	**FINESS Array B**	**70.94**	**332**	P	**P**	**23 58 40.6**	**-0.6**
	comp=Z,2.7nm,0.6s,mb4.3,baz=108,slow=5.2,SNR=17						
KAF	**Kangasniemi**	**71.02**	**333**	*e*p	**P**	**23 58 40.5**	**-1.2**
	comp=Z,1.8nm,0.6s,mb4.2						
KAF	**Kangasniemi**	**71.02**	**333**	*e*P	**P**	**23 58 40.5**	**-1.2**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ARCES	**ARCESS Array B**	**73.55**	**340**	P	**P**	**23 58 56.4**	**-0.2**
	comp=Z,2.3nm,0.7s,mb4.2,baz=101,slow=6.0,SNR=18						
ARE0	**ARCESS Array S**	**73.55**	**340**	*e*P	**P**	**23 58 55.9**	**-0.6**
MORC	**Moravsky Berou**	**73.58**	**319**	*e*P	**P**	**23 58 56.8**	**-0.2**
MORC				pmax	pmax		
	comp=Z,89nm,1.0s,mb5.7						
MORC	**Moravsky Berou**	**73.58**	**319**	*e*P	**P**	**23 58 56.8**	**-0.3**
	comp=Z,89nm,1.0s,mb5.7						
ARSA	**Arzberg**	**74.74**	**316**⇑	*i*P	**P**	**23 59 04.4**	**+0.6**
	comp=Z,4.2nm,0.8s,mb4.4						
GERES	**GERESS Array B**	**76.03**	**318**	P	**P**	**23 59 11.6**	**+0.4**
	comp=Z,4.4nm,0.7s,mb4.5,baz=88,slow=5.3,SNR=32						
KHC	**Kasperske Hory**	**76.12**	**318**	*e*P	**P**	**23 59 11.5**	**-0.2**
KHC				*e*	pP	23 59 24.0	+0.3
KHC				*e*		23 59 31.5	
FX1	**Attu Island--F**	**76.70**	**38**	*e*P	**P**	**23 59 13.7**	**-1.2**
WTTA	**Wattenberg**	**77.39**	**316**⇑	*i*P	**P**	**23 59 19.3**	**+0.4**
	comp=Z,7.7nm,0.5s,mb4.9						
WTTA	**Wattenberg**	**77.39**	**316**⇑	*i*P	**P**	**23 59 19.3**	**+0.4**
WTTA				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
MOX	**Moxa**	**77.42**	**320**	*e*P	**P**	**23 59 20.0**	**+1.0**
GRA1	**Grafenberg Arr**	**77.67**	**319**	*e*P	**P**	**23 59 21.1**	**+0.8**
	comp=Z,7.0nm,1.0s,mb4.5						
GRA1				*e*pP	pP	23 59 33.2	+0.8
GRF	**Grafenberg Arr**	**77.67**	**319**	P	**P**	**23 59 21.1**	**+0.8**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
GRF	**Grafenberg Arr**	**77.67**	**319**	*e*P	**P**	**23 59 21.1**	**+0.8**
GRF				*e**PP	pP	23 59 33.2	+0.8
GRF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
GRF	**Grafenberg Arr**	**77.67**	**319**	*e*P	**P**	**23 59 21.1**	**+0.8**
	comp=Z,7.0nm,1.0s,mb4.5						
GRF				*e*pP	pP	23 59 33.2	+0.8
SQTA	**Sankt Quirin**	**77.68**	**316**⇓	*i*P	**P**	**23 59 20.5**	**0.0**
	comp=Z,5.3nm,0.6s,mb4.7						
SQTA	**Sankt Quirin**	**77.68**	**316**⇓	*i*P	**P**	**23 59 20.5**	**0.0**
SQTA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
MOTA	**Moosalm**	**77.75**	**316**⇓	*i*P	**P**	**23 59 20.7**	**-0.2**
	comp=Z,9.7nm,1.0s,mb4.7						
MOTA	**Moosalm**	**77.75**	**316**⇓	*i*P	**P**	**23 59 20.7**	**-0.2**
MOTA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
NB2	**NORSAR Subarra**	**77.95**	**330**	P	**P**	**23 59 20.5**	**-1.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=95,slow=5.0						
NB2	**NORSAR Subarra**	**77.95**	**330**	P	**P**	**23 59 20.5**	**-1.1**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
NOA	**NORSAR Array B**	**77.95**	**330**	P	**P**	**23 59 20.9**	**-0.7**
	comp=Z,1.6nm,0.7s,mb4.1,baz=94,slow=5.3,SNR=12						
NOA				pP	pP	23 59 32.5	-1.3
	comp=Z,2.1nm,0.8s,baz=91,slow=5.7,SNR=5.3						
NOA	**NORSAR Array B**	**77.95**	**330**	P	**P**	**23 59 20.9**	**-0.7**
NOA				pP	pP	23 59 32.5	-1.3
DAVA	**Damuels**	**78.58**	**316**⇑	*i*P	**P**	**23 59 24.0**	**-1.4**
	comp=Z,7.1nm,0.5s,mb4.8						
PGF	**Pioggiola**	**79.39**	**312**	*e*P	**P**	**23 59 29.6**	**-0.3**
	comp=Z,29nm,1.1s,mb4.8						
CDF	**Champ du Feu**	**80.30**	**318**	*e*P	**P**	**23 59 34.2**	**-0.5**
SBF	**Sospel**	**80.45**	**313**	*e*P	**P**	**23 59 35.5**	**-0.1**
	comp=Z,27nm,0.9s,mb4.9						
HINF	**Hinteralfeld**	**80.61**	**317**	*e*P	**P**	**23 59 36.0**	**-0.4**
LPG	**La Plagne**	**80.83**	**315**	*e*P	**P**	**23 59 38.0**	**+0.4**
	comp=Z,18nm,0.6s,mb4.9						
LPL	**La Plagne**	**80.84**	**315**	*e*P	**P**	**23 59 38.1**	**+0.5**
MBDF	**Montbardon**	**80.87**	**314**	*e*P	**P**	**23 59 37.9**	**+0.1**
	comp=Z,12nm,0.8s,mb4.6						
HAU	**Haudompre**	**80.94**	**317**	*e*P	**P**	**23 59 37.7**	**-0.4**
	comp=Z,19nm,0.9s,mb4.7						
FRF	**La Foret Royal**	**81.04**	**313**	*e*P	**P**	**23 59 39.0**	**+0.3**
	comp=Z,18nm,0.9s,mb4.7						
LMR	**La Mourre**	**81.16**	**313**	*e*P	**P**	**23 59 39.3**	**0.0**
CABF	**La Chapelle**	**81.21**	**316**	*e*P	**P**	**23 59 39.8**	**+0.3**
	comp=Z,17nm,0.8s,mb4.7						
ORIF	**Oris-en-Rattie**	**81.49**	**314**	*e*P	**P**	**23 59 40.7**	**-0.3**
	comp=Z,9.7nm,0.7s,mb4.5						
MEZF	**Maizieres J'vi**	**81.77**	**318**	*e*P	**P**	**23 59 42.3**	**-0.1**
BAIF	**Baives**	**82.18**	**319**	*e*P	**P**	**23 59 44.6**	**+0.1**
	comp=Z,21nm,1.1s,mb4.7						
VIVF	**Saint-Julien-l**	**82.35**	**314**	*e*P	**P**	**23 59 45.6**	**+0.1**
	comp=Z,8.9nm,0.9s,mb4.4						
LOR	**Lormes**	**82.68**	**317**	*e*P	**P**	**23 59 46.9**	**-0.2**
	comp=Z,14nm,0.9s,mb4.7						
SMF	**Signal de Mont**	**82.75**	**316**	*e*P	**P**	**23 59 47.3**	**-0.2**
	comp=Z,10nm,0.8s,mb4.6						
SSF	**Saint Saulge**	**82.94**	**316**	*e*P	**P**	**23 59 48.3**	**-0.1**
	comp=Z,3.9nm,0.7s,mb4.2						
LASF	**Ste Croix**	**83.01**	**313**	*e*P	**P**	**23 59 48.5**	**-0.3**
BGF	**Bois d'Agland**	**83.44**	**316**	*e*P	**P**	**23 59 51.2**	**+0.2**
	comp=Z,7.7nm,0.6s,mb4.6						
TCF	**Toulx Ste Croi**	**83.91**	**316**	*e*P	**P**	**23 59 53.0**	**-0.4**
	comp=Z,13nm,1.2s,mb4.6						
CAF	**Calviac**	**84.18**	**314**	*e*P	**P**	**23 59 55.3**	**+0.5**
	comp=Z,7.4nm,0.9s,mb4.5						
MTLF	**Montolieu**	**84.27**	**313**	*e*P	**P**	**23 59 55.0**	**-0.3**
	comp=Z,5.8nm,0.8s,mb4.5						
RJF	**Les Rejaudoux**	**84.52**	**315**	*e*P	**P**	**23 59 57.0**	**+0.5**
	comp=Z,13nm,1.0s,mb4.7						
LDF	**La Druitiere**	**85.17**	**318**	*e*P	**P**	**23 59 59.6**	**0.0**
	comp=Z,5.1nm,0.8s,mb4.7						
MFF	**Saint Martin d**	**85.48**	**316**	*e*P	**P**	**00 00 01.3**	**+0.1**
DAG	**Danmarks Havn**	**85.85**	**348**	*e*P	**P**	**00 00 01.0**	**-1.4**
DAG	**Danmarks Havn**	**85.85**	**348**	*i* P	**P**	**00 00 01.0**	**-1.4**
RPZ	**Rata Peaks**	**87.83**	**135**	P	**P**	**00 00 13.9**	**+1.1**
	comp=Z,7.2nm,0.6s,mb5.1,baz=111,slow=14,SNR=5.4						
ESDC	**Sonseca Array**	**89.45**	**310**	P	**P**	**00 00 21.5**	**+0.9**
	comp=Z,0.5nm,0.6s,mb4.0,baz=58,slow=4.4,SNR=4.2						
YKA	**Yellowknife Ar**	**105.30**	**13**	PP	PP	00 05 50.0	-6.3
	comp=Z,1.3nm,0.7s,baz=334,slow=8.2,SNR=7.3						
ULM	**Lac du Bonnet**	**120.19**	**7**	PKP	PKPdf	00 06 14.1	+1.0
	comp=Z,3.5nm,0.7s,baz=101,slow=3.7,SNR=3.1						
PDAR	**Pinedale Array**	**124.23**	**20**	PKP	PKPdf	00 06 22.8	+1.6
	comp=Z,1.3nm,0.7s,baz=12,slow=0.6,SNR=13						
MSU	**Marysvale**	**126.95**	**25**	*e*PKPdf	PKPdf	00 06 29.7	+3.1
ANMO	**Albuquerque**	**132.28**	**22**	PKP	PKPdf	00 06 39.6	+2.9
	comp=Z,1.4nm,0.8s,baz=196,slow=0.2,SNR=5.7						
TXAR	**Lajitas Array**	**138.36**	**22**	PKhKP		00 06 40.2	
	comp=Z,0.3nm,0.5s,baz=155,slow=1.6,SNR=4.8						
TXAR				PKP	PKPdf	00 06 51.6	+3.4
	comp=Z,0.9nm,0.6s,baz=198,slow=0.2,SNR=8.4						
SJG	**San Juan**	**145.87**	**323**	PKPbc	PKPbc	00 07 04.1	+1.6
	comp=Z,13nm,0.7s,baz=27,slow=5.8,SNR=5.8						
CPUP	**Villa Florida**	**147.21**	**235**	PKPbc	PKPdf	00 07 08.7	+5.0
	comp=Z,3.5nm,0.7s,baz=111,slow=4.4,SNR=9.8						
CFAA	**Coronel Fontan**	**151.79**	**215**	PKPbc	PKPdf	00 07 20.5	+10
	comp=Z,0.5nm,0.5s,baz=208,slow=1.7,SNR=8.0						
CFAA	**Coronel Fontan**	**151.79**	**215**	PKPbc	PKPdf	00 07 20.5	+10

MEX 09 23:49:51.1±1.6**, 17.11N**×**92.62W, h4km, MD4.1, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**0.37**	**183**	*i* P	Pg	23 49 56.5	-2.1
SCX				*i* S	Sg	23 50 04.5	+0.9
CCIG	**Comitan**	**0.94**	**151**	*i* P	Pb	23 50 07.9	-1.7
CCIG				*i* S	Sb	23 50 20.1	-2.2
CMIG	**Matias Romero**	**2.17**	**270**	*i* P	Pn	23 50 25.1	-3.4
CMIG				*i* S	Sn	23 50 51.2	-4.9

*BJI **09** 23:59:04.1, 2.20S×120.52E, h12km, mB6.1, mb5.5, Ms5.6, Msz5.4*
*IDC **09** 23:59:12.1±0.3, 1.09S×119.88E, mb5.3/32, mb1 5.2/33, mb1mx5.2/34, mbtmp5.3/33, ML4.9/1, MS5.4/17, Ms1 5.4/17, ms1mx5.3/22, Error ellipse: s-maj=13.9km s-min=10.0km az=73.0*
*MOS **09** 23:59:16.1±1.2, 1.05S×120.00E, h33km, mb5.8/40, MS5.4/12, Error ellipse: s-maj=11.1km s-min=5.9km az=113.8*
*HRVD **09** 23:59:17.0±0.1, 1.07S×120.08E, h12km, MW5.9/74, Centroid moment Tensor Solution. LP body waves: s68,c147;Mantle waves: s74,c257; Half duration: $2^{s}1$ Moment tensor: Scale 10^{18}Nm; M_{rr}-0.49±.01; $M_{\theta\theta}$0.69±.01; $M_{\phi\phi}$-0.19±.01; $M_{r\theta}$0.16±.02; $M_{\theta\phi}$-0.42±.01; $M_{\phi r}$-0.31±.02; Best double couple: M_0.799×10^{18} NP1: ϕ_s80°, δ44°, λ-141°. NP2: ϕ_s320°, δ64°, λ-53°. Principal axes: T .907, Plg11°, Azm24°; N -.216, Plg33°, Azm121°; P -.691, Plg55°, Azm278°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **09** 23:59:17.0±2.1, 1.17S×119.96E, h32km±14km, mb5.6/43, MS5.5/39 Error ellipse: s-maj=8.0km s-min=4.9km az=58.0*
NEIC At least 6 buildings destroyed, 50 damaged and power outages occurred in Donggala. Felt [IV] at Palu.
ISC 09 23:59:14.0±0.2**, 1.17S**±0.03×**120.03E**±0.03**, h21km, h21km**±2.2km**:pP-P, n431,** $\sigma 1^{s}10$/349**, mb5.5**/109**, MS5.4**/73**, 18C-41D, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**5.84**	**338**	P	**Pn**	**00 00 41.2**	**-0.4**
KKM	**Kota Kinabalu**	**8.11**	**332**	*e*P	**P**	**00 01 12.7**	**-0.9**
KKM	**Kota Kinabalu**	**8.11**	**332**	P	**P**	**00 01 13.8**	**+0.2**
PAGZ	**Pagadian**	**9.56**	**20**	*e*P	**P**	**00 01 33.2**	**-0.6**
KCP	**Kidapawan**	**9.57**	**32**⇓	*e*P	**P**	**00 01 44.4**	**+10**
DAV	**Davao City (W)**	**9.88**	**34**	*e*P	**P**	**00 01 40.5**	**+2.3**
KSM	**Kuching**	**10.06**	**285**	*e*P	**P**	**00 01 38.0**	**-2.7**
MATI	**Mati**	**10.18**	**38**	*e*P	**P**	**00 01 43.7**	**+1.4**
BUKP	**Musuan**	**10.29**	**29**	*e*P	**P**	**00 01 43.5**	**-0.3**
SNPH	**Sibulan**	**10.92**	**17**⇑	*e*P	**P**	**00 01 52.6**	**+0.2**
PPR	**Puerto Princes**	**10.95**	**353**⇓	*e*P	**P**	**00 01 57.6**	**+4.8**
TBP	**Tagbilaran**	**11.44**	**19**⇑	*e*P	**P**	**00 01 52.9**	**-6.6**
CUYO	**Cuyo Island**	**11.98**	**5**	*e*P	**P**	**00 02 06.1**	**-0.7**
GUIM	**Jordan**	**11.99**	**12**	*e*P	**P**	**00 02 08.3**	**+1.4**
MSLP	**Maasin**	**12.21**	**23**	*e*P	**P**	**00 02 14.2**	**+4.2**
ENPP	**El Nido**	**12.31**	**357**	*e*P	**P**	**00 02 09.8**	**-1.4**
RCP	**Roxas**	**12.93**	**12**	*e*P	**P**	**00 02 22.8**	**+3.3**
PVCP	**Virac**	**15.23**	**15**	*e*P	**P**	**00 02 51.2**	**+1.4**
KAKA	**Kakadu**	**16.82**	**134**	*e*P	**P**	**00 03 10.0**	**-0.1**
	88nm,0.7s						
KGM	**Kluang**	**17.00**	**281**	P	**P**	**00 03 14.0**	**+1.6**
FITZ	**Fitzroy Crossi**	**17.71**	**162**	*e*P	**P**	**00 03 23.3**	**+2.1**
	128nm,0.9s						
FITZ				*e*S	**S**	**00 06 50.1**	**+14**
FITZ	**Fitzroy Crossi**	**17.71**	**162**	P	**P**	**00 03 20.1**	**-1.1**
	2.9nm,0.3s,baz=358,slow=9.7,SNR=28						
FITZ				S	**S**	**00 06 42.1**	**+6.4**
	baz=8.0,slow=17,SNR=2.2						
CVP	**Callao Caves**	**18.84**	**5**⇓	*e*P	**P**	**00 03 35.0**	**-0.1**
IPM	**Ipoh**	**19.82**	**287**	P	**P**	**00 03 46.9**	**+0.4**
MBWA	**Marble Bar**	**19.87**	**181**	*e*P	**P**	**00 03 46.0**	**-1.0**
	69nm,1.0s						
KULM	**Kulim**	**20.39**	**289**	*e*P	**P**	**00 03 51.6**	**-0.9**
SNG	**Songkhla**	**21.06**	**293**	P	**P**	**00 04 00.0**	**+0.6**
	482nm,1.0s,mb5.8						
QIZ	**Qiongzhong**	**22.43**	**334**	P	**P**	**00 04 13.7**	**+0.7**
QIZ				AP		00 04 17.2	
QIZ				AMB	AMB		
	comp=Z,133nm,1.9s,mb5.0						
QIZ				LR	LR		
	comp=E,5µm,20.4s						
QIZ				LR	LR		
	comp=Z,10µm,20.0s,MS5.2						
WRAB	**Tennant Creek**	**23.33**	**144**	*e*P	**P**	**00 04 22.3**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,489nm,1.0s,mb5.9						
WRAB	**Tennant Creek**	**23.33**	**144**	*e*P	**P**	**00 04 22.3**	**+0.4**
	comp=Z,489nm,1.0s,mb5.9						
WRA	**Warramunga Arr**	**23.33**	**144**	P	**P**	**00 04 22.5**	**+0.5**
	comp=Z,174nm,0.9s,mb5.5,baz=322,slow=11,SNR=76						
WRA				S	**S**	**00 08 37.3**	**+7.8**
	comp=Z,14nm,1.2s,baz=316,slow=19,SNR=6.1						
WB2	**Warramunga Arr**	**23.34**	**144**	*e*P	**P**	**00 04 22.7**	**+0.7**
WB2				*e*S	**S**	**00 08 37.3**	**+7.7**
HKC	**Hong Kong**	**24.02**	**347**⇓	*i*P	**P**	**00 04 30.0**	**+1.4**
HKC				*i* S	**S**	**00 08 50.0**	**+8.6**
NNT	**Nongplab**	**24.34**	**305**	P	**P**	**00 04 33.8**	**+1.9**
GZH	**Guangzhou**	**24.97**	**345**	P	**P**	**00 04 44.9**	**+7.1**
GZH				S	**S**	**00 09 11.7**	**+14**
GZH				AMB	AMB		
	comp=Z,303nm,1.8s,mb5.5						
GZH				LR	LR		
	comp=N,6µm,15.5s						
GZH				LR	LR		
	comp=E,5µm,21.8s						
GZH				LR	LR		
	comp=Z,9µm,18.3s,MS5.3						
NST	**Nakhon Sawan**	**25.82**	**311**	⇑P	**P**	**00 04 46.4**	**+0.6**
	comp=Z,58nm,0.7s,mb5.2						
QZH	**Quanzhou**	**25.99**	**357**⇑	*i*P	**P**	**00 04 47.3**	**-0.1**
QZH				S	**S**	**00 09 19.5**	**+4.9**
QZH				AMB	AMB		
	comp=Z,230nm,1.0s,mb5.7						
QZH				AMB	AMB		
	comp=Z,6µm,4.5s						
QZH				LR	LR		
	comp=N,6µm,12.1s						

QZH LR LR
comp=E,4µm,9.6s
QZH LR LR
comp=Z,15µm,19.1s
NANT Nan 27.47 317 ⇓P **P 00 05 00.0 -1.0**
comp=Z,750nm,0.6s,mb6.4
PMG Port Moresby 28.21 108 P **P 00 05 08.7 +1.0**
comp=Z,65nm,0.9s,mb5.3,baz=297,slow=5.8,SNR=15
CMAR Chiang Mai Arr 28.46 314 P **P 00 05 10.4 +0.4**
comp=Z,28nm,0.9s,mb4.9,baz=139,slow=7.0,SNR=75
CHG Chiang Mai 28.70 315 ⇓P **P 00 05 10.9 -1.2**
comp=Z,48nm,0.9s,mb5.2
JOW Kunigami 28.95 15 P **P 00 05 13.4 -0.9**
comp=Z,17nm,0.6s,mb5.0,baz=217,slow=11,SNR=4.3
JOW LR LR 00 17 43.0
comp=Z,11µm,20.1s,MS5.5,baz=187,slow=38
KLBR Kellerberrin 30.34 184 *eP* **P 00 05 30.5 +3.9**
comp=Z,35nm,1.1s,mb5.0
GYA Guiyang 30.34 336 ⇓*i*P **P 00 05 26.6 -0.1**
GYA AP pP 00 05 30.8 -2.2
GYA XP sP 00 05 33.6 -2.2
GYA PP PP 00 06 26.2 0.0
GYA S **S 00 10 29.2 +4.6**
GYA AMB AMB
comp=Z,50nm,1.2s,mb5.1
GYA AMB AMB
comp=Z,2µm,9.3s
GYA LR LR
comp=N,6µm,24.2s,MS5.3
GYA LR LR
comp=E,5µm,23.0s,MS5.3
GYA LR LR
comp=Z,6µm,26.3s,MS5.1
KMI Kunming 31.04 329 ⇓P **P 00 05 34.5 +1.6**
KMI AP pP 00 05 38.7 -0.4
KMI XP sP 00 05 40.2 -1.7
KMI PP PP 00 06 37.4 +2.2
KMI S **S 00 10 39.3 +3.7**
KMI SCS ScS 00 16 06.3 +1.9
KMI AMB AMB
comp=Z,92nm,1.6s,mb5.4
KMI AMB AMB
comp=Z,2µm,5.7s
KMI LR LR
comp=N,5µm,18.9s,MS5.4
KMI LR LR
comp=E,6µm,19.9s,MS5.4
KMI LR LR
comp=Z,7µm,20.9s,MS5.3
NWAO Narrogin (SRO) 31.70 184 P **P 00 05 38.9 +0.2**
comp=Z,19nm,0.6s,mb5.1,baz=9.3,slow=10,SNR=12
NWAO LR LR 00 18 38.8
comp=Z,10µm,20.8s,MS5.5,baz=13,slow=37
CTA Charters Tower 31.80 128 ⇓*i*P **P 00 05 42.3 +2.7**
comp=Z,35nm,0.9s,mb5.2
CTA Charters Tower 31.80 128 P **P 00 05 41.5 +1.9**
CTA pmax pmax
comp=Z,43nm,0.9s
CTA MLR MLR
comp=Z,5µm,21.5s
CTA Charters Tower 31.80 128 P **P 00 05 41.5 +1.9**
comp=Z,43nm,0.9s,mb5.3,baz=307,slow=9.8,SNR=23
CTA LR LR 00 18 40.0
comp=Z,5µm,21.4s,MS5.2,baz=153,slow=36
CTAO Charters Tower 31.80 128 PFAKE 00 05 50.0 +10
CTAO LR LR
comp=Z,7µm,19.0s,MS5.3
WHN Wuhan 32.00 351 ⇓P **P 00 05 43.5 +2.3**
SSE Sheshan 32.10 2 P **P 00 05 39.4 -2.8**
SSE AP pP 00 05 48.1 -0.4
SSE XP sP 00 05 52.4 +1.2
SSE PP PP 00 06 51.2 +2.1
SSE AMB AMB
comp=Z,47nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,1µm,8.9s
SSE LR LR
comp=N,6µm,23.3s,MS5.3
SSE LR LR
comp=E,3µm,23.5s,MS5.3
SSE LR LR
comp=Z,9µm,24.3s,MS5.3
ENH Enshi 32.84 343 *eP* **P 00 05 49.1 +0.6**
comp=Z,532nm,1.4s,mb6.3
NJ2 Nanjing 33.06 358 *eP* **P 00 05 51.3 +0.8**
NJ2 AP pP 00 05 55.8 -1.0
NJ2 XP sP 00 05 57.9 -1.6
NJ2 PP PP 00 07 02.3 +0.9
NJ2 S **S 00 11 12.0 +5.0**
NJ2 AMB AMB
comp=Z,260nm,1.2s,mb6.0
NJ2 AMB AMB
comp=Z,2µm,12.0s
NJ2 LR LR
comp=N,17µm,25.6s,MS5.9
NJ2 LR LR
comp=E,24µm,28.1s,MS5.9
NJ2 LR LR
comp=Z,11µm,25.2s,MS5.5
CBIJ Chichi jima 35.28 36 P **P 00 06 07.3 -2.4**
comp=Z,117nm,0.5s,mb6.0,baz=184,slow=3.2,SNR=13
JNU Nakatsue 35.61 16 P **P 00 06 09.7 -2.7**
comp=Z,7.8nm,0.4s,mb5.0,baz=146,slow=13,SNR=3.0
JNU LR LR 00 20 48.3
comp=Z,6µm,19.0s,MS5.4,baz=187,slow=36
IMP Imphal 36.12 317 *eP* **P 00 06 16.0 -0.8**
XAN Xi'an 36.54 344 P **P 00 06 20.3 0.0**
XAN AP pP 00 06 31.9 +5.3
XAN AMB AMB
comp=Z,47nm,1.5s,mb5.1
XAN LR LR
comp=N,4µm,19.5s,MS5.3
XAN LR LR
comp=E,4µm,22.7s,MS5.3
XAN LR LR
comp=Z,9µm,20.9s,MS5.5
STKA Stephens Creek 36.71 148 ⇑*i*P **P 00 06 21.9 +0.2**
comp=Z,50nm,0.7s,mb5.5
STKA Stephens Creek 36.71 148 P **P 00 06 22.0 +0.3**
comp=Z,35nm,0.7s,mb5.3,baz=316,slow=8.8,SNR=63
TIA Tai'an 37.29 356 P **P 00 06 26.6 +0.1**
TIA S **S 00 12 14.0 +1.8**
TIA AMB AMB
comp=Z,156nm,1.5s,mb5.6
TIA AMB AMB
comp=Z,1µm,7.0s
TIA LR LR
comp=N,3µm,17.0s,MS5.5
TIA LR LR
comp=E,7µm,21.0s,MS5.5
SHL Shillong 38.04 316 *i*P **P 00 06 34.0 +1.1**
comp=E,480nm,1.0s,mb6.2
SHL *e* 00 12 32.0
CAL Calcutta 38.85 309 *e* **P 00 06 29.7 -10**
JHJ Hachijo jima 2 38.86 27 LR LR 00 20 26.3
comp=E,10µm,21.1s,MS5.6,baz=122,slow=33
KS15 Wonju Array Si 39.10 10 *eP* **P 00 06 42.3 +0.6**
DL2 Dalian 39.91 2 P **P 00 06 49.2 +0.9**
DL2 PP PP 00 08 24.9 +0.9
DL2 S **S 00 12 49.3 -2.5**
DL2 AMB AMB
comp=Z,60nm,0.8s,mb5.4
DL2 AMB AMB
comp=Z,440nm,4.3s
DL2 LR LR
comp=N,2µm,20.8s,MS5.1
DL2 LR LR
comp=E,1µm,17.6s,MS5.1
DL2 LR LR
comp=Z,3µm,22.2s,MS5.1
LZH Lanzhou 40.01 339 P **P 00 06 50.8 +1.5**
LZH AP pP 00 06 57.2 +1.5
LZH XP sP 00 07 02.4 +4.1
LZH PP PP 00 08 25.0 -0.1
LZH S **S 00 12 55.3 +1.8**
LZH AMB AMB
comp=Z,190nm,1.0s,mb5.8
LZH AMB AMB
comp=Z,2µm,5.8s
LZH LR LR
comp=E,9µm,14.0s
LZH LR LR
comp=Z,19µm,20.3s
HNR Honiara 40.55 103 P **P 00 06 56.0 +2.1**
comp=Z,230nm,0.9s,mb5.8,baz=203,slow=3.7,SNR=7.5
VIS Vishakhapatnam 40.72 299 *eP* **P 00 06 55.3 +0.1**
VIS AMb AMB 00 06 59.6
comp=Z,150nm,1.3s,mb5.5
VIS *e* 00 12 57.0
MAT Matsushiro 41.15 22 *eP* **P 00 06 56.0 -2.6**
MAT *eS* **S 00 13 10.0 -0.4**
MAT pmax pmax
comp=Z,192nm,1.7s,mb5.5
MAT MLR MLR
comp=Z,7µm,20.0s,MS5.5
MAT Matsushiro 41.15 22 *eP* **P 00 06 56.0 -2.6**
comp=Z,192nm,1.7s,mb5.5
MAT *eS* **S 00 13 10.0 -0.4**
MAT LR LR
comp=Z,7µm,20.0s,MS5.5
MAT Matsushiro 41.15 22 P **P 00 06 55.8 -2.8**
MAT S **S 00 13 09.8 -0.6**
MJAR Matsushiro Arr 41.15 22 P **P 00 06 56.3 -2.3**
comp=Z,20nm,1.1s,mb4.7,baz=198,slow=9.3,SNR=22
MJAR LR LR 00 22 26.6
comp=Z,7µm,21.5s,MS5.5,baz=210,slow=34
LSA Lhasa 41.26 320 P **P 00 07 02.1 +2.6**
LSA SS SS 00 16 21.9 +11
LSA AMB AMB
comp=Z,100nm,1.2s,mb5.3
LSA AMB AMB
comp=Z,3µm,12.0s
LSA LR LR
comp=N,3µm,19.0s,MS5.3
LSA LR LR
comp=E,3µm,21.0s,MS5.3
LSA LR LR
comp=Z,7µm,21.0s,MS5.5
HHC Hu-ho-hao-te 42.52 350 ⇓P **P 00 07 10.9 +1.0**
HHC AP pP 00 07 20.0 +3.7
HHC XP sP 00 07 24.3 +5.4
HHC PP PP 00 08 53.0 +1.8
HHC PCP PcP 00 09 00.2 -2.7
HHC SCP 00 12 46.8
HHC PCS 00 12 52.8
HHC S **S 00 13 32.3 +1.6**
HHC AMB AMB
comp=Z,63nm,1.4s,mb5.2
HHC AMB AMB
comp=Z,2µm,9.6s
HHC LR LR
comp=N,4µm,19.2s
HHC LR LR
comp=E,5µm,25.2s
HHC LR LR
comp=Z,5µm,25.2s
BTO Baotou 42.56 349 *eP* **P 00 07 10.4 +0.2**
BTO AMB AMB
comp=Z,132nm,1.3s,mb5.5
BTO LR LR
comp=N,2µm,14.3s
BTO LR LR
comp=E,7µm,21.8s
SNY Shenyang 42.92 4 ⇑P **P 00 07 11.7 -1.4**
SNY S **S 00 13 36.1 -0.3**
SNY SS SS 00 16 52.3 +10
SNY AMB AMB
comp=Z,50nm,1.6s,mb5.0
SNY AMB AMB
comp=Z,1µm,7.4s
SNY LR LR
comp=N,5µm,23.5s
SNY LR LR
comp=Z,7µm,34.5s
BLSP Bilaspur 43.62 304 *eP* **P 00 07 17.6 -1.4**
BLSP *eP* 00 07 19.2
BLSP *eP* 00 07 19.2
BLSP *e* 00 09 07.0
BLSP *e* 00 09 07.0
BLSP *e* 00 13 33.5
GUN Gumba 43.71 314 *eP* **P 00 07 20.6 +0.9**
comp=Z,638nm,0.9s,mb6.3
PKI Pulchoki 43.85 313 *eP* **P 00 07 21.5 +0.6**
comp=Z,258nm,1.1s,mb5.9
PKI Pulchoki 43.85 313 *eP* **P 00 07 21.5 +0.6**
PKI pmax pmax
comp=Z,129nm,1.1s,mb5.6
KKN Kakani 44.07 313 *eP* **P 00 07 23.1 +0.5**
comp=Z,611nm,1.4s,mb6.2
KKN Kakani 44.07 313 *eP* **P 00 07 23.1 +0.5**
KKN pmax pmax
comp=Z,305nm,1.4s,mb5.8
DMN Daman 44.10 313 *eP* **P 00 07 23.6 +0.8**
comp=Z,387nm,1.1s,mb6.0
GTA Gaotai 44.43 338 *eP* **P 00 07 26.5 +1.1**
GTA AP pP 00 07 35.0 +3.2
GTA XP sP 00 07 39.3 +4.8
GTA PP PP 00 09 12.1 +1.7
GTA S **S 00 14 01.9 +3.4**
GTA AMB AMB
comp=Z,85nm,1.4s,mb5.3
GTA AMB AMB
comp=Z,2µm,5.7s
GTA LR LR
comp=N,3µm,19.4s,MS5.4
GTA LR LR
comp=E,4µm,22.4s,MS5.4
GTA LR LR
comp=Z,5µm,22.0s,MS5.4
GKN Gorkha 44.66 313 *eP* **P 00 07 27.0 -0.4**
comp=Z,888nm,1.6s,mb6.3
HYB Hyderabad 44.83 296 ⇓*eP* **P 00 07 29.0 +0.1**
HYB pmax pmax
comp=Z,400nm,1.4s,mb6.1
HYB Hyderabad 44.83 296 ⇓*eP* **P 00 07 29.0 +0.1**
comp=Z,400nm,1.4s,mb6.1
CN2 Changchun 45.03 6 *eP* **P 00 07 29.3 -0.8**
CN2 *eXP* sP 00 07 36.0 -3.2
CN2 *eS* **S 00 14 08.8 +1.8**
CN2 AMB AMB
comp=Z,20nm,1.4s,mb4.8
CN2 LR LR
comp=N,2µm,21.0s,MS5.4
CN2 LR LR
comp=E,4µm,21.0s,MS5.4
CN2 LR LR
comp=Z,4µm,21.0s,MS5.3
KOLN Koldanda 45.29 312 *eP* **P 00 07 32.7 +0.3**
comp=Z,775nm,1.5s,mb6.3
MDJ Mudanjiang 46.38 9 P **P 00 07 40.8 +0.1**
MDJ PCP PcP 00 09 09.5 -6.6
MDJ PP PP 00 09 31.2 +1.5
MDJ S **S 00 14 38.6 +12**
MDJ SCS ScS 00 17 35.5 +3.3
MDJ AMB AMB
comp=Z,106nm,1.3s,mb5.6
MDJ LR LR
comp=N,4µm,27.4s,MS5.3
MDJ LR LR
comp=E,2µm,23.4s,MS5.3
MDJ LR LR
comp=Z,6µm,24.4s,MS5.4
MDJ Mudanjiang 46.38 9 *eP* **P 00 07 40.5 -0.3**
comp=Z,94nm,0.9s,mb5.7
LATR Latur 46.95 297 *eP* **P 00 07 46.0 +0.3**
MNGI Mangalore 46.98 289 *i* **P 00 07 40.5 -5.4**
MNGI *i* 00 14 39.2
AKL Akola 47.36 300 ⇑*i* **P 00 07 53.0 +4.1**
AKL *i* 00 08 02.7
ERM Erimo 47.80 23 PFAKE 00 08 00.0 +7.9
ERM LR LR
comp=Z,1.0nm,20.0s
DGAR Diego Garcia 47.81 261 PFAKE 00 08 00.0 +7.5
DGAR LR LR
comp=Z,710nm,22.0s,MS4.6
BHPL Bhopal 48.01 303 *eP* **P 00 07 52.0 -2.0**
BHPL AMb AMB 00 07 57.8
comp=Z,181nm,1.4s,mb5.9
LGTI Lohaghat 48.68 312 *eP* **P 00 07 59.0 0.0**
KAD Karad 48.75 294 AMb AMB 00 06 54.4
comp=Z,26nm,0.7s,mb5.3
KAD *eP* 00 07 57.8
PTH Pithoragarh 48.75 312 *eP* **P 00 08 00.0 +0.4**
PTH *e* 00 09 43.0
ASAJ Asahikawa 49.39 21 P **P 00 08 02.7 -1.6**
comp=Z,18nm,0.7s,mb5.2,baz=244,slow=9.5,SNR=14
ASAJ LR LR 00 26 07.4
comp=Z,5µm,21.9s,MS5.5,baz=231,slow=33
POO Poona 49.42 296 AMb AMB 00 06 57.6
comp=Z,24nm,1.0s,mb5.2
POO *eP* 00 08 02.3
DZM Mont Dzumac 49.69 118 *eP* **P 00 08 07.7 +0.8**
DZM Mont Dzumac 49.69 118 *eP* **P 00 08 07.7 +0.8**
ULN Ulaanbaatar 50.13 349 *d*P **P 00 08 05.3 -4.6**
SONM Songino Array 50.23 348 P **P 00 08 11.1 +0.4**
comp=Z,79nm,1.1s,mb5.7,baz=166,slow=8.1,SNR=68
HIA Hailar 50.24 360 P **P 00 08 12.6 +1.9**
HIA pmax pmax
comp=Z,200nm,1.9s
HIA Hailar 50.24 360 *eP* **P 00 08 10.8 +0.1**
comp=Z,200nm,1.9s,mb5.8
BOM Bombay 50.47 296 *i* P **P 00 08 11.7 -1.1**
comp=Z,2µm,4.4s
BOM *i* 00 11 17.1
NDI New Delhi 50.59 309 *eP* **P 00 08 10.5 -3.2**
comp=Z,16nm,1.2s,mb4.8
DDI Dehra Dun 50.76 312 *eP* **P 00 08 14.0 -0.9**
DDI *eS* **S 00 15 29.0 +1.1**
KLR Kul'dur 51.21 10 *eP* **P 00 08 13.2 -4.9**
KLR *e* 00 10 18.5
KLR *eS* **S 00 15 39.0 +5.1**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,64nm,1.8s,mb5.2
AJM Ajmer 51.65 306 *eP* **P 00 08 20.1 -1.6**
SMLA Simla 51.83 312 *i* **P 00 08 17.9 -5.1**
YSS Yuzh-Sakhalins 51.91 20 ⇓*eP* **P 00 08 21.6 -1.8**
YSS S **S 00 15 44.0 +0.5**
YSS *e*PS PS 00 15 54.0 -1.8
YSS pmax pmax
comp=Z,80nm,1.5s,mb5.4
YSS MLR MLR
comp=Z,2µm,18.0s,MS5.2
YSS MLR MLR
comp=N,2µm,16.0s
YSS Yuzh-Sakhalins 51.91 20 *eP* **P 00 08 22.2 -1.2**
comp=N,59nm,1.4s,mb5.3
SDNR Sundarnagar 52.16 312 *eP* **P 00 08 26.0 +0.5**
SDNR *e* 00 15 53.0
BHK Bhakra 52.52 312 *eP* **P 00 08 28.7 +0.4**
BHK *e* 00 15 54.7
PONG Pong 53.13 312 *eP* **P 00 08 32.0 -0.8**
CIT Chita 53.28 355 *eP* **P 00 08 34.7 +1.2**
CIT *e* 00 10 35.8
CIT *e* 00 16 07.7
CIT pmax pmax
comp=Z,211nm,3.3s
WMQ Urumqi 53.31 331 ⇓P **P 00 08 34.5 +0.6**
WMQ AP pP 00 08 39.4 -1.0
WMQ XP sP 00 08 41.9 -1.0
WMQ PP PP 00 10 37.2 +1.5
WMQ S **S 00 16 04.9 +2.3**
WMQ SCS ScS 00 18 21.1 +2.2
WMQ AMB AMB
comp=Z,162nm,1.0s,mb5.9
WMQ AMB AMB
comp=Z,3µm,5.0s
WMQ LR LR
comp=N,3µm,18.8s,MS5.5
WMQ LR LR
comp=E,3µm,20.6s,MS5.5
WMQ LR LR
comp=Z,4µm,22.4s,MS5.4
ZAK Zakamensk 53.32 347 *eP* **P 00 08 33.8 -0.1**
ZAK *e* 00 16 07.5
ZAK pmax pmax
comp=Z,22nm,1.6s,mb4.8
DLH Dalhousie 53.41 313 *eP* **P 00 08 35.0 +0.2**
THN Thein Dam 53.54 313 *eP* **P 00 08 34.6 -1.2**
TLY Talaya 54.45 348 *d*P **P 00 08 41.5 -0.7**
TLY *e* 00 10 44.4
TLY *e*PPP PPP 00 11 50.6 -6.3
TLY *e*S **S 00 16 22.5 +4.5**
TLY *e* 00 18 28.2
TLY pmax pmax
comp=Z,142nm,2.3s,mb5.5
TLY MLR MLR
comp=Z,4µm,22.0s,MS5.5
TLY Talaya 54.45 348 *eP* **P 00 08 42.4 +0.2**
comp=Z,182nm,1.7s,mb5.7
BHUJ Bhuj 54.65 300 *eP* **P 00 08 39.9 -4.2**
IRK Irkutsk 54.85 348 *eP* **P 00 08 45.4 +0.3**
IRK *e* 00 09 53.9
IRK *e*S **S 00 16 29.5 +6.2**
IRK pmax pmax
comp=Z,233nm,3.0s
MOY Mondy 55.05 346 *eP* **P 00 08 47.2 +0.6**
MOY pmax pmax
comp=Z,358nm,2.7s,mb5.9
KSH Kashi 57.11 320 *e*PR 00 09 03.0
KSH *e*AP pP 00 09 08.0 -0.2
KSH *e*XP sP 00 09 11.4 +0.8
KSH *e*PCP PcP 00 09 56.0 -0.1
KSH *e*PP PP 00 11 12.3 +2.3
KSH *e*SCP 00 13 50.3
KSH *e*PCS 00 13 57.0
KSH *e*S **S 00 16 56.0 +2.5**
KSH *e*SCS ScS 00 18 49.0 +3.0
KSH *e*SS SS 00 20 49.1 +5.2
KSH AMB AMB
comp=Z,560nm,1.4s,mb6.4
KSH AMB AMB
comp=Z,3µm,6.0s
KSH LR LR
comp=N,4µm,15.0s,MS5.9
KSH LR LR
comp=E,6µm,16.7s,MS5.9
CLNS Chul'man 57.95 3 *eP* **P 00 09 06.3 -0.9**
CLNS *e**PP pP 00 09 11.4 -2.4
CLNS *e* 00 10 02.8
CLNS pmax pmax
comp=N,32nm,1.1s
CLNS pmax pmax
comp=E,12nm,1.1s
CLNS pmax pmax
comp=Z,53nm,1.1s,mb5.5
CLNS pmax pmax
comp=Z,19nm,0.9s,mb5.1
CLNS pmax pmax
comp=N,9.0nm,1.2s
CLNS pmax pmax
comp=E,9.0nm,0.7s
CLNS MLR MLR
comp=Z,3µm,19.0s,MS5.4
CLNS MLR MLR
comp=N,2µm,20.0s
CLNS MLR MLR
comp=E,500nm,13.0s
MKAR Makanchi Array 58.09 330 P **P 00 09 08.3 0.0**
comp=E,63nm,0.9s,mb5.7,baz=129,slow=8.1,SNR=78
MKAR LR LR 00 36 51.5
comp=E,2µm,21.6s,MS5.3,baz=152,slow=39
MKAR Makanchi Array 58.09 330 P **P 00 09 08.3 0.0**
MKAR LR LR 00 36 51.5
ULHL Ulahol 58.51 323 P **P 00 09 12.4 +1.1**
SNR=10
AAA Alma-Ata 58.70 324 *d*P **P 00 09 12.0 -0.6**
AAA *eS* **S 00 17 11.5 -2.8**
AAA pmax pmax
comp=Z,3µm,6.0s
AAA smax
comp=E,1µm,8.0s
BOD Bodaibo 59.00 356 *eP* **P 00 09 13.6 -0.9**
BOD pmax pmax
comp=Z,57nm,1.5s,mb5.4
KZA Kyzart 59.01 322 P **P 00 09 15.7 +0.8**
SNR=54
TKM2 Tokmak 2 59.29 323 P **P 00 09 16.9 +0.2**
SNR=38
KBK Karagaybulak 59.53 323 P **P 00 09 18.9 +0.6**
SNR=34
UCH Uchtor 59.55 322 P **P 00 09 19.3 +0.7**
SNR=33
AAK Ala-Archa 59.79 322 P **P 00 09 20.9 +0.7**
SNR=14
AAK Ala-Archa 59.79 322 P **P 00 09 21.0 +0.8**
AAK pmax pmax
comp=Z,715nm,1.7s,mb6.4
AAK Ala-Archa 59.79 322 *eP* **P 00 09 19.5 -0.7**
comp=Z,60nm,1.0s,mb5.6
AAK LR LR
comp=Z,1µm,20.0s,MS5.0
CHMS Chumysh 59.84 323 P **P 00 09 20.8 +0.2**
SNR=7.5
AML Almayashu 60.00 322 P **P 00 09 22.2 +0.6**

SNR=78
USP Ospenovka 60.14 323 P **P** **00 09 22.3 -0.2**
SNR=35
RPZ Rata Peaks 61.97 140 P **P** **00 09 34.9 -0.1**
comp=Z,96nm,1.0s,mb5.9,baz=276,slow=1.6,SNR=7.7
KKAR Karatay Array 62.51 321 *i* P **P** **00 09 37.7 -0.9**
PET Petropavlovsk 62.89 25 *e*P **P** **00 09 40.0 -0.9**
PET *e*S **S** **00 18 04.7 -3.0**
PET pmax pmax
comp=Z,800nm,18.1s
PET pmax pmax
comp=Z,34nm,1.6s,mb5.2
PET smax
comp=E,1μm,14.6s
PET smax
comp=N,1μm,15.8s
PET MLR MLR
comp=Z,2μm,28.0s,MS5.1
YAK Yakutsk 63.46 5 P **P** **00 09 43.1 -1.4**
YAK pmax pmax
comp=Z,140nm,1.0s,mb6.0
YAK Yakutsk 63.46 5 *e*P **P** **00 09 43.0 -1.5**
comp=Z,136nm,0.9s,mb6.1
NVS Novosibirsk 63.47 337⇓ *i* P **P** **00 09 42.7 -2.0**
NVS *e*S **S** **00 18 15.5 +0.5**
NVS pmax pmax
comp=Z,349nm,2.3s,mb6.1
NVS pmax pmax
comp=N,251nm,2.4s
NVS smax
comp=E,528nm,3.9s
NVS smax
comp=N,53nm,2.2s
JMDO Jabal Madar 64.66 295⇑ P **P** **00 09 54.0 +0.9**
SNR=10.0
SMDO Samad 64.86 296⇑ P **P** **00 09 55.9 +1.6**
BIDO Bidbid 64.90 297⇑ P **P** **00 09 55.5 +0.9**
SNR=8.4
MA2 Magadan 65.17 17 *de*P **P** **00 09 55.2 -0.5**
MA2 *e* 00 10 27.2
MA2 *e*S S 00 18 57.9 +22
CASY Casey 65.33 184 *e*P **P** **00 09 56.7 +0.1**
BSY Bisya 65.56 296 P **P** **00 10 00.1 +1.3**
SNR=19
DRV Dumont d'Urvil 66.87 171 P **P** **00 09 57.0 -9.5**
DRV S S 00 19 02.0 +5.6
ASHO Ashiyiah 67.00 297 P **P** **00 10 08.8 +0.8**
SNR=16
RBK Rabkut 67.37 289 P **P** **00 10 11.5 +1.1**
SNR=5.5
WHFO Wadi Hawf 67.84 290⇑ P **P** **00 10 11.6 -1.9**
SNR=16
MIR Mirnyy 67.97 191 *d* *i* P **P** **00 10 15.0 +1.6**
MIR pmax pmax
comp=Z,900nm,6.0s
BVA0 Borovoye Array 67.98 330 *i* P **P** **00 10 12.5 -1.2**
BVA0 pmax pmax
comp=Z,25nm,1.4s,mb5.0
BVAR Borovoye Array 67.98 330 P **P** **00 10 12.9 -0.8**
comp=Z,69nm,1.1s,mb5.6,baz=135,slow=6.3,SNR=56
ABTO Aybut 68.21 289⇓ P **P** **00 10 14.1 -1.6**
SNR=11
SEY Seymchan 68.39 15⇓ *i* P **P** **00 10 15.0 -1.1**
SEY Seymchan 68.39 15⇓ *i* P **P** **00 10 15.1 -1.0**
FX1 Attu Island--F 69.67 31 P **P** **00 10 24.9 +0.8**
FX1 pmax pmax
comp=Z,12nm,0.5s
FX1 Attu Island--F 69.67 31 P **P** **00 10 24.9 +0.8**
comp=Z,12nm,0.5s,mb5.1,baz=288,slow=7.8,SNR=8.8
FX1 Attu Island--F 69.67 31 *e*P **P** **00 10 25.0 +0.8**
AB31 Akbulak array 71.86 323 *i* P **P** **00 10 36.6 -0.8**
HASS Wahat al Ahsa' 72.76 297 P **P** **00 10 42.2 -1.1**
OPO Ambohidratompo 73.37 251 P **P** **00 10 47.0 +0.1**
comp=Z,2.2nm,0.6s,baz=94,slow=3.7,SNR=3.2
SVE Sverdlovsk 74.75 331⇓ *e*P **P** **00 10 53.5 -0.7**
SVE *e* 00 11 15.0
SVE *e*S S 00 20 51.0 +23
SVE pmax pmax
comp=Z,160nm,1.8s,mb5.7
RYDS Riyadh 75.36 295 P **P** **00 10 58.3 -0.1**
ARU Arti 75.61 330⇓ *i* P **P** **00 10 58.0 -1.1**
ARU *e* 00 11 11.8
ARU *i* 00 13 47.6
ARU *i* S S 00 20 40.2 +2.7
ARU *e* 00 21 07.5
ARU *e*SS SS 00 25 26.2 -5.4
ARU pmax pmax
comp=Z,90nm,1.2s,mb5.6
ARU Arti 75.61 330 *e*P **P** **00 10 57.7 -1.4**
comp=Z,111nm,1.3s,mb5.6
ARU LR LR
comp=Z,731nm,21.0s,MS5.0
BILL Bilibino 76.03 16⇓ *i* P **P** **00 11 00.7 -0.6**
BILL MLR MLR
comp=Z,3μm,22.0s,MS5.5
MZLS Mizel 76.63 295 P **P** **00 11 05.5 -0.1**
KAMS Al Khamasin 76.77 291 P **P** **00 11 06.9 +0.5**
MAW Mawson 76.91 199 *e*P **P** **00 11 07.8 +1.6**
comp=Z,13nm,1.0s,mb4.8
MAW Mawson 76.91 199 P **P** **00 11 04.4 -1.8**
comp=Z,11nm,0.9s,mb4.8,baz=52,slow=7.8,SNR=5.5
MAW LR LR 00 42 31.4
comp=Z,2μm,20.0s,MS5.5,baz=53,slow=34
TATS Tathlith 77.72 290 P **P** **00 11 12.2 +0.5**
SOKR Solikamsk 77.77 332 *d* *i* P **P** **00 11 09.9 -1.2**
SOKR pmax pmax
comp=Z,50nm,1.4s,mb5.2
SOKR MLR MLR
comp=Z,2μm,19.0s,MS5.5
MAK Makhachkala 78.07 314 *c* *i* P **P** **00 11 13.0 -0.1**
MAK pmax pmax
comp=Z,4μm,6.0s
ARSS Ar Rass 78.64 297 P **P** **00 11 16.1 -0.4**
DGRG David-gareji 79.31 312 P **P** **00 11 26.2 +6.3**
BLJS Baljurashi 79.52 290 P **P** **00 11 22.2 +0.7**
VNDA Vanda 79.52 172 P **P** **00 11 20.9 +0.5**
VNDA pmax pmax
comp=Z,6.0nm,0.8s
VNDA MLR MLR
comp=Z,2μm,18.1s
VNDA Vanda 79.52 172 P **P** **00 11 20.9 +0.4**
comp=Z,6.3nm,0.8s,mb4.6,baz=319,slow=6.0,SNR=16
VNDA LR LR 00 47 55.2
comp=Z,2μm,18.1s,MS5.5,baz=324,slow=37
VNDA Vanda 79.52 172 *e*P **P** **00 11 19.8 -0.7**
comp=Z,36nm,1.4s,mb5.1
GNI Garni 79.53 311 P **P** **00 11 22.2 +1.1**
GNI pmax pmax
comp=Z,120nm,1.3s
GNI Garni 79.53 311 P **P** **00 11 21.1 -0.1**
comp=Z,14nm,0.7s,mb5.0,baz=170,slow=5.9,SNR=17
GNI Garni 79.53 311 *e*P **P** **00 11 22.1 +1.0**
comp=Z,117nm,1.4s,mb5.6
GNI LR LR
comp=Z,1μm,20.0s,MS5.2
MTA Mtatsminda 79.78 313 P **P** **00 11 22.3 -0.1**
TI2 Plekhanov 79.82 313⇓ *i* P **P** **00 11 26.0 +3.4**
TBLG Delisi 79.83 313 P **P** **00 11 25.8 +3.1**
DUS Dusheti 79.92 313 P **P** **00 11 24.8 +1.6**
HILS Ha'il 80.09 298 P **P** **00 11 24.7 +0.3**
TVAN Van 80.28 309 *i* P **P** **00 11 24.7 -0.4**
GOR Gori 80.33 313 P **P** **00 11 26.3 +0.9**
SBA Scott Base 80.51 171 *e*P **P** **00 11 26.4 +0.8**
SBA pmax pmax
comp=Z,29nm,1.2s,mb5.1
SBA Scott Base 80.51 171 *e*P **P** **00 11 26.4 +0.7**
comp=Z,29nm,1.2s,mb5.1
ZEI Tsey 80.63 314 *e*P **P** **00 11 25.3 -1.6**
ZEI *i* *PP pP 00 11 32.8 -0.9
ZEI *i* 00 14 32.2
ZEI pmax pmax
comp=Z,39nm,0.7s,mb5.5
LTHS Al Lith 80.66 291 P **P** **00 11 27.9 +0.4**
ONI Oni 80.92 313 P **P** **00 11 27.3 -1.2**
GOF Gofitskoye 81.65 316⇑ *i* P **P** **00 11 32.3 +0.1**
GOF *e*S S 00 21 45.5 +3.5
GOF pmax pmax
comp=Z,162nm,1.2s,mb5.8
KIV Kislovodsk 81.70 315 *e*P **P** **00 11 32.1 -0.4**
KIV pmax pmax
comp=Z,52nm,1.2s,mb5.3
KIV Kislovodsk 81.70 315 *e*P **P** **00 11 32.1 -0.5**
comp=Z,52nm,1.2s,mb5.3
BEST Besiri 81.84 308 *i* P **P** **00 11 33.6 +0.3**
ERZM Erzurum 82.05 310 *i* P **P** **00 11 35.3 +0.9**
KBRS Khaybar 82.19 296 P **P** **00 11 36.3 +0.9**
KMBO Kilima Mbogo 82.75 269 P **P** **00 11 38.1 -0.4**
comp=Z,22nm,1.0s,mb5.2,baz=59,slow=7.8,SNR=24
KMBO LR LR 00 50 21.7
comp=Z,1μm,18.2s,MS5.2,baz=93,slow=37
YNBS Yanbu' al Bahr 83.22 295 P **P** **00 11 41.7 +0.9**
KELT Kelkit 83.69 310 *i* P **P** **00 11 45.9 +3.0**
ELZG Elazig 83.71 309 *i* P **P** **00 11 43.9 +0.8**
SOC Sochi 83.78 314 *d* *i* P **P** **00 11 41.5 -1.8**
SOC *e* 00 14 52.4
SOC *e*S S 00 22 00.9 -2.7
SOC *e*SSS SSS 00 30 57.6 -3.0
SOC pmax pmax
comp=Z,54nm,0.8s,mb5.7
SOC pmax pmax
comp=N,18nm,1.2s
SOC pmax pmax
comp=E,4.0nm,0.9s
UMJS Umm Lajj 83.90 295 P **P** **00 11 45.4 +1.0**
MALT Malatya 84.12 309 P **P** **00 11 45.7 +0.5**
MALT pmax pmax
comp=Z,94nm,1.3s,mb5.8
MALT Malatya 84.12 309 *e*P **P** **00 11 45.5 +0.4**
comp=Z,94nm,1.4s,mb5.7
GZT Gaziantep 84.70 308 *i* P **P** **00 11 48.7 +0.6**
ASF Jabal al Asfar 84.80 302 P **P** **00 11 50.0 +1.3**
comp=Z,222nm,1.0s,mb6.3,baz=340,slow=1.9,SNR=82
ASF LR LR 00 55 20.7
comp=Z,2μm,21.2s,MS5.5,baz=332,slow=40
TBKS Tabuk 84.80 298 P **P** **00 11 49.5 +0.7**
VOR Voronezh 85.22 322 *e*P **P** **00 11 49.5 -0.8**
VOR pmax pmax
comp=Z,400nm,1.0s,mb6.5
KAHT Ahir Dag 85.28 308 *i* P **P** **00 11 51.7 +0.7**
FKH Fakeheh 85.37 304 *e*P **P** **00 11 52.5 +1.0**
SVST Sivas 85.41 310 *i* P **P** **00 11 52.4 +0.8**
SYO Syowa Base 85.48 201⇓ P **P** **00 11 50.0 -1.2**
ANN Anapa 85.55 315 *e*P **P** **00 11 50.5 -1.6**
ANN *e* 00 12 00.5
ANN *e* 00 15 06.8
ANN *e*S S 00 22 12.3 -8.8
ANN pmax pmax
comp=Z,222nm,1.1s,mb6.3
COBT Iskenderun 85.67 307 *i* P **P** **00 11 53.8 +0.8**
BHL Bhannes 85.97 304 *e*P **P** **00 11 55.0 +0.5**
BDAS Al Bad' 86.08 298 P **P** **00 11 55.5 +0.3**
MMC5 Mount Meron ar 86.11 303 P **P** **00 11 53.7 -1.5**
MMA2 Mount Meron ar 86.11 303 P **P** **00 11 53.7 -1.5**
MMA0 Mount Meron ar 86.11 303 P **P** **00 11 53.7 -1.5**
MMA3 Mount Meron ar 86.12 303 P **P** **00 11 53.7 -1.5**
JMOS Jabal al Moall 86.12 299 P **P** **00 11 56.0 +0.7**
MMA4 Mount Meron ar 86.12 303 P **P** **00 11 53.7 -1.6**
MMC6 Mount Meron ar 86.12 303 P **P** **00 11 53.7 -1.6**
ALWS Ilw as Safayha 86.17 299 P **P** **00 11 56.3 +0.7**
HAQS Haql 86.27 299 P **P** **00 11 56.3 +0.2**
EIL Elat 86.29 300 *e*P **P** **00 11 56.4 +0.2**
comp=Z,211nm,1.2s,mb6.2
TAYS Tayyib Ism 86.29 299 P **P** **00 11 56.4 +0.2**
MOS Moscow 86.67 326 *k* *i* P **P** **00 11 56.5 -0.9**
MOS *e* 00 12 10.4
MOS *e* 00 15 22.7
MOS *e*PPP PPP 00 17 16.4 -2.4
MOS *e*S S 00 22 25.1 -6.5
MOS pmax pmax
comp=Z,155nm,1.2s,mb6.1
AVNT Avonos 86.95 309 *i* P **P** **00 11 59.0 -0.2**
BOYT Boyabat 87.10 311 *i* P **P** **00 11 59.8 0.0**
CTKT Corum 87.13 311 *i* P **P** **00 12 00.3 +0.3**
OBN Obninsk 87.20 325 *e*P **P** **00 11 58.8 -1.2**
comp=Z,183nm,1.4s,mb6.1
MEST Erdemli 87.38 307 *i* P **P** **00 12 00.8 -0.4**
SIM Simferopol' 87.91 315 *ce*P **P** **00 12 05.1 +1.5**
SIM pmax pmax
comp=Z,61nm,1.1s,mb5.7
CSS Prodhromos 87.95 305 *e*P **P** **00 12 03.7 -0.4**
BR131 Keskin Array S 87.95 310 *e*P **P** **00 12 03.5 -0.4**
comp=Z,38nm,0.9s,mb5.6
BR131 LR LR
comp=Z,736nm,19.0s,MS5.1
BRTR Keskin Array B 87.95 310 P **P** **00 12 03.0 -1.0**
comp=Z,37nm,0.9s,mb5.6,baz=117,slow=5.5,SNR=61
BRTR PP PP 00 15 28.4 -4.5
comp=Z,5.4nm,1.1s,baz=101,slow=6.3,SNR=4.5
ELDT Eldivan 88.16 310 *i* P **P** **00 12 04.5 -0.5**
BALT Daday 88.25 311 *i* P **P** **00 12 05.1 -0.2**
QSPA South Pole Qui 88.77 180 *e*P **P** **00 12 06.4 -0.7**
SGKT Sivrigoynuk 89.20 310 *i* P **P** **00 12 09.7 -0.2**
MBAR Mbarara 89.28 269 P **P** **00 12 10.4 -0.5**
MBAR pmax pmax
comp=Z,65nm,1.0s,mb5.9
MBAR Mbarara 89.28 269 *e*P **P** **00 12 09.2 -1.7**
comp=Z,65nm,1.0s,mb5.9
LVZ Lovozero 89.33 338⇑ *i* P **P** **00 12 10.2 +0.3**
APA Apatity 89.78 337⇓ *i* P **P** **00 12 12.8 +0.8**
APA pmax pmax
comp=Z,39nm,1.1s,mb5.7
SPU Mount Spurr 90.01 29 *e*P **P** **00 12 12.5 -0.7**
HENT Hendek 90.09 311 *i* P **P** **00 12 09.2 -4.9**
TKTP Tekketepe 90.48 308 *i* P **P** **00 12 15.3 -0.6**
FIB Fire Island 90.92 29 PFAKE **00 12 30.0 +13**
FIB LR LR
comp=Z,1μm,20.0s,MS5.4
MATP Matopo 91.03 250 P **P** **00 12 17.9 -0.9**
AKASG Malin Array Be 91.41 321 P **P** **00 12 18.0 -1.9**
comp=Z,14nm,1.0s,mb5.2,baz=78,slow=4.1,SNR=36
AKASG PP PP 00 15 56.0 -4.1
comp=Z,2.1nm,0.9s,baz=80,slow=7.5,SNR=4.0
AKASG PKKPbc 00 29 43.7
comp=Z,0.3nm,0.3s,baz=267,slow=5.5,SNR=5.1
SML Sawmill 91.80 28 *e*P **P** **00 12 19.9 -1.5**
MANT Manisa 91.87 308 *i* P **P** **00 12 21.6 -0.7**
TIRR Tirgusor 91.96 314⇓ P **P** **00 12 21.0 -1.6**
PSN Preselentsi 92.13 313 *i* P **P** **00 12 25.5 +2.1**
PSN Preselentsi 92.13 313 *i* P **P** **00 12 25.5 +2.1**
KEV Kevo 92.14 340 *e*P **P** **00 12 23.0 +0.2**
KEV pmax pmax
comp=Z,57nm,1.8s,mb5.6
KEV Kevo 92.14 340 *e*P **P** **00 12 23.0 +0.2**
comp=Z,57nm,1.8s,mb5.6
ILAR Eielson Array 92.37 25 P **P** **00 12 24.4 +0.4**
comp=Z,0.6nm,0.8s,baz=234,slow=4.8,SNR=4.7
ILAR LR LR 00 56 17.2
comp=Z,759nm,19.6s,baz=244,slow=37
ARCES ARCESS Array B 92.67 339 P **P** **00 12 25.1 -0.2**
comp=Z,5.8nm,0.8s,mb5.0,baz=91,slow=6.2,SNR=33
ARCES PP PP 00 16 06.9 -3.0
comp=Z,6.0nm,1.1s,baz=74,slow=8.8,SNR=5.1
ARCES PKKPbc 00 29 39.9
comp=Z,1.4nm,1.0s,baz=270,slow=3.6,SNR=3.8
ARCES LR LR 00 59 33.4
comp=Z,2μm,21.1s,MS5.6,baz=85,slow=39
ARCES ARCESS Array B 92.67 339 P **P** **00 12 25.1 -0.2**
ARCES PP PP 00 16 06.9 -2.9
ARCES PKKPbc 00 29 39.9
ARCES LR LR 00 59 33.4
ARE0 ARCESS Array S 92.67 339 *e*P **P** **00 12 25.2 -0.1**
VSU Vasula 92.72 328 *i* P **P** **00 12 24.6 -1.1**
VSU Vasula 92.72 328 *i* P **P** **00 12 24.6 -1.1**
KAF Kangasniemi 92.77 332 *ep* **P** **00 12 24.0 -1.9**
comp=Z,10nm,1.0s,mb5.2,baz=82,slow=4.2
KAF Kangasniemi 92.77 332 *e*P **P** **00 12 24.0 -1.9**
KAF pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
KDAG Bornova 92.89 308 *i* P **P** **00 12 26.8 -0.1**
FINES FINESS Array B 92.91 331 P **P** **00 12 25.1 -1.5**
comp=Z,7.7nm,1.0s,mb5.1,baz=117,slow=4.3,SNR=24
FINES LR LR 00 59 40.2
comp=Z,1μm,21.6s,MS5.3,baz=282,slow=39
DIV Divide 93.05 29 *e*P **P** **00 12 27.5 +0.3**
comp=Z,83nm,1.5s,mb5.9
DIV LR LR
comp=Z,2μm,20.0s,MS5.6
VRI Vrincioaia 93.13 316⇓ P **P** **00 12 27.1 -0.8**
LBTB Lobatse 93.53 245 P **P** **00 12 30.1 -0.2**
LBTB pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
LBTB Lobatse 93.53 245 P **P** **00 12 29.1 -1.2**
comp=Z,9.0nm,1.0s,mb5.2,baz=106,slow=3.9,SNR=8.5
LBTB Lobatse 93.53 245 *e*P **P** **00 12 28.9 -1.3**
comp=Z,9.2nm,1.0s,mb5.2
BOSA Boshof 93.64 241 P **P** **00 12 31.1 +0.4**
BOSA pmax pmax
comp=Z,35nm,1.3s,mb5.6
BOSA Boshof 93.64 241 P **P** **00 12 29.6 -1.1**
comp=Z,14nm,1.1s,mb5.3,baz=97,slow=5.8,SNR=9.6
BOSA LR LR 00 51 11.3
comp=Z,3μm,19.2s,MS5.8,baz=87,slow=33
BOSA Boshof 93.64 241 *e*P **P** **00 12 30.1 -0.5**
comp=Z,35nm,1.4s,mb5.6
BOSA LR LR
comp=Z,3μm,20.0s,MS5.8
MLR Muntele Rosu 93.69 315 P **P** **00 12 28.6 -2.0**
comp=Z,16nm,0.8s,mb5.5,baz=48,slow=3.1,SNR=21
MLR Muntele Rosu 93.69 315⇑ P **P** **00 12 29.2 -1.3**
SZH Strazhica 93.78 313 *e*P **P** **00 12 33.0 +2.0**
SZH Strazhica 93.78 313 *e*P **P** **00 12 33.0 +2.0**
BURAR Bucovina Array 94.11 317⇓ P **P** **00 12 31.9 -0.5**
KDZ Kurdzhali 94.22 311 *e*P **P** **00 12 35.0 +1.9**
KDZ Kurdzhali 94.22 311 *e*P **P** **00 12 35.0 +1.9**
KBS Kingsbay 94.58 349 PFAKE **00 12 50.0 +16**
KBS LR LR
comp=Z,2μm,20.0s,MS5.6
RZN Rozhen 94.74 312 *i* P **P** **00 12 37.0 +1.5**
RZN Rozhen 94.74 312 *i* P **P** **00 12 37.0 +1.5**
IDI Anoyia 94.87 305 P **P** **00 12 34.5 -1.7**
comp=Z,18nm,1.1s,mb5.4,baz=120,slow=3.2,SNR=6.2
SUW Suwalki 94.97 324 P **P** **00 12 35.8 -0.4**
SUW pmax pmax
comp=Z,73nm,1.1s,mb6.0
SUW Suwalki 94.97 324 *e*P **P** **00 12 34.5 -1.7**
comp=Z,73nm,1.1s,mb6.0
PGB Panagyurishte 95.11 312 *e*P **P** **00 12 38.0 +0.9**
PGB Panagyurishte 95.11 312 *e*P **P** **00 12 38.0 +0.9**
MMB Musomiste 95.49 311 *i* P **P** **00 12 40.0 +1.1**
MMB Musomiste 95.49 311 *i* P **P** **00 12 40.0 +1.1**
KWP Kalwaria 95.64 320 P **P** **00 12 40.4 +1.1**
KWP pmax pmax
comp=Z,22nm,1.2s,mb5.5
KWP Kalwaria 95.64 320 *e*P **P** **00 12 38.4 -1.0**
comp=Z,22nm,1.2s,mb5.5
VTS Vitosha 95.81 313 *i* P **P** **00 12 41.5 +1.2**
VTS Vitosha 95.81 313 *i* P **P** **00 12 41.5 +1.2**
DRGR 95.86 317⇑ P **P** **00 12 39.4 -1.1**
KKB Krupnik 95.95 312 *i* P **P** **00 12 42.0 +1.0**
KKB Krupnik 95.95 312 *i* P **P** **00 12 42.0 +1.0**
KOLS Kolonicke sedl 95.98 319 *e*P **P** **00 12 42.3 +1.4**
INK Inuvik 97.13 21 P **P** **00 12 44.8 -0.8**
comp=Z,1.3nm,0.6s,mb4.5,baz=324,slow=6.4,SNR=3.1
SUR Sutherland 97.16 237 P **P** **00 12 47.4 +0.7**
comp=Z,32nm,1.3s,mb5.6,baz=93,slow=9.1,SNR=5.7
OJC Ojcow 97.44 320 *e*P **P** **00 12 48.6 +1.1**
PSZ Piszkesteto 97.66 318 P **P** **00 12 51.7 +3.2**
PSZ pmax pmax
comp=Z,9.0nm,1.2s,mb5.2
PSZ Piszkesteto 97.66 318 *e*P **P** **00 12 46.3 -2.2**
comp=Z,9.3nm,1.2s,mb5.2
DIVS Divcibare 98.02 314⇑ *i* P **P** **00 12 49.1 -1.1**
OKC Ostrava-Krasne 98.55 320 *e*PP PP 00 16 57.3 +1.5
SNAA Sanae 98.77 196 P **P** **00 12 52.6 -0.4**
comp=Z,1.2nm,1.0s,baz=81,slow=5.8,SNR=6.3
KSP Ksiaz 99.56 321 *e*P **P** **00 12 56.5 -0.6**
DPC Dobruska-Polom 99.63 321 *e*PP PP 00 16 59.6 -4.3
UPC Upice 99.80 321 *e*PP PP 00 17 03.5 -1.8
NB2 NORSAR Subarra 100.06 332 P P 00 12 57.2 -1.9
comp=Z,10nm,1.1s,baz=73,slow=4.5
NB2 NORSAR Subarra 100.06 332 P P 00 12 57.2 -1.9
NB2 pmax pmax
comp=Z,10.0nm,1.1s
NB2 NORSAR Subarra 100.06 332 P P 00 12 57.2 -1.9
baz=72,slow=4.4
NOA NORSAR Array B 100.06 332 P P 00 12 57.3 -1.8
comp=Z,8.7nm,1.0s,baz=74,slow=4.5,SNR=19
NOA PP PP 00 17 06.5 -0.6
comp=Z,2.4nm,0.8s,baz=76,slow=7.6,SNR=7.5
NOA LR LR 01 02 26.6
comp=Z,1μm,21.3s,MS5.5,baz=65,slow=38
NAO01 NORSAR Array S 100.26 332 *e*P P 00 12 59.8 -0.2
comp=Z,8.8nm,1.1s
PRU Pruhonice 100.82 321 *e*PP PP 00 16 49.4 -24
COP Copenhagen 100.83 327 *i* P PP 00 17 08.4 -5.0
comp=Z,1μm,20.0s
PRA Prague 100.87 321 PP PP 00 16 50.0 -24
DAG Danmarks Havn 101.11 351⇓ *e*P P 00 13 03.5 0.0
DAG pmax pmax
comp=Z,3.0nm,0.9s
DAG Danmarks Havn 101.11 351⇓ *e*P P 00 13 03.5 0.0
comp=Z,2.5nm,0.9s
DAG Danmarks Havn 101.11 351⇓ *i* P P 00 13 03.5 0.0
comp=Z,2.5nm,0.9s
CLL Collm 101.51 322 *e*P P 00 13 08.0 +2.1
CLL *e* 00 17 19.0
CLL pmax pmax
comp=Z,14nm,1.3s
CLL Collm 101.51 322 *e*P P 00 13 08.0 +2.1
comp=Z,14nm,1.3s
CLL *e*PP PP 00 17 19.0 +0.6
CLL Collm 101.51 322 P P 00 13 08.0 +2.1
CLL *e*PP PP 00 17 19.0 +0.6
CLL *e*PPP PPP 00 19 32.0 +2.6
GERES GERESS Array B 101.59 320 P P 00 13 05.7 -0.6
comp=Z,1.0nm,0.9s,baz=143,slow=6.7,SNR=8.4
GERES PP PP 00 17 15.7 -3.3
comp=Z,2.6nm,1.0s,baz=72,slow=4.2,SNR=6.4
KHC Kasperske Hory 101.61 320 *e*PP PP 00 17 17.4 -1.8
KHC Kasperske Hory 101.61 320 *e*PP PP 00 17 17.4 -1.8
MUD Monsted U'grnd 102.38 328⇓ *i* P 00 17 26.5
comp=Z,14nm,1.1s
comp=Z,2μm,20.0s
MOX Moxa 102.51 322 *e*P Pdif 00 13 10.0 -0.4
MOX *e*PP PP 00 17 20.0 -6.0
MOX Moxa 102.51 322 *e*P Pdif 00 13 10.0 -0.4
MOX PP PP 00 17 20.0 -6.0
GRA1 Grafenberg Arr 102.98 321 *e*Pdif Pdif 00 13 14.4 +1.9
GRA1 *e*PP PP 00 17 10.7 -19
GRF Grafenberg Arr 102.98 321 *e*Pdif Pdif 00 13 14.4 +1.9
GRF *e*PP PP 00 17 10.7 -19
WTSB Winterswijk 105.06 324 *e*Pdif 00 17 42.4
comp=Z,35nm,2.5s
LANF Langenberg 105.33 321 *e*P 00 17 49.9
HGN Heimansgroeve 105.95 323 *e*Pdif 00 17 53.9
ECH Echery 105.96 320 *e*P 00 17 52.3
MOF Molkenrain 106.08 320 *e*P 00 17 53.5
LOMF Lomont 106.42 319 *e*P 00 17 53.8
HAU Haudompre 106.54 320 *e*PP PP 00 17 56.8 +0.5
comp=Z,81nm,1.4s
YKA Yellowknife Ar 106.66 23 PKiKP 00 17 38.0
comp=Z,1.5nm,0.8s,baz=274,slow=2.6,SNR=7.8
YKA Yellowknife Ar 106.66 23 PKPdf 00 17 38.0
AUTN L'Aution 106.94 316 *e*P 00 17 43.0
AUTN L'Aution 106.94 316 *e*P 00 17 43.4
LPG La Plagne 106.99 317 *e*PP PP 00 17 52.1 -7.9
comp=Z,115nm,1.8s
LPL La Plagne 107.00 318 *e*PP PP 00 17 51.9 -8.1
comp=Z,85nm,1.5s
CABF La Chapelle 107.12 319 *e*PP PP 00 17 59.1 -1.7
comp=Z,77nm,1.3s
MVIF Mont Vial 107.15 316 *e*P 00 17 44.0
MEZF Maizieres J'vi 107.21 321 *e*PP PP 00 18 00.8 -0.6
comp=Z,71nm,1.3s
LOR Lormes 108.37 320 *e*PP PP 00 18 02.5 -7.4
SMF Signal de Mont 108.58 319 *e*PP PP 00 18 09.9 -1.7
comp=Z,59nm,1.3s
SSF Saint Saulge 108.66 320 *e*PP PP 00 18 11.2 -1.1
comp=Z,44nm,1.3s
PLDF La Plantade 108.94 319 *e*P 00 18 15.0
AGO Saint Agoulin 109.24 319 *e*P 00 18 15.7
ESK Eskdalemuir 109.26 330 PFAKE 00 18 00.0
ESK LR LR
comp=Z,537nm,20.0s,MS5.1
PYM Petit Puy Mans 109.42 319 *e*P 00 18 17.0
LBIL Lubilhac 109.43 318 *e*P 00 18 17.3
COR Corvallis 109.56 43 PFAKE 00 18 00.0
COR LR LR
comp=Z,2μm,20.0s,MS5.7
TCF Toulx Ste Croi 109.76 319 *e*PP PP 00 18 21.1 +0.8
comp=Z,91nm,1.6s
BMO Blue Mountains 113.46 41 PFAKE 00 18 00.0 +5.0
BMO LR LR
comp=Z,944nm,21.0s,MS5.4
CMB Columbia Colle 113.72 49 PFAKE 00 18 00.0 +4.3
CMB LR LR
comp=Z,1μm,22.0s,MS5.5
BMN Battle Mountai 115.21 45 PFAKE 00 18 10.0 +11
BMN LR LR
comp=Z,1μm,19.0s,MS5.6
HLID Hailey 115.89 41 *e*PKPdf PKPdf 00 17 59.9 +0.1
HLID LR LR
comp=Z,1μm,21.0s,MS5.5
ESDC Sonseca Array 116.38 314 PP PP 00 19 02.0 -5.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.4nm,1.0s,baz=64,slow=7.4,SNR=5.7						
ESLA	Sonseca Array	116.38	314	PFAKE		00 18 10.0	+9.2
ESLA				LR	LR		
	comp=Z,6µm,22.0s,MS6.2						
DAC	Darwin (Calif)	116.40	50	PFAKE		00 18 10.0	+9.0
DAC				LR	LR		
	comp=Z,2µm,21.0s,MS5.6						
ELK	Elko	116.49	44	PKP	PKPdf	00 18 00.4	-0.7
	comp=Z,0.8nm,0.5s,baz=144,slow=6.2,SNR=4.0						
ELK				PKKPbc		00 28 31.4	
	comp=Z,1.2nm,0.9s,baz=145,slow=4.3,SNR=4.5						
ELK	Elko	116.49	44	PKP	PKPdf	00 18 00.4	-0.6
ELK				PKKPbc		00 28 31.4	
ELK				LR	LR		
	comp=Z,895nm,20.0s,MS5.4						
BOZ	Bozeman (W)	116.71	38	PKIKP	PKPdf	00 18 01.2	-0.1
BOZ	Bozeman (W)	116.71	38	*e*PKPdf	PKPdf	00 18 00.1	-1.3
BOZ				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
AHID	Auburn Hatcher	118.41	41	PFAKE		00 18 10.0	+5.3
AHID				LR	LR		
	comp=Z,952nm,22.0s,MS5.4						
LAO	LASA Array	119.38	35	PFAKE		00 18 20.0	+14
LAO				LR	LR		
	comp=Z,777nm,19.0s,MS5.4						
BW06	Boulder Array	119.41	40	PFAKE		00 18 20.0	+13
BW06				LR	LR		
	comp=Z,981nm,22.0s,MS5.4						
PDAR	Pinedale Array	119.41	40	PKP	PKPdf	00 18 05.7	-0.9
	comp=Z,0.8nm,0.7s,baz=63,slow=3.3,SNR=5.5						
PDAR				PKKPbc		00 28 17.4	
	comp=Z,1.5nm,0.6s,baz=125,slow=5.9,SNR=16						
DGMT	Dagmar	119.47	32	PFAKE		00 18 20.0	+13
DGMT				LR	LR		
	comp=Z,949nm,21.0s,MS5.4						
PV10	Paradox Valley	121.83	44	*e*P	PKPdf	00 18 11.5	+0.1
RSSD	Black Hills	122.11	36	PKIKP	PKPdf	00 18 09.9	-1.9
RSSD	Black Hills	122.11	36	*e*PKPdf	PKPdf	00 18 09.5	-2.3
PV01	Paradox Valley	122.27	44	*e*PKPdf	PKPdf	00 18 09.8	-2.5
ISCO	Idaho Springs	123.47	41	*e*PKIKP	PKPdf	00 18 13.2	-1.4
DBIC	Dimbokro	124.77	277	PKP	PKPdf	00 18 14.6	-3.2
	comp=Z,13nm,1.1s,baz=306,slow=3.0,SNR=4.5						
DBIC	Dimbokro	124.77	277	PKP	PKPdf	00 18 14.6	-3.2
DBIC				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
ANMO	Albuquerque	125.24	47	PKIKP	PKPdf	00 18 15.6	-2.6
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ANMO	Albuquerque	125.24	47	PKP	PKPdf	00 18 15.6	-2.6
	comp=Z,2.8nm,1.0s,baz=163,slow=4.9,SNR=4.1						
ANMO	Albuquerque	125.24	47	*e*PKPdf	PKPdf	00 18 15.7	-2.5
ANMO				LR	LR		
	comp=Z,982nm,22.0s,MS5.4						
SCHQ	Schefferville	126.22	5	PKP	PKPdf	00 18 16.4	-3.0
	comp=Z,8.6nm,0.9s,baz=311,slow=1.4,SNR=9.0						
SCHQ	Schefferville	126.22	5	*e*PKPpre		00 18 11.3	
SCHQ				PKP	PKPdf	00 18 16.4	-3.0
CBKS	Cedar Bluff	127.81	39	PFAKE		00 18 30.0	+7.0
CBKS				LR	LR		
	comp=Z,975nm,20.0s,MS5.5						
AMTX	Amarillo	128.69	44	PFAKE		00 18 30.0	+5.2
AMTX				LR	LR		
	comp=Z,1µm,22.0s,MS5.6						
KSU1	Kansas State U	129.57	37	*e*PKPdf	PKPdf	00 18 24.4	-1.9
TXAR	Lajitas Array	129.87	52	PKP	PKPdf	00 18 24.4	-2.9
	comp=Z,0.2nm,0.3s,baz=281,slow=4.6,SNR=4.5						
MESC	Monte Escuro	131.67	323	*e*	Pdif	00 15 26.0	+6.9
CMLA	Cha da Macela	131.74	323	PFAKE		00 18 40.0	+9.5
CMLA				LR	LR		
	comp=Z,221nm,20.0s,MS4.9						
CCM	Cathedral Cave	133.40	34	PFAKE		00 18 40.0	+6.4
CCM				LR	LR		
	comp=Z,903nm,22.0s,MS5.4						
AAM	Ann Arbor	133.85	24	PFAKE		00 18 40.0	+5.7
AAM				LR	LR		
	comp=Z,809nm,19.0s,MS5.5						
EMMW	East Machias	136.14	8	PFAKE		00 18 50.0	+12
EMMW				LR	LR		
	comp=Z,6µm,20.0s,MS6.3						
WVT	Waverly	136.68	33	*e*PKIKP	PKPdf	00 18 37.7	-2.0
OXF	Oxford	136.93	36	PKIKP	PKPdf	00 18 36.4	-3.8
PLAL	Pickwick Lake	137.37	35	*e*PKPdf	PKPdf	00 18 39.6	-1.4
FWV	Forest Hill	139.00	26	*e*PKPpre		00 18 22.6	
BLA	Blacksburg	139.47	25	PFAKE		00 18 50.0	+5.2
BLA				LR	LR		
	comp=Z,1µm,22.0s,MS5.6						
CBN	Corbin	139.83	21	PFAKE		00 18 50.0	+4.6
CBN				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
DWPF	Disney	146.25	36	PFAKE		00 19 10.0	+16
DWPF				LR	LR		
	comp=Z,2µm,22.0s,MS5.9						
BBSR	BB Station	148.65	8	*e*PKPbc	PKPdf	00 19 02.5	+1.8
BBSR				LR	LR		
	comp=Z,812nm,22.0s,MS5.5						
CPUP	Villa Florida	152.54	185	*e*PKIKP	PKPdf	00 19 04.7	-2.1
CPUP						00 19 10.7	
CPUP				MLR	MLR		
	comp=Z,1µm,19.0s						
CPUP	Villa Florida	152.54	185	PKPbc	PKPdf	00 19 10.7	+3.9
	comp=Z,9.3nm,1.0s,baz=110,slow=1.6,SNR=19						
CPUP	Villa Florida	152.54	185	*e*PKPdf	PKPdf	00 19 04.7	-2.2
CPUP				*e*PKPbc	PKPdf	00 19 10.5	+3.7
CPUP				PKPbc	PKPdf	00 19 10.7	+3.9
CPUP				LR	LR		
	comp=Z,1µm,19.0s,MS5.8						
BDFB	Brasilia	159.54	215	PKP2	PKPab	00 19 52.7	+0.2
BDFB				pmax	pmax		
	comp=Z,39nm,1.0s						
BDFB	Brasilia	159.54	215	PKPab	PKPab	00 19 52.7	+0.2
	comp=Z,39nm,0.9s,baz=92,slow=1.4,SNR=18						
LPAZ	La Paz	160.88	155	PKP	PKPdf	00 19 16.7	-0.9
	comp=Z,6.6nm,1.0s,baz=118,slow=0.4,SNR=14						
LPAZ				PKPab	PKPab	00 20 00.1	+1.8
	comp=Z,8.9nm,0.8s,baz=145,slow=5.2,SNR=6.5						
LPAZ	La Paz	160.88	155	PKP	PKPdf	00 19 16.7	-0.9
LPAZ				PKPab	PKPab	00 20 00.1	+1.8
SIV	San Ignacio	162.92	176	PKP	PKPdf	00 19 17.7	-1.8
	comp=Z,5.2nm,1.0s,baz=206,slow=1.1,SNR=12						
SIV				PKPab	PKPab	00 20 07.2	+0.1
	comp=Z,2.6nm,0.9s,baz=142,slow=3.2,SNR=2.6						

*HEL **10** 00:26:11.1±0.1, 60.14N×25.25E, ML1.8, ML2.0(UPP), Explosion*
*IDC **10** 00:26:11.3±1.6, 60.19N×25.27E, mb1 2.7/3, mb1mx2.7/20, mbtmp2.6/3, ML2.3/3, Error ellipse: s-maj=17.9km s-min=7.4km az=148.0*
ISC 10 00:26:09.5±0.9**, 60.10N**±0.06×**25.30E**±0.09**, n12,** σ**1§00**/21**, Finland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVF	Pernaja	0.53	32	*e*P	Pg	00 26 20.1	+0.2
PVF				*e*S	Sg	00 26 26.4	-0.5
VJF	Virojoki	1.21	68	*e*P	Pb	00 26 32.8	0.0
VJF				*e*S	Sb	00 26 48.9	0.0
FIA0	FINESS Array S	1.40	16	*e*P	Pb	00 26 35.7	-0.4
FIA0				*e*S	Sb	00 26 53.5	-1.0
FINES	FINESS Array B	1.40	16	Pg	Pg	00 26 35.6	-1.8
	2.4nm,0.3s,baz=195,slow=17,SNR=140						
FINES				Pn	Pn	00 26 37.8	+1.6
	2.4nm,0.3s,baz=195,slow=14,SNR=140						
FINES				Lg		00 26 53.1	
	0.7nm,0.3s,baz=200,slow=29,SNR=5.1						
FINES				Sn	Sn	00 26 57.9	+2.2
	3.7nm,0.3s,baz=198,slow=24,SNR=37						
KEF	Keuruu	2.08	354	*e*P	Pn	00 26 47.5	+1.5
KEF				*e*S	Sn	00 27 12.8	-0.3
KEF				MSG		00 27 16.8	
	comp=Z,4.1nm,0.2s						
AAL	Aland	2.65	274	*e*P	Pn	00 26 54.6	+0.3
AAL				*e*S	Sn	00 27 28.1	+0.5
GRAU	Graesoe	3.38	277	*e*P	Pn	00 27 03.9	-0.7
NRTU	Norrtaelje	3.39	266	*e*P	Pn	00 27 04.8	+0.1
BACU	Backbrunna	4.12	270	*e*P	Pn	00 27 15.3	+0.2
HFS	Hagfors	5.80	275	Pn	Pn	00 27 37.4	-1.5
	comp=Z,0.0nm,0.3s,baz=82,slow=10,SNR=5.8						
HFS				Sn	Sn	00 28 41.1	-6.0
	comp=Z,0.1nm,0.3s,baz=80,slow=27,SNR=8.4						
NOA	NORSAR Array B	7.00	284	Pn	Pn	00 27 51.7	-4.1
	comp=Z,0.1nm,0.3s,baz=225,slow=8.2,SNR=3.0						
NOA				Sn	Sn	00 29 08.2	-8.9
	comp=Z,0.1nm,0.3s,baz=159,slow=12,SNR=2.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARCES	ARCESS Array B	9.47	0	Pn	P	00 28 25.7	-4.5
	comp=Z,0.1nm,0.3s,baz=183,slow=12,SNR=6.8						

*NEIC **10** 01:11:08.1, 15.74N×93.73W, h24km, MD3.8(MEX), After MEX.*
MEX 10 01:11:07.9±1.3**, 15.64N×93.69W, h33**km±69km**, MD3.9, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCX	San Cristobal	1.50	43	*i* P	Pn	01 11 30.0	-2.9
SCX				*i* S	Sn	01 11 48.0	-3.4
CCIG	Comitan	1.63	67	*e*P	Pn	01 11 33.2	-1.6
CCIG				*i* S	Sn	01 11 52.0	-2.8
CMIG	Matias Romero	1.84	322	*i* P	Pn	01 11 36.2	-1.7
CMIG				*i* S	Sn	01 11 58.0	-2.2
HUIG	Huatulco	2.33	274	*i* P	Pn	01 11 42.8	-2.0
HUIG				*i* S	Sn	01 12 07.4	-5.2
HUIG	Huatulco	2.33	274	*i* P	Pn	01 11 42.8	-2.0
HUIG				*i* S	Sn	01 12 07.8	-4.8
TUIG	Tuzandepetl	2.48	344	*e*P	Pn	01 11 43.8	-3.3
TUIG				*i* S	Sn	01 12 11.9	-4.6
EVV	El Vigia	3.22	331	*e*P	Pn	01 12 00.0	+2.5
EVV				*i* S	Sn	01 12 30.0	-5.2
OXX	Oaxaca	3.24	297	*e*P	Pn	01 11 51.0	-6.8
OXX				*i* S	Sn	01 12 28.0	-7.8

*IDC **10** 01:54:49.4±8.6, 9.07N×125.65E, h341km±95km, mb3.2/8, mb1 3.3/8, mb1mx3.1/20, mbtmp3.9/8, Error ellipse: s-maj=48.5km s-min=15.3km az=62.0*
ISC 10 01:54:19.8±0.7**, 9.55N**±0.04×**126.10E**±0.06**, h64**km±7km**, n26,** σ**1§12**/35**, mb3.8**/8**, 2C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.64	291⇓	*e*P	P	01 54 31.8	-1.9
SCPH				*e*S	S	01 54 41.8	-2.2
BUTP	Butuan	0.74	219	*e*P	P	01 54 33.8	-1.1
BUTP				*e*S	S	01 54 45.2	-1.0
MSLP	Maasin	1.35	296	*e*P	P	01 54 43.3	+0.2
CGP	Cagayan de Oro	1.76	232⇑	*e*P	P	01 54 48.2	-0.5
CGP				*e*S	S	01 55 10.1	+0.1
BUKP	Musuan	1.95	212	*e*P	P	01 54 52.0	+0.8
BUKP				*e*S	S	01 55 18.5	+4.0
BESP	Borongan	2.14	342	*e*P	P	01 54 55.1	+1.1
TBP	Tagbilaran	2.21	274	*e*P	P	01 54 54.5	-0.4
TBP				*e*S	S	01 55 20.1	-1.0
LLP	Lapu-Lapu	2.24	290	*e*P	P	01 54 55.9	+0.7
LLP				*e*S	S	01 55 22.3	+0.6
MATI	Mati	2.59	177	*e*P	P	01 55 01.8	+1.5
KCP	Kidapawan	2.71	202⇓	*e*P	P	01 55 05.1	+3.0
KCP				*i* S	S	01 55 40.5	+6.8
SNPH	Sibulan	2.83	266⇓	*i*P	P	01 55 04.3	+0.6
SNPH				*i* S	S	01 55 39.1	+2.3
DCPH	Dipolog City	2.88	251⇑	*e*P	P	01 55 04.6	+0.2
DCPH				*i* S	S	01 55 36.5	-1.4
PAGZ	Pagadian	3.17	238	*e*P	P	01 55 09.6	+1.0
GUIM	Jordan	3.62	287	*e*P	P	01 55 14.9	+0.1
RCP	Roxas	3.86	302	*e*P	P	01 55 18.9	+0.8
IPIL	Ipil	3.90	244	*e*P	P	01 55 19.8	+1.1
PVCP	Virac	4.45	335	*e*P	P	01 55 28.1	+1.7
OTRP	Odiongan	4.88	305	*e*P	P	01 55 32.3	-0.2
FITZ	Fitzroy Crossi	27.48	181	P	P	02 00 02.0	-0.3
	2.8nm,0.5s,mb4.1,baz=356,slow=9.8,SNR=7.3						
WRA	Warramunga Arr	30.41	165	P	P	02 00 26.7	-1.7
	0.5nm,0.4s,mb3.6,baz=342,slow=8.2,SNR=5.4						
SONM	Songino Array	41.63	340	P	P	02 02 08.7	+5.5
	0.1nm,0.5s,mb2.8,baz=153,slow=6.4,SNR=2.7						
STKA	Stephens Creek	43.78	161	P	P	02 02 20.8	-0.3
	1.2nm,0.4s,mb4.0,baz=352,slow=10,SNR=7.2						
DZM	Mont Dzumac	50.52	129	P	P	02 03 14.3	+0.3
	2.3nm,0.9s,mb4.1,baz=231,slow=14,SNR=3.7						
MKAR	Makanchi Array	52.50	323	P	P	02 03 27.5	-1.1
	0.3nm,0.3s,mb3.7,baz=118,slow=7.4,SNR=5.0						
ARCES	ARCESS Array B	84.81	340	P	P	02 06 47.6	-0.5
	0.4nm,0.5s,mb3.9,baz=76,slow=6.6,SNR=9.2						
FINES	FINESS Array B	86.44	332	P	P	02 06 55.0	-1.3
	0.5nm,0.4s,mb4.1,baz=77,slow=2.1,SNR=7.6						

*PRU **10** 02:59:55.5, 50.34N×18.76E*
WAR 10 02:59:54.8, 50.26N×18.86E, h1km**, MW2.5, Mw2.3, Location given by Central Institute of Mining, origin time based upon RAC, MW from RAC, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.46	248	*e*Pg	Pg	03 00 04.4	+0.4
RAC				*e*Sg	Sg	03 00 11.7	+1.6
OJC	Ojcow	0.60	93	*e*Pg	Pg	03 00 06.6	-0.2
OJC				*e*Sg	Sg	03 00 15.1	+0.2
OKC	Ostrava-Krasne	0.62	228	*e*PG	Pg	03 00 06.6	-0.6
NIE	Niedzica	1.26	131	*e*Pg	Pg	03 00 18.8	-1.1
NIE				*e*Sg	Sg	03 00 36.4	-0.3
DPC	Dobruska-Polom	1.63	274	*e*PG	Pg	03 00 23.4	-3.9
DPC				*e*SG	Sg	03 00 45.1	-3.9
	13nm,0.2s						
KSP	Ksiaz	1.74	291	*e*Pg	Pg	03 00 27.1	-2.4
KSP				*e*Sg	Sg	03 00 50.0	-2.6
STHS	Stebnicka Huta	1.76	118	*e*PN	Pn	03 00 28.7	+2.1
STHS				*e*SN	Sn	03 00 54.7	+4.8
VYHS	Vyhne	1.77	181	*e*PN	Pn	03 00 26.5	-0.2
VYHS				*e*SN	Sn	03 00 51.4	+1.3
UPC	Upice	1.84	279	*e*SG	Sg	03 00 52.0	-4.0
KECS	Kecovo	2.07	148	*e*PN	Pn	03 00 33.7	+2.7
KECS				*e*SN	Sn	03 01 00.3	+2.5
CRVS	Cervenica-Dubn	2.17	128	*e*PN	Pn	03 00 35.2	+2.7
CRVS				*e*SN	Sn	03 01 03.7	+3.3
PRU	Pruhonice	2.79	266	*e*SG	Sg	03 01 20.0	-7.7
KHC	Kasperske Hory	3.61	254	*e*SG	Sg	03 01 48.3	-6.6
CLL	Collm	3.86	288	*e*PG	Pg	03 01 07.0	-4.9
CLL				*e*SG	Sg	03 01 57.0	-6.4

*OMAN **10** 03:09:24.5, 28.46N×53.82E, h30km, Error ellipse: s-maj=173.0km s-min=9.5km az=341.0*
*THR **10** 03:09:25.4±0.4, 28.27N×54.19E, h14km±4km, ML3.4*
*CSEM **10** 03:09:26.0±0.6, 28.29N×54.11E, h45km, ML3.4, Error ellipse: s-maj=13.6km s-min=4.1km az=148.0*
*TEH **10** 03:09:27.1, 28.39N×54.10E, h10km, Mn3.4*
*IDC **10** 03:09:29.0±1.8, 29.15N×54.06E, mb3.7/6, mb1 3.7/7, mb1mx3.5/22, mbtmp3.6/7, Error ellipse: s-maj=39.2km s-min=27.9km az=176.0*
ISC 10 03:09:23.8±0.4**, 28.43N**±0.03×**54.20E**±0.05**, h10**km**, n38,** σ**1§29**/39**, mb3.5**/6**, 10C-3D, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.08	263	*e*Pg	Pg	03 09 45.2	-0.1
GHIR				AML	AML	03 10 06.1	
	comp=N,1µm,0.5s						
GHIR	Ghir-Karzin	1.08	263	*e*Pg	Pg	03 09 45.2	-0.2
	SNR=90						
IMOK	Mook	1.44	296	Pn	Pn	03 09 52.7	+2.6
IPAR	Pars	1.73	325	Pn	Pn	03 09 57.1	+2.8
BNDS	Bandar-Abbas	2.02	120	*e*Pg	Pg	03 10 01.0	-3.3
BNDS				AML	AML	03 10 50.3	
	comp=N,238nm,0.5s						
KRBR	Kerman	2.73	55	*e*Pn	Pn	03 10 12.5	+4.0
KRBR				*e*Sg	Sg	03 10 53.7	-0.9
KRBR				AML	AML	03 11 06.2	
	comp=N,182nm,0.6s						
IMEH	Mehriz	2.98	7	Pn	Pn	03 10 15.0	+2.9
BANOM	Banah	3.12	143	⇑P	Pn	03 10 15.0	+0.9
ICHK	Chekchek	3.81	3	Pn	Pn	03 10 25.9	+2.0
ASHO	Ashiyiah	4.08	155	⇑P	Pn	03 10 28.5	+0.7
ASHO				⇓S	Sn	03 11 17.2	+1.0
IGAR	Garneh	4.18	336	Pn	Pn	03 10 33.0	+3.8
IZEF	Zefreh	4.74	341	Pn	Pn	03 10 37.3	+0.2
IKLH	Kalahroud	5.37	336	Pn	Pn	03 10 44.8	-1.2
HOQ	Hoqain	5.58	149	⇑P	Pn	03 10 48.6	-0.3
HOQ				⇑S	Sn	03 11 48.4	-5.5
ZHSF	Zahedan	5.88	77	*e*Pn	Pn	03 10 55.1	+1.9
BIDO	Bidbid	6.03	143	⇑P	Pn	03 10 54.6	-0.7
ISFB	Sefidab	6.14	345	Pn	Pn	03 10 57.1	+0.2
BSY	Bisya	6.27	154	⇓P	Pn	03 11 00.8	+2.1
SMDO	Samad	6.37	146	⇑P	Pn	03 11 00.6	+0.4
IVRN	Varamin	6.88	343	Pn	Pn	03 11 07.0	-0.3
JMDO	Jabal Madar	6.99	149	⇓P	Pn	03 11 08.9	+0.1
WBK	Wadi Bani Khal	7.22	142	⇑P	Pn	03 11 10.6	-1.5
IFIR	Firoozkooh	7.30	351	Pn	Pn	03 11 12.8	-0.4
IFIR	Firoozkooh	7.30	351	Lg		03 13 15.2	
IDMV	Damavand	7.36	346	Pn	Pn	03 11 13.5	-0.6
IRAZ	Razeghan	7.84	334	Pn	Pn	03 11 20.0	-0.8
WHFO	Wadi Hawf	10.47	182	⇑P	P	03 11 53.4	-3.7
RBK	Rabkut	10.87	180	⇑P	P	03 11 59.4	-3.3
ABTO	Aybut	11.05	184	⇑P	P	03 12 00.5	-4.6
BRTR	Keskin Array B	20.37	309	P	P	03 14 02.5	-0.9
	comp=N,0.1nm,0.3s,baz=135,slow=12,SNR=5.8						
IDI	Anoyia	25.75	293	P	P	03 14 56.4	+0.1
	comp=N,2.7nm,0.5s,mb4.0,baz=45,slow=10.0,SNR=4.4						
BVAR	Borovoye Array	27.34	22	P	P	03 15 10.0	-0.7
	comp=N,0.8nm,0.5s,mb3.5,baz=217,slow=7.4,SNR=4.7						
MKAR	Makanchi Array	28.61	43	P	P	03 15 22.0	-0.2
	comp=N,0.3nm,0.4s,mb3.4,baz=226,slow=7.5,SNR=3.0						
FINES	FINESS Array B	37.95	338	P	P	03 16 41.9	-1.2
	comp=N,2.3nm,1.1s,mb3.8,baz=152,slow=9.5,SNR=8.7						
NB2	NORSAR Subarra	43.34	331	P	P	03 17 26.4	-1.1
	comp=N,0.4nm,0.7s,mb3.3,baz=119,slow=7.9						
NOA	NORSAR Array B	43.34	331	P	P	03 17 28.1	+0.7
	comp=N,0.3nm,0.6s,mb3.2,baz=122,slow=8.4,SNR=3.7						
ARCES	ARCESS Array B	44.35	346	P	P	03 17 34.7	-0.9
	comp=N,0.4nm,0.5s,mb3.4,baz=153,slow=8.1,SNR=5.9						
VNDA	Vanda	121.35	166	PKP	PKPdf	03 28 24.9	+5.2
	comp=N,0.8nm,0.7s,baz=260,slow=5.9,SNR=6.2						

OTT 10 03:33:27.8±0.1**, 49.81N×57.68W, h18**km**, MN2.6**/8**, 1C, 26km south from Parson''s Pond, Nl Eastern Background Seismic Zone., Newfoundland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DRLN	Deer Lake	0.56	168	⇑PG	Pb	03 33 38.4	-0.4
DRLN				SG	Sb	03 33 46.0	-0.3
DRLN				Trac		03 33 47.1	
	comp=Z,125nm,0.2s						
SMQ	Clarke City	5.83	278	PN	Pn	03 34 52.5	-3.1
SMQ				SN	Sn	03 35 55.8	-7.0
SMQ				Trac		03 36 31.2	
	comp=Z,4.3nm,0.2s						
LMN	Caledonia Moun	6.21	233	PN	Pn	03 34 57.3	-3.7
LMN				SN	Sn	03 36 04.2	-8.2
LMN				Trac		03 36 44.6	
	comp=Z,1.5nm,0.4s						
GSQ	Grosses Roches	6.22	265	PN	Pn	03 34 58.6	-2.6
GSQ				SN	Sn	03 36 04.9	-7.8
GSQ				Trac		03 36 43.8	
	comp=Z,3.9nm,0.4s						
ICQ	Pointe Anglais	6.23	271	PN	Pn	03 34 57.8	-3.6
ICQ				SN	Sn	03 36 04.8	-8.1
ICQ				Trac		03 36 45.7	
	comp=Z,3.0nm,0.2s						
CNQ	Baie Comeau	6.78	270	PN	Pn	03 35 06.0	-3.0
CNQ				SN	Sn	03 36 18.3	-8.2
CNQ				Trac		03 37 01.7	
	comp=Z,2.6nm,0.2s						
SCHQ	Schefferville	7.53	315	PN	Pn	03 35 15.7	-3.9
SCHQ				SN	Sn	03 36 35.4	-10
SCHQ				Trac		03 37 22.2	
	comp=Z,2.7nm,0.5s						
GGN	Saint George	7.78	236	PN	Pn	03 35 19.4	-3.6
GGN				SN	Sn	03 36 41.5	-10
GGN				Trac		03 37 34.2	
	comp=Z,1.8nm,0.5s						
A61	Sainte Mathild	8.47	260	PN	P	03 35 28.2	-4.4
A61				SN	Sn	03 36 58.3	-10
A61				Trac		03 37 55.9	
	comp=Z,0.9nm,0.4s						
DPQ	Saint Jean	10.54	259	PN	P	03 35 53.3	-7.8
LG4Q	La Grande 4	10.88	297	PN	P	03 36 00.9	-4.8
LG4Q				SN	S	03 37 54.3	-14
LG4Q				Trac		03 39 15.7	
	comp=Z,1.1nm,0.4s						

*CSEM **10** 03:34:14.2±0.1, 38.12N×26.55W, ML2.3, Error ellipse: s-maj=21.9km s-min=1.4km az=36.0, After PDA*
*PDA **10** 03:34:14.2±1.1, 38.12N×26.55W, MD3.0, ML2.3, Error ellipse: s-maj=6.8km s-min=1.3km az=38.0*
SVSA 10 03:34:14.2±1.1**, 38.12N×26.55W, MD3.0, ML2.3, Error ellipse: s-maj=6.8km s-min=1.3km az=38.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SET4	Mosteiros	0.64	112	*e*P	Pg	03 34 25.6	-1.4
SET4				*e*S	Sg	03 34 34.0	-1.6
SET2	Ginetes	0.65	115	*e*P	Pg	03 34 26.1	-1.0
PFET	Feteiras	0.67	116	*e*P	Pg	03 34 25.9	-1.7
PFAV	Pico das Favas	0.72	325	*e*P	Pg	03 34 26.5	-2.2
PFAV				*e*S	Sg	03 34 36.1	-2.2
	39nm,0.1s						
PSCM	Serra do Cume	0.73	323	*e*P	Pg	03 34 26.5	-2.3
PSCM				*e*S	Sg	03 34 36.1	-2.5
	108nm,0.1s						
RIB2	Ribeirinha	0.74	319	*e*S	Sg	03 34 36.7	-2.1
	30nm,0.1s						
ADH	Angra Heroismo	0.76	315	*e*P	Pg	03 34 27.2	-2.2
ADH				*e*S	Sg	03 34 37.0	-2.5
FAC	Faja de Cima	0.79	116	*e*P	Pg	03 34 27.8	-2.2
PVNV	Vila Nova	0.80	324	*e*P	Pg	03 34 27.6	-2.6
PVNV				*e*S	Sg	03 34 38.0	-2.8
	36nm,0.2s						
PPAD	Pico dos Padre	0.82	315	*e*P	Pg	03 34 28.1	-2.5
PPAD				*e*S	Sg	03 34 38.8	-2.7
	28nm,0.2s						
PBIS	Biscoitos	0.85	320	*e*S	Sg	03 34 39.2	-3.2
	20nm,0.1s						
ASBA	Santa Barbara	0.85	315	*e*P	Pg	03 34 28.5	-2.8
ASBA				*e*S	Sg	03 34 39.3	-3.4
	35nm,0.1s						
CML	Cha da Macela	0.87	113	*e*P	Pg	03 34 28.8	-2.7
PSBA	Serra de Santa	0.89	317	*e*P	Pg	03 34 29.1	-2.8
PSBA				*e*S	Sg	03 34 40.5	-3.3
	91nm,0.4s						
PMAT	Coroa da Mata	0.91	109	*e*P	Pg	03 34 29.2	-3.1
PMAT				*e*S	Sg	03 34 40.3	-4.0
	64nm,0.1s						
LFA	Lagoa do Fogo	0.91	112	*e*P	Pg	03 34 28.9	-3.5
MESC	Monte Escuro	0.93	110	*e*P	Pg	03 34 29.5	-3.3
MESC				*e*S	Sg	03 34 41.5	-3.7
PRCH	Ribeira Ch	0.93	114	*e*S	Sg	03 34 41.1	-4.1
	39nm,0.1s						
VIF	Vila Franca	0.95	113	*e*S	Sg	03 34 42.4	-3.6
	16nm,0.2s						
PCNG	Congro	0.98	111	*e*S	Sg	03 34 42.2	-4.5
	22nm,0.2s						
PFAD	Fenais da Ajud	1.01	106	*e*P	Pb	03 34 30.7	-3.5
MIRA	Miradouro	1.06	108	*e*P	Pb	03 34 33.0	-2.1
MIRA				*e*S	Sb	03 34 46.4	-2.9
PMAN	Manadas	1.31	293	*e*S	Sb	03 34 50.8	-5.9
	5.8nm,0.2s						
PGRA	Graciosa	1.44	309	*e*S	Sb	03 34 52.6	-7.9
	22nm,0.2s						
PICO	Pico	1.52	285	*e*P	Pn	03 34 38.2	-4.6
PICO				*e*S	Sb	03 34 55.9	-6.9
CALA	Caldeira	1.75	286	*e*S	Sn	03 35 01.1	-8.3

*MOS **10** 03:36:54.7±1.3, 52.29N×175.15E, h49km, mb4.5/17, Error ellipse: s-maj=24.5km s-min=11.9km az=111.9*
*NEIC **10** 03:36:56.0±0.8, 52.15N×175.11E, h50km±7km, mb4.4/3, Error ellipse: s-maj=15.6km s-min=7.1km az=192.0*
*IDC **10** 03:36:56.1±3.1, 52.10N×175.18E, h51km±22km, mb3.8/14, mb1 3.9/14, mb1mx3.8/24, mbtmp4.1/14, MS3.3/2, Ms1 3.3/2, ms1mx2.9/20, Error ellipse: s-maj=25.2km s-min=17.3km az=176.0*
ISC 10 03:36:55.1±1.0**, 52.2N**±0.1×**175.21E**±0.09**, h59**km±7km**, n49,** σ**0§98**/46**, mb4.2**/23**, MS3.3**/2**, 1C, Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FX1	Attu Island--F	1.44	301	P	P	03 37 19.0	-0.5
FX1				S	S	03 37 38.4	+0.9
FX1				pmax	pmax		
	comp=Z,541nm,0.3s						
FX1	Attu Island--F	1.44	301	P	P	03 37 19.0	-0.4
	comp=Z,541nm,0.3s,baz=157,slow=7.9,SNR=654						
FX1				S	S	03 37 38.4	+0.9
	baz=24,slow=19						
FX1	Attu Island--F	1.44	301	P	P	03 37 19.1	-0.4

KIMD	**Kanaga Island**	**4.69**	**92**	P	**P**	**03 38 05.5**	**+0.4**
KINC	**Kanaga Island**	**4.74**	**90**	P	**P**	**03 38 05.8**	**0.0**
GSMY	**Great Sitkin M**	**5.38**	**88**	P	**P**	**03 38 14.4**	**-0.3**
ATKA	**Atka Island**	**6.52**	**86**	P	**P**	**03 38 29.5**	**-1.0**
YSS	**Yuzh-Sakhalins**	**21.57**	**269**⇑	*e*P	**P**	**03 41 44.0**	**+2.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.5						
ILAR	**Eielson Array**	**23.06**	**42**	P	**P**	**03 41 57.2**	**+1.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**23.06**	**42**	P	**P**	**03 41 57.1**	**+1.6**
	comp=Z,0.7nm,0.6s,mb3.2,baz=251,slow=8.0,SNR=8.3						
YAK	**Yakutsk**	**26.08**	**310**	*e*P	**P**	**03 42 23.2**	**-1.2**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.5						
BOD	**Bodaibo**	**34.49**	**304**	*e*P	**P**	**03 43 37.5**	**-1.4**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
YBH	**Yreka Blue Hor**	**42.41**	**79**	LR	LR	03 58 44.4	
	comp=Z,39nm,21.9s,MS3.2,baz=90,slow=31						
SONM	**Songino Array**	**42.94**	**293**	P	**P**	**03 44 50.2**	**+0.9**
	comp=Z,2.6nm,0.6s,mb4.2,baz=63,slow=7.9,SNR=28						
ZAK	**Zakamensk**	**43.32**	**297**	*e*P	**P**	**03 44 52.8**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.5						
MKAR	**Makanchi Array**	**56.58**	**305**	P	**P**	**03 46 32.4**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**56.58**	**305**	P	**P**	**03 46 32.4**	**-1.2**
	comp=Z,2.2nm,0.4s,mb4.5,baz=50,slow=6.1,SNR=20						
ARCES	**ARCESS Array B**	**56.60**	**348**	P	**P**	**03 46 33.1**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES				MLR	MLR		
	comp=Z,23nm,18.6s						
ARCES	**ARCESS Array B**	**56.60**	**348**	P	**P**	**03 46 33.0**	**-0.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=33,slow=7.7,SNR=17						
ARCES				LR	LR	04 11 43.3	
	comp=Z,23nm,18.6s,MS3.3,baz=95,slow=37						
VOSK	**Vostochnaya**	**57.78**	**316**	P	**P**	**03 46 41.2**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
BVA0	**Borovoye Array**	**57.81**	**316**	*i* P	**P**	**03 46 41.8**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**57.81**	**316**	P	**P**	**03 46 41.9**	**-0.3**
	comp=Z,2.6nm,0.4s,mb4.6,baz=52,slow=7.2,SNR=22						
ZRNK	**Zerenda**	**58.45**	**317**	P	**P**	**03 46 46.3**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
ZRNK	**Zerenda**	**58.45**	**317**	*e*P	**P**	**03 46 45.4**	**-1.3**
	comp=Z,1.4nm,0.4s,mb4.3						
ARU	**Arti**	**59.90**	**325**	*e*P	**P**	**03 46 56.6**	**0.0**
SCHQ	**Schefferville**	**61.61**	**36**	P	**P**	**03 47 08.3**	**+0.1**
	comp=Z,2.8nm,0.8s,mb4.5,baz=0.5,slow=9.2,SNR=5.2						
TXAR	**Lajitas Array**	**62.16**	**77**	P	**P**	**03 47 12.9**	**+0.6**
	comp=Z,0.3nm,0.7s,mb3.5,baz=299,slow=4.5,SNR=5.7						
KAF	**Kangasniemi**	**63.43**	**344**	*e*p	**P**	**03 47 17.8**	**-2.5**
	comp=Z,2.3nm,0.7s,mb4.4						
KAF	**Kangasniemi**	**63.43**	**344**	*e*P	**P**	**03 47 17.8**	**-2.5**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
FINES	**FINESS Array B**	**64.10**	**344**	P	**P**	**03 47 24.2**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**64.10**	**344**	P	**P**	**03 47 24.2**	**-0.3**
	comp=Z,1.5nm,0.7s,mb4.1,baz=22,slow=10,SNR=10						
AB31	**Akbulak array**	**64.98**	**319**	P	**P**	**03 47 30.6**	**+0.2**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NB2	**NORSAR Subarra**	**66.42**	**352**	P	**P**	**03 47 39.6**	**+0.2**
	comp=Z,2.0nm,0.5s,mb4.4,baz=10.0,slow=6.2						
NB2	**NORSAR Subarra**	**66.42**	**352**	P	**P**	**03 47 39.6**	**+0.2**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
NOA	**NORSAR Array B**	**66.42**	**352**	P	**P**	**03 47 39.8**	**+0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	**NORSAR Array B**	**66.42**	**352**	P	**P**	**03 47 39.8**	**+0.4**
	comp=Z,1.7nm,0.5s,mb4.3,baz=11,slow=6.4,SNR=18						
HFS	**Hagfors**	**67.07**	**350**	P	**P**	**03 47 43.4**	**-0.1**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	**Hagfors**	**67.07**	**350**	P	**P**	**03 47 43.4**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.3,baz=27,slow=3.3,SNR=22						
EKA	**Eskdalemuir Ar**	**72.86**	**359**	P	**P**	**03 48 20.0**	**+1.4**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EKA	**Eskdalemuir Ar**	**72.86**	**359**	P	**P**	**03 48 20.0**	**+1.4**
	comp=Z,1.4nm,0.6s,mb4.0,baz=10,slow=5.2,SNR=14						
AKASG	**Malin Array Be**	**73.54**	**338**	P	**P**	**03 48 23.6**	**+0.9**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**73.54**	**338**	P	**P**	**03 48 23.6**	**+0.9**
	comp=Z,1.7nm,0.6s,mb4.2,baz=24,slow=6.1,SNR=5.5						
WRA	**Warramunga Arr**	**80.15**	**219**	P	**P**	**03 49 00.0**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=34,slow=6.4,SNR=3.5						
BRTR	**Keskin Array B**	**82.57**	**331**	P	**P**	**03 49 14.7**	**+2.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**82.57**	**331**	P	**P**	**03 49 14.7**	**+2.1**
	comp=Z,1.7nm,0.7s,mb4.2,baz=60,slow=3.1,SNR=9.9						
LBTB	**Lobatse**	**144.42**	**308**	PKIKP	PKPdf	03 56 25.4	+1.1
LBTB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LBTB	**Lobatse**	**144.42**	**308**	PKP	PKPdf	03 56 25.4	+1.1
	comp=Z,2.8nm,0.6s,baz=35,slow=3.7,SNR=7.5						
BOSA	**Boshof**	**147.57**	**305**	PKP2	PKPab	03 56 34.6	-2.1
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BOSA	**Boshof**	**147.57**	**305**	PKPbc	PKPdf	03 56 34.6	+5.1
	comp=Z,1.7nm,0.6s,baz=50,slow=7.9,SNR=6.6						

IDC ***10*** *04:21:10.4±1.4, 10.01S×75.78W, mb3.8/4, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, ML2.9/2, MS3.1/2, Ms1 3.1/2, ms1mx2.8/27, Error ellipse: s-maj=64.7km s-min=22.2km az=59.0*

NEIC ***10*** *04:21:18.1±3.1, 9.75S×75.13W, h63^{km}±30^{km}, mb4.3/2, Error ellipse: s-maj=43.9km s-min=13.7km az=65.0*

ISC 10 04:21:15.3±4.2**, 9.7S**±0.2×**75.2W**±0.3**, h46**^{km}±39^{km}**, n13,** σ**1^{s}02**/12**, mb3.9**/5**, MS3.3**/1**, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**9.49**	**134**	Pn	**P**	**04 23 32.8**	**+0.5**
	0.1nm,0.3s,baz=312,slow=13,SNR=8.8						
LPAZ				Lg		04 26 11.5	
	0.2nm,0.3s,baz=207,slow=23,SNR=4.4						
LPAZ				LR	LR	04 27 29.3	
	comp=Z,54nm,21.4s,baz=282,slow=39						
LPAZ	**La Paz**	**9.49**	**134**	*e*P	**P**	**04 23 32.4**	**+0.1**
	5.0nm,0.9s						
LPAZ				Lg		04 26 11.5	
LPAZ				LR	LR	04 27 29.2	
SAML	**Samuel**	**11.88**	**87**	*e*P	**P**	**04 24 04.1**	**-0.7**
	8.0nm,0.6s						
ROSC	**El Rosal**	**14.49**	**3**	Pn	**P**	**04 24 40.3**	**+0.9**
	0.4nm,0.3s,baz=147,slow=8.4,SNR=4.1						
ROSC				Lg		04 29 03.6	
	0.3nm,0.3s,baz=23,slow=21,SNR=4.7						
CPUP	**Villa Florida**	**23.66**	**137**	P	**P**	**04 26 25.1**	**+1.6**
	1.7nm,0.7s,mb3.6,baz=297,slow=16,SNR=7.5						
CPUP	**Villa Florida**	**23.66**	**137**	*e*P	**P**	**04 26 21.9**	**-1.6**
BDFB	**Brasilia**	**27.15**	**105**	LR	LR	04 38 35.9	
	comp=Z,89nm,21.1s,MS3.3,baz=176,slow=38						
TXAR	**Lajitas Array**	**47.54**	**326**	P	**P**	**04 29 47.0**	**-1.3**
	0.4nm,0.8s,mb3.5,baz=143,slow=9.0,SNR=4.7						
CCM	**Cathedral Cave**	**49.82**	**343**	*e*P	**P**	**04 30 05.1**	**-0.8**
SDCO	**Great Sand Dun**	**55.06**	**331**	*e*P	**P**	**04 30 44.5**	**-0.5**
	1.7nm,0.8s,mb4.1						
INK	**Inuvik**	**87.88**	**342**	P	**P**	**04 34 01.5**	**+0.8**
	2.7nm,1.0s,mb4.5,baz=140,slow=2.6,SNR=6.2						
INK	**Inuvik**	**87.88**	**342**	*e*P	**P**	**04 34 01.0**	**+0.2**
	3.0nm,1.0s,mb4.5						
ILAR	**Eielson Array**	**91.06**	**336**	P	**P**	**04 34 17.5**	**+1.7**
	0.3nm,0.8s,mb3.6,baz=124,slow=3.3,SNR=4.4						

NEIC ***10*** *04:30:51.6±1.9, 26.82S×176.14W, h36^{km}±16^{km}, mb4.7/8, Error ellipse: s-maj=12.4km s-min=10.7km az=72.0*

IDC ***10*** *04:30:51.9±5.0, 26.79S×176.17W, h38^{km}±41^{km}, mb4.2/13, mb1 4.3/15, mb1mx4.3/18, mbtmp4.3/15, ML2.8/1, MS3.6/3, Ms1 3.6/3, ms1mx3.3/25, Error ellipse: s-maj=24.2km s-min=22.0km az=140.0*

ISC 10 04:30:50.8±0.4**, 26.79S**±0.07×**176.21W**±0.09**, h39**^{km}**, h39**^{km}±1.5^{km}**:pP-P, n61,** σ**0^{s}78**/39**, mb4.5**/19**, MS3.5**/2**, 4C-2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.88**	**211**	Pn	**P**	**04 31 34.1**	**-1.2**
	129nm,0.3s,baz=77,slow=23,SNR=6.4						
RAO				LR	LR	04 32 09.3	
	comp=Z,624nm,20.8s,baz=356,slow=27						
RAO				Sn	**S**	**04 32 09.7**	**+0.6**
	179nm,0.3s,baz=90,slow=23,SNR=8.5						
URZ	**Urewera**	**12.74**	**205**	Sn	**S**	**04 36 00.6**	**-13**
	1.1nm,0.3s,baz=202,slow=19,SNR=6.1						
AFI	**Afiamalu**	**13.47**	**19**	Pn	**P**	**04 33 53.8**	**-7.9**
	2.4nm,0.3s,baz=300,slow=4.6,SNR=4.8						
AFI				Sn	**S**	**04 36 15.4**	**-16**
	1.7nm,0.3s,baz=252,slow=20,SNR=2.6						
DZM	**Mont Dzumac**	**16.48**	**283**	Pn	**P**	**04 34 41.2**	**+0.5**
	0.0nm,0.3s,baz=240,slow=14,SNR=3.3						
TBI	**Tubuai**	**24.45**	**88**	*e*LR	LR	04 41 14.6	
	375nm,31.8s,baz=257						
PPT	**Papeete**	**26.27**	**75**	*e*LR	LR	04 42 09.9	
	426nm,28.5s,baz=236						
PPT	**Papeete**	**26.27**	**75**	LR	LR	04 43 36.2	
	comp=Z,189nm,20.2s,MS3.6,baz=247,slow=29						
HNR	**Honiara**	**28.40**	**303**	LR	LR	04 47 01.0	
	comp=Z,103nm,18.0s,MS3.5,baz=123,slow=34						
CTA	**Charters Tower**	**34.98**	**273**	P	**P**	**04 37 42.1**	**+0.5**
	5.6nm,0.8s,mb4.5,baz=80,slow=15,SNR=4.1						
CTAO	**Charters Tower**	**34.98**	**273**	*e*P	**P**	**04 37 42.3**	**+0.7**
	17nm,1.1s,mb4.9						
RKT	**Rikitea**	**37.45**	**94**	*e*LR	LR	04 47 21.5	
	194nm,29.8s						
WB2	**Warramunga Arr**	**45.67**	**268**	*e*P	**P**	**04 39 09.0**	**-0.8**
WRAB	**Tennant Creek**	**45.67**	**268**	*e*P	**P**	**04 39 09.8**	**-0.1**
	20nm,1.1s,mb5.0						
WRA	**Warramunga Arr**	**45.68**	**268**	P	**P**	**04 39 08.9**	**-1.1**
	7.7nm,0.9s,mb4.7,baz=105,slow=7.9,SNR=16						
SBA	**Scott Base**	**51.74**	**185**	*e*P	**P**	**04 39 56.8**	**+0.8**
	10nm,1.2s,mb4.6						
VNDA	**Vanda**	**51.83**	**186**	P	**P**	**04 39 56.5**	**-0.2**
	2.8nm,1.0s,mb4.1,baz=7.9,slow=6.0,SNR=10						
VNDA	**Vanda**	**51.83**	**186**	*e*P	**P**	**04 39 56.6**	**-0.2**
	3.7nm,1.1s,mb4.2						
QSPA	**South Pole Qui**	**63.31**	**180**⇓	*i*P	**P**	**04 41 17.2**	**-0.4**
	23nm,1.0s,mb5.3						
MAW	**Mawson**	**76.23**	**200**	P	**P**	**04 42 36.3**	**-0.1**
	5.4nm,1.2s,mb4.4,baz=111,slow=9.7,SNR=4.5						
MJAR	**Matsushiro Arr**	**76.23**	**324**	P	**P**	**04 42 37.0**	**-0.1**
	3.7nm,0.9s,mb4.3,baz=174,slow=7.0,SNR=5.6						
SNAA	**Sanae**	**81.70**	**178**	*e*	**P**	**04 43 07.6**	**+1.5**
SNAA	**Sanae**	**81.70**	**178**	*e*	pP	04 43 16.3	-1.6
SNAA	**Sanae**	**81.70**	**178**⇑	*i*P	**P**	**04 43 04.8**	**-1.3**
SNAA				*e*		04 43 07.6	
SNAA				*e*	pP	04 43 16.3	-1.6
SNAA				*e*		04 47 02.4	
SNAA				*e*		04 47 11.6	
VNA3	**Neumayer Olymp**	**81.78**	**176**	*e*	**P**	**04 43 07.9**	**+1.3**
VNA3	**Neumayer Olymp**	**81.78**	**176**	*e*	**P**	**04 43 16.4**	**+10**
VNA3	**Neumayer Olymp**	**81.78**	**176**⇑	*i*P	**P**	**04 43 05.1**	**-1.5**
VNA3				*e*		04 43 07.9	
VNA3				*e*	pP	04 43 16.4	-1.9
VNA3				*e*		04 47 00.6	
VNA3				*e*		04 47 10.3	
VNA2	**Neumayer--Watz**	**82.24**	**176**	*e*	**P**	**04 43 10.8**	**+1.9**
VNA2	**Neumayer--Watz**	**82.24**	**176**	*e*	pP	04 43 19.3	-1.4
VNA2	**Neumayer--Watz**	**82.24**	**176**⇑	*i*P	**P**	**04 43 07.9**	**-1.0**
VNA2				*e*		04 43 10.8	
VNA2				*e*	pP	04 43 19.3	-1.4
VNA2				*e*		04 47 03.2	
VNA2				*e*		04 47 13.4	
VNA1	**Neumayer--Stat**	**82.46**	**176**	*e*	**P**	**04 43 11.8**	**+1.8**
VNA1	**Neumayer--Stat**	**82.46**	**176**	*e*	pP	04 43 22.2	+0.4
VNA1	**Neumayer--Stat**	**82.46**	**176**⇑	*i*P	**P**	**04 43 09.2**	**-0.8**
VNA1				*e*		04 43 11.8	
VNA1				*e*	pP	04 43 22.2	+0.4
VNA1				*e*		04 47 04.8	
VNA1				*e*		04 47 14.3	
WDC	**Whiskeytown Da**	**83.52**	**38**	*e*P	**P**	**04 43 16.6**	**+0.6**
	7.6nm,1.4s,mb4.6						
YBH	**Yreka Blue Hor**	**84.22**	**37**	P	**P**	**04 43 20.5**	**+0.9**
	4.1nm,1.0s,mb4.5,baz=176,slow=2.2,SNR=11						
ELK	**Elko**	**87.82**	**42**	P	**P**	**04 43 37.0**	**-0.3**
	0.5nm,0.5s,mb4.0,baz=201,slow=12,SNR=3.6						
ELK	**Elko**	**87.82**	**42**	P	**P**	**04 43 37.0**	**-0.3**
TXAR	**Lajitas Array**	**89.11**	**56**	P	**P**	**04 43 43.0**	**-0.6**
	1.8nm,1.0s,mb4.4,baz=211,slow=7.3,SNR=16						
HLID	**Hailey**	**90.04**	**40**	*e*P	**P**	**04 43 47.8**	**+0.1**
	2.9nm,1.3s,mb4.5						
ANMO	**Albuquerque**	**90.09**	**50**	P	**P**	**04 43 48.2**	**+0.1**
	1.5nm,0.9s,mb4.3,baz=217,slow=4.7,SNR=5.0						
ANMO	**Albuquerque**	**90.09**	**50**	P	**P**	**04 43 48.2**	**+0.1**
NEW	**Newport**	**91.53**	**35**	P	**P**	**04 43 54.5**	**0.0**
	0.8nm,0.7s,mb4.2,baz=30,slow=18,SNR=3.0						
BW06	**Boulder Array**	**92.43**	**43**	*e*P	**P**	**04 43 58.9**	**+0.1**
	3.0nm,1.1s,mb4.5						
PDAR	**Pinedale Array**	**92.43**	**43**	P	**P**	**04 43 57.9**	**-0.9**
	1.0nm,0.9s,mb4.1,baz=225,slow=2.1,SNR=8.1						
CMAR	**Chiang Mai Arr**	**93.72**	**289**	P	**P**	**04 44 06.5**	**+1.2**
	1.3nm,0.4s,mb4.7,baz=137,slow=4.2,SNR=7.2						
ILAR	**Eielson Array**	**94.07**	**12**	P	**P**	**04 44 05.3**	**-0.4**
	1.4nm,0.9s,mb4.4,baz=227,slow=4.9,SNR=9.6						
BDFB	**Brasilia**	**114.36**	**124**	PKP	PKPdf	04 49 28.8	+1.7
	1.0nm,0.4s,baz=170,slow=6.1,SNR=4.5						
MKAR	**Makanchi Array**	**116.63**	**311**	PKP	PKPdf	04 49 31.6	+0.9
	0.7nm,0.8s,baz=90,slow=2.4,SNR=4.3						
BVAR	**Borovoye Array**	**124.87**	**317**	PKP	PKPdf	04 49 46.8	+0.3
	baz=90,slow=2.9						
ZRNK	**Zerenda**	**125.71**	**317**	*e*P	PKPdf	04 49 48.9	+0.7
ARCES	**ARCESS Array B**	**135.38**	**349**	PKP	PKPdf	04 50 04.2	-1.9
	2.1nm,0.8s,slow=1.2,SNR=7.4						
FINES	**FINESS Array B**	**142.24**	**343**	PKP	PKPdf	04 50 17.8	-0.8
	1.7nm,0.9s,baz=45,slow=2.7,SNR=3.5						
NB2	**NORSAR Subarra**	**145.39**	**354**	PKPabc	PKPdf	04 50 25.0	+1.0
	27nm,1.0s,baz=12,slow=3.6						
NOA	**NORSAR Array B**	**145.39**	**354**	PKPbc	PKPbc	04 50 24.5	0.0
	12nm,0.9s,baz=10,slow=2.4,SNR=36						
NAO01	**NORSAR Array S**	**145.62**	**354**	*e*PKP	PKPdf	04 50 26.2	+1.8
MALT	**Malatya**	**148.80**	**300**	*e*PKPbc	PKPdf	04 50 36.4	+6.0
AKASG	**Malin Array Be**	**149.24**	**328**	PKPbc	PKPdf	04 50 34.5	+3.9
	4.0nm,0.8s,baz=37,slow=2.8,SNR=22						
SUW	**Suwalki**	**149.27**	**337**	PKPbc	PKPdf	04 50 36.6	+6.0
BRTR	**Keskin Array B**	**152.04**	**305**	PKPbc	PKPdf	04 50 42.0	+6.7
	1.2nm,0.8s,baz=135,slow=3.5,SNR=8.2						
CLL	**Collm**	**154.53**	**346**⇓	*i*PKP1	PKPdf	04 50 48.9	+11
CLL				*i* PKP2	PKPab	04 51 02.9	-0.9
GRF	**Grafenberg Arr**	**156.43**	**348**	*e*PKP	PKPab	04 51 11.2	-0.7
GERES	**GERESS Array B**	**156.67**	**343**	PKPab	PKPab	04 51 12.8	-0.3
	0.5nm,0.8s,baz=225,slow=1.4,SNR=4.2						

IDC ***10*** *04:31:58.7±10.0, 1.49N×96.45E, mb3.8/2, mb1 3.9/3, mb1mx3.6/18, mbtmp3.8/3, ML4.3/1, Error ellipse: s-maj=198.0km s-min=127.5km az=143.0*

NEIC ***10*** *04:32:04.8±4.2, 1.71N×96.35E, h30^{km}, Error ellipse: s-maj=66.6km s-min=28.0km az=177.0*

ISC 10 04:32:02.6±5.4**, 1.7N**±0.6×**96.4E**±0.2**, h30**^{km}**, n4,** σ**0^{s}03**/4**, mb3.8**/2**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.58**	**50**	*e*P	**Pn**	**04 33 25.9**	**0.0**
KULM				*e*		04 33 32.6	
CMAR	**Chiang Mai Arr**	**16.88**	**8**	P	**P**	**04 35 58.5**	**0.0**
	0.4nm,0.3s,baz=196,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**46.60**	**347**	P	**P**	**04 40 29.9**	**0.0**
	0.9nm,0.5s,mb3.9,baz=162,slow=7.7,SNR=6.3						
SONM	**Songino Array**	**46.80**	**9**	P	**P**	**04 40 31.4**	**0.0**
	0.4nm,0.4s,mb3.7,baz=194,slow=8.6,SNR=5.8						

IDC ***10*** *04:34:40.0±1.3, 27.25S×176.09W, mb3.9/2, mb1 4.3/4, mb1mx4.0/13, mbtmp4.0/4, ML3.5/2, Error ellipse: s-maj=57.2km s-min=28.5km az=150.0*

NEIC ***10*** *04:34:42.3±0.7, 27.13S×176.19W, h10^{km}, Error ellipse: s-maj=21.3km s-min=18.3km az=124.0*

ISC 10 04:34:40.2±1.1**, 26.8S**±0.1×**176.1W**±0.2**, h10**^{km}**, n14,** σ**0^{s}80**/9**, mb4.1**/3**, 1C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.96**	**213**	Pn	**Pn**	**04 35 23.0**	**-5.2**
	38nm,0.3s,baz=270,slow=20,SNR=1.8						
RAO				Sn	**Sn**	**04 36 04.5**	**+0.4**
	76nm,0.3s,baz=58,slow=22,SNR=4.0						
DZM	**Mont Dzumac**	**16.59**	**283**	Pn	**P**	**04 38 35.6**	**+1.0**
	0.0nm,0.3s,baz=101,slow=18,SNR=2.5						
WRAB	**Tennant Creek**	**45.79**	**268**	*e*P	**P**	**04 43 03.6**	**-0.5**
WRA	**Warramunga Arr**	**45.79**	**268**	P	**P**	**04 43 03.0**	**-1.1**
	2.5nm,0.6s,mb4.3,baz=109,slow=7.6,SNR=9.3						
SBA	**Scott Base**	**51.77**	**185**	P	**P**	**04 43 45.1**	**-4.6**
CASY	**Casey**	**59.13**	**207**	*e*P	**P**	**04 44 42.0**	**-1.0**
	6.0nm,0.8s						
QSPA	**South Pole Qui**	**63.33**	**180**⇑	*i*P	**P**	**04 45 11.6**	**+0.4**
	2.9nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	**89.00**	**56**	P	**P**	**04 47 37.6**	**+0.8**
	0.3nm,0.9s,mb3.6,baz=225,slow=7.7,SNR=3.7						
ARCES	**ARCESS Array B**	**135.38**	**349**	PKP	PKPdf	04 54 02.9	0.0
	0.7nm,0.7s,baz=45,slow=1.3,SNR=3.8						
FINES	**FINESS Array B**	**142.26**	**343**	PKP	PKPdf	04 54 15.9	+0.5
	0.7nm,0.7s,baz=333,slow=6.2,SNR=3.5						
NB2	**NORSAR Subarra**	**145.38**	**354**	PKPabc	PKPdf	04 54 19.8	-1.0
	5.2nm,1.0s,baz=15,slow=3.7						
NOA	**NORSAR Array B**	**145.38**	**354**	PKPbc	PKPbc	04 54 20.2	+1.9
	2.9nm,0.9s,baz=13,slow=2.4,SNR=8.1						
NAO01	**NORSAR Array S**	**145.61**	**354**	*e*PKP	PKPdf	04 54 21.0	-0.2
AKASG	**Malin Array Be**	**149.28**	**328**	PKPbc	PKPdf	04 54 30.8	+3.3
	1.3nm,0.8s,baz=35,slow=3.3,SNR=5.2						

BJI ***10*** *04:46:28.4, 36.15S×96.33W, h10^{km}, mB5.8, Ms6.1, Msz5.8*

IDC ***10*** *04:46:29.5±0.5, 36.35S×97.34W, mb5.0/20, mb1 5.1/21, mb1mx5.1/23, mbtmp5.0/21, ML4.4/1, MS5.7/19, Ms1 5.6/19, ms1mx5.6/19, Error ellipse: s-maj=15.5km s-min=14.6km az=49.0*

MOS ***10*** *04:46:30.3±1.5, 36.28S×97.21W, h10^{km}, mb5.4/43, MS5.7/18, Error ellipse: s-maj=17.4km s-min=7.6km az=90.9*

HRVD ***10*** *04:46:31.2±0.1, 36.38S×97.46W, h12^{km}, MW6.0/74, Centroid moment Tensor Solution. LP body waves: s74,c180;Mantle waves: s74,c302; Half duration: 2^{s}5 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.02±.01; $M_{\theta\theta}$0.01±.01; $M_{\phi\phi}$0.01±.01; $M_{r\theta}$0.12±.02; $M_{\theta\phi}$-1.25±.01; $M_{\phi r}$-0.34±.03; Best double couple: $M_0$1.299×10^{18} NP1: ϕ_s89°, δ75°, λ175°. NP2:ϕ_s181°, δ85°, λ15°. Principal axes: T 1.339, Plg14°, Azm46°; N -.08, Plg74°, Azm197°; P -1.26, Plg7°, Azm314°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***10*** *04:46:31.2±0.2, 36.31S×97.26W, h10^{km}, mb5.3/63, MS5.7/106, MW6.1 Error ellipse: s-maj=7.0km s-min=4.8km az=62.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^{18}Nm; M_{rr}0.22; $M_{\theta\theta}$0.00; $M_{\phi\phi}$-0.22; $M_{r\theta}$-0.01; $M_{\theta\phi}$-1.79; $M_{\phi r}$-0.22; Best double couple: $M_0$1.8×10^{18} NP1:ϕ_s88°, δ83°, λ179°. NP2:ϕ_s178°, δ89°, λ7°. Principal axes: T 1.7, Plg6°, Azm44°; N .22, Plg83°, Azm184°; P -1.92, Plg5°, Azm313°;*

ISC 10 04:46:29.5±2.0**, 36.35S**±0.04×**97.25W**±0.06**, h10**^{km}±12^{km}**, h13**^{km}±1.0^{km}**:pP-P, n431,** σ**1^{s}01**/206**, mb5.2**/78**, MS5.7**/149**, 19C-7D, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**13.78**	**308**	Pn	**P**	**04 49 46.9**	**-0.4**
	1.9nm,0.3s,baz=117,slow=11,SNR=3.2						
RPN				LR	LR	04 53 25.8	
	comp=Z,82µm,20.0s,baz=70,slow=30						
CCHI	**Chillan**	**20.23**	**98**⇑	*i*P	**P**	**04 51 09.3**	**+1.8**
CLCH	**Cerro Calan**	**22.09**	**90**⇑	*i*P	**P**	**04 51 27.4**	**+0.9**
LMEL	**Las Melosas**	**22.25**	**92**⇑	*i*P	**P**	**04 51 29.1**	**+1.1**
ZON	**Zonda**	**24.14**	**87**	*e*P	**P**	**04 51 45.0**	**-1.5**
CFAA	**Coronel Fontan**	**24.47**	**87**	P	**P**	**04 51 50.6**	**+0.9**
	8.2nm,0.8s,mb4.2,baz=249,slow=9.2,SNR=86						
CFAA				LR	LR	04 59 13.0	
	comp=Z,2µm,20.6s,MS4.7,baz=256,slow=31						
USHA	**Ushuaia**	**27.06**	**142**	P	**P**	**04 52 15.4**	**+1.7**
	23nm,1.0s,mb4.7,baz=271,slow=8.9,SNR=9.0						
USHA				LR	LR	05 00 26.0	
	comp=Z,38µm,20.6s,MS5.9,baz=283,slow=31						
USHA	**Ushuaia**	**27.06**	**142**	P	**P**	**04 52 15.4**	**+1.7**
USHA				LR	LR	05 00 26.0	
TRQA	**Tornquist**	**28.05**	**104**	*e*P	**P**	**04 52 22.0**	**-0.9**
	86nm,1.5s,mb5.2						
TRQA				LR	LR		
	comp=Z,16µm,19.0s,MS5.6						
LVC	**Limon Verde**	**28.09**	**69**	P	**P**	**04 52 24.6**	**+1.2**
	comp=Z,83nm,0.8s,mb5.4,baz=235,slow=8.9,SNR=86						
LVC				LR	LR	05 00 46.9	
	comp=Z,43µm,18.8s,MS6.1,baz=220,slow=30						
ARE	**Arequipa**	**30.25**	**56**	*e*P	**P**	**04 52 44.0**	**+1.2**
PTCN	**Pitcairn Islan**	**30.26**	**283**	PFAKE		04 52 50.0	+7.2
PTCN				LR	LR		
	comp=Z,19µm,22.0s,MS5.7						
LPA	**La Plata**	**31.84**	**99**	*ce*P	**P**	**04 52 55.0**	**-1.7**
LPA				*e*PP	PP	04 53 57.0	-5.3
LPA				*e*S	**S**	**04 58 07.0**	**+1.0**
LPA				*e*pS		04 59 11.0	
LPAZ	**La Paz**	**32.67**	**60**	P	**P**	**04 53 05.4**	**+1.4**
	comp=Z,62nm,0.7s,mb5.6,baz=215,slow=7.5,SNR=132						
LPAZ				LR	LR	05 04 06.1	
	comp=Z,4µm,18.8s,MS5.2,baz=268,slow=32						
LPAZ	**La Paz**	**32.67**	**60**⇑	*e*P	**P**	**04 53 05.2**	**+1.2**
	comp=Z,74nm,0.8s,mb5.7						
LPAZ				LR	LR		
	comp=Z,17µm,22.0s,MS5.7						
PMSA	**Palmer Station**	**34.65**	**156**	PFAKE		04 53 30.0	+9.2
PMSA				LR	LR		
	comp=Z,9µm,22.0s,MS5.5						
RKT	**Rikitea**	**35.09**	**281**	*e*P	tx	04 52 59.7	
RKT				*e*S	tx	04 58 33.2	
	comp=Z,3µm,31.5s						
RKT				*e*SS	SS	05 01 13.9	+2.2
	comp=Z,41µm,28.2s						
RKT				*e*LR	LR	05 02 26.6	
	comp=Z,19µm,27.8s,baz=121						
CPUP	**Villa Florida**	**35.32**	**85**	P	**P**	**04 53 26.1**	**-0.8**
	comp=Z,12nm,0.8s,mb4.9,baz=264,slow=11,SNR=31						
CPUP				LR	LR	05 05 44.7	
	comp=Z,7µm,20.4s,MS5.4,baz=269,slow=33						
CPUP	**Villa Florida**	**35.32**	**85**	*e*P	**P**	**04 53 25.4**	**-1.4**
	comp=Z,24nm,1.0s,mb5.1						
CPUP				LR	LR		
	comp=Z,11µm,20.0s,MS5.6						
PAYG	**Puerto Ayora**	**36.08**	**12**	PFAKE		04 53 40.0	+6.6
PAYG				LR	LR		
	comp=Z,25µm,21.0s,MS6.0						
SAML	**Samuel**	**41.24**	**57**	*e*P	**P**	**04 54 16.2**	**-0.2**
	comp=Z,113nm,1.4s,mb5.3						
SAML				LR	LR		
	comp=Z,16µm,21.0s,MS5.9						
ROSC	**El Rosal**	**46.26**	**32**	P	**P**	**04 54 58.7**	**+1.6**
	comp=Z,45nm,1.1s,mb5.3,baz=131,slow=3.5,SNR=37						
ROSC				LR	LR	05 11 36.0	
	comp=Z,14µm,19.4s,MS5.9,baz=199,slow=32						
TBI	**Tubuai**	**46.59**	**271**	*e*PP	PP	04 55 59.3	-50
	comp=Z,162nm,34.0s						
TBI				*e*S	**S**	**05 01 31.7**	**-16**
	comp=Z,2µm,26.0s						
TBI				*e*LQ		05 05 27.8	
	comp=Z,10µm,25.0s						
TBI				*e*LR	LR	05 07 46.3	
	comp=Z,8µm,25.8s,baz=106						
TAOE	**Nuku Hiva Isla**	**47.57**	**294**	*e*P	**P**	**04 54 50.9**	**-16**
TAOE				*e*S	**S**	**05 01 42.2**	**-19**
	comp=Z,13µm,25.3s						
TAOE				*e*LQ		05 06 36.8	
	comp=Z,21µm,32.5s						
TAOE				*e*LR	LR	05 08 22.9	
	comp=Z,28µm,33.6s						
JTS	**JuntasAbangare**	**47.81**	**16**	*i* P	**P**	**04 55 09.6**	**+0.3**
JTS	**JuntasAbangare**	**47.81**	**16**	*e*P	**P**	**04 55 09.2**	**-0.1**
	comp=Z,76nm,1.4s,mb5.5						
JTS				LR	LR		
	comp=Z,6µm,20.0s,MS5.6						
BDFB	**Brasilia**	**48.24**	**78**	P	**P**	**04 55 12.9**	**+0.3**
	comp=Z,37nm,0.8s,mb5.5,baz=245,slow=6.1,SNR=40						
BDFB				LR	LR	05 14 12.8	
	comp=Z,11µm,20.5s,MS5.8,baz=240,slow=34						
BAO	**Brasilia Array**	**48.26**	**78**	P	**P**	**04 55 12.0**	**-0.8**
CAM4	**Nova Friburgo**	**49.07**	**89**	*e*P	**P**	**04 55 19.8**	**+0.9**
CAM4				*i*	pP	04 55 22.9	+0.8
CAM4				*i*		04 55 26.6	
CAM4				*i*		04 55 31.8	
CAM4				*i*		04 55 42.4	

PPT **Papeete** 49.63 278 eP P 04 54 56.2 -27
PPT eP P 04 56 37.9 -41
comp=Z,105nm,23.2s
PPT eS **S** **05 02 14.1 -16**
comp=Z,3µm,24.8s
PPT eLQ 05 06 37.4
comp=Z,10µm,29.8s
PPT eLR LR 05 09 05.4
comp=Z,9µm,24.2s,baz=113
PPT Papeete 49.63 278 P **P** **04 55 23.0 -0.3**
comp=Z,19nm,0.6s,mb5.3,baz=137,slow=19,SNR=3.6
PPT LR LR 05 10 48.3
comp=Z,6µm,18.2s,MS5.7,baz=116,slow=29
QSPA South Pole Qui 53.87 180 eP **P** **04 55 56.0 +1.6**
comp=Z,46nm,1.1s,mb5.3
VNA3 Neumayer Olymp 55.30 157 e **P** **04 56 09.4 +4.4**
VNA3 Neumayer Olymp 55.30 157 e **P** **04 56 10.5 +5.5**
VNA3 Neumayer Olymp 55.30 157⇑ iP **P** **04 56 05.3 +0.3**
VNA3 e pP 04 56 09.4 +1.3
VNA3 e 04 56 10.5
VNA3 e 04 56 56.1
VNA3 e 05 26 16.3
VNA3 e 05 26 30.3
MOIG Morelia 55.84 356 eP **P** **04 56 09.6 0.0**
VNA1 Neumayer--Stat 55.87 156 e **P** **04 56 14.7 +5.6**
VNA1 Neumayer--Stat 55.87 156⇑ iP **P** **04 56 09.6 +0.5**
VNA1 e pP 04 56 14.7 +2.4
VNA1 e 04 57 02.6
VNA1 e 05 26 20.2
VNA1 e 05 26 33.3
SBA Scott Base 56.03 195 eP **P** **04 56 10.7 +0.5**
comp=Z,49nm,1.1s,mb5.5
SBA LR LR
comp=Z,6µm,22.0s,MS5.6
VNA2 Neumayer--Watz 56.09 157 e **P** **04 56 14.6 +3.9**
VNA2 Neumayer--Watz 56.09 157 e **P** **04 56 16.3 +5.6**
VNA2 Neumayer--Watz 56.09 157⇑ iP **P** **04 56 11.0 +0.3**
VNA2 e pP 04 56 14.6 +0.8
VNA2 e 04 56 16.3
VNA2 e 04 57 03.2
VNA2 e 05 26 20.9
VNA2 e 05 26 35.8
SFJM Santa Fe 56.79 354 eP **P** **04 56 15.0 -1.3**
VNDA Vanda 57.13 195 P **P** **04 56 18.3 +0.2**
comp=Z,8.2nm,1.0s,mb4.7,baz=104,slow=6.7,SNR=25
VNDA LR LR 05 15 03.7
comp=Z,6µm,20.0s,MS5.7,baz=108,slow=30
VNDA Vanda 57.13 195 eP **P** **04 56 18.6 +0.5**
comp=Z,49nm,1.4s,mb5.3
VNDA LR LR
comp=Z,6µm,20.0s,MS5.7
SNAA Sanae 57.31 158 e **P** **04 56 22.8 +3.4**
SNAA Sanae 57.31 158 e **P** **04 56 24.4 +5.0**
SNAA Sanae 57.31 158 e PcP 04 57 08.7 -4.7
SNAA Sanae 57.31 158 eP **P** **04 56 18.9 -0.5**
SNAA pmax pmax
comp=Z,130nm,1.6s
SNAA Sanae 57.31 158⇑ iP **P** **04 56 18.9 -0.5**
SNAA e pP 04 56 22.8 +0.2
SNAA e 04 56 24.4
SNAA e 04 57 08.7
SNAA e 05 26 16.0
TPP Pointe-a-Pierr 57.36 43 eP **P** **04 56 22.2 +1.7**
TPP Pointe-a-Pierr 57.36 43 e **P** **04 56 22.2 +1.7**
TRN Trinidad (W) 57.66 43 eP **P** **04 56 20.9 -1.6**
TRN Trinidad (W) 57.66 43 e **P** **04 56 20.9 -1.6**
TRN Trinidad (W) 57.66 43 eP **S** **05 04 19.8 +0.8**
TPR Prospect 58.45 43 eP **P** **04 56 28.4 +0.3**
TPR Prospect 58.45 43 e **P** **04 56 28.4 +0.3**
SJG San Juan 61.63 34 eP **P** **04 56 47.2 -2.7**
comp=Z,139nm,1.3s,mb5.9
SJG LR LR
comp=Z,6µm,21.0s,MS5.7
MAIT Maitri 61.98 159 eP **P** **04 56 51.7 +0.1**
MAIT Maitri 61.98 159 eP **P** **04 56 52.5 +0.9**
NVL N'lazarevskaya 62.02 159⇑ iP **P** **04 56 50.6 -1.2**
NVL *i* 04 57 31.2
NVL *i* PPP PPP 05 00 36.2 -3.4
NVL *i* S **S** **05 05 13.5 -1.0**
NVL *i* 05 06 37.1
NVL pmax pmax
comp=Z,6.0nm,1.4s
NVL MLR MLR
comp=Z,360nm,16.5s
LTX Lajitas 65.61 354 P **P** **04 57 15.8 -0.1**
LTX pmax pmax
comp=Z,46nm,1.4s,mb5.3
LTX Lajitas 65.61 354 eP **P** **04 57 15.3 -0.5**
comp=Z,46nm,1.4s,mb5.3
LTX LR LR
comp=Z,5µm,19.0s,MS5.8
TXAR Lajitas Array 65.61 354 P **P** **04 57 15.6 -0.3**
comp=Z,8.5nm,0.9s,mb4.8,baz=173,slow=9.0,SNR=80
TXAR LR LR 05 20 24.7
comp=Z,5µm,18.4s,MS5.7,baz=210,slow=31
DWPF Disney 65.82 15 PFAKE 04 57 30.0 +13
DWPF LR LR
comp=Z,3µm,20.0s,MS5.5
NATX Nacogdoches 67.79 2 eP **P** **04 57 29.7 0.0**
comp=Z,68nm,1.0s,mb5.6
NATX LR LR
comp=Z,2µm,21.0s,MS5.4
DRV Dumont d'Urvil 68.45 201 P **P** **04 57 31.0 -2.2**
DRV Dumont d'Urvil 68.45 201 P **P** **04 57 31.0 -2.2**
GDL2 Guadalupe Moun 68.51 354 eP **P** **04 57 33.0 -1.2**
TUC Tucson 69.46 348 P **P** **04 57 39.9 -0.1**
TUC pmax pmax
comp=Z,16nm,1.1s,mb4.9
TUC Tucson 69.46 348 eP **P** **04 57 39.7 -0.3**
comp=Z,16nm,1.1s,mb4.9
TUC LR LR
comp=Z,2µm,21.0s,MS5.4
LRAL Lakeview Retre 69.68 9 eP **P** **04 57 40.4 -1.0**
comp=Z,55nm,1.4s,mb5.3
LRAL LR LR
comp=Z,5µm,20.0s,MS5.7
SYO Syowa Base 70.23 165 ⇑P **P** **04 57 42.4 -1.7**
SYO Syowa Base 70.23 165 ⇓pP pP 04 57 44.8 -2.5
LENM Lemitar 70.73 351 eP **P** **04 57 47.7 0.0**
OXF Oxford 70.87 7 eP **P** **04 57 46.1 -2.5**
comp=Z,55nm,1.1s,mb5.4
OXF LR LR
comp=Z,7µm,22.0s,MS5.9
UALR University of 70.90 4 eP **P** **04 57 47.8 -1.0**
comp=Z,50nm,1.4s,mb5.2
NHSC New Hope 70.91 15 eP **P** **04 57 48.1 -0.8**
comp=Z,113nm,1.0s,mb5.8
NHSC LR LR
comp=Z,10µm,22.0s,MS6.0
AMTX Amarillo 70.98 356 eP **P** **04 57 48.2 -1.0**
comp=Z,45nm,0.8s,mb5.5
AMTX LR LR
comp=Z,4µm,20.0s,MS5.7
BAR Barrett 71.03 343 eP **P** **04 57 48.5 -1.1**
ANMO Albuquerque 71.45 352 P **P** **04 57 52.2 +0.1**
ANMO pmax pmax
comp=Z,10.0nm,1.0s
ANMO Albuquerque 71.45 352 eP **P** **04 57 50.5 -1.6**
comp=Z,9.7nm,1.0s,mb4.7
ANMO LR LR
comp=Z,4µm,19.0s,MS5.7
PLAL Pickwick Lake 71.47 8 PFAKE 04 58 00.0 +7.8
PLAL LR LR
comp=Z,5µm,22.0s,MS5.7
JSC Jenkinsville 71.83 14 P **P** **04 57 54.1 -0.3**
JSC Jenkinsville 71.83 14 eP **P** **04 57 53.6 -0.8**
PFO Pinyon Flat Ob 71.87 343 PFAKE 04 58 10.0 +15
PFO LR LR
comp=Z,1µm,21.0s,MS5.1
SWET Sewanee 71.97 10 eP **P** **04 57 53.0 -2.2**
WVT Waverly 72.64 8 eP **P** **04 57 57.0 -2.1**
comp=Z,16nm,0.9s,mb5.0
WVT LR LR
comp=Z,4µm,19.0s,MS5.7
UTMT University of 72.74 7 eP **P** **04 57 58.4 -1.2**
comp=Z,109nm,1.1s,mb5.7
MWC Mount Wilson 72.84 342 eP **P** **04 58 00.8 +0.5**
MWC Mount Wilson 72.84 342 eP **P** **04 58 00.6 +0.2**
PARMO Parma 72.97 6 P **P** **04 58 01.0 0.0**
LDFC Landfair 72.98 345 eP **P** **04 58 01.2 +0.1**
NEN Nelson 73.47 345 eP **P** **04 58 03.4 -0.7**
SDCO Great Sand Dun 74.11 353 eP **P** **04 58 07.5 -0.1**
comp=Z,47nm,1.8s,mb5.1
SDCO LR LR
comp=Z,3µm,19.0s,MS5.6
FVM French Village 74.23 6 P **P** **04 58 07.2 -1.1**
FVM pmax pmax
comp=Z,40nm,1.1s,mb5.3
FVM French Village 74.23 6 P **P** **04 58 07.2 -1.1**
FVM pmax pmax
comp=Z,40nm,1.1s,mb5.3
FVM French Village 74.23 6 eP **P** **04 58 07.1 -1.2**
comp=Z,40nm,1.1s,mb5.3
CCM Cathedral Cave 74.24 5 PFAKE 04 58 20.0 +12
CCM LR LR
comp=Z,1µm,21.0s,MS5.1
DAC Darwin (Calif) 74.69 343 P **P** **04 58 11.3 +0.3**
DAC pmax pmax
comp=Z,11nm,1.0s,mb4.7
DAC Darwin (Calif) 74.69 343 eP **P** **04 58 10.9 -0.1**
comp=Z,11nm,1.0s,mb4.8
DAC LR LR
comp=Z,2µm,21.0s,MS5.4
ELN Prospectdale 74.78 14 eP **P** **04 58 10.8 -0.8**
CBKS Cedar Bluff 74.82 358 P **P** **04 58 13.0 +1.3**
CBKS pmax pmax
comp=Z,44nm,1.0s,mb5.3
CBKS Cedar Bluff 74.82 358 eP **P** **04 58 12.1 +0.4**
comp=Z,44nm,1.0s,mb5.3
CBKS LR LR
comp=Z,2µm,20.0s,MS5.5
BLA Blacksburg 74.83 14 P **P** **04 58 11.0 -0.8**
BLA pmax pmax
comp=Z,51nm,1.4s,mb5.3
BLA Blacksburg 74.83 14 eP **P** **04 58 10.5 -1.3**
comp=Z,50nm,1.4s,mb5.3
BLA LR LR
comp=Z,4µm,20.0s,MS5.8
BBSR BB Station 74.84 28 eP **P** **04 58 10.1 -1.9**
comp=Z,107nm,1.8s,mb5.5
BBSR LR LR
comp=Z,3µm,20.0s,MS5.6
PV01 Paradox Valley 74.84 351 eP **P** **04 58 11.7 -0.2**
KSU1 Kansas State U 75.08 1 eP **P** **04 58 12.8 -0.4**
FWV Forest Hill 75.12 13 eP **P** **04 58 11.6 -1.8**
PV10 Paradox Valley 75.14 350 eP **P** **04 58 13.4 -0.2**
ARUT Antelope Range 75.27 347 P **P** **04 58 15.5 +1.2**
ARUT Antelope Range 75.27 347 eP **P** **04 58 14.5 +0.2**
MAW Mawson 75.28 172 P **P** **04 58 14.0 +0.3**
comp=Z,9.8nm,0.9s,mb4.7,baz=201,slow=6.8,SNR=11
MAW LR LR 05 30 16.9
comp=Z,5µm,18.7s,MS5.9,baz=194,slow=35
CASY Casey 75.48 191 eP **P** **04 58 15.7 +0.8**
comp=Z,15nm,1.0s,mb4.9
CASY LR LR
comp=Z,6µm,19.0s,MS5.9
MVU Marysvale 75.75 348 eP **P** **04 58 16.5 -0.6**
comp=Z,9.4nm,1.0s,mb4.7
MVU LR LR
comp=Z,2µm,21.0s,MS5.4
MSU Marysvale 75.75 348 P **P** **04 58 17.6 +0.5**
MSU Marysvale 75.75 348 eP **P** **04 58 17.1 +0.1**
SRU San Rafael 76.08 349 eP **P** **04 58 19.0 +0.1**
SRU San Rafael 76.08 349 eP **P** **04 58 18.5 -0.4**
SAO San Andreas Ge 76.13 340 eP **P** **04 58 19.1 -0.1**
comp=Z,19nm,1.0s,mb5.0
SAO LR LR
comp=Z,7µm,19.0s,MS6.0
ISCO Idaho Springs 76.16 353 P **P** **04 58 20.5 +1.1**
ISCO pmax pmax
comp=Z,12nm,1.0s,mb4.8
ISCO Idaho Springs 76.16 353 eP **P** **04 58 20.3 +0.9**
comp=Z,12nm,1.1s,mb4.7
ISCO LR LR
comp=Z,3µm,19.0s,MS5.7
TRCR Troy Canyon 76.23 345 eP **P** **04 58 20.4 +0.7**
TPH Tonopah 76.32 344 P **P** **04 58 21.1 +0.8**
TPH pmax pmax
comp=Z,25nm,1.0s,mb5.1
TPH Tonopah 76.32 344 eP **P** **04 58 20.1 -0.2**
comp=Z,25nm,1.0s,mb5.1
TPH LR LR
comp=Z,3µm,22.0s,MS5.5
TMUT Trail Mountain 76.36 349 eP **P** **04 58 20.8 +0.3**
CBN Corbin 76.42 16 PFAKE 04 58 30.0 +9.1
CBN LR LR
comp=Z,19µm,20.0s,MS6.4
CMB Columbia Colle 77.04 341 P **P** **04 58 24.7 +0.4**
CMB pmax pmax
comp=Z,16nm,1.0s,mb4.9
CMB Columbia Colle 77.04 341 eP **P** **04 58 24.1 -0.3**
comp=Z,16nm,1.0s,mb4.9
CMB LR LR
comp=Z,8µm,19.0s,MS6.1
MIR Mirnyy 77.12 184 eP **P** **04 58 24.0 -0.2**
MIR eS S 05 08 18.0 +6.2
MIR pmax pmax
comp=Z,46nm,1.6s,mb5.2
MIR smax
comp=E,1µm,10.0s
MPU Maple Canyon 77.13 349 eP **P** **04 58 25.6 +0.8**
NLU North Lily Min 77.14 348 eP **P** **04 58 25.9 +1.1**
MCWV Mont Chateau 77.31 14 PFAKE 04 58 40.0 +14
MCWV LR LR
comp=Z,4µm,22.0s,MS5.7
DAU Daniels Canyon 77.46 349 P **P** **04 58 27.1 +0.5**
DAU Daniels Canyon 77.46 349 eP **P** **04 58 26.9 +0.3**
PHWY Pilot Hill 77.64 354 eP **P** **04 58 28.3 +0.8**
JLU Jordanelle 77.68 349 eP **P** **04 58 26.9 -0.8**
CTU Camp Tracy 77.81 349 eP **P** **04 58 28.9 +0.4**
NOQ North Oquirrh 77.83 348 P **P** **04 58 27.9 -0.7**
WCN Washoe City 78.08 342 P **P** **04 58 31.5 +1.5**
WCN pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WCN Washoe City 78.08 342 eP **P** **04 58 30.9 +0.9**
comp=Z,8.9nm,1.0s,mb4.7
NSHM Saint Helena R 78.09 340 P **P** **04 58 30.8 +0.7**
RWWY Rawlins 78.19 352 eP **P** **04 58 31.3 +0.8**
comp=Z,30nm,1.0s,mb5.2
POHA Pohakuloa 78.38 305 PFAKE 04 58 40.0 +8.0
POHA LR LR
comp=Z,37µm,20.0s,MS6.7
ELK Elko 78.47 346 P **P** **04 58 32.8 +0.7**
ELK pmax pmax
comp=Z,13nm,1.0s
ELK Elko 78.47 346 P **P** **04 58 32.8 +0.7**
comp=Z,13nm,1.0s,mb4.8,baz=178,slow=4.8,SNR=33
ELK Elko 78.47 346 eP **P** **04 58 32.2 +0.1**
comp=Z,23nm,1.0s,mb5.1
ELK LR LR
comp=Z,4µm,21.0s,MS5.7
BMN Battle Mountai 78.58 345 P **P** **04 58 33.6 +0.9**
BMN pmax pmax
comp=Z,21nm,1.1s,mb5.0
BMN Battle Mountai 78.58 345 eP **P** **04 58 33.1 +0.4**
comp=Z,21nm,1.1s,mb5.0
BMN LR LR
comp=Z,3µm,20.0s,MS5.6
HOPS Hopland 78.66 340 eP **P** **04 58 34.1 +0.9**
comp=Z,60nm,1.2s,mb5.4
HOPS LR LR
comp=Z,4µm,20.0s,MS5.8
HWUT Hardware Ranch 78.68 349 eP **P** **04 58 32.6 -0.6**
comp=Z,12nm,0.9s,mb4.8
HWUT LR LR
comp=Z,3µm,21.0s,MS5.7
BEKR Beckwourth 78.77 342 eP **P** **04 58 34.1 +0.4**
comp=Z,18nm,1.0s,mb5.0
HVU Hansel Valley 79.04 348 P **P** **04 58 36.1 +0.9**
HVU Hansel Valley 79.04 348 eP **P** **04 58 35.2 0.0**
ALLY Alegheny Colle 79.18 13 eP **P** **04 58 33.7 -2.3**
AAM Ann Arbor 79.25 10 eP **P** **04 58 35.5 -0.8**
AAM pmax pmax
comp=Z,42nm,0.5s,mb5.6
AAM Ann Arbor 79.25 10 eP **P** **04 58 35.5 -0.8**
comp=Z,42nm,0.5s,mb5.6
BW06 Boulder Array 79.53 351 PFAKE 04 58 50.0 +12
BW06 LR LR
comp=Z,2µm,21.0s,MS5.4
PDAR Pinedale Array 79.53 351 P **P** **04 58 37.6 -0.2**
comp=Z,16nm,0.6s,mb5.1,baz=161,slow=6.3,SNR=116
PDAR LR LR 05 29 13.7
comp=Z,2µm,18.0s,MS5.4,baz=8.4,slow=32
WDC Whiskeytown Da 80.00 341 P **P** **04 58 40.3 -0.1**
WDC pmax pmax
comp=Z,40nm,1.4s,mb5.2
WDC Whiskeytown Da 80.00 341 eP **P** **04 58 39.8 -0.7**
comp=Z,40nm,1.4s,mb5.2
WDC LR LR
comp=Z,3µm,22.0s,MS5.6
REDW Red Top Meadow 80.29 350 eP **P** **04 58 42.4 +0.5**
comp=Z,37nm,1.2s,mb5.2
RSSD Black Hills 80.33 355 P **P** **04 58 43.1 +1.0**
RSSD pmax pmax
comp=Z,30nm,1.1s,mb5.1
RSSD Black Hills 80.33 355 eP **P** **04 58 43.0 +0.9**
comp=Z,30nm,1.1s,mb5.1
RSSD LR LR
comp=Z,403nm,20.0s,MS4.8
RRI2 Red Ridge 80.34 350 eP **P** **04 58 43.1 +0.9**
comp=Z,39nm,1.3s,mb5.2
SNOW Snow King Moun 80.38 350 eP **P** **04 58 43.1 +0.7**
comp=Z,35nm,1.2s,mb5.2
TPAW Teton Pass 80.43 350 eP **P** **04 58 42.8 +0.2**
comp=Z,51nm,1.1s,mb5.4
LOHW Long Hollow 80.50 350 eP **P** **04 58 42.9 -0.1**
comp=Z,16nm,0.9s,mb5.0
BINY Binghamton 80.55 16 eP **P** **04 58 42.0 -1.3**
comp=Z,27nm,1.2s,mb5.0
BINY LR LR
comp=Z,9µm,21.0s,MS6.1
KHMM Horse Mountain 80.60 340 eP **P** **04 58 44.2 +0.7**
MOOW Moose Ponds 80.66 350 eP **P** **04 58 43.7 -0.1**
comp=Z,11nm,0.9s,mb4.8
IMW Indian Meadow 80.83 350 eP **P** **04 58 45.1 +0.4**
comp=Z,16nm,0.7s,mb5.1
HLID Hailey 81.05 347 eP **P** **04 58 46.4 +0.5**
comp=Z,60nm,1.3s,mb5.4
HLID LR LR
comp=Z,2µm,20.0s,MS5.5
YBH Yreka Blue Hor 81.12 341 P **P** **04 58 46.5 +0.2**
YBH pmax pmax
comp=Z,24nm,1.0s
YBH Yreka Blue Hor 81.12 341 P **P** **04 58 46.5 +0.2**
comp=Z,16nm,0.9s,mb4.9,baz=122,slow=2.6,SNR=23
YBH Yreka Blue Hor 81.12 341 eP **P** **04 58 46.4 +0.1**
comp=Z,24nm,1.0s,mb5.1
YBH LR LR
comp=Z,4µm,22.0s,MS5.7
KIP Kipapa 81.19 305 PFAKE 04 59 00.0 +13
KIP LR LR
comp=Z,4µm,20.0s,MS5.8
YFT Old Faithful 81.36 350 eP **P** **04 58 49.5 +2.0**
LKWY Lake 81.41 351 P **P** **04 58 50.3 +2.5**
LKWY pmax pmax
comp=Z,19nm,1.0s,mb5.0
LKWY Lake 81.41 351 eP **P** **04 58 49.9 +2.2**
comp=Z,19nm,0.9s,mb5.0
LKWY LR LR
comp=Z,4µm,20.0s,MS5.8
QUA2 Belchertown 81.49 18 eP **P** **04 58 46.7 -1.6**
comp=Z,78nm,0.9s,mb5.6
YMR Madison River 81.59 350 eP **P** **04 58 49.4 +0.7**
TAU Tasmania Unive 81.63 222 PFAKE 04 59 00.0 +11
TAU LR LR
comp=Z,1µm,22.0s,MS5.2
QLMT Earthquake Lak 81.81 350 eP **P** **04 58 51.7 +1.9**
WES Weston 81.86 19 eP **P** **04 58 49.1 -1.0**
WES LR LR
comp=Z,4µm,21.0s,MS5.8
HRV Harvard--Oak R 81.91 19 eP **P** **04 58 49.7 -0.7**
comp=Z,40nm,1.1s,mb5.3
HRV LR LR
comp=Z,3µm,22.0s,MS5.7
KBO Bosley Butte 81.98 340 eP **P** **04 58 52.3 +1.5**
HUMO Hull Mountain 82.00 341 eP **P** **04 58 51.7 +0.8**
MCMT McKenzie Canyo 82.02 349 eP **P** **04 58 51.1 +0.2**
DZM Mont Dzumac 82.06 249 eP **P** **04 58 50.6 -1.0**
DZM Mont Dzumac 82.06 249 eP **P** **04 58 50.6 -1.0**
NOUC Port Laguerre 82.15 248 eP **P** **04 58 51.0 -1.0**
NOUC Port Laguerre 82.15 248 eP **P** **04 58 51.0 -1.0**
BOZ Bozeman (W) 82.64 350 P **P** **04 58 55.0 +0.9**
BOZ pmax pmax
comp=Z,22nm,1.2s,mb5.1
BOZ Bozeman (W) 82.64 350 eP **P** **04 58 54.6 +0.4**
comp=Z,22nm,1.3s,mb5.0
BOZ LR LR
comp=Z,2µm,19.0s,MS5.5
BMO Blue Mountains 82.84 346 eP **P** **04 58 55.4 +0.2**
comp=Z,24nm,1.5s,mb5.0
BMO LR LR
comp=Z,4µm,20.0s,MS5.8
LAO LASA Array 83.05 354 eP **P** **04 58 57.1 +0.9**
comp=Z,43nm,0.9s,mb5.5
LAO LR LR
comp=Z,3µm,20.0s,MS5.6
MSNY Massena 83.46 16 P **P** **04 58 56.3 -2.1**
FRNY Flat Rock 83.60 17 eP **P** **04 58 57.6 -1.4**
HRY Holter Researc 83.71 350 eP **P** **04 59 00.5 +0.9**
COR Corvallis 83.94 342 P **P** **04 59 02.6 +1.8**
COR pmax pmax
comp=Z,72nm,1.1s,mb5.7
COR Corvallis 83.94 342 eP **P** **04 59 02.4 +1.6**
comp=Z,72nm,1.1s,mb5.7
COR LR LR
comp=Z,1µm,21.0s,MS5.2
CHMT Chamberlain Mo 84.12 349 eP **P** **04 59 02.9 +1.3**
MSO Missoula 84.14 349 eP **P** **04 59 03.0 +1.2**
comp=Z,14nm,1.3s,mb4.9
MSO LR LR
comp=Z,1µm,21.0s,MS5.2
WVL Waterville 84.33 19 PFAKE 04 59 10.0 +7.3
WVL LR LR
comp=Z,18µm,19.0s,MS6.5
DGMT Dagmar 84.67 355 eP **P** **04 59 05.7 +1.4**
comp=Z,64nm,1.3s,mb5.6
DGMT LR LR
comp=Z,2µm,19.0s,MS5.5
EMMW East Machias 85.07 21 PFAKE 04 59 20.0 +14
EMMW LR LR
comp=Z,13µm,21.0s,MS6.3
NEW Newport 86.08 347 P **P** **04 59 12.2 +0.8**
comp=Z,7.4nm,0.8s,mb5.0,baz=145,slow=4.9,SNR=19
NEW Newport 86.08 347 eP **P** **04 59 12.2 +0.8**
comp=Z,44nm,1.3s,mb5.5
NEW LR LR
comp=Z,4µm,20.0s,MS5.8
ULM Lac du Bonnet 86.23 1 P **P** **04 59 12.2 +0.1**
comp=Z,8.8nm,0.9s,mb5.0,baz=203,slow=3.5,SNR=6.2
ULM LR LR 05 34 23.5
comp=Z,2µm,20.9s,MS5.5,baz=64,slow=33
WALA Waterton Lakes 86.31 349 eP **P** **04 59 13.5 +1.0**
comp=Z,41nm,1.5s,mb5.4
PQI Presque Isle 86.72 20 PFAKE 04 59 30.0 +15
PQI LR LR
comp=Z,17µm,21.0s,MS6.4
OCWA Octopus Mounta 87.11 342 PFAKE 04 59 30.0 +14
OCWA LR LR
comp=Z,4µm,21.0s,MS5.8
EDM Edmonton 90.29 350 P **P** **04 59 31.7 +0.3**
EDM Edmonton 90.29 350 eP **P** **04 59 31.1 -0.3**
SUR Sutherland 90.39 132 PFAKE 04 59 40.0 +7.6
SUR LR LR
comp=Z,1µm,22.0s,MS5.3
FFC Flin Flon 90.80 357 PFAKE 04 59 50.0 +16
FFC LR LR
comp=Z,669nm,19.0s,MS5.1
STKA Stephens Creek 92.59 227 P **P** **04 59 41.8 -0.7**
comp=Z,9.0nm,1.1s,mb5.1,baz=93,slow=5.3,SNR=6.3
STKA LR LR 05 33 04.3
comp=Z,10µm,21.3s,MS6.3,baz=76,slow=30
STKA Stephens Creek 92.59 227 eP **P** **04 59 42.0 -0.5**
SCHQ Schefferville 94.50 17 LR LR 05 39 36.1
comp=Z,7µm,18.5s,MS6.1,baz=208,slow=34
SCHQ Schefferville 94.50 17 PFAKE 05 00 00.0 +9.3
SCHQ LR LR
comp=Z,10µm,19.0s,MS6.3
BOSA Boshof 95.76 132 P **P** **04 59 56.1 -1.0**
comp=Z,4.1nm,1.0s,mb4.8,baz=186,slow=7.2,SNR=4.6
BOSA LR LR 05 34 51.1
comp=Z,2µm,22.0s,MS5.6,baz=231,slow=30
DBIC Dimbokro 95.83 86 LR LR 05 38 49.6
comp=Z,3µm,22.0s,MS5.8,baz=210,slow=33
CTAO Charters Tower 97.88 238 PFAKE 05 00 20.0 +13
CTAO LR LR
comp=Z,6µm,21.0s,MS6.1
SIT Sitka 98.45 340 PFAKE 05 00 20.0 +11
SIT LR LR
comp=Z,5µm,21.0s,MS6.0
LBTB Lobatse 98.58 130 P **P** **05 00 09.4 -0.5**
comp=Z,5.4nm,1.0s,mb5.0,baz=222,slow=5.5
LBTB Lobatse 98.58 130 P **P** **05 00 09.4 -0.5**
LBTB LR LR
comp=Z,3µm,22.0s,MS5.7
ADH Angra Heroismo 98.69 48 *i* LR LR 05 33 47.5
MIDW Midway 98.93 298 PFAKE 05 00 20.0 +8.5

MIDW LR LR
comp=Z,5μm,21.0s,MS6.0
CMLA Cha da Macela 99.16 50 PFAKE 05 00 20.0 +7.7
CMLA LR LR
comp=Z,785nm,22.0s,MS5.2
KWAJ Kwajalein Atol 99.27 274 PFAKE 05 00 20.0 +6.7
KWAJ LR LR
comp=Z,616nm,19.0s,MS5.1
YKA Yellowknife Ar 99.49 352 P **P 05 00 13.3 +0.2**
comp=Z,0.8nm,0.7s,mb4.4,baz=152,slow=3.9,SNR=7.5
YKA LR LR 05 41 04.1
comp=Z,2μm,18.7s,MS5.6,baz=135,slow=33
YKW3 Yellowknife Ar 99.55 352 *e*P **P 05 00 13.4 -0.1**
NWAO Narrogin (SRO) 103.92 209 PFAKE 05 00 50.0 +16
NWAO LR LR
comp=Z,2μm,20.0s,MS5.7
WRAB Tennant Creek 105.77 230 PFAKE 05 05 10.0
WRAB LR LR
comp=Z,3μm,20.0s,MS5.9
WAKE Wake Island 105.94 282 PFAKE 05 05 10.0
WAKE LR LR
comp=Z,2μm,20.0s,MS5.7
PTOM Tomar 111.23 56 *e*PP PP 05 05 45.1 -2.4
PCBR Castelo Branco 111.97 56 *e*PP PP 05 05 50.2 -2.4
MTE Manteigas 112.20 56 *e*PP PP 05 05 52.8 -1.6
MTE Manteigas 112.20 56 *e*PP PP 05 05 53.2 -1.2
MTE *i* - 05 15 23.8
MTE *e*SS SS 05 21 32.2 +2.6
MTE Manteigas 112.20 56 *e*LQ 05 33 08.0
MTE *e*LR LR 05 40 00.8
comp=Z,5μm,22.1s
MBWA Marble Bar 112.97 218 PFAKE 05 05 20.0 +10
MBWA LR LR
comp=Z,3μm,19.0s,MS5.9
ESLA Sonseca Array 114.26 58 PFAKE 05 05 20.0 +7.7
ESLA LR LR
comp=Z,27μm,20.0s,MS6.8
SJPF Ste Jean 117.64 55 *e*PKIKP PKPdf 05 05 17.2 -1.5
ETSF Etsaut 117.99 56 *e*PKIKP PKPdf 05 05 17.6 -1.8
comp=Z,16nm,1.0s
QUIF Quistinic 118.38 50 *e*PKIKP PKPdf 05 05 18.1 -2.0
comp=Z,126nm,1.7s
MBAR Mbarara 119.39 115 PFAKE 05 05 30.0 +7.2
MBAR LR LR
comp=Z,638nm,20.0s,MS5.2
GUMO Guam 120.32 265 PFAKE 05 05 30.0 +5.4
GUMO LR LR
comp=Z,1μm,20.0s,MS5.5
ESK Eskdalemuir 121.11 42 PFAKE 05 05 30.0 +4.8
ESK LR LR
comp=Z,623nm,22.0s,MS5.2
TCF Toulx Ste Croi 121.14 53 *e*PKIKP PKPdf 05 05 23.9 -1.6
comp=Z,10nm,1.1s
SSF Saint Saulge 122.25 53 *e*PKIKP PKPdf 05 05 25.6 -2.0
comp=Z,14nm,1.3s
SMF Signal de Mont 122.32 53 *e*PKIKP PKPdf 05 05 26.2 -1.5
comp=Z,12nm,1.1s
SMRF Simiane la Rot 122.53 57 *e*PKIKP PKPdf 05 05 26.7 -1.4
comp=Z,29nm,1.2s
LOR Lormes 122.55 52 *e*PKIKP PKPdf 05 05 26.7 -1.4
comp=Z,5.2nm,0.9s
LOR *e*R
comp=Z,3μm,20.2s
LMR La Mourre 122.93 58 *e*PKIKP PKPdf 05 05 26.9 -2.0
comp=Z,20nm,1.1s
ORIF Oris-en-Rattie 123.06 56 *e*PKIKP PKPdf 05 05 27.6 -1.5
comp=Z,8.9nm,0.9s
ORIF *e*R
comp=Z,6μm,19.8s
FRF La Foret Royal 123.10 57 *e*PKIKP PKPdf 05 05 26.9 -2.4
comp=Z,22nm,1.0s
JMIC Jan Mayen 123.48 23 *e*PP PP 05 07 09.4 -3.1
JMIC AMS AMS 05 51 21.7
comp=Z,1μm,20.4s,MS5.5
MEZF Maizieres J'vi 123.71 51 *e*PKIKP PKPdf 05 05 28.4 -2.0
comp=Z,17nm,0.9s
CABF La Chapelle 123.77 54 *e*PKIKP PKPdf 05 05 28.4 -2.2
comp=Z,24nm,1.2s
LPL La Plagne 123.83 55 *e*PKIKP PKPdf 05 05 29.3 -1.4
comp=Z,13nm,0.9s
LPG La Plagne 123.84 55 *e*PKIKP PKPdf 05 05 29.5 -1.2
comp=Z,14nm,0.9s
PGF Pioggiola 124.37 59 *e*PKIKP PKPdf 05 05 30.6 -1.2
comp=Z,26nm,0.9s
HINF Hinteralfeld 124.65 53 *e*PKIKP PKPdf 05 05 30.3 -1.9
comp=Z,6.9nm,0.9s
BILL Bilibino 125.52 333 *i* PKIKP PKPdf 05 05 40.8 +7.5
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 125.52 333 PFAKE 05 05 40.0 +6.7
BILL LR LR
comp=Z,2μm,22.0s,MS5.8
BFO Black Forest 125.74 52 *e*PKPdf PKPdf 05 05 32.5 -1.8
BFO *e*PP PP 05 07 22.9 -4.9
PET Petropavlovsk 126.09 314 PFAKE 05 05 40.0 +5.3
PET LR LR
comp=Z,2μm,20.0s,MS5.8
STU Stuttgart 126.42 52 *e*PKPdf PKPdf 05 05 32.9 -2.6
DAVA Damuels 126.45 54⇑ *i*P PKPdf 05 05 35.1 -0.5
comp=Z,10.0nm,1.1s
BER Bergen 126.83 37 *e*P PKPdf 05 05 37.1 +1.2
BER LR LR
comp=Z,1549μm,20.0s
BER Bergen 126.83 37 *e*SS SS 05 24 38.6 +0.5
BER AMS AMS 05 59 19.2
comp=Z,2μm,20.0s,MS5.7
MOTA Moosalm 127.27 54⇓ *i*P PKPdf 05 05 35.6 -1.6
comp=Z,10.0nm,0.9s
SQTA Sankt Quirin 127.30 54⇓ *i*P PKPdf 05 05 36.0 -1.2
comp=Z,8.4nm,0.9s
SQTA *i* 05 07 39.4
comp=Z,7.1nm,1.2s
WATA Walderalm 127.57 54⇓ *i*P PKPdf 05 05 37.3 -0.5
comp=Z,7.2nm,1.0s
WTTA Wattenberg 127.59 54⇓ *i*P PKPdf 05 05 39.0 +1.2
comp=Z,13nm,1.2s
FUR Furstenfeldbru 127.59 53 *e*PKPdf PKPdf 05 05 36.7 -1.1
FUR *e*PP PP 05 07 36.3 -3.4
CLZ Clausthal 127.91 49 *e*PKPdf PKPdf 05 05 37.8 -0.6
CLZ *e*PP PP 05 07 38.3 -3.5
GRA1 Grafenberg Arr 127.94 51 *e*PKPdf PKPdf 05 05 37.2 -1.3
GRA1 *e*PP PP 05 07 37.4 -4.7
GRA1 LR LR
comp=Z,2μm,20.9s,MS5.8
GRF Grafenberg Arr 127.94 51 *e*PKP PKPdf 05 05 37.2 -1.3
GRF *e*PP PP 05 07 37.4 -4.7
GRF LR LR
comp=Z,2μm,20.9s,MS5.8
MUD Monsted U'grnd 128.13 43 *e*PKIKP PKPdf 05 05 40.7 +2.0
MUD *i* 05 07 37.0
MUD *i* 05 17 48.0
MUD MLR MLR
comp=Z,1μm,22.0s,MS5.5
MUD Monsted U'grnd 128.13 43 *e*P PKPdf 05 05 40.7 +2.0
MUD *i* 05 07 37.0
MUD *e* 05 08 51.8
MUD *i* 05 08 55.8
MUD *i* 05 17 48.0
MUD *i* 05 24 56.6
MUD Monsted U'grnd 128.13 43 *i* P PKPdf 05 05 40.7 +2.0
MUD *i* 05 07 37.0
MUD *e* 05 08 51.8
MUD *i* 05 08 55.8
MUD *i* 05 17 48.0
MUD *i* 05 24 56.6
comp=Z,1μm,22.0s
BSEG Bad Segeberg 128.31 46 *e*PKPdf PKPdf 05 05 39.3 +0.2
BSEG *e*PP PP 05 07 40.2 -4.4
MOX Moxa 128.41 50 *e*PKIKP PKPdf 05 05 39.5 +0.2
MOX *e* 05 07 40.0
MOX pmax pmax
comp=Z,42nm,2.0s
MOX MLR MLR
comp=Z,1μm,20.0s,MS5.7
MOX Moxa 128.41 50 *i* P PKPdf 05 05 39.5 +0.2
comp=Z,logA/T=1.3
MOX PP PP 05 07 40.0 -5.3
MOX SS SS 05 25 11.0 +13
MOX L 06 00 51.0
KBA Koelnbreinsper 128.67 55⇓ *i*P PKPdf 05 05 40.8 +0.8
comp=Z,5.9nm,0.9s
KBA *i* 05 07 47.7
comp=Z,13nm,1.7s
NKC Novy Kostel 128.83 51 *e*PKIKP PKPdf 05 05 38.5 -1.7
NKC *e* 05 07 43.4
NKC MLR MLR
comp=Z,3μm,22.5s,MS5.9
NKC Novy Kostel 128.83 51 *e*PKPdf PKPdf 05 05 38.5 -1.7
NKC *e*PP PP 05 07 43.4 -5.0
NKC *ex* x 05 09 00.8
NKC AMS AMS 05 54 00.0
comp=Z,3μm,22.5s
KONO Kongsberg 128.84 39 PFAKE 05 05 50.0 +10
KONO LR LR
comp=Z,2μm,21.0s,MS5.8
WET Wettzell 128.86 52 *e*PKPdf PKPdf 05 05 38.0 -2.3
WET *e*PP PP 05 07 45.0 -3.6
KBS Kingsbay 129.07 14 PFAKE 05 05 50.0 +10
KBS LR LR
comp=Z,2μm,20.0s,MS5.9
KBS Kingsbay 129.07 14 *e*PP PP 05 07 37.3 -12
KBS AMS AMS 05 59 43.5
comp=Z,1μm,19.3s,MS5.7
KHC Kasperske Hory 129.31 53 *e*PKIKP PKPdf 05 05 37.5 -3.6
KHC *e* 05 07 56.6
KHC MLR MLR
comp=Z,2μm,25.2s,MS5.6
KHC Kasperske Hory 129.31 53 *e*PKPdf PKPdf 05 05 37.5 -3.6
KHC *ex* x 05 07 56.6
KHC *ex* x 05 09 02.1
KHC AMS AMS 05 54 00.0
comp=Z,2μm,25.2s
GEC2 GERESS Array S 129.32 53 *e*PKPdf PKPdf 05 05 39.4 -1.7
GEC2 *e*PP PP 05 07 45.4 -6.1
GERES GERESS Array B 129.32 53 PKIKP PKPdf 05 05 38.8 -2.3
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 129.32 53 PKP PKPdf 05 05 38.8 -2.3
comp=Z,2.2nm,0.8s,baz=104,slow=5.5,SNR=11
OBKA Obir 129.33 56⇑ *i*P PKPdf 05 05 41.1 -0.1
comp=Z,5.5nm,1.0s
OBKA *i* 05 07 43.6
comp=Z,5.3nm,1.0s
CLL Collm 129.40 50 *i* PKIKP PKPdf 05 05 40.8 -0.4
CLL *e* 05 05 48.0
CLL pmax pmax
comp=Z,24nm,1.7s
CLL MLR MLR
comp=Z,2μm,17.0s,MS5.8
CLL Collm 129.40 50 *i* PKP PKPdf 05 05 40.8 -0.4
CLL *e* 05 05 48.0
CLL *e*SKP 05 09 01.0
CLL *e*SKKS 05 14 44.0
CLL LR LR
comp=Z,2μm,17.0s,MS5.8
CLL Collm 129.40 50 *i* PKIKP PKPdf 05 05 40.8 -0.4
comp=Z,logA/T=1.1
CLL *e* 05 05 48.0
CLL *e*PP PP 05 07 45.0 -6.9
CLL *e* 05 08 46.0
CLL *e* 05 09 01.0
CLL *e*PPP PPP 05 10 28.0 -11
CLL *e* 05 14 44.0
CLL *e*PS PS 05 18 01.0 +4.3
CLL *e* 05 19 22.0
CLL *e*SS SS 05 25 12.0 +1.6
CLL *e*SSS SSS 05 29 52.0 -7.2
MOA Molln 129.46 54⇑ *i*P PKPdf 05 05 37.3 -4.1
comp=Z,4.1nm,0.9s
MOA *i* 05 09 04.6
comp=Z,10nm,1.6s
NAO01 NORSAR Array S 129.61 37 PFAKE 05 05 50.0 +8.7
NAO01 LR LR
comp=Z,1μm,19.0s,MS5.7
NB2 NORSAR Subarra 129.78 37 PKPdf PKPdf 05 05 39.2 -2.5
comp=Z,5.4nm,1.2s,baz=270,slow=1.8
NB2 NORSAR Subarra 129.78 37 PKPd 05 05 39.2
baz=270,slow=1.9
NOA NORSAR Array B 129.78 37 PKIKP PKPdf 05 05 39.2 -2.5
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 129.78 37 PKP PKPdf 05 05 39.1 -2.5
comp=Z,2.2nm,0.9s,baz=282,slow=2.0,SNR=7.0
COP Copenhagen 129.81 44 *i* P PKPdf 05 05 47.8 +5.9
COP *i* 05 07 51.0
COP *e* 05 09 03.7
COP *i* S tx 05 18 01.9
COP *i* 05 19 36.6
COP *i* 05 25 29.4
comp=Z,710nm,18.0s
BRG Berggiesshubel 129.90 50 *e*PKP PKPdf 05 05 41.0 -1.2
BRG PP PP 05 07 50.0 -4.9
BRG SKP 05 09 03.0
BRG SKKS 05 14 50.0
BRG SS SS 05 25 20.0 +3.7
BRG LR LR
comp=Z,2μm,23.5s,MS5.8
PRU Pruhonice 130.10 52 *e*PKIKP PKPdf 05 05 42.5 -0.1
PRU *e* 05 07 52.0
PRU MLR MLR
comp=Z,2μm,23.8s,MS5.8
PRU Pruhonice 130.10 52 *e*PKPdf PKPdf 05 05 42.5 -0.1
PRU *e*PP PP 05 07 52.0 -4.2
PRU *e*SKP 05 09 01.5
PRU AMS AMS 05 54 20.0
comp=Z,2μm,23.8s
ARSA Arzberg 130.16 55⇑ *i*P PKPdf 05 05 39.9 -2.9
comp=Z,4.1nm,0.9s
ARSA *i* 05 07 52.5
comp=Z,13nm,1.7s
ARSA *i* 05 09 04.4
comp=Z,8.7nm,1.7s
PVCC Panska Ves 130.22 51 *e*PKIKP PKPdf 05 05 40.2 -2.6
PVCC MLR MLR
comp=Z,2μm,22.1s,MS5.8
PVCC Panska Ves 130.22 51 *e*PKPdf PKPdf 05 05 40.2 -2.6
PVCC *e*SKP 05 09 03.4
PVCC AMS AMS 05 54 50.0
comp=Z,2μm,22.1s
NSS Namsos 130.31 32 AMS AMS 05 58 08.9
comp=Z,1μm,25.5s,MS5.6
SEY Seymchan 130.79 325 *i* PKIKP PKPdf 05 05 41.0 -2.5
UPC Upice 131.13 51 *e*PKPdf PKPdf 05 05 44.0 -0.5
UPC *e*PP PP 05 07 57.7 -5.6
UPC *e*SKP 05 09 08.8
DPC Dobruska-Polom 131.29 51 *e*PKIKP PKPdf 05 05 37.8 -7.0
DPC *e* 05 07 59.7
DPC MLR MLR
comp=Z,2μm,17.9s,MS5.9
DPC Dobruska-Polom 131.29 51 *e*PKPdf PKPdf 05 05 37.8 -7.0
DPC *e*PP PP 05 07 59.7 -4.6
DPC *e*SKP 05 09 09.4
DPC AMS AMS 06 03 00.0
comp=Z,2μm,17.9s
KSP Ksiaz 131.36 51 *e*PKIKP PKPdf 05 05 42.6 -2.3
KSP *e* 05 08 00.0
KSP *e*PPP PPP 05 10 55.0 +0.6
KSP Ksiaz 131.36 51 *e*PKP PKPdf 05 05 42.6 -2.3
KSP *e*PP PP 05 08 00.0 -4.7
KSP *e*PKS PKS 05 09 09.5 -7.5
KSP *e*PPP PPP 05 10 55.0 +0.6
KSP *e*SKKS 05 14 56.0
KSP *e*PPS PPS 05 19 44.0 -9.1
KSP *e*SS SS 05 25 43.0 +8.8
KSP LR LR
comp=Z,4μm,26.5s,MS6.0
KSP Ksiaz 131.36 51 *e*PKP PKPdf 05 05 44.3 -0.7
KSP *e*PP PP 05 08 00.8 -3.9
KSP *e* 05 09 10.4
KSP MLR MLR 05 50 29.5
comp=Z,6μm,41.5s,MS6.0
MA2 Magadan 131.43 321 PFAKE 05 05 50.0 +5.2
MA2 LR LR
comp=Z,2μm,20.0s,MS5.8
MORC Moravsky Berou 131.97 52 *e*PKPdf PKPdf 05 05 44.7 -1.4
OKC Ostrava-Krasne 132.37 52 *e*PKIKP PKPdf 05 05 42.0 -4.9
OKC *e* 05 08 05.3
OKC MLR MLR
comp=Z,2μm,19.7s,MS5.8
OKC Ostrava-Krasne 132.37 52 *e*PKPdf PKPdf 05 05 42.0 -4.9
OKC *e*PP PP 05 08 05.3 -5.4
OKC *e*SKP 05 09 13.3
OKC AMS AMS 06 01 40.0
comp=Z,2μm,19.7s
TRO Tromso 132.64 25 *e*PP PP 05 08 06.9 -5.0
TRO *e*SS SS 05 25 43.8 -5.9
TRO AMS AMS 06 01 56.6
comp=Z,1μm,19.0s,MS5.5
OJC Ojcow 133.48 52 *e*PKIKP PKPdf 05 05 47.9 -1.0
OJC *e* 05 08 15.3
OJC *e*SS SS 05 26 05.0 +4.8
OJC MLR MLR
comp=Z,2μm,20.2s,MS5.7
OJC Ojcow 133.48 52 *e*PKPdf PKPdf 05 05 47.9 -1.0
OJC *e*PP PP 05 08 15.3 -2.6
OJC ⇑*e*SKKSa 05 15 12.6
OJC *e*SS SS 05 26 05.0 +4.8
OJC MLR MLR 06 01 40.9
comp=Z,2μm,20.2s,MS5.7
ARCES ARCESS Array B 134.91 25 PKIKP PKPdf 05 05 48.4 -2.7
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 134.91 25 PKP PKPdf 05 05 48.4 -2.7
comp=Z,2.1nm,0.9s,baz=252,slow=7.7,SNR=5.8
YSS Yuzh-Sakhalins 134.94 303 *i* PKIKP PKPdf 05 05 52.5 +0.7
YSS *e* 05 08 23.0
YSS *e* 05 18 52.0
YSS *e*SS SS 05 26 42.0 +24
YSS *e*SSS SSS 05 31 23.0 +3.2
YSS Yuzh-Sakhalins 134.94 303 PFAKE 05 06 00.0 +8.2
YSS LR LR
comp=Z,4μm,19.0s,MS6.2
KWP Kalwaria 135.27 53 *e*PKP PKPdf 05 05 50.0 -2.3
KWP *e*PP PP 05 08 26.4 -2.8
KWP *e* 05 09 23.9
KWP Kalwaria 135.27 53 *e*PKP PKPdf 05 05 50.0 -2.3
KWP *e*PP PP 05 08 26.4 -2.8
KWP *e* 05 09 23.9
KWP MLR MLR 05 59 59.2
comp=Z,3μm,22.9s,MS6.0
KEV Kevo 135.34 24 PFAKE 05 06 00.0 +8.1
KEV LR LR
comp=Z,2μm,21.0s,MS5.7
DGAR Diego Garcia 135.41 165 PFAKE 05 06 00.0 +6.5
DGAR LR LR
comp=Z,477nm,21.0s,MS5.2
SUW Suwalki 135.86 47 *e*PKP PKPdf 05 05 52.4 -0.8
SUW *e* 05 09 24.8
SUW Suwalki 135.86 47 *e*PKP PKPdf 05 05 52.4 -0.8
SUW *e* 05 09 24.8
SUW MLR MLR 05 59 10.6
comp=Z,2μm,22.9s,MS5.9
MAJO Matsushiro 135.93 288 PFAKE 05 06 00.0 +6.1
MAJO LR LR
comp=Z,1μm,19.0s,MS5.7
KAF Kangasniemi 136.94 35 *e*p PKPdf 05 05 51.8 -3.1
comp=Z,5.7nm,0.9s
KAF Kangasniemi 136.94 35 *e*PKIKP PKPdf 05 05 51.8 -3.1
KAF pmax pmax
comp=Z,6.0nm,0.9s
FINES FINESS Array B 136.94 36 PKIKP PKPdf 05 05 52.2 -2.7
FINES pmax pmax
comp=Z,3.0nm,1.0s
FINES FINESS Array B 136.94 36 PKP PKPdf 05 05 52.2 -2.6
comp=Z,3.0nm,1.0s,baz=207,slow=4.3,SNR=4.2
FINES FINESS Array B 136.94 36 PKP PKPdf 05 05 52.2 -2.7
TIXI Tiksi 137.47 340 *i* PKIKP PKPdf 05 05 53.3 -2.4
TIXI *e*SSS SSS 05 31 57.4 +2.3
TIXI pmax pmax
comp=Z,16nm,1.2s
TIXI Tiksi 137.47 340 *i* PKP PKPdf 05 05 54.1 -1.6
TIXI LR LR
comp=Z,1μm,20.0s,MS5.7
APA Apatity 138.31 26⇑ *i*PKIKP PKPdf 05 05 52.0 -5.4
APA *e*PPP PPP 05 11 48.0 -1.5
APA MLR MLR
comp=Z,1μm,18.0s,MS5.7
MNK Minsk 138.59 46 *e*PKIKP PKPdf 05 06 00.0 +1.8
LVZ Lovozero 138.61 25 *i* PKIKP PKPdf 05 05 55.0 -2.9
KIS Kishinev 139.07 58 *i* PKIKP PKPdf 05 05 52.0 -7.3
KIS *e* 05 08 56.0
KIS *e*PPP PPP 05 11 50.0 -6.2
KIS MLR MLR
comp=N,300nm,19.0s,MS5.6
KIS MLR MLR
comp=E,900nm,19.0s,MS5.6
KIS MLR MLR
comp=Z,2μm,19.0s,MS5.8
KIS MLR MLR
comp=Z,2μm,20.0s
PUL Pulkovo 139.29 38 *i* PKHKP 05 05 41.9
PUL MLR MLR
comp=Z,2μm,21.0s,MS5.8
PUL MLR MLR
comp=N,397nm,18.0s,MS5.7
PUL MLR MLR
comp=E,1μm,21.0s,MS5.7
AKASG Malin Array Be 139.52 52 PKHKP 05 05 49.3
AKASG 05 08 56.2
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 139.52 52 PKhKP 05 05 49.2
comp=Z,1.1nm,0.7s,baz=278,slow=3.5,SNR=9.2
AKASG PP PP 05 08 56.2 +0.6
comp=Z,0.4nm,0.5s,baz=275,slow=4.5,SNR=4.2
AKASG Malin Array Be 139.52 52 PKP 05 05 49.2
AKASG PP PP 05 08 56.2 +0.6
JMQS Jabal Moqyreh 140.14 87 P PKPdf 05 06 01.5 -0.2
YAK Yakutsk 141.29 327 *e*PKIKP PKPdf 05 06 00.2 -2.5
YAK *e* 05 27 31.9
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,21nm,1.1s
YAK pmax pmax
comp=N,222nm,17.9s
YAK pmax pmax
comp=E,330nm,17.8s
YAK Yakutsk 141.29 327 PFAKE 05 06 10.0 +7.3
YAK LR LR
comp=Z,3μm,21.0s,MS6.1
BR131 Keskin Array S 141.56 70 PKPpre 05 05 56.0
BR131 LR LR
comp=Z,2μm,21.0s,MS5.7
BRTR Keskin Array B 141.56 70 PKHKP 05 05 55.7
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 141.56 70 PKhKP 05 05 55.6
comp=Z,1.3nm,0.8s,baz=207,slow=2.8,SNR=5.5
TATS Tathlith 141.78 105 P PKPdf 05 06 08.0 +3.2
KLR Kul'dur 142.45 306 *e*PKHKP 05 05 57.8
KLR *e* 05 21 41.5
KLR *e* 05 28 17.5
OBN Obninsk 143.53 44 *i* PKIKP PKPdf 05 06 01.6 -5.1
OBN pmax pmax
comp=Z,27nm,0.9s
OBN MLR MLR
comp=Z,2μm,17.0s,MS5.9
OBN Obninsk 143.53 44 *e*PKPpre 05 06 01.5
OBN *i* PKP PKPdf 05 06 05.8 -0.9
OBN LR LR
comp=Z,2μm,17.0s,MS5.9
MDJ Mudanjiang 143.84 298 PKP PKPdf 05 06 06.2 -1.4
MDJ APKP 05 06 09.6
MDJ XPKP 05 06 10.9
MDJ SS SS 05 28 06.5 +4.0
MDJ PP PP
comp=Z,476nm,9.8s
MDJ LR LR
comp=N,1μm,21.0s,MS5.8
MDJ LR LR
comp=E,2μm,23.2s,MS5.8
MDJ LR LR
comp=Z,2μm,21.8s,MS5.9
MOS Moscow 143.98 43 *e*PKIKP PKPdf 05 06 03.3 -4.2
MOS pmax pmax
comp=Z,121nm,1.3s
MOS MLR MLR
comp=Z,2μm,20.0s,MS6.0
MOS MLR MLR
comp=E,2μm,21.5s
HILS Ha'il 144.30 93 P PKPbc 05 06 06.5 +1.1
ARSS Ar Rass 144.81 96 P PKPbc 05 06 08.1 +1.2
ANN Anapa 144.94 62 *i* PKHKP 05 06 04.2
ANN *e* 05 13 14.9
ANN pmax pmax
comp=Z,712nm,6.3s
MALT Malatya 144.95 73 *e*PKP PKPdf 05 06 08.2 -1.7
KULM Kulim 144.99 212 *e*PKP PKPdf 05 06 07.3 -3.3
TATO Taipei 145.01 262 PFAKE 05 06 20.0 +13
TATO LR LR
comp=Z,892nm,19.0s,MS5.6
INCN Inchon 145.13 285 PFAKE 05 06 20.0 +13

INCN				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
CLNS	Chul'man	145.28	320	ePKP2	PKPab	05 06 06.4	-2.2
CLNS				pmax	pmax		
	comp=Z,70nm,1.0s						
CLNS				pmax	pmax		
	comp=N,16nm,0.8s						
CLNS				pmax	pmax		
	comp=E,16nm,1.0s						
VOR	Voronezh	145.69	49	ePKIKP	PKPdf	05 06 09.5	-1.1
VOR				pmax	pmax		
	comp=E,80nm,2.0s						
VOR				pmax	pmax		
	comp=Z,250nm,2.0s						
SOC	Sochi	146.53	64c	iPKP2	PKPab	05 06 12.5	-1.4
SOC				e		05 13 13.4	
SOC				e		05 22 21.6	
SOC				eSS	SS	05 28 28.5	-4.3
SOC				eSSS	SSS	05 34 04.8	+0.6
SOC				e		06 03 44.4	
SOC				pmax	pmax		
	comp=N,17nm,0.9s						
SOC				pmax	pmax		
	comp=E,12nm,0.9s						
SOC				pmax	pmax		
	comp=Z,53nm,0.9s						
SOC				MLR	MLR		
	comp=N,408nm,19.0s,MS5.6						
SOC				MLR	MLR		
	comp=E,915nm,19.0s,MS5.6						
SOC				MLR	MLR		
	comp=Z,763nm,19.0s,MS5.5						
CN2	Changchun	146.78	296	ePKP	PKPdf	05 06 10.9	-1.9
CN2				PP	PP	05 09 41.5	+2.1
CN2				SS	SS	05 28 40.5	+4.7
CN2				PP	PP		
	comp=Z,320nm,8.0s						
CN2				LR	LR		
	comp=N,900nm,21.0s,MS5.7						
CN2				LR	LR		
	comp=E,900nm,21.0s,MS5.7						
CN2				LR	LR		
	comp=Z,1µm,21.0s,MS5.7						
PECR	Pechory	147.27	40	ePKP2	PKPab	05 06 14.4	-1.9
PECR				pmax	pmax		
	comp=Z,700nm,1.6s						
PECR				pmax	pmax		
	comp=Z,1µm,8.0s						
QZH	Quanzhou	147.31	260	PKP	PKPdf	05 06 14.2	0.0
QZH				PP	PP	05 09 45.0	+1.9
QZH				PP	PP		
	comp=Z,700nm,3.9s						
QZH				LR	LR		
	comp=N,3µm,19.7s,MS6.1						
QZH				LR	LR		
	comp=E,580nm,15.0s,MS6.1						
QZH				LR	LR		
	comp=Z,2µm,25.7s						
SSE	Sheshan	147.75	272	PKP	PKPdf	05 06 15.3	+0.5
SSE				PP	PP	05 09 50.0	+4.4
SSE				PP	PP		
	comp=Z,188nm,7.2s						
SSE				LR	LR		
	comp=N,711nm,28.5s,MS5.5						
SSE				LR	LR		
	comp=E,714nm,28.5s,MS5.5						
SSE				LR	LR		
	comp=Z,751nm,25.1s,MS5.4						
SNY	Shenyang	148.06	293	PKPR		05 06 15.0	
SNY				PP	PP		
	comp=Z,340nm,5.1s						
SNY				LR	LR		
	comp=E,1µm,19.8s						
SNY				LR	LR		
	comp=Z,530nm,21.3s,MS5.3						
KIV	Kislovodsk	148.69	63	i PKIKP	PKPdf	05 06 16.4	+0.6
KIV				e		05 09 44.1	
KIV				eSS	SS	05 28 52.9	-4.1
KIV				pmax	pmax		
	comp=N,11nm,1.1s						
KIV				pmax	pmax		
	comp=Z,31nm,1.1s						
KIV	Kislovodsk	148.69	63	ePKPbc	PKPdf	05 06 18.2	+2.3
KIV				LR	LR		
	comp=Z,239nm,22.0s,MS4.9						
GOF	Gofitskoye	148.92	61	ePKP2	PKPab	05 06 18.5	-4.8
GOF				pmax	pmax		
	comp=Z,100nm,1.1s						
ONI	Oni	149.23	66	P	PKPdf	05 06 16.1	-0.6
DL2	Dalian	149.26	287	PKP	PKPdf	05 06 17.8	+0.9
DL2				SKKS		05 16 39.2	
DL2				SS	SS	05 29 11.2	+7.8
DL2				PP	PP		
	comp=Z,180nm,6.9s						
DL2				LR	LR		
	comp=N,280nm,20.4s,MS5.6						
DL2				LR	LR		
	comp=E,920nm,21.4s,MS5.6						
DL2				LR	LR		
	comp=Z,1µm,21.2s,MS5.7						
ZEI	Tsey	149.57	66	ePKHKP		05 06 17.5	
NJ2	Nanjing	149.94	272	ePKP	PKPdf	05 06 20.7	+2.5
NJ2				PKP2	PKPab	05 06 35.2	+7.3
NJ2				PP	PP	05 09 58.0	+0.3
NJ2				SKKS		05 16 44.0	
NJ2				PP	PP		
	comp=Z,540nm,9.6s						
NJ2				LR	LR		
	comp=N,2µm,31.0s						
NJ2				LR	LR		
	comp=E,2µm,23.1s						
NJ2				LR	LR		
	comp=Z,1µm,26.8s,MS5.5						
GNI	Garni	150.06	71	i PKHKP		05 06 19.0	
GNI	Garni	150.06	71	PKPbc	PKPdf	05 06 22.4	+4.2
GNI				LR	LR		
	comp=Z,1µm,21.0s,MS5.7						
TI2	Plekhanov	150.17	68	ePKIKP	PKPdf	05 06 19.0	+0.7
MTA	Mtatsminda	150.20	68	P	PKPdf	05 06 22.6	+4.3
BOD	Bodaibo	150.21	326	ePKIKP	PKPdf	05 06 17.8	0.0
BOD				pmax	pmax		
	comp=Z,24nm,1.6s						
HIA	Hailar	150.26	307	ePKPbc	PKPdf	05 06 20.6	+2.5
QIZ	Qiongzhong	150.60	241	PKP	PKPdf	05 06 13.8	-5.8
QIZ				PP	PP	05 10 03.2	+1.2
QIZ				LR	LR		
	comp=E,917nm,21.2s						
QIZ				LR	LR		
	comp=Z,1µm,23.1s,MS5.6						
PALK	Pallekele	151.00	176	PFAKE		05 06 30.0	+10
PALK				LR	LR		
	comp=Z,933nm,20.0s,MS5.6						
SOKR	Solikamsk	151.33	28c	iPKIKP	PKPdf	05 06 25.2	+5.8
SOKR				pmax	pmax		
	comp=Z,40nm,0.9s						
MAK	Makhachkala	152.22	65	ePKIKP	PKPdf	05 06 22.0	+0.7
MAK				i		05 13 17.0	
MAK				pmax	pmax		
	comp=Z,1µm,6.5s						
ARU	Arti	154.13	31	i PKIKP	PKPdf	05 06 22.0	-1.5
ARU	Arti	154.13	31	ePKPdf	PKPdf	05 06 21.9	-1.6
ARU				LR	LR		
	comp=Z,361nm,20.0s,MS5.2						
SVE	Sverdlovsk	154.70	29⇓	ePKIKP	PKPdf	05 06 24.0	-0.2
SVE				e	PKPab	05 06 45.0	-2.1
SVE				e	SKS	05 13 34.0	+3.8
SVE				e		05 29 56.0	
SVE				eSS		05 30 52.0	
SVE				pmax	pmax		
	comp=Z,75nm,2.7s						
NANT	Nan	156.43	227	P	PKPdf	05 06 26.0	-1.6
CMAR	Chiang Mai Arr	157.16	223	PKPbc	PKPdf	05 06 39.5	+11
	comp=Z,0.9nm,0.4s,baz=207,slow=2.0,SNR=5.0						
CMAR				PKPab	PKPab	05 06 58.4	-0.4
	comp=Z,3.0nm,0.8s,baz=192,slow=2.8,SNR=6.2						
CHG	Chiang Mai	157.45	224	P	PKPab	05 07 05.7	+5.7
	comp=Z,13nm,1.3s						
IRK	Irkutsk	158.00	323	ePKP2	PKPab	05 06 59.4	-2.0
IRK				pmax	pmax		
	comp=Z,64nm,2.8s						
TLY	Talaya	158.65	322	i PKIKP	PKPdf	05 06 25.5	-4.0
TLY	Talaya	158.65	322	i PKP2	PKPab	05 07 05.0	+0.8
TLY				eSSS	SSS	05 36 54.7	+3.8
TLY				pmax	pmax		
	comp=Z,22nm,1.4s						
TLY	Talaya	158.65	322	PFAKE		05 06 40.0	+10
TLY				LR	LR		
	comp=Z,572nm,20.0s,MS5.4						
ULN	Ulaanbaatar	158.70	310	PFAKE		05 06 40.0	+10
ULN				LR	LR		
	comp=Z,3µm,22.0s,MS6.1						
SONM	Songino Array	159.12	311	PKP	PKPdf	05 06 26.8	-3.4
	comp=Z,0.9nm,0.9s,baz=135,slow=1.7,SNR=6.6						
SONM				PKPab	PKPab	05 07 04.9	-1.4
	comp=Z,3.0nm,1.0s,baz=56,slow=4.5,SNR=3.8						
SONM				PP	PP	05 10 49.3	+1.1
	comp=Z,1.3nm,0.9s,baz=80,slow=4.3,SNR=3.8						
KMI	Kunming	159.54	242	PKP	PKPdf	05 06 25.3	-6.1
KMI				APKP		05 06 28.6	
KMI				XPKP		05 06 29.8	
ZAK	Zakamensk	159.61	320	ePKIKP	PKPdf	05 06 26.4	-4.3
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
BVAR	Borovoye Array	161.20	24	PKP	PKPdf	05 06 30.7	-1.5
	comp=Z,4.2nm,0.8s,slow=1.5,SNR=19						
ZAL	Zalesovo	162.35	356	PKIKP	PKPdf	05 06 30.7	-2.6
ZAL						05 11 05.7	
ZAL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAL	Zalesovo	162.35	356	PKP	PKPdf	05 06 30.7	-2.7
	comp=Z,4.0nm,1.0s,baz=210,slow=1.5,SNR=14						
ZAL				PP	PP	05 11 05.7	+0.6
	comp=Z,1.1nm,0.7s,baz=73,slow=2.4,SNR=3.5						
ZAL	Zalesovo	162.35	356	PKP	PKPdf	05 06 30.7	-2.7
ZAL				PP	PP	05 11 05.7	+0.6
LZH	Lanzhou	162.97	275	PKP	PKPdf	05 06 36.3	+1.8
LZH				SKKS		05 17 53.0	
LZH				PP	PP		
	comp=Z,780nm,5.2s						
LZH				LR	LR		
	comp=E,4µm,20.0s						
LZH				LR	LR		
	comp=Z,4µm,21.0s						
GTA	Gaotai	166.18	288	PKP	PKPdf	05 06 35.3	-2.2
GTA				APKP		05 06 39.5	
GTA				XPKP		05 06 42.9	
GTA				PKS	PKS	05 10 04.6	-1.2
GTA				SKS	SKS	05 13 33.8	-7.0
GTA				PPP	PPP	05 15 22.9	+0.7
GTA				SKKS		05 18 09.4	
GTA				PP	PP		
	comp=Z,542nm,7.2s						
GTA				LR	LR		
	comp=N,2µm,22.4s						
GTA				LR	LR		
	comp=E,1µm,18.2s						
GTA				LR	LR		
	comp=Z,2µm,20.9s						
SHL	Shillong	166.71	219	eP	PKPab	05 07 37.7	-2.3
MKAR	Makanchi Array	169.56	2	PKIKP	PKPdf	05 06 36.5	-2.8
MKAR						05 07 51.2	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	Makanchi Array	169.56	2	PKP	PKPdf	05 06 36.5	-2.9
	comp=Z,2.2nm,0.9s,baz=270,slow=2.4,SNR=7.5						
MKAR				PKPab	PKPab	05 07 51.1	-0.7
	comp=Z,2.9nm,0.8s,slow=2.9,SNR=4.5						
MKAR	Makanchi Array	169.56	2	PKP	PKPdf	05 06 36.5	-2.9
MKAR				PKPab	PKPab	05 07 51.1	-0.7
LSA	Lhasa	170.33	229	ePKP	PKPdf	05 06 40.2	-0.2
LSA				PP	PP		
	comp=Z,400nm,11.0s						
LSA				LR	LR		
	comp=N,930nm,36.0s						
LSA				LR	LR		
	comp=E,930nm,38.0s						
LSA				LR	LR		
	comp=Z,1µm,30.0s						
FRU	Bishkek	170.98	42	ePKIKP	PKPdf	05 06 39.0	-1.3
AAK	Ala-Archa	171.05	43	PFAKE		05 06 50.0	+10
AAK				LR	LR		
	comp=Z,610nm,20.0s						
WMQ	Urumqi	171.63	335	PKP	PKPdf	05 06 39.6	-1.1
WMQ				APKP		05 06 43.0	
WMQ				XPKP		05 06 44.3	
WMQ				PP	PP	05 11 55.0	+2.2
WMQ				PP	PP		
	comp=Z,489nm,10.9s						
WMQ				LR	LR		
	comp=N,354nm,24.6s						
WMQ				LR	LR		
	comp=E,352nm,23.8s						
WMQ				LR	LR		
	comp=Z,976nm,24.6s						
DDI	Dehra Dun	172.82	145	e	PKPdf	05 06 41.0	-0.8
KSH	Kashi	173.78	57	ePKP	PKPdf	05 06 42.4	+0.6
KSH				ePP	PP	05 12 01.2	-2.5
KSH				LR	LR		
	comp=N,1µm,12.8s						
KSH				LR	LR		
	comp=E,1µm,8.4s						

*MOS **10** 04:46:57.4±0.9, 51.24N×156.98E, h135km, mb3.8/7, Error ellipse: s-maj=22.7km s-min=6.8km az=69.1*
*KRSC **10** 04:46:58.8±1.4, 51.07N×157.49E, h112km±5km, ML4.8*
*IDC **10** 04:46:58.8±3.1, 51.39N×156.80E, h130km±30km, mb3.5/12, mb1 3.9/15, mb1mx3.7/23, mbtmp4.1/15, Error ellipse: s-maj=21.8km s-min=13.8km az=150.0*
*NEIC **10** 04:46:59.4±0.9, 51.34N×156.88E, h138km±9km, mb4.3/6, Error ellipse: s-maj=13.6km s-min=7.7km az=135.0*
ISC 10 04:46:58.5±0.4**, 51.22N**±0.05×**157.16E**±0.09**, h144**km±3km**, n86, σ1§19**/122**, mb3.7**/14**, 1C-1D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.33	319	i P	P	04 47 18.4	-0.6
PAU				eS	S	04 47 32.9	-1.7
PAU				Smax			
	4µm,0.4s						
SKR	Severo-Kuril's	0.85	231⇓	iPN	P	04 47 17.4	-4.4
SKR				i S	S	04 47 33.4	-6.2
SKR				pmax	pmax		
	comp=Z,830nm,0.2s						
SKR				pmax	pmax		
	comp=N,730nm,0.5s						
SKR				pmax	pmax		
	comp=E,1µm,0.5s						
SKR				smax			
	comp=N,2µm,1.0s						
SKR				smax			
	comp=E,5µm,1.0s						
SKR	Severo-Kuril's	0.85	231	i P	P	04 47 17.4	-4.4
SKR				i S	S	04 47 33.4	-6.2
ALID	Alaid	1.08	252	i P	P	04 47 23.5	-0.1
ALID				i S	S	04 47 41.7	-1.2
MIPR	Malaya Ipel'ka	1.09	347	eP	P	04 47 25.5	+1.8
MIPR				eS	S	04 47 45.1	+2.0
GRL	Gorelyy	1.45	23	i P	P	04 47 28.3	+0.8
GRL				i S	S	04 47 50.2	+0.5
RUS	Russkaya	1.48	34	P	P	04 47 27.1	-0.6
RUS				S	S	04 47 48.0	-2.2
RUS	Russkaya	1.48	34	i P	P	04 47 27.1	-0.6
RUS				i S	S	04 47 48.1	-2.1
APC	Apacha	1.71	360	i P	P	04 47 31.4	+1.1
APC				i S	S	04 47 55.4	+0.7
APC				Smax			
	comp=E,2µm,0.8s						
PET	Petropavlovsk	2.03	26	P	P	04 47 34.3	+0.3
PET				S	S	04 48 00.5	-0.7
PET	Petropavlovsk	2.03	26⇑	iP	P	04 47 34.3	+0.3
PET				eS	S	04 48 00.3	-0.8
PET	Petropavlovsk	2.03	26	i P	P	04 47 34.4	+0.4
PET				i S	S	04 48 00.5	-0.7
UGLR	Uglovaya	2.24	26	i P	P	04 47 37.7	+1.1
UGLR				eS	S	04 48 05.5	-0.3
KOK	Koryaka	2.27	23	i P	P	04 47 38.6	+1.6
KOK				i S	S	04 48 05.3	-1.1
AVH	Avacha	2.27	25	i P	P	04 47 38.3	+1.3
AVH				i S	S	04 48 06.8	+0.4
SMAR	Somma	2.28	26	i P	P	04 47 38.2	+1.0
SMAR				eS	S	04 48 06.8	0.0
SDLR	Sedlovina	2.32	26	i P	P	04 47 38.3	+0.7
SDLR				eS	S	04 48 06.8	-0.8
NLC	Nalytchevo	2.37	34	P	P	04 47 37.2	-1.1
NLC				S	S	04 48 04.9	-3.9
NLC	Nalytchevo	2.37	34	i P	P	04 47 37.2	-1.1
NLC				i S	S	04 48 05.0	-3.8
GNL	Ganaly	2.53	11	i P	P	04 47 41.5	+1.2
GNL				eS	S	04 48 12.0	-0.2
SPN	Mys Shipunski	2.58	42	P	P	04 47 40.2	-0.8
SPN				S	S	04 48 10.1	-3.3
SPN	Mys Shipunski	2.58	42	i P	P	04 47 40.2	-0.8
SPN				i S	S	04 48 10.0	-3.4
KII	Karymskiy	3.15	25	eP	P	04 47 48.3	0.0
KII				eS	S	04 48 24.1	-2.3
MKZ	Mys Kozlova	4.34	38	P	P	04 48 02.7	-1.3
MKZ				S	S	04 48 49.2	-5.1
MKZ	Mys Kozlova	4.34	38	i P	P	04 48 02.7	-1.3
MKZ				i S	S	04 48 50.7	-3.6
TUMR	Tumrok	4.45	23	i P	P	04 48 06.7	+1.3
TUMR				eS	S	04 48 56.2	-0.7
ESO	Esso	4.80	10	i P	P	04 48 11.1	+1.0
ESO				eS	S	04 49 03.5	-1.9
ESO				Smax			
	comp=E,50nm,0.9s						
KMNR	Kamenistaya	4.90	21	i P	P	04 48 12.6	+1.1
KMNR				eS	S	04 49 08.5	+0.8
KPT	Kopyto	5.09	20	i P	P	04 48 14.5	+0.5
KPT				eS	S	04 49 07.3	-5.0
KOZ	Kozyrevsk	5.11	17	i P	P	04 48 14.8	+0.6
KOZ				eS	S	04 49 09.4	-3.3
KOZR	Kozyr	5.12	17	PN	P	04 48 14.8	+0.4
ZLN	Zelenaya	5.27	23	i P	P	04 48 18.6	+2.2
LGNR	Loginova	5.31	22	eP	P	04 48 18.7	+1.9
LGNR				eS	S	04 49 16.6	-0.8
SRDR	Sredinnyy	5.33	16	i P	P	04 48 18.4	+1.3
CIRR	Tsirk	5.35	22	i P	P	04 48 19.8	+2.4
CIRR				eS	S	04 49 18.6	+0.2
KRSR	Krestovskiy	5.40	21	i P	P	04 48 18.3	+0.3
KLY	Klyuchi	5.51	21	P	P	04 48 21.2	+1.7
KLY	Klyuchi	5.51	21	i P	P	04 48 21.0	+1.5
KLY				eS	S	04 49 20.2	-2.0
KBTR	Krutoberegovo	6.02	32	P	P	04 48 25.5	-0.8
KBTR				S	S	04 49 29.2	-5.4
KBTR	Krutoberegovo	6.02	32	eP	P	04 48 25.7	-0.6
KBTR				eS	S	04 49 29.1	-5.5
BKI	Bering	6.63	50	eP	P	04 48 32.9	-1.7
BKI				eS	S	04 49 40.8	-8.4
BKI				Smax			
	comp=E,310nm,0.3s						
FX1	Attu Island--F	10.00	74	P	P	04 49 19.6	+0.3
	comp=E,7.6nm,0.3s,baz=278,slow=4.4,SNR=34						
FX1				S	S	04 51 04.5	-5.1
	comp=E,25nm,0.3s,baz=149,slow=21,SNR=19						
FX1	Attu Island--F	10.00	74	eP	P	04 49 19.4	+0.1
ASAJ	Asahikawa	12.11	240	PN	P	04 49 47.3	+0.3
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ	Asahikawa	12.11	240	P	P	04 49 47.2	+0.3
	comp=Z,4.7nm,0.3s,baz=88,slow=11,SNR=30						
KAMR	Kamenskoye	12.29	20	eP	P	04 49 50.7	+1.4
KAMR				eS	S	04 51 56.4	-7.2
BILL	Bilibino	17.45	11	eP	P	04 50 53.7	-0.3
BILL				pmax	pmax		
	comp=Z,31nm,0.5s						
BILL	Bilibino	17.45	11	eP	P	04 50 53.7	-0.3
	comp=Z,31nm,0.5s						
MJAR	Matsushiro Arr	19.96	230	P	P	04 51 20.7	-0.4
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	Matsushiro Arr	19.96	230	P	P	04 51 20.7	-0.5
	comp=Z,1.7nm,0.3s,baz=18,slow=10.0,SNR=31						
MJAR	Matsushiro Arr	19.96	230	P	P	04 51 20.7	-0.5
MAJO	Matsushiro	19.96	230	eP	P	04 51 20.2	-0.9
MAJO				pmax	pmax		
	comp=Z,25nm,0.8s						
MAJO	Matsushiro	19.96	230	eP	P	04 51 20.2	-0.9
	comp=Z,25nm,0.8s						
MAT	Matsushiro	19.96	230	eP	P	04 51 21.0	-0.1
MAT				pmax	pmax		
	comp=Z,14nm,0.7s						
MAT	Matsushiro	19.96	230	eP	P	04 51 21.0	-0.1
	comp=Z,14nm,0.7s						
MAT	Matsushiro	19.96	230	P	P	04 51 20.9	-0.2
ILAR	Eielson Array	31.42	43	P	P	04 53 06.5	-1.2
	comp=Z,1.2nm,0.8s,mb3.7,baz=259,slow=7.6,SNR=14						
SONM	Songino Array	32.59	284	pP	pP	04 53 48.2	-0.9
	comp=Z,0.1nm,0.4s,baz=51,slow=9.2,SNR=3.0						
INK	Inuvik	36.45	36	P	P	04 53 51.4	+0.9
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	36.45	36	P	P	04 53 51.4	+0.9
	comp=Z,1.2nm,0.5s,mb3.8,baz=294,slow=8.9,SNR=6.3						
INK	Inuvik	36.45	36	eP	P	04 53 51.3	+0.8
	comp=Z,2.2nm,0.7s,mb3.9						
YKA	Yellowknife Ar	45.77	40	P	P	04 55 06.4	-0.1
	comp=Z,0.3nm,0.3s,mb3.4,baz=298,slow=7.9,SNR=3.6						
MKAR	Makanchi Array	47.34	296	pP	pP	04 55 49.7	-2.1
	comp=Z,1.7nm,0.8s,baz=59,slow=7.1,SNR=7.2						
BVAR	Borovoye Array	50.13	308	P	P	04 55 36.9	-3.5
	comp=Z,0.6nm,0.3s,mb3.6,baz=44,slow=7.6,SNR=5.6						
BVAR				pP	pP	04 56 11.1	-2.5
	comp=Z,1.1nm,0.5s,baz=47,slow=8.5,SNR=4.7						
ARCES	ARCESS Array B	54.49	341	P	P	04 56 10.2	-2.5
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	ARCESS Array B	54.49	341	P	P	04 56 10.2	-2.4
	comp=Z,0.5nm,0.4s,mb3.6,baz=44,slow=7.9,SNR=10.0						
PDAR	Pinedale Array	60.03	58	P	P	04 56 53.4	+1.4
	comp=Z,0.8nm,0.8s,mb3.6,baz=342,slow=4.7,SNR=7.4						
KAF	Kangasniemi	60.48	336	ep	P	04 56 51.2	-3.5
	comp=Z,0.9nm,0.6s,mb3.8						
KAF	Kangasniemi	60.48	336	eP	P	04 56 51.2	-3.5
KAF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
FINES	FINESS Array B	61.10	336	P	P	04 56 56.9	-2.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	61.10	336	P	P	04 56 56.9	-2.1
	comp=Z,0.7nm,0.5s,mb3.7,baz=35,slow=6.9,SNR=9.0						
FINES	FINESS Array B	61.10	336	P	P	04 56 56.9	-2.1
SRU	San Rafael	62.05	62	eP	P	04 57 06.2	+0.6
PV10	Paradox Valley	63.39	61	eP	P	04 57 15.3	+0.9
NB2	NORSAR Subarra	64.81	342	P	P	04 57 21.9	-1.4
	comp=Z,0.4nm,0.5s,mb3.5,baz=18,slow=7.0						
NOA	NORSAR Array B	64.81	342	P	P	04 57 21.7	-1.5
	comp=Z,0.3nm,0.4s,mb3.5,baz=25,slow=6.7,SNR=3.3						
SCHQ	Schefferville	68.14	26	P	P	04 57 44.0	-0.3
	comp=Z,1.8nm,0.6s,mb4.0,baz=300,slow=8.8,SNR=4.3						
SCHQ	Schefferville	68.14	26	P	P	04 57 44.0	-0.4
TXAR	Lajitas Array	73.06	64	P	P	04 58 15.6	+1.4
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TXAR	Lajitas Array	73.06	64	P	P	04 58 15.6	+1.4
	comp=Z,2.2nm,0.5s,mb4.1,baz=297,slow=5.0,SNR=19						
CLL	Collm	73.43	337	P	P	04 58 16.0	+0.1
	comp=Z,logA/T=0.8,mb4.3						
WRAB	Tennant Creek	73.62	202	eP	P	04 58 17.1	-0.6
WRA	Warramunga Arr	73.64	202	P	P	04 58 17.3	-0.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	Warramunga Arr	73.64	202	P	P	04 58 17.3	-0.5
	comp=Z,1.0nm,0.7s,mb3.7,baz=17,slow=6.3,SNR=6.3						
GERES	GERESS Array B	75.53	336	P	P	04 58 27.8	-0.2
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	75.53	336	P	P	04 58 27.8	-0.2
	comp=Z,0.5nm,0.5s,mb3.4,slow=2.7,SNR=4.5						

*MOS **10** 05:37:39.0±1.6, 33.45N×141.30E, h37km, mb4.2/7, Error ellipse: s-maj=29.2km s-min=9.7km az=115.8*
*JMA **10** 05:37:40.8±0.2, 33.51N×141.16E, h48km, M4.1*
JMA Felt I J1.
*IDC **10** 05:37:40.8±4.1, 33.44N×141.18E, h34km±30km, mb3.6/10, mb1 3.8/13, mb1mx3.7/22, mbtmp4.0/13, ML4.4/3, Error ellipse: s-maj=25.0km s-min=15.5km az=77.0*
*NEIC **10** 05:37:42.8±1.3, 33.41N×141.04E, h50km±10km, mb4.6/5, Error ellipse: s-maj=18.8km s-min=8.3km az=78.0*
NEIC Recorded [1 JMA] on Hachijo-jima.
ISC 10 05:37:39.9±0.9**, 33.43N**±0.04×**141.22E**±0.08**, h43**km±7km**, n54, σ0§89**/62**, mb4.1**/17**, 1D, Off east coast of Honshu**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.22	255	P	P	05 38 01.7	+1.0
JHJ2				eS	S	05 38 16.8	+0.5
BSO1	Boso 1	1.23	351	P	P	05 38 01.0	+0.1
JHJ	Hachijo jima 2	1.24	256	Pn	P	05 38 01.5	+0.4
	1μm,0.3s,baz=100,slow=1.6,SNR=321						
JHJ				Sn	S	05 38 16.4	-0.5
	2μm,0.3s,baz=75,slow=20,SNR=36						
BSO3	Boso 3	1.49	337	P	P	05 38 04.7	+0.1
JMY	Miyakejima3	1.56	295	P	P	05 38 05.8	+0.2
BSO4	Boso 4	1.72	335	P	P	05 38 08.1	+0.2
KTR	Katsuura	1.87	337	P	P	05 38 10.2	+0.2
KTR				eS	S	05 38 31.6	-0.9
NJJJ	Nii jima 2	1.88	302	P	P	05 38 10.4	+0.3
JKO	Kozu shima	1.89	294	P	P	05 38 10.6	+0.3
JIM2	Oshima 3	1.96	311	P	P	05 38 11.0	-0.3
KTJJ	Kamata 2	2.33	310	P	P	05 38 16.0	-0.5
JIZS	Izushimoda	2.33	304	P	P	05 38 16.8	+0.2
JOD2	Odawara 2	2.54	317	P	P	05 38 19.2	-0.4
TK04	Tokai 4	2.94	290	P	P	05 38 26.0	+0.7
SHZ3	Shizuoka 3	2.98	304	P	P	05 38 26.9	+1.1
JYN	Shimob	3.02	314	P	P	05 38 26.8	+0.4
MJAR	Matsushiro Arr	3.97	322	P	P	05 38 39.8	0.0
MJAR						05 39 24.7	
MJAR				pmax	pmax		
	comp=Z,23nm,0.3s						
MJAR	Matsushiro Arr	3.97	322	Pn	P	05 38 39.8	0.0
	comp=Z,23nm,0.3s,baz=154,slow=10,SNR=100						
MJAR				Sn	S	05 39 24.7	-1.0
	comp=Z,6.9nm,0.3s,baz=166,slow=26,SNR=6.3						
MAJO	Matsushiro	3.97	322	⇓eP	P	05 38 40.7	+0.9
MAJO				eS	S	05 39 25.3	-0.4
MAT	Matsushiro	3.97	322	eP	P	05 38 40.0	+0.2
MAT				eS	S	05 39 24.0	-1.7
MAT	Matsushiro	3.97	322	P	P	05 38 39.9	+0.1
MAT				S	S	05 39 24.4	-1.3
CBIJ	Chichi jima	6.37	172	Pn	P	05 39 11.4	-2.1
	comp=Z,45nm,0.3s,baz=11,slow=7.7,SNR=39						
CBIJ				Sn	S	05 40 20.4	-5.6
	comp=Z,15nm,0.3s,baz=217,slow=20,SNR=2.9						
ASAJ	Asahikawa	10.72	5	P	P	05 40 10.0	-3.7
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	Asahikawa	10.72	5	Pn	P	05 40 10.0	-3.7
	comp=Z,1.9nm,0.3s,baz=211,slow=11,SNR=9.7						
SONM	Songino Array	29.80	309	P	P	05 43 43.9	-0.8
	comp=Z,0.8nm,0.5s,mb3.7,baz=113,slow=9.4,SNR=5.6						
ZAK	Zakamensk	32.49	313	eP	P	05 44 09.6	+1.3
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.6						
TLY	Talaya	32.67	315	eP	P	05 44 10.3	+0.4
TLY				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
MKAR	Makanchi Array	45.98	305	P	P	05 45 59.5	-0.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	45.98	305	P	P	05 45 59.5	-1.0
	comp=Z,0.7nm,0.5s,mb3.8,baz=90,slow=9.7,SNR=5.7						
BVAR	Borovoye Array	52.92	314	P	P	05 46 52.8	-0.9
	comp=Z,0.4nm,0.4s,mb3.7,baz=80,slow=9.0,SNR=6.0						
FITZ	Fitzroy Crossi	53.36	199	eP	P	05 46 57.3	-0.1
	comp=Z,4.6nm,0.7s,mb4.5						
WRAB	Tennant Creek	53.47	188	eP	P	05 46 57.5	-0.7
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
WRAB	Tennant Creek	53.47	188	eP	P	05 46 57.5	-0.7
	comp=Z,7.2nm,0.5s,mb4.9						
WB2	Warramunga Arr	53.48	188	eP	P	05 46 57.5	-0.7
WRA	Warramunga Arr	53.48	188	P	P	05 46 57.7	-0.5
WRA				pmax	pmax		
	comp=Z,9.0nm,0.4s						
WRA	Warramunga Arr	53.48	188	P	P	05 46 57.7	-0.6
	comp=Z,8.5nm,0.4s,mb5.1,baz=5.2,slow=7.6,SNR=76						
ZRNK	Zerenda	53.76	314	eP	P	05 46 59.1	-0.8
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	Zerenda	53.76	314	eP	P	05 46 59.1	-0.8
	comp=Z,1.8nm,0.6s,mb4.2						
ARU	Arti	58.98	320	eP	P	05 47 35.8	-1.3
ARU				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
ARU	Arti	58.98	320	eP	P	05 47 35.8	-1.3
	comp=Z,3.3nm,0.5s,mb4.6						
STKA	Stephens Creek	64.96	180	P	P	05 48 16.9	-0.6
	comp=Z,1.7nm,0.7s,mb4.2,baz=214,slow=23,SNR=4.0						
ARCES	ARCESS Array B	67.31	340	P	P	05 48 31.9	+0.2
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	ARCESS Array B	67.31	340	P	P	05 48 31.9	+0.2
	comp=Z,0.7nm,0.8s,mb3.7,baz=49,slow=9.6,SNR=3.5						
FINES	FINESS Array B	71.93	333	P	P	05 49 00.3	+0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	71.93	333	P	P	05 49 00.2	+0.2
	comp=Z,0.6nm,0.5s,mb3.8,baz=76,slow=7.9,SNR=6.9						
AKASG	Malin Array Be	77.05	323	P	P	05 49 29.6	-0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	77.05	323	P	P	05 49 29.6	-0.2
	comp=Z,0.5nm,0.4s,mb3.8,baz=49,slow=5.7,SNR=6.7						
NB2	NORSAR Subarra	77.44	338	P	P	05 49 33.0	+1.2
	comp=Z,1.8nm,1.0s,mb4.0,baz=41,slow=5.3						
NB2	NORSAR Subarra	77.44	338	P	P	05 49 33.0	+1.2
NB2				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
NOA	NORSAR Array B	77.44	338	P	P	05 49 31.9	+0.2
	comp=Z,0.2nm,0.6s,mb3.2,baz=50,slow=4.3,SNR=3.1						
BRTR	Keskin Array B	81.13	312	P	P	05 49 54.1	+2.0
	comp=Z,0.4nm,0.3s,mb3.8,baz=106,slow=9.0,SNR=4.6						
PV10	Paradox Valley	83.28	48	eP	P	05 50 04.0	+0.7
CLL	Collm	84.14	330	P	P	05 50 10.0	+2.7
TXAR	Lajitas Array	92.44	52	P	P	05 50 50.3	+2.8
	comp=Z,0.2nm,0.5s,mb3.7,baz=270,slow=3.8,SNR=3.8						

IDC 10 06:52:49.2±1.7**, 2.69N**×**126.65E, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.6**/18**, mbtmp3.9**/4**, Error ellipse: s-maj=107.6km s-min=23.5km az=68.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.69	183	eP	P	06 57 32.2	-1.4
	4.0nm,0.6s						
FITZ	Fitzroy Crossi	20.69	183	P	P	06 57 32.2	-1.4
	4.6nm,0.5s,baz=5.9,slow=16,SNR=7.5						
WRA	Warramunga Arr	23.73	162	P	P	06 58 02.1	-1.9
	1.3nm,0.4s,baz=339,slow=11,SNR=9.5						
WB2	Warramunga Arr	23.73	162	eP	P	06 58 02.7	-1.3
STKA	Stephens Creek	37.20	159	P	P	07 00 02.7	-1.4
	1.4nm,0.6s,baz=334,slow=8.3,SNR=7.8						
MKAR	Makanchi Array	58.36	326	P	P	07 02 46.0	-2.6
	0.3nm,0.4s,baz=118,slow=7.6,SNR=7.7						

*IDC **10** 07:07:45.7±0.9, 20.76N×144.18E, mb3.9/11, mb1 4.1/11, mb1mx4.0/20, mbtmp3.9/11, Error ellipse: s-maj=34.7km s-min=21.5km az=85.0*
*NEIC **10** 07:08:03.2±0.8, 20.67N×144.07E, h150km, mb3.9/1, Error ellipse: s-maj=35.4km s-min=18.8km az=84.0*
ISC 10 07:07:48.5±0.8**, 20.7N**±0.1×**144.2E**±0.2**, h33km, n15, σ1^{s}25**/15**, mb3.9**/12**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	40.68	321	P	P	07 15 28.1	+0.7
	0.1nm,0.3s,mb2.9,baz=108,slow=9.1,SNR=2.5						
WRA	Warramunga Arr	41.57	194	P	P	07 15 36.9	+1.9
	0.6nm,0.6s,mb3.4,baz=17,slow=9.1,SNR=4.8						
STKA	Stephens Creek	52.37	183	P	P	07 16 58.1	-1.7
	1.1nm,0.7s,mb3.9,baz=5.2,slow=13,SNR=4.2						
STKA	Stephens Creek	52.37	183	eP	P	07 16 57.8	-2.0
ZAL	Zalesovo	55.56	322	P	P	07 17 22.4	-0.5
	1.2nm,0.3s,mb4.4,baz=85,slow=12,SNR=2.8						
ZAL	Zalesovo	55.56	322	P	P	07 17 22.4	-0.5
MKAR	Makanchi Array	56.05	313	P	P	07 17 26.6	+0.1
	0.6nm,0.9s,mb3.6,baz=101,slow=6.2,SNR=4.0						
ILAR	Eielson Array	62.46	27	P	P	07 18 09.7	-0.9
	0.6nm,0.8s,mb3.8,baz=256,slow=5.8,SNR=6.7						
BVAR	Borovoye Array	64.02	320	P	P	07 18 20.8	-0.2
	1.1nm,0.6s,mb4.0,baz=90,slow=7.4,SNR=7.8						
YKA	Yellowknife Ar	76.85	28	P	P	07 19 40.8	+2.2
	1.1nm,0.8s,mb3.8,baz=292,slow=5.7,SNR=10						
YKA	Yellowknife Ar	76.85	28	P	P	07 19 40.8	+2.2
ARCES	ARCESS Array B	80.13	342	P	P	07 19 58.1	+1.7
	1.2nm,0.8s,mb3.9,baz=63,slow=5.4,SNR=4.6						
KAF	Kangasniemi	83.99	335	ep	P	07 20 14.5	-1.9
	1.4nm,0.7s,mb4.2,baz=54,slow=4.7						
FINES	FINESS Array B	84.45	335	P	P	07 20 18.6	-0.2
	1.4nm,0.7s,mb4.2,baz=72,slow=6.0,SNR=9.9						
NOA	NORSAR Array B	90.18	339	P	P	07 20 45.9	-0.6
	0.6nm,0.8s,mb4.0,baz=45,slow=4.4,SNR=3.4						

*ISK **10** 07:08:27.2, 40.78N×31.71E, h5km, MD3.5*
*IDC **10** 07:08:28.3±1.3, 40.75N×31.61E, mb3.2/2, mb1 3.5/5, mb1mx3.2/24, mbtmp3.4/5, ML3.6/3, Error ellipse: s-maj=28.3km s-min=9.3km az=43.0*
*NEIC **10** 07:08:29.4±0.7, 40.83N×31.80E, h10km, ML3.6(ISK), Error ellipse: s-maj=17.3km s-min=8.2km az=58.0*
*CSEM **10** 07:08:30.6±0.1, 40.76N×31.70E, h40km, MD3.5, Error ellipse: s-maj=2.4km s-min=1.4km az=179.0*
ISC 10 07:08:28.1±0.3**, 40.83N**±0.04×**31.71E**±0.04**, h5km, n38, σ0^{s}93**/43**, mb3.3**/1**, 2C-2D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAFT	Safranbolu	0.84	61	i PG	Pg	07 08 44.9	-0.1
GPA	Golpazari	1.20	244	PN	Pn	07 08 50.3	-1.2
EYL	Eskiyayla	1.21	258	ePN	Pn	07 08 52.2	+0.5
LOD	Lodumlu	1.24	139	PN	Pn	07 08 51.3	-0.8
ANTO	Ankara	1.27	139	PN	Pn	07 08 51.5	-1.0
ANTO				SN	Sn	07 09 09.5	-0.6
CANT	Cankiri	1.47	98	PN	Pn	07 08 55.3	0.0
ESKT	Eskisehir	1.47	207	PN	Pn	07 08 54.8	-0.6
HRT	Hereke	1.55	270	PN	Pn	07 08 57.3	+0.7
TOS	Tosya	1.76	83	PN	Pn	07 09 00.6	+1.0
YLV	Yalova	1.80	262	PN	Pn	07 09 00.7	+0.6
YLV				SN	Sn	07 09 24.7	+1.1
BR131	Keskin Array S	1.84	126	ePn	Pn	07 09 01.0	+0.3
BR131				eS	Sn	07 09 27.2	+2.5
BR131	Keskin Array S	1.84	126	ePn	Pn	07 09 01.0	+0.3
BRTR	Keskin Array B	1.84	126	Pn	Pn	07 09 00.7	-0.1
	33nm,0.3s,baz=302,slow=17,SNR=223						
BRTR				Pg	Pg	07 09 02.8	-2.2
	33nm,0.3s,baz=302,slow=14,SNR=232						
BRTR				Lg		07 09 28.2	
	46nm,0.3s,baz=301,slow=25,SNR=20						
BRTR	Keskin Array B	1.84	126	Pn	Pn	07 09 00.6	-0.1
BRTR	Keskin Array B	1.84	126	Pg	Pg	07 09 02.8	-2.1
KIZT	Kizilcal	1.95	176	PN	Pn	07 09 02.9	+0.6
BADT	Buyukada	1.97	271	PN	Pn	07 09 02.1	-0.4
ISK	Istanbul-Kandi	2.02	277	PN	Pn	07 09 04.7	+1.4
BZK	Bozkurt	2.06	56	PN	Pn	07 09 05.2	+1.4
KAMT	Kaman	2.12	133	ePN	Pn	07 09 04.8	+0.1
ALT	Altintas	2.16	215	PN	Pn	07 09 05.1	-0.2
CORM	Corum	2.32	105	ePN	Pn	07 09 08.1	+0.6
BYBT	Boyabat	2.39	74	PN	Pn	07 09 09.0	+0.4
CTT	Catalca	2.50	278	ePN	Pn	07 09 10.5	+0.3
KCT	Karacabey	2.62	259	ePN	Pn	07 09 11.9	+0.1
DST	Dursunbey	2.66	244	ePN	Pn	07 09 12.6	+0.2
ISP	Isparta	3.13	198	eP	Pn	07 09 18.4	-0.6
TIRR	Tirgusor	4.37	327	⇓P	Pn	07 09 36.9	+0.2
CFR	Carcaliu	5.07	330	⇑P	Pn	07 09 47.5	+0.8
VRI	Vrincioaia	6.21	326	⇓P	Pn	07 10 07.3	+4.6
MLR	Muntele Rosu	6.28	320	Pn	Pn	07 10 04.2	+0.4
	0.4nm,0.3s,baz=293,slow=10,SNR=4.7						
MLR				Sn	Sn	07 11 15.2	-1.6
	0.2nm,0.3s,baz=218,slow=19,SNR=2.5						
MLR	Muntele Rosu	6.28	320	⇑P	Pn	07 10 03.6	-0.1
AKASG	Malin Array Be	10.02	351	Pn	P	07 10 52.0	-3.8
	2.5nm,0.3s,baz=161,slow=13,SNR=12						
GERES	GERESS Array B	15.06	308	Pn	P	07 12 02.9	-0.2
	0.1nm,0.3s,baz=119,slow=10,SNR=3.6						
FINES	FINESS Array B	20.93	352	P	P	07 13 12.3	-1.5
	0.7nm,0.7s,baz=162,slow=8.8,SNR=4.5						
FINES	FINESS Array B	20.93	352	P	P	07 13 12.3	-1.5
HFS	Hagfors	22.33	336	P	P	07 13 26.7	-1.3
	1.1nm,0.9s,mb3.3,baz=124,slow=16,SNR=2.9						
HFS	Hagfors	22.33	336	P	P	07 13 26.6	-1.4

*CSEM **10** 07:28:41.5, 40.74N×31.71E, h5km, MD3.5, After ISK*
ISK 10 07:28:41.5, 40.74N×31.71E, h5km, MD3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAFT	Safranbolu	0.90	56	i PG	Pg	07 28 59.3	-0.1
LOD	Lodumlu	1.18	136	PN	Pn	07 29 05.4	+0.9
EYL	Eskiyayla	1.19	262	PN	Pn	07 29 05.4	+0.6
ANTO	Ankara	1.21	136	PN	Pn	07 29 05.3	+0.3
ANTO				SN	Sn	07 29 23.1	+1.3
ESKT	Eskisehir	1.39	209	PN	Pn	07 29 09.3	+1.8
CANT	Cankiri	1.46	95	PN	Pn	07 29 10.2	+1.6
HRT	Hereke	1.55	274	PN	Pn	07 29 11.5	+1.6
TOS	Tosya	1.78	80	PN	Pn	07 29 15.1	+1.9
YLV	Yalova	1.78	265	PN	Pn	07 29 14.6	+1.4
KIZT	Kizilcal	1.86	176	PN	Pn	07 29 15.8	+1.4
BADT	Buyukada	1.97	274	PN	Pn	07 29 17.7	+1.8
ISK	Istanbul-Kandi	2.03	280	ePN	Pn	07 29 18.1	+1.3
KAMT	Kaman	2.06	131	ePN	Pn	07 29 19.4	+2.2
ALT	Altintas	2.08	217	ePN	Pn	07 29 18.2	+0.7
BZK	Bozkurt	2.12	54	ePN	Pn	07 29 19.6	+1.6
CORM	Corum	2.30	103	ePN	Pn	07 29 22.8	+2.1
BYBT	Boyabat	2.42	72	ePN	Pn	07 29 23.8	+1.4
CTT	Catalca	2.51	280	ePN	Pn	07 29 24.7	+1.0

*KRSC **10** 07:37:21.6±1.2, 50.02N×156.07E, h101km±7km, ML4.3*
*MOS **10** 07:37:21.0±1.5, 50.41N×155.29E, h126km, mb3.6/4, Error ellipse: s-maj=28.2km s-min=9.8km az=58.5*
*IDC **10** 07:37:23.6±3.5, 50.66N×155.17E, h131km±38km, mb3.3/6, mb1 3.7/8, mb1mx3.3/23, mbtmp3.9/8, Error ellipse: s-maj=54.3km s-min=19.2km az=167.0*
*NEIC **10** 07:37:25.9±3.8, 50.80N×155.15E, h148km±21km, mb4.0/1, Error ellipse: s-maj=67.5km s-min=17.9km az=176.0*
ISC 10 07:37:22.5±0.7**, 50.39N**±0.08×**155.4E**±0.1**, h139km**±5km**, n46, σ1^{s}36**/72**, mb3.6**/7**, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	Alaid	0.48	11	i P	P	07 37 42.2	-0.8
ALID				i S	S	07 37 57.4	-1.3
SKR	Severo-Kuril's	0.54	57	⇓i PN	P	07 37 38.0	-5.3
SKR				eS	S	07 37 53.5	-5.7
SKR				pmax	pmax		
	comp=Z,270nm,0.5s						
SKR				pmax	pmax		
	comp=N,190nm,0.4s						
SKR				pmax	pmax		
	comp=E,80nm,0.4s						
SKR				smax			
	comp=N,1μm,0.5s						
SKR				smax			
	comp=E,2μm,0.5s						
SKR				smax			
	comp=N,3μm,2.0s						
SKR				smax			
	comp=E,4μm,2.0s						
SKR	Severo-Kuril's	0.54	57	i P	P	07 37 38.0	-5.3
SKR				eS	S	07 37 52.9	-6.3
PAU	Pauzhetka	1.40	39	i P	P	07 37 49.9	-0.6
PAU				i S	S	07 38 10.6	-1.3
PAU				Smax			
	comp=E,660nm,1.4s						
GRL	Gorelyy	2.73	37	eP	P	07 38 06.5	-0.2
GRL				eS	S	07 38 39.0	-1.4
APC	Apacha	2.76	23	eP	P	07 38 09.6	+2.5
APC				eS	S	07 38 42.8	+1.8
APC				Smax			
	comp=E,40nm,1.1s						
RUS	Russkaya	2.82	42	eP	P	07 38 07.5	-0.4
RUS				i S	S	07 38 41.2	-1.3
PET	Petropavlovsk	3.32	36	P	P	07 38 14.8	+0.4
PET				S	S	07 38 53.7	-0.4
PET	Petropavlovsk	3.32	36	ePn	P	07 38 14.4	0.0
PET	Petropavlovsk	3.32	36	i P	P	07 38 14.8	+0.4
PET				i S	S	07 38 53.6	-0.5
KOK	Koryaka	3.53	33	i P	P	07 38 19.2	+2.1
KOK				i S	S	07 39 02.3	+3.3
UGLR	Uglovaya	3.53	36	eP	P	07 38 18.8	+1.6
UGLR				eS	S	07 39 01.0	+2.0
AVH	Avacha	3.54	34	i P	P	07 38 19.1	+1.8
AVH				eS	S	07 39 02.2	+2.9
SMAR	Somma	3.56	35	eP	P	07 38 20.2	+2.6
SMAR				i S	S	07 39 01.5	+1.7
SDLR	Sedlovina	3.61	35	i P	P	07 38 19.2	+1.0
SDLR				i S	S	07 39 01.9	+1.1
GNL	Ganaly	3.66	24	eP	P	07 38 20.0	+1.1
GNL				eS	S	07 39 01.4	-0.6
NLC	Nalytchevo	3.71	40	P	P	07 38 18.3	-1.2
NLC				S	S	07 38 58.8	-4.3
NLC	Nalytchevo	3.71	40	i P	P	07 38 18.3	-1.2
NLC				i S	S	07 39 00.0	-3.1
SPN	Mys Shipunski	3.95	45	P	P	07 38 22.1	-0.6
SPN				S	S	07 39 06.5	-2.4
SPN	Mys Shipunski	3.95	45	i P	P	07 38 22.1	-0.6
SPN				i S	S	07 39 06.6	-2.3
TUMR	Tumrok	5.68	29	eP	P	07 38 46.4	+0.7
TUMR				eS	S	07 39 48.1	-2.2
MKZ	Mys Kozlova	5.69	40	P	P	07 38 44.5	-1.3
MKZ				S	S	07 39 44.1	-6.3
MKZ	Mys Kozlova	5.69	40	eP	P	07 38 44.4	-1.4
MKZ				eS	S	07 39 44.0	-6.4
KMNR	Kamenistaya	6.11	27	eP	P	07 38 53.2	+1.7
KMNR				eS	S	07 39 58.7	-2.0
KBTR	Krutoberegovo	7.32	34	P	P	07 39 08.0	+0.1
KBTR	Krutoberegovo	7.32	34	eP	P	07 39 07.9	0.0
KBTR				eS	S	07 40 25.2	-4.8
BKI	Bering	8.01	49	eP	P	07 39 14.1	-3.1
BKI				i S	S	07 40 34.7	-12
BKI				Smax			
	comp=E,50nm,0.4s						
ASAJ	Asahikawa	10.72	239	PN	P	07 39 53.7	+0.7
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	10.72	239	P	P	07 39 53.6	+0.7
	comp=Z,0.8nm,0.3s,baz=74,slow=15,SNR=4.9						
FX1	Attu Island--F	11.32	70	P	P	07 40 01.8	+1.0
	comp=Z,1.8nm,0.3s,baz=266,slow=20,SNR=19						
FX1				S	S	07 41 57.4	-7.5
	comp=Z,6.5nm,0.3s,baz=196,slow=22,SNR=14						
YAK	Yakutsk	18.30	319	i P	P	07 41 27.0	-0.9
YAK				pmax	pmax		
	comp=Z,17nm,1.0s						
ILAR	Eielson Array	32.78	42	P	P	07 43 42.8	-1.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	Eielson Array	32.78	42	P	P	07 43 42.8	-1.2
	comp=Z,0.6nm,0.7s,mb3.5,baz=266,slow=6.5,SNR=12						
MKAR	Makanchi Array	46.68	295	eP	P	07 45 37.3	-1.1
MKAR	Makanchi Array	46.68	295	P	P	07 45 36.9	-1.5
	comp=Z,0.2nm,0.3s,mb3.2,baz=42,slow=6.1,SNR=6.6						
MKAR	Makanchi Array	46.68	295	P	P	07 45 36.9	-1.5
YKA	Yellowknife Ar	47.12	39	P	P	07 45 40.7	-0.9
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	47.12	39	P	P	07 45 40.7	-0.9
	comp=Z,0.5nm,0.6s,mb3.3,baz=300,slow=7.7,SNR=4.5						
YKA	Yellowknife Ar	47.12	39	P	P	07 45 40.7	-0.9
YBH	Yreka Blue Hor	54.75	65	P	P	07 46 40.4	+0.9
YBH				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YBH	Yreka Blue Hor	54.75	65	P	P	07 46 40.4	+0.9
	comp=Z,0.8nm,0.5s,mb3.8,baz=25,slow=7.0,SNR=6.7						
BW06	Boulder Array	61.42	57	eP	P	07 47 25.6	-0.3
	comp=Z,2.0nm,1.1s,mb3.9						
PDAR	Pinedale Array	61.42	57	P	P	07 47 26.1	+0.1
	comp=Z,1.2nm,0.7s,mb3.8,baz=320,slow=2.2,SNR=10						
SRU	San Rafael	63.43	60	eP	P	07 47 39.0	-0.3
TXAR	Lajitas Array	74.43	63	P	P	07 48 46.9	+0.2
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TXAR	Lajitas Array	74.43	63	P	P	07 48 46.9	+0.2
	comp=Z,1.5nm,0.8s,mb3.8,baz=294,slow=4.3,SNR=19						

*BJI **10** 07:38:43.9, 0.62N×97.28E, h22km, mB4.9, mb4.7, Ms4.0, Msz3.9*
*NEIC **10** 07:38:49.8±0.4, 1.14N×97.16E, mb4.4/3, Error ellipse: s-maj=10.8km s-min=7.3km az=62.0*
*IDC **10** 07:38:49.7±0.8, 1.14N×97.19E, h21km±4km, mb4.1/11, mb1 4.2/12, mb1mx4.0/21, mbtmp4.2/12, ML4.2/1, MS3.2/1, Ms1 3.4/1, ms1mx3.0/17, Error ellipse: s-maj=31.6km s-min=14.4km az=55.0*
ISC 10 07:38:48.0±0.6**, 1.13N**±0.06×**97.17E**±0.08**, h22km, h22km**±4km**: pP-P, n34, σ0^{s}85**/31**, mb4.3**/18**, MS3.9**/1**, 3C-1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.16	48	P	Pn	07 40 06.9	+0.9
KULM	Kulim	5.40	40	⇑i P	Pn	07 40 09.7	+0.3
KGM	Kluang	6.21	82	P	Pn	07 40 21.8	+0.9
SNG	Songkhla	6.92	30	P	Pn	07 40 30.0	-0.9
CMAR	Chiang Mai Arr	17.31	6	P	P	07 42 48.9	-1.3
	0.3nm,0.3s,baz=187,slow=9.5,SNR=12						
CMAR				LR	LR	07 49 38.9	
	comp=Z,78nm,18.1s,baz=180,slow=38						
NANT	Nan	17.90	11	⇑P	P	07 42 58.0	+0.5
	150nm,0.7s						
KKM	Kota Kinabalu	19.62	75	eP	P	07 43 17.8	-0.4
KKM	Kota Kinabalu	19.62	75	P	P	07 43 19.0	+0.7
KMI	Kunming	24.45	12	⇓P	P	07 44 08.9	+2.1
KMI				AP		07 44 14.3	
KMI				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.6						
KMI				LR	LR		
	comp=N,267nm,16.1s,MS3.9						
KMI				LR	LR		
	comp=E,118nm,11.5s,MS3.9						
KMI				LR	LR		
	comp=Z,275nm,17.0s						
SHL	Shillong	24.82	349	eP	P	07 44 10.7	+0.3
ENH	Enshi	31.26	21	eP	P	07 45 07.4	-1.3
	comp=Z,10nm,0.4s,mb5.0						
MBWA	Marble Bar	31.27	136	P	P	07 45 09.3	+0.5
FITZ	Fitzroy Crossi	33.91	126	P	P	07 45 30.7	-1.2
	comp=Z,11nm,1.0s,mb4.7,baz=12,slow=12,SNR=2.8						
FITZ				pP	pP	07 45 36.9	-1.5
	comp=Z,5.1nm,0.6s,baz=197,slow=2.1,SNR=2.5						
XAN	Xi'an	34.54	17	P	P	07 45 35.0	-2.2
XAN				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.9						
GTA	Gaotai	38.18	3	eP	P	07 46 08.1	+0.2
GTA				AP	pP	07 46 14.6	+0.2
GTA				XP	sP	07 46 18.5	+1.3
GTA				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.5						
HHC	Hu-ho-hao-te	41.63	16	eP	P	07 46 37.4	+0.9
WRA	Warramunga Arr	42.02	122	P	P	07 46 39.6	-0.3
	comp=Z,2.9nm,0.7s,mb4.0,baz=301,slow=9.1,SNR=16						
WRAB	Tennant Creek	42.03	122	eP	P	07 46 39.9	-0.1
	comp=Z,3.4nm,0.5s,mb4.2						
WB2	Warramunga Arr	42.03	122	⇑i P	P	07 46 40.0	0.0
SONM	Songino Array	47.20	8	P	P	07 47 21.6	+0.4
	comp=Z,1.7nm,0.4s,mb4.3,baz=192,slow=9.7,SNR=19						
SONM				PcP	PcP	07 48 52.6	-0.3
	comp=Z,1.0nm,0.7s,baz=194,slow=3.3,SNR=4.0						
SONM				pPcP		07 48 59.4	
	comp=Z,0.5nm,0.4s,baz=188,slow=4.8,SNR=3.7						
MKAR	Makanchi Array	47.30	346	P	P	07 47 22.2	+0.3
	comp=Z,3.6nm,0.7s,mb4.4,baz=160,slow=8.3,SNR=38						
ULN	Ulaanbaatar	47.34	9	eP	P	07 47 16.9	-5.3
	comp=Z,2.0nm,0.7s,mb4.2						
CN2	Changchun	49.38	27	eP	P	07 47 37.3	-0.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
STKA	Stephens Creek	53.33	132	P	P	07 48 08.1	-0.1
	comp=Z,2.5nm,0.7s,mb4.3,baz=183,slow=18,SNR=7.7						
STKA				pP	pP	07 48 15.1	+0.2
	comp=Z,8.2nm,0.8s,baz=301,slow=7.6,SNR=7.9						
ZAL	Zalesovo	53.61	351	P	P	07 48 09.2	-0.7
	comp=Z,3.6nm,0.4s,mb4.7,baz=306,slow=6.2,SNR=15						
MATP	Matopo	70.47	248	P	P	07 50 03.7	+0.3
	comp=Z,1.4nm,0.9s,mb3.9,baz=108,slow=9.6,SNR=3.6						
FINES	FINESS Array B	80.05	333	P	P	07 50 56.8	-0.6
	comp=Z,0.3nm,0.5s,mb3.5,baz=117,slow=4.3,SNR=5.1						
FINES				pP	pP	07 51 03.8	-0.5
	comp=Z,0.6nm,0.6s,baz=108,slow=6.0,SNR=3.3						
ARCES	ARCESS Array B	82.59	340	P	P	07 51 10.8	+0.3
	comp=Z,0.4nm,0.4s,mb3.8,baz=104,slow=5.0,SNR=10.0						
GERES	GERESS Array B	84.84	319	P	P	07 51 23.5	+1.1
	comp=Z,0.6nm,0.8s,mb3.8,baz=104,slow=5.5,SNR=4.6						
NB2	NORSAR Subarra	87.05	331	P	P	07 51 33.3	+0.3
	comp=Z,1.1nm,0.8s,mb4.1,baz=93,slow=5.0						
NOA	NORSAR Array B	87.05	331	P	P	07 51 33.6	+0.6
	comp=Z,0.9nm,0.8s,mb4.0,baz=93,slow=5.2,SNR=3.8						
TXAR	Lajitas Array	143.75	32	PKP	PKPdf	07 58 21.6	-4.9
	comp=Z,0.2nm,0.6s,baz=218,slow=1.5,SNR=4.2						
CPUP	Villa Florida	144.93	222	PKP	PKPdf	07 58 25.4	-3.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.2nm,0.7s,baz=45,slow=3.8,SNR=8.0						
CPUP				pPKP		07 58 33.0	
	comp=Z,5.1nm,0.8s,baz=156,slow=4.8,SNR=9.9						
CPUP	**Villa Florida**	**144.93**	**222**	PKP	PKPdf	07 58 25.4	-3.3
CPUP				*e*PKPdf	PKPdf	07 58 25.6	-3.1
CPUP				*e*		07 58 32.4	
CPUP				pPKP		07 58 33.0	

ATH ***10*** *08:01:29.5, 40.38N×24.00E, h36^{km}±1^{km}, MD3.1/3*
NEIC ***10*** *08:01:29.5, 40.38N×24.00E, h36^{km}, MD3.1(ATH), After ATH.*
CSEM ***10*** *08:01:30.4±0.2, 40.38N×24.05E, ML2.7, Error ellipse: s-maj=2.9km s-min=1.7km az=72.0*
THE ***10*** *08:01:31.3, 40.37N×23.95E, h7^{km}, ML2.7*
ISC 10 08:01:30.1±0.6**, 40.36N**±0.03×**24.07E**±0.05**, h17**^{km}±6^{km}**, n16,** σ0^{s}**84**/27**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.07**	**251**	*e*Pg	**Pb**	**08 01 33.0**	**-0.5**
OUR				*e*Sg	**Sb**	**08 01 34.2**	**-1.5**
PLG	**Polygyros**	**0.48**	**272**	*e*PB	**Pb**	**08 01 39.3**	**-0.4**
PLG				*e*SB	**Sb**	**08 01 45.8**	**-0.4**
PAIG	**Paliouri**	**0.53**	**215**	*e*Pg	**Pb**	**08 01 40.6**	**+0.1**
PAIG				*e*Sg	**Sb**	**08 01 48.0**	**+0.4**
SOH	**Sokhos**	**0.72**	**310**	*e*Pg	**Pb**	**08 01 43.4**	**-0.3**
SOH				*e*Sg	**Sb**	**08 01 52.6**	**-0.5**
SRS	**Serrai**	**0.84**	**334**	*e*Pg	**Pb**	**08 01 45.9**	**0.0**
SRS				*e*Sg	**Sb**	**08 01 57.6**	**+0.9**
THE	**Thessaloniki**	**0.89**	**288**	*e*Pg	**Pb**	**08 01 46.0**	**-0.6**
THE				*e*Sg	**Sb**	**08 01 57.7**	**-0.4**
LIA	**Limnos Island**	**0.97**	**118**	*e*PN	**Pn**	**08 01 48.9**	**0.0**
NVR	**Nevrokopi**	**1.00**	**351**	*e*PN	**Pn**	**08 01 48.4**	**-1.0**
NVR				*e*SN	**Sn**	**08 02 01.6**	**-1.5**
KNT	**Kendrikon**	**1.20**	**312**	*e*Pg	**Pb**	**08 01 52.1**	**+0.2**
KNT				*e*Sg	**Sb**	**08 02 09.1**	**+2.0**
XOR	**Xorichti**	**1.20**	**215**	*e*Pg	**Pb**	**08 01 52.4**	**+0.4**
NEO	**Neokhori**	**1.24**	**212**	*e*PN	**Pn**	**08 01 51.9**	**-0.8**
LIT	**Litokhoron**	**1.24**	**258**	*e*Pg	**Pb**	**08 01 53.0**	**+0.3**
LIT				*e*Sg	**Sb**	**08 02 09.6**	**+1.3**
RDO	**Rodhopi**	**1.36**	**54**	*e*PN	**Pn**	**08 01 54.2**	**-0.3**
GRG	**Griva**	**1.41**	**296**	*e*Pg	**Pn**	**08 01 55.4**	**+0.2**
GRG				*e*Sg	**Sb**	**08 02 13.6**	**+0.6**
ALN	**Alexandroupoli**	**1.59**	**70**	*e*Pb	**Pb**	**08 02 00.5**	**+1.8**
ALN				*e*Sb	**Sb**	**08 02 22.5**	**+4.0**
FNA	**Florina**	**2.10**	**283**	*e*Pn	**Pn**	**08 02 04.9**	**-0.2**

CSEM ***10*** *08:41:41.6, 18.52S×174.81W, h33^{km}, mb5.7*
BJI ***10*** *08:41:51.9, 17.76S×174.87W, h107^{km}, mB5.2, mb5.1*
NEIC ***10*** *08:41:52.3±0.1, 18.51S×174.57W, mb4.8/54, Error ellipse: s-maj=7.2km s-min=2.9km az=117.0*
BGS ***10*** *08:41:53.3±2.5, 18.51S×174.57W, h129^{km}*
IDC ***10*** *08:41:53.3±0.8, 18.41S×174.72W, h132^{km}±7^{km}, mb4.7/13, mb1 4.9/13, mb1mx4.8/16, mbtmp5.0/13, MS3.8/11, Ms1 3.7/11, ms1mx3.7/21, Error ellipse: s-maj=17.5km s-min=11.6km az=129.0*
MOS ***10*** *08:42:00.3±2.1, 18.01S×176.05W, h167^{km}, mb5.1/5, Error ellipse: s-maj=32.8km s-min=17.4km az=110.2*
ISC 10 08:41:50.9±0.2**, 18.49S**±0.03×**174.66W**±0.05**, h128**^{km}**, h128**^{km}±1.3^{km}**:pP-P, n463,** σ1^{s}**04**/223**, mb4.7**/75**, 57C-11D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.33**	**32**	P	**P**	**08 43 03.3**	**-6.1**
	246nm,0.3s,baz=195,slow=1.4,SNR=176						
AFI				S	**S**	**08 43 55.8**	**-14**
	769nm,0.3s,baz=57,slow=20,SNR=13						
RAO	**Raoul Island**	**11.12**	**195**	P	**P**	**08 44 23.7**	**-3.4**
	141nm,0.3s,baz=81,slow=23,SNR=8.4						
RAO				S	**S**	**08 46 22.4**	**-7.1**
	163nm,0.3s,baz=68,slow=22,SNR=5.8						
DZM	**Mont Dzumac**	**18.08**	**255**	⇑*i*P	**P**	**08 45 57.0**	**+1.8**
DZM	**Mont Dzumac**	**18.08**	**255**	P	**P**	**08 45 58.4**	**+3.2**
	6.5nm,0.3s,baz=87,slow=14,SNR=46						
DZM	**Mont Dzumac**	**18.08**	**255**	⇑*i*P	**P**	**08 45 57.0**	**+1.8**
NOUC	**Port Laguerre**	**18.22**	**255**	*e*P	**P**	**08 45 59.2**	**+2.6**
OUZ	**Omahuta**	**19.66**	**210**	*e*P	**P**	**08 46 12.0**	**+0.1**
OUZ	**Omahuta**	**19.66**	**210**	*e*PN	**P**	**08 46 12.0**	**+0.1**
MXZ	**Matakaoa Point**	**19.98**	**197**	*e*P	**P**	**08 46 15.3**	**+0.1**
MXZ	**Matakaoa Point**	**19.98**	**197**	PN	**P**	**08 46 12.8**	**-2.5**
KUZ	**Kuaotunu**	**20.07**	**203**	*e*P	**P**	**08 46 16.1**	**0.0**
KUZ	**Kuaotunu**	**20.07**	**203**	PN	**P**	**08 46 16.5**	**+0.4**
	225nm,0.6s						
WIZ	**White Island**	**20.27**	**199**	P	**P**	**08 46 18.9**	**+0.7**
MTAZ	**Motutapu**	**20.41**	**205**	P	**P**	**08 46 20.7**	**+1.1**
PUZ	**Puketiti**	**20.47**	**196**	*e*P	**P**	**08 46 17.5**	**-2.7**
PUZ	**Puketiti**	**20.47**	**196**	PN	**P**	**08 46 17.7**	**-2.5**
PUZ				*e*SN	**S**	**08 49 49.6**	**-7.4**
KAAZ	**Kauri Point**	**20.53**	**205**	P	**P**	**08 46 22.5**	**+1.7**
OTAZ	**Otara**	**20.55**	**204**	P	**P**	**08 46 22.3**	**+1.3**
OTAZ	**Otara**	**20.55**	**204**	PN	**P**	**08 46 22.3**	**+1.3**
MKAZ	**Moumakai**	**20.60**	**204**	P	**P**	**08 46 22.7**	**+1.2**
MKAZ	**Moumakai**	**20.60**	**204**	PN	**P**	**08 46 22.7**	**+1.3**
WTAZ	**Waiatarua**	**20.67**	**205**	P	**P**	**08 46 23.4**	**+1.2**
WTAZ	**Waiatarua**	**20.67**	**205**	PN	**P**	**08 46 23.2**	**+1.0**
MWZ	**Matawai**	**20.92**	**197**	*e*P	**P**	**08 46 23.8**	**-0.9**
MWZ	**Matawai**	**20.92**	**197**	PN	**P**	**08 46 24.5**	**-0.2**
EDRZ	**Edgecumbe**	**20.95**	**199**	P	**P**	**08 46 25.6**	**+0.7**
LIRZ	**Lichensteins R**	**20.96**	**200**	P	**P**	**08 46 24.9**	**-0.2**
LIRZ	**Lichensteins R**	**20.96**	**200**	PN	**P**	**08 46 23.1**	**-2.1**
URZ	**Urewera**	**20.97**	**198**	P	**P**	**08 46 24.7**	**-0.5**
	498nm,0.5s,baz=30,slow=2.3,SNR=194						
URZ				S	**S**	**08 50 07.2**	**+1.0**
	15nm,0.3s,baz=100,slow=23,SNR=9.3						
URZ	**Urewera**	**20.97**	**198**	*e*P	**P**	**08 46 23.2**	**-2.0**
URZ	**Urewera**	**20.97**	**198**	PN	**P**	**08 46 23.0**	**-2.2**
TOZ	**Tahuroa Road**	**21.02**	**202**	*e*P	**P**	**08 46 27.1**	**+1.4**
TOZ	**Tahuroa Road**	**21.02**	**202**	*e*PN	**P**	**08 46 27.1**	**+1.4**
TAZ	**Tarawera**	**21.13**	**200**	P	**P**	**08 46 27.3**	**+0.5**
TAZ	**Tarawera**	**21.13**	**200**	PN	**P**	**08 46 27.3**	**+0.5**
UTU	**Utuhina**	**21.18**	**200**	P	**P**	**08 46 27.9**	**+0.6**
UTU	**Utuhina**	**21.18**	**200**	PN	**P**	**08 46 27.9**	**+0.5**
PATZ	**Paeroa**	**21.35**	**200**	P	**P**	**08 46 29.2**	**+0.3**
KNZ	**Kokohu**	**21.52**	**196**	*e*P	**P**	**08 46 31.2**	**+0.6**
KNZ	**Kokohu**	**21.52**	**196**	PN	**P**	**08 46 31.2**	**+0.5**
HIZ	**Hauiti**	**21.95**	**202**	P	**P**	**08 46 36.5**	**+1.7**
HIZ	**Hauiti**	**21.95**	**202**	PN	**P**	**08 46 36.5**	**+1.7**
RATZ	**Rangitukua**	**21.95**	**200**	P	**P**	**08 46 33.5**	**-1.3**
RATZ	**Rangitukua**	**21.95**	**200**	PN	**P**	**08 46 34.0**	**-0.8**
BKZ	**Black Stump Fm**	**21.99**	**199**	*e*P	**P**	**08 46 33.2**	**-2.1**
BKZ	**Black Stump Fm**	**21.99**	**199**	PN	**P**	**08 46 33.2**	**-2.0**
NGZ	**Ngauruhoe**	**22.28**	**200**	P	**P**	**08 46 38.1**	**0.0**
NGZ	**Ngauruhoe**	**22.28**	**200**	PN	**P**	**08 46 37.7**	**-0.4**
CNZ	**Chateau**	**22.32**	**200**	P	**P**	**08 46 38.7**	**+0.2**
TUVZ	**Tukino**	**22.35**	**200**	P	**P**	**08 46 38.7**	**0.0**
TUVZ	**Tukino**	**22.35**	**200**	PN	**P**	**08 46 38.6**	**-0.1**
FWVZ	**Far West T-bar**	**22.37**	**200**	P	**P**	**08 46 39.0**	**0.0**
FWVZ	**Far West T-bar**	**22.37**	**200**	*e*PN	**P**	**08 46 38.7**	**-0.2**
WNVZ	**Wahianoa**	**22.42**	**200**	P	**P**	**08 46 38.8**	**-0.6**
WNVZ	**Wahianoa**	**22.42**	**200**	PN	**P**	**08 46 38.8**	**-0.7**
MTVZ	**Mangateitei**	**22.52**	**200**	*e*PN	**P**	**08 46 39.9**	**-0.5**
PWZ	**Pawanui**	**22.68**	**197**	*e*P	**P**	**08 46 42.0**	**0.0**
PWZ	**Pawanui**	**22.68**	**197**	*e*PN	**P**	**08 46 41.2**	**-0.9**
RAEZ	**Rainy Point**	**22.80**	**202**	P	**P**	**08 46 46.5**	**+3.4**
PKE	**Pukeiti**	**22.87**	**203**	P	**P**	**08 46 46.8**	**+3.0**
PKE	**Pukeiti**	**22.87**	**203**	PN	**P**	**08 46 46.7**	**+2.9**
NEZ	**North Egmont**	**22.89**	**203**	P	**P**	**08 46 46.1**	**+2.0**
NEZ	**North Egmont**	**22.89**	**203**	PN	**P**	**08 46 46.1**	**+2.1**
TSZ	**Takapari Road**	**22.98**	**199**	P	**P**	**08 46 43.2**	**-1.6**
TSZ	**Takapari Road**	**22.98**	**199**	*e*PN	**P**	**08 46 43.2**	**-1.6**
NWEZ	**Newall Road**	**22.98**	**203**	PN	**P**	**08 46 47.2**	**+2.3**
WAZ	**Wanganui**	**23.01**	**201**	*e*P	**P**	**08 46 44.9**	**-0.3**
WAZ	**Wanganui**	**23.01**	**201**	PN	**P**	**08 46 44.9**	**-0.3**
BFZ	**Birch Farm**	**23.46**	**198**	*e*SN	**S**	**08 50 50.9**	**+0.9**
MRZ	**Mangatainoka R**	**23.64**	**199**	*e*P	**P**	**08 46 50.1**	**-1.2**
MRZ	**Mangatainoka R**	**23.64**	**199**	*e*PN	**P**	**08 46 48.8**	**-2.5**
PPT	**Papeete**	**23.86**	**92**	LR	LR	08 53 13.8	
	comp=Z,272nm,20.0s,baz=264,slow=28						
MTW	**Mount Morrison**	**24.12**	**198**	P	**P**	**08 46 55.3**	**-0.5**
MTW	**Mount Morrison**	**24.12**	**198**	PN	**P**	**08 46 54.9**	**-0.9**
CAW	**Cannon Point**	**24.21**	**199**	P	**P**	**08 46 55.9**	**-0.8**
CAW	**Cannon Point**	**24.21**	**199**	PN	**P**	**08 46 56.0**	**-0.7**
TCW	**Tory Channel**	**24.56**	**200**	*e*PN	**P**	**08 46 58.4**	**-1.6**
QRZ	**Quartz Range**	**24.84**	**204**	*e*P	**P**	**08 47 03.2**	**+0.5**
QRZ	**Quartz Range**	**24.84**	**204**	*e*PN	**P**	**08 47 02.8**	**+0.1**
NNZ	**Nelson**	**24.87**	**202**	*e*PN	**P**	**08 47 01.7**	**-1.2**
NNZ				*e*SN	**S**	**08 51 15.3**	**+1.5**
THZ	**Tophouse**	**25.52**	**202**	*e*PN	**P**	**08 47 07.9**	**-1.2**
KHZ	**Kahutara**	**25.88**	**200**	*e*P	**P**	**08 47 12.2**	**-0.2**
KHZ	**Kahutara**	**25.88**	**200**	*e*PN	**P**	**08 47 11.3**	**-1.1**
DSZ	**Denniston Nort**	**25.91**	**204**	*e*P	**P**	**08 47 12.4**	**-0.3**
DSZ	**Denniston Nort**	**25.91**	**204**	*e*PN	**P**	**08 47 12.4**	**-0.3**
HNR	**Honiara**	**26.21**	**287**	LR	LR	08 56 36.8	
	comp=Z,106nm,18.2s,baz=123,slow=34						
LTZ	**Lake Taylor**	**26.64**	**202**	*e*P	**P**	**08 47 17.3**	**-2.0**
LTZ	**Lake Taylor**	**26.64**	**202**	*e*PN	**P**	**08 47 17.3**	**-2.0**
WVZ	**Waitaha Valley**	**27.45**	**204**	*e*P	**P**	**08 47 25.0**	**-1.8**
RPZ	**Rata Peaks**	**27.89**	**202**	P	**P**	**08 47 31.2**	**+0.5**
	51nm,0.4s,mb5.6,baz=349,slow=1.8,SNR=27						
RPZ	**Rata Peaks**	**27.89**	**202**	*e*P	**P**	**08 47 31.1**	**+0.4**
RPZ	**Rata Peaks**	**27.89**	**202**	*e*PN	**P**	**08 47 30.2**	**-0.5**
FOZ	**Fox Glacier**	**28.27**	**204**	*e*P	**P**	**08 47 32.4**	**-1.8**
FOZ	**Fox Glacier**	**28.27**	**204**	*e*PN	**P**	**08 47 31.7**	**-2.4**
LBZ	**Lake Benmore**	**28.78**	**203**	P	**P**	**08 47 38.0**	**-0.7**
LBZ	**Lake Benmore**	**28.78**	**203**	*e*PN	**P**	**08 47 37.2**	**-1.5**
JCZ	**Jackson Bay**	**29.07**	**205**	*e*P	**P**	**08 47 40.2**	**-1.0**
JCZ	**Jackson Bay**	**29.07**	**205**	*e*PN	**P**	**08 47 38.8**	**-2.4**
CTA	**Charters Tower**	**36.87**	**261**	⇓*i*P	**P**	**08 48 48.9**	**+0.2**
	75nm,0.8s,mb5.4						
CTAO	**Charters Tower**	**36.87**	**261**	*e*P	**P**	**08 48 48.6**	**-0.1**
	84nm,0.7s,mb5.5						
CTAO				*e*pP	pP	08 49 21.7	+4.2
PMG	**Port Moresby**	**38.07**	**278**	P	**P**	**08 48 59.7**	**+0.9**
	38nm,1.0s,mb5.0,baz=101,slow=7.2,SNR=5.3						
TOO	**Toolangi**	**39.62**	**233**	⇓*i*P	**P**	**08 49 12.5**	**+1.1**
	23nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**41.50**	**243**	*e*P	**P**	**08 49 27.2**	**+0.2**
	17nm,1.1s,mb4.6						
STKA	**Stephens Creek**	**41.50**	**243**	P	**P**	**08 49 27.6**	**+0.6**
	18nm,0.8s,mb4.8,baz=90,slow=9.0,SNR=31						
STKA				LR	LR	09 03 48.2	
	comp=Z,160nm,21.4s,baz=192,slow=32						
WB2	**Warramunga Arr**	**48.02**	**260**	⇑*i*P	**P**	**08 50 18.0**	**-1.1**
WB2				*e*S	**S**	**08 57 03.8**	**-2.3**
WRAB	**Tennant Creek**	**48.02**	**260**	*d i*P	**P**	**08 50 18.3**	**-0.8**
WRAB	**Tennant Creek**	**48.02**	**260**	*e*P	**P**	**08 50 18.1**	**-1.1**
	142nm,0.8s,mb5.7						
WRA	**Warramunga Arr**	**48.03**	**260**	P	**P**	**08 50 18.4**	**-0.8**
	37nm,0.4s,mb5.4,baz=98,slow=6.0,SNR=786						
WRA				S	**S**	**08 57 05.1**	**-1.2**
	2.7nm,0.8s,baz=98,slow=14,SNR=7.3						
KAKA	**Kakadu**	**51.13**	**268**	⇑*i*P	**P**	**08 50 42.1**	**-0.9**
	81nm,0.6s,mb5.5						
FITZ	**Fitzroy Crossi**	**56.45**	**260**	⇑*i*P	**P**	**08 51 21.0**	**-0.9**
	14nm,0.3s,mb5.3						
FITZ	**Fitzroy Crossi**	**56.45**	**260**	LR	LR	09 14 26.2	
	comp=Z,139nm,20.6s,baz=94,slow=35						
SBA	**Scott Base**	**60.10**	**184**	*e*P	**P**	**08 51 48.1**	**+1.6**
	26nm,0.8s,mb5.1						
VNDA	**Vanda**	**60.20**	**186**	P	**P**	**08 51 48.0**	**+0.8**
	8.5nm,0.7s,mb4.7,baz=4.1,slow=7.5,SNR=62						
VNDA	**Vanda**	**60.20**	**186**	*e*P	**P**	**08 51 47.9**	**+0.8**
	0.8nm,0.4s,mb3.9						
CBIJ	**Chichi jima**	**61.68**	**316**	LR	LR	09 15 38.7	
	comp=Z,58nm,20.7s,baz=117,slow=33						
KLBR	**Kellerberrin**	**61.77**	**244**	⇑*i*P	**P**	**08 51 57.3**	**-1.1**
	35nm,1.3s,mb5.0						
MUN	**Mundaring**	**63.04**	**243**	⇑*i*P	**P**	**08 52 06.1**	**-0.7**
	16nm,1.8s,mb4.5						
CASY	**Casey**	**67.12**	**205**	*e*P	**P**	**08 52 32.8**	**+0.3**
MJAR	**Matsushiro Arr**	**70.54**	**321**	P	**P**	**08 52 53.4**	**-0.5**
	17nm,0.8s,mb4.8,baz=164,slow=6.4,SNR=31						
MJAR				LR	LR	09 25 01.0	
	comp=Z,53nm,18.2s,baz=80,slow=37						
MJAR	**Matsushiro Arr**	**70.54**	**321**	P	**P**	**08 52 53.4**	**-0.5**
MJAR				LR	LR	09 25 01.0	
MAJO	**Matsushiro**	**70.54**	**321**	*e*P	**P**	**08 52 53.5**	**-0.5**
	14nm,0.8s,mb4.7						
MAT	**Matsushiro**	**70.54**	**321**	*e*P	**P**	**08 52 53.0**	**-0.9**
	21nm,1.0s,mb4.8						
MAT	**Matsushiro**	**70.54**	**321**	P	**P**	**08 52 53.4**	**-0.5**
QSPA	**South Pole Qui**	**71.58**	**180**	*e*P	**P**	**08 53 00.7**	**+1.3**
	37nm,1.0s,mb5.1						
FX1	**Attu Island--F**	**71.85**	**352**	*e*P	**P**	**08 53 00.0**	**-1.4**
JNU	**Nakatsue**	**73.05**	**314**	LR	LR	09 21 41.1	
	comp=Z,24nm,20.6s,baz=230,slow=33						
MIR	**Mirnyy**	**74.13**	**205**	*e*P	**P**	**08 53 15.0**	**+0.5**
MIR				pmax	pmax		
	comp=Z,63nm,2.0s,mb5.0						
HOPS	**Hopland**	**74.81**	**39**	*e*P	**P**	**08 53 18.2**	**-0.8**
	comp=Z,31nm,1.3s,mb4.8						
YSS	**Yuzh-Sakhalins**	**75.58**	**331**	⇑*i*P	**P**	**08 53 23.5**	**+0.4**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.0						
YSS	**Yuzh-Sakhalins**	**75.58**	**331**	*e*P	**P**	**08 53 23.3**	**+0.2**
	comp=Z,21nm,0.9s,mb4.8						
CMB	**Columbia Colle**	**75.86**	**41**	*e*P	**P**	**08 53 24.3**	**-0.6**
	comp=Z,18nm,1.3s,mb4.5						
PFO	**Pinyon Flat Ob**	**75.90**	**47**	*e*P	**P**	**08 53 24.1**	**-1.0**
	comp=Z,9.0nm,1.4s,mb4.2						
WDC	**Whiskeytown Da**	**76.13**	**38**	*e*P	**P**	**08 53 26.1**	**-0.3**
	comp=Z,37nm,1.5s,mb4.8						
KSM	**Kuching**	**76.29**	**276**	*e*P	**P**	**08 53 28.4**	**+0.6**
DAC	**Darwin (Calif)**	**76.63**	**44**	*e*P	**P**	**08 53 29.1**	**-0.2**
	comp=Z,32nm,1.9s,mb4.6						
YBH	**Yreka Blue Hor**	**76.77**	**37**	*e*P	**P**	**08 53 30.1**	**+0.3**
	comp=Z,25nm,1.2s,mb4.7						
BEKR	**Beckwourth**	**77.00**	**40**	*e*P	**P**	**08 53 31.1**	**-0.1**
	comp=Z,45nm,1.7s,mb4.8						
WCN	**Washoe City**	**77.02**	**41**	*e*P	**P**	**08 53 31.4**	**0.0**
	comp=Z,30nm,1.4s,mb4.7						
HUMO	**Hull Mountain**	**77.19**	**36**	*e*P	**P**	**08 53 32.3**	**+0.1**
	comp=Z,17nm,1.3s,mb4.5						
TPH	**Tonopah**	**77.90**	**43**	*e*P	**P**	**08 53 36.0**	**-0.2**
	comp=Z,25nm,1.3s,mb4.7						
NEN	**Nelson**	**78.12**	**46**	*e*P	**P**	**08 53 37.5**	**0.0**
MOD	**Modoc**	**78.28**	**38**	*e*P	**P**	**08 53 38.1**	**-0.1**
	comp=Z,18nm,0.8s,mb4.7						
INCN	**Inchon**	**78.39**	**316**	*e*P	**P**	**08 53 40.7**	**+1.7**
	comp=Z,19nm,0.6s,mb4.9						
SSE	**Sheshan**	**78.88**	**308**	P	**P**	**08 53 39.1**	**-2.6**
SSE				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,182nm,5.0s						
BMN	**Battle Mountai**	**79.26**	**41**	*e*P	**P**	**08 53 43.7**	**+0.1**
	comp=Z,7.3nm,0.8s,mb4.4						
TUC	**Tucson**	**79.27**	**51**	*e*P	**P**	**08 53 44.2**	**+0.4**
	comp=Z,13nm,0.8s,mb4.6						
WVOR	**Wild Horse Val**	**79.58**	**39**	*e*P	**P**	**08 53 44.9**	**-0.4**
	comp=Z,12nm,1.2s,mb4.4						
WVOR				*e*pP	pP	08 54 16.1	-1.7
ARUT	**Antelope Range**	**80.23**	**45**	*e*P	**P**	**08 53 49.3**	**+0.4**
ELK	**Elko**	**80.68**	**42**	*e*P	**P**	**08 53 50.6**	**-0.6**
	comp=Z,2.3nm,0.8s,mb3.9						
ELK				*e*pP	pP	08 54 25.4	+1.6
MDJ	**Mudanjiang**	**80.74**	**323**	P	**P**	**08 53 52.5**	**+1.1**
MDJ				AP	pP	08 54 22.9	-1.1
MDJ				XP	sP	08 54 36.0	-2.2
MDJ				PP	PP	08 56 58.1	-0.5
MDJ				S	S	09 03 53.0	+6.2
MDJ				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,82nm,3.8s						
MDJ				LR	LR		
	comp=N,100nm,30.2s						
MDJ				LR	LR		
	comp=E,54nm,31.4s						
MDJ				LR	LR		
	comp=Z,80nm,43.0s						
SVW2	**Sparrevohn**	**80.78**	**9**	*e*P	**P**	**08 53 50.8**	**-0.4**
PGC	**Sidney**	**80.89**	**32**	*e*P	**P**	**08 53 51.6**	**-0.5**
	comp=Z,12nm,0.6s,mb4.7						
NJ2	**Nanjing**	**81.08**	**308**	*e*P	**P**	**08 53 52.1**	**-1.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
SLKM	**Skilak Lake**	**81.16**	**12**	*e*P	**P**	**08 53 52.7**	**-0.6**
MVU	**Marysvale**	**81.43**	**45**	*e*P	**P**	**08 53 56.3**	**+1.1**
	comp=Z,20nm,1.7s,mb4.5						
SPU	**Mount Spurr**	**81.44**	**11**	*e*P	**P**	**08 53 53.3**	**-1.4**
MSU	**Marysvale**	**81.46**	**45**	*e*P	**P**	**08 53 56.0**	**+0.7**
BMO	**Blue Mountains**	**81.80**	**37**	*e*P	**P**	**08 53 56.3**	**-0.6**
	comp=Z,20nm,1.7s,mb4.5						
PWA	**Palmer West**	**82.28**	**12**	*e*P	**P**	**08 53 57.4**	**-1.6**
PMR	**Palmer**	**82.37**	**12**	*e*P	**P**	**08 53 58.7**	**-0.8**
CN2	**Changchun**	**82.69**	**321**	*e*P	**P**	**08 54 02.1**	**+0.6**
CN2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
HLID	**Hailey**	**82.76**	**40**	*e*P	**P**	**08 54 02.2**	**+0.3**
	comp=Z,12nm,1.1s,mb4.5						
HLID				pP	pP	08 54 34.4	-0.3
SRU	**San Rafael**	**82.87**	**45**	*e*P	**P**	**08 54 02.5**	**0.0**
CTU	**Camp Tracy**	**82.88**	**43**	*e*P	**P**	**08 54 02.1**	**-0.4**
BNM	**Barren Site**	**83.20**	**51**	*e*P	**P**	**08 54 05.2**	**+0.8**
LTX	**Lajitas**	**83.32**	**56**	*e*P	**P**	**08 54 06.2**	**+1.1**
	comp=Z,28nm,1.5s,mb4.8						
TXAR	**Lajitas Array**	**83.32**	**56**	P	**P**	**08 54 06.2**	**+1.2**
	comp=Z,7.4nm,0.7s,mb4.5,baz=217,slow=9.0,SNR=105						
TXAR				pP	pP	08 54 37.6	-0.2
	comp=Z,1.7nm,1.0s,baz=243,slow=17,SNR=1.7						
TXAR				LR	LR	09 25 58.3	
	comp=Z,33nm,19.3s,baz=55,slow=32						
HWUT	**Hardware Ranch**	**83.48**	**42**	*e*P	**P**	**08 54 05.5**	**0.0**
	comp=Z,2.0nm,0.5s,mb4.1						
PV10	**Paradox Valley**	**83.51**	**46**	*e*P	**P**	**08 54 06.0**	**+0.2**
ANMO	**Albuquerque**	**83.69**	**50**	*c i*P	**P**	**08 54 07.6**	**+0.8**
ANMO	**Albuquerque**	**83.69**	**50**	*e*P	**P**	**08 54 07.4**	**+0.6**
	comp=Z,17nm,1.1s,mb4.7						
ANMO				*e*pP	pP	08 54 39.5	-0.2
PV01	**Paradox Valley**	**83.71**	**46**	*e*P	**P**	**08 54 07.0**	**+0.2**
GDL2	**Guadalupe Moun**	**84.02**	**53**	*e*P	**P**	**08 54 09.3**	**+0.8**
AHID	**Auburn Hatcher**	**84.38**	**41**	*e*P	**P**	**08 54 10.0**	**0.0**
	comp=Z,17nm,1.1s,mb4.7						
MCMT	**McKenzie Canyo**	**84.40**	**39**	*e*P	**P**	**08 54 10.4**	**+0.3**
MAW	**Mawson**	**84.50**	**199**	*e*P	**P**	**08 54 07.8**	**-2.2**
	comp=Z,9.7nm,0.6s,mb4.7						
MAW	**Mawson**	**84.50**	**199**	P	**P**	**08 54 11.7**	**+1.7**
	comp=Z,12nm,0.7s,mb4.8,baz=128,slow=6.2,SNR=33						
MAW				LR	LR	09 30 50.9	
	comp=Z,80nm,20.2s,baz=235,slow=35						
RRI2	**Red Ridge**	**84.54**	**41**	*e*P	**P**	**08 54 11.1**	**+0.3**
	comp=Z,30nm,1.4s,mb4.8						
RRI2				*e*pP	pP	08 54 43.4	-0.4
REDW	**Red Top Meadow**	**84.84**	**41**	*e*P	**P**	**08 54 11.1**	**-1.2**
	comp=Z,26nm,1.5s,mb4.7						
REDW				*e*pP	pP	08 54 46.2	+0.9
TPAW	**Teton Pass**	**84.85**	**41**	*e*P	**P**	**08 54 12.9**	**+0.5**
	comp=Z,43nm,1.7s,mb4.9						
TPAW				*e*pP	pP	08 54 46.1	+0.8
MSO	**Missoula**	**84.86**	**37**	*e*P	**P**	**08 54 11.9**	**-0.4**
	comp=Z,4.4nm,1.3s,mb4.0						
MSO				*e*pP	pP	08 54 45.2	-0.1
SNOW	**Snow King Moun**	**84.95**	**41**	*e*P	**P**	**08 54 13.2**	**+0.4**
	comp=Z,13nm,1.0s,mb4.6						
SNOW				*e*pP	pP	08 54 45.5	-0.4
DLBC	**Dease Lake**	**85.00**	**22**	*e*P	**P**	**08 54 12.7**	**0.0**
IMW	**Indian Meadow**	**85.06**	**41**	*e*P	**P**	**08 54 13.8**	**+0.4**
	comp=Z,23nm,1.4s,mb4.7						
IMW				*e*pP	pP	08 54 45.6	-0.8
LOHW	**Long Hollow**	**85.12**	**41**	*e*P	**P**	**08 54 13.9**	**+0.1**
	comp=Z,4.5nm,1.0s,mb4.2						
SEY	**Seymchan**	**85.18**	**346**	*e*P	**P**	**08 54 13.6**	**+0.1**
SEY				pmax	pmax		
	comp=N,6.0nm,0.8s						
SEY				pmax	pmax		
	comp=E,7.0nm,0.8s						
SEY				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
QLMT	**Earthquake Lak**	**85.25**	**40**	*e*P	**P**	**08 54 14.9**	**+0.6**
CHMT	**Chamberlain Mo**	**85.30**	**37**	*e*P	**P**	**08 54 13.8**	**-0.8**
CHMT				*e*pP	pP	08 54 47.6	+0.1
PDAR	**Pinedale Array**	**85.35**	**42**	P	**P**	**08 54 15.0**	**+0.1**
	comp=Z,4.4nm,0.7s,mb4.3,baz=223,slow=2.4,SNR=41						
PDAR				pP	pP	08 54 48.7	+0.8
	comp=Z,2.1nm,0.8s,baz=214,slow=5.3,SNR=3.9						
PDAR				LR	LR	09 27 45.1	
	comp=Z,46nm,18.8s,baz=75,slow=32						
BOZ	**Bozeman (W)**	**85.56**	**39**	*e*P	**P**	**08 54 15.8**	**-0.1**
	comp=Z,22nm,1.6s,mb4.6						
BOZ				*e*pP	pP	08 54 48.4	-0.5
SDCO	**Great Sand Dun**	**85.67**	**48**	*e*P	**P**	**08 54 16.5**	**0.0**
	comp=Z,1.5nm,0.7s,mb3.8						
ILAR	**Eielson Array**	**85.69**	**12**	P	**P**	**08 54 15.6**	**-0.4**
	comp=Z,19nm,0.7s,mb5.0,baz=228,slow=6.2,SNR=469						
HRY	**Holter Researc**	**86.01**	**38**	*e*P	**P**	**08 54 18.0**	**0.0**
BILL	**Bilibino**	**87.40**	**353**	*c i*P	**P**	**08 54 24.6**	**+0.4**
BILL				*e*		08 57 50.4	
BILL				pmax	pmax		
	comp=Z,31nm,0.7s,mb5.2						
BILL	**Bilibino**	**87.40**	**353**	*e*P	**P**	**08 54 24.5**	**+0.3**
	comp=Z,40nm,1.0s,mb5.2						
ENH	**Enshi**	**87.56**	**303**	*e*P	**P**	**08 54 28.1**	**+2.2**
	comp=Z,28nm,1.0s,mb5.0						
GYA	**Guiyang**	**88.43**	**298**	⇑*i*P	**P**	**08 54 34.0**	**+3.9**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GYA				LR	LR		
	comp=N,190nm,18.4s						
GYA				LR	LR		
	comp=E,210nm,17.9s						
GYA				LR	LR		
	comp=Z,170nm,18.6s						
EDM	**Edmonton**	**88.73**	**32**	*e*P	**P**	**08 54 30.2**	**-0.7**
EDM				pP	pP	08 55 03.6	-0.5
HIA	**Hailar**	**88.93**	**323**	*e*P	**P**	**08 54 32.7**	**+0.9**
	comp=Z,3.0nm,0.6s,mb4.4						
SYO	**Syowa Base**	**89.35**	**192**	⇓P	**P**	**08 54 33.0**	**-0.4**
SYO	**Syowa Base**	**89.35**	**192**	⇓X		09 00 09.0	
XAN	**Xi'an**	**89.46**	**306**	P	**P**	**08 54 36.5**	**+1.7**
XAN				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.8						
RSSD	**Black Hills**	**89.53**	**43**	*e*P	**P**	**08 54 34.9**	**+0.1**
	comp=Z,2.4nm,0.6s,mb4.3						
SNAA	**Sanae**	**89.90**	**177**	*e*	**P**	**08 54 37.2**	**+1.3**
SNAA	**Sanae**	**89.90**	**177**	*e*	**P**	**08 54 42.3**	**+6.4**
SNAA	**Sanae**	**89.90**	**177**	*e*	pP	08 55 10.0	+0.7
SNAA	**Sanae**	**89.90**	**177**	*e*	sP	08 55 25.3	+2.0
SNAA	**Sanae**	**89.90**	**177**	⇑*i*P	**P**	**08 54 36.2**	**+0.3**
SNAA				*e*		08 54 37.2	
SNAA				*e*		08 54 42.3	
SNAA				*e*	pP	08 55 10.0	+0.7
SNAA				*e*		08 55 25.3	
SNAA				*e*		09 15 19.3	
VNA3	**Neumayer Olymp**	**89.91**	**175**	*e*	**P**	**08 54 37.5**	**+1.5**
VNA3	**Neumayer Olymp**	**89.91**	**175**	*e*	**P**	**08 54 41.5**	**+5.5**
VNA3	**Neumayer Olymp**	**89.91**	**175**	*e*	pP	08 55 10.6	+1.3
VNA3	**Neumayer Olymp**	**89.91**	**175**	*e*	sP	08 55 26.7	+3.3
VNA3	**Neumayer Olymp**	**89.91**	**175**	⇑*i*P	**P**	**08 54 36.5**	**+0.5**
VNA3				*e*		08 54 37.5	
VNA3				*e*		08 54 41.5	
VNA3				*e*	pP	08 55 10.6	+1.3
VNA3				*e*		08 55 26.7	
VNA3				*e*		09 15 22.4	
HHC	**Hu-ho-hao-te**	**90.24**	**313**	*e*P	**P**	**08 54 40.2**	**+1.9**
HHC				AP	pP	08 55 12.5	+0.9
HHC				PP	PP	08 58 15.9	-0.1
HHC				SKS	SKS	09 04 58.7	+3.3
HHC				S	S	09 05 25.1	+6.4
HHC				AMB	AMB		
	comp=Z,41nm,2.4s,mb4.9						
HHC				LR	LR		
	comp=N,140nm,20.4s						
HHC				LR	LR		
	comp=E,361nm,21.6s						
HHC				LR	LR		
	comp=Z,96nm,19.2s						
VNA2	**Neumayer--Watz**	**90.39**	**176**	*e*	**P**	**08 54 40.2**	**+2.0**
VNA2	**Neumayer--Watz**	**90.39**	**176**	*e*	**P**	**08 54 45.2**	**+7.0**
VNA2	**Neumayer--Watz**	**90.39**	**176**	⇑*i*P	**P**	**08 54 39.3**	**+1.1**
VNA2				*e*		08 54 40.2	
VNA2				*e*		08 54 45.2	
VNA2				*e*		09 15 24.2	
KMI	**Kunming**	**91.28**	**296**	P	**P**	**08 54 45.2**	**+1.7**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
YAK	**Yakutsk**	**91.46**	**337**	*c i*P	**P**	**08 54 42.6**	**-0.9**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.0						
INK	**Inuvik**	**91.54**	**14**	*e*P	**P**	**08 54 43.2**	**-0.4**
	comp=Z,40nm,1.3s,mb5.3						
CMAR	**Chiang Mai Arr**	**92.44**	**289**	P	**P**	**08 54 51.1**	**+2.2**
	comp=Z,3.5nm,0.5s,mb4.6,baz=103,slow=3.1,SNR=16						
CMAR				pP	pP	08 55 25.1	+2.8
	comp=Z,1.5nm,0.3s,baz=107,slow=4.1,SNR=2.7						
YKA	**Yellowknife Ar**	**93.39**	**24**	P	**P**	**08 54 52.0**	**-0.3**
	comp=Z,1.8nm,0.7s,mb4.3,baz=242,slow=4.2,SNR=17						
YKA	**Yellowknife Ar**	**93.39**	**24**	P	**P**	**08 54 52.0**	**-0.3**
ULN	**Ulaanbaatar**	**95.93**	**318**	*i* P	**P**	**08 55 00.4**	**-3.7**
SONM	**Songino Array**	**96.33**	**318**	P	**P**	**08 55 06.1**	**+0.2**
	comp=Z,0.5nm,0.5s,mb4.1,baz=90,slow=4.3,SNR=5.8						
SONM				PP	PP	08 59 02.3	-1.0
	comp=Z,0.6nm,0.7s,baz=112,slow=6.7,SNR=4.7						
ULM	**Lac du Bonnet**	**97.07**	**39**	LR	LR	09 32 14.4	
	comp=Z,54nm,20.8s,baz=54,slow=31						
TIXI	**Tiksi**	**97.64**	**345**	*i* P	**P**	**08 55 11.3**	**-0.1**
TIXI				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,5.0nm,0.9s,mb4.9						
ZAL	Zalesovo	110.91	322	PKiKP		09 00 09.3	
	comp=Z,1.8nm,0.6s,baz=227,slow=3.7,SNR=5.9						
MKAR	Makanchi Array	112.10	314	*i* PKIKP	PKPdf	09 00 11.7	+0.8
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR	Makanchi Array	112.10	314	PKiKP		09 00 11.7	
	comp=Z,4.3nm,0.6s,baz=60,slow=0.9,SNR=32						
MKAR				PKKPbc		09 11 04.4	
	comp=Z,0.4nm,0.6s,baz=270,slow=3.6,SNR=3.9						
KSH	Kashi	116.31	306	*e*PKP	PKPdf	09 00 22.0	+2.7
KSH				*e*PKS	PKS	09 03 56.6	+1.5
KSH				*e*SS	SS	09 17 13.5	-7.9
KSH				PP	PP		
	comp=Z,120nm,5.0s						
KSH				LR	LR		
	comp=N,270nm,4.4s						
KSH				LR	LR		
	comp=E,280nm,4.7s						
AAK	Ala-Archa	117.51	309	⇓*i*PKIKP	PKPdf	09 00 22.2	+0.7
VOSK	Vostochnaya	119.23	321	PKIKP	PKPdf	09 00 25.3	+0.7
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BVA0	Borovoye Array	119.54	321	*i* PKIKP	PKPdf	09 00 26.2	+1.0
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BVAR	Borovoye Array	119.54	321	PKP	PKPdf	09 00 26.2	+1.0
	comp=Z,9.4nm,0.5s,baz=95,slow=1.8,SNR=64						
BVAR				PP	PP	09 01 55.3	+1.8
	comp=Z,2.8nm,0.9s,baz=90,slow=8.9,SNR=4.2						
ZRNK	Zerenda	120.38	321	PKIKP	PKPdf	09 00 27.4	+0.5
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ZRNK	Zerenda	120.38	321	*e*PKPdf	PKPdf	09 00 27.5	+0.6
KKAR	Karatay Array	120.43	310	*i* PKIKP	PKPdf	09 00 28.0	+0.8
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SVE	Sverdlovsk	124.08	327	⇑*e*PKIKP	PKPdf	09 00 35.5	+1.5
SVE				pmax	pmax		
	comp=Z,20nm,1.0s						
ARU	Arti	125.29	327	*i* PKIKP	PKPdf	09 00 37.0	+0.7
ARU				*e*		09 02 25.7	
ARU				*e*		09 07 31.4	
ARU				*e*SS	SS	09 19 04.2	-12
ARU	Arti	125.29	327	*e*PKPdf	PKPdf	09 00 37.4	+1.1
AB31	Akbulak array	126.75	318	*i* PKIKP	PKPdf	09 00 40.4	+1.2
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	ARCESS Array B	127.47	351	PKP	PKPdf	09 00 41.0	+0.9
	comp=Z,11nm,0.9s,baz=7.1,slow=1.3,SNR=34						
ARE0	ARCESS Array S	127.47	351	*e*PKPdf	PKPdf	09 00 40.7	+0.5
KAF	Kangasniemi	134.01	346	*e*p	PKPdf	09 00 49.5	-3.2
	comp=Z,4.3nm,0.6s						
KAF	Kangasniemi	134.01	346	*e*PKIKP	PKPdf	09 00 49.5	-3.2
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	FINESS Array B	134.66	346	PKhKP		09 00 44.8	
	comp=Z,0.8nm,0.5s,slow=1.9,SNR=5.7						
FINES				PKP	PKPdf	09 00 54.5	+0.5
	comp=Z,5.2nm,0.7s,baz=90,slow=1.9,SNR=21						
OBN	Obninsk	136.40	334	⇓*i*PKIKP	PKPdf	09 00 58.7	+1.4
OBN				*e*		09 03 39.9	
OBN				pmax	pmax		
	comp=Z,15nm,1.3s						
NB2	NORSAR Subarra	137.29	356	PKPabc	PKPdf	09 00 49.5	-9.2
	comp=Z,0.9nm,0.6s,baz=36,slow=2.1						
NOA	NORSAR Array B	137.29	356	PKhKP		09 00 50.0	
	comp=Z,0.8nm,0.7s,baz=16,slow=4.4,SNR=7.3						
NOA				PKP	PKPdf	09 00 59.2	+0.5
	comp=Z,2.2nm,0.7s,baz=13,slow=4.1,SNR=9.0						
KIV	Kislovodsk	139.72	317	*i* PKIKP	PKPdf	09 01 07.5	+3.8
SUW	Suwalki	141.96	343	*e*PKP	PKPdf	09 01 04.1	-3.2
SUW	Suwalki	141.96	343	*e*PKP	PKPdf	09 01 04.1	-3.2
EKA	Eskdalemuir Ar	142.65	8	PKhKP		09 01 05.2	
	comp=Z,2.9nm,0.7s,baz=336,slow=2.6,SNR=21						
AKASG	Malin Array Be	142.66	335	PKhKP		09 01 05.5	
	comp=Z,5.0nm,0.7s,baz=39,slow=4.1,SNR=17						
KAMS	Al Khamasin	143.00	279	P	PKPdf	09 01 15.5	+5.4
KMBO	Kilima Mbogo	143.06	242	*i* PKIKP	PKPdf	09 01 11.0	+0.6
KMBO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMBO	Kilima Mbogo	143.06	242	PKhKP		09 01 10.4	
	comp=Z,7.0nm,0.9s,baz=125,slow=3.2,SNR=12						
KELT	Kelkit	143.72	314	*i* P	PKPbc	09 01 11.9	+2.3
MARD	Mardin	143.78	309	*i* P	PKPbc	09 01 09.3	-0.6
DCN	Croghan	143.85	13	*e*P	PKPbc	09 01 10.0	+0.3
DLF	Lyons Farm	144.05	12	*e*P	PKPbc	09 01 09.0	-1.2
DSB	Dublin	144.13	12	*e*PKPdf	PKPdf	09 01 10.3	-0.7
PTK	Pertek	144.16	312	P	PKPbc	09 01 13.1	+2.1
BSEG	Bad Segeberg	144.41	355	PKHKP		09 01 11.8	
ELZG	Elazig	144.62	311	*i* P	PKPbc	09 01 14.6	+2.2
SBD1	Bryn Du	145.00	9	⇑*i*P	PKPdf	09 01 13.5	+0.9
SBD1				AMb	AMB	09 01 15.0	
	comp=Z,83nm,1.5s						
MALT	Malatya	145.09	311	P	PKPdf	09 01 15.3	+2.1
MALT	Malatya	145.09	311	*e*PKP	PKPdf	09 01 15.6	+2.3
URFA	Urfa	145.17	310	P	PKPdf	09 01 16.2	+2.8
LVV	L'vov	145.33	339	*i* PKIKP	PKPdf	09 01 15.0	+1.7
HLM1	Long Mynd	145.43	9	⇑*i*P	PKPdf	09 01 15.1	+1.7
HLM1				AMb	AMB	09 01 16.4	
	comp=Z,120nm,1.1s						
RUE	Ruedersdorf	145.44	351	*e*PKP	PKPdf	09 01 15.3	+1.9
SSP1	Stoney Pound	145.50	9	⇑*i*P	PKPdf	09 01 15.3	+1.9
KIS	Kishinev	145.65	331	α *i*PKIKP	PKPdf	09 01 15.0	+1.1
KIS				pmax	pmax		
	comp=Z,150nm,1.2s						
BLJS	Baljurashi	145.77	278	P	PKPdf	09 01 19.5	+4.5
HTR	Trewern Hill	145.80	9	⇑*e*P	PKPdf	09 01 15.8	+1.8
HTR				AMb	AMB	09 01 17.5	
	comp=Z,77nm,1.4s						
MCH1	Michaelchurch	145.92	9	⇑*i*P	PKPdf	09 01 16.4	+2.2
MCH1				AMb	AMB	09 01 17.2	
	comp=Z,74nm,0.8s						
KWP	Kalwaria	145.94	340	⇑*e*PKP	PKPdf	09 01 17.2	+2.9
KWP	Kalwaria	145.94	340	⇑*e*PKP	PKPdf	09 01 17.2	+2.9
HAE	Alders End	145.95	9	⇑*i*P	PKPdf	09 01 16.7	+2.5
HAE				AMb	AMB	09 01 18.3	
	comp=Z,216nm,1.1s						
BOYT	Boyabat	145.95	318	*i* P	PKPdf	09 01 18.3	+3.7
GZT	Gaziantep	146.12	310	*i* P	PKPdf	09 01 17.2	+2.2
OJC	Ojcow	146.29	343	*e*PKP	PKPdf	09 01 17.0	+2.1
HGH	Gray Hill	146.30	9	⇑*e*P	PKPdf	09 01 17.4	+2.6
HGH				AMb	AMB	09 01 19.9	
	comp=Z,122nm,1.2s						
GAZ	Gaziantep	146.45	310	*e*P	PKPdf	09 01 20.3	+4.7
CTKT	Corum	146.45	317	*i* P	PKPdf	09 01 18.6	+3.2
CLZ	Clausthal	146.48	354	PKIKP	PKPdf	09 01 19.1	+4.0
KSP	Ksiaz	146.56	347	*e*PKHKP		09 01 17.0	
KSP				*e*		09 01 19.2	
KSP	Ksiaz	146.56	347	⇑*e*PKP	PKPdf	09 01 19.3	+4.0
WTSB	Winterswijk	146.57	358	*e*PKP	PKPdf	09 01 18.0	+2.8
	comp=Z,67nm,0.9s						
STHS	Stebnicka Huta	146.59	341	*e*PKP	PKPdf	09 01 19.6	+4.2
BNN	Bunyan	146.65	314	*e*P	PKPdf	09 01 20.7	+4.9
KOLS	Kolonicke sedl	146.68	340	*e*PKP	PKPdf	09 01 18.4	+2.9
CLL	Collm	146.69	351	⇑*i*PKIKP	PKPdf	09 01 19.2	+3.7
CLL				*e*		09 02 06.0	
CLL				pmax	pmax		
	comp=Z,112nm,0.8s						
CLL	Collm	146.69	351	⇑*i*PKP	PKPdf	09 01 19.2	+3.7
CLL				*i*		09 01 31.6	
CLL				*e*pPKP		09 01 54.0	
CLL				*e*		09 02 06.0	
CLL	Collm	146.69	351	*e*PKIKP	PKPdf	09 01 17.0	+1.5
CLL				*i* PKP1	PKPbc	09 01 19.2	+2.1
CLL				*i*		09 01 31.6	
CLL				*e**PPKP		09 01 54.0	
CLL				*e*		09 02 06.0	
BURAR	Bucovina Array	146.71	335	⇑P	PKPdf	09 01 20.4	+4.8
CORM	Corum	146.79	317	*e*P	PKPdf	09 01 14.6	-1.4
BALT	Daday	146.83	320	*i* P	PKPdf	09 01 16.9	+0.9
NIE	Niedzica	146.87	342	*e*PKP	PKPdf	09 01 20.4	+4.6
LTHS	Al Lith	146.91	279	P	PKPdf	09 01 21.8	+5.1
UPC	Upice	146.94	347	*e*PKP	PKPdf	09 01 17.9	+2.0
UZH	Uzhgorod	146.94	339	*i* PKP2	PKPab	09 01 21.0	-1.1
BRG	Berggiesshubel	146.97	350	*e*PKHKP		09 01 17.7	
BRG				*i*		09 01 20.0	
BRG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CRVS	Cervenica-Dubn	146.97	340	*e*PKP	PKPdf	09 01 22.6	+6.6
DPC	Dobruska-Polom	147.02	347	*e*PKP	PKPdf	09 01 20.8	+4.8
OKC	Ostrava-Krasne	147.07	345	*e*PKP	PKPdf	09 01 20.3	+4.1
CANT	Cankiri	147.21	318	*e*P	PKPdf	09 01 21.6	+4.9
MORC	Moravsky Berou	147.28	345	*e*PKPdf	PKPdf	09 01 17.6	+1.1
MORC				*e*PKPbc	PKPdf	09 01 21.1	+4.6
CFR	Carcaliu	147.31	330	PKP2	PKPab	09 01 21.8	-1.8
CFR	Carcaliu	147.31	330	⇓P	PKPdf	09 01 21.4	+4.7
AVNT	Avonos	147.36	314	*i* P	PKPdf	09 01 17.7	+0.7
ELDT	Eldivan	147.40	318	*i* P	PKPdf	09 01 22.1	+5.1
SAFT	Safranbolu	147.43	320	*e*P	PKPdf	09 01 22.1	+5.1
VRI	Vrincioaia	147.45	332	PKP2	PKPab	09 01 22.0	-2.2
VRI	Vrincioaia	147.45	332	⇑P	PKPdf	09 01 21.6	+4.7
MOX	Moxa	147.53	353	*e*PKHKP		09 01 19.3	
MOX				pmax	pmax		
	comp=Z,44nm,1.3s						
KECS	Kecovo	147.65	341	*i* PKP	PKPdf	09 01 22.3	+5.1
HTY	Hatay	147.67	309	*e*P	PKPdf	09 01 23.0	+5.4
BR131	Keskin Array S	147.68	317	*e*PKPdf	PKPdf	09 01 19.1	+1.6
BR131				*e*PKPbc	PKPdf	09 01 22.2	+4.7
BRTR	Keskin Array B	147.68	317	PKP	PKPdf	09 01 19.0	+1.5
	comp=Z,19nm,0.8s,baz=136,slow=2.6,SNR=48						
BRTR				PKPbc	PKPdf	09 01 22.6	+5.1
	comp=Z,19nm,0.8s,baz=135,slow=2.5,SNR=58						
TIRR	Tirgusor	147.70	328	PKP2	PKPab	09 01 22.4	-2.8
TIRR	Tirgusor	147.70	328	⇑P	PKPdf	09 01 22.5	+5.1
PRU	Pruhonice	147.72	349	*e*PKP	PKPdf	09 01 22.3	+5.1
HARR	Harsova	147.77	329	PKP2	PKPab	09 01 23.0	-2.4
HGN	Heimansgroeve	147.79	359	*e*PKP	PKPdf	09 01 22.1	+4.8
	comp=Z,36nm,1.3s						
KBRS	Khaybar	147.82	289	P	PKPdf	09 01 23.9	+5.8
NKC	Novy Kostel	147.82	351	*e*PKP	PKPdf	09 01 22.6	+5.2
KAMT	Kaman	147.82	316	*e*P	PKPdf	09 01 19.6	+1.8
VRAC	Vranov	147.94	346	PKP2	PKPab	09 01 23.8	-2.1
MLR	Muntele Rosu	148.09	332	PKP2	PKPab	09 01 23.8	-2.9
MLR	Muntele Rosu	148.09	332	⇑P	PKPdf	09 01 23.6	+5.6
VYHS	Vyhne	148.12	343	*i* PKP	PKPdf	09 01 23.6	+5.7
ANTO	Ankara	148.15	318	*e*P	PKPdf	09 01 19.4	+1.1
ANTO	Ankara	148.15	318	PKP2	PKPab	09 01 24.3	-2.8
LOD	Lodumlu	148.15	318	*e*P	PKPdf	09 01 24.4	+6.1
KOLL	Kolacno	148.16	343	*i* PKP	PKPdf	09 01 23.9	+5.9
SGKT	Sivrigoynuk	148.21	319	*i* P	PKPdf	09 01 19.2	+0.9
PSZ	Piszkesteto	148.33	341	PKIKP	PKPdf	09 01 24.1	+5.8
PSZ	Piszkesteto	148.33	341	*e*PKPdf	PKPdf	09 01 19.9	+1.6
PSZ				*e*PKPbc	PKPdf	09 01 23.9	+5.6
PSZ	Piszkesteto	148.33	341	⇑*e*P	PKPdf	09 01 23.9	+5.6
DRGR		148.36	337	PKIKP	PKPdf	09 01 24.1	+5.7
DRGR		148.36	337	⇑P	PKPdf	09 01 24.0	+5.6
QURS	Qurayyt al Mil	148.41	300	P	PKPdf	09 01 25.6	+6.6
SMOL	Smolenice	148.48	345	*e*PKP	PKPdf	09 01 25.4	+6.9
GRF	Grafenberg Arr	148.51	353	*e*PKP	PKPdf	09 01 20.9	+2.4
GRF				*e*PKP	PKPdf	09 01 24.7	+6.2
ASF	Jabal al Asfar	148.52	302	PKPbc	PKPdf	09 01 25.6	+6.5
	comp=Z,16nm,0.9s,baz=324,slow=1.4,SNR=13						
ABH	Alteburg	148.63	357	PKP	PKPdf	09 01 24.5	+5.8
ABH	Alteburg	148.63	357	⇑*e*P	PKPdf	09 01 24.8	+6.1
MBAR	Mbarara	148.65	236	*e*PKPbc	PKPdf	09 01 25.3	+5.4
KHC	Kasperske Hory	148.71	350	*c* *i*PKIKP	PKPdf	09 01 24.9	+6.0
KHC	Kasperske Hory	148.71	350	*e*PKP	PKPdf	09 01 20.3	+1.4
KHC				*e*x	x	09 01 25.1	
KHC				*e*x	x	09 01 38.0	
WET	Wettzell	148.82	350	PKP2	PKPab	09 01 29.3	-0.2
RUP	Ruppelstein	148.83	358	⇑*e*P	PKPdf	09 01 25.4	+6.4
TOD	Tromm	148.83	356	PKP	PKPdf	09 01 25.2	+6.2
TOD	Tromm	148.83	356	⇑*e*P	PKPdf	09 01 25.1	+6.1
ZST	Bratislava	148.86	345	*i* PKP	PKPdf	09 01 26.1	+7.0
WLF	Walferdange	148.89	359	*e*PKPbc	PKPdf	09 01 25.2	+6.1
MEST	Erdemli	148.91	311	*i* P	PKPdf	09 01 25.2	+5.6
GEC2	GERESS Array S	148.97	349	PKHKP		09 01 21.5	
GERES	GERESS Array B	148.97	349	PKP	PKPdf	09 01 21.3	+2.0
	comp=Z,15nm,0.7s,baz=27,slow=3.0,SNR=67						
GERES				PKPbc	PKPdf	09 01 25.4	+6.1
	comp=Z,15nm,0.7s,baz=27,slow=2.2,SNR=99						
SIND	Sindeldorf	149.02	355	⇑*e*P	PKPdf	09 01 25.4	+6.1
YNBS	Yanbu' al Bahr	149.10	287	P	PKPdf	09 01 27.1	+6.9
KTD	Kalmit	149.16	356	*e*P	PKPdf	09 01 26.0	+6.4
KIZT	Kizilcal	149.28	317	P	PKPdf	09 01 26.6	+6.5
KDHN	Kadinhani	149.33	316	*i* P	PKPdf	09 01 25.6	+5.4
IKL	Isikli	149.40	311	P	PKPdf	09 01 26.7	+6.3
ROSF	Rostrenen	149.41	11	*e*PKIKP	PKPdf	09 01 21.6	+1.6
FLN	La Foliniere	149.43	8	*e*PKIKP	PKPdf	09 01 21.5	+1.5
	comp=Z,42nm,1.0s						
FLN				*e*R			
	comp=Z,55nm,21.2s						
LANF	Langenberg	149.52	357	PKP	PKPdf	09 01 26.9	+6.8
MMLI	Mount Malkishu	149.62	303	P	PKPdf	09 01 28.2	+7.4
SGMF	Saint Gilles	149.62	10	*e*PKIKP	PKPdf	09 01 21.7	+1.4
STU	Stuttgart	149.63	355	*e*PKPbc	PKPdf	09 01 27.1	+6.8
STU				*e*PKPab	PKPab	09 01 32.1	-0.8
UMJS	Umm Lajj	149.63	288	P	PKPdf	09 01 28.5	+7.5
HDH	Heidenheim	149.72	354	⇑*e*P	PKPdf	09 01 27.3	+6.9
MKRJ	Makawir	149.73	301	P	PKPdf	09 01 28.3	+7.3
GRR	Gorron	149.75	8	*e*PKIKP	PKPdf	09 01 22.2	+1.7
	comp=Z,12nm,0.8s						
ERMK	Ermenek	149.76	312	*i* P	PKPdf	09 01 27.7	+6.8
LBG	Lerchenberg	149.76	355	⇑*e*P	PKPdf	09 01 27.5	+7.0
SZH	Strazhica	149.79	329	*e*P	PKPdf	09 01 28.0	+7.3
MOA	Molln	149.82	348	⇑*i*P	PKPdf	09 01 27.4	+6.8
	comp=Z,21nm,0.9s						
TBKS	Tabuk	149.83	295	P	PKPdf	09 01 28.9	+7.6
QUIF	Quistinic	149.84	11	*e*PKIKP	PKPdf	09 01 22.0	+1.4
OFRI	'Ofer	149.90	304	P	PKPdf	09 01 27.9	+6.7
BUCH	Bad Urach	149.94	355	⇑*e*P	PKPdf	09 01 28.0	+7.2
SLTI	Sal'it	149.99	303	P	PKPdf	09 01 28.8	+7.4
FUR	Furstenfeldbru	150.00	352	PKP2	PKPab	09 01 34.2	-0.2
MZDA	Masada	150.03	301	P	PKPdf	09 01 28.9	+7.4
WLS	Welschbruch	150.10	357	PKP	PKPdf	09 01 28.2	+7.2
ARSA	Arzberg	150.12	346	⇑*i*P	PKPdf	09 01 27.9	+6.8
	comp=Z,16nm,0.9s						
BFO	Black Forest	150.13	356	PKHKP		09 01 28.0	
CSS	Prodhromos	150.24	309	*e*P	PKPdf	09 01 27.9	+6.2
CSS	Prodhromos	150.24	309	*e*PKPbc	PKPdf	09 01 28.6	+6.9
JMQS	Jabal Moqyreh	150.26	296	P	PKPdf	09 01 29.8	+7.9
ECH	Echery	150.31	358	PKP	PKPdf	09 01 28.4	+7.1
SPAK	Spaichingen	150.33	355	*e*P	PKPdf	09 01 28.6	+7.2
GUT	Gutenstein	150.33	355	⇑*e*P	PKPdf	09 01 28.6	+7.2
THEF	They Montfort	150.33	359	PKP	PKPdf	09 01 28.9	+7.5
LIBD	Limburg	150.35	357	*e*P	PKPdf	09 01 29.0	+7.6
LEF	Lefka	150.49	310	*e*P	PKPdf	09 01 29.7	+7.7
KIZ	Kirchzarten	150.53	356	⇑*e*P	PKPdf	09 01 28.9	+7.2
FELD	Feldberg	150.61	356	⇑*e*P	PKPdf	09 01 29.3	+7.5
PRNI	Paran	150.61	299	P	PKPdf	09 01 30.4	+8.0
UBR	Uberruh	150.62	353	⇑*e*P	PKPdf	09 01 29.2	+7.4
MOF	Molkenrain	150.67	358	PKP	PKPdf	09 01 29.3	+7.4
KBA	Koelnbreinsper	150.74	349	⇑*i*P	PKPdf	09 01 29.2	+7.2
	comp=Z,25nm,0.6s						
ISP	Isparta	150.76	316	*c* *i*PKHKP		09 01 29.2	
TKTP	Tekketepe	150.77	317	*i* P	PKPdf	09 01 28.9	+6.5
WATA	Walderalm	150.78	351	⇑*i*P	PKPdf	09 01 29.7	+7.6
	comp=Z,19nm,0.5s						
MOTA	Moosalm	150.83	352	⇑*i*P	PKPdf	09 01 29.8	+7.6
	comp=Z,48nm,1.0s						
MOTA				*i*		09 01 37.0	
	comp=Z,13nm,0.7s						
WTTA	Wattenberg	150.84	351	*i* P	PKPdf	09 01 30.1	+7.9
	comp=Z,70nm,0.6s						
MBH	Mount Berech	150.84	298	P	PKPdf	09 01 30.8	+8.1
JMOS	Jabal al Moall	150.84	297	P	PKPdf	09 01 31.0	+8.3
ALWS	Ilw as Safayha	150.84	297	P	PKPdf	09 01 30.9	+8.2
EIL	Elat	150.85	298	PKPbc	PKPdf	09 01 30.9	+8.1
	comp=Z,34nm,0.9s,baz=2.0,slow=4.7,SNR=24						
EIL	Elat	150.85	298	*e*PKPbc	PKPdf	09 01 30.4	+7.6
EIL	Elat	150.85	298	P	PKPdf	09 01 30.8	+8.0
DIM	Dimitrovgrad	150.89	328	P	PKPdf	09 01 30.7	+8.3
KMTI	Karmit	150.91	299	P	PKPdf	09 01 30.7	+7.9
SQTA	Sankt Quirin	150.94	352	⇑*i*P	PKPdf	09 01 30.3	+8.0
	comp=Z,31nm,0.7s						
KZIT	Kziot	150.94	301	P	PKPdf	09 01 30.9	+8.0
SVIS	Svilajnac	151.02	336	⇓*i*PKP	PKPdf	09 01 30.4	+7.8
HAQS	Haql	151.03	297	P	PKPdf	09 01 31.2	+8.2
BDAS	Al Bad'	151.03	296	P	PKPdf	09 01 31.1	+8.1
DAVA	Damuels	151.03	354	⇑*i*P	PKPdf	09 01 30.6	+8.1
	comp=Z,68nm,1.0s						
OBKA	Obir	151.04	347	⇑*i*P	PKPdf	09 01 29.9	+7.4
	comp=Z,13nm,0.7s						
OBKA				*i*		09 01 37.8	
	comp=Z,14nm,0.8s						
BBS	Basel-Blauen	151.04	357	PKP	PKPdf	09 01 30.1	+7.6
BBS	Basel-Blauen	151.04	357	*e*P	PKPdf	09 01 30.4	+7.9
PGB	Panagyurishte	151.18	330	*e*P	PKPdf	09 01 30.5	+7.7
LOMF	Lomont	151.19	358	PKP	PKPdf	09 01 30.8	+8.1
TAYS	Tayyib Ism	151.20	296	P	PKPdf	09 01 31.6	+8.3
KDZ	Kurdzhali	151.25	328	*e*P	PKPdf	09 01 31.0	+8.0
LOR	Lormes	151.27	2	*e*PKIKP	PKPdf	09 01 24.7	+1.9
	comp=Z,12nm,0.8s						
LOR				*e*R			
	comp=Z,40nm,19.8s						
ZAPS	Zavoj/Pirot	151.28	333	⇑*i*PKP	PKPdf	09 01 24.2	+1.2
SSF	Saint Saulge	151.46	3	*e*PKIKP	PKPdf	09 01 25.0	+1.9
	comp=Z,19nm,1.1s						
LJU	Ljubljana	151.49	347	*e*PKPdf	PKPdf	09 01 26.0	+2.9
LJU				*e*PKPbc	PKPdf	09 01 31.2	+8.0
LJU				*e*		09 02 07.2	
ROBS	Robic	151.51	348	*e*PKPdf	PKPdf	09 01 24.3	+1.1
ROBS				*e*PKPbc	PKPdf	09 01 30.5	+7.3
GRUS	Gruza	151.56	336	⇓*i*PKP	PKPdf	09 01 31.8	+8.4
RZN	Rozhen	151.57	329	*e*P	PKPdf	09 01 31.8	+8.3
VTS	Vitosha	151.59	332	P	PKPdf	09 01 32.0	+8.6
MFF	Saint Martin d	151.60	8	*e*PKIKP	PKPdf	09 01 25.2	+1.9
VOY	Vojsko	151.63	347	*e*PKPdf	PKPdf	09 01 25.2	+1.8
VOY				*e*PKPbc	PKPdf	09 01 31.2	+7.8
DIVS	Divcibare	151.65	337	⇓*i*PKP	PKPdf	09 01 31.5	+8.0
DNZL	Cakiroluk	151.79	318	*i* P	PKPdf	09 01 32.6	+8.7
BOJS	Bojanci	151.83	345	*e*PKPdf	PKPdf	09 01 25.2	+1.5
BOJS				*e*PKPbc	PKPdf	09 01 32.2	+8.5
BOJS				*e*		09 02 08.4	
SMF	Signal de Mont	151.89	2	*e*PKIKP	PKPdf	09 01 25.4	+1.6
BGF	Bois d'Agland	151.93	4	*e*PKIKP	PKPdf	09 01 25.6	+1.8
CABF	La Chapelle	151.94	359	*e*PKIKP	PKPdf	09 01 26.2	+2.3
	comp=Z,19nm,1.0s						
MMB	Musomiste	152.13	330	P	PKPdf	09 01 32.8	+8.5
TCF	Toulx Ste Croi	152.15	5	*e*PKIKP	PKPdf	09 01 25.8	+1.6
KKB	Krupnik	152.22	331	P	PKPdf	09 01 33.0	+8.6
AGO	Saint Agoulin	152.45	3	PKP	PKPdf	09 01 34.3	+10
PLDF	La Plantade	152.56	3	PKP	PKPdf	09 01 34.9	+10
PYM	Petit Puy Mans	152.74	4	PKP	PKPdf	09 01 28.4	+3.4
RJF	Les Rejaudoux	153.07	6	*e*PKIKP	PKPdf	09 01 27.4	+1.9
RJF				*e*R			
	comp=Z,100nm,23.0s						
LBL	Lubilhac	153.27	3	PKP	PKPdf	09 01 36.3	+11
ORIF	Oris-en-Rattie	153.64	359	*e*PKIKP	PKPdf	09 01 27.6	+1.3
	comp=Z,6.1nm,0.8s						
ORIF				*e*R			
	comp=Z,52nm,22.0s						
VIVF	Saint-Julien-l	153.70	1	*e*PKIKP	PKPdf	09 01 28.6	+2.2
MBDF	Montbardon	153.81	358	*e*PKIKP	PKPdf	09 01 27.9	+1.4
ETSF	Etsaut	155.16	10	*e*PKIKP	PKPdf	09 01 30.2	+1.8
EVO	Evora	156.89	27	*e*PKIKP	PKPdf	09 01 31.9	+1.1
	comp=Z,36nm,1.5s						
ESDC	Sonseca Array	157.40	19	PKP	PKPdf	09 01 33.0	+1.5
	comp=Z,1.4nm,0.9s,baz=65,slow=1.2,SNR=5.3						
ESDC				PKPab	PKPab	09 02 06.0	-0.1
	comp=Z,3.6nm,0.7s,baz=338,slow=4.4,SNR=17						

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*IDC **10** 09:02:40.0±4.2, 19.16S×169.33E, h128km±36km, mb3.8/7, mb1 4.0/8, mb1mx3.8/15, mbtmp4.2/8, Error ellipse: s-maj=36.6km s-min=25.2km az=6.0*

*NEIC **10** 09:02:41.0±2.4, 19.14S×169.32E, h140km±19km, mb4.3/6, Error ellipse: s-maj=22.4km s-min=13.5km az=212.0*

ISC 10 09:02:41.2±3.0**, 19.3S**±0.2×**169.2E**±0.2**, h151**km±23km**, n19,** σ**0.96**/20**, mb4.1**/9**, 1C-1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.81**	**223**	*e*P	**P**	**09 03 40.3**	**+0.5**
DZM				*e*S	**S**	**09 04 23.9**	**-0.9**
DZM	**Mont Dzumac**	**3.81**	**223**	P	**P**	**09 03 40.3**	**+0.5**
	3.7nm,0.3s,baz=62,slow=18,SNR=107						
DZM				S	**S**	**09 04 24.9**	**0.0**
	5.9nm,0.3s,baz=327,slow=20,SNR=29						
DZM	**Mont Dzumac**	**3.81**	**223**	*e*P	**P**	**09 03 40.3**	**+0.5**
DZM				*e*S	**S**	**09 04 23.9**	**-0.9**
URZ	**Urewera**	**20.12**	**162**	P	**P**	**09 07 05.4**	**+0.3**
	7.0nm,0.7s,baz=321,slow=12,SNR=5.0						
CTA	**Charters Tower**	**21.64**	**264**	P	**P**	**09 07 23.0**	**+2.6**
	2.4nm,0.4s,mb3.9,baz=56,slow=13,SNR=5.9						
CTAO	**Charters Tower**	**21.64**	**264**	*e*P	**P**	**09 07 21.6**	**+1.2**
	3.8nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**27.81**	**238**	⇑*i*P	**P**	**09 08 18.6**	**+0.2**
	4.3nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**27.81**	**238**	P	**P**	**09 08 18.8**	**+0.4**
	4.4nm,0.6s,mb4.3,baz=72,slow=9.7,SNR=20						
WRAB	**Tennant Creek**	**32.83**	**263**	*e*P	**P**	**09 09 00.4**	**-2.2**
	8.7nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**32.84**	**263**	P	**P**	**09 09 01.5**	**-1.2**
	2.3nm,0.6s,mb4.1,baz=99,slow=8.2,SNR=16						
FITZ	**Fitzroy Crossi**	**41.23**	**264**	⇓*i*P	**P**	**09 10 13.7**	**+0.8**
	18nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**41.23**	**264**	P	**P**	**09 10 14.0**	**+1.1**
	24nm,0.7s,mb5.0,baz=146,slow=5.1,SNR=23						
MBWA	**Marble Bar**	**46.34**	**259**	*e*P	**P**	**09 10 54.4**	**+0.5**
SBA	**Scott Base**	**58.62**	**181**	*e*P	**P**	**09 12 24.2**	**-0.1**
	1.0nm,0.8s,mb3.7						
QSPA	**South Pole Qui**	**70.77**	**180**	*e*P	**P**	**09 13 42.3**	**-0.1**
	2.9nm,0.7s,mb4.1						
SONM	**Songino Array**	**87.24**	**323**	P	**P**	**09 15 12.2**	**+0.6**
	0.2nm,0.3s,mb3.4,baz=154,slow=5.1,SNR=2.8						
ILAR	**Eielson Array**	**90.27**	**17**	P	**P**	**09 15 24.6**	**-0.9**
	0.6nm,0.8s,mb3.6,baz=270,slow=2.9,SNR=5.7						
ARCES	**ARCESS Array B**	**125.10**	**345**	PKP	PKPdf	09 21 23.4	+0.3
	1.6nm,1.0s,baz=45,slow=1.7,SNR=6.8						
GERES	**GERESS Array B**	**144.52**	**332**	PKP	PKPdf	09 22 00.3	+0.9
	0.9nm,0.6s,baz=39,slow=4.9,SNR=10.0						

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*NNC **10** 09:15:08.9±5.5, 37.20N×70.28E, h252km±77km, mpv3.6, Error ellipse: s-maj=65.5km s-min=41.3km az=0.0*

ISC 10 09:15:06.2±2.2**, 37.0N**±0.2×**70.1E**±0.2**, h200**km**, n10,** σ**0.87**/12**, 6C, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.80**	**28**	P	**P**	**09 16 31.6**	**0.0**
	SNR=30						
KK31	**Karatay Array**	**6.06**	**3**	⇑P	**P**	**09 16 36.1**	**+1.1**
	1.4nm,0.3s,baz=175,slow=12,SNR=16						
KK31				⇑S	**S**	**09 17 42.7**	**-1.4**
	1.8nm,0.3s,baz=191,slow=22,SNR=7.9						
UCH	**Uchtor**	**6.21**	**32**	P	**P**	**09 16 36.7**	**-0.2**
	SNR=42						
EKS2	**Erkin-Say**	**6.29**	**26**	P	**P**	**09 16 38.2**	**+0.2**
	SNR=8.6						
KZA	**Kyzart**	**6.42**	**37**	P	**P**	**09 16 38.6**	**-1.0**
	SNR=7.8						
AAK	**Ala-Archa**	**6.54**	**30**	⇑P	**P**	**09 16 40.8**	**-0.4**
	2.9nm,0.4s						
AAK				⇑S	**S**	**09 17 56.7**	**+1.5**
	22nm,0.6s						
USP	**Ospenovka**	**7.08**	**27**	P	**P**	**09 16 48.5**	**+0.3**
	SNR=6.3						
TKM2	**Tokmak 2**	**7.24**	**34**	P	**P**	**09 16 50.1**	**-0.2**
	SNR=16						
MK31	**Makanchi Array**	**13.31**	**39**	⇑P	**P**	**09 18 04.6**	**-3.8**
	2.1nm,0.8s,baz=219,slow=12,SNR=12						
AB31	**Akbulak array**	**14.25**	**332**	⇑P	**P**	**09 18 20.5**	**+0.5**
	0.3nm,0.3s,baz=147,slow=12,SNR=15						

IDC 10 09:32:34.0±1.6**, 1.27N**×**124.24E, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.4**/18**, mbtmp3.5**/3**, Error ellipse: s-maj=201.4km s-min=24.4km az=62.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.29**	**155**	P	P	09 37 43.8	-0.8
	0.4nm,0.3s,baz=334,slow=11,SNR=16						
STKA	**Stephens Creek**	**36.84**	**155**	P	P	09 39 44.0	-2.0
	0.6nm,0.3s,baz=325,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**58.20**	**327**	P	P	09 42 30.0	-2.4
	0.1nm,0.3s,baz=135,slow=6.1,SNR=2.7						

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*IDC **10** 09:33:58.5±1.5, 0.14N×95.94E, mb3.9/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.9/7, Error ellipse: s-maj=74.1km s-min=29.6km az=58.0*

*NEIC **10** 09:34:03.6±0.8, 0.35N×96.32E, h30km, Error ellipse: s-maj=20.7km s-min=18.9km az=79.0*

ISC 10 09:34:02.6±1.1**, 0.4N**±0.2×**96.4E**±0.2**, h33**km**, n10,** σ**0.49**/8**, mb3.9**/7**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.45**	**41**	*e*P	**P**	**09 35 37.2**	**-0.4**
MKAR	**Makanchi Array**	**47.85**	**347**	P	**P**	**09 42 39.3**	**+0.1**
	1.2nm,0.8s,mb4.0,baz=164,slow=8.8,SNR=10						
SONM	**Songino Array**	**48.05**	**9**	P	**P**	**09 42 41.9**	**+1.1**
	0.6nm,0.6s,mb3.8,baz=193,slow=10.0,SNR=4.7						
SONM				PcP	PcP	09 44 08.8	+0.1
	0.4nm,0.8s,baz=7.1,slow=10.0,SNR=3.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
STKA	**Stephens Creek**	**53.40**	**131**	P	**P**	**09 43 21.7**	**+0.1**
	1.9nm,0.8s,mb4.1,baz=291,slow=18,SNR=3.8						
ZAL	**Zalesovo**	**54.23**	**352**	P	**P**	**09 43 27.2**	**-0.2**
	1.4nm,0.5s,mb4.2,baz=318,slow=5.4,SNR=4.4						
ARCES	**ARCESS Array B**	**83.03**	**340**	P	**P**	**09 46 25.9**	**+0.2**
	0.7nm,0.5s,mb3.9,baz=90,slow=4.9,SNR=9.3						
GERES	**GERESS Array B**	**84.91**	**319**	P	**P**	**09 46 35.5**	**-0.1**
	0.1nm,0.3s,mb3.5,slow=2.7,SNR=3.7						
NOA	**NORSAR Array B**	**87.33**	**331**	P	**P**	**09 46 46.5**	**-0.7**
	0.6nm,0.7s,mb3.9,baz=100,slow=5.2,SNR=3.4						
TXAR	**Lajitas Array**	**144.76**	**31**	PKPbc	PKPbc	09 53 38.2	+1.4
	0.4nm,0.6s,baz=285,slow=1.7,SNR=8.3						
TXAR	**Lajitas Array**	**144.76**	**31**	PKPbc	PKPbc	09 53 38.2	+1.4

CASC 10 09:52:57.7±2.2**,9.57N**×**84.17W,h29**km±3km**,MD3.6, ML3.1,6C-10D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.23**	**44**	⇓*i*P	Pb	09 53 04.5	+0.3
LCR2				*e*S	Sb	09 53 10.4	+1.8
OCM	**Ochomogo**	**0.38**	**33**	⇓*i*P	Pb	09 53 06.2	0.0
OCM				*e*S	Sb	09 53 13.2	+1.2
OCM				AML	AML	09 53 13.8	
	comp=N,2μm,0.1s						
SJS	**Escuela Geolog**	**0.38**	**17**	⇓*i*P	Pb	09 53 06.6	+0.4
SJS				*e*S	Sb	09 53 13.8	+1.8
BUS	**Buena Vista**	**0.41**	**92**	⇓*i*P	Pb	09 53 06.5	-0.1
BUS				*e*S	Sb	09 53 14.4	+1.8
PRS1	**Puriscal**	**0.43**	**341**	⇓*e*P	Pb	09 53 06.2	-0.8
PRS1				*e*S	Sb	09 53 13.5	+0.2
URSC	**Urasca**	**0.47**	**56**	⇓*e*P	Pb	09 53 07.4	-0.1
IRZ2	**Volcan Irazu 2**	**0.48**	**34**	⇓*i*P	Pb	09 53 07.9	+0.2
IRZ2				*e*S	Sb	09 53 16.3	+1.8
TLLA	**Tiendilla**	**0.58**	**42**	*i* P	Pb	09 53 10.1	+0.8
PICA	**Picada**	**0.59**	**40**	⇓*i*P	Pb	09 53 09.4	-0.1
EPA	**Esparza**	**0.59**	**314**	⇓*e*P	Pb	09 53 08.9	-0.5
FIBO	**Fila Bonilla**	**0.64**	**46**	*e*P	Pb	09 53 10.0	-0.2
FIBO				*e*S	Sb	09 53 20.0	+1.2
CAO	**Cobano**	**0.93**	**278**	⇑*i*P	Pn	09 53 14.2	-0.7
FORC	**Fortuna**	**1.02**	**331**	*e*P	Pn	09 53 16.1	-0.1
FORC				*e*S	Sn	09 53 30.9	+1.3
VACR	**Volcan Arenal**	**1.02**	**331**	⇑*e*P	Pn	09 53 16.4	+0.1
VACR				*e*S	Sn	09 53 29.6	-0.1
TRTC	**Tortuguero**	**1.09**	**24**	⇑*i*P	Pn	09 53 16.9	-0.3
TRTC				*e*S	Sn	09 53 32.5	+1.0
CTCR	**Cotoan**	**1.55**	**116**	⇑*e*P	Pn	09 53 22.3	-1.4
CNI	**Changuinola**	**1.64**	**95**	*e*P	Pn	09 53 25.2	+0.2
RIN3	**Volcan Rincon**	**1.70**	**316**	⇓*e*P	Pn	09 53 26.2	+0.3
RIN3				*e*S	Sn	09 53 48.1	+1.2
BRU	**Baru**	**1.76**	**115**	⇑*i*P	Pn	09 53 27.6	+0.8
DVD	**David**	**2.04**	**123**	*e*P	Pn	09 53 31.6	+0.7
PTP1	**Petroterminal**	**2.19**	**128**	⇑*i*P	Pn	09 53 30.4	-2.6

*NEIC **10** 09:57:00.8±1.7,25.04S×112.24W,h10km,mb3.9/1,Error ellipse: s-maj=62.8km s-min=35.7km az=208.0*

IDC 10 09:56:58.8±2.7**,25.13S**×**112.38W,mb3.5**/3**,mb1 3.9**/3**, mb1mx3.7**/14**,mbtmp3.5**/3**,Error ellipse: s-maj=87.6km s-min=42.7km az=34.0,Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**42.16**	**87**	P	P	10 04 53.7	-1.3
	0.6nm,0.7s,baz=281,slow=10,SNR=3.2						
LPAZ	**La Paz**	**42.16**	**87**	*e*P	P	10 04 53.3	-1.7
	2.7nm,1.1s						
TXAR	**Lajitas Array**	**54.79**	**9**	P	P	10 06 31.3	-1.6
	0.4nm,1.0s,baz=180,slow=9.9,SNR=3.5						
YKA	**Yellowknife Ar**	**87.33**	**359**	P	P	10 09 45.1	-3.2
	0.3nm,0.5s,baz=172,slow=4.4,SNR=5.0						
BRTR	**Keskin Array B**	**148.05**	**55**	PKPbc	PKPdf	10 16 47.0	+1.9
	0.4nm,0.4s,baz=315,slow=3.5,SNR=4.1						
BVAR	**Borovoye Array**	**152.06**	**356**	PKPbc	PKPdf	10 16 56.0	+5.3
	0.8nm,0.7s,baz=45,slow=2.0,SNR=7.1						
MKAR	**Makanchi Array**	**155.41**	**335**	PKPbc	PKPdf	10 17 04.2	+8.6
	0.2nm,0.3s,baz=34,slow=5.2,SNR=3.4						

*IDC **10** 09:57:30.3±3.5,9.18S×105.72E,mb3.9/7,mb1 4.1/7, mb1mx3.9/18,mbtmp4.0/7,Error ellipse: s-maj=144.2km s-min=20.9km az=47.0*

*NEIC **10** 09:57:33.8±1.6,9.11S×105.86E,h20km,mb4.2/2,Error ellipse: s-maj=72.4km s-min=9.4km az=46.0*

ISC 10 09:57:31.2±2.7**,9.2S**±0.5×**105.8E**±0.6**,h20**km**,n12, σ0.s34**/10**,mb4.0**/9**,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.20**	**117**	P	**P**	**10 02 18.5**	**+0.5**
	6.6nm,0.8s,mb4.0,baz=237,slow=1.4,SNR=3.7						
CMAR	**Chiang Mai Arr**	**28.26**	**346**	P	**P**	**10 03 25.4**	**-0.1**
	1.6nm,0.5s,mb3.9,baz=180,slow=8.6,SNR=7.1						
WRA	**Warramunga Arr**	**29.57**	**114**	P	**P**	**10 03 37.6**	**+0.3**
	0.5nm,0.6s,mb3.4,baz=287,slow=12,SNR=6.1						
WRAB	**Tennant Creek**	**29.58**	**114**	*e*P	**P**	**10 03 36.5**	**-0.8**
SONM	**Songino Array**	**56.74**	**0**	P	**P**	**10 07 16.2**	**+0.1**
	0.6nm,0.6s,mb3.8,baz=172,slow=9.0,SNR=6.2						
ULN	**Ulaanbaatar**	**56.78**	**1**	*e*P	**P**	**10 07 10.8**	**-5.6**
	3.2nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**59.52**	**341**	P	**P**	**10 07 35.5**	**-0.1**
	1.0nm,0.7s,mb4.0,baz=149,slow=7.1,SNR=7.7						
ZAL	**Zalesovo**	**65.32**	**347**	P	**P**	**10 08 14.2**	**+0.1**
	1.2nm,0.3s,mb4.3,baz=156,slow=6.1,SNR=5.5						
BVAR	**Borovoye Array**	**68.89**	**338**	P	**P**	**10 08 36.6**	**-0.1**
	1.2nm,0.7s,mb4.0,baz=144,slow=9.0,SNR=3.2						
ZRNK	**Zerenda**	**69.36**	**337**	*e*P	**P**	**10 08 39.6**	**+0.1**
	1.6nm,0.9s,mb4.0						
TXAR	**Lajitas Array**	**145.86**	**50**	PKPbc	PKPbc	10 17 12.3	+2.2
	0.6nm,0.8s,baz=274,slow=0.7,SNR=9.0						
WVT	**Waverly**	**150.42**	**23**	*e*PKPbc	PKPdf	10 17 24.8	+4.2
WVT				*e*		10 17 33.6	

*BJI **10** 10:18:15.5,2.21N×126.64E,h81km,mB5.0,mb5.1,Ms4.3, Msz4.1*

*MOS **10** 10:18:15.9±1.6,2.80N×126.58E,h54km,mb5.2/18,Error ellipse: s-maj=24.8km s-min=9.0km az=112.4*

*IDC **10** 10:18:15.4±3.8,2.65N×126.52E,h33km±28km,mb4.6/23, mb1 4.6/23,mb1mx4.6/24,mbtmp4.8/23,MS3.9/8, Ms1 3.9/8,ms1mx3.6/19,Error ellipse: s-maj=21.3km s-min=9.6km az=74.0*

*HRVD **10** 10:18:17.7±0.6,2.64N×126.45E,h31km±1km,MW4.9/36, Centroid moment Tensor Solution. LP body waves: s36,c43;Mantle waves: s32,c40; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.99±.22; $M_{\theta\theta}$-0.43±.13; $M_{\phi\phi}$-2.56±.14; $M_{r\theta}$-0.71±.24; $M_{\theta\phi}$0.45±.09; $M_{\phi r}$-0.08±.20; Best double couple: $M_0$2.894×10^{16} NP1:ϕ_s180°,δ45°, λ106°. NP2:ϕ_s337°,δ47°,λ74°. Principal axes: T 3.135, Plg78°, Azm172°; N -.478, Plg12°, Azm348°; P -2.653, Plg1°, Azm78°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **10** 10:18:17.7±1.3,2.64N×126.58E,h57km±11km,mb5.1/34 Error ellipse: s-maj=8.6km s-min=4.7km az=71.0*

ISC 10 10:18:16.0±0.8**,2.64N**±0.03×**126.54E**±0.05**,h55**km±6km**, h56**km±5.8km**:pP-P,n201,σ1.s23**/199**,mb5.0**/76**,MS4.0**/18**, 14C-11D,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**4.28**	**356**	*e*P	**P**	**10 19 21.8**	**+1.4**
KCP	**Kidapawan**	**4.57**	**342**	⇓*e*P	**P**	**10 19 29.0**	**+4.6**
KCP				*i* S	**S**	**10 20 20.5**	**+3.7**
BUKP	**Musuan**	**5.41**	**344**	*e*P	**P**	**10 19 36.4**	**+0.4**
BIPH	**Bislig**	**5.51**	**358**	*i* P	**P**	**10 19 38.4**	**+1.0**
BIPH				*i* S	**S**	**10 20 45.1**	**+4.9**
PAGZ	**Pagadian**	**6.05**	**329**	*e*P	**P**	**10 19 44.8**	**-0.1**
BUTP	**Butuan**	**6.35**	**352**	*e*P	**P**	**10 19 50.5**	**+1.3**
IPIL	**Ipil**	**6.46**	**322**	*e*P	**P**	**10 19 49.0**	**-1.7**
MSLP	**Maasin**	**7.63**	**347**	*e*P	**P**	**10 20 10.5**	**+3.5**
TSM	**Tawau**	**8.80**	**281**	P	**P**	**10 20 25.5**	**+2.3**
KKM	**Kota Kinabalu**	**10.83**	**289**	*e*P	**P**	**10 20 53.5**	**+2.5**
KKM	**Kota Kinabalu**	**10.83**	**289**	P	**P**	**10 20 54.5**	**+3.5**
KSM	**Kuching**	**16.26**	**266**	*e*P	**P**	**10 22 06.8**	**+4.4**
KAKA	**Kakadu**	**16.34**	**159**	*e*P	**P**	**10 22 03.1**	**-0.2**
	111nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.63**	**182**	⇓*i*P	**P**	**10 22 52.0**	**-1.4**
	73nm,0.6s						
FITZ				*e*S	**S**	**10 26 41.7**	**+5.8**
FITZ	**Fitzroy Crossi**	**20.63**	**182**	P	**P**	**10 22 52.1**	**-1.3**
	79nm,0.7s,baz=10,slow=8.2,SNR=70						
QIZ	**Qiongzhong**	**23.07**	**316**	P	**P**	**10 23 17.0**	**-0.7**
KGM	**Kluang**	**23.21**	**269**	P	**P**	**10 23 21.2**	**+2.1**
WRAB	**Tennant Creek**	**23.71**	**161**	*c i*P	**P**	**10 23 23.0**	**-0.9**
WRAB	**Tennant Creek**	**23.71**	**161**	*e*P	**P**	**10 23 22.9**	**-1.0**
	163nm,1.0s,mb5.4						
WRA	**Warramunga Arr**	**23.72**	**161**	P	**P**	**10 23 22.9**	**-1.1**
	17nm,0.3s,mb4.9,baz=336,slow=10,SNR=224						
WRA				S	**S**	**10 27 38.2**	**+6.3**
	7.2nm,1.0s,baz=339,slow=18,SNR=5.5						
WB2	**Warramunga Arr**	**23.72**	**161**	⇑*i*P	**P**	**10 23 22.9**	**-1.1**
WB2				*e*S	**S**	**10 27 37.1**	**+5.1**
GZH	**Guangzhou**	**24.01**	**329**	P	**P**	**10 23 30.1**	**+3.3**
JOW	**Kunigami**	**24.11**	**4**	P	**P**	**10 23 29.2**	**+1.5**
	69nm,1.0s,mb5.0,baz=189,slow=8.0,SNR=8.5						
MBWA	**Marble Bar**	**24.58**	**195**	*e*P	**P**	**10 23 32.4**	**+0.1**
IPM	**Ipoh**	**25.53**	**275**	P	**P**	**10 23 45.4**	**+3.9**
SSE	**Sheshan**	**28.75**	**350**	P	**P**	**10 24 07.8**	**-2.8**
SSE				S	**S**	**10 28 55.1**	**+0.5**
SSE				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,84nm,4.8s						
SSE				LR	LR		
	comp=N,164nm,26.0s,MS3.6						
SSE				LR	LR		
	comp=E,83nm,26.0s,MS3.6						
SSE				LR	LR		
	comp=Z,239nm,29.7s,MS3.6						
NST	**Nakhon Sawan**	**29.05**	**298**	P	**P**	**10 24 13.0**	**-0.5**
CTA	**Charters Tower**	**29.75**	**140**	*e*P	**P**	**10 24 19.0**	**-0.6**
	comp=Z,4.3nm,0.6s,mb4.4						
CTA	**Charters Tower**	**29.75**	**140**	P	**P**	**10 24 19.6**	**0.0**
	comp=Z,7.6nm,0.9s,mb4.4,baz=318,slow=9.9,SNR=4.3						
CTAO	**Charters Tower**	**29.75**	**140**	*e*P	**P**	**10 24 18.2**	**-1.5**
	comp=Z,8.9nm,0.9s,mb4.5						
WHN	**Wuhan**	**30.05**	**339**	*e*P	**P**	**10 24 21.0**	**-1.3**
NJ2	**Nanjing**	**30.13**	**347**	*e*P	**P**	**10 24 22.4**	**-0.6**
NJ2				S	**S**	**10 29 16.0**	**-0.6**
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,60nm,7.3s						
NJ2				LR	LR		
	comp=N,990nm,29.7s,MS4.4						
NJ2				LR	LR		
	comp=E,730nm,26.6s,MS4.4						
NJ2				LR	LR		
	comp=Z,450nm,23.6s,MS4.0						
CMAR	**Chiang Mai Arr**	**31.27**	**302**	P	**P**	**10 24 32.9**	**-0.2**
	comp=Z,17nm,1.0s,mb4.8,baz=117,slow=7.5,SNR=38						
CMAR				PcP	PcP	10 27 27.6	+1.1
	comp=Z,1.9nm,0.9s,baz=144,slow=3.1,SNR=4.2						
CMAR				LR	LR	10 37 18.1	
	comp=Z,202nm,22.0s,MS3.8,baz=135,slow=37						
CHG	**Chiang Mai**	**31.43**	**303**	⇑P	**P**	**10 24 33.7**	**-0.8**
	comp=Z,27nm,1.0s,mb5.0						
ENH	**Enshi**	**31.88**	**331**	*e*P	**P**	**10 24 37.3**	**-1.0**
KMI	**Kunming**	**32.02**	**316**	P	**P**	**10 24 39.4**	**-0.2**
KMI				AP	pP	10 24 56.0	+2.3
KMI				PP	PP	10 25 51.2	+4.1
KMI				S	**S**	**10 29 51.6**	**+5.3**
KMI				XS		10 30 16.0	
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
KMI				LR	LR		
	comp=N,162nm,18.5s						
KMI				LR	LR		
	comp=E,200nm,23.7s						
KMI				LR	LR		
	comp=Z,373nm,26.6s						
KS15	**Wonju Array Si**	**34.65**	**2**	*e*P	**P**	**10 25 02.6**	**+0.4**
KLBR	**Kellerberrin**	**35.05**	**193**	*e*P	**P**	**10 25 05.4**	**-0.3**
	comp=Z,23nm,0.9s,mb5.1						
XAN	**Xi'an**	**35.30**	**334**	P	**P**	**10 25 05.7**	**-2.1**
XAN				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.1						
MAJO	**Matsushiro**	**35.41**	**16**	*e*P	**P**	**10 25 07.4**	**-1.4**
	comp=Z,9.9nm,0.8s,mb4.8						
MAT	**Matsushiro**	**35.41**	**16**	*e*P	**P**	**10 25 07.0**	**-1.7**
	comp=Z,11nm,1.0s,mb4.7						
MAT	**Matsushiro**	**35.41**	**16**	P	**P**	**10 25 07.1**	**-1.6**
MJAR	**Matsushiro Arr**	**35.41**	**16**	P	**P**	**10 25 07.4**	**-1.3**
	comp=Z,4.8nm,0.8s,mb4.5,baz=194,slow=10,SNR=13						
MJAR				LR	LR	10 37 38.9	
	comp=Z,144nm,21.2s,MS3.7,baz=200,slow=33						
MUN	**Mundaring**	**35.80**	**195**	*e*P	**P**	**10 25 11.8**	**-0.3**
	comp=Z,8.8nm,0.6s,mb4.9						
NWAO	**Narrogin (SRO)**	**36.46**	**193**	P	**P**	**10 25 18.0**	**+0.4**
	comp=Z,7.7nm,0.5s,mb4.9,baz=35,slow=10,SNR=11						
NWAO	**Narrogin (SRO)**	**36.46**	**193**	*e*P	**P**	**10 25 17.6**	**0.0**
STKA	**Stephens Creek**	**37.19**	**159**	⇓*i*P	**P**	**10 25 23.1**	**-0.7**
	comp=Z,21nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**37.19**	**159**	P	**P**	**10 25 23.1**	**-0.7**
	comp=Z,14nm,0.5s,mb5.1,baz=342,slow=8.8,SNR=40						
IMP	**Imphal**	**38.37**	**308**	*e*	**P**	**10 25 30.0**	**-3.7**
SNY	**Shenyang**	**39.10**	**356**	⇑P	**P**	**10 25 39.9**	**+0.3**
SNY				S	**S**	**10 31 35.9**	**+1.0**
SNY				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.2						
SNY				AMB	AMB		
	comp=Z,100nm,4.1s						
SNY				LR	LR		
	comp=E,240nm,24.9s						
SNY				LR	LR		
	comp=Z,270nm,26.0s,MS4.0						
LZH	**Lanzhou**	**39.34**	**330**	P	**P**	**10 25 41.8**	**+0.2**
LZH				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,120nm,4.3s						
LZH				LR	LR		
	comp=E,300nm,14.6s						
LZH				LR	LR		
	comp=Z,500nm,18.2s,MS4.4						
HHC	**Hu-ho-hao-te**	**40.37**	**342**	*e*P	**P**	**10 25 50.9**	**+0.8**
HHC				AP	pP	10 26 07.3	+2.8
HHC				PP	PP	10 27 30.0	+2.9
HHC				PCP	PcP	10 27 55.2	+2.0
HHC				SCP		10 31 37.0	
HHC				PCS		10 31 41.8	
HHC				S	**S**	**10 31 55.0**	**+1.1**
HHC				SS	SS	10 34 51.2	+2.1
HHC				SCS	ScS	10 35 49.9	+1.0
HHC				AMB	AMB		
	comp=Z,73nm,9.6s						
HHC				LR	LR		
	comp=N,283nm,25.2s,MS4.2						
HHC				LR	LR		
	comp=E,321nm,25.2s,MS4.2						
HHC				LR	LR		
	comp=Z,509nm,30.0s,MS4.2						
SHL	**Shillong**	**40.37**	**308**	⇑*e*P	**P**	**10 25 49.5**	**-0.7**
CN2	**Changchun**	**40.99**	**359**	*e*P	**P**	**10 26 01.0**	**+5.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
MDJ	**Mudanjiang**	**41.88**	**3**	P	**P**	**10 26 03.5**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,47nm,0.9s,mb5.1						
MDJ	**Mudanjiang**	**41.88**	**3**	*e*P	**P**	**10 26 03.2**	**+0.7**
	comp=Z,34nm,0.8s,mb5.0						
LSA	**Lhasa**	**43.02**	**312**	P	**P**	**10 26 13.1**	**+1.0**
LSA				S	**S**	**10 32 27.0**	**-6.2**
LSA				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
LSA				LR	LR		
	comp=N,120nm,25.0s,MS3.9						
LSA				LR	LR		
	comp=E,150nm,22.0s,MS3.9						
LSA				LR	LR		
	comp=Z,170nm,25.0s,MS3.8						
LSA	**Lhasa**	**43.02**	**312**	*e*P	**P**	**10 26 12.9**	**+0.8**
	comp=Z,23nm,0.7s,mb5.0						
ASAJ	**Asahikawa**	**43.68**	**17**	P	**P**	**10 26 18.1**	**+0.8**
	comp=Z,8.4nm,0.6s,mb4.6,baz=240,slow=19,SNR=8.7						
GTA	**Gaotai**	**43.93**	**330**	*e*P	**P**	**10 26 18.8**	**-0.5**
GTA				PP	PP	10 28 01.9	-1.9
GTA				PCP	PcP	10 28 06.1	+1.1
GTA				PPP	PPP	10 28 37.6	-4.3
GTA				S	**S**	**10 32 44.0**	**-2.3**
GTA				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.5						
GTA				AMB	AMB		
	comp=Z,57nm,6.5s						
GTA				LR	LR		
	comp=N,299nm,20.9s,MS4.3						
GTA				LR	LR		
	comp=E,286nm,22.1s,MS4.3						
GTA				LR	LR		
	comp=Z,498nm,26.2s,MS4.3						
VIS	**Vishakhapatnam**	**44.94**	**293**	*e*P	**P**	**10 26 26.4**	**-1.3**
GUN	**Gumba**	**46.21**	**307**	*e*P	**P**	**10 26 37.3**	**-0.4**
	comp=Z,111nm,0.7s,mb5.9						
YSS	**Yuzh-Sakhalins**	**46.33**	**15**	*e*P	**P**	**10 26 38.0**	**-0.3**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
YSS	**Yuzh-Sakhalins**	**46.33**	**15**	⇓*e*P	**P**	**10 26 38.2**	**-0.1**
PKI	**Pulchoki**	**46.45**	**306**	*e*P	**P**	**10 26 38.6**	**-0.9**
KLR	**Kul'dur**	**46.63**	**5**	*e*P	**P**	**10 26 37.2**	**-3.4**
KKN	**Kakani**	**46.64**	**307**	*e*P	**P**	**10 26 40.2**	**-0.8**
	comp=Z,79nm,1.0s,mb5.6						
DMN	**Daman**	**46.71**	**306**	*e*P	**P**	**10 26 41.0**	**-0.6**
	comp=Z,93nm,1.0s,mb5.7						
HIA	**Hailar**	**46.81**	**354**	*e*P	**P**	**10 26 42.6**	**+0.5**
	comp=Z,17nm,0.8s,mb5.0						
BLSP	**Bilaspur**	**47.24**	**298**	*e*P	**P**	**10 26 44.0**	**-1.9**
BLSP				AMb	AMB	10 26 47.6	
	comp=Z,70nm,0.9s,mb5.6						
GKN	**Gorkha**	**47.25**	**306**	*e*P	**P**	**10 26 44.9**	**-0.9**
	comp=Z,66nm,0.9s,mb5.6						
KOLN	**Koldanda**	**47.99**	**306**	*e*P	**P**	**10 26 51.3**	**-0.3**
	comp=Z,118nm,0.9s,mb5.9						
ULN	**Ulaanbaatar**	**48.09**	**342**	*c i*P	**P**	**10 26 46.2**	**-5.9**
ULN	**Ulaanbaatar**	**48.09**	**342**	*e*P	**P**	**10 26 46.0**	**-6.1**
	comp=Z,10.0nm,0.8s,mb4.9						
SONM	**Songino Array**	**48.26**	**342**	P	**P**	**10 26 53.1**	**-0.4**
	comp=Z,7.7nm,0.8s,mb4.8,baz=154,slow=8.3,SNR=57						
SONM				PcP	PcP	10 28 20.4	+0.3
	comp=Z,2.6nm,0.7s,baz=159,slow=2.9,SNR=4.5						
SONM				LR	LR	10 49 45.5	
	comp=Z,75nm,19.9s,MS3.7,baz=107,slow=39						
HYB	**Hyderabad**	**49.31**	**291**	⇓*e*P	**P**	**10 27 01.5**	**-0.4**
	comp=Z,100nm,1.0s,mb5.8						
HYB	**Hyderabad**	**49.31**	**291**	⇓*i*P	**P**	**10 27 01.5**	**-0.4**
	comp=Z,100nm,1.0s,mb5.8						
CIT	**Chita**	**50.39**	**350**	*e*P	**P**	**10 27 10.2**	**+0.4**
CIT				*e*	pP	10 27 28.6	+4.1
CIT				*e*		10 28 34.1	
CIT				pmax	pmax		
	comp=Z,56nm,1.2s,mb5.5						
BHPL	**Bhopal**	**51.73**	**298**	*e*P	**P**	**10 27 18.9**	**-1.4**
BHPL				AML	AML	10 27 20.4	
	comp=Z,79nm,0.7s						
AGRA	**Agra**	**52.47**	**303**	*e*P	**P**	**10 27 23.9**	**-1.9**
TLY	**Talaya**	**52.50**	**342**	⇓*i*P	**P**	**10 27 25.7**	**+0.1**
TLY				*e*SS	SS	10 38 23.7	+0.1
TLY				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
TLY	**Talaya**	**52.50**	**342**	*e*P	**P**	**10 27 25.4**	**-0.2**
	comp=Z,17nm,0.9s,mb5.0						
IRK	**Irkutsk**	**52.80**	**343**	*e*P	**P**	**10 27 27.2**	**-0.7**
IRK				*e*		10 27 48.6	
IRK				pmax	pmax		
	comp=Z,24nm,3.3s						
BISR	**Bishrakh**	**53.34**	**304**	*e*P	**P**	**10 27 29.5**	**-2.7**
KAD	**Karad**	**53.39**	**290**	*e*P	**P**	**10 27 29.8**	**-2.9**
KAD				AMb	AMB	10 27 33.1	
	comp=Z,40nm,1.4s,mb5.1						
WMQ	**Urumqi**	**53.50**	**326**	P	**P**	**10 27 32.7**	**-0.5**
SONA	**Sohna**	**53.53**	**304**	*e*P	**P**	**10 27 31.4**	**-2.2**
AYAN	**Aya Nagar**	**53.57**	**304**	*e*P	**P**	**10 27 31.3**	**-2.6**
POO	**Poona**	**53.92**	**291**	*e*P	**P**	**10 27 34.6**	**-1.9**
POO				AMb	AMB	10 27 38.3	
	comp=Z,44nm,1.0s,mb5.3						
KUDL	**Kundal**	**53.99**	**303**	*e*P	**P**	**10 27 34.5**	**-2.5**
KKR	**Kurukshetra**	**54.32**	**305**	*e*P	**P**	**10 27 38.3**	**-1.1**
KHET	**Khetri**	**54.54**	**303**	*e*P	**P**	**10 27 38.0**	**-3.0**
BOD	**Bodaibo**	**55.91**	**352**	*e*P	**P**	**10 27 48.3**	**-2.2**
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
MKAR	**Makanchi Array**	**58.34**	**326**	*i* P	**P**	**10 28 06.9**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,12nm,0.6s						
MKAR	**Makanchi Array**	**58.34**	**326**	P	**P**	**10 28 06.9**	**-0.9**
	comp=Z,10nm,0.5s,mb5.1,baz=124,slow=8.2,SNR=45						
MKAR				PcP	PcP	10 28 58.3	+0.2
	comp=Z,4.6nm,0.7s,baz=117,slow=5.4,SNR=5.5						
MKAR				LR	LR	10 56 24.4	
	comp=Z,128nm,20.8s,MS4.0,baz=154,slow=39						
JASL	**Jaisalmer**	**58.39**	**300**	*e*P	**P**	**10 28 07.0**	**-1.5**
KSH	**Kashi**	**58.68**	**316**	*e*P	**P**	**10 28 11.3**	**+1.0**
KSH				*e*PCP	PcP	10 29 00.1	+0.6
KSH				*e*PP	PP	10 30 24.0	+1.8
KSH				*e*PCS		10 33 01.0	
KSH				*e*S	**S**	**10 36 13.0**	**+4.1**
KSH				*e*SS	SS	10 40 08.2	+4.0
KSH				AMB	AMB		
	comp=Z,220nm,8.9s						
YAK	**Yakutsk**	**59.29**	**2**	*c i*P	**P**	**10 28 13.5**	**-0.7**
YAK				pmax	pmax		
	comp=Z,57nm,0.8s,mb5.7						
YAK	**Yakutsk**	**59.29**	**2**	*e*P	**P**	**10 28 13.5**	**-0.8**
	comp=Z,60nm,0.9s,mb5.6						
MA2	**Magadan**	**59.80**	**14**	⇑*e*P	**P**	**10 28 18.0**	**+0.2**
KZA	**Kyzart**	**60.28**	**318**	P	**P**	**10 28 22.7**	**+1.4**
	SNR=19						
TKM2	**Tokmak 2**	**60.43**	**319**	P	**P**	**10 28 21.6**	**-0.8**
	SNR=15						
UCH	**Uchtor**	**60.84**	**318**	P	**P**	**10 28 26.5**	**+1.4**
	SNR=50						
CHMS	**Chumysh**	**61.02**	**319**	P	**P**	**10 28 26.3**	**0.0**
	SNR=5.4						
AAK	**Ala-Archa**	**61.03**	**318**	⇑*e*P	**P**	**10 28 25.9**	**-0.5**
AAK				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.3						
AAK	**Ala-Archa**	**61.03**	**318**	*e*P	**P**	**10 28 25.9**	**-0.5**
	comp=Z,7.7nm,0.8s,mb4.9						
USP	**Ospenovka**	**61.30**	**319**	P	**P**	**10 28 28.6**	**+0.4**
	SNR=23						
AML	**Almayashu**	**61.35**	**318**	P	**P**	**10 28 29.8**	**+1.2**
	SNR=37						
ZAL	**Zalesovo**	**61.47**	**333**	P	**P**	**10 28 27.4**	**-1.8**
	comp=Z,3.5nm,0.5s,mb4.8,baz=349,slow=8.0,SNR=18						
EKS2	**Erkin-Say**	**61.52**	**318**	P	**P**	**10 28 30.6**	**+0.9**
	SNR=12						
NVS	**Novosibirsk**	**62.75**	**333**	*e*P	**P**	**10 28 34.1**	**-3.6**
NVS				*e*		10 30 53.6	
NVS				pmax	pmax		
	comp=N,5.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,8.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.1						
SEY	**Seymchan**	**63.13**	**13**	⇓*e*P	**P**	**10 28 41.1**	**+0.9**
KKAR	**Karatay Array**	**63.89**	**317**	*i* P	**P**	**10 28 44.8**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
VOSK	**Vostochnaya**	**67.67**	**327**	P	**P**	**10 29 07.6**	**-1.7**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
VOSK	**Vostochnaya**	**67.67**	**327**	*i* P	**P**	**10 29 07.7**	**-1.6**
BVA0	**Borovoye Array**	**68.12**	**327**	P	**P**	**10 29 11.1**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb4.0						
BVAR	**Borovoye Array**	**68.12**	**327**	P	**P**	**10 29 11.5**	**-0.6**
	comp=Z,1.9nm,0.4s,mb4.5,baz=135,slow=8.4,SNR=27						
ZRNK	**Zerenda**	**68.84**	**327**	P	**P**	**10 29 15.3**	**-1.4**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**68.84**	**327**	*e*P	**P**	**10 29 15.4**	**-1.2**
TIXI	**Tiksi**	**68.92**	**1**	*i* P	**P**	**10 29 16.1**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
CASY	**Casey**	**69.72**	**187**	*e*P	**P**	**10 29 22.4**	**+0.6**
BILL	**Bilibino**	**70.64**	**15**	*i* P	**P**	**10 29 25.5**	**-1.9**
BILL				*e*	pP	10 29 45.5	+2.6
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
BILL				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.1						
AB31	**Akbulak array**	**72.87**	**321**	P	**P**	**10 29 40.4**	**-0.5**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
AB31	**Akbulak array**	**72.87**	**321**	*i* P	**P**	**10 29 40.5**	**-0.4**
SVE	**Sverdlovsk**	**74.78**	**329**	⇑*e*P	**P**	**10 29 52.0**	**+0.1**
SVE				*e*	pP	10 30 04.0	-3.5
SVE				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.4						
ARU	**Arti**	**75.75**	**328**	⇑*i*P	**P**	**10 29 56.6**	**-0.9**
ARU				*e*	pP	10 30 09.0	-4.1
ARU				*e*		10 32 45.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARU				eS	S	10 39 36.7	+3.2
ARU				eSS	SS	10 44 29.4	+0.5
ARU				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.1						
ARU	Arti	75.75	328	eP	P	10 29 56.6	-0.9
	comp=Z,30nm,1.0s,mb5.2						
OPO	Ambohidratompo	80.76	251	P	P	10 30 26.6	+0.9
	comp=Z,8.9nm,0.9s,mb4.7,baz=42,slow=6.0,SNR=6.7						
MZLS	Mizel	81.01	294	P	P	10 30 28.1	+1.1
GNI	Garni	82.03	310	i P	P	10 30 34.5	+2.5
GNI				pmax	pmax		
	comp=Z,14nm,1.3s						
GNI	Garni	82.03	310	i P	P	10 30 34.6	+2.6
VNDA	Vanda	82.38	173	P	P	10 30 33.7	+0.7
	comp=Z,5.0nm,0.9s,mb4.5,baz=317,slow=6.4,SNR=27						
VNDA	Vanda	82.38	173	eP	P	10 30 33.5	+0.4
	comp=Z,6.5nm,0.9s,mb4.6						
DJNS	Zahran al Janu	82.53	287	P	P	10 30 36.7	+1.7
MAW	Mawson	82.68	200	P	P	10 30 35.7	+1.0
	comp=Z,1.6nm,0.6s,mb4.2,baz=53,slow=3.7,SNR=4.7						
MAW				LR	LR	11 01 55.0	
	comp=Z,122nm,21.9s,MS4.2,baz=228,slow=32						
ZEI	Tsey	82.81	313	eP	P	10 30 33.0	-2.9
ZEI				i *PP	pP	10 30 44.5	-7.2
ZEI				i		10 33 49.6	
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
ARSS	Ar Rass	82.83	296	P	P	10 30 37.2	+0.8
AFFS	‘Afif	83.03	294	P	P	10 30 38.0	+0.6
RSO	Redoubt South	83.12	30	eP	P	10 30 38.4	+1.3
ONI	Oni	83.13	312	P	P	10 30 37.8	+0.3
SBA	Scott Base	83.29	172	eP	P	10 30 38.4	+0.7
	comp=Z,6.6nm,1.0s,mb4.6						
SPU	Mount Spurr	83.55	29	eP	P	10 30 39.5	+0.3
KIV	Kislovodsk	83.75	314	⇑eP	P	10 30 42.6	+2.0
HILS	Ha’il	84.13	297	P	P	10 30 44.6	+1.6
BLJS	Baljurashi	84.35	290	P	P	10 30 46.2	+2.0
SLKM	Skilak Lake	84.38	30	eP	P	10 30 44.0	+0.6
PPT	Papeete	84.97	108	eLR	LR	10 57 29.7	
	comp=Z,120nm,26.5s,baz=324						
LTHS	Al Lith	85.46	290	P	P	10 30 50.8	+1.0
SOC	Sochi	85.89	313	eP	P	10 30 51.3	0.0
SOC				eS	S	10 41 11.1	-7.6
SOC				pmax	pmax		
	comp=Z,34nm,0.7s,mb5.7						
SOC				pmax	pmax		
	comp=N,30nm,1.0s						
SOC				pmax	pmax		
	comp=E,40nm,1.4s						
ILAR	Eielson Array	86.16	25	P	P	10 30 53.5	+1.4
	comp=E,1.2nm,0.6s,mb4.3,baz=244,slow=4.8,SNR=25						
KBRS	Khaybar	86.41	296	P	P	10 30 56.5	+2.3
MALT	Malatya	86.89	308	eP	P	10 30 57.8	+1.5
	comp=E,34nm,1.3s,mb5.4						
MOS	Moscow	87.22	326	eP	P	10 30 57.4	-0.1
MOS				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.9						
ANN	Anapa	87.52	315	eP	P	10 30 55.7	-3.5
ANN				e	pP	10 31 11.0	-4.2
ANN				eS	S	10 41 19.3	-15
ANN				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.8						
YNBS	Yanbu‘ al Bahr	87.60	294	P	P	10 31 01.0	+0.9
OBN	Obninsk	87.83	325c	iP	P	10 31 00.4	-0.1
OBN				e		10 41 29.8	
OBN				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.6						
OBN	Obninsk	87.83	325	eP	P	10 31 00.7	+0.2
	comp=Z,27nm,0.8s,mb5.5						
UMJS	Umm Lajj	88.19	295	P	P	10 31 04.5	+1.6
TBKS	Tabuk	88.76	298	P	P	10 31 07.1	+1.6
DBAS	Duba	89.31	297	P	P	10 31 09.2	+1.1
JMQS	Jabal Moqyreh	89.32	299	P	P	10 31 09.5	+1.4
KMBO	Kilima Mbogo	89.34	269	i P	P	10 31 11.1	+2.5
KMBO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KMBO	Kilima Mbogo	89.34	269	P	P	10 31 11.1	+2.4
	comp=Z,5.8nm,0.9s,mb4.9,baz=65,slow=4.7,SNR=11						
KMBO				LR	LR	11 07 53.8	
	comp=Z,67nm,20.7s,MS4.0,baz=92,slow=33						
SIM	Simferopol’	89.87	315	P	P	10 31 10.8	+0.4
SIM				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.4						
JMOS	Jabal al Moall	89.98	299	P	P	10 31 12.6	+1.4
ALWS	Ilw as Safayha	90.01	299	P	P	10 31 13.0	+1.6
BDAS	Al Bad‘	90.02	298	P	P	10 31 12.3	+0.8
HAQS	Haql	90.14	299	P	P	10 31 13.2	+1.2
TAYS	Tayyib Ism	90.22	298	P	P	10 31 13.3	+0.9
BR131	Keskin Array S	90.56	310	eP	P	10 31 13.9	+0.1
	comp=Z,7.4nm,0.9s,mb5.0						
BRTR	Keskin Array B	90.56	310	P	P	10 31 13.9	+0.2
	comp=Z,5.9nm,0.8s,mb4.9,baz=117,slow=5.5,SNR=10						
CSS	Prodhromos	91.13	305	eP	P	10 31 16.7	+0.2
	comp=Z,11nm,0.9s,mb5.2						
INK	Inuvik	91.24	21	eP	P	10 31 16.0	-0.2
	comp=Z,5.0nm,1.1s,mb4.8						
ARCES	ARCESS Array B	91.39	340	P	P	10 31 16.6	-0.3
	comp=Z,2.9nm,0.7s,mb4.7,baz=79,slow=6.2,SNR=11						
ARCES				LR	LR	11 17 34.1	
	comp=Z,71nm,21.4s,MS4.1,baz=71,slow=39						
KAF	Kangasniemi	92.47	332	ep	P	10 31 17.3	-4.7
	comp=Z,2.6nm,0.7s,mb4.7						
KAF	Kangasniemi	92.47	332	eP	P	10 31 17.3	-4.7
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.7						
AKASG	Malin Array Be	92.61	321	P	P	10 31 22.6	-0.3
	comp=Z,2.4nm,0.7s,mb4.8,baz=66,slow=4.5,SNR=12						
FINES	FINESS Array B	92.69	332	i P	P	10 31 24.0	+1.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	FINESS Array B	92.69	332	P	P	10 31 23.4	+0.4
	comp=Z,1.7nm,0.7s,mb4.6,baz=90,slow=3.8,SNR=12						
VSU	Vasula	92.89	329	i P	P	10 31 26.4	+2.4
ISP	Isparta	93.16	308	⇓eP	P	10 31 25.5	-0.3
DLBC	Dease Lake	94.77	31	eP	P	10 31 34.4	+1.9
VRI	Vrincioaia	94.94	316	⇓P	P	10 31 34.0	+0.3
MLR	Muntele Rosu	95.55	316	⇑P	P	10 31 36.6	+0.2
BURAR	Bucovina Array	95.68	318	⇓P	P	10 31 38.6	+1.6
NB2	NORSAR Subarra	99.67	333	P	P	10 31 53.1	-1.6
	comp=Z,1.1nm,0.8s,mb4.3,baz=65,slow=4.5						
NOA	NORSAR Array B	99.67	333	P	P	10 31 54.1	-0.6
	comp=Z,1.6nm,1.0s,mb4.4,baz=66,slow=4.5,SNR=3.9						
NOA				LR	LR	11 21 34.4	
	comp=Z,50nm,21.0s,MS4.0,baz=40,slow=38						
BRG	Berggiesshubel	101.99	323	eP	P	10 32 09.5	+4.1
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRG				MLR	MLR		
	comp=N,26µm,0.1s						
BRG				MLR	MLR		
	comp=E,100nm,23.6s						
BRG				MLR	MLR		
	comp=Z,100nm,22.4s,MS4.3						
BRG	Berggiesshubel	101.99	323	eP	P	10 32 09.5	+4.0
	comp=Z,2.7nm,0.8s						
BRG				LR	LR		
	comp=Z,100nm,22.4s,MS4.3						
GERES	GERESS Array B	102.81	321	P	Pdif	10 32 09.7	+0.5
	comp=Z,0.8nm,0.8s,baz=45,slow=3.8,SNR=5.0						
GERES				PP	PP	10 36 25.0	-1.1
	comp=Z,1.8nm,1.1s,baz=102,slow=12,SNR=5.5						
PV10	Paradox Valley	114.55	45	eP	PKPdf	10 36 53.8	+3.3
MNTX	Cornudas Mount	120.08	51	eP	PKPdf	10 37 04.1	+2.9
TXAR	Lajitas Array	122.41	53	PKP	PKPdf	10 37 08.8	+3.0
	comp=Z,1.1nm,0.9s,baz=254,slow=1.4,SNR=12						
KSU1	Kansas State U	122.57	39	eP	PKPdf	10 37 07.7	+1.8
CCM	Cathedral Cave	126.52	37	ePKPdf	PKPdf	10 37 15.5	+1.9
DBIC	Dimbokro	130.61	281	PKP	PKPdf	10 37 24.4	+2.3
	comp=Z,2.8nm,0.6s,baz=108,slow=6.4,SNR=3.9						
LRAL	Lakeview Retre	132.42	39	ePKPdf	PKPdf	10 37 27.4	+2.3
LVC	Limon Verde	155.12	144	PKPab	PKPab	10 38 31.3	+0.5
	comp=Z,6.2nm,1.0s,baz=259,slow=5.2,SNR=4.9						
LPAZ	La Paz	160.20	134	PKPab	PKPab	10 38 54.7	+2.0
	comp=Z,2.6nm,1.0s,baz=36,slow=1.4,SNR=5.2						
LPAZ	La Paz	160.20	134	ePKPdf	PKPdf	10 38 12.6	+2.7
LPAZ				PKPab	PKPab	10 38 54.7	+2.0
SIV	San Ignacio	164.77	151	PKPab	PKPab	10 39 12.5	0.0
	comp=Z,3.0nm,0.9s,baz=204,slow=4.8,SNR=8.9						

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*NIED **10** 10:51:00, 43.50N×147.40E, h32km, Mw3.8 Best double couple: M₀5.45×10^14 NP1:φs203°, δ68°, λ38°. NP2:φs97°, δ55°, λ153°.*
*JMA **10** 10:51:29.3±0.2, 43.53N×147.44E, h13km±3km, M4.4*
*SKHL **10** 10:51:30.1±0.7, 43.65N×147.60E, h40km±9km, mb4.9/3*
*MOS **10** 10:51:31.1±1.2, 43.64N×147.42E, h61km, mb4.2/4, Error ellipse: s-maj=19.7km s-min=17.2km az=114.9*
*NEIC **10** 10:51:32.1±1.4, 43.64N×147.55E, h49km±14km, mb4.4/1, Error ellipse: s-maj=14.9km s-min=12.9km az=140.0*
*IDC **10** 10:51:33.4±3.5, 43.61N×147.54E, h63km±38km, mb3.4/8, mb1 3.7/10, mb1mx3.5/21, mbtmp3.7/10, ML3.6/2, MS3.0/3, Ms1 3.0/3, ms1mx2.5/31, Error ellipse: s-maj=48.4km s-min=22.7km az=178.0*
ISC 10 10:51:29.7±0.9**, 43.71N**±0.05×**147.58E**±0.07**, h39**km±9km**, n39, σ0ˢ87**/50**, mb3.7**/9**, 2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril’sk	1.28	285	⇓iPN	P	10 51 51.0	-0.5
YUK				i S	S	10 52 06.2	-1.6
YUK				pmax	pmax		
	comp=Z,2µm,0.9s						
YUK				pmax	pmax		
	comp=N,900nm,0.2s						
YUK				pmax	pmax		
	comp=E,810nm,0.2s						
YUK				pmax	pmax		
	comp=Z,3µm,0.2s						
YUK				smax			
	comp=N,15µm,0.9s						
YUK				smax			
	comp=E,8µm,1.0s						
YUK				smax			
	comp=N,10µm,0.4s						
YUK				smax			
	comp=E,3µm,0.3s						
YUK	Yuzh-Kuril’sk	1.28	285	⇓iP	P	10 51 51.0	-0.5
YUK				AMB	AMB	10 51 51.4	
	comp=E,2µm,0.9s						
YUK				AMB	AMB	10 51 53.6	
	comp=E,900nm,0.2s						
YUK				AMB	AMB	10 51 53.6	
	comp=E,810nm,0.2s						
YUK				AMB	AMB	10 51 53.6	
	comp=E,3µm,0.2s						
YUK				i rx	rx	10 52 03.6	
YUK				i S	S	10 52 06.2	-1.6
YUK				A		10 52 10.9	
	comp=E,15µm,1.0s						
YUK				A		10 52 10.9	
	comp=E,8µm,1.0s						
YUK				A		10 52 11.1	
	comp=E,10µm,0.4s						
YUK				A		10 52 11.1	
	comp=E,3µm,0.4s						
NEM2	Nemuro 2	1.38	256	P	P	10 51 52.2	-0.7
NEM2				eS	S	10 52 08.8	-1.4
KUR	Kuril’sk	1.54	8	eP	P	10 51 54.3	-0.8
KUR				AMB	AMB	10 52 02.3	
	comp=E,120nm,0.6s						
KUR				AMB	AMB	10 52 02.3	
	comp=E,90nm,0.6s						
KUR				AMB	AMB	10 52 02.3	
	comp=E,150nm,0.6s						
KUR				eS	S	10 52 13.0	-1.1
KUR				A		10 52 16.0	
	comp=E,460nm,0.6s						
KUR				A		10 52 16.0	
	comp=E,360nm,0.6s						
JRA	Rausu	1.79	278	P	P	10 51 59.4	+0.6
JRA				eS	S	10 52 21.2	+0.7
JNK	Nakash	2.08	268	P	P	10 52 02.8	-0.1
JNK				eS	S	10 52 27.6	-0.1
JAK	Akkeshi	2.22	252	P	P	10 52 04.3	-0.6
JAK				eS	S	10 52 30.1	-1.2
JTKR	Abashiri--Toko	2.67	277	P	P	10 52 12.4	+1.1
JTKR				eS	S	10 52 44.2	+1.5
JAR	Ashorobuto	2.80	263	P	P	10 52 13.8	+0.6
JAR				eS	S	10 52 46.4	+0.3
JOB	Onbets	2.85	255	P	P	10 52 13.8	-0.1
JOB				eS	S	10 52 46.6	-0.7
JMP	Maruseppu	3.07	277	P	P	10 52 18.1	+1.1
JCH	Churui	3.27	252	P	P	10 52 19.9	0.0
ASAJ	Asahikawa	3.62	278	PN	P	10 52 27.1	+2.3
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,215nm,19.2s						
ASAJ	Asahikawa	3.62	278	P	P	10 52 27.1	+2.3
	comp=Z,5.2nm,0.3s,baz=78,slow=17,SNR=24						
ASAJ				S	S	10 53 14.8	+7.9
	baz=165,slow=32,SNR=3.1						
ASAJ				LR	LR	10 54 03.6	
	comp=Z,215nm,19.2s,baz=238,slow=42						
JEM	Erimo	3.67	244	P	P	10 52 26.4	+1.0
JFR	Furan	3.67	263	P	P	10 52 26.5	+1.0
JFR				eS	S	10 53 08.1	-0.1
JSE	Soyaes	3.79	291	P	P	10 52 28.6	+1.3
JNBK	Urakawa-nobuka	3.82	250	P	P	10 52 27.2	-0.4
YSS	Yuzh-Sakhalins	4.70	315	ePn	P	10 52 41.1	+1.0
YSS	Yuzh-Sakhalins	4.70	315	eP	P	10 52 41.0	+0.9
YSS				eS	S	10 53 33.4	-0.7
YSS				A		10 53 35.4	
	comp=Z,30nm,0.8s						
MJAR	Matsushiro Arr	10.13	228	P	P	10 53 53.9	-1.8
	comp=Z,0.2nm,0.3s,baz=262,slow=31,SNR=3.1						
MJAR				LR	LR	10 57 52.5	
	comp=Z,35nm,21.4s,baz=110,slow=38						
EKMR	Ekimchan	13.47	319	eP	P	10 54 40.5	0.0
EKMR				AMB	AMB	10 54 41.7	
	comp=Z,10.0nm,0.8s						
JNU	Nakatsue	16.79	237	LR	LR	11 01 44.8	
	comp=Z,95nm,20.4s,baz=6.2,slow=37						
SONM	Songino Array	28.77	293	P	P	10 57 25.9	+0.2
	comp=Z,0.5nm,0.6s,mb3.5,baz=83,slow=9.5,SNR=5.0						
ILAR	Eielson Array	41.34	36	P	P	10 59 13.2	+0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	Eielson Array	41.34	36	P	P	10 59 13.2	+0.3
	comp=Z,1.1nm,0.5s,mb3.7,baz=272,slow=8.0,SNR=20						
MKAR	Makanchi Array	44.88	298	P	P	10 59 41.8	0.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	44.88	298	P	P	10 59 41.8	0.0
	comp=Z,0.5nm,0.8s,mb3.4,baz=85,slow=6.8,SNR=3.9						
INK	Inuvik	46.28	30	eP	P	10 59 52.6	-0.1
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	Inuvik	46.28	30	eP	P	10 59 52.6	-0.1
	comp=Z,3.5nm,0.7s,mb4.4						
YKA	Yellowknife Ar	55.66	34	P	P	11 01 03.6	-0.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	55.66	34	P	P	11 01 03.6	-0.1
	comp=Z,1.3nm,0.6s,mb4.2,baz=297,slow=6.9,SNR=7.2						
YKA	Yellowknife Ar	55.66	34	P	P	11 01 03.6	-0.1
WRA	Warramunga Arr	64.49	194	pP	pP	11 02 16.8	+0.4
	comp=Z,0.8nm,0.7s,baz=13,slow=6.7,SNR=4.6						
FINES	FINESS Array B	65.05	333	P	P	11 02 06.4	-1.2
	comp=Z,0.4nm,0.5s,mb3.7,baz=44,slow=5.6,SNR=8.4						
PDAR	Pinedale Array	69.70	50	P	P	11 02 36.9	-0.2
	comp=Z,0.3nm,0.5s,mb3.5,baz=61,slow=1.2,SNR=4.8						
NOA	NORSAR Array B	69.75	339	P	P	11 02 36.7	-0.5
	comp=Z,0.3nm,0.5s,mb3.5,baz=33,slow=6.2,SNR=2.8						
PV10	Paradox Valley	72.91	53	eP	P	11 02 57.1	+0.7
TXAR	Lajitas Array	82.41	57	P	P	11 03 49.9	+0.7
	comp=Z,0.4nm,0.5s,mb3.6,baz=304,slow=3.5,SNR=11						

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*IDC **10** 11:12:22.6±0.8, 6.74N×72.92W, h164km±11km, mb3.4/4, mb1 3.7/6, mb1mx3.3/20, mbtmp3.9/6, MS3.9/1, Ms1 3.9/1, ms1mx2.7/16, Error ellipse: s-maj=36.0km s-min=7.7km az=132.0*
*NEIC **10** 11:12:23.6±0.6, 6.78N×72.98W, h171km±7km, mb3.8/5, Error ellipse: s-maj=12.9km s-min=9.8km az=99.0*
ISC 10 11:12:22.2±0.7**, 6.77N**±0.09×**72.9W**±0.1**, h175**km±9km**, n15, σ0ˢ55**/15**, mb3.7**/7**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.35	216	P	P	11 13 04.4	+1.0
	33nm,0.3s,baz=99,slow=21,SNR=44						
ROSC				S	S	11 13 34.3	-0.8
	70nm,0.3s,baz=75,slow=19,SNR=10						
SDV	Santo Domingo	3.10	47	P	P	11 13 13.4	+0.9
	18nm,0.3s,baz=240,slow=5.3,SNR=64						
SDV				S	S	11 13 50.4	-0.7
	83nm,0.3s,baz=69,slow=21,SNR=53						
SAML	Samuel	18.40	148	eP	P	11 16 26.5	-0.1
	1.2nm,0.4s						
LVC	Limon Verde	29.47	172	LR	LR	11 30 14.1	
	comp=Z,205nm,18.5s,baz=25,slow=36						
WVT	Waverly	32.25	337	eP	P	11 18 36.2	-0.1
	1.4nm,0.5s,mb4.0						
CCM	Cathedral Cave	35.29	335	eP	P	11 19 02.2	0.0
	3.1nm,0.6s,mb4.1						
TXAR	Lajitas Array	36.63	312	P	P	11 19 13.5	0.0
	0.7nm,0.6s,mb3.5,baz=130,slow=9.1,SNR=13						
TXAR	Lajitas Array	36.63	312	P	P	11 19 13.5	0.0
SDCO	Great Sand Dun	42.70	321	eP	P	11 20 03.7	+0.1
SCHQ	Schefferville	48.17	5	P	P	11 20 46.9	+0.4
	1.5nm,0.5s,mb3.9,baz=216,slow=10,SNR=5.8						
SCHQ	Schefferville	48.17	5	eP	P	11 20 47.0	+0.5
	1.5nm,0.5s,mb3.9						
PDAR	Pinedale Array	48.22	324	P	P	11 20 47.4	+0.3
	0.4nm,0.6s,mb3.2,baz=126,slow=10,SNR=4.8						
HLID	Hailey	51.58	322	P	P	11 21 12.4	-0.2
	0.6nm,0.8s,mb3.3						
YKA	Yellowknife Ar	63.37	340	P	P	11 22 34.1	-0.8
	0.9nm,0.6s,mb3.8,baz=132,slow=6.8,SNR=11						
WRA	Warramunga Arr	150.47	241	PKPbc	PKPdf	11 31 55.2	+7.0
	1.0nm,0.4s,baz=108,slow=2.6,SNR=30						

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*IDC **10** 11:13:16.7±29.0, 36.21N×71.39E, h256km±268km, mb3.0/3, mb1 3.0/4, mb1mx2.7/21, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=538.1km s-min=176.9km az=155.0*
*NNC **10** 11:13:27.6±3.5, 37.64N×71.04E, mpv2.9, Error ellipse: s-maj=753.5km s-min=35.4km az=85.0*
ISC 10 11:13:15.7±2.0**, 36.7N**±0.2×**70.8E**±0.3**, h200**km**, n5, σ0ˢ42**/6**, mb3.1**/3**, 2C, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.36	358	⇑Pn	P	11 14 53.1	+4.7
	0.8nm,0.5s,baz=173,slow=12,SNR=6.7						
KK31				⇑Sn	S	11 16 00.5	0.0
	4.7nm,0.7s,baz=181,slow=23,SNR=12						
MKAR	Makanchi Array	13.21	37	P	P	11 16 16.6	0.0
	0.2nm,0.3s,baz=231,slow=9.2,SNR=4.4						
FINES	FINESS Array B	37.18	326	P	P	11 20 09.2	+0.5
	0.3nm,0.6s,mb3.0,baz=112,slow=10,SNR=4.9						
ARCES	ARCESS Array B	40.85	338	P	P	11 20 38.8	-0.2
	1.5nm,1.1s,mb3.3,baz=108,slow=7.7,SNR=4.9						
NOA	NORSAR Array B	44.07	323	P	P	11 21 04.7	-0.3
	0.4nm,0.5s,mb3.0,baz=96,slow=7.7,SNR=3.4						

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*NEIC **10** 11:14:21.7±0.8, 24.43S×179.86E, h535km±9km, mb4.3/17, Error ellipse: s-maj=8.6km s-min=7.0km az=134.0*
*IDC **10** 11:14:21.6±1.9, 24.41S×179.81E, h530km±21km, mb3.6/13, mb1 3.8/16, mb1mx3.8/18, mbtmp4.5/16, Error ellipse: s-maj=14.6km s-min=12.7km az=146.0*
ISC 10 11:14:21.7±1.1**, 24.45S**±0.06×**179.79E**±0.08**, h544**km±14km**, n55, σ0ˢ84**/48**, mb4.2**/26**, 5C-8D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.49	278	eP	P	11 17 06.1	+0.5
DZM	Mont Dzumac	12.49	278	P	P	11 17 07.2	+1.6
	2.1nm,0.3s,baz=86,slow=15,SNR=47						
NOUC	Port Laguerre	12.61	278	eP	P	11 17 08.1	+1.3
AFI	Afiamalu	13.16	39	P	P	11 17 11.6	-0.8
	2.9nm,0.3s,baz=76,slow=16,SNR=5.5						
URZ	Urewera	13.96	189	P	P	11 17 19.7	-0.7
	2.0nm,0.3s,baz=252,slow=3.3,SNR=11						
URZ				S	S	11 19 44.8	+0.4
	2.2nm,0.3s,baz=213,slow=20,SNR=13						
RPZ	Rata Peaks	20.52	198	P	P	11 18 21.8	-1.7
	6.5nm,0.5s,baz=42,slow=19,SNR=7.3						
CTA	Charters Tower	31.29	271	⇓iP	P	11 19 59.6	+0.8
	30nm,0.4s,mb5.2						
CTAO	Charters Tower	31.29	271	⇓iP	P	11 19 59.5	+0.6
	39nm,0.6s,mb5.1						
STKA	Stephens Creek	34.34	249	⇓iP	P	11 20 25.1	+0.7
	9.6nm,0.6s,mb4.5						
STKA	Stephens Creek	34.34	249	P	P	11 20 25.1	+0.7
	12nm,0.6s,mb4.6,baz=93,slow=10.0,SNR=55						
PMG	Port Moresby	34.49	290	P	P	11 20 25.7	-0.1
	37nm,0.8s,mb5.0,baz=125,slow=5.3,SNR=9.1						
WB2	Warramunga Arr	42.17	267	⇓iP	P	11 21 27.8	-0.4
WB2				i SCP		11 26 15.4	
WRAB	Tennant Creek	42.17	267	⇓iP	P	11 21 27.7	-0.5
	46nm,1.1s,mb4.9						
WRA	Warramunga Arr	42.18	267	P	P	11 21 27.9	-0.3
	19nm,0.5s,mb4.9,baz=100,slow=8.2,SNR=364						
WRA				ScP		11 26 15.2	
	9.2nm,0.9s,baz=102,slow=4.0,SNR=25						
WRA				S	S	11 27 09.5	-0.3
	2.9nm,1.1s,baz=104,slow=14,SNR=4.9						
KAKA	Kakadu	46.17	276	⇓iP	P	11 21 58.5	-0.9
	19nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	50.60	266	⇓iP	P	11 22 32.2	-0.3
	29nm,0.6s,mb4.8						
VNDA	Vanda	53.82	185	P	P	11 22 55.0	0.0
	0.9nm,0.5s,mb3.3,baz=18,slow=4.2,SNR=12						
SBA	Scott Base	53.83	183	eP	P	11 22 56.0	+1.1
	11nm,1.0s,mb4.1						
KLBR	Kellerberrin	54.60	248	⇓iP	P	11 23 00.0	-1.0
	6.9nm,0.5s,mb4.1						
CASY	Casey	59.54	206	eP	P	11 23 32.7	-1.5
	2.2nm,0.5s,mb3.7						
QSPA	South Pole Qui	65.64	180	⇑iP	P	11 24 13.9	+0.8
	16nm,0.7s,mb4.7						
MJAR	Matsushiro Arr	72.24	326	P	P	11 24 52.2	-1.1
	1.7nm,0.9s,mb3.5,baz=312,slow=11,SNR=4.2						
MAW	Mawson	77.17	201	P	P	11 25 21.2	+1.2
	3.4nm,0.6s,mb4.0,baz=137,slow=7.2,SNR=13						
CMB	Columbia Colle	83.73	43	eP	P	11 25 53.6	-0.8
	7.3nm,1.2s,mb4.1						
SNAA	Sanae	84.13	179	e	P	11 25 56.6	+1.0
SNAA	Sanae	84.13	179	⇑iP	P	11 25 55.4	-0.2
SNAA				e		11 25 56.6	
VNA3	Neumayer Olymp	84.34	177	e	P	11 25 58.6	+1.9
VNA3	Neumayer Olymp	84.34	177	e	P	11 26 09.2	+12
VNA3	Neumayer Olymp	84.34	177	⇑iP	P	11 25 56.5	-0.2
VNA3				e		11 25 58.6	
VNA3				e		11 26 09.2	
YBH	Yreka Blue Hor	84.63	39	P	P	11 25 59.3	+0.5
	1.8nm,0.8s,mb3.7,baz=223,slow=3.5,SNR=6.8						
VNA2	Neumayer--Watz	84.76	178	e	P	11 26 00.6	+1.9
VNA2	Neumayer--Watz	84.76	178	e	P	11 26 10.7	+12
VNA2	Neumayer--Watz	84.76	178	⇑iP	P	11 25 58.9	+0.2
VNA2				e		11 26 00.6	
VNA2				e		11 26 10.7	
VNA1	Neumayer--Stat	85.00	177	e	P	11 25 58.4	-1.5
ELK	Elko	88.54	44	P	P	11 26 18.1	+0.8
	1.0nm,0.6s,mb3.8,baz=208,slow=1.6,SNR=4.4						
ELK	Elko	88.54	44	eP	P	11 26 17.3	0.0
	1.9nm,0.8s,mb4.0						
CMAR	Chiang Mai Arr	89.53	290	P	P	11 26 23.6	+1.1
	0.4nm,0.4s,mb3.6,baz=147,slow=4.2,SNR=4.8						
HLID	Hailey	90.63	42	eP	P	11 26 27.4	+0.5
	2.0nm,1.0s,mb4.0						
MNTX	Cornudas Mount	90.68	55	eP	P	11 26 27.5	0.0
	2.4nm,0.9s,mb4.1						
SRU	San Rafael	90.71	47	eP	P	11 26 27.5	0.0
LTX	Lajitas	90.88	58	eP	P	11 26 28.1	-0.4
	4.3nm,0.8s,mb4.4						
TXAR	Lajitas Array	90.88	58	P	P	11 26 29.1	+0.6
	3.0nm,0.8s,mb4.3,baz=213,slow=6.8,SNR=48						
ILAR	Eielson Array	92.60	14	P	P	11 26 34.5	-1.0
	0.4nm,0.7s,mb3.6,baz=220,slow=5.3,SNR=5.1						
BW06	Boulder Array	93.21	44	eP	P	11 26 39.6	+0.8
	1.3nm,0.9s,mb4.0						
PDAR	Pinedale Array	93.21	44	P	P	11 26 39.0	+0.2
	1.0nm,0.8s,mb3.9,baz=211,slow=2.9,SNR=9.1						
BOZ	Bozeman (W)	93.43	41	eP	P	11 26 40.0	+0.3
	0.5nm,0.6s,mb3.7						
BVAR	Borovoye Array	120.72	318	PKP	PKPdf	11 32 12.4	+1.0
	0.5nm,0.3s,baz=90,slow=4.4,SNR=5.6						
ARCES	ARCESS Array B	132.38	348	PKP	PKPdf	11 32 34.0	+0.7
	0.7nm,0.5s,baz=45,slow=1.7,SNR=9.5						
FINES	FINESS Array B	138.90	341	PKhKP		11 32 38.6	
	0.2nm,0.5s,baz=63,slow=4.3,SNR=4.3						
NB2	NORSAR Subarra	142.59	351	PKPabc	PKPdf	11 32 49.6	-2.3
	0.6nm,0.8s,baz=15,slow=3.4						
NOA	NORSAR Array B	142.59	351	PKhKP		11 32 50.1	
	0.5nm,0.5s,baz=11,slow=2.3,SNR=4.7						
AKASG	Malin Array Be	145.32	327	PKPbc	PKPbc	11 32 59.2	+1.2
	0.5nm,0.4s,baz=43,slow=4.2,SNR=4.5						
BRTR	Keskin Array B	147.75	306	PKPbc	PKPdf	11 33 05.8	+4.5
	0.4nm,0.5s,baz=189,slow=6.6,SNR=3.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRTR				PKPab	PKPab	11 33 11.9	+0.2
	1.3nm,0.6s,baz=109,slow=4.1,SNR=6.8						
OJC	**Ojcow**	**149.94**	**334**	*e*PKP	PKPdf	11 33 12.0	+7.6
CLL	**Collm**	**151.32**	**343**	⇑*i*P	PKPdf	11 33 14.9	+8.5
CLL				*e*		11 33 39.0	
CLL				*e*		11 33 50.0	

*NEIC **10** 11:29:04.8±0.6, 20.98S×68.33W, h118km±6km, mb4.0/2, Error ellipse: s-maj=10.5km s-min=9.4km az=80.0*
*IDC **10** 11:29:05.7±1.0, 21.16S×68.22W, h123km±11km, mb3.9/3, mb1 3.9/6, mb1mx3.6/15, mbtmp4.3/6, Error ellipse: s-maj=27.9km s-min=13.0km az=125.0*
ISC 10 11:29:03.9±0.6, **21.00S**±0.06×**68.31W**±0.07, **h122**km±10km, **n18**, σ**0.60**/20, **mb4.0**/3, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.70**	**199**	P	**P**	**11 29 35.1**	**+0.9**
	167nm,0.3s,baz=18,slow=8.8,SNR=1958						
LVC				S	**S**	**11 29 56.5**	**-0.7**
	123nm,0.3s,baz=102,slow=24,SNR=59						
LPAZ	**La Paz**	**4.69**	**2**	P	**P**	**11 30 18.6**	**+4.8**
	10nm,0.3s,baz=172,slow=8.7,SNR=203						
LPAZ	**La Paz**	**4.69**	**2**	*e*Pn	**P**	**11 30 18.4**	**+4.6**
ARE	**Arequipa**	**5.43**	**326**	*e*P	**P**	**11 30 23.0**	**-0.7**
ARE				*i* S	**S**	**11 31 25.7**	**+0.3**
SIV	**San Ignacio**	**8.48**	**55**	P	**P**	**11 31 05.7**	**+0.6**
	8.9nm,0.3s,baz=252,slow=12,SNR=145						
SIV				S	**S**	**11 32 39.4**	**-0.2**
	baz=336,slow=22,SNR=4.0						
CFAA	**Coronel Fontan**	**10.56**	**180**	P	**P**	**11 31 28.1**	**-4.7**
	0.1nm,0.3s,baz=354,slow=14,SNR=16						
CFAA				S	**S**	**11 33 19.5**	**-10**
	0.1nm,0.3s,baz=271,slow=5.6,SNR=7.3						
CFAA	**Coronel Fontan**	**10.56**	**180**	P	**P**	**11 31 28.1**	**-4.7**
CFAA				S	**S**	**11 33 19.5**	**-10**
CPUP	**Villa Florida**	**11.38**	**120**	*e*P	**P**	**11 31 44.0**	**+0.4**
SAML	**Samuel**	**12.96**	**23**	*e*Pn	**P**	**11 32 04.5**	**+0.1**
	4.9nm,0.9s						
BDFB	**Brasilia**	**19.98**	**78**	P	**P**	**11 33 28.2**	**-0.6**
	0.6nm,0.3s,baz=262,slow=10,SNR=4.8						
DBIC	**Dimbokro**	**68.06**	**73**	P	**P**	**11 39 52.7**	**0.0**
	1.6nm,0.5s,mb4.1,baz=214,slow=7.3,SNR=4.5						
DBIC	**Dimbokro**	**68.06**	**73**	*e*P	**P**	**11 39 51.3**	**-1.5**
BOSA	**Boshof**	**83.19**	**118**	P	**P**	**11 41 18.5**	**+0.5**
	1.8nm,0.8s,mb4.0,baz=243,slow=6.8,SNR=3.3						
BOSA	**Boshof**	**83.19**	**118**	*e*P	**P**	**11 41 18.1**	**+0.1**
	1.4nm,0.7s,mb3.9						
YKA	**Yellowknife Ar**	**90.90**	**340**	P	**P**	**11 41 54.9**	**+0.4**
	0.8nm,0.6s,mb4.0,baz=135,slow=4.6,SNR=23						
WRA	**Warramunga Arr**	**133.67**	**210**	PKP	PKPdf	11 48 08.2	+1.3
	0.7nm,0.7s,baz=166,slow=2.0,SNR=8.0						
MKAR	**Makanchi Array**	**144.90**	**36**	PKP	PKPdf	11 48 28.2	+1.9
	2.1nm,0.4s,baz=320,slow=3.3,SNR=29						
SONM	**Songino Array**	**152.89**	**8**	PKPbc	PKPdf	11 48 48.7	+10
	0.1nm,0.3s,baz=45,slow=1.7,SNR=3.6						

*MDD **10** 11:38:21.6±0.5, 36.91N×4.92W, h14km±8km, mbLg1.7/13, Error ellipse: s-maj=6.1km s-min=3.3km az=3.0, PRXIMO*
*CSEM **10** 11:38:22.0±0.3, 36.89N×4.92W, h16km±3km, ML2.5/3, Error ellipse: s-maj=7.3km s-min=4.2km az=1.0*
*SFS **10** 11:38:22.0, 36.86N×4.94W, h21km*
ISC 10 11:38:20.9±0.6, **37.01N**±0.06×**4.96W**±0.04, **h7**km±6km, **n31**, σ**1.13**/38, **Spain**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.37**	**255**	P	**Pg**	**11 38 29.0**	**+0.6**
LIJA				S	**Sg**	**11 38 35.0**	**+1.6**
LIJA	**Lijar**	**0.37**	**255**	*i* P	**Pg**	**11 38 29.0**	**+0.6**
EMIJ	**Mijas**	**0.46**	**161**	Pg	**Pg**	**11 38 28.7**	**-1.6**
	1.8nm,0.2s,SNR=7.9						
EMIJ				Lg		11 38 33.7	
	62nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**0.66**	**77**	Pg	**Pg**	**11 38 34.6**	**+0.5**
	1.3nm,0.4s,SNR=8.2						
ELOJ				Lg		11 38 44.7	
	19nm,0.6s,SNR=24						
ESPR	**Espera**	**0.73**	**260**	Pg	**Pg**	**11 38 37.4**	**+1.8**
	2.2nm,0.4s,SNR=7.9						
ESPR				Lg		11 38 47.4	
	6.6nm,0.2s,SNR=6.2						
ESPR	**Espera**	**0.73**	**260**	Pg	**Pg**	**11 38 37.4**	**+1.8**
	2.2nm,0.4s,SNR=7.9						
ELUQ	**Luque**	**0.78**	**45**	Pg	**Pg**	**11 38 37.4**	**+0.9**
	3.8nm,0.2s,SNR=8.2						
ELUQ				Lg		11 38 49.6	
	13nm,0.2s,SNR=6.3						
ERON	**Agron**	**0.92**	**89**	Pg	**Pg**	**11 38 39.9**	**+0.6**
	1.8nm,0.2s,SNR=4.0						
ERON				Lg		11 38 53.1	
	1.7nm,0.2s,SNR=4.0						
ECAB	**El Cabril**	**1.13**	**341**	Pg	**Pg**	**11 38 43.7**	**+0.3**
	1.8nm,0.1s,SNR=29						
ECAB				Lg		11 39 00.5	
	10nm,0.3s,SNR=5.0						
ECAB	**El Cabril**	**1.13**	**341**	Pg	**Pg**	**11 38 43.7**	**+0.2**
	1.8nm,0.1s,SNR=29						
ECOG	**Cogollos-Vega**	**1.14**	**76**	Pg	**Pg**	**11 38 43.1**	**-0.6**
	1.0nm,0.1s,SNR=4.0						
ECOG				Lg		11 38 59.2	
	3.4nm,0.2s,SNR=4.0						
ECOG	**Cogollos-Vega**	**1.14**	**76**	Pg	**Pg**	**11 38 43.0**	**-0.7**
	1.0nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**1.20**	**14**	Pg	**Pg**	**11 38 44.6**	**-0.2**
	2.5nm,0.2s,SNR=7.9						
EADA				Lg		11 39 02.1	
	7.8nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.20**	**14**	Pg	**Pg**	**11 38 44.6**	**-0.2**
	2.5nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**1.48**	**38**	Pn	**Pn**	**11 38 48.8**	**+0.7**
	0.9nm,0.1s,SNR=7.5						
EBAN				Sn	**Sn**	**11 39 08.1**	**+0.1**
	23nm,0.3s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.56**	**300**	Pn	**Pn**	**11 38 48.9**	**-0.4**
	0.1nm,0.1s,SNR=7.9						
EMIN				Pg	**Pg**	**11 38 52.2**	**+0.1**
	0.7nm,0.1s,SNR=7.9						
EMIN				Lg		11 39 12.0	
	2.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.56**	**300**	Pn	**Pn**	**11 38 48.9**	**-0.4**
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.56**	**300**	Pg	**Pg**	**11 38 52.2**	**+0.1**
	0.7nm,0.1s,SNR=7.9						
EQES	**Quesada**	**1.70**	**62**	Pg	**Pg**	**11 38 53.8**	**-1.0**
	1.6nm,0.2s,SNR=7.9						
EQES				Lg		11 39 17.9	
	7.0nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.70**	**62**	Pg	**Pg**	**11 38 53.8**	**-1.0**
	1.6nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.05**	**66**	Pg	**Pg**	**11 38 57.9**	**-3.9**
	0.2nm,0.1s,SNR=7.9						
EHUE				Lg		11 39 26.9	
	1.9nm,0.3s,SNR=9.1						
EGRO	**El Granado**	**2.08**	**285**	Pn	**Pn**	**11 38 56.0**	**-0.7**
	0.2nm,0.1s,SNR=6.1						
EGRO				Pg	**Pg**	**11 38 59.5**	**-3.0**
	0.4nm,0.2s,SNR=4.0						
EGRO				Lg		11 39 29.1	
	2.6nm,0.2s,SNR=5.9						
EGRO	**El Granado**	**2.08**	**285**	Pn	**Pn**	**11 38 54.6**	**-2.1**
	0.2nm,0.1s,SNR=6.1						
EGRO	**El Granado**	**2.08**	**285**	Pg	**Pg**	**11 38 59.5**	**-3.0**
	0.4nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**2.39**	**318**	Pn	**Pn**	**11 39 00.1**	**-0.9**
	0.4nm,0.1s,SNR=5.7						
EBAD				Pg	**Pg**	**11 39 07.0**	**-1.6**
	0.6nm,0.2s,SNR=4.0						
EBAD				Sn	**Sn**	**11 39 30.7**	**-0.2**
	1.9nm,0.3s,SNR=7.9						
EBAD				Lg		11 39 39.4	
	3.1nm,0.2s,SNR=5.2						
EBAD	**Badajoz**	**2.39**	**318**	Pn	**Pn**	**11 39 00.1**	**-1.0**
	0.4nm,0.1s,SNR=5.7						
EBAD	**Badajoz**	**2.39**	**318**	Pg	**Pg**	**11 39 07.0**	**-1.6**
	0.6nm,0.2s,SNR=4.0						
EBAD				Sn	**Sn**	**11 39 30.7**	**-0.2**
	1.9nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**2.78**	**16**	Pn	**Pn**	**11 39 08.6**	**+2.0**
	0.2nm,0.1s,baz=194,slow=16,SNR=4.6						
ESDC	**Sonseca Array**	**2.78**	**16**	Pn	**Pn**	**11 39 08.6**	**+2.0**
	0.2nm,0.1s,baz=194,SNR=4.6						
ETOB	**Tobarra**	**3.16**	**58**	Sn	**Sn**	**11 39 51.9**	**+1.5**
	0.4nm,0.4s,SNR=4.0						
ETOB				Lg		11 40 02.7	
	0.8nm,0.3s,SNR=5.4						
ETOB	**Tobarra**	**3.16**	**58**	Sn	**Sn**	**11 39 46.2**	**-4.2**
	0.7nm,0.5s,SNR=4.0						

WEL 10 11:52:56.8±0.1, **39.02S**×**177.31E**, **h49**km±2km, **ML3.5**/4, **1C-2D, Error ellipse: s-maj=1.2km s-min=0.8km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.28**	**90**	⇑PN	P	11 53 05.7	0.0
KNZ				SN	S	11 53 12.2	+0.2
BKZ	**Black Stump Fm**	**0.65**	**257**	⇓PN	P	11 53 09.1	-0.7
BKZ				SN	S	11 53 18.8	-0.7
MWZ	**Matawai**	**0.71**	**14**	⇓PN	P	11 53 10.5	-0.1
MWZ				SN	S	11 53 20.9	+0.1
URZ	**Urewera**	**0.78**	**348**	PN	P	11 53 11.0	-0.6
URZ				SN	S	11 53 22.0	-0.4
HATZ	**Hinemaiaia**	**0.96**	**277**	PN	P	11 53 13.6	-0.5
HATZ				SN	S	11 53 26.1	-0.8
TAZ	**Tarawera**	**1.01**	**321**	PN	P	11 53 14.2	-0.6
EDRZ	**Edgecumbe**	**1.02**	**334**	PN	P	11 53 14.0	-0.9
PATZ	**Paeroa**	**1.04**	**308**	PN	P	11 53 14.3	-0.9
PWZ	**Pawanui**	**1.06**	**199**	PN	P	11 53 14.7	-0.8
MKRZ	**Makatiti**	**1.10**	**323**	PN	P	11 53 16.0	0.0
WHTZ	**Whakaora**	**1.11**	**288**	PN	P	11 53 15.7	-0.6
RITZ	**Rihia Road**	**1.13**	**272**	PN	P	11 53 16.3	-0.1
MARZ	**Manawahe**	**1.15**	**334**	PN	P	11 53 16.1	-0.6
PUZ	**Puketiti**	**1.21**	**38**	PN	P	11 53 17.1	-0.4
RATZ	**Rangitukua**	**1.21**	**277**	PN	P	11 53 17.1	-0.5
UTU	**Utuhina**	**1.22**	**314**	PN	P	11 53 17.0	-0.6
KATZ	**Kakaramea**	**1.26**	**272**	PN	P	11 53 18.0	-0.3
MOVZ	**Moawhango**	**1.27**	**252**	PN	P	11 53 18.1	-0.4
OTVZ	**Oturere**	**1.29**	**263**	PN	P	11 53 18.3	-0.5
KRVZ	**Karewarewa**	**1.30**	**266**	PN	P	11 53 18.5	-0.5
TUVZ	**Tukino**	**1.31**	**259**	PN	P	11 53 18.5	-0.7
NGZ	**Ngauruhoe**	**1.34**	**263**	PN	P	11 53 18.9	-0.6
WTVZ	**West Tongariro**	**1.34**	**265**	PN	P	11 53 19.2	-0.4
WNVZ	**Wahianoa**	**1.36**	**257**	PN	P	11 53 19.4	-0.5
CNZ	**Chateau**	**1.38**	**262**	PN	P	11 53 19.7	-0.5
WPVZ	**Whakapapa**	**1.38**	**262**	PN	P	11 53 19.6	-0.5
FWVZ	**Far West T-bar**	**1.39**	**260**	PN	P	11 53 19.1	-1.1
TWVZ	**Taurewa**	**1.46**	**267**	PN	P	11 53 20.8	-0.4
TSZ	**Takapari Road**	**1.47**	**225**	PN	P	11 53 19.8	-1.5
MTVZ	**Mangateitei**	**1.47**	**255**	PN	P	11 53 20.7	-0.7
PKVZ	**Pokaka**	**1.55**	**259**	PN	P	11 53 21.6	-0.8
MXZ	**Matakaoa Point**	**1.66**	**29**	PN	P	11 53 23.0	-0.9
BFZ	**Birch Farm**	**1.85**	**206**	PN	P	11 53 24.8	-1.8
WAZ	**Wanganui**	**1.94**	**247**	PN	P	11 53 27.1	-0.9
HIZ	**Hauiti**	**1.98**	**284**	PN	P	11 53 27.7	-0.8
MRZ	**Mangatainoka R**	**2.11**	**219**	PN	P	11 53 27.8	-2.5

*IDC **10** 11:56:58.6±0.9, 26.81S×176.18W, mb4.2/6, mb1 4.5/8, mb1mx4.3/14, mbtmp4.3/8, ML3.9/1, MS4.2/14, Ms1 4.2/14, ms1mx4.0/30, Error ellipse: s-maj=35.8km s-min=21.6km az=109.0*
*NEIC **10** 11:57:00.3±0.6, 26.72S×176.24W, h10km, mb4.7/4, Error ellipse: s-maj=19.3km s-min=14.8km az=106.0*
ISC 10 11:56:58.0±0.7, **26.65S**±0.08×**176.2W**±0.1, **h10**km, **n34**, σ**1.16**/17, **mb4.3**/10, **MS4.3**/12, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.01**	**210**	Pn	**Pn**	**11 57 47.1**	**+0.4**
	334nm,0.3s,baz=34,slow=3.0,SNR=14						
RAO				LR	LR	11 58 17.9	
	comp=Z,2μm,20.0s,baz=28,slow=28						
RAO				Sn	**Sn**	**11 58 22.2**	**-1.0**
	805nm,0.3s,baz=129,slow=22,SNR=12						
URZ	**Urewera**	**12.88**	**204**	Pn	**P**	**11 59 59.5**	**-4.4**
	0.6nm,0.3s,baz=143,slow=4.7,SNR=3.8						
AFI	**Afiamalu**	**13.33**	**19**	Pn	**P**	**12 00 07.6**	**-2.3**
	3.7nm,0.3s,baz=39,slow=14,SNR=6.5						
AFI				Sn	**S**	**12 02 29.8**	**-10**
	1.9nm,0.3s,baz=239,slow=23,SNR=3.3						
DZM	**Mont Dzumac**	**16.47**	**282**	Pn	**P**	**12 00 58.5**	**+7.6**
	0.3nm,0.3s,baz=95,slow=14,SNR=6.0						
DZM				LR	LR	12 06 05.5	
	comp=Z,2μm,19.1s,baz=105,slow=33						
TBI	**Tubuai**	**24.43**	**88**	*e*LQ		12 06 54.5	
	434nm,29.8s						
TBI				*e*LR	LR	12 07 57.0	
	923nm,29.2s,baz=254						
PPT	**Papeete**	**26.21**	**75**	*e*LQ		12 07 41.5	
	809nm,23.8s						
PPT				*e*LR	LR	12 08 46.2	
	772nm,24.5s,baz=247						
PPT	**Papeete**	**26.21**	**75**	LR	LR	12 10 18.3	
	comp=Z,432nm,18.6s,MS4.0,baz=249,slow=30						
HNR	**Honiara**	**28.34**	**303**	LR	LR	12 12 26.6	
	comp=Z,747nm,20.2s,MS4.3,baz=146,slow=33						
CTAO	**Charters Tower**	**35.00**	**273**	*e*P	**P**	**12 03 54.4**	**+1.5**
	3.4nm,0.3s,mb4.8						
STKA	**Stephens Creek**	**37.03**	**252**	LR	LR	12 18 27.8	
	comp=Z,928nm,18.4s,MS4.6,baz=27,slow=35						
RKT	**Rikitea**	**37.44**	**94**	*e*LR	LR	12 13 58.0	
	493nm,29.2s,baz=243						
WB2	**Warramunga Arr**	**45.70**	**268**	*e*P	**P**	**12 05 20.2**	**-1.0**
WRAB	**Tennant Creek**	**45.70**	**268**	*e*P	**P**	**12 05 20.4**	**-0.8**
	5.1nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**45.71**	**268**	P	**P**	**12 05 20.3**	**-1.0**
	5.0nm,0.8s,mb4.5,baz=104,slow=7.7,SNR=32						
SBA	**Scott Base**	**51.88**	**185**	*e*P	**P**	**12 06 09.2**	**+0.9**
	11nm,1.2s,mb4.7						
SBA				*e*		12 06 16.8	
FITZ	**Fitzroy Crossi**	**54.08**	**266**	LR	LR	12 29 43.3	
	comp=Z,591nm,18.2s,MS4.7,baz=81,slow=36						
NWAO	**Narrogin (SRO)**	**57.28**	**247**	LR	LR	12 30 33.3	
	comp=Z,357nm,18.7s,MS4.5,baz=60,slow=35						
CASY	**Casey**	**59.19**	**207**	*e*P	**P**	**12 07 00.3**	**-0.9**
	15nm,1.1s,mb4.9						
JOW	**Kunigami**	**75.39**	**310**	LR	LR	12 37 53.5	
	comp=Z,156nm,19.2s,MS4.3,baz=136,slow=32						
MJAR	**Matsushiro Arr**	**76.13**	**324**	P	**P**	**12 08 49.6**	**+1.6**
	5.2nm,1.0s,mb4.4,baz=168,slow=5.9,SNR=8.1						
MAW	**Mawson**	**76.36**	**200**	P	**P**	**12 08 49.7**	**+1.1**
	1.1nm,0.5s,mb4.1,baz=146,slow=7.3,SNR=4.3						
MAW				LR	LR	12 42 14.8	
	comp=Z,195nm,18.8s,MS4.4,baz=337,slow=36						
SNAA	**Sanae**	**81.84**	**178**	P	**P**	**12 09 17.8**	**-0.3**
	0.6nm,0.8s,mb3.6,baz=177,slow=3.6,SNR=5.8						
TXAR	**Lajitas Array**	**89.01**	**56**	P	**P**	**12 09 54.8**	**0.0**
	0.2nm,0.8s,mb3.5,baz=194,slow=5.2,SNR=3.7						
TXAR				LR	LR	12 42 18.9	
	comp=Z,88nm,19.4s,MS4.2,baz=230,slow=30						
ANMO	**Albuquerque**	**89.98**	**50**	LR	LR	12 42 01.7	
	comp=Z,99nm,18.3s,MS4.3,baz=195,slow=30						
CFAA	**Coronel Fontan**	**90.15**	**126**	LR	LR	12 45 31.7	
	comp=Z,25nm,18.0s,MS3.7,baz=331,slow=32						
PDAR	**Pinedale Array**	**92.31**	**43**	LR	LR	12 45 45.5	
	comp=Z,110nm,18.3s,MS4.3,baz=264,slow=32						
CMAR	**Chiang Mai Arr**	**93.70**	**289**	P	**P**	**12 10 18.3**	**+1.7**
	0.9nm,0.8s,mb4.2,baz=135,slow=2.0,SNR=6.0						
LPAZ	**La Paz**	**98.16**	**113**	LR	LR	12 46 40.5	
	comp=Z,72nm,20.9s,MS4.1,baz=33,slow=30						
FINES	**FINESS Array B**	**142.12**	**343**	PKP	PKPdf	12 16 33.3	+0.3
	0.2nm,0.4s,baz=190,slow=33,SNR=3.2						
FINES	**FINESS Array B**	**142.12**	**343**	PKP	PKPdf	12 16 33.3	+0.3
NB2	**NORSAR Subarra**	**145.26**	**354**	PKPabc	PKPdf	12 16 38.1	-0.3
	10.0nm,1.4s,baz=10.0,slow=3.1						
NOA	**NORSAR Array B**	**145.26**	**354**	PKPbc	PKPbc	12 16 38.3	+2.5
	3.4nm,1.0s,baz=9.7,slow=2.5,SNR=6.5						
AKASG	**Malin Array Be**	**149.14**	**328**	PKPbc	PKPdf	12 16 48.7	+3.6
	0.5nm,0.4s,baz=31,slow=2.1,SNR=10						
BRTR	**Keskin Array B**	**151.98**	**305**	PKPbc	PKPdf	12 16 55.4	+5.5
	0.6nm,0.7s,baz=135,slow=1.7,SNR=3.9						

*FUNV **10** 12:06:56.6, 10.94N×62.15W, h92km, MW2.8*
*NEIC **10** 12:06:59.3, 10.91N×62.20W, h68km, MD3.4(CAR), MD3.1(TRN), After TRN.*
*TRN **10** 12:06:59.2, 10.93N×62.18W, h77km, MD3.1*
ISC 10 12:06:56.0±0.7, **10.87N**±0.04×**62.28W**±0.03, **h97**km±6km, **n19**, σ**1.11**/36, **1C-4D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.23**	**166**	*e*P	**P**	**12 07 10.2**	**+0.2**
GUIV				*e*S	**S**	**12 07 19.6**	**-1.0**
TRN	**Trinidad (W)**	**0.89**	**104**	⇓*i*P	**P**	**12 07 16.2**	**+1.0**
TRN				*e*S	**S**	**12 07 28.1**	**-1.5**
GUNV	**Guanoco**	**0.96**	**223**	*e*P	**P**	**12 07 17.7**	**+1.7**
GUNV				*e*S	**S**	**12 07 32.1**	**+1.1**
CRUV	**Carupano**	**0.96**	**258**	⇓*i*P	**P**	**12 07 16.9**	**+0.9**
CRUV				*e*S	**S**	**12 07 31.5**	**+0.5**
ITEV	**Isla Los Testi**	**0.97**	**300**	*e*P	**P**	**12 07 16.7**	**+0.7**
ITEV				*e*S	**S**	**12 07 30.8**	**-0.4**
TPP	**Pointe-a-Pierr**	**0.98**	**124**	*e*P	**P**	**12 07 18.1**	**+1.9**
TPP				*e*S	**S**	**12 07 29.1**	**-2.3**
TBH	**Brigand Hill**	**1.25**	**108**	*e*P	**P**	**12 07 20.4**	**+0.9**
TBH				*e*S	**S**	**12 07 36.1**	**-0.9**
GRW	**Mount Saint Ca**	**1.42**	**25**	⇑*i*P	**P**	**12 07 22.5**	**+1.0**
GRW				*e*S	**S**	**12 07 39.4**	**-1.0**
GRHS	**Sauteurs**	**1.48**	**25**	*e*P	**P**	**12 07 23.2**	**+0.9**
GRHS				*e*S	**S**	**12 07 34.3**	**-7.5**
TPR	**Prospect**	**1.51**	**78**	⇓*i*P	**P**	**12 07 23.2**	**+0.6**
TPR				*e*S	**S**	**12 07 41.6**	**-0.7**
BOT	**Bacolet**	**1.56**	**79**	⇓*i*P	**P**	**12 07 23.7**	**+0.4**
ORIV	**Oritupano**	**2.11**	**212**	*e*P	**P**	**12 07 31.5**	**+1.1**
ORIV				*e*S	**S**	**12 07 57.6**	**+1.8**
IBAV	**Isla La Blanqu**	**2.45**	**293**	*e*P	**P**	**12 07 35.6**	**+0.5**
IBAV				*e*S	**S**	**12 08 04.0**	**-0.3**
CUPV	**Cœpira**	**3.55**	**257**	*e*P	**P**	**12 07 50.7**	**+0.6**
CUPV				*e*S	**S**	**12 08 30.7**	**-0.5**
BIRV	**Birongo**	**3.94**	**265**	*e*S	**S**	**12 08 39.1**	**-1.9**
MERV	**Las Mercedes**	**4.27**	**248**	*e*P	**P**	**12 07 59.8**	**-0.3**
MERV				*e*S	**S**	**12 08 47.4**	**-1.7**
LUEV	**Luepa**	**5.06**	**171**	*e*P	**P**	**12 08 09.7**	**-1.1**
LUEV				*e*S	**S**	**12 09 03.0**	**-5.6**
CAOV	**Caicara del Or**	**5.32**	**229**	*e*P	**P**	**12 08 13.4**	**-1.1**
CAOV				*e*S	**S**	**12 09 10.8**	**-4.3**
BAUV	**El Baul**	**5.99**	**252**	*e*P	**P**	**12 08 22.0**	**-1.6**
BAUV				*e*S	**S**	**12 09 26.6**	**-4.9**

*BJI **10** 12:16:59.3, 49.12N×153.85E, h28km, mB4.7, mb4.6, Ms4.5, Msz4.4*
*MOS **10** 12:17:01.8±1.6, 49.49N×153.30E, h33km, mb4.8/45, Error ellipse: s-maj=8.4km s-min=5.9km az=79.6*
*NEIC **10** 12:17:02.6±0.2, 49.58N×152.86E, mb4.8/55, Error ellipse: s-maj=8.0km s-min=4.9km az=145.0*
*IDC **10** 12:17:03.3±0.5, 49.37N×153.38E, h27km±3km, mb4.3/29, mb1 4.4/32, mb1mx4.4/38, mbtmp4.5/32, ML3.6/3, MS3.7/12, Ms1 3.7/12, ms1mx3.4/42, Error ellipse: s-maj=13.5km s-min=8.7km az=151.0*
ISC 10 12:17:01.3±0.2, **49.44N**±0.05×**153.30E**±0.04, **h28**km, **h28**km±.5km**:pP-P, n223,** σ**1.32**/215, **mb4.6**/90, **MS3.9**/16, **2C-6D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.20**	**55**	*e*PN	**Pn**	**12 17 33.4**	**-3.4**
SKR				pmax	pmax		
	comp=N,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,120nm,0.5s						
SKR				pmax	pmax		
	comp=E,120nm,1.0s						
SKR				pmax	pmax		
	comp=N,1μm,2.0s						
SKR				pmax	pmax		
	comp=E,1μm,2.0s						
SKR				MLR	MLR		
	comp=E,2μm,10.0s						
PET	**Petropavlovsk**	**4.92**	**41**	*e*PN	**Pn**	**12 18 18.8**	**+3.4**
PET				pmax	pmax		
	comp=Z,117nm,1.5s						
PET				MLR	MLR		
	comp=Z,3μm,13.0s						
PET				MLR	MLR		
	comp=Z,2μm,13.0s						
PET	**Petropavlovsk**	**4.92**	**41**	*e*P	**Pn**	**12 18 18.1**	**+2.7**
	comp=Z,79nm,0.8s						
TYV	**Tymovskoe**	**6.99**	**286**	*e*PN	**Pn**	**12 18 44.0**	**-0.6**
TYV				pmax	pmax		
	comp=Z,13nm,0.7s						
TYV				pmax	pmax		
	comp=Z,200nm,3.0s						
TYV				MLR	MLR		
	comp=N,800nm,13.0s						
TYV				MLR	MLR		
	comp=E,900nm,13.0s						
TYV				MLR	MLR		
	comp=Z,2μm,13.0s						
UGL	**Uglegorsk**	**7.36**	**271**	*e*PN	**Pn**	**12 18 53.0**	**+3.2**
UGL				*e*S	**Sn**	**12 20 15.0**	**+1.7**
UGL				pmax	pmax		
	comp=Z,70nm,0.7s						
UGL				smax			
	comp=E,46nm,0.5s						
UGL				smax			
	comp=N,140nm,0.8s						
UGL				smax			
	comp=Z,42nm,0.8s						
UGL				MLR	MLR		
	comp=N,800nm,12.0s						
UGL				MLR	MLR		
	comp=E,3μm,12.0s						
UGL				MLR	MLR		
	comp=Z,2μm,12.0s						
YSS	**Yuzh-Sakhalins**	**7.47**	**255**	*e*PN	**Pn**	**12 18 52.0**	**+0.6**
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
YSS				MLR	MLR		
	comp=E,500nm,14.0s						
YSS	**Yuzh-Sakhalins**	**7.47**	**255**	*e*P	**Pn**	**12 18 49.0**	**-2.4**
	comp=E,20nm,0.6s						
ASAJ	**Asahikawa**	**9.07**	**238**	Pn	**P**	**12 19 14.4**	**+0.9**
	comp=E,0.2nm,0.3s,baz=68,slow=18,SNR=2.9						
ASAJ				LR	LR	12 22 16.4	
	comp=E,303nm,20.6s,baz=168,slow=34						
MA2	**Magadan**	**10.26**	**353**	*e*PN	**P**	**12 19 36.7**	**+6.9**
MA2				pmax	pmax		
	comp=Z,20nm,0.8s						
MA2	**Magadan**	**10.26**	**353**	*e*P	**P**	**12 19 26.4**	**-3.5**
FX1	**Attu Island--F**	**12.93**	**67**	Pn	**P**	**12 20 02.9**	**-3.0**
	comp=Z,3.5nm,0.3s,baz=309,slow=14,SNR=13						
FX1				Sn	**S**	**12 22 17.6**	**-12**
	comp=Z,1.1nm,0.3s,baz=73,slow=19,SNR=3.0						
FX1	**Attu Island--F**	**12.93**	**67**	*e*P	**P**	**12 20 02.8**	**-3.1**
SEY	**Seymchan**	**13.53**	**358**	*i* P	**P**	**12 20 23.2**	**+10**
KLR	**Kul'dur**	**14.05**	**277**	*e*P	**P**	**12 20 23.3**	**+2.7**
KLR				MLR	MLR		
	comp=N,700nm,11.5s						
KLR				MLR	MLR		
	comp=E,900nm,11.5s						
KLR				MLR	MLR		
	comp=Z,2μm,11.5s						
MDJ	**Mudanjiang**	**16.84**	**262**	P	**P**	**12 20 57.9**	**+1.3**
MDJ				AP		12 21 05.6	
MDJ				XP		12 21 08.3	
MDJ				S	**S**	**12 24 05.9**	**+4.2**
MDJ				SCS	ScS	12 32 57.5	+3.5
MDJ				AMB	AMB		
	comp=Z,13nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,35nm,4.2s						
MDJ				LR	LR		
	comp=N,349nm,14.4s						
MDJ				LR	LR		
	comp=E,308nm,15.6s						
MDJ				LR	LR		
	comp=Z,415nm,12.1s						
MDJ	**Mudanjiang**	**16.84**	**262**	pP		12 21 00.3	
	comp=Z,16nm,0.9s						
MAJO	**Matsushiro**	**16.93**	**226**	*e*P	**P**	**12 20 55.3**	**-2.5**
MAJO				pmax	pmax		
	comp=Z,16nm,0.8s						
MAJO	**Matsushiro**	**16.93**	**226**	*e*P	**P**	**12 20 55.3**	**-2.5**
	comp=Z,16nm,0.8s						
MAT	**Matsushiro**	**16.93**	**226**	*e*P	**P**	**12 20 57.0**	**-0.8**
MAT	**Matsushiro**	**16.93**	**226**	P	**P**	**12 20 57.0**	**-0.8**
MJAR	**Matsushiro Arr**	**16.93**	**226**	Pn	**P**	**12 20 57.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=22,slow=12,SNR=22						
MJAR				LR	LR	12 27 41.3	
	comp=Z,165nm,20.9s,baz=75,slow=38						
YAK	**Yakutsk**	**18.18**	**323**	*e*P	**P**	**12 21 12.5**	**-0.8**
YAK				pmax	pmax		
	comp=Z,62nm,0.8s						
YAK	**Yakutsk**	**18.18**	**323**	*e*P	**P**	**12 21 12.4**	**-0.8**
	comp=Z,62nm,0.8s						
CLNS	**Chul'man**	**18.48**	**304**	*e*P	**P**	**12 21 23.9**	**+7.0**
CLNS				pmax	pmax		
	comp=Z,29nm,0.9s						

CLNS pmax pmax
comp=N,12nm,0.7s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS pmax pmax
comp=Z,35nm,1.1s
CLNS pmax pmax
comp=N,33nm,0.9s
CLNS pmax pmax
comp=E,23nm,0.9s
CLNS MLR MLR
comp=Z,600nm,11.0s
CLNS MLR MLR
comp=N,100nm,13.0s
CLNS MLR MLR
comp=E,100nm,12.0s
BILL Bilibino 19.75 14⇓ *eP* **P 12 21 32.2 +0.6**
BILL pmax pmax
comp=Z,13nm,0.9s
BILL MLR MLR
comp=Z,300nm,13.0s
BILL Bilibino 19.75 14 *eP* **P 12 21 32.2 +0.6**
comp=Z,25nm,0.9s
CN2 Changchun 19.88 264 *eP* **P 12 21 33.5 +0.2**
CN2 *eXP* 12 21 43.5
CN2 *eS* **S 12 25 10.8 +0.8**
CN2 AMB AMB
comp=Z,20nm,1.0s
CN2 LR LR
comp=N,1µm,15.0s
CN2 LR LR
comp=E,1µm,15.0s
CN2 LR LR
comp=Z,1µm,16.0s
JNU Nakatsue 23.31 234 P **P 12 22 09.4 +1.6**
comp=Z,8.1nm,0.5s,mb4.4,baz=259,slow=1.9,SNR=4.1
CBIJ Chichi jima 23.91 205 LR LR 12 30 38.3
comp=Z,148nm,21.2s,MS3.4,baz=144,slow=34
BOD Bodaibo 24.45 305 *eP* **P 12 22 19.0 +0.4**
BOD pmax pmax
comp=Z,6.0nm,1.4s,mb3.8
TIXI Tiksi 24.93 342 *eP* **P 12 22 23.1 0.0**
TIXI *eS* **S 12 26 49.9 +7.9**
TIXI pmax pmax
comp=Z,16nm,1.0s,mb4.5
TIXI MLR MLR
comp=Z,235nm,13.0s,MS3.9
CIT Chita 25.07 291 *eP* **P 12 22 34.6 +10**
CIT *e* 12 23 02.2
CIT *e* 12 27 49.2
CIT pmax pmax
comp=Z,28nm,1.5s,mb4.6
JOW Kunigami 29.70 230 P **P 12 23 07.0 -0.2**
comp=Z,18nm,1.1s,mb4.7,baz=346,slow=8.6,SNR=4.4
ULN Ulaanbaatar 30.23 285 *eP* **P 12 23 07.9 -3.7**
ULN pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
ULN Ulaanbaatar 30.23 285 *eP* **P 12 23 07.9 -3.6**
comp=Z,2.8nm,0.9s,mb4.0
SONM Songino Array 30.65 285 P **P 12 23 17.4 +2.1**
comp=Z,0.7nm,0.8s,mb3.6,baz=67,slow=9.4,SNR=5.4
SONM PcP PcP 12 26 12.8 -0.4
comp=Z,2.0nm,0.9s,baz=96,slow=1.5,SNR=9.7
SONM LR LR 12 37 04.5
comp=Z,226nm,18.8s,MS3.9,baz=77,slow=39
NJ2 Nanjing 31.00 249 *eP* **P 12 23 16.8 -1.7**
NJ2 AP pP 12 23 31.6 +4.9
NJ2 PP PP 12 24 19.5 -1.3
NJ2 S **S 12 28 15.0 -5.4**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 AMB AMB
comp=Z,130nm,4.5s
NJ2 LR LR
comp=N,340nm,16.0s,MS4.3
NJ2 LR LR
comp=E,530nm,18.1s,MS4.3
NJ2 LR LR
comp=Z,150nm,14.8s,MS3.8
TLY Talaya 31.14 293 *eP* **P 12 23 16.3 -3.3**
TLY pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
TLY MLR MLR
comp=Z,292nm,14.0s,MS4.1
TLY Talaya 31.14 293 *eP* **P 12 23 15.5 -4.0**
comp=Z,12nm,0.9s,mb4.7
TLY *e* 12 23 31.1
ZAK Zakamensk 31.74 291 *eP* **P 12 23 26.8 +2.0**
ZAK *e* 12 26 14.3
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb3.9
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb3.9
PMR Palmer 33.62 47 *eP* **P 12 23 40.1 -1.0**
ILAR Eielson Array 34.40 41 P **P 12 23 46.8 -1.0**
ILAR *PP pP 12 23 55.4 -0.6
ILAR pmax pmax
comp=Z,3.0nm,0.7s
ILAR pmax pmax
comp=Z,4.0nm,0.9s
ILAR Eielson Array 34.40 41 P **P 12 23 46.8 -1.1**
comp=Z,3.3nm,0.7s,mb4.4,baz=260,slow=5.8,SNR=76
ILAR pP pP 12 23 55.4 -0.6
comp=Z,3.8nm,0.8s,baz=264,slow=9.4,SNR=14
GTA Gaotai 38.75 276 *eP* **P 12 24 27.7 +2.9**
GTA AP pP 12 24 31.6 -1.4
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb4.2
INK Inuvik 39.33 34 P **P 12 24 29.7 +0.3**
INK *PP pP 12 24 39.1 +1.5
INK 12 26 37.4
INK pmax pmax
comp=Z,4.0nm,0.8s
INK pmax pmax
comp=Z,3.0nm,0.8s
INK pmax pmax
comp=Z,2.0nm,0.7s
INK MLR MLR
comp=Z,59nm,21.0s
INK Inuvik 39.33 34 P **P 12 24 29.7 +0.3**
comp=Z,3.8nm,0.8s,mb4.2,baz=276,slow=11,SNR=9.4
INK pP pP 12 24 39.1 +1.4
comp=Z,2.5nm,0.8s,baz=288,slow=16,SNR=3.8
INK PcP PcP 12 26 37.4 -0.8
comp=Z,1.8nm,0.7s,baz=182,slow=7.8,SNR=3.2
INK LR LR 12 43 50.8
comp=Z,59nm,21.0s,MS3.4,baz=333,slow=41
INK Inuvik 39.33 34 *eP* **P 12 24 29.6 +0.2**
comp=Z,6.2nm,0.8s,mb4.4
ZAL Zalesovo 41.20 303 P **P 12 24 46.1 +1.2**
ZAL 12 26 44.3
ZAL pmax pmax
comp=Z,1.0nm,0.3s
ZAL pmax pmax
comp=Z,2.0nm,0.7s
ZAL MLR MLR
comp=Z,96nm,19.8s
ZAL Zalesovo 41.20 303 P **P 12 24 46.0 +1.2**
comp=Z,1.0nm,0.3s,mb3.9,baz=33,slow=5.4,SNR=5.9
ZAL PcP PcP 12 26 44.3 0.0
comp=Z,1.9nm,0.7s,baz=35,slow=3.0,SNR=6.8
ZAL LR LR 12 43 25.7
comp=Z,96nm,19.8s,MS3.7,baz=271,slow=38
DLBC Dease Lake 43.66 48 P **P 12 25 06.9 +2.1**
DLBC LR LR 12 44 32.3
comp=Z,55nm,18.1s,MS3.5,baz=121,slow=38
DLBC Dease Lake 43.66 48 *eP* **P 12 25 06.8 +2.0**
WMQ Urumqi 44.12 289 P **P 12 25 12.6 +3.8**
WMQ AP pP 12 25 20.1 +3.1
WMQ XP sP 12 25 23.4 +2.9
WMQ PP PP 12 26 57.3 +4.3
WMQ S **S 12 31 44.6 +5.3**
WMQ AMB AMB
comp=Z,17nm,1.5s,mb4.5
WMQ AMB AMB
comp=Z,67nm,5.8s
WMQ LR LR
comp=N,354nm,15.5s,MS4.5
WMQ LR LR
comp=E,252nm,16.1s,MS4.5
WMQ LR LR
comp=Z,501nm,16.8s,MS4.5
MKAR Makanchi Array 45.86 295 P **P 12 25 24.4 +1.8**
MKAR 12 27 00.3
MKAR pmax pmax
comp=Z,10.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR MLR MLR
comp=Z,113nm,18.2s
MKAR Makanchi Array 45.86 295 P **P 12 25 24.4 +1.8**
comp=Z,9.9nm,0.8s,mb4.8,baz=63,slow=8.1,SNR=47
MKAR PcP PcP 12 27 00.3 +0.3
comp=Z,1.4nm,0.7s,baz=78,slow=3.8,SNR=2.6
MKAR LR LR 12 45 47.5
comp=Z,113nm,18.2s,MS3.9,baz=14,slow=38
KMI Kunming 45.91 257 P **P 12 25 24.9 +1.6**
KMI AMB AMB
comp=Z,4.0nm,0.5s,mb4.6
YKW3 Yellowknife Ar 48.67 38 *eP* **P 12 25 44.4 0.0**
YKW3 *e* pP 12 25 52.9 +0.1
YKA Yellowknife Ar 48.71 38 P **P 12 25 44.8 +0.1**
comp=Z,3.3nm,0.6s,mb4.5,baz=299,slow=7.5,SNR=40
YKA pP pP 12 25 53.3 +0.2
comp=Z,2.3nm,0.7s,baz=300,slow=7.4,SNR=12
VOSK Vostochnaya 49.13 307 P **P 12 25 49.0 +0.9**
VOSK pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
BVA0 Borovoye Array 49.28 308 *iP* **P 12 25 50.3 +1.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
BVAR Borovoye Array 49.28 308 P **P 12 25 50.7 +1.5**
comp=Z,5.6nm,0.7s,mb4.7,baz=53,slow=7.4,SNR=39
BVAR sP sP 12 26 00.8 -0.1
comp=Z,3.0nm,0.7s,baz=59,slow=6.5,SNR=6.7
BVAR PcP PcP 12 27 11.0 -1.1
comp=Z,2.0nm,0.8s,baz=90,slow=4.4,SNR=3.9
ZRNK Zerenda 50.03 308 P **P 12 25 56.0 +1.0**
ZRNK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ZRNK Zerenda 50.03 308 *eP* **P 12 25 55.9 +0.9**
comp=Z,7.9nm,0.9s,mb4.7
SVE Sverdlovsk 51.96 316 *eP* **P 12 26 11.0 +1.4**
SVE MLR MLR
comp=N,200nm,11.0s,MS4.5
SVE MLR MLR
comp=E,100nm,11.0s,MS4.5
SVE MLR MLR
comp=Z,200nm,11.0s,MS4.4
AAK Ala-Archa 52.79 295⇑ *eP* **P 12 26 16.4 +0.4**
AAK pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
AAK Ala-Archa 52.79 295 *eP* **P 12 26 16.3 +0.3**
comp=Z,6.7nm,0.8s,mb4.6
ARU Arti 53.13 316⇓ *iP* **P 12 26 19.0 +0.6**
ARU *e* 12 26 35.0
ARU *e* 12 28 20.5
ARU *eS* **S 12 33 53.5 +8.1**
ARU *e* 12 36 02.4
ARU pmax pmax
comp=Z,12nm,0.8s,mb4.9
CMAR Chiang Mai Arr 53.17 255 P **P 12 26 20.2 +1.1**
CMAR 12 27 28.2
CMAR pmax pmax
comp=Z,1.0nm,0.5s
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 53.17 255 P **P 12 26 20.2 +1.1**
comp=Z,0.5nm,0.5s,mb3.7,baz=50,slow=7.0,SNR=3.2
CMAR PcP PcP 12 27 28.1 +1.2
comp=Z,1.8nm,0.8s,baz=16,slow=2.9,SNR=5.7
EDM Edmonton 54.38 48 *eP* **P 12 26 27.2 -0.3**
EDM *e* pP 12 26 35.8 -0.2
KKAR Karatay Array 54.84 297 *iP* **P 12 26 31.6 +0.5**
KKAR pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ARCES ARCESS Array B 55.35 340 LR LR 12 53 48.3
comp=Z,75nm,20.8s,MS3.8,baz=69,slow=40
NEW Newport 55.47 54 *eP* **P 12 26 34.8 -0.8**
NEW *e* pP 12 26 43.6 -0.4
NEW pmax pmax
comp=Z,11nm,1.1s
NEW Newport 55.47 54 P **P 12 26 35.3 -0.3**
comp=Z,6.8nm,0.9s,mb4.7,baz=325,slow=6.8,SNR=11
NEW Newport 55.47 54 *eP* **P 12 26 34.8 -0.8**
comp=Z,11nm,1.1s,mb4.8
NEW *e* pP 12 26 43.6 -0.4
YBH Yreka Blue Hor 56.39 63 P **P 12 26 43.4 +1.1**
YBH pmax pmax
comp=Z,3.0nm,0.7s
YBH Yreka Blue Hor 56.39 63 P **P 12 26 43.4 +1.2**
comp=Z,3.0nm,0.7s,mb4.5,baz=346,slow=3.1,SNR=17
YBH Yreka Blue Hor 56.39 63 *eP* **P 12 26 43.0 +0.8**
comp=Z,6.0nm,1.1s,mb4.5
WALA Waterton Lakes 56.65 52 *eP* **P 12 26 43.9 -0.2**
comp=Z,13nm,0.8s,mb5.0
WALA *e* pP 12 26 52.4 -0.2
AB31 Akbulak array 56.82 309 P **P 12 26 45.4 +0.1**
AB31 pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BMO Blue Mountains 57.49 58 *eP* **P 12 26 50.2 +0.1**
comp=Z,15nm,1.4s,mb4.8
BMO *e* pP 12 26 58.9 +0.2
MOD Modoc 57.68 62 *eP* **P 12 26 51.8 +0.4**
comp=Z,2.4nm,0.6s,mb4.4
MOD *e* pP 12 27 00.1 +0.2
MSO Missoula 58.05 54 *eP* **P 12 26 53.7 -0.2**
comp=Z,15nm,1.2s,mb4.9
WVOR Wild Horse Val 58.29 60 *eP* **P 12 26 55.9 +0.2**
WVOR pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
WVOR Wild Horse Val 58.29 60 *eP* **P 12 26 55.9 +0.2**
comp=Z,7.6nm,1.0s,mb4.7
CHMT Chamberlain Mo 58.36 53 *eP* **P 12 26 55.8 -0.3**
CHMT *e* pP 12 27 04.2 -0.4
FFC Flin Flon 58.61 41 *eP* **P 12 26 57.5 -0.2**
FFC *e* pP 12 27 05.9 -0.4
FFC pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
FFC Flin Flon 58.61 41 *eP* **P 12 26 57.5 -0.3**
comp=Z,8.0nm,1.0s,mb4.7
FFC *e* pP 12 27 05.9 -0.4
HRY Holter Researc 59.23 53 *eP* **P 12 27 02.9 +0.7**
HRY *e* pP 12 27 11.1 +0.4
WCN Washoe City 59.67 64 *eP* **P 12 27 05.6 +0.3**
WCN pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
WCN Washoe City 59.67 64 *eP* **P 12 27 05.6 +0.3**
comp=Z,5.3nm,0.9s,mb4.6
HLID Hailey 59.91 57 *eP* **P 12 27 06.9 0.0**
comp=Z,11nm,1.3s,mb4.7
MCMT McKenzie Canyo 59.93 55 *eP* **P 12 27 07.2 +0.2**
MCMT *e* pP 12 27 15.6 0.0
BOZ Bozeman (W) 60.04 54 *eP* **P 12 27 08.3 +0.6**
BOZ *e* pP 12 27 17.1 +0.8
BOZ pmax pmax
comp=Z,19nm,0.8s,mb5.2
BOZ Bozeman (W) 60.04 54 *eP* **P 12 27 08.3 +0.6**
comp=Z,19nm,0.8s,mb5.2
BOZ *e* pP 12 27 17.1 +0.7
QLMT Earthquake Lak 60.68 54 *eP* **P 12 27 13.2 +1.1**
GCMT Greycliff 60.97 53 *eP* **P 12 27 14.7 +0.6**
YMR Madison River 61.04 54 *eP* **P 12 27 15.4 +0.8**
YMR *e* pP 12 27 23.9 +0.7
KAF Kangasniemi 61.06 335 *ep* **P 12 27 10.8 -3.6**
comp=Z,3.4nm,0.8s,mb4.5,baz=35,slow=6.3
KAF Kangasniemi 61.06 335 *eP* **P 12 27 10.8 -3.6**
KAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
YFT Old Faithful 61.25 54 *eP* **P 12 27 18.5 +2.5**
ELK Elko 61.32 60 P **P 12 27 17.3 +0.8**
ELK pmax pmax
comp=Z,2.0nm,0.6s
ELK Elko 61.32 60 P **P 12 27 17.2 +0.7**
comp=Z,1.6nm,0.6s,mb4.3,baz=304,slow=6.8,SNR=9.6
ELK Elko 61.32 60 *eP* **P 12 27 16.9 +0.4**
comp=Z,4.0nm,1.0s,mb4.5
LKWY Lake 61.41 54 *eP* **P 12 27 19.5 +2.4**
LKWY *e* pP 12 27 27.9 +2.2
LKWY pmax pmax
comp=Z,13nm,0.8s,mb5.1
LKWY Lake 61.41 54 *eP* **P 12 27 19.5 +2.4**
comp=Z,13nm,0.8s,mb5.1
LKWY *e* pP 12 27 27.9 +2.2
IMW Indian Meadow 61.57 55 *eP* **P 12 27 19.2 +1.0**
comp=Z,18nm,1.2s,mb5.1
FINES FINESS Array B 61.66 334 P **P 12 27 18.0 -0.6**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES MLR MLR
comp=Z,62nm,18.9s
FINES FINESS Array B 61.66 334 P **P 12 27 18.0 -0.5**
comp=Z,4.0nm,0.8s,mb4.6,baz=34,slow=6.9,SNR=21
FINES LR LR 12 56 49.7
comp=Z,62nm,18.9s,MS3.8,baz=174,slow=39
FINES FINESS Array B 61.66 334 P **P 12 27 18.0 -0.5**
FINES LR LR 12 56 49.7
RRI2 Red Ridge 61.74 56 *eP* **P 12 27 20.4 +1.1**
comp=Z,16nm,0.8s,mb5.2
MOOW Moose Ponds 61.77 55 *eP* **P 12 27 20.5 +0.9**
comp=Z,8.4nm,1.0s,mb4.8
TPAW Teton Pass 61.84 55 *eP* **P 12 27 21.3 +1.3**
comp=Z,31nm,1.2s,mb5.3
LOHW Long Hollow 61.94 55 *eP* **P 12 27 20.9 +0.2**
comp=Z,22nm,1.2s,mb5.2
SNOW Snow King Moun 61.96 55 *eP* **P 12 27 22.1 +1.2**
comp=Z,18nm,1.1s,mb5.1
REDW Red Top Meadow 61.98 55 *eP* **P 12 27 21.7 +0.7**
comp=Z,34nm,1.3s,mb5.3
LAO LASA Array 62.11 50 *eP* **P 12 27 22.3 +0.6**
comp=Z,32nm,0.9s,mb5.5
LAO *e* pP 12 27 31.1 +0.7
HWUT Hardware Ranch 62.78 57 *eP* **P 12 27 26.9 +0.6**
comp=Z,12nm,1.0s,mb5.0
PDAR Pinedale Array 63.08 55 P **P 12 27 28.6 +0.4**
comp=Z,12nm,0.9s,mb5.0,baz=320,slow=2.2,SNR=80
PDAR pP pP 12 27 37.4 +0.5
comp=Z,9.4nm,0.9s,baz=315,slow=2.6,SNR=15
OBN Obninsk 63.17 325 *eP* **P 12 27 27.9 -0.7**
OBN *e* 12 28 01.6
OBN pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.1
TCUT Toone Canyon 63.20 57 P **P 12 27 27.7 -1.4**
JLU Jordanelle 63.54 58 *eP* **P 12 27 32.0 +0.8**
NLU North Lily Min 63.63 59 *eP* **P 12 27 32.8 +0.9**
MPU Maple Canyon 63.84 58 *eP* **P 12 27 33.7 +0.5**
MPU *e* pP 12 27 42.6 +0.8
ARUT Antelope Range 64.35 61 *eP* **P 12 27 36.7 +0.1**
MVU Marysvale 64.56 60 *eP* **P 12 27 38.8 +0.9**
comp=Z,5.9nm,1.3s,mb4.5
MSU Marysvale 64.57 60 *eP* **P 12 27 38.8 +0.8**
NEN Nelson 65.02 64 *eP* **P 12 27 41.0 +0.1**
SRU San Rafael 65.08 59 *eP* **P 12 27 41.3 0.0**
NB2 NORSAR Subarra 65.72 341 P **P 12 27 44.6 -0.4**
comp=Z,0.4nm,0.6s,mb3.6,baz=26,slow=6.5
NOA NORSAR Array B 65.72 341 P **P 12 27 44.1 -0.9**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,52nm,18.9s
NOA NORSAR Array B 65.72 341 P **P 12 27 44.1 -0.9**
comp=Z,0.9nm,0.8s,mb3.9,baz=26,slow=6.4,SNR=3.9
NOA LR LR 13 01 24.4
comp=Z,52nm,18.9s,MS3.8,baz=10.0,slow=40
HFS Hagfors 65.98 339 P **P 12 27 46.0 -0.7**
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 65.98 339 P **P 12 27 46.0 -0.7**
comp=Z,1.6nm,0.7s,mb4.2,baz=63,slow=6.6,SNR=6.4
PV10 Paradox Valley 66.42 58 *eP* **P 12 27 50.7 +0.8**
ISCO Idaho Springs 67.28 55 *eP* **P 12 27 56.3 +1.0**
ISCO pmax pmax
comp=Z,18nm,1.2s,mb5.0
ISCO Idaho Springs 67.28 55 *eP* **P 12 27 56.2 +0.9**
comp=Z,18nm,1.2s,mb5.0
SDCO Great Sand Dun 68.82 57 *eP* **P 12 28 05.5 +0.6**
comp=Z,12nm,1.4s,mb4.6
KIV Kislovodsk 69.02 314⇓ *eP* **P 12 28 07.3 +1.2**
KIV pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AKASG Malin Array Be 69.38 326 P **P 12 28 07.1 -1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 69.38 326 P **P 12 28 07.1 -1.1**
comp=Z,1.2nm,0.7s,mb4.0,baz=32,slow=5.8,SNR=7.7
AKASG Malin Array Be 69.38 326 P **P 12 28 07.1 -1.1**
CTA Charters Tower 69.50 187 P **P 12 28 06.8 -2.6**
CTA pmax pmax
comp=Z,5.0nm,1.0s
CTA Charters Tower 69.50 187 P **P 12 28 06.8 -2.6**
comp=Z,5.0nm,1.0s,mb4.4,baz=312,slow=7.8,SNR=4.2
TUC Tucson 69.76 64 *eP* **P 12 28 11.0 +0.2**
TUC pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
TUC Tucson 69.76 64 *eP* **P 12 28 11.0 +0.2**
comp=Z,4.8nm,1.3s,mb4.3
AFI Afiamalu 70.20 144 LR LR 12 57 11.5
comp=Z,66nm,19.8s,MS3.9,baz=69,slow=34
ANMO Albuquerque 70.32 59 *eP* **P 12 28 14.6 +0.4**
ANMO *e* pP 12 28 23.6 +0.8
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO Albuquerque 70.32 59 P **P 12 28 15.0 +0.8**
comp=Z,4.5nm,0.9s,mb4.4,baz=311,slow=7.1,SNR=18
ANMO Albuquerque 70.32 59 *eP* **P 12 28 14.6 +0.4**
comp=Z,5.0nm,1.0s,mb4.4
ANMO *e* pP 12 28 23.6 +0.8
SCHQ Schefferville 70.78 23 P **P 12 28 16.6 -0.1**
comp=Z,6.0nm,0.8s,mb4.5,baz=343,slow=5.6,SNR=6.7
SCHQ pP pP 12 28 25.4 +0.2
comp=Z,1.6nm,0.5s,baz=290,slow=6.6,SNR=2.0
BNM Barren Site 70.81 60 *eP* **P 12 28 10.8 +0.8**
GNI Garni 70.89 310 *iP* **P 12 28 24.9 +7.3**
WRAB Tennant Creek 71.09 199⇑ *eP* **P 12 28 17.6 -1.5**
WRAB Tennant Creek 71.09 199 *eP* **P 12 28 16.8 -2.3**
comp=Z,25nm,0.9s,mb5.2
WB2 Warramunga Arr 71.10 199 *eP* **P 12 28 17.7 -1.4**
WRA Warramunga Arr 71.10 199 P **P 12 28 17.7 -1.4**
WRA pmax pmax
comp=Z,11nm,0.9s
WRA Warramunga Arr 71.10 199 P **P 12 28 17.7 -1.5**
comp=Z,11nm,0.9s,mb4.8,baz=17,slow=6.9,SNR=31
FITZ Fitzroy Crossi 71.58 208 *eP* **P 12 28 21.6 -0.5**
comp=Z,14nm,0.9s,mb4.9
FITZ Fitzroy Crossi 71.58 208 P **P 12 28 21.1 -0.9**
comp=Z,20nm,0.9s,mb5.1,baz=11,slow=3.9,SNR=7.4
DZM Mont Dzumac 72.15 167 P **P 12 28 25.1 -0.2**
comp=Z,10nm,1.1s,mb4.7,baz=52,slow=7.8,SNR=6.6
AMTX Amarillo 73.01 56 *eP* **P 12 28 30.5 +0.3**
comp=Z,20nm,1.2s,mb4.9
MNTX Cornudas Mount 73.33 61 *eP* **P 12 28 32.6 +0.5**
comp=Z,9.7nm,1.2s,mb4.6
MNTX *e* pP 12 28 41.2 +0.4
GDL2 Guadalupe Moun 73.53 60 *eP* **P 12 28 33.5 +0.3**
EKA Eskdalemuir Ar 73.75 346 P **P 12 28 34.7 +0.6**
EKA pmax pmax
comp=Z,1.0nm,0.5s
EKA Eskdalemuir Ar 73.75 346 P **P 12 28 34.6 +0.6**
comp=Z,0.5nm,0.5s,mb3.7,baz=18,slow=4.9,SNR=6.1
CLL Collm 74.07 335 P **P 12 28 36.6 +0.6**
CCM Cathedral Cave 75.90 47 *eP* **P 12 28 46.2 -0.6**
CCM *e* pP 12 28 55.0 -0.5
CCM pmax pmax
comp=Z,13nm,1.0s,mb4.8
CCM Cathedral Cave 75.90 47 *eP* **P 12 28 46.1 -0.7**
comp=Z,13nm,1.0s,mb4.8
CCM *e* pP 12 28 55.0 -0.6
LTX Lajitas 76.07 61 *eP* **P 12 28 48.6 +0.6**
LTX *e* pP 12 28 57.4 +0.7
LTX pmax pmax
comp=Z,12nm,0.7s,mb4.9
LTX Lajitas 76.07 61 *eP* **P 12 28 48.6 +0.7**
comp=Z,12nm,0.7s,mb4.9
LTX *e* pP 12 28 57.4 +0.7
TXAR Lajitas Array 76.07 61 P **P 12 28 48.6 +0.6**
TXAR *PP pP 12 28 57.4 +0.7
TXAR pmax pmax
comp=Z,11nm,0.7s
TXAR pmax pmax
comp=Z,5.0nm,0.6s
TXAR Lajitas Array 76.07 61 P **P 12 28 48.6 +0.6**
comp=Z,11nm,0.7s,mb4.9,baz=298,slow=4.3,SNR=190
TXAR pP pP 12 28 57.4 +0.7
comp=Z,4.7nm,0.6s,baz=292,slow=3.9,SNR=14
FVM French Village 76.35 47 *eP* **P 12 28 48.8 -0.5**
FVM *e* pP 12 28 57.8 -0.3
FVM pmax pmax
comp=Z,14nm,0.8s,mb4.9
FVM French Village 76.35 47 *eP* **P 12 28 48.8 -0.6**
comp=Z,14nm,0.8s,mb5.0
FVM *e* pP 12 28 57.8 -0.3
BRTR Keskin Array B 76.52 316 P **P 12 28 51.2 +1.0**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 76.52 316 P **P 12 28 51.2 +1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.0nm,1.0s,mb4.0,baz=90,slow=2.5,SNR=6.8						
BAIF	**Baives**	**77.39**	**340**	*e*P	**P**	**12 28 52.3**	**-2.6**
CDF	**Champ du Feu**	**78.21**	**338**	*e*P	**P**	**12 28 57.0**	**-2.4**
MEZF	**Maizieres J'vi**	**78.66**	**339**	*e*P	**P**	**12 28 59.4**	**-2.5**
	comp=Z,4.6nm,0.6s,mb4.3						
HAU	**Haudompre**	**78.82**	**338**	*e*P	**P**	**12 29 00.4**	**-2.3**
HINF	**Hinteralfeld**	**78.87**	**338**	*e*P	**P**	**12 29 00.7**	**-2.3**
FLN	**La Foliniere**	**79.60**	**343**	*e*P	**P**	**12 29 04.7**	**-2.2**
LDF	**La Druitiere**	**79.69**	**342**	*e*P	**P**	**12 29 05.1**	**-2.3**
GRR	**Gorron**	**80.03**	**343**	*e*P	**P**	**12 29 06.5**	**-2.8**
	comp=Z,6.2nm,0.5s,mb4.5						
GRR	**Gorron**	**80.03**	**343**	*e*P	**P**	**12 29 06.5**	**-2.8**
GRR				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
LOR	**Lormes**	**80.10**	**339**	*e*P	**P**	**12 29 07.2**	**-2.5**
	comp=Z,7.3nm,0.8s,mb4.3						
LOR	**Lormes**	**80.10**	**339**	*e*P	**P**	**12 29 07.2**	**-2.5**
LOR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CABF	**La Chapelle**	**80.18**	**338**	*e*P	**P**	**12 29 07.3**	**-2.8**
	comp=Z,7.1nm,0.8s,mb4.3						
CABF	**La Chapelle**	**80.18**	**338**	*e*P	**P**	**12 29 07.3**	**-2.8**
CABF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
SSF	**Saint Saulge**	**80.37**	**340**	*e*P	**P**	**12 29 08.6**	**-2.5**
SGMF	**Saint Gilles**	**80.48**	**344**	*e*P	**P**	**12 29 09.3**	**-2.3**
	comp=Z,16nm,0.9s,mb4.7						
SGMF	**Saint Gilles**	**80.48**	**344**	*e*P	**P**	**12 29 09.3**	**-2.3**
SGMF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
ROSF	**Rostrenen**	**80.52**	**344**	*e*P	**P**	**12 29 09.5**	**-2.4**
	comp=Z,52nm,1.2s,mb5.0						
ROSF	**Rostrenen**	**80.52**	**344**	*e*P	**P**	**12 29 09.5**	**-2.4**
ROSF				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.0						
QUIF	**Quistinic**	**80.91**	**344**	*e*P	**P**	**12 29 11.6**	**-2.3**
TCF	**Toulx Ste Croi**	**81.40**	**340**	*e*P	**P**	**12 29 14.4**	**-2.1**
	comp=Z,11nm,1.1s,mb4.4						
TCF	**Toulx Ste Croi**	**81.40**	**340**	*e*P	**P**	**12 29 14.4**	**-2.1**
TCF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
MBDF	**Montbardon**	**81.77**	**337**	*e*P	**P**	**12 29 16.1**	**-2.4**
ORIF	**Oris-en-Rattie**	**81.82**	**337**	*e*P	**P**	**12 29 16.0**	**-2.7**
VIVF	**Saint-Julien-l**	**82.17**	**338**	*e*P	**P**	**12 29 18.0**	**-2.6**
	comp=Z,6.7nm,0.8s,mb4.3						
VIVF	**Saint-Julien-l**	**82.17**	**338**	*e*P	**P**	**12 29 18.0**	**-2.6**
VIVF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
SBF	**Sospel**	**82.40**	**336**	*e*P	**P**	**12 29 19.4**	**-2.4**
LASF	**Ste Croix**	**83.11**	**338**	*e*P	**P**	**12 29 22.8**	**-2.6**
	comp=Z,19nm,1.2s,mb4.7						
MTLF	**Montolieu**	**84.19**	**339**	*e*P	**P**	**12 29 28.0**	**-2.9**
	comp=Z,16nm,1.1s,mb4.7						
MTLF	**Montolieu**	**84.19**	**339**	*e*P	**P**	**12 29 28.0**	**-2.9**
MTLF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
ETSF	**Etsaut**	**85.23**	**341**	*e*P	**P**	**12 29 33.4**	**-2.7**
KLBR	**Kellerberrin**	**86.66**	**210**	*e*P	**P**	**12 29 43.1**	**-0.3**
	comp=Z,10nm,0.6s,mb5.2						
MUN	**Mundaring**	**87.52**	**211**	*e*P	**P**	**12 29 47.8**	**+0.2**
	comp=Z,7.0nm,0.7s,mb5.0						
MUN	**Mundaring**	**87.52**	**211**	*e*P	**P**	**12 29 47.8**	**+0.2**
MUN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb5.0						
NWAO	**Narrogin (SRO)**	**88.06**	**210**	P	**P**	**12 29 50.5**	**+0.4**
NWAO				pmax	pmax		
	comp=Z,14nm,0.7s						
NWAO	**Narrogin (SRO)**	**88.06**	**210**	P	**P**	**12 29 50.5**	**+0.4**
	comp=Z,14nm,0.7s,mb5.3,baz=356,slow=6.1,SNR=9.0						
VNDA	**Vanda**	**126.80**	**178**	PKIKP	PKPdf	12 36 01.4	-4.6
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VNDA	**Vanda**	**126.80**	**178**	PKP	PKPdf	12 36 01.4	-4.6
	comp=Z,0.8nm,0.7s,baz=357,slow=3.6,SNR=6.3						
SBA	**Scott Base**	**127.30**	**176**	*e*PKIKP	PKPdf	12 36 03.5	-3.5
BDFB	**Brasilia**	**142.08**	**35**	PKIKP	PKPdf	12 36 32.4	-3.4
BDFB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BDFB	**Brasilia**	**142.08**	**35**	PKP	PKPdf	12 36 32.4	-3.4
	comp=Z,4.7nm,0.9s,baz=333,slow=2.3,SNR=4.3						
CFAA	**Coronel Fontan**	**144.29**	**76**	PKP	PKPdf	12 36 33.6	-5.6
	comp=Z,0.6nm,0.9s,baz=310,slow=2.1,SNR=7.3						
CPUP	**Villa Florida**	**146.96**	**57**	PKP2	PKPab	12 36 42.4	-2.2
CPUP				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CPUP	**Villa Florida**	**146.96**	**57**	PKPbc	PKPbc	12 36 42.4	+1.7
	comp=Z,4.2nm,0.9s,baz=6.3,slow=7.5,SNR=8.5						
SNAA	**Sanae**	**155.17**	**198**	P	PKPab	12 37 16.1	-1.1
VNA2	**Neumayer--Watz**	**156.64**	**196**	⇓*i*P	PKPab	12 37 24.9	+1.3
VNA3	**Neumayer Olymp**	**156.74**	**194**	⇓*i*P	PKPab	12 37 24.9	+0.9
VNA1	**Neumayer--Stat**	**157.02**	**196**	⇓*i*P	PKPab	12 37 26.0	+0.7

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*IDC **10** 12:22:09.3±2.5, 6.27S×145.89E, h116^{km}±25^{km}, mb3.7/9, mb1 3.8/11, mb1mx3.8/15, mbtmp4.1/11, MS3.1/1, Ms1 3.1/1, ms1mx2.6/24, Error ellipse: s-maj=27.1km s-min=19.2km az=80.0*

*NEIC **10** 12:22:14.8±1.3, 6.76S×146.18E, h193^{km}±15^{km}, mb4.1/1, Error ellipse: s-maj=21.4km s-min=15.1km az=117.0*

ISC 10 12:22:09.0±2.3**, 6.3S**±0.1×**145.8E**±0.2**, h128**^{km}±24^{km}**, n16, σ0^{s}82**/18**, mb3.9**/9**, New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.33**	**156**	P	**P**	**12 23 01.7**	**+1.0**
	20nm,0.3s,baz=36,slow=4.6,SNR=47						
PMG				S	**S**	**12 23 39.7**	**-0.5**
	16nm,0.3s,baz=24,slow=16,SNR=12						
PMG				LR	LR	12 24 08.6	
	comp=Z,276nm,18.1s,baz=118,slow=36						
PMG	**Port Moresby**	**3.33**	**156**	P	**P**	**12 23 01.8**	**+1.0**
PMG				S	**S**	**12 23 39.7**	**-0.5**
PMG				LR	LR	12 24 08.6	
WRA	**Warramunga Arr**	**17.51**	**218**	P	**P**	**12 26 05.3**	**-1.5**
	0.2nm,0.3s,baz=39,slow=11,SNR=11						
FITZ	**Fitzroy Crossi**	**22.88**	**237**	P	**P**	**12 27 02.6**	**+0.3**
	4.7nm,0.6s,mb4.0,baz=26,slow=6.4,SNR=8.6						
STKA	**Stephens Creek**	**25.70**	**188**	*e*P	**P**	**12 27 30.1**	**+1.0**
	3.9nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**25.70**	**188**	P	**P**	**12 27 29.5**	**+0.4**
	5.3nm,0.8s,mb4.0,baz=334,slow=8.2,SNR=8.8						
CMAR	**Chiang Mai Arr**	**52.37**	**299**	P	**P**	**12 31 10.9**	**+0.5**
	3.3nm,0.6s,mb4.5,baz=119,slow=6.1,SNR=19						
SONM	**Songino Array**	**64.13**	**332**	P	**P**	**12 32 32.4**	**+0.4**
	0.6nm,0.5s,mb3.7,baz=153,slow=5.5,SNR=5.8						
VNDA	**Vanda**	**71.64**	**176**	P	**P**	**12 33 19.6**	**+1.5**
	0.3nm,0.8s,mb3.2,baz=326,slow=3.6,SNR=2.8						
VNDA	**Vanda**	**71.64**	**176**	P	**P**	**12 33 17.9**	**-0.3**
SBA	**Scott Base**	**72.31**	**175**	*e*P	**P**	**12 33 15.9**	**-6.1**
MKAR	**Makanchi Array**	**77.00**	**321**	P	**P**	**12 33 49.9**	**+0.5**
	1.2nm,0.6s,mb3.8,baz=100,slow=7.4,SNR=8.1						
MKAR	**Makanchi Array**	**77.00**	**321**	P	**P**	**12 33 49.9**	**+0.5**
ZAL	**Zalesovo**	**78.67**	**328**	P	**P**	**12 33 57.9**	**-0.6**
	0.8nm,0.3s,mb4.0,baz=284,slow=4.2,SNR=4.0						
ILAR	**Eielson Array**	**86.27**	**23**	P	**P**	**12 34 35.7**	**-1.4**
	1.0nm,0.7s,mb3.9,baz=262,slow=4.5,SNR=16						
BVAR	**Borovoye Array**	**86.34**	**324**	P	**P**	**12 34 37.9**	**+0.1**
	1.5nm,0.7s,mb4.0,baz=124,slow=5.3,SNR=8.8						

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*MOS **10** 12:25:52.5±1.0, 37.75N×20.55E, h10^{km}, mb3.7/5, Error ellipse: s-maj=11.1km s-min=5.1km az=77.9*

*IDC **10** 12:25:52.8±1.8, 37.92N×20.77E, mb3.7/10, mb1 3.8/13, mb1mx3.7/27, mbtmp3.7/13, ML3.6/3, MS2.8/4, Ms1 2.8/4, ms1mx2.5/31, Error ellipse: s-maj=41.3km s-min=16.7km az=40.0*

*CSEM **10** 12:25:52.3±0.1, 37.81N×20.34E, h10^{km}, ML3.9, Error ellipse: s-maj=3.6km s-min=2.0km az=40.0*

*ATH **10** 12:25:54.8, 37.92N×20.72E, h7^{km}±2^{km}, MD3.8/14, ML4.0*

*NEIC **10** 12:25:55.0, 37.93N×20.72E, h8^{km}, mb3.6/1, ML4.0(ATH), After ATH.*

*THE **10** 12:25:57.5, 38.03N×20.78E, h1^{km}, ML3.9*

ISC 10 12:25:54.8±0.8**, 37.96N**±0.03×**20.56E**±0.03**, h14**^{km}±4^{km}**, n79, σ1^{s}26**/97**, mb3.6**/11**, MS2.7**/1**, 2C-1D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.75**	**5**	*e*Pg	**Pg**	**12 26 09.5**	**-0.5**
LKD				*e*Sg	**Sg**	**12 26 20.4**	**+0.2**
ITM	**Ithomi**	**1.33**	**125**	*e*PG	**Pg**	**12 26 17.5**	**-3.9**
EVR	**Evrytania**	**1.37**	**45**	*e*PB	**Pb**	**12 26 19.5**	**-0.2**
IGT	**Igoumenitsa**	**1.58**	**354**	*e*Pg	**Pg**	**12 26 24.8**	**-1.7**
IGT				*e*Sg	**Sg**	**12 26 47.0**	**-0.7**
JAN	**Janina**	**1.71**	**7**	*e*PN	**Pn**	**12 26 27.4**	**+2.9**
AGG	**Agios Georgios**	**1.75**	**52**	*e*Pg	**Pg**	**12 26 25.8**	**-4.0**
AGG				*e*Sg	**Sg**	**12 26 47.1**	**-6.0**
KEK	**Kerkira**	**1.85**	**341**	*e*PN	**Pn**	**12 26 29.5**	**+3.0**
SRN	**Sarande**	**1.97**	**347**	*i* Pn	**Pn**	**12 26 33.7**	**+5.5**
SRN				*i* Sn	**Sn**	**12 26 52.6**	**-0.3**
MGER	**Gerania Oros**	**2.13**	**88**	*e*PN	**Pn**	**12 26 31.0**	**+0.5**
VLI	**Veliai**	**2.26**	**122**	*e*PN	**Pn**	**12 26 33.5**	**+1.2**
NSAL	**Nisos Salamina**	**2.29**	**90**	*e*PN	**Pn**	**12 26 33.0**	**+0.2**
NAIG	**Nisos Aigina**	**2.32**	**94**	*e*PG	**Pg**	**12 26 34.8**	**-6.4**
NEO	**Neokhori**	**2.48**	**56**	*e*PN	**Pn**	**12 26 36.6**	**+1.1**
ATH	**Athens Observa**	**2.49**	**89**	*e*PB	**Pb**	**12 26 35.5**	**-3.4**
XOR	**Xorichti**	**2.49**	**55**	*e*Pn	**Pn**	**12 26 36.6**	**+0.9**
XOR				*e*Sn	**Sn**	**12 27 06.5**	**+0.3**
MPAR	**Parnis Oros**	**2.51**	**85**	*e*PN	**Pn**	**12 26 36.0**	**+0.1**
KZN	**Kozani**	**2.53**	**21**	*e*PN	**Pn**	**12 26 39.2**	**+3.0**
KZN	**Kozani**	**2.53**	**21**	*e*Pn	**Pn**	**12 26 40.0**	**+3.8**
KYTH	**Kithira**	**2.59**	**129**	*e*PN	**Pn**	**12 26 38.5**	**+1.5**
KYTH	**Kithira**	**2.59**	**129**	*e*Pn	**Pn**	**12 26 39.0**	**+2.0**
PTL	**Penteli**	**2.61**	**87**	*e*PN	**Pn**	**12 26 37.5**	**+0.2**
LIT	**Litokhoron**	**2.62**	**34**	*e*Pn	**Pn**	**12 26 38.2**	**+0.8**
LIT				*e*Sn	**Sn**	**12 27 10.3**	**+1.0**
AOS	**Alonnisos**	**2.87**	**64**	*e*Pn	**Pn**	**12 26 40.8**	**-0.2**
AOS				*e*Sn	**Sn**	**12 27 14.8**	**-0.9**
FNA	**Florina**	**2.89**	**12**	*e*Pn	**Pn**	**12 26 43.0**	**+1.6**
FNA				*e*Sn	**Sn**	**12 27 17.4**	**+1.1**
PAIG	**Paliouri**	**3.13**	**50**	*e*Pn	**Pn**	**12 26 44.9**	**+0.1**
PAIG				*e*Sn	**Sn**	**12 27 21.4**	**-0.9**
OHR	**Ohrid**	**3.16**	**3**	*i* Pn	**Pn**	**12 26 46.8**	**+1.7**
OHR				*i*		12 26 47.5	
OHR				*i*		12 26 55.7	
TIP	**Timpagrande**	**3.22**	**293**	*e*P	**Pn**	**12 26 47.8**	**+1.7**
TIP	**Timpagrande**	**3.22**	**293**	*e*P	**Pn**	**12 26 47.8**	**+1.7**
PLG	**Polygyros**	**3.29**	**42**	*e*PN	**Pn**	**12 26 48.0**	**+0.9**
GRG	**Griva**	**3.32**	**25**	*e*Pn	**Pn**	**12 26 48.6**	**+1.1**
GRG				*e*Sn	**Sn**	**12 27 27.8**	**+0.8**
OUR	**Ouranopolis**	**3.56**	**47**	*e*Pn	**Pn**	**12 26 51.0**	**+0.1**
OUR				*e*Sn	**Sn**	**12 27 33.3**	**0.0**
SOH	**Sokhos**	**3.59**	**36**	*e*Pn	**Pn**	**12 26 52.1**	**+0.8**
SOH				*e*Sn	**Sn**	**12 27 33.9**	**0.0**
QSH	**Qafa e Shtames**	**3.60**	**352**	*i* Pn	**Pn**	**12 26 49.0**	**-2.4**
QSH				*i* Sn	**Sn**	**12 27 28.0**	**-6.1**
KNT	**Kendrikon**	**3.68**	**29**	*e*Pn	**Pn**	**12 26 53.3**	**+0.8**
SKO	**Skopje**	**4.07**	**9**	*e*Pn	**Pn**	**12 26 58.5**	**+0.4**
KKB	**Krupnik**	**4.36**	**26**	*e*P	**Pn**	**12 27 02.0**	**-0.2**
MMB	**Musomiste**	**4.37**	**33**	*e*P	**Pn**	**12 27 02.5**	**+0.1**
IDI	**Anoyia**	**4.38**	**126**	Pn	**Pn**	**12 26 59.7**	**-2.9**
	1.3nm,0.3s,baz=301,slow=15,SNR=14						
IDI				Sn	**Sn**	**12 27 48.3**	**-5.7**
	9.1nm,0.3s,baz=90,slow=23,SNR=12						
IDI	**Anoyia**	**4.38**	**126**	Pn	**Pn**	**12 26 59.7**	**-2.8**
IDI				Sn	**Sn**	**12 27 48.2**	**-5.8**
VAE	**Valguarnera**	**4.90**	**266**	Sn	**Sn**	**12 28 09.9**	**+2.8**
	3.5nm,0.3s,baz=354,slow=9.2,SNR=3.1						
RZN	**Rozhen**	**4.91**	**39**	*i* P	**Pn**	**12 27 10.0**	**0.0**
VTS	**Vitosha**	**5.05**	**23**	*e*P	**Pn**	**12 27 13.0**	**+1.0**
KDZ	**Kurdzhali**	**5.25**	**44**	*i* P	**Pn**	**12 27 13.5**	**-1.3**
STON	**Ston**	**5.38**	**337**	*i* Pn	**Pn**	**12 27 15.3**	**-1.2**
STON				*i* Sn	**Sn**	**12 28 14.9**	**-4.1**
CII	**Carovilli**	**6.11**	**310**	*e*P	**Pn**	**12 27 29.1**	**+2.1**
	20nm,0.6s						
CII	**Carovilli**	**6.11**	**310**	*e*P	**Pn**	**12 27 29.1**	**+2.1**
	20nm,0.6s						
MLR	**Muntele Rosu**	**8.54**	**26**	Pn	**P**	**12 28 03.8**	**+2.9**
	0.2nm,0.3s,baz=229,slow=6.1,SNR=4.0						
VOY	**Vojsko**	**9.47**	**331**	*e*Pn	**P**	**12 28 13.1**	**-0.8**
VOY				*e*Sn	**Sn**	**12 29 57.8**	**-3.4**
BRTR	**Keskin Array B**	**10.35**	**76**	Pn	**P**	**12 28 26.5**	**+0.5**
	0.1nm,0.3s,baz=255,slow=16,SNR=3.3						
KBA	**Koelnbreinsper**	**10.55**	**332**	⇑*i*PN	**P**	**12 28 29.3**	**+0.6**
KBA				*i* SN	**S**	**12 30 27.7**	**0.0**
WTTA	**Wattenberg**	**11.38**	**328**	⇓*i*Pn	**P**	**12 28 40.3**	**+0.3**
WTTA				*i* Sn	**S**	**12 30 45.1**	**-2.9**
DAVOX	**Davos**	**11.83**	**322**	Pn	**P**	**12 28 45.5**	**-0.6**
	0.3nm,0.3s,baz=155,slow=18,SNR=2.8						
DAVOX				Sn	**S**	**12 30 53.4**	**-5.5**
	0.2nm,0.3s,baz=317,slow=19,SNR=2.7						
DAVOX				LR	LR	12 34 14.7	
	comp=Z,35nm,19.0s,baz=267,slow=42						
GERES	**GERESS Array B**	**11.97**	**338**	Pn	**P**	**12 28 47.1**	**-0.8**
	0.3nm,0.3s,baz=158,slow=14,SNR=9.4						
GERES				LR	LR	12 33 54.8	
	comp=Z,34nm,20.5s,baz=319,slow=40						
AKASG	**Malin Array Be**	**14.16**	**23**	P	**P**	**12 29 22.2**	**+5.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**14.16**	**23**	Pn	**P**	**12 29 22.2**	**+5.3**
	comp=Z,1.3nm,0.3s,baz=208,slow=8.2,SNR=6.1						
CLL	**Collm**	**14.38**	**341**	P	**P**	**12 29 19.0**	**-0.9**
CLL				*e*PP	PP	12 29 31.0	-0.3
GNI	**Garni**	**18.89**	**76**	LR	LR	12 38 20.9	
	comp=Z,28nm,18.1s,baz=178,slow=40						
VSU	**Vasula**	**20.91**	**9**	⇑*e*P	**P**	**12 30 37.6**	**-1.5**
VSU	**Vasula**	**20.91**	**9**	*e*P	**P**	**12 30 37.6**	**-1.5**
HFS	**Hagfors**	**22.62**	**351**	P	**P**	**12 30 55.9**	**-0.3**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS				MLR	MLR		
	comp=Z,25nm,19.0s						
HFS	**Hagfors**	**22.62**	**351**	P	**P**	**12 30 55.9**	**-0.3**
	comp=Z,1.8nm,0.6s,mb3.7,baz=150,slow=12,SNR=15						
HFS				LR	LR	12 39 15.1	
	comp=Z,25nm,19.0s,MS2.7,baz=166,slow=35						
HFS	**Hagfors**	**22.62**	**351**	P	**P**	**12 30 55.9**	**-0.3**
HFS				LR	LR	12 39 15.1	
EKA	**Eskdalemuir Ar**	**23.63**	**325**	P	**P**	**12 31 07.1**	**+1.1**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**23.63**	**325**	P	**P**	**12 31 07.0**	**+1.0**
	comp=Z,1.5nm,0.8s,mb3.5,baz=125,slow=10,SNR=8.8						
FINES	**FINESS Array B**	**23.76**	**7**	P	**P**	**12 31 07.2**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**23.76**	**7**	P	**P**	**12 31 07.2**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.4,baz=174,slow=12,SNR=7.9						
NB2	**NORSAR Subarra**	**23.84**	**349**	P	**P**	**12 31 08.0**	**0.0**
	comp=Z,0.3nm,0.5s,mb3.0,baz=151,slow=8.6						
NOA	**NORSAR Array B**	**23.84**	**349**	P	**P**	**12 31 07.7**	**-0.4**
	comp=Z,0.4nm,0.7s,mb3.0,baz=154,slow=9.8,SNR=4.8						
KAF	**Kangasniemi**	**24.44**	**7**	*e*p	**P**	**12 31 13.6**	**-0.3**
	comp=Z,1.1nm,0.7s,mb3.4						
KAF	**Kangasniemi**	**24.44**	**7**	*e*P	**P**	**12 31 13.6**	**-0.3**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4						
ARCES	**ARCESS Array B**	**31.75**	**3**	P	**P**	**12 32 18.2**	**-2.0**
	comp=Z,0.4nm,0.4s,mb3.6,baz=194,slow=10.0,SNR=5.3						
BVAR	**Borovoye Array**	**37.24**	**50**	P	**P**	**12 33 05.2**	**-2.2**
	comp=Z,0.4nm,0.5s,mb3.5,baz=252,slow=4.6,SNR=3.2						
MKAR	**Makanchi Array**	**45.39**	**58**	P	**P**	**12 34 11.6**	**-2.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**45.39**	**58**	P	**P**	**12 34 11.6**	**-2.8**
	comp=Z,2.0nm,0.5s,mb4.2,baz=273,slow=7.6,SNR=11						
ZAL	**Zalesovo**	**45.80**	**48**	P	**P**	**12 34 15.0**	**-2.6**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL	**Zalesovo**	**45.80**	**48**	P	**P**	**12 34 15.0**	**-2.6**
	comp=Z,2.0nm,0.4s,mb4.4,baz=184,slow=2.7,SNR=5.8						
SONM	**Songino Array**	**60.57**	**50**	P	**P**	**12 36 04.5**	**-2.4**
	comp=Z,0.4nm,0.6s,mb3.7,baz=315,slow=8.2,SNR=3.2						
YKA	**Yellowknife Ar**	**73.61**	**340**	P	**P**	**12 37 28.0**	**-0.9**
	comp=Z,0.2nm,0.6s,mb3.3,baz=37,slow=5.4,SNR=4.7						
WRA	**Warramunga Arr**	**120.50**	**92**	PKP	PKPdf	12 44 45.6	-4.2
	comp=Z,0.1nm,0.3s,baz=306,slow=1.8,SNR=4.7						

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*IDC **10** 12:32:11.3±2.6, 40.76N×50.10E, mb3.6/5, mb1 3.6/7, mb1mx3.4/24, mbtmp3.6/7, ML4.0/2, Error ellipse: s-maj=56.4km s-min=24.7km az=173.0*

*NNC **10** 12:32:29.0±23.0, 41.12N×52.26E, Error ellipse: s-maj=1016.2km s-min=236.1km az=121.0*

ISC 10 12:32:16.2±2.6**, 40.9N**±0.2×**50.1E**±0.1**, h52**^{km}±22^{km}**, n9, σ0^{s}77**/11**, mb3.4**/4**, 2C, Caspian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**3.63**	**281**	P	**P**	**12 33 12.1**	**+0.6**
DGRG				S	**S**	**12 33 53.8**	**+0.3**
AB31	**Akbulak array**	**10.90**	**36**	⇑Pn	**P**	**12 34 50.8**	**-1.4**
	0.6nm,0.4s,baz=212,slow=13,SNR=12						
AB31				⇑Sn	**S**	**12 36 42.5**	**-11**
	0.8nm,0.3s,baz=218,slow=22,SNR=7.8						
AKASG	**Malin Array Be**	**17.54**	**311**	P	**P**	**12 36 18.0**	**-0.4**
	1.2nm,0.3s,baz=118,slow=12,SNR=4.6						
BVAR	**Borovoye Array**	**18.36**	**42**	P	**P**	**12 36 29.1**	**+0.6**
	0.2nm,0.3s,baz=262,slow=10,SNR=4.4						
IDI	**Anoyia**	**20.59**	**263**	P	**P**	**12 36 52.3**	**-1.0**
	3.7nm,0.9s,baz=133,slow=18,SNR=4.0						
MKAR	**Makanchi Array**	**23.85**	**65**	P	**P**	**12 37 26.2**	**+0.9**
	0.3nm,0.4s,mb3.0,baz=262,slow=11,SNR=4.5						
FINES	**FINESS Array B**	**25.27**	**333**	P	**P**	**12 37 40.0**	**+1.1**
	0.6nm,0.5s,mb3.4,baz=137,slow=9.6,SNR=6.2						
HFS	**Hagfors**	**29.59**	**323**	P	**P**	**12 38 17.8**	**-0.4**
	0.4nm,0.4s,mb3.5,baz=90,slow=8.6,SNR=5.1						
EKA	**Eskdalemuir Ar**	**37.45**	**311**	P	**P**	**12 39 25.8**	**-0.3**
	0.4nm,0.4s,mb3.6,baz=95,slow=8.5,SNR=6.6						

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*NEIC **10** 12:48:56.1±0.9, 19.99S×177.81W, h525^{km}±11^{km}, mb4.5/8, Error ellipse: s-maj=14.0km s-min=8.5km az=151.0*

*IDC **10** 12:48:56.0±2.1, 20.04S×177.78W, h524^{km}±24^{km}, mb3.3/8, mb1 3.6/11, mb1mx3.4/16, mbtmp4.2/11, Error ellipse: s-maj=26.7km s-min=14.4km az=141.0*

ISC 10 12:48:53.7±1.1**, 20.0S**±0.1×**177.8W**±0.1**, h506**^{km}±15^{km}**, n28, σ0^{s}88**/26**, mb4.1**/13**, 4D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.37**	**45**	P	**P**	**12 50 56.6**	**+1.5**
	2.9nm,0.3s,baz=38,slow=20,SNR=7.6						
AFI				S	**S**	**12 52 30.5**	**-1.2**
	20nm,0.3s,baz=45,slow=22,SNR=15						
DZM	**Mont Dzumac**	**14.82**	**259**	P	**P**	**12 52 05.7**	**+3.4**
	2.2nm,0.3s,baz=84,slow=18,SNR=34						
URZ	**Urewera**	**18.74**	**192**	P	**P**	**12 52 40.1**	**-0.5**
	1.0nm,0.3s,baz=27,slow=11,SNR=3.7						
CTA	**Charters Tower**	**33.70**	**264**	⇓*i*P	**P**	**12 54 54.7**	**+1.2**
	11nm,0.3s,mb4.8						
CTAO	**Charters Tower**	**33.70**	**264**	*e*P	**P**	**12 54 54.6**	**+1.1**
	17nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**38.15**	**244**	⇓*i*P	**P**	**12 55 31.1**	**+0.9**
	5.0nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**38.15**	**244**	P	**P**	**12 55 31.2**	**+1.0**
	5.0nm,0.4s,mb4.3,baz=91,slow=10,SNR=42						
WB2	**Warramunga Arr**	**44.81**	**261**	⇓*i*P	**P**	**12 56 23.1**	**-0.5**
WRAB	**Tennant Creek**	**44.82**	**262**	*e*P	**P**	**12 56 23.1**	**-0.5**
	15nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**44.83**	**261**	P	**P**	**12 56 23.2**	**-0.4**
	6.9nm,0.3s,mb4.5,baz=98,slow=6.9,SNR=366						
KAKA	**Kakadu**	**48.12**	**271**	*e*P	**P**	**12 56 48.7**	**-0.2**
	11nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**53.25**	**262**	⇓*i*P	**P**	**12 57 26.0**	**-0.5**
	8.1nm,0.4s,mb4.4						
SBA	**Scott Base**	**58.40**	**184**	*e*P	**P**	**12 58 01.8**	**+0.3**
KLBR	**Kellerberrin**	**58.41**	**245**	*e*P	**P**	**12 58 00.9**	**-1.3**
	13nm,0.9s,mb4.3						
VNDA	**Vanda**	**58.44**	**185**	P	**P**	**12 58 00.5**	**-1.2**
	0.2nm,0.4s,baz=341,slow=7.2,SNR=5.2						
VNDA	**Vanda**	**58.44**	**185**	P	**P**	**12 58 00.5**	**-1.2**
MUN	**Mundaring**	**59.69**	**244**	*e*P	**P**	**12 58 10.2**	**-0.5**
	4.2nm,0.5s,mb4.1						
YBH	**Yreka Blue Hor**	**79.79**	**39**	P	**P**	**13 00 10.7**	**+0.8**
	2.2nm,0.8s,mb3.8,baz=162,slow=2.8,SNR=6.7						
TXAR	**Lajitas Array**	**86.65**	**57**	P	**P**	**13 00 45.3**	**+1.0**
	0.4nm,0.6s,mb3.4,baz=220,slow=9.8,SNR=6.0						
ILAR	**Eielson Array**	**87.78**	**13**	P	**P**	**13 00 47.8**	**-1.0**
	0.7nm,0.6s,mb3.5,baz=220,slow=5.9,SNR=13						
BW06	**Boulder Array**	**88.48**	**43**	*e*P	**P**	**13 00 52.1**	**-0.4**
PDAR	**Pinedale Array**	**88.48**	**43**	P	**P**	**13 00 52.4**	**-0.2**
	0.5nm,0.6s,mb3.5,baz=198,slow=4.7,SNR=4.5						
VNA3	**Neumayer Olymp**	**88.65**	**176**		**P**	**13 00 53.4**	**+0.7**
VNA2	**Neumayer--Watz**	**89.09**	**177**		**P**	**13 00 55.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**90.09**	**290**	P	**P**	**13 01 01.4**	**+0.8**
	1.0nm,0.8s,mb3.7,baz=129,slow=3.4,SNR=4.9						
AKASG	**Malin Array Be**	**142.63**	**332**	PKhKP		13 07 24.9	
	0.4nm,0.3s,baz=41,slow=4.2,SNR=7.4						
BRTR	**Keskin Array B**	**146.60**	**313**	PKPbc	PKPbc	13 07 38.4	+1.0
	0.9nm,0.6s,baz=133,slow=2.4,SNR=5.0						
GERES	**GERESS Array B**	**149.74**	**345**	PKPbc	PKPdf	13 07 46.2	+6.0
	0.2nm,0.4s,baz=56,slow=4.8,SNR=4.0						

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*ORF **10** 13:09:16.3, 38.73N×23.15E, h30^{km}, mb5.0*

*ZUR **10** 13:10:01.1, 41.70N×20.60E, mb5.4/7*

*BGS **10** 13:10:07.2±1.4, 42.14N×20.05E, h5^{km}, mb5.2*

*ROM **10** 13:10:10.9±0.7, 42.28N×19.97E, h12^{km}, Ml5.4/18, Error ellipse: s-maj=10.4km s-min=3.1km az=106.0*

*LDG **10** 13:10:10.0±0.2, 42.42N×19.88E, h10^{km}, Ml5.4/40, ms4.4/9, Error ellipse: s-maj=4.7km s-min=4.2km az=25.0*

*BJI **10** 13:10:10.1, 42.40N×19.80E, h10^{km}, mB5.4, mb5.0, Ms5.3, Msz5.0*

*SOF **10** 13:10:10.6, 42.42N×19.85E, h2^{km}, MD4.6*

*BEO **10** 13:10:11.5±0.2, 42.42N×19.78E, h4^{km}*

*PDG **10** 13:10:11.6±0.2, 42.40N×19.77E, h9^{km}±1^{km}*

PDG Felt at Podgorica, Gusinje, Plav, Andrijevica V-VI EMS-98.

*CSEM **10** 13:10:11.6, 42.41N×19.83E, h10^{km}, ML5.5*

*IDC **10** 13:10:11.5±0.4, 42.42N×19.76E, mb5.0/23, mb1 5.0/35, mb1mx4.9/39, mbtmp4.8/35, ML4.3/13, MS4.6/24, Ms1 4.6/24, ms1mx4.6/28, Error ellipse: s-maj=9.1km s-min=8.0km az=60.0*

*MOS **10** 13:10:11.5±1.0, 42.42N×19.72E, h13^{km}, mb5.3/51, MS4.8/51, Error ellipse: s-maj=2.8km s-min=2.1km az=120.0*

*CRAAG **10** 13:10:11.6, 42.41N×19.83E, Mb5.5*

*TIR **10** 13:10:11.3, 42.41N×19.77E, Ml4.8*

*HRVD **10** 13:10:12.2±0.2, 42.37N×19.70E, h12^{km}, MW5.2/66, Centroid moment Tensor Solution. LP body waves: s54,c91;Mantle waves: s66,c143; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.56±.14; $M_{\theta\theta}$0.77±.14; $M_{\phi\phi}$5.79±.12; $M_{r\theta}$-1.22±.42; $M_{\theta\phi}$-2.21±.12; $M_{\phi r}$-0.61±.36; Best double couple: $M_0$6.73×10^{16} NP1: ϕ_s148°, δ45°, λ-106°. NP2:ϕ_s350°, δ47°, λ-74°. Principal axes: T 6.626, Plg1°, Azm69°; N .211, Plg11°, Azm160°; P -6.834, Plg79°, Azm336°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ZUR_RM **10** 13:10:12, 42.39N×19.81E, h4^{km}, Mw5.2/33, Moment Tensor Solution. s33 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.56; $M_{\theta\theta}$0.61; $M_{\phi\phi}$5.94; $M_{r\theta}$2.79; $M_{\theta\phi}$-2.04; $M_{\phi r}$-2.65; Best double couple: $M_0$7.63×10^{16} NP1:ϕ_s328°, δ60°, λ-103°. NP2:ϕ_s174°, δ33°, λ-68°. Principal axes: T 7.486, Plg14°, Azm68°; N .289, Plg12°, Azm335°; P -7.775, Plg72°, Azm207°;*

*NEIC **10** 13:10:12.2±0.4, 42.39N×19.81E, h4^{km}±2^{km}, mb5.4/106, MS4.9/82, ML5.5(CSEM), ML5.4(ROM), ML5.0(PDG) Error ellipse: s-maj=2.0km s-min=1.7km az=202.0*

NEIC Several houses damaged in Tropoje. Felt [VI] at Andrijevica, Gusinje, Plav and Podgorica, Serbia and Montenegro. Felt [IV] in the Skopje area, Macedonia. Felt in northeast Albania; in Puglia, Italy; and at Dubrovnik, Croatia. Also felt in Kosovo.

*THE **10** 13:10:13.6, 42.58N×19.74E, h20^{km}, ML5.1*

ISC 10 13:10:11.5±0.2**, 42.441N**±0.008×**19.758E**±0.009**, h10**^{km}±1^{km}**, h17**^{km}±1.6^{km}**:pP-P, n1128, σ1^{s}30**/1250**, mb5.3**/141**, MS4.9**/118**, 78C-32D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.22**	**46**	⇑*i*Pg	**Pg**	**13 10 16.5**	**+0.3**
PVY				*e*Sg	**Sg**	**13 10 20.4**	**+1.1**
BCI	**Bajram Curri**	**0.24**	**108**	*i* Pg	**Pg**	**13 10 15.5**	**-1.1**
BCI	**Bajram Curri**	**0.24**	**108**	Pg	**Pg**	**13 10 15.5**	**-1.1**
BCI				Sg	**Sg**	**13 10 19.5**	**-0.5**
TTG	**Podgorica**	**0.37**	**268**	⇑*i*Pg	**Pg**	**13 10 19.1**	**+0.1**
TTG				*e*Sg	**Sg**	**13 10 25.8**	**+1.7**
PUK	**Puka**	**0.41**	**166**	*i* Pg	**Pg**	**13 10 19.0**	**-0.9**
PUK				*i* Sg	**Sg**	**13 10 23.1**	**-2.4**
PUK	**Puka**	**0.41**	**166**	Pg	**Pg**	**13 10 18.9**	**-1.0**
PUK				Sg	**Sg**	**13 10 24.5**	**-1.0**
SDA	**Shkodra**	**0.43**	**206**	*i* Pg	**Pg**	**13 10 19.7**	**-0.6**
SDA				*i* Sg	**Sg**	**13 10 28.2**	**+2.0**
SDA	**Shkodra**	**0.43**	**206**	Pg	**Pg**	**13 10 19.9**	**-0.4**
SDA				Sg	**Sg**	**13 10 27.4**	**+1.2**
IVA	**Berane**	**0.44**	**13**	⇑*i*Pg	**Pg**	**13 10 21.3**	**+0.8**
IVA				*e*Sg	**Sg**	**13 10 28.9**	**+2.4**
KKS	**Kukesi**	**0.61**	**127**	*i* Pg	**Pg**	**13 10 22.6**	**-1.1**
KKS				*i* Sg	**Sg**	**13 10 31.6**	**-0.3**
ULC	**Ulcinj**	**0.61**	**218**	⇑*i*Pg	**Pg**	**13 10 23.2**	**-0.6**
ULC				*e*Sg	**Sg**	**13 10 32.4**	**+0.5**
BUM	**Brajici-Budva**	**0.65**	**258**	⇑*i*Pg	**Pg**	**13 10 23.9**	**-0.7**

BUM				eSg	Sg	13 10 34.9	+1.5
NKY	Niksic	0.67	304⇑	iPg	Pg	13 10 25.1	+0.1
NKY				eSg	Sg	13 10 36.3	+2.3
PHP	Peshkopia	0.91	146	Pg	Pg	13 10 29.5	-0.3
QSH	Qafa e Shtames	0.93	173	i Pg	Pg	13 10 28.0	-2.0
PLE	Pljevlja	0.93	343⇓	iPg	Pg	13 10 30.1	+0.1
PLE				eSg	Sg	13 10 45.3	+2.8
PLE	Pljevlja	0.93	343⇓	iPg	Pg	13 10 30.1	0.0
PLE				eSg	Sg	13 10 45.3	+2.8
HCY	Herceg Novi	0.93	271⇑	iPg	Pg	13 10 29.2	-1.0
HCY				eSg	Sg	13 10 45.0	+2.3
UPM	Unac-Piva	0.98	321⇓	iPg	Pg	13 10 31.5	+0.3
UPM				eSg	Sg	13 10 47.0	+2.7
BRY	Bratogost	1.01	298⇑	iPg	Pg	13 10 30.4	-1.2
BRY				eSg	Sg	13 10 47.9	+2.8
BRY	Bratogost	1.01	298⇑	iPg	Pg	13 10 30.4	-1.2
BRY				eSg	Sg	13 10 47.8	+2.7
NVSS	Nova Varos 2	1.07	358⇓	iPn	Pn	13 10 32.7	+0.3
NVSS				Sn	Sn	13 10 47.6	+0.2
TREB	Trebinje	1.08	285	Pn	Pn	13 10 31.5	-1.1
TREB				Sn	Sn	13 10 49.5	+1.8
TIR	Tirane	1.10	176	i Pg	Pg	13 10 32.6	-0.8
TIR				i Sg	Sg	13 10 49.1	+1.0
TIR	Tirane	1.10	176	Pg	Pg	13 10 31.5	-1.9
TIR				Sg	Sg	13 10 48.5	+0.4
SKO	Skopje	1.33	110⇑	iPn	Pn	13 10 35.7	-0.6
SKO				i		13 10 37.7	
SKO				i Sn	Sn	13 10 56.7	+2.5
SKO				Lg		13 10 58.0	
	comp=E,138nm,2.0s						
SKO				Lg		13 11 01.0	
	comp=N,213nm,2.5s						
SKO				Lg		13 11 02.0	
	comp=N,131nm,2.0s						
SKO	Skopje	1.33	110⇑	iPn	Pn	13 10 35.7	-0.6
SKO				i S	Sn	13 10 56.7	+2.5
BBLS	Bajina Basta -	1.45	350⇑	iPn	Pn	13 10 39.2	+1.3
BBLS				Sn	Sn	13 11 02.4	+5.3
BBLS	Bajina Basta -	1.45	350	Pn	Pn	13 10 39.2	+1.3
OHR	Ohrid	1.54	149	i Pn	Pn	13 10 39.5	+0.3
OHR				i		13 10 42.1	
OHR				i Sn	Sn	13 11 02.9	+3.4
OHR	Ohrid	1.54	149	i Pn	Pn	13 10 39.5	+0.3
OHR				i S	Sn	13 11 02.9	+3.4
STON	Ston	1.58	287	i Pn	Pn	13 10 40.6	+0.8
STON				i Sg	Sg	13 11 05.1	+1.0
GRUS	Gruza	1.61	26⇓	iPn	Pn	13 10 41.5	+1.3
GRUS				Sn	Sn	13 11 04.6	+3.5
DIVS	Divcibare	1.67	6⇑	iPn	Pn	13 10 42.7	+1.6
DIVS				Sn	Sn	13 11 06.2	+3.6
KBN	Korca	1.97	157	i Pg	Pg	13 10 48.9	-2.0
KBN				i Sg	Sg	13 11 17.9	+0.6
FNA	Florina	2.05	143	ePn	Pn	13 10 47.9	+1.4
BOLS	Boljevac	2.13	49⇑	iPn	Pn	13 10 48.2	+0.5
BOLS				Sn	Sn	13 11 15.7	+1.3
SVIS	Svilajnac	2.14	29⇓	iPn	Pn	13 10 48.8	+1.0
SVIS				Sn	Sn	13 11 16.9	+2.2
TPE	Tepelena	2.15	175	i Pn	Pn	13 10 50.3	+2.3
ZAPS	Zavoj/Pirot	2.27	67⇑	iPn	Pn	13 10 50.0	+0.3
ZAPS				Sn	Sn	13 11 18.8	+0.8
LSK	Leskovik	2.38	164	i Pn	Pn	13 10 53.9	+2.7
LSK				i Sn	Sn	13 11 28.6	+7.9
VAY	Valandovo	2.38	117	i Pn	Pn	13 10 51.2	-0.1
VAY				i Sg	Sg	13 11 27.3	-3.5
BEO	Belgrade	2.43	12⇓	iPn	Pn	13 10 52.9	+0.9
BEO				Sn	Sn	13 11 24.2	+2.0
LCI	Lecce	2.44	211	P	Pn	13 10 52.2	+0.1
BRT	Bari-Castellan	2.47	232	P	Pn	13 10 53.7	+1.1
GRG	Griva	2.47	126	ePn	Pn	13 10 53.1	+0.5
BAI	Bari	2.53	239⇑	iPn	Pn	13 10 54.0	+0.6
KKB	Krupnik	2.54	102	i P	Pn	13 10 54.0	+0.5
VTS	Vitosha	2.56	85	i P	Pn	13 10 54.0	+0.2
VTS	Vitosha	2.56	85	P	Pn	13 10 53.2	-0.6
SRN	Sarande	2.57	176	i Pn	Pn	13 10 55.3	+1.4
KZN	Kozani	2.62	144	eP	Pn	13 10 47.0	-7.6
KNT	Kendrikon	2.67	118	ePn	Pn	13 10 56.0	+0.5
KEK	Kerkira	2.73	179	eP	Pn	13 10 56.0	-0.2
SG1	Sgolgore (BA)	2.81	236⇑	iPn	Pn	13 10 57.6	+0.2
LTRZ	Laterza	2.87	231	Pn	Pn	13 10 58.5	+0.2
JAN	Janina	2.90	163	eP	Pn	13 11 01.5	+2.8
IGT	Igoumenitsa	2.94	171	ePn	Pn	13 10 60.0	+0.7
CDT	Castel del Mon	2.94	244⇑	iPn	Pn	13 10 59.8	+0.6
DJES	Djerdap	2.98	42⇑	iPn	Pn	13 11 00.6	+0.9
DJES				Sn	Sn	13 11 38.7	+2.8
THE	Thessaloniki	3.01	126	ePn	Pn	13 11 00.9	+0.7
THE	Thessaloniki	3.01	126	ePn	Pn	13 11 00.9	+0.6
MMB	Musomiste	3.08	105	i P	Pn	13 11 01.6	+0.4
LIT	Litokhoron	3.12	138	ePn	Pn	13 11 02.2	+0.4
SOH	Sokhos	3.14	120	ePn	Pn	13 11 02.1	-0.1
RGNG	Rignano Grg	3.20	258⇑	ePn	Pn	13 11 03.6	+0.7
PGB	Panagyurishte	3.26	87	i P	Pn	13 11 04.2	+0.4
ORI	Oriolo Calabro	3.44	227	P	Pn	13 11 06.6	+0.2
PLG	Polygyros	3.46	125	eP	Pn	13 11 06.5	-0.1
FG2	Serracapriola	3.48	261	Pn	Pn	13 11 08.0	+1.1
CRAR	CRAIOVA	3.50	56	P	Pn	13 11 12.9	+5.7
CRAR	CRAIOVA	3.50	56	⇓P	Pg	13 11 21.6	+0.3
MRLC	Muro Lucano	3.62	244⇑	ePn	Pn	13 11 09.3	+0.4
PLD	Plovdiv	3.69	94	i P	Pn	13 11 10.0	+0.2
SLCN	Sala Consilina	3.72	238	Pn	Pn	13 11 10.3	0.0
SNAL	S. Angelo Dei	3.73	248	Pn	Pn	13 11 10.7	+0.3
	comp=N,40µm,2.0s						
RZN	Rozhen	3.77	100	i P	Pn	13 11 11.0	0.0
FRES	Fresagrandinar	3.81	265	Pn	Pn	13 11 13.1	+1.5
	comp=N,67µm,2.0s						
OUR	Ouranopolis	3.81	122	ePn	Pn	13 11 11.5	-0.1
SGO	Sicignano	3.83	242	P	Pn	13 11 11.7	-0.2
SGO	Sicignano	3.83	242	Pn	Pn	13 11 11.8	-0.1
EVR	Evrytania	3.85	155	eP	Pn	13 11 15.0	+2.8
PKSM	Moragy	3.85	348	P	Pn	13 11 11.6	-0.6
PKSM				eS	Sn	13 11 58.7	+0.6
IPES	Pescosannita	3.87	253	Pn	Pn	13 11 14.0	+1.5
PAIG	Paliouri	3.88	129	ePn	Pn	13 11 12.6	0.0
CSSN	Cassano Irpino	3.88	248	Pn	Pn	13 11 12.9	+0.3
PSB1	Pescosannita	3.89	253	Pn	Pn	13 11 13.6	+0.8
	comp=N,16µm,1.6s						
SISC	Sisak	3.89	322	i Pn	Pn	13 11 14.7	+1.9
SACR	S. Croce Del S	3.91	256	Pn	Pn	13 11 14.3	+1.3
	comp=N,12µm,1.7s						
MGR	Morigerati	3.92	235	Pn	Pn	13 11 13.3	+0.2
TRIV	Trivento	3.93	262	Pn	Pn	13 11 14.8	+1.4
AGG	Agios Georgios	3.94	149	ePn	Pn	13 11 13.7	+0.3
BSSO	Busso	3.95	259	Pn	Pn	13 11 14.9	+1.3
	comp=N,15µm,1.5s						
TIP	Timpagrande	3.98	216⇑	ePn	Pn	13 11 13.0	-0.9
TIP	Timpagrande	3.98	216⇑	ePn	Pn	13 11 13.0	-1.0
XOR	Xorichti	4.03	139	ePn	Pn	13 11 14.5	-0.1
CII	Carovilli	4.12	262	Pn	Pn	13 11 17.6	+1.6
NVLJ	Novalja	4.14	302	i Pn	Pn	13 11 18.6	+2.3
NVLJ				i Sn	Sn	13 12 09.8	+4.4
NVLJ	Novalja	4.14	302	i Pn	Pn	13 11 18.5	+2.2
SGG	Gregorio Mates	4.15	257	Pn	Pn	13 11 17.7	+1.3
	comp=N,4µm,0.8s						
PVL	Pavlikeni	4.17	77	i P	Pn	13 11 14.5	-2.3
MIDA	Miranda	4.18	261	Pn	Pn	13 11 18.0	+1.2
	comp=N,6µm,1.1s						
RNI2	Rionero Sannit	4.24	262	Pn	Pn	13 11 19.1	+1.4
	comp=N,8µm,1.1s						
VAGA	Valle Agricola	4.25	258	Pn	Pn	13 11 19.3	+1.5
VAGA				Sn	Sn	13 12 11.2	+3.1
PKS9	Tamasi	4.28	346⇓	eP	Pn	13 11 18.9	+0.6
KDZ	Kurdzhali	4.29	99	i P	Pn	13 11 17.0	-1.4
DIM	Dimitrovgrad	4.30	93	i P	Pn	13 11 19.0	+0.3
OVO	Vesuviano	4.33	250	Pn	Pn	13 11 20.5	+1.5
INTR	Introdacqua	4.37	266	Pn	Pn	13 11 20.7	+1.2
	comp=N,13µm,1.1s						
GRI	Girifalco	4.42	216	Pn	Pn	13 11 19.3	-0.9
	comp=N,6µm,1.7s						
RFI	Roccamonfina	4.46	257	Pn	Pn	13 11 22.2	+1.4
	comp=N,1µm,1.4s						
BOJS	Bojanci	4.47	315	i Pn	Pn	13 11 23.2	+2.3
ISOR	Termini	4.47	247	Pn	Pn	13 11 21.2	+0.1
MSC	Monte Massico	4.50	256	Pn	Pn	13 11 22.3	+0.9
PKS8	Sarbogard	4.50	351⇓	eP	Pn	13 11 21.7	+0.2
RDO	Rodhopi	4.51	105	eP	Pn	13 11 21.5	-0.1
AOS	Alonnisos	4.52	135	ePn	Pn	13 11 21.6	-0.2
IPOZ	Pozzuoli	4.53	251	Pn	Pn	13 11 23.7	+1.9
TERO	Teramo	4.55	274⇑	ePn	Pn	13 11 23.5	+1.4
	comp=N,3µm,0.8s						
FAGN	Fagnano	4.58	270	Pn	Pn	13 11 23.7	+1.2
	comp=N,4µm,0.5s						
VVLD	Villa Vallelon	4.60	265	Pn	Pn	13 11 23.6	+0.8

SZH	Strazhica	4.61	78	i P	Pn	13 11 23.0	0.0
AOI	Ancona	4.65	286	Pn	Pn	13 11 24.9	+1.4
	comp=N,5µm,1.1s						
CESS	Cesta pri Krsk	4.69	320	i Pn	Pn	13 11 25.9	+1.7
CAMP	Campotosto	4.70	273	Pn	Pn	13 11 25.4	+1.2
AQU	L'Aquila	4.71	271⇑	eP	Pn	13 11 25.2	+0.8
AQU	L'Aquila	4.71	271	Pn	Pn	13 11 25.8	+1.4
KOGS	Kog	4.73	329	i Pn	Pn	13 11 25.6	+0.9
KOGS	Kog	4.73	329	i Pn	Pn	13 11 25.5	+0.9
LOS	Limnos	4.73	120	ePn	Pn	13 11 24.0	-0.7
MTUR	Matau	4.74	52	⇓P	Pn	13 11 25.8	+1.0
MTUR	Matau	4.74	52	P	Pn	13 11 26.1	+1.3
DRGR		4.83	25	⇑P	Pn	13 11 26.1	0.0
DRGR		4.83	25	P	Pn	13 11 26.8	+0.7
VOIR		4.86	50	⇓P	Pn	13 11 27.5	+1.1
CING	Cingoli	4.91	283	Pn	Pn	13 11 28.2	+1.0
	comp=N,3µm,0.7s						
NRCA	Norcia	4.92	277⇑	ePn	Pn	13 11 28.6	+1.3
FIAM	Fiamignano	4.92	270⇑	ePn	Pn	13 11 29.3	+1.9
	comp=N,4µm,0.8s						
BUC1	Bucharest	4.95	65	P	Pn	13 11 27.9	+0.1
ALN	Alexandroupoli	4.96	106	ePn	Pn	13 11 27.3	-0.6
LNSS	Leonessa	4.97	274⇑	ePn	Pn	13 11 29.6	+1.6
	comp=N,3µm,0.7s						
GROS	Grobnik	5.04	324	i Pn	Pn	13 11 30.0	+0.9
PKSG		5.04	349⇑	eP	Pn	13 11 29.5	+0.4
CERT	Cerreto	5.06	267	Pn	Pn	13 11 30.3	+1.0
	comp=N,3µm,1.4s						
CEY	Cerknica	5.06	312	ePn	Pn	13 11 31.3	+2.0
CEY				eSn	Sn	13 12 34.2	+5.6
BUD	Budapest	5.07	354⇑	eP	Pn	13 11 29.6	+0.1
ARV	Arcevia	5.11	284	Pn	Pn	13 11 31.0	+0.9
MGER	Gerania Oros	5.20	148	eP	Pn	13 11 32.0	+0.8
SCLL	Scilla	5.20	218	Pn	Pn	13 11 29.6	-1.7
	comp=N,518nm,0.7s						
SOI	Samo	5.20	214	Pn	Pn	13 11 29.2	-2.1
LJU	Ljubljana	5.20	316	ePn	Pn	13 11 33.1	+1.8
LJU				e	Pg	13 11 50.0	-5.4
LJU				eSn	Sg	13 13 01.6	-3.2
MTCE	Montecelio	5.23	268	Pn	Pn	13 11 32.5	+0.8
	comp=N,1µm,1.0s						
EDRB	Edirne	5.23	94	P	Pn	13 11 30.2	-1.5
MPAR	Parnis Oros	5.25	143	eP	Pn	13 11 32.0	-0.1
MA9	Marino	5.32	265	Pn	Pn	13 11 34.3	+1.3
NSAL	Nisos Salamina	5.34	147	eP	Pn	13 11 33.6	+0.2
PERS	Pernice	5.35	323	ePn	Pn	13 11 34.4	+1.1
BISS	Bistriski jare	5.35	323	i Pn	Pn	13 11 34.5	+1.0
JAVS	Javornik	5.36	312	ePn	Pn	13 11 35.3	+1.8
PENC	Penc	5.36	357⇑	eP	Pn	13 11 33.8	+0.2
MURB	Monte Urbino	5.38	281	Pn	Pn	13 11 35.2	+1.3
	comp=N,1µm,0.4s						
ATH	Athens Observa	5.39	145	eP	Pn	13 11 35.4	+1.3
PTL	Penteli	5.40	143	eP	Pn	13 11 35.5	+1.4
MLR	Muntele Rosu	5.41	54	P	Pn	13 11 34.7	+0.5
MLR						13 12 38.2	
MLR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MLR	Muntele Rosu	5.41	54	Pn	Pn	13 11 34.7	+0.5
	comp=Z,6.5nm,0.3s,baz=212,slow=8.4,SNR=85						
MLR				Sn	Sn	13 12 38.2	+0.9
	comp=Z,9.0nm,0.3s,baz=224,slow=11,SNR=4.2						
MLR	Muntele Rosu	5.41	54	⇑P	Pn	13 11 35.0	+0.8
SRO2	Moca	5.41	350	ePN	Pn	13 11 35.8	+1.6
SRO2				eSN	Sn	13 12 38.4	+1.0
SRO1	Iza	5.43	349	ePN	Pn	13 11 35.4	+0.9
SRO1				eSN	Sn	13 12 39.6	+1.7
SRO	Srobarova	5.47	350	ePN	Pn	13 11 36.5	+1.4
SRO				eSN	Sn	13 12 42.5	+3.6
PSZ	Piszkesteto	5.48	1⇓	ePn	Pn	13 11 34.6	-0.7
	comp=Z,494nm,0.9s						
PSZ	Piszkesteto	5.48	1	i Pnd		13 11 34.7	
PSZ				eSn	Sn	13 12 36.8	-2.3
PSZ	Piszkesteto	5.48	1⇓	ePn	Pn	13 11 34.6	-0.6
	comp=Z,494nm,0.9s						
NAIG	Nisos Aigina	5.48	147	eP	Pn	13 11 35.6	+0.3
ITM	Ithomi	5.51	162	eP	Pn	13 11 35.0	-0.7
OBKA	Obir	5.52	319	i PN	Pn	13 11 37.2	+1.4
OBKA				i SN	Sn	13 12 43.5	+3.4
VOY	Vojsko	5.53	312⇓	ePn	Pn	13 11 38.5	+2.5
VOY				eSn	Sn	13 12 42.0	+1.5
ISR	Istrita	5.59	59	P	Pn	13 11 37.7	+0.8
EZN	Ezine	5.61	116	P	Pn	13 11 38.4	+1.3
ARSA	Arzberg	5.67	329	i PN	Pn	13 11 38.5	+0.5
ARSA				i SN	Sn	13 12 48.0	+4.0
CADS	Cadrg	5.74	313	i Pn	Pn	13 11 40.3	+1.3
TOLF	Tolfa	5.77	269⇑	ePn	Pn	13 11 39.4	+0.1
	comp=Z,967nm,0.9s						
SACS	San Casciano d	5.80	277	Pn	Pn	13 11 40.4	+0.6
	comp=Z,2µm,1.4s						
CRE	Caprese Michel	5.84	284	Pn	Pn	13 11 41.9	+1.5
	comp=Z,2µm,1.3s						
ROBS	Robic	5.88	312	ePn	Pn	13 11 42.5	+1.7
ROBS				eSn	Sn	13 12 53.8	+4.7
MFT	Murefte	5.88	104	P	Pn	13 11 39.2	-1.6
PRK	Paraskevi	5.88	121	eP	Pn	13 11 40.5	-0.4
MNO	Monte Soro	5.94	222	Pn	Pn	13 11 41.3	-0.5
	comp=Z,2µm,1.0s						
SFI	Santa Sofia	5.97	287	Pn	Pn	13 11 43.7	+1.6
CANB	Canakkale	6.02	111	P	Pn	13 11 42.8	-0.1
PGD	Poggio Sodo	6.05	286	Pn	Pn	13 11 45.2	+1.9
PTCC	Patocco-Chiusa	6.06	313⇓	ePn	Pn	13 11 44.9	+1.5
KECS	Kecovo	6.06	5	ePN	Pn	13 11 43.6	+0.1
KECS				eSN	Sn	13 12 54.2	+0.4
VRI	Vrincioaia	6.07	53	⇑P	Pn	13 11 44.5	+0.9
VRI	Vrincioaia	6.07	53	P	Pn	13 11 43.7	+0.1
VYHS	Vyhne	6.09	354	ePN	Pn	13 11 43.4	-0.4
VYHS				eSN	Sn	13 12 54.0	-0.4
AYVA	Ayvalik	6.12	118	i P	Pn	13 11 44.6	+0.3
MRMT	Marmara Adasi	6.16	105	P	Pn	13 11 42.0	-2.9
PLLN	Pollina	6.18	226	Pn	Pn	13 11 44.7	-0.4
KOLL	Kolacno	6.21	352	ePN	Pn	13 11 45.2	-0.4
KOLL				eSN	Sn	13 12 56.6	-0.9
VLI	Veliai	6.22	156	eP	Pn	13 11 44.0	-1.7
AGST	Augusta-Monte	6.24	215	Pn	Pn	13 11 45.0	-1.0
	comp=Z,59nm,0.4s						
USI	Ustica	6.24	236	Pn	Pn	13 11 45.4	-0.6
	comp=Z,86nm,0.4s						
GIB	Gibilmanna	6.25	226	Pn	Pn	13 11 44.4	-1.7
	comp=Z,974nm,1.1s						
SMOL	Smolenice	6.29	346	ePN	Pn	13 11 47.2	+0.5
SMOL				eSN	Sn	13 12 57.7	-1.7
PSN	Preselentsi	6.30	76	i P	Pn	13 11 45.5	-1.3
VKA	Vienna	6.31	339⇓	iPN	Pn	13 11 46.3	-0.6
VKA				i		13 13 46.3	
VKA				MLRZ		13 15 00.0	
	comp=Z,11nm,6.0s						
HARR	Harsova	6.35	66	⇑P	Pn	13 11 47.3	-0.2
HARR	Harsova	6.35	66	P	Pn	13 11 46.8	-0.7
VAE	Valguarnera	6.44	221	Pn	Pn	13 11 48.7	-0.1
	comp=Z,5.3nm,0.3s,baz=78,slow=5.3,SNR=11						
VAE				Sn	Sn	13 13 03.4	+0.4
	comp=Z,6.1nm,0.3s,baz=3.9,slow=12,SNR=1.8						
VAE				LR	LR	13 14 19.0	
	comp=Z,5µm,21.5s,baz=20,slow=38						
BURAR	Bucovina Array	6.46	35	⇑P	Pn	13 11 50.6	+1.5
BNT	Bandirma	6.48	106	P	Pn	13 11 49.2	-0.2
KBA	Koelnbreinsper	6.50	318	i PN	Pn	13 11 51.3	+1.6
KBA				i SN	Sn	13 13 09.2	+4.4
CRVS	Cervenica-Dubn	6.57	10	ePN	Pn	13 11 50.9	+0.2
CTT	Catalca	6.61	98	P	Pn	13 11 49.1	-2.1
TIRR	Tirgusor	6.61	69	⇑P	Pn	13 11 49.7	-1.6
TIRR	Tirgusor	6.61	69	P	Pn	13 11 50.9	-0.4
URLA	Izmir	6.62	126	i P	Pn	13 11 51.0	-0.4
CFR	Carcaliu	6.65	63	P	Pn	13 11 51.2	-0.6
KYTH	Kithira	6.66	157	eP	Pn	13 11 51.0	-0.8
MOA	Molln	6.66	326	i PN	Pn	13 11 53.0	+1.1
MOA				i SN	Sn	13 13 09.4	+0.8
KOLS	Kolonicke sedl	6.73	14	ePN	Pn	13 11 53.4	+0.5
BALB	Balikesir	6.75	112	P	Pn	13 11 53.8	+0.7
BTOK	Tokmak	6.80	110	i P	Pn	13 11 54.0	+0.1
BLCB	Balcova	6.88	124	eP	Pn	13 11 59.5	+4.6
MAIM		6.93	285	P	Pn	13 11 55.6	-0.1
MAIM		6.93	285	P	Pn	13 11 55.7	0.0
APE	Apeiranthos	6.97	138	P	Pn	13 11 54.3	-1.9
APE	Apeiranthos	6.97	138c	iP	Pn	13 11 57.0	+0.8
APE	Apeiranthos	6.97	138	eP	Pn	13 11 58.0	+1.8
APE	Apeiranthos	6.97	138	i P	Pn	13 11 57.0	+0.8
NIE	Niedzica	6.99	3	eP	Pn	13 11 57.3	+0.8
NIE				eS	Sn	13 13 17.8	+0.9
KDAG	Bornova	7.00	123	i P	Pn	13 11 57.2	+0.5
IZM	Izmir	7.01	123	eP	Pn	13 11 57.6	+0.9
SARO	Sassorosso	7.04	287	P	Pn	13 11 57.4	+0.1

SARO	Sassorosso	7.04	287	P	Pn	13 11 57.4	+0.1
VLC	Villacollemand	7.05	287	ePn	Pn	13 11 57.5	+0.1
	comp=Z,400nm,0.9s						
VLC	Villacollemand	7.05	287	ePn	Pn	13 11 57.5	+0.1
	comp=Z,400nm,0.9s						
STHS	Stebnicka Huta	7.05	8	ePN	Pn	13 11 58.3	+0.9
AKS	Akhisar	7.08	117	eP	Pn	13 11 59.2	+1.4
ISK	Istanbul-Kandi	7.09	98	eP	Pn	13 12 00.0	+2.0
TLCR		7.10	64	⇑P	Pn	13 11 57.8	-0.3
VALM		7.19	289	P	Pn	13 12 00.6	+1.3
VALM		7.19	289	P	Pn	13 12 00.6	+1.3
SMG	Samos	7.20	129	eP	Pn	13 12 01.0	+1.6
VINC	Vinca	7.21	287	P	Pn	13 11 59.8	+0.1
VINC	Vinca	7.21	287	P	Pn	13 11 59.8	+0.1
VRAC	Vranov	7.21	343	P	Pn	13 11 58.8	-0.9
VRAC						13 13 20.7	
VRAC				pmax	pmax		
	comp=Z,2.0nm,0.3s						
VRAC	Vranov	7.21	343	Pn	Pn	13 11 58.8	-0.9
	comp=Z,1.6nm,0.3s,baz=143,slow=12,SNR=16						
VRAC				Sn	Sn	13 13 20.7	-1.8
	comp=Z,3.4nm,0.3s,baz=307,slow=20,SNR=3.6						
DST	Dursunbey	7.28	110	eP	Pn	13 12 01.4	+0.8
BACM		7.29	288	P	Pn	13 12 02.0	+1.1
BACM		7.29	288	P	Pn	13 12 02.0	+1.2
GRAM		7.34	289	P	Pn	13 12 02.1	+0.6
GRAM		7.34	289	P	Pn	13 12 02.1	+0.6
YLV	Yalova	7.46	101	eP	Pn	13 12 01.0	-2.1
CODM		7.47	288	P	Pn	13 12 04.1	+0.8
CODM		7.47	288	P	Pn	13 12 04.1	+0.8
KWP	Kalwaria	7.48	15	ePn	Pn	13 12 05.1	+1.7
KWP				eSn	Sn	13 13 22.6	-6.6
KWP				eSg	Sg	13 14 24.4	+3.9
KWP	Kalwaria	7.48	15	ePn	Pn	13 12 05.1	+1.7
KWP				eSn	Sn	13 13 22.6	-6.6
KWP				eSg	Sg	13 14 24.4	+3.9
OKC	Ostrava-Krasne	7.48	352	ePN	Pn	13 12 02.5	-0.9
OKC				eSN	Sn	13 13 25.8	-3.5
OKC				AMS	AMS	13 15 30.0	
	comp=Z,5µm,11.0s						
MORC	Moravsky Berou	7.50	349	eP	Pn	13 12 01.6	-2.0
MORC				eS	Sn	13 13 26.9	-2.7
MORC				pmax	pmax		
	comp=Z,44nm,0.8s						
MORC	Moravsky Berou	7.50	349	ePn	Pn	13 12 01.6	-2.1
	comp=Z,44nm,0.8s						
MORC				eS	Sn	13 13 26.9	-2.8
MORC	Moravsky Berou	7.50	349	ePn	Pn	13 12 01.4	-2.2
SANT	Santorini	7.50	142	eP	Pn	13 12 02.5	-1.1
	comp=Z,277nm,1.2s						
SANT	Santorini	7.50	142	eP	Pn	13 12 02.5	-1.1
	comp=Z,277nm,1.2s						
WTTA	Wattenberg	7.52	313	i PN	Pn	13 12 05.6	+1.7
WTTA				i SN	Sn	13 13 34.7	+4.5
WATA	Walderalm	7.59	313	i PN	Pn	13 12 07.3	+2.3
WATA				i SN	Sn	13 13 37.0	+4.9
HRT	Hereke	7.60	99	eP	Pn	13 12 02.9	-2.2
GEC2	GERESS Array S	7.68	329	ePn	Pn	13 12 06.7	+0.5
GERES	GERESS Array B	7.68	329	P	Pn	13 12 06.1	-0.1
GERES						13 13 33.3	
GERES				pmax	pmax		
	comp=Z,4.0nm,0.3s						
GERES				MLR	MLR		
	comp=Z,3µm,18.6s						
GERES	GERESS Array B	7.68	329	Pn	Pn	13 12 06.1	-0.1
	comp=Z,4.3nm,0.3s,baz=156,slow=13,SNR=151						
GERES				Sn	Sn	13 13 33.3	-0.9
	comp=Z,10nm,0.3s,baz=145,slow=23,SNR=6.0						
GERES				LR	LR	13 15 30.3	
	comp=Z,3µm,18.6s,baz=137,slow=41						
RAC	Raciborz	7.72	352	ePn	Pn	13 12 06.5	-0.3
RAC				eSg	Sg	13 14 27.1	-1.4
RAC				MLR	MLR	13 15 32.9	
	comp=Z,4µm,15.1s						
SQTA	Sankt Quirin	7.73	311⇑	iPN	Pn	13 12 09.1	+2.2
SQTA				i SN	Sn	13 13 40.3	+4.9
OJC	Ojcow	7.78	0	ePn	Pn	13 12 07.2	-0.4
OJC				eSn	Sn	13 13 36.9	+0.2
OJC				eSg	Sg	13 14 26.7	-3.8
MANT	Manisa	7.78	118	i P	Pn	13 12 07.5	-0.1
VAM	Vamos	7.83	152	eP	Pn	13 12 05.6	-2.7
CORF	Corte	7.86	273	eP	Pn	13 12 09.3	+0.6
MOTA	Moosalm	7.86	312⇑	iPN	Pn	13 12 10.3	+1.6
MOTA				i SN	Sn	13 13 42.8	+4.1
KIS	Kishinev	7.90	52	eP	Pn	13 12 10.0	+0.8
KIS				i S	Sn	13 13 40.0	+0.4
KIS				MLR	MLR		
	comp=Z,17µm,14.0s						
KIS				MLR	MLR		
	comp=N,10µm,12.0s						
KIS				MLR	MLR		
	comp=E,12µm,15.0s						
KIS				MLR	MLR		
	comp=Z,16µm,16.0s						
BODT	Bodrum	7.92	130	eP	Pn	13 12 03.0	-6.5
PGF	Pioggiola	7.95	274	ePn	Pn	13 12 09.1	-0.9
PGF				eSn	Sn	13 13 32.5	-8.5
	comp=Z,358nm,1.1s						
KHC	Kasperske Hory	7.96	329	ePN	Pn	13 12 10.4	+0.3
KHC				eSN	Sn	13 13 38.4	-2.8
KHC				AMS	AMS	13 15 20.0	
	comp=Z,8µm,7.9s						
FUORN	Ofenpass	7.96	305⇑	iP	Pn	13 12 11.0	+0.8
BERNI	Berninapass	8.02	303⇓	eP	P	13 12 11.2	+0.3
MLSB	Milas	8.03	127	eP	P	13 12 10.9	-0.1
EYL	Eskiyayla	8.03	100	eP	P	13 12 09.6	-1.5
GENL	Genova Univers	8.10	288	P	P	13 12 11.0	-1.0
GENL	Genova Univers	8.10	288	P	P	13 12 11.0	-1.0
GDZ	Gediz	8.10	111	i P	P	13 12 11.7	-0.4
IDI	Anoyia	8.19	149	Pn	P	13 12 09.8	-3.5
	comp=Z,2.6nm,0.3s,baz=323,slow=11,SNR=25						
IDI				Sn	Sn	13 13 40.7	-6.1
	comp=Z,10.0nm,0.3s,baz=308,slow=18,SNR=5.7						
WET	Wettzell	8.24	327	ePn	P	13 12 14.8	+0.7
DPC	Dobruska-Polom	8.26	344	ePN	P	13 12 12.8	-1.5
DPC				AMS	AMS	13 16 00.0	
	comp=Z,10µm,8.7s						
DAVOX	Davos	8.27	305	Pn	P	13 12 15.7	+1.3
	comp=Z,14nm,0.3s,baz=133,slow=13,SNR=120						
DAVOX				Sn	Sn	13 13 50.7	+1.7
	comp=Z,15nm,0.3s,baz=215,slow=24,SNR=4.2						
DAVOX	Davos	8.27	305	Pn	P	13 12 15.7	+1.3
DAVOX				Sn	Sn	13 13 50.7	+1.6
DAVOX	Davos	8.27	305⇓	iP	P	13 12 15.1	+0.6
FUR	Furstenfeldbru	8.27	317	ePn	P	13 12 15.9	+1.4
GVD	Gavdhos	8.31	155	ePn	P	13 12 11.5	-3.5
	comp=Z,88nm,0.4s						
GVD	Gavdhos	8.31	155	ePn	P	13 12 11.5	-3.5
	comp=Z,88nm,0.4s						
PRU	Pruhonice	8.37	336	ePN	P	13 12 14.7	-1.1
PRU				eSN	Sn	13 13 48.4	-3.0
PRU				AMS	AMS	13 15 50.0	
	comp=Z,4µm,10.0s						
VSL	Villasalto	8.39	253	ePn	P	13 12 14.5	-1.6
	comp=Z,176nm,1.0s						
PCP	Pian Castagno	8.42	288	P	P	13 12 15.7	-0.8
YER	Yerkesik	8.43	126	eP	P	13 12 19.4	+2.7
MUGIO	Muggio	8.45	298⇑	iP	P	13 12 16.4	-0.5
UPC	Upice	8.47	344	ePN	P	13 12 16.0	-1.2
PRA	Prague	8.47	336	P	P	13 12 18.0	+0.7
PRA				AMS	AMS	13 16 10.0	
HENT	Hendek	8.50	97	i P	P	13 12 16.5	-1.2
DENT	Denizli	8.51	120	eP	P	13 12 18.3	+0.5
KHL	Karahalli	8.51	116	eP	P	13 12 20.0	+2.2
DAVA	Damuels	8.52	308⇑	iPN	P	13 12 18.9	+0.9
DAVA				i SN	Sn	13 13 59.1	+3.9
ALT	Altintas	8.55	110	eP	P	13 12 18.6	+0.2
DNZL	Cakiroluk	8.56	121	i P	P	13 12 18.3	-0.1
FIN	Finale Ligure	8.60	286	P	P	13 12 18.1	-1.0
UBR	Uberruh	8.61	311⇑	eP	P	13 12 19.8	+0.7
KSP	Ksiaz	8.73	345	ePn	P	13 12 22.0	+1.1
KSP				eSn	Sn	13 13 57.0	-3.5
KSP				eSg	Sg	13 14 48.7	-14
KSP	Ksiaz	8.73	345	eP	P	13 12 22.0	+1.1
KSP				eSn	Sn	13 14 02.8	+2.3
IMI	Imperia	8.80	284	P	P	13 12 20.7	-1.1
IMI	Imperia	8.80	284	P	P	13 12 20.7	-1.1
LLS	Linth-Limmern	8.84	304⇑	eP	P	13 12 24.2	+1.9
PVCC	Panska Ves	8.84	338	ePN	P	13 12 22.0	-0.4
PVCC				AMS	AMS	13 16 10.0	
	comp=Z,5µm,8.1s						
ROB	Roburent	8.86	286	P	P	13 12 20.7	-1.9
XRY	Khrisi	8.87	147	eP	P	13 12 21.3	-1.4

Code	Station	Dist	Azm	Phase	ISC	Time	Res
ESKT	Eskisehir	8.88	105	eP	P	13 12 22.5	-0.5
ESKT	Eskisehir	8.88	105	i P	P	13 12 22.4	-0.6
FUSIO	Fusio	8.89	301⇑	eP	P	13 12 22.9	-0.2
MONE	Monesi	8.91	285	P	P	13 12 22.1	-1.3
MONE	Monesi	8.91	285	P	P	13 12 22.1	-1.2
NEGI	Negi	8.93	283	P	P	13 12 21.2	-2.4
KARP	Karpathos	8.97	138	eP	P	13 12 27.0	+2.8
SAOF	Saorge	9.04	284	eP	P	13 12 24.0	-1.2
ORX	Oropa	9.06	295	P	P	13 12 23.0	-2.4
NOTT	Nottersdorf	9.07	327	ePn	P	13 12 25.3	-0.3
HDH	Heidenheim	9.09	316⇑	eP	P	13 12 25.4	-0.4
SBF	Sospel	9.12	283	ePn	P	13 12 25.5	-0.7
SBF				eSn	Sn	13 13 58.1	-12
	comp=Z,202nm,0.7s						
AUTN	L'Aution	9.14	284	eP	P	13 12 22.1	-4.4
GOLH	Golhisar	9.15	121	i P	P	13 12 27.3	+0.6
REVF	Revere	9.16	282	eP	P	13 12 25.6	-1.2
ENR	Entracque	9.17	285	P	P	13 12 25.3	-1.6
TRAV		9.19	294	P	P	13 12 24.0	-3.2
TKTP	Tekketepe	9.19	115	i P	P	13 12 29.4	+2.2
MMK	Mattmark	9.20	297⇑	iP	P	13 12 25.6	-1.7
BNALP	Bannalp	9.21	303⇑	iP	P	13 12 28.3	+0.8
STV2	Anna di Valdie	9.24	285	P	P	13 12 24.7	-3.1
STV	Sta Anna Valdi	9.24	285	P	P	13 12 25.6	-2.3
TOUF	Mont Tournerai	9.27	284	eP	P	13 12 25.1	-3.2
NKC	Novy Kostel	9.29	330	ePN	P	13 12 28.5	0.0
NKC				AMS	AMS	13 16 10.0	
MVIF	Mont Vial	9.33	283	eP	P	13 12 27.2	-1.9
BRG	Berggiesshubel	9.33	337	i P	P	13 12 28.4	-0.7
BRG				pmax	pmax		
	comp=Z,15nm,1.1s						
BRG				MLR	MLR		
	comp=N,2µm,8.2s						
BRG				MLR	MLR		
	comp=E,3µm,9.7s						
BRG				MLR	MLR		
	comp=Z,4µm,8.1s						
BRG	Berggiesshubel	9.33	337	ePn	P	13 12 28.4	-0.7
GRA1	Grafenberg Arr	9.36	324	eP	P	13 12 30.7	+1.1
GRA1	Grafenberg Arr	9.36	324	ePn	P	13 12 30.7	+1.1
GRF	Grafenberg Arr	9.36	324	eP	P	13 12 30.7	+1.1
BHB	Bricherasio	9.37	289	P	P	13 12 27.5	-2.2
GUT	Gutenstein	9.38	311⇑	eP	P	13 12 29.4	-0.4
SGKT	Sivrigoynuk	9.41	97	i P	P	13 12 29.6	-0.7
ISP	Isparta	9.43	116	eP	P	13 12 26.8	-3.7
ISP	Isparta	9.43	116⇓	eP	P	13 12 32.4	+2.0
GUNZ	Gunzen	9.43	330	ePn	P	13 12 30.7	+0.1
RSP	Reno Superiore	9.44	291	P	P	13 12 27.3	-3.3
BUCH	Bad Urach	9.46	313⇑	eP	P	13 12 30.7	-0.2
CALN	Calern	9.51	282	eP	P	13 12 30.8	-0.7
WERD	Werda	9.51	330	ePn	P	13 12 31.4	-0.2
FENE	Fenestrelle	9.55	290	P	P	13 12 29.3	-2.7
LSD	Ceresole Reale	9.58	293	P	P	13 12 29.3	-3.2
SPAK	Spaichingen	9.58	310⇑	eP	P	13 12 32.3	-0.2
OG22	Abries	9.59	289	eP	P	13 12 30.4	-2.3
SURF	Saint Ours	9.63	287	eP	P	13 12 32.4	-0.8
FRF	La Foret Royal	9.67	281	ePn	P	13 12 33.1	-0.7
FRF				eSn	Sn	13 14 11.7	-12
	comp=Z,247nm,0.9s						
MBDF	Montbardon	9.70	288	ePn	P	13 12 33.0	-1.1
MBDF				eSn	Sn	13 14 12.0	-12
	comp=Z,161nm,0.7s						
SAFT	Safranbolu	9.73	93	eP	P	13 12 38.0	+3.5
STU	Stuttgart	9.73	314	ePn	P	13 12 34.2	-0.4
STU				eSn	Sn	13 14 23.7	-1.4
SENIN	Lac Senin	9.74	298	eP	P	13 12 35.4	+0.7
LMR	La Mourre	9.77	280	ePn	P	13 12 33.3	-1.8
LMR				eSn	Sn	13 14 14.4	-12
	comp=Z,296nm,1.3s						
AKAS	Kas	9.82	126	i P	P	13 12 38.6	+2.6
GRYON	Gryon	9.83	297⇑	iP	P	13 12 36.2	+0.3
WAR	Warsaw	9.84	5	eP	P	13 12 38.2	+2.1
WAR				eS	Sn	13 14 29.8	+2.0
LPG	La Plagne	9.86	292	ePn	P	13 12 34.4	-2.0
LPG				eSn	Sn	13 14 17.6	-11
	comp=Z,3µm,1.5s						
KIZT	Kizilcal	9.87	107	eP	P	13 12 36.0	-0.6
LPL	La Plagne	9.88	293	ePn	P	13 12 34.6	-2.0
LPL				eSn	Sn	13 14 17.8	-11
	comp=Z,598nm,0.8s						
SIND	Sindeldorf	9.88	318⇑	eP	P	13 12 36.1	-0.6
LBG	Lerchenberg	9.89	313⇑	eP	P	13 12 36.4	-0.3
EMV	Vieux Emosson	9.91	296⇑	iP	P	13 12 37.3	+0.2
FELD	Feldberg	9.92	307⇑	eP	P	13 12 36.6	-0.6
MOX	Moxa	9.93	328	ePn	P	13 12 36.9	-0.5
MOX				eSg	Sg	13 15 41.7	-0.4
MOX	Moxa	9.93	328	i P	P	13 12 36.9	-0.5
MOX				Sg	Sg	13 15 42.0	-0.1
MOX				L		13 16 15.0	
BFO	Black Forest	9.96	310	ePn	P	13 12 37.1	-0.6
CLL	Collm	10.00	335	i Pn	P	13 12 42.4	+4.2
CLL				Sn	Sn	13 14 18.3	-13
CLL				eSg	Sg	13 15 46.0	+1.8
CLL	Collm	10.00	335	ePN	P	13 12 37.0	-1.2
CLL				i PN	P	13 12 42.4	+4.2
CLL				e		13 14 02.0	
CLL				i SN	Sn	13 14 18.3	-13
CLL				e		13 14 46.0	
CLL				i		13 14 55.0	
CLL				e		13 15 15.0	
CLL				eSG	Sg	13 15 46.0	+1.8
CLL	Collm	10.00	335	ePn	P	13 12 36.5	-1.7
KIZ	Kirchzarten	10.01	307⇑	eP	P	13 12 37.6	-0.8
BBS	Basel-Blauen	10.03	304	eP	P	13 12 37.5	-1.2
BBS	Basel-Blauen	10.03	304	eP	P	13 12 38.5	-0.2
TAVF	Tavernes	10.10	281	eP	P	13 12 37.0	-2.7
ANTO	Ankara	10.16	100	eP	P	13 12 36.7	-3.9
BOURR	Bourrignon	10.17	303⇑	iP	P	13 12 40.0	-0.6
BALT	Daday	10.19	91	i P	P	13 12 42.6	+1.7
KDHN	Kadinhani	10.20	108	i P	P	13 12 41.1	+0.1
GDM	Grand'Maison	10.24	290	eP	P	13 12 41.9	+0.3
LIBD	Limburg	10.29	308	eP	P	13 12 41.7	-0.5
ORIF	Oris-en-Rattie	10.36	289	ePn	P	13 12 42.5	-0.7
ORIF				eSn	S	13 14 28.9	-11
	comp=Z,351nm,0.8s						
ORIF				eR			
	comp=Z,7µm,25.5s						
PUYF	Puyloubier	10.36	281	eP	P	13 12 40.9	-2.4
VILF	Villemus	10.36	283	eP	P	13 12 41.6	-1.7
BERF	Bertagne	10.37	280	eP	P	13 12 43.1	-0.2
LOMF	Lomont	10.40	303	eP	P	13 12 43.6	-0.2
STR	Strasbourg	10.41	310	eP	P	13 12 43.7	-0.3
MOF	Molkenrain	10.43	306	eP	P	13 12 43.2	-0.9
ELDT	Eldivan	10.45	96	i P	P	13 12 42.8	-1.6
TOD	Tromm	10.45	317	eP	P	13 12 43.8	-0.7
TOD	Tromm	10.45	317⇑	eP	P	13 12 43.9	-0.6
SMRF	Simiane la Rot	10.47	283	ePn	P	13 12 44.4	-0.3
SMRF				eSn	S	13 14 31.7	-12
	comp=Z,284nm,1.2s						
BRANT	Les Verrieres	10.47	300⇑	iP	P	13 12 44.9	+0.2
GRN	Grenoble	10.50	290	eP	P	13 12 45.0	-0.2
AKASG	Malin Array Be	10.51	35	Pn	P	13 12 44.8	-0.5
	comp=Z,0.8nm,0.3s,baz=223,slow=12,SNR=48						
AKASG				Lg		13 15 30.7	
	comp=Z,0.1nm,0.3s,baz=214,slow=27,SNR=3.0						
GELF	Grande-Etoile	10.56	280	eP	P	13 12 43.8	-2.1
WLS	Welschbruch	10.56	309	eP	P	13 12 45.0	-1.0
ECH	Echery	10.58	307	eP	P	13 12 45.0	-1.2
HINF	Hinteralfeld	10.58	305	ePn	P	13 12 44.9	-1.3
HINF				eSn	S	13 14 34.2	-12
	comp=Z,850nm,1.2s						
LANF	Langenberg	10.61	312	eP	P	13 12 45.8	-0.8
CDF	Champ du Feu	10.61	309	ePn	P	13 12 45.3	-1.3
CDF				eSn	S	13 14 33.6	-13
	comp=Z,5µm,1.9s						
CABF	La Chapelle	10.61	298	ePn	P	13 12 45.5	-1.2
CABF				eSn	S	13 14 37.2	-9.5
	comp=Z,2µm,1.5s						
KTD	Kalmit	10.65	314	eP	P	13 12 46.3	-0.9
KTD	Kalmit	10.65	314	eP	P	13 12 46.8	-0.4
SIM	Simferopol'	10.70	72	eP	P	13 12 46.2	-1.6
SIM				S	S	13 14 41.0	-7.8
SIM				pmax	pmax		
	comp=Z,26nm,1.4s						
SIM				MLR	MLR		
	comp=Z,4µm,16.0s						
OCF	Saint Nazaire	10.72	286	eP	P	13 12 47.6	-0.5
OG26	St.-Nazaire-De	10.72	286	eP	P	13 12 47.6	-0.5
PRAF	Pradon	10.75	282	eP	P	13 12 43.2	-5.4
BR131	Keskin Array S	10.82	100	ePn	P	13 12 46.6	-3.0
	comp=Z,2.8nm,0.6s						
BRTR	Keskin Array B	10.82	100	Pn	P	13 12 48.9	-0.8
	comp=Z,0.4nm,0.3s,baz=283,slow=13,SNR=13						
BRTR				Lg		13 15 51.5	
	comp=Z,0.1nm,0.3s,baz=306,slow=20,SNR=2.6						
HAU	Haudompre	10.97	305	ePn	P	13 12 50.2	-1.3
HAU				eSn	S	13 14 42.9	-12
	comp=Z,545nm,1.0s						
HAU				eR			
	comp=Z,4µm,23.8s						
KAMT	Kaman	11.00	102	eP	P	13 12 51.8	-0.2
CMAH	Djebel Manchou	11.15	243	P	P	13 12 55.5	+1.4
VIVF	Saint-Julien-l	11.20	288	ePn	P	13 12 52.6	-2.1
VIVF				eSn	S	13 14 51.9	-9.1
	comp=Z,197nm,1.1s						
HDMB	Hadim	11.22	115	eP	P	13 12 56.5	+1.5
ABH	Alteburg	11.26	316	eP	P	13 12 54.7	-0.9
ABH	Alteburg	11.26	316⇑	eP	P	13 12 55.1	-0.5
THEF	They Montfort	11.28	306	eP	P	13 12 54.8	-1.0
ABSA	Djebel Ababsia	11.32	241	P	P	13 12 57.0	+0.6
BOYT	Boyabat	11.33	90	i P	P	13 13 00.7	+4.2
CDAG	Cicekdag	11.39	99	i P	P	13 12 58.7	+1.3
CORM	Corum	11.41	96	eP	P	13 13 00.5	+2.8
RUP	Ruppelstein	11.41	314	eP	P	13 12 57.0	-0.6
RUP	Ruppelstein	11.41	314⇑	eP	P	13 12 57.3	-0.3
CTKT	Corum	11.42	94	i P	P	13 13 00.2	+2.5
CAEH	'Ain El Ouahch	11.45	245	P	P	13 13 02.5	+4.4
LASF	Ste Croix	11.71	283	ePn	P	13 13 00.0	-1.7
LASF				eSn	S	13 15 01.2	-12
	comp=Z,122nm,1.1s						
CKFL	Kef-Lekhel	11.74	243	P	P	13 13 04.0	+1.8
RFYF	Reffroy	11.77	307	ePn	P	13 13 03.6	+1.2
	baz=129						
RFYF				eSn	S	13 15 01.2	-14
	comp=Z,5µm,2.2s						
SUW	Suwalki	11.80	10	eP	P	13 13 03.6	+0.8
SUW				eS	S	13 15 19.3	+3.6
SUW	Suwalki	11.80	10	eP	P	13 13 03.6	+0.8
SUW				eS	S	13 15 19.4	+3.7
SFTF	Sexfontaines	11.85	304	ePn	P	13 13 02.2	-1.3
	baz=124						
SFTF				eSn	S	13 15 04.6	-12
	comp=Z,1µm,1.6s						
WLF	Walferdange	11.88	312	eP	P	13 13 02.4	-1.6
WLF				pmax	pmax		
	comp=Z,56nm,0.8s						
WLF	Walferdange	11.88	312	ePn	P	13 13 02.4	-1.6
	comp=Z,56nm,0.8s						
WLF	Walferdange	11.88	312	ePn	P	13 13 02.4	-1.6
	comp=Z,56nm,0.8s						
MEZF	Maizieres J'vi	11.96	305	ePn	P	13 13 03.2	-1.9
	baz=111						
MEZF				eSn	S	13 15 07.2	-12
	comp=Z,4µm,2.2s						
COLF	Collangettes	11.97	290	eP	P	13 13 03.0	-2.2
CASM	Ain Smara	11.98	243	P	P	13 13 06.5	+1.2
SMF	Signal de Mont	12.11	296	ePn	P	13 13 05.4	-1.6
SMF				eSn	S	13 15 09.7	-13
	comp=Z,701nm,1.2s						
CTEI	Djebel Teioual	12.15	243	P	P	13 13 09.0	+1.4
DFRA	Djebel Bou Aff	12.23	246	P	P	13 13 12.0	+3.3
LOR	Lormes	12.27	299	ePn	P	13 13 07.2	-2.0
	baz=114						
LOR				eSn	S	13 15 19.4	-7.6
	comp=Z,826nm,1.4s						
LOR				eR			
	comp=Z,3µm,21.2s						
IKL	Isikli	12.43	115	eP	P	13 13 15.4	+4.0
SSF	Saint Saulge	12.44	297	ePn	P	13 13 09.3	-2.2
SSF				eSn	S	13 15 22.9	-8.3
	comp=Z,54nm,0.6s						
EJON	La Jonquera	12.47	276	P	P	13 13 12.0	+0.2
	comp=Z,68nm,2.1s						
MEST	Erdemli	12.55	113	i P	P	13 13 16.5	+3.6
HGN	Heimansgroeve	12.62	316	ePn	P	13 13 13.7	-0.1
	comp=Z,57nm,1.1s						
HGN				eSn	S	13 15 34.4	-1.1
LRDF	Laroque-de-Fa	12.68	278	eP	P	13 13 13.9	-0.9
FILF	Fillols	12.70	276	eP	P	13 13 16.7	+1.8
CMER	Merouana	12.74	242	P	P	13 13 20.0	+4.5
SET	Setif	12.74	245	P	P	13 13 19.0	+3.5
BGF	Bois d'Agland	12.75	295	ePn	P	13 13 13.3	-2.4
BGF				eSn	S	13 15 25.6	-13
	comp=Z,382nm,1.1s						
CKHR	Kef el Ahmar	12.77	245	P	P	13 13 18.0	+2.1
GIVF	Givet	12.85	312	ePn	P	13 13 16.4	-0.5
GIVF				eSn	S	13 15 29.4	-12
	comp=Z,1µm,1.8s						
MTLF	Montolieu	12.90	280	ePn	P	13 13 17.0	-0.6
MTLF				eSn	S	13 15 26.8	-16
	comp=Z,291nm,2.1s						
CSS	Prodhromos	12.96	121	P	P	13 13 13.3	-5.1
	comp=Z,40nm,1.0s						
WTSB	Winterswijk	12.96	322	ePn	P	13 13 19.5	+1.1
	comp=Z,66nm,1.2s						
WTSB				eSn	S	13 15 43.1	-0.6
ANN	Anapa	13.02	74	eP	P	13 13 14.5	-4.8
ANN				eS	S	13 15 36.9	-8.4
ANN				pmax	pmax		
	comp=Z,39nm,1.5s						
CAF	Calviac	13.05	287	ePn	P	13 13 19.1	-0.5
CAF				eSn	S	13 15 33.0	-13
	comp=Z,103nm,1.1s						
ETOS	Mallorca	13.06	264	P	P	13 13 22.8	+3.1
	comp=Z,72nm,1.3s						
HYF	Humbligny	13.06	298	ePn	P	13 13 18.0	-1.8
HYF				eSn	S	13 15 33.4	-13
AKF	Akfadou	13.07	249	P	P	13 13 22.5	+2.5
VALF	Valcebollere	13.11	276	eP	P	13 13 18.3	-2.2
TCF	Toulx Ste Croi	13.13	293	ePn	P	13 13 18.2	-2.5
TCF				eSn	S	13 15 37.2	-11
	comp=Z,251nm,1.2s						
LPEF	Le Peyrat	13.14	278	eP	P	13 13 20.6	-0.3
BAIF	Baives	13.17	311	ePn	P	13 13 20.7	-0.5
BAIF				eSn	S	13 15 35.7	-13
	comp=Z,2µm,2.3s						
MNK	Minsk	13.19	21	eP	P	13 13 18.0	-3.4
RJF	Les Rejaudoux	13.47	288	ePn	P	13 13 24.9	-0.2
RJF				eSn	S	13 15 41.6	-14
	comp=Z,98nm,1.1s						
RJF				eR			
	comp=Z,4µm,22.0s						
EMIR	Miracle	13.54	274	P	P	13 13 29.9	+3.9
	comp=Z,126nm,1.4s						
WIT	Witteveen	13.60	324	ePn	P	13 13 25.6	-1.1
ATAF	Djebel Tarf	13.68	246	P	P	13 13 31.0	+3.1
MLS	Moulis	13.74	278	eP	P	13 13 28.7	0.0
AKET	Djebel Ketaf	13.85	248	P	P	13 13 33.3	+3.1
EPOB	Poblet	13.96	272	P	P	13 13 30.8	-0.8
	comp=Z,266nm,3.2s						
KAHT	Ahir Dag	13.96	104	i P	P	13 13 36.7	+5.1
LFF	La Frestale	13.99	287	ePn	P	13 13 32.5	+0.6
LFF				eSn	S	13 15 55.3	-13
	comp=Z,312nm,1.6s						
COBT	Iskenderun	14.04	109	i P	P	13 13 35.9	+3.2
ABA	Alger-Bouzarea	14.06	252	P	P	13 13 38.3	+5.4
COP	Copenhagen	14.09	343	i P	P	13 13 32.9	-0.2
COP				i		13 13 41.7	
COP				i S	S	13 16 21.3	+11
	comp=Z,540nm,17.0s						
ADJB	Djebel Djouab	14.10	249	P	P	13 13 35.7	+2.2
EPF	Esparros	14.29	279	ePn	P	13 13 33.5	-2.4
EPF				eSn	S	13 16 02.4	-13
	comp=Z,305nm,2.2s						
RESF	Ens	14.31	278	eP	P	13 13 37.8	+1.7
EIBI	Ibiza	14.37	262	P	P	13 13 44.4	+7.4
	comp=Z,252nm,1.3s						
EGRA	Graus	14.39	276	P	P	13 13 37.8	+0.6
	comp=Z,40nm,1.1s						
GAZ	Gaziantep	14.40	106	eP	P	13 13 39.9	+2.5
EMHD	Djebel Mahouad	14.41	250	P	P	13 13 44.0	+6.4
EBIE	Bielsa	14.46	278	P	P	13 13 38.5	+0.3
	comp=Z,927nm,3.6s						
VIEF	Viey	14.53	278	eP	P	13 13 39.6	+0.5
ERTA	Horta de San J	14.59	271	P	P	13 13 38.4	-1.4
	comp=Z,356nm,3.7s						
SOC	Sochi	14.65	79	i P	P	13 13 41.5	+0.9
SOC				e		13 16 24.0	
SOC				pmax	pmax		
	comp=Z,26nm,1.5s						
SOC				pmax	pmax		
	comp=N,13nm,1.0s						
SOC				pmax	pmax		
	comp=E,20nm,1.1s						
SOC				MLR	MLR		
	comp=Z,1µm,14.0s						
SOC				MLR	MLR		
	comp=N,1µm,17.0s						
SOC				MLR	MLR		
	comp=E,698nm,15.0s						
MFF	Saint Martin d	14.79	293	ePn	P	13 13 41.0	-1.4
MFF				eSn	S	13 16 14.8	-12
	comp=E,224nm,1.5s						
MALT	Malatya	14.81	100	eP	P	13 13 41.2	-1.6
MALT	Malatya	14.81	100	eP	P	13 13 47.8	+5.0
MALT				pmax	pmax		
	comp=Z,79nm,1.5s						
MALT	Malatya	14.81	100	eP	P	13 13 47.8	+5.0
	comp=Z,78nm,1.5s						
REYF	Montagne du Re	14.82	279	eP	P	13 13 44.0	+1.2
KELT	Kelkit	14.84	92	i P	P	13 13 53.4	+10
GUMT	Gumushane	14.92	91	eP	P	13 13 52.8	+8.6
ETSF	Etsaut	14.96	279	ePn	P	13 13 46.5	+1.9
ETSF				eSn	S	13 16 16.4	-15
	comp=Z,251nm,1.9s						
ESAC	San Caprasio	15.04	274	P	P	13 13 44.8	-0.9
	comp=Z,509nm,2.4s						
HWQ	Hawqa	15.07	117	ePn	P	13 13 54.8	+8.5
BHL	Bhannes	15.11	119	ePn	P	13 13 52.0	+5.3
LDF	La Druitiere	15.21	301	ePn	P	13 13 46.4	-1.6
LDF				eSn	S	13 16 23.8	-13
	comp=Z,262nm,1.3s						
PTK	Pertek	15.31	97	eP	P	13 13 49.1	-0.2
EMOS	Mosqueruela	15.32	269	P	P	13 13 48.6	-0.8
	comp=Z,484nm,4.0s						
EBNR	Beni Rached	15.37	252	P	P	13 13 55.5	+5.5
SJPF	Ste Jean	15.42	280	ePn	P	13 13 48.6	-2.1
SJPF				eSn	S	13 16 29.1	-13
	comp=Z,159nm,1.8s						
URFA	Urfa	15.44	103	eP	P	13 13 55.0	+4.0
FLN	La Foliniere	15.49	301	ePn	P	13 13 51.1	-0.5
	baz=109						
FLN				eSn	S	13 16 31.8	-12
	comp=Z,497nm,1.7s						
FLN				eR			
	comp=Z,2µm,15.5s						
OFRI	'Ofer	15.54	124	P	P	13 13 52.1	-0.2
ECHA	Ech Chlef	15.55	252	P	P	13 13 57.0	+4.6
MUD	Monsted U'grnd	15.60	338⇓	iP	P	13 13 58.4	+5.5
MUD				pmax	pmax		
	comp=Z,74nm,1.0s						
MUD	Monsted U'grnd	15.60	338⇓	iP	P	13 13 58.4	+5.5
	comp=Z,74nm,1.0s						
MUD				i S	S	13 17 06.6	+20
	comp=Z,600nm,14.0s						
EALK	Alkurruntz	15.62	280	P	P	13 13 52.5	-0.8
	comp=Z,420nm,3.3s						
GRR	Gorron	15.63	299	ePn	P	13 13 52.1	-1.3
GRR				eSn	S	13 16 35.0	-12
	comp=Z,628nm,1.9s						
EBEN	Beniarda	15.63	263	P	P	13 13 52.5	-1.0
	comp=Z,865nm,3.3s						
KSHT	Keshet	15.81	121	P	P	13 13 55.7	-0.1
SLTI	Sal'it	15.83	125	P	P	13 13 53.0	-3.1
EANR	'Ain N'Sour	15.84	252	P	P	13 14 02.0	+5.9
ECHE	Chera	15.90	267	P	P	13 14 01.0	+4.1
ECHE				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ECHE	Chera	15.90	267	P	P	13 14 01.0	+4.1
	comp=Z,5.3nm,0.6s						
MMLI	Mount Malkishu	15.93	124	P	P	13 13 56.2	-1.1
ETRT	Tiaret	15.98	250	P	P	13 14 02.2	+4.2
OKGL	Djebel Kef Gue	16.12	253	P	P	13 14 03.0	+3.3
VOR	Voronezh	16.13	48	P	P	13 14 00.0	+0.2
VOR				pmax	pmax		
	comp=N,60nm,1.7s						
VOR				pmax	pmax		
	comp=E,320nm,1.7s						
VOR				pmax	pmax		
	comp=Z,240nm,1.7s						
OJGS	Djebel Guires	16.31	251	P	P	13 14 06.0	+3.8
ECRI	Cripan	16.41	278	P	P	13 14 04.2	+0.7
ECRI				pmax	pmax		
	comp=Z,21nm,0.9s						
ECRI	Cripan	16.41	278	P	P	13 14 04.2	+0.7
	comp=Z,21nm,0.9s						
KZIT	Kziot	16.42	130	P	P	13 14 01.4	-2.2
EZM	Erzurum	16.46	92	eP	P	13 14 10.4	+6.3
ERZM	Erzurum	16.46	92	i P	P	13 14 10.2	+6.2
OJBR	Djebel Berber	16.55	252	P	P	13 14 08.0	+2.7
ETOB	Tobarra	16.63	264	P	P	13 14 06.8	+0.6
	comp=Z,849nm,5.4s						
VSU	Vasula	16.63	13c	iP	P	13 14 05.3	-0.7
MKRJ	Makawir	16.68	125	P	P	13 14 05.6	-1.3
MZDA	Masada	16.68	127	P	P	13 14 04.8	-2.2
EMUR	La Murta	16.69	261	P	P	13 14 07.6	+0.6
	comp=Z,679nm,3.2s						
SGMF	Saint Gilles	16.70	298	ePn	P	13 14 05.6	-1.5
SGMF				eSn	S	13 17 01.3	-11
	comp=Z,201nm,1.5s						
OBN	Obninsk	16.78	35c	iP	P	13 14 06.3	-1.7
OBN				eS	S	13 17 11.9	-1.8
OBN				pmax	pmax		
	comp=Z,210nm,1.5s						
OBN				MLR	MLR		
	comp=Z,3µm,9.0s						
OBN	Obninsk	16.78	35	eP	P	13 14 07.0	-1.0
	comp=Z,251nm,1.4s						
OBN	Obninsk	16.78	35	eP	P	13 14 07.0	-1.0
	comp=Z,251nm,1.4s						
KIV	Kislovodsk	16.78	77	eP	P	13 14 10.2	+2.1
KIV				eS	S	13 17 15.2	+1.4
KIV				pmax	pmax		
	comp=Z,42nm,1.2s						
KIV				MLR	MLR		
	comp=N,622nm,17.0s						
KIV				MLR	MLR		
	comp=E,2µm,17.0s						
KIV				MLR	MLR		
	comp=Z,2µm,17.0s						
KIV	Kislovodsk	16.78	77	eP	P	13 14 08.6	+0.5
	comp=Z,61nm,1.3s						
KIV	Kislovodsk	16.78	77	eP	P	13 14 08.6	+0.5
	comp=Z,61nm,1.3s						
KIV				eS	S	13 17 15.2	+1.4
MARD	Mardin	16.92	101	i P	P	13 14 11.9	+2.0
GOF	Gofitskoye	17.01	73⇓	iP	P	13 14 12.1	+1.1
GOF				eS	S	13 17 23.0	+4.0
GOF				pmax	pmax		
	comp=Z,116nm,1.3s						
GOF				smax			
	comp=N,69nm,1.2s						
ELAN	Lanestosa	17.02	281	P	P	13 14 10.1	-1.1
	comp=N,196nm,2.6s						
ASF	Jabal al Asfar	17.03	121	LR	LR	13 22 22.7	
	comp=N,1µm,18.3s,baz=30,slow=43						
QUIF	Quistinic	17.04	297	ePn	P	13 14 10.7	-0.6
QUIF				eSn	S	13 17 09.4	-10
	comp=N,434nm,1.7s						
ZFRI	Zfri	17.13	129	P	P	13 14 10.2	-2.4
PRNI	Paran	17.18	130	P	P	13 14 10.2	-3.0
ROSF	Rostrenen	17.19	298	ePn	P	13 14 12.5	-0.7
ROSF				eSn	S	13 17 12.4	-11
	comp=N,927nm,2.3s						
EVIA	Vianos	17.33	265	P	P	13 14 18.3	+3.3
EVIA				pmax	pmax		
	comp=Z,127nm,1.9s						
EVIA	Vianos	17.33	265	P	P	13 14 18.3	+3.2
	comp=Z,127nm,1.9s						
ONI	Oni	17.46	82	P	P	13 14 16.6	0.0
OTSS	Djebel Tessala	17.51	253	P	P	13 14 22.0	+4.7
MBH	Mount Berech	17.55	131	P	P	13 14 16.1	-1.8
MOS	Moscow	17.65	35κ	iP	P	13 14 18.7	-0.1
MOS				eS	S	13 17 38.8	+5.4
MOS				pmax	pmax		
	comp=Z,600nm,1.8s						
MOS				pmax	pmax		
	comp=Z,289nm,1.3s						
MOS				smax			
	comp=N,2µm,4.3s						
MOS				MLR	MLR		
	comp=N,2µm,12.0s						
MOS				MLR	MLR		
	comp=Z,4µm,12.0s						
MOS				MLR	MLR		
	comp=E,2µm,11.6s						
EIL	Elat	17.67	131	P	P	13 14 19.4	+0.1
	comp=E,0.8nm,0.3s,baz=350,slow=15,SNR=14						
EIL	Elat	17.67	131	P	P	13 14 15.3	-4.0
EIL	Elat	17.67	131	eP	P	13 14 17.5	-1.8

comp=E,107nm,1.5s
EHUE Huescar 17.69 262 P **P** **13 14 22.6 +3.0**
EHUE pmax pmax
comp=Z,67nm,1.3s
EHUE Huescar 17.69 262 P **P** **13 14 22.6 +3.1**
comp=Z,67nm,1.3s
ZEI Tsey 17.77 81 *e*P **P** **13 14 23.5 +3.1**
ZEI *e*S **S** **13 17 36.9 +0.6**
HGH Gray Hill 17.86 309 *e*P **P** **13 14 20.7 -0.8**
HGH AMb AMB 13 14 32.1
comp=Z,146nm,2.0s
HAE Alders End 17.87 310 *e*P **P** **13 14 21.0 -0.6**
HAE AMb AMB 13 14 24.8
comp=Z,167nm,1.6s
ALWS Ilw as Safayha 18.00 132 P **P** **13 14 22.6 -0.9**
ESDC Sonseca Array 18.09 269 P **P** **13 14 23.3 -1.2**
comp=Z,0.2nm,0.3s,baz=70,slow=12,SNR=12
ESDC Sonseca Array 18.09 269 P **P** **13 14 23.1 -1.4**
comp=Z,16nm,1.5s
ESLA Sonseca Array 18.09 269 *e*P **P** **13 14 24.0 -0.5**
comp=Z,6.3nm,1.0s
ESLA Sonseca Array 18.09 269 *e*P **P** **13 14 24.0 -0.5**
comp=Z,6.2nm,1.0s
HFS Hagfors 18.10 350 P **P** **13 14 23.0 -1.5**
comp=Z,0.2nm,0.3s,baz=168,slow=14,SNR=28
HFS LR LR 13 20 59.6
comp=Z,570nm,20.0s,baz=175,slow=36
MCH1 Michaelchurch 18.11 310 *e*P **P** **13 14 23.8 -0.9**
HAQS Haql 18.13 133 P **P** **13 14 24.4 -0.7**
JMOS Jabal al Moall 18.14 132 P **P** **13 14 24.8 -0.4**
HLM1 Long Mynd 18.25 311 *e*P **P** **13 14 25.0 -1.4**
EBER Berja 18.27 260 P **P** **13 14 28.9 +2.1**
comp=Z,888nm,2.7s
HTR Trewern Hill 18.29 310 *e*P **P** **13 14 25.6 -1.3**
HTR AMb AMB 13 14 35.0
comp=Z,131nm,1.6s
EARI Arriondas 18.31 281 P **P** **13 14 27.1 -0.1**
comp=Z,371nm,2.3s
KONO Kongsberg 18.34 343 P **P** **13 14 26.1 -1.4**
KONO pmax pmax
comp=Z,140nm,1.6s
KONO Kongsberg 18.34 343 *e*P **P** **13 14 28.9 +1.5**
KONO *e*Sn **S** **13 17 54.7 +5.6**
SSP1 Stoney Pound 18.34 311 *e*P **P** **13 14 26.1 -1.4**
SSP1 AMb AMB 13 14 31.1
comp=Z,154nm,1.7s
EBAN Banos Encina 18.44 264 P **P** **13 14 30.2 +1.3**
EBAN pmax pmax
comp=Z,34nm,0.7s
EBAN Banos Encina 18.44 264 P **P** **13 14 30.2 +1.3**
comp=Z,34nm,0.7s
TAYS Tayyib Ism 18.49 134 P **P** **13 14 28.1 -1.5**
PUL Pulkovo 18.53 17 *i* P **P** **13 14 28.7 -1.1**
PUL *i* S **S** **13 17 59.0 +5.5**
PUL pmax pmax
comp=Z,119nm,0.6s
PUL pmax pmax
comp=N,27nm,0.5s
PUL pmax pmax
comp=E,102nm,0.6s
PUL smax
comp=E,2μm,5.5s
PUL smax
comp=Z,1μm,4.2s
PUL MLR MLR
comp=Z,3μm,16.0s
PUL MLR MLR
comp=N,2μm,15.0s
PUL MLR MLR
comp=E,1μm,13.0s
TBLG Delisi 18.54 84 P **P** **13 14 34.5 +4.4**
TI2 Plekhanov 18.55 84 *e*P **P** **13 14 31.0 +0.8**
TI2 Plekhanov 18.55 84 *e*P **P** **13 14 31.0 +0.8**
CLDR Caldiran 18.57 92 *e*P **P** **13 14 33.6 +3.2**
MTA Mtatsminda 18.59 84 P **P** **13 14 31.9 +1.2**
MTA S **S** **13 18 09.2 +14**
SBD1 Bryn Du 18.62 312 *e*P **P** **13 14 28.7 -2.3**
SBD1 AMb AMB 13 14 33.7
comp=Z,193nm,1.9s
BDAS Al Bad'i 18.71 133 P **P** **13 14 30.4 -1.8**
JMQS Jabal Moqyreh 18.78 131 P **P** **13 14 33.1 -0.1**
EGUA Guajares 18.79 260 P **P** **13 14 34.8 +1.6**
EGUA pmax pmax
comp=Z,3.0nm,0.5s
EGUA Guajares 18.79 260 P **P** **13 14 34.8 +1.7**
comp=Z,2.8nm,0.5s
ERON Agron 18.89 261 P **P** **13 14 35.2 +0.8**
comp=Z,5.8nm,0.4s
GNI Garni 18.90 89 *e*P **P** **13 14 35.6 +1.2**
GNI Garni 18.90 89 *c i*P **P** **13 14 35.5 +1.1**
GNI pmax pmax
comp=Z,257nm,1.5s
GNI MLR MLR
comp=Z,1μm,12.0s
GNI Garni 18.90 89 P **P** **13 14 37.3 +2.9**
comp=Z,1.9nm,0.3s,baz=264,slow=2.5,SNR=38
GNI LR LR 13 22 49.6
comp=Z,1μm,20.4s,baz=287,slow=40
GNI Garni 18.90 89 *e*P **P** **13 14 36.6 +2.2**
comp=Z,163nm,1.0s
GNI Garni 18.90 89 *e*P **P** **13 14 36.6 +2.2**
comp=Z,163nm,1.0s
ELUQ Luque 19.02 263 P **P** **13 14 36.0 +0.1**
ELUQ pmax pmax
comp=Z,68nm,0.9s
ELUQ Luque 19.02 263 P **P** **13 14 36.0 +0.1**
comp=Z,68nm,0.9s
EADA Adamuz 19.02 265 P **P** **13 14 35.1 -0.8**
comp=Z,1μm,4.1s
DGRG David-gareji 19.06 84 P **P** **13 14 33.3 -3.1**
DGRG S **S** **13 18 23.0 +17**
ELOJ Sierra Loja 19.09 262 P **P** **13 14 37.0 +0.2**
ELOJ pmax pmax
comp=Z,43nm,0.9s
ELOJ Sierra Loja 19.09 262 P **P** **13 14 37.0 +0.2**
comp=Z,42nm,0.9s
WPM1 Penmaenmawr 19.12 313 *e*P **P** **13 14 34.8 -2.2**
WPM1 AMb AMB 13 14 41.4
comp=Z,192nm,1.7s
NAO01 NORSAR Array S 19.20 347 *e*P **P** **13 14 35.9 -2.0**
comp=Z,45nm,0.8s
NAO01 NORSAR Array S 19.20 347 *e*P **P** **13 14 35.9 -2.0**
comp=Z,45nm,0.8s
YLL Llanberis 19.22 312 *e*P **P** **13 14 36.0 -2.1**
NB2 NORSAR Subarra 19.33 347 P **P** **13 14 37.2 -2.2**
comp=Z,22nm,1.1s,baz=165,slow=10
NB2 NORSAR Subarra 19.33 347 P **P** **13 14 37.2 -2.2**
NB2 pmax pmax
comp=Z,22nm,1.1s
NB2 NORSAR Subarra 19.33 347 P **P** **13 14 37.2 -2.2**
baz=165,slow=11
NOA NORSAR Array B 19.33 347 P **P** **13 14 37.1 -2.3**
NOA pmax pmax
comp=Z,1.0nm,0.3s
NOA MLR MLR
comp=Z,604nm,18.4s
NOA NORSAR Array B 19.33 347 P **P** **13 14 37.1 -2.3**
comp=Z,1.3nm,0.3s,baz=163,slow=10,SNR=52
NOA LR LR 13 22 54.2
comp=Z,604nm,18.4s,baz=180,slow=39
WME Myndd Eilian 19.40 313 *e*P **P** **13 14 38.2 -2.0**
WME AMb AMB 13 14 44.6
comp=Z,213nm,1.7s
WLF1 Llynfaes 19.40 312 *e*P **P** **13 14 37.9 -2.4**
WLF1 AMb AMB 13 14 44.6
comp=Z,212nm,1.9s
FINES FINESS Array B 19.41 9 P **P** **13 14 38.6 -1.7**
comp=Z,1.1nm,0.3s,baz=170,slow=12,SNR=90
FINES PcP PcP 13 18 59.8 -1.8
comp=Z,0.2nm,0.3s,baz=180,slow=3.8,SNR=3.6
FINES LR LR 13 22 35.8
comp=Z,2μm,20.1s,baz=193,slow=38
FINES FINESS Array B 19.41 9 PcP PcP 13 18 59.8 -1.8
YRC Rhoscolyn 19.49 312 *e*P **P** **13 14 38.7 -2.5**
YRC AMb AMB 13 14 48.1
comp=Z,165nm,1.5s
WCB1 Church Bay 19.52 312 *e*P **P** **13 14 39.6 -2.1**
WCB1 AMb AMB 13 14 46.2
comp=Z,412nm,1.8s
ECAL Calabor 19.62 278 P **P** **13 14 41.6 -1.2**
comp=Z,964nm,3.6s
PBRG Braganca 19.64 277 *e*P **P** **13 14 43.2 +0.1**
comp=Z,69nm,1.2s
PBRG *e*S **S** **13 18 22.6 +3.9**
TBKS Tabuk 19.67 131 P **P** **13 14 43.3 -0.2**
ECAB El Cabril 19.68 266 P **P** **13 14 42.5 -1.0**
comp=Z,368nm,1.7s
EPON Pontenova 19.71 282 P **P** **13 14 43.2 -0.6**
comp=Z,910nm,4.2s
EPON Pontenova 19.71 282 P **P** **13 14 43.2 -0.7**
comp=Z,910nm,4.2s
EKA Eskdalemuir Ar 19.72 319 P **P** **13 14 43.3 -0.5**
EKA pmax pmax
comp=Z,1.0nm,0.3s
EKA Eskdalemuir Ar 19.72 319 P **P** **13 14 43.3 -0.5**
comp=Z,1.3nm,0.3s,baz=119,slow=8.6,SNR=89
ESK Eskdalemuir 19.73 319 *e*P **P** **13 14 42.9 -1.1**
ESK pmax pmax
comp=Z,197nm,1.3s
ESK Eskdalemuir 19.73 319 *e*P **P** **13 14 42.9 -1.1**
comp=Z,197nm,1.3s
ESK Eskdalemuir 19.73 319 *e*P **P** **13 14 42.8 -1.2**
comp=Z,197nm,1.3s
EMIJ Mijas 19.79 261 P **P** **13 14 41.6 -3.1**
comp=Z,228nm,2.2s
ERUA La Rua 19.84 279 P **P** **13 14 43.0 -2.3**
ERUA pmax pmax
comp=Z,176nm,2.4s
ERUA La Rua 19.84 279 P **P** **13 14 43.0 -2.3**
comp=Z,176nm,2.4s
WIM Isle of Man 19.92 314 *e*P **P** **13 14 43.6 -2.5**
WIM AMb AMB 13 14 47.5
comp=Z,277nm,1.4s
BER Bergen 20.01 339 *e*P **P** **13 14 47.5 +0.5**
BER LR LR
comp=Z,949μm,17.1s
BER Bergen 20.01 339 *e*P **P** **13 14 47.5 +0.5**
BER *e*S **S** **13 18 33.5 +7.1**
BER AMS AMS 13 24 21.3
comp=Z,949nm,17.1s,MS4.2
KAF Kangasniemi 20.09 9 *e*p **P** **13 14 45.3 -2.5**
comp=Z,31nm,0.8s
KAF Kangasniemi 20.09 9 *e*P **P** **13 14 45.3 -2.5**
KAF pmax pmax
comp=Z,31nm,0.8s
GAL1 Galloway 20.26 316 *e*P **P** **13 14 47.4 -2.3**
MAK Makhachkala 20.37 79 *e*P **P** **13 14 54.0 +3.1**
MAK *e*S **S** **13 18 40.0 +6.1**
MAK *e*SS SS 13 19 19.0 +16
MAK pmax pmax
comp=Z,2μm,4.0s
MAK smax
comp=N,4μm,8.0s
MAK smax
comp=E,2μm,8.0s
ESPR Espera 20.45 263 P **P** **13 14 50.4 -1.5**
comp=E,746nm,2.7s
ESPR Espera 20.45 263 P **P** **13 14 50.4 -1.4**
comp=E,746nm,2.7s
PVRL Vila Real 20.47 276 *e*P **P** **13 14 51.6 -0.3**
comp=E,104nm,1.5s
DSB Dublin 20.48 311 *e*P **P** **13 14 49.7 -2.3**
comp=E,247nm,1.9s
MTE Manteigas 20.55 274 *e*P **P** **13 14 52.7 -0.1**
comp=E,77nm,1.1s
MTE Manteigas 20.55 274 *e*P **P** **13 14 52.5 -0.2**
comp=E,168nm,1.5s
MTE *i* - 13 18 39.4
MTE *e*LR LR 13 18 49.3
comp=E,3μm,19.4s
MTE Manteigas 20.55 274 *e*P **P** **13 14 52.7 0.0**
comp=E,77nm,1.1s
DLF Lyons Farm 20.59 311 ⇑ *i*P **P** **13 14 52.8 -0.3**
ELOB Lobios 20.60 278 P **P** **13 14 52.4 -0.9**
comp=E,335nm,2.4s
ELOB Lobios 20.60 278 P **P** **13 14 52.4 -0.9**
comp=E,335nm,2.4s
EBAD Badajoz 20.63 269 P **P** **13 14 51.5 -2.1**
comp=E,376nm,2.4s
GMM Mts of Mourne 20.64 314 *e*P **P** **13 14 51.5 -2.1**
DOMB Dombas 20.64 346 *e*P **P** **13 14 53.6 0.0**
DOMB AMb AMB 13 15 01.6
comp=Z,169nm,1.4s
DOMB Dombas 20.64 346 *e*P **P** **13 14 53.6 0.0**
comp=Z,169nm,1.4s,SNR=34
PCBR Castelo Branco 20.64 272 *e*P **P** **13 14 53.4 -0.4**
comp=Z,57nm,1.8s
PCBR *e*S **S** **13 18 46.0 +6.5**
EMIN Mina Concepcio 20.71 266 P **P** **13 14 51.9 -2.6**
comp=Z,859nm,3.3s
MME1 Meikle Cairn 20.73 324 *e*P **P** **13 14 52.4 -2.1**
STS Santiago 20.79 281 P **P** **13 14 56.1 +0.9**
STS pmax pmax
comp=Z,38nm,1.2s
STS Santiago 20.79 281 P **P** **13 14 56.1 +0.8**
comp=Z,38nm,1.2s
STS Santiago 20.79 281 P **P** **13 14 56.1 +0.9**
comp=Z,38nm,1.2s
PECR Pechory 20.91 40 *i* P **P** **13 14 55.3 -1.1**
PECR *e*S **S** **13 18 46.0 +1.4**
PECR *e*SSS SSS 13 19 20.0 -11
PECR pmax pmax
comp=Z,220nm,2.0s
PECR pmax pmax
comp=Z,500nm,6.0s
PECR smax
comp=N,900nm,7.0s
PECR smax
comp=E,1μm,8.0s
PECR MLR MLR
comp=N,2μm,16.0s,MS4.7
PECR MLR MLR
comp=E,1μm,16.0s,MS4.7
PECR MLR MLR
comp=Z,2μm,16.0s,MS4.7
GMK Mull of Kintyr 20.94 317 *e*P **P** **13 14 54.6 -2.1**
EZAM Zamans 21.01 279 P **P** **13 14 59.1 +1.6**
EZAM pmax pmax
comp=Z,23nm,0.7s,mb4.6
EZAM Zamans 21.01 279 P **P** **13 14 59.1 +1.5**
comp=Z,23nm,0.7s,mb4.6
EZAM Zamans 21.01 279 P **P** **13 14 59.1 +1.6**
comp=Z,23nm,0.7s,mb4.6
MCD Coleburn Disti 21.02 324 *e*P **P** **13 14 55.6 -1.9**
EMAZ Mazaricos 21.09 281 P **P** **13 14 58.6 +0.3**
comp=Z,477nm,2.6s,mb5.4
EMAZ Mazaricos 21.09 281 P **P** **13 14 58.6 +0.3**
comp=Z,477nm,2.6s,mb5.4
GCL Cushendall 21.09 316 *e*P **P** **13 14 56.3 -1.9**
EGRO El Granado 21.40 266 P **P** **13 14 59.8 -1.7**
comp=Z,320nm,2.2s,mb5.3
EGRO El Granado 21.40 266 P **P** **13 14 59.8 -1.7**
comp=Z,320nm,2.2s,mb5.3
PTOM Tomar 21.40 272 *e*P **P** **13 15 00.3 -1.2**
comp=Z,245nm,1.3s,mb5.4
MDO Dochfour 21.42 323 *e*P **P** **13 14 59.7 -1.9**
EVO Evora 21.44 269 *e*P **P** **13 15 01.1 -0.8**
comp=Z,120nm,1.3s,mb4.8
EVO *e*R
comp=Z,3μm,25.0s
MLA1 Latheron 21.50 326 *e*P **P** **13 15 00.6 -1.8**
PBEJ Beja 21.50 267 *e*P **P** **13 15 02.0 -0.5**
comp=Z,64nm,1.7s,mb4.8
PBEJ *e*S **S** **13 19 00.6 +4.6**
OBR Brabster 21.61 326 *e*P **P** **13 15 01.6 -1.9**
MVH1 Achvaich 21.62 324 *e*P **P** **13 15 02.1 -1.5**
OST Stronsay 21.66 328 *e*P **P** **13 15 02.3 -1.7**
OHO Hoy 21.78 327 *e*P **P** **13 15 03.4 -1.7**
ORE Reay 21.81 326 *e*P **P** **13 15 04.1 -1.4**
OTO Tongue 22.05 325 *e*P **P** **13 15 06.4 -1.4**
PLOU Loures 22.17 271 *e*P **P** **13 15 10.2 +1.0**
comp=Z,90nm,1.6s,mb5.0
LIS Lisbon 22.22 270 *e*P **P** **13 15 10.3 +0.6**
LIS *e*S **S** **13 19 15.2 +5.9**
LIS *e*S **S** **13 19 15.2 +5.9**
LIS AMb AMB 13 19 17.7
comp=N,154nm,0.5s
PTEO Sao Teotonio 22.31 267 *e*P **P** **13 15 12.2 +1.6**
comp=N,94nm,1.6s,mb5.0
PTEO *e*S **S** **13 19 17.6 +6.7**
VAL Valentia 22.35 306 ‖ *i*S **S** **13 19 20.2 +8.6**
UMJS Umm Lajj 22.45 134 P **P** **13 15 12.7 +0.7**
NSS Namsos 22.58 351 *e*P **P** **13 15 12.0 -1.0**
NSS Namsos 22.58 351 *e* **P** **13 15 10.4 -2.5**
NSS *e*P 13 15 12.0
NSS *e*ScP 13 22 44.2
NSS AMS AMS 13 25 23.2
comp=Z,642nm,15.9s,MS4.2
NSS Namsos 22.58 351 *e*P **P** **13 15 12.0 -0.9**
SNR=34
NSS *e*ScP 13 22 44.2
SNR=5.0
KBRS Khaybar 23.08 130 P **P** **13 15 19.1 +0.9**
HILS Ha'il 23.40 123 P **P** **13 15 22.8 +1.5**
YNBS Yanbu' al Bahr 23.53 134 P **P** **13 15 23.7 +1.0**
MOR8 Moi Rana 23.96 355 *e*P **P** **13 15 29.4 +3.0**
comp=Z,93nm,1.8s,mb4.9
MOR8 Moi Rana 23.96 355 *e*P **P** **13 15 29.4 +3.0**
MOR8 AMb AMB 13 15 32.2
comp=Z,93nm,1.8s,mb4.9
MOR8 Moi Rana 23.96 355 *e*P **P** **13 15 29.4 +3.0**
comp=Z,93nm,1.8s,mb4.9,SNR=28
LOF Lofoten 25.96 355 *e*P **P** **13 15 48.5 +3.0**
comp=Z,93nm,1.8s,mb5.0
LOF Lofoten 25.96 355 *e*P **P** **13 15 48.5 +3.0**
LOF AMb AMB 13 15 56.5
comp=Z,95nm,1.5s,mb5.1
LOF Lofoten 25.96 355 *e*P **P** **13 15 48.5 +3.0**
comp=Z,95nm,1.5s,mb5.1,SNR=28
KBD Kabd 26.10 111 *e*P **P** **13 15 46.6 -0.6**
KBD AMb AMB 13 15 52.8
comp=Z,553nm,1.0s,mb6.0
RDF Al-Radifah 26.16 112 *e*P **P** **13 15 47.0 -0.7**
RDF AMb AMB 13 15 50.3
comp=Z,171nm,1.2s,mb5.5
APA Apatity 26.24 12 ⇓ *i*P **P** **13 15 48.2 +0.1**
APA *i* 13 15 57.4
APA *e*S **S** **13 20 20.0 +1.8**
APA pmax pmax
comp=Z,77nm,1.6s,mb5.0
APA MLR MLR
comp=Z,2μm,12.0s,MS4.9
QRN Al-Qurain 26.52 112 *e*P **P** **13 15 50.7 -0.4**
QRN AMb AMB 13 15 54.1
comp=Z,207nm,1.2s,mb5.5
AFFS 'Afif 26.68 126 P **P** **13 15 52.7 +0.1**
KTK1 Kautokeino 26.70 3 *e*P **P** **13 15 52.8 +0.6**
comp=Z,119nm,1.8s,mb5.1
KTK1 Kautokeino 26.70 3 *e*P **P** **13 15 52.8 +0.6**
KTK1 AMb AMB 13 15 55.7
comp=Z,119nm,1.8s,mb5.1
KTK1 Kautokeino 26.70 3 *e*P **P** **13 15 52.8 +0.6**
comp=Z,119nm,1.8s,mb5.1,SNR=28
LVZ Lovozero 26.74 12 *i* P **P** **13 15 52.1 -0.5**
LVZ *i* S **S** **13 20 28.0 +1.6**
LVZ pmax pmax
comp=Z,34nm,1.8s,mb4.6
LVZ pmax pmax
comp=N,22nm,1.7s
LVZ pmax pmax
comp=E,12nm,1.8s
LVZ pmax pmax
comp=Z,109nm,2.0s,mb5.0
LVZ pmax pmax
comp=N,61nm,1.8s
LVZ pmax pmax
comp=E,35nm,1.9s
LVZ smax
comp=E,558nm,6.4s
LVZ smax
comp=Z,96nm,4.0s
LVZ smax
comp=N,361nm,7.3s
LVZ MLR MLR
comp=Z,3μm,14.0s,MS4.9
LVZ MLR MLR
comp=N,2μm,15.0s,MS4.8
LVZ MLR MLR
comp=E,334nm,12.0s,MS4.8
TRO Tromso 27.26 359 *e*P **P** **13 15 56.4 -1.1**
TRO LR LR
comp=Z,1048μm,20.3s
TRO Tromso 27.26 359 *e*P **P** **13 15 56.4 -1.1**
TRO *e*S **S** **13 20 37.3 +2.4**
TRO AMS AMS 13 27 55.9
comp=Z,1μm,20.3s,MS4.4
TRO Tromso 27.26 359 *e*P **P** **13 15 56.3 -1.1**
SNR=28
TRO *e*S **S** **13 20 37.3 +2.4**
SNR=28
ARCES ARCESS Array B 27.32 4 P **P** **13 15 57.2 -0.8**
ARCES pmax pmax
comp=Z,17nm,1.0s
ARCES MLR MLR
comp=Z,1μm,19.5s
ARCES ARCESS Array B 27.32 4 P **P** **13 15 57.2 -0.8**
comp=Z,17nm,1.0s,mb4.5,baz=188,slow=8.6,SNR=22
ARCES LR LR 13 27 20.8
comp=Z,1μm,19.5s,MS4.5,baz=283,slow=38
ARCES ARCESS Array B 27.32 4 P **P** **13 15 57.2 -0.8**
ARCES LR LR 13 27 20.8
ARE0 ARCESS Array S 27.32 4 *e*P **P** **13 15 56.6 -1.3**
ARE0 ARCESS Array S 27.32 4 *e*P **P** **13 15 56.6 -1.4**
KEV Kevo 27.64 5 *e*P **P** **13 15 59.8 -1.0**
KEV pmax pmax
comp=Z,98nm,1.8s,mb5.1
KEV Kevo 27.64 5 *e*P **P** **13 15 59.8 -1.1**
comp=Z,98nm,1.8s,mb5.1
KEV Kevo 27.64 5 *e*P **P** **13 15 59.8 -1.0**
comp=Z,98nm,1.8s,mb5.1
MZLS Mizel 27.95 123 P **P** **13 16 04.7 +0.6**
LTHS Al Lith 28.13 135 P **P** **13 16 07.4 +1.6**
ARU Arti 28.42 47 *d i*P **P** **13 16 06.8 -1.2**
ARU pmax pmax
comp=Z,44nm,0.8s,mb5.1
ARU MLR MLR
comp=Z,4μm,21.0s,MS5.0
ARU Arti 28.42 47 *e*P **P** **13 16 07.0 -1.0**
comp=Z,51nm,0.9s,mb5.2
ARU LR LR
comp=Z,814nm,22.0s,MS4.3
ARU Arti 28.42 47 *e*P **P** **13 16 07.0 -1.0**
comp=Z,51nm,0.9s,mb5.2
SOKR Solikamsk 28.42 40 *c i*P **P** **13 16 08.3 +0.3**
SOKR pmax pmax
comp=Z,20nm,1.1s,mb4.7
SOKR MLR MLR
comp=Z,2μm,19.0s,MS4.7
AB31 Akbulak array 28.54 62 *i* P **P** **13 16 08.5 -0.7**
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
BLJS Baljurashi 29.08 134 P **P** **13 16 14.5 +0.1**
SVE Sverdlovsk 29.62 47 ‖ *e*P **P** **13 16 19.0 +0.2**
SVE *e* 13 17 19.6
SVE *e* 13 19 23.5
SVE *e*S **S** **13 21 14.0 +1.2**
SVE pmax pmax
comp=Z,100nm,2.0s,mb5.2
SVE MLR MLR
comp=N,1μm,13.0s,MS5.2
SVE MLR MLR
comp=E,3μm,13.0s,MS5.2
SVE MLR MLR
comp=Z,5μm,13.0s,MS5.3
JMIC Jan Mayen 31.91 343 AMS AMS 13 34 56.7
comp=Z,347nm,15.6s,MS4.1
ZRNK Zerenda 34.14 55 P **P** **13 16 58.3 -0.1**
ZRNK pmax pmax
comp=Z,37nm,1.2s,mb5.2
ZRNK Zerenda 34.14 55 *e*P **P** **13 16 58.2 -0.2**
ZRNK Zerenda 34.14 55 P **P** **13 16 58.3 -0.1**
comp=Z,37nm,1.2s,mb5.2
ASHO Ashiyiah 34.72 109 P **P** **13 17 01.6 -2.1**
SNR=14
BVA0 Borovoye Array 34.97 55 *i* P **P** **13 17 05.8 +0.2**
BVA0 pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BVA0 Borovoye Array 34.97 55 *i* P **P** **13 17 05.8 +0.2**
comp=Z,10.0nm,1.0s,mb4.7
BVAR Borovoye Array 34.97 55 P **P** **13 17 05.6 0.0**
comp=Z,47nm,0.9s,mb5.4,baz=270,slow=7.4,SNR=87
BVAR PcP PcP 13 19 37.6 -0.6
comp=Z,3.2nm,0.8s,baz=225,slow=4.1,SNR=4.9
BVAR Borovoye Array 34.97 55 PcP PcP 13 19 37.5 -0.7
VOSK Vostochnaya 35.35 55 P **P** **13 17 08.2 -0.6**
VOSK pmax pmax
comp=Z,29nm,1.1s,mb5.1
VOSK Vostochnaya 35.35 55 P **P** **13 17 08.2 -0.6**
comp=Z,29nm,1.1s,mb5.1
HOQ Hoqain 36.30 109 P **P** **13 17 15.8 -1.4**
SNR=5.1
KBS Kingsbay 36.73 357 PFAKE 13 17 30.0 +10
KBS LR LR
comp=Z,641nm,21.0s,MS4.4
BSY Bisya 36.77 110 P **P** **13 17 19.9 -1.2**
SNR=6.5
ATD Arta Tunnel 36.78 140 P **P** **13 17 20.6 -0.7**
comp=Z,89nm,1.0s,mb5.6,baz=317,slow=5.9,SNR=22

KKAR Karatay Array 36.80 71 *i* P **P 13 17 22.2 +1.1**
KKAR pmax pmax
comp=Z,29nm,1.1s,mb5.0
SMDO Samad 37.16 109 P **P 13 17 23.0 -1.4**
SNR=7.4
JMDO Jabal Madar 37.65 110 P **P 13 17 28.1 -0.3**
SNR=6.7
ABTO Aybut 37.95 121 P **P 13 17 29.9 -1.1**
SNR=7.4
DAG Danmarks Havn 38.01 347⇑ *e*P **P 13 17 31.0 -0.1**
DAG pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
DAG Danmarks Havn 38.01 347⇑ *e*P **P 13 17 31.0 -0.1**
comp=Z,3.3nm,0.6s,mb4.2
DAG Danmarks Havn 38.01 347⇑ *i*P **P 13 17 31.0 -0.1**
comp=Z,3.3nm,0.6s,mb4.2
EKS2 Erkin-Say 39.22 71 P **P 13 17 43.9 +2.4**
SNR=38
AML Almayashu 39.33 72 P **P 13 17 45.6 +3.2**
SNR=8.7
USP Ospenovka 39.53 70 P **P 13 17 45.1 +1.0**
SNR=10
AAK Ala-Archa 39.73 71 P **P 13 17 49.4 +3.7**
SNR=8.6
AAK Ala-Archa 39.73 71 *d i*P **P 13 17 45.7 0.0**
AAK pmax pmax
comp=Z,82nm,2.0s,mb5.1
AAK MLR MLR
comp=Z,1μm,19.0s,MS4.8
AAK Ala-Archa 39.73 71 *e*P **P 13 17 46.6 +0.9**
comp=Z,134nm,1.6s,mb5.4
AAK LR LR
comp=Z,299nm,19.0s,MS4.2
AAK Ala-Archa 39.73 71 *e*P **P 13 17 46.6 +0.9**
comp=Z,134nm,1.6s,mb5.4
FRU Bishkek 39.75 70 *e*P **P 13 17 47.0 +1.1**
FRU pmax pmax
comp=Z,160nm,2.0s,mb5.4
FRU MLR MLR
comp=Z,2μm,14.0s,MS5.2
FRU Bishkek 39.75 70 *e*P **P 13 17 47.0 +1.1**
comp=Z,2μm,14.0s
UCH Uchtor 39.87 71 P **P 13 17 49.5 +2.6**
SNR=23
KZA Kyzart 40.44 71 P **P 13 17 54.6 +3.0**
SNR=20
SUMG Summit 40.66 337 *e*P **P 13 17 53.7 +0.6**
comp=Z,21nm,1.1s,mb4.7
SUMG Summit 40.66 337 *e*P **P 13 17 53.7 +0.6**
comp=Z,21nm,1.1s,mb4.7
AAA Alma-Ata 41.22 69 P **P 13 18 00.0 +2.1**
AAA *e*S **S 13 24 14.0 +2.6**
AAA MLR MLR
comp=Z,1μm,16.0s,MS4.8
AAA Alma-Ata 41.22 69 P **P 13 18 00.0 +2.1**
comp=Z,1μm,16.0s
DBIC Dimbokro 41.75 218 P **P 13 18 02.9 +0.3**
DBIC pmax pmax
comp=Z,22nm,0.9s
DBIC MLR MLR
comp=Z,972nm,18.2s
DBIC Dimbokro 41.75 218 P **P 13 18 02.9 +0.3**
comp=Z,22nm,0.9s,mb4.8,baz=16,slow=8.8,SNR=15
DBIC LR LR 13 37 37.9
comp=Z,972nm,18.2s,MS4.7,baz=11,slow=39
DBIC Dimbokro 41.75 218 P **P 13 18 02.9 +0.3**
DBIC LR LR 13 37 37.9
KSH Kashi 41.88 74 *e*P **P 13 18 05.1 +1.7**
KSH *e*AP pP 13 18 11.0 +4.8
KSH *e*XP sP 13 18 13.2 +5.8
KSH *e*PCS 13 23 51.4
KSH *e*S **S 13 24 24.0 +2.8**
KSH AMB AMB
comp=Z,510nm,5.7s
KSH LR LR
comp=N,2μm,14.0s,MS5.3
KSH LR LR
comp=E,1μm,10.2s,MS5.3
NVS Novosibirsk 42.30 50 *e*P **P 13 18 06.8 +0.2**
NVS pmax pmax
comp=N,19nm,1.6s
NVS pmax pmax
comp=E,34nm,1.6s
NVS pmax pmax
comp=Z,84nm,1.6s,mb5.1
ZAL Zalesovo 43.37 51 P **P 13 18 15.1 -0.2**
ZAL pmax pmax
comp=Z,9.0nm,0.9s
ZAL MLR MLR
comp=Z,3μm,18.7s
ZAL Zalesovo 43.37 51 P **P 13 18 15.1 -0.3**
comp=Z,8.9nm,0.9s,mb4.5,baz=189,slow=8.2,SNR=26
ZAL LR LR 13 39 09.2
comp=Z,3μm,18.7s,MS5.3,baz=185,slow=40
MKAR Makanchi Array 43.69 62 P **P 13 18 18.2 +0.2**
MKAR 13 20 04.9
MKAR pmax pmax
comp=Z,10.0nm,0.8s
MKAR pmax pmax
comp=Z,10.0nm,0.9s
MKAR MLR MLR
comp=Z,1μm,21.1s
MKAR Makanchi Array 43.69 62 P **P 13 18 18.2 +0.2**
comp=Z,10nm,0.8s,mb4.6,baz=281,slow=6.2,SNR=29
MKAR PcP PcP 13 20 04.8 -0.9
comp=Z,10nm,0.8s,baz=295,slow=3.4,SNR=6.9
MKAR LR LR 13 38 21.7
comp=Z,1μm,21.1s,MS4.7,baz=309,slow=39
MKAR Makanchi Array 43.69 62 P **P 13 18 18.2 +0.2**
MKAR PcP PcP 13 20 04.8 -0.9
MKAR LR LR 13 38 21.7
KMBO Kilima Mbogo 46.15 155 LR LR 13 39 15.2
comp=Z,269nm,20.3s,MS4.2,baz=99,slow=38
KHET Khetri 47.15 89 *e*P **P 13 18 43.3 -2.6**
KUDL Kundal 47.62 88 *e*P **P 13 18 46.9 -2.7**
BHGR Bahadurgarh 47.66 87 *e*P **P 13 18 49.4 -0.5**
NDI New Delhi 47.86 87 *e*P **P 13 18 49.5 -2.0**
SONA Sohna 48.00 88 *e*P **P 13 18 51.0 -1.6**
WMQ Urumqi 48.30 64 P **P 13 18 54.3 -0.4**
WMQ AP pP 13 18 58.3 +0.7
WMQ XP sP 13 19 00.9 +2.1
WMQ PP PP 13 20 46.3 -0.6
WMQ S **S 13 25 52.7 -0.9**
WMQ AMB AMB
comp=Z,15nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,508nm,5.6s
WMQ LR LR
comp=N,848nm,13.2s,MS5.1
WMQ LR LR
comp=E,981nm,13.1s,MS5.1
WMQ LR LR
comp=Z,1μm,14.4s,MS5.0
BHPL Bhopal 51.10 93 *e*P **P 13 19 14.6 -1.8**
BHPL AMb AMB 13 19 17.6
comp=Z,65nm,1.1s,mb5.5
POO Poona 51.37 100⇓ *i*P **P 13 19 15.0 -3.5**
KOLN Koldanda 53.08 84 *e*P **P 13 19 30.2 -1.0**
comp=Z,152nm,1.4s,mb5.7
GKN Gorkha 53.71 83 *e*P **P 13 19 34.8 -1.1**
comp=Z,111nm,0.9s,mb5.8
DMN Daman 54.27 83 *e*P **P 13 19 39.3 -0.7**
comp=Z,184nm,1.3s,mb5.9
KKN Kakani 54.30 83 *e*P **P 13 19 39.0 -1.2**
comp=Z,38nm,0.7s,mb5.4
KKN Kakani 54.30 83 *e*P **P 13 19 39.0 -1.2**
KKN pmax pmax
comp=Z,19nm,0.7s,mb5.1
PKI Pulchoki 54.52 83 *e*P **P 13 19 40.0 -1.8**
comp=Z,25nm,0.8s,mb5.3
PKI Pulchoki 54.52 83 *e*P **P 13 19 40.0 -1.8**
PKI pmax pmax
comp=Z,12nm,0.8s,mb5.0
GUN Gumba 54.67 83 *e*P **P 13 19 40.9 -2.0**
comp=Z,92nm,0.9s,mb5.8
TLY Talaya 54.88 49 *e*P **P 13 19 44.8 +0.6**
TLY *e*S **S 13 27 17.4 -6.4**
TLY *e*SS SS 13 31 08.2 +1.2
TLY pmax pmax
comp=Z,14nm,1.1s,mb4.9
TLY MLR MLR
comp=Z,3μm,17.0s,MS5.5
TLY Talaya 54.88 49 *e*P **P 13 19 42.8 -1.4**
comp=Z,12nm,0.9s,mb4.9
TLY LR LR
comp=Z,919nm,19.0s,MS4.9
TLY Talaya 54.88 49 *e*P **P 13 19 42.8 -1.4**
comp=Z,12nm,0.9s,mb4.9
SCHQ LR LR 13 43 58.2
comp=Z,220nm,18.6s,MS4.3,baz=57,slow=37
SCHQ Schefferville 54.98 315 *e*P **P 13 19 43.5 -1.4**
comp=Z,33nm,0.9s,mb5.4
SCHQ LR LR
comp=Z,654nm,21.0s,MS4.7
SCHQ Schefferville 54.98 315 *e*P **P 13 19 43.5 -1.4**
comp=Z,33nm,0.9s,mb5.4
IRK Irkutsk 54.99 48 *e*P **P 13 19 42.6 -2.3**
IRK pmax pmax
comp=Z,28nm,2.5s,mb4.8
BLSP Bilaspur 55.24 91 *e*P **P 13 19 43.0 -4.3**
BLSP AMb AMB 13 19 47.2
comp=Z,46nm,1.0s,mb5.5
ZAK Zakamensk 55.25 51 *e*P **P 13 19 45.6 -1.3**
ZAK pmax pmax
comp=Z,5.0nm,1.6s,mb4.3
HYB Hyderabad 55.52 98 *e*P **P 13 19 45.0 -4.2**
HYB Hyderabad 55.52 98 *i*P **P 13 19 45.0 -4.2**
TIXI Tiksi 55.88 21 *e*P **P 13 19 47.8 -3.3**
TIXI *e*S **S 13 27 33.0 -3.8**
TIXI pmax pmax
comp=Z,14nm,1.1s,mb4.9
TIXI MLR MLR
comp=Z,371nm,13.0s,MS4.7
TIXI Tiksi 55.88 21 PFAKE 13 20 00.0 +8.9
TIXI LR LR
comp=Z,1μm,19.0s,MS5.0
BOK Bokaro 57.03 87 *e*P **P 13 19 56.8 -3.3**
BOK AMb AMB 13 20 01.3
comp=Z,38nm,1.3s,mb5.3
BOD Bodaibo 57.41 39 *e*P **P 13 19 59.5 -2.7**
BOD pmax pmax
comp=Z,15nm,1.6s,mb4.8
LSA Lhasa 57.52 78 *e*P **P 13 20 03.4 0.0**
LSA Lhasa 57.52 78 *e*P **P 13 20 02.6 -0.8**
LSA pmax pmax
comp=Z,33nm,1.1s,mb5.3
LSA Lhasa 57.52 78 *e*P **P 13 20 02.6 -0.9**
comp=Z,33nm,1.1s,mb5.3
LSA Lhasa 57.52 78 *e*P **P 13 20 02.6 -0.8**
comp=Z,33nm,1.1s,mb5.3
SONM Songino Array 58.26 52 P **P 13 20 08.4 +0.1**
comp=Z,8.0nm,0.8s,mb4.8,baz=292,slow=6.7,SNR=54
SONM LR LR 13 47 10.8
comp=Z,2μm,20.3s,MS5.3,baz=302,slow=38
GTA Gaotai 58.39 64 *e*P **P 13 20 09.6 +0.3**
GTA AP pP 13 20 16.0 +3.7
GTA XP sP 13 20 18.8 +5.4
GTA PCP PcP 13 20 59.5 -0.5
GTA PP PP 13 22 23.0 +2.6
GTA S **S 13 28 14.3 +3.9**
GTA AMB AMB
comp=Z,11nm,1.2s,mb4.8
GTA AMB AMB
comp=Z,142nm,6.5s
GTA LR LR
comp=N,718nm,24.3s,MS4.8
GTA LR LR
comp=E,657nm,22.1s,MS4.8
GTA LR LR
comp=Z,952nm,24.7s,MS4.8
ULN Ulaanbaatar 58.63 52 *e*P **P 13 20 04.3 -6.6**
ULN pmax pmax
comp=Z,27nm,1.5s,mb5.1
ULN Ulaanbaatar 58.63 52 *e*P **P 13 20 04.3 -6.6**
comp=Z,27nm,1.5s,mb5.1
VIS Vishakhapatnam 58.84 94 *e*P **P 13 20 09.2 -3.6**
VIS AMb AMB 13 20 13.3
comp=Z,67nm,1.0s,mb5.6
PQI Presque Isle 59.51 307 PFAKE 13 20 30.0 +13
PQI LR LR
comp=Z,2μm,19.0s,MS5.3
CIT Chita 60.11 45 *e*P **P 13 20 18.2 -2.9**
CIT *e* 13 21 02.7
CIT pmax pmax
comp=Z,42nm,1.8s,mb5.2
EMMW East Machias 60.20 305 P **P 13 20 20.7 -1.0**
comp=Z,661nm,1.8s,mb6.4
EMMW LR LR
comp=Z,3μm,22.0s,MS5.3
EMMW East Machias 60.20 305 P **P 13 20 20.7 -1.1**
comp=Z,661nm,1.8s,mb6.4
SHL Shillong 60.41 81 *e*P **P 13 20 21.5 -2.0**
WVL Waterville 61.60 306 PFAKE 13 20 40.0 +8.7
WVL LR LR
comp=Z,3μm,19.0s,MS5.4
YAK Yakutsk 61.70 30 *e*P **P 13 20 29.4 -2.4**
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=Z,8.0nm,1.4s,mb4.7
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK MLR MLR
comp=Z,868nm,21.0s,MS4.9
YAK MLR MLR
comp=N,355nm,18.0s,MS4.9
YAK MLR MLR
comp=E,764nm,21.0s,MS4.9
YAK Yakutsk 61.70 30 P **P 13 20 29.1 -2.7**
comp=E,12nm,0.6s,mb5.2
YAK LR LR
comp=Z,2μm,20.0s,MS5.2
LZH Lanzhou 62.87 65 ⇑P **P 13 20 40.5 +0.6**
LZH AP pP 13 20 48.2 +5.4
LZH XP sP 13 20 51.1 +7.2
LZH PP PP 13 23 01.0 +1.1
LZH PPP PPP 13 24 35.0 +4.4
LZH S **S 13 29 08.2 +0.4**
LZH XS 13 29 18.5
LZH AMB AMB
comp=Z,50nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,250nm,5.0s
LZH LR LR
comp=E,2μm,20.2s
LZH LR LR
comp=Z,2μm,21.0s,MS5.2
PALK Pallekele 63.82 105 PFAKE 13 21 00.0 +14
PALK LR LR
comp=Z,103nm,22.0s,MS4.0
HRV Harvard--Oak R 63.89 305 PFAKE 13 21 00.0 +14
HRV LR LR
comp=Z,456nm,21.0s,MS4.6
BTO Baotou 64.32 58 *e*P **P 13 20 48.7 -0.6**
NCB Newcomb 64.66 307 PFAKE 13 21 00.0 +8.6
NCB LR LR
comp=Z,668nm,21.0s,MS4.8
ACCN Adirondack Com 64.66 306 *e*P **P 13 20 50.7 -0.8**
ACCN Adirondack Com 64.66 306 *e*P **P 13 20 50.7 -0.8**
HIA Hailar 64.92 45 P **P 13 20 51.6 -1.4**
HIA pmax pmax
comp=Z,17nm,1.3s
HIA Hailar 64.92 45 P **P 13 20 51.6 -1.4**
comp=Z,17nm,1.3s,mb4.9
HIA Hailar 64.92 45 P **P 13 20 51.6 -1.4**
comp=Z,17nm,1.3s,mb4.9
HHC Hu-ho-hao-te 65.14 57 *e*P **P 13 20 54.4 -0.2**
HHC AP pP 13 20 58.9 +1.3
HHC XP sP 13 21 02.5 +3.8
HHC PCP PcP 13 21 27.7 +0.5
HHC PP PP 13 23 20.4 +0.3
HHC SCP 13 25 27.5
HHC PCS 13 25 29.9
HHC S S 13 29 38.0 +2.1
HHC XS 13 29 46.4
HHC PS PS 13 30 00.8 +3.6
HHC SCS ScS 13 30 45.2 -1.0
HHC SS SS 13 33 52.2 +2.1
HHC AMB AMB
comp=Z,25nm,1.3s,mb5.1
HHC AMB AMB
comp=Z,130nm,10.8s
HHC LR LR
comp=N,546nm,15.6s,MS5.0
HHC LR LR
comp=E,467nm,16.8s,MS5.0
HHC LR LR
comp=Z,641nm,25.2s
BBSR BB Station 65.24 292 PFAKE 13 21 10.0 +15
BBSR LR LR
comp=Z,562nm,19.0s,MS4.8
CD2 Chengdu 65.78 70 *e*P **P 13 20 58.9 0.0**
BINY Binghamton 66.74 306 PFAKE 13 21 20.0 +15
BINY LR LR
comp=Z,795nm,21.0s,MS4.9
BILL Bilibino 67.00 13 *d i*P **P 13 21 04.9 -1.2**
BILL *e* 13 21 34.3
BILL *e*S S 13 29 52.2 -5.8
BILL *e*SS SS 13 34 13.6 -4.9
BILL pmax pmax
comp=Z,42nm,2.1s,mb5.1
BILL MLR MLR
comp=Z,600nm,18.0s,MS4.8
BILL Bilibino 67.00 13 *e*P **P 13 21 04.9 -1.1**
comp=Z,5.0nm,0.5s,mb4.8
BILL LR LR
comp=Z,594nm,20.0s,MS4.8
BILL Bilibino 67.00 13 *e*P **P 13 21 04.9 -1.2**
comp=Z,5.0nm,0.5s,mb4.8
LBTB Lobatse 67.33 174 PFAKE 13 21 20.0 +11
LBTB LR LR
comp=Z,768nm,19.0s,MS4.9
XAN Xi'an 67.44 64 P **P 13 21 08.3 -1.2**
XAN AP pP 13 21 15.6 +3.2
XAN S S 13 30 02.6 -1.4
XAN AMB AMB
comp=Z,26nm,1.4s,mb5.1
XAN LR LR
comp=N,320nm,20.0s,MS4.7
XAN LR LR
comp=E,387nm,23.1s,MS4.7
XAN LR LR
comp=Z,546nm,21.4s,MS4.7
INK Inuvik 67.77 350 *e*P **P 13 21 09.2 -1.7**
INK pmax pmax
comp=Z,18nm,1.2s
INK Inuvik 67.77 350 P **P 13 21 10.3 -0.6**
comp=Z,3.3nm,0.7s,mb4.5,baz=30,slow=6.3,SNR=9.9
INK Inuvik 67.77 350 *e*P **P 13 21 09.2 -1.7**
comp=Z,18nm,1.2s,mb5.0
SEY Seymchan 68.37 21 *e*P **P 13 21 14.9 +0.1**
SEY pmax pmax
comp=N,3.0nm,0.9s
SEY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KMI Kunming 68.54 75 P **P 13 21 15.0 -1.4**
KMI AP pP 13 21 19.1 -0.3
KMI XP sP 13 21 21.1 +0.6
KMI PCP PcP 13 21 40.5 -1.2
KMI PP PP 13 23 47.9 -2.0
KMI PPP PPP 13 25 25.9 -1.6
KMI SCP 13 25 42.6
KMI PCS 13 25 44.1
KMI S S 13 30 14.9 -2.3
KMI SKS SKS 13 31 09.4 -6.9
KMI SCS ScS 13 31 10.4 -2.3
KMI AMB AMB
comp=Z,18nm,1.5s,mb4.8
KMI AMB AMB
comp=Z,87nm,3.8s
KMI LR LR
comp=N,253nm,18.3s,MS4.7
KMI LR LR
comp=E,282nm,18.3s,MS4.7
KMI LR LR
comp=Z,393nm,20.7s,MS4.6
SDMD Soldier's Deli 68.95 304 *e*P **P 13 21 17.2 -1.5**
YKW3 Yellowknife Ar 69.14 339 *e*P **P 13 21 19.0 -0.5**
YKW3 Yellowknife Ar 69.14 339 *e*P **P 13 21 19.0 -0.5**
YKA Yellowknife Ar 69.20 339 P **P 13 21 19.4 -0.4**
YKA pmax pmax
comp=Z,14nm,0.8s
YKA Yellowknife Ar 69.20 339 P **P 13 21 19.4 -0.4**
comp=Z,14nm,0.8s,mb4.9,baz=36,slow=6.1,SNR=127
YKA Yellowknife Ar 69.20 339 P **P 13 21 19.4 -0.4**
CHG Chiang Mai 69.69 83 ⇑P **P 13 21 25.5 +1.9**
comp=Z,19nm,1.2s,mb4.9
CMAR Chiang Mai Arr 69.92 83 P **P 13 21 23.8 -1.1**
CMAR pmax pmax
comp=Z,7.0nm,0.8s
CMAR MLR MLR
comp=Z,267nm,20.0s
CMAR Chiang Mai Arr 69.92 83 P **P 13 21 23.8 -1.2**
comp=Z,6.9nm,0.8s,mb4.7,baz=304,slow=6.6,SNR=31
CMAR LR LR 13 56 54.1
comp=Z,267nm,20.0s,MS4.5,baz=270,slow=40
CBN Corbin 70.02 304 PFAKE 13 21 40.0 +15
CBN LR LR
comp=Z,845nm,22.0s,MS5.0
GYA Guiyang 70.50 72⇓ *i*P **P 13 21 27.2 -1.2**
GYA AP pP 13 21 31.6 +0.2
GYA XP sP 13 21 34.8 +2.3
GYA S S 13 30 39.2 -1.1
GYA SKS SKS 13 31 24.3 -6.5
GYA AMB AMB
comp=Z,20nm,1.8s,mb4.8
GYA LR LR
comp=N,640nm,17.4s,MS5.0
GYA LR LR
comp=E,480nm,17.8s,MS5.0
GYA LR LR
comp=Z,710nm,17.9s,MS5.0
MCWV Mont Chateau 70.61 306 *e*P **P 13 21 28.8 0.0**
comp=Z,168nm,1.8s,mb5.7
MCWV Mont Chateau 70.61 306 *e*P **P 13 21 28.8 0.0**
comp=Z,168nm,1.8s,mb5.7
MA2 Magadan 70.64 24 *i*P **P 13 21 24.5 -4.2**
MA2 Magadan 70.64 24 PFAKE 13 21 40.0 +11
MA2 LR LR
comp=Z,1μm,19.0s,MS5.2
BOSA Boshof 70.88 175 P **P 13 21 29.9 -0.8**
BOSA pmax pmax
comp=Z,18nm,0.6s,mb5.2
BOSA MLR MLR
comp=Z,846nm,20.2s,MS5.0
BOSA Boshof 70.88 175 P **P 13 21 29.9 -0.8**
comp=Z,18nm,0.6s,mb5.2,baz=1.4,slow=6.1,SNR=47
BOSA LR LR 13 54 49.6
comp=Z,846nm,20.2s,MS5.0,baz=359,slow=38
BOSA Boshof 70.88 175 *e*P **P 13 21 29.9 -0.8**
comp=Z,93nm,1.3s,mb5.5
BOSA LR LR
comp=Z,851nm,20.0s,MS5.0
BOSA Boshof 70.88 175 *e*P **P 13 21 29.9 -0.8**
comp=Z,93nm,1.3s,mb5.5
KLR Kul'dur 70.97 40 *e*P **P 13 21 27.0 -3.9**
KLR pmax pmax
comp=N,35nm,1.8s
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,42nm,1.8s,mb5.1
KLR MLR MLR
comp=N,600nm,12.5s,MS5.3
KLR MLR MLR
comp=E,900nm,12.5s,MS5.3
KLR MLR MLR
comp=Z,2μm,12.5s,MS5.6
NANT Nan 70.99 82 P **P 13 21 30.5 -1.0**
comp=Z,75nm,1.0s,mb5.6
AAM Ann Arbor 71.13 310 P **P 13 21 30.8 -1.2**
AAM pmax pmax
comp=Z,15nm,0.6s,mb5.1
AAM MLR MLR
comp=Z,793nm,21.0s,MS5.0
AAM Ann Arbor 71.13 310 P **P 13 21 30.8 -1.2**
comp=Z,15nm,0.6s,mb5.1
AAM LR LR
comp=Z,793nm,21.0s,MS5.0
AAM Ann Arbor 71.13 310 P **P 13 21 30.8 -1.2**
comp=Z,15nm,0.6s,mb5.1
FFC Flin Flon 71.23 329 *e*P **P 13 21 32.2 -0.1**
FFC pmax pmax
comp=Z,53nm,1.6s,mb5.2
FFC MLR MLR
comp=Z,193nm,19.0s,MS4.4
FFC Flin Flon 71.23 329 *e*P **P 13 21 32.2 -0.1**
comp=Z,52nm,1.6s,mb5.2
FFC LR LR
comp=Z,193nm,19.0s,MS4.4
FFC Flin Flon 71.23 329 *e*P **P 13 21 32.2 -0.1**
comp=Z,52nm,1.6s,mb5.2
CN2 Changchun 71.41 47 *e*P **P 13 21 33.1 -0.5**
CN2 *e*XP sP 13 21 40.5 +2.8
CN2 PP PP 13 24 13.9 -0.1

CN2 eS S 13 30 47.4 -3.2
CN2 AMB AMB
comp=Z,20nm,1.4s,mb4.8
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,700nm,17.0s,MS5.2
CN2 LR LR
comp=E,1µm,17.0s,MS5.2
CN2 LR LR
comp=Z,1µm,17.0s,MS5.3
TIA Tai'an 71.42 58 eP **P** **13 21 33.5 -0.3**
ULM Lac du Bonnet 71.95 322 P **P** **13 21 36.5 -0.2**
comp=Z,23nm,0.8s,mb5.2,baz=44,slow=6.1,SNR=15
ULM LR LR 13 52 27.5
comp=Z,461nm,20.7s,MS4.7,baz=279,slow=35
ULM Lac du Bonnet 71.95 322 eP **P** **13 21 35.3 -1.4**
comp=Z,43nm,1.5s,mb5.2
ULM LR LR
comp=Z,579nm,22.0s,MS4.8
ULM Lac du Bonnet 71.95 322 eP **P** **13 21 35.3 -1.4**
comp=Z,43nm,1.5s,mb5.2
FWV Forest Hill 72.52 305 eP **P** **13 21 40.8 +0.5**
NST Nakhon Sawan 72.56 85 P **P** **13 21 39.7 -1.2**
COLA College 72.58 354 eP **P** **13 21 38.5 -1.6**
COLA pmax pmax
comp=Z,1.0nm,1.5s
ILAR Eielson Array 72.61 354 P **P** **13 21 40.0 -0.3**
comp=Z,6.2nm,0.7s,mb4.6,baz=5.7,slow=5.3,SNR=79
MDJ Mudanjiang 73.07 45 P **P** **13 21 41.1 -2.3**
MDJ AP pP 13 21 44.4 -2.0
MDJ PCP PcP 13 21 58.0 -2.4
MDJ S S 13 31 07.7 -1.7
MDJ SCS ScS 13 31 48.5 +0.4
MDJ AMB AMB
comp=Z,3.0nm,0.6s,mb4.4
MDJ AMB AMB
comp=Z,78nm,3.5s
MDJ LR LR
comp=N,721nm,21.8s,MS5.0
MDJ LR LR
comp=E,642nm,21.1s,MS5.0
MDJ LR LR
comp=Z,882nm,19.6s,MS5.0
SUR Sutherland 74.46 179 PFAKE 13 22 00.0 +8.3
SUR LR LR
comp=Z,186nm,20.0s,MS4.4
BLO Bloomington 74.83 309 eP **P** **13 21 54.1 +0.4**
BLO pmax pmax
comp=Z,183nm,1.8s,mb5.7
BLO Bloomington 74.83 309 eP **P** **13 21 54.1 +0.4**
comp=Z,183nm,1.8s,mb5.7
BLO Bloomington 74.83 309 eP **P** **13 21 54.1 +0.4**
comp=Z,183nm,1.8s,mb5.7
SJG San Juan 75.05 281 PFAKE 13 22 10.0 +15
SJG LR LR
comp=Z,393nm,22.0s,MS4.7
NJ2 Nanjing 75.19 60 eP **P** **13 21 55.7 -0.2**
NJ2 AP pP 13 22 00.0 +1.1
NJ2 XP sP 13 22 02.8 +2.9
NJ2 PP PP 13 24 46.3 -0.1
NJ2 S S 13 31 32.0 -1.4
NJ2 AMB AMB
comp=Z,50nm,1.1s,mb5.4
NJ2 AMB AMB
comp=Z,110nm,10.4s
NJ2 LR LR
comp=N,980nm,28.6s,MS5.1
NJ2 LR LR
comp=E,1µm,26.5s,MS5.1
NJ2 LR LR
comp=Z,550nm,28.2s,MS4.7
PMR Palmer 75.93 355 eP **P** **13 22 00.0 +0.5**
PMR LR LR
comp=Z,200nm,21.0s,MS4.4
INCN Inchon 76.32 52 PFAKE 13 22 10.0 +7.8
INCN LR LR
comp=Z,2µm,19.0s,MS5.3
DLBC Dease Lake 76.39 344 P **P** **13 22 03.3 +1.1**
comp=Z,4.0nm,0.7s,mb4.5,baz=20,slow=6.6,SNR=14
DLBC Dease Lake 76.39 344 eP **P** **13 22 03.4 +1.3**
DLBC Dease Lake 76.39 344 eP **P** **13 22 03.4 +1.2**
SPU Mount Spurr 76.52 356 eP **P** **13 22 02.3 -0.5**
SPU Mount Spurr 76.52 356 eP **P** **13 22 02.3 -0.5**
EDM Edmonton 76.52 333 eP **P** **13 22 01.9 -1.1**
SVW2 Sparrevohn 76.75 358 eP **P** **13 22 05.4 +1.3**
DGMT Dagmar 76.90 325 eP **P** **13 22 04.3 -0.9**
comp=Z,172nm,1.8s,mb5.7
DGMT LR LR
comp=Z,502nm,19.0s,MS4.8
DGMT Dagmar 76.90 325 eP **P** **13 22 04.3 -0.9**
comp=Z,172nm,1.8s,mb5.7
KS15 Wonju Array Si 77.07 51 eP **P** **13 22 06.5 +0.1**
SLKM Skilak Lake 77.08 355 eP **P** **13 22 06.0 0.0**
RSO Redoubt South 77.27 356 eP **P** **13 22 06.4 -0.6**
RSO Redoubt South 77.27 356 eP **P** **13 22 06.4 -0.6**
SSE Sheshan 77.31 60 P **P** **13 22 04.4 -3.5**
SSE S S 13 31 52.5 -4.1
SSE AMB AMB
comp=Z,34nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,79nm,3.9s
SSE LR LR
comp=N,178nm,20.9s,MS4.7
SSE LR LR
comp=E,306nm,20.9s,MS4.7
SSE LR LR
comp=Z,412nm,20.4s,MS4.7
YSS Yuzh-Sakhalins 77.66 36 ⇑*iP* **P** **13 22 10.0 +0.5**
YSS *e* 13 22 27.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.5
YSS MLR MLR
comp=Z,500nm,14.0s,MS5.0
YSS MLR MLR
comp=E,500nm,15.0s
YSS Yuzh-Sakhalins 77.66 36 eP **P** **13 22 09.3 -0.1**
comp=E,52nm,0.9s,mb5.5
YSS LR LR
comp=Z,465nm,19.0s,MS4.8
YSS Yuzh-Sakhalins 77.66 36 eP **P** **13 22 09.4 -0.1**
comp=Z,52nm,0.9s,mb5.5
WVT Waverly 77.67 308 eP **P** **13 22 09.3 -0.4**
WVT pmax pmax
comp=Z,152nm,1.9s,mb5.6
WVT MLR MLR
comp=Z,486nm,19.0s,MS4.8
WVT Waverly 77.67 308 eP **P** **13 22 09.3 -0.5**
comp=Z,152nm,1.9s,mb5.6
WVT LR LR
comp=Z,486nm,19.0s,MS4.8
WVT Waverly 77.67 308 eP **P** **13 22 09.3 -0.4**
comp=Z,152nm,1.9s,mb5.6
FVM French Village 77.86 311 eP **P** **13 22 10.4 -0.4**
FVM pmax pmax
comp=Z,84nm,1.6s,mb5.4
FVM French Village 77.86 311 eP **P** **13 22 10.4 -0.3**
comp=Z,84nm,1.6s,mb5.4
FVM French Village 77.86 311 eP **P** **13 22 10.4 -0.4**
comp=Z,84nm,1.6s,mb5.4
CCM Cathedral Cave 78.27 311 eP **P** **13 22 12.8 -0.2**
CCM pmax pmax
comp=Z,17nm,1.0s,mb4.9
CCM MLR MLR
comp=Z,991nm,22.0s,MS5.1
CCM Cathedral Cave 78.27 311 eP **P** **13 22 12.8 -0.2**
comp=Z,17nm,1.0s,mb4.9
CCM LR LR
comp=Z,991nm,22.0s,MS5.1
CCM Cathedral Cave 78.27 311 eP **P** **13 22 12.8 -0.2**
comp=Z,17nm,1.0s,mb4.9
SNG Songkhla 78.46 91 P **P** **13 22 13.5 -1.0**
PET Petropavlovsk 78.53 24 PFAKE 13 22 30.0 +16
PET LR LR
comp=Z,706nm,20.0s,MS5.0
PLAL Pickwick Lake 78.60 307 eP **P** **13 22 14.7 -0.2**
comp=Z,221nm,2.0s,mb5.7
PLAL LR LR
comp=Z,1µm,22.0s,MS5.2
PLAL Pickwick Lake 78.60 307 eP **P** **13 22 14.7 -0.2**
comp=Z,221nm,2.0s,mb5.7
SIT Sitka 78.68 346 PFAKE 13 22 30.0 +15
SIT LR LR
comp=Z,343nm,20.0s,MS4.7
LAO LASA Array 79.15 325 eP **P** **13 22 19.2 +1.6**
comp=Z,638nm,1.9s,mb6.2
LAO LR LR
comp=Z,403nm,20.0s,MS4.8
LAO LASA Array 79.15 325 eP **P** **13 22 19.2 +1.6**
comp=Z,638nm,1.9s,mb6.2
LRAL Lakeview Retre 79.31 305 eP **P** **13 22 19.4 +0.6**
comp=Z,333nm,1.9s,mb5.9
LRAL LR LR
comp=Z,814nm,21.0s,MS5.0
LRAL Lakeview Retre 79.31 305 eP **P** **13 22 19.4 +0.6**
comp=Z,333nm,1.9s,mb5.9
OXF Oxford 79.72 308 PFAKE 13 22 30.0 +9.0
OXF LR LR
comp=Z,777nm,22.0s,MS5.0
KULM Kulim 79.73 92 eP **P** **13 22 19.9 -1.6**
KULM Kulim 79.73 92 eP **P** **13 22 19.9 -1.5**
WALA Waterton Lakes 80.20 331 eP **P** **13 22 23.6 +0.3**
comp=Z,43nm,1.2s,mb5.3
WALA Waterton Lakes 80.20 331 eP **P** **13 22 23.5 +0.3**
comp=Z,43nm,1.2s,mb5.3
RSSD Black Hills 80.22 323 eP **P** **13 22 23.8 +0.4**
RSSD pmax pmax
comp=Z,233nm,2.2s,mb5.7
RSSD MLR MLR
comp=Z,616nm,19.0s,MS5.0
RSSD Black Hills 80.22 323 eP **P** **13 22 23.8 +0.3**
comp=Z,233nm,2.2s,mb5.7
RSSD LR LR
comp=Z,616nm,19.0s,MS5.0
RSSD Black Hills 80.22 323 eP **P** **13 22 23.8 +0.4**
comp=Z,233nm,2.2s,mb5.7
KSU1 Kansas State U 80.42 315 eP **P** **13 22 24.9 +0.3**
KSU1 Kansas State U 80.42 315 eP **P** **13 22 24.9 +0.3**
UALR University of 81.23 309 eP **P** **13 22 29.8 +0.8**
comp=Z,199nm,2.0s,mb5.7
UALR University of 81.23 309 eP **P** **13 22 29.8 +0.8**
comp=Z,199nm,2.0s,mb5.7
GCMT Greycliff 81.29 327 eP **P** **13 22 30.5 +1.4**
GCMT Greycliff 81.29 327 eP **P** **13 22 30.5 +1.4**
HRY Holter Researc 81.39 329 eP **P** **13 22 30.6 +1.1**
HRY Holter Researc 81.39 329 eP **P** **13 22 30.6 +1.1**
TATO Taipei 81.62 64 PFAKE 13 22 40.0 +8.8
TATO LR LR
comp=Z,291nm,19.0s,MS4.7
CHMT Chamberlain Mo 81.76 330 eP **P** **13 22 32.2 +0.8**
CHMT Chamberlain Mo 81.76 330 eP **P** **13 22 32.2 +0.7**
NEW Newport 82.00 333 eP **P** **13 22 33.2 +0.5**
NEW pmax pmax
comp=Z,92nm,1.7s
NEW MLR MLR
comp=Z,376nm,20.0s
NEW Newport 82.00 333 P **P** **13 22 33.3 +0.6**
comp=Z,10nm,0.8s,mb4.8,baz=28,slow=4.1,SNR=21
NEW Newport 82.00 333 eP **P** **13 22 33.2 +0.5**
comp=Z,92nm,1.7s,mb5.4
NEW LR LR
comp=Z,376nm,20.0s,MS4.8
NEW Newport 82.00 333 eP **P** **13 22 33.2 +0.5**
comp=Z,92nm,1.7s,mb5.4
MSO Missoula 82.09 330 eP **P** **13 22 33.9 +0.7**
comp=Z,46nm,1.7s,mb5.1
MSO LR LR
comp=Z,458nm,19.0s,MS4.9
MSO Missoula 82.09 330 eP **P** **13 22 33.9 +0.7**
comp=Z,46nm,1.7s,mb5.1
BOZ Bozeman (W) 82.19 328 eP **P** **13 22 35.2 +1.5**
BOZ pmax pmax
comp=Z,94nm,1.8s,mb5.4
BOZ MLR MLR
comp=Z,891nm,21.0s,MS5.1
BOZ Bozeman (W) 82.19 328 eP **P** **13 22 35.2 +1.5**
comp=Z,94nm,1.8s,mb5.4
BOZ LR LR
comp=Z,891nm,21.0s,MS5.1
BOZ Bozeman (W) 82.19 328 eP **P** **13 22 35.2 +1.5**
comp=Z,94nm,1.8s,mb5.4
CBKS Cedar Bluff 82.24 317 eP **P** **13 22 33.8 -0.4**
CBKS pmax pmax
comp=Z,205nm,1.6s,mb5.8
CBKS MLR MLR
comp=Z,834nm,19.0s,MS5.1
CBKS Cedar Bluff 82.24 317 eP **P** **13 22 33.8 -0.3**
comp=Z,205nm,1.6s,mb5.8
CBKS LR LR
comp=Z,834nm,19.0s,MS5.1
CBKS Cedar Bluff 82.24 317 eP **P** **13 22 33.8 -0.4**
comp=Z,205nm,1.6s,mb5.8
FX1 Attu Island--F 82.32 16 P **P** **13 22 34.9 +0.7**
FX1 pmax pmax
comp=Z,51nm,0.7s
FX1 Attu Island--F 82.32 16 P **P** **13 22 34.9 +0.7**
comp=Z,51nm,0.7s,mb5.5,baz=22,slow=8.9,SNR=10.0
FX1 Attu Island--F 82.32 16 eP **P** **13 22 33.2 -1.0**
FX1 Attu Island--F 82.32 16 eP **P** **13 22 33.2 -1.0**
LKWY Lake 82.59 327 P **P** **13 22 40.1 +4.3**
LKWY pmax pmax
comp=Z,19nm,1.0s,mb5.1
YMR Madison River 82.73 327 eP **P** **13 22 39.2 +2.6**
YMR Madison River 82.73 327 eP **P** **13 22 39.2 +2.6**
QLMT Earthquake Lak 82.79 327 eP **P** **13 22 39.1 +2.2**
YFT Old Faithful 82.86 327 P **P** **13 22 38.7 +1.4**
YFT Old Faithful 82.86 327 P **P** **13 22 38.7 +1.5**
PHWY Pilot Hill 83.08 322 eP **P** **13 22 40.1 +1.6**
PHWY Pilot Hill 83.08 322 eP **P** **13 22 40.1 +1.6**
MCMT McKenzie Canyo 83.35 328 eP **P** **13 22 41.4 +1.6**
MCMT McKenzie Canyo 83.35 328 eP **P** **13 22 41.3 +1.5**
IMW Indian Meadow 83.36 327 eP **P** **13 22 42.4 +2.6**
comp=Z,404nm,1.9s,mb6.1
IMW Indian Meadow 83.36 327 eP **P** **13 22 42.4 +2.6**
comp=Z,404nm,1.9s,mb6.1
MOOW Moose Ponds 83.40 326 eP **P** **13 22 42.0 +2.0**
MOOW Moose Ponds 83.40 326 eP **P** **13 22 42.0 +1.9**
MAJO Matsushiro 83.42 45 eP **P** **13 22 40.0 -0.2**
comp=Z,63nm,1.4s,mb5.5
MAJO LR LR
comp=Z,760nm,21.0s,MS5.0
MAJO Matsushiro 83.42 45 eP **P** **13 22 40.0 -0.3**
comp=Z,63nm,1.4s,mb5.5
MAT Matsushiro 83.42 45 eP **P** **13 22 41.0 +0.7**
MAT pmax pmax
comp=Z,42nm,1.3s,mb5.3
MAT MLR MLR
comp=Z,350nm,20.0s,MS4.7
MAT Matsushiro 83.42 45 eP **P** **13 22 41.0 +0.7**
comp=Z,42nm,1.3s,mb5.3
MAT LR LR
comp=Z,350nm,20.0s,MS4.7
MAT Matsushiro 83.42 45 P **P** **13 22 40.6 +0.3**
MAT Matsushiro 83.42 45 eP **P** **13 22 41.0 +0.7**
comp=Z,42nm,1.3s,mb5.3
MJAR Matsushiro Arr 83.42 45 P **P** **13 22 41.0 +0.7**
MJAR pmax pmax
comp=Z,15nm,0.9s
MJAR MLR MLR
comp=Z,690nm,18.2s
MJAR Matsushiro Arr 83.42 45 P **P** **13 22 41.0 +0.7**
comp=Z,15nm,0.9s,mb5.0,baz=310,slow=3.9,SNR=24
MJAR LR LR 14 03 17.2
comp=Z,690nm,18.2s,MS5.1,baz=320,slow=38
MJAR Matsushiro Arr 83.42 45 P **P** **13 22 41.0 +0.7**
MJAR LR LR 14 03 17.2
LOHW Long Hollow 83.46 326 eP **P** **13 22 42.0 +1.7**
comp=Z,112nm,1.7s,mb5.6
LOHW Long Hollow 83.46 326 eP **P** **13 22 42.0 +1.7**
comp=Z,112nm,1.7s,mb5.6
RWWY Rawlins 83.56 323 eP **P** **13 22 42.1 +1.2**
comp=Z,249nm,1.9s,mb6.0
RWWY Rawlins 83.56 323 eP **P** **13 22 42.1 +1.2**
comp=Z,249nm,1.9s,mb6.0
SNOW Snow King Moun 83.64 326 eP **P** **13 22 43.3 +2.1**
comp=Z,20nm,0.9s,mb5.3
PGC Sidney 83.68 336 eP **P** **13 22 42.4 +1.1**
comp=Z,401nm,1.7s,mb6.3
TPAW Teton Pass 83.70 326 eP **P** **13 22 43.6 +2.0**
comp=Z,38nm,0.8s,mb5.6
TPAW Teton Pass 83.70 326 eP **P** **13 22 43.6 +2.1**
comp=Z,38nm,0.8s,mb5.6
BW06 Boulder Array 83.71 325 eP **P** **13 22 42.4 +0.8**
comp=Z,126nm,1.6s,mb5.8
BW06 LR LR
comp=Z,481nm,20.0s,MS4.9
PDAR Pinedale Array 83.71 325 P **P** **13 22 42.4 +0.8**
comp=Z,13nm,0.8s,mb5.1,baz=63,slow=3.8,SNR=80
PDAR LR LR 13 59 59.8
comp=Z,348nm,18.2s,MS4.8,baz=55,slow=36
REDW Red Top Meadow 83.77 326 eP **P** **13 22 44.1 +2.3**
comp=Z,126nm,1.6s,mb5.8
RRI2 Red Ridge 83.97 326 eP **P** **13 22 45.2 +2.3**
comp=Z,110nm,1.1s,mb5.9
ISCO Idaho Springs 84.34 321 eP **P** **13 22 46.4 +1.5**
ISCO pmax pmax
comp=Z,95nm,1.8s,mb5.6
ISCO MLR MLR
comp=Z,586nm,21.0s,MS4.9
ISCO Idaho Springs 84.34 321 eP **P** **13 22 46.4 +1.5**
comp=Z,95nm,1.8s,mb5.6
ISCO LR LR
comp=Z,586nm,21.0s,MS4.9
ISCO Idaho Springs 84.34 321 eP **P** **13 22 46.4 +1.5**
comp=Z,95nm,1.8s,mb5.6
AHID Auburn Hatcher 84.36 326 eP **P** **13 22 45.6 +0.7**
comp=Z,46nm,1.1s,mb5.5
AHID LR LR
comp=Z,345nm,19.0s,MS4.8
OCWA Octopus Mounta 84.70 336 PFAKE 13 23 00.0 +14
OCWA LR LR
comp=Z,804nm,19.0s,MS5.1
NATX Nacogdoches 84.75 309 eP **P** **13 22 48.9 +1.8**
comp=Z,12nm,0.6s,mb5.2
NATX LR LR
comp=Z,506nm,21.0s,MS4.9
BAO Brasilia Array 84.84 244 PKIKP **P** **13 22 49.0 +1.2**
BDFB Brasilia 84.86 244 P **P** **13 22 50.0 +2.1**
comp=Z,10nm,0.9s,mb5.0,baz=80,slow=3.2,SNR=8.5
BDFB LR LR 13 59 20.7
comp=Z,370nm,18.9s,MS4.8,baz=179,slow=35
BDFB Brasilia 84.86 244 P **P** **13 22 50.0 +2.1**
BDFB LR LR 13 59 20.7
BMO Blue Mountains 85.00 331 eP **P** **13 22 48.2 +0.2**
comp=Z,127nm,1.6s,mb5.8
BMO LR LR
comp=Z,644nm,20.0s,MS5.0
BMO Blue Mountains 85.00 331 eP **P** **13 22 48.2 +0.2**
comp=Z,127nm,1.6s,mb5.8
HLID Hailey 85.02 328 eP **P** **13 22 49.5 +1.4**
comp=Z,90nm,1.9s,mb5.6
HLID LR LR
comp=Z,937nm,20.0s,MS5.2
HLID Hailey 85.02 328 eP **P** **13 22 49.5 +1.4**
comp=Z,90nm,1.9s,mb5.6
HWUT Hardware Ranch 85.51 326 eP **P** **13 22 51.7 +1.0**
comp=Z,106nm,1.6s,mb5.8
HWUT LR LR
comp=Z,416nm,21.0s,MS4.8
HWUT Hardware Ranch 85.51 326 eP **P** **13 22 51.7 +1.1**
comp=Z,106nm,1.6s,mb5.8
HVU Hansel Valley 85.87 326 P **P** **13 22 52.5 +0.1**
SDCO Great Sand Dun 85.92 320 eP **P** **13 22 53.7 +0.9**
comp=Z,62nm,1.8s,mb5.5
SDCO LR LR
comp=Z,578nm,22.0s,MS4.9
SDCO Great Sand Dun 85.92 320 eP **P** **13 22 53.7 +0.9**
comp=Z,62nm,1.8s,mb5.5
AMTX Amarillo 86.25 315 PFAKE 13 23 10.0 +16
AMTX LR LR
comp=Z,539nm,20.0s,MS4.9
JLU Jordanelle 86.30 325 eP **P** **13 22 55.7 +1.1**
JLU Jordanelle 86.30 325 eP **P** **13 22 55.7 +1.1**
CTU Camp Tracy 86.35 325 eP **P** **13 22 55.9 +1.0**
CTU Camp Tracy 86.35 325 eP **P** **13 22 55.8 +1.0**
DAU Daniels Canyon 86.37 325 P **P** **13 22 51.5 -3.4**
DAU *e* 13 22 57.4
MPU Maple Canyon 86.86 325 eP **P** **13 22 56.2 -1.2**
MPU Maple Canyon 86.86 325 eP **P** **13 22 56.2 -1.1**
PV01 Paradox Valley 87.05 322 eP **P** **13 22 59.4 +1.1**
PV01 Paradox Valley 87.05 322 eP **P** **13 22 59.4 +1.1**
PV10 Paradox Valley 87.07 322 eP **P** **13 22 59.8 +1.4**
PV10 Paradox Valley 87.07 322 eP **P** **13 22 59.8 +1.4**
NLU North Lily Min 87.10 325 eP **P** **13 22 58.8 +0.3**
SRU San Rafael 87.13 324 eP **P** **13 22 59.0 +0.4**
SRU San Rafael 87.13 324 eP **P** **13 22 59.0 +0.3**
COR Corvallis 87.27 335 PFAKE 13 23 10.0 +11
COR LR LR
comp=Z,298nm,20.0s,MS4.7
TMUT Trail Mountain 87.28 324 eP **P** **13 23 00.1 +0.7**
WVOR Wild Horse Val 87.58 331 eP **P** **13 23 01.9 +1.2**
WVOR pmax pmax
comp=Z,75nm,1.7s,mb5.6
WVOR MLR MLR
comp=Z,720nm,20.0s,MS5.1
WVOR Wild Horse Val 87.58 331 eP **P** **13 23 01.9 +1.2**
comp=Z,75nm,1.7s,mb5.7
WVOR LR LR
comp=Z,720nm,20.0s,MS5.1
WVOR Wild Horse Val 87.58 331 eP **P** **13 23 01.9 +1.2**
comp=Z,75nm,1.7s,mb5.7
ELK Elko 87.74 327 eP **P** **13 23 03.0 +1.5**
ELK pmax pmax
comp=Z,61nm,1.8s
ELK MLR MLR
comp=Z,591nm,21.0s
ELK Elko 87.74 327 eP **P** **13 23 03.0 +1.5**
comp=Z,61nm,1.8s,mb5.5
ELK LR LR
comp=Z,591nm,21.0s,MS5.0
ELK Elko 87.74 327 eP **P** **13 23 03.0 +1.5**
comp=Z,61nm,1.8s,mb5.5
MSU Marysvale 88.35 324 eP **P** **13 23 05.8 +1.3**
MVU Marysvale 88.37 324 eP **P** **13 23 05.4 +0.8**
comp=Z,52nm,1.5s,mb5.5
MVU LR LR
comp=Z,739nm,20.0s,MS5.1
MVU Marysvale 88.37 324 eP **P** **13 23 05.4 +0.8**
comp=Z,52nm,1.5s,mb5.5
ANMO Albuquerque 88.62 318 eP **P** **13 23 07.0 +1.1**
ANMO pmax pmax
comp=Z,7.0nm,1.3s
ANMO MLR MLR
comp=Z,531nm,19.0s
ANMO Albuquerque 88.62 318 P **P** **13 23 07.5 +1.5**
comp=Z,9.9nm,1.0s,mb4.6,baz=50,slow=7.0,SNR=5.3
ANMO Albuquerque 88.62 318 eP **P** **13 23 07.0 +1.0**
comp=Z,6.9nm,1.3s,mb4.8
ANMO LR LR
comp=Z,531nm,19.0s,MS5.0
ANMO Albuquerque 88.62 318 eP **P** **13 23 06.9 +1.0**
comp=Z,6.9nm,1.3s,mb4.8
MOD Modoc 88.64 331 eP **P** **13 23 07.6 +1.7**
comp=Z,31nm,1.2s,mb5.5
MOD LR LR
comp=Z,690nm,20.0s,MS5.1
BMN Battle Mountai 88.78 329 eP **P** **13 23 07.7 +1.1**
BMN pmax pmax
comp=Z,12nm,1.1s,mb5.1
BMN MLR MLR
comp=Z,528nm,20.0s,MS5.0
BMN Battle Mountai 88.78 329 eP **P** **13 23 07.7 +1.1**
comp=Z,12nm,1.1s,mb5.2
BMN LR LR
comp=Z,528nm,20.0s,MS5.0
BMN Battle Mountai 88.78 329 eP **P** **13 23 07.7 +1.1**
comp=Z,12nm,1.1s,mb5.2
HUMO Hull Mountain 88.93 333 eP **P** **13 23 08.1 +0.9**
comp=Z,63nm,1.8s,mb5.6
HUMO LR LR
comp=Z,374nm,20.0s,MS4.8
HUMO Hull Mountain 88.93 333 eP **P** **13 23 08.1 +0.9**
comp=Z,63nm,1.8s,mb5.6
BNM Barren Site 89.34 318 eP **P** **13 23 10.4 +1.1**
BNM Barren Site 89.34 318 eP **P** **13 23 10.4 +1.0**
KSM Kuching 89.42 89 P **P** **13 23 09.5 -0.8**
KSM Kuching 89.42 89 P **P** **13 23 09.5 -0.7**
ARUT Antelope Range 89.50 325 eP **P** **13 23 11.5 +1.5**
YBH Yreka Blue Hor 89.63 333 eP **P** **13 23 10.9 +0.4**
YBH pmax pmax
comp=Z,6.0nm,1.0s
YBH MLR MLR
comp=Z,233nm,21.0s
YBH Yreka Blue Hor 89.63 333 P **P** **13 23 11.1 +0.6**
comp=Z,3.8nm,0.8s,mb4.8,baz=54,slow=2.5,SNR=13
YBH Yreka Blue Hor 89.63 333 eP **P** **13 23 10.9 +0.3**
comp=Z,5.8nm,1.0s,mb4.9
YBH LR LR
comp=Z,233nm,21.0s,MS4.6
YBH Yreka Blue Hor 89.63 333 eP **P** **13 23 10.9 +0.4**
comp=Z,5.8nm,1.0s,mb4.9
GDL2 Guadalupe Moun 89.74 315 eP **P** **13 23 11.8 +0.5**
GDL2 Guadalupe Moun 89.74 315 eP **P** **13 23 11.8 +0.5**
ROSC El Rosal 89.77 276 LR LR 13 59 57.5
comp=Z,413nm,21.1s,MS4.8,baz=40,slow=33
TRCR Troy Canyon 89.92 326 eP **P** **13 23 10.2 -1.7**
WDC Whiskeytown Da 90.60 332 PFAKE 13 23 30.0 +15
WDC LR LR

	comp=Z,403nm,20.0s,MS4.8						
MNTX	Cornudas Mount	90.67	316	eP	P	13 23 15.1	-0.5
	comp=Z,51nm,1.7s,mb5.6						
MNTX				LR	LR		
	comp=Z,443nm,19.0s,MS4.9						
WCN	Washoe City	90.73	330	eP	P	13 23 17.1	+1.4
WCN				pmax	pmax		
	comp=Z,101nm,1.8s,mb5.8						
WCN	Washoe City	90.73	330	eP	P	13 23 17.1	+1.4
	comp=Z,101nm,1.8s,mb5.8						
SAML	Samuel	90.80	259	P	P	13 23 16.0	-0.6
	comp=Z,31nm,1.8s,mb5.3						
SAML				LR	LR		
	comp=Z,247nm,22.0s,MS4.6						
TPH	Tonopah	90.81	327	P	P	13 23 15.6	-0.5
TPH				MLR	MLR		
	comp=Z,492nm,22.0s,MS4.9						
LTX	Lajitas	91.62	313	eP	P	13 23 21.2	+1.2
LTX				pmax	pmax		
	comp=Z,153nm,1.7s,mb6.0						
LTX				MLR	MLR		
	comp=Z,374nm,19.0s,MS4.8						
LTX	Lajitas	91.62	313	eP	P	13 23 21.2	+1.1
	comp=Z,153nm,1.7s,mb6.0						
LTX				LR	LR		
	comp=Z,374nm,19.0s,MS4.8						
TXAR	Lajitas Array	91.62	313	P	P	13 23 21.8	+1.8
TXAR				pmax	pmax		
	comp=Z,13nm,0.9s						
TXAR				MLR	MLR		
	comp=Z,311nm,18.4s						
TXAR	Lajitas Array	91.62	313	P	P	13 23 21.8	+1.7
	comp=Z,13nm,0.9s,mb5.3,baz=56,slow=4.5,SNR=85						
TXAR				LR	LR	14 04 58.9	
	comp=Z,311nm,18.4s,MS4.8,baz=95,slow=36						
TXAR	Lajitas Array	91.62	313	P	P	13 23 21.8	+1.7
TXAR				LR	LR	14 04 58.9	
NEN	Nelson	91.90	325	eP	P	13 23 22.4	+1.2
OMM	Old Mammoth Mi	91.91	328	eP	P	13 23 21.7	+0.5
CMB	Columbia Colle	92.07	330	eP	P	13 23 22.1	+0.2
CMB				pmax	pmax		
	comp=Z,50nm,1.9s,mb5.5						
CMB				MLR	MLR		
	comp=Z,483nm,20.0s,MS4.9						
CMB	Columbia Colle	92.07	330	eP	P	13 23 22.1	+0.2
	comp=Z,50nm,1.9s,mb5.5						
CMB				LR	LR		
	comp=Z,483nm,20.0s,MS4.9						
HOPS	Hopland	92.20	332	PFAKE		13 23 30.0	+7.6
HOPS				LR	LR		
	comp=Z,666nm,19.0s,MS5.1						
LDFC	Landfair	92.50	324	eP	P	13 23 25.4	+1.5
DAC	Darwin (Calif)	92.52	327	eP	P	13 23 25.3	+1.3
DAC				pmax	pmax		
	comp=Z,30nm,1.8s,mb5.4						
DAC				MLR	MLR		
	comp=Z,341nm,21.0s,MS4.8						
DAC	Darwin (Calif)	92.52	327	eP	P	13 23 25.3	+1.3
	comp=Z,30nm,1.8s,mb5.4						
DAC				LR	LR		
	comp=Z,341nm,21.0s,MS4.8						
TUC	Tucson	92.85	320	eP	P	13 23 26.9	+1.3
TUC				pmax	pmax		
	comp=Z,66nm,1.8s,mb5.8						
TUC				MLR	MLR		
	comp=Z,693nm,21.0s,MS5.1						
TUC	Tucson	92.85	320	eP	P	13 23 26.9	+1.2
	comp=Z,66nm,1.8s,mb5.8						
TUC				LR	LR		
	comp=Z,693nm,21.0s,MS5.1						
SAO	San Andreas Ge	93.59	330	PFAKE		13 23 40.0	+11
SAO				LR	LR		
	comp=Z,521nm,21.0s,MS5.0						
JTS	JuntasAbangare	93.76	287	PFAKE		13 23 40.0	+10
JTS				LR	LR		
	comp=Z,102nm,19.0s,MS4.3						
PFO	Pinyon Flat Ob	94.33	325	eP	P	13 23 33.8	+1.4
PFO				pmax	pmax		
	comp=Z,59nm,1.6s,mb5.8						
PFO				MLR	MLR		
	comp=Z,139nm,20.0s,MS4.4						
PFO	Pinyon Flat Ob	94.33	325	eP	P	13 23 33.8	+1.4
	comp=Z,59nm,1.6s,mb5.8						
PFO				LR	LR		
	comp=Z,139nm,20.0s,MS4.4						
CPUP	Villa Florida	98.52	242	LR	LR	14 07 00.2	
	comp=Z,280nm,19.3s,MS4.8,baz=54,slow=35						
CPUP	Villa Florida	98.52	242	PFAKE		13 24 00.0	+8.4
CPUP				LR	LR		
	comp=Z,458nm,19.0s,MS5.0						
LPAZ	La Paz	99.28	257	LR	LR	14 11 44.6	
	comp=Z,154nm,18.9s,MS4.5,baz=225,slow=37						
LPAZ	La Paz	99.28	257	PFAKE		13 24 10.0	+15
LPAZ				LR	LR		
	comp=Z,304nm,20.0s,MS4.8						
MBWA	Marble Bar	111.16	100	PFAKE		13 29 00.0	+12
MBWA				LR	LR		
	comp=Z,291nm,19.0s,MS4.9						
KWAJ	Kwajalein Atol	121.15	38	PFAKE		13 29 20.0	+12
KWAJ				LR	LR		
	comp=Z,130nm,19.0s,MS4.6						
WRA	Warramunga Arr	121.17	89	PKIKP	PKPdf	13 29 05.0	-3.0
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA	Warramunga Arr	121.17	89	PKP	PKPdf	13 29 05.0	-3.0
	comp=Z,4.1nm,0.8s,baz=304,slow=2.2,SNR=18						
WB2	Warramunga Arr	121.18	89	ePKP	PKPdf	13 29 06.3	-1.7
CASY	Casey	128.24	149	PFAKE		13 29 30.0	+10
CASY				LR	LR		
	comp=Z,667nm,19.0s,MS5.3						
CTA	Charters Tower	130.04	81	ePKP	PKPdf	13 29 25.0	-0.1
	comp=Z,12nm,0.9s						
STKA	Stephens Creek	133.28	97	ePKP	PKPdf	13 29 29.0	-1.9
	comp=Z,7.7nm,1.0s						
STKA	Stephens Creek	133.28	97	PKP	PKPdf	13 29 28.0	-2.8
	comp=Z,8.1nm,0.7s,baz=337,slow=5.2,SNR=15						
VNDA	Vanda	141.56	168	PKhKP		13 29 36.2	
	comp=Z,0.7nm,0.9s,baz=163,slow=5.5,SNR=2.6						
VNDA	Vanda	141.56	168	PKP	PKPdf	13 29 36.2	-8.4
VNDA				LR	LR		
	comp=Z,315nm,21.0s,MS5.0						
NOUC	Port Laguerre	145.51	65	eP	PKPbc	13 29 51.7	+1.0
NOUC	Port Laguerre	145.51	65	eP	PKPbc	13 29 51.7	+1.0
DZM	Mont Dzumac	145.59	64	eP	PKPbc	13 29 51.9	+1.0
DZM	Mont Dzumac	145.59	64	eP	PKPbc	13 29 51.9	+1.0

*NEIC **10** 13:10:28.2, 15.68N×94.11W, h13km, MD3.8(MEX), After MEX.*
MEX 10 13:10:28.3±0.8**, 15.77N×94.13W, h72**km±33km**, MD4.0, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.50	331	i P	P	13 10 52.0	-1.8
CMIG				i S	S	13 11 10.2	-2.4
HUIG	Huatulco	1.90	270	i P	P	13 10 57.6	-1.7
HUIG				i S	S	13 11 19.7	-2.4
CCIG	Comitan	1.98	75	i P	P	13 10 57.8	-2.6
CCIG				i S	S	13 11 22.9	-1.2
TUIG	Tuzandepetl	2.27	353	eP	P	13 11 04.1	-0.3
TUIG				i S	S	13 11 30.7	-0.4
OXX	Oaxaca	2.81	298	i P	P	13 11 12.0	0.0
OXX				i S	S	13 11 51.0	+6.3
OXX	Oaxaca	2.81	298	i P	P	13 11 10.5	-1.5
OXX				i S	S	13 11 42.5	-2.2
VHO	Vista Hermosa	2.81	298	i P	P	13 11 11.3	-0.7
VHO				i S	S	13 11 41.3	-3.5
EVV	El Vigia	2.91	337	eP	P	13 11 24.0	+11
EVV				i S	S	13 11 44.0	-3.4

*NEIC **10** 13:38:50.8, 37.84N×14.99E, h29km, ML3.6(ROM), After ROM.*
*CSEM **10** 13:38:50.8±0.1, 37.84N×14.99E, h29km, MD2.9/2, ML3.7/1, Error ellipse: s-maj=1.5km s-min=1.2km az=103.0, After ROM*
ROM 10 13:38:50.8±0.1**, 37.84N×14.99E, h29**km±3km**, Md2.9**/14**, Ml3.6**/5**, 4C-3D, Error ellipse: s-maj=2.0km s-min=1.7km az=78.0, Sicily**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMME	Mongiuffi-Meli	0.23	65	⇑iPg	Pb	13 38 58.0	+0.8
MMME				Sg	Sb	13 39 02.7	+1.1
MNO	Monte Soro	0.25	292	⇓iPg	Pb	13 38 58.4	+0.9
ATN	Antennamare	0.49	49	⇑iPg	Pb	13 39 01.9	+0.8
	139nm,0.3s						
VPL	Vulcano Piano	0.54	360	Pg	Pb	13 39 02.4	+0.6
VPL				Sg	Sb	13 39 10.6	+1.3
	3µm,0.5s						
MTTG	Motta San Giov	0.58	73	Pg	Pb	13 39 03.9	+1.5
MTTG				Sg	Sb	13 39 13.7	+3.3
	700nm,0.7s						
MSRU	Castanea	0.59	44	⇑ePg	Pb	13 39 03.3	+0.7
	1µm,0.6s						
LLI	Lipari	0.61	357	Pg	Pb	13 39 03.8	+0.9
	4µm,0.5s						
AGST	Augusta-Monte	0.61	162	⇓iPg	Pb	13 39 04.0	+1.1
AGST				Sg	Sb	13 39 13.8	+2.6
	415nm,0.2s						
SSY	Sortino	0.69	174	Pg	Pb	13 39 05.1	+1.0
SSY				Sg	Sb	13 39 15.9	+2.6
	2µm,0.5s						
PLLN	Pollina	0.69	283	Pg	Pb	13 39 05.5	+1.3
SCLL	Scilla	0.71	54	Pg	Pb	13 39 05.2	+0.7
	158nm,0.4s						
SLNA	Salina	0.74	350	Pg	Pb	13 39 05.5	+0.5
	584nm,0.3s						
GMB	Gambarie	0.74	63	Pg	Pb	13 39 06.7	+1.6
	170nm,0.5s						
CSLB	Castelbuono	0.74	278	Pg	Pb	13 39 06.2	+1.1
	510nm,0.8s						
GIB	Gibilmanna	0.78	282	⇓iPg	Pb	13 39 07.3	+1.6
	137nm,0.4s						
PZI	Palazzolo	0.78	182	Pg	Pb	13 39 06.8	+1.1
PZI				Sg	Sb	13 39 19.2	+3.2
SOI	Samo	0.88	74	Pg	Pn	13 39 08.4	+1.2
SOI				Sg	Sb	13 39 23.1	+4.4
	152nm,0.3s						
HMDC	Modica	0.89	191	⇑iPg	Pn	13 39 08.4	+0.9
HMDC				Sg	Sb	13 39 21.7	+2.5
	2µm,0.4s						
FAVR	Favara	1.20	242	Pg	Pn	13 39 15.3	+3.5
	103nm,0.3s						
GRI	Girifalco	1.50	48	Pg	Pn	13 39 17.1	+1.0
USI	Ustica	1.67	302	Pg	Pn	13 39 18.9	+0.3

*THR **10** 13:47:15.3±0.3, 33.46N×57.25E, h14km±12km, ML3.6*
*CSEM **10** 13:47:19.2±0.1, 33.77N×56.73E, h2km, ML3.6, Error ellipse: s-maj=3.2km s-min=1.8km az=147.0*
*TEH **10** 13:47:22.9, 33.78N×56.72E, h10km, Mn3.6*
ISC 10 13:47:21.1±0.6**, 33.73N**±0.05×**56.76E**±0.06**, h10**km**, n29,** σ**1**^{s}**10**/31**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	Bafgh	2.35	206	Pn	Pn	13 48 00.8	+0.4
ICHK	Chekchek	2.46	234	Pn	Pn	13 48 02.7	+0.7
IANJ	Anjiloo	2.92	307	Pn	Pn	13 48 08.0	-0.5
IMEH	Mehriz	2.95	218	Pn	Pn	13 48 08.1	-0.8
ISAD	Sadrabad	3.15	236	Pn	Pn	13 48 12.4	+0.6
IMOG	Moghan	3.19	41	Pn	Pn	13 48 12.1	-0.2
IKRD	Kardeh	3.37	25	Pn	Pn	13 48 20.9	+6.1
MHI	Mashhad	3.41	40	Pn	Pn	13 48 15.5	+0.1
NASN	Na'in	3.43	255	ePN	Pn	13 48 15.6	-0.2
NASN				eSG	Sg	13 49 13.2	-2.2
NASN				AML	AML	13 49 18.7	
	comp=N,79nm,0.2s						
ISFR	Esferayen	3.46	17	Pn	Pn	13 48 13.9	-2.3
ISHM	Shahmirzad	3.53	307	Pn	Pn	13 48 17.5	+0.4
IKIA	Kiasar	3.54	315	Pn	Pn	13 48 20.9	+3.7
ILAS	Lasjerd	3.54	299	Pn	Pn	13 48 19.5	+2.1
IGLO	Galoogah	3.71	315	Pn	Pn	13 48 22.0	+2.2
KRBR	Kerman	3.73	180	ePN	Pn	13 48 11.5	-8.5
KRBR				AML	AML	13 49 26.2	
	comp=N,259nm,1.0s						
IMYA	Miamay	3.79	46	Pn	Pn	13 48 20.3	-0.6
IZEF	Zefreh	3.80	259	Pn	Pn	13 48 20.4	-0.6
ISFB	Sefidab	3.80	281	Pn	Pn	13 48 20.1	-1.0
IFIR	Firoozkooh	3.81	301	Pn	Pn	13 48 20.6	-0.6
IGAR	Garneh	4.11	250	Pn	Pn	13 48 27.2	+1.8
IDMV	Damavand	4.31	297	Pn	Pn	13 48 27.1	-1.2
IKLH	Kalahroud	4.34	266	Pn	Pn	13 48 24.2	-4.5
IVRN	Varamin	4.35	288	Pn	Pn	13 48 27.7	-1.1
DAMV	Damavand	4.38	297	ePN	Pn	13 48 30.5	+1.2
DAMV				AML	AML	13 49 54.1	
	comp=N,27nm,0.6s						
IPAR	Pars	4.99	220	Pn	Pn	13 48 37.7	-0.3
THKV	Tehran--Karaj	5.30	296	ePN	Pn	13 48 43.1	+0.7
ASAO	Ashtian	5.64	280	ePN	Pn	13 48 47.6	+0.5
ASAO				eSG	Sg	13 50 23.5	-5.4
IMOK	Mook	5.80	218	Pn	Pn	13 48 49.7	+0.3
IRAZ	Razeghan	5.88	288	Pn	Pn	13 49 03.2	+13

*TIR **10** 13:57:30.4, 42.46N×19.75E, h18km*
*BEO **10** 13:57:31.6±0.6, 42.40N×19.78E, h10km±1km*
*NEIC **10** 13:57:31.2, 42.39N×19.78E, h5km, ML3.0(PDG), After PDG.*
*PDG **10** 13:57:31.2±0.2, 42.39N×19.78E, h5km±1km*
*CSEM **10** 13:57:31.6±0.1, 42.41N×19.80E, h0km, ML3.0, Error ellipse: s-maj=2.0km s-min=1.6km az=110.0*
ISC 10 13:57:32.6±0.3**, 42.40N**±0.02×**19.78E**±0.02**, h5**km**, n36,** σ**1**^{s}**23**/64**, 7C-10D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	Bajram Curri	0.22	100	i Pg	Pg	13 57 36.2	-0.9
BCI				i Sg	Sg	13 57 39.9	-0.2
PVY	Plav	0.24	37	⇑iPg	Pg	13 57 36.0	-1.5
PVY				eSg	Sg	13 57 40.2	-0.5
PUK	Puka	0.37	166	i Pg	Pg	13 57 39.3	-0.8
PUK				i Sg	Sg	13 57 45.0	-0.1
TTG	Podgorica	0.38	274	⇓iPg	Pg	13 57 38.4	-1.9
TTG				eSg	Sg	13 57 45.4	0.0
SDA	Shkodra	0.41	210	i Pg	Pg	13 57 40.1	-0.7
SDA				i Sg	Sg	13 57 47.0	+0.8
IVA	Berane	0.48	11	⇑iPg	Pg	13 57 40.8	-1.4
IVA				eSg	Sg	13 57 48.5	-0.1
KKS	Kukesi	0.57	125	i Pg	Pg	13 57 43.2	-0.9
KKS				i Sg	Sg	13 57 52.7	+0.9
KKS	Kukesi	0.57	125	i Pg	Pg	13 57 43.1	-1.0
KKS				i Sg	Sg	13 57 52.7	+0.9
ULC	Ulcinj	0.59	222	ePg	Pg	13 57 42.5	-1.9
ULC				eSg	Sg	13 57 51.9	-0.3
BUM	Brajici-Budva	0.66	261	ePg	Pg	13 57 43.8	-2.0
BUM				eSg	Sg	13 57 55.2	+0.6
NKY	Niksic	0.70	306	⇓iPg	Pg	13 57 44.5	-2.2
NKY				eSg	Sg	13 57 56.8	+0.7
QSH	Qafa e Shtames	0.89	174	i Pg	Pg	13 57 51.0	+0.7
QSH				i Sg	Sg	13 58 07.0	+4.8
HCY	Herceg Novi	0.95	273	ePg	Pg	13 57 49.5	-2.1
HCY				eSg	Sg	13 58 04.9	+0.8
UPM	Unac-Piva	1.02	322	ePg	Pg	13 57 51.5	-1.6
UPM				eSg	Sg	13 58 07.6	+0.9
BRY	Bratogost	1.03	299	⇑iPg	Pg	13 57 50.7	-2.6
BRY				eSg	Sg	13 58 07.5	+0.3
BRY	Bratogost	1.03	299	⇑iPg	Pg	13 57 50.7	-2.6
BRY				eSg	Sg	13 58 07.4	+0.3
TIR	Tirane	1.06	176	i pg?	Pg	13 57 55.5	+1.8
TIR				i Sg	Sg	13 58 09.0	+1.2
TIR	Tirane	1.06	176	ePg	Pg	13 57 55.5	+1.8
TIR				i Sg	Sg	13 58 09.0	+1.2
NVSS	Nova Varos 2	1.10	357	⇓iPn	Pn	13 57 52.4	-2.3
NVSS				Sn	Sn	13 58 08.4	-2.1
SKO	Skopje	1.31	109	i Pn	Pn	13 57 56.4	-1.2
SKO				i Sn	Sn	13 58 17.0	+1.3
BBLS	Bajina Basta -	1.49	350	⇑iPn	Pn	13 58 00.4	+0.2
BBLS				Sn	Sn	13 58 22.4	+2.2
STON	Ston	1.60	288	i Pn	Pn	13 58 02.2	+0.4
STON				i Sg	Sg	13 58 26.7	+0.7
GRUS	Gruza	1.64	25	⇓iPn	Pn	13 58 02.6	+0.4
GRUS				Sn	Sn	13 58 24.8	+0.8
DIVS	Divcibare	1.70	5	⇑iPn	Pn	13 58 03.4	+0.2
DIVS				Sn	Sn	13 58 26.2	+0.6
BOLS	Boljevac	2.14	48	⇓iPn	Pn	13 58 10.0	+0.5
BOLS				Sn	Sn	13 58 38.2	+1.4
SVIS	Svilajnac	2.17	29	⇓iPn	Pn	13 58 13.3	+3.4
SVIS				Sn	Sn	13 58 42.8	+5.4
KKB	Krupnik	2.52	101	eP	Pn	13 58 16.0	+1.1
VTS	Vitosha	2.55	85	i P	Pn	13 58 14.0	-1.3
MMB	Musomiste	3.06	104	eP	Pn	13 58 29.0	+6.4
RZN	Rozhen	3.75	99	eP	Pn	13 58 32.5	+0.1
VOY	Vojsko	5.57	313	ePn	Pn	13 58 59.2	+1.0
VOY				eSn	Sn	14 00 07.8	+4.3
ARSA	Arzberg	5.71	330	⇓iPN	Pn	13 58 59.8	-0.4
KBA	Koelnbreinsper	6.54	318	⇓iPN	Pn	13 59 13.7	+1.8
WTTA	Wattenberg	7.55	313	⇑iPN	Pn	13 59 28.3	+2.2
SQTA	Sankt Quirin	7.76	311	⇓iPN	Pn	13 59 30.7	+1.6
MOTA	Moosalm	7.89	312	⇓iPN	Pn	13 59 31.4	+0.5
MOTA				i SN	Sn	14 01 05.4	+3.8

IDC 10 14:10:07.3±1.9**, 16.81S×178.17W, mb3.8**/3**, mb1 4.1**/3**, mb1mx3.8**/13**, mbtmp3.8**/3**, Error ellipse: s-maj=168.0km s-min=33.9km az=155.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.36	240	P	P	14 17 38.9	-1.5
	1.8nm,1.0s,baz=107,slow=11,SNR=4.4						
WRA	Warramunga Arr	45.06	258	P	P	14 18 25.1	-2.0
	0.9nm,0.4s,baz=95,slow=7.3,SNR=34						
TXAR	Lajitas Array	85.22	58	P	P	14 22 46.3	-1.1
	0.3nm,0.7s,baz=207,slow=4.0,SNR=3.8						

*NEIC **10** 14:14:11.5, 37.59S×178.49E, h70km, ML3.8(WEL), After WEL.*
WEL 10 14:14:12.3±0.2**, 37.57S×178.42E, h64**km±1km**, ML3.6**/14**, 2C-1D, Error ellipse: s-maj=1.7km s-min=0.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.09	271	P	P	14 14 21.6	-0.1
MXZ	Matakaoa Point	0.09	271	⇑PN	P	14 14 21.6	-0.2
MXZ				SN	S	14 14 28.7	+0.1
PUZ	Puketiti	0.52	194	P	P	14 14 24.6	-0.3
PUZ				S	S	14 14 33.8	-0.3
PUZ	Puketiti	0.52	194	⇓PN	P	14 14 24.6	-0.3
PUZ				SN	S	14 14 33.8	-0.3
MWZ	Matawai	1.04	222	P	P	14 14 30.9	-0.4
MWZ				S	S	14 14 44.8	-0.6
MWZ	Matawai	1.04	222	PN	P	14 14 30.9	-0.4
MWZ				SN	S	14 14 44.8	-0.5
URZ	Urewera	1.24	236	P	P	14 14 33.4	-0.7
URZ	Urewera	1.24	236	PN	P	14 14 33.4	-0.7
URZ				SN	S	14 14 48.9	-1.3
EDRZ	Edgecumbe	1.43	247	P	P	14 14 36.3	-0.5
EDRZ	Edgecumbe	1.43	247	PN	P	14 14 36.3	-0.5
KNZ	Kokohu	1.57	202	P	P	14 14 36.6	-1.9
KNZ	Kokohu	1.57	202	PN	P	14 14 36.6	-1.9
TAZ	Tarawera	1.65	246	P	P	14 14 39.3	-0.4
TAZ	Tarawera	1.65	246	PN	P	14 14 39.2	-0.4
MYRZ	Mayor Island	1.75	279	PN	P	14 14 40.4	-0.8
PATZ	Paeroa	1.89	244	P	P	14 14 42.2	-0.8
PATZ	Paeroa	1.89	244	PN	P	14 14 42.1	-0.8
BKZ	Black Stump Fm	2.20	223	P	P	14 14 45.6	-1.7
BKZ	Black Stump Fm	2.20	223	PN	P	14 14 45.7	-1.7
KUZ	Kuaotunu	2.30	290	P	P	14 14 47.7	-1.1
KUZ	Kuaotunu	2.30	290	⇑PN	P	14 14 47.7	-1.1
RITZ	Rihia Road	2.46	234	P	P	14 14 49.8	-1.2
RITZ	Rihia Road	2.46	234	PN	P	14 14 49.5	-1.5
KRVZ	Karewarewa	2.66	234	PN	P	14 14 52.2	-1.7
OTVZ	Oturere	2.69	233	PN	P	14 14 52.3	-1.9
NGZ	Ngauruhoe	2.73	233	P	P	14 14 53.0	-1.9
NGZ	Ngauruhoe	2.73	233	PN	P	14 14 53.0	-1.9
PWZ	Pawanui	2.74	206	eP	P	14 14 51.1	-3.9
PWZ	Pawanui	2.74	206	PN	P	14 14 51.2	-3.8
TUVZ	Tukino	2.76	231	P	P	14 14 53.3	-1.9
TUVZ	Tukino	2.76	231	PN	P	14 14 53.2	-2.1
CNZ	Chateau	2.78	233	P	P	14 14 53.7	-1.9
CNZ	Chateau	2.78	233	PN	P	14 14 53.7	-1.9
MOVZ	Moawhango	2.78	228	P	P	14 14 53.0	-2.6
MOVZ	Moawhango	2.78	228	PN	P	14 14 53.0	-2.6
WPVZ	Whakapapa	2.79	233	P	P	14 14 53.8	-1.9
WPVZ	Whakapapa	2.79	233	PN	P	14 14 53.8	-1.9
FWVZ	Far West T-bar	2.81	232	PN	P	14 14 54.4	-1.6
WNVZ	Wahianoa	2.83	231	P	P	14 14 54.0	-2.2
WNVZ	Wahianoa	2.83	231	PN	P	14 14 54.0	-2.2
MTVZ	Mangateitei	2.94	231	PN	P	14 14 55.4	-2.4
TSZ	Takapari Road	3.14	217	P	P	14 14 56.6	-4.1
WAZ	Wanganui	3.46	230	eP	P	14 15 02.8	-2.3
WAZ	Wanganui	3.46	230	PN	P	14 15 02.8	-2.4
MRZ	Mangatainoka R	3.80	215	P	P	14 15 04.5	-5.3
MTW	Mount Morrison	4.24	211	P	P	14 15 09.7	-6.3
KIW	Kapiti Island	4.27	219	P	P	14 15 10.9	-5.6
CAW	Cannon Point	4.39	215	P	P	14 15 11.8	-6.3
TCW	Tory Channel	4.85	220	P	P	14 15 18.5	-6.1
THZ	Tophouse	5.97	224	eP	P	14 15 33.2	-6.8
LTZ	Lake Taylor	7.02	220	eP	P	14 15 46.7	-8.1

*TIR **10** 14:17:50.9, 42.47N×19.82E, h17km*
*BEO **10** 14:17:51.4±0.3, 42.39N×19.83E, h11km*
*CSEM **10** 14:17:51.8±0.1, 42.39N×19.88E, h15km, ML2.7, Error ellipse: s-maj=2.6km s-min=2.0km az=87.0*
*NEIC **10** 14:17:52.1, 42.42N×19.80E, h4km, ML2.7(PDG), After PDG.*
*PDG **10** 14:17:52.1±0.3, 42.42N×19.80E, h4km±2km*
ISC 10 14:17:52.0±0.4**, 42.41N**±0.02×**19.84E**±0.03**, h7**km±4km**, n21,** σ**0**^{s}**90**/40**, 4C-7D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	Bajram Curri	0.18	103	i Pg	Pg	14 17 55.5	-0.3
BCI				i Sg	Sg	14 17 58.6	+0.3
PVY	Plav	0.21	29	⇑iPg	Pg	14 17 56.4	-0.1
PVY				eSg	Sg	14 18 00.3	+0.8
PUK	Puka	0.37	173	i Pg	Pg	14 17 59.3	-0.1
PUK				i Sg	Sg	14 18 04.7	+0.3
TTG	Podgorica	0.43	273	⇑iPg	Pg	14 17 59.5	-1.1
TTG				eSg	Sg	14 18 06.0	-0.3
SDA	Shkodra	0.43	215	i Pg	Pg	14 18 00.1	-0.7
SDA				i Sg	Sg	14 18 07.0	+0.4
IVA	Berane	0.47	6	⇑iPg	Pg	14 18 01.2	-0.2
IVA				eSg	Sg	14 18 08.2	+0.5
ULC	Ulcinj	0.62	225	⇓iPg	Pg	14 18 03.9	-0.6
ULC				eSg	Sg	14 18 13.6	+0.8
BUM	Brajici-Budva	0.70	262	ePg	Pg	14 18 05.0	-1.1
BUM				eSg	Sg	14 18 16.6	+1.1
NKY	Niksic	0.74	304	⇓iPg	Pg	14 18 05.5	-1.4
NKY				eSg	Sg	14 18 17.4	+0.7
QSH	Qafa e Shtames	0.89	177	i Pg	Pg	14 18 09.0	-0.7
QSH				i Sg	Sg	14 18 23.8	+2.2
PLE	Pljevlja	0.98	341	⇓iPg	Pg	14 18 11.3	-0.3
PLE				eSg	Sg	14 18 25.4	+0.7
HCY	Herceg Novi	0.99	273	⇓iPg	Pg	14 18 10.6	-1.3
HCY				eSg	Sg	14 18 25.7	+0.7
UPM	Unac-Piva	1.05	320	⇓iPg	Pg	14 18 12.1	-0.8
UPM				eSg	Sg	14 18 27.7	+0.8
TIR	Tirane	1.06	179	ePn	Pn	14 18 18.5	+5.3
BRY	Bratogost	1.07	298	ePg	Pg	14 18 12.2	-1.2
BRY				eSg	Sg	14 18 28.6	+0.8
BRY	Bratogost	1.07	298	ePg	Pg	14 18 12.2	-1.3
BRY				eSg	Sg	14 18 28.6	+0.8
NVSS	Nova Varos 2	1.10	355	⇑iPn	Pn	14 18 11.9	-1.9
NVSS				Sn	Sn	14 18 27.9	-1.5
SKO	Skopje	1.27	109	i Pn	Pn	14 18 16.0	-0.2
BBLS	Bajina Basta -	1.49	348	⇓iPn	Pn	14 18 20.1	+0.8
BBLS				Sn	Sn	14 18 41.2	+2.0
STON	Ston	1.64	287	i Pn	Pn	14 18 22.0	+0.5
STON				i Sg	Sg	14 18 46.5	-0.3
DIVS	Divcibare	1.69	4	⇓iPn	Pn	14 18 22.7	+0.5
DIVS				Sn	Sn	14 18 44.8	+0.4

*TIR **10** 14:20:30.8, 42.44N×19.74E, Ml2.2*
*NEIC **10** 14:20:30.6, 42.41N×19.81E, h5km, ML2.7(PDG), After PDG.*
*PDG **10** 14:20:30.6±0.3, 42.41N×19.81E, h5km±1km*
*CSEM **10** 14:20:30.4±0.2, 42.42N×19.87E, h15km, ML2.7, Error ellipse: s-maj=3.2km s-min=2.8km az=126.0*
*BEO **10** 14:20:31.1±0.3, 42.42N×19.79E, h7km±1km*
ISC 10 14:20:30.2±0.6**, 42.39N**±0.03×**19.84E**±0.04**, h7**km±5km**, n17,** σ**1**^{s}**06**/30**, 8C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	Plav	0.23	26	⇑iPg	Pg	14 20 34.6	-0.4
PVY				eSg	Sg	14 20 39.4	+1.2
TTG	Podgorica	0.43	276	⇑iPg	Pg	14 20 37.3	-1.6

TTG				eSg	**Sg**	**14 20 44.6**	**0.0**
IVA	**Berane**	**0.48**	**5**	⇑iPg	**Pg**	**14 20 39.8**	**-0.2**
IVA				eSg	**Sg**	**14 20 47.3**	**+0.8**
ULC	**Ulcinj**	**0.61**	**226**	⇑iPg	**Pg**	**14 20 42.5**	**0.0**
ULC				eSg	**Sg**	**14 20 53.0**	**+2.4**
ULC	**Ulcinj**	**0.61**	**226**	⇑iPg	**Pg**	**14 20 42.5**	**0.0**
ULC				eSg	**Sg**	**14 20 53.0**	**+2.3**
BUM	**Brajici-Budva**	**0.70**	**263**	ePg	**Pg**	**14 20 42.9**	**-1.4**
BUM				eSg	**Sg**	**14 20 54.8**	**+1.1**
NKY	**Niksic**	**0.75**	**305**	⇑iPg	**Pg**	**14 20 44.4**	**-0.8**
NKY				eSg	**Sg**	**14 20 55.7**	**+0.4**
QSH	**Qafa e Shtames**	**0.87**	**177**	i Pg	**Pg**	**14 20 48.0**	**+0.4**
HCY	**Herceg Novi**	**0.99**	**274**	ePg	**Pg**	**14 20 49.3**	**-0.8**
HCY				eSg	**Sg**	**14 21 03.5**	**+0.2**
PLE	**Pljevlja**	**0.99**	**341**	ePg	**Pg**	**14 20 48.9**	**-1.2**
PLE				eSg	**Sg**	**14 21 04.7**	**+1.3**
TIR	**Tirane**	**1.04**	**179**	i Pn	**Pn**	**14 20 55.0**	**+3.9**
UPM	**Unac-Piva**	**1.06**	**320**	ePg	**Pg**	**14 20 50.3**	**-1.2**
UPM				eSg	**Sg**	**14 21 05.6**	**0.0**
BRY	**Bratogost**	**1.08**	**299**	ePg	**Pg**	**14 20 50.8**	**-1.1**
BRY				eSg	**Sg**	**14 21 07.2**	**+0.8**
NVSS	**Nova Varos 2**	**1.12**	**355**	⇑iPn	**Pn**	**14 20 50.4**	**-1.8**
NVSS				Sn	**Sn**	**14 21 07.3**	**-0.7**
SKO	**Skopje**	**1.26**	**109**	ePn	**Pn**	**14 20 55.0**	**+0.8**
BBLS	**Bajina Basta -**	**1.51**	**348**	⇑iPn	**Pn**	**14 20 58.1**	**+0.4**
BBLS				Sn	**Sn**	**14 21 20.6**	**+2.8**
BOLS	**Boljevac**	**2.12**	**46**	ePn	**Pn**	**14 21 06.3**	**-0.2**

*NIED **10** 14:34:00,33.50N×141.20E,h44^{km},Mw4.4 Best double couple: $M_0$4.16×10^{15} NP1:ϕ_s314°,δ67°,λ65°. NP2:ϕ_s184°, δ33°,λ135°.*
*JMA **10** 14:34:35.3±0.1,33.47N×141.17E,h52^{km},M4.3*
JMA Felt I J1.
*MOS **10** 14:34:37.7±0.8,33.34N×140.73E,h65^{km},mb4.2/11,Error ellipse: s-maj=25.0km s-min=9.1km az=110.9*
*NEIC **10** 14:34:39.6±0.9,33.39N×140.80E,h63^{km}±8^{km},mb4.6/10, MW4.3(NIED),Error ellipse: s-maj=11.0km s-min=5.7km az=81.0*
NEIC Recorded [1 JMA] on Hachijo-jima.
*BJI **10** 14:34:39.6,33.40N×140.80E,h63^{km},mB4.5,mb4.1*
*IDC **10** 14:34:39.7±1.6,33.36N×140.83E,h64^{km}±13^{km},mb3.6/15, mb1 3.8/16,mb1mx3.8/20,mbtmp3.9/16,MS3.3/3, Ms1 3.3/3,ms1mx2.9/29,Error ellipse: s-maj=21.2km s-min=11.7km az=81.0*
ISC 10 14:34:35.7±0.7,**33.44N**±0.03×**141.11E**±0.06,**h48**^{km}±6^{km}, **n80,**σ**1^{s}05**/89,**mb4.1**/22,**MS3.3**/2,**1C-1D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.13**	**254**	P	**P**	**14 34 56.1**	**+0.8**
JHJ2				S	**S**	**14 35 11.3**	**+1.4**
JHJ	**Hachijo jima 2**	**1.15**	**254**	P	**P**	**14 34 56.1**	**+0.5**
	2μm,0.3s,baz=107,slow=17,SNR=498						
JHJ				LR	LR	14 35 09.2	
	comp=Z,2μm,21.3s,baz=265,slow=34						
JHJ				S	**S**	**14 35 09.7**	**-0.9**
	3μm,0.3s,baz=90,slow=20,SNR=27						
BSO1	**Boso 1**	**1.22**	**355**	P	**P**	**14 34 56.0**	**-0.6**
BSO3	**Boso 3**	**1.45**	**340**	P	**P**	**14 34 59.7**	**-0.2**
JMY	**Miyakejima3**	**1.47**	**296**	P	**P**	**14 35 00.6**	**+0.4**
BSO4	**Boso 4**	**1.67**	**338**	P	**P**	**14 35 03.1**	**0.0**
KTR	**Katsuura**	**1.83**	**339**	P	**P**	**14 35 05.0**	**-0.2**
JIM2	**Oshima 3**	**1.89**	**313**	P	**P**	**14 35 06.2**	**+0.1**
JIM2				S	**S**	**14 35 28.9**	**+0.2**
JIZS	**Izushimoda**	**2.25**	**305**	P	**P**	**14 35 11.6**	**+0.4**
JIZS				S	**S**	**14 35 38.6**	**+0.8**
JOD2	**Odawara 2**	**2.47**	**318**	P	**P**	**14 35 14.1**	**-0.3**
JOD2				S	**S**	**14 35 42.6**	**-0.9**
TK04	**Tokai 4**	**2.85**	**290**	P	**P**	**14 35 20.8**	**+1.0**
SHZ3	**Shizuoka 3**	**2.90**	**305**	P	**P**	**14 35 21.9**	**+1.4**
JYN	**Shimob**	**2.95**	**315**	P	**P**	**14 35 21.6**	**+0.4**
TK01	**Tokai 1**	**2.95**	**277**	S	**S**	**14 35 55.7**	**0.0**
JRY	**Ryogami san**	**3.15**	**325**	P	**P**	**14 35 23.8**	**-0.2**
JAG	**Ashikaga**	**3.27**	**336**	P	**P**	**14 35 24.6**	**-1.2**
MJAR	**Matsushiro Arr**	**3.90**	**323**	P	**P**	**14 35 35.2**	**+0.5**
MJAR				S	**S**	**14 36 19.4**	**-0.4**
MJAR				pmax	pmax		
	comp=Z,25nm,0.3s						
MJAR	**Matsushiro Arr**	**3.90**	**323**	P	**P**	**14 35 35.2**	**+0.5**
	comp=Z,25nm,0.3s,baz=214,slow=30,SNR=145						
MJAR				S	**S**	**14 36 19.4**	**-0.4**
	comp=Z,13nm,0.3s,baz=237,slow=31,SNR=4.4						
MJAR	**Matsushiro Arr**	**3.90**	**323**	P	**P**	**14 35 35.2**	**+0.5**
MJAR				S	**S**	**14 36 19.4**	**-0.4**
MAJO	**Matsushiro**	**3.91**	**323**	eP	**P**	**14 35 35.6**	**+0.9**
MAJO				eS	**S**	**14 36 17.2**	**-2.6**
MAT	**Matsushiro**	**3.91**	**323**	eP	**P**	**14 35 36.0**	**+1.3**
MAT				S	**S**	**14 36 19.0**	**-0.8**
MAT	**Matsushiro**	**3.91**	**323**	P	**P**	**14 35 35.5**	**+0.8**
MAT				eS	**S**	**14 36 18.8**	**-1.0**
CBIJ	**Chichi jima**	**6.39**	**171**	P	**P**	**14 36 06.8**	**-2.7**
	comp=Z,35nm,0.3s,baz=294,slow=23,SNR=28						
CBIJ				S	**S**	**14 37 14.4**	**-7.6**
	comp=Z,22nm,0.3s,baz=270,slow=20,SNR=2.7						
ASAJ	**Asahikawa**	**10.73**	**6**	P	**P**	**14 37 06.1**	**-3.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**10.73**	**6**	P	**P**	**14 37 06.1**	**-3.3**
	comp=Z,2.1nm,0.3s,baz=231,slow=7.6,SNR=12						
JOW	**Kunigami**	**12.90**	**243**	LR	LR	14 42 17.9	
	comp=Z,79nm,20.0s,baz=125,slow=36						
YSS	**Yuzh-Sakhalins**	**13.56**	**5**	eP	**P**	**14 37 45.8**	**-1.4**
GUMO	**Guam**	**20.05**	**169**	eP	**P**	**14 39 08.1**	**+0.5**
GUMO				pmax	pmax		
	comp=Z,59nm,0.8s						
GUMO	**Guam**	**20.05**	**169**	eP	**P**	**14 39 08.1**	**+0.5**
	comp=Z,59nm,0.8s						
HIA	**Hailar**	**22.41**	**321**	eP	**P**	**14 39 31.4**	**+0.3**
HHC	**Hu-ho-hao-te**	**24.60**	**296**	eP	**P**	**14 39 58.6**	**+6.0**
HHC				AMB	AMB		
	comp=Z,11nm,4.2s						
ULN	**Ulaanbaatar**	**29.31**	**310**	eP	**P**	**14 40 30.4**	**-5.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
ULN	**Ulaanbaatar**	**29.31**	**310**	eP	**P**	**14 40 30.4**	**-5.3**
	comp=Z,2.0nm,0.8s,mb3.9						
SONM	**Songino Array**	**29.73**	**309**	P	**P**	**14 40 39.5**	**+0.2**
	comp=Z,1.1nm,0.5s,mb3.8,baz=106,slow=9.1,SNR=8.8						
SONM				LR	LR	14 52 33.9	
	comp=Z,71nm,19.6s,MS3.3,baz=247,slow=36						
ZAL	**Zalesovo**	**44.23**	**315**	P	**P**	**14 42 39.9**	**-1.8**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**44.23**	**315**	P	**P**	**14 42 39.9**	**-1.8**
	comp=Z,0.7nm,0.4s,mb3.8,baz=219,slow=6.5,SNR=2.7						
MKAR	**Makanchi Array**	**45.90**	**305**	P	**P**	**14 42 55.0**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,35nm,19.7s						
MKAR	**Makanchi Array**	**45.90**	**305**	P	**P**	**14 42 55.0**	**-0.1**
	comp=Z,1.2nm,0.5s,mb4.1,baz=88,slow=11,SNR=12						
MKAR				LR	LR	15 02 58.2	
	comp=Z,35nm,19.7s,MS3.3,baz=261,slow=37						
KAKA	**Kakadu**	**46.63**	**192**	⇓iP	**P**	**14 43 01.0**	**-0.2**
	comp=Z,7.6nm,0.5s,mb4.9						
ILAR	**Eielson Array**	**52.68**	**31**	P	**P**	**14 43 49.2**	**+2.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**52.68**	**31**	P	**P**	**14 43 49.1**	**+2.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=253,slow=6.5,SNR=4.8						
BVAR	**Borovoye Array**	**52.85**	**314**	P	**P**	**14 43 48.0**	**-0.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=91,slow=8.6,SNR=11						
FITZ	**Fitzroy Crossi**	**53.33**	**198**	eP	**P**	**14 43 52.3**	**-0.2**
	comp=Z,5.4nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**53.46**	**188**	eP	**P**	**14 43 52.2**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,18nm,0.3s						
WRAB	**Tennant Creek**	**53.46**	**188**	eP	**P**	**14 43 52.2**	**-1.2**
	comp=Z,18nm,0.3s						
WB2	**Warramunga Arr**	**53.47**	**188**	⇑iP	**P**	**14 43 52.3**	**-1.2**
WRA	**Warramunga Arr**	**53.47**	**188**	P	**P**	**14 43 52.4**	**-1.1**
WRA				pmax	pmax		
	comp=Z,20nm,0.4s						
WRA	**Warramunga Arr**	**53.47**	**188**	P	**P**	**14 43 52.4**	**-1.1**
	comp=Z,20nm,0.4s,baz=5.5,slow=7.6,SNR=606						
INK	**Inuvik**	**57.71**	**26**	P	**P**	**14 44 23.5**	**+0.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**57.71**	**26**	P	**P**	**14 44 23.5**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=284,slow=4.2,SNR=2.2						
ARU	**Arti**	**58.91**	**320**	eP	**P**	**14 44 30.9**	**-1.0**
ARU	**Arti**	**58.91**	**320**	eP	**P**	**14 44 31.1**	**-0.8**
	comp=Z,8.0nm,0.4s,mb5.1						
STKA	**Stephens Creek**	**64.97**	**180**	eP	**P**	**14 45 12.4**	**-0.4**
	comp=Z,6.1nm,1.5s,mb4.4						
STKA	**Stephens Creek**	**64.97**	**180**	P	**P**	**14 45 11.3**	**-1.5**
	comp=Z,3.4nm,0.8s,mb4.4,baz=36,slow=7.7,SNR=7.8						
YKA	**Yellowknife Ar**	**67.05**	**29**	P	**P**	**14 45 27.5**	**+2.1**
	comp=Z,0.3nm,0.5s,mb3.6,baz=290,slow=7.2,SNR=3.1						
ARCES	**ARCESS Array B**	**67.27**	**340**	P	**P**	**14 45 26.7**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**67.27**	**340**	P	**P**	**14 45 26.7**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.8,baz=45,slow=6.9,SNR=3.7						
ARCES	**ARCESS Array B**	**67.27**	**340**	P	**P**	**14 45 26.7**	**-0.1**
KLBR	**Kellerberrin**	**68.33**	**201**	eP	**P**	**14 45 33.4**	**-0.6**
	comp=Z,4.3nm,0.5s,mb4.7						
KAF	**Kangasniemi**	**71.39**	**333**	ep	**P**	**14 45 50.7**	**-1.4**
	comp=Z,2.2nm,1.0s,mb4.0						
KAF	**Kangasniemi**	**71.39**	**333**	eP	**P**	**14 45 50.7**	**-1.4**
KAF				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
FINES	**FINESS Array B**	**71.88**	**333**	P	**P**	**14 45 55.2**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**71.88**	**333**	P	**P**	**14 45 55.2**	**+0.1**
	comp=Z,0.8nm,0.4s,mb4.0,baz=58,slow=5.1,SNR=13						
FINES	**FINESS Array B**	**71.88**	**333**	P	**P**	**14 45 55.2**	**+0.1**
AKASG	**Malin Array Be**	**76.99**	**323**	P	**P**	**14 46 24.8**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**76.99**	**323**	P	**P**	**14 46 24.8**	**0.0**
	comp=Z,1.2nm,0.4s,mb4.2,baz=46,slow=6.1,SNR=14						
NB2	**NORSAR Subarra**	**77.40**	**338**	P	**P**	**14 46 26.8**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=41,slow=5.6						
NB2	**NORSAR Subarra**	**77.40**	**338**	P	**P**	**14 46 26.8**	**0.0**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**77.40**	**338**	P	**P**	**14 46 27.2**	**+0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**77.40**	**338**	P	**P**	**14 46 27.2**	**+0.4**
	comp=Z,1.1nm,0.7s,mb3.9,baz=41,slow=5.6,SNR=8.4						
PDAR	**Pinedale Array**	**80.38**	**45**	P	**P**	**14 46 49.5**	**+6.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=288,slow=4.7,SNR=4.2						
BRTR	**Keskin Array B**	**81.05**	**312**	P	**P**	**14 46 48.4**	**+1.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**81.05**	**312**	P	**P**	**14 46 48.4**	**+1.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=90,slow=2.5,SNR=4.9						
SRU	**San Rafael**	**81.98**	**48**	eP	**P**	**14 46 54.1**	**+2.2**
PV10	**Paradox Valley**	**83.35**	**48**	eP	**P**	**14 47 01.8**	**+2.9**
CLL	**Collm**	**84.09**	**330**	P	**P**	**14 47 02.4**	**+0.1**
GERES	**GERESS Array B**	**85.63**	**328**	P	**P**	**14 47 10.4**	**+0.5**
	comp=Z,0.4nm,0.4s,mb4.0,baz=34,slow=4.8,SNR=4.8						
TXAR	**Lajitas Array**	**92.52**	**52**	P	**P**	**14 47 45.5**	**+2.4**
	comp=Z,0.3nm,0.5s,mb4.0,baz=308,slow=4.0,SNR=5.3						
LPAZ	**La Paz**	**148.61**	**64**	PKP2	PKPab	14 54 21.7	-1.9
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ	**La Paz**	**148.61**	**64**	PKPbc	PKPdf	14 54 21.6	+7.6
	comp=Z,1.3nm,0.6s,baz=187,slow=24,SNR=9.9						

IDC 10 14:46:07.5±4.1,**6.25S**×**103.68E,mb3.5**/4,**mb1 3.7**/4, **mb1mx3.5**/16,**mbtmp3.5**/4,**Error ellipse: s-maj=160.1km s-min=27.0km az=53.0,Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**24.99**	**349**	P	P	14 51 33.2	-1.2
	1.0nm,0.7s,baz=181,slow=8.9,SNR=6.7						
WRA	**Warramunga Arr**	**32.74**	**117**	P	P	14 52 42.0	-2.4
	0.2nm,0.7s,baz=291,slow=11,SNR=3.6						
SONM	**Songino Array**	**53.90**	**2**	P	P	14 55 33.1	-1.8
	0.4nm,0.4s,baz=177,slow=8.0,SNR=7.5						
MKAR	**Makanchi Array**	**56.12**	**342**	P	P	14 55 47.9	-3.1
	0.3nm,0.5s,baz=163,slow=8.0,SNR=3.7						
GERES	**GERESS Array B**	**94.64**	**318**	tx	tx	14 59 45.1	
	0.4nm,0.5s,baz=97,slow=11,SNR=6.6						
TXAR	**Lajitas Array**	**145.46**	**45**	PKPbc	PKPbc	15 05 48.2	-0.5
	0.4nm,0.6s,baz=276,slow=1.4,SNR=5.7						

*NSSP **10** 14:54:10.1,38.58N×44.72E,h10^{km},ML3.0*
*ISK **10** 14:54:24.8,38.78N×44.54E,h19^{km},ML3.6*
*THR **10** 14:54:26.0±0.4,39.77N×44.94E,h14^{km}±6^{km},ML3.1*
*CSEM **10** 14:54:26.3±0.1,39.77N×44.87E,h20^{km},ML3.9/1,Error ellipse: s-maj=3.2km s-min=2.7km az=46.0*
ISC 10 14:54:23.7±1.3,**38.78N**±0.05×**44.60E**±0.07,**h3**^{km}±10^{km}, **n21,**σ**1^{s}29**/31,**Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKU	**Maku**	**0.57**	**7**	ePG	**Pg**	**14 54 35.3**	**+0.1**
MAKU				eSG	**Sg**	**14 54 42.3**	**-0.5**
MAKU				AML	AML	14 54 50.8	
	comp=N,1μm,0.4s						
MAKU	**Maku**	**0.57**	**7**	ePg	**Pg**	**14 54 35.3**	**+0.1**
	SNR=90						
MAKU				eSg	**Sg**	**14 54 42.3**	**-0.5**
	comp=N,1μm,0.4s,SNR=90						
CLDR	**Caldiran**	**0.64**	**304**	i PG	**Pg**	**14 54 36.5**	**0.0**
CLDR				i SG	**Sg**	**14 54 46.7**	**+1.7**
TVAN	**Van**	**0.97**	**255**	i P	**Pb**	**14 54 42.4**	**-0.4**
TVAN				i S	**Sg**	**14 55 04.2**	**+8.2**
VANT	**Van**	**1.00**	**251**	PG	**Pg**	**14 54 45.3**	**+1.5**
GNI	**Garni**	**1.37**	**5**	PN	**Pn**	**14 54 50.1**	**+0.3**
HKR	**Hakkari**	**1.38**	**210**	PN	**Pn**	**14 54 49.5**	**-0.5**
BTMT	**Batman**	**2.51**	**257**	PN	**Pn**	**14 55 07.8**	**+1.7**
GRMI	**Germi**	**2.58**	**88**	ePN	**Pn**	**14 55 08.3**	**+1.3**
GRMI				eSG	**Sn**	**14 55 44.0**	**+4.7**
GRMI				AML	AML	14 55 50.1	
	comp=N,123nm,0.6s						
GRMI	**Germi**	**2.58**	**88**	ePn	**Pn**	**14 55 08.3**	**+1.2**
	SNR=52						
GRMI				eSg	**Sg**	**14 55 44.0**	**-5.5**
	comp=N,123nm,0.6s,SNR=90						
DGRG	**David-gareji**	**2.73**	**12**	P	**Pg**	**14 55 15.4**	**-2.7**
DGRG				S	**Sg**	**14 55 54.4**	**-0.2**
EZM	**Erzurum**	**2.75**	**295**	PN	**Pn**	**14 55 08.0**	**-1.5**
BEST	**Besiri**	**2.76**	**252**	i P	**Pn**	**14 55 11.4**	**+1.7**
BEST				i S	**Sg**	**14 55 53.7**	**-2.0**
GOR	**Gori**	**3.22**	**354**	P	**Pg**	**14 55 25.1**	**-2.8**
GOR				S	**Sg**	**14 56 13.2**	**+2.4**
MARD	**Mardin**	**3.35**	**245**	i P	**Pn**	**14 55 19.1**	**+1.0**
MARD				i S	**Pg**	**14 55 46.5**	**+16**
BCA	**Borcka**	**3.50**	**320**	PN	**Pn**	**14 55 19.2**	**-1.0**
ONI	**Oni**	**3.89**	**347**	P	**Pn**	**14 55 35.3**	**+10**
PTK	**Pertek**	**4.07**	**273**	ePN	**Pn**	**14 55 27.6**	**-0.7**
URFA	**Urfa**	**4.75**	**255**	ePN	**Pn**	**14 55 37.2**	**-0.7**
MALT	**Malatya**	**4.86**	**266**	ePN	**Pn**	**14 55 38.6**	**-0.9**
ASAO	**Ashtian**	**6.07**	**132**	ePN	**Pn**	**14 56 05.1**	**+8.5**

NNC 10 15:04:45.6±2.5,**37.28N**×**71.08E,h209**^{km}±35^{km},**mpv3.2, 4C-1D,Error ellipse: s-maj=24.6km s-min=18.8km az=27.0,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.83**	**356**	⇑P	P	15 06 10.6	-1.0
	0.8nm,0.3s,baz=173,slow=12,SNR=23						
KK31				⇑S	S	15 07 19.1	+0.6
	2.2nm,0.3s,baz=188,slow=20,SNR=22						
AAK	**Ala-Archa**	**5.96**	**25**	⇑S	S	15 07 21.9	+0.6
	6.7nm,1.0s						
AB31	**Akbulak array**	**14.44**	**330**	⇓P	P	15 08 01.2	-0.2
	0.5nm,0.6s,baz=144,slow=15,SNR=7.8						
AB31				⇑S	S	15 10 39.9	+3.5
	0.3nm,0.5s						

IDC 10 15:15:25.6±2.0,**4.63N**×**94.60E,mb3.7**/5,**mb1 3.9**/5, **mb1mx3.6**/19,**mbtmp3.7**/5,**Error ellipse: s-maj=82.9km s-min=26.6km az=55.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.39**	**17**	Pn	P	15 18 58.0	+5.2
	0.1nm,0.3s,baz=214,slow=12,SNR=10						
MKAR	**Makanchi Array**	**43.34**	**348**	P	P	15 23 30.1	-1.0
	0.6nm,0.4s,baz=172,slow=7.5,SNR=8.9						
SONM	**Songino Array**	**44.22**	**11**	P	P	15 23 36.3	-2.0
	0.2nm,0.4s,baz=190,slow=8.8,SNR=2.6						
WRA	**Warramunga Arr**	**46.06**	**123**	P	P	15 23 51.7	-1.7
	2.7nm,0.9s,baz=300,slow=9.6,SNR=13						
FINES	**FINESS Array B**	**75.78**	**333**	P	P	15 27 13.2	-1.8
	0.8nm,0.8s,baz=143,slow=9.5,SNR=5.4						
ARCES	**ARCESS Array B**	**78.45**	**340**	P	P	15 27 27.6	-2.0
	1.1nm,0.8s,baz=90,slow=6.1,SNR=4.1						

*IDC **10** 15:48:39.1±2.6,56.76S×26.59W,mb4.3/2,mb1 4.5/2, mb1mx3.8/12,mbtmp4.3/2,Error ellipse: s-maj=249.6km s-min=35.8km az=28.0*
*NEIC **10** 15:48:52.4±0.5,56.64S×27.05W,h100^{km},mb4.1/3,Error ellipse: s-maj=36.3km s-min=12.3km az=47.0*
ISC 10 15:48:50.2±2.2,**56.6S**±0.5×**2 7W**± **,h100**^{km}**,n12,**σ**0^{s}89**/7, **mb4.1**/4,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.16**	**156**	eP	**P**	**15 52 56.7**	**0.0**
	1.4nm,0.5s						
TRQA	**Tornquist**	**29.68**	**294**	eP	**P**	**15 54 47.8**	**-0.6**
	0.8nm,0.5s,mb3.6						
CPUP	**Villa Florida**	**37.29**	**311**	P	**P**	**15 55 54.2**	**+0.3**
	1.1nm,0.6s,mb4.0,baz=163,slow=12,SNR=6.2						
CPUP	**Villa Florida**	**37.29**	**311**	eP	**P**	**15 55 54.0**	**+0.1**
	1.2nm,0.6s,mb4.0						
LPAZ	**La Paz**	**50.82**	**305**	P	**P**	**15 57 44.1**	**+1.7**
	4.5nm,0.5s,mb4.8,baz=117,slow=4.5,SNR=31						
LPAZ	**La Paz**	**50.82**	**305**	eP	**P**	**15 57 43.8**	**+1.4**
	4.1nm,0.5s,mb4.7						
SAML	**Samuel**	**55.30**	**315**	P	**P**	**15 58 14.5**	**-1.1**
	0.9nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**124.83**	**28**	PKP	PKPdf	16 07 38.7	+1.6
	0.7nm,0.9s,baz=225,slow=3.9,SNR=5.3						
FINES	**FINESS Array B**	**124.83**	**28**	PKP	PKPdf	16 07 38.7	+1.6
ARCES	**ARCESS Array B**	**131.43**	**22**	PKP	PKPdf	16 07 51.5	+2.0
	0.9nm,0.9s,baz=225,slow=1.7,SNR=5.2						
ILAR	**Eielson Array**	**150.60**	**311**	PKPbc	PKPdf	16 08 31.0	+7.9
	1.5nm,0.7s,baz=146,slow=1.6,SNR=18						
SONM	**Songino Array**	**150.62**	**87**	PKPbc	PKPdf	16 08 31.8	+8.2
	0.6nm,0.6s,baz=235,slow=2.7,SNR=4.7						

*IDC **10** 15:55:21.1±0.6,17.83S×13.50W,mb4.0/17,mb1 4.0/17, mb1mx4.0/24,mbtmp4.0/17,MS4.5/19,Ms1 4.5/19, ms1mx4.5/21,Error ellipse: s-maj=16.3km s-min=16.2km az=137.0*
*NEIC **10** 15:55:23.2±0.4,17.79S×13.44W,h10^{km},mb4.5/9, MS4.6/1,Error ellipse: s-maj=12.9km s-min=10.0km az=97.0*
ISC 10 15:55:21.5±0.4,**17.79S**±0.07×**13.43W**±0.09,**h10**^{km}**,n57,** σ**0^{s}92**/43,**mb4.1**/22,**MS4.5**/19,**2C,Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**25.73**	**20**	P	**P**	**16 00 53.1**	**-0.9**
	4.1nm,0.9s,mb4.0,baz=157,slow=9.9,SNR=4.5						
DBIC				LR	LR	16 08 32.2	
	comp=Z,2μm,20.3s,MS4.5,baz=168,slow=31						
DBIC	**Dimbokro**	**25.73**	**20**	eP	**P**	**16 00 53.0**	**-1.1**
	6.2nm,0.8s,mb4.2						
DBIC				LR	LR	16 08 32.2	
TSUM	**Tsumeb**	**29.43**	**98**	eP	**P**	**16 01 26.9**	**-0.7**
	3.2nm,0.8s,mb4.1						
BDFB	**Brasilia**	**33.16**	**268**	LR	LR	16 12 23.7	
	comp=Z,1μm,20.8s,MS4.5,baz=277,slow=31						
SUR	**Sutherland**	**34.08**	**122**	P	**P**	**16 02 09.0**	**+0.7**
	3.7nm,0.8s,mb4.4,baz=270,slow=4.0,SNR=4.3						
SUR	**Sutherland**	**34.08**	**122**	eP	**P**	**16 02 07.6**	**-0.7**
LBTB	**Lobatse**	**36.94**	**108**	P	**P**	**16 02 32.4**	**-0.4**
	3.7nm,0.8s,mb4.2,baz=259,slow=10,SNR=2.4						
LBTB	**Lobatse**	**36.94**	**108**	eP	**P**	**16 02 31.8**	**-0.9**
	3.6nm,0.7s,mb4.3						
BOSA	**Boshof**	**37.01**	**114**	P	**P**	**16 02 31.8**	**-1.5**
	1.0nm,0.7s,mb3.8,baz=276,slow=15,SNR=2.6						
BOSA				LR	LR	16 15 03.6	
	comp=Z,1μm,19.8s,MS4.6,baz=278,slow=32						
BOSA	**Boshof**	**37.01**	**114**	P	**P**	**16 02 31.8**	**-1.5**
BOSA				LR	LR	16 15 03.6	
MATP	**Matopo**	**39.63**	**101**	P	**P**	**16 02 55.6**	**+0.3**
	11nm,0.9s,mb4.6,baz=268,slow=11,SNR=9.6						
CPUP	**Villa Florida**	**41.40**	**250**	P	**P**	**16 03 07.4**	**-2.4**
	1.3nm,0.7s,mb3.7,baz=104,slow=11,SNR=4.3						
CPUP				LR	LR	16 17 39.9	
	comp=Z,375nm,18.1s,MS4.3,baz=115,slow=32						
SIV	**San Ignacio**	**45.53**	**265**	P	**P**	**16 03 42.3**	**-1.1**
	1.0nm,0.9s,mb3.8,baz=111,slow=19,SNR=3.2						
LPAZ	**La Paz**	**52.17**	**263**	P	**P**	**16 04 35.6**	**+0.8**
	0.9nm,1.0s,mb3.7,baz=58,slow=13,SNR=2.7						
LPAZ				LR	LR	16 25 48.6	
	comp=Z,350nm,20.0s,MS4.4,baz=100,slow=35						
KMBO	**Kilima Mbogo**	**52.45**	**77**	LR	LR	16 22 54.8	
	comp=Z,300nm,20.9s,MS4.3,baz=270,slow=32						
VNA2	**Neumayer--Watz**	**53.26**	**178**	⇑i	**P**	**16 04 43.7**	**+1.5**
VNA2	**Neumayer--Watz**	**53.26**	**178**	⇑i	**P**	**16 04 48.2**	**+6.0**
VNA2	**Neumayer--Watz**	**53.26**	**178**		**P**	**16 04 53.0**	**+11**
VNA3	**Neumayer Olymp**	**53.50**	**178**		**P**	**16 04 46.2**	**+2.2**
VNA3	**Neumayer Olymp**	**53.50**	**178**		**P**	**16 04 53.8**	**+10**
SNAA	**Sanae**	**54.24**	**176**		**P**	**16 04 48.9**	**-0.5**
SNAA	**Sanae**	**54.24**	**176**		**P**	**16 04 54.4**	**+5.0**
SNAA	**Sanae**	**54.24**	**176**		**P**	**16 05 00.2**	**+11**
SNAA	**Sanae**	**54.24**	**176**	P	**P**	**16 04 47.6**	**-1.8**
	0.3nm,0.6s,mb3.4,baz=6.3,slow=9.2,SNR=6.9						
SNAA	**Sanae**	**54.24**	**176**	eP	**P**	**16 04 48.5**	**-1.0**
	11nm,1.3s,mb4.6						
ESDC	**Sonseca Array**	**57.84**	**9**	P	**P**	**16 05 15.2**	**-0.5**
	0.6nm,0.7s,mb3.8,baz=190,slow=9.0,SNR=4.7						
ATD	**Arta Tunnel**	**62.73**	**67**	LR	LR	16 31 56.8	
	comp=Z,342nm,18.2s,MS4.6,baz=233,slow=35						
EIL	**Elat**	**66.34**	**45**	LR	LR	16 32 34.6	
	comp=Z,374nm,19.1s,MS4.6,baz=291,slow=34						
MAW	**Mawson**	**68.48**	**156**	P	**P**	**16 06 26.1**	**+0.5**
	1.5nm,0.7s,mb4.2,baz=295,slow=9.6,SNR=3.2						
MAW				LR	LR	16 28 51.7	
	comp=Z,411nm,19.8s,MS4.7,baz=282,slow=29						
ASF	**Jabal al Asfar**	**69.21**	**44**	LR	LR	16 36 02.8	
	comp=Z,317nm,18.6s,MS4.6,baz=106,slow=35						
GERES	**GERESS Array B**	**70.59**	**19**	P	**P**	**16 06 38.7**	**-0.2**
	0.2nm,0.4s,mb3.4,baz=190,slow=6.0,SNR=3.8						
GERES				LR	LR	16 36 11.2	
	comp=Z,491nm,21.7s,MS4.7,baz=38,slow=35						
GRA1	**Grafenberg Arr**	**70.64**	**17**	eP	**P**	**16 06 39.4**	**+0.2**
	7.0nm,1.7s,mb4.3						
GRF	**Grafenberg Arr**	**70.64**	**17**	eP	**P**	**16 06 39.4**	**+0.2**
	7.0nm,1.7s,mb4.3						
KHC	**Kasperske Hory**	**70.81**	**18**	eP	**P**	**16 06 39.6**	**-0.6**
KHC				eS	S	16 15 55.5	+1.7
KHC				AMS	AMS	16 34 30.0	
	400nm,22.5s						
NKC	**Novy Kostel**	**71.47**	**17**	AMS	AMS	16 36 00.0	
	400nm,22.7s						
PRU	**Pruhonice**	**71.86**	**19**	eP	**P**	**16 06 47.4**	**+0.9**
PRU				eS	S	16 16 08.8	+2.9
PRU				AMS	AMS	16 36 50.0	
	300nm,20.3s						
BRTR	**Keskin Array B**	**72.11**	**36**	P	**P**	**16 06 49.3**	**+1.1**
	1.2nm,0.7s,mb3.9,baz=201,slow=6.3,SNR=7.5						
PVCC	**Panska Ves**	**72.35**	**18**	AMS	AMS	16 37 40.0	
	300nm,20.3s						
QSPA	**South Pole Qui**	**72.39**	**180**	eP	**P**	**16 06 50.2**	**+1.0**
	7.7nm,0.9s,mb4.6						
DPC	**Dobruska-Polom**	**72.73**	**19**	eP	**P**	**16 06 58.6**	**+6.9**
DPC				eS	S	16 16 17.9	+2.1
DPC				AMS	AMS	16 36 00.0	
	400nm,18.8s						
UPC	**Upice**	**72.77**	**19**	eP	**P**	**16 06 53.3**	**+1.4**
OKC	**Ostrava-Krasne**	**72.89**	**21**	eS	S	16 16 27.3	+10
OKC				AMS	AMS	16 38 20.0	
	400nm,18.4s						
OJC	**Ojcow**	**73.78**	**22**	eP	**P**	**16 06 58.5**	**+0.7**
AKASG	**Malin Array Be**	**77.80**	**26**	P	**P**	**16 07 20.0**	**-0.5**
	2.6nm,0.6s,mb4.3,baz=224,slow=5.2,SNR=18						
AKASG	**Malin Array Be**	**77.80**	**26**	P	**P**	**16 07 20.0**	**-0.5**
GNI	**Garni**	**79.04**	**42**	LR	LR	16 41 01.2	
	comp=Z,188nm,21.8s,MS4.4,baz=243,slow=35						
NOA	**NORSAR Array B**	**81.01**	**12**	P	**P**	**16 07 37.4**	**-0.2**
	0.5nm,0.7s,mb3.5,baz=204,slow=5.9,SNR=3.3						
NOA				LR	LR	16 43 39.6	
	comp=Z,218nm,21.8s,MS4.5,baz=205,slow=36						
SBA	**Scott Base**	**84.56**	**180**	eP	**P**	**16 07 56.5**	**+0.9**
	9.4nm,1.1s,mb4.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	Vanda	84.85	179	P	P	16 07 56.4	-0.7
	1.0nm,0.9s,mb4.0,baz=233,slow=6.3,SNR=6.6						
VNDA				LR	LR	16 41 31.0	
	comp=Z,351nm,18.5s,MS4.8,baz=183,slow=33						
FINES	FINESS Array B	85.01	18	P	P	16 07 58.2	+0.1
	0.9nm,0.8s,mb4.0,baz=180,slow=5.7,SNR=5.4						
FINES				LR	LR	16 45 53.9	
	comp=Z,306nm,20.3s,MS4.7,baz=226,slow=36						
FINES	FINESS Array B	85.01	18	P	P	16 07 58.2	+0.1
SCHQ	Schefferville	85.35	332	LR	LR	16 40 28.1	
	comp=Z,247nm,19.0s,MS4.6,baz=270,slow=32						
KAF	Kangasniemi	85.61	18	ep	P	16 08 01.3	+0.2
	2.2nm,0.7s,mb4.5						
ARCES	ARCESS Array B	91.35	13	LR	LR	16 48 34.3	
	comp=Z,294nm,21.2s,MS4.7,baz=243,slow=35						
TXAR	Lajitas Array	98.71	298	LR	LR	16 53 51.2	
	comp=Z,75nm,18.9s,MS4.2,baz=280,slow=36						
ULM	Lac du Bonnet	98.76	320	LR	LR	16 44 48.9	
	comp=Z,207nm,21.5s,MS4.6,baz=153,slow=30						
MJAR	Matsushiro Arr	148.78	48	PKPbc	PKPdf	16 15 16.9	+8.2
	3.9nm,0.9s,baz=258,slow=4.2,SNR=6.6						

MOS ***10*** *16:18:41.9±0.8, 35.87N×70.13E, h90km, mb4.6/44, Error ellipse: s-maj=8.8km s-min=5.0km az=117.6*
NEIC ***10*** *16:18:42.2±0.8, 35.84N×70.18E, h81km±8km, mb4.6/54, Error ellipse: s-maj=6.8km s-min=3.7km az=222.0*
BJI ***10*** *16:18:42.3, 35.84N×70.08E, h95km, mB4.8, mb4.5*
IDC ***10*** *16:18:48.0±3.8, 35.98N×70.22E, h129km±35km, mb4.0/19, mb1 4.1/21, mb1mx4.0/27, mbtmp4.4/21, Error ellipse: s-maj=13.7km s-min=11.4km az=138.0*
NNC ***10*** *16:18:52.5±3.1, 36.57N×69.80E, h126km±31km, mpv4.9, Error ellipse: s-maj=25.2km s-min=20.8km az=30.0*
ISC 10 16:18:42.8±0.5**, 35.89N**±0.02×**70.15E**±0.04**, h99**km±5km**, h106**km±6.1km**: pP-P, n225, σ1.03**/252**, mb4.4**/75**, 17C-15D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.52	144	⇓P	P	16 19 26.7	+3.8
THW	Thamme Wali	3.35	156	⇑P	P	16 19 36.9	+2.5
CHCP	Chirah Chowk	3.39	130	P	P	16 19 38.8	+3.9
SBDP	Sheikh Budin	3.62	171	⇑P	P	16 19 41.0	+3.0
DRP	Derazinda	4.13	179	P	P	16 19 47.6	+2.6
SARP	Sargodha	4.48	151	⇑P	P	16 19 51.2	+1.5
JMU	Jammu	5.05	127	e	S	16 20 56.0	+1.0
THN	Thein Dam	5.76	125	eP	P	16 20 08.6	+1.5
THN				e		16 21 14.4	
DLH	Dalhousie	5.86	123	eP	P	16 20 09.0	+0.5
DLH				eS	S	16 21 10.0	-5.0
KSH	Kashi	5.87	50	eP	P	16 20 12.5	+3.8
KSH				S	S	16 21 18.9	+3.7
PONG	Pong	6.22	127	eP	P	16 20 15.0	+1.5
PONG				e		16 21 25.0	
AML	Almayashu	6.82	23	P	P	16 20 21.9	+0.1
	SNR=243						
SDNR	Sundarnagar	7.17	126	eP	P	16 20 27.0	+0.3
SDNR				e		16 21 44.4	
UCH	Uchtor	7.18	27	P	P	16 20 26.9	+0.1
	SNR=186						
KK31	Karatay Array	7.21	2	⇓P	P	16 20 26.4	-0.8
	48nm,0.4s,baz=195,slow=15,SNR=1125						
KK31				⇑S	S	16 21 42.1	-6.1
	74nm,0.5s,baz=182,slow=16,SNR=7.9						
KKAR	Karatay Array	7.21	2	i PN	P	16 20 26.4	-0.8
KKAR				pmax	pmax		
	comp=Z,52nm,0.3s						
EKS2	Erkin-Say	7.33	21	P	P	16 20 28.6	-0.2
	SNR=89						
KZA	Kyzart	7.35	31	P	P	16 20 29.4	+0.3
	SNR=78						
AAK	Ala-Archa	7.53	25	P	P	16 20 31.9	+0.3
	SNR=28						
AAK	Ala-Archa	7.53	25	⇑P	P	16 20 31.8	+0.2
	comp=Z,30nm,0.5s						
AAK				⇑S	S	16 21 51.5	-4.5
	comp=Z,271nm,0.6s						
AAK	Ala-Archa	7.53	25	ePN	P	16 20 30.4	-1.2
AAK				pmax	pmax		
	comp=Z,42nm,0.5s						
AAK	Ala-Archa	7.53	25	ePn	P	16 20 30.4	-1.1
	comp=Z,42nm,0.5s						
AAK				eSn	S	16 21 52.5	-3.4
SMLA	Simla	7.54	127	⇓iP	P	16 20 29.4	-2.3
SMLA				i		16 21 50.0	
KBK	Karagaybulak	7.72	27	P	P	16 20 35.0	+1.0
	SNR=18						
FRU	Bishkek	7.75	25	i PN	P	16 20 36.0	+1.5
FRU				pmax	pmax		
	comp=Z,140nm,1.6s						
ULHL	Ulahol	7.92	35	P	P	16 20 37.5	+0.7
	SNR=29						
CHMS	Chumysh	7.94	25	P	P	16 20 37.2	+0.1
	SNR=26						
KKR	Kurukshetra	8.14	135	eP	P	16 20 40.3	+0.4
TKM2	Tokmak 2	8.19	29	P	P	16 20 40.7	+0.2
	SNR=10						
JASL	Jaisalmer	8.96	176	eP	P	16 20 49.1	-1.8
AAA	Alma-Ata	9.05	33c	iP	P	16 20 54.0	+1.9
AAA				S	S	16 22 32.0	-0.9
AAA				pmax	pmax		
	comp=Z,200nm,1.6s						
KHET	Khetri	9.15	147	eP	P	16 20 52.2	-1.2
KHET				eS	S	16 22 25.7	-10
BHGR	Bahadurgarh	9.19	139	eP	P	16 20 53.8	-0.2
BHGR				eS	S	16 22 24.4	-12
NDI	New Delhi	9.35	138	eP	P	16 20 54.8	-1.2
NDI				e		16 22 35.0	
AYAN	Aya Nagar	9.46	139	eP	P	16 20 57.2	-0.4
AYAN				e		16 22 38.1	
BISR	Bishrakh	9.55	138	eP	P	16 20 59.0	+0.1
BISR				e		16 22 36.1	
BISR				AML	AML	16 22 47.6	
	comp=Z,203nm,0.6s						
SONA	Sohna	9.62	140	i P	P	16 20 58.2	-1.6
SONA				eS	S	16 22 35.3	-11
SONA				AML	AML	16 22 45.6	
	comp=E,123nm,0.3s						
SONA				AML	AML	16 22 47.1	
	comp=N,52nm,0.2s						
AJM	Ajmer	10.13	156	eP	P	16 21 05.9	-0.8
AJM				e		16 22 50.3	
PTH	Pithoragarh	10.57	124	eP	P	16 21 13.0	+0.4
PTH				e		16 23 05.0	
LGTI	Lohaghat	10.65	124	⇓iP	P	16 21 12.3	-1.4
LGTI				e		16 23 05.7	
AGRA	Agra	10.89	140	eP	P	16 21 14.7	-2.1
AGRA				e		16 23 00.5	
AGRA				AML	AML	16 23 16.2	
	comp=N,49nm,0.3s						
AGRA				AML	AML	16 23 16.8	
	comp=E,116nm,0.2s						
KOLN	Koldanda	14.00	122	eP	P	16 21 55.8	-1.9
	comp=E,46nm,0.3s						
BHPL	Bhopal	14.10	151	eP	P	16 21 58.2	-0.8
BHPL				AMb	AMB	16 22 00.2	
	comp=Z,35nm,0.5s						
BHPL				e		16 24 27.5	
MK31	Makanchi Array	14.19	36	⇑P	P	16 22 01.2	+1.2
	comp=Z,24nm,0.7s,baz=220,slow=11,SNR=232						
MKAR	Makanchi Array	14.19	36	P	P	16 22 00.0	0.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	14.19	36	P	P	16 21 60.0	-0.1
	comp=Z,0.8nm,0.3s,baz=211,slow=13,SNR=28						
MKAR				S	S	16 24 45.9	+11
	baz=242,slow=21,SNR=1.7						
GKN	Gorkha	14.59	119	eP	P	16 22 03.1	-2.2
	comp=Z,121nm,0.4s						
DMN	Daman	15.15	119	eP	P	16 22 11.2	-1.3
DMN				eS	S	16 24 49.5	-8.4
KKN	Kakani	15.17	118	eP	P	16 22 11.4	-1.3
	comp=Z,76nm,0.4s						
KKN				eS	S	16 24 49.7	-8.6
KKN	Kakani	15.17	118	eP	P	16 22 11.4	-1.3
KKN				eS	S	16 24 49.7	-8.6
KKN				pmax	pmax		
	comp=Z,38nm,0.4s						
AB31	Akbulak array	15.31	334	⇓P	P	16 22 12.8	-1.5
	comp=Z,43nm,0.4s						
AB31				⇑S	S	16 24 52.4	-8.8
	comp=Z,18nm,0.5s						
AB31	Akbulak array	15.31	334	P	P	16 22 12.7	-1.6
AB31				S	S	16 24 52.4	-8.9
AB31				pmax	pmax		
	comp=Z,10.0nm,0.3s						
PKI	Pulchoki	15.39	118	eP	P	16 22 13.9	-1.6
PKI				eS	S	16 24 55.2	-8.1
GUN	Gumba	15.54	116	eP	P	16 22 16.5	-0.8
	comp=Z,101nm,0.4s						
WMQ	Urumqi	15.61	54	eP	P	16 22 19.2	+1.0
VOSK	Vostochnaya	16.84	2	⇓P	P	16 22 32.3	-1.1
	comp=Z,25nm,1.1s						
VOSK				⇓S	S	16 25 30.3	-5.9
	comp=Z,37nm,1.2s						
ZRNK	Zerenda	17.08	358	⇑P	P	16 22 35.6	-0.8
	comp=Z,18nm,0.7s						
ZRNK				⇑S	S	16 25 32.5	-9.0
	comp=Z,10.0nm,0.5s						
ZRNK	Zerenda	17.08	358	eP	P	16 22 35.4	-1.0
BVA0	Borovoye Array	17.14	0	⇓P	P	16 22 36.2	-0.9
	comp=Z,4.2nm,0.8s						
BVA0				⇑S	S	16 25 40.5	-2.2
	comp=Z,5.1nm,1.4s,baz=166,slow=26,SNR=6.0						
BVA0	Borovoye Array	17.14	0	P	P	16 22 36.1	-1.0
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR	Borovoye Array	17.14	0	P	P	16 22 36.1	-1.0
	comp=Z,4.7nm,0.3s,baz=166,slow=13,SNR=74						
BVAR				S	S	16 25 39.1	-3.6
	comp=Z,2.3nm,0.3s,baz=163,slow=25,SNR=5.7						
LSA	Lhasa	18.69	103	P	P	16 22 55.6	-0.1
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LSA	Lhasa	18.69	103	P	P	16 22 55.6	-0.1
	comp=Z,6.8nm,0.6s						
HYB	Hyderabad	19.85	156	eP	P	16 23 10.0	+1.8
HYB	Hyderabad	19.85	156	i P	P	16 23 10.0	+1.8
GNI	Garni	20.44	290	P	P	16 23 16.8	+2.7
GNI				pmax	pmax		
	comp=Z,27nm,0.5s						
GNI	Garni	20.44	290	P	P	16 23 16.8	+2.7
	comp=Z,27nm,0.5s,baz=197,slow=0.8,SNR=14						
GNI	Garni	20.44	290	eP	P	16 23 17.2	+3.1
	comp=Z,29nm,0.6s						
ZAL	Zalesovo	20.74	25	P	P	16 23 17.4	+0.3
ZAL				S	S	16 27 01.8	+3.9
ZAL				pmax	pmax		
	comp=Z,50nm,0.5s						
ZAL	Zalesovo	20.74	25	P	P	16 23 17.4	+0.3
	comp=Z,50nm,0.5s,baz=253,slow=8.8,SNR=168						
ZAL				S	S	16 27 01.8	+3.9
	comp=Z,1.5nm,0.7s,baz=162,slow=18,SNR=3.4						
ZAL	Zalesovo	20.74	25	P	P	16 23 17.4	+0.3
ZAL				S	S	16 27 01.8	+3.9
NVS	Novosibirsk	21.00	21	eP	P	16 23 19.5	-0.2
NVS				pmax	pmax		
	comp=Z,84nm,1.4s,mb4.9						
NVS				pmax	pmax		
	comp=N,138nm,1.8s						
NVS				pmax	pmax		
	comp=E,24nm,1.0s						
SHL	Shillong	21.29	113	e	P	16 23 25.5	+2.8
SHL				eS	S	16 27 08.5	+0.3
ZEI	Tsey	21.39	297	eP	P	16 23 24.3	+0.7
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.0						
ONI	Oni	21.68	296	P	P	16 23 29.9	+3.3
SVE	Sverdlovsk	21.91	346	⇓eP	P	16 23 30.0	+1.3
SVE				e		16 24 07.0	
SVE				eSS	SS	16 28 10.0	+5.1
SVE				pmax	pmax		
	comp=Z,80nm,1.8s,mb4.8						
SVE				MLR	MLR		
	comp=N,100nm,10.0s						
SVE				MLR	MLR		
	comp=E,200nm,10.0s						
SVE				MLR	MLR		
	comp=Z,100nm,10.0s						
ARU	Arti	22.00	343	⇑iP	P	16 23 30.4	+0.9
ARU				e		16 23 52.5	
ARU				ePPP	PPP	16 24 04.0	-6.2
ARU				i S	S	16 27 28.7	+7.8
ARU				eSS	SS	16 28 02.9	-4.2
ARU				pmax	pmax		
	comp=Z,35nm,1.2s,mb4.6						
ARU	Arti	22.00	343	eP	P	16 23 30.9	+1.3
	comp=Z,31nm,1.0s,mb4.6						
KIV	Kislovodsk	22.48	299	eP	P	16 23 37.5	+3.2
KIV				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.1						
KIV	Kislovodsk	22.48	299	eP	P	16 23 36.1	+1.8
	comp=Z,9.1nm,0.8s,mb4.2						
IMP	Imphal	23.26	112	e	P	16 23 54.0	+12
GTA	Gaotai	23.70	73	eP	P	16 23 50.0	+3.9
GTA				PP	PP	16 24 23.9	+1.5
GTA				S	S	16 28 01.4	+11
GTA				AMB	AMB		
	comp=Z,14nm,0.6s,mb4.5						
GTA				AMB	AMB		
	comp=Z,63nm,6.1s						
GTA				LR	LR		
	comp=N,55nm,11.8s						
GTA				LR	LR		
	comp=E,77nm,15.6s						
GTA				LR	LR		
	comp=Z,126nm,8.0s						
ZAK	Zakamensk	27.91	48	eP	P	16 24 25.6	+0.3
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.5						
BR131	Keskin Array S	28.97	289	eP	P	16 24 35.1	+0.3
	comp=Z,1.8nm,0.6s,mb3.9						
BRTR	Keskin Array B	28.97	289	P	P	16 24 35.6	+0.7
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	Keskin Array B	28.97	289	P	P	16 24 35.6	+0.7
	comp=Z,2.0nm,0.6s,mb3.9,baz=101,slow=9.1,SNR=14						
SONM	Songino Array	29.25	55	P	P	16 24 37.3	0.0
	comp=Z,1.0nm,0.5s,mb3.7,baz=273,slow=9.2,SNR=9.6						
ULN	Ulaanbaatar	29.69	55	eP	P	16 24 36.2	-5.0
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
ULN	Ulaanbaatar	29.69	55	eP	P	16 24 36.2	-5.0
	comp=Z,1.4nm,0.6s,mb3.8						
MOS	Moscow	29.71	322	eP	P	16 24 45.5	+4.2
MOS				e		16 25 17.0	
MOS				e		16 25 47.4	
MOS				e		16 26 01.4	
MOS				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.0						
KMI	Kunming	29.93	102	P	P	16 24 44.9	+1.3
KMI				AP	pP	16 25 05.8	-0.1
KMI				XP	sP	16 25 21.6	+4.1
KMI				PP	PP	16 25 42.5	-2.4
KMI				S	S	16 29 34.7	+2.3
KMI				XS		16 30 16.6	
KMI				SS	SS	16 31 16.4	+0.3
KMI				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.0						
KMI				AMB	AMB		
	comp=Z,88nm,6.5s						
KMI				LR	LR		
	comp=N,178nm,13.2s						
KMI				LR	LR		
	comp=E,217nm,17.5s						
KMI				LR	LR		
	comp=Z,129nm,13.6s						
OBN	Obninsk	29.96	320	i P	P	16 24 43.5	0.0
OBN				e*PP	pP	16 25 08.8	+2.9
OBN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.6						
HHC	Hu-ho-hao-te	32.63	69	eP	P	16 25 08.8	+1.8
HHC				AP	pP	16 25 33.5	+3.8
HHC				XP	sP	16 25 45.5	+4.0
HHC				PP	PP	16 26 20.2	+1.5
HHC				PCP	PcP	16 27 53.7	+2.7
HHC				S	S	16 30 15.2	+0.8
HHC				XS		16 30 56.0	
HHC				SCP		16 31 27.1	
HHC				SS	SS	16 32 16.3	-1.6
HHC				SCS	ScS	16 35 24.5	+1.7
HHC				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.5						
HHC				AMB	AMB		
	comp=Z,101nm,10.8s						
HHC				LR	LR		
	comp=N,116nm,16.8s						
HHC				LR	LR		
	comp=E,177nm,21.6s						
HHC				LR	LR		
	comp=Z,99nm,16.8s						
AKASG	Malin Array Be	32.80	310	P	P	16 25 08.1	-0.3
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AKASG	Malin Array Be	32.80	310	P	P	16 25 08.1	-0.3
	comp=Z,4.6nm,0.4s,mb4.6,baz=82,slow=7.3,SNR=31						
AKASG	Malin Array Be	32.80	310	P	P	16 25 08.1	-0.3
MLR	Muntele Rosu	34.48	300	P	P	16 25 25.5	+2.6
MLR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MLR	Muntele Rosu	34.48	300	P	P	16 25 25.5	+2.6
	comp=Z,4.5nm,0.6s,mb4.5,baz=134,slow=3.4,SNR=13						
MLR	Muntele Rosu	34.48	300	⇓P	P	16 25 25.5	+2.6
BURAR	Bucovina Array	35.05	304	⇓P	P	16 25 28.7	+1.1
FINES	FINESS Array B	37.61	327	P	P	16 25 49.6	+0.5
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	FINESS Array B	37.61	327	P	P	16 25 49.6	+0.5
	comp=Z,4.0nm,0.6s,mb4.5,baz=112,slow=9.7,SNR=38						
KAF	Kangasniemi	37.77	328	ep	P	16 25 50.3	-0.1
	comp=Z,3.4nm,0.6s,mb4.3,baz=113,slow=8.5						
KAF	Kangasniemi	37.77	328	eP	P	16 25 50.3	-0.1
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
NJ2	Nanjing	40.25	81	eP	P	16 26 10.2	-1.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
ARCES	ARCESS Array B	41.45	338	P	P	16 26 21.5	+0.8
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ARCES	ARCESS Array B	41.45	338	P	P	16 26 21.4	+0.7
	comp=Z,3.9nm,0.5s,mb4.5,baz=117,slow=8.7,SNR=71						
KTK1	Kautokeino	41.90	337	eP	P	16 26 26.2	+1.8
	comp=Z,18nm,1.6s,mb4.6						
KTK1	Kautokeino	41.90	337	⇓iP	P	16 26 25.9	+1.6
KTK1				AMb	AMB	16 26 29.2	
	comp=Z,18nm,1.6s,mb4.6						
SSE	Sheshan	42.44	81	P	P	16 26 25.9	-3.4
SSE				S	S	16 32 39.0	-4.2
SSE				SS	SS	16 35 50.8	+1.9
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.2						
SSE				LR	LR		
	comp=N,51nm,22.6s						
SSE				LR	LR		
	comp=E,76nm,22.6s						
SSE				LR	LR		
	comp=Z,53nm,22.1s						
BRG	Berggiesshubel	42.47	309	i P	P	16 26 30.5	+1.3
BRG				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
BRG	Berggiesshubel	42.47	309	i P	P	16 26 30.5	+1.3
	comp=Z,6.7nm,0.7s,mb4.5						
GERES	GERESS Array B	42.73	306	P	P	16 26 32.1	+0.8
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	42.73	306	P	P	16 26 32.1	+0.8
	comp=Z,0.5nm,0.5s,mb3.5,baz=80,slow=8.1,SNR=4.2						
CLL	Collm	43.04	309	eP	P	16 26 35.0	+1.1
CLL	Collm	43.04	309	P	P	16 26 35.0	+1.1
TRO	Tromso	43.55	337	eP	P	16 26 38.2	+0.4
TRO				AMS	AMS	16 45 37.1	
	comp=Z,163nm,21.8s						
MOR8	Moi Rana	44.02	331	eP	P	16 26 41.4	-0.2
MOR8	Moi Rana	44.02	331	⇓iP	P	16 26 41.4	-0.2
WTTA	Wattenberg	44.26	304	⇑iP	P	16 26 44.1	+0.3
	comp=Z,2.0nm,0.5s,mb4.1						
WTTA	Wattenberg	44.26	304	⇑iP	P	16 26 44.1	+0.3
WTTA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
GRA1	Grafenberg Arr	44.28	307	eP	P	16 26 45.7	+1.8
	comp=Z,6.0nm,1.1s,mb4.2						
GRF	Grafenberg Arr	44.28	307	eP	P	16 26 45.7	+1.8
GRF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
GRF	Grafenberg Arr	44.28	307	eP	P	16 26 45.7	+1.8
GRF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
GRF	Grafenberg Arr	44.28	307	eP	P	16 26 45.7	+1.8
	comp=Z,6.0nm,1.1s,mb4.2						
NB2	NORSAR Subarra	44.46	323	P	P	16 26 44.8	-0.4
	comp=Z,6.5nm,0.5s,mb4.6,baz=98,slow=7.9						
NB2	NORSAR Subarra	44.46	323	P	P	16 26 44.8	-0.4
NB2				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
NB2	NORSAR Subarra	44.46	323	P	P	16 26 44.8	-0.4
	baz=98,slow=7.9						
NOA	NORSAR Array B	44.46	323	P	P	16 26 44.9	-0.3
NOA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NOA	NORSAR Array B	44.46	323	P	P	16 26 44.9	-0.3
	comp=Z,6.1nm,0.5s,mb4.6,baz=98,slow=7.9,SNR=55						
MOTA	Moosalm	44.61	304	⇓iP	P	16 26 46.0	-0.6
	comp=Z,3.7nm,0.8s,mb4.2						
MOTA	Moosalm	44.61	304	⇓iP	P	16 26 46.0	-0.6
MOTA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
YAK	Yakutsk	44.87	35	i P	P	16 26 48.7	+0.3
YAK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
YAK	Yakutsk	44.87	35	eP	P	16 26 48.3	-0.1
	comp=Z,6.2nm,0.5s,mb4.6						
DAVA	Damuels	45.44	304	⇑iP	P	16 26 53.4	+0.2
	comp=Z,5.9nm,0.5s,mb4.6						
TIXI	Tiksi	46.60	22	⇑eP	P	16 27 02.5	+0.5
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
CDF	Champ du Feu	47.01	306	eP	P	16 27 05.8	+0.3
	comp=Z,2.8nm,0.6s,mb3.9						
CDF	Champ du Feu	47.01	306	eP	P	16 27 05.8	+0.3
CDF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
BER	Bergen	47.30	322	AMS	AMS	16 41 33.4	
	comp=Z,292nm,18.1s						
HINF	Hinteralfeld	47.38	305	eP	P	16 27 08.3	-0.2
	comp=Z,3.5nm,0.6s,mb4.0						
HINF	Hinteralfeld	47.38	305	eP	P	16 27 08.3	-0.2
HINF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
HAU	Haudompre	47.69	305	eP	P	16 27 10.7	-0.1
	comp=Z,5.7nm,0.5s,mb4.3						
HAU	Haudompre	47.69	305	eP	P	16 27 10.7	-0.1
HAU				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
SBF	Sospel	47.76	300	eP	P	16 27 11.1	-0.4
LPG	La Plagne	47.88	302	eP	P	16 27 12.5	+0.1
	comp=Z,3.4nm,0.6s,mb4.1						
LPG	La Plagne	47.88	302	eP	P	16 27 12.5	+0.1
LPG				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
LPL	La Plagne	47.90	302	eP	P	16 27 12.6	+0.1
MBDF	Montbardon	48.03	301	eP	P	16 27 13.4	-0.2
	comp=Z,9.4nm,0.6s,mb4.5						
MBDF	Montbardon	48.03	301	eP	P	16 27 13.4	-0.2
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
CABF	La Chapelle	48.12	304	eP	P	16 27 14.3	+0.1
	comp=Z,10nm,0.6s,mb4.5						
CABF	La Chapelle	48.12	304	eP	P	16 27 14.3	+0.1
CABF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
MEZF	Maizieres J'vi	48.45	306	eP	P	16 27 16.7	-0.1
	comp=Z,8.1nm,0.5s,mb4.5						
BAIF	Baives	48.73	308	eP	P	16 27 19.4	+0.5
	comp=Z,7.0nm,0.7s,mb4.4						
BAIF	Baives	48.73	308	eP	P	16 27 19.4	+0.5
BAIF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
KBS	Kingsbay	49.06	347	eP	P	16 27 21.6	+0.6
KBS				AMb	AMB	16 49 42.8	
	comp=Z,54nm,15.6s						
VIVF	Saint-Julien-l	49.46	302	eP	P	16 27 24.3	-0.3
LOR	Lormes	49.48	305	eP	P	16 27 24.6	-0.1
SMF	Signal de Mont	49.62	304	eP	P	16 27 25.7	-0.1
	comp=Z,11nm,0.5s,mb4.7						
SMF	Signal de Mont	49.62	304	eP	P	16 27 25.7	-0.1
SMF				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
SSF	Saint Saulge	49.76	305	eP	P	16 27 27.0	+0.2
LASF	Ste Croix	50.22	301	eP	P	16 27 30.2	-0.2
	comp=Z,32nm,1.3s,mb4.8						
BGF	Bois d'Agland	50.31	304	eP	P	16 27 31.0	-0.1
TCF	Toulx Ste Croi	50.80	304	eP	P	16 27 35.0	+0.2
	comp=Z,9.8nm,0.8s,mb4.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TCF	**Toulx Ste Croi**	**50.80**	**304**	*e*P	**P**	**16 27 35.0**	**+0.2**
TCF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
CAF	**Calviac**	**51.24**	**302**	*e*P	**P**	**16 27 37.9**	**-0.2**
	comp=Z,9.6nm,0.8s,mb4.6						
CAF	**Calviac**	**51.24**	**302**	*e*P	**P**	**16 27 37.9**	**-0.2**
CAF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
RJF	**Les Rejaudoux**	**51.52**	**303**	*e*P	**P**	**16 27 40.1**	**-0.1**
MTLF	**Montolieu**	**51.56**	**300**	*e*P	**P**	**16 27 39.9**	**-0.6**
LDF	**La Druitiere**	**51.80**	**307**	*e*P	**P**	**16 27 41.8**	**-0.5**
	comp=Z,7.4nm,0.5s,mb4.7						
LDF	**La Druitiere**	**51.80**	**307**	*e*P	**P**	**16 27 41.8**	**-0.5**
LDF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
FLN	**La Foliniere**	**51.99**	**308**	*e*P	**P**	**16 27 43.0**	**-0.7**
	comp=Z,8.4nm,0.6s,mb4.7						
FLN	**La Foliniere**	**51.99**	**308**	*e*P	**P**	**16 27 43.0**	**-0.7**
FLN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
LFF	**La Frestale**	**52.14**	**303**	*e*P	**P**	**16 27 44.9**	**0.0**
	comp=Z,12nm,0.5s,mb4.9						
LFF	**La Frestale**	**52.14**	**303**	*e*P	**P**	**16 27 44.9**	**0.0**
LFF				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
MFF	**Saint Martin d**	**52.30**	**305**	*e*P	**P**	**16 27 45.2**	**-0.9**
	comp=Z,4.4nm,0.5s,mb4.4						
MFF	**Saint Martin d**	**52.30**	**305**	*e*P	**P**	**16 27 45.2**	**-0.9**
MFF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
GRR	**Gorron**	**52.32**	**307**	*e*P	**P**	**16 27 45.8**	**-0.4**
	comp=Z,14nm,0.7s,mb4.8						
GRR	**Gorron**	**52.32**	**307**	*e*P	**P**	**16 27 45.8**	**-0.4**
GRR				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
JMIC	**Jan Mayen**	**52.87**	**336**	AMS	AMS	16 48 02.3	
	comp=Z,172nm,18.8s						
SGMF	**Saint Gilles**	**53.45**	**307**	*e*P	**P**	**16 27 54.1**	**-0.5**
	comp=Z,7.4nm,0.5s,mb4.7						
SGMF	**Saint Gilles**	**53.45**	**307**	*e*P	**P**	**16 27 54.1**	**-0.5**
SGMF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
ETSF	**Etsaut**	**53.63**	**301**	*e*P	**P**	**16 27 55.8**	**-0.2**
	comp=Z,14nm,0.8s,mb4.7						
ETSF	**Etsaut**	**53.63**	**301**	*e*P	**P**	**16 27 55.8**	**-0.2**
ETSF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
ROSF	**Rostrenen**	**53.89**	**308**	*e*P	**P**	**16 27 57.0**	**-0.8**
	comp=Z,9.1nm,0.6s,mb4.7						
ROSF	**Rostrenen**	**53.89**	**308**	*e*P	**P**	**16 27 57.0**	**-0.8**
ROSF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
QUIF	**Quistinic**	**53.94**	**307**	*e*P	**P**	**16 27 57.5**	**-0.6**
	comp=Z,6.8nm,0.6s,mb4.5						
QUIF	**Quistinic**	**53.94**	**307**	*e*P	**P**	**16 27 57.5**	**-0.6**
QUIF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
SJPF	**Ste Jean**	**54.03**	**301**	*e*P	**P**	**16 27 58.2**	**-0.7**
ELAN	**Lanestosa**	**55.52**	**302**	P	**P**	**16 28 09.6**	**-0.2**
	comp=Z,5.2nm,0.7s,mb4.7						
ESDC	**Sonseca Array**	**57.13**	**298**	P	**P**	**16 28 20.7**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.3,baz=57,slow=7.6,SNR=14						
ESDC	**Sonseca Array**	**57.13**	**298**	P	**P**	**16 28 20.1**	**-1.2**
	comp=Z,2.6nm,0.5s,mb4.5						
EQES	**Quesada**	**57.19**	**296**	P	**P**	**16 28 21.0**	**-0.6**
	comp=Z,2.7nm,0.5s,mb4.5						
EBAN	**Banos Encina**	**57.57**	**296**	P	**P**	**16 28 24.2**	**-0.1**
EBAN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
EBAN	**Banos Encina**	**57.57**	**296**	P	**P**	**16 28 24.2**	**-0.1**
	comp=Z,3.4nm,0.6s,mb4.5						
ERON	**Agron**	**58.03**	**295**	P	**P**	**16 28 26.2**	**-1.3**
	comp=Z,2.1nm,0.7s,mb4.3						
EADA	**Adamuz**	**58.15**	**296**	P	**P**	**16 28 27.6**	**-0.7**
	comp=Z,3.4nm,0.8s,mb4.4						
ELUQ	**Luque**	**58.15**	**296**	P	**P**	**16 28 27.3**	**-1.1**
ELUQ				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
ELUQ	**Luque**	**58.15**	**296**	P	**P**	**16 28 27.3**	**-1.1**
	comp=Z,1.1nm,0.3s,mb4.4						
ECAB	**El Cabril**	**58.79**	**297**	P	**P**	**16 28 32.0**	**-0.8**
	comp=Z,3.3nm,1.1s,mb4.3						
ELOB	**Lobios**	**59.20**	**302**	P	**P**	**16 28 35.5**	**-0.1**
	comp=Z,3.5nm,0.5s,mb4.7						
ESPR	**Espera**	**59.59**	**296**	P	**P**	**16 28 37.1**	**-1.2**
	comp=Z,2.4nm,0.6s,mb4.4						
EBAD	**Badajoz**	**59.67**	**298**	P	**P**	**16 28 38.5**	**-0.4**
	comp=Z,3.3nm,0.5s,mb4.6						
EMIN	**Mina Concepcio**	**59.82**	**297**	P	**P**	**16 28 38.7**	**-1.2**
	comp=Z,1.6nm,0.5s,mb4.3						
EVO	**Evora**	**60.48**	**298**	*e*P	**P**	**16 28 44.7**	**+0.3**
	comp=Z,4.4nm,0.6s,mb4.3						
EGRO	**El Granado**	**60.51**	**297**	P	**P**	**16 28 43.7**	**-0.9**
	comp=Z,2.9nm,0.5s,mb4.6						
MATP	**Matopo**	**68.49**	**222**	P	**P**	**16 29 37.1**	**+0.6**
	comp=Z,0.9nm,0.4s,mb4.0,baz=28,slow=7.4,SNR=8.6						
INK	**Inuvik**	**74.62**	**9**	P	**P**	**16 30 12.5**	**+0.4**
INK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
INK	**Inuvik**	**74.62**	**9**	P	**P**	**16 30 12.5**	**+0.4**
	comp=Z,3.5nm,0.6s,mb4.3,baz=6.6,slow=3.7,SNR=5.4						
INK	**Inuvik**	**74.62**	**9**	*e*P	**P**	**16 30 11.7**	**-0.4**
	comp=Z,3.4nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**75.09**	**126**	*e*P	**P**	**16 30 17.0**	**+1.3**
	comp=Z,9.2nm,1.1s,mb4.4						
FITZ	**Fitzroy Crossi**	**75.09**	**126**	P	**P**	**16 30 16.8**	**+1.1**
	comp=Z,5.9nm,0.9s,mb4.3,baz=165,slow=11,SNR=9.7						
ILAR	**Eielson Array**	**75.56**	**15**	P	**P**	**16 30 16.9**	**-0.6**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**75.56**	**15**	P	**P**	**16 30 16.9**	**-0.6**
	comp=Z,0.8nm,0.5s,mb3.7,baz=300,slow=4.6,SNR=18						
BOSA	**Boshof**	**76.83**	**220**	P	**P**	**16 30 26.3**	**+0.9**
BOSA				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
BOSA	**Boshof**	**76.83**	**220**	P	**P**	**16 30 26.3**	**+0.8**
	comp=Z,0.9nm,0.5s,mb3.7,baz=100,slow=18,SNR=4.0						
BOSA	**Boshof**	**76.83**	**220**	P	**P**	**16 30 26.3**	**+0.8**
YKA	**Yellowknife Ar**	**81.89**	**2**	P	**P**	**16 30 52.0**	**0.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**81.89**	**2**	P	**P**	**16 30 52.0**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.0,baz=352,slow=5.4,SNR=8.8						
YKA	**Yellowknife Ar**	**81.89**	**2**	P	**P**	**16 30 52.0**	**+0.1**
WRA	**Warramunga Arr**	**82.26**	**121**	P	**P**	**16 30 55.0**	**+0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**82.26**	**121**	P	**P**	**16 30 55.0**	**+0.3**
	comp=Z,0.7nm,0.4s,mb3.9,baz=323,slow=4.9,SNR=30						
WRAB	**Tennant Creek**	**82.26**	**121**	*e*P	**P**	**16 30 54.2**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.4						
WRAB	**Tennant Creek**	**82.26**	**121**	*e*P	**P**	**16 30 54.2**	**-0.5**
	comp=Z,2.1nm,0.3s,mb4.5						
WB2	**Warramunga Arr**	**82.27**	**121**	*e*P	**P**	**16 30 55.2**	**+0.4**
SCHQ	**Schefferville**	**82.39**	**337**	P	**P**	**16 30 54.9**	**+0.3**
	comp=Z,1.4nm,0.7s,mb3.9,baz=90,slow=8.1,SNR=3.8						

IDC ***10*** *16:20:08.1±2.6, 2.31N×95.27E, mb3.9/4, mb1 4.0/5, mb1mx3.7/21, mbtmp3.9/5, MS3.4/2, Ms1 3.5/2, ms1mx3.1/27, Error ellipse: s-maj=92.2km s-min=27.4km az=58.0*

NEIC ***10*** *16:20:13.6±1.3, 2.49N×95.56E, h30km, mb4.3/1, Error ellipse: s-maj=25.0km s-min=16.7km az=224.0*

ISC 10 16:20:12.1±1.6**, 2.5N**±0.2×**95.6E**±0.2**, h33km, n10,** σ0s77/9**, mb4.0**/5**, MS3.6**/1**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.77**	**61**	*e*P	**P**	**16 21 37.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**16.20**	**12**	Pn	**P**	**16 23 59.1**	**+0.1**
	baz=198,slow=14,SNR=5.9						
CMAR				LR	LR	16 31 19.8	
	comp=Z,84nm,19.9s,baz=200,slow=41						
LSA	**Lhasa**	**27.38**	**352**	*e*P	**P**	**16 25 56.9**	**+0.2**
	3.5nm,0.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**36.00**	**126**	LR	LR	16 44 40.9	
	comp=Z,107nm,19.2s,MS3.6,baz=300,slow=41						
WRA	**Warramunga Arr**	**44.09**	**122**	P	**P**	**16 28 19.5**	**+0.2**
	1.2nm,0.7s,mb3.7,baz=298,slow=9.3,SNR=4.1						
MKAR	**Makanchi Array**	**45.61**	**347**	P	**P**	**16 28 30.7**	**-0.5**
	2.6nm,0.7s,mb4.3,baz=158,slow=6.5,SNR=3.9						
MKAR	**Makanchi Array**	**45.61**	**347**	P	**P**	**16 28 30.7**	**-0.5**
SONM	**Songino Array**	**46.12**	**10**	P	**P**	**16 28 36.8**	**+1.6**
	0.6nm,0.6s,mb3.7,baz=190,slow=9.0,SNR=4.4						
SONM	**Songino Array**	**46.12**	**10**	P	**P**	**16 28 36.8**	**+1.6**
BVAR	**Borovoye Array**	**54.51**	**342**	P	**P**	**16 29 38.0**	**-1.0**
	1.4nm,0.7s,mb4.1,baz=130,slow=11,SNR=3.0						

ISK ***10*** *16:40:25.0, 39.92N×40.89E, h27km, MD3.5*

CSEM ***10*** *16:40:25.0, 39.92N×40.89E, h27km, MD3.5, After ISK*

ISC 10 16:40:25.9±0.8**, 39.92N**±0.08×**40.9E**±0.1**, h30km**±16km**, n9,** σ0s95/13**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.39**	**91**	*i* PG	**Pb**	**16 40 33.6**	**-0.9**
ERZM	**Erzurum**	**0.39**	**91**	*i* P	**Pb**	**16 40 33.3**	**-1.3**
ERZM				*i* S	**Sb**	**16 40 42.5**	**+1.9**
GUMT	**Gumushane**	**1.19**	**298**	PG	**Pn**	**16 40 46.8**	**0.0**
GUMT				SG	**Sn**	**16 41 02.3**	**+0.2**
KELT	**Kelkit**	**1.26**	**281**	*i* P	**Pn**	**16 40 49.0**	**+1.3**
KELT				*i* S	**Sn**	**16 41 08.8**	**+5.1**
PTK	**Pertek**	**1.53**	**229**	*e*PG	**Pn**	**16 40 51.6**	**-0.1**
BCA	**Borcka**	**1.63**	**20**	PG	**Pn**	**16 40 52.7**	**-0.4**
BTMT	**Batman**	**1.79**	**164**	*e*PG	**Pn**	**16 40 56.0**	**+0.6**
ELZG	**Elazig**	**2.03**	**226**	*i* P	**Pn**	**16 41 05.7**	**+6.8**
ELZG				*i* S	**Sn**	**16 41 39.4**	**+16**
MYA	**Malataya**	**2.47**	**231**	*e*PG	**Pn**	**16 41 04.3**	**-0.9**

NIED ***10*** *16:54:00, 39.50N×143.50E, h23km, Mw3.8 Best double couple: M0 5.62×10^14 NP1: φs46°, δ82°, λ102°. NP2: φs169°, δ15°, λ33°.*

IDC ***10*** *16:54:55.5±1.2, 39.42N×143.51E, mb3.7/7, mb1 3.8/10, mb1mx3.7/23, mbtmp3.8/10, ML3.7/3, MS2.7/1, Ms1 2.7/1, ms1mx2.2/30, Error ellipse: s-maj=31.3km s-min=19.2km az=93.0*

MOS ***10*** *16:54:57.2±2.0, 39.49N×143.69E, h33km, mb4.0/6, Error ellipse: s-maj=20.5km s-min=12.3km az=70.6*

JMA ***10*** *16:54:58.3±0.2, 39.48N×143.47E, h38km, M3.9*

NEIC ***10*** *16:55:01.5±2.0, 39.47N×143.41E, h40km±19km, mb4.1/1, Error ellipse: s-maj=18.1km s-min=15.8km az=72.0*

ISC 10 16:54:59.0±1.1**, 39.46N**±0.05×**143.4E**±0.1**, h34km**±9km**, n39,** σ0s67/45**, mb3.7**/9**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.24**	**276**	P	**P**	**16 55 20.4**	**+0.3**
JTH	**Tanohata**	**1.29**	**292**	P	**P**	**16 55 21.0**	**+0.2**
JTH				*e*S	**S**	**16 55 37.0**	**-0.1**
OFUJ	**Ofunato**	**1.41**	**255**	P	**P**	**16 55 22.9**	**+0.3**
JOM	**Ohasama**	**1.64**	**271**	P	**P**	**16 55 26.7**	**+0.8**
JANG	**Nango**	**1.72**	**303**	P	**P**	**16 55 26.9**	**-0.1**
JMK	**Ichinoseki**	**1.78**	**254**	P	**P**	**16 55 28.5**	**+0.6**
JIO	**Ouri**	**1.90**	**239**	P	**P**	**16 55 29.5**	**-0.1**
JIO				*e*S	**S**	**16 55 52.3**	**-0.3**
JYK	**Kaneyama**	**2.44**	**258**	P	**P**	**16 55 38.1**	**+0.8**
JMM	**Marumori**	**2.60**	**233**	P	**P**	**16 55 39.2**	**-0.4**
JMM				*e*S	**S**	**16 56 08.6**	**-1.7**
JNBK	**Urakawa-nobuka**	**2.86**	**350**	P	**P**	**16 55 43.5**	**+0.2**
JCH	**Churui**	**3.15**	**359**	P	**P**	**16 55 46.7**	**-0.7**
JCH				*e*S	**S**	**16 56 20.7**	**-3.6**
ASAJ	**Asahikawa**	**4.69**	**353**	P	**P**	**16 56 08.9**	**-0.4**
ASAJ						16 57 03.1	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,73nm,18.7s						
ASAJ	**Asahikawa**	**4.69**	**353**	Pn	**P**	**16 56 08.9**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=224,slow=14,SNR=7.4						
ASAJ				Sn	**S**	**16 57 03.0**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=289,slow=28,SNR=5.1						
ASAJ				LR	LR	16 58 54.3	
	comp=Z,73nm,18.7s,baz=258,slow=50						
YUK	**Yuzh-Kuril'sk**	**4.92**	**21**	P	**P**	**16 56 04.6**	**-8.0**
YUK				*e*S	**S**	**16 57 02.6**	**-6.5**
YUK				smax			
	comp=E,1µm,0.9s						
YUK				smax			
	comp=N,340nm,0.5s						
YUK				smax			
	comp=E,210nm,0.6s						
MJAR	**Matsushiro Arr**	**5.04**	**236**	P	**P**	**16 56 14.7**	**+0.4**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR	**Matsushiro Arr**	**5.04**	**236**	Pn	**P**	**16 56 14.7**	**+0.4**
	comp=Z,2.9nm,0.3s,baz=36,slow=12,SNR=43						
MAJO	**Matsushiro**	**5.04**	**236**	*e*P	**P**	**16 56 14.2**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,22nm,0.5s						
MAJO	**Matsushiro**	**5.04**	**236**	*e*P	**P**	**16 56 14.2**	**-0.1**
	comp=Z,22nm,0.5s						
MAT	**Matsushiro**	**5.04**	**236**	*e*P	**P**	**16 56 15.0**	**+0.7**
MAT	**Matsushiro**	**5.04**	**236**	P	**P**	**16 56 15.0**	**+0.7**
CBIJ	**Chichi jima**	**12.38**	**185**	Pn	**P**	**16 57 51.5**	**-4.2**
	comp=Z,3.5nm,0.3s,baz=286,slow=18,SNR=2.3						
YAK	**Yakutsk**	**24.11**	**344**	*e*P	**P**	**17 00 11.5**	**-0.7**
YAK				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.6						
YAK	**Yakutsk**	**24.11**	**344**	*e*P	**P**	**17 00 11.5**	**-0.6**
	comp=Z,14nm,0.6s,mb4.6						
SONM	**Songino Array**	**27.84**	**300**	P	**P**	**17 00 47.2**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.4,baz=90,slow=9.9,SNR=5.1						
ZAL	**Zalesovo**	**41.51**	**310**	P	**P**	**17 02 44.8**	**+0.5**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**41.51**	**310**	P	**P**	**17 02 44.8**	**+0.5**
	comp=Z,0.8nm,0.4s,mb3.7,baz=329,slow=5.9,SNR=2.8						
MKAR	**Makanchi Array**	**44.21**	**300**	P	**P**	**17 03 06.8**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.21**	**300**	P	**P**	**17 03 06.8**	**+0.4**
	comp=Z,0.9nm,0.7s,mb3.6,baz=85,slow=9.8,SNR=8.0						
ILAR	**Eielson Array**	**46.60**	**34**	P	**P**	**17 03 25.5**	**+0.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=260,slow=6.1,SNR=5.4						
ZRNK	**Zerenda**	**50.96**	**311**	*e*P	**P**	**17 03 58.9**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**50.96**	**311**	*e*P	**P**	**17 03 58.9**	**-0.2**
	comp=Z,1.2nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**59.70**	**190**	P	**P**	**17 05 01.3**	**-1.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**59.70**	**190**	P	**P**	**17 05 01.3**	**-1.5**
	comp=Z,0.5nm,0.9s,mb3.5,baz=6.5,slow=7.0,SNR=4.6						
FINES	**FINESS Array B**	**67.40**	**332**	P	**P**	**17 05 52.5**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**67.40**	**332**	P	**P**	**17 05 52.5**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.8,baz=45,slow=3.9,SNR=3.5						
NB2	**NORSAR Subarra**	**72.55**	**338**	P	**P**	**17 06 23.8**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=35,slow=6.2						
NOA	**NORSAR Array B**	**72.55**	**338**	P	**P**	**17 06 24.4**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**72.55**	**338**	P	**P**	**17 06 24.4**	**+0.7**
	comp=Z,0.5nm,0.8s,mb3.5,baz=243,slow=22,SNR=2.6						
PV10	**Paradox Valley**	**78.00**	**50**	*e*P	**P**	**17 06 56.6**	**+1.1**

TIR ***10*** *17:00:54.3, 42.44N×19.82E, h22km*

NEIC ***10*** *17:00:55.9, 42.41N×19.79E, h2km, ML2.6(PDG), After PDG.*

PDG ***10*** *17:00:55.9±0.2, 42.41N×19.79E, h2km±1km*

CSEM ***10*** *17:00:55.4±0.1, 42.40N×19.84E, h15km, ML2.6, Error ellipse: s-maj=1.8km s-min=1.6km az=52.0*

ISC 10 17:00:56.3±0.3**, 42.40N**±0.02×**19.83E**±0.02**, h2km, n20,** σ1s12/40**, 6C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.18**	**101**	*i* Pg	**Pg**	**17 00 59.5**	**-0.4**
BCI				*i* Sg	**Sg**	**17 01 02.6**	**+0.2**
PVY	**Plav**	**0.22**	**29**	⇑*i*Pg	**Pg**	**17 01 00.5**	**-0.3**
PVY				*e*Sg	**Sg**	**17 01 04.4**	**+0.7**
PVY	**Plav**	**0.22**	**29**	⇑*i*Pg	**Pg**	**17 01 00.4**	**-0.3**
PVY				*e*Sg	**Sg**	**17 01 04.4**	**+0.7**
PUK	**Puka**	**0.36**	**172**	*i* Pg	**Pg**	**17 01 02.9**	**-0.6**
PUK				*i* Sg	**Sg**	**17 01 08.5**	**+0.1**
TTG	**Podgorica**	**0.42**	**274**	⇑*i*Pg	**Pg**	**17 01 03.4**	**-1.3**
TTG				*e*Sg	**Sg**	**17 01 10.3**	**0.0**
SDA	**Shkodra**	**0.43**	**215**	*i* Pg	**Pg**	**17 01 03.7**	**-1.1**
SDA				*i* Sg	**Sg**	**17 01 11.3**	**+0.8**
IVA	**Berane**	**0.47**	**6**	⇑*i*Pg	**Pg**	**17 01 05.4**	**-0.3**
IVA				*e*Sg	**Sg**	**17 01 12.9**	**+0.9**
KKS	**Kukesi**	**0.54**	**127**	*i* Pg	**Pg**	**17 01 06.0**	**-1.1**
KKS				*i* Sg	**Sg**	**17 01 15.6**	**+1.2**
ULC	**Ulcinj**	**0.61**	**225**	⇑*i*Pg	**Pg**	**17 01 07.6**	**-0.9**
ULC				*e*Sg	**Sg**	**17 01 17.7**	**+1.0**
BUM	**Brajici-Budva**	**0.70**	**262**	*e*Pg	**Pg**	**17 01 08.9**	**-1.3**
BUM				*e*Sg	**Sg**	**17 01 20.3**	**+0.8**
NKY	**Niksic**	**0.74**	**304**	*e*Pg	**Pg**	**17 01 09.4**	**-1.6**
NKY				*e*Sg	**Sg**	**17 01 21.4**	**+0.5**
QSH	**Qafa e Shtames**	**0.88**	**176**	*i* Pg	**Pg**	**17 01 16.0**	**+2.1**
QSH				*i* Sg	**Sg**	**17 01 30.0**	**+4.4**
PLE	**Pljevlja**	**0.98**	**341**	*e*Pg	**Pg**	**17 01 14.0**	**-1.9**
PLE				*e*Sg	**Sg**	**17 01 29.9**	**+0.9**
HCY	**Herceg Novi**	**0.98**	**273**	*e*Pg	**Pg**	**17 01 14.5**	**-1.5**
HCY				*e*Sg	**Sg**	**17 01 29.8**	**+0.7**
UPM	**Unac-Piva**	**1.05**	**320**	*e*Pg	**Pg**	**17 01 16.0**	**-1.2**
UPM				*e*Sg	**Sg**	**17 01 32.6**	**+1.4**
TIR	**Tirane**	**1.05**	**178**	*i* pn?	**Pn**	**17 01 22.5**	**+4.6**
TIR				*i* Sn	**Sn**	**17 01 34.0**	**+0.6**
BRY	**Bratogost**	**1.07**	**298**	*e*Pg	**Pg**	**17 01 15.8**	**-1.9**
BRY				*e*Sg	**Sg**	**17 01 32.8**	**+0.9**
SKO	**Skopje**	**1.27**	**109**	*i* Pn	**Pn**	**17 01 19.2**	**-1.9**
SKO				*i* Sn	**Sn**	**17 01 41.3**	**+2.3**
BBLS	**Bajina Basta -**	**1.50**	**348**	⇑*i*Pn	**Pn**	**17 01 24.3**	**0.0**
BBLS				Sn	**Sn**	**17 01 45.4**	**+0.8**
STON	**Ston**	**1.64**	**287**	*i* Pn	**Pn**	**17 01 26.1**	**-0.2**
STON				*i* Sg	**Sg**	**17 01 52.4**	**+1.5**

NIED ***10*** *17:08:00, 39.50N×143.50E, h23km, Mw4.7 Best double couple: M0 1.47×10^16 NP1: φs35°, δ71°, λ115°. NP2: φs160°, δ31°, λ39°.*

IDC ***10*** *17:08:15.9±0.6, 39.43N×143.46E, mb4.4/17, mb1 4.6/22, mb1mx4.5/27, mbtmp4.5/22, ML4.3/5, MS4.2/12, Ms1 4.2/12, ms1mx3.9/28, Error ellipse: s-maj=18.6km s-min=12.5km az=106.0*

JMA ***10*** *17:08:18.4±0.2, 39.48N×143.48E, h41km, M4.9*

JMA Felt I J1.

BJI ***10*** *17:08:18.1, 39.54N×143.27E, h24km, mB4.9, mb4.9, Ms4.6, Msz4.4*

NEIC ***10*** *17:08:20.9±1.6, 39.48N×143.29E, h27km±11km, mb4.8/58, MS4.5/5, MW4.7(NIED), Error ellipse: s-maj=6.1km s-min=4.7km az=140.0*

NEIC Recorded [1 JMA] in Aomori and Iwate Prefectures.

MOS ***10*** *17:08:21.2±0.9, 39.67N×143.20E, h33km, mb4.9/54, MS4.5/21, Error ellipse: s-maj=8.7km s-min=4.8km az=102.4*

ISC 10 17:08:18.8±1.0**, 39.48N**±0.03×**143.33E**±0.03**, h24km**±7km**, h36km**±3.6km**: pP-P, n275,** σ1s00/301**, mb4.7**/96**, MS4.5**/34**, 30C-7D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.17**	**275**	P	**Pn**	**17 08 40.6**	**+0.6**
MIYJ				*e*S	**Sn**	**17 08 56.3**	**+1.0**
JTH	**Tanohata**	**1.22**	**293**	⇑P	**Pn**	**17 08 41.1**	**+0.4**
JTH				*e*S	**Sn**	**17 08 57.5**	**+0.9**
OFUJ	**Ofunato**	**1.35**	**253**	⇑P	**Pn**	**17 08 43.1**	**+0.6**
OFUJ				*e*S	**Sn**	**17 09 01.1**	**+1.3**
JOM	**Ohasama**	**1.58**	**271**	⇑P	**Pn**	**17 08 46.9**	**+1.2**
JOM				*e*S	**Sn**	**17 09 08.0**	**+2.4**
JANG	**Nango**	**1.66**	**303**	P	**Pn**	**17 08 46.7**	**-0.2**
JMK	**Ichinoseki**	**1.72**	**253**	⇑P	**Pn**	**17 08 48.5**	**+0.7**
JIO	**Ouri**	**1.85**	**237**	⇑P	**Pn**	**17 08 49.7**	**0.0**
JIO				*e*S	**Sn**	**17 09 12.4**	**-0.2**
JYK	**Kaneyama**	**2.38**	**257**	⇑P	**Pn**	**17 08 58.2**	**+1.0**
JMM	**Marumori**	**2.56**	**232**	P	**Pn**	**17 08 59.2**	**-0.5**
JMM				*e*S	**Sn**	**17 09 29.6**	**-0.8**
JOT	**Ohata**	**2.58**	**318**	⇓P	**Pn**	**17 09 00.5**	**+0.4**
JOT				*e*S	**Sn**	**17 09 31.8**	**+0.8**
JNBK	**Urakawa-nobuka**	**2.83**	**351**	⇓P	**Pn**	**17 09 03.5**	**-0.2**
JNBK				*e*S	**Sn**	**17 09 36.7**	**-0.8**
JKB	**Kayabe**	**2.98**	**325**	P	**Pn**	**17 09 05.8**	**+0.1**
JKB				*e*S	**Sn**	**17 09 40.8**	**-0.3**
ASAJ	**Asahikawa**	**4.67**	**353**	P	**Pn**	**17 09 28.6**	**-1.1**
ASAJ						17 10 26.2	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2µm,19.4s						
ASAJ	**Asahikawa**	**4.67**	**353**	Pn	**Pn**	**17 09 28.6**	**-1.1**
	comp=Z,4.1nm,0.3s,baz=216,slow=11,SNR=34						
ASAJ				Sn	**Sn**	**17 10 26.1**	**+2.3**
	comp=Z,8.5nm,0.3s,baz=75,slow=20,SNR=3.4						
ASAJ				LR	LR	17 12 04.0	
	comp=Z,2µm,19.4s,baz=186,slow=48						
YUK	**Yuzh-Kuril'sk**	**4.93**	**22**	*e*P	**Pn**	**17 09 29.4**	**-4.1**
YUK				*e*S	**Sn**	**17 10 22.0**	**-8.5**
YUK				pmax	pmax		
	comp=Z,2µm,0.7s						
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
YUK				smax			
	comp=N,2µm,0.5s						
YUK				smax			
	comp=E,380nm,0.4s						
YUK				smax			
	comp=N,5µm,1.8s						
YUK				smax			
	comp=E,7µm,1.6s						
MJAR	**Matsushiro Arr**	**5.00**	**236**	P	**Pn**	**17 09 34.9**	**+0.5**
MJAR						17 10 33.2	
MJAR				pmax	pmax		
	comp=Z,14nm,0.3s						
MJAR	**Matsushiro Arr**	**5.00**	**236**	Pn	**Pn**	**17 09 34.9**	**+0.6**
	comp=Z,14nm,0.3s,baz=40,slow=11,SNR=365						
MJAR				Sn	**Sn**	**17 10 33.2**	**+1.1**
	baz=52,slow=22,SNR=2.3						
MAJO	**Matsushiro**	**5.00**	**236**	*e*P	**Pn**	**17 09 35.0**	**+0.6**
MAT	**Matsushiro**	**5.00**	**236**	*e*P	**Pn**	**17 09 35.0**	**+0.6**
MAT				S	**Sn**	**17 10 35.0**	**+2.9**
MAT	**Matsushiro**	**5.00**	**236**	P	**Pn**	**17 09 35.0**	**+0.6**
MAT				*e*S	**Sn**	**17 10 32.5**	**+0.4**
KUR	**Kuril'sk**	**6.66**	**29**	*e*P	**Pn**	**17 09 53.0**	**-4.8**
KUR				*e*S	**Sn**	**17 11 04.0**	**-10**
KUR				pmax	pmax		
	comp=Z,100nm,0.8s						
KUR				smax			
	comp=N,180nm,0.6s						
KUR				smax			
	comp=E,210nm,0.6s						
JHJ	**Hachijo jima 2**	**6.96**	**205**	Pn	**Pn**	**17 09 59.2**	**-2.8**
	comp=E,50nm,0.3s,baz=54,slow=21,SNR=9.1						
JHJ				Sn	**Sn**	**17 11 12.4**	**-8.8**
	comp=E,46nm,0.3s,baz=222,slow=23,SNR=7.3						
YSS	**Yuzh-Sakhalins**	**7.49**	**357**	⇑*i*P	**Pn**	**17 10 07.8**	**-1.6**
YSS				*e*S	**Sn**	**17 11 24.0**	**-10**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
YSS				smax			
	comp=E,30nm,0.9s						
YSS				MLR	MLR		
	comp=N,900nm,16.0s						
YSS				MLR	MLR		
	comp=Z,900nm,16.0s						
YSS				MLR	MLR		
	comp=E,2µm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.49**	**357**	*e*P	**Pn**	**17 10 06.6**	**-2.8**
	comp=E,40nm,0.9s						
UGL	**Uglegorsk**	**9.64**	**355**	P	**P**	**17 10 36.5**	**-2.7**
UGL				*e*		17 12 24.0	
UGL				MLR	MLR		
	comp=N,700nm,15.0s						
UGL				MLR	MLR		
	comp=Z,900nm,15.0s						
UGL				MLR	MLR		
	comp=E,1µm,18.0s						
MDJ	**Mudanjiang**	**11.43**	**301**	P	**P**	**17 11 03.4**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,20nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,263nm,7.8s						
MDJ				LR	LR		
	comp=N,878nm,12.8s						
MDJ				LR	LR		
	comp=E,2µm,15.1s						
MDJ				LR	LR		
	comp=Z,2µm,16.2s						
MDJ	**Mudanjiang**	**11.43**	**301**	*e*P	**P**	**17 11 03.7**	**0.0**
	comp=Z,121nm,1.2s						
JNU	**Nakatsue**	**11.88**	**242**	Pn	**P**	**17 11 06.5**	**-3.2**
	comp=Z,1.5nm,0.3s,baz=5.1,slow=14,SNR=7.8						

JNU LR LR 17 16 09.7
comp=Z,2µm,18.0s,baz=234,slow=40

KS15 Wonju Array Si 12.28 265 *e*P **P** **17 11 17.0 +1.8**
CBIJ Chichi jima 12.38 185 Pn **P** **17 11 12.3 -4.3**
comp=Z,9.1nm,0.3s,baz=95,slow=22,SNR=5.4
CBIJ Sn **S** **17 13 20.4 -15**
comp=Z,7.9nm,0.3s,baz=90,slow=20,SNR=5.2

KLR Kul'dur 12.78 323 *e*P **P** **17 11 16.6 -5.3**
KLR MLR MLR
comp=N,2µm,13.5s
KLR MLR MLR
comp=Z,3µm,13.5s

CN2 Changchun 14.05 294 *e*P **P** **17 11 37.8 -0.8**
CN2 *e*AP 17 11 45.9
CN2 *e*S **S** **17 14 11.5 -3.2**
CN2 AMB AMB
comp=Z,10.0nm,1.1s
CN2 LR LR
comp=N,800nm,16.0s
CN2 LR LR
comp=E,1µm,16.0s
CN2 LR LR
comp=Z,1µm,16.0s

DL2 Dalian 16.84 275 P **P** **17 12 16.1 +1.5**
DL2 XP 17 12 27.0
DL2 *e*S **S** **17 15 27.1 +7.3**
DL2 AMB AMB
comp=Z,10.0nm,0.9s
DL2 AMB AMB
comp=Z,180nm,5.6s
DL2 LR LR
comp=N,390nm,12.2s
DL2 LR LR
comp=E,450nm,15.5s
DL2 LR LR
comp=Z,590nm,16.3s

PET Petropavlovsk 17.15 33 *e*P **P** **17 12 20.4 +2.0**
PET *e*S **S** **17 15 34.2 +7.4**
PET pmax pmax
comp=Z,49nm,1.2s
PET smax
comp=N,200nm,21.7s
PET MLR MLR
comp=Z,400nm,15.0s

HIA Hailar 19.43 308 *e*P **P** **17 12 42.2 -4.0**
HIA pmax pmax
comp=Z,31nm,0.9s

HIA Hailar 19.43 308 *e*P **P** **17 12 42.2 -4.0**
comp=Z,31nm,0.9s

SSE Sheshan 19.88 252 P **P** **17 12 49.9 -1.5**
SSE S **S** **17 16 25.6 -2.8**
SSE AMB AMB
comp=Z,39nm,0.7s
SSE AMB AMB
comp=Z,87nm,5.0s
SSE LR LR
comp=N,583nm,13.5s
SSE LR LR
comp=E,493nm,13.5s
SSE LR LR
comp=Z,822nm,13.4s

MA2 Magadan 20.66 11 *e*P **P** **17 12 58.0 -1.3**
MA2 *e*S **S** **17 16 32.0 -12**
MA2 *e*SS SS 17 16 47.9 -27
MA2 pmax pmax
comp=Z,20nm,0.9s

MA2 Magadan 20.66 11 *e*P **P** **17 12 58.2 -1.1**
CLNS Chul'man 21.16 331 *e*P **P** **17 13 01.5 -2.9**
CLNS *e* 17 13 12.6
CLNS *e*PPP PPP 17 13 21.3 -16
CLNS *e* 17 17 24.5
CLNS pmax pmax
comp=Z,34nm,0.9s,mb4.7
CLNS pmax pmax
comp=N,35nm,1.2s
CLNS pmax pmax
comp=E,118nm,15.1s
CLNS pmax pmax
comp=Z,36nm,1.0s,mb4.7
CLNS pmax pmax
comp=N,20nm,0.7s
CLNS pmax pmax
comp=E,15nm,0.8s
CLNS MLR MLR
comp=Z,1µm,15.0s,MS4.4
CLNS MLR MLR
comp=N,800nm,14.0s,MS4.2
CLNS MLR MLR
comp=E,100nm,15.0s,MS4.2

YHNB Yeheng 23.66 238 *e*P **P** **17 13 27.3 -2.1**
YAK Yakutsk 24.07 344 *c i*P **P** **17 13 31.3 -1.7**
YAK *i* *PP 17 13 39.5
YAK *e* 17 14 05.4
YAK *i* PPP PPP 17 14 12.3 -5.3
YAK *e*S **S** **17 17 50.6 +4.6**
YAK *i* SS SS 17 18 07.5 -31
YAK pmax pmax
comp=Z,18nm,0.8s,mb4.5
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=Z,15nm,0.9s,mb4.4
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK smax
comp=E,5.0nm,1.1s
YAK smax
comp=Z,4.0nm,1.0s
YAK smax
comp=N,5.0nm,1.1s
YAK MLR MLR
comp=N,216nm,14.0s,MS3.8
YAK MLR MLR
comp=E,89nm,14.0s,MS3.8
YAK MLR MLR
comp=Z,248nm,14.0s,MS3.8

YAK Yakutsk 24.07 344 *e*P **P** **17 13 29.3 -3.7**
comp=Z,40nm,0.8s,mb4.9

CIT Chita 24.08 311 *e*P **P** **17 13 32.1 -1.1**
CIT pmax pmax
comp=Z,126nm,1.3s,mb5.2

SEY Seymchan 24.11 10 *e*P **P** **17 13 33.3 -0.1**
SEY *e* 17 13 44.0
SEY pmax pmax
comp=N,20nm,1.1s
SEY pmax pmax
comp=Z,40nm,1.1s,mb4.8

HHC Hu-ho-hao-te 24.25 284 *e*P **P** **17 13 33.2 -1.8**
HHC AP 17 13 42.3
HHC XP 17 13 49.5
HHC PP PP 17 14 07.5 -2.6
HHC PCP PcP 17 17 13.3 -3.0
HHC S **S** **17 17 46.9 -2.3**
HHC XS 17 18 06.0
HHC SS SS 17 18 43.2 +0.5
HHC AMB AMB
comp=Z,9.0nm,1.1s,mb4.1
HHC AMB AMB
comp=Z,186nm,12.0s
HHC LR LR
comp=N,290nm,15.6s,MS4.5
HHC LR LR
comp=E,1µm,15.6s,MS4.5
HHC LR LR
comp=Z,2µm,18.0s,MS4.5

WHN Wuhan 25.27 258 ⇑P **P** **17 13 44.0 -0.8**
WHN S **S** **17 18 09.0 +2.5**
WHN LR LR
comp=N,540nm,13.7s,MS4.8
WHN LR LR
comp=E,2µm,16.7s,MS4.8
WHN LR LR
comp=Z,1µm,17.9s,MS4.5

QZH Quanzhou 25.35 243 *e*P **P** **17 13 47.0 +1.4**
QZH S **S** **17 18 07.8 -0.1**
QZH LR LR
comp=N,720nm,11.4s,MS4.5
QZH LR LR
comp=E,560nm,12.2s,MS4.5
QZH LR LR
comp=Z,2µm,25.7s

BTO Baotou 25.45 283 *e*P **P** **17 13 42.3 -4.1**

BOD Bodaibo 26.36 324 *e*P **P** **17 13 52.8 -1.9**
BOD pmax pmax
comp=Z,28nm,1.1s,mb4.7

ULN Ulaanbaatar 27.34 300 *e*P **P** **17 13 58.1 -5.7**
ULN pmax pmax
comp=Z,45nm,1.3s,mb4.8

ULN Ulaanbaatar 27.34 300 *e*P **P** **17 13 58.1 -5.7**
comp=Z,45nm,1.3s,mb4.8

SONM Songino Array 27.78 300 P **P** **17 14 07.7 -0.1**
comp=Z,20nm,1.1s,mb4.6,baz=106,slow=9.0,SNR=59
SONM LR LR 17 25 47.0
comp=Z,1µm,18.4s,MS4.5,baz=69,slow=38

XAN Xi'an 27.99 270 P **P** **17 14 08.0 -1.8**
XAN AP pP 17 14 16.5 -0.2
XAN S **S** **17 18 55.8 +4.9**
XAN AMB AMB
comp=Z,11nm,1.4s,mb4.3
XAN LR LR
comp=N,296nm,14.0s,MS4.3
XAN LR LR
comp=E,422nm,13.6s,MS4.3
XAN LR LR
comp=Z,524nm,14.1s,MS4.3

ENH Enshi 29.11 262 *e*P **P** **17 14 18.8 -1.1**
comp=Z,43nm,0.9s,mb5.2

IRK Irkutsk 29.67 308 *e*P **P** **17 14 19.4 -5.3**
IRK pmax pmax
comp=Z,32nm,2.0s,mb4.7

TLY Talaya 29.96 307 *e*P **P** **17 14 26.9 -0.4**
TLY *e*S **S** **17 19 13.1 -9.3**
TLY pmax pmax
comp=Z,14nm,1.1s,mb4.6
TLY MLR MLR
comp=Z,630nm,15.0s,MS4.4

TLY Talaya 29.96 307 *e*P **P** **17 14 26.6 -0.7**
comp=Z,19nm,1.3s,mb4.7

ZAK Zakamensk 30.03 305 ⇑*i*P **P** **17 14 27.2 -0.8**
ZAK pmax pmax
comp=Z,13nm,1.3s,mb4.5

LZH Lanzhou 31.22 276 P **P** **17 14 38.1 -0.5**
LZH AP pP 17 14 51.2 +5.6
LZH AMB AMB
comp=Z,30nm,1.0s,mb5.1
LZH LR LR
comp=E,2µm,13.0s
LZH LR LR
comp=Z,2µm,13.7s,MS5.0

BILL Bilibino 31.26 16 *i*P **P** **17 14 37.7 -0.9**
BILL pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
BILL MLR MLR
comp=Z,200nm,15.0s,MS3.9

BILL Bilibino 31.26 16 P **P** **17 14 37.1 -1.5**
MOY Mondy 31.60 307 *e*P **P** **17 14 41.0 -0.7**
MOY pmax pmax
comp=Z,26nm,2.3s,mb4.7

GYA Guiyang 33.16 258 ⇑*i*P **P** **17 14 54.4 -1.2**
GYA AP pP 17 15 06.8 +4.2
GYA XP sP 17 15 11.4 +5.8
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.3
GYA LR LR
comp=N,390nm,13.2s,MS4.5
GYA LR LR
comp=E,560nm,14.0s,MS4.5
GYA LR LR
comp=Z,630nm,13.8s,MS4.5

CD2 Chengdu 33.24 268 P **P** **17 14 54.8 -1.4**
GTA Gaotai 33.36 284 *e*P **P** **17 14 57.3 +0.1**
GTA AP pP 17 15 03.6 -0.6
GTA XP sP 17 15 07.1 -0.2
GTA PP PP 17 16 08.8 -0.4
GTA PCP PcP 17 17 38.2 -0.6
GTA S **S** **17 20 19.4 +3.8**
GTA XS 17 20 26.6
GTA AMB AMB
comp=Z,35nm,1.0s,mb5.2
GTA AMB AMB
comp=Z,260nm,6.5s
GTA LR LR
comp=N,442nm,17.9s,MS4.7
GTA LR LR
comp=E,1µm,17.5s,MS4.7
GTA LR LR
comp=Z,2µm,16.7s,MS4.8

KMI Kunming 36.86 260 ⇑P **P** **17 15 26.9 -0.3**
KMI AP pP 17 15 36.2 +2.0
KMI XP sP 17 15 39.5 +2.3
KMI PP PP 17 16 52.8 -0.3
KMI PPP PPP 17 17 13.5 +0.4
KMI S **S** **17 21 08.9 -0.8**
KMI XS 17 21 24.2
KMI SS SS 17 23 38.0 -0.4
KMI SSS SSS 17 24 08.5 -0.5
KMI AMB AMB
comp=Z,20nm,1.4s,mb4.8
KMI AMB AMB
comp=Z,120nm,3.8s
KMI LR LR
comp=N,519nm,16.0s,MS4.5
KMI LR LR
comp=E,397nm,17.1s,MS4.5
KMI LR LR
comp=Z,366nm,16.0s,MS4.3

WMQ Urumqi 41.14 295 ⇑P **P** **17 16 03.0 +0.4**
WMQ AP pP 17 16 15.6 +5.9
WMQ PP PP 17 17 41.8 +1.2
WMQ AMB AMB
comp=Z,32nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,79nm,4.8s
WMQ LR LR
comp=N,211nm,14.8s,MS4.5
WMQ LR LR
comp=E,356nm,12.0s,MS4.5
WMQ LR LR
comp=Z,239nm,15.0s,MS4.2

ZAL Zalesovo 41.45 310 P **P** **17 16 04.9 -0.1**
ZAL pmax pmax
comp=Z,6.0nm,0.6s
ZAL MLR MLR
comp=Z,367nm,19.5s

ZAL Zalesovo 41.45 310 P **P** **17 16 04.8 -0.2**
comp=Z,5.5nm,0.6s,mb4.3,baz=24,slow=9.7,SNR=30
ZAL LR LR 17 34 36.3
comp=Z,367nm,19.4s,MS4.3,baz=28,slow=38

NANT Nan 42.08 253 P **P** **17 16 10.0 -0.6**
comp=Z,150nm,0.6s,mb5.8

NVS Novosibirsk 42.29 312 *e*P **P** **17 16 11.0 -0.9**
NVS *e*S **S** **17 22 20.1 -11**
NVS pmax pmax
comp=Z,14nm,1.3s,mb4.4
NVS pmax pmax
comp=N,4.0nm,1.1s
NVS pmax pmax
comp=E,14nm,1.3s
NVS smax
comp=N,7.0nm,1.8s
NVS smax
comp=E,11nm,1.8s

CHG Chiang Mai 43.37 255 P **P** **17 16 27.3 +6.1**
LSA Lhasa 43.53 274 P **P** **17 16 23.5 +1.2**
LSA *e*S **S** **17 22 45.3 -4.1**
LSA AMB AMB
comp=Z,30nm,1.0s,mb5.0
LSA LR LR
comp=N,150nm,15.0s,MS4.6
LSA LR LR
comp=E,540nm,16.0s,MS4.6
LSA LR LR
comp=Z,820nm,16.0s,MS4.7

LSA Lhasa 43.53 274 *e*P **P** **17 16 23.7 +1.4**
LSA pmax pmax
comp=Z,11nm,0.8s,mb4.6

LSA Lhasa 43.53 274 *e*P **P** **17 16 23.6 +1.4**
comp=Z,11nm,0.8s,mb4.6

CMAR Chiang Mai Arr 43.59 254 *i*P **P** **17 16 23.2 +0.3**
CMAR pmax pmax
comp=Z,2.0nm,0.8s

CMAR Chiang Mai Arr 43.59 254 P **P** **17 16 22.9 0.0**
comp=Z,2.3nm,0.8s,mb4.0,baz=47,slow=7.1,SNR=14

MKAR Makanchi Array 44.15 300 *i*P **P** **17 16 26.6 -0.5**
MKAR pmax pmax
comp=Z,12nm,0.8s

MKAR Makanchi Array 44.15 300 P **P** **17 16 26.7 -0.4**
comp=Z,15nm,0.9s,mb4.7,baz=83,slow=9.4,SNR=87

MKAR LR LR 17 35 35.8
comp=Z,473nm,19.8s,MS4.4,baz=75,slow=37

SHL Shillong 44.97 268 *e*P **P** **17 16 32.7 -1.3**
ILAR Eielson Array 46.63 34 P **P** **17 16 45.5 -1.0**
ILAR pmax pmax
comp=Z,4.0nm,0.8s
ILAR MLR MLR
comp=Z,83nm,18.2s

ILAR Eielson Array 46.63 34 P **P** **17 16 45.5 -1.0**
comp=Z,3.5nm,0.8s,mb4.3,baz=265,slow=6.8,SNR=34
ILAR LR LR 17 38 27.6
comp=Z,83nm,18.2s,MS3.7,baz=182,slow=39

GUN Gumba 48.45 275 *e*P **P** **17 17 01.4 +0.1**
comp=Z,154nm,0.9s

KKN Kakani 48.97 275 *e*P **P** **17 17 05.2 -0.1**
comp=Z,13nm,0.0s

PKI Pulchoki 48.97 274 *e*P **P** **17 17 05.1 -0.3**
comp=Z,15nm,0.6s,mb5.2

PKI Pulchoki 48.97 274 *e*P **P** **17 17 05.1 -0.3**
PKI pmax pmax
comp=Z,8.0nm,0.6s,mb4.9

DMN Daman 49.19 275 *e*P **P** **17 17 06.9 -0.2**
comp=Z,76nm,1.1s,mb5.6

GKN Gorkha 49.36 275 *e*P **P** **17 17 07.8 -0.6**
comp=Z,83nm,1.0s,mb5.7

VOSK Vostochnaya 49.81 311 P **P** **17 17 10.8 -0.7**
VOSK pmax pmax
comp=Z,25nm,1.2s,mb5.1

TKM2 Tokmak 2 49.83 297 P **P** **17 17 12.2 +0.4**
SNR=21

BVA0 Borovoye Array 50.08 311 *i*P **P** **17 17 13.2 -0.3**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb4.0

KOLN Koldanda 50.27 276 *e*P **P** **17 17 15.2 -0.2**
comp=Z,73nm,1.1s,mb5.6

KZA Kyzart 50.37 296 P **P** **17 17 16.9 +1.0**
SNR=9.0

KBK Karagaybulak 50.37 297 P **P** **17 17 15.8 -0.1**
SNR=10

USP Ospenovka 50.46 298 P **P** **17 17 16.4 -0.1**
SNR=6.5

AAK Ala-Archa 50.69 297 *e*P **P** **17 17 16.2 -2.1**
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4

AAK Ala-Archa 50.69 297 *e*P **P** **17 17 16.2 -2.1**
comp=Z,2.8nm,0.6s,mb4.4

KSH Kashi 50.82 293 *e*P **P** **17 17 20.1 +0.7**
KSH *e*PCP PcP 17 18 37.2 +1.0
KSH *e*PP PP 17 19 18.1 +1.6
KSH *e*PCS 17 22 32.0
KSH *e*S **S** **17 24 30.0 -2.5**
KSH *e*SCS ScS 17 27 01.3 -4.2
KSH *e*SS SS 17 28 01.0 -3.9
KSH AMB AMB
comp=Z,80nm,0.9s,mb5.7
KSH LR LR
comp=N,1µm,14.8s,MS5.0
KSH LR LR
comp=E,560nm,14.6s,MS5.0

ZRNK Zerenda 50.90 311 *e*P **P** **17 17 18.7 -1.1**
ZRNK pmax pmax
comp=Z,22nm,0.9s,mb5.1

ZRNK Zerenda 50.90 311 *e*P **P** **17 17 18.7 -1.0**
comp=Z,22nm,0.9s,mb5.1

EKS2 Erkin-Say 51.17 297 P **P** **17 17 21.6 -0.4**
SNR=7.3

AML Almayashu 51.43 297 P **P** **17 17 24.5 +0.5**
SNR=16

INK Inuvik 51.53 28 P **P** **17 17 24.0 -0.4**
comp=Z,3.6nm,0.7s,mb4.4,baz=307,slow=16,SNR=4.4

INK Inuvik 51.53 28 *e*P **P** **17 17 24.2 -0.2**
KKAR Karatay Array 53.23 299 *i*P **P** **17 17 36.4 -1.1**
SVE Sverdlovsk 54.34 318 ⇑*e*P **P** **17 17 45.2 -0.1**
SVE *e* 17 17 56.0
SVE pmax pmax
comp=Z,60nm,1.5s,mb5.3
SVE MLR MLR
comp=N,400nm,14.0s,MS5.1
SVE MLR MLR
comp=E,1µm,14.0s,MS5.1
SVE MLR MLR
comp=Z,2µm,14.0s,MS5.3

SOKR Solikamsk 55.33 322 ⇑*i*P **P** **17 17 52.5 -0.1**
SOKR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
SOKR MLR MLR
comp=Z,370nm,17.0s,MS4.5

ARU Arti 55.55 318 ⇑*i*P **P** **17 17 53.3 -0.9**
ARU *e* 17 18 12.0
ARU *e* 17 18 54.9
ARU *e* 17 19 53.2
ARU *e*S **S** **17 25 32.7 -3.8**
ARU *e* 17 27 35.6
ARU *e*SS SS 17 29 16.8 -4.7
ARU pmax pmax
comp=Z,42nm,1.1s,mb5.4
ARU MLR MLR
comp=Z,700nm,16.0s,MS4.8
ARU MLR MLR
comp=N,200nm,14.5s,MS4.7
ARU MLR MLR
comp=E,500nm,16.0s,MS4.7

ARU Arti 55.55 318 *e*P **P** **17 17 53.1 -1.1**
comp=E,34nm,1.0s,mb5.3

DLBC Dease Lake 55.78 39 P **P** **17 17 56.6 +0.7**
comp=E,2.1nm,0.8s,mb4.2,baz=289,slow=7.8,SNR=4.8

DLBC Dease Lake 55.78 39 *e*P **P** **17 17 56.3 +0.4**
AB31 Akbulak array 57.54 310 *i*P **P** **17 18 07.4 -1.1**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2

FITZ Fitzroy Crossi 59.62 200 P **P** **17 18 22.2 -1.2**
comp=Z,3.1nm,0.6s,mb4.5,baz=6.7,slow=17,SNR=4.9

WRAB Tennant Creek 59.69 190 *e*P **P** **17 18 22.2 -1.7**
WRA Warramunga Arr 59.70 190 P **P** **17 18 21.4 -2.6**
WRA pmax pmax
comp=Z,4.0nm,0.6s

WRA Warramunga Arr 59.70 190 P **P** **17 18 21.4 -2.5**
comp=Z,3.7nm,0.6s,mb4.6,baz=8.3,slow=6.9,SNR=38

YKA Yellowknife Ar 60.94 31 P **P** **17 18 30.3 -1.5**
YKA pmax pmax
comp=Z,1.0nm,0.7s

YKA Yellowknife Ar 60.94 31 P **P** **17 18 30.3 -1.5**
comp=Z,1.1nm,0.7s,mb4.1,baz=297,slow=6.6,SNR=6.1

YKA Yellowknife Ar 60.94 31 P **P** **17 18 30.3 -1.5**
ARCES ARCESS Array B 62.24 339 P **P** **17 18 39.3 -1.3**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES MLR MLR
comp=Z,178nm,19.9s

ARCES ARCESS Array B 62.24 339 P **P** **17 18 39.2 -1.3**
comp=Z,2.7nm,0.8s,mb4.4,baz=36,slow=10,SNR=6.6
ARCES LR LR 17 48 53.5
comp=Z,178nm,19.9s,MS4.2,baz=272,slow=39

DAG Danmarks Havn 63.47 355 *e*P **P** **17 18 47.0 -1.6**
DAG Danmarks Havn 63.47 355 *i*P **P** **17 18 47.0 -1.6**
MOS Moscow 66.19 323 *e*P **P** **17 19 05.2 -1.1**
MOS MLR MLR
comp=Z,600nm,16.5s,MS4.9

KAF Kangasniemi 66.83 333 *e*p **P** **17 19 07.9 -2.4**
comp=Z,5.6nm,0.8s,mb4.7,baz=48,slow=6.0

KAF Kangasniemi 66.83 333 *e*P **P** **17 19 07.9 -2.4**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7

OBN Obninsk 67.05 323 *i*P **P** **17 19 11.2 -0.6**
OBN *e* 17 19 36.4
OBN pmax pmax
comp=Z,17nm,1.1s,mb5.0
OBN MLR MLR
comp=Z,600nm,18.0s,MS4.8

NEW Newport 67.33 46 *e*P **P** **17 19 13.6 -0.1**
NEW pmax pmax
comp=Z,7.0nm,1.1s

NEW Newport 67.33 46 *e*P **P** **17 19 13.6 -0.1**
comp=Z,6.9nm,1.1s,mb4.6

FINES FINESS Array B 67.36 332 P **P** **17 19 12.7 -0.9**
FINES pmax pmax
comp=Z,5.0nm,0.7s

FINES FINESS Array B 67.36 332 P **P** **17 19 12.7 -1.0**
comp=Z,5.4nm,0.7s,mb4.7,baz=56,slow=6.9,SNR=33

AFI Afiamalu 67.59 132 LR LR 17 41 39.0
comp=Z,198nm,21.5s,MS4.3,baz=68,slow=30

SUMG Summit 68.24 1 *e*P **P** **17 19 19.3 +0.3**
comp=Z,7.1nm,0.9s,mb4.7

WDC Whiskeytown Da 68.42 55 *e*P **P** **17 19 20.9 +0.3**
WDC pmax pmax
comp=Z,6.0nm,1.0s,mb4.6

WDC	**Whiskeytown Da**	**68.42**	**55**	*e*P	**P**	**17 19 20.9**	**+0.3**
	comp=Z,5.7nm,1.0s,mb4.6						
VSU	**Vasula**	**69.11**	**330**	*c i*P	**P**	**17 19 24.0**	**-0.6**
BMO	**Blue Mountains**	**69.17**	**49**	*e*P	**P**	**17 19 25.0**	**-0.3**
	comp=Z,4.5nm,1.1s,mb4.3						
GOF	**Gofitskoye**	**69.60**	**312**	*e*P	**P**	**17 19 26.5**	**-1.3**
WVOR	**Wild Horse Val**	**69.78**	**51**	*e*P	**P**	**17 19 29.5**	**+0.5**
WVOR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
WVOR	**Wild Horse Val**	**69.78**	**51**	*e*P	**P**	**17 19 29.5**	**+0.5**
	comp=Z,4.2nm,0.8s,mb4.4						
MSO	**Missoula**	**69.92**	**45**	*e*P	**P**	**17 19 29.5**	**-0.2**
	comp=Z,4.8nm,1.3s,mb4.3						
KIV	**Kislovodsk**	**70.44**	**311**	*c i*P	**P**	**17 19 33.2**	**+0.2**
KIV				*e**SP	sP	17 20 00.2	+17
KIV				*e*		17 22 07.3	
KIV				*e*S	S	17 28 38.8	-4.3
KIV				pmax	pmax		
	comp=Z,52nm,1.1s,mb5.4						
KIV				MLR	MLR		
	comp=N,136nm,16.0s,MS4.5						
KIV				MLR	MLR		
	comp=E,139nm,16.0s,MS4.5						
KIV				MLR	MLR		
	comp=Z,296nm,16.0s,MS4.6						
KIV	**Kislovodsk**	**70.44**	**311**	*e*P	**P**	**17 19 31.9**	**-1.1**
	comp=Z,58nm,1.1s,mb5.4						
ONI	**Oni**	**70.81**	**310**	P	**P**	**17 19 35.7**	**+0.5**
STKA	**Stephens Creek**	**71.01**	**182**	P	**P**	**17 19 35.0**	**-1.6**
	comp=Z,2.0nm,0.8s,mb4.1,baz=338,slow=6.8,SNR=4.5						
STKA				LR	LR	17 47 53.4	
	comp=Z,76nm,19.1s,MS4.0,baz=32,slow=34						
HRY	**Holter Researc**	**71.15**	**45**	*e*P	**P**	**17 19 37.4**	**+0.1**
CMB	**Columbia Colle**	**71.24**	**56**	*e*P	**P**	**17 19 38.6**	**+0.7**
CMB				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
CMB	**Columbia Colle**	**71.24**	**56**	*e*P	**P**	**17 19 38.6**	**+0.7**
	comp=Z,9.2nm,1.2s,mb4.6						
HLID	**Hailey**	**71.61**	**48**	*e*P	**P**	**17 19 40.4**	**+0.3**
	comp=Z,2.5nm,1.0s,mb4.1						
BOZ	**Bozeman (W)**	**71.92**	**45**	*e*P	**P**	**17 19 42.5**	**+0.7**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BOZ	**Bozeman (W)**	**71.92**	**45**	*e*P	**P**	**17 19 42.5**	**+0.7**
	comp=Z,4.0nm,0.9s,mb4.3						
NB2	**NORSAR Subarra**	**72.51**	**338**	P	**P**	**17 19 44.1**	**-0.9**
	comp=Z,18nm,1.1s,mb4.9,baz=37,slow=5.8						
NB2	**NORSAR Subarra**	**72.51**	**338**	P	**P**	**17 19 44.1**	**-0.9**
NB2				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
NOA	**NORSAR Array B**	**72.51**	**338**	P	**P**	**17 19 44.6**	**-0.4**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,153nm,18.5s						
NOA	**NORSAR Array B**	**72.51**	**338**	P	**P**	**17 19 44.5**	**-0.4**
	comp=Z,6.4nm,0.8s,mb4.6,baz=38,slow=6.0,SNR=23						
NOA				LR	LR	17 57 17.5	
	comp=Z,153nm,18.5s,MS4.3,baz=25,slow=40						
AKASG	**Malin Array Be**	**73.28**	**323**	P	**P**	**17 19 49.1**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**73.28**	**323**	P	**P**	**17 19 49.1**	**-0.7**
	comp=Z,1.6nm,0.5s,mb4.2,baz=42,slow=6.1,SNR=24						
IMW	**Indian Meadow**	**73.39**	**47**	P	**P**	**17 19 52.0**	**+1.5**
	comp=Z,5.5nm,0.7s,mb4.6						
MVU	**Marysvale**	**76.06**	**52**	*e*P	**P**	**17 20 07.0**	**+1.1**
	comp=Z,2.9nm,0.9s,mb4.2						
MSU	**Marysvale**	**76.07**	**51**	*e*P	**P**	**17 20 06.6**	**+0.6**
MALT	**Malatya**	**76.45**	**309**	*e*P	**P**	**17 20 08.9**	**+0.8**
MALT				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
MALT	**Malatya**	**76.45**	**309**	*e*P	**P**	**17 20 08.9**	**+0.8**
	comp=Z,14nm,1.1s,mb4.8						
SRU	**San Rafael**	**76.68**	**50**	*e*P	**P**	**17 20 09.5**	**+0.1**
KWP	**Kalwaria**	**77.02**	**325**	*e*P	**P**	**17 20 11.6**	**+0.5**
KOLS	**Kolonicke sedl**	**77.72**	**325**	*e*P	**P**	**17 20 15.9**	**+0.9**
STHS	**Stebnicka Huta**	**77.82**	**326**	*e*P	**P**	**17 20 16.4**	**+0.9**
OJC	**Ojcow**	**77.84**	**327**	*e*P	**P**	**17 20 15.9**	**+0.3**
PV10	**Paradox Valley**	**78.04**	**50**	*e*P	**P**	**17 20 18.5**	**+1.6**
NIE	**Niedzica**	**78.22**	**326**	*e*P	**P**	**17 20 18.5**	**+0.8**
BR131	**Keskin Array S**	**78.35**	**312**	*e*P	**P**	**17 20 18.8**	**+0.2**
BRTR	**Keskin Array B**	**78.35**	**312**	P	**P**	**17 20 18.9**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BRTR	**Keskin Array B**	**78.35**	**312**	P	**P**	**17 20 18.9**	**+0.3**
	comp=Z,4.1nm,1.1s,mb4.3,baz=124,slow=4.5,SNR=16						
PV01	**Paradox Valley**	**78.48**	**50**	*e*P	**P**	**17 20 20.2**	**+0.8**
BSEG	**Bad Segeberg**	**78.55**	**334**	*e*P	**P**	**17 20 19.9**	**+0.5**
KSP	**Ksiaz**	**78.81**	**329**	⇑*e*P	**P**	**17 20 21.1**	**+0.2**
KSP	**Ksiaz**	**78.81**	**329**	*e*P	**P**	**17 20 21.6**	**+0.8**
OKC	**Ostrava-Krasne**	**78.83**	**327**	*e*P	**P**	**17 20 21.8**	**+0.8**
OKC				AMS	AMS	17 57 50.0	
	comp=Z,300nm,16.0s						
KECS	**Kecovo**	**78.85**	**325**	*e*P	**P**	**17 20 21.3**	**+0.1**
MORC	**Moravsky Berou**	**79.12**	**328**	*e*P	**P**	**17 20 23.0**	**+0.4**
MORC				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
MORC	**Moravsky Berou**	**79.12**	**328**	*e*P	**P**	**17 20 22.9**	**+0.3**
	comp=Z,11nm,1.2s,mb4.7						
DPC	**Dobruska-Polom**	**79.18**	**329**	*e*P	**P**	**17 20 24.0**	**+1.1**
DPC				AMS	AMS	17 58 20.0	
	comp=Z,200nm,19.2s						
UPC	**Upice**	**79.18**	**329**	*e*P	**P**	**17 20 23.4**	**+0.5**
PSZ	**Piszkesteto**	**79.53**	**325**	*e*P	**P**	**17 20 24.2**	**-0.7**
PSZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
PSZ	**Piszkesteto**	**79.53**	**325**	*e*P	**P**	**17 20 24.2**	**-0.7**
	comp=Z,3.0nm,0.8s,mb4.3						
VYHS	**Vyhne**	**79.56**	**326**	*e*P	**P**	**17 20 26.2**	**+1.2**
BRG	**Berggiesshubel**	**79.71**	**330**	*e*P	**P**	**17 20 25.8**	**0.0**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
BRG	**Berggiesshubel**	**79.71**	**330**	*e*P	**P**	**17 20 25.8**	**+0.1**
	comp=Z,4.3nm,1.0s,mb4.3						
CLL	**Collm**	**79.72**	**331**	⇑*i*P	**P**	**17 20 25.6**	**-0.2**
CLL				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
CLL				MLR	MLR		
	comp=Z,300nm,20.9s,MS4.6						
CLL	**Collm**	**79.72**	**331**	⇑*i*P	**P**	**17 20 25.6**	**-0.2**
	comp=Z,13nm,1.3s,mb4.7						
CLL				*e*		17 20 46.0	
CLL				*e*		17 20 58.0	
CLL				LR	LR		
	comp=Z,300nm,20.9s,MS4.6						
CLL	**Collm**	**79.72**	**331**	⇑P	**P**	**17 20 25.6**	**-0.2**
	comp=Z,logA/T=1.0,mb4.7						
CLL				*e*		17 20 46.0	
CLL				*e*		17 20 58.0	
PVCC	**Panska Ves**	**79.74**	**330**	*e*P	**P**	**17 20 26.6**	**+0.7**
PVCC				AMS	AMS	17 58 40.0	
	comp=Z,300nm,17.1s						
SMOL	**Smolenice**	**80.15**	**327**	*e*P	**P**	**17 20 29.9**	**+1.7**
PRU	**Pruhonice**	**80.17**	**329**	*e*P	**P**	**17 20 28.7**	**+0.4**
PRU				AMS	AMS	17 58 50.0	
	comp=Z,200nm,18.1s						
CLZ	**Clausthal**	**80.25**	**333**	*e*P	**P**	**17 20 29.3**	**+0.7**
CLZ				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.8						
CLZ	**Clausthal**	**80.25**	**333**	*e*P	**P**	**17 20 29.3**	**+0.7**
	comp=Z,16nm,1.4s,mb4.8						
ZST	**Bratislava**	**80.53**	**327**	*e*P	**P**	**17 20 26.7**	**-3.5**
ZST	**Bratislava**	**80.53**	**327**	*e*	**P**	**17 20 26.7**	**-3.5**
SDCO	**Great Sand Dun**	**80.53**	**49**	P	**P**	**17 20 31.5**	**+1.0**
	comp=Z,2.1nm,0.9s,mb4.1						
MOX	**Moxa**	**80.77**	**331**	*e*P	**P**	**17 20 31.9**	**+0.5**
MOX				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
MOX				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.6						
MOX	**Moxa**	**80.77**	**331**	*e*P	**P**	**17 20 31.9**	**+0.5**
	comp=Z,9.0nm,1.4s,mb4.5						
MOX				LR	LR		
	comp=Z,200nm,16.0s,MS4.6						
MOX	**Moxa**	**80.77**	**331**	*i* P	**P**	**17 20 31.9**	**+0.5**
	comp=Z,logA/T=0.8,mb4.5						
MOX				L		18 01 40.0	
NKC	**Novy Kostel**	**80.79**	**331**	*e*P	**P**	**17 20 31.8**	**+0.3**
NKC				AMS	AMS	18 02 00.0	
	comp=Z,200nm,15.5s						
MZLS	**Mizel**	**81.00**	**294**	P	**P**	**17 20 34.4**	**+1.2**
KHC	**Kasperske Hory**	**81.24**	**329**	*e*P	**P**	**17 20 34.4**	**+0.5**
KHC				AMS	AMS	18 00 40.0	
	comp=Z,300nm,14.9s						
HILS	**Ha'il**	**81.26**	**298**	P	**P**	**17 20 35.3**	**+0.9**
GEC2	**GERESS Array S**	**81.42**	**329**	*e*P	**P**	**17 20 35.2**	**+0.4**
GEC2				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
GEC2	**GERESS Array S**	**81.42**	**329**	*e*P	**P**	**17 20 35.2**	**+0.4**
	comp=Z,4.0nm,1.0s,mb4.3						
GERES	**GERESS Array B**	**81.42**	**329**	P	**P**	**17 20 35.1**	**+0.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES				MLR	MLR		
	comp=Z,205nm,18.5s						
GERES	**GERESS Array B**	**81.42**	**329**	P	**P**	**17 20 35.1**	**+0.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=14,slow=5.5,SNR=6.0						
GERES				LR	LR	18 01 21.1	
	comp=Z,205nm,18.5s,MS4.5,baz=331,slow=39						
WET	**Wettzell**	**81.50**	**330**	*e*P	**P**	**17 20 36.1**	**+0.8**
WET				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
WET	**Wettzell**	**81.50**	**330**	*e*P	**P**	**17 20 36.1**	**+0.8**
	comp=Z,8.0nm,1.2s,mb4.5						
GRA1	**Grafenberg Arr**	**81.69**	**331**	*e*P	**P**	**17 20 37.2**	**+0.9**
	comp=Z,23nm,1.3s,mb5.0						
GRF	**Grafenberg Arr**	**81.69**	**331**	*e*P	**P**	**17 20 37.2**	**+0.9**
GRF				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
GRF	**Grafenberg Arr**	**81.69**	**331**	*e*P	**P**	**17 20 37.2**	**+0.9**
GRF				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
GRF	**Grafenberg Arr**	**81.69**	**331**	*e*P	**P**	**17 20 37.2**	**+0.9**
	comp=Z,23nm,1.3s,mb5.0						
ANMO	**Albuquerque**	**81.87**	**51**	*i* P	**P**	**17 20 38.7**	**+1.2**
ARSA	**Arzberg**	**81.94**	**327**	⇑*i*P	**P**	**17 20 38.2**	**+0.6**
	comp=Z,4.6nm,1.1s,mb4.3						
MOA	**Molln**	**81.98**	**328**	⇑*i*P	**P**	**17 20 39.6**	**+1.8**
	comp=Z,4.3nm,1.0s,mb4.3						
FUR	**Furstenfeldbru**	**82.92**	**330**	*e*P	**P**	**17 20 43.3**	**+0.6**
FUR				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
FUR	**Furstenfeldbru**	**82.92**	**330**	*e*P	**P**	**17 20 43.3**	**+0.6**
	comp=Z,11nm,0.9s,mb4.9						
OBKA	**Obir**	**82.93**	**327**	⇓*i*P	**P**	**17 20 43.3**	**+0.5**
	comp=Z,3.6nm,0.8s,mb4.5						
KBA	**Koelnbreinsper**	**82.97**	**328**	⇑*i*P	**P**	**17 20 43.7**	**+0.7**
	comp=Z,8.3nm,1.1s,mb4.7						
KBA	**Koelnbreinsper**	**82.97**	**328**	⇑*i*P	**P**	**17 20 43.7**	**+0.7**
KBA				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
MOTA	**Moosalm**	**83.66**	**330**	⇓*i*P	**P**	**17 20 47.1**	**+0.7**
	comp=Z,13nm,1.1s,mb5.0						
MOTA	**Moosalm**	**83.66**	**330**	⇓*i*P	**P**	**17 20 47.1**	**+0.7**
MOTA				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.0						
SQTA	**Sankt Quirin**	**83.72**	**329**	⇓*i*P	**P**	**17 20 47.8**	**+1.1**
	comp=Z,8.4nm,1.3s,mb4.7						
SQTA	**Sankt Quirin**	**83.72**	**329**	⇓*i*P	**P**	**17 20 47.8**	**+1.1**
SQTA				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.7						
BAIF	**Baives**	**83.86**	**335**	*e*P	**P**	**17 20 45.8**	**-1.6**
BFO	**Black Forest**	**83.89**	**332**	*e*P	**P**	**17 20 48.2**	**+0.6**
BFO				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.8						
BFO	**Black Forest**	**83.89**	**332**	*e*P	**P**	**17 20 48.2**	**+0.6**
	comp=Z,11nm,1.3s,mb4.8						
KBRS	**Khaybar**	**84.01**	**298**	P	**P**	**17 20 50.2**	**+1.5**
DAVA	**Damuels**	**84.18**	**330**	⇑*i*P	**P**	**17 20 49.5**	**+0.5**
	comp=Z,11nm,1.0s,mb5.0						
CDF	**Champ du Feu**	**84.21**	**332**	*e*P	**P**	**17 20 49.3**	**+0.1**
	comp=Z,23nm,1.3s,mb4.8						
CDF	**Champ du Feu**	**84.21**	**332**	*e*P	**P**	**17 20 49.3**	**+0.1**
CDF				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.8						
JMQS	**Jabal Moqyreh**	**84.22**	**303**	P	**P**	**17 20 50.6**	**+0.9**
TBKS	**Tabuk**	**84.22**	**302**	P	**P**	**17 20 50.8**	**+1.1**
PPT	**Papeete**	**84.41**	**118**	LR	LR	17 50 01.5	
	comp=Z,174nm,20.1s,MS4.4,baz=221,slow=30						
HAU	**Haudompre**	**84.89**	**333**	*e*P	**P**	**17 20 52.4**	**-0.1**
HAU				*e*R			
	comp=Z,180nm,21.0s						
MEZF	**Maizieres J'vi**	**84.92**	**334**	*e*P	**P**	**17 20 52.9**	**+0.2**
GDL2	**Guadalupe Moun**	**85.02**	**52**	*e*P	**P**	**17 20 54.3**	**+0.7**
BDAS	**Al Bad'**	**85.03**	**303**	P	**P**	**17 20 54.5**	**+0.7**
UMJS	**Umm Lajj**	**85.70**	**299**	P	**P**	**17 20 58.2**	**+1.1**
YNBS	**Yanbu' al Bahr**	**85.83**	**298**	P	**P**	**17 20 58.3**	**+0.4**
LOR	**Lormes**	**86.39**	**334**	*e*P	**P**	**17 21 00.1**	**+0.1**
	comp=Z,27nm,1.2s,mb5.1						
LOR				*e*R			
	comp=Z,139nm,21.0s						
LOR	**Lormes**	**86.39**	**334**	*e*P	**P**	**17 21 00.1**	**+0.1**
LOR				pmax	pmax		
	comp=Z,14nm,1.2s,mb5.1						
LOR				MLR	MLR		
	comp=Z,140nm,21.0s,MS4.3						
FLN	**La Foliniere**	**86.48**	**337**	*e*P	**P**	**17 21 00.4**	**0.0**
FLN				*e*R			
	comp=Z,227nm,23.0s						
LDF	**La Druitiere**	**86.52**	**337**	*e*P	**P**	**17 21 00.8**	**+0.2**
	comp=Z,16nm,1.1s,mb4.9						
LDF	**La Druitiere**	**86.52**	**337**	*e*P	**P**	**17 21 00.8**	**+0.2**
LDF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.9						
SSF	**Saint Saulge**	**86.69**	**334**	*e*P	**P**	**17 21 01.6**	**+0.1**
SSF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.9						
SSF	**Saint Saulge**	**86.69**	**334**	*e*P	**P**	**17 21 01.6**	**+0.1**
	comp=Z,9.3nm,1.2s,mb4.9						
LPG	**La Plagne**	**86.86**	**331**	*e*P	**P**	**17 21 03.1**	**+0.7**
	comp=Z,20nm,1.1s,mb5.0						
LPG	**La Plagne**	**86.86**	**331**	*e*P	**P**	**17 21 03.1**	**+0.7**
LPG				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.0						
GRR	**Gorron**	**86.93**	**337**	*e*P	**P**	**17 21 02.8**	**+0.2**
SMF	**Signal de Mont**	**86.93**	**333**	*e*P	**P**	**17 21 02.8**	**+0.1**
TXAR	**Lajitas Array**	**87.45**	**54**	P	**P**	**17 21 04.9**	**-0.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**87.45**	**54**	P	**P**	**17 21 04.9**	**-0.8**
	comp=Z,1.3nm,0.9s,mb4.1,baz=303,slow=3.8,SNR=11						
TCF	**Toulx Ste Croi**	**87.80**	**334**	*e*P	**P**	**17 21 07.2**	**+0.3**
MFF	**Saint Martin d**	**88.30**	**336**	*e*P	**P**	**17 21 09.7**	**+0.5**
	comp=Z,29nm,1.4s,mb5.0						
MFF	**Saint Martin d**	**88.30**	**336**	*e*P	**P**	**17 21 09.7**	**+0.5**
MFF				pmax	pmax		
	comp=Z,14nm,1.4s,mb5.0						
PGF	**Pioggiola**	**88.46**	**328**	*e*P	**P**	**17 21 09.9**	**-0.2**
	comp=Z,135nm,1.6s,mb5.6						
PGF	**Pioggiola**	**88.46**	**328**	*e*P	**P**	**17 21 09.9**	**-0.2**
PGF				pmax	pmax		
	comp=Z,67nm,1.6s,mb5.6						
SMRF	**Simiane la Rot**	**88.60**	**331**	*e*P	**P**	**17 21 10.6**	**-0.2**
	comp=Z,29nm,1.2s,mb5.2						
CAF	**Calviac**	**89.04**	**334**	*e*P	**P**	**17 21 13.7**	**+0.8**
LASF	**Ste Croix**	**89.15**	**332**	*e*P	**P**	**17 21 13.5**	**+0.1**
	comp=Z,29nm,1.3s,mb5.1						
LFF	**La Frestale**	**89.48**	**334**	*e*P	**P**	**17 21 14.7**	**-0.2**
MTLF	**Montolieu**	**90.37**	**333**	*e*P	**P**	**17 21 18.8**	**-0.3**
	comp=Z,6.1nm,1.0s,mb4.6						
MTLF	**Montolieu**	**90.37**	**333**	*e*P	**P**	**17 21 18.8**	**-0.3**
MTLF				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.6						
SNAA	**Sanae**	**143.52**	**197**	P	PKPbc	17 27 48.2	-0.6
SNAA	**Sanae**	**143.52**	**197**		PKPbc	17 27 51.1	+2.3
SNAA	**Sanae**	**143.52**	**197**	P	PKPbc	17 27 51.1	+2.3
VNA2	**Neumayer--Watz**	**145.08**	**196**	⇑*i*	PKPbc	17 27 59.8	+6.5
VNA2	**Neumayer--Watz**	**145.08**	**196**	⇑*i*PKPdf	PKPdf	17 27 54.6	-2.9
VNA2				⇑*i*P		17 27 59.8	
VNA3	**Neumayer Olymp**	**145.31**	**195**		PKPbc	17 28 00.6	+6.7
VNA3	**Neumayer Olymp**	**145.31**	**195**	PKPdf	PKPdf	17 27 55.5	-2.4
VNA3				P		17 28 00.6	

NEIC ***10*** *17:09:29.4±3.6, 21.42S×170.25E, h167km±23km, mb3.6/1, Error ellipse: s-maj=45.2km s-min=34.0km az=55.0*

IDC ***10*** *17:09:30.1±6.6, 21.55S×170.29E, h172km±40km, mb3.4/2, mb1 3.5/3, mb1mx3.2/12, mbtmp3.8/3, Error ellipse: s-maj=97.1km s-min=51.0km az=145.0*

ISC 10 17:09:28.8±5.3**, 21.5S**±0.5×**170.2E**±0.3**, h179**km±29km**, n7,** σ**0ˢ65**/9**, mb3.6**/3**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.57**	**260**	*e*P	**P**	**17 10 25.1**	**0.0**
DZM				*e*S	**S**	**17 11 07.4**	**-1.1**
DZM	**Mont Dzumac**	**3.57**	**260**	P	**P**	**17 10 25.6**	**+0.5**
	2.1nm,0.3s,baz=95,slow=23,SNR=26						
DZM				S	**S**	**17 11 10.3**	**+1.8**
	2.0nm,0.3s,baz=36,slow=23,SNR=5.3						
DZM	**Mont Dzumac**	**3.57**	**260**	*e*P	**P**	**17 10 25.1**	**0.0**
DZM				*e*S	**S**	**17 11 07.4**	**-1.1**
STKA	**Stephens Creek**	**27.53**	**242**	P	**P**	**17 15 01.3**	**+0.5**
	1.3nm,0.6s,mb3.8,baz=83,slow=9.8,SNR=3.7						
WRA	**Warramunga Arr**	**33.56**	**266**	P	**P**	**17 15 53.6**	**-0.2**
	0.9nm,1.0s,mb3.4,baz=100,slow=8.3,SNR=4.6						
SBA	**Scott Base**	**56.45**	**181**	*e*P	**P**	**17 18 53.4**	**-0.2**
	0.6nm,0.7s,mb3.5						
GERES	**GERESS Array B**	**146.89**	**331**	PKPbc	PKPbc	17 28 52.1	+2.8
	0.7nm,0.6s,baz=27,slow=6.6,SNR=4.3						

NIED ***10*** *17:14:00, 35.30N×141.20E, h20km, Mw4.4 Best double couple: $M_0 4\times10^{15}$ NP1:ϕ_s209°, δ79°, λ-50°. NP2:ϕ_s312°, δ41°, λ-163°.*

BJI ***10*** *17:14:37.3, 34.43N×141.98E, h21km, mb4.8, Ms4.3, Msz4.4*

IDC ***10*** *17:14:44.7±0.7, 35.24N×141.18E, mb4.1/13, mb1 4.2/17, mb1mx4.1/26, mbtmp4.1/17, ML4.1/4, Error ellipse: s-maj=18.6km s-min=13.9km az=66.0*

JMA ***10*** *17:14:47.3±0.1, 35.30N×141.23E, h38km±2km, M4.4*

MOS ***10*** *17:14:47.5±1.6, 35.34N×141.30E, h33km, mb4.4/11, Error ellipse: s-maj=17.6km s-min=9.4km az=117.1*

NEIC ***10*** *17:14:47.9±3.2, 35.27N×141.22E, h22km±22km, mb4.6/9, MW4.3(NIED), Error ellipse: s-maj=12.4km s-min=9.7km az=98.0*

ISC 10 17:14:47.9±0.8**, 35.22N**±0.04×**141.13E**±0.07**, h36**km±7km**, n66,** σ**1ˢ13**/74**, mb4.2**/20**, 5C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.53**	**335**	⇓P	**P**	**17 14 57.8**	**-1.1**
CHOJ				S	**S**	**17 15 05.5**	**-1.3**
BSO1	**Boso 1**	**0.58**	**193**	⇓P	**P**	**17 15 00.3**	**+0.8**
BSO3	**Boso 3**	**0.66**	**231**	⇓P	**P**	**17 15 01.9**	**+1.2**
KTR	**Katsuura**	**0.67**	**264**	⇑P	**P**	**17 15 01.7**	**+0.8**
KTR				*e*S	**S**	**17 15 11.7**	**+1.4**
BSO4	**Boso 4**	**0.69**	**251**	⇑P	**P**	**17 15 02.3**	**+1.2**
JCN	**Nagara**	**0.79**	**285**	⇑P	**P**	**17 15 03.7**	**+1.2**
JYT	**Yasato**	**1.26**	**323**	P	**P**	**17 15 08.8**	**-0.5**
JHO	**Hitachi**	**1.46**	**342**	P	**P**	**17 15 11.0**	**-1.2**
JIM2	**Oshima 3**	**1.48**	**251**	⇑P	**P**	**17 15 12.3**	**-0.2**
JIM2				*e*S	**S**	**17 15 29.7**	**-1.2**
JOD2	**Odawara 2**	**1.67**	**272**	⇑P	**P**	**17 15 15.2**	**0.0**
JOD2				*e*S	**S**	**17 15 34.1**	**-1.5**
JHJ	**Hachijo jima 2**	**2.37**	**208**	Pn	**P**	**17 15 25.4**	**+0.2**
	73nm,0.3s,baz=61,slow=22,SNR=11						
JHJ				Sn	**S**	**17 15 51.9**	**-1.5**
	205nm,0.3s,baz=270,slow=23,SNR=7.9						
MJAR	**Matsushiro Arr**	**2.71**	**300**	Pn	**P**	**17 15 31.1**	**+1.0**
	15nm,0.3s,baz=108,slow=12,SNR=82						
MJAR				Lg		17 16 12.7	
	10nm,0.3s,baz=154,slow=14,SNR=4.4						
MAJO	**Matsushiro**	**2.72**	**300**	*e*P	**P**	**17 15 31.4**	**+1.3**
MAT	**Matsushiro**	**2.72**	**300**	*e*P	**P**	**17 15 32.0**	**+1.9**
MAT				S	**S**	**17 16 14.0**	**+12**
MAT	**Matsushiro**	**2.72**	**300**	P	**P**	**17 15 31.7**	**+1.6**
CBIJ	**Chichi jima**	**8.15**	**173**	Pn	**P**	**17 16 44.4**	**-2.2**
	16nm,0.3s,baz=295,slow=23,SNR=10						
CBIJ				Sn	**S**	**17 18 12.1**	**-6.4**
	3.6nm,0.3s,baz=270,slow=19,SNR=2.5						
ASAJ	**Asahikawa**	**8.96**	**7**	P	**P**	**17 16 53.3**	**-4.5**
ASAJ						17 18 31.5	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**8.96**	**7**	Pn	**P**	**17 16 53.3**	**-4.5**
	comp=Z,2.0nm,0.3s,baz=203,slow=16,SNR=10.0						
ASAJ				Sn	**S**	**17 18 31.4**	**-7.1**
	comp=Z,0.6nm,0.3s,baz=253,slow=19,SNR=2.6						
YSS	**Yuzh-Sakhalins**	**11.79**	**5**	*e*P	**P**	**17 17 32.5**	**-4.0**
YSS	**Yuzh-Sakhalins**	**11.79**	**5**	*e*P	**P**	**17 17 32.6**	**-3.9**
CN2	**Changchun**	**14.81**	**310**	*e*P	**P**	**17 18 21.9**	**+5.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
ENH	**Enshi**	**27.00**	**268**	P	**P**	**17 20 24.7**	**-3.8**
	comp=Z,12nm,0.8s,mb4.5						
YAK	**Yakutsk**	**27.79**	**348**	*e*P	**P**	**17 20 34.0**	**-1.4**
YAK				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.8						
YAK	**Yakutsk**	**27.79**	**348**	*e*P	**P**	**17 20 34.0**	**-1.4**
	comp=Z,14nm,0.6s,mb4.8						
SONM	**Songino Array**	**28.65**	**307**	P	**P**	**17 20 42.3**	**-0.9**
	comp=Z,1.0nm,0.5s,mb3.8,baz=111,slow=9.3,SNR=7.2						
ZAK	**Zakamensk**	**31.25**	**311**	*e*P	**P**	**17 21 04.3**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.6						
ZAL	**Zalesovo**	**43.00**	**314**	P	**P**	**17 22 45.5**	**+0.3**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAL	**Zalesovo**	**43.00**	**314**	P	**P**	**17 22 45.5**	**+0.3**
	comp=Z,1.7nm,0.5s,mb4.0,baz=20,slow=7.5,SNR=7.7						
MKAR	**Makanchi Array**	**44.91**	**304**	P	**P**	**17 23 00.8**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**44.91**	**304**	P	**P**	**17 23 00.8**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.0,baz=85,slow=9.4,SNR=16						
ILAR	**Eielson Array**	**51.15**	**32**	P	**P**	**17 23 49.1**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=263,slow=5.7,SNR=11						
BVAR	**Borovoye Array**	**51.64**	**313**	P	**P**	**17 23 52.5**	**-0.3**
	comp=Z,0.8nm,0.4s,mb4.0,baz=79,slow=7.3,SNR=2.8						
ZRNK	**Zerenda**	**52.47**	**313**	*e*P	**P**	**17 23 58.6**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**52.47**	**313**	*e*P	**P**	**17 23 58.6**	**-0.5**
	comp=Z,4.0nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**55.03**	**198**	⇓*i*P	**P**	**17 24 19.0**	**+0.6**
	comp=Z,6.8nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**55.03**	**198**	P	**P**	**17 24 18.6**	**+0.1**
	comp=Z,8.0nm,0.7s,mb4.9,baz=0.4,slow=8.6,SNR=8.5						
WRAB	**Tennant Creek**	**55.22**	**188**	*e*P	**P**	**17 24 19.1**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
WRAB	**Tennant Creek**	**55.22**	**188**	*e*P	**P**	**17 24 19.1**	**-0.7**
	comp=Z,8.4nm,0.7s,mb4.9						
WB2	**Warramunga Arr**	**55.23**	**188**	*e*P	**P**	**17 24 19.4**	**-0.5**
WRA	**Warramunga Arr**	**55.23**	**188**	P	**P**	**17 24 19.4**	**-0.5**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WRA	**Warramunga Arr**	**55.23**	**188**	P	**P**	**17 24 19.4**	**-0.5**
	comp=Z,6.6nm,0.7s,mb4.8,baz=4.3,slow=7.6,SNR=28						
WRA	**Warramunga Arr**	**55.23**	**188**	P	**P**	**17 24 19.4**	**-0.5**
ARU	**Arti**	**57.57**	**319**	*e*P	**P**	**17 24 35.0**	**-1.1**
ARU	**Arti**	**57.57**	**319**	*e*P	**P**	**17 24 35.0**	**-1.1**
ARCES	**ARCESS Array B**	**65.61**	**340**	P	**P**	**17 25 30.9**	**+1.0**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**65.61**	**340**	P	**P**	**17 25 30.9**	**+1.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=63,slow=8.1,SNR=3.4						
ARCES	**ARCESS Array B**	**65.61**	**340**	P	**P**	**17 25 30.9**	**+1.1**
KAF	**Kangasniemi**	**69.81**	**333**	*e*p	**P**	**17 25 55.1**	**-1.1**
	comp=Z,1.3nm,0.6s,mb4.0						
KAF	**Kangasniemi**	**69.81**	**333**	*e*P	**P**	**17 25 55.1**	**-1.1**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
FINES	**FINESS Array B**	**70.31**	**332**	P	**P**	**17 25 59.4**	**+0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**70.31**	**332**	P	**P**	**17 25 59.4**	**+0.1**
	comp=Z,1.4nm,0.8s,mb3.9,baz=56,slow=6.9,SNR=6.5						
AKASG	**Malin Array Be**	**75.59**	**322**	P	**P**	**17 26 30.5**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**75.59**	**322**	P	**P**	**17 26 30.4**	**0.0**
	comp=Z,1.2nm,0.5s,mb4.1,baz=46,slow=5.7,SNR=9.6						
NB2	**NORSAR Subarra**	**75.77**	**337**	P	**P**	**17 26 31.6**	**+0.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=40,slow=5.6						
NB2	**NORSAR Subarra**	**75.77**	**337**	P	**P**	**17 26 31.6**	**+0.4**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
NOA	**NORSAR Array B**	**75.77**	**337**	P	**P**	**17 26 31.8**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**75.77**	**337**	P	**P**	**17 26 31.8**	**+0.6**
	comp=Z,1.3nm,0.8s,mb3.9,baz=40,slow=5.7,SNR=7.3						
BW06	**Boulder Array**	**79.11**	**45**	*e*P	**P**	**17 26 50.8**	**+0.6**
PDAR	**Pinedale Array**	**79.11**	**45**	P	**P**	**17 26 52.0**	**+1.9**
	comp=Z,0.4nm,0.6s,mb3.5,baz=307,slow=2.1,SNR=3.7						
PV10	**Paradox Valley**	**82.15**	**48**	*e*P	**P**	**17 27 05.3**	**-1.1**
CLL	**Collm**	**82.55**	**330**	P	**P**	**17 27 10.0**	**+1.8**
GRA1	**Grafenberg Arr**	**84.53**	**330**	*e*P	**P**	**17 27 20.0**	**+1.9**
	comp=Z,3.0nm,0.9s,mb4.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRF	**Grafenberg Arr**	**84.53**	**330**	eP	**P**	**17 27 20.0**	**+1.9**
GRF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
GRF	**Grafenberg Arr**	**84.53**	**330**	eP	**P**	**17 27 20.0**	**+1.9**
GRF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
GRF	**Grafenberg Arr**	**84.53**	**330**	eP	**P**	**17 27 20.0**	**+1.9**
	comp=Z,3.0nm,0.9s,mb4.4						
TXAR	**Lajitas Array**	**91.41**	**52**	P	**P**	**17 27 53.8**	**+2.1**
	comp=Z,0.2nm,0.3s,mb3.9,baz=332,slow=3.9,SNR=4.0						

IDC 10 17:17:34.2±1.7, 2.94S×127.22E, mb3.8/2, mb1 4.1/4, mb1mx3.7/18, mbtmp3.9/4, ML4.0/2, Error ellipse: s-maj=107.8km s-min=25.7km az=67.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.15**	**186**	eP	P	17 21 10.8	-0.6
	11nm,1.9s						
FITZ	**Fitzroy Crossi**	**15.15**	**186**	Pn	P	17 21 10.5	-0.9
	0.8nm,0.3s,baz=9.9,slow=14,SNR=7.7						
WRA	**Warramunga Arr**	**18.28**	**158**	P	P	17 21 50.1	-1.0
	0.4nm,0.3s,baz=336,slow=11,SNR=26						
WB2	**Warramunga Arr**	**18.28**	**158**	eP	P	17 21 51.2	0.0
STKA	**Stephens Creek**	**31.81**	**156**	eP	P	17 23 59.6	-3.3
	4.4nm,1.6s						
STKA	**Stephens Creek**	**31.81**	**156**	P	P	17 23 59.6	-3.3
	1.3nm,0.7s,baz=288,slow=13,SNR=4.8						
MKAR	**Makanchi Array**	**63.33**	**327**	P	P	17 28 05.5	-1.9
	0.4nm,0.5s,baz=135,slow=8.2,SNR=6.0						

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*NEIC **10** 17:18:47.1, 32.74S×70.88W, h71km, MD2.6(GUC), After GUC.*

GUC 10 17:18:47.1±0.5, 32.74S×70.88W, h71km±3km, MD2.6, ML2.5, 2C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.25**	**77**	⇓iP	P	17 18 58.3	+0.2
JACH				i S	S	17 19 07.1	+0.8
ROCH	**El Roble**	**0.26**	**205**	i P	P	17 18 58.8	+0.6
ROCH				i S	S	17 19 07.9	+1.5
PACH	**Papudo**	**0.51**	**293**	⇓iP	P	17 19 00.4	+0.3
PACH				i S	S	17 19 10.5	+0.7
RCDM	**Rinconada Maip**	**0.75**	**175**	⇓iP	P	17 19 02.7	-0.1
RCDM				i S	S	17 19 14.9	+0.4
RCDM				AMP		17 19 16.6	
	comp=E,410nm,0.1s						
FCH	**Farellones**	**0.77**	**140**	⇑iP	P	17 19 03.8	+0.7
FCH				i S	S	17 19 16.7	+1.8
TACH	**Talagante**	**0.91**	**183**	⇑iP	P	17 19 04.8	+0.1
TACH				i S	S	17 19 18.2	+0.3
PCH	**Pirque**	**0.93**	**161**	i S	S	17 19 18.6	+0.2
CHCH	**Chadas Angostu**	**1.21**	**171**	i S	S	17 19 25.3	+0.7
LMEL	**Las Melosas**	**1.25**	**153**	eP	P	17 19 09.7	+0.5
LMEL				i S	S	17 19 26.9	+1.4
LMEL				AMP		17 19 28.7	
	comp=N,93nm,0.1s						
LNV	**Longovilo**	**1.29**	**200**	eP	P	17 19 09.7	0.0
LNV				eS	S	17 19 26.6	0.0
SFDO	**San Fernando**	**1.88**	**183**	eP	P	17 19 17.3	-0.4

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*NEIC **10** 17:32:02.9, 34.30N×26.55E, h5km, MD3.4(ATH), After ATH.*

*CSEM **10** 17:32:02.9, 34.30N×26.55E, h5km, MD3.4/4, After ATH*

ATH 10 17:32:02.9, 34.30N×26.55E, h5km, MD3.4/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.91**	**309**	ePG	Pg	17 32 19.5	-1.6
XRY				eSB	Sb	17 32 32.8	-0.2
XRY	**Khrisi**	**0.91**	**309**	ePG	Pg	17 32 19.7	-1.4
NPS	**Neapolis**	**1.23**	**321**	ePB	Pb	17 32 26.7	+0.4
NPS				eSB	Sb	17 32 43.5	+1.2
NPS	**Neapolis**	**1.23**	**321**	ePB	Pb	17 32 25.7	-0.6
NPS				eSB	Sb	17 32 41.8	-0.5
NPS	**Neapolis**	**1.23**	**321**	ePb	Pb	17 32 26.7	+0.4
NPS				eSb	Sb	17 32 43.5	+1.2
KARP	**Karpathos**	**1.34**	**22**	ePB	Pb	17 32 28.5	+0.3
KARP	**Karpathos**	**1.34**	**22**	ePB	Pb	17 32 28.4	+0.2
VAM	**Vamos**	**2.23**	**300**	ePG	Pg	17 32 44.0	-3.3
VAM	**Vamos**	**2.23**	**300**	ePN	Pn	17 32 43.7	+2.7
VAM	**Vamos**	**2.23**	**300**	ePg	Pg	17 32 44.0	-3.3

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*JMA **10** 17:50:13.7±0.2, 28.15N×140.41E, h448km, M3.8*

*IDC **10** 17:50:13.7±1.1, 28.07N×139.93E, h410km±18km, mb3.5/7, mb1 3.6/10, mb1mx3.3/23, mbtmp4.3/10, Error ellipse: s-maj=60.4km s-min=12.9km az=75.0*

*NEIC **10** 17:50:14.2±1.4, 28.09N×140.04E, h421km±12km, mb4.3/1, Error ellipse: s-maj=30.4km s-min=15.9km az=80.0*

ISC 10 17:50:13.8±0.6, 28.10N±0.07×140.1E±0.2, h426km±6km, n30, σ0s95/36, mb3.9/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.14**	**118**	P	**P**	**17 51 13.8**	**+0.3**
	76nm,0.3s,baz=300,slow=20,SNR=45						
CBIJ				S	**S**	**17 51 59.0**	**-1.4**
	54nm,0.3s,baz=251,slow=22,SNR=14						
CBIJ	**Chichi jima**	**2.14**	**118**	P	**P**	**17 51 13.7**	**+0.3**
JHHJ	**Haha-jima-NKT**	**2.39**	**127**	P	**P**	**17 51 15.6**	**+0.5**
JHHJ				S	**S**	**17 52 03.8**	**+0.5**
JHJ2	**Mitsune**	**5.00**	**358**	P	**P**	**17 51 38.3**	**+0.6**
JHJ	**Hachijo jima 2**	**5.00**	**357**	P	**P**	**17 51 37.9**	**+0.1**
	21nm,0.3s,baz=69,slow=21,SNR=6.3						
JHJ				S	**S**	**17 52 43.7**	**-0.1**
	20nm,0.3s,baz=65,slow=19,SNR=3.6						
BSO1	**Boso 1**	**6.58**	**7**	P	**P**	**17 51 54.6**	**+0.3**
BSO1				eS	**S**	**17 53 12.1**	**-1.5**
JIM2	**Oshima 3**	**6.62**	**356**	P	**P**	**17 51 55.9**	**+1.2**
JIE	**Ise**	**6.89**	**336**	P	**P**	**17 51 59.7**	**+1.9**
JRY	**Ryogami san**	**7.95**	**353**	P	**P**	**17 52 09.1**	**-0.4**
JRY				eS	**S**	**17 53 40.2**	**-0.8**
MJAR	**Matsushiro Arr**	**8.56**	**350**	P	**P**	**17 52 14.8**	**-1.6**
	1.4nm,0.3s,baz=166,slow=10,SNR=17						
MJAR	**Matsushiro Arr**	**8.56**	**350**	P	**P**	**17 52 14.8**	**-1.6**
MAJO	**Matsushiro**	**8.56**	**350**	eP	**P**	**17 52 15.5**	**-0.9**
MAT	**Matsushiro**	**8.56**	**350**	eP	**P**	**17 52 16.0**	**-0.4**
MAT	**Matsushiro**	**8.56**	**350**	P	**P**	**17 52 15.9**	**-0.5**
MAT				eS	**S**	**17 53 53.2**	**-0.1**
JHS	**Saijyo**	**9.07**	**321**	P	**P**	**17 52 23.5**	**+1.3**
JMK	**Ichinoseki**	**10.86**	**5**	P	**P**	**17 52 44.0**	**+1.5**
ASAJ	**Asahikawa**	**16.11**	**7**	P	**P**	**17 53 40.8**	**+2.4**
	0.4nm,0.3s,baz=210,slow=18,SNR=3.2						
WRA	**Warramunga Arr**	**48.08**	**187**	P	**P**	**17 58 13.9**	**-0.8**
	0.4nm,0.4s,mb3.1,baz=2.6,slow=7.7,SNR=7.8						
BVAR	**Borovoye Array**	**56.02**	**317**	P	**P**	**17 59 10.8**	**-1.4**
	1.8nm,0.7s,mb3.5,baz=90,slow=10,SNR=13						
ZRNK	**Zerenda**	**56.86**	**317**	eP	**P**	**17 59 16.7**	**-1.4**
ARCES	**ARCESS Array B**	**71.97**	**340**	P	**P**	**18 00 54.3**	**+0.7**
	2.7nm,0.5s,mb4.0,baz=72,slow=8.6,SNR=30						
KAF	**Kangasniemi**	**75.74**	**334**	ep	**P**	**18 01 15.1**	**0.0**
	2.5nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**76.21**	**333**	P	**P**	**18 01 17.9**	**+0.3**
	3.8nm,0.3s,mb4.5,baz=78,slow=4.3,SNR=61						
FINES	**FINESS Array B**	**76.21**	**333**	P	**P**	**18 01 17.9**	**+0.3**
AKASG	**Malin Array Be**	**80.69**	**323**	P	**P**	**18 01 41.8**	**0.0**
	0.8nm,0.4s,mb3.8,baz=50,slow=5.5,SNR=8.6						
NB2	**NORSAR Subarra**	**81.97**	**337**	P	**P**	**18 01 48.2**	**+0.1**
	2.3nm,0.5s,mb4.2,baz=51,slow=4.6						
NOA	**NORSAR Array B**	**81.97**	**337**	P	**P**	**18 01 48.5**	**+0.4**
	3.2nm,0.5s,mb4.3,baz=46,slow=4.9,SNR=17						
NAO01	**NORSAR Array S**	**82.22**	**337**	P	**P**	**18 01 49.0**	**-0.4**
PV10	**Paradox Valley**	**87.59**	**47**	eP	**P**	**18 02 16.5**	**+0.3**
GERES	**GERESS Array B**	**89.67**	**328**	P	**P**	**18 02 25.2**	**-0.3**
	0.4nm,0.6s,mb3.5,baz=18,slow=6.2,SNR=4.1						

IDC 10 17:50:33.6±1.8, 2.78N×127.03E, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.9/4, Error ellipse: s-maj=105.6km s-min=23.6km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.79**	**184**	eP	P	17 55 17.2	-1.9
	6.2nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.79**	**184**	P	P	17 55 16.9	-2.1
	3.8nm,0.5s,baz=7.1,slow=10,SNR=6.9						
WRA	**Warramunga Arr**	**23.69**	**163**	P	P	17 55 46.8	-1.3
	1.1nm,0.4s,baz=341,slow=10,SNR=36						
WB2	**Warramunga Arr**	**23.69**	**163**	eP	P	17 55 46.7	-1.3
STKA	**Stephens Creek**	**37.14**	**159**	P	P	17 57 46.1	-1.8
	1.3nm,0.6s,baz=326,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**58.51**	**325**	P	P	18 00 31.7	-2.3
	0.3nm,0.5s,baz=132,slow=8.8,SNR=2.6						

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*NEIC **10** 17:56:41.2±3.3, 24.13N×108.74W, h10km, mb4.2/1, Error ellipse: s-maj=43.6km s-min=19.4km az=173.0*

*IDC **10** 17:56:41.3±4.0, 24.25N×108.68W, mb3.5/2, mb1 3.7/5, mb1mx3.5/21, mbtmp3.3/5, ML3.4/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/19, Error ellipse: s-maj=64.8km s-min=25.1km az=145.0*

ISC 10 17:56:41.9±2.9, 24.4N±0.3×108.7W±0.1, h10km, n15, σ0s97/16, mb3.6/2, MS2.7/1, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LTX	**Lajitas**	**6.65**	**41**	P	**Pn**	**17 58 22.4**	**+0.2**
TXAR	**Lajitas Array**	**6.65**	**41**	Pn	**Pn**	**17 58 22.6**	**+0.4**
	0.1nm,0.3s,baz=217,slow=14,SNR=6.1						
TXAR				Sn	**Sn**	**17 59 38.4**	**-0.4**
	0.7nm,0.3s,baz=223,slow=22,SNR=4.1						
TXAR				Lg		18 00 14.1	
	2.2nm,0.3s,baz=217,slow=27,SNR=6.9						
TXAR	**Lajitas Array**	**6.65**	**41**	Pn	**Pn**	**17 58 22.6**	**+0.4**
TXAR				Sn	**Sn**	**17 59 38.4**	**-0.4**
TXAR				Lg		18 00 14.1	
MNTX	**Cornudas Mount**	**7.84**	**21**	eP	**Pn**	**17 58 37.3**	**-1.6**
TUC	**Tucson**	**8.10**	**347**	eP	**P**	**17 58 41.5**	**-1.1**
	2.8nm,1.0s						
GDL2	**Guadalupe Moun**	**8.65**	**25**	eP	**P**	**17 58 50.0**	**-0.2**
LAZ	**Ladron**	**10.06**	**7**	P	**P**	**17 59 10.0**	**+0.3**
ANMO	**Albuquerque**	**10.70**	**10**	Pn	**P**	**17 59 19.9**	**+1.6**
	baz=207,slow=13,SNR=1.9						
ANMO				Lg		18 02 23.2	
	baz=262,slow=18,SNR=5.7						
ANMO				LR	LR	18 03 40.0	
	comp=Z,140nm,19.1s,baz=187,slow=39						
ANMO	**Albuquerque**	**10.70**	**10**	Pn	**P**	**17 59 19.9**	**+1.6**
ANMO				Lg		18 02 23.2	
ANMO				LR	LR	18 03 40.0	
PDAR	**Pinedale Array**	**18.34**	**358**	P	**P**	**18 01 00.3**	**+2.2**
	0.0nm,0.3s,baz=163,slow=9.4,SNR=5.3						
MCMT	**McKenzie Canyo**	**20.67**	**352**	eP	**P**	**18 01 24.1**	**-0.4**
YBH	**Yreka Blue Hor**	**20.86**	**329**	LR	LR	18 09 33.8	
	comp=Z,29nm,18.3s,MS2.7,baz=318,slow=37						
NEW	**Newport**	**24.75**	**346**	P	**P**	**18 02 05.3**	**+0.5**
	1.1nm,0.5s,mb3.6,baz=163,slow=19,SNR=2.8						
NEW	**Newport**	**24.75**	**346**	eP	**P**	**18 02 03.8**	**-1.0**
	6.6nm,1.1s,mb4.1						
ILAR	**Eielson Array**	**47.31**	**339**	P	**P**	**18 05 16.9**	**-0.4**
	0.4nm,0.8s,mb3.4,baz=150,slow=6.9,SNR=5.4						

IDC 10 18:08:30.1±22.0, 5.03N×123.31E, h501km±309km, mb3.2/3, mb1 3.4/3, mb1mx2.8/20, mbtmp4.1/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/13, Error ellipse: s-maj=392.9km s-min=43.1km az=61.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	**Kunigami**	**22.19**	**12**	LR	LR	18 20 55.3	
	comp=Z,105nm,21.8s,baz=170,slow=34						
WRA	**Warramunga Arr**	**27.08**	**157**	P	P	18 13 32.0	-1.6
	2.4nm,0.4s,baz=336,slow=9.7,SNR=38						
STKA	**Stephens Creek**	**40.63**	**156**	P	P	18 15 25.8	-1.2
	1.0nm,0.3s,baz=343,slow=6.8,SNR=4.1						
MKAR	**Makanchi Array**	**54.57**	**326**	P	P	18 17 10.5	-1.8
	0.7nm,0.3s,baz=122,slow=7.2,SNR=16						

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*NEIC **10** 18:44:21.5, 46.80N×9.00E, h1km, ML3.1(VIE), ML2.9(LDG), ML2.6(ZUR), ML2.6(STR), After ZUR.*

*ZUR **10** 18:44:21.5, 46.84N×8.97E, h1km, ML2.6/30*

*CSEM **10** 18:44:21.7±0.0, 46.80N×8.98E, h8km, ML3.0/24, Error ellipse: s-maj=1.0km s-min=0.7km az=150.0*

*MOS **10** 18:44:21.2±1.1, 46.82N×8.90E, h10km, mb3.5/1, Error ellipse: s-maj=5.5km s-min=4.6km az=78.5*

*BGR **10** 18:44:22.1±0.8, 46.83N×8.89E, h10km, ML3.0, Error ellipse: s-maj=12.2km s-min=10.0km az=3.0*

*LDG **10** 18:44:22.0±0.2, 46.84N×9.05E, h10km, Ml2.9/18, Error ellipse: s-maj=4.0km s-min=3.1km az=96.0*

*PRU **10** 18:44:23.4, 47.01N×8.96E*

*STR **10** 18:44:26.1±0.6, 46.96N×8.71E, h10km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 10 18:44:20.8±0.2, 46.83N±0.01×8.94E±0.01, h6km±1km, n156, σ1s41/264, 23C-28D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLS	**Linth-Limmern**	**0.05**	**73**	⇓iPg	**Pg**	**18 44 22.6**	**+0.3**
LLS				i Sg	**Sg**	**18 44 23.0**	**-0.3**
MUO	**Muotathal**	**0.25**	**303**	⇓iPg	**Pg**	**18 44 26.8**	**+0.9**
MUO				i Sg	**Sg**	**18 44 30.9**	**+1.6**
BNALP	**Bannalp**	**0.36**	**276**	eSg	**Sg**	**18 44 34.1**	**+1.3**
BNALP	**Bannalp**	**0.36**	**276**	⇓iPg	**Pg**	**18 44 28.9**	**+0.9**
BNALP	**Bannalp**	**0.36**	**276**	⇓iP	**Pg**	**18 44 28.9**	**+0.9**
PLONS	**Plons**	**0.37**	**54**	⇑iPg	**Pg**	**18 44 28.3**	**0.0**
PLONS				eSg	**Sg**	**18 44 33.6**	**+0.3**
FUSIO	**Fusio**	**0.42**	**207**	⇑iPg	**Pg**	**18 44 30.4**	**+1.0**
VDL	**Val di Lei**	**0.50**	**133**	eSg	**Sg**	**18 44 37.6**	**-0.1**
VDL	**Val di Lei**	**0.50**	**133**	⇓iPg	**Pg**	**18 44 31.2**	**+0.3**
VDL	**Val di Lei**	**0.50**	**133**	⇓iP	**Pg**	**18 44 31.2**	**+0.3**
HASLI	**Hasliberg**	**0.55**	**262**	⇓iPg	**Pg**	**18 44 32.4**	**+0.6**
HASLI				eSg	**Sg**	**18 44 39.9**	**+0.8**
WILA	**Wila**	**0.58**	**358**	⇑iPg	**Pg**	**18 44 33.5**	**+1.0**
WILA				eSg	**Sg**	**18 44 42.0**	**+1.7**
WILA	**Wila**	**0.58**	**358**	⇑iP	**Pg**	**18 44 33.6**	**+1.1**
ZUR	**Zurich**	**0.59**	**335**	ePg	**Pg**	**18 44 33.8**	**+1.2**
ZUR				i Sg	**Sg**	**18 44 42.4**	**+1.9**
LIENZ	**Alp Oberkamor**	**0.60**	**39**	ePg	**Pg**	**18 44 33.1**	**+0.3**
DAVOX	**Davos**	**0.65**	**94**	⇓iPg	**Pg**	**18 44 33.8**	**0.0**
DAVOX				eSg	**Sg**	**18 44 42.6**	**+0.2**
WEIN	**Weingarten**	**0.70**	**3**	⇑iPg	**Pg**	**18 44 35.6**	**+0.9**
DAVA	**Damuels**	**0.79**	**54**	⇑iPG	**Pg**	**18 44 36.5**	**0.0**
DAVA				i SG	**Sg**	**18 44 48.2**	**+1.2**
	133nm,0.5s						
TRULL	**Truellikon**	**0.83**	**348**	⇑iPg	**Pg**	**18 44 37.3**	**-0.2**
TRULL				i Sg	**Sg**	**18 44 48.8**	**+0.2**
STEIN	**Stein am Rhein**	**0.84**	**357**	ePg	**Pg**	**18 44 38.5**	**+0.9**
STEIN				eSg	**Sg**	**18 44 50.2**	**+1.4**
SISB	**Singen-Sch Ber**	**0.85**	**1**	⇓iPg	**Pg**	**18 44 38.8**	**+0.9**
SISB				PmP		18 44 40.9	
SISB				Sg	**Sg**	**18 44 50.6**	**+1.4**
SISB				SmS		18 44 54.1	
BERNI	**Berninapass**	**0.86**	**119**	⇓iPg	**Pg**	**18 44 37.6**	**-0.4**
SULZ	**Sulz-Cheisache**	**0.89**	**321**	⇓iPg	**Pg**	**18 44 39.4**	**+0.7**
SULZ	**Sulz-Cheisache**	**0.89**	**321**	ePg	**Pg**	**18 44 39.4**	**+0.7**
MUGIO	**Muggio**	**0.92**	**176**	⇓iPg	**Pg**	**18 44 39.4**	**+0.3**
WIMIS	**Wimmis**	**0.92**	**260**	ePg	**Pg**	**18 44 39.7**	**+0.5**
FUORN	**Ofenpass**	**0.94**	**103**	⇓iPg	**Pg**	**18 44 39.0**	**-0.5**
SLE	**Schleitheim**	**0.98**	**342**	ePg	**Pg**	**18 44 40.8**	**+0.4**
SLE				Sg	**Sg**	**18 44 53.9**	**+0.4**
BALST	**Balsthal**	**0.99**	**301**	eP	**Pb**	**18 44 41.0**	**+1.1**
LKBD	**Leukerbad**	**1.01**	**244**	⇓iP	**Pb**	**18 44 41.0**	**+0.7**
OBER	**Oberstdorf**	**1.09**	**58**	⇓iPg	**Pg**	**18 44 42.4**	**-0.1**
OBER				i Sg	**Sg**	**18 44 57.9**	**+0.8**
UBR	**Uberruh**	**1.16**	**43**	⇑iP	**Pb**	**18 44 44.2**	**+1.3**
UBR				PmP		18 44 45.8	
UBR				S	**Sb**	**18 45 00.4**	**+2.4**
UBR				SmS		18 45 03.1	
UBR	**Uberruh**	**1.16**	**43**	⇑iP	**Pb**	**18 44 44.2**	**+1.3**
UBR				S	**Sb**	**18 45 00.4**	**+2.4**
BBS	**Basel-Blauen**	**1.16**	**303**	Pn	**Pn**	**18 44 44.7**	**+1.2**
BBS				Pg	**Pg**	**18 44 45.2**	**+1.1**
BBS	**Basel-Blauen**	**1.16**	**303**	P	**Pb**	**18 44 44.7**	**+1.8**
BBS				Pg	**Pg**	**18 44 45.2**	**+1.1**
BBS	**Basel-Blauen**	**1.16**	**303**	PG	**Pg**	**18 44 45.2**	**+1.1**
BBS	**Basel-Blauen**	**1.16**	**303**	Pg	**Pg**	**18 44 44.9**	**+0.8**
BBS				Sg	**Sg**	**18 44 59.2**	**-0.4**
FELD	**Feldberg**	**1.22**	**329**	Pn	**Pn**	**18 44 45.3**	**+0.9**
FELD				Sn	**Sn**	**18 45 02.3**	**+1.0**
FELD	**Feldberg**	**1.22**	**329**	Pg	**Pg**	**18 44 45.5**	**+0.3**
FELD				Sg	**Sg**	**18 45 01.4**	**-0.1**
SENIN	**Lac Senin**	**1.23**	**248**	⇑iP	**Pb**	**18 44 45.1**	**+1.1**
GUT	**Gutenstein**	**1.24**	**5**	⇑iPn	**Pn**	**18 44 45.4**	**+0.8**
GUT				Pg	**Pg**	**18 44 46.6**	**+0.9**
GUT				Sg	**Sg**	**18 45 03.0**	**+0.8**
GUT	**Gutenstein**	**1.24**	**5**	⇑iP	**Pb**	**18 44 45.4**	**+1.1**
GUT				Pg	**Pg**	**18 44 46.6**	**+0.9**
GUT				Sg	**Sg**	**18 45 03.0**	**+0.8**
GUT	**Gutenstein**	**1.24**	**5**	PG	**Pg**	**18 44 46.6**	**+0.9**
GUT				SG	**Sg**	**18 45 03.0**	**+0.8**
GUT	**Gutenstein**	**1.24**	**5**	Pg	**Pg**	**18 44 46.6**	**+0.9**
SPAK	**Spaichingen**	**1.27**	**355**	Pn	**Pn**	**18 44 46.8**	**+1.7**
SPAK	**Spaichingen**	**1.27**	**355**	Pg	**Pg**	**18 44 47.0**	**+0.8**
BOURR	**Bourrignon**	**1.29**	**296**	⇓iP	**Pb**	**18 44 47.1**	**+1.9**
DIX	**Grande Dixence**	**1.30**	**235**	⇑iP	**Pb**	**18 44 46.3**	**+1.1**
KIZ	**Kirchzarten**	**1.32**	**329**	⇓iPn	**Pn**	**18 44 46.7**	**+1.0**
KIZ				Pg	**Pg**	**18 44 47.5**	**+0.3**
KIZ				Sn	**Sn**	**18 45 03.7**	**-0.1**
KIZ	**Kirchzarten**	**1.32**	**329**	⇓iP	**Pb**	**18 44 46.7**	**+1.1**
KIZ				S	**Sb**	**18 45 03.7**	**+1.1**
KIZ	**Kirchzarten**	**1.32**	**329**	⇓iP	**Pb**	**18 44 46.7**	**+1.1**
KIZ				Pg	**Pg**	**18 44 47.5**	**+0.3**
KIZ				S	**Sb**	**18 45 03.7**	**+1.1**
KIZ	**Kirchzarten**	**1.32**	**329**	PG	**Pg**	**18 44 47.5**	**+0.3**
KIZ	**Kirchzarten**	**1.32**	**329**	Pg	**Pg**	**18 44 47.5**	**+0.3**
KIZ				S	**Sb**	**18 45 03.7**	**+1.1**
TORNY	**Torny**	**1.36**	**268**	⇑iPn	**Pn**	**18 44 48.5**	**+2.1**
ORX	**Oropa**	**1.37**	**209**	P	**Pb**	**18 44 47.1**	**+0.6**
SALAN	**Lac Salanfe**	**1.52**	**244**	⇑iPn	**Pn**	**18 44 50.8**	**+2.1**
LOMF	**Lomont**	**1.53**	**290**	⇓iPn	**Pn**	**18 44 50.6**	**+1.7**
LOMF	**Lomont**	**1.53**	**290**	Pg	**Pg**	**18 44 50.4**	**-1.0**
LOMF				Sg	**Sg**	**18 45 09.6**	**-2.3**
BFO	**Black Forest**	**1.55**	**345**	Pn	**Pn**	**18 44 50.1**	**+1.0**
BFO				Pg	**Pg**	**18 44 51.7**	**-0.1**
BFO				Sn	**Sn**	**18 45 08.6**	**-1.1**
BFO				Sg	**Sg**	**18 45 11.9**	**-0.6**
BFO	**Black Forest**	**1.55**	**345**	ePn	**Pn**	**18 44 48.8**	**-0.3**
BFO				eSg	**Sg**	**18 45 11.9**	**-0.6**
TRAV		**1.56**	**213**	P	**Pn**	**18 44 49.8**	**+0.6**
TRAV		**1.56**	**213**	P	**Pn**	**18 44 49.8**	**+0.6**
MOTA	**Moosalm**	**1.56**	**70**	⇑iPG	**Pg**	**18 44 51.2**	**-0.9**
MOTA				i SG	**Sg**	**18 45 14.4**	**+1.5**
	26nm,0.2s						
MOF	**Molkenrain**	**1.60**	**310**	Pg	**Pg**	**18 44 50.9**	**-1.8**
MOF				Sg	**Sg**	**18 45 10.8**	**-3.2**
MOF	**Molkenrain**	**1.60**	**310**	⇓iPn	**Pn**	**18 44 51.1**	**+1.3**
SQTA	**Sankt Quirin**	**1.60**	**75**	⇓iPG	**Pg**	**18 44 51.9**	**-0.9**
SQTA				i SG	**Sg**	**18 45 14.9**	**+0.8**
	32nm,0.2s						
EMV	**Vieux Emosson**	**1.61**	**242**	ePn	**Pn**	**18 44 52.3**	**+2.4**
OG01	**Vacheresse**	**1.64**	**253**	Pn	**Pn**	**18 44 52.6**	**+2.3**
BUCH	**Bad Urach**	**1.64**	**10**	i Pn	**Pn**	**18 44 50.7**	**+0.4**
BUCH				Sg	**Sg**	**18 45 15.1**	**-0.3**
BRANT	**Les Verrieres**	**1.70**	**274**	⇓iPn	**Pn**	**18 44 53.0**	**+1.8**
HINF	**Hinteralfeld**	**1.73**	**305**	ePn	**Pn**	**18 44 52.5**	**+0.9**
HINF				eSg	**Sg**	**18 45 17.1**	**-1.2**
	69nm,0.3s						
ECH	**Echery**	**1.84**	**320**	Pn	**Pn**	**18 44 53.4**	**+0.2**
ECH	**Echery**	**1.84**	**320**	Pn	**Pn**	**18 44 54.3**	**+1.1**
LBG	**Lerchenberg**	**1.84**	**357**	⇑iPn	**Pn**	**18 44 53.5**	**+0.3**
LBG				Sn	**Sn**	**18 45 15.4**	**-1.5**
LBG				Sg	**Sg**	**18 45 20.3**	**-1.6**
LBG	**Lerchenberg**	**1.84**	**357**	⇑iP	**Pn**	**18 44 53.5**	**+0.3**
LBG				S	**Sn**	**18 45 15.4**	**-1.5**
LBG				Sg	**Sg**	**18 45 20.3**	**-1.7**
LSD	**Ceresole Reale**	**1.85**	**223**	P	**Pn**	**18 44 55.5**	**+2.1**
GIMEL	**Gimel**	**1.87**	**262**	⇓iPn	**Pn**	**18 44 55.4**	**+1.8**
WATA	**Walderalm**	**1.87**	**73**	⇓iPG	**Pg**	**18 44 57.0**	**-1.2**
WATA				i SG	**Sg**	**18 45 23.4**	**+0.3**
	15nm,0.2s						
WTTA	**Wattenberg**	**1.89**	**76**	⇓iPG	**Pg**	**18 44 57.1**	**-1.5**
WTTA				i SG	**Sg**	**18 45 24.8**	**+0.9**
	48nm,0.4s						
SCE	**Schlegeis**	**1.91**	**83**	⇓iPg	**Pg**	**18 44 57.6**	**-1.3**
WLS	**Welschbruch**	**1.91**	**326**	Pn	**Pn**	**18 44 55.2**	**+1.0**
CDF	**Champ du Feu**	**1.94**	**325**	ePn	**Pn**	**18 44 55.2**	**+0.6**
CDF				eSn	**Sn**	**18 45 17.0**	**-2.5**
CDF				eSg	**Sg**	**18 45 24.0**	**-1.4**
	30nm,0.3s						
HDH	**Heidenheim**	**1.95**	**26**	⇑iPn	**Pn**	**18 44 54.4**	**-0.4**
HDH				Pg	**Pg**	**18 44 58.7**	**-1.0**
HDH				PmP		18 45 02.0	
HDH				Sg	**Sg**	**18 45 24.0**	**-1.7**
HDH	**Heidenheim**	**1.95**	**26**	⇑iP	**Pn**	**18 44 54.4**	**-0.4**
HDH				Pg	**Pg**	**18 44 58.7**	**-1.0**
HDH				Sg	**Sg**	**18 45 24.0**	**-1.7**
RSL	**Roselend**	**1.97**	**235**	Pn	**Pn**	**18 44 58.0**	**+2.9**
CABF	**La Chapelle**	**1.98**	**265**	ePn	**Pn**	**18 44 55.1**	**-0.1**
CABF				ePg	**Pg**	**18 45 00.1**	**-0.2**
CABF				eSg	**Sg**	**18 45 26.3**	**-0.3**
	16nm,0.3s						
CABF	**La Chapelle**	**1.98**	**265**	eP	**Pn**	**18 44 55.1**	**-0.1**
CABF				e		18 45 26.3	
LPL	**La Plagne**	**2.02**	**230**	ePn	**Pn**	**18 44 56.1**	**+0.3**
LPL				ePg	**Pg**	**18 44 59.8**	**-1.4**
LPL				eSg	**Sg**	**18 45 28.0**	**-0.2**
	12nm,0.4s						
LPL	**La Plagne**	**2.02**	**230**	eP	**Pn**	**18 44 56.1**	**+0.3**
LPL				e		18 45 28.0	
LPG	**La Plagne**	**2.02**	**229**	ePg	**Pg**	**18 44 59.9**	**-1.4**
LPG				eSg	**Sg**	**18 45 28.0**	**-0.3**
	18nm,0.4s						
RSP	**Reno Superiore**	**2.05**	**215**	P	**Pn**	**18 44 58.7**	**+2.5**
FUR	**Furstenfeldbru**	**2.07**	**49**	ePn	**Pn**	**18 44 57.9**	**+1.4**
FUR				eSg	**Sg**	**18 45 28.1**	**-1.7**
HAU	**Haudompre**	**2.12**	**305**	ePn	**Pn**	**18 44 58.3**	**+1.1**
HAU				ePg	**Pg**	**18 45 02.9**	**-0.1**
HAU				eSn	**Sn**	**18 45 21.6**	**-2.4**
HAU				eSg	**Sg**	**18 45 29.4**	**-1.8**
	26nm,0.3s						
HAU	**Haudompre**	**2.12**	**305**	eP	**Pn**	**18 44 58.3**	**+1.1**
HAU				e		18 45 21.6	
NORI	**Noerdlinger Ri**	**2.20**	**30**	⇑iPn	**Pn**	**18 44 57.8**	**-0.6**
FENE	**Fenestrelle**	**2.23**	**217**	P	**Pn**	**18 45 01.3**	**+2.5**
PCP	**Pian Castagno**	**2.31**	**187**	P	**Pn**	**18 44 56.7**	**-3.2**
BHB	**Bricherasio**	**2.31**	**211**	P	**Pn**	**18 45 00.5**	**+0.5**
BHB	**Bricherasio**	**2.31**	**211**	P	**Pn**	**18 45 00.5**	**+0.5**
THEF	**They Montfort**	**2.44**	**306**	Pn	**Pn**	**18 45 02.5**	**+0.7**
THEF	**They Montfort**	**2.44**	**306**	Pn	**Pn**	**18 45 03.5**	**+1.7**
SIND	**Sindeldorf**	**2.56**	**10**	Pn	**Pn**	**18 45 02.2**	**-1.3**
SIND				Sn	**Sn**	**18 45 33.5**	**-1.7**
MBDF	**Montbardon**	**2.60**	**217**	ePn	**Pn**	**18 45 03.6**	**-0.5**
MBDF				ePg	**Pg**	**18 45 10.2**	**-2.5**
MBDF				eSg	**Sg**	**18 45 44.3**	**-3.0**
	16nm,0.4s						
MBDF	**Montbardon**	**2.60**	**217**	eP	**Pn**	**18 45 03.6**	**-0.5**
MBDF				e		18 45 44.3	
ROB	**Roburent**	**2.65**	**197**	P	**Pn**	**18 45 02.2**	**-2.6**
FIN	**Finale Ligure**	**2.67**	**191**	P	**Pn**	**18 45 03.2**	**-2.0**
ENR	**Entracque**	**2.82**	**203**	P	**Pn**	**18 45 03.8**	**-3.4**
ORIF	**Oris-en-Rattie**	**2.87**	**229**	eP	**Pn**	**18 45 10.2**	**+2.2**
ORIF				ePg	**Pg**	**18 45 16.6**	**-1.5**
ORIF				eSg	**Sg**	**18 45 53.9**	**-2.5**
	14nm,0.5s						
RFYF	**Reffroy**	**2.95**	**309**	ePn	**Pn**	**18 45 08.2**	**-0.9**
	baz=128						
RFYF				eSg	**Sg**	**18 45 55.8**	**-3.2**
	16nm,0.2s						
SFTF	**Sexfontaines**	**2.98**	**299**	ePn	**Pn**	**18 45 10.2**	**+0.7**
	baz=120						
SFTF				eSn	**Sn**	**18 45 42.5**	**-3.5**
SFTF				eSg	**Sg**	**18 45 57.3**	**-2.7**
	13nm,0.4s						
IMI	**Imperia**	**3.02**	**195**	P	**Pn**	**18 45 04.4**	**-5.7**
IMI	**Imperia**	**3.02**	**195**	P	**Pn**	**18 45 04.4**	**-5.6**
KBA	**Koelnbreinsper**	**3.03**	**84**	i PN	**Pn**	**18 45 13.2**	**+3.0**
KBA				i SG	**Sg**	**18 45 57.7**	**-3.9**
	7.5nm,0.3s						
MEZF	**Maizieres J'vi**	**3.11**	**304**	eP	**Pn**	**18 45 12.6**	**+1.2**
	baz=125						
MEZF				eSn	**Sn**	**18 45 45.4**	**-3.9**
MEZF				eSg	**Sg**	**18 46 00.6**	**-3.9**
	12nm,0.4s						
SBF	**Sospel**	**3.15**	**200**	ePn	**Pn**	**18 45 10.6**	**-1.4**
SBF				eSn	**Sn**	**18 45 47.0**	**-3.4**
	7.0nm,0.3s						
GRF	**Grafenberg Arr**	**3.24**	**27**	eSg	**Sg**	**18 46 06.0**	**-2.7**
LOR	**Lormes**	**3.50**	**279**	ePn	**Pn**	**18 45 17.6**	**+0.7**
	baz=102						
LOR				ePg	**Pg**	**18 45 26.0**	**-4.7**
LOR				eSn	**Sn**	**18 45 55.1**	**-4.1**
LOR				eSg	**Sg**	**18 46 14.0**	**-3.4**
	6.1nm,0.4s						
LOR	**Lormes**	**3.50**	**279**	eP	**Pn**	**18 45 17.6**	**+0.7**
LOR				e		18 45 55.1	
SMF	**Signal de Mont**	**3.51**	**269**	ePn	**Pn**	**18 45 17.5**	**+0.4**
SMF				ePg	**Pg**	**18 45 27.7**	**-3.2**
SMF				eSn	**Sn**	**18 45 55.6**	**-3.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMF				eSg	Sg	18 46 13.4	-4.3
	13nm,0.4s						
SMF	**Signal de Mont**	**3.51**	**269**	eP	**Pn**	**18 45 17.5**	**+0.4**
SMF				e		18 45 55.6	
WET	**Wettzell**	**3.51**	**47**	ePn	**Pn**	**18 45 16.1**	**-0.9**
WET				eSn	**Sn**	**18 45 57.1**	**-2.4**
WET				eSg	**Sg**	**18 46 12.5**	**-5.2**
WET	**Wettzell**	**3.51**	**47**	ePn	**Pn**	**18 45 16.1**	**-1.0**
WET				eSn	**Sn**	**18 45 57.1**	**-2.3**
WET				eSg	**Sg**	**18 46 12.5**	**-5.2**
VIVF	**Saint-Julien-l**	**3.58**	**238**	ePn	**Pn**	**18 45 18.3**	**+0.3**
VIVF				ePg	**Pg**	**18 45 29.2**	**-3.1**
VIVF				eSn	**Sn**	**18 45 58.1**	**-3.0**
VIVF				eSg	**Sg**	**18 46 15.7**	**-4.3**
	4.5nm,0.4s						
VIVF	**Saint-Julien-l**	**3.58**	**238**	eP	**Pn**	**18 45 18.3**	**+0.3**
VIVF				e		18 45 58.1	
FRF	**La Foret Royal**	**3.65**	**207**	eP	**Pn**	**18 45 21.1**	**+2.0**
NOTT	**Nottersdorf**	**3.66**	**34**	ePn	**Pn**	**18 45 16.5**	**-2.7**
SSF	**Saint Saulge**	**3.73**	**275**	ePn	**Pn**	**18 45 21.3**	**+1.1**
SSF				ePg	**Pg**	**18 45 31.0**	**-4.3**
SSF				eSn	**Sn**	**18 46 00.7**	**-4.2**
SSF				eSg	**Sg**	**18 46 20.2**	**-4.8**
	4.0nm,0.4s						
SSF	**Saint Saulge**	**3.73**	**275**	eP	**Pn**	**18 45 21.3**	**+1.1**
SSF				e		18 46 00.7	
MOA	**Molln**	**3.76**	**72**	⇑iPN	**Pn**	**18 45 21.8**	**+1.2**
MOA				i PG	**Pg**	**18 45 31.7**	**-4.2**
MOA				i SN	**Sn**	**18 45 59.5**	**-6.2**
MOA				i SG	**Sg**	**18 46 21.9**	**-4.1**
	4.9nm,0.3s						
GEC2	**GERESS Array S**	**3.79**	**56**	ePn	**Pn**	**18 45 20.8**	**-0.2**
KHC	**Kasperske Hory**	**3.87**	**52**	eP	**Pn**	**18 45 22.0**	**-0.2**
KHC				e		18 46 05.4	
KHC	**Kasperske Hory**	**3.87**	**52**	ePN	**Pn**	**18 45 22.0**	**-0.2**
KHC				ePG	**Pg**	**18 45 30.6**	**-7.5**
KHC				eSN	**Sn**	**18 46 05.4**	**-3.1**
KHC				eSG	**Sg**	**18 46 20.1**	**-10**
	12nm,0.6s						
OBKA	**Obir**	**3.88**	**93**	⇑iPN	**Pn**	**18 45 25.3**	**+3.1**
OBKA				i SG	**Sg**	**18 46 32.4**	**+2.6**
NKC	**Novy Kostel**	**4.12**	**33**	ePG	**Pg**	**18 45 38.7**	**-4.4**
NKC				eSG	**Sg**	**18 46 31.5**	**-6.6**
GUNZ	**Gunzen**	**4.19**	**31**	ePn	**Pn**	**18 45 23.5**	**-3.2**
BGF	**Bois d'Agland**	**4.20**	**268**	ePn	**Pn**	**18 45 26.4**	**-0.5**
BGF				ePg	**Pg**	**18 45 41.0**	**-3.7**
MOX	**Moxa**	**4.20**	**24**	ePn	**Pn**	**18 45 23.8**	**-3.1**
MOX				eSg	**Sg**	**18 46 37.4**	**-3.4**
MOX	**Moxa**	**4.20**	**24**	i P	**Pn**	**18 45 23.8**	**-3.1**
MOX				Pg	**Pg**	**18 45 42.0**	**-2.7**
MOX				S	**Sn**	**18 46 16.0**	**-1.0**
MOX				Sg	**Sg**	**18 46 37.0**	**-3.8**
GIVF	**Givet**	**4.26**	**322**	ePn	**Pn**	**18 45 28.0**	**+0.2**
HYF	**Humbligny**	**4.33**	**278**	ePn	**Pn**	**18 45 29.6**	**+0.9**
BAIF	**Baives**	**4.51**	**317**	ePn	**Pn**	**18 45 31.3**	**+0.1**
BAIF				eSn	**Sn**	**18 46 19.0**	**-5.7**
	3.5nm,0.4s						
LASF	**Ste Croix**	**4.52**	**234**	ePn	**Pn**	**18 45 30.2**	**-1.1**
ARSA	**Arzberg**	**4.52**	**82**	⇓iPN	**Pn**	**18 45 32.3**	**+0.9**
ARSA				i SN	**Sn**	**18 46 21.2**	**-3.8**
ARSA				i SG	**Sg**	**18 46 48.4**	**-2.9**
	1.4nm,0.3s						
TCF	**Toulx Ste Croi**	**4.67**	**266**	ePn	**Pn**	**18 45 33.2**	**-0.4**
TCF				ePg	**Pg**	**18 45 49.1**	**-5.0**
TCF				eSn	**Sn**	**18 46 23.7**	**-5.2**
	2.8nm,0.5s						
TCF	**Toulx Ste Croi**	**4.67**	**266**	eP	**Pn**	**18 45 33.2**	**-0.4**
TCF				e		18 46 23.7	
PRU	**Pruhonice**	**4.89**	**48**	eSG	**Sg**	**18 46 53.0**	**-10**
	5.1nm,0.4s						
CLL	**Collm**	**5.21**	**29**	eSG	**Sg**	**18 47 12.0**	**-2.3**
UPC	**Upice**	**5.95**	**49**	eSG	**Sg**	**18 47 26.2**	**-13**
DPC	**Dobruska-Polom**	**6.03**	**52**	eSG	**Sg**	**18 47 29.1**	**-12**
MFF	**Saint Martin d**	**6.25**	**271**	ePn	**Pn**	**18 45 54.1**	**-1.8**
LDF	**La Druitiere**	**6.36**	**289**	ePn	**Pn**	**18 45 55.3**	**-2.1**
FLN	**La Foliniere**	**6.63**	**290**	ePn	**Pn**	**18 46 00.0**	**-1.2**
	baz=106						
GRR	**Gorron**	**6.80**	**287**	ePn	**Pn**	**18 46 02.9**	**-0.7**
SGMF	**Saint Gilles**	**7.91**	**285**	ePn	**Pn**	**18 46 16.8**	**-2.3**
QUIF	**Quistinic**	**8.29**	**282**	ePn	**P**	**18 46 20.3**	**-4.1**
KOLS	**Kolonicke sedl**	**9.20**	**72**	eP	**P**	**18 46 46.5**	**+9.4**

*IDC **10** 18:52:51.7±1.1, 3.36S×126.60E, mb3.8/5, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, ML4.0/2, MS2.8/1, Ms1 2.8/1, ms1mx2.6/18, Error ellipse: s-maj=83.0km s-min=19.4km az=66.0*
*NEIC **10** 18:53:00.2±2.8, 3.38S×126.61E, h66^{km}±29^{km}, mb4.2/5, Error ellipse: s-maj=42.7km s-min=8.4km az=56.0*
ISC 10 18:52:57.6±4.0**, 3.3S**±0.2×**126.8E**±0.4**, h62**^{km}±40^{km}**, n16, σ0^{s}84**/15**, mb4.1**/8**, Buru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**14.06**	**311**	eP	**P**	**18 56 15.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**14.79**	**184**	Pn	**P**	**18 56 18.6**	**-6.2**
	0.4nm,0.3s,baz=15,slow=6.6,SNR=5.3						
WRAB	**Tennant Creek**	**18.12**	**157**	eP	**P**	**18 57 07.2**	**+0.5**
	11nm,0.9s						
WRA	**Warramunga Arr**	**18.12**	**157**	P	**P**	**18 57 05.6**	**-1.2**
	0.7nm,0.3s,baz=334,slow=11,SNR=37						
WB2	**Warramunga Arr**	**18.13**	**157**	eP	**P**	**18 57 07.6**	**+0.8**
CTA	**Charters Tower**	**25.27**	**133**	LR	LR	19 09 11.9	
	comp=Z,21nm,19.5s,baz=40,slow=39						
STKA	**Stephens Creek**	**31.67**	**156**	eP	**P**	**18 59 17.4**	**-0.1**
	3.6nm,1.8s,mb3.9						
STKA	**Stephens Creek**	**31.67**	**156**	P	**P**	**18 59 17.3**	**-0.1**
	2.0nm,0.6s,mb4.1,baz=335,slow=9.4,SNR=9.2						
CMAR	**Chiang Mai Arr**	**34.93**	**309**	P	**P**	**18 59 45.4**	**-0.3**
	0.5nm,0.8s,mb3.5,baz=139,slow=6.7,SNR=4.2						
LSA	**Lhasa**	**47.33**	**316**	eP	**P**	**19 01 28.9**	**+1.6**
	6.4nm,0.8s,mb4.6						
SONM	**Songino Array**	**53.95**	**343**	P	**P**	**19 02 18.1**	**+0.8**
	0.6nm,0.6s,mb3.7,baz=166,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**63.39**	**327**	P	**P**	**19 03 23.1**	**+0.1**
	0.8nm,0.5s,mb4.1,baz=115,slow=8.7,SNR=19						
YAK	**Yakutsk**	**65.16**	**1**	eP	**P**	**19 03 34.3**	**+0.1**
	6.3nm,0.8s,mb4.7						
ZAL	**Zalesovo**	**66.87**	**335**	P	**P**	**19 03 43.4**	**-1.8**
	0.6nm,0.4s,mb4.0,baz=48,slow=0.7,SNR=5.6						
ZAL	**Zalesovo**	**66.87**	**335**	P	**P**	**19 03 43.4**	**-1.8**
ZRNK	**Zerenda**	**73.94**	**328**	eP	**P**	**19 04 27.7**	**-0.3**
	2.6nm,1.0s,mb4.1						

*CSEM **10** 19:02:53.9±0.1, 37.82N×39.46E, h10^{km}, MD3.5, Error ellipse: s-maj=2.8km s-min=1.9km az=165.0*
*ISK **10** 19:02:54.0, 37.80N×39.46E, h16^{km}, MD3.5*
ISC 10 19:02:53.6±0.7**, 37.78N**±0.03×**39.51E**±0.03**, h1**^{km}±6^{km}**, n27, σ1^{s}01**/40**, 2D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DIY	**Diyarbakir**	**0.58**	**78**	i PG	**Pg**	**19 03 06.1**	**+0.9**
URFA	**Urfa**	**0.64**	**239**	i PG	**Pg**	**19 03 06.9**	**+0.5**
URFA				i SG	**Sg**	**19 03 15.6**	**+0.6**
ELZG	**Elazig**	**0.83**	**330**	i P	**Pg**	**19 03 10.5**	**+0.3**
ELZG				i S	**Sg**	**19 03 21.2**	**0.0**
MALT	**Malatya**	**1.01**	**302**	PG	**Pg**	**19 03 12.6**	**-1.1**
ATAB	**Bozova**	**1.01**	**253**	i P	**Pb**	**19 03 13.7**	**+0.1**
ATAB				i S	**Sb**	**19 03 28.5**	**+1.2**
MYA	**Malataya**	**1.02**	**303**	PG	**Pg**	**19 03 13.3**	**-0.6**
MARD	**Mardin**	**1.11**	**114**	i P	**Pb**	**19 03 14.9**	**-0.3**
MARD				i S	**Sb**	**19 03 30.7**	**+0.6**
PTK	**Pertek**	**1.12**	**355**	PN	**Pn**	**19 03 15.5**	**-0.7**
KBSD	**Kabsdagh**	**1.13**	**133**	⇑iP	**Pb**	**19 03 16.1**	**+0.5**
KBSD				⇑iS	**Sb**	**19 03 30.1**	**-0.6**
BEST	**Besiri**	**1.40**	**85**	i P	**Pb**	**19 03 20.1**	**-0.1**
BEST				i S	**Sb**	**19 03 39.0**	**+0.6**
GZT	**Gaziantep**	**1.60**	**255**	i P	**Pn**	**19 03 22.8**	**-0.4**
GZT				i S	**Sb**	**19 03 46.9**	**+2.5**
BTMT	**Batman**	**1.62**	**75**	PN	**Pn**	**19 03 21.7**	**-1.7**
GAZ	**Gaziantep**	**1.93**	**252**	ePN	**Pn**	**19 03 26.2**	**-1.6**
SLMH	**Al Salmeh**	**2.01**	**219**	⇓iP	**Pn**	**19 03 30.9**	**+1.9**
SLMH				⇓iS	**Sn**	**19 03 54.3**	**-0.8**
KAHT	**Ahir Dag**	**2.10**	**267**	i P	**Pn**	**19 03 30.3**	**0.0**
KAHT				i S	**Sn**	**19 04 01.8**	**+4.4**
JHLN	**Al Jahlan**	**2.27**	**203**	⇑iP	**Pn**	**19 03 33.8**	**+1.0**
JHLN				⇑iS	**Sn**	**19 04 00.8**	**-1.0**
KELT	**Kelkit**	**2.38**	**355**	i P	**Pn**	**19 03 34.7**	**+0.4**
KELT				i S	**Sn**	**19 04 06.9**	**+2.5**
EZM	**Erzurum**	**2.57**	**34**	ePN	**Pn**	**19 03 37.1**	**+0.1**
ERZM	**Erzurum**	**2.57**	**34**	i P	**Pn**	**19 03 38.1**	**+1.0**
ERZM				i S	**Sn**	**19 04 05.3**	**-4.1**
COBT	**Iskenderun**	**2.89**	**245**	i P	**Pn**	**19 03 41.6**	**0.0**
COBT				i S	**Sn**	**19 04 26.0**	**+8.5**
BNN	**Bunyan**	**3.08**	**292**	ePN	**Pn**	**19 03 42.7**	**-1.6**
HTY	**Hatay**	**3.17**	**240**	ePN	**Pn**	**19 03 43.7**	**-1.9**
HKR	**Hakkari**	**3.36**	**92**	ePN	**Pn**	**19 03 47.3**	**-1.0**
WRDH	**Warideh**	**3.37**	**229**	⇑iP	**Pn**	**19 03 49.1**	**+0.7**
CLDR	**Caldiran**	**3.72**	**67**	ePN	**Pn**	**19 03 53.9**	**+0.5**
BIDA	**Albida**	**3.77**	**224**	⇑iP	**Pn**	**19 03 54.3**	**+0.2**
KAMT	**Kaman**	**4.81**	**291**	ePN	**Pn**	**19 04 07.9**	**-1.0**

*BEO **10** 19:11:06.0±0.3, 42.38N×19.86E, h14^{km}±1^{km}*
*TIR **10** 19:11:05.4, 42.50N×19.80E, h19^{km}*
*NEIC **10** 19:11:06.7, 42.40N×19.82E, h5^{km}, ML2.8(PDG), After PDG.*
*PDG **10** 19:11:06.7±0.2, 42.40N×19.82E, h5^{km}±1^{km}*
*CSEM **10** 19:11:06.2±0.1, 42.38N×19.87E, h17^{km}±1^{km}, ML2.8, Error ellipse: s-maj=2.0km s-min=1.9km az=72.0*
ISC 10 19:11:07.0±0.4**, 42.41N**±0.02×**19.83E**±0.03**, h4**^{km}±4^{km}**, n20, σ1^{s}19**/39**, 8C-4D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.18**	**103**	i Pg	**Pg**	**19 11 10.3**	**-0.3**
BCI				i Sg	**Sg**	**19 11 13.5**	**+0.4**
PVY	**Plav**	**0.21**	**29**	⇑iPg	**Pg**	**19 11 11.2**	**-0.2**
PVY				eSg	**Sg**	**19 11 15.0**	**+0.8**
PUK	**Puka**	**0.37**	**173**	i Pg	**Pg**	**19 11 13.7**	**-0.7**
PUK				i Sg	**Sg**	**19 11 19.7**	**+0.4**
TTG	**Podgorica**	**0.42**	**273**	⇑iPg	**Pg**	**19 11 14.2**	**-1.3**
TTG				eSg	**Sg**	**19 11 21.3**	**+0.1**
IVA	**Berane**	**0.47**	**6**	⇑iPg	**Pg**	**19 11 16.1**	**-0.2**
IVA				eSg	**Sg**	**19 11 23.5**	**+1.0**
ULC	**Ulcinj**	**0.62**	**224**	⇑iPg	**Pg**	**19 11 18.5**	**-0.9**
ULC				eSg	**Sg**	**19 11 27.6**	**-0.1**
BUM	**Brajici-Budva**	**0.70**	**262**	⇑iPg	**Pg**	**19 11 19.7**	**-1.3**
BUM				eSg	**Sg**	**19 11 31.4**	**+1.0**
NKY	**Niksic**	**0.74**	**304**	⇑iPg	**Pg**	**19 11 20.0**	**-1.7**
NKY				eSg	**Sg**	**19 11 32.4**	**+0.9**
QSH	**Qafa e Shtames**	**0.89**	**176**	i Pg	**Pg**	**19 11 27.6**	**+2.9**
QSH				i Sg	**Sg**	**19 11 41.6**	**+5.1**
PLE	**Pljevlja**	**0.98**	**341**	⇑iPg	**Pg**	**19 11 25.8**	**-0.7**
PLE				eSg	**Sg**	**19 11 41.4**	**+1.9**
HCY	**Herceg Novi**	**0.99**	**273**	⇓iPg	**Pg**	**19 11 25.1**	**-1.6**
HCY				eSg	**Sg**	**19 11 40.9**	**+1.0**
UPM	**Unac-Piva**	**1.04**	**320**	⇓iPg	**Pg**	**19 11 26.9**	**-0.9**
UPM				eSg	**Sg**	**19 11 43.7**	**+1.9**
TIR	**Tirane**	**1.06**	**179**	i Pn	**Pn**	**19 11 30.5**	**+2.1**
TIR				i Sn	**Sn**	**19 11 46.0**	**+2.3**
BRY	**Bratogost**	**1.07**	**298**	⇓iPg	**Pg**	**19 11 26.9**	**-1.4**
BRY				eSg	**Sg**	**19 11 43.7**	**+1.0**
NVSS	**Nova Varos 2**	**1.10**	**355**	ePn	**Pn**	**19 11 27.1**	**-1.9**
NVSS				Sn	**Sn**	**19 11 42.8**	**-2.1**
SKO	**Skopje**	**1.27**	**109**	i Pn	**Pn**	**19 11 30.5**	**-0.9**
SKO				i		19 11 32.6	
SKO				i Sn	**Sn**	**19 11 48.8**	**-0.3**
SKO				i		19 11 50.5	
SKO	**Skopje**	**1.27**	**109**	i Pn	**Pn**	**19 11 30.5**	**-0.9**
SKO				i Sn	**Sn**	**19 11 48.8**	**-0.3**
BBLS	**Bajina Basta -**	**1.49**	**348**	⇓iPn	**Pn**	**19 11 34.1**	**-0.5**
BBLS				Sn	**Sn**	**19 11 55.9**	**+1.2**
STON	**Ston**	**1.64**	**287**	i Sg	**Sg**	**19 12 00.8**	**-0.8**
DIVS	**Divcibare**	**1.69**	**4**	⇑iPn	**Pn**	**19 11 38.6**	**+1.1**
DIVS				Sn	**Sn**	**19 11 59.7**	**-0.2**

*INMG **10** 19:24:04.9±1.1, 36.94N×5.00W, h8^{km}±3^{km}, ML2.4, Error ellipse: s-maj=2.7km s-min=1.9km az=5.0*
*MDD **10** 19:24:05.2±0.2, 36.89N×4.95W, h10^{km}, mbLg2.5/18, Error ellipse: s-maj=2.4km s-min=2.1km az=8.0, PRXIMO*
ISC 10 19:24:03.6±0.4**, 37.04N**±0.03×**4.97W**±0.02**, h10**^{km}±4^{km}**, n32, σ1^{s}33**/50**, 3C, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.37**	**249**	P	**Pg**	**19 24 12.0**	**+0.7**
LIJA				S	**Sg**	**19 24 19.0**	**+2.6**
EMIJ	**Mijas**	**0.50**	**161**	⇑Pg	**Pg**	**19 24 11.6**	**-2.3**
	23nm,0.1s,SNR=18						
EMIJ				Lg		19 24 16.8	
	186nm,0.2s,SNR=5.0						
REAL	**Reales**	**0.59**	**199**	P	**Pg**	**19 24 14.0**	**-1.5**
REAL				S	**Sg**	**19 24 21.0**	**-2.5**
ELOJ	**Sierra Loja**	**0.66**	**81**	Pg	**Pg**	**19 24 17.5**	**+0.5**
	9.9nm,0.2s,SNR=16						
ELOJ				Lg		19 24 29.0	
	89nm,0.5s,SNR=30						
ESPR	**Espera**	**0.73**	**256**	Pg	**Pg**	**19 24 20.0**	**+1.7**
	13nm,0.1s,SNR=34						
ESPR				Lg		19 24 32.2	
	44nm,0.2s,SNR=6.7						
ELUQ	**Luque**	**0.76**	**47**	Pg	**Pg**	**19 24 20.4**	**+1.4**
	20nm,0.2s,SNR=21						
ELUQ				Lg		19 24 32.5	
	39nm,0.2s,SNR=5.0						
GIBL	**Gibalbin**	**0.82**	**255**	P	**Pb**	**19 24 21.2**	**+1.6**
GIBL				S	**Sb**	**19 24 34.0**	**+3.4**
ERON	**Agron**	**0.93**	**91**	Pg	**Pg**	**19 24 22.3**	**0.0**
	7.7nm,0.2s,SNR=12						
ERON				Lg		19 24 35.1	
	24nm,0.4s,SNR=5.0						
ECAB	**El Cabril**	**1.09**	**341**	⇑Pg	**Pg**	**19 24 26.7**	**+1.2**
	19nm,0.2s,SNR=18						
ECAB				Lg		19 24 42.4	
	55nm,0.3s,SNR=25						
EGUA	**Guajares**	**1.15**	**100**	Pg	**Pg**	**19 24 25.8**	**-0.8**
	2.6nm,0.2s,SNR=7.9						
EGUA				Lg		19 24 41.1	
	2.4nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.15**	**78**	Pg	**Pg**	**19 24 28.1**	**+1.5**
	14nm,0.1s,SNR=11						
ECOG				Lg		19 24 44.2	
	34nm,0.2s,SNR=9.7						
EADA	**Adamuz**	**1.17**	**15**	⇑Pg	**Pg**	**19 24 27.4**	**+0.4**
	26nm,0.2s,SNR=18						
EADA				Lg		19 24 45.2	
	38nm,0.1s,SNR=13						
EBAN	**Banos Encina**	**1.46**	**40**	Pn	**Pn**	**19 24 31.4**	**+1.2**
	12nm,0.2s,SNR=22						
EBAN				Sn	**Sn**	**19 24 51.6**	**+2.0**
	81nm,0.3s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.54**	**299**	Pn	**Pn**	**19 24 31.5**	**+0.3**
	0.8nm,0.2s,SNR=34						
EMIN				Pg	**Pg**	**19 24 34.3**	**0.0**
	6.9nm,0.1s,SNR=13						
EMIN				Sn	**Sn**	**19 24 51.1**	**-0.3**
	3.3nm,0.2s,SNR=5.0						
EMIN				Lg		19 24 54.9	
	15nm,0.2s,SNR=5.0						
EBER	**Berja**	**1.67**	**94**	Pg	**Pg**	**19 24 36.4**	**-0.7**
	8.8nm,0.3s,SNR=14						
EBER				Lg		19 24 60.0	
	18nm,0.4s,SNR=5.0						
EQES	**Quesada**	**1.69**	**63**	Pn	**Pn**	**19 24 35.2**	**+1.7**
	0.7nm,0.1s,SNR=9.1						
EQES				Pg	**Pg**	**19 24 37.3**	**-0.1**
	9.7nm,0.2s,SNR=21						
EQES				Sn	**Sn**	**19 24 57.7**	**+2.3**
	3.2nm,0.1s,SNR=5.0						
EQES				Lg		19 25 01.1	
	33nm,0.3s,SNR=5.0						
EGRO	**El Granado**	**2.06**	**285**	Pn	**Pn**	**19 24 38.7**	**-0.1**
	1.9nm,0.1s,SNR=10						
EGRO				Sn	**Sn**	**19 25 04.4**	**-0.4**
	4.4nm,0.2s,SNR=5.0						
EGRO				Lg		19 25 11.4	
	14nm,0.2s,SNR=5.0						
EBAD	**Badajoz**	**2.35**	**317**	Pn	**Pn**	**19 24 43.4**	**+0.4**
	2.0nm,0.1s,SNR=12						
EBAD				Pg	**Pg**	**19 24 49.7**	**-0.9**
	1.6nm,0.2s,SNR=9.1						
EBAD				Sn	**Sn**	**19 25 13.0**	**+0.9**
	6.1nm,0.2s,SNR=4.5						
EBAD				Lg		19 25 21.6	
	15nm,0.2s,SNR=5.0						
PBEJ	**Beja**	**2.50**	**294**	eSn	**Sn**	**19 25 17.3**	**+1.3**
	7.7nm,0.4s						
EVIA	**Vianos**	**2.52**	**50**	Pg	**Pg**	**19 24 51.9**	**-2.1**
	6.4nm,0.3s,SNR=6.4						
EVIA				Sn	**Sn**	**19 25 17.6**	**+1.1**
	3.9nm,0.2s,SNR=7.9						
EVIA				Lg		19 25 28.2	
	12nm,0.3s,SNR=5.0						
ESDC	**Sonseca Array**	**2.74**	**16**	Pn	**Pn**	**19 24 50.2**	**+1.6**
	4.0nm,0.2s,baz=196,slow=12,SNR=10						
ESDC				Pg	**Pg**	**19 24 57.3**	**-1.1**
	2.9nm,0.3s,baz=199,slow=17,SNR=19						
ESDC				Lg		19 25 32.7	
	5.1nm,0.2s,baz=197,slow=27,SNR=15						
PTEO	**Sao Teotonio**	**3.03**	**281**	ePn	**Pn**	**19 24 52.8**	**+0.1**
PTEO				eSn	**Sn**	**19 25 29.3**	**-0.2**
	9.5nm,0.7s						
EMUR	**La Murta**	**3.08**	**74**	Pg	**Pg**	**19 25 02.6**	**-2.4**
	1.5nm,0.3s,SNR=7.9						
EMUR				Lg		19 25 44.5	
	6.2nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**3.15**	**58**	Pn	**Pn**	**19 24 54.4**	**+0.1**
	0.9nm,0.2s,SNR=6.9						
ETOB				Sn	**Sn**	**19 25 31.8**	**-0.5**
	2.7nm,0.3s,SNR=7.9						
ETOB				Lg		19 25 47.6	
	7.6nm,0.4s,SNR=5.0						
PCBR	**Castelo Branco**	**3.42**	**326**	ePn	**Pn**	**19 24 59.6**	**+1.5**
PCBR				eSn	**Sn**	**19 25 37.8**	**-1.3**
	6.2nm,0.6s						
PTOM	**Tomar**	**3.73**	**315**	eSn	**Sn**	**19 25 46.1**	**-1.0**
	9.9nm,0.5s						
MTE	**Manteigas**	**3.91**	**330**	eSn	**Sn**	**19 25 51.2**	**-0.4**
	10.0nm,0.6s						
PVIS	**Viseu**	**4.32**	**329**	eSn	**Sn**	**19 25 59.9**	**-2.1**
PVRL	**Vila Real**	**4.73**	**334**	eSn	**Sn**	**19 26 10.2**	**-2.3**
EMOS	**Mosqueruela**	**4.83**	**45**	Pg	**Pg**	**19 25 36.2**	**-4.0**
	0.1nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**19 26 13.6**	**-1.4**
	0.4nm,0.2s,SNR=7.9						
EMOS				Lg		19 26 40.5	
	0.9nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.08**	**345**	Sn	**Sn**	**19 26 19.0**	**-2.2**
	2.1nm,0.3s,SNR=7.9						
ECAL				Lg		19 26 47.1	
	5.0nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**5.38**	**335**	Pn	**Pn**	**19 25 25.4**	**-0.6**
	0.4nm,0.2s,SNR=7.9						
ELOB				Sn	**Sn**	**19 26 24.9**	**-3.8**
	0.6nm,0.2s,SNR=7.9						
ELOB				Lg		19 26 59.2	
	1.5nm,0.3s,SNR=7.9						

*TIR **10** 19:37:35.5, 42.43N×19.80E, h21^{km}*
*BEO **10** 19:37:37.3±0.5, 42.41N×19.84E, h16^{km}±1^{km}*
*NEIC **10** 19:37:37.1, 42.42N×19.78E, h5^{km}, ML2.9(PDG), After PDG.*
*PDG **10** 19:37:37.1±0.2, 42.42N×19.78E, h5^{km}±1^{km}*
*THE **10** 19:37:39.2, 42.68N×19.79E, h21^{km}*
ISC 10 19:37:37.6±0.2**, 42.42N**±0.02×**19.79E**±0.02**, h5**^{km}**, n33, σ1^{s}11**/61**, 6C-8D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVY	**Plav**	**0.22**	**38**	⇓iPg	**Pg**	**19 37 41.4**	**-0.7**
PVY				eSg	**Sg**	**19 37 45.6**	**+0.5**
PUK	**Puka**	**0.39**	**168**	i Pg	**Pg**	**19 37 44.2**	**-1.1**
PUK				i Sg	**Sg**	**19 37 50.1**	**-0.4**
TTG	**Podgorica**	**0.39**	**271**	⇑iPg	**Pg**	**19 37 44.2**	**-1.2**
TTG				eSg	**Sg**	**19 37 50.8**	**+0.2**
SDA	**Shkodra**	**0.43**	**210**	i Pg	**Pg**	**19 37 45.0**	**-1.1**
SDA				i Sg	**Sg**	**19 37 52.2**	**+0.3**
IVA	**Berane**	**0.46**	**10**	⇓iPg	**Pg**	**19 37 46.4**	**-0.3**
IVA				eSg	**Sg**	**19 37 53.2**	**+0.4**
KKS	**Kukesi**	**0.58**	**126**	i Pg	**Pg**	**19 37 47.6**	**-1.5**
KKS				i Sg	**Sg**	**19 37 57.2**	**+0.4**
ULC	**Ulcinj**	**0.61**	**221**	⇓iPg	**Pg**	**19 37 48.6**	**-1.1**
ULC				eSg	**Sg**	**19 37 58.5**	**+0.7**
BUM	**Brajici-Budva**	**0.67**	**260**	⇑iPg	**Pg**	**19 37 49.7**	**-1.3**
BUM				eSg	**Sg**	**19 38 00.8**	**+0.8**
NKY	**Niksic**	**0.70**	**304**	⇑iPg	**Pg**	**19 37 50.1**	**-1.5**
NKY				eSg	**Sg**	**19 38 02.2**	**+1.1**
PLE	**Pljevlja**	**0.95**	**342**	⇓iPg	**Pg**	**19 37 55.2**	**-1.4**
PLE				eSg	**Sg**	**19 38 10.4**	**+1.0**
HCY	**Herceg Novi**	**0.95**	**272**	⇓iPg	**Pg**	**19 37 55.5**	**-1.2**
HCY				eSg	**Sg**	**19 38 10.2**	**+0.8**
UPM	**Unac-Piva**	**1.01**	**321**	⇑iPg	**Pg**	**19 37 56.6**	**-1.2**
UPM				eSg	**Sg**	**19 38 12.0**	**+0.7**
BRY	**Bratogost**	**1.04**	**298**	⇑iPg	**Pg**	**19 37 55.8**	**-2.5**
BRY				eSg	**Sg**	**19 38 12.6**	**+0.5**
TIR	**Tirane**	**1.07**	**177**	ePn	**Pn**	**19 37 57.0**	**-2.1**
TIR				i Sn	**Sn**	**19 38 15.0**	**+0.5**
NVSS	**Nova Varos 2**	**1.09**	**357**	⇑iPn	**Pn**	**19 37 56.3**	**-3.0**
NVSS				Sn	**Sn**	**19 38 11.5**	**-3.4**
SKO	**Skopje**	**1.31**	**110**	i Pn	**Pn**	**19 38 01.0**	**-1.5**
SKO				i Sn	**Sn**	**19 38 20.3**	**-0.1**
SKO				i		19 38 22.0	
BBLS	**Bajina Basta -**	**1.47**	**349**	⇓iPn	**Pn**	**19 38 05.3**	**+0.5**
BBLS				Sn	**Sn**	**19 38 24.1**	**-0.5**
STON	**Ston**	**1.60**	**287**	i Pn	**Pn**	**19 38 07.0**	**+0.2**
STON				i Sg	**Sg**	**19 38 31.6**	**+0.5**
DIVS	**Divcibare**	**1.68**	**5**	⇓iPn	**Pn**	**19 38 07.6**	**-0.3**
DIVS				Sn	**Sn**	**19 38 31.9**	**+1.9**
FNA	**Florina**	**2.02**	**143**	ePn	**Pn**	**19 38 14.3**	**+1.6**
FNA				eSn	**Sn**	**19 38 40.8**	**+2.2**
BOLS	**Boljevac**	**2.12**	**48**	⇓iPn	**Pn**	**19 38 13.6**	**-0.5**
BOLS				Sn	**Sn**	**19 38 41.7**	**+0.4**
SVIS	**Svilajnac**	**2.15**	**29**	ePn	**Pn**	**19 38 16.5**	**+2.0**
SVIS				Sn	**Sn**	**19 38 41.9**	**+0.1**
GRG	**Griva**	**2.44**	**126**	ePn	**Pn**	**19 38 18.8**	**+0.1**
GRG				eSn	**Sn**	**19 38 50.1**	**+0.7**
KNT	**Kendrikon**	**2.64**	**117**	ePn	**Pn**	**19 38 22.0**	**+0.4**
KNT				eSn	**Sn**	**19 38 54.7**	**+0.3**
MEV	**Metsovon**	**2.85**	**157**	ePn	**Pn**	**19 38 25.9**	**+1.4**
MEV				eSn	**Sn**	**19 39 02.1**	**+2.4**
IGT	**Igoumenitsa**	**2.92**	**172**	ePn	**Pn**	**19 38 26.9**	**+1.4**
THE	**Thessaloniki**	**2.98**	**126**	ePn	**Pn**	**19 38 25.9**	**-0.5**
LIT	**Litokhoron**	**3.08**	**138**	ePn	**Pn**	**19 38 28.5**	**+0.6**
LIT				eSn	**Sn**	**19 39 06.5**	**+0.8**
SOH	**Sokhos**	**3.11**	**120**	ePn	**Pn**	**19 38 28.6**	**+0.3**
SRS	**Serrai**	**3.13**	**113**	ePn	**Pn**	**19 38 27.9**	**-0.6**
SRS				eSn	**Sn**	**19 39 05.4**	**-1.3**
OUR	**Ouranopolis**	**3.78**	**122**	ePn	**Pn**	**19 38 37.1**	**-0.7**
PAIG	**Paliouri**	**3.85**	**129**	ePn	**Pn**	**19 38 38.1**	**-0.7**
VOY	**Vojsko**	**5.56**	**312**	ePn	**Pn**	**19 39 03.7**	**+0.7**
VOY				eSn	**Sn**	**19 40 11.2**	**+3.0**

CASC 10 19:37:50.7±3.3**, 8.40N**×**82.84W, h12**^{km}±11^{km}**, MD3.8, 1C-4D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVD	**David**	**0.39**	**84**	⇓iP	Pg	19 37 58.6	-0.1
ACR	**Cerro Adams**	**0.41**	**309**	⇓eP	Pg	19 37 57.5	-1.6
ACR				eS	Sg	19 38 03.5	-1.3
PTP1	**Petroterminal**	**0.45**	**115**	⇑iP	Pg	19 37 55.3	-4.7
PTP1				eS	Sg	19 38 00.3	-5.9
BRU	**Baru**	**0.49**	**34**	⇓iP	Pg	19 38 01.4	+0.5
BRU				eS	Sg	19 38 11.7	+4.2
SFX2	**San Felix**	**0.97**	**96**	eP	Pb	19 38 08.8	-0.2
SFX2				eS	Sb	19 38 20.0	-1.5
CNI	**Changuinola**	**1.06**	**18**	⇓eP	Pb	19 38 10.5	-0.1
LCR2	**La Lucha 2**	**1.76**	**320**	eP	Pn	19 38 20.9	-0.5
LCR2				eS	Sn	19 38 45.2	+1.3
PRS1	**Puriscal**	**2.14**	**318**	eP	Pn	19 38 25.2	-1.6
PRS1				eS	Sn	19 38 55.2	+1.6
TRTC	**Tortuguero**	**2.33**	**338**	eP	Pn	19 38 28.6	-1.0

*LDG **10** 19:41:22.1±0.7, 15.01S×166.89E, h10^{km}, Mb4.8/4, Error ellipse: s-maj=67.9km s-min=38.5km az=7.0*
*IDC **10** 19:41:32.4±2.4, 14.74S×167.37E, h91^{km}±19^{km}, mb4.2/12, mb1 4.3/14, mb1mx4.3/19, mbtmp4.6/14, MS3.0/4, Ms1 3.0/4, ms1mx2.9/22, Error ellipse: s-maj=24.2km s-min=12.1km az=69.0*
*NEIC **10** 19:41:34.7±1.3, 14.77S×167.36E, h111^{km}±10^{km}, mb4.6/4, Error ellipse: s-maj=13.5km s-min=7.3km az=71.0*
*BJI **10** 19:41:36.2, 14.18S×167.19E, h111^{km}, mB5.1, mb4.7*
ISC 10 19:41:32.9±2.2**, 14.76S**±0.09×**167.3E**±0.1**, h109**^{km}±18^{km}**, n90, σ0^{s}86**/32**, mb4.4**/15**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.32**	**186**	eP	**P**	**19 43 18.6**	**0.0**
DZM				eS	**S**	**19 44 34.8**	**-5.8**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.32	186	P	P	19 43 18.9	+0.3
	37nm,0.3s,baz=36,slow=19,SNR=78						
DZM				S	S	19 44 36.0	-4.6
	8.7nm,0.3s,baz=300,slow=20,SNR=3.8						
DZM				LR	LR	19 45 16.6	
	comp=Z,62nm,21.6s,baz=349,slow=30						
DZM	Mont Dzumac	7.32	186	eP	P	19 43 18.6	0.0
DZM				eS	S	19 44 34.8	-5.8
HNR	Honiara	8.91	306	P	P	19 43 40.7	+0.7
	18nm,0.3s,baz=218,slow=2.2,SNR=12						
HNR				S	S	19 45 18.3	-1.1
	9.8nm,0.3s,baz=246,slow=20,SNR=2.0						
HNR				LR	LR	19 45 56.8	
	comp=Z,35nm,20.2s,baz=163,slow=30						
HNR	Honiara	8.91	306	eP	P	19 43 42.1	+2.1
HNR				eS	S	19 45 17.8	-1.5
CTA	Charters Tower	20.74	252	P	P	19 46 08.0	+1.3
	3.5nm,0.7s,baz=83,slow=14,SNR=5.4						
CTAO	Charters Tower	20.74	252	eP	P	19 46 08.0	+1.3
URZ	Urewera	24.98	161	P	P	19 46 47.6	-0.3
	37nm,0.8s,mb4.9,baz=338,slow=6.3,SNR=17						
STKA	Stephens Creek	28.98	230	P	P	19 47 24.8	+0.4
	10nm,0.5s,mb4.7,baz=42,slow=8.0,SNR=56						
STKA	Stephens Creek	28.98	230	eP	P	19 47 24.6	+0.2
RPZ	Rata Peaks	29.04	174	P	P	19 47 24.7	-0.2
	9.6nm,0.7s,mb4.6,baz=32,slow=12,SNR=9.5						
RPZ				LR	LR	19 56 49.8	
	comp=Z,62nm,20.5s,baz=252,slow=32						
WRA	Warramunga Arr	31.82	256	P	P	19 47 48.2	-1.4
	0.5nm,0.5s,mb3.5,baz=85,slow=9.1,SNR=3.3						
MJAR	Matsushiro Arr	57.93	333	P	P	19 51 15.0	-1.1
	4.4nm,0.6s,mb4.6,baz=173,slow=9.2,SNR=15						
MAT	Matsushiro	57.93	333	eP	P	19 51 15.0	-1.2
	11nm,1.2s,mb4.8						
MAT	Matsushiro	57.93	333	P	P	19 51 15.4	-0.8
VNDA	Vanda	62.83	181	P	P	19 51 48.1	-0.9
	1.4nm,0.4s,mb4.2,baz=0.5,slow=6.7,SNR=19						
VNDA	Vanda	62.83	181	eP	P	19 51 47.9	-1.1
	2.4nm,0.8s,mb4.2						
SBA	Scott Base	63.11	180	eP	P	19 51 50.5	-0.3
	5.3nm,0.8s,mb4.5						
CN2	Changchun	69.67	329	eP	P	19 52 33.2	+0.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CMAR	Chiang Mai Arr	74.97	294	P	P	19 53 05.1	+0.7
	comp=Z,1.1nm,0.6s,mb3.7,baz=138,slow=6.0,SNR=7.1						
QSPA	South Pole Qui	75.27	180	eP	P	19 53 05.1	+0.1
	comp=Z,11nm,0.6s,mb4.8						
HHC	Hu-ho-hao-te	75.61	320	eP	P	19 53 08.9	+1.3
SONM	Songino Array	82.52	324	P	P	19 53 45.0	+0.2
	comp=Z,1.0nm,0.4s,mb4.0,baz=145,slow=5.7,SNR=8.2						
YBH	Yreka Blue Hor	85.43	45	LR	LR	20 24 12.5	
	comp=Z,30nm,19.2s,baz=111,slow=30						
ILAR	Eielson Array	86.55	18	P	P	19 54 04.0	-0.4
	comp=Z,3.1nm,0.8s,mb4.3,baz=244,slow=6.1,SNR=31						
MKAR	Makanchi Array	97.23	316	P	P	19 54 55.6	+1.2
	comp=Z,1.6nm,0.7s,mb4.5,baz=91,slow=6.3,SNR=20						
MKAR	Makanchi Array	97.23	316	P	P	19 54 55.6	+1.2
ZAL	Zalesovo	97.43	324	P	P	19 54 55.4	+0.2
	comp=Z,1.0nm,0.6s,mb4.4,baz=340,slow=4.9,SNR=6.5						
ARCES	ARCESS Array B	120.28	345	PKP	PKPdf	20 00 12.2	+1.4
	comp=Z,1.9nm,0.5s,baz=74,slow=1.7,SNR=14						
KAF	Kangasniemi	125.22	339	ep	PKPdf	20 00 20.8	+0.4
	comp=Z,2.3nm,0.8s						
FINES	FINESS Array B	125.75	338	PKP	PKPdf	20 00 22.6	+1.1
	comp=Z,0.6nm,0.6s,baz=45,slow=2.0,SNR=5.2						
NB2	NORSAR Subarra	130.65	345	PKPdf	PKPdf	20 00 32.7	+1.8
	comp=Z,0.5nm,0.6s,baz=37,slow=1.8						
NOA	NORSAR Array B	130.65	345	PKP	PKPdf	20 00 33.0	+2.1
	comp=Z,0.8nm,0.7s,baz=34,slow=1.9,SNR=5.7						
NOA				SKPbc		20 03 47.8	
	comp=Z,0.6nm,0.7s,baz=30,slow=3.0,SNR=3.6						
AKASG	Malin Array Be	130.76	326	SKPbc		20 03 47.2	
	comp=Z,0.7nm,0.6s,baz=45,slow=4.5,SNR=6.7						
GERES	GERESS Array B	139.67	333	PKP	PKPdf	20 00 51.0	+3.1
	comp=Z,0.2nm,0.4s,baz=45,slow=1.4,SNR=4.3						
BAIF	Baives	142.19	342	ePKP1	PKPdf	20 00 52.0	-0.3
CDF	Champ du Feu	142.60	338	ePKP1	PKPdf	20 00 51.8	-1.2
HINF	Hinteralfeld	143.26	338	ePKP1	PKPbc	20 00 52.7	+0.2
	comp=Z,2.8nm,0.6s						
HAU	Haudompre	143.28	338	ePKP1	PKPbc	20 00 54.8	+2.2
	comp=Z,7.9nm,0.7s						
MEZF	Maizieres J'vi	143.30	340	ePKP1	PKPbc	20 00 54.9	+2.3
	comp=Z,9.0nm,0.6s						
AQU	L'Aquila	144.46	326	ePKP	PKPdf	20 00 58.7	+2.2
TIP	Timpagrande	144.47	319	ePKP	PKPdf	20 00 57.8	+1.2
CABF	La Chapelle	144.56	337	ePKP1	PKPbc	20 00 58.4	+2.1
	comp=Z,15nm,0.7s						
GRAM		144.60	331	P	PKPbc	20 00 58.3	+1.8
ORX	Oropa	144.62	335	P	PKPbc	20 00 57.4	+0.8
FLN	La Foliniere	144.62	346	ePKP1	PKPbc	20 00 57.5	+1.0
	comp=Z,19nm,0.7s						
SARO	Sassorosso	144.68	331	P	PKPbc	20 00 57.9	+1.2
LDF	La Druitiere	144.70	345	ePKP1	PKPbc	20 00 57.7	+1.0
	comp=Z,12nm,0.7s						
BACM		144.76	331	P	PKPdf	20 00 58.1	+1.2
LOR	Lormes	144.77	340	ePKP1	PKPbc	20 00 58.6	+1.7
	comp=Z,22nm,0.9s						
CODM		144.78	331	P	PKPdf	20 00 58.0	+1.1
TRAV		144.81	335	P	PKPdf	20 00 57.4	+0.4
VINC	Vinca	144.83	331	P	PKPdf	20 00 57.6	+0.6
MAIM		144.84	330	P	PKPdf	20 00 57.4	+0.3
SSF	Saint Saulge	145.06	341	ePKP1	PKPbc	20 00 59.7	+2.0
	comp=Z,54nm,0.7s						
GRR	Gorron	145.06	346	ePKP1	PKPbc	20 00 59.3	+1.6
	comp=Z,43nm,0.6s						
LSD	Ceresole Reale	145.10	335	P	PKPdf	20 01 00.4	+2.9
HYF	Humbligny	145.15	342	ePKP1	PKPbc	20 01 00.3	+2.4
LPL	La Plagne	145.22	336	ePKP1	PKPbc	20 01 00.6	+2.4
	comp=Z,31nm,0.7s						
LPG	La Plagne	145.23	336	ePKP1	PKPbc	20 01 00.7	+2.5
	comp=Z,38nm,0.7s						
PCP	Pian Castagno	145.25	333	P	PKPdf	20 00 59.7	+2.0
RSP	Reno Superiore	145.31	335	P	PKPdf	20 00 59.4	+1.6
SMF	Signal de Mont	145.32	340	ePKP1	PKPbc	20 01 00.3	+1.9
	comp=Z,19nm,0.7s						
BHB	Bricherasio	145.56	335	P	PKPdf	20 00 58.9	+0.6
SGMF	Saint Gilles	145.56	348	ePKP1	PKPbc	20 01 00.8	+1.9
	comp=Z,30nm,0.6s						
ROSF	Rostrenen	145.62	349	ePKP1	PKPbc	20 01 01.2	+2.1
	comp=Z,45nm,1.1s						
FIN	Finale Ligure	145.66	333	P	PKPdf	20 01 00.3	+1.8
BGF	Bois d'Agland	145.72	341	ePKP1	PKPbc	20 01 01.5	+2.1
	comp=Z,28nm,0.5s						
ROB	Roburent	145.74	333	P	PKPdf	20 01 00.6	+2.0
MBDF	Montbardon	145.85	335	ePKP1	PKPbc	20 01 01.9	+2.1
	comp=Z,15nm,0.6s						
MONE	Monesi	145.96	333	P	PKPdf	20 01 02.2	+3.2
QUIF	Quistinic	146.00	348	ePKP1	PKPbc	20 01 01.5	+1.5
	comp=Z,6.9nm,0.6s						
IMI	Imperia	146.04	333	P	PKPdf	20 01 01.8	+2.7
ORIF	Oris-en-Rattie	146.05	336	ePKP1	PKPbc	20 01 02.9	+2.6
	comp=Z,48nm,0.6s						
TCF	Toulx Ste Croi	146.16	341	ePKP1	PKPbc	20 01 02.9	+2.4
	comp=Z,14nm,0.7s						
SBF	Sospel	146.27	333	ePKP1	PKPbc	20 01 02.8	+2.0
	comp=Z,56nm,0.7s						
MFF	Saint Martin d	146.55	344	ePKP1	PKPbc	20 01 04.0	+2.7
	comp=Z,44nm,0.7s						
VIVF	Saint-Julien-l	146.57	337	ePKP1	PKPbc	20 01 03.4	+2.0
	comp=Z,12nm,0.9s						
PGF	Pioggiola	146.58	330	ePKP1	PKPbc	20 01 04.1	+2.5
FRF	La Foret Royal	146.85	334	ePKP1	PKPbc	20 01 04.6	+2.5
	comp=Z,25nm,0.8s						
SMRF	Simiane la Rot	146.96	335	ePKP1	PKPbc	20 01 05.6	+3.2
	comp=Z,25nm,0.8s						
LMR	La Mourre	147.10	334	ePKP1	PKPdf	20 01 05.2	+4.3
	comp=Z,19nm,0.8s						
RJF	Les Rejaudoux	147.26	341	ePKP1	PKPdf	20 01 06.1	+5.0
	comp=Z,14nm,0.6s						
CAF	Calviac	147.42	340	ePKP1	PKPdf	20 01 06.7	+5.3
	comp=Z,9.0nm,0.7s						
LASF	Ste Croix	147.54	337	ePKP1	PKPdf	20 01 07.0	+5.4
	comp=Z,11nm,0.7s						
LFF	La Frestale	147.82	342	ePKP1	PKPdf	20 01 07.6	+5.6
	comp=Z,33nm,0.7s						
MTLF	Montolieu	148.77	339	ePKP1	PKPdf	20 01 10.0	+6.4
	comp=Z,15nm,0.7s						
EPF	Esparros	149.67	341	ePKP1	PKPdf	20 01 12.7	+7.7
	comp=Z,8.5nm,0.8s						
SJPF	Ste Jean	150.07	343	ePKP1	PKPdf	20 01 12.9	+7.2
ETSF	Etsaut	150.07	342	ePKP1	PKPdf	20 01 13.8	+8.1
	comp=Z,9.9nm,0.5s						

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*NEIC **10** 19:51:35.5±4.3, 3.83S×125.99E, h87km±45km, mb4.3/2, Error ellipse: s-maj=31.3km s-min=13.9km az=52.0*
*IDC **10** 19:51:36.5±8.4, 3.84S×125.96E, h94km±86km, mb3.5/7, mb1 3.7/9, mb1mx3.6/19, mbtmp3.9/9, ML3.9/2, Error ellipse: s-maj=48.8km s-min=24.0km az=59.0*
ISC 10 19:51:36.4±5.6**, 3.9S**±0.2×**126.0E**±0.2**, h117**km±61km**, n17, σ0ˢ80**/17**, mb4.0**/10**, Buru**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	14.14	181	eP	P	19 54 51.4	-1.1
	10.0nm,0.6s						
FITZ	Fitzroy Crossi	14.14	181	P	P	19 54 51.6	-0.9
	0.3nm,0.3s,baz=15,slow=12,SNR=3.9						
WRAB	Tennant Creek	17.90	154	eP	P	19 55 39.6	+0.2
	15nm,0.6s						
WRA	Warramunga Arr	17.90	154	P	P	19 55 39.6	+0.2
	0.5nm,0.3s,baz=332,slow=10,SNR=17						
WB2	Warramunga Arr	17.91	154	eP	P	19 55 39.9	+0.4
STKA	Stephens Creek	31.46	154	P	P	19 57 50.0	+0.9
	0.8nm,0.3s,mb3.9,baz=342,slow=7.7,SNR=6.8						
STKA	Stephens Creek	31.46	154	eP	P	19 57 49.1	0.0
CMAR	Chiang Mai Arr	34.71	311	P	P	19 58 17.8	+0.6
	0.9nm,0.9s,mb3.6,baz=135,slow=5.1,SNR=3.9						
MJAR	Matsushiro Arr	41.79	15	P	P	19 59 17.0	+0.9
	1.2nm,0.6s,mb3.8,baz=192,slow=8.8,SNR=4.0						
LSA	Lhasa	47.23	317	eP	P	20 00 00.9	+1.3
	15nm,0.9s,mb4.7						
SONM	Songino Array	54.30	344	P	P	20 00 51.9	-1.0
	0.2nm,0.3s,mb3.6,baz=147,slow=9.4,SNR=2.5						
MKAR	Makanchi Array	63.48	328	P	P	20 01 56.0	-0.4
	0.9nm,0.5s,mb3.9,baz=127,slow=7.2,SNR=15						
MKAR	Makanchi Array	63.48	328	P	P	20 01 56.0	-0.4
YAK	Yakutsk	65.79	2	P	P	20 02 09.1	-1.9
	15nm,0.8s,mb4.9						
ZAL	Zalesovo	67.08	335	P	P	20 02 19.4	+0.2
	0.9nm,0.8s,mb3.7,baz=141,slow=20,SNR=3.8						
BVAR	Borovoye Array	73.35	329	P	P	20 02 57.4	+0.3
	2.1nm,0.7s,mb4.1,baz=234,slow=38,SNR=3.4						
ZRNK	Zerenda	74.03	328	eP	P	20 03 00.8	-0.3
	4.6nm,1.0s,mb4.2						
ZRNK				e		20 03 06.6	

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*IDC **10** 19:52:51.3±1.0, 6.10S×147.90E, mb4.1/7, mb1 4.2/10, mb1mx4.2/15, mbtmp4.1/10, ML4.0/3, MS3.4/7, Ms1 3.4/7, ms1mx3.2/21, Error ellipse: s-maj=36.1km s-min=14.6km az=93.0*
*NEIC **10** 19:52:56.3±4.1, 6.15S×147.82E, h34km±28km, mb4.6/4, Error ellipse: s-maj=17.6km s-min=11.4km az=80.0*
ISC 10 19:52:56.1±2.3**, 6.16S**±0.09×**147.8E**±0.2**, h51**km±21km**, n28, σ0ˢ82**/24**, mb4.3**/10**, MS3.5**/4**, 1C, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PMG	Port Moresby	3.29	191	Pn	P	19 53 47.0	+0.6
	22nm,0.3s,baz=29,slow=4.6,SNR=48						
PMG				Sn	S	19 54 25.5	+0.9
	78nm,0.3s,baz=228,slow=19,SNR=10						
PMG				LR	LR	19 54 49.8	
	comp=Z,159nm,18.4s,baz=226,slow=35						
PMG	Port Moresby	3.29	191	Pn	P	19 53 47.0	+0.6
PMG				Sn	S	19 54 25.5	+0.9
PMG				LR	LR	19 54 49.8	
HNR	Honiara	12.47	106	LR	LR	19 59 23.5	
	comp=Z,72nm,18.1s,baz=156,slow=32						
CTA	Charters Tower	13.93	186	Pn	P	19 56 11.3	-1.3
	0.1nm,0.3s,baz=30,slow=16,SNR=2.6						
CTA				LR	LR	20 01 05.0	
	comp=Z,217nm,21.5s,baz=142,slow=35						
CTA	Charters Tower	13.93	186	Pn	P	19 56 11.3	-1.3
CTA				LR	LR	20 01 05.0	
WRAB	Tennant Creek	18.92	222	eP	P	19 57 14.3	-1.2
	15nm,0.7s						
WB2	Warramunga Arr	18.93	222	eP	P	19 57 14.5	-1.1
WRA	Warramunga Arr	18.94	222	P	P	19 57 14.7	-1.0
	2.5nm,0.3s,baz=50,slow=10,SNR=20						
FITZ	Fitzroy Crossi	24.66	239	⇑iP	P	19 58 14.7	+1.0
	40nm,0.6s,mb5.1						
FITZ	Fitzroy Crossi	24.66	239	P	P	19 58 15.0	+1.3
	45nm,0.6s,mb5.2,baz=40,slow=5.7,SNR=62						
FITZ				LR	LR	20 10 02.0	
	comp=Z,124nm,18.4s,MS3.4,baz=85,slow=42						
STKA	Stephens Creek	26.23	192	P	P	19 58 28.7	+0.4
	4.4nm,0.7s,mb4.1,baz=0.4,slow=12,SNR=6.6						
STKA	Stephens Creek	26.23	192	eP	P	19 58 28.3	-0.1
CBIJ	Chichi jima	33.50	351	P	P	19 59 33.0	0.0
	15nm,0.4s,mb5.3,baz=250,slow=20,SNR=3.7						
CBIJ				LR	LR	20 11 44.9	
	comp=Z,49nm,20.0s,MS3.2,baz=336,slow=34						
KLBR	Kellerberrin	37.80	224	eP	P	20 00 09.5	+0.1
	17nm,0.9s,mb4.8						
NWAO	Narrogin (SRO)	38.95	223	P	P	20 00 19.6	+0.6
	8.1nm,0.9s,mb4.5,baz=63,slow=9.0,SNR=5.8						
AFI	Afiamalu	40.50	104	LR	LR	20 13 29.0	
	comp=Z,60nm,20.2s,MS3.4,baz=34,slow=31						
MJAR	Matsushiro Arr	43.42	349	P	P	20 00 54.9	-0.8
	3.9nm,0.8s,mb4.2,baz=177,slow=8.3,SNR=9.0						
CMAR	Chiang Mai Arr	54.02	298	P	P	20 02 19.2	+1.3
	0.8nm,0.8s,mb3.7,baz=122,slow=8.5,SNR=4.0						
SONM	Songino Array	64.93	331	P	P	20 03 32.9	+0.3
	0.5nm,0.4s,mb3.9,baz=135,slow=5.2,SNR=3.7						
CASY	Casey	65.31	196	eP	P	20 03 34.4	-0.5
VNDA	Vanda	71.71	177	P	P	20 04 15.2	+0.9
	0.4nm,0.6s,mb3.5,baz=327,slow=6.7,SNR=5.6						
VNDA	Vanda	71.71	177	eP	P	20 04 14.6	+0.3
	0.9nm,0.8s,mb3.8						
MKAR	Makanchi Array	78.12	320	P	P	20 04 51.6	0.0
	0.3nm,0.3s,mb3.6,baz=98,slow=8.6,SNR=8.5						
MKAR	Makanchi Array	78.12	320	P	P	20 04 51.6	0.0
ZAL	Zalesovo	79.57	328	LR	LR	20 37 52.4	
	comp=Z,49nm,20.4s,MS3.8,baz=257,slow=34						
SAML	Samuel	145.67	116	ePKP	PKPdf	20 12 32.5	+2.6
DBIC	Dimbokro	152.82	273	PKPbc	PKPdf	20 12 52.1	+11
	3.8nm,1.0s,baz=70,slow=20,SNR=5.2						
BDFB	Brasilia	153.27	144	PKPbc	PKPdf	20 12 52.2	+10
	3.2nm,0.4s,baz=332,slow=0.8,SNR=5.8						

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*NSSP **10** 19:53:08.0, 38.53N×44.78E, h10km, ML3.2*
*TIF **10** 19:53:16.0, 38.79N×44.68E, h19km±3km*
*CSEM **10** 19:53:17.1±0.1, 38.75N×44.61E, h16km, ML3.1, Error ellipse: s-maj=2.1km s-min=1.4km az=7.0*
*TEH **10** 19:53:18.0, 38.75N×44.66E, h12km, Mn3.1*
*ISK **10** 19:53:18.1, 38.76N×44.52E, h16km, ML3.5*
*THR **10** 19:53:20.0±0.4, 39.77N×44.94E, h14km±6km, ML3.1*
ISC 10 19:53:16.6±0.4**, 38.77N**±0.03×**44.74E**±0.03**, h10**km**, n31, σ0ˢ99**/41**, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MAKU	Maku	0.59	356	ePG	Pg	19 53 29.1	+0.6
MAKU				eSG	Sg	19 53 36.1	-0.3
MAKU				AML	AML	19 53 45.4	
	comp=N,1μm,0.4s						
MAKU	Maku	0.59	356	ePg	Pg	19 53 29.1	+0.6
	SNR=90						
MAKU				eSg	Sg	19 53 36.1	-0.3
	comp=N,1μm,0.4s,SNR=90						
CLDR	Caldiran	0.74	300	i PG	Pg	19 53 30.3	-1.3
IMRD	Marand	0.75	94	Pg	Pg	19 53 33.1	+1.3
ISHB	Shabestar	0.84	125	Pg	Pg	19 53 34.0	+0.5
TVAN	Van	1.07	258	i P	Pb	19 53 35.9	-1.0
TVAN				i S	Sb	19 53 57.9	+7.2
VANT	Van	1.11	254	PG	Pg	19 53 38.7	-0.1
VANT				SG	Sg	19 53 53.5	-0.2
ITBZ	Tabriz	1.22	115	Pg	Pg	19 53 40.9	-0.2
GNI	Garni	1.38	0	PN	Pn	19 53 43.9	+1.9
HKR	Hakkari	1.43	214	PN	Pn	19 53 42.4	-0.3
HAKT	HAKKARI	1.46	214	i P	Pn	19 53 43.0	-0.1
HAKT				i S	Sb	19 54 04.6	+2.8
IAZR	Azarshahr	1.46	138	Pg	Pg	19 53 45.1	-0.7
KARS	Kars	2.24	326	ePN	Pn	19 53 54.7	+0.4
GRMI	Germi	2.46	88	ePN	Pn	19 54 02.2	+4.7
GRMI				eSG	Sg	19 54 37.8	-0.8
GRMI				AML	AML	19 54 42.7	
	comp=N,137nm,0.4s						
BTMT	Batman	2.62	258	ePN	Pn	19 54 01.0	+1.3
DGRG	David-gareji	2.72	10	P	Pn	19 54 09.2	+7.9
DGRG				S	Sn	19 54 48.3	+14
ERZM	Erzurum	2.85	295	i P	Pn	19 54 08.4	+5.3
ERZM				i S	Sn	19 54 50.2	+12
EZM	Erzurum	2.86	294	ePN	Pn	19 54 02.3	-0.8
BEST	Besiri	2.87	253	i P	Pn	19 54 05.1	+1.8
BEST				i S	Sn	19 54 46.1	+7.9
MTA	Mtatsminda	2.92	1	S	Sn	19 54 53.1	+13
GOR	Gori	3.25	352	P	Pn	19 54 16.2	+7.5
GOR				S	Sn	19 55 02.2	+14
GOR	Gori	3.25	352	P	Pn	19 54 16.6	+7.9
MARD	Mardin	3.45	246	i P	Pn	19 54 12.5	+0.9
MARD				i S	Sn	19 55 07.3	+14
BCA	Borcka	3.59	319	ePN	Pn	19 54 13.3	-0.2
ONI	Oni	3.93	346	P	Pn	19 54 19.1	+0.7
PTK	Pertek	4.18	273	ePN	Pn	19 54 20.8	-1.2
URFA	Urfa	4.85	256	ePN	Pn	19 54 30.6	-0.9
MALT	Malatya	4.97	267	ePN	Pn	19 54 32.3	-0.9
IRAZ	Razeghan	5.33	127	Lg		19 56 05.4	
IRAZ	Razeghan	5.33	127	Pn	Pn	19 54 37.1	-1.2
ASAO	Ashtian	5.98	133	ePN	Pn	19 54 59.2	+12

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*THE **10** 20:00:45.6, 40.57N×21.58E, h5km, ML2.8*
*CSEM **10** 20:00:45.6±0.1, 40.58N×21.57E, h2km, ML2.8, Error ellipse: s-maj=2.8km s-min=2.4km az=163.0*
*ATH **10** 20:00:48.4, 40.39N×21.78E, h10km, MD3.2/3*
*NEIC **10** 20:00:48.4, 40.39N×21.78E, h10km, MD3.2(ATH), After ATH.*
ISC 10 20:00:45.1±0.5**, 40.57N**±0.03×**21.62E**±0.03**, h4**km±5km**, n18, σ0ˢ78**/30**, Greece**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
FNA	Florina	0.28	320	ePg	Pg	20 00 50.6	-0.2
FNA				eSg	Sg	20 00 54.7	+0.1
KZN	Kozani	0.29	155	ePG	Pg	20 00 50.9	0.0
KBN	Korca	0.63	275	i Pg	Pg	20 00 57.6	-0.2
KBN				i Sg	Sg	20 01 06.8	+0.6
GRG	Griva	0.71	57	ePg	Pg	20 00 59.2	-0.1
GRG				eSg	Sg	20 01 10.4	+1.5
LIT	Litokhoron	0.82	125	ePg	Pg	20 01 01.5	+0.1
LIT				eSg	Sg	20 01 13.9	+1.6
MEV	Metsovon	0.84	201	ePg	Pg	20 01 01.4	-0.4
MEV				eSg	Sg	20 01 13.2	+0.2
THE	Thessaloniki	1.03	86	ePg	Pg	20 01 05.3	-0.4
VAY	Valandovo	1.04	44	i Pg	Pg	20 01 06.0	0.0
VAY				i		20 01 06.7	
VAY				eSg	Sg	20 01 20.2	+0.3
VAY				i		20 01 23.3	
VAY	Valandovo	1.04	44	i Pg	Pg	20 01 06.0	0.0
VAY				eSg	Sg	20 01 20.2	+0.3
JAN	Janina	1.08	213	ePB	Pb	20 01 07.5	+1.5
KNT	Kendrikon	1.14	58	ePg	Pg	20 01 07.1	-0.8
SOH	Sokhos	1.35	79	ePg	Pg	20 01 10.7	-1.3
SOH				eSg	Sg	20 01 30.0	0.0
SKO	Skopje	1.41	355	i Pn	Pn	20 01 11.6	0.0
SKO				i Sn	Sn	20 01 31.2	+0.4
SRS	Serrai	1.60	69	ePb	Pb	20 01 13.8	-1.1
SRS				eSb	Sb	20 01 35.9	+0.6
AGG	Agios Georgios	1.64	160	ePb	Pb	20 01 14.4	-1.1
EVR	Evrytania	1.66	175	ePB	Pb	20 01 16.0	+0.2
PAIG	Paliouri	1.71	111	ePb	Pb	20 01 15.5	-1.2
PAIG				eSb	Sb	20 01 39.1	+0.7
OUR	Ouranopolis	1.82	97	ePb	Pb	20 01 17.2	-1.5
OUR				eSb	Sb	20 01 42.2	+0.4

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*BEO **10** 20:23:03.4±0.2, 42.39N×19.83E, h9km*
*TIR **10** 20:23:03.9, 42.42N×19.78E, h5km*
*NEIC **10** 20:23:03.9, 42.40N×19.82E, h5km, ML2.5(PDG), After PDG.*
*PDG **10** 20:23:03.9±0.2, 42.40N×19.82E, h5km±1km*
*CSEM **10** 20:23:03.0±0.2, 42.36N×19.91E, h10km, ML2.5, Error ellipse: s-maj=3.9km s-min=3.0km az=142.0*
ISC 10 20:23:04.2±0.4**, 42.40N**±0.02×**19.83E**±0.03**, h5**km**, n21, σ0ˢ93**/40**, 8C-1D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BCI	Bajram Curri	0.18	99	i Pg	Pg	20 23 07.4	-0.5
BCI				i Sg	Sg	20 23 10.5	+0.2
PVY	Plav	0.23	28	⇑iPg	Pg	20 23 08.1	-0.6
PVY				eSg	Sg	20 23 12.0	+0.2
PUK	Puka	0.36	172	i Pg	Pg	20 23 11.0	-0.4
PUK				i Sg	Sg	20 23 16.8	+0.7
SDA	Shkodra	0.42	216	i Pg	Pg	20 23 11.8	-0.9
SDA				i Sg	Sg	20 23 19.1	+0.8
TTG	Podgorica	0.42	275	⇑iPg	Pg	20 23 11.3	-1.3
TTG				eSg	Sg	20 23 18.2	-0.2
IVA	Berane	0.48	6	⇑iPg	Pg	20 23 12.9	-0.8
IVA				eSg	Sg	20 23 20.6	+0.4
ULC	Ulcinj	0.61	225	⇑iPg	Pg	20 23 15.7	-0.7
ULC				eSg	Sg	20 23 25.4	+0.8
BUM	Brajici-Budva	0.70	262	⇑iPg	Pg	20 23 16.8	-1.3
BUM				eSg	Sg	20 23 27.9	+0.5
NKY	Niksic	0.74	304	⇑iPg	Pg	20 23 18.3	-0.7
NKY				eSg	Sg	20 23 29.2	+0.3
QSH	Qafa e Shtames	0.88	176	i Pg	Pg	20 23 22.3	+0.6
QSH				i Sg	Sg	20 23 26.0	-7.4
PLE	Pljevlja	0.99	341	ePg	Pg	20 23 22.6	-1.3
PLE				eSg	Sg	20 23 38.0	+0.9
PLE	Pljevlja	0.99	341	ePg	Pg	20 23 22.5	-1.4
PLE				eSg	Sg	20 23 38.0	+0.9
HCY	Herceg Novi	0.99	273	⇑iPg	Pg	20 23 22.5	-1.4
HCY				eSg	Sg	20 23 37.3	+0.3
TIR	Tirane	1.05	179	i Pn	Pn	20 23 26.0	+0.6
TIR				i Sn	Sn	20 23 42.5	+2.0
TIR	Tirane	1.05	179	ePn	Pn	20 23 26.0	+0.6
UPM	Unac-Piva	1.05	320	ePg	Pg	20 23 24.1	-1.1
UPM				eSg	Sg	20 23 40.1	+0.9
BRY	Bratogost	1.07	298	ePg	Pg	20 23 24.1	-1.6
BRY				eSg	Sg	20 23 40.9	+0.9
SKO	Skopje	1.27	109	ePn	Pn	20 23 28.0	-0.6
BBLS	Bajina Basta -	1.50	348	⇓iPn	Pn	20 23 31.9	0.0
BBLS				Sn	Sn	20 23 54.4	+2.3
STON	Ston	1.64	288	i Pn	Pn	20 23 33.7	-0.2
STON				i Sg	Sg	20 23 59.3	+0.4
DIVS	Divcibare	1.71	4	⇑iPn	Pn	20 23 34.6	-0.2
DIVS				Sn	Sn	20 23 59.0	+1.8

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*TIR **10** 20:40:18.4, 42.45N×19.78E, h20km, Ml3.4*
*BEO **10** 20:40:19.7±0.7, 42.42N×19.81E, h10km±1km*
*MOS **10** 20:40:19.5±2.0, 42.36N×19.61E, h10km, mb3.8/1, Error ellipse: s-maj=8.1km s-min=4.4km az=131.4*
*LDG **10** 20:40:19.8±0.1, 42.41N×19.90E, h10km, Ml3.8/6, Error ellipse: s-maj=3.8km s-min=2.9km az=69.0*
*NEIC **10** 20:40:20.1, 42.42N×19.80E, h10km, ML3.5(PDG), After PDG.*
*CSEM **10** 20:40:20.6±0.1, 42.48N×19.80E, h8km, ML3.9/2, Error ellipse: s-maj=1.8km s-min=1.5km az=45.0*
*PDG **10** 20:40:20.1±0.3, 42.42N×19.80E, h10km±3km*
*IDC **10** 20:40:21.4±2.0, 42.51N×19.86E, mb1 3.5/8, mb1mx3.4/26, mbtmp3.4/8, ML3.4/8, Error ellipse: s-maj=25.7km s-min=13.0km az=12.0*
*THE **10** 20:40:22.3, 42.75N×19.98E, h21km, ML3.6*
ISC 10 20:40:20.1±0.3**, 42.44N**±0.01×**19.82E**±0.02**, h3**km±2km**, n122, σ1ˢ38**/190**, 21C-19D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PVY	Plav	0.20	36	⇑iPg	Pg	20 40 24.3	+0.2
PVY				eSg	Sg	20 40 28.5	+1.8
PUK	Puka	0.40	172	i Pg	Pg	20 40 27.2	-0.9
PUK				i Sg	Sg	20 40 32.8	-0.6
TTG	Podgorica	0.41	269	⇑iPg	Pg	20 40 27.4	-0.9
TTG				eSg	Sg	20 40 33.9	+0.1
IVA	Berane	0.44	8	⇑iPg	Pg	20 40 29.1	+0.2
IVA				eSg	Sg	20 40 35.7	+1.0
SDA	Shkodra	0.45	212	i Pg	Pg	20 40 27.9	-1.2
SDA				i Sg	Sg	20 40 36.1	+1.0
KKS	Kukesi	0.57	129	i Pg	Pg	20 40 30.5	-1.0
KKS				i Sg	Sg	20 40 40.6	+1.5
ULC	Ulcinj	0.63	222	⇑iPg	Pg	20 40 31.6	-1.1
ULC				eSg	Sg	20 40 41.1	0.0
ULC	Ulcinj	0.63	222	⇑iPg	Pg	20 40 31.6	-1.2
ULC				eSg	Sg	20 40 41.2	0.0
BUM	Brajici-Budva	0.69	259	⇓iPg	Pg	20 40 32.5	-1.5
BUM				eSg	Sg	20 40 43.9	+0.7
NKY	Niksic	0.71	302	⇓iPg	Pg	20 40 32.3	-2.0
NKY				eSg	Sg	20 40 45.1	+1.2
QSH	Qafa e Shtames	0.92	176	i Pg	Pg	20 40 38.0	-0.4

QSH				i Sg	Sg	20 40 53.4	+2.8
PLE	Pljevlja	0.95	341⇑	iPg	Pg	20 40 38.1	-0.9
PLE				eSg	Sg	20 40 53.9	+2.3
HCY	Herceg Novi	0.98	271⇓	iPg	Pg	20 40 37.9	-1.7
HCY				eSg	Sg	20 40 53.3	+0.7
UPM	Unac-Piva	1.02	319⇑	iPg	Pg	20 40 40.0	-0.4
UPM				eSg	Sg	20 40 55.9	+2.0
BRY	Bratogost	1.05	297⇑	iPg	Pg	20 40 39.0	-2.0
BRY				eSg	Sg	20 40 55.9	+0.9
NVSS	Nova Varos 2	1.07	355⇑	iPn	Pn	20 40 39.3	-2.6
NVSS				Sn	Sn	20 40 55.2	-2.4
TIR	Tirane	1.09	178⇓	iPn	Pn	20 40 40.6	-1.6
TIR				i Sn	Sn	20 40 58.0	+0.1
TREB	Trebinje	1.12	285	Pn	Pn	20 40 39.9	-2.7
TREB				Sn	Sn	20 40 57.2	-1.5
SKO	Skopje	1.29	110	i Pn	Pn	20 40 43.9	-1.2
SKO				i		20 40 46.2	
SKO				i Sn	Sn	20 41 03.8	+0.7
SKO				Lg		20 41 10.5	
	comp=Z,0.3nm,0.7s						
SKO	Skopje	1.29	110	i Pn	Pn	20 40 43.9	-1.2
SKO				i Sn	Sn	20 41 03.8	+0.7
BBLS	Bajina Basta -	1.46	348⇓	iPn	Pn	20 40 47.0	-0.5
BBLS				Sn	Sn	20 41 09.4	+2.0
OHR	Ohrid	1.51	151	ePn	Pn	20 40 50.6	+2.3
OHR				i Sn	Sn	20 41 09.9	+1.2
GRUS	Gruza	1.59	24⇓	iPn	Pn	20 40 49.1	-0.3
GRUS				Sn	Sn	20 41 12.4	+1.6
STON	Ston	1.62	286	i Pn	Pn	20 40 49.9	+0.1
STON				i Sn	Sn	20 41 13.9	+2.5
STON				i Sg	Sg	20 41 16.1	+2.1
DIVS	Divcibare	1.67	4⇓	iPn	Pn	20 40 50.3	-0.1
DIVS				Sn	Sn	20 41 13.2	+0.5
DIVS	Divcibare	1.67	4	Pn	Pn	20 40 50.3	-0.1
DIVS				Sn	Sn	20 41 13.1	+0.5
FNA	Florina	2.02	144	ePn	Pn	20 40 56.3	+0.8
FNA				eSn	Sn	20 41 23.7	+2.0
BOLS	Boljevac	2.10	48⇑	iPn	Pn	20 40 55.6	-1.0
BOLS				Sn	Sn	20 41 24.6	+1.0
SVIS	Svilajnac	2.12	28⇓	iPn	Pn	20 40 58.0	+1.0
SVIS				Sn	Sn	20 41 25.4	+1.2
ZAPS	Zavoj/Pirot	2.23	66⇑	iPn	Pn	20 40 57.8	-0.8
ZAPS				Sn	Sn	20 41 25.5	-1.5
LSK	Leskovik	2.36	165	i pn?	Pn	20 41 02.5	+2.1
LSK				i Sn	Sn	20 41 36.3	+6.1
BEO	Belgrade	2.43	11	ePn	Pn	20 41 01.8	+0.4
BEO				Sn	Sn	20 41 32.4	+0.4
GRG	Griva	2.44	127	ePn	Pn	20 41 01.0	-0.4
GRG				eSn	Sn	20 41 32.2	0.0
KKB	Krupnik	2.50	102	i P	Pn	20 41 02.0	-0.3
KKB	Krupnik	2.50	102	P	Pn	20 41 02.0	-0.3
VTS	Vitosha	2.51	85	i P	Pn	20 41 02.0	-0.6
VTS	Vitosha	2.51	85	P	Pn	20 41 02.0	-0.6
BAI	Bari	2.57	240⇓	iPn	Pn	20 41 02.3	-1.0
KZN	Kozani	2.59	145	eP	Pn	20 41 07.5	+3.9
KNT	Kendrikon	2.63	118	ePn	Pn	20 41 03.7	-0.5
KNT				eSn	Sn	20 41 35.1	-2.0
KEK	Kerkira	2.72	180	eP	Pn	20 41 05.9	+0.4
SG1	Sgolgore (BA)	2.84	237⇓	iPn	Pn	20 41 06.0	-1.2
MEV	Metsovon	2.85	158	ePn	Pn	20 41 09.6	+2.2
MEV				eSn	Sn	20 41 46.0	+3.2
JAN	Janina	2.88	164	eP	Pn	20 41 10.1	+2.2
CDT	Castel del Mon	2.98	244⇓	iPn	Pn	20 41 08.6	-0.6
MS1	Monte Sant'Ang	2.98	257⇓	iPn	Pn	20 41 08.7	-0.5
MMB	Musomiste	3.04	105	i P	Pn	20 41 10.0	0.0
MMB	Musomiste	3.04	105	P	Pn	20 41 10.0	0.0
LIT	Litokhoron	3.08	138	ePn	Pn	20 41 11.0	+0.3
SRS	Serrai	3.12	114	ePn	Pn	20 41 10.5	-0.6
SRS				eSn	Sn	20 41 46.3	-3.1
NVR	Nevrokopi	3.21	108	eP	Pn	20 41 14.5	+2.0
PLG	Polygyros	3.42	126	eP	Pn	20 41 16.0	+0.5
RHK3	Tenkes	3.63	342⇑	eP	Pn	20 41 17.5	-1.0
RZN	Rozhen	3.72	100	i P	Pn	20 41 20.0	+0.2
RZN	Rozhen	3.72	100	P	Pn	20 41 20.0	+0.2
OUR	Ouranopolis	3.77	122	ePn	Pn	20 41 19.7	-0.8
EVR	Evrytania	3.83	156	eP	Pn	20 41 23.1	+1.8
PAIG	Paliouri	3.84	129	ePn	Pn	20 41 20.8	-0.7
PKSM	Moragy	3.87	348⇑	iP	Pn	20 41 20.6	-1.2
PKSM				eS	Sn	20 42 06.0	-2.5
AGG	Agios Georgios	3.91	150	ePn	Pn	20 41 22.9	+0.5
AGG				eSn	Sn	20 42 11.7	+2.2
TIP	Timpagrande	4.00	217	ePn	Pn	20 41 21.7	-1.9
TIP	Timpagrande	4.00	217	ePn	Pn	20 41 21.7	-2.0
CII	Carovilli	4.16	262	ePn	Pn	20 41 23.3	-2.8
CII				eSn	Sn	20 42 14.9	-1.0
CII	Carovilli	4.16	262	ePn	Pn	20 41 23.3	-2.7
CII				eSn	Sn	20 42 14.9	-1.1
NVLJ	Novalja	4.18	302	i Pn	Pn	20 41 26.5	+0.3
NVLJ				i Sn	Sn	20 42 17.4	+1.0
NVLJ	Novalja	4.18	302	i Pn	Pn	20 41 26.5	+0.2
NVLJ				i Sn	Sn	20 42 17.3	+1.0
KDZ	Kurdzhali	4.24	99	eP	Pn	20 41 37.0	+10
PKS9	Tamasi	4.29	346⇑	eP	Pn	20 41 26.7	-1.2
BOJS	Bojanci	4.50	315	i Pn	Pn	20 41 32.3	+1.5
BOJS				eSn	Sn	20 42 25.8	+1.3
PKS8	Sarbogard	4.52	350⇑	eP	Pn	20 41 29.5	-1.5
AQU	L'Aquila	4.75	271	ePn	Pn	20 41 33.0	-1.4
DRGR		4.82	24	⇓P	Pn	20 41 34.5	-0.9
VOIR		4.83	50	⇓P	Pn	20 41 35.2	-0.2
ALN	Alexandroupoli	4.91	106	ePn	Pn	20 41 35.0	-1.7
CEY	Cerknica	5.10	312	i Pn	Pn	20 41 40.8	+1.6
CEY				eSn	Sn	20 42 43.3	+3.8
LJU	Ljubljana	5.24	315	ePn	Pn	20 41 43.2	+2.0
LJU				eSn	Sn	20 42 45.8	+2.7
MLR	Muntele Rosu	5.37	53	Pn	Pn	20 41 43.1	-0.1
	comp=Z,0.2nm,0.3s,baz=265,slow=12,SNR=9.3						
MLR				Sn	Sn	20 42 44.8	-1.7
	comp=Z,0.4nm,0.3s,baz=288,slow=19,SNR=2.5						
MLR				Lg		20 43 15.5	
	comp=Z,0.1nm,0.3s,baz=132,slow=24,SNR=3.3						
MLR	Muntele Rosu	5.37	53	⇓P	Pn	20 41 43.5	+0.3
PERS	Pernice	5.38	323	ePn	Pn	20 41 42.5	-0.8
PERS				eSn	Sn	20 42 42.9	-3.6
PSZ	Piszkesteto	5.48	1	eP	Pn	20 41 41.8	-2.9
PSZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PSZ	Piszkesteto	5.48	1	ePn	Pn	20 41 41.8	-3.0
	comp=Z,8.6nm,0.7s						
PSZ	Piszkesteto	5.48	1	ePn	Pn	20 41 42.5	-2.2
PSZ				eSn	Sn	20 42 43.2	-6.0
PSZ	Piszkesteto	5.48	1	ePn	Pn	20 41 41.8	-2.9
	comp=Z,8.6nm,0.7s						
PSZ	Piszkesteto	5.48	1	eP	Pn	20 41 42.5	-2.2
OBKA	Obir	5.55	319⇑	iPN	Pn	20 41 48.5	+2.9
OBKA				i SN	Sn	20 42 56.1	+5.2
VOY	Vojsko	5.57	312	ePn	Pn	20 41 47.0	+1.1
VOY				eSn	Sn	20 42 52.5	+1.1
ARSA	Arzberg	5.70	329⇓	iPN	Pn	20 41 47.3	-0.5
ROBS	Robic	5.91	312	ePn	Pn	20 41 50.7	0.0
ROBS				eSn	Sn	20 43 00.1	+0.2
VRI	Vrincioaia	6.04	53	⇓P	Pn	20 41 52.3	-0.3
BURAR	Bucovina Array	6.44	35	⇑P	Pn	20 41 59.9	+1.7
KBA	Koelnbreinsper	6.54	317⇑	iPN	Pn	20 42 00.5	+0.9
KBA				i SN	Sn	20 43 18.5	+2.9
WTTA	Wattenberg	7.55	313⇑	iPN	Pn	20 42 15.8	+1.9
WTTA				i SN	Sn	20 43 43.0	+2.0
WATA	Walderalm	7.63	313⇓	iPN	Pn	20 42 17.8	+2.9
WATA				i SN	Sn	20 43 45.6	+2.7
GERES	GERESS Array B	7.71	328	Pn	Pn	20 42 15.1	-0.9
	comp=Z,0.4nm,0.3s,baz=146,slow=14,SNR=11						
GERES				Sn	Sn	20 43 40.8	-4.1
	comp=Z,0.3nm,0.3s,baz=146,slow=19,SNR=2.9						
SQTA	Sankt Quirin	7.76	311⇑	iPN	Pn	20 42 18.4	+1.6
SQTA				i SN	Sn	20 43 46.0	-0.3
MOTA	Moosalm	7.89	311⇓	iPN	Pn	20 42 20.8	+2.2
MOTA				i SN	Sn	20 43 51.4	+1.9
KHC	Kasperske Hory	7.99	329	ePN	Pn	20 42 19.0	-0.9
KHC				ex	x	20 43 44.1	
PGF	Pioggiola	8.00	274	ePn	Pn	20 42 13.8	-6.2
IDI	Anoyia	8.16	149	Pn	P	20 42 21.9	-0.4
	comp=Z,0.3nm,0.3s,baz=339,slow=14,SNR=3.5						
DPC	Dobruska-Polom	8.28	344	ePN	P	20 42 24.6	+0.7
DPC				eSN	Sn	20 43 52.3	-6.8
DAVOX	Davos	8.31	305	Pn	P	20 42 23.9	-0.5
	comp=Z,1.1nm,0.3s,baz=115,slow=17,SNR=11						
DAVOX				Sn	Sn	20 43 58.2	-1.8
	comp=Z,1.1nm,0.3s,baz=331,slow=22,SNR=4.6						
DAVOX	Davos	8.31	305	Pn	P	20 42 23.9	-0.5
DAVOX				Sn	Sn	20 43 58.2	-1.8
PRU	Pruhonice	8.39	336	eSN	Sn	20 43 53.3	-8.6
DAVA	Damuels	8.56	308⇑	iPN	P	20 42 29.5	+1.6
DAVA				i SN	Sn	20 44 06.7	+0.5
SBF	Sospel	9.16	283	ePn	P	20 42 30.1	-6.2
FRF	La Foret Royal	9.72	281	ePn	P	20 42 39.2	-4.6
MBDF	Montbardon	9.74	288	ePn	P	20 42 39.9	-4.3
MBDF				eSn	Sn	20 44 21.8	-14
	comp=Z,7.2nm,0.7s						
LPG	La Plagne	9.90	292	ePn	P	20 42 42.0	-4.4
LPG				eSn	Sn	20 44 26.6	-13
	comp=Z,8.2nm,0.5s						
LPL	La Plagne	9.92	293	ePn	P	20 42 42.0	-4.7
LPL				eSn	Sn	20 44 27.0	-13
	comp=Z,5.5nm,0.4s						
ORIF	Oris-en-Rattie	10.40	289	eP	P	20 42 52.9	-0.3
ORIF				eSn	S	20 44 38.2	-13
	comp=Z,2.5nm,0.4s						
HINF	Hinteralfeld	10.62	305	ePn	P	20 42 50.2	-6.0
HINF				eSn	S	20 44 43.1	-14
	comp=Z,5.3nm,0.6s						
CDF	Champ du Feu	10.64	308	ePn	P	20 42 53.1	-3.4
CABF	La Chapelle	10.65	298	ePn	P	20 42 50.8	-5.9
HAU	Haudompre	11.01	305	ePn	P	20 42 56.6	-4.9
HAU				eSn	S	20 44 52.1	-14
	comp=Z,3.6nm,0.4s						
VIVF	Saint-Julien-l	11.24	288	ePn	P	20 42 58.5	-6.2
LASF	Ste Croix	11.76	283	ePn	P	20 43 05.4	-6.3
LOR	Lormes	12.31	299	ePn	P	20 43 15.5	-3.7
HFS	Hagfors	18.12	350	P	P	20 44 33.5	-0.7
	comp=Z,0.0nm,0.3s,baz=135,slow=8.2,SNR=5.1						
NB2	NORSAR Subarra	19.35	347	P	P	20 44 48.4	-0.7
	comp=Z,0.4nm,0.7s,baz=157,slow=9.3						
NOA	NORSAR Array B	19.35	347	P	P	20 44 49.4	+0.3
	comp=Z,0.1nm,0.3s,baz=158,slow=9.0,SNR=3.2						
FINES	FINESS Array B	19.41	9	P	P	20 44 49.4	-0.5
	comp=Z,0.1nm,0.3s,baz=198,slow=8.8,SNR=4.4						
EKA	Eskdalemuir Ar	19.75	319	P	P	20 44 52.2	-1.5
	comp=Z,0.1nm,0.3s,baz=132,slow=10.0,SNR=5.1						

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*NEIC **10** 20:50:13.1±0.9, 7.19S×115.60E, h382^{km}±10^{km}, mb4.2/12, Error ellipse: s-maj=10.4km s-min=4.7km az=55.0*
*BJI **10** 20:50:13.0, 7.20S×115.60E, h382^{km}, mB4.5, mb4.4*
*IDC **10** 20:50:15.7±2.6, 7.18S×115.67E, h409^{km}±29^{km}, mb3.6/15, mb1 3.7/16, mb1mx3.6/21, mbtmp4.4/16, Error ellipse: s-maj=16.7km s-min=8.7km az=58.0*
ISC 10 20:50:11.3±1.3**, 7.19S**±0.07×**115.63E**±0.09**, h377**^{km}±15^{km}**, n43, σ0^{s}78**/45**, mb4.1**/27**, 1C, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSM	Kuching	10.11	328	eP	P	20 52 33.0	+1.2
KKM	Kota Kinabalu	13.16	3	eP	P	20 53 07.0	-0.2
MBWA	Marble Bar	14.44	164	eP	P	20 53 19.7	-1.6
MBWA				eS	S	20 56 08.2	+15
FITZ	Fitzroy Crossi	14.59	139	eP	P	20 53 22.3	-0.6
	7.7nm,0.6s						
FITZ	Fitzroy Crossi	14.59	139	P	P	20 53 22.1	-0.8
	1.6nm,0.3s,baz=357,slow=9.2,SNR=15						
KAKA	Kakadu	17.44	110	eP	P	20 53 51.8	-0.5
	12nm,0.4s						
KULM	Kulim	19.42	309	eP	P	20 54 11.7	-0.3
WRA	Warramunga Arr	22.14	127	P	P	20 54 38.3	+0.2
	6.8nm,0.4s,mb4.2,baz=302,slow=11,SNR=4.8						
WRA				S	S	20 58 13.4	+0.7
	0.9nm,0.8s,baz=305,slow=16,SNR=2.9						
WRAB	Tennant Creek	22.14	127	eP	P	20 54 38.4	+0.3
	13nm,0.6s,mb4.3						
WB2	Warramunga Arr	22.15	127⇑	iP	P	20 54 38.5	+0.3
KLBR	Kellerberrin	24.36	176	eP	P	20 54 58.3	-0.1
	51nm,2.0s,mb4.4						
NWAO	Narrogin (SRO)	25.65	177	P	P	20 55 09.9	-0.1
	5.7nm,0.8s,mb3.9,baz=4.3,slow=9.9,SNR=4.2						
CMAR	Chiang Mai Arr	30.34	327	P	P	20 55 52.5	+1.0
	4.3nm,0.8s,mb3.7,baz=155,slow=6.4,SNR=23						
CTA	Charters Tower	32.33	116	P	P	20 56 08.7	+0.1
	3.7nm,0.7s,mb3.8,baz=290,slow=13,SNR=5.6						
CTAO	Charters Tower	32.33	116	eP	P	20 56 09.2	+0.6
	4.9nm,0.7s,mb3.9						
STKA	Stephens Creek	34.48	139	eP	P	20 56 27.5	+0.7
	2.5nm,0.3s,mb3.9						
STKA	Stephens Creek	34.48	139	P	P	20 56 27.6	+0.8
	3.0nm,0.3s,mb4.0,baz=317,slow=8.0,SNR=38						
KMI	Kunming	34.48	339	P	P	20 56 29.7	+2.9
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.1						
SHL	Shillong	39.92	325	eP	P	20 57 12.5	+0.6
XAN	Xi'an	41.50	352	P	P	20 57 25.2	+0.6
XAN				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.3						
LSA	Lhasa	43.58	328	eP	P	20 57 43.0	+1.6
LSA	Lhasa	43.58	328	eP	P	20 57 42.9	+1.5
	comp=Z,9.3nm,0.6s,mb4.1						
GUN	Gumba	45.21	322	eP	P	20 57 54.1	-0.2
	comp=Z,21nm,0.5s,mb4.5						
PKI	Pulchoki	45.26	321	eP	P	20 57 53.6	-1.1
DMN	Daman	45.48	321	eP	P	20 57 56.0	-0.4
	comp=Z,9.8nm,0.4s,mb4.3						
KKN	Kakani	45.50	321	eP	P	20 57 55.6	-0.9
GKN	Gorkha	46.05	321	eP	P	20 58 00.1	-0.7
	comp=Z,14nm,0.3s,mb4.6						
KOLN	Koldanda	46.55	320	eP	P	20 58 03.8	-0.9
	comp=Z,15nm,0.6s,mb4.4						
MJAR	Matsushiro Arr	48.39	24	P	P	20 58 18.5	-0.1
	comp=Z,0.9nm,0.7s,mb3.1,baz=196,slow=8.9,SNR=4.1						
MJAR	Matsushiro Arr	48.39	24	P	P	20 58 18.5	-0.1
GTA	Gaotai	48.63	344	eP	P	20 58 19.9	-0.5
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb3.9						
SONM	Songino Array	55.39	352	P	P	20 59 09.9	+0.1
	comp=Z,8.7nm,0.5s,mb4.3,baz=172,slow=8.8,SNR=37						
MKAR	Makanchi Array	61.37	335	P	P	20 59 49.9	-0.5
	comp=Z,1.8nm,0.5s,mb3.8,baz=144,slow=7.3,SNR=23						
ZAL	Zalesovo	66.20	341	P	P	21 00 20.2	-1.2
	comp=Z,2.2nm,0.5s,mb4.1,baz=326,slow=4.0,SNR=8.8						
OPO	Ambohidratompo	67.34	253	P	P	21 00 29.5	+0.5
	comp=Z,3.0nm,0.7s,mb4.1,baz=75,slow=9.7,SNR=6.9						
MAW	Mawson	69.82	199	P	P	21 00 43.6	+0.4
	comp=Z,1.4nm,0.3s,mb4.2,baz=47,slow=8.2,SNR=5.9						
ZRNK	Zerenda	71.74	332	eP	P	21 00 53.5	-1.4
	comp=Z,4.8nm,1.1s,mb4.1						
VNDA	Vanda	74.29	171	P	P	21 01 09.9	+0.6
	comp=Z,0.7nm,0.5s,mb3.7,baz=312,slow=6.2,SNR=11						
VNDA	Vanda	74.29	171	eP	P	21 01 09.7	+0.4
	comp=Z,0.7nm,0.6s,mb3.6						
KMBO	Kilima Mbogo	78.33	270	P	P	21 01 32.9	+0.1
	comp=Z,1.0nm,0.4s,mb3.9,baz=122,slow=6.8,SNR=4.3						
BOSA	Boshof	86.92	242	P	P	21 02 16.6	+0.6
	comp=Z,1.5nm,0.4s,mb4.2,baz=80,slow=5.1,SNR=5.5						
LBTB	Lobatse	87.03	245	eP	P	21 02 17.2	+0.6
	comp=Z,1.6nm,0.4s,mb4.2						
BRTR	Keskin Array B	88.42	310	P	P	21 02 22.6	-0.3
	comp=Z,0.7nm,0.7s,mb3.6,baz=124,slow=4.5,SNR=6.3						

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*STR **10** 20:53:11.8±0.1, 44.34N×6.74E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **10** 20:53:11.8, 44.34N×6.74E, h5^{km}, ML2.5(GEN), ML2.3(LDG), ML2.1(STR), After STR.*
*LDG **10** 20:53:11.2±0.1, 44.33N×6.67E, h2^{km}, Md2.4/2, Ml2.3/9, Error ellipse: s-maj=1.2km s-min=0.9km az=63.0*
ISC 10 20:53:10.2±0.3**, 44.33N**±0.02×**6.66E**±0.02**, h12**^{km}±2^{km}**, n35, σ0^{s}73**/67**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	Saint Ours	0.19	35	Pg	Pg	20 53 15.4	+0.8
SURF				Sg	Sg	20 53 18.1	+0.6
MBDF	Montbardon	0.41	11	ePg	Pg	20 53 19.1	+0.4
MBDF				eSg	Sg	20 53 24.4	+0.1
	36nm,0.2s						
STV	Sta Anna Valdi	0.48	99	P	Pg	20 53 20.3	+0.2
STV				S	Sg	20 53 25.9	-0.7
STV2	Anna di Valdie	0.48	99	P	Pg	20 53 20.2	+0.2
STV2				S	Sg	20 53 25.9	-0.8
TOUF	Mont Tournerai	0.52	126	Pg	Pg	20 53 21.3	+0.4
TOUF				Sg	Sg	20 53 27.6	-0.4
OG22	Abries	0.54	22	Pg	Pg	20 53 21.4	+0.3
OG22				Sg	Sg	20 53 28.4	0.0
ENR	Entracque	0.55	100	P	Pb	20 53 21.5	+0.2
ENR				S	Sb	20 53 28.1	-0.7
MVIF	Mont Vial	0.56	140	Pg	Pg	20 53 21.8	+0.3
CALN	Calern	0.59	164	Pg	Pg	20 53 23.3	+1.0
AUTN	L'Aution	0.64	121	Pg	Pg	20 53 23.4	+0.2
AUTN				Sg	Sg	20 53 31.9	0.0
BHB	Bricherasio	0.67	40	P	Pb	20 53 23.6	+0.3
BHB				S	Sb	20 53 31.6	-0.7
SBF	Sospel	0.72	129	ePg	Pg	20 53 24.8	0.0
SBF				eSg	Sg	20 53 34.3	-0.2
	21nm,0.3s						
SAOF	Saorge	0.73	117	Pg	Pg	20 53 24.8	0.0
SAOF				Sg	Sg	20 53 34.5	-0.1
FENE	Fenestrelle	0.76	22	P	Pb	20 53 25.4	+0.5
FENE				S	Sb	20 53 34.9	0.0
FRF	La Foret Royal	0.76	181	ePg	Pg	20 53 25.4	-0.2
FRF				eSg	Sg	20 53 35.3	-0.6
	26nm,0.2s						
ORIF	Oris-en-Rattie	0.81	317	ePg	Pg	20 53 26.6	0.0
ORIF				eSg	Sg	20 53 36.9	-0.7
	8.2nm,0.2s						
MONE	Monesi	0.82	107	P	Pb	20 53 26.5	+0.6
MONE				S	Sb	20 53 36.7	0.0
SMRF	Simiane la Rot	0.86	246	ePn	Pn	20 53 28.8	+1.0
SMRF				eSg	Sg	20 53 38.6	-0.3
	7.1nm,0.2s						
SMRF				eSn	Sn	20 53 41.2	+1.0
ROB	Roburent	0.87	92	P	Pb	20 53 27.2	+0.5
ROB				S	Sb	20 53 37.6	-0.3
NEGI	Negi	0.89	122	P	Pb	20 53 28.0	+1.0
RSP	Reno Superiore	0.93	27	P	Pb	20 53 28.5	+0.8
RSP				S	Sb	20 53 39.9	+0.1
IMI	Imperia	0.98	115	P	Pb	20 53 29.5	+1.0
IMI				S	Sb	20 53 41.4	+0.3
LMR	La Mourre	1.00	186	ePg	Pg	20 53 29.9	-0.3
LMR				eSn	Sn	20 53 44.2	+0.4
	17nm,0.2s						
FIN	Finale Ligure	1.12	95	P	Pb	20 53 31.3	+0.3
FIN				S	Sb	20 53 44.4	-0.8
LPG	La Plagne	1.18	3	ePg	Pg	20 53 33.4	-0.3
LPG				eSg	Sg	20 53 48.5	-1.0
	5.6nm,0.3s						
LSD	Ceresole Reale	1.19	17	P	Pb	20 53 33.1	+1.1
LSD				S	Sb	20 53 47.8	+0.6
LPL	La Plagne	1.19	2	ePg	Pg	20 53 33.5	-0.6
LPL				eSg	Sg	20 53 49.1	-1.0
	6.4nm,0.4s						
PCP	Pian Castagno	1.37	80	P	Pn	20 53 35.4	+0.3
PCP				S	Sb	20 53 51.5	-1.0
VIVF	Saint-Julien-l	1.52	291	ePn	Pn	20 53 38.4	+1.1
VIVF				ePg	Pg	20 53 39.5	-1.1
VIVF				eSn	Sn	20 53 57.0	0.0
	2.5nm,0.3s						
LASF	Ste Croix	2.03	264	ePn	Pn	20 53 45.5	+0.8
LASF				eSn	Sn	20 54 09.2	-0.9
	1.1nm,0.2s						
PGF	Pioggiola	2.46	135	ePn	Pn	20 53 50.7	-0.1
PGF				eSn	Sn	20 54 19.2	-1.8
	10nm,0.7s						
MTLF	Montolieu	3.36	255	ePn	Pn	20 54 03.9	+0.3
MTLF				eSn	Sn	20 54 41.2	-2.6
	2.3nm,0.3s						
SSF	Saint Saulge	3.52	322	ePn	Pn	20 54 07.1	+1.3
LOR	Lormes	3.54	327	ePn	Pn	20 54 05.5	-0.6
LOR				eSg	Sg	20 55 01.1	-6.9
	1.1nm,0.3s						
TCF	Toulx Ste Croi	3.70	304	ePn	Pn	20 54 06.1	-2.4

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*BEO **10** 20:54:47.9±0.2, 42.42N×19.81E, h9^{km}*
*TIR **10** 20:54:47.7, 42.46N×19.75E, h5^{km}*
*CSEM **10** 20:54:47.4±0.1, 42.38N×19.88E, h15^{km}, ML2.7, Error ellipse: s-maj=3.0km s-min=2.6km az=104.0*
*NEIC **10** 20:54:48.2, 42.41N×19.82E, h10^{km}, ML2.7(PDG), After PDG.*
*PDG **10** 20:54:48.2±0.2, 42.41N×19.82E, h10^{km}±1^{km}*
ISC 10 20:54:47.8±0.4**, 42.41N**±0.02×**19.84E**±0.03**, h0**^{km}±6^{km}**, n25, σ0^{s}95**/46**, 8C-5D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BCI	Bajram Curri	0.17	102	i Pg	Pg	20 54 51.2	-0.1
BCI				i Sg	Sg	20 54 54.4	+0.7
PVY	Plav	0.21	28⇑	iPg	Pg	20 54 52.0	-0.1
PVY				eSg	Sg	20 54 56.0	+1.0
PVY	Plav	0.21	28⇑	iPg	Pg	20 54 52.0	-0.1
PVY				eSg	Sg	20 54 56.0	+1.0
PUK	Puka	0.36	173	i Pg	Pg	20 54 54.9	-0.2
PUK				i Sg	Sg	20 55 00.5	+0.5
TTG	Podgorica	0.43	274⇑	iPg	Pg	20 54 55.2	-1.2
TTG				eSg	Sg	20 55 02.0	-0.1
SDA	Shkodra	0.43	216	i Pg	Pg	20 54 55.6	-0.9
SDA				i Sg	Sg	20 55 03.3	+1.0
IVA	Berane	0.47	5⇑	iPg	Pg	20 54 56.9	-0.3
IVA				eSg	Sg	20 55 04.4	+0.9
ULC	Ulcinj	0.62	225⇓	iPg	Pg	20 54 59.7	-0.5
ULC				eSg	Sg	20 55 09.5	+1.0
BUM	Brajici-Budva	0.70	262⇑	iPg	Pg	20 55 00.7	-1.2
BUM				eSg	Sg	20 55 11.9	+0.7
BUM	Brajici-Budva	0.70	262⇑	iPg	Pg	20 55 00.7	-1.2
BUM				eSg	Sg	20 55 11.9	+0.6
NKY	Niksic	0.74	304⇓	iPg	Pg	20 55 01.1	-1.5
NKY				eSg	Sg	20 55 13.2	+0.6
NKY	Niksic	0.74	304⇓	iPg	Pg	20 55 01.1	-1.5
NKY				eSg	Sg	20 55 13.2	+0.7
QSH	Qafa e Shtames	0.88	177	i Pg	Pg	20 55 06.5	+1.0
QSH				i Sg	Sg	20 55 21.5	+4.2
QSH	Qafa e Shtames	0.88	177	ePg	Pg	20 55 06.5	+1.0
PLE	Pljevlja	0.98	341	ePg	Pg	20 55 06.4	-1.0
PLE				eSg	Sg	20 55 21.0	+0.5
HCY	Herceg Novi	0.99	273⇓	iPg	Pg	20 55 06.1	-1.6
HCY				eSg	Sg	20 55 21.8	+1.0
UPM	Unac-Piva	1.05	320	ePg	Pg	20 55 07.9	-0.9
UPM				eSg	Sg	20 55 23.5	+0.7
TIR	Tirane	1.06	179	ePn	Pn	20 55 13.0	+3.3
BRY	Bratogost	1.07	298	ePg	Pg	20 55 07.7	-1.6
BRY				eSg	Sg	20 55 24.6	+1.0
BRY	Bratogost	1.07	298	ePg	Pg	20 55 07.7	-1.6
BRY				eSg	Sg	20 55 24.6	+1.0
NVSS	Nova Varos 2	1.11	355⇑	iPn	Pn	20 55 07.2	-3.2
SKO	Skopje	1.27	109	i Pn	Pn	20 55 11.8	-0.9
BBLS	Bajina Basta -	1.50	348⇑	iPn	Pn	20 55 16.4	+0.4
BBLS				Sn	Sn	20 55 37.0	+0.6
STON	Ston	1.65	287	i Pn	Pn	20 55 17.6	-0.5
STON				i Sg	Sg	20 55 43.2	+0.6
DIVS	Divcibare	1.70	4⇓	iPn	Pn	20 55 18.3	-0.6
DIVS				Sn	Sn	20 55 42.4	+0.8

IDC 10 21:11:11.6±7.7**, 52.18N**×**173.68E, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.5**/21**, mbtmp3.6**/4**, Error ellipse: s-maj=181.2km s-min=39.1km az=164.0, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILAR	Eielson Array	23.69	43	P	P	21 16 24.1	-1.0
	0.2nm,0.4s,baz=256,slow=8.2,SNR=5.1						
MKAR	Makanchi Array	55.79	304	P	P	21 20 50.2	-2.0
	0.4nm,0.4s,baz=54,slow=7.0,SNR=9.6						
ARCES	ARCESS Array B	56.39	347	P	P	21 20 53.5	-2.7
	1.1nm,0.7s,baz=41,slow=8.3,SNR=7.2						
NB2	NORSAR Subarra	66.26	351	P	P	21 22 00.9	-2.0
	0.7nm,0.5s,baz=11,slow=6.2						
NOA	NORSAR Array B	66.26	351	P	P	21 22 01.2	-1.7
	0.7nm,0.5s,baz=12,slow=6.4,SNR=5.8						

IDC 10 21:26:43.5±16.0**, 1.33N**×**96.39E, mb4.0**/3**, mb1 4.1**/4**, mb1mx3.6**/20**, mbtmp4.0**/4**, ML3.6**/1**, Error ellipse: s-maj=409.6km s-min=108.1km az=127.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.20	8	P	P	21 30 45.4	-1.6
	0.1nm,0.3s,baz=197,slow=12,SNR=12						
MKAR	Makanchi Array	46.92	347	P	P	21 35 15.6	-2.1
	1.8nm,0.7s,baz=162,slow=8.2,SNR=16						
ZAL	Zalesovo	53.29	351	P	P	21 36 04.3	-2.1
	0.7nm,0.3s,baz=274,slow=7.3,SNR=4.1						
BVAR	Borovoye Array	55.86	341	P	P	21 36 22.7	-2.4
	0.8nm,0.5s,baz=134,slow=9.1,SNR=7.7						

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*IDC **10** 21:56:56.8±2.1, 38.43N×21.64E, mb3.5/7, mb1 3.5/10, mb1mx3.5/27, mbtmp3.4/10, ML3.4/3, Error ellipse: s-maj=36.0km s-min=21.6km az=45.0*

ATH ***10*** *21:56:58.2, 38.42N×21.84E, h18km±1km, MD3.6/13, ML3.5*
NEIC ***10*** *21:56:58.2, 38.41N×21.84E, h18km, ML3.5(ATH), After ATH.*
CSEM ***10*** *21:56:58.4±0.1, 38.38N×21.83E, h2km, ML3.5, Error ellipse: s-maj=2.0km s-min=1.4km az=46.0*
THE ***10*** *21:57:01.3, 38.35N×21.93E, h20km, ML3.5*
ISC 10 21:56:57.8±0.7**, 38.41N**±0.02×**21.83E**±0.03**, h6**km±5km**, n64, σ1§20**/77**, mb3.5**/7**, 4C-6D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.46**	**219**	⇓*i*PB	**Pb**	**21 57 07.7**	**-0.2**
RLS				*e*SB	**Sb**	**21 57 14.4**	**-0.2**
EVR	**Evrytania**	**0.50**	**358**	⇑*i*PN	**Pn**	**21 57 08.0**	**-3.2**
EVR				*e*SN	**Sn**	**21 57 16.0**	**-4.2**
AGG	**Agios Georgios**	**0.72**	**33**	*e*Pg	**Pg**	**21 57 11.6**	**-0.7**
LKR	**Lokris**	**0.95**	**75**	*e*PN	**Pn**	**21 57 16.5**	**-1.0**
LKR				*e*SN	**Sn**	**21 57 28.9**	**-2.6**
LKD	**Levkas**	**0.97**	**288**	*e*Pg	**Pg**	**21 57 16.2**	**-1.0**
VLS	**Valsamata**	**1.00**	**257**	⇑*i*PB	**Pb**	**21 57 16.8**	**-0.4**
MGER	**Gerania Oros**	**1.21**	**110**	*e*PN	**Pn**	**21 57 21.5**	**+0.3**
MGER	**Gerania Oros**	**1.21**	**110**	*e*Pn	**Pn**	**21 57 22.0**	**+0.8**
ITM	**Ithomi**	**1.23**	**176**	*e*PN	**Pn**	**21 57 21.6**	**0.0**
ITM				*e*SN	**Sn**	**21 57 39.3**	**+0.6**
NEO	**Neokhori**	**1.41**	**50**	⇓*i*PN	**Pn**	**21 57 24.4**	**+0.3**
NEO				*e*SN	**Sn**	**21 57 43.5**	**+0.4**
XOR	**Xorichti**	**1.43**	**48**	*e*Pg	**Pg**	**21 57 24.8**	**-1.5**
MEV	**Metsovon**	**1.45**	**341**	*e*Pg	**Pg**	**21 57 26.1**	**-0.7**
MEV				*e*Sg	**Sg**	**21 57 45.6**	**-0.5**
JAN	**Janina**	**1.46**	**329**	*e*PN	**Pn**	**21 57 26.4**	**+1.6**
NAIG	**Nisos Aigina**	**1.46**	**116**	*e*PN	**Pn**	**21 57 25.6**	**+0.7**
MPAR	**Parnis Oros**	**1.52**	**99**	*e*PN	**Pn**	**21 57 26.8**	**+1.1**
ATH	**Athens Observa**	**1.55**	**106**	⇓*i*PN	**Pn**	**21 57 27.3**	**+1.2**
ATH				*e*SN	**Sn**	**21 57 47.5**	**+0.7**
IGT	**Igoumenitsa**	**1.62**	**314**	*e*Pb	**Pb**	**21 57 28.8**	**+1.0**
PTL	**Penteli**	**1.64**	**102**	*e*PN	**Pn**	**21 57 29.0**	**+1.5**
PTL	**Penteli**	**1.64**	**102**	*e*Pn	**Pn**	**21 57 29.1**	**+1.6**
LIT	**Litokhoron**	**1.76**	**17**	*e*Pb	**Pb**	**21 57 30.0**	**-0.2**
LIT				*e*Sb	**Sb**	**21 57 52.5**	**0.0**
AOS	**Alonnisos**	**1.77**	**64**	*e*Pb	**Pb**	**21 57 29.2**	**-1.1**
AOS	**Alonnisos**	**1.77**	**64**	*e*Pb	**Pb**	**21 57 29.2**	**-1.2**
KZN	**Kozani**	**1.89**	**359**	*e*PN	**Pn**	**21 57 32.9**	**+1.9**
KZN				*e*SB	**Sb**	**21 57 55.9**	**-0.4**
VLI	**Veliai**	**1.91**	**152**	*e*Pb	**Pb**	**21 57 31.5**	**-1.2**
VLI				*e*Sn	**Sn**	**21 57 55.6**	**-0.2**
LSK	**Leskovik**	**1.98**	**332**	*e*Pn	**Pn**	**21 57 35.8**	**+3.5**
SRN	**Sarande**	**2.04**	**316**	*i* Pn	**Pn**	**21 57 35.4**	**+2.2**
SRN				*i* Sn	**Sn**	**21 58 05.6**	**+6.3**
KEK	**Kerkira**	**2.05**	**310**	⇑*i*PN	**Pn**	**21 57 35.0**	**+1.8**
KEK				*e*SN	**Sn**	**21 58 00.1**	**+0.7**
PAIG	**Paliouri**	**2.09**	**43**	*e*Pn	**Pn**	**21 57 33.5**	**-0.3**
PLG	**Polygyros**	**2.32**	**32**	*e*PN	**Pn**	**21 57 37.1**	**-0.1**
THE	**Thessaloniki**	**2.38**	**21**	*e*Pn	**Pn**	**21 57 38.5**	**+0.4**
FNA	**Florina**	**2.39**	**352**	*e*Pn	**Pn**	**21 57 40.1**	**+1.9**
OUR	**Ouranopolis**	**2.54**	**40**	*e*Pn	**Pn**	**21 57 40.2**	**-0.1**
GRG	**Griva**	**2.58**	**10**	*e*Pn	**Pn**	**21 57 41.4**	**+0.5**
SOH	**Sokhos**	**2.68**	**26**	*e*Pn	**Pn**	**21 57 42.8**	**+0.5**
LIA	**Limnos Island**	**3.00**	**59**	*e*PN	**Pn**	**21 57 46.2**	**-0.7**
LIA	**Limnos Island**	**3.00**	**59**	*e*Pn	**Pn**	**21 57 46.1**	**-0.8**
SRS	**Serrai**	**3.02**	**26**	*e*Pn	**Pn**	**21 57 47.1**	**-0.1**
APE	**Apeiranthos**	**3.23**	**113**	*e*PN	**Pn**	**21 57 50.4**	**+0.3**
NVR	**Nevrokopi**	**3.32**	**27**	*e*PN	**Pn**	**21 57 51.9**	**+0.4**
QSH	**Qafa e Shtames**	**3.44**	**335**	*i* Pg	**Pn**	**21 57 54.6**	**+1.5**
QSH	**Qafa e Shtames**	**3.44**	**335**	*e*Pn	**Pn**	**21 57 54.6**	**+1.5**
VAM	**Vamos**	**3.55**	**147**	*e*PN	**Pn**	**21 57 55.5**	**+0.8**
SKO	**Skopje**	**3.57**	**355**	*e*Pn	**Pn**	**21 57 56.0**	**+1.1**
IDI	**Anoyia**	**3.97**	**141**	Pn	**Pn**	**21 58 01.4**	**+0.8**
	1.1nm,0.3s,baz=325,slow=10,SNR=8.8						
IDI				Sn	**Sn**	**21 58 46.7**	**-1.4**
	2.1nm,0.3s,baz=272,slow=15,SNR=4.1						
GVD	**Gavdhos**	**4.00**	**152**	*e*P	**Pn**	**21 58 02.9**	**+1.8**
TIP	**Timpagrande**	**4.04**	**282**	*e*Pn	**Pn**	**21 58 01.1**	**-0.4**
TIP	**Timpagrande**	**4.04**	**282**	*e*Pn	**Pn**	**21 58 01.1**	**-0.5**
VAE	**Valguarnera**	**5.94**	**263**	Sn	**Sn**	**21 59 36.1**	**-1.6**
	0.7nm,0.3s,baz=265,slow=18,SNR=2.3						
CII	**Carovilli**	**6.65**	**302**	*e*P	**Pn**	**21 58 36.1**	**-2.4**
	9.1nm,0.6s						
VOIR		**7.42**	**18**	⇑P	**Pn**	**21 58 52.5**	**+3.2**
MLR	**Muntele Rosu**	**7.71**	**22**	Pn	**Pn**	**21 58 53.1**	**-0.3**
	0.4nm,0.3s,baz=197,slow=14,SNR=9.3						
MLR	**Muntele Rosu**	**7.71**	**22**	⇓P	**Pn**	**21 58 56.6**	**+3.2**
MLR	**Muntele Rosu**	**7.71**	**22**	⇓P	**Pn**	**21 58 56.5**	**+3.1**
VRI	**Vrincioaia**	**8.29**	**24**	⇓P	**P**	**21 59 04.7**	**+3.2**
BRTR	**Keskin Array B**	**9.28**	**78**	Pn	**P**	**21 59 15.3**	**+0.1**
	0.2nm,0.3s,baz=260,slow=14,SNR=5.6						
HFS	**Hagfors**	**22.34**	**349**	P	**P**	**22 01 55.2**	**-2.6**
	0.8nm,0.5s,mb3.4,baz=153,slow=9.9,SNR=8.0						
FINES	**FINESS Array B**	**23.21**	**5**	P	**P**	**22 02 03.5**	**-2.5**
	1.2nm,0.9s,mb3.3,baz=207,slow=8.5,SNR=4.1						
NB2	**NORSAR Subarra**	**23.61**	**347**	P	**P**	**22 02 08.8**	**-1.1**
	0.5nm,0.6s,mb3.1,baz=153,slow=9.3						
NOA	**NORSAR Array B**	**23.61**	**347**	P	**P**	**22 02 08.9**	**-1.0**
	0.6nm,0.6s,mb3.2,baz=153,slow=9.3,SNR=4.7						
EKA	**Eskdalemuir Ar**	**23.84**	**323**	P	**P**	**22 02 11.0**	**-1.3**
	0.9nm,0.8s,mb3.3,baz=117,slow=11,SNR=5.1						
BVAR	**Borovoye Array**	**36.18**	**50**	P	**P**	**22 04 01.5**	**-1.3**
	0.2nm,0.5s,mb3.3,baz=252,slow=4.6,SNR=3.7						
MKAR	**Makanchi Array**	**44.30**	**59**	P	**P**	**22 05 09.1**	**-0.9**
	1.4nm,0.4s,mb4.0,baz=277,slow=6.9,SNR=15						
MKAR	**Makanchi Array**	**44.30**	**59**	P	**P**	**22 05 09.1**	**-0.9**
ZAL	**Zalesovo**	**44.76**	**48**	P	**P**	**22 05 11.7**	**-1.8**
	0.7nm,0.3s,mb4.0,baz=192,slow=9.9,SNR=3.9						

IDC ***10*** *22:12:33.3±1.3, 55.26N×166.73E, mb3.7/4, mb1 4.0/5, mb1mx3.6/23, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=43.9km s-min=12.7km az=33.0*
KRSC ***10*** *22:12:35.1±1.3, 55.24N×166.86E, h27km±2km, ML4.5*
MOS ***10*** *22:12:35.6±1.3, 55.17N×166.67E, h31km, mb3.9/4, Error ellipse: s-maj=18.4km s-min=13.6km az=169.9*
NEIC ***10*** *22:12:36.7±1.0, 55.04N×166.72E, h30km, mb3.9/1, Error ellipse: s-maj=38.1km s-min=13.9km az=203.0*
ISC 10 22:12:35.2±0.5**, 55.13N**±0.04×**166.76E**±0.05**, h27**km**, n49, σ1§34**/88**, mb3.7**/5**, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	**Bering**	**0.46**	**280**	*i* P	**Pb**	**22 12 44.9**	**+0.1**
BKI				*i* S	**Sb**	**22 12 51.8**	**+0.5**
BKI				Smax			
	6μm,0.4s						
KBTR	**Krutoberegovo**	**2.48**	**297**	P	**Pn**	**22 13 13.2**	**-1.6**
KBTR				S	**Sn**	**22 13 40.7**	**-3.8**
KBTR	**Krutoberegovo**	**2.48**	**297**	*e*P	**Pn**	**22 13 13.3**	**-1.5**
KBTR				*e*S	**Sn**	**22 13 41.3**	**-3.2**
MKZ	**Mys Kozlova**	**2.96**	**261**	*i* P	**Pn**	**22 13 22.4**	**+0.7**
MKZ				*i* S	**Sn**	**22 13 56.0**	**-0.7**
ZLN	**Zelenaya**	**3.49**	**287**	*e*P	**Pn**	**22 13 30.4**	**+1.2**
ZLN				*e*S	**Sn**	**22 14 12.1**	**+1.9**
KLY	**Klyuchi**	**3.65**	**291**	P	**Pn**	**22 13 30.0**	**-1.4**
KLY				S	**Sn**	**22 14 10.0**	**-4.1**
KLY	**Klyuchi**	**3.65**	**291**	*e*P	**Pn**	**22 13 30.0**	**-1.4**
KLY				*i* S	**Sn**	**22 14 11.2**	**-2.9**
KRSR	**Krestovskiy**	**3.67**	**290**	*e*P	**Pn**	**22 13 31.1**	**-0.6**
KRSR				*e*S	**Sn**	**22 14 13.5**	**-1.1**
KMNR	**Kamenistaya**	**3.77**	**282**	*e*P	**Pn**	**22 13 34.7**	**+1.6**
KMNR				*e*S	**Sn**	**22 14 18.0**	**+1.0**
TUMR	**Tumrok**	**3.79**	**275**	*i* P	**Pn**	**22 13 35.0**	**+1.6**
TUMR				*i* S	**Sn**	**22 14 19.1**	**+1.4**
KPT	**Kopyto**	**3.81**	**285**	*i* P	**Pn**	**22 13 34.2**	**+0.6**
KPT				*i* S	**Sn**	**22 14 19.1**	**+1.1**
KOZR	**Kozyr**	**4.00**	**286**	PN	**Pn**	**22 13 37.9**	**+1.4**
KOZR				S	**Sn**	**22 14 23.9**	**+0.8**
KOZ	**Kozyrevsk**	**4.01**	**286**	P	**Pn**	**22 13 37.9**	**+1.3**
KOZ				S	**Sn**	**22 14 23.9**	**+0.5**
KOZ	**Kozyrevsk**	**4.01**	**286**	*i* P	**Pn**	**22 13 38.1**	**+1.5**
KOZ				*i* S	**Sn**	**22 14 25.5**	**+2.1**
SRDR	**Sredinnyy**	**4.15**	**290**	*i* P	**Pn**	**22 13 38.9**	**+0.3**
SRDR				*i* S	**Sn**	**22 14 25.1**	**-1.8**
KII	**Karymskiy**	**4.39**	**259**	P	**Pn**	**22 13 43.4**	**+1.4**
KII				S	**Sn**	**22 14 32.8**	**-0.1**
KII	**Karymskiy**	**4.39**	**259**	*e*P	**Pn**	**22 13 43.3**	**+1.4**
KII				*e*S	**Sn**	**22 14 32.6**	**-0.3**
FX1	**Attu Island--F**	**4.40**	**118**	Pn	**Pn**	**22 13 40.6**	**-1.5**
	5.0nm,0.3s,baz=321,slow=5.7,SNR=58						
FX1				Sn	**Sn**	**22 14 29.7**	**-3.4**
	6.8nm,0.3s,baz=61,slow=22,SNR=12						
FX1	**Attu Island--F**	**4.40**	**118**	*e*P	**Pn**	**22 13 40.6**	**-1.5**
FX1				*e*S	**Sn**	**22 14 28.6**	**-4.5**
SPN	**Mys Shipunski**	**4.45**	**246**	P	**Pn**	**22 13 43.0**	**+0.1**
SPN				S	**Sn**	**22 14 31.7**	**-2.8**
SPN	**Mys Shipunski**	**4.45**	**246**	*i* P	**Pn**	**22 13 42.9**	**0.0**
SPN				*i* S	**Sn**	**22 14 31.7**	**-2.8**
OSSR	**Ossora**	**4.59**	**336**	*e*P	**Pn**	**22 13 43.2**	**-1.7**
OSSR				*e*S	**Sn**	**22 14 33.5**	**-4.5**
ESO	**Esso**	**4.65**	**283**	*e*P	**Pn**	**22 13 46.8**	**+1.2**
ESO				*e*S	**Sn**	**22 14 39.2**	**-0.1**
ESO				Smax			
	80nm,1.0s						
NLC	**Nalytchevo**	**4.78**	**249**	P	**Pn**	**22 13 47.5**	**+0.1**
NLC				S	**Sn**	**22 14 39.9**	**-2.7**
NLC	**Nalytchevo**	**4.78**	**249**	*i* P	**Pn**	**22 13 47.5**	**+0.1**
NLC				*i* S	**Sn**	**22 14 40.6**	**-2.0**
SDLR	**Sedlovina**	**4.98**	**251**	*i* P	**Pn**	**22 13 51.9**	**+1.6**
SDLR				*e*S	**Sn**	**22 14 46.3**	**-1.4**
SMAR	**Somma**	**5.03**	**251**	*i* P	**Pn**	**22 13 52.5**	**+1.5**
SMAR				*i* S	**Sn**	**22 14 48.9**	**-0.1**
UGLR	**Uglovaya**	**5.04**	**251**	*e*P	**Pn**	**22 13 52.0**	**+0.8**
UGLR				*e*S	**Sn**	**22 14 48.5**	**-0.8**
AVH	**Avacha**	**5.06**	**252**	*i* P	**Pn**	**22 13 52.8**	**+1.3**
AVH				*i* S	**Sn**	**22 14 48.6**	**-1.2**
KOK	**Koryaka**	**5.11**	**252**	*e*P	**Pn**	**22 13 53.2**	**+1.1**
KOK				*e*S	**Sn**	**22 14 49.9**	**-1.0**
PET	**Petropavlovsk**	**5.22**	**249**	P	**Pn**	**22 13 54.4**	**+0.8**
PET				S	**Sn**	**22 14 51.2**	**-2.4**
PET	**Petropavlovsk**	**5.22**	**249**	*e*PN	**Pn**	**22 13 54.3**	**+0.7**
PET				pmax	pmax		
	comp=Z,19nm,0.5s						
PET				MLR	MLR		
	comp=Z,100nm,25.0s						
PET				MLR	MLR		
	comp=N,200nm,19.0s						
PET	**Petropavlovsk**	**5.22**	**249**	*e*P	**Pn**	**22 13 54.3**	**+0.7**
PET				*e*S	**Sn**	**22 14 51.2**	**-2.4**
GNL	**Ganaly**	**5.34**	**258**	*i* P	**Pn**	**22 13 56.8**	**+1.4**
GNL				*e*S	**Sn**	**22 14 55.1**	**-1.8**
RUS	**Russkaya**	**5.58**	**244**	P	**Pn**	**22 13 58.9**	**+0.1**
RUS				S	**Sn**	**22 15 00.2**	**-2.6**
RUS	**Russkaya**	**5.58**	**244**	*e*P	**Pn**	**22 13 58.8**	**0.0**
RUS				*e*S	**Sn**	**22 15 00.3**	**-2.5**
GRL	**Gorelyy**	**5.75**	**247**	*e*P	**Pn**	**22 14 02.9**	**+1.7**
GRL				*e*S	**Sn**	**22 15 07.0**	**-0.1**
APC	**Apacha**	**6.07**	**253**	*e*P	**Pn**	**22 14 07.9**	**+2.2**
APC				*e*S	**Sn**	**22 15 14.4**	**-0.7**
APC				Smax			
	comp=N,20nm,0.7s						
PAU	**Pauzhetka**	**7.00**	**242**	*e*P	**Pn**	**22 14 19.0**	**+0.3**
PAU				*e*S	**Sn**	**22 15 35.5**	**-2.7**
KAMR	**Kamenskoye**	**7.36**	**358**	*i* P	**Pn**	**22 14 20.8**	**-2.9**
KAMR				*e*S	**Sn**	**22 15 38.2**	**-9.0**
ILAR	**Eielson Array**	**24.56**	**48**	P	**P**	**22 17 53.3**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**24.56**	**48**	P	**P**	**22 17 53.2**	**-0.3**
	comp=Z,1.0nm,0.8s,mb3.4,baz=256,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**50.74**	**298**	P	**P**	**22 21 33.3**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**50.74**	**298**	P	**P**	**22 21 33.3**	**-1.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=56,slow=8.7,SNR=5.6						
BVAR	**Borovoye Array**	**52.13**	**310**	P	**P**	**22 21 44.0**	**-0.8**
	comp=Z,1.1nm,0.8s,mb3.9,baz=39,slow=9.2,SNR=9.4						
ZRNK	**Zerenda**	**52.78**	**311**	*e*P	**P**	**22 21 48.8**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
ZRNK	**Zerenda**	**52.78**	**311**	*e*P	**P**	**22 21 48.8**	**-1.0**
	comp=Z,1.2nm,0.8s,mb3.9						
TXAR	**Lajitas Array**	**66.25**	**73**	P	**P**	**22 23 23.7**	**+0.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**66.25**	**73**	P	**P**	**22 23 23.7**	**+0.9**
	comp=Z,0.6nm,0.8s,mb3.7,baz=297,slow=2.8,SNR=4.2						

NIED ***10*** *22:27:00, 36.50N×141.10E, h35km, Mw4.8 Best double couple: Mo1.65×10^16 NP1:φs24°, δ73°, λ87°. NP2:φs215°, δ17°, λ100°.*
JMA ***10*** *22:27:26.9±0.1, 36.41N×141.04E, h48km±1km, M4.7*
JMA Felt III J1.
BJI ***10*** *22:27:27.9, 36.25N×141.02E, h69km, mB4.9, mb4.7, Ms4.3, Msz4.1*
NEIC ***10*** *22:27:28.9±0.2, 36.37N×140.94E, mb4.7/50, MW4.8(NIED), Error ellipse: s-maj=6.4km s-min=5.0km az=164.0*
NEIC Felt strongly in Ibaraki. Recorded [3 JMA] in Fukushima and Ibaraki; [2 JMA] in Chiba and Tochigi; [1 JMA] in Gumma, Miyagi, Saitama and Tokyo Prefectures.
MOS ***10*** *22:27:29.6±0.8, 36.67N×140.84E, h54km, mb4.9/59, Error ellipse: s-maj=9.4km s-min=5.1km az=115.8*
IDC ***10*** *22:27:30.0±2.2, 36.38N×140.85E, h56km±21km, mb4.1/29, mb1 4.3/31, mb1mx4.2/34, mbtmp4.4/31, ML4.5/2, MS4.2/8, Ms1 4.3/8, ms1mx3.9/28, Error ellipse: s-maj=14.5km s-min=12.2km az=61.0*
ISC 10 22:27:27.1±0.6**, 36.40N**±0.03×**141.00E**±0.05**, h45**km±3km**, h48**km±3.9km**:pP-P, n276, σ1§02**/292**, mb4.6**/98**, MS4.2**/15**, 6C-18D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.41**	**302**	⇓P	**P**	**22 27 36.9**	**-0.2**
JHO				*e*S	**S**	**22 27 43.9**	**-0.1**
JYT	**Yasato**	**0.68**	**256**	⇓P	**P**	**22 27 40.6**	**+0.2**
JYT				*e*S	**S**	**22 27 50.1**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.72**	**347**	⇓P	**P**	**22 27 40.3**	**-0.8**
ONAJ				*e*S	**S**	**22 27 50.0**	**-1.3**
JFK	**Kawauchi**	**0.97**	**354**	⇓P	**P**	**22 27 43.7**	**-0.9**
JFK				*e*S	**S**	**22 27 56.4**	**-1.1**
JFT	**Otama**	**1.24**	**335**	⇓P	**P**	**22 27 49.0**	**+0.6**
JFT				*e*S	**S**	**22 28 05.2**	**+1.0**
JAG	**Ashikaga**	**1.25**	**272**	⇓P	**P**	**22 27 48.8**	**+0.3**
JFY	**Yanaizu**	**1.45**	**314**	⇓P	**P**	**22 27 51.8**	**+0.4**
JKT	**Katashina**	**1.46**	**285**	⇓P	**P**	**22 27 52.3**	**+0.7**
JKT				*e*S	**S**	**22 28 11.7**	**+2.0**
JMM	**Marumori**	**1.48**	**353**	⇓P	**P**	**22 27 51.0**	**-0.8**
JMM				*e*S	**S**	**22 28 09.3**	**-0.8**
MJAR	**Matsushiro Arr**	**2.26**	**275**	P	**P**	**22 28 03.1**	**+0.3**
MJAR				S	**S**	**22 28 32.7**	**+3.1**
MJAR				pmax	pmax		
	comp=Z,168nm,0.3s						
MJAR	**Matsushiro Arr**	**2.26**	**275**	P	**P**	**22 28 03.1**	**+0.2**
	comp=Z,168nm,0.3s,baz=109,slow=8.2,SNR=716						
MJAR				S	**S**	**22 28 32.7**	**+3.1**
	comp=Z,120nm,0.3s,baz=103,slow=11,SNR=7.9						
MAJO	**Matsushiro**	**2.26**	**275**	*e*P	**P**	**22 28 03.9**	**+1.0**
MAT	**Matsushiro**	**2.26**	**275**	*e*P	**P**	**22 28 04.0**	**+1.1**
MAT				S	**S**	**22 28 33.0**	**+3.4**
MAT	**Matsushiro**	**2.26**	**275**	P	**P**	**22 28 03.7**	**+0.8**
MAT				*e*S	**S**	**22 28 32.7**	**+3.1**
JHJ	**Hachijo jima 2**	**3.42**	**197**	P	**P**	**22 28 19.7**	**+0.4**
	comp=Z,94nm,0.3s,baz=58,slow=20,SNR=28						
JHJ				S	**S**	**22 28 59.0**	**-0.1**
	comp=Z,228nm,0.3s,baz=80,slow=21,SNR=4.6						
ASAJ	**Asahikawa**	**7.81**	**8**	P	**P**	**22 29 17.6**	**-3.2**
ASAJ				S	**S**	**22 30 44.2**	**-4.6**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,282nm,21.3s						
ASAJ	**Asahikawa**	**7.81**	**8**	P	**P**	**22 29 17.6**	**-3.3**
	comp=Z,6.4nm,0.3s,baz=228,slow=6.4,SNR=18						
ASAJ				S	**S**	**22 30 44.1**	**-4.7**
	comp=Z,4.7nm,0.3s,baz=251,slow=26,SNR=3.9						
ASAJ				LR	LR	22 32 50.7	
	comp=Z,282nm,21.3s,baz=195,slow=41						
YUK	**Yuzh-Kuril'sk**	**8.48**	**24**	P	**P**	**22 29 26.0**	**-4.2**
YUK				*i* S	**S**	**22 30 54.7**	**-11**
YUK				pmax	pmax		
	comp=Z,270nm,0.3s						
YUK				pmax	pmax		
	comp=N,210nm,0.2s						
YUK				pmax	pmax		
	comp=E,180nm,0.4s						
YUK				smax			
	comp=N,800nm,0.6s						
YUK				smax			
	comp=E,730nm,0.6s						
JNU	**Nakatsue**	**8.95**	**252**	P	**P**	**22 29 41.2**	**+4.6**
	comp=E,1.4nm,0.3s,baz=70,slow=22,SNR=9.4						
JNU				LR	LR	22 33 26.8	
	comp=E,2μm,18.2s,baz=70,slow=40						
CBIJ	**Chichi jima**	**9.33**	**173**	P	**P**	**22 29 37.5**	**-4.3**
	comp=E,36nm,0.3s,baz=75,slow=7.0,SNR=13						
CBIJ				S	**S**	**22 31 15.4**	**-11**
	comp=E,18nm,0.3s,baz=282,slow=23,SNR=4.7						
KUR	**Kuril'sk**	**10.24**	**28**	P	**P**	**22 29 48.4**	**-5.9**
KS15	**Wonju Array Si**	**10.56**	**280**	P	**P**	**22 29 55.4**	**-3.3**
YSS	**Yuzh-Sakhalins**	**10.63**	**7**	*i* P	**P**	**22 30 00.3**	**+0.7**
YSS	**Yuzh-Sakhalins**	**10.63**	**7**	P	**P**	**22 30 00.9**	**+1.3**
	comp=E,21nm,0.6s						
MDJ	**Mudanjiang**	**11.94**	**317**	P	**P**	**22 30 19.6**	**+2.2**
MDJ				AMB	AMB		
	comp=Z,32nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,122nm,6.6s						
MDJ				LR	LR		
	comp=N,504nm,18.2s						
MDJ				LR	LR		
	comp=E,369nm,20.3s						
MDJ				LR	LR		
	comp=Z,784nm,17.9s						
MDJ	**Mudanjiang**	**11.94**	**317**	P	**P**	**22 30 18.0**	**+0.6**
	comp=Z,34nm,0.9s						
CN2	**Changchun**	**14.01**	**307**	*e*P	**P**	**22 30 45.3**	**+0.7**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
KLR	**Kul'dur**	**14.50**	**335**	*e*P	**P**	**22 30 53.2**	**+2.2**
KLR				MLR	MLR		
	comp=E,600nm,16.0s						
KLR				MLR	MLR		
	comp=Z,900nm,16.0s						
SNY	**Shenyang**	**14.57**	**297**	⇑P	**P**	**22 30 51.3**	**-0.7**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.4s						
SNY				AMB	AMB		
	comp=Z,170nm,8.4s						
SNY				LR	LR		
	comp=E,830nm,18.2s						
SNY				LR	LR		
	comp=Z,910nm,18.2s						
DL2	**Dalian**	**15.55**	**285**	P	**P**	**22 31 09.6**	**+4.8**
DL2				AMB	AMB		
	comp=Z,20nm,0.6s						
DL2				LR	LR		
	comp=E,480nm,16.5s						
DL2				LR	LR		
	comp=Z,640nm,17.1s						
SSE	**Sheshan**	**17.30**	**258**	P	**P**	**22 31 26.7**	**-0.2**
SSE				AP		22 31 45.6	
SSE				S	**S**	**22 34 25.6**	**-10**
SSE				XS		22 35 00.9	
SSE				AMB	AMB		
	comp=Z,22nm,0.8s						
SSE				AMB	AMB		
	comp=Z,73nm,5.0s						
SSE				LR	LR		
	comp=N,248nm,23.7s						
SSE				LR	LR		
	comp=E,268nm,23.7s						
SSE				LR	LR		
	comp=Z,390nm,21.2s						
NJ2	**Nanjing**	**18.81**	**263**	*e*P	**P**	**22 31 43.7**	**-1.8**
NJ2				AP		22 31 57.2	
NJ2				PP	PP	22 32 02.3	+0.3
NJ2				XP		22 32 07.6	
NJ2				S	**S**	**22 35 08.0**	**-2.1**
NJ2				XS		22 35 29.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
NJ2				LR	LR		
	comp=N,860nm,17.1s						
NJ2				LR	LR		
	comp=E,1μm,18.7s						
NJ2				LR	LR		
	comp=Z,570nm,21.3s						
TIA	**Tai'an**	**19.24**	**277**	*e*P	**P**	**22 31 47.4**	**-2.9**
HIA	**Hailar**	**20.13**	**316**	*e*P	**P**	**22 31 59.4**	**-0.4**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HIA	**Hailar**	**20.13**	**316**	*e*P	**P**	**22 31 59.4**	**-0.5**
	comp=Z,9.3nm,0.8s						
PET	**Petropavlovsk**	**20.73**	**31**	*i* P	**P**	**22 32 16.6**	**+11**
WHN	**Wuhan**	**22.95**	**263**	*e*P	**P**	**22 32 28.0**	**-0.3**
CLNS	**Chul'man**	**23.14**	**337**	*e*P	**P**	**22 32 28.0**	**-1.8**
CLNS				*e*PPP	PPP	22 33 03.4	-8.1
CLNS				*e*		22 36 13.7	
CLNS				*e*S	**S**	**22 36 38.6**	**+4.6**
CLNS				*e*SS	SS	22 37 16.2	-5.3
CLNS				*e*		22 43 35.3	
CLNS				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.7						
CLNS				pmax	pmax		
	comp=N,19nm,1.2s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.3s						
CLNS				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.3						
CLNS				pmax	pmax		
	comp=N,18nm,1.3s						
CLNS				pmax	pmax		
	comp=E,13nm,0.8s						
CLNS				smax			
	comp=N,15nm,0.9s						
CLNS				smax			
	comp=Z,6.0nm,0.6s						
CLNS				smax			
	comp=E,6.0nm,1.2s						
CLNS				MLR	MLR		
	comp=Z,400nm,18.0s,MS3.9						
CLNS				MLR	MLR		
	comp=N,400nm,16.0s						
CLNS				MLR	MLR		
	comp=E,200nm,24.0s						
MA2	**Magadan**	**24.05**	**12**	*i* P	**P**	**22 32 40.4**	**+1.8**
MA2	**Magadan**	**24.05**	**12**	*e*P	**P**	**22 32 38.6**	**0.0**
	comp=E,7.7nm,0.6s,mb4.3						
CIT	**Chita**	**24.92**	**317**	*e*P	**P**	**22 32 42.5**	**-4.7**
CIT				*e*		22 33 01.0	
CIT				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.7						
XAN	**Xi'an**	**26.25**	**274**	P	**P**	**22 32 58.5**	**-1.4**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
XAN				LR	LR		
	comp=N,86nm,14.0s,MS3.8						
XAN				LR	LR		
	comp=E,212nm,17.0s,MS3.8						
XAN				LR	LR		
	comp=Z,347nm,17.8s,MS4.0						
YAK	**Yakutsk**	**26.62**	**348**	*e*P	**P**	**22 33 01.3**	**-1.7**
YAK				*e*S	**S**	**22 37 38.2**	**+5.5**
YAK				pmax	pmax		
	comp=Z,40nm,1.0s,mb4.9						
YAK				pmax	pmax		
	comp=N,22nm,1.1s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK	**Yakutsk**	**26.62**	**348**	*e*P	**P**	**22 33 01.1**	**-1.9**
	comp=E,84nm,1.0s,mb5.2						
ENH	**Enshi**	**26.96**	**266**	*e*P	**P**	**22 33 04.6**	**-1.8**
ULN	**Ulaanbaatar**	**27.45**	**305**	*e*P	**P**	**22 33 03.6**	**-7.1**
ULN				*e*	pP	22 33 13.6	-8.9
ULN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.3						
ULN	**Ulaanbaatar**	**27.45**	**305**	*e*P	**P**	**22 33 03.6**	**-7.0**
	comp=Z,7.3nm,0.7s,mb4.3						
ULN				*e*	pP	22 33 13.6	-9.0
SEY	**Seymchan**	**27.48**	**11**	⇑*e*P	**P**	**22 33 13.9**	**+3.1**
SONM	**Songino Array**	**27.88**	**305**	P	**P**	**22 33 13.8**	**-0.8**
	comp=Z,9.2nm,0.7s,mb4.5,baz=106,slow=9.0,SNR=38						
SONM				LR	LR	22 44 37.1	
	comp=Z,360nm,20.3s,MS4.0,baz=76,slow=37						
BOD	**Bodaibo**	**27.90**	**329**	*e*P	**P**	**22 33 13.1**	**-1.6**
BOD				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.7						
ZAK	**Zakamensk**	**30.41**	**309**	*e*P	**P**	**22 33 35.4**	**-1.7**
ZAK				*e*		22 36 35.0	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
TLY	**Talaya**	**30.51**	**312**	*e*P	**P**	**22 33 37.8**	**-0.1**
TLY				*e*		22 38 33.0	
TLY				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
TLY				MLR	MLR		
	comp=Z,320nm,16.0s,MS4.1						
TLY	**Talaya**	**30.51**	**312**	*e*P	**P**	**22 33 37.4**	**-0.6**

comp=Z,12nm,0.8s,mb4.8
GYA Guiyang 30.79 261 ⇑*i*P P **22 33 38.6 -2.1**
GYA AP pP 22 33 59.8 +7.0
GYA PP PP 22 34 42.6 -0.3
GYA S **S** **22 38 43.1 +3.4**
GYA XS 22 39 05.6
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.9
GYA LR LR
comp=N,290nm,16.2s,MS4.1
GYA LR LR
comp=E,250nm,18.9s,MS4.1
GYA LR LR
comp=Z,410nm,15.9s,MS4.2
GTA Gaotai 32.44 288 *e*P P **22 33 53.3 -1.8**
GTA PP PP 22 35 08.4 +4.3
GTA PCP PcP 22 36 42.1 +0.5
GTA AMB AMB
comp=Z,2.0nm,0.8s,mb4.0
GTA AMB AMB
comp=Z,73nm,5.7s
GTA LR LR
comp=N,155nm,16.0s
GTA LR LR
comp=E,291nm,23.2s
GTA LR LR
comp=Z,281nm,19.0s,MS4.0
KMI Kunming 34.54 262 P P **22 34 12.5 -0.8**
KMI AP pP 22 34 23.6 -2.0
KMI PP PP 22 35 31.7 +1.2
KMI S **S** **22 39 36.2 -1.9**
KMI SS SS 22 41 48.5 -3.0
KMI AMB AMB
comp=Z,6.0nm,1.4s,mb4.3
KMI AMB AMB
comp=Z,58nm,4.8s
KMI LR LR
comp=N,338nm,13.6s,MS4.4
KMI LR LR
comp=E,334nm,15.6s,MS4.4
KMI LR LR
comp=Z,342nm,19.5s,MS4.1
BILL Bilibino 34.73 16 P P **22 34 14.4 -0.1**
BILL pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
TIXI Tiksi 35.88 353 *i*P P **22 34 22.9 -1.4**
WMQ Urumqi 40.84 297 ⇓P P **22 35 07.2 +1.3**
CMAR Chiang Mai Arr 41.02 256 *i*P P **22 35 08.3 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
CMAR Chiang Mai Arr 41.02 256 P P **22 35 07.3 -0.3**
comp=Z,1.3nm,0.5s,mb3.8,baz=46,slow=7.9,SNR=6.7
CMAR LR LR 22 54 37.9
comp=Z,186nm,18.9s,MS4.0,baz=215,slow=40
LSA Lhasa 41.94 276 P P **22 35 16.8 +1.7**
LSA Lhasa 41.94 276 *e*P P **22 35 16.8 +1.7**
LSA pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
LSA Lhasa 41.94 276 *e*P P **22 35 16.8 +1.7**
comp=Z,8.3nm,0.8s,mb4.4
ZAL Zalesovo 42.12 313 *i*P P **22 35 16.5 +0.3**
ZAL pmax pmax
comp=Z,15nm,0.8s
ZAL Zalesovo 42.12 313 P P **22 35 15.8 -0.4**
comp=Z,15nm,0.8s,mb4.7,baz=20,slow=8.2,SNR=90
NVS Novosibirsk 43.05 314 *e*P P **22 35 23.3 -0.5**
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,18nm,0.8s
NVS pmax pmax
comp=Z,23nm,0.8s,mb5.0
MKAR Makanchi Array 44.18 303 *i*P P **22 35 33.4 +0.3**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 44.18 303 P P **22 35 33.1 0.0**
comp=Z,9.6nm,1.0s,mb4.5,baz=90,slow=8.5,SNR=35
GUN Gumba 46.89 276 *e*P P **22 35 55.7 +0.8**
comp=Z,57nm,0.8s,mb5.5
PKI Pulchoki 47.41 276 *e*P P **22 35 58.4 -0.6**
comp=Z,29nm,0.8s,mb5.2
PKI Pulchoki 47.41 276 *e*P P **22 35 58.4 -0.6**
PKI pmax pmax
comp=Z,15nm,0.8s,mb5.0
KKN Kakani 47.42 276 *e*P P **22 35 59.6 +0.5**
comp=Z,34nm,0.7s,mb5.4
KKN Kakani 47.42 276 *e*P P **22 35 59.6 +0.5**
KKN pmax pmax
comp=Z,17nm,0.7s,mb5.1
DMN Daman 47.64 276 *e*P P **22 36 00.3 -0.5**
comp=Z,26nm,0.9s,mb5.3
GKN Gorkha 47.85 277 *e*P P **22 36 02.8 +0.4**
comp=Z,115nm,1.0s
KOLN Koldanda 48.78 277 *e*P P **22 36 09.2 -0.4**
HNR Honiara 48.94 155 LR LR 22 53 15.2
comp=Z,167nm,20.9s,MS4.0,baz=300,slow=32
KAKA Kakadu 49.51 191 *e*P P **22 36 14.8 -0.5**
comp=Z,8.4nm,0.6s,mb5.0
TKM2 Tokmak 2 49.65 299 P P **22 36 16.5 +0.5**
SNR=18
KZA Kyzart 50.13 298 P P **22 36 20.9 +1.1**
SNR=12
KBK Karagaybulak 50.18 299 P P **22 36 20.4 +0.2**
SNR=16
ILAR Eielson Array 50.21 32 P P **22 36 20.1 0.0**
ILAR pmax pmax
comp=Z,4.0nm,0.7s
ILAR Eielson Array 50.21 32 P P **22 36 20.1 0.0**
comp=Z,4.4nm,0.7s,mb4.6,baz=269,slow=6.3,SNR=52
CHMS Chumysh 50.22 299 P P **22 36 20.2 -0.3**
SNR=5.9
USP Ospenovka 50.33 299 P P **22 36 21.7 +0.4**
SNR=15
KSH Kashi 50.37 294 *e*P P **22 36 23.0 +1.3**
KSH *e*PP PP 22 38 14.8 -3.4
KSH AMB AMB
comp=Z,80nm,0.9s
KSH AMB AMB
comp=Z,220nm,4.4s
KSH LR LR
comp=N,330nm,4.4s
KSH LR LR
comp=E,240nm,6.8s
VOSK Vostochnaya 50.46 312 P P **22 36 20.9 -1.3**
VOSK pmax pmax
comp=Z,18nm,0.8s,mb5.2
AAK Ala-Archa 50.51 299*c* *i*P P **22 36 21.2 -1.5**
AAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
AAK Ala-Archa 50.51 299 *e*P P **22 36 21.0 -1.7**
comp=Z,8.1nm,0.8s,mb4.7
UCH Uchtor 50.61 298 P P **22 36 24.7 +1.3**
SNR=8.4
BVA0 Borovoye Array 50.76 313 P P **22 36 23.8 -0.6**
BVA0 pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
BVAR Borovoye Array 50.76 313 P P **22 36 23.3 -1.1**
comp=Z,14nm,0.9s,mb4.9,baz=80,slow=7.0,SNR=42
AML Almayashu 51.22 298 P P **22 36 28.3 +0.3**
SNR=41
ZRNK Zerenda 51.60 313 P P **22 36 29.8 -0.9**
ZRNK pmax pmax
comp=Z,18nm,0.9s,mb5.0
ZRNK Zerenda 51.60 313 *e*P P **22 36 29.7 -1.0**
KKAR Karatay Array 53.16 300 *i*P P **22 36 42.2 -0.4**
KKAR pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
INK Inuvik 55.10 27 P P **22 36 56.7 +0.2**
INK pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 55.10 27 P P **22 36 56.7 +0.2**
comp=Z,4.8nm,0.8s,mb4.6,baz=273,slow=5.5,SNR=8.9
INK Inuvik 55.10 27 *e*P P **22 36 56.5 +0.1**
SVE Sverdlovsk 55.41 319 *e*P P **22 36 58.7 -0.1**
SVE MLR MLR
comp=N,100nm,15.0s,MS4.4
SVE MLR MLR
comp=E,200nm,15.0s,MS4.4
SVE MLR MLR
comp=Z,300nm,15.0s,MS4.5
FITZ Fitzroy Crossi 56.11 198 *e*P P **22 37 04.4 0.0**
comp=Z,8.1nm,1.3s,mb4.6
WRAB Tennant Creek 56.37 188 *e*P P **22 37 04.3 -2.0**
WRAB pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
WRAB Tennant Creek 56.37 188 *e*P P **22 37 04.3 -2.0**
comp=Z,9.1nm,0.6s,mb5.0
WB2 Warramunga Arr 56.38 188 *e*P P **22 37 04.7 -1.6**
WRA Warramunga Arr 56.38 188 P P **22 37 04.8 -1.5**
WRA pmax pmax
comp=Z,6.0nm,0.5s
WRA Warramunga Arr 56.38 188 P P **22 37 04.8 -1.5**
comp=Z,5.5nm,0.5s,mb4.9,baz=5.8,slow=7.5,SNR=28
ARU Arti 56.62 319 ⇓*i*P P **22 37 05.9 -1.6**
ARU *e* 22 37 27.6
ARU *e* 22 38 08.2
ARU *e* 22 39 07.8
ARU pmax pmax
comp=Z,25nm,0.8s,mb5.3
ARU MLR MLR
comp=Z,200nm,18.0s,MS4.3
ARU MLR MLR
comp=N,100nm,19.0s,MS4.1
ARU MLR MLR
comp=E,100nm,18.5s,MS4.1
ARU Arti 56.62 319 *e*P P **22 37 05.7 -1.9**
comp=E,24nm,0.8s,mb5.3
AB31 Akbulak array 58.10 310 P P **22 37 16.4 -1.7**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
DLBC Dease Lake 59.33 38 P P **22 37 27.6 +1.2**
comp=Z,1.0nm,0.5s,mb4.1,baz=266,slow=22,SNR=4.0
DLBC Dease Lake 59.33 38 *e*P P **22 37 26.0 -0.5**
ARCES ARCESS Array B 64.48 339 P P **22 37 58.7 -2.0**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 64.48 339 P P **22 37 58.7 -1.9**
comp=Z,3.1nm,0.7s,mb4.4,baz=51,slow=7.8,SNR=14
ARCES ARCESS Array B 64.48 339 P P **22 37 58.7 -1.9**
YKA Yellowknife Ar 64.53 30 *i*P P **22 38 01.3 +0.2**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 64.53 30 P P **22 38 00.3 -0.7**
comp=Z,1.4nm,0.7s,mb4.1,baz=305,slow=7.2,SNR=3.9
YKA LR LR 23 09 41.7
comp=Z,943nm,19.3s,MS5.0,baz=280,slow=39
YKA Yellowknife Ar 64.53 30 P P **22 38 00.3 -0.7**
YKA LR LR 23 09 41.7
STKA Stephens Creek 67.92 179 P P **22 38 22.4 -0.8**
comp=Z,1.6nm,0.5s,mb4.3,baz=330,slow=9.2,SNR=5.2
OBN Obninsk 68.41 323 *i*P P **22 38 23.7 -2.1**
OBN *e**PP pP 22 38 40.7 +1.7
OBN pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
KAF Kangasniemi 68.72 333 *e*p P **22 38 26.4 -1.2**
comp=Z,6.7nm,0.8s,mb4.6
KAF Kangasniemi 68.72 333 *e*P P **22 38 26.4 -1.2**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
FINES FINESS Array B 69.23 332 P P **22 38 30.3 -0.4**
FINES pmax pmax
comp=Z,7.0nm,0.8s
FINES FINESS Array B 69.23 332 P P **22 38 30.3 -0.4**
comp=Z,7.1nm,0.8s,mb4.6,baz=56,slow=6.9,SNR=36
GOF Gofitskoye 70.28 312 ⇓*i*P P **22 38 37.6 +0.2**
GOF pmax pmax
comp=Z,28nm,1.3s,mb5.0
VSU Vasula 70.84 330 *i*P P **22 38 40.6 0.0**
YBH Yreka Blue Hor 71.00 52 P P **22 38 43.1 +1.2**
YBH pmax pmax
comp=Z,1.0nm,0.7s
YBH Yreka Blue Hor 71.00 52 P P **22 38 43.1 +1.3**
comp=Z,1.1nm,0.7s,mb3.9,baz=53,slow=6.9,SNR=2.7
KIV Kislovodsk 71.08 311 *e*P P **22 38 42.4 +0.1**
KIV pmax pmax
comp=Z,21nm,0.9s,mb5.1
KIV Kislovodsk 71.08 311 *e*P P **22 38 42.4 +0.1**
comp=Z,21nm,0.9s,mb5.1
GNI Garni 71.82 307 *i*P P **22 38 48.0 +1.2**
GNI pmax pmax
comp=Z,13nm,1.3s
GNI Garni 71.82 307 P P **22 38 47.2 +0.4**
comp=Z,3.2nm,0.6s,mb4.4,baz=54,slow=14,SNR=5.7
GNI Garni 71.82 307 *e*P P **22 38 47.4 +0.5**
comp=Z,6.9nm,0.9s,mb4.6
SOC Sochi 73.08 312 *e*P P **22 39 06.9 +13**
SOC *e*S S 22 48 12.6 -4.3
SOC pmax pmax
comp=Z,12nm,1.3s,mb4.7
SOC pmax pmax
comp=N,6.0nm,1.2s
SOC pmax pmax
comp=E,8.0nm,1.1s
SOC MLR MLR
comp=Z,113nm,18.0s,MS4.2
SOC MLR MLR
comp=N,178nm,27.0s
SOC MLR MLR
comp=E,90nm,18.0s
ANN Anapa 73.74 314 *e*P P **22 39 03.4 +5.4**
ANN *i* pP 22 39 13.5 +2.3
ANN *e* pP 22 39 19.7 +8.5
ANN *i* *PP pP 22 39 26.1 +15
ANN *e*S S 22 48 22.6 -1.6
ANN pmax pmax
comp=Z,18nm,1.5s,mb4.8
FFC Flin Flon 74.42 32 *e*P P **22 39 02.0 +0.3**
FFC pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
FFC Flin Flon 74.42 32 *e*P P **22 39 02.0 +0.3**
comp=Z,6.5nm,1.0s,mb4.5
HFS Hagfors 74.53 336 P P **22 39 01.6 -0.7**
HFS pmax pmax
comp=Z,4.0nm,0.7s
HFS Hagfors 74.53 336 P P **22 39 01.6 -0.6**
comp=Z,3.5nm,0.7s,mb4.4,baz=72,slow=4.7,SNR=23
AKASG Malin Array Be 74.60 322 P P **22 39 02.4 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 74.60 322 P P **22 39 02.4 -0.5**
comp=Z,2.0nm,0.4s,mb4.4,baz=45,slow=6.1,SNR=32
NB2 NORSAR Subarra 74.65 337 P P **22 39 02.1 -0.8**
comp=Z,6.8nm,0.8s,mb4.6,baz=41,slow=5.6
NB2 NORSAR Subarra 74.65 337 P P **22 39 02.1 -0.8**
NB2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
NOA NORSAR Array B 74.65 337 P P **22 39 02.3 -0.6**
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA NORSAR Array B 74.65 337 P P **22 39 02.3 -0.6**
comp=Z,6.2nm,0.8s,mb4.6,baz=39,slow=5.8,SNR=28
HLID Haley 75.05 47 P P **22 39 06.0 +0.5**
comp=Z,3.2nm,1.0s,mb4.2
SUW Suwalki 75.25 327 *e*P P **22 39 06.4 -0.1**
SUW Suwalki 75.25 327 *e*P P **22 39 06.3 -0.1**
BOZ Bozeman (W) 75.40 44 *e*P P **22 39 08.3 +0.8**
BOZ *e**PP pP 22 39 22.3 +1.5
BOZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BOZ Bozeman (W) 75.40 44 *e*P P **22 39 08.3 +0.8**
comp=Z,7.2nm,0.8s,mb4.7
BOZ *e*pP pP 22 39 22.3 +1.5
SIM Simferopol' 75.55 315 ⇓*e*P P **22 39 08.6 +0.2**
SIM pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
QRN Al-Qurain 75.85 295 *e*P P **22 39 10.8 +0.4**
RDF Al-Radifah 76.02 296 *e*P P **22 39 11.7 +0.3**
RDF AMb AMB 22 39 12.5
comp=Z,54nm,1.0s,mb5.4
NAY Al-Naaiem 76.06 296 *e*P P **22 39 12.0 +0.3**
NAY AMb AMB 22 39 12.7
comp=Z,22nm,1.1s,mb5.0
ELK Elko 76.21 49 P P **22 39 12.6 +0.3**
ELK pmax pmax
comp=Z,1.0nm,0.6s
ELK Elko 76.21 49 P P **22 39 12.6 +0.4**
comp=Z,0.8nm,0.6s,mb3.9,baz=337,slow=4.1,SNR=6.8
MALT Malatya 76.91 308 *e*P P **22 39 16.4 +0.1**
MALT pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MALT Malatya 76.91 308 *e*P P **22 39 16.4 +0.1**
comp=Z,3.3nm,0.9s,mb4.3
MOOW Moose Ponds 77.06 45 P P **22 39 18.3 +1.3**
comp=Z,4.0nm,0.8s,mb4.4
MOOW *e*pP pP 22 39 32.2 +1.9
TPAW Teton Pass 77.10 45 *e*P P **22 39 19.4 +2.2**
comp=Z,3.7nm,0.8s,mb4.4
BW06 Boulder Array 78.35 45 *e*P P **22 39 24.4 +0.3**
comp=Z,1.5nm,0.8s,mb4.0
BW06 *e*pP pP 22 39 38.4 +1.0
PDAR Pinedale Array 78.35 45 P P **22 39 24.8 +0.7**
comp=Z,1.5nm,0.6s,mb4.1,baz=290,slow=2.5,SNR=17
PDAR LR LR 23 13 10.9
comp=Z,462nm,18.4s,MS4.8,baz=152,slow=35
KWP Kalwaria 78.46 324 *e*P P **22 39 25.4 +0.9**
KWP Kalwaria 78.46 324 *e*P P **22 39 25.4 +0.9**
BURAR Bucovina Array 78.61 322 ⇑P P **22 39 25.2 -0.2**
BR131 Keskin Array S 79.03 311 P P **22 39 26.6 -1.3**
comp=Z,3.3nm,0.8s,mb4.3
BRTR Keskin Array B 79.03 311 P P **22 39 27.6 -0.3**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 79.03 311 P P **22 39 27.6 -0.3**
comp=Z,3.5nm,0.9s,mb4.3,baz=108,slow=3.9,SNR=17
KOLS Kolonicke sedl 79.14 324 *e*P P **22 39 29.1 +0.8**
STHS Stebnicka Huta 79.29 325 *e*P P **22 39 30.4 +1.3**
OJC Ojcow 79.39 326 *e*P P **22 39 29.5 -0.1**
CRVS Cervenica-Dubn 79.55 324 *e*P P **22 39 31.1 +0.6**
MLR Muntele Rosu 79.66 320 P P **22 39 30.8 -0.4**
MLR pmax pmax
comp=Z,1.0nm,0.3s
MLR Muntele Rosu 79.66 320 P P **22 39 30.8 -0.5**
comp=Z,0.6nm,0.3s,mb4.0,baz=295,slow=14,SNR=3.4
MLR Muntele Rosu 79.66 320 ⇓P P **22 39 30.6 -0.6**
NIE Niedzica 79.72 325 *e*P P **22 39 32.5 +1.1**
OKC Ostrava-Krasne 80.40 327 *e*P P **22 39 36.2 +1.1**
DRGR 80.42 322 ⇓P P **22 39 35.7 +0.5**
KSP Ksiaz 80.47 328 *e*P P **22 39 35.7 +0.3**
KSP Ksiaz 80.47 328 *e*P P **22 39 35.8 +0.3**
BSEG Bad Segeberg 80.48 333 P P **22 39 35.8 +0.4**
BSEG pmax pmax
comp=Z,16nm,1.3s,mb4.8
MZLS Mizel 80.52 293 P P **22 39 37.6 +1.3**
MORC Moravsky Berou 80.71 327 *e*P P **22 39 36.8 +0.1**
MORC pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MORC Moravsky Berou 80.71 327 *e*P P **22 39 36.8 +0.1**
comp=Z,2.7nm,0.9s,mb4.2
DPC Dobruska-Polom 80.82 328 *e*P P **22 39 38.2 +0.9**
UPC Upice 80.84 328 *e*P P **22 39 38.1 +0.7**
UPC *e*PCP PcP 22 39 44.4 +0.2
PSZ Piszkesteto 80.98 324 *e*P P **22 39 39.0 +0.8**
PSZ pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
PSZ Piszkesteto 80.98 324 *e*P P **22 39 39.0 +0.8**
comp=Z,8.5nm,1.1s,mb4.6
HILS Ha'il 81.06 297 P P **22 39 39.7 +0.7**
VYHS Vyhne 81.06 325 *e*P P **22 39 39.7 +1.1**
BRG Berggiesshubel 81.43 329 *i*P P **22 39 41.2 +0.7**
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BRG Berggiesshubel 81.43 329 *i*P P **22 39 41.2 +0.7**
comp=Z,7.7nm,1.0s,mb4.6
PVCC Panska Ves 81.44 329 *e*P P **22 39 41.4 +0.9**
PVCC *e*PCP PcP 22 39 48.0 +1.2
PV10 Paradox Valley 81.44 48 *e*pP pP 22 39 56.0 +1.8
VRAC Vranov 81.48 327 P P **22 39 41.1 +0.4**
VRAC pmax pmax
comp=Z,4.0nm,0.8s
VRAC Vranov 81.48 327 P P **22 39 41.1 +0.4**
comp=Z,4.2nm,0.8s,mb4.4,baz=48,slow=7.7,SNR=5.9
CLL Collm 81.49 330 ⇓*i*P P **22 39 40.9 +0.2**
CLL *e* pP 22 39 55.0 +0.8
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.7
CLL Collm 81.49 330 ⇓*i*P P **22 39 40.9 +0.2**
comp=Z,11nm,1.0s,mb4.7
CLL *i* 22 39 44.9
CLL *e* pP 22 39 55.0 +0.8
CLL Collm 81.49 330 ⇓P P **22 39 40.9 +0.2**
comp=Z,logA/T=1.0,mb4.7
CLL *i* 22 39 44.9
CLL *e* pP 22 39 55.0 +0.8
SMOL Smolenice 81.69 326 *e*P P **22 39 42.2 +0.3**
PRU Pruhonice 81.85 328 *e*P P **22 39 43.5 +0.8**
PRU *e*PCP PcP 22 39 49.7 +1.1
CLZ Clausthal 82.11 332 P P **22 39 44.6 +0.7**
CLZ pmax pmax
comp=Z,11nm,1.1s,mb4.7
NKC Novy Kostel 82.54 330 *e*P P **22 39 46.9 +0.7**
MOX Moxa 82.56 330 *e*P P **22 39 46.6 +0.3**
MOX pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
MOX Moxa 82.56 330 *e*P P **22 39 46.6 +0.3**
comp=Z,5.0nm,1.1s,mb4.5
MOX Moxa 82.56 330 *i*P P **22 39 46.6 +0.3**
comp=Z,logA/T=0.7,mb4.5
KHC Kasperske Hory 82.91 328 ⇓*e*P P **22 39 48.9 +0.8**
KHC Kasperske Hory 82.91 328 *e*P P **22 39 48.2 +0.1**
KHC *e*PCP PcP 22 39 53.0 -0.2
GEC2 GERESS Array S 83.08 328 *e*P P **22 39 49.5 +0.5**
GERES GERESS Array B 83.08 328 P P **22 39 48.8 -0.2**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 83.08 328 P P **22 39 48.8 -0.1**
comp=Z,2.0nm,0.7s,mb4.2,baz=27,slow=3.0,SNR=8.8
WET Wettzell 83.20 329 *e*P P **22 39 50.7 +1.1**
WET pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
WET Wettzell 83.20 329 *e*P P **22 39 50.7 +1.1**
comp=Z,6.0nm,1.1s,mb4.5
GRA1 Grafenberg Arr 83.46 330 *e*P P **22 39 51.9 +1.0**
comp=Z,22nm,1.0s,mb5.1
GRF Grafenberg Arr 83.46 330 *e*P P **22 39 51.9 +1.0**
GRF pmax pmax
comp=Z,22nm,1.0s,mb5.1
GRF Grafenberg Arr 83.46 330 *e*P P **22 39 51.9 +1.0**
GRF pmax pmax
comp=Z,22nm,1.0s,mb5.1
GRF Grafenberg Arr 83.46 330 *e*P P **22 39 51.9 +1.0**
comp=Z,22nm,1.0s,mb5.1
EKA Eskdalemuir Ar 83.62 340 P P **22 39 52.3 +0.8**
EKA pmax pmax
comp=Z,2.0nm,0.7s
EKA Eskdalemuir Ar 83.62 340 P P **22 39 52.2 +0.7**
comp=Z,1.5nm,0.7s,mb4.2,baz=30,slow=4.8,SNR=8.7
TBKS Tabuk 84.25 301 P P **22 39 56.3 +0.9**
RPZ Rata Peaks 84.28 159 LR LR 23 14 27.8
comp=Z,205nm,19.2s,MS4.5,baz=3.5,slow=33
JMQS Jabal Moqyreh 84.30 302 P P **22 39 56.6 +1.0**
TATS Tathlith 84.45 290 P P **22 39 57.7 +1.2**
FUR Furstenfeldbru 84.63 329 *e*P P **22 39 57.6 +0.8**
BDAS Al Bad' 85.12 302 P P **22 40 00.2 +0.5**
ANMO Albuquerque 85.25 50 P P **22 40 02.5 +2.3**
ANMO pmax pmax
comp=Z,1.0nm,0.8s
ANMO Albuquerque 85.25 50 P P **22 40 02.5 +2.3**
comp=Z,0.9nm,0.8s,mb4.0,baz=297,slow=6.6,SNR=3.2
DJNS Zahran al Janu 85.48 289 P P **22 40 03.5 +1.8**
UMJS Umm Lajj 85.56 298 P P **22 40 03.1 +1.2**
BLJS Baljurashi 85.66 291 P P **22 40 03.5 +1.0**
BFO Black Forest 85.70 331 P P **22 40 02.5 +0.5**
BFO pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
SCHQ Schefferville 86.04 16 P P **22 40 04.8 +1.2**
comp=Z,2.9nm,0.8s,mb4.5,baz=69,slow=2.6,SNR=3.9
CDF Champ du Feu 86.05 331 *e*P P **22 40 03.5 -0.2**
comp=Z,13nm,0.9s,mb4.9
CDF Champ du Feu 86.05 331 *e*P P **22 40 03.5 -0.2**
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
DAVOX Davos 86.31 329 P P **22 40 06.3 +1.2**
comp=Z,1.6nm,0.8s,mb4.3,baz=208,slow=9.4,SNR=3.6
HINF Hinteralfeld 86.70 331 *e*P P **22 40 06.4 -0.5**
HAU Haudompre 86.74 331 *e*P P **22 40 07.0 -0.1**
comp=Z,9.9nm,0.9s,mb4.8
HAU Haudompre 86.74 331 *e*P P **22 40 07.0 -0.1**
HAU pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
LOR Lormes 88.29 332 *e*P P **22 40 14.1 -0.5**
comp=Z,6.2nm,1.0s,mb4.5
LOR Lormes 88.29 332 *e*P P **22 40 14.1 -0.5**
LOR pmax pmax
comp=Z,3.0nm,1.0s,mb4.5
SSF Saint Saulge 88.60 332 *e*P P **22 40 15.7 -0.4**
SSF pmax pmax
comp=Z,4.0nm,1.1s,mb4.7
SSF Saint Saulge 88.60 332 *e*P P **22 40 15.7 -0.4**
comp=Z,3.7nm,1.1s,mb4.6
LPL La Plagne 88.62 330 *e*P P **22 40 16.0 -0.2**
comp=Z,3.1nm,0.7s,mb4.5
LPL La Plagne 88.62 330 *e*P P **22 40 16.0 -0.2**
LPL pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
LPG La Plagne 88.63 330 *e*P P **22 40 15.7 -0.6**
comp=Z,4.6nm,0.7s,mb4.7
LPG La Plagne 88.63 330 *e*P P **22 40 15.7 -0.6**

LPG pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
MBDF Montbardon 89.25 329 *e*P **P 22 40 18.8 -0.4**
BGF Bois d'Agland 89.27 333 *e*P **P 22 40 19.0 -0.3**
ORIF Oris-en-Rattie 89.46 330 *e*P **P 22 40 19.5 -0.7**
SBF Sospel 89.67 328 *e*P **P 22 40 20.4 -0.9**
comp=Z,12nm,0.7s,mb5.0
SBF Sospel 89.67 328 *e*P **P 22 40 20.4 -0.9**
SBF pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
VIVF Saint-Julien-l 89.99 331 *e*P **P 22 40 22.1 -0.6**
PGF Pioggiola 90.06 327 *e*P **P 22 40 22.3 -0.8**
comp=Z,56nm,1.3s,mb5.4
PGF Pioggiola 90.06 327 *e*P **P 22 40 22.3 -0.8**
PGF pmax pmax
comp=Z,28nm,1.3s,mb5.4
MFF Saint Martin d 90.31 334 *e*P **P 22 40 23.4 -0.8**
comp=Z,8.9nm,0.9s,mb4.8
MFF Saint Martin d 90.31 334 *e*P **P 22 40 23.4 -0.8**
MFF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
LMR La Mourre 90.50 329 *e*P **P 22 40 23.6 -1.5**
TXAR Lajitas Array 90.77 52 P **P 22 40 28.4 +1.6**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 90.77 52 P **P 22 40 28.4 +1.6**
comp=Z,0.6nm,0.7s,mb4.0,baz=316,slow=3.2,SNR=6.1
TXAR Lajitas Array 90.77 52 P **P 22 40 28.4 +1.6**
RJF Les Rejaudoux 90.82 333 *e*P **P 22 40 26.1 -0.5**
comp=Z,8.8nm,0.9s,mb4.8
RJF Les Rejaudoux 90.82 333 *e*P **P 22 40 26.1 -0.5**
RJF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
CAF Calviac 90.94 332 *e*P **P 22 40 26.6 -0.6**
comp=Z,13nm,1.1s,mb4.9
CAF Calviac 90.94 332 *e*P **P 22 40 26.6 -0.6**
CAF pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
LASF Ste Croix 90.96 331 *e*P **P 22 40 26.5 -0.8**
LFF La Frestale 91.42 333 *e*P **P 22 40 28.1 -1.3**
comp=Z,15nm,0.9s,mb5.0
LFF La Frestale 91.42 333 *e*P **P 22 40 28.1 -1.3**
LFF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
MTLF Montolieu 92.22 331 *e*P **P 22 40 32.2 -0.9**
comp=Z,30nm,1.6s,mb5.1
MTLF Montolieu 92.22 331 *e*P **P 22 40 32.2 -0.9**
MTLF pmax pmax
comp=Z,15nm,1.6s,mb5.1
EPF Esparros 93.21 332 *e*P **P 22 40 37.1 -0.5**
ETSF Etsaut 93.66 333 *e*P **P 22 40 38.9 -0.8**
comp=Z,23nm,1.3s,mb5.1
ETSF Etsaut 93.66 333 *e*P **P 22 40 38.9 -0.8**
ETSF pmax pmax
comp=Z,11nm,1.3s,mb5.1
SJPF Ste Jean 93.71 333 *e*P **P 22 40 39.4 -0.5**
BOSA Boshof 126.13 259 PKP PKPdf 22 46 25.9 +1.0
comp=Z,2.1nm,0.9s,baz=63,slow=2.3,SNR=3.0
LPAZ La Paz 147.30 60 PKPbc PKPdf 22 47 08.8 +5.1
comp=Z,1.9nm,0.7s,baz=333,slow=2.7,SNR=13
LPAZ La Paz 147.30 60 *e*PKPbc PKPdf 22 47 08.5 +4.8

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*KRSC **10** 22:39:31.7±1.0, 55.28N×166.91E, h31^{km}±2^{km}, ML5.5*
*BJI **10** 22:39:32.6, 55.71N×166.48E, h20^{km}, mB5.2, mb5.0, Ms5.2, Msz4.8*
*IDC **10** 22:39:34.6±4.2, 55.38N×166.68E, h22^{km}±27^{km}, mb4.7/32, mb1 4.8/33, mb1mx4.8/34, mbtmp4.8/33, ML4.3/1, MS4.5/21, Ms1 4.6/21, ms1mx4.4/33, Error ellipse: s-maj=13.7km s-min=9.9km az=163.0*
*HRVD **10** 22:39:35.0±0.2, 55.40N×166.90E, h16^{km}, MW5.2/71, Centroid moment Tensor Solution. LP body waves: s54,c96;Mantle waves: s71,c143; Half duration: 1.0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.07±.02; $M_{\theta\theta}$-0.79±.02; $M_{\phi\phi}$0.71±.01; $M_{r\theta}$-0.15±.05; $M_{\theta\phi}$-0.23±.01; $M_{\phi r}$-0.16±.04; Best double couple: M_0.816×10^{17} NP1: ϕ_s127°,δ74°,λ179°. NP2:ϕ_s217°,δ89°,λ16°. Principal axes: T .777, Plg11°, Azm83°; N .078, Plg74°, Azm219°; P -.855, Plg11°, Azm351°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **10** 22:39:35.0±1.1, 55.35N×166.61E, h42^{km}, mb5.1/107, MS4.6/35 Error ellipse: s-maj=6.9km s-min=4.1km az=97.3*
*NEIC **10** 22:39:35.0±0.2, 55.39N×166.70E, mb5.1/119, MS4.5/14, Error ellipse: s-maj=5.5km s-min=2.9km az=3.0*
ISC 10 22:39:32.5±0.6, **55.29N**±0.03×**166.72E**±0.02, **h25**^{km}±4^{km}, **h27**^{km}±.5^{km}**:pP-P, n544,** σ**1.01**/577, **mb5.0**/184, **MS4.7**/61, **13C-31D, Komandorsky Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
BKI Bering 0.43 260 *i* P **Pb 22 39 41.8 +0.3**
BKI *i* S **Sb 22 39 49.0 +1.3**
BKI Smax
89μm,1.0s
KBTR Krutoberegovo 2.39 294 P **Pn 22 40 09.5 -1.4**
KBTR S **Sn 22 40 36.7 -3.1**
KBTR Krutoberegovo 2.39 294 *i* P **Pn 22 40 09.8 -1.1**
KBTR *i* S **Sn 22 40 38.2 -1.6**
MKZ Mys Kozlova 2.97 258 P **Pn 22 40 19.3 +0.1**
MKZ S **Sn 22 40 54.0 -0.4**
MKZ Mys Kozlova 2.97 258 *i* P **Pn 22 40 19.2 0.0**
MKZ *i* S **Sn 22 40 54.0 -0.4**
SVLR Shiveluch 3.35 295 *e*P **Pn 22 40 26.4 +1.8**
SVLR *e*S **Sn 22 41 07.3 +3.2**
ZLN Zelenaya 3.43 285 *i* P **Pn 22 40 27.2 +1.5**
ZLN *i* S **Sn 22 41 07.0 +0.9**
CIRR Tsirk 3.48 286 *i* P **Pn 22 40 27.7 +1.3**
CIRR *e*S **Sn 22 41 07.8 +0.5**
LGNR Loginova 3.50 286 *e*P **Pn 22 40 27.2 +0.4**
LGNR *e*S **Sn 22 41 07.5 -0.5**
KLY Klyuchi 3.58 289 P **Pn 22 40 27.1 -0.7**
KLY S **Sn 22 41 08.2 -1.5**
KLY Klyuchi 3.58 289 *i* P **Pn 22 40 26.7 -1.1**
KLY *i* S **Sn 22 41 06.3 -3.4**
KRSR Krestovskiy 3.60 288 *i* P **Pn 22 40 28.5 +0.4**
KRSR *i* S **Sn 22 41 11.0 +0.6**
KMNR Kamenistaya 3.71 280 *i* P **Pn 22 40 31.1 +1.3**
KMNR *i* S **Sn 22 41 15.0 +1.7**
KPT Kopyto 3.75 283 *i* P **Pn 22 40 31.2 +1.0**
KPT *i* S **Sn 22 41 14.3 +0.2**
TUMR Tumrok 3.76 273 *i* P **Pn 22 40 31.7 +1.3**
TUMR *i* S **Sn 22 41 16.2 +1.8**
KOZR Kozyr 3.94 284 PN **Pn 22 40 34.6 +1.6**
KOZR S **Sn 22 41 20.1 +1.1**
KOZ Kozyrevsk 3.95 284 P **Pn 22 40 34.6 +1.5**
KOZ S **Sn 22 41 20.1 +0.8**
KOZ Kozyrevsk 3.95 284 *i* P **Pn 22 40 34.9 +1.8**
KOZ *i* S **Sn 22 41 20.3 +1.0**
SRDR Sredinnyy 4.08 288 *i* P **Pn 22 40 36.2 +1.2**
SRDR *e*S **Sn 22 41 22.2 -0.5**
KII Karymskiy 4.40 256 P **Pn 22 40 40.1 +0.6**
KII S **Sn 22 41 30.1 -0.6**
KII Karymskiy 4.40 256 *i* P **Pn 22 40 40.1 +0.6**
KII *i* S **Sn 22 41 30.2 -0.5**
OSSR Ossora 4.44 335 *i* P **Pn 22 40 37.8 -2.3**
OSSR *e*S **Sn 22 41 26.8 -4.9**
OSSR Smax
380nm,0.9s
FX1 Attu Island--F 4.50 120 Pn **Pn 22 40 37.2 -3.7**
156nm,0.3s,baz=331,slow=6.4,SNR=366
FX1 Sn **Sn 22 41 26.4 -6.6**
486nm,0.3s,baz=85,slow=20,SNR=27
FX1 Attu Island--F 4.50 120⇑*e*P **Pn 22 40 36.7 -4.1**
FX1 *e*S **Sn 22 41 25.4 -7.6**
SPN Mys Shipunski 4.50 244 P **Pn 22 40 39.8 -1.1**
SPN S **Sn 22 41 29.0 -4.2**
SPN Mys Shipunski 4.50 244 *i* P **Pn 22 40 39.6 -1.3**
SPN *i* S **Sn 22 41 28.9 -4.3**
ESO Esso 4.59 281 *i* P **Pn 22 40 42.7 +0.5**
ESO *e*S **Sn 22 41 34.6 -0.9**
ESO Smax
1μm,1.2s
NLC Nalytchevo 4.82 247 P **Pn 22 40 44.7 -0.7**
NLC S **Sn 22 41 37.8 -3.3**
NLC Nalytchevo 4.82 247 *i* P **Pn 22 40 44.6 -0.8**
NLC *i* S **Sn 22 41 37.8 -3.3**
SDLR Sedlovina 5.01 250 *i* P **Pn 22 40 48.3 +0.2**
SDLR *i* S **Sn 22 41 42.5 -3.5**
SMAR Somma 5.06 250 *i* P **Pn 22 40 48.7 -0.2**
SMAR *i* S **Sn 22 41 45.3 -2.0**
UGLR Uglovaya 5.08 249 *i* P **Pn 22 40 49.2 +0.2**
UGLR *i* S **Sn 22 41 47.2 -0.4**
AVH Avacha 5.09 250 *i* P **Pn 22 40 49.6 +0.3**
AVH *e*S **Sn 22 41 46.3 -1.8**
KOK Koryaka 5.14 250 *i* P **Pn 22 40 50.4 +0.5**
KOK *i* S **Sn 22 41 48.5 -0.7**
PET Petropavlovsk 5.25 248 P **Pn 22 40 51.4 -0.2**
PET S **Sn 22 41 48.7 -3.4**
PET Petropavlovsk 5.25 248⇑*e*PN **Pn 22 40 50.9 -0.7**
PET pmax pmax
comp=Z,321nm,0.6s
PET Petropavlovsk 5.25 248⇑*e*P **Pn 22 40 50.9 -0.6**
comp=Z,321nm,0.6s
PET *e*S **Sn 22 41 49.1 -3.0**
PET Petropavlovsk 5.25 248 *i* P **Pn 22 40 51.2 -0.4**
PET *i* S **Sn 22 41 48.5 -3.6**
GNL Ganaly 5.36 256 *i* P **Pn 22 40 53.7 +0.7**
GNL *e*S **Sn 22 41 54.2 -0.5**
RUS Russkaya 5.63 243 P **Pn 22 40 55.9 -1.0**
RUS S **Sn 22 41 57.4 -4.2**
RUS Russkaya 5.63 243 *i* P **Pn 22 40 55.8 -1.1**
RUS *i* S **Sn 22 41 57.1 -4.5**
GRL Gorelyy 5.79 245 *i* P **Pn 22 40 59.5 +0.3**
GRL *e*S **Sn 22 42 03.6 -2.1**
APC Apacha 6.10 251 *i* P **Pn 22 41 04.1 +0.6**
APC *e*S **Sn 22 42 10.9 -2.4**
APC Smax
comp=Z,540nm,1.1s
PAU Pauzhetka 7.05 241 *e*P **Pn 22 41 15.6 -1.3**
PAU *e*S **Sn 22 42 31.2 -5.9**
PAU Smax
comp=Z,430nm,0.8s
KAMR Kamenskoye 7.20 358 *i* P **Pn 22 41 17.5 -1.5**
KAMR *e*S **Sn 22 42 34.2 -6.6**
KAMR Smax
comp=Z,260nm,0.8s
SKR Severo-Kuril's 7.88 239 *e*PN **Pn 22 41 23.2 -5.3**
SKR pmax pmax
comp=E,50nm,0.5s
SKR pmax pmax
comp=Z,80nm,0.5s
SKR MLR MLR
comp=N,8μm,16.0s
SKR MLR MLR
comp=E,6μm,16.0s
SKR MLR MLR
comp=Z,3μm,16.0s
MA2 Magadan 9.61 303 *e*PN **P 22 41 52.5 +0.3**
MA2 *e*S **Sn 22 43 42.0 +1.5**
MA2 pmax pmax
comp=Z,30nm,1.3s
MA2 Magadan 9.61 303 P **P 22 41 52.2 -0.1**
SEY Seymchan 10.61 322 *e*PN **P 22 42 05.9 -0.1**
SEY pmax pmax
comp=Z,20nm,1.1s
SEY pmax pmax
comp=N,8.0nm,0.9s
SEY pmax pmax
comp=E,10.0nm,0.9s
GSTR Great Sitkin T 10.70 100 *e*P **P 22 42 01.9 -5.3**
BILL Bilibino 12.80 359⇓*e*PN **P 22 42 35.1 -0.5**
BILL pmax pmax
comp=Z,32nm,0.9s
BILL MLR MLR
comp=Z,5μm,17.0s
BILL Bilibino 12.80 359 *e*P **P 22 42 33.3 -2.2**
comp=Z,31nm,0.6s
KUR Kuril'sk 15.65 238 *e*P **P 22 43 10.0 -2.9**
KUR pmax pmax
comp=N,110nm,1.0s
KUR pmax pmax
comp=Z,190nm,1.0s
KUR MLR MLR
comp=N,3μm,14.0s
KUR MLR MLR
comp=E,4μm,14.0s
KUR MLR MLR
comp=Z,4μm,14.0s
AKUT Akutan 15.90 83 *e*P **P 22 43 14.4 -1.7**
UGL Uglegorsk 16.29 258 *e*P **P 22 43 23.0 +1.9**
UGL *e* 22 46 25.0
UGL pmax pmax
comp=Z,600nm,1.5s
UGL pmax pmax
comp=Z,66nm,0.8s
UGL MLR MLR
comp=N,5μm,13.0s
UGL MLR MLR
comp=E,3μm,14.0s
UGL MLR MLR
comp=Z,2μm,14.0s
YSS Yuzh-Sakhalins 17.13 251⇑*e*P **P 22 43 31.9 +0.3**
YSS pmax pmax
comp=N,1μm,1.0s
YSS pmax pmax
comp=Z,1μm,1.0s
YSS MLR MLR
comp=N,4μm,13.0s
YSS MLR MLR
comp=Z,2μm,13.0s
YSS Yuzh-Sakhalins 17.13 251 *e*P **P 22 43 33.2 +1.6**
comp=Z,122nm,1.1s
SDPT Sand Point 18.58 76 *e*P **P 22 43 48.7 -0.9**
ASAJ Asahikawa 19.08 244 P **P 22 43 57.0 +1.3**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ MLR MLR
comp=Z,2μm,18.9s
ASAJ Asahikawa 19.08 244 P **P 22 43 57.0 +1.3**
comp=Z,1.6nm,0.3s,baz=45,slow=8.7,SNR=9.2
ASAJ LR LR 22 50 46.0
comp=Z,2μm,18.9s,baz=55,slow=35
YAK Yakutsk 20.18 305 P **P 22 44 06.2 -1.5**
YAK Yakutsk 20.18 305 *e*P **P 22 44 05.5 -2.2**
comp=Z,282nm,0.8s
KLR Kul'dur 22.07 269⇓*i*P **P 22 44 25.2 -1.9**
KLR *e*S **S 22 48 31.0 +6.9**
KLR pmax pmax
comp=N,40nm,1.8s
KLR pmax pmax
comp=Z,56nm,1.8s,mb4.7
KLR MLR MLR
comp=N,3μm,13.0s
KLR MLR MLR
comp=Z,5μm,13.0s,MS5.1
SPU Mount Spurr 22.19 58 *e*P **P 22 44 29.1 +1.0**
TIXI Tiksi 22.92 330 *e*P **P 22 44 33.2 -1.9**
TIXI *e*S **S 22 48 43.0 +3.9**
TIXI pmax pmax
comp=Z,40nm,0.9s,mb4.8
TIXI MLR MLR
comp=Z,1μm,13.0s,MS4.5
CLNS Chul'man 23.14 291 *e*P **P 22 44 37.9 +0.5**
CLNS *e**PP 22 44 44.5
CLNS *e* 22 45 07.4
CLNS *e*PPP PPP 22 45 19.5 +1.5
CLNS *e*S **S 22 48 47.9 +4.8**
CLNS *e*SS SS 22 49 40.6 +12
CLNS *e* 22 55 40.3
CLNS pmax pmax
comp=Z,56nm,1.4s,mb4.8
CLNS pmax pmax
comp=N,20nm,1.2s
CLNS pmax pmax
comp=E,50nm,1.6s
CLNS pmax pmax
comp=Z,51nm,1.6s,mb4.7
CLNS pmax pmax
comp=N,19nm,0.7s
CLNS pmax pmax
comp=E,25nm,1.0s
CLNS MLR MLR
comp=Z,2μm,24.0s,MS4.4
CLNS MLR MLR
comp=N,4μm,16.0s
CLNS MLR MLR
comp=E,300nm,21.0s
ILAR Eielson Array 24.48 49 P **P 22 44 50.1 -0.1**
ILAR pmax pmax
comp=Z,51nm,1.0s
ILAR Eielson Array 24.48 49 P **P 22 44 50.1 -0.1**
comp=Z,51nm,1.0s,mb4.9,baz=257,slow=8.6,SNR=44
MID Middleton Isla 25.23 61 *e*P **P 22 44 57.8 +0.3**
MDJ Mudanjiang 25.86 261 P **P 22 45 04.0 +0.5**
MDJ AP pP 22 45 10.0 -0.7
MDJ XP sP 22 45 12.6 -1.4
MDJ PCP PcP 22 48 33.4 +0.4
MDJ S **S 22 49 34.0 +4.6**
MDJ XS 22 49 39.4
MDJ AMB AMB
comp=Z,33nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,191nm,6.5s
MDJ LR LR
comp=N,1μm,13.0s,MS4.7
MDJ LR LR
comp=E,1μm,14.1s,MS4.7
MDJ LR LR
comp=Z,1μm,14.1s,MS4.7
MDJ Mudanjiang 25.86 261 *e*P **P 22 45 03.9 +0.4**
comp=Z,31nm,0.9s,mb4.8
MDJ LR LR
comp=Z,1μm,20.0s,MS4.4
MJAR Matsushiro Arr 26.99 238 P **P 22 45 16.1 +2.1**
MJAR pmax pmax
comp=Z,10.0nm,0.8s
MJAR MLR MLR
comp=Z,327nm,20.2s
MJAR Matsushiro Arr 26.99 238 P **P 22 45 16.1 +2.1**
comp=Z,10nm,0.8s,mb4.4,baz=25,slow=7.4,SNR=22
MJAR LR LR 22 56 27.1
comp=Z,326nm,20.2s,MS3.9,baz=25,slow=38
MAJO Matsushiro 26.99 238 *e*P **P 22 45 15.7 +1.7**
MAJO pmax pmax
comp=Z,40nm,0.6s,mb5.1
MAJO MLR MLR
comp=Z,579nm,20.0s,MS4.1
MAJO Matsushiro 26.99 238 *e*P **P 22 45 15.7 +1.7**
comp=Z,40nm,0.6s,mb5.1
MAJO LR LR
comp=Z,579nm,20.0s,MS4.1
MAT Matsushiro 26.99 238 *e*P **P 22 45 16.0 +2.0**
MAT *e*S **S 22 49 52.0 +3.8**
MAT Matsushiro 26.99 238 P **P 22 45 15.9 +1.9**
MAT S **S 22 49 52.0 +3.8**
BOD Bodaibo 28.56 297 *e*P **P 22 45 26.0 -2.0**
BOD pmax pmax
comp=Z,18nm,1.7s,mb4.5
CN2 Changchun 28.71 264 *e*P **P 22 45 28.8 -0.7**
CN2 *e*XP sP 22 45 38.8 -1.2
CN2 *e*S **S 22 50 14.2 -1.6**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
CN2 AMB AMB
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,3μm,17.0s,MS5.0
CN2 LR LR
comp=E,1μm,17.0s,MS5.0
CN2 LR LR
comp=Z,1μm,15.0s,MS4.6
INK Inuvik 29.71 40 P **P 22 45 38.3 0.0**
INK pmax pmax
comp=Z,48nm,1.3s
INK Inuvik 29.71 40 P **P 22 45 38.2 -0.1**
comp=Z,17nm,1.0s,mb4.7,baz=284,slow=6.7,SNR=15
INK Inuvik 29.71 40 *e*P **P 22 45 38.0 -0.3**
comp=Z,48nm,1.4s,mb5.0
CIT Chita 31.04 286 *e*P **P 22 45 50.7 +0.5**
CIT pmax pmax
comp=Z,83nm,2.2s,mb5.2
SIT Sitka 31.48 62 *e*P **P 22 45 54.7 +0.7**
SIT Sitka 31.48 62 *e*P **P 22 45 55.1 +1.1**
SIT LR LR
comp=Z,800nm,18.0s,MS4.4
KS15 Wonju Array Si 31.65 252 *e*P **P 22 45 55.2 -0.5**
JNU Nakatsue 33.36 243 LR LR 22 58 12.3
comp=Z,652nm,20.1s,MS4.3,baz=193,slow=34
DLBC Dease Lake 33.59 58 P **P 22 46 13.8 +1.4**
comp=Z,25nm,0.8s,mb5.2,baz=288,slow=11,SNR=59
DLBC Dease Lake 33.59 58 *e*P **P 22 46 13.6 +1.2**
DL2 Dalian 34.09 260 P **P 22 46 17.2 +0.3**
DL2 S **S 22 51 47.1 +6.9**
DL2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
DL2 AMB AMB
comp=Z,130nm,3.5s
DL2 LR LR
comp=N,1μm,18.2s,MS4.7
DL2 LR LR
comp=E,420nm,15.5s,MS4.7
DL2 LR LR
comp=Z,940nm,20.1s,MS4.5
IRK Irkutsk 35.95 292 *e*P **P 22 46 33.1 +0.5**
IRK *e* 22 47 50.1
IRK pmax pmax
comp=Z,73nm,2.2s,mb5.2
TLY Talaya 36.57 291 *e*P **P 22 46 37.8 0.0**
TLY *e*S **S 22 52 15.1 -3.2**
TLY pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
TLY Talaya 36.57 291 *e*P **P 22 46 38.5 +0.6**
comp=Z,8.8nm,0.8s,mb4.6
TLY *e*PcP PcP 22 49 00.6 -0.7
ULN Ulaanbaatar 36.78 284 P **P 22 46 35.1 -4.6**
ULN pmax pmax
comp=Z,17nm,1.0s,mb4.8
ULN Ulaanbaatar 36.78 284 *e*P **P 22 46 35.0 -4.6**
comp=Z,17nm,1.0s,mb4.8
ULN LR LR
comp=Z,636nm,21.0s,MS4.4
SONM Songino Array 37.16 284 P **P 22 46 44.1 +1.2**
comp=Z,12nm,0.8s,mb4.8,baz=59,slow=8.2,SNR=40
SONM PcP PcP 22 49 02.5 -0.6
comp=Z,3.0nm,0.8s,baz=99,slow=1.9,SNR=4.9
SONM LR LR 23 02 45.1
comp=Z,735nm,18.0s,MS4.5,baz=60,slow=38
BBB Bella Bella 37.42 67 P **P 22 46 46.0 +1.0**
comp=Z,26nm,0.9s,mb5.0,baz=289,slow=7.4,SNR=7.6
BBB Bella Bella 37.42 67 P **P 22 46 46.0 +1.0**
ZAK Zakamensk 37.45 290 *e*P **P 22 46 45.8 +0.5**
ZAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
HHC Hu-ho-hao-te 38.52 272 *e*P **P 22 46 55.5 +1.1**
HHC AP pP 22 47 02.5 +0.7
HHC XP sP 22 47 06.1 +1.3
HHC PP PP 22 48 25.2 -1.1
HHC PCP PcP 22 49 07.2 -0.2
HHC S **S 22 52 50.2 +2.0**
HHC PCS 22 52 57.4
HHC XS 22 53 02.2
HHC SCS ScS 22 57 01.9 +0.5
HHC AMB AMB
comp=Z,17nm,1.2s,mb4.7
HHC LR LR
comp=N,3μm,15.6s,MS5.3
HHC LR LR
comp=E,3μm,16.8s,MS5.3
HHC LR LR
comp=Z,1μm,18.0s,MS4.8
YKW3 Yellowknife Ar 38.84 46 *e*P **P 22 46 56.8 +0.1**
YKA Yellowknife Ar 38.87 47 P **P 22 46 57.4 +0.3**
YKA 22 49 08.5
YKA pmax pmax
comp=Z,11nm,0.8s
YKA Yellowknife Ar 38.87 47 P **P 22 46 57.4 +0.3**
comp=Z,11nm,0.8s,mb4.6,baz=297,slow=7.9,SNR=29
YKA PcP PcP 22 49 08.5 +0.3
comp=Z,1.6nm,0.8s,baz=288,slow=3.9,SNR=4.1
BTO Baotou 39.56 273 *e*P **P 22 47 03.4 +0.3**
JOW Kunigami 39.77 240 LR LR 23 02 47.6
comp=Z,501nm,21.8s,MS4.3,baz=116,slow=35
SSE Sheshan 40.07 252 P **P 22 47 04.8 -2.5**
SSE XP sP 22 47 17.8 0.0
SSE S **S 22 53 07.8 -3.8**
SSE XS 22 53 23.8
SSE SS SS 22 56 03.5 +0.3
SSE AMB AMB
comp=Z,20nm,1.0s,mb4.8
SSE AMB AMB
comp=Z,145nm,3.5s
SSE LR LR
comp=N,349nm,24.1s,MS4.2
SSE LR LR
comp=E,222nm,24.1s,MS4.2
SSE LR LR
comp=Z,320nm,19.1s,MS4.2
NJ2 Nanjing 40.62 255 *e*P **P 22 47 11.3 -0.5**
NJ2 AP pP 22 47 15.8 -3.4

NJ2 PP PP 22 48 48.8 +0.1
NJ2 S **S** **22 53 21.0 +1.2**
NJ2 XS 22 53 29.0
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,220nm,5.2s
NJ2 LR LR
comp=N,740nm,22.8s
NJ2 LR LR
comp=E,580nm,16.9s
NJ2 LR LR
comp=Z,230nm,20.7s,MS4.0
PGC Sidney 41.87 69 *e*P **P 22 47 22.3 +0.6**
comp=Z,44nm,0.8s,mb5.1
OCWA Octopus Mounta 42.02 70 *e*P **P 22 47 24.3 +1.3**
comp=Z,110nm,1.4s,mb5.3
WHN Wuhan 44.27 258 *e*P **P 22 47 42.5 +0.9**
WHN S **S** **22 54 15.0 +1.7**
WHN LR LR
comp=N,1µm,16.7s,MS5.2
WHN LR LR
comp=E,2µm,12.2s,MS5.2
WHN LR LR
comp=Z,1µm,17.0s,MS4.8
EDM Edmonton 44.32 58 P **P 22 47 42.2 +0.5**
EDM Edmonton 44.32 58 *e*P **P 22 47 41.9 +0.2**
XAN Xi'an 44.75 266 P **P 22 47 45.5 +0.1**
XAN AP pP 22 47 54.8 +1.9
XAN S **S** **22 54 24.9 +4.7**
XAN AMB AMB
comp=Z,6.0nm,1.1s,mb4.3
XAN LR LR
comp=N,1µm,20.0s,MS5.1
XAN LR LR
comp=E,2µm,17.6s,MS5.1
XAN LR LR
comp=Z,2µm,14.4s,MS5.1
ZAL Zalesovo 44.85 304 P **P 22 47 44.9 -1.0**
ZAL 22 49 27.8
ZAL pmax pmax
comp=Z,2.0nm,0.6s
ZAL MLR MLR
comp=Z,853nm,18.8s
ZAL Zalesovo 44.85 304 P **P 22 47 44.9 -1.1**
comp=Z,2.4nm,0.6s,mb4.2,baz=60,slow=4.5,SNR=10
ZAL PcP PcP 22 49 27.8 -0.1
comp=Z,3.0nm,0.7s,baz=101,slow=2.8,SNR=5.7
ZAL LR LR 23 09 28.8
comp=Z,852nm,18.8s,MS4.7,baz=57,slow=40
NVS Novosibirsk 45.04 306 *e*P **P 22 47 46.2 -1.2**
NVS *e* 22 49 25.0
NVS *e*S **S** **22 54 23.9 -0.2**
NVS pmax pmax
comp=N,36nm,2.0s
NVS pmax pmax
comp=E,64nm,2.0s
NVS pmax pmax
comp=Z,91nm,2.0s,mb5.3
NVS smax
comp=N,36nm,2.1s
NVS smax
comp=E,13nm,1.6s
KBS Kingsbay 45.20 353 *e*P **P 22 47 49.8 +1.4**
KBS LR LR
comp=Z,183µm,21.3s
KBS Kingsbay 45.20 353 *e*P **P 22 47 49.8 +1.4**
KBS *e*S **S** **22 54 27.0 +0.9**
KBS AMS AMS 23 06 51.8
comp=Z,183nm,21.3s,MS4.0
NEW Newport 45.44 66 P **P 22 47 50.8 +0.1**
NEW pmax pmax
comp=Z,19nm,0.9s
NEW Newport 45.44 66 P **P 22 47 50.8 +0.1**
comp=Z,19nm,0.9s,mb4.9,baz=316,slow=6.7,SNR=35
NEW Newport 45.44 66 *e*P **P 22 47 50.1 -0.6**
comp=Z,29nm,1.0s,mb5.1
NEW *e* pP 22 47 58.1 0.0
NEW LR LR
comp=Z,697nm,20.0s,MS4.6
HUMO Hull Mountain 45.94 75 *e*P **P 22 47 55.2 +0.5**
comp=Z,9.0nm,0.8s,mb4.8
GTA Gaotai 46.17 279 ⇓P **P 22 47 57.6 +1.0**
GTA AP pP 22 48 07.3 +3.2
GTA XP sP 22 48 11.2 +4.1
GTA PP PP 22 49 46.7 +1.6
GTA PPP PPP 22 50 31.2 +1.8
GTA S **S** **22 54 43.3 +2.8**
GTA XS 22 54 49.7
GTA AMB AMB
comp=Z,29nm,0.8s,mb5.3
GTA AMB AMB
comp=Z,369nm,7.6s
GTA LR LR
comp=N,2µm,21.3s,MS5.1
GTA LR LR
comp=E,2µm,18.3s,MS5.1
GTA LR LR
comp=Z,2µm,19.0s,MS5.0
LZH Lanzhou 46.19 273 ⇑P **P 22 47 57.6 +0.8**
LZH AP pP 22 48 08.2 +4.0
LZH PP PP 22 49 46.0 +0.7
LZH S **S** **22 54 43.2 +2.4**
LZH AMB AMB
comp=Z,60nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,210nm,4.0s
LZH LR LR
comp=Z,4µm,16.6s,MS5.4
QZH Quanzhou 46.32 249 *e*P **P 22 47 58.2 +0.2**
QZH S **S** **22 54 52.0 +9.2**
QZH LR LR
comp=N,620nm,13.4s,MS5.0
QZH LR LR
comp=E,870nm,14.2s,MS5.0
QZH LR LR
comp=Z,1µm,18.8s,MS4.8
WALA Waterton Lakes 46.59 63 *e*P **P 22 48 00.1 +0.3**
comp=Z,110nm,1.3s,mb5.6
YBH Yreka Blue Hor 46.66 76 P **P 22 48 01.5 +1.1**
YBH pmax pmax
comp=Z,22nm,1.0s
YBH Yreka Blue Hor 46.66 76 P **P 22 48 01.5 +1.1**
comp=Z,22nm,0.9s,mb5.1,baz=342,slow=3.4,SNR=38
YBH Yreka Blue Hor 46.66 76 *e*P **P 22 48 01.3 +0.9**
comp=Z,24nm,1.0s,mb5.1
YBH *e* pP 22 48 09.9 +2.1
YBH LR LR
comp=Z,634nm,21.0s,MS4.5
WDC Whiskeytown Da 47.53 77 P **P 22 48 07.9 +0.5**
WDC pmax pmax
comp=Z,36nm,1.2s,mb5.3
WDC Whiskeytown Da 47.53 77 *e*P **P 22 48 07.6 +0.2**
comp=Z,36nm,1.2s,mb5.3
BMO Blue Mountains 47.54 69 *e*P **P 22 48 07.1 -0.3**
comp=Z,28nm,1.1s,mb5.2
MOD Modoc 47.88 74 *e*P **P 22 48 10.3 +0.3**
comp=Z,51nm,1.0s,mb5.5
MOD *e* pP 22 48 17.9 +0.4
MSO Missoula 48.02 65 *e*P **P 22 48 10.8 -0.2**
comp=Z,31nm,1.4s,mb5.1
MSO *e* pP 22 48 19.4 +0.8
DAG Danmarks Havn 48.17 2⇑*e*P **P 22 48 11.2 -0.6**
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
DAG Danmarks Havn 48.17 2⇑*e*P **P 22 48 11.2 -0.6**
comp=Z,2.7nm,0.7s,mb4.4
DAG Danmarks Havn 48.17 2⇑*i*P **P 22 48 11.2 -0.6**
comp=Z,2.7nm,0.7s,mb4.4
CHMT Chamberlain Mo 48.32 65 *e*P **P 22 48 13.0 -0.4**
HOPS Hopland 48.32 79 *e*P **P 22 48 13.7 +0.2**
comp=Z,50nm,1.2s,mb5.4
HOPS *e* pP 22 48 22.5 +1.5
HOPS LR LR
comp=Z,565nm,20.0s,MS4.5
WVOR Wild Horse Val 48.43 73 P **P 22 48 14.6 +0.3**
WVOR pmax pmax
comp=Z,33nm,1.0s,mb5.3
WVOR Wild Horse Val 48.43 73 *e*P **P 22 48 14.4 +0.1**
comp=Z,33nm,1.0s,mb5.3
WVOR *e* pP 22 48 23.3 +1.5
FFC Flin Flon 48.66 51 *e*P **P 22 48 15.9 0.0**
FFC pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
FFC Flin Flon 48.66 51 *e*P **P 22 48 15.9 0.0**
comp=Z,9.9nm,0.8s,mb4.9

NSHM Saint Helena R 48.91 79 *e*P **P 22 48 18.6 +0.5**
HRY Holter Researc 49.18 64 *e*P **P 22 48 20.0 0.0**
BEKR Beckwourth 49.24 76 *e*P **P 22 48 20.5 0.0**
comp=Z,33nm,1.2s,mb5.2
BEKR *e* pP 22 48 29.1 +1.0
WMQ Urumqi 49.85 292 ⇓P **P 22 48 25.6 +0.4**
WMQ AP pP 22 48 35.2 +2.4
WMQ XP sP 22 48 38.5 +2.8
WMQ PP PP 22 50 23.2 +2.4
WMQ S **S** **22 55 34.5 +2.2**
WMQ XS 22 55 47.0
WMQ AMB AMB
comp=Z,48nm,0.7s,mb5.6
WMQ AMB AMB
comp=Z,236nm,5.0s
WMQ LR LR
comp=Z,973nm,18.0s,MS4.8
MCMT McKenzie Canyo 49.92 67 *e*P **P 22 48 25.5 -0.2**
HLID Hailey 49.95 69 *e*P **P 22 48 25.9 -0.1**
comp=Z,18nm,1.1s,mb5.0
HLID *e* pP 22 48 34.1 +0.6
HLID LR LR
comp=Z,587nm,20.0s,MS4.6
WCN Washoe City 49.96 76 P **P 22 48 27.2 +1.1**
WCN pmax pmax
comp=Z,51nm,1.2s,mb5.4
WCN Washoe City 49.96 76 *e*P **P 22 48 26.5 +0.4**
comp=Z,51nm,1.2s,mb5.4
WCN *e* pP 22 48 34.9 +1.2
BOZ Bozeman (W) 50.00 65 P **P 22 48 26.5 +0.2**
BOZ pmax pmax
comp=Z,32nm,1.3s,mb5.2
BOZ Bozeman (W) 50.00 65 *e*P **P 22 48 26.3 -0.1**
comp=Z,32nm,1.3s,mb5.2
CD2 Chengdu 50.00 268 P **P 22 48 26.5 0.0**
CMB Columbia Colle 50.50 78 P **P 22 48 30.6 +0.4**
CMB pmax pmax
comp=Z,33nm,1.2s,mb5.2
CMB Columbia Colle 50.50 78 *e*P **P 22 48 30.1 -0.1**
comp=Z,33nm,1.2s,mb5.2
CMB *e* pP 22 48 38.8 +1.0
CMB LR LR
comp=Z,376nm,19.0s,MS4.4
BMN Battle Mountai 50.58 74 P **P 22 48 23.2 -7.6**
BMN pmax pmax
comp=Z,77nm,1.0s,mb5.6
MKAR Makanchi Array 50.65 298 P **P 22 48 30.1 -1.1**
MKAR pmax pmax
comp=Z,15nm,0.7s
MKAR MLR MLR
comp=Z,663nm,18.6s
MKAR Makanchi Array 50.65 298 P **P 22 48 30.1 -1.1**
comp=Z,15nm,0.7s,mb5.0,baz=53,slow=7.1,SNR=129
MKAR LR LR 23 11 00.6
comp=Z,663nm,18.6s,MS4.7,baz=244,slow=37
QLMT Earthquake Lak 50.66 66 *e*P **P 22 48 31.4 +0.1**
SAO San Andreas Ge 50.80 80 P **P 22 48 33.0 +0.4**
SAO pmax pmax
comp=Z,51nm,1.4s,mb5.3
SAO San Andreas Ge 50.80 80 *e*P **P 22 48 32.4 -0.1**
comp=Z,51nm,1.4s,mb5.3
GCMT Greycliff 50.91 64 *e*P **P 22 48 33.4 +0.2**
YMR Madison River 51.01 65 *e*P **P 22 48 34.8 +0.8**
YNR Norris Junctio 51.13 65 *e*P **P 22 48 36.3 +1.4**
YFT Old Faithful 51.23 66 *e*P **P 22 48 36.1 +0.4**
SUMG Summit 51.24 9 *e*P **P 22 48 35.6 +0.2**
comp=Z,40nm,1.0s,mb5.3
ELK Elko 51.44 72 P **P 22 48 37.9 +0.5**
ELK pmax pmax
comp=Z,23nm,0.9s
ELK Elko 51.44 72 *e*P **P 22 48 37.7 +0.3**
comp=Z,23nm,0.9s,mb5.1
ELK *e* pP 22 48 46.4 +1.5
IMW Indian Meadow 51.55 66 *e*P **P 22 48 38.8 +0.6**
comp=Z,38nm,1.0s,mb5.3
IMW *e* pP 22 48 47.2 +1.5
OMM Old Mammoth Mi 51.57 77 *e*P **P 22 48 39.3 +0.9**
RRI2 Red Ridge 51.73 67 *e*P **P 22 48 39.9 +0.4**
comp=Z,9.9nm,0.8s,mb4.8
MOOW Moose Ponds 51.76 66 *e*P **P 22 48 40.0 +0.3**
comp=Z,9.7nm,0.8s,mb4.8
TPAW Teton Pass 51.83 67 *e*P **P 22 48 40.8 +0.5**
comp=Z,20nm,1.1s,mb5.0
TPAW *e* pP 22 48 47.7 -0.1
LOHW Long Hollow 51.92 66 *e*P **P 22 48 41.1 +0.1**
comp=Z,16nm,0.8s,mb5.0
LOHW *e*pP pP 22 48 49.9 +1.4
SNOW Snow King Moun 51.95 66 *e*P **P 22 48 41.3 +0.1**
comp=Z,22nm,1.0s,mb5.0
VOSK Vostochnaya 51.96 310 P **P 22 48 40.1 -1.0**
VOSK pmax pmax
comp=Z,66nm,2.1s,mb5.2
REDW Red Top Meadow 51.97 67 *e*P **P 22 48 41.0 -0.3**
comp=Z,27nm,1.3s,mb5.0
BVA0 Borovoye Array 52.01 310 *i*P **P 22 48 40.7 -0.8**
BVA0 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BVAR Borovoye Array 52.01 310 P **P 22 48 40.9 -0.6**
comp=Z,23nm,0.8s,mb5.2,baz=53,slow=7.4,SNR=135
BVAR ScP 22 53 49.0
comp=Z,1.8nm,0.9s,baz=72,slow=4.7,SNR=3.7
LAO LASA Array 52.04 61 *e*P **P 22 48 41.8 0.0**
comp=Z,74nm,1.3s,mb5.5
HVU Hansel Valley 52.05 69 P **P 22 48 42.4 +0.5**
HVU Hansel Valley 52.05 69 *e*P **P 22 48 41.8 -0.2**
TPH Tonopah 52.23 76 *e*P **P 22 48 43.5 +0.1**
TPH *e* pP 22 48 52.2 +1.3
TPH pmax pmax
comp=Z,47nm,1.0s,mb5.4
TPH Tonopah 52.23 76 *e*P **P 22 48 43.5 +0.1**
comp=Z,47nm,1.0s,mb5.4
TPH *e* pP 22 48 52.2 +1.3
AHID Auburn Hatcher 52.25 67 *e*P **P 22 48 44.0 +0.5**
comp=Z,6.4nm,0.8s,mb4.6
AHID *e* pP 22 48 52.5 +1.5
ARCES ARCESS Array B 52.34 344 P **P 22 48 42.8 -1.0**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES MLR MLR
comp=Z,568nm,18.8s
ARCES ARCESS Array B 52.34 344 P **P 22 48 42.8 -1.0**
comp=Z,3.7nm,0.8s,mb4.4,baz=11,slow=6.2,SNR=8.1
ARCES LR LR 23 13 00.9
comp=Z,568nm,18.8s,MS4.6,baz=166,slow=38
SPUT South Promonto 52.55 70 *e*P **P 22 48 45.8 +0.1**
SOKR Solikamsk 52.65 323 *i*P **P 22 48 45.5 -0.7**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
SOKR MLR MLR
comp=Z,830nm,16.0s,MS4.9
ZRNK Zerenda 52.66 311 *e*P **P 22 48 45.3 -1.1**
ZRNK *e* pP 22 48 51.8 -2.1
TRCR Troy Canyon 52.94 74 *e*P **P 22 48 47.2 -1.4**
TRCR *e* pP 22 48 56.5 +0.3
PDAR Pinedale Array 53.06 66 P **P 22 48 49.5 0.0**
comp=Z,12nm,0.9s,mb4.8,baz=315,slow=4.2,SNR=93
NOQ North Oquirrh 53.19 70 *e*P **P 22 48 49.6 -0.9**
TRO Tromso 53.22 347 *e*P **P 22 48 49.6 -0.6**
TRO *e*S **S** **22 56 22.5 +4.4**
SVE Sverdlovsk 53.27 319 ⇓*e*P **P 22 48 51.0 +0.2**
SVE *e* 22 49 05.6
SVE *e* 22 50 02.0
SVE *e* 22 50 48.6
SVE *e*PPP PPP 22 52 06.8 +7.4
SVE *e*S **S** **22 56 22.0 +3.0**
SVE pmax pmax
comp=Z,40nm,2.0s,mb5.0
DAC Darwin (Calif) 53.31 78 *e*P **P 22 48 51.7 +0.3**
DAC pmax pmax
comp=Z,21nm,1.1s,mb5.0
DAC Darwin (Calif) 53.31 78 *e*P **P 22 48 51.5 +0.1**
comp=Z,21nm,1.1s,mb5.0
DAC *e* pP 22 49 00.0 +1.0
CTU Camp Tracy 53.36 70 *e*P **P 22 48 51.8 0.0**
JLU Jordanelle 53.59 69 *e*P **P 22 48 53.2 -0.2**
NLU North Lily Min 53.71 70 *e*P **P 22 48 54.5 +0.2**
MPU Maple Canyon 53.91 70 *e*P **P 22 48 55.7 0.0**
JMIC Jan Mayen 53.98 358 *e*P **P 22 49 00.4 +4.6**
JMIC *e*S **S** **22 56 29.5 +1.0**
JMIC AMS AMS 23 11 26.3
comp=Z,248nm,19.9s,MS4.3
ARU Arti 54.34 319 ⇓*i*P **P 22 48 57.6 -1.1**
ARU *e* 22 50 01.5
ARU *e* 22 51 05.1
ARU *e*PPP PPP 22 52 14.3 +1.3

ARU *e*S **S** **22 56 35.0 +1.5**
ARU *e* 22 58 47.5
ARU pmax pmax
comp=Z,23nm,0.9s,mb5.1
ARU MLR MLR
comp=Z,1µm,17.0s,MS5.0
ARU MLR MLR
comp=N,600nm,16.0s,MS4.9
ARU MLR MLR
comp=E,700nm,16.0s,MS4.9
ARU Arti 54.34 319 *e*P **P 22 48 57.7 -1.0**
comp=E,25nm,0.9s,mb5.1
ULM Lac du Bonnet 54.44 51 P **P 22 48 59.0 -0.5**
comp=E,9.5nm,0.9s,mb4.7,baz=301,slow=8.4,SNR=8.8
ULM LR LR 23 13 38.5
comp=E,530nm,18.7s,MS4.6,baz=318,slow=38
ULM Lac du Bonnet 54.44 51 *e*P **P 22 48 58.8 -0.8**
comp=E,6.6nm,0.9s,mb4.6
ARUT Antelope Range 54.52 73 *e*P **P 22 49 00.6 +0.3**
MWC Mount Wilson 54.55 80 *e*P **P 22 49 00.5 0.0**
MWC *e* pP 22 49 08.8 +0.8
TMUT Trail Mountain 54.65 70 *e*P **P 22 49 01.7 +0.5**
TMUT *e* pP 22 49 10.5 +1.7
MVU Marysvale 54.68 72 *e*P **P 22 49 01.9 +0.5**
comp=E,13nm,0.9s,mb5.0
MSU Marysvale 54.69 72 *e*P **P 22 49 02.3 +0.8**
MSU *e* pP 22 49 10.5 +1.4
SFJD Kangerlussuaq 54.87 17 *e*P **P 22 49 08.3 +5.8**
SFJD *i*S **S** **22 56 45.7 +5.3**
SFJD MLR MLR
comp=Z,350nm,20.0s,MS4.4
SFJD Kangerlussuaq 54.87 17 *i*P **P 22 49 08.3 +5.8**
SFJD *i*S **S** **22 56 45.7 +5.3**
comp=Z,340nm,20.0s
RSSD Black Hills 54.94 62 *e*P **P 22 49 02.8 -0.5**
RSSD pmax pmax
comp=Z,32nm,1.1s,mb5.3
RSSD Black Hills 54.94 62 *e*P **P 22 49 02.8 -0.5**
comp=Z,32nm,1.1s,mb5.3
KMI Kunming 54.98 264 P **P 22 49 03.8 -0.1**
KMI AP pP 22 49 08.9 -2.5
KMI XP sP 22 49 10.6 -3.7
KMI PP PP 22 51 08.9 +0.5
KMI PPP PPP 22 52 21.7 +0.6
KMI AMB AMB
comp=Z,17nm,1.6s,mb4.8
KMI LR LR
comp=N,1µm,17.2s,MS5.1
KMI LR LR
comp=E,826nm,17.2s,MS5.1
KMI LR LR
comp=Z,1µm,18.2s,MS5.0
RWWY Rawlins 55.05 66 *e*P **P 22 49 03.9 -0.2**
comp=Z,55nm,1.4s,mb5.3
SRU San Rafael 55.15 70 *e*P **P 22 49 05.2 +0.3**
NEN Nelson 55.30 76 *e*P **P 22 49 06.3 +0.3**
LDFC Landfair 55.57 77 *e*P **P 22 49 08.0 +0.1**
QIZ Qiongzhong 55.84 253 P **P 22 49 14.1 +4.0**
QIZ S **S** **22 56 57.9 +3.9**
QIZ AMB AMB
comp=Z,16nm,1.7s,mb4.8
QIZ LR LR
comp=E,765nm,15.1s
QIZ LR LR
comp=Z,575nm,14.7s,MS4.8
PFO Pinyon Flat Ob 55.90 79 *e*P **P 22 49 09.6 -0.7**
PFO pmax pmax
comp=Z,23nm,0.9s,mb5.2
PFO Pinyon Flat Ob 55.90 79 *e*P **P 22 49 09.6 -0.8**
comp=Z,23nm,0.9s,mb5.2
BAR Barrett 56.46 80 *e*P **P 22 49 13.8 -0.6**
BAR *e* pP 22 49 22.4 +0.4
PV10 Paradox Valley 56.48 70 *e*P **P 22 49 15.1 +0.6**
TKM2 Tokmak 2 56.75 299 P **P 22 49 15.9 -0.5**
SNR=13
PV01 Paradox Valley 56.91 70 *e*P **P 22 49 17.6 0.0**
ULHL Ulahol 56.92 298 P **P 22 49 17.1 -0.4**
SNR=10.0
USP Ospenovka 57.05 300 P **P 22 49 18.1 -0.3**
SNR=34
CHMS Chumysh 57.12 299 P **P 22 49 18.4 -0.5**
SNR=11
ISCO Idaho Springs 57.26 66 *e*P **P 22 49 20.7 +0.7**
ISCO *e* pP 22 49 29.5 +1.9
ISCO pmax pmax
comp=Z,78nm,1.4s,mb5.5
ISCO Idaho Springs 57.26 66 *e*P **P 22 49 20.7 +0.7**
comp=Z,78nm,1.4s,mb5.5
ISCO *e* pP 22 49 29.5 +1.9
KBK Karagaybulak 57.27 299 P **P 22 49 19.7 -0.3**
SNR=18
FRU Bishkek 57.30 299 *e*P **P 22 49 20.0 -0.3**
FRU pmax pmax
comp=Z,60nm,1.6s,mb5.4
AAK Ala-Archa 57.51 299 P **P 22 49 21.4 -0.3**
SNR=12
AAK Ala-Archa 57.51 299 P **P 22 49 20.3 -1.4**
AAK pmax pmax
comp=Z,24nm,0.9s,mb5.2
AAK Ala-Archa 57.51 299 *e*P **P 22 49 20.0 -1.7**
comp=Z,24nm,0.8s,mb5.3
KZA Kyzart 57.54 298 P **P 22 49 22.1 +0.2**
SNR=8.8
UCH Uchtor 57.80 299 P **P 22 49 23.8 +0.1**
SNR=13
LSA Lhasa 58.10 277 P **P 22 49 25.7 -0.3**
LSA AMB AMB
comp=Z,100nm,0.8s,mb5.9
LSA LR LR
comp=N,710nm,17.0s,MS5.0
LSA LR LR
comp=E,760nm,18.0s,MS5.0
LSA LR LR
comp=Z,590nm,20.0s,MS4.7
LSA Lhasa 58.10 277 *e*P **P 22 49 26.9 +0.9**
LSA pmax pmax
comp=Z,18nm,0.8s,mb5.2
LSA Lhasa 58.10 277 *e*P **P 22 49 26.9 +0.9**
comp=Z,18nm,0.8s,mb5.2
AML Almayashu 58.28 299 P **P 22 49 27.3 +0.2**
SNR=22
SDCO Great Sand Dun 58.83 68 *e*P **P 22 49 31.5 +0.5**
comp=Z,35nm,1.4s,mb5.2
SDCO *e* pP 22 49 40.2 +1.5
KAF Kangasniemi 58.90 340 *e*p **P 22 49 25.7 -5.4**
comp=Z,5.0nm,1.0s,mb4.5
KAF Kangasniemi 58.90 340 *e*P **P 22 49 25.7 -5.4**
KAF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
KSH Kashi 59.07 296 *e*P **P 22 49 33.0 +0.4**
KSH *e*AP pP 22 49 42.7 +2.4
KSH *e*XP sP 22 49 47.7 +4.6
KSH *e*PCP PcP 22 50 20.2 -0.8
KSH *e*PP PP 22 51 45.0 0.0
KSH *e*PCS 22 54 21.4
KSH *e*S **S** **22 57 34.0 -2.3**
KSH AMB AMB
comp=Z,80nm,0.9s,mb5.8
KKAR Karatay Array 59.13 302 *i*P **P 22 49 32.0 -1.0**
KKAR pmax pmax
comp=Z,14nm,0.7s,mb5.1
AB31 Akbulak array 59.24 313 *i*P **P 22 49 32.6 -1.1**
AB31 pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
PECR Pechory 59.39 327 *i*P **P 22 49 33.6 -1.0**
PECR pmax pmax
comp=Z,400nm,1.6s
FINES FINESS Array B 59.55 339 P **P 22 49 34.5 -1.2**
FINES pmax pmax
comp=Z,8.0nm,0.9s
FINES MLR MLR
comp=Z,308nm,18.1s
FINES FINESS Array B 59.55 339 P **P 22 49 34.5 -1.2**
comp=Z,8.0nm,0.9s,mb4.8,baz=34,slow=6.9,SNR=32
FINES LR LR 23 18 28.9
comp=Z,308nm,18.1s,MS4.5,baz=220,slow=39
TUC Tucson 60.03 76 P **P 22 49 39.6 +0.2**
TUC pmax pmax
comp=Z,15nm,1.0s,mb5.0
TUC Tucson 60.03 76 *e*P **P 22 49 39.4 0.0**
comp=Z,15nm,1.0s,mb5.0
TUC *e* pP 22 49 48.1 +1.0
LAZ Ladron 60.46 71 *e*P **P 22 49 43.0 +0.8**
LAZ *e* pP 22 49 51.9 +2.0
LENM Lemitar 60.72 72 *e*P **P 22 49 44.7 +0.7**

LENM e pP 22 49 53.6 +1.9
SHL Shillong 60.84 273 *e*P **P** **22 49 44.0 -1.0**
BNM Barren Site 60.92 71 *e*P **P** **22 49 45.8 +0.4**
CBKS Cedar Bluff 61.03 63 P **P** **22 49 46.0 -0.1**
CBKS pmax pmax
comp=Z,28nm,0.8s,mb5.4
CBKS Cedar Bluff 61.03 63 *e*P **P** **22 49 45.4 -0.6**
comp=Z,28nm,0.8s,mb5.5
NANT Nan 61.12 261 P **P** **22 49 47.0 +0.1**
comp=Z,125nm,0.9s,mb6.0
MOS Moscow 61.81 330 *e*P **P** **22 49 49.8 -1.3**
MOS e 22 50 28.2
MOS e 22 52 02.1
MOS pmax pmax
comp=Z,40nm,1.0s,mb5.5
MOS MLR MLR
comp=Z,700nm,17.5s,MS4.9
SCHQ Schefferville 61.81 32 P **P** **22 49 50.9 -0.3**
comp=Z,4.6nm,0.8s,mb4.7,baz=360,slow=7.2,SNR=5.8
CHG Chiang Mai 62.10 263 ⇓P **P** **22 49 58.3 +4.7**
comp=Z,12nm,0.9s,mb5.0
VSU Vasula 62.13 338 *d i*P **P** **22 49 52.3 -0.9**
CMAR Chiang Mai Arr 62.39 263 P **P** **22 49 55.6 +0.1**
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CMAR MLR MLR
comp=Z,599nm,18.5s
CMAR Chiang Mai Arr 62.39 263 P **P** **22 49 55.6 +0.1**
comp=Z,4.8nm,0.7s,mb4.7,baz=25,slow=7.1,SNR=25
CMAR LR LR 23 20 49.9
comp=Z,599nm,18.5s,MS4.8,baz=35,slow=40
KSU1 Kansas State U 62.39 61 *e*P **P** **22 49 53.7 -1.5**
NB2 NORSAR Subarra 62.41 347 P **P** **22 49 53.7 -1.4**
comp=Z,11nm,0.8s,mb5.0,baz=16,slow=6.5
NB2 NORSAR Subarra 62.41 347 P **P** **22 49 53.7 -1.4**
NB2 pmax pmax
comp=Z,11nm,0.8s,mb5.0
NB2 NORSAR Subarra 62.41 347 P **P** **22 49 53.7 -1.4**
baz=16,slow=6.9
NOA NORSAR Array B 62.41 347 P **P** **22 49 54.0 -1.1**
NOA pmax pmax
comp=Z,9.0nm,0.9s
NOA MLR MLR
comp=Z,186nm,19.8s
NOA NORSAR Array B 62.41 347 P **P** **22 49 54.0 -1.1**
comp=Z,8.6nm,0.9s,mb4.9,baz=17,slow=6.7,SNR=40
NOA LR LR 23 16 49.3
comp=Z,186nm,19.8s,MS4.2,baz=10.0,slow=36
GUN Gumba 62.45 280 *e*P **P** **22 49 55.6 -0.2**
comp=Z,110nm,0.7s
OBN Obninsk 62.65 330 *d i*P **P** **22 49 55.6 -1.1**
OBN *e* 22 50 34.4
OBN pmax pmax
comp=Z,15nm,0.8s,mb5.2
OBN MLR MLR
comp=Z,500nm,18.0s,MS4.7
KKN Kakani 62.88 280 *e*P **P** **22 49 58.1 -0.5**
comp=Z,80nm,0.8s,mb5.9
KKN Kakani 62.88 280 *e*P **P** **22 49 58.1 -0.5**
KKN pmax pmax
comp=Z,40nm,0.8s,mb5.6
PKI Pulchoki 62.98 280 *e*P **P** **22 49 58.8 -0.4**
comp=Z,94nm,0.7s,mb6.0
PKI Pulchoki 62.98 280 *e*P **P** **22 49 58.8 -0.4**
PKI pmax pmax
comp=Z,47nm,0.7s,mb5.7
AMTX Amarillo 63.01 67 *e*P **P** **22 49 58.9 -0.5**
comp=Z,16nm,1.1s,mb5.1
GKN Gorkha 63.08 281 *e*P **P** **22 49 59.2 -0.7**
comp=Z,105nm,0.9s,mb6.0
DMN Daman 63.12 280 *e*P **P** **22 49 59.8 -0.4**
comp=Z,45nm,0.7s,mb5.7
MNTX Cornudas Mount 63.47 72 *e*P **P** **22 50 02.6 +0.2**
comp=Z,37nm,0.9s,mb5.5
MNTX *e* pP 22 50 11.5 +1.4
GDL2 Guadalupe Moun 63.63 71 *e*P **P** **22 50 03.3 -0.2**
GDL2 *e* pP 22 50 12.6 +1.5
BER Bergen 63.73 350 *e*P **P** **22 49 59.4 -4.2**
BER *e*S **S** **22 58 40.6 +5.6**
BER AMS AMS 23 25 50.0
comp=Z,221nm,18.8s,MS4.4
KOLN Koldanda 63.84 281 *e*P **P** **22 50 04.1 -0.8**
comp=Z,52nm,0.6s,mb5.7
CLNB Carlsbad 63.85 71 *e*P **P** **22 50 04.9 0.0**
KONO Kongsberg 63.97 347 P **P** **22 50 05.1 0.0**
KONO pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
KONO Kongsberg 63.97 347 *e*P **P** **22 50 04.5 -0.6**
comp=Z,5.7nm,0.7s,mb4.7
KONO Kongsberg 63.97 347 *e*P **P** **22 50 04.2 -0.9**
KONO *e*S **S** **22 58 39.9 +1.9**
KONO *e*SS SS 23 02 43.7 -4.5
MNK Minsk 65.49 335 *e*P **P** **22 50 14.0 -1.1**
SADO Sadowa 65.86 45 P **P** **22 50 15.2 -2.4**
comp=Z,2.1nm,0.6s,mb4.4,baz=358,slow=4.8,SNR=3.7
LTX Lajitas 66.23 73 P **P** **22 50 20.7 +0.5**
LTX pmax pmax
comp=Z,61nm,1.1s,mb5.5
LTX Lajitas 66.23 73 *e*P **P** **22 50 20.5 +0.2**
comp=Z,61nm,1.1s,mb5.5
LTX *e* pP 22 50 29.3 +1.4
TXAR Lajitas Array 66.23 73 P **P** **22 50 20.5 +0.2**
TXAR pmax pmax
comp=Z,23nm,0.8s
TXAR Lajitas Array 66.23 73 P **P** **22 50 20.5 +0.2**
comp=Z,23nm,0.8s,mb5.2,baz=304,slow=4.5,SNR=129
FVM French Village 66.29 57 P **P** **22 50 19.9 -0.6**
FVM pmax pmax
comp=Z,18nm,0.9s,mb5.1
FVM French Village 66.29 57 *e*P **P** **22 50 19.6 -0.9**
comp=Z,18nm,0.9s,mb5.1
SUW Suwalki 67.01 338 ⇓*i*P **P** **22 50 24.3 -0.5**
GENY Geneseo 68.05 46 *e*P **P** **22 50 30.7 -0.9**
AKASG Malin Array Be 68.61 333 P **P** **22 50 34.1 -0.8**
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 68.61 333 P **P** **22 50 34.1 -0.8**
comp=Z,9.9nm,0.7s,mb4.9,baz=26,slow=6.0,SNR=54
WAR Warsaw 69.13 338 *e*P **P** **22 50 38.6 +0.5**
WAR Warsaw 69.13 338 *e*P **P** **22 50 38.6 +0.6**
GOF Gofitskoye 69.28 321 ⇑*i*P **P** **22 50 39.3 +0.2**
GOF pmax pmax
comp=Z,48nm,1.3s,mb5.3
BSEG Bad Segeberg 69.42 345 *e*P **P** **22 50 40.1 +0.3**
EKA Eskdalemuir Ar 69.43 354 P **P** **22 50 39.9 0.0**
EKA pmax pmax
comp=Z,8.0nm,0.8s
EKA Eskdalemuir Ar 69.43 354 P **P** **22 50 39.9 0.0**
comp=Z,7.9nm,0.8s,mb4.7,baz=9.1,slow=5.3,SNR=40
ESK Eskdalemuir 69.45 354 P **P** **22 50 40.4 +0.4**
ESK pmax pmax
comp=Z,11nm,0.9s,mb4.8
ESK Eskdalemuir 69.45 354 *e*P **P** **22 50 40.0 0.0**
comp=Z,11nm,0.9s,mb4.8
ESK *e* pP 22 50 47.2 -0.5
PLAL Pickwick Lake 69.83 58 *e*P **P** **22 50 41.4 -1.2**
comp=Z,18nm,0.9s,mb5.0
KIV Kislovodsk 70.36 321 *d i*P **P** **22 50 45.8 +0.1**
KIV *e* 22 51 05.8
KIV *e*S S 22 59 56.3 +1.0
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KIV MLR MLR
comp=Z,532nm,19.0s,MS4.8
KIV MLR MLR
comp=N,280nm,15.0s,MS4.8
KIV MLR MLR
comp=E,328nm,15.0s,MS4.8
KIV Kislovodsk 70.36 321 *e*P **P** **22 50 45.6 -0.1**
comp=E,11nm,0.9s,mb4.8
ZEI Tsey 70.94 319 *e*P **P** **22 50 48.3 -0.9**
ZEI *i* *PP pP 22 50 55.7 -1.3
ZEI *i* 22 53 21.8
ZEI pmax pmax
comp=Z,12nm,0.7s,mb4.9
FWV Forest Hill 71.07 51 P **P** **22 50 49.0 -1.2**
KWP Kalwaria 71.21 336 ⇓*i*P **P** **22 50 51.6 +0.8**
ONI Oni 71.27 319 P **P** **22 50 51.3 +0.1**
AFI Afiamalu 71.28 158 LR LR 23 20 43.7
comp=Z,277nm,18.3s,MS4.6,baz=17,slow=35
OJC Ojcow 71.30 338 *e*P **P** **22 50 51.9 +0.6**
KSP Ksiaz 71.41 341 ⇓*e*P **P** **22 50 52.0 +0.1**
KSP *e*pP pP 22 51 00.9 +1.2
KSP *e*S S 23 00 09.0 +1.7
KSP Ksiaz 71.41 341 *e*P **P** **22 50 52.3 +0.3**

CLZ Clausthal 71.45 345 *e*P **P** **22 50 52.1 -0.1**
CLZ pmax pmax
comp=Z,25nm,1.2s,mb5.0
CLZ Clausthal 71.45 345 *e*P **P** **22 50 52.1 -0.1**
comp=Z,25nm,1.2s,mb5.0
CLL Collm 71.55 343 ⇓*i*P **P** **22 50 52.5 -0.3**
CLL *e* pP 22 51 01.0 +0.5
CLL *e*S S 23 00 11.0 +2.1
CLL pmax pmax
comp=Z,22nm,1.3s,mb4.9
CLL Collm 71.55 343 ⇓*i*P **P** **22 50 52.5 -0.3**
comp=Z,22nm,1.3s,mb4.9
CLL *e* pP 22 51 01.0 +0.5
CLL *e*S S 23 00 11.0 +2.1
CLL Collm 71.55 343 ⇓P **P** **22 50 52.5 -0.3**
comp=Z,logA/T=1.2,mb4.9
CLL *e**PP pP 22 51 01.0 +0.5
CLL *e* 22 51 23.0
CLL *e*S S 23 00 11.0 +2.1
CLL *e*SS SS 23 04 43.0 -3.0
CLL *e* 23 10 54.0
DCN Croghan 71.62 356 ⇓*i*P **P** **22 50 53.3 +0.1**
DLF Lyons Farm 71.64 356 *e*P **P** **22 50 52.3 -1.0**
DSB Dublin 71.69 356 *e*P **P** **22 50 53.6 +0.1**
comp=Z,17nm,0.8s,mb5.0
DSB *e* pP 22 51 02.2 +0.9
STHS Stebnicka Huta 71.74 337 *i*P **P** **22 50 55.5 +1.5**
SOC Sochi 71.75 322 *e*P **P** **22 50 52.6 -1.5**
SOC *e* 22 53 27.8
SOC *e*PPP PPP 22 55 11.5 -5.4
SOC *e*S S 23 00 05.3 -6.0
SOC pmax pmax
comp=Z,13nm,1.4s,mb4.7
SOC pmax pmax
comp=N,7.0nm,1.2s
SOC pmax pmax
comp=E,3.0nm,1.0s
SOC MLR MLR
comp=Z,749nm,18.0s,MS5.0
SOC MLR MLR
comp=N,368nm,17.0s,MS4.8
SOC MLR MLR
comp=E,346nm,17.0s,MS4.8
RAC Raciborz 71.76 339 *e*P **P** **22 50 55.0 +0.9**
UPC Upice 71.78 341 *e*P **P** **22 50 54.9 +0.7**
BRG Berggiesshubel 71.81 342 *i*P **P** **22 50 54.2 -0.1**
BRG S S 23 00 13.0 +1.2
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BRG Berggiesshubel 71.81 342 *i*P **P** **22 50 54.2 -0.2**
comp=Z,8.5nm,1.0s,mb4.6
BRG S S 23 00 13.0 +1.2
WTSB Winterswijk 71.82 347 *e*P **P** **22 50 54.3 -0.2**
comp=Z,16nm,1.4s,mb4.7
DPC Dobruska-Polom 71.87 341 *e*P **P** **22 50 55.4 +0.7**
DPC *e*S S 23 00 13.9 +1.3
DPC MLR MLR
comp=Z,400nm,22.7s,MS4.6
DPC Dobruska-Polom 71.87 341 *e*P **P** **22 50 55.4 +0.7**
DPC *e*S S 23 00 13.9 +1.3
DPC *ex* x 23 04 40.8
DPC AMS AMS 23 22 50.0
comp=Z,400nm,22.7s
NIE Niedzica 71.94 338 ⇓*i*P **P** **22 50 56.1 +0.9**
KOLS Kolonicke sedl 71.96 336 *i*P **P** **22 50 56.2 +0.9**
OKC Ostrava-Krasne 72.00 339 *e*P **P** **22 50 56.2 +0.7**
OKC *e*S S 23 00 15.7 +1.6
OKC *e*SS SS 23 04 56.6 +3.7
OKC AMS AMS 23 27 00.0
comp=Z,400nm,17.2s
PVCC Panska Ves 72.03 342 *e*P **P** **22 50 56.2 +0.6**
PVCC AMS AMS 23 30 20.0
comp=Z,500nm,14.5s
CRVS Cervenica-Dubn 72.18 337 *e*P **P** **22 50 57.7 +1.1**
MORC Moravsky Berou 72.18 340 P **P** **22 50 57.4 +0.8**
MORC Moravsky Berou 72.18 340 *e*P **P** **22 50 56.6 +0.1**
comp=Z,42nm,1.5s,mb5.2
IAS Iasi 72.26 332 P **P** **22 50 56.8 -0.3**
SIM Simferopol' 72.39 327 ⇓*e*P **P** **22 50 57.8 -0.1**
SIM pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SIM MLR MLR
comp=Z,500nm,16.5s,MS4.9
MOX Moxa 72.42 344 *e*P **P** **22 50 57.4 -0.5**
MOX pmax pmax
comp=Z,22nm,1.5s,mb4.9
MOX MLR MLR
comp=Z,2µm,20.0s,MS5.5
MOX Moxa 72.42 344 *e*P **P** **22 50 57.4 -0.5**
comp=Z,22nm,1.5s,mb4.9
MOX LR LR
comp=Z,2µm,20.0s,MS5.5
MOX Moxa 72.42 344 *i*P **P** **22 50 57.4 -0.5**
comp=Z,logA/T=1.2,mb4.9
MOX S S 23 00 20.0 +1.2
MOX L 23 24 31.0
BURAR Bucovina Array 72.48 334 P **P** **22 50 58.6 +0.3**
PRU Pruhonice 72.55 342 *e*P **P** **22 50 59.3 +0.7**
PRU *e*S S 23 00 25.5 +5.3
PRU *e*SS SS 23 04 58.6 -2.9
PRU AMS AMS 23 22 10.0
comp=Z,400nm,23.2s
NKC Novy Kostel 72.68 343 *e*P **P** **22 51 00.0 +0.6**
NKC AMS AMS 23 23 00.0
comp=Z,400nm,21.2s
KECS Kecovo 72.79 337 *i*P **P** **22 51 01.1 +1.0**
VRAC Vranov 72.82 340 P **P** **22 51 01.3 +1.1**
comp=Z,11nm,0.8s,mb4.8,baz=22,slow=7.5,SNR=14
VRAC Vranov 72.82 340 P **P** **22 51 01.4 +1.2**
GNI Garni 72.87 317 P **P** **22 51 02.0 +1.3**
GNI pmax pmax
comp=Z,21nm,1.0s
GNI Garni 72.87 317 LR LR 23 28 40.1
comp=Z,814nm,18.8s,MS5.0,baz=26,slow=40
GNI Garni 72.87 317 *e*P **P** **22 51 01.6 +0.9**
comp=Z,21nm,1.0s,mb5.0
HGN Heimansgroeve 73.11 347 ⇓*e*P **P** **22 51 01.8 -0.1**
comp=Z,16nm,1.4s,mb4.8
HGN *e*pP pP 22 51 11.2 +1.6
HGN *e*S S 23 00 32.8 +6.3
VYHS Vyhne 73.14 338 *i*P **P** **22 51 03.3 +1.2**
GRA1 Grafenberg Arr 73.40 344 *e*P **P** **22 51 04.5 +0.9**
comp=Z,54nm,1.6s,mb5.2
GRF Grafenberg Arr 73.40 344 *e*P **P** **22 51 04.5 +0.9**
GRF pmax pmax
comp=Z,54nm,1.6s,mb5.2
GRF Grafenberg Arr 73.40 344 *e*P **P** **22 51 04.5 +0.9**
GRF pmax pmax
comp=Z,54nm,1.6s,mb5.2
GRF Grafenberg Arr 73.40 344 *e*P **P** **22 51 04.5 +0.9**
comp=Z,54nm,1.6s,mb5.2
SMOL Smolenice 73.41 339 *i*P **P** **22 51 05.6 +1.9**
PSZ Piszkesteto 73.45 337 P **P** **22 51 05.5 +1.6**
PSZ Piszkesteto 73.45 337 *e*P **P** **22 51 05.2 +1.2**
comp=Z,11nm,0.9s,mb4.8
KHC Kasperske Hory 73.55 342 *e*P **P** **22 51 05.4 +0.9**
KHC *e*S S 23 00 37.4 +5.9
KHC *e*SS SS 23 05 12.1 -4.9
KHC AMS AMS 23 31 20.0
comp=Z,400nm,14.8s
WET Wettzell 73.66 342 *e*P **P** **22 51 06.0 +0.9**
WET pmax pmax
comp=Z,30nm,1.5s,mb5.0
WET Wettzell 73.66 342 *e*P **P** **22 51 06.0 +0.9**
comp=Z,30nm,1.5s,mb5.0
ZST Bratislava 73.78 339 *i*P **P** **22 51 07.5 +1.7**
GEC2 GERESS Array S 73.80 342 *e*P **P** **22 51 06.2 +0.3**
GEC2 pmax pmax
comp=Z,25nm,1.6s,mb4.9
GEC2 GERESS Array S 73.80 342 *e*P **P** **22 51 06.2 +0.3**
comp=Z,25nm,1.6s,mb4.9
GERES GERESS Array B 73.80 342 P **P** **22 51 06.6 +0.7**
GERES pmax pmax
comp=Z,4.0nm,0.7s
GERES MLR MLR
comp=Z,388nm,21.1s
GERES GERESS Array B 73.80 342 P **P** **22 51 06.6 +0.7**
comp=Z,3.7nm,0.7s,mb4.4,baz=18,slow=4.2,SNR=18
GERES LR LR 23 26 01.1
comp=Z,388nm,21.1s,MS4.7,baz=121,slow=38
DRGR 73.87 335 P **P** **22 51 07.2 +0.9**
GIVF Givet 73.90 348 *e*P **P** **22 51 04.2 -2.3**
CFR Carcaliu 73.96 331 P **P** **22 51 07.6 +0.7**
SRO1 Iza 73.96 338 *i*P **P** **22 51 08.7 +1.8**

BAIF Baives 74.01 348 *e*P **P** **22 51 05.2 -1.9**
comp=Z,18nm,1.1s,mb4.6
BAIF Baives 74.01 348 *e*P **P** **22 51 05.2 -1.9**
BAIF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
MLR Muntele Rosu 74.26 332 P **P** **22 51 09.5 +0.8**
comp=Z,7.8nm,0.7s,mb4.8,baz=181,slow=3.9,SNR=39
MLR Muntele Rosu 74.26 332 P **P** **22 51 10.2 +1.5**
MLR Muntele Rosu 74.26 332 ⇑P **P** **22 51 09.2 +0.5**
SNX Sinaia 74.50 333 P **P** **22 51 12.5 +2.4**
TIRR Tirgusor 74.54 330 ⇓P **P** **22 51 10.6 +0.3**
VOIR 74.55 333 ⇑P **P** **22 51 11.4 +1.1**
ARSA Arzberg 75.00 340 ⇓*i*P **P** **22 51 14.2 +1.3**
comp=Z,13nm,0.9s,mb4.9
BFO Black Forest 75.17 345 *e*P **P** **22 51 14.1 +0.2**
BFO pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BFO Black Forest 75.17 345 *e*P **P** **22 51 14.1 +0.2**
comp=Z,9.0nm,1.0s,mb4.7
CDF Champ du Feu 75.24 346 *e*P **P** **22 51 12.4 -1.9**
comp=Z,13nm,1.0s,mb4.5
CDF Champ du Feu 75.24 346 *e*P **P** **22 51 12.4 -1.9**
CDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MEZF Maizieres J'vi 75.44 348 *e*P **P** **22 51 13.7 -1.7**
WATA Walderalm 75.63 343 ⇓*i*P **P** **22 51 17.4 +0.9**
comp=Z,11nm,0.8s,mb4.8
WATA Walderalm 75.63 343 ⇓*i*P **P** **22 51 17.4 +0.9**
WATA pmax pmax
comp=Z,11nm,0.8s,mb4.8
PERS Pernice 75.66 340 *e*P **P** **22 51 17.7 +1.0**
WTTA Wattenberg 75.69 343 ⇓*i*P **P** **22 51 18.1 +1.3**
MOTA Moosalm 75.70 343 ⇓*i*P **P** **22 51 17.8 +0.9**
comp=Z,12nm,0.9s,mb4.8
MOTA Moosalm 75.70 343 ⇓*i*P **P** **22 51 17.8 +0.9**
MOTA pmax pmax
comp=Z,13nm,0.9s,mb4.9
HAU Haudompre 75.77 347 *e*P **P** **22 51 15.4 -1.9**
comp=Z,19nm,1.2s,mb4.6
HAU *e*R
comp=Z,368nm,21.0s
HAU Haudompre 75.77 347 *e*P **P** **22 51 15.4 -1.9**
HAU pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
HAU MLR MLR
comp=Z,370nm,21.0s,MS4.7
FLN La Foliniere 75.77 351 *e*P **P** **22 51 15.3 -2.0**
comp=Z,34nm,1.0s,mb4.9
FLN *e*R
comp=Z,255nm,19.0s
FLN La Foliniere 75.77 351 *e*P **P** **22 51 15.3 -2.0**
FLN pmax pmax
comp=Z,17nm,1.0s,mb4.9
FLN MLR MLR
comp=Z,250nm,19.0s,MS4.5
SQTA Sankt Quirin 75.80 343 ⇓*i*P **P** **22 51 18.6 +1.1**
comp=Z,19nm,0.8s,mb5.1
SQTA Sankt Quirin 75.80 343 ⇓*i*P **P** **22 51 18.6 +1.1**
SQTA pmax pmax
comp=Z,19nm,0.8s,mb5.1
HINF Hinteralfeld 75.88 346 *e*P **P** **22 51 15.8 -2.1**
OBKA Obir 75.89 341 ⇓*i*P **P** **22 51 19.4 +1.4**
comp=Z,49nm,0.9s,mb5.4
LDF La Druitiere 75.91 351 *e*P **P** **22 51 15.8 -2.2**
comp=Z,20nm,1.0s,mb4.7
LDF La Druitiere 75.91 351 *e*P **P** **22 51 15.8 -2.2**
LDF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GRR Gorron 76.17 352 *e*P **P** **22 51 17.5 -2.0**
comp=Z,56nm,1.1s,mb5.1
GRR Gorron 76.17 352 *e*P **P** **22 51 17.5 -2.0**
GRR pmax pmax
comp=Z,28nm,1.1s,mb5.1
ROBS Robic 76.34 341 *e*P **P** **22 51 20.9 +0.3**
ROSF Rostrenen 76.41 353 *e*P **P** **22 51 19.0 -1.9**
comp=Z,38nm,1.1s,mb4.9
ROSF Rostrenen 76.41 353 *e*P **P** **22 51 19.0 -1.9**
ROSF pmax pmax
comp=Z,19nm,1.1s,mb4.9
SGMF Saint Gilles 76.44 353 *e*P **P** **22 51 19.2 -1.9**
comp=Z,26nm,0.9s,mb4.8
SGMF Saint Gilles 76.44 353 *e*P **P** **22 51 19.2 -1.9**
SGMF pmax pmax
comp=Z,13nm,0.9s,mb4.9
DAVOX Davos 76.45 344 P **P** **22 51 22.0 +0.9**
comp=Z,10nm,0.8s,mb4.8,baz=345,slow=5.9,SNR=19
VISS Visnje 76.52 340 *e*P **P** **22 51 22.0 +0.4**
CEY Cerknica 76.66 340 *e*P **P** **22 51 23.1 +0.7**
BOJS Bojanci 76.72 340 *e*P **P** **22 51 22.5 -0.2**
LOR Lormes 76.80 348 *e*P **P** **22 51 21.0 -2.1**
LOR *e*R
comp=Z,334nm,19.8s
QUIF Quistinic 76.82 353 *e*P **P** **22 51 21.4 -1.8**
MALT Malatya 76.85 321 P **P** **22 51 25.4 +1.8**
MALT Malatya 76.85 321 *e*P **P** **22 51 24.3 +0.7**
comp=Z,19nm,1.5s,mb4.8
DZM Mont Dzumac 77.04 180 LR LR 23 18 51.4
comp=Z,343nm,19.8s,MS4.7,baz=198,slow=31
SSF Saint Saulge 77.05 348 *e*P **P** **22 51 22.7 -1.8**
SSF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
SSF Saint Saulge 77.05 348 *e*P **P** **22 51 22.7 -1.8**
comp=Z,5.1nm,1.0s,mb4.4
CTA Charters Tower 77.07 200 P **P** **22 51 25.8 +0.7**
CTA pmax pmax
comp=Z,7.0nm,0.9s
CTA MLR MLR
comp=Z,178nm,21.2s
CTA Charters Tower 77.07 200 P **P** **22 51 25.8 +0.7**
comp=Z,7.4nm,0.9s,mb4.6,baz=8.3,slow=4.3,SNR=4.1
CTA LR LR 23 18 26.6
comp=Z,178nm,21.2s,MS4.4,baz=44,slow=30
CABF La Chapelle 77.17 346 *e*P **P** **22 51 23.7 -1.4**
comp=Z,42nm,1.3s,mb4.9
CABF La Chapelle 77.17 346 *e*P **P** **22 51 23.7 -1.4**
CABF pmax pmax
comp=Z,21nm,1.3s,mb4.9
BR131 Keskin Array S 77.25 325 *e*P **P** **22 51 25.5 -0.2**
comp=Z,5.7nm,0.8s,mb4.5
BRTR Keskin Array B 77.25 325 P **P** **22 51 26.3 +0.6**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
BRTR Keskin Array B 77.25 325 P **P** **22 51 26.2 +0.5**
comp=Z,5.6nm,0.8s,mb4.8,baz=56,slow=3.8,SNR=46
BBLS Bajina Basta 77.40 336 ⇑*i*P **P** **22 51 19.9 -6.5**
SMF Signal de Mont 77.42 348 *e*P **P** **22 51 24.7 -1.8**
comp=Z,17nm,1.1s,mb4.6
SMF Signal de Mont 77.42 348 *e*P **P** **22 51 24.7 -1.8**
SMF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
BGF Bois d'Agland 77.62 349 *e*P **P** **22 51 25.8 -1.8**
comp=Z,9.5nm,0.9s,mb4.4
BGF Bois d'Agland 77.62 349 *e*P **P** **22 51 25.8 -1.8**
BGF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ORX Oropa 77.86 345 P **P** **22 51 32.6 +3.6**
MFF Saint Martin d 77.88 351 *e*P **P** **22 51 27.4 -1.7**
comp=Z,35nm,1.4s,mb4.8
MFF Saint Martin d 77.88 351 *e*P **P** **22 51 27.4 -1.7**
MFF pmax pmax
comp=Z,17nm,1.4s,mb4.8
TCF Toulx Ste Croi 77.96 349 *e*P **P** **22 51 27.9 -1.6**
comp=Z,15nm,1.0s,mb4.6
TCF Toulx Ste Croi 77.96 349 *e*P **P** **22 51 27.9 -1.6**
TCF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LSD Ceresole Reale 78.15 345 P **P** **22 51 32.1 +1.5**
LPL La Plagne 78.15 346 *e*P **P** **22 51 30.1 -0.5**
comp=Z,24nm,1.1s,mb4.7
LPL La Plagne 78.15 346 *e*P **P** **22 51 30.1 -0.5**
LPL pmax pmax
comp=Z,12nm,1.1s,mb4.7
LPG La Plagne 78.17 346 *e*P **P** **22 51 30.3 -0.4**
comp=Z,46nm,1.2s,mb5.0
LPG La Plagne 78.17 346 *e*P **P** **22 51 30.3 -0.4**
LPG pmax pmax
comp=Z,23nm,1.2s,mb5.0
RSP Reno Superiore 78.44 345 P **P** **22 51 32.6 +0.5**
FENE Fenestrelle 78.58 345 P **P** **22 51 33.6 +0.7**
GRAM 78.64 343 P **P** **22 51 33.6 +0.3**
CODM 78.78 343 P **P** **22 51 34.2 +0.2**
PCP Pian Castagno 78.84 344 P **P** **22 51 34.5 +0.1**
BACM 78.85 343 P **P** **22 51 35.0 +0.5**
ORIF Oris-en-Rattie 78.86 346 *e*P **P** **22 51 33.8 -0.7**
comp=Z,33nm,1.2s,mb4.8
ORIF *e*R

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,308nm,22.2s						
SARO	**Sassorosso**	**78.89**	**343**	P	**P**	**22 51 34.7**	**+0.1**
MBDF	**Montbardon**	**78.92**	**346**	*e*P	**P**	**22 51 34.0**	**-0.8**
	comp=Z,18nm,0.9s,mb4.7						
MBDF	**Montbardon**	**78.92**	**346**	*e*P	**P**	**22 51 34.0**	**-0.8**
MBDF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
RJF	**Les Rejaudoux**	**79.00**	**349**	*e*P	**P**	**22 51 33.9**	**-1.3**
RJF				*e*R			
	comp=Z,337nm,22.2s						
VIVF	**Saint-Julien-l**	**79.08**	**347**	*e*P	**P**	**22 51 34.5**	**-1.2**
MAIM		**79.14**	**343**	P	**P**	**22 51 35.1**	**-0.9**
ROB	**Roburent**	**79.18**	**345**	P	**P**	**22 51 36.2**	**0.0**
FIN	**Finale Ligure**	**79.22**	**344**	P	**P**	**22 51 35.8**	**-0.6**
CAF	**Calviac**	**79.32**	**349**	*e*P	**P**	**22 51 36.0**	**-1.0**
	comp=Z,20nm,1.1s,mb4.7						
CAF	**Calviac**	**79.32**	**349**	*e*P	**P**	**22 51 36.0**	**-1.0**
CAF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
LFF	**La Frestale**	**79.44**	**350**	*e*P	**P**	**22 51 36.4**	**-1.2**
	comp=Z,41nm,1.3s,mb4.9						
LFF	**La Frestale**	**79.44**	**350**	*e*P	**P**	**22 51 36.4**	**-1.2**
LFF				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
IMI	**Imperia**	**79.56**	**345**	P	**P**	**22 51 37.5**	**-0.7**
SBF	**Sospel**	**79.67**	**345**	*e*P	**P**	**22 51 37.3**	**-1.6**
	comp=Z,56nm,1.2s,mb5.1						
SBF	**Sospel**	**79.67**	**345**	*e*P	**P**	**22 51 37.3**	**-1.6**
SBF				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.1						
SMRF	**Simiane la Rot**	**79.83**	**346**	*e*P	**P**	**22 51 38.2**	**-1.5**
	comp=Z,41nm,1.3s,mb4.9						
WRAB	**Tennant Creek**	**79.83**	**211**	*e*P	**P**	**22 51 40.7**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**79.83**	**211**	*e*P	**P**	**22 51 40.7**	**+0.5**
	comp=Z,17nm,0.9s,mb5.0						
WRA	**Warramunga Arr**	**79.84**	**211**	P	**P**	**22 51 40.4**	**+0.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA	**Warramunga Arr**	**79.84**	**211**	P	**P**	**22 51 40.4**	**+0.2**
	comp=Z,2.1nm,0.5s,mb4.3,baz=19,slow=5.6,SNR=7.0						
FRF	**La Foret Royal**	**80.08**	**345**	*e*P	**P**	**22 51 39.7**	**-1.4**
	comp=Z,32nm,1.2s,mb4.8						
FRF	**La Foret Royal**	**80.08**	**345**	*e*P	**P**	**22 51 39.7**	**-1.4**
FRF				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
AQU	**L'Aquila**	**80.12**	**340**	P	**P**	**22 51 43.5**	**+2.2**
AQU				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.2						
AQU	**L'Aquila**	**80.12**	**340**	*e*P	**P**	**22 51 43.2**	**+1.9**
	comp=Z,27nm,0.9s,mb5.2						
LMR	**La Mourre**	**80.33**	**345**	*e*P	**P**	**22 51 41.2**	**-1.2**
	comp=Z,30nm,0.9s,mb4.9						
LMR	**La Mourre**	**80.33**	**345**	*e*P	**P**	**22 51 41.2**	**-1.2**
LMR				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
CII	**Carovilli**	**80.55**	**339**	*e*P	**P**	**22 51 43.9**	**+0.3**
	comp=Z,23nm,1.0s,mb5.1						
PGF	**Pioggiola**	**80.71**	**344**	*e*P	**P**	**22 51 43.4**	**-1.1**
	comp=Z,79nm,1.1s,mb5.2						
PGF	**Pioggiola**	**80.71**	**344**	*e*P	**P**	**22 51 43.4**	**-1.1**
PGF				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3						
MTLF	**Montolieu**	**80.87**	**349**	*e*P	**P**	**22 51 44.5**	**-0.8**
	comp=Z,26nm,1.3s,mb4.7						
MTLF	**Montolieu**	**80.87**	**349**	*e*P	**P**	**22 51 44.5**	**-0.8**
MTLF				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
FITZ	**Fitzroy Crossi**	**80.97**	**219**	P	**P**	**22 51 51.1**	**+4.8**
	comp=Z,17nm,1.1s,mb4.9,baz=114,slow=3.1,SNR=3.4						
KBD	**Kabd**	**81.08**	**309**	*e*P	**P**	**22 51 46.5**	**-0.2**
NAY	**Al-Naaiem**	**81.22**	**310**	*e*P	**P**	**22 51 47.6**	**+0.2**
NAY				AMb	AMB	22 51 48.3	
	comp=Z,23nm,0.6s,mb5.3						
QRN	**Al-Qurain**	**81.35**	**309**	*e*P	**P**	**22 51 48.5**	**+0.4**
QRN				AMb	AMB	22 51 49.0	
	comp=Z,45nm,0.6s,mb5.6						
RDF	**Al-Radifah**	**81.36**	**309**	*e*P	**P**	**22 51 48.1**	**0.0**
RDF				AMb	AMB	22 51 49.8	
	comp=Z,72nm,0.7s,mb5.7						
EPF	**Esparros**	**81.38**	**350**	*e*P	**P**	**22 51 46.3**	**-1.6**
PPT	**Papeete**	**81.46**	**138**	LR	LR	23 19 20.5	
	comp=Z,576nm,20.4s,MS4.9,baz=347,slow=29						
ETSF	**Etsaut**	**81.59**	**351**	*e*P	**P**	**22 51 48.4**	**-0.7**
	comp=Z,12nm,0.8s,mb4.6						
ETSF	**Etsaut**	**81.59**	**351**	*e*P	**P**	**22 51 48.4**	**-0.7**
ETSF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
TIP	**Timpagrande**	**82.47**	**337**	*e*P	**P**	**22 51 55.2**	**+1.5**
HASS	**Wahat al Ahsa'**	**83.59**	**306**	P	**P**	**22 51 58.9**	**-0.8**
VAE	**Valguarnera**	**84.61**	**338**	LR	LR	23 34 07.8	
	comp=Z,425nm,18.4s,MS4.9,baz=137,slow=39						
ESDC	**Sonseca Array**	**85.08**	**353**	P	**P**	**22 52 08.3**	**+1.4**
	comp=Z,8.2nm,0.8s,mb4.9,baz=1.1,slow=4.9,SNR=34						
ESLA	**Sonseca Array**	**85.08**	**353**	*e*P	**P**	**22 52 07.7**	**+0.9**
	comp=Z,4.2nm,1.0s,mb4.5						
HILS	**Ha'il**	**85.18**	**313**	P	**P**	**22 52 08.4**	**+0.8**
RAO	**Raoul Island**	**85.22**	**167**	LR	LR	23 21 42.9	
	comp=Z,224nm,21.6s,MS4.5,baz=343,slow=30						
EVO	**Evora**	**86.44**	**356**	*e*P	**P**	**22 52 14.3**	**+0.7**
	comp=Z,25nm,1.1s,mb5.0						
EVO				*e*R			
	comp=Z,328nm,19.0s						
MZLS	**Mizel**	**86.64**	**309**	P	**P**	**22 52 15.8**	**+0.9**
STKA	**Stephens Creek**	**89.45**	**201**	P	**P**	**22 52 29.3**	**+1.1**
	comp=Z,7.0nm,0.8s,mb5.0,baz=344,slow=9.1,SNR=11						
STKA				LR	LR	23 26 48.0	
	comp=Z,324nm,21.7s,MS4.7,baz=25,slow=32						
STKA	**Stephens Creek**	**89.45**	**201**	*e*P	**P**	**22 52 29.0**	**+0.8**
RPZ	**Rata Peaks**	**98.70**	**177**	P	**P**	**22 53 12.9**	**+2.6**
	comp=Z,8.3nm,0.8s,mb5.3,baz=315,slow=7.1,SNR=2.4						
LPAZ	**La Paz**	**123.02**	**69**	PKIKP	PKPdf	22 58 29.8	-1.6
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPAZ	**La Paz**	**123.02**	**69**	PKP	PKPdf	22 58 29.8	-1.6
	comp=Z,0.6nm,0.7s,baz=255,slow=1.3,SNR=3.5						
BDFB	**Brasilia**	**132.28**	**48**	PKIKP	PKPdf	22 58 46.8	-2.4
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BDFB	**Brasilia**	**132.28**	**48**	PKP	PKPdf	22 58 46.8	-2.4
	comp=Z,3.2nm,0.8s,baz=22,slow=5.4,SNR=3.1						
VNDA	**Vanda**	**132.57**	**181**	PKIKP	PKPdf	22 58 44.3	-3.9
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VNDA	**Vanda**	**132.57**	**181**	PKP	PKPdf	22 58 44.3	-3.9
	comp=Z,0.9nm,0.8s,baz=298,slow=4.6,SNR=5.1						
MATP	**Matopo**	**133.21**	**301**	PKP	PKPdf	22 58 46.9	-4.0
	comp=Z,2.4nm,0.9s,baz=315,slow=1.4,SNR=4.2						
CPUP	**Villa Florida**	**136.96**	**66**	PKIKP	PKPdf	22 58 54.0	-3.5
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CPUP	**Villa Florida**	**136.96**	**66**	PKP	PKPdf	22 58 54.0	-3.5
	comp=Z,1.1nm,0.8s,baz=297,slow=4.5,SNR=2.7						
LBTB	**Lobatse**	**138.50**	**301**	PKIKP	PKPdf	22 58 59.0	-1.5
LBTB				pmax	pmax		
	comp=Z,3.0nm,1.1s						
LBTB	**Lobatse**	**138.50**	**301**	PKP	PKPdf	22 58 59.0	-1.5
	comp=Z,2.9nm,1.1s,baz=284,slow=4.2,SNR=3.1						
BOSA	**Boshof**	**141.65**	**298**	PKIKP	PKPdf	22 59 03.4	-2.5
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BOSA	**Boshof**	**141.65**	**298**	PKP	PKPdf	22 59 03.4	-2.5
	comp=Z,2.1nm,0.7s,baz=153,slow=0.5,SNR=3.3						
BOSA	**Boshof**	**141.65**	**298**	PKP	PKPdf	22 59 03.4	-2.5
MAW	**Mawson**	**144.10**	**219**	PKIKP	PKPdf	22 59 04.7	-4.2
MAW				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MAW	**Mawson**	**144.10**	**219**	PKP	PKPdf	22 59 04.7	-4.2
	comp=Z,8.8nm,0.9s,baz=95,slow=3.7,SNR=8.7						
QSPA	**South Pole Qui**	**145.04**	**180**	*e*P	PKPbc	22 59 06.2	+0.3
SUR	**Sutherland**	**146.93**	**300**	PKPbc	PKPbc	22 59 15.9	+4.0
	comp=Z,8.4nm,0.8s,baz=55,slow=4.2,SNR=7.2						
SUR	**Sutherland**	**146.93**	**300**	PKPbc	PKPbc	22 59 15.9	+4.0
USHA	**Ushuaia**	**149.10**	**112**	PKPbc	PKPdf	22 59 18.7	+1.1
	comp=Z,17nm,0.9s,baz=250,slow=4.2,SNR=9.2						
SYO	**Syowa Base**	**152.81**	**219**	⇓PKPdf	PKPdf	22 59 20.0	-2.8
SNAA	**Sanae**	**162.95**	**191**		PKPdf	22 59 47.1	+12
SNAA	**Sanae**	**162.95**	**191**		PKPab	23 00 21.9	-0.3
SNAA	**Sanae**	**162.95**	**191**			23 00 35.2	
SNAA	**Sanae**	**162.95**	**191**	PKPab	PKPab	23 00 21.8	-0.5
	comp=Z,1.7nm,1.1s,baz=180,slow=3.0,SNR=5.8						
SNAA	**Sanae**	**162.95**	**191**	PKPdf	PKPdf	22 59 39.5	+4.5
SNAA				P		22 59 47.1	
SNAA				P		23 00 21.9	
VNA3	**Neumayer Olymp**	**163.90**	**184**	P	PKPdf	22 59 36.8	+0.9
VNA3	**Neumayer Olymp**	**163.90**	**184**		PKPdf	22 59 46.4	+10
VNA3	**Neumayer Olymp**	**163.90**	**184**			23 00 26.3	
VNA3	**Neumayer Olymp**	**163.90**	**184**			23 00 36.9	
VNA2	**Neumayer--Watz**	**164.09**	**187**	P	PKPdf	22 59 33.4	-2.7
VNA2	**Neumayer--Watz**	**164.09**	**187**		PKPdf	22 59 43.9	+7.8
VNA2	**Neumayer--Watz**	**164.09**	**187**			23 00 28.4	
VNA2	**Neumayer--Watz**	**164.09**	**187**			23 00 37.4	

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*NEIC **10** 22:43:17.2±1.1, 4.49S×125.47E, h444km±14km, mb4.4/5, Error ellipse: s-maj=16.0km s-min=8.7km az=56.0*

*IDC **10** 22:43:18.2±2.5, 4.44S×125.52E, h455km±32km, mb3.5/12, mb1 3.7/14, mb1mx3.5/22, mbtmp4.4/14, Error ellipse: s-maj=22.6km s-min=11.1km az=58.0*

ISC 10 22:43:14.5±1.6**, 4.44S**±0.07×**125.4E**±0.1**, h424**km±19km**, n22,** σ**1.03**/26**, mb3.9**/13**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.78**	**140**	*e*P	**P**	**22 45 42.0**	**-0.5**
	44nm,0.6s						
FITZ	**Fitzroy Crossi**	**13.58**	**179**	*e*P	**P**	**22 46 12.6**	**-0.9**
	6.2nm,0.3s						
FITZ				*e*S	**S**	**22 48 34.9**	**-1.8**
FITZ	**Fitzroy Crossi**	**13.58**	**179**	P	**P**	**22 46 13.0**	**-0.5**
	3.1nm,0.3s,baz=4.0,slow=8.1,SNR=95						
FITZ				S	**S**	**22 48 35.0**	**-1.7**
	0.9nm,0.3s,baz=194,slow=16,SNR=7.8						
KKM	**Kota Kinabalu**	**13.87**	**319**	*e*P	**P**	**22 46 18.2**	**+1.7**
MBWA	**Marble Bar**	**17.51**	**198**	*e*P	**P**	**22 46 53.6**	**0.0**
WRAB	**Tennant Creek**	**17.70**	**151**	*e*P	**P**	**22 46 55.8**	**+0.2**
	13nm,0.6s						
WRA	**Warramunga Arr**	**17.71**	**151**	P	**P**	**22 46 55.8**	**+0.2**
	2.1nm,0.3s,baz=330,slow=11,SNR=31						
WRA				S	**S**	**22 49 56.4**	**+2.1**
	0.3nm,0.3s,baz=330,slow=19,SNR=4.9						
WB2	**Warramunga Arr**	**17.71**	**151**	*e*P	**P**	**22 46 55.7**	**0.0**
WB2				*e*S	**S**	**22 49 55.2**	**+0.8**
PMG	**Port Moresby**	**22.16**	**104**	P	**P**	**22 47 38.7**	**+0.2**
	11nm,0.6s,mb4.5,baz=291,slow=11,SNR=4.0						
CTA	**Charters Tower**	**25.59**	**129**	P	**P**	**22 48 09.4**	**-0.2**
	16nm,1.2s,mb4.3,baz=337,slow=7.7,SNR=2.8						
NWAO	**Narrogin (SRO)**	**29.35**	**194**	P	**P**	**22 48 42.2**	**-0.4**
	12nm,1.0s,mb4.2,baz=56,slow=8.9,SNR=3.4						
STKA	**Stephens Creek**	**31.25**	**153**	*e*P	**P**	**22 48 59.3**	**+0.3**
	2.1nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**31.25**	**153**	P	**P**	**22 48 59.3**	**+0.3**
	2.6nm,0.4s,mb3.9,baz=333,slow=9.8,SNR=14						
CMAR	**Chiang Mai Arr**	**34.60**	**312**	P	**P**	**22 49 29.3**	**+1.8**
	2.1nm,0.7s,mb3.6,baz=142,slow=7.3,SNR=12						
MKAR	**Makanchi Array**	**63.62**	**328**	P	**P**	**22 53 03.6**	**-0.5**
	1.9nm,0.6s,mb3.8,baz=118,slow=8.1,SNR=14						
ZAL	**Zalesovo**	**67.31**	**335**	P	**P**	**22 53 25.9**	**-1.3**
	1.4nm,0.4s,mb4.0,baz=4.2,slow=3.8,SNR=4.1						
BVAR	**Borovoye Array**	**73.49**	**329**	P	**P**	**22 54 03.5**	**-0.3**
	0.5nm,0.5s,mb3.3,baz=127,slow=7.2,SNR=3.8						
ZRNK	**Zerenda**	**74.17**	**328**	*e*P	**P**	**22 54 06.8**	**-0.9**
	1.2nm,0.3s,mb4.0						
VNDA	**Vanda**	**75.56**	**172**	P	**P**	**22 54 14.5**	**-0.6**
	0.6nm,0.4s,mb3.6,baz=307,slow=8.9,SNR=9.5						
KMBO	**Kilima Mbogo**	**88.06**	**269**	P	**P**	**22 55 22.4**	**+2.1**
	0.4nm,0.5s,mb3.5,baz=66,slow=20,SNR=2.7						
ILAR	**Eielson Array**	**93.01**	**25**	P	**P**	**22 55 40.2**	**-1.7**
	0.2nm,0.5s,mb3.3,baz=246,slow=4.4,SNR=4.7						
BOSA	**Boshof**	**96.75**	**241**	P	**P**	**22 55 59.9**	**0.0**
	1.8nm,0.6s,mb4.4,baz=149,slow=5.9,SNR=4.8						

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*BJI **10** 22:50:17.6, 4.48N×95.08E, h67km, mB5.0, mb4.9, Ms4.9, Msz4.2*

*MOS **10** 22:50:17.3±0.8, 5.05N×95.27E, h33km, mb5.0/17, Error ellipse: s-maj=20.6km s-min=7.0km az=116.6*

*NEIC **10** 22:50:20.0±0.2, 4.65N×95.03E, mb4.7/24, Error ellipse: s-maj=8.7km s-min=5.1km az=34.0*

*IDC **10** 22:50:20.3±0.5, 4.79N×95.03E, h51km±3km, mb4.4/15, mb1 4.5/15, mb1mx4.3/22, mbtmp4.7/15, Error ellipse: s-maj=22.5km s-min=11.4km az=50.0*

ISC 10 22:50:18.3±0.4**, 4.66N**±0.06×**95.11E**±0.04**, h52**km**, h52**km±1.3km**: pP-P, n135,** σ**0.94**/137**, mb4.7**/57**, MS4.5**/5**, 16C-5D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.55**	**83**	⇓*e*Pn	**P**	**22 51 41.1**	**+0.8**
KULM				*e*Sn	**S**	**22 52 42.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**14.21**	**15**	P	**P**	**22 53 41.6**	**+3.2**
	2.4nm,0.3s,baz=208,slow=11,SNR=81						
NANT	**Nan**	**15.07**	**21**	P	**P**	**22 53 56.0**	**+6.3**
	100nm,0.7s						
KSM	**Kuching**	**15.50**	**101**	*e*P	**P**	**22 54 00.3**	**+5.1**
KKM	**Kota Kinabalu**	**21.05**	**85**	*e*P	**P**	**22 55 01.9**	**+1.6**
KMI	**Kunming**	**21.62**	**19**	P	**P**	**22 55 07.2**	**+1.2**
KMI				PP	PP	22 55 35.2	+3.5
KMI				S	**S**	**22 59 01.4**	**+4.1**
KMI				SS	SS	22 59 40.6	+4.5
KMI				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.4						
KMI				AMB	AMB		
	comp=Z,98nm,5.8s						
KMI				LR	LR		
	comp=N,212nm,19.2s,MS3.7						
KMI				LR	LR		
	comp=E,195nm,16.7s,MS3.7						
KMI				LR	LR		
	comp=Z,193nm,18.4s,MS3.5						
PKI	**Pulchoki**	**24.59**	**339**	*e*P	**P**	**22 55 35.9**	**+0.9**
	comp=Z,8.3nm,0.4s,mb4.6						
DMN	**Daman**	**24.73**	**338**	*e*P	**P**	**22 55 36.4**	**0.0**
GUN	**Gumba**	**24.74**	**340**	*e*P	**P**	**22 55 36.6**	**+0.2**
	comp=Z,28nm,0.4s,mb5.1						
KKN	**Kakani**	**24.84**	**339**	*e*P	**P**	**22 55 37.1**	**-0.3**
	comp=Z,7.1nm,0.0s,mb5.7						
LSA	**Lhasa**	**25.18**	**352**	P	**P**	**22 55 42.0**	**+1.3**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
LSA	**Lhasa**	**25.18**	**352**	*e*P	**P**	**22 55 40.7**	**0.0**
	comp=Z,18nm,0.7s,mb4.7						
GKN	**Gorkha**	**25.26**	**338**	*e*P	**P**	**22 55 41.5**	**0.0**
	comp=Z,20nm,0.3s,mb5.2						
KOLN	**Koldanda**	**25.46**	**336**	*e*P	**P**	**22 55 43.6**	**+0.3**
	comp=Z,69nm,0.7s,mb5.3						
CD2	**Chengdu**	**27.35**	**16**	P	**P**	**22 55 59.1**	**-1.6**
XAN	**Xi'an**	**31.93**	**22**	P	**P**	**22 56 39.8**	**-1.6**
XAN				AMB	AMB		
	comp=Z,44nm,0.5s,mb5.5						
GTA	**Gaotai**	**34.85**	**6**	*e*P	**P**	**22 57 05.4**	**-1.2**
GTA				AMB	AMB		
	comp=Z,15nm,0.7s,mb5.0						
NJ2	**Nanjing**	**35.17**	**36**	*e*P	**P**	**22 57 10.0**	**+0.6**
NJ2				PP	PP	22 58 28.3	-1.2
NJ2				S	**S**	**23 02 40.0**	**+2.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,170nm,6.7s						
NJ2				LR	LR		
	comp=N,3μm,14.0s,MS5.3						
NJ2				LR	LR		
	comp=E,2μm,14.0s,MS5.3						
NJ2				LR	LR		
	comp=Z,1μm,14.4s,MS4.7						
FITZ	**Fitzroy Crossi**	**37.66**	**128**	*e*P	**P**	**22 57 30.2**	**-0.2**
	comp=Z,13nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**37.66**	**128**	P	**P**	**22 57 30.3**	**-0.2**
	comp=Z,11nm,0.8s,mb4.7,baz=312,slow=1.8,SNR=8.3						
JOW	**Kunigami**	**38.57**	**52**	P	**P**	**22 57 38.6**	**+0.6**
	comp=Z,20nm,0.6s,mb5.1,baz=224,slow=7.3,SNR=5.8						
KSH	**Kashi**	**38.78**	**336**	*e*P	**P**	**22 57 40.7**	**+1.1**
KSH				*e*AP	pP	22 57 50.7	-2.6
KSH				*e*PP	PP	22 59 13.4	+0.6
KSH				*e*PCP	PcP	22 59 52.0	+1.2
KSH				*e*S	**S**	**23 03 35.0**	**+2.0**
KSH				*e*PCS		23 03 40.1	
KSH				*e*SS	SS	23 06 19.4	+2.0
KSH				AMB	AMB		
	comp=Z,130nm,6.5s						
KSH				LR	LR		
	comp=N,5μm,20.3s						
KSH				LR	LR		
	comp=E,3μm,15.2s						
HHC	**Hu-ho-hao-te**	**38.94**	**20**	*e*P	**P**	**22 57 40.9**	**0.0**
HHC				PP	PP	22 59 13.6	-1.1
HHC				PCP	PcP	22 59 54.4	+3.1
HHC				S	**S**	**23 03 38.6**	**+3.1**
HHC				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,147nm,9.6s						
HHC				LR	LR		
	comp=N,311nm,15.6s,MS4.4						
HHC				LR	LR		
	comp=E,327nm,15.6s,MS4.4						
HHC				LR	LR		
	comp=Z,380nm,15.6s,MS4.3						
ULHL	**Ulahol**	**41.03**	**339**	P	**P**	**22 57 59.1**	**+0.9**
	SNR=5.1						
KZA	**Kyzart**	**41.25**	**337**	P	**P**	**22 58 01.5**	**+1.5**
	SNR=6.1						
UCH	**Uchtor**	**41.67**	**337**	P	**P**	**22 58 04.8**	**+1.3**
	SNR=44						
DL2	**Dalian**	**41.72**	**32**	P	**P**	**22 58 04.6**	**+0.7**
DL2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
TKM2	**Tokmak 2**	**41.85**	**338**	P	**P**	**22 58 05.7**	**+0.7**
	SNR=21						
KBK	**Karagaybulak**	**41.87**	**338**	P	**P**	**22 58 06.7**	**+1.6**
	SNR=20						
AML	**Almayashu**	**41.91**	**336**	P	**P**	**22 58 06.9**	**+1.5**
	SNR=14						
AAK	**Ala-Archa**	**42.02**	**337**	P	**P**	**22 58 07.9**	**+1.6**
	SNR=8.3						
AAK	**Ala-Archa**	**42.02**	**337** *c*	*i*P	**P**	**22 58 06.4**	**+0.1**
AAK				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.8						
AAK	**Ala-Archa**	**42.02**	**337**	*e*P	**P**	**22 58 06.7**	**+0.4**
	comp=Z,14nm,0.8s,mb4.7						
CHMS	**Chumysh**	**42.23**	**338**	P	**P**	**22 58 08.7**	**+0.6**
	SNR=9.6						
USP	**Ospenovka**	**42.56**	**338**	P	**P**	**22 58 11.4**	**+0.7**
	SNR=57						
MKAR	**Makanchi Array**	**43.41**	**347**	*i*P	**P**	**22 58 17.0**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MKAR	**Makanchi Array**	**43.41**	**347**	P	**P**	**22 58 16.9**	**-0.7**
	comp=Z,7.0nm,0.3s,mb4.9,baz=165,slow=7.9,SNR=188						
MKAR				PcP	PcP	23 00 05.6	-0.3
	comp=Z,0.8nm,0.5s,baz=166,slow=4.0,SNR=3.1						
KKAR	**Karatay Array**	**44.05**	**334**	*e*P	**P**	**22 58 22.9**	**0.0**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
SONM	**Songino Array**	**44.09**	**11**	P	**P**	**22 58 22.3**	**-0.9**
	comp=Z,2.1nm,0.8s,mb3.9,baz=187,slow=8.7,SNR=9.9						
SONM				pP	pP	22 58 35.0	-2.0
	comp=Z,1.3nm,0.6s,baz=191,slow=9.4,SNR=3.9						
SONM				PcP	PcP	23 00 07.7	-0.4
	comp=Z,3.0nm,0.6s,baz=204,slow=2.6,SNR=9.8						
ULN	**Ulaanbaatar**	**44.25**	**12**	*i*P	**P**	**22 58 17.9**	**-6.5**
WRA	**Warramunga Arr**	**45.65**	**124**	P	**P**	**22 58 36.6**	**+0.6**
	comp=Z,23nm,0.6s,mb5.2,baz=302,slow=9.1,SNR=60						
WRA				pP	pP	22 58 52.9	+3.1
	comp=Z,6.9nm,0.6s,baz=303,slow=9.0,SNR=4.8						
WRA				PcP	PcP	23 00 14.0	+0.1
	comp=Z,1.0nm,0.6s,baz=322,slow=2.9,SNR=3.2						
WRAB	**Tennant Creek**	**45.66**	**124**	⇑*e*P	**P**	**22 58 36.5**	**+0.5**
WRAB	**Tennant Creek**	**45.66**	**124**	*e*P	**P**	**22 58 36.5**	**+0.4**
	comp=Z,50nm,0.9s,mb5.5						
WB2	**Warramunga Arr**	**45.66**	**124**	*e*P	**P**	**22 58 36.6**	**+0.5**
ZAK	**Zakamensk**	**46.08**	**7**	⇑*e*P	**P**	**22 58 37.3**	**-1.7**
ZAK				*e*		23 00 13.6	
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
CN2	**Changchun**	**47.27**	**30**	*e*P	**P**	**22 58 47.9**	**-0.5**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
TLY	**Talaya**	**47.40**	**7**	*i*P	**P**	**22 58 47.8**	**-1.5**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZAL	**Zalesovo**	**49.84**	**352**	*i*P	**P**	**22 59 07.2**	**-1.0**
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ZAL	**Zalesovo**	**49.84**	**352**	P	**P**	**22 59 07.2**	**-1.0**
	comp=Z,5.9nm,0.5s,mb4.8,baz=310,slow=5.9,SNR=26						
MJAR	**Matsushiro Arr**	**50.65**	**45**	P	**P**	**22 59 15.3**	**+0.6**
	comp=Z,0.6nm,0.3s,mb4.0,baz=148,slow=12,SNR=4.1						
NVS	**Novosibirsk**	**50.95**	**351**	*e*P	**P**	**22 59 12.5**	**-4.1**
VOSK	**Vostochnaya**	**51.88**	**342**	P	**P**	**22 59 22.6**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.1						
BVA0	**Borovoye Array**	**52.32**	**341**	*i*P	**P**	**22 59 25.9**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**52.32**	**341**	P	**P**	**22 59 25.9**	**-1.0**
	comp=Z,22nm,0.6s,mb5.2,baz=143,slow=9.0,SNR=161						
BVAR				pP	pP	22 59 39.3	-1.7
	comp=Z,4.8nm,0.7s,baz=145,slow=9.7,SNR=5.2						
ZRNK	**Zerenda**	**52.71**	**340**	P	**P**	**22 59 28.9**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
ZRNK	**Zerenda**	**52.71**	**340**	*e*P	**P**	**22 59 28.7**	**-1.2**
	comp=Z,24nm,0.8s,mb5.2						
AB31	**Akbulak array**	**53.50**	**332**	*i*P	**P**	**22 59 35.0**	**-0.8**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
STKA	**Stephens Creek**	**57.21**	**133**	P	**P**	**23 00 02.7**	**-0.2**
	comp=Z,1.3nm,0.6s,mb4.1,baz=321,slow=6.5,SNR=4.2						
STKA				pP	pP	23 00 19.3	+2.1
	comp=Z,1.4nm,0.5s,baz=353,slow=11,SNR=2.0						
STKA	**Stephens Creek**	**57.21**	**133**	*e*P	**P**	**23 00 02.6**	**-0.2**
GNI	**Garni**	**57.38**	**315**	*i*P	**P**	**23 00 03.6**	**-0.3**
GNI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SVE	**Sverdlovsk**	**58.73**	**339**	*e*P	**P**	**23 00 12.0**	**-1.0**
SVE				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
YSS	**Yuzh-Sakhalins**	**58.74**	**36**	*i*P	**P**	**23 00 12.6**	**-0.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
ARU	**Arti**	**59.21**	**337**	⇑*i*P	**P**	**23 00 14.9**	**-1.5**
ARU				*e*		23 01 00.4	
ARU				*e*		23 02 24.0	
ARU				*e*S	**S**	**23 08 21.6**	**+3.1**
ARU				*e*SS	SS	23 12 16.5	+1.4
ARU				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
ARU	**Arti**	**59.21**	**337**	*e*P	**P**	**23 00 13.5**	**-2.9**
	comp=Z,12nm,1.0s,mb4.9						
KIV	**Kislovodsk**	**60.34**	**319**	*e*P	**P**	**23 00 23.4**	**-1.0**
KIV				pmax	pmax		
	comp=N,5.0nm,0.9s						
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
KIV				pmax	pmax		
	comp=E,5.0nm,1.1s						
KIV	**Kislovodsk**	**60.34**	**319**	*e*P	**P**	**23 00 23.4**	**-1.1**
	comp=E,6.4nm,0.9s,mb4.7						
SOC	**Sochi**	**62.17**	**317**	*e*P	**P**	**23 00 34.3**	**-2.4**
SOC				*e*S	**S**	**23 08 53.2**	**-3.4**
SOC				*e*SSS	SSS	23 15 44.6	-0.2
SOC				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.0						
SOC				pmax	pmax		
	comp=N,6.0nm,1.2s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.6s						
BR131	**Keskin Array S**	**65.26**	**312**	*e*P	**P**	**23 00 55.8**	**-1.3**
	comp=E,3.0nm,0.6s,mb4.5						
BR131				*e*	pP	23 01 11.3	-0.4
BRTR	**Keskin Array B**	**65.26**	**312**	P	**P**	**23 00 56.0**	**-1.1**
	comp=E,4.7nm,0.7s,mb4.7,baz=132,slow=7.2,SNR=26						
BRTR				pP	pP	23 01 11.1	-0.5
	comp=E,2.9nm,0.8s,baz=121,slow=7.5,SNR=6.7						
BRTR				sP	sP	23 01 15.5	-1.9
	comp=E,1.1nm,0.6s,baz=129,slow=7.9,SNR=2.7						
SIM	**Simferopol'**	**66.42**	**317**	⇑*e*P	**P**	**23 01 03.6**	**-0.7**
SIM				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
OBN	**Obninsk**	**68.60**	**328**	*i*P	**P**	**23 01 16.4**	**-1.4**
OBN				*e*	pP	23 01 31.1	-1.4
OBN				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
TIXI	**Tiksi**	**70.18**	**11**	*i*P	**P**	**23 01 24.9**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
TIRR	**Tirgusor**	**70.20**	**316**	P	**P**	**23 01 27.3**	**-0.5**
TIRR	**Tirgusor**	**70.20**	**316**	⇑P	**P**	**23 01 27.1**	**-0.7**
CFR	**Carcaliu**	**70.56**	**316**	P	**P**	**23 01 29.4**	**-0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HARR	Harsova	70.59	316	P	P	23 01 29.8	-0.3
HARR	Harsova	70.59	316	⇑P	P	23 01 29.6	-0.5
AKASG	Malin Array Be	71.26	322	P	P	23 01 32.5	-1.5
	comp=Z,5.6nm,0.5s,mb4.7,baz=87,slow=5.3,SNR=60						
AKASG				pP	pP	23 01 47.5	-1.4
	comp=Z,2.0nm,0.7s,baz=93,slow=4.5,SNR=4.6						
VRI	Vrincioaia	71.68	317	⇑P	P	23 01 37.1	+0.4
MLR	Muntele Rosu	72.14	316	P	P	23 01 39.8	+0.4
MLR	Muntele Rosu	72.14	316	⇑P	P	23 01 40.1	+0.7
BURAR	Bucovina Array	73.07	318	⇑P	P	23 01 45.6	+0.8
DRGR		74.59	317	P	P	23 01 54.1	+0.4
DRGR		74.59	317	⇓P	P	23 01 54.2	+0.5
VSU	Vasula	74.83	330c	*i*P	P	23 01 54.1	-0.7
KWP	Kalwaria	75.09	320	*e*P	P	23 01 56.8	+0.3
KWP	Kalwaria	75.09	320	*e*P	P	23 01 56.8	+0.2
KOLS	Kolonicke sedl	75.25	319	*i* P	P	23 01 58.1	+0.6
SUW	Suwalki	75.66	325	*e*P	P	23 01 59.0	-0.7
SUW	Suwalki	75.66	325	*e*P	P	23 01 59.0	-0.8
CRVS	Cervenica-Dubn	75.77	319	*e*P	P	23 02 01.7	+1.3
FINES	FINESS Array B	75.99	332	*i* P	P	23 02 00.7	-0.7
FINES				pmax	pmax		
	comp=Z,5.0nm,0.3s						
FINES	FINESS Array B	75.99	332	P	P	23 02 00.7	-0.7
	comp=Z,4.5nm,0.3s,mb4.8,baz=116,slow=5.4,SNR=130						
FINES				pP	pP	23 02 15.1	-1.1
	comp=Z,3.8nm,0.4s,baz=113,slow=5.3,SNR=10						
STHS	Stebnicka Huta	76.00	320	*e*P	P	23 02 02.3	+0.6
STHS				*e*pP	pP	23 02 16.6	+0.1
KAF	Kangasniemi	76.07	333	*e*p	P	23 02 00.2	-1.7
	comp=Z,5.2nm,0.6s,mb4.6,baz=105,slow=5.3						
KAF	Kangasniemi	76.07	333	*e*P	P	23 02 00.2	-1.7
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
KECS	Kecovo	76.35	319	*i* P	P	23 02 03.8	+0.1
KECS				*e*pP	pP	23 02 19.2	+0.7
NIE	Niedzica	76.60	320	⇑*e*P	P	23 02 05.7	+0.6
OJC	Ojcow	77.05	320	⇑*i*P	P	23 02 07.7	+0.1
OJC				*e*PcP	PcP	23 02 22.5	+3.8
VYHS	Vyhne	77.43	319	*i* P	P	23 02 10.1	+0.3
OKC	Ostrava-Krasne	78.05	320	*e*P	P	23 02 13.6	+0.5
OKC				*e*pP	pP	23 02 28.8	+0.8
ZST	Bratislava	78.55	318	*i* P	P	23 02 16.7	+0.8
ARCES	ARCESS Array B	78.60	340	P	P	23 02 15.7	-0.1
	comp=Z,5.1nm,0.4s,mb4.8,baz=98,slow=5.8,SNR=104						
BILL	Bilibino	78.70	21	*e*P	P	23 02 15.2	-1.2
BILL				*e*		23 02 23.8	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
DPC	Dobruska-Polom	79.27	320	*e*P	P	23 02 20.6	+0.7
DPC				*e*pP	pP	23 02 35.7	+0.9
ARSA	Arzberg	79.53	317	⇓*i*P	P	23 02 22.3	+1.0
	comp=Z,6.6nm,1.2s,mb4.4						
BOJS	Bojanci	79.58	315	*e*P	P	23 02 21.8	+0.1
PERS	Pernice	79.76	316	*e*P	P	23 02 23.1	+0.5
VISS	Visnje	79.89	316	*e*P	P	23 02 23.3	0.0
LJU	Ljubljana	80.13	316	*e*P	P	23 02 25.4	+0.8
PRU	Pruhonice	80.38	320	*e*P	P	23 02 26.1	+0.3
PRU				*e*pP	pP	23 02 39.2	-1.6
PVCC	Panska Ves	80.41	320	*e*P	P	23 02 26.4	+0.5
PVCC				*e*pP	pP	23 02 41.6	+0.7
BRG	Berggiesshubel	80.83	321	*e*P	P	23 02 28.5	+0.3
BRG				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BRG				MLR	MLR		
	comp=N,540nm,15.8s,MS5.1						
BRG				MLR	MLR		
	comp=E,430nm,15.3s,MS5.1						
BRG				MLR	MLR		
	comp=Z,390nm,20.8s						
ROBS	Robic	80.84	316	*e*P	P	23 02 28.3	0.0
GERES	GERESS Array B	80.86	319	P	P	23 02 29.2	+0.8
	comp=Z,3.6nm,0.5s,mb4.5,baz=90,slow=5.3,SNR=19						
GERES				pP	pP	23 02 43.8	+0.5
	comp=Z,2.4nm,0.5s,baz=103,slow=6.2,SNR=7.6						
GERES				sP	sP	23 02 48.8	-0.2
	comp=Z,1.9nm,0.8s,baz=108,slow=4.2,SNR=3.4						
KHC	Kasperske Hory	80.95	319	*e*P	P	23 02 28.9	0.0
KHC				*e*pP	pP	23 02 44.3	+0.5
KBA	Koelnbreinsper	81.00	317	⇑*i*P	P	23 02 29.0	-0.1
	comp=Z,2.5nm,0.5s,mb4.4						
CLL	Collm	81.45	321	*i* P	P	23 02 31.4	0.0
CLL				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
CLL	Collm	81.45	321	*i* P	P	23 02 31.4	0.0
	comp=Z,5.0nm,1.2s,mb4.3						
CLL	Collm	81.45	321	P	P	23 02 31.4	0.0
	comp=Z,logA/T=0.6,mb4.3						
WTTA	Wattenberg	82.17	317	⇑*i*P	P	23 02 35.1	-0.1
	comp=Z,6.0nm,0.4s,mb4.9						
WATA	Walderalm	82.21	317	⇓*i*P	P	23 02 35.2	-0.2
	comp=Z,4.0nm,0.5s,mb4.6						
SQTA	Sankt Quirin	82.46	317	⇑*i*P	P	23 02 36.6	-0.1
	comp=Z,8.4nm,0.5s,mb4.9						
GRA1	Grafenberg Arr	82.52	319	*e*P	P	23 02 38.1	+1.2
	comp=Z,14nm,1.3s,mb4.8						
GRF	Grafenberg Arr	82.52	319	P	P	23 02 38.1	+1.2
GRF				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8						
GRF	Grafenberg Arr	82.52	319	*e*P	P	23 02 38.1	+1.2
	comp=Z,14nm,1.3s,mb4.8						
MOTA	Moosalm	82.53	317	⇓*i*P	P	23 02 36.8	-0.3
	comp=Z,5.0nm,0.6s,mb4.7						
NB2	NORSAR Subarra	82.99	331	P	P	23 02 38.6	-0.5
	comp=Z,1.9nm,0.8s,mb4.2,baz=96,slow=5.0						
NOA	NORSAR Array B	82.99	331	P	P	23 02 38.9	-0.2
	comp=Z,2.7nm,0.9s,mb4.3,baz=95,slow=5.4,SNR=6.5						
NOA				pP	pP	23 02 53.5	-0.6
	comp=Z,1.2nm,0.7s,baz=92,slow=5.7,SNR=5.0						
LPG	La Plagne	85.56	315	*e*P	P	23 02 52.7	+0.4
	comp=Z,7.5nm,0.8s,mb4.7						
TBI	Tubuai	115.16	114	*e*LR	LR	23 07 50.8	
	comp=Z,218nm,28.5s,baz=88						
PPT	Papeete	115.51	107	*e*LR	LR	23 05 45.9	
	comp=Z,263nm,27.0s,baz=312						
SCHQ	Schefferville	118.85	348	PKP	PKPdf	23 09 02.1	+1.2
	comp=Z,0.5nm,0.3s,baz=279,slow=1.4,SNR=3.7						
PDAR	Pinedale Array	127.76	23	PKP	PKPdf	23 09 20.4	+1.9
	comp=Z,0.7nm,0.6s,baz=90,slow=1.5,SNR=7.1						
PDAR				pPKP		23 09 36.4	
	comp=Z,0.6nm,0.8s,baz=27,slow=3.3,SNR=4.1						
CPUP	Villa Florida	145.96	228	PKPbc	PKPbc	23 09 55.3	+2.1
	comp=Z,2.0nm,0.8s,baz=101,slow=5.2,SNR=7.7						
CPUP				pPKPbc		23 10 09.6	
	comp=Z,3.4nm,0.8s,baz=124,slow=2.6,SNR=6.5						

*IDC **10** 23:09:22.4±2.0, 40.51S×176.62E, mb3.8/1, mb1 4.1/3, mb1mx3.8/11, mbtmp3.8/3, ML3.2/1, Error ellipse: s-maj=66.3km s-min=30.0km az=126.0*
*NEIC **10** 23:09:23.4, 40.67S×176.90E, h14km, ML4.6(WEL), After WEL.*
*WEL **10** 23:09:24.6±0.2, 40.60S×176.87E, h28km±1km, ML4.7/42, Error ellipse: s-maj=2.1km s-min=1.1km az=90.0, intensity MM 4.*
WEL Felt between King Country, Wellington and Hawke's Bay, maximum reported.
ISC 10 23:09:22.0±0.6**, 40.73S**±0.03×**177.03E**±0.06**, h28**km**, n82,** σ**1s02**/86**, mb3.6**/1**, 2C-2D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BFZ	Birch Farm	0.59	274	P	Pb	23 09 35.3	+1.5
BFZ	Birch Farm	0.59	274	⇓P*	Pb	23 09 35.3	+1.4
BFZ				*e*S*	Sb	23 09 42.0	0.0
PWZ	Pawanui	0.71	350	P	Pb	23 09 36.1	+0.3
PWZ	Pawanui	0.71	350	⇑P*	Pb	23 09 36.1	+0.3
PWZ				*e*S*	Sb	23 09 44.7	-0.5
TSZ	Takapari Road	1.05	309	P	Pn	23 09 40.5	-0.6
TSZ	Takapari Road	1.05	309	⇑P*	Pb	23 09 40.5	-1.0
TSZ				S*	Sb	23 09 52.6	-2.3
MRZ	Mangatainoka R	1.10	273	P	Pn	23 09 42.1	+0.3
MRZ	Mangatainoka R	1.10	273	⇓P*	Pb	23 09 42.1	-0.2
MRZ				*e*S*	Sb	23 09 54.0	-2.3
TRWZ	Traveller	1.21	236	P*	Pb	23 09 45.0	+0.8
MTW	Mount Morrison	1.23	249	P	Pn	23 09 44.7	+1.1
MTW	Mount Morrison	1.23	249	P*	Pb	23 09 44.7	+0.2
PAWZ	Paruwai Farm	1.37	241	PN	Pn	23 09 47.1	+1.4
MSWZ	Moikau Station	1.51	242	P	Pn	23 09 48.5	+0.9
MSWZ	Moikau Station	1.51	242	PN	Pn	23 09 48.5	+1.0
CAW	Cannon Point	1.53	255	P	Pn	23 09 48.8	+0.9
CAW	Cannon Point	1.53	255	PN	Pn	23 09 48.8	+0.9
KIW	Kapiti Island	1.61	265	P	Pn	23 09 49.7	+0.6
KIW	Kapiti Island	1.61	265	PN	Pn	23 09 49.7	+0.6
BKZ	Black Stump Fm	1.61	345	P	Pn	23 09 48.9	-0.2
BKZ	Black Stump Fm	1.61	345	PN	Pn	23 09 48.9	-0.2
MOVZ	Moawhango	1.64	323	PN	Pn	23 09 48.9	-0.6
MOVZ				SN	Sn	23 10 07.6	-2.3
BHW	Baring Head	1.76	247	PN	Pn	23 09 51.9	+0.6
WNVZ	Wahianoa	1.78	321	PN	Pn	23 09 51.0	-0.5
KNZ	Kokohu	1.78	17	PN	Pn	23 09 51.4	-0.1
MTVZ	Mangateitei	1.79	318	PN	Pn	23 09 51.0	-0.7
WEL	Wellington	1.80	251	PN	Pn	23 09 52.9	+1.2
TUVZ	Tukino	1.80	324	PN	Pn	23 09 52.1	+0.3
TRVZ	Turoa	1.82	321	PN	Pn	23 09 53.0	+0.9
MRW	Makara Radio	1.83	253	P	Pn	23 09 53.0	+0.8
DRZ	Dome Shelter	1.83	322	P	Pn	23 09 54.0	+1.7
WAZ	Wanganui	1.84	301	P	Pn	23 09 53.4	+1.1
WAZ	Wanganui	1.84	301	*e*PN	Pn	23 09 52.0	-0.3
FWVZ	Far West T-bar	1.86	322	P	Pn	23 09 53.0	+0.4
FWVZ	Far West T-bar	1.86	322	*e*PN	Pn	23 09 52.6	0.0
OTVZ	Oturere	1.88	326	PN	Pn	23 09 53.0	+0.1
NGZ	Ngauruhoe	1.90	324	P	Pn	23 09 53.8	+0.6
NGZ	Ngauruhoe	1.90	324	PN	Pn	23 09 53.2	+0.1
WPVZ	Whakapapa	1.90	323	P	Pn	23 09 54.0	+0.8
WPVZ	Whakapapa	1.90	323	PN	Pn	23 09 53.5	+0.3
CNZ	Chateau	1.90	323	P	Pn	23 09 54.2	+1.0
CNZ	Chateau	1.90	323	PN	Pn	23 09 52.9	-0.3
WTVZ	West Tongariro	1.95	325	P	Pn	23 09 54.5	+0.5
RITZ	Rihia Road	1.96	332	P	Pn	23 09 55.3	+1.2
HATZ	Hinemaiaia	1.97	338	P	Pn	23 09 54.1	-0.1
KATZ	Kakaramea	2.03	329	P	Pn	23 09 55.5	+0.4
TWVZ	Taurewa	2.06	323	P	Pn	23 09 56.0	+0.5
RATZ	Rangitukua	2.09	332	P	Pn	23 09 57.4	+1.4
TCW	Tory Channel	2.14	256	P	Pn	23 09 57.0	+0.4
WHTZ	Whakaora	2.22	338	P	Pn	23 09 59.4	+1.6
WATZ	Wairara	2.25	333	P	Pn	23 10 04.0	+5.8
VRZ	Vera Road	2.37	312	*e*P	Pn	23 10 00.6	+0.7
PATZ	Paeroa	2.42	346	P	Pn	23 10 00.7	+0.1
MWZ	Matawai	2.42	9	P	Pn	23 09 59.7	-1.0
URZ	Urewera	2.47	2	Pn	Pn	23 10 00.3	-1.1
	52nm,0.3s,baz=222,slow=8.5,SNR=138						
URZ				Sn	Sn	23 10 27.1	-3.7
	190nm,0.3s,baz=340,slow=15,SNR=16						
URZ	Urewera	2.47	2	P	Pn	23 10 00.3	-1.0
RAEZ	Rainy Point	2.48	305	P	Pn	23 10 06.5	+5.0
TAZ	Tarawera	2.52	351	P	Pn	23 10 01.8	-0.4
BSWZ	Blackbirch Sta	2.57	246	P	Pn	23 10 02.8	0.0
EDRZ	Edgecumbe	2.63	355	P	Pn	23 10 03.0	-0.6
NEZ	North Egmont	2.68	302	P	Pn	23 10 05.9	+1.5
NRZ	Ngariki Road	2.75	299	P	Pn	23 10 10.7	+5.3
HIZ	Hauiti	2.77	322	*e*P	Pn	23 10 05.7	0.0
PKE	Pukeiti	2.79	302	P	Pn	23 10 08.2	+2.2
NNZ	Nelson	2.80	259	*e*P	Pn	23 10 06.7	+0.6
KHZ	Kahutara	3.11	236	P	Pn	23 10 09.8	-0.7
THZ	Tophouse	3.27	250	*e*P	Pn	23 10 11.7	-1.1
MXZ	Matakaoa Point	3.31	18	P	Pn	23 10 12.0	-1.4
QRZ	Quartz Range	3.42	267	*e*P	Pn	23 10 14.0	-0.8
DSZ	Denniston Nort	4.07	254	*e*P	Pn	23 10 23.0	-1.1
LTZ	Lake Taylor	4.11	238	*e*P	Pn	23 10 24.7	+0.1
MQZ	McQueen's Vall	4.40	226	*e*P	Pn	23 10 27.1	-1.8
RPZ	Rata Peaks	5.34	234	Pn	Pn	23 10 40.5	-1.6
	0.9nm,0.3s,baz=108,slow=3.2,SNR=13						
RPZ				Sn	Sn	23 11 36.9	-6.6
	8.2nm,0.3s,baz=315,slow=20,SNR=21						
RPZ	Rata Peaks	5.34	234	*e*P	Pn	23 10 40.6	-1.5
LBZ	Lake Benmore	6.23	232	*e*P	Pn	23 10 53.3	-1.4
ODZ	Otahua Downs	6.37	225	*e*P	Pn	23 10 54.7	-1.9
JCZ	Jackson Bay	6.97	239	*e*P	Pn	23 11 19.1	+14
TUZ	Tuapeka	7.50	223	P	Pn	23 11 10.6	-1.9
WRA	Warramunga Arr	41.76	287	P	P	23 17 10.9	+0.3
	0.8nm,0.5s,mb3.6,baz=125,slow=8.1,SNR=5.0						
WRA	Warramunga Arr	41.76	287	P	P	23 17 10.9	+0.3
ARCES	ARCESS Array B	147.50	342	PKPbc	PKPdf	23 29 06.0	+1.5
	1.5nm,0.7s,baz=45,slow=3.8,SNR=6.5						
BRTR	Keskin Array B	152.15	280	PKPbc	PKPdf	23 29 18.6	+5.9
	0.3nm,0.5s,baz=90,slow=2.9,SNR=3.1						
FINES	FINESS Array B	152.78	329	PKPbc	PKPdf	23 29 19.6	+6.7
	0.6nm,0.8s,baz=174,slow=4.6,SNR=3.0						

*IDC **10** 23:10:56.6±0.8, 7.63S×106.90E, mb4.1/8, mb1 4.2/8, mb1mx4.0/20, mbtmp4.1/8, MS4.0/2, Ms1 4.0/2, ms1mx3.3/23, Error ellipse: s-maj=37.7km s-min=18.0km az=48.0*
*NEIC **10** 23:11:02.4±0.4, 7.63S×106.96E, h40km, mb4.3/1, Error ellipse: s-maj=23.9km s-min=9.5km az=224.0*
ISC 10 23:10:59.6±0.6**, 7.6S**±0.2×**107.0E**±0.2**, h33**km**, n19,** σ**0s75**/14**, mb4.0**/8**, MS3.9**/2**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBWA	Marble Bar	18.27	139	*e*P	P	23 15 12.1	-0.4
FITZ	Fitzroy Crossi	20.96	122	P	P	23 15 41.0	-1.4
	10nm,0.7s,baz=170,slow=11,SNR=5.6						
NWAO	Narrogin (SRO)	26.94	161	LR	LR	23 25 42.9	
	comp=Z,208nm,20.9s,MS3.7,baz=354,slow=33						
WRA	Warramunga Arr	29.22	118	P	P	23 17 01.6	+0.9
	2.3nm,0.7s,mb4.0,baz=288,slow=10,SNR=5.8						
WRA	Warramunga Arr	29.22	118	P	P	23 17 01.6	+0.9
WRAB	Tennant Creek	29.22	118	*e*P	P	23 17 01.6	+0.8
STKA	Stephens Creek	40.26	132	P	P	23 18 35.5	+0.3
	3.0nm,0.7s,mb4.1,baz=304,slow=10,SNR=8.5						
JHJ	Hachijo jima 2	51.12	36	LR	LR	23 39 07.0	
	comp=Z,238nm,20.8s,MS4.2,baz=100,slow=33						
MKAR	Makanchi Array	58.44	340	P	P	23 20 53.4	-1.2
	0.9nm,0.6s,mb4.0,baz=146,slow=8.7,SNR=11						
BVAR	Borovoye Array	67.91	337	P	P	23 21 57.3	+0.4
	2.0nm,0.5s,mb4.4,baz=145,slow=8.8,SNR=20						
ZRNK	Zerenda	68.39	336	*e*P	P	23 21 59.9	-0.1
	2.1nm,0.6s,mb4.3						
VNDA	Vanda	75.39	169	P	P	23 22 41.1	-0.2
	1.1nm,0.8s,mb3.8,baz=289,slow=6.5,SNR=7.4						
VNDA	Vanda	75.39	169	*e*P	P	23 22 41.2	-0.1
MATP	Matopo	76.62	251	P	P	23 22 49.2	-0.2
	0.7nm,0.6s,mb3.8,baz=66,slow=20,SNR=5.4						
MATP	Matopo	76.62	251	P	P	23 22 49.2	-0.2
BRTR	Keskin Array B	82.20	312	P	P	23 23 20.1	+1.0
	0.8nm,0.7s,mb3.8,baz=132,slow=6.4,SNR=4.5						
TXAR	Lajitas Array	143.98	49	PKP	PKPdf	23 30 34.7	+2.3
	0.5nm,0.9s,baz=333,slow=5.6,SNR=5.3						
TXAR	Lajitas Array	143.98	49	PKP	PKPdf	23 30 34.7	+2.3
BDFB	Brasilia	146.13	227	PKPbc	PKPbc	23 30 40.4	+2.8
	2.4nm,0.6s,baz=116,slow=4.5,SNR=4.2						

*NNC **10** 23:12:10.6±9.1, 37.79N×71.29E, h180km±131km, mpv3.6, Error ellipse: s-maj=121.9km s-min=60.5km az=35.0*
ISC 10 23:12:05.9±2.6**, 37.5N**±0.2×**71.2E**±0.2**, h171**km±44km**, n9,** σ**0s81**/12**, 5C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	4.99	22	P	P	23 13 20.1	-0.2
	SNR=142						
UCH	Uchtor	5.35	27	P	P	23 13 24.9	-0.1
	SNR=6.2						
KZA	Kyzart	5.51	33	P	P	23 13 27.0	-0.2
	SNR=5.2						
KK31	Karatay Array	5.62	355	⇑P	P	23 13 29.0	+0.5
	2.4nm,0.4s,baz=184,slow=14,SNR=54						
KK31				⇑S	S	23 14 32.3	-0.3
	1.4nm,0.3s,baz=172,slow=21,SNR=4.2						
AAK	Ala-Archa	5.70	25	P	P	23 13 29.2	-0.4
	SNR=6.0						
AAK	Ala-Archa	5.70	25	⇑P	P	23 13 29.1	-0.5
	4.4nm,0.3s						
AAK				⇓S	S	23 14 35.9	+1.3
	4.0nm,0.7s						
CHMS	Chumysh	6.11	25	P	P	23 13 34.6	-0.4
	SNR=5.8						
TKM2	Tokmak 2	6.36	30	P	P	23 13 37.5	-0.8
	SNR=5.8						
AB31	Akbulak array	14.31	329	⇑P	P	23 15 23.4	+1.9
	0.3nm,0.4s,baz=210,slow=40,SNR=14						
AB31				⇑S	S	23 17 55.1	-0.9
	0.4nm,0.4s,baz=152,slow=22,SNR=4.8						

*NIED **10** 23:33:00, 31.10N×138.60E, h520km, Mw4.5 Best double couple: M₀5.32×10¹⁵ NP1:φs319°, δ86°, λ-88°. NP2: φs119°, δ5°, λ-110°.*
*JMA **10** 23:33:17.4±0.2, 31.05N×138.60E, h449km, M4.5*
*MOS **10** 23:33:17.7±0.9, 31.01N×138.14E, h411km, mb4.2/29, Error ellipse: s-maj=12.5km s-min=6.8km az=96.5*
*BJI **10** 23:33:18.2, 31.04N×138.28E, h429km, mB4.4, mb4.6*
*IDC **10** 23:33:19.0±0.6, 31.04N×138.24E, h410km±6km, mb3.7/21, mb1 3.8/25, mb1mx3.8/30, mbtmp4.5/25, Error ellipse: s-maj=12.7km s-min=8.3km az=80.0*
*NEIC **10** 23:33:20.2±0.5, 31.05N×138.21E, h421km±5km, mb4.3/26, Error ellipse: s-maj=6.6km s-min=5.0km az=135.0*
ISC 10 23:33:18.7±0.4**, 31.01N**±0.04×**138.25E**±0.04**, h420**km±3km**, n160,** σ**1s06**/173**, mb4.2**/59**, 5C-4D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.48	31	P	P	23 34 20.2	+0.2
	224nm,0.3s,baz=207,slow=14,SNR=47						
JHJ				S	S	23 35 07.0	-1.3
	165nm,0.3s,baz=76,slow=21,SNR=6.4						
JHJ2	Mitsune	2.49	32	P	P	23 34 20.2	+0.2
TK01	Tokai 1	2.81	349	P	P	23 34 24.0	+1.7
TK02	Tokai 2	2.96	352	P	P	23 34 25.3	+1.8
JWZ	Kozaga	3.31	320	P	P	23 34 28.0	+1.7
JIE	Ise	3.62	339	P	P	23 34 30.9	+1.9
JIE				S	S	23 35 26.6	+2.2
JWY	Kouya	3.91	326	P	P	23 34 33.9	+2.3
BSO1	Boso 1	4.30	32	P	P	23 34 33.9	-1.5
BSO1				*e*S	S	23 35 33.5	-2.2
JOD2	Odawara 2	4.30	9	P	P	23 34 34.6	-0.8
JOD2				*e*S	S	23 35 35.4	-0.3
JTO	Tosashimizu	4.98	293	P	P	23 34 44.0	+1.9
JRY	Ryogami san	5.03	6	P	P	23 34 42.1	-0.5
JRY				*e*S	S	23 35 46.5	-1.9
CBIJ	Chichi jima	5.20	138	P	P	23 34 42.6	-1.7
	67nm,0.3s,baz=34,slow=11,SNR=48						
CBIJ				S	S	23 35 48.1	-3.4
	453nm,0.3s,baz=275,slow=21,SNR=9.6						
CBIJ	Chichi jima	5.20	138	P	P	23 34 41.9	-2.4
CBIJ				*e*S	S	23 35 47.5	-4.1
MJAR	Matsushiro Arr	5.52	360	P	P	23 34 46.8	-0.8
MJAR				S	S	23 35 57.7	+0.2
MJAR				pmax	pmax		
	comp=Z,16nm,0.3s						
MJAR	Matsushiro Arr	5.52	360	P	P	23 34 46.8	-0.8
	comp=Z,16nm,0.3s,baz=173,slow=11,SNR=76						
MJAR				S	S	23 35 57.7	+0.2
	comp=Z,3.0nm,0.3s,baz=174,slow=15,SNR=6.2						
MAJO	Matsushiro	5.52	360	*e*P	P	23 34 46.4	-1.2
MAJO				pmax	pmax		
	comp=Z,76nm,0.6s						
MAJO	Matsushiro	5.52	360	*e*P	P	23 34 46.4	-1.2
	comp=Z,76nm,0.6s						
MAT	Matsushiro	5.52	360	*e*P	P	23 34 47.0	-0.6
MAT				*e*S	S	23 35 57.0	-0.5
MAT				pmax	pmax		
	comp=Z,99nm,1.0s						
MAT	Matsushiro	5.52	360	*e*P	P	23 34 47.0	-0.6
	comp=Z,99nm,1.0s						
MAT				*e*S	S	23 35 57.0	-0.5
MAT	Matsushiro	5.52	360	P	P	23 34 46.9	-0.7
MAT				S	S	23 35 57.4	-0.1
MAT	Matsushiro	5.52	360	P	P	23 34 47.0	-0.6
JHS	Saijyo	5.87	314	P	P	23 34 52.9	+1.7
JNU	Nakatsue	6.60	291	P	P	23 35 01.6	+2.4
	comp=Z,1.8nm,0.3s,baz=89,slow=11,SNR=9.1						
JNU				S	S	23 36 22.8	+4.3
	comp=Z,0.7nm,0.3s,baz=324,slow=37,SNR=2.5						
JOW	Kunigami	9.68	247	P	P	23 35 36.0	+2.1
	comp=Z,5.4nm,0.3s,baz=69,slow=10,SNR=13						
KS15	Wonju Array Si	10.71	310	*e*P	P	23 35 45.0	-0.8
ASAJ	Asahikawa	13.53	14	P	P	23 36 16.2	-0.7
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ	Asahikawa	13.53	14	P	P	23 36 16.2	-0.7
	comp=Z,3.1nm,0.3s,baz=240,slow=7.6,SNR=8.1						
YUK	Yuzh-Kuril'sk	14.33	23	⇓*i*P	P	23 36 24.5	-0.8
YUK				pmax	pmax		
	comp=Z,280nm,0.4s						
YUK				pmax	pmax		
	comp=N,110nm,0.5s						
YUK				pmax	pmax		
	comp=E,110nm,0.4s						
YUK				pmax	pmax		
	comp=Z,1μm,0.6s						
MDJ	Mudanjiang	15.20	336	P	P	23 36 32.9	-1.4
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.4s						
MDJ				AMB	AMB		
	comp=Z,50nm,5.1s						
CN2	Changchun	16.30	325	*e*P	P	23 36 46.1	+0.7
CN2				*e*XP		23 38 26.0	
CN2				*e*S	S	23 39 33.5	+0.8
CN2				AMB	AMB		
	comp=Z,100nm,0.6s						
YSS	Yuzh-Sakhalins	16.30	11	*i* P	P	23 36 45.9	+0.5
YSS	Yuzh-Sakhalins	16.30	11	*e*P	P	23 36 46.1	+0.7
	comp=Z,46nm,0.4s						
WHN	Wuhan	20.53	275	⇓P	P	23 37 27.7	+0.4
HIA	Hailar	22.98	328	*e*P	P	23 37 50.0	+0.1
HHC	Hu-ho-hao-te	23.66	302	*e*P	P	23 37 55.9	-0.3
HHC				XP		23 39 55.0	
HHC				PCP	PcP	23 41 29.0	+1.3
HHC				S	S	23 41 37.3	-2.1
HHC				SCP		23 44 25.0	
HHC				PCS		23 45 07.8	
HHC				SCS	ScS	23 48 12.1	+1.1
HHC				AMB	AMB		
	comp=Z,29nm,1.3s,mb4.5						
HHC				AMB	AMB		
	comp=Z,97nm,11.9s						
HHC				LR	LR		
	comp=N,126nm,11.9s						
HHC				LR	LR		
	comp=E,108nm,11.9s						
HHC				LR	LR		
	comp=Z,100nm,15.5s						
XAN	Xi'an	24.87	285	P	P	23 38 06.5	-0.7
XAN				AMB	AMB		
	comp=Z,54nm,0.8s,mb5.0						
GYA	Guiyang	28.01	269	⇑*i*P	P	23 38 34.0	-1.2
GYA				AP		23 39 48.6	
GYA				XP	sP	23 40 36.4	-2.5
GYA				S	S	23 42 54.9	+6.0
GYA				SCP		23 44 32.0	
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.6						
LZH	Lanzhou	29.02	289	*e*P	P	23 38 42.5	-1.4
LZH				AP		23 39 59.0	
LZH				XP	sP	23 40 45.0	-3.1
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.4						
ULN	Ulaanbaatar	29.13	314	*e*P	P	23 38 39.3	-5.4
ULN				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.1						
ULN	Ulaanbaatar	29.13	314	*e*P	P	23 38 39.3	-5.4
	comp=Z,14nm,1.4s,mb4.1						
SONM	Songino Array	29.52	314	P	P	23 38 48.1	0.0
	comp=Z,2.0nm,0.4s,mb3.8,baz=126,slow=8.7,SNR=12						
MA2	Magadan	29.79	13	*e*P	P	23 38 50.2	-0.2
YAK	Yakutsk	31.53	352	*e*P	P	23 39 03.3	-2.0
YAK				*e*S	S	23 43 37.1	-6.2
YAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.2						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				smax			
	comp=N,4.0nm,1.1s						
YAK				smax			
	comp=E,5.0nm,0.9s						
KMI	Kunming	31.79	268	P	P	23 39 07.3	-0.6
KMI				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.3						
GTA	Gaotai	32.31	296	*e*P	P	23 39 11.8	-0.4
GTA				SCP		23 44 52.3	
GTA				AMB	AMB		
	comp=Z,22nm,0.8s,mb4.5						
ZAK	Zakamensk	32.41	317	*e*P	P	23 39 11.9	-1.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.4						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.1						
TLY	Talaya	32.74	319	⇓*e*P	P	23 39 18.3	+2.6
TLY				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.8						
SEY	Seymchan	33.20	12	⇑*e*P	P	23 39 20.6	+1.0
FX1	Attu Island--F	33.44	39	*e*P	P	23 39 23.4	+1.7
CMAR	Chiang Mai Arr	37.63	260	P	P	23 39 57.4	+0.4
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						

CMAR	Chiang Mai Arr	37.63	260	P	P	23 39 57.4	+0.4
	comp=Z,9.5nm,0.7s,mb4.2,baz=54,slow=6.8,SNR=52						
CMAR	Chiang Mai Arr	37.63	260	P	P	23 39 57.4	+0.4
KSM	Kuching	39.52	227	eP	P	23 40 13.6	+1.0
BILL	Bilibino	40.53	16c	iP	P	23 40 20.8	+0.5
BILL				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.5						
BILL	Bilibino	40.53	16	eP	P	23 40 20.5	+0.2
	comp=Z,50nm,0.8s,mb4.9						
TIXI	Tiksi	41.02	355⇑	eP	P	23 40 23.2	-1.0
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.0						
PMG	Port Moresby	41.08	167	P	P	23 40 25.1	-0.1
	comp=Z,12nm,0.7s,mb4.3,baz=153,slow=6.8,SNR=2.9						
ZAL	Zalesovo	44.30	317	P	P	23 40 50.0	-0.4
ZAL						23 42 25.4	
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAL	Zalesovo	44.30	317	P	P	23 40 50.0	-0.4
	comp=Z,3.2nm,0.4s,mb4.0,baz=28,slow=6.0,SNR=12						
ZAL				PcP	PcP	23 42 25.4	-1.2
	comp=Z,1.3nm,0.4s,baz=22,slow=2.8,SNR=6.8						
ZAL				ScP		23 45 36.2	
	comp=Z,1.1nm,0.6s,baz=7.4,slow=1.7,SNR=5.3						
ZAL	Zalesovo	44.30	317	P	P	23 40 50.0	-0.4
ZAL				PcP	PcP	23 42 25.4	-1.2
ZAL				ScP		23 45 36.2	
MKAR	Makanchi Array	45.36	307	P	P	23 40 58.3	-0.5
MKAR						23 42 29.7	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	45.36	307	P	P	23 40 58.3	-0.5
	comp=Z,3.0nm,0.3s,mb4.1,baz=85,slow=9.9,SNR=72						
MKAR				PcP	PcP	23 42 29.7	-0.7
	comp=Z,0.5nm,0.3s,baz=67,slow=4.2,SNR=5.3						
MKAR				ScP		23 45 41.1	
	comp=Z,1.0nm,0.6s,baz=70,slow=5.5,SNR=7.6						
MKAR	Makanchi Array	45.36	307	P	P	23 40 58.3	-0.5
MKAR				PcP	PcP	23 42 29.7	-0.7
MKAR				ScP		23 45 41.1	
GUN	Gumba	45.36	280	eP	P	23 40 59.4	+0.3
	comp=Z,48nm,0.5s,mb5.1						
PKI	Pulchoki	45.86	280	eP	P	23 41 02.5	-0.5
KKN	Kakani	45.90	280	eP	P	23 41 03.0	-0.3
	comp=Z,27nm,0.6s,mb4.8						
KKN	Kakani	45.90	280	eP	P	23 41 03.0	-0.3
KKN				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.4						
DMN	Daman	46.10	280	eP	P	23 41 04.8	-0.1
	comp=Z,23nm,0.5s,mb4.8						
GKN	Gorkha	46.38	281	eP	P	23 41 06.8	-0.2
	comp=Z,28nm,0.4s,mb5.0						
KOLN	Koldanda	47.33	281	eP	P	23 41 14.3	0.0
	comp=Z,15nm,0.3s,mb4.7						
FITZ	Fitzroy Crossi	50.31	196	eP	P	23 41 36.3	-0.6
	comp=Z,9.4nm,0.8s,mb4.2						
FITZ	Fitzroy Crossi	50.31	196	P	P	23 41 36.4	-0.5
	comp=Z,9.9nm,0.7s,mb4.3,baz=359,slow=8.9,SNR=13						
TKM2	Tokmak 2	50.39	302	P	P	23 41 37.0	-0.1
	SNR=5.7						
KZA	Kyzart	50.77	301	P	P	23 41 41.0	+1.1
	SNR=7.2						
WRAB	Tennant Creek	50.78	185	eP	P	23 41 39.3	-1.1
WRAB				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.2						
WRAB	Tennant Creek	50.78	185	eP	P	23 41 39.3	-1.1
	comp=Z,12nm,0.7s,mb4.2						
WB2	Warramunga Arr	50.79	185⇓	iP	P	23 41 39.4	-1.0
WRA	Warramunga Arr	50.80	185	P	P	23 41 39.3	-1.1
WRA				pmax	pmax		
	comp=Z,7.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	50.80	185	P	P	23 41 39.3	-1.1
	comp=Z,6.5nm,0.4s,mb4.2,baz=2.3,slow=7.8,SNR=14						
WRA				ScP		23 46 05.1	
	comp=Z,0.8nm,0.6s,baz=2.9,slow=4.4,SNR=5.4						
KBK	Karagaybulak	50.90	302	P	P	23 41 41.0	+0.1
	SNR=10.0						
USP	Ospenovka	51.13	303	P	P	23 41 42.1	-0.6
	SNR=5.7						
AAK	Ala-Archa	51.23	302	iP	P	23 41 41.4	-2.0
AAK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb3.9						
AAK	Ala-Archa	51.23	302	eP	P	23 41 41.3	-2.1
	comp=Z,3.2nm,0.6s,mb3.7						
UCH	Uchtor	51.28	301	P	P	23 41 44.3	+0.6
	SNR=11						
AML	Almayashu	51.90	301	P	P	23 41 49.0	+0.6
	SNR=9.1						
VOSK	Vostochnaya	52.51	315	P	P	23 41 51.2	-1.4
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb3.8						
BVA0	Borovoye Array	52.84	315	iP	P	23 41 54.0	-1.1
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.2						
BVAR	Borovoye Array	52.84	315	P	P	23 41 54.1	-1.0
	comp=Z,9.6nm,0.5s,mb4.3,baz=94,slow=7.6,SNR=113						
BVAR				PcP	PcP	23 42 56.4	-1.4
	comp=Z,1.8nm,0.4s,baz=100,slow=3.8,SNR=6.7						
RSO	Redoubt South	53.29	35	eP	P	23 41 57.9	-0.3
ZRNK	Zerenda	53.68	315	eP	P	23 41 59.8	-1.3
ZRNK				e		23 42 59.4	
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb3.9						
ZRNK	Zerenda	53.68	315	eP	P	23 41 59.8	-1.3
	comp=Z,5.8nm,0.7s,mb3.9						
ZRNK				ePcP	PcP	23 42 59.4	-1.6
KKAR	Karatay Array	54.04	303	iP	P	23 42 02.8	-1.0
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.7						
SLKM	Skilak Lake	54.55	35	eP	P	23 42 06.1	-1.1
ILAR	Eielson Array	56.00	30	P	P	23 42 15.9	-1.4
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ILAR	Eielson Array	56.00	30	P	P	23 42 15.9	-1.4
	comp=Z,2.8nm,0.7s,mb3.7,baz=258,slow=5.1,SNR=34						
ARU	Arti	59.23	320	eP	P	23 42 38.2	-1.1
ARU				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.1						
ARU	Arti	59.23	320	eP	P	23 42 38.2	-1.2
	comp=Z,7.1nm,0.7s,mb4.1						
AB31	Akbulak array	59.91	312	iP	P	23 42 43.1	-1.0
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
INK	Inuvik	60.94	25	eP	P	23 42 50.2	-0.4
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
INK	Inuvik	60.94	25	eP	P	23 42 50.2	-0.4
	comp=Z,4.1nm,0.5s,mb4.1						
STKA	Stephens Creek	62.62	177	eP	P	23 43 01.9	-0.2
	comp=Z,1.5nm,0.4s,mb3.9						
STKA	Stephens Creek	62.62	177	P	P	23 43 01.9	-0.2
	comp=Z,2.4nm,0.4s,mb4.0,baz=350,slow=8.5,SNR=8.3						
DLBC	Dease Lake	65.02	35	eP	P	23 43 17.8	+0.8
ARCES	ARCESS Array B	68.71	340	P	P	23 43 39.8	+0.1
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	ARCESS Array B	68.71	340	P	P	23 43 39.8	+0.2
	comp=Z,0.7nm,0.4s,mb3.6,baz=71,slow=9.1,SNR=16						
YKA	Yellowknife Ar	70.34	28	P	P	23 43 49.3	-0.2
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA	Yellowknife Ar	70.34	28	P	P	23 43 49.3	-0.2
	comp=Z,2.2nm,0.5s,mb4.0,baz=301,slow=5.9,SNR=13						
YKA	Yellowknife Ar	70.34	28	P	P	23 43 49.3	-0.2
OBN	Obninsk	71.36	324	eP	P	23 43 55.7	+0.1
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
KAF	Kangasniemi	72.45	333	ep	P	23 44 01.0	-0.9
	comp=Z,1.4nm,0.5s,mb3.8,baz=54,slow=5.5						
KAF	Kangasniemi	72.45	333	eP	P	23 44 01.0	-0.9
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
KIV	Kislovodsk	72.88	311c	iP	P	23 44 05.8	+1.1
KIV				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.4						
KIV	Kislovodsk	72.88	311	eP	P	23 44 04.2	-0.5
	comp=Z,6.5nm,0.8s,mb4.2						
FINES	FINESS Array B	72.91	332	P	P	23 44 04.2	-0.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	FINESS Array B	72.91	332	P	P	23 44 04.2	-0.4
	comp=Z,1.5nm,0.4s,mb3.8,baz=70,slow=5.3,SNR=40						
GNI	Garni	73.20	307	eP	P	23 44 07.5	+0.8
GNI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GNI	Garni	73.20	307	P	P	23 44 06.8	+0.2
	comp=Z,2.6nm,0.4s,mb4.1,baz=36,slow=2.8,SNR=3.9						
GNI	Garni	73.20	307	eP	P	23 44 07.5	+0.9
	comp=Z,7.7nm,1.0s,mb4.2						
EDM	Edmonton	75.72	36	eP	P	23 44 21.0	+0.4
UMR	Umm Al-Rimmam	75.84	296	eP	P	23 44 21.3	-0.4
UMR				AMb	AMB	23 44 21.9	
	comp=Z,39nm,0.4s						
KBD	Kabd	76.03	296	eP	P	23 44 22.5	-0.4
RDF	Al-Radifah	76.26	296	eP	P	23 44 23.8	-0.3
RDF				AMb	AMB	23 44 24.4	
	comp=Z,28nm,0.4s,mb5.2						
NEW	Newport	76.32	42	eP	P	23 44 24.4	+0.4
NEW				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NEW	Newport	76.32	42	eP	P	23 44 24.4	+0.4
	comp=Z,5.2nm,0.8s,mb4.2						
NAY	Al-Naaiem	76.35	296	eP	P	23 44 24.6	0.0
NAY				AMb	AMB	23 44 25.1	
	comp=Z,22nm,0.5s,mb5.1						
SUMG	Summit	76.67	359	eP	P	23 44 26.7	+1.2
	comp=Z,338nm,3.0s						
AKASG	Malin Array Be	77.43	322	P	P	23 44 29.6	-0.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	Malin Array Be	77.43	322	P	P	23 44 29.6	-0.4
	comp=Z,2.0nm,0.3s,mb4.2,baz=51,slow=5.4,SNR=24						
WALA	Waterton Lakes	77.70	40	eP	P	23 44 32.4	+0.9
	comp=Z,5.9nm,0.6s,mb4.4						
BMO	Blue Mountains	78.00	45	eP	P	23 44 34.0	+0.8
	comp=Z,3.7nm,0.6s,mb4.2						
HFS	Hagfors	78.46	335	P	P	23 44 34.9	-0.4
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HFS	Hagfors	78.46	335	P	P	23 44 34.9	-0.4
	comp=Z,0.5nm,0.3s,mb3.6,baz=90,slow=3.0,SNR=11						
BEKR	Beckwourth	78.66	50	eP	P	23 44 37.6	+0.8
	comp=Z,3.6nm,0.9s,mb4.0						
NB2	NORSAR Subarra	78.69	337	P	P	23 44 36.3	-0.2
	comp=Z,0.3nm,0.5s,mb3.2,baz=43,slow=5.3						
NOA	NORSAR Array B	78.69	337	P	P	23 44 35.3	-1.2
	comp=Z,0.2nm,0.5s,baz=44,slow=5.3,SNR=3.6						
HLID	Hailey	80.45	45	eP	P	23 44 47.3	+1.1
	comp=Z,3.9nm,0.8s,mb4.1						
BR131	Keskin Array S	80.83	311	eP	P	23 44 48.7	+0.5
	comp=Z,1.4nm,0.6s,mb3.9						
BRTR	Keskin Array B	80.83	311	P	P	23 44 48.6	+0.4
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	Keskin Array B	80.83	311	P	P	23 44 48.6	+0.4
	comp=Z,1.9nm,0.6s,mb4.0,baz=98,slow=3.8,SNR=13						
BOZ	Bozeman (W)	80.90	42	eP	P	23 44 49.3	+0.8
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
BOZ	Bozeman (W)	80.90	42	eP	P	23 44 49.3	+0.8
	comp=Z,3.7nm,0.6s,mb4.3						
ELK	Elko	81.50	47	eP	P	23 44 53.0	+1.4
ELK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ELK	Elko	81.50	47	eP	P	23 44 53.0	+1.3
	comp=Z,2.5nm,0.8s,mb4.0						
MLR	Muntele Rosu	82.23	319	P	P	23 44 55.8	+0.5
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MLR	Muntele Rosu	82.23	319	P	P	23 44 55.8	+0.6
	comp=Z,1.1nm,0.5s,mb3.9,baz=326,slow=9.5,SNR=7.5						
HVU	Hansel Valley	82.45	46	eP	P	23 44 57.6	+1.2
SPUT	South Promonto	82.92	46	eP	P	23 45 00.3	+1.4
NOQ	North Oquirrh	83.50	46	eP	P	23 45 03.5	+1.7
BW06	Boulder Array	83.80	43	eP	P	23 45 04.4	+1.2
PDAR	Pinedale Array	83.80	43	P	P	23 45 04.2	+1.0
	comp=Z,0.8nm,0.4s,mb3.8,baz=69,slow=1.8,SNR=14						
NLU	North Lily Min	83.94	47	eP	P	23 45 05.5	+1.5
SRU	San Rafael	85.40	47	eP	P	23 45 11.9	+0.8
PV10	Paradox Valley	86.77	47	eP	P	23 45 19.0	+1.3
TXAR	Lajitas Array	95.92	51	P	P	23 46 01.4	+1.2
TXAR				*PP	pP	23 47 35.1	-2.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	95.92	51	P	P	23 46 01.4	+1.2
	comp=Z,0.8nm,0.6s,mb4.0,baz=303,slow=3.4,SNR=13						
TXAR				pP	pP	23 47 35.1	-2.3
	comp=Z,1.1nm,0.7s,baz=287,slow=2.3,SNR=12						
TXAR	Lajitas Array	95.92	51	P	P	23 46 01.4	+1.2
TXAR				pP	pP	23 47 35.1	-2.3
LPAZ	La Paz	151.84	65	PKIKP	PKPdf	23 52 28.5	+11
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPAZ	La Paz	151.84	65	PKPbc	PKPdf	23 52 28.5	+11
	comp=Z,2.2nm,0.8s,baz=8.2,slow=3.4,SNR=16						
BDFB	Brasilia	163.67	22	PKP2	PKPab	23 53 28.9	-0.1
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BDFB	Brasilia	163.67	22	PKPab	PKPab	23 53 28.9	-0.1
	comp=Z,1.0nm,0.4s,baz=270,slow=2.0,SNR=2.3						

*NIED **10** 23:36:00, 41.80N×143.70E, h41^{km}, Mw3.9 Best double couple: M$_0$7.56×10^{14} NP1:ϕ_s30°, δ70°, λ93°. NP2:ϕ_s201°, δ20°, λ81°.*

JMA 10 23:36:33.8±0.1**, 41.80N×143.72E, h27**^{km}±2^{km}**, M3.6, 2C-2D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	0.47	297	⇓P	Pb	23 36 43.2	-0.4
JEM				eS	Sb	23 36 50.4	+0.1
JCH	Churui	0.86	342	⇓P	Pb	23 36 50.1	+0.1
JCH				eS	Sb	23 37 02.2	+1.1
JNBK	Urakawa-nobuka	0.87	304	⇑P	Pb	23 36 50.4	+0.3
JOB	Onbets	1.11	4	P	Pn	23 36 53.7	0.0
JAK	Akkeshi	1.40	31	P	Pn	23 36 56.8	-1.1
JAK				eS	Sn	23 37 13.6	-2.0
JBT2	Biratori 2	1.40	315	P	Pn	23 36 58.1	+0.1
JAR	Ashorobuto	1.50	1	⇑P	Pn	23 36 58.7	-0.6
JAR				eS	Sn	23 37 17.7	-0.4

*NNC **11** 00:25:55.1±5.3, 36.27N×69.34E, h59^{km}±100^{km}, mpv4.0, Error ellipse: s-maj=51.2km s-min=39.3km az=42.0*

ISC 11 00:25:53.6±2.7**, 36.1N**±0.1×**69.7E**±0.2**, h115**^{km}±55^{km}**, n13,** σ**0^{s}75**/16**, 6C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.76	26	P	P	00 27 31.8	0.0
	SNR=81						
KK31	Karatay Array	7.00	5	⇑P	P	00 27 35.1	+0.2
	2.0nm,0.3s,baz=184,slow=13,SNR=94						
KK31				⇑S	S	00 28 53.9	+0.4
	6.4nm,0.6s,baz=190,slow=24						
UCH	Uchtor	7.16	30	P	P	00 27 37.0	-0.1
	SNR=23						
KZA	Kyzart	7.36	34	P	P	00 27 39.2	-0.6
	SNR=12						
AAK	Ala-Archa	7.50	28	P	P	00 27 41.9	+0.2
	SNR=11						
AAK	Ala-Archa	7.50	28	⇑P	P	00 27 41.7	+0.1
	11nm,0.5s						
AAK				⇑S	S	00 29 06.0	+0.4
	16nm,0.6s						
KBK	Karagaybulak	7.70	30	P	P	00 27 44.6	+0.2
	SNR=11						
CHMS	Chumysh	7.91	28	P	P	00 27 47.1	-0.2
	SNR=13						
ULHL	Ulahol	7.96	38	P	P	00 27 47.5	-0.4
	SNR=9.0						
USP	Ospenovka	8.05	26	P	P	00 27 48.5	-0.6
	SNR=13						
TKM2	Tokmak 2	8.19	32	P	P	00 27 50.5	-0.4
	SNR=21						
AB31	Akbulak array	14.93	335	⇑P	P	00 29 20.0	+0.5
	0.5nm,0.3s						
AB31				⇑S	S	00 31 59.4	-2.7
	0.5nm,0.3s						
ZRNK	Zerenda	16.83	359	⇓P	P	00 29 45.1	+1.8
	4.0nm,1.9s						

*THR **11** 00:58:44.4±1.2, 34.75N×50.37E, h15^{km}, ML3.4*
*KISR **11** 00:58:44.4±1.2, 34.31N×50.74E, h1^{km}±999^{km}, ML3.3*
*CSEM **11** 00:58:44.5±0.2, 34.73N×50.48E, h12^{km}, ML3.4, Error ellipse: s-maj=6.3km s-min=4.3km az=136.0*
*TEH **11** 00:58:48.3, 34.80N×50.49E, h18^{km}, Mn3.6*

ISC 11 00:58:46.1±0.4**, 34.68N**±0.04×**50.43E**±0.04**, h18**^{km}**, n27,** σ**1^{s}20**/34**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	Ashtian	0.36	248	ePg	Pb	00 58 51.7	-2.0
ASAO				eSg	Sb	00 58 57.0	-1.8
ASAO				AML	AML	00 58 59.2	
	comp=N,3μm,0.3s						
ASAO	Ashtian	0.36	248	ePg	Pb	00 58 51.7	-2.0
	SNR=99						
ASAO				eSg	Sb	00 58 57.0	-1.8
	comp=N,3μm,0.3s,SNR=99						
IRAZ	Razeghan	0.83	330	Pg	Pb	00 59 12.9	+11
IMHD	Mahdasht	1.02	11	Pg	Pb	00 59 03.0	-1.9
IVRN	Varamin	1.11	73	Pg	Pb	00 59 05.4	-1.0
THKV	Tehran--Karaj	1.28	16	ePg	Pn	00 59 08.1	-1.1
QAM	Qamsar	1.38	124	Pg	Pn	00 59 09.0	-1.6
ISFB	Sefidab	1.53	102	Pn	Pn	00 59 12.3	-0.5
DAMV	Damavand	1.58	53	ePg	Pn	00 59 12.8	-0.7
DAMV				eSg	Sn	00 59 34.5	+1.0
DAMV				AML	AML	00 59 41.1	
	comp=E,530nm,0.3s						
IDMV	Damavand	1.59	55	Pn	Pn	00 59 13.1	-0.5
IKLH	Kalahroud	1.66	145	Pn	Pn	00 59 14.8	+0.1
IFIR	Firoozkooh	2.13	63	Pn	Pn	00 59 21.7	+0.3
IZEF	Zefreh	2.38	138	Pn	Pn	00 59 26.8	+1.8
IKOM	Komasi	2.46	259	Pn	Pn	00 59 28.3	+2.1
NASN	Na'in	2.73	133	ePn	Pn	00 59 31.7	+1.8
NASN				AML	AML	01 00 14.2	
	comp=E,132nm,0.3s						
ILIN	Laeen	2.86	276	Pn	Pn	00 59 35.0	+3.1
SHGO	Shushtar	2.91	208	ePn	Pn	00 59 32.9	+0.4
IVIS	Veys	2.96	268	Pn	Pn	00 59 34.9	+1.7
IGHG	Ghaleghazi	3.21	265	Pn	Pn	00 59 38.5	+1.7
ICHK	Chekchek	4.12	125	Pn	Pn	00 59 50.2	+0.5
IMEH	Mehriz	4.81	132	Pn	Pn	00 59 59.9	+0.4
IBAF	Bafgh	5.30	124	Pn	Pn	01 00 06.6	+0.2
KBD	Kabd	5.96	204	eP	Pn	01 00 16.2	+0.5
KBD				eS	Sn	01 01 24.1	-0.2
KBD	Kabd	5.96	204	eP	Pn	01 00 16.2	+0.4
KBD				eS	Sn	01 01 24.1	-0.3
NAY	Al-Naaiem	6.06	207	eP	Pn	01 00 17.3	+0.2
NAY				AML	AML	01 01 27.3	
	comp=Z,9.8nm,0.5s						
RDF	Al-Radifah	6.24	204	eP	Pn	01 00 19.4	-0.3
RDF				eS	Sn	01 01 30.3	-1.0
RDF				AML	AML	01 01 31.1	
	comp=Z,14nm,0.3s						
QRN	Al-Qurain	6.30	201	eP	Pn	01 00 19.4	-1.0
QRN				eS	Sn	01 01 31.9	-0.8

*IDC **11** 01:07:50.7±0.6, 2.66N×94.32E, mb4.5/14, mb1 4.6/15, mb1mx4.5/21, mbtmp4.5/15, ML4.5/1, MS4.1/14, Ms1 4.1/14, ms1mx3.9/25, Error ellipse: s-maj=31.2km s-min=14.0km az=53.0*
*BJI **11** 01:07:53.4, 2.47N×94.37E, h37^{km}, mB5.0, mb5.0, Ms4.6, Msz4.6*
*MOS **11** 01:07:54.2±1.0, 2.74N×94.49E, h33^{km}, mb5.2/36, MS4.2/12, Error ellipse: s-maj=12.5km s-min=5.4km az=112.5*
*HRVD **11** 01:07:55.4±0.8, 2.45N×94.44E, h12^{km}±1^{km}, MW4.8/36, Centroid moment Tensor Solution. LP body waves: s9,c11;Mantle waves: s36,c57; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$1.16±.17; M$_{\theta\theta}$-0.82±.10; M$_{\phi\phi}$-0.33±.14; M$_{r\theta}$1.16±.35; M$_{\theta\phi}$1.08±.07; M$_{\phi r}$0.74±.34; Best double couple: M$_0$1.995×10^{16} NP1:ϕ_s338°, δ46°, λ144°. NP2:ϕ_s95°, δ65°, λ50°. Principal axes: T 2.216, Plg52°, Azm317°; N -.439, Plg36°, Azm114°; P -1.775, Plg11°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 01:07:55.4±0.2, 2.63N×94.39E, h30^{km}, mb4.9/28, MS4.1/5 Error ellipse: s-maj=8.1km s-min=5.0km az=215.0*

ISC 11 01:07:53.5±0.3**, 2.62N**±0.05×**94.40E**±0.03**, h30**^{km}**, h30**^{km}±.7^{km}**:pP-P, n203,** σ**1^{s}08**/206**, mb4.8**/69**, MS4.4**/38**, 14C-8D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.78	67⇑	eP	Pn	01 09 32.2	-1.6
IPM	Ipoh	6.90	73	P	Pn	01 09 34.7	-0.7
SNG	Songkhla	7.67	54	P	Pn	01 09 44.5	-1.8
	156nm,1.0s						
KGM	Kluang	8.94	94	P	P	01 10 03.1	-0.7
NST	Nakhon Sawan	14.15	23	P	P	01 11 21.2	+6.9
KSM	Kuching	15.94	94	P	P	01 11 38.5	+0.7
KKTK	Khon Kaen	15.95	31	P	P	01 11 41.0	+3.2
CMAR	Chiang Mai Arr	16.36	16	Pn	P	01 11 42.1	-0.8
	0.6nm,0.3s,baz=196,slow=11,SNR=45						
CMAR				LR	LR	01 17 50.9	
	comp=Z,389nm,20.8s,baz=195,slow=37						
CHG	Chiang Mai	16.70	15	⇓P	P	01 11 45.0	-2.2
	42nm,1.2s						
NANT	Nan	17.22	21	⇓P	P	01 11 51.5	-2.3
	178nm,1.0s						
VIS	Vishakhapatnam	18.52	325	iP	P	01 12 10.8	+0.8
VIS				AMb	AMB	01 12 19.9	
	comp=Z,98nm,1.4s						
VIS				e		01 15 04.9	
HYB	Hyderabad	21.41	314	eP	P	01 12 41.5	+0.2
HYB	Hyderabad	21.41	314	iP	P	01 12 41.5	+0.2
KKM	Kota Kinabalu	22.02	80	eP	P	01 12 48.8	+1.3
KKM	Kota Kinabalu	22.02	80	P	P	01 12 49.7	+2.2
IMP	Imphal	22.04	359	eP	P	01 12 48.0	+0.4
QIZ	Qiongzhong	22.24	42	P	P	01 12 52.2	+2.6
QIZ				S	S	01 16 52.7	+5.0
QIZ				AMB	AMB		
	comp=Z,21nm,1.8s,mb4.3						
QIZ				AMB	AMB		
	comp=Z,121nm,6.6s						
QIZ				LR	LR		
	comp=N,855nm,17.7s,MS4.5						
QIZ				LR	LR		
	comp=E,1μm,16.8s,MS4.5						
QIZ				LR	LR		
	comp=Z,1μm,16.7s,MS4.4						
BLSP	Bilaspur	22.76	329	eP	P	01 12 54.4	-0.5
BLSP				AMb	AMB	01 13 02.8	
	comp=Z,79nm,1.1s,mb5.1						
SHL	Shillong	22.94	354⇓	iP	P	01 12 55.0	-1.6
SHL				eS	S	01 17 04.5	+4.1
TSM	Tawau	23.49	85	P	P	01 13 05.3	+3.2
KMI	Kunming	23.77	19	P	P	01 13 06.8	+2.1
KMI				AP		01 13 15.5	
KMI				XP		01 13 19.2	
KMI				PP	PP	01 13 41.0	+2.9
KMI				PPP	PPP	01 13 51.5	+3.4
KMI				S	S	01 17 18.5	+3.6
KMI				XS		01 17 33.4	
KMI				SS	SS	01 18 10.6	+5.5
KMI				AMB	AMB		
	comp=Z,36nm,1.9s,mb4.5						
KMI				AMB	AMB		
	comp=Z,252nm,3.4s						
KMI				LR	LR		
	comp=Z,670nm,11.4s,MS4.3						
KMI	Kunming	23.77	19	P	P	01 13 06.8	+2.1
KMI				*PP		01 13 15.5	
KMI				*SP		01 13 19.2	
KMI						01 13 41.0	
KMI				S	S	01 17 18.5	+3.6
KMI				*SS		01 17 33.4	
KMI				SS	SS	01 18 10.6	+5.5
KMI				pmax	pmax		
	comp=Z,36nm,1.9s,mb4.5						
KMI				MLR	MLR		
	comp=Z,670nm,11.4s,MS4.3						
KMI	Kunming	23.77	19	P	P	01 13 06.8	+2.1
	comp=Z,36nm,1.9s,mb4.5						

KMI pP 01 13 15.5
KMI sP 01 13 19.2
KMI PP PP 01 13 41.0 +2.9
KMI PPP PPP 01 13 51.5 +3.4
KMI S **S** **01 17 18.5 +3.6**
KMI sS 01 17 33.4
KMI SS SS 01 18 10.6 +5.5
KMI SSS SSS 01 18 26.6 +5.2
KMI LR LR
comp=Z,670nm,11.4s,MS4.3
PKI Pulchoki 26.26 342 *e*P **P** **01 13 30.1 +1.8**
comp=Z,80nm,1.2s,mb5.1
PKI Pulchoki 26.26 342 *e*P **P** **01 13 30.1 +1.8**
PKI pmax pmax
comp=Z,40nm,1.2s,mb4.8
BHPL Bhopal 26.28 323 *e*P **P** **01 13 29.9 +1.5**
BHPL AMb AMB 01 13 32.5
comp=Z,32nm,1.1s,mb4.8
DMN Daman 26.39 341 *e*P **P** **01 13 31.3 +1.8**
comp=Z,67nm,1.1s,mb5.1
GUN Gumba 26.43 343 *e*P **P** **01 13 29.8 -0.1**
comp=Z,82nm,0.9s,mb5.3
GYA Guiyang 26.47 25⇓ *i*P **P** **01 13 30.4 +0.2**
GYA AP pP 01 13 39.8 +1.0
GYA XP sP 01 13 44.2 +1.5
GYA PP PP 01 14 11.1 -2.7
GYA S **S** **01 17 54.8 -5.3**
GYA AMB AMB
comp=Z,30nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,130nm,4.8s
GYA LR LR
comp=Z,2µm,17.9s,MS4.6
KKN Kakani 26.50 342 *e*P **P** **01 13 30.5 0.0**
comp=Z,56nm,1.1s,mb5.0
KKN Kakani 26.50 342 *e*P **P** **01 13 30.5 0.0**
KKN pmax pmax
comp=Z,28nm,1.1s,mb4.7
GKN Gorkha 26.91 341 *e*P **P** **01 13 34.0 -0.2**
comp=Z,56nm,1.0s,mb5.0
KOLN Koldanda 27.05 339 *e*P **P** **01 13 35.5 -0.1**
comp=Z,112nm,1.5s,mb5.2
LSA Lhasa 27.11 354 P **P** **01 13 37.8 +1.8**
LSA Lhasa 27.11 354 *e*P **P** **01 13 35.8 -0.2**
LSA pmax pmax
comp=Z,141nm,1.4s,mb5.3
LSA MLR MLR
comp=Z,398nm,22.0s,MS3.9
LSA Lhasa 27.11 354 *e*P **P** **01 13 35.8 -0.2**
comp=Z,141nm,1.4s,mb5.3
LSA LR LR
comp=Z,398nm,22.0s,MS3.9
QZH Quanzhou 32.19 44 *e*P **P** **01 14 23.0 +1.6**
QZH *e*S **S** **01 19 34.0 +2.7**
QZH LR LR
comp=Z,1µm,19.8s,MS4.6
WHN Wuhan 33.59 32 *e*P **P** **01 14 34.0 +0.5**
WHN LR LR
comp=Z,2µm,13.6s,MS5.0
XAN Xi'an 34.07 22 P **P** **01 14 36.2 -1.5**
XAN PP PP 01 15 51.0 -1.1
XAN S **S** **01 19 57.7 -2.7**
XAN AMB AMB
comp=Z,17nm,1.3s,mb4.8
XAN LR LR
comp=N,336nm,22.5s,MS4.4
XAN LR LR
comp=E,714nm,19.7s,MS4.4
XAN LR LR
comp=Z,662nm,18.0s,MS4.4
LZH Lanzhou 34.43 14 *e*P **P** **01 14 38.9 -1.8**
LZH AP pP 01 14 47.1 -2.4
LZH PP PP 01 15 55.6 -1.1
LZH *e*S **S** **01 20 05.0 -0.9**
LZH XS 01 20 22.2
LZH SS SS 01 22 18.1 +0.9
LZH AMB AMB
comp=Z,31nm,1.1s,mb5.2
LZH AMB AMB
comp=Z,111nm,5.4s
LZH LR LR
comp=Z,965nm,13.5s,MS4.7
LZH Lanzhou 34.43 14 *e*P **P** **01 14 38.9 -1.8**
LZH *SP sP 01 14 49.5 -3.7
LZH 01 15 55.6
LZH *e*S **S** **01 20 05.0 -0.9**
LZH *SS 01 20 22.2
LZH SS SS 01 22 18.1 +0.9
LZH pmax pmax
comp=Z,31nm,1.1s,mb5.2
LZH MLR MLR
comp=Z,970nm,13.5s,MS4.7
LZH Lanzhou 34.43 14 *e*P **P** **01 14 38.9 -1.8**
comp=Z,31nm,1.1s,mb5.2
LZH pP pP 01 14 47.1 -2.4
LZH sP sP 01 14 49.5 -3.7
LZH PP PP 01 15 55.6 -1.1
LZH *e*S **S** **01 20 05.0 -0.9**
LZH sS 01 20 22.2
LZH SS SS 01 22 18.1 +0.9
LZH LR LR
comp=Z,970nm,13.5s,MS4.7
GTA Gaotai 36.95 7 *e*P **P** **01 15 02.1 +0.1**
GTA AP pP 01 15 09.7 -1.1
GTA XP sP 01 15 13.1 -1.4
GTA PP PP 01 16 25.9 -2.6
GTA PCP PcP 01 17 25.0 +1.7
GTA S **S** **01 20 40.7 -4.0**
GTA AMB AMB
comp=Z,19nm,1.2s,mb4.8
GTA AMB AMB
comp=Z,98nm,6.1s
GTA LR LR
comp=N,291nm,10.6s,MS4.4
GTA LR LR
comp=E,252nm,14.8s,MS4.4
GTA LR LR
comp=Z,304nm,11.4s,MS4.3
FITZ Fitzroy Crossi 37.03 125 P **P** **01 15 02.1 -0.8**
comp=Z,8.8nm,0.8s,mb4.7,baz=25,slow=5.7,SNR=5.7
NJ2 Nanjing 37.23 36 *e*P **P** **01 15 05.2 +0.7**
NJ2 AP pP 01 15 15.2 +1.9
NJ2 XP sP 01 15 18.6 +1.6
NJ2 PP PP 01 16 33.1 +1.1
NJ2 S **S** **01 20 51.0 +1.8**
NJ2 XS 01 21 06.0
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.2
NJ2 AMB AMB
comp=Z,160nm,6.2s
NJ2 LR LR
comp=Z,740nm,12.0s,MS4.7
SSE Sheshan 37.97 39 P **P** **01 15 11.0 +0.3**
SSE AP pP 01 15 19.8 +0.3
SSE XP sP 01 15 23.8 +0.6
SSE S **S** **01 21 01.5 +1.1**
SSE XS 01 21 16.7
SSE SCS ScS 01 25 22.3 +3.8
SSE AMB AMB
comp=Z,22nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,40nm,3.6s
SSE LR LR
comp=N,419nm,16.6s,MS4.4
SSE LR LR
comp=E,188nm,16.6s,MS4.4
SSE LR LR
comp=Z,313nm,15.8s,MS4.2
SSE Sheshan 37.97 39 P **P** **01 15 11.0 +0.3**
comp=Z,22nm,0.7s,mb5.0
SSE pP pP 01 15 19.8 +0.3
SSE sP sP 01 15 23.8 +0.6
SSE S **S** **01 21 01.5 +1.1**
SSE sS 01 21 16.7
SSE ScS ScS 01 25 22.3 +3.8
SSE LR LR
comp=Z,310nm,15.8s,MS4.2
KSH Kashi 40.37 338 *e*P **P** **01 15 31.6 +1.1**
KSH *e*AP pP 01 15 41.6 +2.2
KSH *e*XP sP 01 15 45.8 +2.8
KSH *e*PP PP 01 17 08.3 +1.4
KSH *e*PCS 01 21 24.2
KSH *e*S **S** **01 21 37.0 +0.6**
KSH *e*PS 01 21 44.2
KSH *e*XS 01 21 53.3
KSH *e*SS SS 01 24 32.9 +2.6
KSH *e*SCS ScS 01 25 32.1 -0.2
KSH AMB AMB
comp=Z,90nm,2.3s,mb5.1
JOW Kunigami 40.41 50 LR LR 01 34 31.7
comp=Z,248nm,18.7s,MS4.1,baz=282,slow=40
HHC Hu-ho-hao-te 41.09 20 *e*P **P** **01 15 36.8 +0.3**
HHC AP pP 01 15 45.9 +0.6
HHC XP sP 01 15 50.2 +1.2
HHC S **S** **01 21 51.5 +4.3**
HHC AMB AMB
comp=Z,18nm,1.4s,mb4.5
HHC AMB AMB
comp=Z,108nm,10.8s
HHC LR LR
comp=Z,488nm,14.4s,MS4.5
WMQ Urumqi 41.45 353 P **P** **01 15 39.8 +0.4**
WMQ AP pP 01 15 49.6 +1.3
WMQ XP sP 01 15 53.6 +1.7
WMQ PP PP 01 17 19.1 +0.9
WMQ S **S** **01 21 52.2 -0.3**
WMQ XS 01 22 08.5
WMQ AMB AMB
comp=Z,38nm,1.8s,mb4.7
WMQ AMB AMB
comp=Z,130nm,6.1s
WMQ LR LR
comp=Z,982nm,18.5s,MS4.7
KZA Kyzart 42.87 339 P **P** **01 15 52.6 +1.5**
SNR=5.6
UCH Uchtor 43.27 338 P **P** **01 15 55.4 +1.1**
SNR=16
KBK Karagaybulak 43.48 339 P **P** **01 15 57.5 +1.4**
SNR=7.9
TKM2 Tokmak 2 43.49 340 P **P** **01 15 56.5 +0.4**
SNR=9.6
AML Almayashu 43.49 338 P **P** **01 15 57.1 +1.0**
SNR=23
AAK Ala-Archa 43.63 339⇓ *e*P **P** **01 15 57.7 +0.5**
AAK pmax pmax
comp=Z,18nm,1.8s,mb4.5
AAK MLR MLR
comp=Z,200nm,26.0s,MS3.9
AAK Ala-Archa 43.63 339 *e*P **P** **01 15 57.6 +0.4**
comp=Z,2.7nm,0.8s,mb4.0
AAK LR LR
comp=Z,43nm,19.0s,MS3.4
FRU Bishkek 43.76 339 *e*P **P** **01 16 00.0 +1.7**
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.0
DL2 Dalian 43.83 31 P **P** **01 16 00.2 +1.3**
DL2 AP pP 01 16 09.9 +2.2
DL2 *e*S **S** **01 22 28.6 +1.3**
DL2 AMB AMB
comp=Z,30nm,0.7s,mb5.1
DL2 LR LR
comp=N,170nm,14.9s,MS4.3
DL2 LR LR
comp=E,260nm,15.1s,MS4.3
DL2 LR LR
comp=Z,280nm,16.9s,MS4.2
USP Ospenovka 44.18 339 P **P** **01 16 01.8 +0.1**
SNR=11
WRA Warramunga Arr 45.16 122 P **P** **01 16 09.8 -0.1**
comp=Z,4.8nm,0.7s,mb4.4,baz=300,slow=8.7,SNR=10
WRAB Tennant Creek 45.17 122 *e*P **P** **01 16 10.1 +0.2**
MKAR Makanchi Array 45.24 348 *i*P **P** **01 16 10.2 +0.1**
MKAR pmax pmax
comp=Z,51nm,1.3s
MKAR Makanchi Array 45.24 348 P **P** **01 16 10.1 -0.1**
comp=Z,19nm,0.9s,mb4.9,baz=162,slow=7.7,SNR=42
KKAR Karatay Array 45.58 335 *i*P **P** **01 16 12.3 -0.6**
KKAR pmax pmax
comp=Z,284µm,0.1s
JNU Nakatsue 45.67 44 LR LR 01 37 29.7
comp=Z,554nm,18.0s,MS4.5,baz=215,slow=39
SONM Songino Array 46.22 11 P **P** **01 16 17.9 0.0**
comp=Z,7.6nm,1.0s,mb4.6,baz=196,slow=9.0,SNR=34
SONM LR LR 01 37 31.2
comp=Z,150nm,21.1s,MS3.9,baz=223,slow=38
ULN Ulaanbaatar 46.38 12 *e*P **P** **01 16 13.4 -5.7**
ULN pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
ULN MLR MLR
comp=Z,243nm,20.0s,MS4.2
ULN Ulaanbaatar 46.38 12 *e*P **P** **01 16 13.4 -5.7**
comp=Z,9.7nm,1.3s,mb4.6
ULN LR LR
comp=Z,243nm,20.0s,MS4.2
SNY Shenyang 47.00 30⇓ P **P** **01 16 23.4 -0.7**
SNY AMB AMB
comp=Z,20nm,1.1s,mb5.0
SNY LR LR
comp=N,400nm,18.9s,MS4.5
SNY LR LR
comp=E,350nm,16.8s,MS4.5
SNY LR LR
comp=Z,490nm,18.8s,MS4.5
ZAK Zakamensk 48.18 8 *e*P **P** **01 16 32.3 -1.0**
ZAK *e* 01 18 04.7
ZAK pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
HASS Wahat al Ahsa' 48.51 302 P **P** **01 16 37.1 +1.0**
CN2 Changchun 49.38 29 *e*P **P** **01 16 43.3 +0.7**
CN2 *e*AP pP 01 16 52.3 +0.7
CN2 *e*S **S** **01 23 47.4 +1.1**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,400nm,18.0s,MS4.5
TLY Talaya 49.50 8 *e*P **P** **01 16 44.1 +0.7**
TLY *e*S **S** **01 23 49.9 +2.1**
TLY pmax pmax
comp=Z,15nm,1.2s,mb4.9
TLY MLR MLR
comp=Z,279nm,18.0s,MS4.3
TLY Talaya 49.50 8 *e*P **P** **01 16 43.8 +0.4**
comp=Z,44nm,1.8s,mb5.2
IRK Irkutsk 50.13 8 *e*P **P** **01 16 48.0 -0.3**
IRK pmax pmax
comp=Z,49nm,1.9s,mb5.2
HIA Hailar 51.27 21 *e*P **P** **01 16 57.0 +0.1**
HIA pmax pmax
comp=Z,33nm,1.1s
HIA MLR MLR
comp=Z,1µm,19.0s
HIA Hailar 51.27 21 *e*P **P** **01 16 57.0 +0.1**
comp=Z,33nm,1.1s,mb5.2
HIA LR LR
comp=Z,1µm,19.0s,MS4.9
KAMS Al Khamasin 51.63 294 P **P** **01 16 59.1 -1.0**
ZAL Zalesovo 51.76 353 P **P** **01 16 59.9 -0.6**
comp=Z,4.2nm,0.4s,mb4.7,baz=286,slow=6.7,SNR=32
ZAL Zalesovo 51.76 353 P **P** **01 16 59.9 -0.6**
CIT Chita 51.77 15 *e*P **P** **01 17 00.6 -0.1**
CIT pmax pmax
comp=Z,71nm,1.4s,mb5.4
MZLS Mizel 52.02 299 P **P** **01 17 04.6 +1.7**
MDJ Mudanjiang 52.06 31 P **P** **01 17 03.1 +0.1**
MDJ AP pP 01 17 12.1 +0.1
MDJ XP sP 01 17 16.6 +1.1
MDJ PCP PcP 01 18 11.2 -3.7
MDJ PP PP 01 19 03.9 +2.1
MDJ SCP 01 22 05.8
MDJ PCS 01 22 11.2
MDJ S **S** **01 24 26.5 +3.2**
MDJ SCS ScS 01 26 51.4 +3.9
MDJ AMB AMB
comp=Z,17nm,1.4s,mb4.8
MDJ AMB AMB
comp=Z,68nm,3.9s
MDJ LR LR
comp=N,235nm,14.7s,MS4.6
MDJ LR LR
comp=E,350nm,16.5s,MS4.6
MDJ LR LR
comp=Z,294nm,17.7s,MS4.4
MJAR Matsushiro Arr 52.59 45 PcP PcP 01 18 17.4 +0.4
comp=Z,1.0nm,0.3s,baz=236,slow=4.5,SNR=4.3
MJAR LR LR 01 41 15.9
comp=Z,290nm,18.8s,MS4.3,baz=245,slow=38
NVS Novosibirsk 52.84 352 *e*P **P** **01 17 06.9 -1.8**
NVS *e* 01 24 45.9
NVS pmax pmax
comp=N,23nm,1.3s
NVS pmax pmax
comp=E,15nm,1.3s
NVS pmax pmax
comp=Z,24nm,1.3s,mb5.0
VOSK Vostochnaya 53.59 343 P **P** **01 17 13.0 -1.2**
VOSK pmax pmax
comp=Z,34nm,1.5s,mb5.1
AFFS 'Afif 53.94 298 P **P** **01 17 17.7 +0.6**
BVA0 Borovoye Array 54.02 342 *i*P **P** **01 17 16.1 -1.3**
BVA0 pmax pmax
comp=Z,4.0nm,1.5s,mb4.1
BLJS Baljurashi 54.28 293 P **P** **01 17 20.1 +0.5**
ZRNK Zerenda 54.39 341 *e*P **P** **01 17 18.0 -2.1**
ZRNK *e* 01 17 30.1
ZRNK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ZRNK Zerenda 54.39 341 *e*P **P** **01 17 18.0 -2.0**
comp=Z,10.0nm,1.0s,mb4.7
ZRNK *e* 01 17 30.1
AB31 Akbulak array 54.97 333 *i*P **P** **01 17 22.8 -1.6**
AB31 pmax pmax
comp=Z,13nm,1.0s,mb4.9
CTA Charters Tower 55.64 116 P **P** **01 17 29.8 +0.1**
comp=Z,8.6nm,0.9s,mb4.8,baz=294,slow=5.8,SNR=4.9
CTA LR LR 01 44 55.6
comp=Z,150nm,18.5s,MS4.1,baz=50,slow=40
CTAO Charters Tower 55.64 116 *e*P **P** **01 17 29.3 -0.3**
CTAO pmax pmax
comp=Z,26nm,1.3s,mb5.1
CTAO MLR MLR
comp=Z,199nm,21.0s,MS4.2
CTAO Charters Tower 55.64 116 *e*P **P** **01 17 29.3 -0.3**
comp=Z,26nm,1.3s,mb5.1
CTAO LR LR
comp=Z,199nm,21.0s,MS4.2
HILS Ha'il 55.93 301 P **P** **01 17 32.4 +0.8**
KLR Kul'dur 56.30 29 *e*P **P** **01 17 30.8 -3.2**
KLR *e* 01 19 33.0
KLR *e*S **S** **01 25 22.0 +1.7**
KLR pmax pmax
comp=E,45nm,2.0s
KLR pmax pmax
comp=Z,54nm,2.0s,mb5.2
KLR MLR MLR
comp=E,500nm,15.0s
KLR MLR MLR
comp=Z,800nm,15.0s,MS4.9
STKA Stephens Creek 56.39 131 P **P** **01 17 34.9 +0.1**
comp=Z,3.7nm,0.7s,mb4.5,baz=316,slow=7.1,SNR=11
STKA LR LR 01 41 53.5
comp=Z,140nm,18.5s,MS4.1,baz=14,slow=36
STKA Stephens Creek 56.39 131 *e*P **P** **01 17 34.8 0.0**
BOD Bodaibo 57.18 12 *e*P **P** **01 17 38.8 -1.4**
BOD pmax pmax
comp=Z,27nm,1.3s,mb5.1
KMBO Kilima Mbogo 57.25 267 LR LR 01 38 40.2
comp=Z,181nm,18.8s,MS4.2,baz=94,slow=32
GNI Garni 58.34 317 *i*P **P** **01 17 48.3 -0.2**
GNI pmax pmax
comp=Z,23nm,1.8s
GNI MLR MLR
comp=Z,100nm,15.0s
GNI Garni 58.34 317 *e*P **P** **01 17 47.8 -0.7**
comp=Z,27nm,1.6s,mb5.0
ASAJ Asahikawa 59.26 39 LR LR 01 43 26.4
comp=Z,273nm,21.4s,MS4.3,baz=210,slow=36
ONI Oni 60.30 319 P **P** **01 18 01.7 -0.3**
SVE Sverdlovsk 60.36 339 *e*P **P** **01 18 00.0 -2.2**
SVE *e* 01 18 12.5
SVE *e* 01 18 50.0
SVE *e*PPP PPP 01 21 40.0 -4.0
SVE *e* 01 26 04.0
SVE *e*S S 01 26 42.0 +29
SVE pmax pmax
comp=Z,60nm,1.5s,mb5.4
SVE MLR MLR
comp=N,100nm,14.0s,MS4.3
SVE MLR MLR
comp=E,100nm,14.0s,MS4.3
SVE MLR MLR
comp=Z,200nm,14.0s,MS4.4
YSS Yuzh-Sakhalins 60.80 36 *e*P **P** **01 18 05.0 -0.4**
YSS *e* pP 01 18 14.0 -0.6
YSS MLR MLR
comp=Z,200nm,17.0s,MS4.3
YSS MLR MLR
comp=N,300nm,14.0s,MS4.6
YSS MLR MLR
comp=E,200nm,17.0s,MS4.6
ARU Arti 60.81 338⇑ *i*P **P** **01 18 03.5 -1.8**
ARU *e* 01 18 48.5
ARU *e* 01 20 15.3
ARU *e*S **S** **01 26 20.0 +1.1**
ARU *e*SS SS 01 30 14.6 -4.7
ARU pmax pmax
comp=Z,15nm,1.1s,mb5.0
ARU Arti 60.81 338 *e*P **P** **01 18 03.4 -1.8**
comp=Z,20nm,1.3s,mb5.1
KIV Kislovodsk 61.41 320*c* *i*P **P** **01 18 08.5 -1.1**
KIV pmax pmax
comp=Z,25nm,1.5s,mb5.1
KIV Kislovodsk 61.41 320 *e*P **P** **01 18 05.9 -3.7**
comp=Z,12nm,1.1s,mb4.9
GOF Gofitskoye 61.70 321 *e*P sP 01 18 26.0 +2.0
MALT Malatya 62.10 312 *e*P **P** **01 18 14.3 0.0**
MALT pmax pmax
comp=Z,14nm,1.1s,mb5.0
MALT Malatya 62.10 312 *e*P **P** **01 18 14.3 0.0**
comp=Z,14nm,1.1s,mb5.0
SOC Sochi 63.20 318 *e*P **P** **01 18 17.8 -3.6**
SOC *e* 01 20 41.3
SOC *e*PPP PPP 01 22 12.5 -0.7
SOC pmax pmax
comp=N,10.0nm,1.1s
SOC pmax pmax
comp=E,6.0nm,1.1s
SOC pmax pmax
comp=Z,21nm,1.1s,mb5.2
YAK Yakutsk 64.88 18 *i*P **P** **01 18 31.5 -0.7**
YAK pmax pmax
comp=Z,38nm,1.1s,mb5.3
YAK MLR MLR
comp=Z,500nm,20.0s,MS4.7
BOYT Boyabat 65.71 315 *i*P **P** **01 18 36.4 -1.4**
BRTR Keskin Array B 66.09 313 P **P** **01 18 38.8 -1.5**
comp=Z,4.1nm,1.0s,mb4.4,baz=135,slow=7.0,SNR=22
BR131 Keskin Array S 66.09 313 *e*P **P** **01 18 39.4 -0.9**
comp=Z,1.8nm,0.8s,mb4.2
SGKT Sivrigoynuk 67.50 313 *i*P **P** **01 18 47.6 -1.7**
ESKT Eskisehir 68.10 312 *i*P **P** **01 18 51.5 -1.5**
ULDT Uludag 69.53 312 *i*P **P** **01 19 01.3 -0.5**
MOS Moscow 69.69 330 *e*P **P** **01 19 00.6 -1.9**
MOS pmax pmax
comp=Z,55nm,1.1s,mb5.4
OBN Obninsk 69.95 329*c* *i*P **P** **01 19 02.5 -1.6**
OBN *e*S S 01 28 02.7 -8.2
OBN pmax pmax
comp=Z,19nm,1.1s,mb4.9
BTOK Tokmak 70.27 311 *i*P **P** **01 19 05.9 -0.4**
TIRR Tirgusor 71.16 316⇑ P **P** **01 19 10.7 -1.0**
CFR Carcaliu 71.54 317⇓ P **P** **01 19 13.7 -0.3**
TIXI Tiksi 72.31 11⇑ *e*P **P** **01 19 17.2 -0.9**
TIXI pmax pmax
comp=Z,43nm,1.3s,mb5.2
TIXI MLR MLR
comp=Z,100nm,9.0s
AKASG Malin Array Be 72.43 323 P **P** **01 19 17.7 -1.5**
comp=Z,0.7nm,0.4s,mb4.0,baz=87,slow=4.9,SNR=20
VRI Vrincioaia 72.68 317⇓ P **P** **01 19 21.0 +0.3**
BOSA Boshof 73.07 239 LR LR 01 47 18.1
comp=Z,163nm,19.6s,MS4.3,baz=45,slow=32
MLR Muntele Rosu 73.12 317⇑ P **P** **01 19 23.6 +0.3**
MAW Mawson 73.48 192 LR LR 01 43 37.9
comp=Z,88nm,18.9s,MS4.1,baz=238,slow=29
BURAR Bucovina Array 74.12 319⇑ P **P** **01 19 29.6 +0.6**
DRGR 75.60 318⇑ P **P** **01 19 37.7 +0.1**
KWP Kalwaria 76.20 321 *e*P **P** **01 19 41.2 +0.3**
KWP Kalwaria 76.20 321 *e*P **P** **01 19 41.2 +0.3**
VSU Vasula 76.22 330 *i*P **P** **01 19 40.4 -0.4**
KOLS Kolonicke sedl 76.33 320 *i*P **P** **01 19 42.7 +1.1**
CRVS Cervenica-Dubn 76.84 320 *e*P **P** **01 19 45.0 +0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SUW	Suwalki	76.91	325	eP	P	01 19 44.1	-0.7
SUW	Suwalki	76.91	325	eP	P	01 19 44.1	-0.7
STHS	Stebnicka Huta	77.09	320	eP	P	01 19 46.5	+0.6
KECS	Kecovo	77.40	319	eP	P	01 19 47.6	0.0
FINES	FINESS Array B	77.46	333	i P	P	01 19 47.2	-0.4
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	FINESS Array B	77.46	333	P	P	01 19 46.6	-1.1
	comp=Z,2.5nm,0.7s,mb4.2,baz=90,slow=5.7,SNR=15						
KAF	Kangasniemi	77.56	333	ep	P	01 19 46.4	-1.8
	comp=Z,8.6nm,1.0s,mb4.6,baz=106,slow=5.2						
KAF	Kangasniemi	77.56	333	eP	P	01 19 46.4	-1.8
KAF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
NIE	Niedzica	77.68	320	eP	P	01 19 50.0	+0.9
OJC	Ojcow	78.16	321	eP	P	01 19 51.9	+0.2
VYHS	Vyhne	78.48	319	i P	P	01 19 53.5	-0.1
OKC	Ostrava-Krasne	79.14	320	eP	P	01 19 57.8	+0.7
OKC				epP	pP	01 20 06.2	-0.3
MORC	Moravsky Berou	79.52	320	eP	P	01 19 59.1	-0.1
MORC				pmax	pmax		
	comp=Z,34nm,2.2s,mb4.9						
MORC	Moravsky Berou	79.52	320	eP	P	01 19 59.1	-0.1
	comp=Z,34nm,2.2s,mb4.9						
ZST	Bratislava	79.58	318	i P	P	01 20 00.3	+0.7
ARCES	ARCESS Array B	80.27	341	P	P	01 20 03.1	+0.3
	comp=Z,5.1nm,0.9s,mb4.4,baz=80,slow=7.4,SNR=10						
ARCES				LR	LR	01 59 30.1	
	comp=Z,92nm,18.5s,MS4.2,baz=92,slow=39						
DPC	Dobruska-Polom	80.38	321	eP	P	01 20 04.1	+0.3
DPC				epP	pP	01 20 12.8	-0.4
DPC				AMS	AMS	02 00 30.0	
	comp=Z,100nm,18.1s						
SYO	Syowa Base	80.50	197	⇑pP	pP	01 20 16.0	+2.6
BOJS	Bojanci	80.53	316	eP	P	01 20 04.8	+0.2
UPC	Upice	80.60	321	eP	P	01 20 05.7	+0.8
PERS	Pernice	80.74	317	eP	P	01 20 06.3	+0.6
LJU	Ljubljana	81.08	316	eP	P	01 20 08.2	+0.6
FX1	Attu Island--F	81.14	37	LR	LR	01 55 38.2	
	comp=Z,4.6nm,19.7s,baz=88,slow=35						
PRU	Pruhonice	81.47	320	eP	P	01 20 09.5	0.0
PRU				epP	pP	01 20 18.6	-0.3
PVCC	Panska Ves	81.51	321	eP	P	01 20 10.7	+1.0
PVCC				epP	pP	01 20 18.6	-0.5
GERES	GERESS Array B	81.91	319	P	P	01 20 12.8	+1.0
	comp=Z,4.7nm,0.9s,mb4.4,baz=100,slow=8.1,SNR=18						
BRG	Berggiesshubel	81.94	321	eP	P	01 20 13.0	+1.1
BRG				pmax	pmax		
	comp=Z,15nm,1.6s,mb4.7						
BRG	Berggiesshubel	81.94	321	eP	P	01 20 13.0	+1.1
	comp=Z,15nm,1.6s,mb4.7						
KHC	Kasperske Hory	82.01	319	eP	P	01 20 10.2	-2.1
KHC				epP	pP	01 20 21.3	-0.4
KHC				AMS	AMS	02 06 30.0	
	comp=Z,100nm,12.7s						
CLL	Collm	82.58	321	eP	P	01 20 15.0	-0.2
CLL	Collm	82.58	321	P	P	01 20 15.0	-0.2
NKC	Novy Kostel	82.84	320	eP	P	01 20 17.1	+0.5
MOX	Moxa	83.40	321	eP	P	01 20 20.2	+0.7
MOX				pmax	pmax		
	comp=Z,18nm,1.9s,mb4.8						
MOX	Moxa	83.40	321	eP	P	01 20 20.2	+0.7
	comp=Z,18nm,1.9s,mb4.8						
MOX	Moxa	83.40	321	i P	P	01 20 20.2	+0.7
	comp=Z,logA/T=1.0,mb4.8						
GRA1	Grafenberg Arr	83.59	320	eP	P	01 20 21.3	+0.8
	comp=Z,12nm,1.0s,mb5.0						
GRF	Grafenberg Arr	83.59	320	eP	P	01 20 21.3	+0.8
GRF				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
GRF	Grafenberg Arr	83.59	320	eP	P	01 20 21.3	+0.8
GRF				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
GRF	Grafenberg Arr	83.59	320	eP	P	01 20 21.3	+0.8
	comp=Z,12nm,1.0s,mb5.0						
NB2	NORSAR Subarra	84.41	331	P	P	01 20 24.0	-0.3
	comp=Z,5.9nm,1.1s,mb4.6,baz=92,slow=5.0						
NB2	NORSAR Subarra	84.41	331	P	P	01 20 24.0	-0.3
NB2				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.6						
NOA	NORSAR Array B	84.41	331	P	P	01 20 23.6	-0.7
	comp=Z,2.7nm,0.9s,mb4.3,baz=94,slow=5.4,SNR=6.9						
LPL	La Plagne	86.51	315	eP	P	01 20 35.3	+0.2
	comp=Z,19nm,1.2s,mb4.9						
LPL	La Plagne	86.51	315	eP	P	01 20 35.3	+0.2
LPL				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.9						
VNDA	Vanda	87.77	168	P	P	01 20 41.6	+1.0
	comp=Z,2.4nm,1.3s,mb4.3,baz=308,slow=7.6,SNR=3.5						
VNDA				LR	LR	01 53 48.8	
	comp=Z,40nm,20.0s,MS3.8,baz=274,slow=31						
VNDA	Vanda	87.77	168	P	P	01 20 41.6	+1.0
VNDA				LR	LR	01 53 48.8	
SNAA	Sanae	94.75	198	e	sP	01 21 29.9	+4.3
SNAA	Sanae	94.75	198	⇑iP	P	01 21 21.5	+8.4
SNAA				e	pP	01 21 29.9	+7.3
VNA2	Neumayer--Watz	96.31	199	e	sP	01 21 33.8	+1.0
VNA2	Neumayer--Watz	96.31	199	⇑iP	P	01 21 27.4	+7.1
VNA2				e		01 21 33.8	
VNA1	Neumayer--Stat	96.65	199	⇑iP	P	01 21 25.9	+4.1
VNA3	Neumayer Olymp	96.98	198	e	sP	01 21 36.1	+0.3
VNA3	Neumayer Olymp	96.98	198	⇑iP	P	01 21 28.8	+5.6
VNA3				e		01 21 36.1	
ILAR	Eielson Array	99.48	22	LR	LR	02 09 33.7	
	comp=Z,89nm,21.2s,MS4.2,baz=351,slow=37						
PDAR	Pinedale Array	129.91	23	PKP	PKPdf	01 27 03.0	-2.9
	comp=Z,0.5nm,0.7s,slow=3.0,SNR=6.6						
GDL2	Guadalupe Moun	141.06	26	eP	PKPdf	01 27 23.1	-3.8
TXAR	Lajitas Array	143.82	27	PKP	PKPdf	01 27 26.8	-4.9
	comp=Z,1.5nm,0.8s,baz=225,slow=2.0,SNR=18						
CPUP	Villa Florida	144.05	226	PKP	PKPdf	01 27 27.6	-4.6
	comp=Z,5.1nm,0.7s,baz=90,slow=5.5,SNR=14						
NATX	Nacogdoches	144.74	13	eP	PKPbc	01 27 28.5	+0.4
LPAZ	La Paz	158.09	231	PKP	PKPdf	01 27 52.5	-1.0
	comp=Z,1.2nm,1.1s,baz=305,slow=4.6,SNR=4.2						
LPAZ				PKPab	PKPab	01 28 26.0	+1.6
	comp=Z,1.8nm,1.0s,baz=99,slow=5.4,SNR=4.9						
LPAZ	La Paz	158.09	231	PKP	PKPdf	01 27 52.5	-1.0
LPAZ				PKPab	PKPab	01 28 26.0	+1.6

KRSC 11 01:09:16.1±0.7, 55.20N×166.92E, h23km±3km, ML4.1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	Bering	0.54	271	i P	Pb	01 09 26.2	-0.7
BKI				i S	Sb	01 09 33.6	-0.7
BKI				Smax			
	2μm,0.7s						
KBTR	Krutoberegovo	2.53	295	i P	Pn	01 09 55.4	-1.3
KBTR				eS	Sn	01 10 26.0	-1.2
MKZ	Mys Kozlova	3.07	260	eP	Pn	01 10 04.1	-0.3
MKZ				eS	Sn	01 10 39.0	-1.7
ZLN	Zelenaya	3.56	286	eP	Pn	01 10 12.4	+1.0
KLY	Klyuchi	3.71	290	eP	Pn	01 10 12.8	-0.7
KLY				eS	Sn	01 10 54.1	-3.0
KRSR	Krestovskiy	3.74	288	eP	Pn	01 10 14.2	+0.3
KRSR				eS	Sn	01 10 56.7	-1.0
KMNR	Kamenistaya	3.84	281	i P	Pn	01 10 16.5	+1.1
KMNR				eS	Sn	01 11 00.1	-0.3
KPT	Kopyto	3.88	284	eP	Pn	01 10 16.5	+0.6
KPT				eS	Sn	01 11 00.3	-1.0
TUMR	Tumrok	3.88	274	eP	Pn	01 10 16.9	+1.0
TUMR				eS	Sn	01 11 01.3	0.0
KOZ	Kozyrevsk	4.09	285	eP	Pn	01 10 19.5	+0.7
KOZ				eS	Sn	01 11 05.7	-0.9
SRDR	Sredinnyy	4.22	288	eP	Pn	01 10 21.5	+0.7
SRDR				eS	Sn	01 11 09.3	-0.7
SPN	Mys Shipunski	4.57	245	i P	Pn	01 10 24.8	-0.9
SPN				eS	Sn	01 11 15.0	-3.8
ESO	Esso	4.72	282	eP	Pn	01 10 27.5	-0.4
ESO				eS	Sn	01 11 19.1	-3.5
ESO				Smax			
	30nm,0.1s						
NLC	Nalytchevo	4.89	249	eP	Pn	01 10 29.3	-1.0
NLC				eS	Sn	01 11 22.5	-4.4
SDLR	Sedlovina	5.09	251	eP	Pn	01 10 33.5	+0.4
SMAR	Somma	5.14	251	eP	Pn	01 10 34.3	+0.5
UGLR	Uglovaya	5.15	251	eP	Pn	01 10 34.3	+0.3
AVH	Avacha	5.18	251	eP	Pn	01 10 34.6	+0.3
AVH				eS	Sn	01 11 31.7	-2.3
KOK	Koryaka	5.22	252	eP	Pn	01 10 35.0	+0.1
PET	Petropavlovsk	5.33	249	eP	Pn	01 10 35.8	-0.6
PET				eS	Sn	01 11 34.2	-3.7
GNL	Ganaly	5.45	258	eP	Pn	01 10 38.6	+0.5
GNL				eS	Sn	01 11 38.6	-2.3
RUS	Russkaya	5.70	244	eP	Pn	01 10 40.8	-0.8
RUS				eS	Sn	01 11 43.1	-4.0
GRL	Gorelyy	5.87	247	eP	Pn	01 10 42.8	-1.2
APC	Apacha	6.18	252	eP	Pn	01 10 49.0	+0.5
KAMR	Kamenskoye	7.29	357	i P	Pn	01 11 02.9	-1.1

*MOS **11** 01:38:10.6±1.2, 47.99N×154.17E, h45km, mb4.4/7, Error ellipse: s-maj=22.1km s-min=14.0km az=87.5*
*IDC **11** 01:38:12.7±1.6, 47.64N×154.06E, h50km±6km, mb3.7/10, mb1 3.9/11, mb1mx3.7/22, mbtmp4.0/11, Error ellipse: s-maj=48.1km s-min=18.5km az=180.0*
*NEIC **11** 01:38:15.8±1.5, 48.32N×154.07E, mb4.3/2, Error ellipse: s-maj=37.9km s-min=15.1km az=166.0*
ISC 11 01:38:13.0±1.1, 48.2N±0.1×154.1E±0.2, h52km, h52km±4.1km:pP-P, n27, σ1s01/29, mb4.0/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.86	27	ePN	P	01 38 55.5	-1.9
SKR				eS	S	01 39 31.9	+1.1
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,140nm,0.3s						
SKR				smax			
	comp=E,240nm,0.3s						
SKR				smax			
	comp=Z,60nm,0.5s						
PET	Petropavlovsk	5.68	29	ePn	P	01 39 34.4	-2.5
PET				eSn	S	01 40 41.9	+0.2
ASAJ	Asahikawa	8.94	247	PN	P	01 40 17.9	-4.2
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	8.94	247	P	P	01 40 17.9	-4.2
	comp=Z,1.2nm,0.3s,baz=99,slow=25,SNR=5.5						
SONM	Songino Array	31.51	288	P	P	01 44 31.1	-0.9
	comp=Z,0.9nm,0.7s,mb3.7,baz=60,slow=10.0,SNR=5.9						
ZAL	Zalesovo	42.35	305	P	P	01 46 03.0	-0.1
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	Zalesovo	42.35	305	P	P	01 46 03.0	-0.1
	comp=Z,1.1nm,0.4s,mb3.9,baz=171,slow=1.6,SNR=3.9						
MKAR	Makanchi Array	46.89	297	P	P	01 46 39.4	-0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	46.89	297	P	P	01 46 39.4	-0.2
	comp=Z,1.1nm,0.5s,mb4.0,baz=63,slow=8.1,SNR=8.0						
BVAR	Borovoye Array	50.49	309	P	P	01 47 07.7	+0.3
	comp=Z,2.0nm,0.4s,mb4.5,baz=58,slow=8.0,SNR=19						
ZRNK	Zerenda	51.24	309	eP	P	01 47 13.0	0.0
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
ZRNK	Zerenda	51.24	309	eP	P	01 47 13.0	-0.1
	comp=Z,2.0nm,0.4s,mb4.4						
ARU	Arti	54.43	317	eP	P	01 47 36.5	-0.2
KAF	Kangasniemi	62.45	335	ep	P	01 48 32.6	+0.1
	comp=Z,1.1nm,0.7s,mb4.1						
KAF	Kangasniemi	62.45	335	eP	P	01 48 32.6	+0.1
KAF				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
FINES	FINESS Array B	63.05	335	P	P	01 48 37.0	+0.4
FINES				*PP	pP	01 48 52.5	+1.4
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	63.05	335	P	P	01 48 37.0	+0.5
	comp=Z,3.1nm,0.7s,mb4.6,baz=34,slow=6.9,SNR=17						
FINES				pP	pP	01 48 52.5	+1.3
	comp=Z,0.9nm,0.5s,baz=45,slow=5.4,SNR=3.4						
PDAR	Pinedale Array	63.40	55	P	P	01 48 41.0	+1.9
	comp=Z,0.2nm,0.6s,mb3.4,baz=342,slow=2.9,SNR=2.4						
NB2	NORSAR Subarra	67.12	341	P	P	01 49 03.0	+0.5
	comp=Z,1.9nm,0.5s,mb4.4,baz=26,slow=6.5						
NOA	NORSAR Array B	67.12	341	P	P	01 49 03.3	+0.8
NOA				*PP	pP	01 49 19.5	+2.3
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	67.12	341	P	P	01 49 03.3	+0.8
	comp=Z,2.5nm,0.7s,mb4.3,baz=26,slow=6.4,SNR=14						
NOA				pP	pP	01 49 19.4	+2.2
	comp=Z,0.6nm,0.6s,baz=25,slow=6.2,SNR=2.8						
AKASG	Malin Array Be	70.75	326	P	P	01 49 24.9	-0.2
AKASG				*PP	pP	01 49 38.8	-1.1
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	70.75	326	P	P	01 49 24.9	-0.2
	comp=Z,1.7nm,0.4s,mb4.3,baz=34,slow=6.3,SNR=20						
AKASG				pP	pP	01 49 38.8	-1.1
	comp=Z,0.5nm,0.5s,baz=35,slow=6.4,SNR=3.3						
TXAR	Lajitas Array	76.24	61	P	P	01 49 56.7	-0.8
TXAR				*PP	pP	01 50 10.3	-2.1
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	76.24	61	P	P	01 49 56.7	-0.8
	comp=Z,0.3nm,0.8s,mb3.3,baz=298,slow=4.4,SNR=3.9						
TXAR				pP	pP	01 50 10.3	-2.1
	comp=Z,0.8nm,0.7s,baz=299,slow=5.0,SNR=9.4						
TXAR	Lajitas Array	76.24	61	P	P	01 49 56.7	-0.8
TXAR				pP	pP	01 50 10.3	-2.1
BRTR	Keskin Array B	77.82	317	P	P	01 50 07.7	+1.6
	comp=Z,0.4nm,0.5s,mb3.6,baz=76,slow=5.1,SNR=6.3						

*IDC **11** 02:17:41.2±3.4, 17.26N×146.65E, mb4.2/8, mb1 4.3/8, mb1mx4.0/20, mbtmp4.2/8, Error ellipse: s-maj=86.1km s-min=45.9km az=0.0*
*NEIC **11** 02:17:55.4±1.6, 17.91N×146.60E, h82km±13km, mb4.4/1, Error ellipse: s-maj=33.6km s-min=10.6km az=83.0*
ISC 11 02:17:53.5±2.0, 18.02N±0.09×146.6E±0.3, h75km±18km, n18, σ0s67/16, mb4.1/7, 3C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SARN	Sarigan	1.54	211	eP	P	02 18 19.4	-0.2
SAPN	Saipan	2.91	196	eP	P	02 18 38.0	-0.6
SAPN				eS	S	02 19 14.1	+1.6
GUMO	Guam	4.71	201	eP	P	02 19 03.2	-0.5
GUMO				eS	S	02 19 57.0	-0.5
MJAR	Matsushiro Arr	19.88	340	P	P	02 22 21.1	-0.1
	1.9nm,0.3s,baz=160,slow=10.0,SNR=4.6						
MAJO	Matsushiro	19.88	340	P	P	02 22 22.1	+0.9
	6.4nm,0.3s						
WRAB	Tennant Creek	39.59	198	P	P	02 25 19.4	+0.1
SONM	Songino Array	44.20	321	P	P	02 25 57.4	+0.7
	0.6nm,0.5s,mb3.6,baz=141,slow=11,SNR=4.9						
ZAL	Zalesovo	59.08	323	P	P	02 27 48.2	+0.1
	1.5nm,0.3s,mb4.4,baz=10,slow=6.7,SNR=4.3						
ZAL	Zalesovo	59.08	323	P	P	02 27 48.2	+0.1
MKAR	Makanchi Array	59.54	314	P	P	02 27 50.4	-1.0
	0.9nm,0.6s,mb4.0,baz=82,slow=9.5,SNR=7.3						
ILAR	Eielson Array	63.87	26	P	P	02 28 20.1	0.0
	0.7nm,0.8s,mb3.5,baz=272,slow=5.0,SNR=6.5						
BVAR	Borovoye Array	67.54	321	P	P	02 28 43.4	-0.3
	4.4nm,0.7s,mb4.4,baz=95,slow=8.1,SNR=11						
ARCES	ARCESS Array B	83.39	342	P	P	02 30 14.1	+0.7
	5.2nm,0.7s,mb4.5,baz=68,slow=6.5,SNR=23						
FINES	FINESS Array B	87.85	336	P	P	02 30 34.6	-0.8
	1.4nm,0.4s,mb4.4,baz=70,slow=4.0,SNR=12						
SNAA	Sanae	123.43	191	⇑iP	PKPdf	02 36 42.2	+0.6
SNAA				e		02 37 07.0	
VNA2	Neumayer--Watz	124.86	190	⇑iP	PKPdf	02 36 45.8	+1.5
VNA2				e		02 37 08.9	
VNA3	Neumayer Olymp	124.94	189	⇑iP	PKPdf	02 36 41.4	-3.1
VNA3				e		02 37 06.3	
VNA1	Neumayer--Stat	125.25	190		PKPdf	02 36 43.8	-1.2

*BJI **11** 02:23:27.1, 10.30N×126.20E, h10km, mB4.5, mb4.5, Ms3.7, Msz3.6*
*NEIC **11** 02:23:30.1±0.5, 10.34N×126.23E, h10km, mb4.3/4, Error ellipse: s-maj=16.4km s-min=8.8km az=73.0*
*MAN **11** 02:23:34.6, 10.21N×126.14E, h14km, mb5.0, ML3.9, MS4.0*
*IDC **11** 02:23:38.0±8.2, 10.23N×126.08E, h69km±74km, mb3.8/13, mb1 4.0/13, mb1mx3.8/22, mbtmp4.1/13, MS3.1/2, Ms1 3.1/2, ms1mx2.9/22, Error ellipse: s-maj=40.5km s-min=14.1km az=68.0*
ISC 11 02:23:29.2±0.5, 10.32N±0.04×126.43E±0.04, h14km, n43, σ1s34/52, mb4.2/19, MS3.3/5, 3C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	1.06	240	⇓eP	Pb	02 23 49.0	+0.1
SCPH				eS	Sb	02 24 00.3	-2.1
MSLP	Maasin	1.55	263	eP	Pn	02 23 57.2	+0.6
MSLP				eS	Sb	02 24 15.3	-1.3
BUTP	Butuan	1.56	211	eP	Pn	02 23 57.5	+0.8
BUTP				eS	Sb	02 24 15.9	-0.8
BESP	Borongan	1.60	323	eP	Pn	02 24 01.8	+4.4
PLP	Palo	1.65	301	eP	Pn	02 23 59.9	+1.9
PLP				eS	Sn	02 24 19.9	+0.8
LLP	Lapu-Lapu	2.42	270	⇓iP	Pn	02 24 10.5	+1.4
LLP				eS	Sn	02 24 29.8	-8.8
TBP	Tagbilaran	2.60	256	eP	Pn	02 24 13.2	+1.6
TBP				eS	Sn	02 24 42.4	-0.9
BUKP	Musuan	2.77	209	eP	Pn	02 24 16.7	+2.6
CNP	Catarman	2.78	322	eP	Pn	02 24 17.7	+3.5
SNPH	Sibulan	3.29	253	⇑iP	Pn	02 24 22.7	+1.3
SNPH				i S	Sn	02 25 00.2	-0.5
DCPH	Dipolog City	3.49	241	⇑eP	Pn	02 24 25.0	+0.8
DCPH				i S	Sn	02 25 00.4	-5.3
GUIM	Jordan	3.79	275	eP	Pn	02 24 29.3	+0.9
RCP	Roxas	3.82	289	⇑eP	Pn	02 24 32.1	+3.2
PAGZ	Pagadian	3.88	231	eP	Pn	02 24 31.2	+1.4
AAP	Anini-y	4.41	272	⇓eP	Pn	02 24 39.3	+2.0
KKM	Kota Kinabalu	10.96	248	P	P	02 26 05.7	-3.1
CBIJ	Chichi jima	22.35	40	LR	LR	02 36 09.1	
	comp=Z,33nm,21.6s,MS2.7,baz=190,slow=33						
KMI	Kunming	26.87	306	P	P	02 29 07.9	-3.7
KMI				S	S	02 33 44.8	-1.0
KMI				SS	SS	02 34 52.5	-6.4
KMI				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.2						
KMI				LR	LR		
	comp=Z,98nm,16.7s,MS3.4						
CMAR	Chiang Mai Arr	27.79	290	P	P	02 29 19.1	-0.9
	comp=Z,2.7nm,0.7s,mb4.0,baz=101,slow=7.6,SNR=9.4						
FITZ	Fitzroy Crossi	28.25	182	P	P	02 29 23.4	-0.8
	comp=Z,4.2nm,0.5s,mb4.3,baz=9.7,slow=15,SNR=12						
PMG	Port Moresby	28.45	133	LR	LR	02 41 57.9	
	comp=Z,68nm,18.6s,MS3.3,baz=174,slow=38						
WRAB	Tennant Creek	31.06	165	eP	P	02 29 49.4	+0.2
WRA	Warramunga Arr	31.06	165	P	P	02 29 48.6	-0.7
	comp=Z,0.9nm,0.5s,mb3.9,baz=343,slow=9.4,SNR=7.1						
MBWA	Marble Bar	31.96	192	eP	P	02 29 56.9	-0.2
MDJ	Mudanjiang	34.28	4	P	P	02 30 13.2	-3.9
MDJ				PP	PP	02 31 29.4	-2.9
MDJ				PCP	PcP	02 32 49.9	-3.6
MDJ				S	S	02 35 40.0	-2.6
MDJ				SCP		02 36 35.2	
MDJ				PCS		02 36 36.0	
MDJ				SCS	ScS	02 40 37.2	-0.8
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,61nm,4.1s						
MDJ				LR	LR		
	comp=N,17nm,18.2s,MS3.1						
MDJ				LR	LR		
	comp=E,27nm,17.0s,MS3.1						
MDJ				LR	LR		
	comp=Z,43nm,15.1s,MS3.3						
SHL	Shillong	36.05	300	eP	P	02 30 30.7	-1.7
GTA	Gaotai	37.43	325	eP	P	02 30 44.2	+0.4
GTA				AP	pP	02 30 49.2	+1.2
GTA				XP	sP	02 30 52.0	+2.3
GTA				S	S	02 36 37.1	+5.9
GTA				XS		02 36 44.3	
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,41nm,4.6s						
GTA				LR	LR		
	comp=N,88nm,14.1s,MS3.8						
GTA				LR	LR		
	comp=E,77nm,13.7s,MS3.8						
GTA				LR	LR		
	comp=Z,110nm,18.6s,MS3.7						
ULN	Ulaanbaatar	40.83	340	eP	P	02 31 07.5	-4.5
	comp=Z,3.2nm,0.6s,mb4.1						
SONM	Songino Array	41.03	339	P	P	02 31 14.5	+0.9
	comp=Z,0.7nm,0.4s,mb3.7,baz=160,slow=9.4,SNR=7.8						
SONM				PcP	PcP	02 33 13.5	-0.7
	comp=Z,0.5nm,0.5s,baz=151,slow=4.2,SNR=3.6						
NWAO	Narrogin (SRO)	43.89	191	P	P	02 31 37.0	-0.2
	comp=Z,11nm,0.8s,mb4.6,baz=12,slow=8.6,SNR=6.3						
STKA	Stephens Creek	44.40	161	P	P	02 31 42.7	+1.3
	comp=Z,1.4nm,0.3s,mb4.1,baz=323,slow=9.2,SNR=6.1						
STKA	Stephens Creek	44.40	161	eP	P	02 31 41.3	-0.1
WMQ	Urumqi	47.28	322	eP	P	02 32 01.2	-2.9
MKAR	Makanchi Array	52.08	323	P	P	02 32 39.8	-1.1
	comp=Z,1.6nm,0.6s,mb4.2,baz=117,slow=8.1,SNR=12						
MKAR				PcP	PcP	02 33 51.7	-1.4
	comp=Z,1.4nm,0.7s,baz=90,slow=3.6,SNR=4.2						
MKAR	Makanchi Array	52.08	323	P	P	02 32 39.8	-1.1
MKAR				PcP	PcP	02 33 51.7	-1.4
BVAR	Borovoye Array	61.71	325	P	P	02 33 47.5	-1.8
	comp=Z,0.6nm,0.5s,mb4.0,baz=97,slow=12,SNR=4.9						
BVAR				PcP	PcP	02 34 28.8	-1.6
	comp=Z,1.0nm,0.7s,baz=101,slow=7.6,SNR=3.6						
ZRNK	Zerenda	62.47	325	eP	P	02 33 52.1	-2.2
	comp=Z,1.7nm,0.7s,mb4.3						
ILAR	Eielson Array	79.33	26	P	P	02 35 37.8	+2.0
	comp=Z,0.6nm,0.7s,mb3.6,baz=238,slow=5.3,SNR=5.3						
ARCES	ARCESS Array B	84.20	340	P	P	02 36 01.7	+0.7
	comp=Z,1.9nm,0.9s,mb4.2,baz=80,slow=7.4,SNR=5.9						
BRTR	Keskin Array B	85.62	309	P	P	02 36 07.4	-1.4
	comp=Z,0.7nm,0.7s,mb4.0,baz=123,slow=5.0,SNR=4.5						
KAF	Kangasniemi	85.66	332	ep	P	02 36 07.5	-0.9
	comp=Z,1.8nm,0.8s,mb4.3						
FINES	FINESS Array B	85.92	332	P	P	02 36 09.2	-0.6
	comp=Z,0.5nm,0.4s,mb4.1,baz=72,slow=4.4,SNR=7.2						
VNDA	Vanda	89.96	173	P	P	02 36 29.5	+0.6
	comp=Z,1.3nm,0.8s,mb4.3,baz=314,slow=8.5,SNR=8.6						

*IDC **11** 02:37:36.8±0.9, 53.22N×159.99E, mb3.9/13, mb1 4.1/15, mb1mx4.0/24, mbtmp4.0/15, ML3.9/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/25, Error ellipse: s-maj=26.8km s-min=12.3km az=3.0*
*MOS **11** 02:37:39.2±1.7, 52.87N×160.44E, h33km, mb4.5/23, Error ellipse: s-maj=12.6km s-min=6.6km az=89.1*
*KRSC **11** 02:37:41.6±0.6, 52.93N×160.43E, h35km±3km, ML4.6*
*NEIC **11** 02:37:42.2±1.2, 53.11N×160.17E, h38km±13km, mb4.4/14, Error ellipse: s-maj=16.7km s-min=8.6km az=160.0*
ISC 11 02:37:39.7±0.3, 52.85N±0.02×160.64E±0.04, h33km, n108, σ1s29/137, mb4.2/28, MS3.5/1, 5C-4D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.45	304	P	P	02 37 50.2	+0.7
SPN				S	S	02 37 56.0	-0.4
SPN	Mys Shipunski	0.45	304	i P	P	02 37 50.2	+0.7
SPN				i S	S	02 37 56.2	-0.2
NLC	Nalytchevo	0.84	293	P	P	02 37 55.2	+0.1
NLC				S	S	02 38 04.2	-2.3
NLC	Nalytchevo	0.84	293	i P	P	02 37 55.2	+0.1
NLC				i S	S	02 38 04.8	-1.7
SDLR	Sedlovina	1.14	293	i P	P	02 37 59.8	+0.4
UGLR	Uglovaya	1.15	289	i P	P	02 38 00.0	+0.5
SMAR	Somma	1.18	291	i P	P	02 38 00.2	+0.2
PET	Petropavlovsk	1.21	279	eP	P	02 38 00.4	0.0
PET	Petropavlovsk	1.21	279	i P	P	02 38 00.6	+0.2
PET				eS	S	02 38 14.4	-1.6
AVH	Avacha	1.22	291	i P	P	02 38 01.1	+0.6
AVH				eS	S	02 38 14.9	-1.2
KOK	Koryaka	1.29	291	i P	P	02 38 01.8	+0.4
RUS	Russkaya	1.36	253	i P	P	02 38 03.4	+0.8
RUS				eS	S	02 38 19.7	+0.1
KII	Karymskiy	1.38	330	P	P	02 38 03.5	+0.6
KII				S	S	02 38 19.3	-0.9
KII	Karymskiy	1.38	330	i P	P	02 38 03.4	+0.5
KII				eS	S	02 38 19.3	-0.9
GRL	Gorelyy	1.59	260	i P	P	02 38 07.3	+1.5
GRL				eS	S	02 38 25.8	+0.4

GNL	**Ganaly**	**1.83**	**299**	*i* P	**P**	**02 38 10.1**	**+0.9**
GNL				*e*S	**S**	**02 38 30.8**	**-0.6**
MKZ	**Mys Kozlova**	**1.83**	**20**	P	**P**	**02 38 10.2**	**+1.0**
MKZ				S	**S**	**02 38 30.4**	**-1.0**
MKZ	**Mys Kozlova**	**1.83**	**20**	*i* P	**P**	**02 38 10.1**	**+0.9**
MKZ				*i* S	**S**	**02 38 31.4**	**0.0**
APC	**Apacha**	**2.11**	**273**	*i* P	**P**	**02 38 15.0**	**+1.7**
APC				*i* S	**S**	**02 38 39.3**	**+0.7**
APC				Smax			
	2µm,1.4s						
TUMR	**Tumrok**	**2.45**	**353**	*i* P	**P**	**02 38 19.9**	**+1.7**
TUMR				*e*S	**S**	**02 38 48.3**	**+1.0**
PAU	**Pauzhetka**	**2.73**	**241**	*e*P	**P**	**02 38 24.4**	**+2.2**
PAU				*e*S	**S**	**02 38 55.9**	**+1.4**
PAU				Smax			
	860nm,0.6s						
KMNR	**Kamenistaya**	**2.92**	**356**	*e*P	**P**	**02 38 26.7**	**+1.8**
KMNR				*e*S	**S**	**02 38 59.4**	**+0.2**
KPT	**Kopyto**	**3.13**	**356**	*e*P	**P**	**02 38 28.5**	**+0.6**
KPT				*e*S	**S**	**02 39 02.7**	**-1.8**
ZLN	**Zelenaya**	**3.17**	**2**	*e*P	**P**	**02 38 30.6**	**+2.1**
ZLN				*e*S	**S**	**02 39 06.3**	**+0.7**
LGNR	**Loginova**	**3.24**	**0**	*e*P	**P**	**02 38 31.2**	**+1.8**
KOZ	**Kozyrevsk**	**3.24**	**352**	P	**P**	**02 38 31.1**	**+1.6**
KOZ				S	**S**	**02 39 07.2**	**-0.2**
KOZ	**Kozyrevsk**	**3.24**	**352**	*e*P	**P**	**02 38 30.9**	**+1.4**
KOZ				*e*S	**S**	**02 39 07.2**	**-0.2**
KOZR	**Kozyr**	**3.25**	**353**	PN	**Pn**	**02 38 31.1**	**+1.4**
KOZR				S	**S**	**02 39 07.2**	**-0.4**
CIRR	**Tsirk**	**3.27**	**1**	*e*P	**P**	**02 38 29.7**	**-0.2**
CIRR				*e*S	**S**	**02 39 06.6**	**-1.5**
ESO	**Esso**	**3.28**	**341**	*i* P	**P**	**02 38 30.7**	**+0.7**
KRSR	**Krestovskiy**	**3.37**	**359**	*e*P	**P**	**02 38 33.5**	**+2.2**
KRSR				*e*S	**S**	**02 39 11.4**	**+0.7**
KLY	**Klyuchi**	**3.47**	**0**	P	**P**	**02 38 34.5**	**+1.8**
KLY				S	**S**	**02 39 13.6**	**+0.5**
KLY	**Klyuchi**	**3.47**	**0**	*e*P	**P**	**02 38 34.4**	**+1.7**
KLY				*e*S	**S**	**02 39 12.7**	**-0.4**
SRDR	**Sredinnyy**	**3.51**	**352**	*e*P	**P**	**02 38 33.5**	**+0.2**
SKR	**Severo-Kuril's**	**3.55**	**234**	*e*PN	**Pn**	**02 38 33.0**	**-1.0**
KBTR	**Krutoberegovo**	**3.59**	**20**	*e*P	**P**	**02 38 36.5**	**+2.0**
KBTR				*e*S	**S**	**02 39 16.8**	**+0.5**
ALID	**Alaid**	**3.73**	**240**	*e*P	**P**	**02 38 37.0**	**+0.7**
BKI	**Bering**	**3.93**	**51**	*e*P	**P**	**02 38 40.2**	**+1.0**
BKI				*e*S	**S**	**02 39 22.5**	**-2.3**
BKI				Smax			
	90nm,0.5s						
FX1	**Attu Island--F**	**7.58**	**85**	Pn	**Pn**	**02 39 32.4**	**+1.6**
	11nm,0.3s,baz=299,slow=3.3,SNR=106						
FX1				Sn	**Sn**	**02 40 53.7**	**-2.8**
	12nm,0.3s,baz=226,slow=21,SNR=7.8						
FX1	**Attu Island--F**	**7.58**	**85**	*e*P	**P**	**02 39 32.4**	**+1.7**
FX1				*e*S	**S**	**02 40 52.7**	**-3.7**
ASAJ	**Asahikawa**	**14.78**	**241**	Pn	**P**	**02 41 04.3**	**-3.5**
	0.4nm,0.3s,baz=242,slow=13,SNR=3.8						
ASAJ				LR	LR	02 46 25.6	
	comp=Z,47nm,18.5s,baz=354,slow=36						
BILL	**Bilibino**	**15.48**	**8**	⇓*e*P	**P**	**02 41 22.1**	**+5.4**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MAJO	**Matsushiro**	**22.66**	**233**	*e*P	**P**	**02 42 39.1**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.6						
MAJO	**Matsushiro**	**22.66**	**233**	*e*P	**P**	**02 42 39.1**	**+0.2**
	comp=Z,14nm,0.6s,mb4.6						
MAT	**Matsushiro**	**22.66**	**233**	*e*P	**P**	**02 42 39.0**	**+0.1**
MAT				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.5						
MAT	**Matsushiro**	**22.66**	**233**	*e*P	**P**	**02 42 39.0**	**+0.1**
	comp=Z,15nm,0.7s,mb4.5						
MAT	**Matsushiro**	**22.66**	**233**	P	**P**	**02 42 38.9**	**0.0**
MJAR	**Matsushiro Arr**	**22.66**	**233**	P	**P**	**02 42 39.1**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MJAR	**Matsushiro Arr**	**22.66**	**233**	P	**P**	**02 42 39.1**	**+0.1**
	comp=Z,10nm,0.6s,mb4.5,baz=16,slow=8.7,SNR=22						
TIXI	**Tiksi**	**23.44**	**335**	*i* P	**P**	**02 42 43.6**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb3.7						
ILAR	**Eielson Array**	**28.75**	**45**	P	**P**	**02 43 37.0**	**+1.2**
ILAR				*PP	pP	02 43 52.5	+7.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**28.75**	**45**	P	**P**	**02 43 37.0**	**+1.2**
	comp=Z,0.2nm,0.8s,baz=264,slow=8.2,SNR=3.2						
ILAR				pP	pP	02 43 52.5	+7.2
	comp=Z,0.9nm,0.7s,baz=265,slow=8.2,SNR=9.7						
SONM	**Songino Array**	**34.28**	**284**	P	**P**	**02 44 20.6**	**-3.9**
	comp=Z,0.5nm,0.5s,mb3.7,baz=55,slow=8.0,SNR=4.8						
ZAL	**Zalesovo**	**43.20**	**303**	LR	LR	03 05 13.3	
	comp=Z,55nm,19.9s,MS3.5,baz=261,slow=39						
MKAR	**Makanchi Array**	**48.56**	**296**	P	**P**	**02 46 17.1**	**-4.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**48.56**	**296**	P	**P**	**02 46 17.1**	**-4.2**
	comp=Z,0.5nm,0.5s,mb3.9,baz=52,slow=8.2,SNR=7.7						
BVAR	**Borovoye Array**	**50.80**	**309**	P	**P**	**02 46 33.9**	**-4.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=60,slow=12,SNR=4.8						
ARCES	**ARCESS Array B**	**53.62**	**342**	P	**P**	**02 46 55.0**	**-4.3**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ARCES	**ARCESS Array B**	**53.62**	**342**	P	**P**	**02 46 55.0**	**-4.3**
	comp=Z,3.8nm,1.1s,mb4.2,baz=27,slow=8.1,SNR=5.5						
ARCES	**ARCESS Array B**	**53.62**	**342**	P	**P**	**02 46 55.0**	**-4.3**
AAK	**Ala-Archa**	**55.48**	**297**	*i* P	**P**	**02 47 08.5**	**-4.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**57.35**	**61**	P	**P**	**02 47 27.1**	**+0.4**
	comp=Z,0.2nm,0.5s,mb3.4,baz=311,slow=8.3,SNR=2.8						
PDAR				pP	pP	02 47 46.5	+10
	comp=Z,0.5nm,0.7s,baz=333,slow=3.3,SNR=4.4						
KAF	**Kangasniemi**	**59.84**	**337**	*e*p	**P**	**02 47 39.1**	**-4.5**
	comp=Z,1.8nm,0.7s,mb4.2						
KAF	**Kangasniemi**	**59.84**	**337**	*e*P	**P**	**02 47 39.1**	**-4.5**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
FINES	**FINESS Array B**	**60.47**	**337**	P	**P**	**02 47 44.7**	**-3.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**60.47**	**337**	P	**P**	**02 47 44.6**	**-3.4**
	comp=Z,1.1nm,0.6s,mb4.1,baz=37,slow=9.5,SNR=9.4						
OBN	**Obninsk**	**62.90**	**328**	*e*P	**P**	**02 48 00.3**	**-4.1**
OBN				*e*		02 50 23.2	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.7						
NB2	**NORSAR Subarra**	**63.87**	**344**	P	**P**	**02 48 07.6**	**-2.9**
	comp=Z,1.3nm,0.7s,mb4.1,baz=21,slow=6.5						
NB2	**NORSAR Subarra**	**63.87**	**344**	P	**P**	**02 48 07.6**	**-2.9**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
NB2	**NORSAR Subarra**	**63.87**	**344**	P	**P**	**02 48 07.6**	**-2.9**
	comp=Z,1.3nm,0.7s,mb4.1						
NOA	**NORSAR Array B**	**63.87**	**344**	P	**P**	**02 48 08.0**	**-2.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**63.87**	**344**	P	**P**	**02 48 08.0**	**-2.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=23,slow=6.5,SNR=7.7						
NOA	**NORSAR Array B**	**63.87**	**344**	P	**P**	**02 48 08.0**	**-2.5**
AKASG	**Malin Array Be**	**68.99**	**329**	*i* P	**P**	**02 48 40.4**	**-2.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**68.99**	**329**	P	**P**	**02 48 39.6**	**-3.5**
	comp=Z,1.7nm,0.4s,mb4.4,baz=29,slow=6.1,SNR=16						
TXAR	**Lajitas Array**	**70.43**	**67**	P	**P**	**02 48 54.0**	**+1.7**
	comp=Z,0.4nm,0.7s,mb3.5,baz=306,slow=3.9,SNR=7.1						
CLL	**Collm**	**72.70**	**339**	P	**P**	**02 49 04.0**	**-1.3**
BURAR	**Bucovina Array**	**72.95**	**330**	⇓P	**P**	**02 49 04.8**	**-2.1**
CFR	**Carcaliu**	**74.20**	**327**	⇑P	**P**	**02 49 12.1**	**-2.2**
MLR	**Muntele Rosu**	**74.63**	**329**	⇓P	**P**	**02 49 15.7**	**-1.0**
TIRR	**Tirgusor**	**74.75**	**327**	⇓P	**P**	**02 49 14.8**	**-2.6**
GERES	**GERESS Array B**	**74.86**	**338**	P	**P**	**02 49 16.6**	**-1.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	**GERESS Array B**	**74.86**	**338**	P	**P**	**02 49 16.6**	**-1.5**
	comp=Z,0.6nm,0.4s,mb3.9,baz=37,slow=6.7,SNR=6.6						
CDF	**Champ du Feu**	**76.60**	**342**	*e*P	**P**	**02 49 26.2**	**-1.7**
	comp=Z,3.1nm,0.6s,mb4.1						
CDF	**Champ du Feu**	**76.60**	**342**	*e*P	**P**	**02 49 26.2**	**-1.7**
CDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRTR	**Keskin Array B**	**77.02**	**321**	P	**P**	**02 49 28.9**	**-1.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**77.02**	**321**	P	**P**	**02 49 28.9**	**-1.6**
	comp=Z,1.3nm,0.6s,mb4.0,baz=45,slow=3.2,SNR=9.3						
HAU	**Haudompre**	**77.16**	**343**	*e*P	**P**	**02 49 29.8**	**-1.3**
HINF	**Hinteralfeld**	**77.25**	**342**	*e*P	**P**	**02 49 30.0**	**-1.6**
LOR	**Lormes**	**78.31**	**344**	*e*P	**P**	**02 49 36.2**	**-1.2**
	comp=Z,2.9nm,0.7s,mb4.0						
LOR	**Lormes**	**78.31**	**344**	*e*P	**P**	**02 49 36.2**	**-1.2**
LOR				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
SSF	**Saint Saulge**	**78.57**	**344**	*e*P	**P**	**02 49 37.5**	**-1.4**
SSF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
SSF	**Saint Saulge**	**78.57**	**344**	*e*P	**P**	**02 49 37.5**	**-1.4**
	comp=Z,1.8nm,0.8s,mb4.0						
LPL	**La Plagne**	**79.49**	**342**	⇑*i*P	**P**	**02 49 44.0**	**+0.1**
	comp=Z,14nm,0.8s,mb4.6						
LPL	**La Plagne**	**79.49**	**342**	⇑*i*P	**P**	**02 49 44.0**	**+0.1**
LPL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
LPG	**La Plagne**	**79.50**	**342**	⇑*i*P	**P**	**02 49 44.2**	**+0.2**
	comp=Z,14nm,0.8s,mb4.7						
LPG	**La Plagne**	**79.50**	**342**	⇑*i*P	**P**	**02 49 44.2**	**+0.2**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
TCF	**Toulx Ste Croi**	**79.53**	**345**	*e*P	**P**	**02 49 43.1**	**-1.0**
	comp=Z,1.9nm,0.7s,mb3.8						
TCF	**Toulx Ste Croi**	**79.53**	**345**	*e*P	**P**	**02 49 43.1**	**-1.0**
TCF				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
ORIF	**Oris-en-Rattie**	**80.23**	**342**	*e*P	**P**	**02 49 47.8**	**-0.1**
	comp=Z,11nm,0.8s,mb4.5						
ORIF	**Oris-en-Rattie**	**80.23**	**342**	*e*P	**P**	**02 49 47.8**	**-0.1**
ORIF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
MBDF	**Montbardon**	**80.24**	**341**	*e*P	**P**	**02 49 48.5**	**+0.5**
	comp=Z,5.5nm,0.8s,mb4.2						
MBDF	**Montbardon**	**80.24**	**341**	*e*P	**P**	**02 49 48.5**	**+0.5**
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
VIVF	**Saint-Julien-l**	**80.51**	**343**	*e*P	**P**	**02 49 49.1**	**-0.3**
	comp=Z,7.2nm,0.9s,mb4.3						
VIVF	**Saint-Julien-l**	**80.51**	**343**	*e*P	**P**	**02 49 49.1**	**-0.3**
VIVF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CAF	**Calviac**	**80.88**	**345**	*e*P	**P**	**02 49 51.2**	**-0.2**
LFF	**La Frestale**	**81.07**	**346**	*e*P	**P**	**02 49 52.2**	**-0.2**
	comp=Z,13nm,1.0s,mb4.5						
LFF	**La Frestale**	**81.07**	**346**	*e*P	**P**	**02 49 52.2**	**-0.2**
LFF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						

NNC 11 02:47:25.2±1.3**, 36.87N**×**70.65E, h224**km±20km**, mpv3.7, 1C-3D, Error ellipse: s-maj=16.2km s-min=10.0km az=169.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.22**	**359**	P	P	02 48 55.5	-0.8
	2.3nm,0.3s,baz=181,slow=12,SNR=73						
KK31				⇑S	S	02 50 07.4	0.0
	1.0nm,0.3s,baz=186,slow=23,SNR=5.8						
AAK	**Ala-Archa**	**6.47**	**26**	⇓P	P	02 48 58.7	-0.7
	2.7nm,0.3s						
AAK				⇓S	S	02 50 14.2	+1.1
	12nm,0.6s						
AB31	**Akbulak array**	**14.62**	**331**	⇓P	P	02 50 41.6	-1.1
	0.7nm,0.6s,baz=144,slow=12,SNR=13						

PGC 11 03:11:38.9, 51.38N×**131.18W, h10**km**, MLSn3.1**/1**, Mw3.8, West of Vancouver Island, British Columbia, Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**1.25**	**344**	Pn	Pn	03 12 00.2	-2.3
BNB				Sn	Sn	03 12 15.2	-4.3
	comp=Z,1µm,0.1s						
BNB				Trac		03 12 16.7	
	comp=Z,1µm,0.1s						
MOBC	**Moresby Island**	**1.88**	**347**	Pn	Pn	03 12 09.2	-2.2
MOBC				Trac		03 12 56.4	
	comp=Z,24nm,0.5s						
VIB	**Van Inlet**	**2.06**	**337**	Pn	Pn	03 12 11.7	-2.3
VIB				Sn	Sn	03 12 35.2	-4.7
VIB				Trac		03 12 36.9	
	comp=Z,20nm,0.3s						
HOLB	**Holberg**	**2.06**	**110**	Pn	Pn	03 12 12.0	-2.0
HOLB				Sn	Sn	03 12 34.9	-5.1
	comp=Z,38nm,0.5s						
HOLB				Trac		03 12 39.1	
	comp=Z,38nm,0.5s						
BBB	**Bella Bella**	**2.07**	**66**	Pn	Pn	03 12 12.2	-1.9
BBB				Sn	Sn	03 12 36.0	-4.2
BBB				Trac		03 12 47.4	
	comp=Z,43nm,0.3s						
PHC	**Port Hardy**	**2.46**	**104**	Pn	Pn	03 12 16.9	-2.8
PHC				Sn	Sn	03 12 45.0	-5.2
PHC				Trac		03 12 56.5	
	comp=Z,11nm,0.2s						
BPBC	**Brooks Peninsu**	**2.48**	**118**	Pn	Pn	03 12 18.5	-1.6
BPBC				Sn	Sn	03 12 45.5	-5.3
	comp=Z,36nm,0.3s						
BPBC				Trac		03 12 52.6	
	comp=Z,36nm,0.3s						
MAYB	**Maynard**	**2.72**	**109**	Pn	Pn	03 12 21.3	-2.1
MAYB				Sn	Sn	03 12 52.2	-4.5
	comp=Z,19nm,0.4s						
MAYB				Trac		03 12 59.3	
	comp=Z,19nm,0.4s						
NDB	**Naden**	**2.80**	**338**	Pn	Pn	03 12 22.4	-2.2
NDB				Sn	Sn	03 12 54.1	-4.7
	comp=Z,9.0nm,0.4s						
NDB				Trac		03 13 19.3	
	comp=Z,9.0nm,0.4s						
EDB	**Eliza Dome**	**2.99**	**119**	Trac		03 13 09.5	
	comp=Z,10.0nm,0.6s						
EDB	**Eliza Dome**	**2.99**	**119**	Sn	Sn	03 12 59.3	-4.3
RUBB	**Prince Rupert**	**3.01**	**10**	Pn	Pn	03 12 25.7	-1.9
RUBB				Sn	Sn	03 12 58.2	-5.9
RUBB				Trac		03 13 25.2	
	comp=Z,32nm,0.5s						
WOSB	**Woss**	**3.17**	**111**	Pn	Pn	03 12 28.6	-1.2
WOSB				Sn	Sn	03 13 03.4	-4.7
	comp=Z,14nm,0.4s						
WOSB				Trac		03 13 09.4	
	comp=Z,14nm,0.4s						
NCRB	**Newcastle Ridg**	**3.39**	**105**	Pn	Pn	03 12 31.4	-1.6
NCRB				Sn	Sn	03 13 09.6	-4.0
	comp=Z,5.0nm,0.4s						
NCRB				Trac		03 13 11.7	
	comp=Z,5.0nm,0.4s						
GDR	**Gold River**	**3.65**	**114**	Sn	Sn	03 13 14.8	-5.5
	comp=Z,4.0nm,0.4s						
GDR				Trac		03 13 19.5	
	comp=Z,4.0nm,0.4s						
CBB	**Campbell River**	**3.93**	**108**	Trac		03 13 55.6	
	comp=Z,7.0nm,0.8s						
CBB	**Campbell River**	**3.93**	**108**	Sn	Sn	03 13 19.4	-8.1
BTB	**Buttle Lake**	**4.09**	**116**	Sn	Sn	03 13 28.3	-3.2
	comp=Z,5.0nm,0.4s						
BTB				Trac		03 13 38.0	
	comp=Z,5.0nm,0.4s						
MGB	**Mount Grey**	**4.80**	**117**	Pn	Pn	03 12 50.6	-2.4
FSB	**Fort Saint Jam**	**5.18**	**50**	Sg	Sg	03 14 15.6	-16
FSB				Trac		03 14 40.4	
	comp=Z,3.0nm,0.5s						

*IDC **11** 03:19:39.5±0.9, 1.68N×99.25E, mb4.2/11, mb1 4.3/12, mb1mx4.2/19, mbtmp4.2/12, ML4.3/1, MS4.0/2, Ms1 4.0/2, ms1mx3.6/24, Error ellipse: s-maj=47.2km s-min=19.0km az=52.0*

*BJI **11** 03:19:43.3, 1.37N×99.50E, h54km, mB4.8, mb4.6, Ms4.6, Msz4.4*

*MOS **11** 03:19:43.4±1.3, 1.89N×99.45E, h30km, mb4.8/16, Error ellipse: s-maj=20.8km s-min=8.7km az=112.1*

*NEIC **11** 03:19:44.4±0.5, 1.80N×99.48E, mb4.4/8, MS3.9/1, Error ellipse: s-maj=15.1km s-min=9.9km az=71.0*

ISC 11 03:19:43.3±0.4**, 1.77N**±0.06×**99.40E**±0.07**, h32**km**, h32**km±.7km**: pP-P, n67,** σ**1**ˢ**25**/72**, mb4.4**/32**, MS4.2**/10**, 6C-2D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	**Ipoh**	**3.23**	**30**	P	**Pn**	**03 20 33.8**	**+0.8**
KULM	**Kulim**	**3.71**	**20**	*e*P	**Pn**	**03 20 39.9**	**0.0**
KGM	**Kluang**	**3.92**	**86**	P	**Pn**	**03 20 45.1**	**+2.2**
SNG	**Songkhla**	**5.50**	**13**	P	**Pn**	**03 21 05.0**	**-0.3**
	800nm,1.0s						
NNT	**Nongplab**	**10.75**	**2**	P	**P**	**03 22 19.5**	**+1.1**
KKTK	**Khon Kaen**	**14.86**	**13**	P	**P**	**03 23 22.0**	**+8.9**
CMAR	**Chiang Mai Arr**	**16.59**	**358**	Pn	**P**	**03 23 35.2**	**-0.2**
	0.4nm,0.3s,baz=187,slow=14,SNR=30						
CHG	**Chiang Mai**	**16.94**	**359**	⇑P	**P**	**03 23 41.7**	**+1.9**
	23nm,0.8s						
NANT	**Nan**	**16.97**	**4**	⇑P	**P**	**03 23 43.0**	**+2.9**
	100nm,1.0s						
KKM	**Kota Kinabalu**	**17.30**	**75**	P	**P**	**03 23 53.2**	**+8.9**
KMI	**Kunming**	**23.44**	**8**	P	**P**	**03 24 49.2**	**-1.7**
KMI				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.2						
KMI				AMB	AMB		
	comp=Z,94nm,4.4s						
KMI				LR	LR		
	comp=N,759nm,11.3s,MS4.5						
KMI				LR	LR		
	comp=E,746nm,13.4s,MS4.5						
KMI				LR	LR		
	comp=Z,670nm,15.5s,MS4.2						
KMI	**Kunming**	**23.44**	**8**	P	**P**	**03 24 49.2**	**-1.7**
	comp=Z,13nm,1.3s,mb4.2						
KMI				pP		03 24 53.7	
KMI				S	**S**	**03 29 07.8**	**+9.5**
KMI				LR	LR		
	comp=Z,670nm,15.5s,MS4.2						
SHL	**Shillong**	**24.74**	**344**	*e*P	**P**	**03 25 02.2**	**-1.3**
SHL				*e*P		03 29 11.0	
GYA	**Guiyang**	**25.52**	**15**	⇑*i*P	**P**	**03 25 13.7**	**+2.9**
GYA				AP	pP	03 25 22.8	+2.6
GYA				XP	sP	03 25 26.9	+2.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GYA				AMB	AMB		
	comp=Z,70nm,3.9s						
GYA				LR	LR		
	comp=N,640nm,14.4s,MS4.5						
GYA				LR	LR		
	comp=E,840nm,16.5s,MS4.5						
GYA				LR	LR		
	comp=Z,610nm,13.5s,MS4.3						
HYB	**Hyderabad**	**25.72**	**308**	*e*P	**P**	**03 25 13.0**	**+0.2**
HYB	**Hyderabad**	**25.72**	**308**	*i* P	**P**	**03 25 13.0**	**+0.2**
NJ2	**Nanjing**	**35.26**	**29**	*e*P	**P**	**03 26 35.8**	**-1.5**
NJ2				AP	pP	03 26 45.8	-1.0
NJ2				PP	PP	03 27 55.1	-1.6
NJ2				S	**S**	**03 32 07.0**	**-1.0**
NJ2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,110nm,3.6s						
NJ2				LR	LR		
	comp=Z,530nm,14.4s,MS4.4						
SSE	**Sheshan**	**35.71**	**33**	P	**P**	**03 26 39.2**	**-1.9**
SSE				S	**S**	**03 32 13.1**	**-1.9**
SSE				AMB	AMB		
	comp=Z,28nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,38nm,4.7s						
SSE				LR	LR		
	comp=N,405nm,19.1s,MS4.4						
SSE				LR	LR		
	comp=E,409nm,19.1s,MS4.4						
SSE				LR	LR		
	comp=Z,228nm,21.0s,MS3.9						
SSE	**Sheshan**	**35.71**	**33**	P	**P**	**03 26 39.2**	**-1.9**
	comp=Z,28nm,0.8s,mb5.2						
SSE				pP	pP	03 26 48.1	-2.5
SSE				sP	sP	03 26 51.5	-3.2
SSE				S	**S**	**03 32 13.1**	**-1.9**
SSE				sS		03 32 27.3	
SSE				SS	SS	03 34 50.3	+14
SSE				LR	LR		
	comp=Z,230nm,21.0s,MS3.9						
GTA	**Gaotai**	**37.46**	**1**	*e*P	**P**	**03 26 55.8**	**+0.1**
GTA				PP	PP	03 28 24.1	0.0
GTA				PPP	PPP	03 28 45.2	+0.1
GTA				PCP	PcP	03 29 15.2	+1.0
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,57nm,4.6s						
GTA				LR	LR		
	comp=N,273nm,19.6s,MS4.3						
GTA				LR	LR		
	comp=E,282nm,15.8s,MS4.3						
GTA				LR	LR		
	comp=Z,281nm,21.1s						
WRA	**Warramunga Arr**	**40.49**	**124**	P	**P**	**03 27 21.6**	**+0.5**
	comp=Z,5.4nm,1.0s,mb4.2,baz=301,slow=9.2,SNR=11						
WRAB	**Tennant Creek**	**40.50**	**124**	*i* P	**P**	**03 27 22.5**	**+1.3**
WRAB	**Tennant Creek**	**40.50**	**124**	*e*P	**P**	**03 27 20.3**	**-0.9**
WMQ	**Urumqi**	**43.15**	**348**	*e*P	**P**	**03 27 44.0**	**+1.3**
SONM	**Songino Array**	**46.28**	**7**	P	**P**	**03 28 08.3**	**+0.5**
	comp=Z,1.6nm,0.6s,mb4.1,baz=194,slow=7.7,SNR=8.9						
SONM				PcP	PcP	03 29 43.9	+0.7
	comp=Z,0.6nm,0.5s,baz=270,slow=1.2,SNR=4.2						
ULN	**Ulaanbaatar**	**46.39**	**7**	*i* P	**P**	**03 28 04.2**	**-4.4**
ULN	**Ulaanbaatar**	**46.39**	**7**	*e*P	**P**	**03 28 03.5**	**-5.1**
	comp=Z,3.9nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**46.39**	**335**	*i* P	**P**	**03 28 08.1**	**-0.6**
AAK				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.5						
MKAR	**Makanchi Array**	**47.26**	**344**	P	**P**	**03 28 13.8**	**-1.7**
	comp=Z,3.8nm,0.8s,mb4.4,baz=153,slow=5.4,SNR=25						
MKAR				LR	LR	03 50 18.0	
	comp=Z,115nm,21.2s,MS3.8,baz=268,slow=39						
TLY	**Talaya**	**49.86**	**3**	*i* P	**P**	**03 28 36.1**	**+0.6**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
MDJ	**Mudanjiang**	**50.32**	**28**	P	**P**	**03 28 38.4**	**-0.7**
MDJ				PCP	PcP	03 29 56.2	-1.6
MDJ				PP	PP	03 30 38.9	+3.5
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.7						
MDJ				LR	LR		
	comp=N,253nm,18.4s,MS4.5						
MDJ				LR	LR		
	comp=E,320nm,18.4s,MS4.5						
MDJ				LR	LR		
	comp=Z,113nm,21.3s,MS3.9						
STKA	**Stephens Creek**	**52.13**	**134**	P	**P**	**03 28 51.1**	**-1.9**
	comp=Z,3.4nm,0.8s,mb4.3,baz=274,slow=5.8,SNR=4.8						
ZAL	**Zalesovo**	**53.37**	**349**	*i* P	**P**	**03 28 54.8**	**-7.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**53.37**	**349**	P	**P**	**03 29 00.3**	**-1.7**
	comp=Z,2.8nm,0.5s,mb4.5,baz=314,slow=4.0,SNR=12						
ZRNK	**Zerenda**	**56.90**	**339**	*e*P	**P**	**03 29 24.5**	**-3.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**56.90**	**339**	*e*P	**P**	**03 29 24.5**	**-3.2**
	comp=Z,1.1nm,0.6s,mb4.1						
BOD	**Bodaibo**	**57.07**	**9**	*e*P	**P**	**03 29 27.8**	**-1.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.2						
GNI	**Garni**	**62.43**	**315**	*i* P	**P**	**03 30 06.1**	**+0.3**
GNI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SVE	**Sverdlovsk**	**62.99**	**337**	⇓*e*P	**P**	**03 30 08.2**	**-1.1**
SVE				*e*	pP	03 30 19.0	-0.2
SVE				*e*S	**S**	**03 38 36.0**	**+0.3**
SVE				pmax	pmax		
	comp=Z,20nm,1.5s,mb5.0						
SVE				MLR	MLR		
	comp=N,200nm,16.0s,MS4.5						
SVE				MLR	MLR		
	comp=E,200nm,16.0s,MS4.5						
SVE				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.4						
ARU	**Arti**	**63.54**	**336**	⇑*i*P	**P**	**03 30 11.3**	**-1.6**
ARU				*e*		03 30 45.8	
ARU				*e*		03 32 30.3	
ARU				*e*S	**S**	**03 38 42.3**	**-0.2**
ARU				*e*SS	SS	03 42 45.0	-6.5
ARU				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
KIV	**Kislovodsk**	**65.33**	**318**	*e*P	**P**	**03 30 24.4**	**-0.3**
KIV				*e*		03 30 56.1	
KIV				*e*S	S	03 39 06.1	+1.3

KIV pmax pmax
comp=N,5.0nm,1.2s
KIV pmax pmax
comp=E,5.0nm,1.2s
KIV pmax pmax
comp=Z,11nm,1.2s,mb4.8
KIV MLR MLR
comp=N,59nm,16.0s
KIV MLR MLR
comp=Z,68nm,16.0s,MS3.9
GOF Gofitskoye 65.54 320 *e*P **P 03 30 18.9 -7.2**
MALT Malatya 66.39 311 *e*P **P 03 30 31.7 +0.1**
MALT pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
MALT Malatya 66.39 311 *e*P **P 03 30 31.6 0.0**
comp=Z,2.2nm,0.8s,mb4.2
BRTR Keskin Array B 70.37 312 P **P 03 30 55.5 -0.8**
comp=Z,2.0nm,0.8s,mb4.1,baz=131,slow=7.8,SNR=12
TIXI Tiksi 72.25 9 *i* P **P 03 31 07.1 0.0**
TIXI pmax pmax
comp=Z,27nm,1.5s,mb5.0
OBN Obninsk 73.30 328*d i*P **P 03 31 12.7 -0.8**
OBN *e*S S 03 40 43.7 +5.2
OBN pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
AKASG Malin Array Be 76.16 322 P **P 03 31 30.1 +0.1**
comp=Z,0.3nm,0.4s,mb3.5,baz=89,slow=5.0,SNR=11
FINES FINESS Array B 80.52 332 P **P 03 31 53.0 -0.6**
comp=Z,1.1nm,0.5s,mb4.1,baz=112,slow=5.9,SNR=9.2
KAF Kangasniemi 80.58 333 *e*p **P 03 31 53.0 -0.9**
comp=Z,2.4nm,0.7s,mb4.2
KAF Kangasniemi 80.58 333 *e*P **P 03 31 53.0 -0.9**
KAF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ARCES ARCESS Array B 82.75 340 P **P 03 32 05.2 +0.1**
comp=Z,0.6nm,0.4s,mb3.9,baz=104,slow=5.0,SNR=14
ARCES LR LR 04 12 56.3
comp=Z,116nm,18.6s,MS4.3,baz=69,slow=39
BRG Berggiesshubel 85.76 321 *i* P **P 03 32 23.2 +2.5**
BRG pmax pmax
comp=Z,15nm,1.7s,mb5.0
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.6
GERES GERESS Array B 85.84 319 P **P 03 32 21.2 0.0**
comp=Z,0.4nm,0.3s,mb4.1,baz=60,slow=11,SNR=6.1
KHC Kasperske Hory 85.93 319 *i* P **P 03 32 23.8 +2.2**
CLL Collm 86.37 321 *i* P **P 03 32 25.2 +1.5**
CLL pmax pmax
comp=Z,8.0nm,1.4s,mb4.8
CLL Collm 86.37 321 *i* P **P 03 32 25.2 +1.5**
comp=Z,8.0nm,1.4s,mb4.8
CLL Collm 86.37 321 P **P 03 32 25.2 +1.5**
comp=Z,logA/T=0.8,mb4.8
MOX Moxa 87.23 320 *e*P **P 03 32 30.0 +2.1**
NB2 NORSAR Subarra 87.58 331 P **P 03 32 29.9 +0.6**
comp=Z,2.5nm,1.0s,mb4.4,baz=91,slow=4.8
NOA NORSAR Array B 87.58 331 P **P 03 32 29.8 +0.5**
comp=Z,1.3nm,0.8s,mb4.2,baz=94,slow=4.9,SNR=6.6
NOA NORSAR Array B 87.58 331 P **P 03 32 29.8 +0.5**
LPG La Plagne 90.61 315 *e*P **P 03 32 46.4 +2.4**
comp=Z,12nm,1.0s,mb4.9
LPG La Plagne 90.61 315 *e*P **P 03 32 46.4 +2.4**
LPG pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
SNAA Sanae 95.52 198⇑*i*P **P 03 33 05.1 -0.9**
SNAA *e* pP 03 33 15.4 -0.9
SNAA *e* 03 33 21.8
VNA2 Neumayer--Watz 97.12 198⇑*i*P **P 03 33 13.9 +0.7**
VNA2 *e* pP 03 33 23.8 +0.2
VNA2 *e* 03 33 31.6
TXAR Lajitas Array 142.00 34 PKP PKPdf 03 39 11.9 -6.3
comp=Z,0.4nm,0.7s,baz=236,slow=2.1,SNR=6.8

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*ISK **11** 03:23:28.5, 37.78N×27.59E, h11km, MD3.6*
*CSEM **11** 03:23:28.4±0.1, 37.79N×27.63E, h5km±1km, MD3.6, Error ellipse: s-maj=1.7km s-min=1.1km az=64.0*
*ATH **11** 03:23:30.9, 37.77N×27.43E, h27km±2km, MD3.7/4*
*NEIC **11** 03:23:30.2, 37.79N×27.47E, h23km, MD3.7(ATH), MD3.6(ISK), After ATH.*
*HLW **11** 03:23:37.8, 37.19N×27.76E, h26km, Mb3.2*
ISC 11 03:23:28.2±0.5**, 37.79N**±0.02×**27.57E**±0.03**, h2**km±4km**, n69,** σ1s**02**/86**, 2C-3D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.27**	**117**	*i* P	**Pg**	**03 23 34.4**	**+0.6**
AYDN				*i* S	**Sg**	**03 23 37.9**	**+0.6**
MLSB	**Milas**	**0.52**	**162**	*i* PG	**Pg**	**03 23 38.8**	**+0.3**
SMG	**Samos**	**0.59**	**263**⇓	*i*PB	**Pb**	**03 23 40.5**	**-0.4**
SMG				*e*SB	**Sb**	**03 23 48.4**	**-1.0**
SMG	**Samos**	**0.59**	**263**⇓	*i*Pn	**Pn**	**03 23 40.2**	**-3.0**
SMG				*e*Sn	**Sn**	**03 23 48.7**	**-4.8**
IZM	**Izmir**	**0.66**	**338**	*i* PG	**Pg**	**03 23 41.7**	**+0.3**
KDAG	**Bornova**	**0.66**	**339**	*i* P	**Pg**	**03 23 41.8**	**+0.3**
KDAG				*i* S	**Sg**	**03 23 50.5**	**+0.3**
BLCB	**Balcova**	**0.73**	**325**	*i* PG	**Pg**	**03 23 43.2**	**+0.4**
BODT	**Bodrum**	**0.75**	**196**	*i* PG	**Pg**	**03 23 42.4**	**-0.8**
BODT				*i* SG	**Sg**	**03 23 54.2**	**+0.9**
YER	**Yerkesik**	**0.86**	**139**	*i* PG	**Pg**	**03 23 45.0**	**-0.4**
URLA	**Izmir**	**0.96**	**307**	*i* P	**Pb**	**03 23 47.6**	**+0.3**
URLA				*i* S	**Sb**	**03 24 00.6**	**+0.4**
URLA	**Izmir**	**0.96**	**307**	*i* P	**Pb**	**03 23 47.6**	**+0.3**
MANT	**Manisa**	**1.05**	**48**	*i* P	**Pb**	**03 23 48.4**	**-0.3**
MANT				*i* S	**Sb**	**03 24 00.9**	**-1.9**
AKS	**Akhisar**	**1.11**	**10**	*i* PN	**Pn**	**03 23 49.9**	**-0.7**
DENT	**Denizli**	**1.16**	**91**	*i* PN	**Pn**	**03 23 50.9**	**-0.5**
DNZL	**Cakiroluk**	**1.17**	**94**	*i* P	**Pb**	**03 23 50.4**	**-0.5**
DNZL				*i* S	**Sb**	**03 24 07.9**	**+1.5**
DALT	**Dalyan (Mudla)**	**1.32**	**140**	PN	**Pn**	**03 23 53.5**	**-0.2**
ARG	**Arkhangelos**	**1.63**	**164**	*e*Pn	**Pn**	**03 24 00.0**	**+1.9**
ARG				*e*Sn	**Sn**	**03 24 22.5**	**+2.6**
ARG	**Arkhangelos**	**1.63**	**164**	*e*PN	**Pn**	**03 24 00.0**	**+1.9**
ARG				*e*SN	**Sn**	**03 24 22.0**	**+2.1**
KHL	**Karahalli**	**1.63**	**70**	PN	**Pn**	**03 23 57.3**	**-0.8**
FETY	**Fethiye**	**1.67**	**133**	PN	**Pn**	**03 23 58.4**	**-0.2**
AYVA	**Ayvalik**	**1.67**	**336**	*i* P	**Pn**	**03 24 00.8**	**+2.1**
AYVA				*i* S	**Sb**	**03 24 22.5**	**+1.7**
GOLH	**Golhisar**	**1.67**	**109**	*i* P	**Pn**	**03 23 59.9**	**+1.2**
GOLH				*i* S	**Sb**	**03 24 26.2**	**+5.3**
APE	**Apeiranthos**	**1.78**	**247**	*e*PN	**Pn**	**03 24 00.8**	**+0.6**
APE	**Apeiranthos**	**1.78**	**247**	*e*PN	**Pn**	**03 24 01.0**	**+0.8**
PRK	**Paraskevi**	**1.78**	**325**	*e*PN	**Pn**	**03 24 01.7**	**+1.5**
PRK				*e*SN	**Sn**	**03 24 23.3**	**-0.4**
PRK	**Paraskevi**	**1.78**	**325**	*e*Pn	**Pn**	**03 24 02.0**	**+1.8**
PRK				*e*Sn	**Sn**	**03 24 23.3**	**-0.4**
BALB	**Balikesir**	**1.87**	**7**	*e*PN	**Pn**	**03 24 01.6**	**+0.1**
GDZ	**Gediz**	**1.98**	**48**	*i* P	**Pn**	**03 24 04.9**	**+1.7**
DST	**Dursunbey**	**2.00**	**24**	*e*PN	**Pn**	**03 24 03.7**	**+0.4**
ELL	**Elmali**	**2.13**	**118**	*e*PN	**Pn**	**03 24 05.2**	**-0.1**
TKTP	**Tekketepe**	**2.19**	**83**	*i* P	**Pn**	**03 24 08.6**	**+2.5**
TKTP				*i* S	**Sg**	**03 24 45.7**	**+4.6**
TKTP	**Tekketepe**	**2.19**	**83**	*i* P	**Pn**	**03 24 08.6**	**+2.5**
SANT	**Santorini**	**2.20**	**231**	*e*P	**Pn**	**03 24 05.4**	**-0.9**
SANT	**Santorini**	**2.20**	**231**	*e*P	**Pn**	**03 24 05.4**	**-0.9**
AKAS	**Kas**	**2.25**	**133**	*i* P	**Pn**	**03 24 10.9**	**+4.0**
AKAS				*i* S	**Sn**	**03 24 43.0**	**+7.4**
EZN	**Ezine**	**2.26**	**335**	*e*PN	**Pn**	**03 24 07.6**	**+0.5**
KARP	**Karpathos**	**2.26**	**189**	*e*Pn	**Pn**	**03 24 06.6**	**-0.5**
CANB	**Canakkale**	**2.26**	**350**	*e*PN	**Pn**	**03 24 06.9**	**-0.3**
ISP	**Isparta**	**2.33**	**88**	*e*PN	**Pn**	**03 24 08.0**	**-0.1**
ISP	**Isparta**	**2.33**	**88**	*e*P	**Pn**	**03 24 07.7**	**-0.4**
ISP	**Isparta**	**2.33**	**88**	*e*Pn	**Pn**	**03 24 08.0**	**-0.1**
ALT	**Altintas**	**2.36**	**57**	*e*PN	**Pn**	**03 24 08.8**	**+0.2**
KCT	**Karacabey**	**2.55**	**14**	*e*PN	**Pn**	**03 24 10.3**	**-1.0**
BNT	**Bandirma**	**2.58**	**6**	*e*PN	**Pn**	**03 24 11.8**	**+0.1**
ANTB	**Antalya**	**2.61**	**109**	*e*PN	**Pn**	**03 24 11.8**	**-0.4**
ULDT	**Uludag**	**2.65**	**27**	*i* P	**Pg**	**03 24 16.9**	**-4.3**
ULDT	**Uludag**	**2.65**	**27**	*i* P	**Pg**	**03 24 16.9**	**-4.3**
MRMT	**Marmara Adasi**	**2.81**	**0**	*e*PN	**Pn**	**03 24 14.7**	**-0.3**
MFT	**Murefte**	**3.00**	**356**	*e*PN	**Pn**	**03 24 17.0**	**-0.8**
ESKT	**Eskisehir**	**3.10**	**55**	*e*PN	**Pn**	**03 24 19.0**	**-0.1**
ESKT	**Eskisehir**	**3.10**	**55**	*i* P	**Pg**	**03 24 27.5**	**-2.5**
ESKT	**Eskisehir**	**3.10**	**55**	*i* P	**Pg**	**03 24 27.5**	**-2.5**
YLV	**Yalova**	**3.11**	**26**	*e*PN	**Pn**	**03 24 19.1**	**-0.2**
GPA	**Golpazari**	**3.28**	**40**	*e*PN	**Pn**	**03 24 21.7**	**0.0**
EYL	**Eskiyayla**	**3.43**	**35**	*e*PN	**Pn**	**03 24 23.3**	**-0.5**
HRT	**Hereke**	**3.44**	**28**	*e*PN	**Pn**	**03 24 24.6**	**+0.7**
ISK	**Istanbul-Kandi**	**3.47**	**19**	*e*PN	**Pn**	**03 24 24.5**	**+0.1**
HENT	**Hendek**	**3.98**	**39**	*i* P	**Pg**	**03 24 44.4**	**-3.3**
HENT	**Hendek**	**3.98**	**39**	*i* P	**Pg**	**03 24 44.4**	**-3.3**
HDMB	**Hadim**	**4.00**	**100**	*e*PN	**Pn**	**03 24 31.5**	**-0.4**
EDRB	**Edirne**	**4.11**	**351**	*e*PN	**Pn**	**03 24 33.2**	**-0.2**
ANTO	**Ankara**	**4.58**	**61**	*e*PN	**Pn**	**03 24 40.4**	**+0.3**
BR131	**Keskin Array S**	**5.12**	**66**	*e*P	**Pn**	**03 24 47.1**	**-0.7**
	1.7nm,0.4s						
CSS	**Prodhromos**	**5.43**	**120**	*e*P	**Pn**	**03 24 50.5**	**-1.7**
CSS	**Prodhromos**	**5.43**	**120**	*e*P	**Pn**	**03 24 50.5**	**-1.7**
HMAT	**Matruh**	**6.69**	**184**⇑	*e*P	**Pn**	**03 25 05.8**	**-4.1**
AMAG	**Maghara**	**8.52**	**145**⇑	*e*P	**P**	**03 25 31.5**	**-4.0**
SWA1		**8.64**	**191**	P	**P**	**03 25 33.5**	**-3.8**
SWA1				S	**Sn**	**03 26 58.0**	**-18**
SWA2		**8.70**	**192**⇓	*e*P	**P**	**03 25 34.3**	**-3.8**

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*BJI **11** 03:23:44.9, 0.95N×98.93E, h30km, mB4.9, mb4.6, Ms4.9, Msz4.4*
*IDC **11** 03:23:47.5±0.7, 1.88N×99.27E, mb4.1/14, mb1 4.3/14, mb1mx4.1/19, mbtmp4.1/14, MS4.2/2, Ms1 4.2/2, ms1mx3.7/25, Error ellipse: s-maj=34.9km s-min=17.0km az=59.0*
*NEIC **11** 03:23:52.6±0.4, 1.87N×99.22E, h30km, mb4.5/6, Error ellipse: s-maj=16.8km s-min=9.7km az=68.0*
*MOS **11** 03:23:52.1±1.4, 1.94N×99.36E, h33km, mb4.8/15, Error ellipse: s-maj=23.0km s-min=9.2km az=113.3*
ISC 11 03:23:51.3±0.4**, 1.79N**±0.06×**99.24E**±0.07**, h29**km**, h29**km±.6km**:pP-P, n63,** σ1s**34**/63**, mb4.4**/31**, MS4.3**/8**, 4C-2D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**3.29**	**33**	P	**Pn**	**03 24 42.8**	**+0.6**
KULM	**Kulim**	**3.75**	**22**	*e*P	**Pn**	**03 24 48.7**	**0.0**
KGM	**Kluang**	**4.08**	**87**	P	**Pn**	**03 24 53.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.57**	**359**	Pn	**P**	**03 27 45.7**	**+2.3**
	0.5nm,0.3s,baz=188,slow=12,SNR=18						
KKM	**Kota Kinabalu**	**17.45**	**76**	P	**P**	**03 27 58.6**	**+4.1**
KMI	**Kunming**	**23.44**	**8**	P	**P**	**03 29 00.0**	**+0.7**
KMI				AP		03 29 08.0	
KMI				XP		03 29 11.5	
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.1						
KMI				LR	LR		
	comp=Z,344nm,11.7s,MS4.0						
KMI	**Kunming**	**23.44**	**8**	P	**P**	**03 29 00.0**	**+0.7**
	comp=Z,6.0nm,0.8s,mb4.1						
KMI				pP		03 29 08.0	
KMI				sP		03 29 11.5	
KMI				LR	LR		
	comp=Z,340nm,11.7s,MS4.0						
GYA	**Guiyang**	**25.54**	**16**⇑	*i*P	**P**	**03 29 23.6**	**+4.1**
GYA				AP	pP	03 29 31.8	+3.8
GYA				XP	sP	03 29 37.6	+5.7
GYA				PP	PP	03 30 04.3	+5.2
GYA				S	**S**	**03 33 48.2**	**+5.6**
GYA				XS		03 34 04.3	
GYA				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.5						
GYA				AMB	AMB		
	comp=Z,260nm,4.1s						
GYA				LR	LR		
	comp=N,590nm,16.5s,MS4.4						
GYA				LR	LR		
	comp=E,860nm,15.9s,MS4.4						
GYA				LR	LR		
	comp=Z,660nm,15.6s,MS4.3						
GTA	**Gaotai**	**37.45**	**1**	*e*P	**P**	**03 31 04.7**	**+0.7**
GTA				AP	pP	03 31 14.0	+1.2
GTA				XP	sP	03 31 18.1	+1.7
GTA				PP	PP	03 32 33.8	+1.5
GTA				S	**S**	**03 36 50.9**	**+0.7**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,27nm,3.9s						
GTA				LR	LR		
	comp=N,336nm,15.2s,MS4.5						
GTA				LR	LR		
	comp=E,422nm,13.1s,MS4.5						
GTA				LR	LR		
	comp=Z,332nm,17.5s,MS4.2						
NWAO	**Narrogin (SRO)**	**38.49**	**155**	P	**P**	**03 31 15.1**	**+2.2**
	comp=Z,14nm,1.1s,mb4.6,baz=332,slow=14,SNR=4.6						
HHC	**Hu-ho-hao-te**	**40.45**	**14**	*e*P	**P**	**03 31 35.3**	**+6.3**
HHC				AP	pP	03 31 44.0	+6.2
HHC				S	**S**	**03 37 46.8**	**+11**
HHC				XS		03 38 03.4	
HHC				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.3						
HHC				AMB	AMB		
	comp=Z,68nm,10.7s						
HHC				LR	LR		
	comp=N,514nm,15.5s,MS4.7						
HHC				LR	LR		
	comp=E,766nm,16.6s,MS4.7						
HHC				LR	LR		
	comp=Z,627nm,14.3s,MS4.6						
WRA	**Warramunga Arr**	**40.64**	**124**	P	**P**	**03 31 29.6**	**-1.1**
	comp=Z,9.3nm,1.0s,mb4.4,baz=301,slow=9.2,SNR=13						
WRAB	**Tennant Creek**	**40.64**	**124**	*e*P	**P**	**03 31 31.8**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,28nm,1.1s,mb4.8						
WRAB	**Tennant Creek**	**40.64**	**124**	*e*P	**P**	**03 31 31.8**	**+1.0**
	comp=Z,28nm,1.1s,mb4.8						
WMQ	**Urumqi**	**43.09**	**348**	*e*P	**P**	**03 31 51.3**	**+0.7**
SONM	**Songino Array**	**46.28**	**7**	P	**P**	**03 32 14.6**	**-1.5**
	comp=Z,1.8nm,0.8s,mb4.0,baz=192,slow=9.2,SNR=7.0						
SONM				PcP	PcP	03 33 50.4	-1.3
	comp=Z,2.8nm,0.9s,baz=194,slow=5.1,SNR=6.4						
AAK	**Ala-Archa**	**46.31**	**335**⇓	*e*P	**P**	**03 32 18.4**	**+2.0**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
ULN	**Ulaanbaatar**	**46.39**	**7**	*e*P	**P**	**03 32 12.0**	**-5.0**
MKAR	**Makanchi Array**	**47.20**	**344**	*i* P	**P**	**03 32 22.5**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**47.20**	**344**	P	**P**	**03 32 21.9**	**-1.5**
	comp=Z,4.0nm,0.8s,mb4.4,baz=153,slow=8.1,SNR=17						
MKAR	**Makanchi Array**	**47.20**	**344**	P	**P**	**03 32 21.9**	**-1.5**
MJAR	**Matsushiro Arr**	**49.89**	**41**	LR	LR	03 52 55.0	
	comp=Z,228nm,21.6s,MS4.1,baz=160,slow=35						
MDJ	**Mudanjiang**	**50.38**	**28**	P	**P**	**03 32 48.0**	**0.0**
MDJ				AP	pP	03 32 56.9	-0.1
MDJ				XP	sP	03 33 01.3	+0.9
MDJ				PCP	PcP	03 34 05.0	-1.4
MDJ				PP	PP	03 34 43.7	-0.7
MDJ				SCP		03 37 59.0	
MDJ				PCS		03 38 03.4	
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,55nm,3.9s						
MDJ				LR	LR		
	comp=N,214nm,20.2s,MS4.4						
MDJ				LR	LR		
	comp=E,321nm,23.0s,MS4.4						
MDJ				LR	LR		
	comp=Z,229nm,17.3s						
STKA	**Stephens Creek**	**52.26**	**134**	P	**P**	**03 33 00.2**	**-2.2**
	comp=Z,4.4nm,0.8s,mb4.4,baz=325,slow=7.4,SNR=6.3						
STKA	**Stephens Creek**	**52.26**	**134**	P	**P**	**03 33 00.2**	**-2.2**
ZAL	**Zalesovo**	**53.32**	**349**	*i* P	**P**	**03 33 09.7**	**-0.3**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL	**Zalesovo**	**53.32**	**349**	P	**P**	**03 33 07.9**	**-2.1**
	comp=Z,2.4nm,0.6s,mb4.3,baz=318,slow=3.9,SNR=7.7						
NVS	**Novosibirsk**	**54.48**	**349**	*e*P	**P**	**03 33 18.2**	**-0.2**
NVS				pmax	pmax		
	comp=N,11nm,1.5s						
NVS				pmax	pmax		
	comp=E,15nm,1.5s						
NVS				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.6						
BVAR	**Borovoye Array**	**56.39**	**340**	P	**P**	**03 33 29.6**	**-2.7**
	comp=Z,1.8nm,0.7s,mb4.2,baz=146,slow=11,SNR=9.4						
ZRNK	**Zerenda**	**56.83**	**339**	*e*P	**P**	**03 33 34.1**	**-1.4**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**56.83**	**339**	*e*P	**P**	**03 33 34.1**	**-1.4**
	comp=Z,2.1nm,0.8s,mb4.2						
ASAJ	**Asahikawa**	**56.98**	**36**	LR	LR	03 56 27.8	
	comp=Z,237nm,21.3s,MS4.3,baz=192,slow=34						
BOD	**Bodaibo**	**57.08**	**9**	*e*P	**P**	**03 33 31.5**	**-5.7**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
GNI	**Garni**	**62.30**	**315**	*i* P	**P**	**03 34 15.8**	**+2.4**
GNI				pmax	pmax		
	comp=Z,11nm,1.0s						
SVE	**Sverdlovsk**	**62.92**	**337**	*e*P	**P**	**03 34 19.2**	**+2.0**
ARU	**Arti**	**63.46**	**336**⇓	*i*P	**P**	**03 34 19.7**	**-1.0**
ARU				*e*		03 34 55.1	
ARU				*e*		03 36 38.4	
ARU				*e*S	**S**	**03 42 48.5**	**-1.6**
ARU				*e*SS	SS	03 46 51.6	-7.4
ARU				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.7						
ARU	**Arti**	**63.46**	**336**	*e*P	**P**	**03 34 19.6**	**-1.1**
	comp=Z,15nm,1.6s,mb4.9						
KIV	**Kislovodsk**	**65.21**	**318**	*e*P	**P**	**03 34 33.6**	**+1.2**
KIV				*e*		03 35 04.5	
KIV				*e*S	S	03 43 17.7	+5.7
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
KIV				pmax	pmax		
	comp=E,5.0nm,0.8s						
GOF	**Gofitskoye**	**65.43**	**320**	*e*P	**P**	**03 34 28.8**	**-4.9**
MALT	**Malatya**	**66.26**	**311**	*e*P	**P**	**03 34 39.3**	**+0.1**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
MALT	**Malatya**	**66.26**	**311**	*e*P	**P**	**03 34 39.3**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**70.24**	**312**	P	**P**	**03 35 02.0**	**-1.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=141,slow=7.9,SNR=9.4						
TIXI	**Tiksi**	**72.26**	**9**	*i* P	**P**	**03 35 14.4**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,34nm,1.6s,mb5.0						
SEY	**Seymchan**	**72.43**	**23**	*i* P	**P**	**03 35 10.6**	**-6.1**
OBN	**Obninsk**	**73.20**	**328**⇑	*e*P	**P**	**03 35 23.2**	**+1.9**
OBN				*e*		03 38 05.0	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
AKASG	**Malin Array Be**	**76.05**	**322**	P	**P**	**03 35 36.0**	**-1.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=86,slow=4.8,SNR=8.5						
BOSA	**Boshof**	**76.84**	**240**	P	**P**	**03 35 42.6**	**-0.1**
	comp=Z,5.2nm,1.1s,mb4.4,baz=112,slow=9.7,SNR=3.5						
MLR	**Muntele Rosu**	**77.05**	**316**	⇑P	**P**	**03 35 43.3**	**-0.2**
BURAR	**Bucovina Array**	**77.94**	**318**	⇑P	**P**	**03 35 49.8**	**+1.4**
FINES	**FINESS Array B**	**80.43**	**332**	*i* P	**P**	**03 36 01.5**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**80.43**	**332**	P	**P**	**03 36 00.3**	**-1.2**
	comp=Z,1.2nm,0.7s,mb3.9,baz=109,slow=6.0,SNR=7.6						
FINES	**FINESS Array B**	**80.43**	**332**	P	**P**	**03 36 00.3**	**-1.2**
ARCES	**ARCESS Array B**	**82.68**	**340**	P	**P**	**03 36 11.9**	**-1.3**
	comp=Z,2.0nm,1.0s,mb4.1,baz=108,slow=3.8,SNR=4.8						
GERES	**GERESS Array B**	**85.72**	**319**	P	**P**	**03 36 29.2**	**+0.2**
	comp=Z,1.5nm,0.9s,mb4.2,baz=180,slow=2.7,SNR=7.2						
VNDA	**Vanda**	**86.00**	**169**	P	**P**	**03 36 30.9**	**+1.1**
	comp=Z,0.8nm,0.9s,mb3.9,baz=274,slow=7.3,SNR=3.4						
NB2	**NORSAR Subarra**	**87.49**	**331**	P	**P**	**03 36 35.9**	**-1.4**
	comp=Z,3.6nm,1.0s,mb4.6,baz=93,slow=4.8						
NB2	**NORSAR Subarra**	**87.49**	**331**	P	**P**	**03 36 35.9**	**-1.4**
NB2				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
NOA	**NORSAR Array B**	**87.49**	**331**	P	**P**	**03 36 36.2**	**-1.1**
	comp=Z,1.9nm,0.9s,mb4.3,baz=93,slow=4.9,SNR=5.8						
NOA	**NORSAR Array B**	**87.49**	**331**	P	**P**	**03 36 36.2**	**-1.1**
LPG	**La Plagne**	**90.49**	**315**	*e*P	**P**	**03 36 53.1**	**+1.2**
	comp=Z,14nm,1.0s,mb4.9						
LPG	**La Plagne**	**90.49**	**315**	*e*P	**P**	**03 36 53.1**	**+1.2**
LPG				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb5.0						
TXAR	**Lajitas Array**	**142.07**	**34**	PKP	PKPdf	03 43 20.8	-5.7
	comp=Z,1.0nm,1.0s,baz=270,slow=1.3,SNR=5.4						
BDFB	**Brasilia**	**144.91**	**245**	PKP	PKPdf	03 43 28.4	-3.3
	comp=Z,8.5nm,0.9s,baz=129,slow=6.0,SNR=3.1						

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*BJI **11** 03:29:44.5, 3.79S×131.16E, h20km, mB5.1, mb5.0, Ms5.0, Msz4.6*
*IDC **11** 03:29:45.1±0.5, 3.69S×130.91E, mb4.8/17, mb1 4.9/18, mb1mx4.9/20, mbtmp4.8/18, ML4.0/1, MS4.3/4, Ms1 4.3/4, ms1mx3.9/23, Error ellipse: s-maj=24.1km s-min=12.7km az=71.0*
*HRVD **11** 03:29:46.1±0.8, 3.09S×130.91E, h44km±5km, MW5.2/25, Centroid moment Tensor Solution. LP body waves: s25,c30;Mantle waves: s25,c28; Half duration: 1s1 Moment tensor: Scale 10^{16}Nm; M_{rr}3.38±.61; $M_{\theta\theta}$-3.03±.43; $M_{\phi\phi}$-0.35±.44; $M_{r\theta}$-0.34±.74; $M_{\theta\phi}$4.89±.40; $M_{\phi r}$6.32±.94; Best double couple: $M_0$8.618×10^{16} NP1: ϕ_s93°, δ38°, λ24°. NP2:ϕ_s343°, δ76°, λ126°. Principal axes: T 8.769, Plg47°, Azm291°; N -.304, Plg35°, Azm153°; P -8.467, Plg22°, Azm47°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 03:29:46.1±0.2, 3.71S×130.91E, h10km, mb5.0/33 Error ellipse: s-maj=8.4km s-min=4.9km az=64.0*
*MOS **11** 03:29:48.0±0.9, 3.57S×131.03E, h33km, mb5.1/31, Error ellipse: s-maj=15.2km s-min=6.9km az=117.1*
ISC 11 03:29:43.4±1.7**, 3.81S**±0.03×**131.02E**±0.07**, h8**km±10km**, h18**km±4.1km**:pP-P, n162,** σ1s**07**/154**, mb4.9**/62**, MS4.3**/11**, 8C-15D, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.96**	**171**	*e*P	**P**	**03 31 56.0**	**0.0**
	68nm,0.4s						
KAKA				*e*S	**Sn**	**03 33 36.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**15.15**	**200**	*e*P	**P**	**03 33 18.4**	**-1.2**
	24nm,0.4s						
FITZ				*e*S	**S**	**03 36 00.2**	**-8.2**
FITZ	**Fitzroy Crossi**	**15.15**	**200**	Pn	**P**	**03 33 18.0**	**-1.6**
	2.3nm,0.3s,baz=28,slow=7.9,SNR=24						
FITZ				Sn	**S**	**03 36 03.2**	**-5.1**
	2.1nm,0.3s,baz=203,slow=21,SNR=3.6						
TSM	**Tawau**	**15.41**	**301**	P	**P**	**03 33 25.7**	**+2.6**
WRAB	**Tennant Creek**	**16.35**	**169**	*i* P	**P**	**03 33 32.8**	**-2.3**
WRAB	**Tennant Creek**	**16.35**	**169**	*e*Pn	**P**	**03 33 33.1**	**-2.0**
	149nm,0.8s						
WRA	**Warramunga Arr**	**16.36**	**169**	Pn	**P**	**03 33 34.6**	**-0.6**
	2.2nm,0.3s,baz=347,slow=14,SNR=34						
WRA				Sn	**S**	**03 36 29.3**	**-7.2**
	4.3nm,0.3s,baz=355,slow=23,SNR=11						
WB2	**Warramunga Arr**	**16.36**	**169**	*e*P	**P**	**03 33 33.3**	**-1.9**
WB2				*e*S	**S**	**03 36 27.4**	**-9.2**
PMG	**Port Moresby**	**16.96**	**110***c*	*i*P	**P**	**03 33 45.8**	**+2.9**
PMG	**Port Moresby**	**16.96**	**110**	P	**P**	**03 33 45.7**	**+2.9**
	1.9nm,0.3s,baz=283,slow=8.1,SNR=11						
PMG	**Port Moresby**	**16.96**	**110**	*e*P	**P**	**03 33 45.1**	**+2.3**
	98nm,0.9s						
KKM	**Kota Kinabalu**	**17.73**	**303**	*e*Pn	**P**	**03 33 51.8**	**-0.7**
KKM	**Kota Kinabalu**	**17.73**	**303**	P	**P**	**03 33 52.9**	**+0.4**
MBWA	**Marble Bar**	**20.44**	**212**	*e*P	**P**	**03 34 23.1**	**-1.0**
	50nm,0.8s						
KSM	**Kuching**	**21.36**	**284**	*e*P	**P**	**03 34 32.5**	**-1.1**
CTA	**Charters Tower**	**21.96**	**139**	*e*P	**P**	**03 34 42.8**	**+3.2**
	35nm,0.9s,mb4.8						
CTA				*e*S	**S**	**03 38 53.0**	**+16**
CTA	**Charters Tower**	**21.96**	**139**	*e*P	**P**	**03 34 42.8**	**+3.2**
CTA				pmax	pmax		
	comp=Z,35nm,0.9s						
CTA	**Charters Tower**	**21.96**	**139**	P	**P**	**03 34 42.8**	**+3.2**
	comp=Z,64nm,1.1s,mb5.0,baz=322,slow=12,SNR=18						
CTAO	**Charters Tower**	**21.96**	**139**	*e*P	**P**	**03 34 42.5**	**+2.9**
CTAO				pmax	pmax		
	comp=Z,69nm,1.0s,mb5.0						
CTAO	**Charters Tower**	**21.96**	**139**	*e*P	**P**	**03 34 42.5**	**+3.0**
	comp=Z,69nm,1.0s,mb5.0						
CVP	**Callao Caves**	**23.22**	**337**⇓	*e*P	**P**	**03 34 52.0**	**-0.1**
KGM	**Kluang**	**28.29**	**281**	P	**P**	**03 35 40.4**	**+0.7**
STKA	**Stephens Creek**	**29.64**	**162**⇓	*i*P	**P**	**03 35 53.3**	**+1.6**
	comp=Z,19nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**29.64**	**162**	P	**P**	**03 35 53.3**	**+1.6**
	comp=Z,16nm,0.8s,mb4.8,baz=337,slow=8.5,SNR=20						
KLBR	**Kellerberrin**	**30.32**	**203**⇓	*i*P	**P**	**03 35 57.1**	**-0.7**
	comp=Z,18nm,0.7s,mb4.9						
JOW	**Kunigami**	**30.58**	**355**	LR	LR	03 46 45.1	
	comp=Z,1μm,21.7s,MS4.4,baz=108,slow=34						
QIZ	**Qiongzhong**	**30.82**	**318**	P	**P**	**03 36 02.0**	**-0.2**
IPM	**Ipoh**	**31.11**	**285**	P	**P**	**03 36 05.4**	**+0.6**
MUN	**Mundaring**	**31.28**	**205**⇓	*i*P	**P**	**03 36 06.1**	**-0.1**
	comp=Z,10.0nm,0.7s,mb4.8						
MUN	**Mundaring**	**31.28**	**205**⇓	*i*P	**P**	**03 36 06.1**	**-0.1**
MUN				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
KULM	**Kulim**	**31.66**	**286**	*e*P	**P**	**03 36 09.0**	**-0.7**

NWAO Narrogin (SRO) 31.71 202 *e*P **P** **03 36 09.1 -0.9**
NWAO pmax pmax
comp=Z,10.0nm,0.8s
NWAO Narrogin (SRO) 31.71 202 P **P** **03 36 09.5 -0.5**
comp=Z,7.7nm,0.6s,mb4.8,baz=30,slow=9.0,SNR=9.9
NWAO Narrogin (SRO) 31.71 202 *e*P **P** **03 36 09.1 -0.9**
comp=Z,9.9nm,0.8s,mb4.7
CBIJ Chichi jima 32.56 19 LR LR 03 47 37.7
comp=Z,366nm,20.9s,MS4.0,baz=159,slow=33
KKTK Khon Kaen 34.32 306 P **P** **03 36 32.5 -0.3**
comp=Z,864nm,0.5s
SSE Sheshan 35.96 346 P **P** **03 36 46.8 +0.2**
SSE AMB AMB
comp=Z,44nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,82nm,3.5s
SSE Sheshan 35.96 346 P **P** **03 36 46.8 +0.2**
comp=Z,44nm,0.7s,mb5.5
TOO Toolangi 36.12 160 *i*P **P** **03 36 51.5 +3.5**
comp=Z,20nm,0.9s,mb5.0
TOO Toolangi 36.12 160 *i*P **P** **03 36 51.5 +3.5**
TOO pmax pmax
comp=Z,20nm,0.9s,mb5.0
NANT Nan 37.36 308 P **P** **03 36 57.0 -1.6**
comp=Z,312nm,0.9s
NJ2 Nanjing 37.49 343 *e*P **P** **03 37 00.2 +0.7**
NJ2 AP pP 03 37 09.4 +7.4
NJ2 XP sP 03 37 12.8 +10
NJ2 PP PP 03 38 30.6 +3.0
NJ2 S **S** **03 42 46.0 -2.0**
NJ2 XS 03 43 01.0
NJ2 AMB AMB
comp=Z,20nm,1.4s,mb4.8
NJ2 AMB AMB
comp=Z,90nm,4.6s
NJ2 LR LR
comp=N,890nm,14.6s
NJ2 LR LR
comp=E,1μm,20.1s
NJ2 LR LR
comp=Z,560nm,18.5s,MS4.4
GYA Guiyang 38.22 323 *i*P **P** **03 37 05.9 +0.2**
GYA AP pP 03 37 18.8 +11
GYA AMB AMB
comp=Z,20nm,0.7s,mb5.0
CMAR Chiang Mai Arr 38.58 306 P **P** **03 37 09.6 +0.8**
comp=Z,14nm,0.8s,mb4.7,baz=138,slow=7.7,SNR=49
KMI Kunming 39.77 318 P **P** **03 37 19.8 +1.2**
KMI AMB AMB
comp=Z,21nm,0.7s,mb5.0
KMI Kunming 39.77 318 P **P** **03 37 19.8 +1.2**
comp=Z,21nm,0.7s,mb5.0
MAJO Matsushiro 40.70 9 *e*P **P** **03 37 24.4 -1.8**
MAJO pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
MAJO Matsushiro 40.70 9 *e*P **P** **03 37 24.4 -1.8**
comp=Z,5.3nm,0.7s,mb4.3
MAT Matsushiro 40.70 9 *e*P **P** **03 37 24.0 -2.2**
MAT pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
MAT Matsushiro 40.70 9 *e*P **P** **03 37 24.0 -2.2**
comp=Z,6.7nm,0.6s,mb4.5
MAT Matsushiro 40.70 9 P **P** **03 37 24.1 -2.1**
MAT *e*S **S** **03 43 21.6 -15**
MJAR Matsushiro Arr 40.70 9 P **P** **03 37 24.8 -1.4**
comp=Z,4.6nm,0.9s,mb4.1,baz=196,slow=11,SNR=9.0
MJAR PcP PcP 03 39 29.2 +0.7
comp=Z,2.0nm,0.8s,baz=195,slow=2.2,SNR=4.5
MJAR Matsushiro Arr 40.70 9 P **P** **03 37 24.8 -1.4**
MJAR PcP PcP 03 39 29.2 +0.7
CD2 Chengdu 43.23 325 P **P** **03 37 46.1 -1.0**
LZH Lanzhou 47.13 330 *e*P **P** **03 38 18.6 +0.4**
LZH AMB AMB
comp=Z,69nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,186nm,5.6s
CN2 Changchun 47.66 355 *e*P **P** **03 38 22.9 +0.7**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
HHC Hu-ho-hao-te 47.88 340 P **P** **03 38 23.9 -0.1**
HHC AP pP 03 38 28.4 +1.9
HHC XP sP 03 38 30.8 +3.3
HHC PCP PcP 03 39 50.5 -2.5
HHC PP PP 03 40 15.4 +0.1
HHC SCP 03 43 41.2
HHC S **S** **03 45 24.7 +4.5**
HHC XS 03 45 30.6
HHC SCS ScS 03 48 07.6 -7.4
HHC AMB AMB
comp=Z,18nm,1.4s,mb4.9
HHC AMB AMB
comp=Z,94nm,10.7s
HHC LR LR
comp=N,514nm,16.6s,MS4.8
HHC LR LR
comp=E,766nm,15.5s,MS4.8
HHC LR LR
comp=Z,627nm,15.5s,MS4.7
SHL Shillong 47.88 310 *e*P **P** **03 38 23.0 -1.2**
MDJ Mudanjiang 48.23 359 P **P** **03 38 27.5 +0.9**
MDJ AP pP 03 38 30.7 +1.5
MDJ PCP PcP 03 39 53.0 -1.2
MDJ PP PP 03 40 22.2 +3.6
MDJ SCP 03 43 47.4
MDJ PCS 03 43 49.0
MDJ S **S** **03 45 26.9 +1.8**
MDJ AMB AMB
comp=Z,14nm,0.8s,mb5.0
MDJ AMB AMB
comp=Z,49nm,3.6s
MDJ LR LR
comp=Z,108nm,19.7s,MS3.8
LSA Lhasa 50.67 314 P **P** **03 38 46.6 +1.0**
LSA Lhasa 50.67 314 *e*P **P** **03 38 46.1 +0.5**
LSA pmax pmax
comp=Z,27nm,0.8s,mb5.2
LSA Lhasa 50.67 314 *e*P **P** **03 38 46.1 +0.5**
comp=Z,27nm,0.8s,mb5.2
YSS Yuzh-Sakhalins 51.60 10 *i*P **P** **03 38 51.9 -0.5**
YSS pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
YSS MLR MLR
comp=Z,100nm,14.0s,MS4.0
GTA Gaotai 51.73 329 *e*P **P** **03 38 53.8 +0.3**
GTA AP pP 03 38 57.9 +1.9
GTA XP sP 03 39 00.9 +3.9
GTA PCP PcP 03 40 08.6 +1.6
GTA PP PP 03 40 50.9 -1.0
GTA S **S** **03 46 11.6 -2.2**
GTA SS SS 03 49 42.5 -5.7
GTA AMB AMB
comp=Z,11nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,107nm,5.7s
GTA LR LR
comp=N,182nm,22.9s,MS4.2
GTA LR LR
comp=E,173nm,19.3s,MS4.2
GTA LR LR
comp=Z,199nm,20.5s,MS4.1
KLR Kul'dur 52.83 1 *e*P **P** **03 38 57.7 -3.9**
GUN Gumba 53.69 309 *e*P **P** **03 39 07.8 -0.5**
comp=Z,52nm,0.6s,mb5.7
HIA Hailar 53.76 351 P **P** **03 39 08.1 -0.4**
HIA pmax pmax
comp=Z,6.0nm,1.1s
HIA Hailar 53.76 351 P **P** **03 39 08.1 -0.4**
comp=Z,6.0nm,1.1s,mb4.4
PKI Pulchoki 53.90 308 *e*P **P** **03 39 08.7 -1.1**
comp=Z,51nm,1.1s,mb5.4
PKI Pulchoki 53.90 308 *e*P **P** **03 39 08.7 -1.1**
PKI pmax pmax
comp=Z,26nm,1.1s,mb5.1
KKN Kakani 54.10 308 *e*P **P** **03 39 10.4 -0.9**
comp=Z,32nm,0.6s,mb5.4
KKN Kakani 54.10 308 *e*P **P** **03 39 10.4 -0.9**
KKN pmax pmax
comp=Z,16nm,0.6s,mb5.1
DMN Daman 54.15 308 *e*P **P** **03 39 10.0 -1.6**
comp=Z,44nm,0.8s,mb5.4
GKN Gorkha 54.70 308 *e*P **P** **03 39 14.7 -1.0**
comp=Z,58nm,0.8s,mb5.7
KOLN Koldanda 55.41 308 *e*P **P** **03 39 20.2 -0.7**
comp=Z,56nm,0.7s,mb5.7
ULN Ulaanbaatar 55.59 341 *e*P **P** **03 39 16.9 -5.0**
ULN Ulaanbaatar 55.59 341 *e*P **P** **03 39 16.5 -5.4**
comp=Z,12nm,0.9s,mb4.9
SONM Songino Array 55.78 340 P **P** **03 39 23.7 +0.5**
comp=Z,6.0nm,0.8s,mb4.7,baz=162,slow=7.8,SNR=21
SONM PcP PcP 03 40 22.6 +0.4
comp=Z,3.2nm,0.8s,baz=160,slow=5.5,SNR=3.6
SONM ScP 03 44 21.4
comp=Z,0.4nm,0.7s,baz=180,slow=2.5,SNR=4.2
SONM LR LR 04 03 30.4
comp=Z,173nm,20.2s,MS4.1,baz=78,slow=36
HYB Hyderabad 55.90 294 *e*P **P** **03 39 23.0 -1.5**
HYB Hyderabad 55.90 294 *i*P **P** **03 39 23.0 -1.5**
CIT Chita 57.57 347 *e*P **P** **03 39 35.4 -0.6**
CIT pmax pmax
comp=Z,29nm,1.2s,mb5.2
ZAK Zakamensk 59.02 340 *e*P **P** **03 39 44.3 -1.8**
ZAK *e* 03 40 34.6
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
ZAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
TLY Talaya 60.00 341 *e*P **P** **03 39 53.6 +0.8**
CLNS Chul'man 60.65 356 *e*P **P** **03 39 55.9 -1.3**
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=Z,13nm,0.9s,mb5.1
WMQ Urumqi 61.32 326 *e*P **P** **03 40 02.4 +0.4**
WMQ AP pP 03 40 05.5 +0.9
WMQ PP PP 03 42 19.3 +0.1
WMQ S **S** **03 48 19.9 -0.9**
WMQ AMB AMB
comp=Z,24nm,1.4s,mb5.1
WMQ AMB AMB
comp=Z,127nm,7.3s
WMQ LR LR
comp=N,432nm,19.3s,MS4.7
WMQ LR LR
comp=E,321nm,18.6s,MS4.7
WMQ LR LR
comp=Z,579nm,19.2s,MS4.8
BOD Bodaibo 62.94 350 *e*P **P** **03 40 11.7 -0.9**
BOD pmax pmax
comp=Z,9.0nm,1.7s,mb4.6
CASY Casey 63.99 189 *i*P **P** **03 40 20.0 +0.7**
YAK Yakutsk 65.66 359 *i*P **P** **03 40 30.4 +0.2**
YAK pmax pmax
comp=Z,49nm,0.9s,mb5.5
YAK Yakutsk 65.66 359 *e*P **P** **03 40 30.5 +0.3**
comp=Z,35nm,0.6s,mb5.6
MKAR Makanchi Array 66.16 326 *i*P **P** **03 40 33.7 +0.1**
MKAR pmax pmax
comp=Z,7.0nm,0.3s
MKAR Makanchi Array 66.16 326 P **P** **03 40 33.6 0.0**
comp=Z,12nm,0.4s,mb5.3,baz=121,slow=7.1,SNR=175
KSH Kashi 66.40 316 *e*P **P** **03 40 37.3 +2.0**
KSH *e*AP pP 03 40 47.1 +9.2
KSH *e*XP sP 03 40 51.3 +12
KSH *e*PCP PcP 03 41 05.1 0.0
KSH *e*PP PP 03 43 06.4 +2.8
KSH *e*PCS 03 45 08.8
KSH *e*S S 03 49 25.2 +1.2
KSH *e*PS PS 03 49 35.0 -12
KSH *e*XS 03 49 42.9
KSH *e*SCS ScS 03 50 21.3 -7.3
KSH *e*SS SS 03 53 44.2 +2.1
KSH AMB AMB
comp=Z,50nm,0.4s,mb5.9
KSH LR LR
comp=N,680nm,13.5s
KSH LR LR
comp=E,360nm,5.2s
ULHL Ulahol 67.47 319 P **P** **03 40 42.5 +0.4**
SNR=8.6
MIR Mirnyy 67.97 195 *e*P **P** **03 40 45.0 +0.2**
MIR pmax pmax
comp=Z,24nm,1.4s,mb5.0
KZA Kyzart 68.05 318 P **P** **03 40 47.0 +1.3**
SNR=26
TKM2 Tokmak 2 68.21 319 P **P** **03 40 47.0 +0.3**
SNR=32
KBK Karagaybulak 68.51 319 P **P** **03 40 49.6 +1.0**
SNR=10
UCH Uchtor 68.61 318 P **P** **03 40 50.4 +1.2**
SNR=40
CHMS Chumysh 68.80 319 P **P** **03 40 50.4 0.0**
SNR=6.2
AAK Ala-Archa 68.80 319 *c i*P **P** **03 40 49.8 -0.6**
AAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AAK Ala-Archa 68.80 319 *e*P **P** **03 40 50.2 -0.1**
comp=Z,7.5nm,0.8s,mb4.7
USP Ospenovka 69.08 319 P **P** **03 40 52.4 +0.3**
SNR=42
AML Almayashu 69.11 318 P **P** **03 40 53.1 +0.8**
SNR=43
ZAL Zalesovo 69.21 333 P **P** **03 40 52.3 -0.4**
comp=Z,5.3nm,0.8s,mb4.5,baz=5.4,slow=5.8,SNR=22
EKS2 Erkin-Say 69.29 318 P **P** **03 40 54.3 +0.9**
SNR=21
NVS Novosibirsk 70.49 333 *e*P **P** **03 40 59.2 -1.3**
NVS pmax pmax
comp=N,21nm,1.4s
NVS pmax pmax
comp=E,19nm,1.4s
NVS pmax pmax
comp=Z,26nm,1.4s,mb5.0
KKAR Karatay Array 71.65 318 *i*P **P** **03 41 07.6 -0.1**
KKAR pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
TIXI Tiksi 75.33 359 *e*P **P** **03 41 28.3 -0.4**
TIXI pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
VNDA Vanda 75.47 173 *e*P **P** **03 41 30.8 +1.4**
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA Vanda 75.47 173 P **P** **03 41 30.9 +1.5**
comp=Z,6.1nm,0.8s,mb4.6,baz=313,slow=5.7,SNR=28
VNDA Vanda 75.47 173 *e*P **P** **03 41 30.8 +1.3**
comp=Z,6.1nm,0.9s,mb4.5
VOSK Vostochnaya 75.48 327 P **P** **03 41 29.7 -0.2**
VOSK pmax pmax
comp=Z,24nm,1.0s,mb5.1
BILL Bilibino 75.80 13 *e*P **P** **03 41 30.0 -1.4**
BILL pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
BVA0 Borovoye Array 75.94 327 *i*P **P** **03 41 32.7 +0.2**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BVAR Borovoye Array 75.94 327 P **P** **03 41 32.7 +0.3**
comp=Z,27nm,0.9s,mb5.2,baz=117,slow=6.6,SNR=111
ZRNK Zerenda 76.66 327 *e*P **P** **03 41 36.5 0.0**
ZRNK pmax pmax
comp=Z,27nm,0.9s,mb5.2
ZRNK Zerenda 76.66 327 *e*P **P** **03 41 36.5 0.0**
comp=Z,27nm,0.9s,mb5.2
MAW Mawson 78.27 201 *i*P **P** **03 41 46.9 +1.8**
comp=Z,8.2nm,0.8s,mb4.7
MAW Mawson 78.27 201 *i*P **P** **03 41 46.9 +1.8**
MAW pmax pmax
comp=Z,8.0nm,0.8s
MAW Mawson 78.27 201 P **P** **03 41 47.1 +2.0**
comp=Z,14nm,1.0s,mb4.9,baz=70,slow=6.1,SNR=16
AB31 Akbulak array 80.67 321 *i*P **P** **03 41 58.5 +0.1**
AB31 pmax pmax
comp=Z,11nm,0.8s,mb4.8
SVE Sverdlovsk 82.59 329 *e*P **P** **03 42 10.0 +1.7**
OPO Ambohidratompo 82.96 252 P **P** **03 42 12.5 +1.5**
comp=Z,7.4nm,0.8s,mb4.7,baz=88,slow=8.2,SNR=6.1
ARU Arti 83.56 328 *i*P **P** **03 42 13.5 +0.2**
ARU *e* 03 45 26.8
ARU *e*S S 03 52 31.4 -2.6
ARU *e*SS SS 03 58 03.2 0.0
ARU pmax pmax
comp=Z,12nm,0.8s,mb5.1
ARU Arti 83.56 328 *e*P **P** **03 42 13.6 +0.3**
comp=Z,17nm,0.9s,mb5.2
HASS Wahat al Ahsa' 83.78 296 P **P** **03 42 15.9 +0.7**
QSPA South Pole Qui 86.14 180 *e*P **P** **03 42 27.2 +1.4**
comp=Z,8.2nm,1.0s,mb4.9
SYO Syowa Base 86.98 201 P **P** **03 42 30.2 +0.1**
SYO Syowa Base 86.98 201 PcP PcP 03 42 33.6 +0.9
MZLS Mizel 87.72 294 P **P** **03 42 36.6 +2.0**
TATS Tathlith 88.95 290 P **P** **03 42 42.1 +1.5**
GNI Garni 89.58 310 *i*P **P** **03 42 42.9 -0.3**
ILAR Eielson Array 90.05 25 P **P** **03 42 45.1 +0.4**
comp=Z,1.5nm,1.0s,mb4.3,baz=251,slow=4.5,SNR=8.4
KMBO Kilima Mbogo 93.69 269 P **P** **03 43 04.6 +1.9**
comp=Z,2.2nm,0.5s,mb4.9,baz=256,slow=23,SNR=6.9
KMBO LR LR 04 22 31.1
comp=Z,252nm,19.2s,MS4.7,baz=95,slow=34
KMBO Kilima Mbogo 93.69 269 P **P** **03 43 04.6 +1.9**
KMBO LR LR 04 22 31.1
ANN Anapa 95.21 314 *e*P **P** **03 43 04.0 -5.0**
ANN pmax pmax
comp=Z,20nm,1.1s,mb5.5
ASF Jabal al Asfar 95.50 302 P **P** **03 43 11.9 +1.2**
comp=Z,2.5nm,0.6s,mb4.8,baz=291,slow=1.4,SNR=4.5
OBN Obninsk 95.66 325 *e*P **P** **03 43 09.8 -0.9**
OBN *e* 03 47 02.2
OBN *e*S 03 53 45.8
OBN *e*PS PS 03 55 52.4 +2.8
OBN pmax pmax
comp=Z,10.0nm,0.5s,mb5.5
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.3
ARCES ARCESS Array B 98.95 340 P **P** **03 43 24.7 -0.7**
comp=Z,4.5nm,0.8s,mb5.0,baz=63,slow=5.4,SNR=11
ARCES ARCESS Array B 98.95 340 P **P** **03 43 24.7 -0.7**
SNAA Sanae 98.98 193 *i*P **P** **03 43 20.8 -4.6**
SNAA Sanae 98.98 193 *i*P **P** **03 43 20.8 -4.6**
SNAA Sanae 98.98 193 *e* **P** **03 43 34.7 +9.3**
SNAA Sanae 98.98 193 P **P** **03 43 27.2 +1.8**
comp=Z,0.6nm,0.8s,mb4.2,baz=55,slow=4.5,SNR=6.9
SNAA Sanae 98.98 193 P **P** **03 43 27.2 +1.8**
SNAA *e* 03 43 34.7
NB2 NORSAR Subarra107.40 334 P Pdif 03 44 02.8 -0.3
comp=Z,0.6nm,0.7s,baz=66,slow=4.8
NB2 NORSAR Subarra107.40 334 P Pdif 03 44 02.8 -0.3
NB2 pmax pmax
comp=Z,1.0nm,0.7s
PDAR Pinedale Array 113.93 45 PKKPbc 03 59 07.8
comp=Z,0.5nm,0.7s,baz=109,slow=6.0,SNR=5.4
MNTX Cornudas Mount 120.34 55 *e*PKPdf PKPdf 03 48 39.3 +0.5
TXAR Lajitas Array 122.40 58 PKP PKPdf 03 48 43.6 +0.8
comp=Z,0.8nm,0.8s,baz=225,slow=1.8,SNR=6.1
TXAR PKKPbc 03 58 37.6
comp=Z,0.5nm,0.7s,baz=122,slow=7.2,SNR=7.6
DBIC Dimbokro 135.98 276 PKP PKPdf 03 49 08.6 -0.5
comp=Z,5.2nm,1.1s,baz=63,slow=12,SNR=3.8
CFAA Coronel Fontan 140.29 154 PKhKP 03 49 10.6
comp=Z,0.3nm,0.6s,baz=249,slow=3.0,SNR=5.1
LVC Limon Verde 147.31 144 PKPbc PKPdf 03 49 33.9 +5.0
comp=Z,10nm,0.9s,baz=260,slow=5.0,SNR=12
LVC Limon Verde 147.31 144 *e*PKPab PKPab 03 49 33.6 +1.2
CPUP Villa Florida 148.97 165 *e*PKP2 PKPab 03 49 35.8 -3.2
CPUP Villa Florida 148.97 165 PKPbc PKPdf 03 49 36.5 +5.0
comp=Z,7.1nm,0.8s,baz=218,slow=2.1,SNR=17
LPAZ La Paz 152.48 137 PKIKP PKPdf 03 49 38.9 +1.9
LPAZ 03 49 46.0
LPAZ La Paz 152.48 137 PKPbc PKPdf 03 49 46.0 +9.0
comp=Z,5.5nm,0.9s,baz=52,slow=1.1,SNR=24
LPAZ La Paz 152.48 137 PKPdf PKPdf 03 49 38.9 +1.9
LPAZ *e*PKPbc PKPdf 03 49 45.7 +8.6
LPAZ PKPbc PKPdf 03 49 46.0 +9.0
SIV San Ignacio 156.97 149 PKP PKPdf 03 49 44.1 +1.0
comp=Z,0.7nm,0.8s,baz=271,slow=9.7,SNR=3.7
SDV Santo Domingo 157.90 76 PKP PKPdf 03 49 45.3 +0.9
comp=Z,6.9nm,0.8s,baz=323,slow=2.8,SNR=9.8
SDV Santo Domingo 157.90 76 *e*PKPdf PKPdf 03 49 44.4 0.0

NEIC ***11*** *03:35:10.2±0.4,27.89S×66.68W,h148km±3km,mb4.6/31, Error ellipse: s-maj=5.3km s-min=3.8km az=84.0*
BJI ***11*** *03:35:10.2,27.90S×66.70W,h147km,mB5.0*
GUC ***11*** *03:35:10.8±0.7,27.94S×66.82W,h160km,ML5.4*
IDC ***11*** *03:35:11.2±0.6,27.87S×66.72W,h156km±5km,mb4.2/12, mb1 4.3/17,mb1mx4.2/19,mbtmp4.6/17, Error ellipse: s-maj=13.7km s-min=8.1km az=86.0*
ISC 11 03:35:10.3±0.2**,27.93S**±0.02×**66.78W**±0.04**,h163**km**, h163**km±1.9km**:pP-P,n139,**σ**1**σ**02/123,mb4.4/37,12C-12D,**
Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**3.22**	**279**	*i* P		**P**		**03 36 01.4**	**-0.3**
CPCH				*i* S		**S**		**03 36 39.7**	**-1.4**
CPCH				AMP				03 36 47.7	
comp=E,7μm,0.1s									
CPCH	**Copiapo**	**3.22**	**279**	⇓*i* P		**P**		**03 36 01.4**	**-0.3**
CPCH				*i* S		**S**		**03 36 40.2**	**+0.9**
VACH	**Vallenar**	**3.57**	**259**	*i* P		**P**		**03 36 06.5**	**+0.3**
VACH				*i* S		**S**		**03 36 48.1**	**-0.9**
VACH				AMP				03 36 50.7	
comp=N,6μm,0.1s									
VACH	**Vallenar**	**3.57**	**259**	⇑*i* P		**P**		**03 36 06.6**	**+0.4**
VACH				*i* S		**S**		**03 36 48.4**	**-0.6**
LCO	**Las Campanas**	**3.62**	**252**	*e*P		**P**		**03 36 07.2**	**+0.4**
LCO				*i* S		**S**		**03 36 50.1**	**-0.1**
LCO				AMP				03 36 54.6	
comp=E,3μm,0.4s									
LCO	**Las Campanas**	**3.62**	**252**	⇑*i* P		**P**		**03 36 07.5**	**+0.8**
LCO				*i* S		**S**		**03 36 51.7**	**+1.6**
CRCH	**Chaqaral**	**3.77**	**294**	*e*P		**P**		**03 36 08.8**	**0.0**
CRCH				*i* S		**S**		**03 36 51.2**	**-2.5**
CRCH				AMP				03 36 57.9	
comp=E,895nm,0.3s									
CRCH	**Chaqaral**	**3.77**	**294**	⇑*i* P		**P**		**03 36 09.2**	**+0.4**
CFAA	**Coronel Fontan**	**3.88**	**199**	P		**P**		**03 36 10.7**	**+0.6**
comp=E,25nm,0.3s,baz=21,slow=12,SNR=3349									
CFAA				S		**S**		**03 36 55.5**	**-0.7**
comp=E,37nm,0.3s,baz=41,slow=18,SNR=19									
ZON	**Zonda**	**3.96**	**204**	⇑*i* P		**P**		**03 36 11.5**	**+0.2**
ZON				*e*S		**S**		**03 36 57.5**	**-0.7**
TLL	**Tololo Astrono**	**4.17**	**237**	⇑*i* P		**P**		**03 36 14.7**	**+0.7**
TLL				*i* S		**S**		**03 37 03.3**	**+0.3**
CPN1	**Cerro Paranal**	**4.63**	**315**	*i* P		**P**		**03 36 20.9**	**+1.0**
CMCH	**Combarbala**	**4.90**	**228**	⇓*i* P		**P**		**03 36 22.7**	**-0.7**
CMCH	**Combarbala**	**4.90**	**228**	⇓*i* P		**P**		**03 36 22.8**	**-0.6**
LVC	**Limon Verde**	**5.63**	**340**	P		**P**		**03 36 34.5**	**+1.4**
comp=E,8.7nm,0.3s,baz=168,slow=9.0,SNR=57									
LVC				S		**S**		**03 37 35.0**	**-2.3**
comp=E,23nm,0.3s,baz=288,slow=20,SNR=41									
LVC	**Limon Verde**	**5.63**	**340**	⇓*i* Pn		**P**		**03 36 34.4**	**+1.2**
comp=E,20nm,0.4s									
LVC				*e*Sn		**S**		**03 37 34.1**	**-3.3**
JACH	**Jahuel**	**5.77**	**214**	*i* P		**S**		**03 36 35.4**	**+0.5**
JACH	**Jahuel**	**5.77**	**214**	*i* P		**P**		**03 36 34.9**	**0.0**
FCH	**Farellones**	**6.17**	**208**	⇓*i* P		**P**		**03 36 41.7**	**+1.4**
FCH	**Farellones**	**6.17**	**208**	⇓*i* P		**P**		**03 36 41.7**	**+1.5**
ROCH	**El Roble**	**6.21**	**215**	*i* P		**P**		**03 36 39.8**	**-1.0**
CLCH	**Cerro Calan**	**6.34**	**210**	⇓*i* P		**P**		**03 36 43.0**	**+0.5**
DSCH	**Colegio Aleman**	**6.35**	**210**	*i* P		**P**		**03 36 43.0**	**+0.3**
PCH	**Pirque**	**6.52**	**209**	⇑*i* P		**P**		**03 36 45.2**	**+0.3**
RCDM	**Rinconada Maip**	**6.54**	**211**	*e*P		**P**		**03 36 44.5**	**-0.6**
RCDM				*i* S		**S**		**03 37 56.6**	**-2.3**
RCDM	**Rinconada Maip**	**6.54**	**211**	*i* P		**P**		**03 36 44.5**	**-0.6**
LMEL	**Las Melosas**	**6.59**	**206**	⇑*i* P		**P**		**03 36 46.4**	**+0.5**
TACH	**Talagante**	**6.73**	**211**	⇑*i* P		**P**		**03 36 46.5**	**-1.3**
CHCH	**Chadas Angostu**	**6.85**	**208**	⇓*i* P		**P**		**03 36 49.2**	**-0.1**
LCCH	**Las Cruces**	**6.90**	**216**	⇑*i* P		**P**		**03 36 47.9**	**-2.0**
CACH	**El Canelo**	**6.98**	**207**	*i* P		**P**		**03 36 51.0**	**-0.1**
SFDO	**San Fernando**	**7.58**	**207**	⇑*i* P		**P**		**03 36 57.4**	**-1.8**
CPUP	**Villa Florida**	**8.57**	**81**	P		**P**		**03 37 10.8**	**-1.4**
comp=E,1.8nm,0.3s,baz=281,slow=15,SNR=102									
CPUP	**Villa Florida**	**8.57**	**81**	⇑*i* Pn		**P**		**03 37 10.3**	**-1.9**
comp=E,33nm,0.8s									
TRQA	**Tornquist**	**10.87**	**159**	*e*Pn		**P**		**03 37 42.1**	**-0.2**
comp=E,11nm,0.8s									
LPAZ	**La Paz**	**11.65**	**354**	P		**P**		**03 37 52.1**	**-0.4**
comp=E,1.8nm,0.3s,baz=145,slow=11,SNR=55									
LPAZ				S		**S**		**03 39 57.0**	**-2.8**
comp=E,0.7nm,0.3s,baz=295,slow=18,SNR=3.5									
LPAZ	**La Paz**	**11.65**	**354**	*e*Pn		**P**		**03 37 51.4**	**-1.2**
comp=E,14nm,0.7s									
LPAZ				*e*Sn		**S**		**03 39 58.1**	**-1.8**
ARE	**Arequipa**	**12.21**	**338**	*e*P		**P**		**03 38 08.0**	**+8.2**
SIV	**San Ignacio**	**13.00**	**25**	P		**P**		**03 38 08.4**	**-1.5**
comp=E,1.4nm,0.3s,baz=221,slow=14,SNR=108									
SAML	**Samuel**	**19.18**	**11**	*e*P		**P**		**03 39 21.6**	**-2.1**
comp=E,25nm,0.7s									
BDFB	**Brasilia**	**21.25**	**59**	P		**P**		**03 39 43.8**	**-0.8**
comp=E,23nm,0.7s,mb4.6,baz=226,slow=9.1,SNR=26									
BAO	**Brasilia Array**	**21.27**	**59**	P		**P**		**03 39 43.0**	**-1.8**
ROSC	**El Rosal**	**33.40**	**346**	P		**P**		**03 41 35.9**	**+0.4**
comp=E,6.2nm,0.3s,mb4.8,baz=95,slow=20,SNR=9.0									
SDV	**Santo Domingo**	**36.79**	**354**	*e*P		**P**		**03 42 02.1**	**-2.0**
comp=E,9.2nm,0.4s,mb4.8									
JTS	**JuntasAbangare**	**41.87**	**333**	*e*P		**P**		**03 42 47.7**	**+1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,34nm,1.4s,mb4.8						
VNA3	**Neumayer Olymp**	**53.40**	**160**	⇓*i*Pdif	**P**	**03 44 15.0**	**+0.2**
VNA3				*e*	pP	03 44 52.9	+0.7
VNA3				*e*		03 44 59.1	
VNA3				*e*		03 45 14.3	
VNA3				*e*		03 45 18.6	
VNA3				*e*		03 46 02.2	
VNA1	**Neumayer--Stat**	**53.61**	**159**	⇓*i*Pdif	**P**	**03 44 17.0**	**+0.6**
VNA1				*e*	pP	03 44 54.9	+1.1
VNA1				*e*		03 45 16.2	
VNA1				*e*		03 45 21.3	
VNA1				*e*		03 46 02.8	
VNA2	**Neumayer--Watz**	**53.97**	**160**	⇓*i*Pdif	**P**	**03 44 19.4**	**+0.4**
VNA2				*e*	pP	03 44 57.4	+0.9
VNA2				*e*		03 45 03.6	
VNA2				*e*		03 45 18.5	
VNA2				*e*		03 45 21.9	
VNA2				*e*		03 46 05.1	
SNAA	**Sanae**	**55.60**	**160**	P	**P**	**03 44 30.6**	**-0.2**
	comp=E,2.5nm,0.6s,mb4.2,baz=288,slow=6.9,SNR=48						
SNAA				pP	pP	03 45 07.6	-0.9
	comp=E,3.2nm,1.0s,baz=297,slow=6.6,SNR=5.5						
SNAA	**Sanae**	**55.60**	**160**	⇓*i*Pdif	**P**	**03 44 30.4**	**-0.4**
SNAA				*e*	pP	03 45 08.7	+0.2
SNAA				*e*		03 45 14.7	
SNAA				*e*		03 45 28.2	
SNAA				*e*		03 45 33.2	
SNAA				*e*		03 46 10.6	
SWET	**Sewanee**	**65.36**	**343**	*e*P	**P**	**03 45 35.7**	**-1.7**
UALR	**University of**	**66.89**	**337**	*e*P	**P**	**03 45 45.8**	**-1.3**
	comp=E,4.6nm,0.5s,mb4.6						
TXAR	**Lajitas Array**	**66.99**	**325**	P	**P**	**03 45 47.5**	**-0.3**
	comp=E,2.7nm,0.6s,mb4.3,baz=149,slow=8.2,SNR=48						
TXAR				PcP	PcP	03 46 15.0	+0.2
	comp=E,1.2nm,0.7s,baz=143,slow=6.3,SNR=4.6						
PARMO	**Parma**	**67.79**	**340**	*e*P	**P**	**03 45 51.4**	**-1.3**
DBIC	**Dimbokro**	**68.91**	**70**	P	**P**	**03 45 58.2**	**-1.6**
	comp=E,2.9nm,0.5s,mb4.3,baz=202,slow=8.9,SNR=16						
DBIC	**Dimbokro**	**68.91**	**70**	*e*P	**P**	**03 45 58.3**	**-1.6**
FVM	**French Village**	**69.21**	**340**	*e*P	**P**	**03 45 59.6**	**-1.7**
	comp=E,10nm,0.6s,mb4.7						
CLNB	**Carlsbad**	**69.49**	**327**	*e*P	**P**	**03 46 03.1**	**-0.1**
CCM	**Cathedral Cave**	**69.53**	**340**	*e*P	**P**	**03 46 01.4**	**-1.9**
	comp=E,21nm,0.8s,mb4.9						
GDL2	**Guadalupe Moun**	**69.67**	**327**	*e*P	**P**	**03 46 04.3**	**0.0**
MNTX	**Cornudas Mount**	**69.77**	**325**	*e*P	**P**	**03 46 03.7**	**-1.1**
	comp=E,5.8nm,0.9s,mb4.3						
SYO	**Syowa Base**	**69.83**	**158**	⇑P	**P**	**03 46 03.3**	**-1.3**
AMTX	**Amarillo**	**70.65**	**330**	*e*P	**P**	**03 46 09.0**	**-1.1**
	comp=E,5.1nm,0.6s,mb4.4						
VNDA	**Vanda**	**70.88**	**190**	P	**P**	**03 46 11.9**	**+1.1**
	comp=E,2.0nm,0.8s,mb3.9,baz=129,slow=4.3,SNR=4.7						
BNM	**Barren Site**	**72.36**	**326**	*e*P	**P**	**03 46 21.1**	**+0.9**
TUC	**Tucson**	**73.08**	**322**	*e*P	**P**	**03 46 24.8**	**+0.2**
	comp=E,6.2nm,1.2s,mb4.2						
TSUM	**Tsumeb**	**76.44**	**105**	*e*P	**P**	**03 46 43.7**	**-0.2**
ISCO	**Idaho Springs**	**76.47**	**330**	*e*P	**P**	**03 46 44.5**	**+0.9**
	comp=E,2.0nm,0.5s,mb4.0						
PHWY	**Pilot Hill**	**77.64**	**331**	*e*P	**P**	**03 46 51.0**	**+0.9**
MAW	**Mawson**	**77.64**	**162**	P	**P**	**03 46 50.6**	**+1.0**
	comp=E,5.4nm,0.4s,mb4.5,baz=222,slow=5.7,SNR=11						
NEN	**Nelson**	**77.80**	**322**	*e*P	**P**	**03 46 51.4**	**+0.3**
MSU	**Marysvale**	**78.55**	**325**	*e*P	**P**	**03 46 56.3**	**+1.2**
MVU	**Marysvale**	**78.56**	**325**	*e*P	**P**	**03 46 56.5**	**+1.3**
	comp=E,16nm,1.4s,mb4.5						
ARUT	**Antelope Range**	**78.65**	**324**	*e*P	**P**	**03 46 57.1**	**+1.4**
RWWY	**Rawlins**	**78.71**	**330**	*e*P	**P**	**03 46 57.1**	**+1.1**
	comp=E,27nm,0.9s,mb4.9						
BOSA	**Boshof**	**78.80**	**116**	P	**P**	**03 46 57.0**	**+0.4**
	comp=E,9.5nm,0.6s,mb4.6,baz=254,slow=4.0,SNR=32						
BOSA				pP	pP	03 47 35.9	-1.0
	comp=E,3.5nm,0.9s,baz=269,slow=16,SNR=2.7						
BOSA	**Boshof**	**78.80**	**116**	*e*P	**P**	**03 46 56.8**	**+0.2**
	comp=E,10nm,0.9s,mb4.5						
MPU	**Maple Canyon**	**79.44**	**327**	*e*P	**P**	**03 47 00.8**	**+1.0**
DAU	**Daniels Canyon**	**79.56**	**327**	*e*P	**P**	**03 47 01.7**	**+1.2**
JLU	**Jordanelle**	**79.80**	**327**	*e*P	**P**	**03 47 02.5**	**+0.7**
TCUT	**Toone Canyon**	**80.18**	**327**	*e*P	**P**	**03 47 04.5**	**+0.6**
PDAR	**Pinedale Array**	**80.62**	**330**	P	**P**	**03 47 06.5**	**+0.4**
	comp=E,3.9nm,0.6s,mb4.2,baz=120,slow=7.1,SNR=32						
HWUT	**Hardware Ranch**	**80.63**	**328**	*e*P	**P**	**03 47 06.5**	**+0.3**
	comp=E,12nm,0.8s,mb4.6						
LBTB	**Lobatse**	**80.64**	**113**	*e*P	**P**	**03 47 07.0**	**+0.4**
	comp=E,8.4nm,0.9s,mb4.4						
SPUT	**South Promonto**	**80.83**	**327**	*e*P	**P**	**03 47 07.6**	**+0.3**
AHID	**Auburn Hatcher**	**81.32**	**329**	*e*P	**P**	**03 47 10.6**	**+0.8**
	comp=E,4.5nm,0.6s,mb4.3						
REDW	**Red Top Meadow**	**81.67**	**329**	*e*P	**P**	**03 47 12.1**	**+0.4**
LOHW	**Long Hollow**	**81.75**	**329**	*e*P	**P**	**03 47 12.6**	**+0.6**
	comp=E,4.1nm,0.6s,mb4.2						
ELK	**Elko**	**81.78**	**325**	*e*P	**P**	**03 47 12.6**	**+0.3**
	comp=E,6.9nm,1.0s,mb4.2						
TPAW	**Teton Pass**	**81.81**	**329**	*e*P	**P**	**03 47 13.1**	**+0.7**
	comp=E,7.5nm,1.0s,mb4.3						
RRI2	**Red Ridge**	**81.87**	**329**	*e*P	**P**	**03 47 13.4**	**+0.7**
	comp=E,4.5nm,0.6s,mb4.3						
ULM	**Lac du Bonnet**	**82.00**	**342**	P	**P**	**03 47 12.5**	**-0.7**
	comp=E,4.3nm,0.5s,mb4.3,baz=141,slow=9.4,SNR=5.6						
IMW	**Indian Meadow**	**82.13**	**329**	*e*P	**P**	**03 47 14.8**	**+0.8**
	comp=E,26nm,1.3s,mb4.7						
SCHQ	**Schefferville**	**82.42**	**360**	P	**P**	**03 47 14.7**	**-0.5**
	comp=E,2.3nm,0.8s,mb3.9,baz=170,slow=7.2,SNR=3.8						
YMR	**Madison River**	**82.74**	**330**	*e*P	**P**	**03 47 18.6**	**+1.5**
GCMT	**Greycliff**	**83.06**	**331**	*e*P	**P**	**03 47 19.1**	**+0.4**
QLMT	**Earthquake Lak**	**83.08**	**330**	*e*P	**P**	**03 47 19.9**	**+1.1**
DGMT	**Dagmar**	**83.11**	**336**	*e*P	**P**	**03 47 19.4**	**+0.5**
	comp=E,11nm,0.7s,mb4.7						
HLID	**Hailey**	**83.48**	**327**	*e*P	**P**	**03 47 21.6**	**+0.8**
	comp=E,10nm,0.8s,mb4.6						
MCMT	**McKenzie Canyo**	**83.71**	**329**	*e*P	**P**	**03 47 23.6**	**+1.6**
BOZ	**Bozeman (W)**	**83.80**	**330**	*e*P	**P**	**03 47 22.8**	**+0.4**
	comp=E,1.5nm,0.7s,mb3.8						
HRY	**Holter Researc**	**84.72**	**331**	*e*P	**P**	**03 47 27.8**	**+0.8**
CHMT	**Chamberlain Mo**	**85.49**	**330**	*e*P	**P**	**03 47 31.3**	**+0.6**
BMO	**Blue Mountains**	**85.83**	**327**	*e*P	**P**	**03 47 32.8**	**+0.3**
	comp=E,1.7nm,0.6s,mb4.0						
LSZ	**Lusaka**	**87.25**	**106**	*e*P	**P**	**03 47 42.1**	**+2.1**
	comp=E,16nm,1.4s,mb4.6						
WALA	**Waterton Lakes**	**87.42**	**331**	*e*P	**P**	**03 47 40.5**	**+0.5**
	comp=E,31nm,1.1s,mb5.0						
EDM	**Edmonton**	**90.37**	**334**	*e*P	**P**	**03 47 53.3**	**-0.5**
YKA	**Yellowknife Ar**	**97.86**	**340**	P	**P**	**03 48 27.8**	**-0.1**
	comp=E,0.9nm,0.6s,mb4.4,baz=134,slow=4.5,SNR=5.9						
AKASG	**Malin Array Be**	**114.73**	**44**	PKP	PKPdf	03 53 31.4	+0.3
	comp=E,0.3nm,0.4s,baz=256,slow=2.8,SNR=5.3						
ARCES	**ARCESS Array B**	**116.65**	**23**	PKP	PKPdf	03 53 35.0	+0.6
	comp=E,1.1nm,0.8s,baz=252,slow=3.8,SNR=5.8						
ARCES	**ARCESS Array B**	**116.65**	**23**	PKP	PKPdf	03 53 35.0	+0.6
WRA	**Warramunga Arr**	**128.21**	**206**	PKP	PKPdf	03 53 59.2	+1.3
	comp=E,3.0nm,0.3s,baz=154,slow=2.0,SNR=69						
MBWA	**Marble Bar**	**130.80**	**188**	*e*PKPdf	PKPdf	03 54 03.9	+1.1
MBWA				*e*		03 54 11.8	
ZRNK	**Zerenda**	**139.00**	**40**	*e*PKPdf	PKPdf	03 54 19.3	+2.2
BVAR	**Borovoye Array**	**139.75**	**39**	PKP	PKPdf	03 54 20.9	+2.4
	comp=E,1.7nm,0.6s,baz=270,slow=3.0,SNR=8.6						
YAK	**Yakutsk**	**144.19**	**347**	*e*PKP	PKPdf	03 54 25.0	-0.8
EKS2	**Erkin-Say**	**144.95**	**55**	P	PKPdf	03 54 30.0	+2.2
	SNR=14						
AML	**Almayashu**	**144.99**	**56**	P	PKPdf	03 54 29.9	+1.9
	SNR=20						
USP	**Ospenovka**	**145.33**	**53**	P	PKPdf	03 54 30.9	+2.4
	SNR=19						
AAK	**Ala-Archa**	**145.47**	**55**	P	PKPdf	03 54 32.1	+3.4
	SNR=21						
AAK	**Ala-Archa**	**145.47**	**55**	*e*PKP	PKPdf	03 54 30.6	+1.9
UCH	**Uchtor**	**145.57**	**55**	P	PKPdf	03 54 32.6	+3.7
	SNR=72						
CHMS	**Chumysh**	**145.57**	**54**	P	PKPdf	03 54 32.0	+3.1
	SNR=13						
KBK	**Karagaybulak**	**145.79**	**54**	P	PKPdf	03 54 32.9	+3.6
	SNR=13						
KZA	**Kyzart**	**146.14**	**55**	P	PKPdf	03 54 34.0	+4.1
	SNR=14						
TKM2	**Tokmak 2**	**146.20**	**54**	P	PKPdf	03 54 33.0	+3.1
	SNR=16						
HYB	**Hyderabad**	**146.45**	**101**	*e*P	PKPdf	03 54 34.0	+3.0
HYB	**Hyderabad**	**146.45**	**101**	*i* PKP	PKPdf	03 54 34.0	+3.0
ZAL	**Zalesovo**	**146.71**	**31**	PKPbc	PKPbc	03 54 33.1	+1.1
	comp=E,15nm,0.5s,baz=169,slow=2.5,SNR=33						
ZAL				pPKPbc		03 55 18.0	
	comp=E,3.3nm,0.5s,baz=134,slow=6.4,SNR=2.0						
ULHL	**Ulahol**	**146.82**	**55**	P	PKPdf	03 54 34.8	+3.9
	SNR=18						
MKAR	**Makanchi Array**	**149.32**	**44**	PKPbc	PKPdf	03 54 41.3	+6.5
	comp=E,17nm,0.7s,baz=294,slow=2.9,SNR=105						
MKAR				pPKPbc		03 55 23.4	
	comp=E,3.4nm,0.7s,baz=317,slow=1.5,SNR=2.6						
YSS	**Yuzh-Sakhalins**	**150.09**	**317**	*e*PKPbc	PKPdf	03 54 43.1	+7.1
ASAJ	**Asahikawa**	**151.47**	**312**	PKPbc	PKPdf	03 54 46.8	+8.6
	comp=E,17nm,0.8s,baz=318,slow=1.7,SNR=12						
MJAR	**Matsushiro Arr**	**157.23**	**298**	PKPab	PKPab	03 55 20.5	0.0
	comp=E,3.2nm,0.7s,baz=105,slow=3.7,SNR=7.3						
MDJ	**Mudanjiang**	**158.82**	**326**	PKP	PKPdf	03 54 49.1	+1.1
SONM	**Songino Array**	**159.43**	**13**	PKP	PKPdf	03 54 51.6	+3.0
	comp=E,2.2nm,0.9s,baz=180,slow=1.2,SNR=8.3						
SONM				PKPab	PKPab	03 55 29.0	-0.6
	comp=E,1.8nm,0.8s,baz=317,slow=3.8,SNR=5.9						
GTA	**Gaotai**	**164.03**	**41**	PKP	PKPdf	03 54 56.9	+3.3
GTA				APKP		03 55 36.7	
GTA				XPKP		03 55 50.2	
GTA				PP	x	03 59 41.6	
LZH	**Lanzhou**	**168.63**	**42**	*e*PKP	PKPdf	03 54 58.0	+0.8
LZH				APKP		03 55 40.0	
LZH				XPKP		03 55 56.0	
NJ2	**Nanjing**	**173.62**	**311**	*e*PKP	PKPdf	03 55 01.4	+1.4
NJ2				APKP		03 55 43.4	
NJ2				XPKP		03 56 00.4	
NJ2				PKP2	PKPab	03 56 33.2	+0.9
NJ2				PKS	PKS	03 58 31.0	-0.1
NJ2				PP	PP	04 00 27.0	+1.7
NJ2				PP	PP		
	comp=Z,140nm,7.0s						
NJ2				LR	LR		
	comp=N,310nm,20.0s						
NJ2				LR	LR		
	comp=E,330nm,22.3s						
NJ2				LR	LR		
	comp=Z,140nm,13.8s						

*MAN **11** 03:47:52.1, 9.43N×125.85E, h11km, mb4.7, ML3.6, MS3.6*
*NEIC **11** 03:47:57.8±3.1, 9.47N×125.87E, h90km±29km, mb4.6/12, Error ellipse: s-maj=18.0km s-min=7.9km az=73.0*
*BJI **11** 03:47:57.7, 9.50N×125.90E, h90km, mB5.1, mb4.8, Ms4.5, Msz4.1*
*IDC **11** 03:48:01.0±3.1, 9.54N×126.00E, h116km±28km, mb4.0/20, mb1 4.2/21, mb1mx4.1/25, mbtmp4.4/21, MS3.6/2, Ms1 3.6/2, ms1mx3.3/25, Error ellipse: s-maj=20.8km s-min=9.4km az=74.0*
ISC 11 03:47:47.1±0.3**, 9.54N**±0.03×**126.16E**±0.03**, h11km, n65, σ1ˢ38**/72**, mb4.5**/29**, MS3.8**/5**, 6C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.71**	**290**	⇑*e*P	**Pb**	**03 48 02.4**	**+1.4**
SCPH				*e*S	**Sb**	**03 48 10.3**	**-0.1**
BUTP	**Butuan**	**0.78**	**223**	*e*P	**Pb**	**03 48 02.6**	**+0.3**
BUTP				*e*S	**Sb**	**03 48 12.6**	**0.0**
MSLP	**Maasin**	**1.41**	**295**	*e*P	**Pn**	**03 48 14.2**	**+1.3**
MSLP				*e*S	**Sb**	**03 48 31.7**	**+0.7**
BUKP	**Musuan**	**1.98**	**213**	*e*P	**Pn**	**03 48 22.3**	**+1.3**
PLP	**Palo**	**1.99**	**324**	*e*P	**Pn**	**03 48 22.3**	**+1.1**
PLP				*e*S	**Sn**	**03 48 46.3**	**+0.1**
BESP	**Borongan**	**2.17**	**341**	*e*P	**Pn**	**03 48 28.5**	**+4.8**
TBP	**Tagbilaran**	**2.27**	**274**	*e*P	**Pn**	**03 48 25.3**	**0.0**
TBP				*e*S	**Sn**	**03 48 50.8**	**-2.7**
LLP	**Lapu-Lapu**	**2.30**	**290**	⇑*e*P	**Pn**	**03 48 27.5**	**+1.9**
LLP				*e*S	**Sn**	**03 48 52.9**	**-1.2**
MATI	**Mati**	**2.58**	**178**	*e*P	**Pn**	**03 48 33.6**	**+3.9**
SNPH	**Sibulan**	**2.90**	**266**	⇑*i*P	**Pn**	**03 48 34.3**	**+0.2**
SNPH				*i* S	**Sn**	**03 49 12.2**	**+2.9**
DCPH	**Dipolog City**	**2.94**	**251**	⇑*e*P	**Pn**	**03 48 34.1**	**-0.6**
DCPH				*e*S	**Sn**	**03 49 06.6**	**-3.7**
PAGZ	**Pagadian**	**3.23**	**239**	*e*P	**Pn**	**03 48 38.9**	**+0.2**
CNP	**Catarman**	**3.30**	**334**	*e*P	**Pn**	**03 48 43.6**	**+3.9**
GUIM	**Jordan**	**3.68**	**287**	*e*P	**Pn**	**03 48 46.4**	**+1.1**
RCP	**Roxas**	**3.91**	**301**	⇓*e*P	**Pn**	**03 48 50.7**	**+2.1**
PVCP	**Virac**	**4.48**	**334**	*e*P	**Pn**	**03 49 01.1**	**+4.4**
JOW	**Kunigami**	**17.31**	**6**	P	**P**	**03 51 56.3**	**+5.8**
	2.5nm,0.3s,baz=189,slow=8.1,SNR=5.6						
QIZ	**Qiongzhong**	**18.40**	**303**	P	**P**	**03 52 06.0**	**+1.9**
KAKA	**Kakadu**	**22.97**	**164**	⇑*i*P	**P**	**03 52 54.2**	**+1.2**
	22nm,0.6s,mb4.8						
CBIJ	**Chichi jima**	**23.11**	**39**	P	**P**	**03 52 57.2**	**+3.0**
	17nm,0.5s,mb4.8,baz=279,slow=18,SNR=3.8						
WHN	**Wuhan**	**23.62**	**334**	*e*P	**P**	**03 53 01.0**	**+1.8**
JNU	**Nakatsue**	**23.86**	**10**	LR	LR	04 01 22.3	
	comp=Z,164nm,20.2s,MS3.5,baz=30,slow=34						
KMI	**Kunming**	**27.13**	**308**	P	**P**	**03 53 30.2**	**-2.2**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb3.8						
KMI				LR	LR		
	comp=N,258nm,17.5s,MS4.0						
KMI				LR	LR		
	comp=E,264nm,17.5s,MS4.0						
KMI				LR	LR		
	comp=Z,227nm,19.5s,MS3.8						
KMI	**Kunming**	**27.13**	**308**	P	**P**	**03 53 30.2**	**-2.2**
	comp=Z,4.0nm,1.3s,mb3.8						
KMI				sP	sP	03 53 36.5	-0.5
KMI				LR	LR		
	comp=Z,230nm,19.5s,MS3.8						
FITZ	**Fitzroy Crossi**	**27.47**	**181**	*e*P	**P**	**03 53 36.1**	**+0.6**
	comp=Z,6.1nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.47**	**181**	P	**P**	**03 53 36.2**	**+0.7**
	comp=Z,17nm,0.8s,mb4.6,baz=36,slow=6.8,SNR=7.3						
CMAR	**Chiang Mai Arr**	**27.83**	**292**	P	**P**	**03 53 37.6**	**-1.1**
	comp=Z,0.6nm,0.5s,mb3.5,baz=82,slow=6.4,SNR=3.4						
CMAR				PcP	PcP	03 56 54.0	-1.1
	comp=Z,2.3nm,1.0s,baz=275,slow=0.3,SNR=5.9						
MJAR	**Matsushiro Arr**	**29.02**	**20**	P	**P**	**03 53 49.2**	**-0.1**
	comp=Z,2.6nm,0.8s,mb4.0,baz=202,slow=8.9,SNR=5.4						
WRAB	**Tennant Creek**	**30.38**	**165**	*e*P	**P**	**03 53 59.1**	**-2.5**
	comp=Z,9.8nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**30.39**	**165**	P	**P**	**03 54 03.7**	**+2.0**
	comp=Z,3.1nm,0.7s,mb4.2,baz=343,slow=9.7,SNR=11						
WRA				S	**S**	**03 58 54.6**	**-6.3**
	comp=Z,0.4nm,0.6s,baz=354,slow=14,SNR=2.7						
WRA	**Warramunga Arr**	**30.39**	**165**	P	**P**	**03 54 03.7**	**+2.0**
WRA				S	**S**	**03 58 54.6**	**-6.3**
WB2	**Warramunga Arr**	**30.39**	**165**	⇓*i*P	**P**	**03 53 59.0**	**-2.7**
MDJ	**Mudanjiang**	**35.07**	**4**	P	**P**	**03 54 43.3**	**+1.1**
MDJ				AMB	AMB		
	comp=Z,24nm,1.3s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,240nm,11.7s						
MDJ				LR	LR		
	comp=N,70nm,18.0s,MS3.5						
MDJ				LR	LR		
	comp=E,33nm,20.1s,MS3.5						
MDJ				LR	LR		
	comp=Z,108nm,15.9s,MS3.7						
MDJ	**Mudanjiang**	**35.07**	**4**	*e*P	**P**	**03 54 43.8**	**+1.6**
	comp=Z,43nm,1.2s,mb5.3						
CTA	**Charters Tower**	**35.47**	**146**	P	**P**	**03 54 46.5**	**+0.6**
	comp=Z,2.8nm,0.7s,mb4.3,baz=342,slow=9.6,SNR=3.8						
CTA				LR	LR	04 09 05.3	
	comp=Z,108nm,20.9s,MS3.6,baz=228,slow=36						
CTA	**Charters Tower**	**35.47**	**146**	P	**P**	**03 54 46.5**	**+0.6**
CTA				LR	LR	04 09 05.3	
CTAO	**Charters Tower**	**35.47**	**146**	*e*P	**P**	**03 54 46.4**	**+0.6**
	comp=Z,2.8nm,0.7s,mb4.3						
SHL	**Shillong**	**36.22**	**301**	*e*P	**P**	**03 54 50.7**	**-1.4**
SONM	**Songino Array**	**41.66**	**340**	P	**P**	**03 55 37.1**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.5,baz=153,slow=11,SNR=4.5						
NWAO	**Narrogin (SRO)**	**43.08**	**191**	P	**P**	**03 55 49.3**	**+0.2**
	comp=Z,12nm,0.8s,mb4.7,baz=24,slow=6.3,SNR=6.0						
STKA	**Stephens Creek**	**43.75**	**161**	⇑*i*P	**P**	**03 55 54.9**	**+0.4**
	comp=Z,6.4nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**43.75**	**161**	P	**P**	**03 55 55.0**	**+0.4**
	comp=Z,7.8nm,0.6s,mb4.6,baz=332,slow=7.8,SNR=23						
WMQ	**Urumqi**	**47.73**	**323**	P	**P**	**03 56 24.7**	**-1.3**
WMQ				PP	PP	03 58 15.5	-1.7
WMQ				S	**S**	**04 03 17.5**	**-3.6**
WMQ				AMB	AMB		
	comp=Z,21nm,1.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,61nm,5.1s						
WMQ				LR	LR		
	comp=N,366nm,15.8s,MS4.5						
WMQ				LR	LR		
	comp=E,264nm,15.4s,MS4.5						
WMQ				LR	LR		
	comp=Z,480nm,15.5s,MS4.6						
MKAR	**Makanchi Array**	**52.54**	**323**	P	**P**	**03 57 02.4**	**-0.4**
	comp=Z,3.9nm,0.8s,mb4.4,baz=117,slow=8.1,SNR=14						
BVAR	**Borovoye Array**	**62.20**	**326**	P	**P**	**03 58 09.5**	**-1.5**
	comp=Z,1.5nm,0.5s,mb4.3,baz=112,slow=8.0,SNR=13						
ZRNK	**Zerenda**	**62.95**	**325**	*e*P	**P**	**03 58 13.2**	**-2.7**
	comp=Z,5.4nm,0.5s,mb4.9						
ARU	**Arti**	**69.77**	**327**	*e*P	**P**	**03 58 56.8**	**-2.5**
MCK	**McKinley**	**79.25**	**27**	*e*P	**P**	**03 59 54.6**	**+0.8**
	comp=Z,8.1nm,0.7s,mb4.8						
ILAR	**Eielson Array**	**80.14**	**26**	P	**P**	**03 59 58.4**	**-0.2**
	comp=Z,3.1nm,0.8s,mb4.3,baz=251,slow=5.4,SNR=21						
ARCES	**ARCESS Array B**	**84.83**	**340**	P	**P**	**04 00 22.2**	**-0.4**
	comp=Z,2.8nm,0.5s,mb4.7,baz=75,slow=6.0,SNR=13						
ARE0	**ARCESS Array S**	**84.83**	**340**	*e*P	**P**	**04 00 22.4**	**-0.2**
INK	**Inuvik**	**85.00**	**22**	*e*P	**P**	**04 00 24.3**	**+0.8**
	comp=Z,8.6nm,0.9s,mb4.9						
BRTR	**Keskin Array B**	**85.91**	**309**	P	**P**	**04 00 27.0**	**-1.7**
	comp=Z,1.0nm,0.8s,mb4.1,baz=104,slow=5.1,SNR=6.2						
KAF	**Kangasniemi**	**86.22**	**332**	*e*p	**P**	**04 00 26.6**	**-3.1**
	comp=Z,4.9nm,0.9s,mb4.7						
FINES	**FINESS Array B**	**86.48**	**332**	P	**P**	**04 00 29.8**	**-1.1**
	comp=Z,1.9nm,0.5s,mb4.6,baz=88,slow=4.8,SNR=29						
AKASG	**Malin Array Be**	**87.06**	**321**	P	**P**	**04 00 32.6**	**-1.5**
	comp=Z,0.6nm,0.4s,mb4.2,baz=76,slow=3.9,SNR=11						
VNDA	**Vanda**	**89.23**	**173**	P	**P**	**04 00 44.0**	**+0.1**
	comp=Z,4.2nm,0.7s,mb4.9,baz=314,slow=6.2,SNR=39						
VNDA	**Vanda**	**89.23**	**173**	*e*P	**P**	**04 00 43.8**	**-0.1**
	comp=Z,4.3nm,0.8s,mb4.8						
NB2	**NORSAR Subarra**	**93.36**	**334**	P	**P**	**04 01 00.7**	**-2.6**
	comp=Z,2.4nm,1.1s,mb4.5,baz=66,slow=4.8						
NOA	**NORSAR Array B**	**93.36**	**334**	P	**P**	**04 01 01.6**	**-1.6**
	comp=Z,0.7nm,0.9s,mb4.1,baz=73,slow=4.2,SNR=3.5						
YKA	**Yellowknife Ar**	**94.46**	**24**	P	**P**	**04 01 09.6**	**+1.3**
	comp=Z,2.1nm,0.7s,mb4.7,baz=294,slow=4.6,SNR=8.7						
GERES	**GERESS Array B**	**97.20**	**322**	P	**P**	**04 01 20.7**	**-0.4**
	comp=Z,0.4nm,0.6s,mb4.0,baz=90,slow=1.3,SNR=4.1						
TXAR	**Lajitas Array**	**118.38**	**49**	PKP	PKPdf	04 06 37.5	-1.0
	comp=Z,0.6nm,0.9s,baz=306,slow=1.2,SNR=6.9						
CFAA	**Coronel Fontan**	**154.30**	**151**	PKPbc	PKPdf	04 07 48.8	+6.1
	comp=Z,0.1nm,0.5s,baz=189,slow=3.1,SNR=4.4						
SDV	**Santo Domingo**	**155.20**	**43**	PKPbc	PKPdf	04 07 51.9	+7.6
	comp=Z,3.8nm,0.7s,baz=336,slow=5.1,SNR=5.8						

GUC 11 03:52:47.1±0.8**, 23.53S**×**67.05W, h207**km±11km**, ML3.9, 2C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.22**	**300**	*e*P	P	03 53 20.9	+1.4
SPCH				*i* S	S	03 53 46.2	+1.7
LVC	**Limon Verde**	**1.94**	**298**	⇑*i*P	P	03 53 27.0	+1.1
LVC				*i* S	S	03 53 57.7	+2.0
LVC				AMP		03 53 59.9	
	comp=N,83nm,0.1s						
ANCH	**Antofagasta**	**3.09**	**266**	⇑*i*P	P	03 53 40.3	+1.7
ANCH				*i* S	S	03 54 20.0	+1.6
ANCH				AMP		03 54 22.8	
	comp=N,360nm,0.3s						
CPN1	**Cerro Paranal**	**3.25**	**250**	*e*P	P	03 53 42.5	+1.9
CPN1				*i* S	S	03 54 24.9	+2.9
CPN1				AMP		03 54 26.4	
	comp=E,279nm,0.5s						

*NEIC **11** 04:27:44.5, 56.04N×153.60W, h1km, ML3.6(AEIC), After AEIC.*
*IDC **11** 04:27:44.0±1.3, 56.28N×153.91W, mb3.8/10, mb1 4.0/12, mb1mx3.9/22, mbtmp3.9/12, ML3.9/2, Error ellipse: s-maj=34.6km s-min=19.0km az=14.0*
ISC 11 04:27:39.3±0.7**, 55.86N**±0.06×**153.40W**±0.08**, h1km, n59, σ0ˢ95**/62**, mb3.9**/9**, South of Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.98**	**13**	P	**Pn**	**04 28 15.5**	**+1.2**
KDAK				S	**Sn**	**04 28 40.6**	**+0.5**
CAHL	**Cahill**	**2.43**	**335**	P	**Pn**	**04 28 20.6**	**-0.1**
CAHL				S	**Sn**	**04 28 54.1**	**+2.5**
KJL	**Kejulik**	**2.50**	**332**	P	**Pn**	**04 28 21.9**	**+0.1**
ACHA	**Angle Creek He**	**2.58**	**337**	P	**Pn**	**04 28 23.0**	**+0.1**
MGLS	**Mageik LS**	**2.58**	**337**	P	**Pn**	**04 28 21.2**	**-1.7**
KAHG	**Katmai Hook Gl**	**2.71**	**347**	P	**Pn**	**04 28 25.5**	**+0.7**
CNTC	**Contact Creek**	**2.77**	**332**	P	**Pn**	**04 28 25.3**	**-0.2**
KAPH	**Katmai Pasha**	**2.79**	**350**	P	**Pn**	**04 28 26.5**	**+0.5**
ANPK	**Aniakchak Peak**	**2.81**	**292**	P	**Pn**	**04 28 26.5**	**+0.4**
ANPB	**Aniakchak Plen**	**2.88**	**291**	P	**Pn**	**04 28 27.3**	**+0.2**
KAHC	**Katmai Hardscr**	**2.93**	**343**	P	**Pn**	**04 28 27.9**	**0.0**
MCNL	**McNeil River**	**3.37**	**352**	P	**Pn**	**04 28 33.9**	**-0.3**
AUI	**Augustine Isla**	**3.49**	**360**	P	**Pn**	**04 28 36.3**	**+0.6**
AUH	**Augustine H**	**3.52**	**360**	P	**Pn**	**04 28 36.2**	**0.0**
XLV	**Seldovia**	**3.72**	**13**	P	**Pn**	**04 28 40.1**	**+1.1**
OPT	**Oil Point**	**3.81**	**1**	P	**Pn**	**04 28 41.2**	**+0.8**
CNPM	**China Poot**	**3.86**	**17**	P	**Pn**	**04 28 41.8**	**+0.8**
SDPT	**Sand Point**	**4.05**	**266**	P	**Pn**	**04 28 43.4**	**-0.4**
BRLK	**Bradley Lake**	**4.14**	**18**	P	**Pn**	**04 28 45.3**	**+0.2**
ILW	**Iliamna West**	**4.22**	**2**	P	**Pn**	**04 28 45.8**	**-0.4**
ILIM	**Iliamna**	**4.24**	**3**	P	**Pn**	**04 28 46.9**	**+0.4**
RSO	**Redoubt South**	**4.63**	**4**	P	**Pn**	**04 28 52.3**	**+0.2**
SEW	**Seward**	**4.75**	**25**	P	**Pn**	**04 28 53.2**	**-0.5**
PVV	**Pavlof Volcano**	**4.78**	**268**	P	**Pn**	**04 28 54.2**	**0.0**
DOL	**Dolgoi Island**	**4.87**	**265**	P	**Pn**	**04 28 55.6**	**+0.3**
PN7A	**Pavlof North-7**	**4.89**	**269**	P	**Pn**	**04 28 56.1**	**+0.4**
SLKM	**Skilak Lake**	**4.96**	**19**	*e*P	**Pn**	**04 28 55.8**	**-0.9**
DTNA	**Dutton South F**	**5.08**	**266**	P	**Pn**	**04 28 58.7**	**+0.2**
LTI	**Latouche**	**5.13**	**33**	P	**Pn**	**04 28 58.1**	**-1.0**
BALA	**Baldy Mountain**	**5.37**	**267**	P	**Pn**	**04 29 02.8**	**+0.3**
SVW2	**Sparrevohn**	**5.38**	**349**	P	**Pn**	**04 29 01.4**	**-1.2**
SPU	**Mount Spurr**	**5.38**	**7**	P	**Pn**	**04 29 02.8**	**+0.1**
RC01	**Rabbit Creek A**	**5.59**	**19**	P	**Pn**	**04 29 05.2**	**-0.4**
HIN	**Hinchinbrook I**	**5.83**	**36**	P	**Pn**	**04 29 08.8**	**-0.2**
PWA	**Palmer West**	**6.09**	**16**	P	**Pn**	**04 29 12.6**	**-0.1**
PMR	**Palmer**	**6.16**	**19**	P	**Pn**	**04 29 12.4**	**-1.3**
CVA	**Cordova**	**6.20**	**38**	P	**Pn**	**04 29 14.4**	**+0.3**
EYAK	**Cordova Ski Ar**	**6.20**	**38**	P	**Pn**	**04 29 13.8**	**-0.4**
VLZ	**Valdez**	**6.45**	**32**	P	**Pn**	**04 29 17.1**	**-0.7**
SCM	**Sheep Creek Mo**	**6.77**	**25**	P	**Pn**	**04 29 21.6**	**-0.6**
GLB	**Gilahina Butte**	**7.50**	**38**	P	**Pn**	**04 29 32.0**	**-0.5**
ILAR	**Eielson Array**	**9.50**	**17**	Pn	**P**	**04 29 57.2**	**-2.9**
	0.9nm,0.3s,baz=206,slow=14,SNR=64						
ILAR				Sn	**Sn**	**04 31 38.0**	**-11**
	0.2nm,0.3s,baz=252,slow=6.7,SNR=3.8						
IL1	**Eielson Array**	**9.50**	**17**	P	**P**	**04 29 57.3**	**-2.8**
IM3	**Indian Mountai**	**10.16**	**359**	P	**P**	**04 30 05.9**	**-3.3**
INK	**Inuvik**	**15.46**	**28**	Pn	**P**	**04 31 21.8**	**+2.0**
	0.3nm,0.3s,baz=239,slow=20,SNR=5.8						
INK	**Inuvik**	**15.46**	**28**	Pn	**P**	**04 31 21.8**	**+2.0**
FX1	**Attu Island--F**	**19.59**	**275**	P	**P**	**04 32 08.9**	**-2.4**
	1.5nm,0.3s,baz=10,slow=19,SNR=4.0						
YKA	**Yellowknife Ar**	**20.69**	**55**	P	**P**	**04 32 25.6**	**+2.6**
	1.9nm,0.6s,baz=267,slow=12,SNR=4.2						
PDAR	**Pinedale Array**	**30.88**	**96**	P	**P**	**04 34 05.1**	**+6.0**
	0.3nm,0.9s,mb3.2,baz=252,slow=8.6,SNR=2.5						
TXAR	**Lajitas Array**	**43.88**	**106**	P	**P**	**04 35 55.2**	**+6.4**
	0.4nm,0.9s,mb3.1,baz=309,slow=8.0,SNR=5.5						
SCHQ	**Schefferville**	**46.12**	**53**	P	**P**	**04 36 09.4**	**+3.1**
	0.9nm,0.4s,mb4.1,baz=300,slow=6.5,SNR=7.7						
ARCES	**ARCESS Array B**	**54.91**	**0**	P	**P**	**04 37 12.8**	**-0.3**
	1.7nm,0.6s,mb4.2,slow=7.3,SNR=11						
SONM	**Songino Array**	**57.11**	**308**	P	**P**	**04 37 29.4**	**+0.2**
	1.9nm,0.5s,mb4.4,baz=44,slow=5.6,SNR=9.7						
NB2	**NORSAR Subarra**	**62.81**	**8**	P	**P**	**04 38 08.8**	**+0.7**
	0.5nm,0.5s,mb3.9,baz=351,slow=6.5						
NOA	**NORSAR Array B**	**62.81**	**8**	P	**P**	**04 38 08.3**	**+0.1**
	0.6nm,0.6s,mb3.9,baz=351,slow=6.7,SNR=4.2						
NOA	**NORSAR Array B**	**62.81**	**8**	P	**P**	**04 38 08.3**	**+0.1**
FINES	**FINESS Array B**	**63.04**	**0**	P	**P**	**04 38 09.4**	**-0.2**
	0.7nm,0.6s,mb4.0,slow=7.6,SNR=7.5						
MKAR	**Makanchi Array**	**67.56**	**322**	P	**P**	**04 38 39.1**	**+0.2**
	0.3nm,0.5s,mb3.8,baz=41,slow=7.7,SNR=4.5						
AKASG	**Malin Array Be**	**73.79**	**358**	P	**P**	**04 39 16.1**	**-0.2**
	0.7nm,0.5s,mb4.0,baz=4.9,slow=6.3,SNR=7.1						

*IDC **11** 04:50:59.9±1.1, 1.41N×96.92E, mb4.3/11, mb1 4.4/12, mb1mx4.2/22, mbtmp4.3/12, ML4.4/1, MS3.6/1, Ms1 3.8/1, ms1mx2.9/19, Error ellipse: s-maj=51.7km s-min=15.3km az=53.0*
*BJI **11** 04:51:02.6, 1.55N×97.31E, h24km, mB4.6, mb4.9, Ms4.1, Msz3.9*
*NEIC **11** 04:51:04.8±0.7, 1.45N×97.11E, h30km, mb4.5/6, Error ellipse: s-maj=21.3km s-min=9.4km az=53.0*
ISC 11 04:51:05.5±5.3**, 1.5N**±0.2×**97.2E**±0.3**, h50km**±43km**, n26, σ1ˢ06**/26**, mb4.4**/17**, 1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.08**	**42**	⇑*e*P	**P**	**04 52 20.7**	**-0.3**

CMAR	Chiang Mai Arr	16.92	6	P	P	04 54 59.1	-1.2
	0.6nm,0.3s,baz=196,slow=11,SNR=14						
CMAR				LR	LR	05 02 47.2	
	comp=Z,167nm,18.4s,baz=180,slow=42						
SHL	Shillong	24.45	348	eP	P	04 56 20.7	-0.3
GUN	Gumba	28.39	339	eP	P	04 56 58.9	+1.4
DMN	Daman	28.41	337	eP	P	04 56 59.3	+1.6
KKN	Kakani	28.51	337	eP	P	04 56 59.5	+1.0
	22nm,0.9s,mb4.9						
LSA	Lhasa	28.61	349	eP	P	04 57 00.5	+1.1
GKN	Gorkha	28.95	337	eP	P	04 57 02.7	+0.3
	18nm,0.7s,mb4.9						
KOLN	Koldanda	29.17	335	eP	P	04 57 04.7	+0.3
	11nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	34.11	126	P	P	04 57 48.5	+0.7
	7.6nm,0.9s,mb4.6,baz=156,slow=5.3,SNR=2.3						
GTA	Gaotai	37.78	3	eP	P	04 58 19.6	+1.0
GTA				AP	pP	04 58 26.3	-5.7
GTA				XP	sP	04 58 29.9	-8.3
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
WRA	Warramunga Arr	42.20	122	P	P	04 58 56.2	+0.7
	comp=Z,1.2nm,0.9s,mb3.5,baz=299,slow=9.1,SNR=5.8						
WRAB	Tennant Creek	42.21	122	eP	P	04 58 54.0	-1.5
SONM	Songino Array	46.81	8	P	P	04 59 32.4	+0.3
	comp=Z,6.9nm,0.8s,mb4.7,baz=188,slow=8.9,SNR=41						
MKAR	Makanchi Array	46.93	346	P	P	04 59 33.5	+0.4
	comp=Z,6.7nm,0.5s,mb4.8,baz=161,slow=8.4,SNR=70						
CTA	Charters Tower	52.64	117	P	P	05 00 16.7	-0.5
	comp=Z,20nm,0.8s,mb5.1,baz=248,slow=22,SNR=8.7						
CTA	Charters Tower	52.64	117	P	P	05 00 16.7	-0.5
CTAO	Charters Tower	52.64	117	eP	P	05 00 16.9	-0.3
	comp=Z,15nm,0.7s,mb5.0						
ZAL	Zalesovo	53.23	351	P	P	05 00 20.8	-0.3
	comp=Z,4.8nm,0.5s,mb4.7						
STKA	Stephens Creek	53.57	132	P	P	05 00 24.9	+1.1
	comp=Z,1.0nm,0.5s,mb4.0,baz=29,slow=15,SNR=3.0						
BVAR	Borovoye Array	55.95	341	P	P	05 00 39.2	-1.7
	comp=Z,2.1nm,0.7s,mb4.3,baz=143,slow=7.4,SNR=15						
ZRNK	Zerenda	56.35	340	eP	P	05 00 42.6	-1.2
	comp=Z,1.2nm,0.5s,mb4.2						
BRTR	Keskin Array B	68.90	312	P	P	05 02 05.7	-1.6
	comp=Z,0.8nm,0.7s,mb3.8,baz=136,slow=6.9,SNR=5.5						
FINES	FINESS Array B	79.72	332	P	P	05 03 08.7	-0.7
	comp=Z,0.8nm,0.5s,mb3.9,baz=109,slow=5.5,SNR=7.0						
KAF	Kangasniemi	79.80	333	ep	P	05 03 07.5	-2.3
	comp=Z,1.2nm,0.5s,mb4.1						
ARCES	ARCESS Array B	82.24	340	P	P	05 03 23.5	+1.0
	comp=Z,1.1nm,0.5s,mb4.0,baz=104,slow=5.0,SNR=9.9						

*NEIC **11** 05:21:02.2±0.9, 45.02N×147.05E, h200km, mb3.6/3, Error ellipse: s-maj=24.0km s-min=20.2km az=207.0*
*MOS **11** 05:21:03.4±1.6, 45.45N×147.16E, h211km, mb3.7/4, Error ellipse: s-maj=30.8km s-min=21.6km az=91.3*
*JMA **11** 05:21:06.0±0.6, 45.16N×147.59E, h177km, M3.8*
*IDC **11** 05:21:16.1±12.0, 46.49N×147.24E, h268km±109km, mb3.1/8, mb1 3.3/8, mb1mx3.2/21, mbtmp3.7/8, Error ellipse: s-maj=70.1km s-min=18.4km az=175.0*
ISC 11 05:21:04.1±0.7**, 45.37N**±0.09×**147.2E**±0.1**, h214**km±8km**, n29,** σ1§**22**/35**, mb3.4**/10**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	1.62	215	ePN	P	05 21 39.6	-0.9
YUK				i S	S	05 22 08.0	-0.5
YUK				pmax	pmax		
	comp=Z,260nm,0.2s						
YUK				pmax	pmax		
	comp=N,110nm,0.3s						
YUK				smax			
	comp=E,270nm,0.5s						
YUK				smax			
	comp=N,400nm,0.3s						
NEM2	Nemuro 2	2.25	207	P	P	05 21 45.6	-1.0
NEM2				S	S	05 22 15.8	-3.6
JNK	Nakash	2.50	225	P	P	05 21 50.6	+1.4
JAK	Akkeshi	2.96	218	P	P	05 21 55.1	+0.7
JAK				eS	S	05 22 32.8	-0.7
JAR	Ashorobuto	3.20	231	P	P	05 22 00.1	+2.9
YSS	Yuzh-Sakhalins	3.44	299	ePN	P	05 22 00.3	+0.1
JCH	Churui	3.89	226	P	P	05 22 07.1	+1.6
JCH				eS	S	05 22 53.2	+0.1
JNBK	Urakawa-nobuka	4.44	227	P	P	05 22 13.2	+0.8
JKB	Kayabe	5.65	234	P	P	05 22 28.8	+1.1
JKB				eS	S	05 23 32.7	-0.1
JOT	Ohata	5.98	230	P	P	05 22 32.5	+0.6
JOT				eS	S	05 23 38.8	-1.5
JMK	Ichinoseki	7.78	217	eS	S	05 24 21.5	-0.7
SARN	Sarigan	28.61	183	eP	P	05 26 36.2	-6.3
ILAR	Eielson Array	40.19	37	P	P	05 28 18.5	-2.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	Eielson Array	40.19	37	P	P	05 28 18.4	-2.1
	comp=Z,0.8nm,0.9s,mb3.1,baz=275,slow=8.1,SNR=6.5						
MKAR	Makanchi Array	43.86	296	P	P	05 28 52.4	+2.0
	comp=Z,0.2nm,0.3s,mb2.9,baz=60,slow=12,SNR=2.6						
MKAR				PcP	PcP	05 30 36.0	+2.8
	comp=Z,0.2nm,0.4s,baz=63,slow=3.2,SNR=2.9						
INK	Inuvik	45.01	31	eP	P	05 28 58.1	-1.1
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	Inuvik	45.01	31	P	P	05 28 57.3	-1.9
	comp=Z,1.0nm,0.6s,mb3.3,baz=311,slow=9.0,SNR=12						
INK	Inuvik	45.01	31	eP	P	05 28 58.1	-1.2
	comp=Z,1.1nm,0.7s,mb3.3						
FINES	FINESS Array B	63.44	333	P	P	05 31 10.6	-1.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	63.44	333	P	P	05 31 10.6	-1.9
	comp=Z,1.0nm,0.5s,mb3.7,baz=56,slow=6.9,SNR=8.4						
BOZ	Bozeman (W)	65.83	49	eP	P	05 31 29.1	+1.0
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
BOZ	Bozeman (W)	65.83	49	eP	P	05 31 29.1	+1.1
	comp=Z,1.7nm,0.5s,mb3.9						
NOA	NORSAR Array B	68.09	339	P	P	05 31 40.2	-1.8
	comp=Z,0.4nm,0.4s,mb3.4,baz=31,slow=6.6,SNR=3.2						
NOA	NORSAR Array B	68.09	339	P	P	05 31 40.2	-1.8
HWUT	Hardware Ranch	68.54	52	P	P	05 31 49.6	+4.6
BW06	Boulder Array	68.86	50	eP	P	05 31 48.0	+1.0
	comp=Z,0.6nm,0.5s,mb3.5						
PDAR	Pinedale Array	68.86	50	P	P	05 31 47.5	+0.6
	comp=Z,0.7nm,0.6s,mb3.5,baz=316,slow=1.4,SNR=7.9						
AKASG	Malin Array Be	70.28	323	P	P	05 31 54.8	-0.6
	comp=Z,0.4nm,0.3s,mb3.5,baz=41,slow=6.4,SNR=4.5						
TXAR	Lajitas Array	81.75	56	P	P	05 33 01.1	+1.1
	comp=Z,0.4nm,0.6s,mb3.2,baz=280,slow=4.0,SNR=6.0						

IDC 11 05:36:23.6±7.1**, 5.32S**×**154.17E, h143**km±64km**, mb3.3**/3**, mb1 3.7**/4**, mb1mx3.4**/14**, mbtmp3.9**/4**, Error ellipse: s-maj=71.9km s-min=32.4km az=114.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.05	239	P	P	05 38 17.8	-1.0
	4.4nm,0.3s,baz=45,slow=5.5,SNR=9.1						
PMG				S	S	05 39 48.3	-0.3
	0.9nm,0.3s,baz=346,slow=12,SNR=2.4						
WRA	Warramunga Arr	24.16	231	P	P	05 41 26.6	-1.3
	2.7nm,0.6s,baz=57,slow=9.8,SNR=9.3						
VNDA	Vanda	72.27	178	P	P	05 47 33.0	-1.8
	0.5nm,0.7s,baz=337,slow=6.7,SNR=4.1						
ILAR	Eielson Array	82.12	22	P	P	05 48 28.0	-1.4
	0.2nm,0.5s,baz=251,slow=5.4,SNR=5.7						

*NEIC **11** 05:45:24.2±3.6, 36.45N×68.65E, h3km±23km, mb4.5/11, Error ellipse: s-maj=9.7km s-min=6.2km az=215.0*
*BJI **11** 05:45:24.8, 36.87N×68.57E, h3km, mB4.7, mb4.8, ML4.5, Ms4.5, Msz4.1*
*MOS **11** 05:45:27.7±1.6, 36.56N×68.62E, h39km, mb4.6/23, Error ellipse: s-maj=8.5km s-min=6.0km az=90.3*
*IDC **11** 05:45:29.7±4.7, 36.50N×68.63E, h41km±43km, mb4.0/15, mb1 4.2/17, mb1mx4.1/23, mbtmp4.3/17, MS3.2/5, Ms1 3.3/5, ms1mx3.1/19, Error ellipse: s-maj=22.2km s-min=14.5km az=15.0*
*NNC **11** 05:45:34.0±4.6, 37.07N×68.22E, h82km±73km, mpv4.7, Error ellipse: s-maj=43.5km s-min=32.5km az=78.0*
ISC 11 05:45:27.0±1.3**, 36.61N**±0.03×**68.53E**±0.04**, h29**km±9km**, n139,** σ1§**48**/155**, mb4.4**/33**, MS3.4**/8**, 17C-12D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	3.92	134	⇑P	Pn	05 46 28.3	+1.4
SBDP	Sheikh Budin	4.69	156	P	Pn	05 46 39.4	+1.6
CHCP	Chirah Chowk	4.87	126	⇓P	Pn	05 46 42.1	+1.8
KSH	Kashi	6.55	61	⇑iP	Pn	05 47 05.7	+1.7
KSH				eAP		05 47 09.2	
KSH				eXP		05 47 13.6	
KSH				eS	Sn	05 48 20.1	+1.6
KSH				AMB	AMB		
	comp=Z,340nm,1.1s						
KSH				LR	LR		
	comp=N,9µm,5.9s						
KSH				LR	LR		
	comp=E,6µm,7.4s						
KK31	Karatay Array	6.66	13	⇑Pn	Pn	05 47 05.7	+0.2
	comp=E,14nm,0.6s,baz=192,slow=12,SNR=130						
KK31				⇑Sn	Sn	05 48 15.9	-5.4
	comp=E,27nm,0.4s						
KK31				⇑Lg		05 48 58.5	
	comp=E,76nm,0.7s,baz=192,slow=29,SNR=6.0						
KKAR	Karatay Array	6.66	13	ePN	Pn	05 47 05.7	+0.1
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
AML	Almayashu	6.81	34	P	Pn	05 47 08.4	+0.7
	SNR=144						
THN	Thein Dam	7.25	123	eP	Pn	05 47 13.0	-0.8
THN				e		05 48 40.8	
EKS2	Erkin-Say	7.27	32	P	Pn	05 47 14.6	+0.5
	SNR=33						
UCH	Uchtor	7.27	38	P	Pn	05 47 15.0	+0.9
	SNR=96						
DLH	Dalhousie	7.36	121	eP	Pn	05 47 12.0	-3.3
DLH				e		05 48 40.0	
KZA	Kyzart	7.54	42	P	Pn	05 47 18.4	+0.5
	SNR=158						
AAK	Ala-Archa	7.57	36	⇑Pn	Pn	05 47 19.0	+0.7
	comp=Z,81nm,0.6s						
AAK				⇑Sn	Sn	05 48 44.7	+0.6
	comp=Z,103nm,1.1s						
AAK				⇓Lg		05 49 24.8	
	comp=Z,121nm,0.9s						
AAK	Ala-Archa	7.57	36	P	Pn	05 47 18.9	+0.6
AAK						05 48 44.7	
AAK				pmax	pmax		
	comp=Z,45nm,0.6s						
AAK	Ala-Archa	7.57	36	⇑eP	Pn	05 47 17.6	-0.7
	comp=Z,94nm,0.5s						
PONG	Pong	7.70	125	eP	Pn	05 47 16.0	-4.1
PONG				e		05 48 49.0	
KBK	Karagaybulak	7.81	37	P	Pn	05 47 22.6	+1.0
	SNR=136						
CHMS	Chumysh	7.98	35	P	Pn	05 47 24.0	+0.1
	SNR=52						
USP	Ospenovka	8.08	33	P	P	05 47 25.6	+0.3
	SNR=16						
ULHL	Ulahol	8.20	44	P	P	05 47 27.4	+0.3
	SNR=28						
TKM2	Tokmak 2	8.33	39	P	P	05 47 28.9	+0.1
	SNR=18						
SDNR	Sundarnagar	8.66	124	eP	P	05 47 30.6	-2.8
SDNR				e		05 49 06.0	
KHET	Khetri	10.50	142	eP	P	05 47 51.9	-6.9
KHET				e		05 49 52.2	
KHET				AML	AML	05 50 03.0	
	comp=N,44nm,0.4s						
KHET				AML	AML	05 50 03.8	
	comp=E,40nm,0.9s						
NDI	New Delhi	10.77	135	eP	P	05 47 59.0	-3.5
NDI				e		05 49 55.0	
AYAN	Aya Nagar	10.87	136	eP	P	05 48 00.7	-3.2
BISR	Bishrakh	10.98	134	i P	P	05 47 57.1	-8.3
SONA	Sohna	11.03	137	eP	P	05 48 02.2	-3.7
SONA				e		05 50 04.5	
SONA				AML	AML	05 50 07.6	
	comp=E,60nm,0.4s						
SONA				AML	AML	05 50 26.0	
	comp=N,36nm,0.4s						
ASOR	Ausora	11.04	133	i	P	05 47 56.8	-9.3
PTH	Pithoragarh	12.06	122	eP	P	05 48 17.2	-2.8
PTH				e		05 50 29.3	
LGTI	Lohaghat	12.15	123	⇓iP	P	05 48 17.7	-3.4
LGTI				e		05 50 31.5	
AB31	Akbulak array	14.10	336	Pn	P	05 48 43.2	-3.7
	comp=N,9.9nm,0.7s,baz=156,slow=13,SNR=85						
AB31				⇓Sn	S	05 51 11.2	-12
	comp=N,11nm,0.9s,baz=148,slow=23,SNR=4.2						
AB31				⇓Lg		05 53 00.6	
	comp=N,21nm,1.1s,baz=143,slow=19						
MK31	Makanchi Array	14.44	41	⇑Pn	P	05 48 49.2	-2.1
	comp=N,24nm,0.7s,baz=228,slow=14,SNR=190						
MK31				⇓Lg		05 53 18.0	
	comp=N,10nm,0.9s						
MKAR	Makanchi Array	14.44	41	i P	P	05 48 49.8	-1.5
MKAR				pmax	pmax		
	comp=Z,16nm,0.7s						
MKAR	Makanchi Array	14.44	41	P	P	05 48 49.9	-1.5
	comp=Z,1.8nm,0.3s,baz=230,slow=14,SNR=240						
MKAR				Lg		05 53 11.5	
	comp=Z,0.1nm,0.3s,baz=245,slow=20,SNR=2.7						
GKN	Gorkha	16.08	118	eP	P	05 49 08.7	-4.0
	comp=Z,421nm,0.8s						
VOSK	Vostochnaya	16.20	5	⇓Pn	P	05 49 11.7	-2.4
	comp=Z,7.9nm,0.9s						
VOSK				⇑Sn	S	05 52 07.4	-5.1
	comp=Z,11nm,0.9s						
VOSK	Vostochnaya	16.20	5	P	P	05 49 12.0	-2.1
VOSK						05 52 22.3	
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WMQ	Urumqi	16.30	58	eP	P	05 49 18.4	+3.1
WMQ				S	S	05 52 18.5	+3.8
WMQ				XS		05 52 25.5	
WMQ				AMB	AMB		
	comp=Z,23nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,72nm,4.0s						
WMQ				LR	LR		
	comp=N,441nm,7.4s						
WMQ				LR	LR		
	comp=E,371nm,6.4s						
WMQ				LR	LR		
	comp=Z,391nm,9.8s						
ZRNK	Zerenda	16.34	1	⇑Pn	P	05 49 13.6	-2.2
	comp=Z,12nm,0.7s						
ZRNK				⇑Sn	S	05 52 03.4	-12
	comp=Z,14nm,1.1s						
ZRNK				⇑Lg		05 54 09.5	
	comp=Z,46nm,1.6s						
ZRNK	Zerenda	16.34	1	P	P	05 49 14.0	-1.9
ZRNK						05 52 08.2	
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ZRNK	Zerenda	16.34	1	eP	P	05 49 13.1	-2.7
	comp=Z,15nm,0.6s						
BVA0	Borovoye Array	16.47	4	⇓Pn	P	05 49 16.0	-1.4
	comp=Z,2.0nm,0.7s,baz=174,slow=11,SNR=45						
BVA0				⇓Sn	S	05 52 16.9	-1.6
	comp=Z,2.0nm,0.8s,baz=221,slow=20						
BVA0				⇑Lg		05 54 07.2	
	comp=Z,7.5nm,1.6s						
BVA0	Borovoye Array	16.47	4	i P	P	05 49 19.7	+2.3
BVA0				i		05 52 26.4	
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	Borovoye Array	16.47	4	P	P	05 49 15.5	-1.9
	comp=Z,1.7nm,0.3s,baz=172,slow=11,SNR=18						
BVAR				S	S	05 52 15.9	-2.6
	comp=Z,0.5nm,0.3s,baz=193,slow=19,SNR=2.8						
BRVK	Borovoye	16.49	4	P	P	05 49 18.3	+0.6
DMN	Daman	16.65	118	eP	P	05 49 16.6	-3.3
	comp=Z,197nm,0.6s						
KKN	Kakani	16.67	117	eP	P	05 49 16.8	-3.3
	comp=Z,316nm,0.7s						
KKN	Kakani	16.67	117	eP	P	05 49 16.8	-3.3
KKN				pmax	pmax		
	comp=Z,158nm,0.7s						
PKI	Pulchoki	16.89	117	eP	P	05 49 19.2	-3.7
	comp=Z,354nm,0.9s						
PKI	Pulchoki	16.89	117	eP	P	05 49 19.2	-3.7
PKI				pmax	pmax		
	comp=Z,177nm,0.9s						
GUN	Gumba	17.03	116	eP	P	05 49 21.9	-2.8
	comp=Z,395nm,0.8s						
GNI	Garni	18.96	288	P	P	05 49 48.7	+0.3
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,66nm,19.3s						
GNI	Garni	18.96	288	P	P	05 49 48.7	+0.2
	comp=Z,1.0nm,0.3s,baz=347,slow=6.3,SNR=6.7						
GNI				LR	LR	05 59 21.6	
	comp=Z,66nm,19.3s,baz=350,slow=44						
ZEI	Tsey	19.89	296	eP	P	05 49 59.2	+0.2
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
LSA	Lhasa	20.13	103	P	P	05 50 03.6	+2.1
LSA	Lhasa	20.13	103	eP	P	05 50 02.4	+0.9
LSA				pmax	pmax		
	comp=Z,32nm,0.8s						
LSA	Lhasa	20.13	103	eP	P	05 50 02.4	+0.9
	comp=Z,32nm,0.8s						
ZAL	Zalesovo	20.68	28	P	P	05 50 05.8	-1.2
ZAL				pmax	pmax		
	comp=Z,14nm,0.4s						
ZAL	Zalesovo	20.68	28	P	P	05 50 05.8	-1.3
	comp=Z,14nm,0.4s,baz=251,slow=9.3,SNR=56						
NVS	Novosibirsk	20.85	24	eP	P	05 50 06.5	-2.2
NVS				pmax	pmax		
	comp=N,9.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SVE	Sverdlovsk	20.91	348	eP	P	05 50 12.0	+2.7
SVE				e		05 50 34.0	
SVE				e		05 54 17.5	
SVE				pmax	pmax		
	comp=Z,40nm,1.7s						
SVE				MLR	MLR		
	comp=N,400nm,8.0s						
SVE				MLR	MLR		
	comp=E,200nm,8.0s						
SVE				MLR	MLR		
	comp=Z,600nm,8.0s						
ARU	Arti	20.94	344	⇑iP	P	05 50 11.1	+1.5
ARU	Arti	20.94	344	eP	P	05 50 09.6	0.0
	comp=Z,8.6nm,0.6s						
ARU				eS	S	05 53 57.6	+1.0
KIV	Kislovodsk	20.98	298	eP	P	05 50 08.6	-1.6
KIV				eS	S	05 54 06.7	+9.2
KIV				pmax	pmax		
	comp=Z,18nm,1.1s						
KIV				pmax	pmax		
	comp=N,11nm,0.8s						
KIV				pmax	pmax		
	comp=E,15nm,0.8s						
KIV				MLR	MLR		
	comp=Z,68nm,17.0s,MS3.1						
KIV				MLR	MLR		
	comp=N,22nm,13.0s,MS3.1						
KIV				MLR	MLR		
	comp=E,57nm,17.0s,MS3.1						
KIV	Kislovodsk	20.98	298	P	P	05 50 09.2	-1.0
	comp=E,13nm,0.5s						
GOF	Gofitskoye	20.99	302	⇑iP	P	05 50 09.1	-1.2
GOF				i		05 50 44.5	
GOF				eS	S	05 53 54.5	-3.2
GOF				pmax	pmax		
	comp=Z,130nm,1.7s						
GOF				smax			
	comp=E,70nm,1.7s						
HYB	Hyderabad	21.07	152	eP	P	05 50 12.0	+0.7
HYB	Hyderabad	21.07	152	i P	P	05 50 12.0	+0.7
SHL	Shillong	22.77	112	eP	P	05 50 28.5	+0.3
SHL				eS	S	05 54 36.0	+5.3
MALT	Malatya	23.91	283	P	P	05 50 41.1	+2.0
MALT				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.3						
MALT	Malatya	23.91	283	P	P	05 50 41.1	+2.0
	comp=Z,19nm,1.6s,mb4.3						
GTA	Gaotai	24.75	74	eP	P	05 50 49.0	+1.7
GTA				AP		05 50 54.7	
GTA				XP		05 50 57.8	
GTA				PP	PP	05 51 27.5	+3.4
GTA				PPP	PPP	05 51 37.8	+2.9
GTA				S	S	05 55 11.6	+6.9
GTA				XS		05 55 19.6	
GTA				SCP		05 58 00.2	
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.2						
GTA				AMB	AMB		
	comp=Z,117nm,5.3s						
GTA				LR	LR		
	comp=N,142nm,13.8s,MS3.9						
GTA				LR	LR		
	comp=E,253nm,14.9s,MS3.9						
GTA				LR	LR		
	comp=Z,223nm,14.5s,MS3.8						
ANN	Anapa	24.84	299	eP	P	05 50 57.0	+8.9
ANN				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.6						
QURS	Qurayyt al Mil	26.32	268	P	P	05 51 05.3	+3.2
KAMS	Al Khamasin	26.48	239	P	P	05 51 04.5	+0.8
BR131	Keskin Array S	27.50	287	eP	P	05 51 13.9	+1.1
BRTR	Keskin Array B	27.50	287	P	P	05 51 13.7	+0.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	Keskin Array B	27.50	287	P	P	05 51 13.7	+0.9
	comp=Z,0.9nm,0.6s,mb3.6,baz=93,slow=9.1,SNR=5.1						
LZH	Lanzhou	28.36	80	eP	P	05 51 22.0	+1.5
LZH				AP	pP	05 51 27.0	-2.1
LZH				XP	sP	05 51 30.7	-2.3
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.5						
LZH				AMB	AMB		
	comp=Z,62nm,4.0s						
LZH	Lanzhou	28.36	80	eP	P	05 51 22.0	+1.5
LZH				*SP	sP	05 51 30.7	-2.3
LZH				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.5						
LZH	Lanzhou	28.36	80	eP	P	05 51 22.0	+1.5
	comp=Z,13nm,1.0s,mb4.5						
LZH				pP	pP	05 51 27.0	-2.1
LZH				sP	sP	05 51 30.7	-2.3
ZAK	Zakamensk	28.43	50	eP	P	05 51 20.5	-0.6
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.8						
OBN	Obninsk	28.57	321	deP	P	05 51 24.1	+1.8
OBN				e		05 52 20.1	
OBN				eS	S	05 56 06.1	-1.0
OBN				eSS	SS	05 57 32.1	-1.5
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
OBN	Obninsk	28.57	321	P	P	05 51 24.0	+1.8
BLJS	Baljurashi	28.85	242	P	P	05 51 18.3	-6.8
TLY	Talaya	29.02	48	eP	P	05 51 28.1	+1.7
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
TLY				MLR	MLR		
	comp=Z,48nm,12.0s,MS3.3						
TLY	Talaya	29.02	48	eP	P	05 51 27.9	+1.6
SONM	Songino Array	29.92	56	P	P	05 51 35.0	+0.5
	comp=Z,5.9nm,0.6s,mb4.5,baz=258,slow=8.7,SNR=33						
SONM				LR	LR	06 05 46.5	
	comp=Z,68nm,18.6s,MS3.3,baz=196,slow=41						
ULN	Ulaanbaatar	30.36	56c	iP	P	05 51 34.0	-4.3
ULN	Ulaanbaatar	30.36	56	eP	P	05 51 33.8	-4.6
	comp=Z,12nm,0.6s,mb4.8						
AKASG	Malin Array Be	31.33	309	P	P	05 51 45.9	-1.0
	comp=Z,0.3nm,0.2s,mb3.8,baz=95,slow=7.6,SNR=8.1						
KMI	Kunming	31.36	102	P	P	05 51 51.4	+4.0
KMI				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
CMAR	Chiang Mai Arr	32.27	116	P	P	05 51 54.4	-1.0
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CMAR	Chiang Mai Arr	32.27	116	P	P	05 51 54.4	-1.1
	comp=Z,3.4nm,0.6s,mb4.4,baz=295,slow=8.3,SNR=16						
GYA	Guiyang	33.85	96	⇓iP	P	05 52 08.7	-0.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CIT	Chita	35.09	50	eP	P	05 52 20.5	+1.1
CIT				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.9						
FINES	FINESS Array B	36.29	327	P	P	05 52 29.5	0.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FINES				MLR	MLR		
	comp=Z,22nm,20.1s						
FINES	FINESS Array B	36.29	327	P	P	05 52 29.5	0.0
	comp=Z,1.2nm,0.8s,mb3.9,baz=126,slow=12,SNR=5.6						
FINES				LR	LR	06 10 48.1	
	comp=Z,22nm,20.1s,MS2.9,baz=143,slow=42						
KAF	Kangasniemi	36.47	328	*e*p	P	05 52 49.4	+18
	comp=Z,2.1nm,0.8s,mb4.1						
BOD	Bodaibo	36.53	40	*e*P	P	05 52 30.0	-1.6
BOD				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.5						
PSZ	Piszkesteto	37.15	303	*e*P	P	05 52 41.0	+4.1
HIA	Hailar	38.85	54	*e*P	P	05 52 52.8	+1.7
HIA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HIA	Hailar	38.85	54	*e*P	P	05 52 52.8	+1.7
	comp=Z,3.5nm,0.4s,mb4.4						
ARCES	ARCESS Array B	40.29	338	P	P	05 53 04.2	+1.3
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,27nm,18.3s						
ARCES	ARCESS Array B	40.29	338	P	P	05 53 04.2	+1.3
	comp=Z,1.5nm,0.7s,mb3.8,baz=108,slow=7.7,SNR=6.4						
ARCES				LR	LR	06 12 29.4	
	comp=Z,27nm,18.3s,MS3.1,baz=88,slow=40						
ARCES	ARCESS Array B	40.29	338	P	P	05 53 04.2	+1.3
ARCES				LR	LR	06 12 29.4	
GERES	GERESS Array B	41.24	305	P	P	05 53 13.1	+2.2
	comp=Z,0.4nm,0.2s,mb3.7,baz=169,slow=5.0,SNR=2.2						
NJ2	Nanjing	41.43	81	*e*P	P	05 53 17.2	+4.6
NJ2				XP	sP	05 53 26.2	+1.2
NJ2				PP	PP	05 54 56.2	+4.9
NJ2				S	S	05 59 32.0	+6.5
NJ2				XS		05 59 42.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
NJ2				LR	LR		
	comp=N,130nm,10.4s,MS4.5						
NJ2				LR	LR		
	comp=E,350nm,13.7s,MS4.5						
NJ2				LR	LR		
	comp=Z,180nm,14.1s,MS4.1						
NB2	NORSAR Subarra	43.10	323	P	P	05 53 25.7	-0.1
	comp=Z,2.2nm,0.7s,mb4.0,baz=98,slow=7.9						
NB2	NORSAR Subarra	43.10	323	P	P	05 53 25.7	-0.1
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
NOA	NORSAR Array B	43.10	323	P	P	05 53 25.7	-0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,45nm,18.3s						
NOA	NORSAR Array B	43.10	323	P	P	05 53 25.7	-0.1
	comp=Z,1.0nm,0.8s,mb3.6,baz=106,slow=7.6,SNR=8.6						
NOA				LR	LR	06 14 55.0	
	comp=Z,45nm,18.3s,MS3.4,baz=90,slow=41						
CN2	Changchun	43.32	62	*e*P	P	05 53 30.4	+2.5
SSE	Sheshan	43.63	81	P	P	05 53 31.6	+1.0
SSE				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,62nm,5.1s						
SSE	Sheshan	43.63	81	P	P	05 53 31.6	+1.0
	comp=Z,25nm,0.8s,mb5.0						
YAK	Yakutsk	45.04	36	*i* P	P	05 53 38.7	-2.8
YAK				pmax	pmax		
	comp=Z,12nm,0.5s,mb5.0						
MDJ	Mudanjiang	46.08	60	P	P	05 53 50.1	+0.1
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.4s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,48nm,3.8s						
TIXI	Tiksi	46.42	22	⇑*e*P	P	05 53 53.1	+0.8
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
KLR	Kul'dur	46.68	54	*e*P	P	05 53 52.7	-2.0
YSS	Yuzh-Sakhalins	54.38	54	⇓*e*P	P	05 54 53.7	+0.4
MJAR	Matsushiro Arr	54.76	68	P	P	05 54 55.2	-1.0
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	54.76	68	P	P	05 54 55.2	-1.0
	comp=Z,1.1nm,0.2s,mb4.4,baz=287,slow=8.9,SNR=4.4						
SUMG	Summit	60.30	341	*e*P	P	05 55 38.7	+3.9
FX1	Attu Island--F	69.57	39	*e*P	P	05 56 35.1	+0.2
TSUM	Tsumeb	73.44	230	P	P	05 56 59.5	+0.8
INK	Inuvik	74.10	8	*e*P	P	05 57 02.8	+1.3
INK				pmax	pmax		
	comp=Z,19nm,1.3s						
INK	Inuvik	74.10	8	P	P	05 57 02.4	+0.9
	comp=Z,6.3nm,0.7s,mb4.7,baz=12,slow=6.3,SNR=30						
INK	Inuvik	74.10	8	*e*P	P	05 57 02.8	+1.2
	comp=Z,20nm,1.3s,mb4.9						
ILAR	Eielson Array	75.20	15	P	P	05 57 06.9	-1.1
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	Eielson Array	75.20	15	P	P	05 57 06.9	-1.1
	comp=Z,2.3nm,0.9s,mb4.1,baz=315,slow=4.9,SNR=17						
MCK	McKinley	75.67	16	P	P	05 57 09.7	-0.9
BOSA	Boshof	76.57	218	P	P	05 57 16.1	-0.4
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BOSA	Boshof	76.57	218	P	P	05 57 16.1	-0.4
	comp=Z,1.7nm,0.9s,mb4.0,baz=47,slow=10.0,SNR=4.0						
YKA	Yellowknife Ar	81.21	1	P	P	05 57 41.7	+0.8
YKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YKA	Yellowknife Ar	81.21	1	P	P	05 57 41.7	+0.8
	comp=Z,3.3nm,0.5s,mb4.5,baz=352,slow=5.5,SNR=13						
YKA	Yellowknife Ar	81.21	1	P	P	05 57 41.7	+0.8
WRA	Warramunga Arr	83.75	120	P	P	05 57 52.2	-2.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	83.75	120	P	P	05 57 52.2	-2.8
	comp=Z,1.0nm,0.6s,mb4.2,baz=325,slow=5.0,SNR=15						
WRAB	Tennant Creek	83.75	120	*e*P	P	05 57 52.9	-2.1

NEIC 11 05:53:59.5, 55.48N×158.77W, h29^{km}, ML3.5(AEIC), After AEIC., Alaska Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDPT	Sand Point	0.98	263	P	Pn	05 54 15.8	-1.6
SDPT				S	Sb	05 54 29.0	-1.4
ANPB	Aniakchak Plen	1.36	12	P	Pn	05 54 21.1	-1.7
ANPB				S	Sn	05 54 38.4	-1.6
ANPK	Aniakchak Peak	1.42	15	P	Pn	05 54 22.2	-1.5
ANPK				S	Sn	05 54 40.7	-0.8
PS1A	Pavlof South-1	1.69	269	P	Pn	05 54 26.0	-1.6
PS1A				S	Sn	05 54 47.7	-0.8
PVV	Pavlof Volcano	1.72	268	P	Pn	05 54 26.3	-1.7
PVV				S	Sn	05 54 47.4	-1.9
HAG	Hague Volcano	1.79	266	P	Pn	05 54 27.4	-1.7
HAG				S	Sn	05 54 49.2	-1.8
DOL	Dolgoi Island	1.80	261	P	Pn	05 54 27.0	-2.1
PN7A	Pavlof North-7	1.84	270	P	Pn	05 54 28.7	-1.0
BLHA	Black Hill	1.88	278	P	Pn	05 54 28.5	-1.8
DTNA	Dutton South F	2.02	262	P	Pn	05 54 30.4	-1.8
DTNA				S	Sn	05 54 54.1	-2.6
DT1	Dutton Round H	2.04	261	P	Pn	05 54 30.5	-2.1
DT1				S	Sn	05 54 54.9	-2.4
BALA	Baldy Mountain	2.31	265	P	Pn	05 54 35.1	-1.3
SSLN	Shishaldin Nor	3.07	260	P	Pn	05 54 46.4	-0.9
SSLS	Shishaldin Sou	3.10	258	P	Pn	05 54 46.5	-1.1
KJL	Kejulik	3.13	33	P	Pn	05 54 45.9	-2.1
CAHL	Cahill	3.21	35	P	Pn	05 54 47.0	-2.2
CNTC	Contact Creek	3.21	28	P	Pn	05 54 47.0	-2.3
CNTC				S	Sn	05 55 23.4	-3.7
ANCK	Angle Creek	3.27	32	P	Pn	05 54 47.7	-2.4
ANCK				S	Sn	05 55 25.2	-3.3
ACHA	Angle Creek He	3.33	33	P	Pn	05 54 48.7	-2.2
MGLS	Mageik LS	3.33	33	P	Pn	05 54 48.7	-2.2
MGLS				S	Sn	05 55 26.1	-3.9
WESN	West Dahl Nort	3.47	257	P	Pn	05 54 51.3	-1.6
WESE	West Dahl East	3.50	256	P	Pn	05 54 51.9	-1.5
WESE				S	Sn	05 55 32.1	-2.2
WESS	West Dahl Sout	3.57	256	P	Pn	05 54 53.0	-1.4
WFAR	Faris Peak	3.58	257	P	Pn	05 54 52.9	-1.6
WFAR				S	Sn	05 55 35.3	-1.1
KAHC	Katmai Hardscr	3.79	31	P	Pn	05 54 55.1	-2.3
KAPH	Katmai Pasha	3.95	36	P	Pn	05 54 56.9	-2.9
KDAK	Kodiak Island	4.13	53	P	Pn	05 54 59.4	-2.9
KDAK				S	Sn	05 55 44.9	-5.3
AHB	Akutan Harbor	4.30	254	P	Pn	05 55 02.9	-1.8
AKLV	Akutan Long Va	4.36	255	P	Pn	05 55 04.5	-1.0
AKGG	Akutan Green G	4.37	256	P	Pn	05 55 04.7	-1.0
MCIR	Makushin Cirqu	4.95	255	P	Pn	05 55 10.4	-3.5
SVW2	Sparrevohn	5.88	15	P	Pn	05 55 23.1	-4.0

WEL 11 06:07:28.0±0.3, 38.60S×175.74E, h153^{km}±3^{km}, ML3.5/16, 8C-1D, Error ellipse: s-maj=2.2km s-min=1.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WTVZ	West Tongariro	0.53	193	PN	P	06 07 50.2	0.0
NGZ	Ngauruhoe	0.59	191	⇑PN	P	06 07 50.6	+0.1
CNZ	Chateau	0.62	194	⇑PN	P	06 07 50.7	0.0
WPVZ	Whakapapa	0.63	194	⇓PN	P	06 07 50.7	0.0
FWVZ	Far West T-bar	0.68	193	PN	P	06 07 51.0	+0.1
FWVZ				SN	S	06 08 07.3	-1.4
TUVZ	Tukino	0.68	186	PN	P	06 07 51.1	+0.2
WNVZ	Wahianoa	0.74	189	PN	P	06 07 51.4	+0.1
MOVZ	Moawhango	0.81	180	⇑PN	P	06 07 51.5	-0.3
MOVZ				SN	S	06 08 08.6	-1.5
BKZ	Black Stump Fm	0.82	135	PN	P	06 07 51.9	+0.1
BKZ				SN	S	06 08 10.0	-0.2
VRZ	Vera Road	0.93	235	PN	P	06 07 52.3	-0.4
URZ	Urewera	1.12	73	⇑PN	P	06 07 54.0	-0.3
URZ				SN	S	06 08 13.4	-1.2
RAEZ	Rainy Point	1.26	236	PN	P	06 07 55.6	-0.1
WAZ	Wanganui	1.30	207	PN	P	06 07 55.4	-0.6
MWZ	Matawai	1.42	80	⇑PN	P	06 07 57.1	-0.2
MWZ				SN	S	06 08 18.4	-1.5
NEZ	North Egmont	1.45	242	PN	P	06 07 57.1	-0.5
TSZ	Takapari Road	1.47	174	⇑PN	P	06 07 57.2	-0.6
TSZ				SN	S	06 08 18.5	-2.3
PKE	Pukeiti	1.50	246	PN	P	06 07 57.2	-0.8
KNZ	Kokohu	1.57	106	SN	S	06 08 20.4	-2.1
NWEZ	Newall Road	1.61	245	PN	P	06 07 58.2	-1.0
PWZ	Pawanui	1.67	149	⇑PN	P	06 07 59.5	-0.4
PWZ				SN	S	06 08 24.1	-0.5
PUZ	Puketiti	2.04	76	PN	P	06 08 03.3	-0.8
PUZ				SN	S	06 08 29.5	-2.4
MRZ	Mangatainoka R	2.07	183	PN	P	06 08 02.5	-1.9
MRZ				SN	S	06 08 28.1	-4.3
BFZ	Birch Farm	2.12	170	PN	P	06 08 03.5	-1.5
BFZ				SN	S	06 08 29.9	-3.6
MXZ	Matakaoa Point	2.27	64	⇑PN	P	06 08 06.2	-0.6
MXZ				SN	S	06 08 36.0	-0.8
KIW	Kapiti Island	2.35	196	PN	P	06 08 05.3	-2.6
KIW				SN	S	06 08 33.5	-5.0
CAW	Cannon Point	2.56	192	PN	P	06 08 07.8	-2.7
CAW				SN	S	06 08 37.3	-5.9
MTW	Mount Morrison	2.57	184	PN	P	06 08 07.6	-3.0
MTW				SN	S	06 08 37.6	-5.6
DUWZ	D'Urville Isla	2.61	212	PN	P	06 08 08.0	-3.2
MRW	Makara Radio	2.75	197	PN	P	06 08 09.8	-3.1
TRWZ	Traveller	2.80	181	PN	P	06 08 10.4	-3.1
MSWZ	Moikau Station	2.84	188	PN	P	06 08 10.7	-3.4
TCW	Tory Channel	2.85	203	PN	P	06 08 10.8	-3.4
TUWZ	Tuamarina	3.15	205	PN	P	06 08 14.4	-3.7
NNZ	Nelson	3.19	214	*e*SN	S	06 08 51.7	-5.6
QRZ	Quartz Range	3.33	227	PN	P	06 08 15.5	-4.9
THZ	Tophouse	3.84	214	PN	P	06 08 21.7	-5.3
KHZ	Kahutara	4.17	203	PN	P	06 08 26.9	-4.4
DSZ	Denniston Nort	4.36	223	*e*PN	P	06 08 27.7	-6.1
LTZ	Lake Taylor	4.95	211	PN	P	06 08 35.9	-5.6
MQZ	McQueen's Vall	5.61	204	PN	P	06 08 43.8	-6.6

*STR **11** 06:49:10.9±0.3, 49.34N×6.78E, h1^{km}±1^{km}, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **11** 06:49:10.9, 49.34N×6.78E, h1^{km}, ML3.5(LDG), ML3.1(STR), After STR.*
*BNS **11** 06:49:11.7±1.0, 49.35N×6.87E, h1^{km}, ML2.8*
*LDG **11** 06:49:11.3±0.1, 49.34N×6.80E, h1^{km}, Md3.1/2, Ml3.5/20, Error ellipse: s-maj=2.5km s-min=2.2km az=82.0, Suspected Mining induced.*
*CSEM **11** 06:49:11.1±0.0, 49.33N×6.81E, h2^{km}, ML3.5/21, Error ellipse: s-maj=0.9km s-min=0.8km az=152.0*
*LEDBW **11** 06:49:11.2±0.3, 49.32N×6.84E, h1^{km}, ML3.0, Error ellipse: s-maj=6.0km s-min=4.0km az=90.0*
*BGR **11** 06:49:11.1±0.2, 49.34N×6.83E, h1^{km}, ML3.1/8, Error ellipse: s-maj=3.3km s-min=3.3km az=119.0*
*PRU **11** 06:49:13.0, 49.35N×6.97E*
ISC 11 06:49:08.9±0.2, 49.32N±0.01×6.80E±0.02, n109, σ1§31/222, 4C-3D, Germany

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.41	24	⇑*i*Pg	Pg	06 49 19.1	+1.9
WLF	Walferdange	0.54	309	*e*Pg	Pg	06 49 22.1	+2.4
	SNR=11						
WLF				*e*Sg	Sg	06 49 28.4	+1.4
WLF	Walferdange	0.54	309	*e*Pg	Pg	06 49 20.2	+0.5
ABH	Alteburg	0.74	41	Pg	Pg	06 49 24.5	+0.8
LANF	Langenberg	0.74	117	Pg	Pg	06 49 24.7	+0.9
LANF	Langenberg	0.74	117	⇑*i*Pg	Pg	06 49 24.9	+1.1
KTD	Kalmit	0.84	90	Pg	Pg	06 49 26.8	+1.1
BGG	Burgeitz	0.95	21	*e*Pg	Pg	06 49 28.6	+0.8
BGG				*e*Sg	Sg	06 49 41.3	+0.8
	194nm,0.4s						
BGG	Burgeitz	0.95	21	Pg	Pg	06 49 28.6	+0.7
BGG				Sg	Sg	06 49 41.3	+0.8
	194nm,0.4s						
CDF	Champ du Feu	0.96	161	*e*Pn	Pn	06 49 28.8	-0.7
CDF				*e*Pg	Pg	06 49 29.7	+1.5
CDF				*e*Sg	Sg	06 49 41.7	+0.7
	372nm,0.2s						
WLS	Welschbruch	0.98	158	Pg	Pg	06 49 30.1	+1.6
WLS				Sg	Sg	06 49 44.1	+2.5
WLS	Welschbruch	0.98	158	P	Pb	06 49 29.9	+1.5
WLS	Welschbruch	0.98	158	Pg	Pg	06 49 29.9	+1.4
WLS				Sg	Sg	06 49 44.1	+2.5
RFYF	Reffroy	1.12	232	*e*Pn	Pn	06 49 33.1	+1.4
RFYF				*e*Sg	Sg	06 49 49.5	+3.5
	253nm,0.2s						
ECH	Echery	1.13	168	Pg	Pg	06 49 32.4	+0.8
ECH				*e*Sg	Sg	06 49 48.0	+1.3
ECH	Echery	1.13	168	Pg	Pg	06 49 32.6	+1.1
ECH				Sg	Sg	06 49 48.0	+1.4
THEF	They Montfort	1.22	206	Pg	Pg	06 49 33.8	+0.5
THEF				Sg	Sg	06 49 50.4	+0.8
THEF	They Montfort	1.22	206	*e*Pg	Pg	06 49 33.9	+0.6
	SNR=75						
THEF				⇓*i*Pn	Pn	06 49 34.0	+0.8
THEF				*e*Sg	Sg	06 49 50.7	+1.2
THEF	They Montfort	1.22	206	⇓*i*P	Pn	06 49 34.0	+0.8
THEF	They Montfort	1.22	206	Pn	Pn	06 49 34.0	+0.8
THEF				Sg	Sg	06 49 50.4	+0.8
STB	Steinbach	1.27	1	*e*Pg	Pg	06 49 34.7	+0.4
STB				*e*Sg	Sg	06 49 51.0	-0.2
	124nm,0.7s						
LIBD	Limburg	1.29	155	P*	Pb	06 49 35.8	+2.1
TOD	Tromm	1.34	77	Pn	Pb	06 49 34.6	0.0
TOD				*e*Pg	Pg	06 49 34.7	-0.9
	SNR=48						
TOD				Sg	Sg	06 49 54.2	+0.8
TOD	Tromm	1.34	77	P	Pb	06 49 34.6	0.0
TOD				Sg	Sg	06 49 54.2	+0.7
TOD	Tromm	1.34	77	P	Pb	06 49 34.6	0.0
TOD				S	Sg	06 49 54.2	+0.8
TOD	Tromm	1.34	77	Pg	Pn	06 49 34.7	-0.1
	SNR=48						
TOD	Tromm	1.34	77	Pn	Pn	06 49 34.8	0.0
TOD				Sg	Sg	06 49 54.2	+0.7
HAU	Haudompre	1.35	193	*e*Pn	Pn	06 49 35.4	+0.4
HAU				*e*Pg	Pg	06 49 36.6	+0.7
HAU				*e*Sg	Sg	06 49 54.0	+0.1
	324nm,0.3s						
KLL	Kalltalsperre	1.36	347	*e*Pg	Pn	06 49 35.3	+0.1
KLL				*e*Sg	Sn	06 49 53.6	-0.6
	80nm,0.6s						
MEZF	Maizieres J'vi	1.42	235	*e*Pg	Pg	06 49 37.0	-0.2
MEZF				*e*Pg	Pg	06 49 37.5	+0.3
MEZF				*e*Sg	Sg	06 49 56.6	+0.6
	110nm,0.4s						
MEZF	Maizieres J'vi	1.42	235	*e*Pg	Pg	06 49 37.5	+0.3
MEZF				*e*Sg	Sg	06 49 56.6	+0.6
	55nm,0.4s						
BFO	Black Forest	1.42	134	Pn	Pn	06 49 36.4	+0.4
BFO				Pg	Pg	06 49 38.3	+1.0
BFO				Sg	Sg	06 49 56.6	+0.5
BFO	Black Forest	1.42	134	*e*Pg	Pn	06 49 36.4	+0.4
BFO				*e*Sg	Sn	06 49 55.3	-0.3
BFO	Black Forest	1.42	134	P	Pg	06 49 38.3	+1.0
BFO				S	Sg	06 49 56.6	+0.5
BFO	Black Forest	1.42	134	Pg	Pg	06 49 38.3	+1.1
BFO				Sg	Sg	06 49 56.6	+0.5
LBG	Lerchenberg	1.47	116	Pg	Pg	06 49 38.6	+0.4
LBG				Sg	Sg	06 49 57.6	-0.2
MOF	Molkenrain	1.49	171	Pn	Pn	06 49 38.7	+1.7
MOF				Sg	Sg	06 49 59.2	+0.7
MOF	Molkenrain	1.49	171	P	Pn	06 49 39.5	+2.5
MOF				S	Sb	06 49 59.4	+2.9
MOF	Molkenrain	1.49	171	Pg	Pg	06 49 39.5	+0.9
MOF				Sg	Sg	06 49 59.2	+0.7
GIVF	Givet	1.50	302	*e*Pn	Pn	06 49 38.2	+1.0
GIVF				*e*Sn	Sn	06 49 58.4	+0.7
GIVF				*e*Sg	Sg	06 50 00.1	+1.2
	145nm,0.5s						
HINF	Hinteralfeld	1.51	179	*e*Pg	Pg	06 49 39.1	+0.1
HINF				*e*Sg	Sg	06 49 59.3	+0.2
	342nm,0.3s						
HGN	Heimansgroeve	1.55	339	*e*Pn	Pn	06 49 38.6	+0.7
HGN				*e*Pg	Pg	06 49 40.3	+0.5
HGN				*e*Sn	Sn	06 49 58.5	-0.4
HGN				*e*Sg	Sg	06 50 00.7	+0.3
HGN	Heimansgroeve	1.55	339	*e*Pg	Pg	06 49 40.3	+0.5
HGN				*e*Sn	Sn	06 49 58.5	-0.4
HGN				*e*Sg	Sg	06 50 00.7	+0.3
KIZ	Kirchzarten	1.56	151	Pn	Pn	06 49 37.6	-0.3
KIZ				Pg	Pg	06 49 40.2	+0.2
KIZ				Sg	Sg	06 50 00.4	-0.4
KIZ	Kirchzarten	1.56	151	P	Pn	06 49 37.6	-0.4
KIZ				Pg	Pg	06 49 40.2	+0.2
KIZ				Sg	Sg	06 50 00.4	-0.3
KIZ	Kirchzarten	1.56	151	PG	Pg	06 49 40.2	+0.2
KIZ				SG	Sg	06 50 00.4	-0.3
KIZ	Kirchzarten	1.56	151	Pg	Pg	06 49 40.2	+0.2
SFTF	Sexfontaines	1.61	227	*e*Pg	Pg	06 49 39.4	-1.8
SFTF				*e*Pg	Pg	06 49 41.3	+0.1
SFTF				*e*Sg	Sg	06 50 01.3	-1.4
	114nm,0.3s						
SFTF	Sexfontaines	1.61	227	*e*Pg	Pg	06 49 41.3	+0.1
SFTF				*e*Sg	Sg	06 50 01.3	-1.4
	57nm,0.3s						
FELD	Feldberg	1.65	151	Pn	Pn	06 49 42.0	+2.7
FELD				Sg	Sg	06 50 03.5	-0.5
FELD	Feldberg	1.65	151	Pn	Pn	06 49 40.5	+1.1
FELD	Feldberg	1.65	151	P	Pn	06 49 42.0	+2.6
FELD				Sg	Sg	06 50 03.5	-0.5
BNS	Bensberg	1.66	8	*e*Sg	Sg	06 50 01.4	-2.8
	245nm,0.5s						
STU	Stuttgart	1.67	108	*e*Sg	Sg	06 50 01.8	-2.7
STU	Stuttgart	1.67	108	Pn	Pn	06 49 41.0	+1.5
STU	Stuttgart	1.67	108	Pn	Pn	06 49 41.0	+1.4
SPAK	Spaichingen	1.80	132	Pg	Pg	06 49 45.1	+0.3
SIND	Sindeldorf	1.84	88	Pn	Pn	06 49 41.2	-0.7
BAIF	Baives	1.84	295	*e*Pn	Pn	06 49 44.2	+2.2
BAIF				*e*Pg	Pg	06 49 45.4	-0.2
BAIF				*e*Sn	Sn	06 50 10.6	+4.3
	86nm,0.6s						
BUCH	Bad Urach	1.90	116	Pn	Pn	06 49 44.1	+1.3
BUCH				Pg	Pg	06 49 46.9	0.0
BUCH				Sg	Sg	06 50 11.0	-1.1
BUCH	Bad Urach	1.90	116	P	Pn	06 49 44.1	+1.2
BUCH				Pg	Pg	06 49 46.9	+0.1
BUCH				Sg	Sg	06 50 11.0	-1.1
BUCH	Bad Urach	1.90	116	PG	Pg	06 49 46.9	+0.1
BUCH				SG	Sg	06 50 11.0	-1.1
BUCH	Bad Urach	1.90	116	Pg	Pg	06 49 46.9	+0.1
BBS	Basel-Blauen	1.92	165	Pn	Pn	06 49 43.5	+0.4
LOMF	Lomont	1.97	179	Pn	Pn	06 49 44.3	+0.4
LOMF				*e*Pg	Pg	06 49 48.5	+0.2
	SNR=10						
LOMF				*e*Sg	Sg	06 50 14.4	-0.3
GUT	Gutenstein	1.98	128	Pn	Pn	06 49 44.4	+0.4
GUT				Pg	Pg	06 49 48.3	-0.1
GUT				Sg	Sg	06 50 13.5	-1.3
GUT	Gutenstein	1.98	128	P	Pn	06 49 44.4	+0.4
GUT				Pg	Pg	06 49 48.3	-0.2
GUT				Sg	Sg	06 50 13.5	-1.4
GUT	Gutenstein	1.98	128	PG	Pg	06 49 48.3	-0.2
GUT				SG	Sg	06 50 13.5	-1.4
GUT	Gutenstein	1.98	128	Pg	Pg	06 49 48.3	-0.2
SISB	Singen-Sch Ber	2.18	138	P*	Pb	06 49 54.0	+5.0
SISB				S*	Sb	06 50 20.6	+4.0
SISB	Singen-Sch Ber	2.18	138	S	Sb	06 50 20.6	+4.0
HDH	Heidenheim	2.37	107	Pg	Pg	06 49 55.0	-1.2
HDH				Sg	Sg	06 50 25.9	-1.8
WTSB	Winterswijk	2.65	360	*e*Pg	Pg	06 50 01.6	-0.2
WTSB				*e*Sg	Sg	06 50 32.1	-4.9
UBR	Uberruh	2.75	126	Pn	Pn	06 49 56.8	+1.8
UBR				P*	Pb	06 50 03.3	+4.6
UBR				S*	Sb	06 50 38.3	+5.3
CABF	La Chapelle	2.76	190	*e*Pg	Pn	06 49 55.0	-0.1
CABF				*e*Sg	Sg	06 50 37.8	-2.8
	111nm,0.8s						
LOR	Lormes	2.84	225	*e*Pn	Pn	06 49 55.8	-0.6
LOR				*e*Sn	Sn	06 50 30.7	-1.1
	57nm,0.3s						
LOR				*e*Sg	Sg	06 50 40.8	-2.7
	64nm,0.4s						
DAVA	Damuels	2.90	134	⇑*i*PN	Pn	06 49 59.0	+1.9
DAVA				*i* SN	Sn	06 50 44.3	+11
SSF	Saint Saulge	3.16	225	*e*Pn	Pn	06 50 00.0	-0.9
SSF				*e*Sg	Sg	06 50 50.1	-3.9
	25nm,0.5s						
FUR	Furstenfeldbru	3.18	110	*e*Sg	Sg	06 50 53.3	-1.5
SMF	Signal de Mont	3.34	218	*e*Pn	Pn	06 50 02.3	-1.1
SMF				*e*Sn	Sn	06 50 40.5	-3.8
SMF				*e*Sg	Sg	06 50 53.0	-7.0
	32nm,0.4s						
MOX	Moxa	3.38	65	*e*Pg	Pg	06 50 13.5	-2.8
	SNR=1.6						
MOX				*e*Sn	Sn	06 50 43.3	-2.1
MOX				*e*Sg	Sg	06 50 56.3	-5.1
MOX	Moxa	3.38	65	*e*Pg	Pg	06 50 13.2	-3.1
MOX				*e*Sn	Sn	06 50 43.3	-2.1
MOX				*e*Sg	Sg	06 50 59.1	-2.3
MOX	Moxa	3.38	65	S	Sn	06 50 43.0	-2.4
MOX				Pg	Pg	06 50 13.0	-3.3
MOX				Sg	Sg	06 50 59.0	-2.4
CLZ	Clausthal	3.40	41	*e*Pg	Pg	06 50 13.4	-3.3
	SNR=3.0						
CLZ				*e*Sg	Sg	06 50 59.1	-2.9
HYF	Humbligny	3.46	235	*e*Pn	Pn	06 50 04.8	-0.3
HYF				*e*Sg	Sg	06 51 00.0	-3.9
MOTA	Moosalm	3.49	123	⇑*i*PN	Pn	06 50 07.6	+2.1
MOTA				*i* SN	Sg	06 51 01.6	-3.4
SQTA	Sankt Quirin	3.62	124	⇓*i*PN	Pn	06 50 09.3	+1.9
SQTA				*i* SN	Sg	06 51 05.4	-4.0
GUNZ	Gunzen	3.73	72	*e*Sg	Sg	06 51 08.7	-4.3
NKC	Novy Kostel	3.77	74	*e*PN	Pn	06 50 10.9	+1.3
NKC				*e*PG	Pg	06 50 21.2	-3.0
NKC				*e*SG	Sg	06 51 08.7	-5.8
LPG	La Plagne	3.83	181	*e*Pn	Pn	06 50 09.3	-1.1
LPG				*e*Pg	Pg	06 50 21.0	-4.3
LPG				*e*Sn	Sn	06 50 54.4	-2.3
	14nm,0.5s						
BGF	Bois d'Agland	3.84	225	*e*Pn	Pn	06 50 09.3	-1.2
BGF				*e*Sn	Sn	06 50 53.6	-3.3
BGF				*e*Sg	Sg	06 51 11.6	-5.0
	78nm,0.4s						
WET	Wettzell	3.99	90	*e*Pn	Pn	06 50 13.6	+1.0
	SNR=1.7						
WET				*e*Sg	Sg	06 51 18.9	-2.7
TCF	Toulx Ste Croi	4.33	227	*e*Pn	Pn	06 50 16.8	-0.8
TCF				*e*Sn	Sn	06 51 04.3	-5.3
TCF				*e*Sg	Sg	06 51 28.6	-4.6
	8.6nm,0.3s						
CLL	Collm	4.44	61	*e*Pg	Pg	06 50 38.0	+0.4
CLL				*e*Sg	Sg	06 51 33.0	-3.9
KHC	Kasperske Hory	4.45	90	*e*PN	Pn	06 50 18.3	-0.9
KHC				*e*x	x	06 50 36.5	
KHC				*e*SN	Sn	06 51 08.4	-4.0
KHC				*e*SG	Sg	06 51 30.8	-6.2
KHC	Kasperske Hory	4.45	90	*e*Pn	Pn	06 50 18.3	-0.9
KHC				*e*Sn	Sn	06 51 08.4	-4.0
KHC				*e*Sg	Sg	06 51 30.8	-6.2
ORIF	Oris-en-Rattie	4.45	188	*e*Pn	Pn	06 50 18.2	-1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ORIF				*e*Pg	**Pg**	**06 50 33.6**	**-4.2**
ORIF				*e*Sg	**Sg**	**06 51 31.5**	**-5.6**
	21nm,0.7s						
GEC2	**GERESS Array S**	**4.56**	**93**	*e*Pn	**Pn**	**06 50 21.0**	**+0.2**
	SNR=12						
GEC2				*e*Sn	**Sn**	**06 51 11.2**	**-4.1**
VIVF	**Saint-Julien-l**	**4.70**	**199**	*e*Pg	**Pg**	**06 50 38.2**	**-4.5**
VIVF				*e*Sn	**Sn**	**06 51 13.7**	**-5.1**
	5.2nm,0.3s						
VIVF				*e*Sg	**Sg**	**06 51 38.5**	**-6.8**
	12nm,0.6s						
FLN	**La Foliniere**	**4.82**	**266**	*e*Pn	**Pn**	**06 50 23.2**	**-1.3**
FLN				*e*Sn	**Sn**	**06 51 16.3**	**-5.6**
BRG	**Berggiesshubel**	**4.85**	**69**	*i* Sg	**Sg**	**06 51 45.3**	**-5.2**
GRR	**Gorron**	**5.14**	**262**	*e*Pn	**Pn**	**06 50 27.6**	**-1.4**
GRR				*e*Sn	**Sn**	**06 51 23.6**	**-6.3**
	15nm,0.5s						
GRR				*e*Sn	**Sn**	**06 51 23.6**	**-6.3**
RJF	**Les Rejaudoux**	**5.39**	**224**	*e*Sg	**Sg**	**06 52 00.4**	**-8.0**
	15nm,0.5s						
MFF	**Saint Martin d**	**5.40**	**242**	*e*Pn	**Pn**	**06 50 30.7**	**-2.0**
MFF				*e*Sn	**Sn**	**06 51 29.2**	**-7.3**
	4.6nm,0.4s						
MFF				*e*Sg	**Sg**	**06 52 00.4**	**-8.3**
	17nm,0.7s						
CAF	**Calviac**	**5.46**	**218**	*e*Pn	**Pn**	**06 50 30.9**	**-2.6**
LASF	**Ste Croix**	**5.62**	**202**	*e*Sg	**Sg**	**06 52 07.5**	**-8.7**
	11nm,0.6s						
LFF	**La Frestale**	**6.03**	**226**	*e*Sn	**Sn**	**06 51 47.4**	**-4.7**
	6.5nm,0.3s						
SGMF	**Saint Gilles**	**6.28**	**264**	*e*Pn	**Pn**	**06 50 42.4**	**-2.6**
ROSF	**Rostrenen**	**6.72**	**265**	*e*Pn	**Pn**	**06 50 49.1**	**-2.2**

*IDC **11** 06:58:58.1±0.8, 1.29N×96.93E, mb4.5/16, mb1 4.6/17, mb1mx4.4/23, mbtmp4.5/17, ML4.5/1, MS3.8/8, Ms1 3.9/8, ms1mx3.8/18, Error ellipse: s-maj=27.3km s-min=15.5km az=47.0*

*BJI **11** 06:59:01.5, 1.14N×97.32E, h37km, mB5.1, mb5.0, Ms4.8, Msz4.6*

*MOS **11** 06:59:01.9±1.3, 1.35N×97.05E, h33km, mb4.9/24, MS4.6/7, Error ellipse: s-maj=17.3km s-min=7.1km az=99.3*

*HRVD **11** 06:59:03.6±1.5, 0.77N×96.88E, h44km±3km, MW4.7/19, Centroid moment Tensor Solution. LP body waves: s16,c20;Mantle waves: s19,c23; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.30±.23; $M_{\theta\theta}$-1.15±.16; $M_{\phi\phi}$-0.15±.22; $M_{r\theta}$0.69±.17; $M_{\theta\phi}$0.73±.09; $M_{\phi r}$0.15±.25; Best double couple: $M_0$1.597×10^{16} NP1:ϕ_s317°,δ38°, λ120°. NP2:ϕ_s100°,δ58°,λ69°. Principal axes: T 1.551, Plg69°, Azm325°; N .084, Plg18°, Azm112°; P -1.643, Plg11°, Azm205°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **11** 06:59:03.6±0.5, 1.33N×97.12E, h30km, mb4.9/15, MS4.9/1 Error ellipse: s-maj=12.9km s-min=8.1km az=49.0*

ISC 11 06:59:02.4±1.1**, 1.36N**±0.06×**97.11E**±0.06**, h34**km±9km**, h31**km±3.2km**:pP-P, n95, σ0.99**/97**, mb4.8**/53**, MS4.3**/22**, 4C-4D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.05**	**51**	P	**P**	**07 00 18.5**	**+0.7**
KULM	**Kulim**	**5.26**	**42**	⇑*e*P	**P**	**07 00 20.0**	**-0.7**
KGM	**Kluang**	**6.24**	**84**	P	**P**	**07 00 35.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**17.08**	**6**	P	**P**	**07 02 58.5**	**-1.8**
	0.7nm,0.3s,baz=195,slow=13,SNR=18						
CMAR				LR	LR	07 10 06.1	
	comp=Z,572nm,18.6s,baz=185,slow=39						
CHG	**Chiang Mai**	**17.43**	**6**	P	**P**	**07 03 03.0**	**-1.7**
NANT	**Nan**	**17.68**	**11**	⇑P	**P**	**07 03 08.0**	**+0.2**
	78nm,0.6s						
KKM	**Kota Kinabalu**	**19.62**	**76**	*e*P	**P**	**07 03 30.8**	**-0.2**
KKM	**Kota Kinabalu**	**19.62**	**76**	P	**P**	**07 03 31.5**	**+0.6**
MDRS	**Chennai**	**20.35**	**306**	*e*	**P**	**07 03 51.0**	**+12**
MDRS				*e*		07 10 17.0	
MDRS				*e*		07 15 48.0	
TSM	**Tawau**	**20.94**	**82**	P	**P**	**07 03 44.7**	**-0.1**
QIZ	**Qiongzhong**	**21.54**	**35**	P	**P**	**07 03 49.4**	**-1.4**
QIZ				S	**S**	**07 07 42.9**	**+0.3**
QIZ				LR	LR		
	comp=N,517nm,14.8s,MS4.2						
QIZ				LR	LR		
	comp=E,625nm,15.0s,MS4.2						
QIZ				LR	LR		
	comp=Z,512nm,15.4s,MS4.0						
KMI	**Kunming**	**24.24**	**13**	P	**P**	**07 04 18.9**	**+1.5**
KMI				AP		07 04 27.1	
KMI				XP		07 04 32.9	
KMI				PP	PP	07 04 56.1	+3.4
KMI				PPP	PPP	07 05 06.8	+3.8
KMI				S	**S**	**07 08 35.2**	**+4.3**
KMI				XS		07 08 49.5	
KMI				SS	SS	07 09 30.6	+6.0
KMI				SSS	SSS	07 09 47.0	+5.8
KMI				AMB	AMB		
	comp=Z,54nm,1.3s,mb4.8						
KMI				AMB	AMB		
	comp=Z,240nm,3.6s						
KMI				LR	LR		
	comp=N,1μm,15.0s,MS4.7						
KMI				LR	LR		
	comp=E,974nm,13.3s,MS4.7						
KMI				LR	LR		
	comp=Z,2μm,14.5s,MS4.7						
KMI	**Kunming**	**24.24**	**13**	P	**P**	**07 04 18.9**	**+1.5**
	comp=Z,54nm,1.3s,mb4.8						
KMI				pP		07 04 27.1	
KMI				sP		07 04 32.9	
KMI				PP	PP	07 04 56.1	+3.4
KMI				PPP	PPP	07 05 06.8	+3.8
KMI				S	**S**	**07 08 35.2**	**+4.3**
KMI				sS		07 08 49.5	
KMI				SS	SS	07 09 30.6	+6.0
KMI				SSS	SSS	07 09 47.0	+5.8
KMI				LR	LR		
	comp=Z,2μm,14.5s,MS4.7						
SHL	**Shillong**	**24.58**	**349**	*e*P	**P**	**07 04 21.0**	**+0.2**
GYA	**Guiyang**	**26.59**	**19**	⇑*i*P	**P**	**07 04 39.3**	**-0.3**
GYA				AP	pP	07 04 48.6	-0.6
GYA				XP	sP	07 04 52.9	-0.4
GYA				PP	PP	07 05 28.6	+4.7
GYA				S	**S**	**07 09 09.8**	**-0.2**
GYA				XS		07 09 32.7	
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,280nm,3.8s						
GYA				LR	LR		
	comp=N,1μm,13.5s,MS4.7						
GYA				LR	LR		
	comp=E,410nm,12.6s,MS4.7						
GYA				LR	LR		
	comp=Z,2μm,14.4s,MS4.8						
PKI	**Pulchoki**	**28.37**	**338**	*e*P	**P**	**07 04 56.4**	**+0.7**
	comp=Z,50nm,1.2s,mb5.0						
PKI	**Pulchoki**	**28.37**	**338**	*e*P	**P**	**07 04 56.4**	**+0.7**
PKI				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.7						
GUN	**Gumba**	**28.50**	**339**	*e*P	**P**	**07 04 58.1**	**+1.2**
	comp=Z,56nm,0.6s,mb5.5						
DMN	**Daman**	**28.52**	**337**	*e*P	**P**	**07 04 58.4**	**+1.3**
	comp=Z,50nm,1.1s,mb5.2						
KKN	**Kakani**	**28.61**	**338**	*e*P	**P**	**07 04 59.2**	**+1.3**
	comp=Z,67nm,1.0s,mb5.3						
KKN	**Kakani**	**28.61**	**338**	*e*P	**P**	**07 04 59.2**	**+1.3**
KKN				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.0						
LSA	**Lhasa**	**28.75**	**349**	*e*P	**P**	**07 05 00.5**	**+1.4**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
LSA	**Lhasa**	**28.75**	**349**	*e*P	**P**	**07 05 00.5**	**+1.4**
	comp=Z,12nm,0.8s,mb4.7						
GKN	**Gorkha**	**29.05**	**337**	*e*P	**P**	**07 05 02.5**	**+0.7**
	comp=Z,94nm,1.1s,mb5.4						
KOLN	**Koldanda**	**29.27**	**335**	*e*P	**P**	**07 05 04.9**	**+1.1**
	comp=Z,51nm,0.7s,mb5.3						
CD2	**Chengdu**	**30.05**	**11**	P	**P**	**07 05 10.0**	**-0.7**
ENH	**Enshi**	**31.06**	**21**	*e*P	**P**	**07 05 18.6**	**-1.0**
	comp=Z,49nm,0.8s,mb5.4						
FITZ	**Fitzroy Crossi**	**34.10**	**126**	P	**P**	**07 05 45.4**	**-0.8**
	comp=Z,11nm,1.0s,mb4.7,baz=343,slow=19,SNR=5.0						
XAN	**Xi'an**	**34.34**	**18**	P	**P**	**07 05 47.2**	**-0.9**
XAN				S	**S**	**07 11 12.9**	**+0.6**
XAN				AMB	AMB		
	comp=Z,39nm,1.0s,mb5.3						
XAN				LR	LR		
	comp=N,522nm,14.7s,MS4.5						
XAN				LR	LR		
	comp=E,293nm,13.4s,MS4.5						
XAN				LR	LR		
	comp=Z,992nm,14.9s,MS4.7						
LZH	**Lanzhou**	**35.11**	**10**	*e*P	**P**	**07 05 55.0**	**+0.3**
LZH				AP	pP	07 06 02.5	-2.1
LZH				XP	sP	07 06 05.0	-4.0
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,143nm,4.3s						
LZH				LR	LR		
	comp=E,2μm,17.6s						
LZH				LR	LR		
	comp=Z,2μm,18.6s,MS4.9						
LZH	**Lanzhou**	**35.11**	**10**	*e*P	**P**	**07 05 55.0**	**+0.3**
LZH				*SP	sP	07 06 05.0	-4.0
LZH						07 07 37.0	
LZH				pmax	pmax		
	comp=Z,56nm,1.5s,mb5.3						
LZH				MLR	MLR		
	comp=Z,2μm,18.6s,MS4.9						
LZH	**Lanzhou**	**35.11**	**10**	*e*P	**P**	**07 05 55.0**	**+0.3**
	comp=Z,56nm,1.5s,mb5.3						
LZH				pP	pP	07 06 02.5	-2.1
LZH				sP	sP	07 06 05.0	-4.0
LZH				PP	PP	07 07 37.0	+23
LZH				*e*S	S	07 12 18.3	+54
LZH				sS		07 12 31.1	
LZH				SS		07 15 20.0	
LZH				LR	LR		
	comp=Z,2μm,18.6s,MS4.9						
GTA	**Gaotai**	**37.95**	**3**	*e*P	**P**	**07 06 19.5**	**+0.9**
GTA				AP	pP	07 06 28.6	+0.1
GTA				XP	sP	07 06 32.3	-0.6
GTA				PP	PP	07 07 48.8	0.0
GTA				S	**S**	**07 12 07.7**	**-0.1**
GTA				XS		07 12 23.4	
GTA				SS	SS	07 14 44.5	-0.7
GTA				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,82nm,5.3s						
GTA				LR	LR		
	comp=N,425nm,13.4s,MS4.5						
GTA				LR	LR		
	comp=E,346nm,13.7s,MS4.5						
GTA				LR	LR		
	comp=Z,437nm,13.4s,MS4.4						
JOW	**Kunigami**	**39.20**	**47**	P	**P**	**07 06 29.2**	**+0.1**
	comp=Z,47nm,0.8s,mb5.3,baz=204,slow=5.2,SNR=8.5						
WRA	**Warramunga Arr**	**42.20**	**122**	*i* P	**P**	**07 06 54.2**	**+0.1**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRA	**Warramunga Arr**	**42.20**	**122**	P	**P**	**07 06 53.5**	**-0.6**
	comp=Z,3.1nm,0.6s,mb4.1,baz=301,slow=9.2,SNR=12						
WRAB	**Tennant Creek**	**42.20**	**122**	*e*P	**P**	**07 06 54.4**	**+0.3**
WB2	**Warramunga Arr**	**42.21**	**122**	*e*P	**P**	**07 06 54.6**	**+0.4**
WMQ	**Urumqi**	**43.10**	**350**	*e*P	**P**	**07 07 02.7**	**+1.6**
WMQ				XP	sP	07 07 16.5	+1.1
WMQ				PP	PP	07 08 45.3	+1.9
WMQ				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,69nm,5.7s						
WMQ				LR	LR		
	comp=N,366nm,18.6s,MS4.5						
WMQ				LR	LR		
	comp=E,364nm,18.3s,MS4.5						
WMQ				LR	LR		
	comp=Z,571nm,19.1s,MS4.5						
JNU	**Nakatsue**	**44.74**	**42**	P	**P**	**07 07 14.8**	**+0.3**
	comp=Z,18nm,0.9s,mb4.9,baz=135,slow=9.6,SNR=4.5						
AAK	**Ala-Archa**	**45.81**	**337**	P	**P**	**07 07 24.8**	**+1.8**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
AAK	**Ala-Archa**	**45.81**	**337**	P	**P**	**07 07 24.8**	**+1.9**
	comp=Z,3.1nm,0.6s,mb4.4						
FRU	**Bishkek**	**45.94**	**337**	*e*P	**P**	**07 07 40.0**	**+16**
SONM	**Songino Array**	**46.98**	**9**	P	**P**	**07 07 32.4**	**+0.3**
	comp=Z,16nm,0.9s,mb4.9,baz=188,slow=8.7,SNR=58						
MKAR	**Makanchi Array**	**47.06**	**346**	*i* P	**P**	**07 07 33.7**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,14nm,0.9s						
MKAR	**Makanchi Array**	**47.06**	**346**	P	**P**	**07 07 33.0**	**+0.4**
	comp=Z,14nm,0.9s,mb4.9,baz=162,slow=7.7,SNR=69						
MKAR				LR	LR	07 30 34.2	
	comp=Z,125nm,21.9s,MS3.8,baz=173,slow=40						
ULN	**Ulaanbaatar**	**47.11**	**9**	*d i*P	**P**	**07 07 28.7**	**-4.4**
ULN	**Ulaanbaatar**	**47.11**	**9**	*e*P	**P**	**07 07 28.2**	**-4.8**
	comp=Z,8.4nm,0.9s,mb4.7						
KKAR	**Karatay Array**	**47.87**	**334**	*i* P	**P**	**07 07 39.1**	**0.0**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
ZAK	**Zakamensk**	**49.12**	**5**	*e*P	**P**	**07 07 48.3**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
CN2	**Changchun**	**49.20**	**27**	*e*P	**P**	**07 07 49.4**	**0.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,15.0s,MS4.7						
CN2				LR	LR		
	comp=E,500nm,15.0s,MS4.7						
CN2				LR	LR		
	comp=Z,400nm,16.0s,MS4.5						
TLY	**Talaya**	**50.44**	**5**	*e*P	**P**	**07 07 59.9**	**+1.1**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
TLY				MLR	MLR		
	comp=Z,326nm,16.0s,MS4.4						
MJAR	**Matsushiro Arr**	**51.63**	**42**	P	**P**	**07 08 07.1**	**-0.9**
	comp=Z,1.2nm,0.3s,mb4.3,baz=220,slow=6.3,SNR=6.1						
MDJ	**Mudanjiang**	**51.77**	**29**	P	**P**	**07 08 09.5**	**+0.6**
MDJ				AP	pP	07 08 18.3	-0.7
MDJ				XP	sP	07 08 22.6	-0.6
MDJ				PCP	PcP	07 09 20.9	-1.0
MDJ				PP	PP	07 10 04.1	-3.2
MDJ				SCP		07 13 15.1	
MDJ				PCS		07 13 18.7	
MDJ				S	**S**	**07 15 27.9**	**+0.8**
MDJ				SCS	ScS	07 17 56.7	+3.6
MDJ				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,109nm,3.9s						
MDJ				LR	LR		
	comp=N,104nm,18.1s,MS4.1						
MDJ				LR	LR		
	comp=E,119nm,17.2s,MS4.1						
MDJ				LR	LR		
	comp=Z,214nm,16.4s,MS4.3						
MDJ	**Mudanjiang**	**51.77**	**29**	*e*P	**P**	**07 08 10.1**	**+1.2**
	comp=Z,12nm,0.8s,mb4.9						
CIT	**Chita**	**52.33**	**13**	*e*P	**P**	**07 08 14.1**	**+1.1**
CIT				*e*		07 08 21.0	
CIT				pmax	pmax		
	comp=Z,50nm,1.5s,mb5.2						
ZAL	**Zalesovo**	**53.38**	**351**	*i* P	**P**	**07 08 21.0**	**+0.2**
ZAL				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZAL	**Zalesovo**	**53.38**	**351**	P	**P**	**07 08 20.3**	**-0.5**
	comp=Z,9.7nm,0.5s,mb5.0,baz=318,slow=5.5,SNR=14						
ZAL	**Zalesovo**	**53.38**	**351**	P	**P**	**07 08 20.3**	**-0.5**
STKA	**Stephens Creek**	**53.53**	**132**	P	**P**	**07 08 22.6**	**+0.4**
	comp=Z,5.1nm,0.9s,mb4.4,baz=298,slow=7.7,SNR=5.4						
NVS	**Novosibirsk**	**54.50**	**350**	*e*P	**P**	**07 08 26.8**	**-2.2**
NVS				*e*		07 08 44.7	
NVS				*e*S	**S**	**07 16 03.2**	**-0.8**
NVS				pmax	pmax		
	comp=N,6.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
NVS				pmax	pmax		
	comp=E,4.0nm,0.6s						
NVS				smax			
	comp=N,9.0nm,1.6s						
NVS				smax			
	comp=E,18nm,1.6s						
VOSK	**Vostochnaya**	**55.62**	**341**	P	**P**	**07 08 36.9**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
BVA0	**Borovoye Array**	**56.07**	**341**	*i* P	**P**	**07 08 39.2**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
BVAR	**Borovoye Array**	**56.07**	**341**	P	**P**	**07 08 39.2**	**-1.2**
	comp=Z,6.0nm,0.7s,mb4.7,baz=149,slow=8.6,SNR=45						
KLR	**Kul'dur**	**56.15**	**27**	*e*P	**P**	**07 08 38.6**	**-2.4**
KLR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
KLR				MLR	MLR		
	comp=N,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,800nm,13.0s,MS5.0						
ZRNK	**Zerenda**	**56.47**	**340**	P	**P**	**07 08 42.7**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
AB31	**Akbulak array**	**57.33**	**332**	*i* P	**P**	**07 08 48.8**	**-0.7**
AB31				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
BOD	**Bodaibo**	**57.87**	**11**	*e*P	**P**	**07 08 49.3**	**-3.8**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
KMBO	**Kilima Mbogo**	**59.90**	**268**	LR	LR	07 30 41.3	
	comp=Z,87nm,19.1s,MS3.9,baz=110,slow=32						
YSS	**Yuzh-Sakhalins**	**60.26**	**34**	*e*P	**P**	**07 09 10.7**	**+0.8**
YSS				*e*	pP	07 09 22.4	+2.2
YSS				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.3						
YSS				MLR	MLR		
	comp=E,200nm,16.0s						
YSS	**Yuzh-Sakhalins**	**60.26**	**34**	*e*P	**P**	**07 09 10.8**	**+0.9**
	comp=E,7.2nm,0.4s,mb5.1						
SVE	**Sverdlovsk**	**62.50**	**338**	⇓*e*P	**P**	**07 09 24.8**	**0.0**
SVE				*e*		07 10 07.0	
SVE				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.4						
ARU	**Arti**	**63.00**	**337**	*e*P	**P**	**07 09 27.3**	**-0.8**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
ARU	**Arti**	**63.00**	**337**	*e*P	**P**	**07 09 27.3**	**-0.8**
	comp=Z,7.5nm,0.8s,mb4.9						
YAK	**Yakutsk**	**65.29**	**16**	*d i*P	**P**	**07 09 42.5**	**-0.4**
YAK				pmax	pmax		
	comp=Z,51nm,0.9s,mb5.5						
YAK				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.6						
YAK	**Yakutsk**	**65.29**	**16**	*e*P	**P**	**07 09 41.9**	**-1.0**
	comp=Z,62nm,1.0s,mb5.6						
BRTR	**Keskin Array B**	**68.94**	**312**	P	**P**	**07 10 03.0**	**-3.2**
	comp=Z,0.3nm,0.3s,mb3.7,baz=153,slow=44,SNR=3.7						
OBN	**Obninsk**	**72.43**	**328**	⇑*e*P	**P**	**07 10 35.2**	**+8.2**
OBN				*e*S	S	07 19 55.5	+8.2
OBN				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
MAW	**Mawson**	**72.85**	**193**	LR	LR	07 38 59.3	
	comp=Z,15nm,18.2s,MS3.3,baz=226,slow=33						
SEY	**Seymchan**	**73.65**	**23**	*e*P	**P**	**07 10 34.6**	**+0.5**
SEY				pmax	pmax		
	comp=N,10.0nm,1.0s						
SEY				pmax	pmax		
	comp=E,7.0nm,1.0s						
SEY				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BOSA	**Boshof**	**74.78**	**240**	LR	LR	07 42 28.0	
	comp=Z,108nm,18.1s,MS4.2,baz=39,slow=35						
AKASG	**Malin Array Be**	**75.07**	**322**	P	**P**	**07 10 41.2**	**-1.3**
	comp=Z,1.8nm,0.6s,mb4.2,baz=92,slow=4.4,SNR=12						
FINES	**FINESS Array B**	**79.81**	**333**	*i* P	**P**	**07 11 09.0**	**+0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**79.81**	**333**	P	**P**	**07 11 08.2**	**-0.5**
	comp=Z,1.9nm,0.6s,mb4.2,baz=108,slow=6.0,SNR=11						
FINES				LR	LR	07 49 43.9	
	comp=Z,48nm,18.9s,MS3.9,baz=126,slow=38						
KAF	**Kangasniemi**	**79.90**	**333**	*e*p	**P**	**07 11 06.0**	**-3.2**
	comp=Z,3.2nm,0.6s,mb4.4						
KAF	**Kangasniemi**	**79.90**	**333**	*e*P	**P**	**07 11 06.0**	**-3.2**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BILL	**Bilibino**	**81.04**	**21**	⇓*e*P	**P**	**07 11 27.4**	**+12**
BILL				*e*		07 14 15.7	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BILL				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.7						
ARCES	**ARCESS Array B**	**82.35**	**340**	P	**P**	**07 11 22.3**	**+0.4**
	comp=Z,1.7nm,0.5s,mb4.2,baz=101,slow=4.5,SNR=26						
ARCES				LR	LR	07 52 14.3	
	comp=Z,94nm,19.3s,MS4.2,baz=88,slow=39						
GERES	**GERESS Array B**	**84.63**	**319**	P	**P**	**07 11 34.1**	**+0.3**
	comp=Z,1.2nm,0.8s,mb4.1,baz=112,slow=14,SNR=4.5						
NB2	**NORSAR Subarra**	**86.82**	**331**	P	**P**	**07 11 44.6**	**+0.3**
	comp=Z,1.7nm,0.8s,mb4.3,baz=94,slow=4.6						
NB2	**NORSAR Subarra**	**86.82**	**331**	P	**P**	**07 11 44.6**	**+0.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4						
NOA	**NORSAR Array B**	**86.82**	**331**	P	**P**	**07 11 43.1**	**-1.2**
	comp=Z,1.6nm,0.8s,mb4.3,baz=94,slow=4.9,SNR=7.9						
NOA				LR	LR	07 56 19.8	
	comp=Z,48nm,19.9s,MS3.9,baz=95,slow=40						
TXAR	**Lajitas Array**	**143.58**	**31**	PKP	PKPdf	07 18 33.5	-0.8
	comp=Z,0.5nm,0.7s,baz=21,slow=0.9,SNR=9.2						
CPUP	**Villa Florida**	**145.06**	**223**	PKP	PKPdf	07 18 38.9	+1.9
	comp=Z,2.2nm,0.8s,baz=54,slow=1.3,SNR=6.8						
CPUP	**Villa Florida**	**145.06**	**223**	PKP	PKPdf	07 18 38.9	+1.9

GUC 11 07:08:36.5±0.5**, 24.18S**×**67.63W, h238**km±9km**, ML4.0, 1C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.36**	**337**	⇓*i*P	P	07 09 14.2	+1.2
SPCH				*i* S	S	07 09 43.4	+2.0
SPCH				AMP		07 09 44.9	
	comp=N,235nm,0.6s						
LVC	**Limon Verde**	**1.95**	**323**	*i* P	P	07 09 19.7	+1.9
LVC				*i* S	S	07 09 52.1	+2.3
LVC				AMP		07 09 53.4	
	comp=E,277nm,0.5s						
CPN1	**Cerro Paranal**	**2.57**	**259**	*e*P	P	07 09 26.0	+2.0
CPN1				*i* P		07 09 26.1	
CPN1				*i* S	S	07 10 03.8	+2.9
CPN1				AMP		07 10 07.8	
	comp=E,422nm,0.2s						
ANCH	**Antofagasta**	**2.59**	**280**	⇑*i*P	P	07 09 27.3	+3.0
ANCH				*i* S	S	07 10 04.5	+3.2
ANCH				AMP		07 10 07.0	
	comp=N,994nm,0.1s						

*NEIC **11** 07:22:32.7±1.6, 10.55S×165.17E, h94km±13km, mb4.3/2, Error ellipse: s-maj=19.1km s-min=12.6km az=64.0*

*IDC **11** 07:22:32.5±3.3, 10.58S×165.26E, h95km±27km, mb3.8/6, mb1 4.1/8, mb1mx3.9/16, mbtmp4.3/8, MS3.5/2, Ms1 3.5/2, ms1mx3.1/15, Error ellipse: s-maj=27.8km s-min=18.5km az=59.0*

ISC 11 07:22:32.0±2.6**, 10.6S**±0.1×**165.2E**±0.1**, h104**km±21km**, n15, σ0.77**/16**, mb4.0**/8**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.31**	**283**	P	**P**	**07 23 49.1**	**-1.2**
	199nm,0.3s,baz=149,slow=2.7,SNR=39						
HNR				S	**S**	**07 24 51.7**	**+0.9**
	38nm,0.3s,baz=261,slow=16,SNR=1.8						
HNR	**Honiara**	**5.31**	**283**	*e*P	**P**	**07 23 48.9**	**-1.4**
HNR				S	**S**	**07 24 51.8**	**+1.0**
DZM	**Mont Dzumac**	**11.44**	**174**	P	**P**	**07 25 14.3**	**+1.1**
	1.5nm,0.3s,baz=278,slow=19,SNR=15						
DZM				S	**S**	**07 27 18.9**	**-0.5**
	1.4nm,0.3s,baz=207,slow=18,SNR=6.5						
PMG	**Port Moresby**	**17.81**	**272**	LR	LR	07 33 00.0	
	comp=Z,180nm,18.3s,baz=210,slow=35						
CTA	**Charters Tower**	**20.53**	**241**	LR	LR	07 33 35.1	
	comp=Z,122nm,21.0s,baz=297,slow=32						
CTAO	**Charters Tower**	**20.53**	**241**	*e*P	**P**	**07 27 04.2**	**+0.1**
STKA	**Stephens Creek**	**30.38**	**222**	P	**P**	**07 28 37.2**	**+0.7**
	3.6nm,0.7s,mb4.1,baz=35,slow=10,SNR=12						
STKA	**Stephens Creek**	**30.38**	**222**	*e*P	**P**	**07 28 36.3**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.13**	**249**	P	**P**	**07 28 41.6**	**-1.6**
	1.0nm,0.7s,mb3.7,baz=79,slow=9.1,SNR=3.6						
CASY	**Casey**	**66.57**	**201**	*e*P	**P**	**07 33 13.3**	**+0.4**
	1.9nm,0.5s,mb4.2						
CMAR	**Chiang Mai Arr**	**71.46**	**294**	P	**P**	**07 33 44.3**	**+0.7**
	1.9nm,0.7s,mb4.0,baz=122,slow=6.0,SNR=8.1						
ULN	**Ulaanbaatar**	**77.66**	**324**	*e*P	**P**	**07 34 14.1**	**-4.6**
	5.3nm,0.8s,mb4.3						
SONM	**Songino Array**	**78.02**	**324**	P	**P**	**07 34 20.6**	**-0.1**
	2.3nm,0.8s,mb4.0,baz=140,slow=6.7,SNR=12						
ILAR	**Eielson Array**	**83.29**	**19**	P	**P**	**07 34 48.2**	**0.0**
	0.5nm,0.5s,mb3.6,baz=240,slow=5.1,SNR=17						
MKAR	**Makanchi Array**	**92.86**	**317**	P	**P**	**07 35 34.4**	**0.0**
	0.7nm,0.5s,mb4.2,baz=88,slow=5.0,SNR=11						

*BJI **11** 08:10:54.4, 21.10S×177.83W, h510km, mB4.7, mb4.0*
*NEIC **11** 08:10:59.1±0.9, 20.72S×178.51W, h510km±10km, mb4.1/15, Error ellipse: s-maj=12.8km s-min=6.9km az=152.0*
*IDC **11** 08:10:59.3±2.5, 20.63S×178.50W, h511km±25km, mb3.6/8, mb1 3.8/10, mb1mx3.6/15, mbtmp4.5/10, Error ellipse: s-maj=46.9km s-min=15.2km az=154.0*
ISC 11 08:10:58.0±1.4, **20.7S**±0.1×**178.57W**±0.08, **h504**km±16km, **n54**, σ0^s**80**/38, **mb4.0**/23, **2C-3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.37**	**45**	P	**P**	**08 13 08.3**	**-1.6**
	3.0nm,0.3s,baz=44,slow=22,SNR=4.9						
AFI	**Afiamalu**	**9.37**	**45**	*e*P	**P**	**08 13 08.3**	**-1.7**
DZM	**Mont Dzumac**	**14.03**	**262**	P	**P**	**08 14 01.0**	**+2.5**
	1.3nm,0.3s,baz=71,slow=16,SNR=12						
RAR	**Rarotonga**	**17.56**	**95**	*e*P	**P**	**08 14 34.7**	**+1.0**
CTA	**Charters Tower**	**32.94**	**265**	P	**P**	**08 16 52.2**	**+0.7**
	3.7nm,0.4s,mb4.2,baz=91,slow=11,SNR=12						
CTAO	**Charters Tower**	**32.94**	**265**	*e*P	**P**	**08 16 52.2**	**+0.7**
	3.9nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**37.22**	**244**	P	**P**	**08 17 27.6**	**+0.6**
	1.2nm,0.7s,mb3.4,baz=80,slow=12,SNR=3.4						
WB2	**Warramunga Arr**	**44.03**	**262**	*e*P	**P**	**08 18 21.1**	**-0.8**
WRAB	**Tennant Creek**	**44.04**	**262**	*e*P	**P**	**08 18 21.1**	**-0.7**
	3.4nm,0.3s,mb4.2						
WRA	**Warramunga Arr**	**44.05**	**262**	P	**P**	**08 18 21.4**	**-0.6**
	1.5nm,0.3s,mb3.9,baz=96,slow=7.3,SNR=81						
FITZ	**Fitzroy Crossi**	**52.47**	**263**	*e*P	**P**	**08 19 25.1**	**-0.3**
	19nm,1.5s,mb4.2						
SBA	**Scott Base**	**57.62**	**184**	*e*P	**P**	**08 20 00.9**	**+0.3**
	1.8nm,0.9s,mb3.4						
CASY	**Casey**	**63.54**	**205**	*e*P	**P**	**08 20 38.3**	**-1.3**
	1.0nm,0.4s,mb3.7						
QSPA	**South Pole Qui**	**69.35**	**180**	⇓*i*P	**P**	**08 21 14.9**	**-0.4**
	2.9nm,0.7s,mb3.9						
MJAR	**Matsushiro Arr**	**70.07**	**324**	P	**P**	**08 21 19.7**	**-0.6**
	1.0nm,0.3s,mb3.9,baz=163,slow=6.7,SNR=8.7						
MDJ	**Mudanjiang**	**80.39**	**325**	P	**P**	**08 22 17.6**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,46nm,4.0s						
YBH	**Yreka Blue Hor**	**80.79**	**39**	*e*P	**P**	**08 22 20.5**	**+1.0**
	comp=Z,4.8nm,0.7s,mb4.1						
HUMO	**Hull Mountain**	**81.19**	**38**	*e*P	**P**	**08 22 22.3**	**+0.8**
	comp=Z,6.1nm,1.1s,mb4.0						
BMO	**Blue Mountains**	**85.82**	**39**	*e*P	**P**	**08 22 44.1**	**-0.3**
	comp=Z,1.8nm,0.6s,mb3.9						
HLID	**Hailey**	**86.84**	**41**	*e*P	**P**	**08 22 49.9**	**+0.6**
	comp=Z,2.6nm,1.0s,mb3.9						
SRU	**San Rafael**	**87.06**	**46**	*e*P	**P**	**08 22 50.5**	**+0.1**
MCK	**McKinley**	**87.30**	**13**	*e*P	**P**	**08 22 49.6**	**-1.3**
	comp=Z,3.6nm,0.9s,mb4.1						
TXAR	**Lajitas Array**	**87.62**	**58**	P	**P**	**08 22 54.0**	**+0.7**
	comp=Z,2.0nm,0.9s,mb3.9,baz=216,slow=6.5,SNR=22						
TXAR	**Lajitas Array**	**87.62**	**58**	P	**P**	**08 22 54.0**	**+0.7**
VNA3	**Neumayer Olymp**	**87.96**	**176**	*e*	**P**	**08 22 54.0**	**+0.1**
VNA3	**Neumayer Olymp**	**87.96**	**176**	⇑*i*P	**P**	**08 22 52.6**	**-1.3**
VNA3				*e*		08 22 54.0	
GDL2	**Guadalupe Moun**	**88.31**	**55**	*e*P	**P**	**08 22 56.9**	**+0.4**
VNA2	**Neumayer--Watz**	**88.39**	**177**	*e*	**P**	**08 22 56.3**	**+0.3**
VNA2	**Neumayer--Watz**	**88.39**	**177**	⇑*i*P	**P**	**08 22 55.0**	**-1.0**
VNA2				*e*		08 22 56.3	
MCMT	**McKenzie Canyo**	**88.46**	**40**	*e*P	**P**	**08 22 57.4**	**+0.6**
ILAR	**Eielson Array**	**88.64**	**13**	P	**P**	**08 22 56.1**	**-1.1**
	comp=Z,2.4nm,0.5s,mb4.3,baz=222,slow=5.0,SNR=34						
SNOW	**Snow King Moun**	**89.06**	**42**	*e*P	**P**	**08 22 59.8**	**+0.1**
	comp=Z,7.2nm,1.0s,mb4.5						
IMW	**Indian Meadow**	**89.16**	**42**	*e*P	**P**	**08 23 00.5**	**+0.4**
	comp=Z,6.0nm,1.1s,mb4.3						
BW06	**Boulder Array**	**89.48**	**43**	*e*P	**P**	**08 23 01.5**	**-0.2**
PDAR	**Pinedale Array**	**89.48**	**43**	P	**P**	**08 23 01.6**	**-0.1**
	comp=Z,2.7nm,0.6s,mb4.2,baz=220,slow=3.1,SNR=27						
BOZ	**Bozeman (W)**	**89.62**	**40**	*e*P	**P**	**08 23 02.4**	**+0.1**
	comp=Z,1.2nm,0.6s,mb3.9						
CMAR	**Chiang Mai Arr**	**89.69**	**290**	P	**P**	**08 23 04.1**	**+0.9**
	comp=Z,1.4nm,0.7s,mb3.9,baz=122,slow=2.6,SNR=6.8						
SDCO	**Great Sand Dun**	**89.90**	**49**	*e*P	**P**	**08 23 03.5**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.8						
ARCES	**ARCESS Array B**	**129.04**	**349**	PKP	PKPdf	08 29 06.6	-0.8
	comp=Z,2.7nm,0.7s,slow=1.2,SNR=14						
FINES	**FINESS Array B**	**135.83**	**343**	PKP	PKPdf	08 29 20.6	+0.3
	comp=Z,1.0nm,0.6s,SNR=7.9						
NB2	**NORSAR Subarra**	**139.13**	**353**	PKPabc	PKPdf	08 29 19.6	-6.7
	comp=Z,0.6nm,0.6s,baz=12,slow=3.1						
NOA	**NORSAR Array B**	**139.13**	**353**	PKhKP		08 29 19.4	
	comp=Z,0.6nm,0.5s,baz=3.3,slow=2.5,SNR=4.0						
AKASG	**Malin Array Be**	**142.94**	**331**	PKhKP		08 29 30.3	
	comp=Z,3.9nm,0.4s,baz=41,slow=4.3,SNR=45						
BRTR	**Keskin Array B**	**146.59**	**312**	PKPbc	PKPbc	08 29 42.7	+0.9
	comp=Z,1.8nm,0.5s,baz=142,slow=3.9,SNR=9.5						
BURAR	**Bucovina Array**	**146.99**	**330**	⇓P	PKPdf	08 29 44.8	+4.6
KOLS	**Kolonicke sedl**	**147.28**	**334**	*e*PKP	PKPdf	08 29 45.1	+4.5
UPC	**Upice**	**148.12**	**342**	*e*PKP	PKPdf	08 29 46.8	+4.9
CLL	**Collm**	**148.15**	**346**	⇓*i*PKP1	PKPdf	08 29 46.3	+4.4
CLL				*e*PKP2	PKPab	08 29 51.0	-2.0
DPC	**Dobruska-Polom**	**148.17**	**342**	*e*PKP	PKPdf	08 29 46.8	+4.8
VYHS	**Vyhne**	**148.96**	**337**	*e*PKP	PKPdf	08 29 49.0	+5.7
PRU	**Pruhonice**	**148.99**	**343**	*e*PKP	PKPdf	08 29 48.7	+5.4
NKC	**Novy Kostel**	**149.28**	**346**	*e*PKP	PKPdf	08 29 48.7	+4.9
KHC	**Kasperske Hory**	**150.03**	**344**	*e*PKP	PKPdf	08 29 51.1	+6.1
GERES	**GERESS Array B**	**150.26**	**344**	PKPbc	PKPdf	08 29 51.8	+6.4
	comp=Z,2.1nm,0.6s,baz=90,slow=2.7,SNR=7.2						

*NEIC **11** 08:20:21.1±2.6, 18.78S×169.44E, h236km±31km, Error ellipse: s-maj=75.5km s-min=29.5km az=151.0*
*IDC **11** 08:20:21.0±3.5, 18.72S×169.40E, h232km±36km, mb3.5/5, mb1 3.7/6, mb1mx3.5/13, mbtmp4.1/6, Error ellipse: s-maj=61.8km s-min=26.1km az=152.0*
ISC 11 08:20:21.8±2.5, **19.2S**±0.5×**169.5E**±0.4, **h256**km±30km, **n11**, σ1^s**54**/14, **mb3.7**/5, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.05**	**224**	*e*P	**P**	**08 21 27.2**	**+0.3**
DZM				*e*S	**S**	**08 22 12.9**	**-4.7**
DZM	**Mont Dzumac**	**4.05**	**224**	P	**P**	**08 21 28.3**	**+1.4**
	3.4nm,0.3s,baz=57,slow=16,SNR=30						
DZM				S	**S**	**08 22 16.2**	**-1.4**
	6.3nm,0.3s,baz=306,slow=22,SNR=5.3						
DZM	**Mont Dzumac**	**4.05**	**224**	*e*P	**P**	**08 21 27.2**	**+0.3**
DZM				*e*S	**S**	**08 22 12.9**	**-4.7**
NOUC	**Port Laguerre**	**4.16**	**225**	*e*P	**P**	**08 21 30.3**	**+2.1**
NOUC				*e*S	**S**	**08 22 18.3**	**-1.7**
CTA	**Charters Tower**	**21.89**	**264**	P	**P**	**08 24 56.3**	**+1.5**
	3.3nm,0.7s,mb3.8,baz=76,slow=12,SNR=3.3						
STKA	**Stephens Creek**	**28.07**	**238**	P	**P**	**08 25 53.7**	**+1.8**
	3.0nm,0.6s,mb3.9,baz=65,slow=9.3,SNR=11						
STKA	**Stephens Creek**	**28.07**	**238**	*e*P	**P**	**08 25 53.1**	**+1.2**
WRA	**Warramunga Arr**	**33.08**	**263**	P	**P**	**08 26 33.5**	**-2.2**
	0.4nm,0.3s,mb3.5,baz=85,slow=6.7,SNR=20						
SONM	**Songino Array**	**87.30**	**323**	P	**P**	**08 32 40.8**	**+0.2**
	1.4nm,0.7s,mb3.9,baz=140,slow=5.3,SNR=9.2						
ILAR	**Eielson Array**	**90.10**	**17**	P	**P**	**08 32 51.8**	**-1.6**
	0.5nm,0.4s,mb3.7,baz=239,slow=5.1,SNR=16						
ARCES	**ARCESS Array B**	**125.06**	**345**	PKP	PKPdf	08 38 51.8	+0.7
	0.4nm,0.4s,baz=63,slow=4.0,SNR=5.1						

*ATH **11** 08:28:04.9, 36.46N×27.29E, h77km±7km*
*CSEM **11** 08:28:04.1±0.1, 36.50N×27.19E, h10km, MD3.1, Error ellipse: s-maj=2.6km s-min=1.9km az=90.0*
*ISK **11** 08:28:05.3, 36.57N×27.13E, h19km, MD3.1*
ISC 11 08:28:05.4±0.6, **36.53N**±0.03×**27.18E**±0.05, **h10**km, **n14**, σ0^s**85**/25, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.55**	**11**	PG	**Pg**	**08 28 15.6**	**-0.9**
BODT				SG	**Sg**	**08 28 23.9**	**0.0**
BDRM	**Kayabasi**	**0.58**	**22**	*i* P	**Pg**	**08 28 16.2**	**-0.9**
BDRM				*i* S	**Sg**	**08 28 24.0**	**-1.0**
ARG	**Arkhangelos**	**0.83**	**112**	*e*P	**Pb**	**08 28 21.1**	**-0.3**
ARG				*e*S	**Sb**	**08 28 33.6**	**+1.3**
MLSB	**Milas**	**0.91**	**32**	*e*PG	**Pg**	**08 28 22.3**	**-1.3**
MLSB				*e*SG	**Sg**	**08 28 36.1**	**+0.3**
KARP	**Karpathos**	**0.98**	**181**	*e*P	**Pb**	**08 28 23.6**	**-0.4**
KARP				*e*S	**Sb**	**08 28 36.9**	**+0.2**
YER	**Yerkesik**	**1.08**	**55**	PN	**Pn**	**08 28 25.7**	**-0.8**
DALT	**Dalyan (Mudla)**	**1.20**	**78**	PN	**Pn**	**08 28 28.4**	**+0.1**
DALT				SN	**Sn**	**08 28 44.8**	**+0.1**
SMG	**Samos**	**1.21**	**347**	*e*P	**Pb**	**08 28 28.1**	**+0.1**
SMG				*e*S	**Sb**	**08 28 45.6**	**+2.0**
SMG	**Samos**	**1.21**	**347**	*e*P	**Pb**	**08 28 27.5**	**-0.5**
SMG				*e*S	**Sb**	**08 28 45.2**	**+1.6**
AYDN	**Tasoluk**	**1.27**	**26**	*i* P	**Pb**	**08 28 29.0**	**+0.1**
AYDN				*i* S	**Sb**	**08 28 46.2**	**+1.1**
APE	**Apeiranthos**	**1.43**	**293**	PN	**Pn**	**08 28 30.5**	**-1.0**
APE	**Apeiranthos**	**1.43**	**293**	*e*P	**Pn**	**08 28 32.1**	**+0.6**
URLA	**Izmir**	**1.89**	**346**	*i* P	**Pn**	**08 28 39.4**	**+1.2**
URLA				*i* S	**Sn**	**08 29 08.7**	**+6.5**
GOLH	**Golhisar**	**2.04**	**69**	*i* P	**Pn**	**08 28 45.5**	**+5.2**
GOLH				*i* S	**Sn**	**08 29 11.8**	**+5.8**

IDC 11 08:52:35.8±5.9, **52.11N**×**175.27E**, **h43**km±41km, **mb3.2**/4, **mb1 3.4**/4, **mb1mx3.2**/20, **mbtmp3.4**/4, **Error ellipse: s-maj=64.6km s-min=23.5km az=2.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**1.51**	**302**	P	P	08 53 00.2	-0.5
	baz=41,slow=2.5						
FX1				S	S	08 53 18.6	-0.8
	145nm,0.3s,baz=270,slow=20,SNR=5.9						
ILAR	**Eielson Array**	**23.08**	**42**	P	P	08 57 36.9	-1.0
	0.2nm,0.8s,baz=252,slow=8.6,SNR=3.5						
SONM	**Songino Array**	**43.00**	**293**	P	P	09 00 31.1	-1.0
	0.5nm,0.5s,baz=69,slow=9.4,SNR=4.7						
MKAR	**Makanchi Array**	**56.64**	**305**	P	P	09 02 13.3	-3.2
	0.5nm,0.4s,baz=63,slow=5.4,SNR=4.4						
NOA	**NORSAR Array B**	**66.48**	**352**	P	P	09 03 20.8	-1.5
	0.1nm,0.4s,baz=12,slow=6.4,SNR=3.5						

KRSC 11 09:03:32.0±0.3, **49.04N**×**155.65E**, **h84**km±17km, **ML4.1, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.83**	**358**	*e*P	P	09 04 02.4	+0.1
ALID				*e*S	S	09 04 24.8	+0.2
PAU	**Pauzhetka**	**2.54**	**17**	*e*P	P	09 04 14.0	+1.9
PAU				*e*S	S	09 04 44.6	+2.5
PAU				Smax			
	770nm,0.1s						
GRL	**Gorelyy**	**3.84**	**23**	*e*P	P	09 04 30.5	+0.4
GRL				*e*S	S	09 05 13.4	-0.9
RUS	**Russkaya**	**3.85**	**27**	*e*P	P	09 04 30.4	+0.1
RUS				*e*S	S	09 05 13.1	-1.5
UGLR	**Uglovaya**	**4.63**	**24**	*e*P	P	09 04 41.9	+0.9
KOK	**Koryaka**	**4.65**	**23**	*e*P	P	09 04 42.7	+1.3
AVH	**Avacha**	**4.66**	**23**	*e*P	P	09 04 40.8	-0.6
SMAR	**Somma**	**4.67**	**24**	*e*P	P	09 04 42.2	+0.6
SDLR	**Sedlovina**	**4.71**	**24**	*e*P	P	09 04 41.5	-0.6
NLC	**Nalytchevo**	**4.75**	**28**	*e*P	P	09 04 43.1	+0.4
NLC				*e*S	S	09 05 34.7	-2.2
GNL	**Ganaly**	**4.88**	**16**	*e*P	P	09 04 44.3	-0.2
GNL				*e*S	S	09 05 36.8	-3.3
SPN	**Mys Shipunski**	**4.91**	**32**	*e*P	P	09 04 45.4	+0.5
SPN				*e*S	S	09 05 39.0	-1.9
MKZ	**Mys Kozlova**	**6.69**	**32**	*e*P	P	09 05 08.8	-0.6
MKZ				*e*S	S	09 06 19.5	-5.3
ZLN	**Zelenaya**	**7.66**	**22**	*e*P	P	09 05 23.7	+0.9
KBTR	**Krutoberegovo**	**8.40**	**29**	*e*P	P	09 05 31.6	-1.2

IGQ 11 09:28:40.3, 1.11S×**78.37W, h5**km±2km, **mb4.1, 19C-2D, Error ellipse: s-maj=1.4km s-min=0.5km az=3.4, Ecuador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**0.06**	**345**	⇑P	Pg	09 28 42.9	+1.2
RUN5	**Runtun**	**0.31**	**190**	⇑P	Pg	09 28 46.7	+0.3
JUIV	**Juive**	**0.32**	**197**	⇑P	Pg	09 28 46.9	+0.1
ULBA	**Ulba**	**0.34**	**186**	⇑P	Pg	09 28 47.0	-0.1
RETU	**Refugio**	**0.34**	**193**	P	Pg	09 28 47.9	+0.7
CUSU	**Cusua**	**0.35**	**198**	⇑P	Pg	09 28 47.4	+0.1
ARRY	**Arrayan**	**0.40**	**192**	⇑P	Pg	09 28 48.0	-0.3
TAMB	**Tambo**	**0.41**	**0**	⇑P	Pg	09 28 49.1	+0.5
CAMI	**Rancho Maria**	**0.45**	**343**	⇑P	Pg	09 28 50.1	+0.8
IGUA	**Igualata**	**0.46**	**216**	P	Pg	09 28 50.0	+0.5
VC1	**Cotopaxi 1**	**0.47**	**356**	⇑P	Pg	09 28 50.3	+0.7
NAS1	**Nasa**	**0.49**	**347**	⇑P	Pg	09 28 50.8	+0.7
QIL1	**Quilotoa**	**0.62**	**295**	⇑P	Pg	09 28 53.0	+0.3
ANTI	**Antisana**	**0.69**	**18**	⇑P	Pg	09 28 53.7	-0.4
JUA2	**San Juan 2**	**0.92**	**345**	⇑P	Pb	09 28 58.4	0.0
JUA2				S	Sb	09 29 11.3	+0.6
GGP	**Refugio Guagua**	**0.96**	**346**	⇑P	Pb	09 28 59.1	+0.1
TERV	**Terraza Guagua**	**0.96**	**346**	⇑P	Pb	09 28 59.3	+0.2
TERV				S	Sb	09 29 14.0	+2.2
PINO	**Pino**	**0.98**	**346**	⇑P	Pb	09 28 59.5	+0.1
YANA	**Yana**	**1.01**	**349**	⇑P	Pb	09 28 59.8	0.0
YANA				S	Sb	09 29 13.8	+0.6
JOR1	**San Jorge 1**	**1.14**	**346**	⇑P	Pb	09 28 58.3	-3.7
CAYR	**Refugio Cayamb**	**1.18**	**18**	P	Pb	09 29 03.2	+0.5
CAYA	**Cayambe**	**1.24**	**18**	⇓P	Pb	09 29 04.5	+0.8
ECOPE	**Copete-Rev Vol**	**1.25**	**37**	⇓P	Pb	09 29 04.7	+0.7
ECOPE				S	Sb	09 29 21.1	+0.9
CONE	**Cono NE Rev Vo**	**1.27**	**35**	⇑P	Pb	09 29 05.2	+0.9
CONE				S	Sb	09 29 22.0	+1.3
COTA	**Cotacachi**	**1.44**	**1**	P	Pn	09 29 06.9	-0.1
ECEN	**Cerro Negro**	**1.96**	**12**	P	Pn	09 29 17.6	+3.0
LORE	**San Lorenzo**	**2.44**	**349**	P	Pn	09 29 24.8	+3.4

*ATH **11** 09:45:11.7, 39.46N×23.80E, h26km±1km, MD3.2/6*
*NEIC **11** 09:45:11.5, 39.49N×23.76E, h28km, MD3.1(ATH), After ATH.*
*CSEM **11** 09:45:12.6±0.1, 39.49N×23.75E, h25km, ML2.9, Error ellipse: s-maj=1.7km s-min=1.3km az=118.0*
*THE **11** 09:45:13.4, 39.46N×23.72E, h17km, ML2.9*
ISC 11 09:45:13.0±0.4, **39.48N**±0.02×**23.73E**±0.04, **h24**km±4km, **n33**, σ0^s**79**/50, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.33**	**159**	*e*Pg	**Pb**	**09 45 20.1**	**-0.3**
AOS				*e*Sg	**Sb**	**09 45 25.6**	**+0.1**
NEO	**Neokhori**	**0.43**	**246**	*e*PB	**Pb**	**09 45 21.4**	**-0.5**
NEO				*e*SB	**Sb**	**09 45 28.8**	**+0.8**
NEO	**Neokhori**	**0.43**	**246**	*e*Pb	**Pb**	**09 45 21.4**	**-0.5**
NEO				*e*Sb	**Sb**	**09 45 27.6**	**-0.4**
XOR	**Xorichti**	**0.43**	**255**	*e*Pg	**Pb**	**09 45 21.6**	**-0.4**
XOR				*e*Sg	**Sb**	**09 45 28.2**	**+0.1**
XOR	**Xorichti**	**0.43**	**255**	*e*Pg	**Pb**	**09 45 21.6**	**-0.4**
XOR				*e*Sg	**Sb**	**09 45 28.2**	**+0.1**
PAIG	**Paliouri**	**0.45**	**355**	*e*Pg	**Pb**	**09 45 21.9**	**-0.4**
PAIG				*e*Sg	**Sb**	**09 45 30.4**	**+1.8**
OUR	**Ouranopolis**	**0.88**	**13**	*e*Pg	**Pb**	**09 45 29.8**	**+0.4**
	comp=Z,15nm,0.4s						
OUR				*e*Sg	**Sb**	**09 45 42.6**	**+1.9**
PLG	**Polygyros**	**0.92**	**346**	*e*PN	**Pn**	**09 45 29.8**	**-0.6**
PLG				*e*SN	**Sn**	**09 45 42.8**	**-0.1**
PLG	**Polygyros**	**0.92**	**346**	*e*Pn	**Pn**	**09 45 29.9**	**-0.5**
LKR	**Lokris**	**1.00**	**215**	*e*PN	**Pn**	**09 45 31.5**	**-0.1**
LKR				*e*SN	**Sn**	**09 45 45.6**	**+0.5**
LKR	**Lokris**	**1.00**	**215**	*e*Pn	**Pn**	**09 45 31.6**	**0.0**
LKR				*e*Sn	**Sn**	**09 45 45.6**	**+0.5**
LIT	**Litokhoron**	**1.14**	**303**	*e*Pg	**Pn**	**09 45 33.4**	**-0.2**
	comp=Z,3.5nm,0.2s						
LIT				*e*Sg	**Sb**	**09 45 48.8**	**+0.5**
LOS	**Limnos**	**1.14**	**66**	*e*Pg	**Pn**	**09 45 33.1**	**-0.5**
LOS				*e*Sg	**Sn**	**09 45 49.9**	**+1.4**
AGG	**Agios Georgios**	**1.18**	**248**	*e*Pg	**Pn**	**09 45 34.0**	**-0.1**
	comp=Z,4.8nm,0.5s						
AGG				*e*Sg	**Sn**	**09 45 50.4**	**+0.9**
AGG	**Agios Georgios**	**1.18**	**248**	*e*Pg	**Pn**	**09 45 34.0**	**-0.1**
	4.8nm,0.5s						
AGG				*e*Sg	**Sn**	**09 45 50.4**	**+0.9**
LIA	**Limnos Island**	**1.20**	**69**	*e*PN	**Pn**	**09 45 33.6**	**-0.8**
THE	**Thessaloniki**	**1.29**	**333**	*e*Pg	**Pn**	**09 45 35.9**	**+0.1**
MPAR	**Parnis Oros**	**1.33**	**180**	*e*PN	**Pn**	**09 45 36.5**	**+0.2**
SOH	**Sokhos**	**1.37**	**348**	*e*Pg	**Pn**	**09 45 36.6**	**-0.3**
SOH				*e*Sg	**Sn**	**09 45 55.8**	**+1.4**
MGER	**Gerania Oros**	**1.54**	**194**	*e*PN	**Pn**	**09 45 39.5**	**+0.2**
NSAL	**Nisos Salamina**	**1.58**	**188**	*e*PN	**Pn**	**09 45 40.0**	**0.0**
EVR	**Evrytania**	**1.59**	**250**	*e*PN	**Pn**	**09 45 40.7**	**+0.6**
EVR	**Evrytania**	**1.59**	**250**	*e*Pn	**Pn**	**09 45 40.6**	**+0.5**
SRS	**Serrai**	**1.64**	**356**	*e*Pb	**Pb**	**09 45 41.4**	**-0.9**
SRS				*e*Sb	**Sb**	**09 46 02.9**	**+0.3**
NAIG	**Nisos Aigina**	**1.73**	**186**	*e*PN	**Pn**	**09 45 42.5**	**+0.5**
GRG	**Griva**	**1.79**	**326**	*e*Pb	**Pb**	**09 45 43.4**	**-1.5**
GRG				*e*Sb	**Sb**	**09 46 06.3**	**-0.8**
NVR	**Nevrokopi**	**1.87**	**3**	*e*PN	**Pn**	**09 45 44.4**	**+0.4**
NVR	**Nevrokopi**	**1.87**	**3**	*e*Pb	**Pb**	**09 45 42.6**	**-3.7**
MMB	**Musomiste**	**2.11**	**0**	*i* P	**Pn**	**09 45 46.0**	**-1.4**
RDO	**Rodhopi**	**2.16**	**39**	*e*PN	**Pn**	**09 45 47.9**	**-0.3**
RZN	**Rozhen**	**2.33**	**19**	*i* P	**Pn**	**09 45 50.0**	**-0.6**
KKB	**Krupnik**	**2.43**	**349**	*e*P	**Pn**	**09 45 51.0**	**-1.1**
VTS	**Vitosha**	**3.13**	**353**	*i* P	**Pn**	**09 46 02.0**	**0.0**

*BEO **11** 09:45:46.9±0.3, 42.43N×19.75E, h11km*
*TIR **11** 09:45:46.1, 42.43N×19.78E, h8km*
*CSEM **11** 09:45:46.4±0.1, 42.38N×19.83E, h12km, ML2.6, Error ellipse: s-maj=1.2km s-min=1.1km az=106.0*
*NEIC **11** 09:45:48.0, 42.44N×19.73E, h10km, ML2.6(PDG), After PDG.*
ISC 11 09:45:46.9±0.3, **42.40N**±0.02×**19.78E**±0.03, **h10**km, **n35**, σ1^s**01**/66, **14C-3D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.21**	**99**	*i* Pg	**Pg**	**09 45 50.6**	**-0.9**
BCI				*i* Sg	**Sg**	**09 45 54.1**	**-0.5**
PVY	**Plav**	**0.24**	**36**	⇑*i*Pg	**Pg**	**09 45 51.5**	**-0.5**
PVY				*e*Sg	**Sg**	**09 45 55.8**	**+0.5**
PVY	**Plav**	**0.24**	**36**	⇑*i*Pg	**Pg**	**09 45 51.5**	**-0.5**
PVY				*e*Sg	**Sg**	**09 45 55.8**	**+0.4**
PUK	**Puka**	**0.37**	**167**	*i* Pg	**Pg**	**09 45 53.3**	**-1.1**
PUK				*i* Sg	**Sg**	**09 45 59.5**	**0.0**
TTG	**Podgorica**	**0.39**	**274**	⇑*i*Pg	**Pg**	**09 45 53.8**	**-1.0**
TTG				*e*Sg	**Sg**	**09 46 00.2**	**0.0**
TTG	**Podgorica**	**0.39**	**274**	⇑*i*Pg	**Pg**	**09 45 53.8**	**-1.1**
TTG				*e*Sg	**Sg**	**09 46 00.2**	**0.0**
SDA	**Shkodra**	**0.41**	**211**	*i* Pg	**Pg**	**09 45 54.5**	**-0.7**
SDA				*i* Sg	**Sg**	**09 46 02.0**	**+1.2**
IVA	**Berane**	**0.48**	**10**	⇓*i*Pg	**Pg**	**09 45 56.5**	**-0.1**
IVA				*e*Sg	**Sg**	**09 46 03.2**	**+0.1**
IVA	**Berane**	**0.48**	**10**	⇓*i*Pg	**Pg**	**09 45 56.5**	**-0.1**
IVA				*e*Sg	**Sg**	**09 46 03.2**	**+0.1**
KKS	**Kukesi**	**0.57**	**125**	*i* Pg	**Pg**	**09 45 57.5**	**-0.9**
KKS				*i* Sg	**Sg**	**09 46 07.3**	**+1.3**
ULC	**Ulcinj**	**0.59**	**222**	*e*Pg	**Pg**	**09 45 59.0**	**+0.2**
ULC				*e*Sg	**Sg**	**09 46 07.8**	**+1.0**
ULC	**Ulcinj**	**0.59**	**222**	*e*Pg	**Pg**	**09 45 59.0**	**+0.2**
ULC				*e*Sg	**Sg**	**09 46 07.8**	**+1.0**
BUM	**Brajici-Budva**	**0.66**	**262**	⇑*i*Pg	**Pg**	**09 45 59.7**	**-0.6**
BUM				*e*Sg	**Sg**	**09 46 09.2**	**0.0**
BUM	**Brajici-Budva**	**0.66**	**262**	⇑*i*Pg	**Pg**	**09 45 59.7**	**-0.6**
BUM				*e*Sg	**Sg**	**09 46 09.2**	**0.0**
NKY	**Niksic**	**0.71**	**306**	⇑*i*Pg	**Pg**	**09 45 59.9**	**-1.3**
NKY				*e*Sg	**Sg**	**09 46 10.7**	**-0.1**
NKY	**Niksic**	**0.71**	**306**	⇑*i*Pg	**Pg**	**09 45 59.9**	**-1.3**
NKY				*e*Sg	**Sg**	**09 46 10.7**	**-0.1**
QSH	**Qafa e Shtames**	**0.88**	**174**	*i* Pg	**Pg**	**09 46 06.2**	**+1.6**
QSH				*i* Sg	**Sg**	**09 46 20.2**	**+3.8**
QSH	**Qafa e Shtames**	**0.88**	**174**	*e*Pg	**Pg**	**09 46 06.2**	**+1.6**
HCY	**Herceg Novi**	**0.95**	**273**	⇑*i*Pg	**Pg**	**09 46 04.9**	**-1.1**
HCY				*e*Sg	**Sg**	**09 46 18.3**	**-0.4**
HCY	**Herceg Novi**	**0.95**	**273**	⇑*i*Pg	**Pg**	**09 46 04.9**	**-1.1**
HCY				*e*Sg	**Sg**	**09 46 18.3**	**-0.5**
PLE	**Pljevlja**	**0.97**	**343**	⇑*i*Pg	**Pg**	**09 46 05.4**	**-0.9**
PLE				*e*Sg	**Sg**	**09 46 19.5**	**+0.1**
PLE	**Pljevlja**	**0.97**	**343**	⇑*i*Pg	**Pg**	**09 46 05.4**	**-1.0**
PLE				*e*Sg	**Sg**	**09 46 19.5**	**+0.1**
UPM	**Unac-Piva**	**1.03**	**322**	*e*Pg	**Pg**	**09 46 06.8**	**-0.7**
UPM				*e*Sg	**Sg**	**09 46 21.1**	**-0.1**
UPM	**Unac-Piva**	**1.03**	**322**	*e*Pg	**Pg**	**09 46 06.8**	**-0.7**
UPM				*e*Sg	**Sg**	**09 46 21.1**	**-0.1**
BRY	**Bratogost**	**1.04**	**299**	*e*Pg	**Pg**	**09 46 06.6**	**-1.2**
BRY				*e*Sg	**Sg**	**09 46 21.4**	**-0.4**
BRY	**Bratogost**	**1.04**	**299**	*e*Pg	**Pg**	**09 46 06.6**	**-1.2**
BRY				*e*Sg	**Sg**	**09 46 21.4**	**-0.3**
TIR	**Tirane**	**1.05**	**177**	*e*pg?	**Sg**	**09 46 18.4**	**-3.7**
SKO	**Skopje**	**1.30**	**109**	*e*Pn	**Pn**	**09 46 10.5**	**-0.7**
SKO				*i* Sn	**Sn**	**09 46 32.8**	**+4.1**
BBLS	**Bajina Basta -**	**1.49**	**350**	⇑*i*Pn	**Pn**	**09 46 15.2**	**+1.3**
BBLS				Sn	**Sn**	**09 46 35.9**	**+2.4**
BBLS	**Bajina Basta -**	**1.49**	**350**	Pn	**Pn**	**09 46 15.1**	**+1.2**
BBLS				Sn	**Sn**	**09 46 35.9**	**+2.4**
STON	**Ston**	**1.61**	**288**	*i* Pn	**Pn**	**09 46 16.7**	**+1.2**
STON				*i* Sg	**Sg**	**09 46 42.8**	**+2.3**
DIVS	**Divcibare**	**1.70**	**5**	⇓*i*Pn	**Pn**	**09 46 17.7**	**+0.8**
DIVS				Sn	**Sn**	**09 46 40.6**	**+1.7**
BOLS	**Boljevac**	**2.14**	**47**	⇑*i*Pn	**Pn**	**09 46 27.6**	**+4.4**
BOLS				Sn	**Sn**	**09 46 56.9**	**+6.9**
PSZ	**Piszkesteto**	**5.52**	**1**	P	**Pn**	**09 47 09.9**	**-1.2**
PSZ	**Piszkesteto**	**5.52**	**1**	P	**Pn**	**09 47 09.9**	**-1.2**

*NEIC **11** 09:46:19.8, 35.65N×23.29E, h2km, MD3.7(ATH), After ATH.*
*CSEM **11** 09:46:19.8, 35.65N×23.29E, h2km, MD3.7/7, After ATH*
ATH 11 09:46:20.5, 35.66N×**23.33E, h9**km±1km, **MD3.7**/7, **Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.66**	**339**	*e*PB	Pb	09 46 33.0	-0.8
KYTH	**Kithira**	**0.66**	**339**	*e*Pg	Pg	09 46 32.5	-1.3
VAM	**Vamos**	**0.75**	**109**	*e*PB	Pb	09 46 34.9	-0.4
VAM				*e*SB	Sb	09 46 45.7	+0.3
VAM	**Vamos**	**0.75**	**109**	*e*Pg	Pg	09 46 34.5	-1.1
GVD	**Gavdhos**	**1.03**	**143**	*e*Pg	Pg	09 46 39.7	-1.4
GVD	**Gavdhos**	**1.03**	**143**	*e*Pg	Pg	09 46 39.7	-1.4
VLI	**Veliai**	**1.10**	**343**	*e*PB	Pb	09 46 41.2	-0.1
VLI				*e*SB	Sb	09 46 56.4	+0.8
VLI	**Veliai**	**1.10**	**343**	*e*Pb	Pb	09 46 41.2	-0.1
VLI				*e*Sb	Sb	09 46 55.7	+0.1
SANT	**Santorini**	**1.87**	**67**	*e*P	Pn	09 46 52.5	-0.5
ITM	**Ithomi**	**1.89**	**324**	*e*PN	Pn	09 46 54.9	+1.6
NPS	**Neapolis**	**1.91**	**101**	*e*PN	Pn	09 46 55.1	+1.6
XRY	**Khrisi**	**2.09**	**111**	*e*PN	Pn	09 46 58.0	+1.9
XRY	**Khrisi**	**2.09**	**111**	*e*Pg	Pg	09 46 59.0	-3.2
APE	**Apeiranthos**	**2.27**	**51**	*e*PN	Pn	09 46 59.9	+1.2
APE	**Apeiranthos**	**2.27**	**51**	*e*Pn	Pn	09 47 01.5	+2.8

*BJI **11** 09:59:06.5, 5.45S×154.80E, h211km, mB4.6, mb4.7*
*IDC **11** 09:59:07.2±1.8, 5.50S×154.36E, h180km±16km, mb4.1/12, mb1 4.2/15, mb1mx4.1/20, mbtmp4.6/15, Error ellipse: s-maj=13.9km s-min=11.7km az=76.0*
*NEIC **11** 09:59:08.9±1.4, 5.51S×154.42E, h201km±13km, mb4.6/17, Error ellipse: s-maj=11.4km s-min=9.9km az=202.0*
ISC 11 09:59:07.3±1.6, **5.52S**±0.09×**154.40E**±0.08, **h199**km±16km, **n38**, σ0^s**84**/41, **mb4.4**/25, **2C-1D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.73**	**126**	P	**P**	**10 00 44.4**	**-0.4**
	6.1nm,0.3s,baz=322,slow=19,SNR=2.6						
PMG	**Port Moresby**	**8.15**	**241**	P	**P**	**10 01 03.5**	**+0.2**
	1.2nm,0.3s,baz=44,slow=10,SNR=7.3						
PMG				S	**S**	**10 02 40.9**	**+6.9**
	2.2nm,0.3s,baz=350,slow=14,SNR=4.0						
PMG	**Port Moresby**	**8.15**	**241**	*e*P	**P**	**10 01 05.6**	**+2.3**
	52nm,0.9s						
CTA	**Charters Tower**	**16.51**	**208**	*e*P	**P**	**10 02 49.2**	**0.0**
	20nm,0.5s						
CTA	**Charters Tower**	**16.51**	**208**	P	**P**	**10 02 49.6**	**+0.4**
	4.3nm,0.3s,baz=26,slow=13,SNR=43						
CTAO	**Charters Tower**	**16.51**	**208**	*e*P	**P**	**10 02 49.5**	**+0.3**
	26nm,0.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	20.16	146	P	P	10 03 28.0	+0.1
	8.7nm,0.5s,baz=332,slow=11,SNR=14						
KAKA	Kakadu	22.82	250	eP	P	10 03 53.9	-0.2
	22nm,0.5s,mb4.9						
WRAB	Tennant Creek	24.20	232	eP	P	10 04 07.0	-0.1
	28nm,0.6s,mb5.1						
WB2	Warramunga Arr	24.20	232⇑	iP	P	10 04 07.0	-0.2
WB2				eS	S	10 08 12.7	+4.5
WRA	Warramunga Arr	24.21	232	P	P	10 04 07.2	0.0
	16nm,0.5s,mb4.9,baz=56,slow=10.0,SNR=360						
WRA				S	S	10 08 12.4	+4.0
	1.5nm,0.8s,baz=56,slow=15,SNR=4.8						
WRA				ScP		10 11 06.8	
	0.6nm,0.7s,baz=53,slow=3.0,SNR=5.3						
STKA	Stephens Creek	28.83	203	eP	P	10 04 47.9	-1.4
	3.5nm,0.4s,mb4.3						
STKA	Stephens Creek	28.83	203	P	P	10 04 48.0	-1.3
	5.4nm,0.5s,mb4.5,baz=356,slow=8.6,SNR=8.9						
FITZ	Fitzroy Crossi	30.74	244⇑	iP	P	10 05 04.3	-1.9
	4.4nm,0.3s,mb4.6						
FITZ	Fitzroy Crossi	30.74	244	P	P	10 05 04.6	-1.7
	15nm,0.8s,mb4.7,baz=34,slow=4.1,SNR=35						
URZ	Urewera	38.57	151	P	P	10 06 13.8	+1.3
	8.2nm,0.8s,mb4.3,baz=27,slow=9.0,SNR=5.1						
RPZ	Rata Peaks	40.77	161	P	P	10 06 31.1	+0.6
	11nm,0.5s,mb4.5,baz=51,slow=6.8,SNR=9.6						
KLBR	Kellerberrin	43.00	228⇓	iP	P	10 06 47.3	-1.5
	4.3nm,0.5s,mb4.1						
MDJ	Mudanjiang	54.66	338	P	P	10 08 16.9	-0.8
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,35nm,4.3s						
KMI	Kunming	58.71	304	P	P	10 08 47.6	+1.0
KMI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.4						
KMI	Kunming	58.71	304	P	P	10 08 47.6	+1.0
	comp=Z,12nm,1.1s,mb4.4						
CMAR	Chiang Mai Arr	59.62	295	P	P	10 08 53.4	+0.5
	comp=Z,6.8nm,0.8s,mb4.3,baz=108,slow=4.9,SNR=26						
GTA	Gaotai	67.27	317	eP	P	10 09 43.8	+1.2
GTA				AMB	AMB		
	comp=Z,9.0nm,0.4s,mb4.8						
ULN	Ulaanbaatar	67.45	328	eP	P	10 09 38.7	-4.9
	comp=Z,7.2nm,1.0s,mb4.3						
SONM	Songino Array	67.78	327	P	P	10 09 45.9	+0.3
	comp=Z,2.7nm,0.4s,mb4.2,baz=147,slow=5.7,SNR=19						
SHL	Shillong	68.05	300	eP	P	10 09 47.5	-0.1
VNDA	Vanda	72.06	178	P	P	10 10 11.6	+0.5
	comp=Z,1.5nm,0.6s,mb3.8,baz=337,slow=6.3,SNR=15						
VNDA	Vanda	72.06	178	eP	P	10 10 11.3	+0.3
	comp=Z,1.4nm,0.9s,mb3.6						
GUN	Gumba	73.86	301	eP	P	10 10 23.1	+0.7
	comp=Z,13nm,0.5s,mb4.8						
PKI	Pulchoki	74.17	301	eP	P	10 10 24.0	-0.3
	comp=Z,8.6nm,0.6s,mb4.6						
KKN	Kakani	74.34	301	eP	P	10 10 24.9	-0.3
	comp=Z,12nm,0.7s,mb4.7						
DMN	Daman	74.44	300	eP	P	10 10 26.1	+0.3
	comp=Z,17nm,0.6s,mb4.8						
GKN	Gorkha	74.94	301	eP	P	10 10 28.7	+0.1
	comp=Z,11nm,0.3s,mb4.9						
KOLN	Koldanda	75.77	300	eP	P	10 10 33.4	+0.1
	comp=Z,13nm,0.5s,mb4.9						
MKAR	Makanchi Array	81.91	319	P	P	10 11 06.6	+0.7
	comp=Z,1.4nm,0.5s,mb3.9,baz=94,slow=8.6,SNR=29						
ILAR	Eielson Array	82.23	22	P	P	10 11 07.0	-0.2
	comp=Z,1.3nm,0.6s,mb3.8,baz=246,slow=5.3,SNR=36						
ZAL	Zalesovo	82.64	326	P	P	10 11 09.0	-0.6
	comp=Z,1.1nm,0.3s,mb4.0,baz=80,slow=3.6,SNR=3.3						
ZRNK	Zerenda	91.59	323	eP	P	10 11 51.1	-1.5
	comp=Z,0.8nm,0.6s,mb3.8						

GUC 11 10:09:06.0±0.7, 24.28S×67.42W, h180km, ML3.7, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.15	320⇑	iP	P	10 09 46.2	+1.0
LVC				i S	S	10 10 17.2	+1.9
LVC				AMP		10 10 19.4	
	comp=E,71nm,0.4s						
CPN1	Cerro Paranal	2.74	262	i P	P	10 09 54.0	+1.9
CPN1				i S	S	10 10 30.1	+2.4
CPN1				AMP		10 10 31.8	
	comp=E,194nm,0.5s						
ANCH	Antofagasta	2.80	282	eP	P	10 09 54.6	+1.8
ANCH				i S	S	10 10 30.6	+1.8
ANCH				AMP		10 10 32.6	
	comp=N,490nm,0.1s						
CRCH	Chaqaral	3.55	234	i S	S	10 10 46.5	+1.0

THR 11 10:42:52.5±0.8, 34.60N×50.48E, h14km±11km, ML3.7
CSEM 11 10:42:53.3±0.1, 34.70N×50.39E, h16km, ML3.7, Error ellipse: s-maj=4.2km s-min=2.5km az=139.0
TEH 11 10:42:57.6, 34.58N×50.68E, h10km, Mn3.7
ISC 11 10:42:53.0±0.6, 34.51N±0.05×50.50E±0.04, h10km, n25, σ1s45/29, Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAO	Ashtian	0.39	276	ePG	Pg	10 43 00.7	-0.3
ASAO				eSg	Sg	10 43 06.1	-0.4
ASAO				AML	AML	10 43 08.2	
	comp=N,8μm,0.3s						
ASAO	Ashtian	0.39	276	ePg	Pg	10 43 00.7	-0.3
	SNR=92						
ASAO				eSg	Sg	10 43 06.1	-0.3
	comp=N,8μm,0.3s,SNR=92						
IRAZ	Razeghan	1.01	332	Pg	Pn	10 43 19.5	+6.4
IRAZ				Sg	Sn	10 43 29.6	+2.3
IVRN	Varamin	1.12	64	Pg	Pg	10 43 14.6	-0.9
IMHD	Mahdasht	1.18	7	Pg	Pn	10 43 12.1	-3.4
THKV	Tehran--Karaj	1.44	12	ePG	Pn	10 43 17.4	-1.8
ISFB	Sefidab	1.45	96	Pg	Sb	10 43 36.2	-1.7
IKLH	Kalahroud	1.49	143	Pn	Pg	10 43 24.0	+1.2
DAMV	Damavand	1.65	47	ePG	Pn	10 43 21.7	-0.5
DAMV				eSg	Sn	10 43 43.6	+0.1
DAMV				AML	AML	10 43 53.9	
	comp=N,865nm,0.7s						
IDMV	Damavand	1.65	49	Lg		10 43 44.1	
IDMV	Damavand	1.65	49	Pn	Pn	10 43 22.4	+0.2
IFIR	Firoozkooh	2.17	58	Pn	Pn	10 43 31.2	+1.5
IFIR				Sn	Sn	10 43 56.3	-0.5
IZEF	Zefreh	2.22	136	Pn	Pg	10 43 34.8	-2.5
IPRN	Paran-Amol	2.24	39	Pn	Pn	10 43 32.8	+2.1
IKOM	Komasi	2.49	263	Pn	Pg	10 43 38.5	-4.3
IGAR	Garneh	2.67	147	Pn	Pn	10 43 36.6	-0.3
ILIN	Laeen	2.94	279	Pn	Pg	10 43 45.8	-6.0
IVIS	Veys	3.01	271	Pn	Pg	10 43 47.4	-5.7
IGLO	Galoogah	3.03	53	Pn	Pn	10 43 48.2	+6.2
IKIA	Kiasar	3.10	56	Pn	Pn	10 43 44.4	+1.4
ISAD	Sadrabad	3.72	133	Pn	Pn	10 43 58.0	+6.2
ICHK	Chekchek	3.98	124	Pn	Pn	10 43 59.3	+3.9
GRMI	Germi	4.77	335	ePN	Pn	10 44 05.3	-1.4
GRMI				AML	AML	10 45 24.0	
	comp=N,48nm,0.8s						
GRMI	Germi	4.77	335	ePn	Pn	10 44 05.3	-1.5
	SNR=52						
IBAF	Bafgh	5.16	123	Pn	Pn	10 44 15.2	+3.0

MAN 11 10:52:34.3, 16.38N×122.42E, h15km, mb4.2, ML3.0, MS2.8, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CVP	Callao Caves	1.43	336⇓	eP	Pn	10 52 59.0	-0.9
CVP						10 53 18.0	
PCPH	Palayan	1.52	238	eP	Pn	10 53 00.5	-0.6
PCPH				eS	Sb	10 53 18.2	-2.2
BCPH	Baguio City Da	1.77	270⇑	iP	Pn	10 53 03.8	-0.9
	2308μm,90.0s						
BCPH				i S	Sn	10 53 25.8	-1.2

BER 11 11:03:45.5±4.1, 59.32N×27.26E, ML2.4(NAO), Suspected explosion
IDC 11 11:03:45.8±2.1, 59.42N×27.21E, mb1 3.0/4, mb1mx2.9/22, mbtmp2.9/4, ML3.2/2, Error ellipse: s-maj=20.1km s-min=10.8km az=114.0
NAO 11 11:03:46.1±1.9, 59.40N×27.08E, ML2.4
HEL 11 11:03:44.8±0.1, 59.30N×27.19E, ML1.7, ML2.4(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSU	Vasula	0.88	196	eP	Pg	11 04 00.6	-1.7
VSU				eS	Sg	11 04 11.6	-2.4
VJF	Virojoki	1.25	8	eP	Pb	11 04 07.2	-1.8
VJF				eS	Sb	11 04 23.3	-2.3
PVF	Pernaja	1.41	332	eP	Pb	11 04 10.1	-1.7
PVF				eS	Sb	11 04 27.9	-2.3
FIA0	FINESS Array S	2.22	346	Pn	Pn	11 04 22.5	-0.8
	baz=162,slow=18						
FIA0				Pg	Pg	11 04 23.4	-5.7
	baz=166,slow=18						
FIA0				Sn	Sn	11 04 50.3	-1.6
	baz=176,slow=22						
FIA0				Lg		11 04 53.2	
	baz=162,slow=37						
FIA0				Rg		11 05 05.5	
	baz=166,slow=37						
FIA0	FINESS Array S	2.22	346	eP	Pn	11 04 22.6	-0.7
FIA0				eSB	Sb	11 04 51.9	-1.7
FIA0				MSG		11 04 54.0	
	comp=Z,2.5nm,0.1s						
FINES	FINESS Array B	2.22	346	Pn	Pn	11 04 22.4	-1.0
	comp=Z,1.9nm,0.3s,baz=166,slow=16,SNR=44						
FINES				Lg		11 04 52.6	
	comp=Z,3.1nm,0.3s,baz=163,slow=26,SNR=18						
FINES				Rg		11 05 05.9	
	comp=Z,27nm,1.0s,baz=191,slow=23,SNR=9.1						
KAF	Kangasniemi	2.85	352	eP	Pn	11 04 31.6	-0.8
KAF				eS	Sn	11 05 06.3	-1.7
KAF				MSG		11 05 14.3	
	comp=Z,2.5nm,0.2s						
HFS	Hagfors	6.88	283	Pn	Pn	11 05 25.3	-4.1
	baz=97,slow=16						
HFS				Sn	Sn	11 06 39.8	-10
	baz=86,slow=22						
HFS				Lg		11 07 16.4	
	baz=87,slow=28						
HFS	Hagfors	6.88	283	eP	Pn	11 05 25.3	-4.1
HFS				eS	Sn	11 06 39.8	-10
HFS				eSG	Sg	11 07 16.4	-17
HFS	Hagfors	6.88	283	Pn	Pn	11 05 25.0	-4.4
	comp=Z,0.0nm,0.3s,baz=101,slow=15,SNR=3.0						
HFS				Sn	Sn	11 06 39.3	-10
	comp=Z,0.1nm,0.3s,baz=107,slow=30,SNR=7.8						
HFS				Lg		11 07 15.1	
	comp=Z,0.2nm,0.3s,baz=93,slow=30,SNR=8.6						
NB2	NORSAR Subarra	8.15	289	Pn	P	11 05 43.4	-3.9
	baz=92,slow=14						
NB2				Sn	Sn	11 07 17.4	-3.8
	baz=111,slow=18						
NB2				Lg		11 07 57.5	
	baz=95,slow=37						
NB2	NORSAR Subarra	8.15	289	eP	P	11 05 43.4	-3.9
NB2				e		11 07 17.4	
NB2				eSG		11 07 57.5	
NOA	NORSAR Array B	8.15	289	Pn	P	11 05 42.1	-5.2
	comp=Z,0.2nm,0.3s,baz=44,slow=28,SNR=2.4						
NOA				Lg		11 07 44.3	
	comp=Z,0.2nm,0.3s,baz=189,slow=19,SNR=2.7						
ARA0	ARCESS Array S	10.30	357	Pn	P	11 06 11.2	-5.6
	baz=176,slow=14						
ARA0				Sn	S	11 08 01.8	-12
	baz=177,slow=28						
ARA0				Lg		11 09 04.3	
	baz=177,slow=28						
ARA0	ARCESS Array S	10.30	357	eP	P	11 06 11.2	-5.6
ARA0				eS	S	11 08 01.8	-12
ARA0				eSG		11 09 04.3	
ARCES	ARCESS Array B	10.30	357	Pn	P	11 06 09.8	-6.9
	comp=Z,0.2nm,0.3s,baz=180,slow=13,SNR=5.6						
ARCES				Lg		11 09 02.7	
	comp=Z,0.2nm,0.3s,baz=178,slow=28,SNR=6.6						

CASC 11 11:12:59.4±2.5, 14.82N×92.83W, h20km±999km, MD4.4, mb4.0(NEIC)
NEIC 11 11:13:00.8, 15.06N×92.94W, h99km, mb4.0/16, MD4.4(MEX), After MEX.
IDC 11 11:13:00.6±8.7, 15.12N×92.37W, h93km±83km, mb3.5/3, mb1 4.0/4, mb1mx3.6/18, mbtmp4.0/4, ML4.5/1, MS3.2/2, Ms1 3.1/2, ms1mx2.7/19, Error ellipse: s-maj=138.9km s-min=23.6km az=55.0
MEX 11 11:13:02.3±0.7, 15.15N×92.93W, h101km±28km, MD4.4
ISC 11 11:13:01.2±1.2, 15.18N±0.08×92.93W±0.05, h87km±6km, n55, σ1s24/72, mb3.9/17, 2C-1D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.34	35⇑	iP	P	11 13 25.9	+0.7
CCIG				i S	S	11 13 44.2	+1.3
CCIG	Comitan	1.34	35	i P	P	11 13 25.8	+0.6
CCIG				i S	S	11 13 44.2	+1.3
SCX	San Cristobal	1.57	10	i P	P	11 13 27.0	-1.2
SCX				i S	S	11 13 50.0	+1.9
FUG	Fuego 3	2.15	110⇑	eP	P	11 13 31.7	-4.2
IXG	Ixpaco	2.60	112	eP	P	11 13 38.0	-4.1
IXG				eS	S	11 14 07.3	-5.4
CMIG	Matias Romero	2.67	316	i P	P	11 13 43.8	+0.7
CMIG				i S	S	11 14 14.3	-0.2
HUIG	Huatulco	3.12	281	i P	P	11 13 47.8	-1.6
HUIG				i S	S	11 14 20.3	-5.4
HUIG	Huatulco	3.12	281	i P	P	11 13 47.8	-1.6
HUIG				i S	S	11 14 24.8	-0.9
MRL	Marmol	3.13	92	eP	P	11 13 45.8	-3.8
TUIG	Tuzandepetl	3.18	333	eP	P	11 13 50.2	0.0
TUIG				i S	S	11 14 29.3	+2.2
TUIG	Tuzandepetl	3.18	333	eP	P	11 13 50.2	0.0
TUIG				i S	S	11 14 27.6	+0.5
RTR	El Retiro	3.43	111	eP	P	11 14 07.8	+14
RTR				eS	S	11 14 45.4	+12
SBLS	San Blas	3.47	112	eP	P	11 14 08.0	+14
SBLS				eS	S	11 14 47.1	+13
SNJE	San Jose	3.48	112	eP	P	11 14 08.7	+14
SNJE				eS	S	11 14 46.5	+12
BOQS	Boqueron	3.82	112⇓	eP	P	11 14 13.2	+14
BOQS				eS	S	11 14 56.0	+13
EVV	El Vigia	4.00	325	i P	P	11 14 01.0	-0.5
EVV				i S	S	11 14 46.0	-1.4
OXX	Oaxaca	4.10	298	i P	P	11 14 02.0	-1.0
OXX				i S	S	11 14 57.0	+6.9
SCIG		4.12	24	i P	P	11 14 01.6	-1.5
SCIG				i S	S	11 14 48.8	-1.7
SNVI	San Vicente	4.26	111	eP	P	11 14 19.5	+14
SNVI				eS	S	11 15 05.8	+12
LVIG	Laguna Verde	5.61	324	eP	P	11 14 33.9	+10
LVIG				i S	S	11 15 23.4	-4.0
LVIG	Laguna Verde	5.61	324	i S	S	11 15 24.6	-2.8
IISM	Ciudad Serdan	5.69	312	eP	P	11 14 21.0	-3.8
IISM				i S	S	11 15 30.0	+0.6
PPM	Popocatepetl	6.68	306	eP	P	11 14 40.0	+1.5
PPM				i S	S	11 15 48.0	-5.6
NATX	Nacogdoches	16.58	355	eP	P	11 16 50.5	+0.9
LTX	Lajitas	17.22	327	eP	P	11 17 01.0	+3.4
	15nm,1.2s						
TXAR	Lajitas Array	17.22	327	P	P	11 16 59.5	+1.8
	0.4nm,0.3s,baz=153,slow=13,SNR=43						
UALR	University of	19.52	1	P	P	11 17 22.4	-1.8
	7.6nm,0.6s						
CLNB	Carlsbad	19.71	332	eP	P	11 17 26.8	+0.5
GDL2	Guadalupe Moun	19.89	330	eP	P	11 17 28.4	+0.3
MNTX	Cornudas Mount	19.99	327	eP	P	11 17 29.2	+0.1
	3.9nm,0.6s						
AMTX	Amarillo	21.14	340	eP	P	11 17 39.9	-0.9
	16nm,0.8s,mb4.4						
BNM	Barren Site	22.57	329	eP	P	11 17 57.2	+2.2
SDV	Santo Domingo	22.68	103	LR	LR	11 27 01.2	
	comp=Z,38nm,19.2s,baz=252,slow=38						
ANMO	Albuquerque	23.14	331	P	P	11 18 02.0	+1.5
	3.3nm,0.7s,mb3.8,baz=143,slow=12,SNR=17						
TUC	Tucson	23.55	319	eP	P	11 18 07.5	+3.0
	2.4nm,0.9s,mb3.5						
KSU1	Kansas State U	24.05	353	eP	P	11 18 06.6	-2.6
SDCO	Great Sand Dun	25.08	336	eP	P	11 18 20.0	+0.8
	1.6nm,0.7s,mb3.6						
HWUT	Hardware Ranch	30.88	332	eP	P	11 19 12.0	+0.4
	2.7nm,0.8s,mb4.0						
PDAR	Pinedale Array	30.98	336	P	P	11 19 12.5	+0.1
	0.6nm,0.7s,mb3.4,baz=143,slow=7.4,SNR=5.7						
ELK	Elko	32.02	327	eP	P	11 19 22.0	+0.5
	1.0nm,0.7s,mb3.6						
SNOW	Snow King Moun	32.04	335	eP	P	11 19 21.8	+0.2
	13nm,0.9s,mb4.7						
LOHW	Long Hollow	32.10	335	eP	P	11 19 21.8	-0.4
	2.7nm,1.0s,mb3.9						
TPAW	Teton Pass	32.14	335	eP	P	11 19 22.3	-0.3
	4.8nm,1.0s,mb4.2						
MOOW	Moose Ponds	32.27	335	eP	P	11 19 23.6	-0.1
	1.1nm,0.6s,mb3.8						
IMW	Indian Meadow	32.48	335	eP	P	11 19 24.9	-0.6
	1.5nm,0.6s,mb3.9						
MCMT	McKenzie Canyo	34.02	334	eP	P	11 19 39.6	+0.8
BOZ	Bozeman (W)	34.20	336	eP	P	11 19 40.6	+0.3
	0.6nm,0.5s,mb3.7						
WVOR	Wild Horse Val	35.01	326	eP	P	11 19 48.1	+0.8
	4.4nm,1.2s,mb4.2						
SAML	Samuel	38.00	127	eP	P	11 20 05.7	-7.0
	4.7nm,0.9s,mb4.3						
SIV	San Ignacio	44.15	133	P	P	11 20 56.5	-6.7
	1.1nm,0.8s,mb3.7,baz=316,slow=8.0,SNR=4.2						
SCHQ	Schefferville	44.44	21	LR	LR	11 40 39.4	
	comp=Z,40nm,19.8s,baz=64,slow=37						
YKA	Yellowknife Ar	49.68	347	P	P	11 21 43.6	-2.4
	1.0nm,0.6s,mb4.0,baz=156,slow=7.2,SNR=7.1						
DLBC	Dease Lake	51.21	336	eP	P	11 21 57.9	+0.1
ILAR	Eielson Array	61.41	337	P	P	11 23 08.4	-1.9
	216nm,0.3s,baz=133,slow=4.8,SNR=4.6						
CMAR	Chiang Mai Arr	144.59	340	PKP	PKPdf	11 32 27.5	-1.0
	2.1nm,0.7s,baz=339,slow=3.6,SNR=12						

IDC 11 11:23:17.4±0.8, 20.02S×168.90E, mb4.4/10, mb1 4.6/12, mb1mx4.5/14, mbtmp4.4/12, ML4.5/2, MS4.2/15, Ms1 4.2/15, ms1mx4.1/27, Error ellipse: s-maj=23.9km s-min=18.8km az=114.0
BJI 11 11:23:18.0, 20.10S×168.90E, h25km, mB5.0, mb4.7, Ms4.4, Msz4.1
LDG 11 11:23:18.3±0.2, 20.31S×168.37E, h10km, Mb5.1/2, Error ellipse: s-maj=23.3km s-min=3.0km az=128.0
BGS 11 11:23:21.9±2.7, 20.12S×168.86E, h25km
HRVD 11 11:23:21.1±0.4, 20.06S×168.62E, h31km±1km, MW5.1/44, Centroid moment Tensor Solution. LP body waves: s44,c66;Mantle waves: s44,c76; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.25±.23; $M_{\theta\theta}$-0.14±.16; $M_{\phi\phi}$-4.11±.16; $M_{r\theta}$0.31±.30; $M_{\theta\phi}$1.85±.13; $M_{\phi r}$-2.08±.24; Best double couple: $M_0$5.012×10^{16} NP1:ϕ_s332°,δ33°,λ79°. NP2:ϕ_s165°,δ57°,λ97°. Principal axes: T 4.742, Plg76°, Azm97°; N .534, Plg6°, Azm341°; P -5.281, Plg12°, Azm249°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 11 11:23:21.1±0.4, 20.12S×168.86E, h25km, mb5.0/19 Error ellipse: s-maj=13.2km s-min=10.6km az=108.0
MOS 11 11:23:22.4±2.4, 19.98S×168.74E, h33km, mb5.1/13, Error ellipse: s-maj=13.7km s-min=11.6km az=41.3
ISC 11 11:23:19.3±0.4, 20.13S±0.06×168.77E±0.06, h23km, h23km±2.1km:pP-P, n172, σ1s27/80, mb4.7/31, MS4.1/12, 16C-5D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.91	228	eP	Pn	11 24 04.8	-0.6
DZM				eS	Sn	11 24 38.4	-1.6
DZM	Mont Dzumac	2.91	228	Pn	Pn	11 24 05.3	0.0
	124nm,0.3s,baz=62,slow=15,SNR=555						
DZM				Sn	Sn	11 24 38.9	-1.1
	214nm,0.3s,baz=131,slow=22,SNR=10						
DZM				LR	LR	11 24 56.2	
	comp=Z,3μm,21.6s,baz=78,slow=32						
DZM	Mont Dzumac	2.91	228	eP	Pn	11 24 04.8	-0.6
DZM				eS	Sn	11 24 38.4	-1.6
HNR	Honiara	13.63	320	LR	LR	11 30 52.2	
	comp=Z,586nm,20.8s,baz=139,slow=33						
RAO	Raoul Island	15.11	130	LR	LR	11 31 22.6	
	comp=Z,1μm,21.5s,baz=316,slow=32						
URZ	Urewera	19.46	160	P	P	11 27 48.1	+0.7
	0.7nm,0.3s,baz=349,slow=18,SNR=5.2						
URZ				LR	LR	11 34 23.3	
	comp=Z,1μm,18.9s,baz=201,slow=34						
AFI	Afiamalu	19.59	75	LR	LR	11 33 53.2	
	comp=Z,1μm,18.2s,baz=257,slow=33						
CTA	Charters Tower	21.15	266⇑	iP	P	11 28 10.0	+4.8
	28nm,0.9s,mb4.6						
CTA				eS	S	11 32 03.2	+8.7
CTA	Charters Tower	21.15	266⇑	iP	P	11 28 10.0	+4.8
CTA				eS	S	11 32 03.2	+8.7
CTA				pmax	pmax		
	comp=Z,28nm,0.9s						
CTA	Charters Tower	21.15	266	P	P	11 28 10.1	+4.9
	comp=Z,11nm,0.5s,mb4.5,baz=94,slow=12,SNR=13						
CTA				LR	LR	11 33 57.6	
	comp=Z,283nm,21.4s,MS3.6,baz=85,slow=30						
CTAO	Charters Tower	21.15	266	eP	P	11 28 09.7	+4.5
CTAO				pmax	pmax		
	comp=Z,55nm,1.0s,mb4.8						
CTAO	Charters Tower	21.15	266	eP	P	11 28 09.7	+4.4
	comp=Z,55nm,1.0s,mb4.8						
PMG	Port Moresby	23.43	294	eP	P	11 28 25.3	-2.7
PMG				pmax	pmax		
	comp=Z,58nm,1.1s						
PMG	Port Moresby	23.43	294	P	P	11 28 26.7	-1.3
	comp=Z,23nm,1.0s,mb4.6,baz=120,slow=0.4,SNR=3.5						
PMG				LR	LR	11 36 15.7	
	comp=Z,569nm,18.1s,MS4.1,baz=87,slow=33						
PMG	Port Moresby	23.43	294	eP	P	11 28 25.3	-2.7
	comp=Z,58nm,1.1s,mb4.9						
PMG				LR	LR	11 36 15.7	
RPZ	Rata Peaks	23.60	176	LR	LR	11 36 50.6	
	comp=Z,1μm,19.0s,MS4.3,baz=145,slow=34						
STKA	Stephens Creek	27.01	239	eP	P	11 29 03.7	+2.0
	comp=Z,15nm,0.8s,mb4.6						
STKA	Stephens Creek	27.01	239	P	P	11 29 04.1	+2.4
	comp=Z,14nm,0.9s,mb4.5,baz=68,slow=8.4,SNR=12						
STKA				LR	LR	11 39 20.5	
	comp=Z,951nm,20.4s,MS4.3,baz=275,slow=36						
WB2	Warramunga Arr	32.31	264	eP	P	11 29 48.4	-0.6
WRAB	Tennant Creek	32.31	264d	iP	P	11 29 48.4	-0.6
WRAB	Tennant Creek	32.31	264	eP	P	11 29 47.9	-1.1
	comp=Z,50nm,1.1s,mb5.2						
WRA	Warramunga Arr	32.32	264	P	P	11 29 48.7	-0.5
	comp=Z,3.8nm,0.5s,mb4.5,baz=90,slow=8.5,SNR=36						
TBI	Tubuai	38.83	103	eS	S	11 36 29.3	-11
	comp=Z,110nm,26.5s						
TBI				eLQ		11 39 25.8	
	comp=Z,866nm,31.5s						
TBI				eLR	LR	11 41 25.1	
	comp=Z,382nm,25.5s,baz=267						
PPT	Papeete	39.43	93	eS	S	11 36 47.6	-2.1
	comp=Z,211nm,25.2s						
PPT				eLQ		11 39 54.8	
	comp=Z,1μm,31.5s						
PPT				eLR	LR	11 41 30.0	
	comp=Z,686nm,24.5s,baz=252						
PPT	Papeete	39.43	93	LR	LR	11 44 51.8	
	comp=Z,271nm,18.2s,MS4.1,baz=263,slow=33						
FITZ	Fitzroy Crossi	40.73	265	eP	P	11 31 01.5	+1.2
	comp=Z,51nm,0.8s,mb5.2						
FITZ	Fitzroy Crossi	40.73	265	P	P	11 31 01.4	+1.1
	comp=Z,19nm,0.8s,mb4.8,baz=135,slow=4.8,SNR=13						
FITZ				LR	LR	11 47 24.8	
	comp=Z,575nm,20.1s,MS4.4,baz=95,slow=35						
MBWA	Marble Bar	45.76	260	eP	P	11 31 42.0	+0.8
	comp=Z,33nm,1.0s,mb5.2						
MBWA				e	pP	11 31 47.7	-0.3
KLBR	Kellerberrin	46.94	245	eP	P	11 31 50.9	+0.5
	comp=Z,30nm,0.8s,mb5.3						
NWAO	Narrogin (SRO)	47.42	243	P	P	11 31 54.0	-0.2
	comp=Z,4.9nm,0.6s,mb4.6,baz=4.8,slow=12,SNR=9.0						
NWAO	Narrogin (SRO)	47.42	243	P	P	11 31 54.0	-0.2
RKT	Rikitea	52.11	104	eS	S	11 39 53.9	+2.4
	comp=Z,250nm,27.0s						
RKT				eLQ		11 44 40.7	
	comp=Z,124nm,35.0s						
RKT				eLR	LR	11 47 33.1	
	comp=Z,260nm,25.5s,baz=270						
VNDA	Vanda	57.53	182	eP	P	11 33 09.3	+0.3
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VNDA	Vanda	57.53	182	P	P	11 33 09.3	+0.3
	comp=Z,0.7nm,0.5s,mb3.9,baz=345,slow=5.1,SNR=12						
VNDA				LR	LR	11 53 28.7	
	comp=Z,168nm,20.3s,MS4.1,baz=17,slow=31						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VNDA	Vanda	57.53	182	eP	P	11 33 09.3	+0.3
	comp=Z,1.4nm,0.7s,mb4.1						
VNDA				LR	LR	11 53 28.7	
SBA	Scott Base	57.77	181	eP	P	11 33 10.5	-0.2
SBA				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
SBA	Scott Base	57.77	181	eP	P	11 33 10.5	-0.2
	comp=Z,15nm,1.1s,mb4.9						
CASY	Casey	59.14	204	eP	P	11 33 19.0	-1.4
	comp=Z,2.9nm,0.4s,mb4.7						
CASY				epP	pP	11 33 24.9	-2.5
KSM	Kuching	61.15	283	P	P	11 33 33.5	-1.3
MJAR	Matsushiro Arr	63.33	333	P	P	11 33 48.6	-0.5
	comp=Z,1.3nm,0.5s,mb4.3,baz=20,slow=1.5,SNR=5.1						
MJAR				LR	LR	11 59 13.7	
	comp=Z,81nm,19.8s,MS3.9,baz=165,slow=34						
MIR	Mirnyy	66.05	205c	iP	P	11 34 11.2	+5.1
MIR				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.2						
SSE	Sheshan	68.42	317	P	P	11 34 16.5	-5.2
SSE				AMB	AMB		
	comp=Z,17nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,62nm,4.3s						
SSE				LR	LR		
	comp=N,38nm,22.3s,MS3.7						
SSE				LR	LR		
	comp=E,26nm,22.3s,MS3.7						
SSE				LR	LR		
	comp=Z,68nm,24.7s,MS3.8						
SSE	Sheshan	68.42	317	P	P	11 34 16.5	-5.2
	comp=Z,17nm,0.8s,mb5.1						
SSE				sP	sP	11 34 29.7	-1.6
SSE				PP	PP	11 36 46.6	-8.3
SSE				S	S	11 43 15.3	-5.1
SSE				sS		11 43 31.5	
SSE				SS	SS	11 47 40.3	-5.4
SSE				LR	LR		
	comp=Z,70nm,24.7s,MS3.8						
QSPA	South Pole Qui	69.93	180⇑	iP	P	11 34 29.7	-0.5
	comp=Z,26nm,1.2s,mb5.0						
NJ2	Nanjing	70.54	316	eP	P	11 34 37.1	+2.4
NJ2				AP	pP	11 34 46.8	+5.0
NJ2				XP	sP	11 34 50.1	+5.8
NJ2				S	S	11 43 51.0	+5.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,210nm,3.5s						
NJ2				LR	LR		
	comp=N,260nm,13.4s,MS4.8						
NJ2				LR	LR		
	comp=E,250nm,12.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,130nm,11.1s,MS4.4						
YSS	Yuzh-Sakhalins	70.78	341	eP	P	11 34 35.6	-0.3
YSS				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
YSS	Yuzh-Sakhalins	70.78	341	eP	P	11 34 35.6	-0.3
	comp=Z,8.9nm,0.9s,mb4.7						
FX1	Attu Island--F	72.80	3	eP	P	11 34 47.8	0.0
PET	Petropavlovsk	73.37	354	eP	P	11 34 51.2	0.0
PET				eS	S	11 44 16.5	-1.0
PET				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.0						
PET				pmax	pmax		
	comp=Z,100nm,13.2s						
PET				smax			
	comp=E,100nm,19.8s						
PET	Petropavlovsk	73.37	354	eP	P	11 34 50.7	-0.4
	comp=E,5.3nm,0.6s,mb4.7						
CN2	Changchun	74.99	329	eP	P	11 35 01.1	+0.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
KLR	Kul'dur	76.50	336	eP	P	11 35 04.2	-5.0
MAW	Mawson	77.45	202	P	P	11 35 14.5	+0.4
	comp=Z,1.5nm,0.7s,mb4.1,baz=99,slow=11,SNR=3.5						
KMI	Kunming	78.37	302	P	P	11 35 22.5	+2.5
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
KMI	Kunming	78.37	302	P	P	11 35 22.5	+2.5
	comp=Z,9.0nm,1.1s,mb4.6						
CMAR	Chiang Mai Arr	78.47	295	i P	P	11 35 22.9	+2.2
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	Chiang Mai Arr	78.47	295	P	P	11 35 22.2	+1.5
	comp=Z,1.5nm,0.8s,mb4.0,baz=127,slow=4.5,SNR=9.2						
LZH	Lanzhou	83.00	312	eP	P	11 35 47.5	+3.2
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.4						
LZH	Lanzhou	83.00	312	eP	P	11 35 47.5	+3.2
LZH				*PP	pP	11 36 00.8	+9.3
LZH				pmax	pmax		
	comp=Z,56nm,1.5s,mb5.4						
LZH	Lanzhou	83.00	312	eP	P	11 35 47.5	+3.2
	comp=Z,56nm,1.5s,mb5.4						
LZH				pP	pP	11 36 00.8	+9.3
ULN	Ulaanbaatar	87.31	324c	iP	P	11 36 01.3	-4.3
GTA	Gaotai	87.42	314	eP	P	11 36 07.8	+1.5
GTA				AP	pP	11 36 13.4	-0.1
GTA				XP	sP	11 36 16.4	+0.5
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.6						
SONM	Songino Array	87.67	323	P	P	11 36 08.7	+1.5
	comp=Z,7.0nm,1.1s,mb4.8,baz=153,slow=5.5,SNR=19						
SONM				LR	LR	12 16 07.8	
	comp=Z,87nm,18.1s,MS4.2,baz=79,slow=36						
SNAA	Sanae	88.26	183⇑	iP	P	11 36 08.7	-0.9
SNAA	Sanae	88.26	183	e	P	11 36 10.9	+1.3
SNAA	Sanae	88.26	183	e	pP	11 36 19.7	+2.9
SNAA	Sanae	88.26	183	e	sP	11 36 24.2	+5.1
SNAA	Sanae	88.26	183	eP	P	11 36 09.1	-0.5
SNAA				e		11 36 19.7	
SNAA				e		11 36 24.2	
SNAA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SNAA	Sanae	88.26	183	LR	LR	12 15 51.6	
	comp=Z,58nm,18.1s,MS4.0,baz=201,slow=36						
SNAA	Sanae	88.26	183	eP	P	11 36 09.1	-0.5
	comp=Z,10nm,1.0s,mb5.0						
SNAA				e		11 36 19.7	
SNAA				e		11 36 24.2	
VNA3	Neumayer Olymp	88.86	181	e	P	11 36 13.0	+0.5
VNA3	Neumayer Olymp	88.86	181	e	pP	11 36 19.3	-0.4
VNA3	Neumayer Olymp	88.86	181	e	sP	11 36 23.8	+1.7
VNA3	Neumayer Olymp	88.86	181⇑	iP	P	11 36 11.7	-0.8
VNA3				e	pP	11 36 19.3	-0.4
VNA3				e		11 36 23.8	
VNA2	Neumayer--Watz	89.15	181	e	P	11 36 14.7	+0.8
VNA2	Neumayer--Watz	89.15	181	e	pP	11 36 21.5	+0.4
VNA2	Neumayer--Watz	89.15	181	e	sP	11 36 26.4	+3.0
VNA2	Neumayer--Watz	89.15	181⇑	iP	P	11 36 13.4	-0.5
VNA2				e	pP	11 36 21.5	+0.4
VNA2				e		11 36 26.4	
VNA1	Neumayer--Stat	89.44	181	e	P	11 36 17.4	+2.2
VNA1	Neumayer--Stat	89.44	181	e	pP	11 36 23.0	+0.5
VNA1	Neumayer--Stat	89.44	181	e	sP	11 36 27.8	+3.0
VNA1	Neumayer--Stat	89.44	181⇑	iP	P	11 36 16.2	+1.0
VNA1				e	pP	11 36 23.0	+0.5
VNA1				e		11 36 27.8	
BOD	Bodaibo	89.94	334	eP	P	11 36 15.3	-2.5
ZAK	Zakamensk	90.76	324	eP	P	11 36 21.4	-0.4
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.6						
ILAR	Eielson Array	91.20	17	P	P	11 36 21.4	-2.1
	comp=Z,78nm,0.3s,baz=239,slow=5.3,SNR=3.5						
WVOR	Wild Horse Val	91.25	45	eP	P	11 36 23.7	-0.5
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.8						
WVOR	Wild Horse Val	91.25	45	eP	P	11 36 23.7	-0.5
	comp=Z,6.3nm,1.1s,mb4.9						
TIXI	Tiksi	95.52	348	eP	P	11 36 40.6	-2.6
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.7						
TXAR	Lajitas Array	97.57	62	P	P	11 36 53.3	-0.2
	comp=Z,0.2nm,0.6s,mb3.9,baz=225,slow=3.5,SNR=4.0						
MKAR	Makanchi Array	102.06	315	i P	Pdif	11 37 16.1	+2.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	102.06	315	P	Pdif	11 37 14.3	+1.0
	comp=Z,0.5nm,0.8s,baz=78,slow=5.8,SNR=5.0						
ZAL	Zalesovo	102.57	323	Pdiff	Pdif	11 37 15.6	+0.2
	comp=Z,1.1nm,0.3s,baz=127,slow=3.7,SNR=3.5						
ARCES	ARCESS Array B	125.81	345	PKP	PKPdf	11 42 19.3	-4.0
	comp=Z,2.0nm,0.7s,baz=73,slow=1.3,SNR=11						
GNI	Garni	128.52	306	i PKIKP	PKPdf	11 42 22.5	-6.8
OBN	Obninsk	129.99	326⇓	iPKIKP	PKPdf	11 42 22.0	-10
OBN				i SS	SS	12 02 06.2	+1.7
OBN				eSSS	SSS	12 06 51.8	-2.7
OBN				pmax	pmax		
	comp=Z,5.0nm,0.4s						
FINES	FINESS Array B	131.24	337	PKP	PKPdf	11 42 30.2	-3.7
	comp=Z,0.4nm,0.5s,baz=45,slow=3.9,SNR=4.0						
FINES	FINESS Array B	131.24	337	PKP	PKPdf	11 42 30.2	-3.7
NOA	NORSAR Array B	136.18	344	PKP	PKPdf	11 42 41.9	-1.2
	comp=Z,0.7nm,0.8s,baz=21,slow=1.8,SNR=3.6						
DPC	Dobruska-Polom	142.79	331	ePKP	PKPdf	11 42 48.6	-6.6
BRG	Berggiesshubel	143.47	333	ePKIKP	PKPdf	11 42 51.3	-5.0
CLL	Collm	143.53	334	ePKIKP	PKPdf	11 42 51.0	-5.4
PRU	Pruhonice	143.85	332	ePKP	PKPdf	11 42 52.7	-4.3
CLZ	Clausthal	144.13	337	PKIKP	PKPdf	11 42 52.9	-4.5
EKA	Eskdalemuir Ar	144.33	352	PKP	PKPdf	11 42 52.6	-5.1
	comp=Z,2.0nm,0.6s,baz=356,slow=2.1,SNR=14						
SELS	Selova	144.47	318⇓	iPKP	PKPdf	11 42 54.9	-3.4
NKC	Novy Kostel	144.58	334	ePKP	PKPdf	11 42 54.5	-3.8
MOX	Moxa	144.60	335	ePKIKP	PKPdf	11 42 54.3	-4.0
MOX	Moxa	144.60	335	i P	PKPbc	11 42 54.3	+0.6
	comp=Z,logA/T=1.4						
DIVS	Divcibare	144.71	320⇓	iPKP	PKPdf	11 42 54.7	-4.1
SKO	Skopje	144.87	316	i P	PKPbc	11 42 55.6	+0.8
KHC	Kasperske Hory	144.91	331c	iPKHKP		11 42 51.9	
KHC	Kasperske Hory	144.91	331	ePKP	PKPdf	11 42 55.2	-3.7
GEC2	GERESS Array S	145.06	331	PKIKP	PKPdf	11 42 56.0	-3.2
GERES	GERESS Array B	145.06	331	PKPbc	PKPbc	11 42 56.0	+1.0
	comp=Z,3.4nm,0.7s,baz=45,slow=3.8,SNR=20						
WET	Wettzell	145.21	332	PKIKP	PKPdf	11 42 56.7	-2.7
WTSB	Winterswijk	145.24	340	eP	PKPbc	11 42 55.7	+0.2
	comp=Z,52nm,2.1s						
ARSA	Arzberg	145.29	327⇑	iP	PKPbc	11 42 57.0	+1.3
	comp=Z,24nm,1.7s						
GRF	Grafenberg Arr	145.50	334	ePKIKP	PKPdf	11 42 57.6	-2.3
MOA	Molln	145.50	329⇑	iP	PKPbc	11 42 57.5	+1.3
	comp=Z,35nm,1.3s						
WIM	Isle of Man	145.67	353	eP	PKPbc	11 42 56.6	+0.2
WIM				AMb	AMB	11 42 58.8	
	comp=Z,61nm,1.4s						
PERS	Pernice	145.91	327	ePKPbc	PKPbc	11 42 58.3	+1.1
WCB1	Church Bay	146.41	353	eP	PKPbc	11 42 58.7	+0.5
WCB1				AMb	AMB	11 43 00.5	
	comp=Z,42nm,0.8s						
WPM1	Penmaenmawr	146.45	352	eP	PKPbc	11 42 58.8	+0.5
WPM1				AMb	AMB	11 43 01.4	
	comp=Z,78nm,1.7s						
WLF1	Llynfaes	146.48	353	eP	PKPbc	11 42 59.0	+0.7
WLF1				AMb	AMB	11 43 01.3	
	comp=Z,57nm,1.7s						
TOD	Tromm	146.53	336	PKP2	PKPab	11 43 00.1	-1.7
YRC	Rhoscolyn	146.54	353⇑	eP	PKPbc	11 42 59.2	+0.7
HGN	Heimansgroeve	146.56	340	eP	PKPbc	11 42 59.3	+0.7
	comp=Z,32nm,1.6s						
BOJS	Bojanci	146.59	325	ePKPbc	PKPbc	11 43 00.9	+2.0
YLL	Llanberis	146.60	352	eP	PKPbc	11 42 59.4	+0.7
YLL				AMb	AMB	11 43 02.6	
	comp=Z,44nm,2.0s						
LJU	Ljubljana	146.61	327	ePKPbc	PKPbc	11 43 00.4	+1.5
FUR	Furstenfeldbru	146.65	332	PKP2	PKPab	11 43 01.0	-1.4
ABH	Alteburg	146.76	338	PKP	PKPdf	11 43 01.1	-0.9
RUP	Ruppelstein	147.09	338	PKP2	PKPab	11 43 02.2	-1.8
WTTA	Wattenberg	147.16	331⇑	iP	PKPdf	11 43 02.2	-0.6
	comp=Z,21nm,1.3s						
MOTA	Moosalm	147.34	331⇓	iP	PKPdf	11 43 02.7	-0.4
	comp=Z,7.3nm,0.7s						
SQTA	Sankt Quirin	147.39	331⇑	iP	PKPdf	11 43 02.9	-0.3
	comp=Z,4.7nm,0.4s						
LANF	Langenberg	147.41	336	PKP	PKPdf	11 43 03.1	0.0
GIVF	Givet	147.48	341	ePKP1	PKPdf	11 43 02.7	-0.5
	comp=Z,44nm,0.9s						
BAIF	Baives	147.71	341	ePKP1	PKPdf	11 43 03.5	-0.1
BFO	Black Forest	147.74	335	PKP2	PKPab	11 43 03.4	-3.2
DAVA	Damuels	147.93	333⇑	iP	PKPdf	11 43 04.2	+0.2
	comp=Z,19nm,1.4s						
WLS	Welschbruch	148.05	336	PKP	PKPdf	11 43 04.2	0.0
CDF	Champ du Feu	148.08	336	ePKP1	PKPdf	11 43 04.3	+0.1
	comp=Z,26nm,0.9s						
FELD	Feldberg	148.24	335	PKP	PKPdf	11 43 04.8	+0.3
ECH	Echery	148.29	336	PKP	PKPdf	11 43 04.7	+0.1
ECH	Echery	148.29	336	PKP	PKPdf	11 43 04.3	-0.3
ECH	Echery	148.29	336	PKP	PKPdf	11 43 04.3	-0.3
ECH				PKP	PKPdf	11 43 04.7	+0.1
MOF	Molkenrain	148.60	336	PKP	PKPdf	11 43 05.6	+0.5
HINF	Hinteralfeld	148.73	336	ePKP1	PKPdf	11 43 05.8	+0.5
HAU	Haudompre	148.76	337	ePKP1	PKPdf	11 43 06.0	+0.7
MEZF	Maizieres J'vi	148.80	339	ePKP1	PKPdf	11 43 06.5	+1.1
LOMF	Lomont	149.13	336	PKP	PKPdf	11 43 07.3	+1.4
CABF	La Chapelle	150.03	336	ePKP1	PKPdf	11 43 09.5	+2.1
	comp=Z,30nm,0.9s						
FLN	La Foliniere	150.15	346	ePKP1	PKPdf	11 43 08.8	+1.3
	comp=Z,24nm,0.7s						
LDF	La Druitiere	150.22	345	ePKP1	PKPdf	11 43 08.9	+1.3
LOR	Lormes	150.27	339	ePKP1	PKPdf	11 43 09.5	+1.8
SSF	Saint Saulge	150.57	339	ePKP1	PKPdf	11 43 10.5	+2.3
GRR	Gorron	150.59	346	ePKP1	PKPdf	11 43 10.2	+2.0
	comp=Z,21nm,0.8s						
LPL	La Plagne	150.66	334	ePKP1	PKPdf	11 43 11.2	+2.8
	comp=Z,11nm,0.7s						
LPG	La Plagne	150.67	334	ePKP1	PKPdf	11 43 11.0	+2.6
SMF	Signal de Mont	150.82	338	ePKP1	PKPdf	11 43 10.7	+2.1
SGMF	Saint Gilles	151.08	348	ePKP1	PKPdf	11 43 10.9	+2.0
	comp=Z,18nm,0.7s						
ROSF	Rostrenen	151.13	349	ePKP1	PKPdf	11 43 11.0	+2.0
	comp=Z,12nm,0.7s						
MBDF	Montbardon	151.28	333	ePKP1	PKPdf	11 43 12.0	+2.7
	comp=Z,11nm,0.7s						
ORIF	Oris-en-Rattie	151.50	334	ePKP1	PKPdf	11 43 12.5	+2.8
	comp=Z,9.5nm,0.5s						
QUIF	Quistinic	151.52	349	ePKP1	PKPdf	11 43 11.8	+2.2
SBF	Sospel	151.66	331	ePKP1	PKPdf	11 43 12.7	+2.8
TCF	Toulx Ste Croi	151.67	340	ePKP1	PKPdf	11 43 12.9	+3.0
	comp=Z,23nm,1.0s						
PGF	Pioggiola	151.89	327	ePKP1	PKPdf	11 43 13.3	+3.0
	comp=Z,10.0nm,0.6s						
VIVF	Saint-Julien-l	152.03	335	ePKP1	PKPdf	11 43 13.9	+3.4
MFF	Saint Martin d	152.08	344	ePKP1	PKPdf	11 43 13.5	+3.0
	comp=Z,8.9nm,0.8s						
RJF	Les Rejaudoux	152.77	340	ePKP1	PKPdf	11 43 15.3	+3.8

IDC ***11*** *12:01:33.8±0.4, 23.74S×111.77W, mb5.3/28, mb1 5.4/28, mb1mx5.4/28, mbtmp5.3/28, MS5.4/21, Ms1 5.4/21, ms1mx5.3/23, Error ellipse: s-maj=11.9km s-min=10.8km az=23.0*

MOS ***11*** *12:01:34.6±1.2, 23.62S×111.67W, h10km, mb6.0/51, MS5.5/51, Error ellipse: s-maj=11.9km s-min=5.8km az=78.1*

HRVD ***11*** *12:01:35.2±0.1, 23.87S×111.65W, h12km, MW5.7/75, Centroid moment Tensor Solution. LP body waves: s71,c159; Mantle waves: s75,c267; Half duration: 1s8 Moment tensor: Scale 10^{17}Nm; M_{rr}4.55±.04; $M_{\theta\theta}$-0.27±.04; $M_{\phi\phi}$-4.29±.04; $M_{r\theta}$0.15±.12; $M_{\theta\phi}$1.47±.04; $M_{\phi r}$0.46±.12; Best double couple: $M_0$4.685×10^{17} NP1: ϕ_s158°,δ43°,λ85°. NP2:ϕ_s346°,δ48°,λ95°. Principal axes: T 4.585, Plg86°, Azm309°; N .195, Plg4°, Azm162°; P -4.786, Plg2°, Azm72°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***11*** *12:01:35.2±0.1, 23.82S×111.68W, h10km, mb6.0/94, ME5.5, MS5.4/108, MW5.7 Error ellipse: s-maj=6.8km s-min=4.3km az=85.0 Broadband fault plane solution: P waves. NP1:ϕ_s345°,δ45°,λ90°. NP2:ϕ_s165°,δ45°,λ90°. Principal axes: T Plg90°, Azm0°; N Plg0°, Azm0°; P Plg0°, Azm75°; Moment Tensor Solution. s26 Moment tensor: Scale 10^{17} Nm; M_{rr}4.40; $M_{\theta\theta}$-0.16; $M_{\phi\phi}$-4.23; $M_{r\theta}$-1.02; $M_{\theta\phi}$2.38; $M_{\phi r}$-1.52; Best double couple: $M_0$5.2×10^{17} NP1: ϕ_s316°,δ43°,λ59°. NP2:ϕ_s174°,δ54°,λ115°. Principal axes: T 5.07, Plg69°, Azm142°; N .35, Plg20°, Azm339°; P -5.42, Plg6°, Azm247°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

BJI ***11*** *12:01:35.2, 23.80S×111.70W, h10km, mB5.8, Ms5.8, Msz5.6*

CRAAG ***11*** *12:01:41.7, 23.82S×111.66W, Mb5.8*

ISC 11 12:01:33.7±0.2**, 23.74S**±0.03×**111.68W**±0.06**, h10**km**, n713, σ0s78**/277**, mb5.8**/110**, MS5.4**/141**, 117C-30D, Easter**

Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	3.98	148	Pn	Pn	12 02 32.8	-3.4
	27nm,0.3s,baz=330,slow=11,SNR=18						
RPN				Sn	Sn	12 03 24.3	+0.8
	baz=51,slow=14,SNR=3.3						
RPN				LR	LR	12 03 53.0	
	comp=Z,40μm,18.6s,baz=143,slow=35						
RPN	Rapa Nui	3.98	148	eP	Pn	12 02 31.4	-4.8
RKT	Rikitea	21.39	267	eLQ		12 10 13.2	
	8μm,29.5s						
RKT				eLR	LR	12 11 20.7	
	55μm,27.0s,baz=100						
PAYG	Puerto Ayora	30.92	45	PFAKE		12 08 10.0	+17
PAYG				LR	LR		
	comp=Z,20μm,22.0s,MS5.7						
TAOE	Nuku Hiva Isla	30.99	294	eLR	LR	12 15 45.8	
	comp=Z,56μm,26.1s						
TBI	Tubuai	34.58	263	eLQ		12 15 55.2	
	comp=Z,3μm,31.8s						
TBI				eLR	LR	12 17 21.8	
	comp=Z,28μm,29.0s,baz=94						
PPT	Papeete	35.92	273	eLQ		12 16 30.1	
	comp=Z,4μm,32.8s						
PPT				eLR	LR	12 17 41.6	
	comp=Z,13μm,28.8s,baz=104						
PPT	Papeete	35.92	273	P	P	12 08 37.2	+0.8
	comp=Z,22nm,1.0s,mb5.1,baz=151,slow=7.6,SNR=5.7						
PPT				LR	LR	12 19 24.0	
	comp=Z,6μm,19.8s,MS5.3,baz=122,slow=30						
ARE	Arequipa	38.33	87	eP	P	12 08 57.0	+0.4
CFAA	Coronel Fontan	39.06	111	P	P	12 09 03.4	+0.8
	comp=Z,1.9nm,0.9s,baz=278,slow=7.2,SNR=15						
CFAA				PcP	PcP	12 11 12.9	-0.2
	comp=Z,2.1nm,1.0s,baz=228,slow=2.1,SNR=3.0						
CFAA				LR	LR	12 21 08.3	
	comp=Z,2μm,20.0s,MS5.0,baz=269,slow=30						
CFAA	Coronel Fontan	39.06	111	P	P	12 09 03.4	+0.8
CFAA				PcP	PcP	12 11 12.9	-0.2
CFAA				LR	LR	12 21 08.3	
LVC	Limon Verde	39.22	97	P	P	12 09 06.1	+2.0
	comp=Z,89nm,1.2s,mb5.4,baz=253,slow=9.1,SNR=33						
LVC				PcP	PcP	12 11 15.3	+1.6
	comp=Z,19nm,1.1s,baz=235,slow=5.9,SNR=3.5						
LVC				LR	LR	12 21 01.7	
	comp=Z,10μm,19.8s,MS5.6,baz=254,slow=30						
LVC	Limon Verde	39.22	97	eP	P	12 09 05.4	+1.3
	comp=Z,272nm,1.4s,mb5.8						
LVC				LR	LR		
	comp=Z,10μm,21.0s,MS5.6						
LPAZ	La Paz	41.45	88	P	P	12 09 24.3	+1.8
LPAZ						12 11 22.8	
LPAZ				S	S	12 15 43.2	+5.7
LPAZ				pmax	pmax		
	comp=Z,130nm,1.2s						
LPAZ				pmax	pmax		
	comp=Z,48nm,1.3s						
LPAZ				smax			
	comp=N,1.0nm,0.9s						
LPAZ	La Paz	41.45	88	P	P	12 09 24.2	+1.8
	comp=N,130nm,1.2s,mb5.4,baz=256,slow=7.6,SNR=106						
LPAZ				PcP	PcP	12 11 22.8	+1.8
	comp=N,48nm,1.3s,baz=269,slow=5.0,SNR=6.1						
LPAZ				S	S	12 15 43.2	+5.7
	comp=N,1.2nm,0.9s,baz=297,slow=17,SNR=1.6						
LPAZ				LR	LR	12 22 32.1	
	comp=N,8μm,20.4s,MS5.6,baz=258,slow=30						
LPAZ	La Paz	41.45	88	eP	P	12 09 24.2	+1.7
	comp=N,275nm,1.3s,mb5.7						
LPAZ				LR	LR		
	comp=Z,9μm,21.0s,MS5.6						
CAIG	El Cayaco	42.04	16	eP	P	12 09 28.4	+1.0
HUIG	Huatulco	42.11	23	eP	P	12 09 29.4	+1.4
JTS	JuntasAbangare	42.74	41c	iP	P	12 09 34.9	+1.7
JTS	JuntasAbangare	42.74	41	eP	P	12 09 35.1	+1.9
	comp=Z,1μm,2.3s,mb6.3						
JTS				LR	LR		
	comp=Z,4μm,22.0s,MS5.2						
OXX	Oaxaca	43.12	21	eP	P	12 09 39.0	+2.8
PLIG	Platanillo	43.53	17	i P	P	12 09 40.6	+1.1
CCIG	Comitan	44.12	27	eP	P	12 09 45.8	+1.5
MOIG	Morelia	44.35	14	eP	P	12 09 47.9	+1.7
PPM	Popocatepetl	44.41	18	eP	P	12 09 49.0	+2.3
TRQA	Tornquist	44.47	121	eP	P	12 09 47.4	+0.5
	comp=Z,188nm,1.3s,mb5.7						
USHA	Ushuaia	44.54	146	P	P	12 09 48.1	+0.8
	comp=Z,88nm,1.2s,mb5.5,baz=283,slow=6.6,SNR=10						
IISM	Ciudad Serdan	44.70	19	i P	P	12 09 51.0	+2.0
SFJM	Santa Fe	44.76	12	eP	P	12 09 51.0	+1.5
TUIG	Tuzandepetl	44.81	24	eP	P	12 09 53.3	+3.4
LVIG	Laguna Verde	45.69	20	eP	P	12 09 57.1	+0.3
ROSC	El Rosal	46.19	57	P	P	12 10 03.5	+2.6
	comp=Z,12nm,0.4s,mb5.2,baz=262,slow=6.7,SNR=25						
ROSC				LR	LR	12 26 04.9	
	comp=Z,10μm,19.0s,MS5.8,baz=82,slow=32						
SIV	San Ignacio	48.01	91	P	P	12 10 14.8	-0.4
	comp=Z,103nm,1.1s,mb5.8,baz=250,slow=10,SNR=86						
SAML	Samuel	48.56	81	eP	P	12 10 18.7	-0.8
	comp=Z,291nm,1.3s,mb6.2						
SAML				LR	LR		
	comp=Z,7μm,22.0s,MS5.6						
CPUP	Villa Florida	49.01	105	eP	P	12 10 22.3	-0.5
CPUP				e		12 11 47.2	
CPUP				pmax	pmax		
	comp=Z,140nm,1.4s						
CPUP				MLR	MLR		
	comp=Z,3μm,20.0s						
CPUP	Villa Florida	49.01	105	P	P	12 10 22.6	-0.2
	comp=Z,34nm,1.1s,mb5.3,baz=287,slow=11,SNR=19						
CPUP				LR	LR	12 27 08.8	
	comp=Z,3μm,21.4s,MS5.2,baz=286,slow=31						
CPUP	Villa Florida	49.01	105	eP	P	12 10 22.2	-0.5
	comp=Z,140nm,1.4s,mb5.8						
CPUP				ePcP	PcP	12 11 47.2	+0.1
CPUP				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
PMSA	Palmer Station	51.22	156	PFAKE		12 10 50.0	+11
PMSA				LR	LR		
	comp=Z,3μm,19.0s,MS5.4						
SDV	Santo Domingo	51.57	56	P	P	12 10 42.3	-0.2
	comp=Z,48nm,1.0s,mb5.4,baz=261,slow=7.4,SNR=28						
SDV				S	S	12 18 06.0	+4.3
	comp=Z,1.4nm,0.4s,baz=108,slow=19,SNR=2.2						
SDV	Santo Domingo	51.57	56	eP	P	12 10 42.1	-0.4
	comp=Z,125nm,1.1s,mb5.8						
TXAR	Lajitas Array	53.33	9	P	P	12 10 55.9	+0.4
	comp=Z,12nm,1.0s,mb4.8,baz=190,slow=7.6,SNR=75						
TXAR				PcP	PcP	12 12 04.0	+0.9
	comp=Z,18nm,1.2s,baz=207,slow=2.8,SNR=5.4						
TXAR				LR	LR	12 29 33.0	
	comp=Z,2μm,18.2s,MS5.2,baz=95,slow=32						
LTX	Lajitas	53.33	9	eP	P	12 10 56.0	+0.5
LTX				pmax	pmax		
	comp=Z,123nm,1.6s,mb5.6						
LTX				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.2						
LTX	Lajitas	53.33	9	eP	P	12 10 56.0	+0.5
	comp=Z,123nm,1.6s,mb5.6						
LTX				LR	LR		
	comp=Z,2μm,21.0s,MS5.2						
MNTX	Cornudas Mount	55.45	7	eP	P	12 11 10.7	-0.4
	comp=Z,217nm,1.5s,mb6.0						
MNTX				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
TUC	Tucson	55.74	1⇑	iP	P	12 11 13.4	+0.3
TUC				pmax	pmax		
	comp=Z,48nm,1.0s,mb5.5						
TUC	Tucson	55.74	1⇑	iP	P	12 11 13.3	+0.3
	comp=Z,48nm,1.0s,mb5.5						
GDL2	Guadalupe Moun	56.06	7	eP	P	12 11 15.4	0.0
CLNB	Carlsbad	56.19	8	eP	P	12 11 15.9	-0.3
BAR	Barrett	56.31	355⇑	eP	P	12 11 17.0	-0.1
PFO	Pinyon Flat Ob	57.21	355⇑	iP	P	12 11 24.0	+0.4
PFO				pmax	pmax		
	comp=Z,82nm,1.4s,mb5.6						
PFO				MLR	MLR		
	comp=Z,238nm,20.0s						
PFO	Pinyon Flat Ob	57.21	355⇑	iP	P	12 11 23.9	+0.3
	comp=Z,82nm,1.4s,mb5.6						
PFO				LR	LR		
	comp=Z,238nm,20.0s						
AFI	Afiamalu	57.37	268	eP	P	12 11 25.8	+0.8
AFI				pmax	pmax		
	comp=Z,190nm,1.4s,mb5.9						
AFI				MLR	MLR		

comp=Z,9µm,20.0s,MS5.8
AFI Afiamalu 57.37 268 P **P** 12 11 24.0 -0.9
comp=Z,27nm,0.9s,mb5.3,baz=104,slow=8.3,SNR=4.9
AFI Afiamalu 57.37 268 *e*P **P** 12 11 25.8 +0.8
comp=Z,190nm,1.4s,mb5.9
AFI LR LR
comp=Z,9µm,20.0s,MS5.8
NATX Nacogdoches 57.54 17 *e*P **P** 12 11 25.4 -0.5
comp=Z,332nm,1.2s,mb6.2
NATX *e*PcP PcP 12 12 19.1 -0.1
NATX LR LR
comp=Z,2µm,20.0s,MS5.2
BNM Barren Site 57.77 5 *e*P **P** 12 11 27.7 +0.2
LPM Los Pinos Moun 57.93 5 *e*P **P** 12 11 28.4 -0.2
MWC Mount Wilson 57.96 354 *e*P **P** 12 11 28.6 -0.2
LAZ Ladron 57.98 4 *e*P **P** 12 11 25.7 -3.3
ANMO Albuquerque 58.58 5 P **P** 12 11 32.9 -0.2
comp=Z,37nm,1.3s,mb5.2,baz=179,slow=7.3,SNR=27
ANMO Albuquerque 58.58 5 P **P** 12 11 32.9 -0.2
LDFC Landfair 58.59 357⇑*e*P **P** 12 11 34.6 +1.4
RAO Raoul Island 58.85 249 PFAKE 12 11 50.0 +15
RAO LR LR
comp=Z,5µm,20.0s,MS5.6
AMTX Amarillo 59.07 10⇑*e*P **P** 12 11 35.7 -0.9
comp=Z,422nm,1.8s,mb6.2
AMTX LR LR
comp=Z,2µm,19.0s,MS5.2
NEN Nelson 59.14 357 *e*P **P** 12 11 37.3 +0.2
DWPF Disney 59.23 31 PFAKE 12 11 50.0 +12
DWPF LR LR
comp=Z,2µm,20.0s,MS5.2
DAC Darwin (Calif) 59.95 354⇑*i*P **P** 12 11 42.9 +0.2
DAC pmax pmax
comp=Z,161nm,1.6s,mb5.8
DAC MLR MLR
comp=Z,1µm,20.0s,MS5.0
DAC Darwin (Calif) 59.95 354⇑*i*P **P** 12 11 42.9 +0.2
comp=Z,161nm,1.6s,mb5.8
DAC LR LR
comp=Z,1µm,20.0s,MS5.0
BDFB Brasilia 60.07 95 P **P** 12 11 43.5 -0.2
comp=Z,112nm,1.2s,mb5.8,baz=271,slow=7.4,SNR=24
BDFB LR LR 12 35 39.9
comp=Z,5µm,18.6s,MS5.7,baz=263,slow=34
BAO Brasilia Array 60.09 95 P **P** 12 11 42.0 -1.8
LRV Little Rabbit 60.49 351 *e*P **P** 12 11 46.9 +0.6
POHA Pohakuloa 60.80 312 PFAKE 12 12 00.0 +11
POHA LR LR
comp=Z,26µm,21.0s,MS6.3
SJG San Juan 60.86 51 *e*P **P** 12 11 48.5 -0.6
SJG pmax pmax
comp=Z,120nm,1.4s
SJG San Juan 60.86 51 P **P** 12 11 48.2 -0.9
comp=Z,10nm,0.3s,mb5.4,baz=337,slow=19,SNR=8.5
SJG San Juan 60.86 51 *e*P **P** 12 11 48.5 -0.6
comp=Z,120nm,1.4s,mb5.8
SAO San Andreas Ge 60.88 351 *e*P **P** 12 11 49.5 +0.5
SAO pmax pmax
comp=Z,188nm,1.7s,mb5.9
SAO San Andreas Ge 60.88 351 *e*P **P** 12 11 49.5 +0.5
comp=Z,188nm,1.7s,mb5.9
UALR University of 61.02 18 *e*P **P** 12 11 49.1 -0.8
comp=Z,71nm,1.1s,mb5.7
LRAL Lakeview Retre 61.17 24 *e*P **P** 12 11 50.8 -0.1
comp=Z,186nm,1.2s,mb6.1
LRAL LR LR
comp=Z,3µm,19.0s,MS5.4
ARUT Antelope Range 61.22 358 *e*P **P** 12 11 51.5 +0.2
OMM Old Mammoth Mi 61.42 353 *e*P **P** 12 11 53.0 +0.4
SDCO Great Sand Dun 61.43 6⇑*e*P **P** 12 11 52.5 -0.2
comp=Z,139nm,1.4s,mb5.9
SDCO LR LR
comp=Z,4µm,20.0s,MS5.6
OXF Oxford 61.67 21 *e*P **P** 12 11 53.7 -0.7
OXF pmax pmax
comp=Z,116nm,1.0s,mb6.0
OXF MLR MLR
comp=Z,959nm,19.0s,MS5.0
OXF Oxford 61.67 21 *e*P **P** 12 11 53.7 -0.7
comp=Z,116nm,1.0s,mb6.0
OXF LR LR
comp=Z,959nm,19.0s,MS5.0
TPH Tonopah 61.71 355⇑*e*P **P** 12 11 55.4 +0.8
TPH pmax pmax
comp=Z,285nm,1.4s,mb6.2
TPH MLR MLR
comp=Z,754nm,21.0s,MS4.8
TPH Tonopah 61.71 355⇑*e*P **P** 12 11 55.4 +0.8
comp=Z,285nm,1.4s,mb6.2
TPH LR LR
comp=Z,754nm,21.0s,MS4.8
TRCR Troy Canyon 61.87 357⇑*e*P **P** 12 11 56.2 +0.6
MVU Marysvale 61.92 360⇑*e*P **P** 12 11 56.3 +0.4
comp=Z,121nm,1.5s,mb5.8
MVU LR LR
comp=Z,809nm,19.0s,MS4.9
MSU Marysvale 61.92 360 *e*P **P** 12 11 56.9 +0.9
CMB Columbia Colle 61.99 352⇑*e*P **P** 12 11 56.6 +0.1
CMB pmax pmax
comp=Z,205nm,1.5s,mb6.0
CMB MLR MLR
comp=Z,3µm,21.0s,MS5.4
CMB Columbia Colle 61.99 352⇑*e*P **P** 12 11 56.6 +0.1
comp=Z,205nm,1.5s,mb6.0
CMB LR LR
comp=Z,3µm,21.0s,MS5.4
SRU San Rafael 62.53 1⇑*e*P **P** 12 11 59.6 -0.4
PLAL Pickwick Lake 62.55 22 *e*P **P** 12 11 59.2 -1.0
comp=Z,362nm,1.8s,mb6.2
PLAL LR LR
comp=Z,2µm,20.0s,MS5.2
TMUT Trail Mountain 62.71 0 *e*P **P** 12 12 01.5 +0.3
NSHM Saint Helena R 62.77 350 *e*P **P** 12 12 01.9 +0.2
GNAR Gosnell 62.82 20 *e*P **P** 12 12 01.4 -0.6
WCN Washoe City 63.17 353⇑*e*P **P** 12 12 04.7 +0.5
WCN pmax pmax
comp=Z,202nm,1.7s,mb6.0
WCN Washoe City 63.17 353⇑*e*P **P** 12 12 04.7 +0.5
comp=Z,202nm,1.7s,mb6.0
CBKS Cedar Bluff 63.22 10 *e*P **P** 12 12 03.6 -1.0
CBKS pmax pmax
comp=Z,176nm,1.4s,mb6.0
CBKS MLR MLR
comp=Z,4µm,20.0s,MS5.6
CBKS Cedar Bluff 63.22 10 *e*P **P** 12 12 03.6 -1.0
comp=Z,176nm,1.4s,mb6.0
CBKS LR LR
comp=Z,4µm,20.0s,MS5.6
HOPS Hopland 63.31 350 *e*P **P** 12 12 05.7 +0.5
comp=Z,246nm,1.3s,mb6.2
HOPS LR LR
comp=Z,2µm,19.0s,MS5.4
NLU North Lily Min 63.37 360⇑*e*P **P** 12 12 06.0 +0.4
MPU Maple Canyon 63.42 0⇑*e*P **P** 12 12 06.0 +0.1
ISCO Idaho Springs 63.46 5⇑*e*P **P** 12 12 05.9 -0.3
ISCO pmax pmax
comp=Z,61nm,1.1s,mb5.6
ISCO MLR MLR
comp=Z,4µm,20.0s,MS5.6
ISCO Idaho Springs 63.46 5⇑*e*P **P** 12 12 05.9 -0.3
comp=Z,61nm,1.1s,mb5.7
ISCO LR LR
comp=Z,4µm,20.0s,MS5.6
SWET Sewanee 63.51 23 *e*P **P** 12 12 04.8 -1.8
PAHR Pah Rah Range 63.52 353 *e*P **P** 12 12 06.9 +0.3
comp=Z,338nm,2.1s,mb6.0
UTMT University of 63.52 20 *e*P **P** 12 12 06.8 +0.1
comp=Z,437nm,1.0s,mb6.4
KIP Kipapa 63.63 311 PFAKE 12 12 20.0 +12
KIP LR LR
comp=Z,3µm,20.0s,MS5.4
WVT Waverly 63.67 21 *e*P **P** 12 12 06.2 -1.4
WVT pmax pmax
comp=Z,126nm,1.2s,mb5.8
WVT Waverly 63.67 21 *e*P **P** 12 12 06.2 -1.4
comp=Z,126nm,1.2s,mb5.8
HBF Harts Bluff 63.78 29 *e*P **P** 12 12 08.8 +0.4
BEKR Beckwourth 63.79 353 *e*P **P** 12 12 08.7 +0.4
comp=Z,196nm,1.6s,mb5.9
DAU Daniels Canyon 63.82 0 *e*P **P** 12 12 08.8 +0.3
CSU Charleston Sou 63.96 29 *e*P **P** 12 12 09.9 +0.3
JLU Jordanelle 64.01 0⇑*e*P **P** 12 12 09.9 +0.1
NHSC New Hope 64.01 29 *e*P **P** 12 12 10.0 0.0
comp=Z,721nm,1.6s,mb6.5
NHSC LR LR
comp=Z,2µm,20.0s,MS5.3

COW Cow Castle Cre 64.01 29 *e*P **P** 12 12 10.1 +0.1
BMN Battle Mountai 64.05 355⇑*e*P **P** 12 12 10.2 +0.2
BMN pmax pmax
comp=Z,384nm,1.6s,mb6.2
BMN MLR MLR
comp=Z,1µm,19.0s,MS5.0
BMN Battle Mountai 64.05 355⇑*e*P **P** 12 12 10.2 +0.2
comp=Z,384nm,1.6s,mb6.2
BMN LR LR
comp=Z,1µm,19.0s,MS5.0
MYNC Murphy 64.06 25 *e*P **P** 12 12 09.5 -0.7
MYNC pmax pmax
comp=Z,319nm,1.3s,mb6.2
MYNC MLR MLR
comp=Z,4µm,20.0s,MS5.6
MYNC Murphy 64.06 25 *e*P **P** 12 12 09.5 -0.7
comp=Z,319nm,1.3s,mb6.2
MYNC LR LR
comp=Z,4µm,20.0s,MS5.6
NOQ North Oquirrh 64.06 360 *e*P **P** 12 12 10.1 0.0
KSU1 Kansas State U 64.08 13 *e*P **P** 12 12 09.9 -0.4
CTU Camp Tracy 64.10 360⇑*e*P **P** 12 12 10.3 -0.1
ELK Elko 64.24 357⇑*i*P **P** 12 12 11.3 0.0
ELK pmax pmax
comp=Z,211nm,1.7s
ELK MLR MLR
comp=Z,2µm,22.0s
ELK Elko 64.24 357 P **P** 12 12 11.5 +0.2
comp=Z,16nm,0.9s,mb5.1,baz=185,slow=5.4,SNR=45
ELK Elko 64.24 357⇑*i*P **P** 12 12 11.3 0.0
comp=Z,211nm,1.7s,mb5.9
ELK LR LR
comp=Z,2µm,22.0s,MS5.2
BGU Big Grassy Mou 64.34 359⇑*e*P **P** 12 12 12.1 +0.1
CCM Cathedral Cave 64.40 18⇑*e*P **P** 12 12 11.2 -1.1
CCM pmax pmax
comp=Z,137nm,1.1s,mb5.9
CCM MLR MLR
comp=Z,836nm,20.0s,MS4.9
CCM Cathedral Cave 64.40 18⇑*e*P **P** 12 12 11.2 -1.1
comp=Z,138nm,1.1s,mb5.9
CCM LR LR
comp=Z,836nm,20.0s,MS4.9
TCUT Toone Canyon 64.53 0 *e*P **P** 12 12 13.0 -0.2
JSC Jenkinsville 64.54 28 *e*P **P** 12 12 12.9 -0.4
FVM French Village 64.56 18⇑*e*P **P** 12 12 12.7 -0.7
FVM pmax pmax
comp=Z,65nm,1.2s,mb5.5
FVM French Village 64.56 18⇑*e*P **P** 12 12 12.7 -0.7
comp=Z,65nm,1.2s,mb5.5
SPUT South Promonto 64.72 359 *e*P **P** 12 12 14.2 -0.2
WDC Whiskeytown Da 64.78 351⇑*e*P **P** 12 12 14.3 -0.5
WDC pmax pmax
comp=Z,306nm,1.6s,mb6.1
WDC Whiskeytown Da 64.78 351⇑*e*P **P** 12 12 14.3 -0.5
comp=Z,306nm,1.6s,mb6.1
PHWY Pilot Hill 64.97 5 *e*P **P** 12 12 15.5 -0.5
HWUT Hardware Ranch 65.01 0⇑*e*P **P** 12 12 15.3 -1.0
comp=Z,44nm,1.1s,mb5.4
HWUT LR LR
comp=Z,1µm,22.0s,MS5.0
SBA Scott Base 65.18 193⇑*e*P **P** 12 12 16.4 -0.4
SBA pmax pmax
comp=Z,157nm,1.5s,mb5.8
SBA Scott Base 65.18 193⇑*e*P **P** 12 12 16.4 -0.5
comp=Z,157nm,1.5s,mb5.8
HVU Hansel Valley 65.19 359 *e*P **P** 12 12 17.5 +0.1
SLM Saint Louis 65.22 18 *e*P **P** 12 12 17.0 -0.7
SLM pmax pmax
comp=Z,70nm,0.8s,mb5.7
SLM Saint Louis 65.22 18 *e*P **P** 12 12 17.0 -0.7
comp=Z,70nm,0.8s,mb5.7
RWWY Rawlins 65.23 4⇑*e*P **P** 12 12 16.8 -0.8
comp=Z,99nm,1.1s,mb5.8
KHMM Horse Mountain 65.25 350⇑*e*P **P** 12 12 18.8 +0.9
TZTN Tazewell 65.58 25 *e*P **P** 12 12 19.6 -0.4
MOD Modoc 65.80 353⇑*i*P **P** 12 12 21.6 +0.3
comp=Z,164nm,1.0s,mb6.0
MOD LR LR
comp=Z,2µm,21.0s,MS5.3
KRMB Red Mountain 65.92 350⇑*i*P **P** 12 12 22.7 +0.6
YBH Yreka Blue Hor 65.94 351⇑*e*P **P** 12 12 21.8 -0.4
YBH pmax pmax
comp=Z,180nm,1.8s
YBH Yreka Blue Hor 65.94 351 P **P** 12 12 22.0 -0.2
comp=Z,13nm,0.8s,mb5.0,baz=139,slow=3.6,SNR=28
YBH Yreka Blue Hor 65.94 351⇑*e*P **P** 12 12 21.8 -0.4
comp=Z,180nm,1.8s,mb5.8
WVOR Wild Horse Val 66.15 354⇑*i*P **P** 12 12 24.1 +0.5
WVOR pmax pmax
comp=Z,276nm,1.2s,mb6.2
WVOR MLR MLR
comp=Z,3µm,20.0s,MS5.5
WVOR Wild Horse Val 66.15 354⇑*i*P **P** 12 12 24.1 +0.5
comp=Z,276nm,1.2s,mb6.2
WVOR LR LR
comp=Z,3µm,20.0s,MS5.5
AHID Auburn Hatcher 66.17 0⇑*i*P **P** 12 12 22.4 -1.3
comp=Z,103nm,1.3s,mb5.7
AHID LR LR
comp=Z,1µm,21.0s,MS5.2
BW06 Boulder Array 66.20 2⇑*i*P **P** 12 12 22.7 -1.2
comp=Z,58nm,1.1s,mb5.5
BW06 LR LR
comp=Z,2µm,20.0s,MS5.2
PDAR Pinedale Array 66.20 2 P **P** 12 12 22.6 -1.2
comp=Z,14nm,0.6s,mb5.2,baz=167,slow=7.3,SNR=101
PDAR LR LR 12 36 55.0
comp=Z,1µm,18.6s,MS5.2,baz=162,slow=32
VNDA Vanda 66.23 194⇑*e*P **P** 12 12 23.1 -0.4
VNDA pmax pmax
comp=Z,111nm,1.7s
VNDA Vanda 66.23 194 P **P** 12 12 23.1 -0.4
comp=Z,8.9nm,1.1s,mb4.7,baz=98,slow=6.2,SNR=20
VNDA LR LR 12 35 49.2
comp=Z,3µm,18.1s,MS5.5,baz=89,slow=31
VNDA Vanda 66.23 194⇑*e*P **P** 12 12 23.1 -0.5
comp=Z,111nm,1.7s,mb5.6
QSPA South Pole Qui 66.42 180 *e*P **P** 12 12 25.0 +0.3
comp=Z,447nm,1.6s,mb6.2
KBO Bosley Butte 66.64 350 *e*P **P** 12 12 26.8 +0.2
RRI2 Red Ridge 66.75 0⇑*e*P **P** 12 12 27.0 -0.4
comp=Z,393nm,1.6s,mb6.2
REDW Red Top Meadow 66.77 1⇑*e*P **P** 12 12 26.6 -0.9
comp=Z,145nm,1.4s,mb5.8
HUMO Hull Mountain 66.83 351⇑*i*P **P** 12 12 27.9 0.0
HUMO LR LR
comp=Z,2µm,21.0s,MS5.3
BLO Bloomington 66.86 21 *e*P **P** 12 12 27.0 -1.2
BLO pmax pmax
comp=Z,227nm,1.5s,mb6.0
BLO Bloomington 66.86 21 *e*P **P** 12 12 27.0 -1.2
comp=Z,227nm,1.5s,mb6.0
SNOW Snow King Moun 66.87 1⇑*e*P **P** 12 12 27.5 -0.6
comp=Z,88nm,1.0s,mb5.7
TPAW Teton Pass 66.90 1⇑*i*P **P** 12 12 27.7 -0.7
comp=Z,197nm,1.3s,mb6.0
HLID Hailey 67.02 358⇑*i*P **P** 12 12 29.4 +0.3
comp=Z,106nm,1.0s,mb5.8
HLID LR LR
comp=Z,1µm,22.0s,MS5.1
LOHW Long Hollow 67.03 1⇑*i*P **P** 12 12 28.2 -1.0
comp=Z,117nm,1.2s,mb5.8
MOOW Moose Ponds 67.16 1⇑*e*P **P** 12 12 29.1 -0.8
comp=Z,96nm,1.3s,mb5.7
ELN Prospectdale 67.28 26 *e*P **P** 12 12 30.3 -0.5
KEBM Edson Butte 67.30 350 *e*P **P** 12 12 31.2 +0.3
IMW Indian Meadow 67.31 1⇑*e*P **P** 12 12 30.1 -0.7
comp=Z,273nm,1.5s,mb6.1
BLA Blacksburg 67.40 27 PFAKE 12 12 40.0 +8.4
BLA LR LR
comp=Z,2µm,22.0s,MS5.4
FWV Forest Hill 67.56 26 *e*P **P** 12 12 32.1 -0.5
YFT Old Faithful 67.86 1 *e*P **P** 12 12 34.9 +0.5
RSSD Black Hills 67.89 6⇑*e*P **P** 12 12 34.1 -0.5
RSSD pmax pmax
comp=Z,170nm,1.3s,mb5.9
RSSD Black Hills 67.89 6⇑*e*P **P** 12 12 34.1 -0.5
comp=Z,170nm,1.3s,mb5.9
LKWY Lake 67.98 1 *e*P **P** 12 12 35.2 +0.1
LKWY pmax pmax
comp=Z,74nm,1.2s,mb5.6
LKWY MLR MLR
comp=Z,2µm,22.0s,MS5.2
LKWY Lake 67.98 1 *e*P **P** 12 12 35.2 +0.1
comp=Z,74nm,1.2s,mb5.6

LKWY LR LR
comp=Z,2µm,22.0s,MS5.2
YMR Madison River 68.08 1⇑*e*P **P** 12 12 35.9 +0.2
YNR Norris Junctio 68.13 1 *e*P **P** 12 12 35.8 -0.2
QLMT Earthquake Lak 68.24 0 *e*P **P** 12 12 37.5 +0.8
MCMT McKenzie Canyo 68.24 359 *e*P **P** 12 12 37.2 +0.4
BMO Blue Mountains 68.45 356 *e*P **P** 12 12 38.4 +0.3
comp=Z,268nm,1.6s,mb6.0
BMO LR LR
comp=Z,1µm,19.0s,MS5.2
COR Corvallis 68.82 351 PFAKE 12 12 50.0 +10
COR LR LR
comp=Z,1µm,22.0s,MS5.1
BOZ Bozeman (W) 69.05 0⇑*i*P **P** 12 12 40.8 -0.9
BOZ pmax pmax
comp=Z,117nm,1.6s,mb5.6
BOZ MLR MLR
comp=Z,1µm,19.0s,MS5.2
BOZ Bozeman (W) 69.05 0⇑*i*P **P** 12 12 40.8 -1.0
comp=Z,117nm,1.6s,mb5.6
BOZ LR LR
comp=Z,1µm,19.0s,MS5.2
GCMT Greycliff 69.22 2 *e*P **P** 12 12 42.1 -0.7
CBN Corbin 69.52 28 *e*P **P** 12 12 44.2 -0.5
comp=Z,204nm,1.3s,mb5.9
CBN LR LR
comp=Z,3µm,22.0s,MS5.5
MCWV Mont Chateau 69.72 26 *e*P **P** 12 12 45.3 -0.7
comp=Z,344nm,1.6s,mb6.0
MCWV LR LR
comp=Z,3µm,21.0s,MS5.5
HRY Holter Researc 70.12 360 *e*P **P** 12 12 48.6 +0.4
MSO Missoula 70.27 358⇑*e*P **P** 12 12 48.7 -0.4
comp=Z,192nm,1.7s,mb5.8
MSO LR LR
comp=Z,849nm,19.0s,MS5.0
LAO LASA Array 70.27 4⇑*i*P **P** 12 12 48.6 -0.5
comp=Z,147nm,1.1s,mb5.8
LAO LR LR
comp=Z,2µm,19.0s,MS5.4
CHMT Chamberlain Mo 70.33 359 *e*P **P** 12 12 49.4 -0.2
AAM Ann Arbor 70.63 22 *e*P **P** 12 12 51.4 0.0
AAM pmax pmax
comp=Z,48nm,0.4s,mb5.8
AAM MLR MLR
comp=Z,2µm,20.0s,MS5.5
AAM Ann Arbor 70.63 22 *e*P **P** 12 12 51.4 0.0
comp=Z,48nm,0.4s,mb5.8
AAM LR LR
comp=Z,2µm,20.0s,MS5.5
SDMD Soldier's Deli 70.76 28 *e*P **P** 12 12 51.5 -0.7
ALLY Allegheny Colle 71.32 24 *e*P **P** 12 12 55.6 0.0
VNA3 Neumayer Olymp 71.51 161⇑*i*P **P** 12 12 57.5 +1.2
VNA3 Neumayer Olymp 71.51 161⇑*i* **P** 12 13 01.3 +5.0
VNA3 Neumayer Olymp 71.51 161⇑*i* **P** 12 13 15.1 +19
BBSR BB Station 71.59 41 *e*P **P** 12 12 57.5 +0.1
comp=Z,231nm,1.4s,mb5.9
BBSR LR LR
comp=Z,3µm,21.0s,MS5.6
NEW Newport 71.84 356⇑*e*P **P** 12 12 58.4 -0.2
NEW pmax pmax
comp=Z,260nm,1.5s
NEW MLR MLR
comp=Z,927nm,21.0s
NEW Newport 71.84 356 P **P** 12 12 58.5 -0.1
comp=Z,99nm,1.2s,mb5.6,baz=165,slow=5.8,SNR=67
NEW Newport 71.84 356⇑*e*P **P** 12 12 58.4 -0.2
comp=Z,260nm,1.5s,mb5.9
NEW LR LR
comp=Z,927nm,21.0s,MS5.0
OCWA Octopus Mounta 72.04 351 *e*P **P** 12 12 59.5 -0.3
comp=Z,678nm,1.8s,mb6.3
OCWA LR LR
comp=Z,2µm,21.0s,MS5.3
VNA1 Neumayer--Stat 72.15 160⇑*i*P **P** 12 13 01.6 +1.5
VNA1 Neumayer--Stat 72.15 160⇑*i* **P** 12 13 04.7 +4.6
VNA1 Neumayer--Stat 72.15 160⇑*i* **P** 12 13 19.5 +19
DGMT Dagmar 72.19 5⇑*e*P **P** 12 13 00.4 -0.2
comp=Z,367nm,1.2s,mb6.2
DGMT LR LR
comp=Z,2µm,19.0s,MS5.5
VNA2 Neumayer--Watz 72.32 160⇑*i*P **P** 12 13 02.4 +1.3
VNA2 Neumayer--Watz 72.32 160⇑*i* **P** 12 13 06.6 +5.5
VNA2 Neumayer--Watz 72.32 160⇑*i* **P** 12 13 20.4 +19
WALA Waterton Lakes 72.49 358⇑*e*P **P** 12 13 02.6 +0.2
comp=Z,87nm,1.4s,mb5.5
PGC Sidney 72.83 352⇑*e*P **P** 12 13 04.7 +0.3
comp=Z,481nm,1.2s,mb6.3
CPNY Central Park 73.15 29 *e*P **P** 12 13 05.5 -1.0
GENY Geneseo 73.17 25 *e*P **P** 12 13 06.9 +0.4
PAL Palisades 73.35 29⇑*e*P **P** 12 13 07.0 -0.6
PAL pmax pmax
comp=Z,168nm,1.4s,mb5.8
PAL Palisades 73.35 29⇑*e*P **P** 12 13 07.0 -0.6
comp=Z,168nm,1.4s,mb5.8
SNAA Sanae 73.37 162⇑*i*P **P** 12 13 06.4 -0.8
SNAA Sanae 73.37 162 **P** 12 13 10.1 +2.9
SNAA Sanae 73.37 162 **P** 12 13 22.6 +15
SNAA Sanae 73.37 162*c i*P **P** 12 13 06.2 -1.0
SNAA Sanae 73.37 162 P **P** 12 13 06.4 -0.8
comp=Z,46nm,1.2s,mb5.3,baz=249,slow=5.5,SNR=72
SNAA Sanae 73.37 162 P **P** 12 13 10.1 +2.9
BINY Binghamton 73.43 27⇑*e*P **P** 12 13 08.1 0.0
comp=Z,231nm,1.3s,mb6.0
DZM Mont Dzumac 74.36 252 LR LR 12 38 11.5
comp=Z,5µm,21.5s,MS5.8,baz=81,slow=30
SADO Sadowa 74.38 23 P **P** 12 13 12.8 -0.7
comp=Z,38nm,1.0s,mb5.3,baz=229,slow=5.0,SNR=24
ULM Lac du Bonnet 74.98 10 P **P** 12 13 16.4 -0.5
comp=Z,33nm,0.8s,mb5.3,baz=202,slow=5.8,SNR=27
ULM LR LR 12 43 53.6
comp=Z,1µm,19.3s,MS5.3,baz=282,slow=34
ULM Lac du Bonnet 74.98 10 *e*P **P** 12 13 16.4 -0.5
comp=Z,32nm,1.1s,mb5.2
ULM LR LR
comp=Z,795nm,22.0s,MS5.0
QUA2 Belchertown 75.06 29 *e*P **P** 12 13 16.5 -1.0
comp=Z,41nm,0.3s,mb5.8
BRYW Bryant College 75.14 30 *e*P **P** 12 13 17.8 -0.3
comp=Z,197nm,1.6s,mb5.8
DRV Dumont d'Urvil 75.38 203 P **P** 12 13 25.0 +6.2
DRV S S 12 23 04.0 +6.8
DRV SS SS 12 27 42.0 -7.9
DRV L 12 33 00.0
DRV R 12 38 00.0
ACCN Adirondack Com 75.38 28 *e*P **P** 12 13 19.0 -0.3
HRV Harvard--Oak R 75.60 29 *e*P **P** 12 13 20.4 -0.2
HRV pmax pmax
comp=Z,111nm,1.4s,mb5.6
HRV MLR MLR
comp=Z,2µm,20.0s,MS5.4
HRV Harvard--Oak R 75.60 29 *e*P **P** 12 13 20.4 -0.2
comp=Z,111nm,1.4s,mb5.6
HRV LR LR
comp=Z,2µm,20.0s,MS5.4
WES Weston 75.61 30 *e*P **P** 12 13 20.4 -0.3
WES pmax pmax
comp=Z,291nm,1.5s,mb6.0
WES Weston 75.61 30 *e*P **P** 12 13 20.4 -0.3
comp=Z,291nm,1.5s,mb6.0
NCB Newcomb 75.62 27⇑*e*P **P** 12 13 20.7 0.0
comp=Z,278nm,1.3s,mb6.0
NCB LR LR
comp=Z,2µm,20.0s,MS5.3
FFD Franklin Falls 76.32 29 *e*P **P** 12 13 20.5 -4.1
comp=Z,214nm,1.4s,mb5.9
FRNY Flat Rock 76.59 27⇑*e*P **P** 12 13 26.2 0.0
EDM Edmonton 76.65 359⇑*e*P **P** 12 13 26.0 -0.3
BBB Bella Bella 76.96 350 P **P** 12 13 28.2 +0.2
comp=Z,63nm,1.2s,mb5.4,baz=174,slow=7.1,SNR=17
BBB LR LR 12 39 17.8
comp=Z,774nm,21.7s,MS5.0,baz=232,slow=29
MAIT Maitri 77.84 164⇓*i*P **P** 12 13 33.1 +0.6
NVL N'lazarevskaya 77.87 164⇓*i*P **P** 12 13 30.7 -2.0
NVL *i* *PP pP 12 13 42.8 +6.9
NVL *i* 12 16 39.7
NVL *e*SSS SS 12 28 28.4 +0.5
NVL pmax pmax
comp=Z,19nm,1.6s,mb4.8
WVL Waterville 78.07 29 *e*P **P** 12 13 34.4 +0.1
comp=Z,446nm,1.4s,mb6.2
WVL LR LR
comp=Z,6µm,20.0s,MS5.9
FFC Flin Flon 78.59 6⇑*i*P **P** 12 13 36.3 -0.6
FFC pmax pmax
comp=Z,285nm,1.7s,mb5.9

FFC MLR MLR
comp=Z,553nm,20.0s,MS4.9
FFC Flin Flon 78.59 6⇑*i*P P 12 13 36.3 -0.6
comp=Z,284nm,1.7s,mb5.9
FFC LR LR
comp=Z,553nm,20.0s,MS4.9
EMMW East Machias 79.19 30 *e*P P 12 13 40.9 +0.5
comp=Z,446nm,1.5s,mb6.2
EMMW LR LR
comp=Z,7µm,20.0s,MS6.0
PQI Presque Isle 80.43 29 *e*P P 12 13 46.9 -0.1
comp=Z,892nm,1.3s,mb6.5
PQI LR LR
comp=Z,9µm,19.0s,MS6.2
CRAG Craig 80.99 348 *e*P P 12 13 51.0 +1.2
CRAG LR LR
comp=Z,2µm,21.0s,MS5.5
MIDW Midway 81.69 306 PFAKE 12 14 10.0 +16
MIDW LR LR
comp=Z,3µm,20.0s,MS5.6
SIT Sitka 82.91 347 *e*P P 12 14 00.5 +0.7
SIT MLR MLR
comp=Z,1µm,17.0s,MS5.3
DLBC Dease Lake 83.28 350⇑*e*P P 12 14 02.6 +1.0
CNB Canberra Magne 83.47 234 *e*P P 12 14 03.6 +0.5
comp=Z,96nm,1.5s,mb5.6
CASY Casey 84.75 196 *e*P P 12 14 08.7 -0.1
HNR Honiara 84.79 262 LR LR 12 43 54.5
comp=Z,4µm,21.9s,MS5.7,baz=120,slow=30
HNR Honiara 84.79 262 PFAKE 12 14 20.0 +10
HNR LR LR
comp=Z,3µm,22.0s,MS5.7
KWAJ Kwajalein Atol 85.11 282 PFAKE 12 14 20.0 +8.2
KWAJ LR LR
comp=Z,788nm,20.0s,MS5.1
SYO Syowa Base 85.19 170 ⇓P P 12 14 09.2 -1.8
SYO Syowa Base 85.19 170 ⇓PcP PcP 12 14 12.0 -2.7
SYO Syowa Base 85.19 170 ⇓pP pP 12 14 14.5 +0.3
TOO Toolangi 85.33 231 *e*P P 12 14 12.7 +0.2
comp=Z,39nm,1.5s,mb5.3
TOO Toolangi 85.33 231 *e*P P 12 14 12.7 +0.2
TOO pmax pmax
comp=Z,39nm,1.5s,mb5.3
YKA Yellowknife Ar 85.97 359 P P **12 14 15.2 +0.3**
comp=Z,56nm,1.1s,mb5.7,baz=172,slow=4.3,SNR=99
YKA Yellowknife Ar 85.97 359 P P **12 14 15.2 +0.2**
YKW3 Yellowknife Ar 86.03 359⇑*e*P P 12 14 15.3 0.0
SCHQ Schefferville 87.17 24 P P **12 14 21.0 0.0**
comp=Z,8.6nm,0.7s,mb5.1,baz=61,slow=0.4,SNR=9.6
SCHQ LR LR 12 50 22.1
comp=Z,1µm,21.9s,MS5.3,baz=221,slow=34
SCHQ Schefferville 87.17 24 P P **12 14 21.0 0.0**
SCHQ LR LR 12 50 22.1
MIR Mirnyy 88.07 190 *e*P P 12 14 23.0 -2.1
MIR pmax pmax
comp=Z,108nm,2.0s,mb5.7
MAW Mawson 88.84 178 *e*P P 12 14 29.3 +0.5
MAW pmax pmax
comp=Z,19nm,1.4s
MAW MLR MLR
comp=Z,396nm,20.0s
MAW Mawson 88.84 178 P P **12 14 28.8 0.0**
comp=Z,29nm,1.2s,mb5.5,baz=185,slow=6.8,SNR=11
MAW LR LR 12 50 43.7
comp=Z,3µm,18.6s,MS5.7,baz=177,slow=33
MAW Mawson 88.84 178 *e*P P 12 14 29.3 +0.5
comp=Z,19nm,1.4s,mb5.2
MAW LR LR
comp=Z,396nm,20.0s,MS4.8
SDPT Sand Point 89.08 335 *e*P P 12 14 31.3 +1.1
SDPT LR LR
comp=Z,1µm,23.0s,MS5.2
SLKM Skilak Lake 89.61 342 *e*P P 12 14 33.0 +0.4
PMR Palmer 90.21 343 *e*P P 12 14 34.9 -0.5
PMR MLR MLR
comp=Z,1µm,17.0s,MS5.5
RSO Redoubt South 90.31 341 *e*P P 12 14 35.7 -0.1
AKUT Akutan 90.43 332 *e*P P 12 14 38.4 +1.9
AKUT LR LR
comp=Z,900nm,23.0s,MS5.1
SPU Mount Spurr 90.69 342 *e*P P 12 14 37.4 -0.1
STKA Stephens Creek 90.80 235 *e*P P 12 14 38.7 -0.1
comp=Z,23nm,1.4s,mb5.3
STKA Stephens Creek 90.80 235 P P **12 14 39.0 +0.2**
comp=Z,27nm,1.2s,mb5.5,baz=104,slow=6.5,SNR=14
STKA LR LR 12 51 48.6
comp=Z,2µm,18.1s,MS5.7,baz=108,slow=33
SVW2 Sparrevohn 91.67 340 *e*P P 12 14 41.9 -0.2
ILAR Eielson Array 92.34 346 P P **12 14 44.6 -0.5**
comp=Z,4.5nm,1.1s,mb4.7,baz=180,slow=3.7,SNR=31
ILAR PKKP PKKP 12 31 59.4 +7.6
comp=Z,0.5nm,0.7s,baz=311,slow=3.2,SNR=7.8
ILAR LR LR 12 48 35.1
comp=Z,844nm,19.6s,MS5.2,baz=151,slow=31
CTA Charters Tower 92.49 247 LR LR 12 48 12.3
comp=Z,4µm,21.9s,MS5.8,baz=105,slow=30
CTAO Charters Tower 92.49 247 *e*P P 12 14 47.5 +0.7
CTAO pmax pmax
comp=Z,27nm,1.4s,mb5.4
CTAO MLR MLR
comp=Z,4µm,21.0s,MS5.8
CTAO Charters Tower 92.49 247 *e*P P 12 14 47.5 +0.7
comp=Z,27nm,1.4s,mb5.4
CTAO LR LR
comp=Z,4µm,21.0s,MS5.8
INK Inuvik 93.18 352 *e*P P 12 14 49.0 +0.2
INK pmax pmax
comp=Z,171nm,1.5s
INK Inuvik 93.18 352 P P **12 14 48.6 -0.2**
comp=Z,71nm,1.3s,mb5.9,baz=166,slow=6.3,SNR=24
INK Inuvik 93.18 352 *e*P P 12 14 49.0 +0.1
comp=Z,171nm,1.5s,mb6.3
PMG Port Moresby 96.32 257 LR LR 12 50 59.3
comp=Z,4µm,20.3s,MS5.8,baz=92,slow=31
PMG Port Moresby 96.32 257 PFAKE 12 15 20.0 +15
PMG LR LR
comp=Z,4µm,21.0s,MS5.8
ADH Angra Heroismo 100.34 52 *e*LR LR 12 50 30.0
CMLA Cha da Macela 101.27 54 PFAKE 12 15 40.0 +14
CMLA LR LR
comp=Z,380nm,19.0s,MS4.9
WRA Warramunga Arr 102.40 242 PP PP 12 19 48.2 +1.2
comp=Z,6.0nm,1.3s,baz=118,slow=7.6,SNR=6.0
WRA PKKPbc 12 31 33.6
comp=Z,1.3nm,0.8s,baz=308,slow=2.4,SNR=7.8
NWAO Narrogin (SRO) 106.86 221 PFAKE 12 20 10.0
NWAO LR LR
comp=Z,3µm,20.0s,MS5.8
GUMO Guam 107.51 277 PFAKE 12 20 10.0
GUMO LR LR
comp=Z,2µm,20.0s,MS5.6
DBIC Dimbokro 108.03 91 PFAKE 12 20 20.0
DBIC LR LR
comp=Z,3µm,20.0s,MS5.9
PET Petropavlovsk 108.41 320 PFAKE 12 20 20.0
PET LR LR
comp=Z,1µm,20.0s,MS5.5
BILL Bilibino 108.86 337*de*P Pdif 12 16 10.2 +11
BILL *i* 12 20 31.2
BILL *e*PS PS 12 29 58.4 +4.0
BILL pmax pmax
comp=Z,12nm,2.6s
BILL Bilibino 108.86 337 PFAKE 12 20 20.0
BILL LR LR
comp=Z,859nm,20.0s,MS5.3
FITZ Fitzroy Crossi 110.31 239 PKKPbc 12 31 16.0
comp=Z,15nm,0.9s,baz=243,slow=2.3,SNR=4.5
MBWA Marble Bar 112.95 232 PFAKE 12 20 20.0 +5.4
MBWA LR LR
comp=Z,3µm,19.0s,MS6.0
BOSA Boshof 113.44 139 PFAKE 12 20 30.0 +15
BOSA LR LR
comp=Z,1µm,20.0s,MS5.5
MA2 Magadan 113.95 326 PFAKE 12 20 30.0 +14
MA2 LR LR
comp=Z,584nm,20.0s,MS5.2
TSUM Tsumeb 114.66 126 PFAKE 12 20 30.0 +12
TSUM LR LR
comp=Z,2µm,22.0s,MS5.7
LBTB Lobatse 116.26 137 PKIKP PKPdf 12 20 19.9 -1.1
LBTB 12 21 24.0
LBTB pmax pmax
comp=Z,4.0nm,0.9s
LBTB pmax pmax
comp=Z,11nm,1.2s
LBTB Lobatse 116.26 137 PKP PKPdf 12 20 19.9 -1.2
comp=Z,3.5nm,0.9s,baz=225,slow=4.3,SNR=3.2
LBTB PP PP 12 21 24.0 -4.5
comp=Z,11nm,1.2s,baz=247,slow=7.7,SNR=4.0
LBTB Lobatse 116.26 137 *e*PKPdf PKPdf 12 20 19.0 -2.0
LBTB LR LR
comp=Z,1µm,19.0s,MS5.6
JMIC Jan Mayen 116.53 21 *e*PP PP 12 21 26.5 -2.8
JMIC AMS AMS 13 06 31.9
comp=Z,583nm,23.8s,MS5.1
ESDC Sonseca Array 118.02 56 PKP PKPdf 12 20 23.4 -0.7
comp=Z,0.3nm,0.3s,baz=290,slow=1.9,SNR=11
ESDC PP PP 12 21 32.6 -7.9
comp=Z,0.2nm,0.4s,baz=233,slow=6.4,SNR=2.7
ESLA Sonseca Array 118.02 56 *e*PKPdf PKPdf 12 20 22.9 -1.2
ESLA LR LR
comp=Z,12µm,20.0s,MS6.5
KBS Kingsbay 119.40 11 PFAKE 12 20 40.0 +14
KBS LR LR
comp=Z,2µm,21.0s,MS5.6
KBS Kingsbay 119.40 11 AMS AMS 13 09 14.2
comp=Z,850nm,18.4s,MS5.4
MJAR Matsushiro Arr 119.42 300 PKKPbc 12 30 39.0
comp=Z,5.8nm,1.1s,baz=270,slow=4.1,SNR=8.7
MAJO Matsushiro 119.42 300 PFAKE 12 20 40.0 +13
MAJO LR LR
comp=Z,2µm,20.0s,MS5.6
MAT Matsushiro 119.42 300 PKP PKPdf 12 20 25.0 -1.8
MAT LR LR
comp=Z,2µm,22.0s,MS5.7
MAT Matsushiro 119.42 300 *e*PKP PKPdf 12 20 24.7 -2.1
ROSF Rostrenen 119.42 47 *e*PKIKP PKPdf 12 20 22.6 -3.9
QUIF Quistinic 119.47 47 *e*PKIKP PKPdf 12 20 22.8 -3.8
ESK Eskdalemuir 119.63 39 *e*PKIKP PKPdf 12 20 26.0 -0.7
ESK MLR MLR
comp=Z,266nm,20.0s,MS4.9
SGMF Saint Gilles 119.89 47 *e*PKIKP PKPdf 12 20 23.5 -3.9
comp=Z,65nm,1.4s
SJPF Ste Jean 120.47 53 *e*PKIKP PKPdf 12 20 25.6 -3.1
ETSF Etsaut 120.94 53 *e*PKIKP PKPdf 12 20 26.7 -3.0
comp=Z,58nm,1.4s
GRR Gorron 121.03 47 *e*PKIKP PKPdf 12 20 26.2 -3.5
comp=Z,81nm,1.3s
FLN La Foliniere 121.29 46 *e*PKIKP PKPdf 12 20 26.6 -3.6
comp=Z,55nm,1.2s
FLN *e*R
comp=Z,1µm,21.2s
MATP Matopo 121.41 135 PKP PKPdf 12 20 29.8 -1.3
comp=Z,4.0nm,1.0s,baz=239,slow=3.3,SNR=6.0
MFF Saint Martin d 121.45 49 *e*PKIKP PKPdf 12 20 28.1 -2.5
comp=Z,30nm,1.1s
TIXI Tiksi 121.50 341 *i* PKIKP PKPdf 12 20 27.5 -2.6
TIXI *e* 12 21 57.2
TIXI *e*SS SS 12 38 47.7 +13
TIXI pmax pmax
comp=Z,5.0nm,1.1s
TIXI Tiksi 121.50 341⇑*i* PKP PKPdf 12 20 25.0 -5.1
LDF La Druitiere 121.53 46 *e*PKIKP PKPdf 12 20 26.9 -3.8
EPF Esparros 121.61 53 *e*PKIKP PKPdf 12 20 27.7 -3.3
comp=Z,130nm,1.5s
LFF La Frestale 122.00 51 *e*PKIKP PKPdf 12 20 28.2 -3.5
RJF Les Rejaudoux 122.57 50 *e*PKIKP PKPdf 12 20 29.2 -3.5
comp=Z,96nm,1.5s
RJF *e*R
comp=Z,2µm,22.5s
CAF Calviac 122.94 51 *e*PKIKP PKPdf 12 20 30.2 -3.2
comp=Z,98nm,1.6s
MTLF Montolieu 123.00 53 *e*PKIKP PKPdf 12 20 30.1 -3.4
comp=Z,87nm,1.6s
TCF Toulx Ste Croi 123.08 49 *e*PKIKP PKPdf 12 20 29.8 -3.8
BGF Bois d'Agland 123.52 49 *e*PKIKP PKPdf 12 20 30.9 -3.6
PYM Petit Puy Mans 123.63 50 *e*P PKPdf 12 20 33.3 -1.5
BER Bergen 123.65 32 *e*PP PP 12 22 15.5 -2.9
BER AMS AMS 13 10 13.7
comp=Z,904nm,19.5s,MS5.4
LBL Lubilhac 123.79 50 *e*P PKPdf 12 20 34.4 -0.7
SCPH Surigao 123.87 266⇓*e*P PKPdf 12 20 32.0 -4.0
SSF Saint Saulge 123.97 48 *e*PKIKP PKPdf 12 20 31.5 -3.9
comp=Z,37nm,1.2s
PLDF La Plantade 124.06 50 *e*P PKPdf 12 20 33.8 -1.8
YAK Yakutsk 124.07 330 *i* PKIKP PKPdf 12 20 31.4 -3.9
YAK Yakutsk 124.07 330 *e*PKPdf PKPdf 12 20 33.5 -1.8
SMF Signal de Mont 124.20 49 *e*PKIKP PKPdf 12 20 32.0 -3.9
comp=Z,64nm,1.3s
LOR Lormes 124.20 48 *e*PKIKP PKPdf 12 20 32.3 -3.6
comp=Z,64nm,1.4s
LOR *e*R
comp=Z,2µm,19.8s
LASF Ste Croix 124.21 52 *e*PKIKP PKPdf 12 20 33.0 -3.0
comp=Z,147nm,1.5s
BAIF Baives 124.33 45 *e*PKIKP PKPdf 12 20 32.6 -3.5
GIVF Givet 124.72 45 *e*PKIKP PKPdf 12 20 33.4 -3.4
VIVF Saint-Julien-l 124.80 51 *e*PKIKP PKPdf 12 20 33.9 -3.2
comp=Z,75nm,1.6s
KLR Kul'dur 124.82 314 *e*PKIKP PKPdf 12 20 31.0 -6.0
LSZ Lusaka 124.84 131 *e*PKIKP PKPdf 12 20 37.0 -0.9
LSZ MLR MLR
comp=Z,1µm,19.0s,MS5.6
SET Setif 124.94 61 P PKPdf 12 20 35.0 -2.6
MEZF Maizieres J'vi 124.96 46 *e*PKIKP PKPdf 12 20 34.1 -3.2
CKHR Kef el Ahmar 125.02 62 P PKPdf 12 20 35.0 -2.8
PRAF Pradon 125.15 52 *e*P PKPdf 12 20 38.2 +0.4
CMER Merouana 125.29 62 P PKPdf 12 20 39.0 +0.7
DFRA Djebel Bou Aff 125.36 61 P PKPdf 12 20 39.0 +0.6
HGN Heimansgroeve 125.38 44 *e*PKP PKPdf 12 20 35.9 -2.1
comp=Z,19nm,1.4s
HGN *e*PP PP 12 22 28.4 -1.3
SMRF Simiane la Rot 125.45 52 *e*PKIKP PKPdf 12 20 35.5 -2.9
comp=Z,116nm,1.5s
BERF Begne 125.53 53 *e*P PKPdf 12 20 37.0 -1.5
PUYF Puyloubier 125.54 53 *e*P PKPdf 12 20 38.7 +0.2
VILF Villemus 125.55 52 *e*P PKPdf 12 20 38.7 +0.1
THEF They Montfort 125.60 47 *e*P PKPdf 12 20 37.0 -1.5
ORIF Oris-en-Rattie 125.66 51 *e*PKIKP PKPdf 12 20 35.9 -2.8
comp=Z,72nm,1.3s
ORIF *e*R
comp=Z,2µm,20.5s
STOF St-Etienne Org 125.69 52 *e*P PKPdf 12 20 38.9 +0.1
TRO Tromso 125.72 19 *e*PKIKP PKPdf 12 20 35.5 -2.7
TRO MLR MLR
comp=Z,820µm,19.4s
TRO Tromso 125.72 19 *e*PP PP 12 22 28.1 -3.5
TRO AMS AMS 13 11 35.0
comp=Z,820nm,19.4s,MS5.4
CABF La Chapelle 125.75 49 *e*PKIKP PKPdf 12 20 35.9 -3.0
comp=Z,117nm,1.6s
WTSB Winterswijk 125.79 42 *e*PKP PKPdf 12 20 37.3 -1.4
comp=Z,48nm,2.2s
TAVF Tavernes 125.80 52 *e*P PKPdf 12 20 37.7 -1.3
CASM Ain Smara 125.83 62 P PKPdf 12 20 40.0 +0.7
HAU Haudompre 125.86 47 *e*PKIKP PKPdf 12 20 35.4 -3.6
HAU *e*R
comp=Z,1µm,23.0s
KONO Kongsberg 125.91 32⇑*i* PKIKP PKPdf 12 20 35.9 -2.9
KONO MLR MLR
comp=Z,1µm,21.0s,MS5.5
CKFL Kef-Lekhel 126.02 61 P PKPdf 12 20 39.5 -0.2
RUP Ruppelstein 126.19 45 *e*PKIKP PKPdf 12 20 38.3 -1.3
NAO01 NORSAR Array S 126.20 31 *e*PKPdf PKPdf 12 20 38.3 -1.0
NAO01 LR LR
comp=Z,820nm,20.0s,MS5.4
HINF Hinteralfeld 126.21 47 *e*PKIKP PKPdf 12 20 36.1 -3.5
comp=Z,54nm,1.4s
LOMF Lomont 126.22 48 *e*P PKPdf 12 20 38.2 -1.5
FRF La Foret Royal 126.22 52 *e*PKIKP PKPdf 12 20 36.5 -3.3
comp=Z,132nm,1.4s
LPL La Plagne 126.24 50 *e*PKIKP PKPdf 12 20 37.6 -2.2
LPG La Plagne 126.26 50 *e*PKIKP PKPdf 12 20 37.8 -2.0
comp=Z,112nm,1.4s
NB2 NORSAR Subarra 126.29 30 PKPabc PKPdf 12 20 37.7 -1.7
comp=Z,27nm,1.4s,baz=284,slow=2.5
NOA NORSAR Array B 126.29 30 PKP PKPdf 12 20 37.8 -1.6
comp=Z,4.1nm,1.2s,baz=266,slow=2.5,SNR=6.5
MBDF Montbardon 126.29 51 *e*PKIKP PKPdf 12 20 36.9 -3.0
comp=Z,54nm,1.3s
ECH Echery 126.38 47 *e*P PKPdf 12 20 37.6 -2.3
MOF Molkenrain 126.39 47 *e*P PKPdf 12 20 38.3 -1.7
CALN Calern 126.40 52 *e*P PKPdf 12 20 30.9 -9.2
CDF Champ du Feu 126.45 46 *e*PKIKP PKPdf 12 20 36.8 -3.2
ABH Alteburg 126.49 45 *e*P PKPdf 12 20 39.0 -1.1
MDJ Mudanjiang 126.50 309 PKP PKPdf 12 20 38.4 -1.9
MDJ XPKP 12 20 42.8
MDJ PP PP 12 22 33.9 -3.3
MDJ PKS PKS 12 24 10.7 -2.1
MDJ SKS SKS 12 27 49.0 +2.8
MDJ SS SS 12 39 38.8 0.0
MDJ PP PP
comp=Z,89nm,3.9s
MDJ LR LR
comp=N,766nm,20.0s,MS5.6
MDJ LR LR
comp=E,952nm,21.9s,MS5.6
MDJ LR LR
comp=Z,2µm,20.9s,MS5.7
MDJ Mudanjiang 126.50 309 *e*PKPdf PKPdf 12 20 37.8 -2.5
MDJ LR LR
comp=Z,2µm,20.0s,MS5.7
MVIF Mont Vial 126.59 52 *e*P PKPdf 12 20 40.2 -0.2
CMAH Djebel Manchou 126.60 61 P PKPdf 12 20 41.5 +0.8
ABSA Djebel Ababsia 126.62 62 P PKPdf 12 20 42.0 +1.3
TOUF Mont Tournerai 126.65 52 *e*P PKPdf 12 20 40.2 -0.3
BBS Basel-Blauen 126.67 48 *e*PKIKP PKPdf 12 20 38.8 -1.7
LANF Langenberg 126.75 46 *e*P PKPdf 12 20 39.6 -1.0
SAOF Saorge 126.88 52 *e*P PKPdf 12 20 40.1 -0.9
FELD Feldberg 126.98 47 *e*P PKPdf 12 20 39.3 -1.7
BFO Black Forest 127.15 46 *e*PKIKP PKPdf 12 20 40.2 -1.2
TOD Tromm 127.33 45 *e*PKIKP PKPdf 12 20 40.4 -1.4
BSEG Bad Segeberg 127.58 39 *e*PKIKP PKPdf 12 20 40.4 -1.8
BSEG *e* 12 22 38.9
ARCES ARCESS Array B 127.67 18 PKP PKPdf 12 20 39.5 -2.5
comp=Z,23nm,1.2s,baz=315,slow=3.4,SNR=15
ARCES PP PP 12 22 41.5 -2.7
comp=Z,14nm,1.2s,baz=301,slow=7.1,SNR=6.9
ARE0 ARCESS Array S 127.67 18 *e*PKPdf PKPdf 12 20 40.1 -1.8
CLNS Chul'man 127.73 325 *e*PKIKP PKPdf 12 20 39.2 -3.2
CLNS pmax pmax
comp=N,12nm,1.2s
CLNS pmax pmax
comp=Z,36nm,1.2s
CLNS pmax pmax
comp=E,6.0nm,1.1s
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=Z,7.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.6s
KEV Kevo 127.94 17 *e*PKIKP PKPdf 12 20 40.8 -1.7
KEV MLR MLR
comp=Z,986nm,22.0s,MS5.5
PGF Pioggiola 127.97 54 *e*PKIKP PKPdf 12 20 40.2 -3.1
comp=Z,217nm,1.5s
CLZ Clausthal 128.00 42 *e*PKIKP PKPdf 12 20 42.3 -0.8
DAVA Damuels 128.30 48⇓*i*P PKPdf 12 20 43.3 -0.5
comp=Z,63nm,1.4s
INCN Inchon 128.72 300 PFAKE 12 20 50.0 +5.1
INCN LR LR
comp=Z,1µm,20.0s,MS5.5
GRA1 Grafenberg Arr 128.88 44 *e*PKPdf PKPdf 12 20 44.0 -0.8
GRA1 *e*PP PP 12 22 48.0 -5.2
GRA1 *e*SS SS 12 40 04.6 -4.0
GRA1 LR LR
comp=Z,2µm,21.8s,MS5.7
GRF Grafenberg Arr 128.88 44 *e*PKIKP PKPdf 12 20 44.0 -0.8
GRF *e* 12 22 48.0
GRF *e*SS SS 12 40 04.6 -4.0
GRF MLR MLR
comp=Z,2µm,21.8s,MS5.7
MOX Moxa 128.97 43 *e*PKIKP PKPdf 12 20 44.6 -0.3
MOX pmax pmax
comp=Z,46nm,1.6s
MOX MLR MLR
comp=Z,1µm,23.0s,MS5.5
MOX Moxa 128.97 43 *i* P PKPdf 12 20 44.6 -0.3
comp=Z,logA/T=1.5
MOX PP PP 12 22 50.0 -3.9
MOX SS SS 12 40 20.0 +10
MOX L 13 09 26.0
MOTA Moosalm 129.12 47⇓*i*P PKPdf 12 20 45.5 +0.2
comp=Z,92nm,1.2s
FUR Furstenfeldbru 129.13 46 *e*PKIKP PKPdf 12 20 44.5 -0.8
SQTA Sankt Quirin 129.20 48⇓*i*P PKPdf 12 20 44.8 -0.7
comp=Z,122nm,1.7s
WATA Walderalm 129.44 47⇑*i*P PKPdf 12 20 45.7 -0.2
comp=Z,54nm,1.4s
WTTA Wattenberg 129.49 48⇓*i*P PKPdf 12 20 45.7 -0.3
comp=Z,76nm,1.3s
CN2 Changchun 129.52 308 *e*PKP PKPdf 12 20 45.5 -0.7
CN2 *e*PP PP 12 23 00.7 +3.3
CN2 *e*SS SS 12 40 17.5 +0.9
CN2 PP PP
comp=Z,300nm,8.0s
CN2 LR LR
comp=N,600nm,19.0s,MS5.5
CN2 LR LR
comp=E,600nm,19.0s,MS5.5
CN2 LR LR
comp=Z,800nm,21.0s,MS5.4
NKC Novy Kostel 129.57 44 *e*PKPdf PKPdf 12 20 44.5 -1.6
NKC *e*PP PP 12 22 57.4 -0.1
NKC AMS AMS 13 07 50.0
comp=Z,2µm,21.5s
CLL Collm 129.71 42⇓*i*PKIKP PKPdf 12 20 45.4 -0.9
CLL pmax pmax
comp=Z,46nm,1.4s
CLL MLR MLR
comp=Z,2µm,21.6s,MS5.7
CLL Collm 129.71 42⇓*i*PKP PKPdf 12 20 45.4 -0.9
CLL *e*PKS PKS 12 24 11.0 -7.5
CLL LR LR
comp=Z,2µm,21.6s,MS5.7
CLL Collm 129.71 42⇓*i*PKIKP PKPdf 12 20 45.4 -0.9
comp=Z,logA/T=1.5
CLL *e*PP PP 12 22 48.0 -10
CLL *e* 12 24 11.0
CLL *e*PKS PKS 12 24 17.0 -1.5
CLL *e*PS PS 12 33 06.0 +2.3
CLL *e* 12 35 44.0
CLL *e*SS SS 12 40 24.0 +5.3
CLL *e* 12 49 00.0
WET Wettzell 130.03 45 *e*PKIKP PKPdf 12 20 45.5 -1.5
WET *e* 12 22 54.5
BRG Berggiesshubel 130.38 43 *i* PKIKP PKPdf 12 20 47.3 -0.3
BRG *e* 12 23 04.0
BRG SS SS 12 40 32.0 +5.3
BRG pmax pmax
comp=Z,39nm,1.3s
BRG pmax pmax
comp=Z,33nm,1.3s
BRG pmax pmax
comp=Z,16nm,1.4s
BRG pmax pmax
comp=Z,28nm,1.8s
BRG MLR MLR
comp=N,1µm,21.5s,MS5.6
BRG MLR MLR
comp=E,1µm,26.3s,MS5.6
BRG MLR MLR
comp=Z,2µm,24.1s,MS5.7
BRG Berggiesshubel 130.38 43 *i* PKP PKPdf 12 20 47.3 -0.3
BRG *i* 12 21 02.5
BRG *e*PP PP 12 23 04.0 +1.3
BRG *e*PKS PKS 12 24 20.4 +0.6
BRG SS SS 12 40 32.0 +5.3
BRG LR LR
comp=Z,2µm,24.1s,MS5.7
KHC Kasperske Hory 130.49 45 *e*PKIKP PKPdf 12 20 46.1 -1.8
KHC MLR MLR
comp=Z,2µm,26.2s,MS5.7
KHC Kasperske Hory 130.49 45⇑*i*PKP PKPdf 12 20 45.9 -2.0
KHC Kasperske Hory 130.49 45 *e*PKPdf PKPdf 12 20 46.1 -1.8
KHC *e*PP PP 12 22 56.0 -7.5
KHC AMS AMS 13 05 50.0
comp=Z,2µm,26.2s
GEC2 GERESS Array S 130.62 45 *e*PKIKP PKPdf 12 20 46.8 -1.3
GEC2 *e* 12 22 58.6
GERES GERESS Array B 130.62 45 PKP PKPdf 12 20 46.9 -1.2
comp=Z,3.2nm,0.7s,baz=270,slow=2.7,SNR=23
KBA Koelnbreinsper 130.67 48⇓*i*P PKPdf 12 20 47.0 -1.3
comp=Z,27nm,1.1s
KKM Kota Kinabalu 130.77 257 *e*PKPdf PKPdf 12 20 47.0 -2.4
PVCC Panska Ves 130.84 43 *e*PKPdf PKPdf 12 20 47.4 -1.1
PVCC AMS AMS 13 08 40.0
comp=Z,2µm,22.2s
PRU Pruhonice 130.94 44 *e*PKPdf PKPdf 12 20 47.7 -1.0
PRU *e*PP PP 12 23 00.9 -5.8
PRU AMS AMS 13 07 50.0
comp=Z,2µm,22.8s
APA Apatity 131.15 17⇑*i*PKIKP PKPdf 12 20 47.0 -1.6
APA *e*PS PS 12 33 10.0 -5.8
APA *e*PPS PPS 12 35 00.0 +4.9

APA pmax pmax
comp=Z,60nm,1.3s
APA MLR MLR
comp=Z,600nm,15.0s,MS5.4
MOA Molln 131.16 46 ⇓ *i* P PKPdf 12 20 48.1 -1.1
comp=Z,22nm,1.1s
VOY Vojsko 131.19 49 *e* PKPdf PKPdf 12 20 47.8 -1.5
VOY *e* 12 20 57.1
VOY *e* 12 21 04.7
LVZ Lovozero 131.24 16 *i* PKIKP PKPdf 12 20 46.6 -2.2
LVZ *i* S PP 12 23 03.0 -5.0
LVZ pmax pmax
comp=Z,55nm,1.3s
LVZ pmax pmax
comp=N,11nm,1.4s
LVZ pmax pmax
comp=E,8.0nm,1.4s
LVZ pmax pmax
comp=N,21nm,1.5s
LVZ pmax pmax
comp=E,16nm,1.5s
LVZ pmax pmax
comp=Z,101nm,1.5s
LVZ Lovozero 131.24 16 ⇑ *i* PKP PKPdf 12 20 46.5 -2.3
LJU Ljubljana 131.62 49 *e* PKIKP PKPdf 12 20 47.9 -2.2
LJU Ljubljana 131.62 49 *e* PKPdf PKPdf 12 20 50.0 -0.1
UPC Upice 131.75 43 *e* PKPdf PKPdf 12 20 49.3 -0.9
UPC *e* PP PP 12 23 05.2 -6.3
KSP Ksiaz 131.84 42 *e* PKIKP PKPdf 12 20 49.3 -1.1
KSP *e* 12 23 06.5
KSP *e* SS SS 12 40 48.0 +3.0
KSP MLR MLR
comp=Z,3μm,21.4s,MS5.9
KSP Ksiaz 131.84 42 *e* PKP PKPdf 12 20 49.3 -1.1
KSP *e* PP PP 12 23 06.5 -5.6
KSP *e* PKS PKS 12 24 12.5 -10
KSP *e* SS SS 12 40 48.0 +3.0
KSP LR LR
comp=Z,3μm,21.4s,MS5.9
KSP Ksiaz 131.84 42 *e* PKP PKPdf 12 20 49.6 -0.7
PERS Pernice 131.94 48 *e* PKPdf PKPdf 12 20 48.7 -2.0
PERS *e* PP PP 12 23 05.0 -7.8
PDKS Podkum 131.95 49 *e* PKPdf PKPdf 12 20 49.2 -1.5
DPC Dobruska-Polom 131.97 43 *e* PKPdf PKPdf 12 20 49.4 -1.3
DPC *e* PP PP 12 23 06.9 -6.0
DPC AMS AMS 13 11 20.0
comp=Z,1μm,19.8s
ARSA Arzberg 132.10 47 ⇓ *i* P PKPdf 12 20 49.8 -1.2
comp=Z,33nm,1.6s
BOJS Bojanci 132.21 49 *e* PKPdf PKPdf 12 20 49.5 -1.8
BOJS *e* 12 24 20.3
KAF Kangasniemi 132.33 25 *e* p PKPdf 12 20 46.6 -4.4
comp=Z,11nm,1.0s
HIA Hailar 132.60 316 *e* PKIKP PKPdf 12 20 49.2 -2.7
HIA MLR MLR
comp=Z,2μm,19.0s
FINES FINESS Array B 132.61 26 PKP PKPdf 12 20 50.0 -1.6
comp=Z,6.2nm,0.8s,baz=225,slow=2.7,SNR=22
FINES PP PP 12 23 14.7 -1.8
comp=Z,5.0nm,0.9s,baz=315,slow=5.4,SNR=6.1
DL2 Dalian 132.66 302 PKP PKPdf 12 20 53.5 +1.2
DL2 PP PP
comp=Z,230nm,8.3s
DL2 LR LR
comp=N,230nm,23.5s,MS5.4
DL2 LR LR
comp=E,770nm,22.6s,MS5.4
DL2 LR LR
comp=Z,1μm,22.4s,MS5.5
SSE Sheshan 132.87 291 PKP PKPdf 12 20 52.7 -0.2
SSE PP PP 12 23 22.0 +3.1
SSE SS SS 12 41 03.0 +4.9
SSE LR LR
comp=Z,860nm,21.3s,MS5.4
MORC Moravsky Berou 132.88 43 *e* PKIKP PKPdf 12 20 51.1 -1.3
BOD Bodaibo 132.91 328 *e* PKIKP PKPdf 12 20 48.1 -4.1
BOD pmax pmax
comp=Z,25nm,1.4s
ZST Bratislava 132.96 45 *i* PKP PKPdf 12 20 52.5 -0.1
OKC Ostrava-Krasne 133.24 43 *e* PKPdf PKPdf 12 20 51.8 -1.2
OKC *e* PP PP 12 23 15.4 -5.4
OKC AMS AMS 13 09 30.0
comp=Z,1μm,23.2s
KSM Kuching 133.72 248 *e* PKPdf PKPdf 12 20 54.1 -0.7
TIP Timpagrande 134.00 58 *e* PKPdf PKPdf 12 20 53.1 -1.5
VYHS Vyhne 134.02 45 *i* PKP PKPdf 12 20 53.7 -0.7
OJC Ojcow 134.16 42 *e* PKP PKPdf 12 20 53.4 -1.3
WAR Warsaw 134.25 39 *e* PKP PKPdf 12 20 57.3 +2.5
QZH Quanzhou 134.40 282 *e* PKP PKPdf 12 20 55.0 -0.8
QZH PKS PKS 12 24 28.7 +0.8
QZH SS SS 12 41 21.0 +4.5
QZH LR LR
comp=N,640nm,15.8s,MS5.8
QZH LR LR
comp=E,2μm,20.5s,MS5.8
QZH LR LR
comp=Z,3μm,28.2s
VSU Vasula 134.49 29 *e* PKIKP PKPdf 12 20 50.7 -4.4
VSU *i* 12 20 53.0
VSU Vasula 134.49 29 *i* PKP PKPdf 12 20 53.0 -2.1
NIE Niedzica 134.71 43 *e* PKP PKPdf 12 20 55.4 -0.4
SUW Suwalki 134.80 36 *e* PKP PKPdf 12 20 54.9 -0.9
SUW Suwalki 134.80 36 *e* PKP PKPdf 12 20 54.9 -0.9
PSZ Piszkesteto 134.85 45 *e* PKIKP PKPdf 12 20 55.5 -0.6
NJ2 Nanjing 134.92 292 *e* PKP PKPdf 12 20 52.6 -4.1
NJ2 PP PP 12 23 31.0 -1.1
NJ2 PKS PKS 12 24 26.0 -2.8
NJ2 PPP PPP 12 26 27.0 -1.9
NJ2 PP PP
comp=Z,240nm,5.0s
NJ2 LR LR
comp=N,380nm,11.5s
NJ2 LR LR
comp=E,1μm,23.2s
NJ2 LR LR
comp=Z,250nm,11.8s,MS5.2
KECS Kecovo 135.08 44 *i* PKP PKPdf 12 20 56.1 -0.4
STHS Stebnicka Huta 135.29 43 *i* PKP PKPdf 12 20 55.6 -1.3
CIT Chita 135.53 321 *e* PKIKP PKPdf 12 20 55.7 -1.5
CIT *e* 12 28 09.5
CRVS Cervenica-Dubn 135.58 43 *e* PKP PKPdf 12 20 57.2 -0.2
DIVS Divcibare 135.77 50 ⇓ *i* PKP PKPdf 12 20 54.5 -3.4
BEO Belgrade 135.95 49 ⇓ *i* PKP PKPdf 12 20 57.5 -0.6
KOLS Kolonicke sedl 136.08 43 *e* PKP PKPdf 12 20 58.6 +0.3
KWP Kalwaria 136.13 42 PKIKP PKPdf 12 20 55.4 -2.9
KWP Kalwaria 136.13 42 *e* PKP PKPdf 12 20 57.8 -0.5
KWP Kalwaria 136.13 42 *e* PKP PKPdf 12 20 57.8 -0.5
UZH Uzhgorod 136.19 44 *e* PKIKP PKPdf 12 20 56.0 -2.5
UZH *i* 12 23 35.0
UZH *i* SS SS 12 41 43.0 +5.7
MBAR Mbarara 136.22 118 PKIKP PKPdf 12 21 01.4 +1.9
MBAR Mbarara 136.22 118 *e* PKPdf PKPdf 12 20 58.2 -1.2
MBAR LR LR
comp=Z,512nm,20.0s,MS5.2
SELS Selova 136.75 52 ⇑ *i* PKP PKPdf 12 20 58.2 -1.4
LVV L'vov 136.88 41 *e* PKIKP PKPdf 12 20 57.9 -1.7
LVV *e* 12 23 43.9
LVV *e* 12 27 58.7
LVV MLR MLR
comp=N,300nm,19.0s,MS5.6
LVV MLR MLR
comp=E,1μm,19.0s,MS5.6
LVV MLR MLR
comp=Z,1μm,19.0s,MS5.7
DRGR 137.00 46 ⇓ P PKPdf 12 20 59.0 -0.9
MNK Minsk 137.03 34 *e* PKHKP 12 20 45.0
SKO Skopje 137.20 53 *i* PKP PKPdf 12 20 59.0 -1.5
BOLS Boljevac 137.22 50 ⇑ *i* PKP PKPdf 12 20 58.5 -2.0
VAY Valandovo 138.15 54 *i* PKP PKPdf 12 21 01.0 -1.4
BURAR Bucovina Array 138.37 44 ⇓ P PKPdf 12 20 59.9 -2.6
BURAR Bucovina Array 138.37 44 ⇓ P PKPdf 12 20 59.9 -2.7
WHN Wuhan 138.71 290 *e* PKP PKPdf 12 21 02.6 -1.1
SNX Sinaia 139.28 47 PKHKP 12 20 54.6
MLR Muntele Rosu 139.53 47 PKHKP 12 20 53.1
MLR Muntele Rosu 139.53 47 ⇑ P PKPdf 12 20 56.3 -8.4
AKASG Malin Array Be 139.57 38 PKhKP 12 20 56.8
comp=Z,1.2nm,0.5s,baz=287,slow=2.9,SNR=14
AKASG PKP PKPdf 12 21 03.8 -0.8
comp=Z,23nm,0.9s,baz=284,slow=2.9,SNR=40
AKASG PP PP 12 23 59.9 -0.6
comp=Z,0.2nm,0.3s,baz=293,slow=5.4,SNR=7.1
AKASG Malin Array Be 139.57 38 PKP PKPdf 12 20 56.8 -7.9
AKASG PKP PKPdf 12 21 03.8 -0.8
AKASG PP PP 12 23 59.9 -0.6
VRI Vrincioaia 139.93 46 PKIKP PKPdf 12 21 02.8 -2.6
VRI Vrincioaia 139.93 46 ⇓ P PKPdf 12 21 02.7 -2.7
HHC Hu-ho-hao-te 140.11 306 *e* PKP PKPdf 12 21 05.2 -0.7
HHC PP PP 12 24 03.9 -0.1
HHC PKS PKS 12 24 42.3 +4.8
HHC SKS SKS 12 28 13.3 -1.9
HHC SKKS 12 30 53.9
HHC SS SS 12 42 29.3 +5.9
HHC PP PP
comp=Z,222nm,10.8s
HHC LR LR
comp=N,555nm,21.6s,MS5.5
HHC LR LR
comp=E,627nm,20.4s,MS5.5
HHC LR LR
comp=Z,1μm,24.0s,MS5.5
BRD Bordesti 140.23 46 ⇑ P PKPdf 12 21 07.7 +1.7
IRK Irkutsk 140.52 325 *e* PKIKP PKPdf 12 21 03.8 -2.5
IRK *e* 12 24 01.4
IRK pmax pmax
comp=Z,73nm,2.1s
OBN Obninsk 140.84 29 *c i* PKIKP PKPdf 12 21 05.6 -1.1
OBN *i* 12 24 02.1
OBN *e* PPP PPP 12 27 21.6 +7.0
OBN *e* 12 28 18.4
OBN pmax pmax
comp=Z,252nm,1.4s
OBN Obninsk 140.84 29 *e* PKPdf PKPdf 12 21 05.8 -1.0
OBN LR LR
comp=Z,289nm,21.0s,MS5.0
MOS Moscow 140.88 27 κ *i* PKIKP PKPdf 12 21 06.4 -0.4
MOS pmax pmax
comp=Z,300nm,1.9s
MOS pmax pmax
comp=Z,172nm,1.5s
MOS MLR MLR
comp=Z,1μm,23.2s,MS5.7
KIS Kishinev 140.88 44 *e* PKIKP PKPdf 12 21 04.0 -3.1
KIS *e* 12 24 02.0
KMBO Kilima Mbogo 140.98 125 *i* PKIKP PKPdf 12 21 05.4 -2.9
KMBO pmax pmax
comp=Z,11nm,1.1s
KMBO Kilima Mbogo 140.98 125 PKhKP 12 21 02.4
comp=Z,11nm,1.1s,baz=234,slow=4.2,SNR=9.8
ULN Ulaanbaatar 141.02 318 *i* PKHKP 12 20 53.5
APE Apeiranthos 141.09 60 *c i* PKIKP PKPdf 12 21 03.4 -4.4
APE Apeiranthos 141.09 60 ⇑ *i* PKP PKPdf 12 21 03.5 -4.3
CFR Carcaliu 141.09 47 PKIKP PKPdf 12 21 06.7 -0.8
CFR Carcaliu 141.09 47 ⇓ P PKPdf 12 21 00.7 -6.8
HARR Harsova 141.11 47 ⇓ P PKPdf 12 21 03.1 -4.5
SANT Santorini 141.12 61 *e* PKPpre 12 20 59.9
TLY Talaya 141.15 325 *i* PKIKP PKPdf 12 21 02.1 -5.3
TLY *e* 12 24 03.7
TLY *e* SS SS 12 42 37.0 +1.4
TLY *e* SSS SSS 12 47 53.2 +0.8
TLY pmax pmax
comp=Z,67nm,1.3s
TLY MLR MLR
comp=Z,752nm,19.0s,MS5.5
TLY Talaya 141.15 325 *e* P PKPdf 12 21 02.1 -5.3
TLY *e* PKPdf PKPdf 12 21 06.3 -1.1
QIZ Qiongzhong 141.15 271 PKP PKPdf 12 21 05.5 -2.9
QIZ PP PP 12 24 10.8 -0.1
QIZ SS SS 12 42 41.3 +4.7
QIZ LR LR
comp=N,329nm,25.1s,MS5.4
QIZ LR LR
comp=E,665nm,22.9s,MS5.4
QIZ LR LR
comp=Z,1μm,26.3s,MS5.5
QIZ Qiongzhong 141.15 271 PFAKE 12 21 20.0 +12
QIZ LR LR
comp=Z,741nm,20.0s,MS5.4
BTO Baotou 141.31 306 *e* PKP PKPdf 12 21 08.6 +0.6
SONM Songino Array 141.43 318 PKhKP 12 21 00.2
comp=Z,2.3nm,0.9s,baz=56,slow=4.5,SNR=11
SONM PKP PKPdf 12 21 07.6 -0.4
comp=Z,10nm,0.9s,baz=71,slow=1.6,SNR=23
SONM PP PP 12 24 08.5 -3.2
comp=Z,0.7nm,0.5s,baz=18,slow=4.6,SNR=4.1
TIRR Tirgusor 141.51 48 ⇑ P PKPdf 12 21 00.5 -7.8
ZAK Zakamensk 142.03 323 *e* PKHKP 12 21 01.7
ZAK pmax pmax
comp=Z,15nm,1.8s
MOY Mondy 142.53 326 *e* PKIKP PKPdf 12 21 04.1 -5.6
ENH Enshi 142.90 289 *e* PKPdf PKPdf 12 21 08.5 -2.6
ENH LR LR
comp=Z,715nm,20.0s,MS5.4
PECR Pechory 142.94 22 *i* PKIKP PKPdf 12 21 05.4 -4.9
PECR *e* 12 24 23.0
PECR MLR MLR
comp=Z,700nm,20.0s,MS5.4
PECR MLR MLR
comp=E,400nm,17.0s
PECR MLR MLR
comp=Z,500nm,20.0s
XAN Xi'an 143.21 296 PKP PKPdf 12 21 05.9 -5.6
XAN PP PP
comp=Z,172nm,8.7s
XAN LR LR
comp=N,152nm,18.6s,MS5.3
XAN LR LR
comp=E,570nm,22.1s,MS5.3
XAN LR LR
comp=Z,1μm,22.0s,MS5.6
ULDT Uludag 143.28 54 *i* P PKPbc 12 21 07.0 +0.3
SOKR Solikamsk 143.29 10 ⇓ *i* PKHKP 12 21 03.0
SOKR pmax pmax
comp=Z,80nm,1.1s
GDZ Gediz 143.79 56 *i* P PKPbc 12 21 07.3 -0.9
KULM Kulim 143.88 245 *e* PKPdf PKPdf 12 21 08.8 -4.4
FETY Fethiye 143.97 60 P PKPbc 12 21 08.3 -0.5
VOR Voronezh 144.23 31 *e* PKIKP PKPdf 12 21 09.0 -3.7
VOR 12 24 25.0
VOR pmax pmax
comp=Z,300nm,2.0s
VOR pmax pmax
comp=N,150nm,1.6s
VOR pmax pmax
comp=N,150nm,3.0s
GOLH Golhisar 144.24 59 *i* P PKPbc 12 21 10.8 +1.2
ALT Altintas 144.27 56 P PKPbc 12 21 10.3 +0.7
HENT Hendek 144.39 52 *i* P PKPbc 12 21 10.7 +0.8
AKAS Kas 144.45 60 *i* P PKPbc 12 21 11.4 +1.2
ELL Elmali 144.60 60 P PKPbc 12 21 12.8 +2.2
TKTP Tekketepe 144.67 57 *i* P PKPbc 12 21 12.3 +1.6
ESKT Eskisehir 144.71 55 *i* P PKPbc 12 21 11.2 +0.4
ESKT Eskisehir 144.71 55 *i* P PKPbc 12 21 12.0 +1.2
ISP Isparta 144.85 57 P PKPbc 12 21 12.3 +1.1
ISP Isparta 144.85 57 *c i* PKIKP PKPdf 12 21 12.3 -2.0
ISP Isparta 144.85 57 *e* PKPdf PKPdf 12 21 12.2 -2.1
SNG Songkhla 144.92 247 P PKPbc 12 21 12.0 -0.1
comp=N,120nm,1.0s
BCK Bucak 145.00 58 P PKPbc 12 21 13.3 +1.6
ANTB Antalya 145.16 59 P PKPbc 12 21 14.5 +2.4
GYA Guiyang 145.26 283 ⇑ *i* PKP PKPdf 12 21 13.2 -2.1
GYA PP PP 12 24 32.5 -2.9
GYA PPP x 12 26 47.5
GYA SKS SKS 12 28 20.8 -2.9
GYA SKKS 12 31 23.4
GYA SS SS 12 43 20.0 -3.4
GYA PP PP
comp=Z,240nm,7.4s
GYA LR LR
comp=N,340nm,20.8s,MS5.2
GYA LR LR
comp=E,280nm,21.0s,MS5.2
GYA LR LR
comp=Z,360nm,21.5s,MS5.1
SGKT Sivrigoynuk 145.30 52 *i* P PKPbc 12 21 13.7 +1.3
KIZT Kizilcal 145.65 55 P PKPbc 12 21 14.3 +1.1
KDHN Kadinhani 145.92 56 *i* P PKPbc 12 21 16.1 +2.1
BALT Daday 145.94 50 *i* P PKPbc 12 21 15.5 +1.6
LOD Lodumlu 146.03 53 P PKPbc 12 21 15.9 +1.8
ANTO Ankara 146.05 53 P PKPbc 12 21 14.5 +0.3
ANTO Ankara 146.05 53 PKPdf PKPdf 12 21 15.3 -0.9
BZK Bozkurt 146.22 49 P PKPbc 12 21 16.5 +1.9
KONT Konya--Tatoy 146.26 57 P PKPbc 12 21 16.6 +1.8
ELDT Eldivan 146.32 52 *i* P PKPbc 12 21 16.3 +1.5
SVE Sverdlovsk 146.48 8 ⇑ *i* PKP2 PKPab 12 21 15.5 -2.3
SVE *e* 12 28 04.0
SVE pmax pmax
comp=Z,725nm,2.6s
TOS Tosya 146.56 51 P PKPbc 12 21 18.2 +2.8
ARU Arti 146.57 10 *i* PKIKP PKPdf 12 21 12.8 -3.8
ARU *e* SS SS 12 43 30.1 -7.4
ARU MLR MLR
comp=Z,900nm,20.0s,MS5.5
ARU MLR MLR
comp=N,400nm,21.0s,MS5.3
ARU MLR MLR
comp=E,400nm,19.0s,MS5.3
ARU Arti 146.57 10 *e* PKPdf PKPdf 12 21 15.1 -1.5
ARU *e* PKPbc PKPbc 12 21 16.8 +1.9
ARU LR LR
comp=Z,250nm,20.0s,MS5.0
HDMB Hadim 146.58 58 P PKPbc 12 21 17.8 +2.3
BR131 Keskin Array S 146.72 53 *e* PKPdf PKPdf 12 21 16.8 -0.5
BR131 *e* PKPbc PKPbc 12 21 18.2 +2.5
BR131 LR LR
comp=Z,492nm,20.0s,MS5.3
BRTR Keskin Array B 146.72 53 PKPbc PKPbc 12 21 15.8 0.0
comp=Z,129nm,1.2s,baz=257,slow=1.9,SNR=79
KKTK Khon Kaen 146.83 264 P PKPbc 12 21 17.0 +0.3
KAMT Kaman 146.88 54 P PKPbc 12 21 18.2 +2.0
PPCY Paphos 146.88 62 P PKPbc 12 21 18.3 +2.0
BYBT Boyabat 146.93 50 P PKPbc 12 21 19.2 +3.0
ERMK Ermenek 146.99 59 *i* P PKPbc 12 21 19.2 +2.7
NVS Novosibirsk 147.01 344 *i* PKIKP PKPdf 12 21 14.8 -2.6
NVS *e* 12 24 42.7
NVS pmax pmax
comp=Z,397nm,1.7s
NVS pmax pmax
comp=N,64nm,1.6s
NVS pmax pmax
comp=E,194nm,1.8s
LZH Lanzhou 147.03 300 *e* PKP PKPdf 12 21 17.2 -0.8
LZH XPKP 12 21 22.2
LZH PP PP 12 24 48.0 +2.3
LZH SKKS 12 31 33.0
LZH SS SS 12 43 41.1 -2.5
LZH PP PP
comp=Z,362nm,7.7s
LZH LR LR
comp=E,2μm,20.0s
LZH LR LR
comp=Z,3μm,21.0s,MS6.0
ALFC Alevga 147.04 62 ⇑ P PKPdf 12 21 17.9 -0.2
comp=Z,4.3nm,1.3s
ALFC Alevga 147.04 62 ⇑ *e* P PKPdf 12 21 17.9 -0.2
BOYT Boyabat 147.04 50 *i* P PKPdf 12 21 18.5 +0.7
ANN Anapa 147.24 42 *i* PKIKP PKPdf 12 21 16.1 -2.0
ANN pmax pmax
comp=Z,983nm,2.3s
CTKT Corum 147.25 51 *i* P PKPdf 12 21 18.2 0.0
LEF Lefka 147.28 62 P PKPdf 12 21 17.8 -0.7
CDAG Cicekdag 147.29 53 *i* P PKPdf 12 21 19.0 +0.7
CORM Corum 147.29 52 P PKPdf 12 21 17.3 -1.0
ZAL Zalesovo 147.40 342 PKPbc PKPdf 12 21 16.2 -1.8
comp=Z,17nm,0.7s,baz=84,slow=3.4,SNR=41
CSS Prodhromos 147.67 62 P PKPdf 12 21 20.4 +1.3
comp=Z,6.1nm,1.3s
IKL Isikli 147.69 59 P PKPdf 12 21 19.7 +0.6
CD2 Chengdu 147.82 291 PKP PKPdf 12 21 18.6 -0.8
AVNT Avonos 147.91 54 *i* P PKPdf 12 21 18.9 -0.4
MEST Erdemli 147.97 58 *i* P PKPdf 12 21 21.4 +1.9
KVT Kavak 147.97 50 P PKPdf 12 21 19.7 +0.4
PHNC Paralimni 148.22 61 ⇑ P PKPdf 12 21 22.7 +2.7
comp=Z,3.9nm,1.2s
NNT Nongplab 148.24 255 P PKPdf 12 21 23.0 +2.5
BNN Bunyan 148.62 54 P PKPdf 12 21 22.7 +2.2
KMI Kunming 148.68 280 PKP2 PKPab 12 21 22.6 -5.0
KMI 12 24 56.3
KMI PPP PPP 12 28 17.3 +0.7
KMI 12 28 27.3
KMI SS SS 12 43 59.3 -2.9
KMI SSS SSS 12 49 34.5 -5.0
KMI MLR MLR
comp=Z,1μm,20.2s,MS5.6
KMI Kunming 148.68 280 PKP PKPdf 12 21 22.6 +1.6
KMI PKP PKPdf 12 21 24.1 +3.1
KMI pPKP 12 21 29.3
KMI PKPab PKPab 12 21 30.5 +2.9
KMI sPKP 12 21 31.6
KMI PKS PKS 12 24 56.3 +4.6
KMI PP PP 12 24 56.8 +1.5
KMI PPP PPP 12 28 17.3 +0.7
KMI SKS SKS 12 28 27.3 -1.2
KMI PcPP' 12 29 39.6
KMI SKKS 12 31 43.3
KMI SS SS 12 43 59.3 -2.9
KMI SSS SSS 12 49 34.5 -5.0
KMI LR LR
comp=Z,1μm,20.2s,MS5.6
NST Nakhon Sawan 149.05 261 P PKPdf 12 21 24.5 +2.7
CEYT Ceyhan 149.10 57 P PKPdf 12 21 24.8 +3.5
KZIT Kzíot 149.11 69 P PKPdf 12 21 20.4 -1.1
GTA Gaotai 149.15 308 PKP PKPdf 12 21 19.8 -1.5
GTA APKP 12 21 24.9
GTA PKP2 PKPab 12 21 27.5 -1.5
GTA XPKP 12 21 28.6
GTA PP PP 12 24 54.1 -3.2
GTA SKS SKS 12 28 27.4 -1.3
GTA SKKS 12 31 42.5
GTA PP PP
comp=Z,325nm,8.0s
GTA LR LR
comp=N,555nm,20.3s,MS5.6
GTA LR LR
comp=E,817nm,19.5s,MS5.6
GTA LR LR
comp=Z,1μm,19.9s,MS5.7
SOC Sochi 149.28 43 *i* PKIKP PKPdf 12 21 22.3 +0.9
SOC *e* 12 24 53.2
SOC pmax pmax
comp=N,41nm,1.5s
SOC pmax pmax
comp=Z,171nm,1.5s
SOC pmax pmax
comp=E,53nm,1.4s
OFRI 'Ofer 149.41 66 P PKPdf 12 21 20.7 -1.2
HAF Haifa 149.42 65 P PKPdf 12 21 20.8 -1.2
KMTI Karmit 149.45 71 P PKPdf 12 21 21.2 -0.9
NANT Nan 149.47 267 ⇓ P PKPdf 12 21 17.0 -5.4
comp=E,569nm,1.0s
HNTI Hanita 149.50 65 P PKPdf 12 21 21.1 -1.0
SLTI Sal'it 149.51 66 P PKPdf 12 21 21.3 -0.8
COBT Iskenderun 149.63 58 *i* P PKPdf 12 21 26.7 +4.5
MBH Mount Berech 149.64 71 P PKPdf 12 21 21.6 -0.8
HTY Hatay 149.64 59 P PKPdf 12 21 26.1 +3.9
TAYS Tayyib Ism 149.65 74 P PKPdf 12 21 25.8 +3.4
EIL Elat 149.68 71 *e* PKPdf PKPdf 12 21 21.6 -0.8
EIL *e* PKPbc PKPdf 12 21 26.4 +3.9
EIL Elat 149.68 71 P PKPdf 12 21 21.7 -0.8
PRNI Paran 149.68 70 P PKPdf 12 21 21.8 -0.6
HAQS Haql 149.69 73 P PKPdf 12 21 25.8 +3.3
BHL Bhannes 149.75 63 *e* P PKPdf 12 21 26.5 +4.0
AQBJ Aqaba 149.76 71 P PKPdf 12 21 21.8 -0.8
KAHT Ahir Dag 149.78 55 *i* P PKPdf 12 21 27.0 +4.6
MMLI Mount Malkishu 149.80 66 P PKPdf 12 21 22.0 -0.6
ZFRI Zfri 149.81 70 P PKPdf 12 21 21.9 -0.7
JMOS Jabal al Moall 149.84 72 P PKPdf 12 21 25.0 +2.2
BDAS Al Bad' 149.85 74 P PKPdf 12 21 25.7 +2.9
MZDA Masada 149.90 68 P PKPdf 12 21 22.1 -0.6
HRI Mount Hermon 149.93 64 P PKPdf 12 21 22.4 -0.3
KSHT Keshet 150.04 65 P PKPdf 12 21 22.6 -0.3
MKRJ Makawir 150.10 68 P PKPdf 12 21 22.6 -0.5
GAZ Gaziantep 150.17 56 P PKPdf 12 21 27.7 +4.7
GOF Gofitskoye 150.42 38 ⇑ *i* PKIKP PKPdf 12 21 21.0 -2.1
GOF pmax pmax
comp=Z,60nm,1.7s
JMQS Jabal Moqyreh 150.52 73 P PKPdf 12 21 26.4 +2.6
KELT Kelkit 150.58 49 *i* P PKPdf 12 21 29.2 +5.7
BDT Bhumibol Dam 150.59 263 P PKPdf 12 21 23.0 -1.2
comp=Z,22nm,10.0s
GUMT Gumushane 150.60 49 P PKPdf 12 21 26.7 +3.2
DBAS Duba 150.64 76 P PKPdf 12 21 26.5 +2.5
MYA Malataya 150.70 53 P PKPdf 12 21 28.8 +5.0
MALT Malatya 150.70 53 P PKPdf 12 21 22.1 -1.6
MALT Malatya 150.70 53 *e* PKPdf PKPdf 12 21 23.2 -0.6
MALT *e* PKPbc PKPdf 12 21 29.2 +5.4
BVA0 Borovoye Array 150.72 357 *i* PKIKP PKPdf 12 21 22.2 -1.1
BVA0 pmax pmax
comp=Z,64nm,1.3s
ZRNK Zerenda 150.83 359 *e* PKIKP PKPdf 12 21 22.6 -0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZRNK				e		12 21 28.4	
KIV	Kislovodsk	150.87	40c	iPKIKP	PKPdf	12 21 20.1	-3.7
KIV				i		12 21 28.1	
KIV	Kislovodsk	150.87	40	ePKPbc	PKPdf	12 21 28.9	+5.1
KIV				LR	LR		
	comp=Z,158nm,20.0s,MS4.8						
ATAB	Bozova	150.90	55	iP	PKPdf	12 21 23.3	-0.7
CMAR	Chiang Mai Arr	150.99	265	PKP	PKPdf	12 21 22.9	-1.8
	comp=Z,2.7nm,1.1s,baz=138,slow=0.4,SNR=11						
CMAR				PKPbc	PKPdf	12 21 29.2	+4.5
	comp=Z,30nm,0.9s,baz=92,slow=0.8,SNR=64						
VOSK	Vostochnaya	150.99	357	PKIKP	PKPdf	12 21 22.2	-1.5
VOSK				pmax	pmax		
	comp=Z,413nm,1.6s						
ELZG	Elazig	151.04	53	iP	PKPdf	12 21 24.5	+0.2
TBKS	Tabuk	151.13	74	P	PKPdf	12 21 26.4	+1.7
PTK	Pertek	151.19	52	P	PKPdf	12 21 23.0	-1.5
URFA	Urfa	151.30	55	P	PKPdf	12 21 23.5	-1.2
QURS	Qurayyt al Mil	151.55	68	P	PKPdf	12 21 26.0	+0.8
BCA	Borcka	151.57	45	P	PKPdf	12 21 24.3	-0.7
UMJS	Umm Lajj	151.77	81	P	PKPdf	12 21 26.3	+0.5
ONI	Oni	152.12	42	P	PKPdf	12 21 25.4	-0.4
ERZM	Erzurum	152.14	48	iP	PKPdf	12 21 25.3	-0.6
ZEI	Tsey	152.28	41	ePKIKP	PKPdf	12 21 22.7	-3.2
ZEI				i		12 25 12.7	
YNBS	Yanbu‘ al Bahr	152.32	83	P	PKPdf	12 21 26.6	0.0
MARD	Mardin	152.80	54	iP	PKPdf	12 21 19.8	-7.1
BEST	Besiri	152.94	52	iP	PKPdf	12 21 26.7	-0.3
TBLG	Delisi	153.39	42	P	PKPdf	12 21 22.0	-5.5
TI2	Plekhanov	153.40	42	ePKIKP	PKPdf	12 21 31.0	+3.5
MTA	Mtatsminda	153.44	42	P	PKPdf	12 21 19.8	-7.8
KBRS	Khaybar	153.55	80	P	PKPdf	12 21 28.3	+0.1
AB31	Akbulak array	153.69	12	iPKIKP	PKPdf	12 21 26.9	-0.8
AB31				pmax	pmax		
	comp=Z,440nm,1.6s						
DGRG	David-gareji	153.94	42	P	PKPdf	12 21 28.9	+0.6
CLDR	Caldiran	154.24	48	P	PKPdf	12 21 27.8	-1.0
MAK	Makhachkala	154.24	37	ePKIKP	PKPdf	12 21 28.0	-0.6
MAK				pmax	pmax		
	comp=Z,1μm,8.0s						
MAK				pmax	pmax		
	comp=Z,2μm,8.0s						
GNI	Garni	154.27	45	P	PKPdf	12 21 27.0	-1.7
GNI	Garni	154.27	45	ePKPdf	PKPdf	12 21 28.4	-0.4
GNI				LR	LR		
	comp=Z,632nm,20.0s,MS5.4						
MKAR	Makanchi Array	154.41	337	PKIKP	PKPdf	12 21 26.5	-2.2
MKAR						12 25 23.7	
MKAR	Makanchi Array	154.41	337	PKP	PKPdf	12 21 26.5	-2.3
	comp=Z,9.0nm,1.1s,slow=1.2,SNR=37						
MKAR				PKPbc	PKPdf	12 21 35.5	+6.8
	comp=Z,10.0nm,0.9s,baz=29,slow=1.9,SNR=26						
MKAR				PP	PP	12 25 23.7	-3.5
	comp=Z,1.6nm,0.9s,baz=45,slow=4.1,SNR=3.8						
WMQ	Urumqi	154.42	326	PKP	PKPdf	12 21 27.2	-1.6
WMQ				XPKP		12 21 31.5	
WMQ				PP	PP	12 25 28.5	+1.1
WMQ				PP	PP		
	comp=Z,434nm,5.4s						
WMQ				LR	LR		
	comp=N,193nm,15.5s,MS5.2						
WMQ				LR	LR		
	comp=E,152nm,13.0s,MS5.2						
WMQ				LR	LR		
	comp=Z,115nm,11.4s,MS4.9						
HAKT	HAKKARI	154.83	51	iP	PKPdf	12 21 29.1	-0.5
HKR	Hakkari	154.85	51	P	PKPdf	12 21 29.0	-0.6
BLJS	Baljurashi	154.91	94	P	PKPdf	12 21 32.2	+2.0
HILS	Ha’il	155.81	76	P	PKPdf	12 21 31.5	+0.3
DJNS	Zahran al Janu	156.08	100	P	PKPdf	12 21 33.2	+1.4
TATS	Tathlith	156.54	95	P	PKPdf	12 21 32.9	+0.6
AFFS	‘Afif	156.84	84	P	PKPdf	12 21 32.8	+0.1
ARSS	Ar Rass	157.14	79	P	PKPdf	12 21 33.0	0.0
SHL	Shillong	158.51	280	eP	PKPdf	12 21 34.0	-0.8
SHL				e		12 25 50.0	
LSA	Lhasa	158.78	291	PKP	PKPdf	12 21 34.6	-0.4
LSA	Lhasa	158.78	291	ePKPdf	PKPdf	12 21 34.4	-0.6
LSA				ePKPab	PKPab	12 22 10.6	+0.5
LSA				LR	LR		
	comp=Z,983nm,22.0s,MS5.6						
MZLS	Mizel	158.86	85	P	PKPdf	12 21 35.7	+0.5
PALK	Pallekele	159.77	218	PFAKE		12 21 50.0	+13
PALK				LR	LR		
	comp=Z,393nm,19.0s,MS5.3						
USP	Ospenovka	159.87	347	P	PKPdf	12 21 35.4	-0.3
	SNR=16						
TKM2	Tokmak 2	159.95	344	P	PKPdf	12 21 35.5	-0.3
	SNR=22						
CHMS	Chumysh	160.07	346	P	PKPdf	12 21 35.6	-0.3
	SNR=6.3						
RYDS	Riyadh	160.18	84	P	PKPdf	12 21 37.1	+0.5
FRU	Bishkek	160.26	346	ePKIKP	PKPdf	12 21 36.0	-0.2
FRU				e		12 22 12.0	
FRU				e		12 25 57.0	
FRU				pmax	pmax		
	comp=Z,110nm,2.0s						
KBK	Karagaybulak	160.35	345	P	PKPdf	12 21 36.1	-0.1
	SNR=11						
ULHL	Ulahol	160.41	342	P	PKPdf	12 21 36.0	-0.4
	SNR=18						
AAK	Ala-Archa	160.47	346	ePKIKP	PKPdf	12 21 34.9	-1.5
AAK				e		12 22 15.4	
AAK				MLR	MLR		
	comp=Z,342nm,20.0s						
EKS2	Erkin-Say	160.59	348	P	PKPdf	12 21 36.8	+0.2
	SNR=17						
KKAR	Karatay Array	160.60	355	iPKIKP	PKPdf	12 21 34.9	-1.6
KKAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KZA	Kyzart	160.82	344	P	PKPdf	12 21 37.5	+0.7
	SNR=16						
UCH	Uchtor	160.86	346	P	PKPdf	12 21 37.1	+0.3
	SNR=29						
AML	Almayashu	161.12	348	P	PKPdf	12 21 37.5	+0.4
	SNR=16						
KSH	Kashi	162.99	339	ePKP	PKPdf	12 21 39.5	+0.5
KSH				ePKS	PKS	12 25 11.1	+2.9
KSH				ePP	PP	12 26 19.0	+5.6
KSH				eSKS	SKS	12 28 38.8	-4.3
KSH				eSKKS		12 33 01.0	
KSH				eSS	SS	12 46 38.0	+2.9
KSH				PP	PP		
	comp=Z,740nm,5.8s						
KSH				LR	LR		
	comp=N,530nm,4.7s						
KSH				LR	LR		
	comp=E,450nm,5.6s						
KKR	Kurukshetra	170.21	311	eP	PKPdf	12 21 43.6	-1.3
NDI	New Delhi	170.62	304	eP	PKPdf	12 21 43.0	-2.1
AYAN	Aya Nagar	170.79	303	eP	PKPdf	12 21 43.4	-1.8
AYAN				AMb	AMB	12 21 49.7	
	comp=Z,2.4nm,1.4s						
BHGR	Bahadurgarh	170.83	304	iP	PKPdf	12 21 44.9	-0.3
SONA	Sohna	170.93	302	iP	PKPdf	12 21 43.0	-2.3
SONA				AMb	AMB	12 21 47.1	
	comp=Z,29nm,1.4s						
SONA				e		12 26 50.8	
KUDL	Kundal	171.44	303	eP	PKPdf	12 21 43.6	-2.1
KUDL				AMb	AMB	12 21 47.8	
	comp=Z,33nm,1.4s						
KHET	Khetri	172.00	304	eP	PKPdf	12 21 43.7	-2.3
KHET				AMb	AMB	12 21 51.8	
	comp=Z,59nm,1.7s						
KHET				e		12 23 04.3	
POO	Poona	172.69	226	⇑iP	PKPdf	12 21 45.0	-1.6
	comp=Z,40nm,1.0s						
AJM	Ajmer	173.66	297	⇓iP	PKPdf	12 21 45.0	-1.7
JASL	Jaisalmer	176.06	324	eP	PKPdf	12 21 45.8	-1.7
JASL				e		12 27 14.8	

NEIC ***11*** *12:22:51.2, 37.50S×176.72E, h183km, MG4.2(WEL), After WEL.*
WEL 11 12:22:51.5±0.3**, 37.50S×176.68E, h179**km±2km**, ML4.2**/15**, Error ellipse: s-maj=1.8km s-min=1.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.84	156	PN	P	12 23 17.9	-0.3
URZ				eSN	S	12 23 38.5	-0.4
MWZ	Matawai	1.07	142	eP	P	12 23 19.8	-0.1
MWZ	Matawai	1.07	142	PN	P	12 23 19.6	-0.3
MWZ				SN	S	12 23 41.4	-0.4
MKAZ	Moumakai	1.27	287	PN	P	12 23 21.3	-0.3
PUZ	Puketiti	1.38	115	eP	P	12 23 21.9	-0.7
PUZ	Puketiti	1.38	115	PN	P	12 23 22.2	-0.4
PUZ				SN	S	12 23 45.5	-1.0
MTAZ	Motutapu	1.58	296	P	P	12 23 23.5	-1.1
MTAZ	Motutapu	1.58	296	PN	P	12 23 23.9	-0.6
BKZ	Black Stump Fm	1.68	185	P	P	12 23 24.9	-0.6
BKZ	Black Stump Fm	1.68	185	PN	P	12 23 24.9	-0.6
BKZ				SN	S	12 23 50.6	-1.1
KNZ	Kokohu	1.71	153	P	P	12 23 25.8	-0.1
KNZ	Kokohu	1.71	153	PN	P	12 23 25.8	-0.1
KNZ				SN	S	12 23 51.7	-0.7
HIZ	Hauiti	1.76	234	eP	P	12 23 26.6	+0.2
HIZ	Hauiti	1.76	234	PN	P	12 23 26.6	+0.3
WTAZ	Waiatarua	1.77	288	ePN	P	12 23 25.8	-0.6
OTVZ	Oturere	1.85	205	PN	P	12 23 27.5	+0.2
NGZ	Ngauruhoe	1.88	206	P	P	12 23 27.7	+0.1
NGZ	Ngauruhoe	1.88	206	ePN	P	12 23 28.1	+0.6
CNZ	Chateau	1.92	207	P	P	12 23 28.5	+0.5
CNZ	Chateau	1.92	207	ePN	P	12 23 28.2	+0.2
TUVZ	Tukino	1.95	204	P	P	12 23 28.2	-0.1
TUVZ				S	S	12 23 56.1	-0.5
TUVZ	Tukino	1.95	204	PN	P	12 23 28.2	0.0
TUVZ				SN	S	12 23 55.8	-0.8
FWVZ	Far West T-bar	1.97	206	eP	P	12 23 28.7	+0.2
FWVZ	Far West T-bar	1.97	206	PN	P	12 23 28.7	+0.2
WNVZ	Wahianoa	2.02	205	P	P	12 23 28.8	-0.3
WNVZ	Wahianoa	2.02	205	PN	P	12 23 28.8	-0.3
MOVZ	Moawhango	2.04	201	P	P	12 23 28.6	-0.8
MOVZ	Moawhango	2.04	201	PN	P	12 23 28.4	-1.0
PKVZ	Pokaka	2.08	210	PN	P	12 23 29.5	-0.2
MTVZ	Mangateitei	2.11	206	PN	P	12 23 29.8	-0.4
PWZ	Pawanui	2.54	177	P	P	12 23 33.9	-1.2
PWZ	Pawanui	2.54	177	PN	P	12 23 34.0	-1.1
RAEZ	Rainy Point	2.54	224	P	P	12 23 36.0	+0.9
WAZ	Wanganui	2.62	210	eP	P	12 23 35.2	-0.9
TSZ	Takapari Road	2.62	192	P	P	12 23 34.7	-1.4
NEZ	North Egmont	2.70	228	P	P	12 23 38.0	+1.0
PKE	Pukeiti	2.71	230	P	P	12 23 37.7	+0.5
BFZ	Birch Farm	3.20	186	eP	P	12 23 40.8	-2.4
MRZ	Mangatainoka R	3.28	195	P	P	12 23 41.5	-2.7
MRZ				S	S	12 24 20.6	-4.1
KIW	Kapiti Island	3.63	202	P	P	12 23 45.6	-3.0
MTW	Mount Morrison	3.77	194	P	P	12 23 46.9	-3.5
CAW	Cannon Point	3.82	199	P	P	12 23 47.6	-3.4
MRW	Makara Radio	4.03	202	P	P	12 23 50.2	-3.5
WEL	Wellington	4.07	201	P	P	12 23 50.6	-3.5
MSWZ	Moikau Station	4.07	195	P	P	12 23 50.3	-3.9
BHW	Baring Head	4.15	199	P	P	12 23 51.3	-4.0
TCW	Tory Channel	4.15	206	P	P	12 23 51.6	-3.7
NNZ	Nelson	4.51	214	eP	P	12 23 56.1	-3.8
QRZ	Quartz Range	4.63	223	eP	P	12 23 57.3	-4.2
BSWZ	Blackbirch Sta	4.74	206	P	P	12 23 58.9	-3.9
THZ	Tophouse	5.16	213	eP	P	12 24 03.9	-4.4
KHZ	Kahutara	5.48	205	eP	P	12 24 08.0	-4.4
DSZ	Denniston Nort	5.67	220	eP	P	12 24 10.5	-4.5
LTZ	Lake Taylor	6.27	211	eP	P	12 24 17.5	-5.3
MQZ	McQueen’s Vall	6.92	205	eP	P	12 24 24.9	-6.5
RPZ	Rata Peaks	7.54	213	eP	P	12 24 34.4	-5.3
ODZ	Otahua Downs	8.80	209	eP	P	12 24 50.8	-5.4

IDC 11 12:34:05.4±2.1**, 23.55S×111.93W, mb4.0**/1**, mb1 4.3**/1**, mb1mx3.6**/14**, mbtmp4.0**/1**, Error ellipse: s-maj=123.8km s-min=81.7km az=127.0, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	Yellowknife Ar	85.77	359	P	P	12 46 46.1	-1.1
	1.0nm,0.9s,baz=188,slow=4.4,SNR=5.8						
BRTR	Keskin Array B	146.78	53	PKPbc	PKPbc	12 53 49.0	-0.2
	0.7nm,0.8s,baz=270,slow=1.4,SNR=5.4						
ZAL	Zalesovo	147.14	342	PKPbc	PKPdf	12 53 48.9	-0.9
	6.0nm,0.3s,baz=169,slow=1.4,SNR=3.5						
CMAR	Chiang Mai Arr	150.78	266	PKPbc	PKPdf	12 54 00.3	+3.8
	1.1nm,1.0s,baz=117,slow=2.0,SNR=6.3						

IDC ***11*** *12:47:48.2±1.7, 23.60S×111.78W, mb3.8/3, mb1 4.2/3, mb1mx3.8/14, mbtmp3.8/3, MS3.5/1, Ms1 3.5/1, ms1mx3.4/17, Error ellipse: s-maj=63.4km s-min=42.5km az=21.0*
NEIC ***11*** *12:47:49.9±0.6, 23.56S×111.75W, h10km, mb4.0/1, Error ellipse: s-maj=27.2km s-min=15.8km az=78.0*
ISC 11 12:47:48.6±1.0**, 23.5S**±0.1×**111.8W**±0.3**, h10**km**, n18, σ0§93**/8**, mb3.8**/4**, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	4.25	150	LR	LR	12 49 38.2	
	comp=Z,620nm,20.2s,baz=293,slow=26						
LPAZ	La Paz	41.52	88	P	P	12 55 38.1	+0.1
	0.4nm,0.4s,mb3.4,baz=259,slow=6.8,SNR=4.8						
MNTX	Cornudas Mount	55.19	7	eP	P	12 57 23.6	-0.4
	2.5nm,1.5s,mb4.0						
PDAR	Pinedale Array	65.93	2	P	P	12 58 36.9	-0.2
	0.4nm,0.6s,mb3.6,baz=207,slow=6.6,SNR=3.9						
VNA3	Neumayer Olymp	71.79	161		Px	12 59 21.1	
VNA3	Neumayer Olymp	71.79	161		Px	12 59 28.1	
VNA3	Neumayer Olymp	71.79	161		Px	12 59 34.5	
VNA3	Neumayer Olymp	71.79	161	P	P	12 59 11.7	-1.1
VNA3				P		12 59 21.1	
VNA3				P		12 59 28.1	
VNA3				P		12 59 34.5	
VNA2	Neumayer--Watz	72.60	161		Px	12 59 31.2	
VNA2	Neumayer--Watz	72.60	161		Px	12 59 36.7	
VNA2	Neumayer--Watz	72.60	161	P	P	12 59 16.8	-0.7
VNA2				P		12 59 31.2	
VNA2				P		12 59 36.7	
SNAA	Sanae	73.65	162		P	12 59 25.7	+2.0
SNAA	Sanae	73.65	162		Px	12 59 39.3	
SNAA	Sanae	73.65	162	P	Px	12 59 39.3	
YKA	Yellowknife Ar	85.69	359	P	P	13 00 29.2	+0.7
	1.2nm,0.9s,mb4.1,baz=176,slow=4.0,SNR=6.1						
YKA	Yellowknife Ar	85.69	359	P	P	13 00 29.2	+0.7
BRTR	Keskin Array B	146.61	53	PKPbc	PKPbc	13 07 32.1	+1.7
	2.0nm,1.1s,baz=270,slow=1.4,SNR=6.8						
CMAR	Chiang Mai Arr	150.94	266	PKPbc	PKPdf	13 07 43.1	+3.6
	0.6nm,0.7s,baz=90,slow=0.9,SNR=5.9						

NNC 11 12:50:54.6±0.8**, 36.55N×70.82E, h86**km±11km**, mpv3.7, 1C-2D, Error ellipse: s-maj=13.5km s-min=7.5km az=108.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.55	358	⇓P	P	12 52 28.3	-1.8
	2.2nm,0.3s,baz=182,slow=14,SNR=63						
KK31				⇓S	S	12 53 42.1	-1.9
	1.6nm,0.3s						
AAK	Ala-Archa	6.71	24	P	P	12 52 30.4	-1.9
AAK				S	S	12 53 46.3	-1.5
AB31	Akbulak array	14.97	331	⇑P	P	12 54 21.4	-1.1
	0.4nm,0.4s,baz=315,slow=5.2,SNR=11						

PGC 11 13:58:49.1, 49.70N×130.34W, h10km**, MLSn2.9**/1**, Mw3.5, West of Vancouver Island, British Columbia, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.71	55	Pn	Pn	13 59 17.1	-2.0
HOLB				Sn	Sn	13 59 36.5	-4.6
	comp=Z,18nm,0.2s						
HOLB				Trac		13 59 39.3	
	comp=Z,18nm,0.2s						
BPBC	Brooks Peninsu	1.72	73	Pn	Pn	13 59 16.6	-2.8
BPBC				Sn	Sn	13 59 37.0	-4.6
	comp=Z,30nm,0.2s						
BPBC				Trac		13 59 39.0	
	comp=Z,30nm,0.2s						
PHC	Port Hardy	2.12	60	Pn	Pn	13 59 23.1	-2.0
PHC				Sn	Sn	13 59 47.8	-4.0
PHC				Trac		13 59 49.2	
	comp=Z,22nm,0.4s						
MAYB	Maynard	2.16	70	Pn	Pn	13 59 23.2	-2.5
MAYB				Sn	Sn	13 59 48.1	-4.6
	comp=Z,23nm,0.6s						
MAYB				Trac		13 59 48.2	
	comp=Z,23nm,0.6s						
WOSB	Woss	2.48	78	Pn	Pn	13 59 28.5	-1.7
WOSB				Sn	Sn	13 59 55.3	-5.5
	comp=Z,9.0nm,0.5s						
WOSB				Trac		13 59 59.7	
	comp=Z,9.0nm,0.5s						
GDR	Gold River	2.79	87	Sn	Sn	14 00 03.7	-5.1
	comp=Z,5.0nm,0.4s						
GDR				Trac		14 00 03.9	
	comp=Z,5.0nm,0.4s						
NCRB	Newcastle Ridg	2.85	74	Pn	Pn	13 59 34.2	-1.3
NCRB				Sn	Sn	14 00 03.7	-6.5
	comp=Z,15nm,0.6s						
NCRB				Trac		14 00 11.4	
	comp=Z,15nm,0.6s						
BBB	Bella Bella	2.86	29	Pn	Pn	13 59 32.8	-2.8
BBB				Sn	Sn	14 00 05.8	-4.7
BBB				Trac		14 00 10.6	
	comp=Z,24nm,0.5s						
BTB	Buttle Lake	3.14	92	Sn	Sn	14 00 12.9	-4.7
	comp=Z,6.0nm,0.4s						
BTB				Trac		14 00 17.3	
	comp=Z,6.0nm,0.4s						
CBB	Campbell River	3.23	82	Pn	Pn	13 59 39.5	-1.5
CBB				Sn	Sn	14 00 15.0	-4.9
CBB				Trac		14 00 18.6	
	comp=Z,5.0nm,0.6s						
FSB	Fort Saint Jam	6.05	35	Pn	Pn	14 00 20.0	-0.9

BJI ***11*** *14:36:07.8, 1.00N×97.36E, h38km, mB6.0, mb5.5, Ms5.9, Msz5.8*
CRAAG ***11*** *14:36:08.8, 1.31N×97.25E, Mb5.5*
HRVD ***11*** *14:36:09.5±0.2, 0.93N×97.00E, h22km, MW5.5/63, Centroid moment Tensor Solution. LP body waves: s56,c108;Mantle waves: s63,c125; Half duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.18±.04; $M_{\theta\theta}$-0.55±.03; $M_{\phi\phi}$-0.63±.03; $M_{r\theta}$1.47±.05; $M_{\theta\phi}$0.83±.02; $M_{\phi r}$-1.46±.06; Best double couple: $M_0$2.447×10^{17} NP1: ϕ_s319°, δ16°, λ94°. NP2:ϕ_s135°, δ74°, λ89°. Principal axes: T 2.325, Plg61°, Azm43°; N .24, Plg1°, Azm135°; P -2.569, Plg29°, Azm226°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***11*** *14:36:09.2±0.4, 1.30N×97.33E, h21km±2km, mb4.8/24, mb1 4.9/25, mb1mx4.8/26, mbtmp4.9/25, ML5.6/1, MS5.3/15, Ms1 5.3/15, ms1mx5.2/22 Error ellipse: s-maj=15.6km s-min=9.8km az=57.0*
MOS ***11*** *14:36:09.5±1.0, 1.38N×97.32E, h33km, mb5.6/54, MS5.2/24, Error ellipse: s-maj=9.2km s-min=4.8km az=114.0*
NEIC ***11*** *14:36:09.5±0.1, 1.27N×97.23E, mb5.4/106, ME5.4, MS5.4/121, MW5.6, Error ellipse: s-maj=4.1km s-min=3.1km az=211.0 Broadband fault plane solution: P waves. NP1:ϕ_s130°, δ80°, λ90°. NP2:ϕ_s310°, δ10°, λ90°. Principal axes: T Plg55°, Azm40°; N Plg0°, Azm0°; P Plg35°, Azm220°; Moment Tensor Solution. s22 Moment tensor: Scale 10^{17} Nm; M_{rr}1.98; $M_{\theta\theta}$-1.92; $M_{\phi\phi}$-0.05; $M_{r\theta}$1.33; $M_{\theta\phi}$1.06; $M_{\phi r}$-1.09; Best double couple: $M_0$2.8×10^{17} NP1:ϕ_s281°, δ28°, λ69°. NP2:ϕ_s125°, δ64°, λ101°. Principal axes: T 2.62, Plg69°, Azm56°; N .35, Plg10°, Azm300°; P -2.96, Plg19°, Azm207°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Gunungsitoli. Felt [II] at Sibolga, Sumatra.
ISC 11 14:36:08.0±0.2**, 1.29N**±0.03×**97.28E**±0.03**, h24**km**, h24**km±.4km**:pP-P, n557, σ0§99**/477**, mb5.4**/165**, MS5.4**/162**, 73C-14D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	Ipoh	4.97	49	P	Pn	14 37 25.8	+2.6
KULM	Kulim	5.21	40	eP	Pn	14 37 27.9	+1.3
KGM	Kluang	6.08	83	P	Pn	14 37 41.6	+2.6
SNG	Songkhla	6.73	30	P	Pn	14 37 48.0	-0.1
	1μm,1.0s						
NNT	Nongplab	11.49	12	P	P	14 38 54.0	+0.1
KSM	Kuching	13.03	89	eP	P	14 39 16.4	+1.8
NST	Nakhon Sawan	14.57	11	P	P	14 39 35.0	+0.1
BDT	Bhumibol Dam	15.95	6	P	P	14 39 56.0	+3.2
	27nm,0.8s						
CMAR	Chiang Mai Arr	17.14	5	P	P	14 40 06.4	-1.5
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,9μm,18.0s						
CMAR	Chiang Mai Arr	17.14	5	P	P	14 40 06.3	-1.6
	comp=Z,7.4nm,0.3s,baz=197,slow=11,SNR=129						
CMAR				LR	LR	14 47 26.4	
	comp=Z,9μm,18.0s,baz=190,slow=40						
PALK	Pallekele	17.56	290	eP	P	14 40 12.5	-0.6
	comp=Z,208nm,1.4s						
NANT	Nan	17.72	11	⇑P	P	14 40 13.0	-2.2
	comp=Z,562nm,1.0s						
KKM	Kota Kinabalu	19.48	75	eP	P	14 40 36.4	0.0
KKM	Kota Kinabalu	19.48	75	P	P	14 40 37.5	+1.1
MDRS	Chennai	20.53	306	eP	P	14 40 53.0	+5.4
MDRS				eS	S	14 44 41.0	+10
MDRS				e		14 46 06.0	
MDRS				e		14 47 25.0	
MDRS				e		14 51 24.0	
TSM	Tawau	20.79	81	P	P	14 40 51.4	+1.1
VIS	Vishakhapatnam	21.32	321	eP	P	14 40 57.2	+1.6
VIS				AMb	AMB	14 41 14.3	
	comp=Z,488nm,1.6s,mb5.6						
QIZ	Qiongzhong	21.51	34	P	P	14 40 57.0	-0.6
QIZ				S	S	14 44 52.6	+2.7
QIZ				AMB	AMB		
	comp=Z,153nm,2.0s,mb5.1						
QIZ				LR	LR		
	comp=N,9μm,14.9s,MS5.6						
QIZ				LR	LR		
	comp=E,15μm,15.1s,MS5.6						
QIZ				LR	LR		
	comp=Z,14μm,13.3s,MS5.5						
QIZ	Qiongzhong	21.51	34	⇑iP	P	14 40 57.1	-0.5
	comp=Z,482nm,1.7s,mb5.7						
SALM	Salem	21.55	299	eP	P	14 41 00.0	+2.0
SALM				e		14 44 46.0	
CAL	Calcutta	22.84	338	eP	P	14 41 08.4	-2.5
CAL				eS	S	14 45 20.8	+6.4
AGT	Agartala	23.21	346	⇑i	P	14 41 12.0	-2.5
AGT				i		14 41 39.0	
KMI	Kunming	24.28	12	P	P	14 41 26.9	+2.0
KMI				AP		14 41 33.0	
KMI				PP	PP	14 42 02.9	+2.8
KMI				PCP	PcP	14 45 06.4	+0.4
KMI				S	S	14 45 43.7	+4.4
KMI				SS	SS	14 46 38.8	+5.9
KMI				SCP		14 48 42.5	
KMI				PCS		14 48 44.9	
KMI				AMB	AMB		
	comp=Z,381nm,1.9s,mb5.5						
KMI				AMB	AMB		
	comp=Z,4μm,4.9s						
KMI				LR	LR		
	comp=N,31μm,16.3s,MS5.9						
KMI				LR	LR		
	comp=E,12μm,14.4s,MS5.9						
KMI				LR	LR		
	comp=Z,33μm,16.1s,MS5.9						
KMI	Kunming	24.28	12	P	P	14 41 26.9	+2.0
	comp=Z,381nm,1.9s,mb5.5						
KMI				pP		14 41 33.0	
KMI				sP		14 41 35.3	
KMI				PP	PP	14 42 02.9	+2.8
KMI				PPP	PPP	14 42 13.6	+3.3
KMI				PcP	PcP	14 45 06.4	+0.4
KMI				S	S	14 45 43.7	+4.4
KMI				sS		14 45 53.6	
KMI				SS	SS	14 46 38.8	+5.9
KMI				SSS	SSS	14 46 55.0	+5.6
KMI				ScP		14 48 42.5	
KMI				PcS		14 48 44.9	
KMI				LR	LR		
	comp=Z,33μm,16.1s,MS5.9						
HYB	Hyderabad	24.41	312	eP	P	14 41 28.0	+1.8
	comp=Z,140nm,1.0s,mb5.3						
HYB				e		14 41 34.5	

HYB eS **S** **14 45 44.0 +2.4**
HYB e 14 45 52.0
HYB Hyderabad 24.41 312 *i* P **P** **14 41 28.0 +1.8**
comp=Z,140nm,1.0s,mb5.3
HYB e 14 41 34.5
HYB eS **S** **14 45 44.0 +2.4**
HYB e 14 45 52.0
HYB LR LR 14 50 40.0
comp=Z,5.6nm,20.0s
SHL Shillong 24.69 348 *i* **P** **14 41 39.0 +10**
SHL eS **S** **14 45 48.3 +2.0**
BOK Bokaro 24.95 335⇑ *i*P **P** **14 41 31.6 +0.2**
BOK *i* S **S** **14 45 54.6 +3.9**
MNGI Mangalore 25.07 299 *i* **P** **14 41 36.9 +4.3**
MNGI *i* 14 45 53.2
comp=Z,222nm,1.4s
BLSP Bilaspur 25.42 326 *e*P **P** **14 41 35.5 -0.3**
BLSP *e*P 14 41 36.3
BLSP AMb AMB 14 41 47.7
comp=Z,281nm,1.4s,mb5.6
BLSP eS **S** **14 46 00.9 +2.3**
BLSP *i* 14 49 54.3
DGAR Diego Garcia 26.23 250 PFAKE 14 41 50.0 +6.6
DGAR LR LR
comp=Z,2μm,19.0s,MS4.6
LATR Latur 26.51 311 *e*P **P** **14 41 46.0 0.0**
HKC Hong Kong 26.58 37⇑ *i*P **P** **14 41 48.0 +1.5**
GYA Guiyang 26.61 19⇑ *i*P **P** **14 41 46.7 0.0**
GYA AP pP 14 41 53.9 +0.2
GYA S **S** **14 46 17.1 -1.1**
GYA AMB AMB
comp=Z,90nm,1.2s,mb5.2
GYA AMB AMB
comp=Z,890nm,6.3s
GYA LR LR
comp=N,16μm,14.4s,MS5.8
GYA LR LR
comp=E,10μm,14.1s,MS5.8
GYA LR LR
comp=Z,22μm,13.5s,MS5.9
BCPH Baguio City Da 27.42 56⇓ *i*P **P** **14 41 52.9 -1.4**
KAD Karad 27.73 306 *i* P **P** **14 41 59.4 +2.4**
KAD AMb AMB 14 42 13.0
comp=Z,82nm,1.5s,mb5.1
KAD *e* 14 46 33.4
PKI Pulchoki 28.50 338 *e*P **P** **14 42 04.7 +0.8**
comp=Z,1μm,1.7s,mb6.3
GUN Gumba 28.63 339 *e*P **P** **14 42 06.2 +1.1**
comp=Z,416nm,0.7s,mb6.3
DMN Daman 28.65 337 *e*P **P** **14 42 06.1 +0.8**
comp=Z,437nm,1.5s,mb6.0
POO Poona 28.66 308 *i* P **P** **14 42 05.1 -0.3**
POO AMb AMB 14 42 18.9
comp=Z,44nm,1.1s,mb5.1
KKN Kakani 28.75 337 *e*P **P** **14 42 06.8 +0.7**
comp=Z,346nm,1.0s,mb6.0
DAV Davao City (W) 28.80 78⇓ *e*P **P** **14 42 08.6 +1.9**
LSA Lhasa 28.85 349 P **P** **14 42 08.0 +1.0**
LSA AP pP 14 42 17.0 +3.0
LSA XP sP 14 42 21.0 +3.9
LSA PP PP 14 42 59.3 -1.2
LSA S **S** **14 46 52.1 -2.2**
LSA AMB AMB
comp=Z,50nm,2.0s,mb4.9
LSA AMB AMB
comp=Z,720nm,8.9s
LSA LR LR
comp=N,3μm,24.9s
LSA LR LR
comp=E,6μm,33.2s
LSA LR LR
comp=Z,5μm,27.0s,MS5.0
LSA Lhasa 28.85 349⇑ *i*P **P** **14 42 07.8 +0.7**
comp=Z,47nm,0.8s,mb5.3
CVP Callao Caves 29.12 54 *e*P **P** **14 42 09.0 -0.6**
GKN Gorkha 29.19 337 *e*P **P** **14 42 10.7 +0.6**
comp=Z,243nm,0.8s,mb6.0
KOLN Koldanda 29.41 335 *e*P **P** **14 42 13.0 +0.9**
comp=Z,260nm,0.7s,mb6.1
BOM Bombay 29.68 308 *e*S **S** **14 47 14.2 +6.5**
BOM *e* 14 47 34.1
comp=Z,107nm,1.5s
CD2 Chengdu 30.09 11 P **P** **14 42 17.5 -0.7**
CD2 AP pP 14 42 25.8 +0.6
CD2 S **S** **14 47 11.9 -2.2**
CD2 LR LR
comp=E,30μm,15.0s
ENH Enshi 31.07 21⇑ *i*P **P** **14 42 25.6 -1.2**
comp=E,129nm,0.5s,mb6.0
QZH Quanzhou 31.26 39⇑ *i*P **P** **14 42 28.5 0.0**
QZH S **S** **14 47 28.5 -3.9**
QZH AMB AMB
comp=Z,250nm,1.4s,mb5.8
QZH AMB AMB
comp=Z,2μm,4.0s
QZH LR LR
comp=N,20μm,13.4s,MS6.0
QZH LR LR
comp=E,11μm,13.4s,MS6.0
QZH LR LR
comp=Z,27μm,14.4s,MS6.1
MBWA Marble Bar 31.31 137 *e*P **P** **14 42 28.2 -0.7**
comp=Z,168nm,1.7s,mb5.6
MBWA LR LR
comp=Z,7μm,21.0s,MS5.3
LGTI Lohaghat 32.36 331 *e*P **P** **14 42 38.5 +0.4**
PTH Pithoragarh 32.46 332 *e*P **P** **14 42 44.1 +5.1**
PTH eS **S** **14 47 58.3 +7.1**
NACB Ninganchiao 32.74 44 *e*P **P** **14 42 41.9 +0.5**
YHNB Yeheng 32.91 43 *e*P **P** **14 42 42.3 -0.6**
AJM Ajmer 33.18 321⇑ *i*P **P** **14 42 45.0 -0.3**
TATO Taipei 33.19 43 PFAKE 14 43 00.0 +15
TATO LR LR
comp=Z,4μm,20.0s,MS5.1
NDI New Delhi 33.30 327 *e*P **P** **14 42 45.0 -1.3**
WHN Wuhan 33.30 27 *e*P **P** **14 42 46.7 +0.4**
WHN S **S** **14 48 08.5 +4.2**
WHN LR LR
comp=N,7μm,11.4s,MS6.0
WHN LR LR
comp=E,16μm,14.2s,MS6.0
WHN LR LR
comp=Z,21μm,14.4s,MS6.0
FITZ Fitzroy Crossi 33.92 126⇑ *i*P **P** **14 42 50.4 -1.4**
comp=Z,43nm,0.9s,mb5.4
FITZ Fitzroy Crossi 33.92 126 P **P** **14 42 50.3 -1.5**
comp=Z,29nm,0.5s,mb5.4,baz=344,slow=5.1,SNR=65
XAN Xi'an 34.36 17 P **P** **14 42 54.6 -0.8**
XAN PP PP 14 44 14.6 +3.6
XAN S **S** **14 48 20.1 -0.5**
XAN AMB AMB
comp=Z,122nm,0.8s,mb5.9
XAN LR LR
comp=N,3μm,15.9s,MS5.6
XAN LR LR
comp=E,10μm,17.0s,MS5.6
XAN LR LR
comp=Z,15μm,16.6s,MS5.8
LZH Lanzhou 35.16 9⇑ *i*P **P** **14 43 02.3 +0.1**
LZH PP PP 14 44 21.6 +0.4
LZH S **S** **14 48 32.0 -1.0**
LZH SCS ScS 14 53 20.0 +1.1
LZH AMB AMB
comp=Z,391nm,1.6s,mb6.1
LZH AMB AMB
comp=Z,1μm,4.6s
LZH LR LR
comp=N,18μm,15.6s
LZH LR LR
comp=Z,24μm,17.4s,MS6.0
LZH Lanzhou 35.16 9⇑ *i*P **P** **14 43 02.3 +0.1**
comp=Z,391nm,1.6s,mb6.1
LZH pP pP 14 43 08.5 -0.8
LZH sP sP 14 43 12.0 -0.3
LZH PP PP 14 44 21.6 +0.4
LZH S **S** **14 48 32.0 -1.0**
LZH sS 14 48 44.1
LZH SS SS 14 50 47.5 -2.0
LZH ScS ScS 14 53 20.0 +1.1
LZH LR LR
comp=Z,24μm,17.4s,MS6.0
SDNR Sundarnagar 35.66 329 *e*P **P** **14 43 06.8 +0.3**
NJ2 Nanjing 36.75 31 *e*P **P** **14 43 15.9 +0.2**
NJ2 AP pP 14 43 24.4 +1.6
NJ2 XP sP 14 43 27.2 +1.4
NJ2 PP PP 14 44 43.2 +2.0
NJ2 S **S** **14 48 59.0 +1.5**
NJ2 AMB AMB
comp=Z,100nm,1.0s,mb5.6
NJ2 AMB AMB
comp=Z,1μm,3.5s
NJ2 LR LR
comp=N,12μm,17.6s,MS5.9
NJ2 LR LR
comp=E,14μm,16.4s,MS5.9
NJ2 LR LR
comp=Z,5μm,18.6s,MS5.3
DLH Dalhousie 37.00 329 *e*P **P** **14 43 21.0 +3.2**
THN Thein Dam 37.04 329 *e*P **P** **14 43 16.1 -2.0**
SSE Sheshan 37.30 35 P **P** **14 43 21.2 +0.9**
SSE AP pP 14 43 30.5 +3.1
SSE PP PP 14 44 47.6 -0.4
SSE S **S** **14 49 08.2 +2.3**
SSE XS 14 49 23.8
SSE ScS ScS 14 53 31.3 +0.5
SSE AMB AMB
comp=Z,46nm,1.7s,mb5.0
SSE AMB AMB
comp=Z,675nm,7.6s
SSE LR LR
comp=N,2μm,20.9s,MS5.2
SSE LR LR
comp=E,3μm,20.9s,MS5.2
SSE LR LR
comp=Z,4μm,15.7s
SSE Sheshan 37.30 35 P **P** **14 43 21.2 +0.9**
comp=Z,46nm,1.7s,mb5.0
SSE pP pP 14 43 30.5 +3.1
SSE PP PP 14 44 47.6 -0.4
SSE S **S** **14 49 08.2 +2.3**
SSE sS 14 49 23.8
SSE SS SS 14 51 50.2 +12
SSE ScS ScS 14 53 31.3 +0.5
SSE LR LR
comp=Z,4μm,15.7s,MS5.3
KAKA Kakadu 37.57 113⇑ *i*P **P** **14 43 21.1 -1.6**
comp=Z,146nm,1.5s,mb5.5
MUN Mundaring 37.64 153 *e*P **P** **14 43 26.7 +3.5**
comp=Z,22nm,0.9s,mb4.9
GTA Gaotai 38.01 3⇑ P **P** **14 43 26.8 +0.6**
GTA AP pP 14 43 33.2 -0.1
GTA PP PP 14 44 54.9 -1.6
GTA S **S** **14 49 14.4 -2.3**
GTA PCS 14 49 32.7
GTA AMB AMB
comp=Z,57nm,1.0s,mb5.3
GTA AMB AMB
comp=Z,1μm,6.1s
GTA LR LR
comp=N,2μm,20.6s,MS5.2
GTA LR LR
comp=E,3μm,21.0s,MS5.2
GTA LR LR
comp=Z,2μm,21.8s,MS4.9
KLBR Kellerberrin 38.04 151 *e*P **P** **14 43 35.2 +8.7**
comp=Z,35nm,0.9s,mb5.1
TIY Taiyuan 38.84 19 *i* PR 14 43 33.0
TIY S **S** **14 49 32.0 +2.7**
TIY LR LR
comp=N,18μm,14.0s
NWAO Narrogin (SRO) 38.90 153 P **P** **14 43 34.0 +0.3**
comp=N,9.4nm,0.8s,mb4.6,baz=329,slow=10,SNR=7.8
NWAO Narrogin (SRO) 38.90 153 *e*P **P** **14 43 34.7 +0.9**
comp=N,66nm,1.1s,mb5.3
NWAO LR LR
comp=Z,5μm,21.0s,MS5.3
TIA Tai'an 39.32 26 *e*P **P** **14 43 35.8 -1.4**
TIA AMB AMB
comp=Z,625nm,5.0s
TIA LR LR
comp=N,6μm,13.0s,MS5.8
TIA LR LR
comp=E,5μm,12.0s,MS5.8
BTO Baotou 40.81 15 *e*P **P** **14 43 50.1 +0.7**
BTO AMB AMB
comp=Z,83nm,2.2s,mb5.0
BTO LR LR
comp=N,9μm,13.1s,MS6.0
BTO LR LR
comp=E,11μm,15.7s,MS6.0
HHC Hu-ho-hao-te 41.45 16 *e*P **P** **14 43 56.2 +1.5**
HHC AP pP 14 44 01.9 +0.1
HHC PP PP 14 45 35.5 +1.9
HHC PCP PcP 14 45 49.8 -3.2
HHC S **S** **14 50 07.9 -0.4**
HHC SS SS 14 53 12.2 +4.1
HHC SCS ScS 14 53 56.2 +1.3
HHC AMB AMB
comp=Z,97nm,2.5s,mb5.0
HHC AMB AMB
comp=Z,2μm,8.3s
HHC LR LR
comp=N,11μm,16.7s,MS5.9
HHC LR LR
comp=E,10μm,16.6s,MS5.9
HHC LR LR
comp=Z,11μm,16.6s,MS5.8
WRA Warramunga Arr 42.02 122 P **P** **14 43 59.1 -0.6**
WRA S **S** **14 50 12.8 -4.2**
WRA pmax pmax
comp=Z,27nm,0.5s
WRA pmax pmax
comp=Z,4.0nm,1.2s
WRA Warramunga Arr 42.02 122 P **P** **14 43 59.1 -0.5**
comp=Z,27nm,0.5s,mb5.1,baz=301,slow=9.2,SNR=275
WRA ScP 14 49 43.4
comp=Z,4.3nm,1.2s,baz=304,slow=3.8,SNR=7.0
WRA S **S** **14 50 12.8 -4.2**
comp=Z,12nm,1.2s,baz=295,slow=16,SNR=8.9
WRAB Tennant Creek 42.02 122*c i*P **P** **14 43 59.2 -0.5**
WRAB Tennant Creek 42.02 122⇑ *i*P **P** **14 43 59.1 -0.6**
comp=Z,49nm,0.6s,mb5.3
WRAB LR LR
comp=Z,1μm,20.0s,MS4.9
WB2 Warramunga Arr 42.03 122⇑ *i*P **P** **14 43 59.1 -0.7**
WB2 *e*S **S** **14 50 13.6 -3.5**
KSH Kashi 42.72 336⇑ *i*P **P** **14 44 06.0 +0.8**
KSH *e*AP pP 14 44 14.0 +1.7
KSH *e*XP sP 14 44 17.1 +1.9
KSH *e*PP PP 14 45 48.2 +1.3
KSH *e*PCP PcP 14 45 58.0 +0.8
KSH *e*PCS 14 49 49.3
KSH *e*S **S** **14 50 26.6 -0.5**
KSH *e*SS SS 14 53 31.1 -0.8
KSH *e*SCS ScS 14 54 03.5 +0.9
KSH AMB AMB
comp=Z,50nm,0.4s,mb5.6
KSH AMB AMB
comp=Z,1μm,3.8s
KSH LR LR
comp=N,8μm,19.8s,MS5.8
KSH LR LR
comp=E,5μm,15.3s,MS5.8
WMQ Urumqi 43.20 350 P **P** **14 44 11.0 +2.0**
WMQ AP pP 14 44 18.5 +2.4
WMQ XP sP 14 44 21.8 +2.7
WMQ PP PP 14 45 53.8 +2.2
WMQ S **S** **14 50 35.9 +1.9**
WMQ AMB AMB
comp=Z,91nm,1.5s,mb5.3
WMQ AMB AMB
comp=Z,1μm,5.0s
WMQ LR LR
comp=N,4μm,15.7s,MS5.5
WMQ LR LR
comp=E,4μm,19.6s,MS5.5
WMQ LR LR
comp=Z,3μm,17.7s,MS5.2
DL2 Dalian 43.56 28⇑ P **P** **14 44 10.2 -1.8**
DL2 PP PP 14 45 57.9 +2.6
DL2 S **S** **14 50 43.8 +4.5**
DL2 AMB AMB
comp=Z,90nm,1.7s,mb5.2
DL2 AMB AMB
comp=Z,760nm,7.3s
DL2 LR LR
comp=N,1μm,16.2s,MS5.2
DL2 LR LR
comp=E,2μm,16.5s,MS5.2
DL2 LR LR
comp=Z,3μm,15.5s,MS5.3
INCN Inchon 45.03 33 *e*P **P** **14 44 22.7 -1.2**
comp=Z,479nm,1.9s,mb6.0
INCN LR LR
comp=Z,5μm,21.0s,MS5.4
KZA Kyzart 45.18 337 P **P** **14 44 26.4 +1.4**
SNR=15
AAA Alma-Ata 45.57 339 *e*P **P** **14 44 28.0 -0.1**
AAA *e* 14 46 16.0
AAA eS **S** **14 51 11.0 +2.8**
AAA pmax pmax
comp=Z,2μm,4.0s
AAA pmax pmax
comp=Z,2μm,6.0s
AAA smax
comp=E,2μm,6.0s
AAA MLR MLR
comp=Z,2μm,20.0s,MS5.0
UCH Uchtor 45.60 336 P **P** **14 44 29.8 +1.5**
SNR=52
KS15 Wonju Array Si 45.70 34 *e*P **P** **14 44 29.5 +0.3**
TKM2 Tokmak 2 45.76 338 P **P** **14 44 30.7 +1.1**
SNR=34
KBK Karagaybulak 45.79 337 P **P** **14 44 31.5 +1.7**
SNR=13
AML Almayashu 45.85 335 P **P** **14 44 32.0 +1.6**
SNR=13
AAK Ala-Archa 45.95 337 P **P** **14 44 33.4 +2.3**
SNR=8.2
AAK Ala-Archa 45.95 337 *i* P **P** **14 44 32.4 +1.3**
AAK pmax pmax
comp=Z,94nm,2.5s,mb5.3
AAK Ala-Archa 45.95 337 *e*P **P** **14 44 30.9 -0.2**
comp=Z,22nm,0.8s,mb5.1
AAK LR LR
comp=Z,1μm,19.0s,MS4.8
FRU Bishkek 46.07 337*αe*P **P** **14 44 33.3 +1.3**
FRU *e* 14 46 26.0
FRU eS **S** **14 51 19.0 +3.6**
FRU pmax pmax
comp=Z,540nm,2.8s,mb6.0
FRU MLR MLR
comp=Z,4μm,18.0s,MS5.4
FRU MLR MLR
comp=N,2μm,18.0s
CHMS Chumysh 46.16 337 P **P** **14 44 33.4 +0.6**
SNR=14
EKS2 Erkin-Say 46.26 336 P **P** **14 44 34.8 +1.2**
SNR=36
USP Ospenovka 46.48 337 P **P** **14 44 36.0 +0.8**
SNR=72
SNY Shenyang 46.79 27⇑ P **P** **14 44 37.7 0.0**
SNY AP pP 14 44 44.9 0.0
SNY XP sP 14 44 48.2 +0.4
SNY S **S** **14 51 24.0 -1.7**
SNY AMB AMB
comp=Z,980nm,14.2s
SNY LR LR
comp=N,5μm,15.7s,MS5.8
SNY LR LR
comp=E,6μm,16.2s,MS5.8
SNY LR LR
comp=Z,9μm,15.4s,MS5.8
SONM Songino Array 47.03 8 P **P** **14 44 40.3 +0.7**
comp=Z,24nm,0.7s,mb5.2,baz=192,slow=8.7,SNR=79
SONM PcP PcP 14 46 11.7 -0.3
comp=Z,6.0nm,0.4s,baz=186,slow=4.0,SNR=9.5
SONM pPcP 14 46 19.4
comp=Z,5.2nm,0.5s,baz=185,slow=3.9,SNR=5.5
ULN Ulaanbaatar 47.16 9*c i*P **P** **14 44 35.7 -4.9**
ULN Ulaanbaatar 47.16 9⇑ *i*P **P** **14 44 35.6 -5.0**
comp=Z,193nm,1.8s,mb5.7
ULN LR LR
comp=Z,9μm,21.0s,MS5.7
MKAR Makanchi Array 47.17 346 P **P** **14 44 41.1 +0.4**
MKAR pmax pmax
comp=Z,36nm,0.5s
MKAR MLR MLR
comp=Z,2μm,21.4s
MKAR Makanchi Array 47.17 346 P **P** **14 44 41.0 +0.3**
comp=Z,36nm,0.5s,mb5.6,baz=160,slow=8.1,SNR=511
MKAR LR LR 15 08 41.4
comp=Z,2μm,21.4s,MS5.1,baz=171,slow=41
KKAR Karatay Array 48.01 334 *i* P **P** **14 44 47.3 0.0**
KKAR pmax pmax
comp=Z,160nm,1.6s,mb5.8
GUMO Guam 48.64 73 *e*P **P** **14 44 50.5 -2.0**
GUMO LR LR
comp=Z,896nm,21.0s,MS4.7
ZAK Zakamensk 49.18 5⇓ *i*P **P** **14 44 56.0 -0.2**
ZAK pmax pmax
comp=Z,15nm,1.6s,mb4.8
CN2 Changchun 49.19 27 *e*P **P** **14 44 55.9 -0.5**
CN2 *e*AP pP 14 45 03.0 -0.7
CN2 *e*S **S** **14 51 59.6 +0.1**
CN2 AMB AMB
comp=Z,140nm,1.6s,mb5.7
CN2 AMB AMB
comp=Z,1μm,6.0s
CN2 LR LR
comp=N,8μm,16.0s,MS5.9
CN2 LR LR
comp=E,5μm,16.0s,MS5.9
CN2 LR LR
comp=Z,9μm,15.0s,MS5.9
MOY Mondy 50.30 3⇑ *i*P **P** **14 45 04.9 +0.1**
MOY pmax pmax
comp=Z,139nm,2.6s,mb5.5
TLY Talaya 50.50 5 *e*P **P** **14 45 07.0 +0.7**
TLY *e* 14 47 05.3
TLY eS **S** **14 52 20.1 +2.6**
TLY *e*PS PS 14 52 35.0 +6.1
TLY *e* 14 54 52.4
TLY pmax pmax
comp=Z,99nm,2.0s,mb5.5
TLY MLR MLR
comp=Z,7μm,18.0s,MS5.7
TLY MLR MLR
comp=Z,620nm,17.0s
TLY Talaya 50.50 5⇑ *i*P **P** **14 45 07.0 +0.7**
comp=Z,21nm,0.7s,mb5.3
TLY LR LR
comp=Z,2μm,19.0s,MS5.1
PMG Port Moresby 50.80 103 PFAKE 14 45 20.0 +11
PMG LR LR
comp=Z,2μm,21.0s,MS5.2
IRK Irkutsk 51.11 6 *e*P **P** **14 45 10.8 -0.2**
IRK *e* 14 47 09.6
IRK pmax pmax
comp=Z,190nm,1.8s,mb5.7
HIA Hailar 51.53 19⇑ *i*P **P** **14 45 14.1 -0.1**
comp=Z,21nm,0.6s,mb5.2
MAJO Matsushiro 51.57 42 P **P** **14 45 14.4 -0.3**
comp=Z,122nm,1.8s,mb5.5
MAJO LR LR
comp=Z,3μm,21.0s,MS5.2
MAT Matsushiro 51.57 42 *e*P **P** **14 45 14.0 -0.7**
comp=Z,31nm,1.2s,mb5.1
MAT eS **S** **14 52 47.0 +14**
MAT LR LR
comp=Z,2μm,20.0s,MS5.2
MAT Matsushiro 51.57 42 P **P** **14 45 13.5 -1.2**
MAT S **S** **14 52 40.0 +7.5**
MJAR Matsushiro Arr 51.58 42 P **P** **14 45 13.9 -0.8**
MJAR pmax pmax
comp=Z,10.0nm,0.5s
MJAR MLR MLR
comp=Z,2μm,21.4s
MJAR Matsushiro Arr 51.58 42 P **P** **14 45 13.9 -0.8**
comp=Z,9.5nm,0.5s,mb5.0,baz=213,slow=7.3,SNR=33
MJAR LR LR 15 07 21.2
comp=Z,2μm,21.4s,MS5.2,baz=235,slow=36
MJAR Matsushiro Arr 51.58 42 P **P** **14 45 13.9 -0.8**
MJAR LR LR 15 07 21.2
MDJ Mudanjiang 51.75 29 P **P** **14 45 16.3 +0.3**
MDJ AP pP 14 45 22.5 -0.7
MDJ PCP PcP 14 46 28.6 -0.6
MDJ PP PP 14 47 17.2 +2.8
MDJ SCP 14 50 22.9
MDJ PCS 14 50 27.0
MDJ S **S** **14 52 36.2 +1.3**
MDJ AMB AMB
comp=Z,61nm,1.7s,mb5.2
MDJ AMB AMB
comp=Z,1μm,6.9s
MDJ LR LR

comp=N,5μm,17.3s,MS5.7
MDJ LR LR
comp=E,3μm,18.3s,MS5.7
MDJ LR LR
comp=Z,8μm,16.4s,MS5.8
MDJ Mudanjiang 51.75 29⇑ *i* P **P 14 45 16.3 +0.4**
comp=Z,133nm,1.4s,mb5.7
CIT Chita 52.37 13 *e* P **P 14 45 21.4 +0.9**
CIT *e* 14 47 19.4
CIT *e* 14 52 45.1
CIT *e* 14 53 00.5
CIT pmax pmax
comp=Z,382nm,1.9s,mb6.0
CTA Charters Tower 52.48 117 *e* P **P 14 45 21.6 -0.1**
comp=Z,13nm,0.7s,mb5.0
CTA *e*S **S 14 52 44.5 -0.6**
CTAO Charters Tower 52.48 117 *e* P **P 14 45 20.4 -1.3**
CTAO pmax pmax
comp=Z,78nm,1.4s,mb5.5
CTAO Charters Tower 52.48 117⇑ *i* P **P 14 45 21.4 -0.3**
comp=Z,78nm,1.4s,mb5.4
CTAO LR LR
comp=Z,4μm,19.0s,MS5.5
STKA Stephens Creek 53.36 132⇑ *i* P **P 14 45 28.3 +0.2**
comp=Z,25nm,0.6s,mb5.3
STKA *e*S **S 14 52 57.7 +0.8**
STKA Stephens Creek 53.36 132 P **P 14 45 28.4 +0.3**
comp=Z,24nm,0.6s,mb5.3,baz=298,slow=6.7,SNR=92
STKA LR LR 15 10 33.7
comp=Z,6μm,21.6s,MS5.6,baz=294,slow=39
ZAL Zalesovo 53.48 351 *i* P **P 14 45 28.4 -0.3**
ZAL pmax pmax
comp=Z,42nm,0.5s
ZAL Zalesovo 53.48 351 P **P 14 45 28.1 -0.6**
comp=Z,42nm,0.5s,mb5.6,baz=310,slow=5.4,SNR=121
ZAL LR LR 15 14 22.0
comp=Z,3μm,18.1s,MS5.3,baz=297,slow=43
NVS Novosibirsk 54.60 350 *i* P **P 14 45 35.4 -1.5**
NVS *e* 14 47 37.4
NVS *i* S **S 14 53 08.6 -4.8**
NVS pmax pmax
comp=Z,33nm,2.4s,mb4.9
NVS pmax pmax
comp=N,92nm,1.8s
NVS pmax pmax
comp=E,41nm,1.4s
NVS pmax pmax
comp=Z,49nm,2.0s,mb5.2
NVS pmax pmax
comp=N,72nm,2.1s
NVS pmax pmax
comp=E,38nm,1.9s
NVS smax
comp=N,950nm,2.0s
KAMS Al Khamasin 54.80 294 P **P 14 45 44.4 +5.5**
DJNS Zahran al Janu 55.22 291 P **P 14 45 42.1 +0.2**
VOSK Vostochnaya 55.74 341 P **P 14 45 44.0 -1.2**
VOSK pmax pmax
comp=Z,58nm,1.2s,mb5.5
VOSK Vostochnaya 55.74 341 *i* P **P 14 45 44.1 -1.1**
KLR Kul'dur 56.14 27κ *i* P **P 14 45 45.0 -3.1**
KLR *e* pP 14 45 52.3 -3.1
KLR *e*S **S 14 53 31.0 -3.0**
KLR pmax pmax
comp=N,100nm,2.0s
KLR pmax pmax
comp=E,170nm,2.0s
KLR pmax pmax
comp=Z,230nm,2.0s,mb5.9
KLR pmax pmax
comp=N,700nm,6.0s
KLR pmax pmax
comp=E,600nm,6.0s
KLR pmax pmax
comp=Z,2μm,6.0s
KLR smax
comp=N,1μm,6.5s
KLR smax
comp=E,500nm,6.5s
BVA0 Borovoye Array 56.19 341 *i* P **P 14 45 47.2 -1.2**
BVA0 pmax pmax
comp=Z,16nm,1.6s,mb4.8
ZRNK Zerenda 56.59 340 *e*P **P 14 45 49.9 -1.4**
ZRNK Zerenda 56.59 340⇑ *i* P **P 14 45 49.9 -1.5**
AB31 Akbulak array 57.47 332 *i* P **P 14 45 56.4 -1.2**
AB31 pmax pmax
comp=Z,33nm,0.7s,mb5.5
BOD Bodaibo 57.91 10⇓ *i* P **P 14 45 59.8 -0.7**
BOD pmax pmax
comp=Z,61nm,1.6s,mb5.4
ASAJ Asahikawa 58.55 37 P **P 14 46 05.4 +0.2**
ASAJ pmax pmax
comp=Z,11nm,0.5s
ASAJ Asahikawa 58.55 37 P **P 14 46 05.3 +0.1**
comp=Z,11nm,0.5s,mb5.2,baz=191,slow=14,SNR=8.7
HILS Ha'il 59.07 301 P **P 14 46 15.4 +6.3**
CLNS Chul'man 59.63 17*c* *i* P **P 14 46 12.7 +0.1**
CLNS *e**PP pP 14 46 19.5 -0.5
CLNS *e* 14 46 57.2
CLNS *e* 14 48 21.7
CLNS *e*PPP PPP 14 49 45.6 -5.9
CLNS *e*S **S 14 54 22.4 +2.7**
CLNS *e*PS PS 14 54 37.0 -0.7
CLNS *e* 14 55 57.0
CLNS *e*SS SS 14 58 16.6 -0.2
CLNS pmax pmax
comp=Z,30nm,0.7s,mb5.4
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.6s
CLNS pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,1.1s
CLNS smax
comp=N,10.0nm,0.9s
CLNS smax
comp=Z,6.0nm,0.7s
CLNS smax
comp=E,7.0nm,1.0s
CLNS MLR MLR
comp=N,6μm,16.0s,MS5.8
CLNS MLR MLR
comp=E,600nm,16.0s,MS5.8
CLNS MLR MLR
comp=Z,10μm,16.0s,MS6.0
KMBO Kilima Mbogo 60.07 268 *i* P **P 14 46 16.7 +0.6**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 60.07 268 P **P 14 46 16.1 0.0**
comp=Z,0.8nm,0.3s,mb4.2,baz=55,slow=12,SNR=4.6
KMBO LR LR 15 11 09.7
comp=Z,3μm,18.2s,baz=270,slow=35
YSS Yuzh-Sakhalins 60.23 34*α* *i* P **P 14 46 16.6 -0.2**
YSS *e* 14 46 27.0
YSS *e* 14 46 35.0
YSS *e* 14 48 32.0
YSS *e*S **S 14 54 34.0 +6.5**
YSS *e*PS PS 14 54 51.0 +5.0
YSS pmax pmax
comp=N,60nm,1.3s
YSS pmax pmax
comp=Z,150nm,1.3s,mb5.9
YSS pmax pmax
comp=Z,500nm,6.0s
YSS MLR MLR
comp=E,4μm,15.0s
YSS MLR MLR
comp=Z,4μm,15.0s,MS5.6
YSS Yuzh-Sakhalins 60.23 34⇑ *i* P **P 14 46 16.7 -0.1**
comp=Z,169nm,1.4s,mb5.9
YSS LR LR
comp=Z,1μm,21.0s,MS5.0
YUK Yuzh-Kuril'sk 60.50 38 *e*P **P 14 46 09.0 -10**
YUK MLR MLR
comp=E,4μm,15.0s
YUK MLR MLR
comp=Z,6μm,15.0s,MS5.9
MAK Makhachkala 60.71 320 *e*P **P 14 46 18.0 -2.1**
MAK *e* 14 47 04.0
MAK *e* 14 48 33.0
MAK *e*PPP PPP 14 50 05.0 +1.5
MAK *i* S **S 14 54 31.5 -2.2**
MAK *i* 14 54 46.0
MAK *e*PS ScS 14 56 08.0 +2.2
MAK *e*SS SS 14 58 30.0 -3.9
MAK pmax pmax
comp=Z,500nm,4.0s
MAK smax
comp=N,1μm,6.0s
MAK smax
comp=E,500nm,6.0s
GNI Garni 61.28 316*c* *i* P **P 14 46 23.4 -0.6**
GNI pmax pmax
comp=Z,16nm,1.3s
GNI Garni 61.28 316 *e*P **P 14 46 23.2 -0.9**
comp=Z,96nm,1.3s,mb5.8
GNI LR LR
comp=Z,1μm,19.0s,MS5.0
DGRG David-gareji 61.42 318 P **P 14 46 23.6 -1.3**
DGRG S **S 14 54 44.0 +1.3**
TI2 Plekhanov 61.96 318 *i* P **P 14 46 29.0 +0.4**
TI2 *e*S **S 14 54 49.4 -0.2**
TBLG Delisi 61.97 318 P **P 14 46 27.7 -0.9**
SVE Sverdlovsk 62.63 338⇑ *i* P **P 14 46 32.1 -0.8**
SVE *e* pP 14 46 39.7 -0.6
SVE *e* 14 47 10.0
SVE *e*PPP PPP 14 50 30.0 +7.2
SVE *e*S **S 14 54 56.0 -1.9**
SVE *e* 14 56 19.0
SVE pmax pmax
comp=Z,200nm,1.9s,mb5.9
SVE pmax pmax
comp=N,200nm,4.0s
SVE pmax pmax
comp=E,100nm,4.0s
SVE pmax pmax
comp=Z,500nm,4.0s
SVE MLR MLR
comp=N,1μm,17.0s,MS5.3
SVE MLR MLR
comp=E,2μm,17.0s,MS5.3
SVE MLR MLR
comp=Z,2μm,17.0s,MS5.5
TAU Tasmania Unive 62.84 141 PFAKE 14 46 50.0 +16
TAU LR LR
comp=Z,676nm,20.0s,MS4.8
ZEI Tsey 62.98 318 *e*P **P 14 46 33.9 -1.4**
ZEI *i**PP pP 14 46 43.1 +0.4
ZEI *i* 14 48 49.9
ZEI pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
ARU Arti 63.13 337⇑ *i* P **P 14 46 34.7 -1.4**
ARU *e* 14 47 12.2
ARU *e* 14 48 54.7
ARU *e*PPP PPP 14 50 20.6 -7.1
ARU *i* S **S 14 55 04.2 +0.1**
ARU *e* 14 56 23.8
ARU *e*SS SS 14 59 09.4 -2.8
ARU pmax pmax
comp=Z,41nm,1.2s,mb5.4
ARU MLR MLR
comp=Z,2μm,18.0s,MS5.4
ARU MLR MLR
comp=N,400nm,16.5s,MS5.4
ARU MLR MLR
comp=E,2μm,17.0s,MS5.4
ARU Arti 63.13 337⇑ *i* P **P 14 46 34.6 -1.5**
comp=E,116nm,1.4s,mb5.8
ARU LR LR
comp=Z,550nm,20.0s,MS4.7
ONI Oni 63.20 318 P **P 14 46 35.6 -1.2**
HNR Honiara 63.31 101 *e*P **P 14 46 36.4 -1.5**
HNR pmax pmax
comp=Z,600nm,1.7s
HNR Honiara 63.31 101 P **P 14 46 37.1 -0.8**
comp=Z,63nm,0.7s,mb5.8,baz=174,slow=4.8,SNR=9.5
HNR Honiara 63.31 101⇑ *i* P **P 14 46 36.6 -1.2**
HNR LR LR
comp=Z,1μm,22.0s,MS5.0
KIV Kislovodsk 64.29 319*c* *i* P **P 14 46 42.9 -1.1**
KIV *e* 14 47 18.4
KIV *e* 14 49 03.7
KIV *e*PPP PPP 14 50 35.8 -4.0
KIV *i* S **S 14 55 18.5 -0.3**
KIV pmax pmax
comp=N,46nm,1.2s
KIV pmax pmax
comp=E,28nm,1.2s
KIV pmax pmax
comp=Z,74nm,1.2s,mb5.6
KIV smax
comp=N,587nm,7.7s
KIV smax
comp=E,208nm,5.1s
KIV Kislovodsk 64.29 319⇑ *i* P **P 14 46 42.8 -1.2**
comp=E,74nm,1.1s,mb5.6
KIV *e*pP pP 14 46 49.9 -1.4
KIV LR LR
comp=Z,258nm,20.0s,MS4.4
GOF Gofitskoye 64.54 320⇑ *i* P **P 14 46 42.1 -3.5**
GOF *i* S **S 14 55 18.1 -3.8**
GOF pmax pmax
comp=Z,70nm,1.7s,mb5.4
GOF smax
comp=E,800nm,5.0s
MALT Malatya 65.12 312 *e*P **P 14 46 49.0 -0.5**
MALT *e**PP pP 14 46 55.6 -1.3
MALT pmax pmax
comp=Z,39nm,1.2s,mb5.3
MALT Malatya 65.12 312 *e*P **P 14 46 49.0 -0.5**
comp=Z,38nm,1.2s,mb5.3
MALT *e*pP pP 14 46 55.6 -1.3
YAK Yakutsk 65.31 16*c* *i* P **P 14 46 49.5 -0.8**
YAK *e**PP pP 14 46 59.8 +2.1
YAK *e* 14 47 21.7
YAK *e* 14 49 11.5
YAK *e*PPP PPP 14 50 45.9 -4.6
YAK *i* S S 14 55 31.2 +0.2
YAK *e* 14 56 35.8
YAK *e*SS SS 14 59 44.6 -1.3
YAK pmax pmax
comp=Z,95nm,1.2s,mb5.7
YAK pmax pmax
comp=N,33nm,1.1s
YAK pmax pmax
comp=E,35nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax
comp=N,6.0nm,1.6s
YAK smax
comp=E,2.0nm,1.5s
YAK MLR MLR
comp=Z,4μm,17.0s,MS5.6
YAK MLR MLR
comp=N,2μm,16.0s,MS5.6
YAK MLR MLR
comp=E,2μm,17.0s,MS5.6
YAK Yakutsk 65.31 16⇑ *i* P **P 14 46 49.2 -1.1**
comp=E,122nm,0.8s,mb6.0
YAK LR LR
comp=Z,5μm,22.0s,MS5.7
EIL Elat 65.47 302 *e*P **P 14 46 50.8 -1.0**
comp=Z,98nm,1.5s,mb5.6
EIL *e*pP pP 14 46 57.7 -1.5
EIL Elat 65.47 302 P **P 14 46 50.5 -1.4**
ZFRI Zfri 65.49 303 P **P 14 46 51.6 -0.3**
MBH Mount Berech 65.53 302 P **P 14 46 51.2 -1.0**
KSHT Keshet 65.57 306 P **P 14 46 53.2 +0.7**
PRNI Paran 65.58 303 P **P 14 46 51.6 -1.0**
MMLI Mount Malkishu 65.75 305 P **P 14 46 54.3 +0.7**
KMTI Karmit 65.76 303 P **P 14 46 52.5 -1.2**
SOKR Solikamsk 66.03 339*c* *i* P **P 14 46 51.6 -3.3**
SOKR *e* 14 47 01.1
SOKR pmax pmax
comp=Z,40nm,1.2s,mb5.3
SOKR MLR MLR
comp=Z,2μm,19.0s,MS5.4
SOC Sochi 66.10 318*c* *i* P **P 14 46 53.4 -2.2**
SOC *e* 14 47 19.4
SOC *e*PPP PPP 14 51 02.5 +3.8
SOC *i* S S 14 55 37.0 -4.1
SOC *e*SS SS 14 59 49.7 -8.5
SOC pmax pmax
comp=Z,56nm,1.1s,mb5.5
SOC pmax pmax
comp=N,51nm,1.6s
SOC pmax pmax
comp=E,64nm,2.0s
SOC pmax pmax
comp=Z,465nm,4.4s
SOC Sochi 66.10 318⇑ *i* P **P 14 46 53.6 -2.0**
KZIT Kziot 66.22 303 P **P 14 46 56.5 -0.1**
MBAR Mbarara 66.56 269 *e*P **P 14 46 58.1 -1.0**
comp=Z,53nm,1.4s,mb5.4
MBAR *e*pP pP 14 47 05.2 -1.3
MBAR LR LR
comp=Z,247nm,20.0s,MS4.4
MIR Mirnyy 67.76 182 *e*P **P 14 47 05.0 -0.8**
MIR pmax pmax
comp=Z,29nm,1.4s,mb5.1
CSS Prodhromos 68.07 307 *e*P **P 14 47 07.4 -0.9**
comp=Z,14nm,0.8s,mb5.1
CASY Casey 68.08 174 *e*P **P 14 47 08.1 +0.3**
BR131 Keskin Array S 69.11 312 *e*P **P 14 47 12.6 -2.0**
comp=Z,2.3nm,0.6s,mb4.3
BR131 *e*pP pP 14 47 19.9 -2.1
BR131 LR LR
comp=Z,484nm,20.0s,MS4.7
BRTR Keskin Array B 69.11 312 P **P 14 47 13.1 -1.5**
BRTR *PP pP 14 47 20.0 -2.0
BRTR pmax pmax
comp=Z,2.0nm,0.5s
BRTR pmax pmax
comp=Z,24nm,1.2s
BRTR Keskin Array B 69.11 312 P **P 14 47 13.1 -1.5**
comp=Z,2.2nm,0.5s,mb4.3,baz=138,slow=6.5,SNR=16
BRTR pP pP 14 47 19.9 -2.0
comp=Z,24nm,1.2s,baz=135,slow=5.2,SNR=15
PECR Pechory 69.37 332 *i* P **P 14 47 14.6 -1.3**
PECR *i* pP 14 47 22.4 -0.9
PECR *e* 14 49 50.0
PECR *e*S S 14 56 16.0 -3.9
PECR *e* 14 57 02.0
PECR pmax pmax
comp=Z,170nm,2.0s,mb5.6
PECR pmax pmax
comp=Z,400nm,4.0s
PECR smax
comp=N,600nm,8.0s
PECR smax
comp=E,700nm,7.0s
PECR MLR MLR
comp=Z,700nm,20.0s,MS4.9
PECR MLR MLR
comp=N,500nm,18.0s
SKR Severo-Kuril's 69.74 35 *e*P **P 14 47 15.0 -3.2**
SKR *e* pP 14 47 24.4 -1.2
SKR *e*S S 14 56 28.0 +3.7
SKR *e*PS PS 14 56 50.0 -3.9
SKR *e* 14 57 12.0
SKR pmax pmax
comp=Z,80nm,0.5s,mb5.9
SKR pmax pmax
comp=Z,2μm,0.6s
SKR smax
comp=N,3μm,14.0s
SKR smax
comp=E,3μm,14.0s
SKR MLR MLR
comp=N,3μm,20.0s,MS5.7
SKR MLR MLR
comp=E,3μm,20.0s,MS5.7
SKR MLR MLR
comp=Z,3μm,20.0s,MS5.5
VOR Voronezh 69.74 326 *e*P **P 14 47 16.5 -1.7**
VOR *e**PP pP 14 47 24.5 -1.1
VOR pmax pmax
comp=Z,100nm,1.8s,mb5.4
WAKE Wake Island 70.13 70 PFAKE 14 47 30.0 +8.9
WAKE LR LR
comp=Z,2μm,19.0s,MS5.3
LSZ Lusaka 70.21 253 *e*P **P 14 47 20.9 -0.7**
comp=Z,120nm,2.1s,mb5.5
LSZ LR LR
comp=Z,3μm,19.0s,MS5.5
SIM Simferopol' 70.35 318 *e*P **P 14 47 21.2 -0.9**
KWAJ Kwajalein Atol 70.37 81 PFAKE 14 47 30.0 +7.3
KWAJ LR LR
comp=Z,211nm,19.0s,MS4.4
MATP Matopo 70.63 248 LR LR 15 14 45.1
comp=Z,2μm,18.5s,MS5.4,baz=47,slow=33
ISP Isparta 70.98 310 *i* P **P 14 47 25.1 -0.9**
ISP Isparta 70.98 310 *i* P **P 14 47 25.2 -0.8**
MA2 Magadan 71.22 26 *e*P **P 14 47 26.3 -0.8**
MA2 *e* 14 50 01.0
MA2 *e*PPP PPP 14 51 53.9 +5.6
MA2 *i* S S 14 56 40.7 -0.8
MA2 *e*SS SS 15 01 22.4 +4.9
MA2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MA2 MLR MLR
comp=Z,6μm,20.0s,MS5.8
MA2 Magadan 71.22 26 *e*P **P 14 47 27.1 0.0**
MA2 LR LR
comp=Z,2μm,19.0s,MS5.4
DZM Mont Dzumac 71.25 114 P **P 14 47 28.6 +0.7**
comp=Z,10nm,0.8s,mb4.8,baz=65,slow=20,SNR=3.1
PET Petropavlovsk 72.12 34*α* *i* P **P 14 47 32.5 -0.1**
PET *e* 14 47 43.2
PET *e* 14 50 09.6
PET *e*S S 14 56 55.9 +4.0
PET *e* 14 57 34.4
PET pmax pmax
comp=Z,60nm,0.5s,mb5.8
PET pmax pmax
comp=Z,900nm,6.7s
PET pmax pmax
comp=N,300nm,5.8s
PET pmax pmax
comp=E,300nm,5.6s
PET pmax pmax
comp=Z,800nm,17.0s
PET pmax pmax
comp=E,300nm,16.0s
PET smax
comp=N,900nm,19.8s
PET smax
comp=E,1μm,20.6s
PET MLR MLR
comp=Z,2μm,17.0s,MS5.5
PET MLR MLR
comp=E,2μm,18.0s,MS5.6
PET MLR MLR
comp=N,1μm,16.0s,MS5.6
PET MLR MLR
comp=Z,2μm,15.0s
PET MLR MLR
comp=N,1μm,16.0s
PET MLR MLR
comp=E,2μm,16.0s
PET Petropavlovsk 72.12 34⇑ *i* P **P 14 47 32.2 -0.4**
comp=E,44nm,0.4s,mb5.7
PET LR LR
comp=Z,1μm,20.0s,MS5.2
MOS Moscow 72.30 329 *e*P **P 14 47 32.1 -1.5**
MOS *e* pP 14 47 39.4 -1.6
MOS *e* 14 50 11.0
MOS *e*S S 14 56 50.3 -3.6
MOS pmax pmax
comp=Z,500nm,2.6s,mb6.0
MOS smax
comp=N,1μm,4.2s
MOS MLR MLR
comp=Z,1μm,2.2s
MOS Moscow 72.30 329 *e*P **P 14 47 32.2 -1.4**
OBN Obninsk 72.58 328*c* *i* P **P 14 47 33.9 -1.4**
OBN *e* 14 50 17.0
OBN *i* S S 14 56 56.7 -0.5
OBN pmax pmax
comp=Z,92nm,1.7s,mb5.4
OBN MLR MLR
comp=Z,800nm,25.0s,MS4.9
OBN Obninsk 72.58 328 *e*P **P 14 47 33.8 -1.4**
comp=Z,81nm,1.1s,mb5.6
OBN LR LR
comp=Z,314nm,21.0s,MS4.6
MAW Mawson 72.81 193 P **P 14 47 37.1 +0.7**
comp=Z,19nm,1.1s,mb5.0,baz=43,slow=5.9,SNR=4.9

MAW LR LR 15 16 09.6
comp=Z,2µm,18.2s,MS5.5,baz=44,slow=33
MAW Mawson 72.81 193 *eP* **P** **14 47 39.4 +3.0**
comp=Z,13nm,1.0s,mb4.8
MAW LR LR
comp=Z,396nm,20.0s,MS4.7
TIXI Tiksi 73.09 10 *eP* **P** **14 47 32.8 -5.1**
TIXI *eS* S 14 56 57.1 -5.5
TIXI pmax pmax
comp=Z,51nm,1.6s,mb5.2
TIXI MLR MLR
comp=Z,6µm,16.0s,MS5.9
TIXI Tiksi 73.09 10 *i* P P **14 47 37.1 -0.8**
TIXI LR LR
comp=Z,2µm,22.0s,MS5.3
SEY Seymchan 73.65 23 *i* P **P** **14 47 41.6 +0.2**
SEY 14 47 55.8
SEY 14 50 28.8
SEY PPP PPP 14 52 13.6 +1.8
SEY *eS* S 14 57 14.1 +5.1
SEY 14 57 36.2
SEY pmax pmax
comp=N,20nm,0.8s
SEY pmax pmax
comp=Z,20nm,0.8s,mb5.1
SEY pmax pmax
comp=E,5.0nm,0.5s
SEY smax
comp=N,1µm,11.0s
SEY smax
comp=E,350nm,6.7s
SEY MLR MLR
comp=Z,8µm,18.0s,MS6.0
SEY MLR MLR
comp=N,4µm,20.0s,MS5.9
SEY MLR MLR
comp=E,4µm,17.0s,MS5.9
SEY Seymchan 73.65 23 *i* P **P** **14 47 41.3 -0.1**
LBTB Lobatse 73.99 244 P **P** **14 47 44.5 +0.4**
LBTB pmax pmax
comp=Z,33nm,1.2s,mb5.1
LBTB Lobatse 73.99 244 LR LR 15 18 37.6
comp=Z,2µm,18.3s,MS5.5,baz=85,slow=34
LBTB Lobatse 73.99 244 *eP* **P** **14 47 43.8 -0.3**
comp=Z,33nm,1.2s,mb5.1
LBTB LR LR
comp=Z,2µm,19.0s,MS5.4
TIRR Tirgusor 74.11 316 P **P** **14 47 43.8 -0.6**
DRV Dumont d'Urvil 74.21 164 S S 14 57 25.0 +10
DRV SS SS 15 01 43.0 -20
KIS Kishinev 74.48 319 *eP* **P** **14 47 44.0 -2.5**
KIS *eS* S 14 57 14.0 -4.6
KIS MLR MLR
comp=Z,600nm,18.0s,MS4.9
KIS MLR MLR
comp=N,400nm,17.0s
KIS MLR MLR
comp=Z,500nm,18.0s
SANT Santorini 74.63 307 *eP* **P** **14 47 47.5 -0.1**
comp=Z,51nm,1.3s,mb5.3
APE Apeiranthos 74.70 308 *i* P **P** **14 47 48.0 0.0**
APE Apeiranthos 74.70 308 *i* P **P** **14 47 48.1 +0.1**
BOSA Boshof 74.89 240 P **P** **14 47 49.3 +0.1**
BOSA *PP pP 14 47 55.7 -1.0
BOSA pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BOSA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BOSA Boshof 74.89 240 P **P** **14 47 49.3 +0.1**
comp=Z,10nm,1.1s,mb4.7,baz=93,slow=6.5,SNR=8.6
BOSA pP pP 14 47 55.7 -1.0
comp=Z,9.8nm,1.0s,baz=82,slow=7.4,SNR=6.9
BOSA LR LR 15 15 34.8
comp=Z,2µm,19.9s,MS5.4,baz=64,slow=32
BOSA Boshof 74.89 240 *eP* **P** **14 47 48.8 -0.5**
comp=Z,31nm,1.3s,mb5.1
BOSA LR LR
comp=Z,2µm,21.0s,MS5.4
AKASG Malin Array Be 75.23 322 P **P** **14 47 49.3 -1.5**
AKASG *PP pP 14 47 56.2 -2.0
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 75.23 322 P **P** **14 47 49.3 -1.4**
comp=Z,4.7nm,0.7s,mb4.5,baz=88,slow=4.8,SNR=39
AKASG pP pP 14 47 56.2 -2.0
comp=Z,6.0nm,0.5s,baz=82,slow=5.1,SNR=13
AKASG Malin Array Be 75.23 322 P **P** **14 47 49.3 -1.4**
AKASG pP pP 14 47 56.2 -2.0
VRI Vrincioaia 75.60 317 P **P** **14 47 52.9 -0.1**
MLR Muntele Rosu 76.05 317 P **P** **14 47 55.5 0.0**
BURAR Bucovina Array 77.01 319 P **P** **14 48 01.3 +0.5**
MNK Minsk 77.12 326 *eP* **P** **14 47 58.0 -3.3**
VTS Vitosha 77.42 313 P **P** **14 48 02.6 -0.6**
LVV L'vov 78.25 321 *eP* **P** **14 48 07.3 -0.3**
LVV *e* 14 51 05.5
LVV *eS* S 14 57 56.1 -3.6
LVV *eSS* SS 15 02 58.6 -6.5
DRGR 78.52 317 P **P** **14 48 09.6 +0.5**
BOLS Boljevac 78.53 314 ⇓ *iP* **P** **14 48 08.0 -1.2**
SKO Skopje 78.62 312 *eP* **P** **14 48 11.0 +1.2**
LVZ Lovozero 78.78 340 *i* P **P** **14 48 10.1 0.0**
LVZ pmax pmax
comp=Z,42nm,1.7s,mb5.1
KWP Kalwaria 79.05 320 *eP* **P** **14 48 12.2 +0.2**
KWP *e* pP 14 48 19.5 0.0
KWP Kalwaria 79.05 320 *eP* **P** **14 48 12.2 +0.2**
KWP *e* pP 14 48 19.5 -0.1
APA Apatity 79.07 339 ⇑ *iP* **P** **14 48 11.0 -0.7**
APA *i* pP 14 48 20.0 +0.7
APA *ePPP* PPP 14 53 00.0 -2.8
APA *i* S S 14 58 09.0 +0.9
APA *e* 14 58 20.0
APA *eSSS* SSS 15 06 36.0 -0.2
APA pmax pmax
comp=Z,25nm,1.2s,mb5.0
APA pmax pmax
comp=Z,700nm,4.0s
UZH Uzhgorod 79.13 319 *eP* **P** **14 48 13.0 +0.6**
UZH *eS* S 14 58 06.0 -3.2
KOLS Kolonicke sedl 79.20 320 *eP* **P** **14 48 13.2 +0.4**
KOLS *eS* S 14 58 12.8 +2.9
RPZ Rata Peaks 79.22 135 P **P** **14 48 13.6 +0.6**
comp=Z,16nm,0.5s,mb5.2,baz=232,slow=21,SNR=18
SUR Sutherland 79.28 237 LR LR 15 19 48.7
comp=Z,2µm,18.4s,MS5.5,baz=89,slow=33
SUR Sutherland 79.28 237 *eP* **P** **14 48 14.9 +1.3**
comp=Z,72nm,1.4s,mb5.4
SUR LR LR
comp=Z,688nm,19.0s,MS5.0
SUW Suwalki 79.64 325 *eP* **P** **14 48 14.6 -0.5**
SUW *e* pP 14 48 21.8 -0.9
SUW Suwalki 79.64 325 *eP* **P** **14 48 14.6 -0.6**
SUW *e* pP 14 48 21.8 -0.8
CRVS Cervenica-Dubn 79.72 319 *eP* **P** **14 48 16.1 +0.5**
CRVS *i* S S 14 58 14.5 -0.8
STHS Stebnicka Huta 79.95 320 *eP* **P** **14 48 17.6 +0.8**
FINES FINESS Array B 79.95 332 P **P** **14 48 16.2 -0.4**
FINES *PP pP 14 48 23.3 -0.9
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 79.95 332 P **P** **14 48 16.2 -0.4**
comp=Z,5.1nm,0.6s,mb4.6,baz=113,slow=5.8,SNR=26
FINES pP pP 14 48 23.3 -0.9
comp=Z,4.3nm,0.5s,baz=117,slow=6.2,SNR=7.8
FINES LR LR 15 30 36.1
comp=Z,960nm,18.6s,MS5.2,baz=291,slow=41
DIVS Divcibare 79.98 314 ⇓ *iP* **P** **14 48 16.5 -0.6**
KAF Kangasniemi 80.04 333 *ep* **P** **14 48 16.1 -1.0**
comp=Z,9.6nm,0.7s,mb4.8,baz=102,slow=5.0
KAF Kangasniemi 80.04 333 *eP* **P** **14 48 16.1 -1.0**
KAF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
SYO Syowa Base 80.11 198 ⇓ P **P** **14 48 17.0 -0.3**
SYO Syowa Base 80.11 198 ⇓ PcP PcP 14 48 24.0 -1.0
KECS Kecovo 80.29 319 *eP* **P** **14 48 18.7 0.0**
FX1 Attu Island--F 80.47 37 P **P** **14 48 20.4 +0.8**
FX1 pmax pmax
comp=Z,31nm,0.5s
FX1 Attu Island--F 80.47 37 P **P** **14 48 20.4 +0.8**
comp=Z,31nm,0.5s,mb5.5,baz=321,slow=3.2,SNR=36
FX1 Attu Island--F 80.47 37 *eP* **P** **14 48 20.1 +0.5**

NIE Niedzica 80.55 320 *eP* **P** **14 48 20.9 +0.9**
PSZ Piszkesteto 80.59 318 P **P** **14 48 20.7 +0.4**
PSZ Piszkesteto 80.59 318 *eP* **P** **14 48 20.2 -0.1**
TSUM Tsumeb 80.69 250 *eP* **P** **14 48 22.3 +1.0**
comp=Z,21nm,1.1s,mb5.0
TSUM LR LR
comp=Z,1µm,19.0s,MS5.2
OJC Ojcow 81.00 321 ⇑ *eP* **P** **14 48 22.4 0.0**
OJC *eS* S 14 58 27.7 -1.0
OJC MLR MLR 15 30 37.0
comp=Z,1µm,20.7s,MS5.2
BILL Bilibino 81.06 21*c* *iP* **P** **14 48 21.8 -0.5**
BILL *eS* S 14 58 27.8 -1.0
BILL pmax pmax
comp=Z,43nm,1.7s,mb5.1
BILL MLR MLR
comp=Z,5µm,19.0s,MS5.9
BILL Bilibino 81.06 21 ⇑ *iP* **P** **14 48 21.7 -0.6**
comp=Z,26nm,1.3s,mb5.0
BILL LR LR
comp=Z,4µm,22.0s,MS5.8
VYHS Vyhne 81.38 319 *eP* **P** **14 48 24.6 +0.2**
VYHS *i* S S 14 58 33.0 +0.5
TIP Timpagrande 81.83 309 P **P** **14 48 26.4 -0.6**
TIP *epP* pP 14 48 34.3 -0.2
OKC Ostrava-Krasne 82.00 320 *eP* **P** **14 48 27.5 -0.1**
OKC *epP* pP 14 48 34.9 -0.3
OKC *eS* S 14 58 38.8 -0.2
OKC AMS AMS 15 34 30.0
comp=Z,700nm,17.4s
RAC Raciborz 82.00 320 *eP* **P** **14 48 28.4 +0.8**
RAC *eS* S 14 58 41.6 +2.6
RAC LR LR
comp=Z,900nm,19.3s,MS5.2
RAC Raciborz 82.00 320 *eP* **P** **14 48 28.4 +0.8**
RAC *e* 14 48 42.4
RAC *eS* S 14 58 41.6 +2.6
RAC MLR MLR 15 34 15.2
comp=Z,900nm,19.3s,MS5.2
KEV Kevo 82.04 341 *eP* **P** **14 48 27.5 0.0**
comp=Z,42nm,1.5s,mb5.2
KEV LR LR
comp=Z,2µm,19.0s,MS5.5
MORC Moravsky Berou 82.38 320 P **P** **14 48 30.0 +0.4**
MORC pmax pmax
comp=Z,34nm,1.2s,mb5.2
MORC Moravsky Berou 82.38 320 ⇑ *iP* **P** **14 48 29.8 +0.2**
comp=Z,34nm,1.3s,mb5.1
ARCES ARCESS Array B 82.48 340 P **P** **14 48 29.7 0.0**
ARCES *PP pP 14 48 37.3 0.0
ARCES pmax pmax
comp=Z,5.0nm,0.6s
ARCES pmax pmax
comp=Z,5.0nm,0.5s
ARCES MLR MLR
comp=Z,2µm,20.1s
ARCES ARCESS Array B 82.48 340 P **P** **14 48 29.7 0.0**
comp=Z,4.6nm,0.6s,mb4.6,baz=100,slow=3.7,SNR=48
ARCES pP pP 14 48 37.2 0.0
comp=Z,5.1nm,0.5s,baz=100,slow=4.2,SNR=8.0
ARCES LR LR 15 29 36.9
comp=Z,2µm,20.1s,MS5.5,baz=219,slow=39
ARE0 ARCESS Array S 82.48 340 ⇑ *iP* **P** **14 48 30.0 +0.3**
ZST Bratislava 82.49 318 *eP* **P** **14 48 30.6 +0.4**
ZST *i* S S 14 58 44.3 +0.4
KTK1 Kautokeino 83.11 340 ⇑ *iP* **P** **14 48 34.0 +1.0**
comp=Z,66nm,1.5s,mb5.4
KTK1 Kautokeino 83.11 340 ⇑ *iP* **P** **14 48 34.0 +1.0**
KTK1 AMb AMB 14 48 45.4
comp=Z,66nm,1.5s,mb5.4
DPC Dobruska-Polom 83.23 320 *eP* **P** **14 48 34.8 +0.8**
DPC *epP* pP 14 48 41.5 -0.1
DPC *eS* S 14 58 54.1 +2.7
DPC AMS AMS 15 31 30.0
comp=Z,800nm,20.4s
KSP Ksiaz 83.30 321 ⇑ *eP* **P** **14 48 34.6 +0.3**
KSP *epP* pP 14 48 41.7 -0.2
KSP *eS* S 14 58 51.5 -0.6
KSP LR LR
comp=Z,2µm,21.5s,MS5.4
DOBS Dobrina 83.39 316 *eP* **P** **14 48 35.1 +0.2**
UPC Upice 83.44 321 *eP* **P** **14 48 35.5 +0.4**
UPC *epP* pP 14 48 42.7 0.0
ARSA Arzberg 83.45 317 ⇑ *iP* **P** **14 48 35.3 +0.1**
comp=Z,21nm,1.6s,mb4.9
BOJS Bojanci 83.49 315 *iP* **P** **14 48 35.4 0.0**
PERS Pernice 83.67 317 *eP* **P** **14 48 36.5 +0.2**
PDKS Podkum 83.71 316 *eP* **P** **14 48 36.9 +0.4**
LJU Ljubljana 84.03 316 *eP* **P** **14 48 38.5 +0.3**
OBKA Obir 84.06 316 ⇑ *iP* **P** **14 48 38.4 +0.1**
comp=Z,15nm,1.2s,mb5.0
PRU Pruhonice 84.34 320 *eP* **P** **14 48 40.2 +0.6**
PRU *epP* pP 14 48 47.1 -0.1
PRU *eS* S 14 59 04.0 +1.5
PRU AMS AMS 15 32 20.0
comp=Z,800nm,19.2s
MOA Molln 84.35 318 ⇑ *iP* **P** **14 48 40.8 +1.1**
comp=Z,13nm,0.9s,mb5.1
PVCC Panska Ves 84.36 320 *eP* **P** **14 48 40.0 +0.3**
PVCC *epP* pP 14 48 47.4 +0.1
PVCC AMS AMS 15 32 10.0
comp=Z,900nm,19.6s
GORS Gorjuse 84.42 316 *eP* **P** **14 48 40.1 0.0**
VOY Vojsko 84.47 316 *eP* **P** **14 48 40.3 -0.1**
VOY *e* pP 14 48 47.4 -0.6
VOY *e* 14 48 54.3
CADS Cadrg 84.59 316 *eP* **P** **14 48 40.7 -0.2**
AQU L'Aquila 84.60 312 P **P** **14 48 48.7 +7.6**
AQU pmax pmax
comp=Z,64nm,1.1s,mb5.7
AQU L'Aquila 84.60 312 *eP* **P** **14 48 41.0 -0.1**
comp=Z,64nm,1.1s,mb5.7
AQU *epP* pP 14 48 48.9 +0.1
TRO Tromso 84.74 340 *eP* **P** **14 48 39.1 -2.1**
TRO LR LR
comp=Z,1647µm,17.8s
TRO Tromso 84.74 340 *eP* **P** **14 48 39.1 -2.1**
TRO *eSKSa* 14 59 01.9
TRO *eSS* SS 15 04 38.9 -2.2
TRO AMS AMS 15 31 00.6
comp=Z,2µm,17.8s,MS5.5
BRG Berggiesshubel 84.79 321 *eP* **P** **14 48 42.4 +0.6**
BRG *e*PP* pP 14 48 49.5 +0.1
BRG S S 14 59 08.0 +1.1
BRG pmax pmax
comp=Z,27nm,1.5s,mb5.2
BRG pmax pmax
comp=Z,31nm,1.3s,mb5.3
BRG MLR MLR
comp=N,740nm,19.3s,MS5.2
BRG MLR MLR
comp=E,600nm,21.9s,MS5.2
BRG MLR MLR
comp=Z,650nm,17.4s,MS5.1
BRG Berggiesshubel 84.79 321 *eP* **P** **14 48 42.4 +0.6**
comp=Z,27nm,1.5s,mb5.2
BRG *epP* pP 14 48 49.5 0.0
BRG S S 14 59 08.0 +1.1
BRG LR LR
comp=Z,650nm,17.4s,MS5.1
GEC2 GERESS Array S 84.80 319 P **P** **14 48 42.2 +0.3**
GEC2 pmax pmax
comp=Z,59nm,1.6s,mb5.5
GEC2 GERESS Array S 84.80 319 *eP* **P** **14 48 42.2 +0.3**
comp=Z,59nm,1.6s,mb5.5
GERES GERESS Array B 84.80 319 P **P** **14 48 42.2 +0.3**
GERES *PP pP 14 48 49.4 -0.1
GERES pmax pmax
comp=Z,5.0nm,1.0s
GERES pmax pmax
comp=Z,22nm,1.1s
GERES GERESS Array B 84.80 319 P **P** **14 48 42.2 +0.3**
comp=Z,4.7nm,0.9s,mb4.6,baz=90,slow=2.7,SNR=31
GERES pP pP 14 48 49.4 -0.1
comp=Z,22nm,1.1s,baz=90,slow=2.7,SNR=21
KHC Kasperske Hory 84.90 319 *eP* **P** **14 48 41.7 -0.7**
KHC *epP* pP 14 48 49.2 -0.8
KHC *eS* S 14 59 09.0 +1.0
KHC AMS AMS 15 32 40.0
comp=Z,700nm,19.1s
KBA Koelnbreinsper 84.92 317 ⇑ *iP* **P** **14 48 42.2 -0.4**
comp=Z,13nm,1.0s,mb5.0
MIDW Midway 85.30 62 PFAKE 14 49 00.0 +15
MIDW LR LR
comp=Z,602nm,20.0s,MS5.0

WET Wettzell 85.36 319 P **P** **14 48 44.8 +0.1**
WET pmax pmax
comp=Z,35nm,1.5s,mb5.3
WET Wettzell 85.36 319 *eP* **P** **14 48 44.8 +0.1**
comp=Z,35nm,1.5s,mb5.3
CLL Collm 85.41 321 ⇑ *iP* **P** **14 48 44.8 -0.1**
CLL *i* *PP pP 14 48 52.0 -0.5
CLL *eS* S 14 59 13.0 0.0
CLL pmax pmax
comp=Z,17nm,1.2s,mb5.0
CLL Collm 85.41 321 ⇑ *iP* **P** **14 48 44.8 -0.1**
comp=Z,17nm,1.2s,mb5.0
CLL *i* pP pP 14 48 52.0 -0.5
CLL *eS* S 14 59 13.0 0.0
CLL Collm 85.41 321 ⇑ P **P** **14 48 44.8 -0.1**
comp=Z,logA/T=1.2,mb5.1
CLL *i* *PP pP 14 48 52.0 -0.5
CLL *i* *SP sP 14 48 56.0 +1.0
CLL *ePPP* PPP 14 53 47.0 -14
CLL *eS* S 14 59 13.0 0.0
CLL *ePS* PS 15 00 12.0 -1.6
CLL *e* 15 01 32.0
CLL *e* 15 11 24.0
NKC Novy Kostel 85.70 320 *eP* **P** **14 48 47.2 +0.8**
NKC *epP* pP 14 48 54.1 +0.1
NKC *eS* S 14 59 18.3 +2.5
NKC AMS AMS 15 35 10.0
comp=Z,900nm,17.5s
VNDA Vanda 85.90 169 P **P** **14 48 48.0 +1.1**
comp=Z,3.8nm,1.1s,mb4.5,baz=299,slow=6.4,SNR=8.3
VNDA LR LR 15 24 35.0
comp=Z,2µm,19.0s,MS5.5,baz=307,slow=34
VNDA Vanda 85.90 169 *eP* **P** **14 48 48.2 +1.3**
comp=Z,25nm,1.4s,mb5.2
VNDA LR LR
comp=Z,2µm,19.0s,MS5.5
MOR8 Moi Rana 85.92 336 *eP* **P** **14 48 47.4 +0.3**
comp=Z,45nm,1.4s,mb5.5
MOR8 Moi Rana 85.92 336 *eP* **P** **14 48 47.4 +0.3**
MOR8 *epP* pP 14 48 54.6 -0.2
MOR8 AMb AMB 14 49 03.9
comp=Z,45nm,1.4s,mb5.5
COP Copenhagen 86.03 326 *i* P **P** **14 48 47.8 -0.1**
COP *i* S S 14 59 18.7 -0.1
COP MLR MLR
comp=Z,570nm,18.0s,MS5.0
COP Copenhagen 86.03 326 *i* S S 14 59 18.7 -0.1
comp=Z,560nm,18.0s
RAO Raoul Island 86.09 119 PFAKE 14 49 00.0 +11
RAO LR LR
comp=Z,2µm,21.0s,MS5.5
WTTA Wattenberg 86.09 317 ⇑ *iP* **P** **14 48 48.0 -0.4**
comp=Z,9.6nm,0.7s,mb5.1
MOX Moxa 86.25 320 *eP* **P** **14 48 49.4 +0.3**
MOX *e* pP 14 48 56.5 -0.2
MOX pmax pmax
comp=Z,33nm,1.5s,mb5.3
MOX MLR MLR
comp=Z,800nm,20.0s,MS5.1
MOX Moxa 86.25 320 *eP* **P** **14 48 49.4 +0.3**
comp=Z,33nm,1.5s,mb5.3
MOX *e* pP 14 48 56.5 -0.2
MOX LR LR
comp=Z,800nm,20.0s,MS5.1
MOX Moxa 86.25 320 *i* P **P** **14 48 49.4 +0.3**
MOX pP pP 14 48 56.0 -0.7
MOX S S 14 59 23.0 +1.9
MOX L 15 35 50.0
MOTA Moosalm 86.46 317 ⇑ *iP* **P** **14 48 49.9 -0.3**
comp=Z,2.5nm,0.5s,mb4.7
GRA1 Grafenberg Arr 86.46 320 *eP* **P** **14 48 50.6 +0.4**
comp=Z,44nm,1.5s,mb5.5
GRA1 *epP* pP 14 48 57.6 -0.2
GRA1 LR LR
comp=Z,1µm,21.6s,MS5.2
GRF Grafenberg Arr 86.46 320 P **P** **14 48 50.6 +0.4**
GRF pmax pmax
comp=Z,44nm,1.5s,mb5.5
GRF Grafenberg Arr 86.46 320 *eP* **P** **14 48 50.6 +0.4**
comp=Z,44nm,1.5s,mb5.5
GRF *epP* pP 14 48 57.6 -0.2
GRF LR LR
comp=Z,1µm,21.6s,MS5.2
GRFO Grafenberg 86.47 320 P **P** **14 48 50.9 +0.7**
NSS Namsos 86.82 334 *eP* **P** **14 48 50.8 -0.8**
NSS *epP* pP 14 48 59.5 +0.4
NSS AMS AMS 15 34 15.4
comp=Z,2µm,14.7s,MS5.5
NB2 NORSAR Subarra 86.97 331 P **P** **14 48 52.1 -0.2**
comp=Z,58nm,1.7s,mb5.5,baz=95,slow=4.8
NB2 NORSAR Subarra 86.97 331 P **P** **14 48 52.1 -0.2**
baz=95,slow=4.8
NORA NORSAR Array B 86.97 331 P **P** **14 48 52.3 -0.1**
NOA *PP pP 14 48 59.4 -0.6
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 86.97 331 P **P** **14 48 52.3 -0.1**
comp=Z,3.0nm,0.7s,mb4.6,baz=95,slow=4.9,SNR=15
NOA pP pP 14 48 59.4 -0.6
comp=Z,0.7nm,0.6s,baz=166,slow=21,SNR=3.3
NOA LR LR 15 33 42.2
comp=Z,997nm,20.7s,MS5.2,baz=45,slow=40
SBA Scott Base 87.00 169 P **P** **14 48 54.7 +2.5**
SBA pmax pmax
comp=Z,23nm,1.0s,mb5.4
SBA Scott Base 87.00 169 *eP* **P** **14 48 54.1 +1.9**
comp=Z,23nm,1.0s,mb5.3
SBA LR LR
comp=Z,1µm,19.0s,MS5.4
CLZ Clausthal 87.08 322 P **P** **14 48 52.8 -0.3**
CLZ pmax pmax
comp=Z,41nm,1.6s,mb5.4
CLZ Clausthal 87.08 322 *eP* **P** **14 48 52.8 -0.3**
comp=Z,41nm,1.6s,mb5.4
NAO01 NORSAR Array S 87.12 331 *eP* **P** **14 48 52.7 -0.4**
comp=Z,7.8nm,1.0s,mb4.9
NAO01 *epP* pP 14 49 00.5 -0.2
NAO01 LR LR
comp=Z,1µm,21.0s,MS5.3
BSEG Bad Segeberg 87.17 324 P **P** **14 48 53.9 +0.4**
BSEG pmax pmax
comp=Z,57nm,1.5s,mb5.6
BSEG Bad Segeberg 87.17 324 *eP* **P** **14 48 53.9 +0.4**
DAVA Damuels 87.29 317 ⇑ *iP* **P** **14 48 54.8 +0.5**
comp=Z,18nm,1.4s,mb5.1
KONO Kongsberg 87.72 329 P **P** **14 48 56.7 +0.7**
KONO *e* pP 14 49 04.2 +0.6
KONO pmax pmax
comp=Z,22nm,1.0s,mb5.3
KONO Kongsberg 87.72 329 *eP* **P** **14 48 56.4 +0.4**
KONO *e* 14 59 35.8
KBS Kingsbay 87.84 349 *eP* **P** **14 48 52.9 -3.4**
KBS AMS AMS 15 37 12.7
comp=Z,1µm,16.0s,MS5.4
PGF Pioggiola 87.86 312 *eP* **P** **14 48 57.2 +0.1**
comp=Z,35nm,1.0s,mb5.2
MUD Monsted U'grnd 87.88 326 ⇑ *iP* **P** **14 48 57.6 +0.7**
MUD *i* S S 14 59 38.6 +2.2
MUD pmax pmax
comp=Z,44nm,1.2s,mb5.6
MUD MLR MLR
comp=Z,700nm,18.0s,MS5.1
MUD Monsted U'grnd 87.88 326 ⇑ *iP* **P** **14 48 57.6 +0.7**
comp=Z,44nm,1.2s,mb5.6
MUD *i* S S 14 59 38.6 +2.2
MUD Monsted U'grnd 87.88 326 ⇑ *iP* **P** **14 48 57.6 +0.7**
comp=Z,44nm,1.2s,mb5.6
MUD Monsted U'grnd 87.88 326 *i* S S 14 59 38.6 +2.2
comp=Z,700nm,18.0s
TOD Tromm 88.03 319 *eP* **P** **14 48 57.6 -0.2**
BFO Black Forest 88.34 318 P **P** **14 48 58.8 -0.5**
BFO pmax pmax
comp=Z,24nm,1.8s,mb5.1
BFO Black Forest 88.34 318 *eP* **P** **14 48 58.8 -0.5**
comp=Z,24nm,1.8s,mb5.1
FELD Feldberg 88.56 318 *eP* **P** **14 49 00.5 +0.2**
LANF Langenberg 88.69 319 *eP* **P** **14 49 01.2 +0.3**
ABH Alteburg 88.85 320 *eP* **P** **14 49 01.8 +0.1**
BBS Basel-Blauen 88.90 317 *eP* **P** **14 49 01.8 -0.2**
SBF Sospel 89.00 314 *eP* **P** **14 49 02.5 0.0**
comp=Z,81nm,1.1s,mb5.7
AUTN L'Aution 89.00 314 *eP* **P** **14 49 02.5 -0.1**
CDF Champ du Feu 89.05 318 *eP* **P** **14 49 02.4 -0.2**

comp=Z,35nm,1.3s,mb5.2
ABSA Djebel Ababsia 89.08 306 P **P** **14 49 14.0 +11**
CMAH Djebel Manchou 89.12 306 P **P** **14 49 12.0 +8.7**
ECH Echery 89.13 318 *eP* **P** **14 49 02.9 -0.1**
MOF Molkenrain 89.15 318 *eP* **P** **14 49 02.6 -0.5**
RUP Ruppelstein 89.17 320 *eP* **P** **14 49 02.9 -0.3**
WTSB Winterswijk 89.29 322 *eP* **P** **14 49 04.1 +0.4**
comp=Z,38nm,1.6s,mb5.5
WTSB *ex* x 14 49 11.0
HINF Hinteralfeld 89.34 318 *eP* **P** **14 49 03.4 -0.6**
LOMF Lomont 89.37 317 *eP* **P** **14 49 03.8 -0.4**
LPG La Plagne 89.46 315 *eP* **P** **14 49 05.0 +0.3**
comp=Z,51nm,1.2s,mb5.4
MBDF Montbardon 89.46 315 *eP* **P** **14 49 05.3 +0.6**
LPL La Plagne 89.47 315 *eP* **P** **14 49 05.0 +0.3**
comp=Z,79nm,1.1s,mb5.6
FRF La Foret Royal 89.58 313 *eP* **P** **14 49 05.3 0.0**
comp=Z,83nm,1.2s,mb5.6
HAU Haudompre 89.67 318 *eP* **P** **14 49 05.4 -0.2**
comp=Z,68nm,1.2s,mb5.6
HAU *eR*
comp=Z,1µm,21.8s
LMR La Mourre 89.68 313 *eP* **P** **14 49 05.8 0.0**
comp=Z,89nm,1.3s,mb5.6
CKFL Kef-Lekhel 89.69 306 P **P** **14 49 15.0 +9.0**
NVL N'lazarevskaya 89.70 199 ⇓ *iP* **P** **14 49 13.4 +8.2**
NVL *i* *pP* 14 49 19.9 +7.1
NVL *i* *PP pP 14 49 29.8 +17
NVL *i* 14 52 35.5
NVL *e* 14 59 43.8
NVL pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
NVL MLR MLR
comp=Z,130nm,18.3s,MS4.4
MAIT Maitri 89.73 199 *eP* **P** **14 49 07.9 +2.5**
WLF Walferdange 89.76 319 P **P** **14 49 08.0 +2.0**
WLF pmax pmax
comp=Z,71nm,1.3s,mb5.8
WLF Walferdange 89.76 319 *eP* **P** **14 49 06.0 0.0**
comp=Z,71nm,1.4s,mb5.8
WLF *epP* pP 14 49 14.1 +0.5
BER Bergen 89.85 330 *eP* **P** **14 49 04.4 -1.7**
BER AMS AMS 15 35 25.8
comp=Z,798nm,21.2s,MS5.1
HGN Heimansgroeve 89.86 321 *eP* **P** **14 49 06.6 +0.2**
comp=Z,16nm,1.9s,mb5.0
HGN *ex* x 14 49 13.7
HGN *ePP* PP 14 52 39.9 -1.6
HGN *eS* S 14 59 54.5 -0.4
CASM Ain Smara 89.88 306 P **P** **14 49 15.0 +8.1**
CABF La Chapelle 89.89 316 *eP* **P** **14 49 06.9 +0.2**
comp=Z,80nm,1.2s,mb5.6
THEF They Montfort 89.91 318 *eP* **P** **14 49 06.6 -0.1**
CTEI Djebel Teioual 89.95 306 P **P** **14 49 17.0 +10**
TAVF Tavernes 90.00 313 *eP* **P** **14 49 08.1 +0.8**
ORIF Oris-en-Rattie 90.09 315 *eP* **P** **14 49 07.9 +0.3**
comp=Z,26nm,0.9s,mb5.2
ORIF *eR*
comp=Z,1µm,19.8s
SMRF Simiane la Rot 90.34 314 *eP* **P** **14 49 09.4 +0.6**
DFRA Djebel Bou Aff 90.37 306 P **P** **14 49 20.0 +11**
MEZF Maizieres J'vi 90.52 318 *eP* **P** **14 49 09.7 +0.2**
GIVF Givet 90.60 320 *eP* **P** **14 49 10.1 +0.3**
VIVF Saint-Julien-l 90.95 315 *eP* **P** **14 49 11.8 +0.2**
comp=Z,62nm,1.3s,mb5.5
BAIF Baives 91.00 320 *eP* **P** **14 49 12.2 +0.5**
comp=Z,131nm,1.2s,mb5.8
QSPA South Pole Qui 91.23 180 ⇑ *iP* **P** **14 49 20.5 +8.4**
comp=Z,22nm,1.1s,mb5.4
LOR Lormes 91.39 317 *eP* **P** **14 49 13.6 +0.1**
comp=Z,126nm,1.3s,mb5.8
LOR *eR*
comp=Z,1µm,20.5s
SMF Signal de Mont 91.44 317 *eP* **P** **14 49 13.7 -0.1**
comp=Z,98nm,1.2s,mb5.7
LASF Ste Croix 91.57 314 *eP* **P** **14 49 14.9 +0.4**
SSF Saint Saulge 91.64 317 *eP* **P** **14 49 15.0 +0.3**
comp=Z,87nm,1.3s,mb5.6
LBL Lubilhac 91.94 315 *eP* **P** **14 49 17.6 +1.5**
BGF Bois d'Agland 92.13 316 *eP* **P** **14 49 17.5 +0.6**
TCF Toulx Ste Croi 92.59 316 *eP* **P** **14 49 19.5 +0.4**
comp=Z,56nm,1.3s,mb5.5
CAF Calviac 92.80 315 *eP* **P** **14 49 20.7 +0.6**
comp=Z,48nm,1.2s,mb5.5
MTLF Montolieu 92.81 313 *eP* **P** **14 49 20.6 +0.4**
comp=Z,74nm,1.3s,mb5.7
RJF Les Rejaudoux 93.15 315 *eP* **P** **14 49 22.4 +0.7**
comp=Z,59nm,1.3s,mb5.6
RJF *eR*
comp=Z,712nm,21.0s
LFF La Frestale 93.73 315 *eP* **P** **14 49 25.1 +0.7**
JMIC Jan Mayen 93.90 342 *eP* **P** **14 49 26.4 +1.8**
JMIC LR LR
comp=Z,622µm,16.9s
JMIC Jan Mayen 93.90 342 *eP* **P** **14 49 26.4 +1.8**
JMIC *ePP* PP 14 53 11.5 -1.8
JMIC AMS AMS 15 36 04.4
comp=Z,622nm,16.9s,MS5.1
LDF La Druitiere 93.94 319 *eP* **P** **14 49 25.4 +0.2**
comp=Z,65nm,1.3s,mb5.6
FLN La Foliniere 94.16 319 *eP* **P** **14 49 26.3 +0.1**
FLN *eR*
comp=Z,1µm,20.5s
MFF Saint Martin d 94.18 317 *eP* **P** **14 49 26.6 +0.2**
comp=Z,48nm,1.2s,mb5.5
EPF Esparros 94.20 313 *eP* **P** **14 49 26.4 -0.2**
SNAA Sanae 94.40 198 P **P** **14 49 34.7 +7.9**
SNAA Sanae 94.40 198 **P** **14 49 41.2 +14**
SNAA Sanae 94.40 198 **P** **14 49 45.3 +18**
SNAA Sanae 94.40 198 P **P** **14 49 27.1 +0.3**
SNAA pmax pmax
comp=Z,4.0nm,1.0s
SNAA Sanae 94.40 198 P **P** **14 49 27.1 +0.2**
comp=Z,4.0nm,1.0s,mb4.8
GRR Gorron 94.45 319 *eP* **P** **14 49 27.7 +0.1**
DAG Danmarks Havn 94.53 348 ⇓ *eP* **P** **14 49 26.8 -0.6**
DAG pmax pmax
comp=Z,4.0nm,1.3s,mb4.7
DAG Danmarks Havn 94.53 348 ⇓ *eP* **P** **14 49 26.8 -0.6**
comp=Z,3.8nm,1.3s,mb4.7
DAG Danmarks Havn 94.53 348 ⇓ *iP* **P** **14 49 26.8 -0.6**
comp=Z,3.8nm,1.3s,mb4.7
ETSF Etsaut 94.88 313 *eP* **P** **14 49 30.1 +0.4**
ESK Eskdalemuir 94.91 326 *eP* **P** **14 49 29.4 -0.2**
comp=Z,15nm,1.3s,mb5.3
ESK *epP* pP 14 49 37.1 0.0
ESK LR LR
comp=Z,201nm,20.0s,MS4.6
SJPF Ste Jean 95.34 313 *eP* **P** **14 49 32.4 +0.6**
comp=Z,47nm,1.3s,mb5.5
VNA2 Neumayer--Watz 95.99 199 P **P** **14 49 43.4 +9.2**
VNA1 Neumayer--Stat 96.33 199 P **P** **14 49 45.4 +10**
VNA3 Neumayer Olymp 96.63 198 P **P** **14 49 48.5 +11**
ESLA Sonseca Array 97.83 310 PFAKE 14 49 50.0 +6.8
ESLA LR LR
comp=Z,4µm,21.0s,MS5.8
ILAR Eielson Array 99.59 23 P **P** **14 49 49.3 -1.2**
ILAR 14 53 53.3
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 99.59 23 P **P** **14 49 49.3 -1.3**
comp=Z,0.4nm,0.5s,baz=280,slow=4.4,SNR=4.5
ILAR PP PP 14 53 53.2 -3.7
comp=Z,1.0nm,0.8s,baz=287,slow=8.0,SNR=6.4
DBIC Dimbokro 101.89 277 PFAKE 14 50 10.0 +7.8
DBIC LR LR
comp=Z,928nm,20.0s,MS5.3
SIT Sitka 108.24 27 PFAKE 14 54 50.0
SIT LR LR
comp=Z,2µm,19.0s,MS5.7
TBI Tubuai 111.82 115 *eS* 15 03 09.4
TBI *eSS* SS 15 11 06.8 +6.1
comp=Z,876nm,24.8s
TBI *eLQ* 15 25 35.8
comp=Z,955nm,36.0s
TBI *eLR* LR 15 29 29.2
comp=Z,2µm,24.0s,baz=247
YKA Yellowknife Ar 111.99 15 PP PP 14 55 24.3 -4.8
comp=Z,0.5nm,0.5s,baz=324,slow=6.4,SNR=7.3
PPT Papeete 112.43 108 *eS* 15 03 06.7
comp=Z,661nm,24.8s
PPT *eSS* SS 15 11 23.9 +15
comp=Z,474nm,26.0s
PPT *eLQ* 15 25 08.3
comp=Z,431nm,26.5s
PPT *eLR* LR 15 29 44.8
comp=Z,1µm,23.2s,baz=241
PMSA Palmer Station 115.22 189 PFAKE 14 55 00.0 +8.2
PMSA LR LR
comp=Z,2µm,19.0s,MS5.8
OCWA Octopus Mounta 119.29 31 PFAKE 14 55 10.0 +10
OCWA LR LR
comp=Z,1µm,20.0s,MS5.5
COR Corvallis 121.80 33 PFAKE 14 55 10.0 +4.9
COR LR LR
comp=Z,215nm,21.0s,MS4.8
FFC Flin Flon 121.96 13 PFAKE 14 55 10.0 +4.9
FFC LR LR
comp=Z,295nm,19.0s,MS5.0
NEW Newport 122.32 27 PKIKP PKPdf 14 55 03.4 -2.6
NEW pmax pmax
comp=Z,1.0nm,0.4s
NEW Newport 122.32 27 PKP PKPdf 14 55 03.4 -2.5
comp=Z,1.4nm,0.4s,baz=174,slow=2.2,SNR=5.3
NEW Newport 122.32 27 *e*PKPdf PKPdf 14 55 03.3 -2.7
NEW LR LR
comp=Z,1µm,19.0s,MS5.6
SCHQ Schefferville 122.56 349 PKP PKPdf 14 55 03.0 -3.3
comp=Z,1.7nm,0.5s,baz=348,slow=6.9,SNR=5.7
SCHQ Schefferville 122.56 349 PKP PKPdf 14 55 03.0 -3.3
SCHQ LR LR
comp=Z,873nm,19.0s,MS5.4
HUMO Hull Mountain 123.26 35 *e*PKPdf PKPdf 14 55 05.5 -2.4
HUMO LR LR
comp=Z,706nm,21.0s,MS5.3
YBH Yreka Blue Hor 123.95 35 PFAKE 14 55 20.0 +11
YBH LR LR
comp=Z,704nm,19.0s,MS5.3
BMO Blue Mountains 124.73 29 PFAKE 14 55 20.0 +9.2
BMO LR LR
comp=Z,957nm,22.0s,MS5.4
WDC Whiskeytown Da 124.78 36 PFAKE 14 55 20.0 +9.0
WDC LR LR
comp=Z,822nm,20.0s,MS5.4
MSO Missoula 124.81 26 *e*PKPdf PKPdf 14 55 07.3 -3.5
MSO LR LR
comp=Z,883nm,20.0s,MS5.4
RKT Rikitea 124.91 117 *eS* SKS 15 03 12.8 +57
comp=Z,108nm,24.8s
RKT *eSS* SS 15 13 56.4 +5.4
comp=Z,472nm,29.0s
RKT *eLQ* 15 29 54.2
comp=Z,243nm,26.5s
RKT *eLR* LR 15 35 37.9
comp=Z,1µm,23.8s,baz=251
CHMT Chamberlain Mo 125.04 25 *e*PKPdf PKPdf 14 55 08.1 -3.2
MOD Modoc 125.21 34 *e*PKPdf PKPdf 14 55 09.5 -2.3
MOD LR LR
comp=Z,948nm,20.0s,MS5.5
HOPS Hopland 125.44 38 PFAKE 14 55 20.0 +7.7
HOPS LR LR
comp=Z,672nm,20.0s,MS5.3
WVOR Wild Horse Val 125.76 32 PKIKP PKPdf 14 55 11.0 -1.8
WVOR Wild Horse Val 125.76 32 *e*PKPdf PKPdf 14 55 10.6 -2.2
WVOR LR LR
comp=Z,1µm,21.0s,MS5.5
BOZ Bozeman (W) 126.73 25 PKIKP PKPdf 14 55 12.3 -2.2
BOZ Bozeman (W) 126.73 25 *e*PKPdf PKPdf 14 55 11.6 -2.9
BOZ LR LR
comp=Z,1µm,21.0s,MS5.5
DGMT Dagmar 127.05 18 PFAKE 14 55 20.0 +4.9
DGMT LR LR
comp=Z,2µm,19.0s,MS5.7
HLID Hailey 127.09 29 *e*PKPdf PKPdf 14 55 13.0 -2.3
HLID LR LR
comp=Z,2µm,22.0s,MS5.6
ULM Lac du Bonnet 127.44 11 PKP PKPdf 14 55 11.7 -4.1
comp=Z,3.3nm,0.6s,baz=7.3,slow=3.6,SNR=3.6
ULM Lac du Bonnet 127.44 11 PKP PKPdf 14 55 11.7 -4.1
ULM LR LR
comp=Z,1µm,21.0s,MS5.5
QLMT Earthquake Lak 127.46 26 *e*PKPdf PKPdf 14 55 14.3 -1.7
CMB Columbia Colle 127.68 38 PFAKE 14 55 30.0 +13
CMB LR LR
comp=Z,751nm,19.0s,MS5.4
YMR Madison River 127.79 25 *e*PKPdf PKPdf 14 55 14.8 -1.9
SAO San Andreas Ge 127.81 39 PFAKE 14 55 30.0 +13
SAO LR LR
comp=Z,660nm,20.0s,MS5.3
BMN Battle Mountai 127.92 33 PFAKE 14 55 30.0 +13
BMN LR LR
comp=Z,789nm,19.0s,MS5.4
LAO LASA Array 127.95 20 *e*PKPdf PKPdf 14 55 14.7 -2.3
LAO LR LR
comp=Z,814nm,20.0s,MS5.4
LKWY Lake 128.12 25 PFAKE 14 55 30.0 +13
LKWY LR LR
comp=Z,2µm,19.0s,MS5.8
IMW Indian Meadow 128.42 26 *e*PKPdf PKPdf 14 55 15.3 -2.6
MOOW Moose Ponds 128.62 26 *e*PKPdf PKPdf 14 55 15.3 -3.0
RRI2 Red Ridge 128.69 27 *e*PKPdf PKPdf 14 55 16.3 -2.1
TPAW Teton Pass 128.74 26 *e*PKPdf PKPdf 14 55 16.8 -1.8
ELK Elko 128.76 32 PKIKP PKPdf 14 55 17.1 -1.6
ELK Elko 128.76 32 *e*PKPdf PKPdf 14 55 16.1 -2.5
ELK LR LR
comp=Z,749nm,19.0s,MS5.4
LOHW Long Hollow 128.79 26 *e*PKPdf PKPdf 14 55 15.9 -2.8
LOHW *ePP* PP 14 57 22.9 -2.5
REDW Red Top Meadow 128.88 26 *e*PKPdf PKPdf 14 55 16.0 -2.9
AHID Auburn Hatcher 129.25 27 PFAKE 14 55 30.0 +10
AHID LR LR
comp=Z,1µm,20.0s,MS5.7
TPH Tonopah 129.53 35 PKIKP PKPdf 14 55 15.1 -5.1
TPH Tonopah 129.53 35 PFAKE 14 55 30.0 +10
TPH LR LR
comp=Z,742nm,19.0s,MS5.4
BW06 Boulder Array 129.93 26 *e*PKPdf PKPdf 14 55 17.9 -2.9
BW06 *ePP* PP 14 57 29.2 -3.2
BW06 LR LR
comp=Z,963nm,19.0s,MS5.5
PDAR Pinedale Array 129.93 26 PKP PKPdf 14 55 17.4 -3.5
comp=Z,1.4nm,0.6s,baz=180,slow=1.5,SNR=15
PDAR PP PP 14 57 29.5 -2.9
comp=Z,0.8nm,0.9s,baz=270,slow=1.5,SNR=3.9
HWUT Hardware Ranch 129.94 28 *e*PKPdf PKPdf 14 55 18.3 -2.6
HWUT LR LR
comp=Z,1µm,19.0s,MS5.7
DAC Darwin (Calif) 130.52 37 PFAKE 14 55 30.0 +7.9
DAC LR LR
comp=Z,892nm,20.0s,MS5.5
PQI Presque Isle 130.52 347 PFAKE 14 55 30.0 +8.2
PQI LR LR
comp=Z,4µm,19.0s,MS6.2
RSSD Black Hills 130.94 20 PFAKE 14 55 30.0 +7.3
RSSD LR LR
comp=Z,243nm,20.0s,MS4.9
MVU Marysvale 131.99 31 *e*PKPdf PKPdf 14 55 22.7 -2.2
MVU *e*SKPbc 14 58 47.1
MVU LR LR
comp=Z,807nm,21.0s,MS5.4
MSU Marysvale 132.00 31 PKIKP PKPdf 14 55 23.8 -1.1
MSU Marysvale 132.00 31 *e*PKPdf PKPdf 14 55 22.9 -2.0
MSU *e*SKPbc 14 58 47.0
EMMW East Machias 132.22 345 PFAKE 14 55 30.0 +4.8
EMMW LR LR
comp=Z,6µm,20.0s,MS6.3
SRU San Rafael 132.38 29 PKIKP PKPdf 14 55 24.1 -1.5
SRU San Rafael 132.38 29 *e*PKPdf PKPdf 14 55 22.8 -2.9
NEN Nelson 132.58 36 *e*PKPdf PKPdf 14 55 24.1 -2.0
LDFC Landfair 132.82 37 *e*PKPdf PKPdf 14 55 24.0 -2.6
PHWY Pilot Hill 132.85 23 *e*PKPdf PKPdf 14 55 23.7 -2.7
WVL Waterville 132.88 347 PFAKE 14 55 30.0 +3.6
WVL LR LR
comp=Z,4µm,22.0s,MS6.0
PFO Pinyon Flat Ob 132.97 39 *e*PKPdf PKPdf 14 55 24.3 -2.6
PFO LR LR
comp=Z,154nm,19.0s,MS4.7
FRNY Flat Rock 133.36 351 *e*PKPdf PKPdf 14 55 24.7 -2.5
ISCO Idaho Springs 134.05 25 PFAKE 14 55 40.0 +11
ISCO LR LR
comp=Z,2µm,22.0s,MS5.7
NCB Newcomb 134.30 351 PFAKE 14 55 40.0 +11
NCB LR LR
comp=Z,1µm,20.0s,MS5.6
HRV Harvard--Oak R 135.25 348 PFAKE 14 55 40.0 +9.2
HRV LR LR
comp=Z,500nm,21.0s,MS5.2
WES Weston 135.32 348 PFAKE 14 55 40.0 +9.0
WES LR LR
comp=Z,1µm,21.0s,MS5.6
SDCO Great Sand Dun 135.82 26 *e*PKPdf PKPdf 14 55 28.4 -3.6
SDCO LR LR
comp=Z,603nm,19.0s,MS5.3
AAM Ann Arbor 136.60 1 PFAKE 14 55 40.0 +6.8
AAM LR LR
comp=Z,245nm,22.0s,MS4.9
CBKS Cedar Bluff 137.13 20 PFAKE 14 55 40.0 +5.7
CBKS LR LR
comp=Z,915nm,22.0s,MS5.5
TUC Tucson 137.32 36 *e*PKPdf PKPdf 14 55 31.9 -3.0
TUC LR LR
comp=Z,522nm,21.0s,MS5.2
BNM Barren Site 138.20 30 *e*PKPdf PKPdf 14 55 34.7 -1.8
TRQA Tornquist 138.74 205 *e*PKPdf PKPdf 14 55 34.9 -2.4
TRQA LR LR
comp=Z,767nm,19.0s,MS5.5
MCWV Mont Chateau 139.17 357 PFAKE 14 55 50.0 +12
MCWV LR LR
comp=Z,364nm,21.0s,MS5.1
AMTX Amarillo 139.87 24 PFAKE 14 55 50.0 +11
AMTX LR LR
comp=Z,829nm,20.0s,MS5.5
CCM Cathedral Cave 140.07 10 PFAKE 14 55 50.0 +10
CCM LR LR
comp=Z,286nm,21.0s,MS5.0
CBN Corbin 140.39 353 PFAKE 14 55 50.0 +10
CBN LR LR
comp=Z,1µm,21.0s,MS5.5
MNTX Cornudas Mount 140.78 31 *e*PKPpre 14 55 32.6
MNTX *e*PKPdf PKPdf 14 55 37.9 -3.4
MNTX LR LR
comp=Z,1µm,19.0s,MS5.6
BLA Blacksburg 141.63 357 PFAKE 14 55 50.0 +7.4
BLA LR LR
comp=Z,1µm,19.0s,MS5.7
BBSR BB Station 142.43 335 PFAKE 14 55 50.0 +5.9
BBSR LR LR
comp=Z,685nm,20.0s,MS5.4
WVT Waverly 142.47 7 PKPdf PKPdf 14 55 41.0 -3.1
WVT LR LR
comp=Z,2µm,19.0s,MS5.8
BAO Brasilia Array 142.90 246 PKPdf PKPdf 14 55 43.5 -1.8
BDFB Brasilia 142.92 245 PKIKP PKPdf 14 55 41.0 -4.3
BDFB pmax pmax
comp=Z,1.0nm,0.4s
BDFB Brasilia 142.92 245 PKP PKPdf 14 55 41.0 -4.4
comp=Z,1.3nm,0.4s,baz=153,slow=2.3,SNR=2.1
LTX Lajitas 143.55 32 *e*PKHKP 14 55 25.1
LTX Lajitas 143.55 32 *e*PKPdf PKPdf 14 55 40.7 -5.4
LTX LR LR
comp=Z,1µm,22.0s,MS5.6
TXAR Lajitas Array 143.55 32 PKIKP PKPdf 14 55 40.8 -5.3
TXAR pmax pmax
comp=Z,2.0nm,0.5s
TXAR Lajitas Array 143.55 32 PKP PKPdf 14 55 40.8 -5.3
comp=Z,2.0nm,0.5s,baz=270,slow=1.3,SNR=23
MYNC Murphy 143.80 2 PFAKE 14 56 00.0 +19
MYNC LR LR
comp=Z,2µm,19.0s,MS5.8
OXF Oxford 143.84 9 PFAKE 14 56 00.0 +19
OXF LR LR
comp=Z,1µm,19.0s,MS5.6
CPUP Villa Florida 145.12 222 PKIKP PKPdf 14 55 45.6 -3.3
CPUP 14 55 52.5
CPUP pmax pmax
comp=Z,12nm,0.9s
CPUP pmax pmax
comp=Z,100nm,1.2s
CPUP Villa Florida 145.12 222 PKPbc PKPbc 14 55 45.6 +0.8
comp=Z,12nm,0.9s,baz=143,slow=3.6,SNR=26
CPUP pPKPbc 14 55 52.5
comp=Z,100nm,1.2s,baz=138,slow=3.5,SNR=41
CPUP Villa Florida 145.12 222 *e*PKPdf PKPdf 14 55 45.5 -3.4
CPUP LR LR
comp=Z,888nm,19.0s,MS5.6
JATB Jatai 145.17 240 *eP* PKPbc 14 55 46.4 +1.4
JATB *e* 14 55 50.0
JATB *e* 14 55 53.5
JATB *e* 14 56 06.6
JATB *e* 14 56 12.5
NATX Nacogdoches 145.24 18 *e*PKPdf PKPdf 14 55 45.8 -3.2
NATX LR LR
comp=Z,1µm,20.0s,MS5.7
LRAL Lakeview Retre 145.62 6 *e*PKPdf PKPdf 14 55 46.1 -3.5
LRAL LR LR
comp=Z,2µm,19.0s,MS5.9
NHSC New Hope 145.71 356 *e*PKPdf PKPdf 14 55 47.1 -2.7
NHSC LR LR
comp=Z,1µm,21.0s,MS5.6
HBF Harts Bluff 145.89 356 PKP2 PKPab 14 55 48.9 +0.2
HBF Harts Bluff 145.89 356 *e*PKPdf PKPdf 14 55 47.7 -2.4
SFJM Santa Fe 150.60 42 *i P* PKPdf 14 56 00.0 +2.0
DWPF Disney 150.74 358 PFAKE 14 56 10.0 +12
DWPF LR LR
comp=Z,254nm,19.0s,MS5.0
SJG San Juan 154.75 321 PFAKE 14 56 10.0 +6.1
SJG LR LR
comp=Z,684nm,21.0s,MS5.5
LVC Limon Verde 154.91 211 *e*PKPab PKPab 14 56 25.1 -0.9
LVC LR LR
comp=Z,1µm,19.0s,MS5.7
SAML Samuel 159.12 248 *e*PKPdf PKPdf 14 56 05.8 -3.9
SAML LR LR
comp=Z,968nm,20.0s,MS5.6
LPAZ La Paz 159.29 223 PKIKP PKPdf 14 56 08.5 -1.3
LPAZ 14 56 15.3
LPAZ pmax pmax
comp=Z,2.0nm,1.1s
LPAZ pmax pmax
comp=Z,5.0nm,1.0s
LPAZ La Paz 159.29 223 PKP PKPdf 14 56 08.5 -1.3
comp=Z,1.6nm,1.1s,baz=359,slow=21,SNR=4.3
LPAZ pPKP 14 56 15.3
comp=Z,4.7nm,1.0s,baz=46,slow=4.4,SNR=11
LPAZ La Paz 159.29 223 *e*PKPdf PKPdf 14 56 08.1 -1.7
LPAZ *e*PKPab PKPab 14 56 46.0 +1.0
LPAZ LR LR
comp=Z,790nm,20.0s,MS5.5
SDV Santo Domingo 164.27 310 PFAKE 14 56 20.0 +5.1
SDV LR LR
comp=Z,782nm,19.0s
JTS JuntasAbangare 168.28 11 PFAKE 14 56 30.0 +12
JTS LR LR
comp=Z,244nm,21.0s
ROSC El Rosal 169.63 306 PKP PKPdf 14 56 17.1 -1.7
comp=Z,4.6nm,0.4s,baz=267,slow=20,SNR=4.5
PAYG Puerto Ayora 172.42 85 PFAKE 14 56 30.0 +9.5
PAYG LR LR
comp=Z,1µm,21.0s

MOS ***11*** *14:48:58.1±1.3,35.60N×140.94E,h33km,mb4.5/11,Error ellipse: s-maj=18.7km s-min=11.2km az=126.0*

NIED ***11*** *14:49:00,35.80N×140.70E,h53km,Mw4.2 Best double couple: M0:2.3×10*^{15} *NP1:φs358°,δ76°,λ91°. NP2:φs173°, δ14°,λ86°.*

JMA ***11*** *14:49:02.8±0.1,35.75N×140.61E,h49km±1km,M3.9 Broadband fault plane solution: P waves. NP1:φs141°,δ8°, λ61°. NP2:φs351°,δ83°,λ94°. Principal axes: T Plg52°, Azm265°; N Plg4°, Azm170°; P Plg38°, Azm77°;*

JMA Felt II J1.

IDC ***11*** *14:49:03.8±2.4,35.59N×140.61E,h61km±22km,mb3.7/10, mb1 3.9/13,mb1mx3.8/23,mbtmp4.1/13,ML4.1/3,MS3.4/1, Ms1 3.4/1,ms1mx3.0/22 Error ellipse: s-maj=27.9km s-min=13.1km az=76.0*

NEIC ***11*** *14:49:04.8±1.2,35.61N×140.46E,h66km±8km,mb4.5/6, MW4.2(NIED),Error ellipse: s-maj=13.6km s-min=8.1km az=87.0*

ISC 11 14:49:01.7±0.5,35.68N±0.04×140.73E±0.07,h62km±3km, n46,σ0:86/53,mb4.1/15,2C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.11**	**75**	⇑P	**P**	**14 49 10.9**	**-0.1**
CHOJ				S	**S**	**14 49 17.3**	**-0.5**
JCN	**Nagara**	**0.50**	**240**	⇓P	**P**	**14 49 14.2**	**+0.3**
JCN				S	**S**	**14 49 23.0**	**+0.1**
JYT	**Yasato**	**0.70**	**322**	⇓P	**P**	**14 49 15.2**	**-1.0**
BSO4	**Boso 4**	**0.76**	**205**	P	**P**	**14 49 17.5**	**+0.7**
BSO4				*e*S	**S**	**14 49 29.0**	**+0.9**

BSO3	**Boso 3**	**0.89**	**192**	P	**P**	**14 49 19.3**	**+0.8**
JHO	**Hitachi**	**0.94**	**352**	⇑P	**P**	**14 49 19.1**	**-0.2**
BSO1	**Boso 1**	**1.04**	**169**	P	**P**	**14 49 22.0**	**+1.4**
JAG	**Ashikaga**	**1.28**	**306**	⇓P	**P**	**14 49 23.0**	**-0.9**
JOD2	**Odawara 2**	**1.40**	**253**	⇓P	**P**	**14 49 25.2**	**-0.5**
JIM2	**Oshima 3**	**1.43**	**228**	P	**P**	**14 49 25.7**	**-0.3**
MJAR	**Matsushiro Arr**	**2.22**	**294**	P	**P**	**14 49 36.8**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,32nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,925nm,21.9s						
MJAR	**Matsushiro Arr**	**2.22**	**294**	P	**P**	**14 49 36.8**	**-0.2**
	comp=Z,32nm,0.3s,baz=99,slow=14,SNR=205						
MJAR				LR	LR	14 50 37.7	
	comp=Z,925nm,21.9s,baz=125,slow=44						
MAJO	**Matsushiro**	**2.22**	**294**	*e*P	**P**	**14 49 37.3**	**+0.3**
MAT	**Matsushiro**	**2.22**	**294**	*e*P	**P**	**14 49 37.0**	**0.0**
MAT				*e*S	**S**	**14 50 05.0**	**+1.8**
MAT	**Matsushiro**	**2.22**	**294**	P	**P**	**14 49 37.3**	**+0.3**
MAT				S	**S**	**14 50 03.6**	**+0.4**
JHJ	**Hachijo jima 2**	**2.67**	**197**	P	**P**	**14 49 43.7**	**+0.4**
	comp=Z,57nm,0.3s,baz=133,slow=16,SNR=12						
JHJ				S	**S**	**14 50 13.8**	**-0.8**
	comp=Z,73nm,0.3s,baz=263,slow=22,SNR=8.4						
ASAJ	**Asahikawa**	**8.55**	**9**	P	**P**	**14 51 02.1**	**-3.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**8.55**	**9**	P	**P**	**14 51 02.1**	**-3.1**
	comp=Z,0.5nm,0.3s,baz=195,slow=14,SNR=3.8						
CBIJ	**Chichi jima**	**8.64**	**171**	P	**P**	**14 51 04.4**	**-2.0**
	comp=Z,11nm,0.3s,baz=222,slow=16,SNR=4.7						
CBIJ				S	**S**	**14 52 35.1**	**-8.3**
	comp=Z,6.3nm,0.3s,baz=254,slow=20,SNR=3.1						
ENH	**Enshi**	**26.69**	**267**	*e*P	**P**	**14 54 35.3**	**-1.6**
	comp=Z,13nm,0.6s,mb4.6						
SONM	**Songino Array**	**28.11**	**306**	P	**P**	**14 54 49.0**	**-0.6**
	comp=Z,0.7nm,0.5s,mb3.5,baz=96,slow=9.1,SNR=4.8						
CMAR	**Chiang Mai Arr**	**40.63**	**256**	P	**P**	**14 56 36.4**	**-0.8**
	comp=Z,0.4nm,0.6s,mb3.2,baz=48,slow=6.6,SNR=4.5						
ZAL	**Zalesovo**	**42.45**	**313**	P	**P**	**14 56 52.6**	**+0.9**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**42.45**	**313**	P	**P**	**14 56 52.5**	**+0.8**
	comp=Z,1.2nm,0.3s,mb4.0,baz=19,slow=5.1,SNR=4.6						
MKAR	**Makanchi Array**	**44.39**	**303**	P	**P**	**14 57 07.6**	**0.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**44.39**	**303**	P	**P**	**14 57 07.5**	**0.0**
	comp=Z,2.0nm,0.5s,mb4.1,baz=88,slow=9.5,SNR=28						
ILAR	**Eielson Array**	**50.94**	**32**	P	**P**	**14 58 00.2**	**+1.8**
	comp=Z,0.4nm,0.5s,mb3.6,baz=269,slow=6.4,SNR=4.1						
ZRNK	**Zerenda**	**51.92**	**313**	*e*P	**P**	**14 58 06.3**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**51.92**	**313**	*e*P	**P**	**14 58 06.3**	**+0.3**
	comp=Z,4.0nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**55.63**	**187**	P	**P**	**14 58 33.4**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**55.63**	**187**	P	**P**	**14 58 33.4**	**-0.3**
	comp=Z,3.5nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**55.64**	**187**	P	**P**	**14 58 33.3**	**-0.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**55.64**	**187**	P	**P**	**14 58 33.3**	**-0.5**
	comp=Z,2.2nm,0.8s,mb4.3,baz=2.4,slow=7.5,SNR=28						
ARU	**Arti**	**57.02**	**319**	*e*P	**P**	**14 58 42.7**	**-0.4**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
ARU	**Arti**	**57.02**	**319**	*e*P	**P**	**14 58 42.7**	**-0.4**
	comp=Z,5.6nm,1.0s,mb4.5						
MBWA	**Marble Bar**	**59.92**	**203**	P	**P**	**14 59 03.4**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**65.07**	**339**	P	**P**	**14 59 37.6**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES	**ARCESS Array B**	**65.07**	**339**	P	**P**	**14 59 37.6**	**+0.4**
	comp=Z,3.0nm,1.0s,mb4.3,baz=53,slow=6.1,SNR=4.2						
FINES	**FINESS Array B**	**69.76**	**332**	P	**P**	**15 00 07.4**	**+0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**69.76**	**332**	P	**P**	**15 00 07.3**	**+0.7**
	comp=Z,1.8nm,0.7s,mb4.1,baz=34,slow=6.9,SNR=4.7						
AKASG	**Malin Array Be**	**75.03**	**322**	P	**P**	**15 00 38.8**	**+0.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**75.03**	**322**	P	**P**	**15 00 38.8**	**+0.8**
	comp=Z,1.5nm,0.6s,mb4.1,baz=46,slow=6.1,SNR=11						
NB2	**NORSAR Subarra**	**75.22**	**337**	P	**P**	**15 00 39.9**	**+1.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=41,slow=5.6						
NB2	**NORSAR Subarra**	**75.22**	**337**	P	**P**	**15 00 39.9**	**+1.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**75.22**	**337**	P	**P**	**15 00 39.8**	**+1.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**75.22**	**337**	P	**P**	**15 00 39.8**	**+0.9**
	comp=Z,1.6nm,0.7s,mb4.1,baz=40,slow=5.7,SNR=6.6						

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*BJI **11** 15:06:20.0, 7.18S×68.91E, h10^{km}, mB5.5, mb4.6*
*IDC **11** 15:06:26.6±0.6, 6.51S×69.70E, mb4.3/19, mb1 4.5/19, mb1mx4.4/22, mbtmp4.3/19, MS4.4/7, Ms1 4.4/7, ms1mx4.2/26, Error ellipse: s-maj=19.3km s-min=14.4km az=42.0*
*HRVD **11** 15:06:28.2±0.5, 6.66S×69.72E, h16^{km}±1^{km}, MW5.1/58, Centroid moment Tensor Solution. LP body waves: s23,c34;Mantle waves: s58,c114; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.00±.18; $M_{\theta\theta}$3.59±.16; $M_{\phi\phi}$-2.59±.14; $M_{r\theta}$2.34±.52; $M_{\theta\phi}$-2.37±.13; $M_{\phi r}$1.72±.49; Best double couple: $M_0$4.934×10^{16} NP1: ϕ_s150°,δ53°,λ-12°. NP2:ϕ_s247°,δ80°,λ-143°. Principal axes: T 4.922, Plg18°, Azm14°; N .025, Plg52°, Azm260°; P -4.947, Plg33°, Azm115°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 15:06:28.2±0.2, 6.58S×69.72E, h10^{km}, mb5.0/27 Error ellipse: s-maj=6.8km s-min=5.4km az=221.0*
ISC 11 15:06:26.6±0.4**, 6.56S**±0.06×**69.73E**±0.06**, h10**^{km}**, n82, σ0ˢ94**/57**, mb4.7**/42**, MS4.4**/7**, 1D, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**2.84**	**107**	*e*Pn	**Pn**	**15 07 11.0**	**-1.8**
PALK	**Pallekele**	**17.57**	**39**	*e*P	**P**	**15 10 36.9**	**+3.5**
	26nm,0.9s						
HYB	**Hyderabad**	**25.37**	**20**	*e*P	**P**	**15 11 56.0**	**+0.2**
	60nm,1.0s,mb5.1						
HYB	**Hyderabad**	**25.37**	**20**	*i* P	**P**	**15 11 56.0**	**+0.2**
	60nm,1.0s,mb5.1						
ATD	**Arta Tunnel**	**32.22**	**304**	LR	LR	15 22 50.1	
	comp=Z,354nm,19.5s,MS4.1,baz=58,slow=31						
KMBO	**Kilima Mbogo**	**32.83**	**278**	P	**P**	**15 13 03.5**	**+0.6**
	3.3nm,1.0s,mb4.2,baz=62,slow=9.5,SNR=4.2						
KMBO				LR	LR	15 22 35.3	
	comp=Z,983nm,20.9s,MS4.5,baz=277,slow=30						
KOLN	**Koldanda**	**36.67**	**21**	*e*P	**P**	**15 13 36.3**	**+0.8**
	110nm,1.5s,mb5.5						
DMN	**Daman**	**37.08**	**23**	*e*P	**P**	**15 13 40.3**	**+1.3**
	83nm,1.0s,mb5.5						
PKI	**Pulchoki**	**37.17**	**23**	*e*P	**P**	**15 13 40.3**	**+0.6**
	51nm,1.2s,mb5.2						
GKN	**Gorkha**	**37.26**	**22**	*e*P	**P**	**15 13 41.4**	**+0.9**
	115nm,1.1s,mb5.6						
KKN	**Kakani**	**37.31**	**23**	*e*P	**P**	**15 13 41.9**	**+1.0**
	78nm,1.2s,mb5.4						
GUN	**Gumba**	**37.66**	**24**	*e*P	**P**	**15 13 45.3**	**+1.5**
	146nm,1.2s,mb5.6						
CMAR	**Chiang Mai Arr**	**38.06**	**49**	P	**P**	**15 13 48.5**	**+1.2**
	2.2nm,1.0s,mb3.8,baz=240,slow=9.3,SNR=9.5						
CMAR				LR	LR	15 26 56.4	
	comp=Z,263nm,20.1s,MS4.0,baz=270,slow=32						
MBAR	**Mbarara**	**39.34**	**277**	*e*P	**P**	**15 13 58.4**	**+0.3**
	12nm,1.3s,mb4.5						
LSA	**Lhasa**	**41.52**	**29**	*e*P	**P**	**15 14 16.6**	**+0.7**
	7.2nm,0.9s,mb4.3						
LSZ	**Lusaka**	**41.63**	**254**	*e*P	**P**	**15 14 17.3**	**+0.3**
	23nm,1.4s,mb4.6						
KSH	**Kashi**	**46.21**	**7**	*e*P	**P**	**15 14 54.0**	**+0.3**
KSH				AMB	AMB		
	comp=Z,460nm,9.4s						
BOSA	**Boshof**	**47.35**	**237**	P	**P**	**15 15 03.4**	**+0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=81,slow=6.7,SNR=3.0						
AAK	**Ala-Archa**	**49.15**	**5**	*e*P	**P**	**15 15 16.4**	**-0.3**
	comp=Z,34nm,1.4s,mb5.2						
CD2	**Chengdu**	**49.48**	**39**	P	**P**	**15 15 19.0**	**-0.4**
ASF	**Jabal al Asfar**	**49.62**	**323**	P	**P**	**15 15 19.2**	**-1.1**
	comp=Z,2.0nm,0.6s,mb4.3,baz=237,slow=0.6,SNR=4.1						
MBWA	**Marble Bar**	**50.45**	**112**	*e*P	**P**	**15 15 26.8**	**-0.1**
	comp=Z,5.7nm,0.7s,mb4.7						
NWAO	**Narrogin (SRO)**	**51.26**	**127**	P	**P**	**15 15 31.4**	**-1.5**
	comp=Z,4.6nm,0.8s,mb4.5,baz=311,slow=2.3,SNR=4.2						
NWAO				LR	LR	15 30 32.3	
	comp=Z,486nm,20.4s,MS4.5,baz=152,slow=28						
NWAO	**Narrogin (SRO)**	**51.26**	**127**	P	**P**	**15 15 31.4**	**-1.5**
NWAO				LR	LR	15 30 32.3	
GNI	**Garni**	**51.87**	**336**	*e*P	**P**	**15 15 37.6**	**+0.2**
	comp=Z,9.8nm,0.8s,mb4.8						
WMQ	**Urumqi**	**52.72**	**16**	P	**P**	**15 15 44.0**	**+0.3**
MALT	**Malatya**	**53.29**	**329**	*e*P	**P**	**15 15 48.6**	**+0.5**
	comp=Z,6.9nm,1.1s,mb4.5						
GTA	**Gaotai**	**53.55**	**29**	*e*P	**P**	**15 15 50.1**	**+0.2**
GTA				AP	pP	15 15 56.3	+3.3
GTA				XP	sP	15 15 59.6	+5.5
GTA				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.5						
MKAR	**Makanchi Array**	**54.28**	**11**	P	**P**	**15 15 53.1**	**-2.1**
	comp=Z,2.9nm,0.6s,mb4.4,baz=184,slow=6.8,SNR=36						
FITZ	**Fitzroy Crossi**	**55.62**	**107**	*e*P	**P**	**15 16 05.6**	**+0.3**
	comp=Z,16nm,0.9s,mb5.1						
FITZ	**Fitzroy Crossi**	**55.62**	**107**	P	**P**	**15 16 05.8**	**+0.4**
	comp=Z,26nm,0.9s,mb5.2,baz=266,slow=2.5,SNR=9.2						
FITZ				LR	LR	15 37 26.1	
	comp=Z,347nm,18.4s,MS4.5,baz=244,slow=33						
BR131	**Keskin Array S**	**56.84**	**327**	*e*P	**P**	**15 16 12.9**	**-0.9**
	comp=Z,0.6nm,0.3s,mb4.1						
BRTR	**Keskin Array B**	**56.84**	**327**	P	**P**	**15 16 12.6**	**-1.2**
	comp=Z,2.2nm,0.8s,mb4.3,baz=141,slow=7.9,SNR=11						
ZRNK	**Zerenda**	**59.29**	**359**	*e*P	**P**	**15 16 29.6**	**-1.2**
	comp=Z,24nm,1.0s,mb5.2						
HHC	**Hu-ho-hao-te**	**60.82**	**35**	*e*P	**P**	**15 16 39.9**	**-1.5**
HHC				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,888nm,7.6s						
ZAL	**Zalesovo**	**61.60**	**10**	P	**P**	**15 16 44.9**	**-1.7**
	comp=Z,4.1nm,0.5s,mb4.9,baz=263,slow=7.7,SNR=22						
KAKA	**Kakadu**	**62.01**	**101**	*e*P	**P**	**15 16 49.8**	**-0.1**
	comp=Z,20nm,0.9s,mb5.2						
SONM	**Songino Array**	**63.06**	**27**	P	**P**	**15 16 55.9**	**-0.4**
	comp=Z,7.4nm,1.0s,mb4.8,baz=225,slow=7.0,SNR=36						
ARU	**Arti**	**63.44**	**353**	*e*P	**P**	**15 16 57.2**	**-1.5**
	comp=Z,17nm,1.0s,mb5.1						
WRA	**Warramunga Arr**	**63.95**	**109**	P	**P**	**15 17 02.4**	**-0.3**
	comp=Z,20nm,0.9s,mb5.2,baz=283,slow=6.5,SNR=84						
WRAB	**Tennant Creek**	**63.96**	**109**	*e*P	**P**	**15 17 02.4**	**-0.3**
	comp=Z,89nm,1.4s,mb5.6						
WB2	**Warramunga Arr**	**63.96**	**109**	*e*P	**P**	**15 17 02.4**	**-0.3**
AKASG	**Malin Array Be**	**66.87**	**333**	P	**P**	**15 17 19.5**	**-1.4**
	comp=Z,0.4nm,0.3s,mb4.0,baz=133,slow=5.2,SNR=5.9						
AKASG	**Malin Array Be**	**66.87**	**333**	P	**P**	**15 17 19.5**	**-1.5**
STKA	**Stephens Creek**	**71.17**	**121**	*e*P	**P**	**15 17 47.4**	**-0.5**
	comp=Z,6.9nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**71.17**	**121**	P	**P**	**15 17 47.5**	**-0.4**
	comp=Z,7.5nm,0.8s,mb4.7,baz=290,slow=4.1,SNR=13						
STKA				LR	LR	15 47 35.5	
	comp=Z,291nm,19.4s,MS4.5,baz=114,slow=35						
TOO	**Toolangi**	**74.75**	**127**	*e*P	**P**	**15 18 09.9**	**+1.1**
	comp=Z,10nm,0.9s,mb4.8						
CTA	**Charters Tower**	**75.15**	**109**	⇓*i*P	**P**	**15 18 11.8**	**+0.3**
	comp=Z,16nm,1.0s,mb4.9						
CTAO	**Charters Tower**	**75.15**	**109**	*e*P	**P**	**15 18 11.7**	**+0.3**
	comp=Z,29nm,1.1s,mb5.1						
CLL	**Collm**	**75.30**	**327**	P	**P**	**15 18 11.0**	**-0.7**
	comp=Z,logA/T=0.9,mb4.6						
FINES	**FINESS Array B**	**75.77**	**340**	P	**P**	**15 18 13.4**	**-0.8**
	comp=Z,0.7nm,0.8s,mb3.7,baz=153,slow=8.5,SNR=4.2						
MJAR	**Matsushiro Arr**	**76.93**	**50**	P	**P**	**15 18 22.8**	**+1.6**
	comp=Z,1.4nm,0.8s,mb3.9,baz=243,slow=8.2,SNR=2.5						
NOA	**NORSAR Array B**	**81.17**	**335**	P	**P**	**15 18 44.2**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=110,slow=6.4,SNR=2.1						
ARCES	**ARCESS Array B**	**81.71**	**346**	P	**P**	**15 18 46.0**	**-0.3**
	comp=Z,4.8nm,0.8s,mb4.5,baz=143,slow=6.1,SNR=12						
ESDC	**Sonseca Array**	**81.77**	**312**	P	**P**	**15 18 47.6**	**+0.4**
	comp=Z,0.3nm,0.3s,mb3.7,baz=72,slow=4.7,SNR=4.5						
VNDA	**Vanda**	**84.10**	**167**	P	**P**	**15 18 59.5**	**+1.0**
	comp=Z,1.0nm,0.6s,mb4.1,baz=271,slow=6.7,SNR=7.1						
VNDA	**Vanda**	**84.10**	**167**	*e*P	**P**	**15 18 59.0**	**+0.5**
	comp=Z,3.2nm,1.2s,mb4.3						
SBA	**Scott Base**	**85.11**	**168**	*e*P	**P**	**15 19 04.9**	**+1.4**
	comp=Z,2.1nm,0.8s,mb4.3						
JMIC	**Jan Mayen**	**92.34**	**341**	LR	LR	15 59 20.4	
	comp=Z,227nm,18.9s,MS4.6,baz=141,slow=34						
YKA	**Yellowknife Ar**	**124.09**	**2**	PKP	PKPdf	15 25 25.1	-3.2
	comp=Z,1.7nm,0.7s,baz=357,slow=2.4,SNR=6.4						
SAML	**Samuel**	**130.60**	**252**	*e*PKPdf	PKPdf	15 25 40.4	-1.7
LPAZ	**La Paz**	**132.52**	**241**	PKP	PKPdf	15 25 44.3	-1.3
	comp=Z,0.6nm,0.6s,baz=127,slow=10,SNR=3.7						
LPAZ	**La Paz**	**132.52**	**241**	PKP	PKPdf	15 25 44.3	-1.3
LPAZ				*e*PKPdf	PKPdf	15 25 44.7	-1.0
HLID	**Hailey**	**142.97**	**5**	*e*PKPdf	PKPdf	15 26 02.6	-1.3
PDAR	**Pinedale Array**	**143.94**	**359**	PKP	PKPdf	15 26 04.8	-0.7
	comp=Z,1.6nm,0.6s,baz=75,slow=3.4,SNR=14						
HWUT	**Hardware Ranch**	**145.09**	**2**	*e*PKPdf	PKPdf	15 26 06.3	-1.3
KSU1	**Kansas State U**	**145.34**	**341**	*e*PKPdf	PKPdf	15 26 05.8	-2.3
TCUT	**Toone Canyon**	**145.58**	**2**	*e*PKPbc	PKPbc	15 26 08.3	+2.2
BEKR	**Beckwourth**	**145.62**	**14**	*e*PKPdf	PKPdf	15 26 07.9	-0.7
ELK	**Elko**	**145.68**	**7**	*e*PKPbc	PKPbc	15 26 08.6	+2.2
BMN	**Battle Mountai**	**145.71**	**9**	*e*PKPbc	PKPbc	15 26 08.6	+2.1
LRAL	**Lakeview Retre**	**145.92**	**324**	*e*PKPbc	PKPbc	15 26 08.4	+1.1
TMUT	**Trail Mountain**	**147.40**	**1**	*e*PKPbc	PKPdf	15 26 13.2	+1.6
SRU	**San Rafael**	**147.60**	**0**	*e*PKPbc	PKPdf	15 26 13.3	+1.4
MSU	**Marysvale**	**148.15**	**3**	*e*PKPbc	PKPdf	15 26 16.0	+3.1
MVU	**Marysvale**	**148.16**	**3**	*e*PKPbc	PKPdf	15 26 15.9	+3.1
SDCO	**Great Sand Dun**	**148.66**	**353**	*e*PKPbc	PKPdf	15 26 16.5	+2.8
NEN	**Nelson**	**150.75**	**8**	*e*PKPbc	PKPdf	15 26 21.3	+4.3
LAZ	**Ladron**	**152.15**	**354**	*e*PKPdf	PKPdf	15 26 18.4	-0.8
LAZ				*e*PKPbc	PKPdf	15 26 25.0	+5.8
BNM	**Barren Site**	**152.34**	**353**	*e*PKPbc	PKPdf	15 26 25.1	+5.7
MNTX	**Cornudas Mount**	**154.58**	**350**	*e*PKPbc	PKPdf	15 26 30.2	+7.7
TXAR	**Lajitas Array**	**156.51**	**345**	PKPbc	PKPdf	15 26 34.2	+9.1
	comp=Z,0.5nm,0.7s,baz=90,slow=1.3,SNR=4.1						
TXAR				PKPab	PKPab	15 26 53.4	-0.1
	comp=Z,1.8nm,0.8s,baz=27,slow=2.8,SNR=8.0						

IDC 11 15:09:28.8±1.9**, 2.91N**×**128.84E, mb3.6**/4**, mb1 3.9**/4**, mb1mx3.6**/18**, mbtmp3.7**/4**, Error ellipse: s-maj=91.8km s-min=25.4km az=70.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.11**	**188**	P	P	15 14 16.2	-1.5
	6.8nm,1.0s,baz=360,slow=9.9,SNR=5.8						
WRA	**Warramunga Arr**	**23.34**	**167**	P	P	15 14 39.2	-0.7
	0.5nm,0.4s,baz=345,slow=10.0,SNR=18						
STKA	**Stephens Creek**	**36.66**	**162**	P	P	15 16 36.0	-3.2
	0.7nm,0.3s,baz=349,slow=11,SNR=8.3						
MKAR	**Makanchi Array**	**59.44**	**325**	P	P	15 19 34.0	-1.7
	0.1nm,0.4s,baz=120,slow=7.0,SNR=4.4						

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*NEIC **11** 15:10:40.2, 36.81N×21.50E, h28^{km}, MD3.5(ATH), After ATH.*
*CSEM **11** 15:10:40.2, 36.81N×21.50E, h28^{km}, MD3.5/5, After ATH*
ATH 11 15:10:40.7, 36.88N×**21.55E, h33**^{km}±3^{km}**, MD3.5**/5**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.42**	**45**	*e*PB	Pb	15 10 50.2	0.0
ITM				*e*SB	Sb	15 10 57.5	+0.9
ITM	**Ithomi**	**0.42**	**45**	*e*Pn	Pn	15 10 50.2	-0.2
ITM				*e*Sn	Sn	15 10 58.7	+1.7
VLI	**Veliai**	**1.12**	**98**	*e*PN	Pn	15 11 02.3	+1.9
VLI	**Veliai**	**1.12**	**98**	*e*Pn	Pn	15 11 02.7	+2.3
RLS	**Riolos of Patr**	**1.18**	**357**	*e*PN	Pn	15 11 02.5	+1.4
KYTH	**Kithira**	**1.34**	**116**	*e*PN	Pn	15 11 04.7	+1.3
VLS	**Valsamata**	**1.50**	**330**	*e*PN	Pn	15 11 07.6	+1.8
VLS	**Valsamata**	**1.50**	**330**	*e*Pn	Pn	15 11 08.5	+2.7
EVR	**Evrytania**	**2.04**	**6**	*e*PN	Pn	15 11 14.8	+1.3
EVR	**Evrytania**	**2.04**	**6**	*e*Pn	Pn	15 11 15.7	+2.2

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*NEIC **11** 15:28:14.5±2.9, 7.84S×127.41E, h183^{km}±38^{km}, mb3.5/1, Error ellipse: s-maj=29.3km s-min=23.4km az=216.0*
*IDC **11** 15:28:22.7±8.0, 8.39S×127.41E, h296^{km}±101^{km}, mb2.9/2, mb1 3.2/4, mb1mx3.0/15, mbtmp3.7/4, Error ellipse: s-maj=77.3km s-min=38.3km az=40.0*
ISC 11 15:28:16.4±1.9**, 7.98S**±0.10×**127.5E**±0.1**, h228**^{km}±24^{km}**, n8, σ0ˢ90**/14**, mb3.2**/2**, 2C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.75**	**135**	⇑*i*P	**P**	**15 29 53.2**	**-1.1**
	27nm,0.2s						
KAKA				*e*S	**S**	**15 31 05.2**	**-5.6**
FITZ	**Fitzroy Crossi**	**10.23**	**190**	⇑*i*P	**P**	**15 30 38.5**	**-0.5**
	6.6nm,0.3s						
FITZ				*e*S	**S**	**15 32 32.2**	**+1.4**
FITZ	**Fitzroy Crossi**	**10.23**	**190**	P	**P**	**15 30 38.8**	**-0.2**
	2.7nm,0.3s,baz=14,slow=12,SNR=34						
FITZ				S	**S**	**15 32 29.4**	**-1.4**
	5.0nm,0.3s,baz=171,slow=6.5,SNR=7.1						
WRAB	**Tennant Creek**	**13.60**	**152**	*e*Pn	**P**	**15 31 22.4**	**+0.9**
	1.6nm,0.7s						
WRAB				*e*Sn	**S**	**15 33 48.2**	**+0.5**
WRA	**Warramunga Arr**	**13.61**	**152**	P	**P**	**15 31 21.8**	**+0.3**
	0.6nm,0.3s,baz=332,slow=12,SNR=39						
WRA				S	**S**	**15 33 46.6**	**-1.2**
	1.2nm,0.3s,baz=330,slow=23,SNR=11						
WB2	**Warramunga Arr**	**13.61**	**152**	*e*P	**P**	**15 31 23.4**	**+1.8**
WB2				*e*S	**S**	**15 33 47.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**38.54**	**313**	P	**P**	**15 35 18.4**	**-0.3**
	0.4nm,0.6s,mb3.1,baz=142,slow=6.4,SNR=4.8						
MKAR	**Makanchi Array**	**67.72**	**328**	P	**P**	**15 38 51.0**	**-0.1**
	0.5nm,0.6s,mb3.3,baz=129,slow=8.0,SNR=5.6						

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*MOS **11** 15:39:14.0±0.9, 50.86N×157.83E, h43^{km}, mb4.0/2, Error ellipse: s-maj=28.5km s-min=9.3km az=71.8*
*KRSC **11** 15:39:15.8±0.3, 50.90N×157.99E, h46^{km}±21^{km}, ML4.2*
*IDC **11** 15:39:17.7±5.5, 50.98N×157.92E, h54^{km}±52^{km}, mb3.2/4, mb1 3.7/5, mb1mx3.3/22, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=42.9km s-min=29.0km az=151.0*
ISC 11 15:39:16.2±0.8**, 50.95N**±0.06×**157.99E**±0.08**, h56**^{km}±10^{km}**, n39, σ0ˢ86**/62**, mb3.8**/5**, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.91**	**306**	*i* P	**P**	**15 39 32.8**	**-0.1**
PAU				*i* S	**S**	**15 39 44.9**	**-0.6**
PAU				Smax			
	2μm,0.3s						
SKR	**Severo-Kuril's**	**1.22**	**258**	*e*PN	**P**	**15 39 33.5**	**-3.7**
SKR				*i* S	**S**	**15 39 48.2**	**-4.8**
SKR				pmax	pmax		
	comp=Z,180nm,0.3s						
SKR				pmax	pmax		
	comp=Z,110nm,0.5s						
SKR				pmax	pmax		
	comp=N,120μm,0.2s						
SKR				pmax	pmax		
	comp=E,120μm,0.2s						
SKR				smax			
	comp=N,590μm,0.2s						
SKR				smax			
	comp=E,711μm,0.2s						
RUS	**Russkaya**	**1.52**	**12**	P	**P**	**15 39 41.0**	**-0.6**
RUS				S	**S**	**15 39 58.8**	**-1.7**
RUS	**Russkaya**	**1.52**	**12**	*i* P	**P**	**15 39 41.1**	**-0.5**
RUS				*i* S	**S**	**15 39 59.4**	**-1.1**
MIPR	**Malaya Ipel'ka**	**1.54**	**331**	*e*P	**P**	**15 39 43.5**	**+1.7**
ALID	**Alaid**	**1.55**	**268**	*i* P	**P**	**15 39 41.7**	**-0.2**
ALID				*i* S	**S**	**15 40 00.4**	**-0.6**
GRL	**Gorelyy**	**1.61**	**2**	*i* P	**P**	**15 39 43.0**	**+0.2**
GRL				*i* S	**S**	**15 40 02.8**	**+0.3**
APC	**Apacha**	**2.05**	**346**	*i* P	**P**	**15 39 49.2**	**+0.3**
APC				*i* S	**S**	**15 40 13.4**	**+0.2**
APC				Smax			
	comp=E,140nm,0.7s						
PET	**Petropavlovsk**	**2.12**	**11**	P	**P**	**15 39 49.9**	**-0.1**
PET				S	**S**	**15 40 14.5**	**-0.6**
PET	**Petropavlovsk**	**2.12**	**11**	⇓*i*PN	**P**	**15 39 49.8**	**-0.2**
PET				*e*S	**S**	**15 40 14.6**	**-0.5**
PET				pmax	pmax		
	comp=Z,65nm,0.5s						
PET				smax			
	comp=N,300nm,0.3s						
PET				smax			
	comp=N,398nm,0.4s						
PET	**Petropavlovsk**	**2.12**	**11**	*i* P	**P**	**15 39 49.7**	**-0.3**
PET				*e*S	**S**	**15 40 14.5**	**-0.6**
UGLR	**Uglovaya**	**2.32**	**12**	*i* P	**P**	**15 39 53.3**	**+0.5**
AVH	**Avacha**	**2.37**	**11**	*i* P	**P**	**15 39 54.4**	**+0.9**
AVH				*i* S	**S**	**15 40 22.4**	**+1.1**
SMAR	**Somma**	**2.37**	**12**	*i* P	**P**	**15 39 54.8**	**+1.2**
NLC	**Nalytchevo**	**2.38**	**20**	P	**P**	**15 39 52.2**	**-1.5**
NLC				S	**S**	**15 40 18.7**	**-3.0**
NLC	**Nalytchevo**	**2.38**	**20**	*e*P	**P**	**15 39 52.5**	**-1.2**
NLC				*e*S	**S**	**15 40 20.8**	**-0.9**
KOK	**Koryaka**	**2.38**	**9**	*i* P	**P**	**15 39 54.7**	**+1.0**
SDLR	**Sedlovina**	**2.40**	**13**	*i* P	**P**	**15 39 53.8**	**-0.1**
SPN	**Mys Shipunski**	**2.49**	**29**	P	**P**	**15 39 55.1**	**-0.2**
SPN				S	**S**	**15 40 23.9**	**-0.7**
SPN	**Mys Shipunski**	**2.49**	**29**	*i* P	**P**	**15 39 55.5**	**+0.2**
SPN				*i* S	**S**	**15 40 24.6**	**0.0**
GNL	**Ganaly**	**2.75**	**359**	*e*P	**P**	**15 39 59.3**	**+0.3**
GNL				*e*S	**S**	**15 40 31.2**	**+0.1**
KII	**Karymskiy**	**3.22**	**16**	P	**P**	**15 40 06.8**	**+1.2**
KII				S	**S**	**15 40 44.2**	**+1.3**
KII	**Karymskiy**	**3.22**	**16**	*e*P	**P**	**15 40 06.4**	**+0.8**
KII				*e*S	**S**	**15 40 43.3**	**+0.4**
MKZ	**Mys Kozlova**	**4.27**	**31**	P	**P**	**15 40 19.8**	**-0.5**
MKZ				S	**S**	**15 41 07.0**	**-2.4**
MKZ	**Mys Kozlova**	**4.27**	**31**	*e*P	**P**	**15 40 20.2**	**-0.1**
MKZ				*e*S	**S**	**15 41 08.0**	**-1.4**
TUMR	**Tumrok**	**4.53**	**16**	*e*P	**P**	**15 40 24.8**	**+0.8**
TUMR				*e*S	**S**	**15 41 15.7**	**-0.3**
KMNR	**Kamenistaya**	**5.00**	**15**	*e*P	**P**	**15 40 32.0**	**+1.4**
ESO	**Esso**	**5.01**	**5**	*e*P	**P**	**15 40 30.2**	**-0.4**
ESO				*e*S	**S**	**15 41 24.4**	**-3.4**
ESO				Smax			
	comp=N,20nm,1.4s						
KBTR	**Krutoberegovo**	**6.00**	**27**	P	**P**	**15 40 44.4**	**0.0**
KBTR	**Krutoberegovo**	**6.00**	**27**	*i* P	**P**	**15 40 44.5**	**+0.1**
BKI	**Bering**	**6.43**	**45**	*e*S	**S**	**15 41 55.7**	**-7.5**
FX1	**Attu Island--F**	**9.58**	**72**	P	**P**	**15 41 33.4**	**-0.4**
	comp=N,0.7nm,0.3s,baz=288,slow=16,SNR=15						
FX1				S	**S**	**15 43 13.4**	**-7.6**
	comp=N,3.3nm,0.3s,baz=227,slow=19,SNR=14						
ILAR	**Eielson Array**	**31.27**	**43**	P	**P**	**15 45 31.4**	**-0.8**
	comp=N,0.4nm,0.7s,mb3.3,baz=252,slow=8.5,SNR=5.1						
MKAR	**Makanchi Array**	**47.92**	**296**	P	**P**	**15 47 50.0**	**-0.4**
	comp=N,0.2nm,0.5s,mb3.4,baz=57,slow=6.9,SNR=4.3						
TXAR	**Lajitas Array**	**72.70**	**65**	P	**P**	**15 50 40.5**	**+0.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**72.70**	**65**	P	**P**	**15 50 40.5**	**+0.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=284,slow=3.7,SNR=4.9						
WRA	**Warramunga Arr**	**73.59**	**203**	P	**P**	**15 50 44.9**	**-0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
WRA	**Warramunga Arr**	**73.59**	**203**	P	**P**	**15 50 44.9**	**-0.1**
	comp=Z,0.7nm,1.1s,mb3.5,baz=20,slow=6.4,SNR=5.0						
FITZ	**Fitzroy Crossi**	**74.39**	**212**	*e*P	**P**	**15 50 59.8**	**+10**
	comp=Z,5.6nm,0.4s,mb4.8						

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*IDC **11** 15:43:36.4±1.2, 26.77S×176.33W, mb4.2/6, mb1 4.4/7, mb1mx4.2/13, mbtmp4.2/7, MS3.6/1, Ms1 3.6/1, ms1mx3.2/25, Error ellipse: s-maj=35.1km s-min=23.0km az=108.0*
*NEIC **11** 15:43:42.9±3.4, 26.84S×176.44W, h42^{km}±26^{km}, mb4.7/8, Error ellipse: s-maj=29.4km s-min=17.4km az=46.0*
ISC 11 15:43:40.2±1.0**, 26.73S**±0.08×**176.4W**±0.2**, h33**^{km}**, n39, σ1ˢ29**/32**, mb4.5**/11**, 6C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.84**	**207**	Pn	**Pn**	**15 44 24.3**	**0.0**
	223nm,0.3s,baz=92,slow=22,SNR=6.9						
RAO				Sn	**Sn**	**15 44 58.8**	**+1.0**
	465nm,0.3s,baz=101,slow=22,SNR=7.7						
URZ	**Urewera**	**12.72**	**204**	LR	LR	15 50 27.2	
	comp=Z,248nm,20.4s,baz=51,slow=32						
AFI	**Afiamalu**	**13.47**	**20**	Pn	**P**	**15 46 45.0**	**-6.5**
	4.1nm,0.3s,baz=7.0,slow=9.0,SNR=4.3						
AFI	**Afiamalu**	**13.47**	**20**	*e*Pn	**P**	**15 46 44.7**	**-6.8**
RAR	**Rarotonga**	**16.18**	**74**	*e*P	**P**	**15 47 16.5**	**-10**
CTA	**Charters Tower**	**34.79**	**273**	*e*P	**P**	**15 50 30.9**	**+1.0**

5.6nm,1.2s,mb4.4
CTA Charters Tower 34.79 273 P **P** **15 50 30.4 +0.5**
2.9nm,0.5s,mb4.5,baz=106,slow=12,SNR=9.3
CTAO Charters Tower 34.79 273 *e*P **P** **15 50 31.1 +1.2**
15nm,1.2s,mb4.8
STKA Stephens Creek 36.80 252 P **P** **15 50 45.8 -1.0**
1.1nm,0.7s,mb3.8,baz=101,slow=15,SNR=3.5
WB2 Warramunga Arr 45.47 268 *e*P **P** **15 51 57.5 -0.8**
WRAB Tennant Creek 45.48 268 *e*P **P** **15 51 57.7 -0.7**
15nm,1.1s,mb4.7
WRA Warramunga Arr 45.48 268 P **P** **15 51 57.5 -0.9**
2.3nm,0.5s,mb4.2,baz=109,slow=7.2,SNR=36
VNDA Vanda 51.88 186 P **P** **15 52 45.7 -1.4**
0.6nm,0.8s,mb3.6,baz=38,slow=3.3,SNR=2.6
VNDA Vanda 51.88 186 *e*P **P** **15 52 50.5 +3.4**
10nm,1.7s,mb4.5
CASY Casey 59.02 207 *e*P **P** **15 53 37.0 -1.8**
5.3nm,0.7s,mb4.7
QSPA South Pole Qui 63.37 180 *e*P **P** **15 54 06.8 -1.3**
15nm,1.2s,mb5.0
KSM Kuching 75.75 279 *e*P **P** **15 55 24.4 -0.5**
KSM *e* pP 15 55 36.0 +0.8
MJAR Matsushiro Arr 76.06 324 P **P** **15 55 26.3 +0.1**
4.2nm,0.9s,mb4.4,baz=172,slow=6.0,SNR=8.2
MJAR Matsushiro Arr 76.06 324 P **P** **15 55 26.3 +0.1**
SNAA Sanae 81.77 178 **P** **15 55 58.6 +2.1**
SNAA Sanae 81.77 178 **P** **15 56 06.4 +10**
SNAA Sanae 81.77 178 **P** **15 56 15.6 +19**
SNAA Sanae 81.77 178 *e*P **P** **15 55 55.6 -1.0**
2.5nm,0.8s,mb4.2
VNA3 Neumayer Olymp 81.86 176⇑*i* **P** **15 56 01.9 +4.9**
VNA3 Neumayer Olymp 81.86 176⇑*i* **P** **15 56 06.6 +10**
VNA3 Neumayer Olymp 81.86 176 **P** **15 56 12.0 +15**
VNA2 Neumayer--Watz 82.31 176⇑*i* **P** **15 56 01.6 +2.3**
VNA2 Neumayer--Watz 82.31 176⇑*i* **P** **15 56 04.6 +5.3**
VNA2 Neumayer--Watz 82.31 176⇑*i* **P** **15 56 11.7 +12**
VNA2 Neumayer--Watz 82.31 176⇑*i* **P** **15 56 14.7 +15**
ENH Enshi 90.70 304 *e*P **P** **15 56 43.1 +1.9**
23nm,1.5s,mb5.3
CMAR Chiang Mai Arr 93.51 289 P **P** **15 56 56.5 +2.1**
1.1nm,0.9s,mb4.3,baz=137,slow=3.5,SNR=8.5
MKAR Makanchi Array 116.44 311 PKP PKPdf 16 02 21.0 +0.5
0.3nm,0.5s,baz=90,slow=2.4,SNR=4.7
MKAR Makanchi Array 116.44 311 PKP PKPdf 16 02 21.0 +0.5
FINES FINESS Array B 142.12 343 PKP PKPdf 16 03 11.5 +3.1
1.1nm,1.0s,baz=90,slow=2.8,SNR=2.9
NB2 NORSAR Subarra 145.31 353 PKPabc PKPdf 16 03 15.7 +1.8
7.5nm,1.1s,baz=13,slow=2.8
NOA NORSAR Array B 145.31 353 PKPbc PKPbc 16 03 14.9 +0.5
2.8nm,0.9s,baz=7.8,slow=2.5,SNR=6.4
AKASG Malin Array Be 149.08 328 PKPbc PKPdf 16 03 25.4 +4.9
1.0nm,0.6s,baz=34,slow=3.2,SNR=9.0
BRTR Keskin Array B 151.85 305 PKPbc PKPdf 16 03 33.2 +8.2
0.4nm,0.4s,baz=135,slow=3.5,SNR=5.3

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*BJI **11** 16:06:23.9, 26.47S×176.09W, h9km, mB5.7, mb5.3, Ms5.4, Msz5.1*

*IDC **11** 16:06:23.9±0.5, 26.86S×176.58W, mb4.9/16, mb1 5.0/18, mb1mx5.0/18, mbtmp4.8/18, ML4.5/1, MS5.1/18, Ms1 5.1/18, ms1mx5.0/26, Error ellipse: s-maj=18.5km s-min=12.8km az=139.0*

*MOS **11** 16:06:24.3±1.0, 26.82S×176.53W, h10km, mb5.4/27, MS5.1/40, Error ellipse: s-maj=15.8km s-min=10.3km az=70.7*

*HRVD **11** 16:06:25.1±0.1, 26.91S×176.03W, h12km, MW5.6/73, Centroid moment Tensor Solution. LP body waves: s68,c144; Mantle waves: s73,c172; Half duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.73±.03; $M_{\theta\theta}$0.12±.03; $M_{\phi\phi}$-1.85±.02; $M_{r\theta}$0.56±.09; $M_{\theta\phi}$-0.54±.02; $M_{\phi r}$2.03±.08; Best double couple: $M_0$2.808×10^{17} NP1:ϕ_s193°,δ21°,λ88°. NP2:ϕ_s15°,δ69°,λ91°. Principal axes: T 2.68, Plg66°, Azm286°; N .254, Plg1°, Azm195°; P -2.935, Plg24°, Azm105°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **11** 16:06:25.1±0.1, 26.87S×176.52W, h10km, mb5.3/60, MS5.2/112, MW5.6 Error ellipse: s-maj=6.4km s-min=4.2km az=144.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^{17}Nm; M_{rr}1.79; $M_{\theta\theta}$-0.97; $M_{\phi\phi}$-0.82; $M_{r\theta}$0.46; $M_{\theta\phi}$2.35; $M_{\phi r}$1.66; Best double couple: $M_0$3.3×10^{17} NP1:ϕ_s100°,δ49°,λ33°. NP2:ϕ_s347°,δ66°,λ134°. Principal axes: T 3.2, Plg49°, Azm306°; N .19, Plg39°, Azm145°; P -3.39, Plg10°, Azm47°;*

*CSEM **11** 16:06:26.4, 27.19S×176.50W, h33km, mb5.6*

ISC 11 16:06:24.9±0.2**, 26.98S**±0.05×**176.58W**±0.05**, h17**km**, h17**km±3.2km**:pP-P, n441, σ0s90**/197**, mb5.2**/79**, MS5.2**/146**, 26C-6D, South of Fiji Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 2.56 207 Pn **Pn** **16 07 09.0 +2.6**
2μm,0.3s,baz=102,slow=3.1,SNR=39
RAO Sn **Sn** **16 07 43.8 +6.5**
3μm,0.3s,baz=249,slow=23,SNR=13
RAO LR LR 16 07 57.2
comp=Z,11μm,19.3s,baz=21,slow=35
RAO Raoul Island 2.56 207 *e*P **Pn** **16 07 10.0 +3.7**
RAO *e*S **Sn** **16 07 43.7 +6.4**
PUZ Puketiti 11.89 200 *e*PN **P** **16 09 08.0 -8.7**
PUZ SN **S** **16 11 19.6 -10**
MWZ Matawai 12.36 202 *e*PN **P** **16 09 14.6 -8.4**
URZ Urewera 12.44 204 Pn **P** **16 09 15.8 -8.3**
1.0nm,0.3s,baz=138,slow=11,SNR=8.2
URZ Sn **S** **16 11 36.1 -7.1**
12nm,0.3s,baz=171,slow=22,SNR=15
URZ Urewera 12.44 204 *e*PN **P** **16 09 15.2 -8.9**
URZ *e*SN **S** **16 11 35.5 -7.7**
AFI Afiamalu 13.76 20 *e*P **P** **16 09 32.0 -10**
AFI pmax pmax
comp=Z,100nm,0.6s
AFI Afiamalu 13.76 20 Pn **P** **16 09 32.1 -10**
comp=Z,8.6nm,0.3s,baz=308,slow=1.2,SNR=13
AFI Sn S 16 11 55.9 -19
comp=Z,6.7nm,0.3s,baz=54,slow=21,SNR=5.4
AFI Afiamalu 13.76 20 *e*P **P** **16 09 32.0 -10**
comp=Z,100nm,0.6s
BFZ Birch Farm 14.90 202 *e*PN **P** **16 09 50.8 -5.7**
BFZ SN **S** **16 12 28.6 -13**
MRZ Mangatainoka R 15.11 203 *e*PN **P** **16 09 50.1 -9.2**
MRZ SN **S** **16 12 32.2 -15**
DZM Mont Dzumac 16.20 284 Pn **P** **16 10 21.2 +7.7**
comp=Z,1.7nm,0.3s,baz=96,slow=18,SNR=9.8
DZM LR LR 16 14 17.0
comp=Z,4μm,19.2s,baz=88,slow=29
RAR Rarotonga 16.38 73 *e*P **P** **16 10 04.0 -12**
TUWZ Tuamarina 16.39 206 *e*PN **P** **16 10 13.5 -2.3**
THZ Tophouse 17.09 208 *e*PN **P** **16 10 19.0 -5.6**
KHZ Kahutara 17.39 205 *e*PN **P** **16 10 22.6 -5.8**
RPZ Rata Peaks 19.47 208 P **P** **16 10 52.2 -1.4**
comp=Z,1.5nm,0.3s,baz=359,slow=4.5,SNR=9.1
RPZ S **S** **16 14 19.8 -7.0**
comp=Z,2.2nm,0.3s,baz=326,slow=12,SNR=6.1
PPT Papeete 26.63 75 LR LR 16 19 43.2
comp=Z,3μm,21.0s,MS4.8,baz=250,slow=30
HNR Honiara 28.23 304 LR LR 16 21 52.2
comp=Z,6μm,20.4s,MS5.2,baz=140,slow=33
HNR Honiara 28.23 304 P **P** **16 12 18.4 -0.8**
comp=Z,93nm,1.0s,mb5.4
HNR LR LR
comp=Z,6μm,20.0s,MS5.2
TAU Tasmania Unive 33.30 232 PFAKE 16 13 20.0 +16
TAU LR LR
comp=Z,1μm,19.0s,MS4.7
TOO Toolangi 33.57 242 *e*P **P** **16 13 06.7 +0.6**
comp=Z,7.9nm,0.9s,mb4.6
CTA Charters Tower 34.67 273 *e*P **P** **16 13 17.4 +1.6**
comp=Z,13nm,0.4s,mb5.2
CTA Charters Tower 34.67 273 P **P** **16 13 16.5 +0.7**
comp=Z,16nm,0.5s,mb5.2,baz=95,slow=11,SNR=32
CTA LR LR 16 26 11.1
comp=Z,10μm,18.9s,MS5.6,baz=112,slow=34
CTAO Charters Tower 34.67 273 *e*P **P** **16 13 16.8 +1.0**
comp=Z,17nm,0.6s,mb5.1
CTAO LR LR
comp=Z,10μm,19.0s,MS5.6
STKA Stephens Creek 36.59 252 *e*P **P** **16 13 32.6 +0.6**
STKA Stephens Creek 36.59 252 P **P** **16 13 32.5 +0.6**
comp=Z,3.4nm,0.4s,mb4.5,baz=91,slow=8.7,SNR=16
STKA PcP PcP 16 15 56.5 +1.0
comp=Z,5.1nm,0.9s,baz=68,slow=5.4,SNR=3.4
STKA LR LR 16 27 41.7
comp=Z,9μm,18.0s,MS5.6,baz=87,slow=35

PMG Port Moresby 38.44 290 LR LR 16 27 28.6
comp=Z,6μm,18.6s,MS5.4,baz=101,slow=33
PMG Port Moresby 38.44 290 PFAKE 16 14 00.0 +12
PMG LR LR
comp=Z,6μm,20.0s,MS5.4
KWAJ Kwajalein Atol 38.73 335 PFAKE 16 14 00.0 +10
KWAJ LR LR
comp=Z,406nm,20.0s,MS4.2
TAOE Nuku Hiva Isla 38.87 69 *e*S **S** **16 19 34.8 -13**
comp=Z,2μm,24.7s
TAOE *e*LQ 16 22 11.7
comp=Z,5μm,22.8s
TAOE *e*LR LR 16 23 28.2
comp=Z,10μm,27.4s
PTCN Pitcairn Islan 41.63 98 PFAKE 16 14 20.0 +6.0
PTCN LR LR
comp=Z,4μm,19.0s,MS5.3
WB2 Warramunga Arr 45.34 268 *e*P **P** **16 14 43.6 -0.5**
WB2 *e*S **S** **16 21 22.9 -0.4**
WRAB Tennant Creek 45.34 268 *i* P **P** **16 14 44.3 +0.2**
WRAB Tennant Creek 45.34 268 *e*P **P** **16 14 43.4 -0.7**
comp=Z,46nm,0.9s,mb5.3
WRAB LR LR
comp=Z,1μm,21.0s,MS4.9
WRA Warramunga Arr 45.34 268 P **P** **16 14 43.8 -0.4**
comp=Z,16nm,0.6s,mb5.0,baz=104,slow=8.0,SNR=122
WRA PcP PcP 16 16 24.4 +0.2
comp=Z,5.8nm,0.9s,baz=102,slow=3.7,SNR=4.5
WRA S **S** **16 21 23.3 -0.2**
comp=Z,1.9nm,1.1s,baz=107,slow=13,SNR=3.1
WAKE Wake Island 48.78 339 PFAKE 16 15 20.0 +8.9
WAKE LR LR
comp=Z,2μm,19.0s,MS5.1
KAKA Kakadu 49.70 276 *e*P **P** **16 15 17.7 -0.5**
comp=Z,11nm,0.3s,mb5.3
SBA Scott Base 51.53 184 *e*P **P** **16 15 33.3 +1.9**
SBA pmax pmax
comp=Z,72nm,1.2s,mb5.5
SBA MLR MLR
comp=Z,2μm,22.0s,MS5.1
SBA Scott Base 51.53 184 *e*P **P** **16 15 33.3 +1.9**
comp=Z,72nm,1.3s,mb5.5
SBA LR LR
comp=Z,2μm,22.0s,MS5.1
VNDA Vanda 51.61 186 *e*P **P** **16 15 32.5 +0.4**
VNDA pmax pmax
comp=Z,49nm,1.4s
VNDA MLR MLR
comp=Z,1μm,19.0s
VNDA Vanda 51.61 186 P **P** **16 15 32.0 -0.1**
comp=Z,7.2nm,0.9s,mb4.6,baz=12,slow=8.9,SNR=33
VNDA LR LR 16 34 25.5
comp=Z,1μm,18.2s,MS5.0,baz=13,slow=32
VNDA Vanda 51.61 186 *e*P **P** **16 15 32.5 +0.5**
comp=Z,49nm,1.5s,mb5.2
VNDA LR LR
comp=Z,1μm,19.0s,MS5.0
FITZ Fitzroy Crossi 53.71 267 *e*P **P** **16 15 45.9 -2.5**
comp=Z,32nm,1.0s,mb5.2
FITZ Fitzroy Crossi 53.71 267 P **P** **16 15 48.0 -0.5**
comp=Z,55nm,1.1s,mb5.4,baz=151,slow=4.2,SNR=18
FITZ LR LR 16 38 49.6
comp=Z,5μm,18.4s,MS5.6,baz=101,slow=36
MIDW Midway 54.88 359 PFAKE 16 16 10.0 +13
MIDW LR LR
comp=Z,2μm,20.0s,MS5.3
GUMO Guam 55.02 312 PFAKE 16 16 10.0 +12
GUMO LR LR
comp=Z,2μm,22.0s,MS5.2
KLBR Kellerberrin 56.70 248 *e*P **P** **16 16 09.1 -0.9**
comp=Z,26nm,0.9s,mb5.3
NWAO Narrogin (SRO) 56.83 247 P **P** **16 16 10.2 -0.7**
comp=Z,3.8nm,0.8s,mb4.5,baz=63,slow=6.8,SNR=3.2
NWAO LR LR 16 39 00.5
comp=Z,2μm,18.9s,MS5.2,baz=255,slow=34
MUN Mundaring 57.89 248 *e*P **P** **16 16 17.8 -0.6**
comp=Z,7.1nm,0.9s,mb4.7
MBWA Marble Bar 57.92 261 *e*P **P** **16 16 17.3 -1.5**
comp=Z,18nm,0.9s,mb5.1
MBWA LR LR
comp=Z,7μm,19.0s,MS5.8
CASY Casey 58.74 207⇑*i*P **P** **16 16 23.4 -0.4**
RPN Rapa Nui 59.18 107 LR LR 16 35 24.0
comp=Z,1μm,18.2s,MS5.0,baz=272,slow=29
QSPA South Pole Qui 63.12 180 *e*P **P** **16 16 53.9 +0.5**
comp=Z,75nm,1.0s,mb5.8
MIR Mirnyy 65.73 206*d i*P **P** **16 17 10.8 +0.4**
MIR pmax pmax
comp=Z,378nm,2.0s,mb6.1
KKM Kota Kinabalu 72.75 286 *e*P **P** **16 17 53.6 -1.0**
PMSA Palmer Station 74.86 156 PFAKE 16 18 20.0 +14
PMSA LR LR
comp=Z,1μm,19.0s,MS5.3
KSM Kuching 75.67 279 *e*P **P** **16 18 10.8 -0.7**
MAW Mawson 75.94 200⇑*i*P **P** **16 18 13.1 +1.1**
comp=Z,16nm,0.8s,mb5.0
MAW Mawson 75.94 200 P **P** **16 18 13.2 +1.3**
comp=Z,19nm,0.9s,mb5.0,baz=126,slow=6.1,SNR=29
MAW LR LR 16 51 35.3
comp=Z,2μm,18.0s,MS5.5,baz=119,slow=36
MJAR Matsushiro Arr 76.19 324 P **P** **16 18 13.5 -0.5**
comp=Z,25nm,1.0s,mb5.1,baz=167,slow=6.0,SNR=30
MJAR LR LR 16 46 55.7
comp=Z,670nm,21.6s,MS4.9,baz=135,slow=32
MJAR Matsushiro Arr 76.19 324 P **P** **16 18 13.5 -0.5**
MJAR LR LR 16 46 55.7
MAJO Matsushiro 76.19 324 *e*P **P** **16 18 13.6 -0.4**
MAJO pmax pmax
comp=Z,55nm,1.2s,mb5.4
MAJO MLR MLR
comp=Z,910nm,21.0s,MS5.1
MAJO Matsushiro 76.19 324 *e*P **P** **16 18 13.6 -0.5**
comp=Z,55nm,1.2s,mb5.4
MAJO LR LR
comp=Z,912nm,21.0s,MS5.1
MAT Matsushiro 76.19 324 *e*P **P** **16 18 14.0 0.0**
comp=Z,52nm,1.1s,mb5.4
MAT *e*S S 16 28 02.0 +6.1
MAT LR LR
comp=Z,1μm,22.0s,MS5.1
MAT Matsushiro 76.19 324 P **P** **16 18 13.5 -0.5**
MAT S S 16 28 01.0 +5.1
JNU Nakatsue 77.88 317 P **P** **16 18 23.9 +0.5**
YHNB Yeheng 78.86 305 P **P** **16 18 29.0 0.0**
TATO Taipei 78.96 305 *e*P **P** **16 18 29.8 +0.2**
comp=Z,52nm,0.8s,mb5.5
TATO LR LR
comp=Z,2μm,22.0s,MS5.4
FX1 Attu Island--F 80.02 354 LR LR 16 50 34.8
comp=Z,57nm,19.1s,baz=180,slow=33
FX1 Attu Island--F 80.02 354 *e*P **P** **16 18 32.7 -2.0**
SYO Syowa Base 80.72 192 ⇑P **P** **16 18 37.2 -0.9**
SYO Syowa Base 80.72 192 ⇓PcP PcP 16 18 44.3 -1.0
SKR Severo-Kuril's 81.01 343 P **P** **16 18 48.0 +8.0**
SKR *e*S S 16 28 50.0 +3.1
SKR smax
comp=N,3μm,14.0s
SKR smax
comp=E,3μm,14.0s
SKR MLR MLR
comp=N,3μm,18.0s,MS5.8
SKR MLR MLR
comp=E,2μm,18.0s,MS5.8
SKR MLR MLR
comp=Z,3μm,18.0s,MS5.7
QZH Quanzhou 81.07 304⇑*i*P **P** **16 18 41.7 +0.9**
QZH S S 16 28 49.8 +1.8
QZH AMB AMB
comp=Z,270nm,1.6s,mb5.9
QZH AMB AMB
comp=Z,870nm,3.3s
QZH LR LR
comp=N,1μm,15.5s
QZH LR LR
comp=E,4μm,28.5s
QZH LR LR
comp=Z,2μm,21.2s
SNAA Sanae 81.52 178⇑*i*P **P** **16 18 42.1 -0.2**
SNAA Sanae 81.52 178⇑*i* **P** **16 18 45.3 +3.0**
SNAA Sanae 81.52 178 **P** **16 18 48.1 +5.8**
SNAA Sanae 81.52 178 **P** **16 18 53.8 +12**
SNAA Sanae 81.52 178 *e*P **P** **16 18 41.5 -0.8**
VNA3 Neumayer Olymp 81.62 176⇑*i*P **P** **16 18 42.8 +0.1**
VNA3 Neumayer Olymp 81.62 176 **P** **16 18 46.6 +3.9**
VNA3 Neumayer Olymp 81.62 176 **P** **16 18 47.1 +4.4**
VNA3 Neumayer Olymp 81.62 176 **P** **16 18 55.3 +13**

SAO San Andreas Ge 81.90 42 PFAKE 16 19 00.0 +15
SAO LR LR
comp=Z,1μm,20.0s,MS5.3
VNA2 Neumayer--Watz 82.07 176⇑*i*P **P** **16 18 45.7 +0.6**
VNA2 Neumayer--Watz 82.07 176⇑*i* **P** **16 18 48.9 +3.8**
VNA2 Neumayer--Watz 82.07 176⇑*i* **P** **16 18 50.9 +5.8**
VNA2 Neumayer--Watz 82.07 176 **P** **16 18 57.3 +12**
YSS Yuzh-Sakhalins 82.24 333⇑*e*P **P** **16 18 47.2 +0.7**
YSS *e* 16 18 55.2
YSS *e*S S 16 29 05.0 +5.3
YSS *e* 16 29 10.0
YSS *e*PPS PPS 16 30 13.0 -0.1
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.3
YSS MLR MLR
comp=Z,500nm,17.0s,MS5.0
YSS MLR MLR
comp=N,600nm,18.0s
YSS Yuzh-Sakhalins 82.24 333 *e*P **P** **16 18 47.6 +1.1**
comp=N,38nm,1.0s,mb5.3
YSS LR LR
comp=Z,692nm,19.0s,MS5.0
VNA1 Neumayer--Stat 82.29 176⇑*i*P **P** **16 18 47.8 +1.6**
VNA1 Neumayer--Stat 82.29 176⇑*i* **P** **16 18 50.0 +3.8**
VNA1 Neumayer--Stat 82.29 176 **P** **16 18 55.2 +9.0**
HOPS Hopland 82.48 39 PFAKE 16 19 00.0 +12
HOPS LR LR
comp=Z,2μm,19.0s,MS5.4
PET Petropavlovsk 82.54 345*c e*P **P** **16 18 46.9 -1.0**
PET *e*S S 16 29 02.0 -0.5
PET *e*PS PS 16 29 50.2 -5.4
PET *e*SS SS 16 34 28.2 +0.6
PET pmax pmax
comp=Z,400nm,11.9s
PET pmax pmax
comp=Z,500nm,14.9s
PET pmax pmax
comp=Z,17nm,1.5s,mb4.8
PET Petropavlovsk 82.54 345 *i* P **P** **16 18 46.7 -1.2**
PET LR LR
comp=Z,999nm,20.0s,MS5.2
KS15 Wonju Array Si 82.60 319 *e*P **P** **16 18 49.1 +0.6**
SSE Sheshan 82.84 310 P **P** **16 18 50.1 +0.2**
SSE XP sP 16 18 54.6 -2.5
SSE S S 16 29 08.3 +2.2
SSE XS 16 29 14.3
SSE SS SS 16 34 29.5 -3.0
SSE AMB AMB
comp=Z,27nm,1.3s,mb5.1
SSE AMB AMB
comp=Z,340nm,9.3s
SSE LR LR
comp=N,98nm,22.3s,MS4.7
SSE LR LR
comp=E,334nm,22.3s,MS4.7
SSE LR LR
comp=Z,449nm,20.1s,MS4.8
SSE Sheshan 82.84 310 P **P** **16 18 50.1 +0.2**
comp=Z,27nm,1.3s,mb5.1
SSE sP sP 16 18 54.6 -2.5
SSE PcP PcP 16 18 54.9 -0.4
SSE S S 16 29 08.3 +2.2
SSE sS 16 29 14.3
SSE ScS ScS 16 29 21.9 +2.7
SSE SS SS 16 34 29.5 -3.0
SSE LR LR
comp=Z,450nm,20.1s,MS4.8
PFO Pinyon Flat Ob 82.97 47 PFAKE 16 19 00.0 +9.5
PFO LR LR
comp=Z,323nm,19.0s,MS4.7
INCN Inchon 83.37 318 PFAKE 16 19 00.0 +7.5
INCN LR LR
comp=Z,946nm,20.0s,MS5.2
CMB Columbia Colle 83.38 41 *e*P **P** **16 18 51.9 -0.6**
CMB pmax pmax
comp=Z,28nm,1.3s,mb5.1
CMB MLR MLR
comp=Z,1μm,19.0s,MS5.3
CMB Columbia Colle 83.38 41 *e*P **P** **16 18 51.9 -0.7**
comp=Z,28nm,1.4s,mb5.1
CMB LR LR
comp=Z,1μm,19.0s,MS5.3
WDC Whiskeytown Da 83.87 38 *e*P **P** **16 18 54.6 -0.4**
WDC pmax pmax
comp=Z,20nm,1.0s,mb5.2
WDC MLR MLR
comp=Z,640nm,20.0s,MS5.0
WDC Whiskeytown Da 83.87 38 *e*P **P** **16 18 54.6 -0.4**
comp=Z,20nm,1.1s,mb5.2
WDC LR LR
comp=Z,639nm,20.0s,MS5.0
DAC Darwin (Calif) 83.93 44 *e*P **P** **16 18 55.3 -0.1**
DAC pmax pmax
comp=Z,47nm,2.0s,mb5.3
DAC MLR MLR
comp=Z,1μm,20.0s,MS5.2
DAC Darwin (Calif) 83.93 44 *e*P **P** **16 18 55.2 -0.1**
comp=Z,47nm,2.0s,mb5.3
DAC LR LR
comp=Z,1μm,20.0s,MS5.2
OMM Old Mammoth Mi 83.94 42 *e*P **P** **16 18 55.6 +0.2**
GZH Guangzhou 84.03 299 P **P** **16 18 58.5 +2.3**
YBH Yreka Blue Hor 84.57 37 *e*P **P** **16 18 58.8 +0.3**
YBH pmax pmax
comp=Z,26nm,1.2s
YBH MLR MLR
comp=Z,510nm,21.0s
YBH Yreka Blue Hor 84.57 37 P **P** **16 18 59.3 +0.9**
comp=Z,12nm,1.0s,mb5.0,baz=171,slow=3.2,SNR=19
YBH LR LR 16 48 40.4
comp=Z,481nm,20.2s,MS4.9,baz=222,slow=30
YBH Yreka Blue Hor 84.57 37 *e*P **P** **16 18 58.8 +0.3**
comp=Z,26nm,1.3s,mb5.2
YBH LR LR
comp=Z,511nm,21.0s,MS4.9
WCN Washoe City 84.59 41 *e*P **P** **16 18 58.3 -0.3**
WCN pmax pmax
comp=Z,18nm,1.1s,mb5.1
WCN Washoe City 84.59 41 *e*P **P** **16 18 58.3 -0.4**
comp=Z,18nm,1.2s,mb5.1
BEKR Beckwourth 84.62 40 *e*P **P** **16 18 58.6 -0.1**
comp=Z,36nm,1.5s,mb5.3
QIZ Qiongzhong 84.70 294 P **P** **16 18 58.4 -1.2**
QIZ S S 16 29 25.2 +0.3
QIZ SS SS 16 34 58.9 -0.9
QIZ AMB AMB
comp=Z,386nm,10.1s
QIZ LR LR
comp=E,418nm,17.3s
QIZ LR LR
comp=Z,555nm,38.3s
LDFC Landfair 84.75 46 *e*P **P** **16 19 00.1 +0.6**
NJ2 Nanjing 85.00 310 *e*P **P** **16 19 01.0 +0.1**
NJ2 AP pP 16 19 04.8 -1.5
NJ2 XP sP 16 19 08.8 +0.7
NJ2 PP PP 16 22 18.8 -0.8
NJ2 S S 16 29 26.0 -1.7
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,580nm,4.2s
NJ2 LR LR
comp=N,2μm,21.4s,MS5.5
NJ2 LR LR
comp=E,930nm,20.8s,MS5.5
NJ2 LR LR
comp=Z,750nm,33.1s
HUMO Hull Mountain 85.04 37 *e*P **P** **16 19 01.4 +0.6**
comp=Z,39nm,1.5s,mb5.3
HUMO LR LR
comp=Z,536nm,20.0s,MS4.9
NEN Nelson 85.27 46 *e*P **P** **16 19 02.3 +0.1**
TPH Tonopah 85.30 43 *e*P **P** **16 19 02.6 +0.4**
TPH pmax pmax
comp=Z,40nm,1.3s,mb5.4
TPH MLR MLR
comp=Z,740nm,20.0s,MS5.1
TPH Tonopah 85.30 43 *e*P **P** **16 19 02.6 +0.4**
comp=Z,40nm,1.4s,mb5.3
TPH LR LR
comp=Z,738nm,20.0s,MS5.1
SFJM Santa Fe 85.40 64 *i* P **P** **16 19 04.0 +0.9**
KULM Kulim 85.96 278 *e*P **P** **16 19 06.5 +0.4**
TUC Tucson 85.99 51 *e*P **P** **16 19 06.3 +0.5**
TUC pmax pmax

comp=Z,15nm,1.1s,mb5.1
TUC MLR MLR
comp=Z,690nm,21.0s,MS5.0
TUC Tucson 85.99 51 *e*P **P 16 19 06.3 +0.4**
comp=Z,15nm,1.1s,mb5.1
TUC LR LR
comp=Z,691nm,21.0s,MS5.0
MOD Modoc 86.00 38 *e*P **P 16 19 05.8 +0.2**
comp=Z,28nm,1.4s,mb5.3
MOD LR LR
comp=Z,709nm,19.0s,MS5.1
COR Corvallis 86.23 35 PFAKE 16 19 20.0 +13
COR LR LR
comp=Z,197nm,20.0s,MS4.5
PAYG Puerto Ayora 86.39 89 PFAKE 16 19 20.0 +12
PAYG LR LR
comp=Z,1µm,21.0s,MS5.2
MDJ Mudanjiang 86.54 325 P **P 16 19 09.1 +0.9**
MDJ AP pP 16 19 12.3 -1.4
MDJ XP sP 16 19 14.2 -1.2
MDJ PP PP 16 22 30.6 -1.5
MDJ S S 16 29 45.6 +3.4
MDJ AMB AMB
comp=Z,13nm,1.4s,mb5.0
MDJ AMB AMB
comp=Z,410nm,6.8s
MDJ LR LR
comp=N,511nm,22.6s,MS4.9
MDJ LR LR
comp=E,268nm,20.9s,MS4.9
MDJ LR LR
comp=Z,740nm,19.3s,MS5.1
MDJ Mudanjiang 86.54 325 P **P 16 19 07.8 -0.4**
BMN Battle Mountai 86.81 41 *e*P **P 16 19 09.5 -0.1**
BMN pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
BMN MLR MLR
comp=Z,1µm,19.0s,MS5.3
BMN Battle Mountai 86.81 41 *e*P **P 16 19 09.5 -0.1**
comp=Z,7.6nm,1.0s,mb4.9
BMN LR LR
comp=Z,1µm,19.0s,MS5.3
WVOR Wild Horse Val 87.29 39 *e*P **P 16 19 11.8 -0.1**
WVOR pmax pmax
comp=Z,16nm,1.3s,mb5.1
WVOR MLR MLR
comp=Z,2µm,19.0s,MS5.4
WVOR Wild Horse Val 87.29 39 *e*P **P 16 19 11.8 -0.1**
comp=Z,16nm,1.3s,mb5.1
WVOR LR LR
comp=Z,1µm,19.0s,MS5.4
DL2 Dalian 87.32 316 P **P 16 19 12.5 +0.4**
DL2 SKS SKS 16 29 38.9 -3.7
DL2 S S 16 29 49.8 +0.1
DL2 PS PS 16 30 59.3 +4.6
DL2 SS SS 16 35 31.6 -6.0
DL2 AMB AMB
comp=Z,20nm,1.0s,mb5.3
DL2 AMB AMB
comp=Z,280nm,4.4s
DL2 LR LR
comp=N,270nm,19.2s,MS4.8
DL2 LR LR
comp=E,270nm,18.0s,MS4.8
DL2 LR LR
comp=Z,370nm,17.5s,MS4.8
WHN Wuhan 87.32 306 P **P 16 19 13.6 +1.3**
ARUT Antelope Range 87.47 45 *e*P **P 16 19 11.3 -1.6**
SNY Shenyang 87.98 320 ⇑P **P 16 19 16.1 +0.9**
SNY LR LR
comp=N,530nm,18.4s
SNY LR LR
comp=Z,480nm,17.6s,MS5.0
OCWA Octopus Mounta 88.02 32 *e*P **P 16 19 15.9 +0.6**
comp=Z,48nm,1.4s,mb5.5
OCWA LR LR
comp=Z,836nm,20.0s,MS5.2
ELK Elko 88.17 42 *e*P **P 16 19 15.5 -0.7**
ELK pmax pmax
comp=Z,12nm,1.3s
ELK MLR MLR
comp=Z,2µm,20.0s
ELK Elko 88.17 42 *e*P **P 16 19 15.5 -0.6**
comp=Z,12nm,1.3s,mb5.0
ELK LR LR
comp=Z,2µm,20.0s,MS5.4
CN2 Changchun 88.20 322 *e*P **P 16 19 16.4 +0.2**
CN2 *e*XP sP 16 19 23.0 -0.4
CN2 *e*S S 16 29 59.4 +1.5
CN2 AMB AMB
comp=Z,20nm,1.5s,mb5.1
CN2 AMB AMB
comp=Z,500nm,10.0s
CN2 LR LR
comp=N,600nm,19.0s,MS5.2
CN2 LR LR
comp=E,800nm,19.0s,MS5.2
CN2 LR LR
comp=Z,800nm,19.0s,MS5.2
MVU Marysvale 88.67 45 *e*P **P 16 19 18.7 +0.1**
comp=Z,9.5nm,1.4s,mb4.9
MVU LR LR
comp=Z,747nm,20.0s,MS5.1
MSU Marysvale 88.70 45 *e*P **P 16 19 18.9 +0.2**
KLR Kul'dur 88.74 329 *e*P **P 16 19 16.5 -2.1**
KLR *e*S S 16 29 54.0 -8.7
KLR pmax pmax
comp=Z,700nm,9.5s
KLR MLR MLR
comp=E,600nm,18.0s
KLR MLR MLR
comp=Z,800nm,18.0s,MS5.2
PGC Sidney 89.00 32 *e*P **P 16 19 20.1 +0.2**
comp=Z,51nm,1.2s,mb5.7
MNTX Cornudas Mount 89.47 54 *e*P **P 16 19 21.6 -0.9**
comp=Z,60nm,2.1s,mb5.5
MNTX LR LR
comp=Z,741nm,21.0s,MS5.1
LTX Lajitas 89.48 57 *e*P **P 16 19 23.0 +0.3**
LTX pmax pmax
comp=Z,83nm,1.9s,mb5.7
LTX MLR MLR
comp=Z,870nm,20.0s,MS5.2
LTX Lajitas 89.48 57 *e*P **P 16 19 22.9 +0.3**
comp=Z,83nm,2.0s,mb5.7
LTX LR LR
comp=Z,872nm,20.0s,MS5.2
TXAR Lajitas Array 89.48 57 P **P 16 19 22.7 0.0**
comp=Z,4.4nm,1.0s,mb4.7,baz=217,slow=6.3,SNR=12
TXAR LR LR 16 51 45.4
comp=Z,793nm,19.6s,MS5.2,baz=180,slow=30
BBB Bella Bella 89.50 27 P **P 16 19 22.4 +0.2**
comp=Z,13nm,1.1s,mb5.2,baz=249,slow=5.5,SNR=6.4
BMO Blue Mountains 89.59 38 *e*P **P 16 19 22.2 -0.5**
comp=Z,20nm,1.5s,mb5.2
BMO LR LR
comp=Z,480nm,19.0s,MS4.9
LAZ Ladron 89.69 51 *e*P **P 16 19 24.3 +0.8**
TMUT Trail Mountain 89.77 45 *e*P **P 16 19 24.1 +0.3**
SLKM Skilak Lake 89.80 13 *e*P **P 16 19 22.4 -1.0**
BNM Barren Site 89.91 51 *e*P **P 16 19 24.7 +0.2**
SRU San Rafael 90.09 45 *e*P **P 16 19 25.4 +0.1**
MA2 Magadan 90.35 344 PFAKE 16 19 40.0 +14
MA2 LR LR
comp=Z,746nm,19.0s,MS5.1
HLID Hailey 90.40 40 *e*P **P 16 19 25.8 -0.8**
comp=Z,111nm,1.3s,mb5.0
HLID LR LR
comp=Z,783nm,20.0s,MS5.1
GDL2 Guadalupe Moun 90.47 54 *e*P **P 16 19 27.2 0.0**
SIT Sitka 90.65 21 PFAKE 16 19 40.0 +13
SIT LR LR
comp=Z,665nm,19.0s,MS5.1
TCUT Toone Canyon 90.71 43 *e*P **P 16 19 26.3 -1.8**
ENH Enshi 90.73 304 *e*P **P 16 19 29.4 +1.0**
comp=Z,184nm,1.3s,mb6.2
HWUT Hardware Ranch 90.90 43 *e*P **P 16 19 27.7 -1.3**
comp=Z,3.8nm,1.0s,mb4.7
HWUT LR LR
comp=Z,1µm,19.0s,MS5.4
TRQA Tornquist 90.93 134 *e*P **P 16 19 29.3 +0.2**
comp=Z,52nm,1.9s,mb5.5
TRQA LR LR
comp=Z,2µm,19.0s,MS5.5
GYA Guiyang 90.96 299 ⇑*i*P **P 16 19 31.1 +1.5**
GYA AP pP 16 19 39.4 +4.4
GYA XP sP 16 19 41.6 +4.8
GYA AMB AMB
comp=Z,20nm,1.4s,mb5.2
GYA AMB AMB
comp=Z,210nm,4.5s
GYA LR LR
comp=N,310nm,18.5s,MS5.0
GYA LR LR
comp=E,360nm,18.4s,MS5.0
GYA LR LR
comp=Z,350nm,18.6s,MS4.8
AHID Auburn Hatcher 91.86 42 PFAKE 16 19 40.0 +6.7
AHID LR LR
comp=Z,983nm,20.0s,MS5.2
NEW Newport 91.87 35 P **P 16 19 32.6 -0.6**
comp=Z,1.1nm,0.4s,mb4.6,baz=82,slow=18,SNR=3.4
NEW LR LR 16 55 47.6
comp=Z,764nm,18.2s,MS5.2,baz=226,slow=32
NEW Newport 91.87 35 *e*P **P 16 19 32.5 -0.7**
NEW LR LR
comp=Z,797nm,19.0s,MS5.2
MCMT McKenzie Canyo 92.06 40 *e*P **P 16 19 34.0 -0.2**
RRI2 Red Ridge 92.07 42 *e*P **P 16 19 34.6 +0.3**
comp=Z,28nm,1.3s,mb5.4
REDW Red Top Meadow 92.36 42 *e*P **P 16 19 35.1 -0.5**
comp=Z,38nm,1.4s,mb5.5
TPAW Teton Pass 92.37 42 *e*P **P 16 19 35.6 0.0**
comp=Z,22nm,1.4s,mb5.3
SNOW Snow King Moun 92.47 42 *e*P **P 16 19 34.9 -1.2**
comp=Z,12nm,0.7s,mb5.3
SDCO Great Sand Dun 92.61 49 *e*P **P 16 19 36.9 0.0**
comp=Z,10nm,1.4s,mb5.1
IMW Indian Meadow 92.62 41 *e*P **P 16 19 37.2 +0.4**
comp=Z,28nm,1.4s,mb5.5
MOOW Moose Ponds 92.64 41 *e*P **P 16 19 37.1 +0.2**
comp=Z,13nm,1.4s,mb5.2
LOHW Long Hollow 92.65 42 *e*P **P 16 19 36.9 0.0**
comp=Z,28nm,1.5s,mb5.5
MSO Missoula 92.66 38 *e*P **P 16 19 35.9 -0.9**
comp=Z,3.0nm,0.9s,mb4.7
MSO LR LR
comp=Z,345nm,20.0s,MS4.8
BW06 Boulder Array 92.79 43 *e*P **P 16 19 37.1 -0.5**
comp=Z,8.6nm,1.3s,mb5.0
BW06 LR LR
comp=Z,1µm,20.0s,MS5.3
PDAR Pinedale Array 92.79 43 P **P 16 19 37.2 -0.4**
comp=Z,2.9nm,1.0s,mb4.7,baz=225,slow=4.2,SNR=16
PDAR LR LR 16 55 42.1
comp=Z,844nm,19.3s,MS5.2,baz=242,slow=32
QLMT Earthquake Lak 92.87 40 P **P 16 19 38.3 +0.4**
SEY Seymchan 92.95 346 *e*P **P 16 19 38.5 +0.7**
SEY PPP PPP 16 25 24.9 -0.4
SEY *e* 16 30 03.9
SEY *e*S S 16 30 41.7 +1.6
SEY *e* 16 31 55.1
SEY SS SS 16 37 02.0 +3.5
SEY SSS SSS 16 40 38.3 +0.9
SEY pmax pmax
comp=E,4.0nm,1.0s
SEY pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
SEY pmax pmax
comp=N,10.0nm,1.4s
SEY smax
comp=N,550nm,17.4s
SEY smax
comp=E,780nm,19.6s
SEY MLR MLR
comp=N,850nm,19.0s,MS5.3
SEY MLR MLR
comp=Z,800nm,19.0s,MS5.2
SEY MLR MLR
comp=E,600nm,21.0s,MS5.3
SEY Seymchan 92.95 346 *i*P **P 16 19 38.0 +0.2**
XAN Xi'an 93.06 307 P **P 16 19 40.4 +1.3**
XAN PP PP 16 23 28.9 +3.9
XAN PPP x 16 26 39.5
XAN SKS SKS 16 30 15.8 -1.3
XAN AMB AMB
comp=Z,12nm,1.2s,mb5.2
XAN AMB AMB
comp=Z,249nm,11.1s
XAN LR LR
comp=N,188nm,20.2s,MS5.0
XAN LR LR
comp=E,611nm,22.2s,MS5.0
XAN LR LR
comp=Z,1µm,22.2s,MS5.3
CHMT Chamberlain Mo 93.09 38 *e*P **P 16 19 37.5 -1.4**
CHMT *e*pP pP 16 19 47.8 +3.4
BOZ Bozeman (W) 93.24 40 *e*P **P 16 19 39.5 -0.1**
BOZ pmax pmax
comp=Z,18nm,1.3s,mb5.3
BOZ MLR MLR
comp=Z,740nm,19.0s,MS5.2
BOZ Bozeman (W) 93.24 40 *e*P **P 16 19 39.5 -0.1**
comp=Z,18nm,1.3s,mb5.3
BOZ LR LR
comp=Z,738nm,19.0s,MS5.2
LKWY Lake 93.32 41 PFAKE 16 19 50.0 +10
LKWY LR LR
comp=Z,2µm,19.0s,MS5.5
KMI Kunming 93.42 296 P **P 16 19 43.5 +2.6**
KMI AP pP 16 19 50.9 +4.5
KMI XP sP 16 19 53.7 +5.6
KMI PP PP 16 23 30.7 +2.7
KMI PPP PPP 16 25 33.7 +3.3
KMI AMB AMB
comp=Z,27nm,1.6s,mb5.4
KMI AMB AMB
comp=Z,286nm,7.5s
KMI LR LR
comp=N,163nm,22.9s,MS4.8
KMI LR LR
comp=E,302nm,19.9s,MS4.8
KMI LR LR
comp=Z,492nm,20.6s,MS5.0
KMI Kunming 93.42 296 P **P 16 19 43.5 +2.6**
comp=Z,27nm,1.6s,mb5.4
KMI pP pP 16 19 50.9 +4.5
KMI sP sP 16 19 53.7 +5.6
KMI PP PP 16 23 30.7 +2.7
KMI PPP PPP 16 25 33.7 +3.3
KMI SKS SKS 16 30 15.0 -4.2
KMI S S 16 30 47.7 +2.7
KMI sS 16 30 59.8
KMI PS PS 16 32 08.7 +2.9
KMI SS SS 16 37 09.2 +3.2
KMI SSS SSS 16 40 49.3 +3.5
KMI LR LR
comp=Z,490nm,20.6s,MS5.0
CMAR Chiang Mai Arr 93.47 289 *i*P **P 16 19 43.6 +2.3**
CMAR pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 93.47 289 P **P 16 19 43.0 +1.7**
comp=Z,5.1nm,0.9s,mb5.0,baz=140,slow=3.8,SNR=14
DLBC Dease Lake 93.49 22 *e*P **P 16 19 40.8 +0.4**
ISCO Idaho Springs 93.64 47 PFAKE 16 19 50.0 +8.4
ISCO LR LR
comp=Z,879nm,20.0s,MS5.2
AMTX Amarillo 93.77 53 PFAKE 16 19 50.0 +7.7
AMTX LR LR
comp=Z,1µm,20.0s,MS5.3
WALA Waterton Lakes 94.03 36 P **P 16 19 44.4 +1.3**
ILAR Eielson Array 94.33 12 P **P 16 19 43.6 -0.5**
comp=Z,8nm,0.9s,mb4.7,baz=227,slow=5.0,SNR=10
LVC Limon Verde 94.46 118 *e*P **P 16 19 46.6 +0.9**
comp=Z,34nm,1.6s,mb5.5
LVC LR LR
comp=Z,1µm,22.0s,MS5.3
HHC Hu-ho-hao-te 94.78 314 *e*P **P 16 19 48.3 +1.5**
HHC AP pP 16 19 52.8 +0.5
HHC XP sP 16 19 56.7 +2.7
HHC AMB AMB
comp=Z,255nm,13.2s
HHC LR LR
comp=N,279nm,18.0s,MS5.0
HHC LR LR
comp=E,309nm,18.0s,MS5.0
HHC LR LR
comp=Z,392nm,21.6s,MS4.8
BILL Bilibino 95.59 354*c* *i*P **P 16 19 49.3 -0.6**
BILL pmax pmax
comp=Z,11nm,1.2s,mb5.2
BILL Bilibino 95.59 354 *e*P **P 16 19 49.4 -0.4**
comp=Z,4.2nm,0.9s,mb4.9
BILL LR LR
comp=Z,1µm,20.0s,MS5.4
JTS JuntasAbangare 96.02 82 PFAKE 16 20 00.0 +6.9
JTS LR LR
comp=Z,242nm,19.0s,MS4.7
RSSD Black Hills 96.90 44 *e*P **P 16 19 56.0 -0.4**
RSSD pmax pmax
comp=Z,16nm,1.1s,mb5.4
RSSD MLR MLR
comp=Z,380nm,20.0s,MS4.9
RSSD Black Hills 96.90 44 *e*P **P 16 19 56.0 -0.4**
comp=Z,16nm,1.1s,mb5.4
RSSD LR LR
comp=Z,381nm,20.0s,MS4.9
LAO LASA Array 96.93 41 PFAKE 16 20 10.0 +14
LAO LR LR
comp=Z,697nm,19.0s,MS5.2
NATX Nacogdoches 97.44 58 PFAKE 16 20 10.0 +11
NATX LR LR
comp=Z,719nm,21.0s,MS5.1
LZH Lanzhou 97.69 306 *e*P **P 16 20 02.0 +1.8**
LZH AP pP 16 20 06.0 +0.3
LZH XP sP 16 20 08.5 +1.1
LZH PP PP 16 24 03.0 +2.0
LZH SKS SKS 16 30 38.1 -3.9
LZH *e*S S 16 31 25.0 +3.8
LZH XS 16 31 30.0
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.7
LZH AMB AMB
comp=Z,190nm,4.7s
LZH LR LR
comp=E,2µm,18.6s
LZH LR LR
comp=Z,2µm,19.6s,MS5.6
LZH Lanzhou 97.69 306 *e*P **P 16 20 02.0 +1.8**
comp=Z,25nm,1.0s,mb5.7
LZH pP pP 16 20 06.0 +0.3
LZH sP sP 16 20 08.5 +1.1
LZH PP PP 16 24 03.0 +2.0
LZH SKS SKS 16 30 38.1 -3.9
LZH *e*S S 16 31 25.0 +3.8
LZH sS 16 31 30.0
LZH SS SS 16 38 09.5 +3.9
LZH LR LR
comp=Z,2µm,19.6s,MS5.6
LPAZ La Paz 98.36 113 *e*P **P 16 20 04.8 +1.3**
LPAZ pmax pmax
comp=Z,9.0nm,1.6s
LPAZ MLR MLR
comp=Z,530nm,22.0s
LPAZ La Paz 98.36 113 P **P 16 20 05.2 +1.6**
comp=Z,0.6nm,0.5s,mb4.4,baz=225,slow=1.5,SNR=4.0
LPAZ LR LR 16 55 11.6
comp=Z,397nm,20.3s,MS4.9,baz=232,slow=30
LPAZ La Paz 98.36 113 *e*P **P 16 20 04.8 +1.2**
comp=Z,9.2nm,1.6s,mb5.1
LPAZ LR LR
comp=Z,528nm,22.0s,MS5.0
YAK Yakutsk 98.58 337 *e*P **P 16 20 01.9 -1.6**
YAK *e*S S 16 31 37.0 +9.1
YAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.8
YAK MLR MLR
comp=Z,290nm,18.0s,MS4.8
YAK MLR MLR
comp=N,183nm,20.0s,MS4.9
YAK MLR MLR
comp=E,349nm,19.0s,MS4.9
YAK Yakutsk 98.58 337 *e*P **P 16 20 03.1 -0.4**
comp=E,4.7nm,0.6s,mb5.2
YAK LR LR
comp=Z,666nm,19.0s,MS5.2
DGMT Dagmar 99.03 40 PFAKE 16 20 20.0 +14
DGMT LR LR
comp=Z,817nm,20.0s,MS5.2
ULN Ulaanbaatar 101.07 318 *i*P P 16 20 20.5 +5.4
CPUP Villa Florida 101.08 127 PFAKE 16 20 30.0 +14
CPUP LR LR
comp=Z,930nm,20.0s,MS5.3
SONM Songino Array 101.45 318 P P 16 20 17.6 +0.7
comp=Z,0.4nm,0.7s,baz=104,slow=5.9,SNR=1.9
GTA Gaotai 102.03 308 *e*P Pdif 16 20 22.2 +2.5
GTA AP 16 20 26.2
GTA XP 16 20 29.2
GTA PPP PPP 16 26 51.3 +5.7
GTA AMB AMB
comp=Z,3.0nm,1.2s
GTA AMB AMB
comp=Z,129nm,6.1s
GTA LR LR
comp=N,202nm,22.2s,MS4.9
GTA LR LR
comp=E,359nm,25.2s,MS4.9
GTA LR LR
comp=Z,595nm,25.6s,MS5.0
OXF Oxford 102.59 58 PFAKE 16 20 30.0 +7.7
OXF LR LR
comp=Z,1µm,21.0s,MS5.4
CCM Cathedral Cave 102.69 54 PFAKE 16 20 30.0 +7.3
CCM LR LR
comp=Z,182nm,20.0s,MS4.6
FFC Flin Flon 103.30 35 PFAKE 16 20 40.0 +15
FFC LR LR
comp=Z,168nm,20.0s,MS4.6
PLAL Pickwick Lake 103.79 58 PFAKE 16 20 40.0 +12
PLAL LR LR
comp=Z,859nm,20.0s,MS5.3
LRAL Lakeview Retre 103.84 60 PFAKE 16 20 40.0 +12
LRAL LR LR
comp=Z,677nm,22.0s,MS5.1
WVT Waverly 104.42 57 PFAKE 16 20 40.0 +10
WVT LR LR
comp=Z,674nm,20.0s,MS5.2
PALK Pallekele 104.58 271 PFAKE 16 20 40.0 +8.5
PALK LR LR
comp=Z,266nm,20.0s,MS4.8
ULM Lac du Bonnet 104.68 41 PFAKE 16 20 40.0 +8.9
ULM LR LR
comp=Z,762nm,19.0s,MS5.3
TLY Talaya 104.75 321 PFAKE 16 20 40.0 +8.6
TLY LR LR
comp=Z,125nm,19.0s,MS4.5
DGAR Diego Garcia 105.01 253 PFAKE 16 25 00.0
DGAR LR LR
comp=Z,377nm,20.0s,MS4.9
SAML Samuel 106.28 109 PFAKE 16 25 00.0
SAML LR LR
comp=Z,1µm,22.0s,MS5.4
MYNC Murphy 106.82 59 PFAKE 16 25 00.0
MYNC LR LR
comp=Z,903nm,19.0s,MS5.3
SDV Santo Domingo 108.15 89 PFAKE 16 25 10.0
SDV LR LR
comp=Z,361nm,20.0s,MS4.9
NHSC New Hope 109.19 62 PFAKE 16 25 10.0
NHSC LR LR
comp=Z,837nm,20.0s,MS5.3
AAM Ann Arbor 109.65 52 PFAKE 16 25 10.0
AAM LR LR
comp=Z,751nm,19.0s,MS5.3
BLA Blacksburg 110.37 58 PFAKE 16 25 10.0 +10
BLA LR LR
comp=Z,405nm,19.0s,MS5.0
WMQ Urumqi 112.08 309 PDIF Pdif 16 21 04.8 +1.0
WMQ PP PP 16 25 48.7 +0.8
WMQ SKS SKS 16 32 07.8 +21
WMQ SS SS 16 41 20.7 -1.1
WMQ PP PP
comp=Z,141nm,10.6s
WMQ LR LR
comp=N,611nm,21.1s,MS5.3
WMQ LR LR
comp=E,564nm,23.4s,MS5.3
WMQ LR LR
comp=Z,923nm,23.5s,MS5.3
CBN Corbin 112.98 58 PFAKE 16 25 10.0 +5.0
CBN LR LR
comp=Z,589nm,21.0s,MS5.2
SJG San Juan 115.82 82 PFAKE 16 25 20.0 +9.0
SJG LR LR
comp=Z,365nm,19.0s,MS5.0
ZAL Zalesovo 116.30 319 PKP PKPdf 16 25 07.2 -3.9
comp=Z,1.0nm,0.6s,baz=350,slow=1.9,SNR=7.5
MKAR Makanchi Array 116.50 311 PKP PKPdf 16 25 07.9 -3.8

comp=Z,4.0nm,1.0s,baz=84,slow=1.5,SNR=22
NCB Newcomb 116.75 52 PFAKE 16 25 20.0 +7.8
NCB LR LR
comp=Z,689nm,20.0s,MS5.3
NVS Novosibirsk 117.35 320 *i* PKIKP PKPdf 16 25 09.0 -4.0
NVS pmax pmax
comp=Z,11nm,1.3s
NVS pmax pmax
comp=N,7.0nm,1.8s
NVS pmax pmax
comp=E,9.0nm,2.0s
HRV Harvard--Oak R 118.34 54 PFAKE 16 25 20.0 +4.7
HRV LR LR
comp=Z,816nm,19.0s,MS5.4
WES Weston 118.49 54 PFAKE 16 25 20.0 +4.4
WES LR LR
comp=Z,1μm,20.0s,MS5.6
SUR Sutherland 118.69 197 PFAKE 16 25 30.0 +14
SUR LR LR
comp=Z,433nm,19.0s,MS5.1
KSH Kashi 119.54 302 *e*PKP PKPdf 16 25 16.8 -0.9
KSH *e*PP PP 16 26 40.2 -0.4
KSH *e*PKS PKS 16 28 52.0 +2.4
KSH *e*SKS SKS 16 32 23.6 +8.8
KSH PP PP
comp=Z,170nm,4.4s
KSH LR LR
comp=N,390nm,5.3s
KSH LR LR
comp=E,470nm,9.0s
WVL Waterville 120.08 52 PFAKE 16 25 30.0 +11
WVL LR LR
comp=Z,6μm,20.0s,MS6.2
BOSA Boshof 120.89 202 *e*PKIKP PKPdf 16 25 18.9 -1.7
BOSA MLR MLR
comp=Z,830nm,20.0s,MS5.4
BOSA Boshof 120.89 202 PKP PKPdf 16 25 19.2 -1.4
comp=Z,3.7nm,1.0s,baz=335,slow=1.5,SNR=4.6
AAK Ala-Archa 121.21 305 *i* PKP PKPdf 16 25 16.5 -4.4
AAK LR LR
comp=Z,178nm,20.0s,MS4.7
BBSR BB Station 121.46 67 PFAKE 16 25 30.0 +8.4
BBSR LR LR
comp=Z,315nm,20.0s,MS5.0
PQI Presque Isle 121.52 50 PFAKE 16 25 30.0 +8.6
PQI LR LR
comp=Z,4μm,19.0s,MS6.1
EMMW East Machias 121.65 52 PFAKE 16 25 30.0 +8.3
EMMW LR LR
comp=Z,6μm,20.0s,MS6.2
SCHQ Schefferville 122.85 40 PFAKE 16 25 30.0 +6.3
SCHQ LR LR
comp=Z,832nm,19.0s,MS5.4
LBTB Lobatse 124.06 204 PFAKE 16 25 40.0 +13
LBTB LR LR
comp=Z,756nm,19.0s,MS5.4
BVAR Borovoye Array 124.79 317 PKP PKPdf 16 25 24.1 -3.4
comp=Z,5.2nm,0.9s,baz=90,slow=3.0,SNR=28
ZRNK Zerenda 125.63 317 *e*PKIKP PKPdf 16 25 24.9 -4.2
MATP Matopo 126.98 210 PKP PKPdf 16 25 30.1 -2.4
comp=Z,1.3nm,0.6s,baz=197,slow=4.0,SNR=3.4
KBS Kingsbay 127.83 358 PFAKE 16 25 40.0 +7.2
KBS LR LR
comp=Z,384nm,20.0s,MS5.1
SVE Sverdlovsk 129.99 323⇑ *i*PKIKP PKPdf 16 25 34.8 -2.6
SVE *e* 16 27 47.1
SVE pmax pmax
comp=Z,40nm,1.5s
SVE MLR MLR
comp=N,200nm,18.0s,MS5.3
SVE MLR MLR
comp=E,500nm,18.0s,MS5.3
SVE MLR MLR
comp=Z,900nm,18.0s,MS5.5
ARU Arti 131.19 323 *i* PKIKP PKPdf 16 25 37.1 -2.6
ARU *e* 16 27 53.3
ARU *e* 16 32 46.1
ARU *e*SS SS 16 45 24.6 -1.2
ARU MLR MLR
comp=Z,600nm,20.0s,MS5.3
ARU MLR MLR
comp=N,400nm,19.0s,MS5.3
ARU MLR MLR
comp=E,500nm,19.0s,MS5.3
ARU Arti 131.19 323 *e*PKPdf PKPdf 16 25 36.9 -2.8
ARU LR LR
comp=Z,163nm,20.0s,MS4.7
LSZ Lusaka 131.60 213 PFAKE 16 25 50.0 +8.5
LSZ LR LR
comp=Z,1μm,19.0s,MS5.6
TSUM Tsumeb 132.08 198 PFAKE 16 25 50.0 +7.6
TSUM LR LR
comp=Z,2μm,19.0s,MS5.9
KEV Kevo 135.05 349 *e*PKIKP PKPdf 16 25 43.1 -3.5
KEV MLR MLR
comp=Z,580nm,20.0s,MS5.3
ARCES ARCESS Array B 135.50 349 PKP PKPdf 16 25 43.7 -3.7
comp=Z,4.7nm,0.9s,SNR=9.8
APA Apatity 135.51 344 *i* PKIKP PKPdf 16 25 45.0 -2.5
APA *e* 16 28 19.0
APA *e*SS SS 16 46 22.0 +4.1
APA MLR MLR
comp=Z,500nm,20.0s,MS5.2
MBAR Mbarara 142.01 228 PFAKE 16 26 10.0 +9.3
MBAR LR LR
comp=Z,238nm,20.0s,MS5.0
MOS Moscow 142.15 329 *e*PKIKP PKPdf 16 25 56.0 -3.6
MOS *e* 16 28 59.0
FINES FINESS Array B 142.32 342 PKhKP 16 25 52.8
comp=Z,2.3nm,0.6s,baz=90,slow=1.9,SNR=8.4
OBN Obninsk 143.00 329⇓ *i*PKIKP PKPdf 16 25 54.7 -6.4
OBN *i* 16 29 04.4
OBN *e*PPP PPP 16 32 22.4 +0.5
OBN pmax pmax
comp=Z,27nm,1.9s
OBN MLR MLR
comp=Z,400nm,22.0s,MS5.1
OBN Obninsk 143.00 329 *i* PKP PKPdf 16 25 54.7 -6.4
OBN LR LR
comp=Z,400nm,22.0s,MS5.1
GNI Garni 143.47 302 *e*P PKPbc 16 25 55.3 -1.8
GNI Garni 143.47 302 PFAKE 16 26 10.0 +13
GNI LR LR
comp=Z,306nm,20.0s,MS5.1
VOR Voronezh 143.48 322 PKIKP PKPdf 16 25 58.0 -4.0
VOR pmax pmax
comp=Z,90nm,2.5s
ZEI Tsey 143.63 306 *i* PKIKP PKPdf 16 25 57.7 -4.9
ZEI *e* 16 25 57.7
GOF Gofitskoye 143.67 310 *e*PKIKP PKPdf 16 25 58.9 -3.7
ONI Oni 143.99 306 P PKPbc 16 25 59.2 +0.6
KIV Kislovodsk 144.21 309 *i* PKIKP PKPdf 16 25 59.4 -4.1
KIV *e* 16 29 15.2
KIV *e*PPP PPP 16 32 25.0 -6.9
KIV *e*SS SS 16 47 54.2 -6.2
KIV pmax pmax
comp=Z,11nm,1.1s
KIV pmax pmax
comp=E,3.0nm,0.9s
KIV Kislovodsk 144.21 309 *e*PKPdf PKPdf 16 26 00.1 -3.4
KIV LR LR
comp=Z,133nm,19.0s,MS4.7
AFFS 'Afif 144.23 274 P PKPbc 16 26 01.6 +1.8
CLDR Caldiran 144.24 300 P PKPbc 16 25 59.6 +0.2
HKR Hakkari 144.55 298 *e*P PKPbc 16 26 02.3 +1.9
VSU Vasula 144.55 339 *i* PKIKP PKPdf 16 25 59.0 -4.7
VSU Vasula 144.55 339 *i* PKP PKPdf 16 25 59.1 -4.6
HAKT HAKKARI 144.58 298 *i* P PKPbc 16 26 01.9 +1.4
TVAN Van 144.71 299 *i* P PKPbc 16 26 03.2 +2.5
NB2 NORSAR Subarra1 145.54 353 PKPabc PKPdf 16 26 01.8 -3.5
comp=Z,78nm,1.2s,baz=13,slow=3.3
NB2 NORSAR Subarra1 145.54 353 PKPa 16 26 01.8
baz=13,slow=3.4
NOA NORSAR Array B 145.54 353 PKPbc PKPbc 16 26 01.9 -0.3
comp=Z,24nm,1.0s,baz=10,slow=2.4,SNR=32
NOA NORSAR Array B 145.54 353 PKPbc PKPbc 16 26 01.9 -0.3
LTHS Al Lith 145.55 267 P PKPbc 16 26 06.1 +2.6
NAO01 NORSAR Array S 145.76 354 *e*PKPdf PKPdf 16 26 03.0 -2.7
NAO01 LR LR
comp=Z,355nm,20.0s,MS5.1
HILS Ha'il 145.96 280 P PKPbc 16 26 07.4 +3.1
ERZM Erzurum 146.07 302 *i* P PKPbc 16 26 07.2 +3.1
EZM Erzurum 146.07 302 *e*P PKPbc 16 26 07.0 +2.9
HFS Hagfors 146.12 351 PKP PKPdf 16 26 03.1 -3.3
comp=Z,16nm,0.9s,baz=27,slow=3.3,SNR=25

SOC Sochi 146.38 309*c i*PKP2 PKPab 16 26 05.5 -2.3
SOC pmax pmax
comp=Z,47nm,1.8s
SOC pmax pmax
comp=N,18nm,1.2s
SOC pmax pmax
comp=E,18nm,1.7s
MARD Mardin 146.92 298 *i* P PKPbc 16 26 08.9 +2.7
KONO Kongsberg 147.06 354 *i* PKP2 PKPab 16 26 06.1 -3.8
KONO Kongsberg 147.06 354 *e*PKPbc PKPdf 16 26 06.9 -1.1
KONO LR LR
comp=Z,411nm,20.0s,MS5.2
GUMT Gumushane 147.37 304 *e*P PKPdf 16 26 11.0 +1.9
ANN Anapa 147.52 312 *i* PKIKP PKPdf 16 26 07.8 -1.4
ANN pmax pmax
comp=Z,818nm,10.8s
ANN MLR MLR
comp=N,128nm,21.0s,MS4.9
ANN MLR MLR
comp=E,192nm,21.0s,MS4.9
ANN MLR MLR
comp=Z,354nm,21.0s,MS5.1
KELT Kelkit 147.61 303 *i* P PKPdf 16 26 08.6 -0.9
PTK Pertek 147.76 301 P PKPdf 16 26 11.9 +2.2
ELZG Elazig 148.15 300 *i* P PKPdf 16 26 13.2 +2.8
URFA Urfa 148.45 298 *e*P PKPdf 16 26 12.5 +1.6
MALT Malatya 148.61 300 *e*PKPbc PKPdf 16 26 13.1 +2.0
YNBS Yanbu' al Bahr 148.79 273 P PKPdf 16 26 15.0 +3.1
AKASG Malin Array Be 149.22 327 PKP PKPdf 16 26 08.5 -3.2
comp=Z,13nm,0.9s,baz=43,slow=3.6,SNR=9.5
AKASG PKPbc PKPdf 16 26 12.5 +0.8
comp=Z,6.3nm,0.6s,baz=37,slow=2.8,SNR=34
KIEV Kiev 149.24 327 PKPdf PKPdf 16 26 12.8 +1.1
SUW Suwalki 149.31 337 *e*PKP PKPdf 16 26 13.5 +1.8
SUW Suwalki 149.31 337 *e*PKP PKPdf 16 26 13.5 +1.7
GZT Gaziantep 149.45 298 *i* P PKPdf 16 26 14.9 +2.4
UMJS Umm Lajj 149.57 274 P PKPdf 16 26 16.5 +3.4
MUD Monsted U'grnd 150.26 354⇑ *i*PKIKP PKPdf 16 26 15.4 +2.2
MUD pmax pmax
comp=Z,49nm,1.2s
MUD Monsted U'grnd 150.26 354⇑ *i*P PKPdf 16 26 15.4 +2.2
comp=Z,49nm,1.2s
ASF Jabal al Asfar 150.51 288 PKPbc PKPdf 16 26 18.0 +3.7
comp=Z,9.8nm,0.9s,baz=134,slow=0.5,SNR=10
ASF PKPab PKPab 16 26 25.2 +0.4
comp=Z,24nm,0.9s,baz=279,slow=1.2,SNR=18
COP Copenhagen 150.58 350⇑ *i*PKIKP PKPdf 16 26 16.1 +2.4
COP *i* 16 26 21.8
COP MLR MLR
comp=Z,250nm,19.0s,MS5.0
COP Copenhagen 150.58 350⇑ *i*P PKPdf 16 26 16.1 +2.4
COP *i* 16 26 21.8
COP *i* 16 29 45.6
COP *i* 16 49 19.7
comp=Z,250nm,19.0s
COBT Iskenderun 150.62 297 *i* P PKPdf 16 26 18.5 +4.1
BSD Bornholm Skovb 150.67 346 *i* PKIKP PKPdf 16 26 17.0 +3.2
BSD pmax pmax
comp=Z,22nm,1.1s
BSD Bornholm Skovb 150.67 346 *i* P PKPdf 16 26 17.0 +3.2
comp=Z,22nm,1.1s
TBKS Tabuk 150.67 280 P PKPdf 16 26 19.1 +4.4
CTKT Corum 150.77 306 *i* P PKPdf 16 26 18.0 +3.5
AVNT Avonos 151.24 302 *i* P PKPdf 16 26 19.7 +4.5
EKA Eskdalemuir Ar 151.27 8 PKPbc PKPdf 16 26 17.9 +3.2
comp=Z,3.6nm,1.0s,baz=342,slow=2.6,SNR=11
ESK Eskdalemuir 151.28 8 *e*PKIKP PKPdf 16 26 17.8 +3.1
ESK MLR MLR
comp=Z,110nm,19.0s,MS4.7
JMQS Jabal Moqyreh 151.31 281 P PKPdf 16 26 20.5 +4.9
CDAG Cicekdag 151.37 304 *i* P PKPdf 16 26 23.0 +7.6
KSHT Keshet 151.39 290 P PKPdf 16 26 20.3 +4.7
BALT Daday 151.47 308 *i* P PKPdf 16 26 19.8 +4.3
KSDI Kefar Szold 151.50 290 P PKPdf 16 26 20.5 +4.7
WAR Warsaw 151.51 337 *e*PKP PKPdf 16 26 20.5 +5.3
WAR Warsaw 151.51 337 *e*PKP PKPdf 16 26 20.4 +5.3
MKRJ Makawir 151.59 287 P PKPdf 16 26 20.4 +4.4
KIS Kishinev 151.74 322 *e*PKIKP PKPdf 16 26 16.0 +0.3
KIS *e*PPP PPP 16 33 20.0 -9.3
KIS MLR MLR
comp=Z,600nm,20.0s,MS5.4
KIS MLR MLR
comp=Z,500nm,20.0s
MMLI Mount Malkishu 151.75 289 P PKPdf 16 26 21.3 +5.1
ELDT Eldivan 151.80 306 *i* P PKPab 16 26 30.9 +0.9
BR131 Keskin Array S 151.88 305 *e*PKPbc PKPdf 16 26 20.3 +4.2
BR131 *e*PKPab PKPab 16 26 29.3 -1.0
BR131 LR LR
comp=Z,367nm,19.0s,MS5.2
BRTR Keskin Array B 151.88 305 PKP PKPdf 16 26 13.2 -2.9
comp=Z,0.6nm,0.8s,baz=315,slow=3.5,SNR=4.0
BRTR PKPbc PKPdf 16 26 19.9 +3.8
comp=Z,5.0nm,0.9s,baz=135,slow=3.5,SNR=20
BRTR PKPab PKPab 16 26 31.1 +0.8
comp=Z,4.0nm,0.8s,baz=90,slow=2.5,SNR=9.5
BDAS Al Bad' 151.96 280 P PKPdf 16 26 21.6 +5.0
ALWS Ilw as Safayha 152.05 282 P PKPdf 16 26 22.2 +5.5
SLTI Sal'it 152.08 288 P PKPdf 16 26 21.7 +5.0
PRNI Paran 152.13 284 P PKPdf 16 26 21.7 +4.9
HAQS Haql 152.15 282 P PKPdf 16 26 22.1 +5.2
EIL Elat 152.16 283 *e*PKPbc PKPdf 16 26 21.9 +5.1
EIL Elat 152.16 283 P PKPdf 16 26 21.6 +4.7
TAYS Tayyib Ism 152.17 281 P PKPdf 16 26 22.1 +5.2
MBH Mount Berech 152.20 283 P PKPdf 16 26 21.8 +4.9
LVV L'vov 152.23 331 *e*PKIKP PKPdf 16 26 20.9 +4.6
MEST Erdemli 152.28 298 *i* P PKPdf 16 26 20.9 +4.1
ANTO Ankara 152.46 305 PKPdf PKPdf 16 26 13.7 -3.3
ANTO pPKPdf 16 26 21.9
DCN Croghan 152.49 14 *e*P PKPdf 16 26 15.6 -1.0
KZIT Kziot 152.66 286 P PKPdf 16 26 22.6 +5.1
DLF Lyons Farm 152.69 13 *e*P PKPdf 16 26 16.0 -0.8
SGKT Sivrigoynuk 152.75 307 *i* P PKPdf 16 26 13.7 -3.7
KWP Kalwaria 152.94 332 *e*PKP PKPdf 16 26 23.0 +5.7
KWP Kalwaria 152.94 332 *e*PKP PKPdf 16 26 23.0 +5.7
CSS Prodhromos 153.22 295 *e*PKPab PKPab 16 26 35.1 -1.0
BURAR Bucovina Array 153.24 326⇓ P PKPdf 16 26 25.1 +7.3
ERMK Ermenek 153.24 298 *i* P PKPab 16 26 42.2 +6.1
KDHN Kadinhani 153.37 303 *i* P PKPdf 16 26 24.1 +5.8
TIRR Tirgusor 153.41 317⇑ P PKPdf 16 26 24.6 +6.4
TIRR Tirgusor 153.41 317⇑ P PKPdf 16 26 24.5 +6.4
HENT Hendek 153.47 308 *i* P PKPdf 16 26 22.7 +4.3
VRI Vrincioaia 153.57 322⇑ P PKPab 16 26 45.5 +8.3
VRI Vrincioaia 153.57 322⇑ P PKPab 16 26 45.5 +8.3
OJC Ojcow 153.62 336 *e*PKP PKPdf 16 26 20.8 +2.6
OJC *e*PP PP 16 30 05.9 -6.8
KOLS Kolonicke sedl 153.66 331 *e*PKP PKPdf 16 26 17.0 -1.3
KOLS *e* 16 26 25.1
STHS Stebnicka Huta 153.71 333 *e*PKP PKPdf 16 26 25.5 +7.1
ESKT Eskisehir 153.99 306 *i* P PKPdf 16 26 36.0 +17
CRVS Cervenica-Dubn 154.03 332 *e*PKP PKPdf 16 26 16.8 -2.0
NIE Niedzica 154.08 334 *e*PKP PKPdf 16 26 17.3 -1.6
KSP Ksiaz 154.23 341 *e*PKIKP PKPdf 16 26 16.9 -2.1
KSP *i* 16 26 25.2
KSP *e* 16 30 11.0
KSP *e*SS SS 16 49 45.0 -6.5
KSP MLR MLR
comp=Z,1μm,23.3s,MS5.6
KSP Ksiaz 154.23 341 *e*PKPdf PKPdf 16 26 16.9 -2.1
KSP *e*PKPdf PKPdf 16 26 25.2 +6.2
KSP *e*PP PP 16 30 11.0 -5.2
KSP *e*SS SS 16 49 45.0 -6.5
KSP LR LR
comp=Z,1μm,23.3s,MS5.6
KSP Ksiaz 154.23 341 *e*PKP PKPdf 16 26 25.9 +6.8
MLR Muntele Rosu 154.24 322 PKP PKPdf 16 26 16.6 -2.6
comp=Z,2.6nm,1.0s,baz=259,slow=1.8,SNR=4.4
MLR PKPbc PKPdf 16 26 26.0 +6.8
comp=Z,5.3nm,1.1s,baz=248,slow=4.6,SNR=6.9
OKC Ostrava-Krasne 154.52 338 *e*PKIKP PKPdf 16 26 17.5 -1.9
OKC *e* 16 30 13.7
OKC MLR MLR
comp=Z,400nm,17.2s,MS5.3
OKC Ostrava-Krasne 154.52 338 *e*PKPdf PKPdf 16 26 17.5 -1.9
OKC *e*PKPbc PKPdf 16 26 26.8 +7.4
OKC *e*PP PP 16 30 13.7 -3.9
OKC AMS AMS 17 43 00.0
comp=Z,400nm,17.2s
UPC Upice 154.61 341 *e*PKPdf PKPdf 16 26 17.2 -2.3
UPC *e*PKPbc PKPdf 16 26 27.0 +7.5
CLL Collm 154.64 346⇓ *e*PKIKP PKPdf 16 26 17.0 -2.6
CLL *e* 16 26 38.0
CLL pmax pmax
comp=Z,19nm,1.2s
CLL pmax pmax
comp=Z,14nm,1.3s
CLL MLR MLR
comp=Z,500nm,21.7s,MS5.3
CLL Collm 154.64 346 *e*PKP PKPdf 16 26 17.0 -2.6
CLL ⇓ *i*PKP PKPdf 16 26 26.2 +6.6
CLL *e*PKP PKPdf 16 26 38.0 +18
CLL LR LR
comp=Z,500nm,21.7s,MS5.3
CLL Collm 154.64 346 *e*PKIKP PKPdf 16 26 17.0 -2.6
CLL *i* PKP1 PKPdf 16 26 26.2 +6.6
CLL *e*PKP2 PKPab 16 26 38.0 -3.5
CLL *e* 16 26 54.0
CLL *e*PP PP 16 30 13.0 -5.2
CLL *e* 16 41 44.0
CLL *e*PPS PPS 16 43 12.0 -11
CLL *e*SS SS 16 49 57.0 +1.0
DPC Dobruska-Polom 154.66 340 *e*PKIKP PKPdf 16 26 17.6 -2.0
DPC *e* 16 30 14.0
DPC MLR MLR
comp=Z,500nm,20.4s,MS5.3
DPC Dobruska-Polom 154.66 340 *e*PKPdf PKPdf 16 26 17.6 -2.0
DPC *e*PKPbc PKPdf 16 26 26.7 +7.1
DPC *e*PP PP 16 30 14.0 -4.3
DPC AMS AMS 17 38 10.0
comp=Z,500nm,20.4s
MORC Moravsky Berou 154.78 338 *e*PKPdf PKPdf 16 26 17.0 -2.8
MORC *e*PKPbc PKPdf 16 26 26.2 +6.5
BRG Berggiesshubel 154.83 344 *e*PKIKP PKPdf 16 26 18.2 -1.6
BRG *e* 16 26 41.2
BRG 16 30 16.0
BRG SS SS 16 50 01.0 +3.0
BRG pmax pmax
comp=Z,15nm,1.5s
BRG pmax pmax
comp=Z,22nm,1.4s
BRG pmax pmax
comp=Z,16nm,1.2s
BRG MLR MLR
comp=N,310nm,18.4s,MS5.2
BRG MLR MLR
comp=E,180nm,21.7s,MS5.2
BRG MLR MLR
comp=Z,560nm,22.4s,MS5.3
BRG Berggiesshubel 154.83 344 *e*PKP PKPdf 16 26 18.2 -1.6
BRG *e*PKP PKPdf 16 26 27.0 +7.2
BRG *e*PKP PKPdf 16 26 41.2 +21
BRG PP PP 16 30 16.0 -3.1
BRG SS SS 16 50 01.0 +3.0
BRG LR LR
comp=Z,560nm,22.4s,MS5.3
ULDT Uludag 154.98 308 *i* P PKPdf 16 26 12.2 -8.2
PVCC Panska Ves 154.99 343 *e*PKIKP PKPdf 16 26 17.7 -2.3
PVCC *e* 16 30 15.4
PVCC MLR MLR
comp=Z,600nm,21.3s,MS5.4
PVCC Panska Ves 154.99 343 *e*PKPdf PKPdf 16 26 17.7 -2.3
PVCC *e*PKPbc PKPdf 16 26 27.8 +7.8
PVCC *e*PP PP 16 30 15.4 -4.6
PVCC AMS AMS 17 36 00.0
comp=Z,600nm,21.3s
GDZ Gediz 155.13 306 *i* P PKPdf 16 26 28.0 +7.4
VYHS Vyhne 155.40 335 *e*PKP PKPdf 16 26 35.9 +15
VYHS *e* 16 26 44.6
VYHS Vyhne 155.40 335 *e* PKPdf 16 26 35.9 +15
VYHS Vyhne 155.40 335 *e*PKP PKPab 16 26 44.6 -0.2
PRU Pruhonice 155.49 343 *e*PKPab PKPab 16 26 40.2 -5.0
PRU *e*PP PP 16 30 18.9 -4.1
PRU AMS AMS 17 34 50.0
comp=Z,500nm,21.3s
MOX Moxa 155.55 347 *e*PKIKP PKPdf 16 26 13.3 -7.5
MOX pmax pmax
comp=Z,42nm,2.2s
MOX MLR MLR
comp=Z,500nm,19.0s,MS5.4
MOX Moxa 155.55 347 *i* P PKPdf 16 26 13.3 -7.5
comp=Z,logA/T=1.3
MOX SS SS 16 50 12.0 +6.0
MOX L 17 49 59.0
GOLH Golhisar 155.68 301 *i* P PKPdf 16 26 31.2 +10
NKC Novy Kostel 155.77 346 *e*pPKP 16 26 28.3
NKC *e*PKPab PKPab 16 26 40.7 -5.7
NKC *e*PP PP 16 30 19.2 -5.4
NKC AMS AMS 17 35 20.0
comp=Z,500nm,21.1s
AKAS Kas 155.93 299 *i* P PKPdf 16 26 23.5 +1.8
KHC Kasperske Hory 156.53 343 *e*PKP2 PKPab 16 26 49.5 -0.2
KHC *e* 16 30 21.5
KHC MLR MLR
comp=Z,600nm,22.6s,MS5.4
KHC Kasperske Hory 156.53 343 *e*PKPab PKPab 16 26 49.5 -0.2
KHC *ex* x 16 26 59.2
KHC *e*PP PP 16 30 21.5 -7.2
KHC AMS AMS 17 37 40.0
comp=Z,600nm,22.6s
GRA1 Grafenberg Arr 156.54 347 *e*PKPdf PKPdf 16 26 29.1 +7.0
GRF Grafenberg Arr 156.54 347 *e*PKP PKPdf 16 26 29.1 +7.0
GERES GERESS Array B 156.76 343 PKPbc PKPdf 16 26 30.6 +8.1
comp=Z,1.2nm,0.7s,baz=270,slow=3.3,SNR=5.0
GERES PKPab PKPab 16 26 49.7 -0.9
comp=Z,1.3nm,0.8s,baz=27,slow=3.0,SNR=5.7
BAIF Baives 156.95 359 *e*PKP1 PKPab 16 26 49.5 -1.9
comp=Z,30nm,1.2s
RZN Rozhen 157.19 315 *e*P PKPab 16 26 48.0 -4.8
RZN Rozhen 157.19 315 *e*P PKPab 16 26 48.0 -4.8
VTS Vitosha 157.57 319 *e*P PKPab 16 26 55.0 +0.6
VTS Vitosha 157.57 319 *e*P PKPab 16 26 55.0 +0.6
MMB Musomiste 157.85 316 *e*P PKPab 16 26 55.0 -0.6
MMB Musomiste 157.85 316 *e*P PKPab 16 26 55.0 -0.6
FLN La Foliniere 158.04 7 *e*PKP1 PKPab 16 26 53.8 -2.4
comp=Z,44nm,1.2s
LDF La Druitiere 158.25 6 *e*PKP1 PKPab 16 26 54.3 -2.8
DIVS Divcibare 158.31 326 *e* PKPdf 16 26 17.2 -7.5
DBIC Dimbokro 158.32 157 PKP PKPdf 16 26 23.6 -2.0
comp=Z,1.9nm,0.8s,baz=286,slow=6.1,SNR=3.1
DBIC Dimbokro 158.32 157 PKP PKPdf 16 26 23.6 -2.0
DBIC LR LR
comp=Z,610nm,21.0s,MS5.4
GRR Gorron 158.37 8 *e*PKP1 PKPab 16 26 55.6 -2.0
CDF Champ du Feu 158.39 353 *e*PKP1 PKPab 16 26 55.8 -1.9
MEZF Maizieres J'vi 158.48 357 *e*PKP1 PKPab 16 26 56.3 -1.8
PDKS Podkum 158.85 337 *e*PKPdf PKPdf 16 26 22.5 -2.7
PDKS *e*PKPab PKPab 16 26 58.8 -1.0
HAU Haudompre 158.89 355 *e*PKP1 PKPab 16 26 58.0 -1.9
SKO Skopje 158.99 320 *i* PKP PKPab 16 27 01.0 +0.5
LJU Ljubljana 159.02 338 *e*PKPdf PKPdf 16 26 22.4 -3.0
LJU *ep*PKPdf 16 26 34.0
HINF Hinteralfeld 159.03 354 *e*PKP1 PKPab 16 26 58.3 -2.2
BOJS Bojanci 159.24 336 *e*PKPdf PKPdf 16 26 22.7 -3.0
JAVS Javornik 159.31 339 *e*PKPdf PKPdf 16 26 24.1 -1.7
JAVS *e*PKPab PKPab 16 27 00.4 -1.3
JAVS *ep*PKPab 16 27 14.5
JAVS *e*PP PP 16 30 39.5 -4.2
LOR Lormes 159.75 359 *e*PKP1 PKPab 16 27 01.5 -2.1
SSF Saint Saulge 159.96 360 *e*PKP1 PKPab 16 27 02.5 -2.0
MFF Saint Martin d 160.21 7 *e*PKP1 PKPab 16 27 03.6 -2.0
comp=Z,31nm,1.2s
CABF La Chapelle 160.29 355 *e*PKP1 PKPab 16 27 04.2 -1.7
comp=Z,47nm,1.3s
SMF Signal de Mont 160.37 359 *e*PKP1 PKPab 16 27 04.3 -2.0
comp=Z,43nm,1.3s
BGF Bois d'Agland 160.45 1 *e*PKP1 PKPab 16 27 04.6 -2.0
LASF Ste Croix 162.94 359 *e*PKP1 PKPab 16 27 05.6 -12
comp=Z,27nm,1.2s
SMRF Simiane la Rot 162.95 355 *e*PKP1 PKPab 16 27 06.1 -11
ESDC Sonseca Array 165.92 24 PKP PKPdf 16 26 31.2 -1.3
comp=Z,0.2nm,0.3s,baz=355,slow=2.8,SNR=7.9
ESDC PKPab PKPab 16 27 29.6 -1.1
comp=Z,0.2nm,0.3s,baz=329,slow=3.7,SNR=4.3
ESLA Sonseca Array 165.92 24 PFAKE 16 26 40.0 +7.5
ESLA LR LR
comp=Z,4μm,19.0s

IDC ***11*** *16:13:10.9*±*2.5, 1.91N*±*96.55E, mb3.9/5, mb1 4.0/6, mb1mx3.7/19, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=94.5km s-min=28.6km az=58.0*
NEIC ***11*** *16:13:16.6*±*1.1, 2.16N*±*96.91E, h30km, Error ellipse: s-maj=24.1km s-min=18.4km az=219.0*
ISC 11 16:13:14.7±1.5**, 2.1N**±0.2**, -96.9E**±0.2**, h30km, n8, σ0 87/8, mb3.9/5, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.90**	**50**	*e*Pn	**Pn**	**16 14 27.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**16.37**	**7**	Pn	**P**	**16 17 07.0**	**+2.8**
	0.1nm,0.3s,baz=194,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**42.77**	**123**	P	**P**	**16 21 12.2**	**+0.6**
	0.4nm,0.5s,mb3.4,baz=302,slow=9.0,SNR=4.8						
SONM	**Songino Array**	**46.29**	**9**	P	**P**	**16 21 39.0**	**-0.4**
	0.7nm,0.5s,mb3.9,baz=192,slow=9.4,SNR=3.6						
MKAR	**Makanchi Array**	**46.30**	**346**	P	**P**	**16 21 39.3**	**-0.2**
	1.7nm,0.8s,mb4.1,baz=160,slow=8.4,SNR=16						
ZAL	**Zalesovo**	**52.61**	**351**	P	**P**	**16 22 27.7**	**-0.4**
	1.1nm,0.4s,mb4.2,baz=313,slow=8.4,SNR=3.8						
ARCES	**ARCESS Array B**	**81.59**	**340**	P	**P**	**16 25 30.5**	**-0.3**
	1.4nm,0.9s,mb3.9,baz=101,slow=6.2,SNR=4.7						
ARCES	**ARCESS Array B**	**81.59**	**340**	P	**P**	**16 25 30.5**	**-0.3**

*JMA **11** 16:13:46.2±0.2, 39.46N×143.44E, h30km, M3.5*
ISC 11 16:13:46.7±1.6**, 39.39N**±0.06×**143.4E**±0.1**, h30km, n11, σ0^{s}70**/18**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.27**	**279**	P	**Pn**	**16 14 08.4**	**-0.3**
MIYJ				*e*S	**Sn**	**16 14 24.7**	**-0.1**
JTH	**Tanohata**	**1.33**	**295**	P	**Pn**	**16 14 08.9**	**-0.7**
JTH				*e*S	**Sn**	**16 14 25.6**	**-0.9**
OFUJ	**Ofunato**	**1.41**	**258**	P	**Pn**	**16 14 10.8**	**+0.1**
JOM	**Ohasama**	**1.66**	**274**	P	**Pn**	**16 14 14.5**	**+0.2**
JOM				*e*S	**Sn**	**16 14 36.1**	**+1.2**
JANG	**Nango**	**1.78**	**304**	P	**Pn**	**16 14 14.7**	**-1.3**
JMK	**Ichinoseki**	**1.78**	**257**	P	**Pn**	**16 14 16.4**	**+0.4**
JMK				*e*S	**Sn**	**16 14 38.5**	**+0.7**
JIO	**Ouri**	**1.88**	**241**	P	**Pn**	**16 14 17.5**	**+0.1**
JIO				*e*S	**Sn**	**16 14 39.5**	**-0.8**
JYK	**Kaneyama**	**2.44**	**260**	P	**Pn**	**16 14 25.9**	**+0.5**
JMM	**Marumori**	**2.57**	**235**	P	**Pn**	**16 14 27.1**	**-0.2**
JMM				*e*S	**Sn**	**16 14 56.7**	**-1.2**
JOT	**Ohata**	**2.70**	**318**	P	**Pn**	**16 14 30.3**	**+1.1**
MAT	**Matsushiro**	**5.01**	**237**	P	**Pn**	**16 15 02.4**	**+0.4**
MAT				*e*S	**Sn**	**16 16 00.1**	**+0.4**

*BJI **11** 16:20:44.7, 0.28N×97.35E, h36km, mb4.8*
*IDC **11** 16:20:45.1±1.0, 0.79N×97.33E, mb4.1/12, mb1 4.3/13, mb1mx4.2/20, mbtmp4.1/13, ML4.2/1, Error ellipse: s-maj=39.8km s-min=17.0km az=51.0*
*NEIC **11** 16:20:46.2±7.8, 0.80N×97.33E, h7km±46km, mb4.5/7, Error ellipse: s-maj=21.7km s-min=7.2km az=53.0*
ISC 11 16:20:47.3±6.6**, 0.9N**±0.1×**97.4E**±0.2**, h24km**±43km**, n39, σ0^{s}91**/39**, mb4.2**/19**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.20**	**44**	P	**Pn**	**16 22 06.4**	**+0.8**
KULM	**Kulim**	**5.49**	**36**	*e*Pn	**Pn**	**16 22 09.8**	**0.0**
KGM	**Kluang**	**6.05**	**79**	P	**Pn**	**16 22 18.6**	**+0.9**
SNG	**Songkhla**	**7.07**	**27**	P	**Pn**	**16 22 30.0**	**-2.0**
	180nm,0.8s						
BDT	**Bhumibol Dam**	**16.37**	**6**	P	**P**	**16 24 40.0**	**+2.6**
CMAR	**Chiang Mai Arr**	**17.57**	**5**	P	**P**	**16 24 50.9**	**-1.6**
	0.3nm,0.3s,baz=195,slow=12,SNR=18						
NANT	**Nan**	**18.14**	**10**	P	**P**	**16 24 58.0**	**-1.6**
KKM	**Kota Kinabalu**	**19.49**	**74**	*e*P	**P**	**16 25 15.4**	**-0.4**
KKM	**Kota Kinabalu**	**19.49**	**74**	P	**P**	**16 25 17.0**	**+1.3**
TSM	**Tawau**	**20.75**	**80**	P	**P**	**16 25 28.8**	**-0.4**
KMI	**Kunming**	**24.68**	**12**	P	**P**	**16 26 09.7**	**+1.7**
KMI				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.4						
KMI	**Kunming**	**24.68**	**12**	P	**P**	**16 26 09.7**	**+1.7**
	comp=Z,12nm,1.0s,mb4.4						
SHL	**Shillong**	**25.14**	**348**	*e*P	**P**	**16 26 13.0**	**+0.7**
LSA	**Lhasa**	**29.30**	**349**	*e*P	**P**	**16 26 51.3**	**+1.0**
	comp=Z,5.6nm,0.7s,mb4.4						
YHNB	**Yeheng**	**33.16**	**43**	*e*P	**P**	**16 27 23.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**33.58**	**125**	*e*P	**P**	**16 27 27.3**	**-0.7**
	comp=Z,5.3nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.58**	**125**	P	**P**	**16 27 27.0**	**-1.0**
	comp=Z,7.2nm,1.0s,mb4.5,baz=327,slow=10,SNR=6.0						
GTA	**Gaotai**	**38.45**	**3**	*e*P	**P**	**16 28 09.8**	**+0.8**
GTA				AP	pP	16 28 15.0	-1.4
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**41.70**	**122**	P	**P**	**16 28 36.2**	**0.0**
	comp=Z,1.4nm,0.5s,mb3.9,baz=311,slow=9.8,SNR=29						
WRAB	**Tennant Creek**	**41.70**	**122**	*e*P	**P**	**16 28 36.1**	**-0.1**
	comp=Z,5.9nm,0.8s,mb4.3						
WB2	**Warramunga Arr**	**41.71**	**122**	*e*P	**P**	**16 28 36.2**	**-0.1**
SONM	**Songino Array**	**47.45**	**8**	P	**P**	**16 29 22.2**	**+0.1**
	comp=Z,1.5nm,0.4s,mb4.2,baz=188,slow=8.7,SNR=11						
MKAR	**Makanchi Array**	**47.62**	**346**	P	**P**	**16 29 23.8**	**+0.3**
	comp=Z,4.1nm,0.5s,mb4.7,baz=161,slow=8.8,SNR=84						
MKAR	**Makanchi Array**	**47.62**	**346**	P	**P**	**16 29 23.8**	**+0.3**
MJAR	**Matsushiro Arr**	**51.83**	**42**	P	**P**	**16 29 56.1**	**+0.3**
	comp=Z,0.5nm,0.4s,mb3.8,baz=209,slow=6.2,SNR=4.5						
ZAL	**Zalesovo**	**53.92**	**351**	P	**P**	**16 30 11.0**	**0.0**
	comp=Z,3.7nm,0.5s,mb4.6,baz=302,slow=4.9,SNR=15						
ZAL	**Zalesovo**	**53.92**	**351**	P	**P**	**16 30 11.0**	**-0.1**
BVAR	**Borovoye Array**	**56.64**	**341**	P	**P**	**16 30 30.4**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.2,baz=143,slow=7.4,SNR=9.0						
ZRNK	**Zerenda**	**57.04**	**340**	*e*P	**P**	**16 30 33.1**	**-0.6**
	comp=Z,1.5nm,0.6s,mb4.2						
YAK	**Yakutsk**	**65.71**	**16**	*e*P	**P**	**16 31 30.8**	**-1.2**
	comp=Z,8.8nm,0.9s,mb4.8						
BRTR	**Keskin Array B**	**69.48**	**312**	P	**P**	**16 31 56.6**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=108,slow=9.1,SNR=2.7						
AKASG	**Malin Array Be**	**75.64**	**322**	P	**P**	**16 32 31.9**	**-0.4**
	comp=Z,0.1nm,0.3s,mb3.2,baz=88,slow=5.1,SNR=4.3						
FINES	**FINESS Array B**	**80.39**	**333**	P	**P**	**16 32 57.0**	**-1.1**
	comp=Z,1.6nm,0.9s,mb4.0,baz=162,slow=6.0,SNR=3.6						
URZ	**Urewera**	**82.46**	**129**	P	**P**	**16 33 09.9**	**+0.5**
	comp=Z,16nm,0.9s,mb4.9,baz=330,slow=15,SNR=3.2						
ARCES	**ARCESS Array B**	**82.93**	**340**	P	**P**	**16 33 11.2**	**0.0**
	comp=Z,1.9nm,0.8s,mb4.2,baz=108,slow=5.7,SNR=4.2						
NB2	**NORSAR Subarra**	**87.40**	**331**	P	**P**	**16 33 34.3**	**+0.7**
	comp=Z,0.9nm,0.8s,mb4.0,baz=93,slow=5.0						
NB2	**NORSAR Subarra**	**87.40**	**331**	P	**P**	**16 33 34.3**	**+0.7**
	comp=Z,0.9nm,0.8s,mb4.0						
NOA	**NORSAR Array B**	**87.40**	**331**	P	**P**	**16 33 34.2**	**+0.6**
	comp=Z,0.8nm,0.7s,mb4.1,baz=94,slow=4.9,SNR=4.8						
NOA	**NORSAR Array B**	**87.40**	**331**	P	**P**	**16 33 34.2**	**+0.6**

*MOS **11** 16:22:46.5±0.9, 26.85S×176.45W, h10km, mb4.7/3, Error ellipse: s-maj=15.7km s-min=12.0km az=59.5*
*IDC **11** 16:22:46.3±0.6, 26.76S×176.51W, mb4.5/14, mb1 4.7/15, mb1mx4.7/16, mbtmp4.5/15, MS4.5/5, Ms1 4.5/5, ms1mx4.0/25, Error ellipse: s-maj=20.8km s-min=14.6km az=147.0*
*HRVD **11** 16:22:51.4±0.6, 26.94S×175.90W, h23km±1km, MW5.0/50, Centroid moment Tensor Solution. LP body waves: s11,c12;Mantle waves: s50,c79; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.61±.49; $M_{\theta\theta}$-0.35±.25; $M_{\phi\phi}$-3.26±.28; $M_{r\theta}$0.64±.38; $M_{\theta\phi}$0.03±.13; $M_{\phi r}$1.88±.29; Best double couple: $M_0$3.962×10^{16} NP1:ϕ_s172°,δ31°,λ76°. NP2:ϕ_s8°,δ60°,λ98°. Principal axes: T 4.178, Plg74°, Azm299°; N -.433, Plg7°, Azm184°; P -3.746, Plg15°, Azm92°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 16:22:51.4±0.2, 26.85S×176.51W, h35km, mb4.9/30 Error ellipse: s-maj=9.0km s-min=6.3km az=142.0*
*BJI **11** 16:22:54.0, 25.99S×176.84W, h35km, mB5.4, mb5.0, Ms5.3, Msz4.8*
ISC 11 16:22:50.1±0.3**, 26.81S**±0.05×**176.55W**±0.07**, h33km, (h21km**±7.6km**:pP-P), n144, σ1^{s}04**/108**, mb4.7**/41**, MS4.9**/11**, 2C-3D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.72**	**206**	*e*P	**P**	**16 23 31.8**	**-0.5**
RAO				*e*S	**S**	**16 24 06.3**	**+1.9**
RAO	**Raoul Island**	**2.72**	**206**	Pn	**Pn**	**16 23 32.2**	**-0.3**
	760nm,0.3s,baz=88,slow=20,SNR=23						
RAO				Sn	**Sn**	**16 24 06.2**	**+1.7**
	2µm,0.3s,baz=90,slow=21,SNR=10						
RAO				LR	LR	16 24 19.6	
	comp=Z,1µm,21.0s,baz=76,slow=34						
PUZ	**Puketiti**	**12.05**	**200**	*e*SN	**S**	**16 27 42.4**	**-14**
URZ	**Urewera**	**12.60**	**203**	Pn	**P**	**16 25 39.6**	**-10**
	0.7nm,0.3s,baz=130,slow=19,SNR=4.2						
URZ				Sn	**S**	**16 27 58.7**	**-11**
	7.7nm,0.3s,baz=192,slow=19,SNR=14						
URZ	**Urewera**	**12.60**	**203**	*e*SN	**S**	**16 27 58.0**	**-12**
AFI	**Afiamalu**	**13.59**	**20**	Pn	**P**	**16 25 56.6**	**-6.3**
	13nm,0.3s,baz=229,slow=19,SNR=5.4						
AFI				Sn	**S**	**16 28 17.7**	**-16**
	8.5nm,0.3s,baz=28,slow=19,SNR=3.7						
AFI	**Afiamalu**	**13.59**	**20**	*e*Pn	**P**	**16 25 56.8**	**-6.2**
MRZ	**Mangatainoka R**	**15.28**	**203**	*e*SN	**S**	**16 28 55.3**	**-18**
DZM	**Mont Dzumac**	**16.18**	**283**	Pn	**P**	**16 26 44.9**	**+8.3**
	1.5nm,0.3s,baz=100,slow=19,SNR=8.8						
DZM				LR	LR	16 31 20.1	
	comp=Z,2µm,21.2s,baz=66,slow=32						
RAR	**Rarotonga**	**16.31**	**74**	P	**P**	**16 26 27.0**	**-11**
THZ	**Tophouse**	**17.25**	**207**	*e*SN	**S**	**16 29 42.3**	**-17**
KHZ	**Kahutara**	**17.56**	**205**	*e*PN	**P**	**16 26 45.7**	**-8.0**
RPZ	**Rata Peaks**	**19.63**	**208**	P	**P**	**16 27 12.0**	**-6.6**
	1.0nm,0.3s,baz=171,slow=16,SNR=6.5						
PPT	**Papeete**	**26.57**	**75**	LR	LR	16 36 54.9	
	comp=Z,971nm,19.0s,MS4.4,baz=258,slow=32						
HNR	**Honiara**	**28.15**	**303**	LR	LR	16 38 03.2	
	comp=Z,2µm,18.5s,MS4.6,baz=162,slow=33						
CTA	**Charters Tower**	**34.68**	**273**	*e*P	**P**	**16 29 40.3**	**+1.5**
	9.1nm,0.6s,mb4.9						
CTA	**Charters Tower**	**34.68**	**273**	P	**P**	**16 29 39.9**	**+1.1**
	9.5nm,0.5s,mb5.0,baz=104,slow=12,SNR=30						
CTAO	**Charters Tower**	**34.68**	**273**	*e*P	**P**	**16 29 38.9**	**+0.1**
CTAO	**Charters Tower**	**34.68**	**273**	*e*P	**P**	**16 29 39.0**	**+0.1**
	7.4nm,0.4s,mb5.0						
STKA	**Stephens Creek**	**36.67**	**252**	*e*P	**P**	**16 29 55.2**	**-0.4**
	3.9nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**36.67**	**252**	P	**P**	**16 29 55.2**	**-0.4**
	2.2nm,0.6s,mb4.2,baz=104,slow=16,SNR=11						
STKA				LR	LR	16 43 56.1	
	comp=Z,1µm,18.0s,MS4.8,baz=23,slow=35						
WB2	**Warramunga Arr**	**45.36**	**268**	*e*P	**P**	**16 31 05.9**	**-1.4**
WRAB	**Tennant Creek**	**45.36**	**268**	*i* P	**P**	**16 31 05.9**	**-1.4**
WRAB	**Tennant Creek**	**45.36**	**268**	*e*P	**P**	**16 31 06.0**	**-1.2**
	15nm,0.7s,mb4.9						
WRA	**Warramunga Arr**	**45.37**	**268**	P	**P**	**16 31 06.4**	**-1.0**
	11nm,0.7s,mb4.8,baz=110,slow=6.5,SNR=50						
WRA				S	**S**	**16 37 48.0**	**+2.7**
	1.3nm,1.0s,baz=106,slow=14,SNR=4.1						
KAKA	**Kakadu**	**49.70**	**276**	*e*P	**P**	**16 31 39.1**	**-2.1**
	5.8nm,0.3s,mb5.1						
SBA	**Scott Base**	**51.70**	**184**	*e*P	**P**	**16 31 56.2**	**+0.6**
	19nm,1.1s,mb5.0						
VNDA	**Vanda**	**51.79**	**186**	P	**P**	**16 31 56.2**	**-0.1**
	3.6nm,1.1s,mb4.2,baz=4.1,slow=7.2,SNR=15						
VNDA	**Vanda**	**51.79**	**186**	*e*P	**P**	**16 31 56.6**	**+0.4**
	4.3nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**53.74**	**267**	*e*P	**P**	**16 32 10.4**	**-1.2**
	13nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**53.74**	**267**	P	**P**	**16 32 10.6**	**-1.0**
	24nm,1.1s,mb5.0,baz=131,slow=4.9,SNR=18						
MBWA	**Marble Bar**	**57.97**	**261**	*e*P	**P**	**16 32 39.4**	**-2.5**
	8.4nm,0.9s,mb4.8						
MUN	**Mundaring**	**57.98**	**248**	*e*P	**P**	**16 32 39.3**	**-2.5**
	4.6nm,0.9s,mb4.5						
CASY	**Casey**	**58.90**	**207**	*e*P	**P**	**16 32 46.1**	**-1.8**
QSPA	**South Pole Qui**	**63.29**	**180**	*e*P	**P**	**16 33 16.1**	**-1.3**
	47nm,1.3s,mb5.5						
KSM	**Kuching**	**75.66**	**279**	*e*P	**P**	**16 34 33.5**	**-0.7**
MJAR	**Matsushiro Arr**	**76.06**	**324**	P	**P**	**16 34 36.2**	**+0.1**
	9.0nm,0.8s,mb4.8,baz=165,slow=6.5,SNR=17						
MAJO	**Matsushiro**	**76.06**	**324**	*e*P	**P**	**16 34 36.5**	**+0.4**
	101nm,1.9s,mb5.4						
MAT	**Matsushiro**	**76.06**	**324**	*e*P	**P**	**16 34 36.0**	**0.0**
	18nm,1.0s,mb5.0						
MAT	**Matsushiro**	**76.06**	**324**	P	**P**	**16 34 36.0**	**0.0**
MAW	**Mawson**	**76.11**	**200**	P	**P**	**16 34 36.4**	**+0.7**
	3.9nm,0.7s,mb4.5,baz=111,slow=9.6,SNR=5.6						
FX1	**Attu Island--F**	**79.85**	**354**	P	**P**	**16 34 56.0**	**-0.6**
SYO	**Syowa Base**	**80.89**	**192**	⇓PcP	PcP	16 35 06.9	-1.7
SNAA	**Sanae**	**81.69**	**178**		**P**	**16 35 04.6**	**-1.4**
SNAA	**Sanae**	**81.69**	**178**		**P**	**16 35 10.6**	**+4.6**
SNAA	**Sanae**	**81.69**	**178**		**P**	**16 35 15.1**	**+9.1**
SNAA	**Sanae**	**81.69**	**178**		**P**	**16 35 19.4**	**+13**
SNAA	**Sanae**	**81.69**	**178**	*i* P	**P**	**16 35 04.4**	**-1.6**
VNA3	**Neumayer Olymp**	**81.79**	**176**	⇑*i*	**P**	**16 35 05.4**	**-1.1**
VNA3	**Neumayer Olymp**	**81.79**	**176**		**P**	**16 35 08.5**	**+2.0**
VNA3	**Neumayer Olymp**	**81.79**	**176**		**P**	**16 35 15.6**	**+9.1**
VNA3	**Neumayer Olymp**	**81.79**	**176**		**P**	**16 35 19.1**	**+13**
VNA3	**Neumayer Olymp**	**81.79**	**176**		**P**	**16 35 25.4**	**+19**
YSS	**Yuzh-Sakhalins**	**82.10**	**333**	*e*P	**P**	**16 35 11.2**	**+2.6**
YSS	**Yuzh-Sakhalins**	**82.10**	**333**	*e*P	**P**	**16 35 09.9**	**+1.3**
	19nm,1.0s,mb5.0						
VNA2	**Neumayer--Watz**	**82.24**	**176**		**P**	**16 35 08.3**	**-0.5**
VNA2	**Neumayer--Watz**	**82.24**	**176**		**P**	**16 35 14.5**	**+5.7**
VNA2	**Neumayer--Watz**	**82.24**	**176**		**P**	**16 35 20.6**	**+12**
VNA2	**Neumayer--Watz**	**82.24**	**176**		**P**	**16 35 22.8**	**+14**
VNA2	**Neumayer--Watz**	**82.24**	**176**		**P**	**16 35 28.1**	**+19**
SSE	**Sheshan**	**82.74**	**310**	P	**P**	**16 35 11.8**	**-0.4**
SSE				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.8						
SSE				AMB	AMB		
	comp=Z,195nm,4.3s						
SSE	**Sheshan**	**82.74**	**310**	P	**P**	**16 35 11.8**	**-0.4**
	comp=Z,12nm,1.1s,mb4.8						
WDC	**Whiskeytown Da**	**83.72**	**38**	*e*P	**P**	**16 35 17.2**	**+0.2**
	comp=Z,7.4nm,1.0s,mb4.8						
DAC	**Darwin (Calif)**	**83.79**	**44**	*e*P	**P**	**16 35 16.9**	**-0.5**
	comp=Z,1.0nm,0.5s,mb4.2						
YBH	**Yreka Blue Hor**	**84.42**	**37**	P	**P**	**16 35 20.9**	**+0.4**
	comp=Z,3.8nm,1.0s,mb4.5,baz=216,slow=5.1,SNR=8.7						
YBH	**Yreka Blue Hor**	**84.42**	**37**	*e*P	**P**	**16 35 20.9**	**+0.4**
	comp=Z,5.6nm,0.9s,mb4.7						
LDFC	**Landfair**	**84.62**	**46**	*e*P	**P**	**16 35 21.9**	**+0.3**
NJ2	**Nanjing**	**84.91**	**310**	*e*P	**P**	**16 35 22.0**	**-1.2**
NJ2				AP	pP	16 35 32.2	-1.5
NJ2				XP	sP	16 35 36.8	-0.4
NJ2				PP	PP	16 38 40.8	-0.8
NJ2				S	S	16 45 47.0	-0.9
NJ2				AMB	AMB		
	comp=Z,210nm,5.2s						
NJ2				LR	LR		
	comp=N,1µm,22.1s,MS5.3						
NJ2				LR	LR		
	comp=E,530nm,22.8s,MS5.3						
NJ2				LR	LR		
	comp=Z,240nm,24.1s,MS4.5						
NEN	**Nelson**	**85.14**	**46**	*e*P	**P**	**16 35 24.1**	**-0.2**
MOD	**Modoc**	**85.86**	**38**	*e*P	**P**	**16 35 27.7**	**+0.1**
	comp=Z,7.6nm,1.1s,mb4.8						
TUC	**Tucson**	**85.87**	**51**	*e*P	**P**	**16 35 27.7**	**-0.2**
	comp=Z,13nm,1.4s,mb5.0						
MDJ	**Mudanjiang**	**86.42**	**325**	P	**P**	**16 35 31.1**	**+0.9**
MDJ				PP	PP	16 38 48.6	-5.1
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,122nm,4.3s						
MDJ				LR	LR		
	comp=N,100nm,16.5s						
MDJ				LR	LR		
	comp=E,182nm,23.8s						
MDJ				LR	LR		
	comp=Z,293nm,16.5s,MS4.8						
WVOR	**Wild Horse Val**	**87.14**	**39**	*e*P	**P**	**16 35 33.5**	**-0.4**
	comp=Z,2.2nm,0.8s,mb4.4						
WHN	**Wuhan**	**87.23**	**306**	*e*P	**P**	**16 35 36.0**	**+1.4**
WHN				LR	LR		
	comp=Z,3µm,22.7s,MS5.7						
MSU	**Marysvale**	**88.56**	**45**	*e*P	**P**	**16 35 41.3**	**+0.5**
TXAR	**Lajitas Array**	**89.37**	**57**	*e*P	**P**	**16 35 44.6**	**-0.2**
TXAR	**Lajitas Array**	**89.37**	**57**	P	**P**	**16 35 44.6**	**-0.2**
	comp=Z,0.3nm,0.3s,mb4.0,baz=202,slow=6.7,SNR=7.3						
LAZ	**Ladron**	**89.57**	**51**	*e*P	**P**	**16 35 46.0**	**+0.3**
TMUT	**Trail Mountain**	**89.64**	**45**	*e*P	**P**	**16 35 47.0**	**+1.2**
SRU	**San Rafael**	**89.96**	**45**	*e*P	**P**	**16 35 47.1**	**-0.3**
HLID	**Hailey**	**90.25**	**40**	*e*P	**P**	**16 35 48.5**	**-0.1**
	comp=Z,3.4nm,1.1s,mb4.6						
ANMO	**Albuquerque**	**90.33**	**51**	*e*P	**P**	**16 35 48.5**	**-0.7**
ANMO	**Albuquerque**	**90.33**	**51**	P	**P**	**16 35 48.5**	**-0.7**
	comp=Z,1.1nm,0.6s,mb4.4,baz=38,slow=2.2,SNR=3.7						
ENH	**Enshi**	**90.65**	**304**	*e*P	**P**	**16 35 52.5**	**+1.6**
	comp=Z,50nm,1.2s,mb5.7						
GYA	**Guiyang**	**90.89**	**299**	⇑*i*P	**P**	**16 35 53.5**	**+1.4**
GYA				AP	pP	16 36 01.4	-1.3
GYA				XP	sP	16 36 04.2	-1.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.2						
GYA				AMB	AMB		
	comp=Z,90nm,3.8s						
GYA				LR	LR		
	comp=N,240nm,17.9s,MS4.9						
GYA				LR	LR		
	comp=E,280nm,18.4s,MS4.9						
GYA				LR	LR		
	comp=Z,180nm,18.9s,MS4.5						
REDW	**Red Top Meadow**	**92.22**	**42**	*e*P	**P**	**16 35 57.5**	**-0.2**
	comp=Z,2.1nm,0.6s,mb4.6						
IMW	**Indian Meadow**	**92.47**	**41**	*e*P	**P**	**16 35 59.1**	**+0.2**
	comp=Z,5.5nm,1.1s,mb4.8						
BW06	**Boulder Array**	**92.65**	**43**	*e*P	**P**	**16 35 59.2**	**-0.6**
	comp=Z,1.5nm,0.8s,mb4.5						
PDAR	**Pinedale Array**	**92.65**	**43**	P	**P**	**16 35 59.1**	**-0.6**
	comp=Z,1.1nm,1.0s,mb4.3,baz=198,slow=4.7,SNR=6.4						
CHMT	**Chamberlain Mo**	**92.94**	**38**	*e*P	**P**	**16 36 01.4**	**+0.4**
BOZ	**Bozeman (W)**	**93.09**	**40**	*e*P	**P**	**16 36 01.6**	**-0.1**
	comp=Z,3.6nm,0.9s,mb4.8						
KMI	**Kunming**	**93.36**	**296**	P	**P**	**16 36 05.7**	**+2.3**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb5.0						
KMI	**Kunming**	**93.36**	**296**	*e*P	**P**	**16 36 05.7**	**+2.3**
KMI	**Kunming**	**93.36**	**296**	P	**P**	**16 36 05.7**	**+2.3**
	comp=Z,9.0nm,1.4s,mb5.0						
CMAR	**Chiang Mai Arr**	**93.43**	**289**	*e*P	**P**	**16 36 05.6**	**+1.7**
CMAR	**Chiang Mai Arr**	**93.43**	**289**	P	**P**	**16 36 05.6**	**+1.7**
	comp=Z,2.1nm,0.8s,mb4.6,baz=145,slow=3.8,SNR=14						
ILAR	**Eielson Array**	**94.15**	**12**	*e*P	**P**	**16 36 05.6**	**-0.4**
ILAR	**Eielson Array**	**94.15**	**12**	P	**P**	**16 36 05.6**	**-0.4**
	comp=Z,1.2nm,0.7s,mb4.4,baz=222,slow=5.3,SNR=11						
HHC	**Hu-ho-hao-te**	**94.67**	**314**	*e*P	**P**	**16 36 10.5**	**+1.5**
HHC				XS		16 47 32.8	
HHC				AMB	AMB		
	comp=Z,150nm,9.6s						
HHC				LR	LR		
	comp=N,483nm,16.8s,MS5.1						
HHC				LR	LR		
	comp=E,337nm,16.8s,MS5.1						
HHC				LR	LR		
	comp=Z,614nm,24.0s						
BILL	**Bilibino**	**95.42**	**354**	*de*P	**P**	**16 36 12.3**	**+0.5**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.6						
BILL				MLR	MLR		
	comp=Z,500nm,19.0s,MS5.0						
RSSD	**Black Hills**	**96.77**	**44**	*e*P	**P**	**16 36 17.8**	**-0.7**
	comp=Z,6.3nm,1.1s,mb5.0						
LZH	**Lanzhou**	**97.61**	**307**	*e*P	**P**	**16 36 23.5**	**+1.0**
LZH				PP	PP	16 40 24.5	+1.4
LZH				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb5.1						
LZH	**Lanzhou**	**97.61**	**307**	*e*P	**P**	**16 36 23.5**	**+1.0**
	comp=Z,10.0nm,1.5s,mb5.1						
LZH				pP	pP	16 36 26.7	-6.4
LZH				sP	sP	16 36 28.4	-8.1
LZH				PP	PP	16 40 24.5	+1.4
LPAZ	**La Paz**	**98.41**	**113**	*e*P	**P**	**16 36 26.8**	**+0.3**
LPAZ	**La Paz**	**98.41**	**113**	P	**P**	**16 36 26.8**	**+0.3**
	comp=Z,0.3nm,0.4s,mb4.2,baz=162,slow=20,SNR=3.0						
LPAZ	**La Paz**	**98.41**	**113**	P	**P**	**16 36 26.8**	**+0.3**
GTA	**Gaotai**	**101.94**	**308**	*e*P	P	16 36 42.5	+0.5
GTA				SKS	SKS	16 47 19.4	+2.0
GTA				S	S	16 48 21.8	+4.0
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s						
GTA				AMB	AMB		
	comp=Z,43nm,5.1s						
GTA				LR	LR		
	comp=N,337nm,17.5s,MS5.0						
GTA				LR	LR		
	comp=E,291nm,16.6s,MS5.0						
GTA				LR	LR		
	comp=Z,478nm,17.0s,MS5.1						
ZAL	**Zalesovo**	**116.18**	**319**	*e*PKIKP	PKPdf	16 41 29.3	-0.4
ZAL	**Zalesovo**	**116.18**	**319**	PKP	PKPdf	16 41 29.3	-0.4
	comp=Z,0.7nm,0.3s,baz=37,slow=5.4,SNR=3.6						
ZAL	**Zalesovo**	**116.18**	**319**	PKP	PKPdf	16 41 29.3	-0.4
MKAR	**Makanchi Array**	**116.41**	**311**	*e*PKIKP	PKPdf	16 41 30.0	-0.3
MKAR	**Makanchi Array**	**116.41**	**311**	PKP	PKPdf	16 41 30.0	-0.3
	comp=Z,0.7nm,0.7s,baz=66,slow=1.5,SNR=9.5						
ZRNK	**Zerenda**	**125.51**	**317**	*e*PKIKP	PKPdf	16 41 47.9	+0.2
ARU	**Arti**	**131.07**	**323**	*e*PKIKP	PKPdf	16 41 52.9	-5.4
ARCES	**ARCESS Array B**	**135.34**	**349**	*e*PKIKP	PKPdf	16 42 06.4	+0.5
ARCES	**ARCESS Array B**	**135.34**	**349**	PKP	PKPdf	16 42 06.4	+0.5
	comp=Z,1.5nm,0.6s,slow=1.2,SNR=7.1						
FINES	**FINESS Array B**	**142.16**	**342**	*e*PKHKP		16 42 12.1	
FINES	**FINESS Array B**	**142.16**	**342**	PKhKP		16 42 12.1	
	comp=Z,0.9nm,0.7s,baz=333,slow=4.3,SNR=3.6						
FINES				PKP	PKPdf	16 42 21.1	+2.7
	comp=Z,0.9nm,0.7s,baz=90,slow=1.9,SNR=8.2						
OBN	**Obninsk**	**142.86**	**329**	⇓*i*PKIKP	PKPdf	16 42 20.7	+1.0
OBN				*e*		16 45 27.6	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV	**Kislovodsk**	**144.11**	**309**	*e*PKHKP		16 42 17.8	
KIV				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KIV				pmax	pmax		
	comp=N,3.0nm,0.7s						
VSU	**Vasula**	**144.40**	**339**	*i* PKIKP	PKPdf	16 42 22.1	-0.2
NB2	**NORSAR Subarra**	**145.37**	**353**	PKPabc	PKPdf	16 42 24.5	+0.6
	comp=N,22nm,1.4s,baz=13,slow=3.4						
NB2	**NORSAR Subarra**	**145.37**	**353**	PKPab	PKPab	16 42 24.5	-1.5
NOA	**NORSAR Array B**	**145.37**	**353**	*e*PKP2	PKPab	16 42 24.8	-1.2
NOA	**NORSAR Array B**	**145.37**	**353**	PKPbc	PKPbc	16 42 24.8	+0.3
	comp=N,3.9nm,0.8s,baz=9.0,slow=2.5,SNR=16						
NAO01	**NORSAR Array S**	**145.60**	**354**	*e*PKPdf	PKPdf	16 42 26.1	+1.8
SOC	**Sochi**	**146.28**	**309**	*i* PKP2	PKPab	16 42 27.7	-2.3
SOC				pmax	pmax		
	comp=Z,12nm,1.0s						
SOC				pmax	pmax		
	comp=N,22nm,1.8s						
SOC				pmax	pmax		
	comp=E,10.0nm,1.4s						
KONO	**Kongsberg**	**146.90**	**354**	*i* PKIKP	PKPdf	16 42 26.5	0.0
KONO	**Kongsberg**	**146.90**	**354**	*e*PKPdf	PKPdf	16 42 27.0	+0.5
ANN	**Anapa**	**147.41**	**312**	*i* PKHKP		16 42 24.8	
ANN				pmax	pmax		
	comp=Z,165nm,8.3s						
ANN				MLR	MLR		
	comp=N,336nm,23.0s,MS5.1						
ANN				MLR	MLR		
	comp=E,205nm,23.0s,MS5.1						
ANN				MLR	MLR		
	comp=Z,361nm,23.0s,MS5.1						
MALT	**Malatya**	**148.54**	**300**	*e*PKPdf	PKPdf	16 42 32.6	+2.7
MALT				*e*PKPbc	PKPdf	16 42 35.8	+6.0
AKASG	**Malin Array Be**	**149.09**	**327**	*e*PKP2	PKPab	16 42 35.4	-5.6
AKASG	**Malin Array Be**	**149.09**	**327**	PKPbc	PKPdf	16 42 35.4	+5.0
	comp=Z,2.8nm,0.6s,baz=38,slow=3.5,SNR=28						
AKASG				PKPab	PKPab	16 42 41.3	+0.3
	comp=Z,2.2nm,0.5s,baz=43,slow=3.7,SNR=15						
ASF	**Jabal al Asfar**	**150.47**	**288**	*e*PKIKP	PKPdf	16 42 41.1	+8.0
ASF	**Jabal al Asfar**	**150.47**	**288**	PKPbc	PKPdf	16 42 41.1	+8.0
	comp=Z,1.3nm,0.3s,baz=2.4,slow=4.9,SNR=3.9						
ASF				PKPab	PKPab	16 42 48.1	+0.8
	comp=Z,10.0nm,0.9s,baz=293,slow=2.2,SNR=7.3						
BR131	**Keskin Array S**	**151.80**	**305**	*e*PKPab	PKPab	16 42 52.4	-0.2
BRTR	**Keskin Array B**	**151.80**	**305**	*e*PKIKP	PKPdf	16 42 41.8	+6.9
BRTR	**Keskin Array B**	**151.80**	**305**	PKPbc	PKPdf	16 42 41.8	+6.9
	comp=Z,1.4nm,0.7s,baz=134,slow=4.6,SNR=6.8						
BRTR				PKPab	PKPab	16 42 53.2	+0.6
	comp=Z,3.0nm,0.6s,baz=101,slow=2.6,SNR=7.2						
EIL	**Elat**	**152.14**	**283**	*e*PKPbc	PKPdf	16 42 44.3	+8.6
CSS	**Prodhromos**	**153.17**	**295**	*e*PKPab	PKPab	16 42 58.5	0.0
MLR	**Muntele Rosu**	**154.11**	**322**	*e*PKP2	PKPab	16 43 00.5	-1.6
MLR	**Muntele Rosu**	**154.11**	**322**	PKPab	PKPab	16 43 00.5	-1.7
	comp=Z,1.0nm,0.5s,baz=137,slow=5.7,SNR=3.9						
CLL	**Collm**	**154.48**	**346**	*i* PKIKP	PKPdf	16 42 49.9	+12
CLL				*e*		16 43 01.0	
CLL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CLL	**Collm**	**154.48**	**346**	*i* PKP1	PKPdf	16 42 49.9	+12
CLL				*e*PKP2	PKPab	16 43 01.0	-2.5
CLL				*e**PPP		16 46 50.0	
CLL				*e*		16 51 53.0	

*NEIC **11** 16:40:10.8, 23.72S×70.46W, h45km, MD3.6(GUC), After GUC.*
GUC 11 16:40:10.7±0.7**, 23.82S×70.12W, h31km**±16km**, ML3.5, 4C, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**0.30**	**296**	⇑*i*P	Pb	16 40 18.0	-0.3
ANCH				*i* S	Sb	16 40 22.9	-0.5
ANCH				AMP		16 40 23.5	
	comp=E,14µm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ANCH	Antofagasta	0.30	296	⇑iP	Pb	16 40 18.0	-0.3
ANCH				iS	Sb	16 40 23.0	-0.4
CPN1	Cerro Paranal	0.85	198	eP	Pn	16 40 26.3	-0.2
CPN1				iS	Sb	16 40 38.7	+0.8
CPN1				AMP		16 40 40.7	
	comp=N,976nm,0.4s						
LVC	Limon Verde	1.63	43	⇑iP	Pn	16 40 39.2	+1.4
LVC				iS	Sn	16 41 00.8	+2.9
LVC				AMP		16 41 02.3	
	comp=N,1μm,0.4s						
LVC	Limon Verde	1.63	43	⇑iP	Pn	16 40 39.2	+1.4
LVC				iS	Sn	16 41 02.0	+4.2
SPCH	San Pedro de A	1.98	63	eP	Pn	16 40 46.5	+3.7
SPCH				iS	Sn	16 41 13.4	+6.7
SPCH				AMP		16 41 16.4	
	comp=E,1μm,0.5s						
SPCH	San Pedro de A	1.98	63	iP	Pn	16 40 46.5	+3.8
SPCH				iS	Sn	16 41 13.7	+7.0
LPAZ	La Paz	7.72	14	ePn	Pn	16 42 01.2	-2.6
	comp=E,1.8nm,0.5s						

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*IDC **11** 16:43:46.4±4.8, 22.97S×179.93E, mb4.1/3, mb1 4.3/3, mb1mx3.9/12, mbtmp4.1/3, Error ellipse: s-maj=166.0km s-min=57.8km az=139.0*

*NEIC **11** 16:44:54.1±2.3, 25.07S×178.26E, h600km, mb4.5/4, Error ellipse: s-maj=80.6km s-min=36.7km az=156.0*

ISC 11 16:44:52.2±5.2**, 25.0S**±0.7×**178.3E**±0.8**, h600km, n10, σ0s58**/9**, mb4.1**/6**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	29.97	273	eP	P	16 50 16.5	+1.3
	11nm,0.6s,mb4.7						
CTAO	Charters Tower	29.97	273	eP	P	16 50 16.1	+0.9
	18nm,0.7s,mb4.8						
STKA	Stephens Creek	32.89	249	P	P	16 50 39.9	+0.2
	0.7nm,0.3s,mb3.7,baz=94,slow=13,SNR=6.9						
STKA	Stephens Creek	32.89	249	P	P	16 50 39.9	+0.2
WB2	Warramunga Arr	40.80	268	eP	P	16 51 44.6	+0.1
WRAB	Tennant Creek	40.81	268	eP	P	16 51 44.4	-0.2
	4.2nm,0.4s,mb4.3						
WRA	Warramunga Arr	40.81	268	P	P	16 51 43.8	-0.8
	2.1nm,0.3s,mb4.2,baz=100,slow=8.1,SNR=142						
KAKA	Kakadu	44.90	277	eP	P	16 52 16.0	-0.6
	4.8nm,0.6s,mb4.2						
CMAR	Chiang Mai Arr	88.47	291	P	P	16 56 43.5	+0.2
	0.7nm,0.9s,mb3.4,baz=134,slow=2.9,SNR=4.7						
BRTR	Keskin Array B	146.98	305	PKPbc	PKPbc	17 03 31.2	+3.7
	0.8nm,0.7s,baz=90,slow=2.9,SNR=4.1						

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*NEIC **11** 17:08:26.8±1.1, 1.09N×97.14E, Error ellipse: s-maj=23.1km s-min=16.4km az=63.0*

*IDC **11** 17:08:26.3±2.3, 1.00N×97.00E, h23km±6km, mb3.5/5, mb1 3.7/6, mb1mx3.5/20, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=91.9km s-min=25.8km az=57.0*

ISC 11 17:08:24.8±1.4**, 1.1N**±0.2×**97.1E**±0.2**, h24km, h24km±.5km: pP-P, n8, σ0s56**/8**, mb3.7**/5**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.45	40	ePn	Pn	17 09 46.3	-0.5
CMAR	Chiang Mai Arr	17.34	6	P	P	17 12 27.7	+0.6
	0.1nm,0.3s,baz=197,slow=10,SNR=7.4						
WRA	Warramunga Arr	42.05	122	P	P	17 16 16.9	+0.2
	0.3nm,0.5s,mb3.2,baz=300,slow=9.1,SNR=6.5						
SONM	Songino Array	47.24	9	P	P	17 16 58.5	+0.5
	0.6nm,0.8s,mb3.6,baz=182,slow=7.1,SNR=3.7						
MKAR	Makanchi Array	47.32	346	P	P	17 16 59.0	+0.5
	0.7nm,0.5s,mb3.9,baz=162,slow=8.9,SNR=13						
MKAR				pP	pP	17 17 06.1	+0.3
	0.4nm,0.4s,baz=161,slow=6.9,SNR=5.4						
MKAR	Makanchi Array	47.32	346	P	P	17 16 59.0	+0.5
MKAR				pP	pP	17 17 06.1	+0.3
ZAL	Zalesovo	53.63	351	P	P	17 17 46.3	-0.3
	0.8nm,0.4s,mb4.0,baz=319,slow=7.7,SNR=5.6						
ZAL				pP	pP	17 17 53.5	-0.4
	0.8nm,0.3s,baz=247,slow=7.7,SNR=2.1						
BVAR	Borovoye Array	56.31	341	P	P	17 18 05.0	-1.0
	0.4nm,0.4s,mb3.8,baz=144,slow=9.6,SNR=3.9						
BVAR				pP	pP	17 18 12.7	-0.7
	0.5nm,0.6s,baz=143,slow=7.4,SNR=3.4						

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*MOS **11** 17:20:29.5±1.7, 36.42N×28.03E, h33km, mb4.2/20, Error ellipse: s-maj=6.0km s-min=3.9km az=114.2*

*CSEM **11** 17:20:30.3±0.0, 36.40N×28.22E, h70km, mb4.1/16, Mw3.8, Error ellipse: s-maj=1.2km s-min=0.8km az=55.0*

*ATH **11** 17:20:31.7, 36.48N×28.11E, h58km±1km, MD4.3/21, ML4.2*

*NEIC **11** 17:20:31.7, 36.48N×28.11E, h58km, mb4.1/38, MD4.3(ATH), After ATH.*

*ZUR_RM **11** 17:20:31, 36.48N×28.11E, h63km, Mw4.6/8, Moment Tensor Solution. s8 Moment tensor: Scale 10^15 Nm; Mrr8.25; Mθθ-6.15; Mφφ-2.10; Mrθ-1.07; Mθφ3.65; Mφr1.22; Best double couple: Mo8.43×10^15 NP1:φs304°, δ50°, λ94°. NP2:φs117°, δ40°, λ85°. Principal axes: T 8.424, Plg84°, Azm244°; N .019, Plg3°, Azm121°; P -8.444, Plg5°, Azm31°;*

*HLW **11** 17:20:32.2, 36.18N×28.15E, h13km, Mb4.6*

*IDC **11** 17:20:33.0±1.1, 36.50N×28.02E, h54km±11km, mb3.9/21, mb1 3.9/29, mb1mx3.9/36, mbtmp4.1/29, MS3.0/2, Ms1 3.0/2, ms1mx2.9/35, Error ellipse: s-maj=10.9km s-min=7.2km az=136.0*

*ISK **11** 17:20:32.4, 36.53N×28.08E, h68km, ML4.4*

*NIC **11** 17:20:35.6±0.2, 36.53N×28.53E, h36km, mb4.6, ML4.2, MW3.6*

*THE **11** 17:20:36.2, 36.50N×27.98E, h66km, ML3.8*

ISC 11 17:20:31.2±0.1**, 36.37N**±0.01×**28.14E**±0.02**, h69km**±2km**, n324, σ1s13**/374**, mb4.0**/39**, 34C-19D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.16	185	eP	P	17 20 42.6	+1.1
ARG				eS	S	17 20 49.1	-0.1
ARG	Arkhangelos	0.16	185	eP	P	17 20 42.7	+1.2
ARG				eS	S	17 20 49.2	0.0
DALT	Dalyan (Mudla)	0.56	45	iPG	P	17 20 45.6	+0.8
DALT				iSG	S	17 20 54.9	+0.3
YER	Yerkesik	0.77	8	iPG	P	17 20 47.8	+0.8
NISR	Nisiros	0.85	287	eP	P	17 20 47.5	-0.5
BDRM	Kayabasi	0.89	321	iP	P	17 20 48.4	-0.1
BDRM				iS	S	17 20 58.5	-2.8
BODT	Bodrum	0.96	316	iPG	P	17 20 49.4	0.0
BODT				iSG	S	17 21 01.5	-1.4
MLSB	Milas	0.97	342	iPG	P	17 20 49.6	+0.1
MLSB				iSG	S	17 21 01.7	-1.4
KARP	Karpathos	1.15	224	⇓iP	P	17 20 53.5	+1.7
KARP				eS	S	17 21 08.8	+1.6
KSL	Kastellorizon	1.19	100	eP	P	17 20 53.7	+1.3
AKAS	Kas	1.19	96	iP	P	17 20 54.1	+1.7
AKAS				iS	S	17 21 13.2	+5.0
AYDN	Tasoluk	1.30	351	iP	P	17 20 54.2	+0.2
AYDN				iS	S	17 21 09.2	-1.8
GOLH	Golhisar	1.43	52	iP	P	17 20 57.8	+2.0
GOLH				iS	S	17 21 16.6	+2.8
ELL	Elmali	1.47	75	iPN	P	17 20 58.8	+2.5
DNZL	Cakiroluk	1.50	29	iP	P	17 20 57.6	+0.9
DENT	Denizli	1.55	27	iPN	P	17 20 58.0	+0.6
SMG	Samos	1.69	322	eP	P	17 20 58.9	-0.4
SMG				eS	S	17 21 17.9	-2.1
ANTB	Antalya	2.09	75	iPN	P	17 21 06.9	+2.2
IZM	Izmir	2.14	341	iPN	P	17 21 04.9	-0.5
MANT	Manisa	2.14	9	iP	P	17 21 06.0	+0.6
MANT				iS	S	17 21 29.8	-1.0
KDAG	Bornova	2.14	341	iP	P	17 21 04.9	-0.6
KDAG				iS	S	17 21 18.9	-12
THR1	Thera Island	2.17	271	ePn	P	17 21 06.7	+0.8
THR1				eSn	S	17 21 31.9	+0.5
SANT	Santorini	2.17	271	ePn	P	17 21 05.8	0.0
SANT				eSn	S	17 21 30.6	-0.8
SANT	Santorini	2.17	271	ePn	P	17 21 05.8	0.0
SANT				eSn	S	17 21 30.6	-0.9
BLCB	Balcova	2.19	337	iPN	P	17 21 05.6	-0.6
APE	Apeiranthos	2.21	289	iPN	P	17 21 06.6	+0.1
APE	Apeiranthos	2.21	289	eP	P	17 21 06.9	+0.4
APE	Apeiranthos	2.21	289	iP	P	17 21 06.8	+0.3
THR3	Thira Island,	2.21	272	ePn	P	17 21 07.3	+0.8
THR3				eSn	S	17 21 33.5	+0.9
THR4	Thira Island,	2.22	273	ePn	P	17 21 08.9	+2.4
THR4				eSn	S	17 21 33.9	+1.2
KHL	Karahalli	2.24	29	iPN	P	17 21 07.0	+0.2
BCK	Bucak	2.24	60	iPN	P	17 21 08.1	+1.2
THR5	Thira Island,	2.25	272	ePn	P	17 21 08.4	+1.3
URLA	Izmir	2.33	329	iP	P	17 21 07.1	-1.1
URLA				iS	S	17 21 33.3	-2.5
NPS	Neapolis	2.34	242	⇓iP	P	17 21 09.4	+1.2
NPS				eS	S	17 21 36.5	+0.7
ISP	Isparta	2.39	52	PN	P	17 21 09.2	+0.1
ISP	Isparta	2.39	52	d iP	P	17 21 09.6	+0.5
ISP	Isparta	2.39	52	ePn	P	17 21 09.7	+0.6
ISP	Isparta	2.39	52	iP	P	17 21 09.6	+0.5
TKTP	Tekketepe	2.41	46	iP	P	17 21 09.9	+0.7
TKTP				iS	S	17 21 36.6	-0.9
XRY	Khrisi	2.49	234	⇑iP	P	17 21 13.0	+2.5
AKS	Akhisar	2.52	354	PN	P	17 21 10.2	-0.6
IDI	Anoyia	2.86	249	P	P	17 21 16.1	+0.5
	43nm,0.3s,baz=60,slow=15,SNR=423						
IDI				S	S	17 21 48.4	-0.5
	328nm,0.3s,baz=58,slow=16,SNR=16						
IDI	Anoyia	2.86	249	P	P	17 21 16.1	+0.5
IDI				S	S	17 21 48.3	-0.6
GDZ	Gediz	2.91	21	eP	P	17 21 16.6	+0.2
ALT	Altintas	3.10	30	ePN	P	17 21 18.1	-0.9
PRK	Paraskevi	3.23	333	eP	P	17 21 20.3	-0.5
DST	Dursunbey	3.25	7	PN	P	17 21 20.8	-0.3
BALB	Balikesir	3.27	356	PN	P	17 21 20.9	-0.4
VAM	Vamos	3.34	254	eP	P	17 21 23.3	+0.9
BTOK	Tokmak	3.38	359	iP	P	17 21 22.3	-0.7
HDMB	Hadim	3.54	79	PN	P	17 21 27.6	+2.4
GVD	Gavdhos	3.64	246	ePn	P	17 21 27.8	+1.2
GVD				eSn	S	17 22 07.7	-0.9
GVD	Gavdhos	3.64	246	eP	P	17 21 28.7	+2.2
GVD	Gavdhos	3.64	246	ePn	P	17 21 27.8	+1.3
GVD	Gavdhos	3.64	246	eP	P	17 21 28.7	+2.2
GVD				eSn	S	17 22 07.7	-0.8
AKMC	Akamas	3.66	110	P	P	17 21 27.2	+0.3
ORLT	Orhaneli	3.71	9	PN	P	17 21 27.7	+0.1
PPCY	Paphos	3.73	112	⇑eP	P	17 21 28.5	+0.7
EZN	Ezine	3.73	338	PN	P	17 21 27.3	-0.5
CANB	Canakkale	3.74	347	PN	P	17 21 27.3	-0.6
ESKT	Eskisehir	3.80	33	PN	P	17 21 29.1	+0.3
ESKT	Eskisehir	3.80	33	iP	P	17 21 28.8	0.0
ESKT	Eskisehir	3.80	33	iP	P	17 21 28.8	0.0
KDHN	Kadinhani	3.82	55	iP	P	17 21 29.5	+0.5
ALFC	Alevga	3.82	107	⇑iP	P	17 21 29.3	+0.2
	28nm,0.2s						
ALFC				S	S	17 22 11.0	-2.1
ERMK	Ermenek	3.85	85	iP	P	17 21 31.8	+2.3
ATH	Athens Observa	3.88	296	eP	P	17 21 30.8	+1.0
ATH	Athens Observa	3.88	296	eP	P	17 21 31.0	+1.2
KIZT	Kizilcal	3.88	49	PN	P	17 21 30.7	+0.8
KCT	Karacabey	3.89	2	PN	P	17 21 29.7	-0.3
MPAR	Parnis Oros	3.94	298	eP	P	17 21 31.8	+1.1
NAIG	Nisos Aigina	3.97	292	eP	P	17 21 32.1	+1.0
BNT	Bandirma	3.98	358	PN	P	17 21 30.5	-0.8
NSAL	Nisos Salamina	4.04	294	eP	P	17 21 32.2	+0.1
KYTH	Kithira	4.12	270	eP	P	17 21 35.0	+1.7
LPK	Lapseki	4.14	345	PN	P	17 21 33.3	-0.2
SZAC	Souni-Zanaja	4.19	111	⇑eP	P	17 21 34.6	+0.4
	16nm,0.2s						
SZAC				S	S	17 22 21.0	-1.2
VLI	Veliai	4.21	276	⇑iP	P	17 21 35.7	+1.3
MGER	Gerania Oros	4.22	294	eP	P	17 21 35.5	+0.9
MGER	Gerania Oros	4.22	294	eP	P	17 21 35.8	+1.2
LIA	Limnos Island	4.22	327	eP	P	17 21 34.3	-0.3
MRMT	Marmara Adasi	4.25	354	PN	P	17 21 35.2	+0.2
LOS	Limnos	4.30	327	ePn	P	17 21 35.7	0.0
LOS				eSn	S	17 22 21.9	-3.0
YLV	Yalova	4.30	13	PN	P	17 21 35.6	-0.1
MAMC	Mammari	4.30	105	P	P	17 21 35.9	+0.2
CSS	Prodhromos	4.45	107	P	P	17 21 37.7	-0.2
	5.7nm,0.5s						
CSS				S	S	17 22 27.2	-1.7
MFT	Murefte	4.46	352	ePN	P	17 21 37.4	-0.5
HRT	Hereke	4.60	15	ePN	P	17 21 39.8	-0.1
ISK	Istanbul-Kandi	4.74	8	ePN	P	17 21 41.5	-0.4
CTT	Catalca	4.77	3	ePN	P	17 21 41.2	-1.1
ALN	Alexandroupoli	4.81	341	ePn	P	17 21 42.0	-0.8
ALN				eSn	S	17 22 34.2	-3.5
MEST	Erdemli	4.84	86	eP	P	17 21 45.1	+1.8
XOR	Xorichti	4.93	309	ePn	P	17 21 45.0	+0.5
XOR				eSn	S	17 22 36.0	-4.7
PHNC	Paralimni	4.98	104	P	P	17 21 47.2	+1.9
	7.9nm,0.6s						
PHNC				S	S	17 22 43.7	+1.6
PAIG	Paliouri	5.00	317	ePn	P	17 21 45.6	+0.2
ITM	Ithomi	5.05	281	eP	P	17 21 48.0	+1.8
LOD	Lodumlu	5.06	45	ePN	P	17 21 46.8	+0.5
ANTO	Ankara	5.06	45	ePN	P	17 21 46.8	+0.5
OUR	Ouranopolis	5.13	322	ePn	P	17 21 47.2	-0.1
	comp=Z,2.0nm,0.3s						
RDO	Rodhopi	5.18	338	eP	P	17 21 47.5	-0.5
SGKT	Sivrigoynuk	5.20	35	iP	P	17 21 48.9	+0.7
KAMT	Kaman	5.33	54	ePN	P	17 21 50.6	+0.7
HMAT	Matruh	5.34	190	P	P	17 21 49.4	-0.7
SLUM		5.44	207	⇓eP	P	17 21 50.5	-1.1
BR131	Keskin Array S	5.48	51	ePn	P	17 21 52.3	+0.2
	86nm,0.6s						
BR131	Keskin Array S	5.48	51	ePn	P	17 21 52.3	+0.3
	86nm,0.6s						
BRTR	Keskin Array B	5.48	51	P	P	17 21 52.4	+0.4
BRTR				S	S	17 22 55.9	+1.5
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BRTR	Keskin Array B	5.48	51	P	P	17 21 52.4	+0.3
	comp=Z,2.3nm,0.3s,baz=225,slow=14,SNR=61						
BRTR				S	S	17 22 55.9	+1.5
	baz=212,slow=22,SNR=2.1						
BRTR	Keskin Array B	5.48	51	P	P	17 21 52.4	+0.3
BRTR				S	S	17 22 55.9	+1.5
BRTR	Keskin Array B	5.48	51	P	P	17 21 52.3	+0.3
EDRB	Edirne	5.57	349	ePN	P	17 21 52.4	-0.9
EVR	Evrytania	5.63	299	eP	P	17 21 56.4	+2.3
EVR	Evrytania	5.63	299	eP	P	17 21 56.5	+2.4
CDAG	Cicekdag	5.89	55	iP	P	17 21 58.0	+0.2
CDAG				eS	S	17 23 04.5	-0.2
HBRG	Burj al ‘Arab	5.96	166	⇓eP	P	17 21 57.4	-1.2
CORM	Corum	6.36	51	ePN	P	17 22 04.4	+0.1
COBT	Iskenderun	6.54	86	iP	P	17 22 07.2	+0.4
COBT				iS	S	17 23 12.0	-8.8
TOS	Tosya	6.54	43	ePN	P	17 22 06.9	0.0
BALT	Daday	6.58	37	iP	P	17 22 07.5	+0.2
BHL	Bhannes	6.63	110	ePn	P	17 22 06.7	-1.4
AANS		6.65	155	⇑eP	P	17 22 06.9	-1.5
AANS				S	S	17 23 16.7	-6.7
HNTI	Hanita	6.65	118	Pn	P	17 22 08.5	0.0
HNTI				Sn	S	17 23 16.7	-6.8
HWQ	Hawqa	6.71	106	ePn	P	17 22 08.3	-0.9
OFRI	‘Ofer	6.78	122	Pn	P	17 22 10.4	+0.3
HMYD	Mayadein	6.93	160	⇑eP	P	17 22 11.2	-1.1
KSDI	Kefar Szold	6.95	115	Pn	P	17 22 11.8	-0.8
SQR		6.96	158	⇓eP	P	17 22 11.8	-1.0
HNAT	Natroun	7.04	162	⇑eP	P	17 22 12.3	-1.4
SLTI	Sal’it	7.04	124	Pn	P	17 22 13.9	+0.1
SLTI				Sn	S	17 23 25.7	-7.4
FYM	Al Fayyum	7.09	159	⇑eP	P	17 22 12.9	-1.6
FYM	Al Fayyum	7.09	159	P	P	17 22 12.9	-1.6
AMAG	Maghara	7.11	142	⇓eP	P	17 22 13.7	-1.0
AYT	Al ‘Ayyat	7.11	158	P	P	17 22 13.6	-1.3
KOT	Kottamia	7.13	153	⇑eP	P	17 22 14.0	-1.1
KSHT	Keshet	7.17	116	Pn	P	17 22 15.5	0.0
MMLI	Mount Malkishu	7.18	121	Pn	P	17 22 16.0	+0.2
HHAG	Hagoal	7.21	152	⇑eP	P	17 22 16.5	+0.3
BOYT	Boyabat	7.29	44	iP	P	17 22 17.3	0.0
HSAF	As Saff	7.32	156	⇑eP	P	17 22 16.7	-1.0
SWA1		7.38	197	⇑eP	P	17 22 17.7	-0.8
SWA1				S	S	17 23 34.1	-7.3
GLL	Jalalah	7.41	155	⇑eP	P	17 22 18.0	-0.9
SWA2		7.46	198	⇓eP	P	17 22 18.6	-1.0
KZIT	Kziot	7.54	134	Pn	P	17 22 19.9	-0.8
KZIT				Sn	S	17 23 38.4	-7.1
RTMM	Retamin	7.61	132	Pn	P	17 22 20.8	-0.8
SUZ		7.61	148	⇑eP	P	17 22 21.3	-0.4
MASH	Mash‘abbe Sade	7.71	132	Pn	P	17 22 22.2	-0.8
HBNS	Bani Suwayf	7.84	160	⇑eP	P	17 22 24.0	-0.8
MZDA	Masada	7.85	128	Pn	P	17 22 24.5	-0.4
MKRJ	Makawir	7.87	126	Pn	P	17 22 24.8	-0.4
ZNM		8.03	149	⇑eP	P	17 22 26.5	-1.0
AWBH		8.05	175	⇓eP	P	17 22 26.2	-1.5
HNKL	Nakhl	8.08	141	P	P	17 22 27.1	-0.9
HNKL				S	S	17 23 51.4	-7.3
TIRR	Tirgusor	8.08	1	⇓P	P	17 22 27.3	-0.8
ZFRI	Zfri	8.26	133	Pn	P	17 22 30.1	-0.4
PRNI	Paran	8.30	134	Pn	P	17 22 31.0	-0.2
PRNI				Sn	S	17 23 56.7	-7.6
KMTI	Karmit	8.33	137	Pn	P	17 22 30.6	-0.9
KMTI				Sn	S	17 23 56.7	-8.3
ASF	Jabal al Asfar	8.37	118	P	P	17 22 32.5	+0.5
	comp=Z,1.4nm,0.3s,baz=189,slow=9.6,SNR=5.9						
ASF				S	S	17 24 02.9	-3.0
	comp=Z,1.6nm,0.3s,baz=152,slow=17,SNR=2.7						
ASF				LR	LR	17 27 13.0	
	comp=Z,114nm,18.9s,baz=22,slow=47						
MALT	Malatya	8.42	74	ePn	P	17 22 32.1	-0.6
MBH	Mount Berech	8.68	137	Pn	P	17 22 35.7	-0.6
EIL	Elat	8.79	138	P	P	17 22 40.0	+2.2
	comp=Z,1.3nm,0.3s,baz=225,slow=27,SNR=26						
EIL				S	S	17 24 09.8	-6.6
	comp=Z,4.9nm,0.3s,baz=225,slow=27,SNR=6.0						
EIL	Elat	8.79	138	ePn	P	17 22 37.2	-0.7
EIL				eSn	S	17 24 08.3	-8.0
EIL	Elat	8.79	138	Pn	P	17 22 36.6	-1.2
EIL	Elat	8.79	138	ePn	P	17 22 37.2	-0.6
EIL				eSn	S	17 24 08.3	-8.0
TLCR		8.82	3	⇑P	P	17 22 38.4	+0.2
GRB	Gharib	8.98	153	⇑eP	P	17 22 39.7	-0.7
NUB		9.14	141	P	P	17 22 42.2	-0.5
HKAT	Jabal Katrina	9.26	146	⇓eP	P	17 22 43.6	-0.6
TR2		9.26	148	⇓eP	P	17 22 43.5	-0.7
MLR	Muntele Rosu	9.26	350	P	P	17 22 43.5	-0.7
	comp=Z,0.4nm,0.3s,baz=154,slow=4.0,SNR=25						
MLR				S	S	17 24 25.3	-2.5
	comp=Z,0.7nm,0.3s,baz=135,slow=20,SNR=3.3						
MLR	Muntele Rosu	9.26	350	⇑P	P	17 22 44.4	+0.2
VOIR		9.35	346	⇑P	P	17 22 44.9	-0.6
HDHB	Dhahab	9.38	143	⇓eP	P	17 22 45.5	-0.4
TIP	Timpagrande	9.44	291	ePn	P	17 22 45.6	-1.1
TIP	Timpagrande	9.44	291	ePn	P	17 22 45.6	-1.0
VRI	Vrincioaia	9.54	354	⇓P	P	17 22 49.1	+1.1
TR1		9.68	148	P	P	17 22 49.0	-1.1
HHRG	Al Ghardaqah	10.22	152	⇓eP	P	17 22 56.3	-1.0
KIS	Kishinev	10.63	3	eP	P	17 23 01.0	-1.8
HSFG		10.95	152	⇑eP	P	17 23 06.8	-0.4
ANN	Anapa	10.98	37	eP	P	17 23 05.8	-1.7
ANN				pmax	pmax		
	comp=Z,33nm,1.2s						
ANN	Anapa	10.98	37	eP	P	17 23 05.8	-1.7
	comp=Z,33nm,1.2s						
SOC	Sochi	11.43	47	eP	P	17 23 13.2	-0.3
SOC				pmax	pmax		
	comp=Z,12nm,1.3s						
SOC				pmax	pmax		
	comp=N,13nm,1.6s						
SOC				pmax	pmax		
	comp=E,18nm,1.3s						
SOC				MLR	MLR		
	comp=Z,316nm,20.0s						
SOC				MLR	MLR		
	comp=N,371nm,21.0s						
SOC				MLR	MLR		
	comp=E,202nm,19.0s						
SOC	Sochi	11.43	47	eP	P	17 23 13.2	-0.3
	comp=E,371nm,21.0s						
HDK2	Wahat Dakhilah	12.03	176	⇑eP	P	17 23 21.7	0.0
KIV	Kislovodsk	13.44	51	iP	P	17 23 43.0	+2.8
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GNI	Garni	13.58	69	iP	P	17 23 47.0	+5.0
GNI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GNI	Garni	13.58	69	P	P	17 23 44.5	+2.5
	comp=Z,0.2nm,0.3s,baz=175,slow=18,SNR=2.3						
ZEI	Tsey	13.72	57	eP	P	17 23 44.6	+0.8
GOF	Gofitskoye	14.22	48	⇑iP	P	17 23 44.3	-6.1
GOF				pmax	pmax		
	comp=Z,30nm,1.7s						
AKASG	Malin Array Be	14.34	3	P	P	17 23 50.3	-1.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	14.34	3	P	P	17 23 50.3	-1.6
	comp=Z,0.5nm,0.3s,baz=185,slow=12,SNR=5.2						
KBA	Koelnbreinsper	15.35	319	⇑iP	P	17 24 09.6	+4.7
	comp=Z,6.2nm,0.5s						
KBA	Koelnbreinsper	15.35	319	⇑iP	P	17 24 09.6	+4.7
KBA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PGF	Pioggiola	16.01	298	eP	P	17 24 11.7	-1.5
	comp=Z,19nm,1.0s						
PGF	Pioggiola	16.01	298	eP	P	17 24 11.7	-1.5
PGF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MAK	Makhachkala	16.28	60	eP		17 24 31.0	
GERES	GERESS Array B	16.34	324	P	P	17 24 15.4	-2.1
	comp=Z,0.2nm,0.3s,baz=135,slow=12,SNR=2.5						
DPC	Dobruska-Polom	16.37	332	eP	P	17 24 21.7	+4.0
WTTA	Wattenberg	16.39	317	⇓iP	P	17 24 22.3	+4.3
	comp=Z,22nm,1.2s						
WTTA	Wattenberg	16.39	317	⇓iP	P	17 24 22.3	+4.3
WTTA				pmax	pmax		
	comp=Z,22nm,1.2s						
SQTA	Sankt Quirin	16.60	316	⇓iP	P	17 24 24.9	+4.2
	comp=Z,15nm,0.6s						
SQTA	Sankt Quirin	16.60	316	⇓iP	P	17 24 24.9	+4.2
SQTA				pmax	pmax		
	comp=Z,15nm,0.6s						
KHC	Kasperske Hory	16.60	325	iP	P	17 24 23.9	+3.3
KHC	Kasperske Hory	16.60	325	eP	P	17 24 23.0	+2.4
KHC				AMS	AMS	17 37 30.0	
	comp=Z,500nm,21.8s						
MOTA	Moosalm	16.73	316	⇑iP	P	17 24 24.9	+2.6
	comp=Z,8.7nm,0.8s						
MOTA	Moosalm	16.73	316	⇑iP	P	17 24 24.9	+2.6
MOTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PRU	Pruhonice	16.80	328	eP	P	17 24 25.8	+2.7
DAVOX	Davos	17.13	313	P	P	17 24 29.8	+2.5
	comp=Z,0.6nm,0.3s,baz=100,slow=6.1,SNR=4.9						
PVCC	Panska Ves	17.20	330	eP	P	17 24 30.3	+2.2
PVCC				AMS	AMS	17 35 50.0	
	comp=Z,600nm,21.3s						
DAVA	Damuels	17.39	314	⇑iP	P	17 24 33.7	+3.1
	comp=Z,9.5nm,0.4s						
SBF	Sospel	17.49	302	eP	P	17 24 28.3	-3.5
	comp=Z,29nm,0.8s						
SBF	Sospel	17.49	302	eP	P	17 24 28.3	-3.5
SBF				pmax	pmax		
	comp=Z,15nm,0.8s						
NKC	Novy Kostel	17.90	326	eP	P	17 24 38.4	+1.6
FRF	La Foret Royal	17.95	300	eP	P	17 24 35.2	-2.2
	comp=Z,8.8nm,0.7s						
FRF	La Foret Royal	17.95	300	eP	P	17 24 35.2	-2.2
FRF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GRA1	Grafenberg Arr	18.11	323	eP	P	17 24 41.0	+1.6
	comp=Z,10.0nm,0.9s						
GRF	Grafenberg Arr	18.11	323	eP	P	17 24 41.0	+1.6
GRF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GRF	Grafenberg Arr	18.11	323	eP	P	17 24 41.0	+1.6
GRF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GRF	Grafenberg Arr	18.11	323	eP	P	17 24 41.0	+1.6
	comp=Z,10.0nm,0.9s						
MBDF	Montbardon	18.22	304	eP	P	17 24 39.7	-1.0
	comp=Z,22nm,0.6s						
MBDF	Montbardon	18.22	304	eP	P	17 24 39.7	-1.0
MBDF				pmax	pmax		
	comp=Z,11nm,0.6s						
CLL	Collm	18.44	329	⇑iP	P	17 24 43.2	-0.1
CLL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CLL	Collm	18.44	329	⇑iP	P	17 24 43.2	-0.1
	comp=Z,9.0nm,0.7s						
CLL				i		17 24 59.9	
CLL	Collm	18.44	329	⇑P	P	17 24 43.2	-0.1
	comp=Z,logA/T=1.1						
CLL				i *SP		17 24 59.9	
LPG	La Plagne	18.51	306	eP	P	17 24 44.7	+0.5
	comp=Z,16nm,0.8s						
LPG	La Plagne	18.51	306	eP	P	17 24 44.7	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LPG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LPL	La Plagne	18.53	306	eP	P	17 24 44.7	+0.3
	comp=Z,19nm,0.5s						
LPL	La Plagne	18.53	306	eP	P	17 24 44.7	+0.3
LPL				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MOX	Moxa	18.57	325	eP	P	17 24 44.3	-0.5
MOX				pmax	pmax		
	comp=Z,11nm,1.2s						
MOX	Moxa	18.57	325	eP	P	17 24 44.3	-0.5
	comp=Z,11nm,1.2s						
MOX				e		17 25 00.1	
MOX	Moxa	18.57	325	i P	P	17 24 44.3	-0.5
	comp=Z,logA/T=1.0						
MOX				PP	PP	17 25 00.0	-1.5
ORIF	Oris-en-Rattie	18.88	304	eP	P	17 24 47.1	-1.4
	comp=Z,7.7nm,0.7s						
ORIF	Oris-en-Rattie	18.88	304	eP	P	17 24 47.1	-1.4
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CABF	La Chapelle	19.37	309	eP	P	17 24 52.7	-1.1
	comp=Z,51nm,0.8s						
CABF	La Chapelle	19.37	309	eP	P	17 24 52.7	-1.1
CABF				pmax	pmax		
	comp=Z,25nm,0.8s						
HINF	Hinteralfeld	19.43	313	eP	P	17 24 53.7	-0.8
	comp=Z,6.8nm,0.6s						
HINF	Hinteralfeld	19.43	313	eP	P	17 24 53.7	-0.8
HINF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CDF	Champ du Feu	19.48	315	eP	P	17 24 54.6	-0.4
	comp=Z,11nm,0.5s						
CDF	Champ du Feu	19.48	315	eP	P	17 24 54.6	-0.4
CDF				pmax	pmax		
	comp=Z,6.0nm,0.5s						
OBN	Obninsk	19.62	15	ceP	P	17 24 56.0	-0.4
OBN				eS	S	17 28 34.4	+5.7
OBN				pmax	pmax		
	comp=Z,21nm,1.2s						
OBN				MLR	MLR		
	comp=Z,500nm,19.0s						
OBN	Obninsk	19.62	15	eP	P	17 24 56.0	-0.4
	comp=Z,500nm,19.0s						
VIVF	Saint-Julien-l	19.68	303	eP	P	17 24 55.6	-1.5
	comp=Z,14nm,0.6s						
VIVF	Saint-Julien-l	19.68	303	eP	P	17 24 55.6	-1.5
VIVF				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HAU	Haudompre	19.82	313	eP	P	17 24 57.8	-0.8
	comp=Z,28nm,0.7s						
HAU	Haudompre	19.82	313	eP	P	17 24 57.8	-0.8
HAU				pmax	pmax		
	comp=Z,14nm,0.7s						
LASF	Ste Croix	20.03	300	eP	P	17 25 00.1	-0.7
	comp=Z,4.2nm,0.5s						
MOS	Moscow	20.42	15	eP		17 25 21.7	
SMF	Signal de Mont	20.82	307	eP	P	17 25 07.6	-1.3
	comp=Z,16nm,0.6s						
SMF	Signal de Mont	20.82	307	eP	P	17 25 07.6	-1.3
SMF				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MTLF	Montolieu	21.03	297	eP	P	17 25 09.8	-1.4
	comp=Z,6.9nm,0.6s,mb3.9						
MTLF	Montolieu	21.03	297	eP	P	17 25 09.8	-1.4
MTLF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.8						
LOR	Lormes	21.03	309	eP	P	17 25 10.3	-0.8
	comp=Z,6.8nm,0.5s,mb3.9						
LOR	Lormes	21.03	309	eP	P	17 25 10.3	-0.8
LOR				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb3.9						
SSF	Saint Saulge	21.18	308	eP	P	17 25 11.6	-1.0
SSF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.2						
SSF	Saint Saulge	21.18	308	eP	P	17 25 11.6	-1.0
	comp=Z,6.7nm,0.6s,mb4.1						
BGF	Bois d'Agland	21.43	306	eP	P	17 25 14.5	-0.6
	comp=Z,15nm,0.5s,mb4.2						
BGF	Bois d'Agland	21.43	306	eP	P	17 25 14.5	-0.6
BGF				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.3						
CAF	Calviac	21.48	301	eP	P	17 25 15.1	-0.5
TCF	Toulx Ste Croi	21.76	305	eP	P	17 25 17.9	-0.5
	comp=Z,4.7nm,0.6s,mb3.7						
TCF	Toulx Ste Croi	21.76	305	eP	P	17 25 17.9	-0.5
TCF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
RJF	Les Rejaudoux	21.95	302	eP	P	17 25 21.2	+0.9
	comp=Z,6.9nm,0.5s,mb3.9						
RJF	Les Rejaudoux	21.95	302	eP	P	17 25 21.2	+0.9
RJF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb3.9						
ETSF	Etsaut	22.98	295	eP	P	17 25 30.5	+0.2
MFF	Saint Martin d	23.41	305	eP	P	17 25 34.3	-0.1
	comp=Z,5.9nm,0.4s,mb4.0						
MFF	Saint Martin d	23.41	305	eP	P	17 25 34.3	-0.1
MFF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.0						
LDF	La Druitiere	24.01	309	eP	P	17 25 40.1	-0.1
	comp=Z,12nm,0.3s,mb4.3						
LDF	La Druitiere	24.01	309	eP	P	17 25 40.1	-0.1
LDF				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb4.4						
FLN	La Foliniere	24.29	310	eP	P	17 25 42.5	-0.4
	comp=Z,15nm,0.3s,mb4.5						
FLN	La Foliniere	24.29	310	eP	P	17 25 42.5	-0.4
FLN				pmax	pmax		
	comp=Z,8.0nm,0.3s,mb4.5						
GRR	Gorron	24.40	309	eP	P	17 25 43.0	-1.0
	comp=Z,30nm,0.7s,mb4.4						
GRR	Gorron	24.40	309	eP	P	17 25 43.0	-1.0
GRR				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.4						
FINES	FINESS Array B	25.13	358	P	P	17 25 50.1	-0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	25.13	358	P	P	17 25 50.1	-0.7
	comp=Z,0.6nm,0.6s,mb3.2,baz=149,slow=11,SNR=5.5						
ESDC	Sonseca Array	25.43	287	P	P	17 25 54.3	+0.3
	comp=Z,3.2nm,0.6s,mb4.0,baz=82,slow=9.5,SNR=8.8						
ESLA	Sonseca Array	25.43	287	eP	P	17 25 54.2	+0.3
	comp=Z,1.2nm,0.7s,mb3.4						
ESLA	Sonseca Array	25.43	287	eP	P	17 25 54.2	+0.2
	comp=Z,1.2nm,0.7s,mb3.4						
SGMF	Saint Gilles	25.44	307	eP	P	17 25 53.4	-0.6
	comp=Z,4.0nm,0.4s,mb3.9						
SGMF	Saint Gilles	25.44	307	eP	P	17 25 53.4	-0.6
SGMF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.9						
HFS	Hagfors	25.53	343	P	P	17 25 55.0	+0.3
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	Hagfors	25.53	343	P	P	17 25 55.0	+0.3
	comp=Z,0.8nm,0.5s,mb3.4,baz=153,slow=9.7,SNR=4.1						
QUIF	Quistinic	25.74	306	eP	P	17 25 55.5	-1.3
	comp=Z,8.7nm,0.5s,mb4.1						
QUIF	Quistinic	25.74	306	eP	P	17 25 55.5	-1.3
QUIF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.1						
ROSF	Rostrenen	25.93	307	eP	P	17 25 56.3	-2.2
	comp=Z,3.8nm,0.4s,mb3.9						
ROSF	Rostrenen	25.93	307	eP	P	17 25 56.3	-2.2
ROSF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.9						
NOA	NORSAR Array B	26.93	342	P	P	17 26 08.7	+1.1
	comp=Z,0.4nm,0.8s,mb3.0,baz=154,slow=11,SNR=2.4						
EKA	Eskdalemuir Ar	28.53	322	P	P	17 26 23.3	+1.2
EKA						17 29 32.4	
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EKA	Eskdalemuir Ar	28.53	322	P	P	17 26 23.3	+1.2
	comp=Z,0.7nm,0.6s,mb3.5,baz=114,slow=10,SNR=4.3						
EKA				PcP	PcP	17 29 32.4	0.0
	comp=Z,1.0nm,0.5s,baz=103,slow=2.3,SNR=6.0						
ARU	Arti	28.65	36⇑	i P	P	17 26 28.4	+5.3
ARU				e		17 27 15.2	
ARU				e		17 29 33.5	
ARU				eS	S	17 31 16.5	+11
ARU				eSS	SS	17 32 39.0	+2.8
ARU				e		17 37 09.9	
ARU				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.0						
ARU	Arti	28.65	36	P	P	17 26 22.6	-0.5
	comp=Z,7.6nm,1.1s,mb4.2						
ARU	Arti	28.65	36	P	P	17 26 22.6	-0.5
	comp=Z,7.6nm,1.1s,mb4.2						
SVE	Sverdlovsk	29.84	36	eP	P	17 26 36.0	+2.3
SVE				e		17 27 36.9	
SVE				MLR	MLR		
	comp=N,200nm,17.0s						
SVE				MLR	MLR		
	comp=E,200nm,17.0s						
SVE				MLR	MLR		
	comp=Z,400nm,17.0s						
ZRNK	Zerenda	32.92	47	eP	P	17 27 01.1	+0.3
ZRNK				e*PP	pP	17 27 16.4	-1.3
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ZRNK	Zerenda	32.92	47	eP	P	17 27 01.1	+0.4
	comp=Z,2.0nm,0.9s,mb4.0						
ZRNK				epP	pP	17 27 16.4	-1.3
ZRNK	Zerenda	32.92	47	eP	P	17 27 01.1	+0.3
	comp=Z,2.0nm,0.9s,mb4.0						
ARCES	ARCESS Array B	33.25	358	P	P	17 27 02.7	-0.8
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	ARCESS Array B	33.25	358	P	P	17 27 02.7	-0.8
	comp=Z,1.3nm,0.7s,mb3.9,baz=173,slow=7.3,SNR=3.4						
BVAR	Borovoye Array	33.75	47	P	P	17 27 08.2	+0.3
	comp=Z,0.4nm,0.7s,mb3.4,baz=239,slow=8.4,SNR=3.9						
MKAR	Makanchi Array	41.08	58	P	P	17 28 10.9	+1.5
MKAR						17 30 09.5	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	41.08	58	P	P	17 28 10.9	+1.5
	comp=Z,0.7nm,0.6s,mb3.7,baz=280,slow=6.9,SNR=12						
MKAR				PcP	PcP	17 30 09.4	+0.8
	comp=Z,1.7nm,0.7s,baz=274,slow=4.7,SNR=5.3						
DBIC	Dimbokro	42.23	234	P	P	17 28 19.9	+0.7
DBIC						17 30 14.0	
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DBIC	Dimbokro	42.23	234	P	P	17 28 19.9	+0.7
	comp=Z,6.4nm,0.5s,mb4.6,baz=26,slow=9.5,SNR=19						
DBIC				PcP	PcP	17 30 14.0	+1.2
	comp=Z,4.1nm,0.8s,baz=275,slow=1.4,SNR=3.8						
DBIC	Dimbokro	42.23	234	P	P	17 28 19.9	+0.7
DBIC				PcP	PcP	17 30 14.0	+1.2
ZAL	Zalesovo	42.40	47	P	P	17 28 19.9	-0.2
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	Zalesovo	42.40	47	P	P	17 28 19.9	-0.2
	comp=Z,0.7nm,0.3s,mb3.9,baz=207,slow=13,SNR=4.4						
ZAK	Zakamensk	54.12	50	eP	P	17 29 51.3	+0.2
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
TSUM	Tsumeb	56.17	192	P	P	17 30 07.9	+1.6
	comp=Z,1.5nm,0.4s,mb4.4,baz=359,slow=9.9,SNR=7.6						
MATP	Matopo	56.49	180	P	P	17 30 10.8	+2.2
	comp=Z,6.3nm,0.7s,mb4.7,baz=358,slow=9.4,SNR=18						
MATP	Matopo	56.49	180	P	P	17 30 10.8	+2.2
SONM	Songino Array	56.84	52	P	P	17 30 12.0	+1.3
	comp=Z,0.4nm,0.4s,mb3.8,baz=292,slow=8.0,SNR=5.2						
OPO	Ambohidratompo	57.54	158	P	P	17 30 17.9	+1.8
	comp=Z,4.6nm,0.9s,mb4.5,baz=278,slow=5.2,SNR=3.7						
LBTB	Lobatse	61.10	183	P	P	17 30 43.3	+2.8
LBTB						17 31 25.0	
LBTB				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
LBTB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
LBTB	Lobatse	61.10	183	P	P	17 30 43.3	+2.8
	comp=Z,7.0nm,0.7s,mb4.8,baz=360,slow=7.9,SNR=14						
LBTB				PcP	PcP	17 31 25.0	+2.4
	comp=Z,2.7nm,0.7s,baz=322,slow=1.3,SNR=3.6						
LBTB	Lobatse	61.10	183	P	P	17 30 43.3	+2.8
LBTB				PcP	PcP	17 31 25.0	+2.4
CMAR	Chiang Mai Arr	64.04	86	P	P	17 31 01.3	+1.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR	Chiang Mai Arr	64.04	86	P	P	17 31 01.3	+1.2
	comp=Z,0.8nm,0.7s,mb3.6,baz=303,slow=7.5,SNR=7.5						
BOSA	Boshof	64.70	183	P	P	17 31 06.6	+2.4
BOSA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
BOSA	Boshof	64.70	183	P	P	17 31 06.6	+2.4
	comp=Z,4.7nm,0.8s,mb4.4,baz=351,slow=5.4,SNR=9.8						
SUR	Sutherland	68.74	187	P	P	17 31 32.2	+2.5
	comp=Z,2.4nm,0.7s,mb4.1,baz=19,slow=3.8,SNR=5.1						
SSE	Sheshan	74.53	63	P	P	17 32 07.7	+3.5
	comp=Z,26nm,0.8s,mb5.0						
ILAR	Eielson Array	79.11	358	P	P	17 32 30.3	+1.1
	comp=Z,0.4nm,0.6s,mb3.4,baz=336,slow=3.7,SNR=5.0						
BDFB	Brasilia	88.40	249	P	P	17 33 20.5	+3.4
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BDFB	Brasilia	88.40	249	P	P	17 33 20.5	+3.4
	comp=Z,2.3nm,0.6s,mb4.4,baz=53,slow=4.1,SNR=7.2						
SDV	Santo Domingo	91.78	282	P	P	17 33 34.2	+1.3
	comp=Z,1.2nm,0.5s,mb4.4,baz=17,slow=4.1,SNR=5.0						

*JMA **11** 17:43:35.4±0.1, 33.64N×137.26E, h386^{km}, M3.2*
*IDC **11** 17:43:39.8±1.3, 33.79N×137.42E, h359^{km}±26^{km}, mb2.8/4, mb1 2.9/6, mb1mx2.8/23, mbtmp3.4/6, Error ellipse: s-maj=69.6km s-min=20.4km az=65.0*
ISC 11 17:43:38.5±0.7**, 33.8N**±0.1×**137.3E**±0.1**, h359**^{km}±6^{km}**, n18,** σ**0^{s}97**/22**, mb3.0**/4**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	Ise	0.77	322	P	P	17 44 24.9	+0.3
JKN2	Miekihoku	0.95	299	P	P	17 44 25.2	0.0
JWZ	Kozaga	1.33	259	P	P	17 44 26.4	-0.6
JWY	Kouya	1.47	287	P	P	17 44 27.6	-0.1
JWT	Wachi	2.15	314	P	P	17 44 31.8	-0.3
JHJ	Hachijo jima 2	2.20	107	P	P	17 44 32.8	+0.4
	11nm,0.3s,baz=107,slow=20,SNR=3.4						
JRY	Ryogami san	2.59	30	P	P	17 44 36.7	+1.2
JRY				eS	S	17 45 22.6	+2.5
JHU	Hanno	2.64	38	P	P	17 44 36.2	+0.4
BSO4	Boso 4	2.80	64	P	P	17 44 37.6	+0.4
BSO4				eS	S	17 45 23.9	+0.7
MJAR	Matsushiro Arr	2.85	15	P	P	17 44 37.9	+0.3
	1.2nm,0.3s,baz=186,slow=10.0,SNR=12						
MAT	Matsushiro	2.85	15	P	P	17 44 37.7	+0.1
MAT				S	S	17 45 22.5	-1.5
JAG	Ashikaga	3.18	33	P	P	17 44 39.7	-0.8
JYT	Yasato	3.41	44	P	P	17 44 41.5	-1.2
JHO	Hitachi	3.90	43	P	P	17 44 46.5	-0.9
JHO				S	S	17 45 38.1	-3.4
SONM	Songino Array	27.05	310	P	P	17 48 53.1	+2.1
	0.5nm,0.6s,mb2.9,baz=109,slow=8.8,SNR=5.3						
MKAR	Makanchi Array	43.07	305	P	P	17 51 05.0	-0.7
	0.2nm,0.6s,mb2.5,baz=84,slow=11,SNR=3.7						
WRA	Warramunga Arr	53.50	183	P	P	17 52 24.8	-0.6
	0.2nm,0.3s,mb2.9,baz=0.4,slow=7.5,SNR=4.6						
FINES	FINESS Array B	70.08	332	P	P	17 54 13.7	+0.1
	0.5nm,0.5s,mb3.5,baz=63,slow=4.3,SNR=4.0						

*IDC **11** 18:08:08.1±1.6, 1.57N×126.63E, mb3.8/4, mb1 4.1/5, mb1mx3.7/17, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=107.2km s-min=23.6km az=68.0*
*NEIC **11** 18:08:09.2±0.9, 1.63N×126.75E, h10^{km}, mb4.3/2, Error ellipse: s-maj=59.7km s-min=11.4km az=68.0*
ISC 11 18:08:11.1±1.1**, 1.5N**±0.2×**126.4E**±0.5**, h33**^{km}**, n9,** σ**0^{s}71**/9**, mb3.9**/6**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.49	182	P	P	18 12 38.0	-0.4
	0.3nm,0.3s,baz=6.6,slow=13,SNR=4.2						
WRAB	Tennant Creek	22.68	160	eP	P	18 13 11.4	+0.3
	14nm,1.0s,mb4.3						
WRA	Warramunga Arr	22.68	160	P	P	18 13 11.4	+0.3
	2.1nm,0.4s,mb3.9,baz=339,slow=11,SNR=47						
WB2	Warramunga Arr	22.69	160	eP	P	18 13 11.4	+0.2
STKA	Stephens Creek	36.19	158	P	P	18 15 11.3	-1.4
	1.7nm,0.7s,mb4.1,baz=333,slow=6.8,SNR=2.9						
STKA	Stephens Creek	36.19	158	P	P	18 15 11.3	-1.4
MKAR	Makanchi Array	59.20	326	P	P	18 18 11.5	0.0
	0.3nm,0.5s,mb3.6,baz=128,slow=6.9,SNR=8.2						
ZRNK	Zerenda	69.72	327	eP	P	18 19 19.4	-0.3
	1.7nm,0.9s,mb4.0						
VNDA	Vanda	81.27	173	P	P	18 20 26.4	+1.3
	0.5nm,0.8s,mb3.5,baz=351,slow=6.7,SNR=5.3						

*NEIC **11** 18:30:25.7±0.4, 16.68S×73.58W, mb4.2/6, Error ellipse: s-maj=10.1km s-min=6.8km az=50.0*
*IDC **11** 18:30:26.1±1.0, 16.63S×73.52W, h31^{km}±4^{km}, mb3.9/7, mb1 4.1/11, mb1mx4.0/19, mbtmp4.1/11, ML4.7/2, MS3.5/5, Ms1 3.5/5, ms1mx3.2/32, Error ellipse: s-maj=34.7km s-min=17.4km az=39.0*
ISC 11 18:30:23.5±0.5**, 16.76S**±0.08×**73.73W**±0.09**, h30**^{km}**, h30**^{km}±.6^{km}**:pP-P, n29,** σ**1^{s}03**/28**, mb4.1**/12**, MS3.7**/3**, 1C, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	2.17	83⇑	i P	Pn	18 30 59.7	+1.4
ARE				i S	Sn	18 31 30.7	+6.3
LPAZ	La Paz	5.39	86	Pn	Pn	18 31 46.8	+2.7
	4.3nm,0.3s,baz=266,slow=12,SNR=83						
LPAZ				LR	LR	18 33 58.6	
	comp=Z,403nm,21.4s,baz=289,slow=41						
LPAZ	La Paz	5.39	86	ePn	Pn	18 31 46.5	+2.4
LVC	Limon Verde	7.39	143	Pn	Pn	18 32 10.6	-1.5
	6.7nm,0.3s,baz=306,slow=9.6,SNR=22						
LVC				Sn	Sn	18 33 28.1	-7.7
	6.0nm,0.3s,baz=86,slow=18,SNR=9.3						
LVC				LR	LR	18 34 54.6	
	comp=Z,198nm,20.5s,baz=308,slow=36						
LVC	Limon Verde	7.39	143	ePn	Pn	18 32 10.5	-1.7
LVC				eSn	Sn	18 33 29.3	-6.4
SIV	San Ignacio	12.18	88	Pn	P	18 33 15.3	-2.7
	6.3nm,0.3s,baz=268,slow=11,SNR=61						
SAML	Samuel	12.88	54	ePn	P	18 33 22.7	-4.6
	4.8nm,0.7s						
CFAA	Coronel Fontan	15.61	162	Pn	P	18 34 04.6	+1.5
	0.0nm,0.3s,baz=330,slow=11,SNR=5.9						
CPUP	Villa Florida	17.97	125	P	P	18 34 32.3	-0.6
	0.2nm,0.3s,baz=306,slow=12,SNR=4.5						
TRQA	Tornquist	23.60	156	eP	P	18 35 33.0	+0.3
	9.3nm,1.4s,mb4.0						
BDFB	Brasilia	24.72	91	P	P	18 35 43.5	-0.3
	8.1nm,0.8s,mb4.3,baz=260,slow=10,SNR=10						
BDFB				LR	LR	18 45 37.0	
	comp=Z,122nm,21.2s,MS3.4,baz=60,slow=37						
SDV	Santo Domingo	25.66	7	P	P	18 35 52.0	-0.6
	1.2nm,0.3s,mb3.9,baz=203,slow=0.8,SNR=4.8						
SDV	Santo Domingo	25.66	7	eP	P	18 35 52.0	-0.7
	3.2nm,0.7s,mb4.0						
TXAR	Lajitas Array	54.17	327	P	P	18 39 48.5	0.0
	0.4nm,0.4s,mb3.7,baz=135,slow=8.8,SNR=3.9						
MNTX	Cornudas Mount	56.95	328	eP	P	18 40 08.1	-0.6
	0.8nm,0.8s,mb3.8						
SDCO	Great Sand Dun	61.90	332	eP	P	18 40 43.1	+0.4
	2.6nm,0.8s,mb4.4						
PDAR	Pinedale Array	67.78	332	P	P	18 41 20.4	-0.3
	0.4nm,0.6s,mb3.6,baz=162,slow=4.7,SNR=4.0						
HWUT	Hardware Ranch	67.79	330	eP	P	18 41 20.8	0.0
	2.2nm,0.7s,mb4.3						
SNAA	Sanae	68.22	161	eP	P	18 41 23.1	+0.1
	1.6nm,0.8s,mb4.1						
DBIC	Dimbokro	71.95	77	P	P	18 41 45.3	-1.3
	8.5nm,0.9s,mb4.7,baz=230,slow=4.1,SNR=9.9						
DBIC				pP	pP	18 41 55.0	-1.1
	11nm,0.7s,baz=228,slow=6.3,SNR=16						
DBIC				LR	LR	19 12 50.6	
	comp=Z,70nm,18.7s,MS4.0,baz=107,slow=36						
DBIC	Dimbokro	71.95	77	P	P	18 41 45.3	-1.3
DBIC				pP	pP	18 41 55.0	-1.1
DBIC				LR	LR	19 12 50.6	
YBH	Yreka Blue Hor	73.70	324	LR	LR	19 14 12.0	
	comp=Z,38nm,19.8s,MS3.7,baz=279,slow=36						
EDM	Edmonton	77.59	337	eP	P	18 42 18.6	+0.3
YKA	Yellowknife Ar	85.26	342	P	P	18 42 58.9	+0.7
	1.9nm,0.6s,mb4.4,baz=140,slow=5.2,SNR=10.0						
YKA				pP	pP	18 43 08.4	+0.4
	2.0nm,0.7s,baz=137,slow=5.2,SNR=8.1						
YKA	Yellowknife Ar	85.26	342	P	P	18 42 58.9	+0.7
YKA				pP	pP	18 43 08.4	+0.4
ESDC	Sonseca Array	85.78	47	P	P	18 43 02.0	+0.6
	0.1nm,0.3s,mb3.6,baz=258,slow=5.9,SNR=5.2						
ESDC				pP	pP	18 43 11.9	+0.7
	0.3nm,0.4s,baz=245,slow=4.0,SNR=5.4						
WRA	Warramunga Arr	134.28	218	PKP	PKPdf	18 49 41.6	-2.9
	0.8nm,0.7s,baz=137,slow=1.7,SNR=12						
MKAR	Makanchi Array	144.06	28	PKP	PKPdf	18 49 59.1	-2.1
	0.4nm,0.7s,baz=252,slow=3.8,SNR=3.9						
SONM	Songino Array	149.01	360	PKPbc	PKPdf	18 50 11.7	+2.1
	1.9nm,0.7s,baz=336,slow=1.3,SNR=23						
SONM				pPKPbc		18 50 21.2	
	1.7nm,0.7s,baz=336,slow=1.4,SNR=9.9						

*CSEM **11** 18:37:20.0, 37.30N×20.41E, h15^{km}, MD3.7/3, After ATH*
ATH 11 18:37:20.8, 37.32N×20.47E, h17^{km}, MD3.7/3**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.86	6	ePN	Pn	18 37 37.2	-0.9
VLS				eSN	Sn	18 37 50.0	-0.2
VLS	Valsamata	0.86	6	ePn	Pn	18 37 36.7	-1.4
VLS				eSn	Sn	18 37 50.0	-0.2
ITM	Ithomi	1.17	96	ePN	Pn	18 37 43.0	+0.5
EVR	Evrytania	1.91	33	ePN	Pn	18 37 55.0	+1.9

*NEIC **11** 18:58:53.0±0.8, 6.00N×94.03E, h30^{km}, mb4.2/5, Error ellipse: s-maj=21.6km s-min=11.6km az=48.0*
*IDC **11** 18:58:59.0±7.9, 6.19N×94.42E, h78^{km}±68^{km}, mb3.8/9, mb1 3.9/10, mb1mx3.6/21, mbtmp4.0/10, ML3.5/1, Error ellipse: s-maj=54.6km s-min=16.4km az=55.0*
ISC 11 18:58:58.5±4.4**, 6.2N**±0.2×**94.4E**±0.3**, h89**^{km}±36^{km}**, n18,** σ**0^{s}62**/18**, mb4.0**/14**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.29	98	ePn	P	19 00 30.3	+0.1
CMAR	Chiang Mai Arr	12.98	20	P	P	19 02 00.8	+0.1
	0.1nm,0.3s,baz=202,slow=9.7,SNR=3.7						
LSA	Lhasa	23.59	353	eP	P	19 04 02.5	+0.6
	4.4nm,0.8s,mb3.8						
FITZ	Fitzroy Crossi	39.16	129	P	P	19 06 18.3	-1.0
	4.4nm,0.6s,mb4.5,baz=191,slow=21,SNR=7.4						
MKAR	Makanchi Array	41.78	348	P	P	19 06 40.6	0.0
	2.0nm,0.6s,mb4.0,baz=170,slow=7.9,SNR=28						
SONM	Songino Array	42.75	12	P	P	19 06 48.4	-0.1
	1.5nm,0.7s,mb3.8,baz=199,slow=9.7,SNR=19						
SONM				PcP	PcP	19 08 38.2	-0.9
	0.2nm,0.4s,baz=209,slow=2.9,SNR=4.2						
WRA	Warramunga Arr	47.09	124	P	P	19 07 24.0	+0.4
	0.9nm,0.4s,mb3.8,baz=303,slow=9.3,SNR=27						
WRAB	Tennant Creek	47.10	124	eP	P	19 07 24.1	+0.5
	2.1nm,0.6s,mb4.0						
HIA	Hailar	47.97	22	eP	P	19 07 29.7	-0.4
	3.4nm,0.6s,mb4.3						
ZAL	Zalesovo	48.24	352	P	P	19 07 31.5	-0.5
	1.9nm,0.3s,mb4.4,baz=317,slow=5.7,SNR=5.8						
ZAL	Zalesovo	48.24	352	P	P	19 07 31.5	-0.5
ZRNK	Zerenda	51.04	341	eP	P	19 07 52.9	-0.6
	1.1nm,0.3s,mb4.4						
BRTR	Keskin Array B	63.72	311	P	P	19 09 22.1	-1.0
	0.5nm,0.4s,mb3.7,baz=106,slow=9.0,SNR=3.9						
FINES	FINESS Array B	74.31	332	P	P	19 10 27.8	+0.1
	1.4nm,0.5s,mb4.0,baz=110,slow=5.7,SNR=25						
KAF	Kangasniemi	74.40	333	ep	P	19 10 23.1	-5.1
	1.3nm,0.5s,mb3.9						
ARCES	ARCESS Array B	76.93	340	P	P	19 10 43.0	+0.6
	0.7nm,0.5s,mb3.7,baz=89,slow=5.6,SNR=16						
ARCES	ARCESS Array B	76.93	340	P	P	19 10 43.0	+0.6
GERES	GERESS Array B	79.25	318	P	P	19 10 56.9	+1.4
	1.3nm,0.7s,mb3.9,baz=117,slow=3.0,SNR=7.3						

*IDC **11** 19:04:47.2±3.2, 0.28N×97.16E, mb3.8/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=113.0km s-min=25.5km az=59.0*
*NEIC **11** 19:04:51.3±1.0, 0.26N×97.09E, h30^{km}, mb4.2/1, Error ellipse: s-maj=21.8km s-min=12.0km az=62.0*
ISC 11 19:04:49.6±1.4**, 0.3N**±0.1×**97.1E**±0.2**, h30**^{km}**, n9,** σ**0^{s}46**/9**, mb3.9**/5**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.07	35	ePn	Pn	19 06 19.5	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.13**	**5**	P	**P**	**19 09 01.8**	**+0.5**
	0.1nm,0.3s,baz=198,slow=12,SNR=7.6						
KKM	**Kota Kinabalu**	**19.87**	**73**	*e*P	**P**	**19 09 21.6**	**0.0**
WRA	**Warramunga Arr**	**41.62**	**121**	P	**P**	**19 12 37.1**	**0.0**
	2.0nm,0.5s,mb4.0,baz=302,slow=8.9,SNR=36						
WRAB	**Tennant Creek**	**41.62**	**121**	*e*P	**P**	**19 12 37.3**	**+0.2**
	1.9nm,0.4s,mb4.1						
SONM	**Songino Array**	**48.03**	**8**	P	**P**	**19 13 28.6**	**+0.5**
	0.3nm,0.4s,mb3.7,baz=202,slow=7.8,SNR=4.5						
MKAR	**Makanchi Array**	**48.10**	**346**	P	**P**	**19 13 28.9**	**+0.2**
	0.4nm,0.6s,mb3.6,baz=150,slow=7.7,SNR=5.8						
ZAL	**Zalesovo**	**54.43**	**351**	P	**P**	**19 14 15.3**	**-1.0**
	0.9nm,0.4s,mb4.1,baz=333,slow=10.0,SNR=4.1						
ZAL	**Zalesovo**	**54.43**	**351**	P	**P**	**19 14 15.3**	**-1.0**

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*IDC **11** 19:06:51.0±1.6, 32.99S×178.61W, mb4.6/3, mb1 4.7/4, mb1mx4.2/14, mbtmp4.6/4, ML4.4/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/18, Error ellipse: s-maj=48.2km s-min=29.1km az=134.0*

*NEIC **11** 19:06:53.5±0.8, 32.87S×178.78W, h10^{km}, mb4.6/3, Error ellipse: s-maj=21.5km s-min=17.0km az=65.0*

ISC 11 19:07:02.3±1.8**, 33.33S**±0.08×**179.5W**±0.2**, h61**^{km}±15^{km}**, n37, σ0^{s}96**/28**, mb4.6**/5**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**5.07**	**200**	PN	**P**	**19 08 17.9**	**+0.3**
PUZ				*e*SN	**S**	**19 09 22.0**	**+6.5**
MWZ	**Matawai**	**5.54**	**205**	*e*PN	**P**	**19 08 25.3**	**+1.2**
MWZ				*e*SN	**S**	**19 09 34.0**	**+6.7**
URZ	**Urewera**	**5.63**	**208**	Pn	**P**	**19 08 26.1**	**+0.7**
	8.7nm,0.3s,baz=279,slow=4.5,SNR=30						
URZ				Sn	**S**	**19 09 37.3**	**+7.8**
	9.3nm,0.3s,baz=101,slow=20,SNR=9.4						
BKZ	**Black Stump Fm**	**6.66**	**208**	*e*PN	**P**	**19 08 40.1**	**+0.3**
BFZ	**Birch Farm**	**8.08**	**204**	*e*PN	**P**	**19 08 57.6**	**-1.8**
BFZ				*e*SN	**S**	**19 10 31.8**	**+1.6**
MRZ	**Mangatainoka R**	**8.30**	**207**	*e*PN	**P**	**19 08 59.5**	**-3.0**
MRZ				SN	**S**	**19 10 36.0**	**+0.3**
KIW	**Kapiti Island**	**8.74**	**209**	*e*SN	**S**	**19 10 47.0**	**+0.6**
MTW	**Mount Morrison**	**8.77**	**206**	*e*SN	**S**	**19 10 46.4**	**-0.7**
TCW	**Tory Channel**	**9.29**	**210**	*e*SN	**S**	**19 10 59.3**	**-0.7**
THZ	**Tophouse**	**10.35**	**213**	*e*PN	**P**	**19 09 27.3**	**-3.1**
THZ				*e*SN	**S**	**19 11 25.5**	**-0.2**
KHZ	**Kahutara**	**10.60**	**209**	*e*PN	**P**	**19 09 30.1**	**-3.7**
MQZ	**McQueen's Vall**	**12.04**	**208**	*e*SN	**S**	**19 12 00.7**	**-5.8**
DZM	**Mont Dzumac**	**16.73**	**309**	LR	LR	19 16 14.8	
	comp=Z,294nm,19.2s,baz=280,slow=33						
CTA	**Charters Tower**	**33.15**	**285**	P	**P**	**19 13 36.4**	**+1.4**
	5.2nm,0.5s,mb4.7,baz=124,slow=9.6,SNR=5.5						
CTAO	**Charters Tower**	**33.15**	**285**	*e*P	**P**	**19 13 36.4**	**+1.4**
	5.5nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**43.02**	**276**	*e*P	**P**	**19 14 57.6**	**0.0**
WRAB	**Tennant Creek**	**43.02**	**276**	*e*P	**P**	**19 14 57.5**	**-0.1**
	7.4nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**43.03**	**276**	P	**P**	**19 14 57.7**	**0.0**
	3.6nm,0.4s,mb4.5,baz=116,slow=8.2,SNR=90						
FITZ	**Fitzroy Crossi**	**51.15**	**273**	P	**P**	**19 16 00.8**	**-0.6**
	2.3nm,0.4s,mb4.5,baz=85,slow=2.5,SNR=7.4						
CASY	**Casey**	**51.96**	**209**	*e*P	**P**	**19 16 06.1**	**-0.7**
	3.2nm,0.5s,mb4.5						
SNAA	**Sanae**	**75.27**	**179**		**P**	**19 18 40.0**	**+0.3**
SNAA	**Sanae**	**75.27**	**179**		PcP	19 18 44.7	-8.5
SNAA	**Sanae**	**75.27**	**179**		pP	19 18 54.1	-2.5
SNAA	**Sanae**	**75.27**	**179**		sP	19 19 02.8	-0.4
VNA3	**Neumayer Olymp**	**75.47**	**177**		**P**	**19 18 41.1**	**+0.2**
VNA3	**Neumayer Olymp**	**75.47**	**177**		PcP	19 18 46.7	-7.3
VNA3	**Neumayer Olymp**	**75.47**	**177**		pP	19 18 54.1	-3.7
VNA3	**Neumayer Olymp**	**75.47**	**177**		sP	19 19 06.3	+1.9
VNA2	**Neumayer--Watz**	**75.89**	**177**		**P**	**19 18 43.4**	**+0.2**
VNA2	**Neumayer--Watz**	**75.89**	**177**		PcP	19 18 49.2	-6.6
VNA2	**Neumayer--Watz**	**75.89**	**177**		pP	19 18 58.7	-1.5
VNA2	**Neumayer--Watz**	**75.89**	**177**		sP	19 19 08.8	+2.0
ARCES	**ARCESS Array B**	**141.15**	**346**	PKP	PKPdf	19 26 22.5	-2.4
	1.7nm,0.8s,baz=45,slow=1.7,SNR=5.8						
FINES	**FINESS Array B**	**147.40**	**337**	PKPbc	PKPdf	19 26 35.6	-0.2
	2.7nm,0.7s,slow=1.9,SNR=12						
NB2	**NORSAR Subarra**	**151.41**	**349**	PKPabc	PKPdf	19 26 45.3	+3.2
	2.9nm,0.7s,baz=19,slow=2.6						
NOA	**NORSAR Array B**	**151.41**	**349**	PKPbc	PKPdf	19 26 45.6	+3.5
	2.6nm,0.7s,baz=15,slow=4.1,SNR=14						
AKASG	**Malin Array Be**	**152.74**	**318**	PKPbc	PKPdf	19 26 48.8	+4.4
	0.7nm,0.6s,baz=69,slow=2.3,SNR=4.6						
AKASG				PKPab	PKPab	19 27 00.3	-4.6
	0.1nm,0.2s,baz=45,slow=2.6,SNR=3.6						

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*NEIC **11** 19:12:03.9±0.6, 0.26N×97.13E, mb4.2/1, Error ellipse: s-maj=16.3km s-min=8.1km az=65.0*

*IDC **11** 19:12:03.5±1.6, 0.14N×96.96E, h33^{km}±5^{km}, mb3.9/7, mb1 4.1/8, mb1mx3.7/19, mbtmp4.1/8, ML4.0/1, MS3.1/1, Ms1 3.3/1, ms1mx2.8/19, Error ellipse: s-maj=64.0km s-min=13.7km az=60.0*

ISC 11 19:12:02.4±0.9**, 0.30N**±0.10×**97.2E**±0.1**, h33**^{km}**, h33**^{km}±.9^{km}**:pP-P, n16, σ0^{s}42**/15**, mb4.2**/8**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.03**	**35**	*e*Pn	**Pn**	**19 13 31.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**18.13**	**5**	P	**P**	**19 16 14.1**	**+0.4**
	0.2nm,0.3s,baz=197,slow=11,SNR=13						
CMAR				pP		19 16 24.1	
	0.2nm,0.3s,baz=197,slow=11,SNR=4.3						
CMAR				LR	LR	19 23 54.4	
	comp=Z,57nm,19.1s,baz=200,slow=39						
KKM	**Kota Kinabalu**	**19.80**	**73**	*e*P	**P**	**19 16 33.2**	**-0.1**
SHL	**Shillong**	**25.64**	**349**	*e*P	**P**	**19 17 31.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**33.40**	**125**	P	**P**	**19 18 39.7**	**-0.6**
	3.1nm,0.6s,mb4.4,baz=352,slow=8.0,SNR=5.0						
WRA	**Warramunga Arr**	**41.55**	**121**	P	**P**	**19 19 49.4**	**+0.4**
	5.1nm,0.5s,mb4.4,baz=302,slow=9.0,SNR=70						
WRA				pP	pP	19 19 58.7	0.0
	3.1nm,0.8s,baz=299,slow=9.0,SNR=7.8						
WRAB	**Tennant Creek**	**41.55**	**121**	*e*P	**P**	**19 19 49.1**	**+0.1**
	2.2nm,0.5s,mb4.0						
WB2	**Warramunga Arr**	**41.56**	**121**	*e*P	**P**	**19 19 49.3**	**+0.3**
SONM	**Songino Array**	**48.02**	**8**	P	**P**	**19 20 41.1**	**+0.6**
	0.6nm,0.4s,mb4.0,baz=188,slow=9.7,SNR=7.9						
SONM				pP	pP	19 20 51.4	+1.0
	0.3nm,0.4s,baz=191,slow=9.2,SNR=3.3						
MKAR	**Makanchi Array**	**48.12**	**346**	P	**P**	**19 20 41.0**	**-0.3**
	0.8nm,0.6s,mb3.9,baz=156,slow=8.1,SNR=11						
MKAR				pP	pP	19 20 51.7	+0.6
	0.8nm,0.5s,baz=165,slow=8.8,SNR=7.6						
STKA	**Stephens Creek**	**52.74**	**132**	P	**P**	**19 21 16.8**	**+0.1**
	1.2nm,0.6s,mb4.0,baz=324,slow=18,SNR=3.6						
STKA				pP	pP	19 21 26.6	-0.1
	1.7nm,0.8s,baz=325,slow=13,SNR=1.7						
STKA	**Stephens Creek**	**52.74**	**132**	P	**P**	**19 21 16.8**	**+0.1**
STKA				pP	pP	19 21 26.6	-0.1
ZAL	**Zalesovo**	**54.44**	**351**	P	**P**	**19 21 28.1**	**-0.8**
	2.3nm,0.4s,mb4.5,baz=304,slow=3.6,SNR=8.8						
ZAL				pP	pP	19 21 37.4	-1.4
	2.1nm,0.5s,baz=314,slow=4.4,SNR=5.3						
ZAL	**Zalesovo**	**54.44**	**351**	P	**P**	**19 21 28.1**	**-0.8**
ZAL				pP	pP	19 21 37.4	-1.4
ARCES	**ARCESS Array B**	**83.39**	**340**	P	**P**	**19 24 27.2**	**-0.2**
	1.4nm,1.0s,mb4.0,baz=101,slow=6.2,SNR=5.6						
TXAR	**Lajitas Array**	**144.42**	**32**	PKP	PKPdf	19 31 37.0	-4.4
	0.6nm,0.4s,baz=270,slow=2.5,SNR=4.6						
TXAR				pPKP		19 31 47.4	
	0.8nm,0.4s,baz=194,slow=40,SNR=2.5						

IDC 11 19:31:52.2±3.7**, 2.18N**×**96.86E, mb3.5**/2**, mb1 3.6**/3**, mb1mx3.4**/19**, mbtmp3.4**/3**, ML3.5**/1**, Error ellipse: s-maj=144.9km s-min=29.7km az=58.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.31**	**7**	Pn	P	19 35 43.0	-1.4
	0.1nm,0.3s,baz=198,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**42.84**	**123**	P	P	19 39 52.4	-1.8
	0.2nm,0.4s,baz=302,slow=9.0,SNR=9.4						
MKAR	**Makanchi Array**	**46.22**	**346**	P	P	19 40 18.9	-1.9
	0.4nm,0.4s,baz=163,slow=8.8,SNR=7.7						

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*IDC **11** 19:57:26.5±2.3, 2.53N×97.90E, mb3.7/5, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=93.9km s-min=21.3km az=58.0*

*NEIC **11** 19:57:31.6±1.0, 2.64N×98.11E, h30^{km}, mb3.9/1, Error ellipse: s-maj=23.7km s-min=13.3km az=63.0*

ISC 11 19:57:29.4±1.2**, 2.6N**±0.1×**98.1E**±0.2**, h30**^{km}**, n8, σ0^{s}75**/8**, mb3.7**/6**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**3.71**	**44**	*e*Pn	**Pn**	**19 58 25.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**15.77**	**3**	Pn	**P**	**20 01 12.8**	**+1.6**
	0.1nm,0.3s,baz=195,slow=13,SNR=7.5						
FITZ	**Fitzroy Crossi**	**34.09**	**128**	P	**P**	**20 04 14.3**	**+0.5**
	2.1nm,0.5s,mb4.3,baz=288,slow=3.2,SNR=3.2						
WRA	**Warramunga Arr**	**42.08**	**124**	P	**P**	**20 05 20.7**	**0.0**
	0.4nm,0.4s,mb3.4,baz=303,slow=9.0,SNR=10						
SONM	**Songino Array**	**45.62**	**8**	P	**P**	**20 05 49.3**	**+0.4**
	0.2nm,0.5s,mb3.3,baz=187,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**46.10**	**345**	P	**P**	**20 05 52.6**	**-0.1**
	0.6nm,0.8s,mb3.6,baz=150,slow=9.8,SNR=5.5						
BVAR	**Borovoye Array**	**55.21**	**340**	P	**P**	**20 07 01.3**	**-0.6**
	0.8nm,0.6s,mb4.0,baz=143,slow=8.4,SNR=8.4						
ZRNK	**Zerenda**	**55.63**	**339**	*e*P	**P**	**20 07 04.1**	**-0.8**
	1.0nm,0.8s,mb3.9						

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*NIED **11** 20:17:00, 33.50N×141.10E, h38^{km}, Mw3.6 Best double couple: Mo2.6×10^{14} NP1:φs214°, δ70°, λ89°. NP2:φs38°, δ20°, λ93°.*

*IDC **11** 20:17:24.0±1.8, 33.38N×141.15E, mb3.7/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=30.1km s-min=23.2km az=64.0*

*JMA **11** 20:17:29.5±0.2, 33.49N×141.09E, h53^{km}, M3.5*

*NEIC **11** 20:17:29.5, 33.50N×141.09E, h53^{km}, MG3.5(JMA), After JMA.*

ISC 11 20:17:28.7±1.0**, 33.44N**±0.04×**141.13E**±0.08**, h54**^{km}±9^{km}**, n26, σ0^{s}65**/36**, mb3.8**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.15**	**254**	P	**P**	**20 17 49.6**	**+0.9**
JHJ2				S	**S**	**20 18 04.0**	**+0.4**
JHJ	**Hachijo jima 2**	**1.17**	**254**	Pn	**P**	**20 17 48.0**	**-1.1**
	329nm,0.3s,baz=168,slow=13,SNR=109						
JHJ				Sn	**S**	**20 18 03.8**	**-0.5**
	532nm,0.3s,baz=96,slow=22,SNR=12						
BSO1	**Boso 1**	**1.22**	**354**	P	**P**	**20 17 49.7**	**-0.1**
BSO1				*e*S	**S**	**20 18 04.1**	**-1.3**
BSO3	**Boso 3**	**1.45**	**340**	P	**P**	**20 17 53.3**	**+0.1**
BSO3				*e*S	**S**	**20 18 11.2**	**-0.1**
JMY	**Miyakejima3**	**1.48**	**296**	P	**P**	**20 17 53.9**	**+0.3**
BSO4	**Boso 4**	**1.68**	**337**	P	**P**	**20 17 56.8**	**+0.5**
NJJJ	**Nii jima 2**	**1.81**	**303**	P	**P**	**20 17 58.2**	**+0.1**
JKO	**Kozu shima**	**1.82**	**295**	P	**P**	**20 17 58.5**	**+0.3**
TATJ	**Tateyama 2**	**1.89**	**328**	P	**P**	**20 17 59.5**	**+0.3**
JIM2	**Oshima 3**	**1.90**	**313**	P	**P**	**20 17 59.0**	**-0.4**
JYO	**Yokosk**	**2.15**	**326**	P	**P**	**20 18 03.4**	**+0.5**
JIZS	**Izushimoda**	**2.26**	**305**	P	**P**	**20 18 04.8**	**+0.3**
JIZS				*e*S	**S**	**20 18 29.0**	**-2.2**
CHOJ	**Chosi**	**2.27**	**354**	P	**P**	**20 18 04.8**	**+0.2**
JOD2	**Odawara 2**	**2.48**	**318**	P	**P**	**20 18 07.3**	**-0.3**
SHZ3	**Shizuoka 3**	**2.91**	**305**	P	**P**	**20 18 15.2**	**+1.5**
JYN	**Shimob**	**2.96**	**315**	P	**P**	**20 18 15.2**	**+0.7**
JRY	**Ryogami san**	**3.16**	**325**	P	**P**	**20 18 17.1**	**-0.1**
JAG	**Ashikaga**	**3.28**	**336**	P	**P**	**20 18 18.4**	**-0.6**
JAG				S	**S**	**20 18 57.5**	**+0.5**
MJAR	**Matsushiro Arr**	**3.91**	**323**	Pn	**P**	**20 18 27.9**	**0.0**
	7.1nm,0.3s,baz=152,slow=12,SNR=43						
MJAR				Sn	**S**	**20 19 13.0**	**0.0**
	1.1nm,0.3s,baz=130,slow=26,SNR=3.4						
MAJO	**Matsushiro**	**3.91**	**323**	*e*Pn	**P**	**20 18 27.1**	**-0.7**
MAJO				*e*Sn	**S**	**20 19 13.9**	**+0.9**
MAT	**Matsushiro**	**3.91**	**323**	*e*P	**P**	**20 18 28.0**	**+0.1**
MAT				*e*S	**S**	**20 19 13.0**	**0.0**
MAT	**Matsushiro**	**3.91**	**323**	P	**P**	**20 18 28.2**	**+0.3**
MAT				S	**S**	**20 19 12.6**	**-0.4**
SONM	**Songino Array**	**29.74**	**309**	P	**P**	**20 23 31.9**	**-0.1**
	0.3nm,0.6s,mb3.2,baz=101,slow=6.9,SNR=3.3						
MKAR	**Makanchi Array**	**45.91**	**305**	P	**P**	**20 25 48.2**	**+0.6**
	0.2nm,0.4s,mb3.4,baz=95,slow=8.5,SNR=3.0						
WRAB	**Tennant Creek**	**53.47**	**188**	*e*P	**P**	**20 26 45.3**	**-0.6**
	2.2nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**53.48**	**188**	P	**P**	**20 26 45.6**	**-0.4**
	2.0nm,0.4s,mb4.4,baz=5.1,slow=7.5,SNR=39						

IDC 11 20:19:20.2±1.1**, 19.86S**×**68.87W, h118**^{km}±12^{km}**, mb4.1**/1**, mb1 4.0**/4**, mb1mx3.6**/16**, mbtmp4.2**/4**, Error ellipse: s-maj=42.9km s-min=8.9km az=98.0, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.74**	**181**	P	P	20 20 03.7	-0.2
	16nm,0.3s,baz=352,slow=11,SNR=80						
LVC				S	S	20 20 36.9	+0.1
	42nm,0.3s,baz=3.0,slow=23,SNR=23						
LPAZ	**La Paz**	**3.62**	**11**	P	P	20 20 15.2	-0.5
	4.0nm,0.3s,baz=192,slow=8.3,SNR=169						
LPAZ				S	S	20 20 58.5	+0.6
	0.8nm,0.3s,baz=198,slow=20,SNR=3.7						
SIV	**San Ignacio**	**8.36**	**64**	P	P	20 21 17.8	-2.0
	2.1nm,0.3s,baz=258,slow=13,SNR=56						
YKA	**Yellowknife Ar**	**89.66**	**341**	P	P	20 32 03.5	-1.9
	1.8nm,0.7s,baz=134,slow=4.3,SNR=6.5						
WRA	**Warramunga Arr**	**134.38**	**211**	PKP	PKPdf	20 38 24.9	-0.2
	0.7nm,1.0s,baz=146,slow=1.7,SNR=4.8						
SONM	**Songino Array**	**151.83**	**7**	PKPbc	PKPdf	20 39 01.7	+7.5
	0.4nm,0.5s,baz=349,slow=2.1,SNR=6.8						
SONM				PKPab	PKPab	20 39 09.8	-2.8
	0.1nm,0.5s,baz=342,slow=4.6,SNR=3.1						

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*ATH **11** 20:21:59.4, 40.38N×24.07E, h6^{km}, MD3.1/3*

*THE **11** 20:21:59.6, 40.39N×24.01E, h1^{km}, ML2.1*

*NEIC **11** 20:21:59.4, 40.38N×24.07E, h6^{km}, MD3.1(ATH), After ATH.*

*CSEM **11** 20:21:59.5±0.1, 40.37N×24.05E, h10^{km}, ML2.1, Error ellipse: s-maj=1.3km s-min=1.0km az=175.0*

ISC 11 20:21:59.0±0.4**, 40.36N**±0.03×**23.99E**±0.03**, h10**^{km}±4^{km}**, n16, σ0^{s}89**/28**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.03**	**193**	*e*Pg	**Pg**	**20 22 01.9**	**+1.1**
OUR				*e*Sg	**Sg**	**20 22 02.6**	**+0.5**
PLG	**Polygyros**	**0.42**	**272**	*e*PB	**Pb**	**20 22 08.2**	**+0.2**
PLG				*e*SB	**Sb**	**20 22 14.4**	**+0.4**
PAIG	**Paliouri**	**0.49**	**209**	*e*Pg	**Pg**	**20 22 09.6**	**+0.6**
PAIG				*e*Sg	**Sg**	**20 22 17.0**	**+1.3**
SOH	**Sokhos**	**0.67**	**314**	*e*Pg	**Pg**	**20 22 12.5**	**0.0**
SOH				*e*Sg	**Sg**	**20 22 21.4**	**0.0**
THE	**Thessaloniki**	**0.83**	**289**	*e*Pg	**Pg**	**20 22 14.9**	**-0.7**
THE				*e*Sg	**Sg**	**20 22 26.7**	**0.0**
LOS	**Limnos**	**0.94**	**117**	*e*Pg	**Pg**	**20 22 16.4**	**-1.5**
LOS				*e*Sg	**Sg**	**20 22 30.5**	**+0.2**
NVR	**Nevrokopi**	**0.99**	**354**	*e*PB	**Pb**	**20 22 18.1**	**+0.3**
NVR				*e*SB	**Sb**	**20 22 31.1**	**+0.3**
LIA	**Limnos Island**	**1.02**	**116**	*e*PG	**Pg**	**20 22 17.8**	**-1.7**
XOR	**Xorichti**	**1.17**	**212**	*e*Pg	**Pg**	**20 22 21.3**	**-1.0**
XOR				*e*Sg	**Sg**	**20 22 39.6**	**+1.7**
LIT	**Litokhoron**	**1.18**	**258**	*e*Pg	**Pg**	**20 22 22.2**	**-0.4**
AOS	**Alonnisos**	**1.19**	**184**	*e*Pg	**Pg**	**20 22 21.9**	**-1.0**
GRG	**Griva**	**1.35**	**297**	*e*Pg	**Pg**	**20 22 24.3**	**-1.6**
GRG				*e*Sg	**Sg**	**20 22 44.2**	**+0.3**
GRG	**Griva**	**1.35**	**297**	*e*Pg	**Pg**	**20 22 24.3**	**-1.6**
GRG				*e*Sg	**Sg**	**20 22 44.2**	**+0.3**
RDO	**Rodhopi**	**1.41**	**56**	*e*PB	**Pb**	**20 22 25.0**	**0.0**
RDO				*e*SB	**Sb**	**20 22 43.5**	**+0.5**
ALN	**Alexandroupoli**	**1.65**	**70**	*e*Pb	**Pb**	**20 22 29.2**	**+0.1**
ALN				*e*Sb	**Sb**	**20 22 51.5**	**+1.6**
AGG	**Agios Georgios**	**1.85**	**224**	*e*Pb	**Pb**	**20 22 31.2**	**-1.3**

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*DHMR **11** 20:35:55.0±0.6, 12.07N×39.81E, h8^{km}±46^{km}, ML4.1*

*IDC **11** 20:36:10.3±4.0, 12.49N×40.49E, mb3.6/7, mb1 3.8/8, mb1mx3.7/19, mbtmp3.7/8, ML4.6/1, Error ellipse: s-maj=93.7km s-min=15.8km az=35.0*

*NEIC **11** 20:36:11.9±7.5, 12.21N×40.26E, h28^{km}±65^{km}, mb3.7/1, Error ellipse: s-maj=86.4km s-min=19.7km az=210.0*

*CSEM **11** 20:36:12.8±0.6, 12.34N×40.29E, h40^{km}, mb3.7/1, Error ellipse: s-maj=22.5km s-min=11.0km az=10.0*

ISC 11 20:36:08.7±1.1**, 12.4N**±0.1×**40.32E**±0.07**, h10**^{km}**, n16, σ0^{s}97**/21**, mb3.6**/8**, 1C-3D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.61**	**108**	Pn	**Pn**	**20 36 52.5**	**+0.9**
	127nm,0.3s,baz=300,slow=9.0,SNR=82						
ATD				Lg		20 37 29.9	
	41nm,0.3s,baz=270,slow=23,SNR=8.8						
ATD	**Arta Tunnel**	**2.61**	**108**	Pn	**Pn**	**20 36 52.5**	**+0.9**
ATD				Lg		20 37 29.9	
TRBA	**At Turbah**	**3.80**	**77**⇓	*i*P	**Pn**	**20 37 03.9**	**-4.6**
TRBA				*i* S	**Sn**	**20 37 58.3**	**+4.5**
TRBA				AML	AML	20 38 13.2	
	comp=E,623nm,0.6s						
TRBA	**At Turbah**	**3.80**	**77**⇓	*i*P	**Pn**	**20 37 03.9**	**-4.6**
TRBA				*i* S	**Sn**	**20 37 58.3**	**+4.5**
	comp=E,311nm,0.6s						
UDYN	**Al 'Udayn**	**3.89**	**66**⇓	*i*P	**Pn**	**20 37 06.2**	**-3.7**
UDYN				*i* S	**Sn**	**20 38 00.8**	**+4.7**
DHBB	**Dhamar BB**	**4.52**	**61**	*i* P	**Pn**	**20 37 12.2**	**-6.6**
DHBB				*i* S	**Sn**	**20 38 12.6**	**+0.5**
BDHA	**Al Bayda'**	**5.35**	**72**⇑	*i*P	**Pn**	**20 37 23.1**	**-7.5**
BDHA				*i* S	**Sn**	**20 38 32.7**	**-0.3**
BRTR	**Keskin Array B**	**27.88**	**349**	P	**P**	**20 42 01.8**	**+1.1**
	comp=E,0.5nm,0.6s,mb3.3,baz=162,slow=12,SNR=5.0						
AKASG	**Malin Array Be**	**39.28**	**349**	P	**P**	**20 43 40.0**	**+0.7**
	comp=E,0.3nm,0.3s,mb3.5,baz=162,slow=6.9,SNR=3.2						
MORC	**Moravsky Berou**	**41.74**	**338**	*e*P	**P**	**20 43 57.6**	**-1.9**
	comp=E,1.3nm,0.8s,mb3.6						
MORC	**Moravsky Berou**	**41.74**	**338**	*e*P	**P**	**20 43 57.6**	**-2.0**
GERES	**GERESS Array B**	**42.54**	**334**	P	**P**	**20 44 07.0**	**+1.0**
	comp=E,0.3nm,0.5s,mb3.3,baz=146,slow=4.8,SNR=3.7						
BVAR	**Borovoye Array**	**47.12**	**24**	P	**P**	**20 44 42.4**	**-0.4**
	comp=E,0.3nm,0.5s,mb3.5,baz=207,slow=6.6,SNR=4.8						
MKAR	**Makanchi Array**	**49.17**	**37**	P	**P**	**20 44 58.3**	**-0.5**
	comp=E,1.1nm,0.8s,mb3.9,baz=243,slow=5.4,SNR=7.4						
CMAR	**Chiang Mai Arr**	**56.64**	**76**	P	**P**	**20 45 54.0**	**-0.8**
	comp=E,0.9nm,0.8s,mb3.9,baz=278,slow=7.3,SNR=6.2						
SONM	**Songino Array**	**64.89**	**43**	P	**P**	**20 46 50.6**	**+0.2**
	comp=E,1.5nm,0.9s,mb4.0,baz=250,slow=7.1,SNR=12						

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*LDG **11** 20:58:35.2±0.2, 22.17N×94.18E, h10^{km}, Mb4.1/7, Error ellipse: s-maj=11.8km s-min=7.8km az=37.0*

*IDC **11** 20:58:35.5±0.9, 22.15N×94.14E, mb4.0/11, mb1 4.1/12, mb1mx3.9/24, mbtmp4.0/12, ML3.4/1, MS2.7/1, Ms1 2.9/1, ms1mx2.5/23, Error ellipse: s-maj=59.5km s-min=15.9km az=46.0*

*NEIC **11** 20:58:41.6±0.6, 22.16N×94.24E, h46^{km}±4^{km}, mb4.1/10, Error ellipse: s-maj=11.2km s-min=5.2km az=211.0*

*BJI **11** 20:58:41.6, 22.20N×94.20E, h46^{km}*

ISC 11 20:58:39.4±1.1**, 22.13N**±0.09×**94.18E**±0.09**, h42**^{km}±9^{km}**, n37, σ0^{s}78**/40**, mb4.1**/20**, 1D, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.65**	**355**	*e*	**P**	**20 59 22.0**	**+1.2**
SHL	**Shillong**	**4.02**	**329**⇓	*i*P	**P**	**20 59 41.5**	**+1.4**
SHL				*e*S	**S**	**21 00 25.0**	**-1.5**
CMAR	**Chiang Mai Arr**	**5.77**	**128**	Pn	**P**	**21 00 04.6**	**-0.2**
	0.3nm,0.3s,baz=307,slow=13,SNR=12						
CMAR				Lg		21 01 41.3	
	0.5nm,0.3s,baz=309,slow=31,SNR=4.1						
CMAR				LR	LR	21 02 36.0	
	comp=Z,70nm,20.1s,baz=295,slow=41						
LSA	**Lhasa**	**8.02**	**341**	*e*Pn	**P**	**21 00 36.5**	**+0.4**
	13nm,0.5s						
GUN	**Gumba**	**9.47**	**309**	*e*P	**P**	**21 00 56.9**	**+0.6**
	15nm,0.3s						
PKI	**Pulchoki**	**9.63**	**306**	*e*P	**P**	**21 00 58.6**	**+0.1**
	16nm,0.5s						
PKI				*e*S	**S**	**21 02 41.6**	**-4.9**
KKN	**Kakani**	**9.84**	**307**	*e*P	**P**	**21 01 01.0**	**-0.4**
	17nm,0.4s						
DMN	**Daman**	**9.88**	**305**	*e*P	**P**	**21 01 01.8**	**-0.1**
	10nm,0.5s						
GKN	**Gorkha**	**10.44**	**306**	*e*P	**P**	**21 01 08.7**	**-0.9**
	18nm,0.4s						
GKN				*e*S	**S**	**21 03 00.6**	**-5.6**
KOLN	**Koldanda**	**11.12**	**302**	*e*P	**P**	**21 01 17.7**	**-1.1**
	16nm,0.4s						
ENH	**Enshi**	**15.94**	**56**	*e*Pn	**P**	**21 02 21.8**	**-0.6**
	5.6nm,0.4s						
KSH	**Kashi**	**23.27**	**322**	*e*P	**P**	**21 03 47.0**	**+3.0**
KSH				*e*AP		21 03 53.5	
KSH				*e*XP		21 04 03.2	
KSH				AMB	AMB		
	comp=Z,80nm,3.4s						
MKAR	**Makanchi Array**	**26.42**	**341**	P	**P**	**21 04 14.2**	**+0.1**
	comp=Z,2.5nm,0.8s,mb3.8,baz=148,slow=10,SNR=20						
BVAR	**Borovoye Array**	**35.81**	**335**	P	**P**	**21 05 36.5**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=141,slow=10,SNR=8.4						
ZRNK	**Zerenda**	**36.30**	**334**	*e*P	**P**	**21 05 40.4**	**-0.3**
	comp=Z,1.0nm,0.5s,mb4.0						
ARU	**Arti**	**43.10**	**332**	*e*P	**P**	**21 06 36.0**	**-1.1**
	comp=Z,3.4nm,0.5s,mb4.3						
KIV	**Kislovodsk**	**47.47**	**310**	*e*P	**P**	**21 07 04.0**	**-8.1**
	comp=Z,18nm,0.9s,mb5.0						
WRA	**Warramunga Arr**	**57.34**	**134**	P	**P**	**21 08 25.1**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.5,baz=322,slow=7.4,SNR=7.0						
AKASG	**Malin Array Be**	**57.41**	**317**	P	**P**	**21 08 25.0**	**-1.1**
	comp=Z,2.1nm,0.5s,mb4.5,baz=81,slow=6.3,SNR=15						
MLR	**Muntele Rosu**	**59.47**	**311**	P	**P**	**21 08 41.5**	**+1.0**
	comp=Z,3.2nm,0.6s,mb4.6,baz=333,slow=4.5,SNR=12						
IDI	**Anoyia**	**61.08**	**299**	P	**P**	**21 08 51.4**	**-0.2**
	comp=Z,1.9nm,0.7s,mb4.3,baz=117,slow=9.0,SNR=3.6						
ARCES	**ARCESS Array B**	**62.02**	**338**	P	**P**	**21 08 57.1**	**-0.4**
	comp=Z,1.3nm,0.4s,mb4.4,baz=99,slow=8.1,SNR=19						
HFS	**Hagfors**	**66.36**	**327**	P	**P**	**21 09 25.2**	**-0.6**
	comp=Z,0.8nm,0.5s,mb4.0,baz=90,slow=4.4,SNR=12						
GERES	**GERESS Array B**	**67.51**	**315**	P	**P**	**21 09 33.5**	**+0.3**
	comp=Z,1.4nm,0.6s,mb4.2,baz=79,slow=6.8,SNR=13						
NOA	**NORSAR Array B**	**67.52**	**328**	P	**P**	**21 09 31.8**	**-1.2**
	comp=Z,0.6nm,0.8s,mb3.7,baz=87,slow=6.3,SNR=3.6						
NOA	**NORSAR Array B**	**67.52**	**328**	P	**P**	**21 09 31.8**	**-1.3**
LPG	**La Plagne**	**72.81**	**313**	*e*P	**P**	**21 10 06.3**	**+0.8**
	comp=Z,2.9nm,0.6s,mb4.1						
LPL	**La Plagne**	**72.82**	**313**	*e*P	**P**	**21 10 06.3**	**+0.8**
	comp=Z,3.3nm,0.5s,mb4.2						
MEZF	**Maizieres J'vi**	**73.20**	**316**	*e*P	**P**	**21 10 07.9**	**+0.2**
LOR	**Lormes**	**74.29**	**315**	*e*P	**P**	**21 10 14.2**	**+0.1**
SMF	**Signal de Mont**	**74.47**	**314**	*e*P	**P**	**21 10 15.1**	**-0.1**
	comp=Z,2.5nm,0.4s,mb4.2						
SSF	**Saint Saulge**	**74.58**	**315**	*e*P	**P**	**21 10 15.8**	**0.0**
	comp=Z,1.4nm,0.5s,mb3.9						
TCF	**Toulx Ste Croi**	**75.66**	**314**	*e*P	**P**	**21 10 22.6**	**+0.6**
	comp=Z,1.7nm,0.5s,mb3.9						
EKA	**Eskdalemuir Ar**	**76.13**	**324**	P	**P**	**21 10 24.6**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.9,baz=66,slow=5.8,SNR=5.2						
RJF	**Les Rejaudoux**	**76.41**	**314**	*e*P	**P**	**21 10 27.2**	**+0.9**
	comp=Z,1.9nm,0.4s,mb4.0						
SGMF	**Saint Gilles**	**78.12**	**317**	*e*P	**P**	**21 10 36.0**	**+0.3**
ROSF	**Rostrenen**	**78.54**	**318**	*e*P	**P**	**21 10 38.4**	**+0.4**

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*TIF **11** 21:05:17.2, 38.68N×44.84E, h1^{km}±3^{km}*

*ISK **11** 21:05:18.8, 38.66N×44.77E, h5^{km}, MD3.6*

*NSSP **11** 21:05:18.1, 38.90N×44.35E, h10^{km}, ML3.4*

*IDC **11** 21:05:20.0±0.8, 38.76N×44.67E, mb3.8/9, mb1 3.9/13, mb1mx3.7/25, mbtmp3.7/13, ML4.1/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/31, Error ellipse: s-maj=16.5km s-min=11.4km az=95.0*

*CSEM **11** 21:05:19.3±0.1, 38.71N×44.68E, h2^{km}, mb4.0/5, Error ellipse: s-maj=2.0km s-min=1.4km az=43.0*

*MOS **11** 21:05:20.2±1.5, 38.60N×44.53E, h10^{km}, mb4.0/11, Error ellipse: s-maj=13.9km s-min=7.5km az=100.4*

*NEIC **11** 21:05:22.4±0.7, 38.86N×44.60E, h10^{km}, mb4.0/3, MD4.1(ISK), Error ellipse: s-maj=13.3km s-min=8.5km az=169.0*

*THR **11** 21:05:22.8±0.3, 38.89N×44.74E, h18^{km}±2^{km}, ML3.7*

*TEH **11** 21:05:25.2, 38.65N×44.98E, h10^{km}, Mn3.5*

ISC 11 21:05:20.0±0.6**, 38.70N**±0.02×**44.69E**±0.03**, h1**^{km}±4^{km}**, n96, σ1^{s}47**/107**, mb3.9**/13**, MS3.2**/5**, 1C-1D, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAKU	**Maku**	**0.66**	**359**	*e*PG	**Pg**	**21 05 32.2**	**-0.9**
MAKU				AML	AML	21 05 46.9	
	comp=N,4μm,0.5s						
IMRD	**Marand**	**0.79**	**89**	Pg	**Pg**	**21 05 35.7**	**-0.1**
ISHB	**Shabestar**	**0.84**	**119**	Pg	**Pg**	**21 05 36.7**	**0.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TVAN	Van	1.02	261	*i* P	Pb	21 05 39.0	-1.2
TVAN				*i* S	Sg	21 05 58.6	+4.5
VANT	Van	1.05	256	PN	Pn	21 05 42.3	+0.5
ITBZ	Tabriz	1.23	112	Pg	Pg	21 05 43.5	-1.1
HKR	Hakkari	1.35	214	PN	Pn	21 05 45.1	-0.9
HKR				SN	Sn	21 06 06.2	+1.4
HAKT	HAKKARI	1.38	215	*i* P	Pb	21 05 46.2	-0.1
HAKT				*i* S	Sg	21 06 10.6	+4.6
IAZR	Azarshahr	1.44	135	Pg	Pg	21 05 47.5	-1.2
GNI	Garni	1.45	2	PN	Pn	21 05 47.7	+0.2
GNI	Garni	1.45	2	Pn	Pn	21 05 47.1	-0.3
	comp=N,42nm,0.3s,baz=246,slow=1.5,SNR=137						
GNI				Sn	Sg	21 06 10.2	+1.9
	comp=N,165nm,0.3s,baz=230,slow=22,SNR=15						
GNI	Garni	1.45	2	*e*P	Pn	21 05 46.8	-0.7
GNI				*e*S	Sg	21 06 09.5	+1.2
GNI	Garni	1.45	2	*e*Pn	Pn	21 05 47.7	+0.2
GNI				*e*Sg	Sg	21 06 09.5	+1.2
IBST	Bostanabad	2.00	119	Pn	Pn	21 05 56.2	+0.9
KARS	Kars	2.27	328	PN	Pn	21 06 00.5	+1.2
ISRB	Sarab	2.50	110	Pn	Pn	21 06 04.7	+2.2
GRMI	Germi	2.51	86	*e*PN	Pn	21 06 04.3	+1.7
GRMI				*e*SG	Sg	21 06 39.9	-3.6
GRMI				AML	AML	21 06 46.2	
	comp=N,389nm,0.7s						
BTMT	Batman	2.56	260	PN	Pn	21 06 06.1	+2.7
DGRG	David-gareji	2.80	11	P	Pn	21 06 12.3	+5.6
DGRG				S	Sn	21 06 43.8	+2.2
BEST	Besiri	2.81	254	*i* P	Pn	21 06 08.7	+1.7
BEST				*i* S	Sg	21 06 53.4	-0.2
ERZM	Erzurum	2.85	296	*i* P	Pn	21 06 10.0	+2.5
EZM	Erzurum	2.85	296	PN	Pn	21 06 08.7	+1.2
TBLG	Delisi	3.03	1	P	Pn	21 06 11.9	+1.8
TBLG				S	Sg	21 07 00.4	-0.5
TI2	Plekhanov	3.03	1	*e*PN	Pg	21 06 29.6	+9.0
MARD	Mardin	3.39	247	*i* P	Pn	21 06 15.6	+0.5
MARD				*i* S	Sg	21 07 06.9	-5.8
DUS	Dusheti	3.39	0	P	Pn	21 06 19.9	+4.8
BCA	Borcka	3.62	320	PN	Pn	21 06 19.0	+0.6
ONI	Oni	3.99	347	P	Pn	21 06 28.0	+4.3
ONI				S	Sg	21 07 33.8	+0.9
ZEI	Tsey	4.11	352	*e*PN	Pn	21 06 25.2	-0.2
ZEI				pmax	pmax		
	comp=Z,43nm,0.2s						
ZEI	Tsey	4.11	352	*e*Pn	Pn	21 06 25.2	-0.2
	comp=Z,43nm,0.2s						
PTK	Pertek	4.15	274	PN	Pn	21 06 25.8	-0.1
SNGE	Sanandaj	4.18	149	*e*PN	Pn	21 06 29.9	+3.5
SNGE				*e*SG	Sg	21 07 37.1	-2.1
ILIN	Laeen	4.19	154	Pn	Pn	21 06 34.0	+7.5
IDHR	Dehrash	4.22	161	Pn	Pn	21 06 27.7	+0.8
ELZG	Elazig	4.48	269	*e*P	Pg	21 06 44.4	-5.0
IVIS	Veys	4.51	157	Pn	Pn	21 06 30.8	-0.3
IGHG	Ghaleghazi	4.61	160	Pn	Pn	21 06 34.0	+1.4
IKOM	Komasi	5.05	152	Pn	Pn	21 06 40.0	+1.2
IRAZ	Razeghan	5.32	127	Pn	Pb	21 06 52.6	-1.2
KIV	Kislovodsk	5.46	345	*e*P	Pn	21 06 47.2	+2.6
KIV				*e*S	Sn	21 07 46.3	-2.7
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KIV				pmax	pmax		
	comp=E,5.0nm,1.2s						
KIV				MLR	MLR		
	comp=N,141nm,16.0s						
KIV				MLR	MLR		
	comp=Z,159nm,16.0s						
KIV	Kislovodsk	5.46	345	P	Pn	21 06 38.8	-5.8
	comp=Z,22nm,1.0s						
IMHD	Mahdasht	5.64	120	Pn	Pn	21 06 48.6	+1.6
THKV	Tehran--Karaj	5.66	117	*e*PN	Pn	21 06 49.2	+1.8
GZT	Gaziantep	5.79	259	*e*P	Pn	21 06 56.7	+7.6
ASAO	Ashtian	5.96	132	*e*Pn	Pn	21 06 54.1	+2.5
SOC	Sochi	6.16	324	*e*P	Pn	21 06 53.0	-1.4
SOC				*e*		21 07 56.1	
SOC				pmax	pmax		
	comp=N,17nm,1.3s						
SOC				pmax	pmax		
	comp=Z,15nm,1.3s						
SOC				pmax	pmax		
	comp=E,9.0nm,1.1s						
SOC				MLR	MLR		
	comp=Z,398nm,11.0s						
SOC				MLR	MLR		
	comp=N,563nm,13.0s						
SOC				MLR	MLR		
	comp=E,266nm,11.0s						
IDMV	Damavand	6.64	116	Pn	Pn	21 06 59.6	-1.6
IVRN	Varamin	6.74	121	Pn	Pn	21 06 59.0	-3.6
IVRN	Varamin	6.74	121	Lg		21 08 49.0	
IFIR	Firoozkooh	7.12	113	Pn	Pn	21 07 05.2	-2.8
IFIR	Firoozkooh	7.12	113	Lg		21 09 00.7	
BR131	Keskin Array S	8.64	280	P	P	21 07 24.4	-4.8
BRTR	Keskin Array B	8.64	280	Pn	P	21 07 27.6	-1.5
	baz=103,slow=12,SNR=6.1						
BRTR	Keskin Array B	8.64	280	Pn	P	21 07 27.6	-1.6
ASF	Jabal al Asfar	9.10	227	Pn	P	21 07 34.6	-0.9
	comp=E,0.1nm,0.3s,baz=329,slow=5.9,SNR=1.8						
MLR	Muntele Rosu	15.47	302	Pn	P	21 09 00.3	-0.6
	comp=E,0.1nm,0.3s,baz=140,slow=7.9,SNR=2.2						
AKASG	Malin Array Be	16.24	323	Pn	P	21 09 08.5	-2.3
	baz=137,slow=12,SNR=3.6						
OBN	Obninsk	17.31	344	*d i*P	P	21 09 23.6	-0.8
OBN				*e*S	S	21 12 31.8	-4.5
OBN				pmax	pmax		
	comp=Z,25nm,1.2s						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s						
OBN	Obninsk	17.31	344	*i* P	P	21 09 23.6	-0.8
	comp=Z,25nm,1.2s						
MOS	Moscow	17.69	347	*e*P	P	21 09 31.0	+1.9
MOS				pmax	pmax		
	comp=Z,37nm,1.2s						
MOS	Moscow	17.69	347	*e*P	P	21 09 31.0	+1.9
	comp=Z,37nm,1.2s						
ARU	Arti	19.99	23	⇑*i*P	P	21 09 55.2	-1.4
ARU				*e*		21 10 13.5	
ARU				*e*S	S	21 13 36.3	-0.2
ARU				pmax	pmax		
	comp=Z,13nm,1.2s						
ARU	Arti	19.99	23	*e*P	P	21 09 53.5	-3.1
	comp=Z,20nm,1.4s						
ARU	Arti	19.99	23	*i* P	P	21 09 55.2	-1.4
	comp=Z,13nm,1.2s						
SVE	Sverdlovsk	20.97	25	*e*P	P	21 10 08.3	+1.4
SVE				*e*		21 10 34.0	
ZRNK	Zerenda	22.00	42	*e*P	P	21 10 16.3	-0.9
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
ZRNK	Zerenda	22.00	42	*e*P	P	21 10 16.3	-0.9
	comp=Z,1.7nm,0.6s,mb3.6						
ZRNK	Zerenda	22.00	42	*e*P	P	21 10 16.3	-0.9
	comp=Z,1.7nm,0.6s,mb3.6						
BVAR	Borovoye Array	22.76	43	P	P	21 10 24.3	-0.4
	comp=Z,0.2nm,0.3s,mb3.1,baz=254,slow=10,SNR=2.9						
AAK	Ala-Archa	22.89	71	*i* P	P	21 10 29.1	+3.0
AAK				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb3.9						
AAK				MLR	MLR		
	comp=Z,100nm,29.0s,MS3.1						
AAK	Ala-Archa	22.89	71	P	P	21 10 27.0	+0.9
AAK	Ala-Archa	22.89	71	P	P	21 10 27.0	+0.9
GERES	GERESS Array B	24.41	305	P	P	21 10 40.1	-0.8
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	GERESS Array B	24.41	305	P	P	21 10 40.1	-0.8
	comp=Z,1.7nm,0.7s,mb3.7,baz=98,slow=9.4,SNR=11						
CLL	Collm	25.49	310	*e**PP	pP	21 10 51.0	-0.4
FINES	FINESS Array B	25.53	339	P	P	21 10 50.0	-1.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	25.53	339	P	P	21 10 50.0	-1.3
	comp=Z,1.1nm,0.7s,mb3.6,baz=164,slow=14,SNR=3.9						
MKAR	Makanchi Array	28.55	61	P	P	21 11 19.1	-0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,55nm,18.3s						
MKAR	Makanchi Array	28.55	61	P	P	21 11 19.1	-0.2
	comp=Z,0.5nm,0.7s,mb3.5,baz=260,slow=6.1,SNR=3.7						
MKAR				LR	LR	21 24 36.9	
	comp=Z,55nm,18.3s,MS3.2,baz=160,slow=40						
MKAR	Makanchi Array	28.55	61	P	P	21 11 19.0	-0.2
HFS	Hagfors	28.98	328	P	P	21 11 19.4	-3.5
HFS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS				MLR	MLR		
	comp=Z,58nm,18.1s						
HFS	Hagfors	28.98	328	P	P	21 11 19.4	-3.6
	comp=Z,1.2nm,0.7s,mb3.8,baz=280,slow=18,SNR=3.3						
HFS				LR	LR	21 24 24.5	
	comp=Z,58nm,18.1s,MS3.2,baz=130,slow=40						
NOA	NORSAR Array B	30.50	328	LR	LR	21 25 28.5	
	comp=Z,22nm,18.4s,MS2.8,baz=130,slow=40						
EKA	Eskdalemuir Ar	35.80	314	P	P	21 12 20.1	-2.5
EKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
EKA	Eskdalemuir Ar	35.80	314	P	P	21 12 20.1	-2.5
	comp=Z,1.3nm,0.8s,mb3.8,baz=102,slow=9.7,SNR=7.1						
TLY	Talaya	42.40	52	P	P	21 13 15.9	-1.5
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
TLY	Talaya	42.40	52	P	P	21 13 15.9	-1.5
	comp=Z,2.3nm,0.8s,mb4.0						
TLY	Talaya	42.40	52	P	P	21 13 15.9	-1.5
	comp=Z,2.2nm,0.8s,mb3.9						
SONM	Songino Array	44.76	57	LR	LR	21 34 23.4	
	comp=Z,59nm,19.0s,MS3.5,baz=115,slow=39						
CMAR	Chiang Mai Arr	50.96	97	P	P	21 14 23.3	-2.0
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	Chiang Mai Arr	50.96	97	P	P	21 14 23.3	-2.0
	comp=Z,1.0nm,0.6s,mb3.9,baz=301,slow=8.3,SNR=8.0						
TIXI	Tiksi	51.99	24	*e*P	P	21 14 34.6	+2.1
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TIXI	Tiksi	51.99	24	*e*P	P	21 14 34.6	+2.1
	comp=Z,4.0nm,0.9s,mb4.3						
MATP	Matopo	60.74	197	P	P	21 15 33.6	-2.2
	comp=Z,2.6nm,0.8s,mb4.4,baz=26,slow=6.1,SNR=6.4						
BOSA	Boshof	69.38	198	P	P	21 16 29.9	-1.7
BOSA				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.3						
BOSA	Boshof	69.38	198	P	P	21 16 29.9	-1.7
	comp=Z,2.2nm,1.0s,mb4.3,baz=278,slow=3.6,SNR=3.5						

*IDC **11** 21:19:35.4±1.4, 23.45S×111.73W, mb3.8/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/18, Error ellipse: s-maj=59.1km s-min=41.0km az=16.0*
*NEIC **11** 21:19:36.4±0.6, 23.71S×111.74W, h10km, mb4.7/2, Error ellipse: s-maj=30.7km s-min=17.7km az=82.0*
ISC 11 21:19:35.2±0.9**, 23.8S**±0.1×**111.8W**±0.3**, h10km, n19, σ1.13/12, mb4.4/6, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	3.98	146	LR	LR	21 21 30.1	
	comp=Z,146nm,19.6s,baz=328,slow=27						
LPAZ	La Paz	41.59	88	P	P	21 27 25.0	-0.2
	1.3nm,1.0s,mb3.5,baz=252,slow=4.9,SNR=4.8						
LPAZ	La Paz	41.59	88	P	P	21 27 25.0	-0.2
LPAZ				*e*P		21 27 25.9	
LRAL	Lakeview Retre	61.31	24	*e*P	P	21 29 46.6	-6.7
	78nm,1.2s,mb5.7						
VNDA	Vanda	66.11	194	*e*P	P	21 30 23.4	-0.8
	15nm,2.1s,mb4.6						
PDAR	Pinedale Array	66.30	2	P	P	21 30 22.1	-3.8
	0.4nm,0.5s,mb3.7,baz=159,slow=7.1,SNR=4.6						
VNA3	Neumayer Olymp	71.47	161		P	21 30 57.5	0.0
VNA2	Neumayer--Watz	72.28	160		P	21 31 02.9	+0.6
SNAA	Sanae	73.33	162		P	21 31 08.7	+0.3
SNAA	Sanae	73.33	162	*e*P	P	21 31 08.4	+0.1
	8.2nm,1.4s,mb4.5						
SNAA				P		21 31 08.7	
DLBC	Dease Lake	83.35	350	*e*P	P	21 32 05.0	+1.5
YKA	Yellowknife Ar	86.05	359	P	P	21 32 17.2	+0.3
	1.7nm,0.8s,mb4.3,baz=174,slow=6.4,SNR=5.4						
YKA	Yellowknife Ar	86.05	359	P	P	21 32 17.2	+0.3
AKASG	Malin Array Be	139.72	38	PKP	PKPdf	21 39 03.9	-2.4
	0.1nm,0.2s,baz=282,slow=3.1,SNR=4.0						
AKASG	Malin Array Be	139.72	38	PKP	PKPdf	21 39 03.9	-2.4
BRTR	Keskin Array B	146.88	53	PKPbc	PKPbc	21 39 18.6	+0.9
	1.3nm,0.9s,baz=297,slow=2.8,SNR=7.4						
BVAR	Borovoye Array	150.80	357	PKPbc	PKPdf	21 39 28.8	+3.9
	1.3nm,0.8s,baz=45,slow=2.1,SNR=8.7						
CMAR	Chiang Mai Arr	150.84	265	PKPbc	PKPdf	21 39 30.4	+4.5
	1.4nm,0.9s,baz=70,slow=0.3,SNR=8.8						
MKAR	Makanchi Array	154.44	337	PKPbc	PKPdf	21 39 36.4	+6.1
	0.8nm,0.9s,baz=45,slow=5.1,SNR=3.6						

IDC 11 21:29:12.8±4.6**, 10.62S**×**65.23E, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.6**/18**, mbtmp3.7**/4**, MS3.6**/4**, Ms1 3.6**/4**, ms1mx3.3**/15**, Error ellipse: s-maj=121.6km s-min=40.6km az=66.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOSA	Boshof	41.44	239	LR	LR	21 52 47.1	
	comp=Z,86nm,19.8s,baz=211,slow=34						
CMAR	Chiang Mai Arr	44.06	49	P	P	21 37 22.8	-1.9
	0.2nm,0.6s,baz=191,slow=31,SNR=3.1						
MKAR	Makanchi Array	59.16	14	P	P	21 39 15.0	-2.8
	0.8nm,1.1s,baz=189,slow=11,SNR=3.4						
MKAR				LR	LR	22 03 23.0	
	comp=Z,24nm,20.1s,baz=354,slow=35						
WRA	Warramunga Arr	66.93	107	P	P	21 40 07.6	-2.1
	1.3nm,0.7s,baz=276,slow=5.6,SNR=8.4						
SONM	Songino Array	68.69	28	P	P	21 40 19.1	-1.3
	0.4nm,0.4s,baz=223,slow=4.2,SNR=4.4						
SONM				LR	LR	22 09 21.9	
	comp=Z,73nm,19.2s,baz=248,slow=35						
MJAR	Matsushiro Arr	82.92	51	LR	LR	22 15 44.7	
	comp=Z,43nm,20.1s,baz=240,slow=34						

*IDC **11** 21:50:13.5±6.1, 34.94N×136.26E, h248km±120km, mb3.2/2, mb1 3.5/3, mb1mx2.9/21, mbtmp3.7/3, Error ellipse: s-maj=197.3km s-min=24.5km az=58.0*
*JMA **11** 21:50:15.4±0.4, 35.47N×136.94E, h296km±4km, M3.1*
ISC 11 21:50:14.5±0.8**, 35.4N**±0.1×**136.9E**±0.1**, h302km**±6km**, n13, σ0.72/17, mb3.2/2, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAO	Obara	0.34	106	P	P	21 50 53.4	+0.2
JGM	Miyama	0.35	341	P	P	21 50 53.1	-0.2
JIE	Ise	0.98	187	P	P	21 50 56.0	+0.8
JIE				S	S	21 51 27.1	+0.1
JWT	Wachi	1.19	267	P	P	21 50 56.8	+0.5
JWT				S	S	21 51 27.7	-1.3
JYN	Shimob	1.38	84	P	P	21 50 57.4	0.0
MAT	Matsushiro	1.61	43	P	P	21 50 58.6	-0.3
MAT				S	S	21 51 33.9	+0.4
MJAR	Matsushiro Arr	1.61	43	P	P	21 50 58.9	+0.1
	10nm,0.3s,baz=216,slow=7.8,SNR=86						
MJAR				S	S	21 51 33.8	+0.3
	baz=324,slow=34,SNR=1.8						
TK01	Tokai 1	1.71	159	S	S	21 51 38.6	+3.9
JRY	Ryogami san	1.79	68	P	P	21 51 00.0	-0.1
JOD2	Odawara 2	1.83	93	P	P	21 51 00.6	+0.2
JAG	Ashikaga	2.36	63	P	P	21 51 03.3	-1.5
MKAR	Makanchi Array	41.91	303	P	P	21 57 38.2	+0.9
	0.3nm,0.6s,mb2.7,baz=90,slow=9.6,SNR=5.5						
WRA	Warramunga Arr	55.05	183	P	P	21 59 16.7	-0.8
	0.8nm,0.3s,mb3.7,baz=0.2,slow=7.6,SNR=42						

*BNS **11** 21:59:39.6±0.5, 50.77N×7.19E, h10km±11km, ML1.6*
*BGR **11** 21:59:39.5±0.4, 50.72N×7.27E, h10km, ML2.0/3, Error ellipse: s-maj=6.7km s-min=3.3km az=130.0, FELT SIEGBURG I=III)*
*LDG **11** 21:59:39.6±0.1, 50.76N×7.19E, h10km, Md2.7/3, Ml2.4/9, Error ellipse: s-maj=1.9km s-min=1.3km az=94.0*
ISC 11 21:59:37.0±0.4**, 50.69N**±0.02×**7.29E**±0.04**, h10km, n20, σ1.18/44, 3C-1D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNS	Bensberg	0.29	346	⇓*i*Pg	Pg	21 59 43.7	+0.8
BNS				*i* Sg	Sg	21 59 46.6	-0.3
	388nm,0.2s						
STB	Steinbach	0.30	252	⇑*i*Pg	Pg	21 59 45.3	+2.0
STB				*e*Sg	Sg	21 59 49.2	+1.8
	55nm,0.3s						
BGG	Burgeitz	0.48	176	⇑*i*Pg	Pg	21 59 50.7	+3.9
BGG				*e*Sg	Sg	21 59 57.9	+4.6
KLL	Kalltalsperre	0.62	267	*e*Pg	Pg	21 59 50.2	+0.7
BUG	Bochum--Univer	0.75	359	*e*Pg	Pg	21 59 53.2	+1.0
	SNR=1.7						
BUG				*e*Sg	Sg	22 00 02.7	+0.4
HGN	Heimansgroeve	0.87	276	⇑*i*Pg	Pg	21 59 54.9	+0.5
	14nm,0.2s,baz=90						
HGN				*e*Sg	Sg	22 00 07.2	+1.3
WLF	Walferdange	1.26	216	*e*Pg	Pg	22 00 03.6	+1.4
	SNR=2.6						
WLF				*e*Sg	Sg	22 00 20.2	+1.2
WTSB	Winterswijk	1.32	347	*e*Pg	Pg	22 00 02.7	-0.7
WTSB				*e*Sg	Sg	22 00 19.9	-1.1
GIVF	Givet	1.68	251	*e*Pn	Pn	22 00 07.0	+0.2
GIVF				*e*P		22 00 08.9	
GIVF				*e*Pg	Pg	22 00 10.5	-0.2
GIVF				*e*Sn	Sn	22 00 27.0	-1.6
GIVF				*e*Sg	Sg	22 00 31.7	-1.4
	16nm,0.3s						
BAIF	Baives	2.07	253	*e*Pn	Pn	22 00 12.4	+0.1
BAIF				*e*P		22 00 14.5	
BAIF				*e*Pg	Pg	22 00 17.2	-1.2
BAIF				*e*Sn	Sn	22 00 36.0	-2.4
BAIF				*e*Sg	Sg	22 00 42.7	-3.3
	10nm,0.4s						
CLZ	Clausthal	2.26	58	*e*Pg	Pg	22 00 22.3	+0.2
	SNR=2.5						
CLZ				*e*Sg	Sg	22 00 50.4	-1.7
CDF	Champ du Feu	2.28	180	*e*Pn	Pn	22 00 17.1	+1.8
CDF				*e*Pg	Pg	22 00 23.4	+0.9
CDF				*e*Sg	Sg	22 00 53.5	+0.6
	2.1nm,0.3s						
RFYF	Reffroy	2.37	210	*e*Pn	Pn	22 00 17.4	+0.7
RFYF				*e*Pg	Pg	22 00 23.7	-0.7
	baz=29						
RFYF				*e*Sg	Sg	22 00 54.7	-1.4
	5.6nm,0.3s						
MEZF	Maizieres J'vi	2.63	214	*e*Pn	Pn	22 00 20.7	+0.4
MEZF				*e*Sg	Sg	22 01 03.9	-0.6
	5.7nm,0.4s,baz=40						
HAU	Haudompre	2.75	193	*e*Pn	Pn	22 00 23.1	+1.0
HAU				*e*Sg	Sg	22 01 07.5	-1.2
	4.7nm,0.5s						
MOX	Moxa	2.75	89	*e*Sg	Sg	22 01 07.3	-1.4
HINF	Hinteralfeld	2.89	186	*e*Pn	Pn	22 00 24.8	+0.8
HINF				*e*Sg	Sg	22 01 12.0	-1.2
	3.9nm,0.4s						
LOR	Lormes	4.10	215	*e*Pn	Pn	22 00 41.2	0.0
LOR				*e*Sn	Sn	22 01 26.3	-3.6
	baz=40						
LOR				*e*Sg	Sg	22 01 48.9	-4.6
	1.5nm,0.3s						
CABF	La Chapelle	4.16	191	*e*Pn	Pn	22 00 42.5	+0.4
SSF	Saint Saulge	4.40	216	*e*Pn	Pn	22 00 45.8	+0.2
SSF				*e*Sg	Sg	22 01 58.6	-5.1
	0.4nm,0.2s						

*ATH **11** 22:22:07.6, 35.56N×21.87E, h14km±1km, MD3.8/4*
*NEIC **11** 22:22:07.6, 35.56N×21.87E, h14km, MD3.8(ATH), After ATH.*
CSEM 11 22:22:07.6, 35.56N×21.87E, h14km, MD3.8/4, After ATH, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	Kithira	1.19	52	*e*PB	Pb	22 22 30.0	+0.6
KYTH				*e*SB	Sb	22 22 46.5	+2.0
VLI	Veliai	1.44	36	*e*PB	Pb	22 22 35.0	+1.2
VLI				*e*SB	Sb	22 22 54.5	+2.7
ITM	Ithomi	1.62	2	*e*PG	Pg	22 22 37.6	-2.4
ITM				*e*SB	Sb	22 22 59.9	+3.0
VAM	Vamos	1.91	94	*e*PN	Pn	22 22 41.9	+1.8

*IDC **11** 22:45:13.9±5.4, 20.60S×178.93W, mb4.3/2, mb1 4.5/3, mb1mx4.0/12, mbtmp4.4/3, ML4.5/1, Error ellipse: s-maj=101.3km s-min=56.2km az=67.0*
NEIC 11 22:46:09.3±1.8**, 22.93S**×**179.51W, h500km, mb4.2**/2**, Error ellipse: s-maj=38.2km s-min=24.3km az=68.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	15.56	190	P	P	22 49 25.2	-0.1
	1.6nm,0.3s,baz=224,slow=2.4,SNR=6.7						
CTA	Charters Tower	31.94	269	*e*P	P	22 51 54.6	-0.1
	5.4nm,0.4s						
STKA	Stephens Creek	35.51	247	*e*P	P	22 52 23.7	-0.8
	2.1nm,0.6s						
STKA	Stephens Creek	35.51	247	P	P	22 52 23.1	-1.4
	2.4nm,0.5s,baz=95,slow=11,SNR=8.8						
STKA	Stephens Creek	35.51	247	*e*P	P	22 52 23.6	-0.9
STKA				*e*P		22 52 23.7	
WB2	Warramunga Arr	42.92	265	*e*P	P	22 53 22.9	-1.9
WRA	Warramunga Arr	42.93	265	P	P	22 53 22.7	-2.2
	1.6nm,0.3s,baz=92,slow=8.4,SNR=88						
FITZ	Fitzroy Crossi	51.36	265	*e*P	P	22 54 27.9	-1.1
	2.4nm,0.4s						
AKASG	Malin Array Be	144.39	328	PKP	PKPdf	23 04 47.8	+0.3
	0.6nm,0.4s,baz=41,slow=4.0,SNR=8.2						

CASC 11 23:04:33.0±2.8**, 9.87N**×**85.00W, MD4.0, ML3.2, 5C, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRS1	Puriscal	0.69	81	*e*P	Pg	23 04 46.3	-0.4
SJS	Escuela Geolog	0.93	86	*e*P	Pg	23 04 51.8	+0.1
SJS				*e*S	Sg	23 05 07.6	+3.5
LCR2	La Lucha 2	0.99	97	⇑*i*P	Pb	23 04 51.7	-1.1
LCR2				*e*S	Sg	23 05 07.2	+1.2
BUS	Buena Vista	1.26	104	*e*P	Pb	23 04 55.6	-1.8
BUS				*e*S	Sb	23 05 15.4	+1.3
TRTC	Tortuguero	1.45	61	⇑*e*P	Pn	23 05 00.5	0.0
CONN	Concepcion	1.79	340	*e*P	Pn	23 05 04.6	-0.8
APON	Apoyo	2.29	333	*e*P	Pn	23 05 13.3	+0.8
SVTC	San Vito de Co	2.29	118	⇑*e*P	Pn	23 05 15.0	+2.5
TICN	Ticuantepe	2.46	331	*e*P	Pn	23 05 14.7	-0.4
COPN	Copaltepe	2.77	326	⇑*e*P	Pn	23 05 19.8	+0.3
LEON	Leon	3.14	324	⇑*e*P	Pn	23 05 24.7	+0.1
LEON				*i*		23 05 26.4	
	comp=Z,100nm,0.3s						
TEL3	Telica 3	3.24	326	*e*P	Pn	23 05 26.3	+0.3

*IDC **11** 23:06:00.7±0.5, 26.94S×176.35W, mb4.9/15, mb1 5.0/19, mb1mx5.0/19, mbtmp4.9/19, ML4.3/3, MS5.7/16, Ms1 5.7/16, ms1mx5.6/19, Error ellipse: s-maj=17.5km s-min=14.2km az=148.0*
*HRVD **11** 23:06:01.7±0.1, 27.00S×175.87W, h12km, MW5.9/74, Centroid moment Tensor Solution. LP body waves: s74,c174;Mantle waves: s74,c275; Half duration: 2.1 Moment tensor: Scale 10^{17}Nm; M_{rr}5.42±.04; $M_{\theta\theta}$0.10±.04; $M_{\phi\phi}$-5.51±.04; $M_{r\theta}$1.91±.11; $M_{\theta\phi}$-1.24±.04; $M_{\phi r}$5.35±.11; Best double couple: $M_0$7.976×10^{17} NP1:ϕ_s186°,δ23°,λ79°. NP2:ϕ_s18°,δ68°,λ95°. Principal axes: T 7.828, Plg67°, Azm296°; N .301, Plg4°, Azm196°; P -8.124, Plg23°, Azm104°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **11** 23:06:01.7±0.1, 27.00S×176.32W, h10km, mb5.5/48, ME5.5, MS5.7/128, MW6.0 Error ellipse: s-maj=6.8km s-min=4.5km az=143.0 Broadband fault plane solution: P waves. NP1:ϕ_s20°,δ65°,λ90°. NP2:ϕ_s200°,δ25°,λ90°. Principal axes: T Plg70°, Azm290°; N Plg0°, Azm0°; P Plg20°, Azm110°; Moment Tensor Solution. s31 Moment tensor: Scale 10^{18} Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.1×10^{18} NP1:ϕ_s145°,δ32°,λ27°. NP2:ϕ_s31°,δ76°, λ119°. Principal axes: T 1.1, Plg50°, Azm334°; N .04, Plg28°, Azm204°; P -1.14, Plg25°, Azm99°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*BJI **11** 23:06:01.7, 27.00S×176.30W, h10km, mB6.1, mb5.4, Ms5.7, Msz5.5*
*MOS **11** 23:06:01.5±0.9, 26.87S×176.43W, h10km, mb5.7/32, MS5.7/73, Error ellipse: s-maj=11.2km s-min=8.6km az=65.4*
ISC 11 23:06:01.6±0.2**, 26.97S**±0.05×**176.36W**±0.05**, h14km,**

h14km±1.5km:pP-P,n578,σ0s95/205,mb5.4/70,MS5.7/166, 27C-13D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.66	211	Pn	Pn	23 06 46.9	+2.0
	705nm,0.3s,baz=77,slow=8.0,SNR=13						
RAO				Sn	Sn	23 07 23.1	+6.0
	886nm,0.3s,baz=84,slow=22,SNR=7.5						
RAO	Raoul Island	2.66	211	eP	Pn	23 06 46.1	+1.2
URZ	Urewera	12.53	204	Pn	P	23 09 01.9	-0.5
	2.2nm,0.3s,baz=35,slow=3.1,SNR=5.6						
URZ				Sn	S	23 11 11.7	-11
	4.0nm,0.3s,baz=189,slow=21,SNR=8.5						
URZ				ScP		23 18 02.7	
	0.4nm,0.3s,baz=47,slow=5.6,SNR=3.1						
AFI	Afiamalu	13.68	19	eP	P	23 09 09.5	-8.2
AFI				pmax	pmax		
	comp=Z,336nm,1.1s						
AFI	Afiamalu	13.68	19	Pn	P	23 09 10.2	-7.5
	comp=Z,12nm,0.3s,baz=274,slow=4.8,SNR=13						
AFI				Sn	S	23 11 35.1	-15
	comp=Z,6.2nm,0.3s,baz=47,slow=23,SNR=4.1						
AFI	Afiamalu	13.68	19	eP	P	23 09 09.5	-8.2
	comp=Z,336nm,1.1s						
RAR	Rarotonga	16.19	73	eP	P	23 09 40.0	-10
RAR				pmax	pmax		
	comp=Z,194nm,1.0s						
RAR	Rarotonga	16.19	73	eP	P	23 09 40.0	-10
	comp=Z,194nm,1.0s						
DZM	Mont Dzumac	16.39	284	eP	P	23 09 57.9	+5.0
DZM	Mont Dzumac	16.39	284	Pn	P	23 09 53.6	+0.7
	comp=Z,0.4nm,0.3s,baz=49,slow=18,SNR=2.4						
DZM				LR	LR	23 15 00.6	
	comp=Z,35µm,18.4s,baz=98,slow=33						
DZM	Mont Dzumac	16.39	284	Pn	P	23 09 53.6	+0.7
DZM				eP		23 09 57.9	
DZM				LR	LR	23 15 00.6	
NOUC	Port Laguerre	16.50	283	eP	P	23 10 00.6	+6.2
RPZ	Rata Peaks	19.57	208	P	P	23 10 28.9	-3.0
	comp=Z,1.3nm,0.3s,baz=22,slow=19,SNR=6.3						
RPZ				LR	LR	23 18 08.1	
	comp=Z,8µm,19.4s,baz=22,slow=37						
PPT	Papeete	26.44	75	P	P	23 11 40.7	+0.7
	comp=Z,23nm,0.7s,mb4.8,baz=239,slow=12,SNR=3.0						
PPT				LR	LR	23 20 26.4	
	comp=Z,9µm,18.5s,MS5.4,baz=250,slow=33						
HNR	Honiara	28.38	303	eP	P	23 11 56.3	-1.4
HNR	Honiara	28.38	303	P	P	23 11 57.8	0.0
	comp=Z,23nm,0.3s,mb5.3,baz=144,slow=8.7,SNR=3.1						
HNR				LR	LR	23 22 10.0	
	comp=Z,13µm,18.2s,MS5.6,baz=142,slow=34						
TAU	Tasmania Unive	33.46	232	PFAKE		23 12 50.0	+7.7
TAU				LR	LR		
	comp=Z,3µm,19.0s,MS5.0						
CTA	Charters Tower	34.86	273	eP	P	23 12 55.6	+1.0
	comp=Z,24nm,0.9s,mb5.1						
CTA	Charters Tower	34.86	273	eP	P	23 12 55.6	+1.0
CTA				pmax	pmax		
	comp=Z,24nm,0.9s						
CTA	Charters Tower	34.86	273	P	P	23 12 54.6	0.0
	comp=Z,13nm,0.4s,mb5.2,baz=93,slow=9.6,SNR=19						
CTA				LR	LR	23 25 59.7	
	comp=Z,28µm,18.4s,MS6.0,baz=114,slow=34						
CTAO	Charters Tower	34.86	273	eP	P	23 12 54.5	-0.1
CTAO				pmax	pmax		
	comp=Z,69nm,1.1s,mb5.5						
CTAO				MLR	MLR		
	comp=Z,27µm,19.0s,MS6.0						
CTAO	Charters Tower	34.86	273	eP	P	23 12 54.5	-0.2
	comp=Z,70nm,1.1s,mb5.5						
CTAO				LR	LR		
	comp=Z,27µm,19.0s,MS6.0						
STKA	Stephens Creek	36.78	252	eP	P	23 13 10.8	0.0
	comp=Z,8.3nm,0.9s,mb4.6						
STKA	Stephens Creek	36.78	252	P	P	23 13 09.5	-1.3
	comp=Z,15nm,1.3s,mb4.7,baz=128,slow=12,SNR=7.9						
STKA				LR	LR	23 27 46.8	
	comp=Z,19µm,18.1s,MS5.9,baz=86,slow=36						
RKT	Rikitea	37.57	93	eP	P	23 12 52.8	-25
RKT				ePP	PP	23 14 08.8	-37
	comp=Z,442nm,24.2s						
RKT				eS	S	23 18 46.4	-19
	comp=Z,2µm,25.0s						
RKT				eLQ		23 21 42.5	
	comp=Z,3µm,24.5s						
RKT				eLR	LR	23 22 35.5	
	comp=Z,14µm,32.8s,baz=261						
PMG	Port Moresby	38.62	290	i P	P	23 13 25.5	-0.9
PMG	Port Moresby	38.62	290	P	P	23 13 26.2	-0.1
	comp=Z,25nm,1.0s,mb4.9,baz=227,slow=2.1,SNR=4.3						
PMG				LR	LR	23 27 18.0	
	comp=Z,14µm,18.6s,MS5.8,baz=325,slow=33						
TAOE	Nuku Hiva Isla	38.68	69	eP	P	23 13 11.2	-16
TAOE				eS		23 18 07.7	
	comp=Z,7µm,25.2s						
TAOE				eLR	LR	23 21 59.3	
	comp=Z,24µm,28.9s						
KWAJ	Kwajalein Atol	38.81	334	PFAKE		23 13 40.0	+12
KWAJ				LR	LR		
	comp=Z,817nm,20.0s						
PTCN	Pitcairn Islan	41.44	98	PFAKE		23 14 00.0	+10
PTCN				LR	LR		
	comp=Z,18µm,19.0s,MS6.0						
WB2	Warramunga Arr	45.53	268	eP	P	23 14 20.8	-2.0
WB2				ePCS		23 19 53.4	
WB2				eS	S	23 21 04.8	+1.2
WB2				eSCS	ScS	23 24 21.6	+5.0
WRAB	Tennant Creek	45.53	268	eP	P	23 14 21.0	-1.8
WRAB				pmax	pmax		
	comp=Z,48nm,0.9s,mb5.4						
WRAB	Tennant Creek	45.53	268	eP	P	23 14 21.0	-1.9
	comp=Z,48nm,0.9s,mb5.4						
WRA	Warramunga Arr	45.54	268	P	P	23 14 21.1	-1.8
	comp=Z,16nm,1.0s,mb4.9,baz=108,slow=6.0,SNR=33						
WRA				PcP	PcP	23 16 01.7	-0.4
	comp=Z,4.8nm,1.0s,baz=107,slow=4.0,SNR=3.3						
WRA				PP	PP	23 16 08.3	-1.9
	comp=Z,7.8nm,1.0s,baz=104,slow=3.5,SNR=3.1						
DRV	Dumont d'Urvil	47.85	202	P	P	23 14 41.0	+0.5
DRV				S	S	23 21 39.0	+3.0
DRV				SS	SS	23 24 45.0	-14
WAKE	Wake Island	48.84	338	PFAKE		23 15 00.0	+11
WAKE				LR	LR		
	comp=Z,5µm,19.0s,MS5.5						
KAKA	Kakadu	49.89	276	eP	P	23 14 54.9	-2.0
	comp=Z,5.9nm,0.4s,mb5.0						
POHA	Pohakuloa	50.65	26	PFAKE		23 15 10.0	+7.4
POHA				LR	LR		
	comp=Z,33µm,20.0s,MS6.3						
SBA	Scott Base	51.56	185	eP	P	23 15 10.4	+1.6
SBA				pmax	pmax		
	comp=Z,553nm,2.2s,mb6.1						
SBA				MLR	MLR		
	comp=Z,6µm,20.0s,MS5.6						
SBA	Scott Base	51.56	185	eP	P	23 15 10.4	+1.6
	comp=Z,553nm,2.2s,mb6.1						
SBA				LR	LR		
	comp=Z,6µm,20.0s,MS5.6						
VNDA	Vanda	51.64	186	eP	P	23 15 09.8	+0.3
VNDA				pmax	pmax		
	comp=Z,98nm,1.9s						
VNDA				MLR	MLR		
	comp=Z,5µm,20.0s						
VNDA	Vanda	51.64	186	P	P	23 15 09.6	+0.1
	comp=Z,7.0nm,1.1s,mb4.5,baz=6.5,slow=7.1,SNR=17						
VNDA				LR	LR	23 33 51.3	
	comp=Z,5µm,18.5s,MS5.6,baz=12,slow=32						
VNDA	Vanda	51.64	186	eP	P	23 15 09.8	+0.3
	comp=Z,98nm,1.9s,mb5.4						
VNDA				LR	LR		
	comp=Z,5µm,20.0s,MS5.5						
FITZ	Fitzroy Crossi	53.91	267	eP	P	23 15 26.8	-0.2
	comp=Z,30nm,1.5s,mb5.0						
FITZ	Fitzroy Crossi	53.91	267	LR	LR	23 38 29.9	
	comp=Z,10µm,18.3s,MS5.9,baz=101,slow=36						
MIDW	Midway	54.88	359	PFAKE		23 15 40.0	+5.9
MIDW				LR	LR		
	comp=Z,5µm,19.0s,MS5.6						
NWAO	Narrogin (SRO)	57.01	247	P	P	23 15 48.2	-1.2
NWAO	Narrogin (SRO)	57.01	247	LR	LR	23 39 53.3	
	comp=Z,8µm,18.2s,MS5.9,baz=105,slow=36						
NWAO	Narrogin (SRO)	57.01	247	P	P	23 15 47.1	-2.3
NWAO				LR	LR		
	comp=Z,7µm,19.0s,MS5.8						
MBWA	Marble Bar	58.12	261	eP	P	23 15 55.0	-2.2
	comp=Z,29nm,1.3s,mb5.1						
MBWA				LR	LR		
	comp=Z,13µm,19.0s,MS6.1						
CASY	Casey	58.84	207	eP	P	23 16 00.5	-1.2
RPN	Rapa Nui	59.00	107	LR	LR	23 37 05.7	
	comp=Z,4µm,18.6s,MS5.6,baz=286,slow=32						
RPN	Rapa Nui	59.00	107	PFAKE		23 16 10.0	+6.6
RPN				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
QSPA	South Pole Qui	63.13	180	⇓iP	P	23 16 30.9	+0.2
	comp=Z,73nm,1.0s,mb5.8						
MIR	Mirnyy	65.83	206	d iP	P	23 16 48.0	-0.3
MIR				i		23 17 14.0	
MIR				eS	S	23 25 36.0	+3.0
MIR				eS	S	23 25 36.0	+3.0
MIR				ePS		23 26 46.0	
MIR				pmax	pmax		
	comp=Z,306nm,2.0s,mb6.0						
MIR				pmax	pmax		
	comp=E,1µm,7.0s						
MIR				pmax	pmax		
	comp=Z,2µm,7.0s						
MIR				smax			
	comp=E,1µm,9.0s						
MIR				smax			
	comp=N,2µm,14.0s						
MIR				MLR	MLR		
	comp=N,1µm,18.0s,MS5.4						
MIR				MLR	MLR		
	comp=E,2µm,18.0s,MS5.4						
MIR				MLR	MLR		
	comp=Z,4µm,18.0s,MS5.7						
PMSA	Palmer Station	74.79	156	PFAKE		23 17 50.0	+7.3
PMSA				LR	LR		
	comp=Z,4µm,19.0s,MS5.7						
KSM	Kuching	75.86	279	eP	P	23 17 49.0	-0.8
MAW	Mawson	76.02	200	eP	P	23 17 50.4	+0.8
	comp=Z,20nm,1.5s,mb4.8						
MAW	Mawson	76.02	200	eP	P	23 17 50.4	+0.8
MAW				pmax	pmax		
	comp=Z,20nm,1.5s						
MAW	Mawson	76.02	200	P	P	23 17 49.8	+0.2
	comp=Z,30nm,1.2s,mb5.1,baz=112,slow=8.0,SNR=14						
MAW				LR	LR	23 51 48.4	
	comp=Z,9µm,18.1s,MS6.1,baz=117,slow=36						
MJAR	Matsushiro Arr	76.29	324	P	P	23 17 50.9	-0.9
	comp=Z,32nm,1.1s,mb5.2,baz=168,slow=6.2,SNR=27						
MJAR				LR	LR	23 51 03.4	
	comp=Z,2µm,18.7s,MS5.4,baz=140,slow=35						
MJAR	Matsushiro Arr	76.29	324	P	P	23 17 50.9	-0.9
MJAR				LR	LR	23 51 03.4	
MAJO	Matsushiro	76.29	324	eP	P	23 17 51.5	-0.3
MAJO				pmax	pmax		
	comp=Z,88nm,1.3s,mb5.5						
MAJO				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.5						
MAJO	Matsushiro	76.29	324	eP	P	23 17 51.5	-0.3
	comp=Z,88nm,1.3s,mb5.5						
MAJO				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
MAT	Matsushiro	76.29	324	eP	P	23 17 51.0	-0.8
MAT				eS	S	23 27 37.0	+2.4
MAT				pmax	pmax		
	comp=Z,69nm,1.2s,mb5.5						
MAT				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.5						
MAT	Matsushiro	76.29	324	eP	P	23 17 51.0	-0.8
	comp=Z,69nm,1.2s,mb5.5						
MAT				eS	S	23 27 37.0	+2.4
MAT				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
MAT	Matsushiro	76.29	324	P	P	23 17 50.6	-1.2
MAT				S	S	23 27 36.0	+1.4
USHA	Ushuaia	77.94	146	LR	LR	23 44 08.7	
	comp=Z,3µm,20.4s,MS5.6,baz=229,slow=29						
NACB	Ninganchiao	78.56	305	eP	P	23 18 04.9	+0.3
YHNB	Yeheng	79.01	305	eP	P	23 18 07.4	+0.3
TATO	Taipei	79.11	305	PFAKE		23 18 20.0	+12
TATO				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
FX1	Attu Island--F	80.03	354	P	P	23 18 10.9	-1.1
SYO	Syowa Base	80.77	192	⇓P	P	23 18 13.5	-2.1
SYO	Syowa Base	80.77	192	⇑PcP	PcP	23 18 20.2	-2.5
SKR	Severo-Kuril's	81.06	343	eP	P	23 18 12.0	-5.4
SKR				ePPP	PPP	23 23 14.0	-1.8
SKR				eS	S	23 28 28.0	+3.0
SKR				ePS	PS	23 29 14.0	-0.4
SKR				eSS	SS	23 33 37.6	-5.3
SKR				pmax	pmax		
	comp=Z,3µm,12.0s						
SKR				smax			
	comp=N,6µm,12.0s						
SKR				smax			
	comp=E,5µm,12.0s						
SKR				MLR	MLR		
	comp=N,3µm,18.0s,MS5.8						
SKR				MLR	MLR		
	comp=E,3µm,18.0s,MS5.8						
SKR				MLR	MLR		
	comp=Z,4µm,18.0s,MS5.8						
QZH	Quanzhou	81.22	304	⇑iP	P	23 18 19.0	+0.2
QZH				AMB	AMB		
	comp=Z,520nm,2.0s,mb6.1						
QZH				AMB	AMB		
	comp=Z,3µm,8.5s						
QZH				LR	LR		
	comp=N,3µm,19.9s,MS5.8						
QZH				LR	LR		
	comp=E,4µm,19.6s,MS5.8						
QZH				LR	LR		
	comp=Z,4µm,19.4s,MS5.8						
AKUT	Akutan	81.28	6	eP	P	23 18 17.0	-1.5
AKUT				LR	LR		
	comp=Z,2µm,18.0s,MS5.5						
SNAA	Sanae	81.53	178		P	23 18 22.1	+2.6
SNAA	Sanae	81.53	178		P	23 18 23.2	+3.7
SNAA	Sanae	81.53	178		P	23 18 25.0	+5.5
SNAA	Sanae	81.53	178	⇑iP	P	23 18 18.6	-0.9
SNAA					pP	23 18 22.1	-1.8
SNAA					pP	23 18 23.2	-0.7
VNA3	Neumayer Olymp	81.61	176		P	23 18 22.4	+2.4
VNA3	Neumayer Olymp	81.61	176		P	23 18 23.3	+3.3
VNA3	Neumayer Olymp	81.61	176		P	23 18 24.6	+4.6
VNA3	Neumayer Olymp	81.61	176	⇑iP	P	23 18 19.4	-0.6
VNA3				P	pP	23 18 22.4	-1.9
VNA3				P	pP	23 18 23.3	-1.0
VNA3				P	pP	23 18 24.6	+0.3
SAO	San Andreas Ge	81.77	42	P	P	23 18 21.1	-0.3
SAO				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.2						
SAO				MLR	MLR		
	comp=Z,5µm,20.0s,MS5.9						
SAO	San Andreas Ge	81.77	42	P	P	23 18 21.1	-0.3
	comp=Z,46nm,1.3s,mb5.2						
SAO				LR	LR		
	comp=Z,5µm,20.0s,MS5.9						
VNA2	Neumayer--Watz	82.07	176		P	23 18 25.4	+3.1
VNA2	Neumayer--Watz	82.07	176		P	23 18 26.8	+4.5
VNA2	Neumayer--Watz	82.07	176		P	23 18 27.5	+5.2
VNA2	Neumayer--Watz	82.07	176	⇑iP	P	23 18 22.0	-0.3
VNA2				P	pP	23 18 25.4	-1.3
VNA2				P	pP	23 18 26.8	+0.1
MWC	Mount Wilson	82.18	45	eP	P	23 18 24.4	+0.8
VNA1	Neumayer--Stat	82.29	176		P	23 18 26.0	+2.5
VNA1	Neumayer--Stat	82.29	176		P	23 18 27.9	+4.4
VNA1	Neumayer--Stat	82.29	176		P	23 18 28.9	+5.4
VNA1	Neumayer--Stat	82.29	176	⇑iP	P	23 18 23.5	0.0
VNA1				P	pP	23 18 26.0	-1.8
VNA1				P	pP	23 18 27.9	+0.1
VNA1				P	pP	23 18 28.9	+1.1
YSS	Yuzh-Sakhalins	82.32	333	⇑iP	P	23 18 25.0	+0.9
YSS				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.3						
HOPS	Hopland	82.35	39	PFAKE		23 18 40.0	+16
HOPS				LR	LR		
	comp=Z,7µm,19.0s,MS6.0						
NVL	N'lazarevskaya	82.37	183	⇓iP	P	23 18 14.4	-9.5
NVL				i		23 18 22.2	
NVL				i S	S	23 28 31.8	-6.3
NVL				i S	S	23 28 33.6	-4.5
NVL				i		23 28 45.3	
NVL				MLR	MLR		
	comp=Z,250nm,17.5s,MS4.6						
PET	Petropavlovsk	82.58	345	c iP	P	23 18 24.2	-1.1
PET				e	pP	23 18 29.8	+0.2
PET				i S	S	23 28 41.9	+1.4
PET				ePS	PS	23 29 34.5	+1.3
PET				eSS	SS	23 34 04.2	-1.5
PET				eSSS	SSS	23 37 33.5	+3.7
PET				pmax	pmax		
	comp=Z,27nm,1.9s,mb5.0						
PET				pmax	pmax		
	comp=Z,1µm,7.4s						
PET				pmax	pmax		
	comp=Z,1µm,11.8s						
PET				pmax	pmax		
	comp=Z,27nm,1.7s,mb5.0						
PET				smax			
	comp=N,1µm,16.4s						
PET				smax			
	comp=E,2µm,10.2s						
PET				smax			
	comp=E,3µm,16.1s						
PET				smax			
	comp=N,2µm,14.4s						
PET				MLR	MLR		
	comp=Z,2µm,17.0s,MS5.6						
PET				MLR	MLR		
	comp=Z,2µm,16.0s						
PET	Petropavlovsk	82.58	345	⇑iP	P	23 18 24.7	-0.6
PET				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
KS15	Wonju Array Si	82.72	318	eP	P	23 18 28.1	+1.7
SSE	Sheshan	82.98	310	P	P	23 18 28.1	+0.2
SSE				AP	pP	23 18 31.4	-0.8
SSE				S	S	23 28 52.1	+7.0
SSE				AMB	AMB		
	comp=Z,27nm,0.9s,mb5.3						
SSE				AMB	AMB		
	comp=Z,1µm,9.9s						
SSE				LR	LR		
	comp=N,847nm,26.0s,MS5.2						
SSE				LR	LR		
	comp=E,926nm,26.0s,MS5.2						
SSE				LR	LR		
	comp=Z,2µm,25.1s,MS5.4						
SSE	Sheshan	82.98	310	P	P	23 18 28.1	+0.2
	comp=Z,27nm,0.9s,mb5.3						
SSE				pP	pP	23 18 31.4	-0.8
SSE				sP	sP	23 18 32.7	-0.9
SSE				PP	PP	23 21 37.8	-2.8
SSE				S	S	23 28 46.9	+1.8
SSE				S	S	23 28 52.1	+7.0
SSE				SS	SS	23 34 10.8	-1.4
SSE				LR	LR		
	comp=Z,2µm,25.1s,MS5.4						
SDPT	Sand Point	83.11	9	eP	P	23 18 28.2	+0.2
SDPT				LR	LR		
	comp=Z,2µm,18.0s,MS5.6						
CMB	Columbia Colle	83.25	41	eP	P	23 18 29.0	-0.1
CMB				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
CMB				MLR	MLR		
	comp=Z,5µm,20.0s,MS5.9						
CMB	Columbia Colle	83.25	41	eP	P	23 18 29.0	-0.1
	comp=Z,37nm,1.3s,mb5.2						
CMB				LR	LR		
	comp=Z,5µm,20.0s,MS5.9						
KHMM	Horse Mountain	83.29	37	eP	P	23 18 29.7	+0.5
INCN	Inchon	83.50	318	PFAKE		23 18 40.0	+10
INCN				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
WDC	Whiskeytown Da	83.74	38	eP	P	23 18 31.4	-0.2
WDC				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.5						
WDC				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.6						
WDC	Whiskeytown Da	83.74	38	eP	P	23 18 31.4	-0.1
	comp=Z,46nm,1.3s,mb5.5						
WDC				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
DAC	Darwin (Calif)	83.78	44	eP	P	23 18 31.7	-0.2
DAC				pmax	pmax		
	comp=Z,90nm,2.0s,mb5.5						
DAC				MLR	MLR		
	comp=Z,6µm,19.0s,MS6.0						
DAC	Darwin (Calif)	83.78	44	eP	P	23 18 31.7	-0.2
	comp=Z,90nm,2.0s,mb5.5						
DAC				LR	LR		
	comp=Z,6µm,19.0s,MS6.0						
OMM	Old Mammoth Mi	83.80	42	eP	P	23 18 31.7	-0.3
MTUM	Tungsten Hills	83.88	43	eP	P	23 18 32.9	+0.5
GZH	Guangzhou	84.19	299	P	P	23 18 34.5	+0.3
GZH				S	S	23 29 04.4	+7.0
GZH				AMB	AMB		
	comp=Z,55nm,1.9s,mb5.4						
GZH				LR	LR		
	comp=N,917nm,18.1s,MS5.4						
GZH				LR	LR		
	comp=E,974nm,16.9s,MS5.4						
GZH				LR	LR		
	comp=Z,1µm,17.1s,MS5.3						
YBH	Yreka Blue Hor	84.44	37	eP	P	23 18 35.6	+0.5
YBH				pmax	pmax		
	comp=Z,31nm,1.2s						
YBH				MLR	MLR		
	comp=Z,1µm,21.0s						
YBH	Yreka Blue Hor	84.44	37	P	P	23 18 35.5	+0.4
	comp=Z,7.8nm,1.0s,mb4.8,baz=168,slow=2.9,SNR=11						
YBH	Yreka Blue Hor	84.44	37	eP	P	23 18 35.6	+0.6
	comp=Z,31nm,1.2s,mb5.3						
YBH				LR	LR		
	comp=Z,1µm,21.0s,MS5.3						
WCN	Washoe City	84.45	41	eP	P	23 18 35.4	+0.2
WCN				pmax	pmax		
	comp=Z,80nm,1.6s,mb5.6						
WCN	Washoe City	84.45	41	eP	P	23 18 35.4	+0.2
	comp=Z,80nm,1.6s,mb5.6						
BEKR	Beckwourth	84.48	40	eP	P	23 18 35.4	0.0
	comp=Z,82nm,1.9s,mb5.5						
LDFC	Landfair	84.60	46	eP	P	23 18 36.7	+0.7
QIZ	Qiongzhong	84.87	294	P	P	23 18 38.1	+0.4
QIZ				AMB	AMB		
	comp=Z,22nm,1.9s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,1µm,10.5s						
QIZ				LR	LR		
	comp=E,972nm,16.8s						
QIZ				LR	LR		
	comp=Z,1µm,18.4s,MS5.2						
QIZ	Qiongzhong	84.87	294	PFAKE		23 18 50.0	+12
QIZ				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
HUMO	Hull Mountain	84.92	37	eP	P	23 18 38.0	+0.6
	comp=Z,41nm,1.3s,mb5.4						
HUMO				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
NEN	Nelson	85.13	46	eP	P	23 18 38.8	+0.2
NJ2	Nanjing	85.15	310	eP	P	23 18 40.5	+1.7
NJ2				AP	pP	23 18 45.9	+2.7
NJ2				XP	sP	23 18 47.5	+2.9
NJ2				AMB	AMB		
	comp=Z,290nm,1.0s,mb6.4						
NJ2				AMB	AMB		
	comp=Z,2µm,9.3s						
NJ2				LR	LR		
	comp=N,4µm,21.7s,MS6.1						
NJ2				LR	LR		
	comp=E,7µm,21.1s,MS6.1						
NJ2				LR	LR		
	comp=Z,2µm,23.1s,MS5.3						
TPH	Tonopah	85.16	43	eP	P	23 18 39.2	+0.5
TPH				pmax	pmax		
	comp=Z,47nm,1.3s,mb5.5						
TPH				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.8						
TPH	Tonopah	85.16	43	eP	P	23 18 39.2	+0.5
	comp=Z,47nm,1.3s,mb5.5						
TPH				LR	LR		
	comp=Z,3µm,19.0s,MS5.8						
TUC	Tucson	85.84	51	P	P	23 18 42.2	0.0
TUC				pSKSac		23 29 11.3	
TUC	Tucson	85.84	51	PFAKE		23 18 50.0	+7.7
TUC				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
MOD	Modoc	85.88	38	eP	P	23 18 42.2	0.0
	comp=Z,24nm,1.1s,mb5.3						
MOD				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
COR	Corvallis	86.11	35	PFAKE		23 18 50.0	+6.7
COR				LR	LR		

comp=Z,4µm,19.0s,MS5.8
PAYG Puerto Ayora 86.19 89 PFAKE 23 18 50.0 +5.6
PAYG LR LR
comp=Z,3µm,19.0s,MS5.7
TRCR Troy Canyon 86.33 43 *eP* **P 23 18 44.5 -0.1**
MDJ Mudanjiang 86.65 325 P **P 23 18 46.8 +0.9**
MDJ AP pP 23 18 50.0 -0.3
MDJ PP PP 23 22 16.4 +6.1
MDJ SKS SKS 23 29 12.1 -3.0
MDJ S S 23 29 24.7 +3.9
MDJ AMB AMB
comp=Z,21nm,1.8s,mb5.1
MDJ AMB AMB
comp=Z,2µm,7.6s
MDJ LR LR
comp=N,967nm,25.8s,MS5.3
MDJ LR LR
comp=E,999nm,22.9s,MS5.3
MDJ LR LR
comp=Z,2µm,20.0s,MS5.5
MDJ Mudanjiang 86.65 325 *eP* **P 23 18 46.5 +0.6**
comp=Z,62nm,1.4s,mb5.6
MDJ LR LR
comp=Z,2µm,22.0s,MS5.5
BMN Battle Mountai 86.67 41 *eP* **P 23 18 45.4 -0.8**
BMN pmax pmax
comp=Z,32nm,1.4s,mb5.4
BMN MLR MLR
comp=Z,4µm,20.0s,MS5.9
BMN Battle Mountai 86.67 41 *eP* **P 23 18 45.4 -0.8**
comp=Z,32nm,1.4s,mb5.3
BMN LR LR
comp=Z,4µm,20.0s,MS5.9
WVOR Wild Horse Val 87.16 39 *eP* **P 23 18 48.1 -0.4**
WVOR pmax pmax
comp=Z,221nm,2.5s,mb6.0
WVOR MLR MLR
comp=Z,6µm,19.0s,MS6.0
WVOR Wild Horse Val 87.16 39 *eP* **P 23 18 48.1 -0.3**
comp=Z,221nm,2.5s,mb6.0
WVOR LR LR
comp=Z,6µm,19.0s,MS6.0
ARUT Antelope Range 87.32 45 *eP* **P 23 18 49.9 +0.5**
DL2 Dalian 87.44 316 ⇑P **P 23 18 50.7 +0.8**
DL2 SKS SKS 23 29 19.2 -1.2
DL2 S S 23 29 35.6 +7.1
DL2 PS PS 23 30 44.6 +11
DL2 AMB AMB
comp=Z,30nm,1.3s,mb5.4
DL2 AMB AMB
comp=Z,760nm,6.3s
DL2 LR LR
comp=N,460nm,15.7s,MS5.3
DL2 LR LR
comp=E,700nm,15.3s,MS5.3
DL2 LR LR
comp=Z,1µm,17.2s,MS5.3
WHN Wuhan 87.47 306 ⇓P **P 23 18 52.2 +1.9**
WHN LR LR
comp=N,3µm,18.0s,MS5.8
WHN LR LR
comp=E,2µm,17.2s,MS5.8
WHN LR LR
comp=Z,8µm,28.7s
OCWA Octopus Mounta 87.91 32 PFAKE 23 19 00.0 +8.1
OCWA LR LR
comp=Z,3µm,20.0s,MS5.8
ELK Elko 88.04 42 *eP* **P 23 18 52.7 0.0**
ELK pmax pmax
comp=Z,74nm,2.2s
ELK MLR MLR
comp=Z,6µm,19.0s
ELK Elko 88.04 42 *eP* **P 23 18 52.7 0.0**
comp=Z,74nm,2.2s,mb5.5
ELK LR LR
comp=Z,6µm,19.0s,MS6.0
SNY Shenyang 88.10 320 ⇑P **P 23 18 53.4 +0.4**
SNY AMB AMB
comp=Z,40nm,2.4s,mb5.2
SNY AMB AMB
comp=Z,1µm,14.3s
SNY LR LR
comp=N,980nm,16.5s,MS5.4
SNY LR LR
comp=E,660nm,16.2s,MS5.4
SNY LR LR
comp=Z,1µm,16.7s,MS5.3
CN2 Changchun 88.31 322 *eP* **P 23 18 54.5 +0.5**
CN2 *eXP* sP 23 19 01.0 +1.3
CN2 *eS* S 23 29 38.0 +1.5
CN2 AMB AMB
comp=Z,40nm,1.6s,mb5.4
CN2 AMB AMB
comp=Z,2µm,7.0s
CN2 LR LR
comp=N,1µm,18.0s,MS5.6
CN2 LR LR
comp=E,1µm,18.0s,MS5.6
CN2 LR LR
comp=Z,2µm,21.0s,MS5.5
MVU Marysvale 88.53 45 *eP* **P 23 18 55.6 +0.5**
comp=Z,12nm,1.2s,mb5.1
MVU LR LR
comp=Z,4µm,19.0s,MS5.9
MSU Marysvale 88.55 45 *eP* **P 23 18 55.9 +0.6**
TIA Tai'an 88.72 312 *eP* **P 23 18 56.3 +0.2**
TIA AMB AMB
comp=Z,139nm,1.7s,mb6.0
KLR Kul'dur 88.83 329 *eP* **P 23 18 53.5 -2.8**
KLR *eS* 23 29 21.5
KLR pmax pmax
comp=E,500nm,9.0s
KLR pmax pmax
comp=Z,2µm,9.0s
KLR smax
comp=N,5µm,12.0s
KLR smax
comp=E,2µm,12.0s
KLR MLR MLR
comp=N,900nm,17.0s
KLR MLR MLR
comp=Z,1µm,17.0s,MS5.3
PGC Sidney 88.89 32 *eP* **P 23 18 57.0 +0.3**
comp=Z,89nm,1.1s,mb6.0
RSO Redoubt South 89.23 11 P **P 23 18 58.1 +0.1**
MNTX Cornudas Mount 89.31 54 *eP* **P 23 18 58.4 -0.6**
comp=Z,323nm,2.7s,mb6.2
MNTX LR LR
comp=Z,2µm,20.0s,MS5.6
LTX Lajitas 89.31 56 *eP* **P 23 18 59.0 -0.1**
LTX pmax pmax
comp=Z,134nm,2.0s,mb5.9
LTX MLR MLR
comp=Z,3µm,20.0s,MS5.6
LTX Lajitas 89.31 56 *eP* **P 23 18 59.0 -0.1**
comp=Z,134nm,2.0s,mb5.9
LTX LR LR
comp=Z,3µm,20.0s,MS5.6
BMO Blue Mountains 89.46 38 *eP* **P 23 18 58.8 -0.6**
BMO pmax pmax
comp=Z,30nm,1.6s,mb5.4
BMO MLR MLR
comp=Z,2µm,19.0s,MS5.5
BMO Blue Mountains 89.46 38 *eP* **P 23 18 58.8 -0.7**
comp=Z,30nm,1.6s,mb5.4
BMO LR LR
comp=Z,2µm,19.0s,MS5.5
NLU North Lily Min 89.47 44 *eP* **P 23 18 59.8 +0.2**
TMUT Trail Mountain 89.63 45 *eP* **P 23 19 00.4 0.0**
SLKM Skilak Lake 89.74 13 *eP* **P 23 19 00.8 +0.5**
SRU San Rafael 89.95 45 *eP* **P 23 19 01.7 -0.2**
SPU Mount Spurr 90.03 12 *eP* **P 23 19 00.6 -1.0**
CRAG Craig 90.03 23 *eP* **P 23 19 03.5 +1.7**
CRAG LR LR
comp=Z,2µm,18.0s,MS5.6
SPUT South Promonto 90.05 43 *eP* **P 23 19 01.6 -0.7**
CFAA Coronel Fontan 90.09 126 P **P 23 19 01.5 -1.2**
comp=Z,0.1nm,0.4s,baz=215,slow=8.2,SNR=4.4
CTU Camp Tracy 90.11 43 *eP* **P 23 19 02.5 -0.1**
HVU Hansel Valley 90.14 42 *eP* **P 23 19 01.9 -0.8**
JLU Jordanelle 90.24 44 *eP* **P 23 19 03.3 +0.1**
DAU Daniels Canyon 90.25 44 *eP* **P 23 19 03.8 +0.6**
HLID Hailey 90.26 40 *eP* **P 23 19 02.8 -0.4**
comp=Z,11nm,1.1s,mb5.1
HLID LR LR
comp=Z,3µm,19.0s,MS5.8

ANMO Albuquerque 90.30 50 *eP* **P 23 19 03.4 -0.2**
ANMO pmax pmax
comp=Z,29nm,1.4s
ANMO MLR MLR
comp=Z,4µm,20.0s
ANMO Albuquerque 90.30 50 P **P 23 19 03.6 +0.1**
comp=Z,8.4nm,1.1s,mb5.0,baz=228,slow=4.9,SNR=20
ANMO Albuquerque 90.30 50 *eP* **P 23 19 03.4 -0.2**
comp=Z,29nm,1.4s,mb5.4
ANMO LR LR
comp=Z,4µm,20.0s,MS5.8
GDL2 Guadalupe Moun 90.30 54 *eP* **P 23 19 03.3 -0.3**
MA2 Magadan 90.39 344 *eP* **P 23 19 00.9 -2.5**
MA2 *e* 23 29 27.7
MA2 *eS* S 23 29 52.5 -2.7
MA2 pmax pmax
comp=Z,30nm,1.5s,mb5.4
MA2 MLR MLR
comp=Z,2µm,24.0s,MS5.5
MA2 Magadan 90.39 344 PFAKE 23 19 10.0 +6.6
MA2 LR LR
comp=Z,2µm,20.0s,MS5.5
SIT Sitka 90.57 21 PFAKE 23 19 10.0 +5.7
SIT LR LR
comp=Z,2µm,19.0s,MS5.6
TCUT Toone Canyon 90.57 43 *eP* **P 23 19 05.2 +0.6**
CLNB Carlsbad 90.69 54 *eP* **P 23 19 05.1 -0.3**
HWUT Hardware Ranch 90.76 43 *eP* **P 23 19 04.4 -1.1**
comp=Z,14nm,1.3s,mb5.1
HWUT LR LR
comp=Z,5µm,19.0s,MS6.0
TRQA Tornquist 90.80 134 PFAKE 23 19 20.0 +14
TRQA LR LR
comp=Z,4µm,20.0s,MS5.8
ENH Enshi 90.88 304 *eP* **P 23 19 07.3 +0.9**
comp=Z,358nm,1.5s
ENH LR LR
comp=Z,1µm,20.0s
PMR Palmer 90.95 13 *eP* **P 23 19 05.8 -0.1**
PMR MLR MLR
comp=Z,3µm,17.0s,MS5.8
GYA Guiyang 91.12 299 ⇓*i* P **P 23 19 09.2 +1.6**
GYA AP pP 23 19 16.8 +4.9
GYA XP sP 23 19 20.6 +7.3
GYA AMB AMB
comp=Z,80nm,1.4s,mb5.9
GYA AMB AMB
comp=Z,1µm,7.2s
GYA LR LR
comp=N,780nm,19.7s,MS5.3
GYA LR LR
comp=E,710nm,18.6s,MS5.3
GYA LR LR
comp=Z,950nm,18.8s,MS5.3
AHID Auburn Hatcher 91.72 42 *eP* **P 23 19 10.2 +0.2**
comp=Z,41nm,1.3s,mb5.6
AHID LR LR
comp=Z,4µm,19.0s,MS5.8
NEW Newport 91.75 35 PFAKE 23 19 20.0 +10
NEW LR LR
comp=Z,4µm,19.0s,MS5.9
MCMT McKenzie Canyo 91.93 40 *eP* **P 23 19 11.3 +0.5**
SDCO Great Sand Dun 92.46 49 *eP* **P 23 19 13.4 -0.1**
comp=Z,74nm,0.6s,mb6.2
SDCO LR LR
comp=Z,4µm,19.0s,MS5.9
MSO Missoula 92.53 38 *eP* **P 23 19 12.8 -0.7**
comp=Z,5.9nm,1.1s,mb4.9
MSO LR LR
comp=Z,1µm,19.0s,MS5.4
BW06 Boulder Array 92.65 43 *eP* **P 23 19 13.1 -1.1**
comp=Z,14nm,1.4s,mb5.2
BW06 LR LR
comp=Z,4µm,19.0s,MS5.9
PDAR Pinedale Array 92.65 43 P **P 23 19 13.7 -0.5**
comp=Z,4.1nm,1.2s,mb4.8,baz=225,slow=4.2,SNR=11
PDAR PP PP 23 22 56.5 -2.3
comp=Z,1.6nm,1.2s,baz=207,slow=2.0,SNR=3.7
PDAR LR LR 23 55 09.4
comp=Z,3µm,18.9s,MS5.8,baz=248,slow=32
TIY Taiyuan 92.68 311 ⇑P **P 23 19 14.0 -0.4**
TIY LR LR
comp=N,1µm,18.0s
YMR Madison River 92.92 41 *eP* **P 23 19 16.1 +0.8**
SEY Seymchan 92.99 346 *eP* **P 23 19 15.0 -0.2**
SEY *eS* S 23 30 18.1 +0.1
SEY pmax pmax
comp=Z,30nm,1.3s,mb5.6
SEY pmax pmax
comp=N,10.0nm,1.2s
SEY smax
comp=N,3µm,12.9s
SEY smax
comp=E,3µm,15.0s
SEY MLR MLR
comp=N,4µm,20.0s,MS5.9
SEY MLR MLR
comp=Z,8µm,20.0s,MS6.1
SEY MLR MLR
comp=E,1µm,21.0s,MS5.9
SEY Seymchan 92.99 346 *i* P **P 23 19 15.4 +0.2**
BOZ Bozeman (W) 93.11 39 *eP* **P 23 19 15.7 -0.5**
BOZ pmax pmax
comp=Z,32nm,1.3s,mb5.6
BOZ MLR MLR
comp=Z,4µm,19.0s,MS5.8
BOZ Bozeman (W) 93.11 39 *eP* **P 23 19 15.7 -0.5**
comp=Z,32nm,1.3s,mb5.6
BOZ LR LR
comp=Z,4µm,19.0s,MS5.8
LKWY Lake 93.18 41 PFAKE 23 19 30.0 +13
LKWY LR LR
comp=Z,7µm,19.0s,MS6.1
XAN Xi'an 93.21 307 P **P 23 19 18.2 +1.2**
XAN SKS SKS 23 29 51.5 -3.4
XAN AMB AMB
comp=Z,849nm,10.8s
XAN LR LR
comp=N,711nm,18.9s,MS5.4
XAN LR LR
comp=E,954nm,18.9s,MS5.4
XAN LR LR
comp=Z,2µm,21.3s,MS5.6
DLBC Dease Lake 93.41 22 *eP* **P 23 19 17.5 +0.3**
ISCO Idaho Springs 93.49 47 PFAKE 23 19 30.0 +12
ISCO LR LR
comp=Z,5µm,19.0s,MS6.0
KMI Kunming 93.58 296 P **P 23 19 20.2 +1.3**
KMI AP pP 23 19 24.1 +0.8
KMI XP sP 23 19 25.5 +0.8
KMI PP PP 23 23 07.3 +0.7
KMI PPP PPP 23 25 10.3 +1.1
KMI SKS SKS 23 29 53.0 -4.1
KMI S S 23 30 25.7 +1.6
KMI AMB AMB
comp=Z,37nm,1.4s,mb5.6
KMI AMB AMB
comp=Z,746nm,7.1s
KMI LR LR
comp=N,492nm,18.8s,MS5.3
KMI LR LR
comp=E,869nm,20.6s,MS5.3
KMI LR LR
comp=Z,1µm,22.4s,MS5.3
KMI Kunming 93.58 296 P **P 23 19 20.2 +1.3**
comp=Z,37nm,1.4s,mb5.6
KMI pP pP 23 19 24.1 +0.8
KMI sP sP 23 19 25.5 +0.8
KMI PP PP 23 23 07.3 +0.7
KMI PPP PPP 23 25 10.3 +1.1
KMI SKS SKS 23 29 53.0 -4.1
KMI S S 23 30 25.7 +1.6
KMI sS 23 30 32.0
KMI PS PS 23 31 45.0 +0.2
KMI SS SS 23 36 46.9 +1.0
KMI SSS SSS 23 40 26.9 +0.9
KMI LR LR
comp=Z,1µm,22.4s,MS5.3
AMTX Amarillo 93.61 53 *eP* **P 23 19 16.8 -2.0**
comp=Z,6.8nm,1.0s,mb5.0
AMTX LR LR
comp=Z,4µm,20.0s,MS5.9
HRY Holter Researc 93.62 38 *eP* **P 23 19 17.8 -0.8**
CMAR Chiang Mai Arr 93.65 289 *i* P **P 23 19 21.6 +2.3**
CMAR pmax pmax
comp=Z,7.0nm,1.0s

CMAR Chiang Mai Arr 93.65 289 P **P 23 19 20.6 +1.3**
comp=Z,6.5nm,1.0s,mb5.0,baz=135,slow=3.3,SNR=33
WALA Waterton Lakes 93.91 36 *eP* **P 23 19 19.5 -0.3**
comp=Z,51nm,1.9s,mb5.6
ILAR Eielson Array 94.27 12 P **P 23 19 21.1 -0.1**
comp=Z,4.0nm,1.0s,mb4.8,baz=221,slow=4.7,SNR=21
LVC Limon Verde 94.29 118 PFAKE 23 19 30.0 +7.8
LVC LR LR
comp=Z,3µm,20.0s,MS5.7
HIA Hailar 94.80 324 PFAKE 23 19 30.0 +6.1
HIA LR LR
comp=Z,3µm,21.0s,MS5.7
HHC Hu-ho-hao-te 94.91 314 ⇑P **P 23 19 25.7 +1.1**
HHC AP pP 23 19 30.3 +1.3
HHC XP sP 23 19 33.1 +2.7
HHC SKS SKS 23 30 02.4 -1.6
HHC AMB AMB
comp=Z,23nm,1.7s,mb5.3
HHC AMB AMB
comp=Z,686nm,9.5s
HHC LR LR
comp=N,591nm,19.1s,MS5.2
HHC LR LR
comp=E,742nm,21.5s,MS5.2
HHC LR LR
comp=Z,776nm,19.1s,MS5.2
CD2 Chengdu 95.50 302 P **P 23 19 29.8 +2.2**
BILL Bilibino 95.60 354 *i* P **P 23 19 27.4 +0.3**
BILL MLR MLR
comp=Z,3µm,20.0s,MS5.8
BTO Baotou 95.79 313 *eP* **P 23 19 30.2 +1.5**
JTS JuntasAbangare 95.83 81 PFAKE 23 19 40.0 +11
JTS LR LR
comp=Z,850nm,19.0s,MS5.2
RSSD Black Hills 96.76 44 *eP* **P 23 19 32.1 -0.9**
RSSD pmax pmax
comp=Z,22nm,1.1s,mb5.5
RSSD MLR MLR
comp=Z,9µm,19.0s,MS6.3
RSSD Black Hills 96.76 44 *eP* **P 23 19 32.1 -0.9**
comp=Z,22nm,1.1s,mb5.5
RSSD LR LR
comp=Z,9µm,19.0s,MS6.3
LAO LASA Array 96.80 41 *eP* **P 23 19 33.2 +0.1**
comp=Z,9.5nm,1.0s,mb5.2
LAO LR LR
comp=Z,3µm,20.0s,MS5.8
CBKS Cedar Bluff 96.91 50 PFAKE 23 19 40.0 +6.2
CBKS LR LR
comp=Z,4µm,20.0s,MS5.9
NATX Nacogdoches 97.27 58 PFAKE 23 19 50.0 +14
NATX LR LR
comp=Z,4µm,19.0s,MS5.9
LZH Lanzhou 97.84 306 ⇑P **P 23 19 38.9 +0.8**
LZH AP pP 23 19 42.0 -0.5
LZH XP sP 23 19 44.0 +0.2
LZH PP PP 23 23 40.0 +0.6
LZH AMB AMB
comp=Z,33nm,1.5s,mb5.6
LZH AMB AMB
comp=Z,142nm,5.5s
LZH LR LR
comp=E,2µm,18.2s
LZH LR LR
comp=Z,4µm,19.3s,MS5.9
LZH Lanzhou 97.84 306 ⇑P **P 23 19 38.9 +0.8**
LZH *PP pP 23 19 42.0 -0.5
LZH *SP sP 23 19 44.0 +0.2
LZH 23 23 40.0
LZH 23 30 15.5
LZH *eS* S 23 30 59.9 -0.2
LZH SS SS 23 37 44.0 -1.2
LZH pmax pmax
comp=Z,33nm,1.5s,mb5.6
LZH MLR MLR
comp=Z,4µm,19.3s,MS5.9
LZH Lanzhou 97.84 306 ⇑P **P 23 19 38.9 +0.8**
comp=Z,33nm,1.5s,mb5.6
LZH pP pP 23 19 42.0 -0.5
LZH sP sP 23 19 44.0 +0.2
LZH PP PP 23 23 40.0 +0.6
LZH SKS SKS 23 30 15.5 -4.2
LZH *eS* S 23 30 59.9 -0.2
LZH sS 23 31 06.0
LZH SS SS 23 37 44.0 -1.2
LZH LR LR
comp=Z,4µm,19.3s,MS5.9
LPAZ La Paz 98.19 113 P **P 23 19 40.2 +0.2**
comp=Z,1.3nm,0.9s,mb4.5,baz=351,slow=23,SNR=5.4
LPAZ LR LR 23 55 47.1
comp=Z,1µm,19.6s,MS5.4,baz=155,slow=30
LPAZ La Paz 98.19 113 P **P 23 19 40.2 +0.2**
LPAZ LR LR 23 55 47.1
YAK Yakutsk 98.64 337 *i* P **P 23 19 40.7 -0.3**
YAK pmax pmax
comp=Z,8.0nm,0.8s,mb5.3
YAK Yakutsk 98.64 337 *eP* **P 23 19 40.9 -0.1**
YAK LR LR
comp=Z,1µm,20.0s,MS5.4
DGMT Dagmar 98.90 40 PFAKE 23 19 50.0 +7.5
DGMT LR LR
comp=Z,3µm,19.0s,MS5.8
CPUP Villa Florida 100.93 127 PFAKE 23 20 00.0 +7.7
CPUP LR LR
comp=Z,4µm,19.0s,MS5.9
ULN Ulaanbaatar 101.19 318 *i* P P 23 19 49.0 -3.9
ULN LR LR
comp=Z,1µm,22.0s,MS5.3
SONM Songino Array 101.57 318 P P 23 19 52.2 -2.4
comp=Z,0.3nm,0.4s,baz=106,slow=35,SNR=2.9
GTA Gaotai 102.17 308 *eP* Pdif 23 20 01.6 +4.0
GTA AP 23 20 06.1
GTA XP 23 20 08.5
GTA PP PP 23 24 17.2 +5.2
GTA PPP PPP 23 26 27.8 +3.8
GTA SKS SKS 23 30 38.8 -2.2
GTA S S 23 31 40.6 +4.4
GTA XS 23 31 51.3
GTA AMB AMB
comp=Z,7.0nm,1.5s
GTA AMB AMB
comp=Z,283nm,7.6s
GTA LR LR
comp=N,599nm,21.4s,MS5.2
GTA LR LR
comp=E,646nm,23.3s,MS5.2
GTA LR LR
comp=Z,2µm,26.4s,MS5.4
OXF Oxford 102.42 58 PFAKE 23 20 10.0 +11
OXF LR LR
comp=Z,3µm,19.0s,MS5.8
CCM Cathedral Cave 102.53 54 PFAKE 23 20 10.0 +11
CCM LR LR
comp=Z,3µm,20.0s,MS5.8
FFC Flin Flon 103.18 35 PFAKE 23 20 10.0 +8.3
FFC LR LR
comp=Z,720nm,20.0s,MS5.2
PLAL Pickwick Lake 103.62 58 PFAKE 23 20 10.0 +5.9
PLAL LR LR
comp=Z,2µm,19.0s,MS5.8
LRAL Lakeview Retre 103.67 60 PFAKE 23 20 10.0 +5.6
LRAL LR LR
comp=Z,2µm,20.0s,MS5.6
WVT Waverly 104.25 57 PFAKE 23 20 20.0 +13
WVT LR LR
comp=Z,2µm,20.0s,MS5.7
ZAK Zakamensk 104.53 319 *eP* Pdif 23 20 12.9 +5.2
ZAK pmax pmax
comp=Z,1.0nm,1.2s
ZAK pmax pmax
comp=Z,2.0nm,1.6s
ULM Lac du Bonnet 104.54 41 PFAKE 23 20 20.0 +12
ULM LR LR
comp=Z,3µm,19.0s,MS5.9
PALK Pallekele 104.77 271 PFAKE 23 20 20.0 +10
PALK LR LR
comp=Z,435nm,19.0s,MS5.0
LSA Lhasa 104.84 296 PFAKE 23 20 20.0 +10
LSA LR LR
comp=Z,1µm,19.0s,MS5.4
TLY Talaya 104.86 321 *eP* Pdif 23 19 50.0 -19
TLY *e* 23 30 49.1
TLY *ePS* PS 23 33 49.7 +6.8
TLY pmax pmax
comp=Z,3.0nm,1.2s

TLY MLR MLR
comp=Z,1µm,17.0s,MS5.5
TLY Talaya 104.86 321 PFAKE 23 20 20.0 +11
TLY LR LR
comp=Z,311nm,20.0s,MS4.8
DGAR Diego Garcia 105.20 253 PFAKE 23 24 40.0
DGAR LR LR
comp=Z,748nm,20.0s,MS5.2
TIXI Tiksi 105.35 344 PFAKE 23 24 40.0
TIXI LR LR
comp=Z,10µm,21.0s,MS6.3
SAML Samuel 106.10 109 PFAKE 23 24 40.0
SAML LR LR
comp=Z,3µm,19.0s,MS5.8
DWPF Disney 106.21 66 PFAKE 23 24 40.0
DWPF LR LR
comp=Z,905nm,19.0s,MS5.3
MYNC Murphy 106.65 59 PFAKE 23 24 40.0
MYNC LR LR
comp=Z,3µm,19.0s,MS5.8
SDV Santo Domingo 107.95 89 PFAKE 23 24 40.0
SDV LR LR
comp=Z,1µm,20.0s,MS5.5
NHSC New Hope 109.02 62 PFAKE 23 24 40.0
NHSC LR LR
comp=Z,2µm,19.0s,MS5.8
ACSO Alum Creek Sta 109.30 54 PFAKE 23 24 40.0
ACSO LR LR
comp=Z,1µm,19.0s,MS5.6
AAM Ann Arbor 109.49 52 PFAKE 23 24 40.0
AAM LR LR
comp=Z,2µm,20.0s,MS5.8
BLA Blacksburg 110.20 58 PFAKE 23 24 50.0 +14
BLA LR LR
comp=Z,2µm,19.0s,MS5.7
WMQ Urumqi 112.22 309 PDIF Pdif 23 20 42.3 +0.6
WMQ PP PP 23 25 26.3 +0.1
WMQ S 23 33 01.5
WMQ PP PP
comp=Z,505nm,10.0s
WMQ LR LR
comp=N,962nm,16.0s,MS5.6
WMQ LR LR
comp=E,972nm,16.0s,MS5.6
WMQ LR LR
comp=Z,895nm,15.5s,MS5.5
CBN Corbin 112.81 58 PFAKE 23 24 50.0 +8.5
CBN LR LR
comp=Z,3µm,19.0s,MS5.9
BINY Binghamton 114.91 54 PFAKE 23 24 50.0 +4.5
BINY LR LR
comp=Z,7µm,19.0s,MS6.3
SJG San Juan 115.63 82 PFAKE 23 25 00.0 +13
SJG LR LR
comp=Z,1µm,19.0s,MS5.6
NCB Newcomb 116.59 52 PFAKE 23 25 00.0 +11
NCB LR LR
comp=Z,2µm,20.0s,MS5.8
MKAR Makanchi Array 116.64 311 PKP PKPdf 23 24 44.7 -4.1
comp=Z,1.9nm,0.9s,baz=27,slow=2.7,SNR=7.7
MKAR Makanchi Array 116.64 311 PKP PKPdf 23 24 44.7 -4.1
NVS Novosibirsk 117.47 320 *i* PKIKP PKPdf 23 24 46.2 -3.9
NVS pmax pmax
comp=Z,14nm,1.6s
NVS pmax pmax
comp=N,9.0nm,1.8s
NVS pmax pmax
comp=E,6.0nm,1.5s
HRV Harvard--Oak R 118.18 54 PFAKE 23 25 00.0 +8.1
HRV LR LR
comp=Z,4µm,19.0s,MS6.1
WES Weston 118.33 54 PFAKE 23 25 00.0 +7.8
WES LR LR
comp=Z,5µm,20.0s,MS6.1
SUR Sutherland 118.76 197 PFAKE 23 25 00.0 +6.7
SUR LR LR
comp=Z,1µm,19.0s,MS5.5
WVL Waterville 119.92 52 PFAKE 23 25 00.0 +4.9
WVL LR LR
comp=Z,16µm,19.0s,MS6.7
BOSA Boshof 120.97 202 PFAKE 23 25 10.0 +12
BOSA LR LR
comp=Z,2µm,19.0s,MS5.8
BBSR BB Station 121.27 67 PFAKE 23 25 10.0 +12
BBSR LR LR
comp=Z,875nm,19.0s,MS5.4
AAK Ala-Archa 121.36 305 *i* PKIKP PKPdf 23 24 52.5 -5.6
AAK MLR MLR
comp=Z,1µm,26.0s,MS5.5
AAK Ala-Archa 121.36 305 *i* PKP PKPdf 23 24 52.6 -5.5
AAK LR LR
comp=Z,450nm,20.0s,MS5.1
PQI Presque Isle 121.36 50 PFAKE 23 25 10.0 +12
PQI LR LR
comp=Z,14µm,19.0s,MS6.6
SCHQ Schefferville 122.72 40 PFAKE 23 25 10.0 +10
SCHQ LR LR
comp=Z,2µm,20.0s,MS5.8
LBTB Lobatse 124.15 204 PFAKE 23 25 10.0 +6.1
LBTB LR LR
comp=Z,3µm,19.0s,MS5.9
BRVK Borovoye 124.97 317 PKIKP PKPdf 23 25 02.7 -2.0
KBS Kingsbay 127.83 358 *e*P PKPdf 23 25 06.9 -2.8
KBS *e* 23 27 00.9
KBS Kingsbay 127.83 358 *e*P PKPdf 23 25 06.9 -2.8
KBS *e*PP PP 23 27 00.2 -12
KBS *e*SS SS 23 44 22.9 +1.5
KBS AMS AMS 00 30 47.3
comp=Z,532nm,23.0s,MS5.2
DAG Danmarks Havn 128.99 6⇓ *e*PKIKP PKPdf 23 25 08.2 -3.7
DAG MLR MLR
comp=Z,1µm,17.0s,MS5.7
DAG Danmarks Havn 128.99 6⇓ *i*P PKPdf 23 25 08.2 -3.7
comp=Z,5.8nm,1.3s
comp=Z,1µm,17.0s
RCBR Riachuelo 129.74 125 PFAKE 23 25 20.0 +5.0
RCBR LR LR
comp=Z,2µm,19.0s,MS5.8
SVE Sverdlovsk 130.09 323⇓ *e*PKIKP PKPdf 23 25 11.6 -2.9
SVE *e* 23 27 21.7
SVE *e* 23 39 10.0
SVE pmax pmax
comp=Z,60nm,2.0s
ARU Arti 131.30 323 *i* PKIKP PKPdf 23 25 12.6 -4.2
ARU *e* 23 27 29.2
ARU *e* 23 32 21.8
ARU *e*SP SP 23 37 37.9 -4.9
ARU *e*SS SS 23 45 01.0 -3.7
ARU MLR MLR
comp=Z,1µm,19.0s,MS5.6
ARU MLR MLR
comp=N,700nm,18.0s,MS5.6
ARU MLR MLR
comp=E,800nm,18.0s,MS5.6
ARU Arti 131.30 323 *e*PKP PKPdf 23 25 13.5 -3.2
ARU LR LR
comp=Z,329nm,20.0s,MS5.0
LSZ Lusaka 131.71 212 PFAKE 23 25 30.0 +11
LSZ LR LR
comp=Z,4µm,19.0s,MS6.1
TSUM Tsumeb 132.15 198 PFAKE 23 25 30.0 +11
TSUM LR LR
comp=Z,7µm,19.0s,MS6.4
SCO Scoresbysund 134.06 12 *i* P PKPdf 23 25 20.7 -0.8
KEV Kevo 135.08 349 P Pdif 23 22 20.7 -0.9
KEV Kevo 135.08 349 PFAKE 23 25 30.0 +6.5
KEV LR LR
comp=Z,1µm,21.0s,MS5.7
JMIC Jan Mayen 135.41 6 *e*P PKPdf 23 25 23.4 -0.7
JMIC *e* 23 27 56.9
JMIC LR LR
comp=Z,770µm,19.1s
JMIC Jan Mayen 135.41 6 *e*P PKPdf 23 25 23.4 -0.7
JMIC *e*PP PP 23 27 56.1 -5.0
JMIC *e*SS SS 23 45 56.1 +2.0
JMIC AMS AMS 00 35 03.4
comp=Z,770nm,19.1s,MS5.4
ARCES ARCESS Array B 135.53 349 PKP PKPdf 23 25 22.4 -1.9
comp=Z,4.6nm,0.9s,slow=2.4,SNR=4.9
APA Apatity 135.55 344⇑ *i*PKIKP PKPdf 23 25 20.0 -4.4
APA *i* 23 27 57.0
APA *e*PPS PPS 23 40 08.0 +2.7
APA *i* SS SS 23 46 00.0 +4.1
APA pmax pmax
comp=Z,600nm,6.0s

APA MLR MLR
comp=Z,2µm,19.0s,MS5.7
TRO Tromso 136.38 352 *e*P PKPdf 23 25 21.5 -4.3
TRO *e* 23 28 02.1
TRO LR LR
comp=Z,831µm,19.7s
TRO Tromso 136.38 352 *e*P PKPdf 23 25 21.5 -4.3
TRO *e*PP PP 23 28 00.8 -6.3
TRO *e*SS SS 23 46 07.0 +1.2
TRO AMS AMS 00 32 31.4
comp=Z,831nm,19.7s,MS5.5
PECR Pechory 138.85 327 *e*PKIKP PKPdf 23 25 27.4 -3.3
PECR *e* 23 28 16.4
PECR *e*PS PS 23 38 55.0 +7.1
PECR pmax pmax
comp=Z,500nm,5.0s
MAK Makhachkala 141.14 306 *e*PKHKP 23 25 26.0
MAK pmax pmax
comp=Z,2µm,8.0s
KAF Kangasniemi 141.75 343 *e*p 23 25 15.7
comp=Z,5.3nm,0.9s
KAF Kangasniemi 141.75 343 *e*PKHKP 23 25 15.7
KAF pmax pmax
comp=Z,5.0nm,0.9s
NSS Namsos 142.05 354 *e*P PKPdf 23 25 30.9 -5.2
NSS *e* 23 28 41.5
NSS Namsos 142.05 354 *e*P PKPdf 23 25 30.9 -5.2
NSS *e*PP PP 23 28 35.9 -6.2
NSS AMS AMS 00 34 18.0
comp=Z,1µm,21.0s,MS5.6
MBAR Mbarara 142.16 228 PFAKE 23 25 50.0 +12
MBAR LR LR
comp=Z,525nm,20.0s,MS5.3
FINES FINESS Array B 142.37 343 *i* PKIKP 23 25 30.9
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 142.37 343 PKhKP 23 25 28.4
comp=Z,1.4nm,0.8s,baz=27,slow=4.3,SNR=5.2
TATS Tathlith 142.78 267 P PKPdf 23 25 34.7 -4.0
OBN Obninsk 143.09 329⇓ *i*PKIKP PKPdf 23 25 32.1 -6.0
OBN *e* 23 28 41.3
OBN pmax pmax
comp=Z,71nm,1.6s
OBN MLR MLR
comp=Z,1µm,22.0s,MS5.5
OBN Obninsk 143.09 329 *e*PKP PKPdf 23 25 32.7 -5.5
OBN LR LR
comp=Z,303nm,20.0s,MS5.1
MTA Mtatsminda 143.34 304 P PKPbc 23 25 34.3 +0.4
TI2 Plekhanov 143.37 304 *i* PKIKP PKPdf 23 25 42.0 +3.0
TI2 *i* 23 25 42.0
VOR Voronezh 143.59 322 *e*PKIKP PKPdf 23 25 34.5 -4.6
VOR pmax pmax
comp=Z,100nm,1.5s
GNI Garni 143.63 302 P PKPbc 23 25 33.0 -1.9
GNI Garni 143.63 302 PKIKP PKPdf 23 25 35.4 -4.1
GNI *e* 23 25 43.6
GNI Garni 143.63 302 *e*PKP 23 25 33.5
GNI LR LR
comp=Z,755nm,19.0s,MS5.5
GOF Gofitskoye 143.81 310⇑ *i*PKHKP 23 25 30.1
GOF pmax pmax
comp=Z,60nm,2.1s
ONI Oni 144.14 306 P PKPbc 23 25 35.5 -0.8
KIV Kislovodsk 144.35 309 *e*PKHKP 23 25 30.0
KIV *i* 23 25 36.4
KIV *e* 23 28 52.3
KIV *e* 23 32 45.5
KIV *e*SS SS 23 47 36.2 -3.5
KIV pmax pmax
comp=Z,20nm,1.1s
KIV pmax pmax
comp=N,5.0nm,1.0s
KIV pmax pmax
comp=E,4.0nm,1.1s
KIV Kislovodsk 144.35 309 *e*PKP PKPdf 23 25 36.5 -4.2
KIV LR LR
comp=Z,379nm,19.0s,MS5.2
CLDR Caldiran 144.40 300 P PKPbc 23 25 38.2 +1.1
BLJS Baljurashi 144.56 267 P PKPbc 23 25 40.8 +2.7
VSU Vasula 144.61 339⇑ *i*PKHKP 23 25 35.0
HKR Hakkari 144.72 298 P PKPbc 23 25 39.6 +1.5
HAKT HAKKARI 144.75 298 *i* P PKPbc 23 25 34.5 -3.6
KARS Kars 144.80 303 P PKPbc 23 25 40.1 +1.9
TVAN Van 144.88 299 *i* P PKPbc 23 25 34.6 -3.8
NB2 NORSAR Subarra 145.55 353 PKPabc PKPdf 23 25 39.4 -2.8
comp=Z,337nm,1.7s,baz=8.0,slow=3.0
NB2 NORSAR Subarra 145.55 353 PKPab PKPab 23 25 39.4 -1.9
NB2 NORSAR Subarra 145.55 353 PKPa PKPab 23 25 39.4 -1.9
baz=7.6,slow=3.0
NOA NORSAR Array B 145.55 353 PKPbc PKPbc 23 25 39.9 +0.5
comp=Z,26nm,1.1s,baz=10,slow=2.4,SNR=24
BCA Borcka 145.72 305 P PKPbc 23 25 42.2 +1.7
NAO01 NORSAR Array S 145.78 354 *e*PKPdf PKPdf 23 25 39.7 -3.0
NAO01 LR LR
comp=Z,1µm,19.0s,MS5.7
ERZM Erzurum 146.23 302 *i* P PKPbc 23 25 43.6 +1.8
EZM Erzurum 146.23 302 P PKPbc 23 25 43.5 +1.7
BTMT Batman 146.41 299 *e*P PKPbc 23 25 44.9 +2.6
SOC Sochi 146.52 309 *i* PKP2 PKPab 23 25 42.9 -2.7
SOC *e* 23 29 16.2
SOC pmax pmax
comp=Z,69nm,2.7s
SOC pmax pmax
comp=N,10.0nm,1.3s
SOC pmax pmax
comp=E,11nm,1.3s
BER Bergen 146.57 358 *e*P PKPbc 23 25 41.5 -0.4
BER AMb AMB 23 25 52.1
comp=Z,99nm,1.9s
BER *e*SS SS 23 48 07.3 +3.1
KONO Kongsberg 147.07 354 *e*P PKPdf 23 25 39.9 -5.0
KONO *e*PKPbc PKPdf 23 25 44.4 -0.5
KONO LR LR
comp=Z,1µm,19.0s,MS5.6
KONO Kongsberg 147.07 354 *e*P PKPdf 23 25 39.9 -5.0
KONO *e*SS SS 23 48 11.2 +1.1
MARD Mardin 147.09 298 *i* P PKPdf 23 25 42.9 -2.7
MNK Minsk 147.27 334 *e*PKIKP PKPdf 23 25 42.0 -3.3
GUMT Gumushane 147.52 304 *e*P PKPdf 23 25 45.4 -0.8
ANN Anapa 147.65 312 *i* PKIKP PKPdf 23 25 42.7 -3.6
ANN pmax pmax
comp=Z,3µm,10.6s
PTK Pertek 147.92 301 *e*P PKPdf 23 25 46.2 -0.7
ELZG Elazig 148.31 300 *i* P PKPdf 23 25 50.3 +2.8
URFA Urfa 148.62 298 *e*P PKPdf 23 25 43.5 -4.5
YNBS Yanbu' al Bahr 148.98 273 P PKPdf 23 25 52.3 +3.3
ATAB Bozova 149.02 298 *i* P PKPdf 23 25 47.1 -1.6
AKASG Malin Array Be 149.32 327 PKP PKPdf 23 25 45.9 -2.8
comp=Z,2.1nm,0.5s,baz=31,slow=2.1,SNR=14
AKASG PKPbc PKPdf 23 25 50.1 +1.3
comp=Z,8.4nm,0.9s,baz=34,slow=1.9,SNR=58
AKASG Malin Array Be 149.32 327 PKP PKPdf 23 25 45.9 -2.8
AKASG PKPbc PKPdf 23 25 50.1 +1.4
SUW Suwalki 149.38 337 *e*PKP PKPdf 23 25 46.0 -2.7
SUW *e*PKPbc PKPdf 23 25 50.3 +1.5
SUW *e*PP PP 23 29 20.4 -5.0
SUW Suwalki 149.38 337 *e*PKP PKPdf 23 25 46.0 -2.7
SUW *e*PP PP 23 29 20.4 -5.0
GZT Gaziantep 149.62 298 *i* P PKPdf 23 25 53.0 +3.4
UMJS Umm Lajj 149.76 274 P PKPdf 23 25 54.6 +4.4
GAZ Gaziantep 149.93 298 P PKPdf 23 25 54.6 +4.4
MUD Monsted U'grnd 150.27 354 *i* P PKPdf 23 25 47.5 -2.6
comp=Z,75nm,1.5s
MUD *i* 23 48 53.8
comp=Z,1µm,17.0s
BOYT Boyabat 150.58 307 *i* P PKPdf 23 25 53.9 +2.9
COP Copenhagen 150.61 350 *i* P PKPdf 23 25 49.4 -1.2
comp=Z,24nm,1.0s
COP *i* 23 25 53.8
COP *i* 23 48 52.8
comp=Z,820nm,18.0s
BNN Bunyan 150.63 302 *e*P PKPdf 23 25 55.2 +4.1
BSD Bornholm Skovb 150.70 347⇑ *i*PKIKP PKPdf 23 25 53.8 +3.1
BSD *i* 23 25 59.4
BSD pmax pmax
comp=Z,17nm,1.5s
BSD Bornholm Skovb 150.70 347⇑ *i*P PKPdf 23 25 53.8 +3.1
comp=Z,17nm,1.5s
BSD *i* 23 25 59.4
COBT Iskenderun 150.79 297 *i* P PKPdf 23 25 55.9 +4.4
TBKS Tabuk 150.86 280 P PKPdf 23 25 55.8 +4.0
CTKT Corum 150.92 306 *i* P PKPdf 23 25 54.9 +3.4

CORM Corum 151.17 305 *e*P PKPdf 23 25 50.3 -1.6
ESK Eskdalemuir 151.24 8 PFAKE 23 26 00.0 +8.5
ESK LR LR
comp=Z,419nm,19.0s,MS5.3
AVNT Avonos 151.40 302 *i* P PKPdf 23 25 56.1 +3.8
CDAG Cicekdag 151.53 304 *i* P PKPdf 23 25 46.0 -6.5
KSHT Keshet 151.57 290 P PKPdf 23 25 56.9 +4.1
WAR Warsaw 151.58 337 *e*PKP PKPdf 23 25 57.0 +4.9
BALT Daday 151.61 308 *i* P PKPdf 23 25 54.4 +1.8
KSDI Kefar Szold 151.68 290 P PKPdf 23 25 57.2 +4.3
KIS Kishinev 151.85 322 *i* PKIKP PKPdf 23 25 55.0 +2.3
MMLI Mount Malkishu 151.93 289 P PKPdf 23 25 58.3 +5.0
ELDT Eldivan 151.95 306 *i* P PKPdf 23 25 50.7 -2.4
ELDT Eldivan 151.95 306 *i* P PKPdf 23 25 50.7 -2.4
MZDA Masada 152.01 286 P PKPdf 23 25 57.2 +3.7
BR131 Keskin Array S 152.04 305 *e*PKP PKPdf 23 25 50.6 -2.6
BR131 LR LR
comp=Z,929nm,19.0s,MS5.6
BRTR Keskin Array B 152.04 305 PKP PKPdf 23 25 50.5 -2.8
comp=Z,3.7nm,1.2s,baz=180,slow=2.5,SNR=7.2
KAMT Kaman 152.09 304 *e*P PKPdf 23 25 50.8 -2.5
HNTI Hanita 152.09 290 P PKPdf 23 25 57.8 +4.3
BDAS Al Bad' 152.15 280 P PKPdf 23 25 59.6 +5.9
ZFRI Zfri 152.17 285 P PKPdf 23 25 58.1 +4.4
JMOS Jabal al Moall 152.19 282 P PKPdf 23 26 00.0 +6.2
SAFT Safranbolu 152.21 308 *e*P PKPdf 23 25 51.5 -2.0
ALWS Ilw as Safayha 152.23 282 P PKPdf 23 25 59.4 +5.5
HAF Haifa 152.24 290 P PKPdf 23 25 57.7 +3.9
SLTI Sal'it 152.26 288 P PKPdf 23 25 58.3 +4.5
AQBJ Aqaba 152.26 283 P PKPdf 23 25 58.4 +4.5
OFRI 'Ofer 152.28 289 P PKPdf 23 25 58.1 +4.3
LVV L'vov 152.32 331 *e*PKIKP PKPdf 23 25 50.6 -2.7
LVV *e* 23 25 58.8
PRNI Paran 152.32 284 P PKPdf 23 25 58.8 +4.9
HAQS Haql 152.34 282 P PKPdf 23 25 59.5 +5.5
EIL Elat 152.35 283 *e*PKP PKPdf 23 25 51.8 -2.2
EIL Elat 152.35 283 P PKPdf 23 25 58.7 +4.7
TAYS Tayyib Ism 152.36 281 P PKPdf 23 26 00.3 +6.3
MBH Mount Berech 152.38 283 P PKPdf 23 25 59.1 +5.0
MEST Erdemli 152.45 298 *i* P PKPdf 23 25 58.9 +5.0
ANTO Ankara 152.61 305 PKPdf PKPdf 23 25 50.8 -3.3
BSEG Bad Segeberg 152.61 351 *e*PKIKP PKPdf 23 25 51.0 -2.6
BSEG *e* 23 25 58.7
DSB Dublin 152.71 13 PKP PKPdf 23 25 52.8 -0.9
KZIT Kziot 152.84 286 P PKPdf 23 26 00.6 +5.9
SGKT Sivrigoynuk 152.90 307 *i* P PKPdf 23 25 50.2 -4.2
KWP Kalwaria 153.02 332 *e*PKP PKPdf 23 25 52.0 -2.3
KWP *e*PP PP 23 29 42.3 -4.1
CMLA Cha da Macela 153.22 59 PFAKE 23 26 00.0 +5.0
CMLA LR LR
comp=Z,3µm,21.0s,MS6.1
ERMK Ermenek 153.41 299 *i* P PKPdf 23 25 51.8 -3.5
KDHN Kadinhani 153.53 303 *i* P PKPdf 23 25 51.4 -3.9
OJC Ojcow 153.69 336 *e*PKIKP PKPdf 23 25 52.5 -2.7
OJC *e* 23 29 44.5
OJC *e*SS SS 23 49 28.7 +5.6
OJC MLR MLR
comp=Z,2µm,19.9s,MS5.9
OJC Ojcow 153.69 336 *e*PKPdf PKPdf 23 25 52.5 -2.7
OJC *e*PKPab PKPab 23 26 14.3 -0.5
OJC *e*PP PP 23 29 44.5 -5.9
OJC *e*SS SS 23 49 28.7 +5.6
OJC MLR MLR 00 35 38.9
comp=Z,2µm,19.9s,MS5.9
KOLS Kolonicke sedl 153.74 332 *e*PKP PKPdf 23 25 54.2 -1.1
STHS Stebnicka Huta 153.79 333 *e*PKP PKPdf 23 26 03.0 +7.6
ESKT Eskisehir 154.14 306 *e*P PKPdf 23 25 53.4 -2.7
ESKT Eskisehir 154.14 306 *i* P PKPdf 23 25 53.5 -2.7
NIE Niedzica 154.15 335 *e*PKP PKPdf 23 25 53.5 -2.4
KSP Ksiaz 154.28 341 *e*PKIKP PKPdf 23 25 53.5 -2.5
KSP *e* 23 26 16.1
KSP *e* 23 29 48.0
KSP *e*SS SS 23 49 34.0 +4.3
KSP MLR MLR
comp=Z,3µm,20.8s,MS6.1
KSP Ksiaz 154.28 341 *e*PKPdf PKPdf 23 25 53.5 -2.5
KSP *e*PKPab PKPab 23 26 16.1 -1.2
KSP *e*PP PP 23 29 48.0 -5.6
KSP *e*SKKS 23 36 43.0
KSP *e*SS SS 23 49 34.0 +4.3
KSP LR LR
comp=Z,3µm,20.8s,MS6.1
KSP Ksiaz 154.28 341 *e*PKP PKPdf 23 25 54.0 -2.0
KSP *e*PP PP 23 29 49.3 -4.3
RAC Raciborz 154.36 338 *e*PKPdf PKPdf 23 25 54.1 -2.0
RAC *e*PP PP 23 29 49.2 -4.8
OKC Ostrava-Krasne 154.58 338 *e*PKIKP PKPdf 23 25 54.4 -2.0
OKC *e* 23 29 51.7
OKC *e*SS SS 23 49 40.2 +7.2
OKC MLR MLR
comp=Z,1µm,18.6s,MS5.8
OKC Ostrava-Krasne 154.58 338 *e*PKPDF PKPdf 23 25 54.4 -2.0
OKC *e*PKPAB PKPab 23 26 18.5 -0.1
OKC *e*PP PP 23 29 51.7 -3.5
OKC *ex* x 23 40 07.8
OKC *e*SS SS 23 49 40.2 +7.2
OKC AMS AMS 00 44 00.0
comp=Z,1µm,18.6s
CLZ Clausthal 154.64 350 *e*PKIKP PKPdf 23 25 53.8 -2.6
UPC Upice 154.66 341 *e*PKPDF PKPdf 23 25 54.6 -1.9
UPC *e*PKP 23 26 25.4
CLL Collm 154.68 346 *i* PKIKP PKPdf 23 25 53.5 -3.0
CLL *i* 23 26 18.0
CLL pmax pmax
comp=Z,38nm,1.9s
CLL pmax pmax
comp=Z,62nm,1.8s
CLL MLR MLR
comp=Z,2µm,17.8s,MS6.0
CLL Collm 154.68 346 *i* PKIKP PKPdf 23 25 53.5 -3.0
comp=Z,logA/T=1.3
CLL *i* PKP1 PKPdf 23 26 03.5 +7.0
CLL *i* PKP2 PKPab 23 26 18.0 -0.9
CLL *e* 23 26 29.0
CLL *e* 23 26 40.0
CLL *e*PP PP 23 29 48.0 -7.6
CLL *e*PP PP 23 30 10.0 +14
CLL *e* 23 30 32.0
CLL *e*PPP PPP 23 33 17.0 -12
CLL *e* 23 34 33.0
CLL *e* 23 37 10.0
CLL *e*SKSP 23 40 06.0
CLL *e* 23 41 20.0
CLL *e*PPS PPS 23 42 53.0 -7.3
CLL *e*SKSP 23 44 40.0
CLL *e*SS SS 23 49 34.0 0.0
DPC Dobruska-Polom 154.71 341 *e*PKIKP PKPdf 23 25 54.7 -1.9
DPC *e* 23 29 52.6
DPC *e*SS SS 23 49 35.4 +1.0
DPC MLR MLR
comp=Z,1µm,18.6s,MS5.7
DPC Dobruska-Polom 154.71 341 *e*PKPDF PKPdf 23 25 54.7 -1.9
DPC *e*PKPAB PKPab 23 26 19.9 +0.8
DPC *e*PP PP 23 29 52.6 -3.2
DPC *e*SKKS 23 36 46.8
DPC *ex* x 23 40 14.5
DPC *e*SS SS 23 49 35.4 +1.0
DPC AMS AMS 00 43 10.0
comp=Z,1µm,18.6s
KECS Kecovo 154.83 333 *i* PKP PKPab 23 26 19.1 -0.6
MORC Moravsky Berou 154.84 339 *e*PKIKP PKPdf 23 25 54.4 -2.3
BRG Berggiesshubel 154.87 345 *e*PKIKP PKPdf 23 25 54.0 -2.8
BRG *e* 23 29 53.6
BRG SS SS 23 49 33.0 -3.1
BRG pmax pmax
comp=Z,36nm,1.6s
BRG pmax pmax
comp=Z,65nm,1.8s
BRG pmax pmax
comp=Z,12nm,1.5s
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG MLR MLR
comp=N,1µm,18.2s,MS5.8
BRG MLR MLR
comp=E,830nm,18.6s,MS5.8
BRG MLR MLR
comp=Z,1µm,18.0s,MS5.8
BRG Berggiesshubel 154.87 345 *e*PKP PKPdf 23 25 54.0 -2.8
BRG *i* 23 26 25.8
BRG PP PP 23 29 48.0 -8.6
BRG *e* 23 29 53.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BRG				i		23 36 43.0	
BRG				ePKKS		23 37 59.9	
BRG				i		23 40 13.0	
BRG				SS	SS	23 49 33.0	-3.1
BRG				LR	LR		
	comp=Z,1µm,18.0s,MS5.8						
WTSB	**Winterswijk**	**154.92**	**355**	ePKP	PKPdf	23 25 53.8	-3.0
	comp=Z,34nm,1.6s						
ISP	**Isparta**	**154.94**	**302**	eP	PKPdf	23 25 53.2	-4.1
PVCC	**Panska Ves**	**155.03**	**343**	ePKIKP	PKPdf	23 25 55.2	-1.8
PVCC				e		23 29 54.7	
PVCC				eSS	SS	23 49 39.3	+1.4
PVCC				MLR	MLR		
	comp=Z,2µm,19.4s,MS5.8						
PVCC	**Panska Ves**	**155.03**	**343**	ePKPDF	PKPdf	23 25 55.2	-1.8
PVCC				ePKPAB	PKPab	23 26 20.1	-0.4
PVCC				ePP	PP	23 29 54.7	-2.7
PVCC				eSKKS		23 36 45.5	
PVCC				ex	x	23 40 12.1	
PVCC				eSS	SS	23 49 39.3	+1.4
PVCC				AMS	AMS	00 41 10.0	
	comp=Z,2µm,19.4s						
ULDT	**Uludag**	**155.12**	**308**	i P	PKPdf	23 25 55.2	-2.2
GDZ	**Gediz**	**155.28**	**306**	i P	PKPdf	23 25 52.8	-4.9
VYHS	**Vyhne**	**155.47**	**335**	i PKP	PKPab	23 26 22.2	-0.2
PRA	**Prague**	**155.49**	**343**	PKPDF	PKPdf	23 25 58.0	+0.4
PSZ	**Piszkesteto**	**155.52**	**333**	ePKIKP	PKPdf	23 25 55.5	-2.2
PSZ	**Piszkesteto**	**155.52**	**333**	⇑ePKP/p	PKPab	23 26 23.1	+0.5
PRU	**Pruhonice**	**155.53**	**343**	ePKIKP	PKPdf	23 25 55.6	-2.0
PRU				e		23 29 56.3	
PRU				eSS	SS	23 49 46.2	+2.7
PRU				MLR	MLR		
	comp=Z,2µm,17.8s,MS5.9						
PRU	**Pruhonice**	**155.53**	**343**	ePKPDF	PKPdf	23 25 55.6	-2.0
PRU				ePKPAB	PKPab	23 26 22.7	+0.1
PRU				ePP	PP	23 29 56.3	-4.2
PRU				ex	x	23 36 54.8	
PRU				ex	x	23 40 24.1	
PRU				eSS	SS	23 49 46.2	+2.7
PRU				AMS	AMS	00 47 30.0	
	comp=Z,2µm,17.8s						
MOX	**Moxa**	**155.58**	**348**	ePKIKP	PKPdf	23 25 56.0	-1.7
MOX	**Moxa**	**155.58**	**348**	i P	PKPdf	23 25 56.0	-1.7
MOX				PP2		23 26 06.0	
MOX				PKP2	PKPab	23 26 24.0	+1.2
MOX				PP	PP	23 29 58.0	-2.7
MOX				SS	SS	23 49 55.0	+11
MOX				L		00 48 24.0	
NKC	**Novy Kostel**	**155.81**	**346**	ePKIKP	PKPdf	23 25 56.0	-2.0
NKC				e		23 29 58.4	
NKC				eSS	SS	23 49 51.9	+5.4
NKC				MLR	MLR		
	comp=Z,2µm,16.9s,MS6.0						
NKC	**Novy Kostel**	**155.81**	**346**	ePKPDF	PKPdf	23 25 56.0	-2.0
NKC				ePKPAB	PKPab	23 26 23.8	0.0
NKC				ePP	PP	23 29 58.4	-3.7
NKC				eSKKS		23 36 54.1	
NKC				ex	x	23 40 16.7	
NKC				eSS	SS	23 49 51.9	+5.4
NKC				AMS	AMS	00 49 40.0	
	comp=Z,2µm,16.9s						
SMOL	**Smolenice**	**155.96**	**337**	ePKP	PKPab	23 26 25.3	+0.8
AKAS	**Kas**	**156.09**	**299**	i P	PKPdf	23 25 53.2	-5.6
HGN	**Heimansgroeve**	**156.17**	**356**	ePKP	PKPab	23 26 23.5	-1.9
	comp=Z,40nm,2.2s						
ZST	**Bratislava**	**156.34**	**337**	ePKP	PKPab	23 26 31.5	+5.3
GRA1	**Grafenberg Arr**	**156.57**	**348**	ePKPdf	PKPdf	23 25 55.7	-3.3
GRA1				ePKPab	PKPab	23 26 25.6	-1.5
GRA1				ePP	PP	23 29 56.3	-10
GRA1				eSS	SS	23 49 58.8	+4.5
GRF	**Grafenberg Arr**	**156.57**	**348**	ePKIKP	PKPdf	23 25 55.7	-3.3
GRF				eSS	SS	23 49 58.8	+4.5
KHC	**Kasperske Hory**	**156.57**	**343**	ePKIKP	PKPdf	23 25 57.1	-2.0
KHC				e		23 30 03.1	
KHC				eSS	SS	23 49 57.8	+3.5
KHC				MLR	MLR		
	comp=Z,2µm,17.0s,MS6.0						
KHC	**Kasperske Hory**	**156.57**	**343**	ePKPDF	PKPdf	23 25 57.1	-2.0
KHC				ePKPAB	PKPab	23 26 26.7	-0.4
KHC				ePP	PP	23 30 03.1	-3.0
KHC				eSKKS		23 36 56.4	
KHC				ex	x	23 40 26.2	
KHC				eSS	SS	23 49 57.8	+3.5
KHC				AMS	AMS	00 51 30.0	
	comp=Z,2µm,17.0s						
GRFO	**Grafenberg**	**156.57**	**348**	PKPdf	PKPdf	23 25 56.4	-2.6
CANB	**Canakkale**	**156.61**	**310**	eP	PKPdf	23 25 54.7	-4.7
WET	**Wettzell**	**156.73**	**345**	ePKPdf	PKPdf	23 25 56.3	-3.0
WET				ePKPab	PKPab	23 26 26.9	-0.9
GERES	**GERESS Array B**	**156.80**	**343**	PKP	PKPdf	23 25 55.7	-3.7
	comp=Z,0.3nm,0.4s,baz=138,slow=32,SNR=3.6						
GERES				PKPab	PKPab	23 26 26.6	-1.6
	comp=Z,0.8nm,0.7s,baz=63,slow=3.0,SNR=6.4						
GIVF	**Givet**	**156.88**	**358**	ePKIKP	PKPdf	23 25 56.8	-2.7
BAIF	**Baives**	**156.94**	**359**	ePKIKP	PKPdf	23 25 56.9	-2.6
PGB	**Panagyurishte**	**157.15**	**318**	eP	PKPab	23 26 31.0	+1.2
PGB	**Panagyurishte**	**157.15**	**318**	eP	PKPab	23 26 31.0	+1.2
RZN	**Rozhen**	**157.31**	**316**	eP	PKPab	23 26 30.0	-0.6
RZN	**Rozhen**	**157.31**	**316**	eP	PKPab	23 26 30.0	-0.6
MOA	**Molln**	**157.56**	**341**	⇑iP	PKPdf	23 26 00.6	+0.2
URLA	**Izmir**	**157.65**	**306**	i P	PKPdf	23 25 54.8	-6.0
VTS	**Vitosha**	**157.69**	**319**	eP	PKPab	23 26 32.0	-0.2
VTS	**Vitosha**	**157.69**	**319**	eP	PKPab	23 26 32.0	-0.2
ARSA	**Arzberg**	**157.70**	**338**	⇑iP	PKPdf	23 25 58.8	-1.8
	comp=Z,8.7nm,1.7s						
ARSA				i		23 26 32.4	
	comp=Z,21nm,2.0s						
MMB	**Musomiste**	**157.98**	**317**	eP	PKPab	23 26 33.0	-0.4
MMB	**Musomiste**	**157.98**	**317**	eP	PKPab	23 26 33.0	-0.4
ROSF	**Rostrenen**	**158.00**	**12**	ePKIKP	PKPdf	23 25 58.1	-2.9
FLN	**La Foliniere**	**158.01**	**7**	ePKIKP	PKPdf	23 25 58.0	-3.0
FLN				eR			
	comp=Z,2µm,20.8s						
FUR	**Furstenfeldbru**	**158.01**	**346**	ePKIKP	PKPdf	23 25 57.7	-3.3
FUR				e		23 26 31.8	
SGMF	**Saint Gilles**	**158.21**	**11**	ePKIKP	PKPdf	23 25 58.3	-2.9
	comp=Z,43nm,1.5s						
LDF	**La Druitiere**	**158.21**	**7**	ePKIKP	PKPdf	23 25 58.4	-2.8
	comp=Z,52nm,1.6s						
DBIC	**Dimbokro**	**158.25**	**157**	PKP	PKPdf	23 26 00.6	-1.7
	comp=Z,8.8nm,1.2s,baz=205,slow=7.1,SNR=3.1						
DBIC	**Dimbokro**	**158.25**	**157**	PKP	PKPdf	23 26 00.6	-1.7
DBIC				LR	LR		
	comp=Z,2µm,19.0s,MS6.0						
GRR	**Gorron**	**158.33**	**8**	ePKIKP	PKPdf	23 25 58.7	-2.7
BFO	**Black Forest**	**158.36**	**351**	ePKIKP	PKPdf	23 25 57.9	-3.5
CDF	**Champ du Feu**	**158.41**	**353**	ePKIKP	PKPdf	23 25 58.4	-3.1
DIVS	**Divcibare**	**158.41**	**327**	⇑iPKP	PKPdf	23 25 58.2	-3.4
QUIF	**Quistinic**	**158.42**	**13**	ePKIKP	PKPdf	23 25 58.7	-2.8
MEZF	**Maizieres J'vi**	**158.47**	**357**	ePKIKP	PKPdf	23 25 59.2	-2.4
KBA	**Koelnbreinsper**	**158.52**	**342**	⇓iP	PKPdf	23 25 58.7	-3.0
	comp=Z,1.2nm,0.5s						
KBA				i		23 26 34.7	
	comp=Z,24nm,1.8s						
OBKA	**Obir**	**158.67**	**339**	⇑iP	PKPdf	23 25 59.9	-2.0
	comp=Z,2.0nm,0.7s						
OBKA				i		23 26 36.0	
	comp=Z,14nm,2.0s						
WATA	**Walderalm**	**158.73**	**345**	⇑iP	PKPdf	23 26 01.5	-0.4
WATA				i		23 26 37.8	
	comp=Z,14nm,1.3s						
WTTA	**Wattenberg**	**158.78**	**345**	⇓iP	PKPdf	23 25 59.5	-2.5
	comp=Z,16nm,1.8s						
WTTA				i		23 26 37.9	
	comp=Z,38nm,2.1s						
MOTA	**Moosalm**	**158.83**	**346**	⇑iP	PKPdf	23 25 59.9	-2.1
	comp=Z,2.7nm,0.8s						
MOTA				i		23 26 35.0	
	comp=Z,13nm,1.3s						
VAY	**Valandovo**	**158.84**	**317**	⇑iPKIKP	PKPdf	23 25 58.1	-4.1
VAY				i		23 30 14.0	
VAY	**Valandovo**	**158.84**	**317**	⇑iPKIKP	PKPdf	23 25 58.1	-4.1
VAY				i PKP2	PKPab	23 26 36.9	-0.2
VAY				i PP	PP	23 30 14.0	-4.8
HAU	**Haudompre**	**158.89**	**355**	ePKIKP	PKPdf	23 25 59.2	-2.9
HAU				eR			
	comp=Z,2µm,21.0s						
HINF	**Hinteralfeld**	**159.04**	**354**	ePKIKP	PKPdf	23 25 59.3	-2.9
LJU	**Ljubljana**	**159.09**	**338**	ePKPdf	PKPdf	23 25 59.1	-3.3
LJU				ePKPab	PKPab	23 26 34.2	-3.8
LJU				ePP	PP	23 30 17.3	-2.5
LJU				ePPP	PPP	23 33 48.4	-14
LJU				e		23 41 02.2	
LJU				e		23 50 33.6	
SKO	**Skopje**	**159.10**	**320**	i PKP2	PKPab	23 26 38.4	+0.2
DAVA	**Damuels**	**159.13**	**348**	⇓iP	PKPdf	23 26 01.2	-1.2
	comp=Z,8.6nm,1.2s						
DAVA				i		23 26 34.9	
	comp=Z,19nm,1.5s						
ROBS	**Robic**	**159.23**	**340**	ePKPdf	PKPdf	23 25 58.9	-3.6
ROBS				ePKPab	PKPab	23 26 34.0	-4.6
ROBS				ePP	PP	23 30 15.1	-5.4
CEY	**Cerknica**	**159.39**	**338**	ePKPdf	PKPdf	23 25 59.7	-3.0
HYF	**Humbligny**	**159.72**	**2**	ePKIKP	PKPdf	23 26 00.7	-2.3
LOR	**Lormes**	**159.74**	**360**	ePKIKP	PKPdf	23 26 00.5	-2.5
	comp=Z,34nm,1.4s						
LOR				eR			
	comp=Z,3µm,21.2s						
SSF	**Saint Saulge**	**159.94**	**0**	ePKIKP	PKPdf	23 26 00.7	-2.6
	comp=Z,75nm,1.8s						
MFF	**Saint Martin d**	**160.18**	**8**	ePKIKP	PKPdf	23 26 01.0	-2.5
	comp=Z,48nm,1.6s						
CABF	**La Chapelle**	**160.30**	**355**	ePKIKP	PKPdf	23 26 01.6	-2.1
SMF	**Signal de Mont**	**160.36**	**360**	ePKIKP	PKPdf	23 26 00.9	-2.8
BGF	**Bois d'Agland**	**160.44**	**2**	ePKIKP	PKPdf	23 26 01.4	-2.4
	comp=Z,103nm,1.8s						
TCF	**Toulx Ste Croi**	**160.68**	**3**	ePKIKP	PKPdf	23 26 01.5	-2.5
EMAZ	**Mazaricos**	**161.03**	**30**	PKP	PKPdf	23 26 02.4	-2.1
LPL	**La Plagne**	**161.32**	**353**	ePKIKP	PKPdf	23 26 02.8	-1.9
LPG	**La Plagne**	**161.34**	**353**	ePKIKP	PKPdf	23 26 03.2	-1.5
EGOM	**La Gomera**	**161.47**	**82**	PKP	PKPdf	23 25 59.2	-6.2
EPON	**Pontenova**	**161.47**	**25**	PKP	PKPdf	23 26 02.7	-2.2
RJF	**Les Rejaudoux**	**161.62**	**5**	ePKIKP	PKPdf	23 26 02.8	-2.2
	comp=Z,52nm,1.7s						
RJF				eR			
	comp=Z,2µm,20.2s						
LFF	**La Frestale**	**161.92**	**7**	ePKIKP	PKPdf	23 26 02.9	-2.4
	comp=Z,56nm,1.7s						
ORIF	**Oris-en-Rattie**	**162.00**	**355**	ePKIKP	PKPdf	23 26 03.3	-2.1
	comp=Z,25nm,1.4s						
ORIF				eR			
	comp=Z,3µm,21.0s						
CAF	**Calviac**	**162.03**	**4**	ePKIKP	PKPdf	23 26 03.3	-2.1
MBDF	**Montbardon**	**162.10**	**353**	ePKIKP	PKPdf	23 26 03.2	-2.3
	comp=Z,84nm,1.8s						
VIVF	**Saint-Julien-l**	**162.13**	**358**	ePKIKP	PKPdf	23 26 03.4	-2.1
	comp=Z,81nm,1.9s						
EARI	**Arriondas**	**162.19**	**22**	PKP	PKPdf	23 26 03.4	-2.3
ELOB	**Lobios**	**162.30**	**30**	PKP	PKPdf	23 26 02.9	-2.9
ELAN	**Lanestosa**	**162.78**	**18**	PKP	PKPdf	23 26 03.9	-2.4
ECAL	**Calabor**	**162.81**	**27**	PKP	PKPdf	23 26 03.9	-2.4
SBF	**Sospel**	**162.87**	**351**	ePKIKP	PKPdf	23 26 03.5	-2.8
PBRG	**Braganca**	**162.92**	**27**	ePKP	PKPdf	23 26 05.5	-0.9
PBRG	**Braganca**	**162.92**	**27**	ePP	PP	23 30 42.3	+2.2
LASF	**Ste Croix**	**162.93**	**359**	ePKIKP	PKPdf	23 26 04.4	-2.0
	comp=Z,57nm,1.8s						
PVRL	**Vila Real**	**162.93**	**30**	ePKP	PKPdf	23 26 05.3	-1.2
PVRL	**Vila Real**	**162.93**	**30**	ePP	PP	23 30 38.9	-1.3
SMRF	**Simiane la Rot**	**162.96**	**355**	ePKIKP	PKPdf	23 26 04.4	-2.0
	comp=Z,65nm,1.6s						
EALK	**Alkurruntz**	**163.25**	**13**	PKP	PKPdf	23 26 00.2	-6.5
FRF	**La Foret Royal**	**163.27**	**352**	ePKIKP	PKPdf	23 26 03.8	-2.9
PVIS	**Viseu**	**163.29**	**32**	ePKP	PKPdf	23 26 06.0	-0.8
PVIS	**Viseu**	**163.29**	**32**	ePP	PP	23 30 40.3	-2.0
SJPF	**Ste Jean**	**163.41**	**13**	ePKIKP	PKPdf	23 26 03.4	-3.5
	comp=Z,48nm,1.4s						
LMR	**La Mourre**	**163.51**	**353**	ePKIKP	PKPdf	23 26 04.3	-2.7
	comp=Z,56nm,1.5s						
MTLF	**Montolieu**	**163.62**	**4**	ePKIKP	PKPdf	23 26 04.8	-2.3
MTE	**Manteigas**	**163.71**	**32**	ePKP	PKPdf	23 26 03.9	-3.4
MTE	**Manteigas**	**163.71**	**32**	ePP	PP	23 30 41.9	-2.9
MTE	**Manteigas**	**163.71**	**32**	i -	SS	23 51 18.1	+8.4
MTE	**Manteigas**	**163.71**	**32**	eLR	LR	00 32 24.4	
	comp=Z,2µm,19.2s						
ETSF	**Etsaut**	**163.74**	**11**	ePKIKP	PKPdf	23 26 05.9	-1.3
	comp=Z,79nm,1.9s						
EPF	**Esparros**	**163.75**	**9**	ePKIKP	PKPdf	23 26 05.3	-1.9
	comp=Z,48nm,1.6s						
PGF	**Pioggiola**	**163.85**	**346**	ePKIKP	PKPdf	23 26 04.6	-2.7
	comp=Z,84nm,1.6s						
PTOM	**Tomar**	**163.88**	**36**	ePKP	PKPdf	23 26 06.2	-1.3
PTOM	**Tomar**	**163.88**	**36**	ePP	PP	23 30 44.3	-1.6
PLOU	**Loures**	**164.00**	**39**	ePKP	PKPdf	23 26 06.3	-1.3
EBIE	**Bielsa**	**164.06**	**9**	PKP	PKPdf	23 26 04.8	-2.7
PCBR	**Castelo Branco**	**164.18**	**33**	ePKP	PKPdf	23 26 06.8	-0.9
PCBR	**Castelo Branco**	**164.18**	**33**	ePP	PP	23 30 45.5	-2.0
EJON	**La Jonquera**	**164.54**	**2**	PKP	PKPdf	23 26 05.3	-2.7
EFAM	**Famara**	**164.69**	**78**	PKP	PKPdf	23 26 06.8	-1.8
EVO	**Evora**	**164.88**	**37**	ePKIKP	PKPdf	23 26 06.7	-1.8
	comp=Z,67nm,1.6s						
EVO				eR			
	comp=Z,2µm,21.0s						
ESAC	**San Caprasio**	**164.90**	**12**	PKP	PKPdf	23 26 06.8	-1.6
EMIR	**Miracle**	**164.99**	**6**	PKP	PKPdf	23 26 06.3	-2.2
PTEO	**Sao Teotonio**	**165.16**	**42**	ePKP	PKPdf	23 26 07.7	-1.1
EBAD	**Badajoz**	**165.24**	**35**	PKP	PKPdf	23 26 05.3	-3.5
PBEJ	**Beja**	**165.32**	**38**	ePKP	PKPdf	23 26 08.4	-0.5
EPOB	**Poblet**	**165.50**	**8**	PKP	PKPdf	23 26 05.8	-3.2
ERTA	**Horta de San J**	**165.78**	**10**	PKP	PKPdf	23 26 06.8	-2.5
ESDC	**Sonseca Array**	**165.83**	**25**	PKP	PKPdf	23 26 08.3	-1.1
	comp=Z,0.8nm,0.8s,baz=346,slow=6.1,SNR=5.6						
ESDC				PKPab	PKPab	23 27 07.1	-0.4
	comp=Z,2.0nm,1.1s,baz=341,slow=1.4,SNR=3.5						
ESDC	**Sonseca Array**	**165.83**	**25**	PKP	PKPdf	23 26 05.9	-3.4
ESDC				PKP	PKPdf	23 26 06.3	-3.0
ESLA	**Sonseca Array**	**165.83**	**25**	PFAKE		23 26 20.0	+11
ESLA				LR	LR		
	comp=Z,11µm,19.0s						
EGRO	**El Granado**	**165.89**	**39**	PKP	PKPdf	23 26 05.8	-3.6
EMIN	**Mina Concepcio**	**166.16**	**36**	PKP	PKPdf	23 26 07.2	-2.4
EMOS	**Mosqueruela**	**166.21**	**13**	PKP	PKPdf	23 26 07.2	-2.4
EADA	**Adamuz**	**166.87**	**30**	PKP	PKPdf	23 26 08.4	-1.7
ETOS	**Mallorca**	**167.22**	**3**	PKP	PKPdf	23 26 09.7	-0.6
ESPR	**Espera**	**167.26**	**37**	PKP	PKPdf	23 26 09.2	-1.3
EVIA	**Vianos**	**167.27**	**22**	PKIKP	PKPdf	23 26 07.7	-2.7
ELUQ	**Luque**	**167.50**	**30**	PKIKP	PKPdf	23 26 03.6	-7.0
ETOB	**Tobarra**	**167.57**	**19**	PKP	PKPdf	23 26 08.7	-1.9
EQES	**Quesada**	**167.80**	**26**	PKP	PKPdf	23 26 07.2	-3.5
EIBI	**Ibiza**	**167.82**	**9**	PKP	PKPdf	23 26 09.2	-1.5
EBEN	**Beniarda**	**167.86**	**15**	PKP	PKPdf	23 26 07.2	-3.5
ELOJ	**Sierra Loja**	**167.89**	**31**	PKIKP	PKPdf	23 26 06.8	-4.0
EHUE	**Huescar**	**167.97**	**24**	PKIKP	PKPdf	23 26 07.2	-3.6
EMIJ	**Mijas**	**168.06**	**35**	PKP	PKPdf	23 26 07.2	-3.7
EMUR	**La Murta**	**168.40**	**20**	PKP	PKPdf	23 26 08.7	-2.4

*IDC **11** 23:17:57.3±0.9, 26.95S×176.60W, mb4.5/9, mb1 4.7/11, mb1mx4.6/13, mbtmp4.5/11, ML4.0/1, Error ellipse: s-maj=23.3km s-min=19.3km az=119.0*
*NEIC **11** 23:17:58.1±0.5, 27.01S×176.29W, h10km, mb5.0/8, Error ellipse: s-maj=14.0km s-min=10.9km az=93.0*
ISC 11 23:17:59.4±3.6**, 26.96S**±0.08×**176.4W**±0.1**, h28**km±24km**, n43, σ0.91/41, mb4.6/15, 1C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.63**	**210**	Pn	**Pn**	**23 18 40.4**	**-0.6**
	253nm,0.3s,baz=279,slow=21,SNR=6.0						
RAO				Sn	**Sn**	**23 19 12.7**	**+0.3**
	311nm,0.3s,baz=83,slow=22,SNR=7.6						
RAO	**Raoul Island**	**2.63**	**210**	Pn	**Pn**	**23 18 40.5**	**-0.6**
RAO				ePn	**Pn**	**23 18 42.5**	**+1.4**
RAO				Sn	**Sn**	**23 19 12.7**	**+0.3**
URZ	**Urewera**	**12.51**	**204**	Pn	**P**	**23 20 54.8**	**-3.7**
	0.9nm,0.3s,baz=353,slow=8.1,SNR=3.0						
URZ				Sn	**S**	**23 23 06.7**	**-11**
	2.4nm,0.3s,baz=298,slow=23,SNR=8.6						
CTA	**Charters Tower**	**34.80**	**273**	eP	**P**	**23 24 52.3**	**+2.3**
	8.0nm,0.4s,mb5.0						
CTA	**Charters Tower**	**34.80**	**273**	P	**P**	**23 24 50.2**	**+0.2**
	11nm,0.5s,mb5.0,baz=99,slow=11,SNR=20						
CTAO	**Charters Tower**	**34.80**	**273**	eP	**P**	**23 24 52.2**	**+2.3**
	14nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**36.72**	**252**	P	**P**	**23 25 06.2**	**0.0**
	1.7nm,0.6s,mb4.1,baz=128,slow=8.9,SNR=4.4						
WB2	**Warramunga Arr**	**45.46**	**268**	eP	**P**	**23 26 17.4**	**-0.8**
WRAB	**Tennant Creek**	**45.47**	**268**	eP	**P**	**23 26 19.1**	**+0.9**
	16nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**45.47**	**268**	P	**P**	**23 26 17.6**	**-0.6**
	6.2nm,0.7s,mb4.5,baz=107,slow=7.6,SNR=25						
WRA				S	**S**	**23 32 57.1**	**-0.3**
	0.9nm,1.1s,baz=109,slow=12,SNR=3.7						
SBA	**Scott Base**	**51.56**	**184**	eP	**P**	**23 27 05.8**	**+1.1**
	12nm,1.2s,mb4.7						
VNDA	**Vanda**	**51.64**	**186**	P	**P**	**23 27 05.2**	**-0.1**
	2.5nm,1.0s,mb4.1,baz=353,slow=8.8,SNR=9.1						
VNDA	**Vanda**	**51.64**	**186**	eP	**P**	**23 27 05.0**	**-0.3**
	4.0nm,1.1s,mb4.3						
VNDA				P		23 27 05.2	
FITZ	**Fitzroy Crossi**	**53.84**	**267**	P	**P**	**23 27 21.4**	**-1.0**
	11nm,1.1s,mb4.7,baz=121,slow=5.9,SNR=2.9						
NWAO	**Narrogin (SRO)**	**56.96**	**247**	eP	**P**	**23 27 44.3**	**-0.5**
	88nm,1.9s,mb5.5						
CASY	**Casey**	**58.82**	**207**	eP	**P**	**23 27 56.0**	**-1.4**
	19nm,0.8s,mb5.2						
QSPA	**South Pole Qui**	**63.14**	**180**	⇑iP	**P**	**23 28 26.2**	**-0.3**
	17nm,1.1s,mb5.1						
MAW	**Mawson**	**76.00**	**200**	P	**P**	**23 29 45.2**	**0.0**
	4.1nm,0.8s,mb4.4,baz=120,slow=5.9,SNR=6.5						
MJAR	**Matsushiro Arr**	**76.25**	**324**	P	**P**	**23 29 47.1**	**-0.1**
	2.8nm,0.3s,mb4.6,baz=166,slow=6.7,SNR=8.7						
SNAA	**Sanae**	**81.54**	**178**		**P**	**23 30 17.7**	**+2.4**
SNAA	**Sanae**	**81.54**	**178**		**P**	**23 30 21.4**	**+6.1**
SNAA	**Sanae**	**81.54**	**178**		**P**	**23 30 24.7**	**+9.4**
SNAA	**Sanae**	**81.54**	**178**		**P**	**23 30 32.8**	**+18**
SNAA	**Sanae**	**81.54**	**178**	P	**P**	**23 30 15.1**	**-0.2**
SNAA				P		23 30 17.7	
SNAA				P		23 30 21.4	
SNAA				P	pP	23 30 24.7	+0.4
SNAA				P		23 30 32.8	
SNAA				P		23 30 41.8	
VNA3	**Neumayer Olymp**	**81.62**	**176**		**P**	**23 30 17.5**	**+1.8**
VNA3	**Neumayer Olymp**	**81.62**	**176**		**P**	**23 30 21.8**	**+6.1**
VNA3	**Neumayer Olymp**	**81.62**	**176**		**P**	**23 30 29.5**	**+14**
VNA3	**Neumayer Olymp**	**81.62**	**176**		**P**	**23 30 33.0**	**+17**
VNA3	**Neumayer Olymp**	**81.62**	**176**	P	**P**	**23 30 15.1**	**-0.6**
VNA3				P		23 30 17.5	
VNA3				P		23 30 21.8	
VNA3				P		23 30 29.5	
VNA3				P		23 30 33.0	
VNA3				P		23 30 42.5	
VNA2	**Neumayer--Watz**	**82.08**	**176**		**P**	**23 30 24.5**	**+6.4**
VNA2	**Neumayer--Watz**	**82.08**	**176**		**P**	**23 30 30.3**	**+12**
VNA2	**Neumayer--Watz**	**82.08**	**176**		**P**	**23 30 33.1**	**+15**
VNA2	**Neumayer--Watz**	**82.08**	**176**	P	**P**	**23 30 17.8**	**-0.3**
VNA2				P		23 30 24.5	
VNA2				P		23 30 30.3	
VNA2				P		23 30 33.1	
VNA2				P		23 30 43.4	
PDAR	**Pinedale Array**	**92.69**	**43**	P	**P**	**23 31 10.2**	**+0.2**
	0.5nm,0.8s,mb4.0,baz=207,slow=3.3,SNR=4.6						
CMAR	**Chiang Mai Arr**	**93.59**	**289**	P	**P**	**23 31 16.4**	**+1.7**
	2.3nm,1.0s,mb4.6,baz=120,slow=3.0,SNR=8.1						
ILAR	**Eielson Array**	**94.28**	**12**	P	**P**	**23 31 16.2**	**-0.6**
	0.7nm,0.7s,mb4.2,baz=212,slow=5.6,SNR=6.9						
FINES	**FINESS Array B**	**142.34**	**342**	PKhKP		23 37 26.6	
	0.6nm,0.5s,baz=45,slow=2.7,SNR=6.3						
NB2	**NORSAR Subarra**	**145.54**	**353**	PKPabc	PKPdf	23 37 35.8	-3.5
	15nm,1.2s,baz=22,slow=3.6						
NB2	**NORSAR Subarra**	**145.54**	**353**	PKPab	PKPab	23 37 35.8	-1.0
NOA	**NORSAR Array B**	**145.54**	**353**	PKPbc	PKPbc	23 37 36.2	+1.3
	4.4nm,0.9s,baz=11,slow=2.5,SNR=9.4						
AKASG	**Malin Array Be**	**149.28**	**327**	PKPbc	PKPdf	23 37 46.6	+0.9
	2.8nm,0.6s,baz=37,slow=3.6,SNR=20						
BRTR	**Keskin Array B**	**151.98**	**305**	PKPbc	PKPdf	23 37 53.8	+3.5
	1.0nm,0.6s,baz=117,slow=2.8,SNR=6.7						
BRTR				PKPab	PKPab	23 38 04.1	+0.6
	1.5nm,0.7s,baz=107,slow=3.1,SNR=7.4						
CLL	**Collm**	**154.65**	**346**	ePKP1	PKPdf	23 37 59.0	+5.5
CLL				ePKP2	PKPab	23 38 13.0	-1.4

*MOS **11** 23:18:16.0±1.8, 43.42N×41.47E, h1km, mb4.3/1, Error ellipse: s-maj=28.5km s-min=15.7km az=12.1*
*NNC **11** 23:18:33.2±55.0, 45.38N×42.67E, Error ellipse: s-maj=858.1km s-min=508.0km az=155.0*
TIF 11 23:18:28.8, 43.81N×43.01E, h12km±3km**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARNR	**Ardon**	**1.11**	**123**	i PN	Pn	23 18 51.5	+1.3
ZEI	**Tsey**	**1.22**	**148**	ePN	Pn	23 18 49.5	-2.3
ZEI				pmax	pmax		
	comp=Z,26nm,0.1s						
GOF	**Gofitskoye**	**1.25**	**1**	i PN	Pn	23 18 53.8	+1.6
ONI	**Oni**	**1.27**	**165**	P	Pb	23 18 53.1	+0.9
ONI				S	Sb	23 19 09.5	+1.2
DUS	**Dusheti**	**2.12**	**144**	P	Pn	23 19 13.2	+8.7
TBLG	**Delisi**	**2.43**	**148**	P	Pn	23 19 15.4	+6.3
TBLG				S	Sn	23 19 47.0	+8.0
MTA	**Mtatsminda**	**2.49**	**148**	P	Pn	23 19 16.0	+6.2
MTA				S	Sn	23 19 48.3	+7.9
AB31	**Akbulak array**	**12.86**	**59**	Pn	P	23 21 30.1	-4.1
	comp=Z,0.1nm,0.2s,baz=255,slow=11,SNR=7.9						
AB31				Sn	S	23 23 49.5	-8.7
	comp=Z,0.4nm,0.4s,baz=259,slow=20,SNR=6.3						

*NNC **11** 23:22:36.3±6.1, 39.26N×77.00E, h17km±27km, mpv3.3, Error ellipse: s-maj=48.2km s-min=31.9km az=79.0*
BJI 11 23:22:39.5, 39.47N×77.14E, h9km**, ML3.9, 2C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.90**	**273**	⇑iPG	Pg	23 22 56.1	-1.5
KSH				SG	Sg	23 23 11.5	+1.8
KSH				Smax			
	comp=N,1µm,0.4s						
KSH				Smax			
	comp=E,1µm,0.3s						
AAK	**Ala-Archa**	**3.74**	**329**	⇓Pg	Pg	23 23 45.6	-8.6
	comp=E,10nm,0.5s						
AAK				⇓Lg		23 24 39.4	
	comp=E,68nm,0.9s						
KK31	**Karatay Array**	**6.17**	**308**	⇓Pn	Pn	23 24 10.0	-3.1
	comp=E,0.2nm,0.3s,baz=132,slow=13,SNR=7.7						
KK31				⇓Pg	Pg	23 24 30.7	-12
	comp=E,2.2nm,0.7s,baz=130,slow=17,SNR=9.2						
KK31				⇑Lg		23 25 54.1	
	comp=E,3.8nm,0.5s,baz=128,slow=27						

*CSEM **11** 23:31:31.3, 37.25N×20.30E, h5km, MD3.5/3, After ATH*
ATH 11 23:31:34.7, 37.44N×20.56E, h7km**, MD3.5**/3**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.74**	**2**	ePB	Pb	23 31 49.0	-0.4
VLS				eSB	Sb	23 31 59.5	+0.1
VLS	**Valsamata**	**0.74**	**2**	ePg	Pg	23 31 49.0	-0.5
VLS				eSb	Sb	23 32 04.0	+4.6
ITM	**Ithomi**	**1.12**	**103**	ePB	Pb	23 31 55.8	-0.2
ITM	**Ithomi**	**1.12**	**103**	ePb	Pb	23 31 56.0	0.0
EVR	**Evrytania**	**1.77**	**33**	ePN	Pn	23 32 07.9	+1.8
EVR	**Evrytania**	**1.77**	**33**	ePg	Pg	23 32 10.0	-0.1

NNC 11 23:54:09.7±10.0**, 37.09N×70.19E, mpv3.4, 1C, Error ellipse: s-maj=133.9km s-min=57.5km az=120.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.01**	**2**	P	Pn	23 55 40.8	-1.3
	1.1nm,0.3s,baz=174,slow=11,SNR=61						
KK31				⇑S	Sn	23 56 50.5	-2.0
	11nm,0.5s						
AAK	**Ala-Archa**	**6.45**	**30**	P	Pn	23 55 42.2	-6.0
AB31	**Akbulak array**	**14.26**	**332**	P	P	23 57 32.5	-2.3
	0.6nm,0.6s,baz=144,slow=12,SNR=10						

*IDC **11** 23:55:40.1±1.8, 1.70N×96.73E, mb4.1/5, mb1 4.2/6, mb1mx3.8/19, mbtmp4.1/6, ML4.3/1, Error ellipse: s-maj=88.5km s-min=24.8km az=52.0*
*NEIC **11** 23:55:45.0±0.9, 1.76N×96.86E, h30km, mb4.2/2, Error ellipse: s-maj=17.8km s-min=14.4km az=225.0*
ISC 11 23:55:43.3±1.1**, 1.8N**±0.2×**96.9E**±0.1**, h30**km**, n11, σ0.64/11, mb4.0/9, 2C-1D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.13**	**47**	ePn	**Pn**	**23 56 59.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.70**	**7**	Pn	**P**	**23 59 37.3**	**+0.4**
	0.4nm,0.3s,baz=193,slow=12,SNR=6.8						
LSA	**Lhasa**	**28.30**	**349**	eP	**P**	**00 01 37.1**	**+0.6**
	2.1nm,0.4s,mb4.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**42.61**	**122**	P	**P**	**00 03 39.1**	**+0.2**
	0.9nm,0.5s,mb3.8,baz=302,slow=9.1,SNR=15						
MKAR	**Makanchi Array**	**46.61**	**346**	P	**P**	**00 04 10.6**	**0.0**
	2.1nm,0.5s,mb4.3,baz=163,slow=7.9,SNR=18						
KK31	**Karatay Array**	**47.40**	**334**	⇑Pn	**P**	**00 04 17.9**	**+1.0**
	0.4nm,0.5s,mb3.6,baz=124,slow=11,SNR=9.3						
KK31				⇓Pg	sP	00 04 32.3	+2.7
	0.2nm,0.3s,baz=171,slow=11						
KK31				⇑Lg		00 05 43.6	
	0.9nm,0.6s,baz=177,slow=22,SNR=5.3						
BVAR	**Borovoye Array**	**55.60**	**341**	P	**P**	**00 05 17.6**	**-0.9**
	1.0nm,0.4s,mb4.2,baz=138,slow=8.6,SNR=5.4						
ZRNK	**Zerenda**	**56.00**	**340**	*e*P	**P**	**00 05 20.2**	**-1.2**
	0.9nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**79.34**	**332**	P	**P**	**00 07 47.2**	**-0.4**
	0.7nm,0.4s,mb3.9,baz=108,slow=6.0,SNR=11						
KAF	**Kangasniemi**	**79.43**	**333**	*e*p	**P**	**00 07 48.1**	**0.0**
	0.4nm,0.4s,mb3.7,baz=144,slow=7.8						
ARCES	**ARCESS Array B**	**81.89**	**340**	P	**P**	**00 08 01.6**	**+0.6**
	2.9nm,0.8s,mb4.2,baz=95,slow=5.2,SNR=15						

*MOS **11** 23:57:43.0±1.6, 53.43N×109.81E, h12km, mb4.4/1, Error ellipse: s-maj=19.8km s-min=11.1km az=67.8*
BYKL 11 23:57:43.5±0.2**, 53.45N×109.80E, h18**km±3km**, 8C-11D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SYVR	**Suvo**	**0.24**	**30**	*e*PG	Pb	23 57 48.3	-0.8
SYVR				*e*		23 57 52.1	
SYVR				pmax	pmax		
	comp=Z,4µm,0.1s						
SYVR				smax			
	comp=E,5µm,0.1s						
SYVR	**Suvo**	**0.24**	**30**	⇓*i*Pg	Pb	23 57 48.8	-0.3
	comp=E,4µm,0.3s						
SYVR				⇓*i*Pg	Pb	23 57 48.8	-0.3
	comp=E,2µm,0.3s						
SYVR				⇓*i*Pg	Pb	23 57 48.8	-0.3
	comp=E,5µm,0.3s						
SYVR				*i* Sg	Sb	23 57 52.7	-0.2
SYVR				Pmax			
	comp=E,5µm,0.2s						
SYVR				Smax			
	comp=E,7µm,0.3s						
MXMB	**Maximikha**	**0.66**	**254**	⇓*i*Pg	Pb	23 57 56.2	0.0
MXMB				*e*Sg	Sb	23 58 06.0	+1.2
MXMB				Pmax			
	comp=E,152nm,0.2s						
MXMB				Smax			
	comp=E,5µm,0.3s						
OGRR	**Ongureny**	**1.33**	**279**	*e*PG	Pn	23 58 07.6	+0.2
OGRR				*e*		23 58 25.3	
OGRR				pmax	pmax		
	comp=Z,105nm,0.5s						
OGRR				smax			
	comp=N,1µm,0.4s						
OGRR	**Ongureny**	**1.33**	**279**	⇑*i*Pg	Pn	23 58 07.5	+0.1
	comp=N,39nm,0.4s						
OGRR				⇓*i*Pg	Pn	23 58 07.5	+0.1
	comp=N,160nm,0.4s						
OGRR				⇑*i*Pg	Pn	23 58 07.5	+0.1
	comp=N,137nm,0.4s						
OGRR				*i* Sg	Sb	23 58 25.1	+0.8
OGRR				Pmax			
	comp=N,104nm,0.2s						
OGRR				Smax			
	comp=N,1µm,0.4s						
YLYR	**Ulyunkhan**	**1.64**	**29**	*e*PN	Pn	23 58 12.2	+0.4
YLYR				*e*		23 58 12.7	
YLYR				*e*S	Sn	23 58 34.7	+2.2
YLYR				*e*		23 58 35.0	
YLYR				pmax	pmax		
	comp=Z,84nm,0.4s						
YLYR				smax			
	comp=E,770nm,0.6s						
YLYR	**Ulyunkhan**	**1.64**	**29**	⇑*i*Pn	Pn	23 58 11.9	+0.1
YLYR				⇑*i*Pg	Pn	23 58 12.6	+0.8
YLYR				*e*Sg	Sn	23 58 34.8	+2.3
YLYR				Pmax			
	comp=E,114nm,0.5s						
YLYR				Smax			
	comp=E,806nm,0.6s						
TRTB	**Turuntaevo**	**1.80**	**228**	⇓*i*Pn	Pn	23 58 14.7	+0.7
TRTB				⇓*i*Pg	Pn	23 58 15.7	+1.7
TRTB				*e*Sg	Sn	23 58 40.1	+3.6
TRTB				Pmax			
	comp=E,390nm,0.5s						
TRTB				Smax			
	comp=E,553nm,0.3s						
ZRHB	**Zarechye**	**1.83**	**242**	⇑*i*Pg	Pn	23 58 16.7	+2.1
ZRHB				*e*Sg	Sn	23 58 41.7	+4.2
ZRHB				Pmax			
	comp=E,344nm,0.6s						
ZRHB				Smax			
	comp=E,2µm,0.6s						
TRG	**Tyrgan**	**2.19**	**253**	⇑*i*Pn	Pn	23 58 19.5	-0.2
	comp=E,10.0nm,0.4s						
TRG				⇑*i*Pn	Pn	23 58 19.5	-0.2
	comp=E,31nm,0.4s						
TRG				⇓*i*Pn	Pn	23 58 19.5	-0.2
	comp=E,35nm,0.4s						
TRG				*e*Pg	Pn	23 58 22.1	+2.4
TRG				*e*Sn	Sn	23 58 46.1	-0.5
TRG				*e*Sg	Sn	23 58 50.8	+4.2
TRG				Pmax			
	comp=E,7.0nm,0.4s						
TRG				Smax			
	comp=E,494nm,0.2s						
FFNB	**Fofonovo**	**2.32**	**234**	*e*Pn	Pn	23 58 21.9	+0.4
FFNB				*e*Pg	Pn	23 58 24.7	+3.2
FFNB				*e*Sg	Sn	23 58 55.8	+6.0
FFNB				Pmax			
	comp=E,198nm,0.1s						
FFNB				Smax			
	comp=E,1µm,0.3s						
NIZ	**Nizh Angarsk**	**2.33**	**356**	*e*PN	Pn	23 58 22.2	+0.4
NIZ				*e*		23 58 25.0	
NIZ				*e*		23 58 55.4	
NIZ				pmax	pmax		
	comp=Z,139nm,0.3s						
NIZ				smax			
	comp=N,523nm,0.4s						
NIZ	**Nizh Angarsk**	**2.33**	**356**	*e*Pn	Pn	23 58 22.2	+0.4
NIZ				⇓*i*Pg	Pn	23 58 25.0	+3.2
NIZ				*e*Sg	Sn	23 58 55.9	+5.7
NIZ				Pmax			
	comp=N,150nm,0.3s						
NIZ				Smax			
	comp=N,619nm,0.5s						
HRMR	**Khuramsha**	**2.52**	**225**	*e*Pn	Pn	23 58 24.7	+0.3
HRMR				⇑*i*Pg	Pn	23 58 28.1	+3.7
HRMR				*e*Sg	Sn	23 59 02.5	+7.6
HRMR				Pmax			
	comp=N,246nm,0.2s						
HRMR				Smax			
	comp=N,1µm,0.8s						
KMO	**Kumora**	**2.57**	**18**	*e*PN	Pn	23 58 29.6	+4.4
KMO				*e*		23 59 03.2	
KMO				pmax	pmax		
	comp=Z,93nm,0.3s						
KMO				smax			
	comp=N,647nm,1.0s						
KMO	**Kumora**	**2.57**	**18**	*e*Pg	Pn	23 58 28.9	+3.7
KMO				*i* Sg	Sn	23 59 03.1	+6.8
KMO				Pmax			
	comp=N,94nm,0.3s						
KMO				Smax			
	comp=N,646nm,1.0s						
CIT	**Chita**	**2.69**	**121**	*e*PN	Pn	23 58 26.0	-0.9
CIT				*e*		23 58 30.7	
CIT				*e*		23 59 06.7	
CIT				pmax	pmax		
	comp=Z,138nm,0.9s						
CIT				smax			
	comp=N,365nm,0.7s						
CIT	**Chita**	**2.69**	**121**	*e*Pn	Pn	23 58 26.6	-0.3
CIT				*e*Pg	Pn	23 58 30.9	+4.0
CIT				*e*		23 59 00.3	
CIT				*e*Sg	Sn	23 59 06.7	+7.4
CIT				Pmax			
	comp=N,137nm,0.5s						
CIT				Smax			
	comp=N,367nm,0.6s						
YOA	**Uoyan**	**2.91**	**22**	*e*Sg	Sn	23 59 14.8	+10
YOA				Smax			
	comp=N,696nm,0.6s						
LSTR	**Listvyanka**	**3.42**	**244**	*e*PN	Pn	23 58 36.5	-0.6
LSTR				*e*		23 58 44.7	
LSTR				*e*S	Sn	23 59 15.3	-2.3
LSTR				*e*		23 59 29.2	
LSTR				pmax	pmax		
	comp=Z,13nm,0.4s						
LSTR				smax			
	comp=N,136nm,1.0s						
LSTR	**Listvyanka**	**3.42**	**244**	⇓*i*Pn	Pn	23 58 36.5	-0.6
LSTR				*e*Pg	Pn	23 58 44.8	+7.7
LSTR				*e*Sn	Sn	23 59 14.9	-2.7
LSTR				*e*Sg	Sn	23 59 29.9	+12
LSTR				Pmax			
	comp=N,12nm,0.5s						
LSTR				Smax			
	comp=N,132nm,1.3s						
SVKR	**Severomuysk**	**3.45**	**38**	*e*Sg	Sn	23 59 31.6	+13
SVKR				Smax			
	comp=N,440nm,0.6s						
IRK	**Irkutsk**	**3.56**	**252**	*e*Sg	Sn	23 59 33.8	+12
IRK				Smax			
	comp=N,415nm,0.4s						
TLY	**Talaya**	**4.15**	**247**	*e*PN	Pn	23 58 46.3	-1.3
TLY				*e*		23 58 57.1	
TLY				*e*S	Sn	23 59 32.0	-4.3
TLY				*e*		23 59 49.7	
TLY				pmax	pmax		
	comp=Z,6.0nm,0.3s						
TLY				smax			
	comp=E,91nm,0.4s						
TLY	**Talaya**	**4.15**	**247**	⇓*i*Pn	Pn	23 58 46.3	-1.3
TLY				*e*		23 58 58.3	
TLY				*e*Sn	Sn	23 59 34.3	-2.0
TLY				*e*Sg	Sn	23 59 51.4	+15
TLY				max			
	comp=E,5.0nm,0.6s						
TLY				Smax			
	comp=E,91nm,0.4s						
NLYR	**Nelyaty**	**4.57**	**46**	*e*PN	Pn	23 59 05.7	+12
NLYR				*e*		00 00 04.5	
NLYR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NLYR				smax			
	comp=N,256nm,1.6s						
ARS	**Arshan**	**4.74**	**254**	*e*Pn	Pn	23 58 55.6	-0.4
ARS				*e*Pg	Pn	23 59 09.0	+13
ARS				*e*Sn	Sn	23 59 49.8	-1.4
ARS				*e*Sg	Sn	00 00 10.7	+20
ARS				Pmax			
	comp=N,24nm,0.6s						
ARS				Smax			
	comp=N,303nm,1.0s						
BOD	**Bodaibo**	**4.98**	**27**	*e*Pg	Pn	23 59 12.3	+13
BOD				*e*Sg	Sn	00 00 17.5	+20
BOD				Pmax			
	comp=N,5.0nm,0.7s						
BOD				Smax			
	comp=N,69nm,0.6s						
ZAK	**Zakamensk**	**5.07**	**235**	*e*	Pn	23 59 13.4	+13
ZAK				*e*Sg	Sn	00 00 21.8	+22
ZAK				max			
	comp=N,11nm,0.7s						
ZAK				Smax			
	comp=N,44nm,1.4s						
MOY	**Mondy**	**5.66**	**255**	*e*PN	Pn	23 59 09.3	+0.4
MOY				*e*		23 59 25.7	
MOY				*e*S	Sn	00 00 12.1	-2.2
MOY				*e*		00 00 37.1	
MOY				pmax	pmax		
	comp=Z,13nm,0.6s						
MOY				smax			
	comp=E,90nm,0.8s						
MOY	**Mondy**	**5.66**	**255**	*e*Pn	Pn	23 59 08.6	-0.3
MOY				*e*Pg	Pn	23 59 24.1	+15
MOY				*e*Sg	Sn	00 00 36.8	+23
MOY				Pmax			
	comp=E,6.0nm,0.7s						
MOY				Smax			
	comp=E,90nm,1.3s						
CRS	**Chara**	**5.96**	**51**	*e*Pg	Pn	23 59 30.6	+17
CRS				*e*Sg	Sn	00 00 47.8	+26
CRS				Pmax			
	comp=E,19nm,1.3s						
CRS				Smax			
	comp=E,86nm,1.2s						
TUP	**Tupik**	**6.08**	**77**	*e*PN	Pn	23 59 13.2	-1.6
TUP				*e*		23 59 31.9	
TUP				*e*S	Sn	00 00 21.6	-3.1
TUP				*e*		00 00 50.4	
TUP				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TUP				smax			
	comp=N,148nm,1.0s						
TUP	**Tupik**	**6.08**	**77**	*e*	Pn	23 59 16.8	+2.0
TUP				*e*Sg	Sn	00 00 51.1	+26
TUP				max			
	comp=N,5.0nm,0.6s						
TUP				Smax			
	comp=N,161nm,0.7s						
ORL	**Orlik**	**6.10**	**265**	*e*Pn	Pn	23 59 13.8	-1.4
ORL				*e*Sn	Sn	00 00 20.9	-4.4
ORL				*e*Sg	Sn	00 00 51.2	+26
ORL				max			
ORL				Smax			

*TIF **12** 00:02:45.2, 39.67N×44.84E, h10km±2km*
*ISK **12** 00:02:47.4, 39.93N×45.21E, h18km, ML3.4*
ISC 12 00:02:51.6±1.1**, 39.79N**±0.06×**44.7E**±0.2**, h10**km**, n8,** σ**0.90**/14**, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GNI	**Garni**	**0.36**	**1**	*i* PG	**Pg**	**00 02 56.5**	**-2.4**
GNI				*i* SG	**Sg**	**00 03 03.0**	**-0.8**
CLDR	**Caldiran**	**0.91**	**225**	PN	**Pn**	**00 03 10.5**	**+0.3**
CLDR				SN	**Sn**	**00 03 28.3**	**+5.0**
KARS	**Kars**	**1.50**	**304**	*e*PN	**Pn**	**00 03 18.1**	**-0.6**
DGRG	**David-gareji**	**1.73**	**16**	P	**Pn**	**00 03 21.5**	**-0.4**
DGRG				S	**Sn**	**00 03 44.2**	**+0.1**
MTA	**Mtatsminda**	**1.90**	**1**	P	**Pn**	**00 03 24.6**	**+0.2**
MTA				S	**Sn**	**00 03 49.3**	**+0.7**
TBLG	**Delisi**	**1.94**	**0**	P	**Pn**	**00 03 24.9**	**0.0**
TBLG				S	**Sn**	**00 03 50.2**	**+0.8**
DUS	**Dusheti**	**2.30**	**359**	P	**Pn**	**00 03 31.7**	**+1.7**
DUS				S	**Sn**	**00 04 03.1**	**+4.5**
HKR	**Hakkari**	**2.34**	**200**	*e*PN	**Pn**	**00 03 30.5**	**-0.2**

*IDC **12** 00:38:48.5±0.7, 7.77N×126.80E, mb4.4/16, mb1 4.5/16, mb1mx4.3/23, mbtmp4.3/16, MS4.0/3, Ms1 4.1/3, ms1mx3.6/28, Error ellipse: s-maj=38.9km s-min=13.6km az=72.0*
*NEIC **12** 00:38:55.4±0.3, 7.81N×126.84E, h50km, mb4.6/8, Error ellipse: s-maj=19.5km s-min=6.4km az=76.0*
*BJI **12** 00:38:55.4, 7.80N×126.80E, h50km, mb4.6*
*MAN **12** 00:38:56.2, 7.72N×126.58E, h17km, mb4.9, ML3.8, MS3.9*
ISC 12 00:38:52.8±0.4**, 7.64N**±0.03×**126.86E**±0.04**, h33**km**, n55,** σ**1.48**/73**, mb4.3**/21**, MS4.0**/3**, 4C-5D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.73**	**318**	⇑*i*P	**P**	**00 39 07.6**	**+1.0**
BIPH				*i* S	**S**	**00 39 15.5**	**-1.2**
MATI	**Mati**	**0.91**	**221**	*e*P	**P**	**00 39 11.5**	**+2.2**
MATI				*e*S	**S**	**00 39 22.1**	**+0.7**
DAV	**Davao City (W)**	**1.39**	**246**	⇓*i*P	**P**	**00 39 19.0**	**+2.9**
BUKP	**Musuan**	**1.79**	**278**	*e*P	**P**	**00 39 23.5**	**+1.6**
BUKP				*e*S	**S**	**00 39 41.9**	**-1.8**
BUTP	**Butuan**	**1.80**	**317**	*e*P	**P**	**00 39 24.2**	**+2.3**
BUTP				*e*S	**S**	**00 39 46.6**	**+2.9**
KCP	**Kidapawan**	**1.86**	**250**	⇑*e*P	**P**	**00 39 24.3**	**+1.4**
KCP				*i* S	**S**	**00 39 45.3**	**-0.2**
CGP	**Cagayan de Oro**	**2.29**	**291**	⇓*e*P	**P**	**00 39 30.4**	**+1.4**
CGP				*i* S	**S**	**00 39 54.2**	**-2.1**
SCPH	**Surigao**	**2.52**	**328**	⇑*e*P	**P**	**00 39 35.7**	**+3.4**
SCPH				*e*S	**S**	**00 40 05.3**	**+3.2**
CTBH	**Cotabato--PC H**	**2.62**	**261**	*e*P	**P**	**00 39 34.3**	**+0.5**
CTBH				*i* S	**S**	**00 40 03.6**	**-1.2**
MSLP	**Maasin**	**3.17**	**322**	*e*P	**P**	**00 39 42.8**	**+1.3**
MSLP				*e*S	**S**	**00 40 18.3**	**-0.2**
PAGZ	**Pagadian**	**3.45**	**274**	*e*P	**P**	**00 39 45.8**	**+0.3**
PAGZ				*e*S	**S**	**00 40 16.7**	**-9.1**
DCPH	**Dipolog City**	**3.59**	**285**	⇓*e*P	**P**	**00 39 49.3**	**+1.8**
LLP	**Lapu-Lapu**	**3.90**	**313**	⇓*e*P	**P**	**00 39 53.2**	**+1.3**
LLP				*i* S	**S**	**00 40 35.5**	**-1.7**
PLP	**Palo**	**3.96**	**332**	*e*P	**P**	**00 39 54.9**	**+2.1**
PLP				*e*S	**S**	**00 40 40.9**	**+2.1**
SNPH	**Sibulan**	**3.96**	**295**	⇑*i*P	**P**	**00 39 52.9**	**+0.1**
SNPH				*i* S	**S**	**00 40 36.5**	**-2.2**
BESP	**Borongan**	**4.17**	**341**	*e*P	**P**	**00 39 59.2**	**+3.4**
BESP				*e*S	**S**	**00 40 51.5**	**+7.4**
IPIL	**Ipil**	**4.25**	**272**	*e*P	**P**	**00 39 55.2**	**-1.7**
GUIM	**Jordan**	**5.15**	**305**	*e*P	**P**	**00 40 09.4**	**-0.3**
GUIM				*e*S	**S**	**00 41 03.0**	**-5.7**
CNP	**Catarman**	**5.30**	**336**	*e*P	**P**	**00 40 13.2**	**+1.5**
CNP				*e*S	**S**	**00 41 06.4**	**-6.0**
RCP	**Roxas**	**5.62**	**314**	⇓*e*P	**P**	**00 40 17.2**	**+1.0**
PVCP	**Virac**	**6.48**	**336**	*e*P	**P**	**00 40 30.0**	**+1.6**
PVCP				*e*S	**S**	**00 41 43.0**	**+0.9**
ENPP	**El Nido**	**8.14**	**296**	*e*P	**P**	**00 40 43.0**	**-8.6**
LUBP	**Lubang**	**8.88**	**314**	*e*P	**P**	**00 41 04.1**	**+2.4**
BALP	**Baler**	**9.56**	**328**	*e*P	**P**	**00 41 09.2**	**-2.1**
BALP				*e*S	**S**	**00 42 53.0**	**-5.8**
QIZ	**Qiongzhong**	**20.03**	**306**	P	**P**	**00 43 25.0**	**-0.9**
KAKA	**Kakadu**	**20.97**	**165**	*e*P	**P**	**00 43 36.3**	**+0.6**
	37nm,0.7s						
FITZ	**Fitzroy Crossi**	**25.61**	**183**	*e*P	**P**	**00 44 22.3**	**+1.1**
	16nm,1.0s,mb4.5						
FITZ	**Fitzroy Crossi**	**25.61**	**183**	P	**P**	**00 44 20.4**	**-0.8**
	19nm,0.8s,mb4.7,baz=2.0,slow=6.3,SNR=20						
WRA	**Warramunga Arr**	**28.38**	**165**	P	**P**	**00 44 45.2**	**-1.3**
	2.5nm,0.6s,mb4.1,baz=348,slow=9.4,SNR=26						
WRA				PcP	PcP	00 47 57.8	-0.9
	0.7nm,0.5s,baz=329,slow=2.8,SNR=5.2						
WB2	**Warramunga Arr**	**28.39**	**165**	*e*P	**P**	**00 44 46.3**	**-0.2**
WB2				*e*S	**S**	**00 49 25.3**	**-4.4**
CMAR	**Chiang Mai Arr**	**29.19**	**294**	P	**P**	**00 44 52.1**	**-1.6**
	3.1nm,0.8s,mb4.1,baz=128,slow=6.9,SNR=5.6						
CMAR				LR	LR	00 55 22.2	
	comp=Z,146nm,20.6s,MS3.6,baz=90,slow=34						
MJAR	**Matsushiro Arr**	**30.57**	**18**	LR	LR	00 56 37.6	
	comp=Z,182nm,18.6s,MS3.8,baz=155,slow=35						
MDJ	**Mudanjiang**	**36.91**	**3**	P	**P**	**00 45 57.6**	**-2.8**
	6.0nm,0.6s,mb4.6						
KLBR	**Kellerberrin**	**39.97**	**192**	*e*P	**P**	**00 46 26.7**	**+0.6**
	16nm,1.1s,mb4.7						
MUN	**Mundaring**	**40.69**	**194**	*e*P	**P**	**00 46 33.1**	**+1.1**
	7.2nm,0.8s,mb4.3						
NWAO	**Narrogin (SRO)**	**41.37**	**192**	P	**P**	**00 46 37.8**	**+0.2**
	4.0nm,0.4s,mb4.4,baz=45,slow=12,SNR=6.7						
NWAO	**Narrogin (SRO)**	**41.37**	**192**	*e*P	**P**	**00 46 37.7**	**+0.1**
	5.6nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**41.74**	**161**	*e*P	**P**	**00 46 41.2**	**+0.4**
	4.7nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**41.74**	**161**	P	**P**	**00 46 41.3**	**+0.5**
	4.7nm,0.5s,mb4.4,baz=331,slow=4.0,SNR=14						
SONM	**Songino Array**	**43.67**	**340**	P	**P**	**00 46 54.9**	**-1.4**
	0.4nm,0.3s,mb3.6,baz=157,slow=9.4,SNR=5.5						
WMQ	**Urumqi**	**49.65**	**323**	P	**P**	**00 47 43.0**	**-0.4**
MKAR	**Makanchi Array**	**54.46**	**324**	P	**P**	**00 48 16.4**	**-3.0**
	7.3nm,0.7s,mb4.7,baz=118,slow=6.9,SNR=58						
MKAR				LR	LR	01 12 00.7	
	comp=Z,466nm,20.2s,MS4.5,baz=359,slow=37						
BVAR	**Borovoye Array**	**64.15**	**326**	P	**P**	**00 49 23.8**	**-2.4**
	3.1nm,0.7s,mb4.5,baz=114,slow=7.2,SNR=23						
ZRNK	**Zerenda**	**64.89**	**326**	*e*P	**P**	**00 49 27.5**	**-3.6**
	7.5nm,0.8s,mb4.8						
ILAR	**Eielson Array**	**81.54**	**26**	P	**P**	**00 51 08.0**	**-0.3**
	0.9nm,0.8s,mb3.8,baz=250,slow=4.9,SNR=7.9						
ASF	**Jabal al Asfar**	**85.95**	**302**	P	**P**	**00 51 30.2**	**-1.1**
	2.4nm,0.8s,mb4.5,baz=184,slow=4.2,SNR=4.4						
ARCES	**ARCESS Array B**	**86.84**	**340**	P	**P**	**00 51 32.9**	**-1.9**
	1.8nm,0.8s,mb4.4,baz=90,slow=4.9,SNR=6.2						
ARCES	**ARCESS Array B**	**86.84**	**340**	P	**P**	**00 51 32.9**	**-1.9**
VNDA	**Vanda**	**87.27**	**173**	P	**P**	**00 51 37.0**	**+0.2**
	0.6nm,0.3s,mb4.3,baz=322,slow=5.4,SNR=8.2						
VNDA	**Vanda**	**87.27**	**173**	P	**P**	**00 51 37.0**	**+0.2**
KAF	**Kangasniemi**	**88.21**	**332**	*e*p	**P**	**00 51 38.2**	**-3.3**
	0.2nm,0.3s,mb3.8						
FINES	**FINESS Array B**	**88.46**	**332**	P	**P**	**00 51 41.6**	**-1.2**
	0.9nm,0.4s,mb4.4,baz=85,slow=4.6,SNR=23						
AKASG	**Malin Array Be**	**88.95**	**321**	P	**P**	**00 51 43.4**	**-2.0**
	0.6nm,0.5s,mb4.2,baz=64,slow=4.8,SNR=6.0						
HFS	**Hagfors**	**94.63**	**333**	P	**P**	**00 52 10.1**	**-1.3**
	0.8nm,0.6s,mb4.3,baz=124,slow=5.3,SNR=8.6						
GERES	**GERESS Array B**	**99.11**	**322**	P	**P**	**00 52 32.2**	**+0.3**
	0.5nm,0.6s,mb4.2,baz=45,slow=8.3,SNR=4.1						

*ATH **12** 00:47:45.3, 37.79N×27.59E, h24km±3km, MD3.6/6*
*NEIC **12** 00:47:45.4, 37.80N×27.59E, h24km, MD3.6(ATH), MD3.3(ISK), After ATH.*
*ISK **12** 00:47:45.0, 37.70N×27.41E, h25km, MD3.3*
*CSEM **12** 00:47:45.0±0.1, 37.75N×27.52E, h12km, MD3.3, Error ellipse: s-maj=2.4km s-min=1.3km az=72.0*
ISC 12 00:47:45.2±0.5**, 37.73N**±0.02×**27.48E**±0.03**, h7**km±4km**, n66,** σ**1.31**/85**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.32**	**103**	*i* P	**Pg**	**00 47 51.5**	**-0.4**
AYDN				*i* S	**Sg**	**00 47 54.8**	**-1.4**
MLSB	**Milas**	**0.50**	**152**	*i* PG	**Pg**	**00 47 55.6**	**+0.4**
MLSB	**Milas**	**0.50**	**152**	Pg	**Pg**	**00 47 55.7**	**+0.4**
SMG	**Samos**	**0.51**	**268**	*e*PN	**Pn**	**00 47 57.1**	**-1.4**
SMG				*e*SN	**Sn**	**00 48 06.4**	**-1.1**
BDRM	**Kayabasi**	**0.67**	**183**	*i* P	**Pg**	**00 47 59.1**	**+0.5**
BDRM				*i* S	**Sg**	**00 48 08.9**	**+1.4**
BODT	**Bodrum**	**0.68**	**192**	*i* PG	**Pg**	**00 47 58.7**	**-0.2**
BODT	**Bodrum**	**0.68**	**192**	Pg	**Pg**	**00 47 58.8**	**-0.2**
BODT	**Bodrum**	**0.68**	**192**	Pg	**Pg**	**00 47 58.8**	**-0.1**
IZM	**Izmir**	**0.69**	**346**	*i* PG	**Pg**	**00 47 58.8**	**-0.2**
IZM				*i* SG	**Sg**	**00 48 10.1**	**+1.9**
IZM	**Izmir**	**0.69**	**346**	Pg	**Pg**	**00 47 58.8**	**-0.2**
IZM				Sg	**Sg**	**00 48 10.8**	**+2.6**
KDAG	**Bornova**	**0.69**	**346**	*i* P	**Pg**	**00 47 58.9**	**-0.2**
KDAG				*i* S	**Sg**	**00 48 09.3**	**+0.9**
BLCB	**Balcova**	**0.74**	**332**	*i* PG	**Pg**	**00 48 00.2**	**+0.2**
BLCB	**Balcova**	**0.74**	**332**	Pg	**Pg**	**00 47 59.8**	**-0.2**
BLCB	**Balcova**	**0.74**	**332**	Pg	**Pg**	**00 47 59.8**	**-0.2**
YER	**Yerkesik**	**0.87**	**133**	*i* PG	**Pg**	**00 48 02.1**	**-0.6**
YER				*i* SG	**Sg**	**00 48 15.2**	**+0.8**
YER	**Yerkesik**	**0.87**	**133**	Pg	**Pg**	**00 48 02.1**	**-0.6**
YER				Sg	**Sg**	**00 48 15.1**	**+0.7**
YER	**Yerkesik**	**0.87**	**133**	*i* Pg	**Pg**	**00 48 02.1**	**-0.6**
YER				Sg	**Sg**	**00 48 15.1**	**+0.7**
URLA	**Izmir**	**0.94**	**312**	*i* P	**Pb**	**00 48 04.8**	**+1.4**
URLA				*i* S	**Sb**	**00 48 17.6**	**+1.8**
MANT	**Manisa**	**1.14**	**48**	*i* P	**Pb**	**00 48 05.8**	**-1.0**
MANT				*i* S	**Sb**	**00 48 19.3**	**-2.3**
NISR	**Nisiros**	**1.15**	**194**	*e*PN	**Pn**	**00 48 09.0**	**+1.3**
NISR	**Nisiros**	**1.15**	**194**	*e*Pn	**Pn**	**00 48 10.0**	**+2.3**
AKS	**Akhisar**	**1.17**	**13**	PN	**Pn**	**00 48 06.8**	**-1.2**
AKS	**Akhisar**	**1.17**	**13**	Pn	**Pn**	**00 48 07.2**	**-0.8**
AKS	**Akhisar**	**1.17**	**13**	Pn	**Pn**	**00 48 07.2**	**-0.8**
DENT	**Denizli**	**1.23**	**89**	PN	**Pn**	**00 48 08.5**	**-0.3**
DENT	**Denizli**	**1.23**	**89**	Pn	**Pn**	**00 48 08.6**	**-0.2**
DNZL	**Cakiroluk**	**1.24**	**92**	*i* P	**Pb**	**00 48 08.5**	**-0.1**
DNZL				*i* S	**Sb**	**00 48 26.8**	**+2.1**
DALT	**Dalyan (Mudla)**	**1.33**	**136**	*e*PN	**Pn**	**00 48 09.0**	**-1.3**
ARG	**Arkhangelos**	**1.60**	**161**	*e*PN	**Pn**	**00 48 14.7**	**+0.6**
APE	**Apeiranthos**	**1.69**	**247**	*e*PN	**Pn**	**00 48 12.5**	**-2.9**
APE	**Apeiranthos**	**1.69**	**247**	Pn	**Pn**	**00 48 12.6**	**-2.8**
APE	**Apeiranthos**	**1.69**	**247**	*e*PN	**Pn**	**00 48 17.0**	**+1.6**
APE	**Apeiranthos**	**1.69**	**247**	Pn	**Pn**	**00 48 12.6**	**-2.8**
AYVA	**Ayvalik**	**1.69**	**339**	*i* P	**Pn**	**00 48 17.6**	**+2.2**
AYVA				*i* S	**Sn**	**00 48 40.1**	**+2.6**
KHL	**Karahalli**	**1.72**	**69**	*e*PN	**Pn**	**00 48 15.2**	**-0.6**
KHL	**Karahalli**	**1.72**	**69**	Pn	**Pn**	**00 48 15.2**	**-0.6**
GOLH	**Golhisar**	**1.73**	**106**	*i* P	**Pn**	**00 48 17.3**	**+1.4**
GOLH				*i* S	**Sn**	**00 48 42.6**	**+4.2**
PRK	**Paraskevi**	**1.78**	**328**	*e*PN	**Pn**	**00 48 17.3**	**+0.6**
BALB	**Balikesir**	**1.93**	**9**	*e*PN	**Pn**	**00 48 18.6**	**-0.2**
BTOK	**Tokmak**	**2.07**	**12**	*i* P	**Pn**	**00 48 22.4**	**+1.5**
BTOK				*i* S	**Sn**	**00 48 50.3**	**+3.1**
DST	**Dursunbey**	**2.07**	**25**	*e*PN	**Pn**	**00 48 19.9**	**-1.0**
DST	**Dursunbey**	**2.07**	**25**	Pn	**Pn**	**00 48 19.9**	**-1.0**
GDZ	**Gediz**	**2.07**	**49**	*i* P	**Pn**	**00 48 24.4**	**+3.5**
GDZ				*i* S	**Sn**	**00 48 50.3**	**+3.1**
ELL	**Elmali**	**2.17**	**116**	*e*PN	**Pn**	**00 48 20.5**	**-1.8**
ELL	**Elmali**	**2.17**	**116**	Pn	**Pn**	**00 48 20.6**	**-1.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ELL	Elmali	2.17	116	Pn	Pn	00 48 20.6	-1.7
KARP	Karpathos	2.20	187	ePN	Pn	00 48 23.0	+0.4
AKAS	Kas	2.27	131	i P	Pn	00 48 27.5	+3.9
AKAS				i S	Sn	00 48 56.4	+4.3
TKTP	Tekketepe	2.27	81	eP	Pn	00 48 25.1	+1.4
TKTP				i S	Sg	00 49 01.6	+0.8
CANB	Canakkale	2.30	352	ePN	Pn	00 48 22.5	-1.7
ALT	Altintas	2.45	57	ePN	Pn	00 48 25.6	-0.7
ALT	Altintas	2.45	57	Pn	Pn	00 48 25.7	-0.6
ALT	Altintas	2.45	57	Pn	Pn	00 48 25.7	-0.6
ORLT	Orhaneli	2.56	25	ePN	Pn	00 48 27.2	-0.7
BNT	Bandirma	2.64	7	ePN	Pn	00 48 27.4	-1.6
BNT	Bandirma	2.64	7	Pn	Pn	00 48 27.4	-1.6
ULDT	Uludag	2.73	28	eP	Pb	00 48 34.2	+0.2
ULDT				i S	Sb	00 49 11.1	+3.3
LIA	Limnos Island	2.81	321	ePN	Pn	00 48 31.1	-0.3
MRMT	Marmara Adasi	2.87	2	ePN	Pn	00 48 31.1	-1.1
ESKT	Eskisehir	3.19	55	ePN	Pn	00 48 36.0	-0.8
YLV	Yalova	3.19	27	ePN	Pn	00 48 36.4	-0.4
HRT	Hereke	3.52	28	ePN	Pn	00 48 40.9	-0.6
HENT	Hendek	4.07	40	i P	Pg	00 49 01.5	-5.0
KDZ	Kurdzhali	4.22	339	i P	Pn	00 48 51.0	-0.5
RZN	Rozhen	4.49	333	i P	Pn	00 48 53.0	-2.3
MMB	Musomiste	4.82	324	i P	Pn	00 48 58.0	-1.9

ATH 12 00:55:18.3, 37.87N×27.65E, h15km±6km, MD3.5/4
NEIC 12 00:55:18.9, 37.75N×27.53E, h19km, MD3.5(ATH), MD3.2(ISK), After ISK.
ISK 12 00:55:18.9, 37.76N×27.55E, h18km, MD3.2
CSEM 12 00:55:18.8±0.1, 37.78N×27.62E, h12km, MD3.2, Error ellipse: s-maj=2.4km s-min=1.4km az=69.0
ISC 12 00:55:18.9±0.5, 37.80N±0.02×27.60E±0.03, h1km±4km, n49, σ1.12/67, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AYDN	Tasoluk	0.26	121	i P	Pg	00 55 24.9	+0.8
AYDN				i S	Sg	00 55 28.4	+0.8
MLSB	Milas	0.52	164	i PG	Pg	00 55 29.2	0.0
MLSB				i SG	Sg	00 55 36.3	+0.2
MLSB	Milas	0.52	164	Pg	Pg	00 55 29.2	0.0
MLSB				Sg	Sg	00 55 36.2	+0.1
SMG	Samos	0.61	262	ePB	Pb	00 55 30.6	-1.3
SMG				eSN	Sn	00 55 40.4	-4.4
SMG	Samos	0.61	262	ePb	Pb	00 55 30.8	-1.1
SMG				eSb	Sb	00 55 40.6	-0.1
IZM	Izmir	0.66	336	i PG	Pg	00 55 32.3	+0.3
IZM				i SG	Sg	00 55 42.9	+2.2
IZM	Izmir	0.66	336	i Pg	Pg	00 55 32.3	+0.3
IZM				Sg	Sg	00 55 42.3	+1.6
KDAG	Bornova	0.66	337	i P	Pg	00 55 32.3	+0.3
KDAG				i S	Sg	00 55 41.7	+0.9
BLCB	Balcova	0.73	324	i PG	Pg	00 55 33.8	+0.3
BDRM	Kayabasi	0.74	189	i P	Pg	00 55 32.5	-1.1
BDRM				i S	Sg	00 55 44.2	+0.7
BODT	Bodrum	0.77	197	i PG	Pg	00 55 33.7	-0.5
YER	Yerkesik	0.86	140	i PG	Pg	00 55 36.0	0.0
URLA	Izmir	0.97	306	i P	Pb	00 55 38.0	-0.1
URLA				i S	Sg	00 55 51.3	+0.1
MANT	Manisa	1.03	47	i P	Pb	00 55 39.8	+0.7
MANT				i S	Sb	00 55 51.8	-1.1
AKS	Akhisar	1.09	9	i PN	Pn	00 55 40.4	-0.8
AKS	Akhisar	1.09	9	Pn	Pn	00 55 40.5	-0.7
AKS	Akhisar	1.09	9	Pn	Pn	00 55 40.5	-0.7
DENT	Denizli	1.14	92	PN	Pn	00 55 41.3	-0.5
DENT	Denizli	1.14	92	Pn	Pn	00 55 41.4	-0.5
DNZL	Cakiroluk	1.16	95	i P	Pb	00 55 41.9	+0.6
DNZL				i S	Sb	00 56 00.0	+3.4
DALT	Dalyan (Mudla)	1.32	141	PN	Pn	00 55 43.5	-0.9
DALT	Dalyan (Mudla)	1.32	141	Pn	Pn	00 55 43.6	-0.8
ARG	Arkhangelos	1.63	165	ePg	Pn	00 55 49.9	+1.0
ARG				eSb	Sb	00 56 14.7	+4.2
ARG	Arkhangelos	1.63	165	ePN	Pn	00 55 49.9	+1.0
ARG				eSN	Sn	00 56 12.0	+1.2
FETY	Fethiye	1.66	134	ePN	Pn	00 55 47.9	-1.3
AYVA	Ayvalik	1.67	335	i P	Pn	00 55 51.2	+1.8
AYVA				i S	Sb	00 56 13.7	+2.1
PRK	Paraskevi	1.78	325	ePg	Pg	00 55 52.7	-1.7
PRK				eSn	Sn	00 56 16.1	+1.5
PRK	Paraskevi	1.78	325	ePN	Pn	00 55 49.9	-1.1
APE	Apeiranthos	1.80	247	ePN	Pn	00 55 48.7	-2.5
APE	Apeiranthos	1.80	247	ePn	Pn	00 55 52.5	+1.3
APE	Apeiranthos	1.80	247	ePN	Pn	00 55 52.4	+1.2
BALB	Balikesir	1.85	7	ePN	Pn	00 55 51.7	-0.3
GDZ	Gediz	1.96	48	i P	Pn	00 55 58.2	+4.6
DST	Dursunbey	1.98	24	ePN	Pn	00 55 53.5	-0.3
DST	Dursunbey	1.98	24	Pn	Pn	00 55 53.6	-0.3
BTOK	Tokmak	1.99	10	eP	Pn	00 55 55.2	+1.2
ELL	Elmali	2.12	119	ePN	Pn	00 55 54.8	-1.0
ELL	Elmali	2.12	119	Pn	Pn	00 55 54.8	-1.0
TKTP	Tekketepe	2.17	83	eP	Pn	00 56 02.0	+5.5
TKTP				i S	Sn	00 56 39.3	+15
AKAS	Kas	2.24	133	i P	Pn	00 56 00.8	+3.3
CANB	Canakkale	2.26	350	ePN	Pn	00 55 56.7	-1.1
EZN	Ezine	2.26	334	ePN	Pn	00 55 56.4	-1.4
EZN	Ezine	2.26	334	Pn	Pn	00 55 56.5	-1.3
EZN	Ezine	2.26	334	Pn	Pn	00 55 56.5	-1.3
ORLT	Orhaneli	2.47	24	ePN	Pn	00 56 00.0	-0.8
KCT	Karacabey	2.54	13	ePN	Pn	00 56 00.3	-1.5
KCT	Karacabey	2.54	13	Pn	Pn	00 56 00.3	-1.5
BNT	Bandirma	2.57	6	ePN	Pn	00 56 01.2	-1.1
ULDT	Uludag	2.63	27	i P	Pg	00 56 08.2	-3.2
ULDT				i S	Sg	00 56 46.8	+0.3

IDC 12 01:34:14.8±1.9, 12.88N×93.19E, mb3.8/5, mb1 4.0/5, mb1mx3.6/19, mbtmp3.8/5, Error ellipse: s-maj=173.2km s-min=29.9km az=48.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	52.00	128	P	P	01 43 26.4	-2.1
	0.1nm,0.5s,baz=307,slow=9.8,SNR=4.6						
FINES	FINESS Array B	67.88	331	P	P	01 45 14.3	-2.7
	2.1nm,1.0s,baz=90,slow=5.7,SNR=4.3						
ARCES	ARCESS Array B	70.27	340	P	P	01 45 29.9	-1.7
	1.8nm,0.9s,baz=98,slow=6.4,SNR=5.2						
GERES	GERESS Array B	73.51	317	P	P	01 45 50.1	-1.2
	0.4nm,0.5s,baz=108,slow=6.2,SNR=5.9						
HFS	Hagfors	73.69	329	P	P	01 45 50.3	-1.8
	0.7nm,0.4s,baz=101,slow=7.6,SNR=8.2						

NEIC 12 01:57:10.7±0.6, 26.81S×176.03W, h30km, mb4.7/3, Error ellipse: s-maj=20.9km s-min=15.2km az=104.0
IDC 12 01:57:19.1±16.0, 26.42S×176.62W, h80km±143km, mb3.8/5, mb1 4.1/5, mb1mx3.9/9, mbtmp4.1/5, MS4.2/1, Ms1 4.1/1, ms1mx3.2/23, Error ellipse: s-maj=49.7km s-min=37.7km az=62.0
ISC 12 01:57:10.0±0.7, 27.0S±0.1×176.2W±0.2, h32km, h32km±.8km:pP-P, n23, σ0.82/16, mb4.3/9, MS4.1/1, 4C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	13.64	19	ePn	P	02 00 17.1	-6.8
CTAO	Charters Tower	34.97	273	eP	P	02 04 01.4	-0.1
	7.7nm,0.7s,mb4.7						
STKA	Stephens Creek	36.88	252	LR	LR	02 18 12.9	
	comp=Z,333nm,19.1s,MS4.1,baz=204,slow=34						
WRAB	Tennant Creek	45.63	268	eP	P	02 05 30.3	+0.7
	5.8nm,0.7s,mb4.6						
WRA	Warramunga Arr	45.64	268	P	P	02 05 28.8	-0.8
	4.0nm,0.7s,mb4.5,baz=106,slow=7.8,SNR=17						
VNDA	Vanda	51.66	186	P	P	02 06 21.4	+5.9
	1.4nm,1.0s,mb3.8,baz=18,slow=7.5,SNR=3.5						
VNDA	Vanda	51.66	186	P	P	02 06 21.4	+5.9
QSPA	South Pole Qui	63.14	180	eP	P	02 07 37.0	+0.5
	6.3nm,1.0s,mb4.7						
QSPA				⇓iP	pP	02 07 46.7	+0.3
MJAR	Matsushiro Arr	76.35	324	P	P	02 08 56.7	-1.2
	1.2nm,0.3s,mb4.3,baz=170,slow=6.2,SNR=3.9						
SNAA	Sanae	81.53	178	⇑iP	P	02 09 24.8	-0.5
SNAA				e	pP	02 09 35.0	-0.3
SNAA				e		02 10 30.2	
VNA3	Neumayer Olymp	81.61	176	⇑iP	P	02 09 25.1	-0.6
VNA3				e	pP	02 09 35.5	-0.3
VNA3				e		02 10 30.1	
VNA2	Neumayer--Watz	82.07	176	⇑iP	P	02 09 28.2	+0.2
VNA2				e	pP	02 09 38.9	+0.8
VNA2				e		02 10 33.5	
VNA1	Neumayer--Stat	82.29	176	e	P	02 09 38.5	+9.3
VNA1	Neumayer--Stat	82.29	176	⇑iP	P	02 09 29.3	+0.1
VNA1				e	pP	02 09 38.5	-0.8
PDAR	Pinedale Array	92.58	43	P	P	02 10 19.4	-0.1
	0.5nm,0.9s,mb3.9,baz=225,slow=3.8,SNR=3.4						
CMAR	Chiang Mai Arr	93.75	289	P	P	02 10 28.4	+3.0
	1.4nm,0.8s,mb4.5,baz=132,slow=3.1,SNR=6.0						
ILAR	Eielson Array	94.25	12	P	P	02 10 27.3	+0.6
	0.3nm,0.7s,mb3.9,baz=200,slow=6.8,SNR=5.8						
MKAR	Makanchi Array	116.72	311	PKP	PKPdf	02 15 52.2	-4.1
	0.9nm,0.8s,baz=45,slow=1.7,SNR=4.9						
NB2	NORSAR Subarra	145.56	354	PKPabc	PKPdf	02 16 45.3	-4.3
	6.7nm,0.9s,baz=8.0,slow=3.0						
NOA	NORSAR Array B	145.56	354	PKP	PKPdf	02 16 46.1	-3.5
	3.9nm,0.9s,baz=12,slow=4.4,SNR=11						
AKASG	Malin Array Be	149.37	328	PKPbc	PKPdf	02 16 56.9	+0.7
	1.1nm,0.6s,baz=37,slow=3.4,SNR=11						
BRTR	Keskin Array B	152.12	305	PKPbc	PKPdf	02 17 03.5	+2.7
	0.7nm,0.8s,baz=157,slow=3.9,SNR=4.5						
CLL	Collm	154.69	346	ePKP1	PKPdf	02 17 11.0	+7.1
CLL				ePKP2	PKPab	02 17 25.0	+0.5

NEIC 12 02:32:08.4±2.4, 12.35N×145.00E, h65km±21km, mb4.9/2, Error ellipse: s-maj=40.9km s-min=19.8km az=90.0
IDC 12 02:32:24.9±7.1, 12.27N×144.58E, h211km±67km, mb3.4/7, mb1 3.6/7, mb1mx3.4/19, mbtmp4.0/7, MS3.4/3, Ms1 3.4/3, ms1mx3.1/16, Error ellipse: s-maj=36.7km s-min=17.1km az=83.0
ISC 12 02:32:07.5±1.8, 12.4N±0.1×144.7E±0.3, h68km±18km, n16, σ0.91/11, mb4.2/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.22	7	ePn	P	02 32 28.9	-0.1
CBIJ	Chichi jima	14.84	351	LR	LR	02 40 23.0	
	comp=Z,83nm,21.0s,baz=193,slow=32						
JOW	Kunigami	21.11	315	P	P	02 36 52.9	+4.3
	5.6nm,0.5s,mb4.1,baz=157,slow=15,SNR=4.1						
JNU	Nakatsue	24.23	331	LR	LR	02 46 07.5	
	comp=Z,194nm,21.7s,baz=358,slow=34						
MJAR	Matsushiro Arr	24.77	347	LR	LR	02 46 38.2	
	comp=Z,94nm,20.7s,baz=115,slow=34						
WRAB	Tennant Creek	33.69	198	eP	P	02 38 44.5	+0.1
	6.0nm,0.6s,mb4.6						
WRA	Warramunga Arr	33.70	198	P	P	02 38 45.1	+0.5
	3.2nm,0.6s,mb4.3,baz=21,slow=9.8,SNR=47						
CMAR	Chiang Mai Arr	44.45	284	P	P	02 40 13.6	-0.5
	0.8nm,0.4s,mb3.9,baz=87,slow=7.7,SNR=7.0						
SONM	Songino Array	47.64	326	P	P	02 40 41.2	+2.4
	1.2nm,0.5s,mb4.0,baz=148,slow=7.6,SNR=12						
NWAO	Narrogin (SRO)	52.14	209	eP	P	02 41 13.0	-0.4
	34nm,1.3s,mb5.2						
MKAR	Makanchi Array	62.27	317	P	P	02 42 23.6	-1.2
	1.1nm,0.6s,mb4.1,baz=98,slow=7.9,SNR=5.0						
ILAR	Eielson Array	69.72	25	P	P	02 43 11.9	0.0
	0.2nm,0.4s,mb3.3,baz=248,slow=6.0,SNR=5.7						
FINES	FINESS Array B	92.20	335	P	P	02 45 10.3	-0.5
	0.8nm,0.6s,mb4.1,baz=90,slow=3.8,SNR=6.6						
FINES	FINESS Array B	92.20	335	P	P	02 45 10.3	-0.5
DBIC	Dimbokro	144.33	300	PKP	PKPdf	02 51 37.4	+0.5
	1.4nm,0.6s,baz=45,slow=4.3,SNR=5.1						
DBIC	Dimbokro	144.33	300	PKP	PKPdf	02 51 37.4	+0.5

IDC 12 02:38:41.6±1.1, 4.88N×82.73W, mb4.0/6, mb1 4.2/9, mb1mx4.0/22, mbtmp4.1/9, ML4.3/2, MS3.3/5, Ms1 3.3/5, ms1mx3.1/21, Error ellipse: s-maj=35.0km s-min=17.0km az=49.0
NEIC 12 02:38:43.0±0.7, 4.89N×82.71W, h10km, mb4.4/5, Error ellipse: s-maj=19.3km s-min=9.8km az=37.0
CASC 12 02:38:46.0±2.6, 5.24N×82.55W, h10km, MD4.6, ML3.2, mb4.4(NEIC)
ISC 12 02:38:42.5±0.5, 5.12N±0.04×82.57W±0.04, h10km, n44, σ1.28/58, mb4.1/9, MS3.3/3, 3C-5D, South of Panama

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTP1	Petroterminal	3.07	3	⇓eP	Pn	02 39 31.3	-0.8
PTP1				eS	Sn	02 40 10.4	+1.2
DVD	David	3.30	2	eP	Pn	02 39 34.4	-0.9
DVD				eS	Sn	02 40 16.2	+1.2
AZU	Azuero	3.50	41	eP	Pn	02 39 38.0	-0.3
AZU				eS	Sn	02 40 19.9	-0.3
ACR	Cerro Adams	3.56	350	⇑eP	Pn	02 39 37.6	-1.4
SVTC	San Vito de Co	3.66	354	eP	Pn	02 39 40.1	-0.4
BRU	Baru	3.66	0	eP	Pn	02 39 44.1	+3.6
CNI	Changuinola	4.27	1	eP	Pn	02 39 50.1	+1.0
BUS	Buena Vista	4.56	345	⇓iP	Pn	02 39 53.0	-0.2
BUS				eS	Sn	02 40 46.8	-0.2
LCR2	La Lucha 2	4.81	343	⇓eP	Pn	02 39 55.7	-1.1
LCR2				eS	Sn	02 40 51.9	-1.4
UPA	Univ. de Panam	4.88	38	⇑eP	Pn	02 39 59.4	+1.6
UPA				eS	Sn	02 40 55.0	-0.1
SJS	Escuela Geolog	5.01	343	eP	Pn	02 39 58.9	-0.7
SJS				eS	Sn	02 40 56.9	-1.3
PRS1	Puriscal	5.13	340	⇑eP	Pn	02 39 58.8	-2.6
TRTC	Tortuguero	5.54	348	⇓eP	Pn	02 40 07.3	+0.2
TRTC				eS	Sn	02 41 11.3	-0.3
JTS	JuntasAbangare	5.65	335	Pn	Pn	02 40 07.0	-1.7
	26nm,0.3s,baz=132,slow=14,SNR=47						
JTS				Sn	Sn	02 41 11.6	-2.8
	112nm,0.3s,baz=349,slow=20,SNR=20						
JTS				LR	LR	02 41 57.6	
	comp=Z,350nm,20.5s,baz=158,slow=34						
JTS	JuntasAbangare	5.65	335	ePn	Pn	02 40 06.6	-2.1
JTS				Pn	Pn	02 40 07.0	-1.7
JTS				Sn	Sn	02 41 11.6	-2.8
CONN	Concepcion	7.08	335	eP	Pn	02 40 29.5	+0.7
MGAN	Managua	7.87	333	eP	Pn	02 40 41.1	+1.2
COPN	Copaltepe	8.06	331	⇓eP	P	02 40 44.1	+1.6
COPN				eS	Sn	02 42 13.4	-1.3
ROSC	El Rosal	8.22	91	Pn	P	02 40 44.4	-0.2
	0.4nm,0.3s,baz=258,slow=14,SNR=2.3						
MOMJ	Momotombo	8.23	332	eP	P	02 40 46.6	+1.7
MIRN	Miramar	8.34	331	eP	P	02 40 48.1	+1.6
MIRN				eS	Sn	02 42 21.6	-0.1
CNGN	Cerro Negro	8.39	331	eP	P	02 40 48.9	+1.8
LEON	Leon	8.41	330	eP	P	02 40 49.0	+1.6
LEON				eS	Sn	02 42 22.7	-0.7
TEL3	Telica 3	8.52	331	eP	P	02 40 50.9	+1.9
SDV	Santo Domingo	12.43	72	Pn	P	02 41 44.3	+1.8
	0.6nm,0.3s,baz=252,slow=10,SNR=10						
SDV				Sn	S	02 44 01.7	-0.3
	1.0nm,0.3s,baz=190,slow=7.8,SNR=4.3						
SDV				LR	LR	02 46 19.3	
	comp=Z,78nm,20.3s,baz=246,slow=36						
SDV	Santo Domingo	12.43	72	Pn	P	02 41 44.3	+1.8
SDV				ePn	P	02 41 45.1	+2.6
SDV				Sn	S	02 44 01.8	-0.3
SJG	San Juan	20.60	50	P	P	02 43 25.8	+1.2
	7.8nm,0.6s,baz=275,slow=9.8,SNR=4.3						
SJG				LR	LR	02 49 58.4	
	comp=Z,49nm,19.9s,MS2.9,baz=262,slow=32						
SAML	Samuel	23.85	126	eP	P	02 43 55.5	-1.7
	11nm,1.0s,mb4.2						
LPAZ	La Paz	25.62	146	P	P	02 44 12.9	-1.2
	2.9nm,0.8s,mb3.9,baz=329,slow=13,SNR=16						
LPAZ	La Paz	25.62	146	eP	P	02 44 12.8	-1.4
	3.0nm,0.8s,mb3.9						
LPAZ				P		02 44 12.9	
SIV	San Ignacio	29.88	135	P	P	02 44 50.5	-2.4
	1.1nm,0.8s,mb3.6,baz=302,slow=9.4,SNR=9.8						
CCM	Cathedral Cave	33.72	348	eP	P	02 45 24.3	-2.0
	6.4nm,0.8s,mb4.6						
MNTX	Cornudas Mount	34.00	324	eP	P	02 45 28.6	-0.2
	2.3nm,0.9s,mb4.1						
ANMO	Albuquerque	36.99	326	P	P	02 45 55.2	+1.1
	2.1nm,0.9s,mb4.0,baz=142,slow=8.0,SNR=6.2						
CPUP	Villa Florida	39.70	143	LR	LR	03 04 36.6	
	comp=Z,81nm,19.7s,MS3.6,baz=118,slow=39						
BDFB	Brasilia	39.95	122	LR	LR	03 03 59.5	
	comp=Z,74nm,22.0s,MS3.5,baz=187,slow=38						
SMCO	Snowmass	40.46	330	eP	P	02 46 24.8	+1.7
NEN	Nelson	42.49	320	eP	P	02 46 41.1	+1.3
PDAR	Pinedale Array	44.47	332	P	P	02 46 56.5	+0.7
	0.8nm,0.8s,mb3.5,baz=121,slow=8.6,SNR=7.3						
WVOR	Wild Horse Val	49.03	325	eP	P	02 47 31.8	+0.1
	11nm,1.3s,mb4.7						
CHMT	Chamberlain Mo	49.32	333	P	P	02 47 35.2	+1.3
DLBC	Dease Lake	64.55	335	eP	P	02 49 19.4	-2.6
ILAR	Eielson Array	74.63	336	P	P	02 50 22.9	-0.7
	1.3nm,0.8s,mb3.9,baz=108,slow=4.2,SNR=13						
WRA	Warramunga Arr	141.20	244	PKP	PKPdf	02 58 14.2	-3.3
	0.4nm,0.8s,baz=99,slow=2.4,SNR=3.4						

CASC 12 02:50:37.5±2.9, 8.30N×82.83W, h10km±12km, MD4.2, 5C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVD	David	0.40	70	⇓iP	Pg	02 50 45.8	0.0
PTP1	Petroterminal	0.41	103	⇑iP	Pg	02 50 41.2	-4.7
ACR	Cerro Adams	0.49	317	eP	Pg	02 50 46.1	-1.2
ACR				eS	Sg	02 50 53.1	-0.9
SVTC	San Vito de Co	0.50	346	⇓eP	Pg	02 50 47.2	-0.5
BRU	Baru	0.58	28	⇑iP	Pg	02 50 49.3	+0.2
SFX2	San Felix	0.95	90	⇑iP	Pb	02 50 54.3	-1.4
SFX2				eS	Sb	02 51 06.8	-1.4
CNI	Changuinola	1.16	16	⇑eP	Pb	02 50 58.3	-0.8
LCR2	La Lucha 2	1.84	321	eP	Pn	02 51 08.0	-1.6
LCR2				eS	Sn	02 51 33.9	+0.8
SJS	Escuela Geolog	2.03	324	eP	Pn	02 51 12.4	+0.2
SJS				eS	Sn	02 51 39.5	+1.7
PRS1	Puriscal	2.22	319	eP	Pn	02 51 13.4	-1.5
PRS1				eS	Sn	02 51 42.8	0.0
TRTC	Tortuguero	2.43	339	eP	Pn	02 51 17.3	-0.6
AZU	Azuero	2.58	101	eP	Pn	02 51 20.4	+0.2
FORC	Fortuna	2.82	320	eP	Pn	02 51 22.5	-1.0
UPA	Univ. de Panam	3.33	78	⇑eP	Pn	02 51 31.0	+0.2
UPA				eS	Sn	02 52 09.9	-1.0

CSEM 12 02:54:05.9±0.5, 39.16N×28.81W, h5km, MD3.1, Error ellipse: s-maj=12.1km s-min=4.2km az=83.0, After PDA
PDA 12 02:54:05.9±0.5, 39.16N×28.81W, h5km, MD3.1, Error ellipse: s-maj=12.1km s-min=4.2km az=83.0
SVSA 12 02:54:05.9±0.5, 39.16N×28.81W, h5km, MD3.1, Error ellipse: s-maj=12.1km s-min=4.2km az=83.0, Azores Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CALA	Caldeira	0.58	172	eP	Pg	02 54 15.9	-1.7
CALA				eS	Sg	02 54 23.4	-2.0
HOR	Horta	0.65	167	eP	Pg	02 54 16.6	-2.3
HOR				eS	Sg	02 54 25.0	-2.6
PICO	Pico	0.72	155	eP	Pg	02 54 18.1	-2.3
PICO				eS	Sg	02 54 26.8	-3.3
PMAN	Manadas	0.77	133	erx		02 54 25.4	

IDC 12 03:27:08.5±1.1, 7.31N×34.47W, mb4.1/9, mb1 4.2/9, mb1mx3.9/23, mbtmp4.1/9, MS3.5/6, Ms1 3.5/6, ms1mx3.3/22, Error ellipse: s-maj=39.4km s-min=19.9km az=142.0
NEIC 12 03:27:09.9±0.7, 7.26N×34.47W, h10km, mb4.2/1, Error ellipse: s-maj=26.0km s-min=12.1km az=138.0
ISC 12 03:27:08.2±0.9, 7.3N±0.2×34.5W±0.2, h10km, n17, σ0.76/12, mb4.0/10, MS3.5/6, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BDFB	Brasilia	26.44	210	LR	LR	03 42 36.1	
	comp=Z,104nm,22.0s,MS3.3,baz=88,slow=35						
DBIC	Dimbokro	29.39	89	LR	LR	03 42 25.8	
	comp=Z,96nm,19.8s,MS3.4,baz=164,slow=31						
SJG	San Juan	32.67	292	P	P	03 33 42.7	-0.3
	4.6nm,0.4s,mb4.8,baz=90,slow=7.1,SNR=4.0						
SAML	Samuel	32.85	241	eP	P	03 33 43.2	-1.4
	2.7nm,0.9s,mb4.2						
SIV	San Ignacio	35.06	229	P	P	03 34 04.2	+0.6
	1.2nm,0.8s,mb3.9,baz=60,slow=10,SNR=8.0						
CPUP	Villa Florida	40.12	213	LR	LR	03 52 10.6	
	comp=Z,64nm,21.2s,MS3.4,baz=302,slow=37						
LPAZ	La Paz	40.73	235	P	P	03 34 51.4	+0.4
	1.4nm,0.9s,mb3.6,baz=179,slow=25,SNR=6.4						
LPAZ				LR	LR	03 51 18.3	
	comp=Z,84nm,19.7s,MS3.6,baz=103,slow=36						
LPAZ	La Paz	40.73	235	P	P	03 34 51.4	+0.4
SCHQ	Schefferville	54.02	337	P	P	03 36 34.9	+0.2
	3.4nm,0.8s,mb4.3,baz=129,slow=3.6,SNR=5.4						
DAVOX	Davos	54.61	36	P	P	03 36 38.2	-1.0
	2.7nm,0.8s,mb4.3,baz=236,slow=7.3,SNR=3.8						
DAVOX	Davos	54.61	36	P	P	03 36 38.2	-1.0
GERES	GERESS Array B	57.88	36	LR	LR	03 58 45.6	
	comp=Z,43nm,18.6s,MS3.6,baz=143,slow=33						
NOA	NORSAR Array B	63.42	23	LR	LR	04 02 05.4	
	comp=Z,30nm,18.7s,MS3.5,baz=250,slow=33						
AKASG	Malin Array Be	67.86	38	P	P	03 38 08.4	-0.4
	0.6nm,0.5s,mb3.9,baz=254,slow=5.7,SNR=6.9						
BRTR	Keskin Array B	68.56	50	P	P	03 38 14.1	+0.7
	1.2nm,0.8s,mb3.9,baz=256,slow=5.1,SNR=6.4						
PDAR	Pinedale Array	74.15	312	P	P	03 38 46.8	0.0
	0.6nm,0.7s,mb3.7,baz=101,slow=6.8,SNR=7.2						
ILAR	Eielson Array	92.77	337	P	P	03 40 22.9	+1.3
	0.4nm,0.9s,mb3.8,baz=51,slow=4.3,SNR=5.1						

PRE 12 03:35:56.5±1.1, 26.47S×27.30E, h2km, ML3.7, South Africa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRYS	Parys	0.46	173	eP	Pg	03 36 05.8	+0.2
PRYS				eS	Sg	03 36 12.4	+0.7
PRYS				AML	AML	03 36 17.3	
	comp=Z,1μm,0.8s						
SLR	Silverton	1.15	51	eP	Pb	03 36 18.9	+0.1
SLR				eS	Sb	03 36 30.4	-3.6
SEK	Senekal	1.87	171	eP	Pn	03 36 30.2	+0.5
SEK				eS	Sn	03 36 54.2	-0.1
SEK				AML	AML	03 36 56.5	
	comp=Z,487nm,0.2s						
SWZ	Schweizer	1.89	248	eP	Pn	03 36 30.4	+0.3
SWZ				eS	Sn	03 36 55.2	+0.4
SWZ				AML	AML	03 36 58.2	
	comp=Z,2μm,0.3s						
NWL	Newcastle	2.68	118	eP	Pn	03 36 41.6	+0.2
NWL				eS	Sn	03 37 13.5	-1.3
NWL				AML	AML	03 37 25.3	
	comp=Z,352nm,0.5s						
BOSA	Boshof	2.80	220	eP	Pn	03 36 43.4	+0.3
BOSA				eS	Sn	03 37 17.0	-0.9
POGA	Pongola	3.96	104	eP	Pn	03 36 59.5	-0.1
POGA				AML	AML	03 38 03.7	
	comp=Z,94nm,0.4s						
MSNA	Messina	4.80	32	eS	Sn	03 38 04.9	-3.7
MSNA				AML	AML	03 38 32.2	
	comp=Z,34nm,0.5s						
PKA	Prieska	5.12	230	eP	Pn	03 37 00.4	-16
PKA				eS	Sn	03 38 12.1	-4.5
PKA				AML	AML	03 38 22.2	
	comp=Z,63nm,0.5s						
UPI	Upington	5.69	249	eP	Pn	03 37 22.2	-1.9
UPI				eS	Sn	03 38 26.4	-4.5
UPI				AML	AML	03 38 59.6	
	comp=Z,69nm,0.6s						
CVNA	Calvinia	8.27	231	eP	P	03 37 58.2	-2.2
CVNA				eS	Sn	03 39 25.5	-10

MAN 12 03:41:49.8, 13.29N×120.20E, h18km, mb4.1, ML2.9, MS2.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.45	6	eP	Pb	03 41 59.4	+0.5
LUBP				eS	Sb	03 42 05.9	+0.9
PGP	Puerto Galera	0.76	74	⇑iP	Pb	03 42 03.7	-0.5
PGP				i S	Sb	03 42 14.2	+0.1
TGY	Tagaytay City	1.08	41	eP	Pb	03 42 09.9	+0.3
TGY				eS	Sb	03 42 24.6	+1.3
SJMP	San Jose	1.22	132	eP	Pb	03 42 11.3	-0.6
SJMP				eS	Sb	03 42 25.9	-1.4
BUSP	Coron	1.27	180	eP	Pn	03 42 13.1	+0.3
BUSP				eS	Sb	03 42 27.0	-2.0
BOAC	Boac	1.61	84	eP	Pn	03 42 13.9	-3.7
BOAC				eS	Sn	03 42 36.4	-1.7
OTRP	Odiongan	2.00	117	eP	Pn	03 42 23.5	+0.3
OTRP				eS	Sn	03 42 48.8	+0.8
ENPP	El Nido	2.20	200	eP	Pn	03 42 26.1	-0.1
ENPP				eS	Sn	03 42 51.2	-1.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**2.41**	**89**	*e*P	Pn	03 42 42.5	+13
CUYO	**Cuyo Island**	**2.55**	**162**	*e*P	Pn	03 42 30.0	-1.1
BALP	**Baler**	**2.78**	**28**	*e*P	Pn	03 42 34.0	-0.4

*CSEM **12** 03:47:03.1±0.1, 39.54N×0.15E, h20^{km}, ML2.7/11, Error ellipse: s-maj=2.0km s-min=1.0km az=125.0*
*LDG **12** 03:47:10.1±0.4, 39.90N×0.10W, h10^{km}, Ml2.5/4, Error ellipse: s-maj=10.3km s-min=5.8km az=121.0*
MDD 12 03:47:02.9±0.5**, 39.54N**×**0.16E, h20**^{km}±5^{km}**, mbLg2.2**/19**, 1C-1D, Error ellipse: s-maj=4.5km s-min=3.0km az=113.0, PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECHE	**Chera**	**0.87**	**274**	⇑Pg	Pb	03 47 18.8	-0.4
	3.4nm,0.2s,SNR=18						
ECHE				Lg		03 47 29.9	
	24nm,0.3s,SNR=15						
EBEN	**Beniarda**	**0.89**	**200**	Pg	Pb	03 47 18.9	-0.6
	6.1nm,0.2s,SNR=31						
EBEN				Lg		03 47 30.7	
	23nm,0.2s,SNR=5.0						
EBEN	**Beniarda**	**0.89**	**200**	Pg	Pb	03 47 18.9	-0.6
	6.1nm,0.2s,SNR=31						
EBEN				Lg		03 47 30.7	
	23nm,0.2s,SNR=5.0						
EMOS	**Mosqueruela**	**0.95**	**330**	⇓Pg	Pb	03 47 20.0	-0.6
	20nm,0.2s,SNR=18						
EMOS				Lg		03 47 32.0	
	41nm,0.1s,SNR=15						
EMOS	**Mosqueruela**	**0.95**	**330**	Pg	Pb	03 47 20.0	-0.6
	20nm,0.2s,SNR=18						
EMOS				Lg		03 47 32.0	
	41nm,0.1s,SNR=15						
EIBI	**Ibiza**	**1.05**	**119**	Pn	Pn	03 47 20.4	-2.2
	6.5nm,0.2s,SNR=15						
EIBI				Sn	Sn	03 47 34.4	-2.4
	34nm,0.3s,SNR=7.1						
EIBI	**Ibiza**	**1.05**	**119**	Pn	Pn	03 47 20.4	-2.2
	6.5nm,0.2s,SNR=15						
EIBI				Sn	Sn	03 47 32.8	-4.0
	34nm,0.3s,SNR=7.1						
EBR	**Ebro Roquetas**	**1.30**	**11**	*e*PN	Pn	03 47 27.0	+0.8
EBR				*e*SN	Sn	03 47 47.0	+3.8
ERTA	**Horta de San J**	**1.42**	**5**	Pn	Pn	03 47 26.5	-1.4
	1.3nm,0.1s,SNR=20						
ERTA				Pg	Pn	03 47 29.1	+1.2
	4.0nm,0.1s,SNR=12						
ERTA				Sn	Sn	03 47 43.1	-3.1
	12nm,0.2s,SNR=4.0						
ERTA				Lg		03 47 45.9	
	36nm,0.4s,SNR=5.0						
ERTA	**Horta de San J**	**1.42**	**5**	Pn	Pn	03 47 26.5	-1.4
	1.3nm,0.1s,SNR=20						
ERTA	**Horta de San J**	**1.42**	**5**	Pg	Pn	03 47 29.1	+1.2
	4.0nm,0.1s,SNR=12						
ERTA				Sn	Sn	03 47 43.1	-3.0
	12nm,0.2s,SNR=4.0						
ERTA				Lg		03 47 45.9	
	36nm,0.4s,SNR=5.0						
ETOB	**Tobarra**	**1.60**	**237**	Pn	Pn	03 47 29.4	-1.1
	2.4nm,0.1s,SNR=18						
ETOB				Sn	Sn	03 47 48.3	-2.5
	5.0nm,0.1s,SNR=6.9						
ETOB	**Tobarra**	**1.60**	**237**	Pn	Pn	03 47 29.4	-1.1
	2.4nm,0.1s,SNR=18						
ETOB				Sn	Sn	03 47 48.3	-2.5
	5.0nm,0.1s,SNR=6.9						
EPOB	**Poblet**	**1.94**	**21**	Pn	Pn	03 47 33.5	-1.8
	1.1nm,0.2s,SNR=7.9						
EPOB				Pg	Pn	03 47 38.4	+3.0
	3.2nm,0.2s,SNR=11						
EPOB				Lg		03 48 01.5	
	7.5nm,0.3s,SNR=5.0						
EPOB	**Poblet**	**1.94**	**21**	Pn	Pn	03 47 33.5	-1.8
	1.1nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**1.94**	**21**	Pg	Pn	03 47 38.4	+3.1
	3.2nm,0.2s,SNR=11						
EPOB				Lg		03 48 01.5	
	7.5nm,0.3s,SNR=5.0						
EMUR	**La Murta**	**2.02**	**213**	Pg	Pn	03 47 39.1	+2.6
	3.6nm,0.3s,SNR=7.9						
EMUR				Lg		03 48 04.7	
	7.4nm,0.3s,SNR=6.1						
EMUR	**La Murta**	**2.02**	**213**	Pg	Pn	03 47 39.1	+2.6
	3.6nm,0.3s,SNR=7.9						
EMUR				Lg		03 48 02.4	
	7.4nm,0.3s,SNR=6.1						
ETOS	**Mallorca**	**2.06**	**83**	Pn	Pn	03 47 35.5	-1.6
	0.4nm,0.1s,SNR=7.9						
ETOS				Sn	Sn	03 48 00.6	-1.9
	1.2nm,0.2s,SNR=4.0						
ETOS	**Mallorca**	**2.06**	**83**	Pn	Pn	03 47 35.5	-1.6
	0.4nm,0.1s,SNR=7.9						
ETOS				Sn	Sn	03 48 00.6	-1.8
	1.2nm,0.2s,SNR=4.0						
ESAC	**San Caprasio**	**2.23**	**348**	Pg	Pn	03 47 43.3	+3.8
	54nm,0.3s,SNR=22						
ESAC				Lg		03 48 11.7	
	43nm,0.2s,SNR=5.0						
ESAC	**San Caprasio**	**2.23**	**348**	Pg	Pn	03 47 43.3	+3.8
	54nm,0.3s,SNR=22						
ESAC				Lg		03 48 11.7	
	43nm,0.2s,SNR=5.0						
EVIA	**Vianos**	**2.26**	**247**	Pg	Pn	03 47 44.7	+4.7
	0.6nm,0.1s,SNR=4.0						
EVIA				Lg		03 48 12.6	
	6.3nm,0.2s,SNR=4.7						
EVIA	**Vianos**	**2.26**	**247**	Pg	Pn	03 47 45.1	+5.1
	2.0nm,0.2s,SNR=7.9						
EVIA				Lg		03 48 12.6	
	6.3nm,0.2s,SNR=4.7						
EMIR	**Miracle**	**2.59**	**23**	Pn	Pn	03 47 43.1	-1.5
	0.8nm,0.2s,SNR=7.9						
EMIR				Pg	Pn	03 47 48.8	+4.2
	5.1nm,0.3s,SNR=8.5						
EMIR				Sn	Sn	03 48 12.8	-3.0
	5.0nm,0.2s,SNR=7.9						
EMIR				Lg		03 48 22.8	
	12nm,0.4s,SNR=5.0						
EMIR	**Miracle**	**2.59**	**23**	Pn	Pn	03 47 43.1	-1.5
	0.8nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.59**	**23**	Pg	Pn	03 47 48.8	+4.2
	5.1nm,0.3s,SNR=8.5						
EMIR				Sn	Sn	03 48 12.8	-3.0
	5.0nm,0.2s,SNR=7.9						
EMIR				Lg		03 48 22.8	
	12nm,0.4s,SNR=5.0						
EGRA	**Graus**	**2.65**	**2**	Pg	Pn	03 47 50.2	+4.6
	3.6nm,0.4s,SNR=7.1						
EGRA				Lg		03 48 25.1	
	12nm,0.6s,SNR=5.4						
EQES	**Quesada**	**3.07**	**237**	Pn	Pn	03 47 49.9	-1.5
	1.0nm,0.2s,SNR=7.9						
EQES				Pg	Pn	03 47 57.1	+5.7
	1.1nm,0.2s,SNR=7.9						
EQES				Sn	Sn	03 48 24.7	-3.4
	2.1nm,0.2s,SNR=7.9						
EQES				Lg		03 48 38.2	
	3.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.07**	**237**	Pn	Pn	03 47 49.9	-1.6
	1.0nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.07**	**237**	Pg	Pn	03 47 57.1	+5.6
	1.1nm,0.2s,SNR=7.9						
EQES				Sn	Sn	03 48 24.7	-3.3
	2.1nm,0.2s,SNR=7.9						
EQES				Lg		03 48 38.2	
	3.1nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**3.14**	**360**	Pg	Pn	03 48 00.6	+8.1
	0.9nm,0.2s,SNR=7.9						
EBIE				Lg		03 48 39.6	
	3.5nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**3.14**	**360**	Pg	Pn	03 48 00.6	+8.1
	0.9nm,0.2s,SNR=7.9						
EBIE				Lg		03 48 39.6	
	3.5nm,0.4s,SNR=7.9						
ESDC	**Sonseca Array**	**3.19**	**274**	Pn	Pn	03 47 51.1	-2.1
	22nm,0.2s,baz=90,slow=14,SNR=25						
ESDC				Lg		03 48 41.6	
	5.2nm,0.2s,baz=52,slow=43,SNR=4.8						
ESDC	**Sonseca Array**	**3.19**	**274**	Pn	Pn	03 47 51.1	-2.1
	22nm,0.2s,SNR=25						
ESDC				Lg		03 48 41.6	
	5.2nm,0.2s,SNR=4.8						
EBAN	**Banos Encina**	**3.38**	**247**	Lg		03 48 46.5	
	1.4nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.38**	**247**	Lg		03 48 46.5	
	1.4nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**3.40**	**351**	*e*Pn	Pn	03 47 56.0	-0.1
ETSF				*e*P		03 47 59.3	
ETSF				*e*Pg	Pn	03 48 05.4	+9.3
ETSF				*e*Sg	Sn	03 48 45.6	+9.3
	3.9nm,0.3s						
ETSF	**Etsaut**	**3.40**	**351**	Pn	Pn	03 47 56.0	-0.1
ETSF				Pg	Pn	03 48 05.4	+9.3
ETSF				Lg		03 48 45.6	
	1.9nm,0.3s						
EPF	**Esparros**	**3.49**	**2**	*e*Pn	Pn	03 47 58.4	+1.0
EPF				*e*P		03 48 01.5	
EPF				*e*Pg	Pn	03 48 07.6	+10
EPF				*e*Sg	Sn	03 48 49.3	+11
	4.4nm,0.3s						
EPF	**Esparros**	**3.49**	**2**	Pn	Pn	03 47 58.4	+1.0
EPF				Pg	Pn	03 48 07.6	+10
EPF				Lg		03 48 49.3	
	2.2nm,0.3s						
EBER	**Berja**	**3.57**	**223**	Lg		03 48 54.5	
	0.6nm,0.2s,SNR=4.0						
EBER	**Berja**	**3.57**	**223**	Lg		03 48 54.5	
	0.6nm,0.2s,SNR=4.0						
ECRI	**Cripan**	**3.67**	**327**	Pg	Pn	03 48 07.3	+7.3
	2.0nm,0.2s,SNR=4.0						
ECRI				Lg		03 48 55.8	
	4.7nm,0.4s,SNR=4.0						
ECRI	**Cripan**	**3.67**	**327**	Pg	Pn	03 48 09.4	+9.4
	2.0nm,0.2s,SNR=4.0						
ECRI				Lg		03 48 55.8	
	4.7nm,0.4s,SNR=4.0						
SJPF	**Ste Jean**	**3.72**	**344**	*e*Pn	Pn	03 47 59.6	-1.1
SJPF				*e*Sg	Sn	03 48 55.4	+11
	3.3nm,0.4s						
EALK	**Alkurruntz**	**3.88**	**342**	Pn	Pn	03 48 01.1	-1.9
	0.9nm,0.2s,SNR=7.9						
EALK				Sn	Sn	03 48 44.1	-4.5
	1.0nm,0.2s,SNR=4.0						
EALK				Lg		03 49 03.1	
	3.8nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**3.88**	**342**	Pg	Pn	03 48 13.3	+10
	SNR=5.0						
EALK				Sn	Sn	03 48 44.1	-4.5
	1.0nm,0.2s,SNR=4.0						
EALK				Lg		03 49 03.1	
	3.8nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.95**	**251**	Pn	Pn	03 48 01.2	-2.7
	0.6nm,0.2s,SNR=7.9						
EADA				Pg	Pn	03 48 13.8	+10
	0.5nm,0.2s,SNR=7.9						
EADA				Sn	Sn	03 48 43.5	-6.7
	1.1nm,0.1s,SNR=7.9						
EADA				Lg		03 49 04.4	
	0.9nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.95**	**251**	Pn	Pn	03 48 01.2	-2.7
	0.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.95**	**251**	Pg	Pn	03 48 15.8	+12
	0.5nm,0.2s,SNR=7.9						
EADA				Sn	Sn	03 48 43.5	-6.7
	1.1nm,0.1s,SNR=7.9						
EADA				Lg		03 49 04.4	
	0.9nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**4.10**	**21**	*e*Pg	Pn	03 48 19.9	+14
MTLF				*e*Sg	Sn	03 49 10.0	+16
	2.0nm,0.3s						
MTLF	**Montolieu**	**4.10**	**21**	Lg		03 49 10.0	
	1.0nm,0.3s						
ELAN	**Lanestosa**	**4.57**	**325**	Pn	Pn	03 48 10.5	-2.4
	1.2nm,0.3s,SNR=7.9						
ELAN				Pg	Pn	03 48 23.1	+10
	1.8nm,0.3s,SNR=7.9						
ELAN				Lg		03 49 24.3	
	0.8nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**4.57**	**325**	Pn	Pn	03 48 10.5	-2.3
	1.2nm,0.3s,SNR=7.9						
LASF	**Ste Croix**	**5.30**	**30**	*e*Pn	Pn	03 48 24.6	+1.4
LFF	**La Frestale**	**5.41**	**4**	*e*Pn	Pn	03 48 24.5	-0.2
CAF	**Calviac**	**5.56**	**14**	*e*Pn	Pn	03 48 27.1	+0.3
EBAD	**Badajoz**	**5.63**	**264**	Sn	Sn	03 49 25.1	-7.6
	0.7nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**5.63**	**254**	Lg		03 49 56.8	
	0.1nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.76**	**297**	Pn	Pn	03 48 26.4	-3.2
	0.5nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	03 49 28.7	-7.2
	1.2nm,0.3s,SNR=7.9						
ERUA	**La Rua**	**6.22**	**300**	Pn	Pn	03 48 31.1	-4.9
	1.8nm,0.3s,SNR=4.0						
EVO	**Evora**	**6.44**	**264**	*e*Pn	Pn	03 48 41.8	+2.6

*IDC **12** 03:50:15.0±0.9, 0.05S×124.48E, mb3.7/7, mb1 4.0/8, mb1mx3.8/17, mbtmp3.8/8, ML4.0/1, Error ellipse: s-maj=48.0km s-min=17.2km az=70.0*
*NEIC **12** 03:50:22.1±6.0, 0.06S×124.50E, h56^{km}±60^{km}, mb4.2/1, Error ellipse: s-maj=35.3km s-min=14.7km az=70.0*
ISC 12 03:50:17.9±0.7**, 0.0S**±0.1×**124.5E**±0.2**, h33**^{km}**, n9,** σ**0^{s}91**/9**, mb3.8**/8**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.01**	**176**	P	**P**	**03 54 28.5**	**+1.0**
	0.3nm,0.3s,baz=353,slow=8.1,SNR=3.6						
WRA	**Warramunga Arr**	**22.04**	**155**	P	**P**	**03 55 10.1**	**-1.4**
	1.4nm,0.8s,mb3.4,baz=338,slow=9.4,SNR=14						
CMAR	**Chiang Mai Arr**	**31.07**	**308**	P	**P**	**03 56 36.5**	**+0.9**
	0.6nm,0.4s,mb3.8,baz=140,slow=9.4,SNR=5.3						
STKA	**Stephens Creek**	**35.59**	**154**	P	**P**	**03 57 15.2**	**+0.7**
	0.9nm,0.4s,mb4.1,baz=334,slow=10,SNR=4.4						
MJAR	**Matsushiro Arr**	**38.54**	**18**	P	**P**	**03 57 40.3**	**+1.1**
	2.2nm,0.7s,mb4.0,baz=198,slow=9.6,SNR=5.3						
SONM	**Songino Array**	**50.18**	**344**	P	**P**	**03 59 12.7**	**+0.1**
	0.3nm,0.6s,mb3.5,baz=135,slow=5.2,SNR=4.0						
MKAR	**Makanchi Array**	**59.40**	**328**	P	**P**	**04 00 18.7**	**-0.9**
	0.5nm,0.5s,mb3.8,baz=125,slow=9.3,SNR=6.1						
ZRNK	**Zerenda**	**69.95**	**328**	*e*P	**P**	**04 01 26.8**	**-1.1**
	2.2nm,0.7s,mb4.2						
VNDA	**Vanda**	**80.03**	**172**	P	**P**	**04 02 25.1**	**-0.3**
	0.4nm,0.7s,mb3.5,baz=2.3,slow=7.3,SNR=3.5						

*IDC **12** 03:54:55.7±1.2, 1.84N×97.09E, mb4.1/5, mb1 4.2/6, mb1mx3.9/18, mbtmp4.0/6, ML4.1/1, Error ellipse: s-maj=47.5km s-min=24.6km az=64.0*
*NEIC **12** 03:55:00.1±0.8, 1.87N×97.04E, h30^{km}, mb4.2/3, Error ellipse: s-maj=17.7km s-min=14.7km az=90.0*
ISC 12 03:54:58.7±1.2**, 1.9N**±0.1×**97.1E**±0.2**, h33**^{km}**, n11,** σ**0^{s}81**/10**, mb4.1**/8**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.96**	**46**	*e*Pn	**Pn**	**03 56 13.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**16.61**	**6**	Pn	**P**	**03 58 49.1**	**-1.7**
	0.3nm,0.3s,baz=198,slow=11,SNR=7.8						
KMI	**Kunming**	**23.78**	**13**	P	**P**	**04 00 10.7**	**+1.2**
	8.0nm,1.3s,mb4.0						
KMI				pP		04 00 17.8	
LSA	**Lhasa**	**28.26**	**349**	*e*P	**P**	**04 00 51.3**	**+0.1**
	3.9nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**42.51**	**122**	P	**P**	**04 02 52.7**	**-0.4**
	0.8nm,0.6s,mb3.7,baz=302,slow=9.1,SNR=14						
SONM	**Songino Array**	**46.52**	**9**	P	**P**	**04 03 25.0**	**+0.2**
	5.3nm,1.1s,mb4.4,baz=189,slow=9.3,SNR=25						
MKAR	**Makanchi Array**	**46.58**	**346**	P	**P**	**04 03 26.4**	**+1.0**
	1.6nm,0.4s,mb4.3,baz=160,slow=8.9,SNR=33						
ZRNK	**Zerenda**	**56.00**	**340**	*e*P	**P**	**04 04 35.3**	**-1.1**
	1.6nm,0.6s,mb4.2						
ARCES	**ARCESS Array B**	**81.88**	**340**	P	**P**	**04 07 16.2**	**+0.3**
	2.2nm,0.9s,mb4.1,baz=104,slow=5.0,SNR=4.2						
GERES	**GERESS Array B**	**84.23**	**319**	P	**P**	**04 07 28.4**	**0.0**
	0.7nm,0.7s,mb3.9,baz=90,slow=11,SNR=4.3						
CPUP	**Villa Florida**	**145.38**	**223**	PKPbc	PKPbc	04 14 36.2	+1.7
	1.2nm,0.8s,baz=188,slow=2.1,SNR=4.2						

*IDC **12** 04:12:13.9±1.2, 11.34N×144.58E, mb4.1/7, mb1 4.3/7, mb1mx4.1/19, mbtmp4.1/7, MS4.0/1, Ms1 4.0/1, ms1mx3.2/19, Error ellipse: s-maj=34.7km s-min=25.9km az=106.0*
*NEIC **12** 04:12:16.0±5.7, 11.30N×144.57E, h14^{km}±36^{km}, mb4.5/2, Error ellipse: s-maj=21.9km s-min=9.4km az=97.0*
ISC 12 04:12:15.9±5.4**, 11.27N**±0.10×**144.5E**±0.2**, h26**^{km}±40^{km}**, n13,** σ**0^{s}49**/12**, mb4.2**/9**, MS4.0**/1**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.33**	**8**	*e*Pn	**Pn**	**04 12 53.5**	**+0.1**
WRAB	**Tennant Creek**	**32.58**	**198**	*e*P	**P**	**04 18 46.8**	**-0.8**
	3.4nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**32.59**	**198**	*e*P	**P**	**04 18 48.1**	**+0.4**
WRA	**Warramunga Arr**	**32.60**	**198**	P	**P**	**04 18 47.9**	**+0.1**
	2.4nm,0.6s,mb4.3,baz=21,slow=9.7,SNR=29						
CMAR	**Chiang Mai Arr**	**44.54**	**285**	P	**P**	**04 20 28.6**	**+0.9**
	0.9nm,0.3s,mb4.0,baz=85,slow=7.4,SNR=8.5						
SONM	**Songino Array**	**48.45**	**326**	P	**P**	**04 20 57.4**	**-0.8**
	0.7nm,0.4s,mb4.1,baz=143,slow=7.0,SNR=11						
URZ	**Urewera**	**57.92**	**150**	LR	LR	04 43 29.2	
	comp=Z,133nm,21.4s,MS4.0,baz=181,slow=32						
MKAR	**Makanchi Array**	**62.94**	**317**	P	**P**	**04 22 42.0**	**-0.5**
	0.8nm,0.6s,mb4.0,baz=93,slow=8.9,SNR=7.2						
MKAR	**Makanchi Array**	**62.94**	**317**	P	**P**	**04 22 42.0**	**-0.5**
ILAR	**Eielson Array**	**70.80**	**25**	P	**P**	**04 23 31.8**	**-0.1**
	1.1nm,0.6s,mb4.0,baz=252,slow=5.7,SNR=16						
BVAR	**Borovoye Array**	**71.54**	**322**	P	**P**	**04 23 36.7**	**+0.1**
	1.2nm,0.5s,mb4.1,baz=104,slow=6.1,SNR=9.9						
ZRNK	**Zerenda**	**72.37**	**322**	*e*P	**P**	**04 23 41.5**	**0.0**
	6.0nm,1.1s,mb4.4						
YKA	**Yellowknife Ar**	**85.06**	**27**	P	**P**	**04 24 50.9**	**+0.6**
	0.8nm,0.4s,mb4.2,baz=286,slow=4.5,SNR=4.0						

*IDC **12** 04:12:46.3±1.4, 11.31N×144.57E, mb4.0/7, mb1 4.3/7, mb1mx4.1/19, mbtmp4.0/7, MS3.4/2, Ms1 3.4/2, ms1mx3.1/22, Error ellipse: s-maj=40.1km s-min=29.7km az=108.0*
ISC 12 04:12:49.3±1.0**, 11.2N**±0.1×**144.5E**±0.2**, h33**^{km}**, n10,** σ**0^{s}83**/8**, mb4.1**/8**, MS3.3**/1**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**15.95**	**352**	LR	LR	04 22 03.3	
	comp=Z,124nm,19.8s,baz=1.8,slow=35						
HNR	**Honiara**	**25.63**	**143**	LR	LR	04 26 46.9	
	comp=Z,97nm,21.2s,MS3.3,baz=352,slow=33						
WRA	**Warramunga Arr**	**32.53**	**198**	P	**P**	**04 19 20.0**	**+0.3**
	1.7nm,0.5s,mb4.2,baz=20,slow=9.4,SNR=5.0						
FITZ	**Fitzroy Crossi**	**34.57**	**213**	*e*P	**P**	**04 19 36.5**	**-0.7**
	11nm,1.5s,mb4.5						
CMAR	**Chiang Mai Arr**	**44.52**	**285**	P	**P**	**04 21 01.4**	**+1.5**
	1.3nm,0.5s,mb4.0,baz=88,slow=6.4,SNR=2.5						
SONM	**Songino Array**	**48.47**	**326**	P	**P**	**04 21 30.4**	**-0.3**
	1.3nm,0.6s,mb4.1,baz=141,slow=9.2,SNR=4.1						
MKAR	**Makanchi Array**	**62.95**	**317**	P	**P**	**04 23 14.2**	**-0.7**
	0.6nm,0.7s,mb3.9,baz=93,slow=6.8,SNR=2.7						
ILAR	**Eielson Array**	**70.86**	**25**	P	**P**	**04 24 04.0**	**-0.5**
	1.1nm,0.5s,mb4.1,baz=253,slow=5.7,SNR=7.2						
BVAR	**Borovoye Array**	**71.56**	**322**	P	**P**	**04 24 08.3**	**-0.6**
	1.0nm,0.4s,mb4.1,baz=101,slow=7.6,SNR=2.6						
YKA	**Yellowknife Ar**	**85.12**	**27**	P	**P**	**04 25 24.2**	**+1.3**
	0.6nm,0.4s,mb4.1,baz=287,slow=5.2,SNR=3.0						

*BJI **12** 04:31:20.9, 52.41N×173.36E, h44^{km}, mB4.8, mb4.6, Ms3.9, Msz3.6*
*IDC **12** 04:31:20.5±0.6, 52.48N×172.76E, mb4.2/19, mb1 4.4/19, mb1mx4.4/25, mbtmp4.2/19, MS3.7/7, Ms1 3.7/7, ms1mx3.4/23, Error ellipse: s-maj=18.8km s-min=9.9km az=136.0*
*MOS **12** 04:31:23.9±1.1, 52.45N×172.81E, h33^{km}, mb4.6/32, Error ellipse: s-maj=13.2km s-min=7.6km az=89.2*
*KRSC **12** 04:31:24.7±1.3, 52.10N×171.86E, h1^{km}±43^{km}, ML4.4*
*NEIC **12** 04:31:24.3±0.3, 52.45N×172.79E, mb4.5/26, ML4.3(AEIC), Error ellipse: s-maj=7.7km s-min=4.2km az=181.0*
ISC 12 04:31:22.2±0.3**, 52.39N**±0.05×**172.72E**±0.04**, h25**^{km}**, h25**^{km}±1.2^{km}**:pP-P, n164,** σ**1^{s}12**/156**, mb4.4**/52**, MS3.6**/8**, 1C, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**0.57**	**28**	P	**Pb**	**04 31 33.9**	**+0.5**
FX1				pmax	pmax		
	comp=Z,537nm,0.3s						
FX1	**Attu Island--F**	**0.57**	**28**	Pn	**Pn**	**04 31 33.9**	**-0.7**
	comp=Z,537nm,0.3s,baz=255,slow=13,SNR=3923						
FX1	**Attu Island--F**	**0.57**	**28**	P	**Pb**	**04 31 34.0**	**+0.6**
FX1				S	**Sb**	**04 31 41.0**	**-0.1**
BKI	**Bering**	**4.90**	**308**	*e*P	**Pn**	**04 32 37.2**	**+0.9**
BKI				*i* S	**Sn**	**04 33 28.8**	**-4.1**
BKI				Smax			
	comp=Z,210nm,1.3s						
KIMD	**Kanaga Island**	**6.22**	**92**	P	**Pn**	**04 32 55.0**	**0.0**
KIMD				S	**Sn**	**04 34 07.3**	**+1.2**
KIKV	**Kanaga Island**	**6.25**	**91**	P	**Pn**	**04 32 54.8**	**-0.5**
ADAG	**Mount Adagdak**	**6.58**	**89**	P	**Pn**	**04 33 00.6**	**+0.6**
GSTR	**Great Sitkin T**	**6.90**	**88**	*e*P	**Pn**	**04 33 02.8**	**-1.7**
MKZ	**Mys Kozlova**	**6.91**	**293**	*e*P	**Pn**	**04 33 03.7**	**-1.0**
MKZ				*e*S	**Sn**	**04 34 16.2**	**-7.2**
KBTR	**Krutoberegovo**	**6.95**	**307**	*e*P	**Pn**	**04 33 05.4**	**+0.3**
KBTR				*e*S	**Sn**	**04 34 20.6**	**-3.6**
SPN	**Mys Shipunski**	**7.74**	**280**	*e*P	**Pn**	**04 33 15.6**	**-0.7**
SPN				*e*S	**Sn**	**04 34 35.4**	**-8.7**
ATKA	**Atka Island**	**8.03**	**86**	P	**P**	**04 33 19.6**	**-0.6**
KLY	**Klyuchi**	**8.07**	**304**	*e*P	**P**	**04 33 21.1**	**+0.2**
KMNR	**Kamenistaya**	**8.08**	**300**	*e*P	**P**	**04 33 21.8**	**+0.8**
NLC	**Nalytchevo**	**8.15**	**281**	*e*P	**P**	**04 33 21.3**	**-0.7**
KOZ	**Kozyrevsk**	**8.38**	**301**	*e*P	**P**	**04 33 26.7**	**+1.6**
SDLR	**Sedlovina**	**8.43**	**282**	*e*P	**P**	**04 33 24.8**	**-1.1**
UGLR	**Uglovaya**	**8.47**	**281**	*e*P	**P**	**04 33 25.1**	**-1.2**
AVH	**Avacha**	**8.52**	**281**	*e*P	**P**	**04 33 26.5**	**-0.6**
PET	**Petropavlovsk**	**8.57**	**280**	*e*P	**P**	**04 33 29.0**	**+1.2**
PET				*e*S	**Sn**	**04 34 58.8**	**-5.9**
PET				pmax	pmax		
	comp=Z,21nm,0.5s						
PET				pmax	pmax		
	comp=Z,200nm,27.5s						
PET				smax			
	comp=N,100nm,0.9s						
PET				smax			
	comp=N,100nm,0.9s						
PET				MLR	MLR		
	comp=Z,100nm,16.0s						
KOK	**Koryaka**	**8.58**	**282**	*e*P	**P**	**04 33 26.6**	**-1.3**
RUS	**Russkaya**	**8.69**	**276**	*i* P	**P**	**04 33 29.1**	**-0.4**
GNL	**Ganaly**	**9.00**	**284**	*e*P	**P**	**04 33 32.1**	**-1.7**
APC	**Apacha**	**9.48**	**279**	*e*P	**P**	**04 33 38.3**	**-2.0**
APC				Smax			
	comp=Z,30nm,0.7s						
SKR	**Severo-Kuril’s**	**10.49**	**267**	*e*P	**P**	**04 33 49.0**	**-5.1**
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
ALID	**Alaid**	**10.79**	**269**	*e*P	**P**	**04 33 55.1**	**-3.0**
MA2	**Magadan**	**14.19**	**309**	*e*P	**P**	**04 34 52.6**	**+9.1**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
YSS	**Yuzh-Sakhalins**	**20.05**	**266**	*e*P	**P**	**04 36 02.0**	**+5.8**
RSO	**Redoubt South**	**20.52**	**53**	P	**P**	**04 35 59.6**	**-1.4**
SPU	**Mount Spurr**	**20.97**	**51**	*e*P	**P**	**04 36 02.8**	**-2.8**
SML	**Sawmill**	**22.82**	**50**	*e*P	**P**	**04 36 23.6**	**-0.3**
MCK	**McKinley**	**22.85**	**45**	*e*P	**P**	**04 36 24.3**	**+0.1**
MCK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
MCK	**McKinley**	**22.85**	**45**	*e*P	**P**	**04 36 24.3**	**+0.1**
	comp=Z,9.0nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**23.94**	**43**	P	**P**	**04 36 34.9**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,90nm,18.2s						
ILAR	**Eielson Array**	**23.94**	**43**	P	**P**	**04 36 34.9**	**+0.1**
	comp=Z,4.5nm,0.8s,mb4.0,baz=248,slow=9.0,SNR=36						
ILAR				LR	LR	04 46 05.3	
	comp=Z,90nm,18.2s,MS3.3,baz=268,slow=37						
YAK	**Yakutsk**	**24.77**	**310**	*e*P	**P**	**04 36 43.1**	**+0.3**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
KLR	**Kul’dur**	**25.84**	**279**	*e*P	**P**	**04 36 55.4**	**+2.4**
TIXI	**Tiksi**	**27.20**	**331**	⇑*i*P	**P**	**04 37 04.3**	**-1.0**

TIXI pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
MJAR Matsushiro Arr 28.94 251 LR LR 04 47 46.6
comp=Z,65nm,20.0s,MS3.2,baz=80,slow=34
MDJ Mudanjiang 29.25 272 P **P** **04 37 22.7 -1.4**
MDJ PCP PcP 04 40 28.6 -2.3
MDJ S **S** **04 42 11.0 -3.0**
MDJ SCP 04 44 09.2
MDJ PCS 04 44 12.4
MDJ AMB AMB
comp=Z,3.0nm,0.6s,mb4.2
MDJ AMB AMB
comp=Z,40nm,4.7s
MDJ LR LR
comp=N,52nm,30.1s
MDJ LR LR
comp=E,39nm,21.1s
MDJ LR LR
comp=Z,55nm,19.6s
INK Inuvik 29.75 37 P **P** **04 37 26.3 -2.1**
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 29.75 37 P **P** **04 37 27.4 -1.0**
comp=Z,0.7nm,0.3s,mb3.9,baz=266,slow=9.1,SNR=9.8
INK Inuvik 29.75 37 P **P** **04 37 26.3 -2.1**
comp=Z,6.6nm,0.9s,mb4.4
DLBC Dease Lake 32.18 56 P **P** **04 37 50.1 +0.3**
comp=Z,0.9nm,0.7s,mb3.7,baz=278,slow=10,SNR=5.0
CN2 Changchun 32.21 274 *eP* **P** **04 37 49.5 -0.8**
YKA Yellowknife Ar 38.32 46 P **P** **04 38 42.2 0.0**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 38.32 46 P **P** **04 38 42.2 0.0**
comp=Z,2.0nm,0.8s,mb3.9,baz=288,slow=7.9,SNR=6.7
YKA Yellowknife Ar 38.32 46 P **P** **04 38 42.2 0.0**
SONM Songino Array 41.44 291 P **P** **04 39 09.7 +1.6**
comp=Z,1.5nm,0.8s,mb3.6,baz=56,slow=8.0,SNR=8.4
SONM PcP PcP 04 41 06.0 -0.4
comp=Z,0.8nm,0.7s,baz=45,slow=2.0,SNR=4.2
SONM LR LR 04 56 02.7
comp=Z,54nm,18.2s,MS3.5,baz=88,slow=36
EDM Edmonton 42.83 58 *eP* **P** **04 39 19.3 -0.1**
SSE Sheshan 42.85 261 *eP* **P** **04 39 19.1 -0.7**
SSE AMB AMB
comp=Z,29nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,88nm,3.5s
SSE Sheshan 42.85 261 *eP* **P** **04 39 19.1 -0.7**
comp=Z,29nm,0.7s,mb5.1
NEW Newport 43.38 66 *eP* **P** **04 39 23.5 -0.3**
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW Newport 43.38 66 P **P** **04 39 23.8 -0.1**
comp=Z,3.1nm,0.7s,mb4.1,baz=294,slow=6.5,SNR=6.6
NEW Newport 43.38 66 *eP* **P** **04 39 23.4 -0.4**
comp=Z,4.5nm,0.8s,mb4.2
NJ2 Nanjing 43.60 264 *eP* **P** **04 39 27.6 +1.7**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
YBH Yreka Blue Hor 43.86 77 P **P** **04 39 28.4 +0.5**
YBH pmax pmax
comp=Z,1.0nm,0.7s
YBH Yreka Blue Hor 43.86 77 P **P** **04 39 28.4 +0.5**
comp=Z,1.2nm,0.7s,mb3.7,baz=334,slow=3.5,SNR=5.3
WALA Waterton Lakes 44.72 64 *eP* **P** **04 39 34.3 -0.4**
comp=Z,11nm,0.7s,mb4.8
HRY Holter Researc 47.21 65 *eP* **P** **04 39 54.1 -0.4**
HLID Hailey 47.63 70 *eP* **P** **04 39 57.2 -0.7**
comp=Z,2.2nm,0.9s,mb4.2
BOZ Bozeman (W) 47.96 66 *eP* **P** **04 39 59.4 -1.0**
BOZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BOZ Bozeman (W) 47.96 66 *eP* **P** **04 39 59.4 -1.0**
comp=Z,5.2nm,0.9s,mb4.6
QLMT Earthquake Lak 48.56 67 *eP* **P** **04 40 04.7 -0.4**
ELK Elko 48.90 74 P **P** **04 40 07.8 +0.1**
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 48.90 74 P **P** **04 40 07.8 0.0**
comp=Z,1.7nm,0.8s,mb4.1
YMR Madison River 48.92 67 P **P** **04 40 08.5 +0.6**
IMW Indian Meadow 49.41 68 P **P** **04 40 11.0 -0.7**
comp=Z,3.4nm,0.9s,mb4.4
LZH Lanzhou 50.04 280 *eP* **P** **04 40 16.6 +0.1**
LZH AP pP 04 40 23.6 -0.5
LZH PP PP 04 42 11.7 -0.8
LZH AMB AMB
comp=Z,21nm,1.2s,mb5.0
LZH Lanzhou 50.04 280 *eP* **P** **04 40 16.6 +0.1**
LZH *SP sP 04 40 27.0 0.0
LZH 04 42 11.7
LZH pmax pmax
comp=Z,21nm,1.2s,mb5.0
LZH Lanzhou 50.04 280 *eP* **P** **04 40 16.6 +0.1**
comp=Z,21nm,1.2s,mb5.0
LZH pP pP 04 40 23.6 -0.5
LZH sP sP 04 40 27.0 0.0
LZH PP PP 04 42 11.7 -0.8
GTA Gaotai 50.27 286 *eP* **P** **04 40 20.0 +1.8**
GTA AMB AMB
comp=Z,4.0nm,0.7s,mb4.6
LAO LASA Array 50.30 62 *eP* **P** **04 40 18.1 -0.3**
comp=Z,4.8nm,0.6s,mb4.7
BW06 Boulder Array 50.91 68 *eP* **P** **04 40 22.0 -1.0**
comp=Z,3.3nm,0.9s,mb4.3
BW06 *ep*P pP 04 40 29.4 -1.2
PDAR Pinedale Array 50.91 68 P **P** **04 40 22.3 -0.7**
comp=Z,2.1nm,0.8s,mb4.1,baz=308,slow=4.3,SNR=18
MSU Marysvale 52.15 74 P **P** **04 40 32.0 -0.5**
TMUT Trail Mountain 52.20 72 P **P** **04 40 31.6 -1.3**
SRU San Rafael 52.72 72 *eP* **P** **04 40 36.3 -0.5**
SRU *e**PP pP 04 40 43.9 -0.4
RSSD Black Hills 53.12 63 *eP* **P** **04 40 38.2 -1.5**
RSSD pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
RSSD Black Hills 53.12 63 *eP* **P** **04 40 38.1 -1.5**
comp=Z,3.1nm,0.6s,mb4.4
ULM Lac du Bonnet 53.40 53 P **P** **04 40 40.5 -1.2**
comp=Z,3.9nm,0.6s,mb4.5,baz=280,slow=6.5,SNR=4.1
ULM LR LR 05 03 51.1
comp=Z,116nm,19.7s,MS3.9,baz=284,slow=37
ISCO Idaho Springs 55.10 68 *eP* **P** **04 40 54.6 +0.4**
ISCO *e**PP pP 04 41 01.7 -0.1
ISCO pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
ISCO Idaho Springs 55.10 68 *eP* **P** **04 40 54.6 +0.4**
comp=Z,3.5nm,1.3s,mb4.2
ISCO *ep*P pP 04 41 01.7 -0.1
MKAR Makanchi Array 55.19 303 P **P** **04 40 53.8 -1.0**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR MLR MLR
comp=Z,68nm,19.2s
MKAR Makanchi Array 55.19 303 P **P** **04 40 53.8 -1.0**
comp=Z,0.5nm,0.4s,mb3.9,baz=59,slow=7.1,SNR=5.7
MKAR LR LR 05 05 27.4
comp=Z,68nm,19.2s,MS3.7,baz=22,slow=37
ARCES ARCESS Array B 56.05 347 P **P** **04 40 59.4 -1.3**
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 56.05 347 P **P** **04 40 59.4 -1.3**
comp=Z,1.0nm,0.4s,mb4.2,baz=38,slow=7.3,SNR=18
ARCES ARCESS Array B 56.05 347 P **P** **04 40 59.4 -1.3**
VOSK Vostochnaya 56.55 314 P **P** **04 41 03.6 -0.9**
VOSK pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
BVA0 Borovoye Array 56.59 315 *i* P **P** **04 41 04.5 -0.3**
BVA0 pmax pmax
comp=Z,2.0nm,1.5s,mb3.9
ZRNK Zerenda 57.24 316 *eP* **P** **04 41 08.5 -0.9**
ZRNK pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ZRNK Zerenda 57.24 316 *eP* **P** **04 41 08.5 -0.9**
comp=Z,3.0nm,0.7s,mb4.4
KMI Kunming 58.41 271 P **P** **04 41 15.0 -3.0**
KMI S **S** **04 49 21.0 +3.3**
KMI SS SS 04 53 11.6 -0.1
KMI AMB AMB
comp=Z,6.0nm,0.9s,mb4.6
KMI LR LR
comp=Z,33nm,46.8s,MS3.1
KMI Kunming 58.41 271 P **P** **04 41 15.0 -3.0**
KMI *PP pP 04 41 23.7 -1.9
KMI *SP sP 04 41 27.9 -0.5
KMI S **S** **04 49 21.0 +3.3**
KMI SS SS 04 53 11.6 -0.1
KMI pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
KMI MLR MLR
comp=Z,30nm,46.8s,MS3.0
KMI Kunming 58.41 271 P **P** **04 41 15.0 -3.0**
comp=Z,6.0nm,0.9s,mb4.6
KMI pP pP 04 41 23.7 -1.9
KMI sP sP 04 41 27.9 -0.5
KMI S **S** **04 49 21.0 +3.3**
KMI SS SS 04 53 11.6 -0.1
KMI LR LR
comp=Z,30nm,46.8s,MS3.0
ARU Arti 58.83 324 *eP* **P** **04 41 19.5 -1.0**
MNTX Cornudas Mount 60.87 75 *eP* **P** **04 41 34.5 -0.3**
comp=Z,3.3nm,0.7s,mb4.6
SCHQ Schefferville 62.30 34 P **P** **04 41 43.2 -1.0**
comp=Z,14nm,0.8s,mb5.2,baz=333,slow=6.7,SNR=19
SCHQ LR LR 05 11 29.3
comp=Z,58nm,19.5s,MS3.8,baz=57,slow=39
SCHQ Schefferville 62.30 34 P **P** **04 41 43.2 -1.0**
SCHQ LR LR 05 11 29.3
KAF Kangasniemi 62.79 343 *ep* **P** **04 41 45.6 -1.7**
comp=Z,0.7nm,0.4s,mb4.1,baz=23,slow=6.2
FINES FINESS Array B 63.45 343 P **P** **04 41 50.7 -1.0**
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 63.45 343 P **P** **04 41 50.7 -1.0**
comp=Z,4.6nm,0.8s,mb4.7,baz=27,slow=8.5,SNR=13
KKAR Karatay Array 63.70 307 *i* P **P** **04 41 53.1 -0.4**
KKAR pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
AB31 Akbulak array 63.81 318 *i* P **P** **04 41 54.1 +0.1**
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
NB2 NORSAR Subarra 65.96 350 P **P** **04 42 07.3 -0.5**
comp=Z,4.3nm,0.7s,mb4.6,baz=12,slow=6.5
NB2 NORSAR Subarra 65.96 350 P **P** **04 42 07.3 -0.5**
NB2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
NOA NORSAR Array B 65.96 350 P **P** **04 42 07.0 -0.8**
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA NORSAR Array B 65.96 350 P **P** **04 42 07.0 -0.8**
comp=Z,4.1nm,0.8s,mb4.5,baz=13,slow=6.5,SNR=14
AKASG Malin Array Be 72.75 337 P **P** **04 42 49.3 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 72.75 337 P **P** **04 42 49.3 -0.3**
comp=Z,1.8nm,0.6s,mb4.2,baz=24,slow=6.1,SNR=9.6
OJC Ojcow 75.23 342 *eP* **P** **04 43 05.2 +1.3**
STHS Stebnicka Huta 75.72 341 *i* P **P** **04 43 08.9 +2.1**
CTA Charters Tower 75.76 206 P **P** **04 43 08.5 +0.9**
CTA pmax pmax
comp=Z,4.0nm,0.7s
CTA Charters Tower 75.76 206 P **P** **04 43 08.4 +0.9**
comp=Z,4.3nm,0.7s,mb4.5,baz=14,slow=7.4,SNR=3.9
KOLS Kolonicke sedl 75.97 340 *i* P **P** **04 43 09.5 +1.3**
CRVS Cervenica-Dubn 76.17 341 *i* P **P** **04 43 11.1 +1.8**
PPT Papeete 76.96 143 LR LR 05 10 51.2
comp=Z,96nm,19.5s,MS4.1,baz=97,slow=31
VYHS Vyhne 77.06 343 *i* P **P** **04 43 16.1 +1.8**
BAIF Baives 77.47 352 *eP* **P** **04 43 17.8 +1.3**
GERES GERESS Array B 77.58 346 P **P** **04 43 18.4 +1.3**
GERES pmax pmax
comp=Z,2.0nm,0.9s
GERES GERESS Array B 77.58 346 P **P** **04 43 18.4 +1.2**
comp=Z,2.1nm,0.9s,mb4.1,baz=323,slow=6.7,SNR=5.9
HAU Haudompre 79.31 351 *eP* **P** **04 43 27.8 +1.1**
HAU *eR*
comp=Z,42nm,23.0s
WRAB Tennant Creek 79.38 216 P **P** **04 43 27.7 +0.1**
WRA Warramunga Arr 79.39 216 P **P** **04 43 28.4 +0.8**
WRA pmax pmax
comp=Z,5.0nm,0.9s
WRA Warramunga Arr 79.39 216 P **P** **04 43 28.4 +0.8**
comp=Z,4.8nm,0.9s,mb4.4,baz=32,slow=5.8,SNR=15
SSF Saint Saulge 80.50 353 *eP* **P** **04 43 34.3 +1.3**
SMF Signal de Mont 80.89 352 *eP* **P** **04 43 36.4 +1.3**
comp=Z,11nm,0.9s,mb4.5
SMF Signal de Mont 80.89 352 *eP* **P** **04 43 36.4 +1.3**
SMF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
FITZ Fitzroy Crossi 81.20 225 P **P** **04 43 38.8 +1.5**
comp=Z,14nm,0.4s,mb5.2,baz=21,slow=5.8,SNR=34
MFF Saint Martin d 81.20 355 *eP* **P** **04 43 38.2 +1.5**
TCF Toulx Ste Croi 81.37 353 *eP* **P** **04 43 37.9 +0.3**
BRTR Keskin Array B 81.62 329 P **P** **04 43 40.5 +1.5**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 81.62 329 P **P** **04 43 40.5 +1.5**
comp=Z,2.0nm,0.7s,mb4.2,baz=63,slow=3.5,SNR=11
LPL La Plagne 81.74 350 *eP* **P** **04 43 41.2 +1.7**
comp=Z,8.3nm,0.8s,mb4.4
LPL La Plagne 81.74 350 *eP* **P** **04 43 41.2 +1.7**
LPL pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LPG La Plagne 81.75 350 *eP* **P** **04 43 41.4 +1.8**
RJF Les Rejaudoux 82.40 354 *eP* **P** **04 43 44.5 +1.5**
RJF *eR*
comp=Z,52nm,23.0s
ORIF Oris-en-Rattie 82.42 351 *eP* **P** **04 43 44.5 +1.4**
comp=Z,14nm,1.1s,mb4.5
ORIF *eR*
comp=Z,62nm,21.8s
MBDF Montbardon 82.51 350 *eP* **P** **04 43 44.4 +0.8**
comp=Z,8.7nm,0.9s,mb4.5
MBDF Montbardon 82.51 350 *eP* **P** **04 43 44.4 +0.8**
MBDF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CAF Calviac 82.74 353 *eP* **P** **04 43 45.7 +1.0**
comp=Z,12nm,1.0s,mb4.5
CAF Calviac 82.74 353 *eP* **P** **04 43 45.7 +1.0**
CAF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
LFF La Frestale 82.81 354 *eP* **P** **04 43 45.9 +0.8**
SMRF Simiane la Rot 83.38 351 *eP* **P** **04 43 48.8 +0.7**
comp=Z,22nm,1.1s,mb4.8
PGF Pioggiola 84.40 348 *eP* **P** **04 43 54.2 +1.0**
comp=Z,31nm,1.0s,mb5.1
PGF Pioggiola 84.40 348 *eP* **P** **04 43 54.2 +1.0**
PGF pmax pmax
comp=Z,15nm,1.0s,mb5.1
ETSF Etsaut 84.92 355 *eP* **P** **04 43 57.0 +1.3**
MAW Mawson 144.05 218 PKIKP PKPdf 04 50 54.3 -4.3
MAW pmax pmax
comp=Z,5.0nm,0.6s
MAW Mawson 144.05 218 PKP PKPdf 04 50 54.3 -4.3
comp=Z,4.5nm,0.6s,baz=85,slow=4.9,SNR=13
BOSA Boshof 146.18 302 PKP2 PKPab 04 51 02.5 -0.3
BOSA pmax pmax
comp=Z,1.0nm,0.5s
BOSA Boshof 146.18 302 PKPbc PKPbc 04 51 02.5 +2.4
comp=Z,0.9nm,0.5s,baz=47,slow=4.7,SNR=5.3
SNAA Sanae 160.54 184 *e* PKPdf 04 51 30.7 +8.3
SNAA Sanae 160.54 184 *e* PKPab 04 52 02.0 +0.4
SNAA Sanae 160.54 184 *e* 04 52 10.1
SNAA Sanae 160.54 184 PKIKP PKPdf 04 51 27.4 +5.0
SNAA *e* 04 52 02.0
SNAA *e* 04 55 49.9
SNAA Sanae 160.54 184 PKPdf PKPdf 04 51 27.4 +5.0
SNAA *e* 04 51 30.7
SNAA *e* 04 52 02.0
SNAA *e* 04 52 10.1
SNAA *e* 04 55 49.9
VNA3 Neumayer Olymp 161.04 178 *e* PKPdf 04 51 30.9 +8.0
VNA3 Neumayer Olymp 161.04 178 *e* PKPab 04 52 03.1 -0.7
VNA3 Neumayer Olymp 161.04 178 *e* 04 52 12.1
VNA3 Neumayer Olymp 161.04 178 PKPdf PKPdf 04 51 25.2 +2.3
VNA3 *e* 04 51 30.9
VNA3 *e* 04 52 03.1
VNA3 *e* 04 52 12.1
VNA3 *e* 04 55 50.5
VNA2 Neumayer--Watz 161.39 180 *e* PKPdf 04 51 32.9 +10
VNA2 Neumayer--Watz 161.39 180 *e* PKPab 04 52 05.1 -0.2
VNA2 Neumayer--Watz 161.39 180 *e* 04 52 13.3
VNA2 Neumayer--Watz 161.39 180 PKPdf PKPdf 04 51 28.3 +5.1
VNA2 *e* 04 51 32.9
VNA2 *e* 04 52 05.1
VNA2 *e* 04 52 13.3
VNA2 *e* 04 55 52.6

LDG ***12*** *04:35:44.6±0.6,20.82S×170.39E,h10km,Mb4.4/1,Error ellipse: s-maj=90.0km s-min=52.8km az=41.0*

IDC ***12*** *04:36:03.7±2.2,21.39S×170.51E,h167km±15km,mb4.1/9, mb1 4.2/10,mb1mx4.1/14,mbtmp4.6/10,MS3.3/1, Ms1 3.3/1,ms1mx2.8/17,Error ellipse: s-maj=21.2km s-min=16.8km az=23.0*

NEIC ***12*** *04:36:05.3±2.8,21.44S×170.33E,h179km±18km, mb4.6/11,Error ellipse: s-maj=31.4km s-min=15.3km az=52.0*

ISC 12 04:36:05.5±2.9,21.5S±0.2×170.3E±0.2,h195km±18km, n45,σ1s02/28,mb4.3/19,10C-1D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.64**	**260**	*eP*	**P**	**P**	**04 37 02.0**	**-1.4**
DZM				*eS*	**S**	**S**	**04 37 48.4**	**+0.4**
DZM	**Mont Dzumac**	**3.64**	**260**	P	**P**	**P**	**04 37 02.6**	**-0.7**
	23nm,0.3s,baz=93,slow=15,SNR=91							
DZM				LR	LR	LR	04 37 46.4	
	comp=Z,348nm,18.3s,baz=344,slow=27							
DZM				S	**S**	**S**	**04 37 48.7**	**+0.7**
	12nm,0.3s,baz=128,slow=22,SNR=5.6							
CTA	**Charters Tower**	**22.53**	**269**	P	**P**	**P**	**04 40 51.7**	**+1.9**
	3.7nm,0.4s,mb4.3,baz=90,slow=12,SNR=9.1							
CTA	**Charters Tower**	**22.53**	**269**	P	**P**	**P**	**04 40 51.7**	**+1.9**
CNB	**Canberra Magne**	**22.95**	**229**	*eP*	**P**	**P**	**04 40 56.1**	**+2.4**
	18nm,0.9s,mb4.6							
PMG	**Port Moresby**	**25.30**	**295**	P	**P**	**P**	**04 41 17.6**	**+1.6**
	11nm,0.6s,mb4.7,baz=14,slow=8.1,SNR=3.2							
STKA	**Stephens Creek**	**27.59**	**242**	*eP*	**P**	**P**	**04 41 37.4**	**+0.6**
	8.2nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**27.59**	**242**	P	**P**	**P**	**04 41 37.1**	**+0.3**
	12nm,0.9s,mb4.5,baz=73,slow=9.8,SNR=17							
WB2	**Warramunga Arr**	**33.63**	**266**	*i* P	**P**	**P**	**04 42 28.5**	**-1.1**
WRAB	**Tennant Creek**	**33.63**	**266**	*eP*	**P**	**P**	**04 42 28.1**	**-1.5**
	13nm,0.4s,mb4.8							
WRA	**Warramunga Arr**	**33.64**	**266**	P	**P**	**P**	**04 42 28.6**	**-1.2**
	5.9nm,0.4s,mb4.5,baz=98,slow=8.4,SNR=282							
WRA				S	**S**	**S**	**04 47 43.3**	**+6.1**
	0.6nm,1.0s,baz=97,slow=13,SNR=4.7							
KAKA	**Kakadu**	**37.15**	**277**	*eP*	**P**	**P**	**04 42 59.1**	**-0.4**
	8.0nm,0.4s,mb4.6							
FITZ	**Fitzroy Crossi**	**42.06**	**266**	*eP*	**P**	**P**	**04 43 39.0**	**-0.9**
	19nm,0.9s,mb4.5							
MBWA	**Marble Bar**	**46.95**	**261**	*eP*	**P**	**P**	**04 44 18.3**	**-0.4**
	12nm,0.6s,mb4.4							
KLBR	**Kellerberrin**	**47.70**	**246**	*eP*	**P**	**P**	**04 44 23.7**	**-0.7**
	17nm,0.5s,mb4.6							
NWAO	**Narrogin (SRO)**	**48.12**	**245**	P	**P**	**P**	**04 44 27.8**	**+0.1**
	18nm,0.5s,mb4.7,baz=81,slow=7.4,SNR=24							
NWAO	**Narrogin (SRO)**	**48.12**	**245**	*eP*	**P**	**P**	**04 44 27.4**	**-0.3**
	16nm,0.6s,mb4.5							
VNDA	**Vanda**	**56.23**	**182**	P	**P**	**P**	**04 45 26.9**	**-0.2**
	0.8nm,0.5s,mb3.5,baz=4.6,slow=8.5,SNR=9.9							
SBA	**Scott Base**	**56.44**	**181**	*eP*	**P**	**P**	**04 45 29.4**	**+0.8**
	10nm,0.9s,mb4.4							
CASY	**Casey**	**58.49**	**204**	*eP*	**P**	**P**	**04 45 42.0**	**-1.0**
	13nm,1.1s,mb4.5							
QSPA	**South Pole Qui**	**68.58**	**180**	⇑*i*P	**P**	**P**	**04 46 48.7**	**+0.1**
	6.4nm,0.8s,mb4.3							
MAW	**Mawson**	**76.74**	**202**	P	**P**	**P**	**04 47 37.3**	**+0.9**
	6.7nm,0.8s,mb4.3,baz=126,slow=6.2,SNR=14							
CMAR	**Chiang Mai Arr**	**80.34**	**294**	P	**P**	**P**	**04 47 58.1**	**+1.2**
	0.9nm,0.4s,mb3.8,baz=132,slow=4.8,SNR=4.9							
SNAA	**Sanae**	**86.97**	**182**	*eP*	**P**	**P**	**04 48 28.6**	**-0.5**
	1.5nm,0.6s,mb3.9							
SONM	**Songino Array**	**89.61**	**323**	P	**P**	**P**	**04 48 42.1**	**0.0**
	1.2nm,0.8s,mb3.8,baz=119,slow=2.1,SNR=8.1							
ARCES	**ARCESS Array B**	**127.48**	**345**	PKP		PKPdf	04 54 46.8	+0.1
	3.0nm,0.9s,baz=64,slow=2.4,SNR=15							
DPC	**Dobruska-Polom**	**144.67**	**331**	*e*PKP		PKPdf	04 55 19.5	+0.9
UPC	**Upice**	**144.69**	**331**	*e*PKP		PKPdf	04 55 19.7	+1.1
VYHS	**Vyhne**	**144.71**	**327**	*i* PKP		PKPdf	04 55 20.0	+1.3
PVCC	**Panska Ves**	**145.31**	**333**	*e*PKP		PKPdf	04 55 21.5	+1.8
CLL	**Collm**	**145.37**	**335**	*i* PKP1		PKPbc	04 55 21.4	+0.9
PRU	**Pruhonice**	**145.72**	**332**	*e*PKP		PKPdf	04 55 22.7	+2.3
NKC	**Novy Kostel**	**146.42**	**334**	*e*PKP		PKPdf	04 55 25.0	+3.5
KHC	**Kasperske Hory**	**146.78**	**332**	*e*PKP		PKPdf	04 55 25.3	+3.1
GERES	**GERESS Array B**	**146.94**	**331**	PKPbc		PKPbc	04 55 26.0	+1.7
	4.1nm,0.6s,baz=63,slow=3.0,SNR=20							
CDF	**Champ du Feu**	**149.89**	**337**	⇑*i*PKP1		PKPdf	04 55 33.7	+6.5
HINF	**Hinteralfeld**	**150.54**	**337**	⇑*i*PKP1		PKPdf	04 55 35.0	+6.8
	11nm,0.9s							
HAU	**Haudompre**	**150.56**	**338**	⇑*i*PKP1		PKPdf	04 55 35.2	+6.9
	13nm,0.7s							
FLN	**La Foliniere**	**151.80**	**347**	⇑*i*PKP1		PKPdf	04 55 37.6	+7.5
	13nm,0.8s							
LDF	**La Druitiere**	**151.89**	**346**	⇑*i*PKP1		PKPdf	04 55 37.6	+7.4
GRR	**Gorron**	**152.24**	**347**	⇑*i*PKP1		PKPdf	04 55 38.8	+8.1
LPL	**La Plagne**	**152.50**	**334**	⇑*i*PKP1		PKPdf	04 55 40.2	+9.0
LPG	**La Plagne**	**152.51**	**334**	⇑*i*PKP1		PKPdf	04 55 40.4	+9.2
	4.1nm,0.7s							
ORIF	**Oris-en-Rattie**	**153.34**	**335**	⇑*i*PKP1		PKPdf	04 55 41.6	+9.2
	8.3nm,0.8s							
DBIC	**Dimbokro**	**164.55**	**198**	PKPab		PKPab	04 56 44.5	-0.1
	4.2nm,1.0s,baz=151,slow=1.8,SNR=4.0							

MAN 12 04:44:16.3,11.10N×124.79E,h15km,mb3.9,ML2.7, MS2.3,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.20**	**72**	*eP*	Pb	Pb	04 44 21.7	+0.6
PLP				*eS*	Sb	Sb	04 44 25.5	+1.2
BESP	**Borongan**	**0.81**	**52**	*eP*	Pb	Pb	04 44 31.7	+0.2
BESP				*eS*	Sb	Sb	04 44 44.5	+2.5
MSLP	**Maasin**	**0.97**	**176**	*eP*	Pb	Pb	04 44 34.5	+0.2
MSLP				*eS*	Sb	Sb	04 44 50.2	+3.6
LLP	**Lapu-Lapu**	**1.12**	**226**	*eP*	Pb	Pb	04 44 35.9	-1.0
LLP				*eS*	Sb	Sb	04 44 49.3	-1.8
CNP	**Catarman**	**1.40**	**355**	*eP*	Pn	Pn	04 44 35.3	-6.2
CNP				*eS*	Sb	Sb	04 44 59.2	0.0
GUIM	**Jordan**	**2.21**	**258**	*eP*	Pn	Pn	04 44 52.9	-0.1
GUIM				*eS*	Sn	Sn	04 45 19.8	-0.4

NEIC ***12*** *04:49:00.6,35.33S×71.52W,h94km,MD3.5(GUC),After GUC.*

GUC 12 04:49:00.6±0.7,35.33S×71.52W,h94km±6km,MD3.5, ML3.3,3C-4D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.40**	**36**	⇓*i*P		Px	04 51 04.1	
NICH				*i* S		Sx	04 51 14.9	
SFDO	**San Fernando**	**0.82**	**31**	⇑*i*P		P	04 49 19.0	+0.1
SFDO				*i* S		S	04 49 32.9	+0.4
CICH	**Cipreses**	**1.35**	**42**	⇓*i*P		P	04 49 25.4	+0.3
CICH				*i* S		S	04 49 44.0	+0.6
LNV	**Longovilo**	**1.37**	**4**	*i* P		P	04 49 26.3	+0.9
LNV				*i* S		S	04 49 45.4	+1.6
CACH	**El Canelo**	**1.43**	**32**	⇓*i*P		P	04 49 26.3	+0.3
CACH				*i* S		S	04 49 45.6	+0.7
CHCH	**Chadas Angostu**	**1.56**	**28**	*i* P		P	04 49 27.8	0.0
CHCH				*i* S		S	04 49 48.1	+0.2
TACH	**Talagante**	**1.74**	**16**	⇓*i*P		P	04 49 30.3	+0.3
TACH				*i* S		S	04 49 51.5	-0.2
LMEL	**Las Melosas**	**1.83**	**37**	⇑*i*P		P	04 49 31.9	+0.6
LMEL				*i* S		S	04 49 55.5	+1.6
PCH	**Pirque**	**1.89**	**26**	*i* P		P	04 49 31.9	-0.1
PCH				*i* S		S	04 49 55.9	+0.6
ANTU	**Antumapu**	**1.90**	**23**	*i* S		S	04 49 56.1	+0.7
ANTU				AMP			04 49 57.7	
	comp=E,218nm,0.3s							
RCDM	**Rinconada Maip**	**1.93**	**18**	*i* P		P	04 49 32.6	+0.1
RCDM				*i* S		S	04 49 56.1	+0.2
RCDM				AMP			04 49 56.6	
	comp=E,460nm,0.1s							
SJCH	**San Jose de Ma**	**1.94**	**30**	*eP*		P	04 49 32.8	+0.1
SJCH				*i* S		S	04 49 57.0	+0.8
DSCH	**Colegio Aleman**	**2.08**	**23**	*eP*		P	04 49 34.2	-0.3
DSCH				*i* S		S	04 50 00.1	+0.5
DSCH				AMP			04 50 01.6	
	comp=N,208nm,0.5s							
CLCH	**Cerro Calan**	**2.09**	**23**	*eP*		P	04 49 34.7	0.0
CLCH				*i* S		S	04 50 00.4	+0.5
CLCH				AMP			04 50 02.8	
	comp=E,206nm,0.2s							
FCH	**Farellones**	**2.24**	**27**	⇑*i*P		P	04 49 36.9	+0.2
FCH				*i* S		S	04 50 04.3	+0.7
FCH				AMP			04 50 06.6	
	comp=N,257nm,0.2s							
ROCH	**El Roble**	**2.39**	**10**	*i* S		S	04 50 08.5	+1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**2.75**	**17**	*i* P	P	04 49 43.3	-0.5
JACH				*i* S	S	04 50 16.4	+0.2

CASC 12 05:08:17.9±1.5**, 8.33N**×**82.79W, h12**^{km}±8^{km}**, MD4.2, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**1.55**	**322**	*e*P	Pn	05 08 45.2	-0.3
BUS				*e*S	Sb	05 09 07.4	+1.9
LCR2	**La Lucha 2**	**1.84**	**320**	*e*P	Pn	05 08 49.5	-0.3
LCR2				*e*S	Sn	05 09 13.9	+0.7
SJS	**Escuela Geolog**	**2.03**	**322**	*e*P	Pn	05 08 52.5	+0.1
SJS				*e*S	Sn	05 09 18.3	+0.5
PRS1	**Puriscal**	**2.23**	**318**	*e*P	Pn	05 08 53.2	-2.0
PRS1				*e*S	Sn	05 09 22.0	-0.8
TRTC	**Tortuguero**	**2.41**	**338**	*e*P	Pn	05 08 58.0	+0.2
TRTC				*e*S	Sn	05 09 26.5	-1.0
UPA	**Univ. de Panam**	**3.29**	**78**	*e*P	Pn	05 09 09.3	-0.9

*JMA **12** 05:17:43.6±0.4, 26.51N×124.71E, h168^{km}, M3.6*
*IDC **12** 05:17:44.5±3.7, 26.48N×125.25E, h218^{km}±43^{km}, mb3.2/6, mb1 3.4/7, mb1mx3.2/21, mbtmp3.8/7, Error ellipse: s-maj=65.4km s-min=19.7km az=67.0*
ISC 12 05:17:41.5±0.4**, 26.29N**±0.08×**124.96E**±0.07**, h203**^{km}±7^{km}**, n24,** σ**1**^{s}**25**/39**, mb3.4**/6**, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.50**	**168**	P	**P**	**05 18 17.8**	**+1.9**
JMJ				*e*S	**S**	**05 18 42.7**	**+0.3**
JOGS	**Gusukube**	**1.58**	**165**	P	**P**	**05 18 18.8**	**+2.2**
JOGS				*e*S	**S**	**05 18 45.0**	**+1.4**
JKE	**Kume jima 2**	**1.64**	**88**	P	**P**	**05 18 19.1**	**+2.0**
JKE				*e*S	**S**	**05 18 44.8**	**+0.3**
JTJ	**Tarama**	**1.66**	**188**	P	**P**	**05 18 18.7**	**+1.3**
JTJ				S	**S**	**05 18 43.7**	**-1.3**
JIJ	**Ishigaki jima**	**2.06**	**201**	P	**P**	**05 18 21.5**	**+0.2**
JIJ				S	**S**	**05 18 49.0**	**-2.8**
JAGN	**Aguni-jima**	**2.06**	**81**	P	**P**	**05 18 22.8**	**+1.5**
JAGN				S	**S**	**05 18 51.7**	**-0.2**
JKRS	**Kuro-shima**	**2.22**	**203**	P	**P**	**05 18 23.6**	**+0.6**
JKRS				S	**S**	**05 18 52.8**	**-2.2**
IRIF	**Iriomote-Funau**	**2.25**	**210**	P	**P**	**05 18 23.7**	**+0.4**
IRIF				*e*S	**S**	**05 18 53.3**	**-2.2**
NAH1	**Naha**	**2.45**	**91**	*e*S	**S**	**05 19 00.0**	**+0.5**
HATJ	**Hateruma jima**	**2.46**	**205**	P	**P**	**05 18 26.2**	**+0.5**
HATJ				*e*S	**S**	**05 18 57.3**	**-2.4**
JJT2	**Tamagusuku 2**	**2.51**	**93**	*e*S	**S**	**05 19 01.2**	**+0.6**
YOJ	**Yonaguni jima**	**2.54**	**225**	P	**P**	**05 18 27.3**	**+0.8**
YOJ				*e*S	**S**	**05 19 00.7**	**-0.6**
JIH	**Iheya**	**2.79**	**74**	P	**P**	**05 18 31.0**	**+1.6**
JIH				*e*S	**S**	**05 19 05.2**	**-1.1**
JOW	**Kunigami**	**3.01**	**79**	P	**P**	**05 18 33.4**	**+1.4**
	28nm,0.3s,baz=175,slow=16,SNR=71						
JOW				S	**S**	**05 19 09.7**	**-1.3**
	88nm,0.3s,baz=106,slow=26,SNR=16						
JOW	**Kunigami**	**3.01**	**79**	P	**P**	**05 18 33.4**	**+1.4**
JOW				S	**S**	**05 19 09.2**	**-1.8**
JTK	**Tokunoshima**	**3.85**	**66**	P	**P**	**05 18 42.7**	**+0.5**
JTK				S	**S**	**05 19 27.5**	**-1.7**
JAM	**Amami Oshima**	**4.64**	**62**	P	**P**	**05 18 52.0**	**-0.1**
JAM				*e*S	**S**	**05 19 44.2**	**-2.5**
JMZ	**Minamidaito 2**	**5.65**	**93**	*e*S	**S**	**05 20 08.3**	**-1.6**
SONM	**Songino Array**	**25.98**	**331**	P	**P**	**05 22 57.1**	**-0.2**
	0.5nm,0.4s,mb3.5,baz=135,slow=8.2,SNR=5.2						
MKAR	**Makanchi Array**	**39.32**	**313**	P	**P**	**05 24 52.3**	**0.0**
	0.3nm,0.5s,mb3.1,baz=90,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**46.85**	**168**	P	**P**	**05 25 53.7**	**+0.6**
	0.2nm,0.4s,mb2.8,baz=348,slow=8.7,SNR=6.4						
ARCES	**ARCESS Array B**	**68.87**	**338**	P	**P**	**05 28 24.9**	**-0.6**
	3.3nm,0.9s,mb4.0,baz=74,slow=6.6,SNR=4.7						
FINES	**FINESS Array B**	**71.35**	**330**	P	**P**	**05 28 40.3**	**-0.3**
	1.5nm,0.9s,mb3.6,baz=72,slow=4.4,SNR=4.1						
AKASG	**Malin Array Be**	**73.56**	**319**	P	**P**	**05 28 53.4**	**-0.5**
	0.9nm,0.5s,mb3.7,baz=59,slow=6.5,SNR=3.3						

IDC 12 05:26:09.6±4.9**, 3.52N**×**123.57E, mb4.2**/5**, mb1 4.4**/5**, mb1mx3.9**/20**, mbtmp4.3**/5**, 1C-1D, Error ellipse: s-maj=88.9km s-min=81.3km az=7.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**18.37**	**151**	*e*P	P	05 30 31.1	+3.4
	4.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.57**	**175**	⇓*i*P	P	05 31 00.9	-2.2
	9.6nm,0.3s						
FITZ	**Fitzroy Crossi**	**21.57**	**175**	P	P	05 31 01.0	-2.1
	12nm,0.3s,baz=353,slow=9.9,SNR=59						
WRA	**Warramunga Arr**	**25.60**	**156**	P	P	05 31 40.6	-1.8
	3.1nm,0.4s,baz=335,slow=10,SNR=82						
WB2	**Warramunga Arr**	**25.60**	**156**	⇑*i*P	P	05 31 40.8	-1.7
NWAO	**Narrogin (SRO)**	**36.74**	**189**	P	P	05 33 18.6	-2.1
	8.4nm,1.0s,baz=66,slow=8.8,SNR=3.6						
STKA	**Stephens Creek**	**39.15**	**155**	*e*P	P	05 33 39.7	-1.2
	1.6nm,0.5s						
STKA	**Stephens Creek**	**39.15**	**155**	P	P	05 33 39.4	-1.5
	1.3nm,0.4s,baz=342,slow=8.9,SNR=5.8						
VNDA	**Vanda**	**83.63**	**172**	P	P	05 38 39.5	-1.2
	0.2nm,0.6s,baz=343,slow=4.1,SNR=3.7						

*IDC **12** 05:43:25.3±9.7, 4.68S×77.50W, h126^{km}±98^{km}, mb3.5/3, mb1 3.5/6, mb1mx3.4/19, mbtmp3.7/6, ML3.8/2, Error ellipse: s-maj=87.8km s-min=31.2km az=63.0*
*NEIC **12** 05:43:27.6±1.1, 4.60S×77.18W, h150^{km}, mb3.7/1, Error ellipse: s-maj=32.2km s-min=13.8km az=51.0*
ISC 12 05:43:28.3±5.2**, 4.6S**±0.2×**77.3W**±0.4**, h175**^{km}±55^{km}**, n11,** σ**0**^{s}**46**/11**, mb3.6**/3**, Northern Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAML	**Samuel**	**14.66**	**108**	*e*Pn	**P**	**05 46 43.9**	**-4.7**
	2.1nm,0.6s						
LPAZ	**La Paz**	**14.68**	**143**	P	**P**	**05 46 48.9**	**+0.1**
	0.1nm,0.3s,baz=348,slow=15,SNR=7.6						
LPAZ	**La Paz**	**14.68**	**143**	P	**P**	**05 46 48.9**	**+0.1**
LPAZ				*e*P		05 46 50.0	
SDV	**Santo Domingo**	**14.97**	**26**	P	**P**	**05 46 52.5**	**0.0**
	0.5nm,0.3s,baz=159,slow=1.6,SNR=3.9						
SDV	**Santo Domingo**	**14.97**	**26**	P	**P**	**05 46 52.5**	**0.0**
SDV				P		05 46 53.1	
SIV	**San Ignacio**	**19.54**	**127**	P	**P**	**05 47 44.4**	**-0.2**
	0.1nm,0.3s,baz=297,slow=18,SNR=4.8						
ANMO	**Albuquerque**	**47.98**	**327**	P	**P**	**05 51 51.5**	**0.0**
	1.3nm,0.8s,mb3.6,baz=139,slow=11,SNR=7.7						
ARUT	**Antelope Range**	**53.92**	**325**	*e*P	**P**	**05 52 36.1**	**+0.1**
PDAR	**Pinedale Array**	**55.49**	**332**	P	**P**	**05 52 46.5**	**-0.8**
	0.6nm,0.7s,mb3.4,baz=131,slow=8.3,SNR=6.8						
YKA	**Yellowknife Ar**	**72.71**	**343**	P	**P**	**05 54 39.5**	**+0.8**
	0.9nm,0.5s,mb3.8,baz=143,slow=6.3,SNR=5.2						
YKA	**Yellowknife Ar**	**72.71**	**343**	P	**P**	**05 54 39.5**	**+0.8**

NEIC 12 05:48:05.2, 64.57N×**163.47W, h15**^{km}**, ML3.8**(AEIC)**, After AEIC., Northern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	**2.13**	**300**	P	Pn	05 48 40.3	-0.4
TNA				S	Sn	05 49 07.8	+0.7
TT01	**Tatalina**	**3.71**	**113**	P	Pn	05 49 02.5	-0.7
IM3	**Indian Mountai**	**4.32**	**67**	P	Pn	05 49 10.7	-1.2
IM3				S	Sn	05 50 03.1	+0.5
SVW2	**Sparrevohn**	**5.02**	**130**	P	Pn	05 49 20.5	-1.3
KTH	**Kantishna Hill**	**5.60**	**95**	P	Pn	05 49 29.1	-0.9
KTH				S	Sn	05 50 32.7	-2.1
BGL	**Barrier Glacie**	**6.05**	**118**	P	Pn	05 49 35.6	-0.8
COLD	**Coldfoot**	**6.05**	**58**	P	Pn	05 49 35.3	-1.1
MCK	**McKinley**	**6.41**	**91**	P	Pn	05 49 38.9	-2.6
IL1	**Eielson Array**	**7.12**	**81**	P	Pn	05 49 48.5	-2.9
ANCK	**Angle Creek**	**7.45**	**145**	P	Pn	05 49 52.9	-3.2
BM3	**Burnt Mountain**	**8.19**	**61**	P	P	05 50 05.2	-1.2

*NEIC **12** 06:23:45.5±0.8, 10.06S×161.60E, mb4.1/2, Error ellipse: s-maj=16.4km s-min=13.0km az=62.0*
*IDC **12** 06:23:45.4±0.8, 10.12S×161.61E, h78^{km}±6^{km}, mb3.7/7, mb1 4.0/9, mb1mx3.9/15, mbtmp4.1/9, MS3.5/4, Ms1 3.5/4, ms1mx3.2/23, Error ellipse: s-maj=18.5km s-min=9.1km az=22.0*
ISC 12 06:23:44.0±0.9**, 10.1S**±0.1×**161.63E**±0.10**, h78**^{km}**, h78**^{km}±2.6^{km}**:pP-P, n16,** σ**1**^{s}**06**/15**, mb3.8**/7**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.80**	**293**	P	**P**	**06 24 14.6**	**+0.8**
	144nm,0.3s,baz=166,slow=1.7,SNR=25						
HNR				S	**S**	**06 24 36.4**	**+0.8**
	788nm,0.3s,baz=178,slow=21,SNR=41						
HNR	**Honiara**	**1.80**	**293**	*e*Pn	**P**	**06 24 14.5**	**+0.7**
HNR				P		06 24 14.6	
HNR				S	**S**	**06 24 36.4**	**+0.8**
DZM	**Mont Dzumac**	**12.73**	**159**	P	**P**	**06 26 45.2**	**+1.8**
	0.7nm,0.3s,baz=255,slow=23,SNR=8.2						
DZM				LR	LR	06 30 14.5	
	comp=Z,190nm,21.7s,baz=34,slow=30						
PMG	**Port Moresby**	**14.28**	**272**	LR	LR	06 31 20.9	
	comp=Z,164nm,22.0s,baz=128,slow=32						
CTA	**Charters Tower**	**17.82**	**235**	P	**P**	**06 27 49.8**	**+1.3**
	0.7nm,0.3s,baz=72,slow=13,SNR=10						
CTA				LR	LR	06 33 24.2	
	comp=Z,148nm,18.3s,baz=47,slow=32						
CTAO	**Charters Tower**	**17.82**	**235**	*e*P	**P**	**06 27 48.4**	**0.0**
	12nm,0.7s						
AFI	**Afiamalu**	**26.27**	**101**	LR	LR	06 36 54.8	
	comp=Z,103nm,20.1s,baz=272,slow=30						
WRA	**Warramunga Arr**	**28.06**	**246**	P	**P**	**06 29 28.5**	**-1.9**
	0.7nm,0.5s,mb3.5,baz=77,slow=9.0,SNR=8.5						
WRA				pP	pP	06 29 47.1	-1.4
	2.9nm,0.7s,baz=74,slow=9.5,SNR=9.3						
STKA	**Stephens Creek**	**28.49**	**218**	P	**P**	**06 29 34.5**	**+0.4**
	2.8nm,1.0s,mb3.8,baz=57,slow=8.6,SNR=3.5						
FITZ	**Fitzroy Crossi**	**35.74**	**253**	P	**P**	**06 30 35.9**	**-1.4**
	3.0nm,0.5s,mb4.5,baz=53,slow=5.6,SNR=6.2						
VNDA	**Vanda**	**67.36**	**180**	P	**P**	**06 34 31.7**	**-0.8**
	1.5nm,0.7s,mb3.9,baz=324,slow=6.2,SNR=11						
VNDA	**Vanda**	**67.36**	**180**	*e*P	**P**	**06 34 31.3**	**-1.2**
	1.6nm,0.7s,mb4.0						
VNDA				P		06 34 31.7	
CMAR	**Chiang Mai Arr**	**68.05**	**295**	pP	pP	06 34 59.2	+0.9
	0.8nm,0.4s,baz=135,slow=4.8,SNR=3.0						
SONM	**Songino Array**	**75.58**	**325**	P	**P**	**06 35 22.1**	**+0.1**
	0.7nm,0.6s,mb3.5,baz=135,slow=3.5,SNR=4.1						
SONM				pP	pP	06 35 41.5	-1.4
	3.4nm,0.7s,baz=145,slow=6.2,SNR=15						
ILAR	**Eielson Array**	**83.99**	**20**	P	**P**	**06 36 07.0**	**+0.4**
	1.0nm,0.7s,mb3.8,baz=259,slow=4.5,SNR=10.0						
ILAR				pP	pP	06 36 27.7	-0.1
	1.1nm,0.9s,baz=252,slow=5.0,SNR=5.4						
MKAR	**Makanchi Array**	**90.11**	**318**	P	**P**	**06 36 36.0**	**-0.6**
	0.4nm,0.8s,mb3.6,baz=104,slow=5.6,SNR=3.7						
MKAR				pP	pP	06 36 59.1	+0.9
	1.0nm,0.7s,baz=112,slow=5.0,SNR=6.9						

*CSEM **12** 06:38:31.1±0.2, 35.41N×3.85W, h15^{km}, MD2.5, Error ellipse: s-maj=5.8km s-min=3.2km az=92.0*
*CNRM **12** 06:38:31.1, 35.50N×3.82W, h4^{km}, MD2.5*
MDD 12 06:38:32.2±0.4**, 35.46N**×**3.88W, mbLg1.9**/6**, Error ellipse: s-maj=5.5km s-min=3.0km az=99.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.24**	**192**	P	Pg	06 38 36.5	-0.4
MPAL				S	Sg	06 38 40.5	+0.4
MPAL	**Palemas**	**0.24**	**192**	*i* P	Pg	06 38 36.5	-0.4
TOU	**Touzarine**	**0.51**	**168**	P	Pg	06 38 41.0	-1.3
TOU				S	Sg	06 38 48.5	-0.5
TOU	**Touzarine**	**0.51**	**168**	*i* P	Pg	06 38 41.0	-1.3
EMEL	**Melilla**	**0.77**	**102**	P	Pg	06 38 46.6	-0.9
	94nm,0.1s,SNR=4.6						
EMEL				S	Sg	06 38 57.2	-0.6
	322nm,0.2s,SNR=5.9						
EMLI	**Melilla**	**0.78**	**102**	P	Pg	06 38 46.6	-1.0
	94nm,0.1s,SNR=4.6						
EMLI				S	Sg	06 38 57.2	-0.8
	322nm,0.2s,SNR=5.9						
EALB	**Alboran**	**0.84**	**55**	P	Pg	06 38 48.2	-0.7
	29nm,0.3s,SNR=6.7						
EALB				S	Sg	06 38 57.9	-2.1
	54nm,0.2s,SNR=7.9						
EALB	**Alboran**	**0.84**	**55**	P	Pg	06 38 48.2	-0.7
	29nm,0.3s,SNR=6.7						
EALB				S	Sg	06 38 57.9	-2.2
	54nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.32**	**327**	P	Pb	06 38 56.5	-1.0
	3.1nm,0.3s,SNR=7.9						
EMIJ				S	Sb	06 39 13.2	-1.7
	5.1nm,0.2s,SNR=7.9						
TZK	**Tazeka**	**1.39**	**190**	*i* P	Pb	06 38 56.5	-2.2
TZK				*i* S	Sb	06 39 15.0	-1.9
EGUA	**Guajares**	**1.40**	**10**	P	Pb	06 38 57.0	-1.8
	0.9nm,0.2s,SNR=7.9						
EGUA				S	Sb	06 39 15.4	-1.6
	2.1nm,0.4s,SNR=7.9						
ERON	**Agron**	**1.56**	**2**	S	Sb	06 39 20.3	-1.4
	4.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.43**	**15**	P	Pn	06 39 11.6	-2.0
	1.2nm,0.2s,SNR=7.9						
EQES				S	Sn	06 39 42.8	-1.8
	6.6nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.43**	**15**	P	Pn	06 39 11.6	-2.1
	1.2nm,0.2s,SNR=7.9						
EQES				S	Sn	06 39 42.8	-1.7
	6.6nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**2.76**	**348**	P	Pn	06 39 17.9	-0.5
	0.7nm,0.3s,SNR=7.9						
EADA				S	Sn	06 39 50.3	-2.7
	1.0nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**2.76**	**348**	P	Pn	06 39 17.9	-0.5
	0.7nm,0.3s,SNR=7.9						
EADA				S	Sn	06 39 50.3	-2.7
	1.0nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**2.89**	**335**	S	Sn	06 39 52.3	-4.0
	1.1nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**2.89**	**335**	S	Sn	06 39 52.3	-3.9
	1.1nm,0.3s,SNR=7.9						

*NEIC **12** 06:48:44.3±3.0, 7.36S×130.36E, h179^{km}±37^{km}, mb4.6/3, Error ellipse: s-maj=30.4km s-min=25.9km az=53.0*
*IDC **12** 06:48:46.7±9.8, 7.50S×130.35E, h210^{km}±117^{km}, mb3.2/2, mb1 3.8/4, mb1mx3.4/15, mbtmp4.2/4, Error ellipse: s-maj=63.9km s-min=51.4km az=13.0*
ISC 12 06:48:40.6±1.9**, 7.15S**±0.08×**130.4E**±0.1**, h156**^{km}±21^{km}**, n9,** σ**0**^{s}**73**/16**, mb3.6**/2**, 1D, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.90**	**160**	⇓*i*P	**P**	**06 50 07.1**	**+0.2**
	13nm,0.3s						
KAKA				*e*S	**S**	**06 51 14.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**11.82**	**202**	*e*P	**P**	**06 51 25.0**	**-0.3**
	16nm,0.2s						
FITZ				*e*S	**S**	**06 53 35.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**11.82**	**202**	P	**P**	**06 51 24.7**	**-0.6**
	11nm,0.3s,baz=17,slow=10,SNR=56						
FITZ				S	**S**	**06 53 34.6**	**0.0**
	2.1nm,0.3s,baz=183,slow=23,SNR=4.2						
WRAB	**Tennant Creek**	**13.29**	**163**	*e*Pn	**P**	**06 51 43.4**	**-0.7**
	4.3nm,0.4s						
WRAB				*e*S	**S**	**06 54 08.3**	**-0.3**
WRA	**Warramunga Arr**	**13.29**	**164**	P	**P**	**06 51 43.8**	**-0.4**
	0.8nm,0.3s,baz=346,slow=13,SNR=51						
WRA				S	**S**	**06 54 07.4**	**-1.3**
	1.7nm,0.3s,baz=340,slow=21,SNR=15						
WRA	**Warramunga Arr**	**13.29**	**164**	P	**P**	**06 51 43.8**	**-0.4**
WRA				S	**S**	**06 54 07.4**	**-1.3**
WB2	**Warramunga Arr**	**13.30**	**163**	*e*P	**P**	**06 51 44.0**	**-0.3**
WB2				*e*S	**S**	**06 54 10.5**	**+1.7**
SONM	**Songino Array**	**58.69**	**341**	P	**P**	**06 58 24.4**	**+0.3**
	0.3nm,0.4s,mb3.4,baz=153,slow=9.7,SNR=2.9						
MKAR	**Makanchi Array**	**68.54**	**327**	P	**P**	**06 59 28.6**	**+0.2**
	0.8nm,0.5s,mb3.7,baz=128,slow=7.4,SNR=12						

*NEIC **12** 06:54:41.6±0.6, 23.00S×69.02W, h92^{km}±11^{km}, MD4.3(GUC), Error ellipse: s-maj=11.5km s-min=7.5km az=112.0*
*GUC **12** 06:54:41.7±0.8, 22.75S×69.15W, h84^{km}±6^{km}, MD4.3, ML4.4*
*IDC **12** 06:54:41.6±1.4, 22.97S×68.96W, h74^{km}±12^{km}, mb3.4/1, mb1 3.6/5, mb1mx3.5/16, mbtmp3.7/5, MS2.7/1, Ms1 2.8/1, ms1mx2.4/8, Error ellipse: s-maj=34.2km s-min=25.1km az=100.0*
ISC 12 06:54:40.7±0.6**, 22.96S**±0.05×**68.97W**±0.08**, h97**^{km}±8^{km}**, n14,** σ**1**^{s}**13**/21**, mb3.7**/1**, 1C, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.35**	**9**	*e*P	**P**	**06 54 55.1**	**-0.1**
LVC				*i* S	**S**	**06 55 05.1**	**-1.1**
LVC				AMP		06 55 06.2	
	comp=E,30µm,0.2s						
LVC	**Limon Verde**	**0.35**	**9**	P	**P**	**06 54 55.4**	**+0.2**
	comp=E,654nm,0.3s,baz=191,slow=5.1,SNR=6931						
LVC				S	**S**	**06 55 05.3**	**-0.9**
SPCH	**San Pedro de A**	**0.71**	**86**	⇑*i*P	**P**	**06 55 00.7**	**+2.6**
SPCH				*i* S	**S**	**06 55 14.8**	**+3.7**
SPCH				AMP		06 55 15.6	
	comp=E,29µm,0.3s						
ANCH	**Antofagasta**	**1.51**	**241**	*e*P	**P**	**06 55 07.2**	**-0.1**
ANCH				*i* S	**S**	**06 55 26.9**	**-0.1**
ANCH				AMP		06 55 30.1	
	comp=N,5µm,0.7s						
CPN1	**Cerro Paranal**	**2.12**	**218**	*e*P	**P**	**06 55 15.6**	**+0.3**
CPN1				*i* S	**S**	**06 55 43.3**	**+2.5**
CPN1				AMP		06 55 49.2	
	comp=N,4µm,0.5s						
CRCH	**Chaqaral**	**3.69**	**204**	*e*P	**P**	**06 55 35.3**	**-1.6**
CPCH	**Copiapo**	**4.56**	**196**	*e*P	**P**	**06 55 47.4**	**-1.3**
CPCH				*i* S	**S**	**06 56 41.5**	**+0.6**
LPAZ	**La Paz**	**6.68**	**7**	P	**P**	**06 56 18.4**	**+0.5**
	comp=N,1.5nm,0.3s,baz=197,slow=5.0,SNR=48						
LPAZ				LR	LR	06 59 22.1	
	comp=N,70nm,21.7s,baz=76,slow=42						
ARE	**Arequipa**	**6.88**	**339**	P	**P**	**06 56 21.0**	**+0.3**
CFAA	**Coronel Fontan**	**8.64**	**176**	P	**P**	**06 56 43.2**	**-1.3**
	comp=N,0.1nm,0.3s,baz=349,slow=14,SNR=11						
CFAA				S	**S**	**06 58 14.1**	**-6.9**
	comp=N,0.1nm,0.3s,baz=360,slow=13,SNR=2.1						
SIV	**San Ignacio**	**10.17**	**48**	P	**P**	**06 57 04.1**	**-1.2**
	comp=N,1.8nm,0.3s,baz=263,slow=11,SNR=85						
SIV				S	**S**	**06 58 52.2**	**-5.9**
	comp=N,0.4nm,0.3s,baz=312,slow=22,SNR=5.0						
CPUP	**Villa Florida**	**11.11**	**110**	P	**P**	**06 57 17.9**	**+0.1**
	comp=N,0.1nm,0.3s,baz=316,slow=11,SNR=4.3						
BDFB	**Brasilia**	**21.06**	**74**	P	**P**	**06 59 19.9**	**+1.2**
	comp=N,2.3nm,0.6s,mb3.7,baz=300,slow=8.5,SNR=6.4						
WRA	**Warramunga Arr**	**131.67**	**210**	PKP	PKPdf	07 13 46.2	+3.0
	comp=N,0.2nm,0.6s,baz=148,slow=1.5,SNR=7.9						
WRA				pPKP		07 14 09.7	
	comp=N,0.2nm,0.5s,baz=156,slow=1.4,SNR=1.4						

*BJI **12** 07:11:15.6, 40.89N×78.51E, h19^{km}, ML3.5*
*NNC **12** 07:11:23.5±45.0, 40.89N×79.92E, mpv3.2, Error ellipse: s-maj=7552.0km s-min=390.8km az=105.0*
ISC 12 07:11:09.1±4.0**, 40.1N**±0.2×**79.7E**±0.3**, h13**^{km}±14^{km}**, n12,** σ**1**^{s}**27**/15**, 3C-1D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.92**	**259**	*e*P	**Pn**	**07 11 57.1**	**+1.0**
KSH				S	**Sn**	**07 12 28.7**	**-2.6**
KSH				Smax			
	comp=N,310nm,0.7s						
KSH				Smax			
	comp=E,240nm,0.6s						
ULHL	**Ulahol**	**3.36**	**311**	P	**Pn**	**07 11 57.6**	**-4.8**
	SNR=118						
KZA	**Kyzart**	**3.88**	**302**	P	**Pn**	**07 12 04.0**	**-5.8**
	SNR=23						
TKM2	**Tokmak 2**	**4.16**	**314**	P	**Pn**	**07 12 13.1**	**-0.7**
	SNR=9.0						
KBK	**Karagaybulak**	**4.37**	**307**	P	**Pn**	**07 12 16.4**	**-0.5**
	SNR=38						
UCH	**Uchtor**	**4.43**	**300**	P	**Pn**	**07 12 11.7**	**-6.0**
	SNR=19						
AAK	**Ala-Archa**	**4.64**	**305**	P	**Pn**	**07 12 21.6**	**+1.0**
	SNR=6.8						
CHMS	**Chumysh**	**4.69**	**310**	P	**Pn**	**07 12 21.8**	**+0.5**
	SNR=39						
AML	**Almayashu**	**4.95**	**296**	P	**Pn**	**07 12 19.7**	**-5.3**
	SNR=12						
USP	**Ospenovka**	**5.00**	**311**	P	**Pn**	**07 12 26.4**	**+0.7**
	SNR=20						
EKS2	**Erkin-Say**	**5.12**	**302**	P	**Pn**	**07 12 29.9**	**+2.6**
	SNR=23						
MK31	**Makanchi Array**	**6.94**	**15**	⇓Pn	**Pn**	**07 12 58.4**	**+5.2**
	comp=E,0.3nm,0.2s,baz=197,slow=11,SNR=26						
MK31				⇑Pg	**Pg**	**07 13 26.2**	**-1.5**
	comp=E,2.7nm,0.6s						
MK31				⇑Sn	**Sn**	**07 14 12.7**	**-0.1**
	comp=E,3.2nm,0.6s						
MK31				⇑Lg		07 14 44.0	
	comp=E,3.1nm,0.5s						

GUC 12 07:49:37.8±0.9**, 23.87S**×**67.16W, h193**^{km}±25^{km}**, ML3.9, 1C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.35**	**315**	⇑*i*P	P	07 50 11.3	+1.4
LVC	**Limon Verde**	**2.04**	**307**	*e*P	P	07 50 17.4	+0.9
LVC				*i* S	S	07 50 48.2	+1.9
LVC				AMP		07 50 50.5	
	comp=E,79nm,0.5s						
ANCH	**Antofagasta**	**2.98**	**273**	*e*P	P	07 50 28.7	+1.4
ANCH				*i* S	S	07 51 07.1	+1.4
ANCH				AMP		07 51 10.2	
	comp=N,454nm,0.1s						
CPN1	**Cerro Paranal**	**3.06**	**255**	*e*P	P	07 50 30.0	+1.7
CPN1				*i* S	S	07 51 09.7	+2.5
CPN1				AMP		07 51 11.8	
	comp=E,297nm,0.3s						

AUST 12 07:57:49.4, 31.49S×**138.52E, h2**^{km}**, ML3.5, South Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBOO	**Buckleboo**	**2.47**	**237**	*e*P	Pn	07 58 31.9	+0.6
BBOO				*e*S	Sn	07 59 04.1	+1.7
	51nm,0.4s						
BBOO	**Buckleboo**	**2.47**	**237**	*e*P	Pn	07 58 32.5	+1.2
	11nm,0.3s						
BBOO				*e*S	Sn	07 59 04.3	+1.9
BBOO	**Buckleboo**	**2.47**	**237**	*e*P		08 14 32.0	
BBOO				*e*S		08 15 00.8	
	19nm,2.0s						
STKA	**Stephens Creek**	**2.65**	**99**	*e*P	Pn	07 58 32.9	-1.0
	9.2nm,0.3s						
STKA				*e*S	Sn	07 59 07.3	+0.3
STKA	**Stephens Creek**	**2.65**	**99**	*e*P	Pn	07 58 33.2	-0.7
STKA				*e*S	Sn	07 59 07.4	+0.4
	41nm,0.3s						
STKA	**Stephens Creek**	**2.65**	**99**	*e*P		08 14 32.9	
STKA				*e*S		08 15 04.8	
	1.7nm,0.2s						
ARPS	**Mount Arapiles**	**5.94**	**153**	*e*P	Pn	07 59 01.7	-19
ARPS				*e*S	Sn	08 00 21.3	-8.8
	15nm,0.4s						
CMSA	**Cobar Meteorol**	**6.12**	**92**	*e*P	Pn	07 59 20.2	-2.9
	0.4nm,0.2s						
CMSA	**Cobar Meteorol**	**6.12**	**92**	*e*P	Pn	07 59 20.9	-2.2

*BJI **12** 08:04:16.5, 26.66N×55.18E, h10^{km}, mB4.9, mb4.7, Ms4.8, Msz4.6*
*MOS **12** 08:04:26.4±0.9, 27.10N×55.95E, h33^{km}, mb4.7/30, Error ellipse: s-maj=8.8km s-min=5.7km az=116.7*
*CSEM **12** 08:04:26.9±0.1, 27.01N×55.92E, h40^{km}, mb4.5/30, Error ellipse: s-maj=2.2km s-min=1.7km az=65.0*
*NEIC **12** 08:04:27.0, 27.26N×56.01E, h14^{km}, mb4.6/29, ML4.6(TEH), ML4.3(THR), After THR.*
*OMAN **12** 08:04:27.1±0.3, 27.20N×56.18E, h43^{km}±11^{km}, Error ellipse: s-maj=9.5km s-min=5.1km az=359.0*
*THR **12** 08:04:27.0±1.3, 27.26N×56.01E, h14^{km}±8^{km}, ML4.3*
*TEH **12** 08:04:28.2, 27.07N×55.91E, h10^{km}, Mn4.6*
*IDC **12** 08:04:28.8±4.5, 27.11N×56.02E, h38^{km}±39^{km}, mb4.2/26, mb1 4.3/30, mb1mx4.3/35, mbtmp4.4/30, ML4.2/2, MS3.4/8, Ms1 3.4/8, ms1mx3.2/21, Error ellipse: s-maj=16.0km s-min=11.7km az=121.0*

ISC 12 08:04:23.4±0.2, 27.01N±0.02×55.98E±0.03, h11km, h11km±1.4km:pP-P, n223, σ1.34/225, mb4.4/70, MS3.6/10, 6C-7D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.43**	**23**	*e*Pg	**Pg**	**08 04 31.0**	**-1.1**
BNDS	**Bandar-Abbas**	**0.43**	**23**	*e*Pg	**Pg**	**08 04 31.3**	**-0.9**
BNDS				AML	AML	08 04 44.3	
	comp=N,51μm,0.5s						
BANOM	**Banah**	**1.11**	**165**	⇑P	**Pb**	**08 04 48.0**	**+3.8**
	SNR=21						
BANOM				⇓S	**Sb**	**08 05 04.7**	**+6.2**
ASHO	**Ashiyiah**	**2.31**	**178**	P	**Pn**	**08 05 05.7**	**+3.7**
	SNR=118						
GHIR	**Ghir-Karzin**	**2.95**	**296**	*e*Pn	**Pn**	**08 05 14.6**	**+3.5**
GHIR				*e*Sg	**Sg**	**08 05 56.7**	**-4.8**
GHIR				AML	AML	08 06 20.5	
	comp=N,1μm,0.4s						
GHIR	**Ghir-Karzin**	**2.95**	**296**	*e*Pn	**Pn**	**08 05 14.0**	**+2.9**
GHIR				*e*Sg	**Sg**	**08 05 56.0**	**-5.5**
KRBR	**Kerman**	**3.04**	**13**	*e*Pn	**Pn**	**08 05 14.0**	**+1.6**
KRBR	**Kerman**	**3.04**	**13**	*e*Pn	**Pn**	**08 05 14.4**	**+2.0**
KRBR				AML	AML	08 06 01.4	
	comp=N,1μm,0.6s						
ISRV	**Sarvestan**	**3.47**	**314**	Pn	**Pn**	**08 05 20.8**	**+2.4**
IMOK	**Mook**	**3.53**	**306**	Pn	**Pn**	**08 05 21.2**	**+1.8**
HOQ	**Hoqain**	**3.61**	**160**	⇑P	**Pn**	**08 05 20.4**	**-0.2**
IPAR	**Pars**	**3.83**	**318**	Pn	**Pn**	**08 05 25.5**	**+1.9**
BIDO	**Bidbid**	**3.98**	**150**	P	**Pn**	**08 05 25.8**	**+0.1**
	SNR=17						
SMDO	**Samad**	**4.35**	**154**	P	**Pn**	**08 05 32.6**	**+1.5**
	SNR=26						
BSY	**Bisya**	**4.38**	**165**	P	**Pn**	**08 05 33.5**	**+2.0**
	SNR=13						
BSYO	**Bisya**	**4.41**	**165**	P	**Pn**	**08 05 33.5**	**+1.7**
	SNR=13						
IMEH	**Mehriz**	**4.53**	**345**	Pn	**Pn**	**08 05 35.3**	**+1.8**
IBAF	**Bafgh**	**4.58**	**356**	Pn	**Pn**	**08 05 35.3**	**+1.0**
ZHSF	**Zahedan**	**4.96**	**57**	*e*Pn	**Pn**	**08 05 41.4**	**+1.8**
ZHSF	**Zahedan**	**4.96**	**57**	*e*Pn	**Pn**	**08 05 41.0**	**+1.4**
JMDO	**Jabal Madar**	**5.00**	**157**	P	**Pn**	**08 05 42.0**	**+1.8**
	SNR=18						
WBK	**Wadi Bani Khal**	**5.15**	**148**	P	**Pn**	**08 05 42.5**	**+0.2**
	SNR=36						
ISAD	**Sadrabad**	**5.29**	**338**	Pn	**Pn**	**08 05 46.2**	**+2.0**
ICHK	**Chekchek**	**5.40**	**346**	Pn	**Pn**	**08 05 46.7**	**+0.9**
IGAR	**Garneh**	**6.17**	**329**	Pn	**Pn**	**08 05 57.6**	**+0.9**
NASN	**Na'in**	**6.40**	**335**	*e*Pn	**Pn**	**08 05 59.0**	**-0.9**
NASN	**Na'in**	**6.40**	**335**	*e*Pn	**Pn**	**08 05 60.0**	**+0.1**
IZEF	**Zefreh**	**6.67**	**333**	Pn	**Pn**	**08 06 03.0**	**-0.8**
IKLH	**Kalahroud**	**7.36**	**330**	Pn	**Pn**	**08 06 11.2**	**-2.2**
KBD	**Kabd**	**7.63**	**288**	*e*P	**Pn**	**08 06 17.3**	**0.0**
KBD				AML	AML	08 07 43.0	
	comp=Z,758nm,0.3s						
RDF	**Al-Radifah**	**7.70**	**286**	*e*P	**Pn**	**08 06 17.4**	**-0.7**
RDF				AML	AML	08 07 43.9	
	comp=Z,137nm,0.4s						
IVRN	**Varamin**	**8.76**	**336**	Pn	**P**	**08 06 32.9**	**-0.1**
SHAO	**Shalim**	**8.95**	**182**	P	**P**	**08 06 34.0**	**-1.5**
	SNR=7.8						
IFIR	**Firoozkooh**	**9.04**	**343**	Pn	**P**	**08 06 36.3**	**-0.5**
ASAO	**Ashtian**	**9.10**	**327**	*e*Pn	**P**	**08 06 37.0**	**-0.6**
IDMV	**Damavand**	**9.19**	**339**	Pn	**P**	**08 06 33.5**	**-5.4**
WHFO	**Wadi Hawf**	**9.27**	**193**	⇑P	**P**	**08 06 38.7**	**-1.3**
	SNR=19						
RBK	**Rabkut**	**9.60**	**190**	⇑P	**P**	**08 06 42.4**	**-2.2**
	SNR=10						
IRAZ	**Razeghan**	**9.84**	**330**	Pn	**P**	**08 06 55.2**	**+7.3**
ABTO	**Aybut**	**9.92**	**195**	⇑P	**P**	**08 06 46.9**	**-2.1**
	SNR=16						
IMYA	**Miamay**	**9.95**	**20**	Pn	**P**	**08 06 49.3**	**0.0**
IKRD	**Kardeh**	**9.97**	**12**	Pn	**P**	**08 06 52.6**	**+2.9**
IKOM	**Komasi**	**10.21**	**316**	Pn	**P**	**08 06 52.1**	**-0.9**
IVIS	**Veys**	**10.85**	**316**	Pn	**P**	**08 06 59.3**	**-2.4**
ILIN	**Laeen**	**11.05**	**318**	Pn	**P**	**08 07 02.7**	**-1.7**
HAKT	**HAKKARI**	**14.77**	**318**	*i* P	**P**	**08 07 52.6**	**-1.4**
TVAN	**Van**	**15.60**	**321**	*i* P	**P**	**08 08 07.0**	**+2.2**
GNI	**Garni**	**16.09**	**327**	*e*P	**P**	**08 08 14.2**	**+3.1**
GNI				pmax	pmax		
	comp=Z,25nm,0.6s						
GNI	**Garni**	**16.09**	**327**	Pn	**P**	**08 08 14.9**	**+3.7**
	comp=Z,1.3nm,0.3s,baz=330,slow=1.0,SNR=9.9						
GNI	**Garni**	**16.09**	**327**	*e*P	**P**	**08 08 14.2**	**+3.0**
	comp=Z,26nm,0.6s						
GNI	**Garni**	**16.09**	**327**	*e*P	**P**	**08 08 14.2**	**+3.1**
	comp=Z,26nm,0.6s						
ASF	**Jabal al Asfar**	**17.37**	**292**	P	**P**	**08 08 26.5**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=310,slow=7.1,SNR=7.2						
ASF				S	**S**	**08 11 29.2**	**-10**
	comp=Z,0.9nm,0.3s,baz=171,slow=18,SNR=4.0						
ERZM	**Erzurum**	**17.70**	**320**	*i* P	**P**	**08 08 33.3**	**+2.0**
ZEI	**Tsey**	**18.56**	**331**	*e*P	**P**	**08 08 41.1**	**-1.0**
ZEI				*i* S	**S**	**08 12 09.5**	**+3.6**
GZT	**Gaziantep**	**18.66**	**308**	*i* P	**P**	**08 08 43.1**	**-0.4**
EIL	**Elat**	**18.70**	**283**	P	**P**	**08 08 46.0**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=281,slow=23,SNR=12						
EIL	**Elat**	**18.70**	**283**	*e*P	**P**	**08 08 45.6**	**+1.7**
	comp=Z,33nm,1.0s						
EIL	**Elat**	**18.70**	**283**	*e*P	**P**	**08 08 45.6**	**+1.7**
	comp=Z,33nm,1.0s						
COBT	**Iskenderun**	**19.24**	**304**	*i* P	**P**	**08 08 50.9**	**+0.6**
ATD	**Arta Tunnel**	**19.74**	**221**	P	**P**	**08 08 57.8**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=68,slow=22,SNR=6.2						
ATD				LR	LR	08 17 04.5	
	comp=Z,103nm,19.1s,baz=275,slow=38						
KKAR	**Karatay Array**	**19.94**	**33**	*i* P	**P**	**08 08 54.8**	**-3.3**
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KIV	**Kislovodsk**	**20.04**	**331**	*d i*P	**P**	**08 08 59.1**	**-0.1**
KIV				pmax	pmax		
	comp=Z,15nm,0.6s						
KIV	**Kislovodsk**	**20.04**	**331**	*e*P	**P**	**08 08 59.4**	**+0.3**
	comp=Z,50nm,1.0s						
KIV	**Kislovodsk**	**20.04**	**331**	*i* P	**P**	**08 08 59.1**	**-0.1**
	comp=Z,15nm,0.6s						
GOF	**Gofitskoye**	**20.79**	**333**	⇓*i*P	**P**	**08 09 08.5**	**+1.5**
GOF				*i*		08 09 42.3	
GOF				pmax	pmax		
	comp=Z,60nm,1.6s						
GOF	**Gofitskoye**	**20.79**	**333**	*i* P	**P**	**08 09 08.5**	**+1.5**
	comp=Z,60nm,1.6s						
KSH	**Kashi**	**20.81**	**48**	*e*P	**P**	**08 09 08.5**	**+1.3**
KSH				*e*AP		08 09 12.5	
KSH				*e*XP		08 09 15.8	
KSH				*e*PP	PP	08 09 30.1	+0.8
KSH				*e*S	**S**	**08 12 54.1**	**-0.2**
KSH				AMB	AMB		
	comp=Z,90nm,3.2s						
KSH				LR	LR		
	comp=N,480nm,5.6s						
KSH				LR	LR		
	comp=E,530nm,5.4s						
SOC	**Sochi**	**21.15**	**326**	*e*P	**P**	**08 09 12.3**	**+1.7**
SOC				*e*		08 13 02.1	
SOC				pmax	pmax		
	comp=Z,41nm,0.9s,mb4.8						
SOC				pmax	pmax		
	comp=N,37nm,1.0s						
SOC				pmax	pmax		
	comp=E,12nm,0.8s						
SOC				MLR	MLR		
	comp=N,190nm,13.0s,MS3.7						
SOC				MLR	MLR		
	comp=Z,156nm,13.0s,MS3.6						
SOC				MLR	MLR		
	comp=E,93nm,14.0s,MS3.7						
SOC	**Sochi**	**21.15**	**326**	*e*P	**P**	**08 09 12.3**	**+1.7**
	comp=E,37nm,1.0s,mb4.7						
AAK	**Ala-Archa**	**21.70**	**39**	⇓*i*P	**P**	**08 09 15.2**	**-1.1**
AAK	**Ala-Archa**	**21.70**	**39**	*e*P	**P**	**08 09 14.7**	**-1.6**
	comp=E,32nm,1.3s,mb4.6						
AAK	**Ala-Archa**	**21.70**	**39**	*i* P	**P**	**08 09 15.2**	**-1.1**
ERMK	**Ermenek**	**21.78**	**302**	*i* P	**P**	**08 09 21.6**	**+4.4**
FRU	**Bishkek**	**21.90**	**39**	*e*P	**P**	**08 09 24.0**	**+5.8**
CDAG	**Cicekdag**	**21.95**	**310**	*i* P	**P**	**08 09 21.8**	**+3.1**
CTKT	**Corum**	**22.16**	**313**	*i* P	**P**	**08 09 23.4**	**+2.5**
AB31	**Akbulak array**	**22.43**	**7**	*e*P	**P**	**08 09 22.1**	**-1.3**
AB31				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.5						
AB31	**Akbulak array**	**22.43**	**7**	*e*P	**P**	**08 09 22.1**	**-1.3**
	comp=Z,19nm,0.9s,mb4.5						
BR131	**Keskin Array S**	**22.49**	**310**	*e*P	**P**	**08 09 25.0**	**+0.9**
	comp=Z,34nm,0.9s,mb4.8						
BR131	**Keskin Array S**	**22.49**	**310**	*e*P	**P**	**08 09 25.0**	**+0.8**
	comp=Z,34nm,0.9s,mb4.8						
BRTR	**Keskin Array B**	**22.49**	**310**	P	**P**	**08 09 24.8**	**+0.6**
	comp=Z,14nm,0.9s,mb4.4,baz=128,slow=13,SNR=20						
BOYT	**Boyabat**	**22.52**	**315**	*i* P	**P**	**08 09 27.0**	**+2.6**
ELDT	**Eldivan**	**23.00**	**312**	*i* P	**P**	**08 09 29.9**	**+0.7**
ANN	**Anapa**	**23.17**	**325**	*e*P	**P**	**08 09 47.4**	**+17**
ANN				pmax	pmax		
	comp=Z,29nm,0.8s,mb4.8						
BALT	**Daday**	**23.54**	**314**	*i* P	**P**	**08 09 35.9**	**+1.5**
SGKT	**Sivrigoynuk**	**23.96**	**310**	*i* P	**P**	**08 09 40.1**	**+1.7**
ISP	**Isparta**	**23.99**	**303**	*d i*P	**P**	**08 09 43.0**	**+4.2**
TKTP	**Tekketepe**	**24.20**	**303**	*i* P	**P**	**08 09 42.7**	**+1.9**
HENT	**Hendek**	**24.86**	**310**	*i* P	**P**	**08 09 46.8**	**-0.4**
ZRNK	**Zerenda**	**27.68**	**17**	P	**P**	**08 10 11.4**	**-1.8**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
ZRNK	**Zerenda**	**27.68**	**17**	P	**P**	**08 10 11.4**	**-1.8**
	comp=Z,3.0nm,0.8s,mb4.0						
IDI	**Anoyia**	**27.77**	**295**	P	**P**	**08 10 14.4**	**+0.1**
	comp=Z,5.8nm,0.5s,mb4.5,baz=112,slow=5.8,SNR=6.6						
VOSK	**Vostochnaya**	**28.03**	**20**	P	**P**	**08 10 14.8**	**-1.6**
VOSK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.3						
VOSK	**Vostochnaya**	**28.03**	**20**	P	**P**	**08 10 14.8**	**-1.6**
	comp=Z,10.0nm,1.2s,mb4.3						
BVA0	**Borovoye Array**	**28.12**	**19**	*i* P	**P**	**08 10 15.7**	**-1.5**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.7						
BVA0	**Borovoye Array**	**28.12**	**19**	*i* P	**P**	**08 10 15.7**	**-1.5**
	comp=Z,2.0nm,1.1s,mb3.7						
BVAR	**Borovoye Array**	**28.12**	**19**	P	**P**	**08 10 16.0**	**-1.2**
	comp=Z,3.0nm,0.4s,mb4.3,baz=202,slow=8.0,SNR=34						
BVAR				PcP	PcP	08 13 30.4	-1.3
	comp=Z,1.2nm,0.4s,baz=216,slow=3.4,SNR=4.7						
BVAR	**Borovoye Array**	**28.12**	**19**	PcP	PcP	08 13 30.4	-1.3
MKAR	**Makanchi Array**	**28.64**	**39**	*i* P	**P**	**08 10 21.2**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**28.64**	**39**	P	**P**	**08 10 20.9**	**-1.0**
	comp=Z,3.5nm,0.6s,mb4.3,baz=225,slow=7.8,SNR=21						
MKAR	**Makanchi Array**	**28.64**	**39**	*i* P	**P**	**08 10 21.2**	**-0.7**
	comp=Z,4.0nm,0.6s,mb4.3						
ARU	**Arti**	**29.46**	**3**	⇓*i*P	**P**	**08 10 29.0**	**-0.2**
ARU				*e*		08 11 23.9	
ARU				*e*PPP	PPP	08 11 33.2	-5.1
ARU				*e*		08 13 31.1	
ARU				*e*S	**S**	**08 15 22.1**	**+0.2**
ARU				*e*SS	SS	08 16 54.7	+0.4
ARU				*e*		08 21 08.8	
ARU				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
ARU	**Arti**	**29.46**	**3**	*i* P	**P**	**08 10 29.0**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.7						
ARU	**Arti**	**29.46**	**3**	*e*PcP	PcP	08 13 31.1	-3.9
MLR	**Muntele Rosu**	**30.19**	**316**	P	**P**	**08 10 36.3**	**+0.4**
	comp=Z,1.9nm,0.4s,mb4.2,baz=46,slow=13,SNR=4.5						
WMQ	**Urumqi**	**30.57**	**48**	*e*P	**P**	**08 10 40.9**	**+1.7**
WMQ				AP	pP	08 10 44.1	+1.6
WMQ				XP	sP	08 10 45.2	+1.3
WMQ				PP	PP	08 11 41.3	+1.9
WMQ				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,79nm,5.4s						
WMQ				LR	LR		
	comp=N,466nm,15.7s,MS4.5						
WMQ				LR	LR		
	comp=E,764nm,15.3s,MS4.5						
WMQ				LR	LR		
	comp=Z,976nm,15.8s,MS4.6						
AKASG	**Malin Array Be**	**31.22**	**326**	P	**P**	**08 10 42.9**	**-1.9**
	comp=Z,1.0nm,0.4s,mb4.0,baz=131,slow=8.2,SNR=12						
AKASG				PcP	PcP	08 13 38.1	-1.5
	comp=Z,0.9nm,0.5s,baz=84,slow=2.5,SNR=6.0						
AKASG	**Malin Array Be**	**31.22**	**326**	PcP	PcP	08 13 38.1	-1.5
OBN	**Obninsk**	**31.45**	**339**	*e*P	**P**	**08 10 49.3**	**+2.5**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.0						
KMBO	**Kilima Mbogo**	**33.28**	**216**	*i* P	**P**	**08 11 07.4**	**+4.2**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KMBO	**Kilima Mbogo**	**33.28**	**216**	P	**P**	**08 11 06.2**	**+2.9**
	comp=Z,2.9nm,0.7s,mb4.3,baz=39,slow=13,SNR=6.7						
KMBO				LR	LR	08 24 22.4	
	comp=Z,70nm,18.3s,MS3.4,baz=84,slow=36						
NVS	**Novosibirsk**	**34.19**	**28**	*e*P	**P**	**08 11 12.7**	**+2.0**
ZAL	**Zalesovo**	**34.27**	**30**	P	**P**	**08 11 09.4**	**-1.9**
	comp=Z,4.9nm,0.4s,mb4.8,baz=229,slow=6.2,SNR=9.1						
ZAL				LR	LR	08 27 09.3	
	comp=Z,49nm,18.2s,MS3.3,baz=267,slow=40						
TIP	**Timpagrande**	**34.78**	**300**	*e*P	**P**	**08 11 16.1**	**+0.2**
TIP	**Timpagrande**	**34.78**	**300**	*e*P	**P**	**08 11 16.1**	**+0.2**
PSZ	**Piszkesteto**	**35.00**	**316**	*e*P	**P**	**08 11 20.6**	**+2.9**
PSZ				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
PSZ	**Piszkesteto**	**35.00**	**316**	*e*P	**P**	**08 11 20.6**	**+2.9**
	comp=Z,9.7nm,1.1s,mb4.7						
MORC	**Moravsky Berou**	**37.16**	**318**	*e*P	**P**	**08 11 33.5**	**-2.4**
MORC				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.6						
MORC	**Moravsky Berou**	**37.16**	**318**	*e*P	**P**	**08 11 33.5**	**-2.4**
	comp=Z,11nm,1.2s,mb4.6						
MORC	**Moravsky Berou**	**37.16**	**318**	*e*P	**P**	**08 11 33.5**	**-2.4**
	comp=Z,11nm,1.2s,mb4.6						
VSU	**Vasula**	**37.49**	**335**	*e*P	**P**	**08 11 40.8**	**+2.1**
VRAC	**Vranov**	**37.55**	**317**	P	**P**	**08 11 39.0**	**-0.2**
	comp=Z,4.9nm,0.5s,mb4.5,baz=94,slow=14,SNR=3.7						
GTA	**Gaotai**	**38.35**	**60**	*e*P	**P**	**08 11 47.0**	**+0.9**
GTA				AP	pP	08 11 50.4	+1.0
GTA				XP	sP	08 11 53.8	+3.0
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb3.9						
GERES	**GERESS Array B**	**39.18**	**315**	P	**P**	**08 11 52.1**	**-0.8**
	comp=Z,1.2nm,0.4s,mb4.0,baz=101,slow=6.8,SNR=5.7						
GERES				LR	LR	08 30 01.4	
	comp=Z,33nm,19.9s,MS3.2,baz=325,slow=39						
KHC	**Kasperske Hory**	**39.35**	**316**	*d i*P	**P**	**08 11 56.3**	**+2.0**
KHC	**Kasperske Hory**	**39.35**	**316**	*i* P	**P**	**08 11 56.3**	**+2.0**
FINES	**FINESS Array B**	**39.85**	**338**	P	**P**	**08 11 57.3**	**-1.0**
	comp=Z,3.1nm,0.6s,mb4.2,baz=148,slow=12,SNR=21						
KAF	**Kangasniemi**	**40.26**	**339**	*e*p	**P**	**08 12 00.4**	**-1.3**
	comp=Z,0.4nm,0.3s,mb3.6						
CLL	**Collm**	**40.42**	**319**	*e*P	**P**	**08 12 03.0**	**-0.1**
VSL	**Villasalto**	**40.50**	**300**	*e*P	**P**	**08 12 04.9**	**+1.0**
	comp=Z,20nm,0.8s,mb4.9						
VSL	**Villasalto**	**40.50**	**300**	*e*P	**P**	**08 12 04.9**	**+1.0**
	comp=Z,20nm,0.8s,mb4.9						
GRA1	**Grafenberg Arr**	**40.99**	**316**	*e*P	**P**	**08 12 10.7**	**+2.9**
	comp=Z,6.0nm,1.0s,mb4.2						
GRF	**Grafenberg Arr**	**40.99**	**316**	*e*P	**P**	**08 12 10.7**	**+2.9**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
GRF	**Grafenberg Arr**	**40.99**	**316**	*e*P	**P**	**08 12 10.7**	**+2.9**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
GRF	**Grafenberg Arr**	**40.99**	**316**	*e*P	**P**	**08 12 10.7**	**+2.9**
	comp=Z,6.0nm,1.0s,mb4.2						
MOX	**Moxa**	**41.03**	**317**	*e*P	**P**	**08 12 12.0**	**+3.9**
PGF	**Pioggiola**	**41.05**	**305**	*e*P	**P**	**08 12 07.7**	**-0.7**
	comp=Z,27nm,1.1s,mb4.5						
PGF	**Pioggiola**	**41.05**	**305**	*e*P	**P**	**08 12 07.7**	**-0.7**
PGF				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.5						
DAVOX	**Davos**	**41.13**	**311**	P	**P**	**08 12 08.0**	**-0.9**
	comp=Z,6.1nm,0.6s,mb4.4,baz=135,slow=2.9,SNR=5.1						
KMI	**Kunming**	**41.86**	**82**	P	**P**	**08 12 16.9**	**+1.6**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.2						
KMI	**Kunming**	**41.86**	**82**	P	**P**	**08 12 16.9**	**+1.6**
	comp=Z,5.0nm,0.8s,mb4.2						
SBF	**Sospel**	**42.34**	**306**	*e*P	**P**	**08 12 18.5**	**-0.5**
	comp=Z,26nm,0.8s,mb4.6						
SBF	**Sospel**	**42.34**	**306**	*e*P	**P**	**08 12 18.5**	**-0.5**
SBF				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.6						
ZAK	**Zakamensk**	**42.75**	**44**	*e*P	**P**	**08 12 22.5**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.4						
ZAK	**Zakamensk**	**42.75**	**44**	*e*P	**P**	**08 12 22.5**	**+0.3**
	comp=Z,1.0nm,1.2s,mb3.4						
MBDF	**Montbardon**	**42.93**	**308**	*e*P	**P**	**08 12 22.9**	**-0.8**
	comp=Z,10nm,0.7s,mb4.4						
MBDF	**Montbardon**	**42.93**	**308**	*e*P	**P**	**08 12 22.9**	**-0.8**
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
LMR	**La Mourre**	**42.96**	**306**	*e*P	**P**	**08 12 23.2**	**-0.8**
LPG	**La Plagne**	**43.04**	**309**	*e*P	**P**	**08 12 23.9**	**-0.8**
	comp=Z,13nm,0.7s,mb4.5						
LPG	**La Plagne**	**43.04**	**309**	*e*P	**P**	**08 12 23.9**	**-0.8**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
LPL	**La Plagne**	**43.06**	**309**	*e*P	**P**	**08 12 23.8**	**-1.0**
	comp=Z,15nm,0.7s,mb4.5						
LPL	**La Plagne**	**43.06**	**309**	*e*P	**P**	**08 12 23.8**	**-1.0**
LPL				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
TLY	**Talaya**	**43.32**	**42**	*e*P	**P**	**08 12 27.4**	**+0.6**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
TLY	**Talaya**	**43.32**	**42**	*e*P	**P**	**08 12 27.4**	**+0.6**
	comp=Z,3.0nm,1.0s,mb4.0						
HINF	**Hinteralfeld**	**43.35**	**312**	*e*P	**P**	**08 12 25.7**	**-1.4**
ORIF	**Oris-en-Rattie**	**43.58**	**308**	*e*P	**P**	**08 12 28.5**	**-0.5**
CABF	**La Chapelle**	**43.66**	**310**	*e*P	**P**	**08 12 28.9**	**-0.8**
	comp=Z,13nm,0.7s,mb4.5						
CABF	**La Chapelle**	**43.66**	**310**	*e*P	**P**	**08 12 28.9**	**-0.8**
CABF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
HFS	**Hagfors**	**43.83**	**331**	P	**P**	**08 12 29.7**	**-1.2**
	comp=Z,3.1nm,0.4s,mb4.4,baz=129,slow=9.5,SNR=34						
SONM	**Songino Array**	**44.21**	**48**	P	**P**	**08 12 34.3**	**+0.2**
	comp=Z,2.2nm,0.6s,mb4.0,baz=262,slow=9.2,SNR=15						
SONM				LR	LR	08 33 08.7	
	comp=Z,59nm,20.3s,MS3.5,baz=52,slow=39						
VIVF	**Saint-Julien-I**	**44.42**	**308**	*e*P	**P**	**08 12 34.6**	**-1.3**
	comp=Z,6.3nm,0.7s,mb4.2						
VIVF	**Saint-Julien-I**	**44.42**	**308**	*e*P	**P**	**08 12 34.6**	**-1.3**
VIVF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
ULN	**Ulaanbaatar**	**44.65**	**48**	*e*P	**P**	**08 12 34.8**	**-2.9**
LASF	**Ste Croix**	**44.94**	**306**	*e*P	**P**	**08 12 39.1**	**-0.9**
	comp=Z,6.8nm,0.7s,mb4.3						
SMF	**Signal de Mont**	**45.20**	**310**	*e*P	**P**	**08 12 40.8**	**-1.3**
	comp=Z,12nm,0.6s,mb4.6						
SMF	**Signal de Mont**	**45.20**	**310**	*e*P	**P**	**08 12 40.8**	**-1.3**
SMF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
LOR	**Lormes**	**45.27**	**311**	*e*P	**P**	**08 12 41.3**	**-1.3**
NB2	**NORSAR Subarra**	**45.34**	**331**	P	**P**	**08 12 42.3**	**-0.7**
	comp=Z,1.4nm,0.6s,mb4.0,baz=115,slow=7.9						
NB2	**NORSAR Subarra**	**45.34**	**331**	P	**P**	**08 12 42.3**	**-0.7**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
NOA	**NORSAR Array B**	**45.34**	**331**	P	**P**	**08 12 41.2**	**-1.8**
	comp=Z,1.5nm,0.7s,mb3.9,baz=119,slow=7.4,SNR=8.8						
NOA				LR	LR	08 35 02.5	
	comp=Z,25nm,21.2s,MS3.1,baz=85,slow=40						
SSF	**Saint Saulge**	**45.48**	**310**	*e*P	**P**	**08 12 43.3**	**-1.0**
SSF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
SSF	**Saint Saulge**	**45.48**	**310**	*e*P	**P**	**08 12 43.3**	**-1.0**
	comp=Z,5.2nm,0.6s,mb4.5						
MTLF	**Montolieu**	**46.08**	**305**	*e*P	**P**	**08 12 48.9**	**-0.2**
ARCES	**ARCESS Array B**	**46.11**	**346**	P	**P**	**08 12 48.1**	**-0.8**
	comp=Z,0.7nm,0.4s,mb3.9,baz=135,slow=8.6,SNR=11						
ARCES				LR	LR	08 38 30.4	
	comp=Z,47nm,19.9s,MS3.4,baz=217,slow=44						
CAF	**Calviac**	**46.28**	**307**	*e*P	**P**	**08 12 50.1**	**-0.5**
	comp=Z,4.7nm,0.5s,mb4.4						
CAF	**Calviac**	**46.28**	**307**	*e*P	**P**	**08 12 50.1**	**-0.5**
CAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
TCF	**Toulx Ste Croi**	**46.28**	**309**	*e*P	**P**	**08 12 49.8**	**-0.8**
	comp=Z,8.1nm,0.6s,mb4.5						
TCF	**Toulx Ste Croi**	**46.28**	**309**	*e*P	**P**	**08 12 49.8**	**-0.8**
TCF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
RJF	**Les Rejaudoux**	**46.69**	**308**	*e*P	**P**	**08 12 53.5**	**-0.4**
LFF	**La Frestale**	**47.22**	**307**	*e*P	**P**	**08 12 57.5**	**-0.6**
ETSF	**Etsaut**	**48.10**	**305**	*e*P	**P**	**08 13 04.8**	**-0.2**
	comp=Z,12nm,0.7s,mb4.7						
ETSF	**Etsaut**	**48.10**	**305**	*e*P	**P**	**08 13 04.8**	**-0.2**
ETSF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
FLN	**La Foliniere**	**48.33**	**312**	*e*P	**P**	**08 13 05.3**	**-1.4**
SJPF	**Ste Jean**	**48.59**	**305**	*e*P	**P**	**08 13 08.6**	**-0.2**
BOD	**Bodaibo**	**50.63**	**36**	*e*P	**P**	**08 13 22.8**	**-1.4**
BOD				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
BOD	**Bodaibo**	**50.63**	**36**	*e*P	**P**	**08 13 22.8**	**-1.4**
	comp=Z,11nm,1.2s,mb4.7						
ESDC	**Sonseca Array**	**50.80**	**300**	P	**P**	**08 13 25.1**	**-0.6**
	comp=Z,0.9nm,0.4s,mb4.0,baz=72,slow=7.0,SNR=5.9						
MATP	**Matopo**	**54.15**	**212**	P	**P**	**08 13 50.4**	**-0.6**
	comp=Z,5.0nm,0.6s,mb4.6,baz=32,slow=8.6,SNR=18						
NJ2	**Nanjing**	**54.27**	**69**	*e*P	**P**	**08 13 51.1**	**-0.7**
NJ2				AP	pP	08 14 01.4	+6.2
NJ2				S	**S**	**08 21 24.0**	**-3.5**
NJ2				XS		08 21 40.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,160nm,11.3s						
NJ2				LR	LR		
	comp=N,350nm,18.0s,MS4.7						
NJ2				LR	LR		
	comp=E,530nm,22.1s,MS4.7						
NJ2				LR	LR		
	comp=Z,80nm,20.9s,MS3.8						
SSE	**Sheshan**	**56.42**	**69**	*e*P	**P**	**08 14 03.6**	**-3.8**
SSE				AMB	AMB		
	comp=Z,48nm,0.8s,mb5.6						
SSE				AMB	AMB		
	comp=Z,201nm,3.5s						
SSE	**Sheshan**	**56.42**	**69**	*e*P	**P**	**08 14 03.6**	**-3.8**
	comp=Z,48nm,0.8s,mb5.6						
CN2	**Changchun**	**57.45**	**54**	*e*P	**P**	**08 14 16.6**	**+2.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
YAK	**Yakutsk**	**58.91**	**32**	⇑*i*P	**P**	**08 14 24.8**	**+0.3**
YAK				pmax	pmax		
	comp=Z,12nm,0.4s,mb5.3						
YAK	**Yakutsk**	**58.91**	**32**	*i* P	**P**	**08 14 24.8**	**+0.3**
	comp=Z,12nm,0.4s,mb5.3						
TSUM	**Tsumeb**	**59.12**	**223**	P	**P**	**08 14 26.9**	**+0.4**
	comp=Z,0.7nm,0.4s,mb4.0,baz=238,slow=19,SNR=3.7						
TIXI	**Tiksi**	**59.23**	**21**	*e*P	**P**	**08 14 26.2**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
TIXI	**Tiksi**	**59.23**	**21**	*e*P	**P**	**08 14 26.2**	**-0.4**
	comp=Z,2.0nm,0.6s,mb4.3						
LBTB	**Lobatse**	**59.44**	**212**	P	**P**	**08 14 28.6**	**-0.1**
	comp=Z,1.6nm,0.4s,mb4.4,baz=39,slow=4.3,SNR=7.0						
MDJ	**Mudanjiang**	**60.27**	**52**	P	**P**	**08 14 31.6**	**-2.5**
MDJ				AP	pP	08 14 34.9	-2.7
MDJ				PCP	PcP	08 15 17.3	-1.9
MDJ				SCP		08 19 17.6	
MDJ				PCS		08 19 19.6	
MDJ				S	**S**	**08 22 40.6**	**-5.7**
MDJ				SCS	ScS	08 24 22.0	+0.9
MDJ				SS	SS	08 26 46.1	+1.1
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,26nm,5.9s						
KLR	**Kul'dur**	**61.00**	**47**	*e*P	**P**	**08 14 33.8**	**-5.2**
DBIC	**Dimbokro**	**61.05**	**262**	*e*P	**P**	**08 14 38.8**	**-1.1**
DBIC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
DBIC	**Dimbokro**	**61.05**	**262**	P	**P**	**08 14 39.4**	**-0.5**
	comp=Z,7.9nm,0.6s,mb5.1,baz=46,slow=7.5,SNR=14						
DBIC	**Dimbokro**	**61.05**	**262**	*e*P	**P**	**08 14 38.8**	**-1.1**
	comp=Z,9.4nm,0.6s,mb5.1						
BOSA	**Boshof**	**62.67**	**210**	P	**P**	**08 14 50.1**	**-0.4**
	comp=Z,1.8nm,0.5s,mb4.4,baz=44,slow=9.8,SNR=6.5						
SUMG	**Summit**	**65.80**	**341**	*e*P	**P**	**08 15 12.7**	**+2.5**
	comp=Z,6.1nm,0.6s,mb4.8						
MJAR	**Matsushiro Arr**	**68.60**	**59**	LR	LR	08 47 16.8	
	comp=Z,55nm,21.6s,MS3.8,baz=195,slow=38						
YSS	**Yuzh-Sakhalins**	**68.69**	**47**	*e*P	**P**	**08 15 27.2**	**-1.7**
YSS				pmax	pmax		
	comp=Z,37nm,0.7s,mb5.4						
YSS	**Yuzh-Sakhalins**	**68.69**	**47**	*e*P	**P**	**08 15 27.2**	**-1.7**
	comp=Z,37nm,0.7s,mb5.4						
YSS	**Yuzh-Sakhalins**	**68.69**	**47**	*e*P	**P**	**08 15 27.2**	**-1.7**
	comp=Z,37nm,0.7s,mb5.4						
SEY	**Seymchan**	**69.14**	**29**	*e*P	**P**	**08 15 31.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**81.05**	**115**	P	**P**	**08 16 40.2**	**-0.1**
	comp=Z,8.6nm,0.8s,mb4.7,baz=316,slow=1.8,SNR=6.6						
KAKA	**Kakadu**	**83.97**	**107**	*e*P	**P**	**08 16 55.5**	**0.0**
	comp=Z,9.6nm,0.7s,mb5.0						
INK	**Inuvik**	**84.72**	**4**	P	**P**	**08 16 58.4**	**+0.4**

	comp=Z,2.3nm,0.6s,mb4.5,baz=11,slow=7.9,SNR=10						
ILAR	Eielson Array	86.81	10	P	P	08 17 08.1	-0.4
	comp=Z,1.3nm,0.7s,mb4.3,baz=319,slow=4.0,SNR=18						
MCK	McKinley	87.45	11	*e*P	P	08 17 15.3	+3.7
MCK				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.8						
MCK	McKinley	87.45	11	*e*P	P	08 17 15.3	+3.7
	comp=Z,11nm,1.6s,mb4.8						
WRA	Warramunga Arr	89.07	113	P	P	08 17 19.4	-1.0
	comp=Z,1.4nm,0.7s,mb4.4,baz=314,slow=3.9,SNR=16						
WB2	Warramunga Arr	89.08	113	*e*P	P	08 17 20.2	-0.2
YKA	Yellowknife Ar	90.50	356	P	P	08 17 27.1	+1.1
	comp=Z,1.1nm,0.8s,mb4.2,baz=359,slow=4.3,SNR=6.0						
YKA	Yellowknife Ar	90.50	356	P	P	08 17 27.1	+1.1
SIV	San Ignacio	120.93	267	PKP	PKPdf	08 23 17.6	-2.2
	comp=Z,0.6nm,0.7s,baz=24,slow=4.0,SNR=4.2						
LPAZ	La Paz	127.33	270	PKP	PKPdf	08 23 31.4	-0.7
	comp=Z,1.0nm,0.7s,baz=114,slow=3.8,SNR=6.2						
LPAZ	La Paz	127.33	270	PKP	PKPdf	08 23 31.4	-0.7

*IDC **12** 08:13:14.0±0.7, 15.08S×173.71W, mb4.1/9, mb1 4.3/10, mb1mx4.2/16, mbtmp4.1/10, ML3.3/1, MS3.8/9, Ms1 3.8/9, ms1mx3.6/20, Error ellipse: s-maj=38.6km s-min=17.0km az=135.0*

*NEIC **12** 08:13:15.4±0.4, 15.08S×173.66W, h10km, mb4.4/5, Error ellipse: s-maj=21.9km s-min=9.9km az=131.0*

ISC 12 08:13:17.3±0.5**, 15.1S**±0.1×**173.7W**±0.2**, h33km, n27, σ0.79**/24**, mb4.1**/13**, MS3.8**/7**, 2C, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.22	59	Pn	Pn	08 13 49.8	-2.8
	503nm,0.3s,baz=210,slow=8.1,SNR=337						
AFI				Sn	Sn	08 14 10.0	-9.2
	622nm,0.3s,baz=49,slow=19,SNR=31						
AFI				LR	LR	08 14 33.0	
	comp=Z,803nm,19.8s,baz=226,slow=36						
AFI	Afiamalu	2.22	59	*e*Pn	Pn	08 13 49.6	-3.0
AFI				Pn	Pn	08 13 49.9	-2.8
AFI				Sn	Sn	08 14 10.0	-9.2
AFI				*e*Sn	Sn	08 14 10.3	-8.8
RAO	Raoul Island	14.65	195	LR	LR	08 21 36.9	
	comp=Z,1μm,18.5s,baz=315,slow=34						
PPT	Papeete	23.32	99	LR	LR	08 25 33.6	
	comp=Z,14nm,21.6s,baz=222,slow=32						
URZ	Urewera	24.49	198	LR	LR	08 26 46.3	
	comp=Z,268nm,19.1s,MS3.8,baz=166,slow=33						
HNR	Honiara	26.30	279	LR	LR	08 27 45.7	
	comp=Z,62nm,19.2s,MS3.2,baz=118,slow=33						
STKA	Stephens Creek	43.92	240	P	P	08 21 22.0	-1.0
	3.3nm,0.9s,mb4.1,baz=90,slow=12,SNR=5.3						
WRA	Warramunga Arr	49.60	256	P	P	08 22 07.1	-0.7
	1.4nm,0.8s,mb4.0,baz=98,slow=5.8,SNR=19						
SBA	Scott Base	63.57	185	*e*P	P	08 23 47.1	+0.5
	3.9nm,0.8s,mb4.5						
VNDA	Vanda	63.69	186	P	P	08 23 47.2	-0.1
	2.2nm,0.9s,mb4.2,baz=8.3,slow=5.4,SNR=14						
VNDA	Vanda	63.69	186	*e*P	P	08 23 46.5	-0.8
	2.6nm,0.9s,mb4.3						
VNDA				P		08 23 47.2	
YBH	Yreka Blue Hor	73.52	37	P	P	08 24 49.9	+1.2
	3.5nm,0.9s,mb4.3,baz=270,slow=1.0,SNR=9.9						
WVOR	Wild Horse Val	76.37	39	*e*P	P	08 25 04.8	-0.2
	4.2nm,1.1s,mb4.3						
ELK	Elko	77.54	42	P	P	08 25 12.4	+0.7
	1.3nm,0.8s,mb3.9,baz=254,slow=5.4,SNR=5.0						
MSU	Marysvale	78.41	45	*e*P	P	08 25 17.4	+0.8
HLID	Hailey	79.57	39	*e*P	P	08 25 22.6	-0.2
	1.7nm,0.8s,mb4.0						
TXAR	Lajitas Array	80.69	56	LR	LR	08 54 24.8	
	comp=Z,38nm,19.9s,MS3.7,baz=15,slow=31						
ANMO	Albuquerque	80.83	50	P	P	08 25 29.9	+0.2
	0.4nm,0.5s,mb3.6,baz=238,slow=8.2,SNR=2.6						
ANMO	Albuquerque	80.83	50	P	P	08 25 29.9	+0.2
MCK	McKinley	80.84	11	*e*P	P	08 25 28.9	-0.2
	2.1nm,0.7s,mb4.2						
ILAR	Eielson Array	82.17	11	P	P	08 25 36.1	+0.1
	0.8nm,0.8s,mb3.7,baz=211,slow=5.5,SNR=8.5						
ILAR				LR	LR	09 00 47.5	
	comp=Z,28nm,18.9s,MS3.7,baz=0.1,slow=35						
PDAR	Pinedale Array	82.23	42	P	P	08 25 37.3	+0.5
	0.6nm,0.8s,mb3.6,baz=243,slow=3.3,SNR=6.8						
PDAR				LR	LR	08 59 34.3	
	comp=Z,53nm,18.4s,MS3.9,baz=84,slow=34						
MAW	Mawson	88.01	199	P	P	08 26 05.1	+0.2
	2.6nm,0.7s,mb4.6,baz=118,slow=5.4,SNR=4.9						
MAW				LR	LR	09 02 28.9	
	comp=Z,110nm,19.3s,MS4.3,baz=93,slow=34						
YKA	Yellowknife Ar	89.91	23	LR	LR	09 00 30.6	
	comp=Z,54nm,18.4s,MS4.0,baz=270,slow=32						
VNA3	Neumayer Olymp	93.23	175	⇑*i*	P	08 26 29.2	0.0
VNA2	Neumayer--Watz	93.72	176	⇑*i*	P	08 26 31.8	+0.4
BRTR	Keskin Array B	145.68	321	PKPbc	PKPbc	08 32 56.1	+2.7
	2.2nm,0.7s,baz=90,slow=1.2,SNR=9.6						

NNC 12 08:16:05.0±37.0**, 37.11N×70.35E, mpv3.5, 2C, Error ellipse: s-maj=809.8km s-min=298.1km az=101.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.99	1	P	Pn	08 17 35.2	-1.9
	1.6nm,0.3s,baz=173,slow=11,SNR=52						
KK31				⇑S	Sn	08 18 45.4	-2.0
	13nm,0.8s						
SDNR	Sundarnagar	7.83	134	*e*PG	Pg	08 17 50.2	-51
SDNR				*e*SG		08 17 53.8	
AB31	Akbulak array	14.30	331	⇑P	P	08 19 27.9	-2.9
	0.3nm,0.3s,baz=158,slow=12,SNR=12						

CASC 12 08:24:07.7±3.2**, 12.83N×89.32W, h36km±9km, MD3.8, ML3.4, 6C-4D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	El Faro	0.83	18	⇑*e*P	P	08 24 23.4	+0.5
SNET	Serv Nac Est T	0.85	6	⇑*e*P	P	08 24 23.9	+0.6
SNET				*e*S	S	08 24 34.0	-0.8
SNET				*i*		08 24 35.6	
	comp=Z,2μm,0.2s						
LCBS	La Ceiba	0.89	22	*e*P	P	08 24 24.0	+0.3
LCBS				*e*S	S	08 24 34.8	-0.8
BOQS	Boqueron	0.90	3	⇑*e*P	P	08 24 24.8	+0.8
BOQS				*e*S	S	08 24 35.3	-0.6
SNVI	San Vicente	0.91	31	⇑*e*P	P	08 24 24.7	+0.6
SNVI				*e*S	S	08 24 35.5	-0.7
LFU	La Fuente	0.94	13	⇓*e*P	P	08 24 25.3	+0.8
LBRS	Las Brisas	0.94	17	*e*P	P	08 24 24.9	+0.3
SBLS	San Blas	1.04	344	⇓*e*P	P	08 24 26.9	+0.9
SBLS				*e*S	S	08 24 40.6	+1.1
SNJE	San Jose	1.07	345	*e*P	P	08 24 27.0	+0.6
RTR	El Retiro	1.10	344	⇓*e*P	P	08 24 27.9	+1.1
RTR				*e*S	S	08 24 41.1	-0.1
VSM	San Miguel	1.18	60	⇓*e*P	P	08 24 30.0	+2.0
VSM				*e*S	S	08 24 43.4	+0.3
BLLM	Bellamira	1.22	60	*e*P	P	08 24 30.2	+1.7
BLLM				*e*S	S	08 24 44.5	+0.4
RBDL	Robledal	1.32	345	⇑*e*P	P	08 24 30.7	+0.7
RBDL				*e*S	S	08 24 46.9	+0.2
CNCH	Conchagua	1.52	73	⇑*e*P	P	08 24 34.5	+1.6
CNCH				*e*S	S	08 24 52.2	+0.6
CRIN	San Cristobal	2.22	93	*e*P	P	08 24 41.1	-1.8
LEON	Leon	2.41	100	*e*P	P	08 24 45.4	-0.2
TEL3	Telica 3	2.43	96	*e*P	P	08 24 43.2	-2.7
MIRN	Miramar	2.58	98	*e*P	P	08 24 45.4	-2.6
CNGN	Cerro Negro	2.58	97	*e*P	P	08 24 47.1	-1.0
COPN	Copaltepe	2.75	103	*e*P	P	08 24 48.0	-2.4
XAVN	Gruta Xavier	3.00	103	*e*P	P	08 24 51.5	-2.5
CRUN	El Crucero	3.07	106	*e*P	P	08 24 54.7	-0.3
MGAN	Managua	3.08	102	*e*P	P	08 24 53.9	-1.2
MGAN				*i*		08 25 30.6	
	comp=N,113nm,0.2s						
TICN	Ticuantepe	3.12	104	*e*P	P	08 24 54.1	-1.6

*NEIC **12** 08:27:24.6±1.3, 20.67S×178.48W, h569km±20km, mb3.7/5, Error ellipse: s-maj=20.6km s-min=16.6km az=119.0*

*IDC **12** 08:27:25.1±1.9, 20.68S×178.54W, h560km±23km, mb3.4/10, mb1 3.7/12, mb1mx3.6/16, mbtmp4.4/12, Error ellipse: s-maj=20.1km s-min=14.8km az=138.0*

ISC 12 08:27:23.4±1.0**, 20.77S**±0.10×**178.5W**±0.1**, h556km±15km, n31, σ1.03**/26**, mb3.9**/13**, 3C-2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.38	44	P	P	08 29 36.2	+0.5
	7.0nm,0.3s,baz=23,slow=5.9,SNR=12						
AFI				S	S	08 31 21.0	-0.6
	3.4nm,0.3s,baz=90,slow=19,SNR=4.4						
AFI	Afiamalu	9.38	44	*e*Pn	P	08 29 36.2	+0.4
	90nm,0.8s						
DZM	Mont Dzumac	14.06	262	P	P	08 30 25.5	+2.5
	1.4nm,0.3s,baz=89,slow=18,SNR=6.3						
URZ	Urewera	17.84	191	P	P	08 30 58.6	-1.1
	1.8nm,0.3s,baz=333,slow=6.6,SNR=9.3						
RPZ	Rata Peaks	24.48	198	P	P	08 32 00.1	-0.5
	18nm,1.1s,mb4.6,baz=30,slow=8.1,SNR=3.9						
RPZ	Rata Peaks	24.48	198	P	P	08 32 00.1	-0.5
CTA	Charters Tower	32.97	265	P	P	08 33 14.9	+0.9
	6.0nm,0.3s,mb4.5,baz=90,slow=11,SNR=22						
CTAO	Charters Tower	32.97	265	*e*P	P	08 33 14.5	+0.4
	6.0nm,0.4s,mb4.5						
STKA	Stephens Creek	37.23	244	P	P	08 33 49.8	+0.6
	1.9nm,0.5s,mb3.9,baz=98,slow=11,SNR=3.4						
WB2	Warramunga Arr	44.06	262	⇑*i*P	P	08 34 43.3	-0.7
WRA	Warramunga Arr	44.08	262	P	P	08 34 43.4	-0.7
	1.8nm,0.3s,mb4.1,baz=97,slow=7.1,SNR=177						
WRA				S	S	08 40 30.9	-6.1
	0.9nm,0.8s,baz=97,slow=13,SNR=4.1						
KAKA	Kakadu	47.49	272	*e*P	P	08 35 09.5	-0.8
	2.5nm,0.3s,mb4.2						
MBWA	Marble Bar	57.31	258	*e*P	P	08 36 18.8	-1.8
	2.1nm,0.5s,mb3.6						
SBA	Scott Base	57.57	184	*e*P	P	08 36 22.8	+1.1
	0.9nm,0.4s,mb3.4						
VNDA	Vanda	57.60	185	P	P	08 36 22.4	+0.5
	0.3nm,0.5s,mb2.8,baz=4.1,slow=6.0,SNR=10						
VNDA	Vanda	57.60	185	*e*P	P	08 36 22.2	+0.3
	0.5nm,0.5s,mb3.0						
MJAR	Matsushiro Arr	70.13	324	P	P	08 37 41.3	-0.4
	2.4nm,0.6s,mb3.9,baz=161,slow=6.7,SNR=4.9						
KIWB	Kanaga Island	72.31	1	*e*P	P	08 37 50.6	-3.5
TXAR	Lajitas Array	87.61	58	P	P	08 39 15.3	+1.3
	0.6nm,0.8s,mb3.4,baz=206,slow=5.9,SNR=8.2						
VNA3	Neumayer Olymp	87.91	176	⇑*i*	P	08 39 13.9	-0.5
VNA2	Neumayer--Watz	88.34	177	⇑*i*	P	08 39 16.3	-0.2
ILAR	Eielson Array	88.68	13	P	P	08 39 17.5	-0.7
	0.8nm,0.5s,mb3.8,baz=216,slow=5.1,SNR=14						
PDAR	Pinedale Array	89.49	43	P	P	08 39 23.2	+0.8
	0.9nm,0.6s,mb3.8,baz=228,slow=3.7,SNR=10						
CMAR	Chiang Mai Arr	89.74	290	P	P	08 39 25.8	+1.6
	1.7nm,0.7s,mb4.0,baz=130,slow=3.6,SNR=9.5						
ARCES	ARCESS Array B	129.09	349	PKP	PKPdf	08 45 26.7	-1.0
	2.0nm,0.7s,baz=45,slow=2.6,SNR=4.9						
FINES	FINESS Array B	135.89	343	PKP	PKPdf	08 45 42.4	+1.8
	1.8nm,0.9s,baz=45,slow=5.4,SNR=3.5						
AKASG	Malin Array Be	143.00	331	PKhKP		08 45 51.4	
	4.3nm,0.4s,baz=41,slow=4.3,SNR=40						
BRTR	Keskin Array B	146.65	312	PKPbc	PKPbc	08 46 03.2	+1.1
	1.9nm,0.7s,baz=124,slow=4.5,SNR=7.1						
CLL	Collm	148.21	346	⇓*i*PKP1	PKPdf	08 46 07.5	+5.3
CLL	Collm	148.21	346	⇓*i*PKP1	PKPdf	08 46 07.5	+5.3
CLL				*i* PKP2	PKPab	08 46 12.6	-1.3
CLL				*e*PKP2	PKPab	08 46 13.0	-0.9
GERES	GERESS Array B	150.32	344	PKPbc	PKPdf	08 46 11.9	+6.3
	1.4nm,0.6s,baz=45,slow=3.8,SNR=7.3						

*KNET **12** 08:56:23.9±0.7, 41.75N×75.06E, h17km±2km, ml2.4, Error ellipse: s-maj=4.5km s-min=3.0km az=166.0*

*NNC **12** 08:56:27.0±14.0, 41.94N×75.21E, mpv2.8, Error ellipse: s-maj=193.3km s-min=81.8km az=65.0*

ISC 12 08:56:22.9±1.3**, 41.65N**±0.06×**75.14E**±0.06**, h10km, n13, σ0.69**/23**, 11C-10D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	Kyzart	0.43	11	P	Pg	08 56 31.7	-0.1
	109nm,0.1s,SNR=158						
KZA				⇑S	Sg	08 56 37.6	0.0
	403nm,0.2s						
UCH	Uchtor	0.74	321	P	Pb	08 56 36.6	-0.8
	22nm,0.1s,SNR=130						
UCH				⇑S	Sb	08 56 46.3	-1.1
	65nm,0.1s						
KBK	Karagaybulak	1.01	352	P	Pb	08 56 41.9	-0.2
	97nm,0.1s,SNR=171						
KBK				⇓S	Sb	08 56 55.3	0.0
	202nm,0.1s						
ULHL	Ulahol	1.01	54	⇓P	Pb	08 56 41.0	-1.1
	12nm,0.1s,SNR=103						
AAK	Ala-Archa	1.09	334	⇓P	Pb	08 56 43.0	-0.4
	17nm,0.1s,SNR=11						
AAK				⇓S	Sb	08 56 56.6	-0.9
	45nm,0.2s						
AAK	Ala-Archa	1.09	334	⇑P	Pb	08 56 42.9	-0.5
	7.4nm,0.3s						
AAK				⇑S	Sb	08 56 56.7	-0.9
	25nm,0.3s						
AML	Almayashu	1.18	294	⇑P	Pb	08 56 44.6	-0.3
	22nm,0.2s,SNR=47						
AML				⇑S	Sb	08 56 59.6	-0.5
	70nm,0.2s						
TKM2	Tokmak 2	1.31	15	⇓P	Pb	08 56 47.2	0.0
	23nm,0.1s,SNR=126						
TKM2				⇓S	Sb	08 57 04.8	+0.9
	159nm,0.1s						
CHMS	Chumysh	1.38	348	⇓P	Pn	08 56 48.1	-0.1
	9.8nm,0.1s,SNR=9.9						
CHMS				⇑S	Sb	08 57 05.9	+0.1
	80nm,0.2s						
EKS2	Erkin-Say	1.43	315	⇓P	Pn	08 56 49.9	+0.9
	9.5nm,0.3s,SNR=14						
EKS2				⇓S	Sb	08 57 07.9	+0.6
	15nm,0.1s						
USP	Ospenovka	1.68	344	⇑P	Pn	08 56 53.5	+0.8
	22nm,0.2s,SNR=42						
USP				⇑S	Sn	08 57 15.3	+0.9
	40nm,0.1s						
KK31	Karatay Array	3.72	294	⇑Pn	Pb	08 57 29.8	+1.4
	0.3nm,0.3s,baz=112,slow=16,SNR=13						
KK31				Lg		08 58 17.4	
	4.5nm,0.5s,baz=108,slow=29,SNR=13						
MK31	Makanchi Array	7.27	43	⇓Pn	Pb	08 58 23.0	-6.0
	0.4nm,0.5s,baz=220,slow=14,SNR=5.1						
MK31				⇑Lg		09 00 09.8	
	0.5nm,0.5s						

*BJI **12** 09:08:15.8, 0.87S×96.89E, h59km, mB4.9, mb4.7, Ms4.4, Msz4.1*

*NEIC **12** 09:08:17.8±0.4, 0.30S×96.88E, mb4.7/11, Error ellipse: s-maj=11.6km s-min=7.3km az=61.0*

*IDC **12** 09:08:17.8±0.5, 0.29S×96.78E, h28km±3km, mb4.4/12, mb1 4.4/13, mb1mx4.2/21, mbtmp4.5/13, ML4.5/1, MS3.9/3, Ms1 3.8/3, ms1mx3.2/18, Error ellipse: s-maj=20.9km s-min=13.3km az=68.0*

ISC 12 09:08:16.1±0.5**, 0.29S**±0.06×**96.93E**±0.07**, h29km±1.0km:pP-P, n55, σ0.90**/53**, mb4.6**/31**, MS3.9**/10**, 2C, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.68	34	*e*P	Pn	09 09 53.0	-1.9
BDT	Bhumibol Dam	17.55	7	P	P	09 12 22.0	+1.5
CMAR	Chiang Mai Arr	18.74	6	P	P	09 12 34.8	-0.4
	0.5nm,0.3s,baz=193,slow=12,SNR=34						
CHG	Chiang Mai	19.09	6	P	P	09 12 39.9	+0.5
NANT	Nan	19.33	11	⇑P	P	09 12 41.0	-1.2
	75nm,1.0s						
KMI	Kunming	25.89	12	P	P	09 13 49.3	+1.8
KMI				AP	pP	09 13 58.5	+2.6
KMI				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.2						
KMI				AMB	AMB		
	comp=Z,81nm,4.4s						
KMI				LR	LR		
	comp=N,129nm,16.3s,MS3.8						
KMI				LR	LR		
	comp=E,174nm,16.3s,MS3.8						
KMI				LR	LR		
	comp=Z,138nm,19.3s,MS3.5						
KMI	Kunming	25.89	12	P	P	09 13 49.3	+1.8
	comp=Z,11nm,1.3s,mb4.2						
KMI				pP	pP	09 13 58.5	+2.6
KMI				sP	sP	09 14 04.4	+4.6
GYA	Guiyang	28.20	19	⇑*i*P	P	09 14 08.9	+0.3
GYA				PP	PP	09 15 01.6	+2.1
GYA				S	S	09 18 55.0	+4.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
GYA				LR	LR		
	comp=N,240nm,14.2s,MS4.2						
GYA				LR	LR		
	comp=E,310nm,13.8s,MS4.2						
GYA				LR	LR		
	comp=Z,280nm,14.8s,MS4.0						
PKI	Pulchoki	29.83	339	*e*P	P	09 14 22.0	-1.3
	comp=Z,4.5nm,0.5s,mb4.5						
DMN	Daman	29.98	339	*e*P	P	09 14 24.2	-0.3
	comp=Z,5.8nm,0.4s,mb4.7						
GUN	Gumba	29.98	340	*e*P	P	09 14 24.9	+0.3
	comp=Z,18nm,0.6s,mb5.0						
KKN	Kakani	30.08	339	*e*P	P	09 14 25.4	0.0
GKN	Gorkha	30.51	338	*e*P	P	09 14 29.3	+0.1
	comp=Z,16nm,0.8s,mb4.9						
KOLN	Koldanda	30.70	336	*e*P	P	09 14 31.2	+0.3
	comp=Z,19nm,0.8s,mb5.0						
ENH	Enshi	32.66	20	*e*P	P	09 14 47.3	-0.8
	comp=Z,17nm,0.8s,mb5.0						
FITZ	Fitzroy Crossi	33.31	124	P	P	09 14 53.5	-0.3
	comp=Z,11nm,0.8s,mb4.8,baz=15,slow=1.5,SNR=5.0						
XAN	Xi'an	35.96	17	P	P	09 15 16.1	-0.3
XAN				AP	pP	09 15 26.9	+1.9
XAN				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.0						
LZH	Lanzhou	36.76	9	*e*P	P	09 15 23.9	+0.8
LZH				PP	PP	09 16 50.0	+1.3
LZH				AMB	AMB		
	comp=Z,33nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,150nm,4.2s						
LZH	Lanzhou	36.76	9	*e*P	P	09 15 23.9	+0.8
	comp=Z,33nm,1.0s,mb5.1						
LZH				pP	pP	09 15 32.2	+0.4
LZH				sP	sP	09 15 35.5	+0.1
LZH				PP	PP	09 16 50.0	+1.3
NJ2	Nanjing	38.27	31	*e*P	P	09 15 35.6	-0.3
NJ2				PP	PP	09 17 06.1	-0.9
NJ2				S	S	09 21 27.0	-0.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,240nm,6.2s						
NJ2				LR	LR		
	comp=N,460nm,19.5s,MS4.4						
NJ2				LR	LR		
	comp=E,240nm,18.0s,MS4.4						
NJ2				LR	LR		
	comp=Z,2μm,21.8s,MS5.0						
SSE	Sheshan	38.79	34	*e*P	P	09 15 39.4	-0.8
SSE				S	S	09 21 34.8	-0.6
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,24nm,3.5s						
SSE				LR	LR		
	comp=N,29nm,24.9s,MS3.4						
SSE				LR	LR		
	comp=E,65nm,24.8s,MS3.4						
SSE				LR	LR		
	comp=Z,56nm,26.0s,MS3.3						
GTA	Gaotai	39.60	4	*e*P	P	09 15 47.8	+1.0
GTA				PP	PP	09 17 24.1	+2.5
GTA				S	S	09 21 49.6	+2.0
GTA				SS	SS	09 24 40.4	+4.2
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
GTA				LR	LR		
	comp=N,71nm,14.3s,MS3.9						
GTA				LR	LR		
	comp=E,84nm,13.4s,MS3.9						
GTA				LR	LR		
	comp=Z,78nm,15.8s,MS3.6						
JOW	Kunigami	40.46	46	P	P	09 15 55.1	+1.1
	comp=Z,28nm,1.0s,mb4.9,baz=230,slow=7.9,SNR=3.2						
WRA	Warramunga Arr	41.50	120	P	P	09 16 03.3	+0.7
	comp=Z,3.2nm,0.8s,mb4.0,baz=299,slow=9.1,SNR=12						
WRAB	Tennant Creek	41.51	120	*e*P	P	09 16 02.3	-0.4
	comp=Z,8.4nm,0.9s,mb4.4						
WMQ	Urumqi	44.69	350	*e*P	P	09 16 27.8	-0.6
WMQ				PP	PP	09 18 13.1	-0.6
WMQ				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,55nm,5.8s						
WMQ				LR	LR		
	comp=N,266nm,17.6s,MS4.4						
WMQ				LR	LR		
	comp=E,264nm,17.3s,MS4.4						
WMQ				LR	LR		
	comp=Z,407nm,17.5s,MS4.4						
UCH	Uchtor	46.91	337	P	P	09 16 47.3	+1.3
	SNR=9.5						
TKM2	Tokmak 2	47.09	339	P	P	09 16 48.4	+1.0
	SNR=8.7						
AML	Almayashu	47.15	336	P	P	09 16 48.8	+0.9
	SNR=6.0						
EKS2	Erkin-Say	47.56	337	P	P	09 16 52.0	+0.8
	SNR=8.8						
USP	Ospenovka	47.80	338	P	P	09 16 53.2	+0.2
	SNR=8.4						
MKAR	Makanchi Array	48.62	347	P	P	09 16 59.4	+0.1
	comp=Z,13nm,0.6s,mb5.1,baz=156,slow=8.1,SNR=143						
MKAR				pP	pP	09 17 08.3	+0.1
	comp=Z,5.8nm,0.6s,baz=154,slow=7.6,SNR=9.8						
MKAR	Makanchi Array	48.62	347	P	P	09 16 59.4	+0.1
MKAR				pP	pP	09 17 08.3	+0.1
SONM	Songino Array	48.64	8	P	P	09 16 59.8	+0.4
	comp=Z,4.1nm,0.9s,mb4.5,baz=188,slow=8.7,SNR=13						
CN2	Changchun	50.75	27	*e*P	P	09 17 16.2	+0.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CTAO	Charters Tower	52.10	115	*e*P	P	09 17 26.4	+0.3
	comp=Z,8.9nm,0.9s,mb4.7						
STKA	Stephens Creek	52.57	131	P	P	09 17 30.3	+0.7
	comp=Z,3.4nm,0.7s,mb4.4,baz=306,slow=9.2,SNR=6.5						
STKA	Stephens Creek	52.57	131	*e*P	P	09 17 30.2	+0.6
MJAR	Matsushiro Arr	52.98	42	LR	LR	09 39 46.6	
	comp=Z,73nm,20.9s,MS3.7,baz=245,slow=36						
MDJ	Mudanjiang	53.30	29	P	P	09 17 33.6	-1.2
MDJ				PCP	PcP	09 18 40.6	-1.5
MDJ				PP	PP	09 19 32.0	-4.5
MDJ				SCP		09 22 35.6	
MDJ				PCS		09 22 39.6	
MDJ				S	S	09 25 02.9	+0.2
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,23nm,3.6s						
MDJ				LR	LR		
	comp=N,21nm,20.0s,MS3.5						
MDJ				LR	LR		
	comp=E,44nm,24.6s,MS3.5						
MDJ				LR	LR		
	comp=Z,50nm,20.0s,MS3.6						
ZAL	Zalesovo	54.97	351	P	P	09 17 46.4	-0.6
	comp=Z,10.0nm,0.6s,mb5.0,baz=295,slow=6.5,SNR=34						
ZAL				pP	pP	09 17 55.1	-0.8
	comp=Z,6.0nm,0.5s,baz=318,slow=8.2,SNR=4.0						
ZRNK	Zerenda	57.95	340	*e*P	P	09 18 06.2	-2.0
	comp=Z,2.9nm,0.8s,mb4.4						
KMBO	Kilima Mbogo	59.67	269	LR	LR	09 37 16.9	
	comp=Z,80nm,20.4s,MS3.8,baz=88,slow=29						
MATP	Matopo	69.72	248	P	P	09 19 25.7	-0.2
	comp=Z,2.8nm,0.8s,mb4.3,baz=96,slow=5.6,SNR=7.8						
MATP				pP	pP	09 19 34.6	-0.4
	comp=Z,3.8nm,0.7s,baz=90,slow=5.7,SNR=5.7						
MATP	Matopo	69.72	248	P	P	09 19 25.7	-0.2
MATP				pP	pP	09 19 34.6	-0.4
BRTR	Keskin Array B	69.91	313	P	P	09 19 25.1	-1.6
	comp=Z,1.1nm,0.7s,mb3.9,baz=143,slow=6.2,SNR=5.1						
BRTR				pP	pP	09 19 33.9	-2.0
	comp=Z,1.1nm,0.8s,baz=129,slow=7.9,SNR=3.7						
MAW	Mawson	71.20	193	LR	LR	09 44 28.6	
	comp=Z,131nm,20.8s,MS4.2,baz=55,slow=30						
AKASG	Malin Array Be	76.27	323	P	P	09 20 02.1	-1.7
	comp=Z,1.8nm,0.7s,mb4.1,baz=86,slow=4.9,SNR=7.8						
AKASG				pP	pP	09 20 10.9	-2.1
	comp=Z,0.2nm,0.3s,baz=88,slow=4.9,SNR=2.4						
FINES	FINESS Array B	81.19	333	P	P	09 20 30.3	-0.1
	comp=Z,2.0nm,0.8s,mb4.1,baz=135,slow=8.1,SNR=4.9						
FINES				pP	pP	09 20 38.7	-1.0
	comp=Z,1.0nm,0.5s,baz=117,slow=9.3,SNR=2.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FINES	FINESS Array B	81.19	333	P	P	09 20 30.3	-0.1
FINES				pP	pP	09 20 38.7	-1.0
VNDA	Vanda	84.42	169	P	P	09 20 47.3	+0.5
	comp=Z,0.6nm,0.8s,mb3.8,baz=354,slow=4.8,SNR=3.6						
VNDA				pP	pP	09 20 56.2	+0.1
	comp=Z,1.0nm,0.9s,baz=270,slow=3.6,SNR=4.2						
CPUP	Villa Florida	143.72	221	PKP	PKPdf	09 27 48.5	-5.7
	comp=Z,1.3nm,0.7s,baz=151,slow=4.4,SNR=4.8						
CPUP				pPKP		09 27 57.2	
	comp=Z,2.3nm,0.8s,baz=133,slow=5.2,SNR=4.8						
LTX	Lajitas	145.07	32	ePKP	PKPdf	09 27 53.1	-3.4
TXAR	Lajitas Array	145.07	32	PKPbc	PKPbc	09 27 53.1	+1.4
	comp=Z,4.9nm,0.8s,baz=268,slow=1.7,SNR=79						
TXAR				pPKP		09 28 02.3	
	comp=Z,4.2nm,0.8s,baz=279,slow=1.3,SNR=14						
CFAA	Coronel Fontan	145.30	203	PKPbc	PKPbc	09 27 53.7	+1.4
	comp=Z,0.6nm,0.8s,baz=186,slow=3.4,SNR=12						
CFAA				pPKPbc		09 28 02.3	
	comp=Z,0.9nm,0.7s,baz=190,slow=2.7,SNR=8.7						

*NEIC **12** 09:19:27.3, 18.24N×100.30W, h63km, MD3.9(MEX), After MEX.*

MEX 12 09:19:27.4±0.8**, 18.25N×100.31W, h61km**±15km**, MD3.9, 2C, Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLIG	Platanillo	0.78	79	⇑iP	P	09 19 41.4	-1.4
PLIG				iS	S	09 19 52.1	-2.0
CAIG	El Cayaco	1.20	178	⇑iP	P	09 19 46.8	-1.5
CAIG				iS	S	09 20 01.5	-2.5
YAIG	Yautepec	1.32	62	eP	P	09 19 48.6	-1.6
YAIG				iS	S	09 20 04.3	-2.9
IIZ	Mezontepec	1.37	47	eP	P	09 19 49.0	-2.0
ACX	Acapulco	1.42	165	iP	P	09 19 49.0	-2.6
ACX				iS	S	09 20 04.0	-5.6
UNM	Universidad Na	1.52	45	iP	P	09 19 51.9	-1.0
UNM				iS	S	09 20 08.6	-3.1
UNM	Universidad Na	1.52	45	iP	P	09 19 51.9	-1.0
UNM				eP		09 19 52.5	
UNM				iS	S	09 20 08.6	-3.1
UNM				iS	S	09 20 10.0	-1.7
MOIG	Morelia	1.65	330	eP	P	09 19 53.0	-1.8
MOIG				iS	S	09 20 12.4	-2.5
PPM	Popocatepetl	1.79	63	eP	P	09 19 54.0	-2.6
PPM				iS	S	09 20 10.0	-8.2
PPM	Popocatepetl	1.79	63	eP	P	09 19 54.0	-2.6
PPM				iS	S	09 20 20.0	+1.8
SFJM	Santa Fe	3.41	311	eP	P	09 20 22.0	+2.6
OXX	Oaxaca	3.61	108	eP	P	09 20 25.0	+2.8
OXX	Oaxaca	3.61	108	eP	P	09 20 20.0	-2.2

MAN 12 09:26:02.4, 15.66N×122.35E, h116km, mb3.9, ML2.6, MS2.2, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BALP	Baler	0.75	277	eP	P	09 26 22.4	+0.6
BALP				eS	S	09 26 39.0	+2.4
POLP	Polilio Island	1.00	203	eP	P	09 26 24.2	-0.2
POLP				eS	S	09 26 39.0	-1.9
CAUP	Cauayan	1.38	339	eP	P	09 26 28.2	-0.3
GQP	Guinayangan	1.74	177	⇓eP	P	09 26 34.2	+1.4
GQP				eS	S	09 26 56.0	+0.1

*BJI **12** 09:30:39.2, 63.10N×149.90W, h6km, mB4.7, mb4.2, Ms4.0, Msz3.9*

*IDC **12** 09:30:40.2±1.2, 63.14N×150.32W, mb3.6/4, mb1 4.0/7, mb1mx3.8/21, mbtmp3.7/7, ML3.8/3, MS3.0/2, Ms1 3.0/2, ms1mx2.4/26, Error ellipse: s-maj=23.4km s-min=12.9km az=130.0*

*NEIC **12** 09:30:42.3, 63.13N×149.89W, h7km, ML4.2(PMR), ML3.8(AEIC), After AEIC.*

ISC 12 09:30:41.4±0.2**, 63.13N**±0.02×**149.85W**±0.05**, h7km, n81,** σ0^{s}**92**/89**, mb4.0**/8**, Central Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUR	Hurricane	0.18	147	P	Pg	09 30 45.8	+0.7
TRF	Thorofare Moun	0.38	329	P	Pg	09 30 50.1	+1.0
RND	Reindeer	0.53	58	P	Pg	09 30 52.6	+0.6
KTH	Kantishna Hill	0.65	312	P	Pg	09 30 54.8	+0.4
KTH				S	Sg	09 31 03.6	+0.6
MCK	McKinley	0.73	34	P	Pb	09 30 56.5	+0.5
MCK				S	Sg	09 31 06.7	+0.8
CUT	Chulitna	0.75	195	P	Pb	09 30 55.8	-0.5
BWN	Browne	1.06	9	P	Pb	09 31 03.2	+1.5
GHO	Glory Hole Cre	1.43	162	P	Pn	09 31 07.2	-0.6
GHO				S	Sb	09 31 25.6	-0.6
NEA	Nenana	1.50	13	P	Pn	09 31 09.1	+0.3
SML	Sawmill	1.50	151	P	Pn	09 31 08.2	-0.6
SML				S	Sb	09 31 27.5	-0.8
WRH	Wood River Hil	1.56	29	P	Pn	09 31 10.2	+0.5
PMR	Palmer	1.58	167	P	Pn	09 31 09.4	-0.5
PMR				S	Sb	09 31 29.9	-0.6
SCM	Sheep Creek Mo	1.75	137	P	Pn	09 31 11.7	-0.7
CCB	Clear Creek Bu	1.77	30	P	Pn	09 31 13.1	+0.3
HDA	Harding Lake	1.82	44	P	Pn	09 31 14.1	+0.7
MLY	Manley	1.95	349	P	Pn	09 31 15.8	+0.5
COLA	College	1.96	26	P	Pn	09 31 15.9	+0.5
FIB	Fire Island	1.98	185	P	Pn	09 31 16.7	+1.1
PAX	Paxson	2.00	93	P	Pn	09 31 16.1	+0.1
RC01	Rabbit Creek A	2.05	178	P	Pn	09 31 16.3	-0.4
RC01				S	Sn	09 31 42.3	-0.4
CGLM	Capps Glacier	2.09	210	P	Pn	09 31 17.6	+0.3
ILAR	Eielson Array	2.10	37	Pn	Pn	09 31 17.8	+0.2
	15nm,0.3s,baz=220,slow=14,SNR=183						
ILAR				Pg	Pg	09 31 20.6	-2.8
	24nm,0.3s,baz=222,slow=16,SNR=276						
ILAR				Sn	Sn	09 31 43.4	-0.9
	34nm,0.3s,baz=227,slow=30,SNR=14						
ILAR				Lg		09 31 49.6	
	99nm,0.3s,baz=228,slow=29,SNR=26						
IL1	Eielson Array	2.11	37	P	Pn	09 31 17.6	+0.1
CFI	College Fiord	2.18	152	P	Pn	09 31 18.9	+0.3
SPU	Mount Spurr	2.21	209	eP	Pn	09 31 18.4	-0.6
CKL	Chakachamna La	2.26	212	P	Pn	09 31 19.7	-0.1
PWL	Port Wells	2.39	162	P	Pn	09 31 22.5	+0.9
JPK	Jack Peak	2.58	142	P	Pn	09 31 25.3	+1.0
VLZ	Valdez	2.60	139	P	Pn	09 31 24.9	+0.4
GLI	Glacier Island	2.60	149	P	Pn	09 31 25.4	+0.8
SLKM	Skilak Lake	2.63	184	P	Pn	09 31 25.8	+0.7
MPA	Moose Pass	2.66	175	P	Pn	09 31 25.8	+0.4
DIV	Divide	2.77	134	P	Pn	09 31 27.6	+0.6
TTA	Tatalina	2.82	269	eP	Pn	09 31 27.7	0.0
TT01	Tatalina	2.82	268	P	Pn	09 31 27.2	-0.6
RDT	Redoubt	2.83	206	P	Pn	09 31 28.4	+0.4
FID	Port Fidalgo	2.87	145	P	Pn	09 31 29.1	+0.6
RSO	Redoubt South	3.01	209	eP	Pn	09 31 30.2	-0.3
SEW	Seward	3.04	176	P	Pn	09 31 32.3	+1.4
HIN	Hinchinbrook I	3.17	148	P	Pn	09 31 33.2	+0.5
EYAK	Cordova Ski Ar	3.24	141	P	Pn	09 31 34.4	+0.8
LTI	Latouche	3.24	162	P	Pn	09 31 33.5	-0.2
BMRM	Bremner River	3.29	129	P	Pn	09 31 34.4	+0.1
GLB	Gilahina Butte	3.29	118	P	Pn	09 31 35.5	+1.1
IM3	Indian Mountai	3.33	331	P	Pn	09 31 34.9	0.0
SVW2	Sparrevohn	3.38	235	P	Pn	09 31 34.6	-1.1
IMA	Indian Mountai	3.38	332	eP	Pn	09 31 35.4	-0.4
ILIM	Iliamna	3.40	207	P	Pn	09 31 36.3	+0.3
ILW	Iliamna West	3.46	209	P	Pn	09 31 36.9	+0.2
BCA3	Beaver Creek A	3.67	87	P	Pn	09 31 39.8	0.0
CNPM	China Poot	3.68	191	P	Pn	09 31 41.2	+1.3
XLV	Seldovia	3.79	195	P	Pn	09 31 43.6	+2.0
OPT	Oil Point	3.85	207	P	Pn	09 31 44.2	+1.9
BALM	Baldy	4.11	117	P	Pn	09 31 46.3	+0.3
COLD	Coldfoot	4.12	358	P	Pn	09 31 46.3	+0.1
AGU	Augustine-Summ	4.16	206	P	Pn	09 31 48.9	+2.1
MCNL	McNeil River	4.51	211	P	Pn	09 31 51.5	-0.3
BM3	Burnt Mountain	4.84	25	P	Pn	09 31 55.9	-0.5
KAHC	Katmai Hardscr	5.15	212	P	Pn	09 31 59.8	-1.0
KDAK	Kodiak Island	5.53	195	P	Pn	09 32 04.4	-1.7
CAHL	Cahill	5.75	210	P	Pn	09 32 09.3	0.0
PNL	Peninsula	6.10	120	P	Pn	09 32 13.0	-1.2
WHY	Whitehorse	7.49	103	P	Pn	09 32 34.0	+0.3
TNA	Tin City	8.21	295	P	P	09 32 42.5	-1.3
INK	Inuvik	8.48	45	Pn	P	09 32 46.2	-1.4
	0.5nm,0.3s,baz=247,slow=14,SNR=17						
INK				Sn	Sn	09 34 19.4	-5.2
	0.6nm,0.3s,baz=184,slow=1.4,SNR=2.9						
INK	Inuvik	8.48	45	eP	P	09 32 45.1	-2.5
BESE	Bessie Mountai	8.61	115	P	P	09 32 47.4	-2.0
BBB	Bella Bella	15.88	124	LR	LR	09 40 22.2	
	comp=Z,51nm,19.7s,baz=194,slow=36						
YKA	Yellowknife Ar	16.00	76	Pn	P	09 34 27.3	-0.8
	0.3nm,0.3s,baz=285,slow=10,SNR=3.8						
YKA				LR	LR	09 40 59.3	
	comp=Z,47nm,18.3s,baz=345,slow=38						
HLID	Hailey	28.25	117	P	P	09 36 37.0	+0.3
	0.5nm,0.6s,mb3.3						
BW06	Boulder Array	30.92	112	P	P	09 36 59.1	-1.4
PDAR	Pinedale Array	30.92	112	P	P	09 36 59.9	-0.7
	0.6nm,0.7s,mb3.5,baz=356,slow=1.5,SNR=6.2						
TXAR	Lajitas Array	44.85	117	P	P	09 38 57.4	-0.3
	0.5nm,0.6s,mb3.5,baz=330,slow=6.1,SNR=11						
MDJ	Mudanjiang	47.41	287	P	P	09 39 16.5	-1.2
MDJ				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,47nm,4.0s						
CN2	Changchun	49.85	289	eP	P	09 39 36.9	+0.3
SSE	Sheshan	62.30	284	eP	P	09 41 04.4	-1.8
SSE				AMB	AMB		
	comp=Z,14nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,36nm,3.5s						
SSE	Sheshan	62.30	284	eP	P	09 41 04.4	-1.8
	comp=Z,14nm,0.8s,mb5.1						
MKAR	Makanchi Array	62.90	322	P	P	09 41 06.8	-3.1
	comp=Z,0.2nm,0.5s,mb3.5,baz=41,slow=5.0,SNR=4.1						
LZH	Lanzhou	65.23	301	eP	P	09 41 21.0	-4.2
LZH				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.4						
LZH	Lanzhou	65.23	301	eP	P	09 41 21.0	-4.2
	comp=Z,5.0nm,1.2s,mb4.4						
LZH				pP	pP	09 41 23.5	-3.9
LZH				sP	sP	09 41 24.5	-3.7
CMAR	Chiang Mai Arr	82.86	297	P	P	09 43 04.7	-2.9
	comp=Z,1.1nm,0.8s,mb4.0,baz=8.2,slow=6.8,SNR=4.3						

*NNC **12** 10:09:43.4±1.2, 42.13N×85.84E, mpv2.8, Error ellipse: s-maj=159.1km s-min=8.8km az=62.0*

BJI 12 10:09:50.8, 42.16N×85.57E, h13km, ML3.3, 1C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	2.28	42	eP	Pn	10 10 29.0	+0.3
WMQ				SG	Sg	10 10 59.0	-7.7
WMQ				Smax			
	comp=N,224nm,0.8s						
WMQ				Smax			
	comp=E,260nm,0.8s						
MK31	Makanchi Array	5.19	334	⇑Pn	Pn	10 11 06.7	-3.4
	comp=E,0.2nm,0.2s,baz=152,slow=14,SNR=10						
MK31				Pg	Pg	10 11 19.4	-15
	comp=E,0.8nm,0.3s,baz=147,slow=14,SNR=4.4						
MK31				⇓Lg		10 12 30.1	
	comp=E,9.5nm,0.8s						

*NEIC **12** 10:12:00.5±1.0, 24.32S×67.21W, h200km, mb3.3/1, Error ellipse: s-maj=18.2km s-min=11.2km az=145.0*

*GUC **12** 10:12:02.5±0.8, 24.34S×67.46W, h170km, ML3.9*

ISC 12 10:12:00.1±1.3**, 24.3S**±0.1×**67.4W**±0.3**, h213km**±35km**, n7,** σ1^{s}**05**/11**, 1C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.17	320	⇓iP	P	10 12 42.5	+0.9
LVC				iS	S	10 13 12.5	-1.2
LVC				AMP		10 13 14.8	
	comp=N,213nm,0.3s						
CPN1	Cerro Paranal	2.75	262	eP	P	10 12 49.5	+1.5
CPN1				iS	S	10 13 24.4	-0.8
CPN1				AMP		10 13 26.8	
	comp=E,281nm,0.5s						
ANCH	Antofagasta	2.81	282	⇑iP	P	10 12 50.5	+1.8
ANCH				iS	S	10 13 25.9	-0.5
ANCH				AMP		10 13 27.7	
	comp=N,855nm,0.1s						
CRCH	Chaqaral	3.56	234	eP	P	10 12 58.1	+0.5
CRCH				iS	S	10 13 40.9	-1.1
LPAZ	La Paz	7.99	355	ePn	P	10 13 54.8	+0.9
	comp=N,3.6nm,0.3s						
SAML	Samuel	15.78	16	eP	P	10 15 31.7	-0.8
	comp=N,0.9nm,0.6s						
BAO	Brasilia Array	20.16	68	P	P	10 16 18.5	-1.0

*IDC **12** 10:12:33.5±3.5, 3.94N×95.34E, mb3.7/3, mb1 3.9/4, mb1mx3.6/20, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=116.7km s-min=27.5km az=63.0*

ISC 12 10:12:37.6±2.3**, 4.0N**±0.2×**95.6E**±0.4**, h33km, n6,** σ1^{s}**29**/6**, mb3.7**/3**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.48	84	P	P	10 13 50.4	-8.6
CMAR	Chiang Mai Arr	14.74	13	Pn	P	10 16 05.4	-0.2
	0.1nm,0.3s,baz=217,slow=9.0,SNR=4.2						
SHL	Shillong	21.72	351	eP	P	10 17 29.0	+1.1
MKAR	Makanchi Array	44.15	347	P	P	10 20 43.8	-1.0
	0.2nm,0.4s,mb3.2,baz=153,slow=9.5,SNR=4.7						
SONM	Songino Array	44.65	10	P	P	10 20 48.7	-0.1
	0.5nm,0.5s,mb3.6,baz=180,slow=8.6,SNR=2.3						
WRA	Warramunga Arr	44.92	123	P	P	10 20 51.5	+0.1
	2.1nm,0.5s,mb4.2,baz=301,slow=9.2,SNR=19						

IDC 12 10:21:01.4±1.5**, 14.43N×144.30E, mb3.8**/4**, mb1 3.9**/4**, mb1mx3.7**/20**, mbtmp3.8**/4**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.3**/26**, Error ellipse: s-maj=55.3km s-min=38.5km az=66.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	29.62	358	LR	LR	10 39 22.9	
	comp=Z,30nm,18.8s,baz=190,slow=37						
SONM	Songino Array	45.73	325	P	P	10 29 34.4	+8.3
	0.8nm,0.5s,baz=149,slow=8.4,SNR=4.2						
MKAR	Makanchi Array	60.51	316	P	P	10 31 13.7	-1.9
	0.9nm,0.4s,baz=120,slow=7.7,SNR=12						
ILAR	Eielson Array	68.05	26	P	P	10 32 02.6	-2.0
	0.2nm,0.6s,baz=247,slow=6.9,SNR=4.9						
BVAR	Borovoye Array	68.93	322	P	P	10 32 07.9	-2.3
	0.6nm,0.4s,baz=101,slow=7.3,SNR=4.5						
VNDA	Vanda	92.33	176	P	P	10 34 13.0	-1.3
	0.5nm,0.9s,baz=338,slow=7.0,SNR=3.7						

*IDC **12** 10:21:24.6±1.6, 6.89N×125.98E, mb3.9/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.9/4, Error ellipse: s-maj=112.4km s-min=25.8km az=75.0*

*MAN **12** 10:21:44.8, 5.56N×126.63E, h90km, mb4.3, ML3.1, MS2.9*

ISC 12 10:21:46.0±1.3**, 5.7N**±0.2×**126.6E**±0.2**, h102km**±25km**, n8,** σ0^{s}**49**/12**, mb3.9**/3**, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	Mati	1.33	345	eP	P	10 22 10.8	0.0
MATI				eS	S	10 22 29.3	0.0
BIPH	Bislig	2.53	355	eP	P	10 22 26.8	+0.4
BIPH				iS	S	10 22 56.7	+0.2
BUKP	Musuan	2.69	325	eP	P	10 22 28.4	-0.2
BUKP				eS	S	10 23 01.2	+0.7
BUTP	Butuan	3.44	344	eP	P	10 22 37.5	-1.2
BUTP				eS	S	10 23 27.2	+8.4
PAGZ	Pagadian	3.87	304	eP	P	10 22 44.4	-0.3
FITZ	Fitzroy Crossi	23.62	182	P	P	10 26 49.0	+0.3
	2.8nm,0.4s,mb3.9,baz=359,slow=6.5,SNR=8.4						
WRA	Warramunga Arr	26.55	164	P	P	10 27 16.1	-0.3
	1.1nm,0.5s,mb3.7,baz=343,slow=10,SNR=11						
STKA	Stephens Creek	39.96	160	P	P	10 29 12.5	+0.4
	1.6nm,0.7s,mb4.0,baz=0.8,slow=6.7,SNR=4.4						

MAN 12 11:12:06.0, 10.57N×121.71E, h26km, mb3.9, ML2.7, MS2.3, 1D, Panay

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAP	Anini-y	0.27	122	⇓eP	Pb	11 12 14.4	+1.6
AAP				eS	Sb	11 12 21.3	+4.0
CUYO	Cuyo Island	0.73	292	eP	Pb	11 12 21.1	+1.0
CUYO				eS	Sb	11 12 31.2	+1.4
GUIM	Jordan	0.87	86	eP	Pb	11 12 22.1	-0.2
GUIM				eS	Sb	11 12 35.0	+1.4
RCP	Roxas	1.42	46	eP	Pn	11 12 30.0	-0.4
RCP				eS	Sn	11 12 49.2	+0.8
OTRP	Odiongan	1.81	10	eP	Pn	11 12 35.2	-0.9
OTRP				eS	Sn	11 12 54.8	-3.6
SJMP	San Jose	1.97	343	eP	Pn	11 12 37.7	-0.6
BUSP	Coron	2.06	314	eP	Pn	11 12 39.3	-0.3
BUSP				eS	Sn	11 13 14.7	+10
ENPP	El Nido	2.33	286	eP	Pn	11 12 44.1	+0.6
ENPP				eS	Sn	11 13 10.8	-0.8
BOAC	Boac	2.88	3	eP	Pn	11 12 57.5	+6.2
PAGZ	Pagadian	3.17	148	eP	Pn	11 12 58.0	+2.6
PAGZ				eS	Sn	11 13 35.7	+2.8
LUBP	Lubang	3.46	336	eP	Pn	11 12 59.6	0.0

*NEIC **12** 11:50:22.1, 32.68S×71.63W, h51km, MD3.6(GUC), After GUC.*

GUC 12 11:50:22.1±0.6**, 32.68S×71.63W, h51km**±4km**, MD3.6, ML2.5, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.22	50	⇓iP	P	11 50 31.2	+0.5
PACH				iS	S	11 50 37.8	+0.9
ROCH	El Roble	0.60	119	iS	S	11 50 45.5	+1.6
LCCH	Las Cruces	0.80	176	eP	P	11 50 37.2	0.0
LCCH				iS	S	11 50 48.9	+0.5
JACH	Jahuel	0.88	91	iP	P	11 50 38.9	+0.5
JACH				iS	S	11 50 51.6	+1.1
RCDM	Rinconada Maip	1.07	140	eP	P	11 50 41.4	+0.3
RCDM				iS	S	11 50 56.0	+1.0
RCDM				AMP		11 50 58.0	
	comp=E,193nm,0.2s						
TACH	Talagante	1.13	149	eP	P	11 50 42.5	+0.6
FCH	Farellones	1.30	120	eP	P	11 50 45.1	+0.7
FCH				iS	S	11 51 02.4	+1.4
FCH				AMP		11 51 03.3	
	comp=N,183nm,0.2s						
PCH	Pirque	1.33	135	⇑iP	P	11 50 46.1	+1.3
PCH				iS	S	11 51 03.6	+2.0
CHCH	Chadas Angostu	1.50	147	eP	P	11 50 48.1	+0.9
CHCH				iS	S	11 51 07.4	+1.7

MAN 12 12:06:54.7, 12.21N×123.85E, h19km, mb4.3, ML3.1, MS2.9, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNP	Catarman	0.84	69	eP	Pb	12 07 10.3	-0.2
CNP				eS	Sb	12 07 23.1	+1.7
RCP	Roxas	1.26	239	⇓iP	Pn	12 07 17.4	-0.2
RCP				eS	Sb	12 07 35.2	+1.6
PVCP	Virac	1.41	12	eP	Pn	12 07 19.5	0.0
PVCP				eS	Sb	12 07 38.1	+0.5
PLP	Palo	1.52	133	eP	Pn	12 07 20.7	-0.5
PLP				eS	Sn	12 07 41.4	+0.8
KALP	Kalibo	1.57	250	eP	Pn	12 07 45.0	+23
AUQP	San Andres	1.59	314	eP	Pn	12 07 24.2	+2.0
AUQP				eS	Sn	12 07 48.0	+5.6
BESP	Borongan	1.67	111	eP	Pn	12 07 22.3	-1.0
BESP				eS	Sn	12 07 47.3	+3.0
OTRP	Odiongan	1.80	275	eP	Pn	12 07 25.2	0.0
OTRP				eS	Sn	12 07 47.0	-0.6
LLP	Lapu-Lapu	1.89	177	⇑eP	Pn	12 07 25.4	-1.1
LLP				eS	Sn	12 07 53.6	+3.6
GUIM	Jordan	2.01	218	eP	Pn	12 07 28.8	+0.6
GUIM				eS	Sn	12 07 54.8	+1.8
MSLP	Maasin	2.29	154	eP	Pn	12 07 34.1	+1.8
MSLP				eS	Sn	12 08 06.3	+6.1
SJMP	San Jose	2.68	276	eP	Pn	12 07 37.1	-0.7
CUYO	Cuyo Island	3.09	244	eP	Pn	12 07 43.1	-0.5
CUYO				eS	Sn	12 08 21.6	+1.1
BUSP	Coron	3.58	267	eP	Pn	12 07 50.3	-0.3
PAGZ	Pagadian	4.36	186	eP	Pn	12 08 00.3	-1.4
ENPP	El Nido	4.45	257	eP	Pn	12 08 02.9	-0.1
APYP	Conner	6.16	336	eP	Pn	12 07 33.3	-54
APYP				eS		12 07 39.7	

IDC 12 12:31:00.4±2.3**, 3.12N×93.83E, h26km**±6km**, mb3.6**/3**, mb1 3.7**/4**, mb1mx3.5**/21**, mbtmp3.7**/4**, ML3.9**/1**, Error ellipse: s-maj=96.1km s-min=19.6km az=55.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.04	18	Pn	P	12 34 46.1	+0.1
	0.2nm,0.3s,baz=213,slow=12,SNR=4.9						
MKAR	Makanchi Array	44.64	349	P	P	12 39 11.0	-1.7
	1.0nm,0.5s,baz=167,slow=9.1,SNR=14						
MKAR				pP	pP	12 39 18.9	-1.6
	1.9nm,0.5s,baz=165,slow=9.0,SNR=16						
WRA	Warramunga Arr	45.90	122	P	P	12 39 20.9	-2.1
	1.3nm,0.7s,baz=300,slow=8.9,SNR=13						
WRA				pP	pP	12 39 28.9	-1.9
	0.6nm,0.5s,baz=305,slow=8.5,SNR=4.8						
BVAR	Borovoye Array	53.38	343	P	P	12 40 16.9	-3.0
	0.2nm,0.3s,baz=225,slow=2.1,SNR=3.0						
BVAR				pP	pP	12 40 25.3	-2.7
	0.5nm,0.5s,baz=153,slow=6.4,SNR=3.1						

*NIED **12** 12:35:00, 29.30N×139.60E, h480km, Mw4.2 Best double couple: $M_0$2.01×10^15 NP1:ϕ_s101°, δ90°, λ29°. NP2:ϕ_s11°, δ61°, λ180°.*

*BJI **12** 12:35:19.3, 28.81N×139.21E, h434km, mB4.6, mb4.4*

*JMA **12** 12:35:23.4±0.2, 29.30N×139.59E, h461km±4km, M4.1*

*IDC **12** 12:35:23.9±0.6, 29.23N×139.23E, h432km±7km, mb3.3/11, mb1 3.4/17, mb1mx3.3/27, mbtmp4.2/17, Error ellipse: s-maj=15.0km s-min=8.6km az=82.0*

*NEIC **12** 12:35:24.1±0.8, 29.22N×139.26E, h434km±10km, mb4.4/8, Error ellipse: s-maj=13.0km s-min=7.9km az=106.0*

ISC 12 12:35:23.4±0.3**, 29.24N**±0.04×**139.32E**±0.07**, h448km**±4km**, n55,** σ0^{s}**94**/72**, mb3.9**/17**, 2D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.30	129	P	P	12 36 33.0	-0.1
	50nm,0.3s,baz=273,slow=17,SNR=56						
CBIJ				S	S	12 37 27.9	-0.3
	279nm,0.3s,baz=309,slow=22,SNR=44						
CBIJ	Chichi jima	3.30	129	P	P	12 36 33.0	-0.2
CBIJ				S	S	12 37 27.9	-0.3
JHHJ	Haha-jima-NKT	3.62	135	P	P	12 36 35.7	-0.1
JHHJ				S	S	12 37 33.2	+0.3
JHJ2	Mitsune	3.89	6	P	P	12 36 38.6	+0.6
JHJ	Hachijo jima 2	3.89	6	P	P	12 36 38.4	+0.3
	41nm,0.3s,baz=200,slow=12,SNR=18						
JHJ				S	S	12 37 36.5	-0.5
	38nm,0.3s,baz=87,slow=19,SNR=3.7						
TK01	Tokai 1	4.75	342	P	P	12 36 47.7	+1.7
JIM2	Oshima 3	5.47	1	P	P	12 36 53.3	+0.2
JIM2				eS	S	12 38 03.6	-0.1
BSO1	Boso 1	5.58	14	P	P	12 36 53.9	-0.3
BSO1				eS	S	12 38 05.1	-0.7
JIE	Ise	5.60	337	P	P	12 36 56.3	+1.9
JIE				eS	S	12 38 07.8	+1.6
HMMJ	Hamamatsu 2	5.77	347	P	P	12 36 57.0	+0.9
HMMJ				eS	S	12 38 09.1	-0.1
JNY	Yasuok	6.23	349	P	P	12 37 01.5	+0.6
JNY				eS	S	12 38 18.0	+0.1
JHU	Hanno	6.60	360	P	P	12 37 03.7	-1.1
JHU				eS	S	12 38 19.7	-5.2
JNA	Nagahama	7.26	308	P	P	12 37 13.3	+1.3
MJAR	Matsushiro Arr	7.35	353	P	P	12 37 10.5	-2.4
	4.6nm,0.3s,baz=176,slow=11,SNR=33						
MJAR				S	S	12 38 36.5	-3.0
	1.6nm,0.3s,baz=49,slow=28,SNR=4.3						
MAJO	Matsushiro	7.35	353	eP	P	12 37 12.1	-0.8
	26nm,0.6s						
MAJO				eS	S	12 38 39.0	-0.5
MAT	Matsushiro	7.35	353	eP	P	12 37 12.0	-0.9
	45nm,0.4s						
MAT				eS	S	12 38 36.0	-3.5
MAT	Matsushiro	7.35	353	P	P	12 37 11.8	-1.1
MAT				S	S	12 38 40.1	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**7.35**	**353**	P	**P**	**12 37 12.0**	**-0.9**
MAT				*e*S	**S**	**12 38 36.9**	**-2.6**
JHS	**Saijyo**	**7.79**	**319**	P	**P**	**12 37 18.6**	**+0.9**
JNU	**Nakatsue**	**8.21**	**300**	P	**P**	**12 37 22.4**	**+0.1**
	1.6nm,0.3s,baz=70,slow=12,SNR=9.3						
JNU	**Nakatsue**	**8.21**	**300**	P	**P**	**12 37 23.3**	**+1.0**
JFK	**Kawauchi**	**8.21**	**9**	P	**P**	**12 37 21.9**	**-0.5**
JFK				*e*S	**S**	**12 38 53.0**	**-3.5**
JSJ	**Shimokoshiki**	**8.64**	**289**	P	**P**	**12 37 27.8**	**+0.6**
JMK	**Ichinoseki**	**9.82**	**9**	P	**P**	**12 37 40.1**	**0.0**
JOW	**Kunigami**	**10.05**	**259**	P	**P**	**12 37 41.7**	**-1.1**
	1.4nm,0.3s,baz=114,slow=10.0,SNR=6.7						
KS15	**Wonju Array Si**	**12.58**	**314**	*e*P	**P**	**12 38 09.1**	**-1.3**
JOSM	**Okushiri--Mats**	**12.82**	**1**	P	**P**	**12 38 13.1**	**+0.2**
ASAJ	**Asahikawa**	**15.08**	**9**	P	**P**	**12 38 38.0**	**+1.5**
	1.2nm,0.3s,baz=244,slow=13,SNR=7.0						
MDJ	**Mudanjiang**	**17.19**	**336**	P	**P**	**12 38 59.3**	**+1.5**
MDJ				S	**S**	**12 41 58.9**	**+7.6**
MDJ				PCP	PcP	12 43 17.4	+0.2
MDJ				SCP		12 46 13.2	
MDJ				PCS		12 46 55.2	
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,30nm,4.5s						
MDJ	**Mudanjiang**	**17.19**	**336**	*e*P	**P**	**12 38 59.3**	**+1.5**
	comp=Z,11nm,1.1s						
ENH	**Enshi**	**25.89**	**280**	*e*P	**P**	**12 40 18.3**	**-1.0**
	comp=Z,8.0nm,0.5s,mb4.4						
XAN	**Xi'an**	**26.27**	**288**	P	**P**	**12 40 21.8**	**-0.9**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
SONM	**Songino Array**	**31.43**	**315**	P	**P**	**12 41 07.2**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.2,baz=127,slow=7.2,SNR=2.8						
GTA	**Gaotai**	**33.94**	**298**	*e*P	**P**	**12 41 24.6**	**-4.2**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb3.8						
CMAR	**Chiang Mai Arr**	**38.29**	**263**	P	**P**	**12 42 05.5**	**+0.3**
	comp=Z,1.4nm,0.7s,mb3.5,baz=87,slow=4.1,SNR=6.7						
FITZ	**Fitzroy Crossi**	**48.88**	**197**	⇓*i*P	**P**	**12 43 28.7**	**+0.1**
	comp=Z,4.9nm,0.5s,mb4.1						
FITZ	**Fitzroy Crossi**	**48.88**	**197**	P	**P**	**12 43 28.9**	**+0.3**
	comp=Z,6.7nm,0.6s,mb4.2,baz=6.0,slow=10,SNR=8.3						
WRAB	**Tennant Creek**	**49.12**	**186**	*e*P	**P**	**12 43 30.1**	**-0.3**
	comp=Z,15nm,0.4s,mb4.7						
WB2	**Warramunga Arr**	**49.12**	**186**	⇓*i*P	**P**	**12 43 30.3**	**-0.2**
WRA	**Warramunga Arr**	**49.13**	**186**	P	**P**	**12 43 29.9**	**-0.6**
	comp=Z,9.9nm,0.3s,mb4.6,baz=2.4,slow=7.7,SNR=188						
MBWA	**Marble Bar**	**53.54**	**203**	*e*P	**P**	**12 44 02.3**	**-0.6**
	comp=Z,6.1nm,0.6s,mb4.1						
BVAR	**Borovoye Array**	**54.76**	**316**	P	**P**	**12 44 10.1**	**-1.1**
	comp=Z,1.5nm,0.4s,mb3.6,baz=93,slow=7.9,SNR=11						
ILAR	**Eielson Array**	**57.07**	**29**	P	**P**	**12 44 28.6**	**+1.7**
	comp=Z,0.1nm,0.6s,baz=291,slow=9.3,SNR=5.0						
STKA	**Stephens Creek**	**60.81**	**178**	P	**P**	**12 44 52.4**	**-0.1**
	comp=Z,2.9nm,0.5s,mb4.0,baz=352,slow=5.8,SNR=8.1						
STKA	**Stephens Creek**	**60.81**	**178**	*e*P	**P**	**12 44 53.0**	**+0.5**
INK	**Inuvik**	**62.15**	**25**	P	**P**	**12 45 01.3**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.4,baz=255,slow=3.9,SNR=4.2						
INK	**Inuvik**	**62.15**	**25**	P	**P**	**12 45 01.3**	**+0.4**
NWAO	**Narrogin (SRO)**	**65.28**	**200**	P	**P**	**12 45 21.4**	**0.0**
	comp=Z,7.9nm,0.5s,mb4.6,baz=8.0,slow=6.6,SNR=12						
NWAO	**Narrogin (SRO)**	**65.28**	**200**	*e*P	**P**	**12 45 21.2**	**-0.2**
	comp=Z,7.1nm,0.6s,mb4.5						
ARCES	**ARCESS Array B**	**70.69**	**340**	P	**P**	**12 45 53.6**	**0.0**
	comp=Z,5.3nm,1.1s,mb4.0,baz=72,slow=8.6,SNR=9.7						
YKA	**Yellowknife Ar**	**71.46**	**28**	P	**P**	**12 45 59.8**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=319,slow=5.7,SNR=2.9						
KAF	**Kangasniemi**	**74.45**	**333**	*e*p	**P**	**12 46 09.3**	**-6.1**
	comp=Z,0.3nm,0.3s,mb3.3						
FINES	**FINESS Array B**	**74.91**	**333**	P	**P**	**12 46 17.8**	**-0.2**
	comp=Z,0.8nm,0.4s,mb3.6,baz=98,slow=4.9,SNR=7.5						
NB2	**NORSAR Subarra**	**80.68**	**337**	P	**P**	**12 46 48.8**	**-0.2**
	comp=Z,0.5nm,0.4s,mb3.4,baz=47,slow=5.0						
NOA	**NORSAR Array B**	**80.68**	**337**	P	**P**	**12 46 49.2**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.4,baz=44,slow=5.3,SNR=3.6						

IDC 12 12:38:31.0±9.0**,0.24N×122.62E,h180**^{km}±89^{km}**,mb3.4**/5**, mb1 3.6**/6**,mb1mx3.4**/18**,mbtmp3.9**/6**,Error ellipse: s-maj=98.3km s-min=17.1km az=57.0,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.47**	**171**	P	P	12 42 33.2	-2.5
	0.7nm,0.3s,baz=1.4,slow=9.9,SNR=5.4						
WRA	**Warramunga Arr**	**23.11**	**151**	P	P	12 43 20.8	-1.3
	2.9nm,0.8s,baz=322,slow=9.7,SNR=28						
CMAR	**Chiang Mai Arr**	**29.47**	**309**	P	P	12 44 18.6	-1.9
	0.4nm,0.7s,baz=141,slow=6.2,SNR=4.3						
STKA	**Stephens Creek**	**36.65**	**152**	P	P	12 45 20.9	-1.1
	1.4nm,0.3s,baz=326,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**58.21**	**328**	P	P	12 48 06.1	-2.4
	0.6nm,0.4s,baz=120,slow=8.8,SNR=6.6						
VNDA	**Vanda**	**80.54**	**172**	P	P	12 50 22.6	-1.5
	0.6nm,0.9s,baz=301,slow=5.9,SNR=3.5						

ATH 12 12:43:32.2,41.37N×23.49E,h20^{km}*±1*^{km}*,MD3.3/4*
NEIC 12 12:43:32.2,41.37N×23.49E,h20^{km}*,MD3.2(ATH),After ATH.*
SOF 12 12:43:33.1,41.34N×23.50E,h15^{km}*,MD2.9*
CSEM 12 12:43:33.5±0.1,41.33N×23.50E,h15^{km}*,ML2.9,Error ellipse: s-maj=3.0km s-min=2.3km az=143.0*
THE 12 12:43:34.5,41.26N×23.50E,h9^{km}*,ML2.9*
BEO 12 12:43:38.5±0.2,41.67N×23.16E,h10^{km}
ISC 12 12:43:32.8±0.4**,41.30N**±0.02×**23.51E**±0.03**,h12**^{km}±3^{km}**, n30,**σ**1**^{s}**01**/50**,1D,Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.19**	**161**	*e*Pg	**Pg**	**12 43 38.0**	**+0.8**
SRS				*e*Sg	**Sg**	**12 43 41.0**	**+0.9**
SRS	**Serrai**	**0.19**	**161**	*e*Pg	**Pg**	**12 43 38.0**	**+0.8**
SRS				*e*Sg	**Sg**	**12 43 41.0**	**+0.9**
NVR	**Nevrokopi**	**0.27**	**79**	*e*PB	**Pb**	**12 43 39.0**	**-0.1**
NVR				*e*SB	**Sb**	**12 43 43.1**	**-0.2**
MMB	**Musomiste**	**0.34**	**29**	*i* Pg	**Pg**	**12 43 39.0**	**-0.8**
KNT	**Kendrikon**	**0.48**	**254**	*e*Pg	**Pg**	**12 43 43.5**	**+0.8**
KNT				*e*Sg	**Sg**	**12 43 50.4**	**+1.2**
SOH	**Sokhos**	**0.49**	**194**	*e*Pg	**Pg**	**12 43 43.3**	**+0.5**
SOH				*e*Sg	**Sg**	**12 43 50.1**	**+0.6**
KKB	**Krupnik**	**0.65**	**331**	Pg	**Pg**	**12 43 45.0**	**-1.0**
VAY	**Valandovo**	**0.71**	**272**	*i* Pg	**Pg**	**12 43 48.7**	**+1.6**
VAY				*i*		12 43 49.6	
VAY				*i* Sg	**Sg**	**12 43 57.1**	**+0.4**
VAY				*i*		12 43 59.6	
VAY	**Valandovo**	**0.71**	**272**	*i* Pg	**Pg**	**12 43 48.7**	**+1.6**
VAY				*i* Sg	**Sg**	**12 43 57.1**	**+0.4**
THE	**Thessaloniki**	**0.78**	**212**	*e*Pg	**Pg**	**12 43 48.3**	**-0.3**
	comp=Z,9.2nm,0.2s						
THE				*e*Sg	**Sg**	**12 43 59.6**	**+0.5**
GRG	**Griva**	**0.90**	**248**	*e*Pg	**Pg**	**12 43 50.8**	**-0.2**
GRG				*e*Sg	**Sg**	**12 44 03.7**	**+0.6**
PLG	**Polygyros**	**0.92**	**183**	*e*PN	**Pn**	**12 43 51.0**	**-0.5**
PLG				*e*SN	**Sn**	**12 44 04.4**	**-0.3**
OUR	**Ouranopolis**	**1.03**	**159**	*e*Pg	**Pg**	**12 43 53.1**	**-0.3**
OUR				*e*Sg	**Sg**	**12 44 07.4**	**+0.2**
PLD	**Plovdiv**	**1.20**	**48**	*e*P	**Pb**	**12 43 56.0**	**+0.9**
PGB	**Panagyurishte**	**1.34**	**21**	*i* P	**Pb**	**12 43 57.0**	**-0.5**
PAIG	**Paliouri**	**1.38**	**175**	*e*Pg	**Pg**	**12 43 58.3**	**-2.1**
PAIG				*e*Sg	**Sg**	**12 44 17.1**	**-1.7**
LIT	**Litokhoron**	**1.43**	**213**	*e*Pg	**Pg**	**12 43 59.7**	**-1.7**
	comp=Z,2.2nm,0.3s						
LIT				*e*Sg	**Sg**	**12 44 18.3**	**-2.1**
KDZ	**Kurdzhali**	**1.48**	**76**	*i* P	**Pn**	**12 44 00.0**	**+0.6**
RDO	**Rodhopi**	**1.54**	**95**	*e*PN	**Pn**	**12 44 00.4**	**+0.1**
RDO				*e*SN	**Sn**	**12 44 22.5**	**+2.3**
FNA	**Florina**	**1.69**	**253**	*e*Pb	**Pb**	**12 44 03.6**	**+0.1**
LOS	**Limnos**	**1.81**	**138**	*e*Pb	**Pb**	**12 44 04.2**	**-1.3**
LOS				*e*Sb	**Sb**	**12 44 28.7**	**+0.6**
LIA	**Limnos Island**	**1.89**	**137**	*e*PN	**Pn**	**12 44 06.3**	**+1.0**
XOR	**Xorichti**	**1.94**	**187**	*e*Pb	**Pb**	**12 44 06.8**	**-0.9**
XOR				*e*Sb	**Sb**	**12 44 30.8**	**-1.1**
XOR	**Xorichti**	**1.94**	**187**	*e*Pb	**Pb**	**12 44 06.8**	**-1.0**
ALN	**Alexandroupoli**	**1.96**	**101**	*e*Pb	**Pb**	**12 44 06.5**	**-1.5**
ALN				*e*Sb	**Sb**	**12 44 33.3**	**+1.0**
ALN	**Alexandroupoli**	**1.96**	**101**	*e*Pb	**Pb**	**12 44 06.4**	**-1.6**
ALN				*e*Sb	**Sb**	**12 44 33.3**	**+1.0**
NEO	**Neokhori**	**2.00**	**186**	*e*PN	**Pn**	**12 44 08.0**	**+1.1**
ZAPS	**Zavoj/Pirot**	**2.10**	**342**	⇓*i*Pn	**Pn**	**12 44 08.9**	**+0.5**
ZAPS				Sn	**Sn**	**12 44 32.6**	**-2.0**
AOS	**Alonnisos**	**2.14**	**172**	*e*Pn	**Pn**	**12 44 08.6**	**-0.3**
AGG	**Agios Georgios**	**2.45**	**202**	*e*Pn	**Pn**	**12 44 14.1**	**+0.8**
AGG				*e*Sn	**Sn**	**12 44 44.3**	**+1.0**

JMA 12 12:51:13.0±0.2,35.06N×139.86E,h94^{km}*±2*^{km}*,M3.2*
IDC 12 12:51:16.2±1.9,34.90N×139.36E,h103^{km}*±8*^{km}*,mb3.3/2, mb1 3.6/2,mb1mx3.1/20,mbtmp3.7/2,Error ellipse: s-maj=76.2km s-min=5.1km az=69.0*
ISC 12 12:51:12.8±0.6**,35.07N**±0.04×**139.87E**±0.05**,h98**^{km}±4^{km}**, n19,**σ**0**^{s}**70**/34**,mb3.7**/2**,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TATJ	**Tateyama 2**	**0.04**	**153**	P	**P**	**12 51 26.3**	**-0.2**
TATJ				S	**S**	**12 51 37.0**	**+0.2**
JYO	**Yokosk**	**0.23**	**313**	P	**P**	**12 51 27.0**	**+0.1**
JYO				S	**S**	**12 51 37.7**	**+0.2**
KTR	**Katsuura**	**0.38**	**78**	P	**P**	**12 51 27.6**	**0.0**
KTR				S	**S**	**12 51 38.5**	**-0.3**
BSO4	**Boso 4**	**0.39**	**101**	P	**P**	**12 51 28.1**	**+0.4**
BSO4				S	**S**	**12 51 39.9**	**+0.9**
JIM2	**Oshima 3**	**0.50**	**226**	P	**P**	**12 51 27.8**	**-0.8**
JIM2				S	**S**	**12 51 38.8**	**-1.5**
BSO3	**Boso 3**	**0.59**	**117**	P	**P**	**12 51 29.1**	**-0.2**
BSO3				S	**S**	**12 51 41.8**	**+0.3**
JOD2	**Odawara 2**	**0.67**	**287**	P	**P**	**12 51 29.3**	**-0.6**
JOD2				S	**S**	**12 51 41.0**	**-1.7**
JIZS	**Izushimoda**	**0.89**	**247**	P	**P**	**12 51 31.9**	**-0.2**
JIZS				S	**S**	**12 51 45.9**	**-0.6**
BSO1	**Boso 1**	**1.00**	**114**	P	**P**	**12 51 32.7**	**-0.6**
JMY	**Miyakejima3**	**1.04**	**197**	P	**P**	**12 51 33.7**	**0.0**
JYN	**Shimob**	**1.16**	**292**	P	**P**	**12 51 35.7**	**+0.4**
JYN				S	**S**	**12 51 52.5**	**+0.4**
JRY	**Ryogami san**	**1.23**	**321**	P	**P**	**12 51 36.4**	**+0.3**
JRY				S	**S**	**12 51 53.2**	**-0.4**
SHZ3	**Shizuoka 3**	**1.36**	**270**	P	**P**	**12 51 38.1**	**+0.5**
SHZ3				S	**S**	**12 51 57.1**	**+1.0**
JAG	**Ashikaga**	**1.40**	**346**	P	**P**	**12 51 37.9**	**-0.2**
JAG				S	**S**	**12 51 56.1**	**-0.8**
JHJ	**Hachijo jima 2**	**1.94**	**182**	P	**P**	**12 51 45.9**	**+0.9**
	48nm,0.3s,baz=350,slow=10.0,SNR=26						
JHJ				S	**S**	**12 52 10.2**	**+1.3**
	68nm,0.3s,baz=64,slow=23,SNR=13						
MJAR	**Matsushiro Arr**	**2.00**	**318**	P	**P**	**12 51 46.3**	**+0.7**
	21nm,0.3s,baz=158,slow=12,SNR=173						
MJAR				S	**S**	**12 52 10.8**	**+0.8**
	26nm,0.3s,baz=118,slow=23,SNR=16						
MAT	**Matsushiro**	**2.00**	**318**	P	**P**	**12 51 46.4**	**+0.7**
MAT				S	**S**	**12 52 10.3**	**+0.2**
MKAR	**Makanchi Array**	**44.13**	**304**	P	**P**	**12 59 13.2**	**+0.2**
	0.2nm,0.4s,mb3.2,baz=90,slow=8.6,SNR=2.5						
WRA	**Warramunga Arr**	**54.96**	**186**	P	**P**	**13 00 34.4**	**-1.7**
	1.7nm,0.7s,mb4.2,baz=4.2,slow=7.8,SNR=37						

CSEM 12 13:00:00.8±0.1,41.37N×23.49E,h10^{km}*,ML2.8,Error ellipse: s-maj=3.1km s-min=1.5km az=119.0*
ATH 12 13:00:01.0,41.35N×23.57E,h22^{km}*±1*^{km}*,MD3.2/4*
SOF 12 13:00:01.0,41.34N×23.51E,h16^{km}*,MD2.6*
NEIC 12 13:00:01.0,41.35N×23.57E,h22^{km}*,MD3.2(ATH),After ATH.*
THE 12 13:00:02.7,41.25N×23.47E,h11^{km}*,ML2.8*
ISC 12 13:00:00.7±0.5**,41.29N**±0.03×**23.48E**±0.04**,h13**^{km}±4^{km}**, n21,**σ**1**^{s}**06**/35**,Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.19**	**155**	*e*Pg	**Pg**	**13 00 05.9**	**+0.7**
SRS				*e*Sg	**Sg**	**13 00 09.1**	**+0.9**
NVR	**Nevrokopi**	**0.29**	**79**	*e*PB	**Pb**	**13 00 06.8**	**-0.4**
NVR				*e*SB	**Sb**	**13 00 10.7**	**-0.9**
MMB	**Musomiste**	**0.35**	**32**	*i* Pg	**Pg**	**13 00 07.0**	**-1.0**
KNT	**Kendrikon**	**0.46**	**254**	*e*Pg	**Pg**	**13 00 11.2**	**+1.0**
SOH	**Sokhos**	**0.48**	**192**	*e*Pg	**Pg**	**13 00 11.2**	**+0.6**
SOH				*e*Sg	**Sg**	**13 00 17.9**	**+0.8**
KKB	**Krupnik**	**0.65**	**332**	*i* Pg	**Pg**	**13 00 13.0**	**-0.8**
THE	**Thessaloniki**	**0.77**	**211**	*e*Pg	**Pg**	**13 00 16.0**	**-0.2**
	comp=Z,4.0nm,0.3s						
THE				*e*Sg	**Sg**	**13 00 27.6**	**+1.0**
THE	**Thessaloniki**	**0.77**	**211**	*e*Pg	**Pg**	**13 00 16.0**	**-0.2**
	4.0nm,0.3s						
THE				*e*Sg	**Sg**	**13 00 27.5**	**+0.9**
GRG	**Griva**	**0.88**	**248**	*e*Pg	**Pg**	**13 00 18.9**	**+0.4**
GRG				*e*Sg	**Sg**	**13 00 31.5**	**+1.1**
PLG	**Polygyros**	**0.92**	**182**	*e*PB	**Pb**	**13 00 18.9**	**+0.9**
PLG				*e*SN	**Sn**	**13 00 32.8**	**+0.6**
OUR	**Ouranopolis**	**1.03**	**158**	*e*Pg	**Pg**	**13 00 21.6**	**+0.2**
OUR				*e*Sg	**Sg**	**13 00 35.5**	**+0.3**
PLD	**Plovdiv**	**1.22**	**48**	*e*P	**Pb**	**13 00 25.5**	**+2.4**
PGB	**Panagyurishte**	**1.35**	**22**	*i* P	**Pn**	**13 00 25.0**	**-0.4**
PAIG	**Paliouri**	**1.37**	**174**	*e*Pg	**Pg**	**13 00 26.3**	**-1.9**
PAIG				*e*Sg	**Sg**	**13 00 44.2**	**-2.4**
LIT	**Litokhoron**	**1.41**	**213**	*e*Pg	**Pg**	**13 00 27.1**	**-1.9**
	comp=Z,1.2nm,0.3s						
LIT				*e*Sg	**Sg**	**13 00 45.8**	**-2.0**
KDZ	**Kurdzhali**	**1.50**	**76**	*e*P	**Pn**	**13 00 27.5**	**+0.1**
RDO	**Rodhopi**	**1.56**	**95**	*e*PN	**Pn**	**13 00 28.3**	**0.0**
RDO				*e*SN	**Sn**	**13 00 48.5**	**+0.1**
LIA	**Limnos Island**	**1.90**	**137**	*e*PN	**Pn**	**13 00 35.2**	**+2.0**
XOR	**Xorichti**	**1.94**	**187**	*e*Pb	**Pb**	**13 00 34.5**	**-1.0**
XOR				*e*Sb	**Sb**	**13 00 58.6**	**-0.8**
ALN	**Alexandroupoli**	**1.98**	**101**	*e*Pb	**Pb**	**13 00 35.2**	**-0.8**
	comp=Z,1.4nm,0.5s						
ALN				*e*Sb	**Sb**	**13 01 01.4**	**+0.9**
ALN	**Alexandroupoli**	**1.98**	**101**	*e*Pb	**Pb**	**13 00 35.2**	**-0.9**
	1.4nm,0.5s						
ALN				*e*Sb	**Sb**	**13 01 01.4**	**+0.9**

IDC 12 14:51:47.2±0.9,8.26N×39.46W,mb4.2/6,mb1 4.3/6, mb1mx3.9/20,mbtmp4.2/6,MS3.8/16,Ms1 3.7/16, ms1mx3.7/18,Error ellipse: s-maj=42.9km s-min=20.4km az=147.0
NEIC 12 14:51:48.6±0.6,8.23N×39.46W,h10^{km}*,mb4.6/2,Error ellipse: s-maj=24.2km s-min=12.2km az=143.0*
ISC 12 14:51:46.7±0.7**,8.2N**±0.2×**39.5W**±0.1**,h10**^{km}**,n22,**σ**0**^{s}**71**/9**, mb4.2**/8**,MS3.8**/16**,Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**25.20**	**200**	LR	LR	15 06 54.3	
	comp=Z,196nm,18.2s,MS3.7,baz=100,slow=36						
SJG	**San Juan**	**27.75**	**293**	LR	LR	15 07 15.8	
	comp=Z,251nm,18.2s,MS3.8,baz=270,slow=34						
SAML	**Samuel**	**29.16**	**235**	*e*P	**P**	**14 57 49.7**	**-0.9**
	6.1nm,1.0s,mb4.3						
SIV	**San Ignacio**	**32.22**	**222**	P	**P**	**14 58 17.9**	**+0.3**
	4.9nm,1.0s,mb4.3,baz=60,slow=8.2,SNR=19						
DBIC	**Dimbokro**	**34.34**	**90**	P	**P**	**14 58 35.1**	**-0.9**
	7.0nm,1.0s,mb4.5,baz=261,slow=9.7,SNR=4.4						
DBIC				LR	LR	15 10 00.1	
	comp=Z,157nm,19.7s,MS3.8,baz=242,slow=32						
ROSC	**El Rosal**	**34.80**	**267**	LR	LR	15 12 38.8	
	comp=Z,192nm,20.4s,MS3.8,baz=45,slow=36						
LPAZ	**La Paz**	**37.41**	**229**	P	**P**	**14 59 02.9**	**+0.9**
	4.8nm,1.0s,mb4.3,baz=35,slow=9.1,SNR=8.7						
LPAZ				LR	LR	15 16 15.3	
	comp=Z,71nm,20.7s,MS3.5,baz=68,slow=39						
CPUP	**Villa Florida**	**38.50**	**206**	LR	LR	15 15 27.6	
	comp=Z,179nm,21.3s,MS3.9,baz=13,slow=37						
SCHQ	**Schefferville**	**51.34**	**340**	LR	LR	15 18 37.4	
	comp=Z,58nm,20.9s,MS3.6,baz=75,slow=31						
GERES	**GERESS Array B**	**60.07**	**38**	LR	LR	15 27 43.0	
	comp=Z,56nm,18.1s,MS3.7,baz=270,slow=36						
ULM	**Lac du Bonnet**	**62.57**	**323**	LR	LR	15 23 37.5	
	comp=Z,64nm,21.0s,MS3.8,baz=350,slow=30						
TXAR	**Lajitas Array**	**63.55**	**299**	P	**P**	**15 02 19.5**	**-0.6**
	0.4nm,0.3s,mb3.9,baz=100,slow=8.6,SNR=4.4						
TXAR				LR	LR	15 28 00.7	
	comp=Z,41nm,21.4s,MS3.6,baz=155,slow=34						
TXAR	**Lajitas Array**	**63.55**	**299**	P	**P**	**15 02 19.5**	**-0.6**
SUMG	**Summit**	**64.28**	**0**	*e*P	**P**	**15 02 24.1**	**-0.1**
	3.1nm,0.5s,mb4.6						
NOA	**NORSAR Array B**	**64.55**	**25**	LR	LR	15 26 40.8	
	comp=Z,43nm,18.1s,MS3.7,baz=260,slow=32						
PDAR	**Pinedale Array**	**69.86**	**312**	LR	LR	15 29 53.8	
	comp=Z,109nm,19.4s,MS4.1,baz=105,slow=33						
AKASG	**Malin Array Be**	**70.20**	**39**	P	**P**	**15 03 01.9**	**+0.1**
	1.5nm,0.7s,mb4.0,baz=260,slow=6.3,SNR=4.4						
BRTR	**Keskin Array B**	**71.78**	**51**	P	**P**	**15 03 12.7**	**+1.1**
	1.6nm,0.7s,mb4.0,baz=256,slow=5.1,SNR=6.8						
BOSA	**Boshof**	**72.31**	**123**	LR	LR	15 27 54.7	
	comp=Z,91nm,19.4s,MS4.1,baz=217,slow=30						
ARCES	**ARCESS Array B**	**73.70**	**19**	LR	LR	15 33 29.2	
	comp=Z,26nm,18.5s,MS3.5,baz=260,slow=34						
YKA	**Yellowknife Ar**	**75.88**	**332**	LR	LR	15 36 53.1	
	comp=Z,61nm,19.2s,MS3.9,slow=36						
KMBO	**Kilima Mbogo**	**77.01**	**93**	LR	LR	15 35 16.9	
	comp=Z,67nm,18.5s,MS4.0,baz=244,slow=34						

THR 12 15:22:46.7±1.4,27.46N×53.93E,h30^{km}*±12*^{km}*,ML3.0*
CSEM 12 15:22:47.5±0.2,27.66N×54.06E,h16^{km}*,ML3.0,Error ellipse: s-maj=6.6km s-min=2.1km az=21.0*
TEH 12 15:22:50.4,27.72N×54.04E,h10^{km}*,Mn3.2*
ISC 12 15:22:51.0±1.8**,27.8N**±0.1×**54.0E**±0.1**,h22**^{km}±26^{km}**,n17,** σ**1**^{s}**12**/18**,Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.03**	**296**	*e*Pg	**Pb**	**15 23 09.0**	**-0.9**
GHIR				*e*SG	**Sb**	**15 23 24.0**	**+1.0**
GHIR				AML	AML	15 23 27.6	
	comp=N,298nm,0.5s						
IMOK	**Mook**	**1.67**	**316**	Pn	**Pn**	**15 23 20.6**	**+1.2**
ISRV	**Sarvestan**	**1.74**	**333**	Pn	**Pn**	**15 23 21.8**	**+1.4**
BNDS	**Bandar-Abbas**	**1.95**	**102**	*e*Pg	**Pn**	**15 23 22.0**	**-1.4**
BNDS				*e*Sg	**Sn**	**15 23 48.3**	**+0.9**
BNDS				AML	AML	15 23 57.6	
	comp=N,121nm,0.3s						
IPAR	**Pars**	**2.18**	**337**	Pn	**Pn**	**15 23 27.7**	**+1.1**
KRBR	**Kerman**	**3.21**	**48**	*e*PN	**Pn**	**15 23 42.8**	**+1.5**
IMEH	**Mehriz**	**3.58**	**8**	Pn	**Pn**	**15 23 47.1**	**+0.5**
IBAF	**Bafgh**	**3.97**	**19**	Pn	**Pn**	**15 23 52.1**	**-0.1**
ISAD	**Sadrabad**	**4.08**	**356**	Pn	**Pn**	**15 23 54.5**	**+0.9**
ICHK	**Chekchek**	**4.41**	**4**	Pn	**Pn**	**15 23 58.0**	**-0.3**
NASN	**Na'in**	**5.06**	**348**	*e*Pn	**Pn**	**15 24 07.2**	**-0.4**
IZEF	**Zefreh**	**5.25**	**344**	Pn	**Pn**	**15 24 10.3**	**0.0**
IPIR	**Pirpir**	**5.54**	**331**	Pn	**Pn**	**15 24 14.0**	**-0.4**
ASAO	**Ashtian**	**7.52**	**334**	*e*Pn	**Pn**	**15 24 40.7**	**-1.5**
IFIR	**Firoozkooh**	**7.86**	**352**	Lg		15 26 58.8	
IFIR	**Firoozkooh**	**7.86**	**352**	Pn	**Pn**	**15 24 45.1**	**-1.8**
IDMV	**Damavand**	**7.90**	**348**	Pn	**Pn**	**15 24 45.2**	**-2.4**

MAN 12 15:30:59.0,11.28N×125.77E,h1^{km}**,mb4.1,ML2.9,MS2.6, 1D,Samar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.45**	**315**	*e*P	Pg	15 31 07.7	-0.4
BESP				*e*S	Sg	15 31 13.3	-0.8
SCPH	**Surigao**	**1.51**	**190**	⇓*e*P	Pn	15 31 27.5	+0.1
SCPH				*e*S	Sb	15 31 50.5	+3.3
CNP	**Catarman**	**1.63**	**319**	*e*P	Pn	15 31 25.8	-3.3
CNP				*e*S	Sb	15 31 48.2	-2.4
PVCP	**Virac**	**2.79**	**326**	*e*P	Pn	15 31 46.3	+0.7
GUIM	**Jordan**	**3.19**	**259**	*e*P	Pn	15 31 50.3	-0.9
GUIM				*e*S	Sn	15 32 31.4	+0.9
PAGZ	**Pagadian**	**4.14**	**215**	*e*P	Pn	15 32 04.3	-0.6

MAN 12 15:43:57.0,19.47N×121.65E,h15^{km}**,mb3.6,ML2.4, MS1.9,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**1.01**	**17**	*e*P	Pb	15 44 15.1	-0.6
BBP				*e*S	Sb	15 44 28.3	-0.3
SGCP	**Mt. Cagua**	**1.27**	**163**	*e*P	Pb	15 44 19.5	-0.6
SGCP				*e*S	Sb	15 44 34.8	-1.3
APYP	**Conner**	**1.64**	**194**	*e*P	Pn	15 44 24.1	-1.5
APYP				*e*S	Sn	15 44 44.3	-2.1
ABRA	**Dolores**	**2.01**	**206**	*e*P	Pn	15 44 31.1	+0.3
ABRA				*e*S	Sn	15 44 55.8	-0.1

IDC 12 16:16:36.9±1.5,17.48S×167.51E,mb3.9/6,mb1 4.3/8, mb1mx4.1/17,mbtmp4.2/8,ML3.8/1,MS3.7/4,Ms1 3.6/4, ms1mx3.1/27,Error ellipse: s-maj=39.5km s-min=25.7km az=119.0
LDG 12 16:16:40.4±0.1,17.44S×167.36E,h10^{km}*,Mb3.9/2,Error ellipse: s-maj=17.8km s-min=2.8km az=92.0*
NEIC 12 16:16:42.5±0.6,17.47S×167.37E,h30^{km}*,mb4.3/3,Error ellipse: s-maj=14.8km s-min=12.3km az=88.0*
ISC 12 16:16:40.9±1.0**,17.59S**±0.08×**167.4E**±0.2**,h32**^{km}**, h32**^{km}±2.5^{km}**:pP-P,n46,**σ**1**^{s}**20**/23**,mb4.0**/7**,MS3.6**/4**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.54**	**191**	*e*P	**Pn**	**16 17 49.4**	**+0.2**
DZM				*e*S	**Sn**	**16 18 38.8**	**-2.7**
DZM	**Mont Dzumac**	**4.54**	**191**	Pn	**Pn**	**16 17 48.6**	**-0.6**
	4.2nm,0.3s,baz=40,slow=2.5,SNR=36						
DZM				Sn	**Sn**	**16 18 40.1**	**-1.5**
	4.5nm,0.3s,baz=128,slow=19,SNR=3.0						
DZM	**Mont Dzumac**	**4.54**	**191**	*e*P	**Pn**	**16 17 49.4**	**+0.2**
DZM				*e*S	**Sn**	**16 18 38.8**	**-2.7**
HNR	**Honiara**	**10.84**	**317**	Pn	**P**	**16 19 13.4**	**-3.7**
	44nm,0.3s,baz=177,slow=17,SNR=10						
CTA	**Charters Tower**	**20.12**	**260**	P	**P**	**16 21 15.4**	**+0.4**
	6.0nm,0.8s,baz=110,slow=9.5,SNR=5.6						
CTA				sP		16 21 25.8	
	6.1nm,0.7s,baz=76,slow=12,SNR=4.6						
CTA				LR	LR	16 27 13.5	
	comp=Z,132nm,20.5s,MS3.3,baz=280,slow=31						
CTA	**Charters Tower**	**20.12**	**260**	P	**P**	**16 21 15.4**	**+0.4**
CTA				sP		16 21 25.8	
CTA				LR	LR	16 27 13.5	
CTAO	**Charters Tower**	**20.12**	**260**	*e*P	**P**	**16 21 14.5**	**-0.6**
	8.0nm,0.8s						
CTAO				*e*		16 21 25.6	
STKA	**Stephens Creek**	**27.29**	**234**	P	**P**	**16 22 24.9**	**+0.4**
	5.3nm,0.8s,mb4.1,baz=44,slow=8.3,SNR=11						
STKA				LR	LR	16 32 59.5	
	comp=Z,145nm,20.0s,MS3.5,baz=205,slow=36						
WRAB	**Tennant Creek**	**31.31**	**260**	*e*P	**P**	**16 23 01.9**	**+1.4**
	3.3nm,0.7s,mb4.3						
WRAB				*e*	pP	16 23 09.7	-0.4
WRA	**Warramunga Arr**	**31.32**	**260**	P	**P**	**16 22 59.6**	**-1.1**
	0.7nm,0.7s,mb3.6,baz=83,slow=6.1,SNR=9.2						
WRA				pP	pP	16 23 09.5	-0.7
	1.5nm,0.8s,baz=81,slow=5.8,SNR=8.8						
FITZ	**Fitzroy Crossi**	**39.65**	**263**	LR	LR	16 40 26.9	
	comp=Z,124nm,20.9s,MS3.7,baz=108,slow=36						
PPT	**Papeete**	**40.99**	**97**	LR	LR	16 37 06.0	
	comp=Z,125nm,20.5s,MS3.8,baz=256,slow=30						
CMAR	**Chiang Mai Arr**	**76.19**	**295**	P	**P**	**16 28 29.1**	**+0.9**
	0.5nm,0.6s,mb3.6,baz=134,slow=4.8,SNR=6.3						
SONM	**Songino Array**	**84.83**	**324**	P	**P**	**16 29 12.9**	**-0.7**
	0.5nm,0.7s,mb3.7,baz=135,slow=5.2,SNR=4.5						
ILAR	**Eielson Array**	**89.21**	**18**	P	**P**	**16 29 33.1**	**-1.3**
	0.4nm,0.5s,mb4.0,baz=224,slow=6.2,SNR=5.7						
SNAA	**Sanae**	**90.71**	**183**		**P**	**16 29 42.3**	**+1.0**
SNAA	**Sanae**	**90.71**	**183**		**P**	**16 29 55.5**	**+14**
SNAA	**Sanae**	**90.71**	**183**	*e*P	**P**	**16 29 41.9**	**+0.6**
	1.6nm,0.9s,mb4.3						
VNA3	**Neumayer Olymp**	**91.37**	**181**		**P**	**16 29 59.3**	**+15**
VNA3	**Neumayer Olymp**	**91.37**	**181**	P	**P**	**16 29 45.5**	**+1.2**
VNA3				P		16 29 59.3	
VNA3				P		16 30 09.0	
VNA2	**Neumayer--Watz**	**91.64**	**182**		**P**	**16 30 00.2**	**+15**
VNA2	**Neumayer--Watz**	**91.64**	**182**	P	**P**	**16 29 48.6**	**+3.1**
VNA2				P	pP	16 30 00.2	+4.3
VNA2				P		16 30 13.5	
ARCES	**ARCESS Array B**	**123.02**	**345**	PKP	PKPdf	16 35 34.9	-4.1
	2.1nm,0.8s,slow=4.9,SNR=4.7						
BAIF	**Baives**	**144.89**	**341**	*e*PKP1	PKPbc	16 36 15.8	+1.2
	14nm,0.8s						
CDF	**Champ du Feu**	**145.23**	**337**	*e*PKP1	PKPbc	16 36 17.0	+1.4
	32nm,0.8s						
HINF	**Hinteralfeld**	**145.88**	**336**	*e*PKP1	PKPbc	16 36 18.7	+1.5
HAU	**Haudompre**	**145.92**	**337**	*e*PKP1	PKPbc	16 36 19.1	+1.8
	17nm,0.6s						
MEZF	**Maizieres J'vi**	**145.96**	**339**	*e*PKP1	PKPbc	16 36 19.7	+2.3
CABF	**La Chapelle**	**147.17**	**336**	*e*PKP1	PKPdf	16 36 23.3	-0.6
	6.3nm,0.7s						
FLN	**La Foliniere**	**147.37**	**345**	*e*PKP1	PKPdf	16 36 23.1	-1.0
LOR	**Lormes**	**147.43**	**339**	*e*PKP1	PKPdf	16 36 23.5	-0.8
	6.9nm,0.7s						
LDF	**La Druitiere**	**147.44**	**344**	*e*PKP1	PKPdf	16 36 23.1	-1.1
SSF	**Saint Saulge**	**147.73**	**339**	*e*PKP1	PKPdf	16 36 24.5	-0.2

	12nm,0.8s						
LPL	La Plagne	147.80	334	ePKP1	PKPdf	16 36 25.1	+0.2
	7.1nm,0.8s						
LPG	La Plagne	147.81	334	ePKP1	PKPdf	16 36 25.2	+0.3
	16nm,0.9s						
SMF	Signal de Mont	147.98	338	ePKP1	PKPdf	16 36 24.8	-0.4
	12nm,0.8s						
BGF	Bois d'Agland	148.39	339	ePKP1	PKPdf	16 36 26.1	+0.3
MBDF	Montbardon	148.42	333	ePKP1	PKPdf	16 36 26.2	+0.3
	3.0nm,0.6s						
ORIF	Oris-en-Rattie	148.64	334	ePKP1	PKPdf	16 36 26.9	+0.6
	8.2nm,0.6s						
TCF	Toulx Ste Croi	148.84	340	ePKP1	PKPdf	16 36 27.3	+0.7
	21nm,1.2s						
PGF	Pioggiola	149.04	328	ePKP1	PKPdf	16 36 27.8	+0.8
	19nm,0.8s						
VIVF	Saint-Julien-l	149.18	336	ePKP1	PKPdf	16 36 28.3	+1.1
	8.6nm,0.8s						
FRF	La Foret Royal	149.40	332	ePKP1	PKPdf	16 36 28.3	+0.8
SMRF	Simiane la Rot	149.53	334	ePKP1	PKPdf	16 36 29.5	+1.8
	9.6nm,0.8s						
LASF	Ste Croix	150.15	336	ePKP1	PKPdf	16 36 30.9	+2.2
	8.3nm,0.8s						
MTLF	Montolieu	151.41	337	ePKP1	PKPdf	16 36 33.7	+3.1

MAN 12 16:17:29.1,9.17N×126.01E,h28km,mb4.2,ML3.1,MS2.8, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.44	243	eP	Pb	16 17 39.1	+0.7
BUTP				eS	Sb	16 17 44.7	0.0
SCPH	Surigao	0.80	320	⇑eP	Pb	16 17 44.3	0.0
BUKP	Musuan	1.59	216	eP	Pn	16 17 59.5	+3.7
BUKP				eS	Sn	16 18 21.0	+5.3
PAGZ	Pagadian	2.92	243	eP	Pn	16 18 15.4	+0.6
PAGZ				eS	Sn	16 18 48.6	-0.7

NEIC 12 16:19:17.5,38.41S×175.94E,h194km,mb3.8/1,After WEL.

WEL 12 16:19:17.2±0.2,38.38S×176.00E,h196km±1km,ML4.8/21, Error ellipse: s-maj=1.8km s-min=1.7km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATZ	Paeroa	0.20	90	P	P	16 19 43.4	+0.1
PATZ	Paeroa	0.20	90	PN	P	16 19 43.4	+0.1
PATZ				SN	S	16 20 03.0	-0.3
UTU	Utuhina	0.26	37	P	P	16 19 43.4	0.0
UTU	Utuhina	0.26	37	PN	P	16 19 43.4	0.0
WHTZ	Whakaora	0.29	186	P	P	16 19 43.5	0.0
WHTZ	Whakaora	0.29	186	PN	P	16 19 43.5	0.0
WATZ	Wairara	0.39	212	P	P	16 19 43.6	-0.1
WATZ				S	S	16 20 04.3	+0.1
WATZ	Wairara	0.39	212	PN	P	16 19 43.6	-0.2
WATZ				SN	S	16 20 04.3	0.0
TAZ	Tarawera	0.43	70	P	P	16 19 43.8	-0.1
TAZ	Tarawera	0.43	70	PN	P	16 19 43.8	-0.1
LIRZ	Lichensteins R	0.48	39	P	P	16 19 43.9	-0.2
LIRZ	Lichensteins R	0.48	39	PN	P	16 19 43.9	-0.2
HATZ	Hinemaiaia	0.51	172	P	P	16 19 43.8	-0.4
HATZ				S	S	16 20 03.9	-1.1
HATZ	Hinemaiaia	0.51	172	PN	P	16 19 43.8	-0.3
HATZ				SN	S	16 20 03.9	-1.1
RATZ	Rangitukua	0.52	200	P	P	16 19 43.9	-0.3
RATZ	Rangitukua	0.52	200	PN	P	16 19 43.9	-0.3
RITZ	Rihia Road	0.61	190	P	P	16 19 44.5	0.0
RITZ	Rihia Road	0.61	190	PN	P	16 19 44.5	0.0
KATZ	Kakaramea	0.64	202	P	P	16 19 44.5	-0.2
KATZ	Kakaramea	0.64	202	PN	P	16 19 44.5	-0.2
EDRZ	Edgecumbe	0.64	65	P	P	16 19 44.3	-0.4
EDRZ	Edgecumbe	0.64	65	PN	P	16 19 44.3	-0.4
EDRZ				SN	S	16 20 05.3	-0.7
MARZ	Manawahe	0.66	54	P	P	16 19 44.6	-0.2
MARZ	Manawahe	0.66	54	PN	P	16 19 44.5	-0.2
TGRZ	Tauranga	0.68	18	P	P	16 19 44.3	-0.6
TGRZ	Tauranga	0.68	18	PN	P	16 19 44.3	-0.6
TGRZ				SN	S	16 20 05.7	-0.6
KRVZ	Karewarewa	0.77	201	PN	P	16 19 45.0	-0.3
WTVZ	West Tongariro	0.80	203	P	P	16 19 45.2	-0.3
WTVZ	West Tongariro	0.80	203	PN	P	16 19 45.2	-0.2
WTVZ				SN	S	16 20 06.9	-0.5
TWVZ	Taurewa	0.82	212	P	P	16 19 45.3	-0.3
TWVZ				S	S	16 20 07.2	-0.3
TWVZ	Taurewa	0.82	212	PN	P	16 19 45.3	-0.3
TWVZ				SN	S	16 20 07.2	-0.3
OTVZ	Oturere	0.82	198	PN	P	16 19 45.5	-0.1
OTVZ				SN	S	16 20 07.4	-0.2
NGZ	Ngauruhoe	0.85	201	P	P	16 19 45.5	-0.2
NGZ	Ngauruhoe	0.85	201	PN	P	16 19 45.5	-0.2
BKZ	Black Stump Fm	0.87	154	P	P	16 19 46.0	+0.1
BKZ	Black Stump Fm	0.87	154	PN	P	16 19 46.0	+0.1
BKZ				SN	S	16 20 07.3	-0.8
URZ	Urewera	0.88	82	P	P	16 19 45.3	-0.6
URZ	Urewera	0.88	82	PN	P	16 19 45.3	-0.6
URZ				SN	S	16 20 06.5	-1.6
CNZ	Chateau	0.89	203	PN	P	16 19 45.6	-0.4
WPVZ	Whakapapa	0.90	203	P	P	16 19 46.0	0.0
WPVZ	Whakapapa	0.90	203	PN	P	16 19 46.0	0.0
HIZ	Hauiti	0.91	261	P	P	16 19 45.5	-0.6
HIZ	Hauiti	0.91	261	PN	P	16 19 45.5	-0.5
HIZ				SN	S	16 20 08.1	-0.3
TUVZ	Tukino	0.93	197	P	P	16 19 46.1	-0.1
TUVZ	Tukino	0.93	197	PN	P	16 19 46.1	0.0
TUVZ				SN	S	16 20 09.1	+0.5
FWVZ	Far West T-bar	0.94	202	P	P	16 19 46.0	-0.3
FWVZ	Far West T-bar	0.94	202	PN	P	16 19 46.0	-0.2
DRZ	Dome Shelter	0.95	201	P	P	16 19 46.4	+0.1
DRZ	Dome Shelter	0.95	201	PN	P	16 19 46.4	+0.1
TRVZ	Turoa	0.98	201	PN	P	16 19 46.5	0.0
TRVZ				SN	S	16 20 09.7	+0.5
WNVZ	Wahianoa	0.99	198	P	P	16 19 46.6	0.0
WNVZ	Wahianoa	0.99	198	PN	P	16 19 46.6	0.0
PKVZ	Pokaka	1.04	209	PN	P	16 19 46.7	-0.3
PKVZ				SN	S	16 20 09.6	-0.4
MOVZ	Moawhango	1.04	191	P	P	16 19 46.6	-0.4
MOVZ				S	S	16 20 08.1	-1.9
MOVZ	Moawhango	1.04	191	PN	P	16 19 46.6	-0.3
MOVZ				SN	S	16 20 08.1	-1.9
MTVZ	Mangateitei	1.08	202	PN	P	16 19 47.0	-0.3
MTVZ				SN	S	16 20 10.0	-0.6
MYRZ	Mayor Island	1.11	10	PN	P	16 19 47.0	-0.6
MWZ	Matawai	1.20	88	PN	P	16 19 48.1	-0.2
MWZ				SN	S	16 20 11.2	-1.1
VRZ	Vera Road	1.22	232	PN	P	16 19 47.7	-0.7
VRZ				SN	S	16 20 12.7	+0.1
WIZ	White Island	1.27	48	PN	P	16 19 47.9	-1.0
KNZ	Kokohu	1.46	116	P	P	16 19 50.9	+0.4
KNZ	Kokohu	1.46	116	PN	P	16 19 50.9	+0.4
KNZ				SN	S	16 20 15.6	-0.6
RAEZ	Rainy Point	1.55	234	P	P	16 19 50.6	-0.7
RAEZ	Rainy Point	1.55	234	PN	P	16 19 50.6	-0.7
WAZ	Wanganui	1.58	210	P	P	16 19 50.8	-0.8
WAZ	Wanganui	1.58	210	PN	P	16 19 50.8	-0.8
WAZ				SN	S	16 20 17.5	-0.7
TSZ	Takapari Road	1.68	181	P	P	16 19 52.0	-0.5
TSZ	Takapari Road	1.68	181	PN	P	16 19 52.0	-0.5
TSZ				SN	S	16 20 17.9	-1.8
NEZ	North Egmont	1.73	239	P	P	16 19 52.5	-0.5
NEZ	North Egmont	1.73	239	PN	P	16 19 52.5	-0.6
PKE	Pukeiti	1.77	242	P	P	16 19 52.5	-0.9
PKE	Pukeiti	1.77	242	PN	P	16 19 52.5	-0.9
PWZ	Pawanui	1.78	158	P	P	16 19 53.4	-0.1
PWZ	Pawanui	1.78	158	PN	P	16 19 53.4	-0.1
PWZ				SN	S	16 20 21.2	-0.2
PUZ	Puketiti	1.81	81	P	P	16 19 53.1	-0.7
PUZ	Puketiti	1.81	81	PN	P	16 19 53.1	-0.7
PUZ				SN	S	16 20 20.6	-1.4
NRZ	Ngariki Road	1.87	239	PN	P	16 19 53.3	-1.1
MXZ	Matakaoa Point	2.00	67	P	P	16 19 55.1	-0.6
MXZ	Matakaoa Point	2.00	67	PN	P	16 19 55.1	-0.6
MRZ	Mangatainoka R	2.30	188	P	P	16 19 57.5	-1.5
MRZ	Mangatainoka R	2.30	188	PN	P	16 19 57.5	-1.6
MRZ				SN	S	16 20 28.4	-2.9
BFZ	Birch Farm	2.30	175	P	P	16 19 57.9	-1.2
BFZ	Birch Farm	2.30	175	PN	P	16 19 57.9	-1.2
KIW	Kapiti Island	2.62	198	P	P	16 20 00.4	-2.2
KIW				S	S	16 20 33.8	-3.9
KIW	Kapiti Island	2.62	198	PN	P	16 20 00.4	-2.2
KIW				SN	S	16 20 33.8	-3.8
MTW	Mount Morrison	2.80	188	P	P	16 20 02.4	-2.4
MTW	Mount Morrison	2.80	188	PN	P	16 20 02.4	-2.4
MTW				SN	S	16 20 37.6	-3.9
CAW	Cannon Point	2.82	194	P	P	16 20 02.7	-2.2
CAW	Cannon Point	2.82	194	PN	P	16 20 02.7	-2.2
CAW				SN	S	16 20 37.9	-3.9
DUWZ	D'Urville Isla	2.90	213	PN	P	16 20 03.1	-2.9
DUWZ				SN	S	16 20 39.6	-4.0
MRW	Makara Radio	3.02	199	P	P	16 20 04.7	-2.6
MRW	Makara Radio	3.02	199	PN	P	16 20 04.7	-2.5
MRW				SN	S	16 20 41.6	-4.4
TRWZ	Traveller	3.02	184	PN	P	16 20 05.1	-2.2
TRWZ				SN	S	16 20 42.7	-3.5
PAWZ	Paruwai Farm	3.03	188	PN	P	16 20 04.9	-2.5
PAWZ				SN	S	16 20 42.3	-4.0
WEL	Wellington	3.05	198	P	P	16 20 05.2	-2.5
WEL	Wellington	3.05	198	PN	P	16 20 05.2	-2.6
MSWZ	Moikau Station	3.08	191	PN	P	16 20 05.5	-2.6
MSWZ				SN	S	16 20 43.1	-4.4
TCW	Tory Channel	3.12	205	P	P	16 20 05.9	-2.7
TCW	Tory Channel	3.12	205	PN	P	16 20 05.9	-2.7
TCW				SN	S	16 20 43.7	-4.6
BHW	Baring Head	3.15	196	P	P	16 20 06.2	-2.7
BHW	Baring Head	3.15	196	PN	P	16 20 06.2	-2.7
TUWZ	Tuamarina	3.43	207	PN	P	16 20 09.1	-3.3
NNZ	Nelson	3.48	215	P	P	16 20 09.3	-3.7
NNZ	Nelson	3.48	215	PN	P	16 20 09.3	-3.7
QRZ	Quartz Range	3.62	227	P	P	16 20 10.3	-4.5
QRZ	Quartz Range	3.62	227	PN	P	16 20 10.3	-4.4
CMWZ	Cape Campbell	3.63	202	P	P	16 20 12.5	-2.4
CMWZ	Cape Campbell	3.63	202	PN	P	16 20 12.5	-2.3
BSWZ	Blackbirch Sta	3.71	205	P	P	16 20 12.7	-3.1
BSWZ	Blackbirch Sta	3.71	205	PN	P	16 20 12.7	-3.0
THZ	Tophouse	4.13	214	P	P	16 20 17.0	-4.1
THZ	Tophouse	4.13	214	PN	P	16 20 17.0	-4.1
KHZ	Kahutara	4.45	204	P	P	16 20 21.8	-3.3
KHZ	Kahutara	4.45	204	PN	P	16 20 21.8	-3.3
DSZ	Denniston Nort	4.65	222	P	P	16 20 22.7	-5.0
DSZ	Denniston Nort	4.65	222	PN	P	16 20 22.7	-5.1
LTZ	Lake Taylor	5.23	212	P	P	16 20 30.2	-5.0
LTZ	Lake Taylor	5.23	212	PN	P	16 20 30.2	-5.0
CRLZ	Canterbury Las	5.78	205	P	P	16 20 37.4	-4.9
CRLZ	Canterbury Las	5.78	205	PN	P	16 20 37.4	-5.0
MQZ	McQueen's Vall	5.89	204	P	P	16 20 38.5	-5.2
MQZ	McQueen's Vall	5.89	204	PN	P	16 20 38.5	-5.2
WVZ	Waitaha Valley	6.16	219	eP	P	16 20 42.3	-4.9
RPZ	Rata Peaks	6.51	213	eP	P	16 20 46.8	-4.9
RPZ	Rata Peaks	6.51	213	PN	P	16 20 46.8	-4.9
FOZ	Fox Glacier	7.04	221	eP	P	16 20 52.0	-6.7
FOZ	Fox Glacier	7.04	221	PN	P	16 20 52.0	-6.7
LBZ	Lake Benmore	7.42	214	eP	P	16 20 58.1	-5.6
LBZ	Lake Benmore	7.42	214	PN	P	16 20 58.1	-5.6
ODZ	Otahua Downs	7.77	209	PN	P	16 21 03.5	-4.7
JCZ	Jackson Bay	7.88	222	P	P	16 21 03.9	-5.8
JCZ	Jackson Bay	7.88	222	PN	P	16 21 03.9	-5.8
WKZ	Wanaka	8.29	217	eP	P	16 21 08.1	-7.0
WKZ	Wanaka	8.29	217	PN	P	16 21 08.1	-7.0
EAZ	Earnscleugh	8.47	214	eP	P	16 21 10.9	-6.5
EAZ	Earnscleugh	8.47	214	PN	P	16 21 10.9	-6.6
TUZ	Tuapeka	8.92	210	eP	P	16 21 19.6	-3.7
TUZ	Tuapeka	8.92	210	PN	P	16 21 19.6	-3.7
MLZ	Mavora Lakes	9.08	217	PN	P	16 21 19.9	-5.4
CTAO	Charters Tower	31.52	297	eP	P	16 25 20.3	-2.6
	1.4nm,0.7s						

BJI 12 16:52:59.8,34.52N×141.79E,h11km,mB4.4,mb4.3, Ms4.1,Msz4.0

JMA 12 16:53:00.7±0.3,34.19N×141.93E,h33km±3km,M4.2

NEIC 12 16:53:00.8,34.20N×141.93E,h33km,mb4.6/19,After JMA.

IDC 12 16:53:00.6±0.7,34.26N×141.67E,mb4.1/15,mb1 4.4/17, mb1mx4.3/23,mbtmp4.2/17,ML4.5/2,MS3.4/2,Ms1 3.4/2, ms1mx2.9/36,Error ellipse: s-maj=17.6km s-min=14.6km az=113.0

MOS 12 16:53:03.7±0.9,34.20N×141.62E,h33km,mb4.6/23,Error ellipse: s-maj=14.7km s-min=7.5km az=120.2

ISC 12 16:53:04.2±0.3,34.23N±0.03×141.70E±0.03,h37km±3.2km:pP-P,n107,σ1^{s}13/129,mb4.4/40,MS4.3/7, 5C-4D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.73	306	⇑P	P	16 53 17.2	-0.9
BSO1				S	S	16 53 29.0	+0.8
BSO2	Boso 2	0.94	304	S	S	16 53 36.7	+3.3
BSO3	Boso 3	1.14	301	P	P	16 53 23.9	+0.1
BSO3				S	S	16 53 40.8	+2.4
BSO4	Boso 4	1.35	305	P	P	16 53 27.3	+0.3
BSO4				S	S	16 53 47.2	+3.2
KTR	Katsuura	1.46	309	P	P	16 53 28.3	-0.3
KTR				S	S	16 53 47.9	+1.2
CHOJ	Chosi	1.62	335	P	P	16 53 29.7	-1.2
CHOJ				S	S	16 53 51.0	+0.2
TATJ	Tateyama 2	1.69	299	⇓P	P	16 53 32.1	+0.3
TATJ				S	S	16 53 54.7	+2.2
JMY	Miyakejima3	1.82	266	S	S	16 53 59.4	+3.8
JHJ2	Mitsune	1.92	235	P	P	16 53 35.8	+0.7
JHJ2				S	S	16 54 00.0	+1.7
JIM2	Oshima 3	1.93	285	P	P	16 53 34.4	-0.9
JIM2				S	S	16 53 59.6	+1.0
JHJ	Hachijo jima 2	1.94	236	Pn	P	16 53 35.9	+0.5
	99nm,0.3s,baz=236,slow=23,SNR=47						
JHJ				Sn	S	16 53 59.4	+0.6
	214nm,0.3s,baz=64,slow=21,SNR=6.9						
JKO	Kozu shima	2.12	270	P	P	16 53 38.1	+0.1
JIZS	Izushimoda	2.38	283	P	P	16 53 41.0	-0.6
JIZS				S	S	16 54 08.4	-1.5
JOD2	Odawara 2	2.38	296	P	P	16 53 40.8	-0.9
JOD2				S	S	16 54 10.7	+0.7
MJAR	Matsushiro Arr	3.67	310	P	P	16 53 59.0	-1.0
MJAR						16 54 42.0	
MJAR				pmax	pmax		
	comp=Z,20nm,0.3s						
MJAR				smax			
	comp=E,18nm,0.3s						
MJAR	Matsushiro Arr	3.67	310	Pn	P	16 53 59.0	-0.9
	comp=E,20nm,0.3s,baz=174,slow=14,SNR=107						
MJAR				Sn	S	16 54 42.0	-0.6
	comp=E,18nm,0.3s,baz=132,slow=20,SNR=10						
MAJO	Matsushiro	3.67	310	eP	P	16 53 58.9	-1.1
MAT	Matsushiro	3.67	310	eP	P	16 53 59.0	-1.0
MAT				eS	S	16 54 41.0	-1.6
MAT	Matsushiro	3.67	310	P	P	16 53 59.1	-0.9
MAT				S	S	16 54 40.6	-2.0
CBIJ	Chichi jima	7.12	176	Pn	P	16 54 46.1	-2.5
	comp=E,39nm,0.3s,baz=349,slow=3.4,SNR=26						
CBIJ				Sn	S	16 56 01.1	-8.1
	comp=E,5.8nm,0.3s,baz=146,slow=11,SNR=2.7						
ASAJ	Asahikawa	9.90	4	Pn	P	16 55 20.4	-6.7
	comp=E,2.1nm,0.3s,baz=244,slow=10.0,SNR=16						
ASAJ				Sn	S	16 57 07.7	-10
	comp=E,0.7nm,0.3s,baz=80,slow=19,SNR=3.2						
ASAJ				LR	LR	17 00 11.4	
	comp=E,133nm,19.4s,baz=325,slow=44						
YSS	Yuzh-Sakhalins	12.74	3	eP	P	16 55 59.5	-6.0
YSS				MLR	MLR		
	comp=N,300nm,14.0s						
YSS				MLR	MLR		
	comp=E,300nm,14.0s						
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
YSS	Yuzh-Sakhalins	12.74	3	eP	P	16 55 59.1	-6.4
	comp=Z,19nm,0.9s						
JOW	Kunigami	13.71	241	LR	LR	17 01 39.1	
	comp=Z,205nm,19.0s,baz=98,slow=38						
MDJ	Mudanjiang	13.95	322	P	P	16 56 18.9	-2.6
MDJ				S	S	16 58 53.6	-2.4
MDJ				PCP	PcP	17 01 41.5	-0.2
MDJ				SCP		17 05 11.4	
MDJ				PCS		17 05 16.9	
MDJ				SCS	ScS	17 08 47.9	+0.9
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,55nm,6.0s						
MDJ				LR	LR		
	comp=N,441nm,14.6s						
MDJ				LR	LR		
	comp=E,368nm,14.2s						
MDJ				LR	LR		
	comp=Z,376nm,16.5s						
MDJ	Mudanjiang	13.95	322	eP	P	16 56 18.5	-2.9
	comp=Z,4.4nm,0.8s						
SSE	Sheshan	17.55	265	eP	P	16 57 06.8	-0.8
SSE				AP		16 57 16.8	
SSE				XP		16 57 20.6	
SSE				S	S	17 00 18.8	-0.9
SSE				AMB	AMB		
	comp=Z,28nm,0.7s						
SSE				AMB	AMB		
	comp=Z,75nm,3.5s						
SSE				LR	LR		
	comp=N,177nm,13.9s						
SSE				LR	LR		
	comp=E,318nm,13.9s						
SSE				LR	LR		
	comp=Z,469nm,15.1s						
SSE	Sheshan	17.55	265	eP	P	16 57 06.8	-0.8
	comp=Z,28nm,0.7s						
SSE				pP		16 57 16.8	
SSE				sP		16 57 20.6	
SSE				S	S	17 00 18.8	-0.9
SSE				sS		17 00 42.2	
NJ2	Nanjing	19.25	270	eP	P	16 57 29.6	+1.4
NJ2				AP		16 57 37.1	
NJ2				XP		16 57 41.0	
NJ2				PP	PP	16 57 45.1	-0.4
NJ2				PPP	PPP	16 57 53.9	-0.8
NJ2				S	S	17 00 57.0	-1.0
NJ2				XS		17 01 11.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,70nm,9.4s						
NJ2				LR	LR		
	comp=N,450nm,11.8s						
NJ2				LR	LR		
	comp=E,740nm,22.0s						
NJ2				LR	LR		
	comp=Z,310nm,13.7s						
WHN	Wuhan	23.36	269	P	P	16 58 11.0	+0.8
WHN				S	S	17 02 19.0	+2.2
WHN				LR	LR		
	comp=Z,1μm,14.3s,MS4.4						
HHC	Hu-ho-hao-te	24.71	294	eP	P	16 58 24.1	+0.8
HHC				PCP	PcP	17 01 59.7	-1.1
HHC				S	S	17 02 46.5	+6.5
HHC				SCP		17 05 31.9	
HHC				PCS		17 05 40.3	
HHC				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.5						
HHC				AMB	AMB		
	comp=Z,53nm,9.6s						
HHC				LR	LR		
	comp=N,185nm,15.6s,MS3.8						
HHC				LR	LR		
	comp=E,157nm,16.8s,MS3.8						
HHC				LR	LR		
	comp=Z,173nm,14.4s,MS3.7						
CLNS	Chul'man	25.35	338	eP	P	16 58 31.3	+2.1
CLNS				e*PP	pP	16 58 37.1	-2.1
CLNS				ePPP	PPP	16 59 10.0	-10
CLNS				e		17 02 07.2	
CLNS				eS	S	17 02 52.6	+2.1
CLNS				pmax	pmax		
	comp=N,4.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.4						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.2						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.0s						
CLNS				smax			
	comp=N,3.0nm,0.6s						
CLNS				smax			
	comp=Z,6.0nm,0.7s						
CLNS				smax			
	comp=E,5.0nm,0.5s						
MA2	Magadan	26.05	11	iP	P	16 58 35.3	-0.4
CIT	Chita	26.92	320	eP	P	16 58 44.3	+0.6
CIT				e		17 02 09.0	
YAK	Yakutsk	28.86	348c	iP	P	16 58 59.8	-1.3
YAK				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.5						
YAK	Yakutsk	28.86	348	eP	P	16 58 59.2	-1.9
	comp=Z,6.1nm,0.6s,mb4.5						
ULN	Ulaanbaatar	29.20	308	iP	P	16 59 03.3	-1.0
SEY	Seymchan	29.50	10	⇓iP	P	16 59 06.5	-0.4
SONM	Songino Array	29.62	308	P	P	16 59 08.1	+0.1
	comp=Z,4.1nm,0.9s,mb4.2,baz=106,slow=9.1,SNR=29						
SONM				PcP	PcP	17 02 12.3	0.0
	comp=Z,0.3nm,0.4s,baz=118,slow=2.6,SNR=5.1						
BOD	Bodaibo	30.05	330	eP	P	16 59 14.5	+2.7
BOD				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2						
TLY	Talaya	32.40	314	eP	P	16 59 33.2	+0.7
TLY				e		17 04 36.3	
TLY				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
TLY				MLR	MLR		
	comp=Z,233nm,16.0s,MS4.0						
TLY	Talaya	32.40	314	P	P	16 59 28.2	-4.3
	comp=Z,5.8nm,1.0s,mb4.4						
GTA	Gaotai	33.70	291	eP	P	16 59 39.7	-4.3
GTA				AMB	AMB		
	comp=Z,2.0nm,0.4s,mb4.4						
GTA				AMB	AMB		
	comp=Z,59nm,4.8s						
GTA				LR	LR		
	comp=N,125nm,15.5s,MS4.0						
GTA				LR	LR		
	comp=E,201nm,16.4s,MS4.0						
GTA				LR	LR		
	comp=Z,219nm,15.5s,MS4.0						
CMAR	Chiang Mai Arr	41.09	259	P	P	17 00 45.2	-1.0
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR	Chiang Mai Arr	41.09	259	P	P	17 00 45.1	-1.1
	comp=Z,1.0nm,0.8s,mb3.5,baz=51,slow=6.8,SNR=7.1						
WMQ	Urumqi	42.37	300	eP	P	17 00 56.5	0.0
WMQ				AP	pP	17 01 06.3	-0.8
WMQ				PP	PP	17 02 37.5	0.0
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,42nm,5.9s						
WMQ				LR	LR		
	comp=N,211nm,16.1s,MS4.2						
WMQ				LR	LR		
	comp=E,164nm,16.4s,MS4.2						
WMQ				LR	LR		
	comp=Z,295nm,16.5s,MS4.2						
PMG	Port Moresby	43.70	172	LR	LR	17 18 21.1	
	comp=Z,6μm,19.4s,MS5.5,baz=74,slow=35						
ZAL	Zalesovo	44.02	315	P	P	17 01 09.1	-0.6
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL	Zalesovo	44.02	315	P	P	17 01 09.1	-0.7
	comp=Z,2.1nm,0.4s,mb4.2,baz=27,slow=7.7,SNR=9.0						
NVS	Novosibirsk	44.98	316	eP	P	17 01 16.5	-0.9
MKAR	Makanchi Array	45.85	304	P	P	17 01 24.2	-0.3
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	45.85	304	P	P	17 01 24.1	-0.3
	comp=Z,2.2nm,0.7s,mb4.2,baz=90,slow=9.6,SNR=20						
GUN	Gumba	47.73	278	eP	P	17 01 39.6	+0.1
PKI	Pulchoki	48.24	278	eP	P	17 01 43.0	-0.5
	comp=Z,15nm,0.8s,mb5.1						
PKI	Pulchoki	48.24	278	eP	P	17 01 43.0	-0.5
PKI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
KKN	Kakani	48.26	278	eP	P	17 01 43.4	-0.3
	comp=Z,23nm,0.8s,mb5.2						
KKN	Kakani	48.26	278	eP	P	17 01 43.4	-0.3
KKN				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
DMN	Daman	48.47	278	eP	P	17 01 44.4	-0.9
	comp=Z,16nm,0.4s,mb5.5						
GKN	Gorkha	48.71	279	eP	P	17 01 46.5	-0.6
	comp=Z,37nm,0.9s,mb5.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOLN	Koldanda	49.65	279	eP	P	17 01 53.4	-0.9
	comp=Z,21nm,0.9s,mb5.2						
ILAR	Eielson Array	51.76	31	P	P	17 02 09.2	-0.6
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	Eielson Array	51.76	31	P	P	17 02 09.2	-0.7
	comp=Z,2.0nm,0.6s,mb4.2,baz=269,slow=6.2,SNR=22						
AAK	Ala-Archa	52.07	300	eP	P	17 02 10.7	-1.7
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	Zerenda	53.49	314	eP	P	17 02 22.3	-0.7
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ZRNK	Zerenda	53.49	314	eP	P	17 02 22.3	-0.7
	comp=Z,7.4nm,0.9s,mb4.6						
FITZ	Fitzroy Crossi	54.24	199	⇑iP	P	17 02 29.0	+0.1
	comp=Z,5.7nm,0.5s,mb4.8						
WRAB	Tennant Creek	54.31	189	eP	P	17 02 28.8	-0.6
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
WRAB	Tennant Creek	54.31	189	eP	P	17 02 28.8	-0.6
	comp=Z,5.6nm,0.8s,mb4.5						
WB2	Warramunga Arr	54.32	189	⇓iP	P	17 02 29.2	-0.3
WRA	Warramunga Arr	54.32	189	P	P	17 02 29.0	-0.5
WRA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRA	Warramunga Arr	54.32	189	P	P	17 02 29.0	-0.5
	comp=Z,2.1nm,0.4s,mb4.4,baz=5.2,slow=7.5,SNR=110						
INK	Inuvik	56.79	26	eP	P	17 02 45.8	-0.9
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	Inuvik	56.79	26	P	P	17 02 46.5	-0.1
	comp=Z,2.2nm,0.6s,mb4.4,baz=295,slow=7.8,SNR=9.5						
INK	Inuvik	56.79	26	eP	P	17 02 45.8	-0.8
	comp=Z,2.8nm,0.9s,mb4.3						
SVE	Sverdlovsk	57.42	320	eP	P	17 02 51.0	-0.3
SVE				e		17 03 07.3	
SVE				MLR	MLR		
	comp=N,200nm,15.0s,MS4.5						
SVE				MLR	MLR		
	comp=E,200nm,15.0s,MS4.5						
SVE				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.5						
ARU	Arti	58.63	320	⇑iP	P	17 02 58.8	-0.9
ARU				e		17 03 45.2	
ARU				e		17 05 05.5	
ARU				eS	S	17 10 56.8	-2.9
ARU				eSS	SS	17 14 48.3	-6.1
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
ARU	Arti	58.63	320	eP	P	17 02 58.3	-1.4
	comp=Z,5.9nm,0.8s,mb4.7						
ARU				epP	pP	17 03 10.3	-0.3
MBWA	Marble Bar	58.91	204	eP	P	17 03 01.6	-0.6
STKA	Stephens Creek	65.75	180	P	P	17 03 47.5	-0.1
	comp=Z,0.9nm,0.6s,mb4.0,baz=350,slow=12,SNR=4.8						
YKA	Yellowknife Ar	66.12	30	P	P	17 03 49.4	0.0
	comp=Z,0.4nm,0.4s,mb3.9,baz=292,slow=6.7,SNR=3.8						
FINES	FINESS Array B	71.41	333	P	P	17 04 22.0	-0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	FINESS Array B	71.41	333	P	P	17 04 22.0	-0.1
	comp=Z,2.4nm,1.0s,mb4.1,baz=76,slow=7.9,SNR=3.7						
FINES	FINESS Array B	71.41	333	P	P	17 04 22.0	-0.1
KIV	Kislovodsk	72.93	312	d iP	P	17 04 32.3	+0.9
KIV				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
SOC	Sochi	74.95	313	eP	P	17 04 43.2	0.0
SOC				eS	S	17 14 16.9	+0.1
SOC				e		17 14 56.4	
SOC				eSS	SS	17 19 05.4	-2.3
SOC				eSSS	SSS	17 22 16.6	-5.0
SOC				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
SOC				pmax	pmax		
	comp=N,7.0nm,1.0s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.9s						
FFC	Flin Flon	75.94	32	eP	P	17 04 48.9	+0.3
FFC				e	pP	17 05 01.1	+1.4
FFC				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
FFC	Flin Flon	75.94	32	eP	P	17 04 48.9	+0.4
	comp=Z,5.0nm,1.1s,mb4.4						
FFC				ePcP	PcP	17 05 01.1	-0.2
HLID	Hailey	76.12	47	eP	P	17 04 51.6	+1.8
	comp=Z,0.9nm,0.5s,mb4.0						
AKASG	Malin Array Be	76.66	323	P	P	17 04 52.2	-0.6
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	Malin Array Be	76.66	323	P	P	17 04 52.2	-0.6
	comp=Z,1.8nm,0.6s,mb4.2,baz=46,slow=6.1,SNR=8.6						
NB2	NORSAR Subarra	76.86	338	P	P	17 04 53.7	0.0
	comp=Z,1.6nm,0.8s,mb4.0,baz=40,slow=5.6						
NB2	NORSAR Subarra	76.86	338	P	P	17 04 53.7	0.0
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
NOA	NORSAR Array B	76.86	338	P	P	17 04 53.8	+0.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	NORSAR Array B	76.86	338	P	P	17 04 53.8	+0.1
	comp=Z,2.0nm,0.7s,mb4.1,baz=39,slow=5.7,SNR=6.5						
IMW	Indian Meadow	77.99	45	eP	P	17 05 02.9	+2.6
	comp=Z,5.5nm,1.0s,mb4.4						
IMW				epP	pP	17 05 13.9	+2.4
BW06	Boulder Array	79.47	45	eP	P	17 05 09.6	+1.2
	comp=Z,1.5nm,0.7s,mb4.0						
PDAR	Pinedale Array	79.47	45	P	P	17 05 09.4	+1.0
	comp=Z,1.3nm,0.6s,mb4.0,baz=290,slow=2.5,SNR=16						
DAU	Daniels Canyon	79.86	48	eP	P	17 05 12.2	+1.6
MVU	Marysvale	80.39	50	eP	P	17 05 15.7	+2.2
	comp=Z,2.6nm,1.1s,mb4.1						
MVU				epP	pP	17 05 27.8	+3.1
BRTR	Keskin Array B	80.89	312	P	P	17 05 17.3	+1.2
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	Keskin Array B	80.89	312	P	P	17 05 17.2	+1.2
	comp=Z,1.6nm,0.6s,mb4.1,baz=116,slow=2.2,SNR=8.7						
SRU	San Rafael	81.09	49	eP	P	17 05 18.6	+1.5
KHC	Kasperske Hory	85.06	329	c iP	P	17 05 37.6	+0.6
GERES	GERESS Array B	85.22	329	P	P	17 05 38.2	+0.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	GERESS Array B	85.22	329	P	P	17 05 38.2	+0.3
	comp=Z,1.4nm,0.8s,mb4.2,baz=51,slow=8.5,SNR=5.6						
LTX	Lajitas	91.65	53	eP	P	17 06 03.7	-5.3
LTX				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.2						
LTX	Lajitas	91.65	53	eP	P	17 06 03.7	-5.3
	comp=Z,8.2nm,0.7s,mb5.2						

*ATH **12** 17:00:47.1, 40.07N×21.70E, h20^{km}, MD3.3/4*

*THE **12** 17:00:47.8, 40.08N×21.62E, h5^{km}, ML2.9*

*NEIC **12** 17:00:47.5, 40.05N×21.72E, h2^{km}, MD3.3(ATH), After ATH.*

*CSEM **12** 17:00:47.8±0.1, 40.08N×21.64E, ML2.9, Error ellipse: s-maj=2.5km s-min=2.1km az=126.0*

ISC 12 17:00:46.6±0.4, **40.07N**±0.02×**21.68E**±0.03, **h3**^{km}±5^{km}, **n23**, σ**1^{s}12**/38, **Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.25	17	ePB	Pb	17 00 53.0	-0.4
MEV	Metsovon	0.44	231	ePg	Pg	17 00 55.4	-0.1
MEV				eSg	Sg	17 01 02.5	+1.0
LIT	Litokhoron	0.63	87	ePg	Pg	17 01 00.1	+1.0
LIT				eSg	Sg	17 01 10.8	+3.3
FNA	Florina	0.75	342	ePg	Pg	17 01 00.7	-1.0
FNA				eSg	Sg	17 01 11.7	0.0
JAN	Janina	0.76	237	ePN	Pn	17 01 01.8	-2.1
JAN	Janina	0.76	237	ePg	Pg	17 01 01.5	-0.2
KBN	Korca	0.88	310	i Pg	Pg	17 01 02.7	-1.5
KBN				i Sg	Sg	17 01 17.5	+1.6
GRG	Griva	1.05	32	ePg	Pg	17 01 07.5	-0.1
GRG				eSg	Sg	17 01 23.5	+2.0
EVR	Evrytania	1.15	175	ePN	Pn	17 01 09.0	-0.6
EVR				eSN	Sn	17 01 25.0	-1.0
AGG	Agios Georgios	1.16	154	ePg	Pg	17 01 09.9	+0.1
AGG				eSg	Sg	17 01 26.9	+1.6
AGG	Agios Georgios	1.16	154	ePg	Pg	17 01 09.9	+0.1
AGG				eSg	Sg	17 01 26.9	+1.6
IGT	Igoumenitsa	1.16	243	ePg	Pg	17 01 09.4	-0.5
XOR	Xorichti	1.36	120	ePg	Pg	17 01 13.6	-0.3
XOR				eSg	Sg	17 01 32.6	+0.6
KNT	Kendrikon	1.44	40	ePg	Pg	17 01 13.5	-1.8
	comp=Z,2.0nm,0.5s						
KNT				eSg	Sg	17 01 34.2	-0.2
KEK	Kerkira	1.49	257	ePN	Pn	17 01 15.0	+0.7
KEK	Kerkira	1.49	257	ePb	Pb	17 01 17.0	+2.5
SOH	Sokhos	1.49	59	ePg	Pg	17 01 14.5	-1.8
SOH				eSg	Sg	17 01 36.3	+0.1
PAIG	Paliouri	1.55	95	ePg	Pg	17 01 15.8	-1.7
OUR	Ouranopolis	1.79	81	ePb	Pb	17 01 19.8	+0.1
	comp=Z,1.6nm,0.4s						
OUR				eSb	Sb	17 01 43.0	+0.6
SRS	Serrai	1.80	54	ePb	Pb	17 01 19.3	-0.6
SRS				eSb	Sb	17 01 43.5	+0.8
SKO	Skopje	1.91	355	ePn	Pn	17 01 21.0	+0.6
AOS	Alonnisos	1.93	117	ePb	Pb	17 01 20.8	-1.3
AOS				eSb	Sb	17 01 47.1	+0.7
QSH	Qafa e Shtames	1.98	318	i Pn	Pn	17 01 25.0	+3.6
QSH				i Sn	Sn	17 01 54.0	+7.1

*IDC **12** 17:07:14.4±0.4, 6.85S×131.46E, mb5.4/25, mb1 5.3/27, mb1mx5.3/28, mbtmp5.3/27, ML6.0/2, MS4.7/13, Ms1 4.7/13, ms1mx4.6/20, Error ellipse: s-maj=15.9km s-min=10.8km az=84.0*

*MOS **12** 17:07:17.9±1.0, 6.78S×131.43E, h33^{km}, mb5.7/48, MS4.7/45, Error ellipse: s-maj=9.9km s-min=6.0km az=112.8*

*BJI **12** 17:07:18.2, 6.69S×131.56E, h37^{km}, mB5.4, mb5.7, Ms4.9, Msz4.6*

*HRVD **12** 17:07:19.8±0.2, 6.80S×131.45E, h60^{km}±1^{km}, MW5.7/78, Centroid moment Tensor Solution. LP body waves: s63,c126;Mantle waves: s78,c217; Half duration: 1^{s}7 Moment tensor: Scale 10^{17}Nm; M_{rr}0.19±.06; $M_{\theta\theta}$-2.54±.05; $M_{\phi\phi}$2.35±.07; $M_{r\theta}$0.54±.06; $M_{\theta\phi}$2.92±.05; $M_{\phi r}$1.12±.06; Best double couple: $M_0$4.006×10^{17} NP1: ϕ_s339°, δ77°, λ168°. NP2:ϕ_s71°, δ78°, λ13°. Principal axes: T 4.109, Plg18°, Azm295°; N -.209, Plg72°, Azm114°; P -3.904, Plg0°, Azm205°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **12** 17:07:19.8±0.9, 6.83S×131.41E, h40^{km}±7^{km}, mb5.6/46, MS4.9/105, MW5.7 Error ellipse: s-maj=5.9km s-min=4.1km az=69.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{17}Nm; M_{rr}1.02; $M_{\theta\theta}$-0.31; $M_{\phi\phi}$-0.71; $M_{r\theta}$0.12; $M_{\theta\phi}$2.77; $M_{\phi r}$2.52; Best double couple: $M_0$3.8×10^{17} NP1:ϕ_s96°, δ46°, λ14°. NP2:ϕ_s356°, δ80°, λ135°. Principal axes: T 3.71, Plg38°, Azm306°; N .27, Plg44°, Azm166°; P -3.98, Plg21°, Azm53°;*

ISC 12 17:07:17.9±0.2, **6.87S**±0.03×**131.39E**±0.04, **h35**^{km}±3.4^{km}**:pP-P, n463,** σ**1^{s}14**/331, **mb5.6**/104, **MS4.8**/130, **48C-33D, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	5.89	170	⇓iP	P	17 08 44.9	-0.2
	669nm,0.2s						
FITZ	Fitzroy Crossi	12.49	206	⇓iP	P	17 10 12.8	-3.3
	1μm,0.3s						
FITZ				eS	S	17 12 23.2	-12
FITZ	Fitzroy Crossi	12.49	206	Pn	P	17 10 12.9	-3.2
	235nm,0.3s,baz=18,slow=12,SNR=420						
FITZ				Sn	S	17 12 24.1	-11
	405nm,0.3s,baz=200,slow=12,SNR=13						
WRAB	Tennant Creek	13.30	168	⇓ePn	P	17 10 21.6	-5.2
WRAB				eSn	S	17 12 40.1	-14
WRA	Warramunga Arr	13.30	168	Pn	P	17 10 21.5	-5.4
	15nm,0.3s,baz=344,slow=13,SNR=190						
WRA				Sn	S	17 12 39.2	-15
	102nm,0.3s,baz=354,slow=20,SNR=18						
WB2	Warramunga Arr	13.31	168	⇓iP	P	17 10 21.6	-5.3
WB2				eS	S	17 12 37.7	-17
MATI	Mati	14.65	339	eP	P	17 10 47.7	+3.0
DAV	Davao City (W)	15.01	337	eP	P	17 10 51.5	+2.1
KCP	Kidapawan	15.15	335	⇑eP	P	17 10 54.9	+3.6
CTBH	Cotabato--PC H	15.71	333	eP	P	17 10 58.3	-0.1
BIPH	Bislig	15.77	341	i P	P	17 10 56.4	-2.9
BIPH				i S	S	17 13 58.6	+5.7
PMG	Port Moresby	15.81	100	P	P	17 10 57.3	-2.4
PMG						17 13 55.0	
PMG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PMG				smax			
	comp=E,7.0nm,0.3s						
PMG	Port Moresby	15.81	100	Pn	P	17 10 57.3	-2.4
	comp=E,1.9nm,0.3s,baz=219,slow=7.9,SNR=7.0						
PMG				Sn	S	17 13 55.0	+1.2
	comp=E,7.4nm,0.3s,baz=180,slow=20,SNR=3.0						
PMG	Port Moresby	15.81	100	⇑iP	P	17 10 57.2	-2.6
	comp=E,190nm,0.6s						
PMG				eS	S	17 13 55.2	+1.4
BUKP	Musuan	15.95	337	eP	P	17 11 02.7	+1.1
ZMPH	Zamboanga City	16.59	326	⇑eP	P	17 11 10.1	+0.5
CGP	Cagayan de Oro	16.62	336	⇓eP	P	17 11 11.4	+1.4
	comp=E,329μm,1.0s						
PAGZ	Pagadian	16.66	331	eP	P	17 11 11.0	+0.5
IPIL	Ipil	17.01	329	eP	P	17 11 16.1	+1.2
DCPH	Dipolog City	17.32	332	⇓eP	P	17 11 21.5	+2.8
TSM	Tawau	17.47	309	P	P	17 11 23.2	+2.6
SCPH	Surigao	17.56	340	⇓eP	P	17 11 24.2	+2.4
SNPH	Sibulan	18.04	333	⇓iP	P	17 11 29.5	+1.8
MSLP	Maasin	18.10	339	eP	P	17 11 30.7	+2.2
MBWA	Marble Bar	18.14	217	⇓eP	P	17 11 26.9	-2.1
	comp=E,206nm,0.9s						
MBWA				eS	S	17 14 41.8	-5.2
BESP	Borongan	19.28	342	eP	P	17 11 43.2	+0.6
GUIM	Jordan	19.47	333	eP	P	17 11 45.1	+0.4
CTA	Charters Tower	19.51	134	⇑iP	P	17 11 45.1	0.0
	comp=E,146nm,1.8s						
CTA				eS	S	17 15 19.1	+1.2
CTA	Charters Tower	19.51	134	P	P	17 11 44.9	-0.2
CTA				S	S	17 15 19.0	+1.1
CTA				pmax	pmax		
	comp=Z,9.0nm,0.3s						
CTA				smax			
	comp=E,2.0nm,0.3s						
CTA	Charters Tower	19.51	134	P	P	17 11 44.9	-0.2
	comp=E,8.9nm,0.3s,baz=311,slow=13,SNR=207						
CTA				S	S	17 15 19.0	+1.1
	comp=E,1.8nm,0.3s,baz=312,slow=16,SNR=2.8						
CTAO	Charters Tower	19.51	134	⇑eP	P	17 11 44.9	-0.2
CTAO				eS	S	17 15 19.6	+1.7
CTAO				pmax	pmax		
	comp=Z,1μm,1.7s						
CTAO	Charters Tower	19.51	134	⇑eP	P	17 11 44.9	-0.2
	comp=Z,1μm,1.7s						
CTAO				eS	S	17 15 19.6	+1.7
AAP	Anini-y	19.59	331	⇑eP	P	17 11 47.4	+1.4
KKM	Kota Kinabalu	19.85	310	eP	P	17 11 48.4	-0.4
KKM	Kota Kinabalu	19.85	310	P	P	17 11 49.3	+0.5
RCP	Roxas	20.23	335	⇓eP	P	17 11 53.0	+0.1
CNP	Catarman	20.38	341	eP	P	17 11 54.0	-0.5
CUYO	Cuyo Island	20.41	330	eP	P	17 11 55.2	+0.4
KALP	Kalibo	20.51	334	eP	P	17 12 02.0	+6.2
PPR	Puerto Princes	20.80	323	⇓eP	P	17 11 59.7	+0.9
OTRP	Odiongan	21.26	334	eP	P	17 12 05.4	+2.0
ENPP	El Nido	21.55	326	eP	P	17 12 07.2	+0.9
PVCP	Virac	21.57	341	eP	P	17 12 06.8	+0.2
SJMP	San Jose	21.75	332	eP	P	17 12 09.5	+1.1
BUSP	Coron	21.80	329	eP	P	17 12 09.0	+0.1
AUQP	San Andres	21.85	337	eP	P	17 12 12.7	+3.4
BOAC	Boac	22.31	335	eP	P	17 12 14.6	+0.6
GQP	Guinayangan	22.47	337	⇓eP	P	17 12 16.9	+1.3
KSM	Kuching	22.61	291	⇑eP	P	17 12 15.9	-1.2
LUBP	Lubang	23.27	332	eP	P	17 12 25.2	+1.7
POLP	Polilio Island	23.42	336	eP	P	17 12 25.6	+0.7
GUMO	Guam	24.34	33	eP	P	17 12 33.7	-0.2
GUMO				pmax	pmax		
	comp=Z,242nm,0.9s,mb5.6						
GUMO				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.4						
GUMO	Guam	24.34	33	eP	P	17 12 33.7	-0.2
	comp=Z,242nm,0.9s,mb5.6						
GUMO				LR	LR		
	comp=Z,1μm,20.0s,MS4.4						
BALP	Baler	24.48	337	eP	P	17 12 34.5	-0.7
SCZP	Santa Cruz	25.21	333	eP	P	17 12 40.3	-2.0
BCPH	Baguio City Da	25.46	335	⇑eP	P	17 12 44.1	-0.5
CAUP	Cauayan	25.48	338	eP	P	17 12 44.2	-0.6
BOLP	Bolinao	25.74	334	eP	P	17 12 45.8	-1.5
CVP	Callao Caves	26.18	339	eP	P	17 12 50.5	-0.8
APYP	Conner	26.54	338	eP	P	17 12 52.1	-2.5
ABRA	Dolores	26.55	337	eP	P	17 12 53.1	-1.6
STKA	Stephens Creek	26.64	160	⇓iP	P	17 12 54.7	-0.7
	comp=Z,38nm,0.4s,mb5.3						
STKA				eS	x	17 17 46.1	
STKA	Stephens Creek	26.64	160	P	P	17 12 54.8	-0.7
	comp=Z,8.6nm,0.5s,mb4.6,baz=332,slow=8.8,SNR=30						
STKA				S	x	17 17 36.4	
	comp=Z,43nm,1.1s,baz=317,slow=14,SNR=2.5						
STKA				LR	LR	17 23 16.6	
	comp=Z,3μm,21.8s,MS4.8,baz=172,slow=36						
KLBR	Kellerberrin	27.70	206	⇓iP	P	17 13 05.3	+0.2
	comp=Z,68nm,0.7s,mb5.4						
KLBR				eS	x	17 18 19.6	
HNR	Honiara	28.38	97	P	P	17 13 09.3	-2.0
HNR				pmax	pmax		
	comp=Z,45nm,0.8s,mb5.2						
HNR				MLR	MLR		
	comp=Z,2μm,19.4s,MS4.7						
HNR	Honiara	28.38	97	P	P	17 13 09.3	-2.0
	comp=Z,44nm,0.8s,mb5.1,baz=242,slow=1.0,SNR=3.3						
HNR				LR	LR	17 25 13.1	
	comp=Z,2μm,19.4s,MS4.7,baz=263,slow=38						
HNR	Honiara	28.38	97	P	P	17 13 09.3	-2.0
	comp=Z,214nm,0.9s,mb5.8						
HNR				LR	LR		
	comp=Z,3μm,21.0s,MS4.8						
MUN	Mundaring	28.72	208	eP	P	17 13 14.6	+0.4
	comp=Z,43nm,1.1s,mb5.1						
MUN				eS	x	17 18 40.5	
MUN	Mundaring	28.72	208	eP	P	17 13 14.6	+0.4
MUN				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.1						
NWAO	Narrogin (SRO)	29.07	205	eP	P	17 13 17.3	0.0
NWAO				pmax	pmax		
	comp=Z,112nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,2μm,20.0s						
NWAO	Narrogin (SRO)	29.07	205	P	P	17 13 17.8	+0.4
	comp=Z,37nm,0.6s,mb5.3,baz=29,slow=10,SNR=46						
NWAO				LR	LR	17 25 49.2	
	comp=Z,2μm,20.9s,MS4.8,baz=265,slow=38						
NWAO	Narrogin (SRO)	29.07	205	eP	P	17 13 17.3	0.0
	comp=Z,112nm,1.0s,mb5.5						
NWAO				LR	LR		
	comp=Z,2μm,20.0s,MS4.7						
KGM	Kluang	29.38	287	P	P	17 13 21.9	+1.7
IPM	Ipoh	32.37	290	P	P	17 13 47.2	+0.5
CNB	Canberra Magne	32.77	152	eP	P	17 13 50.2	+0.2
	comp=Z,106nm,1.5s,mb5.5						
YHNB	Yeheng	32.83	343	eP	P	17 13 48.4	-2.2
KULM	Kulim	32.97	291	eP	P	17 13 49.5	-2.4
TATO	Taipei	33.09	343	PFAKE		17 14 00.0	+7.2
TATO				LR	LR		
	comp=Z,689nm,21.0s,MS4.3						
TOO	Toolangi	33.14	159	⇓iP	P	17 13 53.8	+0.7
	comp=Z,38nm,0.6s,mb5.5						
TOO				eS	x	17 20 21.4	
TOO	Toolangi	33.14	159	⇓iP	P	17 13 53.8	+0.7
TOO				pmax	pmax		
	comp=Z,38nm,0.6s,mb5.5						
QIZ	Qiongzhong	33.37	321	P	P	17 13 53.9	-1.4
QIZ				PP	PP	17 15 06.3	-1.2
QIZ				S	S	17 19 05.7	-7.0
QIZ				SS	SS	17 21 11.7	-4.8
QIZ				AMB	AMB		
	comp=Z,97nm,1.2s,mb5.6						
QIZ				AMB	AMB		
	comp=Z,444nm,7.2s						
QIZ				LR	LR		
	comp=N,867nm,21.2s						
QIZ				LR	LR		
	comp=Z,690nm,21.0s,MS4.3						
QIZ	Qiongzhong	33.37	321	⇑eP	P	17 13 54.3	-1.0
	comp=Z,82nm,1.0s,mb5.6						
QIZ				LR	LR		
	comp=Z,794nm,21.0s,MS4.4						
JOW	Kunigami	33.64	355	P	P	17 13 57.9	+0.3
	comp=Z,41nm,0.7s,mb5.5,baz=182,slow=9.4,SNR=19						
JOW				S	S	17 19 13.6	-3.3
	comp=Z,12nm,0.9s,baz=108,slow=19,SNR=3.1						
JOW				LR	LR	17 26 38.7	
	comp=Z,998nm,19.7s,MS4.5,baz=301,slow=35						
SNG	Songkhla	33.72	294	P	P	17 13 57.0	-1.4
QZH	Quanzhou	33.99	339	⇑iP	P	17 13 59.6	-1.0
QZH				AMB	AMB		
	comp=Z,120nm,0.8s,mb5.9						
QZH				AMB	AMB		
	comp=Z,820nm,2.6s,mb6.2						
QZH				LR	LR		
	comp=N,1μm,10.7s,MS5.0						
QZH				LR	LR		
	comp=E,870nm,10.2s,MS5.0						
QZH				LR	LR		
	comp=Z,3μm,35.0s						
UBT	Ubonrachathani	34.15	310	P	P	17 14 02.0	0.0
	comp=Z,431nm,0.7s,mb6.5						
GZH	Guangzhou	34.61	330	P	P	17 14 07.1	+1.1
GZH				S	S	17 19 29.8	-2.2
GZH				AMB	AMB		
	comp=Z,87nm,0.8s,mb5.7						
GZH				LR	LR		
	comp=N,521nm,29.5s,MS4.3						
GZH				LR	LR		
	comp=E,518nm,24.9s,MS4.3						
GZH				LR	LR		
	comp=Z,2μm,31.9s						
CBIJ	Chichi jima	35.35	17	P	P	17 14 11.9	-0.3
	comp=Z,27nm,0.5s,mb5.5,baz=296,slow=21,SNR=4.0						
CBIJ				LR	LR	17 27 22.0	
	comp=Z,684nm,20.2s,MS4.4,baz=193,slow=34						
KKTK	Khon Kaen	36.48	309	P	P	17 14 21.0	-0.9
NNT	Nongplab	36.93	301	P	P	17 14 25.0	-0.7
TAU	Tasmania Unive	38.55	161	PFAKE		17 14 50.0	+11
TAU				LR	LR		
	comp=Z,958nm,20.0s,MS4.6						
SSE	Sheshan	38.99	346	⇑P	P	17 14 42.9	+0.1
SSE				S	S	17 20 35.4	-3.6
SSE				SS	SS	17 23 23.6	-0.2
SSE				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.3						
SSE				AMB	AMB		
	comp=Z,326nm,6.2s						
SSE				LR	LR		
	comp=N,714nm,26.7s,MS4.4						
SSE				LR	LR		
	comp=E,330nm,26.7s,MS4.4						
SSE				LR	LR		
	comp=Z,777nm,28.4s,MS4.4						
NANT	Nan	39.58	311	P	P	17 14 46.0	-1.7
JNU	Nakatsue	39.77	359	P	P	17 14 49.2	0.0
	comp=Z,28nm,0.9s,mb5.0,baz=148,slow=3.3,SNR=15						
JNU				LR	LR	17 29 43.1	
	comp=Z,712nm,22.0s,MS4.5,baz=3.7,slow=34						
BDT	Bhumibol Dam	39.98	307	P	P	17 14 51.0	-0.1
	comp=Z,138nm,0.7s,mb5.8						
NJ2	Nanjing	40.51	344	eP	P	17 14 56.1	+0.8
NJ2				AP	pP	17 15 06.1	+0.4
NJ2				XP	sP	17 15 10.0	-0.1
NJ2				PP	PP	17 16 32.1	0.0
NJ2				S	S	17 20 58.0	-3.7
NJ2				XS		17 21 16.0	
NJ2				AMB	AMB		
	comp=Z,180nm,1.3s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,440nm,7.9s						
NJ2				LR	LR		
	comp=N,770nm,13.8s,MS4.8						
NJ2				LR	LR		
	comp=E,820nm,16.1s,MS4.8						
NJ2				LR	LR		
	comp=Z,540nm,24.0s						
JHJ	Hachijo jima 2	40.56	11	LR	LR	17 29 12.2	
	comp=Z,2μm,21.2s,MS4.9,baz=154,slow=32						
WHN	Wuhan	40.63	337	⇑P	P	17 14 57.0	+0.6
WHN				S	S	17 20 59.0	-4.5
WHN				LR	LR		
	comp=Z,2μm,24.1s,MS4.9						
CMAR	Chiang Mai Arr	40.72	309	P	P	17 14 57.6	+0.4
CMAR				pmax	pmax		
	comp=Z,105nm,0.7s						
CMAR	Chiang Mai Arr	40.72	309	P	P	17 14 57.6	+0.4
	comp=Z,105nm,0.7s,mb5.5,baz=140,slow=7.2,SNR=385						
GYA	Guiyang	40.90	325	⇑iP	P	17 14 59.0	+0.4

GYA PP PP 17 16 31.0 -5.0
GYA AMB AMB
comp=Z,90nm,0.7s,mb5.5
GYA AMB AMB
comp=Z,640nm,7.8s
GYA LR LR
comp=N,1µm,18.4s,MS4.9
GYA LR LR
comp=E,1µm,17.6s,MS4.9
GYA LR LR
comp=Z,980nm,18.0s,MS4.7
CHG Chiang Mai 40.92 309 P **P 17 14 59.2 +0.3**
comp=Z,150nm,0.9s,mb5.6
KMI Kunming 42.30 320 P **P 17 15 11.2 +1.0**
KMI AP pP 17 15 20.1 -0.5
KMI XP sP 17 15 25.0 0.0
KMI PP PP 17 16 47.0 -4.1
KMI PPP PPP 17 17 10.8 -13
KMI S **S 17 21 24.2 -4.1**
KMI SS SS 17 24 29.7 -1.9
KMI AMB AMB
comp=Z,92nm,1.2s,mb5.3
KMI AMB AMB
comp=Z,665nm,6.6s
KMI LR LR
comp=N,446nm,17.7s,MS4.6
KMI LR LR
comp=E,483nm,17.7s,MS4.6
KMI LR LR
comp=Z,601nm,27.1s
KMI Kunming 42.30 320 P **P 17 15 11.2 +1.0**
KMI *PP pP 17 15 20.1 -0.5
KMI *SP sP 17 15 25.0 0.0
KMI 17 16 47.0
KMI PPP PPP 17 17 10.8 -13
KMI S **S 17 21 24.2 -4.1**
KMI *SS 17 21 38.9
KMI SS SS 17 24 29.7 -1.9
KMI pmax pmax
comp=Z,92nm,1.2s,mb5.3
KMI MLR MLR
comp=Z,600nm,27.1s,MS4.3
KMI Kunming 42.30 320 P **P 17 15 11.2 +1.0**
comp=Z,92nm,1.2s,mb5.3
KMI pP pP 17 15 20.1 -0.5
KMI sP sP 17 15 25.0 0.0
KMI PP PP 17 16 47.0 -4.1
KMI PPP PPP 17 17 10.8 -13
KMI S **S 17 21 24.2 -4.1**
KMI sS 17 21 38.9
KMI SS SS 17 24 29.7 -1.9
KMI SSS SSS 17 24 49.9 -27
KMI LR LR
comp=Z,600nm,27.1s,MS4.3
ENH Enshi 42.49 331⇑ *iP* **P 17 15 11.2 -0.5**
comp=Z,186nm,0.8s,mb5.8
ENH LR LR
comp=Z,682nm,21.0s,MS4.5
PBA Port Blair 42.62 295 *eP* **P 17 15 09.3 -3.7**
MJAR Matsushiro Arr 43.66 8 P **P 17 15 20.0 -1.1**
MJAR pmax pmax
comp=Z,47nm,0.8s
MJAR MLR MLR
comp=Z,1µm,21.0s
MJAR Matsushiro Arr 43.66 8 P **P 17 15 20.0 -1.1**
comp=Z,47nm,0.8s,mb5.3,baz=192,slow=11,SNR=102
MJAR LR LR 17 31 05.1
comp=Z,1µm,21.0s,MS4.8,baz=195,slow=33
MAJO Matsushiro 43.66 8 *eP* **P 17 15 19.6 -1.5**
MAJO pmax pmax
comp=Z,106nm,0.8s,mb5.6
MAJO MLR MLR
comp=Z,1µm,19.0s,MS4.8
MAJO Matsushiro 43.66 8 *eP* **P 17 15 19.6 -1.5**
comp=Z,106nm,0.8s,mb5.6
MAJO LR LR
comp=Z,1µm,19.0s,MS4.8
MAT Matsushiro 43.66 8 *eP* **P 17 15 20.0 -1.1**
MAT *eS* **S 17 21 40.0 -8.0**
MAT pmax pmax
comp=Z,92nm,0.9s,mb5.5
MAT MLR MLR
comp=Z,1µm,20.0s,MS4.9
MAT Matsushiro 43.66 8 *eP* **P 17 15 20.0 -1.1**
comp=Z,92nm,0.9s,mb5.5
MAT *eS* **S 17 21 40.0 -8.0**
MAT LR LR
comp=Z,1µm,20.0s,MS4.9
MAT Matsushiro 43.66 8 P **P 17 15 19.1 -2.0**
MAT S **S 17 21 40.0 -8.0**
KS15 Wonju Array Si 44.20 356 *eP* **P 17 15 25.0 -0.6**
INCN Inchon 44.35 355 *eP* **P 17 15 25.9 -0.8**
comp=Z,34nm,0.7s,mb5.2
INCN LR LR
comp=Z,771nm,21.0s,MS4.6
TIA Tai'an 44.90 344 *eP* **P 17 15 30.2 -0.9**
TIA AMB AMB
comp=Z,62nm,1.4s,mb5.2
XAN Xi'an 45.92 334 P **P 17 15 38.5 -0.8**
XAN PP PP 17 17 26.6 -0.6
XAN S **S 17 22 14.4 -6.2**
XAN AMB AMB
comp=Z,161nm,1.2s,mb5.8
XAN AMB AMB
comp=Z,376nm,9.7s
XAN LR LR
comp=N,254nm,20.0s
XAN LR LR
comp=E,671nm,30.3s
XAN LR LR
comp=Z,769nm,40.3s
CD2 Chengdu 45.95 326⇑ *iP* **P 17 15 38.9 -0.7**
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.3
DL2 Dalian 46.44 349 P **P 17 15 43.1 -0.2**
DL2 S **S 17 22 24.7 -3.2**
DL2 XS 17 22 43.3
DL2 AMB AMB
comp=Z,30nm,0.9s,mb5.2
DL2 AMB AMB
comp=Z,180nm,6.2s
DL2 LR LR
comp=N,270nm,16.5s,MS4.4
DL2 LR LR
comp=E,200nm,17.3s,MS4.4
DL2 LR LR
comp=Z,400nm,18.6s,MS4.4
TIY Taiyuan 47.75 340⇑P **P 17 15 53.0 -0.6**
TIY S **S 17 22 41.0 -5.6**
TIY LR LR
comp=N,359nm,12.0s
IMP Imphal 48.17 312 *eP* **P 17 15 54.0 -3.1**
IMP *e* 17 16 08.0
SNY Shenyang 48.99 352⇑P **P 17 16 02.6 -0.5**
SNY AP pP 17 16 12.6 -0.9
SNY XP sP 17 16 18.0 +0.1
SNY PP PP 17 17 56.3 -0.4
SNY S **S 17 23 00.2 -3.6**
SNY AMB AMB
comp=Z,50nm,0.8s,mb5.6
SNY AMB AMB
comp=Z,220nm,6.7s
SNY LR LR
comp=N,570nm,26.4s,MS4.6
SNY LR LR
comp=E,560nm,29.4s,MS4.6
SNY LR LR
comp=Z,1µm,30.0s,MS4.6
LZH Lanzhou 49.95 331⇑ *iP* **P 17 16 11.1 +0.4**
LZH PP PP 17 18 02.0 -4.5
LZH S **S 17 23 13.2 -4.2**
LZH AMB AMB
comp=Z,342nm,1.7s,mb6.1
LZH AMB AMB
comp=Z,736nm,5.1s
LZH LR LR
comp=N,3µm,15.9s
LZH LR LR
comp=Z,3µm,17.8s,MS5.4
LZH Lanzhou 49.95 331 *iP* **P 17 16 11.1 +0.4**
comp=Z,342nm,1.7s,mb6.1
LZH pP pP 17 16 14.4 -6.7
LZH sP sP 17 16 15.8 -10
LZH PP PP 17 18 02.0 -4.5
LZH S **S 17 23 13.2 -4.2**
LZH sS 17 23 18.0
LZH SS SS 17 26 38.9 -8.1
LZH LR LR
comp=Z,3µm,17.8s,MS5.4
SHL Shillong 50.14 312 *eP* **P 17 16 12.0 -0.2**
SHL *e* 17 23 15.0
CN2 Changchun 50.72 354 *eP* **P 17 16 16.0 -0.4**
CN2 *eS* **S 17 23 30.6 +2.7**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,600nm,18.0s,MS4.7
CN2 LR LR
comp=E,300nm,18.0s,MS4.7
CN2 LR LR
comp=Z,400nm,23.0s,MS4.4
HHC Hu-ho-hao-te 50.87 341⇑ *iP* **P 17 16 17.9 +0.4**
HHC AP pP 17 16 27.0 -1.0
HHC XP sP 17 16 31.9 -0.4
HHC PCP PcP 17 17 38.8 +4.8
HHC PP PP 17 18 13.4 -1.3
HHC SCP 17 21 28.0
HHC S **S 17 23 27.4 -2.5**
HHC PS PS 17 23 42.9 -0.3
HHC XS 17 23 44.1
HHC SCS ScS 17 25 59.1 -3.1
HHC AMB AMB
comp=Z,79nm,1.3s,mb5.5
HHC LR LR
comp=N,403nm,20.3s,MS4.5
HHC LR LR
comp=E,319nm,22.7s,MS4.5
HHC LR LR
comp=Z,598nm,31.0s
BTO Baotou 51.17 339 *eP* **P 17 16 19.3 -0.6**
BTO AMB AMB
comp=Z,60nm,1.1s,mb5.4
MDJ Mudanjiang 51.27 358 P **P 17 16 20.4 -0.2**
MDJ PCP PcP 17 17 39.4 +3.9
MDJ PP PP 17 18 14.6 -3.7
MDJ S **S 17 23 31.5 -4.0**
MDJ SS SS 17 27 05.9 -3.1
MDJ AMB AMB
comp=Z,39nm,0.7s,mb5.5
MDJ AMB AMB
comp=Z,176nm,7.7s
MDJ LR LR
comp=N,355nm,25.8s
MDJ LR LR
comp=E,1µm,41.3s
MDJ LR LR
comp=Z,651nm,32.7s
MDJ Mudanjiang 51.27 358⇑ *iP* **P 17 16 20.1 -0.4**
comp=Z,27nm,0.6s,mb5.3
MDJ LR LR
comp=Z,460nm,20.0s,MS4.5
ASAJ Asahikawa 51.75 10 P **P 17 16 23.9 -0.2**
ASAJ pmax pmax
comp=Z,21nm,0.6s
ASAJ MLR MLR
comp=Z,497nm,20.4s
ASAJ Asahikawa 51.75 10 P **P 17 16 23.9 -0.2**
comp=Z,21nm,0.6s,mb5.2,baz=226,slow=9.8,SNR=31
ASAJ LR LR 17 36 19.5
comp=Z,497nm,20.4s,MS4.5,baz=203,slow=34
BWNR Bhubaneshwar 52.32 302 *e* **P 17 16 35.3 +6.6**
BWNR AMb AMB 17 16 36.3
comp=Z,173nm,0.7s,mb6.1
PALK Pallekele 52.48 285 P **P 17 16 28.7 -1.3**
comp=Z,46nm,0.9s,mb5.4
PALK LR LR
comp=Z,203nm,19.0s,MS4.2
LSA Lhasa 53.07 315 P **P 17 16 35.2 +1.0**
LSA Lhasa 53.07 315⇑ *iP* **P 17 16 34.9 +0.7**
LSA *eS* **S 17 23 59.4 -0.8**
LSA pmax pmax
comp=Z,69nm,0.7s,mb5.7
LSA MLR MLR
comp=Z,369nm,19.0s,MS4.5
LSA Lhasa 53.07 315⇑ *iP* **P 17 16 34.9 +0.7**
comp=Z,69nm,0.7s,mb5.7
LSA *eS* **S 17 23 59.4 -0.8**
LSA LR LR
comp=Z,369nm,19.0s,MS4.5
VIS Vishakhapatnam 53.38 298 *eP* **P 17 16 35.9 -0.7**
VIS AMb AMB 17 16 40.2
comp=Z,212nm,1.0s,mb6.0
VIS *e* 17 23 58.7
YSS Yuzh-Sakhalins 54.53 10⇓ *iP* **P 17 16 44.0 -0.7**
YSS *eS* **S 17 24 16.0 -3.8**
YSS pmax pmax
comp=N,30nm,0.8s
YSS pmax pmax
comp=Z,50nm,0.8s,mb5.6
YSS smax
comp=N,500nm,12.0s
YSS MLR MLR
comp=Z,600nm,20.0s,MS4.7
YSS MLR MLR
comp=N,500nm,18.0s
YSS Yuzh-Sakhalins 54.53 10 *eP* **P 17 16 43.6 -1.1**
comp=N,37nm,0.6s,mb5.6
YSS LR LR
comp=Z,655nm,21.0s,MS4.7
GTA Gaotai 54.54 330⇑ *iP* **P 17 16 45.4 +0.5**
GTA PP PP 17 18 48.6 -0.1
GTA PPP PPP 17 19 56.2 -4.2
GTA S **S 17 24 16.7 -3.3**
GTA SCS ScS 17 26 27.8 0.0
GTA SS SS 17 27 56.6 -5.7
GTA AMB AMB
comp=Z,168nm,0.8s,mb6.1
GTA AMB AMB
comp=Z,824nm,5.1s
GTA LR LR
comp=N,432nm,24.1s,MS4.7
GTA LR LR
comp=E,481nm,20.5s,MS4.7
GTA LR LR
comp=Z,648nm,23.5s,MS4.6
KLR Kul'dur 55.87 0 *eP* **P 17 16 50.0 -4.4**
KLR *eS* **S 17 24 29.5 -8.1**
KLR smax
comp=N,500nm,7.0s
KLR smax
comp=E,1µm,7.0s
GUN Gumba 55.91 310 *eP* **P 17 16 54.7 -0.3**
comp=E,510nm,0.7s
PKI Pulchoki 56.10 310 *eP* **P 17 16 55.7 -0.6**
comp=E,190nm,0.9s,mb6.2
PKI Pulchoki 56.10 310 *eP* **P 17 16 55.7 -0.6**
PKI pmax pmax
comp=Z,95nm,0.9s,mb5.8
BLSP Bilaspur 56.20 302 *eP* **P 17 16 56.1 -1.0**
BLSP *eP* 17 16 57.0
BLSP AMb AMB 17 16 58.7
comp=Z,136nm,1.0s,mb5.9
BLSP *e* 17 24 35.4
AFI Afiamalu 56.23 102 PFAKE 17 17 10.0 +13
AFI LR LR
comp=Z,456nm,19.0s,MS4.6
KKN Kakani 56.31 310 *eP* **P 17 16 57.1 -0.7**
DMN Daman 56.35 310 *eP* **P 17 16 57.8 -0.3**
comp=Z,312nm,0.9s,mb6.4
TRD Trivandrum 56.37 285 *eP* **P 17 16 57.4 -1.1**
HIA Hailar 56.82 351⇑ *eP* **P 17 17 00.4 -0.8**
HIA pmax pmax
comp=Z,17nm,0.8s
HIA MLR MLR
comp=Z,629nm,20.0s
HIA Hailar 56.82 351⇑ *eP* **P 17 17 00.4 -0.9**
comp=Z,17nm,0.8s,mb5.1
HIA LR LR
comp=Z,629nm,20.0s,MS4.7
GKN Gorkha 56.91 310 *eP* **P 17 17 01.5 -0.6**
comp=Z,461nm,0.9s,mb6.5
HYB Hyderabad 57.50 296⇑ *eP* **P 17 17 05.0 -1.5**
HYB *eS* **S 17 24 56.0 -3.6**
HYB pmax pmax
comp=Z,100nm,1.0s,mb5.8
HYB Hyderabad 57.50 296⇑ *eP* **P 17 17 05.0 -1.5**
comp=Z,100nm,1.0s,mb5.8
HYB *eS* **S 17 24 56.0 -3.6**
HYB Hyderabad 57.50 296⇑ *iP* **P 17 17 05.0 -1.5**
comp=Z,100nm,1.0s,mb5.8
HYB *eS* **S 17 24 56.0 -3.6**
KOLN Koldanda 57.59 309 *eP* **P 17 17 06.6 -0.3**
comp=Z,524nm,0.9s,mb6.6
NGP Nagpur 58.42 300 *eP* **P 17 17 11.6 -1.2**
NGP AMb AMB 17 17 13.5
comp=Z,147nm,0.7s,mb6.1
ULN Ulaanbaatar 58.58 341 *i* P **P 17 17 13.2 -0.4**
ULN Ulaanbaatar 58.58 341 PFAKE 17 17 20.0 +6.4
ULN LR LR
comp=Z,464nm,22.0s,MS4.6
SONM Songino Array 58.77 341 P **P 17 17 15.1 +0.2**
comp=Z,78nm,0.9s,mb5.7,baz=162,slow=4.6,SNR=299
SONM ScS ScS 17 27 10.2 +12
comp=Z,0.8nm,0.5s,baz=169,slow=7.9,SNR=7.8
SONM PKP2bc 17 47 03.0
comp=Z,0.7nm,1.0s,baz=270,slow=1.4,SNR=4.1
SONM Songino Array 58.77 341 P **P 17 17 15.1 +0.2**
SONM ScS ScS 17 27 10.2 +12
SONM ⇑*e* 17 47 03.0
DRV Dumont d'Urvil 59.99 176 S **S 17 25 27.0 -4.4**
DRV L 17 32 00.0
DRV R 17 36 00.0
AKL Akola 60.02 299 *e* **P 17 17 26.2 +2.3**
BHPL Bhopal 60.62 301 *eP* **P 17 17 26.9 -1.1**
BHPL AMb AMB 17 17 28.3
BHPL *e* 17 25 33.7
BHPL *e* 17 25 36.1
CIT Chita 60.62 347 *eP* **P 17 17 27.4 -0.2**
CIT *e* pP 17 17 39.2 +1.0
CIT *e* 17 25 36.3
CIT *e* 17 27 12.5
CIT pmax pmax
comp=Z,129nm,2.7s,mb5.6
LGTI Lohaghat 60.98 309 *eP* **P 17 17 29.3 -1.0**
PTH Pithoragarh 61.05 309 *eP* **P 17 17 29.0 -1.8**
CASY Casey 61.05 189⇓ *iP* **P 17 17 29.9 -0.4**
CASY LR LR
comp=Z,1µm,19.0s,MS5.1
KAD Karad 61.41 294 *eP* **P 17 17 32.0 -1.4**
POO Poona 62.09 295 *eP* **P 17 17 36.7 -1.3**
POO AMb AMB 17 17 37.6
comp=Z,82nm,0.8s,mb5.9
TLY Talaya 62.99 341⇑ *iP* **P 17 17 43.4 -0.1**
TLY pmax pmax
comp=Z,53nm,0.8s,mb5.7
TLY MLR MLR
comp=Z,338nm,22.0s,MS4.5
TLY Talaya 62.99 341⇑ *iP* **P 17 17 43.5 0.0**
comp=Z,64nm,0.8s,mb5.8
TLY LR LR
comp=Z,92nm,21.0s,MS3.9
NDI New Delhi 63.01 307 *eP* **P 17 17 42.3 -1.7**
NDI AMb AMB 17 17 44.0
comp=Z,163nm,0.7s,mb6.3
NDI *e* 17 26 04.0
DDI Dehra Dun 63.07 309 *eP* **P 17 17 43.8 -0.5**
IRK Irkutsk 63.28 342 *eP* **P 17 17 44.7 -0.7**
IRK *e* 17 26 15.4
IRK pmax pmax
comp=Z,194nm,2.6s,mb5.8
CLNS Chul'man 63.71 356 *eP* **P 17 17 43.9 -4.2**
CLNS pmax pmax
comp=N,19nm,0.7s
CLNS pmax pmax
comp=E,10.0nm,0.7s
CLNS pmax pmax
comp=Z,47nm,0.7s,mb5.6
PET Petropavlovsk 64.00 18⇑ *iP* **P 17 17 50.7 +0.7**
PET *i* S **S 17 26 20.2 -1.9**
PET *eSS* SS 17 30 29.8 -2.6
PET *eSSS* SSS 17 33 15.1 -6.4
PET pmax pmax
comp=Z,37nm,1.1s,mb5.3
PET pmax pmax
comp=Z,40nm,11.2s
PET pmax pmax
comp=Z,72nm,1.1s,mb5.6
PET smax
comp=N,400nm,22.0s
PET Petropavlovsk 64.00 18⇓ *eP* **P 17 17 50.0 0.0**
comp=N,85nm,1.1s,mb5.7
PET LR LR
comp=Z,417nm,22.0s,MS4.6
WMQ Urumqi 64.05 326 *eP* **P 17 17 51.0 +0.5**
WMQ PP PP 17 20 13.5 +0.2
WMQ S **S 17 26 25.2 +2.3**
WMQ AMB AMB
comp=Z,371nm,1.0s,mb6.4
WMQ AMB AMB
comp=Z,1µm,4.5s
WMQ LR LR
comp=N,418nm,18.0s,MS4.8
WMQ LR LR
comp=E,275nm,14.3s,MS4.8
WMQ LR LR
comp=Z,314nm,17.1s,MS4.6
AJM Ajmer 64.20 304 *eP* **P 17 17 50.0 -1.8**
SDNR Sundarnagar 64.43 310 *eP* **P 17 17 52.6 -0.6**
MIR Mirnyy 65.14 196 *c iP* **P 17 17 58.0 +0.8**
MIR pmax pmax
comp=Z,67nm,1.4s,mb5.5
PONG Pong 65.41 310 *eP* **P 17 18 00.0 +0.5**
DLH Dalhousie 65.65 310 *eP* **P 17 18 00.0 -1.1**
THN Thein Dam 65.79 310 *eP* **P 17 18 00.5 -1.5**
BOD Bodaibo 66.00 350 *eP* **P 17 18 02.0 -0.9**
BOD pmax pmax
comp=Z,41nm,1.4s,mb5.3
MA2 Magadan 68.01 10 *ceP* **P 17 18 15.2 -0.3**
MA2 *e* 17 18 43.0
MA2 *e* 17 20 45.2
MA2 *ePPP* PPP 17 22 18.1 -6.6
MA2 *eS* S 17 27 10.7 -0.1
MA2 *ePS* PS 17 27 41.2 +1.1
MA2 *e* 17 28 08.0
MA2 MLR MLR
comp=Z,500nm,21.0s,MS4.7
MA2 Magadan 68.01 10 PFAKE 17 18 30.0 +14
MA2 LR LR
comp=Z,317nm,22.0s,MS4.5
YAK Yakutsk 68.71 359 *c iP* **P 17 18 19.0 -0.8**
YAK pmax pmax
comp=Z,154nm,0.8s,mb6.0
YAK MLR MLR
comp=Z,400nm,20.0s,MS4.7
YAK Yakutsk 68.71 359⇑ *iP* **P 17 18 19.3 -0.5**
comp=Z,143nm,0.7s,mb6.0
YAK LR LR
comp=Z,379nm,21.0s,MS4.6
KSH Kashi 68.86 317⇑ *iP* **P 17 18 23.0 +1.8**
KSH *ePCP* PcP 17 18 48.9 +3.3
KSH *ePP* PP 17 20 50.5 -5.2
KSH *ePCS* 17 22 50.1
KSH *eS* S 17 27 26.0 +4.7
KSH *eSCS* ScS 17 28 18.2 +3.2
KSH *eSS* SS 17 31 51.2 +2.7
KSH AMB AMB
comp=Z,360nm,0.9s,mb6.3
KSH LR LR
comp=N,340nm,5.4s
KSH LR LR
comp=E,460nm,7.0s
MKAR Makanchi Array 68.88 326 P **P 17 18 21.6 +0.5**
MKAR S S 17 27 20.8 -0.6
MKAR pmax pmax
comp=Z,271nm,0.8s
MKAR smax
comp=E,6.0nm,1.0s
MKAR Makanchi Array 68.88 326 P **P 17 18 21.6 +0.4**
comp=E,271nm,0.8s,mb6.2,baz=124,slow=7.1,SNR=1068
MKAR S S 17 27 20.8 -0.5
comp=E,5.5nm,1.0s,baz=129,slow=9.2,SNR=8.1
FX1 Attu Island--F 69.25 26 P **P 17 18 23.7 +0.4**
FX1 pmax pmax
comp=Z,47nm,0.6s
FX1 MLR MLR
comp=Z,14nm,19.7s
FX1 Attu Island--F 69.25 26 P **P 17 18 23.7 +0.4**
comp=Z,47nm,0.6s,mb5.6,baz=197,slow=2.0,SNR=11
FX1 LR LR 17 44 31.4
comp=Z,14nm,19.7s,baz=239,slow=32
FX1 Attu Island--F 69.25 26 *eP* **P 17 18 23.6 +0.3**
ULHL Ulahol 70.02 320 P **P 17 18 29.4 +1.2**
SNR=7.6

KZA Kyzart 70.58 319 P **P** **17 18 33.5 +1.9**
SNR=138
TKM2 Tokmak 2 70.77 320 P **P** **17 18 33.7 +1.0**
SNR=149
KBK Karagaybulak 71.06 319 P **P** **17 18 35.7 +1.2**
SNR=46
UCH Uchtor 71.13 319 P **P** **17 18 36.5 +1.6**
SNR=197
AAK Ala-Archa 71.34 319 P **P** **17 18 37.4 +1.3**
SNR=34
AAK Ala-Archa 71.34 319 *i* P **P** **17 18 36.2 0.0**
AAK LR LR
comp=Z,105nm,22.0s,MS4.1
CHMS Chumysh 71.35 320 P **P** **17 18 36.5 +0.3**
SNR=42
FRU Bishkek 71.36 320⇑ *e*P **P** **17 18 37.0 +0.7**
FRU *e* 17 27 52.0
FRU pmax pmax
comp=Z,260nm,2.2s,mb5.8
SEY Seymchan 71.44 10 *e*P **P** **17 18 36.9 +0.5**
SEY 17 19 00.2
SEY *e*S S 17 27 48.5 -2.4
SEY *e* 17 28 38.8
SEY pmax pmax
comp=Z,60nm,0.9s,mb5.5
SEY pmax pmax
comp=N,10.0nm,0.7s
SEY pmax pmax
comp=E,9.0nm,0.7s
SEY smax
comp=N,400nm,16.5s
SEY smax
comp=E,300nm,16.3s
SEY MLR MLR
comp=N,500nm,23.0s,MS4.7
SEY MLR MLR
comp=Z,800nm,23.0s,MS4.9
SEY MLR MLR
comp=E,200nm,25.0s,MS4.7
SEY Seymchan 71.44 10⇑ *i*P **P** **17 18 36.4 0.0**
AML Almayashu 71.62 319 P **P** **17 18 39.5 +1.7**
SNR=152
USP Ospenovka 71.64 320 P **P** **17 18 38.6 +0.7**
SNR=201
EKS2 Erkin-Say 71.82 319 P **P** **17 18 40.3 +1.4**
SNR=101
ZAL Zalesovo 72.09 333 P **P** **17 18 39.7 -0.7**
ZAL S S 17 27 55.6 -3.0
ZAL pmax pmax
comp=Z,59nm,0.8s
ZAL smax
comp=E,3.0nm,1.1s
ZAL Zalesovo 72.09 333 P **P** **17 18 39.6 -0.7**
comp=E,59nm,0.8s,mb5.6,baz=346,slow=5.3,SNR=251
ZAL S S 17 27 55.6 -3.0
comp=E,2.9nm,1.1s,baz=105,slow=23,SNR=15
VNDA Vanda 72.41 173 P **P** **17 18 42.1 +0.1**
VNDA pmax pmax
comp=Z,21nm,1.0s
VNDA Vanda 72.41 173 P **P** **17 18 42.0 +0.1**
comp=Z,5.9nm,0.5s,mb4.8,baz=320,slow=6.3,SNR=98
VNDA LR LR 17 52 21.7
comp=Z,737nm,19.2s,MS5.0,baz=338,slow=37
SBA Scott Base 73.28 173 *e*P **P** **17 18 48.0 +0.9**
SBA *e**PP pP 17 19 00.7 +2.7
SBA *e**SP sP 17 19 07.2 +5.3
SBA pmax pmax
comp=Z,38nm,1.2s,mb5.2
SBA MLR MLR
comp=Z,614nm,21.0s,MS4.9
SBA Scott Base 73.28 173 *e*P **P** **17 18 48.0 +0.9**
comp=Z,38nm,1.2s,mb5.2
SBA *e*pP pP 17 19 00.7 +2.8
SBA *e*sP sP 17 19 07.2 +5.3
SBA LR LR
comp=Z,614nm,21.0s,MS4.9
NVS Novosibirsk 73.37 333⇑ *i*P **P** **17 18 46.9 -1.1**
NVS *i* S S 17 28 09.3 -3.9
NVS pmax pmax
comp=Z,142nm,1.4s,mb5.7
NVS pmax pmax
comp=N,90nm,1.6s
NVS pmax pmax
comp=E,87nm,1.4s
NVS smax
comp=N,185nm,2.6s
NVS smax
comp=E,86nm,2.6s
KKAR Karatay Array 74.16 318 *i* P **P** **17 18 52.8 0.0**
KKAR pmax pmax
comp=Z,67nm,0.9s,mb5.6
KKAR Karatay Array 74.16 318 *i* P **P** **17 18 52.9 +0.1**
MAW Mawson 75.58 202⇓ *i*P **P** **17 19 01.7 +1.2**
comp=Z,14nm,0.6s,mb5.1
MAW Mawson 75.58 202⇓ *e*P **P** **17 19 01.6 +1.1**
MAW pmax pmax
comp=Z,15nm,0.6s
MAW MLR MLR
comp=Z,974nm,20.0s
MAW Mawson 75.58 202 P **P** **17 19 01.7 +1.3**
comp=Z,19nm,0.8s,mb5.1,baz=72,slow=6.9,SNR=34
MAW LR LR 17 49 30.8
comp=Z,590nm,20.9s,MS4.9,baz=69,slow=34
MAW Mawson 75.58 202⇓ *e*P **P** **17 19 01.6 +1.2**
comp=Z,15nm,0.6s,mb5.1
MAW LR LR
comp=Z,974nm,20.0s,MS5.1
WBK Wadi Bani Khal 76.60 295 P **P** **17 19 08.3 +1.1**
SNR=7.6
JMDO Jabal Madar 77.33 295 P **P** **17 19 11.8 +0.5**
SNR=6.1
TBI Tubuai 77.37 112 *e*P **P** **17 19 13.7 +2.2**
TBI *e*PP PP 17 22 10.9 +3.3
comp=Z,90nm,42.0s
TBI *e*S x 17 29 46.2
comp=Z,511nm,25.5s
TBI *e*SS SS 17 34 07.8 +8.1
comp=Z,157nm,30.0s
TBI *e*LQ 17 39 49.1
comp=Z,540nm,36.8s
TBI *e*LR LR 17 43 22.4
comp=Z,990nm,29.0s,baz=284
SMDO Samad 77.53 295 P **P** **17 19 12.9 +0.5**
SNR=38
PPT Papeete 77.53 106 *e*P **P** **17 19 12.9 +0.4**
PPT *e*PP PP 17 22 10.9 +1.7
comp=Z,99nm,28.0s
PPT *e*S x 17 29 46.2
comp=Z,560nm,26.0s
PPT *e*SS SS 17 33 41.0 -21
comp=Z,174nm,25.0s
PPT *e*LQ 17 39 39.2
comp=Z,659nm,39.0s
PPT *e*LR LR 17 43 43.5
comp=Z,921nm,25.8s,baz=261
PPT Papeete 77.53 106 LR LR 17 46 49.4
comp=Z,447nm,18.9s,MS4.8,baz=274,slow=31
BIDO Bidbid 77.57 296 P **P** **17 19 13.7 +1.1**
SNR=37
BSY Bisya 78.23 295 P **P** **17 19 16.8 +0.6**
SNR=17
VOSK Vostochnaya 78.24 327 *i* P **P** **17 19 15.5 -0.2**
HOQ Hoqain 78.31 296 P **P** **17 19 17.2 +0.6**
SNR=18
TIXI Tiksi 78.38 359 PFAKE 17 19 30.0 +14
TIXI LR LR
comp=Z,682nm,21.0s,MS5.0
BILL Bilibino 78.68 13⇓ *i*P **P** **17 19 18.3 +0.5**
BILL *e* 17 22 15.1
BILL pmax pmax
comp=Z,15nm,1.6s,mb4.7
BILL Bilibino 78.68 13⇑ *i*P **P** **17 19 17.9 +0.1**
BILL LR LR
comp=Z,416nm,22.0s,MS4.7
BVA0 Borovoye Array 78.69 327 *i* P **P** **17 19 18.3 +0.1**
BVA0 pmax pmax
comp=Z,24nm,1.0s,mb5.1
BVAR Borovoye Array 78.69 327 P **P** **17 19 18.2 0.0**
comp=Z,125nm,0.8s,mb5.9,baz=117,slow=6.6,SNR=443
BVAR S S 17 29 09.6 -1.9
comp=Z,4.7nm,1.1s,baz=126,slow=13,SNR=5.7
ZRNK Zerenda 79.41 327 *i* P **P** **17 19 22.0 -0.1**
ASHO Ashiyiah 79.67 297 P **P** **17 19 24.9 +0.8**
SNR=8.9
RBK Rabkut 79.94 289 P **P** **17 19 26.1 +0.5**
SNR=9.9
ABTO Aybut 80.77 289 P **P** **17 19 30.9 +0.9**
SNR=22
OPO Ambohidratompo 82.37 252 P **P** **17 19 39.9 +1.6**
comp=Z,18nm,0.7s,mb5.1,baz=73,slow=4.2,SNR=28
QSPA South Pole Qui 83.10 180⇓ *i*P **P** **17 19 41.6 +0.7**
comp=Z,57nm,1.1s,mb5.5
AB31 Akbulak array 83.27 321 *i* P **P** **17 19 42.0 -0.3**
AB31 pmax pmax
comp=Z,38nm,0.8s,mb5.5
AB31 Akbulak array 83.27 321 *i* P **P** **17 19 42.1 -0.2**
TNA Tin City 84.60 21 PFAKE
TNA LR LR 17 20 00.0 +11
comp=Z,198nm,21.0s,MS4.5
SVE Sverdlovsk 85.37 329⇑ *i*P **P** **17 19 52.8 +0.1**
SVE *e* 17 23 12.0
SVE pmax pmax
comp=Z,220nm,1.1s,mb6.2
ARU Arti 86.33 328⇑ *i*P **P** **17 19 56.3 -1.1**
ARU *i* 17 23 18.1
ARU *i*S S 17 30 19.5 -9.2
ARU *e*SS SS 17 36 09.5 -2.5
ARU *e*SSS SSS 17 39 41.9 +0.2
ARU pmax pmax
comp=Z,76nm,1.0s,mb5.9
ARU MLR MLR
comp=N,100nm,20.0s,MS4.5
ARU MLR MLR
comp=Z,200nm,20.0s,MS4.5
ARU MLR MLR
comp=E,200nm,22.0s,MS4.5
ARU Arti 86.33 328⇑ *i*P **P** **17 19 56.3 -1.1**
comp=E,73nm,1.0s,mb5.9
ARU *e*PP PP 17 23 17.6 -3.0
ARU LR LR
comp=Z,92nm,22.0s,MS4.1
TAOE Nuku Hiva Isla 87.45 99 *e*LR LR 17 49 18.5
comp=Z,6μm,35.2s
QRN Al-Qurain 87.58 299 *e*P **P** **17 20 04.4 +0.2**
QRN AMb AMB 17 20 24.2
comp=Z,90nm,0.8s,mb6.1
KBD Kabd 87.84 300 *e*P **P** **17 20 05.4 0.0**
UMR Umm Al-Rimmam 87.88 300 *e*P **P** **17 20 05.9 +0.3**
UMR AMb AMB 17 20 06.9
comp=Z,88nm,0.7s,mb6.1
RDF Al-Radifah 87.93 299 *e*P **P** **17 20 06.0 +0.2**
RDF AMb AMB 17 20 08.2
comp=Z,122nm,0.9s,mb6.1
SOKR Solikamsk 88.17 331⇓ *i*P **P** **17 20 04.0 -2.2**
SOKR pmax pmax
comp=Z,50nm,1.0s,mb5.7
SOKR MLR MLR
comp=Z,390nm,21.0s,MS4.8
TTA Tatalina 88.27 26 *e*P **P** **17 20 07.4 +0.8**
ATD Arta Tunnel 89.94 282 P **P** **17 20 17.5 +1.9**
comp=Z,25nm,0.9s,mb5.5,baz=87,slow=7.3,SNR=7.0
ATD Arta Tunnel 89.94 282 P **P** **17 20 17.5 +1.9**
MAK Makhachkala 90.18 313 *e*P **P** **17 20 18.0 +1.9**
MAK *e*S S 17 31 06.0 +1.0
MAK pmax pmax
comp=Z,800nm,6.0s
MAK smax
comp=N,1μm,8.0s
MAK smax
comp=E,1μm,8.0s
IMA Indian Mountai 90.18 23 P **P** **17 20 17.1 +1.5**
FIB Fire Island 90.43 28 PFAKE
FIB LR LR 17 20 30.0 +13
comp=Z,1μm,22.0s,MS5.3
RKT Rikitea 90.66 113 *e*P **P** **17 20 35.4 +17**
RKT *e*PP PP 17 24 01.0 +4.3
comp=Z,123nm,32.2s
RKT *e*S S 17 31 14.0 +4.2
comp=Z,526nm,35.5s
RKT *e*SS SS 17 37 13.2 -2.3
comp=Z,230nm,30.2s
RKT *e*LQ 17 45 27.9
comp=Z,754nm,39.8s
RKT *e*LR LR 17 49 35.4
comp=Z,480nm,33.2s,baz=273
MCK McKinley 91.56 26 P **P** **17 20 21.7 -0.4**
MCK pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
MCK MLR MLR
comp=Z,114nm,20.0s,MS4.3
MCK McKinley 91.56 26 P **P** **17 20 21.7 -0.4**
comp=Z,3.6nm,0.6s,mb4.9
MCK LR LR
comp=Z,114nm,20.0s,MS4.3
GNI Garni 91.82 310*c* *i*P **P** **17 20 25.2 +1.3**
GNI pmax pmax
comp=Z,30nm,1.3s
GNI Garni 91.82 310 P **P** **17 20 25.9 +2.0**
comp=Z,7.9nm,0.6s,mb5.2,baz=160,slow=3.5,SNR=4.2
GNI Garni 91.82 310 *e*P **P** **17 20 25.3 +1.5**
comp=Z,24nm,0.9s,mb5.5
GNI LR LR
comp=Z,166nm,20.0s,MS4.5
DIV Divide 92.51 29 *e*P **P** **17 20 26.6 0.0**
comp=Z,51nm,0.7s,mb6.1
DIV LR LR
comp=Z,1μm,21.0s,MS5.3
ILAR Eielson Array 92.64 25 P **P** **17 20 26.1 -0.9**
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR Eielson Array 92.64 25 P **P** **17 20 26.1 -1.0**
comp=Z,1.8nm,0.7s,mb4.6,baz=266,slow=4.7,SNR=15
ZEI Tsey 92.78 313 *e*P **P** **17 20 26.3 -1.9**
ZEI *i* *PP pP 17 20 32.0 -7.4
ZEI *i* 17 24 09.2
ZEI pmax pmax
comp=Z,7.0nm,0.6s,mb5.3
ONI Oni 93.08 312 P **P** **17 20 29.9 +0.3**
GOF Gofitskoye 93.65 315⇑ *i*P **P** **17 20 31.9 -0.2**
GOF pmax pmax
comp=Z,30nm,1.3s,mb5.6
KIV Kislovodsk 93.78 314*d* *i*P **P** **17 20 33.5 +0.8**
KIV pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,100nm,21.0s,MS4.2
KIV Kislovodsk 93.78 314 *i* P **P** **17 20 33.6 +0.9**
KIV LR LR
comp=Z,49nm,21.0s,MS3.9
KMBO Kilima Mbogo 93.97 268 P **P** **17 20 35.9 +1.6**
KMBO pmax pmax
comp=Z,12nm,1.0s
KMBO MLR MLR
comp=Z,287nm,20.3s
KMBO Kilima Mbogo 93.97 268 P **P** **17 20 35.9 +1.6**
comp=Z,12nm,1.0s,mb5.3,baz=47,slow=6.6,SNR=17
KMBO LR LR 17 57 31.0
comp=Z,287nm,20.3s,MS4.7,baz=274,slow=32
SOC Sochi 95.90 313 *e*P **P** **17 20 39.8 -2.5**
SOC *e*S 17 31 12.9
SOC *e* 17 31 59.4
SOC pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
SOC pmax pmax
comp=N,5.0nm,0.9s
SOC pmax pmax
comp=E,7.0nm,0.9s
SOC MLR MLR
comp=Z,227nm,22.0s,MS4.6
SOC MLR MLR
comp=N,156nm,21.0s,MS4.7
SOC MLR MLR
comp=E,235nm,22.0s,MS4.7
SNAA Sanae 96.11 193 P **P** **17 20 43.9 +1.3**
SNAA Sanae 96.11 193 pP **17 20 55.5 +1.7**
SNAA Sanae 96.11 193⇓ *e*P **P** **17 20 43.7 +1.1**
SNAA pmax pmax
comp=Z,10.0nm,1.0s
SNAA Sanae 96.11 193 P **P** **17 20 44.3 +1.7**
comp=Z,3.0nm,1.0s,mb4.7,baz=132,slow=3.7,SNR=32
SNAA Sanae 96.11 193⇓ *e*P **P** **17 20 43.7 +1.1**
comp=Z,10.0nm,1.0s,mb5.2
ASF Jabal al Asfar 97.41 302 P **P** **17 20 50.5 +1.0**
comp=Z,14nm,0.9s,mb5.4,baz=326,slow=2.0,SNR=17
SIT Sitka 97.51 33 PFAKE
SIT LR LR 17 21 00.0 +11
comp=Z,597nm,22.0s,MS5.0
VNA2 Neumayer--Watz 97.66 193 **P** **17 20 53.7 +4.0**
VNA2 Neumayer--Watz 97.66 193 **P** **17 20 54.9 +5.2**
VNA2 Neumayer--Watz 97.66 193 pP 17 20 57.8 -3.1
VNA2 Neumayer--Watz 97.66 193 sP 17 21 08.6 +4.0
VNA2 Neumayer--Watz 97.66 193 P **P** **17 20 52.5 +2.8**
VNA2 P 17 20 57.8
VNA2 P 17 21 08.6
VNA2 P 17 21 10.5
VNA2 P 17 21 19.9
INK Inuvik 98.23 22 *e*P **P** **17 20 50.2 -2.1**
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 98.23 22 P **P** **17 20 53.1 +0.8**
comp=Z,2.1nm,0.9s,mb4.7,baz=270,slow=9.3,SNR=4.0
INK Inuvik 98.23 22 *e*P **P** **17 20 50.2 -2.1**
comp=Z,7.2nm,0.9s,mb5.2
OBN Obninsk 98.35 325⇓ *i*P **P** **17 20 52.1 -1.1**
OBN *i* 17 20 59.7
OBN *i* pP 17 21 04.9 +0.5
OBN pmax pmax
comp=Z,34nm,1.2s,mb5.8
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.6
OBN Obninsk 98.35 325⇓ *i*P **P** **17 20 52.2 -1.0**
OBN LR LR
comp=Z,45nm,19.0s,MS4.0
EIL Elat 98.94 299 P **P** **17 20 56.6 +0.2**
comp=Z,8.4nm,0.9s,mb5.3,baz=19,slow=4.3,SNR=9.9
APA Apatity 99.36 337⇓ *i*P **P** **17 20 55.5 -2.0**
APA pmax pmax
comp=Z,21nm,1.0s,mb5.6
APA MLR MLR
comp=Z,800nm,19.0s,MS5.2
MATP Matopo 99.58 248 P **P** **17 20 59.6 0.0**
comp=Z,4.2nm,0.8s,mb4.9,baz=100,slow=3.7,SNR=9.8
MATP PP PP 17 25 02.0 -4.1
comp=Z,6.3nm,1.1s,baz=108,slow=7.3,SNR=6.1
BR131 Keskin Array S 100.31 309 *e*Pdif P 17 21 02.0 -0.4
comp=Z,4.7nm,1.0s
BR131 LR LR
comp=Z,151nm,20.0s,MS4.5
BRTR Keskin Array B 100.31 309 P P 17 21 02.1 -0.4
BRTR 17 25 03.8
BRTR pmax pmax
comp=Z,7.0nm,1.0s
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 100.31 309 P P 17 21 02.1 -0.4
comp=Z,7.0nm,1.0s,baz=124,slow=4.5,SNR=16
BRTR PP PP 17 25 03.8 -7.7
comp=Z,2.3nm,0.9s,baz=100,slow=7.5,SNR=4.1
MBAR Mbarara 100.50 268 PFAKE 17 21 20.0 +16
MBAR LR LR
comp=Z,78nm,20.0s,MS4.2
BOSA Boshof 100.72 239 P P 17 21 04.9 +0.3
BOSA pmax pmax
comp=Z,7.0nm,1.0s
BOSA Boshof 100.72 239 P P 17 21 04.9 +0.3
comp=Z,6.5nm,1.0s,baz=108,slow=5.4,SNR=7.1
LSZ Lusaka 100.82 253 *e*P P 17 21 05.4 +0.1
LSZ pmax pmax
comp=Z,6.0nm,0.9s
LSZ MLR MLR
comp=Z,481nm,22.0s,MS5.0
LSZ Lusaka 100.82 253 *e*Pdif P 17 21 05.4 +0.1
comp=Z,5.7nm,0.9s
LSZ LR LR
comp=Z,481nm,22.0s,MS5.0
LBTB Lobatse 101.26 243 P P 17 21 07.1 0.0
comp=Z,8.0nm,0.9s,baz=124,slow=5.3,SNR=12
LBTB Lobatse 101.26 243 P P 17 21 07.1 0.0
LBTB LR LR
comp=Z,453nm,19.0s,MS5.0
KEV Kevo 101.38 340 PFAKE 17 21 20.0 +13
KEV LR LR
comp=Z,668nm,21.0s,MS5.1
ARCES ARCESS Array B 101.94 340 P P 17 21 08.0 -1.1
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 101.94 340 P P 17 21 08.0 -1.1
comp=Z,5.2nm,0.8s,baz=90,slow=6.1,SNR=7.1
ARCES ARCESS Array B 101.94 340 P P 17 21 08.0 -1.1
KBS Kingsbay 102.18 350 PFAKE 17 21 20.0 +10
KBS LR LR
comp=Z,383nm,21.0s,MS4.9
AKASG Malin Array Be 102.99 320 P Pdif 17 21 12.7 -1.5
AKASG 17 25 25.0
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 102.99 320 Pdiff Pdif 17 21 12.7 -1.4
comp=Z,2.7nm,0.7s,baz=66,slow=4.5,SNR=6.4
AKASG PP PP 17 25 25.0 -6.7
comp=Z,0.5nm,0.4s,baz=71,slow=7.2,SNR=3.4
KAF Kangasniemi 103.08 332 *e*p Pdif 17 21 12.2 -2.1
comp=Z,2.5nm,0.7s
FINES FINESS Array B 103.31 332 P Pdif 17 21 14.5 -0.8
FINES 17 25 30.2
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 103.31 332 Pdiff Pdif 17 21 14.4 -0.9
comp=Z,3.8nm,0.8s,baz=90,slow=5.7,SNR=5.2
FINES PP PP 17 25 30.1 -3.5
comp=Z,5.3nm,0.9s,baz=117,slow=8.5,SNR=4.8
OCWA Octopus Mounta 104.76 43 PFAKE 17 21 30.0 +8.0
OCWA LR LR
comp=Z,577nm,20.0s,MS5.1
COR Corvallis 105.69 46 PFAKE 17 25 50.0
COR LR LR
comp=Z,334nm,20.0s,MS4.9
MLR Muntele Rosu 105.69 315 P Pdif 17 21 26.6 +0.4
MLR 17 25 45.7
MLR pmax pmax
comp=Z,3.0nm,0.9s
MLR pmax pmax
comp=Z,7.0nm,0.8s
MLR Muntele Rosu 105.69 315 Pdiff Pdif 17 21 26.6 +0.4
comp=Z,3.4nm,0.9s,baz=106,slow=1.8,SNR=4.8
MLR PP PP 17 25 45.7 -6.0
comp=Z,7.3nm,0.8s,baz=154,slow=4.8,SNR=4.9
HUMO Hull Mountain 106.14 48 PFAKE 17 25 50.0
HUMO LR LR
comp=Z,293nm,20.0s,MS4.8
HOPS Hopland 106.36 51 PFAKE 17 25 50.0
HOPS LR LR
comp=Z,395nm,19.0s,MS5.0
YBH Yreka Blue Hor 106.41 49 PFAKE 17 25 50.0
YBH LR LR
comp=Z,345nm,22.0s,MS4.9
WDC Whiskeytown Da 106.64 50 PFAKE 17 25 50.0
WDC LR LR
comp=Z,336nm,21.0s,MS4.9
KWP Kalwaria 107.28 320 P Pdif 17 21 31.8 -1.3
KWP *e* 17 25 59.9
KWP pmax pmax
comp=Z,14nm,1.0s
KWP Kalwaria 107.28 320 Pdif Pdif 17 21 31.8 -1.3
comp=Z,14nm,1.0s
KWP *e*PP PP 17 25 59.9 -3.9
UZH Uzhgorod 107.72 319 *e*P Pdif 17 21 36.0 +1.0
UZH *e* 17 26 10.0
UZH *e*S SP 17 35 19.0 -1.8
SAO San Andreas Ge 107.83 54 PFAKE 17 26 00.0
SAO LR LR
comp=Z,170nm,19.0s,MS4.6
MOD Modoc 108.17 48 PFAKE 17 26 00.0
MOD LR LR
comp=Z,327nm,21.0s,MS4.9
CMB Columbia Colle 108.55 52 PFAKE 17 26 00.0
CMB LR LR
comp=Z,294nm,20.0s,MS4.8
WVOR Wild Horse Val 109.33 48 PFAKE 17 26 00.0
WVOR LR LR
comp=Z,507nm,22.0s,MS5.0
NEW Newport 109.36 41 PFAKE 17 26 00.0
NEW LR LR
comp=Z,504nm,22.0s,MS5.0
HFS Hagfors 109.50 332 P Pdif 17 21 42.1 -0.5
HFS 17 26 15.5
HFS pmax pmax
comp=Z,6.0nm,1.0s
HFS pmax pmax
comp=Z,6.0nm,0.9s
HFS Hagfors 109.50 332 Pdiff Pdif 17 21 42.1 -0.5
comp=Z,6.0nm,1.0s,baz=72,slow=4.6,SNR=6.3
HFS PP PP 17 26 15.5 -4.5
comp=Z,5.5nm,0.9s,baz=90,slow=10,SNR=3.9
TSUM Tsumeb 109.87 247 PFAKE 17 26 00.0
TSUM LR LR

comp=Z,482nm,19.0s,MS5.1
BMO Blue Mountains 109.89 45 PFAKE 17 26 00.0
BMO LR LR
comp=Z,276nm,21.0s,MS4.8
OKC Ostrava-Krasne 110.14 321 AMS AMS 18 05 50.0
NB2 NORSAR Subarra110.29 333 P Pdif 17 21 45.4 -0.6
comp=Z,0.2nm,0.7s,baz=72,slow=5.3
NOA NORSAR Array B110.29 333 P Pdif 17 21 45.5 -0.5
NOA pmax pmax
comp=Z,3.0nm,1.0s
NOA NORSAR Array B110.29 333 Pdiff Pdif 17 21 45.5 -0.5
comp=Z,3.1nm,1.0s,baz=67,slow=4.6,SNR=5.1
NOA NORSAR Array B110.29 333 Pdif Pdif 17 21 45.5 -0.5
BMN Battle Mountai 110.68 49 PFAKE 17 26 00.0 +13
BMN LR LR
comp=Z,218nm,19.0s,MS4.8
DAC Darwin (Calif) 110.96 54 PFAKE 17 26 00.0 +12
DAC LR LR
comp=Z,357nm,21.0s,MS4.9
TPH Tonopah 111.02 52 PFAKE 17 26 00.0 +12
TPH LR LR
comp=Z,291nm,20.0s,MS4.9
DPC Dobruska-Polom 111.15 322 *e*PP PP 17 26 15.9 -16
DPC AMS AMS 18 18 50.0
comp=Z,300nm,23.9s
UPC Upice 111.30 322 *e*PP PP 17 26 25.4 -7.4
KONO Kongsberg 111.59 332 PFAKE 17 26 00.0 +12
KONO LR LR
comp=Z,332nm,22.0s,MS4.9
MSO Missoula 111.78 42 PFAKE 17 26 00.0 +11
MSO LR LR
comp=Z,198nm,19.0s,MS4.7
ELK Elko 112.12 49 PFAKE 17 26 00.0 +10
ELK LR LR
comp=Z,281nm,22.0s,MS4.8
HLID Hailey 112.18 46 *e*PKP PKPdf 17 25 52.7 +2.7
PVCC Panska Ves 112.18 322 AMS AMS 18 16 50.0
comp=Z,200nm,24.6s
PFO Pinyon Flat Ob 112.21 57 PFAKE 17 26 00.0 +10
PFO LR LR
comp=Z,101nm,20.0s,MS4.4
PRU Pruhonice 112.35 321 *e*PP PP 17 26 39.1 -1.4
PRU AMS AMS 18 19 30.0
comp=Z,200nm,20.0s
BRG Berggiesshubel 112.45 323 *e*PKP PP 17 26 20.8 -21
BRG *e* 17 26 32.4
BRG *i* 17 26 55.6
BRG LR LR
comp=Z,240nm,17.8s,MS4.8
CLL Collm 112.88 323 *e*PKIKP PKPdf 17 25 52.0 +0.9
CLL *e* 17 26 42.0
CLL Collm 112.88 323 P PKPdf 17 25 52.0 +0.9
CLL *e*PP PP 17 26 42.0 -2.8
CLL *e* 17 33 46.0
CLL *e*PS PS 17 36 07.0 -7.6
CLL *e*PPS PPS 17 37 15.0 -13
CLL *e*SS SS 17 42 34.0 +12
KHC Kasperske Hory 113.20 321 *i* PKIKP PKPdf 17 25 54.0 +2.2
KHC Kasperske Hory 113.20 321 *e*PKP PKPdf 17 25 54.1 +2.3
KHC Kasperske Hory 113.20 321 *e*PP PP 17 26 38.2 -9.0
KHC AMS AMS 18 20 10.0
comp=Z,300nm,21.7s
GERES GERESS Array B 113.20 320 *i* PKIKP PKPdf 17 25 52.7 +0.9
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 113.20 320 PKiKP 17 25 52.7
comp=Z,2.0nm,0.6s,baz=66,slow=2.3,SNR=14
BOZ Bozeman (W) 113.62 43 PFAKE 17 26 10.0 +17
BOZ LR LR
comp=Z,267nm,22.0s,MS4.8
KBA Koelnbreinsper 113.94 319⇓*i*P PKPdf 17 25 52.3 -1.1
comp=Z,4.8nm,1.2s
AHID Auburn Hatcher 114.72 46 PFAKE 17 26 10.0 +15
AHID LR LR
comp=Z,211nm,19.0s,MS4.8
REDW Red Top Meadow114.75 45 *e*PKPdf PKPdf 17 25 54.9 -0.1
LKWY Lake 114.75 44 PFAKE 17 26 10.0 +15
LKWY LR LR
comp=Z,460nm,21.0s,MS5.1
MVU Marysvale 114.84 51 PFAKE 17 26 10.0 +15
MVU LR LR
comp=Z,278nm,20.0s,MS4.9
WTTA Wattenberg 115.00 319⇑*i*P PKPdf 17 25 56.8 +1.3
comp=Z,19nm,0.8s
WATA Walderalm 115.02 319⇑*i*P PKPdf 17 25 58.0 +2.5
comp=Z,3.1nm,0.5s
MOTA Moosalm 115.32 319⇓*i*P PKPdf 17 25 57.3 +1.2
comp=Z,7.3nm,0.8s
BW06 Boulder Array 115.82 46 PFAKE 17 26 10.0 +13
BW06 LR LR
comp=Z,282nm,21.0s,MS4.8
PDAR Pinedale Array 115.82 46 PKP PKPdf 17 25 58.5 +1.3
comp=Z,1.0nm,0.8s,baz=270,slow=1.5,SNR=8.5
PDAR PKKPbc 17 36 31.9
comp=Z,0.3nm,0.7s,baz=127,slow=4.5,SNR=2.9
DAVA Damuels 116.13 320⇑*i*P PKPdf 17 25 57.9 +0.3
comp=Z,5.1nm,0.5s
FFC Flin Flon 116.14 31 PFAKE 17 26 10.0 +13
FFC LR LR
comp=Z,80nm,22.0s,MS4.3
DAVOX Davos 116.30 319 PKP PKPdf 17 25 59.5 +1.6
comp=Z,3.3nm,0.3s,baz=300,slow=3.1,SNR=9.5
LAO LASA Array 116.89 41 PFAKE 17 26 10.0 +11
LAO LR LR
comp=Z,302nm,20.0s,MS4.9
TUC Tucson 117.11 57 PFAKE 17 26 10.0 +10
TUC LR LR
comp=Z,235nm,20.0s,MS4.8
CDF Champ du Feu 117.36 322 *e*PKIKP PKPdf 17 26 00.3 +0.4
HINF Hinteralfeld 117.85 321 *e*PKIKP PKPdf 17 26 01.2 +0.3
comp=Z,7.7nm,0.6s
PGF Pioggiola 118.24 315 *e*PKIKP PKPdf 17 26 02.5 +0.7
comp=Z,7.7nm,0.7s
LPG La Plagne 118.78 319 *e*PKIKP PKPdf 17 26 03.8 +1.0
comp=Z,7.3nm,0.7s
LPL La Plagne 118.78 319 *e*PKIKP PKPdf 17 26 03.7 +0.9
comp=Z,7.3nm,0.5s
CABF La Chapelle 118.80 320 *e*PKIKP PKPdf 17 26 03.9 +1.1
comp=Z,16nm,0.6s
MBDF Montbardon 119.04 318 *e*PKIKP PKPdf 17 26 04.3 +1.0
comp=Z,10nm,0.7s
RSSD Black Hills 119.23 43 *e*PKIKP PKPdf 17 26 05.3 +1.6
ISCO Idaho Springs 119.50 48 PFAKE 17 26 20.0 +16
ISCO LR LR
comp=Z,520nm,22.0s,MS5.1
ORIF Oris-en-Rattie 119.56 318 *e*PKIKP PKPdf 17 26 05.1 +0.7
comp=Z,12nm,0.8s
LMR La Mourre 119.71 316 *e*PKIKP PKPdf 17 26 05.1 +0.4
ESK Eskdalemuir 119.74 332 PFAKE 17 26 20.0 +16
ESK LR LR
comp=Z,76nm,21.0s,MS4.3
LOR Lormes 119.93 321 *e*PKIKP PKPdf 17 26 05.8 +0.8
comp=Z,11nm,1.0s
LOR *e*R 17 26 06.1
comp=Z,180nm,21.8s
SMRF Simiane la Rot 120.11 317 *e*PKIKP PKPdf 17 26 06.1 +0.6
comp=Z,11nm,0.8s
ANMO Albuquerque 120.12 54 PKP PKPdf 17 26 07.8 +2.1
comp=Z,1.7nm,0.6s,baz=241,slow=3.4,SNR=4.6
ANMO Albuquerque 120.12 54 PKP PKPdf 17 26 07.8 +2.1
ANMO LR LR
comp=Z,230nm,21.0s,MS4.8
SDCO Great Sand Dun 120.16 50 *e*PKPdf PKPdf 17 26 07.8 +2.1
SDCO *e* 17 26 24.9
SDCO LR LR
comp=Z,316nm,19.0s,MS5.0
BNM Barren Site 120.17 54 *e*PKPdf PKPdf 17 26 08.0 +2.2
SMF Signal de Mont 120.20 321 *e*PKIKP PKPdf 17 26 06.1 +0.5
SSF Saint Saulge 120.24 321 *e*PKIKP PKPdf 17 26 06.4 +0.8
comp=Z,12nm,0.7s
VIVF Saint-Julien-l 120.38 319 *e*PKIKP PKPdf 17 26 06.3 +0.3
BGF Bois d'Agland 120.86 321 *e*PKIKP PKPdf 17 26 07.0 +0.2
comp=Z,18nm,0.7s
TCF Toulx Ste Croi 121.38 321 *e*PKIKP PKPdf 17 26 08.7 +0.9
comp=Z,11nm,0.8s
ULM Lac du Bonnet 121.58 34 PFAKE 17 26 20.0 +12
ULM LR LR
comp=Z,377nm,21.0s,MS5.0
LDF La Druitiere 121.72 324 *e*PKIKP PKPdf 17 26 08.5 +0.1
MNTX Cornudas Mount 121.73 57 *e*PKPdf PKPdf 17 26 10.7 +1.8
MNTX LR LR
comp=Z,316nm,20.0s,MS5.0
FLN La Foliniere 121.85 325 *e*PKIKP PKPdf 17 26 09.4 +0.8
FLN *e*R
comp=Z,236nm,20.2s

CAF Calviac 122.05 320 *e*PKIKP PKPdf 17 26 09.8 +0.7
GRR Gorron 122.25 324 *e*PKIKP PKPdf 17 26 10.3 +0.9
MTLF Montolieu 122.61 318 *e*PKIKP PKPdf 17 26 10.7 +0.4
comp=Z,13nm,0.9s
MFF Saint Martin d 122.69 322 *e*PKIKP PKPdf 17 26 11.0 +0.6
comp=Z,14nm,0.7s
SGMF Saint Gilles 123.30 325 *e*PKIKP PKPdf 17 26 12.0 +0.5
ROSF Rostrenen 123.66 325 *e*PKIKP PKPdf 17 26 12.8 +0.6
LTX Lajitas 123.68 59 PFAKE 17 26 30.0 +17
LTX LR LR
comp=Z,348nm,20.0s,MS5.0
TXAR Lajitas Array 123.68 59 PKIKP PKPdf 17 26 14.5 +1.8
TXAR pmax pmax
comp=Z,2.0nm,0.9s
TXAR Lajitas Array 123.68 59 PKP PKPdf 17 26 14.4 +1.7
comp=Z,1.8nm,0.9s,baz=285,slow=1.7,SNR=14
QUIF Quistinic 123.82 325 *e*PKIKP PKPdf 17 26 13.2 +0.7
comp=Z,19nm,0.9s
CBKS Cedar Bluff 124.13 47 PFAKE 17 26 30.0 +17
CBKS LR LR
comp=Z,292nm,22.0s,MS4.9
ETSF Etsaut 124.64 318 *e*PKIKP PKPdf 17 26 15.0 +0.8
comp=Z,13nm,0.9s
SJPF Ste Jean 124.98 319 *e*PKIKP PKPdf 17 26 15.5 +0.6
ESDC Sonseca Array 128.37 316 PKP PKPdf 17 26 22.9 +1.4
comp=Z,0.2nm,0.3s,baz=90,slow=1.5,SNR=5.7
ESDC PP PP 17 28 28.8 -1.8
comp=Z,4.1nm,0.9s,baz=67,slow=6.6,SNR=6.3
ESLA Sonseca Array 128.37 316 PFAKE 17 26 30.0 +8.5
ESLA LR LR
comp=Z,780nm,19.0s,MS5.4
SCHQ Schefferville 129.99 14 PKP PKPdf 17 26 25.9 +1.8
comp=Z,2.4nm,0.6s,baz=68,slow=1.2,SNR=5.9
SCHQ Schefferville 129.99 14 PKP PKPdf 17 26 25.9 +1.8
SCHQ LR LR
comp=Z,323nm,22.0s,MS5.0
NATX Nacogdoches 130.49 54 PFAKE 17 26 40.0 +14
NATX LR LR
comp=Z,315nm,21.0s,MS5.0
CCM Cathedral Cave 130.51 45 PFAKE 17 26 40.0 +14
CCM LR LR
comp=Z,189nm,20.0s,MS4.8
BLO Bloomington 133.13 41 P Pdif 17 23 36.1 +9.0
OXF Oxford 133.45 48 PFAKE 17 26 40.0 +8.7
OXF LR LR
comp=Z,257nm,20.0s,MS4.9
WCI Wyandotte Cave 133.80 42 PFAKE 17 26 40.0 +8.1
WCI LR LR
comp=Z,296nm,22.0s,MS5.0
WVT Waverly 133.83 45 PFAKE 17 26 40.0 +8.0
WVT LR LR
comp=Z,274nm,21.0s,MS5.0
SADO Sadowa 133.84 30 PKP PKPdf 17 26 32.9 +1.1
comp=Z,3.1nm,0.7s,baz=8.5,slow=4.9,SNR=3.5
PLAL Pickwick Lake 134.21 47 PFAKE 17 26 50.0 +17
PLAL LR LR
comp=Z,321nm,21.0s,MS5.0
LRAL Lakeview Retre 135.91 49 *e*PKPdf PKPdf 17 26 37.2 +1.4
LRAL LR LR
comp=Z,251nm,21.0s,MS4.9
DBIC Dimbokro 136.56 272 PKHKP 17 26 28.6
DBIC 17 26 38.8
DBIC pmax pmax
comp=Z,5.0nm,0.6s
DBIC pmax pmax
comp=Z,4.0nm,0.6s
DBIC Dimbokro 136.56 272 PKhKP 17 26 28.6
comp=Z,5.4nm,0.6s,baz=117,slow=4.9,SNR=16
DBIC PKP PKPdf 17 26 38.8 +1.2
comp=Z,4.0nm,0.6s,baz=42,slow=0.9,SNR=8.1
NCB Newcomb 136.78 27 PFAKE 17 26 50.0 +13
NCB LR LR
comp=Z,224nm,20.0s,MS4.9
MYNC Murphy 136.96 44 PFAKE 17 26 50.0 +12
MYNC LR LR
comp=Z,324nm,20.0s,MS5.1
MCWV Mont Chateau 136.97 36 PFAKE 17 26 50.0 +12
MCWV LR LR
comp=Z,387nm,19.0s,MS5.2
PQI Presque Isle 136.98 20 PFAKE 17 26 50.0 +13
PQI LR LR
comp=Z,1μm,22.0s,MS5.6
BLA Blacksburg 138.18 39 PFAKE 17 26 50.0 +10
BLA LR LR
comp=Z,319nm,20.0s,MS5.1
WVL Waterville 138.20 23 PFAKE 17 26 50.0 +10
WVL LR LR
comp=Z,6μm,22.0s
HRV Harvard--Oak R 139.12 26 PFAKE 17 26 50.0 +8.5
HRV LR LR
comp=Z,265nm,19.0s,MS5.0
CBN Corbin 139.37 36 PFAKE 17 26 50.0 +8.0
CBN LR LR
comp=Z,404nm,21.0s,MS5.1
NHSC New Hope 140.78 44 PFAKE 17 27 00.0 +15
NHSC LR LR
comp=Z,312nm,19.0s,MS5.1
DWPF Disney 142.45 52 PFAKE 17 27 00.0 +12
DWPF LR LR
comp=Z,230nm,20.0s,MS4.9
JTS JuntasAbangare 143.92 82 *e*PKIKP PKPdf 17 26 52.5 +1.8
JTS MLR MLR
comp=Z,118nm,21.0s
LVC Limon Verde 144.59 146 *e*PKPdf PKPdf 17 26 53.8 +2.1
LVC *e* 17 27 05.9
CPUP Villa Florida 145.93 166 PKPbc PKPbc 17 26 56.6 +1.8
comp=Z,5.3nm,0.5s,baz=220,slow=2.6,SNR=19
CPUP Villa Florida 145.93 166 PKPbc PKPbc 17 26 56.6 +1.8
CPUP LR LR
comp=Z,486nm,21.0s,MS5.3
NNA Nana 146.25 124 *e*PKPdf PKPdf 17 26 56.2 +1.5
LPAZ La Paz 149.95 140 *e*PKHKP PKPdf 17 27 04.5 +3.9
LPAZ *e* 17 27 09.2
LPAZ MLR MLR
comp=Z,447nm,19.0s
LPAZ La Paz 149.95 140 PKPbc PKPdf 17 27 08.5 +7.9
comp=Z,3.7nm,0.5s,baz=50,slow=1.7,SNR=6.1
BBSR BB Station 150.53 28 *e*PKPbc PKPdf 17 27 08.2 +7.0
BBSR LR LR
comp=Z,151nm,19.0s,MS4.8
SIV San Ignacio 154.15 152 PKP PKPdf 17 27 09.7 +3.0
comp=Z,0.4nm,0.3s,baz=234,slow=17
SIV PKPbc PKPdf 17 27 17.7 +11
comp=Z,1.2nm,0.6s,baz=245,slow=1.6,SNR=1.6
ROSC El Rosal 154.34 93 PKPbc PKPdf 17 27 16.6 +10
comp=Z,5.0nm,0.2s,baz=286,slow=7.4,SNR=4.1
BAO Brasilia Array 157.63 182 PKPdf PKPdf 17 27 08.0 -3.3
SDV Santo Domingo 158.09 83 PKP PKPdf 17 27 14.2 +2.1
comp=Z,9.7nm,1.0s,baz=82,slow=1.3,SNR=8.3
SDV Santo Domingo 158.09 83 PKP PKPdf 17 27 14.2 +2.1
SDV LR LR
comp=Z,381nm,20.0s,MS5.2
SAML Samuel 158.60 137 *e*PKPdf PKPdf 17 27 13.8 +1.2
SAML LR LR
comp=Z,372nm,20.0s,MS5.2
SJG San Juan 159.58 55 PFAKE 17 27 30.0 +16
SJG LR LR
comp=Z,242nm,22.0s,MS5.0
RCBR Riachuelo 162.11 225 PFAKE 17 27 30.0 +14
RCBR LR LR
comp=Z,299nm,19.0s

*IDC **12** 17:35:20.7±2.4,8.34S×107.59E,mb3.6/5,mb1 3.7/5, mb1mx3.5/18,mbtmp3.6/5,Error ellipse: s-maj=115.2km s-min=23.4km az=52.0*
*NEIC **12** 17:35:28.7±1.1,7.46S×108.56E,h35km,mb3.8/1,Error ellipse: s-maj=31.1km s-min=15.3km az=63.0*
ISC 12 17:35:26.3±1.3,7.5S±0.2×108.5E±0.2,h33km,n8,σ0§71/8, mb3.6/6,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
KKM	**Kota Kinabalu**	**15.48**	**30**	*e*P		**P**	**17 39 03.8**	**-0.3**
WRA	**Warramunga Arr**	**27.93**	**119**	*e*P		**P**	**17 41 16.1**	**+0.2**
	0.4nm,0.6s,mb3.2,baz=289,slow=11,SNR=5.5							
WRAB	**Tennant Creek**	**27.94**	**119**	*e*P		**P**	**17 41 16.8**	**+0.8**
	1.5nm,0.7s,mb3.7							
STKA	**Stephens Creek**	**39.21**	**133**	P		**P**	**17 42 52.2**	**-1.0**
	1.1nm,0.7s,mb3.7,baz=311,slow=9.3,SNR=3.0							
SONM	**Songino Array**	**55.11**	**358**	P		**P**	**17 45 01.3**	**+3.7**
	0.2nm,0.4s,mb3.5,baz=181,slow=8.6,SNR=4.2							
MKAR	**Makanchi Array**	**58.85**	**339**	P		**P**	**17 45 24.0**	**-0.2**
	0.3nm,0.5s,mb3.6,baz=144,slow=8.4,SNR=7.0							
MKAR	**Makanchi Array**	**58.85**	**339**	P		**P**	**17 45 24.0**	**-0.2**
BVAR	**Borovoye Array**	**68.40**	**336**	P		**P**	**17 46 26.8**	**+0.1**
	0.5nm,0.4s,mb3.9,baz=141,slow=9.5,SNR=4.9							

*IDC **12** 18:14:54.5±3.3,1.24N×97.44E,mb3.6/4,mb1 3.8/5, mb1mx3.6/19,mbtmp3.6/5,ML3.5/1,Error ellipse: s-maj=120.5km s-min=28.5km az=59.0*
*NEIC **12** 18:14:57.2±1.2,1.03N×97.15E,h30km,mb4.0/1,Error ellipse: s-maj=29.0km s-min=14.6km az=68.0*
ISC 12 18:14:55.3±1.4,1.1N±0.1×97.1E±0.2,h30km,n8,σ0§63/8, mb3.7/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
KULM	**Kulim**	**5.48**	**40**	*e*Pn		**Pn**	**18 16 17.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**17.39**	**6**	P		**P**	**18 18 56.9**	**-0.8**
	0.1nm,0.3s,baz=196,slow=10,SNR=4.2							
WRA	**Warramunga Arr**	**42.01**	**122**	P		**P**	**18 22 46.6**	**+0.6**
	0.2nm,0.4s,mb3.1,baz=303,slow=9.0,SNR=5.1							
WRAB	**Tennant Creek**	**42.01**	**122**	*e*P		**P**	**18 22 45.2**	**-0.8**
	2.1nm,0.7s,mb3.9							
WRAB				*e*pP		pP	18 22 55.6	+0.5
SONM	**Songino Array**	**47.29**	**8**	P		**P**	**18 23 28.4**	**+0.4**
	0.5nm,0.9s,mb3.4,baz=198,slow=7.8,SNR=3.9							
MKAR	**Makanchi Array**	**47.38**	**346**	P		**P**	**18 23 29.5**	**+0.8**
	0.6nm,0.5s,mb3.8,baz=162,slow=8.8,SNR=7.0							
MKAR	**Makanchi Array**	**47.38**	**346**	P		**P**	**18 23 29.5**	**+0.8**
ZAL	**Zalesovo**	**53.69**	**351**	P		**P**	**18 24 16.1**	**-0.5**
	1.0nm,0.2s,mb4.4,baz=170,slow=6.1,SNR=3.3							

*IDC **12** 18:50:50.3±1.9,21.80S×179.24W,h534km±20km, mb3.5/11,mb1 3.7/12,mb1mx3.6/18,mbtmp4.5/12,Error ellipse: s-maj=18.3km s-min=13.4km az=148.0*
*NEIC **12** 18:50:51.1±1.2,21.81S×179.20W,h547km±14km, mb4.4/10,Error ellipse: s-maj=16.2km s-min=10.6km az=149.0*
ISC 12 18:50:46.3±1.3,21.95S±0.08×179.20W±0.08, h495km±17km,n52,σ1§02/39,mb4.1/18,4C-5D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
AFI	**Afiamalu**	**10.67**	**43**	P		**P**	**18 53 13.1**	**+1.1**
	4.4nm,0.3s,baz=296,slow=22,SNR=5.7							
AFI				S		**S**	**18 55 06.8**	**-1.6**
	2.6nm,0.3s,baz=344,slow=22,SNR=4.0							
AFI	**Afiamalu**	**10.67**	**43**	*e*P		**P**	**18 53 13.0**	**+1.0**
	39nm,0.8s							
AFI				*e*S		**S**	**18 55 07.1**	**-1.3**
DZM	**Mont Dzumac**	**13.31**	**267**	P		**P**	**18 53 46.4**	**+6.7**
	0.9nm,0.3s,baz=74,slow=18,SNR=7.5							
URZ	**Urewera**	**16.56**	**190**	P		**P**	**18 54 12.4**	**0.0**
	2.9nm,0.3s,baz=64,slow=11,SNR=12							
URZ				S		**S**	**18 56 56.4**	**-2.8**
	1.1nm,0.3s,baz=152,slow=21,SNR=6.3							
CNB	**Canberra Magne**	**30.49**	**237**⇓*i*P			**P**	**18 56 20.9**	**+1.4**
	15nm,0.5s,mb4.7							
CTA	**Charters Tower**	**32.26**	**267**	P		**P**	**18 56 35.4**	**+0.8**
	5.6nm,0.6s,mb4.2,baz=96,slow=12,SNR=9.5							
CTA	**Charters Tower**	**32.26**	**267**	P		**P**	**18 56 35.4**	**+0.8**
TOO	**Toolangi**	**34.14**	**235**⇓*i*P			**P**	**18 56 51.4**	**+1.1**
	13nm,0.6s,mb4.5							
PMG	**Port Moresby**	**34.61**	**286**	P		**P**	**18 56 54.6**	**+0.1**
	11nm,0.6s,mb4.4,baz=211,slow=5.2,SNR=5.4							
STKA	**Stephens Creek**	**36.16**	**246**⇓*i*P			**P**	**18 57 08.2**	**+1.0**
	5.5nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**36.16**	**246**	P		**P**	**18 57 08.4**	**+1.2**
	6.7nm,0.5s,mb4.3,baz=90,slow=9.2,SNR=29							
WB2	**Warramunga Arr**	**43.30**	**264**⇑*i*P			**P**	**18 58 04.3**	**-0.7**
WB2				*e*S		**S**	**19 03 49.3**	**-7.1**
WRAB	**Tennant Creek**	**43.30**	**264**	*e*P		**P**	**18 58 04.0**	**-1.0**
	3.2nm,0.6s,mb3.9							
WRA	**Warramunga Arr**	**43.31**	**264**	P		**P**	**18 58 04.5**	**-0.7**
	1.5nm,0.3s,mb3.8,baz=97,slow=7.8,SNR=83							
WRA				ScP			19 02 43.8	
	1.6nm,0.8s,baz=95,slow=4.0,SNR=9.3							
WRA				S		**S**	**19 03 49.4**	**-7.2**
	1.3nm,0.8s,baz=101,slow=14,SNR=4.9							
KAKA	**Kakadu**	**46.90**	**273**⇑*i*P			**P**	**18 58 32.1**	**-1.0**
	7.5nm,0.4s,mb4.5							
FITZ	**Fitzroy Crossi**	**51.74**	**264**⇑*i*P			**P**	**18 59 08.4**	**-0.7**
	4.1nm,0.5s,mb4.0							
VNDA	**Vanda**	**56.38**	**185**	P		**P**	**18 59 41.5**	**+0.4**
	2.3nm,0.7s,mb3.6,baz=4.3,slow=7.6,SNR=40							
QSPA	**South Pole Qui**	**68.12**	**180**⇓*i*P			**P**	**19 00 57.3**	**+0.2**
	20nm,0.6s,mb4.9							
MAW	**Mawson**	**79.83**	**200**	P		**P**	**19 02 02.8**	**-0.2**
	3.7nm,0.5s,mb4.1,baz=118,slow=7.0,SNR=8.7							
YBH	**Yreka Blue Hor**	**82.12**	**39**	P		**P**	**19 02 16.1**	**+0.8**
	0.7nm,0.4s,mb3.6,baz=207,slow=6.8,SNR=5.0							
YBH	**Yreka Blue Hor**	**82.12**	**39**	*e*P		**P**	**19 02 16.1**	**+0.8**
	1.8nm,0.8s,mb3.6							
SYO	**Syowa Base**	**85.07**	**193**	⇑P		**P**	**19 02 26.6**	**-2.8**
SNAA	**Sanae**	**86.59**	**179**			**P**	**19 02 35.1**	**-1.5**
SNAA	**Sanae**	**86.59**	**179**			**P**	**19 02 39.1**	**+2.5**
SNAA	**Sanae**	**86.59**	**179**⇓*i*P			**P**	**19 02 34.9**	**-1.7**
	1.3nm,0.6s,mb3.8							
VNA3	**Neumayer Olymp**	**86.77**	**177**			**P**	**19 02 37.4**	**-0.1**
VNA2	**Neumayer--Watz**	**87.20**	**177**			**P**	**19 02 41.5**	**+2.0**
VNA2	**Neumayer--Watz**	**87.20**	**177**	P		**P**	**19 02 39.8**	**+0.3**
VNA2				P			19 02 41.6	
VNA1	**Neumayer--Stat**	**87.43**	**177**	P		**P**	**19 02 41.6**	**+1.0**
TXAR	**Lajitas Array**	**88.78**	**58**	P		**P**	**19 02 48.5**	**+0.6**
	1.4nm,0.8s,mb3.9,baz=217,slow=6.3,SNR=8.1							
TXAR	**Lajitas Array**	**88.78**	**58**	P		**P**	**19 02 48.5**	**+0.6**
ANMO	**Albuquerque**	**89.18**	**52**	P		**P**	**19 02 49.8**	**+0.1**
	0.9nm,0.5s,mb3.9,baz=217,slow=5.1,SNR=3.5							
CMAR	**Chiang Mai Arr**	**89.55**	**290**	P		**P**	**19 02 51.5**	**-0.2**
	1.9nm,0.9s,mb3.9,baz=131,slow=3.4,SNR=12							
PDAR	**Pinedale Array**	**90.78**	**44**	P		**P**	**19 02 56.5**	**-0.3**
	0.8nm,0.8s,mb3.7,baz=270,slow=3.0,SNR=7.5							
BVAR	**Borovoye Array**	**119.45**	**319**	PKP	PKPdf		19 08 37.4	-1.2
	0.8nm,0.4s,baz=115,slow=1.7,SNR=9.2							
ARCES	**ARCESS Array B**	**130.13**	**349**	PKP	PKPdf		19 08 57.7	-1.0
	3.8nm,0.9s,baz=22,slow=6.5,SNR=5.3							
ARCES	**ARCESS Array B**	**130.13**	**349**	PKP	PKPdf		19 08 57.7	-1.0
HFS	**Hagfors**	**140.78**	**350**	PKhKP			19 09 11.7	
	1.7nm,0.8s,baz=63,slow=3.3,SNR=4.3							
AKASG	**Malin Array Be**	**143.71**	**329**	PKP	PKPdf		19 09 21.6	-2.1
	3.3nm,0.7s,baz=40,slow=4.2,SNR=24							
EKA	**Eskdalemuir Ar**	**146.53**	**4**	PKPbc	PKPbc		19 09 29.8	-0.6
	2.1nm,0.8s,baz=342,slow=2.6,SNR=7.8							
BR131	**Keskin Array S**	**146.94**	**310**	*e*PKPdf	PKPdf		19 09 31.1	+1.5
BRTR	**Keskin Array B**	**146.94**	**310**	PKPbc	PKPbc		19 09 32.0	+0.2
	1.4nm,0.6s,baz=150,slow=4.5,SNR=7.1							
UPC	**Upice**	**149.09**	**341**	*e*PKPbc	PKPdf		19 09 37.9	+5.2
DPC	**Dobruska-Polom**	**149.14**	**340**	*e*PKPbc	PKPdf		19 09 38.1	+5.3
CLL	**Collm**	**149.19**	**345**	*i* PKP1	PKPdf		19 09 37.4	+4.6
BRG	**Berggiesshubel**	**149.35**	**344**	*i* P	PKPdf		19 09 38.4	+5.4
PVCC	**Panska Ves**	**149.50**	**343**	*e*PKPbc	PKPdf		19 09 38.9	+5.6
PRU	**Pruhonice**	**149.99**	**342**	*e*PKPbc	PKPdf		19 09 39.6	+5.5
NKC	**Novy Kostel**	**150.32**	**345**	*e*PKPbc	PKPdf		19 09 40.5	+5.9
KHC	**Kasperske Hory**	**151.03**	**343**	*e*PKPbc	PKPdf		19 09 41.7	+6.0
GERES	**GERESS Array B**	**151.26**	**342**	PKPbc	PKPdf		19 09 42.5	+6.5
	1.5nm,0.7s,slow=1.3,SNR=10							
DBIC	**Dimbokro**	**163.86**	**159**	PKP	PKPdf		19 09 51.6	-0.6
	1.9nm,0.6s,baz=204,slow=2.5,SNR=4.5							
DBIC				PKPab	PKPab		19 10 49.1	-1.1
	2.3nm,0.7s,baz=158,slow=6.1,SNR=4.2							

IDC 12 19:20:00.5±3.2,1.65N×97.34E,mb3.7/4,mb1 3.8/5, mb1mx3.6/19,mbtmp3.6/5,ML3.8/1,Error ellipse: s-maj=116.8km s-min=28.1km az=59.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
CMAR	**Chiang Mai Arr**	**16.78**	**5**	Pn		P	19 23 58.5	-0.2
	0.1nm,0.3s,baz=195,slow=12,SNR=5.3							
WRA	**Warramunga Arr**	**42.15**	**122**	P		P	19 27 55.1	-1.7
	0.5nm,0.8s,baz=302,slow=8.9,SNR=5.1							
SONM	**Songino Array**	**46.67**	**8**	P		P	19 28 30.9	-1.8
	0.6nm,0.5s,baz=189,slow=9.7,SNR=4.9							
MKAR	**Makanchi Array**	**46.84**	**346**	P		P	19 28 32.1	-2.0
	0.4nm,0.3s,baz=164,slow=8.6,SNR=12							
ZAL	**Zalesovo**	**53.13**	**351**	P		P	19 29 19.8	-2.5
	1.4nm,0.5s,baz=331,slow=2.6,SNR=6.4							

*NEIC **12** 19:26:56.7±4.8,45.63N×26.58E,h139km±43km,Error ellipse: s-maj=42.9km s-min=14.0km az=183.0*
*BUC **12** 19:26:58.2±0.7,45.57N×26.64E,h122km±6km,MD3.6/3,*

Error ellipse: s-maj=8.2km s-min=3.6km az=40.0
*CSEM **12** 19:26:58.2±0.7,45.57N×26.64E,h122km±6km,MD3.6/3, Error ellipse: s-maj=8.2km s-min=3.6km az=40.0,After BUC*
ISC 12 19:26:58.0±1.2,**45.52N**±0.07×**26.62E**±0.07,**h122**km±8km, **n17,σ0^{s}80**/34,**8C-9D,Romania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRD	**Bordesti**	**0.29**	**83**	⇑iP	**P**	**19 27 16.6**	**+1.4**
BRD				i S	**S**	**19 27 31.1**	**+2.8**
BRD	**Bordesti**	**0.29**	**83**	⇑iP	**P**	**19 27 16.6**	**+1.4**
BRD				i S	**S**	**19 27 31.1**	**+2.8**
VRI	**Vrincioaia**	**0.36**	**12**	⇓iP	**P**	**19 27 15.5**	**+0.1**
VRI				i S	**S**	**19 27 28.5**	**-0.2**
VRI	**Vrincioaia**	**0.36**	**12**	⇓iP	**P**	**19 27 15.5**	**0.0**
VRI				S	**S**	**19 27 28.5**	**-0.2**
MLR	**Muntele Rosu**	**0.47**	**267**	⇑iP	**P**	**19 27 16.8**	**+0.6**
MLR				i S	**S**	**19 27 30.1**	**+0.3**
MLR	**Muntele Rosu**	**0.47**	**267**	⇑iP	**P**	**19 27 16.8**	**+0.7**
MLR				i S	**S**	**19 27 30.1**	**+0.3**
VOIR		**1.11**	**266**	⇑iP	**P**	**19 27 21.4**	**-0.1**
VOIR				i S	**S**	**19 27 38.2**	**-1.0**
VOIR		**1.11**	**266**	⇑iP	**P**	**19 27 21.4**	**-0.2**
VOIR				S	**S**	**19 27 38.2**	**-1.0**
CFR	**Carcaliu**	**1.12**	**107**	⇓iP	**P**	**19 27 21.8**	**0.0**
CFR				i S	**S**	**19 27 38.7**	**-0.9**
CFR	**Carcaliu**	**1.12**	**107**	⇓iP	**P**	**19 27 21.8**	**0.0**
CFR				i S	**S**	**19 27 38.7**	**-0.9**
HARR	**Harsova**	**1.25**	**131**	⇓iP	**P**	**19 27 23.6**	**+0.5**
HARR				i S	**S**	**19 27 41.2**	**-0.7**
HARR	**Harsova**	**1.25**	**131**	⇓iP	**P**	**19 27 23.6**	**+0.5**
HARR				S	**S**	**19 27 41.2**	**-0.7**
TLCR		**1.58**	**101**	⇑iP	**P**	**19 27 27.2**	**+0.3**
TLCR				i S	**S**	**19 27 48.4**	**-0.6**
TLCR		**1.58**	**101**	⇑iP	**P**	**19 27 27.2**	**+0.2**
TLCR				i S	**S**	**19 27 48.3**	**-0.6**
TIRR	**Tirgusor**	**1.66**	**129**	⇓iP	**P**	**19 27 28.4**	**+0.6**
TIRR				i S	**S**	**19 27 49.7**	**-0.7**
TIRR	**Tirgusor**	**1.66**	**129**	⇓iP	**P**	**19 27 28.4**	**+0.6**
TIRR				S	**S**	**19 27 49.7**	**-0.7**
BURAR	**Bucovina Array**	**2.31**	**336**	⇓iP	**P**	**19 27 36.1**	**+0.1**
BURAR				i S	**S**	**19 28 03.9**	**-0.9**

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*NEIC **12** 19:36:49.2,37.36S×73.96W,h33km,ML4.1(GUC),After GUC.*
NEIC Felt [III] at Arauco, Canete and Lebu.
GUC 12 19:36:49.2±0.7,**37.36S**×**73.96W,h33**km±4km,**ML4.1, 3C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**1.69**	**64**	eP	P	19 37 17.9	+1.1
CCHI				i S	S	19 37 39.5	+2.1
CCHI				AMP		19 37 47.6	
	comp=N,2μm,0.3s						
CCHI				AMP		19 37 47.8	
	comp=N,4μm,0.3s						
TMCH	**Temuco**	**1.75**	**143**	⇓iP		19 40 57.9	
TMCH				i S		19 41 19.2	
SFDO	**San Fernando**	**3.64**	**42**	⇑iP	P	19 37 44.4	-0.1
LNV	**Longovilo**	**3.98**	**32**	i P	P	19 37 49.5	0.0
CICH	**Cipreses**	**4.18**	**45**	i P	P	19 37 52.2	-0.1
CACH	**El Canelo**	**4.24**	**41**	eP	P	19 37 53.3	+0.2
LCCH	**Las Cruces**	**4.34**	**27**	⇑iP	P	19 37 54.0	-0.6
CHCH	**Chadas Angostu**	**4.35**	**39**	i P	P	19 37 54.2	-0.5
TACH	**Talagante**	**4.45**	**35**	eP	P	19 37 55.6	-0.4
RCDM	**Rinconada Maip**	**4.64**	**35**	eP	P	19 37 58.1	-0.8
LMEL	**Las Melosas**	**4.66**	**42**	⇓iP	P	19 37 59.0	0.0
PCH	**Pirque**	**4.67**	**38**	eP	P	19 37 58.6	-0.7
CLCH	**Cerro Calan**	**4.84**	**36**	⇑iP	P	19 38 01.7	0.0
ROCH	**El Roble**	**5.00**	**30**	eP	P	19 38 03.7	-0.2
FCH	**Farellones**	**5.02**	**38**	eP	P	19 38 03.5	-0.7
FCH				i S	S	19 39 01.6	-0.2
JACH	**Jahuel**	**5.42**	**32**	eP	P	19 38 09.1	-0.7
TRQA	**Tornquist**	**9.52**	**98**	ePn	P	19 39 02.3	-4.7

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*IDC **12** 19:51:22.2±2.8,28.74S×179.86E,h474km±32km,mb3.4/2, mb1 3.7/5,mb1mx3.3/14,mbtmp4.6/5,Error ellipse: s-maj=38.6km s-min=23.3km az=174.0*
ISC 12 19:51:22.8±2.6,**28.9S**±0.2×**179.4E**±0.3,**h450**km±22km, **n15,σ1^{s}02**/13,**mb3.9**/3,**1C,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.54**	**191**	P	**P**	**19 53 35.9**	**-0.6**
	14nm,0.3s,baz=328,slow=3.8,SNR=58						
URZ				S	**S**	**19 55 22.4**	**-0.2**
	1.9nm,0.3s,baz=86,slow=16,SNR=8.2						
DZM	**Mont Dzumac**	**13.51**	**297**	P	**P**	**19 54 20.7**	**+1.0**
	0.9nm,0.3s,baz=124,slow=15,SNR=5.3						
RPZ	**Rata Peaks**	**16.24**	**202**	P	**P**	**19 54 48.9**	**+1.3**
	2.2nm,0.3s,baz=43,slow=19,SNR=6.3						
STKA	**Stephens Creek**	**32.63**	**255**	P	**P**	**19 57 18.2**	**+1.1**
	1.6nm,0.5s,mb3.7,baz=88,slow=7.1,SNR=8.4						
WB2	**Warramunga Arr**	**41.76**	**272**	⇑iP	**P**	**19 58 31.7**	**-0.9**
WRA	**Warramunga Arr**	**41.77**	**272**	P	**P**	**19 58 31.9**	**-0.8**
	2.7nm,0.4s,mb4.0,baz=109,slow=7.9,SNR=61						
WRA				S	**S**	**20 04 17.3**	**+0.3**
	0.6nm,1.0s,baz=105,slow=16,SNR=3.7						
FITZ	**Fitzroy Crossi**	**50.08**	**270**	eP	**P**	**19 59 35.8**	**-1.1**
	6.8nm,0.9s,mb4.0						
VNA3	**Neumayer Olymp**	**79.95**	**177**		**P**	**20 02 43.5**	**-0.8**
VNA3	**Neumayer Olymp**	**79.95**	**177**		**P**	**20 02 47.9**	**+3.6**
VNA2	**Neumayer--Watz**	**80.36**	**178**		**P**	**20 02 46.2**	**-0.2**
VNA2	**Neumayer--Watz**	**80.36**	**178**		**P**	**20 02 49.6**	**+3.2**
FINES	**FINESS Array B**	**142.93**	**339**	PKP	PKPdf	20 09 57.8	-5.4
	0.6nm,0.4s,baz=63,slow=2.1,SNR=7.6						
NB2	**NORSAR Subarra**	**146.88**	**349**	PKPabc	PKPdf	20 10 09.7	-0.2
	1.3nm,0.6s,baz=25,slow=2.8						
NOA	**NORSAR Array B**	**146.88**	**349**	PKPbc	PKPbc	20 10 09.8	-2.3
	1.1nm,0.7s,baz=8.7,slow=6.2,SNR=5.4						
AKASG	**Malin Array Be**	**148.72**	**322**	PKPbc	PKPdf	20 10 15.5	+2.3
	0.9nm,0.3s,baz=47,slow=3.4,SNR=6.4						

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*IDC **12** 20:16:31.2±5.0,3.40N×124.89E,h154km±53km,mb3.4/4, mb1 3.5/4,mb1mx3.2/18,mbtmp3.8/4,MS3.3/2,Ms1 3.3/2, ms1mx2.9/15,Error ellipse: s-maj=74.3km s-min=14.2km az=72.0*
ISC 12 20:16:22.9±1.3,**3.7N**±0.2×**125.4E**±0.4,**h100**km,**n8, σ0^{s}43**/7,**mb3.8**/4,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.68**	**179**	eP	**P**	**20 21 05.9**	**-1.0**
	5.0nm,1.0s,mb3.8						
FITZ	**Fitzroy Crossi**	**21.68**	**179**	P	**P**	**20 21 07.6**	**+0.7**
	2.6nm,0.5s,mb3.8,baz=337,slow=5.7,SNR=14						
FITZ				S	**S**	**20 24 55.7**	**+0.2**
	1.4nm,0.5s,baz=184,slow=16,SNR=3.3						
JOW	**Kunigami**	**23.15**	**7**	LR	LR	20 29 26.5	
	comp=Z,37nm,18.9s,baz=104,slow=33						
WRA	**Warramunga Arr**	**25.10**	**160**	P	**P**	**20 21 39.9**	**-0.2**
	0.8nm,0.3s,mb3.6,baz=332,slow=11,SNR=37						
WB2	**Warramunga Arr**	**25.10**	**160**	eP	**P**	**20 21 39.9**	**-0.2**
HNR	**Honiara**	**36.83**	**111**	LR	LR	20 36 21.8	
	comp=Z,93nm,19.7s,baz=33,slow=32						
STKA	**Stephens Creek**	**38.60**	**158**	P	**P**	**20 23 38.4**	**+0.4**
	0.5nm,0.3s,mb3.8,baz=328,slow=9.5,SNR=4.0						
MKAR	**Makanchi Array**	**56.81**	**326**	P	**P**	**20 25 59.3**	**0.0**
	0.5nm,0.4s,mb3.9,baz=123,slow=7.6,SNR=22						

IDC 12 20:20:40.5±5.1,**29.23S**×**175.87W,h110**km±34km, **mb3.4**/1,**mb1 3.8**/2,**mb1mx3.4**/14,**mbtmp4.0**/2,**MS3.6**/2, **Ms1 3.6**/2,**ms1mx3.2**/9,**Error ellipse: s-maj=55.2km s-min=41.2km az=50.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.79**	**269**	P	P	20 21 09.3	-2.0
	89nm,0.3s,baz=61,slow=19,SNR=3.4						
RAO				S	S	20 21 34.3	0.0
	892nm,0.3s,baz=98,slow=24,SNR=12						
RAO				LR	LR	20 21 38.0	
	comp=Z,943nm,18.1s,baz=285,slow=32						
URZ	**Urewera**	**10.73**	**211**	P	P	20 23 11.3	-0.7
	0.6nm,0.3s,baz=12,slow=20,SNR=4.5						
URZ				S	S	20 25 15.3	+4.8
	4.0nm,0.3s,baz=81,slow=23,SNR=9.8						
PPT	**Papeete**	**26.71**	**70**	LR	LR	20 35 05.5	
	comp=Z,108nm,19.2s,baz=306,slow=32						
CTA	**Charters Tower**	**35.48**	**276**	LR	LR	20 39 54.5	
	comp=Z,86nm,18.2s,baz=288,slow=32						
WRA	**Warramunga Arr**	**45.92**	**270**	P	P	20 28 51.6	-2.4
	0.4nm,0.4s,baz=108,slow=7.9,SNR=12						
FINES	**FINESS Array B**	**144.65**	**342**	PKP	PKPdf	20 40 01.5	-1.8
	0.5nm,0.5s,baz=45,slow=5.9,SNR=3.9						
AKASG	**Malin Array Be**	**151.44**	**326**	PKPab	PKPab	20 40 30.8	-1.1
	1.0nm,0.6s,baz=40,slow=2.3,SNR=8.8						

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*NEIC **12** 20:30:14.8±0.9,19.85S×68.86W,h106km±14km,mb3.6/3, Error ellipse: s-maj=17.3km s-min=11.2km az=72.0*
*IDC **12** 20:30:14.7±1.8,19.88S×68.93W,h115km±18km,mb3.9/2, mb1 3.6/6,mb1mx3.4/18,mbtmp4.0/6,Error ellipse: s-maj=45.9km s-min=8.7km az=96.0*
ISC 12 20:30:14.0±0.8,**19.86S**±0.05×**68.9W**±0.1,**h119**km±12km, **n13,σ0^{s}96**/16,**mb4.0**/2,**1C,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.74**	**181**	P	**P**	**20 30 58.5**	**+0.8**
	6.8nm,0.3s,baz=332,slow=9.5,SNR=91						
LVC				S	**S**	**20 31 30.6**	**-0.2**
	34nm,0.3s,baz=344,slow=11,SNR=15						
LVC	**Limon Verde**	**2.74**	**181**	ePn	**P**	**20 30 58.3**	**+0.6**
LPAZ	**La Paz**	**3.62**	**11**	P	**P**	**20 31 10.9**	**+1.4**
	1.7nm,0.3s,baz=193,slow=8.5,SNR=30						
LPAZ				S	**S**	**20 31 53.3**	**+1.4**
	1.3nm,0.3s,baz=204,slow=5.7,SNR=5.3						
LPAZ	**La Paz**	**3.62**	**11**	⇑iP	**P**	**20 31 10.8**	**+1.2**
LPAZ				eS	**S**	**20 31 51.2**	**-0.7**
ARE	**Arequipa**	**4.19**	**323**	eP	**P**	**20 31 16.0**	**-1.2**
SIV	**San Ignacio**	**8.37**	**64**	P	**P**	**20 32 12.8**	**-1.0**
	1.3nm,0.3s,baz=255,slow=12,SNR=52						
SAML	**Samuel**	**12.16**	**28**	eP	**P**	**20 33 03.4**	**-1.0**
	0.6nm,0.4s						
SAML				e		20 33 12.1	
CPUP	**Villa Florida**	**12.43**	**123**	P	**P**	**20 33 08.2**	**+0.5**
	0.1nm,0.3s,baz=331,slow=15,SNR=3.7						
CPUP	**Villa Florida**	**12.43**	**123**	eP	**P**	**20 33 07.1**	**-0.7**
TRQA	**Tornquist**	**19.10**	**163**	eP	**P**	**20 34 24.9**	**-5.0**
	2.8nm,0.9s						
BDFB	**Brasilia**	**20.31**	**81**	P	**P**	**20 34 43.5**	**+1.0**
	5.8nm,0.5s,baz=261,slow=10.0,SNR=7.6						
SDV	**Santo Domingo**	**28.61**	**356**	eP	**P**	**20 36 02.5**	**+1.1**
	1.8nm,0.6s,mb3.9						
DBIC	**Dimbokro**	**68.25**	**74**	P	**P**	**20 41 03.5**	**-0.9**
	1.8nm,0.6s,mb4.1,baz=223,slow=8.4,SNR=4.3						

CASC 12 21:04:34.2±3.3,**13.29N**×**89.31W,h79**km±24km,**MD3.6, 8C-4D,El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.41**	**11**	⇑eP	P	21 04 58.2	+11
SNET				eS	S	21 05 07.3	+10
LFRS	**El Faro**	**0.41**	**36**	⇑iP	P	21 04 58.3	+11
LFRS				eS	S	21 05 08.5	+12
BOQS	**Boqueron**	**0.45**	**4**	eP	P	21 04 59.1	+12
BOQS				eS	S	21 05 09.7	+12
LCBS	**La Ceiba**	**0.49**	**41**	⇑iP	P	21 04 58.5	+11
LCBS				eS	S	21 05 09.2	+11
LFU	**La Fuente**	**0.50**	**22**	⇓eP	P	21 04 58.7	+11
LFU				eS	S	21 05 09.4	+11
LBRS	**Las Brisas**	**0.52**	**30**	⇑eP	P	21 04 58.9	+11
LBRS				eS	S	21 05 11.5	+13
SNVI	**San Vicente**	**0.56**	**55**	⇑eP	P	21 04 59.1	+11
SNVI				eS	S	21 05 09.8	+11
SBLS	**San Blas**	**0.63**	**331**	eP	P	21 05 00.4	+11
SBLS				eS	S	21 05 12.4	+12
SNJE	**San Jose**	**0.65**	**334**	⇑eP	P	21 05 00.3	+11
SNJE				eS	S	21 05 12.5	+12
RTR	**El Retiro**	**0.69**	**332**	⇓eP	P	21 05 01.1	+11
RTR				eS	S	21 05 15.6	+14
RBDL	**Robledal**	**0.90**	**336**	⇓eP	P	21 05 03.1	+11
RBDL				eS	S	21 05 17.1	+11
VSM	**San Miguel**	**1.02**	**82**	⇑eP	P	21 05 05.4	+12
VSM				eS	S	21 05 19.4	+11
BLLM	**Bellamira**	**1.05**	**81**	eP	P	21 05 05.4	+11
BLLM				eS	S	21 05 22.5	+13
MTO2	**Montecristo 2**	**1.11**	**357**	⇑eP	P	21 05 05.6	+11
MTO2				eS	S	21 05 20.4	+10
IXG	**Ixpaco**	**1.42**	**309**	eP	P	21 04 58.5	-0.5
IXG				eS	S	21 05 16.8	-0.4
MRL	**Marmol**	**1.81**	**348**	⇓eP	P	21 05 04.2	+0.2
MRL				eS	S	21 05 27.2	+1.2
TP2	**Tecpan 2**	**2.23**	**312**	eP	P	21 05 11.1	+1.2
TP2				eS	S	21 05 38.9	+2.5

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*NEIC **12** 21:11:39.5,45.56N×26.47E,h99km,MD3.4(BUC),After BUC.*
*CSEM **12** 21:11:40.7±0.8,45.50N×26.47E,h120km±8km,MD3.6/4, Error ellipse: s-maj=6.8km s-min=4.5km az=20.0,After BUC*
BUC 12 21:11:40.7±0.8,**45.50N**×**26.47E,h120**km±8km,**MD3.6**/4, **8C-5D,Error ellipse: s-maj=6.8km s-min=4.5km az=20.0, Romania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.37**	**268**	⇑iP	P	21 11 58.2	+0.2
MLR				i S	S	21 12 11.0	-0.1
ISR	**Istrita**	**0.39**	**172**	⇓iP	P	21 11 58.7	+0.6
ISR				i S	S	21 12 11.9	+0.6
BRD	**Bordesti**	**0.40**	**83**	⇑iP	P	21 11 59.4	+1.2
BRD				i S	S	21 12 14.0	+2.6
VRI	**Vrincioaia**	**0.41**	**27**	⇑iP	P	21 11 58.4	+0.2
VRI				i S	S	21 12 12.7	+1.2
SNX	**Sinaia**	**0.69**	**258**	⇑iP	P	21 12 00.6	+0.6
SNX				i S	S	21 12 15.8	+1.0
VOIR		**1.00**	**267**	⇑iP	P	21 12 02.6	-0.4
VOIR				i S	S	21 12 18.1	-1.6
MTUR	**Matau**	**1.03**	**255**	⇓iP	P	21 12 02.6	-0.7
MTUR				i S	S	21 12 19.2	-1.0
BUC	**Bucharest**	**1.12**	**194**	i S	S	21 12 23.6	+1.7
BUC1	**Bucharest**	**1.20**	**195**	⇑iP	P	21 12 05.5	+0.4
BUC1				i S	S	21 12 23.6	+0.2
CFR	**Carcaliu**	**1.22**	**105**	⇓iP	P	21 12 05.1	-0.3
CFR				i S	S	21 12 23.0	-0.9
HARR	**Harsova**	**1.32**	**128**	⇓iP	P	21 12 06.6	+0.1
HARR				i S	S	21 12 24.7	-1.4
TLCR		**1.69**	**100**	⇑iP	P	21 12 11.0	+0.2
TLCR				i S	S	21 12 33.4	-0.1
TIRR	**Tirgusor**	**1.73**	**126**	⇓iP	P	21 12 11.4	+0.1
TIRR				i S	S	21 12 33.8	-0.7
BURAR	**Bucovina Array**	**2.28**	**338**	⇑iP	P	21 12 18.9	+0.6
BURAR				i S	S	21 12 46.2	-0.5

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*TEH **12** 21:28:22.8,37.21N×55.44E,h10km,Mn3.6*
*CSEM **12** 21:28:22.2±0.2,37.02N×55.50E,h16km,ML3.6/2,Error ellipse: s-maj=14.2km s-min=1.7km az=167.0*
*THR **12** 21:28:25.2±0.3,36.98N×55.43E,h15km±3km,ML3.1*
ISC 12 21:28:22.5±3.1,**37.1N**±0.2×**55.53E**±0.07,**h10**km±26km, **n23,σ1^{s}03**/27,**Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IKIA	**Kiasar**	**1.71**	**241**	Pn	**Pn**	**21 28 51.4**	**-1.3**
IGLO	**Galoogah**	**1.80**	**246**	Pn	**Pn**	**21 28 46.9**	**-7.1**
ISFR	**Esferayen**	**1.97**	**90**	Pn	**Pn**	**21 28 56.6**	**+0.2**
IANJ	**Anjiloo**	**2.06**	**220**	Pn	**Pn**	**21 28 55.6**	**-2.0**
ISHM	**Shahmirzad**	**2.20**	**236**	Pn	**Pn**	**21 28 59.4**	**-0.3**
IQHU	**Quchan**	**2.41**	**89**	Pn	**Pn**	**21 29 03.2**	**+0.5**
IKRD	**Kardeh**	**2.41**	**96**	Pn	**Pg**	**21 29 14.7**	**+4.0**
IEMG	**Emamqoli**	**2.51**	**81**	Pn	**Pn**	**21 29 02.6**	**-1.6**
IFIR	**Firoozkooh**	**2.65**	**239**	Pn	**Pn**	**21 29 05.9**	**-0.3**
ILAS	**Lasjerd**	**2.67**	**232**	Pn	**Pn**	**21 29 06.2**	**-0.2**
IPRN	**Paran-Amol**	**2.77**	**254**	Pn	**Pn**	**21 29 06.6**	**-1.2**
IPAY	**Payeh**	**2.85**	**101**	Pn	**Pn**	**21 29 09.4**	**+0.5**
IDMV	**Damavand**	**3.19**	**243**	Pn	**Pn**	**21 29 14.6**	**+0.8**
IMOG	**Moghan**	**3.21**	**106**	Pn	**Pn**	**21 29 14.2**	**+0.2**
DAMV	**Damavand**	**3.21**	**245**	ePN	**Pn**	**21 29 15.8**	**+1.7**
DAMV				SN	**Sn**	**21 29 52.9**	**0.0**
DAMV				AML	AML	21 30 07.4	
	comp=N,83nm,0.5s						
DAMV	**Damavand**	**3.21**	**245**	ePn	**Pn**	**21 29 15.8**	**+1.7**
	SNR=52						
DAMV				Sn	**Sn**	**21 29 52.9**	**+0.1**
	comp=N,83nm,0.5s,SNR=52						
IVRN	**Varamin**	**3.71**	**237**	Pn	**Pn**	**21 29 20.0**	**-1.2**
IMYA	**Miamay**	**3.74**	**100**	Pn	**Pn**	**21 29 21.7**	**+0.1**
THKV	**Tehran--Karaj**	**3.92**	**254**	ePN	**Pn**	**21 29 25.7**	**+1.5**
NASN	**Na'in**	**4.80**	**209**	ePN	**Pn**	**21 29 38.0**	**+1.3**
IRAZ	**Razeghan**	**4.82**	**252**	Pn	**Pn**	**21 29 47.1**	**+10**
ASAO	**Ashtian**	**5.13**	**242**	ePN	**Pn**	**21 29 42.4**	**+1.1**
ASAO				eSg	**Sg**	**21 31 00.6**	**-13**
ASAO				AML	AML	21 31 22.7	
	comp=N,7.1nm,0.7s						
ASAO	**Ashtian**	**5.13**	**242**	ePn	**Pn**	**21 29 42.4**	**+1.1**
	SNR=52						
ASAO				eSg	**Sg**	**21 31 00.6**	**-13**
	comp=N,7.1nm,0.7s,SNR=90						

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*NIED **12** 21:38:00,26.00N×126.90E,h44km,Mw4.1 Best double couple: $M_0$1.49×10^{15} NP1:ϕ_s44°,δ46°,λ86°. NP2:ϕ_s229°, δ44°,λ94°.*
*JMA **12** 21:38:42.1±0.1,26.03N×126.86E,h54km±1km,M3.8*
JMA Felt I J1.
*NEIC **12** 21:38:43.9±0.9,26.02N×127.06E,h70km±9km, MG3.8(JMA),Error ellipse: s-maj=15.1km s-min=10.5km az=146.0*
*IDC **12** 21:38:44.5±2.7,26.04N×127.08E,h76km±29km,mb3.5/10, mb1 3.7/10,mb1mx3.6/19,mbtmp3.9/10,Error ellipse: s-maj=32.5km s-min=21.6km az=81.0*
ISC 12 21:38:41.4±0.3,**26.03N**±0.05×**126.87E**±0.05,**h59**km±4km, **n29,σ0^{s}86**/44,**mb3.7**/10,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.30**	**346**	P	**P**	**21 38 51.7**	**+0.2**
JKE				S	**S**	**21 38 58.6**	**-0.2**
JAGN	**Aguni-jima**	**0.65**	**31**	P	**P**	**21 38 55.7**	**+0.7**
JAGN				S	**S**	**21 39 05.3**	**+0.2**
NAH1	**Naha**	**0.76**	**77**	P	**P**	**21 38 56.7**	**+0.3**
NAH1				eS	**S**	**21 39 07.8**	**+0.3**
JJT2	**Tamagusuku 2**	**0.80**	**82**	P	**P**	**21 38 57.6**	**+0.7**
JJT2				eS	**S**	**21 39 09.3**	**+0.9**
JIH	**Iheya**	**1.40**	**44**	P	**P**	**21 39 05.7**	**+0.4**
JIH				eS	**S**	**21 39 22.4**	**-0.6**
JOW	**Kunigami**	**1.49**	**57**	P	**P**	**21 39 07.0**	**+0.5**
	baz=221,slow=13						
JOW				S	**S**	**21 39 24.9**	**-0.2**
	baz=308,slow=20						
JOW	**Kunigami**	**1.49**	**57**	P	**P**	**21 39 07.1**	**+0.6**
JOW				S	**S**	**21 39 25.2**	**+0.1**
JOGS	**Gusukube**	**1.83**	**227**	P	**P**	**21 39 11.7**	**+0.6**
JMJ	**Miyako jima 2**	**1.87**	**230**	P	**P**	**21 39 12.6**	**+0.9**
JMJ				eS	**S**	**21 39 34.3**	**+0.2**
JTJ	**Tarama**	**2.40**	**235**	P	**P**	**21 39 19.0**	**-0.2**
JTJ				eS	**S**	**21 39 46.6**	**-0.8**
JTK	**Tokunoshima**	**2.55**	**46**	P	**P**	**21 39 21.5**	**+0.1**
JTK				eS	**S**	**21 39 49.6**	**-1.7**
JIJ	**Ishigaki jima**	**2.98**	**237**	P	**P**	**21 39 26.5**	**-0.9**
JIJ				eS	**S**	**21 39 59.3**	**-2.7**
JKRS	**Kuro-shima**	**3.15**	**236**	P	**P**	**21 39 29.1**	**-0.7**
JKRS				eS	**S**	**21 40 05.7**	**-0.6**
IRIF	**Iriomote-Funau**	**3.31**	**240**	P	**P**	**21 39 31.3**	**-0.7**
JAM	**Amami Oshima**	**3.40**	**45**	P	**P**	**21 39 33.7**	**+0.4**
JAM				eS	**S**	**21 40 10.9**	**-1.8**
JZK	**Kikaishima**	**3.58**	**50**	P	**P**	**21 39 36.1**	**+0.2**
JZK				eS	**S**	**21 40 16.0**	**-1.2**
YOJ	**Yonaguni jima**	**3.83**	**247**	P	**P**	**21 39 39.5**	**+0.2**
JMZ	**Minamidaito 2**	**3.92**	**92**	P	**P**	**21 39 36.4**	**-4.3**
JMZ				eS	**S**	**21 40 16.7**	**-9.2**
YHNB	**Yeheng**	**5.15**	**256**	eP	**P**	**21 40 00.6**	**+2.7**
CMAR	**Chiang Mai Arr**	**26.89**	**259**	P	**P**	**21 44 20.0**	**+1.1**
	0.3nm,0.4s,mb3.2,baz=72,slow=7.6,SNR=4.2						
SONM	**Songino Array**	**27.07**	**329**	P	**P**	**21 44 22.0**	**+1.6**
	0.3nm,0.5s,mb3.0,baz=134,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**40.76**	**312**	P	**P**	**21 46 18.8**	**+0.6**
	1.3nm,0.4s,mb3.9,baz=96,slow=10,SNR=31						
ZAL	**Zalesovo**	**41.68**	**323**	P	**P**	**21 46 25.6**	**0.0**
	1.1nm,0.4s,mb3.8,baz=8.8,slow=7.2,SNR=4.6						
WRA	**Warramunga Arr**	**46.27**	**170**	P	**P**	**21 47 02.3**	**-0.7**
	0.3nm,0.5s,mb3.5,baz=352,slow=8.6,SNR=7.0						
ARCES	**ARCESS Array B**	**69.75**	**338**	P	**P**	**21 49 46.2**	**-0.5**
	3.5nm,0.8s,mb4.3,baz=51,slow=7.8,SNR=4.1						
FINES	**FINESS Array B**	**72.44**	**330**	P	**P**	**21 50 02.9**	**-0.1**
	0.6nm,0.4s,mb3.9,baz=84,slow=4.4,SNR=11						
AKASG	**Malin Array Be**	**74.89**	**319**	P	**P**	**21 50 17.5**	**0.0**
	0.8nm,0.5s,mb3.9,baz=60,slow=6.1,SNR=5.3						
BRTR	**Keskin Array B**	**76.19**	**308**	P	**P**	**21 50 26.1**	**+0.9**
	1.0nm,0.7s,mb3.9,baz=119,slow=2.7,SNR=4.5						
NOA	**NORSAR Array B**	**78.95**	**333**	P	**P**	**21 50 39.5**	**-0.4**
	1.0nm,0.9s,mb3.8,baz=69,slow=6.5,SNR=2.6						

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*ATH **12** 22:52:36.7,34.60N×25.27E,h53km±11km,MD3.6/5*
*NEIC **12** 22:52:36.7,34.60N×25.27E,h53km,MD3.6(ATH),After ATH.*
*CSEM **12** 22:52:36.7±0.1,34.58N×25.38E,h40km,ML3.5,Error ellipse: s-maj=4.5km s-min=2.5km az=76.0*
*HLW **12** 22:52:37.4,34.76N×25.52E,h26km,Mb3.5*
ISC 12 22:52:36.8±0.6,**34.60N**±0.05×**25.38E**±0.09,**h64**km±16km, **n21,σ0^{s}84**/26,**3C-7D,Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.38**	**44**	eP	**P**	**22 52 48.0**	**0.0**
NPS	**Neapolis**	**0.69**	**16**	eP	**P**	**22 52 51.5**	**+0.3**
GVD	**Gavdhos**	**1.09**	**283**	ePn	**P**	**22 52 55.8**	**-0.7**
GVD	**Gavdhos**	**1.09**	**283**	ePn	**P**	**22 52 55.8**	**-0.7**
VAM	**Vamos**	**1.26**	**310**	eP	**P**	**22 52 58.5**	**-0.2**
SANT	**Santorini**	**1.77**	**2**	Pn	**P**	**22 53 04.8**	**-0.9**
SANT				ePg	**P**	**22 53 09.2**	**+3.4**
SANT				eSg	**S**	**22 53 34.9**	**+7.8**
SANT	**Santorini**	**1.77**	**2**	Pn	**P**	**22 53 04.8**	**-1.0**
SANT	**Santorini**	**1.77**	**2**	ePg	**P**	**22 53 09.1**	**+3.3**
APE	**Apeiranthos**	**2.46**	**3**	eP	**P**	**22 53 16.0**	**+0.4**
VLI	**Veliai**	**2.90**	**317**	eP	**P**	**22 53 21.0**	**-0.7**
SLUM		**3.11**	**183**	⇓iP	**P**	**22 53 26.1**	**+1.4**
SLUM				S	**S**	**22 54 01.3**	**+0.6**
HMAT	**Matruh**	**3.79**	**157**	⇑eP	**P**	**22 53 35.0**	**+0.8**
HMAT				S	**S**	**22 54 16.4**	**-1.4**
SWA1		**5.33**	**177**	⇓eP	**P**	**22 53 56.5**	**+0.8**
SWA1				S	**S**	**22 54 54.5**	**-1.9**
SWA2		**5.34**	**179**	⇓eP	**P**	**22 53 56.2**	**+0.4**
GLL	**Jalalah**	**7.34**	**131**	⇓eP	**P**	**22 54 23.0**	**-0.7**
HFRF	**Wahat Farafira**	**7.85**	**160**	⇓eP	**P**	**22 54 30.8**	**+0.2**
ASUT		**8.93**	**142**	eP	**P**	**22 54 45.4**	**0.0**
HKAT	**Jabal Katrina**	**9.52**	**127**	⇓eP	**P**	**22 54 53.0**	**-0.6**
HDK1	**Dakhla**	**9.68**	**158**	⇑eP	**P**	**22 54 56.8**	**+1.1**
GTR	**Jabal at Tayr**	**10.11**	**152**	⇓eP	**P**	**22 55 02.2**	**+0.6**
HHRG	**Al Ghardaqah**	**10.18**	**134**	⇑eP	**P**	**22 55 02.1**	**-0.4**

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*CSEM **12** 22:59:33.0±0.7,12.12N×43.80E,h6km,ML3.7,Error ellipse: s-maj=17.4km s-min=15.2km az=96.0,After DHMR*
DHMR 12 22:59:33.0±0.8,**12.12N**×**43.80E,h7**km±8km,**ML3.7, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.14**	**16**	i P	Pb	22 59 54.7	0.0
TRBA				i S	Sb	23 00 10.8	+1.2
TRBA				AML	AML	23 00 17.2	
	comp=N,2μm,0.5s						
UDYN	**Al 'Udayn**	**1.84**	**5**	i P	Pn	23 00 06.1	+0.8
UDYN				i S	Sn	23 00 32.0	+2.9
UDYN				AML	AML	23 00 39.2	
	comp=N,966nm,0.4s						
DHBB	**Dhamar BB**	**2.50**	**13**	i P	Pn	23 00 16.4	+1.6
DHBB				i S	Sn	23 00 50.5	+4.6
BDHA	**Al Bayda'**	**2.52**	**43**	i P	Pn	23 00 16.7	+1.6
BDHA				i S	Sn	23 00 51.5	+4.9

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*CSEM **12** 23:25:27.4,20.59S×178.13W,h33km,mb5.5*
*BGS **12** 23:26:18.5±2.4,20.55S×178.46W,h545km*
*MOS **12** 23:26:19.3±0.8,20.48S×178.45W,h524km,mb4.8/21, Error ellipse: s-maj=12.1km s-min=9.1km az=52.7*
*IDC **12** 23:26:20.2±1.3,20.58S×178.36W,h529km±14km, mb4.1/21,mb1 4.3/24,mb1mx4.2/25,mbtmp4.9/24,Error ellipse: s-maj=13.5km s-min=10.0km az=135.0*
*NEIC **12** 23:26:21.5±0.7,20.55S×178.46W,h545km±8km,mb4.8/48,*

Error ellipse: s-maj=8.4km s-min=4.9km az=142.0

*BJI **12** 23:26:21.4, 20.50S×178.50W, h544km, mB4.9, mb4.7*

ISC 12 23:26:18.1±1.1**, 20.58S**±0.05×**178.45W**±0.06**, h512**km±12km**, n324,** σ0.91/150**, mb4.6**/68**, 30C-54D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.20**	**45**	⇑*e*P	**P**	**23 28 27.9**	**-0.3**
AFI				pmax	pmax		
	comp=Z,157nm,0.6s						
AFI	**Afiamalu**	**9.20**	**45**	P	**P**	**23 28 28.1**	**-0.1**
	comp=Z,20nm,0.3s,baz=36,slow=2.8,SNR=29						
AFI				S	**S**	**23 30 08.5**	**-3.4**
	comp=Z,3.9nm,0.3s,baz=322,slow=19,SNR=4.7						
AFI	**Afiamalu**	**9.20**	**45**	⇑*e*P	**P**	**23 28 27.9**	**-0.4**
	comp=Z,157nm,0.6s						
DZM	**Mont Dzumac**	**14.16**	**261**	P	**P**	**23 29 23.4**	**+3.7**
	comp=Z,1.5nm,0.3s,baz=79,slow=17,SNR=6.8						
MTAZ	**Motutapu**	**17.16**	**198**	*e*PN	**P**	**23 29 52.7**	**+3.3**
MKAZ	**Moumakai**	**17.39**	**197**	PN	**P**	**23 29 54.6**	**+3.0**
PUZ	**Puketiti**	**17.66**	**189**	PN	**P**	**23 29 54.4**	**0.0**
URZ	**Urewera**	**18.03**	**191**	P	**P**	**23 29 57.5**	**-0.4**
	comp=Z,7.1nm,0.3s,baz=343,slow=2.2,SNR=34						
URZ				S	**S**	**23 32 53.6**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=246,slow=20,SNR=6.1						
THZ	**Tophouse**	**22.35**	**197**	PN	**P**	**23 30 37.6**	**-0.7**
DSZ	**Denniston Nort**	**22.66**	**199**	PN	**P**	**23 30 40.0**	**-1.1**
KHZ	**Kahutara**	**22.80**	**195**	PN	**P**	**23 30 40.3**	**-2.1**
HNR	**Honiara**	**23.60**	**295**	P	**P**	**23 30 50.6**	**+0.7**
HNR				pmax	pmax		
	comp=Z,51nm,0.7s,mb5.3						
HNR	**Honiara**	**23.60**	**295**	P	**P**	**23 30 50.5**	**+0.6**
	comp=Z,51nm,0.7s,mb5.3						
RPZ	**Rata Peaks**	**24.68**	**198**	P	**P**	**23 30 58.0**	**-1.4**
	comp=Z,15nm,0.3s,mb5.0,baz=2.1,slow=2.5,SNR=13						
CNB	**Canberra Magne**	**31.84**	**236**	*e*P	**P**	**23 32 03.2**	**+1.5**
	comp=Z,45nm,0.7s,mb5.1						
CTA	**Charters Tower**	**33.07**	**265**	⇓*i*P	**P**	**23 32 13.7**	**+1.5**
	comp=Z,18nm,0.7s,mb4.7						
CTA	**Charters Tower**	**33.07**	**265**	⇓*i*P	**P**	**23 32 13.7**	**+1.5**
CTA				pmax	pmax		
	comp=Z,18nm,0.7s						
CTA	**Charters Tower**	**33.07**	**265**	P	**P**	**23 32 13.6**	**+1.4**
	comp=Z,26nm,0.7s,mb4.9,baz=95,slow=11,SNR=18						
CTAO	**Charters Tower**	**33.07**	**265**	*e*P	**P**	**23 32 13.1**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,23nm,0.7s,mb4.8						
CTAO	**Charters Tower**	**33.07**	**265**	*e*P	**P**	**23 32 13.1**	**+1.0**
	comp=Z,23nm,0.7s,mb4.8						
PMG	**Port Moresby**	**34.95**	**283**	P	**P**	**23 32 29.1**	**+1.1**
	comp=Z,9.5nm,0.4s,mb4.7,baz=122,slow=4.0,SNR=4.1						
TOO	**Toolangi**	**35.51**	**234**	⇓*i*P	**P**	**23 32 33.6**	**+1.2**
	comp=Z,13nm,0.6s,mb4.6						
TOO	**Toolangi**	**35.51**	**234**	⇓*i*P	**P**	**23 32 33.6**	**+1.2**
TOO				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**37.38**	**244**	⇑*i*P	**P**	**23 32 49.0**	**+1.2**
	comp=Z,14nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**37.38**	**244**	P	**P**	**23 32 49.0**	**+1.2**
	comp=Z,19nm,0.6s,mb4.8,baz=88,slow=9.3,SNR=57						
STKA				ScP		23 37 49.3	
	comp=Z,3.4nm,0.9s,baz=98,slow=4.3,SNR=4.1						
WB2	**Warramunga Arr**	**44.16**	**262**	⇓*i*P	**P**	**23 33 42.5**	**+0.1**
WB2				*e*S	**S**	**23 39 32.7**	**-5.6**
WB2				*e*SCS	ScS	23 42 41.0	-1.3
WRAB	**Tennant Creek**	**44.17**	**262**	⇑*i*P	**P**	**23 33 42.1**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,19nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**44.17**	**262**	⇑*i*P	**P**	**23 33 42.1**	**-0.4**
	comp=Z,19nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**44.18**	**262**	P	**P**	**23 33 42.3**	**-0.2**
	comp=Z,16nm,0.6s,mb4.7,baz=97,slow=8.6,SNR=259						
WRA				PcP	PcP	23 35 15.9	-0.8
	comp=Z,3.0nm,0.9s,baz=97,slow=3.8,SNR=5.1						
WRA				S	**S**	**23 39 32.8**	**-5.6**
	comp=Z,2.5nm,0.9s,baz=99,slow=13,SNR=6.9						
KAKA	**Kakadu**	**47.56**	**271**	*e*P	**P**	**23 34 08.5**	**-0.1**
	comp=Z,14nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**52.60**	**263**	⇓*i*P	**P**	**23 34 45.8**	**0.0**
	comp=Z,9.1nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**52.60**	**263**	P	**P**	**23 34 45.7**	**-0.1**
	comp=Z,13nm,0.6s,mb4.4,baz=151,slow=3.3,SNR=35						
KLBR	**Kellerberrin**	**57.64**	**245**	⇓*i*P	**P**	**23 35 20.1**	**-0.7**
	comp=Z,18nm,0.7s,mb4.4						
SBA	**Scott Base**	**57.76**	**184**	⇑*i*P	**P**	**23 35 22.2**	**+1.1**
SBA				pmax	pmax		
	comp=Z,36nm,1.0s,mb4.6						
SBA	**Scott Base**	**57.76**	**184**	⇑*i*P	**P**	**23 35 22.2**	**+1.1**
	comp=Z,36nm,1.0s,mb4.5						
VNDA	**Vanda**	**57.79**	**185**	P	**P**	**23 35 21.6**	**+0.3**
	comp=Z,8.1nm,0.7s,mb4.0,baz=354,slow=7.5,SNR=77						
CASY	**Casey**	**63.71**	**205**	⇑*i*P	**P**	**23 35 59.5**	**-0.7**
QSPA	**South Pole Qui**	**69.49**	**180**	*e*P	**P**	**23 36 35.8**	**+0.2**
	comp=Z,41nm,0.8s,mb5.0						
MJAR	**Matsushiro Arr**	**70.03**	**324**	P	**P**	**23 36 38.5**	**-1.0**
	comp=Z,4.9nm,0.8s,mb4.1,baz=166,slow=6.6,SNR=9.8						
AKUT	**Akutan**	**75.20**	**8**	*e*P	**P**	**23 37 06.8**	**-1.9**
PET	**Petropavlovsk**	**75.94**	**346**	*e*P	**P**	**23 37 11.2**	**-1.6**
PET				*e*S	SP	23 46 52.0	-5.0
SDPT	**Sand Point**	**77.16**	**10**	*e*P	**P**	**23 37 17.7**	**-1.7**
CHGN	**Chignik**	**78.43**	**11**	*e*P	**P**	**23 37 25.3**	**-0.9**
CMB	**Columbia Colle**	**79.80**	**43**	⇓*i*P	**P**	**23 37 33.8**	**0.0**
CMB				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.4						
CMB	**Columbia Colle**	**79.80**	**43**	⇓*i*P	**P**	**23 37 33.8**	**0.0**
	comp=Z,27nm,1.3s,mb4.4						
WDC	**Whiskeytown Da**	**80.00**	**40**	*e*P	**P**	**23 37 35.2**	**+0.4**
WDC				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.4						
WDC	**Whiskeytown Da**	**80.00**	**40**	*e*P	**P**	**23 37 35.1**	**+0.4**
	comp=Z,16nm,0.8s,mb4.4						
MDJ	**Mudanjiang**	**80.35**	**325**	P	**P**	**23 37 36.8**	**+0.3**
MDJ				AP	pP	23 39 32.4	+4.0
MDJ				XP	sP	23 40 27.9	+7.7
MDJ				PP	PP	23 40 51.1	+2.1
MDJ				S	S	23 46 57.2	-2.4
MDJ				SCS	ScS	23 47 13.4	-0.1
MDJ				XS		23 50 24.4	
MDJ				SS	SS	23 52 25.7	-3.0
MDJ				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,97nm,5.8s						
MTUM	**Tungsten Hills**	**80.59**	**44**	*e*P	**P**	**23 37 38.4**	**+0.5**
YBH	**Yreka Blue Hor**	**80.61**	**39**	P	**P**	**23 37 38.9**	**+1.0**
	comp=Z,29nm,0.8s,mb4.8,baz=190,slow=1.7,SNR=59						
BEKR	**Beckwourth**	**80.90**	**41**	*e*P	**P**	**23 37 39.8**	**+0.4**
	comp=Z,53nm,1.5s,mb4.8						
WCN	**Washoe City**	**80.95**	**42**	*e*P	**P**	**23 37 40.4**	**+0.7**
WCN				pmax	pmax		
	comp=Z,37nm,1.1s,mb4.7						
WCN	**Washoe City**	**80.95**	**42**	*e*P	**P**	**23 37 40.4**	**+0.6**
	comp=Z,37nm,1.1s,mb4.7						
HUMO	**Hull Mountain**	**81.01**	**38**	*e*P	**P**	**23 37 40.9**	**+0.9**
	comp=Z,35nm,1.1s,mb4.7						
MAW	**Mawson**	**81.35**	**200**	P	**P**	**23 37 41.0**	**-0.2**
	comp=Z,3.7nm,0.6s,mb4.0,baz=136,slow=5.1,SNR=4.2						
PAHR	**Pah Rah Range**	**81.42**	**42**	*e*P	**P**	**23 37 42.6**	**+0.5**
	comp=Z,13nm,0.9s,mb4.4						
LDFC	**Landfair**	**81.67**	**48**	*e*P	**P**	**23 37 44.5**	**+1.1**
TPH	**Tonopah**	**81.87**	**44**	*e*P	**P**	**23 37 44.8**	**+0.4**
TPH				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.6						
TPH	**Tonopah**	**81.87**	**44**	*e*P	**P**	**23 37 44.8**	**+0.4**
	comp=Z,18nm,0.7s,mb4.6						
CN2	**Changchun**	**82.11**	**323**	*e*P	**P**	**23 37 45.9**	**+0.4**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
MOD	**Modoc**	**82.14**	**40**	⇓*i*P	**P**	**23 37 46.2**	**+0.5**
	comp=Z,33nm,0.9s,mb4.8						
NEN	**Nelson**	**82.15**	**47**	*e*P	**P**	**23 37 45.7**	**-0.2**
KLR	**Kul'dur**	**82.39**	**330**	*e*P	**P**	**23 37 44.4**	**-2.4**
BMN	**Battle Mountai**	**83.19**	**42**	⇓*i*P	**P**	**23 37 51.2**	**+0.2**
BMN				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.7						
BMN	**Battle Mountai**	**83.19**	**42**	⇓*i*P	**P**	**23 37 51.2**	**+0.1**
	comp=Z,20nm,0.8s,mb4.7						
TUC	**Tucson**	**83.36**	**52**	⇓*e*P	**P**	**23 37 52.6**	**+0.6**
TUC				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.5						
TUC	**Tucson**	**83.36**	**52**	⇓*e*P	**P**	**23 37 52.6**	**+0.5**
	comp=Z,13nm,0.8s,mb4.5						
RSO	**Redoubt South**	**83.41**	**12**	*e*P	**P**	**23 37 50.4**	**-1.3**
SVW2	**Sparrevohn**	**83.45**	**11**	*e*P	**P**	**23 37 51.1**	**-0.8**
WVOR	**Wild Horse Val**	**83.46**	**40**	⇓*i*P	**P**	**23 37 52.7**	**+0.4**
WVOR				pmax	pmax		
	comp=Z,31nm,1.1s,mb4.8						
WVOR	**Wild Horse Val**	**83.46**	**40**	⇓*i*P	**P**	**23 37 52.7**	**+0.3**
	comp=Z,31nm,1.1s,mb4.7						
OCWA	**Octopus Mounta**	**83.60**	**33**	⇓*i*P	**P**	**23 37 54.0**	**+1.1**
	comp=Z,53nm,0.9s,mb5.1						
SLKM	**Skilak Lake**	**83.98**	**14**	*e*P	**P**	**23 37 53.5**	**-0.9**
SPU	**Mount Spurr**	**84.20**	**13**	*e*P	**P**	**23 37 53.7**	**-1.9**
ARUT	**Antelope Range**	**84.24**	**46**	*e*P	**P**	**23 37 56.3**	**0.0**
PGC	**Sidney**	**84.56**	**33**	*e*P	**P**	**23 37 57.7**	**+0.1**
	comp=Z,60nm,1.2s,mb5.0						
ELK	**Elko**	**84.62**	**43**	⇓*i*P	**P**	**23 37 58.2**	**+0.1**
ELK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ELK	**Elko**	**84.62**	**43**	⇓*i*P	**P**	**23 37 58.2**	**+0.1**
	comp=Z,3.1nm,0.8s,mb3.9						
BBB	**Bella Bella**	**84.67**	**28**	P	**P**	**23 37 58.5**	**+0.4**
	comp=Z,7.2nm,0.7s,mb4.3,baz=263,slow=8.9,SNR=5.2						
MVU	**Marysvale**	**85.43**	**46**	⇓*e*P	**P**	**23 38 02.9**	**+0.8**
	comp=Z,4.4nm,0.9s,mb4.0						
MSU	**Marysvale**	**85.46**	**46**	⇓*i*P	**P**	**23 38 02.9**	**+0.7**
BMO	**Blue Mountains**	**85.64**	**39**	⇓*i*P	**P**	**23 38 02.9**	**0.0**
BMO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.6						
BMO	**Blue Mountains**	**85.64**	**39**	⇓*i*P	**P**	**23 38 02.9**	**0.0**
	comp=Z,13nm,0.8s,mb4.6						
ENH	**Enshi**	**85.74**	**304**	⇓*e*P	**P**	**23 38 04.1**	**+0.4**
	comp=Z,23nm,1.2s,mb4.7						
SEY	**Seymchan**	**86.36**	**347**	*e*P	**P**	**23 38 05.6**	**-0.3**
SEY				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
TMUT	**Trail Mountain**	**86.51**	**46**	⇓*e*P	**P**	**23 38 08.1**	**+0.9**
SYO	**Syowa Base**	**86.56**	**193**	⇓P	**P**	**23 38 04.0**	**-2.7**
SYO	**Syowa Base**	**86.56**	**193**	⇑PcP	PcP	23 38 07.8	-0.9
SPUT	**South Promonto**	**86.71**	**44**	*e*P	**P**	**23 38 08.2**	**+0.1**
SRU	**San Rafael**	**86.88**	**46**	*e*P	**P**	**23 38 08.5**	**-0.4**
DAU	**Daniels Canyon**	**87.04**	**45**	*e*P	**P**	**23 38 10.1**	**+0.5**
TCUT	**Toone Canyon**	**87.29**	**44**	⇓*e*P	**P**	**23 38 11.1**	**+0.3**
BNM	**Barren Site**	**87.29**	**52**	*e*P	**P**	**23 38 11.2**	**+0.1**
LTX	**Lajitas**	**87.45**	**57**	⇓*e*P	**P**	**23 38 12.5**	**+0.6**
LTX				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.6						
LTX	**Lajitas**	**87.45**	**57**	⇓*e*P	**P**	**23 38 12.5**	**+0.6**
	comp=Z,17nm,1.0s,mb4.6						
TXAR	**Lajitas Array**	**87.45**	**57**	P	**P**	**23 38 12.5**	**+0.6**
	comp=Z,11nm,0.9s,mb4.5,baz=217,slow=6.3,SNR=60						
TXAR	**Lajitas Array**	**87.45**	**57**	P	**P**	**23 38 12.4**	**+0.6**
NEW	**Newport**	**87.68**	**36**	P	**P**	**23 38 12.2**	**-0.3**
	comp=Z,6.5nm,0.9s,mb4.3,baz=216,slow=4.1,SNR=11						
ANMO	**Albuquerque**	**87.78**	**51**	⇓*e*P	**P**	**23 38 13.3**	**0.0**
ANMO				pmax	pmax		
	comp=Z,15nm,1.2s						
ANMO	**Albuquerque**	**87.78**	**51**	⇓*e*P	**P**	**23 38 13.3**	**0.0**
	comp=Z,15nm,1.2s,mb4.6						
XAN	**Xi'an**	**87.85**	**308**	P	**P**	**23 38 14.4**	**+0.8**
XAN				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.5						
SNAA	**Sanae**	**87.94**	**179**		**P**	**23 38 11.7**	**-1.5**
SNAA	**Sanae**	**87.94**	**179**		**P**	**23 38 18.1**	**+4.9**
VNA3	**Neumayer Olymp**	**88.09**	**176**		**P**	**23 38 14.3**	**+0.4**
GDL2	**Guadalupe Moun**	**88.14**	**55**	*e*P	**P**	**23 38 15.2**	**+0.2**
MCMT	**McKenzie Canyo**	**88.28**	**40**	*e*P	**P**	**23 38 15.9**	**+0.6**
DLBC	**Dease Lake**	**88.29**	**23**	P	**P**	**23 38 15.3**	**+0.3**
	comp=Z,7.7nm,0.9s,mb4.4,baz=217,slow=7.9,SNR=14						
DLBC	**Dease Lake**	**88.29**	**23**	*e*P	**P**	**23 38 15.1**	**+0.1**
AHID	**Auburn Hatcher**	**88.32**	**43**	*e*P	**P**	**23 38 15.7**	**+0.1**
	comp=Z,14nm,1.2s,mb4.5						
IMA	**Indian Mountai**	**88.40**	**10**	⇓*e*P	**P**	**23 38 15.3**	**-0.1**
IMA				pmax	pmax		
	comp=Z,67nm,0.8s,mb5.4						
IMA	**Indian Mountai**	**88.40**	**10**	⇓*e*P	**P**	**23 38 15.2**	**-0.2**
	comp=Z,68nm,0.8s,mb5.4						
RRI2	**Red Ridge**	**88.47**	**42**	*e*P	**P**	**23 38 16.9**	**+0.6**
	comp=Z,31nm,0.9s,mb5.0						
ILAR	**Eielson Array**	**88.48**	**13**	P	**P**	**23 38 14.6**	**-1.2**
	comp=Z,18nm,0.9s,mb4.8,baz=228,slow=5.4,SNR=86						
ILAR				PP	PP	23 41 54.4	-0.1
	comp=Z,1.5nm,0.9s,baz=215,slow=7.3,SNR=4.3						
VNA2	**Neumayer--Watz**	**88.53**	**177**		**P**	**23 38 17.0**	**+1.1**
CLNB	**Carlsbad**	**88.53**	**55**	*e*P	**P**	**23 38 16.6**	**-0.3**
MAIT	**Maitri**	**88.61**	**183**	*e*P	**P**	**23 38 15.1**	**-1.2**
MSO	**Missoula**	**88.69**	**38**	⇓*e*P	**P**	**23 38 16.4**	**-0.9**
	comp=Z,6.0nm,1.3s,mb4.3						
VNA1	**Neumayer--Stat**	**88.75**	**177**		**P**	**23 38 18.4**	**+1.4**
REDW	**Red Top Meadow**	**88.77**	**42**	⇓*e*P	**P**	**23 38 17.9**	**+0.1**
	comp=Z,36nm,1.1s,mb5.1						
TPAW	**Teton Pass**	**88.78**	**42**	⇓*e*P	**P**	**23 38 18.3**	**+0.5**
	comp=Z,26nm,1.3s,mb4.9						
SNOW	**Snow King Moun**	**88.89**	**42**	*e*P	**P**	**23 38 18.8**	**+0.5**
	comp=Z,39nm,1.0s,mb5.2						
IMW	**Indian Meadow**	**88.99**	**42**	⇓*i*P	**P**	**23 38 19.4**	**+0.7**
	comp=Z,33nm,1.1s,mb5.1						
KMI	**Kunming**	**89.02**	**297**	P	**P**	**23 38 20.4**	**+1.1**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
KMI	**Kunming**	**89.02**	**297**	P	**P**	**23 38 20.4**	**+1.1**
	comp=Z,10.0nm,0.9s,mb4.7						
MOOW	**Moose Ponds**	**89.03**	**42**	*e*P	**P**	**23 38 19.1**	**+0.1**
	comp=Z,3.6nm,0.8s,mb4.2						
LOHW	**Long Hollow**	**89.06**	**42**	*e*P	**P**	**23 38 19.1**	**+0.1**
	comp=Z,9.0nm,0.6s,mb4.8						
BILL	**Bilibino**	**89.07**	**354**	⇓*i*P	**P**	**23 38 17.6**	**-0.9**
BILL				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.8						
CHMT	**Chamberlain Mo**	**89.14**	**38**	*e*P	**P**	**23 38 19.0**	**-0.3**
PDAR	**Pinedale Array**	**89.31**	**43**	P	**P**	**23 38 19.9**	**-0.3**
	comp=Z,11nm,0.7s,mb4.8,baz=218,slow=2.8,SNR=59						
YFT	**Old Faithful**	**89.33**	**41**	*e*P	**P**	**23 38 22.2**	**+1.9**
SMCO	**Snowmass**	**89.34**	**47**	⇓*e*P	**P**	**23 38 20.6**	**+0.1**
YMR	**Madison River**	**89.36**	**41**	*e*P	**P**	**23 38 21.5**	**+1.1**
BOZ	**Bozeman (W)**	**89.44**	**40**	⇓*e*P	**P**	**23 38 20.9**	**+0.1**
BOZ				pmax	pmax		
	comp=Z,39nm,1.4s,mb5.0						
BOZ	**Bozeman (W)**	**89.44**	**40**	⇓*e*P	**P**	**23 38 20.9**	**+0.1**
	comp=Z,39nm,1.4s,mb5.0						
PLCA	**Paso Flores**	**89.52**	**134**	P	**P**	**23 38 21.1**	**-0.2**
	comp=Z,2.3nm,0.8s,mb4.1,baz=301,slow=13,SNR=3.5						
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P	**P**	**23 38 24.2**	**+1.4**
	comp=Z,6.9nm,1.0s,mb4.4,baz=119,slow=3.4,SNR=31						
HRY	**Holter Researc**	**89.87**	**39**	*e*P	**P**	**23 38 22.6**	**-0.1**
WALA	**Waterton Lakes**	**89.90**	**36**	*e*P	**P**	**23 38 22.6**	**-0.2**
	comp=Z,7.8nm,0.9s,mb4.5						
EDM	**Edmonton**	**92.41**	**33**	⇓*e*P	**P**	**23 38 33.3**	**-0.9**
LZH	**Lanzhou**	**92.49**	**308**	*e*P	**P**	**23 38 34.0**	**-1.0**
LZH				AMB	AMB		
	comp=Z,33nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
RSSD	**Black Hills**	**93.50**	**44**	*e*P	**P**	**23 38 38.9**	**-0.6**
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
RSSD	**Black Hills**	**93.50**	**44**	*e*P	**P**	**23 38 38.9**	**-0.6**
	comp=Z,4.0nm,0.8s,mb4.6						
INK	**Inuvik**	**94.46**	**15**	⇓*e*P	**P**	**23 38 42.0**	**-1.3**
INK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
INK	**Inuvik**	**94.46**	**15**	P	**P**	**23 38 42.3**	**-1.0**
	comp=Z,6.8nm,1.0s,mb4.7,baz=217,slow=7.1,SNR=7.9						
INK	**Inuvik**	**94.46**	**15**	⇓*e*P	**P**	**23 38 42.0**	**-1.3**
	comp=Z,10nm,1.1s,mb4.9						
SONM	**Songino Array**	**95.54**	**319**	P	**P**	**23 38 47.7**	**-1.0**
	comp=Z,0.3nm,0.4s,mb3.9,baz=135,slow=1.7,SNR=4.5						
SONM				PP	PP	23 42 53.3	+4.0
	comp=Z,0.3nm,0.3s,baz=101,slow=6.3,SNR=3.6						
YKA	**Yellowknife Ar**	**96.76**	**25**	P	**P**	**23 38 52.3**	**-1.5**
	comp=Z,1.3nm,0.7s,mb4.3,baz=244,slow=4.6,SNR=7.1						
ZAL	**Zalesovo**	**110.31**	**321**	PKiKP		23 43 50.0	
	comp=Z,1.4nm,0.5s,baz=294,slow=3.3,SNR=8.6						
ZAL	**Zalesovo**	**110.31**	**321**	PKPdf	PKPdf	23 43 50.0	-0.8
MKAR	**Makanchi Array**	**110.95**	**313**	PKiKP		23 43 51.7	
	comp=Z,2.0nm,0.7s,baz=68,slow=2.0,SNR=22						
MKAR	**Makanchi Array**	**110.95**	**313**	PKPdf	PKPdf	23 43 51.7	-0.5
NVS	**Novosibirsk**	**111.31**	**322**	*e*PKIKP	PKPdf	23 43 46.9	-5.8
BVAR	**Borovoye Array**	**118.87**	**320**	PKP	PKPdf	23 44 06.6	-0.9
	comp=Z,6.3nm,0.7s,baz=90,slow=1.5,SNR=34						
ZRNK	**Zerenda**	**119.71**	**320**	*e*PKIKP	PKPdf	23 44 08.1	-1.1
ARU	**Arti**	**125.03**	**325**	*e*PKIKP	PKPdf	23 44 17.9	-1.4
ARU	**Arti**	**125.03**	**325**	*e*PKPdf	PKPdf	23 44 18.8	-0.4
ARCES	**ARCESS Array B**	**128.93**	**349**	PKP	PKPdf	23 44 26.1	-0.4
	comp=Z,6.7nm,0.9s,baz=4.8,slow=1.4,SNR=14						
KAF	**Kangasniemi**	**135.11**	**344**	*e*p	PKPdf	23 44 36.4	-1.8
	comp=Z,0.3nm,0.3s						
FINES	**FINESS Array B**	**135.73**	**343**	PKhKP		23 44 29.4	
	comp=Z,0.7nm,0.6s,baz=143,slow=9.5,SNR=3.5						
FINES				PKP	PKPdf	23 44 38.7	-0.7
	comp=Z,2.5nm,0.7s,baz=108,slow=4.4,SNR=9.1						
FINES				SKPbc		23 47 21.0	
	comp=Z,6.8nm,0.9s,baz=135,slow=5.4,SNR=14						
FINES	**FINESS Array B**	**135.73**	**343**	PKP	PKPdf	23 44 29.4	-10
FINES				PKP	PKPdf	23 44 38.7	-0.7
FINES				SKPbc		23 47 21.0	
OBN	**Obninsk**	**136.63**	**331**	⇑*i*PKIKP	PKPdf	23 44 40.8	-0.4
OBN				pmax	pmax		
	comp=Z,13nm,1.2s						
KMBO	**Kilima Mbogo**	**138.93**	**243**	SKPbc		23 47 31.9	
	comp=Z,2.2nm,0.8s,baz=265,slow=6.2,SNR=4.6						
NB2	**NORSAR Subarra**	**139.01**	**353**	PKPabc		23 44 36.7	
	comp=Z,2.4nm,0.7s,baz=13,slow=3.7						
NOA	**NORSAR Array B**	**139.01**	**353**	PKhKP		23 44 35.8	
	comp=Z,2.8nm,0.7s,baz=11,slow=2.3,SNR=10						
NOA				SKPbc		23 47 30.4	
	comp=Z,4.7nm,0.9s,baz=16,slow=4.4,SNR=7.6						
MVH1	**Achvaich**	**142.47**	**5**	*e*P	PKPdf	23 44 48.3	-3.1
KSK	**Scoval**	**142.67**	**7**	*e*P	PKPdf	23 44 48.9	-2.9
SUW	**Suwalki**	**142.77**	**339**	*e*PKP	PKPdf	23 44 49.5	-2.5
SUW				*e*PKP	PKPdf	23 44 50.3	-1.7
SUW	**Suwalki**	**142.77**	**339**	*e*PKP	PKPdf	23 44 50.3	-1.8
KAC	**Achnashellach**	**142.79**	**6**	*e*P	PKPdf	23 44 49.7	-2.3
MCD	**Coleburn Disti**	**142.88**	**4**	*e*P	PKPdf	23 44 49.5	-2.6
AKASG	**Malin Array Be**	**142.88**	**331**	PKhKP		23 44 49.5	
	comp=Z,27nm,0.6s,baz=41,slow=4.3,SNR=178						
AKASG				SKPbc		23 47 40.3	
	comp=Z,1.6nm,0.6s,baz=40,slow=2.4,SNR=13						
MDO	**Dochfour**	**142.93**	**5**	*e*P	PKPdf	23 44 49.6	-2.6
KSB	**Sheil Bridge**	**143.06**	**6**	*e*P	PKPbc	23 44 50.2	-0.8
KAR1	**Arisaig**	**143.30**	**7**	*e*P	PKPbc	23 44 48.3	-3.5
MALT	**Malatya**	**143.65**	**307**	*e*PKP	PKPdf	23 44 54.3	+0.2
MALT				*e*SKPbc		23 47 42.4	
MUD	**Monsted U'grnd**	**143.73**	**353**	⇓*i*P	PKPbc	23 44 52.8	-0.3
	comp=Z,139nm,0.9s						
COP	**Copenhagen**	**144.01**	**350**	⇓*i*P	PKPbc	23 44 53.7	-0.2
	comp=Z,41nm,0.7s						
BSD	**Bornholm Skovb**	**144.07**	**347**	⇓*i*P	PKPbc	23 44 53.6	-0.5
	comp=Z,119nm,0.9s						
WAR	**Warsaw**	**144.96**	**339**	*e*PKP	PKPdf	23 44 58.1	+2.2
WAR	**Warsaw**	**144.96**	**339**	*e*PKP	PKPdf	23 44 58.1	+2.1
ESK	**Eskdalemuir**	**145.13**	**5**	*e*PKIKP	PKPdf	23 44 56.6	+0.5
KIS	**Kishinev**	**145.57**	**326**	⇑*i*PKIKP	PKPdf	23 44 57.0	-0.2
KIS				pmax	pmax		
	comp=Z,200nm,1.0s						
LVV	**L'vov**	**145.80**	**334**	*e*PKIKP	PKPdf	23 44 58.5	+1.0
BSEG	**Bad Segeberg**	**146.03**	**351**	*e*PKP2	PKPab	23 45 00.3	-3.7
ASF	**Jabal al Asfar**	**146.44**	**297**	PKPbc	PKPbc	23 45 02.7	+1.7
	comp=Z,15nm,0.8s,baz=308,slow=1.9,SNR=28						
KWP	**Kalwaria**	**146.48**	**335**	*e*PKP	PKPdf	23 45 01.6	+3.0
KWP				*e*		23 45 05.1	
KWP	**Kalwaria**	**146.48**	**335**	*e*PKP	PKPdf	23 45 01.6	+3.0
KWP				*e*		23 45 05.1	
BR131	**Keskin Array S**	**146.58**	**312**	*e*PKPdf	PKPdf	23 44 59.4	+0.4
BR131				*e*PKPbc	PKPbc	23 45 02.1	+1.0
BRTR	**Keskin Array B**	**146.59**	**312**	PKP	PKPdf	23 44 59.7	+0.6
	comp=Z,8.9nm,0.8s,SNR=44						
BRTR				PKPbc	PKPbc	23 45 01.9	+0.8
	comp=Z,9.2nm,0.8s,baz=147,slow=3.1,SNR=44						
DCN	**Croghan**	**146.60**	**10**	⇓*i*P	PKPdf	23 45 01.3	+2.7
DLF	**Lyons Farm**	**146.75**	**9**	⇓*i*P	PKPdf	23 45 01.7	+2.8
RUE	**Ruedersdorf**	**146.78**	**346**	*e*PKPbc	PKPbc	23 45 02.2	+1.1
DSB	**Dublin**	**146.83**	**9**	PKPdf	PKPdf	23 44 58.9	-0.1
DSB				*e*PKPbc	PKPbc	23 45 02.1	+1.0
BURAR	**Bucovina Array**	**146.93**	**330**	⇑P	PKPdf	23 45 03.5	+4.1
BURAR	**Bucovina Array**	**146.93**	**330**	⇑P	PKPdf	23 45 03.5	+4.2
OJC	**Ojcow**	**147.08**	**338**	*e*PKP	PKPdf	23 45 02.8	+3.3
CFR	**Carcaliu**	**147.11**	**324**	⇑P	PKPdf	23 45 03.1	+3.4
KSHT	**Keshet**	**147.17**	**299**	P	PKPdf	23 45 04.5	+4.3
KOLS	**Kolonicke sedl**	**147.21**	**334**	*e*PKP	PKPdf	23 45 04.0	+4.3
KOLS				*e*		23 45 07.5	
STHS	**Stebnicka Huta**	**147.22**	**336**	*e*PKP	PKPdf	23 45 04.4	+4.7
STHS				*e*		23 45 07.9	
KSDI	**Kefar Szold**	**147.24**	**300**	P	PKPdf	23 45 04.7	+4.4
CRVS	**Cervenica-Dubn**	**147.55**	**335**	*e*PKP	PKPdf	23 45 07.8	+7.5
NIE	**Niedzica**	**147.57**	**337**	*e*PKP	PKPdf	23 45 04.9	+4.6
WIT	**Witteveen**	**147.59**	**354**	*e*PKP	PKPdf	23 45 05.1	+4.9
MMLI	**Mount Malkishu**	**147.61**	**298**	P	PKPdf	23 45 05.7	+4.8
MKRJ	**Makawir**	**147.61**	**297**	P	PKPdf	23 45 05.6	+4.6
KSP	**Ksiaz**	**147.64**	**342**	*e*PKP	PKPdf	23 45 04.5	+4.1
KSP				*e*PKPdf	PKPdf	23 45 09.4	+9.0
KSP	**Ksiaz**	**147.64**	**342**	*e*PKP	PKPdf	23 45 05.0	+4.7
KSP				*e*		23 45 09.7	
HNTI	**Hanita**	**147.66**	**300**	P	PKPdf	23 45 05.2	+4.2
OFRI	**'Ofer**	**147.93**	**299**	P	PKPdf	23 45 05.8	+4.4
OKC	**Ostrava-Krasne**	**147.97**	**340**	*e*PKP2	PKPab	23 45 05.7	-6.0
OKC	**Ostrava-Krasne**	**147.97**	**340**	⇑*e*PKPB		23 45 05.7	
OKC				*e*PKPAB	PKPab	23 45 11.0	-0.7
SLTI	**Sal'it**	**147.97**	**298**	P	PKPdf	23 45 06.4	+4.9
PSN	**Preselentsi**	**148.01**	**322**	*e*P	PKPdf	23 45 06.0	+4.8
UPC	**Upice**	**148.03**	**342**	*e*PKHKP		23 45 01.6	
UPC				*e*		23 45 11.2	
UPC	**Upice**	**148.03**	**342**	*e*PKPDF	PKPdf	23 45 01.6	+0.6
UPC				⇑*e*PKPB		23 45 05.9	
UPC				*e*PKPAB	PKPab	23 45 11.2	-0.7
CLL	**Collm**	**148.05**	**346**	*e*PKHKP		23 45 02.0	
CLL				*i*		23 45 10.3	
CLL	**Collm**	**148.05**	**346**	*e*PKP	PKPdf	23 45 02.0	+1.0
CLL				⇓*i*PKP	PKPdf	23 45 05.6	+4.6
CLL				⇑*i*PKP	PKPdf	23 45 10.3	+9.3
CLL				*e*pPKP		23 47 15.0	
CLL	**Collm**	**148.05**	**346**	*e*PKIKP	PKPdf	23 45 02.0	+1.0
CLL				*i* PKP1	PKPdf	23 45 05.6	+4.6
CLL				*i* PKP2	PKPab	23 45 10.3	-1.6
CLL				*e**PPKP		23 47 11.0	
CLZ	**Clausthal**	**148.05**	**350**	*e*PKPdf	PKPdf	23 45 02.2	+1.2
CLZ				*e*PKPbc	PKPdf	23 45 06.0	+5.0
MLR	**Muntele Rosu**	**148.06**	**327**	⇑P	PKPdf	23 45 05.8	+4.6
DPC	**Dobruska-Polom**	**148.08**	**342**	*e*PKHKP		23 45 01.6	
DPC				*e*		23 45 11.0	
DPC	**Dobruska-Polom**	**148.08**	**342**	*e*PKPDF	PKPdf	23 45 01.6	+0.5
DPC				⇑*e*PKPB		23 45 06.2	
DPC				*e*PKPAB	PKPab	23 45 11.0	-1.1
ZFRI	**Zfri**	**148.19**	**295**	P	PKPdf	23 45 07.0	+5.1
MORC	**Moravsky Berou**	**148.21**	**340**	PKHKP		23 45 01.8	
MORC				*e*		23 45 11.7	
MORC	**Moravsky Berou**	**148.21**	**340**	PKPdf	PKPdf	23 45 01.8	+0.5
MORC				*e*PKPbc	PKPdf	23 45 06.4	+5.1
MORC				*e*PKPab	PKPab	23 45 11.7	-1.0
BRG	**Berggiesshubel**	**148.23**	**345**	*e*PKHKP		23 45 01.8	
BRG				*i*		23 45 10.3	
BRG				*e*		23 48 37.7	
BRG	**Berggiesshubel**	**148.23**	**345**	*e*PKP	PKPdf	23 45 01.8	+0.5
BRG				*i* PKP	PKPdf	23 45 06.0	+4.7
BRG				*i* PKP	PKPdf	23 45 10.2	+8.9
BRG				*e*		23 47 21.1	
BRG				*e*		23 48 37.7	
KECS	**Kecovo**	**148.27**	**336**	*e*PKP	PKPdf	23 45 06.8	+5.3
KECS				*e*		23 45 10.9	
KECS				*e*		23 45 23.1	
PRNI	**Paran**	**148.37**	**295**	P	PKPdf	23 45 07.5	+5.3
PVCC	**Panska Ves**	**148.40**	**344**	*e*PKPDF	PKPdf	23 45 02.3	+0.7
PVCC				⇑*e*PKPB		23 45 06.9	
WTSB	**Winterswijk**	**148.41**	**354**	*e*PKP	PKPdf	23 45 02.1	+0.5
WTSB				*e*x	x	23 45 06.4	
	comp=Z,76nm,0.7s						
AQBJ	**Aqaba**	**148.44**	**294**	P	PKPdf	23 45 07.5	+5.2
EIL	**Elat**	**148.53**	**293**	*e*PKPdf	PKPdf	23 45 03.7	+1.2
EIL				*e*PKPbc	PKPdf	23 45 07.7	+5.2
EIL	**Elat**	**148.53**	**293**	P	PKPdf	23 45 07.8	+5.3
MBH	**Mount Berech**	**148.54**	**294**	P	PKPdf	23 45 08.0	+5.5
CSS	**Prodhromos**	**148.60**	**304**	*e*PKPbc	PKPdf	23 45 07.0	+4.5
DRGR		**148.68**	**332**	⇑P	PKPdf	23 45 07.2	+5.0
KZIT	**Kziot**	**148.78**	**296**	P	PKPdf	23 45 08.3	+5.4
VYHS	**Vyhne**	**148.88**	**338**	*e*PKP	PKPdf	23 45 08.1	+5.7
PRU	**Pruhonice**	**148.90**	**344**	*e*PKHKP		23 45 07.8	
PRU				*e*		23 45 14.3	
PRU	**Pruhonice**	**148.90**	**344**	⇑*e*PKPB		23 45 07.8	
PRU				*e*PKPAB	PKPab	23 45 14.3	-1.2
KOLL	**Kolacno**	**148.96**	**338**	*i* PKP	PKPdf	23 45 08.5	+5.9
PSZ	**Piszkesteto**	**148.96**	**336**	*e*PKPdf	PKPdf	23 45 02.7	+0.1
PSZ				*i* PKPbc	PKPdf	23 45 08.3	+5.7
MOX	**Moxa**	**148.97**	**348**	*e*PKPdf	PKPdf	23 45 03.3	+0.8
MOX				*e*PKP	PKPdf	23 45 07.9	+5.4
MOX	**Moxa**	**148.97**	**348**	*i* P	PKPdf	23 45 03.3	+0.8
MOX				PP2		23 45 08.0	
MOX				PKP2	PKPab	23 45 14.0	-1.7
SMOL	**Smolenice**	**149.35**	**339**	*e*PKP	PKPdf	23 45 09.7	+6.5
SMOL				*e*		23 45 16.8	
HGN	**Heimansgroeve**	**149.68**	**354**	*e*PKP	PKPdf	23 45 03.6	-0.1
HGN				*e*x	x	23 45 09.4	
	comp=Z,24nm,1.0s						

JMB	**Yambol**	**149.69**	**322**	*e*P	PKPdf	23 45 10.0	+6.1
ZST	**Bratislava**	**149.73**	**339**	*e*PKP	PKPdf	23 45 10.2	+6.4
ZST				*e*		23 45 18.9	
TNS	**Taunus Mts**	**149.92**	**351**	*e*PKHKP		23 45 10.4	
TNS				*e*		23 45 18.0	
KHC	**Kasperske Hory**	**149.93**	**344**	*e*PKIKP	PKPdf	23 45 04.6	+0.5
KHC				*e*		23 45 19.2	
KHC	**Kasperske Hory**	**149.93**	**344**	*e*PKPDF	PKPdf	23 45 04.6	+0.5
KHC				⇑*e*PKPB		23 45 10.5	
KHC				*e*PKPAB	PKPab	23 45 19.2	-0.6
GRA1	**Grafenberg Arr**	**149.95**	**347**	*e*PKPbc	PKPdf	23 45 10.7	+6.6
GRA1				*e*PKPab	PKPab	23 45 18.1	-1.7
GRF	**Grafenberg Arr**	**149.95**	**347**	*e*PKHKP		23 45 10.7	
GRF				*e*		23 45 18.1	
GRF				MLR	MLR		
	comp=Z,300nm,21.5s						
WET	**Wettzell**	**150.10**	**345**	*e*PKIKP	PKPdf	23 45 05.1	+0.7
WET				*e*		23 45 19.3	
WET	**Wettzell**	**150.10**	**345**	*e*PKPdf	PKPdf	23 45 05.1	+0.7
WET				*e*PKPbc	PKPdf	23 45 10.7	+6.3
WET				*e*PKPab	PKPab	23 45 19.3	-1.1
GERES	**GERESS Array B**	**150.16**	**344**	PKIKP	PKPdf	23 45 04.3	-0.2
GERES						23 45 19.4	
GERES	**GERESS Array B**	**150.16**	**344**	PKP	PKPdf	23 45 04.3	-0.2
	comp=Z,1.3nm,0.9s,baz=180,slow=1.3,SNR=9.7						
GERES				PKPbc	PKPdf	23 45 10.5	+6.0
	comp=Z,11nm,0.8s,baz=45,slow=1.9,SNR=62						
GERES				PKPab	PKPab	23 45 19.4	-1.3
	comp=Z,3.9nm,0.8s,slow=2.7,SNR=7.9						
DIM	**Dimitrovgrad**	**150.55**	**322**	*i* P	PKPdf	23 45 12.0	+6.7
WLF	**Walferdange**	**150.75**	**354**	*e*PKIKP	PKPdf	23 45 06.5	+1.2
WLF				*e*		23 45 21.6	
WLF	**Walferdange**	**150.75**	**354**	*e*PKPdf	PKPdf	23 45 06.5	+1.1
WLF				*i* PKPbc	PKPdf	23 45 12.7	+7.4
WLF				*e*PKPab	PKPab	23 45 21.6	-1.6
KDZ	**Kurdzhali**	**150.87**	**321**	*e*P	PKPdf	23 45 12.5	+6.7
MOA	**Molln**	**150.92**	**342**	⇓*i*P	PKPdf	23 45 12.0	+6.4
	comp=Z,9.0nm,0.8s						
MOA				*i*		23 45 23.7	
	comp=Z,13nm,1.0s						
PGB	**Panagyurishte**	**151.00**	**324**	*e*P	PKPdf	23 45 12.5	+6.6
ARSA	**Arzberg**	**151.07**	**340**	⇑*i*P	PKPdf	23 45 12.2	+6.3
	comp=Z,5.2nm,1.1s						
ARSA				*i*		23 45 25.6	
	comp=Z,6.1nm,1.0s						
STU	**Stuttgart**	**151.21**	**349**	*e*PKIKP	PKPdf	23 45 06.3	+0.3
STU				*e*		23 45 23.2	
STU	**Stuttgart**	**151.21**	**349**	*e*PKPdf	PKPdf	23 45 06.3	+0.2
STU				*e*PKPbc	PKPdf	23 45 13.2	+7.2
STU				*e*PKPab	PKPab	23 45 23.2	-1.9
RZN	**Rozhen**	**151.25**	**322**	*e*P	PKPdf	23 45 13.0	+6.7
ZAPS	**Zavoj/Pirot**	**151.30**	**327**	⇑*i*PKP	PKPdf	23 45 06.6	+0.3
FUR	**Furstenfeldbru**	**151.38**	**346**	*e*PKIKP	PKPdf	23 45 06.9	+0.6
FUR				*e*		23 45 24.9	
FUR	**Furstenfeldbru**	**151.38**	**346**	*e*PKPdf	PKPdf	23 45 06.9	+0.6
FUR				*e*PKPbc	PKPdf	23 45 13.5	+7.2
FUR				*e*PKPab	PKPab	23 45 24.9	-1.0
VTS	**Vitosha**	**151.49**	**325**	*e*P	PKPdf	23 45 14.0	+7.4
PERS	**Pernice**	**151.75**	**340**	*e*PKPbc	PKPdf	23 45 13.8	+6.9
BFO	**Black Forest**	**151.78**	**350**	*e*PKIKP	PKPdf	23 45 07.6	+0.8
BFO				*e*		23 45 25.9	
BFO	**Black Forest**	**151.78**	**350**	*e*PKPdf	PKPdf	23 45 07.6	+0.8
BFO				*e*PKPbc	PKPdf	23 45 14.4	+7.6
BFO				*e*PKPab	PKPab	23 45 25.9	-1.6
FLN	**La Foliniere**	**151.84**	**3**	*e*PKIKP	PKPdf	23 45 06.7	-0.2
	comp=Z,21nm,1.0s						
CDF	**Champ du Feu**	**151.85**	**352**	*e*PKIKP	PKPdf	23 45 07.0	+0.1
KBA	**Koelnbreinsper**	**151.88**	**343**	⇑*i*P	PKPdf	23 45 14.3	+7.3
	comp=Z,9.8nm,0.7s						
MMB	**Musomiste**	**151.88**	**323**	*e*P	PKPdf	23 45 14.5	+7.3
DIVS	**Divcibare**	**151.98**	**331**	⇓*i*PKP	PKPdf	23 45 07.6	+0.4
MEZF	**Maizieres J'vi**	**152.00**	**355**	*e*PKIKP	PKPdf	23 45 07.7	+0.6
LDF	**La Druitiere**	**152.02**	**2**	*e*PKIKP	PKPdf	23 45 07.0	-0.2
	comp=Z,10.0nm,0.9s						
ROSF	**Rostrenen**	**152.04**	**7**	*e*PKIKP	PKPdf	23 45 06.6	-0.6
	comp=Z,16nm,1.2s						
OBKA	**Obir**	**152.04**	**341**	⇑*i*P	PKPdf	23 45 14.2	+6.9
	comp=Z,5.7nm,0.8s						
OBKA				*i*		23 45 27.6	
	comp=Z,7.7nm,0.8s						
KKB	**Krupnik**	**152.05**	**324**	*e*P	PKPdf	23 45 15.0	+7.6
WATA	**Walderalm**	**152.10**	**345**	⇑*i*P	PKPdf	23 45 15.0	+7.7
	comp=Z,9.1nm,0.8s						
WATA				*i*		23 45 28.2	
	comp=Z,12nm,0.9s						
WTTA	**Wattenberg**	**152.15**	**345**	⇑*i*P	PKPdf	23 45 15.1	+7.7
	comp=Z,19nm,0.8s						
WTTA				*i*		23 45 28.4	
	comp=Z,21nm,0.8s						
GRR	**Gorron**	**152.19**	**3**	*e*PKIKP	PKPdf	23 45 07.5	+0.1
SGMF	**Saint Gilles**	**152.19**	**6**	*e*PKIKP	PKPdf	23 45 06.9	-0.5
	comp=Z,22nm,1.1s						
MOTA	**Moosalm**	**152.20**	**346**	⇓*i*P	PKPdf	23 45 15.1	+7.6
	comp=Z,11nm,0.8s						
MOTA				*i*		23 45 28.6	
	comp=Z,16nm,0.9s						
SQTA	**Sankt Quirin**	**152.29**	**346**	⇓*i*P	PKPdf	23 45 15.5	+7.9
	comp=Z,11nm,0.7s						
HAU	**Haudompre**	**152.37**	**353**	*e*PKIKP	PKPdf	23 45 08.0	+0.3
LJU	**Ljubljana**	**152.46**	**340**	*e*PKPbc	PKPdf	23 45 15.8	+7.9
HINF	**Hinteralfeld**	**152.49**	**352**	*e*PKIKP	PKPdf	23 45 08.0	+0.1
DAVA	**Damuels**	**152.51**	**348**	⇑*i*P	PKPdf	23 45 13.7	+5.8
	comp=Z,13nm,1.2s						
DAVA				*i*		23 45 29.1	
	comp=Z,15nm,1.2s						
BOJS	**Bojanci**	**152.70**	**339**	*e*PKPdf	PKPdf	23 45 08.6	+0.3
BOJS				*e*PKPbc	PKPdf	23 45 16.7	+8.4
BOJS				*e*		23 45 29.7	
LOR	**Lormes**	**153.31**	**357**	*e*PKIKP	PKPdf	23 45 09.2	+0.2
	comp=Z,6.0nm,0.8s						
SSF	**Saint Saulge**	**153.54**	**357**	*e*PKIKP	PKPdf	23 45 09.6	+0.3
	comp=Z,15nm,1.2s						
CABF	**La Chapelle**	**153.77**	**353**	*e*PKIKP	PKPdf	23 45 10.4	+0.8
SMF	**Signal de Mont**	**153.94**	**356**	*e*PKIKP	PKPdf	23 45 11.1	+1.3
MFF	**Saint Martin d**	**154.01**	**3**	*e*PKIKP	PKPdf	23 45 10.0	+0.1
	comp=Z,13nm,1.1s						
BGF	**Bois d'Agland**	**154.07**	**358**	*e*PKIKP	PKPdf	23 45 10.4	+0.4
TCF	**Toulx Ste Croi**	**154.35**	**359**	*e*PKIKP	PKPdf	23 45 10.8	+0.4
	comp=Z,8.5nm,1.0s						
LPL	**La Plagne**	**154.77**	**351**	*e*PKIKP	PKPdf	23 45 12.1	+1.1
LPG	**La Plagne**	**154.78**	**351**	*e*PKIKP	PKPdf	23 45 12.0	+1.0
RJF	**Les Rejaudoux**	**155.34**	**0**	*e*PKIKP	PKPdf	23 45 12.1	+0.3
ORIF	**Oris-en-Rattie**	**155.47**	**353**	*e*PKIKP	PKPdf	23 45 12.0	0.0
MBDF	**Montbardon**	**155.53**	**351**	*e*PKIKP	PKPdf	23 45 12.5	+0.4
	comp=Z,13nm,1.2s						
VIVF	**Saint-Julien-l**	**155.65**	**355**	*e*PKIKP	PKPdf	23 45 12.9	+0.7
CAF	**Calviac**	**155.72**	**359**	*e*PKIKP	PKPdf	23 45 12.5	+0.2
	comp=Z,24nm,1.6s						
SBF	**Sospel**	**156.27**	**349**	*e*PKIKP	PKPdf	23 45 14.1	+1.1
SMRF	**Simiane la Rot**	**156.43**	**353**	*e*PKIKP	PKPdf	23 45 14.1	+0.8
LASF	**Ste Croix**	**156.49**	**356**	*e*PKIKP	PKPdf	23 45 13.8	+0.5
	comp=Z,18nm,1.3s						
FRF	**La Foret Royal**	**156.69**	**351**	*e*PKIKP	PKPdf	23 45 13.7	+0.1
LMR	**La Mourre**	**156.94**	**351**	*e*PKIKP	PKPdf	23 45 14.7	+0.8
PGF	**Pioggiola**	**157.22**	**346**	*e*PKIKP	PKPdf	23 45 15.3	+1.0
	comp=Z,14nm,1.2s						
MTLF	**Montolieu**	**157.30**	**359**	*e*PKIKP	PKPdf	23 45 14.8	+0.4
	comp=Z,13nm,1.3s						
SJPF	**Ste Jean**	**157.41**	**5**	*e*PKIKP	PKPdf	23 45 14.6	0.0
	comp=Z,57nm,1.6s						
EPF	**Esparros**	**157.59**	**2**	*e*PKIKP	PKPdf	23 45 14.0	-0.8
ETSF	**Etsaut**	**157.68**	**4**	*e*PKIKP	PKPdf	23 45 14.2	-0.7
EVO	**Evora**	**160.29**	**23**	*e*PKIKP	PKPdf	23 45 14.7	-3.3
	comp=Z,18nm,1.2s						
ESDC	**Sonseca Array**	**160.39**	**13**	PKPab	PKPab	23 46 03.0	-1.5
	comp=Z,9.4nm,1.1s,baz=345,slow=4.1,SNR=22						
ESDC				PP	PP	23 49 46.6	-2.3
	comp=Z,0.4nm,0.6s,baz=326,slow=4.6,SNR=4.1						
DBIC	**Dimbokro**	**164.84**	**155**	PKPab	PKPab	23 46 23.6	-1.0
	comp=Z,4.5nm,0.8s,baz=180,slow=5.4,SNR=6.0						

MAN 12 23:33:46.7, 18.42N×120.80E, h54km, mb3.7, ML2.4, MS1.9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.70**	**143**	*e*P	P	23 34 01.8	+1.1
APYP				*e*S	S	23 34 13.9	+3.0
SGCP	**Mt. Cagua**	**1.20**	**98**	*e*P	P	23 34 07.5	+0.1
SGCP				*e*S	S	23 34 24.7	+1.8
CVP	**Callao Caves**	**1.21**	**126**	⇓*i*P	P	23 34 08.5	+0.9
CVP				*e*S	S	23 34 23.0	-0.1
CAUP	**Cauayan**	**1.76**	**146**	*e*P	P	23 34 17.4	+1.9
BOLP	**Bolinao**	**2.20**	**203**	*e*P	P	23 34 21.7	+0.1
BALP	**Baler**	**2.77**	**164**	*e*P	P	23 34 29.6	0.0

IDC 12 23:58:27.4±3.3, 4.62N×93.54E, mb3.4/2, mb1 3.7/3, mb1mx3.3/20, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=112.4km s-min=33.3km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.73**	**21**	Pn	P	00 01 57.8	-1.3
	0.1nm,0.3s,baz=209,slow=15,SNR=5.0						
MKAR	**Makanchi Array**	**43.12**	**349**	P	P	00 06 29.2	-1.9
	0.6nm,0.7s,baz=162,slow=7.7,SNR=5.7						
WRA	**Warramunga Arr**	**46.95**	**123**	P	P	00 07 00.3	-1.8
	0.4nm,0.7s,baz=302,slow=9.8,SNR=4.6						

NIED ***13*** *00:07:00, 42.90N×145.50E, h38km, Mw4.1 Best double couple: $M_0$1.81×10^{15} NP1:ϕ_s25°, δ73°, λ80°. NP2:ϕ_s236°, δ20°, λ119°.*
MOS ***13*** *00:07:39.1±0.9, 42.86N×145.52E, h33km, mb4.5/18, Error ellipse: s-maj=12.3km s-min=7.8km az=99.7*
JMA ***13*** *00:07:41.9±0.1, 42.94N×145.49E, h45km±1km, M4.1*
JMA Felt I J1.
BJI ***13*** *00:07:41.4, 42.80N×145.66E, h74km, mB4.8, mb4.4, Ms4.6, Msz4.5*
NEIC ***13*** *00:07:42.4±0.9, 42.93N×145.42E, h43km±8km, mb4.5/8, MW4.1(NIED), Error ellipse: s-maj=10.4km s-min=7.2km az=116.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
SKHL ***13*** *00:07:42.6±0.1, 43.05N×145.45E, h47km±2km, mb4.5/3*
IDC ***13*** *00:07:44.9±2.5, 42.88N×145.48E, h69km±19km, mb3.9/17, mb1 4.0/18, mb1mx3.9/23, mbtmp4.2/18, MS3.2/5, Ms1 3.2/5, ms1mx2.7/37, Error ellipse: s-maj=17.8km s-min=16.4km az=146.0*
ISC 13 00:07:40.8±0.7, 42.92N±0.05×145.51E±0.06, h48km±4km, h56km±3.3km:pP-P, n94, σ0.99/102, mb4.3/30, MS3.6/3, 2C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.48**	**21**	⇑P	**P**	**00 07 52.3**	**+0.6**
NEM2				*e*S	**S**	**00 07 59.6**	**+0.2**
JAK	**Akkeshi**	**0.60**	**278**	⇓P	**P**	**00 07 53.9**	**+0.7**
JAK				*e*S	**S**	**00 08 02.7**	**+0.6**
JNK	**Nakash**	**0.88**	**320**	⇓P	**P**	**00 07 57.5**	**+0.5**
JNK				*e*S	**S**	**00 08 08.2**	**-0.7**
JRA	**Rausu**	**1.06**	**345**	⇓P	**P**	**00 08 00.1**	**+0.6**
JRA				*e*S	**S**	**00 08 13.7**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**1.15**	**13**	PN	**P**	**00 08 00.5**	**-0.2**
YUK				*i* S	**S**	**00 08 13.8**	**-1.7**
YUK				pmax	pmax		
	comp=Z,2μm,0.6s						
YUK				pmax	pmax		
	comp=N,2μm,1.0s						
YUK				pmax	pmax		
	comp=N,490nm,0.4s						
YUK				pmax	pmax		
	comp=Z,560nm,0.4s						
YUK				smax			
	comp=E,16μm,0.8s						
YUK				smax			
	comp=N,16μm,1.0s						
YUK				smax			
	comp=N,13μm,0.5s						
YUK				smax			
	comp=E,8μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.15**	**13**	P	**P**	**00 08 00.5**	**-0.2**
YUK				AMB	AMB	00 08 01.8	
	comp=E,2μm,1.0s						
YUK				AMB	AMB	00 08 02.1	
	comp=E,490nm,0.4s						
YUK				AMB	AMB	00 08 02.1	
	comp=E,560nm,0.4s						
YUK				*i* S	**S**	**00 08 13.8**	**-1.7**
YUK				*i* S	**S**	**00 08 18.0**	**+2.5**
YUK				A		00 08 18.9	
	comp=E,22μm,0.9s						
YUK				A		00 08 18.9	
	comp=E,16μm,0.9s						
YUK				A		00 08 19.4	
	comp=E,13μm,0.5s						
YUK				A		00 08 19.4	
	comp=E,8μm,0.5s						
JOB	**Onbets**	**1.23**	**270**	⇓P	**P**	**00 08 02.5**	**+0.7**
JAR	**Ashorobuto**	**1.33**	**287**	⇓P	**P**	**00 08 04.0**	**+0.6**
JTKR	**Abashiri--Toko**	**1.57**	**313**	⇓P	**P**	**00 08 07.8**	**+1.0**
ASAJ	**Asahikawa**	**2.43**	**301**	P	**P**	**00 08 20.6**	**+1.6**
	baz=126,slow=11						
ASAJ				S	**S**	**00 08 52.3**	**+4.7**
ASAJ				LR	LR	00 09 33.0	
	comp=E,548nm,18.4s,baz=102,slow=44						
KUR	**Kuril'sk**	**2.87**	**36**	*e*P	**P**	**00 08 24.5**	**-0.8**
KUR				AMB	AMB	00 08 34.5	
	comp=E,80nm,0.6s						
KUR				*e*S	**S**	**00 08 58.0**	**-0.9**
KUR				A		00 08 59.6	
	comp=E,380nm,0.5s						
KUR				A		00 08 59.6	
	comp=E,130nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.48**	**335**	PN	**P**	**00 08 47.4**	**-0.6**
YSS	**Yuzh-Sakhalins**	**4.48**	**335**	*e*P	**P**	**00 08 47.1**	**-0.9**
YSS				*e*S	**S**	**00 09 35.1**	**-4.4**
YSS				A		00 09 37.6	
	comp=E,50nm,0.9s						
YSS				AMS	AMS	00 10 48.0	
	comp=E,300nm,16.0s						
YSS				AMS	AMS	00 10 48.0	
	comp=E,200nm,15.0s						
MAJO	**Matsushiro**	**8.49**	**224**	*e*PN	**P**	**00 09 41.8**	**-2.1**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.4s						
MAJO	**Matsushiro**	**8.49**	**224**	*e*P	**P**	**00 09 41.8**	**-2.0**
	comp=Z,7.0nm,0.4s						
MAT	**Matsushiro**	**8.49**	**224**	*e*PN	**P**	**00 09 42.0**	**-1.9**
MAT				*e*S	**S**	**00 11 21.0**	**+1.7**
MAT				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MAT	**Matsushiro**	**8.49**	**224**	*e*P	**P**	**00 09 42.0**	**-1.9**
	comp=Z,5.6nm,0.5s						
MAT				*e*S	**S**	**00 11 21.0**	**+1.7**
MAT	**Matsushiro**	**8.49**	**224**	P	**P**	**00 09 41.7**	**-2.2**
MAT				S	**S**	**00 11 21.0**	**+1.7**
MJAR	**Matsushiro Arr**	**8.49**	**224**	PN	**P**	**00 09 42.7**	**-1.2**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,85nm,18.2s						
MJAR	**Matsushiro Arr**	**8.49**	**224**	P	**P**	**00 09 42.7**	**-1.1**
	comp=Z,1.6nm,0.3s,baz=33,slow=13,SNR=14						
MJAR				LR	LR	00 13 54.6	
	comp=Z,85nm,18.2s,baz=30,slow=44						
MDJ	**Mudanjiang**	**11.63**	**284**	P	**P**	**00 10 25.2**	**-1.6**
EKMR	**Ekimchan**	**13.16**	**325**	*e*P	**P**	**00 10 44.5**	**-2.6**
EKMR				AMB	AMB	00 10 51.5	
	comp=Z,6.0nm,0.8s						
JNU	**Nakatsue**	**15.10**	**234**	LR	LR	00 17 20.0	
	comp=Z,74nm,19.9s,baz=105,slow=38						
YASR	**Yasnyy**	**15.60**	**318**	*e*P	**P**	**00 11 17.7**	**-1.0**
JOW	**Kunigami**	**21.32**	**227**	LR	LR	00 19 27.2	
	comp=Z,115nm,20.6s,MS3.2,baz=146,slow=33						
ULN	**Ulaanbaatar**	**27.25**	**294**	*e*P	**P**	**00 13 09.5**	**-13**
SONM	**Songino Array**	**27.70**	**294**	P	**P**	**00 13 26.5**	**+0.2**
	comp=Z,4.8nm,0.8s,mb4.2,baz=81,slow=8.3,SNR=30						
SONM				LR	LR	00 25 14.7	
	comp=Z,64nm,19.4s,MS3.2,baz=248,slow=38						
GTA	**Gaotai**	**34.25**	**280**	*e*P	**P**	**00 14 22.0**	**-2.1**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.5s,mb4.3						
ZAL	**Zalesovo**	**40.56**	**308**	P	**P**	**00 15 16.8**	**0.0**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**40.56**	**308**	P	**P**	**00 15 16.8**	**0.0**
	comp=Z,1.3nm,0.3s,mb4.0,baz=57,slow=14,SNR=5.5						
WMQ	**Urumqi**	**41.29**	**292**	*e*P	**P**	**00 15 23.9**	**+1.0**
WMQ				AP	pP	00 15 36.2	+0.4
WMQ				PP	PP	00 17 02.9	+1.3
WMQ				AMB	AMB		
	comp=Z,19nm,1.6s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,69nm,5.8s						
WMQ				LR	LR		
	comp=N,332nm,17.8s,MS4.5						
WMQ				LR	LR		
	comp=E,421nm,18.9s,MS4.5						
WMQ				LR	LR		
	comp=Z,555nm,17.6s,MS4.5						
ILAR	**Eielson Array**	**42.87**	**36**	P	**P**	**00 15 36.3**	**+0.8**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**42.87**	**36**	P	**P**	**00 15 36.3**	**+0.8**
	comp=Z,1.7nm,0.7s,mb3.9,baz=274,slow=7.7,SNR=14						
MKAR	**Makanchi Array**	**43.91**	**298**	P	**P**	**00 15 44.3**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MKAR	**Makanchi Array**	**43.91**	**298**	P	**P**	**00 15 44.3**	**+0.1**
	comp=Z,6.1nm,0.8s,mb4.4,baz=80,slow=9.1,SNR=43						
CMAR	**Chiang Mai Arr**	**46.14**	**253**	P	**P**	**00 16 03.7**	**+1.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**46.14**	**253**	P	**P**	**00 16 03.6**	**+1.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=48,slow=8.0,SNR=5.6						
INK	**Inuvik**	**47.73**	**30**	P	**P**	**00 16 14.4**	**+0.2**
	comp=Z,2.1nm,0.4s,mb4.5,baz=289,slow=4.5,SNR=11						
INK	**Inuvik**	**47.73**	**30**	*e*P	**P**	**00 16 14.4**	**+0.2**
VOSK	**Vostochnaya**	**48.87**	**309**	P	**P**	**00 16 22.7**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BVA0	**Borovoye Array**	**49.10**	**309**	*i* P	**P**	**00 16 24.8**	**-0.3**
BVAR	**Borovoye Array**	**49.10**	**309**	P	**P**	**00 16 25.0**	**0.0**
	comp=Z,2.9nm,0.4s,mb4.7,baz=79,slow=8.8,SNR=41						
GUN	**Gumba**	**49.86**	**273**	*e*P	**P**	**00 16 31.1**	**-0.2**
ZRNK	**Zerenda**	**49.91**	**310**	*e*P	**P**	**00 16 30.3**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
ZRNK	**Zerenda**	**49.91**	**310**	*e*P	**P**	**00 16 30.3**	**-1.0**
	comp=Z,2.5nm,0.5s,mb4.5						
KKN	**Kakani**	**50.37**	**273**	*e*P	**P**	**00 16 35.1**	**0.0**
PKI	**Pulchoki**	**50.40**	**273**	*e*P	**P**	**00 16 35.5**	**+0.2**
DMN	**Daman**	**50.60**	**273**	*e*P	**P**	**00 16 37.1**	**+0.2**
	comp=Z,5.3nm,0.4s,mb4.8						
GKN	**Gorkha**	**50.72**	**274**	*e*P	**P**	**00 16 36.9**	**-0.9**
	comp=Z,5.8nm,0.5s,mb4.8						
KOLN	**Koldanda**	**51.61**	**274**	*e*P	**P**	**00 16 44.4**	**-0.1**
	comp=Z,4.3nm,0.3s,mb4.8						
KKAR	**Karatay Array**	**53.04**	**298**	*i* P	**P**	**00 16 54.0**	**-1.0**
ARU	**Arti**	**54.13**	**317**	*e*P	**P**	**00 17 01.4**	**-1.5**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ARU	**Arti**	**54.13**	**317**	*e*P	**P**	**00 17 01.4**	**-1.5**
	comp=Z,2.8nm,0.6s,mb4.4						
AB31	**Akbulak array**	**56.65**	**309**	*i* P	**P**	**00 17 20.7**	**-0.4**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
YKA	**Yellowknife Ar**	**57.16**	**33**	P	**P**	**00 17 25.8**	**+1.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**57.16**	**33**	P	**P**	**00 17 25.8**	**+1.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=302,slow=7.0,SNR=3.4						
YKA	**Yellowknife Ar**	**57.16**	**33**	P	**P**	**00 17 25.8**	**+1.2**
ARCES	**ARCESS Array B**	**59.61**	**339**	P	**P**	**00 17 40.3**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ARCES	**ARCESS Array B**	**59.61**	**339**	P	**P**	**00 17 40.2**	**-1.3**
	comp=Z,5.9nm,1.1s,mb4.5,baz=46,slow=7.6,SNR=6.1						
WRA	**Warramunga Arr**	**63.38**	**192**	P	**P**	**00 18 06.9**	**-0.8**
	comp=Z,0.2nm,0.5s,mb3.5,baz=7.5,slow=6.7,SNR=6.5						
KAF	**Kangasniemi**	**64.52**	**333**	*e*p	**P**	**00 18 11.6**	**-2.7**
	comp=Z,2.1nm,0.5s,mb4.4,baz=44,slow=6.2						
KAF	**Kangasniemi**	**64.52**	**333**	*e*P	**P**	**00 18 11.6**	**-2.7**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
FINES	**FINESS Array B**	**65.07**	**333**	P	**P**	**00 18 17.3**	**-0.6**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
FINES	**FINESS Array B**	**65.07**	**333**	P	**P**	**00 18 17.3**	**-0.6**
	comp=Z,3.7nm,0.5s,mb4.7,baz=54,slow=6.7,SNR=50						
KIV	**Kislovodsk**	**69.42**	**311**	*e*P	**P**	**00 18 46.2**	**+0.7**
KIV				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
KIV	**Kislovodsk**	**69.42**	**311**	*e*P	**P**	**00 18 46.2**	**+0.7**
	comp=Z,13nm,1.1s,mb4.8						
NB2	**NORSAR Subarra**	**69.94**	**338**	P	**P**	**00 18 47.8**	**-0.6**
	comp=Z,1.6nm,0.3s,mb4.4,baz=41,slow=5.8						
NOA	**NORSAR Array B**	**69.94**	**338**	P	**P**	**00 18 48.2**	**-0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
NOA	**NORSAR Array B**	**69.94**	**338**	P	**P**	**00 18 48.1**	**-0.2**
	comp=Z,1.8nm,0.4s,mb4.3,baz=34,slow=6.2,SNR=12						
PDAR	**Pinedale Array**	**71.36**	**49**	P	**P**	**00 18 58.1**	**+0.8**
	comp=Z,0.5nm,0.5s,mb3.7,baz=242,slow=1.4,SNR=6.2						
AKASG	**Malin Array Be**	**71.53**	**323**	P	**P**	**00 18 57.8**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.4s						
AKASG	**Malin Array Be**	**71.53**	**323**	P	**P**	**00 18 57.8**	**-0.4**
	comp=Z,4.0nm,0.4s,mb4.7,baz=41,slow=5.9,SNR=42						
KWP	**Kalwaria**	**75.12**	**326**	*e*P	**P**	**00 19 20.2**	**+1.1**
KOLS	**Kolonicke sedl**	**75.84**	**325**	*e*P	**P**	**00 19 24.3**	**+1.0**
STHS	**Stebnicka Huta**	**75.89**	**326**	*e*P	**P**	**00 19 25.2**	**+1.7**
DPC	**Dobruska-Polom**	**77.08**	**329**	*e*P	**P**	**00 19 31.0**	**+0.8**
DPC				*e*sP	sP	00 19 48.1	-1.2
BRTR	**Keskin Array B**	**77.24**	**313**	P	**P**	**00 19 32.2**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**77.24**	**313**	P	**P**	**00 19 32.2**	**+0.9**
	comp=Z,1.0nm,0.7s,mb3.9,baz=57,slow=3.8,SNR=5.7						
CLL	**Collm**	**77.49**	**332**	*i* P	**P**	**00 19 32.3**	**-0.2**
CLL				*i*	pP	00 19 49.1	+2.8
CLL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
CLL	**Collm**	**77.49**	**332**	*i* P	**P**	**00 19 32.3**	**-0.2**
	comp=Z,6.0nm,0.8s,mb4.6						
CLL				*i*	pP	00 19 49.1	+2.8
CLL	**Collm**	**77.49**	**332**	P	**P**	**00 19 32.3**	**-0.2**
	comp=Z,logA/T=0.9,mb4.6						
CLL				*i* *PP	pP	00 19 49.1	+2.8
VYHS	**Vyhne**	**77.60**	**327**	*e*P	**P**	**00 19 34.1**	**+1.0**
PRU	**Pruhonice**	**78.03**	**330**	*e*P	**P**	**00 19 36.2**	**+0.7**
PRU				*e*pP	pP	00 19 52.7	+3.4
SCHQ	**Schefferville**	**78.80**	**18**	P	**P**	**00 19 40.1**	**+0.6**
	comp=Z,2.2nm,1.0s,mb4.1,baz=49,slow=9.3,SNR=3.2						
KHC	**Kasperske Hory**	**79.10**	**330**	*e*P	**P**	**00 19 42.2**	**+0.9**
KHC				*e*pP	pP	00 19 58.4	+3.2
GERES	**GERESS Array B**	**79.29**	**330**	P	**P**	**00 19 42.9**	**+0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**79.29**	**330**	P	**P**	**00 19 42.9**	**+0.5**
	comp=Z,0.9nm,0.8s,mb3.8,baz=37,slow=6.7,SNR=6.4						
GRA1	**Grafenberg Arr**	**79.47**	**332**	*e*P	**P**	**00 19 44.0**	**+0.7**
	comp=Z,3.0nm,1.0s,mb4.2						
GRF	**Grafenberg Arr**	**79.47**	**332**	P	**P**	**00 19 44.0**	**+0.7**
GRF				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
GRF	**Grafenberg Arr**	**79.47**	**332**	*e*P	**P**	**00 19 44.0**	**+0.7**
GRF				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
GRF	**Grafenberg Arr**	**79.47**	**332**	*e*P	**P**	**00 19 44.0**	**+0.7**
	comp=Z,3.0nm,1.0s,mb4.2						
VNA2	**Neumayer--Watz**	**148.84**	**197**	⇑*i*	PKPdf	00 27 24.2	+6.5
VNA3	**Neumayer Olymp**	**149.06**	**195**		PKPdf	00 27 24.3	+6.2
VNA1	**Neumayer--Stat**	**149.24**	**197**		PKPdf	00 27 28.8	+10

CRAAG ***13*** *00:29:23.2, 10.68N×92.86E, Mb5.4*
MOS ***13*** *00:29:26.4±0.9, 10.43N×92.96E, h33km, mb5.7/68, MS4.7/37, Error ellipse: s-maj=8.4km s-min=4.5km az=117.2*
BJI ***13*** *00:29:27.9, 10.27N×92.95E, h60km, mB5.4, mb5.4, Ms5.0, Msz4.8*
HRVD ***13*** *00:29:29.8±0.2, 10.42N×92.87E, h52km, MW5.4/63, Centroid moment Tensor Solution. LP body waves: s61,c119; Mantle waves: s63,c125; Half duration: 1.2s Moment tensor: Scale 10^{17}Nm; M_{rr}1.20±.03; $M_{\theta\theta}$0.07±.03; $M_{\phi\phi}$-1.26±.03; $M_{r\theta}$0.44±.02; $M_{\theta\phi}$0.19±.02; $M_{\phi r}$-0.90±.03; Best double couple: $M_0$1.597×10^{17} NP1:ϕ_s4°, δ27°, λ111°. NP2:ϕ_s160°, δ65°, λ79°. Principal axes: T 1.58, Plg69°, Azm49°; N .042, Plg10°, Azm165°; P -1.614, Plg19°, Azm258°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *00:29:29.8±0.1, 10.35N×92.90E, mb5.3/140, MW5.5 Error ellipse: s-maj=4.7km s-min=3.1km az=213.0, Moment Tensor Solution. s19 Moment tensor: Scale 10^{17}Nm; M_{rr}1.27; $M_{\theta\theta}$0.31; $M_{\phi\phi}$-1.58; $M_{r\theta}$0.50; $M_{\theta\phi}$-0.78; $M_{\phi r}$-1.29;*

Best double couple: $M_0$2.2×10^{17} NP1:ϕ_s49°,δ36°,λ141°. NP2:ϕ_s172°,δ68°,λ61°. Principal axes: T 2.1, Plg57°, Azm43°; N .11, Plg27°, Azm184°; P -2.21, Plg18°, Azm284°;

*IDC **13** 00:29:29.2±0.5, 10.39N×93.10E, h44km±4km, mb5.0/25, mb1 5.0/25, mb1mx5.0/26, mbtmp5.2/25, MS4.8/29, Ms1 4.8/29, ms1mx4.7/33 Error ellipse: s-maj=14.7km s-min=9.8km az=53.0*

ISC 13 00:29:28.2±0.1**, 10.35N**±0.02×**92.95E**±0.02**, h50**km**, h50**km±.8km**:pP-P, n687,** σ1.03/621**, mb5.3**/196**, MS4.8**/77**, 132C-20D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.32**	**351**	*e*PG	**P**	**00 29 56.3**	**+5.5**
PBA				*e*		00 30 14.8	
PKT	**Phuket**	**5.64**	**113**	P	**P**	**00 30 57.0**	**+5.4**
NNT	**Nongplab**	**7.01**	**71**	P	**P**	**00 31 12.5**	**+1.7**
SNG	**Songkhla**	**8.21**	**112**	P	**P**	**00 31 28.0**	**+0.7**
	248nm,0.8s						
NST	**Nakhon Sawan**	**8.78**	**52**	⇓P	**P**	**00 31 36.5**	**+1.3**
	198nm,0.7s						
BDT	**Bhumibol Dam**	**9.03**	**40**	P	**P**	**00 31 40.0**	**+1.3**
	60nm,0.9s						
KULM	**Kulim**	**9.13**	**123**	*e*P	**P**	**00 31 40.5**	**+0.5**
IPM	**Ipoh**	**9.84**	**125**	P	**P**	**00 31 52.1**	**+2.1**
CMAR	**Chiang Mai Arr**	**9.93**	**35**	P	**P**	**00 31 51.5**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**9.93**	**35**	P	**P**	**00 31 51.5**	**+0.3**
	comp=Z,10nm,0.3s,baz=227,slow=17,SNR=135						
CHG	**Chiang Mai**	**10.22**	**34**	⇓P	**P**	**00 31 56.8**	**+1.7**
	comp=Z,150nm,0.5s						
NANT	**Nan**	**11.26**	**41**	⇑P	**P**	**00 32 12.0**	**+2.8**
	comp=Z,550nm,0.5s						
KKTK	**Khon Kaen**	**11.30**	**57**	P	**P**	**00 32 13.0**	**+3.2**
VIS	**Vishakhapatnam**	**11.87**	**309**	*e*P	**P**	**00 32 14.9**	**-2.5**
VIS				AMb	AMB	00 32 26.4	
	comp=Z,1μm,1.7s						
VIS				*e*S	**S**	**00 34 14.5**	**-15**
PALK	**Pallekele**	**12.48**	**257**	*e*P	**P**	**00 32 24.7**	**-0.9**
	comp=Z,264nm,1.0s						
MDRS	**Chennai**	**12.73**	**284**	*e*P	**P**	**00 32 28.0**	**-1.0**
MDRS				*e*		00 32 36.0	
MDRS				*e*		00 34 32.0	
MDRS				*e*		00 35 43.0	
MDRS				*e*		00 36 28.0	
KGM	**Kluang**	**13.21**	**128**	P	**P**	**00 32 38.2**	**+2.9**
AGT	**Agartala**	**13.56**	**353**	⇓*i*	**P**	**00 32 45.0**	**+5.1**
AGT				*i*		00 39 31.0	
IMP	**Imphal**	**14.39**	**4**	*e*P	**P**	**00 32 51.0**	**+0.2**
IMP				*e*		00 33 22.0	
IMP				*e*		00 35 40.0	
BOK	**Bokaro**	**14.98**	**334**	⇑*i*P	**P**	**00 32 57.8**	**-0.7**
BOK				*i*		00 35 27.8	
SHL	**Shillong**	**15.17**	**356**	*e*	**P**	**00 32 57.0**	**-4.0**
SHL				*e*		00 35 40.0	
HYB	**Hyderabad**	**15.64**	**298**	*e*P	**P**	**00 33 05.5**	**-1.5**
	comp=Z,160nm,1.0s						
HYB				*e*		00 33 13.0	
HYB				*e*S	**S**	**00 35 47.0**	**-12**
HYB				*e*		00 36 14.0	
HYB	**Hyderabad**	**15.64**	**298**	*i* P	**P**	**00 33 05.5**	**-1.5**
	comp=Z,160nm,1.0s						
HYB				*e*		00 33 13.0	
HYB				*e*		00 35 47.0	
HYB				*e*S	**S**	**00 35 58.0**	**-0.8**
HYB				LR	LR	00 38 20.0	
	comp=Z,6.2nm,24.0s						
BLSP	**Bilaspur**	**15.65**	**320**	*e*P	**P**	**00 33 07.2**	**+0.2**
BLSP				AML	AML	00 33 18.5	
	comp=Z,223nm,1.3s						
BLSP				*e*		00 35 48.6	
TRD	**Trivandrum**	**15.88**	**265**	*e*P	**P**	**00 33 09.4**	**-0.7**
TRD				AMb	AMB	00 33 17.9	
	comp=Z,321nm,1.3s						
TRD				*e*		00 35 51.3	
KMI	**Kunming**	**17.39**	**31**	P	**P**	**00 33 31.0**	**+2.0**
KMI				AP		00 33 40.8	
KMI				XP		00 33 45.5	
KMI				PP	PP	00 33 49.2	+5.4
KMI				PPP	PPP	00 33 58.5	+5.8
KMI				S	**S**	**00 36 40.6**	**+1.7**
KMI				XS		00 37 02.8	
KMI				AMB	AMB		
	comp=Z,97nm,1.3s						
KMI				AMB	AMB		
	comp=Z,998nm,5.0s						
KMI				LR	LR		
	comp=N,3μm,18.9s						
KMI				LR	LR		
	comp=E,4μm,18.9s						
KMI				LR	LR		
	comp=Z,5μm,24.9s						
KMI	**Kunming**	**17.39**	**31**	P	**P**	**00 33 31.0**	**+2.0**
	comp=Z,97nm,1.3s						
KMI				pP		00 33 40.8	
KMI				sP		00 33 45.5	
KMI				PP	PP	00 33 49.2	+5.4
KMI				PPP	PPP	00 33 58.5	+5.8
KMI				S	**S**	**00 36 40.6**	**+1.7**
KMI				sS		00 37 02.8	
KMI				SS	SS	00 37 11.0	+9.2
KMI				SSS	SSS	00 37 25.6	+9.3
LATR	**Latur**	**17.78**	**299**	*e*P	**P**	**00 33 35.0**	**+1.1**
LATR				*e*		00 36 31.7	
MNGI	**Mangalore**	**17.94**	**280**	*i*	**P**	**00 33 30.9**	**-5.0**
MNGI				*e*		00 36 37.2	
	comp=Z,366nm,1.3s						
QIZ	**Qiongzhong**	**18.47**	**60**	P	**P**	**00 33 42.6**	**+0.2**
QIZ				AP		00 33 52.7	
QIZ				PP	PP	00 34 00.3	+2.0
QIZ				S	**S**	**00 37 03.8**	**+0.6**
QIZ				SS	SS	00 37 28.3	-0.3
QIZ				AMB	AMB		
	comp=Z,167nm,1.8s						
QIZ				LR	LR		
	comp=E,3μm,23.7s						
QIZ				LR	LR		
	comp=Z,4μm,24.3s						
QIZ	**Qiongzhong**	**18.47**	**60**	*e*P	**P**	**00 33 43.4**	**+1.0**
	comp=Z,389nm,1.5s						
AKL	**Akola**	**18.47**	**306**	⇓*i*	**P**	**00 33 47.5**	**+5.1**
AKL				*i*		00 34 04.3	
PKI	**Pulchoki**	**18.55**	**339**	*e*P	**P**	**00 33 43.6**	**+0.3**
	comp=Z,506nm,1.1s						
PKI				⇑*i*S	**S**	**00 37 00.8**	**-4.2**
DMN	**Daman**	**18.70**	**338**	⇑*i*P	**P**	**00 33 45.1**	**+0.1**
	comp=Z,333nm,0.8s						
GUN	**Gumba**	**18.70**	**340**	*e*P	**P**	**00 33 45.4**	**+0.4**
	comp=Z,322nm,0.8s						
KKN	**Kakani**	**18.80**	**338**	*e*P	**P**	**00 33 46.3**	**+0.1**
	comp=Z,130nm,0.7s						
KKN				⇑*i*S	**S**	**00 37 06.9**	**-3.6**
GKN	**Gorkha**	**19.23**	**337**	⇑*i*P	**P**	**00 33 51.1**	**0.0**
	comp=Z,214nm,0.5s						
LSA	**Lhasa**	**19.33**	**355**	P	**P**	**00 33 51.9**	**-0.3**
LSA				AP		00 33 59.6	
LSA				PP	PP	00 34 09.0	-1.3
LSA				S	**S**	**00 37 23.2**	**+0.8**
LSA				PCP	PcP	00 38 11.8	-0.9
LSA				AMB	AMB		
	comp=Z,80nm,1.2s						
LSA				LR	LR		
	comp=N,1μm,28.1s						
LSA				LR	LR		
	comp=E,3μm,28.1s						
LSA				LR	LR		
	comp=Z,2μm,28.1s						
LSA	**Lhasa**	**19.33**	**355**	*e*P	**P**	**00 33 51.7**	**-0.5**
LSA				pmax	pmax		
	comp=Z,590nm,1.3s						
LSA	**Lhasa**	**19.33**	**355**	*e*P	**P**	**00 33 51.7**	**-0.5**
	comp=Z,592nm,1.3s						
KSM	**Kuching**	**19.37**	**116**	*e*P	**P**	**00 33 52.4**	**-0.4**
KOLN	**Koldanda**	**19.44**	**334**	⇑*i*P	**P**	**00 33 53.8**	**+0.4**
	comp=Z,337nm,0.9s						
KOLN				⇑*i*S	**S**	**00 37 19.3**	**-5.5**
KAD	**Karad**	**19.48**	**293**	*e*P	**P**	**00 33 54.0**	**0.0**
KAD				AMb	AMB	00 33 58.0	
	comp=Z,281nm,1.3s						
BHPL	**Bhopal**	**19.61**	**313**	*e*P	**P**	**00 33 56.7**	**+1.4**
BHPL				AMb	AMB	00 34 00.4	
	comp=Z,228nm,2.1s						
BHPL				*e*		00 37 23.2	
BHPL				*e*		00 40 05.0	
POO	**Poona**	**20.19**	**296**	⇓*i*P	**P**	**00 34 01.0**	**-0.5**
	comp=Z,280nm,1.0s						
POO				*i*		00 37 35.0	
POO				*i*		00 38 01.0	
GYA	**Guiyang**	**20.61**	**37**	⇑*i*P	**P**	**00 34 05.4**	**-0.4**
GYA				AP		00 34 18.6	
GYA				XP		00 34 25.8	
GYA				PP	PP	00 34 29.9	+1.7
GYA				PPP	PPP	00 34 39.4	+1.7
GYA				S	**S**	**00 37 49.5**	**+1.0**
GYA				XS		00 38 04.2	
GYA				SS	SS	00 38 21.6	+0.3
GYA				AMB	AMB		
	comp=Z,80nm,1.1s						
GYA				AMB	AMB		
	comp=Z,800nm,6.6s						
GYA				LR	LR		
	comp=N,3μm,18.1s,MS4.8						
GYA				LR	LR		
	comp=E,2μm,15.5s,MS4.8						
GYA				LR	LR		
	comp=Z,3μm,16.4s,MS4.8						
BOM	**Bombay**	**21.24**	**296**	*e*P	**P**	**00 34 13.6**	**+1.4**
BOM				*e*		00 34 30.7	
	comp=Z,260nm,0.8s						
BOM				*e*		00 37 57.1	
LGTI	**Lohaghat**	**22.41**	**330**	*e*P	**P**	**00 34 26.0**	**+2.2**
LGTI				*e*		00 38 38.0	
PTH	**Pithoragarh**	**22.51**	**330**	*e*P	**P**	**00 34 28.0**	**+3.1**
PTH				*e*S	**S**	**00 38 33.0**	**+9.3**
CD2	**Chengdu**	**22.80**	**25**	⇑*i*P	**P**	**00 34 27.3**	**-0.4**
CD2				AMB	AMB		
	comp=Z,200nm,1.2s,mb5.4						
KKM	**Kota Kinabalu**	**23.41**	**99**	*e*P	**P**	**00 34 35.7**	**+1.9**
KKM				*e*pP		00 34 52.7	
KKM	**Kota Kinabalu**	**23.41**	**99**	P	**P**	**00 34 36.7**	**+2.9**
NDI	**New Delhi**	**23.46**	**323**	*e*P	**P**	**00 34 35.0**	**+0.9**
NDI				*e*S	**S**	**00 38 45.0**	**+4.5**
AJM	**Ajmer**	**23.60**	**315**	⇓*i*P	**P**	**00 34 39.0**	**+3.6**
DDI	**Dehra Dun**	**24.24**	**327**	*e*P	**P**	**00 34 43.8**	**+2.1**
DDI				*e*		00 39 09.0	
ENH	**Enshi**	**25.11**	**35**	*e*P	**P**	**00 34 48.5**	**-1.6**
	comp=Z,303nm,0.9s,mb5.8						
TSM	**Tawau**	**25.43**	**102**	P	**P**	**00 34 54.3**	**+1.1**
SDNR	**Sundarnagar**	**25.74**	**327**	*e*P	**P**	**00 34 57.2**	**+1.2**
THN	**Thein Dam**	**27.13**	**327**	*e*P	**P**	**00 35 08.9**	**+0.1**
THN				*e*		00 40 02.8	
LZH	**Lanzhou**	**27.47**	**19**	⇑*i*P	**P**	**00 35 11.6**	**-0.2**
LZH				AP	pP	00 35 23.4	-1.2
LZH				XP	sP	00 35 29.3	-1.4
LZH				PP	PP	00 36 00.0	-0.7
LZH				S	**S**	**00 39 47.6**	**+0.4**
LZH				XS		00 40 07.7	
LZH				SS	SS	00 41 04.5	-2.9
LZH				AMB	AMB		
	comp=Z,471nm,1.5s,mb5.8						
LZH				AMB	AMB		
	comp=Z,745nm,4.0s						
LZH				LR	LR		
	comp=N,6μm,17.2s						
LZH				LR	LR		
	comp=Z,8μm,18.8s,MS5.3						
LZH	**Lanzhou**	**27.47**	**19**	⇑*i*P	**P**	**00 35 11.6**	**-0.2**
	comp=Z,471nm,1.5s,mb5.8						
LZH				pP	pP	00 35 23.4	-1.2
LZH				sP	sP	00 35 29.3	-1.4
LZH				PP	PP	00 36 00.0	-0.7
LZH				S	**S**	**00 39 47.6**	**+0.4**
LZH				sS		00 40 07.7	
LZH				SS	SS	00 41 04.5	-2.9
LZH				LR	LR		
	comp=Z,8μm,18.8s,MS5.3						
XAN	**Xi'an**	**27.76**	**29**	P	**P**	**00 35 12.1**	**-2.4**
XAN				PP	PP	00 36 07.9	+3.4
XAN				S	**S**	**00 39 53.5**	**+1.6**
XAN				AMB	AMB		
	comp=Z,63nm,1.5s,mb5.0						
XAN				AMB	AMB		
	comp=Z,280nm,13.2s						
XAN				LR	LR		
	comp=N,1μm,21.2s,MS4.7						
XAN				LR	LR		
	comp=E,2μm,21.2s,MS4.7						
XAN				LR	LR		
	comp=Z,4μm,21.4s,MS5.0						
WHN	**Wuhan**	**28.29**	**42**	⇑P	**P**	**00 35 19.7**	**+0.4**
WHN				LR	LR		
	comp=Z,5μm,20.9s,MS5.1						
QZH	**Quanzhou**	**28.35**	**56**	⇑P	**P**	**00 35 19.9**	**+0.1**
QZH				S	**S**	**00 40 02.0**	**+0.6**
QZH				AMB	AMB		
	comp=Z,570nm,3.6s						
QZH				LR	LR		
	comp=N,3μm,15.5s,MS5.1						
QZH				LR	LR		
	comp=E,1μm,12.2s,MS5.1						
QZH				LR	LR		
	comp=Z,4μm,21.7s						
GTA	**Gaotai**	**29.59**	**11**	⇑*i*P	**P**	**00 35 31.0**	**+0.3**
GTA				AP	pP	00 35 45.3	+1.7
GTA				XP	sP	00 35 53.5	+3.7
GTA				PP	PP	00 36 29.5	+1.3
GTA				PPP	PPP	00 36 43.8	+2.0
GTA				PCP	PcP	00 38 35.3	+0.5
GTA				S	**S**	**00 40 20.4**	**-0.6**
GTA				XS		00 40 46.9	
GTA				SS	SS	00 41 57.9	+0.8
GTA				SCP		00 42 11.0	
GTA				PCS		00 42 18.3	
GTA				SCS	ScS	00 46 05.0	+0.5
GTA				AMB	AMB		
	comp=Z,142nm,1.3s,mb5.5						
GTA				AMB	AMB		
	comp=Z,809nm,5.1s						
GTA				LR	LR		
	comp=N,1μm,15.5s						
GTA				LR	LR		
	comp=E,741nm,22.3s						
GTA				LR	LR		
	comp=Z,2μm,30.6s						
YHNB	**Yeheng**	**30.54**	**58**	*e*P	**P**	**00 35 39.8**	**+0.5**
YHNB				*e*pP	pP	00 35 55.0	+2.7
NJ2	**Nanjing**	**32.24**	**44**	*e*P	**P**	**00 35 54.9**	**+0.7**
NJ2				AP	pP	00 36 06.3	-1.0
NJ2				XP	sP	00 36 11.8	-1.7
NJ2				PP	PP	00 37 01.1	-1.4
NJ2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,402nm,5.4s						
NJ2				LR	LR		
	comp=N,3μm,21.6s,MS5.1						
NJ2				LR	LR		
	comp=E,4μm,26.5s,MS5.1						
NJ2				LR	LR		
	comp=Z,6μm,27.3s,MS5.1						
TIY	**Taiyuan**	**32.40**	**30**	PR		00 35 54.0	
TIY				LR	LR		
	comp=N,2μm,12.0s						
TIY				LR	LR		
	comp=Z,672nm,12.0s,MS4.6						
KSH	**Kashi**	**32.75**	**335**	⇑*i*P	**P**	**00 35 59.4**	**+0.8**
KSH				*e*AP	pP	00 36 12.0	+0.3
KSH				*e*XP	sP	00 36 17.5	-0.4
KSH				*e*PP	PP	00 37 10.5	+1.4
KSH				*e*PCP	PcP	00 38 45.0	+1.8
KSH				S	**S**	**00 41 11.1**	**+0.4**
KSH				*e*SS	SS	00 43 09.4	-1.7
KSH				*e*SCS	ScS	00 46 22.4	+2.3
KSH				AMB	AMB		
	comp=Z,110nm,1.1s,mb5.7						
KSH				LR	LR		
	comp=N,2μm,9.4s						
KSH				LR	LR		
	comp=E,4μm,22.2s						
SSE	**Sheshan**	**33.35**	**48**	*e*P	**P**	**00 36 03.5**	**-0.4**
SSE				AP	pP	00 36 17.7	+0.7
SSE				XP	sP	00 36 22.5	-0.7
SSE				PP	PP	00 37 20.9	+4.3
SSE				S	**S**	**00 41 20.8**	**+0.7**
SSE				XS		00 41 44.5	
SSE				SCS	ScS	00 46 23.9	+0.6
SSE				AMB	AMB		
	comp=Z,28nm,0.9s,mb5.2						
SSE				AMB	AMB		
	comp=Z,218nm,12.0s						
SSE				LR	LR		
	comp=N,508nm,17.2s,MS4.7						
SSE				LR	LR		
	comp=E,1μm,17.2s,MS4.7						
SSE				LR	LR		
	comp=Z,1μm,15.6s,MS4.7						
WMQ	**Urumqi**	**33.66**	**353**	P	**P**	**00 36 07.5**	**+1.1**
WMQ				AP	pP	00 36 19.5	0.0
WMQ				XP	sP	00 36 24.9	-0.9
WMQ				PP	PP	00 37 20.9	+0.7
WMQ				S	**S**	**00 41 25.8**	**+1.0**
WMQ				XS		00 41 46.1	
WMQ				AMB	AMB		
	comp=Z,78nm,0.7s,mb5.8						
WMQ				AMB	AMB		
	comp=Z,462nm,6.0s						
WMQ				LR	LR		
	comp=N,912nm,24.4s,MS4.7						
WMQ				LR	LR		
	comp=E,1μm,24.4s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,28.4s,MS4.4						
BTO	**Baotou**	**33.72**	**24**	*e*P	**P**	**00 36 05.6**	**-1.3**
TIA	**Tai'an**	**33.81**	**37**	*e*P	**P**	**00 36 07.0**	**-0.8**
TIA				AMB	AMB		
	comp=Z,66nm,1.3s,mb5.4						
HHC	**Hu-ho-hao-te**	**34.55**	**25**	*e*P	**P**	**00 36 13.3**	**-0.8**
HHC				AP	pP	00 36 24.5	-2.7
HHC				XP	sP	00 36 30.5	-3.0
HHC				PP	PP	00 37 29.3	-2.1
HHC				S	**S**	**00 41 37.4**	**-1.1**
HHC				SCP		00 42 30.2	
HHC				PCS		00 42 33.8	
HHC				SS	SS	00 43 48.1	-4.2
HHC				SCS	ScS	00 46 31.1	+1.6
HHC				AMB	AMB		
	comp=Z,127nm,1.2s,mb5.7						
HHC				AMB	AMB		
	comp=Z,263nm,12.0s						
HHC				LR	LR		
	comp=N,1μm,19.2s,MS4.7						
HHC				LR	LR		
	comp=E,1μm,20.4s,MS4.7						
HHC				LR	LR		
	comp=Z,1μm,21.6s,MS4.6						
ULHL	**Ulahol**	**34.99**	**338**	P	**P**	**00 36 18.1**	**+0.3**
	SNR=12						
KZA	**Kyzart**	**35.22**	**337**	P	**P**	**00 36 20.8**	**+1.1**
	SNR=28						
UCH	**Uchtor**	**35.63**	**336**	P	**P**	**00 36 24.6**	**+1.2**
	SNR=36						
BIDO	**Bidbid**	**35.69**	**296**	P	**P**	**00 36 27.4**	**+3.4**
	SNR=6.0						
TKM2	**Tokmak 2**	**35.81**	**338**	P	**P**	**00 36 25.4**	**+0.6**
	SNR=40						
KBK	**Karagaybulak**	**35.83**	**337**	P	**P**	**00 36 26.4**	**+1.4**
	SNR=50						
AML	**Almayashu**	**35.88**	**335**	P	**P**	**00 36 26.8**	**+1.3**
	SNR=96						
AAK	**Ala-Archa**	**35.98**	**337**	P	**P**	**00 36 27.7**	**+1.4**
	SNR=23						
AAK	**Ala-Archa**	**35.98**	**337**	P	**P**	**00 36 27.4**	**+1.1**
AAK				S	**S**	**00 42 01.9**	**+1.3**
AAK				pmax	pmax		
	comp=Z,220nm,1.4s,mb5.9						
AAK	**Ala-Archa**	**35.98**	**337**	*e*P	**P**	**00 36 26.5**	**+0.2**
	comp=Z,143nm,1.3s,mb5.7						
FRU	**Bishkek**	**36.11**	**337**	*e*P	**P**	**00 36 28.5**	**+1.2**
FRU				*i*	pP	00 36 46.0	+5.5
FRU				*e*		00 42 05.0	
FRU				*e*		00 46 40.0	
FRU				pmax	pmax		
	comp=Z,260nm,2.0s,mb5.8						
FRU				MLR	MLR		
	comp=Z,2μm,16.0s,MS4.9						
CHMS	**Chumysh**	**36.20**	**337**	P	**P**	**00 36 28.5**	**+0.5**
	SNR=45						
EKS2	**Erkin-Say**	**36.29**	**336**	P	**P**	**00 36 30.4**	**+1.5**
	SNR=48						
BSY	**Bisya**	**36.32**	**294**	P	**P**	**00 36 33.0**	**+3.7**
	SNR=11						
HOQ	**Hoqain**	**36.42**	**296**	⇓P	**P**	**00 36 34.0**	**+3.9**
USP	**Ospenovka**	**36.52**	**337**	P	**P**	**00 36 31.5**	**+0.8**
	SNR=137						
JOW	**Kunigami**	**37.11**	**59**	LR	LR	00 54 24.3	
	comp=Z,1μm,19.5s,MS4.7,baz=252,slow=40						
MKAR	**Makanchi Array**	**37.44**	**348**	*e*P	**P**	**00 36 37.6**	**-0.8**
MKAR				S	**S**	**00 42 21.0**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,48nm,0.8s						
MKAR	**Makanchi Array**	**37.44**	**348**	P	**P**	**00 36 38.1**	**-0.3**
	comp=Z,45nm,0.7s,mb5.4,baz=168,slow=7.8,SNR=264						
MKAR				PcP	PcP	00 38 56.7	-0.1
	comp=Z,12nm,0.6s,baz=212,slow=4.1,SNR=11						
MKAR				ScS	ScS	00 46 46.6	+1.3
	comp=Z,1.1nm,1.0s,baz=141,slow=7.8,SNR=4.4						
MKAR				LR	LR	00 56 01.3	
	comp=Z,659nm,20.6s,MS4.4,baz=172,slow=42						
MKAR	**Makanchi Array**	**37.44**	**348**	P	**P**	**00 36 38.1**	**-0.3**
MKAR				PcP	PcP	00 38 56.7	-0.1
MKAR				ScS	ScS	00 46 46.6	+1.3
MKAR				LR	LR	00 56 01.3	
ASHO	**Ashiyiah**	**37.82**	**297**	P	**P**	**00 36 46.6**	**+4.7**
	SNR=7.6						
KKAR	**Karatay Array**	**38.04**	**333**	*i* P	**P**	**00 36 43.7**	**+0.2**
KKAR				S	**S**	**00 42 30.3**	**-1.7**
KKAR				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9						
DL2	**Dalian**	**38.27**	**37**	P	**P**	**00 36 45.4**	**0.0**
DL2				S	**S**	**00 42 31.9**	**-3.6**
DL2				AMB	AMB		
	comp=Z,80nm,0.8s,mb5.5						
DL2				AMB	AMB		
	comp=Z,320nm,3.3s						
DL2				LR	LR		
	comp=N,820nm,19.0s,MS4.7						
DL2				LR	LR		
	comp=E,530nm,16.2s,MS4.7						
DL2				LR	LR		
	comp=Z,840nm,23.8s						
WHFO	**Wadi Hawf**	**38.67**	**286**	P	**P**	**00 36 52.0**	**+3.0**
	SNR=9.8						
SONM	**Songino Array**	**39.05**	**14**	P	**P**	**00 36 51.9**	**+0.1**
	comp=Z,93nm,1.0s,mb5.5,baz=196,slow=6.8,SNR=214						
SONM				PcP	PcP	00 39 02.1	+0.4
	comp=Z,12nm,0.7s,baz=206,slow=3.8,SNR=5.7						
SONM				LR	LR	00 55 20.6	
	comp=Z,3μm,20.0s,MS5.1,baz=193,slow=40						
MBWA	**Marble Bar**	**40.90**	**140**	*e*P	**P**	**00 37 06.0**	**-1.4**
	comp=Z,44nm,1.3s,mb4.9						
SNY	**Shenyang**	**41.29**	**35**	⇑P	**P**	**00 37 09.9**	**-0.6**
SNY				AP	pP	00 37 19.5	-4.3
SNY				PP	PP	00 38 48.9	-0.3
SNY				S	**S**	**00 43 17.8**	**-3.0**
SNY				SS	SS	00 46 15.4	-5.6
SNY				AMB	AMB		
	comp=Z,90nm,1.8s,mb5.1						
SNY				AMB	AMB		
	comp=Z,370nm,12.7s						
SNY				LR	LR		
	comp=N,790nm,16.7s,MS4.9						
SNY				LR	LR		
	comp=E,1μm,14.5s,MS4.9						
SNY				LR	LR		
	comp=Z,1μm,15.9s,MS4.9						
KS15	**Wonju Array Si**	**41.41**	**44**	*e*P	**P**	**00 37 11.0**	**-0.4**
TLY	**Talaya**	**42.13**	**10**	*e*P	**P**	**00 37 18.2**	**+1.0**
TLY				*e*		00 39 02.7	
TLY				*e*PPP	PPP	00 39 27.1	-3.8
TLY				*e*S	**S**	**00 43 34.0**	**+0.9**
TLY				*e*		00 47 18.9	
TLY				pmax	pmax		
	comp=Z,96nm,1.4s,mb5.2						
TLY				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.8						
TLY	**Talaya**	**42.13**	**10**	*e*P	**P**	**00 37 18.3**	**+1.0**
	comp=Z,100nm,1.3s,mb5.3						
IRK	**Irkutsk**	**42.78**	**10**	*e*P	**P**	**00 37 21.9**	**-0.7**
IRK				*e*		00 39 04.3	
IRK				pmax	pmax		
	comp=Z,122nm,2.5s,mb5.2						

FITZ **Fitzroy Crossi 42.90 131** ⇓ *i*P **P** **00 37 22.5 -1.5**
comp=Z,77nm,0.9s,mb5.4
FITZ *e*PCP PcP 00 39 14.7 0.0
FITZ *e*SCP 00 43 00.7
FITZ **Fitzroy Crossi 42.90 131** P **P** **00 37 22.7 -1.3**
comp=Z,62nm,0.5s,mb5.6,baz=345,slow=7.7,SNR=93
FITZ ScP 00 43 00.8
comp=Z,14nm,0.8s,baz=345,slow=6.2,SNR=4.4
FITZ LR LR 00 58 42.2
comp=Z,1μm,19.6s,MS4.7,baz=290,slow=41
CN2 Changchun 43.62 34 ⇑P **P** **00 37 29.4 -0.1**
CN2 *e*XP sP 00 37 47.1 -1.7
CN2 *e*S **S** **00 43 55.1 +0.2**
CN2 AMB AMB
comp=Z,60nm,0.7s,mb5.4
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,1μm,17.0s,MS5.1
CN2 LR LR
comp=E,1μm,17.0s,MS5.1
CN2 LR LR
comp=Z,2μm,21.0s,MS4.9
ZAL Zalesovo 43.96 353 P **P** **00 37 31.5 -0.6**
ZAL 00 47 22.5
ZAL pmax pmax
comp=Z,20nm,0.5s
ZAL pmax pmax
comp=N,2.0nm,1.0s
ZAL MLR MLR
comp=Z,1μm,21.2s
ZAL Zalesovo 43.96 353 P **P** **00 37 31.4 -0.7**
comp=Z,20nm,0.5s,mb5.1,baz=301,slow=5.6,SNR=96
ZAL ScS ScS 00 47 22.4 -1.5
comp=Z,2.3nm,1.0s,baz=143,slow=23,SNR=16
ZAL LR LR 00 59 53.8
comp=Z,1μm,21.2s,MS4.8,baz=294,slow=42
HIA Hailar 44.75 25 *e*P **P** **00 37 37.1 -1.4**
HIA pmax pmax
comp=Z,210nm,1.3s
HIA Hailar 44.75 25 *e*P **P** **00 37 37.0 -1.5**
comp=Z,210nm,1.4s,mb5.8
CIT Chita 44.81 18 ⇑ *i*P **P** **00 37 38.4 -0.6**
CIT *e* pP 00 37 54.0 +1.6
CIT *e* 00 39 21.4
CIT *e* 00 47 31.2
CIT pmax pmax
comp=Z,318nm,1.5s,mb5.9
NVS Novosibirsk 45.05 352 ⇑ *i*P **P** **00 37 39.2 -1.6**
NVS *i*S ScS 00 47 21.7 -9.1
NVS pmax pmax
comp=Z,89nm,2.0s,mb5.2
NVS pmax pmax
comp=N,103nm,2.1s
NVS smax
comp=N,54nm,1.8s
NVS smax
comp=E,14nm,1.6s
KAKA Kakadu 45.41 119 *e*P **P** **00 37 43.3 -0.9**
comp=E,15nm,0.8s,mb4.9
VOSK Vostochnaya 45.84 342 P **P** **00 37 46.8 -0.4**
VOSK S **S** **00 44 24.7 -2.1**
VOSK pmax pmax
comp=Z,113nm,1.0s,mb5.8
VOSK Vostochnaya 45.84 342 *i*P **P** **00 37 46.9 -0.3**
BVA0 Borovoye Array 46.29 341 *i*P **P** **00 37 50.0 -0.7**
BVA0 S **S** **00 44 28.6 -4.5**
BVA0 pmax pmax
comp=Z,14nm,1.1s,mb4.8
BVAR Borovoye Array 46.29 341 S **S** **00 44 32.5 -0.6**
comp=Z.5.2nm,1.0s,baz=140,slow=11,SNR=7.9
MDJ Mudanjiang 46.47 36 P **P** **00 37 51.7 -0.5**
MDJ AP pP 00 38 05.0 -0.6
MDJ XP sP 00 38 11.1 -0.4
MDJ PCP PcP 00 39 25.3 -1.3
MDJ PP PP 00 39 40.4 -1.2
MDJ SCP 00 43 14.0
MDJ PCS 00 43 20.3
MDJ S **S** **00 44 35.0 -0.9**
MDJ XS 00 44 59.5
MDJ AMB AMB
comp=Z,35nm,1.7s,mb5.0
MDJ AMB AMB
comp=Z,337nm,8.5s
MDJ LR LR
comp=N,1μm,20.1s,MS4.9
MDJ LR LR
comp=E,1μm,24.9s,MS4.9
MDJ LR LR
comp=Z,2μm,24.3s,MS4.9
MDJ Mudanjiang 46.47 36 *e*P **P** **00 37 51.9 -0.3**
comp=Z,65nm,1.4s,mb5.4
ZRNK Zerenda 46.67 340 P **P** **00 37 53.3 -0.4**
ZRNK S **S** **00 44 36.9 -1.7**
ZRNK pmax pmax
comp=Z,43nm,1.0s,mb5.3
ZRNK Zerenda 46.67 340 *e*P **P** **00 37 53.1 -0.6**
MZLS Mizel 47.37 293 P **P** **00 38 02.1 +2.5**
AB31 Akbulak array 47.51 331 *i*P **P** **00 38 00.6 +0.2**
AB31 *i*S **S** **00 44 49.4 -1.2**
AB31 pmax pmax
comp=Z,31nm,0.6s,mb5.5
KAMS Al Khamasin 47.54 288 P **P** **00 38 02.6 +1.6**
MUN Mundaring 47.60 153 *e*P **P** **00 37 59.8 -1.5**
comp=Z,24nm,0.9s,mb5.2
KLBR Kellerberrin 47.99 151 *e*P **P** **00 38 03.6 -0.8**
comp=Z,52nm,1.2s,mb5.4
MAJO Matsushiro 48.43 50 *e*P **P** **00 38 08.4 +0.8**
MAJO pmax pmax
comp=Z,91nm,1.5s,mb5.6
MAJO Matsushiro 48.43 50 *e*P **P** **00 38 08.4 +0.8**
comp=Z,91nm,1.5s,mb5.6
MAT Matsushiro 48.43 50 *e*P **P** **00 38 07.0 -0.7**
comp=Z,114nm,1.8s,mb5.6
MAT *e*S **S** **00 45 16.0 +12**
MAT LR LR
comp=Z,1μm,20.0s,MS4.8
MAT Matsushiro 48.43 50 P **P** **00 38 07.4 -0.2**
MAT S **S** **00 45 15.0 +11**
MJAR Matsushiro Arr 48.43 50 P **P** **00 38 07.5 -0.2**
MJAR 00 39 33.6
MJAR pmax pmax
comp=Z,8.0nm,0.8s
MJAR pmax pmax
comp=Z,19nm,0.7s
MJAR MLR MLR
comp=Z,920nm,21.1s
MJAR Matsushiro Arr 48.43 50 P **P** **00 38 07.5 -0.2**
comp=Z,8.2nm,0.8s,mb4.8,baz=253,slow=8.6,SNR=20
MJAR PcP PcP 00 39 33.6 -0.1
comp=Z,19nm,0.7s,baz=241,slow=4.4,SNR=15
MJAR LR LR 01 00 38.5
comp=Z,920nm,21.1s,MS4.7,baz=240,slow=39
TATS Tathlith 48.52 287 P **P** **00 38 10.3 +1.7**
NWAO Narrogin (SRO) 48.87 153 P **P** **00 38 09.5 -1.6**
comp=Z,13nm,0.6s,mb5.1,baz=310,slow=8.7,SNR=9.0
NWAO LR LR 01 00 29.3
comp=Z,770nm,18.5s,MS4.7,baz=341,slow=38
NWAO Narrogin (SRO) 48.87 153 *e*P **P** **00 38 10.0 -1.1**
ATD Arta Tunnel 49.16 276 LR LR 00 55 36.7
comp=Z,770nm,21.1s,MS4.7,baz=342,slow=32
CBIJ Chichi jima 49.19 63 P **P** **00 38 11.2 -2.4**
comp=Z,36nm,0.6s,mb5.6,baz=298,slow=14,SNR=5.8
AFFS 'Afif 49.36 293 P **P** **00 38 16.9 +1.8**
BOD Bodaibo 50.05 15 *e*P **P** **00 38 18.8 -1.0**
BOD pmax pmax
comp=Z,96nm,1.2s,mb5.7
BLJS Baljurashi 50.31 287 P **P** **00 38 25.0 +2.6**
KLR Kul'dur 50.40 32 *e*P **P** **00 38 18.7 -3.9**
KLR *e* 00 40 13.5
KLR *e* 00 49 06.5
KLR pmax pmax
comp=N,45nm,1.6s
KLR pmax pmax
comp=E,74nm,1.6s
KLR pmax pmax
comp=Z,85nm,1.6s,mb5.5
WRA Warramunga Arr 50.65 126 P **P** **00 38 23.5 -1.5**
WRA S **S** **00 45 32.8 -2.0**
WRA pmax pmax
comp=Z,41nm,0.5s
WRA pmax pmax
comp=N,5.0nm,1.0s
WRA smax
comp=N,11nm,1.2s
WRA Warramunga Arr 50.65 126 P **P** **00 38 23.5 -1.5**
comp=N,41nm,0.5s,mb5.6,baz=305,slow=8.6,SNR=387
WRA ScP 00 43 32.2
comp=N,5.4nm,0.9s,baz=317,slow=3.8,SNR=7.8
WRA S **S** **00 45 32.8 -2.0**
comp=N,11nm,1.2s,baz=305,slow=13,SNR=8.7
WRAB Tennant Creek 50.66 126 *e*P **P** **00 38 23.8 -1.2**
WRAB pmax pmax
comp=Z,88nm,0.6s,mb5.9
WRAB Tennant Creek 50.66 126 *e*P **P** **00 38 23.8 -1.2**
comp=Z,88nm,0.6s,mb5.9
WB2 Warramunga Arr 50.66 126 ⇑ *i*P **P** **00 38 24.0 -1.0**
WB2 *e*SCP 00 43 32.1
WB2 *e*S **S** **00 45 32.2 -2.7**
WB2 *e*SCS ScS 00 48 08.6 +0.4
HILS Ha'il 50.92 297 P **P** **00 38 28.3 +1.4**
GNI Garni 51.89 313 ⇑ *i*P **P** **00 38 34.4 +0.4**
GNI Garni 51.89 313 *e*P **P** **00 38 35.3 +1.3**
comp=Z,212nm,1.3s,mb5.9
MTA Mtatsminda 52.42 315 P **P** **00 38 38.4 +0.4**
TI2 Plekhanov 52.47 315 *i*P **P** **00 38 41.2 +2.9**
TI2 *i* pP 00 38 55.4 +3.5
TI2 *i*S **S** **00 46 04.6 +5.2**
TI2 *i*S **S** **00 46 04.6 +5.2**
TBLG Delisi 52.48 315 P pP 00 38 56.5 +4.5
TBLG S **S** **00 46 01.9 +2.4**
CLNS Chul'man 52.56 21 *e*P **P** **00 38 37.9 -0.9**
CLNS *e**PP pP 00 38 44.6 -7.8
CLNS *e* 00 39 47.7
CLNS *e*S **S** **00 46 01.3 +0.9**
CLNS *e* 00 48 18.6
CLNS pmax pmax
comp=N,86nm,0.9s
CLNS pmax pmax
comp=Z,179nm,0.9s,mb6.0
CLNS pmax pmax
comp=E,56nm,0.8s
CLNS pmax pmax
comp=Z,13nm,0.7s,mb5.0
CLNS pmax pmax
comp=N,21nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.7s
CLNS smax
comp=N,14nm,1.2s
CLNS smax
comp=E,11nm,0.8s
CLNS smax
comp=Z,8.0nm,0.8s
CLNS MLR MLR
comp=Z,2μm,22.0s,MS5.2
CLNS MLR MLR
comp=N,1μm,18.0s,MS5.3
CLNS MLR MLR
comp=E,2μm,15.0s,MS5.3
SVE Sverdlovsk 52.69 338 ⇑ *i*P **P** **00 38 39.5 -0.2**
SVE *e* pP 00 38 58.0 +4.6
SVE *e*S **S** **00 46 02.0 -0.1**
SVE pmax pmax
comp=Z,360nm,1.4s,mb6.1
SVE MLR MLR
comp=N,500nm,17.0s,MS4.7
SVE MLR MLR
comp=E,400nm,17.0s,MS4.7
SVE MLR MLR
comp=Z,1μm,17.0s,MS4.9
ARU Arti 53.17 337 ⇑ *i*P **P** **00 38 42.6 -0.8**
ARU *e* 00 39 44.9
ARU *i* 00 40 41.3
ARU *e*PPP PPP 00 41 44.5 -7.8
ARU *e*S **S** **00 46 10.7 +2.0**
ARU *e* 00 48 25.3
ARU *e*SS SS 00 49 53.1 +5.1
ARU *e*SSS SSS 00 51 37.7 -0.8
ARU pmax pmax
comp=Z,91nm,0.9s,mb5.7
ARU MLR MLR
comp=Z,2μm,21.0s,MS5.0
ARU MLR MLR
comp=N,500nm,19.0s,MS5.0
ARU MLR MLR
comp=E,1μm,20.0s,MS5.0
ARU Arti 53.17 337 *e*P **P** **00 38 42.5 -0.8**
comp=E,146nm,1.2s,mb5.8
ZEI Tsey 53.45 316 *e*P **P** **00 38 43.7 -1.9**
ZEI *i* *PP pP 00 38 52.4 -6.9
ZEI *i* 00 40 43.0
ZEI pmax pmax
comp=Z,15nm,0.6s,mb5.1
ONI Oni 53.68 316 P **P** **00 38 47.1 -0.3**
ASAJ Asahikawa 54.36 42 LR LR 01 04 37.8
comp=Z,640nm,19.6s,MS4.7,baz=326,slow=39
UMJS Umm Lajj 54.65 294 P **P** **00 38 57.4 +2.8**
KIV Kislovodsk 54.71 317 *c i*P **P** **00 38 54.0 -0.8**
KIV *e* 00 39 56.8
KIV *e* 00 40 59.4
KIV *e*S **S** **00 46 32.4 +2.7**
KIV pmax pmax
comp=Z,38nm,0.9s,mb5.4
KIV smax
comp=N,320nm,4.8s
KIV smax
comp=E,585nm,4.8s
KIV MLR MLR
comp=E,406nm,20.0s
KIV MLR MLR
comp=Z,488nm,20.0s,MS4.6
KIV Kislovodsk 54.71 317 *e*P **P** **00 38 54.7 -0.2**
comp=Z,133nm,1.1s,mb5.9
GOF Gofitskoye 54.91 318 ⇑ *i*P **P** **00 38 55.3 -0.9**
GOF *i*S **S** **00 46 34.1 +1.8**
GOF pmax pmax
comp=Z,90nm,2.0s,mb5.5
GOF smax
comp=E,480nm,2.5s
QURS Qurayyt al Mil 55.42 301 P **P** **00 39 01.4 +1.2**
YSS Yuzh-Sakhalins 55.60 39 *c e*P **P** **00 39 00.0 -1.2**
YSS *e**PP pP 00 39 17.0 +2.0
YSS *e*PPP PPP 00 42 25.0 +2.8
YSS *e*S **S** **00 46 52.0 +10**
YSS pmax pmax
comp=Z,150nm,0.9s,mb6.0
YSS pmax pmax
comp=E,60nm,1.0s
YSS MLR MLR
comp=Z,500nm,15.0s,MS4.7
YSS MLR MLR
comp=N,500nm,16.0s,MS4.9
YSS MLR MLR
comp=E,600nm,15.0s,MS4.9
YSS Yuzh-Sakhalins 55.60 39 *e*P **P** **00 39 00.6 -0.6**
comp=E,138nm,0.8s,mb6.0
TBKS Tabuk 55.64 297 P **P** **00 39 03.0 +1.2**
MALT Malatya 55.99 309 *e*P **P** **00 39 03.6 -0.5**
comp=E,37nm,1.3s,mb5.3
SOKR Solikamsk 56.09 339 *c i*P **P** **00 39 03.6 -0.9**
SOKR *e* pP 00 39 17.7 -0.6
SOKR pmax pmax
comp=Z,110nm,0.9s,mb5.9
SOKR MLR MLR
comp=Z,2μm,22.0s,MS5.1
KMBO Kilima Mbogo 56.57 262 P **P** **00 39 10.4 +1.8**
comp=Z,7.7nm,1.1s,mb4.7,baz=36,slow=8.7,SNR=7.1
KMBO LR LR 00 59 40.1
comp=Z,1μm,21.9s,MS5.0,baz=91,slow=32
SOC Sochi 56.60 316 *c i*P **P** **00 39 06.9 -1.5**
SOC *e* pP 00 39 20.8 -1.4
SOC *e* 00 40 01.5
SOC *e* 00 41 15.5
SOC *i*S **S** **00 46 53.3 -1.5**
SOC pmax pmax
comp=Z,47nm,1.4s,mb5.3
SOC pmax pmax
comp=N,22nm,1.0s
SOC pmax pmax
comp=E,31nm,1.2s
SOC MLR MLR
comp=N,533nm,19.0s,MS4.8
SOC MLR MLR
comp=E,609nm,19.0s,MS4.8
SOC MLR MLR
comp=Z,797nm,19.0s,MS4.8
BDAS Al Bad' 56.93 297 P **P** **00 39 12.2 +1.2**
TAYS Tayyib Ism 57.15 297 P **P** **00 39 14.0 +1.5**
EIL Elat 57.20 299 *e*P **P** **00 39 12.3 -0.7**
comp=Z,23nm,1.1s,mb5.1
PMG Port Moresby 57.39 108 *c i*P **P** **00 39 13.4 -1.1**
PMG Port Moresby 57.39 108 *e*P **P** **00 39 14.1 -0.4**
comp=Z,26nm,0.8s,mb5.3
YAK Yakutsk 58.05 19 *e*P **P** **00 39 16.7 -1.7**
YAK *e**PP pP 00 39 25.2 -7.1
YAK *e* 00 40 08.1
YAK *e* 00 41 26.9
YAK *e*S **S** **00 47 12.0 -1.7**
YAK *e* 00 48 57.5
YAK pmax pmax
comp=Z,83nm,0.9s,mb5.8
YAK pmax pmax
comp=N,39nm,1.1s
YAK pmax pmax
comp=E,34nm,1.1s
YAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.7s
YAK smax
comp=E,11nm,1.2s
YAK smax
comp=N,6.0nm,1.0s
YAK MLR MLR
comp=N,348nm,18.0s,MS4.7
YAK MLR MLR
comp=Z,601nm,18.0s,MS4.8
YAK MLR MLR
comp=E,487nm,22.0s,MS4.7
YAK Yakutsk 58.05 19 *e*P **P** **00 39 15.3 -3.1**
comp=E,208nm,0.8s,mb6.2
ANN Anapa 58.54 317 *c i*P **P** **00 39 16.7 -5.4**
ANN *e*S **S** **00 47 17.2 -3.1**
ANN pmax pmax
comp=Z,148nm,6.7s
CSS Prodhromos 59.30 305 *e*P **P** **00 39 26.9 -0.6**
comp=Z,64nm,1.5s,mb5.4
VOR Voronezh 59.90 325 *e*P **P** **00 39 30.0 -1.3**
VOR *e* pP 00 39 42.0 -3.2
VOR *e*S **S** **00 47 38.0 +0.2**
VOR pmax pmax
comp=N,100nm,1.4s
VOR pmax pmax
comp=Z,300nm,1.4s,mb6.1
VOR pmax pmax
comp=E,100nm,1.2s
VOR smax
comp=N,480nm,1.6s
VOR smax
comp=Z,600nm,1.8s
VOR smax
comp=E,440nm,1.6s
BR131 Keskin Array S 59.94 310 *e*P **P** **00 39 29.2 -2.6**
comp=E,8.1nm,0.8s,mb4.8
BRTR Keskin Array B 59.94 310 P **P** **00 39 30.4 -1.4**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 59.94 310 P **P** **00 39 30.4 -1.4**
comp=Z,3.8nm,0.7s,mb4.5,baz=126,slow=7.3,SNR=22
CTA Charters Tower 60.54 120 ⇑ *i*P **P** **00 39 35.5 -0.7**
comp=Z,47nm,1.7s,mb5.3
CTA Charters Tower 60.54 120 LR LR 01 09 10.8
comp=Z,944nm,20.5s,MS4.9,baz=83,slow=39
CTAO Charters Tower 60.54 120 *e*P **P** **00 39 35.1 -1.1**
CTAO pmax pmax
comp=Z,140nm,1.4s,mb5.9
CTAO Charters Tower 60.54 120 *e*P **P** **00 39 35.1 -1.1**
comp=Z,137nm,1.4s,mb5.9
SIM Simferopol' 60.84 316 *e*P **P** **00 39 37.4 -0.5**
SIM *i*S **S** **00 47 48.3 -1.7**
SIM pmax pmax
comp=Z,36nm,0.9s,mb5.5
SIM MLR MLR
comp=Z,480nm,21.3s,MS4.6
MOS Moscow 62.37 328 *α i*P **P** **00 39 47.2 -0.8**
MOS *e* 00 40 27.8
MOS *e* 00 42 02.8
MOS *e*PPP PPP 00 43 30.3 -7.2
MOS *e*S **S** **00 48 08.4 -0.8**
MOS pmax pmax
comp=Z,291nm,1.6s,mb6.2
MOS pmax pmax
comp=Z,500nm,1.8s,mb6.3
MOS smax
comp=N,1μm,3.8s
STKA Stephens Creek 62.65 134 ⇑ *i*P **P** **00 39 49.8 -0.4**
comp=N,54nm,0.6s,mb5.9
STKA Stephens Creek 62.65 134 P **P** **00 39 49.7 -0.5**
comp=N,65nm,0.5s,mb6.0,baz=314,slow=6.1,SNR=134
STKA LR LR 01 09 35.3
comp=N,973nm,20.2s,MS5.0,baz=302,slow=38
OBN Obninsk 62.68 327 *α i*P **P** **00 39 49.0 -1.0**
OBN *i* pP 00 40 03.7 -0.3
OBN 00 40 26.0
OBN 00 42 05.0
OBN *i*S **S** **00 48 11.5 -1.5**
OBN *e* 00 48 34.7
OBN *e* 00 48 45.0
OBN 00 49 31.0
OBN *e*SSS SSS 00 55 01.4 -3.0
OBN pmax pmax
comp=Z,247nm,1.7s,mb6.1
OBN Obninsk 62.68 327 *e*P **P** **00 39 49.0 -1.0**
comp=Z,293nm,1.5s,mb6.2
MBAR Mbarara 62.82 264 *c i*P **P** **00 39 50.4 -1.2**
PSN Preselentsi 64.72 313 *e*P pP 00 40 15.0 -2.7
KIS Kishinev 64.92 317 *e*P **P** **00 40 02.0 -2.8**
KIS *e* 00 42 25.0
KIS *i*S **S** **00 48 36.0 -5.0**
KIS *e* 00 48 57.0
KIS *e*SSS SSS 00 55 52.0 +5.2
KIS MLR MLR
comp=E,600nm,20.0s
KIS MLR MLR
comp=Z,600nm,20.0s,MS4.8
KIS MLR MLR
comp=Z,400nm,20.0s
TIXI Tiksi 65.06 12 *e*P **P** **00 39 58.9 -6.5**
TIXI *e*S S 00 48 34.9 -7.4
TIXI pmax pmax
comp=N,43nm,0.7s
TIXI pmax pmax
comp=E,31nm,0.7s
TIXI pmax pmax
comp=Z,201nm,0.7s,mb6.3
TIXI pmax pmax
comp=Z,247nm,0.7s,mb6.3
TIXI Tiksi 65.06 12 ⇑ *i*P **P** **00 40 03.9 -1.5**
MA2 Magadan 65.15 28 *c e*P **P** **00 40 04.9 -1.2**
MA2 *e* pP 00 40 22.2 +2.0
MA2 *e* 00 42 25.6
MA2 *e*S S 00 48 43.6 +0.1
MA2 PS PS 00 49 00.1 -11
MA2 pmax pmax
comp=Z,100nm,1.0s,mb5.8
MA2 pmax pmax
comp=N,20nm,0.9s
MA2 pmax pmax
comp=E,50nm,1.1s
MA2 MLR MLR
comp=Z,3μm,22.0s,MS5.4
MA2 Magadan 65.15 28 *e*P **P** **00 40 05.0 -1.1**
comp=Z,151nm,0.9s,mb6.0
AKASG Malin Array Be 65.50 321 P **P** **00 40 06.8 -1.7**
AKASG *PP pP 00 40 20.8 -1.8
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG pmax pmax
comp=Z,13nm,0.8s
AKASG Malin Array Be 65.50 321 P **P** **00 40 06.8 -1.7**
comp=Z,8.1nm,0.6s,mb4.9,baz=89,slow=4.8,SNR=61
AKASG pP pP 00 40 20.8 -1.9
comp=Z,12nm,0.8s,baz=87,slow=4.8,SNR=12
AKASG Malin Array Be 65.50 321 P **P** **00 40 06.8 -1.7**
AKASG pP pP 00 40 20.8 -1.9
JMB Yambol 65.68 312 *e*P **P** **00 40 10.0 +0.2**
DIM Dimitrovgrad 66.39 311 *e*P **P** **00 40 14.0 -0.3**
KDZ Kurdzhali 66.43 311 *e*P **P** **00 40 13.5 -1.1**
MLR Muntele Rosu 66.60 315 P **P** **00 40 15.6 0.0**
MLR Muntele Rosu 66.60 315 ⇑P **P** **00 40 15.4 -0.1**
MLR Muntele Rosu 66.60 315 ⇑P **P** **00 40 15.4 -0.2**
RZN Rozhen 66.95 311 *e*P **P** **00 40 17.0 -0.9**

SEY Seymchan 67.20 25 *e*P **P** **00 40 17.8 -1.2**
SEY 00 40 43.6
SEY *e*PPP PPP 00 44 28.5 +2.2
SEY *e*S S 00 49 07.7 -0.7
SEY 00 50 05.9
SEY *e*SSS SSS 00 56 24.1 -3.9
SEY pmax pmax
comp=Z,40nm,1.2s,mb5.3
SEY pmax pmax
comp=N,20nm,0.9s
SEY smax
comp=N,300nm,27.0s
SEY Seymchan 67.20 25 ||*i*P **P** **00 40 17.9 -1.1**
PET Petropavlovsk 67.25 37 *e*P **P** **00 40 17.9 -1.6**
PET *e* 00 40 44.6
PET *e* 00 42 51.5
PET *e*S S 00 49 11.5 +2.3
PET *e*SS SS 00 53 34.7 +3.7
PET pmax pmax
comp=Z,100nm,12.9s
PET pmax pmax
comp=Z,100nm,25.2s
PET MLR MLR
comp=Z,1μm,22.0s,MS5.1
PET Petropavlovsk 67.25 37 *e*P **P** **00 40 17.2 -2.3**
BURAR Bucovina Array 67.44 317 ⇑P **P** **00 40 20.7 -0.1**
BURAR Bucovina Array 67.44 317 ⇑P **P** **00 40 20.7 -0.1**
PGB Panagyurishte 67.46 312 *e*P **P** **00 40 20.0 -1.0**
PUL Pulkovo 67.50 331 *i*P **P** **00 40 13.8 -7.1**
PUL *i*S S 00 49 02.7 -9.3
PUL MLR MLR
comp=Z,729nm,20.0s,MS4.9
PUL MLR MLR
comp=N,196nm,17.0s,MS4.8
PUL MLR MLR
comp=E,521nm,18.0s,MS4.8
PUL Pulkovo 67.50 331 ⇑*i*P **P** **00 40 21.5 +0.6**
MMB Musomiste 67.68 311 *e*P **P** **00 40 21.5 -0.9**
IDID Didziasalis 68.08 326 *i*P **P** **00 40 24.1 -0.5**
IDID AMb AMB 00 40 26.3
comp=Z,24nm,1.1s,mb5.2
VTS Vitosha 68.17 312 *e*P **P** **00 40 25.0 -0.5**
VTS Vitosha 68.17 312 P **P** **00 40 24.5 -1.0**
KKB Krupnik 68.19 311 *e*P **P** **00 40 24.0 -1.6**
IIGN Ignalina 68.38 326 *e*P **P** **00 40 25.9 -0.6**
TOO Toolangi 68.46 137 *e*P **P** **00 40 28.1 +0.8**
comp=Z,52nm,1.2s,mb5.4
IZAR Zarasai 68.46 326 *e*P **P** **00 40 26.4 -0.6**
IZAR AMb AMB 00 40 28.6
comp=Z,20nm,1.3s,mb5.0
ISAL Salakas 68.48 326 *i*P **P** **00 40 26.7 -0.5**
ISAL AMb AMB 00 40 28.9
comp=Z,18nm,1.4s,mb4.9
LVV L'vov 68.58 320 *e*P **P** **00 40 25.9 -2.0**
LVV *e*S S 00 49 19.3 -5.9
LVV MLR MLR
comp=N,200nm,20.0s,MS4.6
LVV MLR MLR
comp=E,300nm,20.0s,MS4.6
LVV MLR MLR
comp=Z,300nm,20.0s,MS4.5
LVZ Lovozero 68.85 340 *i*P **P** **00 40 28.2 -1.1**
LVZ *i*S S 00 49 22.4 -5.7
LVZ pmax pmax
comp=Z,36nm,0.8s,mb5.3
LVZ pmax pmax
comp=E,4.0nm,0.5s
LVZ MLR MLR
comp=Z,1μm,25.0s,MS5.1
LVZ MLR MLR
comp=N,431nm,23.0s,MS5.0
LVZ MLR MLR
comp=E,992nm,25.0s,MS5.0
VSU Vasula 68.88 329*c i*P **P** **00 40 28.2 -1.4**
VSU Vasula 68.88 329 ⇑*i*P **P** **00 40 28.3 -1.3**
DRGR 69.01 316 P **P** **00 40 30.7 +0.1**
DRGR 69.01 316 ⇑P **P** **00 40 30.3 -0.3**
DRGR 69.01 316 ⇑P **P** **00 40 30.3 -0.3**
LSZ Lusaka 69.01 249 *e*P **P** **00 40 32.2 +1.1**
LSZ pmax pmax
comp=Z,18nm,1.1s,mb4.9
LSZ Lusaka 69.01 249 *e*P **P** **00 40 32.2 +1.1**
comp=Z,18nm,1.1s,mb4.9
APA Apatity 69.14 339 ⇑*i*P **P** **00 40 30.4 -0.6**
APA *i* pP 00 40 44.0 -1.2
APA *i* 00 40 57.0
APA *i*S S 00 49 31.0 -0.5
APA *e*SS SS 00 53 56.0 -4.1
APA pmax pmax
comp=Z,54nm,0.8s,mb5.5
APA MLR MLR
comp=Z,2μm,18.0s,MS5.3
BOLS Boljevac 69.20 313 ||*i*P **P** **00 40 31.1 -0.8**
KWP Kalwaria 69.40 319 *e*P **P** **00 40 32.6 -0.3**
KWP *e* 00 40 52.1
KWP *e* 00 50 25.4
KWP pmax pmax
comp=Z,200nm,1.5s,mb5.8
KWP MLR MLR
comp=Z,400nm,27.1s,MS4.5
KWP Kalwaria 69.40 319 *e*P **P** **00 40 32.6 -0.4**
comp=Z,200nm,1.5s,mb5.8
KWP *e*PcP PcP 00 40 52.1 -4.1
KWP *e*SKS SKS 00 50 25.4 +0.8
KWP MLR MLR 01 12 29.3
comp=Z,400nm,27.1s,MS4.5
SKO Skopje 69.42 311 *e*P **P** **00 40 32.0 -1.2**
HNR Honiara 69.49 104 P **P** **00 40 32.2 -1.8**
comp=Z,61nm,0.5s,mb5.8,baz=341,slow=5.2,SNR=4.1
HNR Honiara 69.49 104 P **P** **00 40 33.7 -0.4**
KOLS Kolonicke sedl 69.58 318 *e*P **P** **00 40 34.5 +0.4**
SELS Selova 69.75 312 ||*i*P **P** **00 40 33.5 -1.7**
SUW Suwalki 69.83 324 *e*P **P** **00 40 34.3 -1.2**
SUW *e**PP pP 00 40 42.9 -6.8
SUW *e* pP 00 40 49.0 -0.7
SUW *e* 00 40 54.7
SUW *e*S S 00 49 36.8 -3.0
SUW pmax pmax
comp=Z,300nm,1.4s,mb6.0
SUW MLR MLR
comp=Z,600nm,23.4s,MS4.8
SUW Suwalki 69.83 324 *e*P **P** **00 40 34.3 -1.1**
comp=Z,300nm,1.4s,mb6.0
SUW *e*pP pP 00 40 42.9 -6.8
SUW *e* pP 00 40 49.0 -0.7
SUW *e*PcP PcP 00 40 54.8 -3.2
SUW *e*S S 00 49 36.8 -3.0
SUW MLR MLR 01 14 05.2
comp=Z,600nm,23.4s,MS4.8
CNB Canberra Magne 69.97 134 *e*P **P** **00 40 37.2 +0.5**
comp=Z,30nm,0.8s,mb5.3
FINES FINESS Array B 69.99 332 P **P** **00 40 35.5 -0.8**
FINES *PP pP 00 40 49.3 -1.3
FINES pmax pmax
comp=Z,17nm,0.7s
FINES pmax pmax
comp=Z,18nm,0.8s
FINES FINESS Array B 69.99 332 P **P** **00 40 35.5 -0.8**
comp=Z,17nm,0.7s,mb5.1,baz=120,slow=7.6,SNR=86
FINES pP pP 00 40 49.3 -1.3
comp=Z,18nm,0.8s,baz=112,slow=10,SNR=11
FINES LR LR 01 17 40.4
comp=Z,471nm,18.8s,MS4.8,baz=109,slow=41
FINES FINESS Array B 69.99 332 P **P** **00 40 35.5 -0.9**
FINES pP pP 00 40 49.3 -1.3
FINES LR LR 01 17 40.4
KAF Kangasniemi 70.07 333 *ep* **P** **00 40 35.5 -1.3**
comp=Z,40nm,1.1s,mb5.3
KAF Kangasniemi 70.07 333 *e*P **P** **00 40 35.5 -1.3**
KAF pmax pmax
comp=Z,41nm,1.1s,mb5.3
CRVS Cervenica-Dubn 70.11 318 *e*P **P** **00 40 40.0 +2.7**
STHS Stebnicka Huta 70.32 319 *e*P **P** **00 40 38.5 0.0**
MATP Matopo 70.36 244 LR LR 01 06 59.7
comp=Z,612nm,20.9s,MS4.8,baz=94,slow=32
DIVS Divcibare 70.64 313 ||*i*P **P** **00 40 35.8 -4.8**
KECS Kecovo 70.70 318 *e*P **P** **00 40 40.6 -0.3**
KECS *e*pP pP 00 40 54.9 -0.2
WAR Warsaw 70.83 322 *e*P **P** **00 40 42.0 +0.4**
WAR *e*pP pP 00 40 47.7 -8.1
WAR *e*PcP PcP 00 41 01.1 -1.1
WAR *e*PP PP 00 43 16.6 -4.5
WAR *e*S S 00 49 51.7 +0.2
WAR *e*SKS SKS 00 50 41.3 +6.2
WAR LR LR
comp=Z,700nm,25.6s,MS4.8
WAR Warsaw 70.83 322 *e*P **P** **00 40 42.0 +0.4**
WAR *e*pP pP 00 40 47.7 -8.2
WAR *e*PcP PcP 00 41 01.1 -1.0
WAR *e*PP PP 00 43 16.6 -4.5
WAR *e*S S 00 49 51.7 +0.2
WAR *e*SKS SKS 00 50 41.3 +6.2
WAR MLR MLR 01 13 40.2
comp=Z,700nm,25.6s,MS4.8
PSZ Piszkesteto 71.04 317 *e*P **P** **00 40 42.4 -0.5**
PSZ pmax pmax
comp=Z,35nm,1.2s,mb5.2
PSZ Piszkesteto 71.04 317 *e*P **P** **00 40 42.4 -0.5**
comp=Z,35nm,1.3s,mb5.1
BBLS Bajina Basta - 71.04 313 ||*i*P **P** **00 40 42.4 -0.7**
OJC Ojcow 71.34 320 ⇑*i*P **P** **00 40 44.3 -0.4**
OJC *e*S S 00 49 54.0 -3.4
OJC MLR MLR 01 17 19.2
comp=Z,400nm,18.8s,MS4.7
LIKS Likavka 71.67 318 *e*P **P** **00 40 46.6 -0.1**
VYHS Vyhne 71.80 318 *e*P **P** **00 40 47.1 -0.3**
VYHS *e*pP pP 00 41 01.4 -0.3
KEV Kevo 72.13 340 *e*P **P** **00 40 48.8 -0.2**
KEV pmax pmax
comp=Z,36nm,0.7s,mb5.4
KEV Kevo 72.13 340 *e*P **P** **00 40 48.8 -0.2**
comp=Z,36nm,0.6s,mb5.5
SRO1 Iza 72.14 317 *e*P **P** **00 40 50.4 +0.9**
OKC Ostrava-Krasne 72.36 319 *e*P **P** **00 40 50.7 0.0**
OKC *e*pP pP 00 41 05.4 +0.4
OKC AMS AMS 01 15 20.0
ARCES ARCESS Array B 72.56 340 P **P** **00 40 51.4 -0.1**
ARCES *PP pP 00 41 03.9 -1.9
ARCES pmax pmax
comp=Z,17nm,0.6s
ARCES pmax pmax
comp=Z,11nm,0.7s
ARCES MLR MLR
comp=Z,1μm,20.4s
ARCES ARCESS Array B 72.56 340 P **P** **00 40 51.4 -0.1**
comp=Z,17nm,0.6s,mb5.2,baz=86,slow=6.4,SNR=150
ARCES pP pP 00 41 03.9 -1.9
comp=Z,11nm,0.7s,baz=90,slow=4.9,SNR=4.6
ARCES LR LR 01 15 43.6
comp=Z,1μm,20.4s,MS5.2,baz=110,slow=38
ARCES ARCESS Array B 72.56 340 P **P** **00 40 51.4 -0.1**
ARCES pP pP 00 41 03.9 -1.9
ARCES LR LR 01 15 43.6
ARE0 ARCESS Array S 72.56 340 *e*P **P** **00 40 51.3 -0.2**
MORC Moravsky Berou 72.75 319 *e*P **P** **00 40 53.0 0.0**
MORC *e**PP pP 00 41 07.5 +0.2
MORC pmax pmax
comp=Z,57nm,1.2s,mb5.4
MORC Moravsky Berou 72.75 319 *e*P **P** **00 40 53.0 -0.1**
comp=Z,57nm,1.2s,mb5.4
MORC *e*pP pP 00 41 07.5 +0.2
ZST Bratislava 72.93 317 *i*P **P** **00 40 54.5 +0.4**
ZST *e*pP pP 00 41 08.8 +0.4
KTK1 Kautokeino 73.18 339 *e*P **P** **00 40 55.3 0.0**
comp=Z,66nm,1.6s,mb5.3
KTK1 Kautokeino 73.18 339 *e*P **P** **00 40 55.3 0.0**
KTK1 AMb AMB 00 40 58.2
comp=Z,66nm,1.6s,mb5.3
VRAC Vranov 73.33 318 P **P** **00 40 56.6 +0.1**
KOGS Kog 73.42 315 *e*P **P** **00 40 56.6 -0.4**
DPC Dobruska-Polom 73.58 319 *e*P **P** **00 40 58.3 +0.4**
DPC *e*pP pP 00 41 12.9 +0.7
DPC *e*S S 00 50 22.3 -0.5
DPC AMS AMS 01 17 20.0
comp=Z,300nm,17.7s
KSP Ksiaz 73.62 320 *e*P **P** **00 40 57.9 -0.3**
KSP *e**PP pP 00 41 10.9 -1.6
KSP *e*S S 00 50 20.0 -3.4
KSP Ksiaz 73.62 320 *e*P **P** **00 40 58.5 +0.3**
comp=Z,200nm,1.4s,mb5.8
KSP *e*PcP PcP 00 41 12.8 -1.3
KSP *e*S S 00 50 23.3 -0.1
KSP *e*SS SS 00 55 18.9 +9.3
KSP MLR MLR 01 16 18.5
comp=Z,400nm,24.1s,MS4.6
UPC Upice 73.78 320 *e*P **P** **00 40 59.7 +0.6**
UPC *e*pP pP 00 41 13.8 +0.4
ARSA Arzberg 73.95 316 ⇑*i*P **P** **00 41 00.0 -0.1**
comp=Z,22nm,1.1s,mb5.0
BOJS Bojanci 74.08 314 *e*P **P** **00 41 00.4 -0.6**
BILL Bilibino 74.25 22*a i*P **P** **00 41 00.4 -1.0**
BILL pmax pmax
comp=Z,56nm,1.0s,mb5.5
BILL MLR MLR
comp=Z,2μm,20.0s,MS5.3
BILL Bilibino 74.25 22 *e*P **P** **00 41 01.0 -0.4**
comp=Z,38nm,1.0s,mb5.3
LBTB Lobatse 74.41 240 *e*P **P** **00 41 05.0 +1.7**
LBTB pmax pmax
comp=Z,31nm,0.4s,mb5.6
LBTB Lobatse 74.41 240 *e*P **P** **00 41 05.0 +1.7**
comp=Z,31nm,0.3s,mb5.7
OBKA Obir 74.59 315 ⇑*i*P **P** **00 41 04.1 +0.2**
comp=Z,43nm,1.4s,mb5.2
LJU Ljubljana 74.60 315 *e*P **P** **00 41 03.9 -0.1**
LJU *e*pP pP 00 41 18.1 -0.1
LJU *e* 00 41 24.4
LJU *e* 00 42 16.0
PRU Pruhonice 74.70 319 *e*P **P** **00 41 04.5 +0.1**
PRU *e*pP pP 00 41 19.3 +0.6
PRU *e*S S 00 50 31.5 -3.9
PRU AMS AMS 01 18 50.0
comp=Z,300nm,19.0s
PVCC Panska Ves 74.70 320 *e*P **P** **00 41 04.8 +0.4**
PVCC *e*pP pP 00 41 19.6 +0.9
PVCC *e*S S 00 50 34.5 -0.9
PVCC AMS AMS 01 19 00.0
comp=Z,300nm,20.9s
BSD Bornholm Skovb 74.74 324 *e*P **P** **00 41 03.7 -0.8**
BSD *i* pP 00 41 17.6 -1.2
BSD pmax pmax
comp=Z,37nm,0.8s,mb5.4
BSD Bornholm Skovb 74.74 324 *e*P **P** **00 41 03.7 -0.8**
comp=Z,37nm,0.8s,mb5.4
BSD *i* pP 00 41 17.6 -1.2
BSD Bornholm Skovb 74.74 324 *i*P **P** **00 41 03.7 -0.8**
comp=Z,37nm,0.8s,mb5.4
BSD *i* pP 00 41 17.6 -1.2
TRO Tromso 74.81 340 *e*P **P** **00 41 03.1 -1.6**
TRO LR LR
comp=Z,944μm,15.7s
TRO Tromso 74.81 340 *e*P **P** **00 41 03.1 -1.6**
TRO *e*S S 00 50 36.0 -0.2
TRO AMS AMS 01 17 07.6
comp=Z,944nm,15.7s,MS5.2
MOA Molln 74.82 317 ⇑*i*P **P** **00 41 04.8 -0.3**
comp=Z,17nm,1.0s,mb4.9
VOY Vojsko 75.04 315 *e*P **P** **00 41 05.8 -0.7**
VOY *e* pP 00 41 18.6 -2.2
BRG Berggiesshubel 75.11 320 *i*P **P** **00 41 06.8 0.0**
BRG *i* pP 00 41 21.5 +0.4
BRG S S 00 50 39.0 -1.0
BRG pmax pmax
comp=Z,58nm,1.3s,mb5.3
BRG pmax pmax
comp=Z,45nm,1.0s,mb5.3
BRG pmax pmax
comp=N,3.0nm,0.7s
BRG MLR MLR
comp=N,630nm,25.7s,MS4.9
BRG MLR MLR
comp=E,220nm,22.2s,MS4.9
BRG MLR MLR
comp=Z,340nm,25.7s,MS4.5
BRG Berggiesshubel 75.11 320 *i*P **P** **00 41 06.8 0.0**
comp=Z,58nm,1.3s,mb5.3
BRG *i* PcP PcP 00 41 21.5 +1.0
BRG S S 00 50 39.0 -1.0
BRG SS SS 00 55 24.0 -8.0
BRG *e* 01 01 16.4
BRG LR LR
comp=Z,340nm,25.7s,MS4.5
CADS Cadrg 75.15 315 *e*P **P** **00 41 06.5 -0.6**
GEC2 GERESS Array S 75.22 318 P **P** **00 41 07.5 +0.1**
GEC2 pmax pmax
comp=Z,46nm,1.1s,mb5.3
GEC2 GERESS Array S 75.22 318 *e*P **P** **00 41 07.5 +0.1**
comp=Z,46nm,1.1s,mb5.3
GEC2 *e*S S 00 50 40.4 -0.8
GERES GERESS Array B 75.22 318 P **P** **00 41 07.4 0.0**
GERES *PP pP 00 41 21.7 0.0
GERES pmax pmax
comp=Z,16nm,0.7s
GERES pmax pmax
comp=Z,25nm,0.9s
GERES MLR MLR
comp=Z,434nm,20.5s
GERES GERESS Array B 75.22 318 P **P** **00 41 07.4 0.0**
comp=Z,16nm,0.7s,mb5.0,baz=90,slow=5.3,SNR=97
GERES pP pP 00 41 21.7 0.0
comp=Z,25nm,0.9s,baz=90,slow=4.0,SNR=13
GERES LR LR 01 19 09.3
comp=Z,434nm,20.5s,MS4.7,baz=95,slow=40
RUE Ruedersdorf 75.27 322 *e*P **P** **00 41 07.4 -0.2**
comp=Z,56nm,0.9s,mb5.5
RUE *e*pP pP 00 41 22.1 +0.2
KHC Kasperske Hory 75.30 318 *e*P **P** **00 41 07.7 -0.2**
KHC *e* 00 41 17.0
KHC *e**PP pP 00 41 22.5 +0.3
KHC *e*S S 00 50 40.9 -1.2
KHC MLR MLR
comp=Z,400nm,21.1s,MS4.7
KHC Kasperske Hory 75.30 318 ⇑*i*P **P** **00 41 07.2 -0.7**
KHC Kasperske Hory 75.30 318 *e*P **P** **00 41 07.7 -0.2**
KHC x x 00 41 11.0
KHC x x 00 41 17.0
KHC *e*pP pP 00 41 22.5 +0.3
KHC *e*S S 00 50 40.9 -1.2
KHC AMS AMS 01 18 30.0
comp=Z,400nm,21.1s
KBA Koelnbreinsper 75.43 316 ⇑*i*P **P** **00 41 08.2 -0.4**
comp=Z,19nm,1.1s,mb4.9
RGN Rugen 75.63 324 *e*P **P** **00 41 09.6 -0.1**
comp=Z,49nm,1.1s,mb5.3
RGN *e*pP pP 00 41 24.3 +0.4
CLL Collm 75.72 320 ⇑*i*P **P** **00 41 09.8 -0.4**
CLL *i**PP pP 00 41 24.5 0.0
CLL *e*S S 00 50 43.0 -3.6
CLL *e**SS 00 51 10.0
CLL pmax pmax
comp=Z,53nm,1.3s,mb5.3
CLL Collm 75.72 320 ⇑*i*P **P** **00 41 09.8 -0.4**
comp=Z,53nm,1.3s,mb5.3
CLL *i*pP pP 00 41 24.5 0.0
CLL *e*S S 00 50 43.0 -3.6
CLL *e*sS 00 51 10.0
CLL Collm 75.72 320 ⇑P **P** **00 41 09.8 -0.4**
comp=Z,logA/T=1.6,mb5.3
CLL *i**PP pP 00 41 24.5 0.0
CLL *i**SP sP 00 41 33.0 +3.0
CLL *e* 00 41 50.0
CLL *e*PP PP 00 44 04.0 +1.7
CLL *e*PPP PPP 00 46 00.0 +11
CLL *e*S S 00 50 43.0 -3.6
CLL *e**SS 00 51 10.0
CLL *e* 00 51 15.0
CLL *e*PS PS 00 51 34.0 +3.3
CLL *e*SS SS 00 55 42.0 +0.3
CLL *e*SSS SSS 00 58 54.0 -2.7
HFS Hagfors 75.74 330 LR LR 01 19 17.1
comp=Z,814nm,21.7s,MS5.0,baz=106,slow=39
WET Wettzell 75.76 318 P **P** **00 41 10.6 +0.1**
WET pmax pmax
comp=Z,39nm,1.2s,mb5.2
WET Wettzell 75.76 318 *e*P **P** **00 41 10.6 +0.1**
comp=Z,39nm,1.2s,mb5.2
WET *e*S S 00 50 46.8 -0.4
BOSA Boshof 75.92 237 *e*P **P** **00 41 13.2 +1.4**
BOSA *e**PP pP 00 41 26.4 +0.3
BOSA pmax pmax
comp=Z,26nm,0.8s,mb5.2
BOSA Boshof 75.92 237 P **P** **00 41 13.7 +1.9**
comp=Z,11nm,0.7s,mb4.9,baz=77,slow=6.4,SNR=14
BOSA LR LR 01 10 09.0
comp=Z,1μm,20.4s,MS5.1,baz=73,slow=32
BOSA Boshof 75.92 237 *e*P **P** **00 41 13.2 +1.4**
comp=Z,26nm,0.8s,mb5.2
BOSA *e*pP pP 00 41 26.4 +0.2
FX1 Attu Island--F 75.92 38 P **P** **00 41 11.2 -0.1**
FX1 pmax pmax
comp=Z,63nm,0.7s
FX1 Attu Island--F 75.92 38 P **P** **00 41 11.2 -0.1**
comp=Z,63nm,0.7s,mb5.7,baz=192,slow=3.2,SNR=17
NKC Novy Kostel 76.05 319 *e*P **P** **00 41 12.2 +0.1**
NKC *e*pP pP 00 41 27.1 +0.6
NKC *e*S S 00 50 51.0 +0.7
NKC AMS AMS 01 19 40.0
comp=Z,300nm,19.2s
COP Copenhagen 76.18 325 *e*P **P** **00 41 12.6 -0.1**
COP *i* pP 00 41 27.2 +0.1
COP *i*S S 00 50 51.4 -0.2
COP pmax pmax
comp=Z,19nm,0.9s,mb5.0
COP MLR MLR
comp=Z,200nm,19.0s,MS4.5
COP Copenhagen 76.18 325 *e*P **P** **00 41 12.6 -0.1**
comp=Z,19nm,0.9s,mb5.0
COP *i* pP 00 41 27.2 +0.1
COP *i*S S 00 50 51.4 -0.2
COP LR LR
comp=Z,200nm,19.0s,MS4.5
COP Copenhagen 76.18 325 *i*P **P** **00 41 12.6 -0.1**
comp=Z,19nm,0.9s,mb5.0
COP *i* pP 00 41 27.2 +0.1
COP *i*S S 00 50 51.4 -0.2
comp=Z,190nm,19.0s
SMY Shemya 76.48 38 *e*P **P** **00 41 14.9 +0.4**
SMY LR LR
comp=Z,400nm,23.0s,MS4.7
LOF Lofoten 76.52 338 *e*P **P** **00 41 16.0 +1.6**
MOX Moxa 76.59 320 *e*P **P** **00 41 15.0 -0.2**
MOX pmax pmax
comp=Z,76nm,1.8s,mb5.3
MOX MLR MLR
comp=Z,200nm,18.0s,MS4.5
MOX Moxa 76.59 320 *e*P **P** **00 41 15.0 -0.2**
comp=Z,76nm,1.8s,mb5.3
MOX LR LR
comp=Z,200nm,18.0s,MS4.5
MOX Moxa 76.59 320 *i*P **P** **00 41 15.0 -0.2**
comp=Z,logA/T=1.6,mb5.3
MOX pP pP 00 41 30.0 +0.5
MOX S S 00 50 56.0 -0.2
MOX L 01 23 35.0
WTTA Wattenberg 76.59 316 ⇑*i*P **P** **00 41 14.6 -0.7**
comp=Z,51nm,1.3s,mb5.3
WTTA *i* pP 00 41 29.5 -0.1
comp=Z,52nm,1.0s
WATA Walderalm 76.64 316 ⇑*i*P **P** **00 41 14.6 -0.9**
comp=Z,10nm,0.6s,mb4.9
MIR Mirnyy 76.69 180 *e*P pP 00 41 29.0 -0.7
MIR pmax pmax
comp=Z,77nm,1.8s,mb5.3
FUR Furstenfeldbru 76.83 317 P **P** **00 41 16.2 -0.4**
FUR pmax pmax
comp=Z,53nm,1.2s,mb5.3
FUR Furstenfeldbru 76.83 317 *e*P **P** **00 41 16.2 -0.4**
comp=Z,53nm,1.2s,mb5.3
GRA1 Grafenberg Arr 76.84 319 *e*P **P** **00 41 17.1 +0.5**
comp=Z,72nm,1.3s,mb5.4
GRA1 *e*pP pP 00 41 31.3 +0.3
GRA1 *e*S S 00 50 59.9 +0.9
GRF Grafenberg Arr 76.84 319 P **P** **00 41 17.1 +0.5**
GRF pmax pmax
comp=Z,72nm,1.3s,mb5.4
GRF Grafenberg Arr 76.84 319 *e*P **P** **00 41 17.1 +0.5**
comp=Z,72nm,1.3s,mb5.4
GRF *e*pP pP 00 41 31.3 +0.3
GRF *e*S S 00 50 59.9 +0.9
NSS Namsos 76.85 334 *e*P **P** **00 41 15.4 -1.0**
SQTA Sankt Quirin 76.89 316 ⇑*i*P **P** **00 41 16.2 -0.7**
comp=Z,10nm,0.5s,mb5.0
SQTA *i* pP 00 41 30.8 -0.5
comp=Z,21nm,0.7s
MOTA Moosalm 76.96 316 ⇑*i*P **P** **00 41 16.6 -0.7**
comp=Z,51nm,1.3s,mb5.3
MOTA *i* pP 00 41 30.6 -1.1
comp=Z,42nm,1.0s
NB2 NORSAR Subarra 77.02 330 P **P** **00 41 16.4 -1.0**
comp=Z,20nm,0.8s,mb5.1,baz=96,slow=5.0
NB2 NORSAR Subarra 77.02 330 P **P** **00 41 16.4 -1.0**
baz=96,slow=5.3
NOA NORSAR Array B 77.02 330 P **P** **00 41 16.4 -1.0**

NOA *PP pP 00 41 30.2 -1.5
NOA pmax pmax
comp=Z,10.0nm,0.6s
NOA pmax pmax
comp=Z,13nm,0.9s
NOA MLR MLR
comp=Z,438nm,21.1s
NOA NORSAR Array B 77.02 330 P P 00 41 16.4 -1.0
comp=Z,9.6nm,0.6s,mb4.9,baz=92,slow=5.7,SNR=36
NOA pP pP 00 41 30.2 -1.5
comp=Z,13nm,0.9s,baz=91,slow=6.0,SNR=11
NOA LR LR 01 19 50.8
comp=Z,438nm,21.1s,MS4.8,baz=100,slow=39
NOA NORSAR Array B 77.02 330 P P 00 41 16.4 -1.0
NOA pP pP 00 41 30.2 -1.5
NOA LR LR 01 19 50.8
NAO01 NORSAR Array S 77.17 330 *eP* **P 00 41 17.3 -0.9**
comp=Z,17nm,0.8s,mb5.0
NAO01 epP pP 00 41 31.5 -1.1
CLZ Clausthal 77.36 321 P **P 00 41 19.6 +0.1**
CLZ pmax pmax
comp=Z,52nm,1.2s,mb5.3
CLZ Clausthal 77.36 321 *eP* **P 00 41 19.6 +0.1**
comp=Z,52nm,1.2s,mb5.3
BSEG Bad Segeberg 77.38 323 P **P 00 41 19.8 +0.3**
BSEG pmax pmax
comp=Z,98nm,1.2s,mb5.6
BSEG Bad Segeberg 77.38 323 *eP* **P 00 41 19.8 +0.3**
BSEG *eS* S 00 51 04.0 -0.7
MAIM 77.49 313 P **P 00 41 16.9 -3.4**
CASY Casey 77.51 173⇑*iP* **P 00 41 20.3 +0.3**
HDH Heidenheim 77.53 318⇑*eP* **P 00 41 19.9 -0.6**
SARO Sassorosso 77.54 313 P **P 00 41 18.5 -2.1**
FUORN Ofenpass 77.55 316⇑*iP* **P 00 41 20.4 -0.2**
UBR Uberruh 77.62 317 *eP* **P 00 41 20.5 -0.5**
VALM 77.65 313 P **P 00 41 19.2 -2.0**
BERNI Berninapass 77.72 315⇑*iP* **P 00 41 21.9 +0.3**
GRAM 77.77 313 P **P 00 41 19.4 -2.5**
KONO Kongsberg 77.79 329*c iP* **P 00 41 20.8 -0.8**
KONO Kongsberg 77.79 329 *eP* **P 00 41 20.6 -1.1**
comp=Z,79nm,1.6s,mb5.4
KONO Kongsberg 77.79 329 *eP* **P 00 41 26.9 +5.2**
DAVA Damuels 77.79 316⇑*iP* **P 00 41 21.8 -0.1**
comp=Z,69nm,1.2s,mb5.5
DAVA *i* pP 00 41 36.6 +0.3
comp=Z,63nm,0.9s
DAVOX Davos 77.81 316 LR LR 01 20 54.3
comp=Z,405nm,21.5s,MS4.7,baz=82,slow=40
DAVOX Davos 77.81 316⇑*eP* **P 00 41 21.6 -0.4**
SIND Sindeldorf 77.91 318⇑*eP* **P 00 41 22.4 -0.1**
CODM 77.93 313 P **P 00 41 20.3 -2.5**
MUD Monsted U'grnd 78.02 326⇓*iP* **P 00 41 24.1 +1.1**
MUD *i* pP 00 41 37.6 +0.3
MUD *i* S S 00 51 13.8 +2.3
MUD pmax pmax
comp=Z,46nm,0.8s,mb5.5
MUD MLR MLR
comp=Z,340nm,19.0s,MS4.7
MUD Monsted U'grnd 78.02 326⇓*iP* **P 00 41 24.1 +1.1**
comp=Z,46nm,0.8s,mb5.5
MUD *i* pP 00 41 37.6 +0.3
MUD *i* S S 00 51 13.8 +2.3
comp=Z,330nm,19.0s
BUCH Bad Urach 78.10 317 *eP* **P 00 41 23.3 -0.3**
VDL Val di Lei 78.10 315⇑*iP* **P 00 41 23.6 0.0**
KBS Kingsbay 78.18 349 *eP* **P 00 41 23.8 +0.3**
KBS *eS* S 00 51 09.8 -3.1
KBS AMS AMS 01 24 00.1
comp=Z,280nm,22.5s,MS4.5
GUT Gutenstein 78.28 317 *eP* **P 00 41 24.2 -0.4**
LLS Linth-Limmern 78.40 316⇑*iP* **P 00 41 25.3 0.0**
TOD Tromm 78.42 319⇑*eP* **P 00 41 25.0 -0.3**
TOD Tromm 78.42 319 *eP* **P 00 41 25.0 -0.3**
MUGIO Muggio 78.43 315⇑*iP* **P 00 41 24.4 -1.0**
STEIN Stein am Rhein 78.46 317⇑*iP* **P 00 41 25.0 -0.6**
LBG Lerchenberg 78.46 318 *eP* **P 00 41 25.4 -0.2**
SPAK Spaichingen 78.50 317 *eP* **P 00 41 25.6 -0.2**
TNS Taunus Mts 78.62 319 P **P 00 41 26.6 +0.2**
TNS pmax pmax
comp=Z,42nm,1.6s,mb5.1
TNS Taunus Mts 78.62 319 *eP* **P 00 41 26.6 +0.2**
comp=Z,42nm,1.6s,mb5.1
TNS *eS* S 00 51 16.9 -1.2
PGF Pioggiola 78.65 311⇑*iP* **P 00 41 26.3 -0.4**
comp=Z,77nm,1.6s,mb5.1
MUO Muotathal 78.65 316⇑*iP* **P 00 41 27.0 +0.3**
ZUR Zurich 78.67 316⇑*iP* **P 00 41 26.4 -0.3**
SLE Schleitheim 78.71 317⇑*iP* **P 00 41 26.4 -0.5**
MOL Molde 78.78 332 *eP* pP 00 41 38.1 -3.3
BFO Black Forest 78.79 317 P **P 00 41 27.0 -0.4**
BFO pmax pmax
comp=Z,28nm,1.2s,mb5.1
BFO Black Forest 78.79 317 *eP* **P 00 41 27.0 -0.4**
comp=Z,28nm,1.2s,mb5.1
BFO *eS* S 00 51 18.0 -1.9
BNALP Bannalp 78.80 316⇑*iP* **P 00 41 27.6 +0.1**
PCP Pian Castagno 78.86 314 P **P 00 41 25.9 -2.0**
SULZ Sulz-Cheisache 78.98 317⇑*iP* **P 00 41 27.9 -0.5**
HASLI Hasliberg 79.00 316⇑*iP* **P 00 41 28.4 -0.2**
FELD Feldberg 79.03 317 *eP* **P 00 41 28.5 -0.2**
KIZ Kirchzarten 79.08 317⇑*eP* **P 00 41 28.6 -0.4**
LANF Langenberg 79.10 318⇑*eP* **P 00 41 29.2 +0.1**
FIN Finale Ligure 79.12 313 P **P 00 41 27.4 -1.9**
ORX Oropa 79.18 315 P **P 00 41 27.6 -2.0**
ABH Alteburg 79.22 319 *eP* **P 00 41 29.8 +0.1**
ABH Alteburg 79.22 319 *eP* **P 00 41 29.9 +0.2**
BALST Balsthal 79.27 316⇑*iP* **P 00 41 29.8 -0.2**
LIBD Limburg 79.28 317 *eP* **P 00 41 30.4 +0.3**
LIBD Limburg 79.28 317 *eP* **P 00 41 30.3 +0.2**
ROB Roburent 79.35 313 P **P 00 41 28.4 -2.1**
TRAV 79.36 315 P **P 00 41 27.6 -1.8**
IMI Imperia 79.37 313 P **P 00 41 27.6 -3.0**
LKBD Leukerbad 79.38 315⇑*iP* **P 00 41 30.9 +0.2**
BBS Basel-Blauen 79.39 317 *eP* **P 00 41 30.5 -0.2**
BBS Basel-Blauen 79.39 317 *eP* **P 00 41 30.7 0.0**
WLS Welschbruch 79.43 317 *eP* **P 00 41 30.4 -0.5**
MONE Monesi 79.45 313 P **P 00 41 27.4 -3.7**
CDF Champ du Feu 79.49 317⇑*iP* **P 00 41 30.8 -0.4**
comp=Z,37nm,1.1s,mb4.9
RUP Ruppelstein 79.55 319 *eP* **P 00 41 31.4 -0.1**
RUP Ruppelstein 79.55 319 *eP* **P 00 41 31.5 0.0**
DIX Grande Dixence 79.55 315⇑*iP* **P 00 41 32.3 +0.7**
WTSB Winterswijk 79.57 321 *eP* **P 00 41 29.7 -1.8**
comp=Z,9.7nm,2.0s,mb4.4
WTSB epP pP 00 41 44.4 -1.6
ECH Echery 79.58 317 *eP* **P 00 41 31.6 -0.1**
WIT Witteveen 79.60 322 *eP* **P 00 41 32.2 +0.5**
WIT epP pP 00 41 46.8 +0.7
SAOF Saorge 79.60 313⇑*eP* **P 00 41 31.4 -0.5**
SENIN Lac Senin 79.61 315⇑*iP* **P 00 41 32.1 +0.2**
MOF Molkenrain 79.62 317 *eP* **P 00 41 31.4 -0.5**
ENR Entracque 79.68 313 P **P 00 41 29.5 -2.8**
AUTN L'Aution 79.69 313 *eP* **P 00 41 32.8 +0.4**
SBF Sospel 79.70 313 *eP* **P 00 41 32.3 -0.1**
comp=Z,31nm,0.9s,mb4.9
RSP Reno Superiore 79.73 314 P **P 00 41 31.4 -1.1**
BHB Bricherasio 79.75 314 P **P 00 41 30.2 -2.4**
GRYON Gryon 79.75 315⇑*iP* **P 00 41 32.4 -0.2**
STV2 Anna di Valdie 79.75 313 P **P 00 41 29.4 -3.3**
STV Sta Anna Valdi 79.75 313 P **P 00 41 30.4 -2.3**
LSD Ceresole Reale 79.78 314 P **P 00 41 32.4 -0.4**
HINF Hinteralfeld 79.81 317⇑*iP* **P 00 41 32.3 -0.6**
TORNY Torny 79.81 316⇑*iP* **P 00 41 32.9 -0.1**
TOUF Mont Tournerai 79.82 313 *eP* **P 00 41 33.2 +0.1**
TSUM Tsumeb 79.83 248 *eP* **P 00 41 37.0 +3.4**
comp=Z,49nm,1.7s,mb5.2
AIGLE Aigle 79.85 315⇑*iP* **P 00 41 32.8 -0.4**
LOMF Lomont 79.86 316 *eP* **P 00 41 32.8 -0.4**
MVIF Mont Vial 79.90 313 *eP* **P 00 41 33.7 +0.2**
EMV Vieux Emosson 79.91 315⇑*iP* **P 00 41 33.7 +0.2**
BER Bergen 79.91 330 AMS AMS 01 21 29.9
comp=Z,616nm,25.0s,MS4.8
LPG La Plagne 80.06 315 *eP* **P 00 41 34.8 +0.5**
comp=Z,67nm,1.0s,mb5.3
LPL La Plagne 80.07 315⇑*iP* **P 00 41 34.6 +0.2**
comp=Z,87nm,0.8s,mb5.4
SURF Saint Ours 80.09 314 *eP* **P 00 41 34.6 +0.1**
CALN Calern 80.10 313⇑*eP* **P 00 41 34.2 -0.4**
MBDF Montbardon 80.10 314⇑*iP* **P 00 41 34.0 -0.6**
comp=Z,29nm,1.0s,mb4.8
BRANT Les Verrieres 80.13 316⇑*iP* **P 00 41 34.5 -0.2**
HAU Haudompre 80.13 317⇑*iP* **P 00 41 34.3 -0.4**
comp=Z,100nm,1.1s,mb5.4

WLF Walferdange 80.14 319 *eP* **P 00 41 34.9 +0.3**
WLF *e**PP pP 00 41 50.0 +0.9
WLF pmax pmax
comp=Z,97nm,1.7s,mb5.5
WLF Walferdange 80.14 319 *eP* **P 00 41 34.9 +0.3**
comp=Z,97nm,1.8s,mb5.4
WLF epP pP 00 41 50.0 +0.9
HGN Heimansgroeve 80.19 320⇑*eP* **P 00 41 34.0 -1.0**
comp=Z,22nm,1.9s,mb4.8
HGN epP pP 00 41 47.3 -2.1
HGN *es*P sP 00 41 54.7 -0.2
HGN *e*PP PP 00 44 39.9 +0.7
HGN *e*S S 00 51 36.5 +1.9
HGN *e*SS SS 00 56 17.8 -31
FRF La Foret Royal 80.29 313⇑*iP* **P 00 41 35.6 0.0**
comp=Z,195nm,1.5s,mb5.5
GIMEL Gimel 80.31 316⇑*iP* **P 00 41 35.6 0.0**
ABSA Djebel Ababsia 80.34 305 P **P 00 41 38.0 +2.0**
CMAH Djebel Manchou 80.35 306 P **P 00 41 36.0 -0.1**
THEF They Montfort 80.36 317 *eP* **P 00 41 35.5 -0.4**
LMR La Mourre 80.41 312⇑*iP* **P 00 41 36.2 -0.1**
comp=Z,67nm,1.2s,mb5.1
CABF La Chapelle 80.42 316⇑*iP* **P 00 41 36.6 +0.4**
comp=Z,108nm,1.2s,mb5.3
GDM Grand'Maison 80.53 314 *eP* **P 00 41 36.6 -0.2**
MAW Mawson 80.71 191 *eP* **P 00 41 38.6 +1.3**
comp=Z,12nm,0.9s,mb4.8
MAW Mawson 80.71 191 P **P 00 41 38.7 +1.4**
comp=Z,8.7nm,1.0s,mb4.6,baz=36,slow=10,SNR=6.2
MAW LR LR 01 10 35.8
comp=Z,537nm,18.6s,MS4.9,baz=49,slow=30
TAVF Tavernes 80.71 313⇑*eP* **P 00 41 38.3 +0.5**
ORIF Oris-en-Rattie 80.72 314 *eP* **P 00 41 37.7 -0.1**
GRN Grenoble 80.78 314 *eP* **P 00 41 38.4 +0.2**
STOF St-Etienne Org 80.78 313 *eP* **P 00 41 39.2 +1.0**
CKFL Kef-Lekhel 80.93 305 P **P 00 41 41.0 +1.8**
VILF Villemus 80.94 313⇑*eP* **P 00 41 39.6 +0.6**
MEZF Maizieres J'vi 80.95 318⇑*iP* **P 00 41 38.9 -0.1**
GIVF Givet 80.96 319 *eP* **P 00 41 39.0 0.0**
comp=Z,67nm,1.3s,mb5.1
PUYF Puyloubier 80.98 313⇑*eP* **P 00 41 39.9 +0.7**
BERF Bertagne 81.01 312 *eP* **P 00 41 40.0 +0.6**
SMRF Simiane la Rot 81.03 313⇑*iP* **P 00 41 40.2 +0.7**
comp=Z,114nm,1.4s,mb5.3
CASM Ain Smara 81.13 305 P **P 00 41 41.0 +0.8**
GELF Grande-Etoile 81.19 313 *eP* **P 00 41 40.7 +0.3**
PRAF Pradon 81.34 313⇑*eP* **P 00 41 41.7 +0.6**
BAIF Baives 81.36 319⇑*iP* **P 00 41 41.2 +0.1**
comp=Z,89nm,1.3s,mb5.2
VIVF Saint-Julien-l 81.58 314⇑*iP* **P 00 41 42.5 +0.2**
comp=Z,99nm,1.2s,mb5.3
DFRA Djebel Bou Aff 81.59 306 P **P 00 41 44.0 +1.4**
LOR Lormes 81.88 317⇑*iP* **P 00 41 43.7 -0.1**
comp=Z,143nm,1.3s,mb5.4
SMF Signal de Mont 81.96 316⇑*iP* **P 00 41 44.1 -0.2**
comp=Z,90nm,1.2s,mb5.3
SET Setif 82.02 305 P **P 00 41 44.0 -0.8**
SSF Saint Saulge 82.14 316⇑*iP* **P 00 41 45.3 +0.1**
comp=Z,98nm,1.4s,mb5.2
PLDF La Plantade 82.19 315 *eP* **P 00 41 46.7 +1.2**
LASF Ste Croix 82.25 313⇑*iP* **P 00 41 46.4 +0.6**
comp=Z,189nm,1.6s,mb5.5
AGO Saint Agoulin 82.52 315 *eP* **P 00 41 48.4 +1.2**
LBL Lubilhac 82.54 315 *eP* **P 00 41 48.4 +1.1**
PYM Petit Puy Mans 82.64 315 *eP* **P 00 41 49.2 +1.4**
BGF Bois d'Agland 82.65 316⇑*iP* **P 00 41 48.1 +0.3**
comp=Z,111nm,1.4s,mb5.4
HYF Humbligny 82.70 317 *eP* **P 00 41 48.7 +0.6**
ATAF Djebel Tarf 82.96 305 P **P 00 41 51.4 +1.8**
TCF Toule Ste Croi 83.12 316⇑*iP* **P 00 41 50.6 +0.4**
comp=Z,91nm,1.4s,mb5.3
EJON La Jonquera 83.16 312 P **P 00 41 50.3 -0.1**
comp=Z,20nm,1.2s,mb5.0
AKET Djebel Ketaf 83.25 305 P **P 00 41 53.7 +2.6**
FILF Fillols 83.38 312 *eP* **P 00 41 52.3 +0.7**
CAF Calviac 83.41 314⇑*iP* **P 00 41 52.4 +0.7**
comp=Z,71nm,1.4s,mb5.2
MTLF Montolieu 83.52 313⇑*iP* **P 00 41 52.8 +0.5**
comp=Z,115nm,1.5s,mb5.5
ETOS Mallorca 83.58 309 P **P 00 41 50.7 -2.0**
comp=Z,80nm,1.6s,mb5.6
ADJB Djebel Djouab 83.59 305 P **P 00 41 54.7 +1.8**
RJF Les Rejaudoux 83.74 315⇑*iP* **P 00 41 54.1 +0.7**
comp=Z,120nm,1.4s,mb5.5
VALF Valcebollere 83.80 312 *eP* **P 00 41 54.5 +0.7**
LPEF Le Peyrat 83.80 312 *eP* **P 00 41 53.9 +0.1**
EMHD Djebel Mahouad 83.98 306 P **P 00 41 57.0 +2.2**
JMIC Jan Mayen 84.00 341 LR LR 01 22 13.0
comp=Z,445nm,21.5s,MS4.8,baz=88,slow=38
JMIC Jan Mayen 84.00 341 *eP* **P 00 42 00.1 +5.9**
JMIC AMS AMS 01 21 33.7
comp=Z,305nm,19.4s,MS4.7
EMIR Miracle 84.23 311 P **P 00 41 56.3 +0.3**
comp=Z,25nm,1.3s,mb5.2
LFF La Frestale 84.34 315⇑*iP* **P 00 41 57.1 +0.7**
comp=Z,151nm,1.8s,mb5.5
LDF La Druitiere 84.35 318⇑*iP* **P 00 41 56.5 +0.1**
comp=Z,73nm,1.1s,mb5.4
FLN La Foliniere 84.56 318⇑*iP* **P 00 41 57.5 +0.1**
comp=Z,79nm,1.2s,mb5.4
EPOB Poblet 84.65 311 P **P 00 41 57.2 -0.8**
comp=Z,86nm,1.7s,mb5.6
MFF Saint Martin d 84.69 316⇑*iP* **P 00 41 58.3 +0.2**
comp=Z,58nm,1.1s,mb5.3
DAG Danmarks Havn 84.83 348⇓*eP* **P 00 41 57.4 -0.8**
DAG pmax pmax
comp=Z,13nm,1.0s,mb5.0
DAG Danmarks Havn 84.83 348⇓*eP* **P 00 41 57.4 -0.8**
comp=Z,13nm,1.0s,mb5.0
DAG Danmarks Havn 84.83 348⇓*iP* **P 00 41 57.4 -0.8**
comp=Z,13nm,1.0s,mb5.0
GRR Gorron 84.87 318 *eP* **P 00 41 59.3 +0.3**
EPF Esparros 84.93 313 *eP* **P 00 41 59.3 -0.1**
comp=Z,44nm,1.6s,mb5.0
ESK Eskdalemuir 85.06 325 *eP* **P 00 42 00.1 +0.3**
ESK *e**PP pP 00 42 14.8 +0.5
ESK pmax pmax
comp=Z,18nm,0.8s,mb5.2
ESK Eskdalemuir 85.06 325 *eP* **P 00 42 00.1 +0.3**
comp=Z,18nm,0.8s,mb5.2
ESK epP pP 00 42 14.8 +0.4
EGRA Graus 85.08 312 P **P 00 42 01.0 +0.8**
comp=Z,8.7nm,0.9s,mb4.9
EBNR Beni Rached 85.10 306 P **P 00 42 02.0 +1.6**
EBIE Bielsa 85.13 312 P **P 00 41 59.6 -0.7**
comp=Z,39nm,1.6s,mb5.3
EBR Ebro Roquetas 85.17 310 *e*PCP PcP 00 42 02.3 -1.9
ECHA Ech Chlef 85.25 306 P **P 00 42 03.0 +1.8**
ETRT Tiaret 85.43 305 P **P 00 42 04.0 +1.9**
EANR 'Ain N'Sour 85.50 306 P **P 00 42 05.0 +2.6**
ETSF Etsaut 85.60 313 *eP* **P 00 42 03.5 +0.8**
comp=Z,43nm,1.4s,mb5.2
EMOS Mosqueruela 85.97 310 P **P 00 42 05.8 +1.2**
comp=Z,79nm,1.3s,mb5.8
SGMF Saint Gilles 86.01 318⇑*iP* **P 00 42 04.9 +0.3**
comp=Z,92nm,1.5s,mb5.5
SJPF Ste Jean 86.04 313 *eP* **P 00 42 05.8 +0.9**
comp=Z,29nm,1.1s,mb5.1
ROSF Rostrenen 86.46 318⇑*iP* **P 00 42 07.1 +0.3**
comp=Z,46nm,1.2s,mb5.3
QUIF Quistinic 86.47 318⇑*iP* **P 00 42 06.9 0.0**
comp=Z,48nm,1.2s,mb5.3
SYO Syowa Base 87.41 197 ⇓P **P 00 42 11.4 +0.5**
SYO Syowa Base 87.41 197 ⇓PcP PcP 00 42 13.2 -0.1
EVIA Vianos 87.84 309 P **P 00 42 14.3 +0.6**
comp=Z,7.5nm,0.7s,mb5.0
ENIJ Nijar 87.94 307 P **P 00 42 14.5 +0.3**
comp=Z,3.5nm,0.6s,mb4.8
EHUE Huescar 88.07 308 P **P 00 42 15.1 +0.2**
comp=Z,39nm,1.6s,mb5.4
EQES Quesada 88.45 308 P **P 00 42 17.2 +0.6**
comp=Z,42nm,1.5s,mb5.4
EBER Beria 88.49 307 P **P 00 42 15.8 -1.0**
comp=Z,13nm,1.1s,mb5.1
RPZ Rata Peaks 88.61 135 LR LR 01 23 19.2
comp=Z,772nm,21.6s,MS5.1,baz=246,slow=36
ESDC Sonseca Array 88.74 310 P **P 00 42 18.5 +0.6**
comp=Z,1.9nm,0.6s,mb4.6,baz=64,slow=4.1,SNR=20
ESDC Sonseca Array 88.74 310 P **P 00 42 15.7 -2.3**
comp=Z,7.2nm,0.7s,mb5.1
EBAN Banos Encina 88.92 308 P **P 00 42 19.4 +0.5**
comp=Z,5.2nm,0.9s,mb4.9
EGUA Guajares 89.03 307 P **P 00 42 20.4 +1.0**
EADA Adamuz 89.53 309 P **P 00 42 21.6 -0.2**
comp=Z,46nm,1.1s,mb5.7

IMA Indian Mountai 89.79 22 *eP* **P 00 42 23.6 +1.3**
IMA pmax pmax
comp=Z,180nm,0.8s
IMA Indian Mountai 89.79 22 *eP* **P 00 42 23.6 +1.3**
comp=Z,182nm,0.8s
ECAL Calabor 90.27 313 P **P 00 42 26.2 +1.1**
comp=Z,46nm,1.6s,mb5.6
PBRG Braganca 90.31 313 *eP* **P 00 42 26.4 +1.1**
ESPR Espera 90.82 308 P **P 00 42 28.3 +0.5**
comp=Z,11nm,0.9s,mb5.2
SVW2 Sparrevohn 91.09 27 *eP* **P 00 42 29.6 +1.1**
PVRL Vila Real 91.15 312 *eP* **P 00 42 30.9 +1.6**
comp=Z,20nm,1.7s,mb5.2
EMIN Mina Concepcio 91.23 309 P **P 00 42 29.7 0.0**
comp=Z,30nm,1.1s,mb5.5
MTE Manteigas 91.24 311 *eP* **P 00 42 30.8 +1.0**
comp=Z,60nm,1.4s,mb5.7
MTE epP pP 00 42 44.9 +0.4
MTE Manteigas 91.24 311 *eP* **P 00 42 30.8 +1.1**
comp=Z,32nm,1.6s,mb5.4
ELOB Lobios 91.25 313 P **P 00 42 30.4 +0.7**
comp=Z,6.3nm,0.7s,mb5.0
EBAD Badajoz 91.25 310 P **P 00 42 29.5 -0.4**
comp=Z,32nm,1.2s,mb5.5
STS Santiago 91.33 314 P **P 00 42 30.2 +0.1**
comp=Z,1.9nm,1.2s,mb4.3
PCBR Castelo Branco 91.33 311 *eP* **P 00 42 31.2 +1.0**
comp=Z,26nm,1.2s,mb5.4
PVIS Viseu 91.42 312 *eP* **P 00 42 32.5 +2.0**
comp=Z,24nm,1.5s,mb5.3
SUMG Summit 91.49 347 *eP* **P 00 42 30.6 +0.5**
comp=Z,21nm,1.0s,mb5.4
URZ Urewera 91.79 128 P **P 00 42 32.2 -0.1**
comp=Z,12nm,0.6s,mb5.4,baz=358,slow=5.8,SNR=6.0
URZ LR LR 01 24 08.0
comp=Z,445nm,18.3s,MS4.9,baz=213,slow=36
PBEJ Beja 92.09 309 *eP* **P 00 42 35.2 +1.5**
comp=Z,23nm,1.8s,mb5.2
PTOM Tomar 92.09 311 *eP* **P 00 42 35.6 +2.0**
comp=Z,60nm,1.2s,mb5.8
SPU Mount Spurr 92.60 26 *eP* **P 00 42 35.7 +0.3**
RSO Redoubt South 92.62 27 *eP* **P 00 42 36.0 +0.5**
PTEO Sao Teotonio 92.87 309 *eP* **P 00 42 39.3 +2.0**
comp=Z,47nm,1.6s,mb5.7
ILAR Eielson Array 92.91 22 P **P 00 42 36.2 -0.6**
ILAR pmax pmax
comp=Z,18nm,0.7s
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR MLR MLR
comp=Z,291nm,21.4s
ILAR Eielson Array 92.91 22 P **P 00 42 36.1 -0.6**
comp=Z,18nm,0.7s,mb5.6,baz=296,slow=4.4,SNR=126
ILAR PP PP 00 46 12.7 -10
comp=Z,1.4nm,0.8s,baz=300,slow=8.3,SNR=5.0
ILAR LR LR 01 27 05.1
comp=Z,291nm,21.4s,MS4.7,baz=316,slow=37
SLKM Skilak Lake 93.71 26 *eP* **P 00 42 40.5 0.0**
INK Inuvik 94.95 16 *eP* **P 00 42 46.3 +0.3**
INK pmax pmax
comp=Z,31nm,0.7s
INK Inuvik 94.95 16 P **P 00 42 46.5 +0.5**
comp=Z,29nm,0.6s,mb5.9,baz=337,slow=4.7,SNR=48
INK LR LR 01 32 06.0
comp=Z,536nm,19.8s,MS5.0,baz=286,slow=40
INK Inuvik 94.95 16 *eP* **P 00 42 46.3 +0.3**
comp=Z,31nm,0.7s,mb5.8
VNDA Vanda 95.57 168 P **P 00 42 50.5 +1.8**
VNDA pmax pmax
comp=Z,2.0nm,0.6s
VNDA pmax pmax
comp=Z,1.0nm,0.6s
VNDA MLR MLR
comp=Z,448nm,19.0s
VNDA Vanda 95.57 168 P **P 00 42 50.5 +1.8**
comp=Z,1.6nm,0.6s,mb4.6,baz=301,slow=6.8,SNR=12
VNDA PKKPbc 00 59 40.1
comp=Z,0.8nm,0.6s,baz=275,slow=4.1,SNR=8.2
VNDA LR LR 01 23 49.5
comp=Z,448nm,18.9s,MS5.0,baz=306,slow=34
VNDA Vanda 95.57 168 P **P 00 42 50.5 +1.8**
VNDA PKKPbc 00 59 40.1
VNDA LR LR 01 23 49.5
DBIC Dimbokro 96.44 278 LR LR 01 25 47.0
comp=Z,363nm,20.8s,MS4.8,baz=64,slow=35
AFI Afiamalu 97.49 103 LR LR 01 20 31.3
comp=Z,256nm,21.7s,MS4.7,baz=36,slow=32
SNAA Sanae 101.57 199⇑*iP* 00 47 37.3
SNAA Sanae 101.57 199 *e* Px 00 47 54.7
SNAA Sanae 101.57 199 *e* Px 00 48 02.7
VNA2 Neumayer--Watz 103.09 199⇑*iP* 00 47 44.8
VNA2 Neumayer--Watz 103.09 199 *e* Px 00 47 56.2
VNA2 Neumayer--Watz 103.09 199 *e* Px 00 48 02.1
DLBC Dease Lake 103.12 22 PP PP 00 47 35.5 -5.5
comp=Z,2.3nm,0.8s,baz=277,slow=8.2,SNR=3.4
VNA1 Neumayer--Stat 103.41 200 P 00 47 44.3
VNA1 Neumayer--Stat 103.41 200 *e* Px 00 47 56.2
VNA1 Neumayer--Stat 103.41 200 *e* Px 00 48 04.4
VNA3 Neumayer Olymp 103.79 199 P 00 47 42.6
VNA3 Neumayer Olymp 103.79 199 *e* Px 00 47 54.4
VNA3 Neumayer Olymp 103.79 199 *e* Px 00 48 01.4
YKA Yellowknife Ar 104.30 13 P Pdif 00 43 28.7 +0.5
YKA 00 47 43.2
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA pmax pmax
comp=Z,6.0nm,0.8s
YKA Yellowknife Ar 104.30 13 Pdiff Pdif 00 43 28.7 +0.5
comp=Z,1.2nm,0.7s,baz=333,slow=4.6,SNR=7.6
YKA PP PP 00 47 43.2 -6.3
comp=Z,5.5nm,0.8s,baz=332,slow=8.0,SNR=14
YKA Yellowknife Ar 104.30 13 Pdif Pdif 00 43 28.7 +0.5
YKA PP PP 00 47 43.2 -6.3
SCHQ Schefferville 112.88 347 PKiKP 00 48 01.7
comp=Z,1.9nm,0.8s,baz=290,slow=5.2,SNR=4.5
SCHQ PKKPbc 00 58 48.0
comp=Z,1.9nm,0.6s,baz=220,slow=4.8,SNR=7.1
SCHQ Schefferville 112.88 347 PKPdf PKPdf 00 48 01.7 +2.2
SCHQ PKKPbc 00 58 48.0
NEW Newport 115.86 22 PKIKP PKPdf 00 48 07.8 +2.3
NEW pmax pmax
comp=Z,2.0nm,0.7s
NEW Newport 115.86 22 PKP PKPdf 00 48 07.8 +2.2
comp=Z,1.9nm,0.7s,baz=162,slow=2.8,SNR=5.6
HUMO Hull Mountain 117.91 29 *eP* PKPdf 00 48 11.9 +2.3
MSO Missoula 118.22 21 *eP* PKPdf 00 48 11.5 +1.5
CHMT Chamberlain Mo 118.38 20 *eP* PKPdf 00 48 11.8 +1.4
ULM Lac du Bonnet 119.17 6 PKP PKPdf 00 48 12.3 +0.4
comp=Z,4.7nm,0.6s,baz=7.2,slow=5.0,SNR=4.5
MCMT McKenzie Canyo 120.33 21 *eP* PKPdf 00 48 16.3 +2.0
LAO LASA Array 120.69 15 *eP* PKPdf 00 48 17.4 +2.5
QLMT Earthquake Lak 120.82 20 *eP* PKPdf 00 48 17.9 +2.6
HLID Hailey 120.85 23 *eP* PKPdf 00 48 17.2 +1.9
BEKR Beckwourth 121.27 30 *eP* PKPdf 00 48 19.2 +3.0
YFT Old Faithful 121.36 20 *eP* PKPdf 00 48 20.3 +4.0
YFT *ep*PKPdf 00 48 38.4
IMW Indian Meadow 121.81 20 *eP* PKPdf 00 48 20.6 +3.5
IMW *ep*PKPdf 00 48 35.4
MOOW Moose Ponds 122.01 20 *eP* PKPdf 00 48 19.5 +2.0
MOOW *ep*P 00 48 37.8
RRI2 Red Ridge 122.16 21 *eP* PKPdf 00 48 20.1 +2.3
RRI2 *ep*PKPdf 00 48 38.3
TPAW Teton Pass 122.17 20 *eP* PKPdf 00 48 20.9 +3.0
TPAW *ep*PKPdf 00 48 37.2
LOHW Long Hollow 122.18 20 *eP* PKPdf 00 48 20.1 +2.2
LOHW *e* 00 48 29.2
SNOW Snow King Moun 122.26 20 *eP* PKPdf 00 48 20.1 +2.1
SNOW *ep*PKPdf 00 48 38.7
BMN Battle Mountai 122.28 27 *e*PKPdf PKPdf 00 48 21.2 +3.0
BMN *ep*PKPdf 00 48 39.0
REDW Red Top Meadow 122.31 20 *eP* PKPdf 00 48 19.8 +1.7
REDW *ep*P 00 48 38.5
AHID Auburn Hatcher 122.75 21 *e*PKPdf PKPdf 00 48 21.7 +2.7
ELK Elko 122.88 25 PKP PKPdf 00 48 21.8 +2.5
comp=Z,5.5nm,0.9s,baz=288,slow=1.2,SNR=16
ELK Elko 122.88 25 *eP* PKPdf 00 48 21.0 +1.7
ELK *ep*PKPdf 00 48 40.1
HVU Hansel Valley 123.00 23 *e*PKPdf PKPdf 00 48 22.5 +3.0
HVU *ep*PKPdf 00 48 38.1
PDAR Pinedale Array 123.28 20 PKP PKPdf 00 48 21.8 +1.8
comp=Z,6.0nm,1.0s,slow=1.5,SNR=38
PDAR PKKPbc 00 58 11.3
comp=Z,0.4nm,0.6s,baz=146,slow=5.3,SNR=3.7
HWUT Hardware Ranch 123.60 22 *e*PKPdf PKPdf 00 48 22.3 +1.6
HWUT *ep*PKPdf 00 48 40.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BGU	Big Grassy Mou	123.63	23	ePKPdf	PKPdf	00 48 23.8	+3.0
BGU				epPKPdf		00 48 41.1	
RSSD	Black Hills	123.64	15	ePKIKP	PKPdf	00 48 22.0	+1.3
TCUT	Toone Canyon	124.08	22	ePKPdf	PKPdf	00 48 23.6	+1.9
TCUT				epPKPdf		00 48 41.8	
CTU	Camp Tracy	124.32	23	ePKPdf	PKPdf	00 48 22.6	+0.5
CTU				epPKPdf		00 48 41.9	
MDV	Middlebury	124.47	348	ePKPdf	PKPdf	00 48 23.5	+1.2
JLU	Jordanelle	124.52	22	ePKPdf	PKPdf	00 48 24.9	+2.4
JLU				epPKPdf		00 48 42.0	
SADO	Sadowa	124.68	353	PKP	PKPdf	00 48 23.5	+0.8
	comp=Z,4.7nm,0.6s,baz=333,slow=3.0,SNR=9.2						
SADO	Sadowa	124.68	353	PKP	PKPdf	00 48 23.5	+0.8
NLU	North Lily Min	124.84	23	ePKPdf	PKPdf	00 48 25.4	+2.2
NLU				epPKPdf		00 48 43.1	
RWWY	Rawlins	125.00	18	ePKPdf	PKPdf	00 48 26.0	+2.6
RWWY				epPKPdf		00 48 40.7	
DAC	Darwin (Calif)	125.43	30	ePKPdf	PKPdf	00 48 26.6	+2.3
DAC				epPKPdf		00 48 43.8	
TMUT	Trail Mountain	125.74	23	ePKPdf	PKPdf	00 48 28.4	+3.5
TMUT				epPKPdf		00 48 45.8	
PHWY	Pilot Hill	125.88	17	ePKPdf	PKPdf	00 48 26.6	+1.5
PHWY				epPKPdf		00 48 44.0	
MVU	Marysvale	126.03	24	ePKPdf	PKPdf	00 48 28.8	+3.3
MVU				epPKPdf		00 48 46.8	
SRU	San Rafael	126.16	23	ePKIKP	PKPdf	00 48 27.4	+1.7
ISCO	Idaho Springs	127.22	18	ePKIKP	PKPdf	00 48 28.8	+1.0
NEN	Nelson	127.26	28	ePKPdf	PKPdf	00 48 30.8	+2.8
SMCO	Snowmass	127.36	19	ePKPdf	PKPdf	00 48 30.3	+2.3
PV10	Paradox Valley	127.36	22	ePKPdf	PKPdf	00 48 31.1	+3.0
LDFC	Landfair	127.60	29	ePKPdf	PKPdf	00 48 31.6	+3.0
LDFC				epPKPdf		00 48 49.7	
PV01	Paradox Valley	127.74	21	ePKPdf	PKPdf	00 48 31.8	+3.0
PV01				epPKPdf		00 48 47.6	
PFO	Pinyon Flat Ob	128.10	31	ePKIKP	PKPdf	00 48 32.8	+3.2
SDCO	Great Sand Dun	129.14	19	ePKPdf	PKPdf	00 48 33.5	+2.0
SDCO				epPKPdf		00 48 51.8	
KSU1	Kansas State U	130.01	10	ePKPdf	PKPdf	00 48 34.9	+1.8
KSU1				epPKPdf		00 48 52.7	
SLM	Saint Louis	131.19	3	PKIKP	PKPdf	00 48 37.4	+2.1
ANMO	Albuquerque	131.35	21	PKIKP	PKPdf	00 48 37.9	+2.1
ANMO						00 50 52.6	
ANMO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANMO				pmax	pmax		
	comp=E,9.0nm,0.8s						
ANMO	Albuquerque	131.35	21	PKP	PKPdf	00 48 37.9	+2.1
	comp=E,3.7nm,0.9s,baz=294,slow=1.3,SNR=26						
ANMO				PP	PP	00 50 52.5	-6.4
	comp=E,1.9nm,0.9s,baz=329,slow=5.9,SNR=4.8						
ANMO				SKPbc		00 51 59.7	
	comp=E,9.1nm,0.8s,baz=331,slow=3.3,SNR=15						
ANMO	Albuquerque	131.35	21	ePKPdf	PKPdf	00 48 38.3	+2.6
LAZ	Ladron	131.59	22	ePKPdf	PKPdf	00 48 39.8	+3.5
CCM	Cathedral Cave	131.69	4	ePKIKP	PKPdf	00 48 37.8	+1.5
LENM	Lemitar	131.86	22	ePKPdf	PKPdf	00 48 40.3	+3.5
LENM				epPKPdf		00 48 56.0	
BNM	Barren Site	132.00	22	ePKPdf	PKPdf	00 48 40.1	+3.1
ELN	Prospectdale	132.31	353	ePKPdf	PKPdf	00 48 39.4	+1.9
TZTN	Tazewell	133.25	356	ePKPdf	PKPdf	00 48 40.4	+1.1
TZTN				epPKPdf		00 48 59.7	
GDL2	Guadalupe Moun	134.57	21	ePKPdf	PKPdf	00 48 43.5	+1.6
PLAL	Pickwick Lake	134.91	1	ePKPdf	PKPdf	00 48 43.3	+0.9
TXAR	Lajitas Array	137.42	22	PKHKP		00 48 40.8	
TXAR						00 48 47.4	
TXAR						00 51 29.2	
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR				pmax	pmax		
	comp=E,6.0nm,0.8s						
TXAR	Lajitas Array	137.42	22	PKhKP		00 48 40.8	
	comp=E,1.7nm,0.6s,baz=257,slow=0.6,SNR=11						
TXAR				PKP	PKPdf	00 48 47.4	+0.2
	comp=E,1.4nm,0.4s,SNR=11						
TXAR				PP	PP	00 51 29.2	-7.6
	comp=E,1.3nm,0.6s,slow=3.8,SNR=4.7						
TXAR				SKPbc		00 52 18.3	
	comp=E,5.7nm,0.8s,baz=274,slow=1.8,SNR=9.7						
TXAR	Lajitas Array	137.42	22	PKP	PKPdf	00 48 47.4	+0.2
TXAR				PP	PP	00 51 29.2	-7.6
TXAR				SKPbc		00 52 18.3	
BDFB	Brasilia	141.64	258	PKIKP	PKPdf	00 48 55.7	+0.6
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BDFB				pmax	pmax		
	comp=E,7.0nm,1.1s						
BDFB	Brasilia	141.64	258	PKP	PKPdf	00 48 55.7	+0.5
	comp=E,2.9nm,0.6s,baz=153,slow=2.5,SNR=4.2						
BDFB				SKPbc		00 52 28.6	
	comp=E,7.0nm,1.1s,baz=137,slow=7.6,SNR=3.7						
TRQA	Tornquist	144.40	215	ePKPdf	PKPdf	00 48 59.2	-0.1
SJG	San Juan	145.00	324	ePKIKP	PKPdf	00 49 01.4	+0.5
CJM	Chamela	145.45	31	eP	PKPdf	00 49 02.7	+1.1
SFJM	Santa Fe	145.56	27	eP	PKPdf	00 49 04.0	+2.2
PLCA	Paso Flores	146.40	203	PKP2	PKPab	00 49 06.0	-1.1
PLCA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PLCA	Paso Flores	146.40	203	PKPbc	PKPbc	00 49 06.0	+2.1
	comp=Z,10nm,0.8s,baz=188,slow=4.2,SNR=14						
MOIG	Morelia	147.08	25	eP	PKPdf	00 49 06.8	+2.4
CPUP	Villa Florida	147.73	236	ePKIKP	PKPdf	00 49 07.2	+1.9
CPUP	Villa Florida	147.73	236	PKPbc	PKPdf	00 49 08.4	+3.1
	comp=Z,5.4nm,0.7s,baz=155,slow=9.7,SNR=15						
PPM	Popocatepetl	148.62	21	eP	PKPdf	00 49 10.0	+3.1
YAIG	Yautepec	148.65	22	eP	PKPdf	00 49 11.9	+5.0
PLIG	Platanillo	148.91	23	eP	PKPdf	00 49 13.5	+6.1
ACX	Acapulco	150.12	25	iP	PKPdf	00 49 16.0	+6.7
SDV	Santo Domingo	154.86	319	ePKPdf	PKPdf	00 49 18.2	+2.0
SAML	Samuel	156.43	271	ePKPdf	PKPdf	00 49 20.6	+2.4
ROSC	El Rosal	160.29	319	PKP	PKPdf	00 49 26.6	+3.7
	comp=Z,9.9nm,0.9s,baz=281,slow=21,SNR=8.1						
ROSC				PKPab	PKPab	00 50 07.2	+1.1
	comp=Z,3.8nm,0.4s,baz=94,slow=18,SNR=4.5						
LPAZ	La Paz	160.67	250	PKIKP	PKPdf	00 49 26.5	+3.3
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LPAZ	La Paz	160.67	250	PKP	PKPdf	00 49 26.5	+3.3
	comp=Z,4.6nm,0.6s,baz=39,slow=1.8,SNR=26						

*BJI **13** 00:48:27.6, 0.52S×97.03E, h40km, mB5.0, mb4.7, Ms4.4, Msz4.1*
*NEIC **13** 00:48:30.4±0.4, 0.18S×97.30E, mb4.6/8, Error ellipse: s-maj=10.9km s-min=7.8km az=53.0*
*IDC **13** 00:48:30.7±0.5, 0.18S×97.27E, h23km±3km, mb4.2/17, mb1 4.4/18, mb1mx4.3/21, mbtmp4.4/18, ML4.4/1, Error ellipse: s-maj=21.6km s-min=10.6km az=47.0*
ISC 13 00:48:28.9±0.5**, 0.16S**±0.06×**97.36E**±0.08**, h24**km**, h24**km±1.2km**:pP-P, n43, σ0.83**/40**, mb4.4**/25**, MS4.2**/2**, 1C-1D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.33	31	eP	Pn	00 50 02.3	-1.0
BDT	Bhumibol Dam	17.37	5	P	P	00 52 32.5	+0.9
CMAR	Chiang Mai Arr	18.57	5	P	P	00 52 45.1	-1.4
	0.5nm,0.3s,baz=192,slow=11,SNR=43						
CHG	Chiang Mai	18.92	5	⇓P	P	00 52 51.6	+0.9
	12nm,0.7s						
NANT	Nan	19.12	10	P	P	00 52 54.0	+0.8
	125nm,0.9s						
KKM	Kota Kinabalu	19.80	72	eP	P	00 53 00.4	-0.4
KMI	Kunming	25.67	11	P	P	00 54 00.0	+1.1
KMI				AP	pP	00 54 07.7	+1.7
KMI				XP	sP	00 54 11.3	+2.1
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.2						
KMI	Kunming	25.67	11	P	P	00 54 00.0	+1.1
	comp=Z,8.0nm,1.0s,mb4.2						
KMI				pP	pP	00 54 07.7	+1.7
KMI				sP	sP	00 54 11.3	+2.1
ENH	Enshi	32.39	20	eP	P	00 54 58.8	-0.4
	comp=Z,15nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	33.02	124	eP	P	00 55 04.3	-0.5
	comp=Z,12nm,0.9s,mb4.8						
FITZ				e	pP	00 55 11.5	-0.4
FITZ	Fitzroy Crossi	33.02	124	P	P	00 55 04.2	-0.5
	comp=Z,20nm,0.8s,mb5.1,baz=306,slow=2.7,SNR=20						
FITZ				pP	pP	00 55 11.4	-0.6
	comp=Z,23nm,0.8s,baz=255,slow=2.3,SNR=10						
XAN	Xi'an	35.71	17	P	P	00 55 27.6	-0.2
XAN				AMB	AMB		
	comp=Z,23nm,0.8s,mb5.2						
GTA	Gaotai	39.44	3	eP	P	00 56 00.0	+0.9
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
GTA				AMB	AMB		
	comp=Z,89nm,3.9s						
GTA				LR	LR		
	comp=N,166nm,14.3s,MS4.2						
GTA				LR	LR		
	comp=E,212nm,14.0s,MS4.2						
GTA				LR	LR		
	comp=Z,157nm,14.6s,MS4.0						
WRA	Warramunga Arr	41.19	121	P	P	00 56 13.8	+0.2
	comp=Z,11nm,0.7s,mb4.6,baz=303,slow=8.8,SNR=84						
WRA				pP	pP	00 56 21.5	+0.7
	comp=Z,13nm,0.8s,baz=301,slow=8.9,SNR=19						
WRAB	Tennant Creek	41.20	121	eP	P	00 56 13.8	+0.1
	comp=Z,16nm,0.8s,mb4.7						
WRAB				epP	pP	00 56 21.4	+0.4
WB2	Warramunga Arr	41.20	121	⇑iP	P	00 56 13.8	+0.1
WB2				e	pP	00 56 21.3	+0.4
WMQ	Urumqi	44.63	350	eP	P	00 56 41.3	-0.2
WMQ				AP	pP	00 56 51.2	+2.5
WMQ				XP	sP	00 56 55.1	+3.4
WMQ				PP	PP	00 58 26.6	-0.2
WMQ				S	S	01 03 14.4	-1.1
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,45nm,6.8s						
WMQ				LR	LR		
	comp=N,232nm,18.3s,MS4.2						
WMQ				LR	LR		
	comp=E,121nm,17.6s,MS4.2						
WMQ				LR	LR		
	comp=Z,286nm,18.2s,MS4.2						
SONM	Songino Array	48.45	8	P	P	00 57 12.2	+0.8
	comp=Z,1.5nm,0.6s,mb4.2,baz=195,slow=9.1,SNR=12						
MKAR	Makanchi Array	48.59	346	P	P	00 57 13.0	+0.4
	comp=Z,12nm,0.6s,mb5.1,baz=155,slow=8.0,SNR=137						
MKAR				pP	pP	00 57 20.2	+0.3
	comp=Z,19nm,0.6s,baz=155,slow=7.9,SNR=32						
PMG	Port Moresby	50.40	102	P	P	00 57 27.2	+0.3
	comp=Z,18nm,0.8s,mb5.1,baz=270,slow=5.4,SNR=4.6						
CTA	Charters Tower	51.76	116	P	P	00 57 37.7	+0.5
	comp=Z,2.9nm,0.7s,mb4.3,baz=268,slow=11,SNR=4.0						
CTA				pP	pP	00 57 46.5	+1.9
	comp=Z,4.2nm,0.7s,baz=278,slow=7.4,SNR=3.5						
CTA	Charters Tower	51.76	116	P	P	00 57 37.7	+0.5
CTA				pP	pP	00 57 46.5	+1.9
CTAO	Charters Tower	51.76	116	eP	P	00 57 36.5	-0.7
	comp=Z,3.4nm,0.7s,mb4.4						
STKA	Stephens Creek	52.33	131	eP	P	00 57 42.1	+0.7
	comp=Z,6.2nm,0.6s,mb4.7						
STKA				e	pP	00 57 49.3	+0.5
STKA	Stephens Creek	52.33	131	P	P	00 57 41.9	+0.5
	comp=Z,7.4nm,0.7s,mb4.8,baz=308,slow=7.3,SNR=4.1						
STKA				pP	pP	00 57 49.4	+0.6
	comp=Z,7.6nm,0.6s,baz=314,slow=7.0,SNR=8.0						
MJAR	Matsushiro Arr	52.59	42	P	P	00 57 42.0	-1.2
	comp=Z,0.8nm,0.2s,mb4.2,baz=220,slow=6.4,SNR=6.2						
ZAL	Zalesovo	54.91	351	P	P	00 57 59.9	-0.2
	comp=Z,5.0nm,0.5s,mb4.8,baz=306,slow=6.3,SNR=22						
ZAL				pP	pP	00 58 06.8	-0.7
	comp=Z,7.5nm,0.4s,baz=319,slow=5.0,SNR=5.6						
ZRNK	Zerenda	57.98	340	eP	P	00 58 19.2	-2.7
	comp=Z,2.4nm,0.9s,mb4.2						
BRTR	Keskin Array B	70.14	313	P	P	00 59 41.0	-0.7
	comp=Z,0.2nm,0.3s,mb3.5,baz=67,slow=11,SNR=3.0						
BRTR				pP	pP	00 59 47.5	-1.8
	comp=Z,0.7nm,0.7s,baz=138,slow=7.9,SNR=4.3						
MATP	Matopo	70.17	248	P	P	00 59 42.1	-0.1
	comp=Z,1.7nm,0.7s,mb4.1,baz=80,slow=6.4,SNR=6.4						
BOSA	Boshof	74.25	240	P	P	01 00 05.6	-0.8
	comp=Z,1.5nm,0.9s,mb3.9,baz=74,slow=11,SNR=3.0						
BOSA	Boshof	74.25	240	P	P	01 00 05.6	-0.8
AKASG	Malin Array Be	76.43	323	P	P	01 00 17.7	-0.6
	comp=Z,1.8nm,0.6s,mb4.2,baz=90,slow=4.8,SNR=5.1						
FINES	FINESS Array B	81.27	333	P	P	01 00 44.5	+0.1
	comp=Z,1.9nm,0.8s,mb4.1,baz=162,slow=6.0,SNR=5.1						
FINES				pP	pP	01 00 51.7	-0.4
	comp=Z,1.3nm,0.6s,baz=135,slow=2.7,SNR=3.6						
KAF	Kangasniemi	81.36	333	ep	P	01 00 44.3	-0.6
	comp=Z,3.1nm,0.7s,mb4.3						
ARCES	ARCESS Array B	83.86	340	P	P	01 00 57.9	+0.3
	comp=Z,4.7nm,1.0s,mb4.6,baz=117,slow=2.7,SNR=5.1						
VNDA	Vanda	84.47	169	pP	pP	01 01 07.8	-0.5
	comp=Z,0.8nm,0.8s,baz=278,slow=6.4,SNR=3.4						
GERES	GERESS Array B	85.94	319	P	P	01 01 09.3	+0.8
	comp=Z,1.1nm,0.8s,mb4.1,baz=121,slow=7.8,SNR=5.4						
GERES				pP	pP	01 01 16.3	+0.1
	comp=Z,0.8nm,0.7s,baz=90,slow=2.7,SNR=5.6						
NOA	NORSAR Array B	88.27	331	P	P	01 01 21.5	+2.1
	comp=Z,0.5nm,0.7s,mb3.9,baz=96,slow=4.5,SNR=2.9						
NOA				pP	pP	01 01 26.9	-0.3
	comp=Z,1.2nm,0.8s,baz=96,slow=4.8,SNR=3.9						
NOA	NORSAR Array B	88.27	331	P	P	01 01 21.5	+2.1
NOA				pP	pP	01 01 26.9	-0.3
CPUP	Villa Florida	144.10	221	ePKPdf	PKPdf	01 08 02.8	-5.2
TXAR	Lajitas Array	144.72	33	PKP	PKPdf	01 08 06.2	-2.8
	comp=Z,1.6nm,0.7s,baz=287,slow=1.0,SNR=13						
PLAL	Pickwick Lake	144.99	8	ePKPdf	PKPdf	01 08 04.6	-4.7
PLAL				e		01 08 11.7	

IDC 13 01:09:38.0±1.6**, 1.20N**×**96.55E, mb3.9**/6**, mb1 4.0**/7**, mb1mx3.8**/20**, mbtmp3.8**/7**, ML3.9**/1**, Error ellipse: s-maj=63.2km s-min=27.1km az=51.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.31	8	P	P	01 13 41.0	-1.8
	0.1nm,0.3s,baz=188,slow=14,SNR=3.2						
WRA	Warramunga Arr	42.59	122	P	P	01 17 36.1	-1.7
	0.4nm,0.6s,baz=302,slow=9.0,SNR=5.4						
MKAR	Makanchi Array	47.09	347	P	P	01 18 12.3	-1.2
	2.2nm,0.7s,baz=162,slow=7.7,SNR=18						
ZAL	Zalesovo	53.45	351	P	P	01 19 00.1	-1.9
	1.1nm,0.4s,baz=343,slow=5.9,SNR=4.9						
BVAR	Borovoye Array	56.04	341	P	P	01 19 17.2	-3.7
	0.9nm,0.6s,baz=139,slow=8.6,SNR=8.2						
BRTR	Keskin Array B	68.63	312	P	P	01 20 43.7	-1.6
	0.6nm,0.8s,baz=131,slow=39,SNR=3.2						
ARCES	ARCESS Array B	82.32	340	P	P	01 22 01.2	-1.4
	2.8nm,0.9s,baz=67,slow=6.9,SNR=3.8						

IDC 13 01:10:23.2±1.2**, 51.03N**×**30.16W, mb3.6**/5**, mb1 3.8**/6**, mb1mx3.5**/28**, mbtmp3.6**/6**, ML3.6**/1**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.9**/26**, Error ellipse: s-maj=43.5km s-min=26.9km az=2.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EKA	Eskdalemuir Ar	16.70	65	Pn	P	01 14 19.4	-0.4
	0.1nm,0.3s,baz=273,slow=13,SNR=5.8						
ESDC	Sonseca Array	21.51	112	P	P	01 15 13.0	-2.6
	0.8nm,0.6s,baz=312,slow=9.5,SNR=7.3						
GERES	GERESS Array B	28.01	77	LR	LR	01 28 15.0	
	comp=Z,154nm,18.9s,baz=254,slow=38						
BRTR	Keskin Array B	44.88	79	P	P	01 18 39.6	-1.1
	0.7nm,0.9s,baz=282,slow=7.0,SNR=4.0						
PDAR	Pinedale Array	52.40	294	P	P	01 19 37.2	-1.8
	0.3nm,0.6s,baz=73,slow=9.4,SNR=3.7						
BVAR	Borovoye Array	56.76	45	P	P	01 20 08.3	-2.4
	1.1nm,0.5s,baz=311,slow=6.1,SNR=6.5						
MKAR	Makanchi Array	66.57	44	P	P	01 21 14.5	-2.1
	0.3nm,0.5s,baz=342,slow=4.6,SNR=3.7						
WRA	Warramunga Arr	146.65	27	PKPbc	PKPbc	01 30 05.7	-0.7
	1.3nm,0.7s,baz=339,slow=3.1,SNR=21						
VNDA	Vanda	153.02	186	PKPbc	PKPdf	01 30 21.0	+5.9
	0.8nm,0.7s,baz=247,slow=2.7,SNR=6.8						

IDC 13 01:13:47.9±1.6**, 42.45N**×**105.59E, mb3.4**/1**, mb1 3.7**/4**, mb1mx3.4**/20**, mbtmp3.4**/4**, ML3.4**/3**, Error ellipse: s-maj=46.4km s-min=21.6km az=78.0, Mongolia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	5.41	6	Pn	Pn	01 15 10.3	-1.5
	0.7nm,0.3s,baz=187,slow=14,SNR=11						
SONM				Lg		01 16 39.0	
	2.3nm,0.3s,baz=208,slow=28,SNR=4.5						
MKAR	Makanchi Array	17.12	293	Pn	P	01 17 46.2	-3.8
	0.1nm,0.3s,baz=90,slow=12,SNR=4.7						
ZAL	Zalesovo	17.92	317	P	P	01 18 00.0	0.0
	0.4nm,0.3s,baz=322,slow=7.1,SNR=5.8						
WRA	Warramunga Arr	67.52	151	P	P	01 24 45.9	-2.2
	0.2nm,0.4s,baz=343,slow=7.2,SNR=9.1						

*IDC **13** 01:19:34.3±1.2, 59.20N×139.39W, mb3.7/5, mb1 4.0/9, mb1mx3.8/23, mbtmp3.7/9, ML3.7/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/24, Error ellipse: s-maj=26.7km s-min=11.8km az=32.0*
*BJI **13** 01:19:36.7, 60.16N×139.34W, h3km, mB4.4, mb4.6, Ms4.1, Msz4.0*
*NEIC **13** 01:19:40.0, 59.64N×138.94W, h4km, mb3.6/2, ML4.0(PMR), ML3.9(AEIC), After AEIC.*
*PGC **13** 01:19:41.5, 59.59N×138.49W, h10km, ML4.0/3, Southeastern Alaska.*
ISC 13 01:19:39.1±0.5**, 59.57N**±0.04×**139.04W**±0.06**, h28**km±4km**, h11**km±.6km**:pP-P, n60, σ1.35**/68**, mb4.0**/10**, MS3.9**/2**, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNL	Peninsula	0.21	299	P	Pb	01 19 44.8	-0.4
PNL				S	Sb	01 19 49.1	-0.2
YKU2	Yakutat	0.33	260	eP	Pb	01 19 47.7	+0.9
HYT	Haines Junctio	1.47	31	P	Pn	01 20 05.0	+0.9
HYT				S	Sn	01 20 23.8	+1.2
HYT				Trac		01 20 26.7	
	comp=Z,3µm,0.6s						
YAH	Yahtse	1.58	301	P	Pn	01 20 07.1	+1.5
WHY	Whitehorse	2.35	60	P	Pn	01 20 17.1	+0.4
WHY				S	Sn	01 20 45.6	+0.7
WHY	Whitehorse	2.35	60	Pn	Pn	01 20 16.3	-0.4
WHY				Pg	Pn	01 20 20.9	+4.3
WHY				Sg	Sn	01 20 46.3	+1.5
WHY				Trac		01 20 46.6	
	comp=Z,347nm,0.3s						
BESE	Bessie Mountai	2.38	113	P	Pn	01 20 17.3	+0.3
BESE				S	Sn	01 20 48.0	+2.5
GLB	Gilahina Butte	3.02	311	P	Pn	01 20 26.8	+0.7
GLB				S	Sn	01 21 03.5	+1.8
BMRM	Bremner River	3.11	299	P	Pn	01 20 28.5	+1.0
SIT	Sitka	3.19	141	eP	Pn	01 20 27.5	-1.1
SIT				eS	Sn	01 21 15.3	+9.2
DIV	Divide	3.69	298	P	Pn	01 20 36.2	+0.4
VLZ	Valdez	3.95	297	P	Pn	01 20 40.6	+1.3
SCM	Sheep Creek Mo	4.66	303	P	Pn	01 20 50.4	+0.8
DLBC	Dease Lake	4.79	100	Pn	Pn	01 20 49.6	-1.7
	1.4nm,0.3s,baz=265,slow=10,SNR=15						
DLBC				Lg		01 22 03.8	
	7.9nm,0.3s,baz=174,slow=21,SNR=6.4						
DLBC				LR	LR	01 22 59.2	
	comp=Z,206nm,19.5s,baz=306,slow=42						
DLBC	Dease Lake	4.79	100	P	Pn	01 20 49.8	-1.6
DLBC	Dease Lake	4.79	100	Pn	Pn	01 20 49.4	-2.0
DLBC				Pg	Pn	01 21 02.1	+11
DLBC				Sg	Sb	01 22 02.9	+2.9
DLBC				Trac		01 22 19.7	
	comp=Z,82nm,0.5s						
PMR	Palmer	5.38	296	eP	Pn	01 21 01.3	+1.7
SLKM	Skilak Lake	5.69	284	eP	Pn	01 21 02.6	-1.3
PWA	Palmer West	5.73	296	eP	Pn	01 21 05.7	+1.1
BRLK	Bradley Lake	6.01	277	P	Pn	01 21 08.3	-0.2
ILAR	Eielson Array	6.38	328	Pn	Pn	01 21 11.7	-2.1
	1.4nm,0.3s,baz=150,slow=13,SNR=37						
ILAR				Lg		01 22 58.2	
	0.5nm,0.3s,baz=129,slow=25,SNR=5.8						
NDB	Naden	6.55	147	Pn	Pn	01 21 15.9	-0.2
RSO	Redoubt South	6.94	283	eP	Pn	01 21 20.9	-0.6
KTH	Kantishna Hill	6.94	310	P	Pn	01 21 21.8	+0.2
RUBB	Prince Rupert	7.12	134	Trac		01 23 30.7	
	comp=Z,24nm,0.7s						
RUBB	Prince Rupert	7.12	134	Sg	Sb	01 23 17.6	+10
VIB	Van Inlet	7.28	148	Pn	Pn	01 21 23.9	-2.5
VIB				Trac		01 23 07.1	
	comp=Z,7.0nm,0.5s						
KDAK	Kodiak Island	7.29	262	P	Pn	01 21 24.8	-1.6
MOBC	Moresby Island	7.51	145	Pn	Pn	01 21 31.5	+1.9
BNAB	Bonilla	7.65	139	Pn	Pn	01 21 32.4	+0.8
BNB	Barry Inlet	8.10	147	Pn	P	01 21 39.9	+2.0
FNBB	Fort Nelson	8.25	88	Pn	P	01 21 40.0	+0.2
FNBB				Sg	Sb	01 23 48.9	+9.0
FNBB				Trac		01 24 01.2	
	comp=Z,25nm,0.9s						
BM3	Burnt Mountain	8.26	345	P	P	01 21 36.8	-3.3
TT01	Tatalina	8.84	299	P	P	01 21 45.1	-3.0
INK	Inuvik	9.10	13	Pn	P	01 21 51.6	0.0
	0.3nm,0.3s,baz=208,slow=9.9,SNR=4.1						
INK				Lg		01 24 26.8	
	0.4nm,0.3s,baz=301,slow=21,SNR=6.7						
INK	Inuvik	9.10	13	eP	P	01 21 50.8	-0.9
INK	Inuvik	9.10	13	Trac		01 24 35.0	
	comp=Z,18nm,0.8s						
IM3	Indian Mountai	9.30	320	P	P	01 21 52.5	-1.9
IMA	Indian Mountai	9.33	320	eP	P	01 21 54.9	+0.1
BMBC	Bull Mountain	9.68	104	Trac		01 24 51.6	
	comp=Z,17nm,0.8s						
BMBC	Bull Mountain	9.68	104	Sg	Sb	01 24 39.4	+18
YKW3	Yellowknife Ar	12.17	65	Trac		01 26 06.5	
	comp=Z,10.0nm,1.1s						
YKW3	Yellowknife Ar	12.17	65	P	P	01 22 29.0	-4.4
YKW3				Trac		01 26 12.5	
	comp=Z,32nm,1.3s						
YKA	Yellowknife Ar	12.17	66	Pn	P	01 22 30.7	-2.7
	0.3nm,0.3s,baz=267,slow=13,SNR=7.6						
YKA				Lg		01 25 58.8	
	0.1nm,0.3s,baz=266,slow=27,SNR=3.9						
YKA	Yellowknife Ar	12.17	66	Pn	P	01 22 30.7	-2.7
YKA				Lg		01 25 58.8	
EDM	Edmonton	15.51	103	P	P	01 23 14.7	-2.5
NEW	Newport	17.07	122	P	P	01 23 35.9	-1.2
FFC	Flin Flon	20.48	87	P	P	01 24 16.5	-0.5
	1.3nm,0.6s						
IMW	Indian Meadow	23.17	120	P	P	01 24 45.9	+2.1
	2.1nm,0.7s,mb3.7						
BW06	Boulder Array	24.68	120	P	P	01 25 00.5	+2.0
PDAR	Pinedale Array	24.68	120	P	P	01 24 57.0	-1.5
	0.7nm,1.0s,mb3.1,baz=326,slow=5.3,SNR=4.6						
TXAR	Lajitas Array	38.56	126	P	P	01 26 56.1	-4.8
	0.3nm,0.5s,mb3.3,baz=281,slow=6.4,SNR=3.5						
MDJ	Mudanjiang	53.58	297	P	P	01 28 57.8	-1.5
MDJ				AP	pP	01 29 00.9	-7.0
MDJ				XP	sP	01 29 02.3	-9.0
MDJ				PCP	PcP	01 30 04.8	-0.8
MDJ				PP	PP	01 30 58.4	-3.1
MDJ				SCP		01 34 02.6	
MDJ				PCS		01 34 03.9	
MDJ				S	S	01 36 30.6	+1.6
MDJ				SCS	ScS	01 38 45.1	+1.9
MDJ				SS	SS	01 40 06.3	-2.6
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,40nm,5.2s						
MDJ				LR	LR		
	comp=N,76nm,20.7s,MS3.8						
MDJ				LR	LR		
	comp=E,48nm,19.6s,MS3.8						
MDJ				LR	LR		
	comp=Z,114nm,16.4s,MS4.0						
CN2	Changchun	56.07	300	eP	P	01 29 18.3	+0.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
SONM	Songino Array	60.43	315	P	P	01 29 47.9	0.0
	comp=Z,0.6nm,0.7s,mb3.7,baz=27,slow=8.3,SNR=4.6						
SSE	Sheshan	68.40	295	eP	P	01 30 38.9	-1.0
SSE				AP	pP	01 30 42.7	-6.0
SSE				PCP	PcP	01 31 04.6	-0.6
SSE				S	S	01 39 39.8	+1.9
SSE				XS		01 39 45.7	
SSE				AMB	AMB		
	comp=Z,17nm,3.7s						
SSE				LR	LR		
	comp=N,71nm,20.0s,MS4.0						
SSE				LR	LR		
	comp=E,39nm,19.9s,MS4.0						
SSE				LR	LR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,70nm,21.4s,MS3.9						
NJ2	Nanjing	68.66	297	eP	P	01 30 41.6	+0.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
AKASG	Malin Array Be	69.67	8	P	P	01 30 46.6	-0.8
	comp=Z,0.5nm,0.4s,mb3.8,baz=352,slow=6.3,SNR=6.4						
LZH	Lanzhou	71.53	311	eP	P	01 30 58.7	-0.2
LZH				AP	pP	01 31 01.9	-5.9
LZH				XP	sP	01 31 03.5	-7.4
LZH				PP	PP	01 33 38.7	-0.9
LZH				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
LZH				AMB	AMB		
	comp=Z,20nm,4.5s						
CMAR	Chiang Mai Arr	89.16	306	P	P	01 32 32.4	-0.7
	comp=Z,0.9nm,0.4s,mb4.4,baz=1.2,slow=5.0,SNR=6.6						

IDC 13 01:31:02.9±2.6, 2.39N×95.79E, mb3.7/5, mb1 3.9/6, mb1mx3.7/20, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=95.8km s-min=26.4km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.27	11	Pn	P	01 34 54.4	-0.1
	0.2nm,0.3s,baz=194,slow=12,SNR=6.1						
WRA	Warramunga Arr	43.85	122	P	P	01 39 11.3	-1.6
	1.9nm,1.3s,baz=299,slow=9.3,SNR=2.9						
MKAR	Makanchi Array	45.77	347	P	P	01 39 26.5	-1.5
	1.0nm,0.4s,baz=156,slow=9.0,SNR=17						
SONM	Songino Array	46.19	10	P	P	01 39 29.0	-2.3
	0.5nm,0.4s,baz=193,slow=9.0,SNR=6.8						
ZAL	Zalesovo	52.17	352	P	P	01 40 15.1	-2.3
	1.3nm,0.5s,baz=298,slow=5.8,SNR=4.2						
BVAR	Borovoye Array	54.68	341	P	P	01 40 33.1	-2.9
	0.6nm,0.6s,baz=225,slow=38,SNR=1.9						

IDC 13 01:31:17.3±2.6, 2.38N×95.95E, mb4.0/5, mb1 4.1/6, mb1mx3.8/20, mbtmp4.0/6, ML4.1/1, Error ellipse: s-maj=93.3km s-min=28.1km az=57.0
NEIC 13 01:31:21.2±1.1, 2.26N×96.17E, h30km, mb4.5/2, Error ellipse: s-maj=25.3km s-min=14.1km az=45.0
ISC 13 01:31:17.8±1.3, 2.1N±0.2×96.2E±0.1, h30km, n13, σ0.67/13, mb4.2/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.46	54	eP	Pn	01 32 39.5	+0.2
CMAR	Chiang Mai Arr	16.49	9	Pn	P	01 35 08.6	-0.2
	0.3nm,0.3s,baz=194,slow=10,SNR=6.7						
PKI	Pulchoki	27.36	339	eP	P	01 37 03.6	+1.1
GUN	Gumba	27.51	340	eP	P	01 37 04.9	+1.0
KKN	Kakani	27.61	339	eP	P	01 37 05.6	+0.8
GKN	Gorkha	28.04	338	eP	P	01 37 08.3	-0.4
	7.9nm,0.4s,mb4.7						
KOLN	Koldanda	28.24	336	eP	P	01 37 10.2	-0.3
	12nm,0.6s,mb4.7						
WRA	Warramunga Arr	43.35	122	P	P	01 39 24.7	+5.2
	0.3nm,0.5s,mb3.3,baz=300,slow=9.2,SNR=4.6						
WRAB	Tennant Creek	43.36	122	P	P	01 39 19.7	+0.2
MKAR	Makanchi Array	46.15	347	P	P	01 39 41.1	-0.4
	3.0nm,0.4s,mb4.6,baz=155,slow=8.9,SNR=31						
SONM	Songino Array	46.41	9	P	P	01 39 43.5	0.0
	1.3nm,0.5s,mb4.1,baz=190,slow=9.6,SNR=9.5						
ZAL	Zalesovo	52.52	352	P	P	01 40 29.6	-0.9
	2.0nm,0.4s,mb4.4,baz=315,slow=4.6,SNR=8.1						
BVAR	Borovoye Array	55.09	341	P	P	01 40 48.2	-1.1
	0.5nm,0.4s,mb3.9,baz=180,slow=7.4,SNR=4.4						

IDC 13 01:44:36.2±2.0, 56.89S×147.09E, mb3.9/3, mb1 4.2/3, mb1mx4.0/11, mbtmp4.0/3, MS4.0/7, Ms1 3.9/7, ms1mx3.8/15, Error ellipse: s-maj=176.4km s-min=25.9km az=80.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	Rata Peaks	20.06	59	LR	LR	01 55 06.5	
	comp=Z,544nm,19.4s,baz=263,slow=31						
VNDA	Vanda	21.36	171	P	P	01 49 24.4	-2.4
	2.1nm,0.9s,baz=343,slow=12,SNR=6.3						
VNDA				LR	LR	01 56 54.5	
	comp=Z,202nm,18.1s,baz=343,slow=35						
STKA	Stephens Creek	25.29	349	P	P	01 50 05.3	-0.3
	14nm,1.2s,baz=166,slow=13,SNR=6.8						
STKA				LR	LR	01 57 29.8	
	comp=Z,149nm,18.9s,baz=19,slow=31						
URZ	Urewera	27.18	60	LR	LR	02 01 01.3	
	comp=Z,344nm,18.0s,baz=212,slow=36						
NWAO	Narrogin (SRO)	31.50	307	LR	LR	02 00 58.9	
	comp=Z,226nm,21.6s,baz=7.1,slow=31						
MAW	Mawson	37.51	219	LR	LR	02 05 34.2	
	comp=Z,346nm,21.9s,baz=134,slow=34						
WRA	Warramunga Arr	38.09	340	P	P	01 51 55.5	-2.8
	1.8nm,0.7s,baz=167,slow=7.6,SNR=20						
BOSA	Boshof	81.74	229	LR	LR	02 29 35.8	
	comp=Z,97nm,18.2s,baz=222,slow=33						
FINES	FINESS Array B	150.34	304	PKPbc	PKPdf	02 04 27.1	+2.7
	0.6nm,0.7s,baz=146,slow=21,SNR=2.8						
GERES	GERESS Array B	151.24	274	PKPbc	PKPdf	02 04 31.0	+4.9
	0.5nm,0.6s,baz=142,slow=37,SNR=2.8						

IDC 13 02:08:22.6±7.0, 8.59S×120.55E, h242km±75km, mb3.1/3, mb1 3.0/4, mb1mx3.0/17, mbtmp3.6/4, Error ellipse: s-maj=101.9km s-min=18.7km az=53.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.48	132	P	P	02 12 10.0	-2.5
	0.2nm,0.3s,baz=302,slow=14,SNR=14						
WRA				S	S	02 15 20.3	+3.3
	0.1nm,0.3s,baz=320,slow=24,SNR=5.5						
STKA	Stephens Creek	30.32	143	P	P	02 14 11.7	-2.2
	1.1nm,0.5s,baz=312,slow=11,SNR=4.6						
SONM	Songino Array	57.56	349	P	P	02 17 48.6	-0.4
	0.1nm,0.4s,baz=166,slow=8.6,SNR=4.8						
MKAR	Makanchi Array	64.80	332	P	P	02 18 33.9	-3.6
	0.2nm,0.4s,baz=146,slow=5.2,SNR=3.6						

BJI 13 02:16:23.6, 5.30N×94.20E, h30km, mb4.4
NEIC 13 02:16:26.6±0.5, 5.34N×94.25E, h30km, mb4.5/7, Error ellipse: s-maj=15.0km s-min=8.0km az=49.0
IDC 13 02:16:30.0±0.8, 5.52N×94.50E, h53km±5km, mb4.0/14, mb1 4.0/14, mb1mx3.9/24, mbtmp4.3/14, Error ellipse: s-maj=35.7km s-min=13.6km az=50.0
ISC 13 02:16:28.2±0.6, 5.42N±0.08×94.41E±0.08, h55km, h55km±2.0km:pP-P, n37, σ0.89/35, mb4.4/24, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	6.21	91	eP	P	02 17 59.3	-0.2
SNG	Songkhla	6.41	74	P	P	02 18 02.0	-0.2
CMAR	Chiang Mai Arr	13.69	18	P	P	02 19 42.9	+1.5
	0.6nm,0.3s,baz=208,slow=15,SNR=11						
CHG	Chiang Mai	14.03	18	⇑P	P	02 19 49.3	+3.5
	14nm,0.7s						
KMI	Kunming	21.16	21	P	P	02 21 12.0	+1.1
KMI				AP		02 21 21.3	
KMI				XP		02 21 26.5	
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.0						
KMI	Kunming	21.16	21	P	P	02 21 12.0	+1.1
	comp=Z,9.0nm,1.0s,mb4.0						
KMI				pP		02 21 21.3	
KMI				sP		02 21 26.5	
PKI	Pulchoki	23.64	340	eP	P	02 21 35.7	+0.4
	comp=Z,6.1nm,0.5s,mb4.3						
DMN	Daman	23.78	339	eP	P	02 21 36.8	+0.1
GUN	Gumba	23.79	341	eP	P	02 21 37.6	+0.8
	comp=Z,6.6nm,0.3s,mb4.6						
KKN	Kakani	23.88	340	eP	P	02 21 38.2	+0.5
GYA	Guiyang	23.97	28	⇑iP	P	02 21 40.0	+1.4
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
GKN	Gorkha	24.30	339	eP	P	02 21 41.8	-0.1
	comp=Z,26nm,0.4s,mb5.0						
KOLN	Koldanda	24.49	336	eP	P	02 21 44.1	+0.4
	comp=Z,18nm,0.5s,mb4.7						
ENH	Enshi	28.51	28	P	P	02 22 18.3	-2.5
XAN	Xi'an	31.50	23	P	P	02 22 45.3	-1.9
XAN				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GTA	Gaotai	34.19	7	eP	P	02 23 09.5	-1.0
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
FITZ	Fitzroy Crossi	38.67	128	P	P	02 23 49.0	+0.6
	comp=Z,2.9nm,0.5s,mb4.2,baz=171,slow=16,SNR=11						
MKAR	Makanchi Array	42.53	348	P	P	02 24 19.9	-0.2
	comp=Z,7.3nm,0.6s,mb4.6,baz=169,slow=8.0,SNR=94						
SONM	Songino Array	43.49	12	P	P	02 24 27.3	-0.5
	comp=Z,1.3nm,0.5s,mb3.9,baz=190,slow=9.1,SNR=12						
SONM				PcP	PcP	02 26 15.7	+0.1
	comp=Z,0.5nm,0.4s,baz=181,slow=3.1,SNR=4.8						
WRA	Warramunga Arr	46.65	124	P	P	02 24 54.0	+0.6
	comp=Z,2.2nm,0.4s,mb4.4,baz=303,slow=9.9,SNR=53						
WRAB	Tennant Creek	46.66	124	eP	P	02 24 53.6	+0.2
	comp=Z,12nm,0.8s,mb4.9						
WRAB				e	pP	02 25 09.4	+1.5
WB2	Warramunga Arr	46.66	124	eP	P	02 24 54.0	+0.5
ZAL	Zalesovo	49.00	352	P	P	02 25 10.7	-0.6
	comp=Z,3.0nm,0.4s,mb4.7,baz=292,slow=7.1,SNR=12						
BVAR	Borovoye Array	51.39	342	P	P	02 25 28.9	-0.6
	comp=Z,3.2nm,0.5s,mb4.5,baz=140,slow=10.0,SNR=29						
ZRNK	Zerenda	51.77	341	eP	P	02 25 31.6	-0.8
	comp=Z,3.4nm,0.5s,mb4.5						
STKA	Stephens Creek	58.24	133	P	P	02 26 18.7	-0.9
	comp=Z,0.7nm,0.4s,mb4.0,baz=326,slow=12,SNR=2.1						
STKA	Stephens Creek	58.24	133	P	P	02 26 18.7	-0.9
ARU	Arti	58.24	338	P	P	02 26 18.4	-0.9
BRTR	Keskin Array B	64.24	312	P	P	02 26 59.4	-0.6
	comp=Z,0.4nm,0.5s,mb3.7,baz=140,slow=6.4,SNR=3.5						
IDI	Anoyia	70.19	305	P	P	02 27 38.4	+1.0
	comp=Z,13nm,0.9s,mb4.9,baz=64,slow=12,SNR=4.0						
FINES	FINESS Array B	75.00	332	P	P	02 28 04.5	-0.7
	comp=Z,0.5nm,0.4s,mb3.8,baz=121,slow=7.2,SNR=7.8						
FINES				pP	pP	02 28 19.4	-1.3
	comp=Z,0.6nm,0.4s,baz=135,slow=8.1,SNR=2.5						
ARCES	ARCESS Array B	77.65	340	P	P	02 28 20.4	+0.2
	comp=Z,0.7nm,0.4s,mb3.9,baz=93,slow=6.3,SNR=14						
ARCES				pP	pP	02 28 33.8	-1.9
	comp=Z,3.1nm,1.0s,baz=102,slow=7.0,SNR=1.8						
GERES	GERESS Array B	79.83	319	P	P	02 28 33.2	+0.8
	comp=Z,1.7nm,0.6s,mb4.2,baz=90,slow=5.3,SNR=17						
GERES				pP	pP	02 28 49.2	+1.2
	comp=Z,0.8nm,0.7s,baz=79,slow=6.8,SNR=3.7						
HFS	Hagfors	80.70	330	P	P	02 28 36.2	-0.7
	comp=Z,0.6nm,0.6s,mb3.7,baz=124,slow=5.3,SNR=5.1						
HFS				pP	pP	02 28 52.1	-0.3
	comp=Z,2.0nm,0.9s,baz=117,slow=6.6,SNR=1.8						
DAVOX	Davos	82.34	316	P	P	02 28 46.6	+1.0
	comp=Z,2.7nm,0.4s,mb4.5,baz=68,slow=2.3,SNR=9.1						
DAVOX				pP	pP	02 29 02.8	+1.6
	comp=Z,2.6nm,0.5s,baz=226,slow=4.5,SNR=3.2						
PDAR	Pinedale Array	127.33	22	PKP	PKPdf	02 35 26.8	-0.5
	comp=Z,0.2nm,0.4s,baz=135,slow=1.3,SNR=3.4						
TXAR	Lajitas Array	141.32	26	PKP	PKPdf	02 35 54.3	+0.6
	comp=Z,0.4nm,0.4s,baz=350,slow=2.4,SNR=3.9						

IDC 13 02:39:30.4±0.9, 56.86S×147.25E, mb4.2/8, mb1 4.4/8, mb1mx4.3/14, mbtmp4.2/8, MS4.5/16, Ms1 4.4/16, ms1mx4.4/19, Error ellipse: s-maj=56.7km s-min=17.3km az=80.0
NEIC 13 02:39:32.0±0.3, 56.79S×147.50E, h10km, mb4.7/13, Error ellipse: s-maj=16.8km s-min=6.1km az=86.0
ISC 13 02:39:30.4±4.2, 56.77S±0.06×147.6E±0.3, h12km±25km, n77, σ1.05/38, mb4.4/16, MS4.4/15, 7C, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOO	Toolangi	19.26	355	⇑iP	P	02 43 57.1	-0.2
	35nm,1.2s						
RPZ	Rata Peaks	19.74	59	LR	LR	02 50 01.5	
	comp=Z,2μm,18.8s,baz=218,slow=32						
CASY	Casey	19.77	226	eP	P	02 44 01.5	-1.3
VNDA	Vanda	21.42	172	P	P	02 44 19.1	-0.9
	7.5nm,1.2s,mb3.9,baz=348,slow=13,SNR=8.8						
VNDA				LR	LR	02 51 50.3	
	comp=Z,578nm,18.3s,MS4.0,baz=343,slow=35						
VNDA	Vanda	21.42	172	eP	P	02 44 18.4	-1.6
	77nm,1.7s,mb4.8						
CNB	Canberra Magne	21.49	4	eP	P	02 44 21.3	+0.3
	21nm,0.9s,mb4.5						
SBA	Scott Base	22.17	169	eP	P	02 44 27.7	+0.2
	31nm,1.3s,mb4.6						
STKA	Stephens Creek	25.24	348	eP	P	02 44 58.8	+1.2
	21nm,1.1s,mb4.6						
STKA	Stephens Creek	25.24	348	P	P	02 44 57.9	+0.3
	31nm,1.1s,mb4.8,baz=163,slow=11,SNR=20						
STKA				LR	LR	02 53 20.0	
	comp=Z,473nm,21.3s,MS4.0,baz=190,slow=33						
URZ	Urewera	26.86	59	LR	LR	02 55 48.7	
	comp=Z,1μm,18.1s,MS4.5,baz=195,slow=36						
NWAO	Narrogin (SRO)	31.68	306	LR	LR	02 55 42.2	
	comp=Z,1μm,21.6s,MS4.6,baz=316,slow=31						
RAO	Raoul Island	36.62	56	LR	LR	02 57 37.2	
	comp=Z,1μm,20.4s,MS4.7,baz=18,slow=30						
CTA	Charters Tower	36.65	358	eP	P	02 46 39.3	+0.8
	13nm,1.4s,mb4.6						
CTA	Charters Tower	36.65	358	LR	LR	03 00 06.6	
	comp=Z,1μm,20.7s,MS4.7,baz=183,slow=34						
CTAO	Charters Tower	36.65	358	eP	P	02 46 39.1	+0.6
	31nm,1.3s,mb5.0						
MAW	Mawson	37.79	219	LR	LR	03 00 51.2	
	comp=Z,893nm,20.2s,MS4.6,baz=90,slow=34						
MAW	Mawson	37.79	219	P	P	02 46 51.1	+3.5
	3.3nm,0.9s,mb4.1						
WB2	Warramunga Arr	38.08	339	eP	P	02 46 49.8	-0.8
WRA	Warramunga Arr	38.09	339	P	P	02 46 50.1	-0.5
	9.0nm,0.6s,mb4.7,baz=166,slow=7.6,SNR=61						
WRA				PcP	PcP	02 49 05.5	-0.8
	1.6nm,0.9s,baz=164,slow=2.9,SNR=5.2						
WRAB	Tennant Creek	38.09	339	eP	P	02 46 49.2	-1.4
	58nm,1.3s,mb5.2						
MBWA	Marble Bar	41.09	318	eP	P	02 47 15.0	-0.6
	6.6nm,0.6s,mb4.4						
FITZ	Fitzroy Crossi	41.99	328	eP	P	02 47 22.5	-0.4
	16nm,1.0s,mb4.6						
FITZ	Fitzroy Crossi	41.99	328	P	P	02 47 22.4	-0.5
	13nm,0.9s,mb4.6,baz=170,slow=11,SNR=9.0						
FITZ				LR	LR	03 02 58.9	
	comp=Z,434nm,19.8s,MS4.3,baz=146,slow=34						
KAKA	Kakadu	45.50	339	eP	P	02 47 51.6	+0.3
	11nm,0.8s,mb4.7						
PMG	Port Moresby	47.25	359	LR	LR	03 06 50.5	
	comp=Z,1μm,18.2s,MS4.8,baz=326,slow=35						
SNAA	Sanae	50.18	192	e	P	02 48 26.1	-1.1
SNAA	Sanae	50.18	192	e	P	02 48 31.0	+3.8
SNAA	Sanae	50.18	192	e	P	02 48 36.7	+10
SNAA	Sanae	50.18	192	P	P	02 48 25.4	-1.7
	1.6nm,1.0s,mb4.0,baz=175,slow=9.7,SNR=10						
SNAA	Sanae	50.18	192	eP	P	02 48 26.1	-1.1
SNAA				e	pP	02 48 31.0	+0.2
SNAA				e		02 48 36.7	
VNA3	Neumayer Olymp	51.27	189	e	P	02 48 41.7	+6.2
VNA3	Neumayer Olymp	51.27	189	e	P	02 48 47.5	+12
VNA3	Neumayer Olymp	51.27	189	eP	P	02 48 35.4	-0.1
VNA3				e		02 48 41.7	
VNA3				e		02 48 47.5	
VNA2	Neumayer--Watz	51.37	190	e	P	02 48 42.8	+6.6
VNA2	Neumayer--Watz	51.37	190	e	P	02 48 49.4	+13
VNA2	Neumayer--Watz	51.37	190	eP	P	02 48 36.2	0.0
VNA2				e		02 48 42.8	
VNA2				e		02 48 49.4	
VNA1	Neumayer--Stat	51.72	190	e	P	02 48 45.1	+6.3
VNA1	Neumayer--Stat	51.72	190	e	P	02 48 52.3	+13
VNA1	Neumayer--Stat	51.72	190	eP	P	02 48 39.3	+0.5
VNA1				e		02 48 45.1	
VNA1				e		02 48 52.3	
TBI	Tubuai	55.98	81	eS	S	02 56 49.2	-7.7
	143nm,33.2s						
TBI				eSS	SS	03 00 28.1	-15
	150nm,32.2s						
TBI				eLQ		03 03 01.2	
	359nm,30.5s						
TBI				eLR	LR	03 04 45.0	
	305nm,27.2s,baz=238						
PPT	Papeete	60.62	77	eS	S	02 57 56.3	-1.2
	202nm,28.8s						
PPT				eLQ		03 05 00.1	
	582nm,27.5s						
PPT				eLR	LR	03 07 04.7	
	191nm,24.0s,baz=245						
PPT	Papeete	60.62	77	LR	LR	03 12 02.0	
	comp=Z,124nm,18.5s,MS4.1,baz=218,slow=32						
BOSA	Boshof	82.04	229	P	P	02 51 51.4	-0.2
	2.0nm,0.9s,mb4.0,baz=129,slow=6.5,SNR=2.9						
BOSA				LR	LR	03 23 20.2	
	comp=Z,188nm,19.1s,MS4.5,baz=172,slow=32						
LBTB	Lobatse	85.07	231	eP	P	02 52 08.8	+1.8
	4.9nm,1.0s,mb4.6						
CMAR	Chiang Mai Arr	85.28	314	P	P	02 52 10.1	+1.9
	2.0nm,0.8s,mb4.3,baz=186,slow=4.8,SNR=7.5						
CFAA	Coronel Fontan	86.86	150	P	P	02 52 17.0	+1.2
	0.2nm,0.4s,mb3.7,baz=194,slow=2.2,SNR=4.3						
MATP	Matopo	87.81	235	LR	LR	03 28 04.5	
	comp=Z,255nm,18.0s,MS4.7,baz=125,slow=33						
MJAR	Matsushiro Arr	93.30	352	LR	LR	03 29 51.4	
	comp=Z,97nm,21.5s,MS4.2,baz=20,slow=32						
CPUP	Villa Florida	94.57	158	LR	LR	03 31 10.3	
	comp=Z,153nm,20.0s,MS4.5,baz=25,slow=33						
KMBO	Kilima Mbogo	100.11	252	LR	LR	03 29 47.3	
	comp=Z,107nm,18.2s,MS4.4,baz=98,slow=30						
MKAR	Makanchi Array	116.67	316	PKP	PKPdf	02 58 14.6	-2.4
	0.3nm,0.5s,baz=202,slow=1.5,SNR=3.9						
PV10	Paradox Valley	128.01	76	ePKPdf	PKPdf	02 58 38.6	-0.5
MCK	McKinley	129.64	31	PKPdf	PKPdf	02 58 36.3	-5.2
ILAR	Eielson Array	131.02	31	PKP	PKPdf	02 58 43.4	-0.7
	0.5nm,0.7s,baz=277,slow=3.2,SNR=7.3						
PLAL	Pickwick Lake	136.98	96	ePKPdf	PKPdf	02 58 53.5	-2.4
AKASG	Malin Array Be	144.18	287	PKP	PKPdf	02 59 05.0	-3.2
	1.7nm,0.7s,baz=109,slow=2.4,SNR=8.7						
KOLS	Kolonicke sedl	146.90	280	ePKP	PKPdf	02 59 14.7	+1.8
KECS	Kecovo	147.61	278	ePKP	PKPdf	02 59 16.5	+2.4
VYHS	Vyhne	148.52	277	ePKP	PKPdf	02 59 18.2	+2.7
BINY	Binghamton	148.74	99	ePKPbc	PKPdf	02 59 18.3	+2.2
ARSA	Arzberg	149.62	272	⇑iP	PKPdf	02 59 20.5	+3.2
	9.6nm,1.2s						
OBKA	Obir	149.71	270	⇑iP	PKPdf	02 59 22.6	+5.1
	6.9nm,1.4s						
MORC	Moravsky Berou	149.94	278	ePKPbc	PKPdf	02 59 20.3	+2.5
FINES	FINESS Array B	150.53	304	PKPbc	PKPdf	02 59 22.0	+3.7
	5.2nm,0.8s,baz=117,slow=4.3,SNR=15						
KAF	Kangasniemi	150.62	305	ep	PKPdf	02 59 18.5	+0.1
	3.4nm,0.8s						
MOA	Molln	150.66	272	⇑iP	PKPdf	02 59 22.8	+3.9
	2.8nm,0.7s						
DPC	Dobruska-Polom	150.91	278	ePKPbc	PKPdf	02 59 24.8	+5.6
UPC	Upice	151.16	278	ePKPbc	PKPdf	02 59 25.2	+5.6
GERES	GERESS Array B	151.53	274	PKPbc	PKPdf	02 59 25.2	+5.0
	1.5nm,0.9s,baz=117,slow=3.0,SNR=10						
PRU	Pruhonice	151.69	276	ePKPbc	PKPdf	02 59 25.8	+5.4
KHC	Kasperske Hory	151.76	274	ePKPbc	PKPdf	02 59 25.9	+5.4
WTTA	Wattenberg	151.76	269	⇑iP	PKPdf	02 59 26.7	+6.1
	11nm,1.1s						
PVCC	Panska Ves	151.96	277	ePKPbc	PKPdf	02 59 26.1	+5.3
SQTA	Sankt Quirin	151.97	269	⇑iP	PKPdf	02 59 26.0	+5.1
	7.3nm,1.1s						
MOTA	Moosalm	152.10	269	⇑iP	PKPdf	02 59 27.2	+6.1
	4.1nm,1.1s						
ARCES	ARCESS Array B	152.19	320	PKPbc	PKPdf	02 59 25.6	+5.0
	1.9nm,0.6s,baz=135,slow=1.7,SNR=13						
CLL	Collm	153.21	278	ePKIKP	PKPdf	02 59 25.0	+2.5
CLL				ePKP2	PKPab	02 59 40.0	-1.0

IDC 13 03:16:20.8±1.5, 1.95N×96.39E, mb4.2/7, mb1 4.3/8, mb1mx4.0/20, mbtmp4.2/8, ML4.1/1, MS3.9/2, Ms1 3.9/2, ms1mx3.4/25, Error ellipse: s-maj=60.9km s-min=19.5km az=55.0
NEIC 13 03:16:25.8±0.6, 2.07N×96.63E, h30km, mb4.2/1, Error ellipse: s-maj=16.8km s-min=9.1km az=60.0
ISC 13 03:16:23.8±0.8, 2.1N±0.1×96.6E±0.1, h30km, n13, σ0.69/13, mb4.1/8, MS4.0/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.13	51	eP	Pn	03 17 40.0	-0.8
CMAR	Chiang Mai Arr	16.45	8	Pn	P	03 20 15.2	+0.9
	0.3nm,0.3s,baz=198,slow=11,SNR=27						
FITZ	Fitzroy Crossi	34.90	126	P	P	03 23 15.2	+0.1
	2.5nm,0.8s,mb4.2,baz=273,slow=5.0,SNR=5.3						
WRA	Warramunga Arr	42.98	122	P	P	03 24 23.2	+0.8
	1.2nm,0.5s,mb3.9,baz=301,slow=9.2,SNR=15						
WRAB	Tennant Creek	42.98	122	eP	P	03 24 22.5	0.0
MKAR	Makanchi Array	46.27	346	P	P	03 24 48.8	+0.3
	5.1nm,0.7s,mb4.6,baz=162,slow=8.0,SNR=54						
MKAR				LR	LR	03 47 52.0	
	comp=Z,91nm,18.8s,MS3.8,baz=167,slow=41						
MKAR	Makanchi Array	46.27	346	P	P	03 24 48.8	+0.4
MKAR				LR	LR	03 47 52.0	
SONM	Songino Array	46.37	9	P	P	03 24 49.5	+0.2
	1.5nm,0.3s,mb4.4,baz=189,slow=7.9,SNR=15						
ZAL	Zalesovo	52.61	351	P	P	03 25 36.9	-0.3
	3.7nm,0.6s,mb4.5,baz=37,slow=3.0,SNR=11						
STKA	Stephens Creek	54.36	132	P	P	03 25 49.8	-0.5
ZRNK	Zerenda	55.65	340	eP	P	03 25 58.7	-0.8
	2.4nm,0.9s,mb4.2						
AKASG	Malin Array Be	74.23	322	P	P	03 27 58.7	-1.1
	0.2nm,0.3s,mb3.5,baz=90,slow=5.6,SNR=5.9						
ARCES	ARCESS Array B	81.53	340	P	P	03 28 40.8	+1.1
	1.3nm,0.8s,mb3.9,baz=98,slow=7.1,SNR=7.2						
ARCES				LR	LR	04 08 30.6	
	comp=Z,92nm,19.0s,MS4.2,baz=252,slow=38						

IDC 13 03:20:11.6±1.7, 16.12S×178.43W, mb4.2/4, mb1 4.4/4, mb1mx3.9/15, mbtmp4.2/4, MS2.9/1, Ms1 2.9/1, ms1mx2.6/30, 1D, Error ellipse: s-maj=135.0km s-min=29.6km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.47	245	LR	LR	03 28 25.0	
	comp=Z,42nm,20.8s,baz=204,slow=32						
STKA	Stephens Creek	39.49	239	⇓iP	P	03 27 43.6	-2.1
	3.5nm,0.6s						
STKA	Stephens Creek	39.49	239	P	P	03 27 43.7	-2.0
	3.5nm,0.4s,baz=88,slow=9.0,SNR=19						
WB2	Warramunga Arr	44.95	258	eP	P	03 28 29.3	-1.1
WRA	Warramunga Arr	44.96	258	P	P	03 28 29.3	-1.2
	1.3nm,0.5s,baz=91,slow=7.0,SNR=28						
FITZ	Fitzroy Crossi	53.32	259	P	P	03 29 32.4	-2.7
	1.1nm,0.3s,baz=124,slow=3.6,SNR=10.0						
TXAR	Lajitas Array	85.06	58	P	P	03 32 49.8	-1.1
	0.5nm,0.8s,baz=220,slow=7.0,SNR=6.5						

NEIC 13 03:23:50.4±1.9, 18.39S×175.03W, h102km±17km, mb4.8/2, Error ellipse: s-maj=24.6km s-min=14.1km az=142.0
IDC 13 03:23:50.0±3.3, 18.44S×175.01W, h98km±30km, mb3.9/6, mb1 4.1/7, mb1mx3.9/16, mbtmp4.3/7, Error ellipse: s-maj=33.0km s-min=19.6km az=127.0
ISC 13 03:23:47.9±2.8, 18.4S±0.2×175.1W±0.2, h91km±29km, n21, σ0.69/16, mb4.3/7, 3C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	5.52	36	P	P	03 25 09.1	0.0
	14nm,0.3s,baz=252,slow=20,SNR=17						
AFI				S	S	03 26 25.7	+14
	44nm,0.3s,baz=210,slow=20,SNR=8.9						
CTAO	Charters Tower	36.47	261	eP	P	03 30 47.5	+1.3
STKA	Stephens Creek	41.16	242	P	P	03 31 24.2	-0.6
	0.6nm,0.4s,mb3.8,slow=9.1,SNR=3.1						
STKA	Stephens Creek	41.16	242	P	P	03 31 24.2	-0.6
STKA				P		03 31 24.3	
WB2	Warramunga Arr	47.62	260	⇓iP	P	03 32 17.3	+0.3
WRAB	Tennant Creek	47.62	260	eP	P	03 32 16.6	-0.4
	16nm,0.6s,mb5.0						
WRA	Warramunga Arr	47.63	260	P	P	03 32 17.4	+0.3
	10nm,0.5s,mb4.9,baz=98,slow=6.5,SNR=272						
FITZ	Fitzroy Crossi	56.05	260	eP	P	03 33 20.6	+0.5
	2.4nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	56.05	260	P	P	03 33 20.0	-0.1
	2.9nm,0.4s,mb4.7,baz=46,slow=3.9,SNR=13						
VNDA	Vanda	60.20	186	P	P	03 33 47.9	-0.4
	0.3nm,0.3s,mb3.9,baz=349,slow=6.8,SNR=7.5						
MBWA	Marble Bar	60.99	256	eP	P	03 33 53.0	-1.4
MJAR	Matsushiro Arr	70.25	321	P	P	03 34 53.4	0.0
	3.0nm,0.7s,mb4.2,baz=162,slow=6.8,SNR=9.0						
ILAR	Eielson Array	85.73	12	P	P	03 36 17.4	-0.2
	0.6nm,0.5s,mb3.8,baz=228,slow=5.7,SNR=12						
VNA3	Neumayer Olymp	89.98	175	⇑i	P	03 36 48.2	+10
VNA2	Neumayer--Watz	90.45	176	⇑i	P	03 36 41.0	+0.9
BVAR	Borovoye Array	119.25	321	PKP	PKPdf	03 42 25.9	-0.5
	0.7nm,0.4s,baz=90,slow=2.9,SNR=5.2						
ZRNK	Zerenda	120.08	321	eP	PKPdf	03 42 27.3	-0.7
CLL	Collm	146.59	351	⇑iPKP1	PKPbc	03 43 19.6	+1.1
BRG	Berggiesshubel	146.85	350	P	PKPdf	03 43 20.6	+3.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BRTR	Keskin Array B	147.37	317	PKPbc	PKPdf	03 43 22.6	+3.8
	1.4nm,0.7s,baz=63,slow=3.2,SNR=6.2						
GERES	GERESS Array B	148.85	349	PKPbc	PKPdf	03 43 25.9	+5.1
	0.5nm,0.5s,slow=1.3,SNR=7.2						

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*THE **13** 03:33:25.7, 40.08N×21.81E, h2^{km}, ML2.9*
*CSEM **13** 03:33:25.9±0.1, 40.07N×21.80E, h2^{km}, MD3.2, Error ellipse: s-maj=1.9km s-min=1.8km az=144.0*
*ATH **13** 03:33:26.1, 40.12N×21.84E, h13^{km}±2^{km}, MD3.2/7*
*NEIC **13** 03:33:26.1, 40.12N×21.84E, h13^{km}, MD3.2(ATH), After ATH.*
ISC 13 03:33:25.5±0.3**, 40.07N**±0.02×**21.87E**±0.02**, h2^{km}, n32, σ1^{s}12**/53**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.25	342	ePG	Pg	03 33 30.2	-0.2
KZN				eSG	Sg	03 33 34.1	+0.4
LIT	Litokhoron	0.48	86	ePg	Pg	03 33 35.2	+0.2
LIT				eSg	Sg	03 33 43.9	+2.5
MEV	Metsovon	0.57	240	ePg	Pg	03 33 35.7	-1.2
MEV				eSg	Sg	03 33 44.0	-0.5
FNA	Florina	0.80	332	ePg	Pg	03 33 40.2	-1.4
	comp=Z,14nm,0.4s						
FNA				eSg	Sg	03 33 51.2	-1.0
JAN	Janina	0.89	242	ePG	Pg	03 33 42.7	-0.5
GRG	Griva	0.97	25	ePg	Pg	03 33 44.1	-0.8
GRG				eSg	Sg	03 33 58.3	+0.4
KBN	Korca	0.99	304	i Pg	Pg	03 33 52.7	+7.4
KBN				i Sg	Sg	03 34 01.0	+2.4
KBN	Korca	0.99	304	i Sg	Sg	03 34 01.0	+2.4
THE	Thessaloniki	1.01	56	ePg	Pg	03 33 44.8	-0.8
	comp=Z,2.0nm,0.4s						
THE				eSg	Sg	03 34 00.5	+1.4
THE	Thessaloniki	1.01	56	ePg	Pg	03 33 44.8	-0.8
	2.0nm,0.4s						
THE				eSg	Sg	03 34 00.4	+1.4
AGG	Agios Georgios	1.11	161	ePg	Pg	03 33 46.9	-0.7
AGG				eSg	Sg	03 34 02.8	+0.5
EVR	Evrytania	1.15	182	ePN	Pn	03 33 48.5	-0.1
EVR				eSB	Sb	03 34 05.8	+2.7
XOR	Xorichti	1.24	124	ePg	Pg	03 33 49.8	-0.5
XOR				eSg	Sg	03 34 08.6	+1.8
PLG	Polygyros	1.25	75	ePG	Pg	03 33 50.0	-0.3
NEO	Neokhori	1.29	126	ePG	Pg	03 33 51.0	-0.3
KNT	Kendrikon	1.34	35	ePg	Pg	03 33 51.3	-1.0
	comp=Z,5.3nm,0.4s						
KNT				eSg	Sg	03 34 10.2	0.0
SOH	Sokhos	1.36	56	ePg	Pg	03 33 51.3	-1.3
PAIG	Paliouri	1.40	95	ePg	Pg	03 33 51.9	-1.6
PAIG				eSg	Sg	03 34 12.0	-0.1
PAIG	Paliouri	1.40	95	ePg	Pg	03 33 51.8	-1.6
PAIG				eSg	Sg	03 34 12.0	-0.1
SRN	Sarande	1.45	263	i Pn	Pn	03 33 53.6	+0.8
SRN				i Sn	Sn	03 34 15.4	+2.8
SRN	Sarande	1.45	263	ePn	Pn	03 33 53.6	+0.8
SRN				i Sn	Sn	03 34 15.4	+2.8
KEK	Kerkira	1.63	258	ePB	Pb	03 33 57.0	+1.0
OUR	Ouranopolis	1.64	80	ePb	Pb	03 33 55.9	-0.3
	comp=Z,3.3nm,0.2s						
OUR	Ouranopolis	1.64	80	ePb	Pb	03 33 55.8	-0.3
	3.3nm,0.2s						
LKD	Levkas	1.66	215	ePb	Pb	03 33 54.8	-1.6
LKD				eSb	Sb	03 34 16.9	-0.8
SRS	Serrai	1.68	51	ePb	Pb	03 33 56.0	-0.7
SRS				eSb	Sb	03 34 18.5	+0.2
SRS	Serrai	1.68	51	ePb	Pb	03 33 56.0	-0.8
SRS				eSb	Sb	03 34 18.5	+0.2
AOS	Alonnisos	1.80	119	ePb	Pb	03 33 57.0	-1.8
AOS				eSb	Sb	03 34 22.5	+0.8
SKO	Skopje	1.93	350	i Pn	Pn	03 34 01.0	+1.4
NVR	Nevrokopi	1.98	49	ePN	Pn	03 34 00.8	+0.4
TIR	Tirane	1.99	311	ePn	Pn	03 34 02.0	+1.5
QSH	Qafa e Shtames	2.08	315	ePn	Pn	03 34 09.2	+7.4
QSH				i Sn	Sn	03 34 33.2	+4.6

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*IDC **13** 03:38:26.6±2.7, 30.06S×177.60W, h76^{km}±13^{km}, mb3.9/2, mb1 4.0/3, mb1mx3.7/13, mbtmp4.1/3, Error ellipse: s-maj=52.2km s-min=19.7km az=98.0*
*NEIC **13** 03:38:27.9±1.3, 30.14S×178.01W, h64^{km}±14^{km}, mb4.1/1, Error ellipse: s-maj=27.2km s-min=17.0km az=93.0*
ISC 13 03:38:27.4±1.0**, 30.10S**±0.08×**178.0W**±0.2**, h74^{km}**±10^{km}**, n11, σ1^{s}00**/12**, mb4.1**/3**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.85	6	P	P	03 38 44.9	+0.4
	3μm,0.3s,baz=78,slow=19,SNR=46						
RAO				S	S	03 38 57.1	0.0
	8μm,0.3s,baz=100,slow=22,SNR=98						
URZ	Urewera	9.08	205	P	P	03 40 35.5	-2.3
	0.5nm,0.3s,baz=71,slow=16,SNR=9.3						
URZ				S	S	03 42 20.3	+0.9
	9.4nm,0.3s,baz=29,slow=23,SNR=30						
STKA	Stephens Creek	34.52	257	P	P	03 45 12.6	+2.0
	2.8nm,0.8s,mb4.2,baz=88,slow=9.2,SNR=9.2						
STKA	Stephens Creek	34.52	257	P	P	03 45 12.6	+2.0
WB2	Warramunga Arr	44.05	272	eP	P	03 46 29.1	-0.7
WRAB	Tennant Creek	44.06	272	eP	P	03 46 29.6	-0.2
	1.9nm,0.5s,mb4.1						
WRA	Warramunga Arr	44.06	272	P	P	03 46 29.1	-0.7
	1.5nm,0.5s,mb4.0,baz=110,slow=8.0,SNR=46						
VNA3	Neumayer Olymp	78.61	176		P	03 50 22.2	+0.2
VNA2	Neumayer--Watz	79.04	177		P	03 50 24.5	+0.1
VNA1	Neumayer--Stat	79.27	177		P	03 50 31.3	+5.6
FINES	FINESS Array B	144.85	340	PKP	PKPdf	03 57 52.9	-2.2
	0.8nm,0.3s,baz=63,slow=3.1,SNR=13						

IDC 13 03:50:48.7±4.5**, 1.63N×97.23E, mb3.6**/3**, mb1 3.7**/3**, mb1mx3.5**/18**, mbtmp3.6**/3**, Error ellipse: s-maj=172.4km s-min=29.3km az=58.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.23	122	P	P	03 58 43.9	-1.7
	0.3nm,0.6s,baz=300,slow=9.1,SNR=2.8						
SONM	Songino Array	46.71	8	P	P	03 59 19.4	-1.7
	0.6nm,0.5s,baz=187,slow=9.5,SNR=5.2						
MKAR	Makanchi Array	46.84	346	P	P	03 59 20.3	-2.0
	0.8nm,0.6s,baz=162,slow=8.3,SNR=9.1						

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*NEIC **13** 03:53:11.9±0.9, 16.13S×177.81W, h394^{km}±9^{km}, mb4.4/28, Error ellipse: s-maj=12.1km s-min=5.3km az=150.0*
*BJI **13** 03:53:11.5, 15.66S×178.09W, h373^{km}, mB4.7, mb4.6*
*IDC **13** 03:53:12.8±1.8, 16.21S×177.75W, h404^{km}±18^{km}, mb4.0/18, mb1 4.2/19, mb1mx4.1/23, mbtmp4.7/19, Error ellipse: s-maj=18.6km s-min=8.9km az=141.0*
ISC 13 03:53:10.5±1.2**, 16.17S**±0.07×**177.82W**±0.06**, h388^{km}**±12^{km}**, n212, σ0^{s}85**/97**, mb4.3**/48**, 9C-5D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.25	70	P	P	03 54 46.8	+0.6
	30nm,0.3s,baz=40,slow=2.4,SNR=47						
AFI	Afiamalu	6.25	70	eP	P	03 54 46.4	+0.3
	474nm,0.9s						
DZM	Mont Dzumac	15.98	246	P	P	03 56 35.1	-0.9
	0.3nm,0.3s,baz=133,slow=16,SNR=2.3						
RAR	Rarotonga	17.81	109	P	P	03 56 55.4	+0.8
URZ	Urewera	22.45	190	P	P	03 57 37.3	-2.0
	36nm,0.5s,mb5.1,baz=332,slow=1.5,SNR=28						
URZ				S	S	04 01 07.3	-8.4
	9.2nm,1.1s,baz=126,slow=18,SNR=2.1						
RPZ	Rata Peaks	29.04	197	P	P	03 58 36.4	-1.9
	8.9nm,0.5s,mb4.3,baz=29,slow=13,SNR=8.1						
CTA	Charters Tower	34.33	258	eP	P	03 59 25.6	+1.7
	2.7nm,0.3s,mb4.0						
CTA	Charters Tower	34.33	258	PcP	PcP	04 01 49.7	-0.8
	1.9nm,0.8s,baz=52,slow=3.3,SNR=3.7						
CTAO	Charters Tower	34.33	258	eP	P	03 59 24.9	+1.0
STKA	Stephens Creek	39.98	239	eP	P	04 00 12.0	+1.4
	11nm,0.6s,mb4.4						
STKA	Stephens Creek	39.98	239	P	P	04 00 12.4	+1.8
	17nm,0.6s,mb4.5,baz=92,slow=9.4,SNR=51						
WB2	Warramunga Arr	45.52	258	⇓iP	P	04 00 54.7	-0.3
WB2				eS	S	04 07 07.9	+0.8
WRAB	Tennant Creek	45.52	258	eP	P	04 00 53.9	-1.1
	4.9nm,0.5s,mb4.1						
WRA	Warramunga Arr	45.53	258	P	P	04 00 54.8	-0.4
	1.9nm,0.3s,mb3.9,baz=97,slow=6.5,SNR=87						
WRA				PcP	PcP	04 02 25.9	-0.9
	3.1nm,0.7s,baz=87,slow=3.9,SNR=10.0						
WRA				S	S	04 07 04.1	-3.1
	0.5nm,0.8s,baz=91,slow=14,SNR=4.0						
KAKA	Kakadu	48.20	267	⇑iP	P	04 01 16.1	+0.3
	34nm,0.5s,mb4.9						
FITZ	Fitzroy Crossi	53.89	259	eP	P	04 01 57.7	-0.1
	15nm,0.3s,mb4.7						
FITZ	Fitzroy Crossi	53.89	259	P	P	04 01 57.9	0.0
	23nm,0.4s,mb4.8,baz=138,slow=3.3,SNR=72						
MBWA	Marble Bar	59.06	255	eP	P	04 02 34.2	+0.6
KLBR	Kellerberrin	60.12	243	eP	P	04 02 39.8	-0.8
	49nm,1.3s,mb4.8						
SBA	Scott Base	62.18	184	P	P	04 02 54.5	+1.0
	17nm,2.0s,mb4.2						
VNDA	Vanda	62.22	185	P	P	04 02 53.9	0.0
	0.2nm,0.4s,mb3.0,baz=75,slow=5.0,SNR=6.2						
VNDA	Vanda	62.22	185	eP	P	04 02 53.8	0.0
	0.5nm,0.9s,mb3.0						
SSE	Sheshan	75.08	309	eP	P	04 04 12.8	+0.1
SSE				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.6						
SSE				AMB	AMB		
	comp=Z,50nm,3.5s						
MWC	Mount Wilson	75.75	48	P	P	04 04 15.8	-0.6
CMB	Columbia Colle	76.19	43	eP	P	04 04 17.8	-0.9
	comp=Z,9.1nm,1.1s,mb4.3						
YBH	Yreka Blue Hor	76.83	39	P	P	04 04 22.6	+0.4
	comp=Z,4.0nm,0.6s,mb4.2,baz=216,slow=2.5,SNR=13						
MTUM	Tungsten Hills	77.04	45	eP	P	04 04 23.8	+0.3
MDJ	Mudanjiang	77.10	324	P	P	04 04 23.9	+0.3
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb3.8						
MDJ				AMB	AMB		
	comp=Z,14nm,4.7s						
DAC	Darwin (Calif)	77.14	46	eP	P	04 04 23.9	-0.1
	comp=Z,5.8nm,1.4s,mb4.0						
NJ2	Nanjing	77.28	309	eP	P	04 04 23.5	-1.4
TPH	Tonopah	78.32	45	eP	P	04 04 29.8	-0.6
	comp=Z,11nm,1.1s,mb4.4						
MOD	Modoc	78.40	40	eP	P	04 04 30.1	-0.5
	comp=Z,4.9nm,0.8s,mb4.2						
NEN	Nelson	78.75	48	eP	P	04 04 31.9	-0.8
CN2	Changchun	79.00	322	eP	P	04 04 35.1	+1.3
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
TUC	Tucson	80.19	52	eP	P	04 04 40.7	+0.3
	comp=Z,10nm,1.3s,mb4.3						
BBB	Bella Bella	80.53	28	P	P	04 04 41.3	-0.4
	comp=Z,11nm,0.6s,mb4.8,baz=246,slow=3.5,SNR=12						
ELK	Elko	81.01	43	P	P	04 04 43.2	-1.2
	comp=Z,2.4nm,0.7s,mb4.1,baz=262,slow=4.4,SNR=9.3						
ELK	Elko	81.01	43	eP	P	04 04 43.0	-1.4
	comp=Z,21nm,1.7s,mb4.6						
MVU	Marysvale	81.96	46	eP	P	04 04 50.1	+0.7
	comp=Z,8.2nm,1.1s,mb4.4						
MSU	Marysvale	81.99	46	eP	P	04 04 50.2	+0.7
MCK	McKinley	82.73	13	eP	P	04 04 51.0	-1.7
	comp=Z,10nm,1.0s,mb4.5						
HLID	Hailey	82.95	41	eP	P	04 04 54.4	+0.1
	comp=Z,12nm,0.7s,mb4.7						
TMUT	Trail Mountain	83.02	46	eP	P	04 04 55.4	+0.7
HVU	Hansel Valley	83.13	43	eP	P	04 04 55.4	+0.2
SRU	San Rafael	83.41	46	eP	P	04 04 56.5	-0.2
JLU	Jordanelle	83.46	45	eP	P	04 04 57.0	+0.1
TCUT	Toone Canyon	83.73	44	eP	P	04 04 58.8	+0.5
ENH	Enshi	83.77	304	eP	P	04 04 59.8	+1.0
NEW	Newport	83.78	36	P	P	04 04 57.7	-0.6
	comp=Z,3.9nm,0.6s,mb4.3,baz=219,slow=3.5,SNR=9.7						
NEW	Newport	83.78	36	eP	P	04 04 57.3	-1.0
	comp=Z,3.9nm,0.9s,mb4.1						
HWUT	Hardware Ranch	83.85	44	eP	P	04 04 58.7	-0.1
	comp=Z,1.7nm,0.7s,mb3.9						
DLBC	Dease Lake	84.02	23	P	P	04 04 59.2	-0.1
	baz=240,slow=9.1						
ILAR	Eielson Array	84.08	13	P	P	04 04 58.0	-1.5
	comp=Z,6.0nm,0.5s,mb4.6,baz=229,slow=5.0,SNR=107						
BNM	Barren Site	84.13	52	eP	P	04 05 00.8	+0.4
PV01	Paradox Valley	84.36	48	eP	P	04 05 00.7	-0.7
MCMT	McKenzie Canyo	84.56	40	eP	P	04 05 02.6	+0.3
ANMO	Albuquerque	84.58	51	P	P	04 05 02.9	+0.2
	comp=Z,3.8nm,0.8s,mb4.2,baz=233,slow=6.0,SNR=14						
ANMO	Albuquerque	84.58	51	eP	P	04 05 02.6	0.0
	comp=Z,5.1nm,0.9s,mb4.2						
LTX	Lajitas	84.59	58	eP	P	04 05 03.6	+0.7
	comp=Z,26nm,1.4s,mb4.8						
TXAR	Lajitas Array	84.59	58	P	P	04 05 03.7	+0.9
	comp=Z,7.7nm,0.8s,mb4.5,baz=220,slow=6.8,SNR=103						
RRI2	Red Ridge	84.82	42	eP	P	04 05 03.4	-0.2
	comp=Z,16nm,0.8s,mb4.8						
GDL2	Guadalupe Moun	85.11	55	eP	P	04 05 05.1	-0.1
TPAW	Teton Pass	85.12	42	eP	P	04 05 05.6	+0.5
	comp=Z,6.8nm,0.9s,mb4.4						
SNOW	Snow King Moun	85.24	42	eP	P	04 05 06.1	+0.5
	comp=Z,5.8nm,0.8s,mb4.4						
HIA	Hailar	85.29	324	eP	P	04 05 06.2	+0.5
IMW	Indian Meadow	85.32	42	eP	P	04 05 06.4	+0.4
	comp=Z,7.1nm,0.8s,mb4.5						
CHMT	Chamberlain Mo	85.33	38	eP	P	04 05 05.2	-0.8
MOOW	Moose Ponds	85.38	42	eP	P	04 05 06.3	0.0
	comp=Z,1.7nm,0.7s,mb3.9						
LOHW	Long Hollow	85.41	42	eP	P	04 05 05.8	-0.7
	comp=Z,2.4nm,0.6s,mb4.1						
QLMT	Earthquake Lak	85.44	41	eP	P	04 05 07.4	+0.8
YMR	Madison River	85.66	41	P	P	04 05 08.8	+1.2
BOZ	Bozeman (W)	85.70	40	eP	P	04 05 07.3	-0.4
	comp=Z,6.4nm,0.9s,mb4.3						
PDAR	Pinedale Array	85.71	43	P	P	04 05 07.3	-0.5
	comp=Z,3.3nm,0.6s,mb4.2,baz=220,slow=2.9,SNR=36						
SMCO	Snowmass	85.93	47	eP	P	04 05 08.8	-0.2
HRY	Holter Researc	86.08	39	eP	P	04 05 09.5	-0.1
SDCO	Great Sand Dun	86.41	49	eP	P	04 05 11.3	-0.1
	comp=Z,2.6nm,0.9s,mb4.0						
KMI	Kunming	87.55	297	P	P	04 05 19.3	+2.2
KMI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.2						
CMAR	Chiang Mai Arr	88.84	289	P	P	04 05 24.2	+1.0
	comp=Z,1.2nm,0.8s,mb3.7,baz=109,slow=2.7,SNR=4.8						
INK	Inuvik	90.07	15	P	P	04 05 26.3	-1.5
	comp=Z,1.4nm,0.7s,mb3.9,baz=176,slow=2.7,SNR=4.5						
INK	Inuvik	90.07	15	eP	P	04 05 25.5	-2.3
LZH	Lanzhou	90.28	308	eP	P	04 05 30.4	+0.8
LZH				AP	pP	04 06 59.0	-1.0
LZH				XP	sP	04 07 37.3	-1.7
LZH				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.4						
LZH				AMB	AMB		
	comp=Z,33nm,4.1s						
SYO	Syowa Base	90.97	193	⇓P	P	04 05 30.0	-1.9
DGMT	Dagmar	91.50	40	eP	P	04 05 35.3	+0.4
	comp=Z,15nm,1.0s,mb4.9						
PLCA	Paso Flores	92.11	133	P	P	04 05 38.7	+0.7
	comp=Z,1.2nm,0.8s,mb3.9,baz=228,slow=14,SNR=2.8						
SNAA	Sanae	92.31	178	P	P	04 05 38.1	-0.1
SNAA	Sanae	92.31	178	e	P	04 05 38.8	+0.6
VNA3	Neumayer Olymp	92.43	176	⇑iP	P	04 05 38.9	+0.1
VNA3	Neumayer Olymp	92.43	176	e	P	04 05 39.4	+0.6
YKA	Yellowknife Ar	92.52	25	P	P	04 05 38.4	-1.0
	comp=Z,2.7nm,0.6s,mb4.4,baz=246,slow=4.4,SNR=18						
SONM	Songino Array	92.61	319	P	P	04 05 39.8	-0.3
	comp=Z,0.8nm,0.7s,mb3.8,baz=135,slow=5.2,SNR=4.7						
VNA2	Neumayer--Watz	92.88	177	⇑iP	P	04 05 41.1	+0.3
VNA2	Neumayer--Watz	92.88	177	e	P	04 05 42.0	+1.2
VNA1	Neumayer--Stat	93.10	177	P	P	04 05 42.9	+1.1
VNA1	Neumayer--Stat	93.10	177	e	P	04 05 43.7	+1.9
KSU1	Kansas State U	93.41	50	eP	P	04 05 43.9	-0.1
MKAR	Makanchi Array	108.33	315	PKiKP		04 10 53.0	
	comp=Z,0.8nm,0.6s,baz=78,slow=1.9,SNR=10						
BVAR	Borovoye Array	115.85	321	PKP	PKPdf	04 11 07.2	-0.2
	comp=Z,2.0nm,0.7s,baz=225,slow=2.1,SNR=6.3						
ZRNK	Zerenda	116.69	321	ePKPdf	PKPdf	04 11 08.8	-0.3
ARU	Arti	121.72	327	ePKPdf	PKPdf	04 11 19.0	+0.2
KEV	Kevo	124.27	350	ep	PKPdf	04 11 21.7	-1.7
	comp=Z,6.1nm,1.0s						
ARCES	ARCESS Array B	124.71	350	PKP	PKPdf	04 11 24.1	0.0
	comp=Z,6.1nm,0.6s,baz=22,slow=1.2,SNR=41						
BOSA	Boshof	130.20	207	PKP	PKPdf	04 11 37.2	+1.4
	comp=Z,1.3nm,0.7s,baz=180,slow=4.0,SNR=3.6						
BOSA	Boshof	130.20	207	PKPdf	PKPdf	04 11 37.5	+1.7
KAF	Kangasniemi	131.04	345	ep	PKPdf	04 11 35.6	-0.9
	comp=Z,2.9nm,0.6s						
FINES	FINESS Array B	131.67	345	PKP	PKPdf	04 11 37.4	-0.3
	comp=Z,1.3nm,0.5s,baz=90,slow=1.9,SNR=7.8						
NB2	NORSAR Subarra	134.72	354	PKPabc	PKPdf	04 11 44.3	+1.0
	comp=Z,0.5nm,0.5s,baz=42,slow=2.6						
NOA	NORSAR Array B	134.72	354	PKP	PKPdf	04 11 44.2	+0.9
	comp=Z,0.6nm,0.7s,baz=79,slow=3.2,SNR=3.2						
HFS	Hagfors	135.31	352	PKhKP		04 11 39.9	
	comp=Z,2.6nm,0.7s,baz=45,slow=2.0,SNR=6.8						
HFS				PKP	PKPdf	04 11 43.9	-0.5
	comp=Z,3.6nm,0.8s,baz=34,slow=5.2,SNR=4.2						
AKASG	Malin Array Be	139.28	334	PKP	PKPdf	04 11 54.0	+2.1
	comp=Z,1.4nm,0.5s,baz=38,slow=2.9,SNR=5.9						
EKA	Eskdalemuir Ar	140.70	5	PKhKP		04 11 46.0	
	comp=Z,0.7nm,0.7s,baz=354,slow=3.5,SNR=3.7						
STHS	Stebnicka Huta	143.39	339	e	PKPbc	04 11 58.3	+0.4
KSP	Ksiaz	143.60	345	ePKP	PKPdf	04 11 58.3	-1.1
CRVS	Cervenica-Dubn	143.75	338	e	PKPbc	04 11 59.8	+0.8
CLL	Collm	143.89	348	i PKIKP	PKPdf	04 11 58.8	-1.1
	comp=Z,logA/T=1.1						
BR131	Keskin Array S	143.94	317	ePKPdf	PKPdf	04 12 00.2	-0.2
BRTR	Keskin Array B	143.94	317	PKP	PKPdf	04 12 00.5	+0.1
	comp=Z,22nm,0.8s,baz=94,slow=2.3,SNR=64						
UPC	Upice	143.98	345	ePKP	PKPdf	04 12 00.1	0.0
OKC	Ostrava-Krasne	144.01	342	ePKP	PKPdf	04 12 00.1	-0.1
DPC	Dobruska-Polom	144.04	345	ePKP	PKPdf	04 12 00.5	+0.3
BRG	Berggiesshubel	144.11	347	i P	PKPbc	04 12 00.0	0.0
HARR	Harsova	144.23	328	⇓P	PKPbc	04 12 01.3	+0.8
MORC	Moravsky Berou	144.24	343	ePKPdf	PKPdf	04 12 00.1	-0.4
PVCC	Panska Ves	144.30	346	ePKP	PKPdf	04 12 01.0	+0.4
KECS	Kecovo	144.45	339	e	PKPdf	04 12 01.7	+0.7
MLR	Muntele Rosu	144.62	331	PKP	PKPdf	04 12 02.2	+0.8
	comp=Z,15nm,0.5s,baz=67,slow=1.3,SNR=25						
ASF	Jabal al Asfar	144.74	303	PKP	PKPdf	04 12 03.2	+1.2
	comp=Z,4.1nm,0.5s,baz=318,slow=2.8,SNR=7.5						
MOX	Moxa	144.78	350	ePKP	PKPdf	04 12 01.8	+0.3
MOX	Moxa	144.78	350	i P	PKPdf	04 12 01.8	+0.3
	comp=Z,logA/T=1.2						
PRU	Pruhonice	144.81	346	ePKP	PKPdf	04 12 02.6	+1.1
VYHS	Vyhne	144.99	341	e	PKPdf	04 12 02.9	+1.0
NKC	Novy Kostel	145.02	348	ePKP	PKPdf	04 12 03.3	+1.4
SMOL	Smolenice	145.41	342	e	PKPdf	04 12 05.2	+2.6
TNS	Taunus Mts	145.66	353	ePKPbc	PKPbc	04 12 05.1	+0.9
GRA1	Grafenberg Arr	145.77	350	ePKPbc	PKPbc	04 12 05.7	+1.2
GRA1				epPKPbc		04 13 46.0	
GRF	Grafenberg Arr	145.77	350	ePKP	PKPdf	04 12 05.7	+2.5
GRF				pPKPbc		04 13 46.0	
ZST	Bratislava	145.79	342	e	PKPdf	04 12 05.3	+2.0
KHC	Kasperske Hory	145.84	347	ePKP	PKPdf	04 12 05.8	+2.5
WET	Wettzell	145.97	347	ePKPbc	PKPbc	04 12 05.9	+0.9
GEC2	GERESS Array S	146.08	346	ePKPbc	PKPbc	04 12 06.3	+1.0
GERES	GERESS Array B	146.08	346	PKPbc	PKPbc	04 12 06.0	+0.8
	comp=Z,5.2nm,0.6s,baz=27,slow=6.0,SNR=37						
GIVF	Givet	146.09	357	ePKP1	PKPbc	04 12 05.9	+0.7
	comp=Z,17nm,0.7s						
BAIF	Baives	146.16	358	ePKP1	PKPbc	04 12 06.3	+0.9
	comp=Z,14nm,0.7s						
MOA	Molln	146.87	345	⇑iP	PKPdf	04 12 08.8	+3.7
	comp=Z,12nm,1.0s						
EIL	Elat	147.09	300	PKPbc	PKPdf	04 12 09.9	+3.9
	comp=Z,6.4nm,0.7s,baz=41,slow=9.2,SNR=6.5						
EIL	Elat	147.09	300	ePKPdf	PKPdf	04 12 09.4	+3.3
ARSA	Arzberg	147.10	343	⇑iP	PKPdf	04 12 09.6	+4.1
	comp=Z,6.4nm,1.0s						
FUR	Furstenfeldbru	147.23	349	ePKPbc	PKPdf	04 12 09.6	+3.9
FLN	La Foliniere	147.42	3	ePKP1	PKPdf	04 12 09.3	+3.3
	comp=Z,33nm,0.6s						
BFO	Black Forest	147.53	352	ePKPbc	PKPdf	04 12 10.2	+4.1
CDF	Champ du Feu	147.57	354	ePKP1	PKPdf	04 12 10.3	+4.1
	comp=Z,31nm,0.9s						
ROSF	Rostrenen	147.61	7	ePKP1	PKPdf	04 12 09.7	+3.4
	comp=Z,14nm,0.6s						
SGMF	Saint Gilles	147.77	6	ePKP1	PKPdf	04 12 10.2	+3.7
	comp=Z,54nm,0.8s						
PERS	Pernice	147.77	343	ePKPbc	PKPdf	04 12 10.3	+3.7
GRR	Gorron	147.77	4	ePKP1	PKPdf	04 12 10.4	+3.9
	comp=Z,30nm,0.6s						
KBA	Koelnbreinsper	147.82	346	⇑iP	PKPdf	04 12 10.1	+3.5
	comp=Z,7.8nm,0.6s						
WATA	Walderalm	147.96	348	⇑iP	PKPdf	04 12 11.5	+4.6
	comp=Z,4.5nm,0.4s						
WTTA	Wattenberg	148.02	348	⇓iP	PKPdf	04 12 11.6	+4.6
	comp=Z,8.2nm,0.5s						
QUIF	Quistinic	148.04	7	ePKP1	PKPdf	04 12 10.9	+3.9
	comp=Z,23nm,0.9s						
MOTA	Moosalm	148.05	349	⇑iP	PKPdf	04 12 11.5	+4.5
	comp=Z,2.9nm,0.4s						
HAU	Haudompre	148.07	355	ePKP1	PKPdf	04 12 11.4	+4.4
	comp=Z,14nm,0.7s						
SQTA	Sankt Quirin	148.15	348	⇓iP	PKPdf	04 12 11.9	+4.7
	comp=Z,6.4nm,0.5s						
HINF	Hinteralfeld	148.21	354	ePKP1	PKPdf	04 12 11.4	+4.2
DAVA	Damuels	148.32	350	⇑iP	PKPdf	04 12 12.5	+5.1
	comp=Z,11nm,0.7s						
LJU	Ljubljana	148.48	343	ePKPbc	PKPdf	04 12 12.8	+5.0
VISS	Visnje	148.61	343	ePKPbc	PKPdf	04 12 12.7	+4.8
VOJS	Vojsko	148.66	344	ePKPbc	PKPdf	04 12 12.6	+4.5
BOJS	Bojanci	148.76	342	ePKPbc	PKPdf	04 12 13.6	+5.4
LOR	Lormes	148.96	358	ePKP1	PKPdf	04 12 13.8	+5.3
	comp=Z,18nm,0.6s						
HYF	Humbligny	148.99	359	ePKP1	PKPdf	04 12 14.0	+5.5
SSF	Saint Saulge	149.18	358	ePKP1	PKPdf	04 12 14.4	+5.6
	comp=Z,23nm,0.7s						
CABF	La Chapelle	149.47	355	ePKP1	PKPdf	04 12 15.6	+6.3
	comp=Z,56nm,1.0s						
SMF	Signal de Mont	149.58	358	ePKP1	PKPdf	04 12 15.0	+5.5
MFF	Saint Martin d	149.59	3	ePKP1	PKPdf	04 12 15.0	+5.5
BGF	Bois d'Agland	149.70	359	ePKP1	PKPdf	04 12 15.5	+5.8
	comp=Z,21nm,0.5s						
TCF	Toulx Ste Croi	149.97	360	ePKP1	PKPdf	04 12 15.9	+5.8
	comp=Z,14nm,0.8s						
OG05	Jujurieux	150.09	355	PKP	PKPdf	04 12 16.9	+6.6
OG05	Jujurieux	150.09	355	eP	PKPdf	04 12 16.9	+6.6
AGO	Saint Agoulin	150.20	359	PKP	PKPdf	04 12 17.4	+6.9
AGO	Saint Agoulin	150.20	359	eP	PKPdf	04 12 17.4	+6.9
PLDF	La Plantade	150.27	358	PKP	PKPdf	04 12 17.8	+7.2
PLDF	La Plantade	150.27	358	eP	PKPdf	04 12 17.8	+7.2
RSL	Roselend	150.34	354	PKP	PKPdf	04 12 17.6	+6.9
RSL	Roselend	150.34	354	eP	PKPdf	04 12 17.6	+6.9
LPL	La Plagne	150.50	353	ePKP1	PKPdf	04 12 18.3	+7.4
	comp=Z,29nm,0.8s						
PYM	Petit Puy Mans	150.50	359	PKP	PKPdf	04 12 18.1	+7.2
PYM	Petit Puy Mans	150.50	359	eP	PKPdf	04 12 18.1	+7.2
LPG	La Plagne	150.51	353	ePKP1	PKPdf	04 12 18.5	+7.5
	comp=Z,25nm,0.8s						
RJF	Les Rejaudoux	150.95	1	ePKP1	PKPdf	04 12 18.3	+6.7
	comp=Z,16nm,0.8s						
LBL	Lubilhac	151.01	358	PKP	PKPdf	04 12 19.4	+7.7
LBL	Lubilhac	151.01	358	eP	PKPdf	04 12 19.4	+7.7
ORIF	Oris-en-Rattie	151.17	355	ePKP1	PKPdf	04 12 19.4	+7.4
	comp=Z,12nm,0.6s						
MBDF	Montbardon	151.27	353	ePKP1	PKPdf	04 12 19.6	+7.5
	comp=Z,26nm,0.7s						
LFF	La Frestale	151.29	2	ePKP1	PKPdf	04 12 19.2	+7.1
	comp=Z,19nm,0.7s						
VIVF	Saint-Julien-l	151.33	356	ePKP1	PKPdf	04 12 19.7	+7.5
	comp=Z,15nm,0.8s						
CAF	Calviac	151.33	0	ePKP1	PKPdf	04 12 19.5	+7.3
	comp=Z,15nm,0.6s						
SAOF	Saorge	151.90	352	PKP	PKPdf	04 12 20.8	+7.8
AUTN	L'Aution	151.91	352	PKP	PKPdf	04 12 21.5	+8.5
AUTN	L'Aution	151.91	352	eP	PKPdf	04 12 21.5	+8.5
TOUF	Mont Tournerai	151.91	352	PKP	PKPdf	04 12 20.0	+7.0
SBF	Sospel	152.04	352	ePKP1	PKPdf	04 12 20.5	+7.3
	comp=Z,16nm,0.6s						
SMRF	Simiane la Rot	152.13	355	ePKP1	PKPdf	04 12 21.8	+8.4
	comp=Z,12nm,0.7s						
LASF	Ste Croix	152.15	357	ePKP1	PKPdf	04 12 21.6	+8.2
	comp=Z,16nm,0.9s						
REVF	Revere	152.17	352	PKP	PKPdf	04 12 22.8	+9.4
REVF	Revere	152.17	352	eP	PKPdf	04 12 22.8	+9.4
IDI	Anoyia	152.17	317	PKPbc	PKPdf	04 12 21.6	+7.9
	comp=Z,7.3nm,0.5s,baz=346,slow=8.3,SNR=11						
FRF	La Foret Royal	152.44	353	ePKP1	PKPdf	04 12 21.6	+7.8
	comp=Z,17nm,1.0s						
MTLF	Montolieu	152.92	360	ePKP1	PKPdf	04 12 23.0	+8.5
	comp=Z,4.0nm,0.6s						
SJPF	Ste Jean	152.99	5	ePKP1	PKPdf	04 12 24.0	+9.4
PGF	Pioggiola	153.07	349	ePKP1	PKPdf	04 12 23.0	+8.3
EPF	Esparros	153.18	3	ePKP1	PKPdf	04 12 23.8	+8.9
	comp=Z,2.6nm,0.6s						
ETSF	Etsaut	153.26	4	ePKP1	PKPdf	04 12 23.5	+8.5
	comp=Z,9.1nm,0.6s						
DBIC	Dimbokro	168.31	143	PKP	PKPdf	04 12 32.2	+0.5
	comp=Z,3.4nm,0.8s,baz=59,slow=1.6,SNR=3.7						

MOS ***13*** *03:59:23.1±1.0, 51.67N×16.05E, h10km, mb4.0/1, Error ellipse: s-maj=6.5km s-min=3.8km az=76.9*
NEIC ***13*** *03:59:24.6±0.4, 51.64N×16.03E, h5km, ML4.1(STR), ML3.7(VIE), ML3.7(SZGRF), Error ellipse: s-maj=5.2km s-min=3.6km az=196.0*
LDG ***13*** *03:59:24.0±0.2, 51.58N×16.21E, h1km, Md3.9/3, Ml3.9/13, Error ellipse: s-maj=5.6km s-min=3.2km az=178.0, Suspected Mining induced.*
BGR ***13*** *03:59:26.0±0.6, 51.53N×16.00E, h1km, ML3.7/11, Error ellipse: s-maj=5.6km s-min=4.4km az=110.0*
PRU ***13*** *03:59:25.8, 51.55N×16.10E, Felt In Harrachov*
CSEM ***13*** *03:59:25.1±0.1, 51.57N×16.10E, h0km, ML3.9/26, Error ellipse: s-maj=1.7km s-min=1.0km az=14.0*
IDC ***13*** *03:59:25.4±0.6, 51.54N×15.99E, mb3.6/1, mb1 3.7/9, mb1mx3.6/25, mbtmp3.6/9, ML3.6/8, MS3.9/1, Ms1 3.9/1, ms1mx2.8/24, Error ellipse: s-maj=10.1km s-min=5.8km az=100.0*
NAO ***13*** *03:59:26.3±4.0, 51.57N×15.75E, ML3.0*
WAR ***13*** *03:59:26.5, 51.54N×16.03E, h1km, ML3.4, Mining Induced*
IPEC ***13*** *03:59:26.0±0.2, 51.55N×16.05E, h9km±1km, ML3.2/4, Error ellipse: s-maj=1.3km s-min=0.6km az=21.0*
STR ***13*** *03:59:32.8±0.5, 51.22N×15.67E, h10km±1km, Ml3.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 13 03:59:22.2±0.2**, 51.55N**±0.01×**16.06E**±0.02**, n144, σ1s54**/260**, mb3.6**/1**, MS4.0**/1**, 10C-10D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.73	168	⇓iP	Pg	03 59 39.5	+2.8
KSP				e		03 59 53.2	
KSP	Ksiaz	0.73	168	⇓iPg	Pg	03 59 39.5	+2.8
KSP				e		03 59 41.3	
KSP				i Sg	Sg	03 59 49.0	+2.6
KSP				e		03 59 53.2	
KSP				e		03 59 55.0	
KSP	Ksiaz	0.73	168	⇓iPG	Pg	03 59 39.5	+2.8
KSP				⇓iSG	Sg	03 59 49.0	+2.6
KSP	Ksiaz	0.73	168	⇓iPg	Pg	03 59 39.6	+2.9
KSP				eSg	Sg	03 59 49.1	+2.8
KSP	Ksiaz	0.73	168	ePg	Pg	03 59 39.5	+2.8
KSP				eSg	Sg	03 59 48.9	+2.5
KSP				eS	Sg	03 59 53.2	+6.8
UPC	Upice	1.05	182	ePG	Pg	03 59 45.3	+2.2
DPC	Dobruska-Polom	1.22	172	eP	Pg	03 59 48.2	+1.7
DPC				e		04 00 03.7	
DPC				smax			
	comp=N,201nm,0.2s						
DPC	Dobruska-Polom	1.22	172	ePG	Pg	03 59 48.2	+1.7
DPC				eSG	Sg	04 00 03.7	+1.0
	comp=N,201nm,0.2s						
PVCC	Panska Ves	1.39	223	ePg	Pg	03 59 51.4	+1.4
PVCC				eSg	Sg	04 00 10.6	+2.0
BRG	Berggiesshubel	1.50	244	ePn	Pn	03 59 52.2	+1.8
BRG				eSg	Sg	04 00 13.6	+1.6
BRG	Berggiesshubel	1.50	244	P	Pn	03 59 52.4	+2.0
BRG						04 00 13.5	
BRG				smax			
	comp=N,466nm,0.3s						
BRG	Berggiesshubel	1.50	244	Pn	Pn	03 59 52.4	+2.0
BRG				Pg	Pg	03 59 53.9	+1.8
BRG				Sg	Sg	04 00 13.5	+1.4
BRG	Berggiesshubel	1.50	244	Pg	Pg	03 59 53.9	+1.8
BRG				Sg	Sg	04 00 13.6	+1.5
RUE	Ruedersdorf	1.69	304	ePn	Pn	03 59 55.0	+1.8
RUE				eSg	Sg	04 00 20.0	+1.5
RUE	Ruedersdorf	1.69	304	ePn	Pn	03 59 55.0	+1.8
RUE				eSg	Sg	04 00 20.0	+1.5
FBE	Freiberg	1.82	251	Pn	Pn	03 59 56.6	+1.6
FBE				Sg	Sg	04 00 23.1	+0.4
PRU	Pruhonice	1.84	212	eP	Pn	03 59 57.3	+2.0
PRU				e		04 00 23.2	
PRU				smax			
	comp=N,120nm,0.3s						
PRU	Pruhonice	1.84	212	ePN	Pn	03 59 57.3	+2.0
PRU				ePG	Pg	03 59 59.3	+0.3
PRU				ex	x	04 00 16.1	
PRU				eSG	Sg	04 00 23.2	-0.3
	comp=N,120nm,0.3s						
PRU	Pruhonice	1.84	212	ePn	Pn	03 59 57.2	+1.9
CLL	Collm	1.93	264	ePn	Pn	03 59 58.1	+1.5
CLL				eSg	Sg	04 00 27.3	+0.7
CLL	Collm	1.93	264	i P	Pg	04 00 00.8	0.0
CLL				i		04 00 27.4	
CLL	Collm	1.93	264	i Pn	Pn	03 59 58.2	+1.6
CLL				i Pg	Pg	04 00 00.8	0.0
CLL				i Sg	Sg	04 00 27.4	+0.9
CLL	Collm	1.93	264	i PN	Pn	03 59 58.2	+1.6
CLL				i PG	Pg	04 00 00.8	0.0
CLL				i		04 00 05.1	
CLL				i SG	Sg	04 00 27.4	+0.9
CLL	Collm	1.93	264	i Pg	Pg	04 00 00.8	0.0
CLL				Sg	Sg	04 00 27.3	+0.8
RAC	Raciborz	2.00	137	eP	Pn	03 59 59.1	+1.5
RAC				e		04 00 29.4	
RAC	Raciborz	2.00	137	ePn	Pn	03 59 59.1	+1.5
RAC				ePg	Pg	04 00 02.9	+0.8
RAC				eSg	Sg	04 00 29.4	+0.7
RAC	Raciborz	2.00	137	ePg	Pg	04 00 02.9	+0.8
RAC				eSg	Sg	04 00 29.4	+0.7
MORC	Moravsky Berou	2.01	152	eP	Pn	03 59 59.6	+1.8
MORC	Moravsky Berou	2.01	152	ePn	Pn	03 59 59.8	+2.0
MORC				eSg	Sg	04 00 28.9	-0.3
	comp=N,105nm,0.3s						
OKC	Ostrava-Krasne	2.17	142	eP	Pn	04 00 01.6	+1.6
OKC				e		04 00 33.7	
OKC	Ostrava-Krasne	2.17	142	ePN	Pn	04 00 01.6	+1.6
OKC				ePG	Pg	04 00 05.2	-0.3
OKC				eSG	Sg	04 00 33.7	-0.7
OKC	Ostrava-Krasne	2.17	142	ePg	Pg	04 00 05.2	-0.3
OKC				eSg	Sg	04 00 33.7	-0.7
	comp=N,0.1nm,0.4s						
VRAC	Vranov	2.27	171	Pn	Pn	04 00 03.5	+2.0
	comp=N,9.2nm,0.3s,baz=328,slow=16,SNR=36						
VRAC				Lg		04 00 36.6	
	comp=N,31nm,0.3s,baz=84,slow=20,SNR=8.8						
VRAC	Vranov	2.27	171	Pn	Pn	04 00 03.5	+2.0
VRAC				S	Sn	04 00 36.6	+5.9
VRAC				eSg	Sg	04 00 37.4	-0.5
	comp=N,101nm,0.4s						
KRUC	Moravsky	2.50	175	ePn	Pn	04 00 07.2	+2.4
KRUC	Moravsky	2.50	175	ePg	Pg	04 00 11.5	-0.7
KRUC				eSg	Sg	04 00 45.2	-0.4
	comp=N,86nm,0.6s						
WERD	Werda	2.62	246	ePn	Pn	04 00 08.4	+1.9
WERD				eSg	Sg	04 00 48.3	-1.1
GUNZ	Gunzen	2.64	245	ePn	Pn	04 00 08.7	+1.9
GUNZ				eSg	Sg	04 00 50.0	-0.2
NKC	Novy Kostel	2.64	241	eP	Pn	04 00 08.9	+2.1
NKC				e		04 00 49.3	
NKC				smax			
	comp=N,411nm,0.7s						
NKC	Novy Kostel	2.64	241	ePN	Pn	04 00 08.9	+2.1
NKC				ePG	Pg	04 00 15.0	0.0
NKC				eSG	Sg	04 00 49.3	-0.9
	comp=N,411nm,0.7s						
NKC	Novy Kostel	2.64	241	ePn	Pn	04 00 08.8	+2.0
OJC	Ojcow	2.72	118	eP	Pn	04 00 08.1	+0.2
OJC				e		04 00 40.9	
OJC	Ojcow	2.72	118	ePn	Pn	04 00 08.1	+0.2
OJC				ePg	Pg	04 00 16.9	+0.5
OJC				eSn	Sn	04 00 40.9	-1.0
OJC				eSg	Sg	04 00 53.0	+0.4
OJC	Ojcow	2.72	118	ePg	Pg	04 00 16.9	+0.5
OJC				eSn	Sn	04 00 40.9	-1.0
OJC				eSg	Sg	04 00 51.6	-1.0
JAVC	Velka Javorina	2.89	158	eSg	Sg	04 00 57.3	-1.1
	comp=N,103nm,0.8s						
KHC	Kasperske Hory	2.90	214	eP	Pn	04 00 12.0	+1.5
KHC				e		04 00 47.0	
KHC				smax			
	comp=N,71nm,0.4s						
KHC	Kasperske Hory	2.90	214	ePN	Pn	04 00 12.0	+1.5
KHC				ePG	Pg	04 00 18.6	-1.5
KHC				eSN	Sn	04 00 47.0	+0.4
KHC				eSG	Sg	04 00 56.9	-1.9
	comp=N,71nm,0.4s						
MOX	Moxa	2.95	254	ePn	Pn	04 00 12.6	+1.5
MOX				eSg	Sg	04 00 59.9	-0.5
MOX	Moxa	2.95	254	ePn	Pn	04 00 12.8	+1.6
MOX				ePg	Pg	04 00 20.6	-0.5
MOX				eSg	Sg	04 01 00.3	-0.1
MOX	Moxa	2.95	254	i P	Pn	04 00 12.8	+1.6
MOX				Pg	Pg	04 00 21.0	-0.1
MOX				Sg	Sg	04 01 00.0	-0.4
MOX	Moxa	2.95	254	ePg	Pg	04 00 20.6	-0.5
MOX				Sg	Sg	04 00 59.9	-0.5
NOTT	Nottersdorf	3.05	237	ePn	Pn	04 00 14.3	+1.6
NOTT				eSg	Sg	04 01 02.6	-1.3
GEC2	GERESS Array S	3.11	210	ePn	Pn	04 00 14.9	+1.5
GEC2				eSg	Sg	04 01 02.4	-3.2
GEC2	GERESS Array S	3.11	210	ePn	Pn	04 00 14.9	+1.5
GEC2				eSg	Sg	04 01 02.4	-3.2
GERES	GERESS Array B	3.11	210	P	Pn	04 00 15.1	+1.7
GERES						04 01 01.8	
GERES	GERESS Array B	3.11	210	Pn	Pn	04 00 15.1	+1.7
	comp=N,9.2nm,0.3s,baz=30,slow=13,SNR=193						
GERES				Pg	Pg	04 00 21.7	-2.6
	comp=N,24nm,0.3s,baz=33,slow=17,SNR=38						
GERES				Lg		04 01 01.8	
	comp=N,22nm,0.3s,baz=40,slow=25,SNR=13						
GERES	GERESS Array B	3.11	210	ePg	Pg	04 00 22.1	-2.1
WET	Wettzell	3.16	221	ePn	Pn	04 00 15.9	+1.7
WET				eSg	Sg	04 01 04.8	-2.5
WET	Wettzell	3.16	221	ePn	Pn	04 00 15.9	+1.7
WET				eSg	Sg	04 01 04.8	-2.6
SMOL	Smolenice	3.17	163	ePn	Pn	04 00 18.2	+3.9
SMOL				ePg	Pg	04 00 26.1	+0.7
SMOL				eSg	Sg	04 01 06.8	-0.9
SMOL	Smolenice	3.17	163	ePg	Pg	04 00 26.1	+0.7
SMOL				eSg	Sg	04 01 06.8	-0.9
LIKS	Likavka	3.17	141	eSG	Sg	04 01 08.7	+0.8
ZST	Bratislava	3.43	168	ePn	Pn	04 00 20.7	+2.7
ZST				ePg	Pg	04 00 29.4	-1.2
ZST				eSg	Sg	04 01 12.9	-3.4
ZST	Bratislava	3.43	168	ePg	Pg	04 00 29.4	-1.2
ZST				eSg	Sg	04 01 12.9	-3.4
NIE	Niedzica	3.45	127	ePN	Pn	04 00 20.0	+1.6
NIE				ePN	Pg	04 00 30.0	-1.2
NIE				eS	Sg	04 01 15.0	-2.2
VYHS	Vyhne	3.55	149	ePn	Pn	04 00 21.1	+1.4
VYHS				ePg	Pg	04 00 32.5	-0.5
VYHS				eSg	Sg	04 01 17.1	-3.2
CLZ	Clausthal	3.55	277	ePn	Pn	04 00 21.7	+1.9
GRA1	Grafenberg Arr	3.60	241	ePn	Pn	04 00 22.2	+1.7
GRA1				eSg	Sg	04 01 19.8	-2.4
GRA1	Grafenberg Arr	3.60	241	Pn	Pn	04 00 22.2	+1.7
GRA1				Sg	Sg	04 01 19.8	-2.4
GRF	Grafenberg Arr	3.60	241	ePn	Pn	04 00 22.2	+1.7
GRF				eSg	Sg	04 01 19.8	-2.4
BSD	Bornholm Skovb	3.63	350	⇓iP	Pn	04 00 21.5	+0.6
BSD				i S	Sn	04 01 03.2	-1.9
MOA	Molln	3.89	198	⇓iPN	Pn	04 00 26.3	+1.8
MOA				i SG	Sg	04 01 28.2	-3.4
	comp=N,32nm,0.5s						
STHS	Stebnicka Huta	3.94	121	ePn	Pn	04 00 27.4	+2.1
STHS				ePg	Pg	04 00 41.1	+0.2
STHS				eSg	Sg	04 01 32.9	-0.5
KECS	Kecovo	4.19	135	ePn	Pn	04 00 29.4	+0.6
KECS				ePg	Pg	04 00 43.2	-2.7
KECS				eSg	Sg	04 01 39.4	-2.4
ARSA	Arzberg	4.32	185	⇑iPN	Pn	04 00 32.9	+2.2
ARSA				i PG	Pg	04 00 46.1	-2.4
ARSA				i SG	Sg	04 01 43.0	-3.1
	comp=N,57nm,0.7s						
CRVS	Cervenica-Dubn	4.36	125	ePn	Pn	04 00 34.4	+3.1
CRVS				ePg	Pg	04 00 47.9	-1.4
CRVS				eSg	Sg	04 01 44.7	-2.8
PSZ	Piszkesteto	4.41	144	eP	Pn	04 00 32.6	+0.7
KWP	Kalwaria	4.65	112	ePn	Pn	04 00 35.5	+0.2
KWP				ePg	Pg	04 00 51.3	-3.7
KWP				eSn	Sn	04 01 53.1	+22
KWP				eSg	Sg	04 02 07.7	+11
KWP	Kalwaria	4.65	112	ePn	Pn	04 00 35.5	+0.1
KWP				ePg	Pg	04 00 51.3	-3.7
KWP				eSn	Sn	04 01 53.1	+22
KWP				eSg	Sg	04 02 07.7	+11
KOLS	Kolonicke sedl	4.77	121	ePN	Pn	04 00 38.1	+1.0
KOLS				e		04 11 58.5	
KBA	Koelnbreinsper	4.82	203	⇑iPN	Pn	04 00 39.6	+1.8
KBA				i SG	Sg	04 02 01.1	-1.5
	comp=N,42nm,0.5s						
UZH	Uzhgorod	4.96	124	eP	Pg	04 00 55.5	-5.8
TOD	Tromm	5.02	250	Pn	Pn	04 00 40.6	0.0
TOD				Sg	Sg	04 02 06.5	-2.8
GROS	Grobnik	5.11	184	ePn	Pn	04 00 43.8	+2.0
WATA	Walderalm	5.14	216	⇓iPn	Pn	04 00 44.3	+2.1
	comp=N,12nm,0.3s						
WATA				i Sg	Sg	04 02 10.2	-3.0
	comp=N,12nm,0.3s						
OBKA	Obir	5.15	192	⇑iPN	Pn	04 00 43.4	+1.0
OBKA				i PG	Pg	04 01 02.7	-2.2
OBKA				i SG	Sg	04 02 12.6	-0.9
	comp=N,20nm,0.7s						
OBKA	Obir	5.15	192	⇑iPn	Pn	04 00 43.4	+1.0
	comp=N,20nm,0.7s						
OBKA				i Pg	Pg	04 01 02.7	-2.2
OBKA				i Sg	Sg	04 02 12.6	-0.9
WTTA	Wattenberg	5.17	216	⇑iPN	Pn	04 00 44.8	+2.0
WTTA				i SG	Sg	04 02 14.5	0.0
	comp=N,33nm,0.8s						
WTTA	Wattenberg	5.17	216	⇑iPn	Pn	04 00 44.8	+2.0
	comp=N,33nm,0.8s						
WTTA				i Sg	Sg	04 02 14.5	0.0
MOTA	Moosalm	5.31	219	⇓iPN	Pn	04 00 45.9	+1.2
LVV	L'vov	5.35	106	eP	Pn	04 00 46.5	+1.2
SQTA	Sankt Quirin	5.37	218	⇑iPN	Pn	04 00 48.0	+2.5
PDKS	Podkum	5.54	188	ePn	Pn	04 00 49.6	+1.7
CADS	Cadrg	5.55	197	ePn	Pn	04 00 48.9	+0.9
ABH	Alteburg	5.66	256	Pn	Pn	04 00 50.4	+0.7
VOY	Vojsko	5.71	195	ePn	Pn	04 00 51.2	+0.9
VOY				eSn	Sg	04 02 33.5	+1.2
DAVA	Damuels	5.87	226	⇑iPN	Pn	04 00 52.7	+0.1
DAVA				i SG	Sg	04 02 36.8	-1.0
	comp=N,24nm,0.7s						
DAVA	Damuels	5.87	226	⇑iPn	Pn	04 00 52.7	+0.1
	comp=N,24nm,0.7s						
DAVA				i Sg	Sg	04 02 36.8	-1.0
LANF	Langenberg	5.89	247	Pn	Pn	04 00 53.0	+0.2
LANF				Sg	Sg	04 02 32.2	-6.0
RUP	Ruppelstein	6.02	256	Pn	Pn	04 00 55.2	+0.5
DAVOX	Davos	6.26	223	Pn	Pn	04 00 58.5	+0.4
	comp=N,1.1nm,0.3s,baz=38,slow=11,SNR=9.3						
DAVOX				Lg		04 02 44.5	
	comp=N,1.3nm,0.3s,baz=180,slow=20,SNR=3.7						
DAVOX	Davos	6.26	223	Pn	Pn	04 00 58.5	+0.4
DAVOX				Lg		04 02 44.5	
FELD	Feldberg	6.39	238	Sg	Sg	04 02 48.7	-6.3
WLS	Welschbruch	6.44	244	Pn	Pn	04 01 00.9	+0.3
WLS				Sg	Sg	04 02 52.0	-4.5
DRGR		6.46	135	⇓P	Pn	04 01 01.7	+0.8
CDF	Champ du Feu	6.48	244	ePn	Pn	04 01 00.2	-1.0
CDF				eSg	Sg	04 02 50.6	-7.4
	comp=N,35nm,0.8s						
ECH	Echery	6.65	243	Pn	Pn	04 01 03.8	+0.2
MOF	Molkenrain	6.87	241	Pn	Pn	04 01 06.6	-0.1
HINF	Hinteralfeld	7.05	242	ePn	Pn	04 01 07.3	-1.9
HINF				eSg	Sg	04 03 07.4	-9.5
	comp=N,21nm,0.7s						
BURAR	Bucovina Array	7.14	120	⇑P	Pn	04 01 10.5	+0.1
HAU	Haudompre	7.22	244	ePn	Pn	04 01 11.0	-0.6
HAU				eSg	Sg	04 03 12.8	-10
	comp=N,27nm,0.8s						
GIVF	Givet	7.27	263	ePn	Pn	04 01 12.3	0.0
GIVF				eSg	Sg	04 03 15.4	-8.8
	comp=N,15nm,0.6s						
THEF	They Montfort	7.31	247	Pn	Pn	04 01 12.0	-0.9
RFYF	Reffroy	7.41	251	ePn	Pn	04 01 12.1	-2.2
	baz=69						
RFYF				eSg	Sg	04 03 19.3	-10
	comp=N,39nm,1.1s						
BAIF	Baives	7.66	263	ePn	Pn	04 01 16.0	-1.8
BAIF				eSg	Sg	04 03 26.6	-11
	comp=N,34nm,1.1s						
MEZF	Maizieres J'vi	7.72	251	ePn	Pn	04 01 16.8	-1.8
	baz=67						
SFTF	Sexfontaines	7.87	249	ePn	Pn	04 01 18.3	-2.4
SFTF				eSg	Sg	04 03 33.8	-10
	comp=N,50nm,1.2s						
CABF	La Chapelle	8.20	237	ePn	P	04 01 23.2	-2.2
CABF				eSg	Sg	04 03 44.2	-11
	comp=N,34nm,0.8s						
AKASG	Malin Array Be	8.33	91	Pn	P	04 01 24.3	-2.7
	comp=N,3.6nm,0.3s,baz=280,slow=12,SNR=17						
AKASG				Sn	Sn	04 02 53.6	-9.3
	comp=N,1.7nm,0.3s,baz=269,slow=23,SNR=4.6						
AKASG				Lg		04 03 57.6	
	comp=N,0.4nm,0.3s,baz=267,slow=27,SNR=5.0						
AKASG	Malin Array Be	8.33	91	Pn	P	04 01 24.3	-2.8
AKASG				Sn	Sn	04 02 53.7	-9.2
HFS	Hagfors	8.70	352	Pn	P	04 01 30.4	-1.9
	baz=178,slow=14						
HFS				Sn	Sn	04 03 05.7	-6.7
	baz=170,slow=28						
HFS	Hagfors	8.70	352	Pn	P	04 01 30.5	-1.8
	comp=N,0.1nm,0.3s,baz=168,slow=14,SNR=17						
HFS				Sn	Sn	04 03 03.9	-8.5
	comp=N,0.1nm,0.3s,baz=175,slow=17,SNR=2.5						
LOR	Lormes	9.04	246	ePn	P	04 01 35.0	-1.9
	baz=64						
LOR				eSg	Sg	04 04 11.0	-12
	comp=N,7.7nm,0.7s						
MBDF	Montbardon	9.23	226	ePn	P	04 01 36.8	-2.8
MBDF				eP		04 01 42.6	
MBDF	Montbardon	9.23	226	eP	P	04 01 42.6	+3.0
VSU	Vasula	9.24	37	eP	P	04 01 39.4	-0.3
SSF	Saint Saulge	9.35	246	ePn	P	04 01 38.9	-2.4
SSF				eSg	Sg	04 04 20.4	-13
	comp=N,2.8nm,0.6s						
SMF	Signal de Mont	9.40	243	eSg	Sg	04 04 21.4	-14
	comp=N,13nm,0.9s						
ORIF	Oris-en-Rattie	9.49	230	ePn	P	04 01 40.5	-2.7
NB2	NORSAR Subarra	9.88	346	Pn	P	04 01 45.7	-2.7
	baz=174,slow=16						
NB2				Sn	Sn	04 03 41.2	-0.1
NOA	NORSAR Array B	9.88	346	Pn	P	04 01 45.0	-3.4
	comp=N,0.3nm,0.3s,baz=172,slow=16,SNR=2.6						
NOA				Sn	Sn	04 03 33.2	-8.1
	comp=N,0.2nm,0.3s,baz=237,slow=25,SNR=2.7						
BGF	Bois d'Agland	10.01	245	ePn	P	04 01 47.6	-2.6
BGF				eSg	S	04 04 40.2	+56
	comp=N,14nm,0.7s						
FIA0	FINESS Array S	11.34	25	Pn	P	04 02 05.9	-2.5
	baz=209,slow=12						
FIA0				Sn	S	04 04 07.5	-9.4
	baz=212,slow=22						
FINES	FINESS Array B	11.34	25	P	P	04 02 06.0	-2.4
FINES						04 04 06.4	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	FINESS Array B	11.34	25	Pn	P	04 02 06.0	-2.4
	comp=Z,0.9nm,0.3s,baz=207,slow=14,SNR=26						
FINES				Sn	S	04 04 06.4	-11
	comp=Z,0.6nm,0.3s,baz=203,slow=21,SNR=6.4						
KAF	Kangasniemi	11.96	24	ep	P	04 02 15.7	-1.1
EKA	Eskdalemuir Ar	12.06	296	Pn	P	04 02 14.1	-4.2
	comp=Z,0.3nm,0.3s,baz=106,slow=14,SNR=6.5						
OBN	Obninsk	12.75	66	eP	P	04 02 24.3	-3.2
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SOC	Sochi	17.78	107	eP	P	04 03 30.4	-2.2
SOC				e		04 06 47.6	
SOC				pmax	pmax		
	comp=Z,13nm,1.0s						
SOC				pmax	pmax		
	comp=N,17nm,0.8s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.8s						
SOC				MLR	MLR		
	comp=Z,99nm,22.0s						
SOC				MLR	MLR		
	comp=N,55nm,21.0s						
SOC				MLR	MLR		
	comp=E,62nm,20.0s						
APA0	Apatity Array	18.12	21	P	P	04 03 35.9	-0.8
	baz=214,slow=16						
ARA0	ARCESS Array S	18.59	10	Pn	P	04 03 39.8	-2.6
	baz=190,slow=14						
ARCES	ARCESS Array B	18.59	10	Pn	P	04 03 39.7	-2.7
	comp=E,0.3nm,0.3s,baz=189,slow=14,SNR=16						
KIV	Kislovodsk	19.37	103	i P	P	04 03 51.3	-0.6
YKA	Yellowknife Ar	59.81	336	P	P	04 09 31.2	+0.2
	comp=E,0.2nm,0.3s,mb3.6,baz=35,slow=6.8,SNR=4.1						
YKA				LR	LR	04 35 41.9	
	comp=E,94nm,18.1s,MS4.0,baz=75,slow=36						

NEIC ***13*** *04:11:24.2, 32.84S×68.81W, h14km, ML3.4(GUC), After GUC.*

GUC 13 04:11:24.2±1.0**, 32.84S×68.81W, h14km, MD4.1, ML3.4, 6C-6D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	Mendoza	0.06	218	⇓iP	Pb	04 11 26.2	-0.5
MDZ				i S	Sb	04 11 30.2	+1.9
ZON	Zonda	1.29	5	eP	Pb	04 11 46.0	-1.7
ZON				eS	Sb	04 12 06.0	+2.0
FCH	Farellones	1.34	248	⇓iP	Pn	04 11 46.8	-1.8
FCH				i S	Sb	04 12 04.4	-1.1
FCH				AMP		04 12 07.7	
	comp=N,633nm,0.4s						
JACH	Jahuel	1.51	275	⇑iP	Pn	04 11 49.7	-1.4
JACH				i S	Sb	04 12 09.4	-1.1
SJCH	San Jose de Ma	1.53	238	⇑iP	Pn	04 11 50.0	-1.3
SJCH				i S	Sb	04 12 10.0	-0.9
SJCH				AMP		04 12 11.7	
	comp=E,255nm,0.4s						
LMEL	Las Melosas	1.55	229	⇓iP	Pn	04 11 50.6	-0.9
LMEL				i S	Sb	04 12 11.7	+0.3
LMEL				AMP		04 12 14.9	
	comp=N,612nm,0.2s						
CLCH	Cerro Calan	1.56	248	⇓iP	Pn	04 11 50.6	-1.1
CLCH				i S	Sn	04 12 11.1	-0.7
CLCH				AMP		04 12 17.8	
	comp=E,698nm,0.7s						
DSCH	Colegio Aleman	1.58	249	eP	Pn	04 11 51.2	-0.9
DSCH				i S	Sn	04 12 11.9	-0.5
DSCH				AMP		04 12 16.5	
	comp=E,825nm,0.7s						
PCH	Pirque	1.63	241	⇑iP	Pn	04 11 52.1	-0.6
PCH				i S	Sn	04 12 14.2	+0.6
ANTU	Antumapu	1.70	244	AMP		04 12 16.6	
	comp=N,501nm,0.4s						
RCDM	Rinconada Maip	1.80	248	eP	Pn	04 11 55.2	0.0
RCDM				AMP		04 12 24.7	
	comp=E,205nm,0.6s						
ROCH	El Roble	1.86	265	i S	Sn	04 12 19.6	+0.1
CHCH	Chadas Angostu	1.89	234	eP	Pn	04 11 56.8	+0.3
CHCH				i S	Sn	04 12 22.4	+2.1
TACH	Talagante	1.96	245	⇓iP	Pn	04 11 57.6	+0.1
TACH				i S	Sn	04 12 23.0	+0.9
CACH	El Canelo	1.97	229	eP	Pn	04 11 58.3	+0.7
CICH	Cipreses	2.00	222	⇑iP	Pn	04 11 59.2	+1.1
CICH				i S	Sn	04 12 27.3	+4.3
PACH	Papudo	2.24	277	⇑iP	Pn	04 12 01.6	+0.1
PACH				i S	Sn	04 12 30.3	+1.2
LCCH	Las Cruces	2.41	254	⇑iP	Pn	04 12 03.6	-0.3
LCCH				i S	Sn	04 12 35.7	+2.4
LNV	Longovilo	2.45	242	eP	Pn	04 12 04.7	+0.2
CMCH	Combarbala	2.50	311	⇓iP	Pn	04 12 05.7	+0.6
CMCH				i S	Sn	04 12 38.8	+3.2
CMCH				AMP		04 12 41.4	
	comp=E,2μm,0.8s						
TLL	Tololo Astrono	3.16	327	eP	Pn	04 12 16.5	+1.9
TLL				i S	Sn	04 12 55.9	+3.5
TLL				AMP		04 13 06.1	
	comp=N,450nm,0.6s						

MAN 13 04:14:47.8, 10.37N×126.07E, h22km, mb3.9, ML2.6, MS2.2, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.82	225	i P	Pb	04 15 03.3	+0.2
SCPH				i S	Sb	04 15 15.7	+2.0
MSLP	Maasin	1.22	259	i P	Pn	04 15 09.7	+0.1
BESP	Borongan	1.38	333	eP	Pn	04 15 10.9	-1.1
GUIM	Jordan	3.44	275	i P	Pn	04 15 41.6	+0.3

CSEM ***13*** *04:50:23.9±0.5, 38.52N×26.82W, h4km±1km, ML2.9, Error ellipse: s-maj=9.1km s-min=4.0km az=120.0, After PDA*
PDA ***13*** *04:50:23.9±1.2, 38.52N×26.82W, h4km±4km, MD3.1,*

ML2.9, Error ellipse: s-maj=7.0km s-min=1.9km az=32.0

SVSA 13 04:50:23.9±1.2**, 38.52N×26.82W, h4km±4km, MD3.1, ML2.9, Error ellipse: s-maj=7.0km s-min=1.9km az=32.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PFAV	Pico das Favas	0.28	313	eP	Pg	04 50 30.6	+1.0
PFAV				eS	Sg	04 50 34.9	+1.5
	356nm,0.1s						
PSCM	Serra do Cume	0.30	308	eP	Pg	04 50 29.2	-0.6
PSCM				eS	Sg	04 50 33.6	-0.2
	1μm,0.1s						
RIB2	Ribeirinha	0.32	299	eP	Pg	04 50 29.6	-0.6
RIB2				eS	Sg	04 50 34.3	-0.2
	360nm,0.1s						
ADH	Angra Heroismo	0.35	293	eP	Pg	04 50 30.0	-1.0
ADH				eS	Sg	04 50 35.1	-0.6
PVNV	Vila Nova	0.36	313	eP	Pg	04 50 30.2	-0.9
PVNV				eS	Sg	04 50 35.5	-0.4
	174nm,0.1s						
PPAD	Pico dos Padre	0.41	297	eP	Pg	04 50 31.2	-0.9
PPAD				eS	Sg	04 50 36.9	-0.7
	633nm,0.1s						
PBIS	Biscoitos	0.42	306	eP	Pg	04 50 31.3	-0.9
PBIS				eS	Sg	04 50 37.3	-0.5
	141nm,0.1s						
ASBA	Santa Barbara	0.44	297	eP	Pg	04 50 31.9	-0.9
ASBA				eS	Sg	04 50 38.0	-0.7
	2μm,0.1s						
PSBA	Serra de Santa	0.47	302	eP	Pg	04 50 32.2	-1.0
PSBA				eS	Sg	04 50 38.2	-1.3
	1μm,0.2s						
PMAN	Manadas	1.00	277	eP	Pb	04 50 39.9	-3.6
PMAN				eS	Sb	04 50 51.9	-5.0
	151nm,0.1s						
STGR	Santa Cruz	1.08	302	eS	Sb	04 50 53.2	-6.0
	52nm,0.2s						
PVER	Pico Vermelho	1.26	125	eS	Sb	04 50 58.5	-5.8
PICO	Pico	1.26	270	eP	Pb	04 50 43.1	-4.8
PICO				eS	Sb	04 50 58.3	-6.1
PMAT	Coroa da Mata	1.27	123	eS	Sb	04 50 58.1	-6.7
	112nm,0.3s						
LFA	Lagoa do Fogo	1.29	125	erx		04 51 04.5	
MESC	Monte Escuro	1.30	123	eS	Sb	04 50 59.0	-6.6
PRCH	Ribeira Ch	1.32	126	eS	Sb	04 50 59.9	-6.2
	203nm,0.2s						
VIF	Vila Franca	1.33	125	erx		04 51 04.4	
PCNG	Congro	1.35	123	eS	Sb	04 51 00.5	-6.5
	109nm,0.2s						
FRA1	Furnas	1.39	123	eS	Sb	04 51 00.3	-7.8
MIRA	Miradouro	1.42	121	eS	Sb	04 51 02.3	-6.7
HOR	Horta	1.42	271	eS	Sb	04 51 02.1	-6.9
CALA	Caldeira	1.48	273	eP	Pn	04 50 46.5	-4.9

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*CSEM **13** 04:55:51.6±0.4, 38.45N×26.92W, ML2.5, Error ellipse: s-maj=18.1km s-min=4.2km az=29.0, After PDA*
*PDA **13** 04:55:51.6±1.8, 38.45N×26.92W, MD3.1, ML2.5, Error ellipse: s-maj=7.6km s-min=4.3km az=39.0*

SVSA 13 04:55:51.6±1.8**, 38.45N×26.92W, MD3.1, ML2.5, Error ellipse: s-maj=7.6km s-min=4.3km az=39.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PFAV	Pico das Favas	0.29	334	eP	Pg	04 55 58.5	+1.1
PFAV				eS	Sg	04 56 02.7	+1.5
RIB2	Ribeirinha	0.29	318	eP	Pg	04 55 57.0	-0.5
RIB2				eS	Sg	04 56 01.3	-0.1
	178nm,0.2s						
ADH	Angra Heroismo	0.32	310	eP	Pg	04 55 57.6	-0.4
ADH				eS	Sg	04 56 02.5	+0.3
PVNV	Vila Nova	0.36	330	eP	Pg	04 55 57.9	-0.9
PVNV				eS	Sg	04 56 03.2	-0.4
	78nm,0.1s						
PPAD	Pico dos Padre	0.38	311	eP	Pg	04 55 58.6	-0.6
PPAD				eS	Sg	04 56 04.6	+0.4
	267nm,0.2s						
PBIS	Biscoitos	0.40	320	eS	Sg	04 56 04.4	-0.6
	78nm,0.2s						
ASBA	Santa Barbara	0.41	311	i P	Pg	04 55 59.3	-0.6
ASBA				i S	Sg	04 56 05.8	+0.4
	602nm,0.2s						
PSBA	Serra de Santa	0.45	315	i P	Pg	04 55 59.6	-0.9
PSBA				eS	Sg	04 56 06.1	-0.4
	428nm,0.1s						
PMAN	Manadas	0.93	282	eS	Sg	04 56 18.3	-4.4
	69nm,0.2s						
STGR	Santa Cruz	1.05	307	eP	Pb	04 56 03.0	-9.4
STGR				eS	Sb	04 56 16.8	-10
SET4	Mosteiros	1.06	123	eS	Sb	04 56 21.9	-4.8
SET2	Ginetes	1.07	124	eP	Pb	04 56 11.4	-1.3
SET2				eS	Sb	04 56 23.0	-4.0
PFET	Feteiras	1.09	125	erx		04 56 23.8	
PFET	Feteiras	1.09	125	e-		04 56 23.8	
PSAN	Santo Antonio	1.12	122	eS	Sb	04 56 24.0	-4.4
PICO	Pico	1.18	273	eP	Pb	04 56 09.8	-4.8
PICO				eS	Sb	04 56 25.0	-5.3
FAC	Faja de Cima	1.21	124	eS	Sb	04 56 27.1	-4.0
CML	Cha da Macela	1.28	122	eS	Sb	04 56 26.6	-6.6
PVER	Pico Vermelho	1.29	120	erx		04 56 10.6	
PMAT	Coroa da Mata	1.31	119	erx		04 56 26.0	
MESC	Monte Escuro	1.34	119	eP	Pb	04 56 13.0	-4.2
MESC				eS	Sb	04 56 28.4	-6.4
PRCH	Ribeira Ch	1.35	122	eS	Sb	04 56 28.6	-6.5
	45nm,0.3s						
VIF	Vila Franca	1.37	121	eS	Sb	04 56 29.2	-6.4
PCNG	Congro	1.38	119	erx		04 56 29.2	
CALA	Caldeira	1.40	276	eP	Pb	04 56 13.2	-5.2
CALA				eS	Sb	04 56 30.3	-6.4
MIRA	Miradouro	1.46	117	eS	Sb	04 56 31.8	-6.5
PSMN	Pico do Norte,	2.06	134	eS	Sn	04 56 51.0	-3.7

IDC 13 04:57:09.9±1.9**, 6.28N×92.56E, mb3.8**/5**, mb1 4.1**/5**, mb1mx3.7**/20**, mbtmp3.8**/5**, Error ellipse: s-maj=106.9km s-min=26.2km az=51.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	41.33	349	P	P	05 04 58.2	-0.7
	0.7nm,0.6s,baz=162,slow=7.7,SNR=5.3						
WRA	Warramunga Arr	48.66	123	P	P	05 05 56.1	-1.9
	1.0nm,0.5s,baz=302,slow=9.1,SNR=16						
BVAR	Borovoye Array	50.01	343	P	P	05 06 05.2	-2.8
	0.5nm,0.5s,baz=135,slow=10,SNR=4.1						
ARCES	ARCESS Array B	76.23	341	P	P	05 08 59.0	-2.6
	3.3nm,1.0s,baz=98,slow=6.4,SNR=3.6						
GERES	GERESS Array B	77.97	318	P	P	05 09 10.8	-0.9
	0.3nm,0.3s,baz=117,slow=6.0,SNR=4.9						

TRN 13 05:00:13.9, 12.88N×60.51W, h10km, MD3.8, Windward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SVB	Belmont	0.82	298	eP	Pb	05 00 35.1	+5.2
SVB				eS	Sb	05 00 51.0	+10
GRHS	Sauteurs	1.28	240	eP	Pb	05 00 39.8	+2.1
GRHS				eS	Sb	05 00 58.1	+3.9
GRW	Mount Saint Ca	1.33	238	eP	Pb	05 00 40.9	+2.3
GRW				eS	Sb	05 01 00.8	+5.2
TRN	Trinidad (W)	2.39	202	eP	Pn	05 00 53.4	-0.4

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*NIED **13** 05:11:00, 47.30N×152.90E, h32km, Mw3.7 Best double couple: M₀3.73×10¹⁴ NP1:φs320°, δ84°, λ21°. NP2:φs227°, δ69°, λ173°.*
*NEIC **13** 05:11:24.8±0.6, 46.45N×152.78E, h10km, mb4.3/2, Error ellipse: s-maj=17.1km s-min=14.2km az=147.0*
*MOS **13** 05:11:29.2±1.1, 46.99N×152.80E, h33km, mb4.5/7, Error ellipse: s-maj=29.5km s-min=14.9km az=72.4*
*IDC **13** 05:11:41.5±3.6, 46.80N×152.81E, h137km±34km, mb3.5/11, mb1 3.7/12, mb1mx3.6/21, mbtmp4.0/12, MS3.0/2, Ms1 3.0/2, ms1mx2.7/24, Error ellipse: s-maj=32.5km s-min=18.8km az=173.0*

ISC 13 05:11:29.2±0.7**, 46.9N**±0.1×**152.8E**±0.2**, h33km, n45, σ1§36**/53**, mb3.9**/12**, MS3.4**/1**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.84	246	ePN	Pn	05 12 29.4	+1.8
KUR				eS	S	05 13 14.0	+1.9
KUR				pmax	pmax		
	comp=Z,60nm,0.7s						
KUR				smax			
	comp=N,150nm,0.6s						
KUR				smax			
	comp=E,80nm,0.6s						
SKR	Severo-Kuril's	4.35	29	ePN	Pn	05 12 33.5	-1.3
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
NEM2	Nemuro 2	6.14	237	P	P	05 13 00.6	+0.7
NEM2				eS	S	05 14 07.9	-2.0
JRA	Rausu	6.19	244	P	P	05 13 04.0	+3.4
JNK	Nakash	6.62	243	P	P	05 13 09.2	+2.5
JNK				eS	S	05 14 22.6	+0.7
JTKR	Abashiri--Toko	6.93	248	P	P	05 13 14.4	+3.4
JAK	Akkeshi	6.97	239	P	P	05 13 12.3	+0.7
JAK				eS	S	05 14 27.9	-2.8
JAR	Ashorobuto	7.36	244	P	P	05 13 18.3	+1.3
JOB	Onbets	7.54	241	P	P	05 13 20.9	+1.4
JOB				eS	S	05 14 43.5	-1.2
ASAJ	Asahikawa	7.71	252	PN	Pn	05 13 30.4	+8.3
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,51nm,20.5s						
ASAJ	Asahikawa	7.71	252	P	Pn	05 13 30.4	+8.3
	comp=Z,1.7nm,0.3s,baz=88,slow=16,SNR=10						
ASAJ				LR	LR	05 16 13.6	
	comp=Z,51nm,20.5s,baz=164,slow=36						
JKK2	Kamakawa 2	7.72	250	P	P	05 13 26.3	+4.3
JCH	Churui	7.99	241	P	P	05 13 26.8	+1.0
JCH				eS	S	05 14 52.3	-3.7
JEM	Erimo	8.47	238	P	P	05 13 33.3	+0.8
JEM				eS	S	05 15 03.5	-4.5
JBT2	Biratori 2	8.51	245	P	P	05 13 34.5	+1.5
JNBK	Urakawa-nobuka	8.55	241	P	P	05 13 33.6	0.0
JNBK				eS	S	05 15 06.7	-3.3
JKB	Kayabe	9.82	243	P	P	05 13 50.6	-0.5
JANG	Nango	10.48	235	P	P	05 13 57.4	-2.8
JANG				eS	S	05 15 47.8	-10
JRG	Rokugo	11.64	234	P	P	05 14 13.8	-2.2
ILAR	Eielson Array	36.54	39	P	P	05 18 33.4	+0.2
	comp=Z,0.4nm,0.6s,mb3.4,baz=263,slow=7.6,SNR=7.6						
INK	Inuvik	41.62	32	P	P	05 19 16.3	+1.2
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	Inuvik	41.62	32	P	P	05 19 16.2	+1.1
	comp=Z,0.8nm,0.4s,mb3.7,baz=284,slow=7.4,SNR=7.4						
MKAR	Makanchi Array	46.69	297	P	P	05 19 56.5	+0.3
	comp=Z,0.3nm,0.4s,mb3.6,baz=66,slow=7.9,SNR=4.4						
MKAR				LR	LR	05 40 55.3	
	comp=Z,41nm,18.8s,MS3.4,baz=208,slow=38						
YKA	Yellowknife Ar	50.91	37	P	P	05 20 28.7	0.0
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	Yellowknife Ar	50.91	37	P	P	05 20 28.7	0.0
	comp=Z,0.6nm,0.7s,mb3.7,baz=297,slow=6.6,SNR=3.7						
YKA	Yellowknife Ar	50.91	37	P	P	05 20 28.7	0.0
ARCES	ARCESS Array B	57.63	341	P	P	05 21 17.5	-0.3
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES	ARCESS Array B	57.63	341	P	P	05 21 17.5	-0.3
	comp=Z,3.8nm,1.0s,mb4.4,baz=27,slow=8.1,SNR=4.1						
ARCES	ARCESS Array B	57.63	341	P	P	05 21 17.5	-0.3
FINES	FINESS Array B	63.80	335	P	P	05 21 58.9	-0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	63.80	335	P	P	05 21 58.9	-0.8
	comp=Z,1.3nm,0.4s,mb4.3,baz=34,slow=6.9,SNR=11						
FINES	FINESS Array B	63.80	335	P	P	05 21 58.9	-0.8
PDAR	Pinedale Array	64.81	54	P	P	05 22 06.3	-0.2
	comp=Z,0.6nm,0.7s,mb3.7,baz=225,slow=2.1,SNR=6.2						
NB2	NORSAR Subarra	68.00	341	P	P	05 22 25.8	-0.7
	comp=Z,1.6nm,0.6s,mb4.2,baz=27,slow=6.2						
NB2	NORSAR Subarra	68.00	341	P	P	05 22 25.8	-0.7
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
NOA	NORSAR Array B	68.00	341	P	P	05 22 26.2	-0.3
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	NORSAR Array B	68.00	341	P	P	05 22 26.2	-0.3
	comp=Z,2.1nm,0.6s,mb4.3,baz=27,slow=6.3,SNR=7.2						
NOA	NORSAR Array B	68.00	341	P	P	05 22 26.2	-0.3
WRAB	Tennant Creek	68.60	199	P	P	05 22 24.4	-6.5
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
WRAB	Tennant Creek	68.60	199	P	P	05 22 24.4	-6.4
	comp=Z,1.5nm,0.7s,mb4.0						
AKASG	Malin Array Be	71.30	326	P	P	05 22 46.2	-0.6
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	Malin Array Be	71.30	326	P	P	05 22 46.2	-0.6
	comp=Z,2.4nm,0.3s,mb4.6,baz=36,slow=6.4,SNR=8.2						
SCHQ	Schefferville	73.23	23	P	P	05 22 57.4	-0.7
	comp=Z,1.9nm,1.1s,mb3.9,baz=297,slow=11,SNR=3.3						
TXAR	Lajitas Array	77.58	60	P	P	05 23 23.6	0.0
	comp=Z,0.4nm,0.6s,mb3.5,baz=284,slow=3.7,SNR=9.4						
VNDA	Vanda	124.29	178	PKP	PKPdf	05 30 21.2	-2.4
	comp=Z,0.3nm,0.3s,baz=329,slow=2.1,SNR=5.9						

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*NAO **13** 05:19:30.7±1.1, 76.77N×19.38E, ML2.8*
*BER **13** 05:19:35.1±4.8, 76.79N×19.64E, h20km±27km, MD2.7, ML2.9, ML2.8(NAO)*
*CSEM **13** 05:19:35.1, 76.79N×19.64E, h20km, ML2.9, After BER*
*HEL **13** 05:19:41.7±0.8, 76.13N×19.06E, h10km, ML2.6, MD3.2(BER), ML2.8(NAO)*

ISC 13 05:19:30.9±0.6**, 76.49N**±0.05×**19.5E**±0.2**, h10km, n16, σ1§72**/33**, 1C, Svalbard region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HSP	Hornsund	1.04	302	i P	Pb	05 19 51.4	+0.9
HSP				eS	Sb	05 20 03.6	-0.5
HOPEN	Hopen	1.30	86	⇑iP	Pb	05 19 55.3	+0.3
HOPEN				ePg	Pg	05 19 57.2	+0.3
HOPEN				eS	Sb	05 20 11.6	0.0
HOPEN				AML	AML	05 20 15.2	
	comp=Z,219nm,0.3s						
SPA0	Spitsbergen Ar	1.83	340	Pn	Pn	05 19 58.8	-3.9
	baz=150,slow=16						
SPA0				Sn	Sn	05 20 19.2	-7.0
	baz=165,slow=28						
SPA0	Spitsbergen Ar	1.83	340	Pn	Pn	05 19 58.8	-3.9
	baz=150,slow=16,SNR=55						
SPA0				Sn	Sn	05 20 19.2	-6.9
	baz=165,slow=27,SNR=55						
KBS	Kingsbay	2.93	330	eP	Pn	05 20 14.3	-4.1
KBS				eSg	Sg	05 20 57.0	-11
KBS				AML	AML	05 21 03.0	
	comp=Z,129nm,0.6s						
KBS	Kingsbay	2.93	330	eP	Pn	05 20 14.3	-4.1
	SNR=55						
KBS				eSg	Sg	05 20 57.0	-11
	comp=Z,129nm,0.6s,SNR=92						
KEV	Kevo	7.11	158	eP	Pn	05 21 21.4	+3.9
KEV				eS	Sn	05 22 34.9	-4.3
KEV				MSN		05 22 42.5	
ARA0	ARCESS Array S	7.21	163	Pn	Pn	05 21 19.9	+1.1
	baz=1.1,slow=10						
ARA0				Sn	Sn	05 22 41.4	-0.3
	baz=358,slow=22						
ARA0	ARCESS Array S	7.21	163	eP	Pn	05 21 19.9	+1.1
ARA0				eS	Sn	05 22 41.4	-0.3
ARA0	ARCESS Array S	7.21	163	Pn	Pn	05 21 20.0	+1.1
	baz=1.1,slow=9.6,SNR=55						
ARA0				Sn	Sn	05 22 41.3	-0.3
	baz=358,slow=21,SNR=55						
KIF	Kilpisjarvi	7.54	176	eP	Pn	05 21 24.9	+1.4
KIF				eS	Sn	05 22 44.7	-5.2
SGF	Sodankyl	9.34	163	eP	P	05 21 50.0	+1.4
SGF				eS	Sn	05 23 27.6	-7.2
SGF				MSN		05 23 44.8	
	comp=Z,0.7nm,0.2s						
APA0	Apatity Array	9.81	148	Pn	P	05 21 57.4	+2.5
	baz=348,slow=28						
APA0				Sn	Sn	05 23 44.4	-1.7
	baz=324,slow=22						
APA0	Apatity Array	9.81	148	eP	P	05 21 57.4	+2.5
APA0				eS	Sn	05 23 44.4	-1.7
APA0	Apatity Array	9.81	148	Pn	P	05 21 57.4	+2.6
	baz=348,slow=28,SNR=55						
APA0				Sn	Sn	05 23 44.4	-1.7
	baz=324,slow=20,SNR=55						
KU4	Liikasenvaara	10.64	157	eP	P	05 22 07.4	+1.2
KU4				eS	S	05 23 59.5	-7.0

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*JMA **13** 05:20:26.3±0.3, 34.15N×141.84E, h36km±4km, M3.2*
*IDC **13** 05:20:31.9±4.4, 33.60N×140.40E, mb3.2/2, mb1 3.4/3, mb1mx3.3/20, mbtmp3.2/3, ML3.2/1, MS2.6/1, Ms1 2.6/1, ms1mx2.4/6, Error ellipse: s-maj=158.2km s-min=26.1km az=69.0*

ISC 13 05:20:28.8±1.8**, 34.23N**±0.07×**141.7E**±0.1**, h31km**±10km**, n12, σ0§94**/17**, mb3.4**/2**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.76	304	P	Pn	05 20 42.2	-1.2
BSO1				S	Sb	05 20 53.9	+0.4
BSO2	Boso 2	0.96	303	S	Sn	05 21 00.7	+1.6
BSO3	Boso 3	1.16	299	P	Pn	05 20 48.9	-0.3
BSO3				S	Sn	05 21 03.8	-0.4
BSO4	Boso 4	1.38	304	P	Pn	05 20 52.6	+0.2
BSO4				S	Sn	05 21 10.6	+0.9
JHJ2	Mitsune	1.96	236	S	Sn	05 21 25.1	+0.8
JIM2	Oshima 3	1.97	285	P	Pn	05 20 59.2	-1.5
JIM2				S	Sn	05 21 23.7	-0.9
JOD2	Odawara 2	2.41	296	S	Sn	05 21 35.6	-0.3
MJAR	Matsushiro Arr	3.69	310	Pn	Pn	05 21 25.7	+0.5
	2.3nm,0.3s,baz=148,slow=11,SNR=5.6						
MJAR				Sn	Sn	05 22 07.5	-0.8
	2.4nm,0.3s,baz=131,slow=19,SNR=10.0						
MAT	Matsushiro	3.69	310	P	Pn	05 21 26.0	+0.7
MAT				S	Sn	05 22 07.7	-0.6
ASAJ	Asahikawa	9.89	4	LR	LR	05 27 54.8	
	comp=Z,32nm,18.1s,baz=323,slow=42						
MKAR	Makanchi Array	45.88	304	P	P	05 28 52.0	+2.0
	0.3nm,0.7s,mb3.3,baz=80,slow=8.8,SNR=3.1						
WRA	Warramunga Arr	54.33	189	P	P	05 29 54.1	-0.8
	0.2nm,0.4s,mb3.4,baz=4.1,slow=7.5,SNR=5.3						

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*PRU **13** 05:37:15.8, 51.51N×16.07E*

WAR 13 05:37:16.0, 51.53N×16.02E, h1km, ML2.8, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.71	166	ePG	Pg	05 37 29.0	-1.2
KSP				i SG	Sg	05 37 38.5	-1.2
KSP	Ksiaz	0.71	166	ePg	Pg	05 37 29.0	-1.2
KSP				eSg	Sg	05 37 38.5	-1.2
UPC	Upice	1.03	180	ePG	Pg	05 37 35.3	-1.2
DPC	Dobruska-Polom	1.20	171	ePG	Pg	05 37 37.9	-2.1
DPC				eSG	Sg	05 37 53.4	-2.6
	74nm,0.7s						
PVCC	Panska Ves	1.36	223	ePG	Pg	05 37 41.5	-1.7
PRU	Pruhonice	1.81	212	ePG	Pg	05 37 48.2	-4.0
PRU				eSG	Sg	05 38 12.9	-3.4
	21nm,0.5s						
CLL	Collm	1.91	264	i PN	Pn	05 37 47.7	-2.2
CLL				ePG	Pg	05 37 50.0	-4.0
CLL				i		05 37 54.4	
CLL				eSG	Sg	05 38 16.0	-3.4
CLL				i L		05 38 25.3	
OKC	Ostrava-Krasne	2.17	141	ePG	Pg	05 37 54.9	-4.4
OKC				eSG	Sg	05 38 23.5	-4.7
NKC	Novy Kostel	2.61	241	ePN	Pn	05 37 58.6	-1.5
NKC				ePG	Pg	05 38 04.0	-4.2
NKC				eSG	Sg	05 38 40.0	-3.0
	25nm,0.5s						
OJC	Ojcow	2.73	117	ePG	Pg	05 38 07.0	-3.5
OJC				eSG	Sg	05 38 43.0	-3.9
KHC	Kasperske Hory	2.87	214	ePN	Pn	05 38 02.7	-1.1
KHC				ePG	Pg	05 38 07.9	-5.4
KHC				eSN	Sn	05 38 37.8	-1.6
KHC				eSG	Sg	05 38 47.5	-4.1
	13nm,0.7s						

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*IDC **13** 06:03:21.4±3.3, 57.34S×150.13E, mb3.8/2, mb1 4.2/2, mb1mx3.9/9, mbtmp3.9/2, MS3.8/7, Ms1 3.8/7, ms1mx3.7/11, Error ellipse: s-maj=238.8km s-min=29.5km az=76.0*

NEIC 13 06:03:23.7±1.2**, 57.54S×148.90E, h10km, mb4.4**/1**, 4C, Error ellipse: s-maj=73.1km s-min=9.9km az=81.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	19.59	55	LR	LR	06 14 14.5	
	comp=Z,301nm,18.1s,baz=125,slow=34						
VNDA	Vanda	20.57	172	P	P	06 08 01.7	-3.0
	5.6nm,0.9s,baz=341,slow=12,SNR=11						
VNDA				LR	LR	06 15 04.7	
	comp=Z,136nm,20.4s,baz=336,slow=34						
URZ	Urewera	26.70	56	LR	LR	06 19 33.9	
	comp=Z,245nm,18.2s,baz=257,slow=37						
NWAO	Narrogin (SRO)	32.69	305	LR	LR	06 18 36.4	
	comp=Z,82nm,20.1s,baz=12,slow=28						
MAW	Mawson	37.61	219	LR	LR	06 24 48.1	
	comp=Z,250nm,18.2s,baz=29,slow=34						
WB2	Warramunga Arr	39.05	338	eP	P	06 10 50.4	-1.8
WRA	Warramunga Arr	39.05	338	P	P	06 10 49.8	-2.4
	2.8nm,0.8s,baz=166,slow=7.6,SNR=11						
WRAB	Tennant Creek	39.06	338	eP	P	06 10 50.2	-2.1
	11nm,1.1s						
FITZ	Fitzroy Crossi	43.00	327	P	P	06 11 27.8	+3.1
	8.8nm,1.1s,baz=185,slow=12,SNR=3.6						
SNAA	Sanae	49.57	191	e	pP	06 12 18.9	-0.1
SNAA	Sanae	49.57	191	e	Px	06 12 33.0	
SNAA	Sanae	49.57	191	⇑iP	P	06 12 13.6	-2.4
SNAA				e		06 12 18.9	
SNAA				e		06 12 33.0	
VNA3	Neumayer Olymp	50.62	189	e	pP	06 12 26.9	-0.2
VNA3	Neumayer Olymp	50.62	189	e	Px	06 12 37.7	
VNA3	Neumayer Olymp	50.62	189	⇑iP	P	06 12 21.5	-2.6
VNA3				e		06 12 26.9	
VNA3				e		06 12 37.7	
VNA2	Neumayer--Watz	50.73	190	e	pP	06 12 27.8	-0.1
VNA2	Neumayer--Watz	50.73	190	⇑iP	P	06 12 22.7	-2.2
VNA2				e		06 12 27.8	
VNA1	Neumayer--Stat	51.08	190	e	pP	06 12 31.3	+0.7
VNA1	Neumayer--Stat	51.08	190	e	Px	06 12 44.4	
VNA1	Neumayer--Stat	51.08	190	⇑iP	P	06 12 26.4	-1.1
VNA1				e		06 12 31.3	
VNA1				e		06 12 44.4	
PPT	Papeete	60.14	75	LR	LR	06 33 07.5	
	comp=Z,82nm,21.9s,baz=114,slow=30						
BOSA	Boshof	82.04	228	LR	LR	06 48 03.4	
	comp=Z,70nm,20.3s,baz=264,slow=32						
LSZ	Lusaka	92.60	236	P	P	06 16 35.3	-1.2
AKASG	Malin Array Be	145.05	285	PKPbc	PKPbc	06 22 59.6	-0.7
	0.4nm,0.4s,baz=86,slow=3.2,SNR=5.9						
FINES	FINESS Array B	151.52	302	PKPbc	PKPdf	06 23 17.5	+4.4
	2.1nm,0.6s,baz=135,slow=2.7,SNR=6.2						
GERES	GERESS Array B	152.25	271	PKPbc	PKPdf	06 23 19.7	+5.1
	0.4nm,0.3s,baz=135,slow=1.4,SNR=5.1						

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*NEIC **13** 06:09:57.8, 28.42S×71.24W, h43km, MD4.3(GUC), After GUC.*

GUC 13 06:09:57.8±0.9**, 28.42S×71.24W, h43km**±5km**, MD4.3, ML4.1, 3C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VACH	Vallenar	0.45	110	⇑iP	P	06 10 08.4	+0.3
VACH				i S	S	06 10 16.1	+0.9
VACH				AMP		06 10 16.2	
	comp=N,22μm,0.1s						
LCO	Las Campanas	0.76	141	⇑iP	P	06 10 13.1	+1.0
LCO				i S	S	06 10 24.3	+1.7
LCO				AMP		06 10 27.2	
	comp=E,4μm,0.5s						
CPCH	Copiapo	1.32	37	eP	P	06 10 20.2	0.0
CPCH				i S	S	06 10 38.1	+1.2
CPCH				AMP		06 10 42.0	
	comp=N,17μm,0.1s						
TLL	Tololo Astrono	1.78	168	eP	P	06 10 28.3	+1.6
TLL				i S	S	06 10 50.3	+2.1
TLL				AMP		06 10 59.1	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,2µm,0.6s						
CMCH	Combarbala	2.75	176	⇑iP	P	06 10 40.1	-0.4
CMCH				AMP		06 11 29.1	
	comp=E,2µm,0.8s						

NEIC 13 06:12:38.8, 38.01S×177.24E, h63km, ML4.2(WEL), After WEL.
WEL 13 06:12:38.7±0.1, 38.01S×177.23E, h62km±1km, ML3.9/5, 3C-2D, Error ellipse: s-maj=1.1km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.27	202	P	P	06 12 48.4	-0.5
URZ	Urewera	0.27	202	⇑P*	P	06 12 48.4	-0.5
URZ				S*	S	06 12 56.2	-0.1
MWZ	Matawai	0.40	144	P	P	06 12 49.4	-0.5
MWZ				S	S	06 12 58.5	+0.3
MWZ	Matawai	0.40	144	⇑P*	P	06 12 49.4	-0.5
EDRZ	Edgecumbe	0.40	256	P	P	06 12 49.9	-0.1
EDRZ	Edgecumbe	0.40	256	P*	P	06 12 49.8	-0.2
MARZ	Manawahe	0.44	273	P	P	06 12 50.1	-0.3
MARZ	Manawahe	0.44	273	P*	P	06 12 49.9	-0.5
WIZ	White Island	0.48	356	P	P	06 12 50.8	0.0
WIZ	White Island	0.48	356	P*	P	06 12 50.3	-0.5
TAZ	Tarawera	0.61	249	P	P	06 12 52.5	+0.3
TAZ	Tarawera	0.61	249	P*	P	06 12 52.1	0.0
LIRZ	Lichensteins R	0.67	270	P	P	06 12 52.9	+0.1
LIRZ	Lichensteins R	0.67	270	P*	P	06 12 52.8	-0.1
PUZ	Puketiti	0.81	95	P	P	06 12 54.1	-0.5
PUZ	Puketiti	0.81	95	PN	P	06 12 54.2	-0.4
TGRZ	Tauranga	0.82	290	P	P	06 12 54.3	-0.4
TGRZ	Tauranga	0.82	290	P*	P	06 12 54.1	-0.5
UTU	Utuhina	0.84	258	P	P	06 12 55.7	+0.8
UTU	Utuhina	0.84	258	P*	P	06 12 55.4	+0.5
PATZ	Paeroa	0.85	244	P	P	06 12 55.1	0.0
PATZ	Paeroa	0.85	244	P*	P	06 12 55.0	-0.1
MXZ	Matakaoa Point	0.96	63	P	P	06 12 56.7	+0.2
MXZ	Matakaoa Point	0.96	63	P*	P	06 12 56.6	+0.1
MXZ				S*	S	06 13 10.3	+0.5
KNZ	Kokohu	1.06	161	PN	P	06 12 56.9	-1.0
MYRZ	Mayor Island	1.07	312	P*	P	06 12 57.5	-0.6
BKZ	Black Stump Fm	1.29	207	eP	P	06 13 00.7	-0.4
BKZ	Black Stump Fm	1.29	207	P*	P	06 13 00.6	-0.5
TOZ	Tahuroa Road	1.40	281	P	P	06 13 02.1	-0.6
TOZ	Tahuroa Road	1.40	281	⇑P*	P	06 13 02.1	-0.6
RITZ	Rihia Road	1.45	228	P*	P	06 13 02.8	-0.5
WTVZ	West Tongariro	1.70	229	P	P	06 13 06.5	-0.2
WTVZ	West Tongariro	1.70	229	P*	P	06 13 06.4	-0.3
NGZ	Ngauruhoe	1.73	227	P	P	06 13 07.0	-0.1
NGZ	Ngauruhoe	1.73	227	P*	P	06 13 07.1	0.0
KUZ	Kuaotunu	1.75	316	P	P	06 13 06.3	-1.1
KUZ	Kuaotunu	1.75	316	⇓PN	P	06 13 06.3	-1.1
TUVZ	Tukino	1.76	224	P	P	06 13 07.5	-0.1
TUVZ	Tukino	1.76	224	P*	P	06 13 06.9	-0.7
CNZ	Chateau	1.77	228	P	P	06 13 07.8	0.0
CNZ	Chateau	1.77	228	P*	P	06 13 07.6	-0.1
FWVZ	Far West T-bar	1.81	226	P	P	06 13 08.3	+0.1
FWVZ	Far West T-bar	1.81	226	P*	P	06 13 08.2	0.0
MOVZ	Moawhango	1.81	219	P	P	06 13 07.5	-0.8
MOVZ	Moawhango	1.81	219	P*	P	06 13 07.4	-0.9
MOVZ				S*	S	06 13 29.0	-1.1
MKAZ	Moumakai	1.87	298	P	P	06 13 08.7	-0.4
MKAZ	Moumakai	1.87	298	⇓PN	P	06 13 08.7	-0.4
HIZ	Hauiti	1.94	254	P	P	06 13 10.1	+0.1
HIZ	Hauiti	1.94	254	PN	P	06 13 10.0	0.0
PWZ	Pawanui	2.04	188	eP	P	06 13 08.6	-2.8
PWZ	Pawanui	2.04	188	PN	P	06 13 10.1	-1.2
PWZ				SN	S	06 13 32.8	-2.7
OTAZ	Otara	2.12	299	P	P	06 13 12.6	0.0
OTAZ	Otara	2.12	299	PN	P	06 13 12.2	-0.4
MTAZ	Motutapu	2.22	303	P	P	06 13 13.7	-0.3
MTAZ	Motutapu	2.22	303	PN	P	06 13 13.5	-0.4
WTAZ	Waiatarua	2.37	296	P	P	06 13 16.1	-0.1
WTAZ	Waiatarua	2.37	296	PN	P	06 13 15.9	-0.3
WAZ	Wanganui	2.47	225	eP	P	06 13 17.4	-0.2
WAZ	Wanganui	2.47	225	ePN	P	06 13 16.3	-1.3
TCW	Tory Channel	3.93	215	ePN	P	06 13 31.9	-6.2
THZ	Tophouse	5.01	220	ePN	P	06 13 48.1	-5.1
MQZ	McQueen's Vall	6.66	210	SN	S	06 15 19.7	-12

CSEM 13 06:23:12.8±0.1, 35.67N×39.43E, h2km, MD4.2, Error ellipse: s-maj=2.4km s-min=1.5km az=121.0
ISK 13 06:23:15.8, 35.58N×39.56E, h34km, MD4.2
ISC 13 06:23:13.3±0.7, 35.66N±0.03×39.43E±0.03, h2km±4km, n41, σ1^{s}07/62, 9D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNKR	ALMNKUR	0.31	335	⇑iP	Pg	06 23 19.7	+0.3
BSHR	Al Beshri	0.32	89	⇑iP	Pg	06 23 19.9	+0.3
JHLN	Al Jahlan	0.81	271	⇑iP	Pg	06 23 29.3	0.0
JHLN				⇓iS	Sg	06 23 40.1	0.0
SFNV	Sufian	0.94	36	⇑iP	Pb	06 23 31.6	-0.2
SFNV				⇓iS	Sg	06 23 44.1	-0.3
DRBT	Darb Altahta	1.23	14	⇑iP	Pb	06 23 35.0	-1.8
DRBT				⇑iS	Sb	06 23 50.5	-2.4
SLMH	Al Salmeh	1.33	295	⇑iP	Pb	06 23 38.2	-0.4
SLMH				⇑iS	Sb	06 23 56.9	+0.9
URFA	Urfa	1.84	345	i PN	Pn	06 23 46.7	+0.6
URFA				i SN	Sn	06 24 11.2	+0.9
MARD	Mardin	1.97	33	i P	Pn	06 23 48.7	+0.7
MARD				i S	Sn	06 24 13.0	-0.7
ATAB	Bozova	2.02	333	i P	Pn	06 23 51.0	+2.3
ATAB				i S	Sn	06 24 16.3	+1.4
GZT	Gaziantep	2.26	319	i P	Pn	06 23 50.5	-1.7
GZT				i S	Sn	06 24 19.8	-1.1
ROOS	tl_alroos	2.31	230	⇑iP	Pn	06 23 53.0	+0.2
ROOS				⇓iS	Sn	06 24 22.9	+0.8
DIY	Diyarbakir	2.32	16	PN	Pn	06 23 53.2	+0.2
GAZ	Gaziantep	2.34	311	PN	Pn	06 23 55.6	+2.3
DRWC	Darouich	2.43	294	⇑iP	Pn	06 23 54.1	-0.5
DRWC				⇑iS	Sn	06 24 24.1	-1.2
BTCH	Batrach	2.44	280	⇓iP	Pn	06 23 53.3	-1.4
BTCH				⇑iS	Sn	06 24 25.5	0.0
WRDH	Warideh	2.46	267	⇓iP	Pn	06 23 54.2	-0.9
WRDH				⇑iS	Sn	06 24 25.6	-0.5
BIDA	Albida	2.62	257	⇑iP	Pn	06 23 57.3	0.0
BIDA				⇑iS	Sn	06 24 30.0	-0.1
BEST	Besiri	2.67	33	i P	Pn	06 23 57.9	-0.1
BEST				i S	Sn	06 24 33.6	+2.2
COBT	Iskenderun	2.71	289	i P	Pn	06 23 57.0	-1.5
HTY	Hatay	2.71	281	PN	Pn	06 24 00.3	+1.7
ARNB	Al Arnab	2.82	275	⇑iP	Pn	06 23 58.4	-1.7
ARNB				⇓iS	Sn	06 24 33.7	-1.4
BTMT	Batman	3.02	33	PN	Pn	06 24 01.7	-1.2
PTK	Pertek	3.22	359	PN	Pn	06 24 06.1	+0.2
ZALF	Zalf	3.24	213	⇓iP	Pn	06 24 06.0	-0.1
ZALF				⇑iS	Sn	06 24 46.4	+0.7
CEYT	Ceyhan	3.26	295	ePN	Pn	06 24 07.7	+1.3
QASN	Qassioun	3.36	232	⇑iP	Pn	06 24 07.6	-0.2
QASN				⇑iS	Sn	06 24 48.4	-0.4
TOTH	TOTAH	3.38	228	⇑iP	Pn	06 24 07.7	-0.4
TOTH				⇓iS	Sn	06 24 48.9	-0.4
SALA	Sala	3.70	218	⇑iP	Pn	06 24 12.2	-0.4
SALA				⇓iS	Sn	06 24 57.4	+0.1
HKR	Hakkari	3.96	60	ePN	Pn	06 24 16.0	-0.3
BNN	Bunyan	4.28	319	ePN	Pn	06 24 22.8	+1.9
HNTI	Hanita	4.36	235	S	Sb	06 25 28.1	+4.2
EZM	Erzurum	4.50	19	ePN	Pn	06 24 23.9	-0.2
NIG	Nigde	4.57	304	ePN	Pn	06 24 26.0	+1.0
MMLI	Mount Malkishu	4.63	227	P	Pb	06 24 41.5	+6.5
MMLI				S	Sb	06 25 41.2	+10
IKL	Isikli	4.70	279	ePN	Pn	06 24 28.4	+1.6
SLTI	Sal'it	5.00	228	S	Sb	06 25 49.5	+7.2
MKRJ	Makawir	5.18	219	S	Sg	06 26 01.8	-3.8
MZDA	Masada	5.51	219	S	Sg	06 26 09.2	-7.6
KZIT	Kziot	6.34	223	S	Sb	06 26 25.3	+3.8
PRNI	Paran	6.47	216	S	Sb	06 26 32.9	+7.8
EIL	Elat	7.07	214	P	Pb	06 25 21.0	+4.3
EIL				S	Sb	06 26 50.9	+8.4

WEL 13 06:28:04.4±0.3, 36.28S×179.91W, h33km, ML3.5/4, Error ellipse: s-maj=4.8km s-min=3.9km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.92	228	ePN	Pn	06 28 33.1	-2.3
MXZ				SN	Sn	06 28 57.4	-1.2
PUZ	Puketiti	2.31	219	PN	Pn	06 28 39.5	-1.5
PUZ				SN	Sn	06 29 05.9	-2.7
MWZ	Matawai	2.89	224	PN	Pn	06 28 47.5	-1.8
URZ	Urewera	3.09	229	PN	Pn	06 28 50.2	-1.9
URZ				SN	Sn	06 29 24.5	-3.8

IDC 13 07:29:26.9±5.7, 5.88S×151.38E, h76km±50km, mb3.8/4, mb1 4.0/5, mb1mx3.7/13, mbtmp4.2/5, ML3.2/1, Error ellipse: s-maj=61.5km s-min=30.7km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.46	230	P	P	07 30 46.4	-0.9
	4.8nm,0.3s,baz=35,slow=7.5,SNR=10						
PMG				S	S	07 31 47.5	-2.0
	4.4nm,0.3s,baz=16,slow=20,SNR=3.9						
WB2	Warramunga Arr	21.67	228	eP	P	07 34 12.6	-0.2
WRA	Warramunga Arr	21.68	228	P	P	07 34 11.2	-1.8
	1.8nm,0.6s,baz=53,slow=9.7,SNR=15						
STKA	Stephens Creek	27.43	198	P	P	07 35 05.8	-2.0
	3.7nm,1.0s,baz=4.1,slow=11,SNR=6.1						
FITZ	Fitzroy Crossi	27.91	242	eP	P	07 35 11.9	-0.3
	3.9nm,0.4s						
FITZ	Fitzroy Crossi	27.91	242	P	P	07 35 10.5	-1.7
	3.7nm,0.3s,baz=37,slow=7.8,SNR=12						
ILAR	Eielson Array	83.69	22	P	P	07 41 46.9	-1.4
	1.6nm,0.8s,baz=252,slow=5.8,SNR=14						

LDG 13 07:46:44.1±0.2, 14.09S×166.98E, h10km, Mb5.2/4, Ms3.9/5, Error ellipse: s-maj=33.8km s-min=7.7km az=86.0
IDC 13 07:46:53.9±1.7, 14.84S×167.49E, h104km±13km, mb4.7/15, mb1 4.8/16, mb1mx4.6/21, mbtmp5.1/16, MS3.6/12, Ms1 3.6/12, ms1mx3.5/28, Error ellipse: s-maj=19.4km s-min=11.7km az=78.0
BJI 13 07:46:54.8, 14.50S×167.68E, h126km, mB4.9, mb4.8
HRVD 13 07:46:56.8±0.3, 14.90S×167.23E, h122km±3km, MW5.1/56, Centroid moment Tensor Solution. LP body waves: s32,c37; Mantle waves: s56,c89; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.69±.21; $M_{\theta\theta}$-0.19±.25; $M_{\phi\phi}$-3.51±.24; $M_{r\theta}$-2.03±.16; $M_{\theta\phi}$1.65±.26; $M_{\phi r}$2.77±.17; Best double couple: $M_0$5.234×10^{16} NP1: ϕ_s169°, δ26°, λ109°. NP2: ϕ_s328°, δ66°, λ81°. Principal axes: T 5.043, Plg68°, Azm221°; N .375, Plg8°, Azm332°; P -5.426, Plg20°, Azm65°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 13 07:46:56.8±1.3, 14.89S×167.44E, h134km±10km, mb5.1/31 Error ellipse: s-maj=9.2km s-min=5.8km az=75.0
ISC 13 07:46:55.1±0.4, 14.94S±0.04×167.46E±0.08, h131km±2.1km: pP-P, n179, σ0^{s}99/81, mb5.0/41, 18C-10D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.16	188	eP	P	07 48 38.6	+0.2
DZM				eS	S	07 49 56.4	-2.2
DZM	Mont Dzumac	7.16	188	P	P	07 48 39.1	+0.7
	20nm,0.3s,baz=39,slow=16,SNR=68						
DZM				S	S	07 50 00.8	+2.2
	17nm,0.3s,baz=131,slow=22,SNR=6.9						
DZM				LR	LR	07 51 08.0	
	comp=Z,640nm,18.5s,baz=16,slow=35						
DZM	Mont Dzumac	7.16	188	eP	P	07 48 38.6	+0.2
DZM				eS	S	07 49 56.4	-2.2
HNR	Honiara	9.16	306	P	P	07 49 05.3	+0.1
	49nm,0.3s,baz=145,slow=10,SNR=10						
HNR				S	S	07 50 49.0	+2.1
	50nm,0.3s,baz=32,slow=22,SNR=5.5						
HNR				LR	LR	07 51 27.3	
	comp=Z,308nm,20.2s,baz=138,slow=30						
HNR	Honiara	9.16	306	eP	P	07 49 05.2	0.0
	188nm,0.6s						
PMG	Port Moresby	20.58	283	P	P	07 51 25.9	+0.4
	39nm,0.9s,baz=88,slow=5.6,SNR=9.1						
PMG	Port Moresby	20.58	283	eP	P	07 51 26.2	+0.7
	29nm,0.8s						
CTA	Charters Tower	20.85	253	⇑iP	P	07 51 28.9	+0.8
	46nm,0.7s						
CTA	Charters Tower	20.85	253	P	P	07 51 29.2	+1.1
	67nm,0.8s,baz=80,slow=12,SNR=131						
CTAO	Charters Tower	20.85	253	eP	P	07 51 28.7	+0.6
	82nm,0.8s						
ARMA	Armidale	21.19	221	⇓iP	P	07 51 33.7	+2.3
RIV	Riverview	23.89	215	⇓iP	P	07 51 59.8	+2.0
URZ	Urewera	24.74	162	P	P	07 52 06.4	+0.5
	36nm,0.7s,mb5.0,baz=7.3,slow=4.9,SNR=19						
URZ				LR	LR	07 59 05.7	
	comp=Z,120nm,20.1s,baz=25,slow=30						
CNB	Canberra Magne	25.99	215	⇓iP	P	07 52 18.2	+0.7
	61nm,1.3s,mb5.1						
RPZ	Rata Peaks	28.84	175	P	P	07 52 43.4	+0.2
	45nm,0.7s,mb5.3,baz=305,slow=4.4,SNR=11						
STKA	Stephens Creek	28.99	230	⇑iP	P	07 52 44.9	+0.2
	88nm,0.6s,mb5.7						
STKA	Stephens Creek	28.99	230	P	P	07 52 44.9	+0.2
	109nm,0.5s,mb5.8,baz=48,slow=7.9,SNR=434						
STKA				PcP	PcP	07 55 50.0	-0.1
	8.8nm,0.6s,baz=62,slow=5.2,SNR=4.9						
STKA				ScP		07 59 23.0	
	2.3nm,0.5s,baz=90,slow=2.0,SNR=6.0						
STKA				LR	LR	08 02 21.4	
	comp=Z,178nm,21.9s,baz=34,slow=32						
TOO	Toolangi	29.79	217	⇓iP	P	07 52 52.3	+0.6
	23nm,0.9s,mb4.9						
WB2	Warramunga Arr	31.94	256	⇑iP	P	07 53 08.8	-2.0
WRAB	Tennant Creek	31.94	256	eP	P	07 53 07.6	-3.1
	38nm,1.0s,mb5.1						
WRA	Warramunga Arr	31.95	256	P	P	07 53 09.0	-1.9
	15nm,0.7s,mb4.8,baz=85,slow=8.9,SNR=182						
WRA				PcP	PcP	07 55 57.6	-0.4
	6.0nm,1.0s,baz=78,slow=2.4,SNR=8.7						
WRA				ScP		07 59 30.9	
	1.7nm,0.9s,baz=85,slow=3.2,SNR=6.6						
KAKA	Kakadu	34.05	269	⇓iP	P	07 53 27.9	-1.1
	12nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	40.16	260	⇑iP	P	07 54 19.1	-0.9
	51nm,0.6s,mb5.3						
FITZ	Fitzroy Crossi	40.16	260	P	P	07 54 19.4	-0.6
	76nm,0.6s,mb5.5,baz=82,slow=4.8,SNR=137						
PPT	Papeete	41.27	100	eS		07 59 44.9	
	107nm,26.8s						
PPT				eLQ		08 03 19.7	
	203nm,25.2s						
TBI	Tubuai	41.42	108	eLR	LR	08 03 56.0	
	339nm,34.2s,baz=274						
MBWA	Marble Bar	45.66	255	eP	P	07 55 03.9	-0.7
	122nm,1.1s,mb5.5						
KLBR	Kellerberrin	48.16	241	eP	P	07 55 23.0	-1.0
	171nm,1.9s,mb5.4						
NWAO	Narrogin (SRO)	48.80	239	eP	P	07 55 27.7	-1.2
	41nm,1.0s,mb5.0						
MUN	Mundaring	49.52	241	eP	P	07 55 34.2	-0.2
	35nm,0.9s,mb5.0						
RKT	Rikitea	54.74	108	eLQ		08 09 36.5	
	844nm,36.2s						
RKT				eLR	LR	08 10 51.7	
	178nm,34.0s						
KKM	Kota Kinabalu	54.90	289	eP	P	07 56 14.3	-0.5
MJAR	Matsushiro Arr	58.18	332	P	P	07 56 35.9	-1.8
	1.7nm,0.3s,mb4.4,baz=165,slow=7.4,SNR=8.9						
KSM	Kuching	58.83	281	eP	P	07 56 42.3	-0.3
JNU	Nakatsue	59.20	324	P	P	07 56 43.6	-1.2
	6.9nm,0.5s,mb4.8,baz=81,slow=5.7,SNR=4.3						
YHNB	Yeheng	59.76	311	eP	P	07 56 47.2	-1.6
VNDA	Vanda	62.65	181	P	P	07 57 07.0	-0.6
	11nm,0.5s,mb4.9,baz=356,slow=7.9,SNR=130						
VNDA	Vanda	62.65	181	eP	P	07 57 06.8	-0.8
	12nm,0.6s,mb4.9						
SBA	Scott Base	62.92	180	eP	P	07 57 09.5	+0.1
	57nm,0.9s,mb5.4						
ASAJ	Asahikawa	63.00	340	P	P	07 57 10.6	+0.2
	20nm,1.0s,mb4.9,baz=232,slow=9.7,SNR=7.7						
CASY	Casey	63.40	202	eP	P	07 57 11.8	-0.9
	38nm,0.8s,mb5.3						
YSS	Yuzh-Sakhalins	65.49	342	eP	P	07 57 26.4	0.0
	46nm,1.2s,mb5.2						
FX1	Attu Island--F	67.72	4	LR	LR	08 21 16.0	
	comp=Z,2.2nm,21.7s,baz=34,slow=30						
MDJ	Mudanjiang	68.55	332	P	P	07 57 45.4	-0.3
	4.6nm,0.6s,mb4.4						
CN2	Changchun	69.92	329	eP	P	07 57 53.8	-0.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
ENH	Enshi	71.64	309	eP	P	07 58 03.5	-1.1
	comp=Z,14nm,0.8s,mb4.7						
NANT	Nan	73.78	295	⇓P	P	07 58 18.0	+0.6
	comp=Z,188nm,0.6s,mb6.0						
KMI	Kunming	74.57	302	P	P	07 58 22.8	+1.0
KMI				AP	pP	07 58 54.8	+0.1
KMI				AMB	AMB		
	comp=Z,24nm,1.2s,mb4.7						
KMI	Kunming	74.57	302	P	P	07 58 22.8	+1.0
	comp=Z,24nm,1.2s,mb4.7						
KMI				pP	pP	07 58 54.7	0.0
CHRT	Chiangrai	74.99	296	⇓P	P	07 58 24.5	+0.3
	comp=Z,200nm,0.5s,mb6.0						
QSPA	South Pole Qui	75.09	180	⇓iP	P	07 58 24.5	+0.8
	comp=Z,57nm,1.1s,mb5.1						
CHG	Chiang Mai	75.33	294	⇑P	P	07 58 26.5	+0.3
	comp=Z,17nm,0.6s,mb4.8						
HHC	Hu-ho-hao-te	75.86	320	⇑P	P	07 58 29.5	+0.7
HHC				PCP	PcP	07 58 41.8	+0.8
HHC				AP	pP	07 59 03.3	+1.5
HHC				PP	PP	08 01 24.8	+2.7
HHC				S	S	08 07 58.3	-0.5
HHC				SKS	SKS	08 08 21.9	+0.2
HHC				SCS	ScS	08 08 26.8	-0.6
HHC				PS	PS	08 08 55.5	-0.1
HHC				XS		08 08 59.1	
HHC				SS	SS	08 12 56.4	-0.1
HHC				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,65nm,10.8s						
HHC				LR	LR		
	comp=N,131nm,19.2s						
HHC				LR	LR		
	comp=E,214nm,20.4s						
HHC				LR	LR		
	comp=Z,93nm,16.8s						
HIA	Hailar	76.56	330	eP	P	07 58 32.1	-0.4
	comp=Z,6.4nm,0.7s,mb4.4						
LZH	Lanzhou	78.60	312	⇑P	P	07 58 45.1	+1.1
LZH				AMB	AMB		
	comp=Z,63nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,182nm,4.4s						
MAW	Mawson	81.76	202	⇓iP	P	07 59 01.1	+0.9
	comp=Z,14nm,1.0s,mb4.5						
MAW	Mawson	81.76	202	P	P	07 59 01.3	+1.1
	comp=Z,15nm,0.9s,mb4.6,baz=90,slow=7.2,SNR=11						
YAK	Yakutsk	82.29	343	eP	P	07 59 03.7	+0.7
	comp=Z,49nm,0.7s,mb5.2						
SONM	Songino Array	82.78	324	P	P	07 59 06.5	+0.7
	comp=Z,4.9nm,0.7s,mb4.4,baz=143,slow=6.2,SNR=32						
GTA	Gaotai	82.94	314	eP	P	07 59 07.8	+0.9
GTA				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.7						
GTA				AMB	AMB		
	comp=Z,53nm,5.1s						
GTA				LR	LR		
	comp=N,53nm,14.6s						
GTA				LR	LR		
	comp=E,77nm,13.7s						
GTA				LR	LR		
	comp=Z,85nm,14.9s						
SHL	Shillong	83.83	298	eP	P	07 59 12.0	+0.4
YBH	Yreka Blue Hor	85.44	45	LR	LR	08 33 00.9	
	comp=Z,37nm,18.5s,baz=250,slow=32						
LSA	Lhasa	85.83	302	P	P	07 59 22.8	+1.3
LSA	Lhasa	85.83	302	eP	P	07 59 22.8	+1.3
	comp=Z,6.0nm,0.6s,mb4.5						
ILAR	Eielson Array	86.67	18	P	P	07 59 23.8	-0.9
	comp=Z,1.1nm,0.7s,baz=241,slow=5.4,SNR=8.5						
ILAR				LR	LR	08 32 01.9	
	comp=Z,61nm,20.4s,baz=183,slow=31						
BBB	Bella Bella	86.85	34	LR	LR	08 28 38.8	
	comp=Z,70nm,21.1s,baz=241,slow=29						
SYO	Syowa Base	88.55	197	⇑P	P	07 59 32.5	-1.1
DLBC	Dease Lake	89.04	28	LR	LR	08 34 39.0	
	comp=Z,34nm,20.6s,baz=111,slow=32						
GUN	Gumba	89.66	299	eP	P	07 59 39.9	+0.1
PKI	Pulchoki	89.96	298	eP	P	07 59 41.6	+0.4
	comp=Z,19nm,0.7s,mb5.2						
KKN	Kakani	90.13	299	eP	P	07 59 42.4	+0.4
	comp=Z,28nm,0.8s,mb5.2						
DMN	Daman	90.23	298	eP	P	07 59 42.3	-0.2
	comp=Z,73nm,1.1s,mb5.5						
GKN	Gorkha	90.74	299	eP	P	07 59 44.6	-0.3
	comp=Z,16nm,0.4s,mb5.3						
KOLN	Koldanda	91.55	298	eP	P	07 59 48.2	-0.5
WMQ	Urumqi	93.01	314	eP	P	07 59 54.8	-0.1
WMQ				AP	pP	08 00 30.8	+1.8
WMQ				XP	sP	08 00 45.8	+2.4
WMQ				PP	PP	08 03 41.8	-0.1
WMQ				AMB	AMB		
	comp=Z,65nm,8.8s						
SNAA	Sanae	93.35	183	e	P	07 59 58.8	+3.0
SNAA	Sanae	93.35	183	e	PcP	08 00 08.8	+12
SNAA	Sanae	93.35	183	e	pP	08 00 30.5	+0.6
SNAA	Sanae	93.35	183	⇑iP	P	07 59 55.4	-0.4
SNAA				e		07 59 58.8	
SNAA				e		08 00 08.8	
SNAA				e	pP	08 00 30.5	+0.6
VNA3	Neumayer Olymp	94.00	181	e	P	08 00 02.3	+3.5
VNA3	Neumayer Olymp	94.00	181	e	PcP	08 00 12.8	+13
VNA3	Neumayer Olymp	94.00	181	e	pP	08 00 31.4	-1.5
VNA3	Neumayer Olymp	94.00	181	⇑iP	P	07 59 58.5	-0.3
VNA3				e		08 00 02.3	
VNA3				e		08 00 12.8	
VNA3				e	pP	08 00 31.4	-1.5
VNA2	Neumayer--Watz	94.27	182	e	P	08 00 03.7	+3.7
VNA2	Neumayer--Watz	94.27	182	e	PcP	08 00 15.0	+14
VNA2	Neumayer--Watz	94.27	182	e	pP	08 00 33.1	-1.0
VNA2	Neumayer--Watz	94.27	182	⇓iP	P	08 00 00.3	+0.3
VNA2				e		08 00 03.7	
VNA2				e		08 00 15.0	
VNA2				e	pP	08 00 33.1	-1.0
VNA1	Neumayer--Stat	94.57	181	e	P	08 00 05.3	+3.9
VNA1	Neumayer--Stat	94.57	181	e	pP	08 00 35.1	-0.4
VNA1	Neumayer--Stat	94.57	181	⇑iP	P	08 00 01.3	-0.1
VNA1				e		08 00 05.3	
VNA1				e	pP	08 00 35.1	-0.4
PDAR	Pinedale Array	94.96	47	LR	LR	08 33 38.7	
	comp=Z,39nm,19.9s,baz=250,slow=30						
ANMO	Albuquerque	95.27	55	LR	LR	08 33 59.5	
	comp=Z,45nm,20.4s,baz=256,slow=30						
MKAR	Makanchi Array	97.48	316	P	P	08 00 15.7	+0.5
	comp=Z,4.9nm,0.7s,mb4.9,baz=91,slow=6.4,SNR=46						
YKA	Yellowknife Ar	97.65	27	LR	LR	08 39 47.3	
	comp=Z,28nm,20.0s,slow=32						
BVAR	Borovoye Array	106.03	321	Pdiff	Pdif	08 00 55.3	+2.2
	comp=Z,0.6nm,0.6s,baz=124,slow=5.2,SNR=4.7						
ARCES	ARCESS Array B	120.50	345	PKP	PKPdf	08 05 31.5	+0.8
	comp=Z,2.3nm,0.5s,baz=77,slow=1.8,SNR=21						
BOSA	Boshof	123.33	220	PKP	PKPdf	08 05 39.2	+2.0
	comp=Z,3.1nm,0.7s,baz=109,slow=4.7,SNR=6.4						
BOSA	Boshof	123.33	220	ePKPdf	PKPdf	08 05 39.3	+2.2
LSZ	Lusaka	129.78	235	ePKPdf	PKPdf	08 05 52.2	+2.3
NOA	NORSAR Array B	130.88	345	PKP	PKPdf	08 05 52.2	+1.4
	comp=Z,1.1nm,0.9s,baz=70,slow=5.3,SNR=2.9						
NOA				SKPbc		08 09 07.7	
	comp=Z,6.3nm,1.0s,baz=30,slow=3.1,SNR=6.8						
AKASG	Malin Array Be	131.01	326	PKP	PKPdf	08 05 53.3	+2.0
	comp=Z,0.4nm,0.3s,baz=42,slow=0.9,SNR=4.3						
AKASG				SKPbc		08 09 07.7	
	comp=Z,1.7nm,0.7s,baz=44,slow=4.5,SNR=8.9						
DAVOX	Davos	143.15	334	PKP	PKPdf	08 06 13.4	-0.1
	comp=Z,6.3nm,0.4s,baz=221,slow=3.9,SNR=12						
MOF	Molkenrain	143.36	338	PKP	PKPdf	08 06 15.0	+1.2
LOMF	Lomont	143.90	337	PKP	PKPdf	08 06 15.2	+0.5
AQU	L'Aquila	144.72	326	ePKPdf	PKPdf	08 06 18.2	+1.8
TIP	Timpagrande	144.73	319	ePKPdf	PKPdf	08 06 17.9	+1.4
CABF	La Chapelle	144.79	338	ePKP1	PKPbc	08 06 18.0	+1.5
	comp=Z,210nm,1.4s						
FLN	La Foliniere	144.85	346	ePKP1	PKPbc	08 06 17.1	+0.5
	comp=Z,22nm,0.5s						
FLN				eR			
	comp=Z,63nm,20.5s						
GRAM		144.85	331	P	PKPdf	08 06 16.2	-0.4
ORX	Oropa	144.86	335	P	PKPdf	08 06 16.6	+0.1
VALM		144.87	331	P	PKPdf	08 06 16.2	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SARO	**Sassorosso**	**144.92**	**331**	P	PKPdf	08 06 16.8	+0.1
LOR	**Lormes**	**145.00**	**340**	*e*PKP1	PKPbc	08 06 18.2	+1.2
	comp=Z,132nm,1.3s						
LOR				*e*R			
	comp=Z,29nm,20.1s						
BACM		**145.01**	**331**	P	PKPdf	08 06 17.6	+0.7
TRAV		**145.06**	**335**	P	PKPdf	08 06 16.5	-0.4
MAIM		**145.08**	**330**	P	PKPdf	08 06 16.4	-0.6
GRR	**Gorron**	**145.28**	**346**	*e*PKP1	PKPbc	08 06 18.8	+1.1
	comp=Z,55nm,0.8s						
SSF	**Saint Saulge**	**145.29**	**341**	*e*PKP1	PKPbc	08 06 19.3	+1.5
	comp=Z,185nm,1.1s						
LSD	**Ceresole Reale**	**145.34**	**335**	P	PKPdf	08 06 19.4	+2.0
RSL	**Roselend**	**145.36**	**336**	PKP	PKPdf	08 06 19.3	+1.9
HYF	**Humbligny**	**145.38**	**342**	*e*PKP1	PKPbc	08 06 19.8	+1.8
LPL	**La Plagne**	**145.46**	**336**	*e*PKP1	PKPbc	08 06 20.3	+2.0
	comp=Z,56nm,0.9s						
LPG	**La Plagne**	**145.47**	**336**	*e*PKP1	PKPbc	08 06 20.5	+2.2
	comp=Z,78nm,0.9s						
PCP	**Pian Castagno**	**145.49**	**333**	P	PKPdf	08 06 18.5	+0.8
OG05	**Jujurieux**	**145.51**	**338**	PKP	PKPdf	08 06 19.7	+2.1
RSP	**Reno Superiore**	**145.55**	**335**	P	PKPdf	08 06 19.0	+1.3
SMF	**Signal de Mont**	**145.55**	**340**	*e*PKP1	PKPbc	08 06 19.9	+1.5
	comp=Z,130nm,1.3s						
FENE	**Fenestrelle**	**145.73**	**335**	P	PKPdf	08 06 18.6	+0.5
SGMF	**Saint Gilles**	**145.78**	**348**	*e*PKP1	PKPbc	08 06 20.4	+1.4
	comp=Z,95nm,1.1s						
BHB	**Bricherasio**	**145.80**	**335**	P	PKPdf	08 06 19.1	+0.9
ROSF	**Rostrenen**	**145.83**	**349**	*e*PKP1	PKPbc	08 06 20.5	+1.4
	comp=Z,52nm,1.2s						
FIN	**Finale Ligure**	**145.90**	**333**	P	PKPdf	08 06 19.4	+1.1
BGF	**Bois d'Agland**	**145.95**	**341**	*e*PKP1	PKPbc	08 06 21.2	+1.8
	comp=Z,30nm,0.6s						
ROB	**Roburent**	**145.98**	**333**	P	PKPdf	08 06 20.0	+1.5
MBDF	**Montbardon**	**146.10**	**335**	*e*PKP1	PKPbc	08 06 21.5	+1.6
	comp=Z,19nm,0.6s						
MONE	**Monesi**	**146.21**	**333**	P	PKPdf	08 06 19.8	+0.9
PLDF	**La Plantade**	**146.22**	**340**	PKP	PKPdf	08 06 23.2	+4.4
ENR	**Entracque**	**146.23**	**334**	P	PKPdf	08 06 19.7	+0.8
STV2	**Anna di Valdie**	**146.26**	**334**	P	PKPdf	08 06 20.9	+2.0
STV	**Sta Anna Valdi**	**146.26**	**334**	P	PKPdf	08 06 19.4	+0.4
IMI	**Imperia**	**146.28**	**333**	P	PKPdf	08 06 20.9	+1.9
ORIF	**Oris-en-Rattie**	**146.29**	**336**	*e*PKP1	PKPbc	08 06 22.5	+2.2
	comp=Z,52nm,0.9s						
ORIF				*e*R			
	comp=Z,31nm,19.8s						
AGO	**Saint Agoulin**	**146.31**	**340**	PKP	PKPdf	08 06 23.5	+4.5
SAOF	**Saorge**	**146.37**	**333**	PKP	PKPdf	08 06 22.0	+2.9
TCF	**Toulx Ste Croi**	**146.39**	**341**	*e*PKP1	PKPbc	08 06 22.5	+2.0
	comp=Z,54nm,1.1s						
NEGI	**Negi**	**146.41**	**333**	P	PKPdf	08 06 20.5	+1.3
AUTN	**L'Aution**	**146.41**	**334**	PKP	PKPdf	08 06 22.5	+3.3
TOUF	**Mont Tournerai**	**146.48**	**334**	PKP	PKPdf	08 06 22.5	+3.2
SBF	**Sospel**	**146.52**	**333**	⇑*i*PKP1	PKPbc	08 06 22.5	+1.7
	comp=Z,98nm,1.1s						
MVIF	**Mont Vial**	**146.61**	**334**	PKP	PKPdf	08 06 22.9	+3.4
PYM	**Petit Puy Mans**	**146.62**	**340**	PKP	PKPdf	08 06 24.6	+5.1
MFF	**Saint Martin d**	**146.78**	**344**	*e*PKP1	PKPbc	08 06 23.5	+2.1
	comp=Z,36nm,0.7s						
OCF	**Saint Nazaire**	**146.80**	**336**	PKP	PKPdf	08 06 24.2	+4.4
OG26	**St.-Nazaire-De**	**146.80**	**336**	PKP	PKPdf	08 06 24.2	+4.4
VIVF	**Saint-Julien-l**	**146.81**	**337**	*e*PKP1	PKPbc	08 06 23.8	+2.3
PGF	**Pioggiola**	**146.83**	**330**	⇑*i*PKP1	PKPbc	08 06 23.6	+2.0
	comp=Z,103nm,1.3s						
CALN	**Calern**	**146.84**	**334**	PKP	PKPdf	08 06 23.3	+3.4
LCHF	**La Chataignera**	**146.87**	**345**	PKP	PKPdf	08 06 24.5	+4.6
LBL	**Lubilhac**	**146.99**	**339**	PKP	PKPdf	08 06 26.3	+6.2
STOF	**St-Etienne Org**	**147.05**	**335**	PKP	PKPdf	08 06 24.5	+4.3
FRF	**La Foret Royal**	**147.10**	**334**	*e*PKP1	PKPdf	08 06 24.1	+3.8
SMRF	**Simiane la Rot**	**147.20**	**336**	*e*PKP1	PKPdf	08 06 25.1	+4.6
VILF	**Villemus**	**147.25**	**335**	PKP	PKPdf	08 06 25.2	+4.6
TAVF	**Tavernes**	**147.30**	**335**	PKP	PKPdf	08 06 25.2	+4.5
LMR	**La Mourre**	**147.34**	**334**	⇑*i*PKP1	PKPdf	08 06 24.9	+4.1
	comp=Z,30nm,0.9s						
RJF	**Les Rejaudoux**	**147.49**	**341**	*e*PKP1	PKPdf	08 06 25.6	+4.7
	comp=Z,19nm,0.7s						
RJF				*e*R			
	comp=Z,65nm,21.5s						
PRAF	**Pradon**	**147.50**	**336**	PKP	PKPdf	08 06 26.1	+5.1
PUYF	**Puyloubier**	**147.52**	**335**	PKP	PKPdf	08 06 26.1	+5.0
CAF	**Calviac**	**147.65**	**340**	⇑*i*PKP1	PKPdf	08 06 26.2	+5.0
	comp=Z,12nm,0.8s						
BERF	**Bertagne**	**147.70**	**335**	PKP	PKPdf	08 06 26.1	+4.7
GELF	**Grande-Etoile**	**147.75**	**335**	PKP	PKPdf	08 06 26.3	+4.8
LASF	**Ste Croix**	**147.78**	**338**	*e*PKP1	PKPdf	08 06 26.5	+5.0
	comp=Z,25nm,0.9s						
LFF	**La Frestale**	**148.05**	**342**	⇑*i*PKP1	PKPdf	08 06 27.1	+5.2
	comp=Z,36nm,0.7s						
MTLF	**Montolieu**	**149.00**	**339**	*e*PKP1	PKPdf	08 06 29.6	+6.1
	comp=Z,66nm,1.2s						
EPF	**Esparros**	**149.90**	**341**	⇑*i*PKP1	PKPdf	08 06 31.8	+7.0
SJPF	**Ste Jean**	**150.29**	**343**	⇑*i*PKP1	PKPdf	08 06 33.0	+7.6
	comp=Z,15nm,0.8s						
ETSF	**Etsaut**	**150.30**	**342**	*e*PKP1	PKPdf	08 06 33.2	+7.7
	comp=Z,14nm,0.7s						
ESDC	**Sonseca Array**	**154.24**	**345**	PKPab	PKPab	08 06 56.1	-0.4
	comp=Z,0.3nm,0.3s,baz=41,slow=2.9,SNR=5.4						
DBIC	**Dimbokro**	**168.84**	**223**	PKPab	PKPab	08 08 00.9	+0.5
	comp=Z,1.2nm,0.5s,baz=104,slow=4.2,SNR=3.2						

ATH ***13*** *07:52:15.6, 38.21N×22.55E, h5^{km}, MD3.6/11, ML3.3*
NEIC ***13*** *07:52:15.6, 38.21N×22.55E, h5^{km}, ML3.3(ATH), After ATH.*
THE ***13*** *07:52:16.6, 38.24N×22.70E, h10^{km}, ML3.7*
CSEM ***13*** *07:52:16.5±0.1, 38.23N×22.62E, ML3.3, Error ellipse: s-maj=2.7km s-min=1.8km az=41.0*
ISC 13 07:52:15.8±0.4**, 38.20N**±0.02×**22.66E**±0.03**, h10^{km}, n37, σ1^{s}16**/54**, mb3.7**/1**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGER	**Gerania Oros**	**0.52**	**114**	*e*PB	**Pb**	**07 52 28.0**	**+1.4**
NSAL	**Nisos Salamina**	**0.70**	**115**	*e*PB	**Pb**	**07 52 31.0**	**+1.4**
NAIG	**Nisos Aigina**	**0.79**	**124**	*e*PG	**Pg**	**07 52 32.0**	**+0.3**
MPAR	**Parnis Oros**	**0.85**	**93**	*e*PN	**Pn**	**07 52 34.2**	**+0.6**
AGG	**Agios Georgios**	**0.86**	**343**	*e*Pg	**Pg**	**07 52 32.0**	**-1.0**
AGG				*e*Sg	**Sg**	**07 52 44.7**	**+0.2**
ATH	**Athens Observa**	**0.87**	**105**	*e*PN	**Pn**	**07 52 34.5**	**+0.6**
ATH				*e*SB	**Sb**	**07 52 47.5**	**+3.6**
RLS	**Riolos of Patr**	**0.95**	**262**	*e*PB	**Pb**	**07 52 32.3**	**-1.6**
EVR	**Evrytania**	**0.97**	**317**	*e*PN	**Pn**	**07 52 33.8**	**-1.6**
EVR				*e*SB	**Sb**	**07 52 46.9**	**-0.1**
ITM	**Ithomi**	**1.17**	**210**	*e*PG	**Pg**	**07 52 36.5**	**-2.8**
NEO	**Neokhori**	**1.19**	**22**	*e*PG	**Pg**	**07 52 38.1**	**-1.5**
XOR	**Xorichti**	**1.23**	**20**	*e*Pg	**Pg**	**07 52 39.6**	**-0.9**
XOR				*e*Sg	**Sg**	**07 52 57.0**	**0.0**
AOS	**Alonnisos**	**1.36**	**44**	*e*Pg	**Pg**	**07 52 41.5**	**-1.5**
AOS				*e*Sg	**Sg**	**07 53 00.5**	**-0.7**
VLI	**Veliai**	**1.50**	**171**	*e*PB	**Pb**	**07 52 44.9**	**+1.6**
VLS	**Valsamata**	**1.63**	**270**	*e*PB	**Pb**	**07 52 45.5**	**0.0**
LKD	**Levkas**	**1.65**	**288**	*e*Pb	**Pb**	**07 52 46.8**	**+0.8**
LKD				*e*Sb	**Sb**	**07 53 10.1**	**+3.3**
PAIG	**Paliouri**	**1.90**	**24**	*e*Pb	**Pb**	**07 52 48.3**	**-1.8**
PAIG				*e*Sb	**Sb**	**07 53 13.9**	**+0.1**
LIT	**Litokhoron**	**1.90**	**356**	*e*Pb	**Pb**	**07 52 48.8**	**-1.4**
	comp=Z,10nm,0.8s						
LIT				*e*Sb	**Sb**	**07 53 14.3**	**+0.5**
MEV	**Metsovon**	**1.93**	**325**	*e*Pb	**Pb**	**07 52 50.5**	**-0.2**
MEV				*e*Sb	**Sb**	**07 53 15.9**	**+1.0**
JAN	**Janina**	**2.02**	**316**	*e*PN	**Pn**	**07 52 53.0**	**+2.6**
OUR	**Ouranopolis**	**2.36**	**25**	*e*Pn	**Pn**	**07 52 55.1**	**-0.2**
THE	**Thessaloniki**	**2.44**	**6**	*e*Pn	**Pn**	**07 52 56.0**	**-0.3**
THE				*e*Sn	**Sn**	**07 53 28.1**	**+1.7**
THE	**Thessaloniki**	**2.44**	**6**	*e*Pn	**Pn**	**07 52 56.0**	**-0.3**
THE				*e*Sn	**Sn**	**07 53 28.1**	**+1.6**
SOH	**Sokhos**	**2.67**	**11**	*e*Pn	**Pn**	**07 53 00.2**	**+0.5**
SOH				*e*Sn	**Sn**	**07 53 34.1**	**+1.7**
GRG	**Griva**	**2.76**	**356**	*e*Pn	**Pn**	**07 53 01.1**	**+0.2**
GRG				*e*Sn	**Sn**	**07 53 35.4**	**+0.8**
FNA	**Florina**	**2.76**	**339**	*e*Pn	**Pn**	**07 53 01.5**	**+0.5**
FNA				*e*Sn	**Sn**	**07 53 36.1**	**+1.4**
KNT	**Kendrikon**	**2.96**	**4**	*e*Pn	**Pn**	**07 53 03.9**	**+0.1**
KNT				*e*Sn	**Sn**	**07 53 40.9**	**+1.1**
SRS	**Serrai**	**3.00**	**14**	*e*Pn	**Pn**	**07 53 04.2**	**-0.1**
SRS				*e*Sn	**Sn**	**07 53 41.2**	**+0.5**
SRS	**Serrai**	**3.00**	**14**	*e*Pn	**Pn**	**07 53 04.2**	**-0.1**
SRS				*e*Sn	**Sn**	**07 53 41.2**	**+0.5**
MMB	**Musomiste**	**3.48**	**13**	*i* P	**Pn**	**07 53 10.0**	**-1.2**
KKB	**Krupnik**	**3.67**	**5**	*e*P	**Pn**	**07 53 14.0**	**+0.1**
RZN	**Rozhen**	**3.82**	**24**	*e*P	**Pn**	**07 53 15.0**	**-1.1**
SKO	**Skopje**	**3.88**	**346**	*e*Pn	**Pn**	**07 53 20.8**	**+4.0**
KDZ	**Kurdzhali**	**4.04**	**31**	*e*P	**Pn**	**07 53 17.5**	**-1.7**
VTS	**Vitosha**	**4.40**	**5**	*e*P	**Pn**	**07 53 20.0**	**-4.3**
TIP	**Timpagrande**	**4.72**	**284**	*e*P	**Pn**	**07 53 28.0**	**-0.7**
TIP	**Timpagrande**	**4.72**	**284**	*e*P	**Pn**	**07 53 28.0**	**-0.7**
NB2	**NORSAR Subarra**	**23.96**	**346**	P	**P**	**07 57 28.5**	**-2.2**
	2.3nm,0.8s,mb3.7,baz=162,slow=10						

IDC 13 08:00:07.0±3.5**, 52.24N**×**35.88E, mb1 3.3**/3**, mb1mx3.1**/19**, mbtmp3.2**/3**, ML3.2**/3**, Error ellipse: s-maj=38.3km s-min=13.0km az=113.0, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.44**	**252**	Pn	Pn	08 01 13.7	-3.4
	0.8nm,0.3s,baz=57,slow=11,SNR=3.4						
AKASG				Pg	Pg	08 01 24.9	-11
	1.5nm,0.3s,baz=57,slow=16,SNR=13						
AKASG				Sn	Sn	08 02 05.2	-5.1
	2.4nm,0.3s,baz=57,slow=20,SNR=4.6						
AKASG				Lg		08 02 21.8	
	2.6nm,0.3s,baz=341,slow=27,SNR=4.6						
FINES	**FINESS Array B**	**10.66**	**334**	Pn	P	08 02 36.8	-7.2
	0.1nm,0.3s,baz=318,slow=26,SNR=3.5						
FINES				Sn	S	08 04 31.0	-14
	0.3nm,0.3s,baz=157,slow=25,SNR=4.0						
FINES				Lg		08 05 40.5	
	0.2nm,0.3s,baz=153,slow=31,SNR=4.9						
ARCES	**ARCESS Array B**	**18.03**	**348**	P	P	08 04 17.0	-3.2
	0.2nm,0.3s,baz=166,slow=10.0,SNR=7.7						

BJI ***13*** *08:40:34.8, 8.25N×92.11E, h43^{km}, mB4.9, mb4.7, Ms4.8, Msz4.0*
MOS ***13*** *08:40:36.9±0.8, 8.67N×92.37E, h33^{km}, mb5.1/39, Error ellipse: s-maj=18.1km s-min=5.8km az=122.4*
NEIC ***13*** *08:40:39.4±0.2, 8.53N×92.26E, mb4.8/43, Error ellipse: s-maj=8.9km s-min=4.4km az=46.0*
IDC ***13*** *08:40:39.7±0.5, 8.64N×92.32E, h41^{km}±4^{km}, mb4.3/16, mb1 4.4/16, mb1mx4.3/20, mbtmp4.5/16, MS3.8/9, Ms1 3.8/9, ms1mx3.5/29, Error ellipse: s-maj=20.9km s-min=11.7km az=59.0*
ISC 13 08:40:39.1±1.4**, 8.60N**±0.06×**92.41E**±0.06**, h53^{km}**±12^{km}**, h42^{km}**±2.4^{km}**:pP-P, n173, σ0^{s}92**/167**, mb4.8**/65**, MS3.9**/11**, 1C-3D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.82**	**111**	*e*P	**P**	**08 42 46.4**	**-0.1**
VIS	**Vishakhapatnam**	**12.65**	**317**	*e*P	**P**	**08 43 34.4**	**-4.2**
VIS				*e*		08 45 35.7	
VIS				AML	AML	08 45 49.5	
	comp=E,190nm,0.4s						
VIS				AML	AML	08 45 50.0	
	comp=N,230nm,0.5s						
HYB	**Hyderabad**	**16.08**	**304**	*e*P	**P**	**08 44 22.5**	**-0.7**
HYB				*e*S	**S**	**08 47 12.0**	**-7.5**
HYB	**Hyderabad**	**16.08**	**304**	*e*P	**P**	**08 44 22.5**	**-0.7**
HYB				*e*		08 47 05.0	
HYB				*e*S	**S**	**08 47 12.0**	**-7.5**
HYB	**Hyderabad**	**16.08**	**304**	*i* P	**P**	**08 44 22.5**	**-0.7**
HYB				*e*		08 44 27.0	
HYB				*e*		08 47 05.0	
HYB				*e*S	**S**	**08 47 18.0**	**-1.5**
BLSP	**Bilaspur**	**16.69**	**325**	*e*P	**P**	**08 44 29.7**	**-1.1**
BLSP				AMb	AMB	08 44 34.2	
	comp=Z,23nm,1.3s						
BLSP				*e*		08 47 22.1	
BLSP				*e*		08 47 23.0	
SHL	**Shillong**	**16.88**	**358**	*e*P	**P**	**08 44 30.5**	**-2.7**
SHL				*e*		08 47 29.5	
KMI	**Kunming**	**19.16**	**30**	P	**P**	**08 45 02.4**	**+1.5**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s						
KMI	**Kunming**	**19.16**	**30**	P	**P**	**08 45 02.4**	**+1.5**
	comp=Z,8.0nm,0.8s						
KSM	**Kuching**	**19.18**	**111**	*e*P	**P**	**08 44 59.4**	**-1.8**
KAD	**Karad**	**19.74**	**298**	*e*	**P**	**08 45 08.3**	**+1.0**
KAD				AMb	AMB	08 45 15.0	
	comp=Z,39nm,1.2s						
KAD				*e*		08 48 32.4	
PKI	**Pulchoki**	**19.99**	**342**	*e*P	**P**	**08 45 10.0**	**+0.1**
	comp=Z,68nm,0.5s						
PKI	**Pulchoki**	**19.99**	**342**	*e*P	**P**	**08 45 10.0**	**+0.1**
PKI				pmax	pmax		
	comp=Z,34nm,0.5s						
DMN	**Daman**	**20.12**	**341**	*e*P	**P**	**08 45 11.6**	**+0.3**
	comp=Z,71nm,0.7s						
GUN	**Gumba**	**20.17**	**343**	*e*P	**P**	**08 45 12.0**	**+0.2**
	comp=Z,105nm,0.7s						
KKN	**Kakani**	**20.24**	**341**	*e*P	**P**	**08 45 12.4**	**-0.1**
	comp=Z,37nm,0.6s						
KKN	**Kakani**	**20.24**	**341**	*e*P	**P**	**08 45 12.4**	**-0.1**
KKN				pmax	pmax		
	comp=Z,19nm,0.6s						
GKN	**Gorkha**	**20.64**	**340**	*e*P	**P**	**08 45 17.0**	**+0.3**
	comp=Z,169nm,0.7s						
KOLN	**Koldanda**	**20.80**	**338**	*e*P	**P**	**08 45 18.6**	**+0.3**
	comp=Z,177nm,0.7s						
LSA	**Lhasa**	**21.02**	**357**	P	**P**	**08 45 20.8**	**+0.3**
LSA	**Lhasa**	**21.02**	**357**	*e*P	**P**	**08 45 19.2**	**-1.3**
LSA				pmax	pmax		
	comp=Z,36nm,0.8s,mb4.8						
LSA	**Lhasa**	**21.02**	**357**	*e*P	**P**	**08 45 19.1**	**-1.4**
	comp=Z,36nm,0.8s,mb4.8						
BOM	**Bombay**	**21.58**	**300**	*e*	**P**	**08 45 39.7**	**+13**
	comp=Z,61nm,0.3s,mb5.5						
BOM				*e*S	**S**	**08 49 20.3**	**+3.2**
NDI	**New Delhi**	**24.57**	**326**	*e*P	**P**	**08 45 55.0**	**-0.4**
CD2	**Chengdu**	**24.59**	**24**	P	**P**	**08 45 56.0**	**+0.3**
ENH	**Enshi**	**26.84**	**34**	P	**P**	**08 46 21.7**	**+5.0**
	comp=Z,6.6nm,0.6s,mb4.3						
GTA	**Gaotai**	**31.39**	**11**	*e*P	**P**	**08 46 57.8**	**+0.6**
GTA				AP	pP	08 47 04.9	-5.9
GTA				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.2						
GTA				AMB	AMB		
	comp=Z,46nm,4.8s						
GTA				LR	LR		
	comp=N,100nm,14.6s,MS3.7						
GTA				LR	LR		
	comp=E,71nm,16.6s,MS3.7						
GTA				LR	LR		
	comp=Z,63nm,13.7s,MS3.5						
WMQ	**Urumqi**	**35.32**	**354**	P	**P**	**08 47 30.8**	**-0.3**
WMQ				PP	PP	08 48 50.8	-1.0
WMQ				S	**S**	**08 53 00.3**	**-0.4**
WMQ				AMB	AMB		
	comp=Z,21nm,1.1s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,118nm,6.2s						
WMQ				LR	LR		
	comp=N,732nm,16.8s,MS4.6						
WMQ				LR	LR		
	comp=E,721nm,17.9s,MS4.6						
WMQ				LR	LR		
	comp=Z,1μm,16.6s,MS4.7						
KZA	**Kyzart**	**36.61**	**338**	P	**P**	**08 47 43.8**	**+1.7**
	SNR=8.0						
UCH	**Uchtor**	**37.02**	**338**	P	**P**	**08 47 47.1**	**+1.6**
	SNR=28						
KBK	**Karagaybulak**	**37.23**	**339**	P	**P**	**08 47 49.1**	**+1.9**
	SNR=22						
TKM2	**Tokmak 2**	**37.23**	**339**	P	**P**	**08 47 48.3**	**+1.1**
	SNR=20						
AML	**Almayashu**	**37.25**	**337**	P	**P**	**08 47 49.4**	**+2.0**
	SNR=9.5						
AAK	**Ala-Archa**	**37.37**	**338**	P	**P**	**08 47 50.1**	**+1.7**
	SNR=9.7						
FRU	**Bishkek**	**37.50**	**338**	*e*P	**P**	**08 47 50.0**	**+0.5**
FRU				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.0						
CHMS	**Chumysh**	**37.60**	**339**	P	**P**	**08 47 51.6**	**+1.3**
	SNR=9.2						
EKS2	**Erkin-Say**	**37.67**	**337**	P	**P**	**08 47 52.7**	**+1.8**
	SNR=22						
USP	**Ospenovka**	**37.92**	**339**	P	**P**	**08 47 54.1**	**+1.1**
	SNR=27						
MKAR	**Makanchi Array**	**39.03**	**349**	P	**P**	**08 48 02.2**	**+0.1**
	comp=Z,8.3nm,0.7s,mb4.6,baz=168,slow=8.8,SNR=67						
MKAR				PcP	PcP	08 50 11.9	-0.2
	comp=Z,1.2nm,0.5s,baz=175,slow=2.1,SNR=7.4						
MKAR				pPcP		08 50 26.2	
	comp=Z,0.9nm,0.6s,baz=162,slow=4.6,SNR=3.6						
MKAR				LR	LR	09 05 58.4	
	comp=Z,54nm,20.5s,MS3.4,baz=168,slow=39						
KKAR	**Karatay Array**	**39.36**	**334**	P	**P**	**08 48 05.5**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
MBWA	**Marble Bar**	**39.94**	**138**	P	**P**	**08 48 11.4**	**+1.4**
SONM	**Songino Array**	**40.86**	**14**	P	**P**	**08 48 18.1**	**+0.8**
	comp=Z,8.8nm,0.9s,mb4.4,baz=197,slow=8.2,SNR=51						
SONM				pP	pP	08 48 29.4	-1.9
	comp=Z,3.1nm,0.8s,baz=195,slow=7.0,SNR=7.6						
SONM				PcP	PcP	08 50 18.5	+0.5
	comp=Z,1.7nm,0.7s,baz=210,slow=4.3,SNR=4.5						
SONM				pPcP		08 50 32.4	
	comp=Z,1.0nm,0.8s,baz=190,slow=2.7,SNR=3.6						
SONM				LR	LR	09 08 09.8	
	comp=Z,72nm,20.6s,MS3.5,baz=236,slow=40						
ULN	**Ulaanbaatar**	**41.05**	**15**	*e*P	**P**	**08 48 06.0**	**-13**
FITZ	**Fitzroy Crossi**	**42.20**	**129**	P	**P**	**08 48 28.7**	**0.0**
	comp=Z,7.3nm,0.9s,mb4.3,baz=346,slow=6.2,SNR=5.5						
FITZ				pP	pP	08 48 41.5	-1.3
	comp=Z,11nm,1.0s,baz=317,slow=3.9,SNR=5.7						
JNU	**Nakatsue**	**43.07**	**50**	pP	pP	08 48 48.3	-1.4
	comp=Z,10.0nm,0.9s,baz=216,slow=12,SNR=3.7						
ZAL	**Zalesovo**	**45.62**	**354**	P	**P**	**08 48 55.3**	**-0.6**
	comp=Z,3.1nm,0.5s,mb4.5,baz=78,slow=19,SNR=9.0						
ZAL				LR	LR	09 11 51.3	
	comp=Z,82nm,18.7s,MS3.7,baz=285,slow=41						
KBD	**Kabd**	**46.63**	**302**	*e*P	**P**	**08 49 04.7**	**+0.5**
KBD				AMb	AMB	08 49 05.4	
	comp=Z,79nm,0.6s,mb5.8						
RDF	**Al-Radifah**	**46.68**	**302**	*e*P	**P**	**08 49 05.2**	**+0.6**
RDF				AMb	AMB	08 49 05.9	
	comp=Z,36nm,0.6s,mb5.5						
UMR	**Umm Al-Rimmam**	**46.73**	**303**	*e*P	**P**	**08 49 05.3**	**+0.3**
UMR				AMb	AMB	08 49 06.5	
	comp=Z,29nm,0.5s,mb5.5						
VOSK	**Vostochnaya**	**47.32**	**342**	P	**P**	**08 49 08.8**	**-0.5**
VOSK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
NWAO	**Narrogin (SRO)**	**47.59**	**151**	P	**P**	**08 49 14.5**	**+2.8**
	comp=Z,23nm,1.1s,mb5.1,baz=327,slow=8.3,SNR=6.5						
NWAO	**Narrogin (SRO)**	**47.59**	**151**	P	**P**	**08 49 14.5**	**+2.8**
BVA0	**Borovoye Array**	**47.76**	**342**	*i* P	**P**	**08 49 12.1**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
BVAR	**Borovoye Array**	**47.76**	**342**	P	**P**	**08 49 12.2**	**-0.5**
	comp=Z,8.8nm,0.7s,mb4.9,baz=141,slow=9.5,SNR=55						
BVAR				PcP	PcP	08 50 41.5	0.0
	comp=Z,1.5nm,0.5s,baz=180,slow=4.4,SNR=4.0						
ZRNK	**Zerenda**	**48.13**	**341**	*e*P	**P**	**08 49 14.9**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
ZRNK	**Zerenda**	**48.13**	**341**	*e*P	**P**	**08 49 14.9**	**-0.7**
	comp=Z,12nm,0.7s,mb5.0						
AB31	**Akbulak array**	**48.78**	**332**	*e*P	**P**	**08 49 21.0**	**+0.3**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
MJAR	**Matsushiro Arr**	**49.96**	**49**	pP	pP	08 49 41.8	-2.4
	comp=Z,0.9nm,0.5s,baz=251,slow=8.0,SNR=3.1						
MJAR				PcP	PcP	08 50 49.6	0.0
	comp=Z,2.3nm,0.8s,baz=244,slow=4.4,SNR=4.0						
MJAR				pPcP		08 51 04.4	
	comp=Z,2.4nm,0.8s,baz=246,slow=7.7,SNR=4.4						
JHJ	**Hachijo jima 2**	**50.00**	**54**	LR	LR	09 12 08.1	
	comp=Z,79nm,18.5s,MS3.8,baz=115,slow=38						
WRA	**Warramunga Arr**	**50.08**	**125**	P	**P**	**08 49 30.9**	**-0.2**
	comp=Z,3.8nm,0.5s,mb4.7,baz=304,slow=8.6,SNR=92						
WRA				pP	pP	08 49 43.3	-2.0
	comp=Z,7.7nm,0.9s,baz=304,slow=8.8,SNR=16						
WRAB	**Tennant Creek**	**50.09**	**125**	*e*P	**P**	**08 49 29.8**	**-1.3**
WRAB				*e**PP	pP	08 49 42.0	-3.3
WRAB				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**50.09**	**125**	*e*P	**P**	**08 49 29.8**	**-1.4**
	comp=Z,13nm,0.9s,mb5.0						
WRAB				*e*pP	pP	08 49 42.0	-3.3
WB2	**Warramunga Arr**	**50.09**	**125**	*e*P	**P**	**08 49 30.7**	**-0.5**
ARU	**Arti**	**54.56**	**338**	⇓*i*P	**P**	**08 50 03.4**	**-0.6**
ARU				*e*		08 51 11.1	
ARU				*e*		08 52 01.9	
ARU				*e*S	**S**	**08 57 30.5**	**-7.2**
ARU				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.3						
ARU	**Arti**	**54.56**	**338**	*e*P	**P**	**08 50 03.3**	**-0.7**
	comp=Z,31nm,0.9s,mb5.3						
UMJS	**Umm Lajj**	**54.87**	**295**	P	**P**	**08 50 08.7**	**+2.0**
KIV	**Kislovodsk**	**55.63**	**318**	*e*P	**P**	**08 50 11.3**	**-0.7**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.0						
KIV	**Kislovodsk**	**55.63**	**318**	*e*P	**P**	**08 50 11.3**	**-0.7**
	comp=Z,7.8nm,0.5s,mb5.0						
KMBO	**Kilima Mbogo**	**55.80**	**263**	LR	LR	09 09 48.1	
	comp=Z,92nm,18.8s,MS3.9,baz=88,slow=31						
TBKS	**Tabuk**	**55.97**	**298**	P	**P**	**08 50 15.2**	**+0.6**
JMQS	**Jabal Moqyreh**	**56.65**	**299**	P	**P**	**08 50 13.7**	**-5.8**
BDAS	**Al Bad'**	**57.26**	**298**	P	**P**	**08 50 24.1**	**+0.3**
HAQS	**Haql**	**57.50**	**299**	P	**P**	**08 50 26.5**	**+1.0**
CTAO	**Charters Tower**	**60.16**	**119**	*e*P	**P**	**08 50 44.4**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
CTAO	**Charters Tower**	**60.16**	**119**	*e*P	**P**	**08 50 44.4**	**+0.4**
	comp=Z,2.9nm,0.9s,mb4.3						
BRTR	**Keskin Array B**	**60.66**	**311**	P	**P**	**08 50 45.5**	**-1.7**
	comp=Z,2.9nm,0.8s,mb4.5,baz=121,slow=7.2,SNR=11						
BRTR				pP	pP	08 50 57.9	-4.0
	comp=Z,1.5nm,0.7s,baz=114,slow=7.1,SNR=3.7						
STKA	**Stephens Creek**	**61.85**	**133**	P	**P**	**08 50 55.0**	**-0.4**
	comp=Z,1.9nm,0.9s,mb4.2,baz=306,slow=8.2,SNR=4.3						
STKA				pP	pP	08 51 07.4	-2.6
	comp=Z,5.5nm,0.9s,baz=306,slow=6.6,SNR=7.7						
STKA	**Stephens Creek**	**61.85**	**133**	*e*P	**P**	**08 50 57.0**	**+1.7**
STKA				*e*pP	pP	08 51 08.7	-1.3
OBN	**Obninsk**	**63.85**	**328**	*e*P	**P**	**08 51 06.6**	**-1.6**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
AKASG	**Malin Array Be**	**66.52**	**322**	P	**P**	**08 51 23.6**	**-1.9**
	comp=Z,2.2nm,0.5s,mb4.4,baz=87,slow=5.2,SNR=8.4						
TIXI	**Tiksi**	**66.87**	**12**	*e*P	**P**	**08 51 23.9**	**-3.4**
TIXI				pmax	pmax		
	comp=Z,21nm,0.7s,mb5.3						
MLR	**Muntele Rosu**	**67.45**	**316**	⇓P	**P**	**08 51 31.6**	**+0.2**
BURAR	**Bucovina Array**	**68.36**	**318**	⇓P	**P**	**08 51 36.9**	**-0.1**
CRVS	**Cervenica-Dubn**	**71.05**	**319**	*e*P	**P**	**08 51 52.2**	**-1.2**
FINES	**FINESS Array B**	**71.27**	**332**	P	**P**	**08 51 53.7**	**-0.8**
	comp=Z,8.0nm,0.8s,mb4.7,baz=124,slow=6.9,SNR=21						
KAF	**Kangasniemi**	**71.36**	**333**	*e*p	**P**	**08 51 53.4**	**-1.7**
	comp=Z,6.4nm,0.7s,mb4.7,baz=106,slow=5.7						
KAF	**Kangasniemi**	**71.36**	**333**	*e*P	**P**	**08 51 53.4**	**-1.7**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
OJC	**Ojcow**	**72.31**	**320**	*e*P	**P**	**08 52 00.4**	**-0.5**
KEV	**Kevo**	**73.58**	**341**	*e*p	**P**	**08 52 06.6**	**-1.4**
	comp=Z,6.2nm,0.5s,mb4.8						
KEV	**Kevo**	**73.58**	**341**	*e*P	**P**	**08 52 06.6**	**-1.4**
KEV				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
ARCES	**ARCESS Array B**	**74.00**	**340**	P	**P**	**08 52 10.5**	**0.0**
	comp=Z,6.5nm,0.5s,mb4.8,baz=97,slow=5.2,SNR=59						
ARCES				pP	pP	08 52 21.6	-3.9
	comp=Z,1.7nm,0.6s,baz=135,slow=3.4,SNR=2.2						
ARCES				LR	LR	09 26 54.1	
	comp=Z,102nm,20.1s,MS4.1,baz=100,slow=38						
ARCES	**ARCESS Array B**	**74.00**	**340**	P	**P**	**08 52 10.5**	**0.0**
ARCES				pP	pP	08 52 21.6	-3.9
ARCES				LR	LR	09 26 54.1	
ARE0	**ARCESS Array S**	**74.00**	**340**	*e*P	**P**	**08 52 10.3**	**-0.2**
BOSA	**Boshof**	**74.52**	**237**	P	**P**	**08 52 15.4**	**+1.1**
	comp=Z,4.9nm,0.9s,mb4.4,baz=132,slow=2.6,SNR=6.6						
BOSA				LR	LR	09 19 26.1	
	comp=Z,80nm,19.4s,MS4.0,baz=68,slow=31						
BRG	**Berggiesshubel**	**76.10**	**320**	*e*P	**P**	**08 52 23.0**	**+0.2**
BRG				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BRG	**Berggiesshubel**	**76.10**	**320**	*e*P	**P**	**08 52 23.0**	**+0.1**
	comp=Z,8.7nm,0.8s,mb4.7						
GEC2	**GERESS Array S**	**76.14**	**318**	*e*P	**P**	**08 52 23.2**	**+0.1**
GEC2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
GEC2	**GERESS Array S**	**76.14**	**318**	*e*P	**P**	**08 52 23.2**	**+0.1**
	comp=Z,8.0nm,0.9s,mb4.7						
GERES	**GERESS Array B**	**76.14**	**318**	P	**P**	**08 52 23.3**	**+0.1**
	comp=Z,5.3nm,0.8s,mb4.5,baz=90,slow=5.3,SNR=25						
WET	**Wettzell**	**76.70**	**318**	*e*P	**P**	**08 52 26.2**	**-0.1**
WET				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WET	**Wettzell**	**76.70**	**318**	*e*P	**P**	**08 52 26.2**	**-0.1**
	comp=Z,5.0nm,0.8s,mb4.5						
CLL	**Collm**	**76.71**	**321**	P	**P**	**08 52 26.0**	**-0.3**
CLL	**Collm**	**76.71**	**321**	⇑P	**P**	**08 52 26.2**	**-0.1**
MOX	**Moxa**	**77.56**	**320**	*e*P	**P**	**08 52 30.0**	**-1.1**
GRA1	**Grafenberg Arr**	**77.79**	**319**	*e*P	**P**	**08 52 32.9**	**+0.6**
	comp=Z,12nm,0.9s,mb4.8						
GRF	**Grafenberg Arr**	**77.79**	**319**	*e*P	**P**	**08 52 32.9**	**+0.6**
GRF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
GRF	**Grafenberg Arr**	**77.79**	**319**	*e*P	**P**	**08 52 32.9**	**+0.6**
GRF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
GRF	**Grafenberg Arr**	**77.79**	**319**	*e*P	**P**	**08 52 32.9**	**+0.6**
	comp=Z,12nm,0.9s,mb4.8						
GRFO	**Grafenberg**	**77.80**	**319**	*e*P	**P**	**08 52 32.9**	**+0.6**
GRFO				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.7						
GRFO	**Grafenberg**	**77.80**	**319**	*e*P	**P**	**08 52 32.9**	**+0.6**
	comp=Z,110nm,1.0s,mb5.7						
NB2	**NORSAR Subarra**	**78.26**	**331**	P	**P**	**08 52 33.6**	**-1.0**
	comp=Z,5.4nm,0.7s,mb4.6,baz=97,slow=5.0						
NB2	**NORSAR Subarra**	**78.26**	**331**	P	**P**	**08 52 33.6**	**-1.0**
NB2				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
NOA	**NORSAR Array B**	**78.26**	**331**	P	**P**	**08 52 34.1**	**-0.6**
	comp=Z,5.1nm,0.8s,mb4.5,baz=94,slow=5.5,SNR=11						
NOA				LR	LR	09 30 13.7	
	comp=Z,56nm,21.3s,MS3.9,baz=90,slow=38						
CLZ	**Clausthal**	**78.37**	**321**	*e*P	**P**	**08 52 35.6**	**+0.1**
CLZ				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
CLZ	**Clausthal**	**78.37**	**321**	*e*P	**P**	**08 52 35.6**	**+0.1**
	comp=Z,7.0nm,0.7s,mb4.7						
BSEG	**Bad Segeberg**	**78.44**	**323**	*e*P	**P**	**08 52 35.9**	**+0.1**
TSUM	**Tsumeb**	**78.69**	**248**	LR	LR	09 24 30.7	
	comp=Z,77nm,18.5s,MS4.1,baz=142,slow=34						
PGF	**Pioggiola**	**79.39**	**312**	*e*P	**P**	**08 52 40.7**	**-0.6**
	comp=Z,13nm,0.9s,mb4.5						
PGF	**Pioggiola**	**79.39**	**312**	*e*P	**P**	**08 52 40.7**	**-0.6**
PGF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BFO	**Black Forest**	**79.70**	**318**	*e*P	**P**	**08 52 42.4**	**-0.4**
BFO				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
BFO	**Black Forest**	**79.70**	**318**	*e*P	**P**	**08 52 42.4**	**-0.4**
	comp=Z,7.0nm,1.1s,mb4.5						
CDF	**Champ du Feu**	**80.40**	**318**	*e*P	**P**	**08 52 45.8**	**-0.7**
	comp=Z,7.0nm,0.7s,mb4.4						
CDF	**Champ du Feu**	**80.40**	**318**	*e*P	**P**	**08 52 45.8**	**-0.7**
CDF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
SBF	**Sospel**	**80.48**	**313**	*e*P	**P**	**08 52 46.5**	**-0.6**
	comp=Z,39nm,0.8s,mb5.1						
SBF	**Sospel**	**80.48**	**313**	*e*P	**P**	**08 52 46.5**	**-0.6**
SBF				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
LPG	**La Plagne**	**80.89**	**315**	*e*P	**P**	**08 52 49.2**	**0.0**
	comp=Z,27nm,0.8s,mb4.9						
LPG	**La Plagne**	**80.89**	**315**	*e*P	**P**	**08 52 49.2**	**0.0**
LPG				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
LPL	**La Plagne**	**80.90**	**315**	*e*P	**P**	**08 52 49.2**	**-0.1**
	comp=Z,38nm,0.8s,mb5.1						
LPL	**La Plagne**	**80.90**	**315**	*e*P	**P**	**08 52 49.2**	**-0.1**
LPL				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
MBDF	**Montbardon**	**80.92**	**314**	*e*P	**P**	**08 52 48.4**	**-0.9**
	comp=Z,13nm,0.9s,mb4.6						
MBDF	**Montbardon**	**80.92**	**314**	*e*P	**P**	**08 52 48.4**	**-0.9**
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
HAU	**Haudompre**	**81.04**	**317**	*e*P	**P**	**08 52 49.2**	**-0.7**
	comp=Z,23nm,0.9s,mb4.8						
HAU	**Haudompre**	**81.04**	**317**	*e*P	**P**	**08 52 49.2**	**-0.7**
HAU				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
FRF	**La Foret Royal**	**81.07**	**313**	*e*P	**P**	**08 52 49.8**	**-0.4**
	comp=Z,52nm,1.2s,mb5.0						
FRF	**La Foret Royal**	**81.07**	**313**	*e*P	**P**	**08 52 49.8**	**-0.4**
FRF				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.0						
LMR	**La Mourre**	**81.19**	**313**	*e*P	**P**	**08 52 50.4**	**-0.4**
	comp=Z,11nm,0.7s,mb4.6						
LMR	**La Mourre**	**81.19**	**313**	*e*P	**P**	**08 52 50.4**	**-0.4**
LMR				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
CABF	**La Chapelle**	**81.29**	**316**	*e*P	**P**	**08 52 51.1**	**-0.2**
	comp=Z,11nm,0.6s,mb4.7						
CABF	**La Chapelle**	**81.29**	**316**	*e*P	**P**	**08 52 51.1**	**-0.2**
CABF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
ORIF	**Oris-en-Rattie**	**81.54**	**314**	*e*P	**P**	**08 52 52.0**	**-0.6**
	comp=Z,7.2nm,0.6s,mb4.5						
ORIF	**Oris-en-Rattie**	**81.54**	**314**	*e*P	**P**	**08 52 52.0**	**-0.6**
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
SMRF	**Simiane la Rot**	**81.82**	**313**	*e*P	**P**	**08 52 54.3**	**+0.2**
	comp=Z,14nm,1.0s,mb4.6						
VIVF	**Saint-Julien-l**	**82.40**	**314**	*e*P	**P**	**08 52 56.8**	**-0.2**
	comp=Z,16nm,0.9s,mb4.7						
VIVF	**Saint-Julien-l**	**82.40**	**314**	*e*P	**P**	**08 52 56.8**	**-0.2**
VIVF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
LOR	**Lormes**	**82.77**	**317**	*e*P	**P**	**08 52 58.3**	**-0.6**
	comp=Z,25nm,1.0s,mb4.9						
LOR	**Lormes**	**82.77**	**317**	*e*P	**P**	**08 52 58.3**	**-0.6**
LOR				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
SMF	**Signal de Mont**	**82.83**	**316**	*e*P	**P**	**08 52 58.6**	**-0.6**
	comp=Z,16nm,0.8s,mb4.8						
SMF	**Signal de Mont**	**82.83**	**316**	*e*P	**P**	**08 52 58.6**	**-0.6**
SMF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
SSF	**Saint Saulge**	**83.03**	**316**	*e*P	**P**	**08 52 59.7**	**-0.5**
LASF	**Ste Croix**	**83.05**	**313**	*e*P	**P**	**08 53 00.6**	**+0.3**
	comp=Z,5.0nm,0.7s,mb4.3						
TCF	**Toulx Ste Croi**	**83.99**	**316**	*e*P	**P**	**08 53 04.9**	**-0.2**
CAF	**Calviac**	**84.24**	**314**	*e*P	**P**	**08 53 06.5**	**+0.1**
MTLF	**Montolieu**	**84.30**	**313**	*e*P	**P**	**08 53 06.8**	**+0.1**
	comp=Z,13nm,0.8s,mb4.8						
MTLF	**Montolieu**	**84.30**	**313**	*e*P	**P**	**08 53 06.8**	**+0.1**
MTLF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
RJF	**Les Rejaudoux**	**84.58**	**315**	*e*P	**P**	**08 53 08.3**	**+0.2**
	comp=Z,11nm,0.8s,mb4.8						
RJF	**Les Rejaudoux**	**84.58**	**315**	*e*P	**P**	**08 53 08.3**	**+0.2**
RJF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
FLN	**La Foliniere**	**85.50**	**318**	*e*P	**P**	**08 53 12.1**	**-0.4**
	comp=Z,18nm,0.9s,mb5.0						
FLN	**La Foliniere**	**85.50**	**318**	*e*P	**P**	**08 53 12.1**	**-0.4**
FLN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.0						
MFF	**Saint Martin d**	**85.57**	**316**	*e*P	**P**	**08 53 12.7**	**-0.2**
	comp=Z,15nm,0.8s,mb5.0						
MFF	**Saint Martin d**	**85.57**	**316**	*e*P	**P**	**08 53 12.7**	**-0.2**
MFF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.0						
SJPF	**Ste Jean**	**86.83**	**313**	*e*P	**P**	**08 53 19.7**	**+0.5**
SGMF	**Saint Gilles**	**86.94**	**318**	*e*P	**P**	**08 53 19.4**	**-0.2**
ROSF	**Rostrenen**	**87.40**	**318**	*e*P	**P**	**08 53 21.6**	**-0.2**
ESDC	**Sonseca Array**	**89.44**	**310**	P	**P**	**08 53 32.4**	**+0.7**
	comp=Z,0.9nm,0.4s,mb4.4,baz=68,slow=3.7,SNR=6.9						
ILAR	**Eielson Array**	**94.71**	**22**	P	**P**	**08 53 55.5**	**+0.1**
	comp=Z,0.5nm,0.7s,mb4.1,baz=286,slow=4.3,SNR=6.2						
ILAR				pP	pP	08 54 09.6	-1.4
	comp=Z,0.6nm,0.7s,baz=304,slow=4.5,SNR=6.4						
DIV	**Divide**	**97.07**	**25**	P	**P**	**08 54 08.9**	**+2.7**
SNOW	**Snow King Moun**	**124.07**	**20**	*e*PKPdf	PKPdf	08 59 35.0	+3.0
SNOW				*e*pPKPdf		08 59 48.8	
PDAR	**Pinedale Array**	**125.09**	**20**	PKP	PKPdf	08 59 36.2	+2.2
	comp=Z,0.8nm,0.7s,baz=28,slow=1.7,SNR=9.3						
PDAR				pPKP		08 59 50.0	
	comp=Z,0.7nm,0.7s,baz=333,slow=2.0,SNR=5.2						
TXAR	**Lajitas Array**	**139.23**	**22**	PKP	PKPdf	09 00 03.5	+2.6
	comp=Z,0.5nm,0.5s,baz=315,slow=1.3,SNR=10						
BDFB	**Brasilia**	**140.73**	**256**	PKP	PKPdf	09 00 05.8	+1.8
	comp=Z,2.1nm,0.7s,baz=94,slow=1.7,SNR=5.1						
PLCA	**Paso Flores**	**144.60**	**203**	PKP	PKPdf	09 00 11.6	+1.5
	comp=Z,2.0nm,1.0s,baz=27,slow=2.3,SNR=4.1						
PLCA				pPKP		09 00 24.9	
	comp=Z,1.6nm,0.7s,baz=192,slow=1.1,SNR=2.2						
CPUP	**Villa Florida**	**146.31**	**235**	PKPbc	PKPbc	09 00 16.3	+1.7
	comp=Z,5.0nm,0.8s,baz=110,slow=5.5,SNR=13						
LPAZ	**La Paz**	**159.53**	**246**	PKPab	PKPab	09 01 13.8	+0.7
	comp=Z,1.5nm,0.6s,baz=94,slow=3.8,SNR=3.9						

*ISK **13** 08:43:16.2, 37.82N×29.15E, h6km, MD3.6*
*CSEM **13** 08:43:16.2, 37.82N×29.15E, h6km, MD3.6, After ISK*
ISC 13 08:43:16.7±0.5**, 37.82N**±0.02×**29.14E**±0.03**, h5**km±4km**,**
n34, σ**0.81**/48**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.10**	**234**	*i* PG	**Pg**	**08 43 19.5**	**+0.5**
DNZL	**Cakiroluk**	**0.15**	**210**	*i* P	**Pg**	**08 43 20.1**	**+0.2**
DNZL				*i* S	**Sg**	**08 43 23.0**	**+1.1**
KHL	**Karahalli**	**0.59**	**31**	*i* PG	**Pg**	**08 43 27.4**	**-1.2**
KHL				*i* SG	**Sg**	**08 43 36.8**	**+0.3**
GOLH	**Golhisar**	**0.67**	**150**	*i* P	**Pg**	**08 43 29.2**	**-0.9**
GOLH				*i* S	**Sg**	**08 43 39.8**	**+0.7**
MANT	**Manisa**	**0.81**	**326**	*i* P	**Pb**	**08 43 32.4**	**-0.6**
MANT				*i* S	**Sg**	**08 43 43.8**	**-0.1**
TKTP	**Tekketepe**	**0.96**	**76**	*i* P	**Pb**	**08 43 34.7**	**-0.7**
TKTP				*i* S	**Sb**	**08 43 51.2**	**+3.0**
YER	**Yerkesik**	**0.96**	**225**	*i* PG	**Pg**	**08 43 35.0**	**-1.0**
AYDN	**Tasoluk**	**1.01**	**262**	*i* P	**Pb**	**08 43 36.3**	**0.0**
AYDN				*i* S	**Sb**	**08 43 50.1**	**+0.4**
ISP	**Isparta**	**1.08**	**88**	PN	**Pn**	**08 43 38.2**	**-0.2**
DALT	**Dalyan (Mudla)**	**1.12**	**201**	PN	**Pn**	**08 43 37.7**	**-1.2**
DALT				SN	**Sn**	**08 43 55.0**	**+0.2**
FETY	**Fethiye**	**1.18**	**182**	PN	**Pn**	**08 43 39.4**	**-0.4**
MLSB	**Milas**	**1.20**	**245**	PN	**Pn**	**08 43 39.0**	**-1.1**
BCK	**Bucak**	**1.20**	**107**	PN	**Pn**	**08 43 39.0**	**-1.2**
ELL	**Elmali**	**1.23**	**150**	PN	**Pn**	**08 43 39.6**	**-0.9**
GDZ	**Gediz**	**1.30**	**12**	*i* P	**Pb**	**08 43 42.3**	**+1.1**
GDZ				*i* S	**Sb**	**08 43 58.8**	**+0.7**
ALT	**Altintas**	**1.45**	**31**	PN	**Pn**	**08 43 43.3**	**-0.4**
AKS	**Akhisar**	**1.49**	**316**	PN	**Pn**	**08 43 43.7**	**-0.5**
BDRM	**Kayabasi**	**1.54**	**241**	*i* P	**Pn**	**08 43 45.4**	**+0.4**
BDRM				*i* S	**Sb**	**08 44 08.8**	**+3.6**
KDAG	**Bornova**	**1.59**	**292**	*i* P	**Pn**	**08 43 45.6**	**0.0**
KDAG				*i* S	**Sb**	**08 44 10.9**	**+4.4**
IZM	**Izmir**	**1.59**	**292**	PN	**Pn**	**08 43 45.5**	**-0.2**
AKAS	**Kas**	**1.62**	**167**	*i* P	**Pn**	**08 43 48.4**	**+2.3**
AKAS				*i* S	**Sb**	**08 44 14.6**	**+7.1**
BODT	**Bodrum**	**1.64**	**243**	PN	**Pn**	**08 43 46.3**	**-0.1**
BLCB	**Balcova**	**1.75**	**290**	PN	**Pn**	**08 43 48.2**	**+0.2**
DST	**Dursunbey**	**1.83**	**348**	*e*PN	**Pn**	**08 43 49.4**	**+0.3**
BALB	**Balikesir**	**2.07**	**332**	*e*PN	**Pn**	**08 43 53.1**	**+0.6**
URLA	**Izmir**	**2.08**	**286**	*i* P	**Pn**	**08 43 52.3**	**-0.4**
URLA				*i* S	**Sn**	**08 44 28.2**	**+9.0**
ESKT	**Eskisehir**	**2.17**	**38**	*i* P	**Pn**	**08 43 52.3**	**-1.6**
ESKT				*i* S	**Sn**	**08 44 30.3**	**+8.9**
ESKT	**Eskisehir**	**2.17**	**38**	*e*Pn	**Pn**	**08 43 53.7**	**-0.2**
ORLT	**Orhaneli**	**2.23**	**355**	*e*PN	**Pn**	**08 43 54.6**	**-0.3**
KIZT	**Kizilcal**	**2.40**	**63**	*e*PN	**Pn**	**08 43 58.0**	**+0.7**
KDHN	**Kadinhani**	**2.45**	**72**	*i* P	**Pn**	**08 43 57.9**	**0.0**
KDHN				*i* S	**Sn**	**08 44 44.1**	**+15**
BNT	**Bandirma**	**2.71**	**340**	*e*PN	**Pn**	**08 44 01.7**	**0.0**
YLV	**Yalova**	**2.75**	**4**	*e*PN	**Pn**	**08 44 02.9**	**+0.6**
EYL	**Eskiyayla**	**2.86**	**16**	*e*PN	**Pn**	**08 44 04.2**	**+0.4**

*NNC **13** 08:52:54.8±4.7, 43.31N×82.72E, mpv3.1, Error ellipse: s-maj=92.4km s-min=40.9km az=85.0*
BJI 13 08:52:54.6, 43.45N×82.52E, h13km, ML3.5, 1C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**3.35**	**357**	Pn	Pn	08 53 50.4	+2.6
	0.5nm,0.3s,baz=174,slow=16,SNR=23						
MK31				⇓Pg	Pg	08 53 58.8	-2.7
	7.0nm,0.4s,baz=182,slow=14,SNR=13						
MK31				⇑Lg		08 54 45.8	
	15nm,0.6s,baz=166,slow=15,SNR=3.6						
WMQ	**Urumqi**	**3.77**	**83**	P	Pn	08 53 56.0	+2.2
WMQ				S	Sn	08 54 42.4	+3.8
WMQ				SG	Sg	08 54 55.3	-5.0
WMQ				Smax			
	comp=N,54nm,0.3s						
WMQ				Smax			
	comp=E,58nm,0.3s						

NNC 13 09:05:39.2±38.0**, 37.87N**×**71.32E, h94**km±999km**, mpv3.7, 3C-2D, Error ellipse: s-maj=347.2km s-min=259.7km az=3.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.27**	**354**	⇓P	P	09 06 56.9	-0.1
	6.2nm,0.5s,baz=191,slow=17,SNR=33						
KK31				⇑S	S	09 07 57.2	+0.3
	1.0nm,0.3s,baz=183,slow=24,SNR=4.8						
AAK	**Ala-Archa**	**5.34**	**26**	⇑P	P	09 06 56.5	-1.5
	2.8nm,0.4s						
AAK				⇑S	S	09 07 54.8	-4.0
	1.0nm,0.3s						
AB31	**Akbulak array**	**14.04**	**328**	⇓P	P	09 08 53.6	-1.1
	0.3nm,0.6s,baz=134,slow=12,SNR=6.7						

KRSC 13 09:06:25.5±0.5**, 53.59N**×**151.63E, h424**km±12km**, ML3.8, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**3.37**	**111**	*e*P	P	09 07 34.7	+0.7
MIPR				*e*S	S	09 08 25.1	-2.9
APC	**Apacha**	**3.39**	**99**	*e*P	P	09 07 33.8	-0.4
APC				*e*S	S	09 08 24.4	-3.9
ALID	**Alaid**	**3.64**	**137**	*e*P	P	09 07 36.0	-0.3
ALID				*e*S	S	09 08 27.4	-4.7
GNL	**Ganaly**	**3.76**	**86**	*e*P	P	09 07 37.9	+0.5
GNL				*e*S	S	09 08 30.8	-3.2
PAU	**Pauzhetka**	**3.81**	**122**	*e*P	P	09 07 37.7	-0.2
GRL	**Gorelyy**	**4.02**	**102**	*e*P	P	09 07 39.4	-0.4
KOK	**Koryaka**	**4.20**	**91**	*e*P	P	09 07 43.0	+1.5
PET	**Petropavlovsk**	**4.25**	**95**	*e*P	P	09 07 41.6	-0.4
PET				*e*S	S	09 08 37.0	-5.1
AVH	**Avacha**	**4.26**	**92**	*e*P	P	09 07 42.2	+0.1
AVH				*e*S	S	09 08 38.2	-4.1
SMAR	**Somma**	**4.30**	**91**	*e*P	P	09 07 43.5	+1.0
RUS	**Russkaya**	**4.32**	**103**	*e*P	P	09 07 41.7	-0.9
RUS				*e*S	S	09 08 37.2	-6.0
UGLR	**Uglovaya**	**4.32**	**92**	*e*P	P	09 07 43.4	+0.7
UGLR				*e*S	S	09 08 40.0	-3.3
SDLR	**Sedlovina**	**4.35**	**91**	*e*P	P	09 07 43.4	+0.5
NLC	**Nalytchevo**	**4.64**	**92**	*e*P	P	09 07 45.0	-0.7
NLC				*e*S	S	09 08 42.9	-5.9
ESO	**Esso**	**4.72**	**57**	*e*P	P	09 07 46.1	-0.4
SPN	**Mys Shipunski**	**5.05**	**92**	*e*P	P	09 07 47.7	-2.2
SPN				*e*S	S	09 08 48.6	-7.5
MKZ	**Mys Kozlova**	**6.03**	**77**	*e*P	P	09 07 59.3	-0.6
MKZ				*e*S	S	09 09 08.5	-5.7
KBTR	**Krutoberegovo**	**6.96**	**63**	*e*P	P	09 08 09.9	-0.3
KBTR				*e*S	S	09 09 25.7	-7.2
BKI	**Bering**	**8.53**	**73**	*e*S	S	09 09 51.6	-13
BKI				Smax			
	30nm,0.7s						

*NEIC **13** 09:06:38.2±0.2, 19.89S×69.02W, mb4.4/12, Error ellipse: s-maj=6.8km s-min=4.6km az=72.0*
*GUC **13** 09:06:40.2±0.7, 19.94S×69.21W, h101km±4km, MD4.6, ML4.9*
*IDC **13** 09:06:40.1±0.6, 19.90S×68.95W, h101km±5km, mb4.1/15, mb1 4.3/18, mb1mx4.2/23, mbtmp4.5/18, MS3.6/2, Ms1 3.5/2, ms1mx2.9/18, Error ellipse: s-maj=16.5km s-min=8.0km az=85.0*
ISC 13 09:06:35.1±0.3**, 19.93S**±0.03×**69.03W**±0.06**, h68**km±3.9km**:pP-P, n79,** σ**1.08**/71**, mb4.2**/22**, 2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.67**	**178**	P	**P**	**09 07 22.0**	**+5.2**
	112nm,0.3s,baz=22,slow=12,SNR=224						
LVC				S	**S**	**09 07 54.7**	**+6.6**
	228nm,0.3s,baz=215,slow=23,SNR=19						
LVC	**Limon Verde**	**2.67**	**178**	*e*P	**P**	**09 07 21.7**	**+4.9**
LPAZ	**La Paz**	**3.72**	**13**	P	**P**	**09 07 39.6**	**+8.1**
	44nm,0.3s,baz=192,slow=9.0,SNR=1188						
LPAZ				S	**S**	**09 08 20.4**	**+6.0**
	8.3nm,0.3s,baz=179,slow=4.6,SNR=3.8						
LPAZ	**La Paz**	**3.72**	**13**	*e*P	**P**	**09 07 39.4**	**+7.9**
ANCH	**Antofagasta**	**3.95**	**199**	*e*P	**P**	**09 07 36.0**	**+1.3**
ANCH				*i* S	**S**	**09 08 21.4**	**+1.3**
ANCH	**Antofagasta**	**3.95**	**199**	*e*P	**P**	**09 07 35.9**	**+1.2**
ANCH				*i* S	**S**	**09 08 16.9**	**-3.3**
ARE	**Arequipa**	**4.17**	**325**	*e*P	**P**	**09 07 40.0**	**+2.2**
ARE				*e*		09 07 44.0	
ARE				*e*S	**S**	**09 08 27.0**	**+1.4**
CPN1	**Cerro Paranal**	**4.85**	**195**	*e*P	**P**	**09 07 48.4**	**+1.2**
CPN1				*i* S	**S**	**09 08 42.7**	**+0.1**
CRCH	**Chaqaral**	**6.55**	**193**	*e*P	**P**	**09 08 09.3**	**-1.6**
CPCH	**Copiapo**	**7.50**	**189**	*e*P	**P**	**09 08 19.9**	**-4.1**
SIV	**San Ignacio**	**8.52**	**64**	P	**P**	**09 08 40.1**	**+2.1**
	18nm,0.3s,baz=256,slow=11,SNR=396						
CFAA	**Coronel Fontan**	**11.65**	**177**	P	**P**	**09 09 18.7**	**-1.8**
	0.1nm,0.3s,baz=1.4,slow=15,SNR=11						
SAML	**Samuel**	**12.29**	**28**	*e*P	**P**	**09 09 29.6**	**+0.4**
	5.4nm,0.5s						
CPUP	**Villa Florida**	**12.50**	**123**	P	**P**	**09 09 33.3**	**+1.4**
	1.3nm,0.3s,baz=321,slow=13,SNR=55						
CPUP	**Villa Florida**	**12.50**	**123**	*e*P	**P**	**09 09 33.7**	**+1.8**
	76nm,1.1s						
TRQA	**Tornquist**	**19.07**	**163**	*e*P	**P**	**09 10 54.2**	**-0.5**
	11nm,0.8s						
BDFB	**Brasilia**	**20.45**	**81**	P	**P**	**09 11 09.1**	**-0.4**
	11nm,0.4s,baz=272,slow=10,SNR=17						
BDFB				LR	LR	09 19 56.7	
	comp=Z,70nm,19.8s,baz=272,slow=39						
BAO	**Brasilia Array**	**20.48**	**81**	P	**P**	**09 11 09.2**	**-0.5**
PLCA	**Paso Flores**	**20.78**	**183**	P	**P**	**09 11 13.2**	**+0.6**
	16nm,0.7s,baz=1.4,slow=12,SNR=17						
PLCA	**Paso Flores**	**20.78**	**183**	*e*P	**P**	**09 11 12.6**	**-0.1**
	13nm,0.7s						
SDV	**Santo Domingo**	**28.68**	**357**	P	**P**	**09 12 27.2**	**-0.7**
	1.3nm,0.3s,mb4.0,baz=18,slow=4.5,SNR=2.7						
JTS	**JuntasAbangare**	**33.88**	**331**	P	**P**	**09 13 13.0**	**-0.5**
	2.3nm,0.6s,mb4.2,baz=215,slow=12,SNR=3.1						
JTS	**JuntasAbangare**	**33.88**	**331**	P	**P**	**09 13 13.0**	**-0.6**
USHA	**Ushuaia**	**34.85**	**179**	P	**P**	**09 13 21.4**	**-0.1**
	2.4nm,0.7s,mb4.1,baz=4.4,slow=10,SNR=3.3						
RCBR	**Riachuelo**	**35.10**	**71**	*e*P	**P**	**09 13 25.0**	**+1.0**
SWET	**Sewanee**	**57.14**	**344**	*e*P	**P**	**09 16 15.4**	**-1.8**
TXAR	**Lajitas Array**	**59.28**	**325**	P	**P**	**09 16 30.7**	**-1.5**
	1.1nm,0.8s,mb3.9,baz=144,slow=7.8,SNR=13						
TXAR	**Lajitas Array**	**59.28**	**325**	P	**P**	**09 16 30.7**	**-1.5**
FVM	**French Village**	**61.02**	**341**	*e*P	**P**	**09 16 42.4**	**-1.6**
	15nm,1.0s,mb5.0						
VNA3	**Neumayer Olymp**	**61.59**	**162**	*e*	**P**	**09 16 50.5**	**+3.1**
VNA3	**Neumayer Olymp**	**61.59**	**162**	*e*	pP	09 17 04.7	-0.6
VNA3	**Neumayer Olymp**	**61.59**	**162**	*e*	PcP	09 17 23.8	-4.4
VNA3	**Neumayer Olymp**	**61.59**	**162**	⇓*i*P	**P**	**09 16 47.1**	**-0.3**
VNA3				*e*		09 16 50.5	
VNA3				*e*	pP	09 17 04.7	-0.6
VNA3				*e*		09 17 23.8	
VNA1	**Neumayer--Stat**	**61.80**	**161**	*e*	**P**	**09 16 52.1**	**+3.4**
VNA1	**Neumayer--Stat**	**61.80**	**161**	*e*	pP	09 17 06.3	-0.4
VNA1	**Neumayer--Stat**	**61.80**	**161**	*e*	PcP	09 17 24.6	-4.4
VNA1	**Neumayer--Stat**	**61.80**	**161**	P	**P**	**09 16 48.2**	**-0.5**
VNA1				*e*		09 16 52.1	
VNA1				*e*	pP	09 17 06.3	-0.4
VNA1				*e*		09 17 24.6	
GDL2	**Guadalupe Moun**	**61.90**	**326**	*e*P	**P**	**09 16 49.1**	**-0.8**
MNTX	**Cornudas Mount**	**62.05**	**325**	*e*P	**P**	**09 16 49.2**	**-1.8**
	3.5nm,1.1s,mb4.3						
VNA2	**Neumayer--Watz**	**62.16**	**161**	*e*	**P**	**09 16 54.1**	**+2.9**
VNA2	**Neumayer--Watz**	**62.16**	**161**	*e*	pP	09 17 05.8	-3.4
VNA2	**Neumayer--Watz**	**62.16**	**161**	*e*	PcP	09 17 28.2	-2.3
VNA2	**Neumayer--Watz**	**62.16**	**161**	⇓*i*P	**P**	**09 16 51.0**	**-0.2**
VNA2				*e*		09 16 54.1	
VNA2				*e*	pP	09 17 05.8	-3.4
VNA2				*e*		09 17 28.2	
SNAA	**Sanae**	**63.79**	**161**		**P**	**09 17 01.2**	**-0.7**
SNAA	**Sanae**	**63.79**	**161**	*e*	**P**	**09 17 05.6**	**+3.7**
SNAA	**Sanae**	**63.79**	**161**	*e*	pP	09 17 19.0	-1.0
SNAA	**Sanae**	**63.79**	**161**	*e*	PcP	09 17 34.2	-2.9
SNAA	**Sanae**	**63.79**	**161**	P	**P**	**09 17 01.6**	**-0.3**
	1.3nm,0.8s,mb3.8,baz=282,slow=5.5,SNR=17						
SNAA	**Sanae**	**63.79**	**161**	P	**P**	**09 17 01.2**	**-0.7**
SNAA				*e*		09 17 05.6	
SNAA				*e*	pP	09 17 19.0	-1.0
SNAA				*e*		09 17 34.2	
ANMO	**Albuquerque**	**65.14**	**327**	*e*P	**P**	**09 17 10.9**	**-0.3**
	1.6nm,1.0s,mb3.8						
SDCO	**Great Sand Dun**	**66.85**	**329**	*e*P	**P**	**09 17 22.1**	**0.0**
	8.5nm,1.2s,mb4.5						
DBIC	**Dimbokro**	**68.40**	**74**	P	**P**	**09 17 30.9**	**-1.2**
	10nm,0.5s,mb4.9,baz=216,slow=5.6,SNR=18						
SRU	**San Rafael**	**70.41**	**327**	*e*P	**P**	**09 17 44.1**	**+0.2**
MSU	**Marysvale**	**70.83**	**325**	*e*P	**P**	**09 17 47.4**	**+0.8**
MVU	**Marysvale**	**70.84**	**325**	*e*P	**P**	**09 17 47.5**	**+0.9**
	7.7nm,1.1s,mb4.5						
RSSD	**Black Hills**	**71.34**	**334**	*e*P	**P**	**09 17 49.7**	**+0.2**
	3.0nm,1.1s,mb4.0						
PDAR	**Pinedale Array**	**72.70**	**330**	P	**P**	**09 17 57.2**	**-0.3**
	0.8nm,0.8s,mb3.6,baz=135,slow=6.3,SNR=7.3						
ULM	**Lac du Bonnet**	**73.79**	**342**	P	**P**	**09 18 02.5**	**-1.3**
	4.3nm,0.6s,mb4.3,baz=163,slow=2.1,SNR=4.3						
IMW	**Indian Meadow**	**74.21**	**330**	*e*P	**P**	**09 18 06.6**	**+0.1**
	2.3nm,0.4s,mb4.3						
HLID	**Hailey**	**75.66**	**328**	*e*P	**P**	**09 18 15.6**	**+0.9**
	6.3nm,1.1s,mb4.3						
HLID				*e*pP	pP	09 18 38.9	+5.7
MCMT	**McKenzie Canyo**	**75.82**	**329**	*e*P	**P**	**09 18 16.4**	**+0.8**
SBA	**Scott Base**	**77.35**	**190**	*e*P	**P**	**09 18 24.5**	**+0.9**
BMO	**Blue Mountains**	**78.04**	**327**	*e*P	**P**	**09 18 28.4**	**+0.4**
	15nm,1.6s,mb4.5						
VNDA	**Vanda**	**78.37**	**190**	P	**P**	**09 18 30.1**	**+0.9**
	1.3nm,0.8s,mb3.7,baz=144,slow=3.0,SNR=8.8						
VNDA	**Vanda**	**78.37**	**190**	*e*P	**P**	**09 18 30.5**	**+1.3**
TSUM	**Tsumeb**	**80.60**	**107**	P	**P**	**09 18 41.7**	**-0.6**
	3.1nm,1.0s,mb4.1,baz=246,slow=12,SNR=5.9						
TSUM	**Tsumeb**	**80.60**	**107**	*e*P	**P**	**09 18 42.1**	**-0.2**
	2.4nm,0.9s,mb4.0						
EDM	**Edmonton**	**82.30**	**335**	*e*P	**P**	**09 18 49.3**	**-1.2**
BOSA	**Boshof**	**84.28**	**118**	P	**P**	**09 19 00.4**	**-0.7**
	3.9nm,1.1s,mb4.2,baz=281,slow=5.2,SNR=2.8						
BOSA				LR	LR	09 53 01.1	
	comp=Z,70nm,19.5s,baz=258,slow=33						
BOSA	**Boshof**	**84.28**	**118**	*e*P	**P**	**09 19 00.5**	**-0.6**
BOSA				*e*pP	pP	09 19 20.4	+0.4
YKA	**Yellowknife Ar**	**89.67**	**341**	P	**P**	**09 19 26.3**	**-0.1**
	6.7nm,0.7s,mb4.9,baz=134,slow=4.6,SNR=40						
YKA				pP	pP	09 19 53.0	+7.5
	1.8nm,0.6s,baz=131,slow=4.6,SNR=3.4						
YKW3	**Yellowknife Ar**	**89.73**	**341**	*e*P	**P**	**09 19 26.4**	**-0.2**
DLBC	**Dease Lake**	**92.77**	**333**	P	**P**	**09 19 41.4**	**+0.6**
	0.4nm,0.4s,mb4.1,baz=191,slow=7.0,SNR=3.6						
STKA	**Stephens Creek**	**120.72**	**210**	PKP	PKPdf	09 25 20.5	+0.7
	1.3nm,0.7s,baz=141,slow=3.5,SNR=3.1						
WRA	**Warramunga Arr**	**134.24**	**211**	PKP	PKPdf	09 25 46.5	+0.5
	1.3nm,0.7s,baz=162,slow=1.7,SNR=22						
WRA				pPKP		09 26 14.2	
	0.7nm,0.7s,baz=150,slow=1.9,SNR=2.4						
WRA				sPKP		09 26 24.7	
	0.9nm,0.7s,baz=158,slow=1.7,SNR=5.3						
WRA				SKPbc		09 29 06.5	
	1.3nm,0.9s,baz=147,slow=3.4,SNR=5.6						
MKAR	**Makanchi Array**	**144.42**	**35**	PKP	PKPdf	09 26 03.7	+0.3
	0.6nm,0.6s,baz=329,slow=3.4,SNR=4.8						
MKAR				pPKP		09 26 31.2	
	0.6nm,0.7s,baz=308,slow=3.2,SNR=2.2						
MKAR				sPKP		09 26 41.8	
	1.9nm,0.8s,baz=315,slow=1.7,SNR=7.2						
MKAR				SKPbc		09 29 34.9	
	0.4nm,0.7s,baz=297,slow=3.2,SNR=4.5						
MJAR	**Matsushiro Arr**	**150.99**	**311**	PKPbc	PKPdf	09 26 21.1	+6.6
	4.1nm,0.8s,baz=58,slow=1.6,SNR=12						
MJAR				PKPab	PKPab	09 26 29.5	-0.9
	1.4nm,0.7s,baz=61,slow=8.3,SNR=4.4						
MJAR				pPKPab		09 26 56.8	
	2.8nm,0.8s,baz=56,slow=0.1,SNR=5.9						
MAT	**Matsushiro**	**150.99**	**311**	PKP	PKPdf	09 26 21.2	+6.7
SONM	**Songino Array**	**151.91**	**7**	PKP	PKPdf	09 26 17.1	+1.6
	0.4nm,0.4s,baz=288,slow=3.9,SNR=3.9						
SONM				PKPbc	PKPdf	09 26 23.8	+8.2
	1.2nm,0.3s,baz=319,slow=1.1,SNR=14						
SONM				PKPab	PKPab	09 26 33.1	-0.7
	0.4nm,0.5s,baz=350,slow=3.0,SNR=4.6						
SONM				pPKPbc		09 26 51.8	
	1.1nm,0.6s,baz=234,slow=0.6,SNR=2.9						
SONM				pPKPab		09 27 01.7	
	1.4nm,0.7s,baz=304,slow=1.8,SNR=4.3						

*IDC **13** 09:06:57.9±1.3, 39.44N×143.74E, mb3.6/4, mb1 3.8/7, mb1mx3.7/22, mbtmp3.8/7, ML3.6/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/26, Error ellipse: s-maj=30.5km s-min=19.4km az=109.0*
*NIED **13** 09:07:00, 39.50N×143.50E, h29km, Mw3.8 Best double couple: $M_0$4.79×10^{14} NP1:ϕ_s13°, δ63°, λ93°. NP2:ϕ_s188°, δ27°, λ85°.*
*JMA **13** 09:07:01.5±0.2, 39.48N×143.51E, h40km, M3.9*
*MOS **13** 09:07:01.3±1.1, 39.48N×143.59E, h33km, mb3.9/4, Error ellipse: s-maj=25.8km s-min=15.4km az=59.7*
*NEIC **13** 09:07:04.3±2.5, 39.38N×143.60E, h41km±26km, mb4.4/1, Error ellipse: s-maj=27.2km s-min=22.4km az=121.0*
ISC 13 09:07:01.3±0.7**, 39.47N**±0.04×**143.55E**±0.07**, h33**km**, n32,** σ**0.89**/37**, mb3.6**/5**, MS3.2**/2**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.34**	**275**	P	**P**	**09 07 24.0**	**+0.1**
MIYJ				eS	**S**	**09 07 40.2**	**-0.6**
JTH	**Tanohata**	**1.39**	**290**	P	**P**	**09 07 24.5**	**0.0**
OFUJ	**Ofunato**	**1.51**	**256**	P	**P**	**09 07 26.5**	**+0.1**
OFUJ				eS	**S**	**09 07 44.2**	**-0.9**
JOM	**Ohasama**	**1.75**	**271**	P	**P**	**09 07 30.3**	**+0.6**
JOM				eS	**S**	**09 07 52.0**	**+0.9**
JANG	**Nango**	**1.81**	**301**	P	**P**	**09 07 30.6**	**0.0**
JMK	**Ichinoseki**	**1.89**	**255**	P	**P**	**09 07 32.0**	**+0.3**
JIO	**Ouri**	**2.00**	**240**	P	**P**	**09 07 33.1**	**-0.1**
JYK	**Kaneyama**	**2.54**	**258**	P	**P**	**09 07 41.7**	**+0.6**
JMM	**Marumori**	**2.69**	**234**	P	**P**	**09 07 42.6**	**-0.6**
JMM				eS	**S**	**09 08 13.1**	**-1.8**
JCH	**Churui**	**3.14**	**357**	P	**P**	**09 07 49.9**	**+0.3**
JCH				eS	**S**	**09 08 25.2**	**-1.2**
ASAJ	**Asahikawa**	**4.70**	**352**	P	**P**	**09 08 10.9**	**-0.8**
ASAJ						09 09 05.5	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=E,1.0nm,0.3s						
ASAJ	**Asahikawa**	**4.70**	**352**	Pn	**P**	**09 08 10.9**	**-0.8**
	comp=E,1.7nm,0.3s,baz=198,slow=9.3,SNR=7.7						
ASAJ				Sn	**Sn**	**09 09 05.5**	**-0.4**
	comp=E,1.3nm,0.3s,baz=246,slow=6.0,SNR=3.9						
MAJO	**Matsushiro**	**5.13**	**237**	eP	**P**	**09 08 18.7**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,30nm,0.6s						
MAJO	**Matsushiro**	**5.13**	**237**	eP	**P**	**09 08 18.7**	**+0.8**
	comp=Z,30nm,0.6s						
MAT	**Matsushiro**	**5.13**	**237**	eP	**P**	**09 08 18.0**	**+0.1**
MAT				pmax	pmax		
	comp=Z,16nm,0.5s						
MAT	**Matsushiro**	**5.13**	**237**	P	**P**	**09 08 18.4**	**+0.5**
MAT				S	S	09 09 37.5	+21
MJAR	**Matsushiro Arr**	**5.13**	**237**	P	**P**	**09 08 18.7**	**+0.8**
MJAR						09 09 17.1	
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR	**Matsushiro Arr**	**5.13**	**237**	Pn	**Pn**	**09 08 18.7**	**+0.7**
	comp=Z,2.8nm,0.3s,baz=40,slow=11,SNR=34						
MJAR				Sn	**Sn**	**09 09 17.1**	**+0.2**
	baz=76,slow=41,SNR=3.1						
JHJ	**Hachijo jima 2**	**7.03**	**207**	Pn	**Pn**	**09 08 41.7**	**-3.0**
	comp=Z,4.4nm,0.3s,baz=66,slow=19,SNR=12						
JHJ				Sn	**Sn**	**09 09 57.4**	**-7.0**
	comp=Z,14nm,0.3s,baz=82,slow=22,SNR=4.4						
JNU	**Nakatsue**	**12.02**	**242**	LR	LR	09 14 46.4	
	comp=Z,90nm,18.9s,baz=230,slow=39						
SONM	**Songino Array**	**27.93**	**300**	P	**P**	**09 12 51.3**	**+0.9**
	comp=Z,0.5nm,0.6s,mb3.3,baz=91,slow=7.8,SNR=4.8						
SONM				LR	LR	09 25 03.7	
	comp=Z,46nm,18.0s,MS3.1,baz=245,slow=39						
SONM	**Songino Array**	**27.93**	**300**	P	**P**	**09 12 51.3**	**+0.9**
SONM				LR	LR	09 25 03.7	
KMI	**Kunming**	**37.02**	**260**	P	pP	09 14 20.1	+0.6
	comp=Z,5.0nm,1.0s						
MKAR	**Makanchi Array**	**44.30**	**300**	P	**P**	**09 15 10.4**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.30**	**300**	P	**P**	**09 15 10.4**	**+1.0**
	comp=Z,0.9nm,0.7s,mb3.6,baz=88,slow=9.7,SNR=7.9						
ILAR	**Eielson Array**	**46.54**	**34**	P	**P**	**09 15 26.3**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**46.54**	**34**	P	**P**	**09 15 26.3**	**-0.7**
	comp=Z,0.7nm,0.7s,mb3.7,baz=264,slow=6.7,SNR=9.9						
INK	**Inuvik**	**51.45**	**28**	P	**P**	**09 16 06.9**	**+2.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**51.45**	**28**	P	**P**	**09 16 06.9**	**+2.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=256,slow=4.2,SNR=4.6						
WRA	**Warramunga Arr**	**59.73**	**190**	P	**P**	**09 17 04.2**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**59.73**	**190**	P	**P**	**09 17 04.2**	**-1.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=6.8,slow=6.9,SNR=6.7						
FINES	**FINESS Array B**	**67.44**	**333**	LR	LR	09 48 10.0	
	comp=Z,23nm,20.8s,MS3.4,baz=222,slow=37						

IDC 13 09:15:22.7±1.4**, 11.35N**×**144.55E, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.7**/18**, mbtmp3.7**/4**, Error ellipse: s-maj=52.7km s-min=27.4km az=97.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.67**	**198**	P	P	09 21 56.8	-2.1
	1.0nm,0.6s,baz=21,slow=9.8,SNR=18						
SONM	**Songino Array**	**48.39**	**326**	P	P	09 24 06.2	-2.2
	0.6nm,0.5s,baz=146,slow=7.5,SNR=4.5						
MKAR	**Makanchi Array**	**62.89**	**317**	P	P	09 25 50.9	-2.0
	0.3nm,0.5s,baz=90,slow=7.5,SNR=4.0						
ILAR	**Eielson Array**	**70.72**	**25**	P	P	09 26 40.5	-1.8
	0.4nm,0.6s,baz=252,slow=5.7,SNR=9.4						

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*BJI **13** 09:29:44.9, 0.35N×97.12E, h30km, mB4.9, mb4.7, Ms4.2, Msz3.8*
*IDC **13** 09:29:49.7±1.4, 1.29N×97.04E, mb4.3/9, mb1 4.3/9, mb1mx4.1/20, mbtmp4.3/9, MS3.3/1, Ms1 3.3/1, ms1mx2.8/25, Error ellipse: s-maj=53.6km s-min=17.6km az=56.0*
*NEIC **13** 09:29:54.7±0.6, 1.30N×97.16E, h30km, mb4.6/5, Error ellipse: s-maj=16.4km s-min=8.7km az=50.0*
ISC 13 09:29:51.2±3.5**, 1.3N**±0.1×**97.1E**±0.1**, h20**km±24km**, n22,** σ**0.69**/22**, mb4.5**/16**, MS3.7**/3**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.32**	**41**	eP	**Pn**	**09 31 11.7**	**-0.1**
KMI	**Kunming**	**24.33**	**12**	P	**P**	**09 35 10.3**	**+1.2**
KMI				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.4						
KMI				LR	LR		
	comp=Z,174nm,14.0s,MS3.7						
KMI	**Kunming**	**24.33**	**12**	P	**P**	**09 35 10.2**	**+1.1**
	comp=Z,18nm,1.2s,mb4.4						
KMI				LR	LR		
	comp=Z,170nm,14.0s,MS3.7						
SHL	**Shillong**	**24.68**	**349**	eP	**P**	**09 35 11.5**	**-1.0**
PKI	**Pulchoki**	**28.47**	**338**	eP	**P**	**09 35 47.8**	**+0.5**
	comp=Z,11nm,0.7s,mb4.6						
GUN	**Gumba**	**28.60**	**339**	eP	**P**	**09 35 48.3**	**-0.2**
	comp=Z,21nm,0.6s,mb5.0						
DMN	**Daman**	**28.62**	**337**	eP	**P**	**09 35 50.2**	**+1.5**
KKN	**Kakani**	**28.71**	**338**	eP	**P**	**09 35 50.4**	**+0.8**
GKN	**Gorkha**	**29.15**	**337**	eP	**P**	**09 35 53.0**	**-0.5**
	comp=Z,22nm,0.7s,mb5.0						
KOLN	**Koldanda**	**29.37**	**335**	eP	**P**	**09 35 55.7**	**+0.2**
	comp=Z,17nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**34.02**	**126**	P	**P**	**09 36 35.9**	**-0.5**
	comp=Z,1.7nm,0.5s,mb4.2,baz=311,slow=3.5,SNR=6.0						
GTA	**Gaotai**	**38.04**	**3**	eP	**P**	**09 37 10.3**	**+0.1**
GTA				AP	pP	09 37 17.8	+1.6
GTA				XP	sP	09 37 20.8	+2.1
GTA				PP	PP	09 38 39.5	-1.0
GTA				S	**S**	**09 43 01.8**	**+0.5**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
GTA				AMB	AMB		
	comp=Z,41nm,4.8s						
GTA				LR	LR		
	comp=N,126nm,13.1s,MS4.0						
GTA				LR	LR		
	comp=E,111nm,14.0s,MS4.0						
GTA				LR	LR		
	comp=Z,124nm,12.5s,MS3.9						
JOW	**Kunigami**	**39.25**	**47**	P	**P**	**09 37 20.1**	**-0.3**
	comp=Z,7.1nm,0.6s,mb4.6,baz=174,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**42.13**	**122**	P	**P**	**09 37 44.6**	**+0.3**
	comp=Z,1.5nm,0.6s,mb3.8,baz=301,slow=9.1,SNR=25						
SONM	**Songino Array**	**47.08**	**9**	P	**P**	**09 38 23.5**	**-0.1**
	comp=Z,3.8nm,0.7s,mb4.4,baz=189,slow=9.4,SNR=31						
MKAR	**Makanchi Array**	**47.16**	**346**	P	**P**	**09 38 24.2**	**-0.1**
	comp=Z,2.2nm,0.4s,mb4.4,baz=159,slow=8.8,SNR=28						
CN2	**Changchun**	**49.28**	**27**	eP	**P**	**09 38 40.1**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**53.45**	**132**	P	**P**	**09 39 13.4**	**+0.9**
	comp=Z,1.6nm,0.7s,mb4.0,baz=309,slow=9.2,SNR=5.2						
ZAL	**Zalesovo**	**53.48**	**351**	P	**P**	**09 39 11.4**	**-1.0**
	comp=Z,5.4nm,0.4s,mb4.8,baz=293,slow=9.9,SNR=13						
ATD	**Arta Tunnel**	**54.81**	**283**	LR	LR	09 57 29.6	
	comp=Z,27nm,19.7s,MS3.3,baz=233,slow=30						
FINES	**FINESS Array B**	**79.91**	**333**	P	**P**	**09 41 59.2**	**-0.9**
	comp=Z,0.4nm,0.4s,mb3.7,baz=117,slow=6.2,SNR=4.4						
ARCES	**ARCESS Array B**	**82.45**	**340**	P	**P**	**09 42 13.0**	**-0.3**
	comp=Z,2.2nm,0.8s,mb4.1,baz=104,slow=5.0,SNR=8.4						

IDC 13 09:39:57.0±2.4**, 2.52N**×**95.78E, mb4.1**/5**, mb1 4.2**/5**, mb1mx3.8**/19**, mbtmp4.1**/5**, Error ellipse: s-maj=101.0km s-min=21.3km az=57.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**35.85**	**126**	P	P	09 46 58.4	-2.3
	2.1nm,0.6s,baz=160,slow=11,SNR=4.5						
WRA	**Warramunga Arr**	**43.94**	**122**	P	P	09 48 06.4	-1.4
	0.9nm,0.6s,baz=298,slow=9.5,SNR=12						
MKAR	**Makanchi Array**	**45.64**	**347**	P	P	09 48 19.5	-1.6
	2.0nm,0.5s,baz=158,slow=8.2,SNR=28						
SONM	**Songino Array**	**46.06**	**10**	P	P	09 48 22.5	-1.9
	1.5nm,0.6s,baz=188,slow=9.1,SNR=15						
ARCES	**ARCESS Array B**	**80.82**	**340**	P	P	09 52 12.2	-1.6
	1.7nm,0.8s,baz=101,slow=6.2,SNR=6.6						

GUC 13 09:47:18.3±0.8**, 28.43S**×**70.05W, h76**km±34km**, ML3.9, 1C-3D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.64**	**256**	⇓iP	P	09 47 33.5	+0.2
VACH				iS	S	09 47 44.5	+0.3
VACH				AMP		09 47 45.1	
	comp=E,25µm,0.1s						
CPCH	**Copiapo**	**1.10**	**346**	⇓iP	P	09 47 38.5	-0.1
CPCH				iS	S	09 47 54.0	+0.2
CPCH				AMP		09 47 55.4	
	comp=E,17µm,0.1s						
TLL	**Tololo Astrono**	**1.85**	**201**	⇑iP	P	09 47 49.3	+0.6
TLL				iS	S	09 48 12.4	+1.3
TLL				AMP		09 48 15.7	
	comp=N,385nm,0.6s						
CRCH	**Chaqaral**	**2.13**	**346**	iP	P	09 47 52.0	-0.5
CRCH				AMP		09 48 20.0	
	comp=E,249nm,0.4s						
CMCH	**Combarbala**	**2.86**	**197**	⇓iP	P	09 48 01.3	-1.5
CMCH				iS	S	09 48 34.1	-2.0
CMCH				AMP		09 48 36.2	
	comp=N,309nm,0.2s						

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*NIED **13** 10:05:00, 39.50N×143.50E, h23km, Mw3.7 Best double couple: $M_0$3.53×10^{14} NP1:ϕ_s33°, δ64°, λ111°. NP2:ϕ_s172°, δ33°, λ54°.*
*JMA **13** 10:05:01.8±0.2, 39.50N×143.50E, h43km, M3.7*
*IDC **13** 10:05:08.5±2.3, 39.94N×142.18E, mb3.5/3, mb1 3.6/5, mb1mx3.5/21, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=48.0km s-min=25.8km az=131.0*
ISC 13 10:05:02.1±1.1**, 39.48N**±0.05×**143.48E**±0.09**, h33**km**, n17,** σ**0.71**/25**, mb3.4**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.29**	**275**	P	**P**	**10 05 24.2**	**+0.3**
MIYJ				eS	**S**	**10 05 40.7**	**+0.5**
JTH	**Tanohata**	**1.33**	**291**	P	**P**	**10 05 24.5**	**0.0**
JTH				eS	**S**	**10 05 40.2**	**-1.0**
OFUJ	**Ofunato**	**1.46**	**255**	P	**P**	**10 05 26.6**	**+0.1**
JOM	**Ohasama**	**1.69**	**270**	P	**P**	**10 05 30.5**	**+0.7**
JANG	**Nango**	**1.75**	**301**	P	**P**	**10 05 30.2**	**-0.4**
JMK	**Ichinoseki**	**1.84**	**254**	P	**P**	**10 05 32.2**	**+0.4**
JMK				eS	**S**	**10 05 54.4**	**+0.3**
JIO	**Ouri**	**1.95**	**239**	P	**P**	**10 05 33.2**	**-0.3**
JIO				eS	**S**	**10 05 55.9**	**-1.2**
JYK	**Kaneyama**	**2.49**	**258**	P	**P**	**10 05 41.8**	**+0.6**
JYK				eS	**S**	**10 06 11.8**	**+1.1**
JMM	**Marumori**	**2.65**	**233**	P	**P**	**10 05 42.9**	**-0.6**
JMM				eS	**S**	**10 06 12.9**	**-1.9**
JOT	**Ohata**	**2.66**	**316**	P	**P**	**10 05 44.6**	**+1.1**
JNBK	**Urakawa-nobuka**	**2.85**	**349**	P	**P**	**10 05 46.5**	**+0.2**
JNBK				eS	**S**	**10 06 19.7**	**-0.1**
ASAJ	**Asahikawa**	**4.68**	**352**	Pn	**Pn**	**10 06 11.7**	**-0.7**
	1.0nm,0.3s,baz=216,slow=14,SNR=10						
ASAJ				Sn	**Sn**	**10 07 05.3**	**-0.9**
	0.8nm,0.3s,baz=206,slow=34,SNR=2.3						
MAT	**Matsushiro**	**5.09**	**236**	P	**P**	**10 06 18.6**	**+0.4**
MJAR	**Matsushiro Arr**	**5.09**	**236**	Pn	**Pn**	**10 06 18.6**	**+0.4**
	1.3nm,0.3s,baz=41,slow=11,SNR=22						
SONM	**Songino Array**	**27.88**	**300**	P	**P**	**10 10 51.3**	**+0.5**
	0.6nm,0.7s,mb3.4,baz=102,slow=8.1,SNR=5.8						
MKAR	**Makanchi Array**	**44.24**	**300**	P	**P**	**10 13 09.9**	**+0.1**
	0.9nm,0.8s,mb3.6,baz=83,slow=9.8,SNR=7.1						
ILAR	**Eielson Array**	**46.56**	**34**	P	**P**	**10 13 39.2**	**+11**
	0.3nm,0.8s,mb3.3,baz=277,slow=7.3,SNR=5.0						

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*NEIC **13** 10:05:25.2, 18.75N×103.04W, h74km, MD4.1(MEX), After MEX.*
MEX 13 10:05:24.7±0.5**, 18.78N**×**103.04W, h91**km±28km**, MD4.1, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFJM	**Santa Fe**	**1.70**	**0**	iP	P	10 05 52.0	-1.5
SFJM				eS	S	10 06 13.0	-1.8
MOIG	**Morelia**	**1.97**	**63**	iP	P	10 05 56.0	-1.0
MOIG				eS	S	10 06 19.1	-1.8
CJM	**Chamela**	**2.02**	**291**	iP	P	10 05 55.6	-2.2
CJM				eS	S	10 06 20.9	-1.2
CAIG	**El Cayaco**	**3.15**	**123**	eP	P	10 06 11.1	-2.3
CAIG				eS	S	10 06 46.9	-3.3
PLIG	**Platanillo**	**3.38**	**96**	iP	P	10 06 15.1	-1.4
PLIG				iS	S	10 06 58.0	+2.3
PLIG	**Platanillo**	**3.38**	**96**	iP	P	10 06 15.1	-1.4
PLIG				iS	S	10 06 52.6	-3.1
ACX	**Acapulco**	**3.53**	**122**	iP	P	10 06 19.5	+0.9
ACX				iS	S	10 07 05.0	+5.5
ACX	**Acapulco**	**3.53**	**122**	iP	P	10 06 15.0	-3.6
ACX				iS	S	10 06 58.0	-1.5
PPM	**Popocatepetl**	**4.19**	**85**	iP	P	10 06 29.0	+1.3
PPM				eS	S	10 07 17.0	+1.2
PPM	**Popocatepetl**	**4.19**	**85**	iP	P	10 06 26.0	-1.7
PPM				eS	S	10 07 15.5	-0.3

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*WEL **13** 10:23:08.5±0.4, 36.09S×179.77W, h33km, ML5.0/28, Error ellipse: s-maj=4.8km s-min=2.9km az=90.0*
*MOS **13** 10:23:10.2±1.3, 36.30S×179.69E, h33km, mb5.4/7, Error ellipse: s-maj=26.2km s-min=15.2km az=43.2*
*HRVD **13** 10:23:11.5±0.5, 36.07S×179.71W, h26km±1km, MW5.1/50, Centroid moment Tensor Solution. LP body waves: s30,c48;Mantle waves: s50,c77; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.31±.27; $M_{\theta\theta}$-0.47±.19; $M_{\phi\phi}$-2.84±.19; $M_{r\theta}$0.86±.37; $M_{\theta\phi}$-1.96±.17; $M_{\phi r}$3.87±.42; Best double couple: $M_0$5.389×10^{16} NP1:ϕ_s225°, δ23°, λ117°. NP2:ϕ_s16°, δ69°, λ79°. Principal axes: T 5.179, Plg64°, Azm268°; N .424, Plg10°, Azm20°; P -5.599, Plg23°, Azm115°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **13** 10:23:11.5±1.8, 36.20S×179.99W, h42km±12km, mb5.1/10 Error ellipse: s-maj=18.9km s-min=7.2km az=61.0*
*BJI **13** 10:23:11.4, 36.20S×180.00W, h41km, mB5.0, mb5.0, Ms4.6, Msz4.5*
*IDC **13** 10:23:12.5±2.3, 36.10S×179.88E, h46km±20km, mb4.5/8, mb1 4.6/10, mb1mx4.4/15, mbtmp4.7/10, ML4.3/2, MS4.3/11, Ms1 4.3/11, ms1mx4.2/17, Error ellipse: s-maj=21.0km s-min=15.0km az=176.0*
ISC 13 10:23:09.5±1.2**, 36.20S**±0.06×**179.99W**±0.10**, h41**km±8km**, h31**km±.8km**:pP-P, n173,** σ**1.18**/138**, mb4.9**/14**, MS4.4**/12**, 8C-2D, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.93**	**225**	eP	**P**	**10 23 41.3**	**+0.8**
MXZ	**Matakaoa Point**	**1.93**	**225**	PN	**P**	**10 23 40.7**	**+0.2**
MXZ				SN	**S**	**10 24 05.8**	**+2.2**
PUZ	**Puketiti**	**2.34**	**216**	P	**P**	**10 23 46.9**	**+0.6**
PUZ	**Puketiti**	**2.34**	**216**	⇑PN	**P**	**10 23 46.8**	**+0.5**
PUZ				SN	**S**	**10 24 15.7**	**+1.6**
WIZ	**White Island**	**2.62**	**239**	P	**P**	**10 23 50.5**	**+0.1**
WIZ	**White Island**	**2.62**	**239**	ePN	**P**	**10 23 49.5**	**-1.0**
MWZ	**Matawai**	**2.91**	**222**	eP	**P**	**10 23 54.8**	**+0.3**
MWZ	**Matawai**	**2.91**	**222**	PN	**P**	**10 23 54.4**	**-0.2**
URZ	**Urewera**	**3.10**	**228**	P	**P**	**10 23 57.3**	**+0.1**
	102nm,0.3s,baz=37,slow=3.9,SNR=404						
URZ				S	**S**	**10 24 34.9**	**+1.6**
	136nm,0.3s,baz=210,slow=17,SNR=12						
URZ				LR	LR	10 25 04.4	
	comp=Z,2µm,21.9s,baz=171,slow=36						
URZ	**Urewera**	**3.10**	**228**	eP	**P**	**10 23 57.3**	**+0.1**
URZ	**Urewera**	**3.10**	**228**	PN	**P**	**10 23 57.3**	**+0.1**
URZ				SN	**S**	**10 24 33.4**	**0.0**
MARZ	**Manawahe**	**3.21**	**235**	P	**P**	**10 23 59.4**	**+0.6**
MARZ	**Manawahe**	**3.21**	**235**	ePN	**P**	**10 23 58.9**	**+0.1**
MYRZ	**Mayor Island**	**3.21**	**249**	ePN	**P**	**10 23 58.9**	**0.0**
EDRZ	**Edgecumbe**	**3.23**	**233**	P	**P**	**10 23 59.8**	**+0.7**
EDRZ	**Edgecumbe**	**3.23**	**233**	PN	**P**	**10 23 59.5**	**+0.4**
TGRZ	**Tauranga**	**3.37**	**242**	P	**P**	**10 24 01.3**	**+0.3**
TGRZ	**Tauranga**	**3.37**	**242**	PN	**P**	**10 24 00.9**	**-0.1**
KNZ	**Kokohu**	**3.37**	**213**	eP	**P**	**10 24 00.2**	**-0.9**
KNZ	**Kokohu**	**3.37**	**213**	PN	**P**	**10 24 00.1**	**-1.0**
LIRZ	**Lichensteins R**	**3.41**	**237**	P	**P**	**10 24 02.8**	**+1.1**
LIRZ	**Lichensteins R**	**3.41**	**237**	PN	**P**	**10 24 01.8**	**+0.2**
TAZ	**Tarawera**	**3.45**	**233**	P	**P**	**10 24 03.3**	**+1.1**
TAZ	**Tarawera**	**3.45**	**233**	PN	**P**	**10 24 02.8**	**+0.5**
KUZ	**Kuaotunu**	**3.50**	**260**	eP	**P**	**10 24 03.0**	**+0.1**
KUZ	**Kuaotunu**	**3.50**	**260**	PN	**P**	**10 24 02.0**	**-0.9**
UTU	**Utuhina**	**3.63**	**236**	eP	**P**	**10 24 05.5**	**+0.7**
UTU	**Utuhina**	**3.63**	**236**	PN	**P**	**10 24 05.4**	**+0.6**
PATZ	**Paeroa**	**3.70**	**233**	P	**P**	**10 24 06.4**	**+0.7**
PATZ	**Paeroa**	**3.70**	**233**	PN	**P**	**10 24 06.0**	**+0.2**
TOZ	**Tahuroa Road**	**3.92**	**246**	eP	**P**	**10 24 08.9**	**+0.1**
TOZ	**Tahuroa Road**	**3.92**	**246**	PN	**P**	**10 24 08.7**	**-0.2**
MKAZ	**Moumakai**	**4.00**	**255**	P	**P**	**10 24 10.5**	**+0.5**
MKAZ	**Moumakai**	**4.00**	**255**	PN	**P**	**10 24 10.0**	**+0.1**
BKZ	**Black Stump Fm**	**4.07**	**222**	eP	**P**	**10 24 10.0**	**-0.9**
BKZ	**Black Stump Fm**	**4.07**	**222**	PN	**P**	**10 24 09.6**	**-1.3**
MTAZ	**Motutapu**	**4.15**	**260**	P	**P**	**10 24 13.5**	**+1.4**
MTAZ	**Motutapu**	**4.15**	**260**	PN	**P**	**10 24 13.2**	**+1.1**
RATZ	**Rangitukua**	**4.29**	**230**	P	**P**	**10 24 14.5**	**+0.3**
RATZ	**Rangitukua**	**4.29**	**230**	PN	**P**	**10 24 13.4**	**-0.8**
KAAZ	**Kauri Point**	**4.32**	**260**	P	**P**	**10 24 16.7**	**+2.2**
WTAZ	**Waiatarua**	**4.44**	**259**	P	**P**	**10 24 17.7**	**+1.5**
WTAZ	**Waiatarua**	**4.44**	**259**	PN	**P**	**10 24 16.6**	**+0.5**
KRVZ	**Karewarewa**	**4.51**	**229**	ePN	**P**	**10 24 17.0**	**-0.2**
PWZ	**Pawanui**	**4.56**	**212**	eP	**P**	**10 24 15.1**	**-2.8**
PWZ	**Pawanui**	**4.56**	**212**	ePN	**P**	**10 24 14.9**	**-3.0**
WTVZ	**West Tongariro**	**4.56**	**229**	P	**P**	**10 24 17.8**	**-0.1**
WTVZ	**West Tongariro**	**4.56**	**229**	PN	**P**	**10 24 17.7**	**-0.2**
NGZ	**Ngauruhoe**	**4.59**	**228**	P	**P**	**10 24 18.2**	**-0.1**
NGZ	**Ngauruhoe**	**4.59**	**228**	PN	**P**	**10 24 18.2**	**-0.1**
WCZ	**Waipu Caves**	**4.60**	**272**	eP	**P**	**10 24 19.4**	**+1.0**
WCZ	**Waipu Caves**	**4.60**	**272**	PN	**P**	**10 24 19.4**	**+0.9**
TUVZ	**Tukino**	**4.62**	**227**	P	**P**	**10 24 18.4**	**-0.3**
TUVZ	**Tukino**	**4.62**	**227**	PN	**P**	**10 24 18.2**	**-0.5**
CNZ	**Chateau**	**4.63**	**228**	P	**P**	**10 24 18.8**	**-0.2**
CNZ	**Chateau**	**4.63**	**228**	PN	**P**	**10 24 18.0**	**-1.0**
WPVZ	**Whakapapa**	**4.64**	**228**	eP	**P**	**10 24 19.0**	**0.0**
WPVZ	**Whakapapa**	**4.64**	**228**	ePN	**P**	**10 24 18.8**	**-0.2**
MOVZ	**Moawhango**	**4.65**	**225**	P	**P**	**10 24 17.9**	**-1.3**
MOVZ	**Moawhango**	**4.65**	**225**	PN	**P**	**10 24 17.6**	**-1.6**
FWVZ	**Far West T-bar**	**4.67**	**228**	P	**P**	**10 24 19.3**	**-0.1**
FWVZ	**Far West T-bar**	**4.67**	**228**	ePN	**P**	**10 24 19.0**	**-0.5**
HIZ	**Hauiti**	**4.71**	**239**	eP	**P**	**10 24 20.0**	**0.0**
HIZ	**Hauiti**	**4.71**	**239**	PN	**P**	**10 24 20.2**	**+0.2**
TSZ	**Takapari Road**	**5.00**	**218**	eP	**P**	**10 24 20.8**	**-3.4**
TSZ	**Takapari Road**	**5.00**	**218**	PN	**P**	**10 24 20.6**	**-3.6**
OUZ	**Omahuta**	**5.31**	**279**	eP	**P**	**10 24 28.9**	**+0.5**
OUZ	**Omahuta**	**5.31**	**279**	PN	**P**	**10 24 28.7**	**+0.3**
WAZ	**Wanganui**	**5.32**	**227**	eP	**P**	**10 24 27.9**	**-0.7**
WAZ	**Wanganui**	**5.32**	**227**	PN	**P**	**10 24 27.5**	**-1.1**
PKE	**Pukeiti**	**5.63**	**236**	P	**P**	**10 24 34.0**	**+1.1**
PKE	**Pukeiti**	**5.63**	**236**	PN	**P**	**10 24 33.8**	**+0.9**
MRZ	**Mangatainoka R**	**5.65**	**217**	eP	**P**	**10 24 29.6**	**-3.6**
MRZ	**Mangatainoka R**	**5.65**	**217**	ePN	**P**	**10 24 29.3**	**-3.9**
KIW	**Kapiti Island**	**6.13**	**219**	P	**P**	**10 24 36.7**	**-3.3**
KIW	**Kapiti Island**	**6.13**	**219**	ePN	**P**	**10 24 36.1**	**-3.9**
KIW				SN	**S**	**10 25 43.6**	**-6.2**
SNZO	**South Karori**	**6.57**	**217**	eP	**P**	**10 24 40.7**	**-5.4**
	153nm,0.8s						
TCW	**Tory Channel**	**6.72**	**220**	P	**P**	**10 24 43.6**	**-4.6**
TCW	**Tory Channel**	**6.72**	**220**	ePN	**P**	**10 24 43.2**	**-5.0**
TUWZ	**Tuamarina**	**7.05**	**220**	ePN	**P**	**10 24 47.8**	**-5.1**
RAO	**Raoul Island**	**7.15**	**15**	LR	LR	10 27 13.5	
	comp=Z,1µm,19.6s,baz=276,slow=34						
NNZ	**Nelson**	**7.21**	**224**	eP	**P**	**10 24 50.7**	**-4.3**
NNZ	**Nelson**	**7.21**	**224**	PN	**P**	**10 24 50.5**	**-4.6**
QRZ	**Quartz Range**	**7.46**	**230**	eP	**P**	**10 24 54.0**	**-4.6**
QRZ	**Quartz Range**	**7.46**	**230**	ePN	**P**	**10 24 54.0**	**-4.6**
THZ	**Tophouse**	**7.84**	**223**	eP	**P**	**10 24 58.5**	**-5.3**
THZ	**Tophouse**	**7.84**	**223**	ePN	**P**	**10 24 58.4**	**-5.4**
KHZ	**Kahutara**	**7.98**	**217**	eP	**P**	**10 25 01.7**	**-4.0**
KHZ	**Kahutara**	**7.98**	**217**	ePN	**P**	**10 25 01.4**	**-4.3**
LTZ	**Lake Taylor**	**8.88**	**220**	eP	**P**	**10 25 13.0**	**-5.3**
LTZ	**Lake Taylor**	**8.88**	**220**	SN	**S**	**10 26 46.9**	**-11**
MQZ	**McQueen's Vall**	**9.38**	**215**	eP	**P**	**10 25 18.7**	**-6.5**
MQZ	**McQueen's Vall**	**9.38**	**215**	ePN	**P**	**10 25 18.5**	**-6.6**
RPZ	**Rata Peaks**	**10.17**	**220**	P	**P**	**10 25 32.8**	**-3.2**
	1.8nm,0.3s,baz=90,slow=23,SNR=3.6						
RPZ				S	**S**	**10 27 17.0**	**-13**
	4.3nm,0.3s,baz=345,slow=22,SNR=8.1						
LBZ	**Lake Benmore**	**11.09**	**220**	eP	**P**	**10 25 42.4**	**-6.1**
LBZ	**Lake Benmore**	**11.09**	**220**	ePN	**P**	**10 25 42.3**	**-6.2**
DZM	**Mont Dzumac**	**18.37**	**316**	P	**P**	**10 27 22.0**	**-1.0**
	0.3nm,0.3s,baz=123,slow=14,SNR=7.9						
DZM				LR	LR	10 33 25.0	
	comp=Z,4µm,18.2s,baz=156,slow=34						
TBI	**Tubuai**	**29.30**	**73**	eS	Sx	10 33 32.0	
	121nm,31.0s						
TBI				eLQ		10 34 48.6	
	557nm,26.5s						
TBI				eLR	LR	10 36 22.3	
	574nm,26.0s,baz=230						
STKA	**Stephens Creek**	**31.98**	**266**	eP	**P**	**10 29 34.7**	**+0.7**
	7.8nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**31.98**	**266**	P	**P**	**10 29 34.2**	**+0.2**
	11nm,1.1s,mb4.6,baz=117,slow=15,SNR=9.0						
STKA				LR	LR	10 41 28.9	
	comp=Z,850nm,18.8s,MS4.5,baz=295,slow=34						
HNR	**Honiara**	**32.29**	**321**	P	**P**	**10 29 38.4**	**+1.5**
HNR				pmax	pmax		
	comp=Z,94nm,1.0s,mb5.6						
HNR	**Honiara**	**32.29**	**321**	P	**P**	**10 29 39.1**	**+2.2**
	comp=Z,62nm,0.6s,mb5.6,baz=198,slow=5.0,SNR=4.9						
HNR				LR	LR	10 40 31.0	
	comp=Z,406nm,19.1s,MS4.1,baz=145,slow=32						
HNR	**Honiara**	**32.29**	**321**	P	**P**	**10 29 38.4**	**+1.5**
	comp=Z,94nm,1.0s,mb5.6						
PPT	**Papeete**	**32.67**	**63**	eS	Sx	10 34 28.3	
	comp=Z,81nm,26.8s						
PPT				eLQ		10 36 07.9	
	comp=Z,464nm,24.0s						
PPT				eLR	LR	10 37 57.3	
	comp=Z,620nm,24.5s,baz=230						
PPT	**Papeete**	**32.67**	**63**	LR	LR	10 39 28.8	
	comp=Z,391nm,19.2s,MS4.1,baz=241,slow=30						
CTA	**Charters Tower**	**33.61**	**289**	eP	**P**	**10 29 48.8**	**+0.6**
	comp=Z,31nm,1.0s,mb5.2						
CTA	**Charters Tower**	**33.61**	**289**	eP	**P**	**10 29 48.8**	**+0.6**
CTA				pmax	pmax		
	comp=Z,31nm,1.0s						
CTA	**Charters Tower**	**33.61**	**289**	P	**P**	**10 29 49.1**	**+0.9**
	comp=Z,27nm,0.8s,mb5.2,baz=120,slow=9.6,SNR=48						
CTAO	**Charters Tower**	**33.61**	**289**	eP	**P**	**10 29 48.1**	**-0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CTAO				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.3						
CTAO	**Charters Tower**	**33.61**	**289**	eP	**P**	**10 29 48.1**	**-0.1**
	comp=Z,40nm,0.9s,mb5.3						
PMG	**Port Moresby**	**40.01**	**304**	eP	**P**	**10 30 41.4**	**-0.8**
PMG				pmax	pmax		
	comp=Z,31nm,1.0s						
PMG	**Port Moresby**	**40.01**	**304**	P	**P**	**10 30 42.1**	**-0.1**
	comp=Z,15nm,0.9s,mb4.7,baz=180,slow=8.8,SNR=4.3						
PMG				LR	LR	10 45 40.3	
	comp=Z,859nm,18.3s,MS4.6,baz=103,slow=34						
PMG	**Port Moresby**	**40.01**	**304**	eP	**P**	**10 30 41.4**	**-0.8**
	comp=Z,31nm,1.0s,mb5.0						
RKT	**Rikitea**	**40.89**	**84**	eLR	LR	10 41 47.9	
	comp=Z,548nm,30.8s,baz=259						
VNDA	**Vanda**	**42.17**	**186**	eP	**P**	**10 30 58.7**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,11nm,1.6s						
VNDA	**Vanda**	**42.17**	**186**	P	**P**	**10 31 03.2**	**+3.9**
	comp=Z,1.0nm,1.0s,mb3.4,baz=358,slow=8.0,SNR=4.4						
VNDA				LR	LR	10 46 07.8	
	comp=Z,244nm,18.6s,MS4.1,baz=28,slow=32						
VNDA	**Vanda**	**42.17**	**186**	eP	**P**	**10 30 58.7**	**-0.6**
	comp=Z,11nm,1.6s,mb4.2						
VNDA				LR	LR	10 46 07.8	
WB2	**Warramunga Arr**	**43.01**	**279**	⇑iP	**P**	**10 31 06.2**	**-0.7**
WB2				eS	**S**	**10 37 29.5**	**+0.3**
WRAB	**Tennant Creek**	**43.02**	**279**	i P	**P**	**10 31 05.4**	**-1.6**
WRAB	**Tennant Creek**	**43.02**	**279**	eP	**P**	**10 31 05.3**	**-1.6**
	comp=Z,53nm,0.8s,mb5.3						
WRA	**Warramunga Arr**	**43.02**	**279**	P	**P**	**10 31 06.3**	**-0.7**
	comp=Z,23nm,0.7s,mb5.0,baz=122,slow=7.5,SNR=86						
WRA				S	**S**	**10 37 28.4**	**-0.9**
	comp=Z,5.6nm,1.0s,baz=121,slow=14,SNR=12						
TAOE	**Nuku Hiva Isla**	**45.28**	**63**	eLQ		10 41 15.2	
	comp=Z,4μm,44.0s						
TAOE				eLR	LR	10 42 18.8	
	comp=Z,4μm,37.5s						
KAKA	**Kakadu**	**48.62**	**286**	eP	**P**	**10 31 50.2**	**-1.2**
	comp=Z,7.6nm,0.6s,mb4.9						
CASY	**Casey**	**49.27**	**210**	⇓iP	**P**	**10 31 57.7**	**+1.9**
FITZ	**Fitzroy Crossi**	**50.97**	**276**	⇑iP	**P**	**10 32 09.7**	**+0.3**
	comp=Z,21nm,1.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**50.97**	**276**	P	**P**	**10 32 08.6**	**-0.8**
	comp=Z,18nm,0.8s,mb5.1,baz=163,slow=7.9,SNR=15						
FITZ				LR	LR	10 54 15.3	
	comp=Z,590nm,18.7s,MS4.6,baz=106,slow=37						
NWAO	**Narrogin (SRO)**	**51.00**	**254**	P	**P**	**10 32 08.6**	**-0.9**
	comp=Z,19nm,0.9s,mb5.0,baz=115,slow=1.2,SNR=8.2						
KLBR	**Kellerberrin**	**51.11**	**256**	eP	**P**	**10 32 09.5**	**-0.8**
	comp=Z,36nm,1.2s,mb5.2						
SNAA	**Sanae**	**72.41**	**179**	⇑iP	**P**	**10 34 34.0**	**+1.3**
SNAA				e	pP	10 34 44.4	-0.4
SNAA				e		10 34 55.0	
SNAA				e		10 35 20.3	
SNAA				e		10 35 38.8	
VNA3	**Neumayer Olymp**	**72.64**	**177**	⇑iP	**P**	**10 34 35.5**	**+1.6**
VNA3				e	pP	10 34 45.2	-0.8
VNA3				e		10 34 55.4	
VNA2	**Neumayer--Watz**	**73.05**	**177**	⇑iP	**P**	**10 34 38.5**	**+2.1**
VNA2				e	pP	10 34 48.1	-0.4
VNA2				e		10 34 55.8	
VNA1	**Neumayer--Stat**	**73.29**	**177**	e	pP	10 34 49.8	-0.1
VNA1	**Neumayer--Stat**	**73.29**	**177**	⇑iP	**P**	**10 34 40.2**	**+2.4**
VNA1				e	pP	10 34 49.8	-0.1
VNA1				e		10 34 57.4	
PLCA	**Paso Flores**	**79.77**	**133**	P	**P**	**10 35 16.0**	**+1.1**
	comp=Z,2.6nm,1.1s,mb4.1,baz=278,slow=7.1,SNR=1.9						
PLCA				LR	LR	11 04 19.1	
	comp=Z,248nm,21.5s,MS4.5,baz=262,slow=31						
MJAR	**Matsushiro Arr**	**82.13**	**327**	P	**P**	**10 35 26.1**	**-1.2**
	comp=Z,1.5nm,0.9s,mb3.9,baz=160,slow=6.1,SNR=4.0						
MJAR				LR	LR	11 04 05.2	
	comp=Z,75nm,20.2s,MS4.0,baz=85,slow=30						
SSE	**Sheshan**	**86.73**	**313**	eP	**P**	**10 35 56.0**	**+5.5**
SSE				PP	PP	10 39 19.8	+4.4
SSE				S	S	10 46 15.1	-8.1
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,69nm,7.3s						
SSE				LR	LR		
	comp=N,51nm,29.5s,MS3.8						
SSE				LR	LR		
	comp=E,31nm,29.6s,MS3.8						
SSE				LR	LR		
	comp=Z,82nm,21.7s						
PET	**Petropavlovsk**	**90.78**	**347**	eP	**P**	**10 36 09.3**	**+0.1**
PET				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.3						
ILAR	**Eielson Array**	**103.94**	**14**	PKiKP		10 41 26.3	
	comp=Z,0.4nm,0.6s,baz=211,slow=4.5,SNR=4.4						
BILL	**Bilibino**	**104.44**	**355**	P	Pdif	10 37 03.0	-7.6
TIXI	**Tiksi**	**113.39**	**344**	i PKIKP	PKPdf	10 41 50.9	+8.7
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WMQ	**Urumqi**	**115.43**	**307**	PDIF	Pdif	10 38 01.3	+1.7
WMQ				PP	PP	10 42 55.3	+1.8
WMQ				PP	PP		
	comp=Z,80nm,10.9s						
WMQ				LR	LR		
	comp=N,232nm,25.3s,MS4.8						
WMQ				LR	LR		
	comp=E,221nm,24.1s,MS4.8						
WMQ				LR	LR		
	comp=Z,369nm,25.5s,MS4.9						
MKAR	**Makanchi Array**	**120.13**	**308**	i PKIKP	PKPdf	10 41 56.8	+0.9
MKAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MKAR	**Makanchi Array**	**120.13**	**308**	PKP	PKPdf	10 41 57.0	+1.1
	comp=Z,4.2nm,0.9s,baz=72,slow=3.8,SNR=20						
ZAL	**Zalesovo**	**121.18**	**317**	PKP	PKPdf	10 41 58.6	+1.0
	comp=Z,2.6nm,0.3s,baz=337,slow=3.3,SNR=3.5						
NVS	**Novosibirsk**	**122.33**	**317**	ePKIKP	PKPdf	10 42 00.6	+0.7
KKAR	**Karatay Array**	**126.73**	**301**	i PKIKP	PKPdf	10 42 10.5	+1.8
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VOSK	**Vostochnaya**	**128.84**	**312**	PKIKP	PKPdf	10 42 13.4	+1.0
VOSK				pmax	pmax		
	comp=Z,11nm,1.1s						
BVAR	**Borovoye Array**	**129.25**	**313**	PKP	PKPdf	10 42 14.9	+1.7
	comp=Z,4.6nm,0.9s,baz=117,slow=3.3,SNR=19						
ZRNK	**Zerenda**	**130.06**	**312**	ePKIKP	PKPdf	10 42 15.3	+0.6
ARU	**Arti**	**136.33**	**317**	i PKIKP	PKPdf	10 42 29.3	+2.9
ARU				e		10 45 11.3	
ARU				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.5						
ARU				MLR	MLR		
	comp=N,200nm,20.0s,MS4.9						
ARU				MLR	MLR		
	comp=E,100nm,18.0s,MS4.9						
ARU	**Arti**	**136.33**	**317**	ePKP	PKPdf	10 42 26.4	0.0
ARCES	**ARCESS Array B**	**143.83**	**345**	PKP	PKPdf	10 42 40.0	+0.8
	comp=E,3.4nm,0.7s,baz=63,slow=5.4,SNR=7.7						
ARCES	**ARCESS Array B**	**143.83**	**345**	PKP	PKPdf	10 42 40.0	+0.8
ZEI	**Tsey**	**145.80**	**295**	ePKP2	PKPab	10 42 47.8	+1.3
ZEI				i		10 46 05.3	
GOF	**Gofitskoye**	**146.50**	**299**	⇑iPKIKP	PKPdf	10 42 46.2	+1.6
GOF				pmax	pmax		
	comp=Z,50nm,1.7s						
KIV	**Kislovodsk**	**146.74**	**297**	i PKIKP	PKPdf	10 42 47.2	+2.2
KIV				pmax	pmax		
	comp=N,5.0nm,1.0s						
KIV				pmax	pmax		
	comp=E,5.0nm,1.0s						
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
MOS	**Moscow**	**147.92**	**319**	ePKP2	PKPab	10 42 51.0	-3.3
MOS				pmax	pmax		
	comp=Z,85nm,1.4s						
OBN	**Obninsk**	**148.71**	**319**	⇓iPKP2	PKPab	10 42 54.0	-3.6
OBN				pmax	pmax		
	comp=Z,52nm,1.1s						
SOC	**Sochi**	**148.89**	**296**	i PKP2	PKPab	10 42 59.1	+0.4
SOC				e		10 46 28.4	
SOC				ePPP	PPP	10 49 50.7	+2.1
SOC				pmax	pmax		
	comp=N,8.0nm,0.8s						
SOC				pmax	pmax		
	comp=Z,12nm,0.8s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.6s						
KAF	**Kangasniemi**	**149.31**	**336**	ep	PKPdf	10 42 50.2	+1.6
	comp=E,14nm,0.6s						
ASF	**Jabal al Asfar**	**149.34**	**273**	PKPbc	PKPdf	10 42 56.7	+7.1
	comp=E,7.3nm,0.9s,baz=37,slow=2.7,SNR=9.2						
FINES	**FINESS Array B**	**149.86**	**335**	PKPbc	PKPdf	10 42 56.8	+7.3
	comp=E,21nm,0.8s,baz=135,slow=5.4,SNR=56						
EIL	**Elat**	**150.07**	**268**	ePKPbc	PKPdf	10 42 58.1	+7.3
DBIC	**Dimbokro**	**150.27**	**170**	PKPbc	PKPdf	10 43 00.4	+8.8
	comp=E,4.4nm,0.8s,baz=164,slow=4.6,SNR=3.9						
VSU	**Vasula**	**151.64**	**330**	i PKIKP	PKPdf	10 43 01.2	+9.0
CSS	**Prodhromos**	**152.94**	**277**	ePKPbc	PKPdf	10 43 04.1	+9.3
BRTR	**Keskin Array B**	**153.34**	**288**	PKPbc	PKPdf	10 43 05.1	+10
	comp=E,9.8nm,0.9s,baz=135,slow=3.5,SNR=29						
BRTR				PKPab	PKPab	10 43 15.1	-2.3
	comp=E,4.9nm,0.8s,baz=142,slow=4.3,SNR=8.0						
NB2	**NORSAR Subarra**	**154.14**	**347**	P	PKPdf	10 43 06.7	+11
	comp=E,6.9nm,1.2s,baz=40,slow=4.5						
NB2	**NORSAR Subarra**	**154.14**	**347**	P	PKPdf	10 43 06.7	+11
	baz=40,slow=4.6						
NOA	**NORSAR Array B**	**154.14**	**347**	PKPbc	PKPdf	10 43 06.6	+11
	comp=E,1.2nm,0.9s,baz=138,slow=24,SNR=2.6						
NOA				PKPab	PKPab	10 43 17.0	-3.0
	comp=E,1.1nm,0.6s,baz=21,slow=3.8,SNR=4.4						
HFS	**Hagfors**	**154.48**	**344**	PKPbc	PKPdf	10 43 07.3	+11
	comp=E,1.5nm,0.9s,baz=145,slow=49,SNR=2.8						
AKASG	**Malin Array Be**	**154.52**	**314**	PKPbc	PKPdf	10 43 07.2	+11
	comp=E,5.2nm,0.8s,baz=63,slow=2.0,SNR=15						
GERES	**GERESS Array B**	**163.86**	**326**	PKP	PKPdf	10 43 09.2	+1.9
	comp=E,0.6nm,0.7s,baz=194,slow=40,SNR=3.8						
GERES				PKPab	PKPab	10 44 01.6	-0.8
	comp=E,1.3nm,0.8s,baz=45,slow=3.8,SNR=6.8						

MEX 13 11:28:09.8±1.5**, 17.62N**×**101.50W, h14**km±999km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.31**	**115**	i P	Pb	11 28 30.0	-3.6
CAIG				i S	Sb	11 28 44.6	-5.4
ACX	**Acapulco**	**1.69**	**116**	i P	Pn	11 28 36.5	-2.6
ACX				i S	Sn	11 28 56.0	-4.6

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*IDC **13** 11:30:11.7±0.9, 1.04S×120.44E, mb3.8/6, mb1 4.0/7, mb1mx3.9/18, mbtmp3.9/7, Error ellipse: s-maj=92.9km s-min=17.3km az=65.0*
*NEIC **13** 11:30:13.3±0.6, 1.20S×120.01E, h10km, mb4.2/4, Error ellipse: s-maj=25.6km s-min=9.1km az=46.0*
NEIC Felt [III] at Palu.

ISC 13 11:30:11.6±0.6**, 1.2S**±0.1×**119.9E**±0.1**, h10**km**, n16, σ0^{s}93**/16**, mb3.9**/8**, 1D, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**9.97**	**285**	eP	**P**	**11 32 38.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**17.75**	**162**	eP	**P**	**11 34 23.7**	**+3.1**
	3.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.75**	**162**	P	**P**	**11 34 20.9**	**+0.3**
	0.1nm,0.3s,baz=349,slow=7.6,SNR=5.2						
KULM	**Kulim**	**20.29**	**289**	P	**P**	**11 34 49.8**	**-0.7**
WRA	**Warramunga Arr**	**23.39**	**144**	P	**P**	**11 35 20.1**	**-1.6**
	5.6nm,0.8s,mb4.1,baz=325,slow=11,SNR=58						
WRAB	**Tennant Creek**	**23.39**	**144**	eP	**P**	**11 35 21.9**	**+0.2**
	15nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**23.40**	**144**	⇓iP	**P**	**11 35 22.6**	**+0.8**
STKA	**Stephens Creek**	**36.77**	**148**	eP	**P**	**11 37 21.8**	**+0.4**
	2.7nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**36.77**	**148**	P	**P**	**11 37 19.7**	**-1.7**
	2.7nm,0.9s,mb4.1,baz=330,slow=7.5,SNR=5.2						
SONM	**Songino Array**	**50.20**	**348**	P	**P**	**11 39 11.0**	**+1.4**
	0.5nm,0.5s,mb3.8,baz=157,slow=5.5,SNR=3.1						
MKAR	**Makanchi Array**	**58.03**	**330**	P	**P**	**11 40 07.0**	**-0.2**
	0.6nm,0.7s,mb3.8,baz=129,slow=7.3,SNR=4.2						
MKAR	**Makanchi Array**	**58.03**	**330**	P	**P**	**11 40 07.0**	**-0.2**
BVAR	**Borovoye Array**	**67.92**	**330**	P	**P**	**11 41 12.5**	**-0.1**
	0.4nm,0.6s,mb3.6,baz=123,slow=6.3,SNR=3.0						
ZRNK	**Zerenda**	**68.57**	**330**	eP	**P**	**11 41 15.8**	**-0.8**
	1.0nm,0.3s,mb4.2						
VNDA	**Vanda**	**79.55**	**172**	P	**P**	**11 42 20.2**	**+0.3**
	0.6nm,1.1s,mb3.5,baz=342,slow=3.2,SNR=2.9						
VNDA	**Vanda**	**79.55**	**172**	P	**P**	**11 42 20.2**	**+0.3**

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*IDC **13** 11:30:22.1±0.8, 1.29S×119.89E, mb4.3/7, mb1 4.5/8, mb1mx4.2/18, mbtmp4.4/8, ML4.2/1, Error ellipse: s-maj=98.5km s-min=16.1km az=65.0*
*NEIC **13** 11:30:24.0±0.5, 1.16S×120.12E, h10km, mb4.6/10, Error ellipse: s-maj=34.0km s-min=7.9km az=59.0*
*BJI **13** 11:30:23.9, 1.20S×120.10E, h10km, mB4.8, mb4.8, Ms4.0, Msz3.6*

ISC 13 11:30:22.5±0.5**, 1.2S**±0.1×**120.0E**±0.2**, h10**km**, n35, σ1^{s}14**/35**, mb4.5**/17**, MS3.5**/2**, 1C, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**8.11**	**332**	eP	**P**	**11 32 25.3**	**+2.0**
FITZ	**Fitzroy Crossi**	**17.70**	**162**	P	**P**	**11 34 31.4**	**+0.5**
	0.6nm,0.3s,baz=353,slow=8.9,SNR=17						
FITZ	**Fitzroy Crossi**	**17.70**	**162**	P	**P**	**11 34 31.4**	**+0.5**
	3.9nm,0.8s						
FITZ				i		11 34 32.2	
FITZ	**Fitzroy Crossi**	**17.70**	**162**	i	**P**	**11 34 32.2**	**+1.2**
WRAB	**Tennant Creek**	**23.33**	**144**	eP	**P**	**11 35 33.0**	**+1.0**
	15nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**23.33**	**144**	P	**P**	**11 35 32.6**	**+0.6**
	19nm,1.0s,mb4.5,baz=321,slow=11,SNR=30						
WB2	**Warramunga Arr**	**23.34**	**144**	i P	**P**	**11 35 33.2**	**+1.1**
WB2	**Warramunga Arr**	**23.34**	**144**	i	**P**	**11 35 33.2**	**+1.1**
GZH	**Guangzhou**	**24.98**	**345**	P	**P**	**11 35 53.8**	**+5.8**
KMI	**Kunming**	**31.04**	**329**	P	**P**	**11 36 43.9**	**+0.9**
KMI				AP	pP	11 36 55.8	+10
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
KMI				LR	LR		
	comp=Z,62nm,22.7s,MS3.2						
KMI	**Kunming**	**31.04**	**329**	P	**P**	**11 36 43.9**	**+0.9**
	comp=Z,10.0nm,1.2s,mb4.5						
KMI				pP	pP	11 36 55.8	+10
KMI				LR	LR		
	comp=Z,60nm,22.7s,MS3.2						
STKA	**Stephens Creek**	**36.71**	**148**	P	**P**	**11 37 30.1**	**-1.8**
	comp=Z,3.4nm,0.6s,mb4.3,baz=313,slow=6.0,SNR=6.3						
STKA	**Stephens Creek**	**36.71**	**148**	P	**P**	**11 37 30.1**	**-1.8**
	comp=Z,2.7nm,1.0s,mb4.0						
STKA				i		11 37 31.0	
STKA	**Stephens Creek**	**36.71**	**148**	i	**P**	**11 37 31.0**	**-0.8**
LSA	**Lhasa**	**41.25**	**320**	eP	**P**	**11 38 11.8**	**+2.1**
	comp=Z,13nm,0.8s,mb4.6						
GUN	**Gumba**	**43.70**	**314**	eP	**P**	**11 38 30.6**	**+0.8**
PKI	**Pulchoki**	**43.85**	**313**	eP	**P**	**11 38 31.3**	**+0.3**
	comp=Z,12nm,0.9s,mb4.7						
KKN	**Kakani**	**44.07**	**313**	eP	**P**	**11 38 32.7**	**0.0**
DMN	**Daman**	**44.09**	**313**	eP	**P**	**11 38 32.4**	**-0.5**
	comp=Z,14nm,0.6s,mb4.8						
GTA	**Gaotai**	**44.44**	**338**	⇑P	**P**	**11 38 36.9**	**+1.3**
GTA				AP	pP	11 38 41.8	+3.2
GTA				XP	sP	11 38 44.3	+4.5
GTA				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,59nm,4.2s						
GTA				LR	LR		
	comp=N,70nm,15.9s,MS3.8						
GTA				LR	LR		
	comp=E,72nm,17.1s,MS3.8						
GTA				LR	LR		
	comp=Z,115nm,16.8s,MS3.9						
GKN	**Gorkha**	**44.66**	**313**	eP	**P**	**11 38 36.6**	**-0.9**
	comp=Z,30nm,0.8s,mb5.2						
KOLN	**Koldanda**	**45.29**	**312**	eP	**P**	**11 38 38.4**	**-4.1**
	comp=Z,25nm,0.7s,mb5.1						
MDJ	**Mudanjiang**	**46.39**	**9**	eP	**P**	**11 38 48.5**	**-2.6**
	comp=Z,9.3nm,0.8s,mb4.8						
SONM	**Songino Array**	**50.24**	**348**	P	**P**	**11 39 20.1**	**-0.8**
	comp=Z,2.0nm,0.6s,mb4.3,baz=166,slow=8.2,SNR=13						
SONM	**Songino Array**	**50.24**	**348**	P	**P**	**11 39 20.1**	**-0.8**
MKAR	**Makanchi Array**	**58.09**	**330**	P	**P**	**11 40 18.0**	**-0.5**
	comp=Z,3.7nm,0.6s,mb4.6,baz=133,slow=7.5,SNR=20						
MKAR	**Makanchi Array**	**58.09**	**330**	P	**P**	**11 40 18.0**	**-0.5**
ZAL	**Zalesovo**	**62.19**	**337**	P	**P**	**11 40 46.9**	**+0.4**
	comp=Z,2.0nm,0.5s,mb4.5,baz=120,slow=18,SNR=6.7						
BVAR	**Borovoye Array**	**67.98**	**330**	P	**P**	**11 41 22.5**	**-1.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=141,slow=9.5,SNR=8.7						
ZRNK	**Zerenda**	**68.63**	**330**	eP	**P**	**11 41 26.5**	**-1.5**
	comp=Z,1.0nm,0.3s,mb4.2						
ARSS	**Ar Rass**	**78.62**	**297**	P	**P**	**11 42 25.8**	**-1.0**
BLJS	**Baljurashi**	**79.50**	**290**	P	**P**	**11 42 24.6**	**-7.1**
VNDA	**Vanda**	**79.51**	**172**	P	**P**	**11 42 29.4**	**-1.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=318,slow=7.2,SNR=11						
VNDA	**Vanda**	**79.51**	**172**	P	**P**	**11 42 29.4**	**-1.2**
HILS	**Ha'il**	**80.08**	**298**	P	**P**	**11 42 34.5**	**-0.2**

WEL 13 11:46:35.2±0.5**, 36.12S**×**179.70W, h33**km**, ML3.8**/6**, Error ellipse: s-maj=4.7km s-min=2.3km az=90.0, East of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.16**	**227**	PN	Pn	11 47 08.1	-1.5
PUZ	**Puketiti**	**2.55**	**219**	PN	Pn	11 47 13.7	-1.5
PUZ				SN	Sn	11 47 43.1	-2.3
MWZ	**Matawai**	**3.13**	**224**	PN	Pn	11 47 21.6	-1.9
URZ	**Urewera**	**3.33**	**229**	PN	Pn	11 47 24.2	-2.0
URZ				SN	Sn	11 48 00.8	-4.3
KNZ	**Kokohu**	**3.57**	**215**	ePN	Pn	11 47 27.3	-2.5
KUZ	**Kuaotunu**	**3.75**	**259**	PN	Pn	11 47 29.9	-2.3
MQZ	**McQueen's Vall**	**9.59**	**215**	SN	Sn	11 50 24.2	-17

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*NEIC **13** 11:53:12.8, 19.00N×65.51W, h7km, MD3.7(RSPR), After RSPR.*

RSPR 13 11:53:12.8, 19.00N×**65.51W, h7**km±2km**, MD3.7**/14**, MD3.7**/14**, 4C-10D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.79**	**204**	⇓iP	Pb	11 53 26.8	-1.8
CBYP				eS	Sb	11 53 37.6	-1.7
STVI	**Saint Thomas**	**0.83**	**141**	⇑eP	Pb	11 53 27.3	-1.8
STVI				eS	Sb	11 53 39.6	-0.6
MTP	**Monte Pirata**	**0.90**	**183**	⇓iP	Pb	11 53 28.7	-1.7
MTP				eS	Sb	11 53 41.5	-0.8
HUMP	**Col San Antoni**	**0.91**	**201**	⇓iP	Pb	11 53 28.5	-2.1
HUMP				eS	Sb	11 53 40.5	-2.1
CPD	**Cerro la Pandu**	**1.03**	**202**	⇓iP	Pb	11 53 30.3	-2.2
CPD				eS	Sb	11 53 43.3	-2.7
TBVI	**Tortola**	**1.03**	**124**	⇑eP	Pb	11 53 29.5	-3.2
TBVI				eS	Sb	11 53 43.5	-2.7
SJG	**San Juan**	**1.07**	**215**	⇑eP	Pb	11 53 30.7	-2.5
SJG				eS	Sb	11 53 45.7	-1.6
CELP	**Cerrillos**	**1.37**	**228**	⇓iP	Pb	11 53 35.4	-3.0
PORP	**Portuguez**	**1.42**	**229**	⇓iP	Pn	11 53 36.0	-3.2
PORP				eS	Sb	11 53 54.4	-3.2
CDVI	**St. Croix**	**1.43**	**150**	⇑eP	Pn	11 53 37.8	-1.5
CDVI				eS	Sb	11 53 55.0	-2.6
LRS	**Lares**	**1.45**	**241**	⇓eP	Pn	11 53 35.8	-3.8
LRS				eS	Sb	11 53 53.9	-4.3
ICM	**Isla Caja Muer**	**1.46**	**221**	⇓iP	Pn	11 53 37.5	-2.3
ICM				eS	Sb	11 53 55.0	-3.5
LSP	**Las Mesas**	**1.70**	**242**	⇓eP	Pn	11 53 39.6	-3.6
LSP				eS	Sn	11 54 01.8	-3.6
MGP	**Maguayo**	**1.79**	**237**	⇑iP	Pn	11 53 41.2	-3.2
MGP				eS	Sn	11 54 02.5	-5.3
CRPR	**Cabo Rojo, PR**	**1.81**	**237**	⇓iP	Pn	11 53 41.3	-3.4
CRPR				eS	Sn	11 54 03.5	-4.7

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*IDC **13** 12:04:58.9±1.9, 17.78S×178.66W, h539km±24km, mb3.2/6, mb1 3.4/8, mb1mx3.3/15, mbtmp4.1/8, Error ellipse: s-maj=27.6km s-min=16.0km az=136.0*
*NEIC **13** 12:04:59.4±1.0, 17.72S×178.63W, h544km±14km, mb4.1/4, Error ellipse: s-maj=25.0km s-min=11.5km az=143.0*

ISC 13 12:04:58.8±1.3**, 17.7S**±0.2×**178.7W**±0.2**, h548**km±22km**, n17, σ0^{s}99**/14**, mb3.7**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.62**	**62**	P	**P**	**12 06 53.4**	**0.0**
	4.9nm,0.3s,baz=68,slow=17,SNR=8.7						
DZM	**Mont Dzumac**	**14.67**	**250**	P	**P**	**12 08 05.4**	**+0.7**
	0.5nm,0.3s,baz=135,slow=7.8,SNR=5.6						
URZ	**Urewera**	**20.86**	**189**	P	**P**	**12 09 01.1**	**-2.7**
	3.6nm,0.3s,baz=332,slow=5.7,SNR=8.4						
CNB	**Canberra Magne**	**33.38**	**232**	eP	**P**	**12 10 54.4**	**+1.1**
	5.1nm,0.8s,mb4.1						
TOO	**Toolangi**	**37.13**	**230**	eP	**P**	**12 11 25.3**	**+0.9**
	3.8nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**12 11 36.4**	**+0.7**
	1.2nm,0.4s,mb3.8,baz=85,slow=12,SNR=7.2						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**12 11 36.4**	**+0.7**
WB2	**Warramunga Arr**	**44.41**	**259**	eP	**P**	**12 12 22.5**	**-0.3**
WRA	**Warramunga Arr**	**44.42**	**259**	P	**P**	**12 12 21.3**	**-1.5**
	0.3nm,0.4s,mb3.1,baz=94,slow=7.8,SNR=22						
KAKA	**Kakadu**	**47.33**	**269**	eP	**P**	**12 12 44.8**	**-0.4**
	1.7nm,0.3s,mb4.0						
FITZ	**Fitzroy Crossi**	**52.82**	**260**	eP	**P**	**12 13 25.5**	**0.0**
	4.8nm,1.5s,mb3.6						
MJAR	**Matsushiro Arr**	**67.55**	**323**	P	**P**	**12 15 01.8**	**-0.6**
	2.5nm,0.7s,mb3.9,baz=164,slow=7.6,SNR=6.7						
ILAR	**Eielson Array**	**85.69**	**13**	P	**P**	**12 16 39.9**	**-0.5**
	0.7nm,0.4s,mb3.6,baz=224,slow=5.0,SNR=19						
PDAR	**Pinedale Array**	**87.34**	**44**	P	**P**	**12 16 50.1**	**+1.5**
	0.8nm,0.6s,mb3.6,baz=219,slow=3.7,SNR=8.5						
BVAR	**Borovoye Array**	**116.48**	**321**	PKP	PKPdf	12 22 40.7	+0.5
	0.5nm,0.4s,baz=115,slow=1.7,SNR=4.8						
BRTR	**Keskin Array B**	**144.42**	**315**	PKP	PKPdf	12 23 34.5	+1.9
	1.0nm,0.5s,baz=108,slow=3.9,SNR=5.1						
GERES	**GERESS Array B**	**147.30**	**345**	PKPbc	PKPdf	12 23 42.6	+5.4
	1.5nm,0.4s,baz=36,slow=2.5,SNR=7.1						

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*CRAAG **13** 12:06:07.5, 17.85S×70.21W, Mb5.6*
*BGS **13** 12:06:12.6, 17.85S×70.11W, h80km, mb5.5*
*IDC **13** 12:06:12.7±0.3, 17.86S×70.09W, h77km±2km, mb5.1/27, mb1 5.2/30, mb1mx5.2/31, mbtmp5.4/30, MS4.9/18, Ms1 4.8/18, ms1mx4.8/20, Error ellipse: s-maj=12.4km s-min=7.6km az=75.0*
*BJI **13** 12:06:12.7, 17.58S×70.63W, h81km, mB5.6, Ms5.5, Msz5.3*
*HRVD **13** 12:06:13.3±0.1, 17.95S×70.41W, h102km±1km, MW5.7/70, Centroid moment Tensor Solution. LP body waves: s68,c151;Mantle waves: s70,c188; Half duration: 1^{s}8 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.87±.06; $M_{\theta\theta}$2.18±.07; $M_{\phi\phi}$1.69±.09; $M_{r\theta}$0.88±.05; $M_{\theta\phi}$-2.42±.06; $M_{\phi r}$-2.16±.06; Best double couple: $M_0$4.746×10^{17} NP1: ϕ_s118°, δ33°, λ-113°. NP2: ϕ_s325°, δ60°, λ-75°. Principal axes: T 4.882, Plg14°, Azm45°; N -.271, Plg13°, Azm138°; P -4.611, Plg71°, Azm269°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **13** 12:06:13.3±0.1, 17.85S×70.11W, mb5.6/176, ME5.4, MW5.9 Error ellipse: s-maj=3.9km s-min=2.8km az=220.0 Broadband fault plane solution: P waves. NP1: ϕ_s330°, δ70°, λ-90°. NP2: ϕ_s150°, δ20°, λ-90°. Principal axes: T Plg25°, Azm60°; N Plg0°, Azm0°; P Plg65°, Azm240°; Moment Tensor Solution. s49 Moment tensor: Scale 10^{17} Nm; M_{rr}-5.48; $M_{\theta\theta}$-0.02; $M_{\phi\phi}$5.50; $M_{r\theta}$2.49; $M_{\theta\phi}$-2.85; $M_{\phi r}$-4.05; Best double couple: $M_0$7.7×10^{17} NP1: ϕ_s165°, δ27°, λ-77°. NP2: ϕ_s331°, δ64°, λ-96°. Principal axes: T 8.32, Plg19°, Azm66°; N -1.16, Plg6°, Azm334°; P -7.16, Plg70°, Azm228°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Tacna and [III] at Arequipa. Also felt [IV] at Arica and Cuya; [III] at Camina, Iquique, Mamina and Pisagua, Chile. Felt at Putre, Chile.
*LDG **13** 12:06:13.5±0.3, 17.48S×70.06W, h80km, Mb5.6/34, Ms4.7/8 Error ellipse: s-maj=20.0km s-min=10.4km az=50.0*
*MOS **13** 12:06:15.1±0.9, 17.60S×70.13W, h99km, mb5.7/86, MS5.0/21, Error ellipse: s-maj=7.7km s-min=5.5km az=77.2*

ISC 13 12:06:11.8±0.2**, 17.86S**±0.03×**70.21W**±0.03**, h79**km**, h79**km±.3km**:pP-P, n725, σ0^{s}97**/546**, mb5.5**/200**, 8C-30D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.85**	**318**	⇓iP	**P**	**12 06 45.1**	**+2.9**
ARE				eS	**S**	**12 07 09.0**	**+4.4**
LPAZ	**La Paz**	**2.53**	**52**	P	**P**	**12 06 57.5**	**+5.8**
	478nm,0.3s,baz=230,slow=9.4						
LPAZ				Lg		12 07 33.2	
	181nm,0.3s,baz=140,slow=14,SNR=3.0						
LPAZ				LR	LR	12 08 07.2	

	comp=Z,41μm,19.1s,baz=327,slow=47						
LPAZ	La Paz	2.53	52⇑	iP	P	12 06 58.0	+6.4
LVC	Limon Verde	4.89	166⇑	eP	P	12 07 22.7	-1.6
LVC				i S	S	12 08 15.5	-4.6
LVC	Limon Verde	4.89	166	P	P	12 07 23.6	-0.7
	148nm,0.3s,baz=333,slow=10,SNR=354						
LVC				S	S	12 08 14.0	-6.1
	698nm,0.3s,baz=229,slow=20,SNR=8.5						
LVC				Lg		12 08 33.3	
	1μm,0.3s,baz=246,slow=23,SNR=5.6						
LVC				LR	LR	12 09 43.2	
	comp=Z,12μm,18.2s,baz=119,slow=43						
LVC	Limon Verde	4.89	166	eP	P	12 07 23.1	-1.3
ANCH	Antofagasta	5.80	182	eP	P	12 07 34.0	-2.9
ANCH	Antofagasta	5.80	182	P	P	12 07 34.0	-2.9
CPN1	Cerro Paranal	6.74	181	eP	P	12 07 45.3	-4.7
CPN1				i S	S	12 08 55.4	-10
CRCH	Chaqaral	8.46	182	eP	P	12 08 07.8	-5.7
CRCH				i S	S	12 09 35.4	-13
NNA	Nana	8.66	311	eP	P	12 08 14.9	-1.4
	508nm,0.6s						
SIV	San Ignacio	8.94	79	P	P	12 08 19.0	-1.1
	95nm,0.3s,baz=265,slow=12,SNR=1134						
SAML	Samuel	11.18	39	eP	P	12 08 48.8	-1.7
	245nm,1.1s						
ZON	Zonda	13.70	174	eP	P	12 09 20.0	-3.8
CFAA	Coronel Fontan	13.80	173	P	P	12 09 20.2	-5.0
	0.9nm,0.3s,baz=349,slow=13,SNR=24						
CFAA				S	S	12 11 46.0	-11
	0.7nm,0.3s,baz=256,slow=6.1,SNR=4.3						
CFAA				LR	LR	12 15 00.4	
	comp=Z,538nm,19.7s,baz=339,slow=38						
CFAA	Coronel Fontan	13.80	173	P	P	12 09 20.2	-5.0
CFAA				S	S	12 11 46.0	-11
CFAA				LR	LR	12 15 00.4	
CPUP	Villa Florida	14.61	128	eP	P	12 09 33.4	-2.2
CPUP				pmax	pmax		
	comp=Z,65nm,1.2s						
CPUP	Villa Florida	14.61	128	P	P	12 09 33.3	-2.3
	comp=Z,0.3nm,0.3s,baz=329,slow=16,SNR=11						
CPUP	Villa Florida	14.61	128	eP	P	12 09 33.4	-2.3
	comp=Z,65nm,1.2s						
MDZ	Mendoza	15.01	176	P	P	12 09 39.2	-1.6
MDZ				e		12 12 41.2	
MDZ	Mendoza	15.01	176	P	P	12 09 39.2	-1.6
MDZ				pP		12 09 57.7	
MDZ				sP		12 10 14.2	
MDZ				e		12 11 56.2	
MDZ				e	S	12 12 41.2	+16
MDZ				S	x	12 13 55.1	
MDZ				LQ		12 15 33.2	
MDZ				LR	LR	12 16 44.7	
LPA	La Plata	20.20	150	deP	P	12 10 41.0	-1.5
LPA	La Plata	20.20	150	eP	P	12 10 42.0	-0.5
LPA	La Plata	20.20	150	eP	P	12 10 47.0	+4.5
LPA				esP		12 11 00.0	
LPA				epP		12 11 03.0	
LPA				eS	S	12 14 22.0	+2.2
LPA				eS	S	12 14 27.0	+7.2
LPA				esS		12 14 49.0	
BDFB	Brasilia	21.37	87	P	P	12 10 54.4	0.0
BDFB				pmax	pmax		
	comp=Z,129nm,0.6s						
BDFB	Brasilia	21.37	87	P	P	12 10 54.4	0.0
	comp=Z,129nm,0.6s,mb5.5,baz=268,slow=11,SNR=74						
TRQA	Tornquist	21.38	162	P	P	12 10 53.1	-1.3
TRQA	Tornquist	21.38	162	eP	P	12 10 53.1	-1.3
	comp=Z,123nm,0.8s,mb5.3						
BAO	Brasilia Array	21.39	87	P	P	12 10 47.0	-7.7
PLCA	Paso Flores	22.80	181	P	P	12 11 08.3	-0.1
PLCA						12 14 58.5	
PLCA				pmax	pmax		
	comp=Z,135nm,1.0s						
PLCA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PLCA	Paso Flores	22.80	181	P	P	12 11 08.2	-0.1
	comp=Z,135nm,1.0s,mb5.2,baz=356,slow=12,SNR=97						
PLCA				PcP	PcP	12 14 58.5	-0.5
	comp=Z,8.3nm,0.7s,baz=356,slow=2.1,SNR=4.8						
PLCA	Paso Flores	22.80	181	eP	P	12 11 08.1	-0.2
	comp=Z,186nm,1.1s,mb5.3						
ROSC	El Rosal	22.93	349	P	P	12 11 10.1	+0.2
	comp=Z,32nm,0.5s,mb4.9,baz=330,slow=6.6,SNR=9.2						
ROSC				LR	LR	12 21 23.4	
	comp=Z,4μm,19.2s,baz=191,slow=40						
CAM4	Nova Friburgo	26.33	104	eP	P	12 11 41.4	-0.8
CAM4				i		12 11 43.8	
CAM4				i		12 11 46.0	
CAM4				i		12 11 48.7	
CAM4				i	pP	12 12 01.9	+1.6
SDV	Santo Domingo	26.57	359	P	P	12 11 42.8	-1.7
	comp=Z,23nm,0.4s,mb5.0,baz=225,slow=7.3,SNR=33						
SDV				LR	LR	12 23 22.8	
	comp=Z,6μm,18.4s,baz=199,slow=39						
SDV	Santo Domingo	26.57	359	eP	P	12 11 42.7	-1.8
	comp=Z,93nm,0.8s,mb5.4						
CAM3	Guarapari	28.15	101	eP	P	12 11 56.7	-2.1
CAM3				i		12 12 01.5	
CAM3				i	pP	12 12 15.4	-1.8
JTS	JuntasAbangare	31.53	331⇓	eP	P	12 12 30.0	+1.2
JTS				pmax	pmax		
	comp=Z,119nm,1.1s						
JTS	JuntasAbangare	31.53	331⇓	eP	P	12 12 30.0	+1.2
	comp=Z,120nm,1.1s,mb5.5						
RCBR	Riachuelo	35.57	75	eP	P	12 13 03.0	-0.6
	comp=Z,33nm,0.7s,mb5.4						
SJG	San Juan	35.96	7	eP	P	12 13 04.0	-2.9
SJG				pmax	pmax		
	comp=Z,117nm,0.7s						
SJG	San Juan	35.96	7	LR	LR	12 29 01.9	
	comp=Z,3μm,20.1s,baz=213,slow=38						
SJG	San Juan	35.96	7	eP	P	12 13 04.0	-2.9
	comp=Z,117nm,0.7s,mb5.9						
USHA	Ushuaia	36.93	178	P	P	12 13 14.3	-0.3
	comp=Z,29nm,0.6s,mb5.4,baz=351,slow=5.5,SNR=50						
USHA				pP	pP	12 13 32.5	-1.3
	comp=Z,20nm,0.7s,baz=298,slow=13,SNR=4.2						
USHA				PcP	PcP	12 15 34.1	-0.8
	comp=Z,19nm,0.7s,baz=345,slow=3.6,SNR=4.2						
RPN	Rapa Nui	37.18	249	P	P	12 13 18.4	+1.5
	comp=Z,110nm,0.8s,mb5.8,baz=77,slow=5.2,SNR=5.9						
CCCC	Cccc	39.51	349	eP	P	12 13 31.3	-5.1
OXX	Oaxaca	43.43	322	eP	P	12 14 10.0	+1.3
ACX	Acapulco	45.23	318	i P	P	12 14 23.0	-0.2
CAIG	El Cayaco	45.59	318	eP	P	12 14 26.1	+0.1
PPM	Popocatepetl	46.10	321	eP	P	12 14 32.0	+1.9
PLIG	Platanillo	46.12	320	eP	P	12 14 31.7	+1.6
YAIG	Yautepec	46.21	321	eP	P	12 14 32.8	+1.8
DWPF	Disney	46.97	346	eP	P	12 14 35.9	-0.9
	comp=Z,150nm,0.8s,mb5.8						
DWPF				epP	pP	12 14 55.1	-1.2
MOIG	Morelia	48.13	319	eP	P	12 14 47.1	+1.2
SFJM	Santa Fe	49.89	318	eP	P	12 14 59.0	-0.5
BBSR	BB Station	50.22	6	eP	P	12 14 59.6	-2.3
	comp=Z,104nm,0.8s,mb5.8						
RGRS	Roger Stewart	51.37	349	eP	P	12 15 10.0	-0.6
CSU	Charleston Sou	51.42	349	eP	P	12 15 10.3	-0.7
HBF	Harts Bluff	51.43	349	P	P	12 15 11.3	+0.3
HBF				e	pP	12 15 31.8	+1.0
HBF	Harts Bluff	51.43	349	eP	P	12 15 10.5	-0.5
HBF				epP	pP	12 15 30.9	0.0
NHSC	New Hope	51.56	349	eP	P	12 15 11.2	-0.8
	comp=Z,258nm,0.6s,mb6.4						
NHSC				epP	pP	12 15 29.6	-2.2
COW	Cow Castle Cre	51.92	349	eP	P	12 15 14.1	-0.6
JSC	Jenkinsville	52.90	349	eP	P	12 15 20.8	-1.3
JSC				e*PP	pP	12 15 41.8	-0.2
LRAL	Lakeview Retre	53.09	342	eP	P	12 15 21.5	-2.0
LRAL				epP	pP	12 15 42.0	-1.3
MYNC	Murphy	54.27	346	eP	P	12 15 30.5	-1.6
MYNC				e*PP	pP	12 15 51.8	-0.3
NATX	Nacogdoches	54.62	334	eP	P	12 15 34.5	-0.2
	comp=Z,122nm,0.6s,mb6.1						
NATX				epP	pP	12 15 54.9	+0.2
SWET	Sewanee	54.85	344	eP	P	12 15 34.3	-2.0
SWET				epP	pP	12 15 54.9	-1.5
OXF	Oxford	55.19	341	eP	P	12 15 36.7	-2.1
OXF	Oxford	55.19	341	eP	P	12 15 36.3	-2.5
TZTN	Tazewell	55.55	347	eP	P	12 15 39.4	-1.9
BLA	Blacksburg	55.61	350	eP	P	12 15 41.1	-0.7
BLA				pmax	pmax		
	comp=Z,550nm,1.5s,mb6.4						
BLA	Blacksburg	55.61	350	eP	P	12 15 40.8	-1.0
	comp=Z,554nm,1.5s,mb6.4						
ELN	Prospectdale	55.68	350	eP	P	12 15 41.6	-0.7
ELN				epP	pP	12 16 03.1	+0.8
FWV	Forest Hill	56.04	350	eP	P	12 15 43.7	-1.1
UALR	University of	56.41	338	eP	P	12 15 45.9	-1.6
	comp=Z,250nm,1.2s,mb6.1						
HALT	Halls	56.46	341	eP	P	12 15 45.3	-2.5
HBAR	Harrisburg	56.55	340	eP	P	12 15 47.2	-1.3
UTMT	University of	56.72	342	eP	P	12 15 47.8	-1.9
	comp=Z,586nm,1.1s,mb6.5						
GNAR	Gosnell	56.72	341	eP	P	12 15 48.2	-1.5
GLAT	Glass	56.77	342	eP	P	12 15 48.3	-1.8
LTX	Lajitas	56.95	325	eP	P	12 15 50.3	-1.2
LTX				e*PP	pP	12 16 11.2	-0.5
LTX				pmax	pmax		
	comp=Z,52nm,0.9s,mb5.6						
LTX	Lajitas	56.95	325	eP	P	12 15 50.3	-1.2
	comp=Z,52nm,0.9s,mb5.6						
LTX				epP	pP	12 16 11.2	-0.5
PVMO	Portageville	57.03	341	eP	P	12 15 50.8	-1.2
SDMD	Soldier's Deli	57.30	354	eP	P	12 15 52.0	-1.8
MCWV	Mont Chateau	57.92	351	eP	P	12 15 57.2	-0.8
	comp=Z,271nm,0.9s,mb6.3						
PAL	Palisades	58.66	357	eP	P	12 16 01.6	-1.6
PAL				pmax	pmax		
	comp=Z,77nm,1.4s,mb5.5						
PAL	Palisades	58.66	357	eP	P	12 16 01.6	-1.6
	comp=Z,78nm,1.4s,mb5.5						
FVM	French Village	58.70	341	eP	P	12 16 01.7	-1.8
FVM				e*PP	pP	12 16 23.5	-0.3
FVM				pmax	pmax		
	comp=Z,568nm,0.9s						
FVM	French Village	58.70	341	eP	P	12 16 01.6	-1.9
	comp=Z,568nm,0.9s						
FVM				epP	pP	12 16 23.5	-0.4
BLO	Bloomington	58.75	345	eP	P	12 16 01.7	-2.1
BLO				e*PP	pP	12 16 21.9	-2.2
BLO				pmax	pmax		
	comp=Z,283nm,1.0s,mb6.2						
BLO	Bloomington	58.75	345	eP	P	12 16 01.7	-2.1
	comp=Z,283nm,1.0s,mb6.2						
BLO				epP	pP	12 16 21.9	-2.3
CCM	Cathedral Cave	59.02	341	eP	P	12 16 03.8	-1.9
SLM	Saint Louis	59.25	342	eP	P	12 16 05.2	-2.1
SLM				e*PP	pP	12 16 26.1	-1.5
SLM				pmax	pmax		
	comp=Z,153nm,0.9s,mb6.0						
SLM	Saint Louis	59.25	342	eP	P	12 16 05.2	-2.1
	comp=Z,153nm,0.9s,mb6.0						
SLM				epP	pP	12 16 26.1	-1.5
CLNB	Carlsbad	59.36	327	eP	P	12 16 07.4	-0.7
CLNB				epP	pP	12 16 27.8	-0.6
BRYW	Bryant College	59.48	359	eP	P	12 16 07.2	-1.7
	comp=Z,1μm,0.8s						
GDL2	Guadalupe Moun	59.56	326	eP	P	12 16 08.6	-1.0
GDL2				epP	pP	12 16 29.9	0.0
MNTX	Cornudas Mount	59.72	325	eP	P	12 16 08.7	-1.9
	comp=Z,81nm,1.0s,mb5.7						
MNTX				epP	pP	12 16 29.6	-1.3
QUA2	Belchertown	59.86	358	eP	P	12 16 09.1	-2.4
	comp=Z,88nm,1.1s,mb5.7						
ALLY	Alegheny Colle	59.91	351	eP	P	12 16 10.5	-1.3
WES	Weston	59.95	359	eP	P	12 16 10.6	-1.4
WES				pmax	pmax		
	comp=Z,124nm,1.0s,mb5.9						
WES	Weston	59.95	359	eP	P	12 16 10.6	-1.4
	comp=Z,124nm,1.0s,mb5.9						
CPRX	Cap Rock	59.96	327	eP	P	12 16 11.4	-0.9
BINY	Binghamton	59.99	355	eP	P	12 16 11.0	-1.3
	comp=Z,184nm,0.9s,mb6.1						
HRV	Harvard--Oak R	60.07	359	eP	P	12 16 11.3	-1.6
HRV				pmax	pmax		
	comp=Z,132nm,0.8s,mb6.0						
HRV	Harvard--Oak R	60.07	359	eP	P	12 16 11.3	-1.6
	comp=Z,132nm,0.8s,mb6.0						
RKT	Rikitea	60.47	253	eP	P	12 15 55.6	-20
RKT				ePP	PP	12 18 53.0	+21
	comp=Z,239nm,32.8s						
RKT				eS	S	12 24 10.0	-13
	comp=Z,3μm,37.2s						
RKT				eSS	SS	12 27 48.5	-35
	comp=Z,2μm,33.8s						
RKT				eLQ		12 31 11.6	
	comp=Z,474nm,40.0s						
RKT				eLR	LR	12 34 06.9	
	comp=Z,3μm,32.0s						
GENY	Geneseo	60.72	354	eP	P	12 16 16.1	-1.2
ACCN	Adirondack Com	61.02	357	eP	P	12 16 18.4	-0.9
MDV	Middlebury	61.61	358	eP	P	12 16 22.4	-0.9
NCB	Newcomb	61.63	357	eP	P	12 16 22.1	-1.4
	comp=Z,38nm,0.7s,mb5.5						
MIV	Mineville/With	61.70	357	eP	P	12 16 22.8	-1.1
KSU1	Kansas State U	61.81	337	eP	P	12 16 23.2	-1.5
WVL	Waterville	62.12	0	eP	P	12 16 25.5	-1.2
	comp=Z,317nm,1.0s,mb6.3						
BNM	Barren Site	62.27	326	eP	P	12 16 27.7	-0.1
LPM	Los Pinos Moun	62.39	326	eP	P	12 16 29.0	+0.3
LAZ	Ladron	62.73	326	eP	P	12 16 31.0	0.0
LAZ				epP	pP	12 16 50.5	-0.9
ANMO	Albuquerque	62.80	327	eP	P	12 16 30.9	-0.5
ANMO				e*PP	pP	12 16 51.9	0.0
ANMO				pmax	pmax		
	comp=Z,40nm,1.0s						
ANMO	Albuquerque	62.80	327	P	P	12 16 31.0	-0.4
	comp=Z,19nm,0.8s,mb5.1,baz=138,slow=7.4,SNR=44						
ANMO				pP	pP	12 16 52.3	+0.4
	comp=Z,27nm,0.8s,baz=153,slow=7.9,SNR=10.0						
ANMO	Albuquerque	62.80	327	eP	P	12 16 30.9	-0.5
	comp=Z,40nm,1.0s,mb5.3						
ANMO				epP	pP	12 16 51.9	0.0
SADO	Sadowa	62.85	353	P	P	12 16 29.4	-2.1
	comp=Z,101nm,0.7s,mb5.8,baz=191,slow=7.2,SNR=10						
TUC	Tucson	63.22	322	P	P	12 16 33.9	-0.4
TUC				pP	pP	12 16 54.3	-0.5
TUC				S	S	12 24 59.5	+1.6
TUC	Tucson	63.22	322	eP	P	12 16 33.8	-0.4
TUC				e*PP	pP	12 16 54.9	+0.1
TUC				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1						
TUC	Tucson	63.22	322	eP	P	12 16 33.8	-0.5
	comp=Z,22nm,0.8s,mb5.1						
TUC				epP	pP	12 16 54.9	+0.1
VNA3	Neumayer Olymp	63.90	162⇓	iP	P	12 16 37.8	-0.3
VNA3	Neumayer Olymp	63.90	162		pP	12 16 58.4	-0.2
VNA1	Neumayer--Stat	64.11	161⇓	iP	P	12 16 39.6	+0.2
VNA1	Neumayer--Stat	64.11	161		pP	12 17 00.8	+0.8
VNA1	Neumayer--Stat	64.11	161		PcP	12 17 11.4	-2.3
PQI	Presque Isle	64.25	2	eP	P	12 16 39.6	-1.2
	comp=Z,645nm,1.1s,mb6.4						
VNA2	Neumayer--Watz	64.48	161⇓	iP	P	12 16 41.6	-0.2
VNA2	Neumayer--Watz	64.48	161⇑	i	pP	12 17 01.8	-0.6
VNA2	Neumayer--Watz	64.48	161		PcP	12 17 15.5	+0.3
SDCO	Great Sand Dun	64.50	330	eP	P	12 16 42.6	+0.1
	comp=Z,215nm,1.2s,mb5.8						
SNAA	Sanae	66.11	161⇓	iP	P	12 16 51.5	-0.8
SNAA	Sanae	66.11	161		pP	12 17 12.4	-0.6
SNAA	Sanae	66.11	161		PcP	12 17 20.4	-1.5
SNAA	Sanae	66.11	161	LR	LR	12 45 51.8	
	comp=Z,236nm,19.6s,baz=120,slow=36						
ISCO	Idaho Springs	66.19	331	eP	P	12 16 53.2	-0.1
ISCO				e*PP	pP	12 17 14.6	+0.6
ISCO				pmax	pmax		
	comp=Z,107nm,1.2s,mb5.5						
ISCO	Idaho Springs	66.19	331	eP	P	12 16 53.2	0.0
	comp=Z,107nm,1.2s,mb5.5						
ISCO				epP	pP	12 17 14.6	+0.6
SMCO	Snowmass	66.34	329	eP	P	12 16 54.6	+0.3
SMCO				epP	pP	12 17 15.8	+0.8
PV10	Paradox Valley	66.75	328	eP	P	12 16 56.3	-0.6
BAR	Barrett	67.07	318	eP	P	12 16 59.2	+0.2
BAR				epP	pP	12 17 20.1	+0.3
PHWY	Pilot Hill	67.31	332	eP	P	12 17 00.3	-0.1
PHWY				epP	pP	12 17 21.3	+0.2
PFO	Pinyon Flat Ob	67.55	319	eP	P	12 17 02.4	+0.4
PFO				e*PP	pP	12 17 22.5	-0.3
PFO				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.2						
PFO	Pinyon Flat Ob	67.55	319	eP	P	12 17 02.4	+0.4
	comp=Z,35nm,0.9s,mb5.2						
PFO				epP	pP	12 17 22.5	-0.3
LDFC	Landfair	67.73	321	eP	P	12 17 04.0	+1.0
LDFC				epP	pP	12 17 25.1	+1.3
CHIE	El Hierro	67.92	49	P	P	12 17 03.2	-1.1
	comp=Z,16nm,0.5s,mb5.1						
SRU	San Rafael	68.06	327	eP	P	12 17 05.2	+0.2
SRU				e*PP	pP	12 17 25.8	-0.1
TAOE	Nuku Hiva Isla	68.31	267	eP	P	12 16 54.8	-12
	comp=Z,763nm,22.1s						
TAOE				ePP	PP	12 19 16.8	-24
	comp=Z,566nm,28.6s						
TAOE				eS	S	12 26 04.4	+4.1
	comp=Z,9μm,34.7s						
TAOE				eSS	SS	12 29 49.8	-37
	comp=Z,3μm,39.9s						
TAOE				eLQ		12 34 59.9	
	comp=Z,3μm,31.8s						
TAOE				eLR	LR	12 37 19.3	
	comp=Z,8μm,32.2s						
RWWY	Rawlins	68.42	331	eP	P	12 17 07.2	0.0
	comp=Z,295nm,1.6s,mb5.9						
MSU	Marysvale	68.49	326	eP	P	12 17 08.3	+0.6
MSU				e*PP	pP	12 17 28.1	-0.5
MVU	Marysvale	68.51	326	eP	P	12 17 08.7	+0.9
	comp=Z,148nm,1.2s,mb5.7						
MVU				epP	pP	12 17 30.0	+1.3
TMUT	Trail Mountain	68.56	327	eP	P	12 17 08.4	+0.3
ARUT	Antelope Range	68.66	324	eP	P	12 17 09.9	+1.1
ARUT				e*PP	pP	12 17 31.0	+1.4
EGOM	La Gomera	68.72	49	P	P	12 17 09.3	0.0
	comp=Z,97nm,0.7s,mb5.7						
DBIC	Dimbokro	68.94	75	P	P	12 17 09.4	-1.5
DBIC				*PP	pP	12 17 29.3	-2.5
DBIC				pmax	pmax		
	comp=Z,45nm,0.5s						
DBIC				pmax	pmax		
	comp=Z,126nm,0.9s						
DBIC	Dimbokro	68.94	75	P	P	12 17 09.4	-1.5
	comp=Z,45nm,0.5s,mb5.6,baz=219,slow=6.1,SNR=49						
DBIC				pP	pP	12 17 29.3	-2.5
	comp=Z,126nm,0.9s,baz=219,slow=5.9,SNR=9.2						
DBIC				LR	LR	12 47 00.9	
	comp=Z,847nm,19.0s,baz=225,slow=36						
DBIC	Dimbokro	68.94	75	eP	P	12 17 09.1	-1.8
	comp=Z,141nm,0.9s,mb5.8						
MWC	Mount Wilson	68.96	319	eP	P	12 17 11.3	+0.6
MWC				e*PP	pP	12 17 32.3	+0.7
CCAN	Las Canadas	69.19	49	P	P	12 17 12.8	+0.6
	comp=Z,41nm,0.8s,mb5.3						
MPU	Maple Canyon	69.31	327	eP	P	12 17 13.1	+0.3
MPU				epP	pP	12 17 34.5	+0.8
DAU	Daniels Canyon	69.41	328	eP	P	12 17 13.7	+0.4
DAU				e*PP	pP	12 17 35.2	+0.9
LFA	Lagoa do Fogo	69.49	37	eP	P	12 17 15.6	+1.7
NLU	North Lily Min	69.49	327	eP	P	12 17 14.1	+0.2
NLU				epP	pP	12 17 35.6	+0.8
VIF	Vila Franca	69.50	37	eP	P	12 17 16.0	+2.1
MESC	Monte Escuro	69.53	37	eP	P	12 17 15.8	+1.7
PCNG	Congro	69.54	37	eP	P	12 17 15.4	+1.2
FRA1	Furnas	69.55	37	eP	P	12 17 16.1	+1.9
PFAD	Fenais da Ajud	69.63	37	eP	P	12 17 14.6	-0.1
JLU	Jordanelle	69.65	328	eP	P	12 17 15.5	+0.7
JLU				epP	pP	12 17 36.6	+0.8
CTU	Camp Tracy	69.87	328	eP	P	12 17 16.3	+0.2
CTU				epP	pP	12 17 37.4	+0.3
TCUT	Toone Canyon	70.01	328	eP	P	12 17 17.5	+0.5
DAC	Darwin (Calif)	70.03	321	eP	P	12 17 17.8	+0.6
DAC				e*PP	pP	12 17 39.2	+1.1
DAC				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.4						
DAC	Darwin (Calif)	70.03	321	eP	P	12 17 17.8	+0.7
	comp=Z,58nm,0.9s,mb5.4						
DAC				epP	pP	12 17 39.2	+1.1
NOQ	North Oquirrh	70.03	327	eP	P	12 17 17.2	+0.1
TRCR	Troy Canyon	70.26	324	eP	P	12 17 19.8	+1.2
TRCR				epP	pP	12 17 41.0	+1.5
PDAR	Pinedale Array	70.35	330	P	P	12 17 18.6	-0.4
	comp=Z,22nm,0.9s,mb5.0,baz=143,slow=7.4,SNR=89						
PDAR				pP	pP	12 17 37.9	-2.1
	comp=Z,26nm,1.1s,baz=124,slow=9.8,SNR=5.1						
PDAR				LR	LR	12 51 37.4	
	comp=Z,377nm,20.2s,baz=122,slow=39						
MAIT	Maitri	70.62	160⇓	iP	P	12 17 20.2	0.0
NVL	N'lazarevskaya	70.66	160⇓	iP	P	12 17 19.3	-1.1
NVL				i	pP	12 17 40.4	-1.0
NVL				i S		12 26 59.6	
NVL				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
SPUT	South Promonto	70.68	328	eP	P	12 17 21.1	+0.1
SPUT				epP	pP	12 17 42.8	+0.8
BGU	Big Grassy Mou	70.70	327	eP	P	12 17 21.2	0.0
TPH	Tonopah	71.01	322	eP	P	12 17 23.8	+0.8
TPH				e*PP	pP	12 17 43.2	-0.9
TPH				pmax	pmax		
	comp=Z,53nm,0.9s,mb5.4						
TPH	Tonopah	71.01	322	eP	P	12 17 23.8	+0.7
	comp=Z,53nm,0.9s,mb5.4						
TPH				epP	pP	12 17 43.1	-0.9
AHID	Auburn Hatcher	71.09	329	eP	P	12 17 23.4	-0.1
	comp=Z,157nm,1.5s,mb5.6						
HVU	Hansel Valley	71.19	328	eP	P	12 17 24.0	-0.1
MTUM	Tungsten Hills	71.32	321	eP	P	12 17 25.9	+1.0
MTUM				ePcP	PcP	12 17 43.4	-1.1
MTUM				epP	pP	12 17 46.7	+0.8
REDW	Red Top Meadow	71.42	330	eP	P	12 17 25.6	+0.2
	comp=Z,140nm,1.3s,mb5.6						
SNOW	Snow King Moun	71.45	330	eP	P	12 17 26.1	+0.5
	comp=Z,86nm,1.2s,mb5.5						
ULM	Lac du Bonnet	71.49	343	P	P	12 17 24.4	-1.3
	comp=Z,46nm,0.5s,mb5.6,baz=154,slow=6.0,SNR=72						
ULM				pP	pP	12 17 44.4	-2.3
	comp=Z,59nm,0.7s,baz=157,slow=5.7,SNR=7.6						
ULM				LR	LR	12 50 21.2	
	comp=Z,764nm,21.5s,baz=150,slow=37						
ULM	Lac du Bonnet	71.49	343	eP	P	12 17 24.1	-1.6
	comp=Z,71nm,0.6s,mb5.7						
ULM				e	pP	12 17 44.1	-2.6
LOHW	Long Hollow	71.49	330	eP	P	12 17 26.1	+0.3
	comp=Z,104nm,1.3s,mb5.5						
TPAW	Teton Pass	71.57	330	eP	P	12 17 26.7	+0.4
	comp=Z,112nm,1.3s,mb5.5						
RRI2	Red Ridge	71.64	330	eP	P	12 17 26.9	+0.2
	comp=Z,241nm,1.2s,mb5.9						
RRI2				epP	pP	12 17 48.9	+1.1
MOOW	Moose Ponds	71.66	330	eP	P	12 17 27.0	+0.1
	comp=Z,70nm,1.3s,mb5.3						
MOOW				epP	pP	12 17 48.0	+0.1
ELK	Elko	71.74	326	P	P	12 17 27.5	+0.1
ELK				*PP	pP	12 17 46.8	-1.6
ELK				pmax	pmax		
	comp=Z,19nm,0.8s						
ELK				pmax	pmax		
	comp=Z,21nm,0.9s						
ELK	Elko	71.74	326	P	P	12 17 27.4	+0.1
	comp=Z,19nm,0.8s,mb5.0,baz=127,slow=4.6,SNR=66						
ELK				pP	pP	12 17 46.8	-1.6
	comp=Z,21nm,0.9s,baz=148,slow=2.8,SNR=8.6						
ELK	Elko	71.74	326	eP	P	12 17 27.8	+0.5
	comp=Z,95nm,1.4s,mb5.4						
IMW	Indian Meadow	71.87	330	eP	P	12 17 28.4	+0.3
	comp=Z,133nm,1.1s,mb5.7						
LAO	LASA Array	71.98	335	eP	P	12 17 28.6	-0.1
	comp=Z,161nm,1.3s,mb5.7						
LAO				epP	pP	12 17 50.2	+0.4
LKWY	Lake	72.12	331	eP	P	12 17 31.1	+1.5
LKWY				e*PP	pP	12 17 51.8	+1.2
LKWY				pmax	pmax		
	comp=Z,155nm,1.3s,mb5.7						
LKWY	Lake	72.12	331	eP	P	12 17 31.1	+1.6
	comp=Z,155nm,1.3s,mb5.7						
LKWY				epP	pP	12 17 51.8	+1.2
LRV	Little Rabbit	72.22	319	eP	P	12 17 32.2	+1.9
LRV				epP	pP	12 17 52.9	+1.5
YFT	Old Faithful	72.24	331	eP	P	12 17 32.1	+1.8
YFT				epP	pP	12 17 54.3	+3.0
QSPA	South Pole Qui	72.31	180	eP	P	12 17 30.5	+0.3
	comp=Z,48nm,0.6s,mb5.5						
YNR	Norris Junctio	72.37	331	eP	P	12 17 32.4	+1.4
SCHQ	Schefferville	72.45	2	P	P	12 17 30.4	-0.9
	comp=Z,124nm,1.1s,mb5.7,baz=170,slow=5.0,SNR=63						
SCHQ				pP	pP	12 17 50.4	-2.0
	comp=Z,24nm,0.8s,baz=196,slow=10,SNR=3.2						
SCHQ				LR	LR	12 48 54.0	
	comp=Z,718nm,21.3s,baz=193,slow=35						
SCHQ	Schefferville	72.45	2	eP	P	12 17 30.1	-1.2
	comp=Z,152nm,1.0s,mb5.8						
YMR	Madison River	72.46	331	eP	P	12 17 32.7	+1.1
BMN	Battle Mountai	72.61	324	eP	P	12 17 32.6	+0.1
BMN				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.0						
BMN	Battle Mountai	72.61	324	eP	P	12 17 32.6	0.0

comp=Z,29nm,1.2s,mb5.0
DGMT Dagmar 72.66 337 *e*P **P** **12 17 32.7 0.0**
comp=Z,162nm,1.1s,mb5.8
SAO San Andreas Ge 72.71 319 *e*P **P** **12 17 34.1 +0.9**
SAO pmax pmax
comp=Z,27nm,1.0s,mb5.0
SAO San Andreas Ge 72.71 319 *e*P **P** **12 17 34.1 +1.0**
comp=Z,27nm,1.0s,mb5.0
GCMT Greycliff 72.73 332 *e*P **P** **12 17 33.3 +0.2**
QLMT Earthquake Lak 72.80 331 *e*P **P** **12 17 35.0 +1.4**
CMB Columbia Colle 72.86 321 *e*P **P** **12 17 34.4 +0.4**
CMB pmax pmax
comp=Z,86nm,1.6s,mb5.3
CMB Columbia Colle 72.86 321 *e*P **P** **12 17 34.4 +0.4**
comp=Z,86nm,1.6s,mb5.3
WCN Washoe City 73.31 322 *e*P **P** **12 17 37.7 +1.1**
WCN *e*PP pP 12 17 58.4 +0.7
WCN pmax pmax
comp=Z,60nm,1.2s,mb5.3
WCN Washoe City 73.31 322 *e*P **P** **12 17 37.7 +1.1**
comp=Z,60nm,1.2s,mb5.3
WCN *ep*P pP 12 17 58.4 +0.7
HLID Hailey 73.32 328 *e*P **P** **12 17 37.5 +0.9**
comp=Z,116nm,1.3s,mb5.5
PAHR Pah Rah Range 73.36 322 *e*P **P** **12 17 38.2 +1.3**
comp=Z,151nm,1.5s,mb5.6
PAHR *ep*P pP 12 17 59.4 +1.4
MCMT McKenzie Canyo 73.47 330 *e*P **P** **12 17 38.6 +1.1**
MCMT *ep*P pP 12 17 59.3 +0.8
BOZ Bozeman (W) 73.51 331 *e*P **P** **12 17 37.6 -0.1**
BOZ pmax pmax
comp=Z,88nm,1.3s,mb5.3
BOZ Bozeman (W) 73.51 331 *e*P **P** **12 17 37.6 0.0**
comp=Z,88nm,1.3s,mb5.3
TBI Tubuai 73.54 250 *e*P **P** **12 17 28.9 -9.4**
TBI *e*PP PP 12 20 04.0 -21
comp=Z,308nm,34.0s
TBI *e*S S 12 27 00.2 -0.2
comp=Z,2µm,25.0s
TBI *e*SS SS 12 31 26.8 -20
comp=Z,354nm,38.0s
TBI *e*LQ 12 37 10.0
comp=Z,518nm,41.2s
TBI *e*LR LR 12 40 13.5
comp=Z,5µm,31.0s,baz=101
TBI Tubuai 73.54 250 *e*LR LR 12 17 29.0
comp=Z,448nm,42.5s,baz=276
BEKR Beckwourth 74.03 322 *e*P **P** **12 17 41.7 +0.8**
comp=Z,125nm,1.5s,mb5.4
BEKR *ep*P pP 12 18 02.9 +0.9
HRY Holter Researc 74.41 332 *e*P **P** **12 17 43.3 +0.4**
NSHM Saint Helena R 74.52 320 *e*P **P** **12 17 44.5 +0.8**
WVOR Wild Horse Val 74.75 325 *e*P **P** **12 17 45.1 +0.2**
WVOR *e*PP pP 12 18 06.6 +0.5
WVOR pmax pmax
comp=Z,96nm,1.7s,mb5.2
WVOR Wild Horse Val 74.75 325 *e*P **P** **12 17 45.1 +0.2**
comp=Z,96nm,1.7s,mb5.2
WVOR *ep*P pP 12 18 06.6 +0.5
PPT Papeete 74.98 256 *e*LR LR 12 17 23.2
comp=Z,474nm,26.2s,baz=280
PPT Papeete 74.98 256 LR LR 12 43 32.2
comp=Z,446nm,18.3s,baz=99,slow=30
CHMT Chamberlain Mo 75.21 331 *e*P **P** **12 17 48.1 +0.7**
CHMT *ep*P pP 12 18 09.3 +0.7
MOD Modoc 75.32 324 *e*P **P** **12 17 48.9 +0.7**
comp=Z,51nm,0.8s,mb5.3
MSO Missoula 75.46 331 *e*P **P** **12 17 49.5 +0.6**
comp=Z,90nm,1.5s,mb5.3
MSO *ep*P pP 12 18 11.2 +1.1
BMO Blue Mountains 75.70 327 *e*P **P** **12 17 50.5 +0.2**
BMO pmax pmax
comp=Z,44nm,0.8s,mb5.2
BMO Blue Mountains 75.70 327 *e*P **P** **12 17 50.5 +0.2**
comp=Z,44nm,0.8s,mb5.2
WDC Whiskeytown Da 75.77 322 *e*P **P** **12 17 49.7 -1.1**
WDC pmax pmax
comp=Z,24nm,0.6s,mb5.1
WDC Whiskeytown Da 75.77 322 *e*P **P** **12 17 49.7 -1.1**
comp=Z,24nm,0.6s,mb5.1
YBH Yreka Blue Hor 76.59 322 P **P** **12 17 54.5 -0.9**
YBH *PP pP 12 18 16.1 -0.6
YBH pmax pmax
comp=Z,15nm,0.6s
YBH pmax pmax
comp=Z,26nm,1.1s
YBH Yreka Blue Hor 76.59 322 P **P** **12 17 54.5 -0.9**
comp=Z,15nm,0.6s,mb4.9,baz=91,slow=3.5,SNR=28
YBH pP pP 12 18 16.1 -0.6
comp=Z,26nm,1.1s,baz=185,slow=2.1,SNR=5.7
YBH Yreka Blue Hor 76.59 322 *e*P **P** **12 17 55.1 -0.3**
comp=Z,45nm,1.2s,mb5.1
KHMM Horse Mountain 76.66 321 *e*P **P** **12 17 57.3 +1.5**
WALA Waterton Lakes 77.09 332 *e*P **P** **12 17 58.3 +0.2**
comp=Z,94nm,1.3s,mb5.4
WALA *ep*P pP 12 18 19.7 +0.4
HUMO Hull Mountain 77.28 323 *e*P **P** **12 17 59.0 -0.3**
comp=Z,7.2nm,0.6s,mb4.6
NEW Newport 77.99 330 P **P** **12 18 02.7 -0.3**
NEW *PP pP 12 18 24.1 -0.2
NEW pmax pmax
comp=Z,6.0nm,0.7s
NEW pmax pmax
comp=Z,8.0nm,1.0s
NEW Newport 77.99 330 P **P** **12 18 02.6 -0.4**
comp=Z,6.0nm,0.7s,mb4.4,baz=132,slow=6.3,SNR=25
NEW pP pP 12 18 24.1 -0.2
comp=Z,7.8nm,1.0s,baz=157,slow=16,SNR=2.3
NEW Newport 77.99 330 *e*P **P** **12 18 02.9 -0.2**
comp=Z,21nm,1.1s,mb4.8
NEW *ep*P pP 12 18 25.6 +1.3
COR Corvallis 78.72 324 *e*P **P** **12 18 08.6 +1.5**
COR pmax pmax
comp=Z,1µm,2.2s,mb6.3
COR Corvallis 78.72 324 *e*P **P** **12 18 08.6 +1.4**
comp=Z,1µm,2.2s,mb6.3
SBA Scott Base 79.17 190 *e*P **P** **12 18 10.0 +1.0**
SBA pmax pmax
comp=Z,265nm,2.2s,mb5.7
SBA Scott Base 79.17 190 *e*P **P** **12 18 10.0 +1.0**
comp=Z,265nm,2.2s,mb5.7
PTEO Sao Teotonio 79.84 45 *e*P **P** **12 18 14.6 +1.3**
comp=Z,213nm,1.6s,mb5.7
PTEO *ep*P pP 12 18 36.0 +1.3
EDM Edmonton 79.96 335⇓ *e*P **P** **12 18 12.5 -1.1**
EDM *e*PP pP 12 18 34.5 -0.5
VNDA Vanda 80.21 190 P **P** **12 18 15.2 +0.6**
VNDA *PP pP 12 18 36.3 +0.4
VNDA pmax pmax
comp=Z,13nm,0.8s
VNDA pmax pmax
comp=Z,6.0nm,0.8s
VNDA Vanda 80.21 190 P **P** **12 18 15.2 +0.6**
comp=Z,13nm,0.8s,mb4.8,baz=137,slow=4.4,SNR=94
VNDA pP pP 12 18 36.3 +0.4
comp=Z,5.9nm,0.8s,baz=64,slow=7.3,SNR=3.9
VNDA Vanda 80.21 190 *e*P **P** **12 18 15.4 +0.8**
comp=Z,14nm,0.8s,mb4.8
PLOU Loures 80.26 44 *e*P **P** **12 18 16.7 +1.1**
comp=Z,57nm,1.0s,mb5.4
PLOU *ep*P pP 12 18 37.8 +0.9
SYO Syowa Base 80.33 160⇓ P **P** **12 18 13.8 -1.5**
SYO Syowa Base 80.33 160⇓ PcP PcP 12 18 17.4 -5.1
SYO Syowa Base 80.33 160⇓ pP pP 12 18 33.9 -2.8
PBEJ Beja 80.67 45 *e*P **P** **12 18 18.4 +0.7**
comp=Z,61nm,1.2s,mb5.3
PBEJ *ep*P pP 12 18 40.0 +0.9
EGRO El Granado 80.67 46 P **P** **12 18 18.6 +0.8**
comp=Z,32nm,0.9s,mb5.2
EVO Evora 80.83 45⇓ *i*P **P** **12 18 18.5 -0.1**
comp=Z,112nm,1.0s,mb5.4
EVO *ep*P pP 12 18 40.1 +0.1
PTOM Tomar 81.14 44 *e*P **P** **12 18 20.6 +0.4**
comp=Z,125nm,1.0s,mb5.7
PTOM *ep*P pP 12 18 42.2 +0.6
OCWA Octopus Mounta 81.19 326 *e*P **P** **12 18 21.8 +1.5**
comp=Z,44nm,0.9s,mb5.3
OCWA *ep*P pP 12 18 43.2 +1.6
EMIN Mina Concepcio 81.35 46 P **P** **12 18 21.9 +0.6**
comp=Z,44nm,0.8s,mb5.3
PGC Sidney 81.38 327 *e*P **P** **12 18 22.0 +0.8**
comp=Z,574nm,1.3s,mb6.2
PGC *ep*P pP 12 18 43.2 +0.6
ESPR Espera 81.46 47 P **P** **12 18 23.3 +1.4**
comp=Z,46nm,1.0s,mb5.3
EBAD Badajoz 81.62 45 P **P** **12 18 23.3 +0.6**
comp=Z,36nm,0.8s,mb5.2
PCBR Castelo Branco 81.87 44 *e*P **P** **12 18 24.1 +0.1**
comp=Z,34nm,1.2s,mb5.0
PCBR *ep*P pP 12 18 45.5 +0.1
PVIS Viseu 82.05 43 *e*P **P** **12 18 25.1 +0.2**
comp=Z,47nm,1.6s,mb5.1
PVIS *ep*P pP 12 18 47.0 +0.7
EMIJ Mijas 82.07 48 P **P** **12 18 25.3 +0.2**
comp=Z,29nm,0.8s,mb5.2
MTE Manteigas 82.11 43 *e*P **P** **12 18 25.7 +0.4**
comp=Z,124nm,0.9s,mb5.7
MTE *ep*P pP 12 18 47.4 +0.7
MTE Manteigas 82.11 43 *e*P **P** **12 18 25.6 +0.4**
comp=Z,59nm,1.1s,mb5.3
MTE *ep*P pP 12 18 47.0 +0.3
MTE *e*S S 12 28 35.0 +3.1
MTE Manteigas 82.11 43 *e*LR LR 12 44 14.6
TSUM Tsumeb 82.28 108 LR LR 12 53 22.7
comp=Z,1µm,18.4s,baz=323,slow=34
TSUM Tsumeb 82.28 108 *e*P **P** **12 18 26.7 +0.2**
comp=Z,26nm,0.8s,mb5.1
TSUM *ep*P pP 12 18 48.9 +1.0
EZAM Zamans 82.30 41 P **P** **12 18 27.4 +1.3**
EZAM pmax pmax
comp=Z,12nm,0.5s,mb5.0
EZAM Zamans 82.30 41 P **P** **12 18 27.4 +1.2**
comp=Z,12nm,0.5s,mb5.0
ECAB El Cabril 82.36 46 P **P** **12 18 26.8 +0.3**
comp=Z,8.3nm,0.7s,mb4.7
PVRL Vila Real 82.46 42 *e*P **P** **12 18 27.3 +0.3**
PVRL *ep*P pP 12 18 48.9 +0.5
EMAZ Mazaricos 82.55 40 P **P** **12 18 29.1 +1.7**
comp=Z,13nm,0.6s,mb4.9
STS Santiago 82.78 41 P **P** **12 18 29.1 +0.5**
STS pmax pmax
comp=Z,19nm,0.8s,mb5.0
STS Santiago 82.78 41 P **P** **12 18 29.1 +0.5**
comp=Z,19nm,0.8s,mb5.0
ELOJ Sierra Loja 82.79 47 P **P** **12 18 29.9 +1.2**
ELOJ pmax pmax
comp=Z,198nm,1.3s,mb5.8
ELOJ Sierra Loja 82.79 47 P **P** **12 18 29.9 +1.2**
comp=Z,198nm,1.3s,mb5.8
ELUQ Luque 82.91 47 P **P** **12 18 30.5 +1.2**
ELUQ pmax pmax
comp=Z,27nm,0.8s,mb5.1
ELUQ Luque 82.91 47 P **P** **12 18 30.5 +1.2**
comp=Z,27nm,0.8s,mb5.1
ERON Agron 82.97 48 P **P** **12 18 30.6 +0.9**
comp=Z,13nm,0.6s,mb4.9
EADA Adamuz 82.98 46 P **P** **12 18 30.1 +0.4**
comp=Z,13nm,0.7s,mb4.9
EALB Alboran 83.01 49 P **P** **12 18 28.9 -1.0**
comp=Z,34nm,0.8s,mb5.2
EGUA Guajares 83.05 48 P **P** **12 18 31.2 +1.1**
EGUA pmax pmax
comp=Z,23nm,2.0s,mb4.7
EGUA Guajares 83.05 48 P **P** **12 18 31.2 +1.1**
comp=Z,23nm,2.0s,mb4.7
PBRG Braganca 83.36 42 *e*P **P** **12 18 32.1 +0.6**
comp=Z,138nm,1.4s,mb5.6
PBRG *ep*P pP 12 18 53.6 +0.6
ERUA La Rua 83.41 42 P **P** **12 18 32.9 +1.2**
ERUA pmax pmax
comp=Z,60nm,0.8s,mb5.5
ERUA La Rua 83.41 42 P **P** **12 18 32.9 +1.2**
comp=Z,60nm,0.8s,mb5.5
ECAL Calabor 83.43 42 P **P** **12 18 33.0 +1.1**
comp=Z,66nm,0.9s,mb5.5
EBAN Banos Encina 83.53 47 P **P** **12 18 33.7 +1.2**
EBAN pmax pmax
comp=Z,25nm,0.8s,mb5.1
EBAN Banos Encina 83.53 47 P **P** **12 18 33.7 +1.2**
comp=Z,25nm,0.8s,mb5.1
EBER Berja 83.56 48 P **P** **12 18 33.6 +0.9**
comp=Z,58nm,0.9s,mb5.4
EQES Quesada 83.86 47 P **P** **12 18 34.2 +0.1**
comp=Z,111nm,1.1s,mb5.6
OLHC Oulhaca 83.86 50 P **P** **12 18 35.0 +0.8**
EPON Pontenova 83.89 41 P **P** **12 18 34.6 +0.4**
comp=Z,81nm,1.1s,mb5.5
ODZI Dzioula 84.02 50 P **P** **12 18 36.0 +1.0**
ENIJ Nijar 84.08 48 P **P** **12 18 35.3 0.0**
ENIJ pmax pmax
comp=Z,42nm,0.7s,mb5.4
ENIJ Nijar 84.08 48 P **P** **12 18 35.3 0.0**
comp=Z,42nm,0.7s,mb5.4
ESDC Sonseca Array 84.13 45 P **P** **12 18 36.2 +0.8**
comp=Z,68nm,1.0s,mb5.5,baz=247,slow=5.3,SNR=158
ESDC pP pP 12 18 56.6 -0.4
comp=Z,80nm,1.0s,baz=251,slow=5.2,SNR=12
ESLA Sonseca Array 84.13 45 *e*P **P** **12 18 36.2 +0.8**
comp=Z,45nm,1.2s,mb5.2
ESLA *ep*P pP 12 18 57.5 +0.5
EHUE Huescar 84.19 47 P **P** **12 18 35.7 -0.1**
EHUE pmax pmax
comp=Z,16nm,0.5s,mb5.1
EHUE Huescar 84.19 47 P **P** **12 18 35.7 -0.2**
comp=Z,16nm,0.5s,mb5.1
OTSS Djebel Tessala 84.34 50 P **P** **12 18 37.0 +0.4**
EVIA Vianos 84.64 47 P **P** **12 18 39.1 +1.1**
EVIA pmax pmax
comp=Z,136nm,1.1s,mb5.8
EVIA Vianos 84.64 47 P **P** **12 18 39.1 +1.1**
comp=Z,136nm,1.1s,mb5.8
USTO Oran 84.71 50 P **P** **12 18 42.0 +3.5**
EARI Arriondas 85.09 42 P **P** **12 18 40.6 +0.4**
comp=Z,40nm,1.2s,mb5.2
EMUR La Murta 85.16 48 P **P** **12 18 40.5 -0.2**
comp=Z,17nm,0.9s,mb5.0
OJBR Djebel Berber 85.30 50 P **P** **12 18 43.0 +1.6**
ETOB Tobarra 85.31 47 P **P** **12 18 42.2 +0.9**
comp=Z,115nm,1.2s,mb5.7
OJGS Djebel Guires 85.57 51 P **P** **12 18 45.0 +2.3**
OKGL Djebel Kef Gue 85.72 50 P **P** **12 18 44.0 +0.6**
SFJD Kangerlussuaq 85.85 8 *i*P **P** **12 18 43.3 0.0**
SFJD *i*S S 12 29 00.8 -7.5
SFJD MLR MLR
comp=Z,580nm,21.0s
SFJD Kangerlussuaq 85.85 8 *i*S S 12 29 00.8 -7.5
comp=Z,580nm,21.0s
BBB Bella Bella 85.90 328 P **P** **12 18 43.9 0.0**
comp=Z,33nm,0.8s,mb5.3,baz=138,slow=2.6,SNR=25
BBB pP pP 12 19 06.4 +0.8
comp=Z,33nm,0.9s,baz=150,slow=5.3,SNR=5.5
BBB Bella Bella 85.90 328 P **P** **12 18 43.9 0.0**
BBB pP pP 12 19 06.4 +0.8
ETRT Tiaret 85.92 51 P **P** **12 18 47.0 +2.5**
EANR 'Ain N'Sour 86.02 50 P **P** **12 18 46.7 +1.8**
ECHE Chera 86.14 46 P **P** **12 18 47.0 +1.6**
ECHE pmax pmax
comp=Z,16nm,0.6s,mb5.1
ECHE Chera 86.14 46 P **P** **12 18 47.0 +1.6**
comp=Z,16nm,0.6s,mb5.1
ELAN Lanestosa 86.19 42 P **P** **12 18 46.4 +0.9**
comp=Z,35nm,1.1s,mb5.2
BOSA Boshof 86.25 119 *e*P **P** **12 18 46.1 -0.1**
BOSA pmax pmax
comp=Z,30nm,1.2s,mb5.1
BOSA Boshof 86.25 119 P **P** **12 18 45.7 -0.5**
comp=Z,7.3nm,0.6s,mb4.8,baz=252,slow=3.6,SNR=25
BOSA pP pP 12 19 06.3 -1.5
comp=Z,21nm,1.0s,baz=228,slow=5.6,SNR=7.7
BOSA LR LR 12 54 29.3
comp=Z,1µm,20.0s,baz=258,slow=34
BOSA Boshof 86.25 119 *e*P **P** **12 18 46.1 -0.1**
comp=Z,30nm,1.2s,mb5.1
BOSA *ep*P pP 12 19 06.0 -1.8
EBEN Beniarda 86.26 47 P **P** **12 18 46.9 +0.9**
comp=Z,28nm,1.0s,mb5.2
ECHA Ech Chlef 86.30 50 P **P** **12 18 51.0 +4.8**
EBNR Beni Rached 86.47 50 P **P** **12 18 48.5 +1.4**
ECRI Cripan 86.49 43 P **P** **12 18 47.8 +0.8**
ECRI pmax pmax
comp=Z,18nm,0.5s,mb5.3
ECRI Cripan 86.49 43 P **P** **12 18 47.8 +0.8**
comp=Z,18nm,0.5s,mb5.2
VAL Valentia 86.80 32 *e*P **P** **12 18 46.9 -1.4**
VAL Valentia 86.80 32 *e*S S 12 29 09.2 -8.6
EMOS Mosqueruela 86.82 46 P **P** **12 18 50.6 +1.8**
comp=Z,10.0nm,0.5s,mb5.0
YKA Yellowknife Ar 87.36 341 P **P** **12 18 50.9 +0.1**
YKA pmax pmax
comp=Z,63nm,0.6s
YKA pmax pmax
comp=Z,25nm,0.6s
YKA MLR MLR
comp=Z,751nm,20.2s
YKA Yellowknife Ar 87.36 341 P **P** **12 18 50.9 +0.2**
comp=Z,63nm,0.6s,mb5.8,baz=134,slow=4.9,SNR=415
YKA pP pP 12 19 12.2 -0.2
comp=Z,25nm,0.6s,baz=134,slow=5.0,SNR=4.5
YKA LR LR 13 00 51.5
comp=Z,751nm,20.2s,baz=135,slow=38
YKA Yellowknife Ar 87.36 341 P **P** **12 18 50.9 +0.2**
YKA pP pP 12 19 12.2 -0.2
YKA LR LR 13 00 51.5
YKW3 Yellowknife Ar 87.41 341 *e*P **P** **12 18 51.0 -0.1**
YKW3 *ep*P pP 12 19 11.6 -1.2
EALK Alkurruntz 87.43 43 P **P** **12 18 52.3 +0.7**
comp=Z,12nm,0.7s,mb5.0
ESAC San Caprasio 87.43 45 P **P** **12 18 52.2 +0.5**
comp=Z,18nm,0.5s,mb5.3
EMHD Djebel Mahouad 87.48 51 P **P** **12 18 52.5 +0.5**
SJPF Ste Jean 87.56 43 *e*P **P** **12 18 52.7 +0.5**
comp=Z,153nm,1.1s,mb5.6
SJPF *ep*P pP 12 19 14.5 +0.5
SJPF Ste Jean 87.56 43 *e*P **P** **12 18 52.7 +0.5**
SJPF *e*PP pP 12 19 14.5 +0.5
SJPF pmax pmax
comp=Z,76nm,1.1s,mb5.6
OSSF Osses 87.60 43 *e*P **P** **12 18 52.2 -0.2**
LBTB Lobatse 87.67 115 *e*P **P** **12 18 53.0 -0.2**
LBTB pmax pmax
comp=Z,23nm,1.0s,mb5.2
LBTB Lobatse 87.67 115 *e*P **P** **12 18 53.0 -0.2**
comp=Z,23nm,1.0s,mb5.2
LBTB *ep*P pP 12 19 14.5 -0.4
LARF Larrau 87.68 43 *e*P **P** **12 18 53.6 +0.8**
EBR Ebro Roquetas 87.69 46 *e*P **P** **12 18 53.5 +0.6**
ORDF Ordiarp 87.80 43 *e*P **P** **12 18 53.2 -0.1**
ADJB Djebel Djouab 87.83 51 P **P** **12 18 54.6 +0.9**
ETSF Etsaut 87.90 44 *e*P **P** **12 18 54.3 +0.4**
comp=Z,47nm,0.7s,mb5.3
ETSF Etsaut 87.90 44 *e*P **P** **12 18 54.3 +0.4**
ETSF pmax pmax
comp=Z,24nm,0.7s,mb5.3
REYF Montagne du Re 88.09 43 *e*P **P** **12 18 55.3 +0.6**
AKET Djebel Ketaf 88.11 51 P **P** **12 18 56.4 +1.4**
MAW Mawson 88.16 164 *e*P **P** **12 18 54.8 +0.3**
MAW *e*PP pP 12 19 16.6 +0.4
MAW pmax pmax
comp=Z,20nm,0.6s
MAW Mawson 88.16 164 P **P** **12 18 55.2 +0.7**
comp=Z,30nm,0.7s,mb5.4,baz=232,slow=5.8,SNR=30
MAW pP pP 12 19 16.5 +0.3
comp=Z,38nm,1.0s,baz=252,slow=7.3,SNR=6.5
MAW LR LR 12 58 06.0
comp=Z,597nm,21.8s,baz=214,slow=35
MAW Mawson 88.16 164 *e*P **P** **12 18 54.8 +0.3**
comp=Z,20nm,0.6s,mb5.3
MAW *ep*P pP 12 19 16.6 +0.3
EGRA Graus 88.17 45 P **P** **12 18 55.9 +0.7**
comp=Z,21nm,0.8s,mb5.2
EBIE Bielsa 88.27 44 P **P** **12 18 56.3 +0.7**
comp=Z,34nm,0.7s,mb5.5
VIEF Viey 88.28 44 *e*P **P** **12 18 56.0 +0.4**
EPOB Poblet 88.31 46 P **P** **12 18 55.6 -0.3**
comp=Z,24nm,1.0s,mb5.2
ATAF Djebel Tarf 88.33 52 P **P** **12 18 57.0 +0.9**
RESF Ens 88.45 44 *e*P **P** **12 18 57.1 +0.6**
EPF Esparros 88.55 44 *e*P **P** **12 18 57.1 +0.2**
QUIF Quistinic 88.60 38 *e*P **P** **12 18 56.3 -0.8**
comp=Z,77nm,1.0s,mb5.4
QUIF *ep*P pP 12 19 18.2 -0.6
QUIF Quistinic 88.60 38 *e*P **P** **12 18 56.3 -0.8**
QUIF *e*PP pP 12 19 18.2 -0.6
QUIF pmax pmax
comp=Z,38nm,1.0s,mb5.4
ROSF Rostrenen 88.74 38 *e*P **P** **12 18 57.1 -0.6**
comp=Z,186nm,1.1s,mb5.7
ROSF *ep*P pP 12 19 18.9 -0.6
ROSF Rostrenen 88.74 38 *e*P **P** **12 18 57.1 -0.6**
ROSF *e*PP pP 12 19 18.9 -0.6
ROSF pmax pmax
comp=Z,93nm,1.1s,mb5.7
MELF Melles 88.76 44 *e*P **P** **12 18 58.7 +0.8**
ETOS Mallorca 88.85 48 P **P** **12 18 60.0 +1.6**
comp=Z,41nm,1.4s,mb5.3
EMIR Miracle 88.86 45 P **P** **12 18 58.4 0.0**
comp=Z,18nm,0.9s,mb5.1
SALF Salau 88.99 44 *e*P **P** **12 18 59.9 +0.9**
MLS Moulis 89.02 44 *e*P **P** **12 18 59.4 +0.3**
DCN Croghan 89.09 32 *e*P **P** **12 18 56.4 -2.8**
DCN Croghan 89.09 32 *e*P *e*P 12 19 18.8 -2.2
SGMF Saint Gilles 89.12 38 *e*P **P** **12 18 58.6 -0.9**
comp=Z,39nm,0.8s,mb5.2
SGMF Saint Gilles 89.12 38 *e*P **P** **12 18 58.6 -0.9**
SGMF pmax pmax
comp=Z,20nm,0.8s,mb5.2
CKHR Kef el Ahmar 89.31 52 P **P** **12 19 02.0 +1.3**
VALF Valcebollere 89.39 45 *e*P **P** **12 19 01.5 +0.6**
DLF Lyons Farm 89.44 33 *e*P **P** **12 18 57.9 -3.0**
DLF Lyons Farm 89.44 33 *e*P *e*P 12 19 20.5 -2.2
CMER Merouana 89.45 52 P **P** **12 19 03.0 +1.6**
LCHF La Chataignera 89.48 40 *e*P **P** **12 19 00.1 -1.1**
DSB Dublin 89.50 33 *e*P **P** **12 19 00.9 -0.2**
comp=Z,43nm,1.0s,mb5.4
DSB *ep*P pP 12 19 22.2 -0.7
LPEF Le Peyrat 89.55 44 *e*P **P** **12 19 01.5 -0.1**
LFF La Frestale 89.64 42 *e*P **P** **12 19 01.8 -0.2**
comp=Z,189nm,1.0s,mb5.9
LFF *ep*P pP 12 19 23.6 -0.2
LFF La Frestale 89.64 42 *e*P **P** **12 19 01.8 -0.2**
LFF *e*PP pP 12 19 23.6 -0.2
LFF pmax pmax
comp=Z,94nm,1.0s,mb5.9
HEX Exmoor 89.77 35 *e*P **P** **12 19 01.7 -0.7**
HEX AMb AMB 12 19 03.8
comp=Z,50nm,1.2s,mb5.5
DFRA Djebel Bou Aff 89.79 51 P **P** **12 19 04.0 +1.1**
MFF Saint Martin d 89.82 40 *e*P **P** **12 19 02.2 -0.6**
comp=Z,82nm,1.0s,mb5.5
MFF Saint Martin d 89.82 40 *e*P **P** **12 19 02.2 -0.6**
MFF pmax pmax
comp=Z,41nm,1.0s,mb5.5
FILF Fillols 89.83 45 *e*P **P** **12 19 02.8 -0.1**
MTLF Montolieu 89.92 44 *e*P **P** **12 19 02.9 -0.5**
comp=Z,148nm,1.2s,mb5.7
MTLF *ep*P pP 12 19 24.8 -0.4
MTLF Montolieu 89.92 44 *e*P **P** **12 19 02.9 -0.5**
MTLF *e*PP pP 12 19 24.8 -0.4
MTLF pmax pmax
comp=Z,74nm,1.2s,mb5.7
LRDF Laroque-de-Fa 89.97 45 *e*P **P** **12 19 03.3 -0.3**
CTEI Djebel Teioual 90.00 52 P **P** **12 19 04.0 +0.1**
EJON La Jonquera 90.00 45 P **P** **12 19 04.2 +0.4**
comp=Z,15nm,0.9s,mb5.1
SJAF Saint Jean de 90.01 45 *e*P **P** **12 19 03.6 -0.2**
CASM Ain Smara 90.14 52 P **P** **12 19 05.0 +0.4**
GRR Gorron 90.19 39 *e*P **P** **12 19 03.5 -1.0**
comp=Z,107nm,0.8s,mb5.7
GRR Gorron 90.19 39 *e*P **P** **12 19 03.5 -1.0**
GRR pmax pmax
comp=Z,54nm,0.8s,mb5.7
RJF Les Rejaudoux 90.30 42 *e*P **P** **12 19 04.5 -0.6**
comp=Z,131nm,1.2s,mb5.6
RJF *e*R
comp=Z,548nm,20.2s
RJF Les Rejaudoux 90.30 42 *e*P **P** **12 19 04.5 -0.6**
RJF pmax pmax
comp=Z,66nm,1.2s,mb5.6
RJF MLR MLR
comp=Z,550nm,20.3s
CKFL Kef-Lekhel 90.36 52 P **P** **12 19 06.0 +0.4**
DLBC Dease Lake 90.42 333 P **P** **12 19 06.2 +0.9**
comp=Z,36nm,0.9s,mb5.5,baz=127,slow=4.7,SNR=62
DLBC pP pP 12 19 27.6 +0.5
comp=Z,24nm,0.9s,baz=119,slow=3.7,SNR=4.8
DLBC Dease Lake 90.42 333 *e*P **P** **12 19 06.2 +0.8**
DLBC *ep*P pP 12 19 28.3 +1.1
CAF Calviac 90.49 43 *e*P **P** **12 19 05.6 -0.4**
comp=Z,124nm,1.2s,mb5.6
CAF Calviac 90.49 43 *e*P **P** **12 19 05.6 -0.4**
CAF pmax pmax
comp=Z,62nm,1.2s,mb5.6
FLN La Foliniere 90.58 38 *e*P **P** **12 19 05.6 -0.7**
comp=Z,176nm,1.1s,mb5.8
FLN *ep*P pP 12 19 27.4 -0.8
FLN *e*R
comp=Z,687nm,21.5s

FLN La Foliniere 90.58 38 *e*P **P** 12 19 05.6 -0.7
FLN *e**PP pP 12 19 27.4 -0.8
FLN pmax pmax
comp=Z,88nm,1.1s,mb5.8
FLN MLR MLR
comp=Z,690nm,21.5s
CAEH 'Ain El Ouahch 90.60 51 P **P** **12 19 07.0 +0.3**
ABSA Djebel Ababsia 90.88 52 P **P** **12 19 08.0 -0.1**
CMAH Djebel Manchou 90.97 52 P **P** **12 19 08.0 -0.5**
VERF Verneugheol 91.10 42 *e*P **P** **12 19 10.0 +1.2**
TCF Toulx Ste Croi 91.15 41 *e*P **P** **12 19 08.3 -0.8**
comp=Z,50nm,1.3s,mb5.2
TCF *e*pP pP 12 19 30.1 -0.8
TCF Toulx Ste Croi 91.15 41 *e*P **P** **12 19 08.3 -0.8**
TCF *e**PP pP 12 19 30.1 -0.8
TCF pmax pmax
comp=Z,25nm,1.3s,mb5.2
LASF Ste Croix 91.31 44 *e*P **P** **12 19 09.7 -0.1**
comp=Z,63nm,1.1s,mb5.3
BGF Bois d'Agland 91.67 41 *e*P **P** **12 19 10.7 -0.7**
MATP Matopo 91.69 112 LR LR 12 56 39.1
comp=Z,476nm,21.8s,baz=250,slow=33
KWE Weaver Farm 91.76 34 *e*P **P** **12 19 10.8 -0.9**
KWE AMb AMB 12 19 13.4
comp=Z,57nm,1.3s,mb5.6
COLF Collangettes 91.78 43 *e*P **P** **12 19 11.4 -0.6**
LHO Holmfirth 92.00 34 *e*P **P** **12 19 12.1 -0.6**
LHO AMb AMB 12 19 14.5
comp=Z,76nm,1.3s,mb5.8
KBI1 Birley Grange 92.04 34 *e*P **P** **12 19 12.5 -0.5**
KBI1 AMb AMB 12 19 14.6
comp=Z,73nm,1.3s,mb5.8
PRAF Pradon 92.07 45 *e*P **P** **12 19 13.7 +0.3**
GELF Grande-Etoile 92.08 45 *e*P **P** **12 19 14.8 +1.4**
ESK Eskdalemuir 92.14 32 *e*P **P** **12 19 12.6 -0.8**
ESK pmax pmax
comp=Z,32nm,1.3s,mb5.4
ESK Eskdalemuir 92.14 32 *e*P **P** **12 19 12.6 -0.8**
comp=Z,32nm,1.3s,mb5.4
VIVF Saint-Julien-l 92.15 43 *e*P **P** **12 19 13.7 0.0**
comp=Z,104nm,1.2s,mb5.7
VIVF *e*pP pP 12 19 35.8 +0.2
VIVF Saint-Julien-l 92.15 43 *e*P **P** **12 19 13.7 0.0**
VIVF *e**PP pP 12 19 35.8 +0.2
VIVF pmax pmax
comp=Z,52nm,1.2s,mb5.6
EKA Eskdalemuir Ar 92.17 32 P **P** **12 19 13.2 -0.3**
EKA pmax pmax
comp=Z,26nm,1.1s
EKA pmax pmax
comp=Z,16nm,1.0s
EKA Eskdalemuir Ar 92.17 32 P **P** **12 19 13.2 -0.3**
comp=Z,26nm,1.1s,mb5.4,baz=236,slow=6.0,SNR=34
EKA pP pP 12 19 34.2 -1.2
comp=Z,16nm,1.0s,baz=243,slow=5.6,SNR=8.7
BERF Bertagne 92.23 45 *e*P **P** **12 19 14.6 +0.5**
SSF Saint Saulge 92.28 41 *e*P **P** **12 19 13.1 -1.1**
SSF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
SSF Saint Saulge 92.28 41 *e*P **P** **12 19 13.1 -1.1**
comp=Z,9.8nm,0.9s,mb5.0
PUYF Puyloubier 92.33 45 *e*P **P** **12 19 15.0 +0.5**
SMF Signal de Mont 92.33 42 *e*P **P** **12 19 13.8 -0.7**
comp=Z,114nm,1.4s,mb5.6
SMF *e*pP pP 12 19 35.7 -0.7
SMF Signal de Mont 92.33 42 *e*P **P** **12 19 13.8 -0.7**
SMF *e**PP pP 12 19 35.7 -0.7
SMF pmax pmax
comp=Z,57nm,1.4s,mb5.6
SMRF Simiane la Rot 92.41 44 *e*P **P** **12 19 15.2 +0.3**
comp=Z,82nm,1.2s,mb5.5
SMRF *e*pP pP 12 19 37.3 +0.5
VILF Villemus 92.46 45 *e*P **P** **12 19 15.7 +0.6**
LOR Lormes 92.59 41 *e*P **P** **12 19 14.5 -1.1**
comp=Z,20nm,0.8s,mb5.2
LOR *e*pP pP 12 19 36.5 -1.0
LOR *e*R
comp=Z,593nm,22.0s
LOR Lormes 92.59 41 *e*P **P** **12 19 14.5 -1.1**
LOR *e**PP pP 12 19 36.5 -1.0
LOR pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
LOR MLR MLR
comp=Z,590nm,22.0s
TAVF Tavernes 92.60 45 *e*P **P** **12 19 15.4 -0.4**
STOF St-Etienne Org 92.64 45 *e*P **P** **12 19 16.5 +0.5**
SUMG Summit 92.67 9 *e*P **P** **12 19 16.2 +0.8**
comp=Z,55nm,0.9s,mb5.9
SUMG *e*pP pP 12 19 38.5 +1.1
DRV Dumont d'Urvil 92.77 192 P **P** **12 19 13.0 -3.0**
LMR La Mourre 92.80 45 *e*P **P** **12 19 16.4 -0.3**
comp=Z,115nm,1.3s,mb5.8
LMR La Mourre 92.80 45 *e*P **P** **12 19 16.4 -0.3**
LMR pmax pmax
comp=Z,57nm,1.3s,mb5.7
MENF Mencas 92.91 37 *e*P **P** **12 19 14.8 -2.2**
ORIF Oris-en-Rattie 92.97 44 *e*P **P** **12 19 17.8 +0.3**
comp=Z,49nm,0.7s,mb5.6
ORIF *e*R
comp=Z,737nm,21.8s
FRF La Foret Royal 92.97 45 *e*P **P** **12 19 17.4 -0.1**
comp=Z,130nm,1.4s,mb5.8
FRF La Foret Royal 92.97 45 *e*P **P** **12 19 17.4 -0.1**
FRF pmax pmax
comp=Z,65nm,1.4s,mb5.8
LSZ Lusaka 93.12 107 *e*P **P** **12 19 20.0 +1.2**
LSZ pmax pmax
comp=Z,41nm,1.8s,mb5.5
LSZ Lusaka 93.12 107 *e*P **P** **12 19 20.0 +1.2**
comp=Z,41nm,1.8s,mb5.5
CALN Calern 93.21 45 *e*P **P** **12 19 19.1 +0.5**
MVIF Mont Vial 93.44 45 *e*P **P** **12 19 19.9 +0.3**
MBDF Montbardon 93.49 44 *e*P **P** **12 19 20.1 +0.3**
comp=Z,65nm,1.2s,mb5.5
MBDF Montbardon 93.49 44 *e*P **P** **12 19 20.1 +0.3**
MBDF pmax pmax
comp=Z,33nm,1.2s,mb5.5
TOUF Mont Tournerai 93.55 45 *e*P **P** **12 19 20.3 +0.2**
SBF Sospel 93.62 45 *e*P **P** **12 19 20.3 -0.1**
comp=Z,95nm,1.2s,mb5.7
SBF Sospel 93.62 45 *e*P **P** **12 19 20.3 -0.1**
SBF pmax pmax
comp=Z,48nm,1.2s,mb5.7
AUTN L'Aution 93.66 45 *e*P **P** **12 19 20.9 +0.3**
SAOF Saorge 93.74 45 *e*P **P** **12 19 20.9 -0.1**
CABF La Chapelle 93.74 42 *e*P **P** **12 19 20.6 -0.3**
comp=Z,58nm,1.4s,mb5.4
CABF La Chapelle 93.74 42 *e*P **P** **12 19 20.6 -0.3**
CABF pmax pmax
comp=Z,29nm,1.4s,mb5.4
RSL Roselend 93.75 43 *e*P **P** **12 19 20.8 -0.1**
LPL La Plagne 93.75 43 *e*P **P** **12 19 21.6 +0.6**
comp=Z,72nm,1.1s,mb5.6
LPL La Plagne 93.75 43 *e*P **P** **12 19 21.6 +0.6**
LPL pmax pmax
comp=Z,36nm,1.1s,mb5.6
LPG La Plagne 93.76 43 *e*P **P** **12 19 21.7 +0.7**
comp=Z,110nm,1.2s,mb5.8
LPG La Plagne 93.76 43 *e*P **P** **12 19 21.7 +0.7**
LPG pmax pmax
comp=Z,55nm,1.2s,mb5.8
MEZF Maizieres J'vi 93.81 40 *e*P **P** **12 19 20.6 -0.6**
BAIF Baives 93.91 38 *e*P **P** **12 19 20.9 -0.6**
BAIF *e*pP pP 12 19 42.8 -0.7
PGF Pioggiola 94.22 47 *e*P **P** **12 19 22.9 -0.3**
THEF They Montfort 94.28 41 *e*P **P** **12 19 22.6 -0.7**
GIVF Givet 94.29 39 *e*P **P** **12 19 22.8 -0.5**
comp=Z,130nm,1.4s,mb5.8
GIVF Givet 94.29 39 *e*P **P** **12 19 22.8 -0.5**
GIVF pmax pmax
comp=Z,65nm,1.4s,mb5.8
HAU Haudompre 94.42 41 *e*P **P** **12 19 23.1 -0.9**
HAU *e*R
comp=Z,382nm,20.0s
LOMF Lomont 94.49 42 *e*P **P** **12 19 23.9 -0.4**
HINF Hinteralfeld 94.67 41 *e*P **P** **12 19 24.3 -0.8**
HINF *e*pP pP 12 19 46.1 -0.9
MOF Molkenrain 94.86 41 *e*P **P** **12 19 25.4 -0.6**
WLF Walferdange 94.92 39 *e*P **P** **12 19 26.1 -0.1**
WLF *e**PP pP 12 19 47.9 -0.2
WLF pmax pmax
comp=Z,51nm,1.3s,mb5.8
WLF Walferdange 94.92 39 *e*P **P** **12 19 26.1 -0.1**
comp=Z,51nm,1.3s,mb5.8
WLF *e*pP pP 12 19 47.9 -0.2

BBS Basel-Blauen 94.96 42 *e*P **P** **12 19 25.8 -0.6**
ECH Echery 95.01 41 *e*P **P** **12 19 26.0 -0.6**
CDF Champ du Feu 95.15 41 *e*P **P** **12 19 26.7 -0.6**
comp=Z,64nm,1.3s,mb5.6
CDF Champ du Feu 95.15 41 *e*P **P** **12 19 26.7 -0.6**
CDF pmax pmax
comp=Z,32nm,1.3s,mb5.6
HGN Heimansgroeve 95.20 38 *e*P **P** **12 19 26.9 -0.6**
HGN *e*pP pP 12 19 48.7 -0.7
HGN Heimansgroeve 95.20 38 *e*S **12 29 49.6**
WLS Welschbruch 95.20 41 *e*P **P** **12 19 27.1 -0.4**
FELD Feldberg 95.42 41 *e*P **P** **12 19 28.2 -0.3**
RUP Ruppelstein 95.48 40 *e*P **P** **12 19 28.9 +0.1**
LANF Langenberg 95.68 40 *e*P **P** **12 19 29.5 -0.2**
BFO Black Forest 95.78 41 P **P** **12 19 29.7 -0.4**
BFO pmax pmax
comp=Z,16nm,1.4s,mb5.3
BFO Black Forest 95.78 41 *e*Pdif **P** **12 19 29.7 -0.4**
comp=Z,16nm,1.4s,mb5.3
BFO *e*SKSac 12 30 00.7
BFO *e*SP SP 12 31 54.7 -7.2
URZ Urewera 95.81 227 P **P** **12 19 32.9 +2.4**
comp=Z,7.8nm,0.9s,mb5.2,baz=139,slow=11,SNR=3.2
ABH Alteburg 95.84 39 *e*P **P** **12 19 30.4 0.0**
CASY Casey 96.12 180 *e*P **P** **12 19 31.7 +0.5**
comp=Z,28nm,1.4s,mb5.5
CASY *e*pP pP 12 19 53.5 +0.3
WTSB Winterswijk 96.14 37 *e*P **P** **12 19 31.5 -0.2**
WTSB *e*pP pP 12 19 53.3 -0.3
WTSB *e*sP sP 12 20 04.1 +2.3
DAVOX Davos 96.24 43 P **P** **12 19 32.7 +0.5**
comp=Z,7.0nm,0.6s,mb5.3,baz=234,slow=11,SNR=8.2
DAVOX pP pP 12 19 53.6 -0.6
comp=Z,17nm,1.0s,baz=243,slow=8.8,SNR=4.4
DAVA Damuels 96.41 42 ⇓*i*P **P** **12 19 33.2 +0.2**
comp=Z,23nm,1.0s,mb5.6
DAVA *i* pP 12 19 54.6 -0.3
STU Stuttgart 96.47 41 P **P** **12 19 32.8 -0.5**
STU *e**PP pP 12 19 55.0 -0.2
TNS Taunus Mts 96.50 39 P **P** **12 19 33.5 +0.1**
TNS pmax pmax
comp=Z,32nm,1.2s,mb5.6
TNS Taunus Mts 96.50 39 *e*Pdif **P** **12 19 33.5 +0.1**
comp=Z,32nm,1.2s,mb5.6
TNS *e*SKSac 12 30 06.3
TNS *e*SP SP 12 32 08.8 -1.0
TOD Tromm 96.51 40 *e*P **P** **12 19 32.7 -0.7**
INK Inuvik 97.11 340 P **P** **12 19 35.6 -0.2**
INK pmax pmax
comp=Z,15nm,1.1s
INK pmax pmax
comp=Z,12nm,1.1s
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 97.11 340 P **P** **12 19 35.6 -0.1**
comp=Z,15nm,1.1s,mb5.3,baz=132,slow=4.9,SNR=15
INK pP pP 12 19 55.5 -2.2
comp=Z,12nm,1.1s,baz=107,slow=7.0,SNR=3.9
INK PKKPbc 12 36 15.6
comp=Z,2.1nm,0.6s,baz=55,slow=3.2,SNR=5.5
INK Inuvik 97.11 340 *e*P **P** **12 19 35.5 -0.3**
comp=Z,26nm,1.3s,mb5.5
MOTA Moosalm 97.22 43 ⇓*i*P **P** **12 19 36.8 +0.1**
comp=Z,32nm,1.3s,mb5.6
MOTA *i* pP 12 19 58.9 +0.2
MOTA Moosalm 97.22 43 ⇓*i*P **P** **12 19 36.8 +0.1**
MOTA *i* pP 12 19 58.9 +0.2
MOTA pmax pmax
comp=Z,32nm,1.3s,mb5.6
SQTA Sankt Quirin 97.25 43 ⇑*i*P **P** **12 19 37.0 +0.1**
comp=Z,18nm,0.8s,mb5.5
SQTA *i* pP 12 19 59.1 +0.3
SQTA Sankt Quirin 97.25 43 ⇑*i*P **P** **12 19 37.0 +0.1**
SQTA *i* pP 12 19 59.1 +0.3
SQTA pmax pmax
comp=Z,18nm,0.8s,mb5.5
WTTA Wattenberg 97.54 43 ⇑*i*P **P** **12 19 38.2 0.0**
comp=Z,39nm,1.2s,mb5.8
WTTA *i* pP 12 20 00.1 0.0
WTTA Wattenberg 97.54 43 ⇑*i*P **P** **12 19 38.2 0.0**
WTTA *i* pP 12 20 00.1 0.0
WTTA pmax pmax
comp=Z,39nm,1.2s,mb5.8
FUR Furstenfeldbru 97.59 42 P **P** **12 19 38.5 +0.1**
FUR pmax pmax
comp=Z,23nm,0.6s,mb5.9
FUR Furstenfeldbru 97.59 42 *e*Pdif **P** **12 19 38.5 +0.1**
comp=Z,23nm,0.6s,mb5.9
FUR *e*SKSac 12 30 11.1
FUR *e*SP SP 12 32 20.2 -0.9
GRA1 Grafenberg Arr 98.03 40 *e*Pdif **P** **12 19 40.6 +0.3**
comp=Z,32nm,1.1s,mb5.8
GRA1 *e*PP PP 12 23 47.2 +4.4
GRA1 *e*SKSac 12 30 14.9
GRA1 *e*SP SP 12 32 24.0 -1.5
GRF Grafenberg Arr 98.03 40 *e*P **P** **12 19 40.6 +0.3**
GRF *e* 12 23 47.2
GRF S S 12 31 02.5 +5.8
GRF *e*SP SP 12 32 24.0 -1.5
GRF pmax pmax
comp=Z,32nm,1.1s,mb5.8
GRF Grafenberg Arr 98.03 40 P **P** **12 19 40.6 +0.3**
GRF pmax pmax
comp=Z,32nm,1.1s,mb5.8
GRF Grafenberg Arr 98.03 40 *e*Pdif **P** **12 19 40.6 +0.3**
comp=Z,32nm,1.1s,mb5.8
GRF *e*PP PP 12 23 47.2 +4.4
GRF *e*SKS SKS 12 30 14.9 +5.4
GRF Sdif 12 31 02.5
GRF *e*SP SP 12 32 24.0 -1.5
JMIC Jan Mayen 98.04 17 *e*SKSa 12 30 10.4
JMIC *i* 12 32 05.6
JMIC AMS AMS 12 59 01.1
comp=Z,348nm,23.3s
CLZ Clausthal 98.18 38 P **P** **12 19 41.4 +0.4**
CLZ pmax pmax
comp=Z,32nm,1.2s,mb5.7
CLZ Clausthal 98.18 38 *e*Pdif **P** **12 19 41.4 +0.4**
comp=Z,32nm,1.2s,mb5.7
CLZ *e*SKSac 12 30 16.0
CLZ *e*SP SP 12 32 27.3 +0.1
BER Bergen 98.42 29 *e* **P** **12 19 31.5 -10**
BER *e*SKSa 12 30 12.3
BER AMS AMS 12 59 47.0
comp=Z,556nm,25.0s
MOX Moxa 98.56 40 *e*P **P** **12 19 43.1 +0.4**
MOX *e* pP 12 20 04.8 +0.2
MOX pmax pmax
comp=Z,17nm,1.5s,mb5.3
MOX MLR MLR
comp=Z,500nm,22.0s
MOX Moxa 98.56 40 *e*P **P** **12 19 43.1 +0.4**
comp=Z,17nm,1.5s,mb5.3
MOX *e* pP 12 20 04.8 +0.2
MOX LR LR
comp=Z,500nm,22.0s
MOX Moxa 98.56 40 *i* P **P** **12 19 43.1 +0.4**
comp=Z,logA/T=1.1,mb5.4
MOX pP pP 12 20 05.0 +0.4
MOX PP PP 12 23 55.0 +8.5
MOX SKS SKS 12 30 18.0 +5.7
MOX SSS SSS 12 41 27.0 -14
MOX L 13 01 46.0
KBA Koelnbreinsper 98.59 43 ⇓*i*P **P** **12 19 42.4 -0.6**
comp=Z,4.9nm,0.6s,mb5.2
KBA Koelnbreinsper 98.59 43 ⇓*i*P **P** **12 19 42.4 -0.6**
KBA pmax pmax
comp=Z,5.0nm,0.6s,mb5.2
CADS Cadrg 98.61 44 *e*Pdiff **P** **12 19 42.6 -0.5**
CADS *e*pPdiff pP 12 20 04.4 -0.6
CADS *e*SKSac 12 30 13.6
CADS *e*Sdiff 12 31 05.3
CADS *e* 12 32 30.3
JAVS Javornik 98.73 45 *e*Pdiff **P** **12 19 43.5 -0.1**
BSEG Bad Segeberg 98.81 36 P **P** **12 19 43.7 -0.1**
BSEG pmax pmax
comp=Z,34nm,1.4s,mb5.7
BSEG Bad Segeberg 98.81 36 *e*Pdif **P** **12 19 43.7 -0.1**
BSEG *e*SKSac 12 30 18.0
WET Wettzell 98.89 41 P **P** **12 19 44.3 0.0**
WET pmax pmax
comp=Z,20nm,1.3s,mb5.5
WET Wettzell 98.89 41 *e*Pdif **P** **12 19 44.3 0.0**
comp=Z,20nm,1.3s,mb5.5

WET *e*SKSac 12 30 17.5
WET *e*SP SP 12 32 34.7 -0.4
NKC Novy Kostel 98.94 40 *e*P **P** **12 19 45.2 +0.7**
NKC *e*SP SP 12 32 31.7 -3.9
NKC MLR MLR
comp=Z,800nm,22.1s
NKC Novy Kostel 98.94 40 *e*PDIF **P** **12 19 45.2 +0.7**
NKC *e*pP pP 12 20 06.5 +0.1
NKC *ex* x 12 24 03.1
NKC *e*SKS SKS 12 30 20.1 +5.9
NKC *e*SP SP 12 32 31.7 -3.9
NKC AMS AMS 13 00 30.0
comp=Z,800nm,22.1s
MUD Monsted U'grnd 98.98 34 *i* S 12 30 19.5
MUD *i* 12 32 35.0
comp=Z,440nm,21.0s
OBKA Obir 99.23 44 ⇓*i*P **P** **12 19 45.6 -0.3**
comp=Z,20nm,1.3s,mb5.5
GEC2 GERESS Array S 99.33 42 P **P** **12 19 46.1 -0.2**
GEC2 pmax pmax
comp=Z,15nm,1.3s,mb5.4
GEC2 GERESS Array S 99.33 42 *e*Pdif **P** **12 19 46.1 -0.2**
comp=Z,15nm,1.3s,mb5.4
GEC2 *e*SKSac 12 30 19.5
GEC2 *e*SP SP 12 32 34.6 -5.0
GERES GERESS Array B 99.33 42 P **P** **12 19 45.0 -1.3**
GERES pmax pmax
comp=Z,4.0nm,0.8s
GERES pmax pmax
comp=Z,6.0nm,0.9s
GERES MLR MLR
comp=Z,405nm,21.4s
GERES GERESS Array B 99.33 42 P **P** **12 19 45.0 -1.3**
comp=Z,3.7nm,0.8s,mb5.0,baz=243,slow=3.0,SNR=24
GERES pP pP 12 20 06.1 -2.1
comp=Z,5.7nm,0.9s,baz=225,slow=3.8,SNR=5.1
GERES LR LR 13 03 39.5
comp=Z,405nm,21.4s,baz=246,slow=35
KHC Kasperske Hory 99.33 41 *e*P **P** **12 19 46.1 -0.2**
KHC *e* 12 23 47.5
KHC *e* 12 30 20.4
KHC *e*SP SP 12 32 35.9 -3.7
KHC MLR MLR
comp=Z,300nm,20.5s
KHC Kasperske Hory 99.33 41 *e*PDIF **P** **12 19 46.1 -0.2**
KHC *e*pP pP 12 20 07.6 -0.6
KHC *ex* x 12 20 17.8
KHC *e*PP PP 12 23 47.5 -4.8
KHC *e*SKS SKS 12 30 20.4 +4.2
KHC *e*SP SP 12 32 35.9 -3.7
KHC AMS AMS 12 58 40.0
comp=Z,300nm,20.5s
LEGS Legarje 99.59 45 *e*Pdiff **P** **12 19 47.4 -0.2**
CLL Collm 99.59 39 *i* P **P** **12 19 47.3 -0.1**
CLL *i* *PP pP 12 20 09.6 +0.3
CLL *e* 12 30 22.0
CLL *e*S S 12 31 11.0 +1.2
CLL pmax pmax
comp=Z,13nm,1.0s,mb5.5
CLL Collm 99.59 39 *i* P **P** **12 19 47.3 -0.1**
comp=Z,13nm,1.0s,mb5.5
CLL *i* pP pP 12 20 09.6 +0.3
CLL *e*SKS SKS 12 30 22.0 +4.6
CLL *e*Sdif 12 31 11.0
CLL Collm 99.59 39 P **P** **12 19 47.3 -0.1**
comp=Z,logA/T=1.1,mb5.5
CLL *i* *PP pP 12 20 09.6 +0.3
CLL *i* PP PP 12 23 35.9 -18
CLL *e* 12 30 22.0
CLL *e*S S 12 31 11.0 +1.2
CLL *e*PS PS 12 32 37.0 -15
CLL *e*PPS PPS 12 33 41.0 +1.5
CLL *e*SS SS 12 37 54.0 -12
CLL *e**SSS 12 38 42.0
GROS Grobnik 99.85 44 *e*Pdif **P** **12 19 48.6 -0.1**
GROS *e*SKSac 12 30 21.2
GROS Grobnik 99.85 44 *e*Pdiff **P** **12 19 48.6 -0.1**
GROS *e*pPdiff pP 12 20 10.3 -0.3
GROS *e* 12 20 22.1
GROS *e*SKSac 12 30 21.2
BRG Berggiesshubel 100.04 40 *e*P P 12 19 49.7 +0.3
BRG *e* 12 20 11.9
BRG 12 30 24.0
BRG pmax pmax
comp=Z,20nm,1.4s
BRG pmax pmax
comp=Z,16nm,1.3s
BRG MLR MLR
comp=N,330nm,21.4s
BRG MLR MLR
comp=E,510nm,18.9s
BRG MLR MLR
comp=Z,870nm,22.6s
BRG Berggiesshubel 100.04 40 *e*P P 12 19 49.7 +0.2
comp=Z,20nm,1.4s
BRG *e* 12 20 11.9
BRG PP PP 12 23 42.0 -16
BRG SKS SKS 12 30 24.0 +4.4
BRG LR LR
comp=Z,870nm,22.5s
PRU Pruhonice 100.17 41 *e*P P 12 19 49.4 -0.6
PRU *e**PP 12 20 11.9
PRU *e* 12 30 24.3
PRU *e*SP SP 12 32 44.7 -3.4
PRU MLR MLR
comp=Z,400nm,22.9s
PRU Pruhonice 100.17 41 *e*PDIF P 12 19 49.4 -0.6
PRU *e*pP 12 20 11.9
PRU *ex* x 12 24 07.9
PRU *e*SKS SKS 12 30 24.3 +4.1
PRU *e*SP SP 12 32 44.7 -3.4
PRU AMS AMS 12 59 40.0
comp=Z,400nm,22.9s
PVCC Panska Ves 100.33 40 *e*P P 12 19 51.8 +1.1
PVCC *e* 12 30 25.8
PVCC *e*SP SP 12 32 45.8 -4.1
PVCC MLR MLR
comp=Z,700nm,22.5s
PVCC Panska Ves 100.33 40 *e*PDIF P 12 19 51.8 +1.1
PVCC *e*pP 12 20 10.4
PVCC *ex* x 12 24 12.0
PVCC *e*SKS SKS 12 30 25.8 +4.8
PVCC *e*SP SP 12 32 45.8 -4.1
PVCC AMS AMS 13 01 10.0
comp=Z,700nm,22.5s
ILAR Eielson Array 100.44 335 P P 12 19 50.0 -0.9
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR pmax pmax
comp=Z,2.0nm,1.1s
ILAR pmax pmax
comp=Z,4.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 100.44 335 P P 12 19 50.0 -1.0
comp=Z,0.8nm,0.9s,baz=128,slow=3.3,SNR=8.4
ILAR pP 12 20 11.2
comp=Z,1.2nm,0.9s,baz=142,slow=3.5,SNR=4.5
ILAR PP PP 12 23 42.0 -19
comp=Z,1.8nm,1.1s,baz=102,slow=5.3,SNR=4.2
ILAR PKiKP 12 24 18.8
comp=Z,4.3nm,0.9s,baz=119,slow=6.4,SNR=3.6
ILAR PKKPbc 12 36 06.0
comp=Z,0.5nm,0.7s,baz=270,slow=2.6,SNR=5.6
COP Copenhagen 100.49 35 *i* P Px 12 20 28.3
COP *i* S 12 30 26.5
COP *i* 12 32 38.0
comp=Z,220nm,23.0s
UPC Upice 101.22 41 *e*PDIF P 12 19 54.6 -0.1
UPC *e*pP 12 20 16.9
UPC *ex* x 12 20 28.9
VRAC Vranov 101.28 42 P P 12 19 55.1 +0.1
VRAC pmax pmax
comp=Z,3.0nm,0.5s
VRAC Vranov 101.28 42 P P 12 19 55.1 0.0
comp=Z,2.6nm,0.5s,baz=72,slow=13,SNR=2.4
DPC Dobruska-Polom 101.37 41 *e*P P 12 19 56.1 +0.7
DPC *e* 12 24 01.0
DPC *e* 12 30 31.2
DPC *e*SP SP 12 33 00.3 -0.6
DPC MLR MLR
comp=Z,500nm,21.6s

DPC Dobruska-Polom 101.37 41 *e*PDIF P 12 19 56.1 +0.7
DPC *ep*P 12 20 17.9
DPC *ex* x 12 20 29.2
DPC *e*PP PP 12 24 01.0 -7.2
DPC *e*SKS SKS 12 30 31.2 +5.2
DPC *e*SP SP 12 33 00.3 -0.6
DPC AMS AMS 13 01 00.0
comp=Z,500nm,21.6s
NB2 NORSAR Subarra101.37 29 P P 12 19 55.3 +0.2
comp=Z,12nm,1.4s,baz=248,slow=4.5
NB2 NORSAR Subarra101.37 29 P P 12 19 55.3 +0.2
NB2 pmax pmax
comp=Z,12nm,1.4s
NB2 NORSAR Subarra101.37 29 P P 12 19 55.3 +0.2
baz=248,slow=4.6
NOA NORSAR Array B101.37 29 P P 12 19 55.0 -0.1
NOA pmax pmax
comp=Z,4.0nm,1.1s
NOA pmax pmax
comp=Z,4.0nm,1.0s
NOA NORSAR Array B101.37 29 P P 12 19 55.0 -0.2
comp=Z,4.1nm,1.1s,baz=246,slow=4.1,SNR=3.5
NOA pP 12 20 15.1
comp=Z,3.7nm,1.0s,baz=252,slow=4.3,SNR=4.6
NOA NORSAR Array B101.37 29 P P 12 19 55.0 -0.2
NOA pP 12 20 15.1
KSP Ksiaz 101.47 40 *e*P P 12 19 56.5 +0.7
KSP *e* 12 30 27.0
KSP *e*SP SP 12 32 57.0 -4.9
KSP Ksiaz 101.47 40 *e*P P 12 19 56.5 +0.7
KSP *ep*P 12 20 16.5
KSP *e*SKS SKS 12 30 27.0 +0.5
KSP *e*SP SP 12 32 57.0 -4.9
KSP LR LR
comp=Z,2μm,22.0s
HFS Hagfors 102.31 31 P Pdif 12 19 57.9 -1.4
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 102.31 31 P Pdif 12 19 57.9 -1.4
comp=Z,2.0nm,0.7s,baz=222,slow=22,SNR=2.7
OKC Ostrava-Krasne 102.39 42 *e*SKS SKS 12 30 32.7 +1.8
OKC *e*SP SP 12 33 16.6 +5.0
OKC AMS AMS 13 00 40.0
comp=Z,400nm,22.3s
VYHS Vyhne 102.53 43 *i* P Pdif 12 20 00.7 +0.1
VYHS *e* 12 30 33.2
VYHS *e*S S 12 31 34.9 +0.4
VYHS *e*PS PS 12 33 07.0 -16
VYHS Vyhne 102.53 43 PDIF Pdif 12 20 00.7 +0.1
VYHS *e* 12 30 33.2
VYHS *e*SDIF 12 31 34.9
VYHS *e*PS PS 12 33 07.0 -16
KBS Kingsbay 105.89 11 *e*SKSa 12 30 45.9
KBS *e* 12 33 44.9
KBS AMS AMS 13 01 35.3
comp=Z,125nm,23.2s
TRO Tromso 106.29 21 *e* PS 12 33 53.9 -6.4
MLR Muntele Rosu 106.77 47 PKiKP 12 24 29.4
comp=Z,1.9nm,0.5s,baz=289,slow=4.3,SNR=4.1
FINES FINESS Array B 108.51 30 PKKPbc 12 35 41.7
comp=Z,1.4nm,0.6s,baz=135,slow=11,SNR=4.6
ARCES ARCESS Array B 108.58 22 PKKPbc 12 35 40.9
comp=Z,1.5nm,0.4s,baz=84,slow=3.8,SNR=14
AKASG Malin Array Be 109.54 42 PKiKP 12 24 33.4
comp=Z,1.4nm,0.4s,baz=268,slow=2.8,SNR=11
BRTR Keskin Array B 111.71 54 *i* PKIKP PKPdf 12 24 38.9 +1.6
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 111.71 54 PKiKP 12 24 38.9
comp=Z,2.2nm,0.8s,baz=180,slow=1.2,SNR=7.4
BRTR PKKPbc 12 35 32.5
comp=Z,0.5nm,0.4s,baz=297,slow=38,SNR=2.5
BRTR PKKPab 12 35 41.6
comp=Z,1.9nm,0.8s,baz=121,slow=5.1,SNR=6.0
ASF Jabal al Asfar 113.52 62 PKiKP 12 24 43.2
baz=333,slow=2.3
OBN Obninsk 114.04 37 *i* PKIKP PKPdf 12 24 43.1 +1.6
OBN *e* 12 25 36.2
OBN *e*PS PS 12 34 59.8 -15
OBN *e*SS SS 12 41 22.2 +0.1
OBN *e*SSS SSS 12 45 27.5 -11
OBN pmax pmax
comp=Z,17nm,0.8s
OBN MLR MLR
comp=Z,400nm,18.0s
ANN Anapa 114.81 48 *i* PKIKP PKPdf 12 24 44.0 +0.7
ANN *e**PP 12 25 08.5
ANN *e* 12 31 26.6
ANN PS PS 12 35 23.1 +0.5
ANN MLR MLR
comp=Z,420nm,24.0s
ANN MLR MLR
comp=E,470nm,23.0s
KIV Kislovodsk 118.58 49 *i* PKIKP PKPdf 12 24 50.5 -0.1
KIV pmax pmax
comp=Z,13nm,1.1s
KIV pmax pmax
comp=N,3.0nm,0.6s
KIV pmax pmax
comp=E,6.0nm,0.7s
KIV MLR MLR
comp=N,90nm,19.0s
KIV MLR MLR
comp=E,144nm,19.0s
KIV MLR MLR
comp=Z,241nm,19.0s
BILL Bilibino 118.70 339 *i* PKIKP PKPdf 12 24 52.0 +1.7
BILL 12 26 10.0
BILL *e*PS PS 12 35 52.7 -4.5
BILL *e* 12 37 12.2
BILL MLR MLR
comp=Z,700nm,23.0s
ZEI Tsey 119.52 51 *e*PKIKP PKPdf 12 24 52.5 +0.1
ZEI *i* 12 26 13.9
GNI Garni 120.25 54 *i* PKIKP PKPdf 12 24 53.2 -0.7
GNI Garni 120.25 54 PKP PKPdf 12 24 54.7 +0.8
comp=Z,6.6nm,0.4s,baz=332,slow=13,SNR=4.7
STKA Stephens Creek 121.90 212 *e*PKP PKPdf 12 24 58.5 +1.2
comp=Z,10nm,0.6s
STKA *ep*PKP 12 25 22.8
STKA *e*PKKP PKKP 12 35 18.4 -2.1
STKA Stephens Creek 121.90 212 PKP PKPdf 12 24 58.5 +1.1
comp=Z,12nm,0.6s,baz=117,slow=2.0,SNR=52
STKA pPKP 12 25 20.4
comp=Z,6.6nm,0.8s,baz=308,slow=2.2,SNR=4.4
STKA PKKPbc 12 34 55.5
comp=Z,2.1nm,0.9s,baz=357,slow=7.4,SNR=3.6
RDF Al-Radifah 122.38 67 *e*P PKPdf 12 25 00.1 +1.7
RDF AMb AMB 12 25 01.0
comp=Z,26nm,0.5s
KBD Kabd 122.52 66 *e*P PKPdf 12 24 60.0 +1.4
QRN Al-Qurain 122.69 67 *e*P PKPdf 12 25 00.3 +1.4
QRN AMb AMB 12 25 01.2
comp=Z,32nm,0.6s
SOKR Solikamsk 123.65 29 || *i* PKIKP PKPdf 12 24 59.5 -0.6
SOKR *e* 12 25 21.5
SOKR pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 125.04 353 || *i* PKIKP PKPdf 12 25 02.9 +0.5
TIXI MLR MLR
comp=Z,400nm,17.0s
ARU Arti 125.79 32 *i* PKIKP PKPdf 12 25 04.9 +0.7
ARU *e* 12 26 56.6
ARU *e*SP SP 12 36 41.4 -10
ARU *e*SS SS 12 43 46.0 -6.5
ARU MLR MLR
comp=N,200nm,21.0s
ARU MLR MLR
comp=Z,400nm,21.0s
ARU MLR MLR
comp=E,300nm,22.0s
ARU Arti 125.79 32 *e*Pdif Pdif 12 21 46.2 +3.5
ARU *e*PKiKP 12 25 05.6
ARU *ep*PKPdf 12 25 28.0
SEY Seymchan 126.28 337 *e*PKIKP PKPdf 12 25 07.0 +2.1
SEY *e* 12 25 29.7
SEY *e* 12 27 02.6
SEY *e* 12 38 36.5
SEY pmax pmax
comp=Z,20nm,1.0s
SEY pmax pmax
comp=N,10.0nm,0.7s
SEY pmax pmax
comp=E,2.0nm,0.7s
SVE Sverdlovsk 126.66 31 *e*PKIKP PKPdf 12 25 08.0 +2.2
SVE *e* 12 27 10.0
SVE *e* 12 38 22.0
SVE pmax pmax
comp=Z,44nm,2.0s
SVE MLR MLR
comp=N,300nm,16.0s
SVE MLR MLR
comp=E,400nm,16.0s
SVE MLR MLR
comp=Z,500nm,16.0s
CTA Charters Tower 128.01 225 *e*PKP PKPdf 12 25 10.8 +1.3
comp=Z,12nm,0.6s
CTA *ep*PKP 12 25 32.5
CTA Charters Tower 128.01 225 PKIKP PKPdf 12 25 10.8 +1.3
CTA pmax pmax
comp=Z,15nm,0.7s
CTA pmax pmax
comp=Z,8.0nm,0.8s
CTA Charters Tower 128.01 225 PKP PKPdf 12 25 10.8 +1.3
comp=Z,14nm,0.7s,baz=167,slow=1.3,SNR=40
CTA pPKP 12 25 31.4
comp=Z,7.8nm,0.8s,baz=224,slow=4.4,SNR=4.1
CTAO Charters Tower 128.01 225 *e*PKIKP PKPdf 12 25 10.1 +0.6
PET Petropavlovsk 128.41 325 *e*PKIKP PKPdf 12 25 10.6 +1.2
PET *e* 12 25 33.1
PET *i* 12 27 17.0
PET *e*PPP PPP 12 29 59.2 -6.1
PET pmax pmax
comp=Z,10.0nm,0.6s
PET pmax pmax
comp=Z,7.0nm,0.9s
PET pmax pmax
comp=Z,300nm,9.0s
PET pmax pmax
comp=Z,400nm,8.4s
PET pmax pmax
comp=Z,200nm,14.9s
PET pmax pmax
comp=Z,200nm,16.7s
MA2 Magadan 128.92 335 *i* PKIKP PKPdf 12 25 10.3 +0.1
MA2 *e* 12 32 15.0
MA2 pmax pmax
comp=Z,10.0nm,1.3s
NWAO Narrogin (SRO) 129.00 188 PKIKP PKPdf 12 25 11.2 +0.1
NWAO pmax pmax
comp=Z,13nm,0.7s
NWAO Narrogin (SRO) 129.00 188 PKP PKPdf 12 25 11.2 +0.1
comp=Z,13nm,0.7s,baz=165,slow=5.8,SNR=7.3
AB31 Akbulak array 129.25 40 *i* PKIKP PKPdf 12 25 12.9 +1.8
AB31 pmax pmax
comp=Z,34nm,0.9s
MUN Mundaring 130.07 187 *e*PKP PKPdf 12 25 13.9 +0.8
comp=Z,25nm,1.4s
KLBR Kellerberrin 130.25 189 *e*PKP PKPdf 12 25 13.9 +0.4
comp=Z,40nm,1.1s
KLBR *ep*PKP 12 25 37.9
ZRNK Zerenda 132.77 33 PKIKP PKPdf 12 25 19.5 +1.9
ZRNK pmax pmax
comp=Z,18nm,0.7s
BVA0 Borovoye Array 133.43 32 *i* PKIKP PKPdf 12 25 20.7 +1.8
BVA0 pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 133.43 32 PKP PKPdf 12 25 20.8 +2.0
comp=Z,2.9nm,0.6s,baz=158,slow=8.0,SNR=6.0
BVAR pPKP 12 25 40.0
comp=Z,9.6nm,1.1s,baz=270,slow=1.5,SNR=4.3
YAK Yakutsk 133.71 347 *i* PKIKP PKPdf 12 25 20.2 +1.1
YAK *e*PS PS 12 37 53.1 -15
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=Z,8.0nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=N,86nm,10.2s
YAK Yakutsk 133.71 347 *e*PKPdf PKPdf 12 25 20.0 +0.9
YAK *ep*PKPdf 12 25 41.1
VOSK Vostochnaya 133.90 32 PKIKP PKPdf 12 25 21.6 +1.9
VOSK pmax pmax
comp=Z,12nm,0.9s
PMG Port Moresby 134.22 237 PKIKP PKPdf 12 25 23.5 +2.1
PMG pmax pmax
comp=Z,9.0nm,0.7s
PMG Port Moresby 134.22 237 PKP PKPdf 12 25 23.5 +2.1
comp=Z,9.3nm,0.7s,baz=32,slow=5.0,SNR=3.8
WB2 Warramunga Arr 135.37 214 *e*PKIKP PKPdf 12 25 24.5 +1.2
WB2 *ep*PKIKP 12 25 47.0
WB2 *e*SKP 12 28 47.3
WB2 *e*PKS PKS 12 28 54.9 -3.8
WB2 Warramunga Arr 135.37 214 *e*PKPdf PKPdf 12 25 24.5 +1.2
WB2 *e*SKP 12 28 47.3
WB2 *e*PKS PKS 12 28 54.9 -3.8
WRA Warramunga Arr 135.37 214 PKHKP 12 25 08.4
WRA 12 25 24.6
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA pmax pmax
comp=Z,26nm,0.6s
WRA pmax pmax
comp=Z,23nm,0.9s
WRA pmax pmax
comp=E,9.0nm,1.0s
WRA Warramunga Arr 135.37 214 PKhKP 12 25 08.4
comp=E,1.9nm,0.6s,baz=138,slow=3.3,SNR=40
WRA PKP PKPdf 12 25 24.6 +1.2
comp=E,26nm,0.6s,baz=148,slow=1.6,SNR=76
WRA pPKP 12 25 45.1
comp=E,23nm,0.9s,baz=156,slow=1.5,SNR=3.6
WRA SKPbc 12 28 47.2
comp=E,8.8nm,1.0s,baz=148,slow=2.7,SNR=7.0
WRA Warramunga Arr 135.37 214 PKP PKPdf 12 25 24.6 +1.2
WRA pPKP 12 25 45.1
WRA SKPbc 12 28 47.2
WRAB Tennant Creek 135.37 214 *e*PKIKP PKPdf 12 25 24.1 +0.8
WRAB *e* 12 25 47.4
NVS Novosibirsk 137.85 23 *e*PKIKP PKPdf 12 25 28.4 +1.4
NVS *e* 12 28 11.4
NVS pmax pmax
comp=Z,75nm,1.2s
NVS pmax pmax
comp=E,18nm,1.0s
KKAR Karatay Array 138.37 44 *i* PKIKP PKPdf 12 25 30.1 +1.9
KKAR pmax pmax
comp=Z,1.0nm,0.5s
ZAL Zalesovo 139.13 22 PKHKP 12 25 20.2
ZAL 12 25 30.8
ZAL pmax pmax
comp=Z,2.0nm,0.3s
ZAL pmax pmax
comp=Z,33nm,0.6s
ZAL pmax pmax
comp=Z,52nm,1.0s
ZAL Zalesovo 139.13 22 PKhKP 12 25 20.1
comp=Z,2.4nm,0.3s,baz=153,slow=2.3,SNR=4.2
ZAL PKP PKPdf 12 25 30.8 +1.5
comp=Z,33nm,0.6s,baz=176,slow=1.9,SNR=74
ZAL pPKP 12 25 52.0
comp=Z,52nm,0.9s,baz=186,slow=2.1,SNR=11
ZAL Zalesovo 139.13 22 PKP PKPdf 12 25 30.8 +1.5
ZAL pPKP 12 25 52.0
CLNS Chul'man 139.46 347 *e*PKIKP PKPdf 12 25 30.2 +0.4
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=Z,41nm,0.9s
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS MLR MLR
comp=Z,700nm,22.0s
CLNS MLR MLR
comp=N,500nm,21.0s
CLNS MLR MLR
comp=E,40nm,14.0s
MBWA Marble Bar 140.02 195 *e*PKPdf PKPdf 12 25 25.4 -6.4
YSS Yuzh-Sakhalins 140.30 324 PKIKP PKPdf 12 25 33.0 +1.4
YSS *e* 12 25 56.0
YSS *e* 12 28 34.0
FITZ Fitzroy Crossi 141.01 204 *e*PKP PKPdf 12 25 27.3 -6.4
comp=E,12nm,0.6s
FITZ *e*PKIKP PKPdf 12 25 37.5 +3.8
FITZ *ep*PKIKP 12 26 00.9
FITZ Fitzroy Crossi 141.01 204 PKhKP 12 25 27.2
comp=E,7.4nm,0.5s,baz=180,slow=6.1,SNR=26
FITZ PKP PKPdf 12 25 34.4 +0.7
comp=E,36nm,0.6s,baz=182,slow=3.5,SNR=16
FITZ pPKP 12 25 56.9
comp=E,30nm,0.8s,baz=173,slow=8.2,SNR=4.5
FITZ Fitzroy Crossi 141.01 204 PKP PKPdf 12 25 34.4 +0.7
FITZ *e*PKPdf PKPdf 12 25 37.5 +3.8
FITZ pPKP 12 25 56.9
FRU Bishkek 141.18 43 *e*PKIKP PKPdf 12 25 36.0 +2.7
FRU pmax pmax
comp=Z,60nm,1.6s
AAK Ala-Archa 141.20 43 PKIKP PKPdf 12 25 36.0 +2.6
KAKA Kakadu 142.28 218 *e*P PKPdf 12 25 31.0 -5.0
comp=Z,20nm,0.6s
MKAR Makanchi Array 143.31 32 PKIKP PKPdf 12 25 35.4 -1.4
MKAR 12 25 58.4
MKAR pmax pmax
comp=Z,10.0nm,0.7s
MKAR pmax pmax
comp=Z,26nm,1.0s
MKAR Makanchi Array 143.31 32 PKP PKPdf 12 25 35.4 -1.4
comp=Z,9.5nm,0.7s,baz=323,slow=3.0,SNR=30
MKAR pPKP 12 25 58.4
comp=Z,26nm,1.0s,baz=333,slow=2.7,SNR=6.7
KSH Kashi 143.63 47 *e*PKP PKPdf 12 25 35.1 -2.5
KSH *e*APKP 12 25 59.6
KSH *e*XPKP 12 26 12.3
KSH *e*PKS PKS 12 29 10.3 -2.0
KSH *e*PPP x 12 31 13.3
KSH *e*SKS SKS 12 32 35.5 -1.8
KSH PP PP
comp=Z,290nm,5.5s
KSH LR LR
comp=N,420nm,4.9s
KSH LR LR
comp=E,530nm,4.7s
KLR Kul'dur 144.02 335 *e*PKHKP 12 25 34.0
KLR *e*PPP PP 12 28 50.0 -6.0
KLR pmax pmax
comp=N,120nm,2.6s
KLR pmax pmax
comp=Z,190nm,2.6s
KLR pmax pmax
comp=Z,600nm,11.0s
IRK Irkutsk 145.41 6 *e*PKIKP PKPdf 12 25 42.0 +1.7
IRK pmax pmax
comp=Z,472nm,2.9s
CIT Chita 145.78 356 *e*PKP2 PKPab 12 25 43.4 -0.8
CIT *e* 12 29 00.0
CIT pmax pmax
comp=Z,451nm,2.2s
POO Poona 145.88 83 *e*P PKPdf 12 25 44.2 +2.1
POO AMb AMB 12 25 46.2
comp=Z,133nm,1.0s
TLY Talaya 145.90 7 *i* PKP2 PKPab 12 25 43.8 -0.8
TLY *e* 12 29 11.4
TLY *e*PPP PPP 12 32 30.5 +6.6
TLY *e*PPS PPS 12 41 31.9 -13
TLY pmax pmax
comp=Z,161nm,1.6s
TLY Talaya 145.90 7 *e*PKPdf PKPdf 12 25 44.1 +3.0
TLY *ep*PKPdf 12 26 06.1
THN Thein Dam 146.08 58 *e*P PKPdf 12 25 43.6 +1.5
KAD Karad 146.09 85 *e*P PKPdf 12 25 44.0 +1.5
AJM Ajmer 146.43 69 || *i*P PKPdf 12 25 44.0 +1.1
ZAK Zakamensk 147.13 8 *e*PKP2 PKPab 12 25 45.7 -3.8
ZAK pmax pmax
comp=Z,40nm,1.3s
ZAK pmax pmax
comp=Z,53nm,1.1s
SDNR Sundarnagar 147.37 59 *e*P PKPdf 12 25 46.6 +2.3
HIA Hailar 147.65 348 PKPdf PKPdf 12 25 46.0 +1.8
HIA PKPbc PKPdf 12 25 48.6 +4.5
HIA SKPdf 12 29 12.9
HIA SKiKP 12 29 34.7
WMQ Urumqi 148.11 31 PKP PKPdf 12 25 48.0 +3.0
NDI New Delhi 148.29 64 *e*P PKPdf 12 25 46.5 +0.7
LATR Latur 148.44 84 *e*P PKPdf 12 25 48.5 +2.2
MDJ Mudanjiang 148.57 332 PKP PKPdf 12 25 46.9 +1.1
MDJ APKP 12 26 13.3
MDJ XPKP 12 26 22.6
MDJ PP PP 12 29 20.8 -2.1
MDJ SKS SKS 12 32 39.8 -4.3
MDJ PP PP
comp=Z,226nm,15.7s
MDJ LR LR
comp=N,428nm,32.8s
MDJ LR LR
comp=E,137nm,34.0s
MDJ LR LR
comp=Z,502nm,35.3s
MDJ Mudanjiang 148.57 332 PKPdf PKPdf 12 25 47.3 +1.6
MDJ PKPbc PKPdf 12 25 51.0 +5.3
DDI Dehra Dun 148.60 61 *e*P PKPdf 12 25 48.0 +1.7
DDI *e* 12 29 17.0
CBIJ Chichi jima 148.76 293 PKPbc PKPdf 12 25 51.6 +5.0
comp=Z,70nm,0.7s,baz=244,slow=19,SNR=5.7
MJAR Matsushiro Arr 148.79 312 PKIKP PKPdf 12 25 48.3 +1.9
MJAR 12 25 52.1
MJAR 12 26 11.6
MJAR pmax pmax
comp=Z,57nm,0.9s
MJAR pmax pmax
comp=Z,57nm,0.8s
MJAR pmax pmax
comp=Z,56nm,0.9s
MJAR Matsushiro Arr 148.79 312 PKP PKPdf 12 25 48.3 +1.9
comp=Z,57nm,0.8s,baz=39,slow=0.8,SNR=19
MJAR PKPbc PKPdf 12 25 52.0 +5.7
comp=Z,57nm,0.8s,baz=112,slow=0.7,SNR=76
MJAR pPKPbc 12 26 11.6
comp=Z,56nm,0.9s,baz=163,slow=0.5,SNR=9.8
MAJO Matsushiro 148.79 312 *e*PKIKP PKPdf 12 25 48.3 +1.9
MAJO *e* 12 25 52.2
MAT Matsushiro 148.79 312 *e*PKP PKPdf 12 25 48.0 +1.6
MAT LR LR
comp=Z,350nm,20.0s
MAT Matsushiro 148.79 312 PKP PKPdf 12 25 47.7 +1.3
JHJ Hachijo jima 2 149.09 305 PKPbc PKPdf 12 25 52.5 +5.5
comp=Z,176nm,0.7s,baz=208,slow=4.8,SNR=9.5
JHJ pPKPbc 12 26 15.3
comp=Z,163nm,0.8s,baz=246,slow=1.2,SNR=4.3
BHPL Bhopal 149.27 74 *e*P PKPdf 12 25 49.6 +2.1
BHPL *e* 12 25 55.4
BHPL AMb AMB 12 25 55.7
comp=Z,95nm,1.3s
PALK Pallekele 149.77 107 *e*PKPdf PKPdf 12 25 53.8 +5.2
SONM Songino Array 149.97 5 PKP PKPdf 12 25 50.4 +2.5
comp=Z,30nm,1.0s,baz=316,slow=1.5,SNR=73
SONM PKPbc PKPdf 12 25 55.2 +7.3
comp=Z,72nm,0.7s,baz=326,slow=1.8,SNR=153
SONM pPKPbc 12 26 16.6
comp=Z,85nm,1.0s,baz=315,slow=1.7,SNR=10
ULN Ulaanbaatar 149.99 4 *e*PKIKP PKPdf 12 25 42.4 -5.5
HYB Hyderabad 150.25 86 *e*PKIKP PKPdf 12 25 51.0 +1.8
HYB *e* 12 26 18.0
HYB Hyderabad 150.25 86 *e*PKP PKPdf 12 25 51.0 +1.8
HYB *e* 12 25 56.0
HYB *ep*PKP 12 26 14.0
HYB *e* 12 26 18.0
HYB Hyderabad 150.25 86 *i* PKP PKPdf 12 25 51.0 +1.8
comp=Z,200nm,1.0s
HYB *e* 12 25 56.0
HYB *ep*PKP 12 26 14.0
HYB *e* 12 26 18.0
LGTI Lohaghat 150.67 61 *e* PKPdf 12 25 56.7 +7.1
CN2 Changchun 150.95 336 *e*PKP PKPdf 12 25 49.1 -0.4
CN2 PKP2 PKPab 12 26 06.0 +0.7
CN2 PP PP 12 29 36.3 -0.5
CN2 SS SS 12 48 49.4 -0.2
CN2 PP PP
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,300nm,23.0s
CN2 LR LR
comp=E,300nm,23.0s
CN2 LR LR
comp=Z,440nm,25.0s
SNY Shenyang 153.35 337 *i* PKP PKPdf 12 25 54.5 +1.5
SNY PP PP

comp=Z,200nm,6.4s
SNY LR LR
comp=N,170nm,21.0s
SNY LR LR
comp=E,300nm,21.0s
SNY LR LR
comp=Z,540nm,21.4s
BLSP Bilaspur 153.68 76 *e*P PKPdf 12 25 56.0 +2.0
BLSP AMb AMB 12 26 28.1
comp=Z,83nm,0.8s
KOLN Koldanda 153.97 63 *e*P PKPdf 12 25 55.9 +1.6
comp=Z,11nm,0.5s
GKN Gorkha 154.78 62 *e*P PKPdf 12 25 57.3 +1.9
comp=Z,66nm,0.8s
VIS Vishakhapatnam 154.81 86 *e* PKPdf 12 26 06.0 +10
VIS AMb AMB 12 26 31.2
comp=Z,49nm,0.9s
KS15 Wonju Array Si 154.83 324 *e*PKPdf PKPdf 12 25 57.7 +2.5
KS15 *e*PKPbc PKPdf 12 26 06.2 +11
DMN Daman 155.29 62 *e*P PKPdf 12 25 57.3 +1.2
comp=Z,106nm,1.3s
KKN Kakani 155.38 62 *e*P PKPdf 12 25 57.6 +1.4
comp=Z,39nm,0.7s
PKI Pulchoki 155.56 62 *e*P PKPdf 12 25 57.2 +0.8
comp=Z,13nm,0.8s
JNU Nakatsue 155.71 313 PKPab PKPab 12 26 23.6 -2.0
comp=Z,8.4nm,0.7s,baz=200,slow=12,SNR=5.1
GUN Gumba 155.85 61 *e*P PKPdf 12 25 58.6 +1.8
comp=Z,20nm,0.5s
DL2 Dalian 156.63 336 PKP PKPdf 12 25 59.3 +1.8
DL2 PP PP 12 30 04.6 -3.8
DL2 SS SS 12 49 48.5 -2.6
DL2 PP PP
comp=Z,110nm,3.1s
DL2 LR LR
comp=N,160nm,28.2s
DL2 LR LR
comp=E,200nm,27.4s
DL2 LR LR
comp=Z,410nm,23.5s
GTA Gaotai 156.84 20 *e*PKP PKPdf 12 26 00.5 +2.8
GTA APKP 12 26 23.0
GTA PKP2 PKPab 12 26 29.9 -0.4
GTA XPKP 12 26 32.8
GTA PKS PKS 12 29 33.3 +2.5
GTA PP PP 12 30 05.8 -3.6
GTA SKS SKS 12 32 59.4 +5.4
GTA SKKS 12 36 48.5
GTA PP PP
comp=Z,409nm,11.0s
GTA LR LR
comp=N,378nm,25.6s
GTA LR LR
comp=E,171nm,23.8s
GTA LR LR
comp=Z,580nm,25.6s
HHC Hu-ho-hao-te 157.03 357 ⇓PKP PKPdf 12 26 01.0 +3.1
HHC APKP 12 26 24.1
HHC PKS PKS 12 29 35.9 +5.0
HHC SKS SKS 12 32 57.3 +3.2
HHC LR LR
comp=N,310nm,26.4s
HHC LR LR
comp=E,209nm,22.8s
HHC LR LR
comp=Z,570nm,31.2s
BTO Baotou 157.33 360 PKP PKPdf 12 26 00.8 +2.5
LSA Lhasa 159.30 52 PKP PKPdf 12 26 04.6 +3.5
JOW Kunigami 160.73 301 PKP PKPdf 12 26 03.2 +0.5
comp=Z,13nm,1.0s,baz=40,slow=5.4,SNR=4.2
JOW pPKP 12 26 26.4
comp=Z,18nm,1.0s,baz=128,slow=13,SNR=3.5
JOW PKPab PKPab 12 26 47.4 -0.1
comp=Z,20nm,0.9s,baz=123,slow=5.1,SNR=4.9
JOW pPKPab 12 27 10.1
comp=Z,22nm,0.8s,baz=103,slow=2.2,SNR=6.4
LZH Lanzhou 161.09 15 ⇓PKP PKPdf 12 26 06.0 +3.3
LZH APKP 12 26 28.5
LZH XPKP 12 26 36.4
LZH PP PP 12 30 34.0 +1.2
LZH SKKS 12 37 11.6
LZH SS SS 12 50 37.0 -0.7
LZH PP PP
comp=Z,462nm,5.6s
LZH LR LR
comp=E,724nm,20.8s
LZH LR LR
comp=Z,1μm,22.0s
LZH Lanzhou 161.09 15 ⇓PKIKP PKPdf 12 26 06.0 +3.3
LZH 12 26 36.4
SHL Shillong 161.69 62 *e*P PKPdf 12 26 06.0 +2.4
SSE Sheshan 163.24 324 PKP PKPdf 12 26 03.4 -1.6
SSE APKP 12 26 29.8
SSE PP PP 12 30 39.8 -4.2
SSE SS SS 12 50 55.5 -5.0
SSE PP PP
comp=Z,308nm,12.0s
SSE LR LR
comp=N,305nm,27.1s
SSE LR LR
comp=E,218nm,27.1s
SSE LR LR
comp=Z,404nm,26.3s
SSE Sheshan 163.24 324 PKP PKPdf 12 26 03.4 -1.6
SSE pPKP 12 26 29.7
SSE PP PP 12 30 39.8 -4.2
SSE SS SS 12 50 55.5 -5.0
SSE LR LR
comp=Z,400nm,26.3s
NJ2 Nanjing 163.66 332 *e*PKP PKPdf 12 26 04.5 -0.9
NJ2 APKP 12 26 31.4
NJ2 XPKP 12 26 42.0
NJ2 PP PP 12 30 43.0 -3.5
NJ2 SKS SKS 12 32 58.0 -2.2
NJ2 SKKS 12 37 23.0
NJ2 SS SS 12 51 05.0 -0.1
NJ2 PP PP
comp=Z,1μm,8.8s
NJ2 LR LR
comp=N,330nm,10.8s
NJ2 LR LR
comp=E,360nm,12.0s
KSM Kuching 163.71 182 *e*PKPdf PKPdf 12 26 08.2 +2.1
XAN Xi'an 163.87 3 PKP PKPdf 12 26 08.1 +2.5
CD2 Chengdu 165.90 22 PKP PKPdf 12 26 09.9 +2.3
WHN Wuhan 166.70 343 ⇑PKP PKPdf 12 26 10.5 +2.3
WHN APKP 12 26 32.0
WHN PKP2 PKPab 12 27 11.0 -2.3
WHN PP PP 12 30 58.0 -4.0
WHN LR LR
comp=Z,2μm,38.6s
QZH Quanzhou 169.19 312 *i* PKP PKPdf 12 26 10.3 +0.4
QZH APKP 12 26 34.0
QZH PKP2 PKPab 12 27 23.0 -1.4
QZH PP PP 12 31 12.0 -2.6
QZH LR LR
comp=N,950nm,23.9s
QZH LR LR
comp=E,390nm,14.7s
QZH LR LR
comp=Z,2μm,28.1s
CHG Chiang Mai 169.66 83 ⇓P PKPdf 12 26 12.0 +1.7
comp=Z,19nm,0.9s
BDT Bhumibol Dam 169.69 92 P PKPdf 12 26 12.0 +1.6
KMI Kunming 170.24 41 PKP PKPdf 12 26 10.3 -0.2
KMI Kunming 170.24 41 PKIKP PKPdf 12 26 10.2 -0.3
KMI 12 26 35.8
KMI 12 26 50.3
KMI 12 27 28.7
KMI 12 31 19.2
KMI PPP PPP 12 35 20.5 -5.6
KMI SS SS 12 52 04.3 -6.9
KMI MLR MLR
comp=Z,1μm,32.7s
KMI Kunming 170.24 41 PKP PKPdf 12 26 10.2 -0.3
KMI pPKP 12 26 35.8
KMI sPKP 12 26 50.3
KMI PKPab PKPab 12 27 28.7 -0.3
KMI PP PP 12 31 19.2 -0.7
KMI PPP PPP 12 35 20.5 -5.6
KMI SKKS 12 37 58.3
KMI SS SS 12 52 04.3 -6.9
KMI LR LR
comp=Z,1μm,32.7s
CHRT Chiangrai 170.32 76 ⇓P PKPdf 12 26 12.5 +1.8
GYA Guiyang 170.96 18 *i* PKP PKPdf 12 26 13.1 +2.2
GYA XPKP 12 26 40.6
GYA PKP2 PKPab 12 27 32.0 -0.3
GYA PKS PKS 12 29 44.8 +2.2
GYA PP PP 12 31 23.0 -0.5
GYA SKKS 12 37 58.3
GYA SS SS 12 52 12.1 -5.6
GYA PP PP
comp=Z,420nm,7.5s
GYA LR LR
comp=N,450nm,22.1s
GYA LR LR
comp=E,450nm,22.0s
GYA LR LR
comp=Z,310nm,22.8s
NANT Nan 171.32 82 ⇓P PKPdf 12 26 13.0 +1.7
comp=Z,75nm,0.7s
QIZ Qiongzhong 178.83 357 PKP PKPdf 12 26 11.9 -1.6
QIZ APKP 12 26 38.0
QIZ XPKP 12 26 46.8
QIZ PKP2 PKPab 12 28 05.3 -2.0
QIZ PP PP 12 31 56.9 -5.1
QIZ SKKS 12 38 36.9
QIZ SS SS 12 53 27.3 -5.4
QIZ PP PP
comp=Z,647nm,8.7s
QIZ LR LR
comp=N,315nm,23.1s
QIZ LR LR
comp=E,296nm,23.1s
QIZ LR LR
comp=Z,660nm,33.1s

NEIC 13 12:08:13.0,35.81N×90.16W,h11km,MD2.8(CERI)**, After CERI., Arkansas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNAR	**Gosnell**	**0.19**	**37**	*e*P		12 08 17.7	+0.4
HBAR	**Harrisburg**	**0.48**	**238**	*e*P		12 08 22.2	-0.5
HALT	**Halls**	**0.67**	**81**	*e*P		12 08 25.6	-0.7
GLAT	**Glass**	**0.84**	**57**	*e*P		12 08 28.6	-0.6
PARMO	**Parma**	**0.91**	**21**	*e*P		12 08 29.5	-0.9
UTMT	**University of**	**1.18**	**63**	P		12 08 34.4	-0.6
OXF	**Oxford**	**1.43**	**154**	*e*P		12 08 38.1	-1.0
WVT	**Waverly**	**1.92**	**80**	*e*P		12 08 44.9	-1.1
UALR	**University of**	**2.06**	**241**	Pn		12 08 48.1	0.0
FVM	**French Village**	**2.18**	**354**	*e*Pn		12 08 48.6	-1.2
CCM	**Cathedral Cave**	**2.40**	**339**	*e*Pn		12 08 53.3	+0.3
SLM	**Saint Louis**	**2.82**	**359**	Pn		12 08 59.4	+0.5
SWET	**Sewanee**	**3.50**	**99**	*e*Pn		12 09 08.0	-0.6
LRAL	**Lakeview Retre**	**3.81**	**136**	*e*Pn		12 09 10.3	-2.6
BLO	**Bloomington**	**4.43**	**40**	Pn		12 09 20.0	-1.8
MYNC	**Murphy**	**4.98**	**97**	*e*Pn		12 09 28.0	-1.6
TZTN	**Tazewell**	**5.40**	**80**	Pn		12 09 41.9	+6.4
KSU1	**Kansas State U**	**6.09**	**305**	Pn		12 09 43.3	-2.0
BLA	**Blacksburg**	**7.97**	**77**	Pn		12 10 08.0	-3.6
MNTX	**Cornudas Mount**	**13.31**	**256**	Pn		P 12 11 18.8	-5.8

*IDC **13** 13:35:31.2±2.0,2.23S×100.68E,mb4.4/7,mb1 4.5/7, mb1mx4.1/17,mbtmp4.4/7,Error ellipse: s-maj=100.1km s-min=17.6km az=56.0*
*NEIC **13** 13:35:35.6±0.7,2.36S×100.58E,h30km,mb4.6/5,Error ellipse: s-maj=32.0km s-min=8.0km az=55.0*

ISC 13 13:35:34.5±1.0,2.3S±0.2×100.7E±0.2,h33km,n17, σ0s59/16,mb4.7/11,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**7.51**	**360**	*e*P	**P**	**13 37 25.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**29.09**	**124**	P	**P**	**13 41 34.3**	**-0.1**
	3.6nm,0.6s,mb4.3,baz=219,slow=7.3,SNR=3.9						
PKI	**Pulchoki**	**33.12**	**335**	*e*P	**P**	**13 42 09.7**	**-0.3**
GUN	**Gumba**	**33.22**	**336**	*e*P	**P**	**13 42 11.5**	**+0.7**
	26nm,0.4s,mb5.5						
DMN	**Daman**	**33.29**	**334**	*e*P	**P**	**13 42 11.2**	**-0.2**
	13nm,0.8s,mb4.9						
GKN	**Gorkha**	**33.83**	**334**	*e*P	**P**	**13 42 16.3**	**+0.2**
	6.9nm,0.3s,mb5.0						
KOLN	**Koldanda**	**34.10**	**332**	*e*P	**P**	**13 42 18.7**	**+0.3**
	9.3nm,0.6s,mb4.9						
WRA	**Warramunga Arr**	**37.26**	**121**	P	**P**	**13 42 44.7**	**-0.6**
	2.0nm,0.4s,mb4.3,baz=299,slow=9.3,SNR=33						
WRA				PcP	PcP	13 45 04.7	-0.1
	0.2nm,0.4s,baz=311,slow=2.4,SNR=6.4						
WB2	**Warramunga Arr**	**37.27**	**121**	*e*P	**P**	**13 42 45.5**	**+0.2**
STKA	**Stephens Creek**	**48.45**	**132**	*e*P	**P**	**13 44 17.4**	**+1.4**
	1.9nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**48.45**	**132**	P	**P**	**13 44 16.6**	**+0.5**
	1.7nm,0.6s,mb4.2,baz=295,slow=6.9,SNR=9.2						
SONM	**Songino Array**	**50.15**	**5**	P	**P**	**13 44 28.4**	**-0.5**
	1.4nm,0.4s,mb4.3,baz=187,slow=10,SNR=12						
SONM				PcP	PcP	13 45 47.0	-1.2
	0.6nm,0.6s,baz=189,slow=4.1,SNR=2.8						
MKAR	**Makanchi Array**	**51.48**	**344**	P	**P**	**13 44 38.5**	**-0.5**
	4.5nm,0.4s,mb4.8,baz=152,slow=8.3,SNR=57						
ZAL	**Zalesovo**	**57.56**	**349**	P	**P**	**13 45 22.0**	**-1.2**
	6.3nm,0.5s,mb4.9,baz=320,slow=5.4,SNR=24						
ZAL	**Zalesovo**	**57.56**	**349**	P	**P**	**13 45 22.0**	**-1.2**
ARCES	**ARCESS Array B**	**86.96**	**340**	P	**P**	**13 48 17.4**	**+0.3**
	0.5nm,0.4s,mb4.1,baz=106,slow=6.0,SNR=5.2						
TXAR	**Lajitas Array**	**144.49**	**38**	PKP	PKPdf	13 55 09.4	+1.2
	1.7nm,0.4s,baz=302,slow=1.2,SNR=27						

*CSEM **13** 14:47:08.1±0.2,39.10N×24.20E,h30km,MD3.0, Error ellipse: s-maj=5.3km s-min=4.0km az=101.0*
*THE **13** 14:47:09.2,39.19N×24.21E,h13km*
*ATH **13** 14:47:11.9,38.88N×23.79E,h32km±12km,MD3.0/4*
*NEIC **13** 14:47:11.9,38.88N×23.79E,h32km, MD3.0(ATH),After ATH.*

ISC 13 14:47:07.8±0.7,39.08N±0.04×24.23E±0.05,h20km±6km, n14,σ0s86/23,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOS	**Alonnisos**	**0.29**	**288**	*e*Pg	**Pb**	**14 47 14.0**	**-0.4**
AOS				*e*Sg	**Sb**	**14 47 18.5**	**-0.2**
NEO	**Neokhori**	**0.82**	**286**	*e*PN	**Pn**	**14 47 24.5**	**+0.3**
NEO				*e*SN	**Sn**	**14 47 34.1**	**-1.6**
XOR	**Xorichti**	**0.86**	**290**	*e*Pg	**Pb**	**14 47 24.4**	**+0.5**
XOR				*e*Sg	**Sb**	**14 47 36.1**	**+1.2**
PAIG	**Paliouri**	**0.95**	**333**	*e*Pg	**Pb**	**14 47 25.7**	**+0.3**
PAIG				*e*Sg	**Sb**	**14 47 37.3**	**-0.2**
MPAR	**Parnis Oros**	**1.01**	**203**	*e*PN	**Pn**	**14 47 27.0**	**+0.1**
LKR	**Lokris**	**1.05**	**246**	*e*PN	**Pn**	**14 47 25.3**	**-2.3**
PTL	**Penteli**	**1.07**	**196**	*e*PB	**Pb**	**14 47 27.5**	**0.0**
LOS	**Limnos**	**1.08**	**37**	*e*Pg	**Pb**	**14 47 28.0**	**+0.4**
LOS				*e*Sg	**Sb**	**14 47 41.5**	**+0.3**
OUR	**Ouranopolis**	**1.27**	**351**	*e*Pg	**Pn**	**14 47 30.6**	**-0.1**
OUR				*e*Sg	**Sb**	**14 47 46.2**	**-0.6**
OUR	**Ouranopolis**	**1.27**	**351**	*e*Pg	**Pn**	**14 47 30.5**	**-0.2**
OUR				*e*Sg	**Sb**	**14 47 46.2**	**-0.6**
NSAL	**Nisos Salamina**	**1.32**	**208**	*e*PB	**Pb**	**14 47 30.5**	**-1.2**
NAIG	**Nisos Aigina**	**1.44**	**204**	*e*PN	**Pn**	**14 47 34.0**	**+0.8**
AGG	**Agios Georgios**	**1.48**	**268**	*e*Pg	**Pn**	**14 47 34.7**	**+1.0**
AGG				*e*Sg	**Sn**	**14 47 54.4**	**+1.7**
LIT	**Litokhoron**	**1.69**	**308**	*e*Pg	**Pn**	**14 47 36.7**	**+0.1**
LIT				*e*Sg	**Sn**	**14 47 57.4**	**-0.5**

*NEIC **13** 14:49:26.1±1.4,6.77N×76.57W,h57km±14km,mb4.1/4, Error ellipse: s-maj=21.6km s-min=10.3km az=48.0*
*IDC **13** 14:49:26.8±2.3,6.87N×76.55W,h63km±21km,mb3.6/8, mb1 3.9/10,mb1mx3.7/22,mbtmp3.9/10,MS3.5/5, Ms1 3.5/5,ms1mx3.2/19,Error ellipse: s-maj=25.1km s-min=15.3km az=51.0*

ISC 13 14:49:18.9±4.8,6.91N±0.09×76.32W±0.08,h9km±32km, n21,σ1s22/20,mb3.8/9,MS3.9/2,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.85**	**136**	P	**Pn**	**14 50 11.3**	**+5.8**
	20nm,0.3s,baz=308,slow=6.7,SNR=21						
ROSC				S	**Sn**	**14 50 48.5**	**+8.3**
	78nm,0.3s,baz=238,slow=22,SNR=7.6						
SDV	**Santo Domingo**	**5.97**	**70**	P	**Pn**	**14 50 51.3**	**+1.7**
	2.4nm,0.3s,baz=298,slow=12,SNR=24						
SDV				S	**Sn**	**14 51 57.7**	**-1.2**
	6.4nm,0.3s,baz=311,slow=14,SNR=3.1						
SDV				LR	LR	14 53 25.1	
	comp=Z,344nm,19.2s,baz=22,slow=38						
SDV	**Santo Domingo**	**5.97**	**70**	*e*P	**Pn**	**14 50 49.8**	**+0.1**
	74nm,0.8s						
JTS	**JuntasAbangare**	**9.17**	**292**	P	**P**	**14 51 32.5**	**-1.9**
	0.6nm,0.3s,baz=161,slow=23,SNR=2.3						
JTS				LR	LR	14 55 22.1	
	comp=Z,211nm,20.8s,baz=282,slow=40						
JTS	**JuntasAbangare**	**9.17**	**292**	P	**P**	**14 51 32.5**	**-1.9**
JTS				LR	LR	14 55 22.1	
SJG	**San Juan**	**14.91**	**41**	LR	LR	14 58 39.8	
	comp=Z,62nm,20.8s,baz=269,slow=37						
SAML	**Samuel**	**20.49**	**140**	*e*P	**P**	**14 53 56.3**	**-3.8**
	11nm,0.9s						
LPAZ	**La Paz**	**24.44**	**161**	P	**P**	**14 54 41.1**	**+1.8**
	0.4nm,0.3s,mb3.3,baz=322,slow=13,SNR=2.9						
LPAZ	**La Paz**	**24.44**	**161**	*e*P	**P**	**14 54 40.7**	**+1.4**
	2.3nm,0.8s,mb3.7						
SIV	**San Ignacio**	**27.31**	**147**	P	**P**	**14 55 04.8**	**-1.4**
	0.9nm,0.6s,mb3.5,baz=328,slow=10,SNR=5.1						
BDFB	**Brasilia**	**35.90**	**129**	P	**P**	**14 56 21.1**	**-0.6**
	2.2nm,0.5s,mb4.4,baz=281,slow=6.2,SNR=3.3						
CFAA	**Coronel Fontan**	**39.07**	**169**	P	**P**	**14 56 48.2**	**0.0**
	0.3nm,0.5s,mb3.3,baz=332,slow=9.0,SNR=5.5						
SDCO	**Great Sand Dun**	**40.53**	**324**	P	**P**	**14 57 01.6**	**+1.5**
	7.8nm,1.5s,mb4.1						
YKA	**Yellowknife Ar**	**62.11**	**341**	P	**P**	**14 59 41.2**	**-1.2**
	0.7nm,0.5s,mb4.1,baz=127,slow=7.0,SNR=4.7						
YKA				LR	LR	15 29 39.5	
	comp=Z,26nm,19.9s,MS3.4,slow=39						
ESDC	**Sonseca Array**	**72.05**	**51**	P	**P**	**15 00 45.2**	**-0.4**
	0.3nm,0.3s,mb3.6,baz=271,slow=5.1,SNR=6.6						
PPT	**Papeete**	**76.29**	**250**	LR	LR	15 26 56.3	
	comp=Z,145nm,19.2s,MS4.3,baz=97,slow=30						
NB2	**NORSAR Subarra**	**82.81**	**29**	P	**P**	**15 01 46.1**	**+1.4**
	1.1nm,0.7s,mb4.0,baz=272,slow=6.5						
NOA	**NORSAR Array B**	**82.81**	**29**	P	**P**	**15 01 45.8**	**+1.1**
	1.6nm,0.8s,mb4.1,baz=273,slow=6.6,SNR=4.6						
CLL	**Collm**	**84.24**	**39**	P	**P**	**15 01 53.5**	**+1.3**
GERES	**GERESS Array B**	**84.87**	**42**	P	**P**	**15 01 56.0**	**+0.6**
	1.4nm,0.9s,mb4.1,baz=256,slow=5.5,SNR=6.7						
WRA	**Warramunga Arr**	**147.56**	**243**	PKPbc	PKPdf	15 09 03.4	-1.4
	1.6nm,0.9s,baz=105,slow=2.4,SNR=12						
WRA				PKPab	PKPab	15 09 07.1	-1.7
	0.8nm,0.9s,baz=106,slow=2.7,SNR=4.6						

*PRE **13** 14:51:57.3±2.1,26.37S×27.33E,h2km,ML4.2*
*IDC **13** 14:51:58.5±0.9,26.44S×27.36E,mb4.0/6,mb1 4.3/10, mb1mx4.1/23,mbtmp4.1/10,ML3.5/4,MS2.7/1,Ms1 2.7/1, ms1mx2.3/18,Error ellipse: s-maj=16.9km s-min=13.3km az=82.0*

ISC 13 14:51:57.6±0.8,26.38S±0.03×27.32E±0.03,h9km±5km, n29,σ1s24/42,mb3.9/6,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.55**	**176**	*e*P	**Pg**	**14 52 08.1**	**-0.5**
PRYS				*e*S	**Sg**	**14 52 16.0**	**+0.1**
PRYS				AML	AML	14 52 20.3	
	comp=Z,4μm,0.5s						
SLR	**Silverton**	**1.07**	**54**	*e*P	**Pb**	**14 52 17.6**	**-0.3**
SLR				*e*S	**Sb**	**14 52 31.7**	**-0.2**
SLR				AML	AML	14 52 37.8	
	comp=Z,1μm,0.2s						
SWZ	**Schweizer**	**1.95**	**245**	*e*P	**Pn**	**14 52 33.0**	**+1.7**
SWZ				*e*S	**Sn**	**14 52 57.9**	**+1.8**
SWZ				AML	AML	14 53 04.5	
	comp=Z,5μm,0.2s						
SEK	**Senekal**	**1.96**	**172**	*e*P	**Pn**	**14 52 32.4**	**+1.1**
SEK				*e*S	**Sn**	**14 52 57.0**	**+0.7**
SEK				AML	AML	14 53 00.9	
	comp=Z,3μm,0.4s						
LBTB	**Lobatse**	**2.06**	**311**	Pn	**Pn**	**14 52 37.0**	**+4.1**
	comp=Z,88nm,0.3s,baz=143,slow=15,SNR=670						
LBTB				Pg	**Pg**	**14 52 38.3**	**-0.5**
	comp=Z,88nm,0.3s,baz=143,slow=15,SNR=670						
LBTB				Lg		14 53 05.7	
	comp=Z,388nm,0.3s,baz=51,slow=23,SNR=95						
LBTB				Rg		14 53 11.9	
	comp=Z,377nm,0.3s,baz=55,slow=20,SNR=7.9						
BFT	**Belfast (SA)**	**2.54**	**75**	*e*S	**Sn**	**14 53 11.1**	**-0.1**
NWL	**Newcastle**	**2.70**	**120**	*e*P	**Pn**	**14 52 42.1**	**+0.1**
NWL				AML	AML	14 53 22.2	
	comp=Z,3μm,0.5s						
BOSA	**Boshof**	**2.88**	**219**	Pn	**Pn**	**14 52 46.4**	**+1.7**
	comp=Z,17nm,0.3s,baz=43,slow=14,SNR=519						
BOSA				Sn	**Sn**	**14 53 20.3**	**+0.5**
	comp=Z,26nm,0.3s,baz=329,slow=13,SNR=13						
BOSA				Lg		14 53 28.0	
	comp=Z,254nm,0.3s,baz=321,slow=21,SNR=39						
BOSA				Rg		14 53 44.3	
	comp=Z,199nm,0.4s,baz=160,slow=17,SNR=3.7						
BOSA	**Boshof**	**2.88**	**219**	*e*P	**Pn**	**14 52 45.2**	**+0.6**
BOSA				*e*S	**Sn**	**14 53 19.3**	**-0.5**
POGA	**Pongola**	**3.96**	**105**	*e*P	**Pn**	**14 53 00.3**	**+0.5**
POGA				*e*S	**Sn**	**14 53 47.5**	**+0.6**
POGA				AML	AML	14 54 02.6	
	comp=Z,464nm,0.7s						
HVD	**Hendrik Verwoe**	**4.51**	**200**	*e*S	**Sn**	**14 53 58.5**	**-2.4**
HVD				AML	AML	14 54 27.4	
	comp=Z,328nm,0.6s						
KSD	**Kokstad**	**4.54**	**157**	*e*S	**Sn**	**14 53 59.7**	**-2.0**
KSD				AML	AML	14 54 23.2	
	comp=Z,242nm,0.6s						
MSNA	**Messina**	**4.71**	**32**	*e*S	**Sn**	**14 54 04.1**	**-2.0**
MSNA				AML	AML	14 54 31.1	
	comp=Z,116nm,0.6s						
UPI	**Upington**	**5.75**	**249**	*e*P	**Pn**	**14 53 24.2**	**-1.0**
UPI				*e*S	**Sn**	**14 54 28.5**	**-3.6**
UPI				AML	AML	14 55 02.7	
	comp=Z,258nm,0.7s						
MATP	**Matopo**	**6.02**	**11**	Pn	**Pn**	**14 53 29.1**	**0.0**
	comp=Z,5.7nm,0.3s,baz=190,slow=13,SNR=90						
MATP				Sn	**Sn**	**14 54 36.0**	**-3.0**
	comp=Z,3.7nm,0.3s,baz=110,slow=9.4,SNR=11						
MATP				Lg		14 55 04.3	
	comp=Z,7.5nm,0.3s,baz=112,slow=14,SNR=12						
GRM	**Grahamstown**	**6.95**	**186**	*e*P	**Pn**	**14 53 40.6**	**-1.5**
CVNA	**Calvinia**	**8.35**	**231**	*e*P	**P**	**14 54 00.1**	**-1.6**
CVNA				*e*S	**Sn**	**14 55 30.0**	**-7.1**
CVNA				AML	AML	14 56 00.2	
	comp=Z,62nm,0.3s						
CER	**Ceres**	**9.85**	**223**	*e*P	**P**	**14 54 19.9**	**-2.5**
CER				*e*S	**Sn**	**14 56 12.8**	**-1.4**
CER				AML	AML	14 57 07.4	
	comp=Z,81nm,0.7s						
TSUM	**Tsumeb**	**11.47**	**307**	Pn	**P**	**14 54 44.6**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=122,slow=11,SNR=31						
TSUM				Sn	**S**	**14 56 45.1**	**-9.0**
	comp=Z,0.2nm,0.3s,baz=288,slow=17,SNR=3.5						
TSUM				Lg		14 57 52.0	
	comp=Z,1.0nm,0.3s,baz=236,slow=22,SNR=3.2						
TSUM				LR	LR	14 59 51.5	
	comp=Z,40nm,19.5s,baz=139,slow=41						
SNAA	**Sanae**	**48.35**	**192**		**P**	**15 00 42.0**	**+0.9**
VNA1	**Neumayer--Stat**	**48.72**	**195**		**P**	**15 00 45.6**	**+1.7**
VNA2	**Neumayer--Watz**	**48.72**	**194**		**P**	**15 00 45.2**	**+1.2**
VNA3	**Neumayer Olymp**	**49.46**	**195**		**P**	**15 00 49.8**	**+0.1**
ESDC	**Sonseca Array**	**71.90**	**335**	P	**P**	**15 03 23.5**	**+0.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=146,slow=5.7,SNR=5.2						
VNDA	**Vanda**	**72.88**	**171**	P	**P**	**15 03 28.9**	**+0.7**
	comp=Z,0.6nm,0.5s,mb3.8,baz=254,slow=9.1,SNR=11						
GERES	**GERESS Array B**	**75.86**	**351**	P	**P**	**15 03 47.2**	**+1.3**
	comp=Z,0.7nm,0.8s,mb3.6,baz=180,slow=1.3,SNR=5.2						
AKASG	**Malin Array Be**	**76.75**	**1**	P	**P**	**15 03 51.4**	**+0.5**
	comp=Z,0.2nm,0.2s,mb3.6,baz=187,slow=5.3,SNR=7.4						
LPAZ	**La Paz**	**87.63**	**253**	P	**P**	**15 04 50.4**	**+2.2**
	comp=Z,1.2nm,0.8s,mb4.2,baz=76,slow=4.2,SNR=4.1						
MKAR	**Makanchi Array**	**88.12**	**34**	P	**P**	**15 04 50.6**	**+0.8**
	comp=Z,0.5nm,0.6s,mb4.0,baz=232,slow=5.5,SNR=5.1						

IDC 13 15:08:32.8±3.0,6.81N×75.91W,h113km±40km,mb4.0/1, mb1 3.9/3,mb1mx3.4/20,mbtmp4.0/3,MS3.4/1,Ms1 3.3/1, ms1mx2.5/24,Error ellipse: s-maj=40.8km s-min=25.3km az=127.0,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.50**	**141**	P	P	15 09 13.0	0.0
	14nm,0.3s,baz=283,slow=19,SNR=16						
ROSC				S	S	15 09 50.4	+7.1
	4.1nm,0.3s,baz=112,slow=21,SNR=4.6						
SDV	**Santo Domingo**	**5.62**	**68**	P	P	15 09 53.5	-1.7
	0.9nm,0.3s,baz=258,slow=11,SNR=8.6						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDV				S	S	15 10 58.6	-0.4
	1.1nm,0.3s,baz=254,slow=19,SNR=2.6						
TXAR	**Lajitas Array**	**34.44**	**314**	P	P	15 15 09.8	-1.7
	3.7nm,0.8s,baz=127,slow=9.0,SNR=7.6						
SCHQ	**Schefferville**	**48.44**	**7**	LR	LR	15 36 04.9	
	comp=Z,40nm,20.2s,baz=65,slow=34						
WRA	**Warramunga Arr**	**147.88**	**243**	PKPbc	PKPdf	15 28 04.9	+2.5
	0.3nm,0.7s,baz=104,slow=2.6,SNR=4.8						

MEX 13 15:48:45.5±0.5**, 16.30N×98.49W, h11**km±8km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.36**	**75**	*e*P	Pg	15 48 52.2	-0.7
PNIG				*e*S	Sg	15 48 57.6	-0.4
ACX	**Acapulco**	**1.48**	**293**	*i* P	Pn	15 49 08.5	-3.7
ACX				*e*S	Sb	15 49 25.5	-5.8
OXX	**Oaxaca**	**1.86**	**65**	*i* P	Pn	15 49 15.0	-2.7
OXX				*e*S	Sn	15 49 36.0	-5.4

*NEIC **13** 15:55:53.9±0.5, 57.10N×155.70W, h69km±5km, ML3.2(AEIC), Error ellipse: s-maj=10.3km s-min=4.6km az=146.0*

*IDC **13** 15:55:56.0±6.2, 57.43N×155.87W, h73km±49km, mb3.4/7, mb1 3.5/9, mb1mx3.4/24, mbtmp3.7/9, ML3.8/2, Error ellipse: s-maj=42.4km s-min=26.6km az=22.0*

ISC 13 15:55:52.0±0.7**, 57.03N**±0.08×**155.6W**±0.1**, h79**km±7km**, n34, σ0^{s}80**/36**, mb3.6**/7**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KJL	**Kejulik**	**1.03**	**0**	P	**P**	**15 56 11.4**	**-0.2**
CAHL	**Cahill**	**1.04**	**8**	P	**P**	**15 56 11.6**	**-0.1**
ACHA	**Angle Creek He**	**1.20**	**7**	P	**P**	**15 56 13.8**	**+0.1**
ACHA				S	**S**	**15 56 29.3**	**-0.7**
KAHC	**Katmai Hardscr**	**1.66**	**10**	P	**P**	**15 56 20.2**	**+0.4**
KDAK	**Kodiak Island**	**1.79**	**64**	P	**P**	**15 56 22.8**	**+1.2**
SDPT	**Sand Point**	**3.21**	**240**	P	**P**	**15 56 41.4**	**0.0**
ILIM	**Iliamna**	**3.36**	**23**	P	**P**	**15 56 44.7**	**+1.3**
BRLK	**Bradley Lake**	**3.69**	**40**	P	**P**	**15 56 48.3**	**+0.2**
RSO	**Redoubt South**	**3.75**	**22**	*e*P	**P**	**15 56 50.2**	**+1.3**
BLHA	**Black Hill**	**3.84**	**253**	P	**P**	**15 56 49.4**	**-0.8**
HAG	**Hague Volcano**	**3.93**	**247**	P	**P**	**15 56 51.8**	**+0.4**
DOL	**Dolgoi Island**	**3.99**	**244**	P	**P**	**15 56 52.4**	**+0.2**
SVW2	**Sparrevohn**	**4.08**	**0**	P	**P**	**15 56 52.9**	**-0.6**
SEW	**Seward**	**4.45**	**44**	P	**P**	**15 56 57.9**	**-0.7**
SPU	**Mount Spurr**	**4.55**	**22**	*e*P	**P**	**15 57 01.0**	**+1.0**
STLK	**Strandline Lak**	**4.88**	**22**	P	**P**	**15 57 05.7**	**+1.2**
LTI	**Latouche**	**5.05**	**50**	P	**P**	**15 57 06.5**	**-0.4**
RC01	**Rabbit Creek A**	**5.07**	**34**	P	**P**	**15 57 06.1**	**-1.0**
SML	**Sawmill**	**6.05**	**35**	P	**P**	**15 57 21.7**	**+1.0**
EYAK	**Cordova Ski Ar**	**6.21**	**51**	P	**P**	**15 57 22.2**	**-0.7**
VLZ	**Valdez**	**6.30**	**45**	P	**P**	**15 57 23.7**	**-0.4**
DIV	**Divide**	**6.52**	**47**	P	**P**	**15 57 26.5**	**-0.6**
BMRM	**Bremner River**	**6.91**	**51**	P	**P**	**15 57 32.0**	**-0.7**
BALM	**Baldy**	**7.92**	**54**	P	**P**	**15 57 46.4**	**0.0**
ILAR	**Eielson Array**	**8.84**	**25**	P	**P**	**15 57 57.4**	**-1.6**
	0.3nm,0.3s,baz=220,slow=13,SNR=5.7						
ILAR				S	**S**	**15 59 30.6**	**-7.3**
	0.2nm,0.3s,baz=90,slow=19,SNR=3.5						
PNL	**Peninsula**	**8.91**	**66**	P	**P**	**15 57 59.1**	**-0.8**
INK	**Inuvik**	**15.06**	**33**	P	**P**	**15 59 22.1**	**+0.9**
	0.3nm,0.3s,baz=221,slow=9.5,SNR=5.6						
PDAR	**Pinedale Array**	**32.22**	**96**	P	**P**	**16 02 18.2**	**+3.8**
	0.4nm,0.5s,mb3.4,baz=332,slow=4.0,SNR=4.7						
SONM	**Songino Array**	**55.44**	**306**	P	**P**	**16 05 20.8**	**+0.7**
	0.4nm,0.9s,mb3.5,baz=72,slow=4.6,SNR=2.8						
FINES	**FINESS Array B**	**61.86**	**359**	P	**P**	**16 06 04.9**	**+0.3**
	1.0nm,0.7s,mb4.0,baz=352,slow=9.8,SNR=3.0						
HFS	**Hagfors**	**62.88**	**6**	P	**P**	**16 06 10.9**	**-0.4**
	0.7nm,0.3s,mb4.0,baz=4.1,slow=3.1,SNR=8.3						
BVAR	**Borovoye Array**	**64.05**	**331**	P	**P**	**16 06 18.2**	**-0.7**
	0.6nm,0.4s,mb3.8,baz=45,slow=8.2,SNR=3.1						
EKA	**Eskdalemuir Ar**	**65.79**	**17**	P	**P**	**16 06 31.1**	**+1.0**
	0.4nm,0.4s,mb3.6,baz=329,slow=4.9,SNR=3.5						
MKAR	**Makanchi Array**	**65.89**	**320**	P	**P**	**16 06 29.9**	**-1.0**
	0.3nm,0.6s,mb3.3,baz=27,slow=9.6,SNR=3.3						

*IDC **13** 16:01:16.8±2.4, 1.30N×97.14E, mb4.1/6, mb1 4.2/6, mb1mx3.9/19, mbtmp4.1/6, Error ellipse: s-maj=107.9km s-min=20.4km az=58.0*

*BJI **13** 16:01:19.1, 0.94N×97.34E, h49km, mB4.8, mb4.4, Ms3.9, Msz3.9*

*NEIC **13** 16:01:21.3±0.8, 1.31N×97.16E, h30km, mb4.3/4, Error ellipse: s-maj=19.6km s-min=11.4km az=52.0*

ISC 13 16:01:19.2±1.0**, 1.3N**±0.1×**97.2E**±0.1**, h30**km**, n16, σ0^{s}71**/16**, mb4.3**/12**, MS3.8**/1**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.27**	**41**	*e*P	**Pn**	**16 02 38.0**	**-0.2**
KMI	**Kunming**	**24.29**	**12**	P	**P**	**16 06 36.8**	**+1.5**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.2						
KMI				LR	LR		
	comp=N,194nm,16.2s,MS3.8						
KMI				LR	LR		
	comp=E,105nm,14.6s,MS3.8						
KMI				LR	LR		
	comp=Z,252nm,14.6s,MS3.8						
KMI	**Kunming**	**24.29**	**12**	P	**P**	**16 06 36.7**	**+1.4**
	comp=Z,8.0nm,0.8s,mb4.2						
KMI				LR	LR		
	comp=Z,250nm,14.6s,MS3.8						
SHL	**Shillong**	**24.65**	**349**	*e*P	**P**	**16 06 39.0**	**+0.1**
PKI	**Pulchoki**	**28.44**	**338**	*e*P	**P**	**16 07 12.8**	**-1.0**
KKN	**Kakani**	**28.69**	**338**	*e*P	**P**	**16 07 15.7**	**-0.3**
	comp=Z,4.2nm,0.4s,mb4.5						
GKN	**Gorkha**	**29.13**	**337**	*e*P	**P**	**16 07 21.0**	**+1.0**
	comp=Z,14nm,0.9s,mb4.7						
KOLN	**Koldanda**	**29.35**	**335**	*e*P	**P**	**16 07 22.6**	**+0.7**
	comp=Z,7.9nm,0.6s,mb4.6						
XAN	**Xi'an**	**34.38**	**17**	P	**P**	**16 08 04.8**	**-1.1**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6						
GTA	**Gaotai**	**38.00**	**3**	*e*P	**P**	**16 08 36.4**	**-0.1**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**42.12**	**122**	P	**P**	**16 09 10.8**	**-0.1**
	comp=Z,1.1nm,0.6s,mb3.7,baz=301,slow=9.1,SNR=16						
SONM	**Songino Array**	**47.03**	**8**	P	**P**	**16 09 50.3**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.2,baz=191,slow=9.0,SNR=21						
MKAR	**Makanchi Array**	**47.13**	**346**	P	**P**	**16 09 51.1**	**+0.4**
	comp=Z,2.0nm,0.7s,mb4.2,baz=162,slow=8.6,SNR=15						
ZAL	**Zalesovo**	**53.44**	**351**	P	**P**	**16 10 38.4**	**-0.3**
	comp=Z,3.1nm,0.4s,mb4.6,baz=309,slow=4.7,SNR=14						
STKA	**Stephens Creek**	**53.45**	**132**	P	**P**	**16 10 39.5**	**+0.4**
	comp=Z,1.3nm,0.8s,mb3.9,baz=301,slow=5.9,SNR=3.4						
BVAR	**Borovoye Array**	**56.14**	**341**	P	**P**	**16 10 57.2**	**-1.2**
	comp=Z,1.8nm,0.7s,mb4.2,baz=141,slow=9.2,SNR=9.6						

*NEIC **13** 16:44:01.9±3.4, 51.66N×16.20E, h5km, ML3.0(VIE), Error ellipse: s-maj=42.3km s-min=13.5km az=217.0*

*WAR **13** 16:44:04.2, 51.51N×16.09E, h1km, ML2.7, Mining Induced*

*CSEM **13** 16:44:04.8±0.2, 51.46N×16.12E, h2km, ML3.0/10, Error ellipse: s-maj=2.8km s-min=1.7km az=24.0*

*IPEC **13** 16:44:04.0±0.3, 51.50N×16.15E, h8km±1km, ML2.0/3, Error ellipse: s-maj=2.0km s-min=0.7km az=24.0*

*PRU **13** 16:44:04.5, 51.46N×16.12E*

ISC 13 16:44:02.6±0.7**, 51.42N**±0.03×**16.08E**±0.04**, n29, σ1^{s}30**/58**, 2C-1D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.59**	**167**	*e*Pg	**Pg**	**16 44 16.5**	**+2.0**
KSP				*e*Sg	**Sg**	**16 44 25.6**	**+3.2**
KSP	**Ksiaz**	**0.59**	**167**	*e*Pg	**Pg**	**16 44 16.5**	**+2.0**
KSP				*e*Sg	**Sg**	**16 44 25.6**	**+3.2**
KSP	**Ksiaz**	**0.59**	**167**	*e*Pg	**Pg**	**16 44 16.5**	**+2.0**
KSP				*e*Sg	**Sg**	**16 44 25.5**	**+3.1**
UPC	**Upice**	**0.92**	**183**	*e*PG	**Pg**	**16 44 22.6**	**+1.7**
DPC	**Dobruska-Polom**	**1.08**	**172**	*e*PG	**Pg**	**16 44 25.4**	**+1.1**
DPC				*e*SG	**Sg**	**16 44 40.3**	**+1.6**
	17nm,0.2s						
PVCC	**Panska Ves**	**1.31**	**228**	*e*PG	**Pg**	**16 44 29.3**	**+0.5**
PVCC	**Panska Ves**	**1.31**	**228**	*e*Pn	**Pn**	**16 44 29.8**	**+1.7**
PVCC				*e*Sg	**Sg**	**16 44 47.8**	**+1.6**
BRG	**Berggiesshubel**	**1.45**	**249**	Pn	**Pn**	**16 44 30.9**	**+0.6**
BRG				Pg	**Pg**	**16 44 32.0**	**+0.3**
BRG				Sg	**Sg**	**16 44 52.0**	**+0.9**
BRG	**Berggiesshubel**	**1.45**	**249**	*e*Pn	**Pn**	**16 44 31.5**	**+1.3**
BRG	**Berggiesshubel**	**1.45**	**249**	Pg	**Pg**	**16 44 32.0**	**+0.3**
BRG				*e*Sg	**Sg**	**16 44 50.8**	**-0.2**
PRU	**Pruhonice**	**1.74**	**215**	*e*PN	**Pn**	**16 44 35.0**	**+0.7**
PRU				*e*PG	**Pg**	**16 44 37.0**	**-0.3**
PRU				*e*x	x	16 44 41.0	
PRU				*e*x	x	16 44 53.9	
PRU				*e*SG	**Sg**	**16 45 01.0**	**+0.6**
	9.4nm,0.2s						
MORC	**Moravsky Berou**	**1.89**	**150**	*e*P	**Pn**	**16 44 36.9**	**+0.4**
MORC	**Moravsky Berou**	**1.89**	**150**	*e*Pn	**Pn**	**16 44 36.9**	**+0.4**
MORC				*e*Sg	**Sg**	**16 45 04.7**	**-0.9**
	11nm,0.3s						
CLL	**Collm**	**1.93**	**268**	*i* Pn	**Pn**	**16 44 36.5**	**-0.6**
CLL				*i* Pg	**Pg**	**16 44 39.6**	**-1.6**
CLL				*i* Sg	**Sg**	**16 45 05.9**	**-1.1**
CLL	**Collm**	**1.93**	**268**	*i* PN	**Pn**	**16 44 36.5**	**-0.6**
CLL				*i* PG	**Pg**	**16 44 39.6**	**-1.6**
CLL				*i*		16 44 42.7	
CLL				*i* SG	**Sg**	**16 45 05.9**	**-1.1**
OKC	**Ostrava-Krasne**	**2.06**	**139**	*e*PG	**Pg**	**16 44 43.5**	**-0.3**
OKC				*e*SG	**Sg**	**16 45 09.9**	**-1.3**
	26nm,0.6s						
VRAC	**Vranov**	**2.14**	**171**	*e*Pn	**Pn**	**16 44 41.3**	**+1.3**
VRAC				*e*Sg	**Sg**	**16 45 12.5**	**-1.4**
	6.9nm,0.2s						
KRUC	**Moravsky**	**2.37**	**175**	*e*Pn	**Pn**	**16 44 44.7**	**+1.4**
KRUC				*e*Sg	**Sg**	**16 45 20.8**	**-0.7**
	6.0nm,0.2s						
NKC	**Novy Kostel**	**2.59**	**244**	*e*PN	**Pn**	**16 44 46.9**	**+0.4**
NKC				*e*PG	**Pg**	**16 44 53.7**	**-0.7**
NKC				*e*SG	**Sg**	**16 45 29.3**	**+0.4**
	16nm,0.2s						
NKC	**Novy Kostel**	**2.59**	**244**	*e*Pn	**Pn**	**16 44 46.7**	**+0.2**
NKC	**Novy Kostel**	**2.59**	**244**	*e*Pg	**Pg**	**16 44 53.7**	**-0.7**
NKC				*e*Sg	**Sg**	**16 45 27.3**	**-1.6**
OJC	**Ojcow**	**2.65**	**116**	*e*PG	**Pg**	**16 44 53.0**	**-2.5**
OJC				*e*SG	**Sg**	**16 45 29.0**	**-1.8**
KHC	**Kasperske Hory**	**2.80**	**216**	*e*PN	**Pn**	**16 44 50.1**	**+0.6**
KHC				*e*PG	**Pg**	**16 44 56.0**	**-2.5**
KHC				*e*SN	**Sn**	**16 45 25.0**	**+0.6**
KHC				*e*SG	**Sg**	**16 45 34.8**	**-1.0**
	6.0nm,0.3s						
KHC	**Kasperske Hory**	**2.80**	**216**	*e*Pn	**Pn**	**16 44 50.0**	**+0.5**
MOX	**Moxa**	**2.92**	**256**	*e*Pg	**Pg**	**16 44 59.0**	**-2.0**
MOX				*e*Sg	**Sg**	**16 45 38.5**	**-1.5**
WET	**Wettzell**	**3.07**	**223**	*e*Pn	**Pn**	**16 44 53.9**	**+0.6**
MOA	**Molln**	**3.76**	**199**	⇓*i*PN	**Pn**	**16 45 04.1**	**+0.9**
MOA				*i* SG	**Sg**	**16 46 07.6**	**-0.4**
	2.8nm,0.2s						
ARSA	**Arzberg**	**4.19**	**185**	⇑*i*PN	**Pn**	**16 45 11.8**	**+2.6**
ARSA				*i* SG	**Sg**	**16 46 20.1**	**-2.0**
	3.0nm,0.3s						
KBA	**Koelnbreinsper**	**4.70**	**203**	⇑*i*PN	**Pn**	**16 45 17.1**	**+0.6**
KBA				*i* SG	**Sg**	**16 46 36.1**	**-3.0**
	3.0nm,0.5s						

*NAO **13** 17:12:24.3±1.0, 76.94N×18.03E, ML2.3*

*BER **13** 17:12:26.7±4.5, 76.85N×16.81E, h13km±41km, MD3.2, ML3.0, ML2.3(NAO)*

*CSEM **13** 17:12:26.7, 76.85N×16.81E, h13km, ML3.0, After BER*

ISC 13 17:12:24.2±0.8**, 76.85N**±0.07×**17.1E**±0.2**, h10**km**, n8, σ1^{s}03**/16**, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.39**	**295**	*e*Pg	**Pg**	**17 12 33.4**	**+1.1**
HSP				*e*Sg	**Sg**	**17 12 38.1**	**+0.5**
SPA0	**Spitsbergen Ar**	**1.35**	**353**	Pn	**Pn**	**17 12 48.6**	**-0.5**
	baz=162,slow=16						
SPA0				Sn	**Sn**	**17 13 06.9**	**-0.2**
	baz=162,slow=28						
SPA0	**Spitsbergen Ar**	**1.35**	**353**	Pn	**Pn**	**17 12 48.6**	**-0.5**
	baz=162,slow=15,SNR=55						
SPA0				Sn	**Sn**	**17 13 06.9**	**-0.2**
	baz=162,slow=27,SNR=55						
HOPEN	**Hopen**	**1.86**	**97**	*e*P	**Pn**	**17 12 58.0**	**+1.6**
HOPEN				*e*S	**Sn**	**17 13 20.6**	**+0.4**
HOPEN				AML	AML	17 13 29.1	
	comp=Z,279nm,0.5s						
KBS	**Kingsbay**	**2.36**	**335**	*e*P	**Pn**	**17 13 02.2**	**-1.3**
KBS				*e*Sg	**Sg**	**17 13 35.6**	**-7.0**
KBS				AML	AML	17 13 40.6	
	comp=Z,125nm,0.2s						
KBS	**Kingsbay**	**2.36**	**335**	*e*P	**Pn**	**17 13 02.2**	**-1.4**
	SNR=55						
KBS				*e*Sg	**Sg**	**17 13 35.6**	**-7.1**
	comp=Z,125nm,0.2s,SNR=90						
ARA0	**ARCESS Array S**	**7.73**	**158**	Pn	**Pn**	**17 14 18.1**	**-1.5**
	baz=340,slow=22						
ARA0				Sn	**Sn**	**17 15 39.6**	**-8.5**
	baz=2.6,slow=22						
ARA0	**ARCESS Array S**	**7.73**	**158**	Pn	**Pn**	**17 14 18.1**	**-1.5**
	baz=340,slow=21,SNR=55						
ARA0				Sn	**Sn**	**17 15 39.7**	**-8.4**
	baz=2.6,slow=20,SNR=55						

*ISK **13** 17:18:02.1, 38.41N×26.74E, h19km, MD3.3*

*CSEM **13** 17:18:03.8±0.2, 38.41N×26.91E, h25km, MD3.3, Error ellipse: s-maj=5.9km s-min=4.2km az=94.0*

*ATH **13** 17:18:04.1, 38.29N×26.55E, h31km±4km, MD3.2/3*

*NEIC **13** 17:18:04.2, 38.29N×26.55E, h31km, MD3.3(ISK), MD3.2(ATH), After ATH.*

ISC 13 17:18:03.6±0.5**, 38.37N**±0.03×**26.75E**±0.04**, h20**km±4km**, n24, σ1^{s}18**/37**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.12**	**268**	*i* P	**Pb**	**17 18 08.1**	**+0.4**
URLA				*i* S	**Sb**	**17 18 10.9**	**+0.3**
BLCB	**Balcova**	**0.23**	**85**	*i* PG	**Pb**	**17 18 08.2**	**-0.9**
BLCB				*i* SG	**Sb**	**17 18 11.4**	**-1.5**
IZM	**Izmir**	**0.40**	**85**	*i* PG	**Pb**	**17 18 11.4**	**-0.5**
IZM				*i* SG	**Sb**	**17 18 17.8**	**+0.2**
KDAG	**Bornova**	**0.41**	**85**	*i* P	**Pb**	**17 18 11.9**	**-0.1**
KDAG				*i* S	**Sb**	**17 18 17.5**	**-0.2**
SMG	**Samos**	**0.66**	**174**	*e*PN	**Pn**	**17 18 16.9**	**-0.8**
SMG				*e*SN	**Sn**	**17 18 26.6**	**-0.9**
SMG	**Samos**	**0.66**	**174**	*e*Pn	**Pn**	**17 18 16.9**	**-0.8**
SMG				*e*Sn	**Sn**	**17 18 26.8**	**-0.7**
AYVA	**Ayvalik**	**0.94**	**357**	*i* P	**Pb**	**17 18 22.9**	**+1.8**
AYVA				*i* S	**Sb**	**17 18 37.7**	**+4.6**
PRK	**Paraskevi**	**0.96**	**337**	*e*PN	**Pn**	**17 18 22.9**	**+0.9**
PRK				*e*SN	**Sn**	**17 18 36.5**	**+1.5**
AKS	**Akhisar**	**0.98**	**58**	*i* PG	**Pb**	**17 18 21.7**	**+0.1**
AYDN	**Tasoluk**	**1.14**	**128**	*i* P	**Pb**	**17 18 25.4**	**+1.0**
AYDN				*i* S	**Sb**	**17 18 40.7**	**+2.1**
MLSB	**Milas**	**1.34**	**142**	PN	**Pn**	**17 18 27.7**	**+0.2**
BODT	**Bodrum**	**1.37**	**161**	PN	**Pn**	**17 18 27.7**	**-0.2**
BDRM	**Kayabasi**	**1.41**	**157**	*i* P	**Pn**	**17 18 29.0**	**+0.6**
BDRM				*i* S	**Sn**	**17 18 50.0**	**+3.5**
MANT	**Manisa**	**1.42**	**84**	*i* P	**Pn**	**17 18 30.8**	**+2.1**
MANT				*i* S	**Sn**	**17 18 48.4**	**+1.5**
EZN	**Ezine**	**1.50**	**347**	*e*PN	**Pn**	**17 18 28.3**	**-1.4**
BALB	**Balikesir**	**1.55**	**34**	*e*PN	**Pn**	**17 18 28.4**	**-2.0**
APE	**Apeiranthos**	**1.62**	**217**	*e*PN	**Pn**	**17 18 30.3**	**-1.1**
APE	**Apeiranthos**	**1.62**	**217**	*e*Pn	**Pn**	**17 18 30.5**	**-0.9**
CANB	**Canakkale**	**1.67**	**8**	PN	**Pn**	**17 18 30.3**	**-1.8**
BTOK	**Tokmak**	**1.71**	**35**	*i* P	**Pn**	**17 18 38.0**	**+5.2**
BTOK				*i* S	**Sn**	**17 18 59.8**	**+5.5**
YER	**Yerkesik**	**1.73**	**135**	PN	**Pn**	**17 18 32.3**	**-0.7**
DST	**Dursunbey**	**1.92**	**49**	PN	**Pn**	**17 18 33.6**	**-2.1**
DNZL	**Cakiroluk**	**1.93**	**110**	*i* P	**Pn**	**17 18 40.4**	**+4.5**
DNZL				*i* S	**Sn**	**17 19 06.3**	**+6.4**
LIA	**Limnos Island**	**1.96**	**322**	*e*PN	**Pn**	**17 18 36.8**	**+0.5**

*NEIC **13** 17:31:26.3, 36.95S×177.45E, h175km, MG4.2(WEL), After WEL.*

WEL 13 17:31:25.9±0.4**, 36.90S×177.45E, h173**km±4km**, ML4.1**/6**, 1D, Error ellipse: s-maj=3.2km s-min=3.2km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.95**	**134**	*e*P	P	17 31 52.6	-0.1
MXZ				S	S	17 32 13.5	+0.1
MXZ	**Matakaoa Point**	**0.95**	**134**	PN	P	17 31 52.3	-0.4
MXZ				SN	S	17 32 13.0	-0.4
PUZ	**Puketiti**	**1.33**	**152**	P	P	17 31 55.8	-0.2
PUZ				S	S	17 32 18.8	-0.5
PUZ	**Puketiti**	**1.33**	**152**	PN	P	17 31 55.7	-0.3
PUZ				SN	S	17 32 18.6	-0.7
URZ	**Urewera**	**1.38**	**191**	P	P	17 31 56.3	-0.2
URZ	**Urewera**	**1.38**	**191**	PN	P	17 31 56.2	-0.3
URZ				SN	S	17 32 18.9	-1.2
KUZ	**Kuaotunu**	**1.40**	**276**	P	P	17 31 56.5	-0.2
KUZ	**Kuaotunu**	**1.40**	**276**	PN	P	17 31 56.2	-0.5
MWZ	**Matawai**	**1.43**	**178**	P	P	17 31 56.9	-0.1
MWZ	**Matawai**	**1.43**	**178**	PN	P	17 31 56.7	-0.3
MWZ				SN	S	17 32 20.6	-0.4
MKAZ	**Moumakai**	**1.84**	**263**	P	P	17 32 01.6	+0.5
MKAZ	**Moumakai**	**1.84**	**263**	PN	P	17 32 01.5	+0.4
MTAZ	**Motutapu**	**2.04**	**272**	P	P	17 32 03.8	+0.5
MTAZ	**Motutapu**	**2.04**	**272**	PN	P	17 32 03.7	+0.4
KNZ	**Kokohu**	**2.12**	**175**	*e*P	P	17 32 03.7	-0.5
KNZ	**Kokohu**	**2.12**	**175**	PN	P	17 32 03.5	-0.8
WTAZ	**Waiatarua**	**2.31**	**268**	PN	P	17 32 06.8	+0.4
FWVZ	**Far West T-bar**	**2.79**	**212**	P	P	17 32 11.4	-0.8
FWVZ	**Far West T-bar**	**2.79**	**212**	PN	P	17 32 11.4	-0.8
MOVZ	**Moawhango**	**2.84**	**208**	P	P	17 32 11.1	-1.7
MOVZ				S	S	17 32 45.9	-3.0
MOVZ	**Moawhango**	**2.84**	**208**	PN	P	17 32 10.9	-1.9
MOVZ				SN	S	17 32 46.0	-2.9
PWZ	**Pawanui**	**3.16**	**188**	*e*P	P	17 32 14.7	-2.1
PWZ	**Pawanui**	**3.16**	**188**	⇓PN	P	17 32 14.7	-2.1
TSZ	**Takapari Road**	**3.36**	**200**	P	P	17 32 16.7	-2.7
TSZ	**Takapari Road**	**3.36**	**200**	PN	P	17 32 16.6	-2.8
BFZ	**Birch Farm**	**3.89**	**194**	*e*P	P	17 32 22.9	-3.2
MRZ	**Mangatainoka R**	**4.03**	**201**	P	P	17 32 24.4	-3.5
MRZ	**Mangatainoka R**	**4.03**	**201**	PN	P	17 32 24.3	-3.6
KIW	**Kapiti Island**	**4.42**	**206**	P	P	17 32 29.0	-4.0
KIW	**Kapiti Island**	**4.42**	**206**	PN	P	17 32 28.7	-4.3
CAW	**Cannon Point**	**4.59**	**203**	P	P	17 32 30.8	-4.4
CAW	**Cannon Point**	**4.59**	**203**	PN	P	17 32 30.7	-4.5
DUWZ	**D'Urville Isla**	**4.77**	**214**	*e*PN	P	17 32 33.6	-3.9
MSWZ	**Moikau Station**	**4.82**	**200**	P	P	17 32 33.4	-4.7
MSWZ	**Moikau Station**	**4.82**	**200**	PN	P	17 32 33.3	-4.9
MRW	**Makara Radio**	**4.82**	**206**	P	P	17 32 33.3	-4.9
MRW	**Makara Radio**	**4.82**	**206**	*e*PN	P	17 32 33.1	-5.1
SNZO	**South Karori**	**4.89**	**205**	P	P	17 32 34.2	-4.9
SNZO	**South Karori**	**4.89**	**205**	PN	P	17 32 34.0	-5.1
TCW	**Tory Channel**	**4.96**	**209**	P	P	17 32 35.2	-4.8
TCW	**Tory Channel**	**4.96**	**209**	PN	P	17 32 34.7	-5.3
TUWZ	**Tuamarina**	**5.28**	**210**	PN	P	17 32 38.8	-5.3
NNZ	**Nelson**	**5.35**	**215**	*e*P	P	17 32 40.1	-4.9
NNZ	**Nelson**	**5.35**	**215**	PN	P	17 32 40.0	-5.0
BSWZ	**Blackbirch Sta**	**5.55**	**209**	P	P	17 32 43.1	-4.5
BSWZ	**Blackbirch Sta**	**5.55**	**209**	*e*PN	P	17 32 42.6	-5.0
THZ	**Tophouse**	**6.00**	**215**	*e*P	P	17 32 48.8	-4.8
THZ	**Tophouse**	**6.00**	**215**	*e*PN	P	17 32 48.3	-5.2
KHZ	**Kahutara**	**6.28**	**208**	*e*P	P	17 32 52.0	-5.3
KHZ	**Kahutara**	**6.28**	**208**	*e*PN	P	17 32 51.7	-5.6
DSZ	**Denniston Nort**	**6.52**	**220**	SN	S	17 34 05.0	-9.2
LTZ	**Lake Taylor**	**7.10**	**213**	*e*P	P	17 33 01.9	-6.2
LTZ	**Lake Taylor**	**7.10**	**213**	*e*PN	P	17 33 01.7	-6.4
CRLZ	**Canterbury Las**	**7.62**	**207**	SN	S	17 34 29.3	-11
MQZ	**McQueen's Vall**	**7.72**	**207**	*e*P	P	17 33 09.0	-7.4
MQZ	**McQueen's Vall**	**7.72**	**207**	*e*PN	P	17 33 08.9	-7.5
RPZ	**Rata Peaks**	**8.38**	**214**	*e*P	P	17 33 18.8	-6.2
RPZ	**Rata Peaks**	**8.38**	**214**	*e*PN	P	17 33 18.5	-6.6
ODZ	**Otahua Downs**	**9.62**	**210**	*e*P	P	17 33 35.4	-5.9
ODZ	**Otahua Downs**	**9.62**	**210**	*e*PN	P	17 33 35.1	-6.2

*NEIC **13** 17:34:15.5±1.6, 19.23S×169.48E, h257km±11km, mb4.3/7, Error ellipse: s-maj=20.2km s-min=13.9km az=109.0*

*IDC **13** 17:34:15.1±3.0, 19.23S×169.52E, h254km±25km, mb3.8/6, mb1 3.8/8, mb1mx3.7/14, mbtmp4.4/8, Error ellipse: s-maj=34.4km s-min=25.6km az=138.0*

ISC 13 17:34:15.1±2.0**, 19.3S**±0.1×**169.4E**±0.2**, h265**km±12km**, n22, σ0^{s}85**/22**, mb4.1**/10**, 1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.97**	**225**	*e*P	**P**	**17 35 19.6**	**-0.2**
DZM				*e*S	**S**	**17 36 17.9**	**+7.9**
DZM	**Mont Dzumac**	**3.97**	**225**	P	**P**	**17 35 19.5**	**-0.2**
	6.1nm,0.3s,baz=60,slow=17,SNR=66						
DZM				S	**S**	**17 36 16.6**	**+6.6**
	baz=14,slow=21,SNR=1.5						
NOUC	**Port Laguerre**	**4.08**	**226**	*e*P	**P**	**17 35 21.0**	**-0.1**
NOUC	**Port Laguerre**	**4.08**	**226**	*e*P	**P**	**17 35 21.0**	**-0.1**
HNR	**Honiara**	**13.41**	**315**	P	**P**	**17 37 16.9**	**+0.2**
	1.8nm,0.3s,baz=222,slow=5.4,SNR=4.3						
CTA	**Charters Tower**	**21.85**	**264**	*e*P	**P**	**17 38 48.0**	**+0.8**
	3.1nm,0.4s,mb4.0						
CTA	**Charters Tower**	**21.85**	**264**	P	**P**	**17 38 48.5**	**+1.4**
	3.3nm,0.4s,mb4.0,baz=86,slow=12,SNR=20						
CTAO	**Charters Tower**	**21.85**	**264**	*e*P	**P**	**17 38 47.6**	**+0.4**
	3.7nm,0.5s,mb4.0						
PMG	**Port Moresby**	**23.68**	**291**	P	**P**	**17 39 05.0**	**+0.3**
	15nm,0.7s,mb4.4,baz=110,slow=4.9,SNR=6.7						
CNB	**Canberra Magne**	**23.90**	**224**	*e*P	**P**	**17 39 08.0**	**+1.5**
	11nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**28.00**	**238**	*e*P	**P**	**17 39 44.1**	**+0.2**
	5.9nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**28.00**	**238**	P	**P**	**17 39 44.1**	**+0.2**
	6.6nm,0.6s,mb4.2,baz=63,slow=7.2,SNR=24						
WB2	**Warramunga Arr**	**33.03**	**263**	*e*P	**P**	**17 40 26.6**	**-1.3**
WRA	**Warramunga Arr**	**33.04**	**263**	P	**P**	**17 40 26.8**	**-1.2**
	2.3nm,0.3s,mb4.2,baz=84,slow=6.5,SNR=236						
KAKA	**Kakadu**	**36.11**	**275**	*e*P	**P**	**17 40 53.4**	**-0.5**
	2.9nm,0.5s,mb4.1						
FITZ	**Fitzroy Crossi**	**41.43**	**264**	⇓*i*P	**P**	**17 41 38.3**	**+0.5**
	13nm,0.5s,mb4.4						
MBWA	**Marble Bar**	**46.54**	**259**	*e*P	**P**	**17 42 18.3**	**-0.1**
KLBR	**Kellerberrin**	**47.88**	**245**	*e*P	**P**	**17 42 27.7**	**-1.0**
	21nm,0.9s,mb4.5						
SONM	**Songino Array**	**87.35**	**323**	P	**P**	**17 46 34.8**	**+1.6**
	0.7nm,0.7s,mb3.6,baz=138,slow=5.3,SNR=7.3						
ILAR	**Eielson Array**	**90.19**	**17**	P	**P**	**17 46 45.2**	**-0.9**
	0.5nm,0.6s,mb3.5,baz=237,slow=5.0,SNR=4.4						
ARCES	**ARCESS Array B**	**125.13**	**345**	PKP	PKPdf	17 52 44.3	+0.8
	0.7nm,0.4s,baz=72,slow=2.3,SNR=14						
GERES	**GERESS Array B**	**144.59**	**332**	PKP	PKPdf	17 53 20.7	+0.9
	1.0nm,0.6s,baz=45,slow=3.8,SNR=10						

*IDC **13** 18:04:35.6±2.5, 42.94N×104.97W, mb3.5/2, mb1 3.9/4, mb1mx3.6/23, mbtmp3.7/4, ML3.6/2, MS2.9/3, Ms1 2.9/3, ms1mx2.5/23, Error ellipse: s-maj=50.8km s-min=8.7km az=158.0*

*NEIC **13** 18:04:40.6±0.3, 43.69N×105.18W, ML3.4, Error ellipse: s-maj=4.9km s-min=4.0km az=122.0, Suspected Mining explosion.*

NEIC 70 km [45 miles] SSE of Gillette.

ISC 13 18:04:39.4±0.6**, 43.68N**±0.04×**105.21W**±0.07**, n46, σ1^{s}07**/44**, mb4.5**/1**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.95**	**62**	*e*P	**Pg**	**18 04 59.4**	**+1.0**
PHWY	**Pilot Hill**	**2.39**	**185**	*e*P	**Pn**	**18 05 21.5**	**+1.1**
RWWY	**Rawlins**	**2.48**	**217**	*e*P	**Pn**	**18 05 23.0**	**+1.3**
LAO	**LASA Array**	**3.09**	**347**	*e*P	**Pn**	**18 05 30.2**	**-0.2**
BW06	**Boulder Array**	**3.31**	**255**	*e*P	**Pn**	**18 05 32.4**	**-1.2**
PDAR	**Pinedale Array**	**3.31**	**255**	Pn	**Pn**	**18 05 33.4**	**-0.1**
	3.7nm,0.3s,baz=76,slow=16,SNR=78						
PDAR				Pg	**Pg**	**18 05 40.2**	**-5.3**
	19nm,0.3s,baz=74,slow=18,SNR=100						
PDAR				Lg		18 06 19.9	
	17nm,0.3s,baz=72,slow=32,SNR=13						
LKWY	**Lake**	**3.84**	**285**	*e*P	**Pn**	**18 05 42.2**	**+1.1**
ISCO	**Idaho Springs**	**3.89**	**185**	*e*P	**Pn**	**18 05 43.0**	**+1.2**
LOHW	**Long Hollow**	**3.92**	**271**	*e*P	**Pn**	**18 05 44.1**	**+1.9**
MOOW	**Moose Ponds**	**4.02**	**273**	*e*P	**Pn**	**18 05 43.6**	**0.0**
SNOW	**Snow King Moun**	**4.04**	**269**	P	**Pn**	**18 05 44.9**	**+1.0**
REDW	**Red Top Meadow**	**4.12**	**268**	*e*P	**Pn**	**18 05 46.0**	**+1.0**
YFT	**Old Faithful**	**4.13**	**283**	P	**Pn**	**18 05 45.8**	**+0.6**
IMW	**Indian Meadow**	**4.16**	**275**	*e*P	**Pn**	**18 05 45.8**	**+0.3**
TPAW	**Teton Pass**	**4.18**	**269**	*e*P	**Pn**	**18 05 46.3**	**+0.4**
YMR	**Madison River**	**4.26**	**285**	P	**Pn**	**18 05 48.2**	**+1.2**
AHID	**Auburn Hatcher**	**4.40**	**260**	P	**Pn**	**18 05 49.3**	**+0.2**
RRI2	**Red Ridge**	**4.46**	**268**	*e*P	**Pn**	**18 05 50.0**	**+0.1**
QLMT	**Earthquake Lak**	**4.62**	**287**	*e*P	**Pn**	**18 05 52.4**	**+0.3**
SMCO	**Snowmass**	**4.69**	**197**	P	**Pn**	**18 05 52.9**	**-0.2**

DGMT	Dagmar	4.84	8	eP	Pn	18 05 55.5	+0.2
BOZ	Bozeman (W)	4.99	295	eP	Pn	18 05 55.7	-1.6
	10nm,0.5s						
TCUT	Toone Canyon	5.26	243	eP	Pn	18 06 00.4	-0.8
DAU	Daniels Canyon	5.56	236	eP	Pn	18 06 05.7	+0.2
JLU	Jordanelle	5.57	239	P	Pn	18 06 05.2	-0.4
HRY	Holter Researc	5.58	305	eP	Pn	18 06 04.6	-1.1
SPUT	South Promonto	5.86	249	eP	Pn	18 06 08.5	-1.1
HVU	Hansel Valley	5.89	254	eP	Pn	18 06 08.9	-1.1
SDCO	Great Sand Dun	5.93	182	eP	Pn	18 06 09.5	-1.2
MPU	Maple Canyon	6.04	235	P	Pn	18 06 14.2	+2.0
PV10	Paradox Valley	6.04	210	P	Pn	18 06 13.3	+1.1
SRU	San Rafael	6.07	223	eP	Pn	18 06 11.0	-1.6
PV01	Paradox Valley	6.10	206	eP	Pn	18 06 12.6	-0.5
TMUT	Trail Mountain	6.28	228	eP	Pn	18 06 15.2	-0.5
CHMT	Chamberlain Mo	6.53	302	eP	Pn	18 06 17.9	-1.3
HLID	Hailey	6.69	272	P	Pn	18 06 22.7	+1.4
MSU	Marysvale	7.37	228	eP	Pn	18 06 29.5	-1.4
MVU	Marysvale	7.40	228	eP	Pn	18 06 30.6	-0.7
ELK	Elko	8.00	252	Pn	P	18 06 38.9	-0.9
	0.1nm,0.3s,baz=75,slow=16,SNR=2.5						
ANMO	Albuquerque	8.77	187	LR	LR	18 10 20.8	
	comp=Z,44nm,21.9s,baz=98,slow=43						
ULM	Lac du Bonnet	9.15	41	Pn	P	18 06 52.0	-3.7
	1.9nm,0.3s,baz=235,slow=13,SNR=8.4						
ULM				Lg		18 09 32.4	
	0.2nm,0.3s,baz=118,slow=14,SNR=4.0						
NEW	Newport	9.48	303	LR	LR	18 11 00.4	
	comp=Z,110nm,19.6s,baz=151,slow=38						
YBH	Yreka Blue Hor	13.02	267	LR	LR	18 13 03.8	
	comp=Z,51nm,20.9s,baz=82,slow=38						
YKA	Yellowknife Ar	19.63	347	P	P	18 09 15.5	+3.5
	0.6nm,0.4s,baz=155,slow=8.8,SNR=4.3						
ARCES	ARCESS Array B	61.46	18	P	P	18 14 57.2	-2.3
	3.7nm,0.9s,mb4.5,baz=333,slow=5.4,SNR=8.5						
ARCES	ARCESS Array B	61.46	18	P	P	18 14 57.2	-2.3

*IDC **13** 18:19:24.5±0.8, 7.99N×93.91E, mb4.0/12, mb1 4.1/12, mb1mx4.0/21, mbtmp4.0/12, MS3.6/4, Ms1 3.6/4, ms1mx3.2/23, Error ellipse: s-maj=27.4km s-min=17.9km az=62.0*
*NEIC **13** 18:19:28.7±0.7, 7.88N×94.05E, h30km, mb4.5/10, Error ellipse: s-maj=25.6km s-min=13.2km az=63.0*
*BJI **13** 18:19:30.7, 7.90N×94.00E, h30km, mB4.8, mb4.5*
ISC 13 18:19:26.9±0.6, **7.91N**±0.09×**94.1E**±0.1, **h30**km, **n30**, σ**1.29**/28, **mb4.3**/22, **MS3.6**/4, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	Songkhla	6.48	96	P	Pn	18 21 02.0	-0.8
NANT	Nan	12.57	30	P	P	18 22 35.0	+8.3
KMI	Kunming	18.99	25	P	P	18 23 58.7	+10
	8.0nm,1.0s						
PKI	Pulchoki	21.22	338	eP	P	18 24 15.2	+2.5
	34nm,0.8s,mb4.7						
DMN	Daman	21.37	338	eP	P	18 24 17.0	+2.8
	37nm,0.9s,mb4.7						
KKN	Kakani	21.47	338	eP	P	18 24 16.2	+1.0
	19nm,0.7s,mb4.6						
LSA	Lhasa	21.86	353	eP	P	18 24 19.1	+0.1
	26nm,0.8s,mb4.7						
GKN	Gorkha	21.91	337	eP	P	18 24 18.7	-0.9
	37nm,0.8s,mb4.9						
KOLN	Koldanda	22.12	335	eP	P	18 24 22.0	+0.3
	32nm,0.9s,mb4.8						
GTA	Gaotai	31.78	8	eP	P	18 25 56.8	+5.9
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.5						
MKAR	Makanchi Array	40.05	347	P	P	18 27 00.4	-0.7
	comp=Z,0.5nm,0.8s,mb3.3,baz=170,slow=8.8,SNR=4.1						
FITZ	Fitzroy Crossi	40.45	130	P	P	18 27 06.6	+2.0
	comp=Z,3.7nm,0.6s,mb4.3,baz=214,slow=4.8,SNR=6.0						
SONM	Songino Array	41.13	13	P	P	18 27 10.4	+0.4
	comp=Z,2.8nm,0.7s,mb4.0,baz=197,slow=7.4,SNR=21						
SONM				PcP	PcP	18 29 12.3	+2.6
	comp=Z,0.4nm,0.7s,baz=180,slow=4.3,SNR=3.3						
SONM				LR	LR	18 47 21.9	
	comp=Z,35nm,19.9s,MS3.2,baz=71,slow=41						
ULN	Ulaanbaatar	41.30	13	eP	P	18 27 01.4	-10
HIA	Hailar	46.49	23	eP	P	18 27 54.3	+1.0
	comp=Z,3.5nm,0.4s,mb4.6						
ZAL	Zalesovo	46.51	352	P	P	18 27 53.7	+0.4
	comp=Z,2.9nm,0.7s,mb4.3,baz=296,slow=9.9,SNR=12						
ZAL	Zalesovo	46.51	352	P	P	18 27 53.7	+0.4
WRA	Warramunga Arr	48.30	126	P	P	18 28 08.6	+0.8
	comp=Z,3.1nm,0.8s,mb4.4,baz=303,slow=8.8,SNR=17						
WRAB	Tennant Creek	48.30	126	eP	P	18 28 06.5	-1.3
BVAR	Borovoye Array	48.95	341	P	P	18 28 13.0	+0.6
	comp=Z,0.7nm,0.7s,mb3.8,baz=146,slow=11,SNR=5.6						
ZRNK	Zerenda	49.34	340	P	P	18 28 15.2	-0.2
	comp=Z,1.4nm,0.8s,mb4.0						
BRTR	Keskin Array B	62.39	311	P	P	18 29 46.3	-3.2
	comp=Z,0.7nm,0.6s,mb4.0,baz=143,slow=12,SNR=2.2						
MATP	Matopo	70.36	245	P	P	18 30 42.0	+1.5
	comp=Z,0.7nm,0.5s,mb3.8,baz=96,slow=10.0,SNR=4.5						
FINES	FINESS Array B	72.67	332	P	P	18 30 52.1	-1.5
	comp=Z,3.3nm,0.9s,mb4.3,baz=108,slow=6.0,SNR=7.4						
KAF	Kangasniemi	72.75	333	ep	P	18 30 52.0	-2.0
	comp=Z,2.7nm,0.7s,mb4.3						
ARCES	ARCESS Array B	75.23	340	P	P	18 31 06.8	-1.5
	comp=Z,2.2nm,0.8s,mb4.1,baz=111,slow=7.7,SNR=2.7						
ARCES				LR	LR	19 07 09.1	
	comp=Z,43nm,20.4s,MS3.7,baz=23,slow=38						
BOSA	Boshof	75.59	238	P	P	18 31 11.4	+0.3
	comp=Z,2.2nm,0.6s,mb4.3,baz=84,slow=4.9,SNR=3.4						
GERES	GERESS Array B	77.79	318	P	P	18 31 21.4	-1.5
	comp=Z,1.0nm,0.6s,mb3.9,baz=90,slow=5.3,SNR=6.2						
NOA	NORSAR Array B	79.69	331	LR	LR	19 10 28.5	
	comp=Z,18nm,18.5s,MS3.4,baz=35,slow=38						
AFI	Afiamalu	95.82	103	LR	LR	19 20 50.9	
	comp=Z,55nm,18.3s,MS4.1,baz=91,slow=38						

*HLW **13** 18:30:40.5, 30.41N×35.30E, h14km, Mb3.0*
*GII **13** 18:30:41.3±0.3, 30.41N×35.30E, h9km±6km, ML2.4/5*
*CSEM **13** 18:30:41.0±0.1, 30.41N×35.26E, h20km, ML2.4, Error ellipse: s-maj=3.8km s-min=1.5km az=106.0*
ISC 13 18:30:41.2±0.7, **30.38N**±0.03×**35.29E**±0.07, **h24**km±5km, **n27**, σ**0.61**/34, **1C-5D**, **Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	Zfri	0.20	332	Pg	Pb	18 30 45.9	-0.8
ZFRI	Zfri	0.20	332	⇓Pg	Pb	18 30 45.9	-0.9
PRNI	Paran	0.25	265	Pg	Pb	18 30 47.0	-0.3
PRNI				Sg	Sb	18 30 50.9	-0.6
PRNI	Paran	0.25	265	⇑Pg	Pb	18 30 47.0	-0.3
PRNI				Sg	Sb	18 30 50.9	-0.6
HRFI	Mount Harif	0.40	213	Pg	Pb	18 30 49.7	0.0
HRFI				Sg	Sb	18 30 55.9	+0.4
HRFI	Mount Harif	0.40	213	⇑Pg	Pb	18 30 49.7	0.0
HRFI				Sg	Sb	18 30 55.9	+0.4
RMNI	Mount Ramon	0.51	296	Pg	Pb	18 30 51.8	+0.4
KMTI	Karmit	0.56	241	Pg	Pb	18 30 52.0	-0.2
KMTI				Sg	Sb	18 31 00.0	+0.2
KMTI	Karmit	0.56	241	⇑Pg	Pb	18 30 52.0	-0.2
KMTI				Sg	Sb	18 31 00.0	+0.2
MBH	Mount Berech	0.66	209	Pg	Pb	18 30 54.5	+0.5
AQBJ	Aqaba	0.68	198	Pg	Pb	18 30 55.0	+0.8
EIL	Elat	0.76	203	Pg	Pb	18 30 55.9	+0.2
KZIT	Kziot	0.93	305	⇓Pg	Pb	18 30 58.4	-0.1
MZDA	Masada	0.93	4	Pg	Pb	18 30 57.9	-0.7
MZDA	Masada	0.93	4	Pg	Pb	18 30 57.8	-0.8
YTIR	Yattir	1.00	352	Pg	Pb	18 30 59.3	-0.3
AMZI	Amatzia	1.13	343	Sg	Sb	18 31 18.0	+1.9
DSI	Dead Sea	1.19	4	Pg	Pn	18 31 02.9	+0.3
MKRJ	Makawir	1.21	14	Pg	Pn	18 31 02.6	-0.2
HNKL	Nakhl	1.22	249	⇓eP	Pn	18 31 02.8	0.0
HNKL				S	Sn	18 31 18.9	+0.2
HBST	Basata	1.25	203	⇑eP	Pn	18 31 04.5	+1.1
NUB		1.45	203	P	Pn	18 31 06.1	-0.2
AMAG	Maghara	1.81	279	⇓eP	Pn	18 31 10.8	-0.7
SLTI	Sal'it	1.87	354	Pn	Pn	18 31 12.5	+0.2
HKAT	Jabal Katrina	2.16	212	⇓eP	Pn	18 31 16.0	-0.5
TR2		2.41	215	P	Pn	18 31 19.2	-0.7
TR1		2.63	207	P	Pn	18 31 22.4	-0.7

*IDC **13** 19:10:49.7±0.8, 26.18S×70.80E, mb4.2/9, mb1 4.3/9, mb1mx4.1/19, mbtmp4.2/9, MS3.7/2, Ms1 3.6/2, ms1mx3.1/17, Error ellipse: s-maj=22.6km s-min=21.9km az=128.0*
ISC 13 19:10:49.7±0.7, **26.2S**±0.1×**70.8E**±0.1, **h10**km, **n18**, σ**0.79**/18, **mb4.1**/9, **MS3.7**/2, **Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	Matopo	39.18	269	P	P	19 18 19.6	0.0
	3.7nm,0.9s,mb4.1,baz=140,slow=5.1,SNR=8.0						
BOSA	Boshof	40.35	256	P	P	19 18 29.5	+0.2
	3.4nm,0.9s,mb4.1,baz=99,slow=9.7,SNR=4.7						
BOSA				LR	LR	19 31 15.9	
	comp=Z,122nm,20.8s,MS3.7,baz=89,slow=30						
KMBO	Kilima Mbogo	40.80	302	P	P	19 18 32.5	-0.6
	4.1nm,0.3s,mb4.6,baz=13,slow=2.1,SNR=3.0						
WRA	Warramunga Arr	58.27	98	P	P	19 20 47.1	0.0
	1.2nm,1.0s,mb3.9,baz=254,slow=7.1,SNR=5.4						
SNAA	Sanae	60.24	200		P	19 20 59.3	-0.8
SNAA	Sanae	60.24	200		P	19 21 03.1	+3.0
SNAA	Sanae	60.24	200		P	19 21 15.5	+15
SNAA	Sanae	60.24	200	P	P	19 20 59.4	-0.6
	0.5nm,0.7s,mb3.6,baz=111,slow=6.8,SNR=6.8						
VNA2	Neumayer--Watz	61.65	201		P	19 21 09.6	0.0
VNA2	Neumayer--Watz	61.65	201		P	19 21 12.7	+3.1
VNA2	Neumayer--Watz	61.65	201		P	19 21 16.0	+6.4
VNA3	Neumayer Olymp	62.40	201		P	19 21 13.6	-1.0
VNA3	Neumayer Olymp	62.40	201		P	19 21 16.4	+1.8
VNA3	Neumayer Olymp	62.40	201		P	19 21 20.2	+5.6
VNDA	Vanda	64.85	166	P	P	19 21 29.8	-0.8
	3.6nm,1.0s,mb4.3,baz=277,slow=5.9,SNR=12						
VNDA				LR	LR	19 47 53.1	
	comp=Z,44nm,20.8s,MS3.6,baz=130,slow=34						
MKAR	Makanchi Array	73.38	8	P	P	19 22 22.9	-0.7
	1.7nm,0.9s,mb4.0,baz=180,slow=7.3,SNR=8.5						
SONM	Songino Array	80.32	23	P	P	19 23 02.8	+0.5
	1.3nm,0.9s,mb3.8,baz=207,slow=5.5,SNR=8.9						
ZAL	Zalesovo	80.70	8	P	P	19 23 04.8	+0.6
	0.9nm,0.3s,mb4.2,baz=350,slow=8.4,SNR=3.1						

*IDC **13** 19:13:46.6±0.9, 24.07S×66.69W, h188km±8km, mb3.8/9, mb1 3.8/15, mb1mx3.8/20, mbtmp4.2/15, Error ellipse: s-maj=14.3km s-min=9.9km az=71.0*
*NEIC **13** 19:13:47.0±0.7, 24.03S×66.69W, h193km±6km, mb4.1/6, Error ellipse: s-maj=11.0km s-min=7.5km az=81.0*
*GUC **13** 19:13:49.0±0.4, 24.11S×67.21W, h207km±12km, ML4.6*
ISC 13 19:13:45.5±0.6, **24.13S**±0.04×**66.77W**±0.06, **h194**km±6km, **n47**, σ**1.19**/48, **mb3.9**/12, **3C**, **Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.48	307	⇑iP	P	19 14 31.4	+2.2
LVC				iS	S	19 15 04.0	+1.0
LVC				AMP		19 15 06.0	
	comp=E,621nm,0.5s						
LVC	Limon Verde	2.48	307	P	P	19 14 31.5	+2.3
	comp=E,110nm,0.3s,baz=128,slow=5.9,SNR=116						
LVC				S	S	19 15 04.3	+1.4
	comp=E,54nm,0.3s,baz=238,slow=22,SNR=32						
LVC	Limon Verde	2.48	307	eP	P	19 14 31.5	+2.3
CPN1	Cerro Paranal	3.35	261	eP	P	19 14 41.2	+1.6
CPN1				iS	S	19 15 20.6	-0.7
CPN1				AMP		19 15 22.0	
	comp=E,2μm,0.5s						
ANCH	Antofagasta	3.36	277	⇑iP	P	19 14 40.1	+0.5
ANCH				iS	S	19 15 19.1	-2.5
ANCH				AMP		19 15 22.9	
	comp=N,1μm,0.4s						
CRCH	Chaqaral	4.12	237	iS	S	19 15 37.8	-0.7
CFAA	Coronel Fontan	7.56	190	P	P	19 15 34.9	+1.1
	comp=N,0.2nm,0.3s,baz=13,slow=14,SNR=13						
CFAA				S	S	19 16 56.0	-2.3
	comp=N,1.1nm,0.3s,baz=262,slow=20,SNR=14						
CFAA	Coronel Fontan	7.56	190	P	P	19 15 34.9	+1.1
CFAA				S	S	19 16 56.0	-2.3
LPAZ	La Paz	7.91	350	P	P	19 15 38.8	+0.5
	comp=N,1.5nm,0.3s,baz=179,slow=10,SNR=18						
LPAZ				S	S	19 17 06.0	-0.5
	comp=N,0.6nm,0.3s,baz=268,slow=23,SNR=4.5						
LPAZ	La Paz	7.91	350	eP	P	19 15 39.0	+0.7
	comp=N,5.7nm,0.6s						
CPUP	Villa Florida	8.83	106	P	P	19 15 51.1	+0.8
	comp=N,0.5nm,0.3s,baz=310,slow=15,SNR=21						
CPUP	Villa Florida	8.83	106	eP	P	19 15 50.8	+0.4
	comp=N,12nm,0.9s						
SIV	San Ignacio	9.71	35	P	P	19 16 00.6	-1.2
	comp=N,0.9nm,0.3s,baz=226,slow=14,SNR=12						
TRQA	Tornquist	14.47	165	eP	P	19 17 01.9	-0.5
SAML	Samuel	15.48	13	eP	P	19 17 13.6	-1.5
	comp=N,4.8nm,0.8s						
PLCA	Paso Flores	16.86	190	P	P	19 17 31.9	+0.4
	comp=N,0.2nm,0.3s,baz=13,slow=14,SNR=5.3						
PLCA	Paso Flores	16.86	190	eP	P	19 17 30.4	-1.1
BDFB	Brasilia	19.54	68	P	P	19 18 00.1	0.0
	comp=N,1.4nm,0.3s,baz=250,slow=12,SNR=14						
VNA3	Neumayer Olymp	56.96	161		P	19 23 13.4	+1.1
VNA3	Neumayer Olymp	56.96	161		P	19 23 16.7	+4.4
VNA2	Neumayer--Watz	57.53	160		P	19 23 17.5	+1.2
VNA2	Neumayer--Watz	57.53	160		P	19 23 20.8	+4.5
SNAA	Sanae	59.16	161		P	19 23 32.6	+5.0
SNAA	Sanae	59.16	161	P	P	19 23 28.2	+0.6
	comp=N,0.7nm,1.0s,mb3.2,baz=285,slow=9.5,SNR=10						
SNAA	Sanae	59.16	161	P	P	19 23 28.2	+0.6
SWET	Sewanee	61.75	342	eP	P	19 23 43.4	-2.2
WVT	Waverly	63.15	341	eP	P	19 23 52.1	-2.7
	comp=N,8.1nm,0.6s,mb4.5						
DBIC	Dimbokro	67.65	71	P	P	19 24 22.3	-1.6
	comp=N,2.1nm,0.5s,mb4.0,baz=235,slow=9.6,SNR=3.4						
DBIC	Dimbokro	67.65	71	P	P	19 24 22.3	-1.6
ANMO	Albuquerque	69.77	326	P	P	19 24 37.3	+0.8
	comp=N,1.7nm,0.6s,mb3.9,baz=136,slow=7.8,SNR=4.8						
SYO	Syowa Base	73.35	159	⇑P	P	19 24 56.9	-0.3
VNDA	Vanda	74.61	190	P	P	19 25 05.8	+1.5
	comp=N,1.2nm,0.9s,mb3.5,baz=137,slow=1.3,SNR=5.9						
RSSD	Black Hills	76.01	333	eP	P	19 25 13.1	+0.3
	comp=N,1.2nm,0.6s,mb3.7						
PDAR	Pinedale Array	77.36	329	P	P	19 25 20.6	+0.3
	comp=N,0.8nm,0.5s,mb3.6,baz=126,slow=7.8,SNR=11						
ULM	Lac du Bonnet	78.42	341	P	P	19 25 25.3	-0.6
	comp=N,3.3nm,0.5s,mb4.2,baz=153,slow=7.4,SNR=5.2						
SCHQ	Schefferville	78.64	360	P	P	19 25 26.6	-0.3
	comp=N,1.9nm,0.6s,mb3.9,baz=78,slow=0.6,SNR=5.4						
HLID	Hailey	80.31	327	eP	P	19 25 37.0	+0.8
	comp=N,2.9nm,0.9s,mb3.9						
MCMT	McKenzie Canyo	80.48	329	eP	P	19 25 38.7	+1.7
MATP	Matopo	86.43	111	P	P	19 26 08.6	+0.9
	comp=N,0.5nm,0.4s,mb3.6,baz=238,slow=5.5,SNR=4.5						
YKA	Yellowknife Ar	94.32	340	P	P	19 26 43.4	+0.1
	comp=N,1.6nm,0.5s,mb4.3,baz=138,slow=4.6,SNR=11						
YKA	Yellowknife Ar	94.32	340	P	P	19 26 43.4	+0.1
KMBO	Kilima Mbogo	102.33	97	P	Pdif	19 27 19.9	-0.8
	comp=N,4.4nm,0.2s,baz=110,slow=3.4,SNR=5.2						
KMBO	Kilima Mbogo	102.33	97	P	Pdif	19 27 19.9	-0.8
WRA	Warramunga Arr	131.60	207	PKP	PKPdf	19 32 37.7	+1.8
	comp=N,1.1nm,0.4s,baz=158,slow=1.8,SNR=47						
ZAL	Zalesovo	143.41	28	PKP	PKPdf	19 32 55.5	-0.7
	comp=N,2.3nm,0.6s,baz=164,slow=4.8,SNR=12						
MKAR	Makanchi Array	146.49	40	PKPbc	PKPbc	19 33 04.1	+0.8
	comp=N,5.9nm,0.6s,baz=329,slow=2.0,SNR=56						
SONM	Songino Array	155.73	11	PKP	PKPdf	19 33 18.7	+3.3
	comp=N,0.3nm,0.5s,baz=217,slow=1.3,SNR=4.8						
SONM				PKPab	PKPab	19 33 44.8	-0.5
	comp=N,0.8nm,0.6s,baz=326,slow=4.7,SNR=8.1						

*MDD **13** 20:14:48.7±0.3, 40.50N×1.65W, h3km±3km, mbLg2.7/33, Error ellipse: s-maj=3.1km s-min=2.2km az=100.0, PRXIMO*
*NEIC **13** 20:14:48.8, 40.50N×1.64W, h3km, ML3.2(LDG), ML3.1(STR), MN2.7(MDD), After MDD.*
*INMG **13** 20:14:49.0±1.2, 40.49N×1.64W, h7km±2km, ML2.6, Error ellipse: s-maj=1.8km s-min=1.2km az=99.0*
*CSEM **13** 20:14:49.1±0.1, 40.49N×1.61W, h10km, ML3.2/26, Error ellipse: s-maj=1.5km s-min=0.9km az=114.0*
*LDG **13** 20:14:51.0±0.1, 40.56N×1.68W, h10km, Ml3.2/15, Error ellipse: s-maj=3.8km s-min=1.4km az=153.0*
*STR **13** 20:15:02.1±0.7, 41.20N×0.91W, h10km±1km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 13 20:14:46.1±0.2, **40.50N**±0.01×**1.71W**±0.02, **h10**km, **n143**, σ**1.39**/277, **2C**, **Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECHE	Chera	1.07	148	⇑Pg	Pg	20 15 07.1	-0.5
	10nm,0.3s,SNR=18						
ECHE				Lg		20 15 22.3	
	66nm,0.2s,SNR=20						
ESAC	San Caprasio	1.54	37	Pg	Pg	20 15 16.1	-0.8
ESAC				Lg		20 15 35.9	
ESAC	San Caprasio	1.54	37	Pg	Pg	20 15 16.2	-0.7
	69nm,0.3s,SNR=37						
ESAC				Lg		20 15 35.9	
	559nm,0.3s,SNR=25						
ESAC	San Caprasio	1.54	37	Pg	Pg	20 15 16.1	-0.8
	69nm,0.3s,SNR=37						
EBR	Ebro Roquetas	1.71	78	ePN	Pn	20 15 18.0	+1.8
EBR				eSN	Sn	20 15 40.7	+2.4
ETOB	Tobarra	1.86	176	Pn	Pn	20 15 19.5	+1.1
ETOB				Pg	Pg	20 15 22.5	-0.7
ETOB				Sn	Sn	20 15 42.2	+0.2
ETOB				Lg		20 15 48.3	
ETOB	Tobarra	1.86	176	Pn	Pn	20 15 20.0	+1.6
	0.4nm,0.2s,SNR=86						
ETOB				⇑Pg	Pg	20 15 22.5	-0.8
	28nm,0.4s,SNR=18						
ETOB				Sn	Sn	20 15 42.2	+0.2
	12nm,0.3s,SNR=7.6						
ETOB				Lg		20 15 48.3	
	27nm,0.2s,SNR=5.0						
ETOB	Tobarra	1.86	176	Pn	Pn	20 15 19.5	+1.2
	23nm,0.3s,SNR=86						
ETOB	Tobarra	1.86	176	Pg	Pg	20 15 22.5	-0.7
	SNR=7.9						
ETOB				Sn	Sn	20 15 42.2	+0.2
	28nm,0.3s,SNR=7.6						
ESDC	Sonseca Array	1.91	245	Pn	Pn	20 15 21.4	+2.2
	1.0nm,0.3s,baz=65,slow=14,SNR=30						
ESDC				Pg	Pg	20 15 25.1	+0.8
	3.7nm,0.3s,baz=63,slow=17,SNR=9.4						
ESDC				Sn	Sn	20 15 44.4	+0.9
	baz=64,slow=23,SNR=7.9						
ESDC				Lg		20 15 50.0	
	5.2nm,0.5s,baz=64,slow=25,SNR=17						
ESDC	Sonseca Array	1.91	245	Pn	Pn	20 15 21.4	+2.3
	1.0nm,0.3s,SNR=30						
ESDC	Sonseca Array	1.91	245	Pg	Pg	20 15 25.1	+0.8
	3.7nm,0.3s,SNR=9.4						
ESDC				Sn	Sn	20 15 44.4	+1.0
	SNR=7.9						
ESLA	Sonseca Array	1.91	245	eP	Pn	20 15 20.7	+1.6
ESLA	Sonseca Array	1.91	245	eP	Pn	20 15 20.7	+1.6
EVIA	Vianos	1.96	198	Pn	Pn	20 15 22.7	+2.9
EVIA				Pg	Pg	20 15 25.1	-0.1
EVIA				Lg		20 15 51.5	
EVIA	Vianos	1.96	198	Pn	Pn	20 15 22.7	+2.9
	0.7nm,0.2s,SNR=4.0						
EVIA				Pg	Pg	20 15 25.1	-0.1
	8.2nm,0.2s,SNR=7.9						
EVIA				Lg		20 15 51.5	
	39nm,0.2s,SNR=13						
EBEN	Beniarda	2.13	147	Pg	Pg	20 15 27.0	-1.7
	9.4nm,0.5s,SNR=17						
EBEN				Sn	Sn	20 15 48.9	-0.1
	4.0nm,0.2s,SNR=7.9						
EBEN				Lg		20 15 55.7	
	7.2nm,0.2s,SNR=7.9						
EBEN	Beniarda	2.13	147	Pg	Pg	20 15 27.0	-1.7
	9.4nm,0.5s,SNR=17						
EBEN				Sn	Sn	20 15 48.9	-0.1
	4.0nm,0.2s,SNR=7.9						
ECRI	Cripan	2.19	344	Pn	Pn	20 15 26.0	+2.9
ECRI				Sn	Sn	20 15 51.8	+1.3
ECRI				Lg		20 16 00.0	
ECRI	Cripan	2.19	344	Pn	Pn	20 15 26.1	+3.0
	4.3nm,0.4s,SNR=7.9						
ECRI				Pg	Pg	20 15 28.5	-1.4
	3.2nm,0.2s,SNR=7.9						
ECRI				Sn	Sn	20 15 51.8	+1.3
	11nm,0.1s,SNR=7.9						
ECRI				Lg		20 16 00.0	
	28nm,0.2s,SNR=7.9						
ECRI	Cripan	2.19	344	Pn	Pn	20 15 26.0	+2.9
	4.3nm,0.4s,SNR=7.9						
ECRI				Sn	Sn	20 15 51.8	+1.3
	11nm,0.1s,SNR=7.9						
EARA	Aranguren	2.27	2	Pg	Pg	20 15 30.3	-1.2
	6.8nm,0.2s,SNR=7.9						
EARA				Sn	Sn	20 15 53.9	+1.3
	92nm,0.1s,SNR=7.9						
EARA				Lg		20 16 01.6	
	41nm,0.2s,SNR=7.9						
EGRA	Graus	2.28	41	Pn	Pn	20 15 25.4	+1.0
	2.0nm,0.4s,SNR=7.9						
EGRA				Pg	Pg	20 15 29.6	-2.1
	11nm,0.4s,SNR=24						
EGRA				Sn	Sn	20 15 54.9	+2.0
	20nm,0.3s,SNR=8.3						
EGRA				Lg		20 16 00.7	
	22nm,0.2s,SNR=7.9						
EGRA	Graus	2.28	41	Pg	Pg	20 15 29.6	-2.1
	11nm,0.4s,SNR=24						
EGRA				Sn	Sn	20 15 54.9	+2.1
	20nm,0.3s,SNR=8.3						
EPOB	Poblet	2.28	67	Pn	Pn	20 15 25.0	+0.6
EPOB				Sn	Sn	20 15 52.5	-0.3
EPOB	Poblet	2.28	67	Pn	Pn	20 15 25.0	+0.6
	3.7nm,0.1s,SNR=22						
EPOB				Sn	Sn	20 15 52.5	-0.3
	32nm,0.3s,SNR=14						
EPOB	Poblet	2.28	67	Pn	Pn	20 15 25.0	+0.6
	3.7nm,0.1s,SNR=22						
EPOB				Sn	Sn	20 15 52.5	-0.3
	32nm,0.3s,SNR=14						
IPRE	Itoiz	2.32	7	Pg	Pg	20 15 31.6	-0.8
	SNR=7.9						
IPRE				Sn	Sn	20 15 53.9	+0.1
	SNR=7.9						
IPRE				Lg		20 16 02.0	
	8.6nm,0.2s,SNR=7.9						
IPRE	Itoiz	2.32	7	Pg	Pg	20 15 31.6	-0.8
	SNR=7.9						
IPRE				Sn	Sn	20 15 53.9	+0.1
	SNR=7.9						
ETSF	Etsaut	2.55	19	ePn	Pn	20 15 29.9	+1.7
ETSF				ePg	Pg	20 15 37.4	+0.4
ETSF				eSn	Sn	20 15 58.7	-0.9
ETSF				eSg	Sg	20 16 09.5	-1.5
	32nm,0.3s						
EBIE	Bielsa	2.59	32	Pn	Pn	20 15 30.2	+1.4
	0.6nm,0.4s,SNR=7.9						
EBIE				Pg	Pg	20 15 36.1	-1.8
	5.5nm,0.4s,SNR=14						
EBIE				Sn	Sn	20 16 01.4	+0.7
	4.1nm,0.2s,SNR=7.9						
EBIE				Lg		20 16 10.6	
	13nm,0.2s,SNR=5.8						
EBIE	Bielsa	2.59	32	Pn	Pn	20 15 30.2	+1.4
	0.6nm,0.4s,SNR=7.9						
EBIE	Bielsa	2.59	32	Pg	Pg	20 15 36.1	-1.7
	5.5nm,0.4s,SNR=14						
EBIE				Sn	Sn	20 16 01.4	+0.7
	SNR=7.9						
LARF	Larrau	2.59	12	Pn	Pn	20 15 33.9	+5.0
LARF				Sg	Sg	20 16 03.5	-9.0
SJPF	Ste Jean	2.64	8	ePn	Pn	20 15 31.3	+1.8
SJPF				eSn	Sn	20 15 59.8	-2.0
SJPF				eSg	Sg	20 16 10.4	-3.5
	36nm,0.3s						
EMUR	La Murta	2.68	172	Pn	Pn	20 15 32.6	+2.5
EMUR				Pg	Pg	20 15 38.2	-1.4
EMUR				Sn	Sn	20 16 02.6	-0.4
EMUR				Lg		20 16 13.5	
EMUR	La Murta	2.68	172	Pn	Pn	20 15 32.6	+2.5
	2.9nm,0.4s,SNR=7.9						
EMUR				Pg	Pg	20 15 38.1	-1.6
	12nm,0.3s,SNR=30						
EMUR				Sn	Sn	20 16 02.6	-0.4
	12nm,0.5s,SNR=7.9						
EMUR				Lg		20 16 13.5	
	22nm,0.5s,SNR=7.9						
EMUR	La Murta	2.68	172	Pn	Pn	20 15 32.6	+2.5
	2.9nm,0.4s,SNR=7.9						
EMUR	La Murta	2.68	172	Pg	Pg	20 15 38.2	-1.4
	12nm,0.3s,SNR=30						
EMUR				Sn	Sn	20 16 02.6	-0.3
	12nm,0.5s,SNR=7.9						
VIEF	Viey	2.71	28	Pn	Pn	20 15 32.5	+1.9
EALK	Alkurruntz	2.72	3	Pn	Pn	20 15 32.5	+1.8
	1.3nm,0.2s,SNR=7.0						
EALK				Pg	Pg	20 15 39.4	-1.1
	12nm,0.4s,SNR=7.9						

EALK				Sn	Sn	20 16 04.2	+0.2
	20nm,0.3s,SNR=7.7						
EALK				Lg		20 16 15.2	
	50nm,0.3s,SNR=7.2						
EALK	**Alkurruntz**	**2.72**	**3**	Pg	**Pg**	**20 15 39.4**	**-1.1**
	12nm,0.4s,SNR=7.9						
EALK				Sn	**Sn**	**20 16 04.2**	**+0.2**
	20nm,0.3s,SNR=7.7						
REYF	**Montagne du Re**	**2.75**	**21**	Pn	**Pn**	**20 15 33.1**	**+2.0**
EHUE	**Huescar**	**2.77**	**195**	Pn	**Pn**	**20 15 33.5**	**+2.1**
	0.5nm,0.2s,SNR=7.9						
EHUE				Pg	**Pg**	**20 15 40.1**	**-1.3**
	2.7nm,0.2s,SNR=18						
EHUE				Sn	**Sn**	**20 16 06.0**	**+0.8**
	1.7nm,0.1s,SNR=7.9						
EHUE				Lg		20 16 17.4	
	10nm,0.3s,SNR=9.5						
EHUE	**Huescar**	**2.77**	**195**	Pg	**Pg**	**20 15 40.1**	**-1.3**
	2.7nm,0.2s,SNR=18						
EHUE				Sn	**Sn**	**20 16 06.0**	**+0.8**
	SNR=7.9						
RESF	**Ens**	**2.77**	**33**	Pn	**Pn**	**20 15 32.5**	**+1.1**
ORDF	**Ordiarp**	**2.77**	**12**	Pn	**Pn**	**20 15 35.1**	**+3.7**
ORDF				Sg	**Sn**	**20 16 06.7**	**+1.4**
OSSF	**Osses**	**2.77**	**7**	Pn	**Pn**	**20 15 33.3**	**+1.9**
EIBI	**Ibiza**	**2.78**	**121**	Pn	**Pn**	**20 15 31.3**	**-0.2**
EIBI				Sn	**Sn**	**20 16 02.0**	**-3.4**
EIBI	**Ibiza**	**2.78**	**121**	Pn	**Pn**	**20 15 31.3**	**-0.2**
	4.5nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**20 16 02.2**	**-3.2**
	6.8nm,0.4s,SNR=5.0						
EIBI	**Ibiza**	**2.78**	**121**	Pn	**Pn**	**20 15 31.3**	**-0.2**
	4.5nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**20 16 02.0**	**-3.4**
	6.8nm,0.4s,SNR=5.0						
EMIR	**Miracle**	**2.82**	**59**	Pn	**Pn**	**20 15 32.6**	**+0.4**
	2.7nm,0.2s,SNR=7.9						
EMIR				Pg	**Pg**	**20 15 39.3**	**-3.2**
	SNR=7.9						
EMIR				Sn	**Sn**	**20 16 07.5**	**+1.0**
	SNR=7.9						
EMIR				Lg		20 16 18.1	
	72nm,0.4s,SNR=7.9						
EMIR	**Miracle**	**2.82**	**59**	Pn	**Pn**	**20 15 32.6**	**+0.5**
	2.7nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.82**	**59**	Pg	**Pg**	**20 15 39.3**	**-3.2**
	SNR=7.9						
EMIR				Sn	**Sn**	**20 16 07.5**	**+0.9**
	SNR=7.9						
EBAN	**Banos Encina**	**2.83**	**215**	Pn	**Pn**	**20 15 33.5**	**+1.3**
	0.8nm,0.1s,SNR=7.9						
EBAN				Pg	**Pg**	**20 15 41.0**	**-1.7**
	32nm,0.8s,SNR=24						
EBAN				Sn	**Sn**	**20 16 07.3**	**+0.5**
	4.7nm,0.1s,SNR=6.4						
EBAN				Lg		20 16 18.7	
	10nm,0.2s						
EBAN	**Banos Encina**	**2.83**	**215**	Pg	**Pg**	**20 15 41.0**	**-1.7**
	32nm,0.8s,SNR=24						
EBAN				Sn	**Sn**	**20 16 07.3**	**+0.5**
	11nm,0.3s,SNR=6.4						
EQES	**Quesada**	**2.89**	**202**	Pn	**Pn**	**20 15 35.1**	**+2.0**
	0.5nm,0.1s,SNR=27						
EQES				Pg	**Pg**	**20 15 42.4**	**-1.4**
	13nm,0.2s,SNR=7.9						
EQES				Sn	**Sn**	**20 16 09.3**	**+1.0**
	1.1nm,0.3s,SNR=7.5						
EQES				Lg		20 16 21.2	
	24nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.89**	**202**	Pn	**Pn**	**20 15 35.1**	**+2.0**
	0.5nm,0.1s,SNR=27						
EQES	**Quesada**	**2.89**	**202**	Pg	**Pg**	**20 15 42.4**	**-1.5**
	SNR=7.9						
EQES				Sn	**Sn**	**20 16 09.3**	**+1.0**
	36nm,0.6s,SNR=7.5						
EPF	**Esparros**	**2.96**	**31**	*e*Pn	**Pn**	**20 15 35.1**	**+1.0**
EPF				*e*Pg	**Pg**	**20 15 44.9**	**-0.3**
EPF				*e*Sn	**Sn**	**20 16 06.9**	**-3.1**
EPF				*e*Sg	**Sg**	**20 16 21.2**	**-3.4**
	48nm,0.4s						
MELF	**Melles**	**3.01**	**37**	Pn	**Pn**	**20 15 35.6**	**+0.8**
MELF				Sg	**Sn**	**20 16 10.8**	**-0.5**
ELAN	**Lanestosa**	**3.02**	**335**	Pg	**Pg**	**20 15 43.5**	**-2.8**
	4.1nm,0.3s,SNR=6.7						
ELAN				Sn	**Sn**	**20 16 12.8**	**+1.3**
	8.1nm,0.3s,SNR=6.4						
ELAN				Lg		20 16 26.1	
	17nm,0.2s,SNR=5.0						
ELAN	**Lanestosa**	**3.02**	**335**	Pg	**Pg**	**20 15 43.5**	**-2.8**
	4.1nm,0.3s,SNR=6.7						
ELAN				Sn	**Sn**	**20 16 12.8**	**+1.3**
	8.1nm,0.3s,SNR=6.4						
SALF	**Salau**	**3.14**	**43**	Pn	**Pn**	**20 15 37.5**	**+0.9**
SALF				Sg	**Sn**	**20 16 13.7**	**-0.8**
EADA	**Adamuz**	**3.22**	**225**	Pn	**Pn**	**20 15 39.1**	**+1.4**
	0.9nm,0.1s,SNR=12						
EADA				Pg	**Pg**	**20 15 47.8**	**-2.6**
	6.7nm,0.3s,SNR=19						
EADA				Sn	**Sn**	**20 16 16.4**	**-0.1**
	3.6nm,0.1s,SNR=7.9						
EADA				Lg		20 16 31.8	
	28nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.22**	**225**	Pn	**Pn**	**20 15 39.1**	**+1.3**
	0.9nm,0.1s,SNR=12						
EADA	**Adamuz**	**3.22**	**225**	Pg	**Pg**	**20 15 47.8**	**-2.6**
	6.7nm,0.3s,SNR=19						
EADA				Sn	**Sn**	**20 16 16.4**	**-0.2**
	SNR=7.9						
MLS	**Moulis**	**3.23**	**40**	Pn	**Pn**	**20 15 38.7**	**+0.7**
MLS				Sg	**Sn**	**20 16 17.4**	**+0.5**
ENIJ	**Nijar**	**3.54**	**186**	Pn	**Pn**	**20 15 44.0**	**+1.6**
ENIJ				Pg	**Pg**	**20 15 54.9**	**-2.0**
ENIJ				Sn	**Sn**	**20 16 26.2**	**+1.4**
ENIJ				Lg		20 16 41.1	
ENIJ	**Nijar**	**3.54**	**186**	Pn	**Pn**	**20 15 44.0**	**+1.6**
	4.3nm,0.5s,SNR=7.9						
ENIJ				Pg	**Pg**	**20 15 54.9**	**-2.0**
	8.6nm,0.3s,SNR=9.9						
ENIJ				Lg		20 16 41.1	
	4.6nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**3.54**	**186**	Pg	**Pg**	**20 15 54.9**	**-2.0**
	8.6nm,0.3s,SNR=9.9						
ENIJ				Sn	**Sn**	**20 16 26.2**	**+1.4**
	SNR=7.9						
ELUQ	**Luque**	**3.54**	**215**	Pg	**Pg**	**20 15 54.3**	**-2.6**
	2.3nm,0.2s,SNR=7.9						
ELUQ				Sn	**Sn**	**20 16 23.5**	**-1.4**
	2.1nm,0.2s,SNR=7.9						
ELUQ				Lg		20 16 41.5	
	6.7nm,0.3s,SNR=7.9						
ELUQ	**Luque**	**3.54**	**215**	Pg	**Pg**	**20 15 55.6**	**-1.3**
	SNR=7.9						
ELUQ				Sn	**Sn**	**20 16 23.6**	**-1.2**
	SNR=7.9						
ETOS	**Mallorca**	**3.55**	**100**	Pn	**Pn**	**20 15 41.8**	**-0.6**
	3.0nm,0.2s,SNR=12						
ETOS				Sn	**Sn**	**20 16 21.3**	**-3.6**
	15nm,1.0s,SNR=5.0						
ETOS	**Mallorca**	**3.55**	**100**	Pn	**Pn**	**20 15 41.8**	**-0.6**
	3.0nm,0.2s,SNR=12						
ETOS				Sn	**Sn**	**20 16 21.3**	**-3.6**
	15nm,1.0s,SNR=5.0						
EBER	**Berja**	**3.71**	**195**	Pn	**Pn**	**20 15 47.9**	**+3.1**
	1.5nm,0.2s,SNR=7.9						
EBER				Pg	**Pg**	**20 15 57.8**	**-2.5**
	4.0nm,0.4s,SNR=6.8						
EBER				Sn	**Sn**	**20 16 27.7**	**-1.4**
	3.4nm,0.2s,SNR=5.0						
EBER				Lg		20 16 47.6	
	19nm,0.4s,SNR=5.6						
EBER	**Berja**	**3.71**	**195**	Pn	**Pn**	**20 15 47.9**	**+3.1**
	SNR=7.9						
EBER	**Berja**	**3.71**	**195**	Pg	**Pg**	**20 15 57.8**	**-2.4**
	4.0nm,0.4s,SNR=6.8						
EBER				Sn	**Sn**	**20 16 27.7**	**-1.4**
	4.9nm,0.4s,SNR=5.0						
EARI	**Arriondas**	**3.83**	**318**	Pn	**Pn**	**20 15 48.8**	**+2.4**
	0.3nm,0.3s,SNR=7.9						
EARI				Pg	**Pg**	**20 15 59.5**	**-3.0**
	0.2nm,0.2s,SNR=7.9						
EARI				Sn	**Sn**	**20 16 32.9**	**+1.0**
	0.5nm,0.2s,SNR=7.9						
EARI				Lg		20 16 51.5	
	7.9nm,0.6s,SNR=7.9						
EARI	**Arriondas**	**3.83**	**318**	Pn	**Pn**	**20 15 48.8**	**+2.4**
	SNR=7.9						
EARI	**Arriondas**	**3.83**	**318**	Pg	**Pg**	**20 15 59.5**	**-3.0**
	SNR=7.9						
EARI				Sn	**Sn**	**20 16 32.9**	**+1.0**
	SNR=7.9						
ELOJ	**Sierra Loja**	**3.85**	**210**	Sn	**Sn**	**20 16 31.9**	**-0.7**
	0.6nm,0.2s,SNR=7.9						
ELOJ				Lg		20 16 53.2	
	0.7nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**3.97**	**59**	Sn	**Sn**	**20 16 34.9**	**-0.6**
	2.3nm,0.3s,SNR=7.9						
EJON				Lg		20 16 48.6	
	13nm,0.3s,SNR=5.9						
EJON	**La Jonquera**	**3.97**	**59**	Sn	**Sn**	**20 16 34.9**	**-0.6**
	SNR=7.9						
PBRG	**Braganca**	**4.01**	**291**	Pn	**Pn**	**20 15 49.9**	**+0.8**
PBRG				Lg		20 16 56.2	
PBRG	**Braganca**	**4.01**	**291**	*e*Pn	**Pn**	**20 15 50.7**	**+1.6**
PBRG				*e*Sg	**Sg**	**20 16 56.3**	**-3.4**
	7.4nm,0.4s						
ECAL	**Calabor**	**4.05**	**292**	Pn	**Pn**	**20 15 51.6**	**+1.9**
	9.1nm,0.1s,SNR=33						
ECAL				Sn	**Sn**	**20 16 38.3**	**+0.6**
	5.9nm,0.4s,SNR=7.9						
ECAL				Lg		20 16 58.2	
	18nm,0.4s,SNR=4.9						
ECAL	**Calabor**	**4.05**	**292**	Pn	**Pn**	**20 15 51.6**	**+2.0**
	9.1nm,0.1s,SNR=33						
ECAL				Sn	**Sn**	**20 16 38.3**	**+0.6**
	SNR=7.9						
MTLF	**Montolieu**	**4.08**	**45**	*e*Pn	**Pn**	**20 15 50.6**	**+0.6**
MTLF				*e*Pg	**Pg**	**20 16 05.2**	**-2.4**
MTLF				*e*Sn	**Sn**	**20 16 36.0**	**-2.4**
	11nm,0.4s						
MTLF				*e*Sg	**Sg**	**20 16 55.6**	**-6.4**
	12nm,0.4s						
EBAD	**Badajoz**	**4.45**	**249**	Pn	**Pn**	**20 15 56.0**	**+0.8**
EBAD				Pg	**Pg**	**20 16 08.6**	**-6.3**
EBAD				Sn	**Sn**	**20 16 45.8**	**-1.9**
EBAD				Lg		20 17 11.7	
EBAD	**Badajoz**	**4.45**	**249**	Pn	**Pn**	**20 15 56.0**	**+0.8**
	0.8nm,0.1s,SNR=7.9						
EBAD				Pg	**Pg**	**20 16 08.6**	**-6.3**
	0.5nm,0.2s,SNR=4.0						
EBAD				Sn	**Sn**	**20 16 45.8**	**-1.9**
	5.3nm,0.2s,SNR=7.9						
EBAD				Lg		20 17 10.5	
	7.2nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.45**	**249**	Pn	**Pn**	**20 15 56.0**	**+0.8**
	0.8nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**20 16 45.8**	**-1.9**
	SNR=7.9						
MTE	**Manteigas**	**4.45**	**271**	Pn	**Pn**	**20 15 56.4**	**+1.1**
MTE				Sn	**Sn**	**20 16 47.5**	**-0.2**
MTE				Lg		20 17 11.2	
MTE	**Manteigas**	**4.45**	**271**	*e*Pn	**Pn**	**20 15 56.5**	**+1.2**
MTE				*e*Sn	**Sn**	**20 16 47.5**	**-0.2**
	16nm,0.6s						
PCBR	**Castelo Branco**	**4.46**	**263**	Pn	**Pn**	**20 15 56.5**	**+1.0**
PCBR				Sn	**Sn**	**20 16 47.6**	**-0.5**
PCBR				Lg		20 17 12.0	
PCBR	**Castelo Branco**	**4.46**	**263**	*e*Pn	**Pn**	**20 15 56.4**	**+0.9**
PCBR				*e*Sn	**Sn**	**20 16 47.7**	**-0.4**
PCBR				*e*Sg	**Sg**	**20 17 12.0**	**-2.8**
	8.2nm,0.4s						
ERUA	**La Rua**	**4.50**	**297**	Pn	**Pn**	**20 15 56.9**	**+1.0**
ERUA				Sn	**Sn**	**20 16 49.9**	**+1.0**
ERUA				Lg		20 17 14.0	
ERUA	**La Rua**	**4.50**	**297**	Pn	**Pn**	**20 15 56.9**	**+1.0**
	2.5nm,0.2s,SNR=7.9						
ERUA				Lg		20 17 14.0	
	3.9nm,0.3s,SNR=7.9						
ERUA	**La Rua**	**4.50**	**297**	Pn	**Pn**	**20 15 56.9**	**+1.0**
	2.5nm,0.2s,SNR=7.9						
ERUA				Sn	**Sn**	**20 16 49.9**	**+1.0**
	SNR=7.9						
EMIJ	**Mijas**	**4.60**	**212**	Pn	**Pn**	**20 16 00.5**	**+3.0**
	0.4nm,0.2s,SNR=7.9						
EMIJ				Sn	**Sn**	**20 16 52.2**	**+0.6**
	1.3nm,0.2s,SNR=7.9						
EMIJ				Lg		20 17 18.1	
	3.0nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**4.60**	**212**	Pn	**Pn**	**20 16 00.4**	**+3.0**
	0.4nm,0.2s,SNR=7.9						
EMIJ				Sn	**Sn**	**20 16 52.2**	**+0.6**
	SNR=7.9						
PVRL	**Vila Real**	**4.62**	**282**	Pn	**Pn**	**20 15 58.1**	**+0.5**
PVRL				Lg		20 17 15.4	
PVRL	**Vila Real**	**4.62**	**282**	*e*Pn	**Pn**	**20 15 58.5**	**+0.9**
PVRL				*e*Sg	**Sg**	**20 17 16.2**	**-3.6**
	5.8nm,0.4s						
PVIS	**Viseu**	**4.71**	**275**	Pn	**Pn**	**20 15 59.6**	**+0.7**
PVIS				Sn	**Sn**	**20 16 53.5**	**-0.8**
PVIS				Lg		20 17 18.3	
PVIS	**Viseu**	**4.71**	**275**	*e*Pn	**Pn**	**20 15 59.8**	**+0.9**
PVIS				*e*Sn	**Sn**	**20 16 53.8**	**-0.5**
PVIS				*e*Sg	**Sg**	**20 17 18.4**	**-4.5**
EMIN	**Mina Concepcio**	**4.72**	**236**	Pn	**Pn**	**20 16 01.0**	**+1.9**
EMIN				Pg	**Pg**	**20 16 17.8**	**-2.6**
EMIN				Sn	**Sn**	**20 16 54.0**	**-0.7**
EMIN				Lg		20 17 20.2	
EMIN	**Mina Concepcio**	**4.72**	**236**	Pn	**Pn**	**20 16 01.0**	**+1.9**
	0.2nm,0.2s,SNR=7.9						
EMIN				Pg	**Pg**	**20 16 19.5**	**-0.9**
	0.7nm,0.3s,SNR=7.9						
EMIN				Sn	**Sn**	**20 16 52.5**	**-2.1**
	0.7nm,0.2s,SNR=7.9						
EMIN				Lg		20 17 20.2	
	2.5nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.72**	**236**	Pn	**Pn**	**20 16 01.0**	**+1.9**
	0.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.72**	**236**	Pg	**Pg**	**20 16 17.8**	**-2.6**
	SNR=7.9						
EMIN				Sn	**Sn**	**20 16 54.0**	**-0.7**
	SNR=7.9						
LFF	**La Frestale**	**4.79**	**21**	*e*Pn	**Pn**	**20 16 00.4**	**+0.3**
LFF				*e*Sn	**Sn**	**20 16 51.6**	**-4.8**
	7.3nm,0.2s						
ESPR	**Espera**	**4.86**	**223**	Pn	**Pn**	**20 16 03.1**	**+2.0**
	0.8nm,0.2s,SNR=7.9						
ESPR				Sn	**Sn**	**20 16 57.2**	**-1.0**
	4.5nm,0.3s,SNR=7.9						
ESPR				Lg		20 17 25.5	
	1.8nm,0.3s,SNR=7.9						
ESPR	**Espera**	**4.86**	**223**	Pn	**Pn**	**20 16 03.1**	**+2.0**
	SNR=7.9						
ESPR				Sn	**Sn**	**20 16 57.2**	**-1.0**
	SNR=7.9						
EPON	**Pontenova**	**4.94**	**307**	Pn	**Pn**	**20 16 03.1**	**+0.9**
	0.9nm,0.4s,SNR=7.9						
EPON				Lg		20 17 27.1	
	6.8nm,0.5s,SNR=7.9						
EPON	**Pontenova**	**4.94**	**307**	Pn	**Pn**	**20 16 03.2**	**+1.0**
ELOB	**Lobios**	**4.98**	**288**	Pn	**Pn**	**20 16 03.9**	**+1.1**
	1.2nm,0.1s,SNR=6.2						
ELOB				Sn	**Sn**	**20 17 00.3**	**-0.9**
	1.4nm,0.2s,SNR=7.9						
ELOB				Lg		20 17 29.9	
	5.9nm,0.6s,SNR=5.0						
ELOB	**Lobios**	**4.98**	**288**	Pn	**Pn**	**20 16 03.9**	**+1.1**
	1.2nm,0.1s,SNR=6.2						
ELOB				Sn	**Sn**	**20 17 00.3**	**-0.8**
PTOM	**Tomar**	**5.21**	**262**	Sn	**Sn**	**20 17 05.3**	**-1.7**
PTOM				Lg		20 17 36.3	
PTOM	**Tomar**	**5.21**	**262**	*e*Sn	**Sn**	**20 17 05.4**	**-1.6**
PTOM				*e*Sg	**Sg**	**20 17 34.5**	**-5.2**
CAF	**Calviac**	**5.22**	**31**	*e*Pn	**Pn**	**20 16 05.7**	**-0.5**
CAF				*e*Sn	**Sn**	**20 17 02.6**	**-4.7**
	6.1nm,0.4s						
EVO	**Evora**	**5.25**	**250**	*e*Pn	**Pn**	**20 16 07.5**	**+0.9**
EVO				*e*Sn	**Sn**	**20 17 06.8**	**-1.2**
EVO				*e*Sg	**Sg**	**20 17 36.7**	**-4.3**
	21nm,0.6s						
RJF	**Les Rejaudoux**	**5.36**	**25**	*e*Pn	**Pn**	**20 16 07.9**	**-0.2**
RJF				*e*Sn	**Sn**	**20 17 06.1**	**-4.5**
	3.6nm,0.2s						
PBEJ	**Beja**	**5.38**	**245**	Lg		20 17 40.9	
PBEJ	**Beja**	**5.38**	**245**	*e*Sn	**Sn**	**20 17 09.0**	**-2.1**
PBEJ				*e*Sg	**Sg**	**20 17 41.6**	**-3.5**
EGRO	**El Granado**	**5.38**	**238**	Pn	**Pn**	**20 16 08.2**	**-0.2**
	0.4nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**20 17 07.5**	**-3.7**
	1.6nm,0.3s,SNR=7.9						
EGRO				Lg		20 17 41.3	
	5.3nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**5.38**	**238**	Pn	**Pn**	**20 16 08.2**	**-0.2**
LASF	**Ste Croix**	**5.46**	**47**	*e*Pn	**Pn**	**20 16 09.9**	**+0.3**
LASF				*e*Sn	**Sn**	**20 17 08.1**	**-5.1**
LASF				*e*Sg	**Sg**	**20 17 39.3**	**-8.7**
	11nm,0.5s						
EMAZ	**Mazaricos**	**5.96**	**297**	Lg		20 18 00.9	
	2.7nm,0.4s,SNR=7.9						
PTEO	**Sao Teotonio**	**6.20**	**244**	Lg		20 18 07.9	
PTEO	**Sao Teotonio**	**6.20**	**244**	*e*Sg	**Sg**	**20 18 09.0**	**-3.7**
MFF	**Saint Martin d**	**6.21**	**10**	*e*Pn	**Pn**	**20 16 19.8**	**-0.3**
MFF				*e*Sn	**Sn**	**20 17 26.2**	**-5.6**
	2.8nm,0.3s						
VIVF	**Saint-Julien-l**	**6.41**	**45**	*e*Pn	**Pn**	**20 16 22.2**	**-0.7**
VIVF				*e*Sn	**Sn**	**20 17 31.4**	**-5.6**
VIVF				*e*Sg	**Sg**	**20 18 10.4**	**-9.1**
	5.8nm,0.6s						
SMRF	**Simiane la Rot**	**6.43**	**55**	*e*Pn	**Pn**	**20 16 22.6**	**-0.6**
TCF	**Toulx Ste Croi**	**6.45**	**25**	*e*Pn	**Pn**	**20 16 22.7**	**-0.8**
TCF				*e*Sn	**Sn**	**20 17 32.2**	**-5.8**
	2.4nm,0.4s						
LMR	**La Mourre**	**6.75**	**63**	*e*Sn	**Sn**	**20 17 39.4**	**-6.2**
BGF	**Bois d'Agland**	**6.90**	**27**	*e*Pn	**Pn**	**20 16 29.3**	**-0.6**
BGF				*e*Sn	**Sn**	**20 17 42.3**	**-7.0**
FRF	**La Foret Royal**	**6.94**	**61**	*e*Pn	**Pn**	**20 16 29.8**	**-0.5**
FRF				*e*Sn	**Sn**	**20 17 44.3**	**-5.8**
	1.3nm,0.4s						
QUIF	**Quistinic**	**7.49**	**352**	*e*Pn	**Pn**	**20 16 37.4**	**-0.7**
QUIF				*e*Sn	**Sn**	**20 17 56.3**	**-7.6**
	3.6nm,0.4s						
SSF	**Saint Saulge**	**7.57**	**28**	*e*Pn	**Pn**	**20 16 37.6**	**-1.6**
SGMF	**Saint Gilles**	**7.78**	**356**	*e*Pn	**Pn**	**20 16 40.7**	**-1.4**
SGMF				*e*Sn	**Sn**	**20 18 03.9**	**-7.2**
GRR	**Gorron**	**7.91**	**4**	*e*Pn	**Pn**	**20 16 43.1**	**-0.9**
GRR				*e*Sn	**Sn**	**20 18 06.4**	**-8.1**
ROSF	**Rostrenen**	**7.91**	**352**	*e*Pn	**Pn**	**20 16 43.2**	**-0.8**
ROSF				*e*Sn	**Sn**	**20 18 06.5**	**-8.1**
LPG	**La Plagne**	**7.96**	**48**	*e*Pn	**Pn**	**20 16 44.5**	**-0.2**
FLN	**La Foliniere**	**8.31**	**6**	*e*Pn	**P**	**20 16 48.3**	**-1.2**

NEIC ***13*** *20:26:42.5, 18.39N×68.35W, h183km, MD3.9(RSPR), After RSPR.*

RSPR 13 20:26:42.5, 18.39N×68.35W, h183km±4km, MD3.9/4, MD3.9/4, 4C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.22**	**100**⇑	*e*P	P	20 27 12.1	-0.5
LSP				*e*S	S	20 27 35.7	-0.1
CRPR	**Cabo Rojo, PR**	**1.24**	**108**⇑	*e*P	P	20 27 13.1	+0.4
CRPR				*e*S	S	20 27 35.5	-0.6
CBYP	**Canovanas**	**2.38**	**92**⇑	*e*P	P	20 27 23.7	-0.7
CBYP				*e*S	S	20 27 57.4	+0.7
MTP	**Monte Pirata**	**2.67**	**96**⇑	*e*P	P	20 27 28.2	+0.3
MTP				*e*S	S	20 28 03.2	+0.3

IDC ***13*** *20:42:02.5±7.1, 1.91N×128.11E, h140km±64km, mb4.0/9, mb1 4.1/9, mb1mx3.8/18, mbtmp4.4/9, MS4.2/1, Ms1 4.2/1, ms1mx3.0/18, Error ellipse: s-maj=59.4km s-min=15.1km az=70.0*

NEIC ***13*** *20:42:06.5±2.7, 1.84N×128.03E, h180km±27km, mb4.4/6, Error ellipse: s-maj=26.2km s-min=9.6km az=76.0*

ISC 13 20:42:04.3±4.5**, 1.8N**±0.1×**127.9E**±0.3**, h172**km±44km**, n21, σ0.44**/20**, mb4.3**/12**, 2C, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.16**	**163**	*e*P	**P**	**20 45 31.3**	**+0.3**
	4.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.94**	**186**	*e*P	**P**	**20 46 24.3**	**-0.6**
	3.1nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.94**	**186**	P	**P**	**20 46 24.0**	**-0.9**
	3.2nm,0.3s,baz=14,slow=12,SNR=15						
WRAB	**Tennant Creek**	**22.56**	**164**	*e*P	**P**	**20 46 50.8**	**0.0**
	18nm,0.3s,mb5.0						
WRA	**Warramunga Arr**	**22.57**	**164**	P	**P**	**20 46 51.1**	**+0.2**
	5.5nm,0.3s,mb4.5,baz=340,slow=11,SNR=112						
WB2	**Warramunga Arr**	**22.57**	**164**⇑	*i*P	**P**	**20 46 50.9**	**0.0**
HNR	**Honiara**	**33.87**	**110**	LR	LR	21 00 51.9	
	comp=Z,413nm,19.5s,baz=7.1,slow=34						
KLBR	**Kellerberrin**	**34.61**	**195**	*e*P	**P**	**20 48 38.9**	**0.0**
	43nm,1.3s,mb4.9						
MUN	**Mundaring**	**35.41**	**197**	*e*P	**P**	**20 48 45.8**	**+0.1**
	18nm,1.5s,mb4.5						
STKA	**Stephens Creek**	**35.98**	**160**⇑	*i*P	**P**	**20 48 49.9**	**-0.6**
	12nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**35.98**	**160**	P	**P**	**20 48 49.9**	**-0.6**
	12nm,0.4s,mb4.8,baz=340,slow=8.6,SNR=58						
STKA				PcP	PcP	20 51 13.3	-0.3
	1.0nm,0.5s,baz=16,slow=21,SNR=3.0						
STKA	**Stephens Creek**	**35.98**	**160**	*e*P	**P**	**20 48 49.5**	**-1.0**
NWAO	**Narrogin (SRO)**	**36.01**	**195**	P	**P**	**20 48 51.7**	**+1.0**
	4.0nm,0.4s,mb4.4,baz=31,slow=11,SNR=8.5						
NWAO	**Narrogin (SRO)**	**36.01**	**195**	*e*P	**P**	**20 48 51.0**	**+0.2**
SONM	**Songino Array**	**49.43**	**341**	P	**P**	**20 50 38.6**	**-0.1**
	0.3nm,0.5s,mb3.2,baz=146,slow=7.9,SNR=4.3						
SONM				PcP	PcP	20 51 58.4	-0.1
	0.6nm,0.7s,baz=167,slow=3.4,SNR=4.9						
MKAR	**Makanchi Array**	**59.74**	**325**	P	**P**	**20 51 53.4**	**+0.2**
	4.1nm,0.5s,mb4.5,baz=116,slow=8.3,SNR=70						
MKAR				PcP	PcP	20 52 38.1	+0.1
	1.0nm,0.6s,baz=124,slow=7.4,SNR=3.5						
MKAR	**Makanchi Array**	**59.74**	**325**	P	**P**	**20 51 53.4**	**+0.2**
MKAR				PcP	PcP	20 52 38.1	+0.1
BVAR	**Borovoye Array**	**69.50**	**327**	P	**P**	**20 52 56.0**	**-0.1**
	1.5nm,0.7s,mb3.9,baz=135,slow=6.3,SNR=12						
ZRNK	**Zerenda**	**70.23**	**327**	*e*P	**P**	**20 52 59.8**	**-0.7**
	1.3nm,0.6s,mb3.8						
VNDA	**Vanda**	**81.43**	**173**	P	**P**	**20 54 03.3**	**+0.3**
	0.9nm,0.4s,mb3.7,baz=308,slow=7.4,SNR=12						
ARCES	**ARCESS Array B**	**92.59**	**340**	P	**P**	**20 54 57.9**	**+0.8**
	1.8nm,0.8s,mb4.3,baz=80,slow=5.5,SNR=4.5						

IDC 13 22:19:27.5±2.6**, 10.34S**×**160.86E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/11**, mbtmp3.8**/3**, MS3.1**/2**, Ms1 3.1**/2**, ms1mx2.8**/22**, Error ellipse: s-maj=54.4km s-min=23.7km az=77.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.27**	**315**	Pn	Pn	22 19 53.0	+0.6
	65nm,0.3s,baz=163,slow=8.3,SNR=16						
HNR				Sn	Sn	22 20 11.8	+1.4
	557nm,0.3s,baz=156,slow=16,SNR=21						
PMG	**Port Moresby**	**13.53**	**273**	LR	LR	22 26 15.6	
	comp=Z,70nm,18.4s,baz=333,slow=30						
CTA	**Charters Tower**	**17.09**	**234**	LR	LR	22 28 04.7	
	comp=Z,80nm,19.4s,baz=50,slow=30						
WRA	**Warramunga Arr**	**27.28**	**246**	P	P	22 25 12.7	-3.1
	1.1nm,0.7s,baz=74,slow=11,SNR=9.6						
STKA	**Stephens Creek**	**27.87**	**217**	P	P	22 25 20.4	-0.7
	1.3nm,0.5s,baz=40,slow=14,SNR=6.3						
SONM	**Songino Array**	**75.31**	**325**	P	P	22 31 12.5	-1.9
	1.0nm,0.6s,baz=127,slow=7.2,SNR=8.2						

CASC 13 22:21:50.3±2.0**, 12.36N**×**86.99W, h128**km±8km**, MD3.8, 4C-4D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.11**	**61**⇑	*e*P	P	22 22 07.0	-0.8
LEON				*e*S	S	22 22 20.9	-0.2
TEL3	**Telica 3**	**0.25**	**35**⇑	*e*P	P	22 22 07.6	-0.4
TEL3				*e*S	S	22 22 22.7	+1.0
MIRN	**Miramar**	**0.28**	**74**⇓	*e*P	P	22 22 07.7	-0.5
MIRN				*e*S	S	22 22 22.2	+0.3
TELN	**Telica**	**0.29**	**33**	*e*P	P	22 22 07.8	-0.4
CNGN	**Cerro Negro**	**0.32**	**64**⇑	*e*P	P	22 22 07.8	-0.6
CRIN	**San Cristobal**	**0.34**	**350**⇑	*e*P	P	22 22 07.8	-0.6
CRIN				*e*S	S	22 22 22.3	+0.1
COPN	**Copaltepe**	**0.43**	**115**⇓	*e*P	P	22 22 08.4	-0.5
COPN				*e*S	S	22 22 23.5	+0.5
MOMJ	**Momotombo**	**0.44**	**84**	*e*P	P	22 22 08.3	-0.7
MOMJ				*e*S	S	22 22 22.0	-1.1
XAVN	**Gruta Xavier**	**0.68**	**108**	*e*P	P	22 22 10.4	-0.1
XAVN				*e*S	S	22 22 27.3	+1.4
TICN	**Ticuantepe**	**0.81**	**114**	*e*P	P	22 22 11.4	0.0
TICN				*e*S	S	22 22 29.0	+1.4
PYTN	**Playitas**	**0.93**	**79**⇓	*e*P	P	22 22 12.1	-0.4
PYTN				*e*S	S	22 22 31.0	+1.5
CNCH	**Conchagua**	**1.23**	**318**	*e*P	P	22 22 16.3	+0.7
CONN	**Concepcion**	**1.55**	**121**⇓	*e*P	P	22 22 18.8	-0.5
CONN				*e*S	S	22 22 42.3	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BLLM	**Bellamira**	**1.62**	**312**	*e*P	P	22 22 20.5	+0.5
BLLM				*e*S	S	22 22 44.6	+1.9
SNVI	**San Vicente**	**2.19**	**305**	*e*P	P	22 22 28.1	+1.1
SNVI				*e*S	S	22 22 54.9	0.0
LCBS	**La Ceiba**	**2.32**	**304**	*e*P	P	22 22 29.2	+0.4
LCBS				*e*S	S	22 22 58.7	+0.7
LFRS	**El Faro**	**2.38**	**302**	*e*P	P	22 22 30.2	+0.7
LFRS				*e*S	S	22 22 59.1	-0.1

*NNC **13** 22:24:58.5±2.8, 36.78N×70.19E, h147km±59km, mpv3.8, Error ellipse: s-maj=26.8km s-min=20.5km az=28.0*
ISC 13 22:24:55.5±2.1**, 36.7N**±0.1×**70.1E**±0.2**, h100**km**, n10, σ0^{s}50**/12**, 2C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.10**	**26**	P	**P**	**22 26 25.4**	**+0.8**
	SNR=28						
KK31	**Karatay Array**	**6.41**	**3**	⇓P	**P**	**22 26 29.7**	**+0.9**
	3.1nm,0.3s,baz=178,slow=12,SNR=124						
KK31				⇑S	**S**	**22 27 41.1**	**0.0**
	2.8nm,0.5s,baz=195,slow=24,SNR=5.2						
UCH	**Uchtor**	**6.49**	**30**	P	**P**	**22 26 30.3**	**+0.2**
	SNR=35						
EKS2	**Erkin-Say**	**6.60**	**24**	P	**P**	**22 26 31.9**	**+0.4**
	SNR=17						
AAK	**Ala-Archa**	**6.83**	**28**	⇑P	**P**	**22 26 34.7**	**0.0**
	3.1nm,0.4s						
AAK				S	**S**	**22 27 51.3**	**-0.2**
	10nm,1.1s						
KBK	**Karagaybulak**	**7.03**	**31**	P	**P**	**22 26 37.6**	**+0.1**
	SNR=5.5						
CHMS	**Chumysh**	**7.24**	**28**	P	**P**	**22 26 40.2**	**-0.2**
	SNR=7.9						
USP	**Ospenovka**	**7.38**	**26**	P	**P**	**22 26 41.3**	**-0.9**
	SNR=7.0						
TKM2	**Tokmak 2**	**7.52**	**33**	P	**P**	**22 26 43.7**	**-0.5**
	SNR=16						
AB31	**Akbulak array**	**14.56**	**333**	⇓P	**P**	**22 28 17.1**	**-0.5**
	0.6nm,0.3s,baz=148,slow=12,SNR=48						

*IDC **13** 22:30:24.1±2.7, 30.30N×131.11E, mb3.6/5, mb1 3.7/5, mb1mx3.6/20, mbtmp3.6/5, Error ellipse: s-maj=137.4km s-min=25.7km az=66.0*
*JMA **13** 22:30:25.5±0.3, 29.30N×130.61E, h20km±4km, M3.3*
ISC 13 22:30:27.0±0.8**, 29.32N**±0.05×**130.5E**±0.1**, h57**km±8km**, n15, σ0^{s}77**/19**, mb3.6**/4**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.76**	**313**	P	**P**	**22 30 41.1**	**-0.9**
JNN				S	**S**	**22 30 52.8**	**-0.3**
JZK	**Kikaishima**	**1.11**	**206**	P	**P**	**22 30 46.5**	**-0.2**
JKC	**Kuchinoerabu**	**1.17**	**346**	P	**P**	**22 30 47.2**	**-0.3**
JKC				S	**S**	**22 31 03.5**	**+0.8**
JAM	**Amami Oshima**	**1.21**	**222**	P	**P**	**22 30 47.7**	**-0.3**
JTN	**Tanegashima 3**	**1.39**	**17**	P	**P**	**22 30 50.2**	**-0.5**
JTSR	**Tashiro 2**	**1.87**	**11**	P	**P**	**22 30 58.2**	**+0.9**
JTK	**Tokunoshima**	**2.06**	**222**	P	**P**	**22 30 59.7**	**-0.2**
JTK				S	**S**	**22 31 25.8**	**+1.4**
JSU	**Suzuyama**	**2.18**	**359**	P	**P**	**22 31 00.3**	**-1.3**
JNAR	**Kushima--Naru**	**2.29**	**16**	P	**P**	**22 31 03.5**	**+0.2**
JNAR				*e*S	**S**	**22 31 31.7**	**+1.4**
JOW	**Kunigami**	**3.17**	**219**	P	**P**	**22 31 14.7**	**-1.1**
JOW				S	**S**	**22 31 53.5**	**+0.9**
SONM	**Songino Array**	**26.23**	**321**	P	**P**	**22 35 57.7**	**-0.5**
	0.2nm,0.3s,mb3.1,baz=118,slow=9.4,SNR=2.9						
MKAR	**Makanchi Array**	**41.09**	**309**	P	**P**	**22 38 07.2**	**+0.7**
	0.4nm,0.4s,mb3.4,baz=90,slow=9.1,SNR=11						
WRA	**Warramunga Arr**	**49.11**	**175**	P	pP	22 39 20.6	-5.5
	0.3nm,0.7s,baz=357,slow=8.1,SNR=4.9						
BVAR	**Borovoye Array**	**49.38**	**316**	P	**P**	**22 39 12.6**	**0.0**
	1.3nm,0.6s,mb4.2,baz=88,slow=9.2,SNR=12						
FINES	**FINESS Array B**	**71.18**	**331**	P	**P**	**22 41 40.5**	**-0.7**
	1.8nm,1.0s,mb4.0,baz=76,slow=7.9,SNR=3.9						

CASC 13 23:48:00.8±1.8**, 11.04N**×**87.04W, h30**km±39km**, MD4.3, 5C-2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.18**	**37**	*e*P	Pn	23 48 21.7	+0.1
COPN	**Copaltepe**	**1.22**	**21**	⇓*i*P	Pn	23 48 22.1	+0.1
COPN				*e*S	Sn	23 48 37.1	-0.5
TICN	**Ticuantepe**	**1.26**	**38**	*e*P	Pn	23 48 23.1	+0.4
XAVN	**Gruta Xavier**	**1.30**	**32**	*e*P	Pn	23 48 23.5	+0.1
MGAN	**Managua**	**1.34**	**35**	⇑*e*P	Pn	23 48 23.7	-0.2
MGAN				*e*S	Sn	23 48 40.7	-0.2
LEON	**Leon**	**1.38**	**6**	⇑*e*P	Pn	23 48 24.4	0.0
WILN	**Americas 2**	**1.39**	**37**	*e*P	Pn	23 48 23.9	-0.6
WILN				*e*S	Sn	23 48 42.4	+0.4
MIRN	**Miramar**	**1.43**	**13**	⇓*e*P	Pn	23 48 24.9	-0.1
MOMJ	**Momotombo**	**1.45**	**20**	*e*P	Pn	23 48 25.1	-0.2
CONN	**Concepcion**	**1.48**	**69**	⇑*e*P	Pn	23 48 25.3	-0.5
CNGN	**Cerro Negro**	**1.49**	**13**	⇑*e*P	Pn	23 48 24.5	-1.5
TEL3	**Telica 3**	**1.54**	**7**	*e*P	Pn	23 48 26.6	0.0
PYTN	**Playitas**	**1.77**	**33**	⇑*e*P	Pn	23 48 29.2	-0.8
PYTN				*e*S	Sn	23 48 52.2	+0.5

*NEIC **13** 23:50:35.4±1.8, 9.44S×74.63W, h101km±21km, mb4.5/1, Error ellipse: s-maj=22.5km s-min=14.7km az=182.0*
*IDC **13** 23:50:38.7±5.4, 9.53S×74.49W, h135km±52km, mb3.2/2, mb1 3.4/5, mb1mx3.2/19, mbtmp3.7/5, Error ellipse: s-maj=78.8km s-min=29.8km az=61.0*
ISC 13 23:50:33.8±2.3**, 9.4S**±0.2×**74.7W**±0.1**, h99**km±28km**, n9, σ0^{s}99**/7**, mb3.5**/2**, Central Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.37**	**220**	*e*P	**P**	**23 51 25.3**	**-0.3**
LPAZ	**La Paz**	**9.36**	**138**	P	**P**	**23 52 47.1**	**-0.2**
	0.1nm,0.3s,baz=333,slow=6.8,SNR=4.5						
SAML	**Samuel**	**11.33**	**89**	*e*P	**P**	**23 53 13.8**	**-0.1**
	4.1nm,0.4s						
LVC	**Limon Verde**	**14.27**	**158**	P	**P**	**23 53 53.6**	**+1.3**
	0.1nm,0.3s,baz=223,slow=14,SNR=2.6						
SIV	**San Ignacio**	**14.78**	**118**	P	**P**	**23 53 59.3**	**+0.3**
	0.7nm,0.3s,baz=299,slow=12,SNR=15						
CPUP	**Villa Florida**	**23.53**	**138**	P	**P**	**23 55 34.6**	**-1.2**
	1.1nm,0.7s,mb3.3,baz=307,slow=10,SNR=3.7						
PDAR	**Pinedale Array**	**60.89**	**331**	P	**P**	**00 00 38.9**	**+0.4**
	0.3nm,0.4s,mb3.7,baz=127,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**139.22**	**224**	PKP	PKPdf	00 09 49.8	-0.3
	0.2nm,0.4s,baz=117,slow=2.1,SNR=5.0						
FITZ	**Fitzroy Crossi**	**146.13**	**216**	PKPbc	PKPbc	00 10 02.9	-0.6
	3.2nm,0.7s,SNR=3.7						

*NEIC **13** 23:51:17.6, 37.02N×21.20E, h5km, MD3.5(ATH), After ATH.*
*CSEM **13** 23:51:17.6, 37.02N×21.20E, h5km, MD3.5/4, After ATH*
ATH 13 23:51:17.6, 37.02N×21.20E, h5km**, MD3.5**/4**, Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.60**	**74**	*e*PG	Pg	23 51 29.1	-0.6
ITM				*e*SB	Sb	23 51 38.4	-0.4
RLS	**Riolos of Patr**	**1.06**	**11**	*e*PN	Pn	23 51 37.9	-1.1
RLS				*e*SB	Sb	23 51 52.3	+0.3
VLS	**Valsamata**	**1.25**	**337**	*e*PG	Pg	23 51 41.0	-1.6
VLS				*e*SB	Sb	23 51 59.6	+2.0
VLI	**Veliai**	**1.43**	**102**	*e*PB	Pb	23 51 45.0	+0.7
EVR	**Evrytania**	**1.95**	**14**	*e*PN	Pn	23 51 55.0	+3.2

*IDC **14** 00:31:52.2±3.1, 16.52S×174.06W, h82km±29km, mb3.8/5, mb1 4.1/6, mb1mx3.9/13, mbtmp4.2/6, MS3.2/1, Ms1 3.2/1, ms1mx2.8/24, Error ellipse: s-maj=35.4km s-min=19.9km az=123.0*
*NEIC **14** 00:31:54.3±1.9, 16.51S×173.86W, h107km±19km, mb4.6/4, Error ellipse: s-maj=23.8km s-min=17.1km az=131.0*
ISC 14 00:31:54.7±1.5**, 16.3S**±0.1×**173.7W**±0.1**, h148**km±19km**, n18, σ1^{s}12**/15**, mb4.2**/8**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.00**	**38**	P	**P**	**00 32 43.7**	**+1.2**
	49nm,0.3s,baz=58,slow=2.8,SNR=52						
AFI				S	**S**	**00 33 19.1**	**-0.1**
	168nm,0.3s,baz=27,slow=22,SNR=18						
AFI	**Afiamalu**	**3.00**	**38**	P	**P**	**00 32 43.8**	**+1.2**
AFI				*e*Sn	**S**	**00 33 17.5**	**-1.8**
DZM	**Mont Dzumac**	**19.63**	**250**	P	**P**	**00 36 14.3**	**+0.3**
	0.2nm,0.3s,baz=112,slow=18,SNR=3.3						
URZ	**Urewera**	**23.34**	**199**	P	**P**	**00 36 49.3**	**-1.2**
	11nm,0.6s,mb4.5,baz=28,slow=12,SNR=7.4						
HNR	**Honiara**	**26.59**	**282**	LR	LR	00 46 23.3	
	comp=Z,57nm,20.9s,baz=271,slow=33						
PMG	**Port Moresby**	**38.75**	**275**	*e*P	**P**	**00 39 08.6**	**+2.2**
	14nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**43.37**	**241**	P	**P**	**00 39 43.1**	**-0.9**
	5.6nm,0.9s,mb4.2,baz=73,slow=8.9,SNR=7.4						
WRA	**Warramunga Arr**	**49.39**	**258**	P	**P**	**00 40 30.0**	**-1.4**
	0.6nm,0.5s,mb3.5,baz=97,slow=7.5,SNR=13						
WRA				PcP	PcP	00 41 53.6	+1.7
	0.7nm,0.6s,baz=98,slow=3.4,SNR=5.8						
GUMO	**Guam**	**50.60**	**304**	P	**P**	**00 40 40.6**	**-0.1**
	65nm,1.1s,mb5.2						
SBA	**Scott Base**	**62.34**	**185**	P	**P**	**00 42 04.6**	**+1.3**
VNDA	**Vanda**	**62.46**	**186**	P	**P**	**00 42 05.2**	**+1.1**
	2.6nm,0.9s,mb4.0,baz=6.5,slow=7.8,SNR=13						
CASY	**Casey**	**69.49**	**205**	*e*P	**P**	**00 42 48.0**	**-0.7**
	7.4nm,1.0s,mb4.4						
PV10	**Paradox Valley**	**81.32**	**46**	*e*P	**P**	**00 43 55.8**	**-0.4**
PDAR	**Pinedale Array**	**83.10**	**42**	P	**P**	**00 44 09.8**	**+4.6**
	0.7nm,0.7s,mb3.5,baz=200,slow=1.7,SNR=6.1						
KMBO	**Kilima Mbogo**	**144.91**	**243**	PKP	PKPdf	00 51 19.5	+4.4
	3.6nm,0.8s,baz=60,slow=5.1,SNR=11						
KMBO	**Kilima Mbogo**	**144.91**	**243**	PKP	PKPdf	00 51 19.5	+4.4
BRTR	**Keskin Array B**	**146.68**	**320**	PKPbc	PKPbc	00 51 25.2	+6.3
	2.7nm,0.8s,baz=121,slow=3.2,SNR=8.8						
GERES	**GERESS Array B**	**146.98**	**351**	PKPbc	PKPbc	00 51 26.0	+6.8
	0.3nm,0.6s,baz=72,slow=4.2,SNR=4.9						

GUC 14 00:35:28.7±0.9**, 24.21S**×**67.41W, h149**km±29km**, ML3.8, 1C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.10**	**319**	*e*P	P	00 36 06.2	+0.8
LVC				*i* S	S	00 36 35.3	+1.8
LVC				AMP		00 36 37.5	
	comp=E,173nm,0.4s						
CPN1	**Cerro Paranal**	**2.76**	**261**	⇑*i*P	P	00 36 14.9	+1.2
CPN1				*i* S	S	00 36 50.4	+2.3
CPN1				AMP		00 36 52.2	
	comp=E,197nm,0.2s						
ANCH	**Antofagasta**	**2.79**	**280**	*e*P	P	00 36 15.0	+0.9
ANCH				*i* S	S	00 36 49.1	+0.3
ANCH				AMP		00 36 53.4	
	comp=N,373nm,0.1s						
CRCH	**Chaqaral**	**3.60**	**233**	*i* S	S	00 37 08.3	+0.8
CRCH				AMP		00 37 09.1	
	comp=N,189nm,0.3s						

*NEIC **14** 00:48:41.9±0.6, 14.42S×76.06W, h35km, mb4.4/8, Error ellipse: s-maj=14.8km s-min=8.9km az=69.0*
*IDC **14** 00:48:43.2±5.1, 14.54S×76.25W, h45km±47km, mb3.7/5, mb1 3.9/8, mb1mx3.7/18, mbtmp4.0/8, ML4.7/2, MS3.3/3, Ms1 3.2/3, ms1mx3.0/20, Error ellipse: s-maj=49.4km s-min=23.9km az=86.0*
ISC 14 00:48:39.8±0.6**, 14.48S**±0.07×**76.1W**±0.1**, h33**km**, n33, σ1^{s}35**/27**, mb4.1**/11**, MS3.1**/3**, 2D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.57**	**344**	*e*Pn	**Pn**	**00 49 19.1**	**-1.1**
ARE	**Arequipa**	**4.89**	**114**	*e*P	**P**	**00 49 57.0**	**+4.0**
ARE				*e*S	x	00 51 09.0	
LPAZ	**La Paz**	**7.93**	**104**	P	**P**	**00 50 39.7**	**+4.2**
	2.0nm,0.3s,baz=288,slow=8.1,SNR=99						
LPAZ	**La Paz**	**7.93**	**104**	*e*Pn	**Pn**	**00 50 38.9**	**+3.1**
	13nm,0.6s						
LVC	**Limon Verde**	**10.60**	**141**	P	**P**	**00 51 12.0**	**-0.5**
	1.9nm,0.3s,baz=308,slow=10,SNR=19						
LVC	**Limon Verde**	**10.60**	**141**	*e*P	**P**	**00 51 10.9**	**-1.5**
	8.5nm,0.6s						
LVC				*e*S	**S**	**00 53 04.1**	**-6.9**
SAML	**Samuel**	**13.82**	**68**	*e*P	**P**	**00 51 53.5**	**-2.3**
	3.0nm,0.6s						
SIV	**San Ignacio**	**14.62**	**98**	P	**P**	**00 52 04.4**	**-1.8**
	0.1nm,0.3s,baz=276,slow=16,SNR=6.2						
CFAA	**Coronel Fontan**	**18.51**	**158**	P	**P**	**00 52 55.0**	**-0.7**
	0.0nm,0.3s,baz=343,slow=11,SNR=2.6						
CFAA	**Coronel Fontan**	**18.51**	**158**	P	**P**	**00 52 55.0**	**-0.7**
CPUP	**Villa Florida**	**21.17**	**127**	P	**P**	**00 53 25.5**	**+0.9**
	4.1nm,1.0s,mb3.7,baz=314,slow=14,SNR=5.6						
CPUP				LR	LR	01 01 15.4	
	comp=Z,60nm,21.4s,MS3.0,baz=132,slow=35						
SDV	**Santo Domingo**	**23.85**	**14**	P	**P**	**00 53 53.3**	**+2.0**
	6.9nm,0.7s,mb4.2,baz=237,slow=10,SNR=10						
SDV	**Santo Domingo**	**23.85**	**14**	*e*P	**P**	**00 53 52.7**	**+1.5**
	8.6nm,0.8s,mb4.2						
JTS	**JuntasAbangare**	**26.12**	**340**	LR	LR	01 03 11.4	
	comp=Z,59nm,19.0s,MS3.1,baz=1.8,slow=33						
PLCA	**Paso Flores**	**26.60**	**170**	P	**P**	**00 54 17.1**	**0.0**
	1.2nm,0.8s,mb3.5,baz=280,slow=7.7,SNR=3.6						
PLCA	**Paso Flores**	**26.60**	**170**	P	**P**	**00 54 16.8**	**-0.3**
	6.7nm,1.3s,mb4.0						
TRQA	**Tornquist**	**26.62**	**154**	*e*P	**P**	**00 54 16.9**	**-0.4**
BDFB	**Brasilia**	**27.17**	**96**	P	**P**	**00 54 23.0**	**+0.4**
	2.1nm,0.6s,mb3.8,baz=286,slow=12,SNR=3.2						
BDFB				LR	LR	01 06 58.4	
	comp=Z,81nm,19.9s,MS3.3,baz=159,slow=40						
LRAL	**Lakeview Retre**	**48.38**	**348**	P	**P**	**00 57 16.2**	**-4.5**
	8.1nm,1.2s,mb4.6						
CPRX	**Cap Rock**	**54.17**	**331**	*e*P	**P**	**00 58 10.4**	**+6.0**
SDCO	**Great Sand Dun**	**58.82**	**333**	P	**P**	**00 58 37.2**	**-0.3**
	2.7nm,1.1s,mb4.2						
HWUT	**Hardware Ranch**	**64.69**	**331**	P	**P**	**00 59 22.1**	**+5.2**
	2.0nm,0.8s,mb4.2						
VNA2	**Neumayer--Watz**	**69.50**	**161**	*e*	pP	00 59 54.4	-2.6
VNA2	**Neumayer--Watz**	**69.50**	**161**	*e*	PcP	01 00 04.5	-5.4
VNA2	**Neumayer--Watz**	**69.50**	**161**	⇓*i*P	**P**	**00 59 47.7**	**+1.0**
VNA2				*e*		00 59 54.4	
VNA2				*e*		01 00 04.5	
SNAA	**Sanae**	**71.11**	**161**	*e*	pP	01 00 03.1	-3.6
SNAA	**Sanae**	**71.11**	**161**	*e*	PcP	01 00 13.2	-3.5
SNAA	**Sanae**	**71.11**	**161**	⇓*i*P	**P**	**00 59 57.2**	**+0.8**
	0.2nm,0.7s,mb3.2						
SNAA				*e*		01 00 03.1	
SNAA				*e*		01 00 13.2	
YKA	**Yellowknife Ar**	**82.41**	**343**	P	**P**	**01 00 59.5**	**-0.3**
	0.5nm,0.7s,mb3.6,baz=140,slow=5.6,SNR=4.2						
TSUM	**Tsumeb**	**88.75**	**109**	P	**P**	**01 01 29.8**	**-2.2**
	3.8nm,1.1s,mb4.6						
SUMG	**Summit**	**90.34**	**11**	P	**P**	**01 01 39.8**	**+1.4**
	11nm,1.2s,mb5.1						
WRA	**Warramunga Arr**	**134.52**	**222**	PKP	PKPdf	01 07 57.9	+2.1
	0.2nm,0.5s,baz=125,slow=2.1,SNR=4.6						
SONM	**Songino Array**	**146.68**	**357**	PKPbc	PKPbc	01 08 20.8	+2.8
	0.7nm,0.5s,baz=338,slow=2.2,SNR=4.5						

*NEIC **14** 00:49:36.2, 16.87N×94.17W, h125km, MD4.0(MEX), After MEX.*
MEX 14 00:49:35.6±1.1**, 16.86N**×**94.16W, h136**km±12km**, MD4.1, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.73**	**289**	*i* P	P	00 49 55.8	-1.5
CMIG				*i* S	S	00 50 11.4	-2.5
SCX	**San Cristobal**	**1.47**	**94**	*i* P	P	00 50 02.5	-1.6
SCX				*e*S	S	00 50 23.0	-3.0
EVV	**El Vigia**	**1.96**	**325**	*i* P	P	00 50 07.0	-2.7
EVV				*e*S	S	00 50 32.0	-3.9
CCIG	**Comitan**	**2.02**	**106**	*i* P	P	00 50 09.7	-0.8
CCIG				*e*S	S	00 50 35.8	-1.5
HUIG	**Huatulco**	**2.16**	**240**	*i* P	P	00 50 09.2	-3.2
HUIG				*e*S	S	00 50 37.6	-2.8
OXX	**Oaxaca**	**2.46**	**276**	*i* P	P	00 50 15.0	-1.3
OXX				*e*S	S	00 50 45.5	-1.7
IISM	**Ciudad Serdan**	**3.73**	**305**	*i* P	P	00 50 31.5	-1.3
IISM				*e*S	S	00 51 13.0	-3.6
PPM	**Popocatepetl**	**4.79**	**298**	*i* P	P	00 50 47.0	+0.1
YAIG	**Yautepec**	**5.08**	**294**	*i* P	P	00 50 50.6	-0.3
YAIG				*e*S	S	00 51 46.6	-2.3

*NIED **14** 01:58:00, 38.90N×141.60E, h83km, Mw3.9 Best double couple: $M_0$7.7×10^{14} NP1:ϕ_s185°, δ73°, λ55°. NP2:ϕ_s71°, δ38°, λ152°.*
*MOS **14** 01:58:15.8±0.8, 39.40N×141.46E, h33km, mb4.4/8, Error ellipse: s-maj=21.2km s-min=14.0km az=66.1*
*JMA **14** 01:58:19.7, 38.88N×141.58E, h74km±1km, M3.9 Broadband fault plane solution: P waves. NP1:ϕ_s62°, δ38°, λ145°. NP2:ϕ_s181°, δ69°, λ57°. Principal axes: T Plg54°, Azm51°; N Plg30°, Azm194°; P Plg18°, Azm295°;*
JMA Felt II J1.
*NEIC **14** 01:58:23.3±1.0, 38.71N×141.42E, h115km±9km, mb4.4/6 Error ellipse: s-maj=11.7km s-min=8.6km az=60.0*
NEIC Recorded [2 JMA] in Iwate and [1 JMA] in Miyagi Prefectures.
*IDC **14** 01:58:24.1±2.3, 38.78N×141.38E, h119km±21km, mb3.6/9, mb1 3.8/11, mb1mx3.6/21, mbtmp3.9/11, Error ellipse: s-maj=20.8km s-min=17.5km az=101.0*
ISC 14 01:58:18.7±0.5**, 38.89N**±0.04×**141.60E**±0.07**, h81**km±3km**, n44, σ0^{s}92**/53**, mb4.0**/15**, 9C-2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.20**	**16**	⇑P	**P**	**01 58 31.0**	**+0.4**
OFUJ				S	**S**	**01 58 39.0**	**-0.6**
JMK	**Ichinoseki**	**0.30**	**283**	⇑P	**P**	**01 58 31.2**	**-0.1**
JMK				S	**S**	**01 58 39.7**	**-1.0**
JIO	**Ouri**	**0.47**	**204**	⇑P	**P**	**01 58 32.6**	**+0.1**
JIO				S	**S**	**01 58 41.9**	**-0.9**
JOM	**Ohasama**	**0.63**	**338**	⇑P	**P**	**01 58 34.3**	**+0.3**
JOM				S	**S**	**01 58 45.0**	**-0.3**
JOU	**Okura**	**0.90**	**235**	⇑P	**P**	**01 58 37.3**	**+0.5**
JOU				S	**S**	**01 58 50.6**	**+0.1**
JYK	**Kaneyama**	**0.97**	**272**	⇑P	**P**	**01 58 38.2**	**+0.5**
JYK				*e*S	**S**	**01 58 51.9**	**-0.1**
JMM	**Marumori**	**1.20**	**212**	⇑P	**P**	**01 58 40.4**	**-0.2**
JMM				S	**S**	**01 58 55.9**	**-1.1**
JYS	**Shirataka**	**1.37**	**242**	⇑P	**P**	**01 58 43.5**	**+0.5**
JANG	**Nango**	**1.49**	**358**	⇓P	**P**	**01 58 44.4**	**0.0**
JAH	**Hinai**	**1.50**	**331**	⇓P	**P**	**01 58 45.3**	**+0.7**
JYA	**Atsumi**	**1.50**	**259**	⇑P	**P**	**01 58 45.1**	**+0.5**
JYA				S	**S**	**01 59 03.9**	**+0.1**
MAJO	**Matsushiro**	**3.56**	**230**	*e*P	**P**	**01 59 13.9**	**+0.9**
MAT	**Matsushiro**	**3.56**	**230**	*e*P	**P**	**01 59 14.0**	**+1.0**
MAT				*e*S	**S**	**02 00 09.0**	**+15**
MAT	**Matsushiro**	**3.56**	**230**	P	**P**	**01 59 14.1**	**+1.1**
MAT				S	**S**	**01 59 56.0**	**+1.8**
MJAR	**Matsushiro Arr**	**3.56**	**230**	P	**P**	**01 59 14.3**	**+1.3**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR	**Matsushiro Arr**	**3.56**	**230**	P	**P**	**01 59 14.3**	**+1.2**
	comp=Z,3.3nm,0.3s,baz=30,slow=11,SNR=24						
ASAJ	**Asahikawa**	**5.28**	**8**	P	**P**	**01 59 43.9**	**+7.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**5.28**	**8**	P	**P**	**01 59 43.9**	**+7.2**
	comp=Z,1.8nm,0.3s,baz=177,slow=13,SNR=4.7						
MDJ	**Mudanjiang**	**10.64**	**306**	P	**P**	**02 00 52.2**	**+2.2**
	comp=Z,7.6nm,0.9s						
SONM	**Songino Array**	**26.92**	**301**	P	**P**	**02 03 53.3**	**-0.6**
	comp=Z,0.3nm,0.3s,mb3.3,baz=105,slow=9.5,SNR=3.6						
ENH	**Enshi**	**27.69**	**262**	P	**P**	**02 03 59.2**	**-2.0**
	comp=Z,6.9nm,0.6s,mb4.4						
ZAK	**Zakamensk**	**29.27**	**306**	*e*P	**P**	**02 04 13.4**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.4						
ZAL	**Zalesovo**	**40.81**	**311**	P	**P**	**02 05 52.7**	**-0.6**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ZAL	**Zalesovo**	**40.81**	**311**	P	**P**	**02 05 52.7**	**-0.6**
	comp=Z,3.7nm,0.4s,mb4.6,baz=23,slow=7.7,SNR=9.4						
MKAR	**Makanchi Array**	**43.28**	**300**	P	**P**	**02 06 13.2**	**-0.4**
	comp=Z,4.9nm,0.7s,mb4.4,baz=85,slow=9.8,SNR=38						
ILAR	**Eielson Array**	**47.86**	**33**	P	**P**	**02 06 50.3**	**+0.6**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**47.86**	**33**	P	**P**	**02 06 50.2**	**+0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=264,slow=6.6,SNR=4.5						
PMG	**Port Moresby**	**48.32**	**173**	P	**P**	**02 06 50.3**	**-3.7**
PMG				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PMG	**Port Moresby**	**48.32**	**173**	P	**P**	**02 06 50.3**	**-3.6**
	comp=Z,8.9nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**50.28**	**311**	*e*P	**P**	**02 07 07.9**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**50.28**	**311**	*e*P	**P**	**02 07 07.9**	**-0.7**
	comp=Z,1.1nm,0.6s,mb4.0						
ARU	**Arti**	**55.08**	**318**	*e*P	**P**	**02 07 42.9**	**-1.2**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ARU	**Arti**	**55.08**	**318**	*e*P	**P**	**02 07 42.9**	**-1.3**
	comp=Z,3.6nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**58.91**	**188**	P	**P**	**02 08 10.1**	**-1.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**58.91**	**188**	P	**P**	**02 08 10.1**	**-1.6**
	comp=Z,0.7nm,0.5s,mb4.0,baz=5.5,slow=6.6,SNR=16						
FINES	**FINESS Array B**	**67.25**	**332**	P	**P**	**02 09 05.7**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**67.25**	**332**	P	**P**	**02 09 05.7**	**-0.3**
	comp=Z,1.3nm,0.8s,mb3.8,baz=14,slow=12,SNR=2.6						
AKASG	**Malin Array Be**	**72.93**	**322**	P	**P**	**02 09 39.9**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.6,baz=43,slow=6.6,SNR=4.6						
BOZ	**Bozeman (W)**	**73.29**	**45**	*e*P	**P**	**02 09 43.7**	**+1.0**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
BOZ	**Bozeman (W)**	**73.29**	**45**	*e*P	**P**	**02 09 43.6**	**+1.0**
	comp=Z,2.3nm,0.7s,mb4.1						
PDAR	**Pinedale Array**	**76.27**	**46**	P	**P**	**02 10 00.9**	**+1.0**
	comp=Z,0.9nm,0.6s,mb3.7,baz=261,slow=1.5,SNR=8.8						
PV10	**Paradox Valley**	**79.45**	**49**	*e*P	**P**	**02 10 19.1**	**+1.5**
TXAR	**Lajitas Array**	**88.88**	**52**	P	**P**	**02 11 05.6**	**+0.5**
	comp=Z,0.4nm,0.7s,mb3.6,slow=1.3,SNR=3.7						
LPAZ	**La Paz**	**145.60**	**57**	PKPbc	PKPbc	02 17 50.5	+1.9
	comp=Z,0.8nm,0.7s,baz=309,slow=6.5,SNR=7.2						

CASC 14 02:37:00.6±1.3**, 11.07N**×**86.39W, h30**km±5km**, MD3.8, ML3.3, 7C-4D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.89**	**57**	⇓*e*P	Pn	02 37 16.6	-0.6
APON	**Apoyo**	**0.89**	**20**	⇓*e*P	Pn	02 37 16.9	-0.3
CRUN	**El Crucero**	**0.91**	**5**	⇑*e*P	Pn	02 37 17.7	+0.2
CRUN				*e*S	Sb	02 37 31.9	+2.5
MASN	**Masaya**	**0.94**	**14**	*e*P	Pn	02 37 17.5	-0.3
TICN	**Ticuantepe**	**0.96**	**9**	⇓*e*P	Pn	02 37 18.1	-0.1
TICN				*e*S	Sn	02 37 31.7	+0.6
XAVN	**Gruta Xavier**	**1.07**	**3**	⇑*e*P	Pn	02 37 19.8	0.0
XAVN				*e*S	Sn	02 37 34.9	+1.2
MGAN	**Managua**	**1.07**	**7**	⇑*e*P	Pn	02 37 19.7	-0.2
MGAN				*e*S	Sn	02 37 34.3	+0.5
	comp=E,754nm,0.4s						
MGAN				*e*		02 37 35.4	
	comp=N,606nm,0.2s						
WILN	**Americas 2**	**1.10**	**10**	*e*P	Pn	02 37 19.0	-1.1
WILN				*e*S	Sn	02 37 35.0	+0.5
COPN	**Copaltepe**	**1.12**	**350**	⇑*e*P	Pn	02 37 20.1	-0.3
COPN				*e*S	Sn	02 37 35.6	+0.7
MOMJ	**Momotombo**	**1.33**	**353**	⇑*e*P	Pn	02 37 23.4	-0.1
MOMJ				*e*S	Sn	02 37 39.6	-0.8
MIRN	**Miramar**	**1.40**	**347**	⇓*i*P	Pn	02 37 24.2	-0.2
MIRN				*e*S	Sn	02 37 42.8	+0.9
LEON	**Leon**	**1.42**	**340**	⇑*e*P	Pn	02 37 24.6	-0.3
LEON				*e*S	Sn	02 37 43.2	+0.5
CNGN	**Cerro Negro**	**1.45**	**348**	*e*P	Pn	02 37 24.5	-0.7
CNGN				*e*S	Sn	02 37 44.0	+0.6
PYTN	**Playitas**	**1.49**	**12**	*e*P	Pn	02 37 25.2	-0.5
TEL3	**Telica 3**	**1.56**	**343**	*e*P	Pn	02 37 26.8	0.0
TEL3				*e*S	Sn	02 37 45.8	-0.3
TELN	**Telica**	**1.58**	**344**	*e*P	Pn	02 37 26.9	-0.2
CRIN	**San Cristobal**	**1.74**	**338**	⇑*e*P	Pn	02 37 29.3	0.0

*MOS **14** 02:38:12.6±1.0, 36.52N×76.62E, h33km, mb4.2/7, Error ellipse: s-maj=18.5km s-min=9.6km az=100.9*
*BJI **14** 02:38:15.4, 36.51N×76.66E, h88km, mb4.0, Ms3.4*
*NEIC **14** 02:38:17.2±0.8, 36.54N×76.77E, h62km±10km, mb4.0/4,*

Error ellipse: s-maj=16.8km s-min=6.3km az=62.0
*NNC **14** 02:38:26.4±3.0,37.17N×77.00E,h120^{km}±28^{km},mpv4.1, Error ellipse: s-maj=25.9km s-min=13.7km az=169.0*
*IDC **14** 02:38:28.1±10.0,37.32N×76.97E,h120^{km}±74^{km},mb3.5/6, mb1 3.7/9,mb1mx3.5/21,mbtmp4.0/9,Error ellipse: s-maj=85.2km s-min=25.8km az=7.0*
ISC 14 02:38:18.2±0.4,**36.63N**±0.02×**77.16E**±0.07,**h95**^{km}±8^{km},**n78**,σ1^{s}**32**/101,**mb3.8**/9,**9C-2D,Kashmir-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	3.03	342	i P	P	02 39 06.8	+1.5
KSH				S	S	02 39 39.6	-1.1
KSH				Smax			
	comp=N,370nm,0.5s						
KSH				Smax			
	comp=E,350nm,0.4s						
DLH	Dalhousie	4.20	194	eP	P	02 39 25.0	+3.7
DLH				eS	S	02 40 11.0	+1.5
THN	Thein Dam	4.36	196	eP	P	02 39 26.3	+2.8
THN				eS	S	02 40 12.6	-0.8
PONG	Pong	4.77	192	eP	P	02 39 32.0	+2.8
PONG				e		02 40 25.0	
SDNR	Sundarnagar	5.12	182	eP	P	02 39 37.0	+3.0
SDNR				eS	S	02 40 31.0	-1.3
SMLA	Simla	5.49	180	⇓i	P	02 39 38.9	-0.1
SMLA				e		02 40 36.2	
ULHL	Ulahol	5.65	353	P	P	02 39 42.3	+1.1
	SNR=29						
UCH	Uchtor	5.95	341	P	P	02 39 46.3	+1.0
	SNR=42						
KBK	Karagaybulak	6.25	345	P	P	02 39 50.9	+1.4
	SNR=9.9						
AAK	Ala-Archa	6.34	342	P	P	02 39 51.2	+0.6
	SNR=7.3						
AAK	Ala-Archa	6.34	342	⇑P	P	02 39 51.9	+1.3
	comp=E,9.2nm,0.5s						
AAK				⇑S	S	02 40 59.2	-3.0
	comp=E,27nm,0.6s						
AAK	Ala-Archa	6.34	342	eP	P	02 39 49.9	-0.8
AAK				pmax	pmax		
	comp=Z,22nm,0.6s						
AAK	Ala-Archa	6.34	342	ePn	P	02 39 49.9	-0.8
	comp=Z,22nm,0.6s						
TKM2	Tokmak 2	6.40	350	P	P	02 39 52.2	+0.8
	SNR=17						
CHMS	Chumysh	6.62	344	P	P	02 39 55.7	+1.0
	SNR=5.5						
KKR	Kurukshetra	6.66	183	eP	P	02 39 58.3	+3.1
PTH	Pithoragarh	7.51	159	eP	P	02 40 11.0	+4.2
PTH				eS	S	02 41 23.0	-8.0
LGTI	Lohaghat	7.62	159	eP	P	02 40 10.0	+1.8
LGTI				e		02 41 31.0	
BHGR	Bahadurgarh	7.92	181	e	S	02 41 34.3	-6.9
NDI	New Delhi	7.93	180	eP	P	02 40 12.9	+0.4
NDI				eS	S	02 41 33.0	-8.2
BISR	Bishrakh	8.04	178	e	P	02 40 10.0	-4.0
BISR				i		02 40 15.6	
AYAN	Aya Nagar	8.13	180	i P	P	02 40 16.8	+1.6
AYAN				eS	S	02 41 39.6	-6.4
KK31	Karatay Array	8.24	324	⇑P	P	02 40 15.8	-0.9
	comp=Z,4.3nm,0.3s,baz=128,slow=12,SNR=49						
KK31				⇑S	S	02 41 41.7	-7.2
	comp=Z,22nm,0.8s,baz=134,slow=26						
KKAR	Karatay Array	8.24	324	i P	P	02 40 15.8	-0.9
KKAR				S	S	02 41 41.6	-7.2
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KKAR				smax			
	comp=Z,2.0nm,0.3s						
SONA	Sohna	8.36	180	eP	P	02 40 17.2	-1.1
SONA				eS	S	02 41 44.8	-6.9
SONA				AML	AML	02 41 50.1	
	comp=N,78nm,0.3s						
SONA				AML	AML	02 41 50.3	
	comp=E,131nm,0.3s						
KUDL	Kundal	8.48	184	i P	P	02 40 21.0	+1.0
KUDL				eS	S	02 41 46.5	-8.2
KHET	Khetri	8.61	188	eP	P	02 40 19.7	-2.0
KHET				eS	S	02 41 50.6	-7.3
KHET				AML	AML	02 41 54.7	
	comp=E,73nm,0.2s						
KHET				AML	AML	02 41 54.8	
	comp=N,101nm,0.3s						
AJM	Ajmer	10.35	193	eP	P	02 40 44.7	-0.4
AJM				eS	S	02 42 31.2	-8.6
AJM				AML	AML	02 42 35.7	
	comp=N,95nm,0.2s						
AJM				AML	AML	02 42 35.8	
	comp=E,85nm,0.3s						
KOLN	Koldanda	10.38	147	eP	P	02 40 44.9	-0.7
	comp=E,87nm,0.5s						
KOLN				eS	S	02 42 34.6	-6.0
GKN	Gorkha	10.67	142	eP	P	02 40 49.4	-0.1
	comp=E,78nm,0.5s						
WMQ	Urumqi	10.78	45	P	P	02 40 55.3	+4.4
WMQ				S	S	02 42 48.3	-2.0
MK31	Makanchi Array	10.85	19	⇑P	P	02 40 51.9	0.0
	comp=E,1.1nm,0.2s,baz=203,slow=12,SNR=199						
MK31				⇓S	S	02 42 46.2	-5.7
	comp=E,7.8nm,0.6s,baz=203,slow=24,SNR=9.6						
MKAR	Makanchi Array	10.85	19	P	P	02 40 51.8	0.0
MKAR				S	S	02 42 45.4	-6.5
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MKAR				smax			
	comp=E,1.0nm,0.3s						
MKAR	Makanchi Array	10.85	19	P	P	02 40 51.8	0.0
	comp=E,4.6nm,0.3s,baz=206,slow=13,SNR=164						
MKAR				S	S	02 42 45.4	-6.5
	comp=E,1.4nm,0.3s,baz=185,slow=16,SNR=5.1						
MKAR	Makanchi Array	10.85	19	P	P	02 40 51.8	0.0
MKAR				S	S	02 42 45.4	-6.5
KKN	Kakani	11.17	140	eP	P	02 40 55.9	-0.3
	comp=E,30nm,0.5s						
KKN				eS	S	02 42 53.5	-6.2
KKN	Kakani	11.17	140	eP	P	02 40 55.9	-0.3
KKN				eS	S	02 42 53.5	-6.2
KKN				pmax	pmax		
	comp=Z,15nm,0.5s						
DMN	Daman	11.23	141	eP	P	02 40 56.8	-0.2
	comp=Z,22nm,0.3s						
DMN				eS	S	02 42 55.2	-5.9
GUN	Gumba	11.40	137	eP	P	02 40 59.8	+0.6
	comp=Z,16nm,0.2s						
PKI	Pulchoki	11.42	140	eP	P	02 40 59.1	-0.4
	comp=Z,24nm,0.4s						
PKI	Pulchoki	11.42	140	eP	P	02 40 59.1	-0.4
PKI				pmax	pmax		
	comp=Z,12nm,0.4s						
BHPL	Bhopal	13.35	179	eP	P	02 41 24.1	-0.8
BHPL				e		02 43 42.0	
BHPL				AML	AML	02 43 49.1	
	comp=N,22nm,0.4s						
BHPL				AML	AML	02 43 49.3	
	comp=E,27nm,0.2s						
LSA	Lhasa	13.60	117	P	P	02 41 35.9	+7.8
LSA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LSA	Lhasa	13.60	117	P	P	02 41 35.9	+7.8
	comp=Z,8.2nm,0.9s						
KURK	Kurchatov	14.12	4	⇑P	P	02 41 33.2	-1.5
	comp=Z,2.1nm,0.8s						
NGP	Nagpur	15.51	173	eP	P	02 41 50.7	-2.1
AKL	Akola	15.87	181	eP	P	02 41 55.0	-2.3
VOSK	Vostochnaya	16.67	347	⇑P	P	02 42 08.2	+1.2
	comp=Z,2.5nm,0.9s						
BVAR	Borovoye Array	17.07	346	P	P	02 42 11.4	-0.5
	comp=Z,0.5nm,0.3s,baz=146,slow=10,SNR=9.0						
ZRNK	Zerenda	17.29	343	⇑P	P	02 42 13.3	-1.5
	comp=Z,2.2nm,0.9s						
ZRNK	Zerenda	17.29	343	eP	P	02 42 13.1	-1.7
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZRNK	Zerenda	17.29	343	eP	P	02 42 13.1	-1.7
	comp=Z,3.0nm,1.0s						
AB31	Akbulak array	17.78	321	⇑P	P	02 42 19.9	-0.9
	comp=Z,3.6nm,0.7s,baz=127,slow=11,SNR=39						
GTA	Gaotai	18.05	74	eP	P	02 42 28.8	+4.7
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s						
ZAL	Zalesovo	18.10	15	P	P	02 42 23.3	-1.3
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	Zalesovo	18.10	15	P	P	02 42 23.3	-1.2
	comp=Z,1.3nm,0.3s,baz=253,slow=11,SNR=7.1						
LZH	Lanzhou	21.48	83	eP	P	02 43 06.1	+5.7
LZH				PP	PP	02 43 29.3	+1.8
LZH				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.0						
LZH	Lanzhou	21.48	83	eP	P	02 43 06.1	+5.7
LZH						02 43 29.2	
LZH				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.0						
LZH	Lanzhou	21.48	83	eP	P	02 43 06.1	+5.7
	comp=Z,8.0nm,1.0s,mb4.0						
LZH				pP		02 43 09.9	
LZH				sP		02 43 12.6	
LZH				PP	PP	02 43 29.2	+1.7
ZAK	Zakamensk	23.25	46	eP	P	02 43 21.8	+4.3
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
SONM	Songino Array	24.22	53	P	P	02 43 31.5	+4.5
	comp=Z,7.5nm,0.6s,mb4.2,baz=252,slow=10.0,SNR=46						
FINES	FINESS Array B	40.20	325	P	P	02 45 46.7	+0.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	FINESS Array B	40.20	325	P	P	02 45 46.7	+0.3
	comp=Z,0.6nm,0.3s,mb3.9,baz=116,slow=9.0,SNR=12						
FINES	FINESS Array B	40.20	325	P	P	02 45 46.7	+0.3
KAF	Kangasniemi	40.26	326	epkp	P	02 45 46.2	-0.8
ARCES	ARCESS Array B	42.98	336	P	P	02 46 09.8	+0.8
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	ARCESS Array B	42.98	336	P	P	02 46 09.8	+0.8
	comp=Z,1.5nm,0.5s,mb4.0,baz=110,slow=8.4,SNR=12						
ARCES	ARCESS Array B	42.98	336	P	P	02 46 09.8	+0.7
NB2	NORSAR Subarra	47.27	323	P	P	02 46 43.2	-0.1
	comp=Z,1.1nm,0.7s,mb3.7,baz=92,slow=7.4						
NB2	NORSAR Subarra	47.27	323	P	P	02 46 43.2	-0.1
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
NOA	NORSAR Array B	47.27	323	P	P	02 46 43.4	+0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	47.27	323	P	P	02 46 43.4	+0.1
	comp=Z,1.0nm,0.6s,mb3.7,baz=91,slow=7.7,SNR=5.6						
NOA	NORSAR Array B	47.27	323	P	P	02 46 43.4	+0.1
ILAR	Eielson Array	73.20	18	P	P	02 49 41.0	+1.1
	comp=Z,0.4nm,0.9s,mb3.3,baz=307,slow=6.4,SNR=4.4						
YKA	Yellowknife Ar	80.76	6	P	P	02 50 24.9	+2.8
	comp=Z,0.3nm,0.4s,mb3.4,baz=342,slow=5.6,SNR=3.8						
YKA				pP	pP	02 50 48.2	+1.2
	comp=Z,0.4nm,0.7s,baz=350,slow=5.0,SNR=3.9						
YKA	Yellowknife Ar	80.76	6	P	P	02 50 24.9	+2.8
YKA				pP	pP	02 50 48.2	+1.2
CTAO	Charters Tower	86.16	118	P	P	02 50 52.8	+2.6
CTAO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CTAO	Charters Tower	86.16	118	P	P	02 50 52.8	+2.6
	comp=Z,2.0nm,0.6s,mb4.2						

CASC 14 02:40:26.5±1.1,**10.95N**×**86.73W**,**h35**^{km}±999^{km},**MD3.6**, **ML3.1**,**Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	El Crucero	1.11	22	eS	S	02 41 01.0	+0.9
TICN	Ticuantepe	1.18	24	eS	S	02 41 02.5	+0.5
COPN	Copaltepe	1.23	6	eS	S	02 41 02.7	-0.5
MGAN	Managua	1.28	22	eS	S	02 41 04.4	-0.1
	comp=N,345nm,0.2s						
MGAN				e		02 41 05.1	
	comp=E,263nm,0.4s						
LEON	Leon	1.47	354	eS	S	02 41 09.3	+0.2
MIRN	Miramar	1.48	1	eS	S	02 41 09.6	+0.1

*NEIC **14** 02:43:09.7±0.6,7.34S×160.35E,h35^{km},mb4.4/3,Error ellipse: s-maj=19.1km s-min=11.0km az=104.0*
*IDC **14** 02:43:10.5±3.7,7.40S×160.36E,h43^{km}±36^{km},mb3.9/9, mb1 4.0/12,mb1mx4.0/16,mbtmp4.1/12,ML4.0/3,MS3.5/3, Ms1 3.5/3,ms1mx3.1/21,Error ellipse: s-maj=31.2km s-min=24.0km az=115.0*
ISC 14 02:43:09.8±3.0,**7.4S**±0.1×**160.3E**±0.1,**h51**^{km}±28^{km},**n20**, σ**0**^{s}**88**/21,**mb4.1**/11,**MS3.5**/2,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.05	188	P	P	02 43 42.2	-0.4
	113nm,0.3s,baz=228,slow=2.2,SNR=17						
HNR				S	S	02 44 07.5	+0.5
	408nm,0.3s,baz=180,slow=19,SNR=9.6						
HNR	Honiara	2.05	188	ePn	P	02 43 40.8	-1.8
HNR				S	S	02 44 07.5	+0.5
DZM	Mont Dzumac	15.77	158	P	P	02 46 50.9	+0.7
	0.3nm,0.3s,baz=346,slow=18,SNR=3.9						
DZM				LR	LR	02 52 03.1	
	comp=Z,166nm,19.5s,baz=48,slow=34						
CTA	Charters Tower	18.53	226	P	P	02 47 26.2	+1.5
	0.4nm,0.3s,baz=38,slow=8.8,SNR=7.7						
CTAO	Charters Tower	18.53	226	eP	P	02 47 26.4	+1.7
	4.9nm,0.9s						
WRAB	Tennant Creek	28.03	241	eP	P	02 48 57.7	-0.9
WRA	Warramunga Arr	28.05	241	P	P	02 48 57.8	-1.0
	1.0nm,0.5s,mb3.8,baz=65,slow=9.1,SNR=17						
STKA	Stephens Creek	29.93	213	P	P	02 49 14.5	-1.0
	1.4nm,0.5s,mb3.9,baz=60,slow=12,SNR=6.9						
STKA	Stephens Creek	29.93	213	eP	P	02 49 14.1	-1.4
JNU	Nakatsue	49.02	327	LR	LR	03 08 52.8	
	comp=Z,20nm,21.6s,MS3.1,baz=290,slow=31						
HIA	Hailar	66.58	332	eP	P	02 53 57.8	+0.8
	5.3nm,0.7s,mb4.7						
VNDA	Vanda	70.10	180	P	P	02 54 18.6	+0.2
	0.7nm,0.8s,mb3.6,baz=350,slow=7.2,SNR=5.4						
VNDA				LR	LR	03 18 57.2	
	comp=Z,70nm,18.9s,MS3.9,baz=324,slow=31						
SONM	Songino Array	72.56	325	P	P	02 54 35.1	+1.5
	2.6nm,0.7s,mb4.2,baz=131,slow=4.7,SNR=15						
MCK	McKinley	80.54	20	eP	P	02 55 17.5	-0.6
	2.7nm,0.6s,mb4.3						
ILAR	Eielson Array	81.88	20	P	P	02 55 24.1	-0.9
	0.6nm,0.5s,mb3.8,baz=242,slow=5.1,SNR=16						
MKAR	Makanchi Array	87.17	318	P	P	02 55 52.7	+0.8
	2.0nm,0.6s,mb4.5,baz=97,slow=6.2,SNR=14						
YKA	Yellowknife Ar	94.25	28	P	P	02 56 24.5	0.0
	0.5nm,0.7s,mb4.1,baz=270,slow=4.9,SNR=4.7						
PDAR	Pinedale Array	95.10	48	P	P	02 56 28.9	+0.1
	0.2nm,0.3s,mb4.0,baz=304,slow=5.3,SNR=3.8						
BVAR	Borovoye Array	95.76	323	P	P	02 56 31.5	-0.1
	1.2nm,0.7s,mb4.4,baz=90,slow=5.9,SNR=5.7						
ZRNK	Zerenda	96.59	322	eP	P	02 56 34.8	-0.6

*STR **14** 03:06:44.9±0.1,43.88N×7.37E,h5^{km}±1^{km},Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ROM **14** 03:06:45.4±0.4,43.96N×7.47E,h12^{km},Md2.3/2,Ml1.3/1, Error ellipse: s-maj=5.6km s-min=2.3km az=29.0*
*LDG **14** 03:06:45.0±0.1,43.88N×7.37E,h4^{km},Md2.7/1,Ml2.2/8, Error ellipse: s-maj=1.9km s-min=1.4km az=123.0*
ISC 14 03:06:44.3±0.3,**43.92N**±0.02×**7.31E**±0.02,**h4**^{km},**n30**, σ**1**^{s}**16**/58,**1C,Near south coast of France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOUF	Mont Tournerai	0.11	337	Pg	Pg	03 06 48.7	+2.2
TOUF				Sg	Sg	03 06 51.5	+3.5
SBF	Sospel	0.11	120	ePg	Pg	03 06 46.7	+0.2
SBF				eSg	Sg	03 06 47.8	-0.3
	444nm,0.3s						
MVIF	Mont Vial	0.11	260	Pg	Pg	03 06 48.6	+2.0
AUTN	L'Aution	0.12	48	Pg	Pg	03 06 48.1	+1.4
AUTN				Sg	Sg	03 06 50.5	+2.1
REVF	Revere	0.18	166	Pg	Pg	03 06 48.0	0.0
REVF				Sg	Sg	03 06 51.3	+0.8
SAOF	Saorge	0.19	69	Pg	Pg	03 06 48.6	+0.4
SAOF				Sg	Sg	03 06 51.3	+0.5
CALN	Calern	0.34	242	Pg	Pg	03 06 52.5	+1.3
CALN				Sg	Sg	03 06 57.7	+1.9
IMI	Imperia	0.42	91	⇑iPg	Pg	03 06 52.2	-0.5
IMI				Sg	Sg	03 06 57.3	-1.1
	22nm,0.2s						
DOI	San Damiano	0.59	356	Pg	Pg	03 06 57.2	+1.1
DOI				Sg	Sg	03 07 05.6	+1.7
	12nm,0.2s						
FRF	La Foret Royal	0.60	234	ePg	Pg	03 06 56.6	+0.4
FRF				eSg	Sg	03 07 04.5	+0.4
	37nm,0.2s						
FIN	Finale Ligure	0.71	65	Pg	Pg	03 06 57.9	-0.6
FIN				Sg	Sg	03 07 06.6	-1.5
	5.0nm,0.2s						
LMR	La Mourre	0.82	225	ePg	Pg	03 07 00.3	-0.4
LMR				ePn	Pn	03 07 02.1	-0.3
LMR				eSg	Sg	03 07 10.5	-1.1
	29nm,0.2s						
MBDF	Montbardon	0.90	335	ePg	Pg	03 07 02.8	+0.6
MBDF				ePn	Pn	03 07 03.8	+0.4
MBDF				eSg	Sg	03 07 15.3	+1.2
	6.3nm,0.2s						
TAVF	Tavernes	0.95	252	Pg	Pg	03 07 03.7	+0.4
TAVF				Sg	Sg	03 07 18.2	+2.2
STOF	St-Etienne Org	1.01	275	Pg	Pg	03 07 07.3	+2.8
VILF	Villemus	1.15	267	Pg	Pg	03 07 07.9	+0.6
PUYF	Puyloubier	1.23	252	Pg	Pg	03 07 08.1	-0.7
PUYF				Sg	Sg	03 07 25.4	+0.3
SMRF	Simiane la Rot	1.25	273	ePg	Pg	03 07 09.3	0.0
SMRF				eSg	Sg	03 07 26.6	+0.6
	18nm,0.4s						
BERF	Bertagne	1.32	243	Pg	Pg	03 07 10.3	-0.3
ORIF	Oris-en-Rattie	1.43	315	ePg	Pg	03 07 12.9	+0.1
ORIF				eSn	Sn	03 07 29.9	-0.6
ORIF				eSg	Sg	03 07 32.1	+0.2
	6.9nm,0.2s						
GELF	Grande-Etoile	1.46	249	Pg	Pg	03 07 12.3	-1.2
GELF				Sg	Sg	03 07 32.7	-0.3
LPG	La Plagne	1.63	346	ePg	Pg	03 07 16.2	-0.6
LPG				eSg	Sg	03 07 37.7	-0.8
	2.0nm,0.3s						
LPL	La Plagne	1.65	346	ePg	Pg	03 07 16.5	-0.7
LPL				eSg	Sg	03 07 37.5	-1.8
	2.7nm,0.4s						
PGF	Pioggiola	1.84	137	ePn	Pn	03 07 13.1	-3.9
PGF				eSn	Sn	03 07 33.5	-7.6
	0.9nm,0.2s						
VIVF	Saint-Julien-l	2.11	297	ePn	Pn	03 07 20.3	-0.5
VIVF				eSn	Sn	03 07 46.0	-1.8
VIVF				eSg	Sg	03 07 53.3	-1.2
	4.0nm,0.4s						
LASF	Ste Croix	2.49	275	ePn	Pn	03 07 25.2	-1.1
LASF				ePg	Pg	03 07 31.6	-2.5
LASF				eSn	Sn	03 07 55.1	-2.5
	0.9nm,0.3s						
MTLF	Montolieu	3.74	263	ePn	Pn	03 07 42.7	-1.3
MTLF				ePg	Pg	03 07 54.8	-4.1
CAF	Calviac	3.89	287	ePn	Pn	03 07 45.2	-0.9
BGF	Bois d'Agland	4.11	312	ePg	Pg	03 08 01.3	-5.0
MEZF	Maizieres J'vi	4.85	342	ePn	Pn	03 07 55.7	-4.0

*NEIC **14** 03:54:07.8,30.68S×71.71W,h33^{km},ML3.6(GUC),After GUC.*
GUC 14 03:54:07.8±0.7,**30.68S**×**71.71W**,**h33**^{km}±3^{km},**MD4.1**, **ML3.6**,**2C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.44	80	⇑iP	P	03 54 17.4	-0.1
OVCH				i S	S	03 54 24.4	0.0
OVCH				AMP		03 54 24.9	
	comp=N,7μm,0.2s						
CMCH	Combarbala	0.78	129	⇓iP	P	03 54 22.2	-0.1
CMCH				i S	S	03 54 33.3	+0.4
CMCH				AMP		03 54 34.0	
	comp=N,4μm,0.7s						
TLL	Tololo Astrono	0.93	57	⇓iP	P	03 54 25.4	+0.9
TLL				i S	S	03 54 38.7	+1.8
TLL				AMP		03 54 41.6	
	comp=E,3μm,0.4s						
LCO	Las Campanas	1.88	28	eP	P	03 54 39.2	+1.1
LCO				i S	S	03 55 03.8	+2.9
LCO				AMP		03 55 12.1	
	comp=E,615nm,0.5s						
JACH	Jahuel	2.21	155	i P	P	03 54 44.0	+1.2
VACH	Vallenar	2.26	22	⇑iP	P	03 54 44.1	+0.6
VACH				i S	S	03 55 11.9	+1.5
VACH				AMP		03 55 20.8	
	comp=E,2μm,0.3s						
FCH	Farellones	2.90	156	eP	P	03 54 54.1	+1.5
FCH				i S	S	03 55 28.7	+2.0
FCH				AMP		03 55 40.2	
	comp=E,102nm,0.3s						
TACH	Talagante	3.03	168	eP	P	03 54 54.9	+0.4

*IDC **14** 04:00:09.6±2.1,26.99S×176.65W,mb4.1/2,mb1 4.5/3, mb1mx4.0/12,mbtmp4.2/3,MS3.5/5,Ms1 3.5/5, ms1mx3.3/17,Error ellipse: s-maj=65.8km s-min=26.9km az=111.0*
ISC 14 04:00:13.0±1.1,**27.0S**±0.1×**176.7W**±0.2,**h33**^{km},**n22**, σ**0**^{s}**91**/8,**mb4.0**/2,**MS3.6**/3,**2C,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.52	206	Pn	Pn	04 00 51.9	-0.7
	186nm,0.3s,baz=52,slow=19,SNR=6.3						
RAO				Sn	Sn	04 01 23.1	+0.6
	541nm,0.3s,baz=86,slow=22,SNR=8.2						
RAO				LR	LR	04 01 29.4	
	comp=Z,304nm,19.8s,baz=214,slow=32						
DZM	Mont Dzumac	16.14	284	Pn	P	04 04 07.9	+8.9
	0.4nm,0.3s,baz=105,slow=18,SNR=5.3						
DZM				LR	LR	04 08 42.1	
	comp=Z,299nm,21.0s,baz=192,slow=32						
TBI	Tubuai	24.86	88	eLR	LR	04 11 08.8	
	140nm,29.5s,baz=258						
PPT	Papeete	26.70	75	eLQ		04 10 16.5	
	140nm,24.0s						
PPT				eLR	LR	04 12 01.6	
	169nm,28.5s,baz=255						
PPT	Papeete	26.70	75	LR	LR	04 13 33.2	
	comp=Z,93nm,21.1s,MS3.3,baz=348,slow=30						
HNR	Honiara	28.18	304	LR	LR	04 15 28.2	
	comp=Z,142nm,19.3s,MS3.6,baz=130,slow=33						
RKT	Rikitea	37.83	94	eLR	LR	04 15 55.5	
	124nm,26.5s,baz=255						
WRA	Warramunga Arr	45.28	268	P	P	04 08 28.9	-0.7
	1.5nm,0.7s,mb3.9,baz=104,slow=8.2,SNR=24						
NWAO	Narrogin (SRO)	56.77	247	LR	LR	04 35 19.6	
	comp=Z,92nm,18.1s,MS3.9,baz=46,slow=37						
MJAR	Matsushiro Arr	76.15	324	P	P	04 12 00.4	+0.9
	0.9nm,0.4s,mb4.1,baz=172,slow=6.6,SNR=5.1						
SNAA	Sanae	81.52	178	⇑i	Px	04 12 38.2	
SNAA	Sanae	81.52	178	e	Px	04 12 51.2	
VNA3	Neumayer Olymp	81.62	176		P	04 12 28.3	-0.3
VNA3	Neumayer Olymp	81.62	176	e	Px	04 12 38.3	
VNA3	Neumayer Olymp	81.62	176	e	Px	04 12 43.8	
VNA2	Neumayer--Watz	82.07	176	⇑i	P	04 12 30.3	-0.6
VNA2	Neumayer--Watz	82.07	176	e	Px	04 12 40.8	
VNA2	Neumayer--Watz	82.07	176	e	Px	04 12 45.6	
VNA1	Neumayer--Stat	82.29	176		P	04 12 35.3	+3.2
NB2	NORSAR Subarra	145.54	353	PKPabc	PKPdf	04 19 49.1	+1.9
	6.0nm,1.2s,baz=9.0,slow=3.8						
NOA	NORSAR Array B	145.54	353	PKPbc	PKPbc	04 19 48.0	+0.2
	0.8nm,0.7s,baz=28,slow=5.1,SNR=3.2						
AKASG	Malin Array Be	149.19	327	PKPbc	PKPdf	04 19 58.8	+5.3
	2.0nm,0.7s,baz=38,slow=3.2,SNR=8.8						

*NEIC **14** 04:15:26.2,32.45S×71.67W,h31^{km},ML3.9(GUC),After GUC.*
GUC 14 04:15:26.2±0.7,**32.45S**×**71.67W**,**h31**^{km}±2^{km},**ML3.9**, **6C-6D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.22	114	⇓iP	Pb	04 15 33.1	+0.3
IHA	Instituto Hidr	0.58	177	⇓iP	Pb	04 15 37.2	-0.7
IHA				i S	Sb	04 15 46.2	+0.3
ROCH	El Roble	0.76	133	⇑iP	Pn	04 15 40.8	-0.1
ROCH				i S	Sb	04 15 51.6	+0.6
JACH	Jahuel	0.94	105	⇑iP	Pn	04 15 43.6	+0.3
JACH				i S	Sn	04 15 56.4	+0.6
LCCH	Las Cruces	1.03	175	eP	Pn	04 15 44.2	-0.4
PEL	Peldehue	1.08	130	⇑iP	Pn	04 15 46.0	+0.6
PEL				i S	Sn	04 15 59.9	+0.6
RCDM	Rinconada Maip	1.27	145	eP	Pn	04 15 48.5	+0.5
RCDM				i S	Sn	04 16 05.2	+1.2
RCDM				AMP		04 16 06.5	
	comp=E,3μm,0.1s						
SAN	Santiago	1.31	140	i S	Sn	04 16 06.4	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAN				AMP		04 16 12.3	
	comp=E,2µm,0.5s						
DSCH	Colegio Aleman	1.32	136	eP	Pn	04 15 49.4	+0.6
DSCH				iS	Sn	04 16 06.8	+1.2
DSCH				AMP		04 16 09.1	
	comp=E,4µm,0.4s						
CLCH	Cerro Calan	1.34	135	⇓iP	Pn	04 15 49.4	+0.3
CLCH				iS	Sn	04 16 07.7	+1.7
CLCH				AMP		04 16 11.4	
	comp=E,3µm,0.7s						
CLCH				AMP		04 16 12.0	
	comp=E,3µm,0.7s						
TACH	Talagante	1.35	153	eP	Pn	04 15 49.8	+0.6
TACH				iS	Sn	04 16 06.9	+0.7
CMCH	Combarbala	1.39	24	⇑iP	Pn	04 15 50.5	+0.7
CMCH				iS	Sn	04 16 08.5	+1.2
CMCH				AMP		04 16 20.4	
	comp=E,10µm,0.7s						
ANTU	Antumapu	1.42	142	⇓iP	Pn	04 15 51.0	+0.8
ANTU				iS	Sn	04 16 09.2	+1.3
ANTU				AMP		04 16 13.0	
	comp=N,2µm,0.7s						
FCH	Farellones	1.46	127	⇓iP	Pn	04 15 51.4	+0.7
FCH				iS	Sn	04 16 10.8	+1.9
FCH				AMP		04 16 11.7	
	comp=N,2µm,0.3s						
PCH	Pirque	1.52	141	eP	Pn	04 15 52.5	+0.8
PCH				iS	Sn	04 16 12.7	+2.2
SJCH	San Jose de Ma	1.62	137	⇑iP	Pn	04 15 53.7	+0.6
SJCH				iS	Sn	04 16 14.6	+1.5
SJCH				AMP		04 16 18.7	
	comp=N,969nm,0.4s						
CHCH	Chadas Angostu	1.71	150	iP	Pn	04 15 55.4	+1.0
CHCH				iS	Sn	04 16 17.4	+2.1
LMEL	Las Melosas	1.86	139	⇑iP	Pn	04 15 57.6	+1.1
LMEL				iS	Sn	04 16 21.6	+2.4
LMEL				AMP		04 16 25.2	
	comp=N,2µm,0.2s						
CACH	El Canelo	1.89	152	eP	Pn	04 15 58.5	+1.6
CACH				iS	Sn	04 16 23.2	+3.3
CICH	Cipreses	2.14	151	⇓iP	Pn	04 16 01.7	+1.2
SFDO	San Fernando	2.23	166	eP	Pn	04 16 02.1	+0.3
TLL	Tololo Astrono	2.39	18	eP	Pn	04 16 05.4	+1.3
TLL				AMP		04 16 47.3	
	comp=E,2µm,0.6s						
ZON	Zonda	2.70	71	eP	Pn	04 16 12.0	+3.5
ZON				eS	Sn	04 16 49.0	+8.6
LCO	Las Campanas	3.53	14	eP	Pn	04 16 20.4	+0.1

*IDC **14** 04:34:36.5±3.7, 31.27S×177.85W, h40^{km}±29^{km}, mb4.2/3, mb1 4.3/5, mb1mx3.9/15, mbtmp4.3/5, ML3.8/2, MS3.6/1, Ms1 3.6/1, ms1mx2.9/16, Error ellipse: s-maj=62.7km s-min=22.1km az=109.0*

*NEIC **14** 04:34:37.2±4.4, 31.18S×178.26W, h30^{km}±32^{km}, mb4.9/4, Error ellipse: s-maj=22.4km s-min=15.2km az=100.0*

ISC 14 04:34:35.7±0.8**, 31.22S**±0.06×**178.3W**±0.2**, h30^{km}, n19, σ1^{s}12**/19**, mb4.7**/7**, MS3.8**/1**, 3C-1D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.99	10	Pn	Pn	04 35 08.5	+0.5
	95nm,0.3s,baz=266,slow=19,SNR=4.3						
RAO				Sn	Sn	04 35 30.8	-1.3
	265nm,0.3s,baz=220,slow=23,SNR=6.4						
URZ	Urewera	7.96	207	Pn	Pn	04 36 30.7	-1.6
	0.4nm,0.3s,baz=274,slow=17,SNR=3.7						
URZ				Sn	Sn	04 38 01.8	-0.6
	2.3nm,0.3s,baz=289,slow=23,SNR=9.1						
CTA	Charters Tower	33.67	281	P	P	04 41 17.4	+1.2
	2.8nm,0.2s,mb4.8,baz=105,slow=12,SNR=4.6						
STKA	Stephens Creek	34.03	258	P	P	04 41 21.4	+2.1
	4.0nm,1.0s,mb4.3,baz=115,slow=14,SNR=4.3						
STKA	Stephens Creek	34.03	258	P	P	04 41 20.7	+1.5
WRAB	Tennant Creek	43.86	273	eP	P	04 42 40.9	-0.3
	14nm,1.0s,mb4.6						
WRA	Warramunga Arr	43.86	273	P	P	04 42 41.4	+0.2
	5.1nm,0.7s,mb4.4,baz=113,slow=7.7,SNR=16						
NWAO	Narrogin (SRO)	53.86	250	eP	P	04 43 56.4	-1.8
	21nm,1.2s,mb5.0						
QSPA	South Pole Qui	58.89	180	⇓iP	P	04 44 40.6	+6.9
	4.6nm,0.7s,mb4.6						
PMSA	Palmer Station	71.63	156	P	P	04 45 46.0	-10
	26nm,1.3s,mb5.0						
SNAA	Sanae	77.34	179	e	P	04 46 34.2	+5.7
SNAA	Sanae	77.34	179	⇑iP	P	04 46 29.4	+0.9
SNAA				e		04 46 34.2	
VNA3	Neumayer Olymp	77.51	176	e	P	04 46 35.8	+6.4
VNA3	Neumayer Olymp	77.51	176	⇑iP	P	04 46 30.3	+0.9
VNA3				e		04 46 35.8	
VNA2	Neumayer--Watz	77.94	177	e	P	04 46 38.5	+6.7
VNA2	Neumayer--Watz	77.94	177	⇑iP	P	04 46 33.3	+1.5
VNA2				e		04 46 38.5	
VNA1	Neumayer--Stat	78.17	177		P	04 46 33.3	+0.2
PDAR	Pinedale Array	96.92	44	LR	LR	05 23 44.6	
	comp=Z,31nm,21.2s,MS3.8,baz=258,slow=30						
FINES	FINESS Array B	145.82	339	PKPbc	PKPbc	04 54 10.2	-1.2
	2.5nm,1.0s,baz=45,slow=3.9,SNR=4.4						

*MEX **14** 04:36:40.4±0.6, 13.82N×92.82W, h16^{km}±194^{km}, MD4.4*

*CASC **14** 04:36:41.4±1.4, 14.30N×92.64W, MD4.3*

ISC 14 04:36:39.1±2.0**, 14.0N**±0.1×**92.88W**±0.10**, h12**^{km}±17^{km}**, n9, σ0^{s}85**/16**, 1C-1D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	2.35	86	⇓eP	Pn	04 37 14.8	-3.4
IXG				eS	Sn	04 37 46.3	-0.9
CCIG	Comitan	2.36	17	iP	Pn	04 37 17.9	-0.4
CCIG				iS	Sn	04 37 47.8	+0.5
SCX	San Cristobal	2.71	5	iP	Pn	04 37 24.5	+1.2
RBDL	Robledal	3.10	88	eP	Pn	04 37 29.6	+0.9
RBDL				eS	Sn	04 38 05.1	-0.9
RTR	El Retiro	3.14	92	eP	Pn	04 37 29.8	+0.4
RTR				eS	Sn	04 38 07.9	+0.8
SBLS	San Blas	3.16	93	eP	Pn	04 37 30.0	+0.2
SBLS				eS	Sn	04 38 08.2	+0.5
MRL	Marmol	3.25	71	eP	Pn	04 37 29.4	-1.6
CMIG	Matias Romero	3.62	328	iP	Pn	04 37 35.6	-0.5
CMIG				iS	Sn	04 38 19.0	-0.2
LCBS	La Ceiba	3.80	95	⇑eP	Pn	04 37 39.3	+0.5
LCBS				eS	Sn	04 38 24.1	+0.2

*NEIC **14** 04:40:23.0, 34.86N×4.72W, MG3.4(MDD), After MDD.*

*MDD **14** 04:40:23.3±1.6, 34.86N×4.72W, mb3.6/8, Error ellipse: s-maj=15.2km s-min=8.1km az=15.0, PRXIMO*

*CSEM **14** 04:40:24.8±0.1, 34.92N×4.76W, h30^{km}, mb3.4/9, Error ellipse: s-maj=2.9km s-min=2.6km az=88.0*

ISC 14 04:40:22.4±0.5**, 34.92N**±0.03×**4.78W**±0.03**, h10^{km}, n47, σ1^{s}17**/86**, 1D, Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EMEL	Melilla	1.54	75	P	Pn	04 40 50.0	0.0
	19nm,0.1s,SNR=4.0						
EMEL				S	Sb	04 41 09.2	-0.7
	53nm,0.2s,SNR=5.1						
EMLI	Melilla	1.54	75	P	Pn	04 40 50.0	-0.1
	19nm,0.1s,SNR=4.0						
EMLI				S	Sb	04 41 09.2	-0.9
	53nm,0.2s,SNR=5.1						
EMIJ	Mijas	1.64	0	P	Pn	04 40 52.2	+0.8
EMIJ				S	Sn	04 41 13.2	+0.5
EMIJ	Mijas	1.64	0	P	Pn	04 40 52.3	+0.8
	0.6nm,0.1s,SNR=7.9						
EMIJ				S	Sn	04 41 13.1	+0.4
	7.2nm,0.2s,SNR=9.4						
EMIJ	Mijas	1.64	0	P	Pn	04 40 52.2	+0.8
	2.1nm,0.3s,SNR=7.9						
EMIJ				S	Sn	04 41 13.2	+0.5
	7.2nm,0.2s,SNR=9.4						
EALB	Alboran	1.75	54	P	Pn	04 40 52.5	-0.5
EALB				S	Sn	04 41 15.4	-0.1
EALB	Alboran	1.75	54	P	Pn	04 40 52.8	-0.3
	2.8nm,0.1s,SNR=7.9						
EALB				S	Sn	04 41 14.8	-0.7
	4.9nm,0.4s,SNR=5.8						
EALB	Alboran	1.75	54	P	Pn	04 40 52.5	-0.5
	2.8nm,0.2s,SNR=7.9						
EALB				S	Sn	04 41 15.4	-0.1
	4.9nm,0.4s,SNR=5.8						
CZD	Col de Zad	1.90	187	iP	Pn	04 40 56.5	+1.3
ESPR	Espera	2.13	336	P	Pn	04 40 59.6	+1.1
ESPR				S	Sn	04 41 27.2	+2.0
ESPR	Espera	2.13	336	P	Pn	04 40 59.6	+1.1
	0.7nm,0.1s,SNR=7.9						
ESPR				S	Sn	04 41 28.6	+3.4
	0.2nm,0.3s,SNR=7.9						
ESPR	Espera	2.13	336	P	Pn	04 40 59.6	+1.1
	0.7nm,0.1s,SNR=7.9						
ESPR				S	Sn	04 41 27.2	+2.0
	0.2nm,0.3s,SNR=7.9						
EGUA	Guajares	2.14	27	P	Pn	04 40 59.6	+0.9
	0.7nm,0.1s,SNR=7.9						
EGUA				S	Sn	04 41 26.7	+1.1
	0.7nm,0.4s,SNR=7.9						
ERON	Agron	2.23	20	P	Pn	04 41 00.6	+0.6
ERON				S	Sn	04 41 29.2	+1.3
ERON	Agron	2.23	20	P	Pn	04 41 02.3	+2.4
	1.0nm,0.2s,SNR=7.9						
ERON				S	Sn	04 41 28.8	+1.0
	3.5nm,0.2s,SNR=4.0						
ERON	Agron	2.23	20	P	Pn	04 41 00.6	+0.6
	1.0nm,0.2s,SNR=7.9						
ERON				S	Sn	04 41 29.2	+1.3
	3.5nm,0.2s,SNR=7.9						
ELOJ	Sierra Loja	2.28	13	S	Sn	04 41 32.0	+3.1
	1.8nm,0.1s,SNR=7.9						
ELOJ	Sierra Loja	2.28	13	S	Sn	04 41 30.4	+1.5
	1.8nm,0.1s,SNR=7.9						
EBER	Berja	2.50	37	P	Pn	04 41 04.7	+1.0
EBER				S	Sn	04 41 35.0	+0.5
EBER	Berja	2.50	37	P	Pn	04 41 04.7	+1.0
	2.5nm,0.6s,SNR=7.9						
EBER				S	Sn	04 41 34.7	+0.2
	4.8nm,0.3s,SNR=5.0						
EBER	Berja	2.50	37	P	Pn	04 41 04.7	+1.0
	2.5nm,0.6s,SNR=7.9						
EBER				S	Sn	04 41 35.0	+0.5
	3.9nm,0.3s,SNR=5.0						
ZFT	Errachidia	2.90	173	iS	Sn	04 41 44.0	-0.9
ENIJ	Nijar	2.92	45	P	Pn	04 41 08.7	-1.1
ENIJ				S	Sn	04 41 44.4	-0.9
ENIJ	Nijar	2.92	45	P	Pn	04 41 08.7	-1.1
	5.8nm,0.4s,SNR=4.0						
ENIJ	Nijar	2.92	45	P	Pn	04 41 08.7	-1.1
	5.8nm,0.4s,SNR=7.9						
ENIJ				S	Sn	04 41 44.4	-0.9
	4.0nm,0.3s,SNR=7.9						
EQES	Quesada	3.19	25	P	Pn	04 41 16.5	+3.0
	0.7nm,0.1s,SNR=7.9						
EQES				S	Sn	04 41 55.8	+3.8
	3.4nm,0.3s,SNR=7.9						
EQES	Quesada	3.19	25	P	Pn	04 41 13.3	-0.3
EQES				S	Sn	04 41 51.7	-0.3
EMIN	Mina Concepcio	3.22	332	P	Pn	04 41 14.7	+0.6
	1.5nm,0.1s,SNR=17						
EMIN				S	Sn	04 41 52.1	-0.9
	1.1nm,0.3s,SNR=6.8						
EMIN	Mina Concepcio	3.22	332	P	Pn	04 41 14.7	+0.6
	1.5nm,0.1s,SNR=17						
EMIN				S	Sn	04 41 52.1	-0.9
	1.1nm,0.3s,SNR=6.8						
EADA	Adamuz	3.24	3	P	Pn	04 41 15.0	+0.7
EADA				S	Sn	04 41 52.6	-0.8
EADA	Adamuz	3.24	3	P	Pn	04 41 16.3	+1.9
	1.4nm,0.5s,SNR=7.9						
EADA				S	Sn	04 41 52.6	-0.8
	1.1nm,0.3s,SNR=7.4						
EADA	Adamuz	3.24	3	P	Pn	04 41 15.0	+0.7
EADA				S	Sn	04 41 52.6	-0.8
	1.1nm,0.3s,SNR=7.4						
EHUE	Huescar	3.38	31	P	Pn	04 41 16.5	+0.2
EHUE				S	Sn	04 41 56.4	-0.5
EHUE	Huescar	3.38	31	P	Pn	04 41 17.7	+1.3
	0.7nm,0.1s,SNR=4.0						
EHUE				S	Sn	04 41 56.4	-0.5
	1.6nm,1.0s,SNR=7.9						
EHUE	Huescar	3.38	31	P	Pn	04 41 16.5	+0.2
EHUE				S	Sn	04 41 56.4	-0.5
	1.6nm,1.0s,SNR=7.9						
EGRO	El Granado	3.40	321	P	Pn	04 41 16.9	+0.2
EGRO				S	Sn	04 41 56.2	-1.3
EGRO	El Granado	3.40	321	⇓P	Pn	04 41 17.0	+0.4
	7.0nm,0.1s,SNR=18						
EGRO				S	Sn	04 41 56.2	-1.3
	4.1nm,0.3s,SNR=12						
EGRO	El Granado	3.40	321	P	Pn	04 41 17.0	+0.4
	7.0nm,0.1s,SNR=18						
EGRO				S	Sn	04 41 56.2	-1.3
PBEJ	Beja	3.97	322	eP	Pn	04 41 25.2	+0.5
PBEJ				eS	Sn	04 42 09.6	-2.3
	5.2nm,0.2s						
EMUR	La Murta	4.08	43	P	Pn	04 41 23.5	-2.7
EMUR	La Murta	4.08	43	P	Pn	04 41 23.5	-2.7
PTEO	Sao Teotonio	4.13	310	eP	Pn	04 41 26.4	-0.5
PTEO				eS	Sn	04 42 13.0	-2.8
EBAD	Badajoz	4.22	336	P	Pn	04 41 29.0	+0.7
	1.1nm,0.4s,SNR=6.4						
EBAD				S	Sn	04 42 16.5	-1.8
	2.5nm,0.5s,SNR=6.0						
EBAD	Badajoz	4.22	336	P	Pn	04 41 29.0	+0.7
EBAD				S	Sn	04 42 16.5	-1.8
ETOB	Tobarra	4.53	34	P	Pn	04 41 33.0	+0.4
ETOB				S	Sn	04 42 23.4	-2.6
ETOB	Tobarra	4.53	34	P	Pn	04 41 34.4	+1.8
	4.3nm,0.9s,SNR=7.1						
ETOB	Tobarra	4.53	34	P	Pn	04 41 33.0	+0.4
ETOB				S	Sn	04 42 23.4	-2.6

*CSEM **14** 04:42:50.2±0.9, 38.65N×28.52W, h5^{km}±15^{km}, ML1.9, Error ellipse: s-maj=9.4km s-min=4.0km az=28.0, After PDA*

*PDA **14** 04:42:50.2±0.9, 38.65N×28.52W, h5^{km}±15^{km}, MD3.1, ML1.9, Error ellipse: s-maj=9.4km s-min=4.0km az=28.0*

SVSA 14 04:42:50.2±0.9**, 38.65N**×**28.52W, h5**^{km}±15^{km}**, MD3.1, ML1.9, Error ellipse: s-maj=9.4km s-min=4.0km az=28.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOR	Horta	0.15	216	eP	Pg	04 42 52.6	-0.7
HOR				eS	Sg	04 42 55.2	-0.2
CALA	Caldeira	0.16	245	eP	Pg	04 42 53.3	-0.2
CALA				eS	Sg	04 42 55.8	+0.2
PICO	Pico	0.16	153	eP	Pg	04 42 53.1	-0.5
PICO				eS	Sg	04 42 55.9	0.0
PMAN	Manadas	0.34	92	eS	Sg	04 43 01.1	-0.5
	74nm,0.1s						
PMAN	Manadas	0.34	92	eS	Sg	04 43 01.1	-0.5
	74nm,0.1s						

WEL 14 04:54:00.8±0.3**, 35.10S**×**178.56E, h33**^{km}**, ML3.7**/3**, Error ellipse: s-maj=5.1km s-min=2.4km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.46	185	eS*	Sb	04 55 07.1	-7.3
PUZ	Puketiti	2.97	185	PN	Pn	04 54 45.0	-1.8
MWZ	Matawai	3.33	194	P*	Pb	04 54 50.7	-8.3
MWZ				eS*	Sb	04 55 29.3	-10
URZ	Urewera	3.36	200	P*	Pb	04 54 51.4	-8.1
URZ				eS*	Sb	04 55 30.2	-10

*IDC **14** 05:01:58.3±12.0, 9.98N×85.77W, mb3.6/3, mb1 4.0/3, mb1mx3.7/18, mbtmp3.6/3, Error ellipse: s-maj=368.3km s-min=126.1km az=25.0*

*CASC **14** 05:02:15.6±2.5, 11.02N×86.31W, h27^{km}±6^{km}, MD4.1, ML3.7*

ISC 14 05:02:14.3±1.2**, 10.98N**±0.10×**86.22W**±0.08**, h72**^{km}±11^{km}**, n22, σ0^{s}98**/37**, mb3.4**/3**, 3C-11D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CONN	Concepcion	0.83	45	⇓eP	P	05 02 32.0	+1.0
APON	Apoyo	0.95	9	⇓eP	P	05 02 32.5	0.0
CRUN	El Crucero	1.00	356	⇓eP	P	05 02 33.5	+0.3
CRUN				eS	S	05 02 48.5	+1.2
MASN	Masaya	1.01	4	⇑eP	P	05 02 33.2	-0.1
MASN				eS	S	05 02 45.1	-2.3
TICN	Ticuantepe	1.05	360	⇓eP	P	05 02 33.9	+0.1
TICN				eS	S	05 02 48.9	+0.6
MGAN	Managua	1.16	359	⇓eP	P	05 02 34.9	-0.3
MGAN				e		05 02 51.8	
	comp=N,2µm,0.3s						
XAVN	Gruta Xavier	1.17	355	⇓eP	P	05 02 35.2	-0.2
XAVN				eS	S	05 02 51.5	+0.5
WILN	Americas 2	1.18	2	⇓eP	P	05 02 35.4	0.0
WILN				eS	S	05 02 52.2	+0.9
COPN	Copaltepe	1.25	343	⇓eP	P	05 02 35.8	-0.6
COPN				eS	S	05 02 51.7	-1.2
MOMJ	Momotombo	1.46	348	eP	P	05 02 38.8	-0.5
MOMJ				eS	S	05 02 56.9	-0.8
MIRN	Miramar	1.53	342	⇓eP	P	05 02 39.6	-0.7
MIRN				eS	S	05 02 59.5	+0.1
PYTN	Playitas	1.56	6	⇓eP	P	05 02 40.8	+0.2
PYTN				eS	S	05 03 01.7	+1.6
LEON	Leon	1.57	335	⇓eP	P	05 02 40.0	-0.9
LEON				eS	S	05 02 59.7	-0.7
CNGN	Cerro Negro	1.58	343	⇑eP	P	05 02 39.9	-1.1
CNGN				eS	S	05 03 00.3	-0.3
TEL3	Telica 3	1.70	339	⇑eP	P	05 02 41.9	-0.6
TEL3				eS	S	05 03 02.8	-0.5
TELN	Telica	1.72	340	eP	P	05 02 42.4	-0.4
TELN				eS	S	05 03 05.6	+1.7
CRIN	San Cristobal	1.89	335	eS	S	05 03 07.1	-0.8
LCBS	La Ceiba	3.78	315	eP	P	05 03 13.3	+1.7
LCBS				eS	S	05 03 57.2	+2.0
LFRS	El Faro	3.82	314	eP	P	05 03 14.5	+2.3
LFRS				eS	S	05 03 55.0	-1.1
TXAR	Lajitas Array	24.47	321	P	P	05 07 29.0	+1.1
	comp=N,1.5nm,0.6s,mb3.5,baz=137,slow=10,SNR=26						
PDAR	Pinedale Array	37.63	331	P	P	05 09 23.9	+0.1
	comp=N,0.4nm,0.7s,mb3.4,baz=130,slow=12,SNR=4.6						
ILAR	Eielson Array	67.84	336	P	P	05 13 05.0	-1.6
	comp=N,0.3nm,0.6s,mb3.3,baz=131,slow=4.1,SNR=7.8						

*IDC **14** 05:50:24.6±3.9, 8.21S×112.04E, h44^{km}±35^{km}, mb3.7/5, mb1 3.9/6, mb1mx3.7/16, mbtmp4.0/6, ML4.0/1, Error ellipse: s-maj=45.8km s-min=16.5km az=40.0*

*NEIC **14** 05:50:25.3±1.8, 8.07S×112.13E, h55^{km}±18^{km}, mb4.5/5, Error ellipse: s-maj=25.1km s-min=9.5km az=60.0*

NEIC Felt [II] at Karangkates.

ISC 14 05:50:22.6±2.6**, 8.0S**±0.1×**112.1E**±0.2**, h43**^{km}±25^{km}**, n22, σ0^{s}91**/21**, mb4.2**/9**, 3C, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSM	Kuching	9.62	349	P	P	05 52 41.4	0.0
MBWA	Marble Bar	14.97	151	eP	P	05 53 52.4	-0.7
	8.4nm,0.5s						
MBWA				eS	S	05 56 14.3	-24
FITZ	Fitzroy Crossi	16.52	129	P	P	05 54 14.6	+1.7
	0.4nm,0.3s,baz=328,slow=6.4,SNR=10						
FITZ				S	S	05 57 01.5	-13
	1.4nm,0.3s,baz=178,slow=23,SNR=8.2						
WRA	Warramunga Arr	24.54	121	P	P	05 55 39.2	-0.6
	0.6nm,0.4s,mb3.5,baz=295,slow=12,SNR=12						
WRA				S	S	05 59 59.3	+4.5
	0.1nm,0.5s,baz=289,slow=26,SNR=2.9						
STKA	Stephens Creek	36.24	135	P	P	05 57 23.0	-0.6
	2.4nm,0.4s,mb4.5,baz=319,slow=8.0,SNR=10						
STKA	Stephens Creek	36.24	135	eP	P	05 57 22.1	-1.5
ENH	Enshi	38.17	356	P	P	05 57 39.4	-0.4
	19nm,1.2s,mb4.7						
MKAR	Makanchi Array	60.70	337	P	P	06 00 33.1	+1.0
	0.5nm,0.4s,mb4.0,baz=146,slow=8.0,SNR=2.9						
VNDA	Vanda	74.05	170	P	P	06 01 54.6	-0.7
	0.4nm,0.4s,mb3.8,baz=297,slow=7.1,SNR=10						
VNDA	Vanda	74.05	170	eP	P	06 01 54.7	-0.6
	0.5nm,0.4s,mb3.8						
SBA	Scott Base	75.10	170	P	P	06 02 01.3	-0.1
LSZ	Lusaka	82.12	256	P	P	06 02 39.7	-1.2
	2.2nm,0.8s,mb4.1						
BOSA	Boshof	83.48	242	eP	P	06 02 48.8	+1.1
LBTB	Lobatse	83.54	246	P	P	06 02 47.1	-0.9
	9.5nm,1.2s,mb4.8						
BRTR	Keskin Array B	86.33	311	P	P	06 03 01.1	-0.6
	0.5nm,0.4s,mb4.1,baz=108,slow=4.6,SNR=3.7						
SNAA	Sanae	90.04	197	⇑i	P	06 03 19.6	+1.0
SNAA	Sanae	90.04	197	eP	P	06 03 18.6	0.0
	2.2nm,0.8s,mb4.5						
VNA2	Neumayer--Watz	91.69	197	⇑i	P	06 03 27.4	+1.1
VNA3	Neumayer Olymp	92.15	196	⇑i	P	06 03 29.4	+1.0
CPUP	Villa Florida	144.35	196	PKP	PKPdf	06 09 54.7	-0.2
	3.3nm,0.6s,baz=200,slow=2.1,SNR=13						
CPUP	Villa Florida	144.35	196	PKP	PKPdf	06 09 54.7	-0.2
BDFB	Brasilia	149.34	220	PKPbc	PKPdf	06 10 09.5	+6.1
	2.4nm,0.4s,baz=104,slow=2.3,SNR=9.5						

WEL 14 05:57:20.1±0.2**, 44.58S**×**168.30E, h5**^{km}**, ML3.6**/7**, 3C-2D, Error ellipse: s-maj=1.8km s-min=0.9km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WKZ	Wanaka	0.57	116	⇓PG	Pg	05 57 31.5	0.0
WKZ				SG	Sg	05 57 38.8	-0.3
JCZ	Jackson Bay	0.61	33	⇑P*	Pb	05 57 32.1	-0.6
JCZ				SG	Sg	05 57 41.1	+0.8
MLZ	Mavora Lakes	0.77	186	⇑P*	Pb	05 57 35.4	-0.2
MLZ				S*	Sb	05 57 45.9	-0.2
EAZ	Earnscleugh	0.97	132	⇓P*	Pb	05 57 38.4	-0.6
EAZ				S*	Sb	05 57 51.8	0.0
WHZ	Wether Hill Ro	1.33	191	P*	Pb	05 57 44.7	-0.5
WHZ				S*	Sb	05 58 02.8	+0.3
LBZ	Lake Benmore	1.37	82	⇑PN	Pn	05 57 46.2	+0.4
LBZ				S*	Sb	05 58 03.7	+0.3
FOZ	Fox Glacier	1.43	45	PN	Pn	05 57 47.6	+0.9
TUZ	Tuapeka	1.67	146	PN	Pn	05 57 50.2	+0.1
TUZ				SN	Sn	05 58 11.0	-1.1
ODZ	Otahua Downs	1.73	106	PN	Pn	05 57 51.1	0.0
RPZ	Rata Peaks	2.17	67	PN	Pn	05 57 57.0	-0.3

*CSEM **14** 06:00:09.1±0.1, 44.49N×10.69E, h29^{km}±1^{km}, MD2.6/7, Error ellipse: s-maj=3.3km s-min=2.4km az=45.0*

*NEIC **14** 06:00:10.5, 44.41N×10.66E, h27^{km}, ML2.6(LDG), ML2.6(ROM), After ROM.*

*LDG **14** 06:00:10.3±0.2, 44.40N×10.86E, h10^{km}, Ml2.6/11, Error ellipse: s-maj=4.3km s-min=2.4km az=99.0*

ROM 14 06:00:10.5±0.2**, 44.41N**×**10.66E, h27**^{km}±2^{km}**, Md2.6**/7**, Ml2.1**/3**, 1C-1D, Error ellipse: s-maj=5.0km s-min=2.3km az=172.0, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSCL	Gusciola	0.07	224	⇓iPg	Pb	06 00 15.2	0.0
GSCL				Sg	Sb	06 00 19.0	+0.6
	149nm,0.2s						
ERBM	Eremo	0.18	275	Pg	Pb	06 00 16.2	+0.1
ERBM				Sg	Sb	06 00 21.3	+1.4
	61nm,0.3s						
ZCCA	Zocca	0.23	103	⇑iPg	Pb	06 00 17.1	+0.4
ZCCA				Sg	Sb	06 00 23.6	+2.6
BDI	Bagni Di Lucca	0.34	188	Pg	Pb	06 00 18.9	+0.6
	21nm,0.1s						
FNVD	Fontana Vidola	0.41	125	Pg	Pb	06 00 19.5	+0.2
FNVD				Sg	Sb	06 00 26.4	+1.1
	74nm,0.3s						
PII	Pisa	0.69	188	Pg	Pb	06 00 25.0	+1.1
	57nm,0.6s						
BOB	Bobbio (Coli)	0.94	293	Pg	Pn	06 00 29.7	+1.7
BOB				Sg	Sb	06 00 44.6	+4.5
	61nm,0.5s						
SFI	Santa Sofia	0.99	120	Pg	Pn	06 00 31.3	+2.5
	9.0nm,0.3s						
MABI	Malga Bissina	1.65	356	Pg	Pn	06 00 38.9	+0.6
	14nm,0.2s						
FIN	Finale Ligure	1.77	265	Pg	Pn	06 00 41.5	+1.6
	7.0nm,0.2s						
IMI	Imperia	2.06	257	Pg	Pn	06 00 44.7	+0.7
	7.0nm,0.3s						
PGF	Pioggiola	2.21	214	ePn	Pn	06 00 46.8	+0.5
PGF				eSn	Sn	06 01 11.8	-1.3
	2.9nm,0.3s						
SBF	Sospel	2.38	258	ePn	Pn	06 00 49.3	+0.6
SBF				eSn	Sn	06 01 18.7	+1.3
	14nm,0.3s						
MBDF	Montbardon	2.80	278	ePn	Pn	06 00 55.6	+1.0
MBDF				eSn	Sn	06 01 29.0	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.7nm,0.3s						
LPG	La Plagne	2.98	293	ePn	Pn	06 00 58.3	+1.0
LPL	La Plagne	3.00	293	ePn	Pn	06 00 58.5	+1.0
FRF	La Foret Royal	3.02	255	ePn	Pn	06 00 57.9	+0.2
FRF				eSn	Sn	06 01 34.0	+0.6
	5.3nm,0.3s						
NVLJ	Novalja	3.02	86	i Pn	Pn	06 00 56.2	-1.5
NVLJ				i Sn	Sn	06 01 29.1	-4.4
NVLJ	Novalja	3.02	86	i Pn	Pn	06 00 56.2	-1.5
NVLJ				i Sn	Sn	06 01 29.0	-4.4
LMR	La Mourre	3.19	252	ePn	Pn	06 01 00.1	0.0
LMR				eSn	Sn	06 01 37.3	-0.4
	2.7nm,0.2s						
ORIF	Oris-en-Rattie	3.45	280	ePn	Pn	06 01 05.0	+1.1
ORIF				eSn	Sn	06 01 43.8	-0.5
	2.0nm,0.3s						
SMRF	Simiane la Rot	3.68	265	ePn	Pn	06 01 07.4	+0.2
CABF	La Chapelle	3.90	306	ePn	Pn	06 01 10.0	-0.3
VIVF	Saint-Julien-l	4.30	278	ePn	Pn	06 01 15.3	-0.6
VIVF				eSn	Sn	06 02 04.3	-1.5
	1.0nm,0.3s						
HINF	Hinteralfeld	4.32	324	eSn	Sn	06 02 02.5	-3.9
	1.4nm,0.2s						
CDF	Champ du Feu	4.64	331	ePn	Pn	06 01 19.6	-1.2
CDF				eSn	Sn	06 02 11.6	-2.9
	1.1nm,0.3s						
HAU	Haudompre	4.68	322	ePn	Pn	06 01 20.0	-1.4
HAU				eSn	Sn	06 02 11.7	-3.9
	2.6nm,0.2s						
SMF	Signal de Mont	5.29	297	ePn	Pn	06 01 28.9	-1.0
LOR	Lormes	5.55	303	ePn	Pn	06 01 32.5	-1.1
LOR				eSn	Sn	06 02 34.1	-3.2
	1.4nm,0.3s						

MAN 14 06:11:42.2, 9.42N×125.57E, h18^{km}, mb4.6, ML3.5, MS3.3, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.36	348	eP	Pb	06 11 49.6	-0.3
SCPH				eS	Sb	06 12 01.6	+6.5
BUTP	Butuan	0.45	173	eP	Pb	06 11 52.4	+1.0
BUTP				eS	Sb	06 12 10.5	+13
MSLP	Maasin	0.99	315	eP	Pb	06 12 00.4	-0.2
MSLP				eS	Sb	06 12 26.6	+13
BUKP	Musuan	1.61	198	eP	Pn	06 12 09.5	-0.7
BUKP				eS	Sn	06 12 43.4	+13
GUIM	Jordan	3.17	292	eP	Pn	06 12 31.8	-0.5

INMG 14 06:11:48.8±1.4, 36.92N×4.98W, h11^{km}±4^{km}, ML2.4, Error ellipse: s-maj=2.5km s-min=1.8km az=31.0
MDD 14 06:11:49.3±0.2**, 36.87N×4.92W, h20^{km}**±3^{km}**, mbLg2.5**/18**, 5C-1D, Error ellipse: s-maj=2.6km s-min=2.1km az=174.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EMIJ	Mijas	0.32	159	⇑Pg	Pb	06 11 55.7	-0.7
	51nm,0.3s,SNR=18						
EMIJ				Lg		06 12 00.9	
	705nm,0.4s,SNR=10						
LIJA	Lijar	0.39	276	⇑P	Pb	06 11 57.0	-0.5
LIJA				S	Sb	06 12 04.0	+1.0
REAL	Reales	0.45	211	⇑P	Pb	06 11 59.0	+0.6
REAL				S	Sb	06 12 07.0	+2.4
ELOJ	Sierra Loja	0.68	65	Pg	Pb	06 12 01.8	-0.5
	11nm,0.4s,SNR=12						
ELOJ				Lg		06 12 11.1	
	120nm,0.5s,SNR=14						
ALJ	Aljibe	0.68	240	⇓P	Pb	06 12 05.0	+2.7
ALJ				S	Sb	06 12 20.3	+9.1
ESPR	Espera	0.75	270	Pg	Pb	06 12 04.1	+0.5
	33nm,0.4s,SNR=27						
ESPR				Lg		06 12 17.4	
	217nm,0.6s,SNR=13						
GIBL	Gibalbin	0.84	268	P	Pb	06 12 06.4	+1.3
GIBL				S	Sb	06 12 20.8	+4.9
ELUQ	Luque	0.87	37	Pg	Pb	06 12 04.9	-0.7
	33nm,0.4s,SNR=14						
ELUQ				Lg		06 12 15.6	
	36nm,0.2s,SNR=7.0						
ERON	Agron	0.91	80	Pg	Pb	06 12 06.8	+0.7
	16nm,0.4s,SNR=11						
ERON				Lg		06 12 18.9	
	30nm,0.3s,SNR=14						
EGUA	Guajares	1.09	91	Pg	Pb	06 12 09.6	+0.3
	2.8nm,0.2s,SNR=7.9						
EGUA				Lg		06 12 24.9	
	4.2nm,0.2s,SNR=7.9						
ECOG	Cogollos-Vega	1.16	69	Pg	Pb	06 12 11.4	+1.0
	18nm,0.2s,SNR=10						
ECOG				Lg		06 12 26.2	
	20nm,0.2s,SNR=9.0						
ECAB	El Cabril	1.27	342	⇑Pn	Pn	06 12 09.9	-2.4
	28nm,0.4s,SNR=18						
ECAB				Sn	Sn	06 12 26.4	-2.4
	104nm,0.4s,SNR=5.6						
EADA	Adamuz	1.33	12	⇑Pg	Pn	06 12 11.3	-1.7
	10nm,0.1s,SNR=18						
EADA				Lg		06 12 29.2	
	75nm,0.4s,SNR=7.9						
EBAN	Banos Encina	1.58	35	Pg	Pn	06 12 16.8	+0.2
	22nm,0.4s,SNR=20						
EBAN				Sn	Sn	06 12 35.2	-1.5
	71nm,0.3s,SNR=6.4						
EBER	Berja	1.63	88	Pn	Pn	06 12 17.3	0.0
	0.7nm,0.2s,SNR=7.9						
EBER				Pg	Pn	06 12 19.7	+2.4
	19nm,0.3s,SNR=7.9						
EBER				Lg		06 12 44.8	
	39nm,0.4s,SNR=7.9						
EMIN	Mina Concepcio	1.66	303	Pn	Pn	06 12 15.7	-2.1
	0.9nm,0.2s,SNR=7.9						
EMIN				Pg	Pn	06 12 17.8	0.0
	6.7nm,0.3s,SNR=7.9						
EMIN				Lg		06 12 39.1	
	42nm,0.6s,SNR=7.9						
EQES	Quesada	1.75	57	Pg	Pn	06 12 20.7	+1.7
	2.9nm,0.1s,SNR=7.9						
EQES				Lg		06 12 44.9	
	59nm,0.5s,SNR=7.9						
EALB	Alboran	1.78	121	Pn	Pn	06 12 21.3	+1.8
	1.7nm,0.2s,SNR=7.9						
EALB				Sn	Sn	06 12 44.4	+2.6
	2.4nm,0.8s,SNR=4.0						
EHUE	Huescar	2.08	62	Pn	Pn	06 12 23.0	-0.8
	0.5nm,0.3s,SNR=4.0						
EHUE				Pg	Pn	06 12 26.1	+2.2
	4.1nm,0.2s,SNR=7.7						
EHUE				Lg		06 12 55.9	
	10.0nm,0.3s,SNR=12						
EGRO	El Granado	2.15	289	Pn	Pn	06 12 22.7	-2.2
	4.1nm,0.4s,SNR=7.9						
EGRO				Sn	Sn	06 12 48.4	-2.8
	12nm,0.5s,SNR=7.9						
EGRO				Lg		06 12 55.7	
	22nm,0.4s,SNR=7.9						
EBAD	Badajoz	2.51	319	Pn	Pn	06 12 27.5	-2.5
	1.1nm,0.2s,SNR=7.9						
EBAD				Pg	Pn	06 12 33.4	+3.4
	2.9nm,0.4s,SNR=7.9						
EBAD				Sn	Sn	06 12 56.2	-4.1
	2.7nm,0.1s,SNR=7.9						
EBAD				Lg		06 13 05.4	
	30nm,0.8s,SNR=7.9						
EVIA	Vianos	2.61	47	Pg	Pn	06 12 35.9	+4.5
	4.9nm,0.4s,SNR=8.5						
EVIA				Lg		06 13 11.1	
	29nm,0.6s,SNR=5.9						
PBEJ	Beja	2.62	297	Pg	Pn	06 12 35.9	+4.4
PBEJ				Sn	Sn	06 12 58.5	-4.5
PBEJ	Beja	2.62	297	ePg	Pn	06 12 36.5	+5.0
PBEJ				eSn	Sn	06 12 58.5	-4.5
	10nm,0.4s						
ESDC	Sonseca Array	2.90	15	Pn	Pn	06 12 33.7	-1.8
	0.7nm,0.5s,baz=196,slow=12,SNR=4.9						
ESDC				Pg	Pn	06 12 40.9	+5.3
	1.4nm,0.7s,baz=197,slow=17,SNR=7.4						
ESDC				Sn	Sn	06 13 06.9	-3.3
	2.0nm,0.8s,SNR=7.9						
ESDC				Lg		06 13 20.1	
	2.8nm,0.2s,baz=202,slow=28,SNR=3.6						
PTEO	Sao Teotonio	3.11	284	Pg	Pn	06 12 44.4	+5.9
PTEO				Sn	Sn	06 13 13.0	-2.6
PTEO				Lg		06 13 23.3	
PTEO	Sao Teotonio	3.11	284	ePg	Pn	06 12 44.5	+6.0
PTEO				eSn	Sn	06 13 13.0	-2.6
PTEO				eSg	Sn	06 13 23.2	+7.6
	14nm,0.5s						
ETOB	Tobarra	3.21	55	Pn	Pn	06 12 38.0	-1.9
	2.0nm,0.6s,SNR=7.9						
ETOB				Pg	Pn	06 12 45.1	+5.2
	0.7nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	06 13 13.3	-4.7
	4.5nm,0.7s,SNR=7.9						
ETOB				Lg		06 13 30.1	
	14nm,1.5s,SNR=7.9						
PCBR	Castelo Branco	3.58	327	Sn	Sn	06 13 21.9	-5.6
PCBR	Castelo Branco	3.58	327	eSn	Sn	06 13 22.0	-5.5
PCBR				eSg	Sn	06 13 33.2	+5.7
	9.6nm,0.5s						
PTOM	Tomar	3.88	316	eSn	Sn	06 13 28.5	-6.6
PTOM				eSg	Sn	06 13 42.4	+7.3
	10.0nm,0.3s						
MTE	Manteigas	4.08	331	Sn	Sn	06 13 34.8	-5.3
MTE				Lg		06 13 52.4	
MTE	Manteigas	4.08	331	eSn	Sn	06 13 34.8	-5.3
MTE				eSg	Sn	06 13 52.5	+12
	17nm,0.6s						
PVIS	Viseu	4.49	330	eSn	Sn	06 13 43.9	-6.6
PVIS				eSg	Sn	06 14 01.6	+11
	4.3nm,0.3s						
PVRL	Vila Real	4.91	335	eSn	Sn	06 13 54.2	-6.8
PVRL				eSg	Sn	06 14 15.7	+15
PBRG	Braganca	5.13	345	eSn	Sn	06 14 01.7	-4.8
PBRG				eSg	Sn	06 14 23.3	+17
	4.0nm,0.6s						
ECAL	Calabor	5.26	345	Sn	Sn	06 14 01.8	-8.0
	3.8nm,0.5s,SNR=7.9						
ECAL				Lg		06 14 31.1	
	12nm,0.7s,SNR=7.9						
ELOB	Lobios	5.55	335	Sn	Sn	06 14 09.3	-7.9
	1.0nm,0.3s,SNR=7.9						
ELOB				Lg		06 14 41.6	
	16nm,1.2s,SNR=4.0						

CSEM 14 07:15:29.9±0.2, 76.05N×25.89E, h2^{km}, ML3.2, Error ellipse: s-maj=11.4km s-min=2.1km az=71.0
NAO 14 07:15:32.2±1.8, 76.03N×24.10E, ML3.2
BER 14 07:15:34.9±3.0, 76.18N×24.89E, h24^{km}±18^{km}, MD2.8, ML3.2, ML3.2(NAO)
HEL 14 07:15:38.5±0.6, 75.79N×24.91E, h10^{km}, ML3.1, MD2.7(BER), ML3.2(NAO)
ISC 14 07:15:30.5±0.6**, 75.99N**±0.03×**25.2E**±0.4**, h10^{km}, n31, σ1^{s}50**/55**, 1C, Barents Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPEN	Hopen	0.52	354	⇑iP	Pg	07 15 41.9	+0.8
HOPEN				eS	Sg	07 15 47.6	-0.6
HSP	Hornsund	2.49	299	eP	Pn	07 16 10.5	-1.3
HSP				e(S)	Sn	07 16 43.4	+0.9
SPA0	Spitsbergen Ar	2.96	322	Pn	Pn	07 16 16.8	-1.7
	baz=142,slow=12						
SPA0				Lg		07 16 59.3	
	baz=137,slow=28						
KBS	Kingsbay	4.12	322	eP	Pn	07 16 29.7	-5.4
KBS				eS	Sn	07 17 15.8	-8.2
KBS				AML	AML	07 17 43.3	
	comp=Z,133nm,0.4s						
KBS	Kingsbay	4.12	322	eP	Pn	07 16 29.7	-5.4
	SNR=53						
KBS				eS	Sn	07 17 15.8	-8.1
	comp=Z,133nm,0.4s,SNR=53						
KEV	Kevo	6.29	174	eP	Pn	07 17 08.2	+2.5
KEV				eS	Sn	07 18 16.2	-2.2
KEV				MSN		07 18 20.6	
	comp=Z,5.0nm,0.3s						
KEV	Kevo	6.29	174	P	Pn	07 17 08.2	+2.5
KEV				S	Sn	07 18 16.2	-2.3
	comp=Z,5.0nm,0.3s						
ARA0	ARCESS Array S	6.49	179	Pn	Pn	07 17 09.9	+1.4
	baz=360,slow=12						
ARA0				Sn	Sn	07 18 20.4	-3.1
	baz=358,slow=22						
ARA0	ARCESS Array S	6.49	179	eP	Pn	07 17 09.9	+1.4
ARA0				eS	Sn	07 18 20.4	-3.1
ARA0	ARCESS Array S	6.49	179	P	Pn	07 17 09.9	+1.4
ARA0				S	Sn	07 18 20.3	-3.2
KTK1	Kautokeino	7.04	186	eP	Pn	07 17 18.8	+2.5
KTK1				eS	Sn	07 18 36.6	-0.6
KTK1	Kautokeino	7.04	186	P	Pn	07 17 18.7	+2.4
KTK1				S	Sn	07 18 36.6	-0.6
KIF	Kilpisjarvi	7.15	193	eP	Pn	07 17 18.5	+0.7
KIF				eS	Sn	07 18 33.6	-6.3
KIF	Kilpisjarvi	7.15	193	P	Pn	07 17 18.4	+0.7
KIF				S	Sn	07 18 33.5	-6.4
SGF	Sodankyl	8.61	177	eP	P	07 17 39.2	+1.1
SGF				eS	Sn	07 19 10.2	-6.1
SGF				MSN		07 19 17.4	
	comp=Z,3.8nm,0.4s						
SGF	Sodankyl	8.61	177	P	P	07 17 39.1	+1.0
SGF				S	Sn	07 19 10.1	-6.1
	comp=Z,3.8nm,0.4s						
APA0	Apatity Array	8.76	160	Pn	P	07 17 40.4	+0.1
	baz=342,slow=12						
APA0				Sn	Sn	07 19 14.4	-5.6
	baz=354,slow=18						
APA0	Apatity Array	8.76	160	eP	P	07 17 40.4	+0.1
APA0				eS	Sn	07 19 14.4	-5.6
APA0	Apatity Array	8.76	160	P	P	07 17 40.3	+0.1
APA0				S	Sn	07 19 14.4	-5.6
KU4	Liikasenvaara	9.77	170	eP	P	07 17 55.0	+1.0
KU4				eS	Sn	07 19 38.0	-6.9
OUL	Oulu	10.96	179	eP	P	07 18 10.4	0.0
OUL	Oulu	10.96	179	P	P	07 18 10.3	0.0
KJN	Kajaani	11.99	175	eP	P	07 18 22.4	-1.9
KJN				eS	S	07 20 29.8	-9.4
KJN				MSN		07 20 35.5	
	comp=Z,2.1nm,0.3s						
KJN	Kajaani	11.99	175	P	P	07 18 22.4	-1.9
KJN				S	S	07 20 29.8	-9.4
	comp=Z,2.1nm,0.3s						
FIA0	FINESS Array S	14.62	178	Pn	P	07 19 03.1	+4.2
	slow=10						
FIA0				Sn	S	07 21 35.3	-6.6
	baz=3.8,slow=22						
FIA0	FINESS Array S	14.62	178	eP	P	07 19 03.1	+4.2
FIA0				eS	S	07 21 35.3	-6.6
FIA0	FINESS Array S	14.62	178	P	P	07 19 03.1	+4.2
FIA0				Sn	S	07 21 35.3	-6.6
NB2	NORSAR Subarra	15.79	206	Pn	P	07 19 16.6	+2.5
	baz=11,slow=16						
NB2	NORSAR Subarra	15.79	206	eP	P	07 19 16.6	+2.5
HFS	Hagfors	16.44	201	Pn	P	07 19 27.5	+5.1
	baz=22,slow=11						
HFS	Hagfors	16.44	201	eP	P	07 19 27.5	+5.1

CSEM 14 07:16:55.3±0.1, 37.09N×31.01E, h124^{km}±2^{km}, MD3.3, Error ellipse: s-maj=3.5km s-min=2.5km az=3.0
ISK 14 07:16:58.8, 37.16N×31.02E, h111^{km}, MD3.3, ML3.4
IDC 14 07:16:59.5±8.1, 36.77N×31.59E, h90^{km}±59^{km}, mb3.1/1, mb1 3.1/3, mb1mx2.9/20, mbtmp3.4/3, ML4.1/1, Error ellipse: s-maj=65.9km s-min=49.7km az=2.0
HLW 14 07:17:03.8, 36.51N×30.76E, h29^{km}, Mb3.7
ISC 14 07:16:56.9±0.5**, 37.05N**±0.03×**30.98E**±0.03**, h131^{km}**±6^{km}**, n36, σ1^{s}06**/52**, mb3.2**/1**, 1C-6D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCK	Bucak	0.52	323	PG	P	07 17 15.5	-0.8
ISP	Isparta	0.88	335	i PG	P	07 17 17.9	-1.0
ISP				i SG	S	07 17 32.7	-3.1
ELL	Elmali	0.91	251	i PG	P	07 17 21.1	+1.9
TKTP	Tekketepe	1.12	332	i P	P	07 17 21.1	-0.3
TKTP				i S	S	07 17 40.4	+0.5
GOLH	Golhisar	1.15	280	i P	P	07 17 23.4	+1.8
GOLH				i S	S	07 17 40.9	+0.5
HDMB	Hadim	1.21	94	PN	P	07 17 22.8	+0.5
HDMB				SN	S	07 17 40.2	-1.3
AKAS	Kas	1.37	234	i P	P	07 17 24.9	+0.8
AKAS				i S	S	07 17 44.7	-0.1
KONT	Konya--Tatoy	1.42	50	i PN	P	07 17 24.9	+0.3
FETY	Fethiye	1.57	255	PN	P	07 17 27.7	+1.4
ERMK	Ermenek	1.60	104	i P	P	07 17 27.8	+1.1
ERMK				i S	S	07 17 49.2	-0.2
DNZL	Cakiroluk	1.67	293	i P	P	07 17 28.6	+1.2
DNZL				i S	S	07 17 51.2	+0.5
DENT	Denizli	1.70	295	ePN	P	07 17 28.4	+0.6
DENT				eSN	S	07 17 51.3	0.0
KHL	Karahalli	1.72	318	PN	P	07 17 28.8	+0.8
KDHN	Kadinhani	1.73	31	i P	P	07 17 27.8	-0.3
KDHN				i S	S	07 17 49.9	-1.9
DALT	Dalyan (Mudla)	1.90	262	ePN	P	07 17 31.2	+1.1
KIZT	Kizilcal	1.96	21	PN	P	07 17 30.2	-0.7
YER	Yerkesik	2.16	273	ePN	P	07 17 34.6	+1.2
IKL	Isikli	2.32	110	ePN	P	07 17 36.8	+1.3
MANT	Manisa	2.40	308	i P	P	07 17 37.3	+0.8
MANT				i S	S	07 18 06.9	+0.3
ESKT	Eskisehir	2.47	358	i P	P	07 17 37.4	0.0
ESKT				i S	S	07 18 06.6	-1.6
ESKT	Eskisehir	2.47	358	ePn	P	07 17 37.6	+0.2
AYDN	Tasoluk	2.54	285	i P	P	07 17 36.5	-1.9
AYDN				i S	S	07 18 08.9	-1.0
MEST	Erdemli	2.58	99	i P	P	07 17 40.9	+2.0
MEST				i S	S	07 18 11.7	+0.9
BDRM	Kayabasi	2.83	271	i P	P	07 17 42.0	-0.1
BDRM				i S	S	07 18 15.7	-0.8
BRTR	Keskin Array B	3.39	37	P	P	07 17 50.0	+0.3
	4.0nm,0.3s,baz=210,slow=15,SNR=52						
BRTR				S	S	07 18 29.4	-0.4
	1.1nm,0.3s,baz=209,slow=26,SNR=6.4						
HBRG	Burj al ‘Arab	6.53	189	P	P	07 18 31.4	-0.2
HMAT	Matruh	6.76	210	⇓eP	P	07 18 33.1	-1.7
HMAT				S	S	07 19 38.3	-12
KOT	Kottamia	7.14	174	⇓P	P	07 18 38.9	-1.1
SLUM		7.31	222	⇓eP	P	07 18 41.4	-1.0
HSAF	As Saff	7.43	176	P	P	07 18 42.9	-1.0
GLL	Jalalah	7.48	175	⇓eP	P	07 18 43.7	-0.8
SWA1		8.93	211	⇑eP	P	07 19 03.2	-0.8
SWA2		9.05	212	⇓eP	P	07 19 05.1	-0.5
HFRF	Wahat Farafira	10.13	194	⇓eP	P	07 19 19.0	-0.8
AKASG	Malin Array Be	13.71	355	P	P	07 20 14.1	+7.6
	0.9nm,0.3s,baz=178,slow=9.4,SNR=8.1						
MKAR	Makanchi Array	38.79	59	P	P	07 24 12.8	+2.8
	0.3nm,0.5s,mb3.2,baz=278,slow=9.4,SNR=3.6						

KRSC 14 07:17:14.2±0.4**, 49.57N×156.69E, h32^{km}**±23^{km}**, ML4.1, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALID	Alaid	1.49	331	i P	Pn	07 17 39.5	+0.3
ALID				eS	Sn	07 17 57.7	0.0
PAU	Pauzhetka	1.90	2	i P	Pn	07 17 46.1	+1.1
PAU				i S	Sn	07 18 09.3	+1.2
PAU				Smax			
	900nm,0.1s						
MIPR	Malaya Ipel’ka	2.71	1	i P	Pn	07 17 57.2	+0.6
MIPR				eS	Sn	07 18 28.8	+0.1
RUS	Russkaya	3.09	21	i P	Pn	07 18 02.2	+0.2
RUS				i S	Sn	07 18 37.2	-1.1
GRL	Gorelyy	3.11	16	i P	Pn	07 18 03.8	+1.5
GRL				i S	Sn	07 18 40.0	+1.2
APC	Apacha	3.37	5	i P	Pn	07 18 07.2	+1.2
APC				i S	Sn	07 18 45.8	+0.4
APC				Smax			
	20nm,0.8s						
PET	Petropavlovsk	3.67	19	eP	Pn	07 18 10.5	+0.2
PET				eS	Sn	07 18 51.6	-1.4
UGLR	Uglovaya	3.88	19	eP	Pn	07 18 14.4	+1.2
AVH	Avacha	3.92	18	eP	Pn	07 18 14.6	+0.9
AVH				eS	Sn	07 18 58.6	-0.6
KOK	Koryaka	3.92	17	eP	Pn	07 18 15.4	+1.6
SMAR	Somma	3.93	19	eP	Pn	07 18 14.0	+0.1
SDLR	Sedlovina	3.96	19	eP	Pn	07 18 14.5	+0.2
NLC	Nalytchevo	3.97	24	eP	Pn	07 18 13.6	-0.9
NLC				eS	Sn	07 18 58.1	-2.5
SPN	Mys Shipunski	4.10	29	eP	Pn	07 18 16.6	+0.2
SPN				eS	Sn	07 19 02.2	-1.8
GNL	Ganaly	4.20	10	eP	Pn	07 18 18.2	+0.4
MKZ	Mys Kozlova	5.88	30	eS	Sn	07 19 43.2	-5.4
BKI	Bering	8.00	42	eS	Sn	07 20 30.5	-11

PRU 14 07:28:37.9, 51.37N×16.21E
NEIC 14 07:28:39.0±1.5, 51.30N×16.10E, h5^{km}, MG2.6(WAR), Error ellipse: s-maj=16.1km s-min=6.0km az=205.0
WAR 14 07:28:37.6, 51.45N×16.17E, h1^{km}, ML2.6, 1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.61	172	⇓iPg	Pg	07 28 48.8	-1.0
KSP				eSg	Sg	07 28 56.7	-1.2
KSP	Ksiaz	0.61	172	ePg	Pg	07 28 48.8	-1.0
KSP				eSg	Sg	07 28 57.2	-0.8
UPC	Upice	0.95	186	ePG	Pg	07 28 54.8	-1.7
DPC	Dobruska-Polom	1.10	175	ePG	Pg	07 28 57.8	-1.8
DPC				eSG	Sg	07 29 11.9	-2.4
	24nm,0.3s						
PVCC	Panska Ves	1.37	228	ePG	Pg	07 29 03.1	-1.8
BRG	Berggiesshubel	1.51	249	Pg	Pg	07 29 05.5	-2.3
BRG				Sg	Sg	07 29 26.0	-2.0
PRU	Pruhonice	1.79	216	ePG	Pg	07 29 09.9	-3.4
PRU				eSG	Sg	07 29 34.0	-3.1
MORC	Moravsky Berou	1.89	152	ePn	Pn	07 29 09.6	-1.7
MORC				eSn	Sn	07 29 33.7	-2.4
CLL	Collm	1.99	267	i Pg	Pg	07 29 14.3	-3.0
CLL				eSg	Sg	07 29 41.0	-2.8
CLL	Collm	1.99	267	i PG	Pg	07 29 14.3	-3.0
CLL				e		07 29 18.0	
CLL				eSG	Sg	07 29 41.0	-2.8
CLL				i L		07 29 48.8	
OKC	Ostrava-Krasne	2.05	141	ePG	Pg	07 29 16.2	-2.3
OKC				eSG	Sg	07 29 40.6	-5.1
NKC	Novy Kostel	2.65	244	ePN	Pn	07 29 20.6	-1.6
NKC				ePG	Pg	07 29 26.7	-3.8
NKC				eSG	Sg	07 30 02.3	-3.6
	27nm,0.3s						
KHC	Kasperske Hory	2.85	217	ePN	Pn	07 29 23.0	-2.1
KHC				ePG	Pg	07 29 29.3	-5.2
KHC				eSN	Sn	07 29 57.0	-3.5
KHC				eSG	Sg	07 30 06.7	-5.8
MOX	Moxa	2.98	256	ePg	Pg	07 29 34.2	-2.9
MOX				i Sg	Sg	07 30 13.5	-3.4
STHS	Stebnicka Huta	3.83	120	eSG	Sg	07 30 45.0	-0.1

NEIC 14 07:33:11.7, 17.24N×100.15W, h32^{km}, MD3.6(MEX), After MEX.
MEX 14 07:33:10.7±0.4**, 17.17N×100.23W, h46^{km}**±6^{km}**, MD3.6, 1D, Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.13	196	⇓iP	P	07 33 16.7	-1.3
CAIG				i S	S	07 33 21.6	-1.6
CAIG	El Cayaco	0.13	196	eP	P	07 33 16.6	-1.4
CAIG				i S	S	07 33 21.6	-1.6
ACX	Acapulco	0.43	135	i P	P	07 33 19.5	-1.3
ACX				i S	S	07 33 26.0	-1.9
PLIG	Platanillo	1.40	30	eP	P	07 33 32.2	-2.1
PLIG				i S	S	07 33 47.4	-4.4
PLIG	Platanillo	1.40	30	eP	P	07 33 32.2	-2.1
PLIG				i S	S	07 33 50.4	-1.4
PPM	Popocatepetl	2.42	39	eP	P	07 33 47.0	-1.8

IDC 14 07:42:57.4±2.0, 26.65S×176.50W, mb4.4/2, mb1 4.8/4, mb1mx4.3/12, mbtmp4.7/4, MS3.9/9, Ms1 3.9/9, ms1mx3.6/20, Error ellipse: s-maj=63.9km s-min=24.5km az=114.0
NEIC 14 07:43:00.6±0.6, 26.65S×176.25W, h30^{km}, mb4.7/9, Error ellipse: s-maj=17.7km s-min=12.1km az=103.0
ISC 14 07:42:56.4±4.9**, 26.64S**±0.08×**176.3W**±0.1**, h12^{km}**±31^{km}**, n37, σ1^{s}22**/28**, mb4.6**/11**, MS3.9**/7**, 3C-1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.97	208	Pn	Pn	07 43 44.8	+0.5
	329nm,0.3s,baz=73,slow=11,SNR=21						
RAO				LR	LR	07 44 11.5	

comp=Z,830nm,18.6s,baz=182,slow=26
RAO Sn **Sn** **07 44 19.2 -0.9**
537nm,0.3s,baz=96,slow=21,SNR=9.0
RAO Raoul Island 2.97 208 Pn **Pn** **07 43 44.8 +0.5**
RAO LR LR 07 44 11.5
RAO *e*S **Sn** **07 44 17.1 -3.0**
RAO Sn **Sn** **07 44 19.2 -0.9**
URZ Urewera 12.85 204 Sn **S** **07 48 09.4 -16**
1.8nm,0.3s,baz=168,slow=14,SNR=11
AFI Afiamalu 13.36 19 Pn **P** **07 46 07.5 -0.9**
3.8nm,0.3s,baz=56,slow=22,SNR=7.9
AFI Sn **S** **07 48 25.4 -12**
1.7nm,0.3s,baz=108,slow=20,SNR=3.1
AFI Afiamalu 13.36 19 *e*P **P** **07 46 06.4 -2.0**
70nm,1.1s
DZM Mont Dzumac 16.35 282 Pn **P** **07 46 55.8 +8.3**
0.2nm,0.3s,baz=68,slow=18,SNR=3.4
DZM LR LR 07 51 19.5
comp=Z,322nm,18.3s,baz=235,slow=31
TBI Tubuai 24.55 88 *e*LQ 07 52 34.5
233nm,31.2s
TBI *e*LR LR 07 53 36.6
273nm,27.5s,baz=252
PPT Papeete 26.32 75 *e*LQ 07 53 26.9
452nm,25.0s
PPT *e*LR LR 07 54 43.2
256nm,24.5s,baz=244
PPT Papeete 26.32 75 LR LR 07 55 50.9
comp=Z,182nm,19.8s,MS3.6,baz=140,slow=29
HNR Honiara 28.23 303 LR LR 07 57 51.3
comp=Z,276nm,21.7s,MS3.8,baz=175,slow=32
CTA Charters Tower 34.88 273 LR LR 08 02 25.0
comp=Z,298nm,20.0s,MS4.0,baz=68,slow=34
CTAO Charters Tower 34.88 273 *e*P **P** **07 49 50.7 +0.8**
5.8nm,0.8s,mb4.6
STKA Stephens Creek 36.92 252 LR LR 08 04 16.1
comp=Z,296nm,20.3s,MS4.1,baz=148,slow=35
RKT Rikitea 37.56 94 *e*LR LR 07 59 42.5
373nm,38.0s
WB2 Warramunga Arr 45.58 268 *e*P **P** **07 51 18.3 0.0**
WRAB Tennant Creek 45.58 268 *e*P **P** **07 51 17.5 -0.8**
6.7nm,0.7s,mb4.7
WRA Warramunga Arr 45.59 268 P **P** **07 51 17.8 -0.6**
3.6nm,0.7s,mb4.4,baz=106,slow=7.7,SNR=35
SBA Scott Base 51.89 184 *e*P **P** **07 52 08.5 +2.0**
15nm,1.4s,mb4.7
VNDA Vanda 51.98 186 LR LR 08 10 40.6
comp=Z,71nm,20.7s,MS3.7,baz=205,slow=32
VNDA Vanda 51.98 186 P **P** **07 52 06.7 -0.5**
3.4nm,1.2s,mb4.2
FITZ Fitzroy Crossi 53.96 266 LR LR 08 15 48.6
comp=Z,164nm,20.1s,MS4.1,baz=88,slow=37
MBWA Marble Bar 58.20 261 P **P** **07 52 53.5 +0.4**
16nm,1.1s,mb5.0
CASY Casey 59.15 207 *e*P **P** **07 52 57.3 -1.8**
18nm,1.2s,mb5.0
QSPA South Pole Qui 63.46 180 *e*P **P** **07 53 22.3 -5.7**
7.9nm,1.0s,mb4.8
PMSA Palmer Station 75.08 156 P **P** **07 54 37.1 -2.4**
19nm,1.0s,mb5.0
MJAR Matsushiro Arr 76.05 324 P **P** **07 54 46.9 +1.3**
0.8nm,0.3s,mb4.1,baz=168,slow=6.9,SNR=5.6
SNAA Sanae 81.86 178⇓*i* **P** **07 55 16.6 +0.2**
SNAA Sanae 81.86 178 P **P** **07 55 15.7 -0.7**
2.7nm,1.0s,mb4.1
VNA3 Neumayer Olymp 81.94 176 *e* **P** **07 55 26.8 +10**
VNA3 Neumayer Olymp 81.94 176 *e* **P** **07 55 34.8 +18**
VNA3 Neumayer Olymp 81.94 176⇑*i*P **P** **07 55 18.3 +1.5**
VNA3 *e* 07 55 26.8
VNA3 *e* 07 55 34.8
VNA2 Neumayer--Watz 82.40 176⇑*i*P **P** **07 55 20.3 +1.1**
VNA2 *e* 07 55 30.5
VNA2 *e* 07 55 38.0
VNA1 Neumayer--Stat 82.62 176⇑*i*P **P** **07 55 21.9 +1.6**
VNA1 *e* 07 55 32.4
PLCA Paso Flores 83.97 133 LR LR 08 26 16.5
comp=Z,72nm,18.2s,MS4.1,baz=69,slow=31
NB2 NORSAR Subarra145.22 354 PKPabc PKPdf 08 02 35.1 -1.5
0.7nm,0.8s,baz=20,slow=3.6
NOA NORSAR Array B 145.22 354 PKPbc PKPbc 08 02 35.1 +1.3
0.8nm,0.7s,baz=20,slow=2.9,SNR=3.5
AKASG Malin Array Be 149.06 328 PKPbc PKPdf 08 02 46.7 +3.4
0.4nm,0.3s,baz=40,slow=3.3,SNR=5.4

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*IDC **14** 08:01:04.7±2.5, 7.87S×158.31E, h92km±25km, mb3.9/7, mb1 4.0/9, mb1mx3.9/15, mbtmp4.2/9, MS3.4/2, Ms1 3.4/2, ms1mx3.0/16, Error ellipse: s-maj=24.4km s-min=21.8km az=57.0*
*NEIC **14** 08:01:05.7±1.5, 7.92S×158.42E, h105km±13km, mb4.0/2, Error ellipse: s-maj=19.0km s-min=13.5km az=189.0*
ISC 14 08:01:04.6±1.7**, 7.9S**±0.2×**158.4E**±0.1**, h116**km±14km**, n23, σ0.s91**/24**, mb4.0**/8**, Bougainville - Solomon Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
HNR Honiara 2.18 136 P **P** **08 01 39.7 -0.9**
428nm,0.3s,baz=274,slow=2.3,SNR=100
HNR S **S** **08 02 08.2 +0.3**
1µm,0.3s,baz=58,slow=16,SNR=20
HNR Honiara 2.18 136 P **P** **08 01 39.7 -0.9**
HNR *e*Sn **S** **08 02 03.2 -4.7**
HNR S **S** **08 02 08.2 +0.3**
PMG Port Moresby 11.23 261 P **P** **08 03 43.9 +1.2**
0.8nm,0.3s,baz=260,slow=9.2,SNR=2.9
NOUC Port Laguerre 16.07 153 *e*P **P** **08 04 52.5 +7.3**
DZM Mont Dzumac 16.11 152 *e*P **P** **08 04 50.1 +4.4**
DZM *e*S 08 05 23.4
DZM Mont Dzumac 16.11 152 P **P** **08 04 48.6 +3.0**
1.5nm,0.3s,baz=68,slow=20,SNR=87
DZM Mont Dzumac 16.11 152 *e*P **P** **08 04 50.1 +4.4**
DZM *e*S 08 05 23.4
CTA Charters Tower 16.93 223 P **P** **08 04 56.2 +0.5**
0.4nm,0.3s,baz=53,slow=15,SNR=7.9
CTA LR LR 08 10 23.0
comp=Z,130nm,19.8s,baz=51,slow=33
CTA Charters Tower 16.93 223 P **P** **08 04 56.2 +0.4**
CTAO Charters Tower 16.93 223 *e*P **P** **08 04 56.0 +0.2**
2.6nm,0.6s
WRAB Tennant Creek 26.22 240 *e*P **P** **08 06 30.0 -0.6**
7.1nm,0.6s,mb4.3
WB2 Warramunga Arr 26.22 240 *e*P **P** **08 06 29.9 -0.7**
WRA Warramunga Arr 26.23 240 P **P** **08 06 30.5 -0.3**
2.0nm,0.6s,mb3.8,baz=66,slow=9.4,SNR=28
STKA Stephens Creek 28.57 211 *e*P **P** **08 06 52.3 +0.4**
3.7nm,0.5s,mb4.3
STKA Stephens Creek 28.57 211 P **P** **08 06 52.4 +0.5**
3.5nm,0.4s,mb4.3,baz=41,slow=15,SNR=27
STKA Stephens Creek 28.57 211 *e*P **P** **08 06 52.0 +0.1**
AFI Afiamalu 29.87 104 LR LR 08 18 01.9
comp=Z,54nm,18.2s,baz=97,slow=34
FITZ Fitzroy Crossi 33.46 249 P **P** **08 07 33.6 -1.3**
2.7nm,0.5s,mb4.4,baz=35,slow=7.3,SNR=10
RPZ Rata Peaks 37.39 165 P **P** **08 08 08.0 +0.1**
7.7nm,0.9s,mb4.6,baz=344,slow=7.4,SNR=5.0
VNDA Vanda 69.65 179 P **P** **08 12 03.6 +0.5**
0.7nm,0.8s,mb3.5,baz=345,slow=5.5,SNR=6.4
SONM Songino Array 71.91 326 P **P** **08 12 16.9 -0.2**
0.7nm,0.6s,mb3.7,baz=143,slow=7.2,SNR=2.5
MKAR Makanchi Array 86.30 318 P **P** **08 13 38.1 +3.5**
0.6nm,0.4s,mb3.9,baz=92,slow=6.7,SNR=12
YKA Yellowknife Ar 95.51 28 pP pP 08 14 39.9 -7.8
0.6nm,0.8s,baz=266,slow=4.8,SNR=4.1

CASC 14 08:13:03.1±2.0**, 13.78N×91.02W, h37**km±296km**, MD3.9, 2C-3D, Near coast of Guatemala**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
IXG Ixpaco 0.67 55⇓*e*P P 08 13 11.2 -4.9
IXG *e*S S 08 13 21.4 -4.2
RBDL Robledal 1.33 76 *e*P P 08 13 26.6 +0.9
RBDL *e*S S 08 13 43.6 +1.2
RTR El Retiro 1.34 85⇑*e*P P 08 13 26.0 +0.3
RTR *e*S S 08 13 43.4 +0.8
SBLS San Blas 1.36 88⇓*e*P P 08 13 25.9 -0.1
SBLS *e*S S 08 13 43.2 +0.2
SNJE San Jose 1.38 86 *e*P P 08 13 26.3 +0.1
SNJE *e*S S 08 13 42.9 -0.5
BOQS Boqueron 1.69 91 *e*P P 08 13 30.8 +0.1
BOQS *e*S S 08 13 52.2 +0.9
MRL Marmol 1.81 45⇓*e*P P 08 13 28.4 -4.0
MRL *e*S S 08 13 55.2 +0.9
LFRS El Faro 1.91 95 *e*P P 08 13 33.8 0.0
LFRS *e*S S 08 13 56.2 -0.6
LCBS La Ceiba 1.99 93⇑*e*P P 08 13 35.2 +0.3
LCBS *e*S S 08 13 58.9 +0.1

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*BJI **14** 08:20:07.8, 43.10N×82.51E, h18km, mb3.9, ML4.0*
*IDC **14** 08:20:08.0±4.0, 43.17N×82.53E, h22km±23km, mb3.7/2, mb1 3.8/4, mb1mx3.4/20, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=41.4km s-min=19.9km az=71.0*
*NNC **14** 08:20:11.1±2.6, 43.39N×82.41E, h34km±18km, mpv3.8, Error ellipse: s-maj=22.2km s-min=8.4km az=127.0*
ISC 14 08:20:04.5±0.8**, 43.03N**±0.07×**82.22E**±0.07**, h10**km**, n13, σ0.s68**/14**, mb3.8**/2**, 11C, Northern Xinjiang**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
MK31 Makanchi Array 3.76 1 Pn **Pn** **08 21 04.2 +0.4**
21nm,0.4s,baz=193,slow=12,SNR=216
MK31 ⇑Pg **Pg** **08 21 13.0 -6.6**
9.7nm,0.3s,baz=176,slow=16,SNR=54
MK31 ⇑Lg 08 21 59.9
47nm,0.5s,baz=178,slow=16,SNR=4.7
MKAR Makanchi Array 3.76 1 Pn **Pn** **08 21 04.3 +0.5**
2.9nm,0.3s,baz=178,slow=12,SNR=74
MKAR Pg **Pg** **08 21 14.8 -4.7**
19nm,0.3s,baz=179,slow=14,SNR=68
MKAR Sn **Sn** **08 21 48.9 +0.2**
14nm,0.3s,baz=174,slow=17,SNR=5.1
MKAR Lg 08 22 01.1
13nm,0.3s,baz=174,slow=27,SNR=6.2
WMQ Urumqi 4.06 77 P **Pn** **08 21 09.0 +0.9**
WMQ S **Sn** **08 21 56.3 0.0**
WMQ Smax
comp=N,57nm,0.4s
WMQ Smax
comp=E,67nm,0.4s
AAK Ala-Archa 5.70 269 ⇑Pg **Pg** **08 21 58.7 +0.5**
comp=E,12nm,0.8s
AAK ⇑Lg 08 23 13.9
comp=E,64nm,0.7s
KURK Kurchatov 8.07 343 ⇑Pn **P** **08 22 03.0 -1.5**
comp=E,2.0nm,0.6s
KURK ⇑Sn **Sn** **08 23 30.2 -6.6**
comp=E,6.0nm,0.7s
KK31 Karatay Array 8.58 274 ⇑Pg Px 08 22 50.5
comp=E,1.2nm,0.6s,baz=81,slow=16,SNR=6.1
KK31 ⇑Lg 08 24 42.9
comp=E,9.9nm,0.7s,baz=81,slow=25,SNR=6.7
VOSK Vostochnaya 12.27 326 ⇑Lg 08 26 32.4
comp=E,10nm,1.4s
BVA0 Borovoye Array 12.73 326 ⇑Lg 08 26 47.5
comp=E,2.6nm,1.0s
ZRNK Zerenda 13.27 323 ⇑Lg 08 27 09.8
comp=E,8.7nm,1.3s
SONM Songino Array 17.60 66 P **P** **08 24 10.6 -0.7**
comp=E,0.3nm,0.3s,baz=277,slow=12,SNR=4.1
LZH Lanzhou 18.03 105 *e*P **P** **08 24 17.0 +0.3**
LZH AP 08 24 20.6
LZH XP 08 24 22.5
LZH PP PP 08 24 32.0 +0.4
LZH AMB AMB
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 38.92 332 P **P** **08 27 31.8 +0.2**
comp=Z,4.5nm,1.0s,mb4.2,baz=96,slow=8.2,SNR=5.2
WRA Warramunga Arr 78.87 131 P **P** **08 32 08.7 -0.8**
comp=Z,0.3nm,0.6s,mb3.4,baz=329,slow=5.0,SNR=8.1

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*NEIC **14** 08:27:07.9, 36.91N×5.00W, h8km, MN2.8(MDD), After MDD.*
*SFS **14** 08:27:07.0, 36.92N×5.01W*
*MDD **14** 08:27:08.5±0.2, 36.90N×4.96W, h11km, mbLg2.8/21, Error ellipse: s-maj=2.2km s-min=1.9km az=38.0, PRXIMO*
*INMG **14** 08:27:08.4±1.2, 36.90N×4.99W, h11km±3km, ML2.8, Error ellipse: s-maj=2.5km s-min=1.7km az=31.0*
*CSEM **14** 08:27:08.3±0.1, 36.94N×4.97W, h5km, ML3.1/10, Error ellipse: s-maj=2.3km s-min=1.0km az=4.0*
*LDG **14** 08:27:09.5±0.3, 36.95N×5.02W, h10km, Ml3.2/2, Error ellipse: s-maj=5.5km s-min=3.0km az=174.0*
ISC 14 08:27:07.3±0.4**, 37.18N**±0.02×**4.98W**±0.02**, h4**km±2km**, n83, σ1.s42**/149**, 7C-2D, Spain**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
LIJA Lijar 0.43 232 ⇑P **Pg** **08 27 16.2 +0.4**
LIJA S **Sg** **08 27 23.7 +2.1**
LIJA Lijar 0.43 232 *i* P **Pg** **08 27 16.2 +0.3**
EMIJ Mijas 0.63 164 ⇑Pg **Pg** **08 27 15.1 -4.8**
50nm,0.1s,SNR=18
EMIJ Lg 08 27 20.6
659nm,0.3s,SNR=12
ELOJ Sierra Loja 0.66 92 Pg **Pg** **08 27 21.1 +0.6**
24nm,0.3s,SNR=24
ELOJ Lg 08 27 32.1
212nm,0.5s,SNR=26
ELUQ Luque 0.69 56 Pg **Pg** **08 27 24.0 +2.9**
58nm,0.2s,SNR=26
ELUQ Lg 08 27 37.2
104nm,0.2s,SNR=11
REAL Reales 0.71 195 ⇓P **Pg** **08 27 18.3 -3.2**
REAL S **Sg** **08 27 26.0 -5.0**
REAL Reales 0.71 195 *i* P **Pg** **08 27 18.3 -3.2**
ESPR Espera 0.76 247 ⇑Pg **Pg** **08 27 23.5 +1.0**
75nm,0.4s,SNR=18
ESPR Lg 08 27 34.2
214nm,0.3s,SNR=8.2
ESPR Espera 0.76 247 Pg **Pg** **08 27 23.5 +1.0**
75nm,0.4s,SNR=18
ALJ Aljibe 0.84 220 P **Pg** **08 27 24.1 +0.1**
ALJ S **Sg** **08 27 38.4 +3.3**
ALJ Aljibe 0.84 220 *i* P **Pg** **08 27 24.1 +0.1**
ALJ *e*S **Sg** **08 27 38.4 +3.3**
GIBL Gibalbin 0.86 247 ⇑P **Pb** **08 27 26.1 +1.7**
GIBL S **Sg** **08 27 42.6 +6.7**
GIBL Gibalbin 0.86 247 *i* P **Pb** **08 27 26.1 +1.7**
ERON Agron 0.95 99 Pg **Pg** **08 27 25.7 -0.7**
32nm,0.3s,SNR=14
ERON Lg 08 27 38.8
44nm,0.4s,SNR=26
ECAB El Cabril 0.96 339 Pg **Pg** **08 27 29.2 +2.7**
ECAB Sn **Sn** **08 27 46.1 +4.4**
ECAB El Cabril 0.96 339 Pg **Pg** **08 27 29.3 +2.7**
46nm,0.3s
ECAB Sn **Sn** **08 27 46.1 +4.4**
154nm,0.3s,SNR=31
ECAB El Cabril 0.96 339 Pg **Pg** **08 27 29.3 +2.8**
46nm,0.3s
ECAB Sn **Sn** **08 27 46.1 +4.4**
154nm,0.3s,SNR=31
MOMI Momias 1.03 215 P **Pb** **08 27 27.8 +0.5**
MOMI S **Sb** **08 27 51.5 +11**
MOMI Momias 1.03 215 *e*P **Pb** **08 27 27.8 +0.5**
EADA Adamuz 1.04 18 Pg **Pg** **08 27 30.8 +2.7**
47nm,0.2s,SNR=7.9
EADA Lg 08 27 48.7
123nm,0.2s,SNR=7.9
EADA Adamuz 1.04 18 Pg **Pg** **08 27 30.8 +2.7**
47nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 1.14 84 Pg **Pg** **08 27 30.9 +1.0**
48nm,0.2s,SNR=29
ECOG Lg 08 27 46.9
60nm,0.2s,SNR=9.7
CNIL Conil 1.18 227 P **Pb** **08 27 34.0 +4.1**
CNIL S **Sb** **08 27 53.1 +7.9**
EGUA Guajares 1.19 106 Pg **Pg** **08 27 29.0 -2.0**
5.2nm,0.2s,SNR=7.9
EGUA Lg 08 27 44.5
11nm,0.3s,SNR=7.9
EBAN Banos Encina 1.37 44 ⇑Pn **Pn** **08 27 34.8 +1.6**
5.0nm,0.1s,SNR=18
EBAN Pg **Pg** **08 27 36.3 +1.7**
34nm,0.2s,SNR=13
EBAN Sn **Sn** **08 27 55.5 +3.4**
26nm,0.2s,SNR=12
EBAN Lg 08 27 57.2
73nm,0.2s,SNR=7.9
EBAN Banos Encina 1.37 44 Pg **Pg** **08 27 36.3 +1.6**
29nm,0.4s,SNR=13
EBAN Sn **Sn** **08 27 55.5 +3.4**
70nm,0.3s,SNR=12
EMIN Mina Concepcio 1.47 294 ⇓Pn **Pn** **08 27 35.1 +0.4**
4.2nm,0.2s,SNR=18
EMIN Pg **Pg** **08 27 37.4 +0.8**
17nm,0.1s,SNR=14
EMIN Sn **Sn** **08 27 55.8 +1.3**
8.0nm,0.1s,SNR=6.4
EMIN Lg 08 27 58.6
32nm,0.2s,SNR=16
EMIN Mina Concepcio 1.47 294 Pn **Pn** **08 27 35.1 +0.4**
21nm,0.4s,SNR=18
EMIN Mina Concepcio 1.47 294 Pg **Pg** **08 27 37.4 +0.8**
16nm,0.3s,SNR=14
EMIN Sn **Sn** **08 27 55.8 +1.3**
23nm,0.6s,SNR=6.4
EQES Quesada 1.65 67 Pn **Pn** **08 27 38.0 +0.8**
EQES Pg **Pg** **08 27 40.2 +0.1**
EQES Lg 08 28 04.0
EQES Quesada 1.65 67 Pn **Pn** **08 27 38.3 +1.1**
2.2nm,0.1s,SNR=27
EQES Pg **Pg** **08 27 40.2 +0.1**
5.8nm,0.1s,SNR=7.9
EQES Lg 08 28 04.0
115nm,0.4s,SNR=12
EQES Quesada 1.65 67 Pn **Pn** **08 27 38.0 +0.8**
44nm,0.6s,SNR=27
EQES Quesada 1.65 67 Pg **Pg** **08 27 40.2 +0.1**
14nm,0.2s,SNR=7.9
EBER Berja 1.70 99 Pn **Pn** **08 27 36.6 -1.3**
0.5nm,0.0s,SNR=18
EBER Pg **Pg** **08 27 39.4 -1.8**
1.2nm,0.1s,SNR=10
EBER Sn **Sn** **08 27 57.5 -2.9**
17nm,0.3s,SNR=5.1
EBER Lg 08 28 03.4
62nm,0.6s,SNR=7.0
EBER Berja 1.70 99 Pg **Pg** **08 27 39.4 -1.8**
30nm,0.4s,SNR=10
EBER Sn **Sn** **08 27 57.5 -2.9**
25nm,0.3s,SNR=5.1
EALB Alboran 2.00 128 Pg **Pg** **08 27 40.6 -6.5**
EALB Lg 08 28 06.5
EALB Alboran 2.00 128 Pg **Pg** **08 27 40.6 -6.5**
30nm,0.5s,SNR=7.3
EALB Lg 08 28 05.3
31nm,0.3s,SNR=7.9
EALB Alboran 2.00 128 Pg **Pg** **08 27 40.6 -6.5**
30nm,0.5s,SNR=7.3
EHUE Huescar 2.01 71 Pn **Pn** **08 27 42.8 +0.5**
1.9nm,0.1s,SNR=18
EHUE Pg **Pg** **08 27 46.5 -0.8**
6.3nm,0.2s,SNR=7.8
EHUE Sn **Sn** **08 28 08.3 +0.1**
3.9nm,0.2s,SNR=9.0
EHUE Lg 08 28 14.8
18nm,0.2s,SNR=14
EHUE Huescar 2.01 71 Pg **Pg** **08 27 46.5 -0.8**
4.9nm,0.3s,SNR=7.8
EHUE Sn **Sn** **08 28 08.3 +0.1**
21nm,0.5s,SNR=9.0
EGRO El Granado 2.02 281 ⇑Pn **Pn** **08 27 42.1 -0.5**
7.2nm,0.3s,SNR=18
EGRO Pg **Pg** **08 27 46.6 -1.1**
12nm,0.4s,SNR=4.0
EGRO Sn **Sn** **08 28 08.2 -0.4**
18nm,0.4s,SNR=5.4
EGRO Lg 08 28 15.2
35nm,0.3s,SNR=8.3
EGRO El Granado 2.02 281 Pn **Pn** **08 27 42.1 -0.5**
7.2nm,0.3s,SNR=18
EGRO El Granado 2.02 281 Pg **Pg** **08 27 46.6 -1.1**
12nm,0.4s,SNR=4.0
EGRO Sn **Sn** **08 28 08.2 -0.5**
18nm,0.4s,SNR=5.4
EBAD Badajoz 2.25 315 ⇑Pn **Pn** **08 27 46.7 +0.9**
3.9nm,0.2s,SNR=18
EBAD Pg **Pg** **08 27 53.1 +0.9**
8.2nm,0.3s,SNR=11
EBAD Sn **Sn** **08 28 16.5 +2.1**
10nm,0.5s,SNR=7.6
EBAD Lg 08 28 26.5
17nm,0.3s,SNR=7.6
EBAD Badajoz 2.25 315 Pn **Pn** **08 27 46.7 +0.9**
3.9nm,0.2s,SNR=18
EBAD Badajoz 2.25 315 Pg **Pg** **08 27 53.1 +0.9**
8.2nm,0.3s,SNR=11
EBAD Sn **Sn** **08 28 16.5 +2.1**
10nm,0.5s,SNR=7.6
PBEJ Beja 2.44 291 Pn **Pn** **08 27 48.1 -0.5**
PBEJ Sn **Sn** **08 28 17.4 -1.9**
PBEJ Lg 08 28 26.9
PBEJ Beja 2.44 291 *e*Pn **Pn** **08 27 48.2 -0.4**
PBEJ *e*Sn **Sn** **08 28 18.4 -0.9**
PBEJ *e*Sg **Sg** **08 28 27.1 -1.5**
31nm,0.3s
EVIA Vianos 2.45 53 Pn **Pn** **08 27 49.4 +0.8**
0.8nm,0.2s,SNR=10
EVIA Pg **Pg** **08 27 55.3 -0.8**
20nm,0.4s,SNR=12
EVIA Sn **Sn** **08 28 20.7 +1.3**
7.6nm,0.4s,SNR=7.9
EVIA Lg 08 28 30.3
63nm,0.7s,SNR=7.8
EVIA Vianos 2.45 53 Pg **Pg** **08 27 55.3 -0.8**
26nm,0.4s,SNR=12
EVIA Sn **Sn** **08 28 20.7 +1.3**
7.6nm,0.4s,SNR=7.9
ESDC Sonseca Array 2.62 17 Pn **Pn** **08 27 53.8 +2.6**
2.9nm,0.2s,baz=196,slow=12,SNR=15
ESDC Pg **Pg** **08 28 01.2 +1.6**
3.2nm,0.3s,baz=198,slow=17,SNR=18
ESDC Sn **Sn** **08 28 26.4 +2.6**
3.4nm,0.3s,SNR=7.9
ESDC Lg 08 28 38.8
23nm,0.3s,baz=202,slow=28,SNR=6.6
ESDC Sonseca Array 2.62 17 Pn **Pn** **08 27 53.8 +2.6**
2.9nm,0.2s,SNR=15
ESDC Sonseca Array 2.62 17 Pg **Pg** **08 28 01.2 +1.6**
3.2nm,0.3s,SNR=18
ESDC Sn **Sn** **08 28 26.4 +2.6**
3.4nm,0.3s,SNR=7.9
ESLA Sonseca Array 2.62 17 *e*Pn **Pn** **08 27 52.1 +0.9**
ESLA *e*Sn **Sn** **08 28 35.8 +12**
EVO Evora 2.75 300 *e*Pn **Pn** **08 27 55.2 +2.2**
EVO *e*Pg **Pg** **08 28 02.5 +0.2**
EVO *e*Sn **Sn** **08 28 28.1 +0.9**
EVO *e*Sg **Sg** **08 28 41.1 +2.1**
69nm,0.4s
PTEO Sao Teotonio 3.00 278 Pn **Pn** **08 27 55.5 -1.1**
PTEO Sn **Sn** **08 28 28.7 -4.8**
PTEO Lg 08 28 44.5
PTEO Sao Teotonio 3.00 278 *e*Pn **Pn** **08 27 55.5 -1.1**
PTEO *e*Sn **Sn** **08 28 31.3 -2.2**
PTEO *e*Sg **Sg** **08 28 44.1 -3.2**
29nm,0.5s
ETOB Tobarra 3.09 61 Pn **Pn** **08 27 57.9 +0.1**
1.7nm,0.3s,SNR=8.4
ETOB Pg **Pg** **08 28 06.9 -2.0**
5.6nm,0.3s,SNR=5.5
ETOB Sn **Sn** **08 28 34.7 -1.0**
2.6nm,0.3s,SNR=7.9
ETOB Lg 08 28 50.4
23nm,0.4s,SNR=5.0
ETOB Tobarra 3.09 61 Pn **Pn** **08 27 57.9 +0.1**
1.7nm,0.3s,SNR=8.4
ETOB Tobarra 3.09 61 Pg **Pg** **08 28 06.9 -2.0**
5.6nm,0.3s,SNR=5.5
ETOB Sn **Sn** **08 28 34.7 -1.0**
2.6nm,0.3s,SNR=7.9
PCBR Castelo Branco 3.30 324 *e*Pn **Pn** **08 28 02.4 +1.5**
PCBR *e*Sn **Sn** **08 28 40.8 -0.3**
PCBR *e*Sg **Sg** **08 28 56.0 -1.3**
21nm,0.6s
PCBR Castelo Branco 3.30 324 Pn **Pn** **08 28 02.2 +1.3**
PCBR Sn **Sn** **08 28 40.7 -0.4**
PTOM Tomar 3.63 313 *e*Pn **Pn** **08 28 05.6 +0.1**
PTOM *e*Sn **Sn** **08 28 42.3 -7.2**
PTOM *e*Sg **Sg** **08 29 06.3 -1.9**
25nm,0.4s
PTOM Tomar 3.63 313 Pn **Pn** **08 28 05.4 -0.1**
PTOM Sn **Sn** **08 28 47.6 -1.9**
PLOU Loures 3.71 299 Sn **Sn** **08 28 46.8 -4.5**
PLOU Lg 08 29 02.4
PLOU Loures 3.71 299 *e*Sn **Sn** **08 28 49.9 -1.4**
26nm,0.8s
MTE Manteigas 3.79 329 Pn **Pn** **08 28 09.0 +1.2**
MTE Sn **Sn** **08 28 53.0 -0.5**
MTE Lg 08 29 11.6
MTE Manteigas 3.79 329 *e*Pn **Pn** **08 28 09.1 +1.3**
MTE *e*Sn **Sn** **08 28 53.1 -0.4**

MTE				eSg	Sg	08 29 11.3	-2.2
	43nm,0.6s						
ECHE	Chera	3.97	51	Pn	Pn	08 28 11.1	+0.7
	0.3nm,0.1s,SNR=4.0						
ECHE				Pg	Pg	08 28 23.1	-3.5
	7.9nm,0.7s,SNR=5.4						
ECHE				Lg		08 29 18.4	
	3.2nm,0.4s,SNR=7.9						
EBEN	Beniarda	4.06	66	Pn	Pn	08 28 11.6	0.0
	2.1nm,0.3s,SNR=7.9						
EBEN				Pg	Pg	08 28 24.0	-4.4
	1.4nm,0.2s,SNR=7.9						
EBEN				Sn	Sn	08 28 56.9	-3.4
	17nm,1.0s,SNR=7.9						
EBEN				Lg		08 29 19.3	
	26nm,0.9s,SNR=7.9						
EBEN	Beniarda	4.06	66	Pn	Pn	08 28 11.6	0.0
	2.1nm,0.3s,SNR=7.9						
EBEN	Beniarda	4.06	66	Pg	Pg	08 28 24.0	-4.3
	1.4nm,0.2s,SNR=7.9						
PVIS	Viseu	4.20	328	Sn	Sn	08 29 02.4	-1.5
PVIS				Lg		08 29 25.5	
PVIS	Viseu	4.20	328	eSn	Sn	08 29 03.3	-0.6
PVIS				eSg	Sg	08 29 25.6	-1.6
	14nm,0.5s						
PVRL	Vila Real	4.61	333	eSn	Sn	08 29 13.2	-1.1
	7.5nm,0.2s						
PBRG	Braganca	4.82	344	Pn	Pn	08 28 23.0	+0.6
PBRG				Sn	Sn	08 29 17.5	-2.0
PBRG				Lg		08 29 46.1	
PBRG	Braganca	4.82	344	ePn	Pn	08 28 23.1	+0.7
PBRG				eSn	Sn	08 29 18.0	-1.5
PBRG				eSg	Sg	08 29 46.2	-1.5
	10nm,0.5s						
ECAL	Calabor	4.95	345	Sn	Sn	08 29 23.1	+0.3
	7.0nm,0.5s,SNR=4.7						
ECAL				Lg		08 29 53.3	
	30nm,0.5s,SNR=5.0						
SJPF	Ste Jean	6.59	25	ePn	Pn	08 28 47.5	+0.1
ETSF	Etsaut	6.65	29	ePn	Pn	08 28 47.5	-0.7
ETSF				eSn	Sn	08 30 02.0	-3.3
	2.2nm,0.7s						
EPF	Esparros	7.13	33	ePn	Pn	08 28 53.7	-1.3
QUIF	Quistinic	10.82	7	ePn	P	08 29 44.6	-1.4
ROSF	Rostrenen	11.23	6	ePn	P	08 29 50.3	-1.3

*NNC **14** 08:40:16.8±3.8, 37.32N×70.16E, h221km±24km, mpv3.6, Error ellipse: s-maj=41.7km s-min=21.8km az=5.0*

ISC 14 08:40:10.3±2.7**, 37.0N**±0.2×**70.0E**±0.2**, h190**km±33km**, n11, σ1**s**06**/13**, 7C, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.89	28	P	P	08 41 37.1	+0.4
	SNR=7.7						
KK31	Karatay Array	6.14	3	P	P	08 41 41.7	+1.7
	1.4nm,0.3s,baz=182,slow=12,SNR=59						
KK31				⇑S	S	08 42 48.4	-1.5
	4.0nm,0.5s,baz=182,slow=17,SNR=3.9						
UCH	Uchtor	6.29	32	P	P	08 41 41.7	-0.2
	SNR=19						
EKS2	Erkin-Say	6.38	26	P	P	08 41 43.9	+0.8
	SNR=9.6						
AAK	Ala-Archa	6.62	30	⇑P	P	08 41 43.8	-2.5
	5.4nm,0.6s						
AAK				⇑S	S	08 43 02.9	+1.8
	8.6nm,0.6s						
USP	Ospenovka	7.17	27	P	P	08 41 52.9	-0.5
	SNR=6.5						
TKM2	Tokmak 2	7.33	34	P	P	08 41 54.7	-0.8
	SNR=7.6						
MK31	Makanchi Array	13.40	39	⇑P	P	08 43 13.8	0.0
	0.3nm,0.4s,baz=208,slow=11,SNR=11						
AB31	Akbulak array	14.31	332	⇑P	P	08 43 25.7	+0.6
	1.3nm,0.7s,baz=143,slow=12,SNR=14						
VOSK	Vostochnaya	15.77	2	⇑P	P	08 43 42.9	-0.4
	1.6nm,0.7s						
ZRNK	Zerenda	16.00	358	⇑P	P	08 43 46.1	0.0
	0.8nm,0.3s						

*IDC **14** 08:56:02.5±2.8, 25.83N×92.64E, mb3.3/3, mb1 3.5/3, mb1mx3.4/18, mbtmp3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/15, Error ellipse: s-maj=100.1km s-min=29.9km az=70.0*

ISC 14 08:56:01.2±0.8**, 25.4N**±0.1×**92.78E**±0.08**, h33**km**, n8, σ1**s**38**/9**, mb3.4**/5**, MS2.9**/1**, 1C, India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	0.83	284	⇑iPG	P	08 56 16.5	0.0
SHL				eSG	S	08 56 28.0	+0.2
IMP	Imphal	1.20	119	ePG	P	08 56 24.0	+2.3
IMP				eSG	S	08 56 36.0	-1.1
MKAR	Makanchi Array	22.96	341	P	P	09 01 03.3	-0.4
	0.3nm,0.3s,mb3.2,baz=146,slow=9.5,SNR=3.3						
SONM	Songino Array	24.88	22	P	P	09 01 23.7	+1.5
	0.3nm,0.5s,mb3.1,baz=203,slow=11,SNR=5.3						
ZAL	Zalesovo	29.15	350	LR	LR	09 14 26.0	
	comp=Z,31nm,19.1s,MS2.9,baz=124,slow=38						
WRA	Warramunga Arr	60.50	134	P	P	09 06 17.4	+6.7
	0.2nm,0.5s,mb3.5,baz=324,slow=7.0,SNR=5.9						
GERES	GERESS Array B	64.34	314	P	P	09 06 32.2	-3.6
	0.4nm,0.3s,mb4.0,baz=76,slow=5.5,SNR=6.1						
ILAR	Eielson Array	79.10	22	P	P	09 08 01.6	-1.9
	0.3nm,0.7s,mb3.3,baz=298,slow=4.6,SNR=4.5						

*BJI **14** 09:07:34.7, 44.96N×92.91E, h12km, mB4.9, mb4.8, ML4.5, Ms3.8, Msz3.7*
*NNC **14** 09:07:34.3±3.4, 45.25N×93.12E, h5km±8km, mpv4.1, Error ellipse: s-maj=36.7km s-min=21.8km az=5.0*
*NEIC **14** 09:07:39.0±2.7, 44.92N×92.66E, h23km±25km, mb4.3/2, Error ellipse: s-maj=15.3km s-min=8.1km az=208.0*
*MOS **14** 09:07:44.0±1.2, 45.20N×91.93E, h37km, mb4.0/7, Error ellipse: s-maj=32.2km s-min=12.3km az=122.6*
*IDC **14** 09:07:45.6±5.2, 45.96N×91.90E, mb3.8/7, mb1 4.0/8, mb1mx3.8/20, mbtmp3.8/8, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/28, Error ellipse: s-maj=122.7km s-min=26.7km az=173.0*

ISC 14 09:07:34.5±0.5**, 44.86N**±0.08×**92.74E**±0.08**, h10**km**, n43, σ1**s**39**/49**, mb3.8**/9**, MS3.3**/1**, 10C-6D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	3.76	256	P	Pn	09 08 36.4	+2.4
WMQ				SG	Sn	09 09 27.8	+9.0
WMQ				Smax			
	comp=N,507nm,0.3s						
WMQ				Smax			
	comp=E,574nm,0.4s						
MK31	Makanchi Array	7.55	289	⇑Pn	Pn	09 09 27.3	-0.1
	comp=E,3.7nm,0.3s,baz=99,slow=15,SNR=48						
MK31				⇓Sn	Sn	09 11 00.3	+6.3
	comp=E,40nm,0.7s,baz=97,slow=27,SNR=4.5						
MK31				⇑Lg		09 11 34.2	
	comp=E,28nm,0.5s,baz=265,slow=40,SNR=4.2						
MKAR	Makanchi Array	7.55	289	P	Pn	09 09 27.2	-0.2
MKAR						09 10 51.3	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR				smax			
	comp=E,6.0nm,0.3s						
MKAR	Makanchi Array	7.55	289	Pn	Pn	09 09 27.2	-0.2
	comp=E,1.9nm,0.3s,baz=97,slow=14,SNR=29						
MKAR				Sn	Sn	09 10 51.3	-2.7
	comp=E,5.7nm,0.3s,baz=96,slow=24,SNR=4.6						
MKAR				Lg		09 11 32.2	
	comp=E,10nm,0.3s,baz=92,slow=32,SNR=5.2						
MKAR	Makanchi Array	7.55	289	P	Pn	09 09 27.2	-0.2
MKAR				e		09 10 51.3	
GTA	Gaotai	7.57	134	P	Pn	09 09 29.3	+1.7
GTA				S	Sn	09 10 53.8	-0.5
GTA				SG	Sg	09 11 34.3	-12
GTA				Smax			
	comp=N,124nm,0.8s						
GTA				Smax			
	comp=E,107nm,0.9s						
GTA				LR	LR		
	comp=N,190nm,6.5s						
GTA				LR	LR		
	comp=E,390nm,6.8s						
GTA				LR	LR		
	comp=Z,278nm,9.2s						
SONM	Songino Array	9.90	68	Pn	P	09 10 00.7	+0.8
	comp=Z,0.1nm,0.3s,baz=247,slow=11,SNR=4.8						
SONM				Lg		09 12 46.5	
	comp=Z,2.5nm,0.3s,baz=263,slow=30,SNR=7.1						
ZAL	Zalesovo	10.45	333	Pn	P	09 10 05.7	-1.8
	comp=Z,0.2nm,0.3s,baz=321,slow=13,SNR=6.0						
ZAL				Lg		09 12 51.0	
	comp=Z,1.3nm,0.3s,baz=306,slow=4.4,SNR=4.2						
ZAL	Zalesovo	10.45	333	P	P	09 10 05.7	-1.7
KURK	Kurchatov	11.15	307	⇓Pn	P	09 10 15.0	-2.1
	comp=Z,4.0nm,1.0s						
KURK				⇑Lg		09 13 25.0	
	comp=Z,48nm,0.8s						
KURK	Kurchatov	11.15	307	eP	P	09 10 15.0	-2.1
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LZH	Lanzhou	12.17	132	eP	P	09 10 31.5	+0.7
LZH				AP		09 10 36.0	
LZH				XP		09 10 39.0	
LZH				PP	PP	09 10 41.5	+0.9
LZH				eS	S	09 12 45.0	-2.6
LZH				SS	SS	09 13 00.1	-2.0
LZH				AMB	AMB		
	comp=Z,23nm,1.0s						
LZH				AMB	AMB		
	comp=Z,103nm,4.0s						
LZH				LR	LR		
	comp=N,412nm,8.4s						
LZH				LR	LR		
	comp=Z,616nm,10.3s						
LZH	Lanzhou	12.17	132	eP	P	09 10 31.5	+0.7
	comp=Z,23nm,1.0s						
LZH				pP		09 10 36.0	
LZH				sP		09 10 39.0	
LZH				PP	PP	09 10 41.5	+0.9
LZH				eS	S	09 12 45.0	-2.6
LZH				SS	SS	09 13 00.1	-2.0
AAK	Ala-Archa	13.38	267	⇑Lg		09 14 53.7	
	comp=Z,13nm,0.8s						
KK31	Karatay Array	16.09	272	⇑P	P	09 11 22.9	+0.6
	comp=Z,2.0nm,0.7s,baz=68,slow=14,SNR=9.1						
KK31				⇓Lg		09 16 01.6	
	comp=Z,4.8nm,0.8s,baz=75,slow=26,SNR=4.1						
VOSK	Vostochnaya	16.31	307	⇑P	P	09 11 23.6	-1.4
	comp=Z,4.1nm,1.2s						
VOSK				⇑S	S	09 14 27.9	+2.1
	comp=Z,2.5nm,0.8s						
VOSK				⇓Lg		09 16 13.7	
	comp=Z,19nm,1.3s						
BVA0	Borovoye Array	16.75	307	⇑P	P	09 11 30.0	-0.6
	comp=Z,1.0nm,1.1s,baz=307,slow=36,SNR=32						
BVA0				⇑Lg		09 16 24.6	
	comp=Z,3.4nm,1.1s						
BVAR	Borovoye Array	16.75	307	Pn	P	09 11 30.7	+0.1
	comp=Z,0.9nm,0.3s,baz=120,slow=12,SNR=20						
BVAR				Lg		09 16 00.2	
	comp=Z,0.2nm,0.3s,baz=102,slow=21,SNR=2.5						
BVAR	Borovoye Array	16.75	307	P	P	09 11 30.7	+0.1
ZRNK	Zerenda	17.52	306	⇓P	P	09 11 40.5	+0.2
	comp=Z,2.6nm,0.5s						
ZRNK				⇑Lg		09 16 46.6	
	comp=Z,18nm,1.4s						
ZRNK	Zerenda	17.52	306	eP	P	09 11 39.7	-0.5
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AB31	Akbulak array	22.66	293	⇓P	P	09 12 38.2	+1.3
	comp=Z,0.8nm,0.5s,mb3.5,baz=91,slow=11,SNR=15						
KIV	Kislovodsk	35.31	287	P	P	09 14 23.8	-7.8
OBN	Obninsk	36.60	307	eP	P	09 14 34.0	-8.3
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
OBN	Obninsk	36.60	307	eP	P	09 14 34.0	-8.3
	comp=Z,5.0nm,0.7s,mb4.5						
ARCES	ARCESS Array B	40.99	330	P	P	09 15 19.5	+0.8
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	ARCESS Array B	40.99	330	P	P	09 15 19.5	+0.8
	comp=Z,2.8nm,0.9s,mb3.9,baz=306,slow=10,SNR=2.7						
FINES	FINESS Array B	41.25	318	P	P	09 15 22.2	+1.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	FINESS Array B	41.25	318	P	P	09 15 22.2	+1.3
	comp=Z,1.3nm,0.8s,mb3.6,baz=79,slow=7.1,SNR=3.8						
NB2	NORSAR Subarra	48.31	320	P	P	09 16 18.2	+0.7
	comp=Z,1.0nm,0.6s,mb4.0,baz=67,slow=7.4						
NB2	NORSAR Subarra	48.31	320	P	P	09 16 18.2	+0.7
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NOA	NORSAR Array B	48.31	320	P	P	09 16 18.1	+0.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	48.31	320	P	P	09 16 18.1	+0.7
	comp=Z,0.8nm,0.6s,mb4.0,baz=66,slow=7.4,SNR=4.3						
GERES	GERESS Array B	51.90	304	LR	LR	09 41 44.7	
	comp=Z,28nm,18.0s,MS3.3,baz=210,slow=40						
GVD	Gavdhos	52.21	284	P	P	09 16 44.9	-2.7
	comp=Z,161nm,0.8s						
ILAR	Eielson Array	61.25	25	P	P	09 17 56.3	+4.7
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	61.25	25	P	P	09 17 56.2	+4.7
	comp=Z,0.5nm,0.8s,mb3.7,baz=315,slow=4.4,SNR=5.4						
INK	Inuvik	61.98	18	P	P	09 18 01.5	+5.0
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	61.98	18	P	P	09 18 01.5	+4.9
	comp=Z,0.6nm,0.5s,mb4.0,baz=333,slow=6.8,SNR=3.2						
YKA	Yellowknife Ar	70.78	13	P	P	09 18 57.5	+5.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	Yellowknife Ar	70.78	13	P	P	09 18 57.5	+5.2
	comp=Z,0.7nm,0.8s,mb3.6,baz=340,slow=6.1,SNR=4.3						
YKA	Yellowknife Ar	70.78	13	P	P	09 18 57.5	+5.1
PDAR	Pinedale Array	90.52	16	P	P	09 20 45.8	+8.2
	comp=Z,0.5nm,1.1s,mb3.8,slow=1.8,SNR=3.7						

PRE 14 09:09:17.6±1.6**, 26.92S**×**26.76E, h2**km**, ML3.5, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	Parys	0.54	91	eP	Pg	09 09 28.9	+0.5
PRYS				eS	Sg	09 09 36.1	+0.5
PRYS				AML	AML	09 09 41.9	
	comp=Z,1μm,0.6s						
KSR	Koster	1.07	7	eP	Pb	09 09 38.3	-0.3
KSR				eS	Sb	09 09 52.4	-0.4
KSR				AML	AML	09 10 00.9	
	comp=Z,971nm,0.5s						
SEK	Senekal	1.60	151	eP	Pn	09 09 47.9	+0.9
SEK				eS	Sb	09 10 09.0	+0.9
SEK				AML	AML	09 10 11.1	
	comp=Z,870nm,0.2s						
SLR	Silverton	1.81	50	eP	Pn	09 09 51.0	+0.9
SLR				eS	Sn	09 10 14.0	+0.1
SLR				AML	AML	09 10 17.1	
	comp=Z,526nm,0.4s						
NWL	Newcastle	2.95	106	eP	Pn	09 10 06.3	-0.1
NWL				eS	Sn	09 10 41.0	-1.9
NWL				AML	AML	09 10 52.4	
	comp=Z,266nm,0.5s						
KSD	Kokstad	4.30	148	eP	Pn	09 10 24.7	-0.8
KSD				eS	Sn	09 11 12.7	-4.3
KSD				AML	AML	09 11 32.5	
	comp=Z,49nm,0.3s						
POGA	Pongola	4.35	97	eP	Pn	09 10 25.7	-0.5
PKA	Prieska	4.46	231	eP	Pn	09 10 27.0	-0.9
PKA				eS	Sn	09 11 17.8	-3.4
PKA				AML	AML	09 11 24.9	
	comp=Z,77nm,0.4s						
UPI	Upington	5.09	252	eP	Pn	09 10 36.6	-0.1
UPI				eS	Sn	09 11 33.0	-3.9
UPI				AML	AML	09 12 01.5	
	comp=Z,32nm,0.6s						
CVNA	Calvinia	7.62	232	eP	Pn	09 11 10.0	-2.3
CVNA				eS	Sn	09 12 32.5	-7.7
CVNA				AML	AML	09 12 33.5	
	comp=Z,7.5nm,0.3s						

KRSC 14 09:27:59.4±0.2**, 49.41N**×**156.43E, h59**km±30km**, ML3.9, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.29	351	eP	P	09 28 19.7	-2.0
SKR				eS	S	09 28 36.1	-2.1
ALID	Alaid	1.57	339	eP	P	09 28 25.6	+0.1
ALID				eS	S	09 28 45.0	+0.2
PAU	Pauzhetka	2.07	7	eP	P	09 28 33.8	+1.2
PAU				eS	S	09 28 58.8	+1.6
PAU				Smax			
	760nm,0.1s						
MIPR	Malaya Ipel'ka	2.88	4	i P	P	09 28 44.9	+0.9
MIPR				i S	S	09 29 18.1	+0.6
RUS	Russkaya	3.30	23	i P	P	09 28 50.2	+0.3
RUS				i S	S	09 29 27.3	-0.9
GRL	Gorelyy	3.31	18	eP	P	09 28 51.5	+1.4
GRL				eS	S	09 29 29.3	+0.8
PET	Petropavlovsk	3.88	20	eP	P	09 28 59.3	+1.3
PET				eS	S	09 29 43.0	+0.3
UGLR	Uglovaya	4.09	21	eP	P	09 29 02.5	+1.5
AVH	Avacha	4.12	20	eP	P	09 29 02.9	+1.4
AVH				eS	S	09 29 48.9	0.0
KOK	Koryaka	4.13	19	eP	P	09 29 03.4	+1.9
SMAR	Somma	4.13	20	eP	P	09 29 03.2	+1.6
SDLR	Sedlovina	4.17	21	eP	P	09 29 01.7	-0.4
NLC	Nalytchevo	4.19	25	eS	S	09 29 48.3	-2.2
SPN	Mys Shipunski	4.33	30	eP	P	09 29 04.3	0.0
SPN				eS	S	09 29 51.8	-2.2
GNL	Ganaly	4.39	12	eP	P	09 29 06.4	+1.1
MKZ	Mys Kozlova	6.10	30	eP	P	09 29 28.6	-0.5
MKZ				eS	S	09 30 33.7	-4.7
KBTR	Krutoberegovo	7.83	27	eP	P	09 29 52.8	-0.3

*ATH **14** 10:13:00.6, 38.67N×21.77E, h17km±1km, MD3.4/8, ML3.4*
*NEIC **14** 10:13:00.6, 38.67N×21.77E, h17km, ML3.3(ATH), After ATH.*
*THE **14** 10:13:01.1, 38.67N×21.71E, h12km, ML3.1*
*CSEM **14** 10:13:01.2±0.1, 38.69N×21.71E, h8km, ML3.3, Error ellipse: s-maj=2.9km s-min=2.2km az=125.0*

ISC 14 10:12:59.6±0.6**, 38.67N**±0.02×**21.76E**±0.03**, h6**km±4km**, n25, σ1**s**17**/43**, 4C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.25	9	⇑iPB	Pb	10 13 06.2	+0.2
EVR				eSB	Sb	10 13 10.5	+0.2
AGG	Agios Georgios	0.56	52	ePg	Pg	10 13 12.1	+1.2
AGG				eSg	Sg	10 13 21.5	+3.1
RLS	Riolos of Patr	0.66	201	⇑iPN	Pn	10 13 13.6	-1.5
RLS				eSN	Sn	10 13 23.4	-2.4
LKD	Levkas	0.87	273	ePg	Pg	10 13 16.1	-0.8
LKD				eSg	Sg	10 13 28.9	+0.4
LKD	Levkas	0.87	273	ePg	Pg	10 13 16.1	-0.8
LKD				eSg	Sg	10 13 28.9	+0.4
LKR	Lokris	0.97	91	ePN	Pn	10 13 18.6	-1.0
LKR				eSN	Sn	10 13 32.4	-1.4
VLS	Valsamata	1.04	242	ePB	Pb	10 13 19.6	-0.1
VLS				eSN	Sn	10 13 35.3	-0.4
MEV	Metsovon	1.19	340	ePg	Pg	10 13 22.4	-0.8
	comp=Z,9.8nm,0.8s						
MEV				eSg	Sg	10 13 39.4	+0.3
JAN	Janina	1.21	325	⇑iPN	Pn	10 13 23.6	+0.6
JAN				eSN	Sn	10 13 40.4	+0.5
NEO	Neokhori	1.30	61	ePN	Pn	10 13 25.6	+1.2
NEO				eSN	Sn	10 13 42.2	-0.1
XOR	Xorichti	1.31	58	ePg	Pg	10 13 25.7	-0.1
XOR				eSg	Sg	10 13 43.5	+0.2
ITM	Ithomi	1.50	175	⇑iPN	Pn	10 13 28.8	+1.7
ITM				eSN	Sn	10 13 49.9	+2.7
LIT	Litokhoron	1.53	21	ePg	Pg	10 13 28.2	-2.0
	comp=Z,8.5nm,0.4s						
LIT				eSg	Sg	10 13 48.5	-2.1
LIT	Litokhoron	1.53	21	ePg	Pg	10 13 28.2	-2.0
	8.5nm,0.4s						
LIT				eSg	Sg	10 13 48.5	-2.1
KZN	Kozani	1.63	0	ePN	Pn	10 13 30.4	+1.3
MPAR	Parnis Oros	1.64	108	ePN	Pn	10 13 30.0	+0.9
ATH	Athens Observa	1.69	114	ePN	Pn	10 13 31.8	+1.9
AOS	Alonnisos	1.73	73	ePb	Pb	10 13 30.6	-0.7
AOS				eSb	Sb	10 13 53.4	+0.1
KEK	Kerkira	1.84	305	ePN	Pn	10 13 34.2	+2.1
PAIG	Paliouri	1.95	49	ePb	Pb	10 13 33.3	-1.8
FNA	Florina	2.13	352	ePn	Pn	10 13 36.4	+0.2
	comp=Z,1.4nm,0.4s						
FNA				eSn	Sn	10 14 02.4	-0.8
PLG	Polygyros	2.14	37	ePN	Pn	10 13 37.6	+1.2
VLI	Veliai	2.16	154	ePB	Pb	10 13 37.5	-1.3
GRG	Griva	2.33	12	ePn	Pn	10 13 39.7	+0.6
GRG				eSn	Sn	10 14 07.8	-0.7
KNT	Kendrikon	2.63	19	ePn	Pn	10 13 43.3	-0.2
KNT				eSn	Sn	10 14 16.1	-0.1

*NEIC **14** 10:22:36.7, 40.51S×175.15E, h12km, ML3.9(WEL), After WEL.*
NEIC Felt at Foxton and Levin.

WEL 14 10:22:36.1±0.1**, 40.49S**×**175.17E, h5**km**, ML3.9**/35**, 1D, Error ellipse: s-maj=1.0km s-min=0.5km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRZ	Mangatainoka R	0.35	119	P	Pg	10 22 43.0	-0.2
MRZ				S	Sg	10 22 47.9	-0.1
MRZ	Mangatainoka R	0.35	119	PG	Pg	10 22 43.0	-0.2
MRZ				SG	Sg	10 22 48.0	0.0
KIW	Kapiti Island	0.42	208	P	Pg	10 22 44.4	-0.1
KIW				S	Sg	10 22 50.3	+0.1
KIW	Kapiti Island	0.42	208	PG	Pg	10 22 44.5	0.0
KIW				SG	Sg	10 22 50.3	+0.2
CAW	Cannon Point	0.62	187	P	Pg	10 22 48.2	-0.3
CAW				S	Sg	10 22 56.8	0.0
CAW	Cannon Point	0.62	187	PG	Pg	10 22 48.2	-0.3
CAW				SG	Sg	10 22 56.8	0.0
MTW	Mount Morrison	0.71	159	P	Pg	10 22 50.5	+0.1
MTW				S	Sg	10 23 00.5	+0.6
MTW	Mount Morrison	0.71	159	PG	Pg	10 22 50.5	+0.1
MTW				SG	Sg	10 23 00.5	+0.6
TSZ	Takapari Road	0.74	55	PG	Pg	10 22 50.1	-0.9
TSZ				SG	Sg	10 22 60.0	-0.9
WAZ	Wanganui	0.75	349	P*	Pb	10 22 51.2	-0.1
MRW	Makara Radio	0.82	206	P	Pb	10 22 51.7	-0.7
MRW	Makara Radio	0.82	206	⇓PG	Pg	10 22 51.7	-0.8
MRW				SG	Sg	10 23 02.7	-0.7
BFZ	Birch Farm	0.84	103	P	Pb	10 22 52.5	-0.3
BFZ	Birch Farm	0.84	103	PG	Pg	10 22 52.5	-0.4
BFZ				SG	Sg	10 23 03.1	-1.1
WEL	Wellington	0.85	201	P	Pb	10 22 52.3	-0.7
WEL	Wellington	0.85	201	PG	Pg	10 22 52.4	-0.7
WEL				SG	Sg	10 23 04.6	+0.2
SNZO	South Karori	0.89	203	P	Pb	10 22 52.9	-0.8
SNZO	South Karori	0.89	203	PG	Pg	10 22 53.1	-0.8
SNZO				SG	Sg	10 23 05.4	-0.3
PAWZ	Paruwai Farm	0.91	168	P*	Pb	10 22 54.1	+0.2
PAWZ				SG	Sg	10 23 06.6	+0.2
PAWZ				SG	Sg	10 23 06.8	+0.4
MSWZ	Moikau Station	0.93	176	P	Pb	10 22 54.7	+0.5
MSWZ				S	Sb	10 23 07.1	+0.5
MSWZ	Moikau Station	0.93	176	P*	Pb	10 22 54.7	+0.4
MSWZ				SG	Sg	10 23 06.9	0.0
BHW	Baring Head	0.94	194	P	Pb	10 22 53.9	-0.7
BHW	Baring Head	0.94	194	P*	Pb	10 22 54.0	-0.6
TRWZ	Traveller	0.99	157	eP*	Pb	10 22 55.6	+0.3
TRWZ				eSG	Sg	10 23 09.0	0.0
TCW	Tory Channel	0.99	223	P	Pb	10 22 54.1	-1.3
TCW	Tory Channel	0.99	223	P*	Pb	10 22 54.1	-1.2
TCW				SG	Sg	10 23 08.2	-0.9
DUWZ	D'Urville Isla	1.00	251	P*	Pb	10 22 55.3	-0.3
MTVZ	Mangateitei	1.13	12	P*	Pb	10 22 57.8	0.0
MOVZ	Moawhango	1.17	23	P	Pb	10 22 57.1	-1.4
MOVZ				S	Sb	10 23 12.4	-1.4
MOVZ	Moawhango	1.17	23	P*	Pb	10 22 57.1	-1.4
MOVZ				S*	Sb	10 23 12.4	-1.4
TRVZ	Turoa	1.23	14	P*	Pb	10 22 59.4	0.0
DRZ	Dome Shelter	1.25	14	P	Pb	10 23 00.0	+0.2
DRZ	Dome Shelter	1.25	14	eP*	Pb	10 22 60.0	+0.1
FWVZ	Far West T-bar	1.27	14	P*	Pb	10 22 59.7	-0.4
TUVZ	Tukino	1.28	17	P	Pb	10 23 00.3	0.0
TUVZ	Tukino	1.28	17	P*	Pb	10 23 00.2	0.0
WPVZ	Whakapapa	1.32	13	P	Pb	10 23 01.0	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WPVZ	Whakapapa	1.32	13	P*	Pb	10 23 00.4	-0.5
TUWZ	Tuamarina	1.32	224	P*	Pb	10 23 00.1	-0.9
NGZ	Ngauruhoe	1.35	14	P	Pb	10 23 01.8	+0.2
NGZ	Ngauruhoe	1.35	14	PN	Pn	10 23 01.2	-0.6
PWZ	Pawanui	1.37	71	eP	Pb	10 23 01.8	-0.1
PWZ	Pawanui	1.37	71	P*	Pb	10 23 01.7	-0.2
OTVZ	Oturere	1.38	16	ePN	Pn	10 23 01.6	-0.4
VRZ	Vera Road	1.40	347	ePN	Pn	10 23 01.8	-0.6
WTVZ	West Tongariro	1.41	13	P	Pn	10 23 02.7	+0.2
WTVZ	West Tongariro	1.41	13	PN	Pn	10 23 02.1	-0.5
TWVZ	Taurewa	1.43	8	P	Pn	10 23 02.7	-0.1
TWVZ	Taurewa	1.43	8	ePN	Pn	10 23 02.5	-0.3
CMWZ	Cape Campbell	1.45	210	P	Pn	10 23 03.6	+0.5
CMWZ	Cape Campbell	1.45	210	eP*	Pb	10 23 03.5	+0.3
BSWZ	Blackbirch Sta	1.56	218	P	Pn	10 23 05.0	+0.3
BSWZ	Blackbirch Sta	1.56	218	ePN	Pn	10 23 04.4	-0.3
KATZ	Kakaramea	1.57	15	P	Pn	10 23 05.1	+0.3
PKE	Pukeiti	1.58	324	P	Pn	10 23 07.3	+2.3
RITZ	Rihia Road	1.60	20	P	Pn	10 23 05.9	+0.6
BKZ	Black Stump Fm	1.67	38	PN	Pn	10 23 06.2	0.0
RATZ	Rangitukua	1.69	16	P	Pn	10 23 07.2	+0.7
WATZ	Wairara	1.83	14	P	Pn	10 23 09.3	+0.7
HIZ	Hauiti	1.99	353	P	Pn	10 23 12.6	+1.8
QRZ	Quartz Range	2.04	260	eP	Pn	10 23 12.7	+1.2
KHZ	Kahutara	2.28	212	eP	Pn	10 23 14.5	-0.5
URZ	Urewera	2.69	35	eP	Pn	10 23 19.3	-1.5
TOZ	Tahuroa Road	2.77	5	P	Pn	10 23 22.9	+0.9
DSZ	Denniston Nort	2.84	243	eP	Pn	10 23 24.1	+1.2
LTZ	Lake Taylor	3.16	223	eP	Pn	10 23 26.5	-1.0
LTZ	Lake Taylor	3.16	223	ePN	Pn	10 23 26.4	-1.1
FOZ	Fox Glacier	5.11	231	eP	Pn	10 23 55.0	-0.2
FOZ	Fox Glacier	5.11	231	ePN	Pn	10 23 54.3	-0.9
JCZ	Jackson Bay	5.95	231	eP	Pn	10 24 07.2	+0.1

WEL 14 10:32:27.9±0.1**, 40.49S×175.16E, h5^{km}, ML3.5**/26**, 3D, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRZ	Mangatainoka R	0.36	118	⇓PG	Pg	10 32 34.9	-0.2
MRZ				SG	Sg	10 32 39.9	0.0
MRZ				SG	Sg	10 32 39.9	0.0
KIW	Kapiti Island	0.42	207	PG	Pg	10 32 36.4	+0.2
KIW				SG	Sg	10 32 42.0	+0.2
CAW	Cannon Point	0.62	186	PG	Pg	10 32 40.1	-0.2
CAW				SG	Sg	10 32 48.7	+0.2
MTW	Mount Morrison	0.71	159	PG	Pg	10 32 42.3	+0.1
MTW				SG	Sg	10 32 51.5	-0.2
WAZ	Wanganui	0.75	350	P*	Pb	10 32 42.9	0.0
TSZ	Takapari Road	0.75	55	⇓PG	Pg	10 32 42.0	-0.9
TSZ				SG	Sg	10 32 51.5	-1.3
MRW	Makara Radio	0.82	205	PG	Pg	10 32 43.7	-0.5
WEL	Wellington	0.85	200	PG	Pg	10 32 44.3	-0.5
BFZ	Birch Farm	0.85	103	⇓PG	Pg	10 32 44.5	-0.3
SNZO	South Karori	0.89	203	PG	Pg	10 32 44.7	-0.8
PAWZ	Paruwai Farm	0.91	167	P*	Pb	10 32 46.1	+0.3
MSWZ	Moikau Station	0.93	176	P*	Pb	10 32 46.3	+0.3
BHW	Baring Head	0.94	193	P*	Pb	10 32 46.1	-0.2
TCW	Tory Channel	0.98	223	P*	Pb	10 32 45.9	-1.1
TRWZ	Traveller	0.99	156	P*	Pb	10 32 48.0	+0.8
DUWZ	D'Urville Isla	0.99	251	P*	Pb	10 32 46.8	-0.4
MOVZ	Moawhango	1.17	23	P*	Pb	10 32 49.1	-1.2
TRVZ	Turoa	1.23	14	P*	Pb	10 32 51.5	+0.4
FWVZ	Far West T-bar	1.27	14	P*	Pb	10 32 51.6	-0.3
TUVZ	Tukino	1.28	17	eP*	Pb	10 32 51.7	-0.4
TUWZ	Tuamarina	1.32	224	P*	Pb	10 32 51.6	-1.1
WPVZ	Whakapapa	1.32	13	eP*	Pb	10 32 52.6	-0.1
CNZ	Chateau	1.32	13	P*	Pb	10 32 52.7	-0.1
RAEZ	Rainy Point	1.34	334	eP*	Pb	10 32 53.0	-0.1
NGZ	Ngauruhoe	1.36	15	PN	Pn	10 32 52.8	-0.7
OTVZ	Oturere	1.38	16	PN	Pn	10 32 53.8	-0.1
PWZ	Pawanui	1.38	71	P*	Pb	10 32 53.7	-0.1
VRZ	Vera Road	1.40	347	ePN	Pn	10 32 53.9	-0.2
WTVZ	West Tongariro	1.41	14	ePN	Pn	10 32 54.1	-0.2
NNZ	Nelson	1.53	241	PN	Pn	10 32 56.1	+0.1
BSWZ	Blackbirch Sta	1.56	218	P*	Pb	10 32 56.8	-0.1
BKZ	Black Stump Fm	1.67	38	PN	Pn	10 32 58.2	+0.1
HIZ	Hauiti	1.99	353	PN	Pn	10 33 02.7	+0.2
THZ	Tophouse	2.13	233	PN	Pn	10 33 05.3	+0.8
KHZ	Kahutara	2.28	212	PN	Pn	10 33 06.2	-0.5

*NEIC **14** 10:34:10.2±0.8, 17.78S×178.69W, h537^{km}±10^{km}, mb4.3/12, Error ellipse: s-maj=13.4km s-min=8.3km az=144.0*
*IDC **14** 10:34:10.6±1.4, 17.89S×178.66W, h546^{km}±16^{km}, mb3.6/9, mb1 3.9/11, mb1mx3.7/16, mbtmp4.5/11, Error ellipse: s-maj=17.7km s-min=10.7km az=120.0*
ISC 14 10:34:10.2±0.8**, 17.81S**±0.09×**178.75W**±0.08**, h544^{km}**±10^{km}**, n87, σ1^{s}03**/40**, mb4.1**/19**, 8C-7D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.75	61	P	P	10 36 04.8	-1.3
	21nm,0.3s,baz=88,slow=3.9,SNR=29						
AFI				S	S	10 37 38.8	+0.4
	2.8nm,0.3s,baz=14,slow=19,SNR=3.3						
AFI	Afiamalu	7.75	61	eP	P	10 36 04.0	-2.1
	120nm,0.6s						
DZM	Mont Dzumac	14.55	251	eP	P	10 37 16.3	+1.3
DZM	Mont Dzumac	14.55	251	P	P	10 37 16.4	+1.4
	2.7nm,0.3s,baz=73,slow=16,SNR=35						
NOUC	Port Laguerre	14.68	251	eP	P	10 37 17.8	+1.5
NOUC	Port Laguerre	14.68	251	eP	P	10 37 17.8	+1.5
URZ	Urewera	20.70	189	P	P	10 38 12.2	-1.6
	7.8nm,0.8s,baz=73,slow=7.6,SNR=3.5						
URZ				S	S	10 41 27.0	-2.7
	9.9nm,0.8s,baz=153,slow=22,SNR=3.0						
RPZ	Rata Peaks	27.23	196	P	P	10 39 11.1	-1.1
	4.4nm,0.6s,mb4.3,baz=206,slow=24,SNR=5.7						
CTA	Charters Tower	33.14	260	eP	P	10 40 03.0	0.0
	3.3nm,0.7s,mb4.0						
CTAO	Charters Tower	33.14	260	eP	P	10 40 03.0	0.0
	13nm,1.3s,mb4.3						
CNB	Canberra Magne	33.23	232	⇓iP	P	10 40 04.7	+1.1
	9.3nm,0.5s,mb4.6						
TOO	Toolangi	36.98	231	eP	P	10 40 36.0	+1.3
	13nm,0.8s,mb4.5						
STKA	Stephens Creek	38.39	241	⇓iP	P	10 40 47.3	+1.1
	7.5nm,0.6s,mb4.4						
STKA	Stephens Creek	38.39	241	P	P	10 40 47.3	+1.1
	7.8nm,0.5s,mb4.5,baz=90,slow=9.6,SNR=34						
WB2	Warramunga Arr	44.32	259	eP	P	10 41 32.5	-1.0
WB2				eS	S	10 47 23.9	-4.7
WRA	Warramunga Arr	44.33	259	P	P	10 41 32.7	-1.0
	3.0nm,0.5s,mb4.1,baz=95,slow=7.0,SNR=75						
WRA				PcP	PcP	10 43 05.2	-1.0
	1.2nm,0.7s,baz=89,slow=3.7,SNR=6.5						
WRA				S	S	10 47 22.8	-5.9
	1.0nm,0.9s,baz=94,slow=13,SNR=8.9						
KAKA	Kakadu	47.26	269	eP	P	10 41 55.5	-0.7
	3.2nm,0.4s,mb4.2						
FITZ	Fitzroy Crossi	52.72	261	eP	P	10 42 36.0	-0.4
	3.4nm,0.9s,mb3.7						
MJAR	Matsushiro Arr	67.63	324	P	P	10 44 13.2	-1.4
	7.1nm,0.6s,mb4.4,baz=165,slow=6.9,SNR=21						
MAT	Matsushiro	67.63	324	P	P	10 44 13.2	-1.4
MDJ	Mudanjiang	77.91	325	eP	P	10 45 13.7	+0.6
	6.4nm,0.8s,mb4.0						
TUC	Tucson	81.90	52	eP	P	10 45 35.0	+1.1
	3.6nm,1.1s,mb3.7						
ELK	Elko	82.81	43	eP	P	10 45 38.6	+0.2
	3.4nm,0.9s,mb3.9						
ENH	Enshi	83.94	304	eP	P	10 45 43.7	-0.5
	7.3nm,0.6s,mb4.4						
LAZ	Ladron	85.55	52	eP	P	10 45 53.8	+1.7
TXAR	Lajitas Array	86.22	58	P	P	10 45 56.6	+1.3
	2.3nm,0.8s,mb3.9,baz=215,slow=6.2,SNR=32						
SNOW	Snow King Moun	87.04	43	eP	P	10 45 59.4	+0.6
	2.3nm,0.8s,mb3.9						
IMW	Indian Meadow	87.13	42	eP	P	10 46 00.0	+0.8
	4.1nm,0.8s,mb4.1						
PDAR	Pinedale Array	87.50	44	P	P	10 46 01.1	+0.1
	1.7nm,0.5s,mb4.0,baz=220,slow=3.0,SNR=19						
EDM	Edmonton	90.25	33	P	P	10 46 12.0	-1.6
SNAA	Sanae	90.71	179	⇑i	P	10 46 15.7	+0.5
VNA3	Neumayer Olymp	90.86	176	⇑i	P	10 46 15.8	-0.2
VNA2	Neumayer--Watz	91.30	177	⇑i	P	10 46 18.2	+0.2
VNA1	Neumayer--Stat	91.53	177	⇑i	P	10 46 19.3	+0.3
SONM	Songino Array	93.26	319	P	P	10 46 27.4	-0.1
	0.2nm,0.4s,mb3.5,baz=123,slow=5.4,SNR=3.5						
YKA	Yellowknife Ar	94.38	25	P	P	10 46 31.1	-1.1
	0.5nm,0.7s,mb3.8,baz=235,slow=4.8,SNR=4.6						
MKAR	Makanchi Array	108.83	314	PKiKP		10 51 37.0	
	0.7nm,0.5s,baz=68,slow=0.5,SNR=12						
ZRNK	Zerenda	117.40	321	ePKPdf	PKPdf	10 51 52.8	-0.8
ARCES	ARCESS Array B	126.16	350	PKP	PKPdf	10 52 09.2	-0.8
	1.4nm,0.7s,baz=45,slow=1.3,SNR=4.2						
FINES	FINESS Array B	133.00	344	PKP	PKPdf	10 52 22.2	-1.1
	1.5nm,0.7s,baz=45,slow=2.0,SNR=4.1						
BURAR	Bucovina Array	144.37	332	⇓P	PKPdf	10 52 45.9	+1.9
BRTR	Keskin Array B	144.48	315	PKP	PKPdf	10 52 45.3	+0.9
	5.5nm,0.9s,baz=117,slow=2.8,SNR=18						
STHS	Stebnicka Huta	144.57	337	ePKP	PKPdf	10 52 45.4	+1.1
ASF	Jabal al Asfar	144.84	301	PKP	PKPdf	10 52 45.6	+0.3
	1.2nm,0.3s,baz=244,slow=1.8,SNR=3.2						
CRVS	Cervenica-Dubn	144.91	337	i PKP	PKPdf	10 52 46.6	+1.7
VRI	Vrincioaia	144.92	328	⇓P	PKPdf	10 52 47.0	+2.0
CLL	Collm	145.29	347	⇑iPKP1	PKPbc	10 52 47.1	+0.6
UPC	Upice	145.30	343	ePKP	PKPdf	10 52 47.6	+2.1
MLR	Muntele Rosu	145.57	329	PKPbc	PKPbc	10 52 48.3	+0.9
	2.2nm,0.5s,baz=280,slow=3.2,SNR=5.0						
MLR	Muntele Rosu	145.57	329	⇑P	PKPdf	10 52 49.4	+3.3
KECS	Kecovo	145.62	337	i PKP	PKPdf	10 52 49.0	+2.9
DRGR		146.10	333	⇑P	PKPdf	10 52 49.9	+2.9
PRU	Pruhonice	146.16	345	ePKP	PKPdf	10 52 50.2	+3.2
VYHS	Vyhne	146.20	339	i PKP	PKPdf	10 52 50.8	+3.7
NKC	Novy Kostel	146.42	347	ePKP	PKPdf	10 52 50.7	+3.3
NKC				ex	x	10 52 53.5	
GRA1	Grafenberg Arr	147.19	348	ePKPbc	PKPdf	10 52 53.0	+4.4
KHC	Kasperske Hory	147.19	345	ePKP	PKPdf	10 52 53.1	+4.5
KHC				ex	x	10 52 57.0	
WET	Wettzell	147.35	346	ePKPbc	PKPdf	10 52 53.5	+4.6
GERES	GERESS Array B	147.43	345	PKPbc	PKPdf	10 52 53.5	+4.5
	6.3nm,0.6s,baz=27,slow=3.0,SNR=36						
GIVF	Givet	147.65	356	ePKP1	PKPdf	10 52 53.6	+4.2
BAIF	Baives	147.74	356	ePKP1	PKPdf	10 52 53.9	+4.4
	12nm,0.6s						
BFO	Black Forest	149.01	351	ePKPbc	PKPdf	10 52 57.3	+5.7
CDF	Champ du Feu	149.08	352	ePKP1	PKPdf	10 52 57.2	+5.5
	8.9nm,0.5s						
FLN	La Foliniere	149.09	2	ePKP1	PKPdf	10 52 56.9	+5.2
	12nm,0.5s						
KBA	Koelnbreinsper	149.15	344	⇑iP	PKPdf	10 52 57.0	+5.2
	4.8nm,0.5s						
LDF	La Druitiere	149.27	2	ePKP1	PKPdf	10 52 57.3	+5.3
	8.3nm,0.4s						
WTTA	Wattenberg	149.40	346	⇓iP	PKPdf	10 52 58.4	+6.2
	9.9nm,0.5s						
GRR	Gorron	149.45	3	ePKP1	PKPdf	10 52 57.8	+5.5
	14nm,0.5s						
SGMF	Saint Gilles	149.47	5	ePKP1	PKPdf	10 52 57.6	+5.3
	12nm,0.7s						
SQTA	Sankt Quirin	149.54	347	⇓iP	PKPdf	10 52 58.6	+6.1
	8.6nm,0.6s						
HAU	Haudompre	149.59	353	ePKP1	PKPdf	10 52 58.3	+5.8
HINF	Hinteralfeld	149.72	352	ePKP1	PKPdf	10 52 58.4	+5.7
	7.5nm,0.7s						
DAVA	Damuels	149.75	348	⇓iP	PKPdf	10 52 59.5	+6.7
DAVOX	Davos	150.24	348	PKPbc	PKPdf	10 53 00.7	+7.2
	15nm,0.6s,baz=246,slow=3.1,SNR=14						
LOR	Lormes	150.54	356	ePKP1	PKPdf	10 53 00.6	+6.6
	23nm,0.7s						
SSF	Saint Saulge	150.76	357	ePKP1	PKPdf	10 53 01.2	+6.8
	14nm,0.6s						
CABF	La Chapelle	151.00	353	ePKP1	PKPdf	10 53 02.2	+7.5
	10nm,0.7s						
MFF	Saint Martin d	151.26	2	ePKP1	PKPdf	10 53 02.0	+6.9
	10nm,0.5s						
BGF	Bois d'Agland	151.30	358	ePKP1	PKPdf	10 53 02.3	+7.2
	12nm,0.5s						
TCF	Toulx Ste Croi	151.59	359	ePKP1	PKPdf	10 53 03.1	+7.5
	6.5nm,0.7s						
LPL	La Plagne	151.99	352	ePKP1	PKPdf	10 53 04.6	+8.5
LPG	La Plagne	152.01	352	ePKP1	PKPdf	10 53 04.6	+8.4
RJF	Les Rejaudoux	152.58	360	ePKP1	PKPdf	10 53 05.6	+8.6
ORIF	Oris-en-Rattie	152.69	353	ePKP1	PKPdf	10 53 05.8	+8.7
	6.7nm,0.8s						
MBDF	Montbardon	152.76	351	ePKP1	PKPdf	10 53 05.9	+8.7
	8.6nm,0.7s						
VIVF	Saint-Julien-l	152.88	355	ePKP1	PKPdf	10 53 06.1	+8.7
CAF	Calviac	152.95	359	ePKP1	PKPdf	10 53 06.1	+8.6

CASC 14 10:38:28.0±2.4**, 14.59N×90.49W, h147^{km}**±16^{km}**, MD3.9, 1C-1D, Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRL	Marmol	0.91	58	⇓eP	P	10 38 51.8	-0.2
MRL				eS	S	10 39 11.3	+1.0
RBDL	Robledal	0.91	121	eP	P	10 38 52.7	+0.8
RBDL				eS	S	10 39 09.7	-0.6
RTR	El Retiro	1.07	130	eP	P	10 38 53.5	+0.2
RTR				eS	S	10 39 14.4	+1.7
SNJE	San Jose	1.12	130	eP	P	10 38 53.8	+0.1
SBLS	San Blas	1.12	131	⇑eP	P	10 38 53.5	-0.3
BOQS	Boqueron	1.45	126	eP	P	10 38 57.0	0.0
BOQS				eS	S	10 39 21.1	+1.6
LFRS	El Faro	1.68	124	eP	P	10 39 00.1	+0.4
LCBS	La Ceiba	1.73	122	eP	P	10 39 01.5	+1.3
LCBS				eS	S	10 39 23.8	-1.2
SNVI	San Vicente	1.87	121	eP	P	10 39 01.9	+0.2
SNVI				eS	S	10 39 30.6	+2.9

*NEIC **14** 11:09:14.8±0.4, 10.96N×91.60E, mb4.3/4, Error ellipse: s-maj=11.9km s-min=7.8km az=56.0*
*IDC **14** 11:09:16.1±0.8, 11.05N×91.75E, h29^{km}±4^{km}, mb3.9/8, mb1 4.0/8, mb1mx3.8/19, mbtmp4.1/8, Error ellipse: s-maj=32.5km s-min=13.7km az=59.0*
ISC 14 11:09:12.6±0.5**, 10.89N**±0.06×**91.56E**±0.05**, h27^{km}, h27^{km}**±1.0^{km}**: pP-P, n27, σ0^{s}80**/31**, mb4.1**/9**, 1D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.39	57	eP	Pn	11 09 36.6	0.0
PBA				eS	Sn	11 09 54.2	+0.1
VIS	Vishakhapatnam	10.47	311	eP	P	11 11 43.4	-0.8
VIS				i S	S	11 13 30.5	-11
VIS				AML	AML	11 13 46.0	
	comp=N,45nm,0.4s						
VIS				AML	AML	11 13 46.1	
	comp=E,58nm,0.4s						
BWNR	Bhubaneshwar	10.87	330	e	P	11 11 53.7	+4.0
PALK	Pallekele	11.30	252	eP	P	11 11 55.4	-0.3
PALK				eS	S	11 13 55.0	-7.1
BLSP	Bilaspur	14.36	322	eP	P	11 12 35.0	-1.4
BLSP				e		11 15 07.0	
BLSP				AML	AML	11 15 35.7	
	comp=E,16nm,0.1s						
BLSP				AML	AML	11 15 35.8	
	comp=N,19nm,0.2s						
AKL	Akola	17.04	307	e		11 13 27.6	
PKI	Pulchoki	17.57	342	eP	P	11 13 17.2	-0.2
	comp=N,20nm,0.6s						
PKI				eS	S	11 16 19.3	-11
DMN	Daman	17.70	341	eP	P	11 13 19.1	0.0
	comp=N,29nm,0.7s						
KKN	Kakani	17.82	342	eP	P	11 13 19.0	-1.5
	comp=N,6.9nm,0.3s						
GKN	Gorkha	18.22	340	eP	P	11 13 26.2	+0.6
	comp=N,13nm,0.3s						
BHPL	Bhopal	18.24	314	eS	S	11 16 46.4	+1.2
KOLN	Koldanda	18.38	337	eP	P	11 13 28.8	+1.3
	comp=N,12nm,0.3s						
KOLN				eS	S	11 16 38.2	-10
ENH	Enshi	25.50	38	P	P	11 14 39.5	-1.0
	comp=N,11nm,0.7s,mb4.5						
MKAR	Makanchi Array	36.64	349	P	P	11 16 19.6	+1.0
	comp=N,1.4nm,0.6s,mb4.0,baz=164,slow=8.5,SNR=12						
MKAR				pP	pP	11 16 27.6	+0.8
	comp=N,1.1nm,0.6s,baz=174,slow=8.3,SNR=5.9						
SONM	Songino Array	38.89	16	P	P	11 16 38.0	+0.5
	comp=N,1.2nm,0.6s,mb3.8,baz=206,slow=8.7,SNR=4.4						
SONM				pP	pP	11 16 45.7	0.0
	comp=N,1.2nm,0.6s,baz=190,slow=7.5,SNR=3.1						
KURK	Kurchatov	41.11	348	P	P	11 16 54.5	-1.3
FITZ	Fitzroy Crossi	44.29	130	eP	P	11 17 22.6	+0.3
	comp=N,3.7nm,0.5s,mb4.4						
FITZ	Fitzroy Crossi	44.29	130	P	P	11 17 22.6	+0.4
	comp=N,4.9nm,0.5s,mb4.5,baz=344,slow=8.0,SNR=22						
BVAR	Borovoye Array	45.34	342	P	P	11 17 30.8	+0.7
	comp=N,0.4nm,0.5s,mb3.5,baz=127,slow=7.2,SNR=3.6						
BVAR				pP	pP	11 17 38.7	+0.4
	comp=N,0.4nm,0.5s,baz=143,slow=7.4,SNR=2.8						
WRA	Warramunga Arr	52.08	126	P	P	11 18 23.1	+0.3
	comp=N,1.3nm,0.3s,mb4.3,baz=300,slow=9.9,SNR=90						
WRA				pP	pP	11 18 32.4	+1.3
	comp=N,0.7nm,0.4s,baz=307,slow=8.2,SNR=5.0						
WRAB	Tennant Creek	52.09	126	eP	P	11 18 22.5	-0.3
WB2	Warramunga Arr	52.09	126	⇓iP	P	11 18 22.7	-0.2
BRTR	Keskin Array B	58.55	310	P	P	11 19 09.2	0.0
	comp=N,0.6nm,0.6s,mb3.8,baz=121,slow=8.4,SNR=3.3						
STKA	Stephens Creek	64.02	133	P	P	11 19 47.2	+0.8
	comp=N,2.1nm,0.7s,mb4.3,baz=327,slow=5.6,SNR=4.5						
STKA				sP	sP	11 20 00.2	+2.2
	comp=N,3.1nm,0.6s,baz=318,slow=12,SNR=4.8						
STKA	Stephens Creek	64.02	133	P	P	11 19 46.8	+0.4
STKA				sP	sP	11 20 00.2	+2.2
STKA				e		11 20 00.5	
BOSA	Boshof	75.07	236	P	P	11 20 58.5	+4.2
	comp=N,1.4nm,0.6s,mb4.1,baz=76,slow=7.2,SNR=4.0						
BOSA	Boshof	75.07	236	P	P	11 20 58.5	+4.2

*NIED **14** 11:16:00, 42.80N×146.30E, h14^{km}, Mw3.7 Best double couple: $M_0$4×10^{14} NP1:ϕ_s84°, δ79°, λ137°. NP2:ϕ_s184°, δ48°, λ15°.*
*MOS **14** 11:16:30.8±1.4, 42.70N×146.47E, h33^{km}, mb4.4/6, Error ellipse: s-maj=36.7km s-min=13.4km az=116.9*
*JMA **14** 11:16:32.0±0.2, 42.80N×146.34E, h33^{km}±2^{km}, M3.9*
*IDC **14** 11:16:33.7±3.4, 42.74N×146.25E, h30^{km}±5^{km}, mb3.9/8, mb1 3.9/9, mb1mx3.7/21, mbtmp4.0/9, ML3.5/1, Error ellipse: s-maj=88.9km s-min=20.1km az=176.0*
ISC 14 11:16:31.8±1.5**, 42.79N**±0.07×**146.36E**±0.07**, h30^{km}**±8^{km}**, h31^{km}**±1.8^{km}**: pP-P, n28, σ0^{s}78**/35**, mb4.0**/9**, 1C, Off southeast coast of Hokkaido**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.73	322	P	Pb	11 16 45.6	-0.3
NEM2				eS	Sb	11 16 55.4	-0.3
JAK	Akkeshi	1.24	280	P	Pn	11 16 53.2	-0.1
YUK	Yuzh-Kuril'sk	1.30	344	⇑iPN	Pn	11 16 53.0	-1.1
YUK				pmax	pmax		
	comp=Z,760nm,0.3s						
JNK	Nakash	1.44	304	P	Pn	11 16 55.9	-0.3
JNK				eS	Sn	11 17 13.6	-0.6
JRA	Rausu	1.46	322	P	Pn	11 16 56.7	+0.2
JRA				eS	Sn	11 17 15.0	+0.3
JOB	Onbets	1.86	274	P	Pn	11 17 02.1	-0.1
JAR	Ashorobuto	1.96	286	P	Pn	11 17 03.5	-0.2
JAR				eS	Sn	11 17 27.0	-0.5
JTKR	Abashiri--Toko	2.14	304	P	Pn	11 17 07.0	+0.8
JTKR				eS	Sn	11 17 33.2	+1.1
JCH	Churui	2.21	267	P	Pn	11 17 07.6	+0.3
JCH				eS	Sn	11 17 33.8	-0.1
ASAJ	Asahikawa	3.04	297	PN	Pn	11 17 21.0	+1.9
ASAJ						11 18 00.4	
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax			
	comp=E,6.0nm,0.3s						
ASAJ	Asahikawa	3.04	297	Pn	Pn	11 17 20.9	+1.9
	comp=E,4.8nm,0.3s,baz=115,slow=8.1,SNR=25						
ASAJ				Sn	Sn	11 18 00.4	+5.5
	comp=E,5.9nm,0.3s,baz=0.1,slow=28,SNR=7.8						
YSS	Yuzh-Sakhalins	4.89	330	ePN	Pn	11 17 46.0	+0.7
SONM	Songino Array	28.32	294	P	P	11 22 24.3	-0.4
	comp=E,1.5nm,0.7s,mb3.8,baz=90,slow=8.4,SNR=13						
SONM				pP	pP	11 22 34.2	+0.7
	comp=E,0.7nm,0.8s,baz=82,slow=8.7,SNR=3.1						
MKAR	Makanchi Array	44.52	298	P	P	11 24 41.8	-0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	44.52	298	P	P	11 24 41.8	-0.3
	comp=Z,1.1nm,0.6s,mb3.9,baz=80,slow=9.6,SNR=8.7						
INK	Inuvik	47.53	30	P	P	11 25 06.5	+0.8
INK				*PP	pP	11 25 17.0	+2.2
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	Inuvik	47.53	30	P	P	11 25 06.5	+0.8
	comp=Z,1.6nm,0.7s,mb4.2,baz=290,slow=7.7,SNR=9.8						
INK				pP	pP	11 25 16.9	+2.2
	comp=Z,1.1nm,0.6s,baz=294,slow=10.0,SNR=2.0						
BVAR	Borovoye Array	49.67	310	P	P	11 25 22.4	0.0
	comp=Z,0.7nm,0.4s,mb4.1,baz=74,slow=8.7,SNR=8.2						
KAF	Kangasniemi	64.91	333	ep	P	11 27 07.4	-2.6
	comp=Z,1.9nm,0.7s,mb4.2,baz=43,slow=6.2						
KAF	Kangasniemi	64.91	333	eP	P	11 27 07.4	-2.6
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
FINES	FINESS Array B	65.47	333	P	P	11 27 13.0	-0.6
FINES				*PP	pP	11 27 21.5	-1.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	65.47	333	P	P	11 27 12.9	-0.6
	comp=Z,1.9nm,0.5s,mb4.4,baz=60,slow=6.6,SNR=17						
FINES				pP	pP	11 27 21.5	-1.5
	comp=Z,1.4nm,0.5s,baz=56,slow=6.9,SNR=3.9						
NB2	NORSAR Subarra	70.29	339	P	P	11 27 43.1	-0.6
	comp=Z,0.7nm,0.5s,mb3.9,baz=33,slow=6.5						
NOA	NORSAR Array B	70.29	339	P	P	11 27 43.3	-0.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	NORSAR Array B	70.29	339	P	P	11 27 43.3	-0.4
	comp=Z,0.9nm,0.5s,mb4.0,baz=33,slow=6.4,SNR=4.0						
HFS	Hagfors	70.35	337	P	P	11 27 43.9	-0.2
HFS				*PP	pP	11 27 53.0	-0.5
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	Hagfors	70.35	337	P	P	11 27 43.9	-0.2
	comp=Z,1.5nm,0.3s,mb4.3,baz=34,slow=5.3,SNR=17						
HFS				pP	pP	11 27 53.0	-0.5
	comp=Z,1.6nm,0.5s,baz=37,slow=7.4,SNR=2.4						
PDAR	Pinedale Array	70.98	49	P	P	11 27 49.5	+1.2
	comp=Z,0.4nm,0.6s,mb3.5,baz=297,slow=2.0,SNR=3.7						
PDAR				pP	pP	11 27 58.5	+0.9
	comp=Z,0.3nm,0.5s,baz=333,slow=2.0,SNR=2.3						

*NEIC **14** 11:18:56.1, 17.55N×95.73W, h122^{km}, MD3.9(MEX), After MEX.*
MEX 14 11:18:57.4±0.9**, 17.51N×95.67W, h109^{km}**±12^{km}**, MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.86	119	i P	P	11 19 15.9	-1.4
CMIG				i S	S	11 19 30.0	-2.3
EVV	El Vigia	0.99	18	i P	P	11 19 17.0	-1.7
OXX	Oaxaca	1.09	247	i P	P	11 19 18.0	-1.8
OXX				i S	S	11 19 35.0	-1.6
TUIG	Tuzandepetl	1.30	66	i P	P	11 19 21.5	-0.7
TUIG				i S	S	11 19 38.0	-2.8
HUIG	Huatulco	1.78	194	i P	P	11 19 26.0	-2.1
HUIG				i S	S	11 19 49.4	-1.6
HUIG	Huatulco	1.78	194	i P	P	11 19 26.0	-2.1
HUIG				i S	S	11 19 49.1	-1.8
IISM	Ciudad Serdan	2.19	312	i P	P	11 19 32.0	-1.4
IISM				i S	S	11 19 55.0	-5.4
PNIG	Pinotepa	2.60	245	i P	P	11 19 34.3	-4.6
PNIG				i S	S	11 20 04.2	-6.0
PNIG	Pinotepa	2.60	245	i P	P	11 19 34.5	-4.5
PNIG				i S	S	11 20 06.0	-4.2
CCIG	Comitan	3.59	109	eP	P	11 19 50.9	-1.5
CCIG				i S	S	11 20 35.6	+1.4
CCIG	Comitan	3.59	109	eP	P	11 19 50.9	-1.5
CCIG				i S	S	11 20 32.4	-1.8

*THR **14** 11:34:58.3±1.3, 30.74N×56.63E, h15^{km}±10^{km}, ML3.8*
*CSEM **14** 11:34:58.6±0.1, 30.74N×56.59E, h16^{km}, mb3.6/2, Error ellipse: s-maj=3.3km s-min=2.0km az=26.0*
*TEH **14** 11:35:03.4, 30.96N×56.35E, h10^{km}, Mn4.1*
*NEIC **14** 11:35:03.4, 30.95N×56.35E, h10^{km}, mb3.7/2, ML4.1(TEH), After TEH.*

ISC 14 11:34:58.6±0.6, 30.83N±0.05×56.61E±0.06, h10km, n29, σ1^{s}29/32, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.85**	**171**	*e*Pg	**Pg**	**11 35 12.6**	**-3.1**
KRBR				AML	AML	11 35 26.7	
	comp=E,6μm,0.5s						
IBAF	**Bafgh**	**1.18**	**311**	Pg	**Pg**	**11 35 19.8**	**-2.3**
IMEH	**Mehriz**	**1.81**	**289**	Pn	**Pn**	**11 35 31.1**	**+1.0**
ICHK	**Chekchek**	**2.35**	**307**	Pn	**Pn**	**11 35 38.1**	**+0.2**
ISAD	**Sadrabad**	**2.73**	**294**	Pn	**Pn**	**11 35 43.4**	**+0.1**
IPAR	**Pars**	**3.24**	**253**	Pn	**Pn**	**11 35 52.1**	**+1.6**
ISRV	**Sarvestan**	**3.36**	**245**	Pn	**Pn**	**11 35 53.7**	**+1.5**
BNDS	**Bandar-Abbas**	**3.44**	**187**	*e*Pn	**Pn**	**11 35 52.6**	**-0.7**
BNDS				AML	AML	11 36 45.3	
	comp=N,166nm,0.6s						
NASN	**Na'in**	**3.79**	**302**	*e*Pn	**Pn**	**11 35 59.2**	**+0.9**
NASN				*e*Pg	**Pg**	**11 36 07.5**	**-6.7**
NASN				AML	AML	11 37 04.6	
	comp=N,157nm,0.5s						
ZHSF	**Zahedan**	**3.80**	**108**	*e*Pn	**Pn**	**11 35 57.5**	**-1.0**
ZHSF				*e*Pg	**Pg**	**11 36 06.7**	**-7.8**
ZHSF				AML	AML	11 37 01.8	
	comp=N,112nm,0.6s						
IMOK	**Mook**	**3.82**	**243**	Pn	**Pn**	**11 36 00.3**	**+1.5**
IGAR	**Garneh**	**4.03**	**292**	Pn	**Pn**	**11 36 01.4**	**-0.3**
GHIR	**Ghir-Karzin**	**4.05**	**232**	*e*Pn	**Pn**	**11 36 01.9**	**-0.1**
GHIR				AML	AML	11 37 18.1	
	comp=N,102nm,0.7s						
IZEF	**Zefreh**	**4.19**	**301**	Pn	**Pn**	**11 36 01.3**	**-2.7**
IKLH	**Kalahroud**	**4.94**	**301**	Pn	**Pn**	**11 36 11.8**	**-2.9**
ISFB	**Sefidab**	**5.10**	**315**	Pn	**Pn**	**11 36 18.6**	**+1.7**
IANJ	**Anjiloo**	**5.15**	**335**	Pn	**Pn**	**11 36 17.3**	**-0.3**
ILAS	**Lasjerd**	**5.48**	**327**	Pn	**Pg**	**11 36 40.7**	**-7.3**
ISHM	**Shahmirzad**	**5.69**	**332**	Pn	**Pn**	**11 36 27.5**	**+2.3**
IMOG	**Moghan**	**5.74**	**23**	Pn	**Pn**	**11 36 27.3**	**+1.4**
IFIR	**Firoozkooh**	**5.79**	**327**	Pn	**Pn**	**11 36 25.2**	**-1.4**
IVRN	**Varamin**	**5.84**	**317**	Pn	**Pn**	**11 36 26.4**	**-1.0**
IVRN				Sn	**Sn**	**11 37 27.2**	**-8.1**
IPAY	**Payeh**	**5.95**	**19**	Pn	**Pn**	**11 36 30.0**	**+1.1**
IDMV	**Damavand**	**6.10**	**322**	Pn	**Pn**	**11 36 30.1**	**-0.9**
IKRD	**Kardeh**	**6.14**	**14**	Pn	**Pn**	**11 36 26.1**	**-5.4**
DAMV	**Damavand**	**6.17**	**322**	*e*Pn	**Pn**	**11 36 32.2**	**+0.2**
IMYA	**Miamay**	**6.22**	**27**	Pn	**Pn**	**11 36 33.2**	**+0.5**
ASAO	**Ashtian**	**6.68**	**305**	*e*Pn	**Pn**	**11 36 38.8**	**-0.4**
IRAZ	**Razeghan**	**7.23**	**311**	Pn	**Pn**	**11 36 46.3**	**-0.6**

IDC 14 12:10:11.9±4.3, 1.13N×97.52E, mb3.7/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=167.0km s-min=28.4km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.73**	**122**	P	P	12 18 02.8	-1.8
	0.5nm,0.4s,baz=303,slow=9.0,SNR=12						
SONM	**Songino Array**	**47.16**	**8**	P	P	12 18 47.0	-1.0
	0.4nm,0.4s,baz=181,slow=8.8,SNR=4.8						
MKAR	**Makanchi Array**	**47.39**	**346**	P	P	12 18 47.2	-2.6
	1.0nm,0.5s,baz=161,slow=8.2,SNR=9.6						

*ISK **14** 12:32:23.3, 40.04N×37.23E, h8km, MD3.7*
*CSEM **14** 12:32:23.3, 40.04N×37.23E, h8km, MD3.7, After ISK*
ISC 14 12:32:23.9±0.4, 40.05N±0.04×37.25E±0.04, h8km, n36, σ0^{s}90/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SVST	**Sivas**	**0.36**	**219**	*i* P	**Pg**	**12 32 30.1**	**-1.1**
SVST				*i* S	**Sg**	**12 32 35.6**	**-0.6**
TOKT	**Tokat**	**0.60**	**297**	*i* PG	**Pg**	**12 32 34.9**	**-1.1**
TOKT				*i* SG	**Sg**	**12 32 44.2**	**+0.1**
KVT	**Kavak**	**1.38**	**319**	PN	**Pn**	**12 32 49.5**	**0.0**
YOZ	**Yozgat**	**1.54**	**255**	*i* PN	**Pn**	**12 32 51.5**	**-0.3**
BNN	**Bunyan**	**1.62**	**223**	*i* PN	**Pn**	**12 32 52.0**	**-0.9**
GUMT	**Gumushane**	**1.75**	**76**	*i* PN	**Pn**	**12 32 54.8**	**0.0**
MYA	**Malataya**	**1.95**	**152**	*i* PN	**Pn**	**12 32 58.2**	**+0.5**
CTKT	**Corum**	**1.96**	**288**	*i* P	**Pn**	**12 32 59.3**	**+1.4**
CTKT				*i* S	**Sn**	**12 33 23.2**	**+0.3**
CORM	**Corum**	**2.01**	**274**	PN	**Pn**	**12 32 58.6**	**0.0**
PTK	**Pertek**	**2.02**	**124**	PN	**Pn**	**12 32 58.5**	**-0.2**
ELZG	**Elazig**	**2.05**	**139**	*i* P	**Pn**	**12 32 59.4**	**+0.3**
ELZG				*i* S	**Sn**	**12 33 31.1**	**+5.9**
BOYT	**Boyabat**	**2.25**	**308**	*i* P	**Pn**	**12 33 02.9**	**+0.9**
BOYT				*i* S	**Sn**	**12 33 28.2**	**-1.9**
AVNT	**Avonos**	**2.25**	**236**	*i* P	**Pn**	**12 33 01.1**	**-0.8**
AVNT				*i* S	**Sn**	**12 33 34.5**	**+4.4**
CDAG	**Cicekdag**	**2.26**	**260**	*i* P	**Pn**	**12 33 02.1**	**0.0**
CDAG				*i* S	**Sn**	**12 33 32.8**	**+2.4**
BYBT	**Boyabat**	**2.36**	**308**	PN	**Pn**	**12 33 03.7**	**+0.2**
TOS	**Tosya**	**2.65**	**293**	PN	**Pn**	**12 33 07.7**	**+0.1**
GZT	**Gaziantep**	**2.70**	**175**	*e*P	**Pn**	**12 33 10.6**	**+2.2**
KAMT	**Kaman**	**2.81**	**257**	PN	**Pn**	**12 33 09.8**	**-0.2**
NIG	**Nigde**	**2.83**	**227**	PN	**Pn**	**12 33 09.8**	**-0.4**
CANT	**Cankiri**	**2.83**	**282**	PN	**Pn**	**12 33 09.6**	**-0.6**
GAZ	**Gaziantep**	**2.88**	**181**	PN	**Pn**	**12 33 10.4**	**-0.5**
URFA	**Urfa**	**2.88**	**154**	PN	**Pn**	**12 33 10.4**	**-0.6**
ELDT	**Eldivan**	**2.96**	**280**	*i* P	**Pn**	**12 33 12.5**	**+0.4**
ELDT				*i* S	**Sg**	**12 34 02.0**	**-0.3**
BZK	**Bozkurt**	**3.11**	**309**	PN	**Pn**	**12 33 13.8**	**-0.4**
EZM	**Erzurum**	**3.16**	**91**	*e*PN	**Pn**	**12 33 16.1**	**+1.1**
ERZM	**Erzurum**	**3.17**	**91**	*i* P	**Pn**	**12 33 20.8**	**+5.8**
BALT	**Daday**	**3.29**	**298**	*i* P	**Pn**	**12 33 17.1**	**+0.4**
ANTO	**Ankara**	**3.43**	**268**	PN	**Pn**	**12 33 18.5**	**-0.3**
LOD	**Lodumlu**	**3.45**	**269**	PN	**Pn**	**12 33 19.2**	**+0.1**
COBT	**Iskenderun**	**3.61**	**193**	*i* P	**Pn**	**12 33 23.8**	**+2.5**
SAFT	**Safranbolu**	**3.67**	**290**	*e*PN	**Pn**	**12 33 21.2**	**-1.0**
BTMT	**Batman**	**3.78**	**118**	*e*PN	**Pn**	**12 33 23.2**	**-0.6**
MARD	**Mardin**	**3.89**	**134**	*e*P	**Pn**	**12 33 24.1**	**-1.1**
SGKT	**Sivrigoynuk**	**4.00**	**279**	*i* P	**Pn**	**12 33 27.1**	**+0.2**
SGKT				*i* S	**Sn**	**12 34 16.9**	**+2.2**
KDHN	**Kadinhani**	**4.27**	**251**	*i* P	**Pn**	**12 33 30.9**	**+0.2**
KDHN				*i* S	**Sg**	**12 34 36.3**	**-10**
KIZT	**Kizilcal**	**4.32**	**256**	*e*PN	**Pn**	**12 33 30.7**	**-0.7**

*STR **14** 12:33:21.3±0.2, 49.31N×6.81E, h1km±1km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BNS **14** 12:33:21.9±1.0, 49.36N×6.79E, h1km, ML2.6*
*NEIC **14** 12:33:21.5, 49.33N×6.80E, h1km, ML3.2(LDG), ML2.9(STR), ML2.5(SZGRF), After LDG.*
*CSEM **14** 12:33:21.3±0.1, 49.33N×6.82E, h2km, ML3.3/22, Error ellipse: s-maj=0.9km s-min=0.9km az=116.0*
*LDG **14** 12:33:21.5±0.1, 49.33N×6.80E, h1km, Md3.2/1, Ml3.2/21, Error ellipse: s-maj=1.1km s-min=1.1km az=130.0, Suspected Mining induced.*
BGR 14 12:33:20.7±0.4, 49.31N×6.84E, h1km, ML2.8/9, 1C, Error ellipse: s-maj=4.4km s-min=3.3km az=25.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.42**	**20**	Pg	Pg	12 33 29.2	+0.1
RUP				Sg	Sg	12 33 35.5	+0.8
WLF	**Walferdange**	**0.57**	**309**	*e*Pg	Pg	12 33 32.2	0.0
	SNR=12						
WLF				*e*Sg	Sg	12 33 38.2	-1.6
WLF	**Walferdange**	**0.57**	**309**	*e*Pg	Pg	12 33 31.8	-0.4
LANF	**Langenberg**	**0.71**	**117**	Pg	Pg	12 33 35.0	+0.1
LANF				Sg	Sg	12 33 44.6	+0.2
ABH	**Alteburg**	**0.74**	**38**	Pg	Pg	12 33 34.9	-0.5
ABH				Sg	Sg	12 33 45.5	+0.2
KTD	**Kalmit**	**0.81**	**89**	Pg	Pg	12 33 37.5	+0.6
KTD				Sg	Sg	12 33 49.7	+1.9
CDF	**Champ du Feu**	**0.94**	**162**	*e*Pg	Pg	12 33 39.0	-0.5
CDF				*e*Pn	Pn	12 33 40.1	-0.7
CDF				*e*Sg	Sg	12 33 52.3	+0.3
	211nm,0.2s						
WLS	**Welschbruch**	**0.95**	**159**	Pg	Pg	12 33 40.1	+0.3
WLS				Sg	Sg	12 33 52.2	-0.3
BGG	**Burgeitz**	**0.96**	**19**	*e*Pg	Pg	12 33 39.6	-0.2
BGG				*e*Sg	Sg	12 33 51.8	-0.8
	142nm,0.4s						
ECH	**Echery**	**1.11**	**169**	Pg	Pg	12 33 42.9	0.0
ECH				Sg	Sg	12 33 58.1	+0.4
RFYF	**Reffroy**	**1.13**	**234**	*e*Pg	Pg	12 33 43.1	-0.1
	baz=51						
RFYF				*e*Sg	Sg	12 33 57.2	-1.1
	134nm,0.2s						
THEF	**They Montfort**	**1.22**	**208**	Pg	Pg	12 33 44.0	-1.1
THEF				Sg	Sg	12 34 00.6	-0.7
STB	**Steinbach**	**1.29**	**360**	*e*Pg	Pg	12 33 44.5	-2.0
STB				*e*Sg	Sg	12 34 01.3	-2.4
	67nm,0.4s						
TOD	**Tromm**	**1.31**	**76**	Pg	Pg	12 33 46.0	-1.0
HAU	**Haudompre**	**1.34**	**194**	*e*Pn	Pn	12 33 45.5	-1.1
HAU				*e*Pg	Pg	12 33 46.8	-0.7
HAU				*e*Sn	Sn	12 34 03.3	-2.0
	134nm,0.3s						
KLL	**Kalltalsperre**	**1.39**	**346**	*e*Pg	Pg	12 33 45.6	-2.7
KLL				*e*Sg	Sg	12 34 02.6	-4.3
BFO	**Black Forest**	**1.39**	**134**	*e*Pg	Pg	12 33 46.8	-1.6
	SNR=16						
BFO				*e*Sg	Sg	12 34 05.1	-1.7
BFO	**Black Forest**	**1.39**	**134**	*e*Pn	Pn	12 33 46.7	-0.5
BFO				*e*Sg	Sg	12 34 06.5	-0.4
BFO	**Black Forest**	**1.39**	**134**	Pg	Pg	12 33 46.8	-1.6
	SNR=16						
BFO				*e*Sg	Sg	12 34 06.5	-0.4
TNS	**Taunus Mts**	**1.39**	**48**	*e*Pn	Pn	12 33 45.8	-1.4
	SNR=1.6						
TNS				*e*Pg	Pg	12 33 46.9	-1.5
	SNR=14						
TNS				*e*Sg	Sg	12 34 05.8	-1.1
TNS	**Taunus Mts**	**1.39**	**48**	*e*Pn	Pn	12 33 45.8	-1.4
TNS				*e*Sg	Sg	12 34 06.1	-0.8
TNS	**Taunus Mts**	**1.39**	**48**	Pn	Pn	12 33 45.8	-1.4
	SNR=1.6						
TNS				*e*Sg	Sg	12 34 06.1	-0.8
MEZF	**Maizieres J'vi**	**1.43**	**236**	*e*Pn	Pn	12 33 46.8	-1.0
	baz=57						
MEZF				*e*Pg	Pg	12 33 47.6	-1.7
MEZF	**Maizieres J'vi**	**1.43**	**236**	*e*Pn	Pn	12 33 46.8	-1.0
MEZF				*e*Pg	Pg	12 33 47.6	-1.7
MEZF				*e*Sn	Sn	12 34 04.8	-2.7
MEZF				*e*Sg	Sg	12 34 06.8	-1.5
MEZF	**Maizieres J'vi**	**1.43**	**236**	*e*Pg	Pg	12 33 47.6	-1.7
MEZF				*e*Sn	Sn	12 34 04.8	-2.7
MEZF				*e*Sg	Sg	12 34 06.8	-1.5
	17nm,0.3s						
MOF	**Molkenrain**	**1.47**	**172**	Pg	Pg	12 33 49.2	-0.8
MOF				Sg	Sg	12 34 09.3	-0.3
HINF	**Hinteralfeld**	**1.49**	**180**	*e*Pn	Pn	12 33 46.8	-1.9
HINF				*e*Pg	Pg	12 33 49.3	-1.2
HINF				*e*Sn	Sn	12 34 07.2	-1.9
HINF				*e*Sg	Sg	12 34 09.4	-0.9
HINF	**Hinteralfeld**	**1.49**	**180**	*e*Pg	Pg	12 33 49.3	-1.2
HINF				*e*Sn	Sn	12 34 07.2	-1.9
HINF				*e*Sg	Sg	12 34 09.4	-0.9
	74nm,0.2s						
GIVF	**Givet**	**1.53**	**302**	*e*Pn	Pn	12 33 48.5	-0.8
GIVF				*e*Pg	Pg	12 33 49.1	-2.2
GIVF				*e*Sg	Sg	12 34 08.5	-3.3
	48nm,0.3s						
HGN	**Heimansgroeve**	**1.57**	**338**	*e*Pn	Pn	12 33 48.9	-1.0
HGN				*e*Pg	Pg	12 33 50.6	-1.5
HGN				*e*Sg	Sg	12 34 08.7	-4.4
HGN	**Heimansgroeve**	**1.57**	**338**	*e*Pg	Pg	12 33 50.6	-1.5
HGN				*e*Sg	Sg	12 34 08.7	-4.4
SFTF	**Sexfontaines**	**1.62**	**228**	*e*Pg	Pg	12 33 49.8	-3.3
	baz=43						
SFTF				*e*Sg	Sg	12 34 12.6	-2.2
	41nm,0.3s						
FELD	**Feldberg**	**1.63**	**151**	Pg	Pg	12 33 52.3	-0.9
FELD				Sg	Sg	12 34 13.2	-1.6
STU	**Stuttgart**	**1.64**	**108**	*e*Sg	Sg	12 34 11.8	-3.4
BAIF	**Baives**	**1.87**	**295**	*e*Pn	Pn	12 33 53.2	-0.9
BAIF				*e*Sn	Sn	12 34 14.9	-3.8
BAIF				*e*Sg	Sg	12 34 19.4	-3.6
	43nm,0.4s						
LOMF	**Lomont**	**1.96**	**180**	Pg	Pg	12 33 58.3	-1.5
CABF	**La Chapelle**	**2.74**	**191**	*e*Pn	Pn	12 34 05.2	-1.5
CABF				*e*Pg	Pg	12 34 13.9	-1.6
CABF				*e*Sg	Sg	12 34 48.5	-3.6
	29nm,0.5s						
LOR	**Lormes**	**2.85**	**225**	*e*Pn	Pn	12 34 06.0	-2.2
	baz=42						
LOR				*e*Sn	Sn	12 34 38.5	-5.1
LOR				*e*Sg	Sg	12 34 51.5	-4.1
	29nm,0.4s						
DAVA	**Damuels**	**2.86**	**134**	⇑*i*PN	Pn	12 34 07.9	-0.5
DAVA				*i* SG	Sg	12 34 54.6	-1.4
	6.5nm,0.3s						
SSF	**Saint Saulge**	**3.17**	**226**	*e*Pn	Pn	12 34 10.3	-2.4
SSF				*e*Pg	Pg	12 34 20.4	-3.5
SSF				*e*Sn	Sn	12 34 47.5	-4.1
SSF				*e*Sg	Sg	12 35 00.0	-6.1
	16nm,0.3s						
SMF	**Signal de Mont**	**3.34**	**218**	*e*Pn	Pn	12 34 12.3	-2.8
SMF				*e*Sn	Sn	12 34 51.1	-4.9
SMF				*e*Sg	Sg	12 35 06.5	-5.4
	12nm,0.3s						
MOX	**Moxa**	**3.36**	**65**	*e*Sg	Sg	12 35 07.5	-5.1
CLZ	**Clausthal**	**3.39**	**40**	*e*Pn	Pn	12 34 14.5	-1.4
	SNR=1.2						
CLZ				*e*Sg	Sg	12 35 07.7	-5.9
HYF	**Humbligny**	**3.47**	**236**	*e*Pn	Pn	12 34 14.8	-2.2
HYF				*e*Sg	Sg	12 35 10.4	-5.8
GUNZ	**Gunzen**	**3.71**	**71**	*e*Sg	Sg	12 35 18.2	-6.0
LPL	**La Plagne**	**3.79**	**181**	*e*Sn	Sn	12 35 02.2	-5.3
TANN	**Tannenbergstha**	**3.80**	**71**	*e*Sg	Sg	12 35 21.1	-6.2
BGF	**Bois d'Agland**	**3.84**	**226**	*e*Pn	Pn	12 34 19.4	-2.9
BGF				*e*Sn	Sn	12 35 03.0	-5.8
	35nm,0.4s						
CLL	**Collm**	**4.43**	**61**	*e*SG	Sg	12 35 44.0	-4.1
ORIF	**Oris-en-Rattie**	**4.44**	**189**	*e*Pn	Pn	12 34 28.3	-2.4
ORIF				*e*Sg	Sg	12 35 41.7	-6.8
	5.7nm,0.4s						
GEC2	**GERESS Array S**	**4.53**	**93**	*e*Pn	Pn	12 34 30.9	-1.1
	SNR=4.5						
GEC2				*e*Sn	Sn	12 35 20.2	-6.1
LDF	**La Druitiere**	**4.64**	**264**	*e*Pn	Pn	12 34 31.1	-2.6
LDF				*e*Pg	Pg	12 34 45.5	-7.9
LDF				*e*Sn	Sn	12 35 20.6	-8.5
LDF				*e*Sg	Sg	12 35 47.7	-7.6
	7.2nm,0.4s						
VIVF	**Saint-Julien-l**	**4.69**	**199**	*e*Pn	Pn	12 34 31.6	-2.7
VIVF				*e*Pg	Pg	12 34 47.8	-6.6
VIVF				*e*Sn	Sn	12 35 24.2	-6.0
VIVF				*e*Sg	Sg	12 35 48.8	-8.1
	3.8nm,0.4s						
FLN	**La Foliniere**	**4.85**	**266**	*e*Pn	Pn	12 34 33.9	-2.7
	baz=83						
FLN				*e*Pg	Pg	12 34 52.5	-5.0
	baz=84						
FLN				*e*Sn	Sn	12 35 26.1	-8.1
FLN				*e*Sg	Sg	12 35 52.9	-9.2
	11nm,0.4s						
FLN	**La Foliniere**	**4.85**	**266**	*e*Pg	Pg	12 34 52.5	-5.0
FLN				*e*Sn	Sn	12 35 26.1	-8.1
FLN				*e*Sg	Sg	12 35 52.9	-9.2
	5.6nm,0.4s						
GRR	**Gorron**	**5.17**	**263**	*e*Sn	Sn	12 35 32.7	-10
RJF	**Les Rejaudoux**	**5.40**	**224**	*e*Sn	Sn	12 35 40.3	-7.7
	2.4nm,0.3s						
MFF	**Saint Martin d**	**5.42**	**243**	*e*Pn	Pn	12 34 41.5	-3.1
MFF				*e*Sn	Sn	12 35 40.3	-8.2
CAF	**Calviac**	**5.46**	**218**	*e*Pn	Pn	12 34 41.5	-3.7
CAF				*e*Sn	Sn	12 35 43.7	-5.9
	1.3nm,0.4s						
LASF	**Ste Croix**	**5.62**	**203**	*e*Sg	Sg	12 36 18.2	-10
	5.0nm,0.5s						
SGMF	**Saint Gilles**	**6.30**	**264**	*e*Pn	Pn	12 34 52.5	-4.6
ROSF	**Rostrenen**	**6.75**	**266**	*e*Pn	Pn	12 34 59.4	-4.0
QUIF	**Quistinic**	**6.78**	**262**	*e*Pn	Pn	12 34 59.2	-4.6
EPF	**Esparros**	**7.73**	**218**	*e*Pn	Pn	12 35 12.7	-4.4

*IDC **14** 13:02:28.0±1.1, 0.78N×97.40E, mb4.1/11, mb1 4.2/11, mb1mx4.1/18, mbtmp4.1/11, MS3.4/1, Ms1 3.4/1, ms1mx2.8/29, Error ellipse: s-maj=46.6km s-min=16.9km az=51.0*
*NEIC **14** 13:02:32.0±0.6, 0.83N×97.37E, h30km, mb4.4/11, Error ellipse: s-maj=16.3km s-min=9.1km az=46.0*
*BJI **14** 13:02:32.0, 0.80N×97.40E, h30km, mB4.3, mb4.9, Ms3.9, Msz3.5*
ISC 14 13:02:30.2±0.6, 0.82N±0.08×97.34E±0.07, h30km, n31, σ1^{s}01/32, mb4.3/22, MS3.5/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.24**	**44**	P	**Pn**	**13 03 49.1**	**+0.5**
KULM	**Kulim**	**5.53**	**37**	*e*P	**Pn**	**13 03 52.0**	**-0.7**
KGM	**Kluang**	**6.09**	**79**	P	**Pn**	**13 04 01.2**	**+0.6**
PALK	**Pallekele**	**17.79**	**292**	*e*P	**P**	**13 06 37.1**	**-0.4**
PKI	**Pulchoki**	**28.96**	**338**	*e*P	**P**	**13 08 28.4**	**-0.9**
	8.2nm,0.7s,mb4.6						
GUN	**Gumba**	**29.09**	**339**	*e*P	**P**	**13 08 28.3**	**-2.2**
DMN	**Daman**	**29.11**	**337**	*e*P	**P**	**13 08 29.3**	**-1.4**
	12nm,0.7s,mb4.7						
KKN	**Kakani**	**29.20**	**338**	*e*P	**P**	**13 08 27.9**	**-3.7**
	22nm,1.0s,mb4.8						
LSA	**Lhasa**	**29.32**	**349**	P	**P**	**13 08 31.8**	**-0.8**
	3.3nm,0.6s,mb4.2						
GKN	**Gorkha**	**29.64**	**337**	*e*P	**P**	**13 08 28.2**	**-7.3**
	6.1nm,0.3s,mb4.8						
KOLN	**Koldanda**	**29.86**	**335**	*e*P	**P**	**13 08 27.9**	**-10**
	13nm,0.7s,mb4.8						
ENH	**Enshi**	**31.48**	**20**	P	**P**	**13 08 50.4**	**-1.3**
	7.3nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.59**	**125**	*e*P	**P**	**13 09 08.4**	**-1.8**
	3.3nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**33.59**	**125**	P	**P**	**13 09 09.1**	**-1.1**
	2.6nm,0.7s,mb4.3,baz=338,slow=5.4,SNR=4.4						
GTA	**Gaotai**	**38.47**	**3**	*e*P	**P**	**13 09 52.8**	**+1.4**
GTA				AP	pP	13 09 59.3	-1.1
GTA				XP	sP	13 10 01.9	-2.2
GTA				PP	PP	13 11 27.8	+4.6
GTA				S	**S**	**13 15 50.8**	**+6.4**
GTA				XS		13 16 03.3	
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
GTA				AMB	AMB		
	comp=Z,29nm,5.1s						
GTA				LR	LR		
	comp=N,75nm,13.8s,MS3.7						
GTA				LR	LR		
	comp=E,62nm,16.2s,MS3.7						
GTA				LR	LR		
	comp=Z,59nm,15.9s,MS3.5						
WRA	**Warramunga Arr**	**41.71**	**122**	P	**P**	**13 10 18.1**	**-0.3**
	comp=Z,1.3nm,0.6s,mb3.8,baz=303,slow=8.9,SNR=21						
WRAB	**Tennant Creek**	**41.72**	**122**	*e*P	**P**	**13 10 18.2**	**-0.3**
	comp=Z,5.2nm,0.9s,mb4.2						
WB2	**Warramunga Arr**	**41.72**	**122**	*e*P	**P**	**13 10 18.2**	**-0.3**
WMQ	**Urumqi**	**43.67**	**350**	*e*P	**P**	**13 10 34.4**	**+0.3**
SONM	**Songino Array**	**47.48**	**8**	P	**P**	**13 11 05.1**	**+0.7**
	comp=Z,1.4nm,0.5s,mb4.2,baz=190,slow=8.6,SNR=16						
MKAR	**Makanchi Array**	**47.64**	**346**	P	**P**	**13 11 07.0**	**+1.3**
	comp=Z,5.1nm,0.7s,mb4.7,baz=159,slow=8.2,SNR=23						
MJAR	**Matsushiro Arr**	**51.87**	**42**	P	**P**	**13 11 38.3**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.0,baz=219,slow=6.1,SNR=5.5						
KURK	**Kurchatov**	**52.19**	**345**	*e*P	**P**	**13 11 40.7**	**+0.3**
	comp=Z,2.9nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**53.00**	**132**	P	**P**	**13 11 47.5**	**+0.7**
	comp=Z,2.0nm,0.9s,mb4.0,baz=313,slow=7.8,SNR=5.2						
STKA	**Stephens Creek**	**53.00**	**132**	*e*P	**P**	**13 11 47.2**	**+0.5**
BVAR	**Borovoye Array**	**56.65**	**341**	P	**P**	**13 12 13.2**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=158,slow=8.0,SNR=9.5						
ZRNK	**Zerenda**	**57.05**	**340**	*e*P	**P**	**13 12 15.8**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.9						
AKASG	**Malin Array Be**	**75.64**	**322**	P	**P**	**13 14 14.5**	**+0.2**
	comp=Z,0.4nm,0.3s,mb3.8,baz=90,slow=4.7,SNR=5.3						
FINES	**FINESS Array B**	**80.40**	**333**	P	**P**	**13 14 41.2**	**+1.0**
	comp=Z,1.0nm,0.6s,mb4.0,baz=117,slow=6.2,SNR=4.4						
FINES				LR	LR	13 57 33.2	
	comp=Z,18nm,18.5s,MS3.5,baz=327,slow=41						
ARCES	**ARCESS Array B**	**82.94**	**340**	P	**P**	**13 14 54.6**	**+1.3**
	comp=Z,1.9nm,0.8s,mb4.2,baz=101,slow=6.2,SNR=4.6						
GERES	**GERESS Array B**	**85.19**	**319**	P	**P**	**13 15 07.7**	**+2.6**
	comp=Z,0.3nm,0.3s,mb3.9,baz=117,slow=6.0,SNR=5.8						

*NIED **14** 13:05:00, 43.00N×145.10E, h56km, Mw3.5 Best double couple: $M_0$2.08×10^14 NP1:ϕ_s49°, δ87°, λ-87°. NP2:ϕ_s184°, δ4°, λ-135°.*
JMA 14 13:05:26.8±0.1, 43.03N×145.09E, h59km±1km, M3.6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.29**	**263**	P	P	13 05 36.7	-0.1
JAK				*e*S	S	13 05 44.1	0.0
NEM2	**Nemuro 2**	**0.58**	**55**	P	P	13 05 39.4	-0.3
NEM2				*e*S	S	13 05 48.3	-0.8
JNK	**Nakash**	**0.62**	**334**	P	P	13 05 39.6	-0.5
JNK				*e*S	S	13 05 48.9	-1.0
JRA	**Rausu**	**0.91**	**1**	P	P	13 05 43.6	-0.1
JRA				*e*S	S	13 05 55.9	-0.5
JOB	**Onbets**	**0.93**	**263**	P	P	13 05 43.9	-0.2
JOB				S	S	13 05 56.8	-0.1
JAR	**Ashorobuto**	**1.00**	**286**	P	P	13 05 44.9	-0.2
JAR				*e*S	S	13 05 58.4	-0.2
JTKR	**Abashiri--Toko**	**1.27**	**318**	P	P	13 05 49.0	+0.2
JTKR				*e*S	S	13 06 05.6	+0.4
JCH	**Churui**	**1.34**	**252**	P	P	13 05 48.9	-0.9
JCH				*e*S	S	13 06 05.2	-1.6

*THR **14** 13:14:19.4±0.3, 33.15N×58.25E, h14km±4km, ML4.1*
*CSEM **14** 13:14:20.9±0.1, 33.09N×58.09E, h18km, mb4.3/5, Error ellipse: s-maj=3.0km s-min=2.6km az=130.0*
*TEH **14** 13:14:21.8, 33.05N×58.17E, h10km, Mn4.0*
*NEIC **14** 13:14:21.8, 33.05N×58.17E, h10km, mb4.3/5, ML4.0(TEH), After TEH.*
ISC 14 13:14:21.1±0.4, 33.15N±0.04×58.08E±0.04, h10km, n33, σ1^{s}12/36, mb4.4/5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**2.63**	**234**	Pn	**Pn**	**13 15 04.4**	**0.0**
IMOG	**Moghan**	**3.13**	**19**	Pn	**Pn**	**13 15 12.1**	**+0.6**
ICHK	**Chekchek**	**3.22**	**255**	Pn	**Pn**	**13 15 12.5**	**-0.3**
KRBR	**Kerman**	**3.35**	**200**	*e*PN	**Pn**	**13 15 14.4**	**-0.2**
KRBR				AML	AML	13 16 11.9	
	comp=N,570nm,0.6s						
KRBR	**Kerman**	**3.35**	**200**	*e*Pn	**Pn**	**13 15 14.4**	**-0.2**
	SNR=52						
IPAY	**Payeh**	**3.38**	**13**	Pn	**Pn**	**13 15 15.1**	**+0.1**
IMEH	**Mehriz**	**3.42**	**240**	Pn	**Pn**	**13 15 15.2**	**-0.4**
IMYA	**Miamay**	**3.59**	**27**	Pn	**Pn**	**13 15 17.6**	**-0.5**
IKRD	**Kardeh**	**3.63**	**6**	Pn	**Pn**	**13 15 21.8**	**+3.2**
ISAD	**Sadrabad**	**3.91**	**253**	Pn	**Pn**	**13 15 21.8**	**-0.7**
ZHSF	**Zahedan**	**4.22**	**146**	*e*PN	**Pn**	**13 15 24.4**	**-2.6**
ZHSF				*e*SG	**Sb**	**13 16 27.8**	**+1.4**
NASN	**Na'in**	**4.44**	**267**	*e*PN	**Pn**	**13 15 30.9**	**+0.7**
NASN				*e*SG	**Sg**	**13 16 41.9**	**-7.1**
NASN				AML	AML	13 16 47.9	
	comp=N,136nm,0.5s						
NASN	**Na'in**	**4.44**	**267**	*e*Pn	**Pn**	**13 15 30.9**	**+0.8**
	SNR=52						
NASN				*e*Sg	**Sg**	**13 16 41.9**	**-7.1**
	comp=N,136nm,0.5s,SNR=90						
IZEF	**Zefreh**	**4.83**	**269**	Pn	**Pn**	**13 15 33.8**	**-1.9**
ISFB	**Sefidab**	**5.01**	**285**	Pn	**Pn**	**13 15 28.2**	**-10**
IGAR	**Garneh**	**5.04**	**261**	Pn	**Pn**	**13 15 29.9**	**-8.7**
IFIR	**Firoozkooh**	**5.05**	**301**	Pn	**Pn**	**13 15 38.4**	**-0.4**
IFIR				Lg		13 17 03.1	
IPAR	**Pars**	**5.42**	**234**	Pn	**Pn**	**13 15 45.6**	**+1.7**
IKLH	**Kalahroud**	**5.45**	**274**	Pn	**Pn**	**13 15 39.6**	**-4.7**
IDMV	**Damavand**	**5.55**	**298**	Pn	**Pn**	**13 15 45.3**	**-0.5**
IVRN	**Varamin**	**5.58**	**291**	Pn	**Pn**	**13 15 45.8**	**-0.4**
DAMV	**Damavand**	**5.62**	**298**	*e*PN	**Pn**	**13 15 46.9**	**+0.1**
ISRV	**Sarvestan**	**5.67**	**230**	Pn	**Pn**	**13 15 48.9**	**+1.4**
IMOK	**Mook**	**6.16**	**230**	Pn	**Pn**	**13 15 45.6**	**-8.7**
IRAZ	**Razeghan**	**7.11**	**291**	Pn	**Pn**	**13 16 09.8**	**+2.0**
SNGE	**Sanandaj**	**9.11**	**285**	*e*PN	**P**	**13 16 35.0**	**-0.5**
KOLN	**Koldanda**	**22.62**	**97**	*e*P	**P**	**13 19 26.8**	**+3.4**
KURK	**Kurchatov**	**23.14**	**35**	*e*P	**P**	**13 19 29.2**	**+1.0**
	comp=N,6.1nm,0.9s,mb4.0						
GKN	**Gorkha**	**23.41**	**96**	*e*P	**P**	**13 19 30.7**	**-0.3**
	comp=N,25nm,1.0s,mb4.6						
DMN	**Daman**	**23.93**	**96**	*e*P	**P**	**13 19 36.5**	**+0.4**
KKN	**Kakani**	**24.01**	**96**	*e*P	**P**	**13 19 35.9**	**-1.0**
	comp=N,12nm,0.7s,mb4.4						
PKI	**Pulchoki**	**24.20**	**96**	*e*P	**P**	**13 19 38.8**	**+0.1**
	comp=N,11nm,0.8s,mb4.3						
GUN	**Gumba**	**24.48**	**95**	*e*P	**P**	**13 19 39.4**	**-2.0**
	comp=N,30nm,0.8s,mb4.8						

*NEIC **14** 13:20:32.7±5.2, 0.20N×126.12E, h5km±34km, mb4.7/10, Error ellipse: s-maj=15.9km s-min=6.7km az=68.0*
*IDC **14** 13:20:32.2±0.7, 0.23N×126.12E, mb4.5/9, mb1 4.7/10,*

mb1mx4.5/17, mbtmp4.6/10, ML5.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/22, Error ellipse: s-maj=48.5km s-min=15.3km az=77.0

MOS 14 13:20:35.0±0.8, 0.23N×126.24E, h33^{km}, mb4.8/6, Error ellipse: s-maj=29.6km s-min=10.8km az=103.6

ISC 14 13:20:34.9±0.4, 0.18N±0.06×126.1E±0.1, h33^{km}, n42, σ0^{s}91/41, mb4.6/20, MS3.5/1, 3C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	11.43	301	P	P	13 23 17.3	-1.7
KSM	Kuching	15.81	275	eP	P	13 24 22.2	+5.3
FITZ	Fitzroy Crossi	18.17	181	eP	P	13 24 45.4	-1.2
	33nm,0.4s						
FITZ	Fitzroy Crossi	18.17	181	P	P	13 24 46.1	-0.4
	11nm,0.3s,baz=35,slow=7.1,SNR=130						
WRAB	Tennant Creek	21.57	158	eP	P	13 25 23.8	0.0
WRAB				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.5						
WRAB	Tennant Creek	21.57	158	eP	P	13 25 23.8	0.0
	comp=Z,18nm,0.8s,mb4.5						
WRA	Warramunga Arr	21.58	158	P	P	13 25 24.4	+0.5
	comp=Z,17nm,0.7s,mb4.6,baz=336,slow=11,SNR=36						
WB2	Warramunga Arr	21.58	158	eP	P	13 25 24.3	+0.4
JOW	Kunigami	26.58	4	P	P	13 26 13.0	+0.8
	comp=Z,17nm,0.7s,mb4.7,baz=222,slow=9.2,SNR=8.4						
CTAO	Charters Tower	28.22	137	P	P	13 26 25.0	-2.2
CTAO				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.3						
CTAO	Charters Tower	28.22	137	P	P	13 26 25.0	-2.1
	comp=Z,11nm,1.4s,mb4.3						
HNR	Honiara	35.05	107	LR	LR	13 42 08.2	
	comp=Z,88nm,18.8s,MS3.5,baz=298,slow=37						
STKA	Stephens Creek	35.11	157	P	P	13 27 28.1	+0.7
	comp=Z,5.0nm,0.8s,mb4.5,baz=330,slow=8.2,SNR=10						
STKA	Stephens Creek	35.11	157	eP	P	13 27 27.7	+0.3
KS15	Wonju Array Si	37.11	2	eP	P	13 27 45.2	+0.9
MAJO	Matsushiro	37.89	16	eP	P	13 27 50.0	-0.8
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
MAJO	Matsushiro	37.89	16	eP	P	13 27 50.0	-0.8
	comp=Z,8.0nm,0.8s,mb4.5						
MAT	Matsushiro	37.89	16	eP	P	13 27 50.0	-0.8
MAT				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
MAT	Matsushiro	37.89	16	eP	P	13 27 50.0	-0.8
	comp=Z,4.8nm,0.7s,mb4.3						
MAT	Matsushiro	37.89	16	P	P	13 27 49.9	-0.9
MJAR	Matsushiro Arr	37.89	16	P	P	13 27 49.8	-1.0
	comp=Z,4.3nm,0.6s,mb4.4,baz=191,slow=9.7,SNR=13						
KLR	Kul'dur	49.10	5	eP	P	13 29 17.8	-3.4
SONM	Songino Array	50.45	343	P	P	13 29 31.5	0.0
	comp=Z,1.8nm,0.5s,mb4.4,baz=158,slow=7.4,SNR=18						
SONM				PcP	PcP	13 30 49.5	-0.2
	comp=Z,0.4nm,0.4s,baz=178,slow=3.6,SNR=4.8						
ZAK	Zakamensk	53.66	342	eP	P	13 29 56.0	+0.5
ZAK				e		13 31 02.1	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
MKAR	Makanchi Array	60.11	327	P	P	13 30 41.4	-0.1
	comp=Z,3.0nm,0.4s,mb4.7,baz=120,slow=8.4,SNR=41						
MKAR				PcP	PcP	13 31 26.9	+0.1
	comp=Z,1.8nm,0.5s,baz=109,slow=5.0,SNR=4.9						
YAK	Yakutsk	61.75	2c	iP	P	13 30 51.6	-0.8
YAK	Yakutsk	61.75	2	eP	P	13 30 50.6	-1.8
	comp=Z,20nm,0.7s,mb5.3						
MA2	Magadan	62.28	14c	iP	P	13 30 56.3	+0.3
MA2	Magadan	62.28	14	eP	P	13 30 56.5	+0.5
	comp=Z,16nm,0.8s,mb5.2						
KURK	Kurchatov	64.38	329	eP	P	13 31 09.8	-0.1
KURK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
KURK	Kurchatov	64.38	329	eP	P	13 31 09.8	-0.1
	comp=Z,8.8nm,0.7s,mb4.9						
FX1	Attu Island--F	65.48	29	eP	P	13 31 17.4	+0.5
SEY	Seymchan	65.62	13⇓	eP	P	13 31 18.6	+1.0
BVAR	Borovoye Array	69.94	328	P	P	13 31 45.9	+1.1
	comp=Z,1.2nm,0.4s,mb4.2,baz=101,slow=7.3,SNR=7.8						
BRVK	Borovoye	70.01	328	P	P	13 31 46.0	+0.8
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
BRVK	Borovoye	70.01	328	P	P	13 31 46.0	+0.8
	comp=Z,2.8nm,0.4s,mb4.5						
ZRNK	Zerenda	70.64	327	eP	P	13 31 49.3	+0.2
ZRNK				pmax	pmax		
	comp=Z,69nm,0.6s						
ZRNK	Zerenda	70.64	327	eP	P	13 31 49.2	+0.2
	comp=Z,69nm,0.6s,mb5.8						
ARU	Arti	77.58	328⇑	eP	P	13 32 29.9	+0.6
ARU	Arti	77.58	328	eP	P	13 32 29.4	+0.1
	comp=Z,9.4nm,1.1s,mb4.6						
VNDA	Vanda	80.01	173	P	P	13 32 43.2	+1.0
	comp=Z,1.2nm,1.1s,mb3.8,baz=330,slow=8.1,SNR=3.8						
ARCES	ARCESS Array B	93.53	340	P	P	13 33 48.2	0.0
	comp=Z,3.8nm,0.7s,mb4.9,baz=78,slow=8.3,SNR=4.4						

IDC 14 13:35:39.6±2.0, 7.02S×154.10E, mb4.0/5, mb1 4.2/6, mb1mx4.0/12, mbtmp4.1/6, ML3.4/1, MS4.4/1, Ms1 4.4/1, ms1mx3.1/13, Error ellipse: s-maj=50.8km s-min=24.9km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.27	250	Pn	Pn	13 37 28.0	-1.6
	4.1nm,0.3s,baz=56,slow=7.3,SNR=14						
PMG				Sn	Sn	13 38 53.4	-0.5
	0.7nm,0.3s,baz=59,slow=23,SNR=2.3						
WRA	Warramunga Arr	23.08	234	P	P	13 40 45.8	-2.3
	0.7nm,0.3s,baz=60,slow=9.8,SNR=12						
STKA	Stephens Creek	27.34	204	P	P	13 41 28.0	-0.4
	1.7nm,0.9s,baz=48,slow=14,SNR=4.3						
FITZ	Fitzroy Crossi	29.83	246	P	P	13 41 47.4	-3.5
	5.9nm,0.5s,baz=101,slow=3.6,SNR=20						
RAO	Raoul Island	34.41	133	LR	LR	13 53 36.0	
	comp=Z,554nm,18.9s,baz=3.8,slow=31						
SONM	Songino Array	68.88	328	P	P	13 46 46.6	-1.6
	0.5nm,0.3s,baz=145,slow=6.7,SNR=4.2						
MKAR	Makanchi Array	82.84	319	P	P	13 48 06.4	-0.9
	0.5nm,0.7s,baz=108,slow=5.5,SNR=3.6						

IDC 14 13:40:35.6±12.0, 10.09N×95.02W, h152^{km}±59^{km}, mb3.7/4, mb1 4.0/5, mb1mx3.6/19, mbtmp4.2/5, Error ellipse: s-maj=181.0km s-min=26.7km az=28.0

MEX 14 13:40:48.0±0.5, 13.81N×92.90W, h40^{km}, MD4.5

NEIC 14 13:40:54.2±1.3, 14.36N×92.28W, h73^{km}±9^{km}, mb4.3/12, MD4.4(MEX), Error ellipse: s-maj=23.8km s-min=10.8km az=216.0

CASC 14 13:40:56.8±2.5, 14.27N×92.51W, h20^{km}±178^{km}, MD4.5, mb4.3(NEIC)

ISC 14 13:40:54.1±1.0, 14.4N±0.1×92.70W±0.07, h73^{km}±8^{km}, n53, σ1^{s}08/68, mb4.3/13, 7C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FUG	Fuego 3	1.80	87⇑	eP	P	13 41 16.3	-7.5
CCIG	Comitan	1.98	16	iP	P	13 41 26.0	-0.1
CCIG				eS	S	13 41 55.5	+5.7
CCIG	Comitan	1.98	16	iP	P	13 41 25.7	-0.5
CCIG				eS	S	13 41 55.5	+5.7
PCG	Pacaya	2.03	89⇓	eP	P	13 41 31.3	+4.5
PCG				eS	S	13 41 44.5	-6.5
IXG	Ixpaco	2.19	95⇑	eP	P	13 41 21.1	-8.0
IXG				eS	S	13 41 54.4	-0.6
SCX	San Cristobal	2.35	2	iP	P	13 41 31.0	-0.4
SCX				eS	S	13 42 08.0	+8.8
SCX	San Cristobal	2.35	2	iP	P	13 41 31.0	-0.4
SCX				iS	S	13 42 06.0	+6.8
RBDL	Robledal	2.94	95⇑	eP	P	13 41 40.4	+0.8
RBDL				eS	S	13 42 15.8	+2.0
MRL	Marmol	3.00	76⇑	eP	P	13 41 37.8	-2.7
MRL				eS	S	13 42 16.3	+1.1
RTR	El Retiro	3.00	99⇑	eP	P	13 41 41.0	+0.5
RTR				eS	S	13 42 16.5	+1.1
SBLS	San Blas	3.03	100⇑	eP	P	13 41 40.8	-0.1
SBLS				eS	S	13 42 15.4	-0.8
SNJE	San Jose	3.04	99⇑	eP	P	13 41 41.3	+0.2
SNJE				eS	S	13 42 15.4	-1.1
BOQS	Boqueron	3.38	100	eP	P	13 41 46.1	+0.3
BOQS				eS	S	13 42 25.1	+0.2
CMIG	Matias Romero	3.43	322	iP	P	13 41 43.1	-3.3
CMIG				iS	S	13 42 24.8	-1.3
LFRS	El Faro	3.61	101	eP	P	13 41 48.4	-0.6
LCBS	La Ceiba	3.68	101	eP	P	13 41 49.6	-0.4
SNVI	San Vicente	3.82	101	eP	P	13 41 53.4	+1.4
SNVI				eS	S	13 42 35.0	-1.0
OXX	Oaxaca	4.72	305	iP	P	13 42 05.5	+1.1
OXX				eS	S	13 43 08.0	+10
OXX	Oaxaca	4.72	305	iP	P	13 42 03.0	-1.4
OXX				eS	S	13 42 52.0	-6.4
CNCH	Conchagua	4.85	102	eP	P	13 42 06.8	+0.6
CNCH				eS	S	13 43 00.5	-1.2
JTS	JuntasAbangare	8.59	117	P	P	13 42 53.7	-4.1
	2.0nm,0.3s,baz=313,slow=19,SNR=4.2						
JTS				S	S	13 44 47.1	+13
	1.1nm,0.3s,baz=278,slow=18,SNR=2.5						
JTS	JuntasAbangare	8.59	117	P	P	13 42 51.7	-6.1
	14nm,0.6s						
LTX	Lajitas	18.02	328	eP	P	13 45 02.0	+0.8
	7.7nm,1.0s						
TXAR	Lajitas Array	18.02	328	P	P	13 45 04.0	+2.8
	5.8nm,0.9s,baz=151,slow=11,SNR=14						
TXAR	Lajitas Array	18.02	328	P	P	13 45 04.0	+2.8
CLNB	Carlsbad	20.53	332	eP	P	13 45 29.0	+0.2
GDL2	Guadalupe Moun	20.70	331	eP	P	13 45 30.6	+0.1
MNTX	Cornudas Mount	20.79	328	eP	P	13 45 30.8	-0.7
	3.8nm,0.9s						
CPRX	Cap Rock	21.18	333	eP	P	13 45 35.8	+0.4
BNM	Barren Site	23.38	330	eP	P	13 46 00.8	+3.8
ANMO	Albuquerque	23.95	331	P	P	13 46 05.0	+2.5
SDCO	Great Sand Dun	25.91	336	eP	P	13 46 21.7	+0.6
	4.8nm,1.1s,mb3.8						
PV01	Paradox Valley	27.53	332	P	P	13 46 35.4	-0.7
PV10	Paradox Valley	27.94	332	eP	P	13 46 40.5	+0.7
BW06	Boulder Array	31.81	336	eP	P	13 47 13.2	-0.7
	1.8nm,0.9s,mb3.8						
PDAR	Pinedale Array	31.81	336	P	P	13 47 13.6	-0.3
	1.2nm,0.9s,mb3.6,baz=140,slow=7.0,SNR=7.5						
REDW	Red Top Meadow	32.82	335	eP	P	13 47 23.5	+0.7
	12nm,0.9s,mb4.7						
SNOW	Snow King Moun	32.87	335	eP	P	13 47 23.7	+0.6
	26nm,1.0s,mb5.0						
LOHW	Long Hollow	32.93	336	eP	P	13 47 23.6	0.0
	6.8nm,1.1s,mb4.4						
TPAW	Teton Pass	32.97	335	eP	P	13 47 24.4	+0.4
	9.1nm,1.0s,mb4.6						
MOOW	Moose Ponds	33.10	336	eP	P	13 47 24.2	-0.9
	4.0nm,1.0s,mb4.2						
ACCN	Adirondack Com	33.21	26	eP	P	13 47 20.1	-5.9
IMW	Indian Meadow	33.30	336	eP	P	13 47 26.4	-0.5
	3.5nm,1.0s,mb4.1						
HLID	Hailey	34.53	332	eP	P	13 47 37.8	+0.4
	5.4nm,1.1s,mb4.3						
MCMT	McKenzie Canyo	34.85	335	eP	P	13 47 41.4	+1.4
YKA	Yellowknife Ar	50.52	347	P	P	13 49 45.5	-1.2
	5.2nm,0.6s,mb4.7,baz=149,slow=7.4,SNR=41						
YKA	Yellowknife Ar	50.52	347	P	P	13 49 45.5	-1.2
YKW3	Yellowknife Ar	50.58	347	eP	P	13 49 45.5	-1.7
INK	Inuvik	59.90	344	eP	P	13 50 52.7	-1.7
	4.2nm,1.0s,mb4.4						
EKA	Eskdalemuir Ar	78.07	36	P	P	13 52 42.4	-4.0
	1.4nm,0.6s,mb3.9,baz=268,slow=6.0,SNR=7.2						
VNA3	Neumayer Olymp	101.26	161			13 58 49.7	
VNA2	Neumayer--Watz	101.94	160			13 58 50.8	
SNAA	Sanae	103.48	161			13 58 44.7	

CSEM 14 13:55:05.6±0.5, 30.66N×56.51E, h2^{km}, ML3.5/2, Error ellipse: s-maj=19.1km s-min=8.0km az=50.0

THR 14 13:55:07.9±0.9, 30.56N×56.54E, h16^{km}±8^{km}, ML2.8

TEH 14 13:55:10.3, 31.37N×56.73E, h18^{km}, Mn3.3

ISC 14 13:55:06.0±0.8, 30.66N±0.06×56.49E±0.09, h10^{km}, n15, σ1^{s}77/18, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRBR	Kerman	0.71	161	ePG	Pg	13 55 19.8	-0.6
KRBR				eSG	Sg	13 55 28.6	-1.4
KRBR				AML	AML	13 55 37.3	
	comp=E,437nm,0.3s						
KRBR	Kerman	0.71	161	ePg	Pg	13 55 19.8	-0.6
	SNR=94						
KRBR				eSg	Sg	13 55 28.6	-1.4
	comp=E,437nm,0.3s,SNR=94						
IBAF	Bafgh	1.22	320	Pg	Pg	13 55 29.3	-1.1
IMEH	Mehriz	1.77	295	Pn	Pn	13 55 40.2	+3.3
ICHK	Chekchek	2.38	312	Pn	Pn	13 55 46.9	+1.2
IPAR	Pars	3.08	256	Pn	Pg	13 56 08.0	+0.4
ISRV	Sarvestan	3.19	247	Pn	Pn	13 56 04.2	+6.9
NASN	Na'in	3.79	305	ePN	Pn	13 56 08.7	+2.9
NASN				eSG	Sg	13 57 09.1	-3.2
NASN				AML	AML	13 57 20.1	
	comp=N,14nm,0.6s						
NASN	Na'in	3.79	305	ePn	Pn	13 56 08.7	+2.9
	SNR=52						
NASN				eSg	Sg	13 57 09.1	-3.2
	comp=N,14nm,0.6s,SNR=90						
ZHSF	Zahedan	3.86	105	ePN	Pn	13 56 08.1	+1.4
GHIR	Ghir-Karzin	3.86	233	ePN	Pn	13 56 08.8	+2.0
IZEF	Zefreh	4.18	303	Pn	Pn	13 56 09.0	-2.4
ISFB	Sefidab	5.14	317	Lg		13 57 40.3	
ISFB	Sefidab	5.14	317	Pn	Pn	13 56 22.5	-2.5
IVRN	Varamin	5.89	318	Pn	Pn	13 56 31.2	-4.4

PRU 14 13:59:34.3, 49.98N×19.05E

WAR 14 13:59:31.9, 50.37N×18.91E, h0^{km}, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	Ojcow	0.59	104	ePG	Pg	13 59 43.0	-0.7
OJC				eSG	Sg	13 59 52.0	+0.5
OKC	Ostrava-Krasne	0.72	223	ePG	Pg	13 59 46.2	-0.1
OKC				eSG	Sg	13 59 55.7	-0.3
	12nm,0.2s						
KSP	Ksiaz	1.73	287	ePG	Pg	14 00 05.0	-1.5
KSP				eSG	Sg	14 00 27.0	-2.6
PRU	Pruhonice	2.83	264	eSG	Sg	14 01 05.7	-0.5

FUNV 14 14:16:36.1, 10.90N×62.29W, h103^{km}, MW2.1

TRN 14 14:16:38.1, 11.01N×62.27W, h22^{km}, MD2.9

NEIC 14 14:16:40.1, 11.09N×62.15W, h20^{km}, MD2.9(TRN), After TRN.

ISC 14 14:16:34.5±0.8, 10.85N±0.07×62.36W±0.03, h111^{km}±7^{km}, n15, σ1^{s}06/28, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.24	146	eP	P	14 16 50.8	+0.6
GUIV				eS	S	14 17 00.9	-1.2
CRUV	Carupano	0.88	259	eP	P	14 16 55.7	+0.8
CRUV				eS	S	14 17 10.2	+0.1
GUNV	Guanoco	0.89	220	eP	P	14 16 56.2	+1.3
GUNV				eS	S	14 17 11.2	+0.9
ITEV	Isla Los Testi	0.92	304	eP	P	14 16 55.8	+0.5
ITEV				eS	S	14 17 10.4	-0.3
TRN	Trinidad (W)	0.96	102⇑	iP	P	14 16 56.3	+0.6
TRN				eS	S	14 17 09.1	-2.4
TPP	Pointe-a-Pierr	1.03	120	eP	P	14 16 57.5	+1.1
TPP				eS	S	14 17 13.1	+0.3
TBH	Brigand Hill	1.32	106	eP	P	14 17 03.8	+4.1
TBH				eS	S	14 17 20.4	+1.8
TBH	Brigand Hill	1.32	106	eP	P	14 17 00.3	+0.7
TBH				eS	S	14 17 17.3	-1.3
GRW	Mount Saint Ca	1.47	27	eP	P	14 17 01.3	-0.2
TPR	Prospect	1.59	78	eP	P	14 17 03.0	+0.1
TPR				eS	S	14 17 22.3	-1.8
BOT	Bacolet	1.64	79	eP	P	14 17 05.0	+1.5
CUPV	Cœpira	3.47	257	eP	P	14 17 28.1	+0.3
CUPV				eS	S	14 18 06.8	-1.5
LUEV	Luepa	5.05	170	eP	P	14 17 48.5	-0.7
LUEV				eS	S	14 18 42.2	-4.6
CAOV	Caicara del Or	5.25	229	eP	P	14 17 51.5	-0.5
CAOV				eS	S	14 18 47.4	-4.4
BAUV	El Baul	5.91	252	eP	P	14 18 00.3	-0.6
BAUV				eS	S	14 19 02.4	-5.6

NEIC 14 14:19:11.7, 39.50N×23.79E, h27^{km}, MD2.9(ATH), After ATH.

ATH 14 14:19:12.1, 39.46N×23.85E, h21^{km}±4^{km}, MD2.9/3

THE 14 14:19:13.8, 39.46N×23.74E, h15^{km}, ML2.4

CSEM 14 14:19:13.3±0.2, 39.47N×23.76E, h24^{km}±1^{km}, ML2.4, Error ellipse: s-maj=4.1km s-min=2.7km az=58.0

ISC 14 14:19:13.1±0.6, 39.47N±0.03×23.78E±0.05, h25^{km}±5^{km}, n14, σ0^{s}88/26, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AOS	Alonnisos	0.30	165	ePg	Pb	14 19 20.7	+0.6
AOS				eSg	Sb	14 19 24.6	-0.4
NEO	Neokhori	0.46	250	ePN	Pb	14 19 22.1	-0.5
NEO				eSN	Sn	14 19 30.0	-1.3
NEO	Neokhori	0.46	250	ePb	Pb	14 19 22.1	-0.5
NEO				eSb	Sb	14 19 28.8	-0.2
XOR	Xorichti	0.47	258	ePg	Pb	14 19 22.3	-0.4
XOR				eSg	Sb	14 19 28.9	-0.3
OUR	Ouranopolis	0.88	10	ePg	Pb	14 19 30.4	+0.8
OUR				eSg	Sb	14 19 43.7	+2.7
PLG	Polygyros	0.94	344	ePN	Pn	14 19 30.1	-0.7
PLG				eSN	Sn	14 19 43.5	-0.1
PLG	Polygyros	0.94	344	ePn	Pn	14 19 30.1	-0.7
PLG				eSn	Sn	14 19 41.5	-2.1
LKR	Lokris	1.02	217	ePN	Pn	14 19 32.2	+0.3
LKR				eSN	Sn	14 19 46.7	+1.3
LIA	Limnos Island	1.17	68	ePN	Pn	14 19 33.3	-0.7
LIT	Litokhoron	1.18	303	ePg	Pn	14 19 34.2	0.0
	comp=Z,1.6nm,0.3s						
LIT				eSg	Sb	14 19 50.2	+0.7
AGG	Agios Georgios	1.21	249	ePg	Pn	14 19 34.7	+0.1
	comp=Z,2.0nm,0.6s						
AGG				eSg	Sb	14 19 51.5	+1.1
SOH	Sokhos	1.39	347	ePg	Pn	14 19 37.6	+0.3
SOH				eSg	Sn	14 19 56.2	+1.2
SRS	Serrai	1.66	355	ePb	Pb	14 19 41.9	-0.8
SRS				eSb	Sb	14 20 02.9	-0.4
KNT	Kendrikon	1.82	339	ePb	Pb	14 19 44.3	-1.3
	comp=Z,1.4nm,0.5s						

CSEM 14 14:23:19.1±0.1, 37.64N×25.17W, h7^{km}, ML3.4, Error ellipse: s-maj=3.4km s-min=2.6km az=51.0, After PDA

PDA 14 14:23:19.1±0.9, 37.64N×25.17W, h7^{km}±4^{km}, MD2.7, ML3.4, Error ellipse: s-maj=7.1km s-min=3.1km az=72.0

SVSA 14 14:23:19.1±0.9, 37.64N×25.17W, h7^{km}±4^{km}, MD2.7, ML3.4, Error ellipse: s-maj=7.1km s-min=3.1km az=72.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIRA	Miradouro	0.17	329	iP	Pg	14 23 23.7	+0.9
MIRA				eS	Sg	14 23 26.5	+1.2
FRA1	Furnas	0.18	305	eP	Pg	14 23 22.8	-0.2
PCNG	Congro	0.22	306	eP	Pg	14 23 23.4	-0.4
PCNG				eS	Sg	14 23 26.6	-0.3
	2μm,0.3s						
PCNG	Congro	0.22	306	eP	Pg	14 23 23.4	-0.4
PCNG				eS	Sg	14 23 26.6	-0.3
	2μm,0.3s						
PFAD	Fenais da Ajud	0.24	328	eP	Pg	14 23 23.5	-0.5
PFAD				eS	Sg	14 23 27.0	-0.3
VIF	Vila Franca	0.24	297	eP	Pg	14 23 23.8	-0.3
VIF				eS	Sg	14 23 27.1	-0.4
	2μm,0.3s						
VIF	Vila Franca	0.24	297	eP	Pg	14 23 23.8	-0.3
VIF				eS	Sg	14 23 27.1	-0.4
	2μm,0.3s						
PRCH	Ribeira Ch	0.27	290	eP	Pg	14 23 24.1	-0.5
PRCH				eS	Sg	14 23 27.6	-0.6
	5μm,0.3s						
PRCH	Ribeira Ch	0.27	290	eP	Pg	14 23 24.1	-0.5
PRCH				eS	Sg	14 23 27.6	-0.6
	5μm,0.3s						
MESC	Monte Escuro	0.27	305	eP	Pg	14 23 24.2	-0.5
MESC				eS	Sg	14 23 28.0	-0.4
LFA	Lagoa do Fogo	0.29	299	iP	Pg	14 23 24.6	-0.4
PMAT	Coroa da Mata	0.30	307	eP	Pg	14 23 24.4	-0.9
PMAT				eS	Sg	14 23 28.2	-1.2
	1μm,0.3s						
PMAT	Coroa da Mata	0.30	307	eP	Pg	14 23 24.4	-0.9
PMAT				eS	Sg	14 23 28.2	-1.2
	1μm,0.3s						
PVER	Pico Vermelho	0.32	300	eP	Pg	14 23 24.4	-1.2
CML	Cha da Macela	0.33	294	eP	Pg	14 23 24.7	-1.1
FAC	Faja de Cima	0.41	290	eP	Pg	14 23 26.1	-1.2
PSAN	Santo Antonio	0.49	296	eP	Pg	14 23 27.2	-1.8
PFET	Feteiras	0.53	290	eP	Pg	14 23 27.6	-2.1
SET2	Ginetes	0.55	292	eP	Pg	14 23 28.2	-1.9
SET4	Mosteiros	0.56	296	eP	Pg	14 23 28.0	-2.3
PSMN	Pico do Norte,	0.64	173	eP	Pg	14 23 31.3	-0.6
PSMN				iS	Sg	14 23 39.2	-1.2
PFAV	Pico das Favas	1.85	306	eP	Pn	14 23 46.8	-4.8
PFAV				eS	Sn	14 24 07.0	-8.5
	108nm,0.4s						
PFAV	Pico das Favas	1.85	306	eP	Pn	14 23 46.8	-4.8
PFAV				eS	Sn	14 24 07.0	-8.5
	108nm,0.4s						
PSCM	Serra do Cume	1.87	305	eP	Pn	14 23 46.7	-5.1
PSCM				eS	Sn	14 24 07.5	-8.4
	147nm,0.2s						
PSCM	Serra do Cume	1.87	305	eP	Pn	14 23 46.7	-5.1
PSCM				eS	Sn	14 24 07.5	-8.4
	147nm,0.2s						
ADH	Angra Heroismo	1.92	303	eP	Pn	14 23 47.5	-5.1
ADH				eS	Sn	14 24 08.3	-8.9
PSBA	Serra de Santa	2.04	304	eP	Pn	14 23 49.1	-5.2
PSBA				eS	Sn	14 24 12.0	-8.2
	102nm,0.3s						
PMAN	Manadas	2.51	294	eP	Pn	14 23 55.8	-5.2
PMAN				eS	Sn	14 24 24.2	-8.0
	31nm,0.3s						
PICO	Pico	2.71	290	eP	Pn	14 23 59.0	-4.9
PICO				eS	Sn	14 24 28.7	-8.6
CALA	Caldeira	2.94	290	eP	Pn	14 24 02.2	-5.0

MOS 14 15:16:53.3±1.9, 50.20N×151.64E, h32^{km}, mb4.2/4, Error ellipse: s-maj=32.6km s-min=21.7km az=52.1

IDC 14 15:17:01.6±3.0, 48.41N×152.95E, h206^{km}±31^{km}, mb3.3/7, mb1 3.4/9, mb1mx3.2/20, mbtmp3.8/9, Error ellipse: s-maj=24.6km s-min=17.3km az=152.0

ISC 14 15:16:56.0±1.4, 48.9N±0.2×153.0E±0.3, h145^{km}±12^{km}, n15, σ0^{s}64/16, mb3.6/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.71	47	ePN	P	15 17 39.5	-0.6
SKR				eS	S	15 18 14.0	+0.3
SKR				pmax	pmax		
	comp=N,30nm,0.3s						
SKR				pmax	pmax		
	comp=Z,60nm,0.3s						
SKR				smax			
	comp=N,180nm,0.3s						
SKR				smax			
	comp=E,140nm,0.3s						
SKR				smax			
	comp=Z,80nm,0.3s						
ASAJ	Asahikawa	8.61	240	P	P	15 18 58.7	+0.2
	comp=Z,0.3nm,0.3s,baz=76,slow=12,SNR=3.2						
FX1	Attu Island--F	13.34	65	P	P	15 20 06.9	+6.5
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1	Attu Island--F	13.34	65	P	P	15 20 06.9	+6.5
	comp=Z,0.9nm,0.3s,baz=94,slow=23,SNR=4.8						
ILAR	Eielson Array	34.95	40	P	P	15 23 36.8	+1.5
	comp=Z,0.3nm,0.5s,mb3.2,baz=254,slow=7.1,SNR=4.1						
MKAR	Makanchi Array	45.91	295	P	P	15 25 05.7	+0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	45.91	295	P	P	15 25 05.7	+0.4
	comp=Z,0.8nm,0.7s,mb3.5,baz=67,slow=9.2,SNR=7.0						
ARCES	ARCESS Array B	55.80	340	P	P	15 26 19.3	-0.2
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES	ARCESS Array B	55.80	340	P	P	15 26 19.3	-0.2
	comp=Z,3.9nm,0.9s,mb4.2,baz=32,slow=8.5,SNR=4.3						
FINES	FINESS Array B	62.06	334	P	P	15 27 02.4	-0.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FINES	FINESS Array B	62.06	334	P	P	15 27 02.4	-0.4
	comp=Z,0.6nm,0.4s,mb3.8,baz=41,slow=6.5,SNR=8.7						
PDAR	Pinedale Array	63.56	55	P	P	15 27 12.1	-0.8
	comp=Z,0.8nm,0.8s,mb3.6,baz=315,slow=2.1,SNR=6.2						
HFS	Hagfors	66.42	339	P	P	15 27 30.7	-0.2
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	Hagfors	66.42	339	P	P	15 27 30.7	-0.2
	comp=Z,0.6nm,0.4s,mb3.8,baz=27,slow=6.4,SNR=8.4						
WRA	Warramunga Arr	70.52	199	P	P	15 27 51.1	-5.8
	comp=Z,0.3nm,0.7s,mb3.1,baz=11,slow=6.1,SNR=4.9						

*IDC **14** 15:25:29.8±0.8, 32.60S×109.24W, mb4.0/9, mb1 4.2/9, mb1mx4.2/17, mbtmp4.0/9, MS3.9/16, Ms1 3.9/16, ms1mx3.9/24, Error ellipse: s-maj=31.5km s-min=21.3km az=19.0*
*MOS **14** 15:25:30.0±1.1, 32.77S×109.06W, h10^{km}, mb4.6/3, Error ellipse: s-maj=27.1km s-min=21.1km az=91.9*
*NEIC **14** 15:25:31.1±0.5, 32.60S×109.23W, h10^{km}, mb4.5/6, Error ellipse: s-maj=15.2km s-min=13.0km az=111.0*
*BJI **14** 15:25:33.0, 32.60S×109.20W, h10^{km}*
ISC 14 15:25:29.5±0.8**, 32.7S**±0.1×**109.2W**±0.2**, h10^{km}, n54, σ0^{s}97**/29**, mb4.2**/15**, MS4.0**/16**, 4C-7D, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	31.77	116	P	P	15 31 57.5	+1.3
	2.6nm,0.8s,mb4.1,baz=279,slow=8.0,SNR=11						
PLCA				LR	LR	15 41 15.2	
	comp=Z,173nm,21.7s,MS3.7,baz=102,slow=30						
CFAA	Coronel Fontan	34.52	99	P	P	15 32 19.9	-0.2
	0.1nm,0.4s,mb3.1,baz=256,slow=8.7,SNR=2.5						
CFAA				LR	LR	15 42 39.8	
	comp=Z,29nm,20.1s,MS3.0,baz=1.2,slow=30						
USHA	Ushuaia	36.08	140	LR	LR	15 42 41.2	
	comp=Z,81nm,20.9s,MS3.5,baz=153,slow=28						
LVC	Limon Verde	36.85	85	P	P	15 32 42.2	+2.3
	2.6nm,0.8s,mb4.1,baz=208,slow=7.5,SNR=2.8						
LVC	Limon Verde	36.85	85	eP	P	15 32 41.8	+1.9
	12nm,1.2s,mb4.6						
TRQA	Tornquist	38.52	112	P	P	15 32 47.0	-6.8
	7.5nm,1.1s,mb4.3						
PPT	Papeete	39.31	283	LR	LR	15 45 13.4	
	comp=Z,181nm,18.1s,MS4.0,baz=146,slow=30						
LPAZ	La Paz	40.48	76	LR	LR	15 47 19.0	
	comp=Z,78nm,18.8s,MS3.6,baz=239,slow=32						
CPUP	Villa Florida	45.19	96	P	P	15 33 48.4	-0.2
	2.6nm,0.9s,mb4.0,baz=270,slow=9.1,SNR=3.6						
CPUP				LR	LR	15 49 36.5	
	comp=Z,140nm,21.9s,MS3.9,baz=61,slow=32						
SIV	San Ignacio	46.46	81	P	P	15 33 59.1	+0.4
	1.9nm,0.6s,mb4.2,baz=238,slow=13,SNR=11						
SAML	Samuel	48.55	71	eP	P	15 34 14.4	-0.7
	3.0nm,1.0s,mb4.3						
JTS	JuntasAbangare	48.59	33	eP	P	15 34 15.0	-0.4
JTS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
JTS	JuntasAbangare	48.59	33	eP	P	15 34 15.0	-0.4
	comp=Z,6.6nm,1.0s,mb4.6						
ROSC	El Rosal	49.88	48	LR	LR	15 52 14.2	
	comp=Z,175nm,19.8s,MS4.1,baz=3.5,slow=32						
SDV	Santo Domingo	55.30	48	eP	P	15 35 04.5	-1.4
	comp=Z,6.0nm,1.0s,mb4.6						
SBA	Scott Base	57.06	195	eP	P	15 35 17.6	0.0
SBA				pmax	pmax		
	comp=Z,14nm,1.6s,mb4.7						
SBA	Scott Base	57.06	195	eP	P	15 35 17.6	0.0
	comp=Z,14nm,1.6s,mb4.7						
BDFB	Brasilia	57.59	88	P	P	15 35 21.2	-0.9
	comp=Z,1.3nm,0.4s,mb4.3,baz=229,slow=4.7,SNR=2.8						
VNDA	Vanda	58.13	195	P	P	15 35 25.8	+0.7
	comp=Z,0.6nm,0.7s,mb3.7,baz=118,slow=4.2,SNR=4.8						
VNDA				LR	LR	15 54 56.1	
	comp=Z,146nm,21.1s,MS4.1,baz=101,slow=30						
RPZ	Rata Peaks	61.40	234	LR	LR	15 57 59.6	
	comp=Z,192nm,18.8s,MS4.3,baz=149,slow=32						
VNA3	Neumayer Olymp	62.37	159⇓	i	P	15 35 54.3	0.0
VNA3	Neumayer Olymp	62.37	159⇑	i	P	15 36 00.8	+6.5
VNA1	Neumayer--Stat	63.02	158⇓	i	P	15 35 59.0	+0.5
VNA1	Neumayer--Stat	63.02	158⇑	i	P	15 36 05.4	+6.9
VNA2	Neumayer--Watz	63.18	159⇓	i	P	15 36 00.0	+0.4
VNA2	Neumayer--Watz	63.18	159⇑	i	P	15 36 06.3	+6.7
SNAA	Sanae	64.22	160⇓	i	P	15 36 05.2	-1.1
SNAA	Sanae	64.22	160⇑	i	P	15 36 13.5	+7.2
SNAA	Sanae	64.22	160⇓	eP	P	15 36 05.4	-0.9
SNAA	Sanae	64.22	160	eP	P	15 36 04.7	-1.6
NVL	N'lazarevskaya	68.70	162⇓	iP	P	15 36 33.2	-1.6
NVL				i *PP	pP	15 36 36.3	-1.6
NVL				i *SP	sP	15 36 39.4	+0.4
NVL				i		15 37 02.8	
NVL				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
DZM	Mont Dzumac	73.90	254	LR	LR	16 01 15.7	
	comp=Z,164nm,19.5s,MS4.3,baz=9.4,slow=29						
PDAR	Pinedale Array	75.09	360	P	P	15 37 13.4	+0.1
	comp=Z,1.4nm,0.9s,mb3.9,baz=180,slow=4.4,SNR=8.6						
PDAR				LR	LR	16 04 46.4	
	comp=Z,97nm,18.9s,MS4.1,baz=359,slow=31						
MAW	Mawson	79.83	177	LR	LR	16 09 30.7	
	comp=Z,119nm,18.3s,MS4.3,baz=242,slow=33						
ULM	Lac du Bonnet	83.42	9	LR	LR	16 11 33.5	
	comp=Z,90nm,18.6s,MS4.2,baz=190,slow=33						
CTA	Charters Tower	90.92	245	LR	LR	16 13 15.2	
	comp=Z,98nm,20.2s,MS4.2,baz=141,slow=32						
SCHQ	Schefferville	94.46	23	LR	LR	16 15 56.4	
	comp=Z,94nm,19.3s,MS4.3,baz=260,slow=32						
YKA	Yellowknife Ar	94.96	357	P	P	15 38 54.2	+1.5
	comp=Z,0.9nm,0.8s,mb4.2,baz=177,slow=4.9,SNR=5.9						
YKA				LR	LR	16 17 07.7	
	comp=Z,64nm,18.9s,MS4.1,baz=180,slow=33						
YKA	Yellowknife Ar	94.96	357	P	P	15 38 54.2	+1.5
YKA				LR	LR	16 17 07.7	
KHC	Kasperske Hory	134.82	51	i PKIKP	PKPdf	15 44 49.9	-1.7
GERES	GERESS Array B	134.90	52	PKP	PKPdf	15 44 49.4	-2.3
	comp=Z,0.8nm,0.7s,baz=297,slow=3.0,SNR=4.3						
FINES	FINESS Array B	139.39	31	PKP	PKPdf	15 44 59.3	-0.3
	comp=Z,0.7nm,0.5s,baz=207,slow=9.3,SNR=2.7						
AKASG	Malin Array Be	144.67	47	PKP	PKPdf	15 45 05.3	-3.7
	comp=Z,3.1nm,0.6s,baz=273,slow=4.1,SNR=17						
AKASG	Malin Array Be	144.67	47	PKP	PKPdf	15 45 05.3	-3.7
ENH	Enshi	147.07	276	PKPdf	PKPdf	15 45 13.0	-0.8
XAN	Xi'an	148.28	283	PKP	PKPdf	15 45 17.3	+1.7
ULN	Ulaanbaatar	148.82	310	d iPKHKP		15 45 05.0	
EIL	Elat	149.24	86	ePKPdf	PKPdf	15 45 16.1	-1.2
EIL				ePKPbc	PKPdf	15 45 19.6	+2.2
SONM	Songino Array	149.25	310	PKP	PKPdf	15 45 15.4	-1.3
	comp=Z,2.3nm,1.0s,baz=90,slow=1.4,SNR=6.3						
SONM				PKPbc	PKPdf	15 45 19.0	+2.3
	comp=Z,3.4nm,0.9s,baz=110,slow=1.5,SNR=10						
BRTR	Keskin Array B	149.34	66	PKPbc	PKPdf	15 45 20.1	+3.0
	comp=Z,2.0nm,0.8s,baz=207,slow=2.8,SNR=10						
ZAK	Zakamensk	150.29	316	ePKIKP	PKPdf	15 45 22.0	+3.7
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ZRNK	Zerenda	159.71	3	ePKIKP	PKPdf	15 45 28.1	-2.7
ZRNK				e		15 46 08.9	
MKAR	Makanchi Array	163.42	331	PKP	PKPdf	15 45 31.8	-3.0
	comp=Z,0.4nm,0.7s,baz=45,slow=2.0,SNR=3.7						
MKAR	Makanchi Array	163.42	331	PKP	PKPdf	15 45 31.8	-3.0

*NEIC **14** 15:50:10.4±0.8, 7.10S×158.38E, h35^{km}, mb4.5/3, Error ellipse: s-maj=16.1km s-min=10.7km az=59.0*
*IDC **14** 15:50:10.6±1.7, 7.77S×158.08E, mb4.2/4, mb1 4.3/5, mb1mx4.1/12, mbtmp4.3/5, ML5.0/1, MS3.9/1, Ms1 3.9/1, ms1mx2.9/18, Error ellipse: s-maj=38.2km s-min=30.1km az=33.0*
ISC 14 15:50:07.5±1.0**, 7.2S**±0.1×**158.5E**±0.1**, h33^{km}, n12, σ0^{s}94**/12**, mb4.3**/5**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.66	148	Pn	Pn	15 50 51.5	+2.4
	292nm,0.3s,baz=234,slow=2.3,SNR=369						
HNR				Sn	Sn	15 51 19.3	-1.2
	695nm,0.3s,baz=112,slow=23,SNR=27						
DZM	Mont Dzumac	16.68	154	Pn	P	15 54 04.8	+4.5
	0.7nm,0.3s,baz=324,slow=19,SNR=10						
CTA	Charters Tower	17.51	222	Pn	P	15 54 11.7	+0.9
	0.1nm,0.3s,baz=43,slow=13,SNR=3.3						
CTAO	Charters Tower	17.51	222	P	P	15 54 11.4	+0.7
	6.1nm,1.0s						
GUMO	Guam	24.68	327	P	P	15 55 27.2	+0.2
WRAB	Tennant Creek	26.66	239	eP	P	15 55 45.8	+0.3
WRA	Warramunga Arr	26.67	239	P	P	15 55 45.9	+0.3
	1.1nm,0.6s,mb3.6,baz=63,slow=9.1,SNR=17						
STKA	Stephens Creek	29.22	210	P	P	15 56 07.4	-1.0
	1.2nm,0.6s,mb3.8,baz=46,slow=16,SNR=3.8						
FITZ	Fitzroy Crossi	33.81	248	P	P	15 56 48.3	-0.7
	2.6nm,0.7s,mb4.3,baz=66,slow=5.3,SNR=5.4						
QIZ	Qiongzhong	54.57	299	P	P	15 59 34.8	-0.5
	68nm,1.7s,mb5.4						
ULN	Ulaanbaatar	71.06	326	eP	P	16 01 23.9	-0.3
	4.0nm,0.9s,mb4.3						
MKAR	Makanchi Array	85.86	318	P	pP	16 02 53.5	-2.1
	2.9nm,0.6s,baz=98,slow=5.7,SNR=14						

*CRAAG **14** 15:50:42.5, 35.72N×1.21E, Ml3.7*
*CSEM **14** 15:50:44.7±0.1, 35.73N×0.99E, h5^{km}, ML3.7, Error ellipse: s-maj=3.9km s-min=2.7km az=25.0*
*MDD **14** 15:50:47.4±0.5, 35.80N×1.15E, mb3.8/7, Error ellipse: s-maj=6.3km s-min=4.5km az=89.0, PRXIMO*
*NEIC **14** 15:50:50.2, 36.01N×1.10E, MG3.9(MDD), After MDD.*
ISC 14 15:50:47.9±0.7**, 35.93N**±0.05×**1.02E**±0.04**, h10^{km}, n31, σ0^{s}93**/50**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EANR	'Ain N'Sour	0.06	75	P	Pg	15 50 50.2	+0.1
OKGL	Djebel Kef Gue	0.33	289	P	Pg	15 50 55.0	+0.4
ECHF	Ech Chlef	0.34	49	P	Pg	15 50 55.0	+0.1
ECHA	Ech Chlef	0.35	52	P	Pg	15 50 55.0	-0.1
OJGS	Djebel Guires	0.48	208	P	Pg	15 50 57.0	-0.7
EBNR	Beni Rached	0.54	49	P	Pg	15 51 00.0	+1.2
ETRT	Tiaret	0.59	157	P	Pg	15 50 54.0	-5.7
OJBR	Djebel Berber	0.65	238	P	Pb	15 50 55.5	-5.4
EMHD	Djebel Mahouad	1.58	80	P	Pn	15 51 15.0	-1.2
EBEN	Beniarda	2.94	341	P	Pn	15 51 34.6	-0.9
EBEN				S	Sn	15 52 10.4	-0.9
EBEN	Beniarda	2.94	341	P	Pn	15 51 38.1	+2.5
	1.9nm,0.5s,SNR=4.0						
EBEN				S	Sn	15 52 10.4	-0.9
	7.6nm,0.5s,SNR=7.9						
EBEN	Beniarda	2.94	341	P	Pn	15 51 36.3	+0.7
	11nm,0.5s,SNR=4.0						
EBEN				S	Sn	15 52 10.4	-0.9
	7.6nm,0.5s,SNR=7.9						
EIBI	Ibiza	3.10	5	P	Pn	15 51 38.0	+0.2
	16nm,0.6s,SNR=7.9						
EIBI				S	Sn	15 52 11.9	-3.4
	5.3nm,0.2s,SNR=7.9						
EIBI	Ibiza	3.10	5	P	Pn	15 51 38.0	+0.2
	16nm,0.6s,SNR=7.9						
EIBI				S	Sn	15 52 11.9	-3.4
	5.3nm,0.2s,SNR=7.9						
EBER	Berja	3.30	288	P	Pn	15 51 39.1	-1.5
EBER				S	Sn	15 52 19.9	-0.5
EBER	Berja	3.30	288	P	Pn	15 51 40.8	+0.1
	0.6nm,0.0s,SNR=4.0						
EBER				S	Sn	15 52 19.9	-0.5
	7.5nm,0.5s,SNR=7.9						
EBER	Berja	3.30	288	P	Pn	15 51 39.1	-1.6
	SNR=7.9						
EBER				S	Sn	15 52 19.9	-0.5
	7.5nm,0.5s,SNR=7.9						
ETOB	Tobarra	3.40	324	P	Pn	15 51 43.0	+0.9
ETOB				S	Sn	15 52 22.2	-0.6
ETOB	Tobarra	3.40	324	P	Pn	15 51 43.0	+0.9
	2.5nm,0.2s,SNR=6.6						
ETOB				S	Sn	15 52 22.2	-0.6
	20nm,0.6s,SNR=7.0						
ETOB	Tobarra	3.40	324	P	Pn	15 51 43.0	+1.0
	2.5nm,0.2s,SNR=6.6						
ETOB				S	Sn	15 52 22.2	-0.6
	20nm,0.6s,SNR=7.0						
EQES	Quesada	3.78	301	P	Pn	15 51 49.2	+1.7
EQES				S	Sn	15 52 32.8	+0.3
EQES	Quesada	3.78	301	P	Pn	15 51 48.8	+1.3
	9.5nm,0.2s,SNR=6.9						
EQES				S	Sn	15 52 32.8	+0.3
	8.1nm,0.3s,SNR=7.9						
EQES	Quesada	3.78	301	P	Pn	15 51 48.8	+1.4
	9.5nm,0.2s,SNR=6.9						
EQES				S	Sn	15 52 32.8	+0.3
	8.1nm,0.3s,SNR=7.9						
EVIA	Vianos	3.90	315	S	Sn	15 52 35.8	+0.2
	5.0nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	4.58	346	P	Pn	15 51 58.5	-0.3
EMOS				S	Sn	15 52 49.4	-3.4
EMOS	Mosqueruela	4.58	346	P	Pn	15 52 00.5	+1.6
	7.2nm,0.8s,SNR=7.9						
EMOS				S	Sn	15 52 49.4	-3.4
	1.9nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	4.58	346	P	Pn	15 51 58.5	-0.3
EMOS				S	Sn	15 52 49.4	-3.4
	1.9nm,0.4s,SNR=7.9						
EADA	Adamuz	5.00	298	P	Pn	15 52 09.0	+4.2
	2.8nm,0.6s,SNR=7.9						
EADA				S	Sn	15 53 10.1	+6.6
	5.8nm,0.5s,SNR=7.9						
EADA	Adamuz	5.00	298	P	Pn	15 52 09.0	+4.1
EADA				S	Sn	15 53 10.1	+6.6
ECAB	El Cabril	5.58	294	P	Pn	15 52 13.1	+0.1
	2.4nm,0.5s,SNR=7.9						
ECAB	El Cabril	5.58	294	P	Pn	15 52 13.1	+0.1

*NEIC **14** 15:52:29.6, 32.99S×70.60W, h90^{km}, MD3.8(GUC), After GUC.*
GUC 14 15:52:29.6±0.7**, 32.99S**×**70.60W, h90^{km}**±2^{km}**, MD3.8, ML3.9, 12C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PEL	Peldehue	0.17	205	i P	P	15 52 43.1	+0.6
PEL				i S	S	15 52 52.8	+0.6
JACH	Jahuel	0.31	1	eP	P	15 52 43.7	+0.6
JACH				i S	S	15 52 54.4	+1.0
ROCH	El Roble	0.34	273⇑	iP	P	15 52 43.9	+0.6
ROCH				i S	S	15 52 54.3	+0.6
DSCH	Colegio Aleman	0.41	176⇑	iP	P	15 52 44.3	+0.5
DSCH				i S	S	15 52 54.9	+0.4
DSCH				AMP		15 52 56.3	
	comp=E,4µm,0.4s						
CLCH	Cerro Calan	0.41	172	eP	P	15 52 44.2	+0.5
CLCH				i S	S	15 52 54.9	+0.5
CLCH				AMP		15 53 02.6	
	comp=E,4µm,0.6s						
FCH	Farellones	0.42	142⇑	iP	P	15 52 44.8	+0.9
FCH				i S	S	15 52 56.1	+1.5
FCH				AMP		15 52 56.9	
	comp=N,8µm,0.4s						
SAN	Santiago	0.46	186⇑	iP	P	15 52 44.5	+0.3
SAN				i S	S	15 52 55.4	+0.3
SAN				AMP		15 52 56.2	
	comp=E,4µm,0.5s						
RCDM	Rinconada Maip	0.52	199	eP	P	15 52 44.8	+0.1
RCDM				i S	S	15 52 56.4	+0.5
RCDM				AMP		15 52 59.4	
	comp=N,9µm,0.1s						
ANTU	Antumapu	0.57	183⇑	iP	P	15 52 45.4	+0.2
ANTU				i S	S	15 52 57.0	+0.3
ANTU				AMP		15 52 57.8	
	comp=E,8µm,0.3s						
PCH	Pirque	0.63	173⇑	iP	P	15 52 46.0	+0.3
PCH				i S	S	15 52 58.2	+0.6
SJCH	San Jose de Ma	0.68	162⇑	iP	P	15 52 46.5	+0.3
SJCH				i S	S	15 52 59.1	+0.7
SJCH				AMP		15 52 59.7	
	comp=N,6µm,0.4s						
TACH	Talagante	0.72	203⇑	iP	P	15 52 46.4	-0.1
TACH				i S	S	15 52 59.0	0.0
IHA	Instituto Hidr	0.87	268⇓	iP	P	15 52 48.4	+0.3
IHA				i S	S	15 53 02.3	+0.4
CHCH	Chadas Angostu	0.94	183⇑	iP	P	15 52 48.9	0.0
CHCH				i S	S	15 53 03.7	+0.5
LCCH	Las Cruces	0.94	239⇑	iP	P	15 52 49.2	+0.3
LCCH				i S	S	15 53 03.6	+0.3
CACH	El Canelo	1.12	180⇓	iP	P	15 52 51.6	+0.6
CACH				i S	S	15 53 08.4	+1.3
LNV	Longovilo	1.17	215⇓	iP	P	15 52 51.2	-0.6
LNV				i S	S	15 53 07.7	-0.5
CICH	Cipreses	1.33	174	eP	P	15 52 54.1	+0.4
CICH				i S	S	15 53 12.7	+1.1
ILCH	Illapel	1.44	340	eP	P	15 52 55.3	+0.3
ILCH				i S	S	15 53 14.5	+0.7
ILCH				AMP		15 53 15.7	
	comp=E,2µm,0.3s						
SFDO	San Fernando	1.65	192⇑	iP	P	15 52 57.5	-0.3
CMCH	Combarbala	1.85	349⇓	iP	P	15 52 59.6	-0.6
CMCH				i S	S	15 53 22.9	0.0
CMCH				AMP		15 53 32.6	
	comp=E,3µm,0.7s						
ZON	Zonda	2.18	49⇓	iP	P	15 53 05.0	+0.2
ZON				eS	S	15 53 41.0	+10
TLL	Tololo Astrono	2.82	356⇑	iP	P	15 53 13.6	-0.1
TLL				i S	S	15 53 46.9	0.0
TLL				AMP		15 53 51.5	
	comp=N,1µm,0.5s						

*IDC **14** 15:53:06.8±1.3, 1.32N×96.83E, h26^{km}±5^{km}, mb3.9/6, mb1 4.0/6, mb1mx3.7/15, mbtmp4.1/6, MS3.3/1, Ms1 3.3/1, ms1mx2.9/16, Error ellipse: s-maj=54.1km s-min=19.6km az=51.0*
*NEIC **14** 15:53:07.2±0.8, 1.41N×97.03E, h30^{km}, mb4.5/5, Error ellipse: s-maj=19.5km s-min=12.8km az=53.0*
ISC 14 15:53:04.9±0.9**, 1.4N**±0.1×**97.0E**±0.1**, h27^{km}, h27^{km}**±.4^{km}**:pP-P, n15, σ1^{s}01**/13**, mb4.2**/11**, MS3.4**/1**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.30	43	eP	Pn	15 54 24.6	+0.2
QIZ	Qiongzhong	21.56	35	P	P	15 57 57.7	+3.1
	12nm,1.0s,mb4.3						
ENH	Enshi	31.06	21	P	P	15 59 21.3	-1.8
	6.6nm,0.7s,mb4.6						
WRA	Warramunga Arr	42.29	122	P	P	16 00 59.3	+1.0
	1.0nm,0.8s,mb3.5,baz=302,slow=9.2,SNR=8.0						
WRA				pP	pP	16 01 07.5	+1.1
	0.6nm,0.6s,baz=306,slow=9.1,SNR=5.2						
WRAB	Tennant Creek	42.30	122	P	P	16 00 57.5	-0.9
	5.5nm,1.1s,mb4.1						
SONM	Songino Array	46.96	9	P	P	16 01 35.9	+0.5
	4.0nm,0.7s,mb4.4,baz=191,slow=8.3,SNR=38						
SONM				pP	pP	16 01 44.1	+0.5
	0.6nm,0.4s,baz=190,slow=9.5,SNR=4.2						
MKAR	Makanchi Array	47.01	346	P	P	16 01 36.1	+0.3
	2.9nm,0.7s,mb4.3,baz=159,slow=7.7,SNR=27						
MKAR				pP	pP	16 01 44.5	+0.5
	2.5nm,0.6s,baz=159,slow=7.7,SNR=11						
MKAR	Makanchi Array	47.01	346	P	P	16 01 36.1	+0.3
MKAR				pP	pP	16 01 44.5	+0.5
PMG	Port Moresby	51.08	103	P	P	16 02 07.5	-0.1
	11nm,1.0s,mb4.8						
ASAJ	Asahikawa	58.61	37	LR	LR	16 29 47.9	
	comp=Z,26nm,18.6s,MS3.4,baz=154,slow=37						
YAK	Yakutsk	65.28	16	eP	P	16 03 45.1	-1.3
	13nm,1.1s,mb4.9						
AKASG	Malin Array Be	74.99	322	P	P	16 04 45.4	-0.4
	0.2nm,0.2s,mb3.6,baz=86,slow=5.0,SNR=3.0						
AKASG				pP	pP	16 04 53.6	-0.7
	0.2nm,0.3s,baz=94,slow=4.3,SNR=1.8						
FINES	FINESS Array B	79.74	333	P	P	16 05 12.0	+0.1
	1.3nm,0.9s,mb3.9,baz=111,slow=12,SNR=3.3						
ARCES	ARCESS Array B	82.29	340	P	P	16 05 26.1	+1.0
	3.3nm,0.9s,mb4.2,baz=101,slow=6.2,SNR=3.9						
GERES	GERESS Array B	84.55	319	pP	pP	16 05 47.0	+1.3
	0.9nm,0.9s,baz=79,slow=6.8,SNR=3.6						

*IDC **14** 16:06:44.8±1.7, 19.83S×68.91W, h111^{km}±15^{km}, mb3.3/3, mb1 3.8/6, mb1mx3.5/19, mbtmp4.0/6, Error ellipse: s-maj=45.3km s-min=13.2km az=99.0*
ISC 14 16:06:44.8±1.2**, 19.86S**±0.09×**68.8W**±0.2**, h122^{km}**±13^{km}**, n8, σ1^{s}06**/7**, mb3.7**/2**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.74	183	P	P	16 07 27.8	-0.7
	82nm,0.3s,baz=360,slow=9.7,SNR=388						
LVC				S	S	16 08 01.6	0.0
	88nm,0.3s,baz=216,slow=17,SNR=15						
LPAZ	La Paz	3.60	9	P	P	16 07 40.7	+0.6
	18nm,0.3s,baz=204,slow=6.5,SNR=371						
SIV	San Ignacio	8.26	63	P	P	16 08 42.8	-0.2
	4.0nm,0.3s,baz=259,slow=10,SNR=77						
PLCA	Paso Flores	20.86	184	P	P	16 11 20.0	+1.5
	1.1nm,0.8s,baz=7.7,slow=23,SNR=3.7						
SNAA	Sanae	63.77	161	P	P	16 17 05.4	-0.2
	0.2nm,0.5s,mb3.2,baz=270,slow=11,SNR=5.8						
YKA	Yellowknife Ar	89.70	341	P	P	16 19 28.9	-0.9
	1.3nm,0.7s,mb4.2,baz=134,slow=4.5,SNR=8.8						
WRA	Warramunga Arr	134.43	211	PKP	PKPdf	16 25 50.1	+0.8
	0.5nm,0.5s,baz=155,slow=1.8,SNR=13						
SONM	Songino Array	151.82	7	PKPbc	PKPdf	16 26 26.5	+8.2
	0.8nm,0.6s,baz=336,slow=0.6,SNR=10						

*CSEM **14** 16:08:04.6±0.1, 42.28N×29.22W, h2^{km}, mb4.5/35, Ms3.7, Error ellipse: s-maj=3.0km s-min=1.9km az=100.0*
*IDC **14** 16:08:07.2±0.7, 42.37N×29.34W, mb4.0/14, mb1 4.2/15, mb1mx4.0/25, mbtmp4.0/15, ML4.5/1, MS3.6/20, Ms1 3.6/20, ms1mx3.6/24, Error ellipse: s-maj=22.6km s-min=15.1km az=156.0*
*NEIC **14** 16:08:08.9±0.4, 42.51N×29.26W, h10^{km}, mb4.4/62, MS3.8/2, Error ellipse: s-maj=10.9km s-min=5.7km az=181.0*
*MOS **14** 16:08:10.0±0.9, 42.45N×29.17W, h30^{km}, mb4.5/29, Error ellipse: s-maj=15.8km s-min=5.8km az=153.5*
*PDA **14** 16:08:14.4, 42.58N×29.34W, h10^{km}, mb4.3*
ISC 14 16:08:06.4±0.3**, 42.22N**±0.03×**29.26W**±0.05**, h10^{km}, n196, σ1^{s}18**/183**, mb4.2**/53**, MS3.7**/22**, 8C-3D, Azores Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STGR	Santa Cruz	3.27	163	eP	Pn	16 09 00.3	+1.5
	94nm,0.9s						
PGRA	Graciosa	3.33	163	eP	Pn	16 09 00.7	+1.1
	170nm,1.5s						
CALA	Caldeira	3.66	173	eP	Pn	16 09 04.6	+0.4
PMAN	Manadas	3.69	166	eP	Pn	16 08 59.7	-5.0
	44nm,0.3s						
HOR	Horta	3.72	172	eP	Pn	16 09 04.8	-0.3
PSBA	Serra de Santa	3.75	156	eP	Pn	16 09 03.1	-2.4
	137nm,0.9s						
PICO	Pico	3.77	170	eP	Pn	16 09 04.4	-1.4
ASBA	Santa Barbara	3.79	156	eP	Pn	16 09 04.4	-1.8
	53nm,0.2s						
PVNV	Vila Nova	3.80	154	eP	Pn	16 09 04.2	-2.2
	76nm,1.0s						
RIB2	Ribeirinha	3.88	155	eP	Pn	16 09 05.0	-2.5
PMAT	Coroa da Mata	5.27	145	eP	Pn	16 09 26.5	-0.6
	74nm,0.3s						
MESC	Monte Escuro	5.30	145	eP	Pn	16 09 26.8	-0.7
LFA	Lagoa do Fogo	5.30	146	eP	Pn	16 09 25.9	-1.7
PRCH	Ribeira Ch	5.34	146	eP	Pn	16 09 27.6	-0.5
	43nm,0.4s						
PCNG	Congro	5.34	145	eP	Pn	16 09 27.3	-0.8
VIF	Vila Franca	5.34	145	eP	Pn	16 09 28.3	+0.2
	57nm,0.5s						
MIRA	Miradouro	5.38	144	eP	Pn	16 09 28.8	+0.2
FRA1	Furnas	5.38	145	eP	Pn	16 09 28.5	-0.2
PSMN	Pico do Norte,	6.13	147	eP	Pn	16 09 39.3	0.0
EMAZ	Mazaricos	14.96	80	P	P	16 11 43.9	+4.3
	8.9nm,0.8s						
EZAM	Zamans	15.25	83	P	P	16 11 48.7	+5.4
EZAM				pmax	pmax		
	comp=Z,24nm,0.8s						
EZAM	Zamans	15.25	83	P	P	16 11 48.7	+5.5
	comp=Z,24nm,0.8s						
ELOB	Lobios	15.75	84	P	P	16 11 54.2	+4.3
	comp=Z,44nm,1.4s						
PTOM	Tomar	15.97	92	eP	P	16 11 55.8	+3.1
PVIS	Viseu	16.08	88	eP	P	16 11 56.9	+2.8
EPON	Pontenova	16.27	79	P	P	16 11 59.6	+3.2
	comp=Z,74nm,1.3s						
MTE	Manteigas	16.41	89	eP	P	16 12 02.7	+4.4
	comp=Z,12nm,0.9s						
MTE	Manteigas	16.41	89	eP	P	16 12 03.3	+5.0
PTEO	Sao Teotonio	16.43	100	eP	P	16 11 58.1	-0.4
PCBR	Castelo Branco	16.60	91	eP	P	16 12 02.9	+2.2
ECAL	Calabor	16.72	83	P	P	16 12 06.2	+4.0
	comp=Z,36nm,0.9s						
PBRG	Braganca	16.74	84	eP	P	16 12 06.3	+3.9

PBEJ	**Beja**	**16.88**	**97**	*e*P	**P**	**16 12 04.7**	**+0.5**
EBAD	**Badajoz**	**17.26**	**94**	P	**P**	**16 12 11.5**	**+2.5**
	comp=Z,50nm,2.1s						
EGRO	**El Granado**	**17.34**	**98**	P	**P**	**16 12 10.7**	**+0.6**
	comp=Z,40nm,1.3s						
EGRO	**El Granado**	**17.34**	**98**	P	**P**	**16 12 10.6**	**+0.6**
	comp=Z,40nm,1.3s						
EARI	**Arriondas**	**17.68**	**78**	P	**P**	**16 12 16.0**	**+1.8**
	comp=Z,197nm,1.9s						
EMIN	**Mina Concepcio**	**17.85**	**97**	P	**P**	**16 12 19.3**	**+2.9**
	comp=Z,16nm,0.7s						
ECAB	**El Cabril**	**18.67**	**95**	P	**P**	**16 12 28.8**	**+2.2**
	comp=Z,43nm,2.1s						
ESPR	**Espera**	**18.80**	**99**	P	**P**	**16 12 29.3**	**+1.2**
	comp=Z,21nm,0.8s						
ESPR	**Espera**	**18.80**	**99**	P	**P**	**16 12 29.3**	**+1.2**
	comp=Z,21nm,0.8s						
ELAN	**Lanestosa**	**18.98**	**78**	P	**P**	**16 12 30.9**	**+0.7**
	comp=Z,42nm,1.6s						
ELAN	**Lanestosa**	**18.98**	**78**	P	**P**	**16 12 31.0**	**+0.8**
	comp=Z,42nm,1.6s						
ROSF	**Rostrenen**	**19.23**	**63**	*e*P	**P**	**16 12 32.1**	**-1.1**
	comp=Z,19nm,1.0s						
ROSF	**Rostrenen**	**19.23**	**63**	*e*P	**P**	**16 12 32.1**	**-1.1**
ROSF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
QUIF	**Quistinic**	**19.25**	**64**	*e*P	**P**	**16 12 33.1**	**-0.2**
	comp=Z,75nm,1.4s						
QUIF	**Quistinic**	**19.25**	**64**	*e*P	**P**	**16 12 33.1**	**-0.2**
QUIF				pmax	pmax		
	comp=Z,37nm,1.4s						
ESDC	**Sonseca Array**	**19.26**	**89**	P	**P**	**16 12 33.9**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=289,slow=12,SNR=15						
ESDC	**Sonseca Array**	**19.26**	**89**	P	**P**	**16 12 33.7**	**+0.2**
	comp=Z,1.4nm,0.4s						
ESDC	**Sonseca Array**	**19.26**	**89**	P	**P**	**16 12 33.7**	**+0.2**
	comp=Z,1.4nm,0.4s						
EADA	**Adamuz**	**19.26**	**94**	P	**P**	**16 12 35.2**	**+1.6**
	comp=Z,49nm,2.1s						
SGMF	**Saint Gilles**	**19.69**	**63**	*e*P	**P**	**16 12 37.0**	**-1.5**
	comp=Z,36nm,1.1s						
SGMF	**Saint Gilles**	**19.69**	**63**	*e*P	**P**	**16 12 37.0**	**-1.5**
SGMF				pmax	pmax		
	comp=Z,18nm,1.1s						
ELUQ	**Luque**	**19.71**	**95**	P	**P**	**16 12 39.6**	**+0.9**
ELUQ				pmax	pmax		
	comp=Z,6.0nm,0.2s						
ELUQ	**Luque**	**19.71**	**95**	P	**P**	**16 12 39.6**	**+0.9**
	comp=Z,5.9nm,0.2s						
ELUQ	**Luque**	**19.71**	**95**	P	**P**	**16 12 39.6**	**+0.9**
	comp=Z,5.9nm,0.2s						
EMIJ	**Mijas**	**19.72**	**98**	P	**P**	**16 12 40.5**	**+1.7**
	comp=Z,12nm,0.7s						
EBAN	**Banos Encina**	**19.85**	**93**	P	**P**	**16 12 41.1**	**+0.8**
EBAN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
EBAN	**Banos Encina**	**19.85**	**93**	P	**P**	**16 12 41.1**	**+0.8**
	comp=Z,4.5nm,0.6s						
EBAN	**Banos Encina**	**19.85**	**93**	P	**P**	**16 12 41.1**	**+0.8**
	comp=Z,4.5nm,0.6s						
ELOJ	**Sierra Loja**	**19.95**	**96**	P	**P**	**16 12 42.5**	**+1.2**
ELOJ				pmax	pmax		
	comp=Z,34nm,1.2s						
ELOJ	**Sierra Loja**	**19.95**	**96**	P	**P**	**16 12 42.5**	**+1.2**
	comp=Z,34nm,1.2s						
ELOJ	**Sierra Loja**	**19.95**	**96**	P	**P**	**16 12 42.5**	**+1.2**
	comp=Z,34nm,1.2s						
ELIZ	**Elizondo**	**20.38**	**78**	P	**P**	**16 12 45.0**	**-0.8**
ELIZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ELIZ	**Elizondo**	**20.38**	**78**	P	**P**	**16 12 45.0**	**-0.8**
	comp=Z,1.1nm,0.6s						
ELIZ	**Elizondo**	**20.38**	**78**	P	**P**	**16 12 45.0**	**-0.8**
	comp=Z,1.1nm,0.6s						
EALK	**Alkurruntz**	**20.38**	**78**	P	**P**	**16 12 45.4**	**-0.5**
	comp=Z,58nm,1.8s						
EALK	**Alkurruntz**	**20.38**	**78**	P	**P**	**16 12 45.4**	**-0.5**
	comp=Z,58nm,1.8s						
EGUA	**Guajares**	**20.50**	**97**	P	**P**	**16 12 48.9**	**+1.8**
EQES	**Quesada**	**20.50**	**94**	P	**P**	**16 12 47.9**	**+0.8**
	comp=Z,61nm,1.6s						
EQES	**Quesada**	**20.50**	**94**	P	**P**	**16 12 47.9**	**+0.7**
	comp=Z,61nm,1.6s						
SJPF	**Ste Jean**	**20.60**	**78**	*e*P	**P**	**16 12 46.9**	**-1.2**
	comp=Z,61nm,1.3s						
SJPF	**Ste Jean**	**20.60**	**78**	*e*P	**P**	**16 12 46.9**	**-1.2**
SJPF				pmax	pmax		
	comp=Z,31nm,1.3s						
EVIA	**Vianos**	**20.65**	**91**	P	**P**	**16 12 49.2**	**+0.6**
EVIA				pmax	pmax		
	comp=Z,14nm,0.9s						
EVIA	**Vianos**	**20.65**	**91**	P	**P**	**16 12 49.2**	**+0.5**
	comp=Z,14nm,0.9s						
EVIA	**Vianos**	**20.65**	**91**	P	**P**	**16 12 49.2**	**+0.6**
	comp=Z,14nm,0.9s						
GRR	**Gorron**	**20.84**	**63**	*e*P	**P**	**16 12 49.2**	**-1.3**
	comp=Z,69nm,1.0s						
GRR	**Gorron**	**20.84**	**63**	*e*P	**P**	**16 12 49.2**	**-1.3**
GRR				pmax	pmax		
	comp=Z,34nm,1.0s						
ETSF	**Etsaut**	**21.11**	**78**	*e*P	**P**	**16 12 53.3**	**-0.1**
	comp=Z,62nm,1.6s,mb4.4						
ETSF	**Etsaut**	**21.11**	**78**	*e*P	**P**	**16 12 53.3**	**-0.1**
ETSF				pmax	pmax		
	comp=Z,31nm,1.6s,mb4.4						
FLN	**La Foliniere**	**21.13**	**62**	*e*P	**P**	**16 12 52.2**	**-1.3**
	comp=Z,55nm,1.2s,mb4.5						
FLN				*e*R			
	comp=Z,431nm,22.2s						
FLN	**La Foliniere**	**21.13**	**62**	*e*P	**P**	**16 12 52.2**	**-1.3**
FLN				pmax	pmax		
	comp=Z,27nm,1.2s,mb4.5						
FLN				MLR	MLR		
	comp=Z,430nm,22.3s,MS3.8						
MFF	**Saint Martin d**	**21.19**	**68**	*e*P	**P**	**16 12 52.5**	**-1.7**
LDF	**La Druitiere**	**21.35**	**63**	*e*P	**P**	**16 12 54.5**	**-1.2**
	comp=Z,50nm,1.2s,mb4.4						
LDF	**La Druitiere**	**21.35**	**63**	*e*P	**P**	**16 12 54.5**	**-1.2**
LDF				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.4						
EKA	**Eskdalemuir Ar**	**21.48**	**43**	P	**P**	**16 12 56.9**	**-0.1**
	comp=Z,2.1nm,0.9s,mb3.5,baz=239,slow=8.3,SNR=3.7						
EKA	**Eskdalemuir Ar**	**21.48**	**43**	P	**P**	**16 12 56.8**	**-0.2**
EBIE	**Bielsa**	**21.66**	**79**	P	**P**	**16 12 59.0**	**+0.2**
	comp=Z,20nm,1.1s,mb4.5						
EBIE	**Bielsa**	**21.66**	**79**	P	**P**	**16 12 59.0**	**+0.1**
	comp=Z,20nm,1.1s,mb4.5						
EMOS	**Mosqueruela**	**21.67**	**85**	P	**P**	**16 12 59.9**	**+0.9**
	comp=Z,75nm,1.3s,mb5.0						
EMOS	**Mosqueruela**	**21.67**	**85**	P	**P**	**16 12 59.9**	**+0.9**
	comp=Z,75nm,1.3s,mb5.0						
EPF	**Esparros**	**21.75**	**78**	*e*P	**P**	**16 12 59.0**	**-0.8**
LFF	**La Frestale**	**21.85**	**73**	*e*P	**P**	**16 12 59.9**	**-0.9**
	comp=Z,20nm,0.8s,mb4.3						
LFF	**La Frestale**	**21.85**	**73**	*e*P	**P**	**16 12 59.9**	**-0.9**
LFF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
CAF	**Calviac**	**22.79**	**72**	*e*P	**P**	**16 13 09.8**	**-0.2**
	comp=Z,19nm,0.9s,mb4.2						
CAF	**Calviac**	**22.79**	**72**	*e*P	**P**	**16 13 09.8**	**-0.2**
CAF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.2						
TCF	**Toulx Ste Croi**	**22.82**	**69**	*e*P	**P**	**16 13 09.2**	**-1.2**
	comp=Z,55nm,1.3s,mb4.5						
TCF	**Toulx Ste Croi**	**22.82**	**69**	*e*P	**P**	**16 13 09.2**	**-1.2**
TCF				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.5						
BORG	**Borgarnes**	**23.03**	**9**	LR	LR	16 19 39.5	
	comp=Z,134nm,21.8s,MS3.4,baz=29,slow=30						
MTLF	**Montolieu**	**23.07**	**76**	*e*P	**P**	**16 13 13.0**	**+0.2**
	comp=Z,66nm,1.4s,mb4.6						
MTLF	**Montolieu**	**23.07**	**76**	*e*P	**P**	**16 13 13.0**	**+0.2**
MTLF				pmax	pmax		
	comp=Z,33nm,1.4s,mb4.6						
BGF	**Bois d'Agland**	**23.26**	**68**	*e*P	**P**	**16 13 13.7**	**-0.9**
	comp=Z,38nm,0.9s,mb4.5						
BGF	**Bois d'Agland**	**23.26**	**68**	*e*P	**P**	**16 13 13.7**	**-0.9**
BGF				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.5						
EJON	**La Jonquera**	**23.70**	**79**	P	**P**	**16 13 18.8**	**-0.1**
	comp=Z,18nm,0.9s,mb4.5						
EJON	**La Jonquera**	**23.70**	**79**	P	**P**	**16 13 18.8**	**-0.1**
	comp=Z,18nm,0.9s,mb4.5						
SSF	**Saint Saulge**	**23.71**	**67**	*e*P	**P**	**16 13 18.9**	**0.0**
SSF				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.3						
SSF	**Saint Saulge**	**23.71**	**67**	*e*P	**P**	**16 13 18.9**	**0.0**
	comp=Z,13nm,1.0s,mb4.3						
SMF	**Signal de Mont**	**23.94**	**68**	*e*P	**P**	**16 13 20.6**	**-0.6**
	comp=Z,21nm,1.0s,mb4.2						
SMF	**Signal de Mont**	**23.94**	**68**	*e*P	**P**	**16 13 20.6**	**-0.6**
SMF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
LOR	**Lormes**	**23.95**	**66**	*e*P	**P**	**16 13 21.0**	**-0.3**
	comp=Z,21nm,0.8s,mb4.3						
LOR				*e*R			
	comp=Z,356nm,21.0s						
LOR	**Lormes**	**23.95**	**66**	*e*P	**P**	**16 13 21.0**	**-0.3**
LOR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
LOR				MLR	MLR		
	comp=Z,360nm,21.0s,MS3.8						
LASF	**Ste Croix**	**24.15**	**74**	*e*P	**P**	**16 13 21.7**	**-1.6**
	comp=Z,10nm,0.8s,mb4.0						
BAIF	**Baives**	**24.32**	**60**	*e*P	**P**	**16 13 24.1**	**-0.8**
	comp=Z,16nm,0.9s,mb4.1						
BAIF	**Baives**	**24.32**	**60**	*e*P	**P**	**16 13 24.1**	**-0.8**
BAIF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
VIVF	**Saint-Julien-l**	**24.64**	**72**	*e*P	**P**	**16 13 27.0**	**-1.0**
	comp=Z,47nm,1.3s,mb4.5						
VIVF	**Saint-Julien-l**	**24.64**	**72**	*e*P	**P**	**16 13 27.0**	**-1.0**
VIVF				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.5						
MEZF	**Maizieres J'vi**	**24.77**	**63**	*e*P	**P**	**16 13 28.3**	**-1.0**
SMRF	**Simiane la Rot**	**25.39**	**74**	*e*P	**P**	**16 13 34.2**	**-1.0**
	comp=Z,41nm,1.3s,mb4.5						
ORIF	**Oris-en-Rattie**	**25.48**	**72**	*e*P	**P**	**16 13 35.2**	**-0.9**
	comp=Z,6.5nm,0.8s,mb3.9						
ORIF				*e*R			
	comp=Z,188nm,21.0s						
CABF	**La Chapelle**	**25.49**	**68**	*e*P	**P**	**16 13 35.4**	**-0.7**
HAU	**Haudompre**	**25.63**	**65**	*e*P	**P**	**16 13 36.0**	**-1.4**
HAU				*e*R			
	comp=Z,289nm,18.5s						
HINF	**Hinteralfeld**	**25.97**	**65**	*e*P	**P**	**16 13 39.8**	**-0.8**
	comp=Z,3.0nm,0.5s,mb3.8						
HINF	**Hinteralfeld**	**25.97**	**65**	*e*P	**P**	**16 13 39.8**	**-0.8**
HINF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0						
LPL	**La Plagne**	**26.02**	**70**	*e*P	**P**	**16 13 40.7**	**-0.4**
	comp=Z,16nm,1.0s,mb4.2						
LPL	**La Plagne**	**26.02**	**70**	*e*P	**P**	**16 13 40.7**	**-0.4**
LPL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
LPG	**La Plagne**	**26.04**	**70**	*e*P	**P**	**16 13 40.8**	**-0.4**
MBDF	**Montbardon**	**26.14**	**72**	*e*P	**P**	**16 13 41.6**	**-0.6**
	comp=Z,15nm,1.0s,mb4.2						
MBDF	**Montbardon**	**26.14**	**72**	*e*P	**P**	**16 13 41.6**	**-0.6**
MBDF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
LMR	**La Mourre**	**26.16**	**75**	*e*P	**P**	**16 13 41.2**	**-1.2**
FRF	**La Foret Royal**	**26.22**	**75**	*e*P	**P**	**16 13 41.6**	**-1.3**
CDF	**Champ du Feu**	**26.25**	**64**	*e*P	**P**	**16 13 42.7**	**-0.4**
	comp=Z,17nm,1.0s,mb4.2						
CDF	**Champ du Feu**	**26.25**	**64**	*e*P	**P**	**16 13 42.7**	**-0.4**
CDF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
SBF	**Sospel**	**26.73**	**74**	*e*P	**P**	**16 13 46.9**	**-0.8**
SCHQ	**Schefferville**	**27.54**	**310**	P	**P**	**16 13 57.8**	**+2.8**
	comp=Z,2.3nm,0.7s,mb3.9,baz=113,slow=13,SNR=3.9						
SCHQ				LR	LR	16 22 52.4	
	comp=Z,108nm,20.4s,MS3.4,baz=106,slow=32						
DAVA	**Damuels**	**28.04**	**66**⇑	*i*P	**P**	**16 14 00.1**	**+0.6**
	comp=Z,7.3nm,1.1s,mb4.2						
DAVOX	**Davos**	**28.08**	**67**	P	**P**	**16 14 01.2**	**+1.3**
	comp=Z,3.4nm,0.7s,mb4.1,baz=313,slow=11,SNR=3.7						
DAVOX				LR	LR	16 24 07.5	
	comp=Z,155nm,18.0s,MS3.6,baz=80,slow=34						
PGF	**Pioggiola**	**28.11**	**76**	*e*P	**P**	**16 13 58.8**	**-1.4**
	comp=Z,27nm,1.0s,mb4.5						
PGF	**Pioggiola**	**28.11**	**76**	*e*P	**P**	**16 13 58.8**	**-1.4**
PGF				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.5						
WTTA	**Wattenberg**	**29.23**	**66**⇑	*i*P	**P**	**16 14 11.0**	**+0.7**
	comp=Z,8.0nm,1.1s,mb4.4						
WTTA	**Wattenberg**	**29.23**	**66**⇑	*i*P	**P**	**16 14 11.0**	**+0.7**
WTTA				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
KHC	**Kasperske Hory**	**30.39**	**62**⇑	*e*P	**P**	**16 14 19.9**	**-0.7**
KHC	**Kasperske Hory**	**30.39**	**62**	*e*P	**P**	**16 14 19.9**	**-0.7**
KBA	**Koelnbreinsper**	**30.41**	**66**⇓	*i*P	**P**	**16 14 21.7**	**+0.9**
	comp=Z,14nm,0.8s,mb4.7						
KBA	**Koelnbreinsper**	**30.41**	**66**⇓	*i*P	**P**	**16 14 21.7**	**+0.9**
KBA				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
GERES	**GERESS Array B**	**30.49**	**63**	P	**P**	**16 14 21.0**	**-0.5**
	comp=Z,1.0nm,1.0s,mb3.5,baz=292,slow=7.2,SNR=5.4						
GERES				LR	LR	16 25 01.6	
	comp=Z,143nm,20.1s,MS3.6,baz=265,slow=33						
JMIC	**Jan Mayen**	**30.67**	**13**	LR	LR	16 23 49.2	
	comp=Z,97nm,18.6s,MS3.5,baz=94,slow=31						
NOA	**NORSAR Array B**	**30.70**	**38**	LR	LR	16 26 23.7	
	comp=Z,38nm,20.5s,MS3.0,baz=255,slow=36						
MOA	**Molln**	**30.95**	**64**⇑	*i*P	**P**	**16 14 25.9**	**+0.4**
	comp=Z,4.9nm,0.8s,mb4.4						
OBKA	**Obir**	**31.31**	**67**⇓	*i*P	**P**	**16 14 28.6**	**-0.1**
	comp=Z,13nm,0.7s,mb4.9						
ARSA	**Arzberg**	**31.87**	**65**⇑	*i*P	**P**	**16 14 34.7**	**+1.1**
	comp=Z,7.0nm,1.4s,mb4.3						
NCB	**Newcomb**	**32.58**	**289**	P	**P**	**16 14 41.5**	**+1.7**
	comp=Z,11nm,1.1s,mb4.7						
NCB	**Newcomb**	**32.58**	**289**	P	**P**	**16 14 41.5**	**+1.7**
	comp=Z,11nm,1.1s,mb4.7						
FINES	**FINESS Array B**	**37.80**	**40**	P	**P**	**16 15 24.0**	**-0.2**
	comp=Z,2.4nm,0.8s,mb4.0,baz=225,slow=11,SNR=5.4						
FINES				LR	LR	16 28 57.6	
	comp=Z,95nm,22.0s,MS3.5,baz=306,slow=33						
ARCES	**ARCESS Array B**	**38.98**	**27**	LR	LR	16 29 39.1	
	comp=Z,68nm,19.0s,MS3.5,baz=38,slow=33						
AKASG	**Malin Array Be**	**40.22**	**57**	P	**P**	**16 15 44.1**	**-0.3**
	comp=Z,2.3nm,0.8s,mb4.0,baz=278,slow=8.5,SNR=8.7						
DBIC	**Dimbokro**	**41.48**	**142**	P	**P**	**16 15 56.5**	**+1.4**
	comp=Z,3.9nm,0.7s,mb4.2,baz=313,slow=7.0,SNR=6.3						
OBN	**Obninsk**	**43.72**	**49**	*e*P	**P**	**16 16 15.1**	**+2.1**
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
ULM	**Lac du Bonnet**	**45.37**	**304**	LR	LR	16 33 37.6	
	comp=Z,84nm,21.2s,MS3.6,baz=208,slow=34						
BRTR	**Keskin Array B**	**46.60**	**71**	P	**P**	**16 16 37.0**	**+0.8**
	comp=Z,1.8nm,0.9s,mb4.0,baz=292,slow=6.7,SNR=5.8						
MALT	**Malatya**	**50.57**	**70**	P	**P**	**16 17 09.1**	**+2.1**
MALT				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
MALT	**Malatya**	**50.57**	**70**	P	**P**	**16 17 09.1**	**+2.1**
	comp=Z,1.3nm,0.5s,mb4.1						
ROSC	**El Rosal**	**54.62**	**240**	LR	LR	16 35 40.0	
	comp=Z,15nm,19.2s,MS3.1,baz=338,slow=30						
ARU	**Arti**	**55.09**	**43**	*i* P	**P**	**16 17 39.7**	**-0.7**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
ARU	**Arti**	**55.09**	**43**	*e*P	**P**	**16 17 39.5**	**-1.0**
	comp=Z,1.8nm,0.5s,mb4.4						
ARU	**Arti**	**55.09**	**43**	*e*P	**P**	**16 17 39.5**	**-0.9**
	comp=Z,1.8nm,0.5s,mb4.4						
INK	**Inuvik**	**56.40**	**334**	P	**P**	**16 17 47.0**	**-2.7**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**56.40**	**334**	P	**P**	**16 17 47.3**	**-2.4**
	comp=Z,2.0nm,0.7s,mb4.3,baz=18,slow=4.3,SNR=4.4						
INK	**Inuvik**	**56.40**	**334**	P	**P**	**16 17 47.0**	**-2.7**
	comp=Z,2.4nm,0.8s,mb4.3						
INK	**Inuvik**	**56.40**	**334**	P	**P**	**16 17 47.0**	**-2.7**
	comp=Z,2.4nm,0.8s,mb4.3						
PDAR	**Pinedale Array**	**56.97**	**300**	P	**P**	**16 17 53.1**	**-1.1**
	comp=Z,0.9nm,0.9s,mb3.8,baz=59,slow=8.6,SNR=6.6						
PDAR				LR	LR	16 41 13.4	
	comp=Z,53nm,20.8s,MS3.6,baz=207,slow=35						
IMW	**Indian Meadow**	**57.30**	**302**	*e*P	**P**	**16 17 56.2**	**-0.3**
	comp=Z,2.9nm,0.8s,mb4.4						
IMW	**Indian Meadow**	**57.30**	**302**	*e*P	**P**	**16 17 56.2**	**-0.3**
	comp=Z,2.9nm,0.8s,mb4.4						
HWUT	**Hardware Ranch**	**58.84**	**300**	*e*P	**P**	**16 18 07.3**	**0.0**
	comp=Z,6.6nm,1.0s,mb4.6						
HWUT	**Hardware Ranch**	**58.84**	**300**	*e*P	**P**	**16 18 07.3**	**0.0**
	comp=Z,6.6nm,1.0s,mb4.6						
GDL2	**Guadalupe Moun**	**58.88**	**287**	*e*P	**P**	**16 18 08.5**	**+0.8**
GDL2	**Guadalupe Moun**	**58.88**	**287**	*e*P	**P**	**16 18 08.5**	**+0.8**
TXAR	**Lajitas Array**	**59.96**	**284**	P	**P**	**16 18 15.3**	**+0.1**
	comp=Z,1.0nm,0.6s,mb4.0,baz=67,slow=6.8,SNR=8.4						
TXAR	**Lajitas Array**	**59.96**	**284**	P	**P**	**16 18 15.3**	**+0.1**
BDFB	**Brasilia**	**60.11**	**201**	LR	LR	16 40 19.9	
	comp=Z,86nm,21.9s,MS3.8,baz=126,slow=32						
NVS	**Novosibirsk**	**67.56**	**35**	*e*P	**P**	**16 19 03.8**	**-0.8**
LPAZ	**La Paz**	**68.36**	**220**	P	**P**	**16 19 11.8**	**+1.6**
	comp=Z,1.6nm,0.7s,mb4.2,baz=17,slow=11,SNR=8.3						
LPAZ				LR	LR	16 44 46.4	
	comp=Z,92nm,18.9s,MS4.0,baz=35,slow=32						
ATD	**Arta Tunnel**	**69.11**	**93**	LR	LR	16 48 03.7	
	comp=Z,58nm,19.8s,MS3.8,baz=322,slow=35						
MKAR	**Makanchi Array**	**72.61**	**42**	P	**P**	**16 19 35.7**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=317,slow=5.5,SNR=6.6						
MKAR	**Makanchi Array**	**72.61**	**42**	P	**P**	**16 19 35.7**	**+0.2**
CPUP	**Villa Florida**	**72.97**	**206**	LR	LR	16 45 41.0	
	comp=Z,34nm,21.7s,MS3.6,baz=40,slow=31						
LVC	**Limon Verde**	**74.18**	**218**	LR	LR	16 51 58.7	
	comp=Z,90nm,18.3s,MS4.1,baz=48,slow=35						
YAK	**Yakutsk**	**74.72**	**10**⇑	*e*P	**P**	**16 19 47.8**	**+0.4**
YAK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
LSZ	**Lusaka**	**77.85**	**124**	*e*P	**P**	**16 20 07.3**	**+1.4**
LSZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
LSZ	**Lusaka**	**77.85**	**124**	*e*P	**P**	**16 20 07.3**	**+1.4**
	comp=Z,1.2nm,0.6s,mb4.0						
CFAA	**Coronel Fontan**	**81.74**	**213**	P	**P**	**16 20 28.3**	**+1.8**
	comp=Z,0.6nm,0.7s,mb3.6,baz=339,slow=4.5,SNR=8.0						
CFAA				LR	LR	16 53 19.3	
	comp=Z,16nm,21.5s,MS3.3,baz=48,slow=33						
CFAA	**Coronel Fontan**	**81.74**	**213**	P	**P**	**16 20 28.3**	**+1.7**
CFAA				LR	LR	16 53 19.3	
SONM	**Songino Array**	**82.14**	**28**	P	**P**	**16 20 30.5**	**+2.2**
	comp=Z,2.4nm,1.1s,mb4.0,baz=333,slow=5.5,SNR=9.3						
SONM				LR	LR	16 58 22.7	
	comp=Z,60nm,18.7s,MS4.0,baz=320,slow=37						
ULN	**Ulaanbaatar**	**82.34**	**28***c*	*i*P	**P**	**16 20 18.5**	**-11**
BOSA	**Boshof**	**86.55**	**134**	LR	LR	16 56 44.4	
	comp=Z,76nm,18.0s,MS4.1,baz=101,slow=34						
PLCA	**Paso Flores**	**90.63**	**210**	LR	LR	16 58 55.4	
	comp=Z,57nm,18.9s,MS4.0,baz=5.5,slow=34						
VNDA	**Vanda**	**144.29**	**184**	PKP	PKPdf	16 27 43.0	-1.2
	comp=Z,1.7nm,1.1s,baz=217,slow=3.5,SNR=4.8						

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*NEIC **14** 16:13:40.0, 16.90N×99.95W, h13km, MD4.0(MEX), After MEX.*

MEX 14 16:13:39.9±1.0**, 16.88N×99.94W, h14**km±4km**, MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.03**	**114**	*i* P	Pb	16 13 41.1	-0.7
ACX				*i* S	Sb	16 13 43.8	+0.8
CAIG	**El Cayaco**	**0.35**	**299**	*i* P	Pb	16 13 46.1	-1.3
CAIG				*i* S	Sg	16 13 51.8	-0.6
PLIG	**Platanillo**	**1.56**	**16**	*i* P	Pn	16 14 04.3	-3.1
PLIG				*e*S	Sn	16 14 22.6	-5.0
PNIG	**Pinotepa**	**1.81**	**105**	*i* P	Pn	16 14 08.0	-2.9
PNIG				*e*S	Sn	16 14 29.6	-4.1
YAIG	**Yautepec**	**2.14**	**23**	*i* P	Pn	16 14 11.7	-4.1
YAIG				*e*S	Sn	16 14 37.4	-4.8
IIZ	**Mezontepec**	**2.39**	**16**	*e*P	Pn	16 14 18.0	-1.3
PPM	**Popocatepetl**	**2.51**	**30**	*i* P	Pn	16 14 17.5	-3.5
PPM				*e*S	Sn	16 14 47.0	-4.6
UNM	**Universidad Na**	**2.54**	**17**	*e*P	Pn	16 14 14.0	-7.5
OXX	**Oaxaca**	**3.09**	**86**	*e*P	Pn	16 14 27.0	-2.2
OXX				*i* S	Sn	16 14 58.0	-8.2
IISM	**Ciudad Serdan**	**3.22**	**49**	*e*P	Pn	16 14 30.0	-1.1

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*JMA **14** 16:32:35.9±0.1, 40.77N×139.31E, h210km±1km, M3.5*

ISC 14 16:32:35.8±1.1**, 40.75N**±0.06×**139.4E**±0.1**, h211**km±10km**, n16,** σ**0.43**/23**, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIW	**Iwasaki**	**0.49**	**109**	P	**P**	**16 33 04.6**	**+0.2**
JIW				S	**S**	**16 33 26.5**	**-0.1**
JSI2	**Shiura 2**	**0.83**	**68**	P	**P**	**16 33 06.1**	**+0.3**
JSI2				S	**S**	**16 33 29.1**	**-0.1**
JSR	**Shiriuchi**	**1.09**	**44**	P	**P**	**16 33 07.6**	**+0.1**
JOT	**Ohata**	**1.40**	**63**	P	**P**	**16 33 10.2**	**+0.2**
JANG	**Nango**	**1.66**	**102**	P	**P**	**16 33 12.3**	**+0.1**
JANG				*e*S	**S**	**16 33 40.3**	**0.0**
JOM	**Ohasama**	**1.94**	**131**	P	**P**	**16 33 15.1**	**+0.3**
JYK	**Kaneyama**	**1.98**	**158**	P	**P**	**16 33 15.6**	**+0.4**
JMK	**Ichinoseki**	**2.28**	**141**	P	**P**	**16 33 18.3**	**-0.1**
JAW	**Awa shima**	**2.29**	**183**	P	**P**	**16 33 18.5**	**-0.1**
JEW	**Eniwo**	**2.59**	**36**	P	**P**	**16 33 22.6**	**+0.8**
JSD	**Sado**	**2.85**	**198**	P	**P**	**16 33 24.5**	**-0.2**
JSD				*e*S	**S**	**16 34 01.9**	**-0.7**
JNS	**Sasagawa**	**2.93**	**181**	P	**P**	**16 33 25.8**	**+0.2**
JNBK	**Urakawa-nobuka**	**2.95**	**58**	P	**P**	**16 33 26.4**	**+0.6**
JNBK				*e*S	**S**	**16 34 03.8**	**-0.8**
JMM	**Marumori**	**3.08**	**159**	P	**P**	**16 33 26.6**	**-0.8**
JMM				*e*S	**S**	**16 34 07.8**	**+0.5**
JFR	**Furan**	**3.39**	**44**	P	**P**	**16 33 30.2**	**-0.9**
MAT	**Matsushiro**	**4.30**	**193**	P	**P**	**16 33 42.4**	**+0.1**
MAT				S	**S**	**16 34 34.2**	**+0.3**

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*IDC **14** 16:36:39.2±2.4, 1.04N×97.23E, mb3.9/6, mb1 4.0/6, mb1mx3.7/18, mbtmp3.9/6, Error ellipse: s-maj=106.2km s-min=20.7km az=57.0*

*NEIC **14** 16:36:43.5±0.9, 1.04N×97.25E, h30km, mb4.1/3, Error ellipse: s-maj=25.2km s-min=11.5km az=61.0*

ISC 14 16:36:41.4±1.0**, 1.0N**±0.1×**97.2E**±0.2**, h30**km**, n12,** σ**0.76**/12**, mb4.0**/9**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.42**	**39**	*e*Pn	**Pn**	**16 38 02.1**	**-0.3**
KKM	**Kota Kinabalu**	**19.58**	**75**	P	**P**	**16 41 04.3**	**-5.8**
LSA	**Lhasa**	**29.08**	**349**	*e*P	**P**	**16 42 42.6**	**+0.9**
	3.4nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**41.92**	**122**	P	**P**	**16 44 30.8**	**-0.5**
	0.3nm,0.6s,mb3.1,baz=301,slow=9.0,SNR=4.8						
WRAB	**Tennant Creek**	**41.93**	**122**	P	**P**	**16 44 30.8**	**-0.6**
	7.1nm,1.2s,mb4.2						
SONM	**Songino Array**	**47.28**	**8**	P	**P**	**16 45 14.5**	**+0.4**
	1.4nm,0.5s,mb4.1,baz=188,slow=9.5,SNR=16						
SONM				PcP	PcP	16 46 45.4	+0.2
	0.4nm,0.7s,baz=186,slow=4.3,SNR=4.5						
MKAR	**Makanchi Array**	**47.40**	**346**	P	**P**	**16 45 15.5**	**+0.5**
	1.2nm,0.7s,mb4.0,baz=158,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**47.40**	**346**	P	**P**	**16 45 15.5**	**+0.5**
KURK	**Kurchatov**	**51.95**	**345**	*e*P	**P**	**16 45 48.6**	**-1.2**
	1.3nm,0.8s,mb3.9						
CTA	**Charters Tower**	**52.40**	**116**	P	**P**	**16 45 55.0**	**+1.4**
	5.4nm,1.1s,mb4.4,baz=263,slow=8.1,SNR=3.0						
STKA	**Stephens Creek**	**53.23**	**132**	P	**P**	**16 45 59.6**	**0.0**
	3.0nm,1.1s,mb4.2,baz=308,slow=12,SNR=3.5						
BVAR	**Borovoye Array**	**56.41**	**341**	P	**P**	**16 46 21.9**	**-0.5**
	0.5nm,0.6s,mb3.8,baz=135,slow=8.2,SNR=4.8						

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*NIED **14** 16:40:00, 34.90N×139.90E, h59km, Mw3.5 Best double couple: $M_0$1.87×10¹⁴ NP1:ϕ_s100°, δ82°, λ165°. NP2: ϕ_s192°, δ75°, λ9°.*

*JMA **14** 16:40:43.9±0.1, 34.88N×139.94E, h53km±1km, M3.5 Broadband fault plane solution: P waves. NP1:ϕ_s97°, δ79°, λ171°. NP2:ϕ_s189°, δ81°, λ11°. Principal axes: T Plg14°, Azm53°; N Plg76°, Azm229°; P Plg1°, Azm323°;*

JMA Felt I J1.

ISC 14 16:40:43.9±0.8**, 34.87N**±0.04×**139.94E**±0.04**, h53**km±7km**, n15,** σ**0.60**/27**, 4C-7D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATJ	**Tateyama 2**	**0.17**	**346**	⇓P	**P**	**16 40 52.6**	**+0.3**
TATJ				S	**S**	**16 40 59.1**	**+0.6**
BSO4	**Boso 4**	**0.35**	**69**	⇑P	**P**	**16 40 54.2**	**+0.4**
KTR	**Katsuura**	**0.42**	**47**	⇑P	**P**	**16 40 54.4**	**-0.1**
KTR				S	**S**	**16 41 01.7**	**-0.4**
JYO	**Yokosk**	**0.42**	**328**	⇓P	**P**	**16 40 54.7**	**+0.2**
JIM2	**Oshima 3**	**0.45**	**251**	⇑P	**P**	**16 40 54.7**	**-0.1**
JIM2				S	**S**	**16 41 02.2**	**-0.5**
BSO3	**Boso 3**	**0.47**	**98**	⇓P	**P**	**16 40 55.3**	**+0.2**
BSO3				S	**S**	**16 41 03.8**	**+0.6**
BSO2	**Boso 2**	**0.68**	**100**	S	**S**	**16 41 08.0**	**+0.4**
JOD2	**Odawara 2**	**0.81**	**300**	⇓P	**P**	**16 40 58.6**	**-0.6**
JOD2				S	**S**	**16 41 09.1**	**-1.4**
JMY	**Miyakejima3**	**0.87**	**204**	P	**P**	**16 41 00.2**	**+0.2**
JMY				S	**S**	**16 41 12.2**	**+0.1**
BSO1	**Boso 1**	**0.88**	**104**	⇓P	**P**	**16 40 59.7**	**-0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BSO1				S	S	16 41 11.4	-1.0
JIZS	Izushimoda	0.89	261	⇑P	P	16 41 00.3	0.0
JIZS				S	S	16 41 12.1	-0.5
JYN	Shimob	1.31	299	⇓P	P	16 41 06.0	-0.3
JYN				S	S	16 41 22.7	-0.2
JRY	Ryogami san	1.43	324	⇓P	P	16 41 07.4	-0.6
JRY				S	S	16 41 25.7	-0.1
SHZ3	Shizuoka 3	1.44	278	P	P	16 41 08.6	+0.5
SHZ3				S	S	16 41 27.8	+1.8
MAT	Matsushiro	2.19	320	P	P	16 41 19.0	+0.4
MAT				S	S	16 41 45.3	+0.8

*GUC **14** 17:02:52.9±1.3, 24.36S×67.56W, h177km±24km, ML4.0*
*IDC **14** 17:02:56.0±1.2, 23.74S×67.25W, h192km±15km, mb1 3.3/5, mb1mx3.1/29, mbtmp3.7/5, Error ellipse: s-maj=25.4km s-min=20.4km az=179.0*
ISC 14 17:02:52.3±0.9**, 24.1S**±0.1×**67.7W**±0.1**, h227**km±14km**, n13, σ0.89**/14**, 1C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.23	337	*i* S	S	17 03 52.4	-0.8
SPCH				AMP		17 03 53.3	
	comp=N,604nm,0.6s						
LVC	Limon Verde	1.82	321	⇓*i*P	P	17 03 32.4	+0.9
LVC	Limon Verde	1.82	321	P	P	17 03 32.4	+0.9
	comp=N,11nm,0.3s,baz=144,slow=7.7,SNR=79						
LVC				S	S	17 04 02.4	+0.7
	comp=N,48nm,0.3s,baz=33,slow=22,SNR=86						
ANCH	Antofagasta	2.52	278	⇑*i*P	P	17 03 40.0	+1.4
ANCH				*i* S	S	17 04 14.2	-0.1
CPN1	Cerro Paranal	2.54	256	*e*P	P	17 03 38.9	0.0
CPN1				*i* S	S	17 04 13.7	-1.2
CPN1				AMP		17 04 15.7	
	comp=E,436nm,0.5s						
CRCH	Chaqaral	3.51	229	*i* S	S	17 04 29.9	-4.4
CRCH				AMP		17 04 30.9	
	comp=E,260nm,0.6s						
LPAZ	La Paz	7.73	357	P	P	17 04 42.6	-0.2
	comp=E,0.5nm,0.3s,baz=178,slow=9.8,SNR=7.0						
CPUP	Villa Florida	9.65	106	P	P	17 05 08.1	+0.5
	comp=E,0.3nm,0.3s,baz=283,slow=16,SNR=7.0						
SIV	San Ignacio	10.14	39	P	P	17 05 10.3	-3.6
	comp=E,0.2nm,0.3s,baz=228,slow=14,SNR=4.5						
PLCA	Paso Flores	16.81	188	P	P	17 06 43.0	+7.0
	comp=E,0.3nm,0.3s,baz=8.1,slow=11,SNR=7.8						
BDFB	Brasilia	20.29	69	P	P	17 07 11.4	-0.6
	comp=E,0.5nm,0.3s,baz=220,slow=7.9,SNR=3.3						
WRA	Warramunga Arr	131.29	208	PKP	PKPdf	17 21 45.4	+7.3
	comp=E,0.1nm,0.3s,baz=158,slow=1.9,SNR=8.4						
MKAR	Makanchi Array	146.96	39	PKPbc	PKPbc	17 22 14.9	+7.7
	comp=E,0.4nm,0.6s,baz=321,slow=3.3,SNR=4.8						

MAN 14 17:05:52.4, 9.96N×125.99E, h33km, mb4.0, ML2.7, MS2.4, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.53	250	*i* P	P	17 06 04.4	+1.2
SCPH				*e*S	S	17 06 12.9	+1.9
MSLP	Maasin	1.13	279	*e*P	P	17 06 13.2	+1.3
BESP	Borongan	1.71	342	*e*P	P	17 06 20.8	+0.5
BESP				*e*S	S	17 06 43.0	+1.7
PVCP	Virac	4.03	334	*e*P	P	17 06 53.2	-0.1

IGQ 14 17:18:45.2, 3.28S×80.81W, h12km±31km, mb4.4, 6C-5D, Error ellipse: s-maj=30.1km s-min=7.3km az=127.1, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.81	51	⇑P	Pn	17 19 31.6	+0.8
IGUA				S	Sn	17 20 03.8	-1.1
ARRY	Arrayan	2.94	53	P	Pn	17 19 33.3	+0.6
CUSU	Cusua	2.96	52	P	Pn	17 19 35.5	+2.6
CUSU				S	Sn	17 20 09.0	+0.3
JUIV	Juive	2.98	52	P	Pn	17 19 35.1	+1.9
ULBA	Ulba	3.01	53	P	Pn	17 19 35.7	+2.0
ULBA				S	Sn	17 20 09.9	-0.1
RUN5	Runtun	3.02	52	P	Pn	17 19 35.9	+2.1
RUN5				S	Sn	17 20 10.1	-0.2
JAMA	Jama	3.06	11	P	Pn	17 19 36.0	+1.6
QIL1	Quilotoa	3.06	38	P	Pn	17 19 34.4	0.0
QIL1				S	Sn	17 20 07.2	-4.1
PISA	Pisayambo	3.28	48	⇑P	Pn	17 19 40.0	+2.6
PISA				S	Sn	17 20 16.7	-0.1
CAMI	Rancho Maria	3.46	42	⇓P	Pn	17 19 42.5	+2.4
NAS1	Nasa	3.52	42	⇓P	Pn	17 19 43.5	+2.6
NAS1				S	Sn	17 20 23.9	+1.2
TAMB	Tambo	3.54	44	⇑P	Pn	17 19 43.3	+2.0
VC1	Cotopaxi 1	3.56	43	⇑P	Pn	17 19 43.7	+2.3
JUA2	San Juan 2	3.76	36	⇑P	Pn	17 19 45.3	+1.0
JUA2				S	Sn	17 20 28.4	-0.6
TERV	Terraza Guagua	3.79	36	P	Pn	17 19 46.3	+1.6
TERV				S	Sn	17 20 31.0	+1.2
GGP	Refugio Guagua	3.80	36	P	Pn	17 19 45.6	+0.8
GGP				S	Sn	17 20 29.3	-0.6
PINO	Pino	3.80	35	⇓P	Pn	17 19 45.8	+0.9
YANA	Yana	3.86	36	⇑P	Pn	17 19 46.5	+0.9
ANTI	Antisana	3.86	43	⇓P	Pn	17 19 47.7	+2.0
JOR1	San Jorge 1	3.92	34	⇓P	Pn	17 19 44.0	-2.5
JOR1				S	Sn	17 20 25.6	-7.3
CAYR	Refugio Cayamb	4.31	41	P	Pn	17 19 55.7	+3.5
COTA	Cotacachi	4.36	35	P	Pn	17 19 54.3	+1.5
CAYA	Cayambe	4.36	40	P	Pn	17 19 56.4	+3.5
ECEN	Cerro Negro	4.97	35	P	Pn	17 20 02.9	+1.4
ECEN				S	Sn	17 21 01.4	+1.9

*IDC **14** 17:26:33.4±0.9, 36.20S×52.77E, mb4.0/5, mb1 4.1/5, mb1mx3.8/18, mbtmp4.0/5, MS3.6/3, Ms1 3.5/3, ms1mx3.2/16, Error ellipse: s-maj=32.1km s-min=29.8km az=166.0*
ISC 14 17:26:33.9±0.9**, 36.2S**±0.2×**52.8E**±0.2**, h10**km**, n15, σ0.61**/11**, mb3.9**/5**, MS3.5**/3**, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOSA	Boshof	24.42	280	P	P	17 31 53.5	-0.2
	4.5nm,1.0s,mb3.9,baz=100,slow=12,SNR=5.0						
MATP	Matopo	26.45	300	LR	LR	17 40 52.8	
	comp=Z,83nm,18.4s,MS3.3,baz=120,slow=32						
MAW	Mawson	32.01	173	LR	LR	17 44 25.0	
	comp=Z,150nm,18.5s,MS3.7,baz=226,slow=34						
KMBO	Kilima Mbogo	37.74	334	LR	LR	17 46 58.2	
	comp=Z,70nm,21.6s,MS3.4,baz=96,slow=32						
SNAA	Sanae	45.44	202		P	17 34 54.1	-0.1
SNAA	Sanae	45.44	202		P	17 34 58.9	+4.7
SNAA	Sanae	45.44	202	P	P	17 34 53.1	-1.0
	0.6nm,0.7s,mb3.5,baz=101,slow=9.0,SNR=16						
VNA2	Neumayer--Watz	46.61	203		P	17 35 04.8	+1.3
VNA2	Neumayer--Watz	46.61	203		P	17 35 12.0	+8.5
VNA3	Neumayer Olymp	47.41	203		P	17 35 09.7	-0.1
VNA3	Neumayer Olymp	47.41	203		P	17 35 14.9	+5.1
WRA	Warramunga Arr	71.84	102	P	P	17 37 58.6	-0.4
	0.8nm,0.7s,mb3.8,baz=234,slow=5.6,SNR=16						
MKAR	Makanchi Array	86.72	20	P	P	17 39 19.6	+0.7
	0.6nm,0.8s,mb3.9,baz=217,slow=7.2,SNR=5.3						
AKASG	Malin Array Be	88.96	345	P	P	17 39 29.3	-0.3
	1.4nm,0.8s,mb4.3,baz=167,slow=4.6,SNR=5.1						
YKA	Yellowknife Ar	152.51	347	PKPbc	PKPdf	17 46 30.2	+4.8
	1.3nm,0.8s,baz=21,slow=2.3,SNR=6.5						

*NEIC **14** 17:43:22.6±0.9, 17.54S×178.38W, h522km±10km, mb4.3/15, Error ellipse: s-maj=13.0km s-min=8.1km az=148.0*
*IDC **14** 17:43:22.8±1.2, 17.58S×178.31W, h524km±15km, mb3.7/10, mb1 4.0/13, mb1mx3.8/19, mbtmp4.8/13, Error ellipse: s-maj=18.4km s-min=11.5km az=147.0*
ISC 14 17:43:22.0±0.8**, 17.54S**±0.09×**178.42W**±0.08**, h528**km±10km**, n56, σ1.00**/39**, mb4.3**/21**, 1C-3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.35	61	P	P	17 45 13.2	-0.3
	25nm,0.3s,baz=124,slow=3.6,SNR=21						
AFI				S	S	17 46 42.3	+0.2
	4.5nm,0.3s,baz=149,slow=19,SNR=2.4						
RAO	Raoul Island	11.66	178	P	P	17 45 57.1	-0.5
	53nm,0.3s,baz=48,slow=19,SNR=3.2						
DZM	Mont Dzumac	14.93	250	*e*P	P	17 46 32.4	+1.3
DZM	Mont Dzumac	14.93	250	P	P	17 46 32.9	+1.8
	1.7nm,0.3s,baz=71,slow=16,SNR=37						
URZ	Urewera	21.01	190	P	P	17 47 27.6	-1.7
	36nm,0.8s,mb5.0,baz=48,slow=4.8,SNR=6.0						
RPZ	Rata Peaks	27.57	197	P	P	17 48 27.5	-0.4
	12nm,0.8s,mb4.6,baz=65,slow=3.1,SNR=6.3						
CTA	Charters Tower	33.49	260	*e*P	P	17 49 19.0	+0.2
	5.4nm,0.6s,mb4.2						
CTA	Charters Tower	33.49	260	P	P	17 49 19.4	+0.6
	7.0nm,0.6s,mb4.3,baz=82,slow=9.8,SNR=12						
CTAO	Charters Tower	33.49	260	*e*P	P	17 49 18.6	-0.2
	10nm,0.8s,mb4.4						
CNB	Canberra Magne	33.64	232	⇓*i*P	P	17 49 21.1	+1.2
	31nm,0.6s,mb5.0						
PMG	Port Moresby	34.39	279	P	P	17 49 27.9	+1.6
	25nm,0.9s,mb4.8,baz=99,slow=5.9,SNR=9.3						
TOO	Toolangi	37.39	230	*e*P	P	17 49 52.0	+1.1
	31nm,0.8s,mb4.9						
STKA	Stephens Creek	38.79	241	⇓*i*P	P	17 50 03.5	+1.2
	21nm,1.0s,mb4.6						
STKA	Stephens Creek	38.79	241	P	P	17 50 03.5	+1.2
	16nm,0.6s,mb4.8,baz=85,slow=8.6,SNR=38						
WB2	Warramunga Arr	44.67	259	⇓*i*P	P	17 50 48.4	-0.9
WRAB	Tennant Creek	44.68	259	*e*P	P	17 50 48.4	-0.9
	9.7nm,0.7s,mb4.4						
WRA	Warramunga Arr	44.69	259	P	P	17 50 48.8	-0.6
	8.6nm,0.8s,mb4.3,baz=94,slow=6.7,SNR=132						
WRA				ScP		17 55 22.5	
	0.3nm,0.8s,baz=87,slow=4.6,SNR=4.9						
KAKA	Kakadu	47.58	269	*e*P	P	17 51 11.0	-0.6
	8.2nm,0.9s,mb4.3						
FITZ	Fitzroy Crossi	53.08	260	*e*P	P	17 51 51.6	-0.4
	15nm,1.8s,mb4.0						
MBWA	Marble Bar	58.15	256	*e*P	P	17 52 25.8	-1.4
	34nm,1.2s,mb4.5						
KLBR	Kellerberrin	58.98	243	*e*P	P	17 52 31.3	-1.3
	15nm,0.8s,mb4.3						
MUN	Mundaring	60.28	243	*e*P	P	17 52 41.2	+0.1
	5.5nm,0.7s,mb4.0						
VNDA	Vanda	60.80	185	P	P	17 52 44.6	+0.5
	0.3nm,0.5s,baz=349,slow=5.0,SNR=3.8						
CASY	Casey	66.46	205	P	P	17 53 17.6	-2.5
	8.7nm,1.3s,mb4.1						
KS15	Wonju Array Si	74.44	318	P	P	17 54 00.7	-6.8
EYAK	Cordova Ski Ar	82.16	16	*e*P	P	17 54 37.0	-11
ELK	Elko	82.40	43	*e*P	P	17 54 49.5	-0.1
	4.6nm,0.9s,mb3.9						
MSU	Marysvale	83.36	46	*e*P	P	17 54 55.4	+0.9
MNTX	Cornudas Mount	85.38	55	*e*P	P	17 55 04.1	-0.5
	1.7nm,0.8s,mb3.6						
TXAR	Lajitas Array	85.81	58	P	P	17 55 07.7	+1.0
	3.8nm,0.8s,mb4.1,baz=217,slow=6.3,SNR=24						
MCMT	McKenzie Canyo	85.97	41	*e*P	P	17 55 06.6	-0.5
MCMT				*e*		17 55 29.7	
IMW	Indian Meadow	86.73	42	*e*P	P	17 55 10.3	-0.4
	2.4nm,0.3s,mb4.3						
PDAR	Pinedale Array	87.10	43	P	P	17 55 12.1	-0.4
	1.8nm,0.8s,mb3.8,baz=218,slow=2.9,SNR=14						
SNAA	Sanae	90.96	179	P	P	17 55 29.3	-0.4
	0.1nm,1.0s						
VNA3	Neumayer Olymp	91.10	176		P	17 55 31.5	+1.1
VNA2	Neumayer--Watz	91.54	177		P	17 55 33.7	+1.3
VNA1	Neumayer--Stat	91.77	177		P	17 55 35.5	+2.0
YKA	Yellowknife Ar	94.01	25	P	P	17 55 43.3	-0.6
	0.7nm,0.7s,mb3.9,baz=234,slow=4.7,SNR=5.2						
CLL	Collm	145.11	347	⇑*i*PKP1	PKPbc	18 02 00.3	+0.7
BRG	Berggiesshubel	145.31	346	P	PKPdf	18 02 01.1	+2.1
GRA1	Grafenberg Arr	147.00	348	*e*PKP	PKPdf	18 02 06.0	+4.2
GRF	Grafenberg Arr	147.00	348	*e*PKP	PKPdf	18 02 06.0	+4.2
GERES	GERESS Array B	147.26	345	PKPbc	PKPdf	18 02 06.8	+4.5
	1.2nm,0.6s,baz=63,slow=3.0,SNR=13						
BAIF	Baives	147.50	357	*e*PKP1	PKPdf	18 02 05.9	+3.3
	6.3nm,0.8s						
FLN	La Foliniere	148.82	3	*e*PKP1	PKPdf	18 02 09.8	+5.0
	19nm,0.9s						
CDF	Champ du Feu	148.86	353	*e*PKP1	PKPdf	18 02 09.7	+4.8
LDF	La Druitiere	149.00	2	*e*PKP1	PKPdf	18 02 10.2	+5.1
GRR	Gorron	149.17	3	*e*PKP1	PKPdf	18 02 10.6	+5.2
SGMF	Saint Gilles	149.19	5	*e*PKP1	PKPdf	18 02 10.5	+5.1
	16nm,1.0s						
HINF	Hinteralfeld	149.50	353	*e*PKP1	PKPdf	18 02 11.4	+5.5
LOR	Lormes	150.30	357	*e*PKP1	PKPdf	18 02 13.7	+6.5
	5.3nm,0.6s						
SSF	Saint Saulge	150.52	357	*e*PKP1	PKPdf	18 02 14.1	+6.6
	6.2nm,0.7s						
CABF	La Chapelle	150.78	354	*e*PKP1	PKPdf	18 02 15.1	+7.2
	9.1nm,0.9s						
MFF	Saint Martin d	150.99	2	*e*PKP1	PKPdf	18 02 15.0	+6.8
	6.0nm,0.8s						
BGF	Bois d'Agland	151.05	358	*e*PKP1	PKPdf	18 02 14.9	+6.6
	6.0nm,0.6s						
TCF	Toulx Ste Croi	151.33	359	*e*PKP1	PKPdf	18 02 15.8	+7.1
	5.1nm,0.8s						

*NEIC **14** 18:23:33.4, 31.59S×69.03W, h173km, mb3.9/1, MD3.9(GUC), After GUC.*
GUC 14 18:23:33.4±0.8**, 31.59S×69.03W, h173**km±13km**, MD3.5, ML3.8, 2C-1D, San Juan Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JACH	Jahuel	1.71	230	⇑*i*P	P	18 24 07.7	+0.4
JACH				*i* S	S	18 24 33.8	+0.4
CMCH	Combarbala	1.73	283	⇓*i*P	P	18 24 07.7	+0.2
CMCH				*i* S	S	18 24 33.5	-0.3
CMCH				AMP		18 24 35.2	
	comp=E,1μm,0.9s						
ILCH	Illapel	1.82	268	*i* S	S	18 24 35.5	+0.1
ILCH				AMP		18 24 37.3	
	comp=N,495nm,0.2s						
FCH	Farellones	2.03	211	*e*P	P	18 24 11.3	+0.6
FCH				*i* S	S	18 24 40.5	+1.1
TLL	Tololo Astrono	2.08	313	⇑*i*P	P	18 24 11.8	+0.5
TLL				*i* S	S	18 24 41.5	+1.1
TLL				AMP		18 24 48.6	
	comp=E,326nm,0.4s						
ROCH	El Roble	2.17	230	*i* P	P	18 24 13.0	+0.7
ROCH				*i* S	S	18 24 42.8	+0.5
PCH	Pirque	2.38	211	*i* S	S	18 24 46.7	+0.1
RCDM	Rinconada Maip	2.41	218	*i* P	P	18 24 16.0	+0.8
RCDM				*i* S	S	18 24 47.7	+0.3
RCDM				AMP		18 24 49.0	
	comp=E,220nm,0.1s						
TACH	Talagante	2.61	218	*i* P	P	18 24 18.0	+0.5
TACH				*i* S	S	18 24 51.0	-0.5
SFDO	San Fernando	3.44	208	*i* P	P	18 24 27.9	0.0
SFDO				*i* S	S	18 25 09.7	-0.2
LVC	Limon Verde	8.95	1	*e*Pn	P	18 25 37.7	-2.3
	comp=E,2.0nm,0.4s						

*MOS **14** 19:08:06.3±0.9, 56.52S×26.76W, h33km, mb5.0/7, Error ellipse: s-maj=30.4km s-min=13.2km az=102.6*
*HRVD **14** 19:08:14.9±0.6, 56.75S×26.99W, h99km±8km, MW4.9/37, Centroid moment Tensor Solution. LP body waves: s10,c10; Mantle waves: s37,c49; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.62±.26; $M_{\theta\theta}$1.85±.30; $M_{\phi\phi}$-2.46±.22; $M_{r\theta}$-1.67±.15; $M_{\theta\phi}$-0.81±.26; $M_{\phi r}$0.97±.14; Best double couple: $M_0$3.022×10^{16} NP1:ϕ_s229°, δ55°, λ163°. NP2:ϕ_s329°, δ76°, λ36°. Principal axes: T 3.275, Plg35°, Azm195°; N -.501, Plg52°, Azm347°; P -2.768, Plg14°, Azm95°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **14** 19:08:14.9±0.2, 56.55S×26.77W, mb4.9/17 Error ellipse: s-maj=7.5km s-min=5.0km az=58.0*
*BJI **14** 19:08:14.8, 56.60S×26.80W, h100km, mB5.0*
*IDC **14** 19:08:15.3±0.6, 56.57S×26.90W, h101km±4km, mb4.1/11, mb1 4.2/12, mb1mx4.1/17, mbtmp4.5/12, MS3.7/10, Ms1 3.7/10, ms1mx3.6/15, Error ellipse: s-maj=16.4km s-min=11.2km az=17.0*
ISC 14 19:08:12.0±2.4**, 56.46S**±0.07×**26.8W**±0.1**, h88**km±22km**, h96**km±4.1km**:pP-P, n115, σ0.91**/59**, mb4.7**/22**, 11C-2D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.33	158	P	P	19 11 57.0	+0.3
VNA1	Neumayer--Stat	16.33	158		P	19 11 59.9	+3.2
VNA1	Neumayer--Stat	16.33	158			19 12 13.0	
VNA1	Neumayer--Stat	16.33	158			19 12 21.3	
VNA1	Neumayer--Stat	16.33	158			19 12 26.0	
VNA1	Neumayer--Stat	16.33	158	S	S	19 15 04.2	+10
VNA3	Neumayer Olymp	16.53	160	⇑*i*P	P	19 11 58.8	-0.3
VNA3	Neumayer Olymp	16.53	160		P	19 12 01.4	+2.3
VNA3	Neumayer Olymp	16.53	160	⇑*i*		19 12 16.4	
VNA3	Neumayer Olymp	16.53	160			19 12 23.1	
VNA3	Neumayer Olymp	16.53	160	S	S	19 15 06.6	+7.5
VNA2	Neumayer--Watz	16.73	158	⇑*i*P	P	19 12 00.3	-1.3
VNA2	Neumayer--Watz	16.73	158	⇑*i*	P	19 12 02.7	+1.1
VNA2	Neumayer--Watz	16.73	158	⇑*i*		19 12 18.5	
VNA2	Neumayer--Watz	16.73	158			19 12 26.9	
VNA2	Neumayer--Watz	16.73	158			19 12 29.5	
VNA2	Neumayer--Watz	16.73	158	S	S	19 15 11.0	+7.4
SNAA	Sanae	18.28	156	⇑*i*P	P	19 12 18.7	-1.9
SNAA	Sanae	18.28	156	⇑*i*	P	19 12 20.3	-0.3
SNAA	Sanae	18.28	156		P	19 12 27.8	+7.2
SNAA	Sanae	18.28	156			19 12 37.9	
SNAA	Sanae	18.28	156			19 12 55.8	
SNAA	Sanae	18.28	156	S	S	19 15 40.1	+2.0
SNAA	Sanae	18.28	156	S	S	19 15 53.7	+16
SNAA	Sanae	18.28	156	P	P	19 12 19.0	-1.6
	1.1nm,0.3s,baz=309,slow=9.4,SNR=203						
SNAA				PcP	PcP	19 16 48.4	-0.8
	0.1nm,0.3s,baz=181,slow=5.3,SNR=4.1						
SNAA				LR	LR	19 17 23.3	
	comp=Z,57nm,21.9s,baz=271,slow=30						
SNAA				ScP		19 20 13.4	
	0.0nm,0.3s,baz=24,slow=0.7,SNR=8.6						
PMSA	Palmer Station	19.79	230	⇑*e*P	P	19 12 37.9	+0.7
	59nm,0.8s						
MAIT	Maitri	21.77	146	*e*P	P	19 12 56.7	-0.6
NVL	N'lazarevskaya	21.80	146	⇓*i*P	P	19 12 56.3	-1.3
NVL				*i* *SP		19 13 04.5	
NVL				*i*		19 13 17.0	
NVL				*e*S	S	19 16 44.4	-3.6
NVL				MLR	MLR		
	comp=Z,20nm,17.1s						
SYO	Syowa Base	31.13	140	⇑P	P	19 14 20.0	-3.7
SYO	Syowa Base	31.13	140	⇑pP	pP	19 14 36.5	-7.5
PLCA	Paso Flores	32.28	280	P	P	19 14 32.9	-1.2
	comp=Z,1.3nm,0.8s,mb3.7,baz=170,slow=12,SNR=3.0						
PLCA				PcP	PcP	19 17 20.1	-0.3
	comp=Z,2.4nm,0.8s,baz=167,slow=5.0,SNR=4.7						
PLCA				ScP		19 20 52.4	
	comp=Z,1.6nm,0.8s,baz=256,slow=20,SNR=4.2						
PLCA				LR	LR	19 26 03.9	
	comp=Z,105nm,21.6s,baz=137,slow=33						
PLCA	Paso Flores	32.28	280	P	P	19 14 32.9	-1.2
PLCA				PcP	PcP	19 17 20.1	-0.3
PLCA				ScP		19 20 52.4	
PLCA				LR	LR	19 26 03.9	
QSPA	South Pole Qui	33.79	180	⇑*i*P	P	19 14 46.6	-0.1
	comp=Z,64nm,0.7s,mb5.6						
CPUP	Villa Florida	37.24	311	P	P	19 15 16.4	-0.1
	comp=Z,1.5nm,0.6s,mb4.1,baz=176,slow=10,SNR=4.9						
CPUP				LR	LR	19 28 42.2	
	comp=Z,55nm,18.2s,baz=326,slow=33						
CPUP	Villa Florida	37.24	311	P	P	19 15 16.4	-0.1
CPUP				LR	LR	19 28 42.2	
CFAA	Coronel Fontan	37.92	293	P	P	19 15 21.4	-0.6
	comp=Z,0.3nm,0.6s,baz=155,slow=7.7,SNR=7.0						
CFAA				pP	pP	19 15 45.1	+2.3
	comp=Z,0.7nm,0.7s,baz=146,slow=8.5,SNR=4.4						
CFAA				PcP	PcP	19 17 36.3	-0.7
	comp=Z,1.2nm,0.6s,baz=168,slow=2.7,SNR=7.5						
MAW	Mawson	39.69	143	P	P	19 15 36.0	-0.4
	comp=Z,7.4nm,0.6s,mb4.7,baz=245,slow=7.5,SNR=9.4						
MAW				PcP	PcP	19 17 40.8	-1.4
	comp=Z,4.0nm,0.7s,baz=262,slow=5.5,SNR=3.9						
MAW				LR	LR	19 29 56.6	
	comp=Z,144nm,18.2s,baz=40,slow=33						
BDFB	Brasilia	43.83	330	LR	LR	19 32 53.3	
	comp=Z,104nm,18.6s,baz=33,slow=34						
SBA	Scott Base	45.68	184	*e*P	P	19 16 24.9	+0.1
SBA				*e*		19 18 00.6	
SBA				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
SBA	Scott Base	45.68	184	*e*P	P	19 16 24.9	+0.1
	comp=Z,17nm,1.0s,mb4.7						
SBA				*e*PcP	PcP	19 18 00.6	-1.3
LVC	Limon Verde	45.69	300	*e*P	P	19 16 26.4	+0.8
	comp=Z,14nm,0.8s,mb4.7						
LVC				*e*pP	pP	19 16 47.2	+0.4
BOSA	Boshof	45.87	75	*e*P	P	19 16 26.7	-0.2
BOSA	Boshof	45.87	75	P	P	19 16 27.8	+0.9
	comp=Z,4.5nm,0.7s,mb4.3,baz=200,slow=8.3,SNR=9.9						
BOSA				LR	LR	19 32 33.0	
	comp=Z,194nm,18.2s,baz=209,slow=32						
VNDA	Vanda	46.17	183	*e*P	P	19 16 28.5	-0.2
VNDA				pmax	pmax		
	comp=Z,14nm,0.7s						
VNDA	Vanda	46.17	183	P	P	19 16 28.7	0.0
	comp=Z,13nm,0.6s,mb4.8,baz=187,slow=6.4,SNR=129						
VNDA				LR	LR	19 33 02.6	
	comp=Z,78nm,20.3s,baz=21,slow=32						
VNDA	Vanda	46.17	183	*e*P	P	19 16 28.5	-0.2
	comp=Z,14nm,0.7s,mb4.8						
LBTB	Lobatse	48.93	72	*e*P	P	19 16 50.5	-0.3
LBTB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
LBTB	Lobatse	48.93	72	P	P	19 16 51.4	+0.5
	comp=Z,5.9nm,0.6s,mb4.7,baz=237,slow=9.8,SNR=18						
LBTB				pP	pP	19 17 15.4	+3.2
	comp=Z,5.8nm,0.9s,baz=205,slow=9.9,SNR=4.2						
LBTB	Lobatse	48.93	72	*e*P	P	19 16 50.5	-0.4
	comp=Z,4.9nm,0.8s,mb4.5						
LBTB				*e*pP	pP	19 17 10.5	-1.7
TSUM	Tsumeb	49.70	60	P	P	19 16 57.5	+0.6
	comp=Z,3.0nm,1.0s,mb4.2,baz=215,slow=4.5,SNR=5.6						
TSUM				pP	pP	19 17 21.1	+2.8
	comp=Z,2.8nm,0.8s,baz=214,slow=6.3,SNR=4.1						
TSUM	Tsumeb	49.70	60	P	P	19 16 57.5	+0.6
TSUM				pP	pP	19 17 21.1	+2.8
LPAZ	La Paz	50.79	305	*e*P	P	19 17 06.6	+1.4
LPAZ				pmax	pmax		
	comp=Z,16nm,0.7s						
LPAZ	La Paz	50.79	305	P	P	19 17 07.0	+1.9
	comp=Z,15nm,0.6s,mb5.2,baz=208,slow=7.6,SNR=78						
LPAZ				LR	LR	19 40 13.1	
	comp=Z,36nm,18.6s,baz=185,slow=38						
LPAZ	La Paz	50.79	305	*e*P	P	19 17 06.6	+1.5
	comp=Z,16nm,0.7s,mb5.2						
CASY	Casey	53.45	160	*e*P	P	19 17 23.1	-1.3
	comp=Z,22nm,0.8s,mb5.2						
MATP	Matopo	54.20	72	P	P	19 17 30.9	+0.3
	comp=Z,5.3nm,0.8s,mb4.6,baz=213,slow=8.1,SNR=12						
MATP				pP	pP	19 17 55.5	+3.1
	comp=Z,8.3nm,0.8s,baz=208,slow=5.9,SNR=7.4						
SAML	Samuel	55.24	315	*e*P	P	19 17 36.8	-1.4
	comp=Z,3.7nm,0.8s,mb4.5						
LSZ	Lusaka	58.33	68	*e*P	P	19 17 59.7	-0.3
LSZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
LSZ	Lusaka	58.33	68	*e*P	P	19 17 59.6	-0.3
	comp=Z,4.2nm,0.8s,mb4.5						
DBIC	Dimbokro	65.45	24	pP	pP	19 19 14.1	+3.9
	comp=Z,12nm,0.8s,baz=180,slow=8.1,SNR=6.7						
DBIC				LR	LR	19 41 43.1	
	comp=Z,100nm,18.4s,baz=159,slow=31						
SDV	Santo Domingo	74.45	315	*e*P	P	19 19 42.9	+0.6
	comp=Z,16nm,1.0s,mb4.7						
TAU	Tasmania Unive	80.87	176	*e*P	P	19 20 16.3	-0.9
TAU				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.3						
TAU	Tasmania Unive	80.87	176	*e*P	P	19 20 16.3	-0.9
	comp=Z,34nm,0.6s,mb5.3						
TOO	Toolangi	86.10	174	*e*P	P	19 20 43.9	+0.3
	comp=Z,8.8nm,0.9s,mb4.7						
TOO	Toolangi	86.10	174	*e*P	P	19 20 43.9	+0.3
TOO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
MUN	Mundaring	86.47	149	*e*P	P	19 20 46.0	+0.5
	comp=Z,15nm,0.8s,mb5.0						
MUN	Mundaring	86.47	149	*e*P	P	19 20 46.0	+0.5
MUN				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
TBI	Tubuai	86.99	231	*e*LR	LR	19 47 39.9	
	comp=Z,111nm,30.2s,baz=131						
KLBR	Kellerberrin	87.27	150	*e*P	P	19 20 49.7	+0.3
	comp=Z,9.9nm,0.7s,mb4.8						
CNB	Canberra Magne	88.53	177	*e*P	P	19 20 56.2	+0.9
	comp=Z,9.8nm,1.0s,mb4.8						
STKA	Stephens Creek	91.46	170	⇓*i*P	P	19 21 09.5	+0.3
	comp=Z,6.3nm,0.6s,mb4.9						
STKA	Stephens Creek	91.46	170	P	P	19 21 09.4	+0.3

	comp=Z,6.9nm,0.6s,mb5.0,baz=163,slow=4.8,SNR=28						
STKA				PP	PP	19 24 45.6	-4.5
	comp=Z,2.3nm,0.8s,baz=201,slow=8.4,SNR=5.5						
PPT	Papeete	92.12	233	eLR	LR	19 51 15.3	
	comp=Z,177nm,28.8s						
PPT	Papeete	92.12	233	LR	LR	19 51 38.5	
	comp=Z,74nm,21.4s,baz=149,slow=28						
WRA	Warramunga Arr	102.25	162	P	Pdif	19 21 57.5	-0.8
	comp=Z,0.8nm,0.8s,baz=194,slow=4.3,SNR=6.4						
WRA				PP	PP	19 26 10.9	-2.8
	comp=Z,1.3nm,0.7s,baz=186,slow=6.6,SNR=8.8						
WRA				PKKPbc		19 37 59.5	
	comp=Z,0.3nm,0.4s,baz=1.3,slow=3.0,SNR=9.6						
MSU	Marysvale	118.73	297	ePKIKP	PKPdf	19 26 51.6	+2.3
PDAR	Pinedale Array	120.74	302	PKP	PKPdf	19 26 53.9	+0.7
	comp=Z,0.6nm,0.7s,baz=130,slow=5.0,SNR=5.8						
HWUT	Hardware Ranch	120.81	300	ePKP	PKPdf	19 26 54.0	+0.7
NB2	NORSAR Subarra	120.92	20	PKPdf	PKPdf	19 26 53.4	+0.4
	comp=Z,1.1nm,0.8s,baz=202,slow=1.9						
NB2	NORSAR Subarra	120.92	20	PKPdf	PKPdf	19 26 53.4	+0.4
NB2				PKPab		19 36 58.6	
NOA	NORSAR Array B	120.92	20	PKP	PKPdf	19 26 53.8	+0.8
	comp=Z,1.0nm,0.7s,baz=206,slow=2.0,SNR=4.1						
FINES	FINESS Array B	124.65	28	PKP	PKPdf	19 27 01.2	+1.2
	comp=Z,3.5nm,0.6s,baz=180,slow=3.8,SNR=19						
WVOR	Wild Horse Val	124.91	296	ePKIKP	PKPdf	19 27 02.9	+1.8
KAF	Kangasniemi	125.27	27	epkp	PKPdf	19 27 02.1	+0.9
	comp=Z,4.8nm,0.6s						
MOD	Modoc	125.36	294	ePKP	PKPdf	19 27 03.7	+1.7
CHMT	Chamberlain Mo	125.59	303	ePKP	PKPdf	19 27 03.6	+1.4
MSO	Missoula	125.85	302	ePKP	PKPdf	19 27 04.1	+1.4
BMO	Blue Mountains	126.02	298	ePKIKP	PKPdf	19 27 04.7	+1.6
ARCES	ARCESS Array B	131.25	22	PKP	PKPdf	19 27 14.2	+1.7
	comp=Z,2.4nm,0.7s,baz=190,slow=1.6,SNR=17						
KMI	Kunming	132.19	109	PKP	PKPdf	19 27 18.6	+3.1
BVAR	Borovoye Array	134.82	58	SKPbc		19 30 41.4	
	comp=Z,1.0nm,0.8s,baz=243,slow=6.6,SNR=4.3						
YKA	Yellowknife Ar	136.62	318	PKP	PKPdf	19 27 24.1	+1.6
	comp=Z,2.2nm,0.6s,baz=130,slow=2.4,SNR=12						
YKA				pPKP		19 27 50.9	
	comp=Z,1.1nm,0.4s,baz=124,slow=2.5,SNR=2.9						
YKA				SKPbc		19 30 45.9	
	comp=Z,2.5nm,0.9s,baz=115,slow=1.7,SNR=13						
MKAR	Makanchi Array	136.82	72	PKhKP		19 27 16.2	
	comp=Z,0.5nm,0.6s,baz=224,slow=4.4,SNR=5.0						
MKAR				PKP	PKPdf	19 27 25.8	+2.5
	comp=Z,0.8nm,0.7s,baz=230,slow=2.3,SNR=7.0						
MKAR	Makanchi Array	136.82	72	PKP		19 27 16.2	
MKAR				PKP	PKPdf	19 27 25.8	+2.5
LZH	Lanzhou	141.32	100	ePKP	PKPdf	19 27 32.5	+0.7
LZH				XPKP		19 28 07.6	
LZH				LR	LR		
	comp=E,276nm,18.2s						
LZH				LR	LR		
	comp=Z,385nm,19.0s						
LZH	Lanzhou	141.32	100	ePKIKP	PKPdf	19 27 32.5	+0.7
LZH				MLR	MLR		
	comp=Z,390nm,19.0s						
GTA	Gaotai	141.49	93	ePKP	PKPdf	19 27 35.3	+3.3
NVS	Novosibirsk	142.05	62	ePKHKP		19 27 29.3	
NJ2	Nanjing	145.94	121	ePKP	PKPdf	19 27 40.6	+0.7
NJ2				PKP2	PKPab	19 27 45.0	+1.5
NJ2				APKP		19 28 07.5	
NJ2				XPKP		19 28 18.0	
NJ2				PP	PP	19 31 08.0	+1.9
NJ2				PKS	PKS	19 31 15.0	+0.7
NJ2				PP	PP		
	comp=Z,50nm,5.3s						
NJ2				LR	LR		
	comp=N,180nm,17.5s						
NJ2				LR	LR		
	comp=E,170nm,17.9s						
NJ2				LR	LR		
	comp=Z,60nm,20.0s						
SSE	Sheshan	146.23	125	ePKP	PKPdf	19 27 40.8	+0.4
SSE	Sheshan	146.23	125	eP	PKPdf	19 27 40.7	+0.3
INK	Inuvik	146.25	320	PKPbc	PKPbc	19 27 42.5	+2.0
	comp=Z,14nm,0.7s,baz=86,slow=2.7,SNR=26						
INK				pPKPbc		19 28 09.4	
	comp=Z,16nm,0.8s,baz=116,slow=8.2,SNR=6.4						
INK				SKPbc		19 31 10.6	
	comp=Z,2.2nm,0.9s,baz=85,slow=4.8,SNR=3.6						
INK	Inuvik	146.25	320	ePKPbc	PKPbc	19 27 42.5	+2.0
EYAK	Cordova Ski Ar	148.85	303	ePKPbc	PKPdf	19 27 50.2	+6.5
HHC	Hu-ho-hao-te	148.95	102	ePKP	PKPdf	19 27 49.3	+4.8
DIV	Divide	149.06	304	ePKPbc	PKPdf	19 27 50.5	+6.5
ZAK	Zakamensk	150.21	80	ePKIKP	PKPdf	19 27 52.8	+6.6
ZAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SML	Sawmill	150.44	305	ePKIKP	PKPdf	19 27 53.4	+7.2
SONM	Songino Array	150.54	87	PKPbc	PKPdf	19 27 54.1	+7.3
	comp=Z,16nm,0.7s,baz=226,slow=3.0,SNR=142						
MCK	McKinley	151.19	309	ePKIKP	PKPdf	19 27 55.0	+7.8
SPU	Mount Spurr	151.99	303	ePKPbc	PKPdf	19 27 56.8	+8.3
RSO	Redoubt South	152.12	301	ePKPbc	PKPdf	19 27 57.2	+8.5
MJAR	Matsushiro Arr	157.66	147	PKPab	PKPab	19 28 31.0	-1.0
	comp=Z,1.5nm,0.8s,baz=197,slow=4.6,SNR=5.9						
CN2	Changchun	158.34	114	ePKP	PKPdf	19 27 58.3	+0.8
MDJ	Mudanjiang	161.00	119	PKP	PKPdf	19 28 00.8	+0.4
MDJ				PP	PP	19 32 29.3	-0.7
MDJ				PP	PP		
	comp=Z,80nm,5.7s						
MDJ				LR	LR		
	comp=E,60nm,21.8s						
MDJ				LR	LR		
	comp=Z,68nm,20.7s						

IDC ***14*** *19:40:30.7±0.5, 2.13N×97.85E, mb4.6/16, mb1 4.6/16, mb1mx4.5/19, mbtmp4.6/16, MS3.7/10, Ms1 3.7/10, ms1mx3.5/25, Error ellipse: s-maj=22.8km s-min=13.5km az=57.0*

BJI ***14*** *19:40:32.6, 1.90N×97.77E, h35km, mB4.9, mb4.7, Ms4.4, Msz4.1*

MOS ***14*** *19:40:34.1±0.9, 2.16N×97.92E, h33km, mb5.0/25, Error ellipse: s-maj=16.0km s-min=7.2km az=107.2*

NEIC ***14*** *19:40:35.0±0.3, 2.04N×97.85E, h30km, mb4.8/28, Error ellipse: s-maj=10.5km s-min=6.0km az=50.0*

ISC 14 19:40:33.1±0.3**, 1.94N**±0.04×**97.72E**±0.05**, h31**km**, h31**km±.8km**:pP-P, n127,** σ1§**21**/131**, mb4.7**/60**, MS3.8**/20**, 9C-6D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	Ipoh	4.22	51	P	Pn	19 41 38.4	+1.4
KULM	Kulim	4.43	41	eP	Pn	19 41 41.1	+1.0
KGM	Kluang	5.60	89	P	Pn	19 41 58.4	+1.9
SNG	Songkhla	5.95	29	P	Pn	19 42 02.0	+0.5
	360nm,1.0s						
PKT	Phuket	6.12	4	P	Pn	19 42 05.5	+1.7
NNT	Nongplab	10.77	11	P	P	19 43 10.0	+1.5
KSM	Kuching	12.59	92	eP	P	19 43 34.8	+1.7
NST	Nakhon Sawan	13.85	10	P	P	19 43 49.0	-0.9
KKTK	Khon Kaen	15.16	19	P	P	19 44 06.0	-1.0
BDT	Bhumibol Dam	15.26	5	P	P	19 44 11.0	+2.7
CHG	Chiang Mai	16.81	4	⇓P	P	19 44 28.2	+0.1
	10.0nm,0.8s						
NANT	Nan	17.01	10	P	P	19 44 33.0	+2.5
	62nm,0.9s						
KKM	Kota Kinabalu	18.89	77	eP	P	19 44 53.2	-0.7
KKM	Kota Kinabalu	18.89	77	P	P	19 44 53.8	0.0
TSM	Tawau	20.26	83	P	P	19 45 08.5	-0.5
KMI	Kunming	23.55	11	⇑P	P	19 45 43.5	+1.6
KMI				AP		19 45 52.4	
KMI				XP		19 45 56.1	
KMI				PP	PP	19 46 15.6	+1.2
KMI				PPP	PPP	19 46 26.3	+1.9
KMI				S	S	19 49 53.3	+3.0
KMI				XS		19 50 08.8	
KMI				SS	SS	19 50 42.4	+3.4
KMI				AMB	AMB		
	comp=Z,42nm,4.2s						
KMI				LR	LR		
	comp=N,240nm,16.3s,MS3.8						
KMI				LR	LR		
	comp=E,180nm,19.4s,MS3.8						
KMI				LR	LR		
	comp=Z,309nm,14.5s,MS3.9						
KMI	Kunming	23.55	11	⇑P	P	19 45 43.5	+1.6
KMI				pP		19 45 52.4	
KMI				sP		19 45 56.1	
KMI				PP	PP	19 46 15.6	+1.2
KMI				PPP	PPP	19 46 26.2	+1.8
KMI				S	S	19 49 53.2	+2.9
KMI				sS		19 50 08.8	
KMI				SS	SS	19 50 42.4	+3.4
KMI				LR	LR		
	comp=Z,310nm,14.5s,MS3.9						
SHL	Shillong	24.15	347	eP	P	19 45 46.7	-1.1
HYB	Hyderabad	24.31	310	eP	P	19 45 54.0	+4.6
HYB	Hyderabad	24.31	310	iP	P	19 45 54.0	+4.6
GYA	Guiyang	25.85	19	⇑iP	P	19 46 02.4	-1.5
GYA				AP	pP	19 46 11.8	-1.2
GYA				XP	sP	19 46 15.8	-1.3
GYA				PP	PP	19 46 43.1	-1.6
GYA				S	S	19 50 25.8	-3.3
GYA				XS		19 50 48.9	
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,330nm,4.2s						
GYA				LR	LR		
	comp=N,480nm,15.8s,MS4.2						
GYA				LR	LR		
	comp=E,400nm,15.4s,MS4.2						
GYA				LR	LR		
	comp=Z,460nm,14.7s,MS4.1						
PKI	Pulchoki	28.08	336	eP	P	19 46 26.0	+1.8
	comp=Z,10.0nm,0.5s,mb4.7						
PKI	Pulchoki	28.08	336	eP	P	19 46 26.0	+1.8
PKI				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.4						
GUN	Gumba	28.20	337	eP	P	19 46 25.5	+0.2
	comp=Z,50nm,0.8s,mb5.2						
DMN	Daman	28.23	336	eP	P	19 46 26.9	+1.3
	comp=Z,19nm,0.8s,mb4.8						
LSA	Lhasa	28.30	348	P	P	19 46 26.8	+0.6
LSA	Lhasa	28.30	348	eP	P	19 46 26.3	+0.1
LSA				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.4						
LSA	Lhasa	28.30	348	eP	P	19 46 26.3	+0.1
	comp=Z,3.7nm,0.4s,mb4.4						
KKN	Kakani	28.32	336	eP	P	19 46 27.7	+1.3
	comp=Z,24nm,0.8s,mb4.9						
KKN	Kakani	28.32	336	eP	P	19 46 27.7	+1.3
KKN				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.6						
GKN	Gorkha	28.77	335	eP	P	19 46 30.6	+0.1
	comp=Z,7.4nm,0.3s,mb4.9						
KOLN	Koldanda	29.02	334	eP	P	19 46 33.1	+0.4
	comp=Z,25nm,0.7s,mb5.0						
ENH	Enshi	30.31	20	eP	P	19 46 41.1	-3.1
	comp=Z,9.2nm,0.8s,mb4.6						
LGTI	Lohaghat	32.01	330	eP	P	19 46 59.5	+0.4
FITZ	Fitzroy Crossi	33.95	127	eP	P	19 47 14.9	-1.2
	comp=Z,9.9nm,0.9s,mb4.7						
FITZ	Fitzroy Crossi	33.95	127	P	P	19 47 15.0	-1.1
	comp=Z,10.0nm,0.8s,mb4.8,baz=342,slow=5.6,SNR=7.1						
LZH	Lanzhou	34.45	9	eP	P	19 47 18.0	-2.2
LZH				AP	pP	19 47 26.5	-3.0
LZH				XP	sP	19 47 31.0	-2.5
LZH				PP	PP	19 48 35.0	-1.3
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,110nm,4.1s						
LZH	Lanzhou	34.45	9	eP	P	19 47 18.0	-2.2
	comp=Z,25nm,1.0s,mb5.1						
LZH				pP	pP	19 47 26.5	-3.0
LZH				sP	sP	19 47 31.0	-2.5
LZH				PP	PP	19 48 35.0	-1.3
NJ2	Nanjing	35.97	31	eP	P	19 47 35.3	+2.1
NJ2				AP	pP	19 47 44.6	+2.1
NJ2				XP	sP	19 47 47.8	+1.4
NJ2				PP	PP	19 48 57.1	+1.9
NJ2				S	S	19 53 12.0	+3.1
NJ2				XS		19 53 26.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,70nm,4.8s						
NJ2				LR	LR		
	comp=N,90nm,13.7s						
NJ2				LR	LR		
	comp=E,110nm,20.7s						
NJ2				LR	LR		
	comp=Z,80nm,14.8s,MS3.6						
SSE	Sheshan	36.51	35	P	P	19 47 38.5	+0.7
SSE				AP	pP	19 47 47.3	+0.2
SSE				XP	sP	19 47 51.1	+0.1
SSE				PP	PP	19 49 02.3	0.0
SSE				PCP	PcP	19 50 00.0	-1.4
SSE				S	S	19 53 20.8	+3.5
SSE				XS		19 53 35.9	
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,48nm,5.8s						
SSE				LR	LR		
	comp=N,53nm,28.0s,MS3.5						
SSE				LR	LR		
	comp=E,92nm,28.3s,MS3.5						
SSE				LR	LR		
	comp=Z,103nm,28.3s,MS3.5						
SSE	Sheshan	36.51	35	P	P	19 47 38.5	+0.7
	comp=Z,31nm,0.7s,mb5.2						
SSE				pP	pP	19 47 47.2	+0.1
SSE				sP	sP	19 47 51.1	+0.1
SSE				PP	PP	19 49 02.3	0.0
SSE				PcP	PcP	19 50 00.0	-1.4
SSE				S	S	19 53 20.8	+3.5
SSE				sS		19 53 35.9	
SSE				LR	LR		
	comp=Z,100nm,28.3s,MS3.4						
THN	Thein Dam	36.72	328	e	P	19 47 39.0	-0.5
GTA	Gaotai	37.34	3	eP	P	19 47 43.8	-0.9
GTA				AP	pP	19 47 52.9	-1.1
GTA				XP	sP	19 47 56.8	-1.1
GTA				PP	PP	19 49 13.3	+0.7
GTA				S	S	19 53 29.8	-0.1
GTA				XS		19 53 46.1	
GTA				SS	SS	19 56 01.1	-1.4
GTA				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.7						
GTA				AMB	AMB		
	comp=Z,24nm,3.9s						
GTA				LR	LR		
	comp=N,59nm,13.7s,MS3.9						
GTA				LR	LR		
	comp=E,104nm,13.7s,MS3.9						
GTA				LR	LR		
	comp=Z,74nm,12.2s,MS3.7						
KAKA	Kakadu	37.42	114	⇓iP	P	19 47 44.5	-1.0
	comp=Z,18nm,0.8s,mb4.9						
JOW	Kunigami	38.36	47	LR	LR	20 02 46.0	
	comp=Z,83nm,19.3s,MS3.6,baz=131,slow=35						
NWAO	Narrogin (SRO)	39.28	154	P	P	19 48 02.8	+1.8
	comp=Z,24nm,0.9s,mb5.0,baz=322,slow=8.5,SNR=7.3						
HHC	Hu-ho-hao-te	40.71	16	eP	P	19 48 11.8	-0.8
HHC				PP	PP	19 49 45.4	-4.2
HHC				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.1						
HHC				LR	LR		
	comp=N,173nm,17.9s,MS4.0						
HHC				LR	LR		
	comp=E,105nm,16.7s,MS4.0						
HHC				LR	LR		
	comp=Z,128nm,16.7s,MS3.9						
WRA	Warramunga Arr	41.99	123	P	P	19 48 23.3	-0.2
	comp=Z,9.2nm,0.3s,mb4.8,baz=305,slow=9.0,SNR=180						
WRA				PcP	PcP	19 50 19.3	+0.3
	comp=Z,3.9nm,0.7s,baz=307,slow=2.7,SNR=11						
WRAB	Tennant Creek	42.00	123	c iP	P	19 48 23.3	-0.3
WRAB	Tennant Creek	42.00	123	eP	P	19 48 22.9	-0.7
	comp=Z,21nm,0.7s,mb4.9						
WB2	Warramunga Arr	42.00	123	eP	P	19 48 23.3	-0.3
WMQ	Urumqi	42.64	349	P	P	19 48 29.4	+0.9
WMQ				AP	pP	19 48 39.3	+1.4
WMQ				XP	sP	19 48 43.3	+1.5
WMQ				PP	PP	19 50 11.4	+1.4
WMQ				S	S	19 54 50.3	+1.1
WMQ				XS		19 55 06.5	
WMQ				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,153nm,6.2s						
WMQ				LR	LR		
	comp=N,766nm,18.4s,MS4.8						
WMQ				LR	LR		
	comp=E,664nm,18.1s,MS4.8						
WMQ				LR	LR		
	comp=Z,1µm,19.5s,MS4.8						
JNU	Nakatsue	43.91	41	P	P	19 48 38.2	-0.7
	comp=Z,6.5nm,0.8s,mb4.4,baz=205,slow=5.9,SNR=7.7						
JNU				LR	LR	20 07 07.6	
	comp=Z,62nm,19.5s,MS3.5,baz=238,slow=37						
AAK	Ala-Archa	45.53	336	d iP	P	19 48 52.8	+1.0
AAK				MLR	MLR		
	comp=Z,100nm,21.0s,MS3.7						
AAK	Ala-Archa	45.53	336	eP	P	19 48 51.1	-0.8
	comp=Z,5.4nm,0.8s,mb4.5						
AAK				LR	LR		
	comp=Z,25nm,20.0s,MS3.1						
SONM	Songino Array	46.33	8	P	P	19 48 57.5	-0.5
	comp=Z,14nm,0.8s,mb4.9,baz=189,slow=8.8,SNR=113						
SONM				PcP	PcP	19 50 33.1	-0.3
	comp=Z,3.3nm,0.8s,baz=187,slow=4.2,SNR=7.2						
SONM				LR	LR	20 10 36.7	
	comp=Z,107nm,18.9s,MS3.8,baz=314,slow=39						
MKAR	Makanchi Array	46.66	345	P	P	19 49 00.5	-0.1
	comp=Z,16nm,0.8s,mb5.0,baz=158,slow=8.3,SNR=116						
MKAR				LR	LR	20 11 02.9	
	comp=Z,46nm,20.9s,MS3.4,slow=39						
MKAR	Makanchi Array	46.66	345	P	P	19 49 00.5	-0.1
MKAR				LR	LR	20 11 02.9	
CN2	Changchun	48.41	27	eP	P	19 49 13.0	-1.5
CN2				eS	S	19 56 10.8	-1.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
CN2				AMB	AMB		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,16.0s,MS4.3						
CN2				LR	LR		
	comp=E,200nm,16.0s,MS4.3						
CN2				LR	LR		
	comp=Z,100nm,15.0s,MS3.9						
ZAK	Zakamensk	48.49	5	eP	P	19 49 13.8	-1.2
ZAK				e		19 50 41.0	
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
TLY	Talaya	49.81	5	eP	P	19 49 24.4	-0.7
TLY				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
JHJ	Hachijo jima 2	50.14	47	LR	LR	20 09 40.0	
	comp=Z,52nm,19.2s,MS3.6,baz=310,slow=35						
MJAR	Matsushiro Arr	50.80	42	P	P	19 49 30.6	-2.3
	comp=Z,1.6nm,0.6s,mb4.1,baz=208,slow=6.3,SNR=7.9						
MJAR				LR	LR	20 10 24.3	
	comp=Z,50nm,20.6s,MS3.5,baz=150,slow=36						
MDJ	Mudanjiang	50.97	29	P	P	19 49 34.0	0.0
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,17nm,3.3s						
KURK	Kurchatov	51.22	345	eP	P	19 49 35.2	-0.6
KURK				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0						
KURK				MLR	MLR		
	comp=Z,24nm,19.0s,MS3.2						
KURK	Kurchatov	51.22	345	eP	P	19 49 35.2	-0.6
	comp=Z,15nm,0.7s,mb5.0						
KURK				LR	LR		
	comp=Z,24nm,19.0s,MS3.2						
CIT	Chita	51.64	12	eP	P	19 49 35.0	-4.0
STKA	Stephens Creek	53.47	133	eP	P	19 49 53.2	+0.2
	comp=Z,6.3nm,0.6s,mb4.7						
STKA	Stephens Creek	53.47	133	P	P	19 49 53.7	+0.7
	comp=Z,7.5nm,0.7s,mb4.7,baz=312,slow=7.9,SNR=23						
NVS	Novosibirsk	54.04	350	eP	P	19 49 54.4	-2.4
NVS				pmax	pmax		
	comp=N,10.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
KLR	Kul'dur	55.36	26	eP	P	19 50 02.0	-4.6
BRVK	Borovoye	55.79	340	eP	P	19 50 08.0	-1.6
BRVK				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
BRVK	Borovoye	55.79	340	eP	P	19 50 08.0	-1.6
	comp=Z,11nm,0.6s,mb5.1						
ZRNK	Zerenda	56.14	340	eP	P	19 50 11.1	-1.0
ZRNK				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
ZRNK	Zerenda	56.14	340	eP	P	19 50 11.1	-1.0
	comp=Z,12nm,0.7s,mb5.0						
YSS	Yuzh-Sakhalins	59.45	34	d iP	P	19 50 34.8	-0.6
KMBO	Kilima Mbogo	60.53	268	LR	LR	20 12 27.8	
	comp=Z,84nm,20.8s,MS3.9,baz=90,slow=32						
SVE	Sverdlovsk	62.20	338	eP	P	19 50 53.6	-0.4
SVE				e		19 51 06.8	
SVE				e		19 51 41.0	
SVE				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.4						
ARU	Arti	62.71	337	⇑iP	P	19 50 56.2	-1.2
ARU				e		19 51 32.8	
ARU				e		19 53 14.6	
ARU				eS	S	19 59 24.2	+2.1
ARU				e		20 00 48.2	
ARU				eSS	SS	20 03 27.9	-1.0
ARU				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
ARU	Arti	62.71	337	eP	P	19 50 55.9	-1.4
	comp=Z,8.6nm,0.9s,mb4.9						
ZEI	Tsey	62.79	318	eP	P	19 50 55.2	-2.9
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb5.0						
KIV	Kislovodsk	64.09	319	eP	P	19 51 06.1	-0.6
KIV				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
KIV	Kislovodsk	64.09	319	eP	P	19 51 06.1	-0.6
	comp=Z,10nm,0.7s,mb5.0						
YAK	Yakutsk	64.57	16	c iP	P	19 51 07.5	-2.0
YAK				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.3						
YAK	Yakutsk	64.57	16	eP	P	19 51 07.1	-2.4
	comp=Z,20nm,0.7s,mb5.3						
MALT	Malatya	65.02	312	eP	P	19 51 12.0	-0.8
MALT				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
MALT	Malatya	65.02	312	eP	P	19 51 12.0	-0.8
	comp=Z,6.1nm,1.1s,mb4.5						
SOC	Sochi	65.92	318	c iP	P	19 51 17.8	-0.7
SOC				e		20 01 01.1	
SOC				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.3						
SOC				pmax	pmax		
	comp=N,17nm,1.2s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.9s						
ANN	Anapa	67.89	318	eP	P	19 51 47.5	+17
ANN				i *PP	pP	19 51 57.9	+17
ANN				i		19 52 03.0	
ANN				eS	S	20 01 00.3	+34
ANN				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.2						
BRTR	Keskin Array B	69.00	312	P	P	19 51 37.9	-0.1
	comp=Z,2.6nm,0.8s,mb4.2,baz=121,slow=6.8,SNR=13						
MA2	Magadan	70.44	26	eP	P	19 51 46.1	-0.3
MA2				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
PET	Petropavlovsk	71.33	34	iP	P	19 51 51.1	-0.8
PET				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.3						
OBN	Obninsk	72.26	328	⇓eP	P	19 51 57.2	-0.2
OBN				e		19 52 13.6	
OBN				e		19 54 35.5	
OBN				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
TIXI	Tiksi	72.37	10	c iP	P	19 51 56.0	-1.8
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
SEY	Seymchan	72.88	23	d iP	P	19 52 00.5	-0.4
AKASG	Malin Array Be	74.99	322	P	P	19 52 12.8	-0.5
	comp=Z,6.0nm,0.7s,mb4.7,baz=88,slow=5.2,SNR=27						
BOSA	Boshof	75.59	240	P	P	19 52 19.4	+2.1
	comp=Z,0.9nm,0.5s,mb3.9,baz=147,slow=18,SNR=6.1						
BOSA				LR	LR	20 20 29.1	
	comp=Z,99nm,18.4s,MS4.2,baz=265,slow=32						
APA	Apatity	78.62	339	⇑iP	P	19 52 33.4	+0.2
APA				pmax	pmax		

	comp=Z,10.0nm,0.8s,mb4.8						
SUW	**Suwalki**	**79.37**	**325**	*e*P	**P**	**19 52 38.0**	**+0.4**
SUW	**Suwalki**	**79.37**	**325**	*e*P	**P**	**19 52 38.0**	**+0.4**
FINES	**FINESS Array B**	**79.58**	**332**	P	**P**	**19 52 38.9**	**+0.2**
	comp=Z,2.8nm,0.6s,mb4.3,baz=124,slow=6.9,SNR=12						
KAF	**Kangasniemi**	**79.66**	**333**	*e*p	**P**	**19 52 37.8**	**-1.2**
	comp=Z,5.6nm,0.7s,mb4.6,baz=103,slow=5.1						
KAF	**Kangasniemi**	**79.66**	**333**	*e*P	**P**	**19 52 37.8**	**-1.2**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
BILL	**Bilibino**	**80.29**	**21**	P	**P**	**19 52 40.7**	**-1.6**
BILL				*e*S	S	20 02 43.2	-1.0
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
OJC	**Ojcow**	**80.78**	**320**	*e*P	**P**	**19 52 46.2**	**+1.0**
KEV	**Kevo**	**81.58**	**341**	*e*p	**P**	**19 52 48.9**	**-0.1**
	comp=Z,7.8nm,0.9s,mb4.6						
KEV	**Kevo**	**81.58**	**341**	*e*P	**P**	**19 52 48.9**	**-0.1**
KEV				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
ARCES	**ARCESS Array B**	**82.02**	**340**	P	**P**	**19 52 51.6**	**+0.4**
	comp=Z,5.9nm,0.9s,mb4.5,baz=104,slow=5.0,SNR=9.2						
KOGS	**Kog**	**82.71**	**316**	*e*P	**P**	**19 52 56.4**	**+1.1**
BOJS	**Bojanci**	**83.33**	**315**	*e*P	**P**	**19 52 59.9**	**+1.3**
ROBS	**Robic**	**84.59**	**316**	*e*P	**P**	**19 53 05.5**	**+0.6**
GERES	**GERESS Array B**	**84.60**	**319**	P	**P**	**19 53 06.5**	**+1.6**
	comp=Z,2.0nm,0.9s,mb4.2,baz=101,slow=6.8,SNR=16						
RAO	**Raoul Island**	**86.02**	**119**	LR	LR	20 31 34.4	
	comp=Z,84nm,18.9s,MS4.2,baz=60,slow=36						
GRA1	**Grafenberg Arr**	**86.26**	**319**	*e*P	**P**	**19 53 14.8**	**+1.7**
	comp=Z,5.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**86.26**	**319**	*e*P	**P**	**19 53 14.8**	**+1.7**
GRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**86.26**	**319**	*e*P	**P**	**19 53 14.8**	**+1.7**
GRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**86.26**	**319**	*e*P	**P**	**19 53 14.8**	**+1.7**
	comp=Z,5.0nm,1.0s,mb4.7						
VNDA	**Vanda**	**86.44**	**169**	*e*P	**P**	**19 53 13.9**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VNDA	**Vanda**	**86.44**	**169**	P	**P**	**19 53 15.6**	**+2.1**
	comp=Z,0.8nm,0.9s,mb4.0,baz=335,slow=3.7,SNR=4.7						
VNDA	**Vanda**	**86.44**	**169**	*e*P	**P**	**19 53 13.9**	**+0.4**
	comp=Z,1.0nm,0.9s,mb4.0						
NB2	**NORSAR Subarra**	**86.61**	**331**	P	**P**	**19 53 15.1**	**+0.5**
	comp=Z,6.3nm,0.8s,mb4.9,baz=94,slow=4.8						
NB2	**NORSAR Subarra**	**86.61**	**331**	P	**P**	**19 53 15.1**	**+0.5**
NB2				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
NOA	**NORSAR Array B**	**86.61**	**331**	P	**P**	**19 53 15.5**	**+0.9**
	comp=Z,4.7nm,0.8s,mb4.8,baz=94,slow=4.9,SNR=16						
NOA				LR	LR	20 35 20.8	
	comp=Z,20nm,21.6s,MS3.5,baz=90,slow=38						
SBA	**Scott Base**	**87.54**	**169**	*e*P	**P**	**19 53 22.3**	**+3.5**
SBA				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.3						
SBA	**Scott Base**	**87.54**	**169**	*e*P	**P**	**19 53 22.3**	**+3.5**
	comp=Z,2.3nm,0.9s,mb4.4						
PDAR	**Pinedale Array**	**129.15**	**26**	PKP	PKPdf	19 59 40.5	-3.4
	comp=Z,0.3nm,0.4s,baz=27,slow=3.3,SNR=4.3						
CPUP	**Villa Florida**	**145.90**	**222**	PKPbc	PKPbc	20 00 13.6	+3.1
	comp=Z,2.5nm,0.8s,baz=97,slow=5.9,SNR=6.4						

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*NEIC **14** 19:46:06.2, 34.97N×26.47E, h12km, MD3.6(ATH), After ATH.*
*CSEM **14** 19:46:06.2, 34.97N×26.47E, h12km, MD3.7/7, After ATH*
ATH 14 19:46:06.2, 34.97N×26.47E, h12km±1km**, MD3.6**/7**, 1C, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.64**	**262**	*e*PG	Pg	19 46 18.2	-1.0
NPS	**Neapolis**	**0.76**	**293**⇑	*i*PG	Pg	19 46 20.5	-1.0
NPS				*e*SB	Sb	19 46 30.9	0.0
KARP	**Karpathos**	**0.81**	**44**	*e*PG	Pg	19 46 21.4	-1.1
KARP				*e*SB	Sb	19 46 33.1	+0.8
SANT	**Santorini**	**1.62**	**330**	*e*P	Pn	19 46 34.9	0.0
ARG	**Arkhangelos**	**1.83**	**47**	*e*PG	Pg	19 46 40.7	-2.2
ARG				*e*SN	Sn	19 47 04.4	+3.2
VAM	**Vamos**	**1.91**	**284**	*e*PN	Pn	19 46 41.2	+2.2
VAM				*e*SN	Sn	19 47 06.3	+3.2
APE	**Apeiranthos**	**2.23**	**340**	*e*PN	Pn	19 46 44.7	+1.2
APE				*e*SN	Sn	19 47 14.0	+2.8
SMG	**Samos**	**2.75**	**6**	*e*PN	Pn	19 46 52.0	+1.0
SMG				*e*SN	Sn	19 47 25.8	+1.4
VLI	**Veliai**	**3.36**	**302**	*e*PN	Pn	19 47 00.5	+0.9

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*BJI **14** 20:09:57.5, 2.94S×152.09E, h34km, mB5.0, mb4.8*
*IDC **14** 20:09:57.5±4.7, 3.86S×151.37E, h52km±41km, mb4.0/9, mb1 4.1/11, mb1mx4.0/16, mbtmp4.3/11, ML3.5/2, MS3.6/2, Ms1 3.6/2, ms1mx3.2/18, Error ellipse: s-maj=31.9km s-min=18.5km az=67.0*
*NEIC **14** 20:09:58.3±2.2, 3.93S×151.32E, h58km±19km, mb4.6/20, Error ellipse: s-maj=14.9km s-min=10.3km az=75.0*
ISC 14 20:09:57.1±3.1**, 3.93S**±0.09×**151.4E**±0.1**, h60**km±27km**, n41, σ1ˢ24**/40**, mb4.5**/26**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.85**	**217**	P	**P**	**20 11 37.2**	**0.0**
	3.7nm,0.3s,baz=31,slow=7.6,SNR=22						
PMG				LR	LR	20 14 37.3	
	comp=Z,251nm,18.3s,baz=31,slow=40						
PMG	**Port Moresby**	**6.85**	**217**	*e*Pn	**P**	**20 11 35.9**	**-1.4**
	95nm,0.9s						
CTA	**Charters Tower**	**16.81**	**197**	P	**P**	**20 13 50.5**	**+0.5**
	0.2nm,0.3s,baz=5.8,slow=13,SNR=2.7						
CTAO	**Charters Tower**	**16.81**	**197**	*e*P	**P**	**20 13 54.0**	**+4.0**
	70nm,1.7s						
KAKA	**Kakadu**	**20.63**	**244**	*e*P	**P**	**20 14 32.5**	**-1.5**
	29nm,0.8s						
WRAB	**Tennant Creek**	**22.97**	**225**	*e*P	**P**	**20 14 58.2**	**+0.9**
	14nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**22.98**	**225**	*e*P	**P**	**20 14 58.1**	**+0.7**
WB2				*i*		20 15 02.3	
WRA	**Warramunga Arr**	**22.99**	**225**	P	**P**	**20 14 57.1**	**-0.4**
	7.1nm,0.6s,mb4.2,baz=47,slow=9.8,SNR=28						
DZM	**Mont Dzumac**	**23.23**	**142**	*e*P	**P**	**20 15 01.1**	**+1.2**
DZM	**Mont Dzumac**	**23.23**	**142**	P	**P**	**20 15 01.1**	**+1.3**
	19nm,0.8s,mb4.6,baz=353,slow=12,SNR=18						
FITZ	**Fitzroy Crossi**	**28.84**	**239**	*e*P	**P**	**20 15 54.6**	**+2.5**
	14nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**28.84**	**239**	P	**P**	**20 15 53.2**	**+1.0**
	21nm,0.8s,mb4.9,baz=65,slow=3.9,SNR=12						
STKA	**Stephens Creek**	**29.27**	**197**	*e*P	**P**	**20 15 58.9**	**+3.0**
	2.9nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**29.27**	**197**	P	**P**	**20 15 54.8**	**-1.1**
	2.8nm,0.7s,mb4.1,baz=23,slow=15,SNR=7.4						
STKA	**Stephens Creek**	**29.27**	**197**	P	**P**	**20 15 54.8**	**-1.1**
STKA				*e*P		20 15 55.1	
MBWA	**Marble Bar**	**35.17**	**238**	P	**P**	**20 16 45.7**	**-1.7**
	13nm,1.0s,mb4.8						
YHNB	**Yeheng**	**40.70**	**316**	P	**P**	**20 17 26.2**	**-7.4**
JNU	**Nakatsue**	**41.63**	**334**	P	**P**	**20 17 40.4**	**-0.8**
	9.0nm,1.0s,mb4.3,baz=116,slow=14,SNR=4.9						
JNU				LR	LR	20 35 14.5	
	comp=Z,142nm,18.0s,baz=196,slow=36						
QIZ	**Qiongzhong**	**46.78**	**301**	P	**P**	**20 18 24.1**	**+1.3**
	32nm,1.3s,mb5.1						
CN2	**Changchun**	**52.92**	**337**	*e*P	**P**	**20 19 11.8**	**+2.4**
HIA	**Hailar**	**59.65**	**337**	P	**P**	**20 19 56.9**	**-0.5**
	9.5nm,1.1s,mb4.7						
SONM	**Songino Array**	**64.82**	**328**	P	**P**	**20 20 30.4**	**-1.5**
	2.6nm,1.1s,mb4.2,baz=148,slow=4.0,SNR=11						
LSA	**Lhasa**	**66.55**	**305**	*e*P	**P**	**20 20 45.0**	**+1.7**
	6.1nm,0.9s,mb4.6						
YAK	**Yakutsk**	**67.84**	**349**	P	**P**	**20 20 49.0**	**-1.7**
	14nm,1.0s,mb5.0						
CASY	**Casey**	**68.43**	**197**	P	**P**	**20 20 52.7**	**-1.7**
	7.6nm,1.1s,mb4.6						
GUN	**Gumba**	**70.43**	**301**	*e*P	**P**	**20 21 08.2**	**+0.9**
PKI	**Pulchoki**	**70.74**	**301**	*e*P	**P**	**20 21 11.2**	**+2.0**
	12nm,1.1s,mb4.7						
KKN	**Kakani**	**70.91**	**301**	*e*P	**P**	**20 21 10.8**	**+0.6**
	16nm,0.9s,mb5.0						
DMN	**Daman**	**71.01**	**301**	*e*P	**P**	**20 21 11.6**	**+0.8**
	41nm,1.3s,mb5.2						
GKN	**Gorkha**	**71.52**	**301**	*e*P	**P**	**20 21 13.5**	**-0.3**
	26nm,1.2s,mb5.0						
KOLN	**Koldanda**	**72.34**	**301**	*e*P	**P**	**20 21 19.3**	**+0.6**
	13nm,0.8s,mb4.9						
VNDA	**Vanda**	**73.75**	**178**	P	**P**	**20 21 26.2**	**+0.1**
	0.3nm,0.7s,mb3.3,baz=6.7,slow=3.7,SNR=3.4						
VNDA	**Vanda**	**73.75**	**178**	P	**P**	**20 21 26.2**	**+0.1**
VNDA				P		20 21 27.8	
MKAR	**Makanchi Array**	**78.72**	**319**	P	**P**	**20 21 54.8**	**0.0**
	1.9nm,0.9s,mb4.0,baz=124,slow=4.4,SNR=6.7						
MCK	**McKinley**	**80.62**	**23**	*e*P	**P**	**20 22 05.7**	**+1.1**
	8.0nm,1.0s,mb4.6						
KURK	**Kurchatov**	**82.19**	**322**	*e*P	**P**	**20 22 12.1**	**-0.9**
	2.2nm,0.9s,mb4.1						
BVAR	**Borovoye Array**	**87.68**	**323**	P	**P**	**20 22 40.3**	**0.0**
	2.0nm,0.8s,mb4.4,baz=108,slow=4.7,SNR=7.5						
BRVK	**Borovoye**	**87.75**	**323**	P	**P**	**20 22 37.6**	**-2.9**
	2.9nm,1.2s,mb4.4						
INK	**Inuvik**	**88.16**	**21**	P	**P**	**20 22 41.7**	**-0.6**
	5.0nm,1.1s,mb4.7						
ZRNK	**Zerenda**	**88.49**	**323**	*e*P	**P**	**20 22 42.6**	**-1.5**
	3.0nm,1.1s,mb4.4						
BDFB	**Brasilia**	**152.70**	**136**	PKPbc	PKPdf	20 29 49.9	+9.1
	3.3nm,0.6s,baz=43,slow=3.1,SNR=5.3						

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*BJI **14** 20:17:28.1, 6.07S×143.13E, h29km, mB5.3, mb5.2, Ms4.5, Msz4.3*
*HRVD **14** 20:17:29.8±0.4, 6.09S×142.19E, h12km, MW5.1/50, Centroid moment Tensor Solution. LP body waves: s20,c26; Mantle waves: s50,c78; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.35±.14; $M_{\theta\theta}$-1.90±.10; $M_{\phi\phi}$-0.44±.15; $M_{r\theta}$3.03±.36; $M_{\theta\phi}$1.31±.10; $M_{\phi r}$-2.91±.44; Best double couple: $M_0$4.899×10^{16} NP1:ϕ_s287°, δ17°, λ65°. NP2:ϕ_s132°, δ75°, λ97°. Principal axes: T 4.797, Plg60°, Azm52°; N .206, Plg7°, Azm310°; P -5.001, Plg30°, Azm216°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **14** 20:17:29.8±0.2, 6.06S×142.50E, h10km, mb5.4/37 Error ellipse: s-maj=7.7km s-min=5.0km az=81.0*
*IDC **14** 20:17:29.2±0.6, 5.97S×142.41E, mb4.9/11, mb1 4.9/14, mb1mx4.9/15, mbtmp4.9/14, ML3.9/3, MS4.4/8, Ms1 4.4/8, ms1mx4.2/11, Error ellipse: s-maj=24.1km s-min=13.3km az=75.0*
*MOS **14** 20:17:32.9±1.1, 5.76S×142.63E, h33km, mb5.4/24, MS4.3/8, Error ellipse: s-maj=15.0km s-min=7.1km az=114.6*
ISC 14 20:17:27.3±1.2**, 5.95S**±0.04×**142.60E**±0.05**, h4**km±7km**, h11**km±1.6km**: pP-P, n218, σ1ˢ10**/179**, mb5.3**/72**, MS4.4**/69**, 20C-2D, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.67**	**127***c*	*i*P	**Pn**	**20 18 55.8**	**+1.4**
PMG	**Port Moresby**	**5.67**	**127**	Pn	**Pn**	**20 18 56.0**	**+1.6**
	10nm,0.3s,baz=323,slow=6.6,SNR=49						
PMG				Sn	**Sn**	**20 20 00.5**	**-0.4**
	26nm,0.3s,baz=239,slow=24,SNR=7.2						
PMG	**Port Moresby**	**5.67**	**127**	*e*P	**Pn**	**20 18 55.2**	**+0.8**
	151nm,0.9s						
KAKA	**Kakadu**	**12.06**	**235**⇓	*i*P	**P**	**20 20 18.5**	**-4.6**
	186nm,0.7s						
CTA	**Charters Tower**	**14.49**	**166**	*e*P	**P**	**20 20 59.0**	**+3.6**
	18nm,1.2s						
CTA				*e*S	**S**	**20 23 49.1**	**+12**
CTA	**Charters Tower**	**14.49**	**166**	*e*P	**P**	**20 20 59.0**	**+3.6**
CTA				*e*S	**S**	**20 23 49.1**	**+12**
CTA				pmax	pmax		
	comp=Z,18nm,1.2s						
CTA	**Charters Tower**	**14.49**	**166**	Pn	**P**	**20 20 57.5**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=334,slow=14,SNR=6.3						
CTA				Lg		20 25 26.4	
	comp=Z,0.6nm,0.3s,baz=242,slow=21,SNR=8.7						
CTAO	**Charters Tower**	**14.49**	**166**	*e*P	**P**	**20 20 53.3**	**-2.1**
CTAO				pmax	pmax		
	comp=Z,81nm,1.5s						
CTAO	**Charters Tower**	**14.49**	**166**	*e*P	**P**	**20 20 53.2**	**-2.1**
	comp=Z,81nm,1.5s						
WRAB	**Tennant Creek**	**16.04**	**209**⇑	*e*P	**P**	**20 21 11.1**	**-4.5**
WRAB	**Tennant Creek**	**16.04**	**209**	*e*P	**P**	**20 21 10.9**	**-4.7**
	comp=Z,180nm,0.9s						
WB2	**Warramunga Arr**	**16.05**	**209**	*e*P	**P**	**20 21 11.6**	**-4.1**
WB2				*e*S	**S**	**20 24 00.7**	**-14**
WRA	**Warramunga Arr**	**16.06**	**209**	Pn	**P**	**20 21 10.8**	**-4.9**
	comp=Z,5.2nm,0.3s,baz=30,slow=13,SNR=201						
WRA				Sn	**S**	**20 24 03.0**	**-11**
	comp=Z,1.9nm,0.3s,baz=25,slow=23,SNR=5.3						
WRA				Lg		20 25 59.8	
	comp=Z,1.7nm,0.3s,baz=30,slow=31,SNR=5.2						
HNR	**Honiara**	**17.54**	**102**	*e*P	**P**	**20 21 38.7**	**+4.2**
HNR				pmax	pmax		
	comp=Z,256nm,1.1s						
HNR	**Honiara**	**17.54**	**102**	P	**P**	**20 21 37.8**	**+3.4**
	comp=Z,4.6nm,0.3s,baz=207,slow=12,SNR=5.1						
HNR	**Honiara**	**17.54**	**102**	*e*P	**P**	**20 21 38.7**	**+4.3**
	comp=Z,256nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.49**	**232**	*e*P	**P**	**20 22 06.9**	**-2.2**
	comp=Z,260nm,1.6s						
FITZ				*e*S	**S**	**20 25 57.9**	**+4.1**
FITZ	**Fitzroy Crossi**	**20.49**	**232**	P	**P**	**20 22 06.8**	**-2.3**
	comp=Z,156nm,0.9s,baz=41,slow=8.8,SNR=82						
FITZ				LR	LR	20 30 57.5	
	comp=Z,1μm,21.5s,MS4.3,baz=67,slow=40						
STKA	**Stephens Creek**	**25.81**	**182**	*e*P	**P**	**20 23 00.7**	**-0.6**
	comp=Z,4.2nm,0.4s,mb4.3						
STKA				*e*S	**S**	**20 27 41.2**	**+12**
STKA	**Stephens Creek**	**25.81**	**182**	P	**P**	**20 23 00.7**	**-0.6**
	comp=Z,8.7nm,0.8s,mb4.3,baz=3.7,slow=8.1,SNR=23						
STKA				LR	LR	20 34 34.3	
	comp=Z,2μm,18.2s,MS4.7,baz=358,slow=40						
MBWA	**Marble Bar**	**26.82**	**234**	P	**P**	**20 23 07.3**	**-3.5**
	comp=Z,51nm,1.1s,mb5.0						
MBWA				LR	LR		
	comp=Z,1μm,20.0s,MS4.5						
DZM	**Mont Dzumac**	**28.07**	**127**	P	**P**	**20 23 24.9**	**+2.8**
	comp=Z,3.1nm,0.7s,baz=283,slow=14,SNR=4.4						
KSM	**Kuching**	**33.08**	**282**	*e*P	**P**	**20 24 05.4**	**-1.1**
WAKE	**Wake Island**	**34.50**	**43**	PFAKE		20 24 30.0	+11
WAKE				LR	LR		
	comp=Z,728nm,20.0s,MS4.4						
JOW	**Kunigami**	**35.42**	**338**	P	**P**	**20 24 27.6**	**+0.9**
	comp=Z,11nm,0.8s,mb4.8,baz=130,slow=14,SNR=4.8						
NWAO	**Narrogin (SRO)**	**35.74**	**218**	PFAKE		20 24 40.0	+11
NWAO				LR	LR		
	comp=Z,698nm,20.0s,MS4.4						
YHNB	**Yeheng**	**36.79**	**327**	*e*P	**P**	**20 24 38.8**	**+0.5**
TATO	**Taipei**	**36.98**	**327**	*e*P	**P**	**20 24 38.1**	**-1.7**
	comp=Z,102nm,1.2s,mb5.5						
TATO				LR	LR		
	comp=Z,322nm,19.0s,MS4.1						
TAU	**Tasmania Unive**	**37.04**	**174**	P	**P**	**20 24 38.1**	**-2.0**
QZH	**Quanzhou**	**38.59**	**324**⇑	*i*P	**P**	**20 24 53.8**	**+0.5**
QZH				S	**S**	**20 30 50.3**	**+0.6**
QZH				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2						
QZH				AMB	AMB		
	comp=Z,430nm,2.9s,mb5.7						
QZH				LR	LR		
	comp=Z,490nm,23.9s,MS4.2						
JNU	**Nakatsue**	**40.42**	**345**	P	**P**	**20 25 08.6**	**+0.1**
	baz=127,slow=7.5						
GZH	**Guangzhou**	**40.63**	**316**	P	**P**	**20 25 12.6**	**+2.4**
GZH				S	**S**	**20 31 19.3**	**-1.1**
GZH				LR	LR		
	comp=N,257nm,16.5s,MS4.2						
GZH				LR	LR		
	comp=E,151nm,19.0s,MS4.2						
GZH				LR	LR		
	comp=Z,298nm,21.8s,MS4.1						
QIZ	**Qiongzhong**	**40.71**	**308**	*e*P	**P**	**20 25 11.8**	**+0.8**
QIZ				S	**S**	**20 31 20.8**	**-0.9**
QIZ				LR	LR		
	comp=N,185nm,17.6s,MS4.2						
QIZ				LR	LR		
	comp=E,168nm,14.8s,MS4.2						
QIZ				LR	LR		
	comp=Z,231nm,16.0s,MS4.1						
SSE	**Sheshan**	**42.15**	**332**	P	**P**	**20 25 23.4**	**+0.7**
SSE				PP	PP	20 27 01.1	-2.4
SSE				PCP	PcP	20 27 17.0	-0.9
SSE				S	**S**	**20 31 44.0**	**+1.1**
SSE				AMB	AMB		
	comp=Z,56nm,1.0s,mb5.2						
SSE				LR	LR		
	comp=N,139nm,14.2s,MS4.3						
SSE				LR	LR		
	comp=E,229nm,14.1s,MS4.3						
SSE				LR	LR		
	comp=Z,179nm,15.5s,MS4.1						
SSE	**Sheshan**	**42.15**	**332**	P	**P**	**20 25 23.4**	**+0.7**
	comp=Z,56nm,1.0s,mb5.2						
SSE				pP	pP	20 25 26.5	+2.5
SSE				PP	PP	20 27 01.1	-2.4
SSE				PcP	PcP	20 27 17.0	-0.9
SSE				ScP		20 31 07.9	
SSE				S	**S**	**20 31 44.0**	**+1.1**
SSE				sS		20 31 49.3	
SSE				LR	LR		
	comp=Z,180nm,15.5s,MS4.1						
MJAR	**Matsushiro Arr**	**42.47**	**355**	P	**P**	**20 25 24.2**	**-1.1**
	comp=Z,10nm,0.8s,mb4.5,baz=182,slow=9.9,SNR=29						
MJAR				LR	LR	20 41 23.9	
	comp=Z,199nm,19.6s,MS4.0,baz=225,slow=34						
MAJO	**Matsushiro**	**42.47**	**355**	*e*P	**P**	**20 25 23.5**	**-1.8**
MAJO				pmax	pmax		
	comp=Z,60nm,1.4s,mb5.0						
MAJO				MLR	MLR		
	comp=Z,265nm,20.0s,MS4.1						
MAJO	**Matsushiro**	**42.47**	**355**	*e*P	**P**	**20 25 23.5**	**-1.8**
	comp=Z,60nm,1.4s,mb5.0						
MAJO				LR	LR		
	comp=Z,265nm,20.0s,MS4.1						
MAT	**Matsushiro**	**42.47**	**355**	*e*P	**P**	**20 25 23.0**	**-2.3**
MAT				*e*S	**S**	**20 31 35.0**	**-13**
MAT				pmax	pmax		
	comp=Z,51nm,1.4s,mb5.0						
MAT	**Matsushiro**	**42.47**	**355**	*e*P	**P**	**20 25 23.0**	**-2.3**
	comp=Z,51nm,1.4s,mb5.0						
MAT				*e*S	**S**	**20 31 35.0**	**-13**
MAT	**Matsushiro**	**42.47**	**355**	P	**P**	**20 25 23.4**	**-1.9**
MAT				S	**S**	**20 31 35.0**	**-13**
NJ2	**Nanjing**	**44.05**	**331**	*e*P	**P**	**20 25 39.0**	**+0.8**
NJ2				PP	PP	20 27 23.1	+0.6
NJ2				S	**S**	**20 32 09.0**	**-1.6**
NJ2				AMB	AMB		
	comp=Z,50nm,1.3s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,230nm,5.4s						
NJ2				LR	LR		
	comp=N,580nm,18.1s,MS4.7						
NJ2				LR	LR		
	comp=E,590nm,16.3s,MS4.7						
NJ2				LR	LR		
	comp=Z,180nm,17.3s,MS4.0						
KS15	**Wonju Array Si**	**45.30**	**343**	*e*P	**P**	**20 25 48.2**	**0.0**
INCN	**Inchon**	**45.71**	**342**	*e*P	**P**	**20 25 51.4**	**0.0**
	comp=Z,23nm,0.8s,mb5.2						
GYA	**Guiyang**	**47.44**	**314**⇑	*i*P	**P**	**20 26 06.3**	**+1.0**
GYA				PP	PP	20 27 57.8	+1.7
GYA				PPP	PPP	20 28 48.0	+4.0
GYA				S	**S**	**20 33 02.9**	**+3.6**
GYA				SS	SS	20 36 26.9	+6.3
GYA				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
GYA				AMB	AMB		
	comp=Z,300nm,6.0s						
GYA				LR	LR		
	comp=N,340nm,18.6s,MS4.5						
GYA				LR	LR		
	comp=E,390nm,18.0s,MS4.5						
GYA				LR	LR		
	comp=Z,410nm,17.8s,MS4.4						
ENH	**Enshi**	**48.00**	**321**	*e*P	**P**	**20 26 09.5**	**-0.1**
	comp=Z,50nm,0.9s,mb5.5						
NANT	**Nan**	**48.06**	**302**	P	**P**	**20 26 12.0**	**+1.8**
TIA	**Tai'an**	**48.27**	**332**	*e*P	**P**	**20 26 10.3**	**-1.3**
DL2	**Dalian**	**48.68**	**338**	*e*P	**P**	**20 26 13.6**	**-1.1**
DL2				S	**S**	**20 33 20.9**	**+4.3**
DL2				AMB	AMB		
	comp=Z,150nm,5.0s						
DL2				LR	LR		
	comp=N,100nm,19.6s,MS4.1						
DL2				LR	LR		
	comp=E,120nm,15.1s,MS4.1						
DL2				LR	LR		
	comp=Z,210nm,19.0s,MS4.1						
CHG	**Chiang Mai**	**49.56**	**301**	P	**P**	**20 26 23.4**	**+1.7**
KMI	**Kunming**	**49.56**	**310**	⇑P	**P**	**20 26 22.8**	**+1.1**
KMI				PCP	PcP	20 27 45.9	+2.1
KMI				PP	PP	20 28 16.3	-0.4
KMI				S	**S**	**20 33 28.8**	**-0.3**
KMI				SS	SS	20 36 56.8	-0.4
KMI				AMB	AMB		
	comp=Z,29nm,1.4s,mb5.1						
KMI				AMB	AMB		
	comp=Z,190nm,3.1s						
KMI				LR	LR		
	comp=N,205nm,18.0s,MS4.3						
KMI				LR	LR		
	comp=E,150nm,18.0s,MS4.3						
KMI				LR	LR		
	comp=Z,180nm,18.9s,MS4.1						
KMI	**Kunming**	**49.56**	**310**	⇑P	**P**	**20 26 22.8**	**+1.1**
KMI						20 27 45.9	
KMI						20 28 16.2	
KMI				PPP	PPP	20 29 13.0	+2.1
KMI				S	**S**	**20 33 28.8**	**-0.3**
KMI				*SS		20 33 34.3	
KMI						20 36 12.6	
KMI				SS	SS	20 36 56.7	-0.5
KMI				pmax	pmax		
	comp=Z,29nm,1.4s,mb5.1						
KMI				MLR	MLR		
	comp=Z,180nm,18.9s,MS4.1						
KMI	**Kunming**	**49.56**	**310**	⇑P	**P**	**20 26 22.8**	**+1.1**
	comp=Z,29nm,1.4s,mb5.1						
KMI				pP	pP	20 26 25.2	+2.2
KMI				sP	sP	20 26 26.2	+2.7
KMI				PcP	PcP	20 27 45.9	+2.1
KMI				PP	PP	20 28 16.2	-0.5
KMI				PPP	PPP	20 29 13.0	+2.1
KMI				S	**S**	**20 33 28.8**	**-0.3**
KMI				sS		20 33 34.3	
KMI				ScS	ScS	20 36 12.6	+1.2
KMI				SS	SS	20 36 56.7	-0.5
KMI				LR	LR		
	comp=Z,180nm,18.9s,MS4.1						
SNY	**Shenyang**	**50.63**	**342**	⇑P	**P**	**20 26 29.3**	**-0.3**
SNY				S	**S**	**20 33 43.8**	**+0.2**
SNY				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
SNY				LR	LR		
	comp=N,150nm,18.3s,MS4.2						
SNY				LR	LR		
	comp=E,190nm,18.0s,MS4.2						
SNY				LR	LR		
	comp=Z,240nm,18.9s,MS4.2						
XAN	**Xi'an**	**50.95**	**324**	P	**P**	**20 26 32.0**	**-0.2**
XAN				S	**S**	**20 33 46.4**	**-1.8**
XAN				AMB	AMB		
	comp=Z,46nm,1.6s,mb5.2						
MDJ	**Mudanjiang**	**51.68**	**348**	P	**P**	**20 26 37.5**	**-0.1**
MDJ				PCP	PcP	20 27 48.9	-2.4
MDJ				PP	PP	20 28 33.6	-2.3
MDJ				S	**S**	**20 33 56.6**	**-1.5**
MDJ				AMB	AMB		
	comp=Z,17nm,0.8s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,102nm,4.2s						
MDJ				LR	LR		
	comp=N,176nm,23.5s						
MDJ				LR	LR		
	comp=Z,230nm,22.0s,MS4.2						
MDJ	**Mudanjiang**	**51.68**	**348**	*e*P	**P**	**20 26 37.4**	**-0.2**
	comp=Z,11nm,0.9s,mb4.8						
CN2	**Changchun**	**51.89**	**344**	*e*P	**P**	**20 26 39.1**	**-0.1**
CN2				PCP	PcP	20 27 51.3	-0.8
CN2				*e*S	**S**	**20 34 01.9**	**+0.9**
CN2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,7.0s						
CN2				LR	LR		
	comp=N,200nm,18.0s,MS4.3						
CN2				LR	LR		
	comp=E,200nm,18.0s,MS4.3						
CN2				LR	LR		
	comp=Z,300nm,19.0s,MS4.3						
CD2	**Chengdu**	**52.18**	**317**	P	**P**	**20 26 42.0**	**+0.5**
CD2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.3						
YSS	**Yuzh-Sakhalins**	**52.67**	**0**⇑	*e*P	**P**	**20 26 44.2**	**-0.8**

YSS eS **S** **20 34 09.0 -2.7**
YSS e 20 36 31.0
YSS pmax pmax
comp=N,20nm,0.8s
YSS pmax pmax
comp=Z,30nm,0.8s,mb5.3
YSS Yuzh-Sakhalins 52.67 0 eP **P** **20 26 44.1 -1.0**
comp=Z,27nm,0.8s,mb5.2
YSS LR LR
comp=Z,198nm,20.0s,MS4.2
HHC Hu-ho-hao-te 54.59 331⇑ *i*P **P** **20 26 59.3 +0.1**
HHC PCP PcP 20 28 00.9 -1.4
HHC PP PP 20 29 03.3 +0.1
HHC SCP 20 31 58.3
HHC S **S** **20 34 40.1 +2.4**
HHC PS PS 20 34 49.6 +1.2
HHC SS SS 20 38 21.8 +1.9
HHC AMB AMB
comp=Z,25nm,1.2s,mb5.1
HHC AMB AMB
comp=Z,227nm,13.2s
HHC LR LR
comp=N,185nm,18.0s,MS4.3
HHC LR LR
comp=E,148nm,19.2s,MS4.3
HHC LR LR
comp=Z,193nm,21.6s,MS4.1
BTO Baotou 55.15 330 eP **P** **20 27 02.8 -0.6**
LZH Lanzhou 55.40 322⇑ P **P** **20 27 05.8 +0.6**
LZH PP PP 20 29 11.5 +1.0
LZH S **S** **20 34 49.1 +0.6**
LZH AMB AMB
comp=Z,97nm,1.5s,mb5.6
LZH AMB AMB
comp=Z,430nm,5.3s
LZH LR LR
comp=N,1μm,16.6s
LZH LR LR
comp=Z,2μm,17.2s,MS5.2
LZH Lanzhou 55.40 322⇑ P **P** **20 27 05.7 +0.5**
comp=Z,97nm,1.5s,mb5.6
LZH pP pP 20 27 09.0 +2.5
LZH sP sP 20 27 10.7 +3.7
LZH PP PP 20 29 11.5 +1.0
LZH S **S** **20 34 49.1 +0.6**
LZH sS 20 34 54.0
LZH SS SS 20 38 31.0 -1.9
LZH LR LR
comp=Z,2μm,17.2s,MS5.2
KLR Kul'dur 55.76 351 eP **P** **20 27 04.5 -3.1**
KLR eS **S** **20 34 47.5 -5.8**
SHL Shillong 58.36 305 eP **P** **20 27 26.5 +0.2**
GTA Gaotai 59.97 323 eP **P** **20 27 37.9 +0.5**
GTA PP PP 20 29 52.5 +0.8
GTA PPP PPP 20 31 18.8 +1.2
GTA S **S** **20 35 51.8 +3.2**
GTA SS SS 20 39 50.1 +4.0
GTA AMB AMB
comp=Z,15nm,1.0s,mb5.0
GTA AMB AMB
comp=Z,236nm,3.9s
GTA LR LR
comp=N,97nm,15.5s,MS4.2
GTA LR LR
comp=E,103nm,15.2s,MS4.2
GTA LR LR
comp=Z,118nm,14.3s,MS4.2
PET Petropavlovsk 60.31 11 *i*P **P** **20 27 38.5 -1.0**
PET MLR MLR
comp=Z,100nm,19.0s,MS4.0
PET Petropavlovsk 60.31 11 PFAKE 20 27 50.0 +11
PET LR LR
comp=Z,128nm,19.0s,MS4.1
LSA Lhasa 60.75 309 P **P** **20 27 43.4 +0.6**
LSA Lhasa 60.75 309 eP **P** **20 27 44.1 +1.3**
LSA pmax pmax
comp=Z,157nm,1.5s,mb5.9
LSA Lhasa 60.75 309 eP **P** **20 27 44.1 +1.3**
comp=Z,157nm,1.5s,mb5.9
SONM Songino Array 62.31 333 P **P** **20 27 53.3 +0.2**
comp=Z,7.9nm,1.1s,mb4.8,baz=149,slow=7.2,SNR=38
SONM LR LR 20 54 29.7
comp=Z,243nm,19.3s,MS4.4,baz=288,slow=36
CIT Chita 62.85 340 eP **P** **20 27 56.5 -0.1**
CIT pmax pmax
comp=Z,68nm,1.8s,mb5.5
FX1 Attu Island--F 64.08 20 P **P** **20 28 05.8 +1.1**
comp=Z,36nm,0.7s,mb5.5,baz=116,slow=3.3,SNR=16
FX1 Attu Island--F 64.08 20 eP **P** **20 28 04.9 +0.2**
CASY Casey 64.20 194 eP **P** **20 28 04.3 -1.0**
comp=Z,21nm,0.6s,mb5.3
CASY LR LR
comp=Z,726nm,19.0s,MS4.9
GUN Gumba 64.21 305 eP **P** **20 28 06.6 +0.6**
comp=Z,259nm,1.1s,mb6.2
CLNS Chul'man 64.23 349 eP **P** **20 28 04.4 -1.2**
CLNS pmax pmax
comp=N,16nm,0.7s
CLNS pmax pmax
comp=Z,28nm,0.7s,mb5.4
CLNS pmax pmax
comp=E,9.0nm,0.8s
SMY Shemya 64.28 21 PFAKE 20 28 20.0 +14
SMY LR LR
comp=Z,869nm,19.0s,MS5.0
PKI Pulchoki 64.47 304 eP **P** **20 28 07.7 0.0**
comp=Z,222nm,1.5s,mb6.0
PKI Pulchoki 64.47 304 eP **P** **20 28 07.7 0.0**
PKI pmax pmax
comp=Z,111nm,1.5s,mb5.7
KKN Kakani 64.66 304 eP **P** **20 28 09.2 +0.3**
comp=Z,220nm,1.2s,mb6.1
KKN Kakani 64.66 304 eP **P** **20 28 09.2 +0.3**
KKN pmax pmax
comp=Z,110nm,1.2s,mb5.8
DMN Daman 64.73 304 eP **P** **20 28 09.8 +0.4**
comp=Z,294nm,1.1s,mb6.2
GKN Gorkha 65.26 304 eP **P** **20 28 13.0 +0.2**
comp=Z,336nm,1.2s,mb6.2
BLSP Bilaspur 65.42 297 eP **P** **20 28 13.8 -0.1**
BLSP AMb AMB 20 28 16.9
comp=Z,76nm,0.8s,mb5.8
ZAK Zakamensk 65.57 334⇑ *i*P **P** **20 28 14.5 +0.1**
ZAK pmax pmax
comp=Z,1.0nm,1.0s
MA2 Magadan 65.64 5 *c*eP **P** **20 28 14.3 -0.4**
MA2 eS S 20 36 57.6 -1.9
MA2 eSS SS 20 41 10.7 -4.2
MA2 pmax pmax
comp=Z,20nm,1.3s,mb5.0
MA2 Magadan 65.64 5 eP **P** **20 28 14.0 -0.7**
comp=Z,40nm,1.1s,mb5.4
MA2 LR LR
comp=Z,123nm,20.0s,MS4.1
KOLN Koldanda 66.03 304 eP **P** **20 28 18.2 +0.5**
comp=Z,262nm,1.2s,mb6.1
TLY Talaya 66.36 335 eP **P** **20 28 19.4 0.0**
TLY e 20 30 43.5
TLY ePPP PPP 20 32 21.1 -2.2
TLY eS S 20 37 09.7 +1.3
TLY ePS PS 20 37 37.1 +6.5
TLY e 20 38 14.7
TLY eSS SS 20 41 17.7 -8.4
TLY pmax pmax
comp=Z,23nm,1.4s,mb5.0
TLY MLR MLR
comp=Z,155nm,17.0s,MS4.3
IRK Irkutsk 66.51 335 eP **P** **20 28 19.0 -1.3**
IRK pmax pmax
comp=Z,40nm,2.6s,mb5.0
PPT Papeete 67.11 106 eS S 20 37 56.3 +38
comp=Z,411nm,28.2s
PPT eLR LR 20 48 51.0
comp=Z,203nm,23.5s,baz=285
PPT Papeete 67.11 106 LR LR 20 54 14.7
comp=Z,157nm,18.3s,MS4.3,baz=296,slow=33

HYB Hyderabad 67.36 292 eP **P** **20 28 28.0 +1.7**
NGP Nagpur 67.88 296 eP **P** **20 28 29.8 +0.3**
NGP AMb AMB 20 28 32.2
comp=Z,34nm,1.0s,mb5.3
YAK Yakutsk 68.52 353 eP **P** **20 28 31.3 -1.5**
YAK eS S 20 37 35.5 +1.4
YAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
YAK Yakutsk 68.52 353 PFAKE 20 28 40.0 +7.2
YAK LR LR
comp=Z,227nm,21.0s,MS4.4
SEY Seymchan 69.10 5 eP **P** **20 28 36.2 -0.2**
SEY pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MIR Mirnyy 69.36 199 *c i*P **P** **20 28 37.6 -0.3**
MIR pmax pmax
comp=Z,134nm,1.4s,mb5.7
LGTI Lohaghat 69.38 304 eP **P** **20 28 39.0 +0.3**
AKL Akola 69.59 295 eP **P** **20 28 42.3 +2.2**
BHPL Bhopal 69.90 297 eP **P** **20 28 43.7 +1.7**
BHPL AMb AMB 20 28 47.1
comp=Z,55nm,2.1s,mb5.1
WMQ Urumqi 69.95 321 P **P** **20 28 42.3 +0.4**
WMQ PP PP 20 31 18.8 +0.4
WMQ S S 20 37 50.3 -1.0
WMQ AMB AMB
comp=Z,27nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,188nm,4.4s
WMQ LR LR
comp=N,244nm,12.0s,MS4.8
WMQ LR LR
comp=E,188nm,11.0s,MS4.8
WMQ LR LR
comp=Z,172nm,10.0s,MS4.6
BISR Bishrakh 71.43 303 eP **P** **20 28 50.4 -0.8**
BISR AMb AMB 20 28 53.1
comp=Z,98nm,0.9s,mb5.7
DDI Dehra Dun 71.46 305 eP **P** **20 28 52.0 +0.7**
SONA Sohna 71.63 302 eP **P** **20 28 51.9 -0.4**
SONA AMb AMB 20 28 56.0
comp=Z,90nm,1.5s,mb5.5
NDI New Delhi 71.65 303 eP **P** **20 28 50.0 -2.5**
AYAN Aya Nagar 71.66 302 eP **P** **20 28 51.9 -0.7**
AYAN AMb AMB 20 28 55.6
comp=Z,6.4nm,1.2s,mb4.4
BHGR Bahadurgarh 71.88 303 eP **P** **20 28 53.5 -0.4**
POO Poona 71.97 292⇑ *i*P **P** **20 28 53.0 -1.5**
comp=Z,40nm,1.0s,mb5.3
KUDL Kundal 72.10 302 eP **P** **20 28 53.9 -1.3**
KUDL AMb AMB 20 28 58.8
comp=Z,59nm,2.1s,mb5.2
VNDA Vanda 72.25 176 eP **P** **20 28 55.5 +0.2**
VNDA pmax pmax
comp=Z,14nm,1.4s
VNDA MLR MLR
comp=Z,487nm,19.0s
VNDA Vanda 72.25 176 P **P** **20 28 55.7 +0.4**
comp=Z,9.1nm,1.2s,mb4.6,baz=333,slow=7.4,SNR=11
VNDA LR LR 21 00 21.9
comp=Z,286nm,18.6s,MS4.6,baz=347,slow=36
VNDA Vanda 72.25 176 eP **P** **20 28 55.5 +0.2**
comp=Z,14nm,1.4s,mb4.7
VNDA LR LR
comp=Z,487nm,19.0s,MS4.8
KHET Khetri 72.65 302 eP **P** **20 28 58.8 +0.3**
KHET AMb AMB 20 29 02.3
comp=Z,96nm,1.5s,mb5.5
SBA Scott Base 72.97 175 eP **P** **20 28 59.4 0.0**
SBA pmax pmax
comp=Z,23nm,1.5s,mb4.9
SBA MLR MLR
comp=Z,408nm,19.0s,MS4.7
SBA Scott Base 72.97 175 eP **P** **20 28 59.4 0.0**
comp=Z,23nm,1.5s,mb4.9
SBA LR LR
comp=Z,408nm,19.0s,MS4.7
AJM Ajmer 73.21 300 eP **P** **20 29 03.3 +1.5**
AJM AMb AMB 20 29 06.8
comp=Z,86nm,1.5s,mb5.5
MKAR Makanchi Array 74.71 322 P **P** **20 29 10.9 +0.8**
comp=Z,17nm,0.9s,mb5.0,baz=113,slow=6.6,SNR=83
MKAR LR LR 21 05 55.3
comp=Z,68nm,18.6s,MS4.0,baz=359,slow=39
BILL Bilibino 75.69 9⇓ *e*P **P** **20 29 15.8 +0.5**
BILL pmax pmax
comp=Z,19nm,1.5s,mb4.8
BILL Bilibino 75.69 9 PFAKE 20 29 30.0 +15
BILL LR LR
comp=Z,90nm,19.0s,MS4.1
KSH Kashi 76.11 313 eP **P** **20 29 21.0 +2.7**
KSH eAP pP 20 29 26.0 +6.4
KSH ePCP PcP 20 29 34.4 +3.5
KSH ePP PP 20 32 15.0 +4.1
KSH eS S 20 39 05.0 +3.7
KSH eSS SS 20 44 03.5 +6.2
KSH AMB AMB
comp=Z,50nm,0.4s,mb5.8
KSH LR LR
comp=N,1μm,15.3s,MS5.3
KSH LR LR
comp=E,500nm,13.1s,MS5.3
JASL Jaisalmer 76.55 299 eP **P** **20 29 21.1 +0.1**
NVS Novosibirsk 77.93 329 eP **P** **20 29 26.8 -1.2**
NVS pmax pmax
comp=N,29nm,1.8s
NVS pmax pmax
comp=E,32nm,1.8s
NVS pmax pmax
comp=Z,48nm,1.8s,mb5.1
TIXI Tiksi 77.97 356⇑ eP **P** **20 29 26.8 -1.2**
TIXI pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
AAK Ala-Archa 78.22 316 *c i*P **P** **20 29 29.7 -0.2**
AAK pmax pmax
comp=Z,16nm,1.6s,mb4.7
AAK Ala-Archa 78.22 316 eP **P** **20 29 29.3 -0.5**
comp=Z,18nm,1.4s,mb4.8
AAK LR LR
comp=Z,24nm,20.0s,MS3.5
KURK Kurchatov 78.59 324 eP **P** **20 29 31.5 -0.2**
KURK pmax pmax
comp=Z,23nm,1.1s,mb5.0
KURK MLR MLR
comp=Z,36nm,20.0s,MS3.7
KURK Kurchatov 78.59 324 eP **P** **20 29 31.5 -0.2**
comp=Z,23nm,1.1s,mb5.0
KURK LR LR
comp=Z,36nm,20.0s,MS3.7
TNA Tin City 79.91 19 PFAKE 20 29 50.0 +11
TNA LR LR
comp=Z,169nm,22.0s,MS4.3
MAW Mawson 80.61 202 eP **P** **20 29 45.0 +2.7**
MAW pmax pmax
comp=Z,49nm,1.4s
MAW Mawson 80.61 202 P **P** **20 29 43.5 +1.2**
comp=Z,30nm,1.3s,mb5.0,baz=70,slow=6.1,SNR=7.5
MAW LR LR 21 04 44.6
comp=Z,369nm,18.5s,MS4.8,baz=290,slow=35
MAW Mawson 80.61 202 eP **P** **20 29 45.0 +2.7**
comp=Z,49nm,1.4s,mb5.2
RSO Redoubt South 83.02 27 eP **P** **20 29 55.4 +0.4**
QSPA South Pole Qui 84.01 180 eP **P** **20 30 00.7 +1.0**
comp=Z,39nm,1.0s,mb5.5
BVAR Borovoye Array 84.18 325 P **P** **20 30 01.7 +0.7**
comp=Z,33nm,0.8s,mb5.5,baz=113,slow=6.6,SNR=182
BRVK Borovoye 84.25 325 eP **P** **20 30 01.3 -0.1**
BRVK pmax pmax
comp=Z,29nm,1.0s,mb5.4
BRVK MLR MLR
comp=Z,19nm,20.0s,MS3.5
BRVK Borovoye 84.25 325 eP **P** **20 30 01.3 -0.1**
comp=Z,29nm,1.0s,mb5.4
BRVK LR LR
comp=Z,19nm,20.0s,MS3.5
ZRNK Zerenda 84.95 324 eP **P** **20 30 05.0 +0.1**
ZRNK pmax pmax
comp=Z,69nm,0.6s,mb6.0
ZRNK Zerenda 84.95 324 eP **P** **20 30 05.0 0.0**
comp=Z,69nm,0.6s,mb6.0
IMA Indian Mountai 85.09 22 eP **P** **20 30 06.8 +1.5**
IMA pmax pmax
comp=Z,74nm,1.1s,mb5.7
IMA Indian Mountai 85.09 22 eP **P** **20 30 06.8 +1.5**
comp=Z,74nm,1.1s,mb5.7
SML Sawmill 85.52 26 eP **P** **20 30 07.7 +0.2**

MCK McKinley 85.98 25 eP **P** **20 30 09.7 -0.1**
MCK pmax pmax
comp=Z,7.0nm,0.6s,mb5.1
MCK McKinley 85.98 25 eP **P** **20 30 09.7 -0.1**
comp=Z,6.7nm,0.6s,mb5.0
DIV Divide 86.44 27 eP **P** **20 30 12.8 +0.6**
comp=Z,62nm,0.7s,mb5.9
SYO Syowa Base 89.11 201⇑ P **P** **20 30 25.5 +0.7**
SVE Sverdlovsk 90.55 327 eP **P** **20 30 31.0 -0.8**
SVE e 20 30 42.0
SVE pmax pmax
comp=Z,40nm,2.0s,mb5.4
SVE MLR MLR
comp=E,100nm,14.0s
SVE MLR MLR
comp=Z,100nm,14.0s,MS4.4
ARU Arti 91.62 326⇑ *i*P **P** **20 30 35.6 -1.1**
ARU e 20 34 14.9
ARU ePPP PPP 20 36 15.6 -2.6
ARU eS SKS 20 41 03.5 -8.5
ARU eSP SP 20 42 41.9 -6.6
ARU ePS PS 20 42 51.2 +2.0
ARU eSS SS 20 47 47.7 +2.8
ARU pmax pmax
comp=Z,15nm,1.0s,mb5.3
ARU Arti 91.62 326 eP **P** **20 30 35.3 -1.4**
comp=Z,17nm,1.1s,mb5.3
ARU LR LR
comp=Z,26nm,19.0s,MS3.7
OCWA Octopus Mounta 96.53 43 PFAKE 20 31 10.0 +11
OCWA LR LR
comp=Z,191nm,19.0s,MS4.6
YBH Yreka Blue Hor 97.42 49 PFAKE 20 31 20.0 +16
YBH LR LR
comp=Z,220nm,19.0s,MS4.7
WDC Whiskeytown Da 97.53 50 PFAKE 20 31 20.0 +16
WDC LR LR
comp=Z,213nm,22.0s,MS4.6
CMB Columbia Colle 99.16 53 PFAKE 20 31 20.0 +8.4
CMB LR LR
comp=Z,231nm,20.0s,MS4.7
MOD Modoc 99.23 49 PFAKE 20 31 20.0 +8.2
MOD LR LR
comp=Z,211nm,19.0s,MS4.7
SNAA Sanae 99.29 190 *i* P **P** **20 31 13.4 +2.0**
SNAA Sanae 99.29 190 eP **P** **20 31 12.1 +0.7**
comp=Z,9.0nm,1.4s,mb5.1
GNI Garni 99.81 310 PFAKE 20 31 30.0 +16
GNI LR LR
comp=Z,58nm,20.0s,MS4.1
WVOR Wild Horse Val 100.46 48 PFAKE 20 31 30.0 +13
WVOR LR LR
comp=Z,234nm,20.0s,MS4.7
KIV Kislovodsk 101.24 314 PFAKE 20 31 30.0 +9.1
KIV LR LR
comp=Z,17nm,19.0s,MS3.6
NEW Newport 101.26 42 PFAKE 20 31 30.0 +9.2
NEW LR LR
comp=Z,151nm,21.0s,MS4.5
BMO Blue Mountains 101.33 46 PFAKE 20 31 30.0 +8.8
BMO LR LR
comp=Z,172nm,19.0s,MS4.6
DAC Darwin (Calif) 101.40 54 PFAKE 20 31 30.0 +8.2
DAC LR LR
comp=Z,309nm,19.0s,MS4.8
BMN Battle Mountai 101.58 50 PFAKE 20 31 30.0 +7.5
BMN LR LR
comp=Z,197nm,21.0s,MS4.6
TPH Tonopah 101.66 52 PFAKE 20 31 40.0 +17
TPH LR LR
comp=Z,226nm,21.0s,MS4.7
HLID Hailey 103.49 47 PFAKE 20 31 40.0 +9.1
HLID LR LR
comp=Z,250nm,19.0s,MS4.8
MSO Missoula 103.53 43 PFAKE 20 31 40.0 +9.1
MSO LR LR
comp=Z,101nm,19.0s,MS4.4
ARCES ARCESS Array B 104.82 341 Pdiff Pdif 20 31 36.5 +0.4
comp=Z,2.9nm,0.8s,baz=18,slow=3.8,SNR=4.3
BOZ Bozeman (W) 105.25 44 PFAKE 20 36 00.0
BOZ LR LR
comp=Z,166nm,19.0s,MS4.6
AHID Auburn Hatcher 105.98 47 PFAKE 20 36 10.0
AHID LR LR
comp=Z,198nm,19.0s,MS4.7
LKWY Lake 106.26 45 PFAKE 20 36 10.0
LKWY LR LR
comp=Z,274nm,19.0s,MS4.8
BW06 Boulder Array 107.11 47 PFAKE 20 36 10.0
BW06 LR LR
comp=Z,172nm,20.0s,MS4.6
PDAR Pinedale Array 107.11 47 Pdiff Pdif 20 31 48.5 +1.7
comp=Z,0.4nm,0.5s,baz=270,slow=1.8,SNR=3.7
PDAR PP PP 20 36 13.7 -3.0
comp=Z,0.5nm,0.9s,baz=270,slow=4.4,SNR=4.1
LAO LASA Array 108.79 43 PFAKE 20 36 10.0
LAO LR LR
comp=Z,166nm,22.0s,MS4.6
AKASG Malin Array Be 109.30 322 PP PP 20 36 29.8 -3.0
comp=Z,0.2nm,0.3s,baz=62,slow=5.0,SNR=4.9
DGMT Dagmar 109.74 41 PFAKE 20 36 10.0
DGMT LR LR
comp=Z,213nm,22.0s,MS4.7
ISCO Idaho Springs 110.50 50 PFAKE 20 36 20.0 +16
ISCO LR LR
comp=Z,214nm,21.0s,MS4.7
SDCO Great Sand Dun 110.91 52 PFAKE 20 36 20.0 +16
SDCO LR LR
comp=Z,317nm,20.0s,MS4.9
MNTX Cornudas Mount 111.83 58 PFAKE 20 36 20.0 +14
MNTX LR LR
comp=Z,208nm,19.0s,MS4.7
BRG Berggiesshubel 118.25 326 ePKIKP PKPdf 20 36 18.7 +0.4
BRG MLR MLR
comp=Z,100nm,17.6s,MS4.5
GERES GERESS Array B 119.34 324 PKP PKPdf 20 36 20.3 -0.1
comp=Z,0.9nm,0.6s,baz=8.0,SNR=11
MOX Moxa 119.66 326 eP PKPdf 20 36 22.0 +1.1
MOX L 21 32 17.0
GRA1 Grafenberg Arr 120.35 326 ePKP PKPdf 20 36 22.2 -0.2
GRF Grafenberg Arr 120.35 326 ePKIKP PKPdf 20 36 22.2 -0.2
CDF Champ du Feu 123.23 326 ePKIKP PKPdf 20 36 26.7 -1.3
HINF Hinteralfeld 123.80 326 ePKIKP PKPdf 20 36 28.1 -1.1
comp=Z,7.2nm,0.8s
BAIF Baives 123.93 329 ePKIKP PKPdf 20 36 28.5 -0.9
HAU Haudompre 123.98 326 ePKIKP PKPdf 20 36 28.5 -1.0
comp=Z,8.6nm,0.8s
PLCA Paso Flores 124.47 150 PKP PKPdf 20 36 31.5 +0.9
comp=Z,1.4nm,0.7s,baz=237,slow=8.6,SNR=3.8
CABF La Chapelle 124.90 325 ePKIKP PKPdf 20 36 30.6 -0.7
comp=Z,27nm,1.2s
LPG La Plagne 125.11 323 ePKIKP PKPdf 20 36 31.4 -0.4
comp=Z,7.4nm,1.0s
LPL La Plagne 125.11 323 ePKIKP PKPdf 20 36 31.5 -0.3
comp=Z,4.6nm,0.7s
PGF Pioggiola 125.19 319 ePKIKP PKPdf 20 36 30.3 -1.7
comp=Z,35nm,1.4s
MBDF Montbardon 125.51 322 ePKIKP PKPdf 20 36 31.7 -0.9
comp=Z,3.5nm,0.7s
SBF Sospel 125.55 321 ePKIKP PKPdf 20 36 31.1 -1.6
LOR Lormes 125.78 326 ePKIKP PKPdf 20 36 32.3 -0.7
comp=Z,11nm,1.1s
LOR eR
comp=Z,88nm,18.5s
SSF Saint Saulge 126.10 326 ePKIKP PKPdf 20 36 33.0 -0.6
comp=Z,20nm,1.4s
SMF Signal de Mont 126.15 326 ePKIKP PKPdf 20 36 32.0 -1.7
comp=Z,18nm,1.2s
FRF La Foret Royal 126.19 321 ePKIKP PKPdf 20 36 33.0 -0.8
comp=Z,33nm,1.4s
VIVF Saint-Julien-l 126.69 324 ePKIKP PKPdf 20 36 34.1 -0.6
comp=Z,15nm,1.2s
BGF Bois d'Agland 126.76 326 ePKIKP PKPdf 20 36 34.4 -0.4
LDF La Druitiere 127.05 330 ePKIKP PKPdf 20 36 34.4 -0.9
TCF Toulx Ste Croi 127.27 326 ePKIKP PKPdf 20 36 35.4 -0.4
comp=Z,23nm,1.2s
GRR Gorron 127.55 330 ePKIKP PKPdf 20 36 35.6 -0.8
comp=Z,10nm,1.0s
LASF Ste Croix 127.61 323 ePKIKP PKPdf 20 36 35.9 -0.7
comp=Z,22nm,1.4s
MFF Saint Martin d 128.35 328 ePKIKP PKPdf 20 36 37.2 -0.8
MTLF Montolieu 129.01 323 ePKIKP PKPdf 20 36 38.0 -1.4
comp=Z,20nm,1.4s
NCB Newcomb 130.26 35 PKP PKPdf 20 36 40.6 -1.1
LPAZ La Paz 142.41 126 PKP PKPdf 20 37 03.8 -1.0
comp=Z,1.0nm,0.7s,baz=241,slow=1.4,SNR=4.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ROSC	El Rosal	143.22	90	PKP	PKPdf	20 37 04.5	-1.7
	comp=Z,8.7nm,0.5s,baz=112,slow=2.5,SNR=12						
SDV	Santo Domingo	146.93	83	ePKPdf	PKPdf	20 37 12.5	-0.1
SDV				ePKPbc	PKPbc	20 37 14.3	+2.5
DBIC	Dimbokro	147.65	273	PKPbc	PKPdf	20 37 16.2	+2.4
	comp=Z,8.9nm,0.7s,baz=64,slow=4.8,SNR=9.5						
SJG	San Juan	149.46	64	ePKP2	PKPab	20 37 20.4	-5.3
SAML	Samuel	150.34	120	ePKP	PKPdf	20 37 17.4	-0.6

*IDC **14** 21:11:00.8±3.4, 14.10S×167.21E, h148km±27km, mb3.8/6, mb1 3.9/8, mb1mx3.7/15, mbtmp4.4/8, Error ellipse: s-maj=29.5km s-min=18.6km az=61.0*
*NEIC **14** 21:11:02.0±1.1, 14.16S×167.12E, h159km±9km, mb4.5/13, Error ellipse: s-maj=9.6km s-min=7.9km az=212.0*
*LDG **14** 21:11:14.5±0.1, 15.18S×167.12E, h275km, Error ellipse: s-maj=43.7km s-min=5.8km az=92.0*
ISC 14 21:11:01.5±1.5**, 14.24S**±0.07×**167.02E**±0.10**, h161**km±12km**, n59, σ1ˢ13**/37**, mb4.3**/12**, 2C-1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.81	184	eP	P	21 12 54.0	+0.7
DZM				eS	S	21 14 18.9	-1.7
DZM	Mont Dzumac	7.81	184	P	P	21 12 54.4	+1.0
	2.5nm,0.3s,baz=32,slow=20,SNR=26						
DZM				S	S	21 14 22.2	+1.7
	2.5nm,0.3s,baz=126,slow=22,SNR=3.8						
NOUC	Port Laguerre	7.85	185	eP	P	21 12 54.2	+0.4
NOUC				eS	S	21 14 20.9	-0.5
NOUC	Port Laguerre	7.85	185	eP	P	21 12 54.2	+0.4
NOUC				eS	S	21 14 20.9	-0.6
HNR	Honiara	8.41	304	P	P	21 13 00.6	-0.6
	9.0nm,0.3s,baz=193,slow=14,SNR=2.5						
HNR	Honiara	8.41	304	ePn	P	21 13 00.0	-1.2
	113nm,1.0s						
PMG	Port Moresby	20.02	282	P	P	21 15 24.3	+0.6
	16nm,0.9s,baz=63,slow=4.5,SNR=4.6						
PMG	Port Moresby	20.02	282	eP	P	21 15 24.2	+0.5
	36nm,1.2s						
AFI	Afiamalu	20.57	92	P	P	21 15 28.8	-0.5
	79nm,1.1s						
CTA	Charters Tower	20.67	251	P	P	21 15 32.1	+1.9
	2.7nm,0.4s,baz=73,slow=14,SNR=6.3						
CTAO	Charters Tower	20.67	251	eP	P	21 15 31.6	+1.4
	3.8nm,0.6s						
STKA	Stephens Creek	29.13	229	P	P	21 16 50.9	+1.3
	4.8nm,0.4s,mb4.6,baz=44,slow=7.6,SNR=18						
STKA	Stephens Creek	29.13	229	eP	P	21 16 50.6	+1.1
WB2	Warramunga Arr	31.70	255	eP	P	21 17 11.8	-0.5
WRAB	Tennant Creek	31.70	255	eP	P	21 17 11.3	-1.0
	12nm,1.3s,mb4.5						
WRA	Warramunga Arr	31.71	255	P	P	21 17 11.3	-1.1
	1.6nm,0.5s,mb4.0,baz=85,slow=9.5,SNR=20						
KAKA	Kakadu	33.64	268	⇓iP	P	21 17 29.4	+0.4
	5.4nm,0.5s,mb4.5						
FITZ	Fitzroy Crossi	39.87	259	eP	P	21 18 22.7	+1.6
	5.5nm,0.6s,mb4.4						
MBWA	Marble Bar	45.44	254	P	P	21 19 03.6	-2.7
	8.5nm,0.7s,mb4.5						
NWAO	Narrogin (SRO)	48.80	239	eP	P	21 19 31.1	-1.2
	37nm,1.3s,mb4.8						
VNDA	Vanda	63.35	181	P	P	21 21 15.2	-0.2
	0.6nm,0.7s,mb3.6,baz=5.0,slow=6.4,SNR=5.3						
VNDA	Vanda	63.35	181	eP	P	21 21 12.9	-2.4
	1.1nm,0.7s,mb3.8						
SBA	Scott Base	63.63	180	eP	P	21 21 16.2	-0.8
	4.5nm,1.0s,mb4.2						
CASY	Casey	63.89	202	eP	P	21 21 17.7	-1.2
	2.9nm,0.6s,mb4.3						
MAW	Mawson	82.25	202	eP	P	21 23 06.6	+0.9
	7.8nm,1.0s,mb4.3						
SNAA	Sanae	94.03	183		P	21 24 01.8	0.0
SNAA	Sanae	94.03	183		P	21 24 04.0	+2.2
VNA3	Neumayer Olymp	94.70	181		P	21 24 04.3	-0.6
VNA3	Neumayer Olymp	94.70	181	⇑i	P	21 24 05.8	+0.9
VNA2	Neumayer--Watz	94.96	182		P	21 24 06.6	+0.5
VNA2	Neumayer--Watz	94.96	182	⇑i	P	21 24 07.5	+1.4
MKAR	Makanchi Array	96.68	316	P	P	21 24 15.5	+1.1
	0.7nm,0.8s,mb4.1,baz=92,slow=6.5,SNR=4.6						
MKAR	Makanchi Array	96.68	316	P	P	21 24 15.5	+1.1
LPAZ	La Paz	117.65	117	PKP	PKPdf	21 29 29.0	0.0
	3.3nm,0.6s,baz=349,slow=6.8,SNR=6.3						
LPAZ	La Paz	117.65	117	PKP	PKPdf	21 29 29.0	0.0
ARCES	ARCESS Array B	119.72	345	PKP	PKPdf	21 29 32.4	+0.5
	1.7nm,0.7s,baz=75,slow=2.1,SNR=18						
FINES	FINESS Array B	125.18	338	PKP	PKPdf	21 29 43.4	+0.8
	1.4nm,1.0s,baz=72,slow=4.4,SNR=4.5						
NOA	NORSAR Array B	130.09	345	PKP	PKPdf	21 29 52.7	+0.7
	0.6nm,0.8s,baz=74,slow=12,SNR=2.8						
LOR	Lormes	144.19	340	ePKIKP	PKPdf	21 30 18.7	+0.7
SSF	Saint Saulge	144.49	340	ePKIKP	PKPdf	21 30 18.9	+0.3
	8.0nm,0.9s						
GRR	Gorron	144.50	346	ePKIKP	PKPdf	21 30 18.7	+0.2
	14nm,0.9s						
LPL	La Plagne	144.65	336	ePKIKP	PKPdf	21 30 19.8	+0.9
	4.5nm,0.7s						
LPG	La Plagne	144.65	336	ePKIKP	PKPdf	21 30 20.0	+1.1
	10nm,1.1s						
SGMF	Saint Gilles	145.00	348	ePKIKP	PKPdf	21 30 20.0	+0.6
	15nm,0.8s						
ROSF	Rostrenen	145.06	349	ePKIKP	PKPdf	21 30 20.3	+0.8
	13nm,1.0s						
BGF	Bois d'Agland	145.15	341	ePKIKP	PKPdf	21 30 20.9	+1.2
	12nm,0.8s						
MBDF	Montbardon	145.28	335	ePKIKP	PKPdf	21 30 21.5	+1.5
QUIF	Quistinic	145.44	348	ePKIKP	PKPdf	21 30 20.7	+0.5
ORIF	Oris-en-Rattie	145.48	336	ePKIKP	PKPdf	21 30 21.8	+1.4
	13nm,0.9s						
SBF	Sospel	145.70	333	ePKIKP	PKPdf	21 30 21.4	+0.6
	20nm,0.9s						
MFF	Saint Martin d	145.98	344	ePKIKP	PKPdf	21 30 23.1	+1.9
	13nm,1.0s						
VIVF	Saint-Julien-l	145.99	337	ePKIKP	PKPdf	21 30 22.5	+1.3
	6.1nm,0.9s						
PGF	Pioggiola	146.01	330	ePKIKP	PKPdf	21 30 22.6	+1.3
	31nm,1.4s						
FRF	La Foret Royal	146.28	334	ePKIKP	PKPdf	21 30 22.5	+0.8
	9.5nm,0.8s						
LMR	La Mourre	146.52	334	ePKIKP	PKPdf	21 30 22.0	-0.1
	16nm,1.1s						
LASF	Ste Croix	146.96	337	ePKIKP	PKPdf	21 30 24.1	+1.3
	5.8nm,0.9s						
MTLF	Montolieu	148.19	339	ePKIKP	PKPdf	21 30 25.8	+0.9
EPF	Esparros	149.10	341	ePKIKP	PKPdf	21 30 27.5	+1.2
EVO	Evora	155.40	351	ePKIKP	PKPdf	21 30 36.0	+0.5
	2.9nm,0.8s						

*MDD **14** 21:27:07.4±2.7, 35.96N×10.46W, mb4.2/3, Error ellipse: s-maj=24.8km s-min=19.2km az=31.0, PRXIMO*
*NEIC **14** 21:27:07.5, 35.96N×10.45W, MN2.7(MDD), After MDD.*
INMG 14 21:27:09.2±0.7**, 35.91N×10.49W, h10**km**, ML1.9, 1D, Error ellipse: s-maj=4.7km s-min=3.0km az=61.0, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	2.16	41	ePn	Pn	21 27 43.3	-2.5
PTEO				eSn	Sn	21 28 09.2	-3.7
	3.7nm,0.1s						
EGRO	El Granado	2.91	55	P	Pn	21 27 53.5	-2.9
EGRO				S	Sn	21 28 26.6	-5.2
EGRO	El Granado	2.91	55	Pn	Pn	21 27 53.5	-3.0
	1.4nm,0.1s,SNR=28						
EGRO				Sn	Sn	21 28 26.6	-5.2
	2.8nm,0.1s,SNR=7.1						
PBEJ	Beja	2.98	44	ePn	Pn	21 27 54.3	-3.2
PBEJ				eSn	Sn	21 28 29.5	-4.1
PLOU	Loures	3.15	19	eSn	Sn	21 28 33.0	-5.0
EMIN	Mina Concepcio	3.58	58	P	Pn	21 28 02.7	-3.3
EMIN				S	Sn	21 28 42.7	-6.1
EMIN	Mina Concepcio	3.58	58	Pn	Pn	21 28 02.6	-3.4
	0.9nm,0.1s,SNR=17						
EMIN				Sn	Sn	21 28 42.7	-6.1
	1.4nm,0.1s,SNR=7.9						
ESPR	Espera	3.86	74	P	Pn	21 28 06.7	-3.3
ESPR				S	Sn	21 28 49.6	-6.4
ESPR	Espera	3.86	74	Pn	Pn	21 28 06.6	-3.4
	4.5nm,0.2s,SNR=14						
ESPR				Sn	Sn	21 28 49.6	-6.4
	14nm,0.3s,SNR=4.8						
EBAD	Badajoz	3.97	43	P	Pn	21 28 07.5	-4.0
EBAD				S	Sn	21 28 51.6	-7.0
EBAD	Badajoz	3.97	43	⇓Pn	Pn	21 28 07.5	-4.0
	0.9nm,0.1s,SNR=18						
EBAD				Sn	Sn	21 28 51.6	-7.0
	1.8nm,0.1s,SNR=5.6						
PTOM	Tomar	4.05	23	ePn	Pn	21 28 09.4	-3.3
PTOM				eSn	Sn	21 28 54.5	-6.2
	4.6nm,0.4s						
PCBR	Castelo Branco	4.59	30	ePn	Pn	21 28 16.7	-3.7
PCBR				eSn	Sn	21 29 06.1	-8.3
EMIJ	Mijas	4.67	80	Pn	Pn	21 28 15.9	-5.6
	0.5nm,0.2s,SNR=4.0						
EMIJ				Sn	Sn	21 29 08.6	-7.8
	0.9nm,0.2s,SNR=7.9						
PVIS	Viseu	5.21	22	eSn	Sn	21 29 22.1	-8.0
ELUQ	Luque	5.26	70	Sn	Sn	21 29 23.0	-8.4
	0.8nm,0.2s,SNR=4.0						
PVRL	Vila Real	5.78	21	eSn	Sn	21 29 35.0	-9.3
EBAN	Banos Encina	5.82	65	Pn	Pn	21 28 33.2	-4.5
	3.1nm,0.1s,SNR=8.7						
EBAN				Sn	Sn	21 29 35.5	-10
	1.3nm,0.1s,SNR=7.9						
ELOB	Lobios	6.24	17	P	Pn	21 28 38.8	-4.9
ELOB				S	Sn	21 29 45.6	-10
ELOB	Lobios	6.24	17	Pn	Pn	21 28 38.7	-5.0
	0.2nm,0.1s,SNR=4.0						
ELOB				Sn	Sn	21 29 45.6	-10
	0.7nm,0.1s,SNR=5.0						
EQES	Quesada	6.24	70	Pn	Pn	21 28 39.0	-4.7
	0.3nm,0.1s,SNR=7.9						
EQES				Sn	Sn	21 29 46.8	-9.1
	0.5nm,0.1s,SNR=7.9						
ESDC	Sonseca Array	6.39	52	Pn	Pn	21 28 41.3	-4.5
	2.2nm,0.1s,baz=238,slow=13,SNR=15						
ECAL	Calabor	6.69	25	Pn	Pn	21 28 44.6	-5.4
	0.3nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	21 29 56.8	-10
	1.3nm,0.2s,SNR=7.9						
ETOB	Tobarra	7.63	66	Pn	Pn	21 28 57.9	-5.4
	0.3nm,0.1s,SNR=6.4						
ETOB				Sn	Sn	21 30 19.8	-11
	1.4nm,0.2s,SNR=7.9						

*IDC **14** 21:53:22.2±1.3, 12.90N×93.26E, mb3.7/8, mb1 3.8/8, mb1mx3.7/18, mbtmp3.7/8, MS4.2/1, Ms1 4.1/1, ms1mx3.1/18, Error ellipse: s-maj=50.4km s-min=25.9km az=51.0*
ISC 14 21:53:24.2±3.3**, 13.05N**±0.06×**93.35E**±0.09**, h21**km±24km**, n20, σ0ˢ86**/22**, mb3.6**/8**, MS4.3**/1**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	Port Blair	1.50	203	eP	Pn	21 53 55.0	+4.7
PBA				eS	Sn	21 54 09.9	+0.5
PBA				AML	AML	21 54 17.5	
	comp=N,1μm,0.5s						
PBA				AML	AML	21 54 18.1	
	comp=E,1μm,0.4s						
BWNR	Bhubaneshwar	10.21	316	i P	P	21 55 57.8	+5.0
BWNR				e		21 57 39.3	
VIS	Vishakhapatnam	10.72	297	eP	P	21 55 58.3	-1.6
VIS				AMb	AMB	21 55 59.6	
	comp=Z,22nm,0.2s						
VIS				eS	S	21 57 46.3	-14
VIS				AML	AML	21 57 50.3	
	comp=E,48nm,0.5s						
VIS				AML	AML	21 57 50.3	
	comp=N,38nm,0.5s						
BLSP	Bilaspur	13.99	312	eS	S	21 59 25.9	+6.6
NGP	Nagpur	15.86	302	e	P	21 57 08.8	+0.7
NGP				eS	S	22 00 03.2	-0.1
PKI	Pulchoki	16.25	334	eP	P	21 57 13.8	+0.9
	comp=N,5.2nm,0.4s						
GUN	Gumba	16.35	336	eP	P	21 57 12.7	-1.6
DMN	Daman	16.41	333	eP	P	21 57 16.2	+1.2
	comp=N,16nm,0.9s						
KKN	Kakani	16.49	334	eP	P	21 57 15.7	-0.4
	comp=N,6.6nm,0.5s						
GKN	Gorkha	16.96	333	eP	P	21 57 21.3	-0.6
	comp=N,7.4nm,0.3s						
KOLN	Koldanda	17.25	330	eP	P	21 57 26.7	+1.1
	comp=N,14nm,0.7s						
MKAR	Makanchi Array	34.91	347	P	P	22 00 17.1	+0.8
	comp=N,1.0nm,0.7s,mb3.9,baz=170,slow=9.7,SNR=9.2						
SONM	Songino Array	36.35	15	P	P	22 00 29.0	+0.4
	comp=N,0.5nm,0.6s,mb3.6,baz=198,slow=7.8,SNR=4.9						
BVAR	Borovoye Array	43.88	340	P	P	22 01 31.4	+0.6
	comp=N,0.2nm,0.5s,mb3.1,baz=63,slow=6.4,SNR=4.5						
WRA	Warramunga Arr	51.97	128	P	P	22 02 33.5	-0.9
	comp=N,0.1nm,0.4s,mb3.1,baz=305,slow=9.6,SNR=6.6						
BRTR	Keskin Array B	58.55	309	P	P	22 03 20.8	-0.9
	comp=N,0.9nm,0.9s,mb3.8,baz=135,slow=7.0,SNR=4.9						
FINES	FINESS Array B	67.81	331	P	P	22 04 21.6	-0.9
	comp=N,0.4nm,0.4s,mb3.8,baz=124,slow=6.9,SNR=5.7						
GERES	GERESS Array B	73.50	317	P	P	22 04 57.7	+0.5
	comp=N,1.2nm,0.6s,mb4.0,baz=90,slow=6.7,SNR=10						
NOA	NORSAR Array B	74.88	330	P	P	22 05 05.0	+0.1
	comp=N,0.8nm,0.9s,mb3.6,baz=95,slow=5.6,SNR=3.3						
MAW	Mawson	83.42	191	LR	LR	22 37 03.9	
	comp=N,122nm,18.1s,MS4.3,baz=135,slow=32						

*NEIC **14** 22:03:39.6±0.7, 23.86S×66.68W, h188km±8km, mb4.1/13, Error ellipse: s-maj=11.3km s-min=7.7km az=76.0*
*IDC **14** 22:03:40.0±0.9, 23.86S×66.68W, h192km±8km, mb3.7/6, mb1 3.8/12, mb1mx3.7/19, mbtmp4.2/12, MS4.2/1, Ms1 4.2/1, ms1mx2.6/17, Error ellipse: s-maj=14.8km s-min=11.7km az=43.0*
ISC 14 22:03:39.0±0.7**, 23.90S**±0.05×**66.67W**±0.08**, h199**km±7km**, n51, σ0ˢ97**/53**, mb4.0**/15**, 8C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.43	301	P	P	22 04 23.7	+1.2
	159nm,0.3s,baz=130,slow=5.7,SNR=1309						
LVC				S	S	22 04 55.8	-0.2
	80nm,0.3s,baz=258,slow=20,SNR=16						
LVC	Limon Verde	2.43	301	ePn	P	22 04 22.5	0.0
LVC				eS	S	22 04 52.5	-3.6
LPAZ	La Paz	7.69	349	P	P	22 05 30.6	+1.6
	1.2nm,0.3s,baz=156,slow=5.0,SNR=24						
LPAZ				S	S	22 06 55.5	+0.5
	0.5nm,0.3s,baz=270,slow=21,SNR=3.8						
LPAZ	La Paz	7.69	349	ePn	P	22 05 29.8	+0.7
	4.4nm,0.5s						
CFAA	Coronel Fontan	7.80	190	P	P	22 05 30.0	-0.4
	0.2nm,0.3s,baz=9.5,slow=7.2,SNR=70						
CFAA				S	S	22 06 52.4	-5.2
	1.3nm,0.3s,baz=140,slow=21,SNR=25						
CFAA	Coronel Fontan	7.80	190	P	P	22 05 30.0	-0.5
CFAA				S	S	22 06 52.4	-5.2
CPUP	Villa Florida	8.80	108	P	P	22 05 44.0	+0.5
	0.2nm,0.3s,baz=300,slow=15,SNR=12						
SIV	San Ignacio	9.46	35	P	P	22 05 51.7	-0.3
	1.0nm,0.3s,baz=221,slow=14,SNR=25						
TRQA	Tornquist	14.67	165	eP	P	22 06 56.8	-1.5
	7.5nm,0.6s						
SAML	Samuel	15.23	13	eP	P	22 07 04.3	-1.0
	2.0nm,0.5s						
PLCA	Paso Flores	17.10	190	P	P	22 07 33.4	+5.8
	9.2nm,1.2s						
BDFB	Brasilia	19.36	68	P	P	22 07 51.8	+0.4
	2.2nm,0.3s,baz=245,slow=11,SNR=40						
BAO	Brasilia Array	19.39	68	P	P	22 07 52.0	+0.3
SDV	Santo Domingo	32.81	353	P	P	22 09 54.3	-1.5
	8.1nm,1.3s,mb4.1						
VNA3	Neumayer Olymp	57.15	161	⇑i	P	22 13 07.8	+1.2
VNA3	Neumayer Olymp	57.15	161	⇑i	P	22 13 09.9	+3.3
VNA3	Neumayer Olymp	57.15	161		P	22 13 14.2	+7.6
VNA3	Neumayer Olymp	57.15	161		P	22 13 18.7	+12
VNA3	Neumayer Olymp	57.15	161		P	22 13 25.9	+19
VNA1	Neumayer--Stat	57.34	160	⇑i	P	22 13 09.8	+1.8
VNA1	Neumayer--Stat	57.34	160	⇑i	P	22 13 11.7	+3.7
VNA1	Neumayer--Stat	57.34	160	⇑i	P	22 13 14.1	+6.1
VNA1	Neumayer--Stat	57.34	160		P	22 13 20.8	+13
VNA1	Neumayer--Stat	57.34	160		P	22 13 27.2	+19
VNA2	Neumayer--Watz	57.71	160	⇑i	P	22 13 11.8	+1.2
VNA2	Neumayer--Watz	57.71	160	⇑i	P	22 13 13.4	+2.8
VNA2	Neumayer--Watz	57.71	160		P	22 13 14.0	+3.4
VNA2	Neumayer--Watz	57.71	160		P	22 13 21.0	+10
VNA2	Neumayer--Watz	57.71	160		P	22 13 29.6	+19
SNAA	Sanae	59.35	161		P	22 13 23.4	+1.5
SNAA	Sanae	59.35	161		P	22 13 26.5	+4.6
SNAA	Sanae	59.35	161		P	22 13 31.7	+10
SNAA	Sanae	59.35	161		P	22 13 40.1	+18
SNAA	Sanae	59.35	161	P	P	22 13 22.1	+0.2
	0.9nm,0.6s,mb3.5,baz=279,slow=5.6,SNR=20						
SNAA	Sanae	59.35	161	⇑iP	P	22 13 21.8	-0.1
	0.2nm,1.1s,mb2.7						
WVT	Waverly	62.96	341	eP	P	22 13 44.3	-2.3
	7.9nm,0.6s,mb4.5						
TXAR	Lajitas Array	63.77	324	P	P	22 13 51.5	-0.6
	0.4nm,0.4s,mb3.4,baz=153,slow=8.4,SNR=5.0						
DBIC	Dimbokro	67.48	71	P	P	22 14 14.8	-1.0
	2.6nm,0.5s,mb4.1,baz=218,slow=8.7,SNR=7.7						
ANMO	Albuquerque	69.64	326	eP	P	22 14 28.8	+0.1
	2.5nm,0.6s,mb4.0						
SDCO	Great Sand Dun	71.36	328	eP	P	22 14 39.8	+0.8
	3.2nm,0.9s,mb4.0						
PDAR	Pinedale Array	77.22	329	P	P	22 15 12.8	+0.4
	0.7nm,0.6s,mb3.5,baz=135,slow=7.3,SNR=5.7						
HWUT	Hardware Ranch	77.31	327	P	P	22 15 13.0	0.0
	1.9nm,0.6s,mb3.9						
TSUM	Tsumeb	77.39	106	P	P	22 15 12.8	-1.1
	4.2nm,0.8s,mb4.1						
ULM	Lac du Bonnet	78.23	341	P	P	22 15 17.5	-0.4
	4.0nm,0.6s,mb4.2,baz=155,slow=5.2,SNR=4.6						
HLID	Hailey	80.17	327	eP	P	22 15 29.7	+1.3
	3.5nm,0.8s,mb4.0						
BOSA	Boshof	80.51	117	P	P	22 15 30.9	+0.3
	1.4nm,0.4s,mb3.9,baz=268,slow=11,SNR=11						
LBTB	Lobatse	82.15	114	P	P	22 15 39.5	+0.4
	1.7nm,0.5s,mb3.9						
LSZ	Lusaka	88.24	106	P	P	22 16 10.1	+0.8
	6.7nm,1.1s,mb4.4						
URZ	Urewera	94.01	225	LR	LR	22 54 51.0	
	comp=Z,93nm,18.4s,baz=41,slow=33						
WRA	Warramunga Arr	131.86	207	PKP	PKPdf	22 22 30.9	+1.6
	0.3nm,0.4s,baz=155,slow=1.9,SNR=12						
WRA				SKPbc		22 25 37.7	
	1.4nm,0.7s,baz=154,slow=3.7,SNR=13						
MKAR	Makanchi Array	146.25	40	PKPbc	PKPbc	22 22 58.7	+3.0
	0.6nm,0.6s,baz=257,slow=27,SNR=6.5						

*NEIC **14** 22:22:33.1, 35.38S×71.39W, h81km, mb4.1/4, After GUC.*
NEIC Felt [IV] at Linares and Talca; [III] at Curico, Hualane, Licanten and Rancagua; [II] at Cauquenes, Parral and Retiro.
*GUC **14** 22:22:33.1±0.9, 35.38S×71.39W, h81km±7km, ML4.7*
*IDC **14** 22:22:34.7±2.3, 35.34S×71.24W, h95km±19km, mb3.9/7, mb1 3.9/12, mb1mx3.9/19, mbtmp4.2/12, MS2.9/4, Ms1 2.9/4, ms1mx2.7/16, Error ellipse: s-maj=39.8km s-min=12.8km az=105.0*
ISC 14 22:22:32.5±0.4**, 35.36S**±0.04×**71.48W**±0.08**, h96**km±4km**, n60, σ0ˢ74**/70**, mb4.0**/9**, 7C-6D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTCH	Constitucion	0.76	272	eP	P	22 22 50.8	+0.4
CTCH				i S	S	22 23 03.6	0.0
CTCH				AMP		22 23 08.1	
	comp=E,64μm,0.5s						
SFDO	San Fernando	0.84	27	⇓iP	P	22 22 50.7	-0.4
CCHI	Chillan	1.33	201	⇓iP	P	22 22 56.6	-0.2
CCHI				i S	S	22 23 14.2	-0.8
CCHI				AMP		22 23 15.2	
	comp=N,9μm,0.5s						
CCHI				AMP		22 23 15.5	
	comp=N,15μm,0.5s						
CICH	Cipreses	1.36	40	⇓iP	P	22 22 58.0	+0.8
CICH				i S	S	22 23 15.9	+0.4
LNV	Longovilo	1.40	2	⇑iP	P	22 22 58.1	+0.4
CACH	El Canelo	1.44	31	eP	P	22 22 58.2	0.0
CHCH	Chadas Angostu	1.58	26	⇑iP	P	22 22 59.8	-0.1
CHCH				i S	S	22 23 20.0	-0.3
TACH	Talagante	1.76	15	⇑iP	P	22 23 02.3	0.0
LCCH	Las Cruces	1.88	358	eP	P	22 23 03.3	-0.5
PCH	Pirque	1.91	25	eP	P	22 23 04.3	+0.1
ANTU	Antumapu	1.92	22	eP	P	22 23 04.3	0.0
ANTU				i S	S	22 23 27.9	+0.1
ANTU				AMP		22 23 29.2	
	comp=E,12μm,0.4s						
RCDM	Rinconada Maip	1.95	17	eP	P	22 23 04.6	-0.1
RCDM				i S	S	22 23 28.1	-0.4
RCDM				AMP		22 23 29.2	
	comp=E,5μm,0.2s						
SJCH	San Jose de Ma	1.95	29	eP	P	22 23 04.8	+0.1
SJCH				i S	S	22 23 29.1	+0.6
SJCH				AMP		22 23 31.9	
	comp=N,4μm,0.5s						
SAN	Santiago	2.02	20	⇓iP	P	22 23 05.9	+0.3
SAN				i S	S	22 23 29.9	-0.3
SAN				AMP		22 23 36.0	
	comp=E,4μm,0.7s						
DSCH	Colegio Aleman	2.10	21	⇑iP	P	22 23 07.0	+0.3
DSCH				i S	S	22 23 32.1	0.0
DSCH				AMP		22 23 35.0	
	comp=N,8μm,0.5s						
CLCH	Cerro Calan	2.11	22	AMP		22 23 35.6	
	comp=E,9μm,0.3s						
FCH	Farellones	2.25	26	⇓iP	P	22 23 09.4	+0.5
FCH				i S	S	22 23 36.8	+0.9
FCH				AMP		22 23 38.5	
	comp=N,10μm,0.2s						
PEL	Peldehue	2.31	17	⇑iP	P	22 23 10.1	+0.5
PEL				i S	S	22 23 37.0	-0.2
ROCH	El Roble	2.42	9	⇑iP	P	22 23 11.3	+0.2
JACH	Jahuel	2.77	16	⇑iP	P	22 23 15.8	-0.3
ZON	Zonda	4.47	32	⇓iP	P	22 23 38.5	-0.8
ZON				eS	S	22 24 33.5	+3.1
CFAA	Coronel Fontan	4.62	37	P	P	22 23 40.4	-1.0
	comp=N,5.5nm,0.3s,baz=214,slow=11,SNR=609						
CFAA				S	S	22 24 32.5	-1.8
	comp=N,4.1nm,0.3s,baz=301,slow=19,SNR=7.0						
PLCA	Paso Flores	5.41	172	P	P	22 23 51.9	-0.2
	comp=N,4.7nm,0.3s,baz=336,slow=11,SNR=61						
PLCA				LR	LR	22 26 01.6	
	comp=N,110nm,19.8s,baz=306,slow=38						
PLCA	Paso Flores	5.41	172	eP	P	22 23 51.1	-1.0
	comp=N,17nm,0.5s						
TRQA	Tornquist	8.09	112	eP	P	22 24 29.3	+0.4
	comp=N,11nm,1.0s						
LVC	Limon Verde	12.90	11	P	P	22 25 32.5	-0.7
	comp=N,0.5nm,0.3s,baz=201,slow=9.6,SNR=3.7						
LVC	Limon Verde	12.90	11	P	P	22 25 32.5	-0.7
LVC				eP		22 25 32.8	
CPUP	Villa Florida	15.11	57	LR	LR	22 31 26.2	
	comp=N,19nm,21.4s,baz=303,slow=36						
LPAZ	La Paz	19.23	10	P	P	22 26 53.0	+1.4
	comp=N,0.4nm,0.3s,baz=186,slow=11,SNR=16						
LPAZ	La Paz	19.23	10	eP	P	22 26 52.3	+0.8
	comp=N,4.7nm,0.7s						
USHA	Ushuaia	19.59	175	P	P	22 26 56.1	+1.0
	comp=N,1.4nm,0.3s,baz=334,slow=7.6,SNR=14						
USHA				LR	LR	22 34 40.8	
	comp=N,39nm,21.9s,baz=259,slow=37						
SIV	San Ignacio	21.42	28	P	P	22 27 13.5	-0.6
	comp=N,8.1nm,0.6s,mb4.2,baz=215,slow=10,SNR=50						
SAML	Samuel	27.36	18	P	P	22 28 06.9	-3.8
	comp=N,2.6nm,1.1s,mb3.7						
BDFB	Brasilia	28.75	53	P	P	22 28 21.1	-2.0
	comp=N,3.5nm,0.7s,mb4.1,baz=239,slow=6.1,SNR=3.3						
BDFB				LR	LR	22 40 04.2	
	comp=N,54nm,19.9s,baz=285,slow=37						
PMSA	Palmer Station	29.79	174	eP	P	22 28 31.1	-0.8
	comp=N,9.1nm,0.6s,mb4.6						
VNA3	Neumayer Olymp	47.93	157		P	22 31 03.6	+1.2
VNA3	Neumayer Olymp	47.93	157		P	22 31 03.6	+1.2
VNA3	Neumayer Olymp	47.93	157		P	22 31 05.0	+2.6
VNA3	Neumayer Olymp	47.93	157		P	22 31 05.5	+3.1
VNA3	Neumayer Olymp	47.93	157		P	22 31 06.5	+4.1
VNA3	Neumayer Olymp	47.93	157		P	22 31 07.5	+5.1
VNA3	Neumayer Olymp	47.93	157		P	22 31 13.8	+11
VNA3	Neumayer Olymp	47.93	157		P	22 31 14.5	+12
VNA3	Neumayer Olymp	47.93	157		P	22 31 19.9	+17
VNA2	Neumayer--Watz	48.58	157		P	22 31 08.8	+1.3
VNA2	Neumayer--Watz	48.58	157		P	22 31 09.8	+2.3
VNA2	Neumayer--Watz	48.58	157		P	22 31 12.4	+4.9
VNA2	Neumayer--Watz	48.58	157		P	22 31 18.4	+11
SNAA	Sanae	50.16	157		P	22 31 19.5	0.0
SNAA	Sanae	50.16	157		P	22 31 22.4	+2.9
SNAA	Sanae	50.16	157		P	22 31 24.0	+4.5
SNAA	Sanae	50.16	157		P	22 31 29.3	+10
SNAA	Sanae	50.16	157	P	P	22 31 19.7	+0.1
	comp=N,0.4nm,0.3s,mb3.9,baz=284,slow=5.6,SNR=14						
SNAA	Sanae	50.16	157	P	P	22 31 19.5	0.0
VNDA	Vanda	62.86	191	P	P	22 32 50.5	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,0.6nm,0.7s,mb3.6,baz=135,slow=4.0,SNR=3.6						
MAW	**Mawson**	**71.75**	**163**	P	**P**	**22 33 46.0**	**+0.5**
	comp=N,1.1nm,0.3s,mb4.2,baz=225,slow=8.6,SNR=4.5						
MAW	**Mawson**	**71.75**	**163**	P	**P**	**22 33 45.0**	**-0.5**
	comp=N,3.6nm,0.6s,mb4.4						
DBIC	**Dimbokro**	**75.19**	**71**	P	**P**	**22 34 06.4**	**0.0**
	comp=N,7.2nm,1.3s,mb4.2,baz=225,slow=7.1,SNR=3.7						
BOSA	**Boshof**	**79.04**	**117**	P	**P**	**22 34 27.7**	**+0.1**
	comp=N,1.7nm,0.8s,mb3.9,baz=223,slow=5.5,SNR=4.6						
WRA	**Warramunga Arr**	**119.79**	**208**	PKP	PKPdf	22 41 13.5	+1.8
	comp=N,0.1nm,0.6s,baz=238,slow=2.0,SNR=63						

*IDC **14** 22:37:50.0±1.1, 14.61S×166.64E, mb3.9/5, mb1 4.1/6, mb1mx4.0/12, mbtmp3.9/6, ML3.8/1, MS3.6/5, Ms1 3.6/5, ms1mx3.3/25, Error ellipse: s-maj=44.3km s-min=25.2km az=91.0*

*LDG **14** 22:37:53.1±0.1, 14.64S×166.36E, h10km, Ms4.6/7, Error ellipse: s-maj=20.2km s-min=2.9km az=85.0*

ISC 14 22:37:50.5±0.9**, 14.82S**±0.09×**166.6E**±0.2**, h10km, n48, σ0.96**/15**, mb3.9**/5**, MS4.0**/3**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.21**	**181**	eP	**Pn**	**22 39 38.9**	**+0.2**
DZM				eS	**Sn**	**22 40 57.4**	**-4.0**
DZM	**Mont Dzumac**	**7.21**	**181**	Pn	**Pn**	**22 39 39.0**	**+0.3**
	1.4nm,0.3s,baz=194,slow=23,SNR=52						
DZM				Sn	**Sn**	**22 41 00.4**	**-1.1**
	0.8nm,0.3s,baz=286,slow=23,SNR=3.1						
DZM				LR	LR	22 42 07.3	
	comp=Z,337nm,19.0s,baz=196,slow=35						
HNR	**Honiara**	**8.44**	**309**	LR	LR	22 41 51.3	
	comp=Z,37nm,20.3s,baz=151,slow=29						
URZ	**Urewera**	**25.12**	**160**	LR	LR	22 52 09.0	
	comp=Z,66nm,18.3s,MS3.2,baz=92,slow=34						
WRA	**Warramunga Arr**	**31.20**	**256**	P	**P**	**22 44 12.0**	**-0.3**
	0.7nm,0.8s,mb3.6,baz=86,slow=8.3,SNR=6.6						
MJAR	**Matsushiro Arr**	**57.70**	**333**	P	**P**	**22 47 39.6**	**-4.2**
	0.9nm,0.4s,mb4.1,baz=138,slow=8.4,SNR=3.1						
JNU	**Nakatsue**	**58.63**	**325**	LR	LR	23 10 22.2	
	comp=Z,535nm,19.5s,MS4.7,baz=222,slow=33						
ASAJ	**Asahikawa**	**62.62**	**341**	LR	LR	23 10 05.1	
	comp=Z,116nm,20.1s,MS4.0,baz=233,slow=31						
VNDA	**Vanda**	**62.76**	**181**	P	**P**	**22 48 17.8**	**-0.1**
	0.8nm,0.6s,mb4.0,baz=355,slow=5.4,SNR=3.7						
SONM	**Songino Array**	**82.20**	**324**	P	**P**	**22 50 13.6**	**+0.4**
	0.5nm,0.6s,mb3.6,baz=127,slow=7.2,SNR=3.8						
ILAR	**Eielson Array**	**86.81**	**18**	P	**P**	**22 50 34.7**	**-1.3**
	1.0nm,0.7s,mb4.2,baz=236,slow=5.2,SNR=12						
SNAA	**Sanae**	**93.42**	**183**		**P**	**22 51 07.3**	**+0.5**
SNAA	**Sanae**	**93.42**	**183**		**P**	**22 51 11.0**	**+4.2**
VNA3	**Neumayer Olymp**	**94.11**	**181**		**P**	**22 51 10.9**	**+0.9**
VNA3	**Neumayer Olymp**	**94.11**	**181**		**P**	**22 51 14.4**	**+4.4**
VNA2	**Neumayer--Watz**	**94.37**	**182**		**P**	**22 51 13.7**	**+2.5**
VNA2	**Neumayer--Watz**	**94.37**	**182**		**P**	**22 51 15.9**	**+4.7**
ARCES	**ARCESS Array B**	**120.18**	**345**	PKP	PKPdf	22 56 43.1	-1.3
	2.7nm,0.9s,baz=45,slow=2.0,SNR=7.3						
CABF	**La Chapelle**	**144.37**	**337**	ePKIKP	PKPdf	22 57 29.4	-0.6
	6.7nm,1.0s						
FLN	**La Foliniere**	**144.53**	**345**	ePKIKP	PKPdf	22 57 28.8	-1.4
FLN				eR			
	240nm,22.5s						
LDF	**La Druitiere**	**144.59**	**345**	ePKIKP	PKPdf	22 57 29.7	-0.7
	12nm,1.0s						
LOR	**Lormes**	**144.61**	**340**	ePKIKP	PKPdf	22 57 29.8	-0.6
LOR				eR			
	179nm,22.8s						
SSF	**Saint Saulge**	**144.91**	**340**	ePKIKP	PKPdf	22 57 29.9	-1.1
	20nm,0.9s						
GRR	**Gorron**	**144.97**	**345**	ePKIKP	PKPdf	22 57 29.6	-1.4
	20nm,0.8s						
LPL	**La Plagne**	**145.01**	**335**	ePKIKP	PKPdf	22 57 30.8	-0.4
	6.7nm,0.8s						
LPG	**La Plagne**	**145.02**	**335**	ePKIKP	PKPdf	22 57 30.9	-0.3
	14nm,0.8s						
SMF	**Signal de Mont**	**145.16**	**339**	ePKIKP	PKPdf	22 57 30.5	-0.9
	19nm,1.1s						
SGMF	**Saint Gilles**	**145.48**	**347**	ePKIKP	PKPdf	22 57 31.2	-0.7
	22nm,0.9s						
ROSF	**Rostrenen**	**145.55**	**348**	ePKIKP	PKPdf	22 57 31.4	-0.6
	11nm,0.9s						
BGF	**Bois d'Agland**	**145.57**	**340**	ePKIKP	PKPdf	22 57 31.2	-0.9
	15nm,0.8s						
MBDF	**Montbardon**	**145.64**	**334**	ePKIKP	PKPdf	22 57 31.3	-1.0
	8.4nm,0.9s						
ORIF	**Oris-en-Rattie**	**145.85**	**335**	ePKIKP	PKPdf	22 57 31.6	-1.1
	12nm,0.8s						
ORIF				eR			
	257nm,23.0s						
QUIF	**Quistinic**	**145.93**	**348**	ePKIKP	PKPdf	22 57 32.2	-0.5
TCF	**Toulx Ste Croi**	**146.01**	**341**	ePKIKP	PKPdf	22 57 32.0	-0.9
	6.4nm,0.9s						
SBF	**Sospel**	**146.04**	**333**	ePKIKP	PKPdf	22 57 32.8	-0.2
	23nm,0.7s						
PGF	**Pioggiola**	**146.32**	**330**	ePKIKP	PKPdf	22 57 32.5	-1.0
	20nm,1.0s						
VIVF	**Saint-Julien-l**	**146.38**	**337**	ePKIKP	PKPdf	22 57 33.0	-0.6
MFF	**Saint Martin d**	**146.44**	**343**	ePKIKP	PKPdf	22 57 34.4	+0.8
	16nm,0.7s						
FRF	**La Foret Royal**	**146.63**	**333**	ePKIKP	PKPdf	22 57 33.4	-0.6
SMRF	**Simiane la Rot**	**146.75**	**335**	ePKIKP	PKPdf	22 57 33.3	-0.9
LMR	**La Mourre**	**146.87**	**333**	ePKIKP	PKPdf	22 57 33.3	-1.2
	8.2nm,1.0s						
CAF	**Calviac**	**147.26**	**340**	ePKIKP	PKPdf	22 57 34.7	-0.3
LASF	**Ste Croix**	**147.35**	**337**	ePKIKP	PKPdf	22 57 34.1	-1.1
LFF	**La Frestale**	**147.68**	**341**	ePKIKP	PKPdf	22 57 34.7	-1.0
MTLF	**Montolieu**	**148.59**	**338**	ePKIKP	PKPdf	22 57 36.0	-1.2
EPF	**Esparros**	**149.52**	**340**	ePKIKP	PKPdf	22 57 37.8	-0.9
SJPF	**Ste Jean**	**149.94**	**342**	ePKIKP	PKPdf	22 57 38.1	-1.3
	61nm,1.6s						
EVO	**Evora**	**155.91**	**350**	ePKIKP	PKPdf	22 57 46.7	-1.2
	5.1nm,0.9s						
EVO				eR			
	198nm,21.8s						

IDC 14 22:40:24.2±4.0**, 3.19N×96.37E, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/16**, mbtmp3.6**/3**, MS4.4**/5**, Ms1 4.4**/5**, ms1mx3.7**/20**, Error ellipse: s-maj=152.6km s-min=28.6km az=59.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.80**	**123**	P	P	22 48 32.1	-1.7
	0.7nm,0.5s,baz=301,slow=9.2,SNR=8.0						
JNU	**Nakatsue**	**43.91**	**43**	LR	LR	23 10 22.2	
	comp=Z,536nm,19.5s,baz=229,slow=41						
MKAR	**Makanchi Array**	**45.12**	**346**	P	P	22 48 42.3	-1.9
	0.6nm,0.4s,baz=157,slow=8.5,SNR=17						
SONM	**Songino Array**	**45.31**	**9**	P	P	22 48 43.8	-1.8
	0.2nm,0.4s,baz=190,slow=8.8,SNR=2.8						
CBIJ	**Chichi jima**	**49.80**	**57**	LR	LR	23 07 29.1	
	comp=Z,526nm,20.2s,baz=131,slow=33						
MJAR	**Matsushiro Arr**	**50.82**	**44**	LR	LR	23 09 50.7	
	comp=Z,484nm,21.9s,baz=225,slow=35						
HNR	**Honiara**	**64.57**	**102**	LR	LR	23 18 51.1	
	comp=Z,123nm,19.0s,baz=146,slow=36						

*MOS **14** 22:53:45.2±1.1, 10.56N×122.65E, h33km, mb5.2/35, MS4.4/8, Error ellipse: s-maj=14.6km s-min=6.6km az=117.4*

*MAN **14** 22:53:47.3, 10.64N×122.48E, h26km, mb5.6, ML4.7, MS5.0*

MAN INTENSITY V ILOILO CITY INTENSITY IV BACOLOD CITY INTENSITY III DUMAGUETE INTENSITY II METRO CEBU.

*BJI **14** 22:53:47.5, 10.38N×122.66E, h71km, mB4.9, mb4.7, Ms4.4, Msz4.3*

*IDC **14** 22:53:47.7±6.3, 10.55N×122.52E, h36km±53km, mb4.4/21, mb1 4.4/22, mb1mx4.4/24, mbtmp4.6/22, ML3.8/1, MS4.2/15, Ms1 4.2/15, ms1mx4.2/19, Error ellipse: s-maj=25.0km s-min=11.3km az=79.0*

*HRVD **14** 22:53:49.5±0.3, 10.66N×122.45E, h36km±1km, MW5.1/56, Centroid moment Tensor Solution. LP body waves: s29,c49;Mantle waves: s56,c108; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.11±.24; $M_{\theta\theta}$4.42±.16; $M_{\phi\phi}$-2.30±.23; $M_{r\theta}$-1.13±.19; $M_{\theta\phi}$-3.33±.12; $M_{\phi r}$-2.48±.25; Best double couple: $M_0$5.758×10^{16} NP1: ϕ_s331°,δ64°,λ-27°. NP2:ϕ_s74°,δ65°,λ-151°. Principal axes: T 5.792, Plg1°, Azm202°; N -.058, Plg53°, Azm111°; P -5.724, Plg37°, Azm293°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **14** 22:53:49.5±0.9, 10.53N×122.60E, h57km±8km, mb5.0/42, MS4.5/4 Error ellipse: s-maj=7.1km s-min=4.5km az=74.0*

NEIC Felt [V PIVS] at Iloilo and [II PIVS] at Anini-y and Roxas City. Felt [IV PIVS] at Bacolod and [III PIVS] at Dumaguete, Negros. Also felt [II PIVS] at Cebu City, Mandaue City and Minglanilla, Cebu.

ISC 14 22:53:47.0±0.2**, 10.60N**±0.02×**122.45E**±0.02**, h33km, (h49km**±7.8km**:pP-P), n211, σ1.24**/244**, mb4.8**/74**, MS4.2**/30**, 12C-17D, Panay**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.14**	**80**	eP	**P**	**22 53 52.9**	**-0.2**
GUIM				eS	**S**	**22 53 56.9**	**-0.5**
AAP	**Anini-y**	**0.53**	**250**	⇑iP	**P**	**22 54 00.3**	**+2.4**
AAP				i S	**S**	**22 54 10.8**	**+5.0**
RCP	**Roxas**	**1.00**	**17**	⇑eP	**P**	**22 54 03.9**	**-0.9**
RCP				eS	**S**	**22 54 19.1**	**+1.3**
KALP	**Kalibo**	**1.08**	**354**	⇑eP	**P**	**22 54 07.8**	**+2.0**
CUYO	**Cuyo Island**	**1.43**	**280**	eP	**P**	**22 54 12.0**	**+1.2**
CUYO				eS	**S**	**22 54 29.9**	**+1.3**
SNPH	**Sibulan**	**1.47**	**148**	⇑iP	**P**	**22 54 12.3**	**+0.8**
SNPH				i S	**S**	**22 54 33.0**	**+3.2**
TBP	**Tagbilaran**	**1.66**	**123**	eP	**P**	**22 54 15.3**	**+1.1**
TBP				i S	**S**	**22 54 35.6**	**+1.0**
OTRP	**Odiongan**	**1.80**	**347**	eP	**P**	**22 54 17.0**	**+0.8**
OTRP				eS	**S**	**22 54 39.9**	**+1.8**
SJMP	**San Jose**	**2.26**	**325**	eP	**P**	**22 54 23.3**	**+0.6**
SJMP				eS	**S**	**22 54 50.9**	**+1.1**
MSLP	**Maasin**	**2.42**	**101**	eP	**P**	**22 54 25.9**	**+0.9**
MSLP				eS	**S**	**22 54 55.5**	**+1.7**
PLP	**Palo**	**2.55**	**77**	eP	**P**	**22 54 26.9**	**0.0**
BUSP	**Coron**	**2.61**	**303**	eP	**P**	**22 54 28.1**	**+0.4**
BUSP				eS	**S**	**22 54 59.0**	**+0.4**
AUQP	**San Andres**	**2.71**	**5**	eP	**P**	**22 54 30.7**	**+1.4**
AUQP				eS	**S**	**22 55 03.5**	**+2.2**
IPIL	**Ipil**	**2.80**	**177**	eP	**P**	**22 54 31.9**	**+1.4**
IPIL				eS	**S**	**22 55 05.5**	**+2.1**
CNP	**Catarman**	**2.88**	**49**	eP	**P**	**22 54 31.4**	**-0.3**
CNP				eS	**S**	**22 55 05.5**	**-0.1**
PAGZ	**Pagadian**	**2.89**	**161**	eP	**P**	**22 54 33.7**	**+2.0**
PAGZ				eS	**S**	**22 55 10.9**	**+5.2**
BOAC	**Boac**	**2.90**	**348**	eP	**P**	**22 54 37.0**	**+5.0**
BOAC				eS	**S**	**22 55 07.7**	**+1.6**
ENPP	**El Nido**	**3.03**	**282**	eP	**P**	**22 54 34.0**	**+0.3**
ENPP				eS	**S**	**22 55 05.7**	**-3.6**
CGP	**Cagayan de Oro**	**3.08**	**134**	⇑eP	**P**	**22 54 33.5**	**-1.0**
CGP				i S	**S**	**22 55 13.4**	**+2.9**
BESP	**Borongan**	**3.10**	**71**	eP	**P**	**22 54 34.3**	**-0.5**
BESP				eS	**S**	**22 55 12.7**	**+1.6**
PGP	**Puerto Galera**	**3.23**	**333**	⇑eP	**P**	**22 54 38.3**	**+1.6**
GQP	**Guinayangan**	**3.28**	**360**	⇓eP	**P**	**22 54 38.4**	**+1.0**
GQP				eS	**S**	**22 55 15.9**	**+0.1**
BUTP	**Butuan**	**3.52**	**117**	eP	**P**	**22 54 41.5**	**+0.7**
BUTP				eS	**S**	**22 55 22.9**	**+1.0**
BUKP	**Musuan**	**3.74**	**136**	eP	**P**	**22 54 44.8**	**+1.0**
BUKP				eS	**S**	**22 55 20.0**	**-7.4**
LBPH	**Los Banos**	**3.74**	**341**	eP	**P**	**22 54 44.8**	**+0.9**
PPR	**Puerto Princes**	**3.75**	**258**	⇓iP	**P**	**22 54 45.6**	**+1.6**
LUBP	**Lubang**	**3.79**	**326**	eP	**P**	**22 54 45.1**	**+0.7**
LUBP				eS	**S**	**22 55 30.1**	**+1.6**
CTBH	**Cotabato--PC H**	**3.80**	**152**	⇑eP	**P**	**22 54 46.0**	**+1.3**
CTBH				i S	**S**	**22 55 33.2**	**+4.3**
ARP	**Angono**	**4.11**	**342**	eP	**P**	**22 54 49.6**	**+0.5**
POLP	**Polilio Island**	**4.13**	**353**	eP	**P**	**22 54 51.5**	**+2.1**
KCP	**Kidapawan**	**4.42**	**144**	⇓eP	**P**	**22 55 02.4**	**+8.9**
NZB	**Bigte**	**4.43**	**343**	eP	**P**	**22 54 54.9**	**+1.2**
BIPH	**Bislig**	**4.55**	**122**	⇓iP	**P**	**22 54 55.8**	**+0.5**
BIPH				i S	**S**	**22 55 49.3**	**+1.5**
NBP	**Mount Natib**	**4.57**	**335**	eP	**P**	**22 54 55.9**	**+0.3**
BATP	**Bataraza**	**4.92**	**249**	eP	**P**	**22 55 01.4**	**+0.8**
BALP	**Baler**	**5.18**	**351**	eP	**P**	**22 55 05.6**	**+1.3**
BOLP	**Bolinao**	**6.25**	**337**	eP	**P**	**22 55 22.8**	**+3.5**
CAUP	**Cauayan**	**6.33**	**355**	eP	**P**	**22 55 21.9**	**+1.4**
CVP	**Callao Caves**	**7.09**	**355**	eP	**P**	**22 55 32.5**	**+1.5**
APYP	**Conner**	**7.31**	**351**	eP	**P**	**22 55 37.2**	**+3.0**
KKM	**Kota Kinabalu**	**7.65**	**234**	eP	**P**	**22 55 40.4**	**+1.5**
KKM	**Kota Kinabalu**	**7.65**	**234**	P	**P**	**22 55 40.8**	**+1.9**
TSM	**Tawau**	**7.73**	**216**	P	**P**	**22 55 41.0**	**+1.0**
BBP	**Basco**	**9.79**	**357**	eP	**P**	**22 56 08.2**	**-0.5**
YHNB	**Yeheng**	**14.03**	**356**	eP	**P**	**22 57 05.7**	**0.0**
QZH	**Quanzhou**	**14.73**	**346**	P	**P**	**22 57 16.4**	**+1.5**
QZH				AMB	AMB		
	comp=Z,570nm,4.4s						
QZH				LR	LR		
	comp=N,610nm,13.2s						
QZH				LR	LR		
	comp=E,550nm,12.6s						
QZH				LR	LR		
	comp=Z,1μm,19.4s						
QIZ	**Qiongzhong**	**14.78**	**306**	P	**P**	22 57 15.3	-0.3
QIZ				AMB	AMB		
	comp=Z,27nm,1.5s						
QIZ				AMB	AMB		
	comp=Z,247nm,7.7s						
QIZ				LR	LR		
	comp=N,645nm,17.7s						
QIZ				LR	LR		
	comp=E,1μm,16.7s						
QIZ				LR	LR		
	comp=Z,2μm,18.9s						
QIZ	**Qiongzhong**	**14.78**	**306**	eP	**P**	**22 57 16.8**	**+1.1**
	comp=Z,86nm,1.0s						
QIZ				e		22 57 23.8	
KSM	**Kuching**	**15.09**	**234**	eP	**P**	**22 57 21.4**	**+1.8**
KSM				e		22 57 27.1	
GZH	**Guangzhou**	**15.16**	**326**	P	**P**	**22 57 23.6**	**+3.1**
GZH				S	**S**	**23 00 19.3**	**+11**
GZH				LR	LR		
	comp=N,985nm,17.4s						
GZH				LR	LR		
	comp=E,892nm,14.9s						
GZH				LR	LR		
	comp=Z,2μm,20.5s						
JOW	**Kunigami**	**17.06**	**18**	P	**P**	**22 57 45.4**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=189,slow=9.3,SNR=8.5						
JOW				LR	LR	23 03 47.2	
	comp=Z,1μm,20.2s,baz=166,slow=35						
SSE	**Sheshan**	**20.43**	**357**	P	**P**	**22 58 24.4**	**+0.2**
SSE				S	**S**	**23 02 05.4**	**-0.8**
SSE				AMB	AMB		
	comp=Z,53nm,0.8s						
SSE				AMB	AMB		
	comp=Z,262nm,8.3s						
SSE				LR	LR		
	comp=N,139nm,14.2s,MS3.8						
SSE				LR	LR		
	comp=E,229nm,14.1s,MS3.8						
SSE				LR	LR		
	comp=Z,179nm,15.5s,MS3.5						
SSE	**Sheshan**	**20.43**	**357**	P	**P**	**22 58 24.4**	**+0.2**
	comp=Z,53nm,0.8s						
SSE				pP		22 58 30.1	
SSE				sP		22 58 32.9	
SSE				S	**S**	**23 02 05.4**	**-0.8**
SSE				sS		23 02 14.6	
SSE				PcP	PcP	23 02 42.9	+7.3
SSE				LR	LR		
	comp=Z,180nm,15.5s,MS3.5						
KGM	**Kluang**	**20.82**	**247**	P	**P**	**22 58 30.5**	**+2.1**
WHN	**Wuhan**	**21.22**	**340**	eP	**P**	**22 58 31.5**	**-0.9**
WHN				S	**S**	**23 02 22.0**	**+0.5**
WHN				LR	LR		
	comp=N,2μm,20.4s,MS4.5						
WHN				LR	LR		
	comp=E,900nm,17.0s,MS4.5						
WHN				LR	LR		
	comp=Z,2μm,20.1s,MS4.6						
NJ2	**Nanjing**	**21.60**	**352**	eP	**P**	**22 58 36.8**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,60nm,1.2s,mb4.9						
NJ2				LR	LR		
	comp=N,1μm,26.4s						
NJ2				LR	LR		
	comp=E,3μm,33.8s						
NJ2				LR	LR		
	comp=Z,700nm,28.6s,MS3.9						
GYA	**Guiyang**	**21.70**	**319**	⇑iP	**P**	**22 58 37.9**	**+0.7**
GYA				PP	PP	22 59 08.4	+6.0
GYA				S	**S**	**23 02 37.9**	**+7.5**
GYA				XS		23 02 57.0	
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,150nm,4.2s						
GYA				LR	LR		
	comp=N,650nm,16.2s,MS4.3						
GYA				LR	LR		
	comp=E,710nm,17.4s,MS4.3						
GYA				LR	LR		
	comp=Z,550nm,16.2s,MS4.0						
IPM	**Ipoh**	**22.05**	**256**	P	**P**	**22 58 43.0**	**+2.3**
NANT	**Nan**	**22.54**	**294**	⇓P	**P**	**22 58 46.0**	**+0.3**
	comp=Z,275nm,0.5s,mb5.9						
ENH	**Enshi**	**22.99**	**330**	eP	**P**	**22 58 49.7**	**-0.3**
	comp=Z,36nm,1.1s,mb4.7						
KMI	**Kunming**	**23.62**	**310**	⇓P	**P**	**22 58 57.5**	**+1.3**
KMI				XS		23 03 32.3	
KMI				AMB	AMB		
	comp=Z,40nm,2.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,355nm,3.1s						
KMI				LR	LR		
	comp=N,362nm,17.9s,MS4.1						
KMI				LR	LR		
	comp=E,420nm,18.9s,MS4.1						
KMI				LR	LR		
	comp=Z,613nm,19.7s,MS4.1						
KMI	**Kunming**	**23.62**	**310**	⇓P	**P**	**22 58 57.5**	**+1.3**
KMI				*PP		22 59 06.5	
KMI				*SP		22 59 10.1	
KMI						22 59 38.8	
KMI				pmax	pmax		
	comp=Z,40nm,2.0s,mb4.5						
KMI				MLR	MLR		
	comp=Z,610nm,19.7s,MS4.1						
KMI	**Kunming**	**23.62**	**310**	⇓P	**P**	**22 58 57.5**	**+1.3**
	comp=Z,40nm,2.0s,mb4.5						
KMI				pP		22 59 06.5	
KMI				sP		22 59 10.1	
KMI				PP	PP	22 59 38.8	+10
KMI				PPP	PPP	22 59 47.3	+8.2
KMI				S	**S**	**23 03 17.1**	**+12**
KMI				sS		23 03 32.3	
KMI				ScP		23 06 02.6	
KMI				PcS		23 06 08.1	
KMI				LR	LR		
	comp=Z,610nm,19.7s,MS4.1						
BDT	**Bhumibol Dam**	**23.68**	**289**	P	**P**	**22 58 55.5**	**-1.3**
JNU	**Nakatsue**	**23.72**	**18**	P	**P**	**22 58 56.8**	**-0.3**
	comp=Z,16nm,1.0s,mb4.4						
JNU				LR	LR	23 07 15.9	
	comp=Z,521nm,21.4s,MS4.0,baz=334,slow=34						
CHG	**Chiang Mai**	**24.13**	**292**	⇓P	**P**	**22 59 01.6**	**+0.4**
	comp=Z,21nm,1.0s,mb4.5						
CBIJ	**Chichi jima**	**24.80**	**46**	P	**P**	**22 59 06.2**	**-1.5**
	comp=Z,74nm,0.9s,mb5.2,baz=202,slow=19,SNR=4.6						
CBIJ				LR	LR	23 07 08.6	
	comp=Z,494nm,19.0s,MS4.0,baz=182,slow=32						
KAKA	**Kakadu**	**25.20**	**157**	eP	**P**	**22 59 07.5**	**-4.0**
	comp=Z,20nm,0.6s,mb4.8						
TIA	**Tai'an**	**25.95**	**350**	eP	**P**	**22 59 16.8**	**-1.6**
TIA				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.4						
XAN	**Xi'an**	**26.41**	**334**	P	**P**	**22 59 20.6**	**-2.1**
XAN				S	**S**	**23 03 47.3**	**-4.6**
XAN				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.3						
XAN				LR	LR		
	comp=N,200nm,19.5s,MS4.0						
XAN				LR	LR		
	comp=E,354nm,20.6s,MS4.0						
XAN				LR	LR		
	comp=Z,938nm,23.3s,MS4.3						
CD2	**Chengdu**	**26.63**	**322**	eP	**P**	**22 59 23.0**	**-1.7**
CD2				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.5						
KS15	**Wonju Array Si**	**27.17**	**10**	eP	**P**	**22 59 28.9**	**-0.7**
JHJ	**Hachijo jima 2**	**27.50**	**33**	LR	LR	23 08 40.6	
	comp=Z,306nm,19.3s,MS3.9,baz=117,slow=32						
FITZ	**Fitzroy Crossi**	**28.69**	**174**	eP	**P**	**22 59 40.7**	**-2.8**
	comp=Z,7.7nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**28.69**	**174**	P	**P**	**22 59 40.3**	**-3.1**
	comp=Z,19nm,1.0s,mb4.8,baz=30,slow=5.0,SNR=6.5						
FITZ				LR	LR	23 13 14.4	
	comp=Z,239nm,20.9s,MS3.8,baz=294,slow=41						
MJAR	**Matsushiro Arr**	**29.50**	**26**	P	**P**	**22 59 47.0**	**-3.5**
	comp=Z,0.6nm,0.3s,mb3.8,baz=216,slow=11,SNR=5.3						
MJAR				LR	LR	23 09 51.0	
	comp=Z,536nm,21.8s,MS4.1,baz=220,slow=33						
LZH	**Lanzhou**	**30.46**	**329**	eP	**P**	**22 59 58.9**	**-0.2**
LZH				S	**S**	**23 04 50.0**	**-6.7**
LZH				AMB	AMB		
	comp=Z,44nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,162nm,4.2s						
LZH				LR	LR		
	comp=E,965nm,13.5s						
LZH				LR	LR		
	comp=Z,1μm,17.0s,MS4.7						
LZH	**Lanzhou**	**30.46**	**329**	eP	**P**	**22 59 58.9**	**-0.2**
LZH				*SP	sP	23 00 06.3	-6.8
LZH				S	**S**	**23 04 50.0**	**-6.7**
LZH				pmax	pmax		
	comp=Z,44nm,1.5s,mb5.0						
LZH				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.7						
LZH	**Lanzhou**	**30.46**	**329**	eP	**P**	**22 59 58.9**	**-0.2**
	comp=Z,44nm,1.5s,mb5.0						
LZH				pP	pP	23 00 03.0	-5.7
LZH				sP	sP	23 00 06.3	-6.8
LZH				PP	PP	23 00 53.1	-6.2
LZH				S	**S**	**23 04 50.0**	**-6.7**
LZH				sS		23 04 57.0	
LZH				SS	SS	23 06 18.2	-20
LZH				LR	LR		
	comp=Z,1μm,17.0s,MS4.7						
HHC	**Hu-ho-hao-te**	**31.62**	**344**	⇓iP	**P**	**23 00 08.8**	**-0.5**
HHC				AP	pP	23 00 22.8	+3.9
HHC				XP	sP	23 00 31.3	+8.0
HHC				PP	PP	23 01 21.5	+7.2
HHC				PCP	PcP	23 02 56.3	-4.8
HHC				S	**S**	**23 05 16.5**	**+1.6**
HHC				XS		23 05 45.3	
HHC				SCP		23 06 33.3	
HHC				SS	SS	23 07 11.6	+6.4
HHC				SCS	ScS	23 10 30.6	-6.4
HHC				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,92nm,10.8s						
HHC				LR	LR		
	comp=N,451nm,21.6s,MS4.3						
HHC				LR	LR		
	comp=E,516nm,21.6s,MS4.3						
HHC				LR	LR		
	comp=Z,600nm,20.4s,MS4.3						
MBWA	**Marble Bar**	**31.67**	**185**	eP	**P**	**23 00 06.5**	**-3.4**
	comp=Z,14nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**32.53**	**159**	eP	**P**	**23 00 12.5**	**-4.9**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**32.53**	**159**	eP	**P**	**23 00 12.5**	**-4.8**
	comp=Z,10nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**32.53**	**159**	P	**P**	**23 00 12.8**	**-4.6**
	comp=Z,4.5nm,0.5s,mb4.6,baz=340,slow=9.3,SNR=46						
SHL	**Shillong**	**32.53**	**301**	⇓iP	**P**	**23 00 16.5**	**-0.9**
WB2	**Warramunga Arr**	**32.54**	**159**	eP	**P**	**23 00 12.4**	**-5.1**
MDJ	**Mudanjiang**	**34.45**	**9**	P	**P**	**23 00 32.9**	**-0.8**
MDJ				AP	pP	23 00 54.3	+11
MDJ				PP	PP	23 01 54.9	+4.9
MDJ				S	**S**	**23 05 54.5**	**-4.3**
MDJ				SS	SS	23 08 07.4	-3.0
MDJ				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,56nm,3.5s						
MDJ				LR	LR		
	comp=N,194nm,23.1s,MS4.2						
MDJ				LR	LR		
	comp=E,535nm,26.1s,MS4.2						
MDJ				LR	LR		
	comp=Z,478nm,19.1s						
MDJ	**Mudanjiang**	**34.45**	**9**	eP	**P**	**23 00 33.0**	**-0.7**
	comp=Z,38nm,1.2s,mb5.2						

Code	Station	Δ°	AZ°	Op	ISC	Time	Res
LSA	**Lhasa**	**34.81**	**308**	P	**P**	**23 00 37.6**	**+0.6**
LSA	**Lhasa**	**34.81**	**308**	*e*P	**P**	**23 00 37.6**	**+0.6**
LSA				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.1						
LSA	**Lhasa**	**34.81**	**308**	*e*P	**P**	**23 00 37.6**	**+0.6**
	comp=Z,29nm,1.1s,mb5.1						
GTA	**Gaotai**	**35.06**	**329**	*e*P	**P**	**23 00 38.4**	**-0.6**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.5						
GTA				AMB	AMB		
	comp=Z,125nm,5.1s						
GTA				LR	LR		
	comp=N,381nm,17.5s,MS4.4						
GTA				LR	LR		
	comp=E,627nm,21.1s,MS4.4						
GTA				LR	LR		
	comp=Z,1µm,19.6s,MS4.6						
ASAJ	**Asahikawa**	**37.67**	**24**	P	**P**	**23 01 00.8**	**-0.2**
	comp=Z,6.6nm,0.4s,mb4.7,baz=227,slow=14,SNR=5.4						
GUN	**Gumba**	**38.38**	**302**	*e*P	**P**	**23 01 07.6**	**+0.5**
	comp=Z,405nm,1.0s						
CTA	**Charters Tower**	**38.46**	**142**	P	**P**	**23 01 06.0**	**-1.8**
	comp=Z,4.3nm,0.9s,mb4.2,baz=320,slow=7.5,SNR=3.8						
CTAO	**Charters Tower**	**38.46**	**142**	P	**P**	**23 01 05.3**	**-2.5**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
CTAO	**Charters Tower**	**38.46**	**142**	P	**P**	**23 01 05.3**	**-2.5**
	comp=Z,4.9nm,0.8s,mb4.3						
VIS	**Vishakhapatnam**	**38.52**	**285**	*i* P	**P**	**23 01 09.8**	**+1.4**
HIA	**Hailar**	**38.61**	**357**	*e*P	**P**	**23 01 06.9**	**-1.8**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HIA	**Hailar**	**38.61**	**357**	*e*P	**P**	**23 01 06.9**	**-1.8**
	comp=Z,5.9nm,0.6s,mb4.5						
PKI	**Pulchoki**	**38.66**	**301**	*e*P	**P**	**23 01 09.4**	**0.0**
	comp=Z,184nm,1.0s,mb5.8						
PKI	**Pulchoki**	**38.66**	**301**	*e*P	**P**	**23 01 09.4**	**0.0**
PKI				pmax	pmax		
	comp=Z,92nm,1.0s,mb5.5						
KKN	**Kakani**	**38.84**	**301**	*e*P	**P**	**23 01 10.9**	**0.0**
	comp=Z,196nm,1.0s,mb5.8						
KKN	**Kakani**	**38.84**	**301**	*e*P	**P**	**23 01 10.9**	**0.0**
KKN				pmax	pmax		
	comp=Z,98nm,1.0s,mb5.5						
DMN	**Daman**	**38.93**	**301**	*e*P	**P**	**23 01 11.7**	**+0.1**
	comp=Z,184nm,0.9s,mb5.8						
KLR	**Kul'dur**	**39.28**	**10**	*e*P	**P**	**23 01 10.6**	**-3.7**
KLR				*e*		23 02 52.5	
KLR				*e*S	**S**	**23 07 07.5**	**-5.2**
KLR				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.7						
GKN	**Gorkha**	**39.45**	**301**	*e*P	**P**	**23 01 15.8**	**-0.1**
	comp=Z,148nm,1.0s,mb5.7						
SONM	**Songino Array**	**39.50**	**343**	P	**P**	**23 01 15.9**	**-0.2**
	comp=Z,29nm,0.9s,mb5.0,baz=160,slow=9.6,SNR=174						
SONM				LR	LR	23 19 08.4	
	comp=Z,551nm,18.8s,MS4.4,baz=338,slow=38						
YSS	**Yuzh-Sakhalins**	**40.11**	**22**	*e*P	**P**	**23 01 21.0**	**-0.2**
KOLN	**Koldanda**	**40.25**	**301**	*e*P	**P**	**23 01 22.7**	**+0.1**
	comp=Z,180nm,0.9s,mb5.8						
CIT	**Chita**	**41.93**	**352**	*e*P	**P**	**23 01 35.9**	**-0.3**
CIT				*e*		23 01 43.5	
HNR	**Honiara**	**42.28**	**117**	LR	LR	23 16 27.9	
	comp=Z,169nm,19.3s,MS3.9,baz=138,slow=32						
ZAK	**Zakamensk**	**42.70**	**342**	⇓*i*P	**P**	**23 01 41.9**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
HYB	**Hyderabad**	**43.05**	**284**	*e*P	**P**	**23 01 46.0**	**+0.2**
HYB	**Hyderabad**	**43.05**	**284**	*i* P	**P**	**23 01 46.0**	**+0.2**
LGTI	**Lohaghat**	**43.56**	**302**	*e*P	**P**	**23 01 49.3**	**-0.5**
NWAO	**Narrogin (SRO)**	**43.57**	**186**	*e*P	**P**	**23 01 48.1**	**-1.7**
NWAO				pmax	pmax		
	comp=Z,28nm,0.9s						
NWAO	**Narrogin (SRO)**	**43.57**	**186**	P	**P**	**23 01 49.2**	**-0.7**
	comp=Z,23nm,0.7s,mb5.0,baz=9.9,slow=8.3,SNR=12						
NWAO	**Narrogin (SRO)**	**43.57**	**186**	*e*P	**P**	**23 01 48.1**	**-1.8**
	comp=Z,28nm,0.9s,mb5.0						
TLY	**Talaya**	**43.74**	**343**	*e*P	**P**	**23 01 50.6**	**-0.4**
TLY				*e*S	**S**	**23 08 17.1**	**-1.5**
TLY				pmax	pmax		
	comp=Z,50nm,1.5s,mb5.0						
WMQ	**Urumqi**	**44.70**	**324**	*e*P	**P**	**23 01 58.6**	**-0.2**
WMQ				AP	pP	23 02 14.0	+5.3
WMQ				XP	sP	23 02 21.3	+8.5
WMQ				PP	PP	23 03 44.9	+0.7
WMQ				S	**S**	**23 08 30.8**	**-1.7**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,74nm,4.4s						
WMQ				LR	LR		
	comp=N,662nm,17.0s,MS4.7						
WMQ				LR	LR		
	comp=E,448nm,16.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,541nm,17.8s,MS4.5						
DDI	**Dehra Dun**	**45.63**	**302**	*e*P	**P**	**23 02 06.0**	**-0.4**
STKA	**Stephens Creek**	**46.04**	**157**	*e*P	**P**	**23 02 07.8**	**-1.9**
	comp=Z,8.3nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**46.04**	**157**	P	**P**	**23 02 06.9**	**-2.8**
	comp=Z,2.4nm,0.6s,mb4.3,baz=330,slow=13,SNR=6.7						
SDNR	**Sundarnagar**	**46.85**	**303**	*e*P	**P**	**23 02 16.0**	**0.0**
POO	**Poona**	**47.57**	**285**	⇑*i*P	**P**	**23 02 21.0**	**-0.9**
AJM	**Ajmer**	**47.71**	**296**	⇓*i*P	**P**	**23 02 22.0**	**-0.8**
THN	**Thein Dam**	**48.13**	**304**	*e*P	**P**	**23 02 23.8**	**-2.3**
MKAR	**Makanchi Array**	**49.53**	**324**	P	**P**	**23 02 35.2**	**-1.4**
	comp=Z,6.7nm,0.9s,mb4.7,baz=127,slow=8.1,SNR=28						
MKAR				LR	LR	23 25 19.5	
	comp=Z,266nm,20.7s,MS4.2,baz=267,slow=38						
MKAR	**Makanchi Array**	**49.53**	**324**	P	**P**	**23 02 35.2**	**-1.4**
MKAR				LR	LR	23 25 19.5	
PET	**Petropavlovsk**	**51.33**	**27**	*e*P	**P**	**23 02 49.2**	**-1.0**
PET				*e*S	**S**	**23 09 58.1**	**-7.6**
PET				pmax	pmax		
	comp=Z,100nm,7.0s						
PET				pmax	pmax		
	comp=Z,21nm,1.8s,mb4.8						
PET				smax			
	comp=N,100nm,16.8s						
TKM2	**Tokmak 2**	**51.83**	**317**	P	**P**	**23 02 54.1**	**-0.1**
	SNR=8.5						
KBK	**Karagaybulak**	**52.16**	**316**	P	**P**	**23 02 56.8**	**+0.2**
	SNR=11						
UCH	**Uchtor**	**52.29**	**316**	P	**P**	**23 02 58.3**	**+0.7**
	SNR=21						
CHMS	**Chumysh**	**52.43**	**317**	P	**P**	**23 02 57.7**	**-0.9**
	SNR=14						
AAK	**Ala-Archa**	**52.46**	**316**	*e*P	**P**	**23 02 58.1**	**-0.8**
AAK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
AAK	**Ala-Archa**	**52.46**	**316**	*e*P	**P**	**23 02 58.1**	**-0.8**
	comp=Z,11nm,1.0s,mb4.8						
USP	**Ospenovka**	**52.71**	**317**	P	**P**	**23 03 00.3**	**-0.4**
	SNR=20						
AML	**Almayashu**	**52.82**	**315**	P	**P**	**23 03 02.2**	**+0.7**
	SNR=14						
EKS2	**Erkin-Say**	**52.96**	**316**	P	**P**	**23 03 02.4**	**-0.3**
	SNR=12						
KURK	**Kurchatov**	**53.70**	**327**	*e*P	**P**	**23 03 06.4**	**-1.6**
KURK				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.2						
KURK	**Kurchatov**	**53.70**	**327**	*e*P	**P**	**23 03 06.4**	**-1.5**
	comp=Z,38nm,1.3s,mb5.2						
NVS	**Novosibirsk**	**53.86**	**333**	*e*P	**P**	**23 03 06.0**	**-3.1**
NVS				pmax	pmax		
	comp=N,16nm,1.1s						
NVS				pmax	pmax		
	comp=E,14nm,1.1s						
NVS				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
DZM	**Mont Dzumac**	**54.00**	**127**	P	**P**	**23 03 08.3**	**-2.3**
	comp=Z,3.8nm,0.8s,mb4.4,baz=294,slow=19,SNR=4.3						
BRVK	**Borovoye**	**59.35**	**326**	*e*P	**P**	**23 03 46.6**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
BRVK	**Borovoye**	**59.35**	**326**	*e*P	**P**	**23 03 46.6**	**-1.7**
	comp=Z,16nm,1.0s,mb5.0						
ZRNK	**Zerenda**	**60.01**	**326**	*e*P	**P**	**23 03 50.7**	**-2.1**
ZRNK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
ZRNK	**Zerenda**	**60.01**	**326**	*e*P	**P**	**23 03 50.7**	**-2.1**
	comp=Z,16nm,0.9s,mb5.0						
TIXI	**Tiksi**	**61.13**	**2**	*e*P	**P**	**23 03 54.6**	**-5.6**
TIXI				pmax	pmax		
	comp=Z,21nm,1.3s,mb5.1						
BILL	**Bilibino**	**64.14**	**17**	*e*P	**P**	**23 04 13.5**	**-6.6**
BILL				*e*		23 04 49.5	
BILL				*e*		23 06 35.4	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
SVE	**Sverdlovsk**	**65.92**	**328**	⇓*i*P	**P**	**23 04 30.0**	**-1.8**
SVE				*e*	pP	23 04 40.0	-2.1
SVE				*e*		23 04 57.8	
SVE				pmax	pmax		
	comp=Z,60nm,1.7s,mb5.3						
SVE				MLR	MLR		
	comp=N,100nm,14.0s						
SVE				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.2						
ARU	**Arti**	**66.90**	**327**	⇓*i*P	**P**	**23 04 35.8**	**-2.1**
ARU				*e*		23 05 08.8	
ARU				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
ARU	**Arti**	**66.90**	**327**	*e*P	**P**	**23 04 35.7**	**-2.2**
	comp=Z,7.0nm,0.6s,mb4.9						
GNI	**Garni**	**73.87**	**309**	*e*P	**P**	**23 05 20.9**	**+0.3**
GNI				pmax	pmax		
	comp=Z,62nm,1.6s						
GNI	**Garni**	**73.87**	**309**	*e*P	**P**	**23 05 20.9**	**+0.3**
	comp=Z,62nm,1.6s,mb5.3						
ZEI	**Tsey**	**74.49**	**311**	*e*P	**P**	**23 05 18.6**	**-5.5**
ZEI				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0						
ONI	**Oni**	**74.82**	**311**	P	**P**	**23 05 26.0**	**-0.1**
KIV	**Kislovodsk**	**75.37**	**313**	*d* *i*P	**P**	**23 05 28.3**	**-0.8**
KIV				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3						
KIV				MLR	MLR		
	comp=N,96nm,19.0s,MS4.3						
KIV				MLR	MLR		
	comp=E,92nm,19.0s,MS4.3						
KIV				MLR	MLR		
	comp=Z,125nm,19.0s,MS4.2						
KIV	**Kislovodsk**	**75.37**	**313**	*e*P	**P**	**23 05 28.5**	**-0.6**
	comp=Z,36nm,0.9s,mb5.3						
CASY	**Casey**	**77.17**	**185**	*e*P	**P**	**23 05 36.4**	**-2.5**
	comp=Z,8.3nm,0.7s,mb4.8						
MALT	**Malatya**	**78.85**	**307**	*e*P	**P**	**23 05 48.9**	**+0.2**
MALT				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
MALT	**Malatya**	**78.85**	**307**	*e*P	**P**	**23 05 48.9**	**+0.1**
	comp=Z,6.8nm,1.0s,mb4.5						
OBN	**Obninsk**	**79.03**	**324**	*e*P	**P**	**23 05 44.5**	**-4.9**
OBN				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
OBN				MLR	MLR		
	comp=Z,300nm,23.0s,MS4.6						
MCK	**McKinley**	**79.97**	**27**	*e*P	**P**	**23 05 52.5**	**-1.7**
MCK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
MCK	**McKinley**	**79.97**	**27**	*e*P	**P**	**23 05 52.5**	**-1.7**
	comp=Z,6.4nm,0.7s,mb4.7						
SML	**Sawmill**	**80.38**	**29**	*e*P	**P**	**23 05 54.9**	**-1.6**
DIV	**Divide**	**81.67**	**29**	*e*P	**P**	**23 06 02.3**	**-0.9**
	comp=Z,26nm,0.7s,mb5.3						
BRTR	**Keskin Array B**	**82.41**	**309**	P	**P**	**23 06 06.9**	**-0.6**
	comp=Z,4.0nm,0.8s,mb4.4,baz=115,slow=5.3,SNR=22						
ARCES	**ARCESS Array B**	**82.57**	**339**	P	**P**	**23 06 07.0**	**-0.8**
	comp=Z,12nm,0.8s,mb5.0,baz=79,slow=6.2,SNR=19						
ARCES				LR	LR	23 45 09.3	
	comp=Z,155nm,21.1s,MS4.3,baz=206,slow=37						
ARCES	**ARCESS Array B**	**82.57**	**339**	P	**P**	**23 06 07.0**	**-0.8**
ARCES				LR	LR	23 45 09.3	
CSS	**Prodhromos**	**83.30**	**304**	*e*P	**P**	**23 06 10.2**	**-2.0**
	comp=Z,18nm,0.9s,mb5.1						
KAF	**Kangasniemi**	**83.58**	**332**	*e*p	**P**	**23 06 10.0**	**-3.0**
	comp=Z,4.8nm,0.9s,mb4.6						
KAF	**Kangasniemi**	**83.58**	**332**	*e*P	**P**	**23 06 10.0**	**-3.0**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
FINES	**FINESS Array B**	**83.81**	**331**	P	**P**	**23 06 12.6**	**-1.6**
	comp=Z,2.1nm,0.7s,mb4.4,baz=90,slow=3.8,SNR=14						
FINES				LR	LR	23 47 21.6	
	comp=Z,157nm,18.3s,MS4.4,baz=258,slow=38						
FINES	**FINESS Array B**	**83.81**	**331**	P	**P**	**23 06 12.6**	**-1.6**
FINES				LR	LR	23 47 21.6	
AKASG	**Malin Array Be**	**83.92**	**320**	P	**P**	**23 06 13.2**	**-1.8**
	comp=Z,2.4nm,0.6s,mb4.5,baz=71,slow=4.8,SNR=20						
INK	**Inuvik**	**85.35**	**21**	*e*P	**P**	**23 06 20.5**	**-1.2**
INK				pmax	pmax		
	comp=Z,37nm,1.0s						
INK	**Inuvik**	**85.35**	**21**	*e*P	**P**	**23 06 20.5**	**-1.2**
	comp=Z,37nm,1.0s,mb5.5						
KMBO	**Kilima Mbogo**	**85.48**	**268**	P	**P**	**23 06 24.4**	**+0.7**
	comp=Z,2.2nm,0.9s,mb4.3,baz=64,slow=6.6,SNR=6.5						
KMBO				LR	LR	23 40 03.6	
	comp=Z,168nm,19.4s,MS4.5,baz=275,slow=32						
VRI	**Vrincioaia**	**86.43**	**316**	⇓P	**P**	**23 06 28.0**	**+0.5**
SUW	**Suwalki**	**86.90**	**324**	P	**P**	**23 06 27.4**	**-2.2**
SUW				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.3						
SUW	**Suwalki**	**86.90**	**324**	P	**P**	**23 06 27.4**	**-2.2**
	comp=Z,17nm,0.8s,mb5.3						
MLR	**Muntele Rosu**	**87.04**	**316**	⇑P	**P**	**23 06 29.7**	**-0.8**
BURAR	**Bucovina Array**	**87.08**	**318**	⇑P	**P**	**23 06 31.1**	**+0.4**
BURAR	**Bucovina Array**	**87.08**	**318**	⇑P	**P**	**23 06 31.1**	**+0.4**
KWP	**Kalwaria**	**88.24**	**320**	*e*P	**P**	**23 06 35.6**	**-0.6**
KWP				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.0						
KWP	**Kalwaria**	**88.24**	**320**	*e*P	**P**	**23 06 35.6**	**-0.6**
	comp=Z,11nm,1.0s,mb5.0						
VNDA	**Vanda**	**90.75**	**172**	*e*P	**P**	**23 06 46.2**	**-1.3**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNDA	**Vanda**	**90.75**	**172**	P	**P**	**23 06 46.0**	**-1.5**
	comp=Z,3.0nm,0.8s,mb4.7,baz=308,slow=5.8,SNR=14						
VNDA	**Vanda**	**90.75**	**172**	*e*P	**P**	**23 06 46.2**	**-1.3**
	comp=Z,2.8nm,0.8s,mb4.6						
NB2	**NORSAR Subarra**	**90.78**	**333**	P	**P**	**23 06 45.8**	**-2.1**
	comp=Z,3.5nm,1.1s,mb4.6,baz=67,slow=4.6						
NB2	**NORSAR Subarra**	**90.78**	**333**	P	**P**	**23 06 45.8**	**-2.1**
NB2				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.7						
NOA	**NORSAR Array B**	**90.78**	**333**	P	**P**	**23 06 46.8**	**-1.1**
	comp=Z,0.9nm,0.7s,mb4.2,baz=66,slow=4.6,SNR=4.4						
NOA				LR	LR	23 52 12.6	
	comp=Z,166nm,20.4s,MS4.5,baz=60,slow=39						
PPT	**Papeete**	**91.25**	**108**	LR	LR	23 41 31.0	
	comp=Z,84nm,20.6s,MS4.2,baz=14,slow=31						
GERES	**GERESS Array B**	**94.10**	**321**	P	**P**	**23 07 02.5**	**-0.9**
	comp=Z,1.2nm,0.8s,mb4.4,baz=90,slow=4.0,SNR=12						
GERES				LR	LR	23 56 23.3	
	comp=Z,207nm,19.0s,MS4.6,baz=51,slow=40						
WET	**Wettzell**	**94.50**	**322**	*e*P	**P**	**23 07 04.2**	**-1.0**
WET				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.8						
WET	**Wettzell**	**94.50**	**322**	*e*P	**P**	**23 07 04.2**	**-1.0**
	comp=Z,6.0nm,1.6s,mb4.8						
MOX	**Moxa**	**94.68**	**323**	*e*P	**P**	**23 07 05.7**	**-0.3**
MOX				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.3						
MOX	**Moxa**	**94.68**	**323**	*i* P	**P**	**23 07 05.7**	**-0.3**
MOX				L		23 55 42.0	
CLZ	**Clausthal**	**94.93**	**325**	*e*P	**P**	**23 07 06.8**	**-0.3**
CLZ				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb5.0						
CLZ	**Clausthal**	**94.93**	**325**	*e*P	**P**	**23 07 06.8**	**-0.3**
	comp=Z,7.0nm,1.2s,mb5.0						
YKA	**Yellowknife Ar**	**94.96**	**23**	P	**P**	**23 07 06.1**	**-0.9**
	comp=Z,3.0nm,0.9s,mb4.7,baz=307,slow=4.5,SNR=7.3						
YKA	**Yellowknife Ar**	**94.96**	**23**	P	**P**	**23 07 06.1**	**-0.9**
GRA1	**Grafenberg Arr**	**95.29**	**323**	*e*P	**P**	**23 07 08.3**	**-0.5**
	comp=Z,8.0nm,1.4s,mb5.0						
GRA1				LR	LR		
	comp=Z,200nm,19.7s,MS4.6						
GRF	**Grafenberg Arr**	**95.29**	**323**	*e*P	**P**	**23 07 08.3**	**-0.5**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb5.0						
GRF				MLR	MLR		
	comp=Z,200nm,19.7s,MS4.6						
GRF	**Grafenberg Arr**	**95.29**	**323**	*e*P	**P**	**23 07 08.3**	**-0.5**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb5.0						
GRF				MLR	MLR		
	comp=Z,200nm,19.7s,MS4.6						
GRF	**Grafenberg Arr**	**95.29**	**323**	*e*P	**P**	**23 07 08.3**	**-0.5**
	comp=Z,8.0nm,1.4s,mb5.0						
GRF				LR	LR		
	comp=Z,200nm,19.7s,MS4.6						
TXAR	**Lajitas Array**	**120.40**	**47**	PKP	PKPdf	23 12 37.2	+1.4
	comp=Z,0.5nm,0.8s,slow=1.3,SNR=3.6						
TXAR	**Lajitas Array**	**120.40**	**47**	PKP	PKPdf	23 12 37.2	+1.4
PLCA	**Paso Flores**	**147.87**	**161**	PKPbc	PKPdf	23 13 29.2	+3.1
	comp=Z,3.7nm,0.9s,baz=208,slow=3.7,SNR=6.3						
PLCA	**Paso Flores**	**147.87**	**161**	PKPbc	PKPdf	23 13 29.2	+3.1

IGIL ***14*** *23:47:15.3, 37.00N×4.86W, h2km, ML3.4*
MDD ***14*** *23:47:15.8±0.3, 36.95N×4.95W, h17km±4km, mbLg3.1/17, Error ellipse: s-maj=4.1km s-min=2.8km az=171.0, PRXIMO*
NEIC ***14*** *23:47:15.9, 36.89N×4.95W, h11km, MN3.1(MDD), After MDD.*
CSEM ***14*** *23:47:15.7±0.1, 36.91N×4.95W, h8km, ML3.5/10, Error ellipse: s-maj=1.6km s-min=1.2km az=177.0*
SFS ***14*** *23:47:15.0, 36.89N×4.95W, h11km*
LDG ***14*** *23:47:16.7±0.3, 36.95N×4.95W, h10km, Ml3.2/4, Error ellipse: s-maj=7.7km s-min=3.3km az=169.0*
INMG ***14*** *23:47:16.6±1.3, 36.95N×4.94W, h14km±4km, ML3.1, Error ellipse: s-maj=2.5km s-min=1.8km az=14.0*
ISC 14 23:47:15.0±0.3, **37.15N**±0.02×**4.96W**±0.02, **h10km, n105,** σ**1.30**/183, **12C-3D, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.43**	**236**	⇑P	**Pg**	**23 47 23.0**	**-0.7**
LIJA				S	**Sg**	**23 47 28.1**	**-1.5**
LIJA	**Lijar**	**0.43**	**236**	*i* P	**Pg**	**23 47 23.0**	**-0.7**
EMIJ	**Mijas**	**0.60**	**166**	⇑Pg	**Pg**	**23 47 22.5**	**-4.6**
EMIJ				Lg		23 47 27.7	
EMIJ	**Mijas**	**0.60**	**166**	⇑Pg	**Pg**	**23 47 22.5**	**-4.6**
	32nm,0.3s,SNR=18						
EMIJ				Lg		23 47 27.7	
	1µm,0.3s,SNR=14						
ELOJ	**Sierra Loja**	**0.64**	**90**	⇓Pg	**Pg**	**23 47 28.3**	**+0.4**
	16nm,0.2s,SNR=18						
ELOJ				Lg		23 47 39.5	
	443nm,0.6s,SNR=35						
ELUQ	**Luque**	**0.69**	**53**	⇑Pg	**Pg**	**23 47 31.0**	**+2.2**
ELUQ				Lg		23 47 43.8	
ELUQ	**Luque**	**0.69**	**53**	⇑Pg	**Pg**	**23 47 31.0**	**+2.2**
	34nm,0.2s,SNR=18						
ELUQ				Lg		23 47 43.8	
	158nm,0.2s,SNR=10						
REAL	**Reales**	**0.69**	**197**	⇑P	**Pb**	**23 47 25.1**	**-3.5**
REAL				S	**Sb**	**23 47 33.0**	**-4.9**
REAL	**Reales**	**0.69**	**197**	*i* P	**Pb**	**23 47 25.1**	**-3.5**
REAL				*e*S	**Sb**	**23 47 33.0**	**-4.9**
ESPR	**Espera**	**0.77**	**249**	⇓Pg	**Pg**	**23 47 30.5**	**+0.1**
	40nm,0.3s,SNR=18						
ESPR				Lg		23 47 40.6	
	297nm,0.3s,SNR=6.4						
ESPR	**Espera**	**0.77**	**249**	Pg	**Pg**	**23 47 30.5**	**+0.1**
	40nm,0.3s,SNR=18						
ALJ	**Aljibe**	**0.83**	**222**	P	**Pb**	**23 47 30.4**	**-0.6**
ALJ				S	**Sb**	**23 47 42.0**	**0.0**
ALJ	**Aljibe**	**0.83**	**222**	*e*P	**Pb**	**23 47 30.4**	**-0.6**
ALJ				*i* S	**Sb**	**23 47 42.0**	**+0.1**
GIBL	**Gibalbin**	**0.87**	**249**	P	**Pb**	**23 47 33.0**	**+1.3**
GIBL				S	**Sb**	**23 47 45.7**	**+2.6**
GIBL	**Gibalbin**	**0.87**	**249**	*i* P	**Pb**	**23 47 33.0**	**+1.3**
GIBL				*e*S	**Sb**	**23 47 45.7**	**+2.6**
ERON	**Agron**	**0.93**	**98**	Pg	**Pg**	**23 47 33.0**	**-0.6**
	14nm,0.4s,SNR=23						
ERON				Lg		23 47 45.9	
	86nm,0.3s,SNR=17						
MOMI	**Momias**	**1.02**	**217**	P	**Pb**	**23 47 34.6**	**+0.4**
MOMI				S	**Sb**	**23 47 46.3**	**-1.2**
MOMI	**Momias**	**1.02**	**217**	*e*P	**Pb**	**23 47 34.6**	**+0.4**
MOMI				*e*S	**Sb**	**23 47 46.3**	**-1.2**
ECOG	**Cogollos-Vega**	**1.12**	**83**	Pg	**Pg**	**23 47 38.2**	**+0.8**
	9.1nm,0.2s,SNR=134						
ECOG				Lg		23 47 54.5	
	114nm,0.2s,SNR=5.0						
EGUA	**Guajares**	**1.16**	**105**	Pg	**Pg**	**23 47 36.6**	**-1.5**
EGUA				Lg		23 47 51.9	
EGUA	**Guajares**	**1.16**	**105**	Pg	**Pg**	**23 47 36.6**	**-1.5**
	5.1nm,0.3s,SNR=7.9						
EGUA				Lg		23 47 51.9	
	10nm,0.4s,SNR=4.0						
CNIL	**Conil**	**1.17**	**229**	P	**Pb**	**23 47 41.4**	**+4.5**
CNIL				S	**Sb**	**23 48 02.4**	**+10**
SFS	**San Fernando**	**1.21**	**236**	P	**Pb**	**23 47 40.6**	**+3.0**
SFS	**San Fernando**	**1.21**	**236**	*e*P	**Pb**	**23 47 40.6**	**+3.1**
EBAN	**Banos Encina**	**1.38**	**42**	⇑Pn	**Pn**	**23 47 42.3**	**+2.0**
EBAN				Pg	**Pg**	**23 47 43.9**	**+1.3**
EBAN				Sn	**Sn**	**23 48 02.6**	**+3.9**
EBAN				Lg		23 48 05.0	
EBAN	**Banos Encina**	**1.38**	**42**	⇑Pn	**Pn**	**23 47 42.3**	**+1.9**
	4.9nm,0.2s,SNR=18						
EBAN				Pg	**Pg**	**23 47 43.9**	**+1.3**
	108nm,0.4s,SNR=7.9						
EBAN				Sn	**Sn**	**23 48 02.6**	**+3.9**
	29nm,0.2s,SNR=18						
EBAN				Lg		23 48 04.9	
	135nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**1.38**	**42**	Pg	**Pg**	**23 47 43.9**	**+1.4**
	108nm,0.4s,SNR=7.9						
EBAN				Sn	**Sn**	**23 48 02.6**	**+3.9**
	29nm,0.2s,SNR=18						
EMIN	**Mina Concepcio**	**1.50**	**295**	⇓Pn	**Pn**	**23 47 42.5**	**+0.5**
	3.7nm,0.2s,SNR=18						
EMIN				Pg	**Pg**	**23 47 44.9**	**0.0**
	8.3nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**23 48 03.2**	**+1.5**
	24nm,0.3s,SNR=7.9						
EMIN				Lg		23 48 06.2	
	62nm,0.2s,SNR=18						
EMIN	**Mina Concepcio**	**1.50**	**295**	Pn	**Pn**	**23 47 42.5**	**+0.4**
	4.1nm,0.2s,SNR=18						
EMIN	**Mina Concepcio**	**1.50**	**295**	Pg	**Pg**	**23 47 44.9**	**0.0**
	7.6nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**23 48 03.2**	**+1.4**
	24nm,0.3s,SNR=7.9						
EQES	**Quesada**	**1.64**	**66**	⇑Pn	**Pn**	**23 47 45.5**	**+1.4**
	5.1nm,0.3s,SNR=18						
EQES				Pg	**Pg**	**23 47 47.6**	**-0.1**
	28nm,0.3s,SNR=7.9						
EQES				Lg		23 48 11.5	
	139nm,0.2s,SNR=13						
EQES	**Quesada**	**1.64**	**66**	Pn	**Pn**	**23 47 45.5**	**+1.4**
	5.1nm,0.3s,SNR=18						
EQES	**Quesada**	**1.64**	**66**	Pg	**Pg**	**23 47 47.6**	**-0.1**
	28nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.67**	**98**	Pg	**Pg**	**23 47 45.3**	**-3.1**
	40nm,0.3s,SNR=4.0						
EBER				Lg		23 48 08.4	
	96nm,0.4s,SNR=7.9						
EBER	**Berja**	**1.67**	**98**	Pg	**Pg**	**23 47 45.3**	**-3.1**
	40nm,0.3s,SNR=4.0						
EALB	**Alboran**	**1.96**	**127**	Pn	**Pn**	**23 47 45.8**	**-2.8**
	11nm,0.4s,SNR=4.0						
EALB				Pg	**Pg**	**23 47 48.7**	**-5.4**
	33nm,0.5s,SNR=4.0						
EALB				Lg		23 48 12.0	
	24nm,0.3s,SNR=7.9						
EALB	**Alboran**	**1.96**	**127**	Pn	**Pn**	**23 47 45.8**	**-2.9**
	11nm,0.4s,SNR=4.0						
EALB	**Alboran**	**1.96**	**127**	Pg	**Pg**	**23 47 48.7**	**-5.5**
	33nm,0.5s,SNR=4.0						
EHUE	**Huescar**	**2.00**	**70**	Pn	**Pn**	**23 47 50.1**	**+1.0**
EHUE				Pg	**Pg**	**23 47 54.0**	**-0.8**
EHUE				Lg		23 48 22.0	
EHUE	**Huescar**	**2.00**	**70**	Pn	**Pn**	**23 47 50.1**	**+1.0**
	1.1nm,0.3s,SNR=38						
EHUE				Pg	**Pg**	**23 47 54.0**	**-0.8**
	7.9nm,0.2s						
EHUE				Lg		23 48 22.0	
	25nm,0.2s,SNR=15						
EGRO	**El Granado**	**2.05**	**282**	⇑Pn	**Pn**	**23 47 49.6**	**-0.3**
	3.7nm,0.1s,SNR=18						
EGRO				Pg	**Pg**	**23 47 54.3**	**-1.6**
	6.1nm,0.1s,SNR=4.0						
EGRO				Sn	**Sn**	**23 48 16.0**	**+0.2**
	33nm,0.4s,SNR=7.9						
EGRO				Lg		23 48 22.3	
	118nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**2.05**	**282**	Pn	**Pn**	**23 47 49.6**	**-0.3**
	3.7nm,0.1s,SNR=18						
EGRO	**El Granado**	**2.05**	**282**	Pg	**Pg**	**23 47 54.3**	**-1.6**
	6.1nm,0.1s,SNR=4.0						
EGRO				Sn	**Sn**	**23 48 16.0**	**+0.2**
	33nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**2.21**	**94**	Pn	**Pn**	**23 47 52.3**	**+0.1**
ENIJ				Pg	**Pg**	**23 47 58.7**	**-0.4**
ENIJ				Lg		23 48 28.1	

ENIJ	**Nijar**	**2.21**	**94**	Pn	**Pn**	**23 47 52.3**	**+0.1**
	5.5nm,0.4s,SNR=7.9						
ENIJ				Pg	**Pg**	**23 47 58.7**	**-0.4**
	19nm,0.3s,SNR=9.2						
ENIJ				Lg		23 48 24.3	
	30nm,0.5s,SNR=4.0						
EBAD	**Badajoz**	**2.29**	**315**	⇑Pn	**Pn**	**23 47 54.2**	**+0.9**
	4.6nm,0.1s,SNR=18						
EBAD				Pg	**Pg**	**23 48 01.3**	**+0.7**
	5.5nm,0.1s,SNR=19						
EBAD				Sn	**Sn**	**23 48 24.1**	**+2.3**
	36nm,0.2s,SNR=8.8						
EBAD				Lg		23 48 32.1	
	51nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.29**	**315**	Pn	**Pn**	**23 47 54.2**	**+0.9**
	4.6nm,0.1s,SNR=18						
EBAD	**Badajoz**	**2.29**	**315**	Pg	**Pg**	**23 48 01.3**	**+0.7**
	5.5nm,0.1s,SNR=19						
EBAD				Sn	**Sn**	**23 48 24.1**	**+2.3**
	36nm,0.2s,SNR=8.8						
EVIA	**Vianos**	**2.45**	**52**	Pn	**Pn**	**23 47 57.3**	**+1.6**
	1.2nm,0.1s,SNR=7.9						
EVIA				⇑Pg	**Pg**	**23 48 02.8**	**-1.1**
	27nm,0.4s,SNR=18						
EVIA				Sn	**Sn**	**23 48 28.8**	**+2.9**
	38nm,0.6s,SNR=4.0						
EVIA				Lg		23 48 37.9	
	51nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**2.45**	**52**	Pg	**Pg**	**23 48 02.8**	**-1.1**
	27nm,0.4s,SNR=22						
EVIA				Sn	**Sn**	**23 48 28.8**	**+2.9**
	38nm,0.6s,SNR=4.0						
PBEJ	**Beja**	**2.47**	**292**	*e*Pn	**Pn**	**23 47 56.0**	**0.0**
PBEJ				*e*Sn	**Sn**	**23 48 26.9**	**+0.4**
	58nm,0.6s						
PBEJ	**Beja**	**2.47**	**292**	Pn	**Pn**	**23 47 56.2**	**+0.2**
PBEJ				Sn	**Sn**	**23 48 28.1**	**+1.6**
ESDC	**Sonseca Array**	**2.64**	**17**	Pn	**Pn**	**23 48 00.6**	**+2.2**
	13nm,0.1s,baz=196,slow=12,SNR=72						
ESDC				Pg	**Pg**	**23 48 07.5**	**-0.2**
	16nm,0.4s,baz=199,slow=17,SNR=9.7						
ESDC				Sn	**Sn**	**23 48 33.7**	**+2.9**
	6.7nm,0.2s,baz=194,slow=25,SNR=44						
ESDC				Lg		23 48 44.5	
	44nm,0.4s,baz=198,slow=27,SNR=14						
ESDC	**Sonseca Array**	**2.64**	**17**	Pn	**Pn**	**23 48 00.6**	**+2.2**
	13nm,0.1s,SNR=72						
ESDC	**Sonseca Array**	**2.64**	**17**	Pg	**Pg**	**23 48 07.5**	**-0.2**
	16nm,0.4s,SNR=9.7						
ESDC				Sn	**Sn**	**23 48 33.7**	**+2.9**
	6.7nm,0.2s,SNR=44						
ESLA	**Sonseca Array**	**2.64**	**17**	*e*Pn	**Pn**	**23 48 00.8**	**+2.3**
ESLA	**Sonseca Array**	**2.64**	**17**	*e*Pn	**Pn**	**23 48 00.8**	**+2.4**
EVO	**Evora**	**2.79**	**301**	*e*Pn	**Pn**	**23 48 01.5**	**+1.0**
EVO				*e*Pg	**Pg**	**23 48 10.0**	**-0.6**
EVO				*e*Sn	**Sn**	**23 48 36.9**	**+2.4**
EVO				*e*Sg	**Sg**	**23 48 48.2**	**+0.4**
	113nm,0.4s						
PTEO	**Sao Teotonio**	**3.03**	**279**	*e*Pn	**Pn**	**23 48 03.3**	**-0.6**
PTEO				*e*Sn	**Sn**	**23 48 39.9**	**-0.7**
PTEO				*e*Sg	**Sg**	**23 48 52.6**	**-3.2**
	54nm,0.5s						
ETOB	**Tobarra**	**3.08**	**60**	Pn	**Pn**	**23 48 05.1**	**+0.4**
	1.1nm,0.2s,SNR=30						
ETOB				Pg	**Pg**	**23 48 13.8**	**-2.8**
	7.3nm,0.2s						
ETOB				Sn	**Sn**	**23 48 43.8**	**+1.8**
	7.7nm,0.2s,SNR=5.0						
ETOB				Lg		23 48 56.7	
	48nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**3.08**	**60**	Pn	**Pn**	**23 48 05.1**	**+0.4**
	1.1nm,0.2s,SNR=30						
ETOB	**Tobarra**	**3.08**	**60**	Pg	**Pg**	**23 48 13.8**	**-2.8**
	7.3nm,0.2s						
ETOB				Sn	**Sn**	**23 48 43.8**	**+1.8**
	7.7nm,0.2s,SNR=5.0						
PCBR	**Castelo Branco**	**3.34**	**324**	*e*Pn	**Pn**	**23 48 09.2**	**+0.9**
PCBR				*e*Sn	**Sn**	**23 48 48.9**	**+0.4**
PCBR				*e*Sg	**Sg**	**23 49 04.8**	**-1.3**
	40nm,0.7s						
PCBR	**Castelo Branco**	**3.34**	**324**	Pn	**Pn**	**23 48 09.2**	**+0.9**
PCBR				Sn	**Sn**	**23 48 48.7**	**+0.2**
ALMR	**Almeirim**	**3.49**	**306**	*e*P	**Pn**	**23 48 11.4**	**+1.0**
ALMR				*e*S	**Sn**	**23 48 50.7**	**-1.5**
ALMR				*e*S	**Sn**	**23 48 50.7**	**-1.5**
ALMR				AML	AML	23 48 53.6	
	comp=N,106nm,0.6s						
PTOM	**Tomar**	**3.67**	**313**	*e*Pn	**Pn**	**23 48 13.3**	**+0.3**
PTOM				*e*Sn	**Sn**	**23 48 56.9**	**+0.1**
PTOM				*e*Sg	**Sg**	**23 49 13.8**	**-3.3**
	comp=N,45nm,0.7s						
PTOM	**Tomar**	**3.67**	**313**	Pn	**Pn**	**23 48 13.2**	**+0.2**
PTOM				Sn	**Sn**	**23 48 56.4**	**-0.4**
PLOU	**Loures**	**3.74**	**299**	*e*Sn	**Sn**	**23 48 58.8**	**+0.2**
	comp=N,62nm,0.6s						
PLOU	**Loures**	**3.74**	**299**	Sn	**Sn**	**23 48 58.7**	**+0.1**
MTE	**Manteigas**	**3.83**	**329**	*e*Pn	**Pn**	**23 48 15.9**	**+0.7**
MTE				*e*Sn	**Sn**	**23 49 01.9**	**+1.1**
	comp=N,83nm,0.5s						
ECHE	**Chera**	**3.97**	**51**	Pn	**Pn**	**23 48 18.2**	**+0.8**
	comp=N,1.1nm,0.2s,SNR=7.9						
ECHE				Pg	**Pg**	**23 48 32.5**	**-1.8**
	comp=N,4.1nm,0.3s,SNR=4.0						
ECHE				Lg		23 49 27.2	
	comp=N,6.2nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**4.05**	**66**	Pn	**Pn**	**23 48 19.0**	**+0.5**
	comp=N,0.8nm,0.2s,SNR=7.9						
EBEN				Pg	**Pg**	**23 48 32.6**	**-3.3**
	comp=N,2.3nm,0.3s,SNR=7.9						
EBEN				Lg		23 49 27.2	
	comp=N,14nm,0.5s,SNR=7.9						
EBEN	**Beniarda**	**4.05**	**66**	Pn	**Pn**	**23 48 19.0**	**+0.5**
	comp=N,0.8nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**4.05**	**66**	Pg	**Pg**	**23 48 32.6**	**-3.3**
	comp=N,2.3nm,0.3s,SNR=7.9						
PVIS	**Viseu**	**4.24**	**328**	*e*Pn	**Pn**	**23 48 22.2**	**+1.1**
PVIS				*e*Sn	**Sn**	**23 49 10.8**	**-0.4**
PVIS				*e*Sg	**Sg**	**23 49 34.8**	**-1.2**
	comp=N,29nm,0.6s						
PVIS	**Viseu**	**4.24**	**328**	Pn	**Pn**	**23 48 21.8**	**+0.7**
PVIS				Sn	**Sn**	**23 49 10.7**	**-0.5**
PVRL	**Vila Real**	**4.65**	**333**	*e*Pn	**Pn**	**23 48 27.3**	**+0.4**
PVRL				*e*Sn	**Sn**	**23 49 21.0**	**-0.6**
PVRL				*e*Sg	**Sg**	**23 49 49.5**	**-0.2**
	comp=N,23nm,0.4s						
PVRL	**Vila Real**	**4.65**	**333**	Pn	**Pn**	**23 48 27.9**	**+1.0**
PVRL				Sn	**Sn**	**23 49 20.3**	**-1.3**
PBRG	**Braganca**	**4.85**	**344**	*e*Pn	**Pn**	**23 48 30.9**	**+1.1**
PBRG				*e*Sn	**Sn**	**23 49 26.2**	**-0.6**
PBRG				*e*Sg	**Sg**	**23 49 54.2**	**-2.3**
	comp=N,19nm,0.6s						
PBRG	**Braganca**	**4.85**	**344**	Pn	**Pn**	**23 48 30.3**	**+0.5**
PBRG				Sn	**Sn**	**23 49 25.5**	**-1.3**
ECAL	**Calabor**	**4.98**	**345**	Pn	**Pn**	**23 48 33.0**	**+1.3**
ECAL				Sn	**Sn**	**23 49 30.2**	**+0.2**
ECAL				Lg		23 49 58.0	
ECAL	**Calabor**	**4.98**	**345**	Pn	**Pn**	**23 48 33.0**	**+1.3**
	comp=N,2.0nm,0.3s,SNR=8.3						
ECAL				Sn	**Sn**	**23 49 30.0**	**0.0**
	comp=N,6.4nm,0.3s,SNR=7.6						
ECAL				Lg		23 49 58.1	
	comp=N,35nm,0.4s,SNR=5.0						
ECAL	**Calabor**	**4.98**	**345**	Pn	**Pn**	**23 48 33.0**	**+1.3**
	comp=N,2.0nm,0.3s,SNR=8.3						
ECAL				Sn	**Sn**	**23 49 30.2**	**+0.2**
	comp=N,6.4nm,0.3s,SNR=7.6						
ELOB	**Lobios**	**5.29**	**334**	Pn	**Pn**	**23 48 35.9**	**-0.1**
	comp=N,0.4nm,0.2s,SNR=6.2						
ELOB				Sn	**Sn**	**23 49 36.4**	**-1.3**
	comp=N,3.0nm,0.3s,SNR=5.3						
ELOB				Lg		23 50 08.8	
	comp=N,9.5nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**5.29**	**334**	Pn	**Pn**	**23 48 35.9**	**-0.1**
	comp=N,0.4nm,0.2s,SNR=6.2						
ELOB				Sn	**Sn**	**23 49 36.4**	**-1.4**
	comp=N,3.0nm,0.3s,SNR=5.3						
ESAC	**San Caprasio**	**5.74**	**36**	Lg		23 50 24.2	
	comp=N,15nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**6.15**	**358**	Pn	**Pn**	**23 48 49.4**	**+1.3**
	comp=N,0.6nm,0.3s,SNR=7.9						
EARI				Sn	**Sn**	**23 49 56.1**	**-3.3**
	comp=N,0.8nm,0.3s,SNR=7.9						
EARI				Lg		23 50 39.2	
	comp=N,2.5nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**6.15**	**358**	Pn	**Pn**	**23 48 49.4**	**+1.3**
	comp=N,0.6nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**6.19**	**10**	Pn	**Pn**	**23 48 49.6**	**+0.9**
	comp=N,0.6nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**23 49 58.8**	**-1.5**
	comp=N,1.9nm,0.3s,SNR=7.9						
ELAN				Lg		23 50 39.3	
	comp=N,3.7nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**6.19**	**10**	Pn	**Pn**	**23 48 49.6**	**+0.9**
	comp=N,0.6nm,0.2s,SNR=7.9						
ELAN				Sn	**Sn**	**23 49 58.8**	**-1.5**
	comp=N,1.9nm,0.3s,SNR=7.9						
STS	**Santiago**	**6.36**	**335**	Lg		23 50 44.0	
	comp=N,10nm,0.8s,SNR=5.7						
EPON	**Pontenova**	**6.40**	**345**	Pn	**Pn**	**23 48 52.0**	**+0.4**
	comp=N,2.2nm,0.2s,SNR=8.7						
EPON				Sn	**Sn**	**23 50 01.7**	**-3.7**
	comp=N,1.8nm,0.3s,SNR=7.9						
EPON				Lg		23 50 46.0	
	comp=N,4.6nm,0.3s,SNR=4.7						
EPON	**Pontenova**	**6.40**	**345**	Pn	**Pn**	**23 48 52.0**	**+0.4**
	comp=N,2.2nm,0.2s,SNR=8.7						
EGRA	**Graus**	**6.48**	**37**	Pn	**Pn**	**23 48 51.6**	**-1.1**
	comp=N,0.6nm,0.2s,SNR=5.9						
SJPF	**Ste Jean**	**6.61**	**24**	*e*Pn	**Pn**	**23 48 54.5**	**-0.1**
SJPF				*e*Sn	**Sn**	**23 50 07.4**	**-3.4**
	comp=N,1.1nm,0.3s						
EALK	**Alkurruntz**	**6.62**	**22**	Pn	**Pn**	**23 48 54.4**	**-0.3**
EALK				Sn	**Sn**	**23 50 10.2**	**-0.8**
EALK	**Alkurruntz**	**6.62**	**22**	Pn	**Pn**	**23 48 54.4**	**-0.3**
	comp=N,0.0nm,0.0s,SNR=8.0						
EALK				Sn	**Sn**	**23 50 14.0**	**+3.0**
	comp=N,2.5nm,0.3s,SNR=4.0						
EALK	**Alkurruntz**	**6.62**	**22**	Sn	**Sn**	**23 50 10.2**	**-0.8**
ETSF	**Etsaut**	**6.66**	**29**	*e*Pn	**Pn**	**23 48 55.4**	**0.0**
ETSF				*e*Sn	**Sn**	**23 50 07.2**	**-4.9**
	comp=N,1.3nm,0.3s						
EPF	**Esparros**	**7.14**	**33**	*e*Pn	**Pn**	**23 49 01.7**	**-0.4**
EPF				*e*Sn	**Sn**	**23 50 19.2**	**-4.9**
	comp=N,3.1nm,0.3s						
LFF	**La Frestale**	**8.89**	**27**	*e*Pn	**P**	**23 49 25.2**	**-1.3**
CAF	**Calviac**	**9.41**	**32**	*e*Pn	**P**	**23 49 31.7**	**-1.9**
QUIF	**Quistinic**	**10.84**	**6**	*e*Pn	**P**	**23 49 51.6**	**-1.7**
SGMF	**Saint Gilles**	**11.24**	**8**	*e*Pn	**P**	**23 49 56.7**	**-2.0**
ROSF	**Rostrenen**	**11.25**	**6**	*e*Pn	**P**	**23 49 56.9**	**-2.0**

*IDC **15** 00:06:25.3±23.0, 11.46N×86.80W, mb3.7/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=444.8km s-min=61.5km az=0.0*

*CASC **15** 00:06:31.7±2.2, 11.51N×87.32W, h74^{km}±66^{km}, MD4.3, mb3.7(NEIC)*

*NEIC **15** 00:06:35.7±2.3, 11.46N×86.99W, h81^{km}±23^{km}, mb3.7/2, Error ellipse: s-maj=44.6km s-min=16.8km az=55.0*

ISC 15 00:06:30.6±1.0**, 11.39N**±0.08×**87.37W**±0.05**, h55**^{km}±10^{km}**, n28, σ0^{s}91**/36**, mb3.7**/5**, 11C-6D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.09**	**44**	⇓*e*P	**P**	**00 06 49.9**	**0.0**
COPN				*e*S	**S**	**00 07 04.1**	**-0.1**
LEON	**Leon**	**1.12**	**24**	⇑*i*P	**P**	**00 06 51.3**	**+1.0**
MIRN	**Miramar**	**1.22**	**31**	⇓*e*P	**P**	**00 06 52.2**	**+0.5**
XAVN	**Gruta Xavier**	**1.26**	**53**	⇑*e*P	**P**	**00 06 51.9**	**-0.4**
TEL3	**Telica 3**	**1.28**	**23**	⇑*e*P	**P**	**00 06 53.4**	**+0.9**
CNGN	**Cerro Negro**	**1.28**	**31**	⇑*e*P	**P**	**00 06 53.0**	**+0.4**
TICN	**Ticuantepe**	**1.28**	**60**	⇓*e*P	**P**	**00 06 52.2**	**-0.4**
MOMJ	**Momotombo**	**1.29**	**39**	⇑*e*P	**P**	**00 06 53.0**	**+0.2**
APYN	**Apoyeque**	**1.30**	**50**	⇑*e*P	**P**	**00 06 52.7**	**-0.2**
MGAN	**Managua**	**1.33**	**55**	⇑*e*P	**P**	**00 06 52.7**	**-0.6**
CRIN	**San Cristobal**	**1.33**	**13**	*e*P	**P**	**00 06 55.0**	**+1.5**
APON	**Apoyo**	**1.37**	**68**	⇓*e*P	**P**	**00 06 52.7**	**-1.3**
WILN	**Americas 2**	**1.38**	**56**	⇑*e*P	**P**	**00 06 53.6**	**-0.5**
PYTN	**Playitas**	**1.71**	**48**	⇑*e*P	**P**	**00 06 58.1**	**-0.5**
CONN	**Concepcion**	**1.71**	**84**	⇑*e*P	**P**	**00 06 56.9**	**-1.7**
CONN				*e*S	**S**	**00 07 21.5**	**+2.1**
CNCH	**Conchagua**	**1.93**	**346**	⇓*e*P	**P**	**00 07 01.4**	**-0.2**
CNCH				*e*S	**S**	**00 07 24.1**	**-0.6**
BLLM	**Bellamira**	**2.21**	**337**	*e*P	**P**	**00 07 05.0**	**-0.6**
BLLM				*e*S	**S**	**00 07 30.7**	**-1.0**
JTS	**JuntasAbangare**	**2.61**	**115**	*e*Pn	**P**	**00 07 11.6**	**+0.3**
LCBS	**La Ceiba**	**2.75**	**325**	*e*P	**P**	**00 07 13.1**	**-0.1**
LCBS				*e*S	**S**	**00 07 43.7**	**-1.7**
LFRS	**El Faro**	**2.77**	**323**	⇑*e*P	**P**	**00 07 13.9**	**+0.3**
LFRS				*e*S	**S**	**00 07 45.8**	**-0.1**
BOQS	**Boqueron**	**2.99**	**321**	*e*P	**P**	**00 07 17.2**	**+0.5**
BOQS				*e*S	**S**	**00 07 51.7**	**+0.3**
SBLS	**San Blas**	**3.28**	**318**	*e*P	**P**	**00 07 21.0**	**+0.2**
SBLS				*e*S	**S**	**00 07 59.0**	**+0.1**
RBDL	**Robledal**	**3.53**	**320**	⇓*e*P	**P**	**00 07 25.3**	**+1.1**
LRAL	**Lakeview Retre**	**21.54**	**1**	*e*P	**P**	**00 11 18.5**	**+1.5**
	5.4nm,1.0s,mb3.9						
TXAR	**Lajitas Array**	**23.45**	**322**	P	**P**	**00 11 39.8**	**+4.0**
	1.1nm,0.6s,mb3.5,baz=135,slow=10,SNR=19						
SAML	**Samuel**	**31.41**	**129**	*e*P	**P**	**00 12 47.6**	**-1.3**
	0.7nm,0.5s,mb3.8						
PDAR	**Pinedale Array**	**36.74**	**332**	P	**P**	**00 13 36.0**	**+1.7**
	0.5nm,0.7s,mb3.5,baz=121,slow=10,SNR=5.8						
SCHQ	**Schefferville**	**46.26**	**16**	P	**P**	**00 14 50.8**	**-1.4**
	0.9nm,0.5s,mb4.0,baz=212,slow=9.5,SNR=3.8						

MAN 15 00:12:52.2, 12.54N×123.54E, h1^{km}, mb4.5, ML3.3, MS3.2, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RCP	**Roxas**	**1.24**	**219**	⇑*i*P	Pb	00 13 15.8	-0.4
RCP				*e*S	Sb	00 13 32.2	-0.4
OTRP	**Odiongan**	**1.49**	**263**	*e*P	Pn	00 13 19.4	-0.9
GQP	**Guinayangan**	**1.73**	**322**	⇓*e*P	Pn	00 13 23.3	-0.3
GQP				*e*S	Sn	00 13 47.6	+1.0
GUIM	**Jordan**	**2.12**	**206**	*e*P	Pn	00 13 30.1	+0.9
GUIM				*e*S	Sn	00 14 00.1	+3.6
LLP	**Lapu-Lapu**	**2.25**	**169**	*e*P	Pn	00 13 31.1	+0.1
LLP				*e*S	Sn	00 14 00.5	+0.7
SJMP	**San Jose**	**2.37**	**268**	*e*P	Pn	00 13 33.7	+0.9
LBPH	**Los Banos**	**2.80**	**305**	⇓*i*P	Pn	00 13 38.9	-0.1
LBPH				*e*S	Sn	00 13 43.2	-31

WEL 15 00:37:01.0±0.4**, 36.56S×177.62E, h226**^{km}±3^{km}**, ML4.0**/3**, Error ellipse: s-maj=8.8km s-min=4.4km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.75**	**193**	PN	P	00 37 39.6	0.0
URZ				SN	S	00 38 08.7	-0.6
MWZ	**Matawai**	**1.78**	**182**	PN	P	00 37 39.5	-0.3
MWZ				SN	S	00 38 08.9	-0.8
KNZ	**Kokohu**	**2.46**	**179**	PN	P	00 37 46.1	-0.5
KNZ				SN	S	00 38 21.3	-0.6
MRZ	**Mangatainoka R**	**4.40**	**201**	PN	P	00 38 08.7	-0.6
TCW	**Tory Channel**	**5.33**	**208**	PN	P	00 38 19.8	-1.1
TCW				SN	S	00 39 23.0	-0.1
TCW				SN	S	00 39 23.0	0.0
KHZ	**Kahutara**	**6.65**	**207**	PN	P	00 38 36.5	-1.1
MQZ	**McQueen's Vall**	**8.09**	**207**	SN	S	00 40 24.2	-2.2

*MOS **15** 00:56:36.4±0.8, 51.54N×174.04W, h33^{km}, mb4.8/60, MS4.4/7, Error ellipse: s-maj=11.2km s-min=5.5km az=93.0*

*BJI **15** 00:56:37.5, 52.04N×174.68W, h18^{km}, mB4.7, mb4.8, Ms4.2, Msz4.0*

*NEIC **15** 00:56:39.4±0.3, 51.59N×174.11W, mb4.6/70, MS4.4/7, ML4.0(AEIC), Error ellipse: s-maj=7.5km s-min=3.1km az=180.0*

*IDC **15** 00:56:39.6±0.8, 51.66N×174.07W, h46^{km}±4^{km}, mb3.9/16, mb1 4.1/17, mb1mx4.0/22, mbtmp4.1/17, MS3.7/6, Ms1 3.7/6, ms1mx3.3/26, Error ellipse: s-maj=24.0km s-min=11.5km az=7.0*

ISC 15 00:56:37.4±0.3**, 51.47N**±0.06×**174.05W**±0.04**, h44**^{km}**, h44**^{km}±2.1^{km}**:pP-P, n260, σ0^{s}87**/253**, mb4.6**/96**, MS4.1**/15**, 12C-11D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.74**	**353**	P	**P**	**00 56 51.4**	**-0.1**
ATKA				S	**S**	**00 57 04.0**	**+2.2**
GSMY	**Great Sitkin M**	**1.37**	**296**	P	**P**	**00 57 00.5**	**-0.1**
GSTR	**Great Sitkin T**	**1.40**	**297**	P	**P**	**00 57 01.1**	**+0.2**
GSTD	**Great Sitkin T**	**1.43**	**295**	P	**P**	**00 57 01.5**	**+0.2**
GSTD				S	**S**	**00 57 23.0**	**+3.9**
ADAG	**Mount Adagdak**	**1.67**	**289**	P	**P**	**00 57 04.8**	**+0.1**
KIKV	**Kanaga Island**	**1.99**	**283**	P	**P**	**00 57 09.3**	**+0.2**
KIMD	**Kanaga Island**	**2.01**	**280**	P	**P**	**00 57 09.3**	**-0.2**
NIKO	**Nikolski**	**3.53**	**63**	P	**P**	**00 57 29.8**	**-1.4**
FX1	**Attu Island--F**	**7.99**	**285**	P	**P**	**00 58 33.8**	**+0.2**
FX1				S	**S**	**01 00 02.3**	**-1.3**
FX1				pmax	pmax		
	comp=Z,10.0nm,0.3s						
FX1				smax			
	comp=E,1.0nm,0.3s						
FX1	**Attu Island--F**	**7.99**	**285**	P	**P**	**00 58 33.8**	**+0.2**
	comp=E,9.5nm,0.3s,baz=189,slow=7.9,SNR=33						
FX1				S	**S**	**01 00 02.3**	**-1.3**
	comp=E,1.1nm,0.3s,baz=254,slow=21,SNR=1.7						
FX1	**Attu Island--F**	**7.99**	**285**	P	**P**	**00 58 29.2**	**-4.4**
RSO	**Redoubt South**	**14.88**	**45**	P	**P**	**01 00 05.2**	**-0.8**
SLKM	**Skilak Lake**	**16.03**	**46**	*e*P	**P**	**01 00 20.8**	**-0.1**
PET	**Petropavlovsk**	**16.75**	**286**	*i* P	**P**	**01 00 31.5**	**+1.5**
SML	**Sawmill**	**17.40**	**44**	*e*P	**P**	**01 00 36.5**	**-1.6**
MCK	**McKinley**	**18.06**	**38**	*e*P	**P**	**01 00 43.7**	**-2.6**
MCK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MCK	**McKinley**	**18.06**	**38**	*e*P	**P**	**01 00 43.7**	**-2.7**
	comp=Z,5.6nm,0.8s						
BILL	**Bilibino**	**19.19**	**337**	*i* P	**P**	**01 01 00.3**	**+0.6**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BILL				MLR	MLR		
	comp=Z,200nm,21.0s						
BILL	**Bilibino**	**19.19**	**337**	P	**P**	**01 00 57.1**	**-2.6**
	comp=Z,14nm,0.9s						
ILAR	**Eielson Array**	**19.36**	**36**	P	**P**	**01 00 57.6**	**-4.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR				MLR	MLR		
	comp=Z,128nm,19.3s						
ILAR	**Eielson Array**	**19.36**	**36**	P	**P**	**01 00 57.6**	**-4.1**
	comp=Z,0.9nm,0.3s,baz=241,slow=9.8,SNR=33						
ILAR				LR	LR	01 09 07.3	
	comp=Z,128nm,19.3s,baz=265,slow=39						
SEY	**Seymchan**	**21.22**	**316**	*e*P	**P**	**01 01 22.2**	**+1.1**
SEY				*e*		01 01 44.9	
SEY				*e*		01 05 48.3	
SEY				pmax	pmax		
	comp=N,10.0nm,0.8s						
SEY				pmax	pmax		
	comp=E,6.0nm,0.8s						
SEY				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.2						
MA2	**Magadan**	**21.28**	**306**	*e*P	**P**	**01 01 18.0**	**-3.8**
MA2				*e*S	**S**	**01 05 06.6**	**-4.1**
MA2				*e*		01 05 29.9	
MA2				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.0						
MA2	**Magadan**	**21.28**	**306**	P	**P**	**01 01 18.0**	**-3.8**
	comp=Z,7.8nm,0.6s,mb4.2						
INK	**Inuvik**	**25.70**	**34**	P	**P**	**01 02 03.2**	**-1.4**
INK						01 05 33.7	
INK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**25.70**	**34**	P	**P**	**01 02 03.1**	**-1.5**
	comp=Z,3.2nm,0.5s,mb4.1,baz=250,slow=7.5,SNR=23						
INK				PcP	PcP	01 05 33.7	-1.0
	comp=Z,1.1nm,0.7s,baz=22,slow=6.3,SNR=4.4						
INK				pPcP		01 05 49.0	
	comp=Z,0.9nm,0.5s,baz=97,slow=31,SNR=3.5						
INK	**Inuvik**	**25.70**	**34**	*e*P	**P**	**01 02 02.3**	**-2.3**
	comp=Z,8.6nm,0.7s,mb4.4						
DLBC	**Dease Lake**	**25.82**	**57**	P	**P**	**01 02 07.0**	**+1.2**
	comp=Z,1.2nm,0.5s,mb3.7,baz=293,slow=15,SNR=3.9						
DLBC	**Dease Lake**	**25.82**	**57**	P	**P**	**01 02 07.0**	**+1.1**
YSS	**Yuzh-Sakhalins**	**28.26**	**278**	*e*P	**P**	**01 02 29.0**	**+0.8**
YSS				*e*	pP	01 02 43.5	+3.6
ASAJ	**Asahikawa**	**29.68**	**273**	LR	LR	01 15 03.9	
	comp=Z,85nm,18.2s,MS3.4,baz=25,slow=37						
YKA	**Yellowknife Ar**	**33.00**	**47**	LR	LR	01 18 29.8	
	comp=Z,152nm,18.3s,MS3.7,baz=270,slow=40						
KLR	**Kul'dur**	**34.00**	**288**	*e*P	**P**	**01 03 14.0**	**-4.6**
NEW	**Newport**	**36.05**	**72**	*e*P	**P**	**01 03 37.6**	**+1.5**
NEW				pmax	pmax		
	comp=Z,17nm,0.9s						
NEW	**Newport**	**36.05**	**72**	P	**P**	**01 03 38.4**	**+2.3**
	comp=Z,4.3nm,0.8s,mb4.5,baz=321,slow=9.1,SNR=6.2						
NEW	**Newport**	**36.05**	**72**	*e*P	**P**	**01 03 37.6**	**+1.5**
	comp=Z,17nm,0.9s,mb5.0						
EDM	**Edmonton**	**36.15**	**63**	*e*P	**P**	**01 03 36.5**	**-0.4**
MDJ	**Mudanjiang**	**37.48**	**282**	P	**P**	**01 03 46.3**	**-1.9**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,61nm,4.9s						
MDJ				LR	LR		
	comp=N,48nm,19.4s,MS3.7						
MDJ				LR	LR		
	comp=E,115nm,19.0s,MS3.7						
MDJ				LR	LR		
	comp=Z,132nm,20.2s,MS3.7						
WALA	**Waterton Lakes**	**37.58**	**69**	*e*P	**P**	**01 03 48.8**	**-0.2**
	comp=Z,11nm,1.0s,mb4.6						
WVOR	**Wild Horse Val**	**38.06**	**81**	*e*P	**P**	**01 03 53.3**	**+0.2**
WVOR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
WVOR	**Wild Horse Val**	**38.06**	**81**	*e*P	**P**	**01 03 53.3**	**+0.2**
	comp=Z,6.5nm,0.9s,mb4.4						
MSO	**Missoula**	**38.62**	**72**	P	**P**	**01 03 58.3**	**+0.6**
	comp=Z,11nm,1.1s,mb4.5						
HRY	**Holter Researc**	**39.94**	**72**	P	**P**	**01 04 10.4**	**+1.8**
HLID	**Hailey**	**40.04**	**77**	*e*P	**P**	**01 04 09.1**	**-0.4**
	comp=Z,3.3nm,0.9s,mb4.1						
MCMT	**McKenzie Canyo**	**40.31**	**75**	*e*P	**P**	**01 04 11.3**	**-0.4**
CN2	**Changchun**	**40.44**	**284**	*e*P	**P**	**01 04 12.1**	**-0.7**
CN2				*e*XP	sP	01 04 26.1	-4.1
CN2				*e*S	**S**	**01 10 18.0**	**+0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CN2				LR	LR		
	comp=N,300nm,19.0s,MS4.2						
CN2				LR	LR		
	comp=E,200nm,19.0s,MS4.2						
CN2				LR	LR		
	comp=Z,200nm,19.0s,MS4.0						
BOZ	**Bozeman (W)**	**40.61**	**73**	*e*P	**P**	**01 04 14.2**	**0.0**
BOZ				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
BOZ	**Bozeman (W)**	**40.61**	**73**	*e*P	**P**	**01 04 14.2**	**0.0**
	comp=Z,8.5nm,0.9s,mb4.4						
HIA	**Hailar**	**40.99**	**294**	⇓*e*P	**P**	**01 04 16.6**	**-0.7**
ELK	**Elko**	**41.12**	**81**	P	**P**	**01 04 19.1**	**+0.7**
ELK				*PP	pP	01 04 32.4	+1.9
ELK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ELK	**Elko**	**41.12**	**81**	P	**P**	**01 04 19.1**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=239,slow=18,SNR=3.7						
ELK				pP	pP	01 04 32.4	+1.9
	comp=Z,1.9nm,0.7s,baz=284,slow=10,SNR=6.2						
ELK	**Elko**	**41.12**	**81**	*e*P	**P**	**01 04 18.6**	**+0.2**
QLMT	**Earthquake Lak**	**41.16**	**74**	P	**P**	**01 04 19.1**	**+0.3**
IMW	**Indian Meadow**	**41.96**	**75**	P	**P**	**01 04 25.9**	**+0.7**
	comp=Z,7.6nm,0.9s,mb4.3						
RRI2	**Red Ridge**	**42.04**	**76**	*e*P	**P**	**01 04 25.6**	**-0.3**
	comp=Z,14nm,0.8s,mb4.6						
LAO	**LASA Array**	**43.25**	**69**	P	**P**	**01 04 36.4**	**+0.7**
	comp=Z,9.1nm,0.9s,mb4.5						
BW06	**Boulder Array**	**43.43**	**75**	*e*P	**P**	**01 04 36.8**	**-0.5**
	comp=Z,11nm,0.8s,mb4.6						
PDAR	**Pinedale Array**	**43.43**	**75**	P	**P**	**01 04 37.3**	**0.0**
	comp=Z,1.4nm,0.5s,mb3.9,baz=311,slow=4.0,SNR=9.4						
PDAR				pP	pP	01 04 50.8	+1.3
	comp=Z,7.6nm,0.7s,baz=312,slow=5.3,SNR=26						
RSSD	**Black Hills**	**45.95**	**70**	*e*P	**P**	**01 04 58.4**	**+0.9**
RSSD				*e**PP	pP	01 05 09.5	-0.1
RSSD				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
RSSD	**Black Hills**	**45.95**	**70**	*e*P	**P**	**01 04 58.4**	**+1.0**
	comp=Z,9.1nm,1.1s,mb4.6						
RSSD				*e*pP	pP	01 05 09.5	-0.1
ULM	**Lac du Bonnet**	**47.12**	**59**	P	**P**	**01 05 06.2**	**-0.4**
	comp=Z,2.3nm,0.5s,mb4.3,baz=303,slow=6.4,SNR=3.7						
SONM	**Songino Array**	**49.24**	**299**	P	**P**	**01 05 22.8**	**-0.2**
	comp=Z,4.7nm,0.6s,mb4.7,baz=49,slow=7.9,SNR=48						

SONM PcP PcP 01 06 46.2 +0.4
comp=Z,1.1nm,0.8s,baz=51,slow=1.8,SNR=3.3
SONM pPcP 01 06 58.7
comp=Z,2.0nm,1.0s,baz=90,slow=2.5,SNR=5.0
SONM LR LR 01 27 18.5
comp=Z,100nm,19.9s,MS3.8,baz=254,slow=37
ZAK Zakamensk 49.42 303 ⇑*iP* **P 01 05 24.2 -0.2**
ZAK *e* 01 06 45.0
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
HHC Hu-ho-hao-te 50.50 289 *eP* **P 01 05 37.9 +5.1**
HHC SCP 01 10 46.0
HHC SCS ScS 01 15 20.5 +3.7
HHC AMB AMB
comp=Z,13nm,1.2s,mb4.7
HHC AMB AMB
comp=Z,72nm,12.0s
HHC LR LR
comp=N,117nm,18.0s,MS4.1
HHC LR LR
comp=E,109nm,18.0s,MS4.1
HHC LR LR
comp=Z,86nm,16.8s,MS3.8
BNM Barren Site 50.57 82 *eP* **P 01 05 33.2 -0.3**
SSE Sheshan 50.97 273 P **P 01 05 34.1 -2.4**
SSE AMB AMB
comp=Z,31nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,35nm,5.5s
SSE Sheshan 50.97 273 P **P 01 05 34.1 -2.4**
comp=Z,31nm,0.7s,mb5.3
NJ2 Nanjing 51.77 275 *eP* **P 01 05 43.3 +0.8**
NJ2 AP pP 01 05 53.4 -1.4
NJ2 XP sP 01 05 56.4 -3.6
NJ2 PCP PcP 01 06 56.4 +1.0
NJ2 S **S** **01 13 06.0 +6.2**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
NJ2 AMB AMB
comp=Z,110nm,6.2s
NJ2 LR LR
comp=N,100nm,10.2s,MS4.3
NJ2 LR LR
comp=E,130nm,10.4s,MS4.3
NJ2 LR LR
comp=Z,80nm,13.4s,MS3.9
MNTX Cornudas Mount 52.99 84 *eP* **P 01 05 50.7 -1.0**
comp=Z,47nm,1.0s,mb4.4
KSU1 Kansas State U 53.42 71 P **P 01 05 55.4 +0.7**
TXAR Lajitas Array 55.69 85 P **P 01 06 10.4 -1.0**
TXAR *PP pP 01 06 24.0 +0.1
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR pmax pmax
comp=Z,4.0nm,0.9s
TXAR Lajitas Array 55.69 85 P **P 01 06 10.4 -1.1**
comp=Z,0.7nm,0.7s,mb3.8,baz=292,slow=4.7,SNR=7.0
TXAR pP pP 01 06 24.0 +0.1
comp=Z,4.0nm,0.9s,baz=288,slow=2.9,SNR=16
TXAR Lajitas Array 55.69 85 P **P 01 06 10.4 -1.0**
TXAR pP pP 01 06 24.0 +0.1
CCM Cathedral Cave 57.26 69 P **P 01 06 21.7 -0.9**
CCM pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
CCM Cathedral Cave 57.26 69 P **P 01 06 21.7 -0.9**
comp=Z,6.1nm,1.0s,mb4.6
LZH Lanzhou 58.19 289 *eP* **P 01 06 29.4 +0.4**
LZH AP pP 01 06 37.4 -4.2
LZH XP sP 01 06 41.8 -4.9
LZH PP PP 01 08 39.0 -0.8
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,89nm,4.2s
LZH Lanzhou 58.19 289 *eP* **P 01 06 29.4 +0.4**
LZH *PP pP 01 06 37.4 -4.2
LZH *SP sP 01 06 41.7 -5.0
LZH 01 08 39.0
LZH pmax pmax
comp=Z,28nm,1.5s,mb5.1
LZH Lanzhou 58.19 289 *eP* **P 01 06 29.4 +0.4**
comp=Z,28nm,1.5s,mb5.1
LZH pP pP 01 06 37.4 -4.2
LZH sP sP 01 06 41.7 -5.0
LZH PP PP 01 08 39.0 -0.8
GTA Gaotai 58.26 295 *eP* **P 01 06 29.0 -0.5**
GTA AP pP 01 06 41.0 -1.1
GTA XP sP 01 06 44.3 -2.9
GTA PP PP 01 08 40.1 -0.3
GTA S **S** **01 14 26.3 -0.3**
GTA XS 01 14 43.9
GTA SS SS 01 18 21.0 +0.6
GTA AMB AMB
comp=Z,12nm,0.5s,mb5.2
GTA AMB AMB
comp=Z,81nm,4.8s
GTA LR LR
comp=N,83nm,16.9s,MS4.0
GTA LR LR
comp=E,75nm,17.0s,MS4.0
GTA LR LR
comp=Z,128nm,19.3s,MS4.0
ARCES ARCESS Array B 58.46 352 P **P 01 06 28.5 -2.0**
ARCES 01 07 19.9
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARCES MLR MLR
comp=Z,52nm,18.2s
ARCES ARCESS Array B 58.46 352 P **P 01 06 28.5 -2.0**
comp=Z,2.9nm,0.7s,mb4.4,baz=24,slow=7.5,SNR=16
ARCES PcP PcP 01 07 19.9 -0.6
comp=Z,3.4nm,0.6s,baz=18,slow=3.8,SNR=9.4
ARCES pPcP 01 07 33.6
comp=Z,4.9nm,0.7s,baz=346,slow=5.0,SNR=7.5
ARCES LR LR 01 36 49.3
comp=Z,52nm,18.2s,MS3.7,baz=74,slow=41
ARCES ARCESS Array B 58.46 352 P **P 01 06 28.5 -2.0**
ARCES PcP PcP 01 07 19.9 -0.6
ARCES pPcP 01 07 33.6
ARCES LR LR 01 36 49.3
ARE0 ARCESS Array S 58.46 352 P **P 01 06 28.5 -2.0**
KURK Kurchatov 61.07 316 *eP* **P 01 06 46.8 -1.8**
KURK pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
KURK Kurchatov 61.07 316 *eP* **P 01 06 46.8 -1.8**
comp=Z,9.2nm,0.6s,mb5.1
MKAR Makanchi Array 62.26 311 *eP* **P 01 06 55.3 -1.4**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 62.26 311 P **P 01 06 55.2 -1.5**
comp=Z,2.2nm,0.4s,mb4.6,baz=48,slow=5.7,SNR=64
MKAR LR LR 01 34 23.8
comp=Z,55nm,19.7s,MS3.7,slow=36
MKAR Makanchi Array 62.26 311 P **P 01 06 55.2 -1.5**
MKAR LR LR 01 34 23.8
BVA0 Borovoye Array 62.69 322 P **P 01 06 58.1 -1.4**
VOSK Vostochnaya 62.70 322 P **P 01 06 58.6 -0.9**
VOSK pmax pmax
comp=Z,2.0nm,1.0s,mb4.2
BRVK Borovoye 62.71 322 *eP* **P 01 06 57.8 -1.8**
BRVK pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
BRVK Borovoye 62.71 322 *eP* **P 01 06 57.8 -1.8**
comp=Z,0.8nm,0.6s,mb4.0
BINY Binghamton 62.81 56 *eP* **P 01 06 59.4 -1.1**
comp=Z,6.1nm,0.6s,mb4.9
LRAL Lakeview Retre 63.23 70 P **P 01 07 02.1 -1.2**
GYA Guiyang 63.26 279 P **P 01 07 04.5 +0.9**
GYA AP pP 01 07 14.8 -1.5
GYA XP sP 01 07 18.9 -2.4
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,70nm,2.9s,mb5.3
GYA LR LR
comp=N,210nm,17.8s,MS4.5
GYA LR LR
comp=E,240nm,17.0s,MS4.5
GYA LR LR

comp=Z,180nm,18.0s,MS4.3
ZRNK Zerenda 63.28 323 *eP* **P 01 07 01.5 -1.9**
ZRNK pmax pmax
comp=Z,90nm,0.8s
ZRNK Zerenda 63.28 323 *eP* **P 01 07 01.5 -1.9**
comp=Z,90nm,0.8s
FWV Forest Hill 63.53 62 *eP* **P 01 07 04.7 -0.5**
ELN Prospectdale 63.81 63 *eP* **P 01 07 06.6 -0.4**
BLA Blacksburg 64.01 62 *eP* **P 01 07 09.1 +0.8**
BLA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BLA Blacksburg 64.01 62 *eP* **P 01 07 09.1 +0.8**
comp=Z,9.7nm,0.9s,mb4.8
ARU Arti 64.04 331 ⇑*iP* **P 01 07 06.9 -1.2**
ARU *e* 01 07 42.1
ARU *e* 01 09 27.3
ARU *eS* **S** **01 15 43.0 +3.3**
ARU *eSS* SS 01 19 50.8 +0.4
ARU pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
KAF Kangasniemi 65.62 350 *ep* **P 01 07 15.6 -2.6**
comp=Z,4.0nm,0.6s,mb4.6,baz=10,slow=6.0
KAF Kangasniemi 65.62 350 *eP* **P 01 07 15.6 -2.6**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
FINES FINESS Array B 66.30 350 P **P 01 07 20.9 -1.7**
FINES *PP pP 01 07 34.8 -0.6
FINES 01 07 51.7
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 66.30 350 P **P 01 07 20.9 -1.7**
comp=Z,1.8nm,0.6s,mb4.3,baz=27,slow=4.3,SNR=10
FINES pP pP 01 07 34.8 -0.6
comp=Z,0.5nm,0.3s,baz=6.9,slow=5.2,SNR=2.8
FINES PcP PcP 01 07 51.6 -0.6
comp=Z,1.6nm,0.5s,baz=342,slow=4.4,SNR=7.6
KMI Kunming 66.64 281 P **P 01 07 25.9 +0.5**
KMI AMB AMB
comp=Z,5.0nm,0.5s,mb4.8
KMI Kunming 66.64 281 P **P 01 07 25.9 +0.5**
comp=Z,5.0nm,0.5s,mb4.8
NB2 NORSAR Subarra 67.77 357 P **P 01 07 31.0 -0.8**
comp=Z,0.9nm,0.8s,mb3.9,baz=5.0,slow=6.5
NB2 NORSAR Subarra 67.77 357 P **P 01 07 31.0 -0.8**
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
NOA NORSAR Array B 67.77 357 P **P 01 07 31.0 -0.8**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 67.77 357 P **P 01 07 30.9 -0.8**
comp=Z,0.9nm,0.7s,mb3.9,baz=4.6,slow=6.6,SNR=5.1
AAK Ala-Archa 69.04 313 ⇑*eP* **P 01 07 39.1 -1.0**
AAK Ala-Archa 69.04 313 *eP* **P 01 07 38.7 -1.4**
comp=Z,5.1nm,0.6s,mb4.6
AB31 Akbulak array 69.61 326 P **P 01 07 42.9 -0.5**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
LSA Lhasa 70.18 293 P **P 01 07 49.0 +1.8**
LSA Lhasa 70.18 293 *eP* **P 01 07 47.2 0.0**
LSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
LSA Lhasa 70.18 293 *eP* **P 01 07 47.2 0.0**
comp=Z,9.5nm,0.6s,mb4.9
KKAR Karatay Array 70.46 315 P **P 01 07 48.3 -0.4**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
OBN Obninsk 70.77 342 *iP* **P 01 07 49.1 -1.3**
OBN *e* 01 08 10.2
OBN pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GUN Gumba 74.54 295 *eP* **P 01 08 14.3 +1.2**
comp=Z,45nm,0.4s
BSEG Bad Segeberg 74.91 357 P **P 01 08 14.8 +0.2**
BSEG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BSEG Bad Segeberg 74.91 357 *eP* **P 01 08 14.8 +0.2**
KKN Kakani 74.97 296 *eP* **P 01 08 16.3 +0.8**
comp=Z,16nm,0.5s,mb5.2
KKN Kakani 74.97 296 *eP* **P 01 08 16.3 +0.8**
KKN pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
PKI Pulchoki 75.07 295 *eP* **P 01 08 16.8 +0.7**
comp=Z,45nm,1.0s,mb5.3
PKI Pulchoki 75.07 295 *eP* **P 01 08 16.8 +0.7**
PKI pmax pmax
comp=Z,22nm,1.0s,mb5.0
GKN Gorkha 75.17 296 *eP* **P 01 08 17.1 +0.4**
comp=Z,33nm,0.5s,mb5.5
DMN Daman 75.21 296 *eP* **P 01 08 17.7 +0.8**
comp=Z,35nm,0.9s,mb5.3
KOLN Koldanda 75.93 297 *eP* **P 01 08 21.4 +0.4**
comp=Z,26nm,0.9s,mb5.2
AKASG Malin Array Be 76.31 345 P **P 01 08 21.3 -1.4**
AKASG *PP pP 01 08 34.9 -0.7
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 76.31 345 P **P 01 08 21.3 -1.3**
comp=Z,3.2nm,0.4s,mb4.6,baz=17,slow=6.1,SNR=22
AKASG pP pP 01 08 34.9 -0.7
comp=Z,1.8nm,0.4s,baz=17,slow=5.9,SNR=6.2
CLZ Clausthal 77.00 357 P **P 01 08 26.8 +0.3**
CLZ pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
CLZ Clausthal 77.00 357 *eP* **P 01 08 26.8 +0.3**
comp=Z,7.0nm,0.7s,mb4.7
CLL Collm 77.43 355 *iP* **P 01 08 28.7 -0.2**
CLL *e* pP 01 08 41.0 -0.9
CLL pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
CLL Collm 77.43 355 *iP* **P 01 08 28.7 -0.2**
comp=Z,5.0nm,0.6s,mb4.6
CLL *e* pP 01 08 41.0 -0.9
CLL Collm 77.43 355 P **P 01 08 28.7 -0.2**
comp=Z,logA/T=0.9,mb4.6
CLL *e**PP pP 01 08 41.0 -0.9
BRG Berggiesshubel 77.81 355 *iP* **P 01 08 31.2 +0.2**
BRG *e* pP 01 08 44.0 0.0
BRG pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BRG pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
BRG Berggiesshubel 77.81 355 *iP* **P 01 08 31.2 +0.2**
comp=Z,6.9nm,0.7s,mb4.7
BRG *e* pP 01 08 44.0 0.0
UPC Upice 78.04 353 *eP* **P 01 08 32.2 -0.1**
UPC *ep*P pP 01 08 37.0 -8.3
PVCC Panska Ves 78.12 354 AMS AMS 01 42 20.0
comp=Z,200nm,21.4s
MOX Moxa 78.15 356 *eP* **P 01 08 33.2 +0.3**
MOX MLR MLR
comp=Z,900nm,18.0s,MS5.1
MOX Moxa 78.15 356 *iP* **P 01 08 33.2 +0.3**
MOX L 01 42 06.0
KWP Kalwaria 78.27 349 *eP* **P 01 08 33.7 +0.1**
KWP Kalwaria 78.27 349 *eP* **P 01 08 33.6 +0.1**
NKC Novy Kostel 78.53 356 *eP* **P 01 08 35.3 +0.3**
OKC Ostrava-Krasne 78.54 352 AMS AMS 01 42 20.0
comp=Z,200nm,22.9s
GOF Gofitskoye 78.66 334 *eP* **P 01 08 36.0 +0.2**
GOF pmax pmax
comp=Z,17nm,1.3s,mb4.8
PRU Pruhonice 78.66 354 *eP* **P 01 08 35.9 +0.2**
PRU *ep*P pP 01 08 42.7 -6.0
PRU AMS AMS 01 42 00.0
comp=Z,100nm,21.8s
TNS Taunus Mts 78.67 358 P **P 01 08 36.2 +0.4**
TNS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
TNS Taunus Mts 78.67 358 *eP* **P 01 08 36.2 +0.4**
comp=Z,6.0nm,0.8s,mb4.6
BAIF Baives 78.84 1 *eP* **P 01 08 37.0 +0.3**
GRA1 Grafenberg Arr 79.12 357 *eP* **P 01 08 38.8 +0.5**
comp=Z,13nm,0.6s,mb5.0
GRA1 *epP* pP 01 08 52.5 +1.2
GRA1 LR LR
comp=Z,100nm,21.6s,MS4.1
GRF Grafenberg Arr 79.12 357 P **P 01 08 38.8 +0.5**
GRF pmax pmax
comp=Z,13nm,0.6s,mb5.0

GRF Grafenberg Arr 79.12 357 *eP* **P 01 08 38.8 +0.5**
GRF *e**PP pP 01 08 52.5 +1.2
GRF pmax pmax
comp=Z,13nm,0.6s,mb5.0
GRF MLR MLR
comp=Z,100nm,21.6s,MS4.1
GRF Grafenberg Arr 79.12 357 *eP* **P 01 08 38.8 +0.5**
comp=Z,13nm,0.6s,mb5.0
GRF *epP* pP 01 08 52.5 +1.2
GRF LR LR
comp=Z,100nm,21.6s,MS4.1
KHC Kasperske Hory 79.57 355 *eP* **P 01 08 40.9 +0.2**
KHC *epP* pP 01 08 53.5 -0.2
KHC AMS AMS 01 42 40.0
comp=Z,200nm,16.2s
WET Wettzell 79.59 355 P **P 01 08 41.0 +0.2**
WET pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
WET Wettzell 79.59 355 *eP* **P 01 08 41.0 +0.2**
comp=Z,5.0nm,1.4s,mb4.2
KIV Kislovodsk 79.77 334 *iP* **P 01 08 43.4 +1.5**
KIV *e* 01 08 49.5
KIV pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
GEC2 GERESS Array S 79.85 355 P **P 01 08 42.4 +0.2**
GEC2 pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
GEC2 GERESS Array S 79.85 355 *eP* **P 01 08 42.4 +0.2**
comp=Z,4.0nm,1.0s,mb4.3
GERES GERESS Array B 79.85 355 P **P 01 08 42.0 -0.2**
GERES *PP pP 01 08 55.0 -0.2
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 79.85 355 P **P 01 08 42.0 -0.2**
comp=Z,1.6nm,0.6s,mb4.1,baz=18,slow=4.2,SNR=23
GERES pP pP 01 08 55.0 -0.2
comp=Z,1.2nm,0.8s,slow=2.7,SNR=4.3
BURAR Bucovina Array 79.92 347 ⇓P **P 01 08 43.0 +0.3**
BURAR Bucovina Array 79.92 347 ⇓P **P 01 08 43.0 +0.4**
FLN La Foliniere 80.00 4 *eP* **P 01 08 43.3 +0.3**
FLN *eR*
comp=Z,398nm,21.5s
LDF La Druitiere 80.18 4 *eP* **P 01 08 43.5 -0.5**
comp=Z,3.9nm,0.6s,mb4.2
LDF La Druitiere 80.18 4 *eP* **P 01 08 43.5 -0.5**
LDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ROSF Rostrenen 80.26 6 *eP* **P 01 08 44.4 0.0**
GRR Gorron 80.35 5 *eP* **P 01 08 44.7 -0.2**
comp=Z,5.5nm,0.7s,mb4.3
GRR Gorron 80.35 5 *eP* **P 01 08 44.7 -0.2**
GRR pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
SGMF Saint Gilles 80.39 6 *eP* **P 01 08 45.0 -0.1**
comp=Z,3.0nm,0.5s,mb4.2
SGMF Saint Gilles 80.39 6 *eP* **P 01 08 45.0 -0.1**
SGMF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
MEZF Maizieres J'vi 80.41 1 *eP* **P 01 08 44.9 -0.3**
CDF Champ du Feu 80.49 359 *eP* **P 01 08 45.8 +0.1**
comp=Z,6.9nm,0.6s,mb4.5
CDF Champ du Feu 80.49 359 *eP* **P 01 08 45.8 +0.1**
CDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BFO Black Forest 80.56 358 P **P 01 08 46.2 +0.2**
BFO pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BFO Black Forest 80.56 358 *eP* **P 01 08 46.2 +0.2**
comp=Z,5.0nm,0.9s,mb4.4
QUIF Quistinic 80.69 6 *eP* **P 01 08 46.7 0.0**
SOC Sochi 80.90 336 *eP* **P 01 08 47.0 -0.9**
SOC *eS* S 01 19 00.3 +8.5
SOC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SOC pmax pmax
comp=N,4.0nm,0.8s
SOC pmax pmax
comp=E,4.0nm,0.7s
HAU Haudompre 80.91 360 *eP* **P 01 08 48.0 +0.1**
comp=E,9.1nm,0.7s,mb4.5
HAU *eR*
comp=E,271nm,18.2s
HAU Haudompre 80.91 360 *eP* **P 01 08 48.0 +0.1**
HAU pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
HAU MLR MLR
comp=Z,270nm,18.3s,MS4.6
HINF Hinteralfeld 81.09 359 *eP* **P 01 08 48.8 0.0**
comp=Z,6.8nm,0.5s,mb4.5
HINF Hinteralfeld 81.09 359 *eP* **P 01 08 48.8 0.0**
HINF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ARSA Arzberg 81.32 353 ⇑*iP* **P 01 08 50.8 +0.8**
comp=Z,2.5nm,0.6s,mb4.3
MOTA Moosalm 81.47 356 ⇓*iP* **P 01 08 51.7 +0.9**
comp=Z,3.9nm,1.0s,mb4.3
MOTA Moosalm 81.47 356 ⇓*iP* **P 01 08 51.7 +0.9**
MOTA pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
WTTA Wattenberg 81.53 356 ⇓*iP* **P 01 08 51.0 -0.1**
comp=Z,9.3nm,1.2s,mb4.6
WTTA Wattenberg 81.53 356 ⇓*iP* **P 01 08 51.0 -0.1**
WTTA pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
LOR Lormes 81.63 1 *eP* **P 01 08 51.9 +0.3**
comp=Z,8.2nm,0.7s,mb4.5
LOR *eR*
comp=Z,289nm,23.0s
LOR Lormes 81.63 1 *eP* **P 01 08 51.9 +0.3**
LOR pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
LOR MLR MLR
comp=Z,290nm,23.0s,MS4.6
KBA Koelnbreinsper 81.63 355 ⇑*iP* **P 01 08 52.9 +1.2**
comp=Z,8.8nm,0.6s,mb4.9
KBA Koelnbreinsper 81.63 355 ⇑*iP* **P 01 08 52.9 +1.2**
KBA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
SSF Saint Saulge 81.83 2 *eP* **P 01 08 53.0 +0.3**
SSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SSF Saint Saulge 81.83 2 *eP* **P 01 08 53.0 +0.3**
comp=Z,5.3nm,0.8s,mb4.5
CFR Carcaliu 81.84 344 ⇑*iP* **P 01 08 53.7 +0.9**
MLR Muntele Rosu 81.89 346 ⇑*iP* **P 01 08 55.0 +2.0**
PERS Pernice 81.96 354 *eP* **P 01 08 53.8 +0.5**
OBKA Obir 82.12 354 ⇓*iP* **P 01 08 55.1 +0.9**
comp=Z,3.0nm,0.6s,mb4.4
MFF Saint Martin d 82.17 4 *eP* **P 01 08 54.8 +0.3**
comp=Z,7.8nm,1.0s,mb4.3
MFF Saint Martin d 82.17 4 *eP* **P 01 08 54.8 +0.3**
MFF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
SMF Signal de Mont 82.25 1 *eP* **P 01 08 55.1 +0.2**
comp=Z,8.3nm,0.8s,mb4.4
SMF Signal de Mont 82.25 1 *eP* **P 01 08 55.1 +0.2**
SMF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CABF La Chapelle 82.30 360 *eP* **P 01 08 55.7 +0.6**
comp=Z,18nm,0.9s,mb4.7
CABF La Chapelle 82.30 360 *eP* **P 01 08 55.7 +0.6**
CABF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BGF Bois d'Agland 82.32 2 *eP* **P 01 08 55.4 +0.2**
TIRR Tirgusor 82.50 344 ⇓P **P 01 08 57.0 +0.8**
TCF Toulx Ste Croi 82.57 3 *eP* **P 01 08 56.6 +0.1**
LPL La Plagne 83.39 359 *eP* **P 01 09 01.1 +0.4**
LPG La Plagne 83.41 359 *eP* **P 01 09 01.4 +0.6**
comp=Z,4.2nm,0.7s,mb4.3
LPG La Plagne 83.41 359 *eP* **P 01 09 01.4 +0.6**
LPG pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
RJF Les Rejaudoux 83.53 3 *eP* **P 01 09 01.6 +0.3**
RJF *eR*
comp=Z,238nm,20.2s
LFF La Frestale 83.87 4 *eP* **P 01 09 03.7 +0.7**
comp=Z,6.3nm,0.5s,mb4.7
LFF La Frestale 83.87 4 *eP* **P 01 09 03.7 +0.7**
LFF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
CAF Calviac 83.93 3 *eP* **P 01 09 03.5 +0.2**
comp=Z,12nm,1.2s,mb4.6
CAF Calviac 83.93 3 *eP* **P 01 09 03.5 +0.2**
CAF pmax pmax

comp=Z,6.0nm,1.2s,mb4.6
ORIF Oris-en-Rattie 84.00 0 *e*P **P** **01 09 04.3 +0.6**
comp=Z,4.8nm,0.6s,mb4.5
ORIF *e*R
comp=Z,157nm,17.8s
VIVF Saint-Julien-l 84.05 1 *e*P **P** **01 09 04.3 +0.3**
comp=Z,17nm,1.1s,mb4.8
VIVF Saint-Julien-l 84.05 1 *e*P **P** **01 09 04.3 +0.3**
VIVF pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
MBDF Montbardon 84.18 359 *e*P **P** **01 09 05.3 +0.7**
comp=Z,5.4nm,0.6s,mb4.5
MBDF Montbardon 84.18 359 *e*P **P** **01 09 05.3 +0.7**
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
WRAB Tennant Creek 84.19 228 P **P** **01 09 04.5 -0.8**
WRA Warramunga Arr 84.21 228 P **P** **01 09 04.9 -0.4**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 84.21 228 P **P** **01 09 04.9 -0.4**
comp=Z,0.5nm,0.5s,mb3.9,baz=34,slow=6.9,SNR=4.9
LASF Ste Croix 84.82 2 *e*P **P** **01 09 08.2 +0.4**
SMRF Simiane la Rot 84.94 0 *e*P **P** **01 09 08.8 +0.4**
comp=Z,26nm,1.1s,mb5.0
SBF Sospel 85.04 359 *e*P **P** **01 09 09.4 +0.5**
comp=Z,25nm,0.9s,mb5.1
SBF Sospel 85.04 359 *e*P **P** **01 09 09.4 +0.5**
SBF pmax pmax
comp=Z,12nm,0.9s,mb5.0
FRF La Foret Royal 85.35 359 *e*P **P** **01 09 10.7 +0.2**
comp=Z,14nm,0.8s,mb4.8
FRF La Foret Royal 85.35 359 *e*P **P** **01 09 10.7 +0.2**
FRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
MTLF Montolieu 85.52 3 *e*P **P** **01 09 11.8 +0.5**
comp=Z,6.8nm,0.8s,mb4.6
MTLF Montolieu 85.52 3 *e*P **P** **01 09 11.8 +0.5**
MTLF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
LMR La Mourre 85.58 360 *e*P **P** **01 09 12.1 +0.5**
SJPF Ste Jean 85.59 5 *e*P **P** **01 09 12.1 +0.4**
EPF Esparros 85.76 4 *e*P **P** **01 09 13.0 +0.5**
ETSF Etsaut 85.84 5 *e*P **P** **01 09 13.1 +0.2**
comp=Z,8.2nm,0.8s,mb4.7
ETSF Etsaut 85.84 5 *e*P **P** **01 09 13.1 +0.2**
ETSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
BRTR Keskin Array B 86.02 339 P **P** **01 09 14.4 +0.6**
BRTR *PP pP 01 09 27.8 +0.8
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 86.02 339 P **P** **01 09 14.4 +0.6**
comp=Z,0.8nm,0.5s,mb4.2,baz=63,slow=2.8,SNR=6.6
BRTR pP pP 01 09 27.8 +0.7
comp=Z,1.0nm,0.7s,baz=90,slow=2.5,SNR=4.3
PGF Pioggiola 86.33 358 *e*P **P** **01 09 15.3 0.0**
comp=Z,19nm,1.0s,mb5.0
PGF Pioggiola 86.33 358 *e*P **P** **01 09 15.3 0.0**
PGF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
PBRG Braganca 86.45 9 *e*P **P** **01 09 16.8 +0.9**
PVIS Viseu 87.40 10 *e*P **P** **01 09 21.4 +0.8**
MTE Manteigas 87.75 10 *e*P **P** **01 09 23.3 +1.0**
PCBR Castelo Branco 88.32 10 *e*P **P** **01 09 25.3 +0.4**
PTOM Tomar 88.43 11 *e*P **P** **01 09 25.1 -0.4**
ESDC Sonseca Array 88.82 8 P **P** **01 09 27.7 +0.3**
comp=Z,1.0nm,0.6s,mb4.3,baz=351,slow=5.6,SNR=5.1
MATP Matopo 144.34 322 PKP PKPdf 01 16 08.7 +0.3
comp=Z,6.6nm,0.6s,baz=15,slow=2.3,SNR=43
MATP pPKP 01 16 22.6
comp=Z,11nm,0.8s,baz=28,slow=3.5,SNR=12
TSUM Tsumeb 146.52 340 *e*PKPbc PKPbc 01 16 15.6 +2.0
LBTB Lobatse 149.61 323 PKPbc PKPdf 01 16 23.8 +6.6
comp=Z,3.3nm,0.5s,baz=187,slow=2.5,SNR=13
LBTB Lobatse 149.61 323 *e*PKPbc PKPdf 01 16 23.3 +6.2
BOSA Boshof 152.97 320 PKIKP PKPdf 01 16 30.9 +8.9
BOSA pmax pmax
comp=Z,3.0nm,0.5s
BOSA Boshof 152.97 320 PKPbc PKPdf 01 16 30.9 +8.9
comp=Z,2.5nm,0.5s,baz=355,slow=1.5,SNR=12
VNA3 Neumayer Olymp 158.93 166⇑*i*P PKPab 01 17 00.4 -6.8
VNA3 Neumayer Olymp 158.93 166⇑*i*P PKPab 01 17 00.4 -6.8
VNA2 Neumayer--Watz 159.54 167⇓*i*P PKPab 01 17 08.8 -1.1
VNA2 Neumayer--Watz 159.54 167⇓*i*P PKPab 01 17 08.8 -1.1
VNA1 Neumayer--Stat 159.67 166⇑*i*P PKPab 01 17 04.3 -6.1
VNA1 Neumayer--Stat 159.67 166⇑*i*P PKPab 01 17 04.3 -6.1

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*LDG **15** 01:07:12.5±0.2, 18.64S×69.13W, h108km, Mb4.9/36, Ms3.8/7, Error ellipse: s-maj=11.8km s-min=6.4km az=48.0*
*MOS **15** 01:07:13.8±1.2, 19.01S×68.81W, h114km, mb5.6/1, Error ellipse: s-maj=16.6km s-min=7.8km az=116.9*
*HRVD **15** 01:07:16.5±0.3, 19.28S×69.27W, h138km±2km, MW5.2/66, Centroid moment Tensor Solution. LP body waves: s40,c63;Mantle waves: s66,c122; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.45±.23; $M_{\theta\theta}$-0.85±.25; $M_{\phi\phi}$3.30±.32; $M_{r\theta}$3.23±.14; $M_{\theta\phi}$1.58±.26; $M_{\phi r}$-6.79±.20; Best double couple: $M_0$8.21×10^{16} NP1: ϕ_s227°,δ20°,λ-24°. NP2:ϕ_s340°,δ82°,λ-109°. Principal axes: T 7.826, Plg34°, Azm86°; N .764, Plg18°, Azm343°; P -8.594, Plg50°, Azm230°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **15** 01:07:16.8±0.5, 19.13S×68.88W, h130km±3km, mb4.5/23, mb1 4.7/26, mb1mx4.7/27, mbtmp4.9/26, MS4.0/5, Ms1 4.0/5, ms1mx3.6/18 Error ellipse: s-maj=13.6km s-min=8.6km az=86.0*
*NEIC **15** 01:07:16.5±0.2, 19.04S×68.75W, mb5.0/126, Error ellipse: s-maj=5.8km s-min=3.9km az=219.0*
NEIC Felt [III] at Alto Hospicio, Arica, Iquique, La Tirana and Pisagua; [II] at Huara, Chile. Also felt [II] at Arequipa, Peru.
*BJI **15** 01:07:16.5, 19.00S×68.80W, h127km, mB5.0*
ISC 15 01:07:14.9±0.2**, 19.05S**±0.04×**68.84W**±0.04**, h126**km**, h126**km±.6km**:pP-P, n334,** σ1s05/276**, mb5.0**/153**, 11C-59D, Chile-Bolivia border region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
LPAZ La Paz 2.83 14 P **P** **01 08 04.9 +4.9**
213nm,0.3s,baz=200,slow=7.1,SNR=6318
LPAZ S **S** **01 08 39.5 +5.4**
38nm,0.3s,baz=346,slow=13,SNR=6.5
LPAZ LR LR 01 09 09.5
comp=Z,3μm,21.9s,baz=92,slow=39
LPAZ La Paz 2.83 14⇑*i*Pn **P** **01 08 04.7 +4.8**
LVC Limon Verde 3.55 181⇓*i*P **P** **01 08 07.7 -1.8**
LVC *i* S **S** **01 08 46.2 -5.0**
LVC AMP 01 09 13.7
comp=N,4μm,1.0s
LVC Limon Verde 3.55 181 P **P** **01 08 08.0 -1.5**
comp=N,54nm,0.3s,baz=3.5,slow=10,SNR=198
LVC S **S** **01 08 39.5 -12**
comp=N,167nm,0.3s,baz=345,slow=14,SNR=3.1
LVC Limon Verde 3.55 181 *e*Pn **P** **01 08 07.6 -2.0**
ARE Arequipa 3.61 315⇑*i*P **P** **01 08 09.4 -0.9**
ARE *e*S **S** **01 08 49.0 -3.7**
SPCH San Pedro de A 3.89 171 *e*P **P** **01 08 15.3 +1.2**
ANCH Antofagasta 4.84 197 *e*P **P** **01 08 21.9 -5.0**
ANCH *i* S **S** **01 09 08.8 -13**
CPN1 Cerro Paranal 5.74 194 *e*P **P** **01 08 33.4 -5.5**
CPN1 *i* S **S** **01 09 30.2 -14**
CRCH Chaqaral 7.45 192 *e*P **P** **01 08 55.0 -7.2**
SIV San Ignacio 8.01 69 P **P** **01 09 09.6 -0.1**
comp=N,94nm,0.3s,baz=260,slow=11,SNR=1940
NNA Nana 10.43 311 *e*Pn **P** **01 09 39.1 -3.0**
comp=N,67nm,0.8s
SAML Samuel 11.44 29⇑*i*Pn **P** **01 09 54.5 -1.0**
comp=N,3.7nm,1.4s
SAML *e*Sn **S** **01 11 54.3 -6.9**
CFAA Coronel Fontan 12.51 178 P **P** **01 10 02.8 -6.8**
comp=N,0.2nm,0.3s,baz=353,slow=13,SNR=22
CFAA S **S** **01 12 12.5 -14**
comp=N,0.2nm,0.3s,baz=240,slow=20,SNR=3.8
CFAA LR LR 01 15 29.5
comp=N,36nm,20.9s,baz=351,slow=40
CFAA Coronel Fontan 12.51 178 P **P** **01 10 02.8 -6.8**
CFAA S **S** **01 12 12.5 -14**
CFAA LR LR 01 15 29.5
CPUP Villa Florida 12.85 126 P **P** **01 10 12.1 -1.9**
comp=N,3.5nm,0.3s,baz=326,slow=15,SNR=59
CPUP LR LR 01 16 18.6
comp=N,394nm,18.7s,baz=160,slow=42
TRQA Tornquist 19.86 164⇓*i*P **P** **01 11 35.9 -2.3**
comp=N,151nm,0.8s
TRQA *e*S **S** **01 15 19.5 +10**
BDFB Brasilia 20.16 84 P **P** **01 11 41.2 -0.2**
comp=N,164nm,0.6s,baz=267,slow=12,SNR=88
BDFB LR LR 01 21 10.4
comp=N,429nm,20.8s,baz=262,slow=41
BAO Brasilia Array 20.18 84 P **P** **01 11 41.1 -0.5**
PLCA Paso Flores 21.66 184 P **P** **01 11 54.8 -1.4**
comp=N,200nm,1.0s,mb5.4,baz=3.4,slow=12,SNR=84
PLCA Paso Flores 21.66 184⇓*e*P **P** **01 11 54.5 -1.7**
comp=N,353nm,1.1s,mb5.6
ROSC El Rosal 24.36 347 P **P** **01 12 24.0 +1.4**
comp=N,11nm,0.5s,mb4.5,baz=109,slow=18,SNR=4.9
SDV Santo Domingo 27.81 356 P **P** **01 12 53.4 -1.2**
comp=N,14nm,0.4s,mb4.8,baz=189,slow=7.7,SNR=34
SDV Santo Domingo 27.81 356 *e*P **P** **01 12 52.9 -1.7**
comp=N,24nm,0.6s,mb4.9
JTS JuntasAbangare 33.20 330 *e*P **P** **01 13 43.4 +1.5**
JTS JuntasAbangare 33.20 330 P **P** **01 13 43.3 +1.4**
comp=N,9.6nm,0.8s,mb4.7,baz=265,slow=23,SNR=7.4
RCBR Riachuelo 34.66 72 *e*P **P** **01 13 53.7 -0.7**
comp=N,117nm,0.8s,mb5.8
USHA Ushuaia 35.72 180 P **P** **01 14 02.1 -0.9**
comp=N,17nm,0.9s,mb5.0,baz=333,slow=6.8,SNR=5.2
SJG San Juan 37.02 4 *e*P **P** **01 14 12.0 -2.2**
SJG San Juan 37.02 4 P **P** **01 14 12.3 -1.9**
comp=N,90nm,0.8s,mb5.7,baz=200,slow=2.1,SNR=16
SJG San Juan 37.02 4⇑*i*P **P** **01 14 12.0 -2.2**
comp=N,124nm,1.0s,mb5.8
DWPF Disney 48.44 345 *e*P **P** **01 15 46.1 -0.4**
comp=N,33nm,0.7s,mb5.3
DWPF *e* pP 01 16 15.9 +0.1
BBSR BB Station 51.28 4⇑*i*P **P** **01 16 06.3 -1.9**
comp=N,29nm,0.7s,mb5.4
RGRS Roger Stewart 52.79 348 *e*P **P** **01 16 18.8 -0.6**
TWB Tillmans-White 52.97 348 *e*P **P** **01 16 19.9 -0.8**
NHSC New Hope 52.98 348 *e*P **P** **01 16 20.2 -0.6**
comp=N,53nm,0.7s,mb5.7
NHSC *e*pP pP 01 16 50.3 -0.3
COW Cow Castle Cre 53.35 348 *e*P **P** **01 16 22.3 -1.3**
COW *e*pP pP 01 16 53.5 +0.2
LRAL Lakeview Retre 54.62 341 *e*P **P** **01 16 31.2 -1.6**
comp=N,37nm,1.0s,mb5.4
LRAL *e*pP pP 01 17 01.5 -1.2
MYNC Murphy 55.75 345 *e*P **P** **01 16 39.8 -1.2**
comp=N,28nm,0.9s,mb5.3
MYNC *e*pP pP 01 17 10.0 -1.0
NATX Nacogdoches 56.26 334 *e*P **P** **01 16 44.4 -0.3**
comp=N,24nm,0.7s,mb5.3
SWET Sewanee 56.35 343 *e*P **P** **01 16 43.1 -2.2**
SWET *e*pP pP 01 17 13.9 -1.5
OXF Oxford 56.75 340 *e*P **P** **01 16 45.8 -2.2**
comp=N,74nm,1.1s,mb5.6
BLA Blacksburg 57.01 349 *e*P **P** **01 16 49.0 -0.8**
comp=N,37nm,1.2s,mb5.3
TZTN Tazewell 57.01 346 *e*P **P** **01 16 48.5 -1.3**
TZTN *e*pP pP 01 17 18.8 -1.2
ELN Prospectdale 57.09 349 *e*P **P** **01 16 49.9 -0.5**
FWV Forest Hill 57.44 349 *e*P **P** **01 16 51.4 -1.5**
WVT Waverly 57.75 342 *e*P **P** **01 16 52.7 -2.3**
comp=N,56nm,1.0s,mb5.5
WVT *e*pP pP 01 17 23.1 -2.1
LTX Lajitas 58.67 324 *e*P **P** **01 17 00.2 -1.4**
comp=N,2.9nm,0.8s,mb4.4
LTX *e*pP pP 01 17 30.8 -1.1
TXAR Lajitas Array 58.67 324 *e*P **P** **01 17 00.5 -1.1**
TXAR Lajitas Array 58.67 324 P **P** **01 17 00.5 -1.0**
comp=N,4.9nm,0.8s,mb4.6,baz=148,slow=8.3,SNR=56
TXAR pP pP 01 17 30.4 -1.5
comp=N,5.9nm,1.0s,baz=141,slow=8.0,SNR=6.7
TXAR Lajitas Array 58.67 324 P **P** **01 17 00.5 -1.1**
TXAR pP pP 01 17 30.4 -1.5
PARMO Parma 58.83 340 *e*P **P** **01 17 01.3 -1.2**
PARMO *e*pP pP 01 17 31.8 -1.1
WCI Wyandotte Cave 59.29 344 *e*P **P** **01 16 56.1 -10**
comp=N,14nm,0.9s,mb5.0
WCI *e*pP pP 01 17 34.5 -1.6
MCWV Mont Chateau 59.30 350 *e*P **P** **01 17 04.9 -0.8**
comp=N,13nm,0.7s,mb5.1
FVM French Village 60.25 340⇓*i*P **P** **01 17 10.5 -1.8**
comp=N,140nm,1.3s,mb5.8
FVM *e*pP pP 01 17 41.5 -1.3
CCM Cathedral Cave 60.58 340⇓*i*P **P** **01 17 12.4 -2.1**
comp=N,99nm,1.5s,mb5.6
BRYW Bryant College 60.71 358 *e*P **P** **01 17 14.4 -0.9**
comp=N,74nm,0.7s,mb5.8
CLNB Carlsbad 61.07 326 *e*P **P** **01 17 16.8 -1.1**
CLNB *e*pP pP 01 17 47.8 -0.7
GDL2 Guadalupe Moun 61.27 326 *e*P **P** **01 17 18.5 -0.8**
GDL2 *e*pP pP 01 17 48.8 -1.1
ALLY Alegheny Colle 61.29 350 *e*P **P** **01 17 17.5 -1.7**
BINY Binghamton 61.30 354 *e*P **P** **01 17 18.4 -0.9**
comp=N,15nm,0.7s,mb5.1
HRV Harvard--Oak R 61.30 358 *e*P **P** **01 17 18.4 -0.9**
comp=N,23nm,0.6s,mb5.4
HRV *e*pP pP 01 17 49.6 -0.3
MNTX Cornudas Mount 61.44 325 *e*P **P** **01 17 18.4 -2.0**
comp=N,24nm,1.0s,mb5.2
MNTX *e*pP pP 01 17 48.7 -2.3
CPRX Cap Rock 61.66 327 *e*P **P** **01 17 20.9 -1.0**
FFD Franklin Falls 62.26 358 *e*P **P** **01 17 24.5 -1.2**
comp=N,16nm,0.6s,mb5.2
VNA3 Neumayer Olymp 62.37 162⇓*i*P **P** **01 17 25.2 -0.9**
VNA3 Neumayer Olymp 62.37 162⇓*i*P **P** **01 17 25.2 -0.9**
VNA3 Neumayer Olymp 62.37 162 *e* **P** **01 17 34.0 +7.9**
VNA3 Neumayer Olymp 62.37 162 *e* pP 01 17 56.2 -0.6
VNA3 Neumayer Olymp 62.37 162 *e* sP 01 18 04.2 -6.5
VNA3 Neumayer Olymp 62.37 162 *e* PcP 01 18 12.2 +8.1
VNA1 Neumayer--Stat 62.56 161⇓*i*P **P** **01 17 27.0 -0.4**
VNA1 Neumayer--Stat 62.56 161⇓*i*P **P** **01 17 27.0 -0.4**
VNA1 Neumayer--Stat 62.56 161 *e* **P** **01 17 34.7 +7.3**
VNA1 Neumayer--Stat 62.56 161 *e* pP 01 17 58.2 +0.1
VNA1 Neumayer--Stat 62.56 161 *e* sP 01 18 07.0 -5.0
VNA1 Neumayer--Stat 62.56 161 *e* PcP 01 18 14.0 +9.1
MDV Middlebury 62.86 356 *e*P **P** **01 17 28.7 -1.1**
MDV *e*pP pP 01 18 00.1 -0.4
NCB Newcomb 62.90 356 *e*P **P** **01 17 29.1 -0.9**
comp=N,6.5nm,0.6s,mb4.7
VNA2 Neumayer--Watz 62.93 161⇓*i*P **P** **01 17 29.0 -0.8**
VNA2 Neumayer--Watz 62.93 161⇓*i*P **P** **01 17 29.0 -0.8**
VNA2 Neumayer--Watz 62.93 161 *e* **P** **01 17 36.7 +6.9**
VNA2 Neumayer--Watz 62.93 161 *e* pP 01 17 59.8 -0.8
VNA2 Neumayer--Watz 62.93 161 *e* sP 01 18 06.9 -7.6
VNA2 Neumayer--Watz 62.93 161 *e* PcP 01 18 16.1 +10
KSU1 Kansas State U 63.42 336 *e*P **P** **01 17 31.8 -1.6**
KSU1 *e*pP pP 01 18 03.2 -1.0
BNM Barren Site 63.98 326 *e*P **P** **01 17 36.9 -0.3**
LENM Lemitar 64.18 325 *e*P **P** **01 17 38.5 0.0**
CBKS Cedar Bluff 64.43 334 *e*P **P** **01 17 39.0 -1.0**
comp=N,66nm,1.3s,mb5.3
CBKS *e*pP pP 01 18 09.9 -0.9
ANMO Albuquerque 64.50 326*d i*P **P** **01 17 40.2 -0.4**
ANMO Albuquerque 64.50 326 P **P** **01 17 40.6 0.0**
baz=125,slow=9.1
ANMO Albuquerque 64.50 326⇓*i*P **P** **01 17 40.0 -0.6**
comp=N,9.7nm,0.9s,mb4.6
ANMO *e*pP pP 01 18 10.5 -0.9
SNAA Sanae 64.57 161⇓*i*P **P** **01 17 39.3 -1.1**
SNAA Sanae 64.57 161⇓*i*P **P** **01 17 39.3 -1.1**
SNAA Sanae 64.57 161 *e* **P** **01 17 45.5 +5.1**
SNAA Sanae 64.57 161 *e* pP 01 18 10.7 -0.5
SNAA Sanae 64.57 161 *e* sP 01 18 17.1 -8.0
SNAA Sanae 64.57 161 *e* PcP 01 18 25.5 +12
SNAA Sanae 64.57 161*d i*P **P** **01 17 39.3 -1.1**
TUC Tucson 64.96 321⇓*i*P **P** **01 17 43.1 -0.5**
comp=N,25nm,1.6s,mb4.8
CHIE El Hierro 67.73 48 P **P** **01 18 00.9 -0.3**
comp=N,67nm,1.0s,mb5.4
ISCO Idaho Springs 67.86 330⇓*i*P **P** **01 18 01.9 +0.1**
comp=N,24nm,1.0s,mb5.0
ISCO *e*PcP PcP 01 18 28.0 +0.7
ISCO *e*pP pP 01 18 33.4 +0.6
DBIC Dimbokro 67.99 74 P **P** **01 18 02.4 -0.6**
comp=N,230nm,0.8s,mb6.1,baz=225,slow=6.3,SNR=273
DBIC LR LR 01 48 37.2
comp=N,104nm,18.5s,baz=149,slow=36
SMCO Snowmass 68.03 329⇓*i*P **P** **01 18 03.3 +0.5**
SMCO *e*pP pP 01 18 34.6 +0.6
PV01 Paradox Valley 68.03 327 *e*P **P** **01 18 03.5 +0.7**
PV01 *e*pP pP 01 18 34.0 0.0
PV10 Paradox Valley 68.45 327 *e*P **P** **01 18 05.4 -0.1**
EGOM La Gomera 68.52 48 P **P** **01 18 05.7 -0.3**
comp=N,146nm,0.7s,mb5.9
PHWY Pilot Hill 68.98 331 *e*P **P** **01 18 08.8 +0.2**
PHWY *e*PcP PcP 01 18 32.0 0.0
PHWY *e*pP pP 01 18 40.2 +0.4
CCAN Las Canadas 68.98 48 P **P** **01 18 09.9 +1.0**
comp=N,52nm,0.9s,mb5.4
MAIT Maitri 69.06 160⇓*i*P **P** **01 18 08.5 -0.1**
PFO Pinyon Flat Ob 69.30 319 *e*P **P** **01 18 11.0 +0.2**
comp=N,13nm,1.0s,mb4.7
PFO *e*pP pP 01 18 42.2 +0.2
LDFC Landfair 69.47 321⇓*i*P **P** **01 18 12.5 +0.8**
EOSO Osorio 69.64 49 P **P** **01 18 14.4 +1.5**
comp=N,162nm,1.1s,mb5.8
NEN Nelson 69.70 321 *e*P **P** **01 18 13.4 +0.3**
NEN *e*PcP PcP 01 18 35.1 -0.1
NEN *e*pP pP 01 18 44.4 0.0
SRU San Rafael 69.77 327⇓*i*P **P** **01 18 13.7 +0.2**
SRU *e*pP pP 01 18 44.8 0.0
RWWY Rawlins 70.09 330⇓*i*P **P** **01 18 15.7 +0.3**
comp=N,22nm,1.0s,mb4.9
RWWY *e*pP pP 01 18 47.1 +0.4
MSU Marysvale 70.21 325 *e*P **P** **01 18 17.0 +0.9**
MSU *e*PcP PcP 01 18 37.5 +0.2
MSU *e*pP pP 01 18 48.4 +0.9
MVU Marysvale 70.22 325⇓*i*P **P** **01 18 17.0 +0.8**
comp=N,31nm,0.9s,mb5.1
MVU *e*PcP PcP 01 18 38.2 +0.9
MVU *e*pP pP 01 18 48.7 +1.1
ARUT Antelope Range 70.39 324 *e*P **P** **01 18 18.6 +1.3**
ARUT *e*pP pP 01 18 49.3 +0.7
RSSD Black Hills 70.63 334⇓*i*P **P** **01 18 18.8 +0.2**
comp=N,20nm,1.0s,mb4.9
CFTV Fuerteventura 70.90 50 P **P** **01 18 21.1 +0.6**
comp=N,60nm,1.0s,mb5.4
MPU Maple Canyon 71.02 327⇓*i*P **P** **01 18 21.4 +0.5**
MPU *e*pP pP 01 18 52.8 +0.4
DAU Daniels Canyon 71.11 327 *e*P **P** **01 18 22.3 +0.8**
QSPA South Pole Qui 71.13 180⇓*i*P **P** **01 18 21.1 +0.1**
comp=N,36nm,0.7s,mb5.3
NLU North Lily Min 71.20 326⇓*i*P **P** **01 18 22.7 +0.6**
NLU *e*pP pP 01 18 54.1 +0.7
JLU Jordanelle 71.35 327⇓*i*P **P** **01 18 23.6 +0.6**
JLU *e*pP pP 01 18 55.0 +0.6
CTU Camp Tracy 71.57 327 *e*P **P** **01 18 24.7 +0.4**
EFAM Famara 71.70 49 P **P** **01 18 26.7 +1.5**
comp=N,156nm,1.1s,mb5.8
TCUT Toone Canyon 71.71 327⇓*i*P **P** **01 18 25.6 +0.5**
DAC Darwin (Calif) 71.77 320⇓*i*P **P** **01 18 26.0 +0.5**
comp=N,11nm,0.8s,mb4.7
DAC *e*PcP PcP 01 18 43.9 0.0
DAC *e*pP pP 01 18 57.5 +0.6
TRCR Troy Canyon 71.99 323⇓*i*P **P** **01 18 27.9 +1.1**
TRCR *e*pP pP 01 18 59.0 +0.7
PDAR Pinedale Array 72.03 330 P **P** **01 18 26.8 -0.1**
comp=N,5.1nm,0.8s,mb4.4,baz=143,slow=7.4,SNR=26
PDAR pP pP 01 18 58.6 +0.2
comp=N,4.8nm,0.8s,baz=149,slow=8.6,SNR=5.3
BW06 Boulder Array 72.03 330 *e*P **P** **01 18 26.8 -0.1**
comp=N,9.9nm,0.9s,mb4.6
PMPS Porto Santo 72.10 44 *e*P **P** **01 18 29.1 +1.6**
comp=N,108nm,1.5s,mb5.5
HWUT Hardware Ranch 72.15 328⇓*i*P **P** **01 18 27.6 -0.1**
comp=N,240nm,1.2s,mb5.9
SPUT South Promonto 72.38 327⇓*i*P **P** **01 18 29.4 +0.4**
SPUT *e*pP pP 01 19 00.8 +0.2
TPH Tonopah 72.75 322⇓*e*P **P** **01 18 32.0 +0.8**
comp=N,20nm,1.1s,mb4.9
TPH *e*PcP PcP 01 18 47.9 -0.2
TPH *e*pP pP 01 19 03.1 +0.3
AHID Auburn Hatcher 72.78 329 *e*P **P** **01 18 31.2 -0.1**
comp=N,26nm,0.9s,mb5.0
AHID *e*pP pP 01 19 03.0 +0.1
HVU Hansel Valley 72.89 327⇓*e*P **P** **01 18 32.1 +0.1**
ULM Lac du Bonnet 73.01 342 P **P** **01 18 32.0 -0.6**
comp=N,6.2nm,0.5s,mb4.7,baz=150,slow=5.6,SNR=8.4
ULM pP pP 01 19 04.8 +0.6
comp=N,31nm,0.8s,baz=155,slow=6.0,SNR=12
MTUM Tungsten Hills 73.06 321 *e*P **P** **01 18 33.9 +0.8**
MTUM *e*pP pP 01 19 05.6 +0.9
REDW Red Top Meadow 73.11 329⇓*i*P **P** **01 18 33.7 +0.4**
comp=N,19nm,1.0s,mb4.9
SNOW Snow King Moun 73.13 329 *e*P **P** **01 18 33.4 0.0**
comp=N,16nm,0.8s,mb4.9
LOHW Long Hollow 73.17 330⇓*i*P **P** **01 18 34.0 +0.3**
comp=N,18nm,0.9s,mb4.9
TPAW Teton Pass 73.25 329⇓*i*P **P** **01 18 34.5 +0.5**
comp=N,15nm,0.8s,mb4.9
RRI2 Red Ridge 73.32 329⇓*i*P **P** **01 18 35.3 +0.8**
comp=N,51nm,0.8s,mb5.4
RRI2 *e*pP pP 01 19 06.8 +0.7
MOOW Moose Ponds 73.34 330⇓*i*P **P** **01 18 34.8 +0.2**
comp=N,43nm,1.5s,mb5.0
ELK Elko 73.46 325⇓*i*P **P** **01 18 35.8 +0.4**
comp=N,16nm,1.0s,mb4.8
IMW Indian Meadow 73.55 330⇓*i*P **P** **01 18 36.3 +0.5**
comp=N,34nm,1.0s,mb5.0
SCHQ Schefferville 73.60 1 P **P** **01 18 35.4 -0.4**
comp=N,8.6nm,0.9s,mb4.5,baz=192,slow=4.4,SNR=8.1
SCHQ pP pP 01 19 08.6 +1.1
comp=N,13nm,1.0s,baz=217,slow=1.3,SNR=4.7
SCHQ Schefferville 73.60 1 P **P** **01 18 35.4 -0.4**
SCHQ pP pP 01 19 08.6 +1.1
LAO LASA Array 73.61 334⇓*i*P **P** **01 18 36.1 0.0**
comp=N,38nm,1.4s,mb4.9
LAO *e*pP pP 01 19 07.6 -0.1
YFT Old Faithful 73.92 330 *e*P **P** **01 18 39.4 +1.5**
LRV Little Rabbit 73.98 318 *e*P **P** **01 18 40.0 +1.6**
YMR Madison River 74.14 330⇓*e*P **P** **01 18 40.7 +1.5**
DGMT Dagmar 74.26 336⇓*i*P **P** **01 18 40.1 +0.3**
comp=N,32nm,1.2s,mb4.9
DGMT *e*pP pP 01 19 11.7 +0.1
GCMT Greycliff 74.39 332 *e*P **P** **01 18 41.0 +0.3**
QLMT Earthquake Lak 74.48 330 *e*P **P** **01 18 42.8 +1.6**
CMB Columbia Colle 74.61 320 *e*P **P** **01 18 42.5 +0.4**
comp=N,4.9nm,0.9s,mb4.2
HLID Hailey 75.02 327⇓*i*P **P** **01 18 45.3 +1.1**
comp=N,38nm,1.0s,mb5.1
PAHR Pah Rah Range 75.09 322 *e*P **P** **01 18 45.9 +1.2**
comp=N,14nm,0.8s,mb4.7
MCMT McKenzie Canyo 75.16 329⇓*e*P **P** **01 18 46.4 +1.4**
BOZ Bozeman (W) 75.18 330⇓*i*P **P** **01 18 45.3 +0.2**
comp=N,41nm,1.5s,mb4.9
BEKR Beckwourth 75.77 322⇓*i*P **P** **01 18 49.6 +1.0**
comp=N,24nm,1.4s,mb4.7
HRY Holter Researc 76.07 331 *e*P **P** **01 18 51.1 +1.0**
HRY *e*PcP PcP 01 19 00.8 -1.3
WVOR Wild Horse Val 76.47 324 *e*P **P** **01 18 52.8 +0.3**
comp=N,8.5nm,1.3s,mb4.3
CHMT Chamberlain Mo 76.88 330 *e*P **P** **01 18 55.3 +0.7**
MOD Modoc 77.05 323⇓*i*P **P** **01 18 56.7 +1.0**
comp=N,52nm,1.6s,mb5.0
MSO Missoula 77.14 330 *e*P **P** **01 18 57.0 +0.9**
comp=N,20nm,1.3s,mb4.7
BMO Blue Mountains 77.40 327⇓*i*P **P** **01 18 58.2 +0.6**
comp=N,30nm,0.9s,mb5.0
BMO *e*pP pP 01 19 29.4 -0.1
SBA Scott Base 78.24 190 *e*P **P** **01 19 02.3 +0.7**
comp=N,22nm,1.1s,mb4.8
WALA Waterton Lakes 78.75 332⇓*i*P **P** **01 19 05.3 +0.5**
comp=N,26nm,1.0s,mb5.0
SYO Syowa Base 78.76 160 ⇑P **P** **01 19 03.2 -1.3**
SYO Syowa Base 78.76 160 ⇓pP pP 01 19 35.5 -1.1
SYO Syowa Base 78.76 160 ⇓sP sP 01 19 48.0 -2.5
VNDA Vanda 79.26 190 P **P** **01 19 07.4 +0.3**
comp=N,9.7nm,0.9s,mb4.6,baz=132,slow=4.7,SNR=42
VNDA Vanda 79.26 190 *e*P **P** **01 19 07.8 +0.6**
comp=N,16nm,1.1s,mb4.8
NEW Newport 79.67 330 *e*P **P** **01 19 09.4 -0.4**
comp=N,7.8nm,0.9s,mb4.5
PTEO Sao Teotonio 79.76 44 *e*P **P** **01 19 12.2 +1.6**
comp=N,86nm,1.0s,mb5.5
PTEO *e*pP pP 01 19 45.1 +2.5
OD2 Odessa Site #2 79.85 328 P **P** **01 19 12.0 +1.1**
PLOU Loures 80.22 43 *e*P **P** **01 19 14.7 +1.6**
EGRO El Granado 80.58 45 P **P** **01 19 16.3 +1.4**
comp=N,37nm,1.0s,mb5.2
PBEJ Beja 80.59 44 *e*P **P** **01 19 16.3 +1.3**
comp=N,24nm,1.4s,mb4.8
PBEJ *e*pP pP 01 19 49.4 +2.3
WTV Waterville 80.68 328 P **P** **01 19 16.2 +0.9**
TSUM Tsumeb 80.69 107 *e*P **P** **01 19 16.2 +0.4**
comp=N,14nm,0.8s,mb4.8
EVO Evora 80.77 44 *e*P **P** **01 19 15.0 -1.0**
comp=N,32nm,0.9s,mb4.8

EVO eR
comp=N,108nm,20.8s
TWW Teanaway 80.78 327 P **P** 01 19 17.7 +1.9
PTOM Tomar 81.11 43 *e*P **P** 01 19 18.9 +1.2
comp=N,36nm,1.7s,mb4.9
PTOM *e*pP pP 01 19 51.8 +1.9
EMIN Mina Concepcio 81.25 45 P **P** 01 19 19.8 +1.3
comp=N,65nm,1.1s,mb5.4
ESPR Espera 81.33 46 P **P** 01 19 22.7 +3.8
comp=N,37nm,0.9s,mb5.2
EBAD Badajoz 81.55 44 P **P** 01 19 21.1 +1.1
comp=N,24nm,1.1s,mb4.9
EDM Edmonton 81.58 335⇓ *i*P **P** 01 19 19.1 -0.8
PCBR Castelo Branco 81.83 43 *e*P **P** 01 19 22.2 +0.7
comp=N,11nm,1.7s,mb4.4
PCBR *e*pP pP 01 19 55.1 +1.4
EMIJ Mijas 81.92 47 P **P** 01 19 25.0 +3.1
comp=N,29nm,1.0s,mb5.1
JCW Jim Creek 82.01 327 P **P** 01 19 22.3 +0.1
PVIS Viseu 82.05 42 *e*P **P** 01 19 22.8 +0.2
comp=N,28nm,1.5s,mb4.9
MTE Manteigas 82.09 43⇑ *i*P **P** 01 19 23.1 +0.3
comp=N,13nm,0.8s,mb4.8
MTE *e*pP pP 01 19 56.0 +1.0
MTE Manteigas 82.09 43 *e*P **P** 01 19 23.5 +0.7
comp=N,28nm,1.7s,mb4.8
PVRL Vila Real 82.47 42 *e*P **P** 01 19 25.7 +1.0
comp=N,28nm,1.7s,mb4.8
PVRL *e*pP pP 01 19 58.6 +1.7
ELOB Lobios 82.58 41 P **P** 01 19 26.3 +1.0
comp=N,19nm,0.8s,mb5.0
ELOJ Sierra Loja 82.64 47 P **P** 01 19 30.3 +4.6
comp=N,46nm,0.8s,mb5.4
ERON Agron 82.81 47 P **P** 01 19 31.0 +4.4
comp=N,2.7nm,0.2s,mb4.7
PGC Sidney 83.08 327⇑ *i*P **P** 01 19 28.5 +0.8
comp=N,73nm,0.8s,mb5.6
PGC *e*pP pP 01 20 00.3 +0.4
PBRG Braganca 83.37 42 *e*P **P** 01 19 30.6 +1.4
comp=N,28nm,1.3s,mb4.9
PBRG *e*pP pP 01 20 02.9 +1.3
EBER Berja 83.39 47 P **P** 01 19 32.7 +3.3
comp=N,36nm,1.3s,mb5.0
EBAN Banos Encina 83.40 46 P **P** 01 19 30.9 +1.4
comp=N,14nm,1.0s,mb4.8
ERUA La Rua 83.44 41 P **P** 01 19 30.9 +1.4
comp=N,32nm,1.2s,mb5.0
ECAL Calabor 83.44 42 P **P** 01 19 31.0 +1.4
comp=N,38nm,2.0s,mb4.9
EQES Quesada 83.71 47 P **P** 01 19 34.8 +3.7
comp=N,49nm,1.4s,mb5.2
ENIJ Nijar 83.90 48 P **P** 01 19 35.1 +3.1
comp=N,13nm,0.8s,mb4.8
EPON Pontenova 83.94 40 P **P** 01 19 32.9 +0.8
comp=N,32nm,1.3s,mb5.0
EHUE Huescar 84.05 47 P **P** 01 19 36.4 +3.6
comp=N,10nm,0.9s,mb4.7
ESDC Sonseca Array 84.05 45 P **P** 01 19 33.6 +0.9
comp=N,15nm,0.8s,mb4.9,baz=244,slow=5.8,SNR=31
ESDC pP pP 01 20 07.2 +2.1
comp=N,6.5nm,0.9s,baz=252,slow=5.5,SNR=3.2
ESDC Sonseca Array 84.05 45 P **P** 01 19 34.0 +1.2
comp=N,28nm,1.2s,mb5.0
ESLA Sonseca Array 84.05 45⇑ *i*P **P** 01 19 33.5 +0.8
comp=N,6.8nm,1.0s,mb4.4
EVIA Vianos 84.51 46 P **P** 01 19 39.4 +4.3
comp=N,24nm,0.6s,mb5.3
BOSA Boshof 84.54 118 P **P** 01 19 36.4 +1.0
comp=N,9.5nm,1.0s,mb4.7,baz=226,slow=6.7,SNR=6.1
BOSA LR LR 01 53 16.2
comp=N,160nm,19.8s,baz=251,slow=33
BOSA Boshof 84.54 118 P **P** 01 19 36.4 +1.0
BOSA LR LR 01 53 16.2
ETOB Tobarra 85.17 46 P **P** 01 19 42.0 +3.6
comp=N,84nm,2.0s,mb5.3
LBTB Lobatse 85.98 115 P **P** 01 19 43.8 +1.2
comp=N,2.8nm,0.7s,mb4.3,baz=249,slow=4.7,SNR=5.0
LBTB Lobatse 85.98 115 *e*P **P** 01 19 43.3 +0.7
ECHE Chera 86.02 46 P **P** 01 19 47.2 +4.8
comp=N,18nm,0.9s,mb5.0
ELAN Lanestosa 86.20 42 P **P** 01 19 44.7 +1.5
comp=N,61nm,1.3s,mb5.4
ECRI Cripan 86.47 43 P **P** 01 19 47.5 +2.9
comp=N,19nm,0.6s,mb5.2
MAW Mawson 86.65 163 P **P** 01 19 45.3 +0.5
comp=N,5.9nm,0.8s,mb4.6,baz=194,slow=6.8,SNR=6.5
EMHD Djebel Mahouad 87.23 50 P **P** 01 19 55.0 +6.6
SJPF Ste Jean 87.54 43 *e*P **P** 01 19 49.4 -0.3
comp=N,18nm,0.7s,mb4.9
BBB Bella Bella 87.60 328 P **P** 01 19 50.5 +0.7
comp=N,17nm,0.8s,mb5.1,baz=13,slow=13,SNR=4.5
ETSF Etsaut 87.87 43 *e*P **P** 01 19 51.0 -0.3
comp=N,13nm,0.7s,mb4.8
EGRA Graus 88.11 44 P **P** 01 19 55.3 +2.8
comp=N,16nm,1.0s,mb5.0
EPF Esparros 88.51 43 *e*P **P** 01 19 53.6 -0.8
comp=N,20nm,1.0s,mb4.8
QUIF Quistinic 88.73 38 *e*P **P** 01 19 54.4 -0.9
comp=N,6.4nm,0.9s,mb4.4
ROSF Rostrenen 88.89 37 *e*P **P** 01 19 55.1 -0.9
ROSF *e*pP pP 01 20 25.0 -3.7
YKA Yellowknife Ar 88.91 341 P **P** 01 19 56.4 +0.7
comp=N,21nm,0.8s,mb5.2,baz=132,slow=4.6,SNR=55
YKA pP pP 01 20 29.0 +0.5
comp=N,4.7nm,0.5s,baz=134,slow=4.7,SNR=3.6
YKW3 Yellowknife Ar 88.96 341⇓ *i*P **P** 01 19 56.3 +0.4
YKW3 *e*pP pP 01 20 29.2 +0.5
SGMF Saint Gilles 89.26 38 *e*P **P** 01 19 57.3 -0.4
LFF La Frestale 89.65 42 *e*P **P** 01 19 58.9 -0.8
comp=N,38nm,0.9s,mb5.2
MTLF Montolieu 89.88 44 *e*P **P** 01 20 00.4 -0.3
comp=N,17nm,1.1s,mb4.8
MFF Saint Martin d 89.88 40 *e*P **P** 01 20 00.4 -0.3
comp=N,12nm,0.6s,mb4.9
MATP Matopo 90.04 112 P **P** 01 20 03.5 +1.5
comp=N,2.3nm,0.6s,mb4.5,baz=255,slow=5.5,SNR=11
RJF Les Rejaudoux 90.31 42 *e*P **P** 01 20 02.2 -0.5
comp=N,13nm,0.8s,mb4.8
RJF eR
comp=N,78nm,19.5s
GRR Gorron 90.31 38 *e*P **P** 01 20 01.9 -0.8
comp=N,16nm,0.9s,mb4.8
CAF Calviac 90.48 42 *e*P **P** 01 20 02.9 -0.7
comp=N,9.0nm,0.7s,mb4.7
FLN La Foliniere 90.71 38 *e*P **P** 01 20 04.1 -0.4
comp=N,16nm,0.9s,mb4.8
FLN eR
comp=N,58nm,20.0s
LDF La Druitiere 90.84 38 *e*P **P** 01 20 04.1 -1.0
comp=N,18nm,0.9s,mb4.9
LDF *e*pP pP 01 20 30.8 -7.2
TCF Toulx Ste Croi 91.19 41 *e*P **P** 01 20 05.9 -0.9
comp=N,9.5nm,0.7s,mb4.7
TCF *e*pP pP 01 20 33.6 -6.1
LASF Ste Croix 91.27 43 *e*P **P** 01 20 06.8 -0.5
comp=N,19nm,1.2s,mb4.8
LSZ Lusaka 91.53 107 *e*P **P** 01 20 10.4 +1.3
BGF Bois d'Agland 91.70 41 *e*P **P** 01 20 08.4 -0.8
comp=N,19nm,0.7s,mb5.1
DLBC Dease Lake 92.07 333 P **P** 01 20 11.9 +1.4
comp=N,12nm,1.0s,mb5.1,baz=139,slow=4.9,SNR=14
DLBC pP pP 01 20 44.9 +1.4
comp=N,5.0nm,0.7s,baz=158,slow=1.7,SNR=3.8
DLBC Dease Lake 92.07 333⇑ *i*P **P** 01 20 11.9 +1.3
VIVF Saint-Julien-l 92.12 43 *e*P **P** 01 20 09.8 -1.4
SSF Saint Saulge 92.33 41 *e*P **P** 01 20 11.2 -0.8
comp=N,12nm,0.8s,mb4.9
SMRF Simiane la Rot 92.35 44 *e*P **P** 01 20 11.3 -0.9
comp=N,12nm,1.2s,mb4.7
SMRF *e*pP pP 01 20 41.5 -3.6
SMF Signal de Mont 92.36 41 *e*P **P** 01 20 11.8 -0.4
comp=N,28nm,0.9s,mb5.2
EKA Eskdalemuir Ar 92.50 31 P **P** 01 20 12.8 +0.1
comp=N,1.7nm,0.7s,mb4.5,baz=225,slow=4.7,SNR=4.7
EKA pP pP 01 20 46.1 +0.6
comp=N,3.5nm,0.9s,baz=240,slow=6.7,SNR=4.6
LOR Lormes 92.63 41 *e*P **P** 01 20 12.7 -0.7
comp=N,11nm,0.7s,mb5.0
LOR eR
comp=N,46nm,17.1s
LMR La Mourre 92.71 45 *e*P **P** 01 20 13.0 -0.9
comp=N,5.3nm,0.7s,mb4.7
FRF La Foret Royal 92.89 45 *e*P **P** 01 20 13.4 -1.3
comp=N,11nm,1.0s,mb4.8
ORIF Oris-en-Rattie 92.93 43 *e*P **P** 01 20 14.3 -0.6
comp=N,14nm,0.8s,mb5.0
ORIF eR
comp=N,111nm,20.2s
MBDF Montbardon 93.44 44 *e*P **P** 01 20 16.3 -0.9
comp=N,5.2nm,0.8s,mb4.6
SBF Sospel 93.53 45 *e*P **P** 01 20 16.6 -1.0
SUMG Summit 93.64 9 *e*P **P** 01 20 19.2 +1.8
comp=N,5.4nm,0.6s,mb5.0
SUMG *e*pP pP 01 20 52.6 +2.3
LPL La Plagne 93.72 43 *e*P **P** 01 20 18.2 -0.2
comp=N,7.1nm,0.9s,mb4.7
LPG La Plagne 93.73 43 *e*P **P** 01 20 17.8 -0.7
comp=N,6.4nm,0.8s,mb4.7
CABF La Chapelle 93.75 42 *e*P **P** 01 20 17.6 -0.9
comp=N,10nm,1.0s,mb4.8
MEZF Maizieres J'vi 93.88 40 *e*P **P** 01 20 18.5 -0.6
comp=N,16nm,0.8s,mb5.1
BAIF Baives 94.03 38 *e*P **P** 01 20 19.0 -0.7
PGF Pioggiola 94.09 46 *e*P **P** 01 20 19.0 -1.2
comp=N,15nm,1.2s,mb4.9
HAU Haudompre 94.47 41 *e*P **P** 01 20 21.1 -0.7
comp=N,6.4nm,0.7s,mb4.8
HAU eR
comp=N,42nm,18.7s
HINF Hinteralfeld 94.71 41 *e*P **P** 01 20 22.3 -0.6
CASY Casey 94.93 180 *e*P **P** 01 20 23.6 +0.1
CASY Casey 94.93 180 *e*P pP 01 20 57.3 +0.9
CDF Champ du Feu 95.20 41 *e*P **P** 01 20 24.0 -1.1
comp=N,5.4nm,0.7s,mb4.8
DAVOS Davos 96.19 43 P **P** 01 20 29.9 +0.3
DAVOX Davos 96.23 43 P **P** 01 20 29.9 +0.1
comp=N,1.6nm,0.6s,mb4.6,baz=200,slow=9.9,SNR=2.5
GRA1 Grafenberg Arr 98.09 40 *e*Pdif **P** 01 20 42.1 +3.9
GRA1 *e* pP 01 21 11.7 +0.6
GRF Grafenberg Arr 98.09 40 *e*Pdif **P** 01 20 42.1 +3.9
GRF *e* pP 01 21 11.7 +0.6
INK Inuvik 98.67 340 P **P** 01 20 40.6 +0.2
comp=N,1.3nm,0.7s,mb4.5,baz=90,slow=6.3,SNR=3.3
GERES GERESS Array B 99.35 42 P **P** 01 20 44.0 +0.1
comp=N,0.6nm,0.9s,mb4.1,baz=241,slow=10,SNR=3.8
KHC Kasperske Hory 99.36 41 *e*P **P** 01 20 49.3 +5.3
CLL Collm 99.69 39 *e*'PP pP 01 21 19.0 +0.6
CLL *e*PP PP 01 24 50.0 -3.0
NOA NORSAR Array B 101.76 29 PP PP 01 25 06.3 -2.3
comp=N,3.3nm,1.0s,baz=248,slow=7.6,SNR=3.4
FINES FINESS Array B 108.87 30 PP PP 01 25 58.3 -4.0
comp=N,5.3nm,1.0s,baz=270,slow=7.6,SNR=8.5
ARCES ARCESS Array B 109.20 22 PKKPbc 01 36 36.4
comp=N,3.2nm,1.2s,baz=88,slow=3.5,SNR=7.6
AKUT Akutan 109.24 322 *e*P Pdif 01 21 31.9 +4.4
AKASG Malin Array Be 109.56 42 PP PP 01 26 00.9 -6.5
comp=N,0.3nm,0.2s,baz=260,slow=8.1,SNR=8.6
BRTR Keskin Array B 111.35 54 PP PP 01 26 08.3 -12
comp=N,1.4nm,0.9s,baz=248,slow=6.7,SNR=4.6
BRTR PKKPab 01 36 40.9
comp=N,1.4nm,0.8s,baz=109,slow=4.9,SNR=7.2
STKA Stephens Creek 121.56 210 PKP PKPdf 01 25 54.9 +0.9
comp=N,2.7nm,0.8s,baz=256,slow=3.8,SNR=5.2
ARU Arti 126.08 33 *i* PKIKP PKPdf 01 26 04.0 +2.0
ARU *e* 01 28 00.5
ARU *e* 01 33 03.7
ARU *e*SS SS 01 44 52.7 +2.6
TIXI Tiksi 126.38 353⇑ *i* PKIKP PKPdf 01 26 02.3 +0.1
TIXI *e*PS PS 01 38 04.8 +0.9
TIXI pmax pmax
comp=Z,5.0nm,0.9s
CTA Charters Tower 128.07 223 *e*PKP PKPdf 01 26 07.9 +1.0
comp=Z,4.0nm,0.9s
ZRNK Zerenda 133.05 34 *e*PKPdf PKPdf 01 26 17.6 +2.1
BVAR Borovoye Array 133.73 33 PKP PKPdf 01 26 18.3 +1.6
comp=Z,0.6nm,0.6s,baz=270,slow=3.0,SNR=5.5
BVAR pPKP 01 26 54.3
comp=Z,1.9nm,0.8s,baz=243,slow=3.3,SNR=4.4
BVAR PP PP 01 28 58.9 +7.7
comp=Z,0.7nm,0.9s,baz=346,slow=5.9,SNR=2.0
BVAR SKPab 01 29 37.4
comp=Z,1.8nm,0.7s,baz=287,slow=3.2,SNR=5.7
PMG Port Moresby 134.62 235 *i* PKIKP PKPdf 01 26 21.0 +1.6
WB2 Warramunga Arr 135.07 212 *e*PKP PKPdf 01 26 20.9 +0.8
WB2 *e*SKP 01 29 40.1
WB2 *e*PKS PKS 01 29 50.8 -4.5
WRA Warramunga Arr 135.08 212 PKP PKPdf 01 26 21.2 +1.1
comp=Z,7.6nm,0.8s,baz=158,slow=1.9,SNR=28
WRA SKPbc 01 29 40.5
comp=Z,6.2nm,0.9s,baz=146,slow=2.9,SNR=12
WRAB Tennant Creek 135.08 212 *d* PKIKP PKPdf 01 26 21.0 +0.9
WRAB Tennant Creek 135.08 212 *e*PKPdf PKPdf 01 26 20.5 +0.4
YAK Yakutsk 135.15 348 *i* PKIKP PKPdf 01 26 19.7 +0.6
FITZ Fitzroy Crossi 140.44 202 *e*PKP PKPdf 01 26 22.3 -7.6
comp=Z,10nm,0.8s
AAK Ala-Archa 141.16 45 *i* PKIKP PKPdf 01 26 36.2 +5.6
YSS Yuzh-Sakhalins 142.03 324 *i* PKIKP PKPdf 01 26 35.9 +4.0
KAKA Kakadu 142.11 215 *e*PKP PKPdf 01 26 28.5 -4.5
comp=Z,4.2nm,0.6s
MKAR Makanchi Array 143.60 34 PKP PKPdf 01 26 33.7 -0.8
comp=Z,1.9nm,0.6s,baz=333,slow=2.7,SNR=14
MKAR pPKP 01 27 10.9
comp=Z,7.7nm,1.1s,baz=297,slow=2.7,SNR=5.2
MKAR SKP 01 29 57.9
comp=Z,1.0nm,0.8s,baz=315,slow=2.0,SNR=2.6
MKAR Makanchi Array 143.60 34 PKP PKPdf 01 26 33.7 -0.8
MKAR pPKP 01 27 10.9
MKAR SKP 01 29 57.9
KLR Kul'dur 145.64 336 *e*PKIKP PKPdf 01 26 37.0 -1.1
KLR *e* 01 27 11.2
KLR *e* 01 30 05.2
KLR pmax pmax
comp=N,28nm,1.6s
KLR pmax pmax
comp=Z,45nm,1.6s
IRK Irkutsk 146.44 8 *e*PKIKP PKPdf 01 26 38.9 -0.4
IRK *e* 01 27 17.7
IRK pmax pmax
comp=Z,57nm,1.4s
TLY Talaya 146.90 9 *e*PKP2 PKPab 01 26 43.9 -2.2
TLY pmax pmax
comp=Z,8.0nm,0.8s
CIT Chita 147.04 357 *e*PKP2 PKPab 01 26 43.2 -3.4
GUMO Guam 147.23 266 *e*PKPdf PKPdf 01 26 43.4 +1.7
GUMO *e*PKPbc PKPdf 01 26 45.5 +3.7
GUMO *e*pPKPdf 01 27 17.8
ZAK Zakamensk 148.11 10 *e*PKP2 PKPab 01 26 47.8 -3.1
ZAK pmax pmax
comp=Z,4.0nm,1.3s
ZAK pmax pmax
comp=Z,11nm,1.2s
WMQ Urumqi 148.42 33 PKP PKPdf 01 26 41.8 -1.1
WMQ APKP 01 27 16.4
WMQ PP PP 01 30 18.6 -1.3
WMQ PP PP
comp=Z,118nm,10.9s
WMQ LR LR
comp=N,85nm,21.2s
WMQ LR LR
comp=E,96nm,21.3s
WMQ LR LR
comp=Z,131nm,21.5s
HYB Hyderabad 149.01 88 *e*P PKPdf 01 26 51.0 +6.5
HYB Hyderabad 149.01 88 *i* PKP PKPdf 01 26 51.0 +6.5
HYB *e*pPKP 01 27 26.0
HIA Hailar 149.07 349 *d* PKP2 PKPab 01 26 49.9 -4.9
HIA Hailar 149.07 349 *e*PKPbc PKPdf 01 26 49.6 +5.9
MDJ Mudanjiang 150.22 333 PKP PKPdf 01 26 52.5 +6.9
MDJ PP PP
comp=Z,42nm,5.2s
MDJ LR LR
comp=N,105nm,18.3s
MDJ LR LR
comp=E,146nm,19.4s
MDJ LR LR
comp=Z,261nm,19.8s
MDJ Mudanjiang 150.22 333 *e*PKPdf PKPdf 01 26 47.2 +1.5
MDJ *e*PKPbc PKPdf 01 26 52.5 +6.8
MAJO Matsushiro 150.55 312 *e*PKPbc PKPdf 01 26 53.7 +7.3
MAJO *e*PKPab PKPab 01 27 00.0 -1.4
MAT Matsushiro 150.55 312 PKP PKPdf 01 26 53.7 +7.3
SONM Songino Array 151.03 7 PKP PKPdf 01 26 49.6 +2.9
comp=Z,3.9nm,1.0s,baz=331,slow=1.4,SNR=16
SONM PKPbc PKPdf 01 26 55.2 +8.5
comp=Z,8.8nm,0.6s,baz=333,slow=1.6,SNR=46
SONM pPKPbc 01 27 29.7
comp=Z,40nm,1.0s,baz=315,slow=1.7,SNR=13
KOLN Koldanda 153.31 66 *e*P PKPab 01 27 09.1 -4.1
comp=Z,27nm,1.2s
GKN Gorkha 154.14 65 *e*P PKPab 01 27 09.3 -7.4
comp=Z,48nm,1.0s
DMN Daman 154.64 66 *e*P PKPab 01 27 12.1 -6.7
comp=Z,32nm,0.8s
PKI Pulchoki 154.91 65 *e*P PKPab 01 27 12.2 -7.8
comp=Z,16nm,0.8s
GUN Gumba 155.23 64 *e*P PKPab 01 27 12.1 -9.2
GTA Gaotai 157.46 23 PKP PKPdf 01 26 58.6 +2.8
GTA APKP 01 27 26.3
GTA PKP2 PKPab 01 27 34.1 +3.5
GTA PP PP
comp=Z,88nm,4.8s
GTA LR LR
comp=N,77nm,17.1s
GTA LR LR
comp=E,109nm,21.9s
GTA LR LR
comp=Z,75nm,14.4s
LZH Lanzhou 161.84 19 *e*PKP PKPdf 01 27 04.6 +3.8
LZH APKP 01 27 38.9
LZH XPKP 01 27 54.0
LZH LR LR
comp=E,25nm,18.9s
LZH LR LR
comp=Z,310nm,20.0s
LZH Lanzhou 161.84 19 *e*PKP PKPdf 01 27 04.6 +3.8
LZH pPKP 01 27 38.9
LZH sPKP 01 27 54.0
LZH PP PP 01 31 37.0 +2.8
LZH SKKS 01 38 11.0
LZH SS SS 01 51 39.5 0.0
LZH LR LR
comp=Z,310nm,20.0s
SSE Sheshan 164.97 325 PKP PKPdf 01 27 09.3 +5.2
SSE PP PP
comp=Z,48nm,10.4s
NJ2 Nanjing 165.32 333 *e*PKP PKPdf 01 27 10.1 +5.8
NJ2 APKP 01 27 34.8
NJ2 PKP2 PKPab 01 28 10.0 +5.2
NJ2 PP PP
comp=Z,80nm,10.6s
NJ2 LR LR
comp=N,170nm,14.8s
NJ2 LR LR
comp=E,90nm,15.2s
NJ2 LR LR
comp=Z,110nm,20.0s
KMI Kunming 170.13 51 PKP PKPdf 01 27 10.4 +2.7
KMI pPKP 01 27 46.0
KMI PP PP 01 32 15.5 -1.5
KMI LR LR
comp=Z,90nm,21.3s
GYA Guiyang 171.54 29 PKP PKPdf 01 27 11.3 +2.8
GYA APKP 01 27 45.6
GYA PP PP
comp=Z,320nm,9.3s
GYA LR LR
comp=N,140nm,20.4s
GYA LR LR
comp=E,210nm,21.2s
GYA LR LR
comp=Z,240nm,21.8s

MOS ***15*** *01:20:01.9±0.8,51.54N×173.86W,h39km,mb5.0/74, Error ellipse: s-maj=10.2km s-min=4.8km az=87.1*
BJI ***15*** *01:20:02.0,52.18N×174.70W,h14km,mB4.8,mb4.8, Ms4.5,Msz4.4*
NEIC ***15*** *01:20:04.1±0.2,51.56N×173.97W,mb4.7/89,MS4.9/1, ML4.1(AEIC),Error ellipse: s-maj=6.1km s-min=2.7km az=183.0*
IDC ***15*** *01:20:04.5±0.6,51.67N×174.05W,h46km±3km,mb4.1/24, mb1 4.3/25,mb1mx4.2/30,mbtmp4.4/25,MS3.8/9, Ms1 3.8/9,ms1mx3.6/22,Error ellipse: s-maj=19.4km s-min=10.9km az=0.0*
ISC 15 01:20:02.0±0.2,51.48N±0.05×173.93W±0.03,h43km, h43km±1.8km:pP-P,n358,σ0.995/346,mb4.7/122,MS4.1/17, 22C-8D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
ATKA	**Atka Island**	**0.74**	**347**	P	**P**	**01 20 16.2**	**0.0**
ATKA				S	**S**	**01 20 27.4**	**+0.9**
GSMY	**Great Sitkin M**	**1.44**	**294**	P	**P**	**01 20 25.4**	**-0.7**
GSTR	**Great Sitkin T**	**1.46**	**296**	P	**P**	**01 20 25.8**	**-0.5**
GSTR				S	**S**	**01 20 43.2**	**-1.3**
GSTD	**Great Sitkin T**	**1.49**	**294**	P	**P**	**01 20 26.4**	**-0.4**
ADAG	**Mount Adagdak**	**1.73**	**288**	P	**P**	**01 20 30.0**	**-0.3**
KIWB	**Kanaga Island**	**2.04**	**282**	P	**P**	**01 20 33.6**	**-1.0**
KIKV	**Kanaga Island**	**2.06**	**282**	P	**P**	**01 20 34.7**	**-0.1**
KIMD	**Kanaga Island**	**2.08**	**279**	P	**P**	**01 20 34.4**	**-0.8**
NIKO	**Nikolski**	**3.46**	**62**	P	**P**	**01 20 54.4**	**-0.4**
MNAT	**Makushin Natee**	**5.02**	**59**	P	**P**	**01 21 16.9**	**0.0**
DTNA	**Dutton South F**	**7.90**	**58**	P	**P**	**01 21 56.2**	**-0.9**
FX1	**Attu Island--F**	**8.06**	**285**	P	**P**	**01 21 59.1**	**-0.1**
FX1				pmax	pmax		
	comp=Z,4.0nm,0.3s						
FX1	**Attu Island--F**	**8.06**	**285**	P	**P**	**01 21 59.1**	**-0.1**
	comp=Z,3.7nm,0.3s,baz=180,slow=2.0,SNR=18						
RSO	**Redoubt South**	**14.82**	**44**	P	**P**	**01 23 30.0**	**0.0**
SPU	**Mount Spurr**	**15.46**	**43**	P	**P**	**01 23 37.2**	**-1.2**
SLKM	**Skilak Lake**	**15.97**	**46**	*e*P	**P**	**01 23 43.6**	**-1.2**
PET	**Petropavlovsk**	**16.82**	**286**	*e*P	**P**	**01 23 56.8**	**+1.2**
PET				*e*S	**S**	**01 26 59.3**	**-0.7**
PET				pmax	pmax		
	comp=Z,100nm,10.4s						
PET				pmax	pmax		
	comp=Z,19nm,0.7s						
PET				smax			
	comp=N,100nm,18.9s						
PET				MLR	MLR		
	comp=Z,200nm,20.0s						
PET				MLR	MLR		
	comp=Z,200nm,18.0s						
SML	**Sawmill**	**17.34**	**44**	*e*P	**P**	**01 23 59.2**	**-2.9**
IMA	**Indian Mountai**	**17.86**	**27**	*e*P	**P**	**01 24 08.5**	**-0.1**
IMA				pmax	pmax		
	comp=Z,55nm,0.9s						
IMA	**Indian Mountai**	**17.86**	**27**	*e*P	**P**	**01 24 08.5**	**-0.1**
	comp=Z,55nm,0.9s						
MCK	**McKinley**	**18.01**	**37**	*e*P	**P**	**01 24 08.5**	**-1.9**
MCK				pmax	pmax		
	comp=Z,13nm,1.0s						
MCK	**McKinley**	**18.01**	**37**	*e*P	**P**	**01 24 08.5**	**-1.8**
	comp=Z,13nm,1.0s						
DIV	**Divide**	**18.22**	**47**	*e*P	**P**	**01 24 11.2**	**-1.9**
	comp=Z,28nm,0.6s						
BILL	**Bilibino**	**19.20**	**337**⇑ *i*P		**P**	**01 24 21.0**	**-3.7**
BILL				pmax	pmax		
	comp=Z,27nm,1.0s						
BILL				MLR	MLR		
	comp=Z,300nm,17.0s						
BILL	**Bilibino**	**19.20**	**337**	*e*P	**P**	**01 24 21.0**	**-3.7**
	comp=Z,43nm,1.1s						
ILAR	**Eielson Array**	**19.31**	**36**	P	**P**	**01 24 21.6**	**-4.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR				MLR	MLR		
	comp=Z,296nm,18.1s						
ILAR	**Eielson Array**	**19.31**	**36**	P	**P**	**01 24 21.6**	**-4.2**
	comp=Z,1.0nm,0.3s,baz=243,slow=10,SNR=45						
ILAR				LR	LR	01 32 32.5	
	comp=Z,296nm,18.1s,baz=89,slow=39						
SEY	**Seymchan**	**21.26**	**316**	*e*P	**P**	**01 24 47.7**	**+1.4**
SEY				*e*		01 29 11.7	
SEY				pmax	pmax		
	comp=N,10.0nm,0.9s						
SEY				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
MA2	**Magadan**	**21.34**	**306**	*e*P	**P**	**01 24 50.4**	**+3.3**
MA2				*e*S	**S**	**01 28 38.9**	**+2.4**
MA2				*e*		01 28 55.9	
MA2				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.1						
INK	**Inuvik**	**25.65**	**34**	P	**P**	**01 25 28.1**	**-0.8**
INK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
INK	**Inuvik**	**25.65**	**34**	P	**P**	**01 25 28.1**	**-0.9**
	comp=Z,6.4nm,0.6s,mb4.4,baz=248,slow=6.9,SNR=32						
INK	**Inuvik**	**25.65**	**34**	*e*P	**P**	**01 25 26.9**	**-2.0**
	comp=Z,16nm,0.8s,mb4.6						
DLBC	**Dease Lake**	**25.75**	**57**	P	**P**	**01 25 31.8**	**+1.8**
	comp=Z,5.9nm,0.9s,mb4.1,baz=273,slow=14,SNR=8.4						
DLBC				LR	LR	01 34 55.8	
	comp=Z,158nm,19.2s,MS3.6,baz=289,slow=35						
DLBC	**Dease Lake**	**25.75**	**57**	P	**P**	**01 25 31.8**	**+1.8**

DLBC LR LR 01 34 55.8
BBB Bella Bella 27.97 70 LR LR 01 35 35.1
comp=Z,116nm,18.3s,MS3.5,baz=183,slow=33
YSS Yuzh-Sakhalins 28.34 278 *e*P pP 01 26 04.9 -0.2
YSS pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
ASAJ Asahikawa 29.75 273 P **P** **01 26 05.5 -0.8**
comp=Z,3.1nm,0.4s,mb4.4,baz=90,slow=2.0,SNR=5.5
ASAJ LR LR 01 35 41.6
comp=Z,64nm,21.7s,MS3.2,baz=142,slow=32
TIXI Tiksi 32.06 330 *e*P **P** **01 26 23.6 -2.8**
TIXI pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
YBH Yreka Blue Hor 35.84 85 P **P** **01 27 00.3 +1.1**
YBH pmax pmax
comp=Z,2.0nm,0.6s
YBH Yreka Blue Hor 35.84 85 P **P** **01 27 00.3 +1.1**
comp=Z,1.9nm,0.6s,mb4.2,baz=270,slow=2.0,SNR=3.1
NEW Newport 35.97 72 P **P** **01 27 00.2 -0.1**
NEW *PP pP 01 27 14.2 +2.2
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW pmax pmax
comp=Z,20nm,0.8s
NEW Newport 35.97 72 P **P** **01 27 00.2 -0.1**
comp=Z,5.1nm,0.9s,mb4.5,baz=291,slow=6.5,SNR=4.4
NEW pP pP 01 27 14.2 +2.2
comp=Z,20nm,0.8s,baz=300,slow=7.3,SNR=18
NEW Newport 35.97 72 *e*P **P** **01 27 00.2 0.0**
comp=Z,24nm,0.9s,mb5.1
EDM Edmonton 36.08 63 *e*P **P** **01 27 01.4 +0.3**
MOD Modoc 37.25 83 P **P** **01 27 11.8 +0.8**
WALA Waterton Lakes 37.51 69 *e*P **P** **01 27 13.4 +0.3**
comp=Z,20nm,1.2s,mb4.7
BMO Blue Mountains 37.52 77 *e*P **P** **01 27 13.1 -0.2**
comp=Z,8.0nm,1.4s,mb4.3
WVOR Wild Horse Val 37.98 81 *e*P **P** **01 27 17.6 +0.4**
WVOR pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
WVOR Wild Horse Val 37.98 81 *e*P **P** **01 27 17.6 +0.4**
comp=Z,8.6nm,0.8s,mb4.5
MSO Missoula 38.55 73 *e*P **P** **01 27 21.4 -0.4**
comp=Z,12nm,1.0s,mb4.6
CHMT Chamberlain Mo 38.92 72 *e*P **P** **01 27 25.0 +0.1**
CMB Columbia Colle 39.45 88 *e*P **P** **01 27 30.4 +1.0**
CMB pmax pmax
comp=Z,5.0nm,1.1s,mb4.2
CMB Columbia Colle 39.45 88 *e*P **P** **01 27 30.4 +1.0**
comp=Z,4.9nm,1.1s,mb4.2
HRY Holter Researc 39.87 72 *e*P **P** **01 27 33.6 +0.9**
HLID Hailey 39.96 77 *e*P **P** **01 27 33.6 -0.1**
comp=Z,12nm,1.3s,mb4.5
MCMT McKenzie Canyo 40.23 75 *e*P **P** **01 27 36.2 +0.3**
CN2 Changchun 40.50 284 *e*P **P** **01 27 35.9 -2.2**
CN2 *e*XP sP 01 27 50.3 -4.9
CN2 *e*S **S** **01 33 41.3 -2.5**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
CN2 LR LR
comp=N,400nm,19.0s,MS4.4
CN2 LR LR
comp=E,300nm,19.0s,MS4.4
CN2 LR LR
comp=Z,300nm,19.0s,MS4.2
BOZ Bozeman (W) 40.53 73 *e*P **P** **01 27 38.8 +0.5**
BOZ pmax pmax
comp=Z,14nm,0.8s,mb4.6
BOZ Bozeman (W) 40.53 73 *e*P **P** **01 27 38.8 +0.4**
comp=Z,14nm,0.8s,mb4.6
MTUM Tungsten Hills 41.01 88 *e*P **P** **01 27 43.4 +1.0**
QLMT Earthquake Lak 41.09 74 P **P** **01 27 43.6 +0.7**
IMW Indian Meadow 41.89 75 P **P** **01 27 49.5 +0.1**
comp=Z,9.7nm,0.9s,mb4.4
HVU Hansel Valley 41.96 78 *e*P **P** **01 27 50.6 +0.6**
TPAW Teton Pass 42.11 75 *e*P **P** **01 27 51.2 +0.1**
comp=Z,12nm,1.1s,mb4.4
LOHW Long Hollow 42.25 75 P **P** **01 27 52.4 +0.1**
comp=Z,3.8nm,0.9s,mb4.0
HWUT Hardware Ranch 42.80 78 P **P** **01 27 58.3 +1.4**
LAO LASA Array 43.17 69 *e*P **P** **01 27 59.4 -0.5**
comp=Z,10nm,0.8s,mb4.6
BW06 Boulder Array 43.36 75 *e*P **P** **01 28 01.4 0.0**
comp=Z,15nm,0.8s,mb4.8
PDAR Pinedale Array 43.36 75 P **P** **01 28 01.9 +0.4**
comp=Z,1.8nm,0.7s,mb3.9,baz=314,slow=4.5,SNR=11
PDAR pP pP 01 28 15.6 +2.2
comp=Z,13nm,0.8s,baz=304,slow=3.3,SNR=23
MSU Marysvale 44.27 82 *e*P **P** **01 28 08.8 -0.1**
TMUT Trail Mountain 44.39 80 *e*P **P** **01 28 10.3 +0.5**
NEN Nelson 44.41 87 P **P** **01 28 10.6 +0.6**
LDFC Landfair 44.61 88 P **P** **01 28 10.9 -0.7**
SRU San Rafael 44.92 80 *e*P **P** **01 28 14.2 +0.1**
RSSD Black Hills 45.88 70 P **P** **01 28 20.6 -1.0**
RSSD pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
RSSD Black Hills 45.88 70 P **P** **01 28 20.6 -1.0**
comp=Z,5.3nm,0.8s,mb4.5
PV01 Paradox Valley 46.73 80 *e*P **P** **01 28 28.2 -0.2**
ULM Lac du Bonnet 47.05 59 P **P** **01 28 30.0 -0.7**
comp=Z,3.3nm,0.4s,mb4.6,baz=300,slow=6.8,SNR=6.4
ULM Lac du Bonnet 47.05 59 P **P** **01 28 30.0 -0.7**
SMCO Snowmass 47.06 78 *e*P **P** **01 28 30.9 -0.1**
SMCO *e*pP pP 01 28 43.1 +0.2
ULN Ulaanbaatar 48.92 299 *e*P **P** **01 28 51.2 +5.9**
SONM Songino Array 49.30 299 P **P** **01 28 47.4 -0.8**
comp=Z,4.7nm,0.7s,mb4.6,baz=45,slow=8.0,SNR=4.1
SONM LR LR 01 50 43.5
comp=Z,182nm,19.1s,MS4.1,baz=254,slow=37
ZAK Zakamensk 49.48 303 *e*P **P** **01 28 48.2 -1.4**
ZAK *e* 01 30 11.3
ZAK pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
ANMO Albuquerque 50.07 82 *e*P **P** **01 28 54.7 +0.3**
ANMO Albuquerque 50.07 82 *e*P **P** **01 28 54.5 +0.1**
comp=Z,6.6nm,1.4s,mb4.5
HHC Hu-ho-hao-te 50.57 289 *e*P **P** **01 28 54.3 -3.8**
HHC AP pP 01 29 03.3 -6.8
HHC XP sP 01 29 08.1 -7.1
HHC PCP PcP 01 30 12.8 -2.8
HHC PP PP 01 30 51.3 -3.6
HHC S **S** **01 36 00.5 -7.5**
HHC PS PS 01 36 16.0 -6.6
HHC XS 01 36 20.8
HHC SCS ScS 01 38 39.9 -2.2
HHC SS SS 01 39 32.6 -7.0
HHC AMB AMB
comp=Z,11nm,1.7s,mb4.5
HHC AMB AMB
comp=Z,46nm,10.8s
HHC LR LR
comp=N,131nm,16.8s,MS4.3
HHC LR LR
comp=E,242nm,18.0s,MS4.3
SSE Sheshan 51.04 273 P **P** **01 28 58.9 -2.9**
SSE AMB AMB
comp=Z,15nm,0.6s,mb5.1
SSE AMB AMB
comp=Z,35nm,6.1s
SSE Sheshan 51.04 273 P **P** **01 28 58.9 -2.9**
comp=Z,15nm,0.6s,mb5.1
CBKS Cedar Bluff 51.67 73 P **P** **01 29 06.4 0.0**
NJ2 Nanjing 51.85 275 *e*P **P** **01 29 07.6 -0.2**
NJ2 AP pP 01 29 17.3 -2.6
NJ2 XP sP 01 29 21.3 -3.7
NJ2 PCP PcP 01 30 21.3 +0.8
NJ2 S **S** **01 36 25.0 -0.7**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
NJ2 AMB AMB
comp=Z,60nm,11.3s
NJ2 LR LR
comp=N,130nm,12.2s,MS4.5
NJ2 LR LR
comp=E,220nm,13.2s,MS4.5
MNTX Cornudas Mount 52.92 84 *e*P **P** **01 29 14.9 -1.0**
comp=E,5.7nm,1.0s,mb4.5
MNTX *e*pP pP 01 29 26.6 -1.4
LTX Lajitas 55.62 85 *e*P **P** **01 29 35.6 -0.1**
LTX pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LTX Lajitas 55.62 85 *e*P **P** **01 29 35.6 -0.1**
comp=Z,4.7nm,0.8s,mb4.6
TXAR Lajitas Array 55.62 85 P **P** **01 29 34.6 -1.1**
TXAR *PP pP 01 29 48.7 +0.8
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR pmax pmax
comp=Z,5.0nm,0.9s
TXAR Lajitas Array 55.62 85 P **P** **01 29 34.6 -1.1**
comp=Z,1.2nm,0.8s,mb4.0,baz=294,slow=4.9,SNR=12
TXAR pP pP 01 29 48.6 +0.7
comp=Z,5.1nm,0.9s,baz=243,slow=2.8,SNR=16
TXAR ScP 01 34 30.8
comp=Z,0.1nm,0.3s,baz=304,slow=4.5,SNR=3.8
TXAR Lajitas Array 55.62 85 P **P** **01 29 34.6 -1.1**
TXAR pP pP 01 29 48.6 +0.7
TXAR ScP 01 34 30.8
WHN Wuhan 55.68 277 *e*P **P** **01 29 40.0 +3.9**
CCM Cathedral Cave 57.19 69 *e*P **P** **01 29 44.9 -1.9**
CCM pmax pmax
comp=Z,11nm,1.0s,mb4.8
CCM Cathedral Cave 57.19 69 *e*P **P** **01 29 44.9 -1.9**
comp=Z,11nm,1.0s,mb4.8
LZH Lanzhou 58.26 289 *e*P **P** **01 29 53.6 -0.7**
LZH AP pP 01 30 02.5 -4.1
LZH XP sP 01 30 06.1 -5.5
LZH AMB AMB
comp=Z,27nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,87nm,4.3s
LZH LR LR
comp=E,523nm,17.4s
LZH LR LR
comp=Z,792nm,18.5s,MS4.9
LZH Lanzhou 58.26 289 *e*P **P** **01 29 53.6 -0.7**
LZH *SP sP 01 30 06.1 -5.5
LZH pmax pmax
comp=Z,27nm,1.5s,mb5.1
LZH MLR MLR
comp=Z,790nm,18.5s,MS4.9
LZH Lanzhou 58.26 289 *e*P **P** **01 29 53.6 -0.7**
comp=Z,27nm,1.5s,mb5.1
LZH pP pP 01 30 02.5 -4.1
LZH sP sP 01 30 06.1 -5.5
LZH LR LR
comp=Z,790nm,18.5s,MS4.9
GTA Gaotai 58.33 295 *e*P **P** **01 29 54.0 -0.7**
GTA AP pP 01 30 03.5 -3.5
GTA XP sP 01 30 07.5 -4.5
GTA PP PP 01 32 05.4 -0.3
GTA S **S** **01 37 53.0 +0.7**
GTA SS SS 01 41 45.8 -0.4
GTA AMB AMB
comp=Z,12nm,1.0s,mb4.9
GTA AMB AMB
comp=Z,81nm,4.7s
GTA LR LR
comp=N,120nm,16.1s,MS4.3
GTA LR LR
comp=E,133nm,16.3s,MS4.3
ARCES ARCESS Array B 58.46 352 P **P** **01 29 53.5 -1.8**
ARCES 01 30 44.8
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES pmax pmax
comp=Z,6.0nm,0.7s
ARCES pmax pmax
comp=Z,6.0nm,0.7s
ARCES ARCESS Array B 58.46 352 P **P** **01 29 53.5 -1.8**
comp=Z,1.7nm,0.7s,mb4.2,baz=32,slow=7.1,SNR=11
ARCES PcP PcP 01 30 44.8 -0.5
comp=Z,6.2nm,0.7s,baz=14,slow=5.0,SNR=10
ARCES pPcP 01 30 58.2
comp=Z,6.3nm,0.7s,slow=4.9,SNR=8.2
ENH Enshi 58.87 281 P **P** **01 29 57.9 -0.8**
comp=Z,14nm,0.8s,mb5.0
LVZ Lovozero 59.04 348 *e*P **P** **01 29 57.2 -2.1**
LVZ pmax pmax
comp=Z,30nm,1.4s,mb5.1
BLO Bloomington 59.15 65 *e*P **P** **01 29 58.8 -1.6**
SADO Sadowa 59.30 56 P **P** **01 30 00.7 -0.7**
comp=Z,2.9nm,0.4s,mb4.6,baz=327,slow=4.5,SNR=4.4
UTMT University of 59.75 69 P **P** **01 30 04.5 -0.1**
WCI Wyandotte Cave 59.92 65 *e*P **P** **01 30 03.8 -2.0**
WCI pmax pmax
comp=Z,15nm,0.9s,mb5.0
WCI Wyandotte Cave 59.92 65 *e*P **P** **01 30 03.8 -2.0**
comp=Z,15nm,0.9s,mb5.0
WVT Waverly 60.50 68 P **P** **01 30 07.6 -2.2**
WVT pmax pmax
comp=Z,15nm,1.2s,mb4.9
WVT Waverly 60.50 68 P **P** **01 30 07.6 -2.1**
comp=Z,15nm,1.2s,mb4.9
ALLY Alegheny Colle 60.94 59 *e*P **P** **01 30 11.6 -1.1**
MSNY Massena 61.32 53 *e*P **P** **01 30 13.8 -1.4**
CD2 Chengdu 61.91 285 P **P** **01 30 18.4 -1.0**
MKAR Makanchi Array 62.31 311 P **P** **01 30 20.0 -1.8**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR MLR MLR
comp=Z,107nm,18.8s
MKAR Makanchi Array 62.31 311 P **P** **01 30 20.0 -1.8**
comp=Z,1.8nm,0.5s,mb4.5,baz=42,slow=6.6,SNR=19
MKAR LR LR 01 58 09.6
comp=Z,107nm,18.8s,MS4.0,baz=180,slow=37
MKAR Makanchi Array 62.31 311 P **P** **01 30 20.0 -1.8**
MKAR LR LR 01 58 09.6
TZTN Tazewell 62.66 65 *e*P **P** **01 30 22.7 -1.6**
BVAR Borovoye Array 62.73 322 P **P** **01 30 22.8 -1.8**
comp=Z,3.1nm,0.4s,mb4.8,baz=58,slow=6.9,SNR=23
BVAR PcP PcP 01 31 02.2 -0.4
comp=Z,5.4nm,0.7s,baz=54,slow=3.8,SNR=8.6
BVAR pPcP 01 31 15.7
comp=Z,5.7nm,0.7s,baz=70,slow=3.4,SNR=8.0
ACCN Adirondack Com 63.07 54 *e*P **P** **01 30 25.8 -1.1**
ACCN *e* pP 01 30 36.1 -3.2
LRAL Lakeview Retre 63.16 70 *e*P **P** **01 30 26.2 -1.5**
comp=Z,4.9nm,0.8s,mb4.7
GYA Guiyang 63.33 280 P **P** **01 30 29.8 +0.9**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
GYA LR LR
comp=N,310nm,18.4s,MS4.7
GYA LR LR
comp=E,290nm,18.8s,MS4.7
GYA LR LR
comp=Z,380nm,18.0s,MS4.6
FWV Forest Hill 63.46 62 *e*P **P** **01 30 28.6 -0.9**
ELN Prospectdale 63.74 63 *e*P **P** **01 30 30.5 -0.9**
BLA Blacksburg 63.94 63 *e*P **P** **01 30 31.7 -0.9**
BLA *e*SP sP 01 30 45.1 -4.8
BLA pmax pmax
comp=Z,17nm,0.9s,mb5.1
BLA Blacksburg 63.94 63 *e*P **P** **01 30 31.7 -0.9**
comp=Z,17nm,0.9s,mb5.1
BLA *e*pP pP 01 30 40.2 -4.9
BLA *e*sP sP 01 30 45.1 -4.8
ARU Arti 64.07 331 ⇑ *i*P **P** **01 30 31.6 -1.5**
ARU *e* 01 31 07.2
ARU *e*S **S** **01 39 01.0 -3.9**
ARU pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
SDMD Soldier's Deli 64.30 59 *e*P **P** **01 30 33.6 -1.3**
PAL Palisades 64.68 56 *e*P **P** **01 30 37.0 -0.4**
KAF Kangasniemi 65.62 350 *e*p **P** **01 30 35.8 -7.2**
comp=Z,6.7nm,0.7s,mb4.8,baz=10,slow=6.0
KAF Kangasniemi 65.62 350 *e*P **P** **01 30 35.8 -7.2**
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
FINES FINESS Array B 66.30 350 *e*P **P** **01 30 45.9 -1.5**
FINES FINESS Array B 66.30 350 P **P** **01 30 45.4 -2.0**
comp=Z,4.7nm,0.8s,mb4.5,baz=27,slow=4.3,SNR=12
FINES LR LR 02 04 43.6
comp=Z,100nm,19.2s,MS4.0,baz=335,slow=40
KMI Kunming 66.71 281 P **P** **01 30 50.3 -0.3**
KMI AP pP 01 31 01.0 -2.2
KMI XP sP 01 31 03.9 -4.0
KMI S S 01 39 37.3 -0.5
KMI AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
KMI AMB AMB
comp=Z,42nm,3.1s
KMI Kunming 66.71 281 P **P** **01 30 50.3 -0.3**
comp=Z,9.0nm,0.8s,mb4.8
KMI pP pP 01 31 01.0 -2.2
KMI sP sP 01 31 03.9 -4.0
KMI S S 01 39 37.3 -0.5
KMI LR LR
comp=Z,60nm,24.6s,MS3.7
NHSC New Hope 67.06 65 P **P** **01 30 51.9 -0.7**
comp=Z,37nm,1.0s,mb5.4
NB2 NORSAR Subarra 67.76 357 P **P** **01 30 55.4 -1.1**
comp=Z,1.0nm,0.8s,mb3.9,baz=2.0,slow=6.2
NB2 NORSAR Subarra 67.76 357 P **P** **01 30 55.4 -1.1**
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
NOA NORSAR Array B 67.76 357 P **P** **01 30 55.7 -0.8**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,42nm,18.9s
NOA NORSAR Array B 67.76 357 P **P** **01 30 55.7 -0.9**
comp=Z,1.5nm,0.8s,mb4.1,baz=4.1,slow=6.3,SNR=5.8
NOA LR LR 02 01 32.6
comp=Z,42nm,18.9s,MS3.7,baz=335,slow=37
NOA NORSAR Array B 67.76 357 P **P** **01 30 55.7 -0.9**
NOA LR LR 02 01 32.6
AAK Ala-Archa 69.09 313 *e*P **P** **01 31 09.7 +4.6**
AAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
VSU Vasula 69.13 349 *c i*P **P** **01 31 03.7 -1.4**
PMG Port Moresby 69.30 221 *e*P sP 01 31 20.7 -3.5
LSA Lhasa 70.24 293 P **P** **01 31 14.3 +1.9**
LSA Lhasa 70.24 293 *e*P **P** **01 31 13.4 +1.0**
LSA pmax pmax
comp=Z,15nm,0.7s,mb5.0
LSA Lhasa 70.24 293 *e*P **P** **01 31 13.4 +1.0**
comp=Z,15nm,0.7s,mb5.0
OBN Obninsk 70.79 342 ⇑ *i*P **P** **01 31 13.6 -1.6**
OBN *e* pP 01 31 27.2 -0.6
OBN pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.0
PPT Papeete 71.98 156 *e*LR LR 01 54 04.3
comp=Z,87nm,21.2s,baz=27
PPT Papeete 71.98 156 LR LR 01 56 10.1
comp=Z,121nm,19.8s,MS4.2,baz=9.5,slow=30
NANT Nan 72.67 278 P **P** **01 31 25.0 -2.1**
EKA Eskdalemuir Ar 73.28 5 P **P** **01 31 28.8 -1.1**
EKA pmax pmax
comp=Z,1.0nm,0.8s
EKA Eskdalemuir Ar 73.28 5 P **P** **01 31 28.8 -1.2**
comp=Z,0.9nm,0.8s,mb3.8,baz=8.1,slow=5.9,SNR=4.4
SUW Suwalki 73.91 350 *e*P **P** **01 31 32.3 -1.3**
SUW Suwalki 73.91 350 *e*P **P** **01 31 32.3 -1.3**
GUN Gumba 74.61 295 *e*P **P** **01 31 38.9 +0.7**
comp=Z,75nm,0.9s,mb5.6
BSEG Bad Segeberg 74.90 357 P **P** **01 31 39.7 +0.4**
BSEG pmax pmax
comp=Z,13nm,1.1s,mb4.8
BSEG Bad Segeberg 74.90 357 *e*P **P** **01 31 39.7 +0.4**
BDT Bhumibol Dam 74.90 279 P **P** **01 31 42.0 +1.9**
KKN Kakani 75.04 296 *e*P **P** **01 31 41.2 +0.5**
comp=Z,24nm,0.7s,mb5.2
KKN Kakani 75.04 296 *e*P **P** **01 31 41.2 +0.5**
KKN pmax pmax
comp=Z,12nm,0.7s,mb4.9
PKI Pulchoki 75.13 295 *e*P **P** **01 31 41.5 +0.3**
comp=Z,49nm,1.0s,mb5.4
PKI Pulchoki 75.13 295 *e*P **P** **01 31 41.5 +0.3**
PKI pmax pmax
comp=Z,25nm,1.0s,mb5.1
GKN Gorkha 75.23 296 *e*P **P** **01 31 42.0 +0.2**
comp=Z,44nm,0.8s,mb5.4
DMN Daman 75.27 296 *e*P **P** **01 31 42.6 +0.6**
KOLN Koldanda 75.99 297 *e*P **P** **01 31 46.3 +0.2**
comp=Z,50nm,1.0s,mb5.4
AKASG Malin Array Be 76.31 345 P **P** **01 31 46.1 -1.4**
AKASG *PP pP 01 31 59.6 -0.5
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 76.31 345 P **P** **01 31 46.1 -1.3**
comp=Z,3.3nm,0.5s,mb4.6,baz=14,slow=5.5,SNR=16
AKASG pP pP 01 31 59.6 -0.6
comp=Z,2.3nm,0.5s,baz=14,slow=5.4,SNR=4.3
CLZ Clausthal 76.99 357 P **P** **01 31 51.8 +0.5**
CLZ pmax pmax
comp=Z,24nm,1.4s,mb4.9
CLZ Clausthal 76.99 357 *e*P **P** **01 31 51.8 +0.5**
comp=Z,24nm,1.4s,mb4.9
CLL Collm 77.42 356 ⇑ *i*P **P** **01 31 53.4 -0.3**
CLL *e*SP sP 01 32 06.0 -5.1
CLL pmax pmax
comp=Z,14nm,1.2s,mb4.8
CLL Collm 77.42 356 ⇑ *i*P **P** **01 31 53.4 -0.3**
comp=Z,14nm,1.2s,mb4.8
CLL *e*sP sP 01 32 06.0 -5.1
CLL Collm 77.42 356 ⇑ P **P** **01 31 53.4 -0.3**
comp=Z,logA/T=1.1,mb4.8
CLL *e*PP pP 01 32 06.0 -0.4
TBI Tubuai 77.55 157 *e*LR LR 01 55 06.7
comp=Z,158nm,26.2s,baz=5.1
KSP Ksiaz 77.69 353 *e*P **P** **01 31 55.3 +0.1**
BRG Berggiesshubel 77.81 355 *i* P **P** **01 31 55.8 0.0**
BRG *e* pP 01 32 09.5 +1.0
BRG pmax pmax
comp=Z,12nm,1.0s,mb4.8
BRG pmax pmax
comp=Z,13nm,1.3s,mb4.7
BRG MLR MLR
comp=N,90nm,12.4s,MS4.5
BRG MLR MLR
comp=E,98nm,12.4s,MS4.5
BRG MLR MLR
comp=Z,178nm,17.9s
BRG Berggiesshubel 77.81 355 *i* P **P** **01 31 55.8 -0.1**
comp=Z,12nm,1.0s,mb4.8
BRG *e* pP 01 32 09.5 +1.0
BRG LR LR
comp=Z,180nm,17.9s,MS4.4
OJC Ojcow 78.01 351 *e*P **P** **01 31 56.6 -0.3**
UPC Upice 78.04 354 *e*P **P** **01 31 57.0 -0.1**
UPC *e*pP pP 01 32 10.6 +0.8
PVCC Panska Ves 78.11 354 *e*P **P** **01 31 57.9 +0.4**
MOX Moxa 78.14 356 *e*P **P** **01 31 58.0 +0.3**
MOX *e* pP 01 32 11.8 +1.4
MOX pmax pmax
comp=Z,16nm,1.1s,mb4.9
MOX Moxa 78.14 356 *e*P **P** **01 31 58.0 +0.3**
comp=Z,16nm,1.1s,mb4.9
MOX *e* pP 01 32 11.8 +1.4
MOX Moxa 78.14 356 *i* P **P** **01 31 58.0 +0.3**
comp=Z,logA/T=1.2,mb4.9
MOX pP pP 01 32 12.0 +1.6
KWP Kalwaria 78.27 349 *e*P **P** **01 31 56.8 -1.6**
KWP Kalwaria 78.27 349 *e*P **P** **01 31 56.8 -1.6**
NKC Novy Kostel 78.52 356 *e*P **P** **01 32 00.2 +0.5**
NKC *e*pP pP 01 32 13.8 +1.3
OKC Ostrava-Krasne 78.54 352 *e*P **P** **01 32 00.1 +0.3**
STHS Stebnicka Huta 78.65 350 *i* P **P** **01 32 01.1 +0.6**
PRU Pruhonice 78.65 354 *e*P **P** **01 32 00.5 0.0**
PRU *e*pP pP 01 32 14.1 +0.9
TNS Taunus Mts 78.66 358 P **P** **01 32 00.9 +0.4**
TNS pmax pmax
comp=Z,11nm,0.9s,mb4.8
TNS Taunus Mts 78.66 358 *e*P **P** **01 32 00.9 +0.4**
comp=Z,11nm,0.9s,mb4.8
GIVF Givet 78.79 1 *e*P **P** **01 32 01.3 +0.1**
BAIF Baives 78.83 1 *e*P **P** **01 32 01.3 -0.1**
comp=Z,10nm,0.9s,mb4.5
BAIF Baives 78.83 1 *e*P **P** **01 32 01.3 -0.1**
BAIF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ABH Alteburg 79.01 359 *e*P **P** **01 32 02.7 +0.3**
KOLS Kolonicke sedl 79.01 349 *i* P **P** **01 32 02.3 -0.2**
GRA1 Grafenberg Arr 79.11 357 *e*P **P** **01 32 03.9 +0.9**
comp=Z,20nm,1.0s,mb5.0
GRA1 *e*pP pP 01 32 17.5 +1.8
GRF Grafenberg Arr 79.11 357 P **P** **01 32 03.9 +0.9**
GRF pmax pmax
comp=Z,20nm,1.0s,mb5.0
GRF Grafenberg Arr 79.11 357 *e*P **P** **01 32 03.9 +0.9**
GRF *e*PP pP 01 32 17.5 +1.8
GRF pmax pmax
comp=Z,20nm,1.0s,mb5.0
GRF Grafenberg Arr 79.11 357 *e*P **P** **01 32 03.9 +0.9**
comp=Z,20nm,1.0s,mb5.0
GRF *e*pP pP 01 32 17.5 +1.8
CRVS Cervenica-Dubn 79.14 350 *i* P **P** **01 32 02.9 -0.3**
VRAC Vranov 79.19 353 P **P** **01 32 03.8 +0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRAC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VRAC	**Vranov**	**79.19**	**353**	P	**P**	**01 32 03.8**	**+0.4**
	comp=Z,9.6nm,0.8s,mb4.8,baz=358,slow=11,SNR=5.4						
RUP	**Ruppelstein**	**79.19**	**359**	*e*P	**P**	**01 32 04.4**	**+0.9**
TOD	**Tromm**	**79.27**	**358**	*e*P	**P**	**01 32 03.9**	**+0.1**
KHC	**Kasperske Hory**	**79.56**	**355**	*e*P	**P**	**01 32 06.0**	**+0.5**
KHC				*e*pP	pP	01 32 19.6	+1.4
WET	**Wettzell**	**79.59**	**355**	P	**P**	**01 32 05.8**	**+0.2**
WET				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
WET	**Wettzell**	**79.59**	**355**	*e*P	**P**	**01 32 05.8**	**+0.2**
	comp=Z,6.0nm,1.2s,mb4.4						
KECS	**Kecovo**	**79.66**	**350**	*i* P	**P**	**01 32 06.2**	**+0.2**
KIV	**Kislovodsk**	**79.79**	**334**	⇑*i*P	**P**	**01 32 06.7**	**-0.1**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
VYHS	**Vyhne**	**79.81**	**351**	*i* P	**P**	**01 32 07.1**	**+0.3**
GEC2	**GERESS Array S**	**79.84**	**355**	P	**P**	**01 32 06.8**	**-0.2**
GEC2				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
GEC2	**GERESS Array S**	**79.84**	**355**	*e*P	**P**	**01 32 06.8**	**-0.2**
	comp=Z,7.0nm,1.0s,mb4.5						
GERES	**GERESS Array B**	**79.84**	**355**	P	**P**	**01 32 06.9**	**-0.1**
GERES				*PP	pP	01 32 20.0	+0.3
GERES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GERES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GERES	**GERESS Array B**	**79.84**	**355**	P	**P**	**01 32 06.9**	**-0.1**
	comp=Z,3.9nm,0.8s,mb4.4,baz=18,slow=4.2,SNR=35						
GERES				pP	pP	01 32 20.0	+0.3
	comp=Z,2.3nm,0.9s,baz=27,slow=3.0,SNR=6.2						
SMOL	**Smolenice**	**79.91**	**352**	*i* P	**P**	**01 32 08.3**	**+0.9**
BURAR	**Bucovina Array**	**79.93**	**347**	⇑P	**P**	**01 32 07.7**	**+0.3**
BURAR	**Bucovina Array**	**79.93**	**347**	⇑P	**P**	**01 32 07.7**	**+0.2**
FLN	**La Foliniere**	**79.98**	**4**	*e*P	**P**	**01 32 07.1**	**-0.6**
	comp=Z,3.1nm,0.5s,mb4.2						
FLN	**La Foliniere**	**79.98**	**4**	*e*P	**P**	**01 32 07.1**	**-0.6**
FLN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
LDF	**La Druitiere**	**80.17**	**4**	*e*P	**P**	**01 32 08.1**	**-0.6**
	comp=Z,4.8nm,0.6s,mb4.3						
LDF	**La Druitiere**	**80.17**	**4**	*e*P	**P**	**01 32 08.1**	**-0.6**
LDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ROSF	**Rostrenen**	**80.24**	**6**	*e*P	**P**	**01 32 08.7**	**-0.4**
ZST	**Bratislava**	**80.25**	**353**	*i* P	**P**	**01 32 10.0**	**+0.8**
GRR	**Gorron**	**80.34**	**5**	*e*P	**P**	**01 32 09.2**	**-0.4**
	comp=Z,4.8nm,0.7s,mb4.2						
GRR	**Gorron**	**80.34**	**5**	*e*P	**P**	**01 32 09.2**	**-0.4**
GRR				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
SGMF	**Saint Gilles**	**80.37**	**6**	*e*P	**P**	**01 32 09.4**	**-0.4**
	comp=Z,3.9nm,0.6s,mb4.2						
SGMF	**Saint Gilles**	**80.37**	**6**	*e*P	**P**	**01 32 09.4**	**-0.4**
SGMF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
MEZF	**Maizieres J'vi**	**80.39**	**1**	*e*P	**P**	**01 32 09.9**	**0.0**
WLS	**Welschbruch**	**80.48**	**359**	*e*P	**P**	**01 32 10.5**	**+0.1**
CDF	**Champ du Feu**	**80.48**	**359**	*e*P	**P**	**01 32 10.4**	**0.0**
	comp=Z,24nm,0.9s,mb4.8						
CDF	**Champ du Feu**	**80.48**	**359**	*e*P	**P**	**01 32 10.4**	**0.0**
CDF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
BFO	**Black Forest**	**80.55**	**358**	P	**P**	**01 32 11.0**	**+0.2**
BFO				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.7						
BFO	**Black Forest**	**80.55**	**358**	*e*P	**P**	**01 32 11.0**	**+0.2**
	comp=Z,14nm,1.4s,mb4.7						
FUR	**Furstenfeldbru**	**80.64**	**356**	P	**P**	**01 32 11.7**	**+0.5**
FUR				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
FUR	**Furstenfeldbru**	**80.64**	**356**	*e*P	**P**	**01 32 11.7**	**+0.5**
	comp=Z,13nm,0.9s,mb4.9						
QUIF	**Quistinic**	**80.67**	**6**	*e*P	**P**	**01 32 11.0**	**-0.4**
THEF	**They Montfort**	**80.67**	**0**	*e*P	**P**	**01 32 11.7**	**+0.3**
ECH	**Echery**	**80.68**	**359**	*e*P	**P**	**01 32 11.7**	**+0.3**
MOA	**Molln**	**80.80**	**354**	⇑*i*P	**P**	**01 32 12.3**	**+0.2**
	comp=Z,1.7nm,0.7s,mb4.1						
HAU	**Haudompre**	**80.89**	**360**	*e*P	**P**	**01 32 12.6**	**0.0**
	comp=Z,26nm,1.1s,mb4.8						
HAU	**Haudompre**	**80.89**	**360**	*e*P	**P**	**01 32 12.6**	**0.0**
HAU				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
FELD	**Feldberg**	**81.01**	**359**	*e*P	**P**	**01 32 13.2**	**0.0**
MOF	**Molkenrain**	**81.05**	**359**	*e*P	**P**	**01 32 13.4**	**0.0**
HINF	**Hinteralfeld**	**81.08**	**359**	*e*P	**P**	**01 32 13.4**	**-0.2**
	comp=Z,18nm,0.9s,mb4.7						
HINF	**Hinteralfeld**	**81.08**	**359**	*e*P	**P**	**01 32 13.4**	**-0.2**
HINF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
ARSA	**Arzberg**	**81.32**	**353**	⇓*i*P	**P**	**01 32 15.6**	**+0.8**
	comp=Z,4.7nm,0.7s,mb4.5						
WATA	**Walderalm**	**81.45**	**356**	⇓*i*P	**P**	**01 32 16.4**	**+0.9**
	comp=Z,9.3nm,1.1s,mb4.6						
WATA	**Walderalm**	**81.45**	**356**	⇓*i*P	**P**	**01 32 16.4**	**+0.9**
WATA				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
MOTA	**Moosalm**	**81.46**	**357**	⇓*i*P	**P**	**01 32 16.3**	**+0.7**
	comp=Z,4.1nm,0.7s,mb4.5						
MOTA	**Moosalm**	**81.46**	**357**	⇓*i*P	**P**	**01 32 16.3**	**+0.7**
MOTA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
WTTA	**Wattenberg**	**81.52**	**356**	⇑*i*P	**P**	**01 32 16.8**	**+0.9**
	comp=Z,6.9nm,0.7s,mb4.7						
WTTA	**Wattenberg**	**81.52**	**356**	⇑*i*P	**P**	**01 32 16.8**	**+0.9**
WTTA				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
LOMF	**Lomont**	**81.55**	**359**	*e*P	**P**	**01 32 16.6**	**+0.6**
DAVA	**Damuels**	**81.56**	**357**	⇑*i*P	**P**	**01 32 17.7**	**+1.6**
	comp=Z,8.4nm,1.2s,mb4.5						
SQTA	**Sankt Quirin**	**81.58**	**356**	⇓*i*P	**P**	**01 32 17.3**	**+1.1**
	comp=Z,6.7nm,0.8s,mb4.6						
SQTA	**Sankt Quirin**	**81.58**	**356**	⇓*i*P	**P**	**01 32 17.3**	**+1.1**
SQTA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
LOR	**Lormes**	**81.61**	**2**	*e*P	**P**	**01 32 16.5**	**+0.1**
	comp=Z,16nm,0.9s,mb4.7						
LOR	**Lormes**	**81.61**	**2**	*e*P	**P**	**01 32 16.5**	**+0.1**
LOR				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
KBA	**Koelnbreinsper**	**81.62**	**355**	⇑*i*P	**P**	**01 32 17.7**	**+1.3**
	comp=Z,13nm,0.7s,mb5.0						
KBA	**Koelnbreinsper**	**81.62**	**355**	⇑*i*P	**P**	**01 32 17.7**	**+1.3**
KBA				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
SSF	**Saint Saulge**	**81.81**	**2**	*e*P	**P**	**01 32 17.5**	**+0.1**
SSF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
SSF	**Saint Saulge**	**81.81**	**2**	*e*P	**P**	**01 32 17.5**	**+0.1**
	comp=Z,9.6nm,1.0s,mb4.7						
CFR	**Carcaliu**	**81.85**	**344**	⇑P	**P**	**01 32 18.4**	**+0.8**
MLR	**Muntele Rosu**	**81.90**	**346**	P	**P**	**01 32 19.3**	**+1.4**
	comp=Z,6.3nm,0.8s,mb4.6,baz=91,slow=1.1,SNR=12						
MLR	**Muntele Rosu**	**81.90**	**346**	⇑P	**P**	**01 32 19.4**	**+1.5**
MLR	**Muntele Rosu**	**81.90**	**346**	⇑P	**P**	**01 32 19.4**	**+1.5**
PERS	**Pernice**	**81.96**	**354**	*e*P	**P**	**01 32 18.6**	**+0.4**
DAVOX	**Davos**	**82.07**	**357**	P	**P**	**01 32 18.7**	**0.0**
	comp=Z,4.5nm,0.7s,mb4.5,baz=334,slow=2.8,SNR=11						
OBKA	**Obir**	**82.12**	**354**	⇑*i*P	**P**	**01 32 18.5**	**-0.5**
	comp=Z,4.6nm,0.7s,mb4.5						
MFF	**Saint Martin d**	**82.15**	**4**	*e*P	**P**	**01 32 19.2**	**0.0**
	comp=Z,18nm,1.1s,mb4.6						
MFF	**Saint Martin d**	**82.15**	**4**	*e*P	**P**	**01 32 19.2**	**0.0**
MFF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
SMF	**Signal de Mont**	**82.24**	**2**	*e*P	**P**	**01 32 19.6**	**0.0**
	comp=Z,38nm,1.1s,mb4.9						
SMF	**Signal de Mont**	**82.24**	**2**	*e*P	**P**	**01 32 19.6**	**0.0**
SMF				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
CABF	**La Chapelle**	**82.29**	**360**	*e*P	**P**	**01 32 20.5**	**+0.6**
	comp=Z,42nm,1.1s,mb5.0						
CABF	**La Chapelle**	**82.29**	**360**	*e*P	**P**	**01 32 20.5**	**+0.6**
CABF				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
BGF	**Bois d'Agland**	**82.31**	**2**	*e*P	**P**	**01 32 20.0**	**+0.1**
TIRR	**Tirgusor**	**82.50**	**344**	⇓P	**P**	**01 32 21.9**	**+0.9**
PDKS	**Podkum**	**82.54**	**354**	*i* P	**P**	**01 32 18.6**	**-2.5**
TCF	**Toulx Ste Croi**	**82.56**	**3**	*e*P	**P**	**01 32 21.3**	**+0.1**
	comp=Z,8.4nm,0.9s,mb4.5						
TCF	**Toulx Ste Croi**	**82.56**	**3**	*e*P	**P**	**01 32 21.3**	**+0.1**
TCF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
PLDF	**La Plantade**	**82.91**	**2**	*e*P	**P**	**01 32 24.8**	**+1.8**
PYM	**Petit Puy Mans**	**83.12**	**2**	*e*P	**P**	**01 32 25.5**	**+1.4**
LPL	**La Plagne**	**83.38**	**360**	*e*P	**P**	**01 32 26.0**	**+0.6**
	comp=Z,2.9nm,0.6s,mb4.2						
LPL	**La Plagne**	**83.38**	**360**	*e*P	**P**	**01 32 26.0**	**+0.6**
LPL				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
LPG	**La Plagne**	**83.40**	**360**	*e*P	**P**	**01 32 26.2**	**+0.7**
RJF	**Les Rejaudoux**	**83.52**	**3**	*e*P	**P**	**01 32 26.1**	**+0.1**
	comp=Z,15nm,1.1s,mb4.7						
RJF	**Les Rejaudoux**	**83.52**	**3**	*e*P	**P**	**01 32 26.1**	**+0.1**
RJF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.7						
LBL	**Lubilhac**	**83.64**	**2**	*e*P	**P**	**01 32 28.7**	**+2.1**
LFF	**La Frestale**	**83.85**	**4**	*e*P	**P**	**01 32 27.8**	**+0.1**
	comp=Z,39nm,1.2s,mb5.1						
LFF	**La Frestale**	**83.85**	**4**	*e*P	**P**	**01 32 27.8**	**+0.1**
LFF				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.1						
CAF	**Calviac**	**83.91**	**3**	*e*P	**P**	**01 32 28.6**	**+0.6**
	comp=Z,20nm,1.1s,mb4.9						
CAF	**Calviac**	**83.91**	**3**	*e*P	**P**	**01 32 28.6**	**+0.6**
CAF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
ORIF	**Oris-en-Rattie**	**83.98**	**0**	*e*P	**P**	**01 32 29.0**	**+0.6**
	comp=Z,4.9nm,0.6s,mb4.5						
ORIF	**Oris-en-Rattie**	**83.98**	**0**	*e*P	**P**	**01 32 29.0**	**+0.6**
ORIF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
VIVF	**Saint-Julien-l**	**84.04**	**1**	*e*P	**P**	**01 32 29.2**	**+0.5**
	comp=Z,22nm,1.1s,mb4.9						
VIVF	**Saint-Julien-l**	**84.04**	**1**	*e*P	**P**	**01 32 29.2**	**+0.5**
VIVF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.9						
MBDF	**Montbardon**	**84.17**	**359**	*e*P	**P**	**01 32 30.3**	**+0.9**
	comp=Z,7.7nm,0.6s,mb4.7						
MBDF	**Montbardon**	**84.17**	**359**	*e*P	**P**	**01 32 30.3**	**+0.9**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**84.26**	**228**	P	**P**	**01 32 29.0**	**-1.4**
WRA	**Warramunga Arr**	**84.27**	**228**	P	**P**	**01 32 31.8**	**+1.4**
WRA				*PP	pP	01 32 44.6	+1.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**84.27**	**228**	P	**P**	**01 32 31.8**	**+1.4**
	comp=Z,0.8nm,0.7s,mb4.0,baz=32,slow=5.7,SNR=5.3						
WRA				pP	pP	01 32 44.6	+1.3
	comp=Z,1.1nm,0.5s,baz=32,slow=5.6,SNR=4.2						
LASF	**Ste Croix**	**84.81**	**2**	*e*P	**P**	**01 32 33.2**	**+0.7**
	comp=Z,15nm,1.0s,mb4.8						
TOUF	**Mont Tournerai**	**84.88**	**359**	*e*P	**P**	**01 32 34.2**	**+1.3**
AUTN	**L'Aution**	**84.90**	**359**	*e*P	**P**	**01 32 34.1**	**+1.1**
STOF	**St-Etienne Org**	**84.90**	**0**	*e*P	**P**	**01 32 33.9**	**+0.9**
SAOF	**Saorge**	**84.91**	**359**	*e*P	**P**	**01 32 33.7**	**+0.7**
SMRF	**Simiane la Rot**	**84.92**	**0**	*e*P	**P**	**01 32 33.7**	**+0.6**
	comp=Z,54nm,1.1s,mb5.3						
MVIF	**Mont Vial**	**85.00**	**359**	*e*P	**P**	**01 32 34.5**	**+1.0**
SBF	**Sospel**	**85.03**	**359**	*e*P	**P**	**01 32 34.1**	**+0.4**
	comp=Z,36nm,1.0s,mb5.2						
SBF	**Sospel**	**85.03**	**359**	*e*P	**P**	**01 32 34.1**	**+0.4**
SBF				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.2						
VILF	**Villemus**	**85.05**	**0**	*e*P	**P**	**01 32 35.3**	**+1.5**
PRAF	**Pradon**	**85.09**	**1**	*e*P	**P**	**01 32 35.8**	**+1.8**
CALN	**Calern**	**85.15**	**359**	*e*P	**P**	**01 32 35.2**	**+1.0**
REVF	**Revere**	**85.16**	**359**	*e*P	**P**	**01 32 35.2**	**+0.9**
TAVF	**Tavernes**	**85.28**	**0**	*e*P	**P**	**01 32 36.3**	**+1.4**
FRF	**La Foret Royal**	**85.34**	**360**	*e*P	**P**	**01 32 35.8**	**+0.6**
	comp=Z,32nm,1.1s,mb5.1						
FRF	**La Foret Royal**	**85.34**	**360**	*e*P	**P**	**01 32 35.8**	**+0.6**
FRF				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.1						
PUYF	**Puyloubier**	**85.37**	**0**	*e*P	**P**	**01 32 36.8**	**+1.5**
MTLF	**Montolieu**	**85.50**	**3**	*e*P	**P**	**01 32 36.5**	**+0.5**
	comp=Z,32nm,1.3s,mb5.1						
MTLF	**Montolieu**	**85.50**	**3**	*e*P	**P**	**01 32 36.5**	**+0.5**
MTLF				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.1						
GELF	**Grande-Etoile**	**85.52**	**0**	*e*P	**P**	**01 32 37.5**	**+1.4**
LMR	**La Mourre**	**85.57**	**360**	*e*P	**P**	**01 32 36.9**	**+0.6**
	comp=Z,30nm,1.1s,mb5.2						
LMR	**La Mourre**	**85.57**	**360**	*e*P	**P**	**01 32 36.9**	**+0.6**
LMR				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.1						
SJPF	**Ste Jean**	**85.58**	**5**	*e*P	**P**	**01 32 36.5**	**+0.1**
BERF	**Bertagne**	**85.59**	**0**	*e*P	**P**	**01 32 38.0**	**+1.6**
EPF	**Esparros**	**85.74**	**4**	*e*P	**P**	**01 32 37.2**	**0.0**
	comp=Z,10nm,1.1s,mb4.7						
EPF	**Esparros**	**85.74**	**4**	*e*P	**P**	**01 32 37.2**	**0.0**
EPF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.7						
ETSF	**Etsaut**	**85.83**	**5**	*e*P	**P**	**01 32 37.6**	**0.0**
	comp=Z,5.3nm,0.7s,mb4.6						
ETSF	**Etsaut**	**85.83**	**5**	*e*P	**P**	**01 32 37.6**	**0.0**
ETSF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.6						
SKO	**Skopje**	**85.97**	**349**	*i* P	**P**	**01 32 39.5**	**+1.2**
BRTR	**Keskin Array B**	**86.03**	**339**	P	**P**	**01 32 39.6**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR	**Keskin Array B**	**86.03**	**339**	P	**P**	**01 32 39.6**	**+0.9**
	comp=Z,2.7nm,0.9s,mb4.5,baz=90,slow=1.2,SNR=12						
PGF	**Pioggiola**	**86.32**	**358**	*e*P	**P**	**01 32 40.6**	**+0.6**
	comp=Z,48nm,1.2s,mb5.3						
PGF	**Pioggiola**	**86.32**	**358**	*e*P	**P**	**01 32 40.6**	**+0.6**
PGF				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.3						
PBRG	**Braganca**	**86.43**	**10**	*e*P	**P**	**01 32 41.7**	**+1.1**
PVRL	**Vila Real**	**86.85**	**10**	*e*P	**P**	**01 32 43.9**	**+1.3**
PVIS	**Viseu**	**87.38**	**11**	*e*P	**P**	**01 32 46.1**	**+0.9**
ESDC	**Sonseca Array**	**88.80**	**8**	P	**P**	**01 32 51.9**	**-0.1**
	comp=Z,2.5nm,0.8s,mb4.6,baz=359,slow=5.3,SNR=7.6						
EVO	**Evora**	**89.52**	**11**	*e*P	**P**	**01 32 55.1**	**-0.4**
	comp=Z,4.3nm,0.7s,mb4.6						
MATP	**Matopo**	**144.38**	**322**	PKP	PKPdf	01 39 33.5	+0.2
	comp=Z,11nm,0.9s,baz=14,slow=3.2,SNR=27						
MATP				pPKP		01 39 47.4	
	comp=Z,16nm,0.8s,baz=31,slow=3.1,SNR=17						
MATP	**Matopo**	**144.38**	**322**	PKP	PKPdf	01 39 33.5	+0.2
MATP				pPKP		01 39 47.4	
TSUM	**Tsumeb**	**146.53**	**340**	PKPbc	PKPbc	01 39 40.4	+2.0
	comp=Z,6.3nm,0.6s,baz=347,slow=6.0,SNR=24						
TSUM				pPKPbc		01 39 54.2	
	comp=Z,8.6nm,0.8s,baz=3.0,slow=5.1,SNR=9.6						
TSUM	**Tsumeb**	**146.53**	**340**	*e*PKPbc	PKPbc	01 39 39.7	+1.2
MAW	**Mawson**	**148.43**	**218**	PKP2	PKPdf	01 39 44.1	+5.4
MAW				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MAW				pmax	pmax		
	comp=Z,12nm,1.0s						
MAW	**Mawson**	**148.43**	**218**	PKPbc	PKPdf	01 39 44.1	+5.4
	comp=Z,4.7nm,0.9s,baz=174,slow=9.2,SNR=4.3						
MAW				pPKPbc		01 39 57.9	
	comp=Z,12nm,1.0s,baz=63,slow=4.0,SNR=5.9						
LBTB	**Lobatse**	**149.64**	**323**	PKP2	PKPdf	01 39 48.9	+6.9
LBTB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LBTB				pmax	pmax		
	comp=Z,15nm,0.8s						
LBTB	**Lobatse**	**149.64**	**323**	PKPbc	PKPdf	01 39 48.9	+6.9
	comp=Z,6.0nm,0.8s,baz=307,slow=2.2,SNR=7.1						
LBTB				pPKPbc		01 40 02.1	
	comp=Z,15nm,0.8s,baz=36,slow=3.3,SNR=11						
LBTB	**Lobatse**	**149.64**	**323**	*e*PKPbc	PKPdf	01 39 48.4	+6.4
BOSA	**Boshof**	**153.00**	**320**	PKPbc	PKPdf	01 39 55.6	+8.7
	comp=Z,1.5nm,0.5s,baz=241,slow=21,SNR=8.9						
BOSA	**Boshof**	**153.00**	**320**	*e*PKPbc	PKPdf	01 39 55.4	+8.6
BOSA				*e*PKPab	PKPab	01 40 07.0	-1.0
VNA3	**Neumayer Olymp**	**158.92**	**166**	PKPdf	PKPdf	01 40 08.6	+15
VNA3				*e*		01 40 29.1	
VNA3				*e*		01 40 43.8	
SNAA	**Sanae**	**159.34**	**172**	⇑*i*P	PKPab	01 40 35.8	+2.0
SNAA	**Sanae**	**159.34**	**172**	*e*		01 40 48.3	
VNA2	**Neumayer--Watz**	**159.54**	**167**	⇑*i*PKPdf	PKPdf	01 40 10.8	+17
VNA2				*e*		01 40 33.8	
VNA2				*e*		01 40 50.0	

*NEIC **15** 01:59:57.6, 18.86N×68.81W, h146km, MD4.2(RSPR), After RSPR.*

RSPR 15 01:59:57.6, 18.86N×68.81W, h146km±9km**, MD4.2**/8**, 10C, Mona Passage**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**1.71**	**112**	*e*S	S	02 00 54.4	+0.4
LSP	**Las Mesas**	**1.77**	**112**	⇑*e*P	P	02 00 30.0	-0.1
LSP				*e*S	S	02 00 55.6	+0.4
CRPR	**Cabo Rojo, PR**	**1.82**	**117**	⇑*e*P	P	02 00 29.1	-1.6
CRPR				*e*S	S	02 00 54.9	-1.3
MGP	**Maguayo**	**1.84**	**117**	⇑*e*P	P	02 00 29.4	-1.5
MGP				*e*S	S	02 00 56.0	-0.6
PORP	**Portuguez**	**2.21**	**111**	⇑*e*P	P	02 00 34.7	-0.8
PORP				*e*S	S	02 01 03.7	-0.7
ICM	**Isla Caja Muer**	**2.38**	**113**	*e*S	S	02 01 07.7	-0.4
SJG	**San Juan**	**2.63**	**106**	⇑*e*P	P	02 00 41.0	+0.2
SJG				*e*S	S	02 01 14.4	+0.6
CBYP	**Canovanas**	**2.86**	**101**	⇑*e*P	P	02 00 43.8	0.0
CBYP				*e*S	S	02 01 18.9	-0.1
CPD	**Cerro la Pandu**	**2.87**	**106**	⇑*e*P	P	02 00 44.2	+0.4
CPD				*e*S	S	02 01 19.3	+0.3
HUMP	**Col San Antoni**	**2.90**	**104**	⇑*e*P	P	02 00 44.1	-0.1
HUMP				*e*S	S	02 01 20.3	+0.5
MTP	**Monte Pirata**	**3.18**	**103**	⇑*e*P	P	02 00 47.7	-0.1
MTP				*e*S	S	02 01 27.1	+0.8
STVI	**Saint Thomas**	**3.69**	**97**	⇑*e*P	P	02 00 54.3	-0.2
STVI				*e*S	S	02 01 37.6	-0.5
CDVI	**St. Croix**	**4.00**	**105**	*e*S	S	02 01 45.8	+0.3
TBVI	**Tortola**	**4.01**	**96**	*e*S	S	02 01 45.3	-0.4
SDV	**Santo Domingo**	**10.07**	**190**	*e*P	P	02 02 16.0	-3.5

*IDC **15** 02:17:11.9±1.1, 26.57S×176.39W, mb3.9/4, mb1 4.3/5, mb1mx4.1/12, mbtmp4.1/5, MS4.0/6, Ms1 4.0/6, ms1mx3.8/15, Error ellipse: s-maj=41.0km s-min=29.3km az=147.0*

*NEIC **15** 02:17:13.7±11.0, 26.84S×176.27W, h14km±64km, mb4.4/4, Error ellipse: s-maj=28.1km s-min=15.7km az=50.0*

ISC 15 02:17:15.3±0.7**, 26.90S**±0.09×**176.4W**±0.1**, h33**km**, n35,** σ**0.71**/18**, mb4.2**/7**, MS4.0**/6**, 3D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.72**	**210**	*e*Pn	**Pn**	**02 17 57.6**	**-0.2**
RAO				*e*Sn	**Sn**	**02 18 29.8**	**0.0**
AFI	**Afiamalu**	**13.62**	**19**	Pn	**P**	**02 20 20.8**	**-7.8**
	6.2nm,0.3s,baz=199,slow=20,SNR=4.8						
AFI				Sn	**S**	**02 22 42.1**	**-18**
	3.3nm,0.3s,baz=36,slow=19,SNR=4.8						
TBI	**Tubuai**	**24.60**	**88**	*e*S	Sx	02 26 15.2	
	2µm,38.0s						
TBI				*e*LQ		02 26 53.6	
	105nm,21.2s						
TBI				*e*LR	LR	02 28 02.5	
	322nm,29.0s,baz=255						
PPT	**Papeete**	**26.44**	**75**	*e*LQ		02 27 37.6	
	608nm,23.5s						
PPT				*e*LR	LR	02 28 34.1	
	325nm,27.5s,baz=241						
PPT	**Papeete**	**26.44**	**75**	LR	LR	02 30 36.6	
	comp=Z,119nm,18.4s,MS3.5,baz=252,slow=30						
HNR	**Honiara**	**28.34**	**303**	LR	LR	02 32 54.9	
	comp=Z,213nm,19.0s,MS3.8,baz=157,slow=34						
CTA	**Charters Tower**	**34.85**	**273**	P	**P**	**02 24 05.3**	**-0.3**
	2.7nm,0.5s,mb4.5,baz=101,slow=12,SNR=5.4						
CTA				LR	LR	02 37 01.8	
	comp=Z,467nm,18.0s,MS4.3,baz=224,slow=34						
STKA	**Stephens Creek**	**36.80**	**252**	LR	LR	02 38 15.8	
	comp=Z,322nm,18.2s,MS4.2,baz=179,slow=34						
RKT	**Rikitea**	**37.59**	**94**	*e*LR	LR	02 34 44.7	
	281nm,37.2s						
WB2	**Warramunga Arr**	**45.52**	**268**	*e*P	**P**	**02 25 34.6**	**+0.8**
WRAB	**Tennant Creek**	**45.52**	**268**	*e*P	**P**	**02 25 34.7**	**+0.9**
	2.0nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**45.53**	**268**	P	**P**	**02 25 32.8**	**-1.1**
	3.8nm,0.9s,mb4.3,baz=107,slow=7.7,SNR=5.5						
VNDA	**Vanda**	**51.71**	**186**	P	**P**	**02 26 22.5**	**+1.5**
	0.5nm,0.8s,mb3.5,baz=18,slow=3.2,SNR=2.4						
VNDA	**Vanda**	**51.71**	**186**	P	**P**	**02 26 22.4**	**+1.4**
	1.8nm,1.1s,mb3.9						
CASY	**Casey**	**58.90**	**207**	*e*P	**P**	**02 27 12.1**	**-1.0**
CASY	**Casey**	**58.90**	**207**	*e*P	**P**	**02 27 11.9**	**-1.1**
	4.9nm,0.7s,mb4.7						
SNAA	**Sanae**	**81.60**	**178**	⇓*i*	**P**	**02 29 30.5**	**-0.3**
SNAA	**Sanae**	**81.60**	**178**	*e*P	**P**	**02 29 30.2**	**-0.5**
	4.9nm,1.1s,mb4.3						
VNA3	**Neumayer Olymp**	**81.69**	**176**	*e*	pP	02 29 34.8	-6.9
VNA3	**Neumayer Olymp**	**81.69**	**176**	*e*	PcP	02 29 45.8	+8.4
VNA3	**Neumayer Olymp**	**81.69**	**176**	⇓*i*P	**P**	**02 29 30.6**	**-0.6**
VNA3				*e*		02 29 34.8	
VNA3				*e*		02 29 45.8	
VNA3				*e*		02 30 06.2	
VNA2	**Neumayer--Watz**	**82.14**	**176**	*e*	pP	02 29 38.9	-5.1
VNA2	**Neumayer--Watz**	**82.14**	**176**	*e*	PcP	02 29 49.9	+11
VNA2	**Neumayer--Watz**	**82.14**	**176**	⇓*i*P	**P**	**02 29 33.6**	**0.0**
VNA2				*e*		02 29 38.9	
VNA2				*e*		02 29 49.9	
VNA2				*e*		02 30 15.3	
VNA1	**Neumayer--Stat**	**82.36**	**176**	*e*	pP	02 29 40.3	-4.9
VNA1	**Neumayer--Stat**	**82.36**	**176**	*e*	PcP	02 29 51.3	+11
VNA1	**Neumayer--Stat**	**82.36**	**176**	P	**P**	**02 29 35.2**	**+0.5**
VNA1				*e*		02 29 40.3	
VNA1				*e*		02 29 51.3	
VNA1				*e*		02 30 17.5	
PLCA	**Paso Flores**	**83.83**	**133**	LR	LR	03 00 33.5	
	comp=Z,95nm,18.9s,MS4.2,baz=211,slow=31						
TXAR	**Lajitas Array**	**89.28**	**56**	P	**P**	**02 30 09.6**	**-0.1**
	0.9nm,1.0s,mb4.1,baz=217,slow=6.3,SNR=6.7						
ANMO	**Albuquerque**	**90.26**	**50**	LR	LR	03 02 21.0	
	comp=Z,101nm,21.2s,MS4.2,baz=200,slow=30						
MKAR	**Makanchi Array**	**116.59**	**311**	PKP	PKPdf	02 35 56.5	+0.5
	0.1nm,0.4s,baz=70,slow=3.1,SNR=3.3						
NB2	**NORSAR Subarra**	**145.48**	**353**	PKPabc	PKPbc	02 36 50.7	+0.8
	4.4nm,0.8s,baz=10.0,slow=4.1						
NOA	**NORSAR Array B**	**145.48**	**353**	PKPbc	PKPbc	02 36 50.7	+0.8
	0.8nm,0.9s,baz=11,slow=3.4,SNR=4.0						
AKASG	**Malin Array Be**	**149.25**	**327**	PKPbc	PKPdf	02 37 00.9	+5.0
	0.5nm,0.4s,baz=39,slow=3.4,SNR=6.1						
CLL	**Collm**	**154.60**	**346**	*e*PKP2	PKPab	02 37 29.0	-0.3
CLL				*e*		02 38 23.0	

*BJI **15** 02:23:19.7, 0.63N×97.26E, h38km, mb4.7*

*IDC **15** 02:23:19.3±1.8, 1.10N×97.11E, mb4.0/6, mb1 4.1/6, mb1mx3.8/17, mbtmp4.0/6, Error ellipse: s-maj=78.1km s-min=27.0km az=52.0*

*NEIC **15** 02:23:23.8±0.7, 1.13N×97.16E, h30km, mb4.1/4, Error ellipse: s-maj=17.1km s-min=11.6km az=52.0*

ISC 15 02:23:23.6±7.0**, 1.2N**±0.2×**97.2E**±0.3**, h41**km±54km**, n12,** σ**0.71**/12**, mb4.1**/11**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.31**	**40**	*e*Pn	**P**	**02 24 42.7**	**+0.2**
ENH	**Enshi**	**31.17**	**21**	P	**P**	**02 29 40.3**	**-0.9**
	4.3nm,0.5s,mb4.5						
GTA	**Gaotai**	**38.11**	**3**	*e*P	**P**	**02 30 41.4**	**+1.0**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**42.01**	**122**	P	**P**	**02 31 13.0**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.7,baz=301,slow=9.1,SNR=6.8						
WRAB	**Tennant Creek**	**42.02**	**122**	*e*P	**P**	**02 31 12.9**	**-0.1**
	comp=Z,2.4nm,0.6s,mb4.0						
SONM	**Songino Array**	**47.13**	**8**	P	**P**	**02 31 54.4**	**+0.6**
	comp=Z,0.7nm,0.4s,mb4.0,baz=193,slow=9.4,SNR=8.8						
SONM				PcP	PcP	02 33 25.8	+0.4
	comp=Z,0.5nm,0.6s,baz=195,slow=1.8,SNR=3.8						
MKAR	**Makanchi Array**	**47.25**	**346**	P	**P**	**02 31 55.1**	**+0.4**
	comp=Z,1.9nm,0.6s,mb4.2,baz=161,slow=8.8,SNR=20						
KURK	**Kurchatov**	**51.80**	**345**	*e*P	**P**	**02 32 29.3**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.9						
BVAR	**Borovoye Array**	**56.26**	**341**	P	**P**	**02 33 01.2**	**-1.1**
	comp=Z,0.9nm,0.4s,mb4.1,baz=143,slow=7.4,SNR=9.7						
ZRNK	**Zerenda**	**56.66**	**340**	*e*P	**P**	**02 33 04.0**	**-1.2**
	comp=Z,1.1nm,0.7s,mb4.0						
ARCES	**ARCESS Array B**	**82.55**	**340**	P	**P**	**02 35 43.9**	**+0.5**
	comp=Z,3.2nm,1.1s,mb4.2,baz=100,slow=5.5,SNR=4.9						
GERES	**GERESS Array B**	**84.83**	**319**	P	**P**	**02 35 56.2**	**+0.9**
	comp=Z,0.3nm,0.7s,mb3.5,baz=124,slow=9.6,SNR=3.5						

JSN 15 02:31:29.5±0.8**, 16.43N**×**77.40W, h45**km±12km**, MD3.7, 2D, Caribbean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCJ	**Portland Cotta**	**1.33**	**10**	*e*P	P	02 31 51.7	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PCJ				eS	S	02 32 07.1	-1.6
MCJ	Malvern	1.51	350	⇓iP	P	02 31 53.4	-1.3
MCJ				iS	S	02 32 12.3	-1.0
STH	Stony Hill	1.73	19	⇓eP	P	02 31 56.8	-1.0
STH				eS	S	02 32 17.2	-1.5

*NEIC **15** 02:32:41.7±3.9, 52.76N×163.73W, h5^{km}±24^{km}, ML3.3(AEIC), Error ellipse: s-maj=14.1km s-min=6.2km az=171.0*

*IDC **15** 02:32:41.6±2.0, 52.91N×163.70W, mb3.7/5, mb1 3.8/6, mb1mx3.5/20, mbtmp3.6/6, ML3.1/1, Error ellipse: s-maj=44.2km s-min=27.6km az=32.0*

ISC 15 02:32:43.1±2.1**, 52.75N**±0.08×**163.69W**±0.09**, h28**^{km}±17^{km}**, n21, σ0^{s}67**/24**, mb3.7**/5**, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	1.81	343	P	Pn	02 33 13.0	+0.1
WESE				S	Sn	02 33 35.7	+0.5
AKA	Akutan	1.87	319	P	Pn	02 33 14.1	+0.3
AKUT	Akutan	1.87	319	P	Pn	02 33 14.1	+0.3
AKUT				S	Sn	02 33 36.5	-0.2
WESN	West Dahl Nort	1.90	344	P	Pn	02 33 14.2	-0.1
WFAR	Faris Peak	1.91	341	P	Pn	02 33 15.6	+1.3
AKLV	Akutan Long Va	1.96	317	P	Pn	02 33 15.6	+0.5
AKLV				S	Sn	02 33 38.6	-0.4
AKGG	Akutan Green G	2.00	318	P	Pn	02 33 15.9	+0.2
SSLN	Shishaldin Nor	2.08	355	P	Pn	02 33 17.1	+0.3
MNAT	Makushin Natee	2.12	304	P	Pn	02 33 17.2	-0.3
MTBL	Makushin Table	2.17	306	P	Pn	02 33 18.8	+0.6
MSW	Makushin Switc	2.19	304	P	Pn	02 33 18.1	-0.4
DTNA	Dutton South F	2.56	19	P	Pn	02 33 23.2	-0.4
OKCD	Okmok Cone D	2.75	286	P	Pn	02 33 25.4	-1.1
HAG	Hague Volcano	2.78	22	P	Pn	02 33 26.8	-0.1
SDPT	Sand Point	3.23	35	P	Pn	02 33 32.4	-0.8
ILAR	Eielson Array	14.81	29	Pn	P	02 36 08.9	-3.2
	0.0nm,0.3s,baz=228,slow=12,SNR=3.0						
PDAR	Pinedale Array	36.92	83	P	P	02 39 52.1	+1.0
	0.9nm,0.5s,mb3.8,baz=306,slow=4.4,SNR=11						
TXAR	Lajitas Array	49.29	94	P	P	02 41 31.9	+0.6
	0.3nm,0.7s,mb3.5,baz=281,slow=6.4,SNR=4.3						
ARCES	ARCESS Array B	57.85	356	P	P	02 42 33.2	-0.7
	0.9nm,0.7s,mb3.9,slow=8.1,SNR=4.9						
BVAR	Borovoye Array	65.33	327	P	P	02 43 24.1	-0.2
	0.5nm,0.6s,mb3.7,baz=39,slow=9.2,SNR=3.8						
FINES	FINESS Array B	65.89	355	P	P	02 43 27.4	-0.3
	1.0nm,1.0s,mb3.8,slow=5.7,SNR=3.4						

*NEIC **15** 02:39:36.4±1.1, 18.01S×70.30W, h90^{km}±11^{km}, mb4.0/1, Error ellipse: s-maj=16.4km s-min=14.9km az=52.0*

NEIC Felt [I] at Arica.

*IDC **15** 02:39:38.8±3.0, 18.20S×70.03W, h106^{km}±22^{km}, mb3.6/2, mb1 3.6/5, mb1mx3.4/18, mbtmp4.0/5, MS2.8/1, Ms1 2.8/1, ms1mx2.4/15, Error ellipse: s-maj=43.2km s-min=16.3km az=103.0*

ISC 15 02:39:34.8±0.8**, 18.09S**±0.07×**70.3W**±0.1**, h95**^{km}±13^{km}**, n11, σ1^{s}21**/10**, mb3.8**/3**, 1C, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	1.97	325	eP	P	02 40 07.0	-0.2
ARE				iS	S	02 40 30.7	-0.4
LPAZ	La Paz	2.75	50	P	P	02 40 20.3	+2.3
	11nm,0.3s,baz=225,slow=8.5,SNR=445						
LPAZ	La Paz	2.75	50	⇑iPn	P	02 40 20.4	+2.4
LVC	Limon Verde	4.69	164	P	P	02 40 46.0	+1.3
	2.1nm,0.3s,baz=337,slow=9.1,SNR=49						
LVC				S	S	02 41 37.1	-1.2
	6.2nm,0.3s,baz=220,slow=20,SNR=8.8						
SIV	San Ignacio	9.08	78	P	P	02 41 43.1	-1.5
	1.9nm,0.3s,baz=264,slow=12,SNR=56						
CPUP	Villa Florida	14.55	127	LR	LR	02 48 39.0	
	comp=Z,44nm,20.9s,baz=106,slow=38						
BDFB	Brasilia	21.48	87	P	P	02 44 17.5	+0.4
	0.9nm,0.4s,mb3.5,baz=269,slow=10,SNR=4.3						
SNAA	Sanae	65.92	161	eP	P	02 50 13.6	+1.3
	1.8nm,0.9s,mb3.9						
DBIC	Dimbokro	69.09	75	P	P	02 50 31.8	-1.3
	1.6nm,0.7s,mb4.0,baz=251,slow=8.7,SNR=4.4						
WRA	Warramunga Arr	135.13	214	PKP	PKPdf	02 58 46.7	+2.8
	0.3nm,0.7s,baz=145,slow=1.6,SNR=6.0						
SONM	Songino Array	150.21	4	PKPbc	PKPdf	02 59 17.6	+8.3
	0.8nm,0.5s,baz=328,slow=2.8,SNR=7.5						
SONM				pPKPbc		02 59 40.1	
	0.8nm,0.8s,baz=326,slow=4.5,SNR=3.4						

*NEIC **15** 03:12:56.2, 37.66S×178.22E, h59^{km}, ML3.8(WEL), After WEL.*

WEL 15 03:12:56.5±0.3**, 37.66S**×**178.20E, h56**^{km}±2^{km}**, ML3.8**/4**, 2C, Error ellipse: s-maj=3.2km s-min=1.5km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.13	39	P	P	03 13 05.0	0.0
MXZ				S	S	03 13 11.6	+0.3
MXZ	Matakaoa Point	0.13	39	PN	P	03 13 04.9	-0.1
MXZ				SN	S	03 13 11.0	-0.2
MXZ				SN	S	03 13 11.3	0.0
PUZ	Puketiti	0.41	174	P	P	03 13 07.0	-0.2
PUZ				S	S	03 13 14.7	-0.3
PUZ	Puketiti	0.41	174	⇑PN	P	03 13 07.0	-0.2
PUZ				SN	S	03 13 14.7	-0.4
MWZ	Matawai	0.86	218	P	P	03 13 12.6	0.0
MWZ	Matawai	0.86	218	PN	P	03 13 12.6	0.0
MWZ				SN	S	03 13 23.9	-0.7
URZ	Urewera	1.05	235	P	P	03 13 14.6	-0.7
URZ	Urewera	1.05	235	⇑PN	P	03 13 14.6	-0.6
KNZ	Kokohu	1.42	197	P	P	03 13 19.1	-1.4
KNZ	Kokohu	1.42	197	PN	P	03 13 19.0	-1.4
KUZ	Kuaotunu	2.18	294	P	P	03 13 29.9	-1.2
KUZ	Kuaotunu	2.18	294	PN	P	03 13 29.8	-1.3
MOVZ	Moawhango	2.59	227	P	P	03 13 35.8	-1.2
MOVZ	Moawhango	2.59	227	PN	P	03 13 35.3	-1.7
FWVZ	Far West T-bar	2.62	232	ePN	P	03 13 36.7	-0.6
BFZ	Birch Farm	3.38	206	eP	P	03 13 44.0	-4.0
BFZ	Birch Farm	3.38	206	PN	P	03 13 44.0	-4.0
MRZ	Mangatainoka R	3.62	213	eP	P	03 13 47.2	-4.3
MRZ	Mangatainoka R	3.62	213	ePN	P	03 13 47.0	-4.5
MTW	Mount Morrison	4.07	210	P	P	03 13 52.5	-5.3
MTW	Mount Morrison	4.07	210	ePN	P	03 13 52.2	-5.6
KIW	Kapiti Island	4.09	218	P	P	03 13 53.5	-4.6
KIW	Kapiti Island	4.09	218	ePN	P	03 13 53.4	-4.7
TCW	Tory Channel	4.67	219	SN	S	03 14 51.3	-8.4
NNZ	Nelson	5.15	225	SN	S	03 15 04.4	-7.4
KHZ	Kahutara	5.95	216	SN	S	03 15 20.5	-11
MQZ	McQueen's Vall	7.36	213	SN	S	03 15 51.6	-15

CASC 15 03:13:43.1±1.9**, 11.19N**×**87.20W, h22**^{km}±9^{km}**, MD4.5, ML3.4, 11C-4D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.15	31	⇓eP	Pn	03 14 03.7	-0.3
COPN				eS	Sb	03 14 19.3	+0.7
CRUN	El Crucero	1.18	48	eP	Pn	03 14 04.7	+0.2
LEON	Leon	1.25	14	⇑eP	Pn	03 14 04.8	-0.7
TICN	Ticuantepe	1.26	48	⇑eP	Pn	03 14 06.2	+0.5
XAVN	Gruta Xavier	1.27	42	⇑eP	Pn	03 14 05.7	-0.1
APON	Apoyo	1.32	57	⇑eP	Pn	03 14 06.4	-0.1
APYN	Apoyeque	1.32	39	⇓eP	Pn	03 14 06.2	-0.4
MIRN	Miramar	1.33	21	⇓eP	Pn	03 14 05.9	-0.7
MGAN	Managua	1.33	44	⇑eP	Pn	03 14 06.3	-0.3
MGAN				eS	Sn	03 14 23.6	-0.1
	comp=E,612nm,0.3s						
MOMJ	Momotombo	1.37	28	⇑eP	Pn	03 14 06.5	-0.7
WILN	Americas 2	1.38	46	⇑eP	Pn	03 14 07.1	-0.2
WILN				eS	Sn	03 14 25.6	+0.5
CNGN	Cerro Negro	1.39	21	⇑eP	Pn	03 14 06.6	-0.8
CNGN				eS	Sn	03 14 24.8	-0.5
TEL3	Telica 3	1.41	14	⇑eP	Pn	03 14 07.0	-0.8
TELN	Telica	1.45	14	eP	Pn	03 14 07.3	-1.0
CRIN	San Cristobal	1.50	5	⇑eP	Pn	03 14 08.3	-0.8
CONN	Concepcion	1.58	76	⇓eP	Pn	03 14 10.3	0.0
PYTN	Playitas	1.74	40	⇑eP	Pn	03 14 11.7	-0.8
CNCH	Conchagua	2.16	343	eP	Pn	03 14 17.3	-1.2
BLLM	Bellamira	2.46	336	eP	Pn	03 14 21.0	-1.8
BLLM				eS	Sn	03 14 55.1	+2.7
SNVI	San Vicente	2.89	326	eP	Pn	03 14 28.8	-0.1
LCBS	La Ceiba	3.00	325	eP	Pn	03 14 29.1	-1.4
LFRS	El Faro	3.02	323	eP	Pn	03 14 29.3	-1.5

IDC 15 03:31:39.6±5.9**, 0.84S**×**99.99E, mb3.7**/2**, mb1 3.9**/2**, mb1mx3.4**/14**, mbtmp3.7**/2**, Error ellipse: s-maj=300.0km s-min=32.7km az=52.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.59	122	P	P	03 39 04.8	-1.6
	0.7nm,0.5s,baz=298,slow=9.1,SNR=12						
WB2	Warramunga Arr	38.60	122	eP	P	03 39 04.9	-1.6
MKAR	Makanchi Array	49.92	344	P	P	03 40 35.2	-1.8
	0.3nm,0.4s,baz=166,slow=8.2,SNR=4.3						
TXAR	Lajitas Array	143.79	36	PKP	PKPdf	03 51 16.0	-3.2
	0.4nm,0.7s,baz=270,slow=1.5,SNR=6.5						

*PRU **15** 03:45:43.6, 51.42N×16.12E, Felt In Harrachov*

*NEIC **15** 03:45:44.7±1.7, 51.36N×15.97E, h5^{km}, MG2.5(WAR), Error ellipse: s-maj=20.5km s-min=8.9km az=206.0*

WAR 15 03:45:43.4, 51.47N×**16.11E, h1**^{km}**, ML2.7, 3D, Mining Induced, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	169	⇓iPg	Pg	03 45 55.1	-1.1
KSP				iSg	Sg	03 46 03.6	-1.2
KSP	Ksiaz	0.64	169	iPG	Pg	03 45 55.1	-1.1
KSP				iSG	Sg	03 46 03.6	-1.2
UPC	Upice	0.97	184	ePG	Pg	03 46 01.1	-1.6
PVCC	Panska Ves	1.35	226	ePG	Pg	03 46 08.0	-2.5
BRG	Berggiesshubel	1.49	247	Pn	Pn	03 46 10.2	-1.2
BRG				Pg	Pg	03 46 10.8	-2.2
BRG				Sg	Sg	03 46 31.1	-1.8
PRU	Pruhonice	1.79	214	ePG	Pg	03 46 13.2	-5.9
PRU				eSG	Sg	03 46 39.1	-3.8
MORC	Moravsky Berou	1.93	151	ePn	Pn	03 46 15.8	-1.9
MORC				eSn	Sn	03 46 40.5	-2.4
MORC				eSg	Sg	03 46 45.0	-2.6
CLL	Collm	1.95	266	ePN	Pn	03 46 16.0	-2.0
CLL				ePG	Pg	03 46 19.0	-3.3
CLL				iSG	Sg	03 46 44.4	-3.9
OKC	Ostrava-Krasne	2.09	141	ePG	Pg	03 46 21.4	-3.7
OKC				eSG	Sg	03 46 47.6	-5.4
NKC	Novy Kostel	2.63	243	eSG	Sg	03 47 06.2	-4.7
	21nm,0.3s						
OJC	Ojcow	2.66	117	ePG	Pg	03 46 33.0	-3.4
OJC				eSG	Sg	03 47 08.0	-3.8
KHC	Kasperske Hory	2.85	216	ePn	Pn	03 46 29.4	-1.4
KHC				ePg	Pg	03 46 35.0	-5.3
KHC				eSg	Sg	03 47 12.9	-5.4
KHC	Kasperske Hory	2.85	216	ePN	Pn	03 46 29.4	-1.4
KHC				ePG	Pg	03 46 35.0	-5.3
KHC				eSG	Sg	03 47 12.9	-5.4
	4.8nm,0.2s						
MOX	Moxa	2.95	255	Pn	Pn	03 46 32.4	+0.1
MOX				iPg	Pg	03 46 39.0	-3.3
MOX				iSg	Sg	03 47 18.3	-3.4
MOA	Molln	3.82	199	⇓iPN	Pn	03 46 42.9	-1.7
MOA				iSG	Sg	03 47 44.0	-6.5
STHS	Stebnicka Huta	3.88	120	ePG	Pg	03 46 57.4	-3.4
STHS				eSG	Sg	03 47 50.4	-2.0
ARSA	Arzberg	4.24	185	⇓iPG	Pg	03 47 02.0	-6.1
ARSA				iSG	Sg	03 47 57.2	-7.5
	7.8nm,0.7s						
CRVS	Cervenica-Dubn	4.30	125	eSG	Sg	03 48 00.7	-5.8

*ATH **15** 03:47:11.7, 41.20N×23.78E, h15^{km}±5^{km}, MD3.1/3*

*CSEM **15** 03:47:11.6±0.2, 41.21N×23.69E, h9^{km}±1^{km}, ML2.7, Error ellipse: s-maj=4.7km s-min=2.8km az=139.0*

*THE **15** 03:47:12.4, 41.17N×23.63E, h14^{km}, ML2.7*

ISC 15 03:47:11.3±0.7**, 41.21N**±0.05×**23.68E**±0.05**, h16**^{km}±6^{km}**, n12, σ1^{s}01**/24**, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	Serrai	0.11	218	ePg	Pb	03 47 14.9	-0.1
SRS				eSg	Sb	03 47 17.1	-0.3
SRS	Serrai	0.11	218	ePg	Pb	03 47 14.9	-0.1
SRS				eSg	Sb	03 47 17.0	-0.4
NVR	Nevrokopi	0.20	43	ePB	Pb	03 47 15.7	-0.4
NVR				eSB	Sb	03 47 18.8	-0.6
SOH	Sokhos	0.46	213	ePg	Pb	03 47 20.7	+0.2
SOH				eSg	Sb	03 47 27.1	+0.3
SOH	Sokhos	0.46	213	ePg	Pb	03 47 20.7	+0.2
SOH				eSg	Sb	03 47 27.0	+0.2
THE	Thessaloniki	0.79	224	ePg	Pb	03 47 26.4	+0.2
	comp=Z,2.2nm,0.2s						
THE				eSg	Sb	03 47 37.3	+0.9
PLG	Polygyros	0.85	192	ePN	Pn	03 47 27.9	-0.6
PLG				eSN	Sn	03 47 39.2	-1.3
OUR	Ouranopolis	0.90	165	ePg	Pb	03 47 28.6	+0.6
OUR				eSg	Sb	03 47 41.6	+2.0
GRG	Griva	1.00	256	ePg	Pb	03 47 29.9	+0.1
GRG				eSg	Sb	03 47 44.2	+1.7
RDO	Rodhopi	1.40	92	ePN	Pn	03 47 36.3	0.0
RDO				eSN	Sn	03 47 55.0	+0.5
ALN	Alexandroupoli	1.81	99	ePb	Pb	03 47 42.7	-0.9
ALN				eSb	Sb	03 48 07.7	+1.7
XOR	Xorichti	1.88	192	ePb	Pb	03 47 42.8	-1.9
XOR				eSb	Sb	03 48 06.0	-1.8

*NNC **15** 04:03:34.3±6.0, 42.44N×81.89E, h8^{km}±7^{km}, mpv2.5, Error ellipse: s-maj=46.3km s-min=8.2km az=145.0*

BJI 15 04:03:31.1, 42.08N×**81.97E, h9**^{km}**, ML3.2, 3C, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	4.55	66	P	Pn	04 04 43.0	+1.2
WMQ				S	Sn	04 05 35.0	-0.4
WMQ				SG	Sg	04 05 52.4	-10
WMQ				Smax			
	comp=N,8.0nm,0.4s						
WMQ				Smax			
	comp=E,9.0nm,0.4s						
MK31	Makanchi Array	4.72	3	⇑Pn	Pn	04 04 43.2	-1.0
	comp=E,0.3nm,0.3s,baz=187,slow=13,SNR=16						
MK31				⇑Sn	Sn	04 05 38.4	-1.3
	comp=E,1.7nm,0.6s,baz=182,slow=26,SNR=6.1						
MK31				⇑Lg		04 05 52.5	
	comp=E,6.7nm,0.7s,baz=187,slow=27,SNR=6.2						
AAK	Ala-Archa	5.57	278	Lg		04 06 28.1	

*MOS **15** 04:06:41.6±1.1, 54.66N×109.80E, h3^{km}, mb4.3/1, Error ellipse: s-maj=25.0km s-min=10.0km az=63.2*

BYKL 15 04:06:41.8±0.2**, 54.66N**×**109.79E, h10**^{km}±9^{km}**, 5C-3D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.82	74	⇑iPG	Pg	04 06 56.5	-1.8
YLYR				e		04 07 07.5	
YLYR				pmax	pmax		
	comp=Z,352nm,0.2s						
YLYR				smax			
	comp=N,2μm,0.2s						
YLYR	Ulyunkhan	0.82	74	⇑iPg	Pg	04 06 56.5	-1.8
YLYR				eSg	Sg	04 07 07.4	-2.0
YLYR				Pmax			
	comp=N,348nm,0.2s						
YLYR				Smax			
	comp=N,2μm,0.2s						
SYVR	Suvo	1.01	173	ePG	Pg	04 07 00.6	-1.5
SYVR				e		04 07 14.4	
SYVR				pmax	pmax		
	comp=Z,264nm,0.2s						
SYVR				smax			
	comp=N,1μm,0.3s						
NIZ	Nizh Angarsk	1.13	353	ePG	Pg	04 07 02.7	-1.7
NIZ				e		04 07 18.3	
NIZ				pmax	pmax		
	comp=Z,39nm,0.4s						
NIZ				smax			
	comp=N,367nm,0.5s						
NIZ	Nizh Angarsk	1.13	353	⇓iPg	Pg	04 07 02.8	-1.6
NIZ				iSg	Sg	04 07 18.4	-1.0
NIZ				Pmax			
	comp=N,49nm,0.2s						
NIZ				Smax			
	comp=N,445nm,0.2s						
KMO	Kumora	1.47	33	ePG	Pg	04 07 08.1	-3.1
KMO				e		04 07 27.4	
KMO				pmax	pmax		
	comp=Z,72nm,0.3s						
KMO				smax			
	comp=N,359nm,1.0s						
KMO	Kumora	1.47	33	⇓iPg	Pg	04 07 08.3	-2.9
KMO				iSg	Sg	04 07 27.5	-3.4
KMO				Pmax			
	comp=N,87nm,0.3s						
KMO				Smax			
	comp=N,359nm,0.8s						
MXMB	Maximikha	1.53	204	ePg	Pg	04 07 09.8	-2.6
MXMB				eSg	Sg	04 07 30.8	-2.0
MXMB				Pmax			
	comp=N,68nm,0.2s						
MXMB				Smax			
	comp=N,578nm,0.8s						
OGRR	Ongureny	1.65	233	ePG	Pg	04 07 11.7	-3.0
OGRR				e		04 07 33.3	
OGRR				pmax	pmax		
	comp=Z,80nm,0.2s						
OGRR				smax			
	comp=N,789nm,0.4s						
OGRR	Ongureny	1.65	233	⇑iPg	Pg	04 07 11.6	-3.1
OGRR				eSg	Sg	04 07 33.2	-3.4
OGRR				Pmax			
	comp=N,81nm,0.2s						
OGRR				Smax			
	comp=N,789nm,0.4s						
YOA	Uoyan	1.84	36	eSg	Sg	04 07 40.0	-3.2
YOA				Smax			
	comp=N,918nm,0.9s						
UKT	Uakit	2.36	68	ePN	Pn	04 07 22.6	+1.4
UKT				e		04 07 53.3	
UKT				pmax	pmax		
	comp=Z,51nm,0.3s						
UKT				smax			
	comp=N,129nm,0.2s						
UKT	Uakit	2.36	68	⇑iPn	Pn	04 07 20.4	-0.8
UKT				ePg	Pg	04 07 22.3	-6.6
UKT				eSg	Sg	04 07 53.1	-7.2
UKT				Pmax			
	comp=N,52nm,0.3s						
UKT				Smax			
	comp=N,140nm,0.5s						
SVKR	Severomuysk	2.60	54	e	Pn	04 07 24.5	-0.1
SVKR				eSg	Sg	04 08 03.0	-5.4
SVKR				Smax			
	comp=N,1μm,0.5s						
ZRHB	Zarechye	2.63	218	ePg	Pg	04 07 29.8	-4.6
ZRHB				eSg	Sg	04 08 04.3	-5.1
ZRHB				Pmax			
	comp=N,77nm,0.7s						
ZRHB				Smax			
	comp=N,583nm,0.8s						
TRTB	Turuntaevo	2.76	209	⇓iPn	Pn	04 07 26.4	-0.5
TRTB				ePg	Pg	04 07 30.9	-5.9
TRTB				eSn	Sn	04 07 58.7	-1.9
TRTB				iSg	Sg	04 08 07.1	-6.5
TRTB				Pmax			
	comp=N,17nm,0.5s						
TRTB				Smax			
	comp=N,95nm,0.7s						
TRG	Tyrgan	2.79	228	ePN	Pn	04 07 27.7	+0.3
TRG				e		04 07 32.4	
TRG				eS	Sn	04 08 00.7	-0.8
TRG				e		04 08 07.6	
TRG				pmax	pmax		
	comp=Z,14nm,0.2s						
TRG				smax			
	comp=N,202nm,0.3s						
TRG	Tyrgan	2.79	228	ePn	Pn	04 07 27.6	+0.2
TRG				ePg	Pg	04 07 31.8	-5.8
TRG				eSn	Sn	04 08 01.3	-0.2
TRG				eSg	Sg	04 08 07.8	-7.1
TRG				Pmax			
	comp=N,13nm,0.3s						
TRG				Smax			
	comp=N,204nm,0.3s						
FFNB	Fofonovo	3.18	216	⇑iPn	Pn	04 07 32.3	-0.7
FFNB				eSn	Sn	04 08 09.1	-2.3
FFNB				eSg	Sg	04 08 19.4	-8.5
FFNB				Smax			
	comp=N,251nm,0.3s						
CIT	Chita	3.48	138	ePg	Pg	04 07 44.0	-7.2
CIT				eSg	Sg	04 08 28.6	-8.9
CIT				Pmax			
	comp=N,26nm,0.7s						
CIT				Smax			
	comp=N,94nm,0.7s						
HRMR	Khuramsha	3.48	210	ePn	Pn	04 07 36.8	-0.4
HRMR				ePg	Pg	04 07 44.6	-6.8
HRMR				eSg	Sg	04 08 29.4	-8.4
HRMR				Pmax			
	comp=N,47nm,0.6s						
HRMR				Smax			
	comp=N,368nm,0.4s						
NLYR	Nelyaty	3.83	59	ePN	Pn	04 07 50.5	+8.4
NLYR				e		04 08 39.7	
NLYR				pmax	pmax		
	comp=Z,18nm,0.9s						
NLYR				smax			
	comp=N,152nm,1.5s						
NLYR	Nelyaty	3.83	59	ePg	Pg	04 07 50.7	-7.5
NLYR				eSg	Sg	04 08 40.4	-8.8
NLYR				Pmax			
	comp=N,25nm,0.7s						
NLYR				Smax			
	comp=N,152nm,1.0s						
BOD	Bodaibo	3.94	35	eSg	Sg	04 08 41.7	-11
BOD				Smax			
	comp=N,44nm,1.1s						
LSTR	Listvyanka	4.08	229	ePN	Pn	04 07 44.6	-1.2
LSTR				e		04 07 55.0	
LSTR				e		04 08 47.7	
LSTR				pmax	pmax		
	comp=Z,12nm,0.4s						
LSTR				smax			
	comp=E,101nm,1.3s						
LSTR	Listvyanka	4.08	229	e	Pn	04 07 56.3	+11
LSTR				eSg	Sg	04 08 47.1	-11
LSTR				max			
	comp=E,5.0nm,0.4s						
LSTR				Smax			
	comp=E,99nm,1.3s						
IRK	Irkutsk	4.09	236	ePN	Pn	04 07 54.9	+9.0
IRK				e		04 08 48.2	
IRK				pmax	pmax		
	comp=Z,222nm,0.1s						
IRK				smax			
	comp=N,348nm,0.9s						
IRK	Irkutsk	4.09	236	eSg	Sg	04 08 48.9	-9.2
IRK				Smax			
	comp=N,347nm,0.4s						
TLY	Talaya	4.75	234	ePN	Pn	04 07 55.0	-0.2
TLY				e		04 08 07.6	
TLY				e		04 09 06.7	
TLY				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TLY				smax			
	comp=E,68nm,0.8s						
TLY	Talaya	4.75	234	ePg	Pg	04 08 05.4	-11
TLY				e		04 08 48.6	
TLY				eSg	Sg	04 09 07.2	-13
TLY				Pmax			
	comp=E,6.0nm,0.5s						
TLY				Smax			
	comp=E,68nm,0.6s						
ARS	Arshan	5.20	241	ePg	Pg	04 08 14.5	-11
ARS				eSn	Sn	04 08 59.9	-2.5
ARS				eSg	Sg	04 09 21.4	-14
ARS				Pmax			
	comp=E,9.0nm,0.5s						
ARS				Smax			
	comp=E,194nm,0.8s						
CRS	Chara	5.29	61	ePN	Pn	04 08 15.0	+12
CRS				e		04 09 24.8	
CRS				pmax	pmax		
	comp=Z,17nm,1.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRS				smax			
	comp=E,55nm,0.5s						
CRS	Chara	5.29	61	ePg	Pg	04 08 16.8	-11
CRS				eSg	Sg	04 09 25.0	-13
CRS				Pmax			
	comp=E,12nm,1.3s						
CRS				Smax			
	comp=E,55nm,1.4s						
ZAK	Zakamensk	5.84	225	eSg	Sg	04 09 43.1	-13
ZAK				e		04 09 47.1	
ZAK				max			
	comp=E,25nm,0.7s						
TUP	Tupik	5.92	88	e	Pn	04 08 07.8	-4.0
TUP				e		04 08 15.7	
TUP				ePg	Pg	04 08 27.9	-12
TUP				eSg	Sg	04 09 45.3	-14
TUP				Pmax			
	comp=E,5.0nm,0.8s						
TUP				Smax			
	comp=E,37nm,0.7s						

*NEIC **15** 04:07:28.2±0.7,25.84N×122.97E,h187km±7km,mb3.7/3, Error ellipse: s-maj=15.1km s-min=12.4km az=219.0*
*JMA **15** 04:07:32.2±0.2,25.08N×123.30E,h138km±3km,M3.3*
*IDC **15** 04:07:36.3±6.2,26.33N×124.01E,h289km±86km,mb3.1/4, mb1 3.3/5,mb1mx3.0/20,mbtmp3.9/5,Error ellipse: s-maj=117.3km s-min=18.0km az=60.0*
ISC 15 04:07:24.0±0.8,**25.8N**±0.1×**123.10E**±0.08,**h158**km±8km, **n23,**σ**1s35**/30,**mb3.7**/7,**1D,Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.28	184	P	P	04 07 53.2	+0.9
YOJ				S	S	04 08 09.9	-4.3
IRIF	Iriomote-Funau	1.52	158	P	P	04 07 54.4	-0.3
IRIF				S	S	04 08 11.3	-7.1
TATO	Taipei	1.65	243	ePn	P	04 08 02.2	+6.2
JIJ	Ishigaki jima	1.67	145	P	P	04 07 56.1	-0.2
JIJ				S	S	04 08 14.0	-7.2
JKRS	Kuro-shima	1.72	151	P	P	04 07 56.6	-0.2
JKRS				S	S	04 08 15.0	-7.1
HATJ	Hateruma jima	1.80	159	P	P	04 07 57.2	-0.5
HATJ				S	S	04 08 15.9	-7.8
JTJ	Tarama	1.82	127	P	P	04 07 59.6	+1.7
JTJ				S	S	04 08 20.4	-3.7
YHNB	Yeheng	1.90	236	ePn	P	04 08 03.6	+4.8
NACB	Ninganchiao	2.08	221	ePn	P	04 08 02.4	+1.5
JMJ	Miyako jima 2	2.19	115	S	S	04 08 29.7	-2.0
JKE	Kume jima 2	3.36	79	P	P	04 08 22.6	+5.6
JAGN	Aguni-jima	3.81	76	P	P	04 08 28.8	+6.0
JJT2	Tamagusuku 2	4.20	84	P	P	04 08 33.3	+5.4
JIH	Iheya	4.55	73	P	P	04 08 38.3	+5.9
JOW	Kunigami	4.77	76	P	P	04 08 40.5	+5.2
	baz=137,slow=15,SNR=1.3						
JOW				S	S	04 09 32.1	+1.8
MKAR	Makanchi Array	38.47	314	P	P	04 14 32.6	+0.5
	0.7nm,0.5s,mb3.5,baz=95,slow=9.7,SNR=6.3						
WRAB	Tennant Creek	46.70	165	eP	P	04 15 38.8	-0.1
	0.9nm,0.3s,mb3.9						
WRA	Warramunga Arr	46.71	165	P	P	04 15 39.7	+0.7
	1.8nm,0.3s,mb4.1,baz=348,slow=9.0,SNR=39						
WB2	Warramunga Arr	46.72	165	⇓iP	P	04 15 39.7	+0.7
BVAR	Borovoye Array	47.60	319	P	P	04 15 43.5	-2.0
	0.4nm,0.5s,mb3.3,baz=98,slow=10,SNR=4.6						
BRVK	Borovoye	47.67	319	P	P	04 15 44.2	-1.8
	0.6nm,0.3s,mb3.7						
ZRNK	Zerenda	48.40	319	eP	P	04 15 48.6	-3.0
	1.2nm,0.3s,mb4.0						
BRTR	Keskin Array B	73.65	307	P	P	04 18 41.0	-1.0
	0.3nm,0.4s,mb3.4,baz=72,slow=9.1,SNR=3.8						

MAN 15 04:19:31.1,13.59N×120.01E,h18km,mb4.2,ML3.0, MS2.7,2C,Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.27	57	eP	Pb	04 19 37.8	+0.6
LUBP				eS	Sb	04 19 41.4	+0.1
PGP	Puerto Galera	0.92	95	⇑eP	Pb	04 19 47.6	-0.5
PGP				eS	Sb	04 19 58.9	-1.1
LBPH	Los Banos	1.27	63	⇑eP	Pn	04 19 53.8	-0.2

*ATH **15** 05:14:49.3,38.65N×25.54E,h72km±6km,ML3.3*
*NEIC **15** 05:14:49.2,38.63N×25.46E,h40km,MD3.2(ATH),After ATH.*
*CSEM **15** 05:14:49.5±0.1,38.65N×25.61E,h58km±2km,ML3.2, Error ellipse: s-maj=2.7km s-min=2.0km az=122.0*
*THE **15** 05:14:50.9,38.71N×25.56E,h17km,ML2.9*
ISC 15 05:14:50.2±0.7,**38.65N**±0.03×**25.44E**±0.04,**h28**km±8km, **n27,**σ**1s04**/39,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.88	47	eP	Pb	05 15 06.2	-0.6
PRK				eS	Sb	05 15 19.3	+1.1
URLA	Izmir	0.95	107	i P	Pn	05 15 07.3	-0.4
URLA				i S	Sb	05 15 21.8	+1.6
AYVA	Ayvalik	1.18	55	i P	Pn	05 15 10.5	-0.5
AYVA				i S	Sn	05 15 28.1	+1.9
LIA	Limnos Island	1.27	351	eP	Pn	05 15 12.1	-0.2
LOS	Limnos	1.32	348	ePg	Pn	05 15 13.3	+0.3
LOS				eSg	Sn	05 15 30.1	+0.3
AOS	Alonnisos	1.33	294	ePg	Pn	05 15 14.6	+1.4
AOS				eSg	Sn	05 15 32.7	+2.6
PTL	Penteli	1.38	245	eP	Pn	05 15 12.0	-1.9
SMG	Samos	1.44	130	eP	Pn	05 15 14.0	-0.9
KDAG	Bornova	1.45	99	i P	Pn	05 15 14.9	-0.1
KDAG				i S	Sn	05 15 38.0	+4.8
ATH	Athens Observa	1.52	244	eP	Pn	05 15 16.0	+0.1
APE	Apeiranthos	1.58	177	eP	Pn	05 15 16.0	-0.8
NSAL	Nisos Salamina	1.72	245	eP	Pn	05 15 19.0	+0.1
NAIG	Nisos Aigina	1.78	241	eP	Pn	05 15 20.5	+0.9
MGER	Gerania Oros	1.84	250	eP	Pn	05 15 21.5	+1.0
NEO	Neokhori	1.85	292	eP	Pn	05 15 21.7	+1.0
NEO	Neokhori	1.85	292	eP	Pn	05 15 19.4	-1.3
XOR	Xorichti	1.90	293	ePb	Pb	05 15 22.1	-1.8
XOR				eSb	Sb	05 15 47.5	+0.2
XOR	Xorichti	1.90	293	ePb	Pb	05 15 22.1	-1.9
XOR				eSb	Sb	05 15 47.5	+0.1
OUR	Ouranopolis	2.03	327	ePn	Pn	05 15 23.1	-0.2
	comp=Z,2.8nm,0.3s						
BDRM	Kayabasi	2.24	134	i P	Pn	05 15 25.8	-0.4
BDRM				i S	Sn	05 16 00.4	+7.2
ALN	Alexandroupoli	2.30	11	ePn	Pn	05 15 26.4	-0.7
	comp=Z,2.4nm,0.4s						
ALN				eSn	Sn	05 15 53.0	-1.7
ALN	Alexandroupoli	2.30	11	eSn	Sn	05 15 53.0	-1.7
MANT	Manisa	2.45	93	i P	Pn	05 15 38.2	+9.0
MANT				i S	Sn	05 16 08.0	+10
AGG	Agios Georgios	2.46	280	ePn	Pn	05 15 30.4	+1.0
RDO	Rodhopi	2.50	2	eP	Pn	05 15 29.0	-1.0
NVR	Nevrokopi	2.96	336	eP	Pn	05 15 36.4	-0.1
ULDT	Uludag	3.23	61	i P	Pn	05 15 49.6	+9.3
ULDT				i S	Sn	05 16 30.9	+13

*MOS **15** 05:55:09.5±2.1,34.75N×23.77E,h10km,mb4.7/2,Error ellipse: s-maj=14.9km s-min=8.5km az=81.2*
*ATH **15** 05:55:15.4,35.01N×23.87E,h15km±2km,MD3.7/8*
*NEIC **15** 05:55:15.4,35.01N×23.90E,h19km,MD3.7(ATH),After ATH.*
*IDC **15** 05:55:15.8±2.9,35.08N×23.93E,h33km±18km,mb3.6/10, mb1 3.7/12,mb1mx3.7/22,mbtmp3.8/12,ML3.9/2,MS3.1/2, Ms1 3.1/2,ms1mx2.5/27,Error ellipse: s-maj=32.8km s-min=19.1km az=21.0*
*HLW **15** 05:55:17.1,35.03N×24.41E,h33km,Mb3.6*
*CSEM **15** 05:55:18.8±0.3,35.19N×24.11E,h30km,MD3.7,Error ellipse: s-maj=8.1km s-min=2.9km az=27.0*
ISC 15 05:55:12.5±0.5,**34.86N**±0.03×**23.88E**±0.05,**h15**km,**n50,** σ**1s63**/52,**mb3.8**/11,**MS3.2**/1,**5C-1D,Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.17	95	ePB	Sb	05 55 21.0	+1.4
VAM	Vamos	0.61	25	ePB	Pb	05 55 24.8	+0.5
VAM				eSB	Sb	05 55 32.1	-0.3
IDI	Anoyia	0.94	62	Pg	Pg	05 55 30.8	-0.5
	77nm,0.3s,baz=251,slow=15,SNR=105						
IDI				Lg		05 55 44.0	
	226nm,0.3s,baz=338,slow=17,SNR=21						
NPS	Neapolis	1.48	74	ePN	Pn	05 55 42.7	+4.0
XRY	Khrisi	1.49	89	ePN	Pn	05 55 43.3	+4.4
XRY	Khrisi	1.49	89	ePb	Pb	05 55 42.0	+2.6
KYTH	Kithira	1.58	334	ePN	Pn	05 55 42.0	+1.9
KYTH	Kithira	1.58	334	ePn	Pn	05 55 41.8	+1.7
SANT	Santorini	1.99	40	ePn	Pn	05 55 47.3	+1.3
SANT	Santorini	1.99	40	ePn	Pn	05 55 47.3	+1.3
VLI	Veliai	2.01	338	ePN	Pn	05 55 49.5	+3.2
APE	Apeiranthos	2.58	31	ePN	Pn	05 55 53.6	-0.9
KARP	Karpathos	2.77	75	ePN	Pn	05 56 00.9	+3.7
SLUM		3.54	161	⇑eP	Pn	05 56 10.5	+2.4
BODT	Bodrum	3.55	51	ePN	Pn	05 56 08.7	+0.5
YER	Yerkesik	4.23	56	ePN	Pn	05 56 18.7	+0.8
DALT	Dalyan (Mudla)	4.31	62	ePN	Pn	05 56 20.0	+0.9
EVR	Evrytania	4.38	338	ePN	Pn	05 56 22.5	+2.4
FETY	Fethiye	4.59	66	ePN	Pn	05 56 23.4	+0.3
HMAT	Matruh	4.62	143	⇓eP	Pn	05 56 24.0	+0.5
ELL	Elmali	5.25	67	ePN	Pn	05 56 32.8	+0.4
SWA2		5.75	166	P	Pn	05 56 41.0	+1.5
SWA1		5.79	164	⇑eP	Pn	05 56 41.9	+1.9
TIP	Timpagrande	7.14	309	Pn	Pn	05 57 05.7	+6.7
AWBH		7.80	145	P	Pn	05 57 07.7	-0.4
GLL	Jalalah	8.46	126	⇑eP	P	05 57 14.8	-2.7
HFRF	Wahat Farafira	8.57	152	⇑eP	P	05 57 18.9	0.0
AMAG	Maghara	8.91	116	⇑eP	P	05 57 20.0	-3.6
SUZ		9.07	121	P	P	05 57 22.8	-3.1
BRTR	Keskin Array B	9.17	55	Pn	P	05 57 27.0	-0.2
	0.2nm,0.3s,baz=225,slow=15,SNR=9.7						
EIL	Elat	10.70	116	Pn	P	05 57 46.6	-1.7
	0.7nm,0.3s,baz=323,slow=15,SNR=11						
EIL				Sn	S	05 59 42.5	-6.4
	1.1nm,0.3s,slow=16,SNR=4.9						
MLR	Muntele Rosu	10.74	8	Pn	P	05 57 50.1	+1.3
	0.1nm,0.3s,baz=256,slow=14,SNR=2.0						
MLR				LR	LR	06 02 38.4	
	comp=Z,66nm,18.1s,baz=119,slow=42						
ASF	Jabal al Asfar	11.19	100	Pn	P	05 57 52.2	-2.8
	0.4nm,0.3s,baz=214,slow=11,SNR=3.3						
ASF				Sn	S	05 59 52.8	-8.0
	0.4nm,0.3s,baz=47,slow=19,SNR=3.4						
GERES	GERESS Array B	15.88	335	Pn	P	05 58 59.1	+2.2
	0.3nm,0.3s,baz=144,slow=12,SNR=15						
KHC	Kasperske Hory	16.17	335	eP	P	05 59 02.9	+2.3
AKASG	Malin Array Be	16.31	12	Pn	P	05 59 01.2	-1.2
	0.7nm,0.3s,baz=209,slow=10,SNR=5.8						
OBN	Obninsk	22.09	20	eP	P	06 00 06.6	-1.9
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.0						
OBN	Obninsk	22.09	20	eP	P	06 00 06.6	-1.9
	comp=Z,8.0nm,1.2s,mb4.0						
ESDC	Sonseca Array	22.63	290	P	P	06 00 14.3	+0.3
	comp=Z,0.9nm,0.6s,mb3.4,baz=86,slow=9.1,SNR=4.3						
HFS	Hagfors	26.15	348	P	P	06 00 44.8	-2.7
	comp=Z,1.8nm,0.6s,mb3.8,baz=135,slow=10,SNR=7.0						
FINES	FINESS Array B	26.64	2	P	P	06 00 48.0	-4.1
	comp=Z,0.5nm,0.6s,mb3.2,baz=180,slow=12,SNR=3.9						
NB2	NORSAR Subarra	27.44	347	P	P	06 00 56.3	-3.0
	comp=Z,0.9nm,0.5s,mb3.6,baz=151,slow=12						
NOA	NORSAR Array B	27.44	347	P	P	06 00 55.8	-3.5
	comp=Z,0.6nm,0.5s,mb3.4,baz=145,slow=11,SNR=4.7						
EKA	Eskdalemuir Ar	27.69	326	P	P	06 00 59.5	-2.2
	comp=Z,0.7nm,0.5s,mb3.6,baz=135,slow=8.0,SNR=6.6						
ARCES	ARCESS Array B	34.74	1	P	P	06 01 59.2	-4.5
	comp=Z,1.0nm,0.6s,mb3.9,baz=173,slow=9.8,SNR=13						
ARCES				LR	LR	06 16 33.1	
	comp=Z,39nm,19.2s,MS3.2,baz=281,slow=37						
MKAR	Makanchi Array	44.82	56	P	P	06 03 25.8	-1.7
	comp=Z,2.3nm,0.5s,mb4.2,baz=280,slow=6.7,SNR=31						
SONM	Songino Array	60.49	50	P	P	06 05 21.6	-2.3
	comp=Z,0.8nm,0.5s,mb4.0,baz=283,slow=6.5,SNR=5.6						
SCHQ	Schefferville	62.73	319	P	P	06 05 36.8	-2.1
	comp=Z,1.1nm,0.5s,mb4.3,baz=73,slow=13,SNR=4.0						
ILAR	Eielson Array	80.44	356	P	P	06 07 23.3	-1.1
	comp=Z,0.5nm,0.6s,mb3.6,baz=341,slow=4.4,SNR=4.1						
WRA	Warramunga Arr	117.60	96	PKP	PKPdf	06 13 57.9	-4.0
	comp=Z,0.1nm,0.4s,baz=317,slow=1.4,SNR=7.4						

*CNRM **15** 06:22:17.9,35.32N×3.99W,h1km,MD3.7*
*CSEM **15** 06:22:18.0±0.2,35.16N×4.09W,h2km,MD3.7,Error ellipse: s-maj=6.2km s-min=4.7km az=86.0*
MDD 15 06:22:18.1±0.4,**35.18N**×**4.11W,mbLg2.2**/7,**Error ellipse: s-maj=3.4km s-min=2.4km az=36.0,PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPAL	Palemas	0.14	72	P	Pg	06 22 19.0	-1.9
MPAL				S	Sg	06 22 22.0	-0.8
MPAL	Palemas	0.14	72	i P	Pg	06 22 19.0	-1.9
TOU	Touzarine	0.36	127	P	Pg	06 22 25.0	-0.3
TOU				S	Sg	06 22 31.0	+0.8
TOU	Touzarine	0.36	127	i P	Pg	06 22 25.0	-0.3
EMEL	Melilla	0.95	83	P	Pg	06 22 38.1	+1.1
	73nm,0.1s,SNR=7.9						
EMEL				S	Sg	06 22 52.2	+2.6
	68nm,0.2s,SNR=7.9						
EMLI	Melilla	0.95	83	P	Pg	06 22 38.1	+1.0
	73nm,0.1s,SNR=7.9						
EMLI				S	Sg	06 22 52.2	+2.4
	68nm,0.2s,SNR=7.9						
ZAI	Zaio	1.14	100	P	Pb	06 22 38.5	-1.8
ZAI				S	Sb	06 22 52.0	-3.5
ZAI	Zaio	1.14	100	i P	Pb	06 22 38.5	-1.8
EALB	Alboran	1.16	49	P	Pb	06 22 40.7	+0.1
	25nm,0.2s,SNR=20						
EALB				S	Sb	06 22 55.7	-0.4
	18nm,0.3s,SNR=7.9						
EALB	Alboran	1.16	49	P	Pb	06 22 40.7	+0.1
	25nm,0.2s,SNR=20						
EALB				S	Sb	06 22 55.7	-0.3
	18nm,0.3s,SNR=7.9						
MDAL	Dalia	1.33	303	P	Pb	06 22 42.0	-1.6
MDAL				S	Sb	06 22 59.0	-2.1
MDAL	Dalia	1.33	303	eP	Pb	06 22 42.0	-1.6
EMIJ	Mijas	1.48	339	P	Pn	06 22 47.0	+1.0
	1.2nm,0.1s,SNR=8.0						
EMIJ				S	Sb	06 23 05.6	+0.2
	16nm,0.3s,SNR=7.9						
EMIJ	Mijas	1.48	339	P	Pn	06 22 47.9	+1.8
	1.2nm,0.1s,SNR=8.0						
EMIJ				S	Sb	06 23 08.3	+2.8
	2.9nm,0.2s,SNR=7.9						
EGUA	Guajares	1.71	15	P	Pn	06 22 49.7	+0.5
	0.8nm,0.2s,SNR=7.9						
EBER	Berja	1.98	30	P	Pn	06 22 53.7	+0.6
	0.6nm,0.1s,SNR=7.9						
EBER				S	Sn	06 23 19.9	+0.9
	23nm,0.5s,SNR=7.9						
EBER	Berja	1.98	30	P	Pn	06 22 53.7	+0.6
	0.6nm,0.1s,SNR=7.9						
EBER				S	Sn	06 23 21.5	+2.5
	2.2nm,0.2s,SNR=7.9						
CZD	Col de Zad	2.28	200	eP	Pn	06 22 58.0	+0.5
CZD				i S	Sn	06 23 27.0	+0.3
EQES	Quesada	2.75	17	P	Pn	06 23 05.2	+1.1
	0.5nm,0.3s,SNR=5.2						
EQES				S	Sn	06 23 37.4	-1.1
	6.8nm,0.4s,SNR=7.9						
EQES	Quesada	2.75	17	P	Pn	06 23 05.2	+1.1
	0.5nm,0.3s,SNR=5.2						
EQES				S	Sn	06 23 37.4	-1.1
	0.5nm,0.3s,SNR=7.9						
ECAB	El Cabril	3.07	340	P	Pn	06 23 08.9	+0.1
	0.3nm,0.2s,SNR=5.0						
ECAB				S	Sn	06 23 44.7	-2.1
	1.0nm,0.2s,SNR=7.9						
ECAB	El Cabril	3.07	340	P	Pn	06 23 08.9	+0.1
	0.3nm,0.2s,SNR=5.0						
ECAB				S	Sn	06 23 44.7	-2.1
	1.0nm,0.2s,SNR=7.9						
ZFT	Errachidia	3.15	184	i P	Pn	06 23 09.0	-0.9
ZFT				i S	Sn	06 23 46.5	-2.2
EMIN	Mina Concepcio	3.31	322	P	Pn	06 23 13.0	+0.9
	0.8nm,0.1s,SNR=7.9						
EMIN				S	Sn	06 23 50.9	-1.8
	0.5nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	3.31	322	P	Pn	06 23 13.1	+1.0
	0.8nm,0.1s,SNR=7.9						
EMIN				S	Sn	06 23 50.9	-1.8
	0.5nm,0.3s,SNR=7.9						
EGRO	El Granado	3.60	312	P	Pn	06 23 16.6	+0.4
	0.7nm,0.1s,SNR=4.0						
EGRO				S	Sn	06 23 58.5	-1.6
	0.7nm,0.2s,SNR=7.9						
EGRO	El Granado	3.60	312	P	Pn	06 23 16.6	+0.4
	0.7nm,0.1s,SNR=7.9						
EGRO				S	Sn	06 23 58.5	-1.6
	0.7nm,0.2s,SNR=7.9						
ETOB	Tobarra	4.02	30	P	Pn	06 23 22.1	-0.2
	0.8nm,0.2s,SNR=5.9						
ETOB				S	Sn	06 24 10.3	-0.5
	15nm,1.2s,SNR=4.0						
ETOB	Tobarra	4.02	30	P	Pn	06 23 22.1	-0.1
	0.8nm,0.2s,SNR=5.9						
ETOB				S	Sn	06 24 10.1	-0.6
	15nm,1.2s,SNR=7.9						
EBAD	Badajoz	4.26	328	P	Pn	06 23 25.8	+0.1
	0.4nm,0.2s,SNR=7.9						
EBAD				S	Sn	06 24 14.3	-2.5
	2.8nm,0.2s,SNR=7.9						

WEL 15 06:34:12.8±1.2,**36.26S**×**179.84W,h33**km,**ML3.7**/5,**Error ellipse: s-maj=12.4km s-min=5.3km az=90.0,East of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	2.36	219	PN	Pn	06 34 49.0	-1.2
PUZ				SN	Sn	06 35 16.4	-2.0
MWZ	Matawai	2.95	225	PN	Pn	06 34 56.9	-1.7
MWZ				SN	Sn	06 35 30.6	-2.6
URZ	Urewera	3.15	230	PN	Pn	06 34 59.7	-1.6
URZ				SN	Sn	06 35 35.2	-3.0
URZ				SN	Sn	06 35 35.9	-2.3
KNZ	Kokohu	3.39	215	ePN	Pn	06 35 02.4	-2.4
KNZ				SN	Sn	06 35 37.5	-6.8
KUZ	Kuaotunu	3.61	261	PN	Pn	06 35 05.4	-2.5
BKZ	Black Stump Fm	4.11	224	ePN	Pn	06 35 12.0	-3.0
BKZ				SN	Sn	06 35 57.5	-5.1

IDC 15 06:46:02.1±8.9,**2.28N**×**95.84E,mb3.8**/3,**mb1 3.9**/3, **mb1mx3.6**/16,**mbtmp3.8**/3,**Error ellipse: s-maj=204.3km s-min=127.8km az=139.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	45.88	347	P	P	06 54 26.2	-1.9
	1.1nm,0.5s,baz=159,slow=8.2,SNR=14						
SONM	Songino Array	46.29	10	P	P	06 54 29.5	-1.7
	0.3nm,0.3s,baz=192,slow=7.4,SNR=1.9						
ARCES	ARCESS Array B	81.06	340	P	P	06 58 18.8	-1.4
	1.3nm,0.8s,baz=90,slow=5.4,SNR=4.1						

*NEIC **15** 06:50:38.2±2.3,27.57S×179.64E,h202km±18km,mb3.6/2, Error ellipse: s-maj=49.2km s-min=12.3km az=123.0*
ISC 15 06:50:42.1±1.3,**28.12S**±0.10×**179.7W**±0.2,**h220**km±10km, **n49,**σ**1s33**/61,**mb3.5**/2,**4C,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.90	127	ePn	P	06 51 26.1	+4.5
RAO				eSn	S	06 51 52.5	+0.4
PUZ	Puketiti	10.07	189	eP	P	06 53 02.0	-0.8
PUZ				S	S	06 54 53.5	+0.4
PUZ	Puketiti	10.07	189	ePN	P	06 53 01.8	-1.0
PUZ				SN	S	06 54 52.3	-0.8
MWZ	Matawai	10.45	192	P	P	06 53 07.2	-0.5
MWZ	Matawai	10.45	192	ePN	P	06 53 06.6	-1.1
MWZ				eSN	S	06 55 02.8	+1.0
URZ	Urewera	10.46	194	eP	P	06 53 08.7	+0.9
URZ	Urewera	10.46	194	ePN	P	06 53 07.8	0.0
URZ				eSN	S	06 55 05.4	+3.3
KNZ	Kokohu	11.09	191	ePN	P	06 53 14.9	-0.9
BKZ	Black Stump Fm	11.47	195	eP	P	06 53 22.7	+2.1
BKZ	Black Stump Fm	11.47	195	ePN	P	06 53 19.9	-0.7
MOVZ	Moawhango	11.88	197	P	P	06 53 28.1	+2.3
MOVZ	Moawhango	11.88	197	ePN	P	06 53 27.9	+2.1
PWZ	Pawanui	12.22	193	eP	P	06 53 30.7	+0.7
PWZ	Pawanui	12.22	193	ePN	P	06 53 28.2	-1.8
TSZ	Takapari Road	12.44	196	eP	P	06 53 34.2	+1.4
TSZ	Takapari Road	12.44	196	ePN	P	06 53 32.4	-0.5
MRZ	Mangatainoka R	13.11	196	eP	P	06 53 41.5	+0.4
MRZ	Mangatainoka R	13.11	196	ePN	P	06 53 38.3	-2.8
MRZ				SN	S	06 55 59.2	-3.3
KIW	Kapiti Island	13.47	198	P	P	06 53 45.5	-0.1
KIW	Kapiti Island	13.47	198	ePN	P	06 53 43.6	-2.0
KIW				eSN	S	06 56 09.3	-1.3
MTW	Mount Morrison	13.59	196	P	P	06 53 47.9	+0.7
MTW	Mount Morrison	13.59	196	ePN	P	06 53 44.9	-2.3
CAW	Cannon Point	13.65	197	P	P	06 53 46.2	-1.7
CAW	Cannon Point	13.65	197	ePN	P	06 53 44.7	-3.2
PAWZ	Paruwai Farm	13.82	196	SN	S	06 56 16.4	-2.2
MRW	Makara Radio	13.87	198	P	P	06 53 51.5	+0.9
MRW	Makara Radio	13.87	198	ePN	P	06 53 51.0	+0.4
SNZO	South Karori	13.94	198	P	P	06 53 50.0	-1.5
SNZO	South Karori	13.94	198	ePN	P	06 53 49.7	-1.7
SNZO				eSN	S	06 56 20.6	-0.7
TCW	Tory Channel	13.97	199	P	P	06 53 51.1	-0.7
TCW	Tory Channel	13.97	199	ePN	P	06 53 50.8	-1.1
TCW				SN	S	06 56 23.1	+1.2
QRZ	Quartz Range	14.20	205	eP	P	06 53 59.1	+4.4
NNZ	Nelson	14.25	202	eP	P	06 53 56.8	+1.5
NNZ	Nelson	14.25	202	ePN	P	06 53 56.7	+1.4
NNZ				SN	S	06 56 30.9	+2.6
TUWZ	Tuamarina	14.27	200	ePN	P	06 53 53.9	-1.7
TUWZ				eSN	S	06 56 28.2	-0.3
THZ	Tophouse	14.90	202	eP	P	06 54 06.4	+3.1
THZ	Tophouse	14.90	202	ePN	P	06 54 04.6	+1.3
THZ				SN	S	06 56 44.8	+2.2
KHZ	Kahutara	15.29	199	eP	P	06 54 08.5	+0.4
KHZ	Kahutara	15.29	199	ePN	P	06 54 08.5	+0.3
AFI	Afiamalu	15.94	29	eP	P	06 54 09.0	-7.1
	60nm,0.5s						
LTZ	Lake Taylor	16.02	202	eP	P	06 54 18.2	+1.3
LTZ	Lake Taylor	16.02	202	PN	P	06 54 18.0	+1.1
MQZ	McQueen's Vall	16.73	200	SN	S	06 57 22.4	-0.8
VNDA	Vanda	50.21	185	eP	P	06 59 19.1	+2.2
	0.8nm,0.5s,mb3.3						
CASY	Casey	56.48	207	eP	P	07 00 01.9	-0.9
	1.1nm,0.5s,mb3.6						
SNAA	Sanae	80.46	179	⇑i	P	07 02 29.8	-0.3
VNA3	Neumayer Olymp	80.66	177	⇑i	P	07 02 30.9	-0.2
VNA2	Neumayer--Watz	81.08	177	⇑i	P	07 02 33.6	+0.2
VNA1	Neumayer--Stat	81.31	177	⇑i	P	07 02 35.0	+0.4

*BJI **15** 06:55:36.7,2.42N×95.65E,h35km,mB4.8,mb4.8,Ms4.4, Msz4.3*
*MOS **15** 06:55:38.2±1.2,2.54N×95.62E,h32km,mb4.6/12, MS4.5/4,Error ellipse: s-maj=23.4km s-min=8.9km az=104.1*
*NEIC **15** 06:55:39.1±0.6,2.61N×95.72E,mb4.7/13,MS4.6/1,Error ellipse: s-maj=14.5km s-min=8.2km az=223.0*
*IDC **15** 06:55:39.1±1.1,2.68N×95.75E,h21km±4km,mb4.0/8, mb1 4.1/8,mb1mx3.9/16,mbtmp4.2/8,MS4.0/10, Ms1 4.0/10,ms1mx3.8/22,Error ellipse: s-maj=41.8km s-min=20.1km az=52.0*
ISC 15 06:55:39.1±0.6,**2.72N**±0.08×**95.82E**±0.07,**h33**km, **(h19**km±3.4km**:pP-P),n66,**σ**0s81**/63,**mb4.5**/34,**MS4.2**/19, **1D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.46	62	ePn	Pn	06 57 01.2	+0.9
SNG	Songkhla	6.52	47	P	P	06 57 15.0	-0.1
	124nm,0.8s						
CHG	Chiang Mai	16.29	11	P	P	06 59 27.2	+0.1
NANT	Nan	16.68	16	P	P	06 59 31.0	-1.1
KKM	Kota Kinabalu	20.60	80	eP	P	07 00 18.0	-0.2
QIZ	Qiongzhong	21.24	39	eP	P	07 00 24.8	+0.1
QIZ				S	S	07 04 23.8	+10
QIZ				LR	LR		
	comp=N,834nm,16.2s,MS4.4						
QIZ				LR	LR		
	comp=E,821nm,15.8s,MS4.4						
QIZ				LR	LR		
	comp=Z,523nm,17.4s,MS4.0						
QIZ	Qiongzhong	21.24	39	eP	P	07 00 24.2	-0.5
	comp=Z,35nm,1.5s,mb4.5						
SHL	Shillong	23.03	351	eP	P	07 00 41.0	-1.5

KMI **Kunming** **23.25** **16** P **P** **07 00 48.3 +3.6**
KMI PP PP 07 01 23.3 +7.3
KMI AMB AMB
comp=Z,15nm,1.4s,mb4.2
KMI AMB AMB
comp=Z,104nm,6.0s
KMI LR LR
comp=N,921nm,15.2s,MS4.4
KMI LR LR
comp=E,602nm,19.0s,MS4.4
KMI LR LR
comp=Z,952nm,14.7s,MS4.4
KMI **Kunming** **23.25** **16** P **P** **07 00 48.2 +3.5**
KMI 07 01 23.2
KMI SS SS 07 06 01.3 +24
KMI pmax pmax
comp=Z,15nm,1.4s,mb4.2
KMI MLR MLR
comp=Z,950nm,14.7s,MS4.4
KMI **Kunming** **23.25** **16** P **P** **07 00 48.2 +3.5**
comp=Z,15nm,1.4s,mb4.2
KMI PP PP 07 01 23.2 +7.2
KMI S **S** **07 05 05.0 +14**
KMI sS 07 05 21.4
KMI SS SS 07 06 01.3 +24
KMI LR LR
comp=Z,950nm,14.7s,MS4.4
GYA **Guiyang** **25.80** **23** P **P** **07 01 09.3 +0.2**
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
GZH **Guangzhou** **26.43** **39** P **P** **07 01 19.8 +4.8**
GZH LR LR
comp=N,431nm,18.7s,MS4.3
GZH LR LR
comp=E,592nm,17.4s,MS4.3
GZH LR LR
comp=Z,729nm,14.6s,MS4.4
PKI **Pulchoki** **26.64** **339** *eP* **P** **07 01 17.5 +0.6**
comp=Z,24nm,0.7s,mb4.8
PKI **Pulchoki** **26.64** **339** *eP* **P** **07 01 17.5 +0.6**
PKI pmax pmax
comp=Z,12nm,0.7s,mb4.5
DMN **Daman** **26.79** **339** *eP* **P** **07 01 18.6 +0.3**
comp=Z,20nm,0.7s,mb4.8
GUN **Gumba** **26.79** **340** *eP* **P** **07 01 19.3 +1.0**
comp=Z,113nm,0.6s,mb5.6
KKN **Kakani** **26.89** **339** *eP* **P** **07 01 19.6 +0.4**
comp=Z,44nm,0.7s,mb5.1
KKN **Kakani** **26.89** **339** *eP* **P** **07 01 19.6 +0.4**
KKN pmax pmax
comp=Z,22nm,0.7s,mb4.8
LSA **Lhasa** **27.20** **351** P **P** **07 01 23.0 +1.0**
LSA **Lhasa** **27.20** **351** *eP* **P** **07 01 22.0 0.0**
LSA pmax pmax
comp=Z,13nm,0.6s,mb4.6
LSA **Lhasa** **27.20** **351** *eP* **P** **07 01 22.0 0.0**
comp=Z,13nm,0.6s,mb4.6
GKN **Gorkha** **27.32** **338** *eP* **P** **07 01 23.5 +0.4**
comp=Z,47nm,0.9s,mb5.0
KOLN **Koldanda** **27.51** **336** *eP* **P** **07 01 25.3 +0.4**
comp=Z,34nm,0.7s,mb5.1
WHN **Wuhan** **32.77** **30** *eP* **P** **07 02 11.0 -0.4**
LZH **Lanzhou** **34.02** **12** *eP* **P** **07 02 21.3 -0.9**
LZH AP pP 07 02 28.1 -3.8
LZH AMB AMB
comp=Z,40nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,190nm,4.0s
LZH LR LR
comp=E,823nm,16.6s
LZH LR LR
comp=Z,1μm,18.0s,MS4.6
LZH **Lanzhou** **34.02** **12** *eP* **P** **07 02 21.3 -0.9**
LZH *SP sP 07 02 31.0 -5.2
LZH pmax pmax
comp=Z,40nm,1.3s,mb5.2
LZH MLR MLR
comp=Z,1μm,18.0s,MS4.6
FITZ **Fitzroy Crossi** **35.93** **126** LR LR 07 17 14.4
comp=Z,204nm,20.6s,MS3.9,baz=288,slow=36
GTA **Gaotai** **36.70** **5** *eP* **P** **07 02 44.8 -0.2**
GTA AMB AMB
comp=Z,9.0nm,0.8s,mb4.7
GTA AMB AMB
comp=Z,53nm,5.3s
GTA LR LR
comp=N,207nm,15.2s,MS4.3
GTA LR LR
comp=E,287nm,15.7s,MS4.3
GTA LR LR
comp=Z,324nm,15.2s,MS4.2
BTO **Baotou** **39.84** **17** *eP* **P** **07 03 11.4 +0.2**
BTO AMB AMB
comp=Z,9.0nm,0.3s,mb5.0
WMQ **Urumqi** **41.56** **351** *eP* **P** **07 03 25.5 +0.1**
DL2 **Dalian** **43.02** **30** P **P** **07 03 38.5 +1.1**
DL2 *eS* **S** **07 10 08.3 +7.9**
DL2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
DL2 LR LR
comp=N,130nm,15.5s,MS4.2
DL2 LR LR
comp=E,170nm,15.3s,MS4.2
DL2 LR LR
comp=Z,270nm,16.5s,MS4.2
WRA **Warramunga Arr** **44.01** **123** P **P** **07 03 45.4 -0.3**
comp=Z,1.1nm,0.3s,mb4.0,baz=301,slow=9.2,SNR=12
WRAB **Tennant Creek** **44.01** **122** *eP* **P** **07 03 45.5 -0.2**
WRAB pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
WRAB **Tennant Creek** **44.01** **122** *eP* **P** **07 03 45.5 -0.2**
comp=Z,3.0nm,0.6s,mb4.2
WB2 **Warramunga Arr** **44.02** **122** *i*P **P** **07 03 45.9 +0.2**
FRU **Bishkek** **44.20** **338** *eP* **P** **07 03 48.5 +1.6**
MKAR **Makanchi Array** **45.45** **347** P **P** **07 03 57.0 +0.1**
comp=Z,5.6nm,0.5s,mb4.7,baz=162,slow=7.7,SNR=79
MKAR pP pP 07 04 03.2 -3.5
comp=Z,4.6nm,0.4s,baz=163,slow=8.4,SNR=18
MKAR LR LR 07 25 47.2
comp=Z,121nm,21.5s,MS3.8,baz=173,slow=40
SONM **Songino Array** **45.86** **10** P **P** **07 04 00.2 0.0**
comp=Z,4.6nm,0.7s,mb4.5,baz=190,slow=8.7,SNR=18
SONM pP pP 07 04 06.5 -3.5
comp=Z,4.5nm,0.8s,baz=191,slow=8.1,SNR=7.7
SONM PcP PcP 07 05 38.0 +0.6
comp=Z,1.5nm,0.6s,baz=227,slow=2.4,SNR=4.1
KKAR **Karatay Array** **46.09** **334** P **P** **07 04 03.2 +1.2**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ZAK **Zakamensk** **47.91** **6** *eP* **P** **07 04 15.8 -0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
TLY **Talaya** **49.23** **6** *eP* **P** **07 04 26.8 +0.4**
TLY *e* 07 06 28.8
TLY *eS* **S** **07 11 28.7 -0.1**
TLY pmax pmax
comp=Z,8.0nm,1.6s,mb4.5
TLY MLR MLR
comp=Z,226nm,19.0s,MS4.2
KURK **Kurchatov** **49.99** **346** *eP* **P** **07 04 31.8 -0.4**
KURK pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
KURK **Kurchatov** **49.99** **346** *eP* **P** **07 04 31.8 -0.4**
comp=Z,4.0nm,0.7s,mb4.6
MDJ **Mudanjiang** **51.25** **31** P **P** **07 04 41.1 -0.7**
MDJ AP pP 07 04 47.3 -4.5
MDJ AMB AMB
comp=Z,4.0nm,1.0s,mb4.3
MDJ AMB AMB
comp=Z,69nm,5.6s
MDJ LR LR
comp=N,65nm,22.4s,MS4.0
MDJ LR LR
comp=E,127nm,21.8s,MS4.0
MDJ LR LR
comp=Z,126nm,20.1s,MS3.9
VOSK **Vostochnaya** **53.93** **342** P **P** **07 05 00.9 -0.8**
VOSK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BVA0 **Borovoye Array** **54.38** **341** *i* P **P** **07 05 03.8 -1.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
CTA **Charters Tower** **54.41** **117** LR LR 07 28 21.5
comp=Z,197nm,19.4s,MS4.2,baz=62,slow=36
BRVK **Borovoye** **54.44** **341** *eP* **P** **07 05 04.3 -1.1**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BRVK **Borovoye** **54.44** **341** *eP* **P** **07 05 04.3 -1.1**
comp=Z,3.4nm,0.6s,mb4.5
ZRNK **Zerenda** **54.77** **340** P **P** **07 05 07.0 -0.8**
ZRNK pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
STKA **Stephens Creek** **55.39** **132** P **P** **07 05 12.8 +0.1**
comp=Z,1.1nm,0.4s,mb4.2,baz=297,slow=6.8,SNR=3.0
AB31 **Akbulak array** **55.53** **332** *i* P **P** **07 05 13.0 -0.5**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
KLR **Kul'dur** **55.55** **28** *eP* **P** **07 05 17.0 +3.5**
KLR *eS* **S** **07 13 08.0 +13**
KLR MLR MLR
comp=N,700nm,14.0s
KLR MLR MLR
comp=Z,900nm,14.0s,MS5.0
KMBO **Kilima Mbogo** **58.67** **267** LR LR 07 27 43.1
comp=Z,275nm,18.8s,MS4.4,baz=96,slow=33
BRTR **Keskin Array B** **67.08** **312** P **P** **07 06 29.8 -1.7**
comp=Z,0.4nm,0.4s,mb3.8,baz=149,slow=8.4,SNR=2.3
BRTR pP pP 07 06 38.6 -3.1
comp=Z,0.9nm,0.6s,baz=90,slow=2.5,SNR=3.4
MATP **Matopo** **69.82** **247** LR LR 07 31 40.3
comp=Z,146nm,19.4s,MS4.2,baz=84,slow=31
OBN **Obninsk** **70.61** **328** *eP* **P** **07 07 00.5 +7.5**
OBN pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BOSA **Boshof** **74.34** **239** LR LR 07 37 19.9
comp=Z,204nm,18.2s,MS4.5,baz=266,slow=34
FINES **FINESS Array B** **78.02** **333** P **P** **07 07 35.5 -0.3**
comp=Z,1.4nm,0.6s,mb4.1,baz=124,slow=6.9,SNR=6.5
FINES LR LR 07 46 38.7
comp=Z,66nm,20.2s,MS4.0,baz=140,slow=39
ARCES **ARCESS Array B** **80.65** **340** P **P** **07 07 50.5 +0.6**
comp=Z,1.5nm,0.6s,mb4.1,baz=102,slow=5.9,SNR=21
ARCES LR LR 07 49 29.5
comp=Z,128nm,18.9s,MS4.3,baz=210,slow=40
ARCES **ARCESS Array B** **80.65** **340** P **P** **07 07 50.5 +0.6**
ARCES LR LR 07 49 29.5
GERES **GERESS Array B** **82.77** **319** P **P** **07 08 02.7 +1.4**
comp=Z,0.2nm,0.2s,mb3.8,baz=113,slow=7.5,SNR=2.5
GERES sP sP 07 08 11.2 -4.1
comp=Z,0.3nm,0.3s,baz=79,slow=6.8,SNR=2.8
NOA **NORSAR Array B** **85.02** **331** LR LR 07 52 42.5
comp=Z,50nm,18.6s,MS3.9,baz=60,slow=40
SNAA **Sanae** **95.29** **198** LR LR 07 42 04.3
comp=Z,22nm,21.2s,MS3.5,baz=169,slow=29
TXAR **Lajitas Array** **143.07** **29** PKhKP 07 15 09.4
comp=Z,0.2nm,0.6s,baz=137,slow=1.8,SNR=4.5
TXAR PKiKP 07 15 14.8
comp=Z,0.2nm,0.6s,slow=1.8,SNR=4.3

HEL ***15*** *07:21:24.2±0.1, 63.79N×28.16E, ML1.5, Explosion*
ISC 15 07:21:24.6±1.0, 63.75N±0.03×27.8E±0.2, n8, σ1 9 03/14, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KJN	**Kajaani**	**0.34**	**352**	*eP*	**Pg**	**07 21 30.5**	**-0.8**
KJN				*eS*	**Sg**	**07 21 35.2**	**-0.6**
SUF	**Sumiainen**	**1.28**	**217**	*eP*	**Pb**	**07 21 47.8**	**-1.5**
SUF				*eS*	**Sb**	**07 22 04.8**	**-1.5**
OUL	**Oulu**	**1.58**	**329**	*eP*	**Pn**	**07 21 53.2**	**-0.7**
OUL				*eS*	**Sb**	**07 22 14.6**	**-0.1**
KAF	**Kangasniemi**	**1.79**	**204**	*eP*	**Pn**	**07 21 56.6**	**-0.3**
KAF				*eS*	**Sn**	**07 22 20.1**	**-0.5**
KAF				MSG		07 22 21.7	
	comp=Z,1.2nm,0.1s						
KEF	**Keuruu**	**2.09**	**222**	*eP*	**Pn**	**07 22 01.7**	**+0.5**
KEF				*eS*	**Sn**	**07 22 28.1**	**-0.1**
KEF				MSG		07 22 32.2	
	comp=Z,1.6nm,0.1s						
VAF	**Ylistaro**	**2.43**	**255**	*eP*	**Pn**	**07 22 07.1**	**+1.0**
VAF				*eS*	**Sn**	**07 22 38.4**	**+1.5**
VAF				MSG		07 22 39.9	
	comp=Z,1.3nm,0.1s						
FIA0	**FINESS Array S**	**2.46**	**200**	*e*SG	**Sn**	**07 22 39.6**	**+2.0**
KU4	**Liikasenvaara**	**2.73**	**15**	*e*SG	**Sn**	**07 22 45.8**	**+1.3**

NEIC ***15*** *07:53:37.5±1.9, 11.83S×166.16E, h72km±15km, mb4.3/5, Error ellipse: s-maj=22.9km s-min=13.2km az=63.0*
BJI ***15*** *07:53:37.5, 11.80S×166.20E, h71km, mB4.9, mb4.7, Ms4.8, Msz4.6*
IDC ***15*** *07:53:37.5±3.7, 11.89S×166.15E, h68km±30km, mb3.9/7, mb1 4.1/9, mb1mx4.0/14, mbtmp4.3/9, ML4.4/2, MS4.0/12, Ms1 4.0/12, ms1mx4.0/16, Error ellipse: s-maj=28.6km s-min=19.7km az=66.0*
ISC 15 07:53:35.6±2.6, 12.00S±0.09×166.1E±0.1, h63km±20km, n30, σ0 9 0/26, mb4.3/13, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.58**	**292**	P	**P**	**07 55 11.7**	**-0.2**
	26nm,0.3s,baz=220,slow=5.9,SNR=4.8						
HNR				S	**S**	**07 56 25.0**	**-1.2**
	12nm,0.3s,baz=194,slow=4.2,SNR=2.1						
HNR	**Honiara**	**6.58**	**292**	Pn	**P**	**07 55 11.5**	**-0.4**
HNR				S	**S**	**07 56 25.0**	**-1.2**
DZM	**Mont Dzumac**	**10.02**	**178**	*eP*	**P**	**07 56 00.8**	**+1.6**
DZM				*eS*	**S**	**07 57 49.9**	**-1.1**
DZM	**Mont Dzumac**	**10.02**	**178**	P	**P**	**07 56 00.4**	**+1.2**
	0.8nm,0.3s,baz=28,slow=20,SNR=15						
DZM				LR	LR	07 59 31.9	
	comp=Z,931nm,21.4s,baz=24,slow=35						
CTA	**Charters Tower**	**20.70**	**245**	P	**P**	**07 58 18.2**	**+5.3**
	8.3nm,0.9s,baz=72,slow=13,SNR=12						
CTA				LR	LR	08 05 12.8	
	comp=Z,520nm,19.2s,baz=61,slow=34						
CTAO	**Charters Tower**	**20.70**	**245**	*eP*	**P**	**07 58 18.3**	**+5.3**
	20nm,1.1s						
AFI	**Afiamalu**	**21.62**	**97**	LR	LR	08 05 11.3	
	comp=Z,217nm,18.5s,baz=285,slow=32						
URZ	**Urewera**	**27.93**	**161**	LR	LR	08 08 14.3	
	comp=Z,434nm,19.6s,baz=260,slow=31						
STKA	**Stephens Creek**	**30.01**	**225**	P	**P**	**07 59 41.6**	**+0.9**
	2.9nm,0.8s,mb4.1,baz=30,slow=5.4,SNR=4.8						
STKA				LR	LR	08 11 10.8	
	comp=Z,396nm,21.2s,baz=26,slow=35						
WRAB	**Tennant Creek**	**31.50**	**251**	*eP*	**P**	**07 59 53.8**	**-0.1**
	2.0nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**31.51**	**251**	P	**P**	**07 59 54.2**	**+0.2**
	2.9nm,0.9s,mb4.1,baz=84,slow=9.0,SNR=16						
WRA				PcP	PcP	08 02 45.1	-0.6
	1.0nm,0.9s,baz=82,slow=3.8,SNR=4.8						
WRA				pPcP		08 02 57.2	
	2.1nm,0.9s,baz=78,slow=3.4,SNR=8.8						
RPZ	**Data Peaks**	**31.89**	**173**	LR	LR	08 10 03.6	
	comp=Z,412nm,19.5s,baz=26,slow=31						
FITZ	**Fitzroy Crossi**	**39.50**	**256**	P	**P**	**08 01 02.8**	**+1.0**
	11nm,0.9s,mb4.6,baz=129,slow=3.3,SNR=5.5						
FITZ				LR	LR	08 16 35.0	
	comp=Z,299nm,20.7s,baz=88,slow=35						
PPT	**Papeete**	**43.12**	**103**	*eS*	**S**	**08 07 51.0**	**-1.9**
	94nm,25.8s						
PPT				*e*LR	LR	08 12 46.6	
	575nm,29.2s,baz=274						
PPT	**Papeete**	**43.12**	**103**	LR	LR	08 16 18.2	
	comp=Z,157nm,19.0s,baz=302,slow=32						
VNDA	**Vanda**	**65.55**	**181**	P	**P**	**08 04 13.4**	**-0.9**
	2.0nm,1.0s,mb4.1,baz=347,slow=8.8,SNR=7.1						
VNDA				LR	LR	08 29 09.8	
	comp=Z,139nm,18.3s,baz=293,slow=32						
VNDA	**Vanda**	**65.55**	**181**	*eP*	**P**	**08 04 13.3**	**-1.0**
	5.0nm,1.3s,mb4.4						
SBA	**Scott Base**	**65.85**	**180**	*eP*	**P**	**08 04 16.2**	**-0.1**
	1.9nm,0.8s,mb4.2						
SBA				*e*		08 04 26.8	
ENH	**Enshi**	**68.78**	**309**	*eP*	**P**	**08 04 31.6**	**-3.8**
	18nm,1.0s,mb5.0						
GYA	**Guiyang**	**69.25**	**304**	*i*P	**P**	**08 04 38.6**	**+0.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2	**Chengdu**	**73.47**	**307**	*eP*	**P**	**08 05 03.6**	**+0.1**
LZH	**Lanzhou**	**75.67**	**312**	*eP*	**P**	**08 05 17.0**	**+1.0**
LZH				AMB	AMB		
	comp=Z,25nm,1.1s,mb5.1						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
LZH				LR	LR		
	comp=N,382nm,14.8s						
LZH				LR	LR		
	comp=Z,573nm,16.0s						
QSPA	**South Pole Qui**	**78.01**	**180**	*eP*	pP	08 05 40.6	-5.2
SONM	**Songino Array**	**79.65**	**324**	P	**P**	**08 05 36.8**	**-1.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=135,slow=1.7,SNR=5.4						
GTA	**Gaotai**	**79.98**	**314**	*eP*	**P**	**08 05 41.1**	**+1.3**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6						
GTA				AMB	AMB		
	comp=Z,61nm,5.7s						
GTA				LR	LR		
	comp=N,104nm,18.4s						
GTA				LR	LR		
	comp=E,141nm,21.7s						
GTA				LR	LR		
	comp=Z,140nm,19.9s						
ILAR	**Eielson Array**	**84.30**	**18**	P	**P**	**08 06 01.8**	**+0.3**
	comp=Z,0.4nm,0.4s,mb3.9,baz=240,slow=5.3,SNR=11						
ILAR				LR	LR	08 46 04.5	
	comp=Z,42nm,18.0s,baz=181,slow=37						
PDAR	**Pinedale Array**	**93.93**	**47**	LR	LR	08 40 30.7	
	comp=Z,64nm,21.9s,baz=117,slow=30						
MKAR	**Makanchi Array**	**94.46**	**317**	P	**P**	**08 06 49.5**	**-0.5**
	comp=Z,1.4nm,0.7s,mb4.5,baz=96,slow=5.5,SNR=6.1						
MKAR	**Makanchi Array**	**94.46**	**317**	P	**P**	**08 06 49.5**	**-0.5**
YKA	**Yellowknife Ar**	**95.65**	**27**	LR	LR	08 43 00.8	
	comp=Z,62nm,20.2s,baz=245,slow=31						

BER ***15*** *08:40:40.3±5.7, 59.40N×27.41E, ML2.2(NAO), Suspected explosion*
IDC ***15*** *08:40:40.0±2.0, 59.39N×27.26E, mb1 2.9/4, mb1mx2.8/19, mbtmp2.8/4, ML3.0/2, Error ellipse: s-maj=18.4km s-min=10.8km az=117.0*
NAO ***15*** *08:40:41.0±1.9, 59.43N×27.15E, ML2.2*
HEL 15 08:40:37.7±1.5, 59.24N×27.48E, ML2.2(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FIA0	**FINESS Array S**	**2.31**	**343**	Pg	Pg	08 41 16.7	-7.2
	baz=164,slow=18						
FIA0				Pn	Pn	08 41 18.0	+0.4
	baz=164,slow=16						
FIA0				Lg		08 41 47.5	
	baz=163,slow=37						
FIA0				Rg		08 41 57.5	
	baz=168,slow=37						
FIA0	**FINESS Array S**	**2.31**	**343**	*e*P	Pn	08 41 16.5	-1.1
FIA0				*e*SB	Sb	08 41 46.9	-2.4
FIA0				*e*RG		08 41 58.1	
FINES	**FINESS Array B**	**2.31**	**343**	Pn	Pn	08 41 16.5	-1.1
	1.2nm,0.3s,baz=165,slow=18,SNR=20						
FINES				Pg	Pg	08 41 17.9	-5.9
	1.2nm,0.3s,baz=163,slow=19,SNR=18						
FINES				Lg		08 41 47.3	
	3.6nm,0.3s,baz=163,slow=29,SNR=23						
FINES				Rg		08 41 56.6	
	4.0nm,0.7s,baz=170,slow=33,SNR=5.1						
HFS	**Hagfors**	**7.03**	**283**	Pn	Pn	08 42 20.1	-4.4
	baz=130,slow=12						
HFS				Sn	Sn	08 43 36.5	-10
	baz=102,slow=28						
HFS				Lg		08 44 16.3	
	baz=93,slow=16						
HFS	**Hagfors**	**7.03**	**283**	*e*P	Pn	08 42 20.1	-4.4
HFS				*e*S	Sn	08 43 36.5	-10
HFS				*e*SG		08 44 16.3	
HFS	**Hagfors**	**7.03**	**283**	Pn	Pn	08 42 19.5	-5.0
	baz=107,slow=12,SNR=2.7						
HFS				Lg		08 44 17.8	
	0.1nm,0.3s,baz=90,slow=30,SNR=5.6						
NB2	**NORSAR Subarra**	**8.31**	**289**	*e*P	P	08 42 35.8	-6.5
NB2				*e*S	Sn	08 44 12.5	-5.5
NB2				*e*SG	Sg	08 44 54.3	-20
NOA	**NORSAR Array B**	**8.31**	**289**	Pn	P	08 42 36.3	-6.0
	0.1nm,0.3s,baz=131,slow=15,SNR=2.1						
NOA				Lg		08 44 56.2	
	0.3nm,0.3s,baz=178,slow=8.0,SNR=3.8						
APA0	**Apatity Array**	**8.75**	**14**	Pn	P	08 42 45.7	-2.7
	baz=207,slow=14						
APA0				Lg		08 45 08.9	
	baz=196,slow=37						
APA0	**Apatity Array**	**8.75**	**14**	*e*P	P	08 42 45.7	-2.7
APA0				*e*SG		08 45 08.9	
ARA0	**ARCESS Array S**	**10.37**	**356**	Pn	P	08 43 05.5	-5.1
	baz=174,slow=14						
ARA0				Sn	S	08 44 54.2	-15
	baz=175,slow=22						
ARA0				Lg		08 45 54.0	
	baz=163,slow=37						
ARA0	**ARCESS Array S**	**10.37**	**356**	*e*P	P	08 43 05.5	-5.1
ARA0				*e*S	S	08 44 54.2	-15
ARA0				*e*SG		08 45 54.0	
ARCES	**ARCESS Array B**	**10.37**	**356**	Pn	P	08 43 05.7	-4.9
	0.1nm,0.3s,baz=172,slow=14,SNR=6.6						
ARCES				Sn	S	08 44 55.9	-13
	0.2nm,0.3s,baz=173,slow=23,SNR=5.1						

IDC 15 08:47:48.9±9.4, 17.32S×178.94W, h616km±124km, mb2.9/5, mb1 3.2/6, mb1mx3.0/15, mbtmp4.0/6, Error ellipse: s-maj=93.4km s-min=46.0km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.55**	**249**	P	P	08 50 53.2	+0.6
	0.3nm,0.3s,baz=68,slow=14,SNR=7.5						
CTA	**Charters Tower**	**33.05**	**260**	P	P	08 53 35.7	-1.4
	1.7nm,0.6s,baz=109,slow=12,SNR=6.4						
STKA	**Stephens Creek**	**38.47**	**240**	P	P	08 54 19.6	-1.9
	1.8nm,0.4s,baz=82,slow=8.5,SNR=9.3						
WRA	**Warramunga Arr**	**44.24**	**259**	P	P	08 55 06.1	-1.2
	1.0nm,0.5s,baz=91,slow=7.7,SNR=21						
TXAR	**Lajitas Array**	**86.11**	**58**	P	P	08 59 26.4	-1.1
	0.4nm,0.6s,baz=216,slow=6.2,SNR=7.6						
PDAR	**Pinedale Array**	**87.28**	**44**	P	P	08 59 31.9	-0.8
	0.3nm,0.6s,baz=214,slow=5.3,SNR=4.1						

GUC 15 09:15:56.9±0.6, 24.34S×67.20W, h170km, ML3.8, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.33**	**317**	*i*P	P	09 16 38.4	+0.8
LVC				*i* S	S	09 17 10.6	+1.7
LVC				AMP		09 17 15.0	
	comp=N,184nm,0.6s						
CPN1	**Cerro Paranal**	**2.94**	**264**	*i*P	P	09 16 46.6	+1.7
CPN1				*i* S	S	09 17 24.1	+2.3
CPN1				AMP		09 17 30.8	
	comp=E,289nm,1.0s						
ANCH	**Antofagasta**	**3.01**	**282**	*i* P	P	09 16 47.0	+1.2
ANCH				*i* S	S	09 17 24.3	+0.9
CRCH	**Chaqaral**	**3.68**	**237**	*i* S	S	09 17 39.6	+0.9

NEIC ***15*** *09:34:09.9±1.1, 27.88N×139.65E, h499km±13km, mb3.8/5, Error ellipse: s-maj=19.3km s-min=7.7km az=86.0*
IDC ***15*** *09:34:09.0±0.6, 27.89N×139.70E, h488km±8km, mb3.4/10, mb1 3.4/13, mb1mx3.3/24, mbtmp4.2/13, Error ellipse: s-maj=22.2km s-min=10.2km az=83.0*
JMA ***15*** *09:34:10.3±0.1, 28.09N×140.35E, h509km, M4.0*
ISC 15 09:34:08.5±0.5, 27.90N±0.05×139.7E±0.2, h501km±7km, n35, σ0 8 7 7/45, mb3.7/14, 1D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.32**	**110**	P	**P**	**09 35 15.8**	**-0.1**
	50nm,0.3s,baz=273,slow=20,SNR=60						
CBIJ				S	**S**	**09 36 08.2**	**-1.0**
	54nm,0.3s,baz=275,slow=20,SNR=10						
CBIJ	**Chichi jima**	**2.32**	**110**	P	**P**	**09 35 15.9**	**0.0**
CBIJ				S	**S**	**09 36 08.1**	**-1.1**
JHHJ	**Haha-jima-NKT**	**2.52**	**120**	P	**P**	**09 35 17.8**	**+0.7**
JHHJ				S	**S**	**09 36 11.4**	**+0.1**
JHJ2	**Mitsune**	**5.20**	**1**	P	**P**	**09 35 38.5**	**+0.4**
JHJ	**Hachijo jima 2**	**5.20**	**0**	P	**P**	**09 35 38.8**	**+0.6**
	12nm,0.3s,baz=91,slow=22,SNR=17						
JHJ				S	**S**	**09 36 49.3**	**+0.2**
	17nm,0.3s,baz=72,slow=23,SNR=6.3						
BSO1	**Boso 1**	**6.82**	**9**	P	**P**	**09 35 54.2**	**+0.4**
BSO1				S	**S**	**09 37 17.3**	**-0.1**
BSO3	**Boso 3**	**6.91**	**5**	P	**P**	**09 35 54.8**	**0.0**
BSO3				S	**S**	**09 37 19.3**	**+0.1**

JIE	Ise	6.97	339	P	P	09 35 58.3	+2.9
BSO4	Boso 4	7.09	4	eS	S	09 37 21.9	-0.5
JHU	Hanno	7.94	357	P	P	09 36 04.7	-0.7
JHU				S	S	09 37 37.5	-0.7
JRY	Ryogami san	8.12	355	P	P	09 36 07.7	+0.4
JAG	Ashikaga	8.50	358	P	P	09 36 10.6	-0.7
JAG				S	S	09 37 45.4	-3.5
MJAR	Matsushiro Arr	8.71	352	P	P	09 36 13.5	0.0
	0.3nm,0.3s,baz=135,slow=8.6,SNR=3.3						
MJAR				S	S	09 37 52.7	-0.2
	0.4nm,0.3s,baz=198,slow=23,SNR=4.6						
JHO	Hitachi	8.71	4	P	P	09 36 13.9	+0.4
JHO				S	S	09 37 51.5	-1.4
JFK	Kawauchi	9.49	6	P	P	09 36 22.9	+1.2
JMK	Ichinoseki	11.09	6	S	P	09 36 39.8	+1.3
FITZ	Fitzroy Crossi	47.72	198	eP	P	09 42 01.0	0.0
	3.6nm,0.6s,mb3.9						
FITZ	Fitzroy Crossi	47.72	198	P	P	09 42 01.2	+0.2
	6.6nm,0.6s,mb4.1,baz=357,slow=6.3,SNR=7.8						
WB2	Warramunga Arr	47.84	187	⇓iP	P	09 42 01.4	-0.5
WRA	Warramunga Arr	47.84	187	P	P	09 42 01.4	-0.5
	3.4nm,0.3s,mb4.1,baz=1.4,slow=7.7,SNR=97						
CTAO	Charters Tower	48.12	172	eP	P	09 42 04.4	+0.4
	1.5nm,0.6s,mb3.5						
MKAR	Makanchi Array	48.28	309	P	P	09 42 04.8	-0.1
	0.6nm,0.3s,mb3.4,baz=88,slow=9.6,SNR=4.9						
MBWA	Marble Bar	52.46	204	eP	P	09 42 35.4	-0.6
	1.7nm,0.4s,mb3.7						
BVAR	Borovoye Array	55.98	317	P	P	09 43 00.0	-0.3
	5.0nm,0.4s,mb4.2,baz=91,slow=7.4,SNR=28						
BRVK	Borovoye	56.04	317	eP	P	09 43 00.4	-0.4
	2.5nm,0.6s,mb3.7						
ILAR	Eielson Array	58.06	29	P	P	09 43 14.4	-0.1
	0.7nm,0.4s,mb3.4,baz=258,slow=4.8,SNR=12						
STKA	Stephens Creek	59.47	178	P	P	09 43 24.0	-0.3
	1.7nm,0.7s,mb3.5,baz=350,slow=11,SNR=3.6						
STKA	Stephens Creek	59.47	178	P	P	09 43 24.0	-0.3
INK	Inuvik	63.21	25	P	P	09 43 49.0	+0.6
	0.8nm,0.6s,mb3.4,baz=264,slow=5.3,SNR=7.8						
ARCES	ARCESS Array B	72.06	340	P	P	09 44 43.2	+1.1
	0.7nm,0.5s,mb3.4,baz=63,slow=8.1,SNR=10						
ARCES	ARCESS Array B	72.06	340	P	P	09 44 43.2	+1.1
KAF	Kangasniemi	75.80	334	ep	P	09 45 00.1	-3.1
	1.6nm,0.4s,mb3.9,baz=56,slow=5.3						
FINES	FINESS Array B	76.26	333	P	P	09 45 06.0	+0.3
	2.0nm,0.3s,mb4.1,baz=92,slow=4.7,SNR=20						
NB2	NORSAR Subarra	82.05	337	P	P	09 45 36.1	-0.1
	0.7nm,0.7s,mb3.3,baz=51,slow=4.6						
NOA	NORSAR Array B	82.05	337	P	P	09 45 36.3	+0.1
	1.1nm,0.6s,mb3.6,baz=46,slow=4.9,SNR=4.1						

*IDC **15** 09:43:49.6±1.6, 33.58S×179.27W, mb4.3/3, mb1 4.6/5, mb1mx4.1/15, mbtmp4.5/5, ML4.8/1, MS3.6/7, Ms1 3.6/7, ms1mx3.4/16, Error ellipse: s-maj=45.1km s-min=22.4km az=126.0*

*NEIC **15** 09:43:52.1±3.2, 33.58S×179.24W, h16km±20km, mb4.4/5, Error ellipse: s-maj=14.9km s-min=8.5km az=98.0*

ISC 15 09:43:49.7±0.7**, 33.78S**±0.04×**178.6W**±0.1**, h33km, n98, σ1s55**/94**, mb4.4**/7**, MS3.7**/5**, 3C-2D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.52	213	P	P	09 44 59.6	+2.0
MXZ				S	S	09 45 52.8	+3.0
MXZ	Matakaoa Point	4.52	213	ePN	Pn	09 44 59.5	+1.7
MXZ				SN	Sn	09 45 52.0	+2.1
RAO	Raoul Island	4.56	8	Pn	Pn	09 44 59.1	+0.9
	58nm,0.3s,baz=99,slow=19,SNR=5.6						
RAO				LR	LR	09 45 51.4	
	comp=Z,101nm,21.6s,baz=254,slow=27						
RAO				Sn	Sn	09 45 52.2	+1.4
	49nm,0.3s,baz=90,slow=20,SNR=2.8						
PUZ	Puketiti	4.97	210	eP	P	09 45 05.2	+1.2
PUZ				S	S	09 46 01.6	+0.5
PUZ	Puketiti	4.97	210	PN	Pn	09 45 05.2	+1.1
PUZ				SN	Sn	09 46 01.3	+0.1
WIZ	White Island	5.06	221	ePN	Pn	09 45 06.2	+0.9
MYRZ	Mayor Island	5.45	229	ePN	Pn	09 45 12.8	+2.0
KUZ	Kuaotunu	5.49	236	eP	P	09 45 13.0	+1.8
KUZ	Kuaotunu	5.49	236	PN	Pn	09 45 12.7	+1.3
MWZ	Matawai	5.51	213	eP	P	09 45 11.8	+0.3
MWZ	Matawai	5.51	213	PN	Pn	09 45 11.6	0.0
URZ	Urewera	5.65	216	Pn	Pn	09 45 13.7	+0.1
	31nm,0.3s,baz=0.8,slow=21,SNR=65						
URZ				Sn	Sn	09 46 17.8	-0.3
	18nm,0.3s,baz=288,slow=20,SNR=3.8						
URZ				LR	LR	09 47 21.2	
	comp=Z,458nm,20.8s,baz=60,slow=38						
URZ	Urewera	5.65	216	eP	P	09 45 13.7	+0.3
URZ	Urewera	5.65	216	PN	Pn	09 45 13.4	-0.2
URZ				SN	Sn	09 46 15.4	-2.7
MARZ	Manawahe	5.67	221	P	P	09 45 15.7	+2.0
MARZ	Manawahe	5.67	221	PN	Pn	09 45 15.1	+1.2
TGRZ	Tauranga	5.73	225	eP	P	09 45 16.3	+1.8
TGRZ	Tauranga	5.73	225	PN	Pn	09 45 15.7	+0.9
LIRZ	Lichensteins R	5.84	222	P	P	09 45 19.6	+3.4
LIRZ	Lichensteins R	5.84	222	PN	Pn	09 45 19.4	+3.1
TAZ	Tarawera	5.94	220	P	P	09 45 19.9	+2.4
KNZ	Kokohu	6.02	209	eP	P	09 45 19.1	+0.5
KNZ	Kokohu	6.02	209	ePN	Pn	09 45 18.9	0.0
UTU	Utuhina	6.07	222	P	P	09 45 22.7	+3.3
UTU	Utuhina	6.07	222	ePN	Pn	09 45 22.4	+2.7
WCZ	Waipu Caves	6.17	248	P	P	09 45 21.4	+0.7
WCZ	Waipu Caves	6.17	248	⇓PN	Pn	09 45 21.4	+0.4
PATZ	Paeroa	6.18	221	P	P	09 45 24.7	+3.8
OUZ	Omahuta	6.58	255	P	P	09 45 25.7	-0.9
OUZ	Omahuta	6.58	255	PN	Pn	09 45 25.6	-1.2
BKZ	Black Stump Fm	6.66	215	P	P	09 45 26.8	-0.9
BKZ	Black Stump Fm	6.66	215	ePN	Pn	09 45 26.3	-1.6
NGZ	Ngauruhoe	7.11	219	P	P	09 45 34.4	+0.4
NGZ	Ngauruhoe	7.11	219	ePN	Pn	09 45 32.9	-1.4
NGZ				ePN	Pn	09 45 34.2	0.0
FWVZ	Far West T-bar	7.20	219	eP	P	09 45 35.0	-0.2
FWVZ	Far West T-bar	7.20	219	ePN	Pn	09 45 35.4	0.0
PWZ	Pawanui	7.21	209	P	P	09 45 33.0	-2.3
PWZ	Pawanui	7.21	209	ePN	Pn	09 45 32.8	-2.7
PWZ				SN	Sn	09 46 51.5	-5.5
MOVZ	Moawhango	7.21	217	P	P	09 45 34.0	-1.3
MOVZ	Moawhango	7.21	217	ePN	Pn	09 45 33.9	-1.7
TSZ	Takapari Road	7.62	213	ePN	Pn	09 45 38.8	-2.4
TSZ				SN	Sn	09 47 01.5	-5.8
WAZ	Wanganui	7.86	219	eP	P	09 45 44.0	-0.4
WAZ	Wanganui	7.86	219	ePN	Pn	09 45 43.0	-1.6
BFZ	Birch Farm	8.01	209	eP	P	09 45 43.4	-3.1
BFZ	Birch Farm	8.01	209	ePN	Pn	09 45 43.4	-3.4
MRZ	Mangatainoka R	8.27	212	P	P	09 45 47.1	-3.1
MRZ	Mangatainoka R	8.27	212	ePN	P	09 45 46.2	-4.0
MRZ				SN	x	09 47 15.1	
MTW	Mount Morrison	8.71	211	ePN	P	09 45 52.0	-4.3
MTW				SN	x	09 47 24.9	
KIW	Kapiti Island	8.74	214	P	P	09 45 53.1	-3.6
KIW	Kapiti Island	8.74	214	ePN	P	09 45 52.1	-4.5
TRWZ	Traveller	8.84	209	ePN	P	09 45 54.9	-3.1
CAW	Cannon Point	8.86	213	ePN	P	09 45 53.3	-5.0
PAWZ	Paruwai Farm	8.93	210	ePN	P	09 45 55.5	-3.9
PAWZ				SN	x	09 47 30.8	
SNZO	South Karori	9.19	213	ePn	P	09 45 58.8	-4.1
SNZO				eSn	x	09 47 35.1	
TCW	Tory Channel	9.31	215	P	P	09 45 59.8	-4.8
TCW	Tory Channel	9.31	215	ePN	P	09 45 59.4	-5.3
TCW				SN	x	09 47 38.1	
TUWZ	Tuamarina	9.64	215	ePN	P	09 46 04.1	-5.0
NNZ	Nelson	9.76	218	ePN	P	09 46 06.6	-4.2
BSWZ	Blackbirch Sta	9.89	215	P	P	09 46 09.1	-3.5
BSWZ	Blackbirch Sta	9.89	215	ePN	P	09 46 09.3	-3.3
QRZ	Quartz Range	9.95	222	ePN	P	09 46 09.3	-4.1
THZ	Tophouse	10.41	218	eP	P	09 46 14.6	-5.0
THZ	Tophouse	10.41	218	ePN	P	09 46 14.3	-5.4
THZ				SN	x	09 48 04.8	
KHZ	Kahutara	10.60	213	eP	P	09 46 18.2	-4.1
KHZ	Kahutara	10.60	213	ePN	P	09 46 17.4	-4.9
LTZ	Lake Taylor	11.48	216	eP	P	09 46 29.7	-4.5
LTZ	Lake Taylor	11.48	216	ePN	P	09 46 29.3	-4.9
LTZ				SN	x	09 48 28.7	
MQZ	McQueen's Vall	12.01	212	SN	S	09 48 40.0	-15
RPZ	Rata Peaks	12.77	216	Pn	P	09 46 45.5	-6.1
	1.8nm,0.3s,baz=278,slow=6.0,SNR=9.6						
RPZ				Sn	x	09 48 56.5	
	1.2nm,0.3s,baz=292,slow=19,SNR=4.8						
JCZ	Jackson Bay	14.20	220	ePN	P	09 47 04.8	-5.5

PPT	Papeete	30.62	65	LR	LR	09 58 58.1	
	comp=Z,170nm,20.8s,MS3.7,baz=306,slow=29						
STKA	Stephens Creek	33.34	262	LR	LR	10 02 13.9	
	comp=Z,118nm,19.5s,MS3.6,baz=160,slow=34						
CTA	Charters Tower	33.97	285	P	P	09 50 31.4	-0.9
	3.3nm,0.6s,mb4.4,baz=132,slow=9.8,SNR=6.3						
CTA				LR	LR	10 00 18.9	
	comp=Z,91nm,21.2s,MS3.5,baz=49,slow=30						
CTA	Charters Tower	33.97	285	P	P	09 50 31.4	-0.9
CTA				LR	LR	10 00 18.9	
CTAO	Charters Tower	33.97	285	eP	P	09 50 32.1	-0.2
	3.1nm,0.6s,mb4.4						
WB2	Warramunga Arr	43.80	276	eP	P	09 51 52.7	-1.5
WRAB	Tennant Creek	43.80	276	eP	P	09 51 53.1	-1.2
	1.7nm,0.4s,mb4.1						
WRA	Warramunga Arr	43.80	276	P	P	09 51 52.2	-2.1
	1.5nm,0.4s,mb4.0,baz=117,slow=7.7,SNR=46						
VNDA	Vanda	44.69	186	LR	LR	10 07 26.8	
	comp=Z,74nm,21.9s,MS3.6,baz=74,slow=32						
FITZ	Fitzroy Crossi	51.91	273	P	P	09 52 55.8	-1.7
	4.8nm,0.7s,mb4.5,baz=163,slow=5.9,SNR=4.2						
CASY	Casey	51.92	209	eP	P	09 52 58.0	+1.1
	2.2nm,0.5s,mb4.3						
QSPA	South Pole Qui	56.34	180	eP	P	09 53 35.4	+6.2
	6.6nm,0.7s,mb4.8						
MAW	Mawson	68.97	201	LR	LR	10 25 42.7	
	comp=Z,199nm,20.3s,MS4.3,baz=151,slow=36						
SYO	Syowa Base	73.71	193	⇓P	P	09 55 22.6	+1.2
SNAA	Sanae	74.80	179	⇑i	P	09 55 32.7	+5.1
SNAA	Sanae	74.80	179	e	x	09 55 36.9	
SNAA	Sanae	74.80	179	e	x	09 55 48.3	
SNAA	Sanae	74.80	179	eP	P	09 55 32.2	+4.5
	1.9nm,0.5s,mb4.3						
SNAA				e		09 55 36.9	
SNAA				e		09 55 48.3	
VNA3	Neumayer Olymp	74.97	176	e	x	09 55 38.1	
VNA3	Neumayer Olymp	74.97	176	⇑iP	P	09 55 33.7	+5.0
VNA3				e		09 55 38.1	
VNA2	Neumayer--Watz	75.40	177	e	x	09 55 41.4	
VNA2	Neumayer--Watz	75.40	177	e	x	09 55 51.2	
VNA2	Neumayer--Watz	75.40	177	⇑iP	P	09 55 36.5	+5.4
VNA2				e		09 55 41.4	
VNA2				e		09 55 51.2	
ARCES	ARCESS Array B	141.76	347	PKhKP		10 03 17.7	
	3.1nm,1.1s,baz=27,slow=4.0,SNR=2.8						
FINES	FINESS Array B	148.10	338	PKPbc	PKPdf	10 03 33.5	+5.7
	1.2nm,0.6s,baz=63,slow=3.1,SNR=4.3						
NB2	NORSAR Subarra	151.99	350	PKPabc	PKPdf	10 03 44.1	+10
	0.8nm,0.8s,baz=15,slow=4.1						
NOA	NORSAR Array B	151.99	350	PKPbc	PKPdf	10 03 46.3	+12
	0.3nm,0.6s,baz=44,slow=2.5,SNR=2.9						
HFS	Hagfors	152.42	347	PKPbc	PKPdf	10 03 45.5	+11
	0.4nm,0.4s,baz=90,slow=4.3,SNR=3.3						

IGQ 15 09:56:15.5, 1.71S×78.25W, h178km±3km, mb4.0, 3C-21D, Error ellipse: s-maj=4.2km s-min=2.9km az=34.5, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	Arrayan	0.28	314	⇑P	P	09 56 40.0	+0.3
ARRY				S	S	09 56 56.0	-2.3
ULBA	Ulba	0.30	328	⇓P	P	09 56 40.0	+0.2
ULBA				S	S	09 56 56.3	-2.1
RUN5	Runtun	0.34	329	⇓P	P	09 56 40.1	+0.2
CUSU	Cusua	0.35	319	P	P	09 56 40.7	+0.8
JUIV	Juive	0.35	323	⇑P	P	09 56 40.4	+0.5
IGUA	Igualata	0.44	299	⇑P	P	09 56 41.3	+1.1
PISA	Pisayambo	0.66	348	⇓P	P	09 56 41.6	+0.5
TAMB	Tambo	1.01	353	⇓P	P	09 56 44.2	+1.0
CAMI	Rancho Maria	1.05	346	⇓P	P	09 56 44.7	+1.1
VC1	Cotopaxi 1	1.07	352	⇓P	P	09 56 44.7	+1.0
NAS1	Nasa	1.09	348	⇓P	P	09 56 45.2	+1.3
QIL1	Quilotoa	1.09	321	⇓P	P	09 56 45.2	+1.3
ANTI	Antisana	1.25	4	⇓P	P	09 56 45.9	+0.5
JUA2	San Juan 2	1.52	347	⇓P	P	09 56 48.5	+0.6
GGP	Refugio Guagua	1.56	347	⇓P	P	09 56 48.9	+0.7
TERV	Terraza Guagua	1.56	347	⇓P	P	09 56 49.1	+0.8
PINO	Pino	1.58	347	⇓P	P	09 56 49.2	+0.8
YANA	Yana	1.61	349	⇓P	P	09 56 49.2	+0.5
ECOPE	Copete-Rev Vol	1.71	22	⇓P	P	09 56 49.8	+0.1
LAV3	Lava3-Reventad	1.71	21	⇓P	P	09 56 49.8	0.0
LAV3				S	S	09 57 17.2	+0.9
CAYR	Refugio Cayamb	1.73	8	⇓P	P	09 56 50.8	+0.9
CONE	Cono NE Rev Vo	1.73	21	⇓P	P	09 56 50.2	+0.2
CAYA	Cayambe	1.78	8	⇓P	P	09 56 51.4	+0.9
COTA	Cotacachi	2.03	358	⇓P	P	09 56 54.1	+1.0
JAMA	Jama	2.42	306	P	P	09 56 57.8	0.0
ECEN	Cerro Negro	2.53	6	⇓P	P	09 57 00.1	+1.1
LORE	San Lorenzo	3.04	349	P	P	09 57 05.5	+0.4
LORE				S	S	09 57 40.4	-3.0

*NEIC **15** 10:33:01.5±4.5, 24.96S×179.74E, h543km±38km, mb4.1/2, Error ellipse: s-maj=60.6km s-min=26.8km az=135.0*

*IDC **15** 10:33:02.7±3.1, 25.03S×179.64E, h546km±31km, mb3.5/5, mb1 3.6/6, mb1mx3.3/13, mbtmp4.4/6, Error ellipse: s-maj=54.6km s-min=22.1km az=159.0*

ISC 15 10:33:02.3±2.9**, 25.0S**±0.3×**179.6E**±0.3**, h557km**±28km**, n16, σ0s48**/13**, mb4.1**/6**, 2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.41	281	P	P	10 35 45.4	0.0
	0.7nm,0.3s,baz=84,slow=19,SNR=7.8						
ARMA	Armidale	25.33	251	eP	P	10 37 48.0	+0.9
CTA	Charters Tower	31.14	272	⇓iP	P	10 38 38.0	+0.5
	12nm,0.3s,mb4.9						
CTA	Charters Tower	31.14	272	P	P	10 38 38.1	+0.6
	16nm,0.4s,mb4.9,baz=94,slow=11,SNR=50						
CTAO	Charters Tower	31.14	272	eP	P	10 38 37.9	+0.5
STKA	Stephens Creek	34.01	250	eP	P	10 39 01.1	-0.4
	4.2nm,1.5s,mb3.8						
STKA	Stephens Creek	34.01	250	P	P	10 39 01.2	-0.3
	1.1nm,0.3s,mb3.9,baz=80,slow=9.0,SNR=10						
PMG	Port Moresby	34.52	291	P	P	10 39 05.9	0.0
	5.0nm,0.7s,mb4.1,baz=130,slow=17,SNR=4.0						
WB2	Warramunga Arr	41.98	267	⇓iP	P	10 40 06.0	-0.5
WRAB	Tennant Creek	41.98	267	eP	P	10 40 05.7	-0.8
	8.5nm,0.7s,mb4.4						
WRA	Warramunga Arr	41.99	267	P	P	10 40 06.4	-0.2
	4.3nm,0.6s,mb4.2,baz=102,slow=8.2,SNR=108						
WRA				S	S	10 45 46.6	+0.3
	0.3nm,0.8s,baz=100,slow=14,SNR=3.1						
ILAR	Eielson Array	93.14	14	P	P	10 45 17.6	+0.2
	0.3nm,0.8s,mb3.4,baz=227,slow=5.4,SNR=5.6						
ARCES	ARCESS Array B	132.84	348	PKhKP		10 51 06.2	
	2.0nm,1.0s,baz=22,slow=4.9,SNR=4.2						
ARCES				PKP	PKPdf	10 51 15.7	+2.1
	0.9nm,0.7s,baz=53,slow=4.5,SNR=7.6						
NB2	NORSAR Subarra	143.06	351	PKPabc	PKPdf	10 51 32.2	+0.2
	1.2nm,0.6s,baz=16,slow=3.3						
NOA	NORSAR Array B	143.06	351	PKP	PKPdf	10 51 31.9	-0.2
	2.3nm,0.8s,baz=21,slow=3.8,SNR=7.6						
AKASG	Malin Array Be	145.66	326	PKPbc	PKPbc	10 51 40.5	+2.3
	0.8nm,0.4s,baz=43,slow=4.5,SNR=7.7						

*CASC **15** 10:43:37.8±1.9, 15.86N×92.71W, h106km±20km, MD4.7, mb3.9(NEIC)*

*MEX **15** 10:43:39.9±0.9, 15.29N×93.02W, h93km±19km, MD4.6*

*NEIC **15** 10:43:39.8, 15.31N×93.08W, h92km, mb3.9/16, MD4.6(MEX), After MEX.*

*IDC **15** 10:43:41.5±4.5, 15.29N×92.49W, h120km±41km, mb3.6/7, mb1 3.8/8, mb1mx3.6/23, mbtmp4.0/8, MS3.2/7, Ms1 3.2/7, ms1mx3.0/20, Error ellipse: s-maj=74.6km s-min=17.3km az=49.0*

ISC 15 10:43:37.6±0.3**, 15.24N**±0.04×**93.05W**±0.03**, h86km**±4km**, n78, σ1s31**/99**, mb3.9**/17**, 6C-4D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.36	40	iP	P	10 44 02.3	+0.4
CCIG				eS	S	10 44 20.5	+0.6
SCX	San Cristobal	1.54	15	iP	P	10 44 04.0	-0.2
SCX				iS	S	10 44 24.0	+0.2
FUG	Fuego 3	2.28	110	⇑eP	P	10 44 11.7	-2.4
PCG	Pacaya	2.51	109	⇓eP	P	10 44 16.5	-0.8
CMIG	Matias Romero	2.55	317	iP	P	10 44 19.3	+1.4
CMIG				iS	S	10 44 49.2	+1.3
IXG	Ixpaco	2.73	112	⇑eP	P	10 44 18.9	-1.5
HUIG	Huatulco	2.99	281	iP	P	10 44 24.6	+0.6
HUIG				iS	S	10 44 56.5	-2.5
HUIG	Huatulco	2.99	281	iP	P	10 44 24.6	+0.6
HUIG				iS	S	10 44 58.9	0.0
TUIG	Tuzandepetl	3.08	335	iP	P	10 44 25.0	-0.2
TUIG				eS	S	10 45 00.1	-0.9
MRL	Marmol	3.25	93	⇑iP	P	10 44 24.9	-2.7
MRL				eS	S	10 45 00.6	-4.7
RBDL	Robledal	3.44	109	eP	P	10 44 30.4	+0.1
RBDL				eS	S	10 45 10.9	+0.7
RTR	El Retiro	3.56	112	⇓eP	P	10 44 32.5	+0.7
RTR				eS	S	10 45 14.2	+1.2
SBLS	San Blas	3.60	112	eP	P	10 44 34.0	+1.5
SBLS				eS	S	10 45 15.3	+1.3
SNJE	San Jose	3.60	112	eP	P	10 44 33.8	+1.2
SNJE				eS	S	10 45 15.5	+1.4
EVV	El Vigia	3.88	326	eP	P	10 44 41.0	+4.6
EVV				iS	S	10 45 22.0	+1.0
EVV	El Vigia	3.88	326	eP	P	10 44 38.0	+1.6
EVV				iS	S	10 45 22.0	+1.0
BOQS	Boqueron	3.95	112	eP	P	10 44 37.2	-0.1
BOQS				eS	S	10 45 24.0	+1.4
OXX	Oaxaca	3.98	298	eP	P	10 44 40.0	+2.4
OXX				iS	S	10 45 21.0	-2.3
OXX	Oaxaca	3.98	298	eP	P	10 44 39.5	+1.9
OXX				iS	S	10 45 21.0	-2.3
SNET	Serv Nac Est T	4.01	112	eP	P	10 44 38.8	+0.7
SNET				eS	S	10 45 24.4	+0.2
SCIG		4.12	25	iP	P	10 44 39.4	-0.2
SCIG				iS	S	10 45 24.1	-2.7
LBRS	Las Brisas	4.16	110	eP	P	10 44 41.0	+0.9
LFRS	El Faro	4.19	112	⇓eP	P	10 44 41.2	+0.7
LFRS				eS	S	10 45 29.1	+0.5
LCBS	La Ceiba	4.25	111	eP	P	10 44 42.0	+0.6
LCBS				eS	S	10 45 30.5	+0.4
SNVI	San Vicente	4.39	111	eP	P	10 44 43.8	+0.4
SNVI				eS	S	10 45 34.1	+0.5
VSM	San Miguel	4.97	111	eP	P	10 44 51.0	-0.3
CNCH	Conchagua	5.42	110	⇑eP	P	10 44 58.5	+1.0
CNCH				eS	S	10 46 01.2	+2.0
IISM	Ciudad Serdan	5.57	313	iP	P	10 45 00.0	+0.5
IISM				iS	S	10 46 01.0	-1.8
CRIN	San Cristobal	6.35	113	eP	P	10 45 10.2	-0.1
PPM	Popocatepetl	6.55	306	eP	P	10 45 17.0	+3.9
TEL3	Telica 3	6.58	113	eP	P	10 45 12.0	-1.6
LEON	Leon	6.61	114	eP	P	10 45 13.1	-0.8
CNGN	Cerro Negro	6.74	113	eP	P	10 45 14.7	-1.1
MIRN	Miramar	6.76	114	eP	P	10 45 14.6	-1.4
YAIG	Yautepec	6.79	303	eP	P	10 45 19.0	+2.6
YAIG				eS	S	10 46 30.5	-2.4
YAIG	Yautepec	6.79	303	iP	P	10 45 15.6	-0.9
YAIG				eS	S	10 46 30.5	-2.4
ACX	Acapulco	6.80	285	eP	P	10 45 16.0	-0.6
MOMJ	Momotombo	6.92	113	⇑eP	P	10 45 17.3	-1.0
COPN	Copaltepe	6.97	115	⇑eP	P	10 45 16.2	-2.8
APYN	Apoyeque	7.16	114	⇓eP	P	10 45 19.5	-2.2
XAVN	Gruta Xavier	7.22	114	eP	P	10 45 20.9	-1.5
PYTN	Playitas	7.30	111	eP	P	10 45 22.8	-0.7
TICN	Ticuantepe	7.36	115	eP	P	10 45 22.8	-1.5
CONN	Concepcion	8.10	116	eP	P	10 45 31.9	-2.4
JTS	JuntasAbangare	9.30	121	P	P	10 45 48.0	-2.8
	9.2nm,0.3s,baz=320,slow=16,SNR=35						
JTS				S	S	10 47 29.5	-5.0
	2.8nm,0.3s,baz=305,slow=16,SNR=3.1						
LTX	Lajitas	17.11	327	eP	P	10 47 33.7	+1.0
	8.2nm,1.3s						
MNTX	Cornudas Mount	19.88	328	eP	P	10 48 05.1	+0.5
	1.4nm,0.5s						
PLAL	Pickwick Lake	20.16	12	eP	P	10 48 08.9	+1.4
	5.5nm,0.8s						
PLAL				eS	S	10 51 41.3	-2.7
SWET	Sewanee	20.90	17	eP	P	10 48 13.3	-1.6
MYNC	Murphy	21.32	20	eP	P	10 48 17.6	-1.5
	22nm,1.1s,mb4.4						
WVT	Waverly	21.32	12	eP	P	10 48 18.4	-0.8
	3.2nm,0.6s,mb3.8						
CCM	Cathedral Cave	22.79	4	eP	P	10 48 33.2	-0.3
	2.6nm,0.7s,mb3.7						
SDV	Santo Domingo	22.80	103	P	P	10 48 28.0	-5.9
	2.8nm,0.4s,mb4.0,baz=307,slow=6.5,SNR=5.8						
SDV	Santo Domingo	22.80	103	eP	P	10 48 28.2	-5.7
	10.0nm,0.8s,mb4.2						
ANMO	Albuquerque	23.03	331	P	P	10 48 37.5	+1.6
	1.5nm,0.5s,mb3.6,baz=144,slow=12,SNR=6.9						
ANMO	Albuquerque	23.03	331	eP	P	10 48 37.5	+1.5
	1.5nm,0.5s,mb3.6						
TUC	Tucson	23.44	320	eP	P	10 48 42.7	+2.8
	6.0nm,1.3s,mb3.8						
SDCO	Great Sand Dun	24.98	336	eP	P	10 48 57.3	+2.5
	1.0nm,0.7s,mb3.4						
SJG	San Juan	25.92	80	LR	LR	10 58 52.3	
	comp=Z,43nm,18.0s,baz=240,slow=36						
PV10	Paradox Valley	27.02	332	eP	P	10 49 14.4	+0.7
NEN	Nelson	28.17	320	eP	P	10 49 24.7	+0.5
PDAR	Pinedale Array	30.88	336	P	P	10 49 49.5	+1.4
	0.3nm,0.6s,mb3.2,baz=143,slow=9.0,SNR=3.2						
SADO	Sadowa	31.71	19	LR	LR	11 02 45.4	
	comp=Z,45nm,20.4s,baz=264,slow=36						
SNOW	Snow King Moun	31.94	335	eP	P	10 49 58.1	+0.8
	9.3nm,0.9s,mb4.5						
MOOW	Moose Ponds	32.17	336	eP	P	10 50 00.9	+1.6
	0.9nm,0.7s,mb3.6						
HLID	Hailey	33.61	331	eP	P	10 50 12.6	+0.8
	1.0nm,0.6s,mb3.8						
MCMT	McKenzie Canyo	33.92	334	eP	P	10 50 16.0	+1.6
WVOR	Wild Horse Val	34.90	326	eP	P	10 50 23.6	+0.8
	3.6nm,1.1s,mb4.1						
ULM	Lac du Bonnet	34.99	357	LR	LR	11 05 55.3	
	comp=Z,31nm,18.6s,baz=319,slow=38						
SAML	Samuel	38.13	127	eP	P	10 50 44.6	-5.6
	8.7nm,0.8s,mb4.6						
SIV	San Ignacio	44.27	133	P	P	10 51 36.7	-4.1
	3.9nm,0.6s,mb4.3,baz=305,slow=10.0,SNR=26						
SCHQ	Schefferville	44.43	21	LR	LR	11 10 42.6	
	comp=Z,38nm,19.5s,baz=80,slow=37						
YKA	Yellowknife Ar	49.60	347	LR	LR	11 18 05.9	
	comp=Z,26nm,19.6s,baz=5.0,slow=42						
INK	Inuvik	58.97	344	P	P	10 53 28.1	-2.0
	1.1nm,0.6s,mb4.1,baz=112,slow=4.5,SNR=5.5						
INK	Inuvik	58.97	344	eP	P	10 53 28.7	-1.5
	1.2nm,0.6s,mb4.1						
ILAR	Eielson Array	61.31	337	P	P	10 53 45.0	-1.2
	1.1nm,0.6s,mb4.1,baz=142,slow=4.8,SNR=24						
NOA	NORSAR Array B	83.55	28	LR	LR	11 36 05.7	
	comp=Z,13nm,20.4s,baz=270,slow=38						
ARCES	ARCESS Array B	85.29	18	P	P	10 56 04.6	-1.0
	0.8nm,0.8s,mb3.7,baz=311,slow=8.3,SNR=2.4						
ARCES				LR	LR	11 40 56.9	
	comp=Z,18nm,18.3s,baz=285,slow=40						

*IDC **15** 10:50:13.0±1.2, 18.84S×70.36W, mb4.0/2, mb1 4.4/4, mb1mx3.9/15, mbtmp4.1/4, ML3.7/1, MS3.2/5, Ms1 3.2/5, ms1mx3.1/20, Error ellipse: s-maj=45.8km s-min=21.3km az=96.0*

*NEIC **15** 10:50:18.4±0.5, 18.84S×69.36W, h35km, mb4.2/5, Error ellipse: s-maj=19.4km s-min=8.4km az=80.0*

ISC 15 10:50:17.4±0.7**, 19.01S**±0.07×**69.8W**±0.2**, h33km, n16, σ1s50**/14**, mb4.1**/5**, MS3.3**/1**, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	3.02	327	eP	P	10 51 06.0	+2.1
ARE				i		10 51 08.1	
ARE				iS	S	10 51 51.0	+12
LPAZ	La Paz	3.12	30	Pn	Pn	10 51 06.5	+1.0
	5.5nm,0.3s,baz=193,slow=13,SNR=77						
LPAZ				Sn	Sn	10 51 49.5	+7.4
	3.9nm,0.3s,baz=76,slow=19,SNR=2.1						
LPAZ				LR	LR	10 52 29.2	
	comp=Z,742nm,19.3s,baz=210,slow=41						
LVC	Limon Verde	3.67	168	Pn	Pn	10 51 15.1	+1.7
	24nm,0.3s,baz=339,slow=9.4,SNR=147						
LVC				Sn	Sn	10 52 03.9	+7.8
	56nm,0.3s,baz=141,slow=21,SNR=16						
LVC				LR	LR	10 53 06.0	
	comp=Z,357nm,21.6s,baz=345,slow=43						
SAML	Samuel	11.86	33	ePn	P	10 53 00.6	-6.6
CFAA	Coronel Fontan	12.62	174	LR	LR	10 58 10.6	
	comp=Z,18nm,21.7s,baz=355,slow=37						
CPUP	Villa Florida	13.59	125	LR	LR	11 00 00.4	
	comp=Z,125nm,18.6s,baz=281,slow=42						
TRQA	Tornquist	20.16	162	eP	P	10 54 49.7	-1.9
	4.0nm,0.5s						
PLCA	Paso Flores	21.66	182	P	P	10 55 07.5	+0.5

	6.1nm,0.9s,mb4.0,baz=354,slow=12,SNR=10						
PLCA	Paso Flores	21.66	182	eP	P	10 55 07.4	+0.5
	8.4nm,1.0s,mb4.1						
SDV	Santo Domingo	27.73	358	LR	LR	11 06 44.3	
	comp=Z,74nm,19.7s,MS3.3,baz=202,slow=36						
WVT	Waverly	57.44	343	eP	P	11 00 03.5	-2.0
	1.7nm,0.6s,mb4.2						
SNAA	Sanae	64.89	161	eP	P	11 00 55.6	+0.5
	1.5nm,0.8s,mb4.1						
SDCO	Great Sand Dun	65.70	329	eP	P	11 01 00.3	-0.7
	1.9nm,0.8s,mb4.2						
YKA	Yellowknife Ar	88.58	341	P	P	11 03 05.7	-2.0
	0.4nm,0.4s,mb4.1,baz=133,slow=4.7,SNR=5.1						
WRA	Warramunga Arr	134.65	213	PKP	PKPdf	11 09 34.5	+1.0
	0.6nm,0.9s,baz=161,slow=1.9,SNR=4.9						
SONM	Songino Array	151.08	5	PKPbc	PKPdf	11 10 07.3	+6.3
	0.6nm,0.4s,baz=332,slow=1.3,SNR=8.0						

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*NEIC **15** 11:15:35.2±1.6, 18.29S×179.02W, h500km, mb3.8/5, Error ellipse: s-maj=73.3km s-min=17.9km az=148.0*
*IDC **15** 11:15:35.3±13.0, 18.33S×178.97W, h500km±139km, mb3.3/5, mb1 3.5/5, mb1mx3.2/14, mbtmp4.2/5, Error ellipse: s-maj=94.5km s-min=52.4km az=131.0*
ISC 15 11:15:34.9±2.9**, 18.2S**±0.6×**179.2W**±0.5**, h500**km**, n13,** σ**0**^{s}**48**/11**, mb3.8**/7**, 1C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.69	261	eP	P	11 21 27.5	+0.9
	3.0nm,0.9s,mb3.7						
CTA	Charters Tower	32.69	261	P	P	11 21 27.6	+1.1
	1.9nm,0.5s,mb3.8,baz=94,slow=12,SNR=7.3						
CTAO	Charters Tower	32.69	261	eP	P	11 21 27.2	+0.6
	3.0nm,0.8s,mb3.8						
STKA	Stephens Creek	37.86	241	⇑iP	P	11 22 09.6	+0.2
	1.8nm,0.5s,mb3.8						
STKA	Stephens Creek	37.86	241	P	P	11 22 09.6	+0.2
	2.1nm,0.5s,mb3.8,baz=66,slow=8.7,SNR=14						
WB2	Warramunga Arr	43.86	260	eP	P	11 22 57.1	-0.6
WRAB	Tennant Creek	43.86	260	eP	P	11 22 57.2	-0.6
	1.7nm,0.6s,mb3.6						
WRA	Warramunga Arr	43.87	260	P	P	11 22 57.4	-0.4
	1.3nm,0.5s,mb3.6,baz=95,slow=8.2,SNR=34						
KAKA	Kakadu	46.86	269	eP	P	11 23 21.2	+0.2
	2.0nm,0.4s,mb3.9						
FITZ	Fitzroy Crossi	52.27	261	P	P	11 24 01.5	+0.3
	2.7nm,0.4s,mb3.9,baz=173,slow=6.1,SNR=9.7						
ILAR	Eielson Array	86.33	13	P	P	11 27 23.7	0.0
	0.7nm,0.5s,mb3.6,baz=222,slow=4.7,SNR=18						
ARCES	ARCESS Array B	126.47	349	PKP	PKPdf	11 33 40.5	+0.6
	0.9nm,0.8s,baz=45,slow=1.7,SNR=5.1						
ARCES	ARCESS Array B	126.47	349	PKP	PKPdf	11 33 40.5	+0.6

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*IDC **15** 11:44:40.2±1.8, 10.08S×161.16E, mb3.9/4, mb1 4.1/6, mb1mx4.0/12, mbtmp4.0/6, ML3.9/2, MS3.5/5, Ms1 3.5/5, ms1mx3.3/15, Error ellipse: s-maj=39.2km s-min=19.9km az=52.0*
*NEIC **15** 11:44:45.7±1.6, 10.09S×161.07E, h36km±14km, mb4.1/4, Error ellipse: s-maj=21.2km s-min=12.6km az=51.0*
ISC 15 11:44:43.9±1.8**, 10.2S**±0.1×**161.2E**±0.1**, h40**km±15km**, n16,** σ**0**^{s}**99**/14**, mb3.9**/6**, MS3.4**/3**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.42	303	Pn	P	11 45 07.2	-0.6
	976nm,0.3s,baz=152,slow=4.7,SNR=267						
HNR				Sn	S	11 45 25.5	+0.1
	986nm,0.3s,baz=173,slow=22,SNR=20						
DZM	Mont Dzumac	12.83	157	Pn	P	11 47 47.8	+1.3
	0.4nm,0.3s,baz=124,slow=19,SNR=20						
DZM				Sn	S	11 50 07.4	-1.5
	0.2nm,0.3s,baz=300,slow=20,SNR=2.8						
PMG	Port Moresby	13.81	272	LR	LR	11 52 45.2	
	comp=Z,234nm,19.6s,baz=240,slow=35						
CTA	Charters Tower	17.39	234	eP	P	11 48 45.9	+0.5
	6.9nm,0.7s						
CTA	Charters Tower	17.39	234	P	P	11 48 46.0	+0.6
	0.3nm,0.3s,baz=62,slow=13,SNR=16						
CTA				LR	LR	11 54 19.7	
	comp=Z,99nm,20.5s,baz=225,slow=33						
CTAO	Charters Tower	17.39	234	eP	P	11 48 45.8	+0.4
	11nm,0.8s						
AFI	Afiamalu	26.72	101	LR	LR	11 58 43.9	
	comp=Z,117nm,21.3s,MS3.4,baz=180,slow=32						
WRAB	Tennant Creek	27.58	246	eP	P	11 50 30.0	+0.2
	3.3nm,0.7s,mb4.1						
WB2	Warramunga Arr	27.59	246	eP	P	11 50 30.1	+0.3
WRA	Warramunga Arr	27.60	246	P	P	11 50 28.5	-1.4
	0.9nm,0.5s,mb3.7,baz=76,slow=8.9,SNR=18						
STKA	Stephens Creek	28.14	217	P	P	11 50 37.0	+2.3
	1.5nm,0.7s,mb3.7,baz=55,slow=14,SNR=4.5						
FITZ	Fitzroy Crossi	35.26	253	eP	P	11 51 36.0	-1.2
	12nm,2.0s,mb4.5						
FITZ	Fitzroy Crossi	35.26	253	LR	LR	12 03 29.9	
	comp=Z,90nm,21.5s,MS3.5,baz=98,slow=32						
NWAO	Narrogin (SRO)	46.24	234	LR	LR	12 11 34.0	
	comp=Z,41nm,20.3s,MS3.4,baz=333,slow=35						
VNDA	Vanda	67.28	180	P	P	11 55 36.4	+0.2
	0.7nm,0.7s,mb3.8,baz=349,slow=5.7,SNR=5.9						
SONM	Songino Array	75.38	325	P	P	11 56 25.3	+0.1
	0.7nm,0.8s,mb3.7,baz=139,slow=6.0,SNR=4.8						

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*IDC **15** 11:58:13.5±0.9, 10.92N×91.64E, mb3.9/9, mb1 4.1/9, mb1mx3.9/20, mbtmp3.9/9, Error ellipse: s-maj=42.5km s-min=18.9km az=56.0*
*NEIC **15** 11:58:18.3±0.5, 11.01N×91.82E, h30km, mb4.2/7, Error ellipse: s-maj=18.8km s-min=7.3km az=57.0*
ISC 15 11:58:16.5±0.7**, 10.95N**±0.09×**91.79E**±0.08**, h33**km**, n26,** σ**1**^{s}**09**/26**, mb4.0**/13**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	Vishakhapatnam	10.61	310	eP	P	12 00 46.5	-2.9
VIS				eS	S	12 02 32.3	-16
VIS				AML	AML	12 02 36.4	
	comp=E,39nm,0.3s						
VIS				AML	AML	12 02 36.4	
	comp=N,45nm,0.3s						
BWNR	Bhubaneshwar	10.94	329	eP	P	12 00 56.3	+2.4
MDRS	Chennai	11.49	282	e	S	12 03 11.9	+2.3
BLSP	Bilaspur	14.46	321	i P	P	12 01 39.6	-1.4
BLSP				e	x	12 04 06.3	
PKI	Pulchoki	17.59	341	eP	P	12 02 21.0	+0.2
	comp=N,16nm,0.6s						
DMN	Daman	17.73	340	eP	P	12 02 22.6	+0.1
	comp=N,18nm,0.5s						
KKN	Kakani	17.84	341	eP	P	12 02 23.3	-0.6
KAD	Karad	18.20	292	eP	P	12 02 26.7	-1.9
GKN	Gorkha	18.25	339	eP	P	12 02 28.4	-0.7
BHPL	Bhopal	18.37	314	eP	P	12 02 31.0	+0.5
BHPL				eS	S	12 05 53.2	+2.2
KOLN	Koldanda	18.42	336	eP	P	12 02 32.0	+0.8
	comp=N,21nm,0.6s						
POO	Poona	18.91	296	e	x	12 05 42.0	
ENH	Enshi	25.31	38	P	P	12 03 40.8	-1.0
	comp=N,9.3nm,0.7s,mb4.4						
MKAR	Makanchi Array	36.62	349	P	P	12 05 21.3	-0.3
	comp=N,2.0nm,0.7s,mb4.0,baz=162,slow=7.7,SNR=9.4						
SONM	Songino Array	38.77	16	P	P	12 05 40.5	+1.0
	comp=N,1.3nm,0.6s,mb3.8,baz=206,slow=7.9,SNR=11						
FITZ	Fitzroy Crossi	44.15	130	P	P	12 06 24.9	+0.7
	comp=N,4.4nm,0.7s,mb4.3,baz=346,slow=8.3,SNR=5.0						
BVAR	Borovoye Array	45.36	342	P	P	12 06 33.5	0.0
	comp=N,1.0nm,0.6s,mb3.8,baz=164,slow=10,SNR=4.9						
ZRNK	Zerenda	45.73	341	eP	P	12 06 36.0	-0.3
	comp=N,1.6nm,0.8s,mb4.0						
WRA	Warramunga Arr	51.92	126	P	P	12 07 25.0	+0.4
	comp=N,0.3nm,0.5s,mb3.5,baz=300,slow=10,SNR=10						
WRAB	Tennant Creek	51.93	126	P	P	12 07 24.8	+0.2
	comp=N,1.6nm,0.8s,mb4.0						
ARU	Arti	52.18	337	eP	P	12 07 26.9	+0.9
	comp=N,4.1nm,0.7s,mb4.5						
BRTR	Keskin Array B	58.69	310	P	P	12 08 12.0	-1.3
	comp=N,1.1nm,0.7s,mb4.0,baz=121,slow=7.2,SNR=4.9						
FINES	FINESS Array B	68.93	332	P	P	12 09 19.8	-0.3
	comp=N,1.6nm,0.8s,mb4.0,baz=153,slow=8.5,SNR=4.3						
ARCES	ARCESS Array B	71.61	340	P	P	12 09 36.7	+0.5
	comp=N,1.3nm,0.8s,mb3.9,baz=101,slow=6.2,SNR=5.2						
GERES	GERESS Array B	74.01	318	P	P	12 09 51.0	+0.3
	comp=N,0.2nm,0.3s,mb3.5,baz=63,slow=3.0,SNR=3.5						
CFAA	Coronel Fontan	152.37	219	PKPbc	PKPdf	12 18 12.4	+10
	comp=N,0.2nm,0.5s,baz=135,slow=2.5,SNR=5.5						

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*ATH **15** 12:11:22.7, 38.05N×21.32E, h9km±1km, MD3.5/12, ML3.5*
*NEIC **15** 12:11:22.6, 38.05N×21.33E, h11km, ML3.3(ATH), After ATH.*
*CSEM **15** 12:11:22.8±0.1, 38.04N×21.29E, h2km, ML3.3, Error ellipse: s-maj=2.3km s-min=1.7km az=36.0*
*THE **15** 12:11:23.8, 37.97N×21.45E, h10km, ML3.5*
*IDC **15** 12:11:31.0±3.9, 37.95N×21.26E, h99km±33km, mb3.2/4, mb1 3.2/7, mb1mx3.1/21, mbtmp3.5/7, MS2.6/1, Ms1 2.6/1, ms1mx2.1/18, Error ellipse: s-maj=57.4km s-min=22.2km az=61.0*
*SOF **15** 12:11:49.9, 40.05N×22.22E, h2km, MD2.8*
ISC 15 12:11:22.8±0.5**, 38.04N**±0.03×**21.28E**±0.04**, h9**km**, n49,** σ**1**^{s}**41**/61**, mb3.5**/4**, 1D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.15	82	ePG	Pg	12 11 25.7	-0.5
RLS				eSG	Sg	12 11 28.1	-0.3
VLS	Valsamata	0.56	285	⇓iPB	Pb	12 11 34.1	-0.3
LKD	Levkas	0.83	324	ePg	Pg	12 11 38.9	-0.7
EVR	Evrytania	0.97	25	ePB	Pb	12 11 40.7	-0.7
ITM	Ithomi	1.00	149	ePG	Pg	12 11 41.2	-1.6
ITM				eSB	Sb	12 11 55.6	+0.7
AGG	Agios Georgios	1.28	40	ePg	Pg	12 11 46.6	-1.9
	comp=Z,15nm,0.6s						
AGG				eSg	Sg	12 12 05.3	-0.2
AGG	Agios Georgios	1.28	40	ePg	Pg	12 11 46.6	-1.9
	15nm,0.6s						
AGG				eSg	Sg	12 12 05.3	-0.3
LKR	Lokris	1.48	65	ePG	Pg	12 11 49.4	-3.1
MGER	Gerania Oros	1.56	91	ePG	Pg	12 11 51.3	-2.8
MGER	Gerania Oros	1.56	91	ePg	Pg	12 11 50.5	-3.6
JAN	Janina	1.65	348	ePB	Pb	12 11 53.8	+0.8
IGT	Igoumenitsa	1.67	334	ePb	Pb	12 11 54.7	+1.4
NSAL	Nisos Salamina	1.73	94	ePG	Pg	12 11 53.8	-3.6
NSAL	Nisos Salamina	1.73	94	ePg	Pg	12 11 53.5	-3.9
MEV	Metsovon	1.75	359	ePb	Pb	12 11 56.3	+1.7
	comp=Z,8.4nm,0.5s						
MEV				eSb	Sb	12 12 21.2	+4.6
NAIG	Nisos Aigina	1.77	98	ePN	Pn	12 11 55.5	+1.6
NAIG	Nisos Aigina	1.77	98	ePn	Pn	12 11 54.0	+0.1
VLI	Veliai	1.86	134	ePN	Pn	12 11 56.5	+1.2
ATH	Athens Observa	1.92	91	ePN	Pn	12 11 56.5	+0.4
MPAR	Parnis Oros	1.94	86	ePN	Pn	12 11 57.0	+0.7
MPAR	Parnis Oros	1.94	86	ePb	Pb	12 11 55.5	-2.4
NEO	Neokhori	1.98	50	ePN	Pn	12 11 57.2	+0.3
XOR	Xorichti	2.00	48	ePb	Pb	12 11 58.0	-0.9
XOR				eSb	Sb	12 12 23.5	-0.4
KEK	Kerkira	2.04	326	ePG	Pg	12 12 00.0	-3.5
KYTH	Kithira	2.24	141	ePN	Pn	12 12 03.0	+2.3
KYTH	Kithira	2.24	141	ePg	Pg	12 12 04.5	-3.2
LIT	Litokhoron	2.26	24	ePn	Pn	12 12 02.1	+1.1
	comp=Z,4.5nm,1.0s						
LIT				eSn	Sn	12 12 32.1	+2.8
AOS	Alonnisos	2.33	60	ePn	Pn	12 12 01.6	-0.3
AOS				eSn	Sn	12 12 31.8	+0.9
FNA	Florina	2.74	1	ePn	Pn	12 12 09.1	+1.3
GRG	Griva	3.04	16	ePn	Pn	12 12 12.7	+0.6
KNT	Kendrikon	3.36	21	ePn	Pn	12 12 17.7	+1.1
KNT				eSn	Sn	12 12 59.4	+2.3
TIP	Timpagrande	3.72	289	ePn	Pn	12 12 21.6	-0.2
TIP	Timpagrande	3.72	289	ePn	Pn	12 12 21.6	-0.2
IDI	Anoyia	3.99	132	P	Pn	12 12 31.1	+5.5
	0.5nm,0.3s,baz=52,slow=10,SNR=2.4						
IDI				S	Sn	12 13 14.9	+1.8
	2.4nm,0.3s,baz=110,slow=22,SNR=4.3						
IDI	Anoyia	3.99	132	S	Sn	12 13 14.9	+1.8
MMB	Musomiste	4.02	27	eP	Pn	12 12 26.0	+0.1
KKB	Krupnik	4.07	19	eP	Pn	12 12 26.0	-0.7
KKB				ePg	Pb	12 12 29.0	-5.3
RZN	Rozhen	4.50	35	i P	Pn	12 12 33.5	+0.7
RZN				i Pg	Pb	12 12 40.5	-1.3
VTS	Vitosha	4.78	17	eP	Pn	12 12 35.0	-1.8
VTS				ePg	Pb	12 12 42.0	-4.6
MLR	Muntele Rosu	8.22	24	P	P	12 13 28.7	+3.5
	0.2nm,0.3s,baz=192,slow=13,SNR=2.4						
BRTR	Keskin Array B	9.78	76	P	P	12 13 49.1	+2.4
	0.1nm,0.3s,baz=265,slow=11,SNR=2.5						
GERES	GERESS Array B	12.12	335	LR	LR	12 19 48.4	
	comp=Z,24nm,19.0s,baz=27,slow=41						
FINES	FINESS Array B	23.62	6	P	P	12 16 34.0	-0.7
	1.0nm,0.7s,mb3.4,baz=180,slow=9.5,SNR=3.6						
FINES	FINESS Array B	23.62	6	P	P	12 16 34.0	-0.7
NB2	NORSAR Subarra	23.88	348	P	P	12 16 34.6	-2.5
	0.7nm,0.7s,mb3.2,baz=156,slow=9.3						
NOA	NORSAR Array B	23.88	348	P	P	12 16 35.4	-1.7
	0.5nm,0.6s,mb3.1,baz=160,slow=10,SNR=3.7						
ARCES	ARCESS Array B	31.64	3	P	P	12 17 44.5	-3.6
	0.7nm,0.7s,mb3.6,baz=185,slow=11,SNR=3.4						
ARCES	ARCESS Array B	31.64	3	P	P	12 17 44.5	-3.6
MKAR	Makanchi Array	44.86	58	P	P	12 19 35.9	-3.1
	0.7nm,0.6s,mb3.7,baz=286,slow=7.5,SNR=7.6						

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*NEIC **15** 12:21:06.5±1.3, 18.67S×174.73W, h48km±11km, mb4.5/21, Error ellipse: s-maj=10.5km s-min=5.6km az=139.0*
*IDC **15** 12:21:08.3±3.3, 18.71S×174.65W, h65km±29km, mb4.1/9, mb1 4.3/10, mb1mx4.1/16, mbtmp4.4/10, MS3.6/4, Ms1 3.6/4, ms1mx3.3/18, Error ellipse: s-maj=28.4km s-min=15.4km az=112.0*
ISC 15 12:21:04.8±2.1**, 18.71S**±0.09×**174.79W**±0.09**, h47**km±18km**, n65,** σ**0**^{s}**63**/60**, mb4.6**/27**, MS3.6**/4**, 2C, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.58	32	P	P	12 22 28.0	+0.7
	15nm,0.3s,baz=278,slow=1.0,SNR=20						
AFI				S	S	12 23 22.8	-8.2
	34nm,0.3s,baz=245,slow=23,SNR=6.3						
AFI	Afiamalu	5.58	32	ePn	P	12 22 26.2	-1.1
	130nm,0.4s						
AFI				eSn	S	12 23 22.3	-8.8
DZM	Mont Dzumac	17.91	256	eP	P	12 25 20.5	+8.4
DZM	Mont Dzumac	17.91	256	P	P	12 25 20.0	+7.9
	2.2nm,0.3s,baz=82,slow=16,SNR=38						
DZM	Mont Dzumac	17.91	256	eP	P	12 25 20.5	+8.4
URZ	Urewera	20.72	198	P	P	12 25 43.7	+0.1
	9.9nm,0.4s,baz=350,slow=4.0,SNR=14						
URZ				S	S	12 29 24.2	-3.2
	8.9nm,0.9s,baz=13,slow=13,SNR=3.4						
HNR	Honiara	26.15	287	LR	LR	12 33 56.7	
	comp=Z,70nm,19.4s,MS3.2,baz=322,slow=29						
RPZ	Rata Peaks	27.63	202	P	P	12 26 50.6	+0.6
	9.9nm,0.5s,mb4.7,baz=261,slow=9.9,SNR=8.8						
CTA	Charters Tower	36.72	261	eP	P	12 28 10.8	+1.4
	18nm,0.6s,mb5.1						
CTAO	Charters Tower	36.72	261	eP	P	12 28 10.6	+1.2
	20nm,0.6s,mb5.1						
STKA	Stephens Creek	41.29	243	eP	P	12 28 48.3	+1.0
	4.0nm,0.5s,mb4.3						
STKA	Stephens Creek	41.29	243	P	P	12 28 48.1	+0.8
	4.3nm,0.5s,mb4.4,baz=88,slow=11,SNR=12						
STKA				LR	LR	12 43 28.8	
	comp=Z,87nm,18.3s,MS3.7,baz=276,slow=32						
WB2	Warramunga Arr	47.86	260	eP	P	12 29 39.9	-0.4
WRAB	Tennant Creek	47.86	260	eP	P	12 29 39.5	-0.8
	30nm,0.4s,mb5.7						
WRA	Warramunga Arr	47.87	260	P	P	12 29 40.2	-0.2
	19nm,0.4s,mb5.5,baz=96,slow=7.3,SNR=434						
KAKA	Kakadu	51.01	269	⇑iP	P	12 30 04.5	0.0
	12nm,0.5s,mb5.1						
FITZ	Fitzroy Crossi	56.29	260	eP	P	12 30 43.0	-0.3
	8.5nm,0.4s,mb5.1						
VNDA	Vanda	59.97	186	P	P	12 31 08.3	0.0
	0.8nm,0.8s,mb3.8,baz=6.9,slow=8.8,SNR=6.1						
VNDA	Vanda	59.97	186	eP	P	12 31 08.3	0.0
	0.7nm,0.6s,mb3.9						
MBWA	Marble Bar	61.21	256	eP	P	12 31 16.1	-1.4
	6.7nm,0.6s,mb5.0						
KLBR	Kellerberrin	61.55	244	eP	P	12 31 19.6	-0.1
	18nm,0.9s,mb5.2						
MUN	Mundaring	62.83	243	eP	P	12 31 27.6	-0.6
	11nm,1.6s,mb4.8						
CASY	Casey	66.86	205	eP	P	12 31 52.8	-0.8
	3.8nm,0.8s,mb4.5						
MJAR	Matsushiro Arr	70.64	321	P	P	12 32 18.4	+0.9
	4.3nm,0.6s,mb4.5,baz=167,slow=7.2,SNR=16						
MJAR	Matsushiro Arr	70.64	321	P	P	12 32 18.4	+0.9
MAT	Matsushiro	70.64	321	eP	P	12 32 18.0	+0.5
MAT	Matsushiro	70.64	321	P	P	12 32 18.3	+0.8
KKM	Kota Kinabalu	72.27	283	eP	P	12 32 27.2	-0.4
KSM	Kuching	76.19	276	P	P	12 32 51.3	+0.8
TUC	Tucson	79.50	51	eP	P	12 33 08.6	+0.2
	2.1nm,1.1s,mb4.0						
BMN	Battle Mountai	79.51	41	eP	P	12 33 08.1	-0.2
	3.6nm,0.8s,mb4.3						
WVOR	Wild Horse Val	79.84	39	eP	P	12 33 09.7	-0.3
	2.9nm,1.0s,mb4.2						
HLID	Hailey	83.01	40	eP	P	12 33 26.4	-0.1
	6.1nm,1.7s,mb4.3						
MNTX	Cornudas Mount	83.26	53	eP	P	12 33 27.9	-0.1
	4.4nm,1.1s,mb4.4						
LTX	Lajitas	83.55	56	eP	P	12 33 29.8	+0.2
	1.5nm,0.5s,mb4.4						
PV10	Paradox Valley	83.75	46	eP	P	12 33 30.5	+0.1
ANMO	Albuquerque	83.93	50	eP	P	12 33 31.6	+0.2
	5.2nm,1.3s,mb4.5						
MAW	Mawson	84.25	199	P	P	12 33 32.6	+0.4
	4.6nm,1.0s,mb4.5,baz=157,slow=7.7,SNR=3.7						
GDL2	Guadalupe Moun	84.25	53	eP	P	12 33 33.8	+0.7
MCMT	McKenzie Canyo	84.65	39	eP	P	12 33 34.4	-0.4
RRI2	Red Ridge	84.79	41	eP	P	12 33 35.1	-0.4
	4.1nm,0.8s,mb4.6						
CPRX	Cap Rock	84.99	53	eP	P	12 33 37.1	+0.3
LOHW	Long Hollow	85.38	41	eP	P	12 33 38.5	+0.1
	1.5nm,0.7s,mb4.2						
BW06	Boulder Array	85.60	42	eP	P	12 33 39.1	-0.4
	1.2nm,0.7s,mb4.2						
PDAR	Pinedale Array	85.60	42	P	P	12 33 39.4	-0.2
	1.1nm,0.8s,mb4.1,baz=225,slow=2.1,SNR=9.4						
PDAR				LR	LR	13 05 59.0	
	comp=Z,36nm,18.1s,MS3.8,baz=62,slow=32						
ILAR	Eielson Array	85.94	12	P	P	12 33 39.7	-0.9
	1.4nm,0.5s,mb4.4,baz=236,slow=6.6,SNR=19						
SNAA	Sanae	89.68	177		P	12 33 58.0	-0.5
SNAA	Sanae	89.68	177		P	12 34 02.2	+3.7
SNAA	Sanae	89.68	177		P	12 34 06.8	+8.3
SNAA	Sanae	89.68	177		P	12 34 14.1	+16
SNAA	Sanae	89.68	177	P	P	12 33 58.1	-0.4
	0.5nm,0.7s,mb4.0,baz=277,slow=7.1,SNR=6.4						
SNAA	Sanae	89.68	177	eP	P	12 33 57.7	-0.8
	1.5nm,0.7s,mb4.4						
VNA3	Neumayer Olymp	89.69	175		P	12 33 59.7	+1.2
VNA3	Neumayer Olymp	89.69	175		P	12 34 04.3	+5.8
VNA3	Neumayer Olymp	89.69	175		P	12 34 18.1	+20
VNA2	Neumayer--Watz	90.17	176		P	12 34 02.6	+1.8
VNA2	Neumayer--Watz	90.17	176		P	12 34 07.1	+6.3
VNA2	Neumayer--Watz	90.17	176		P	12 34 17.2	+16
ULM	Lac du Bonnet	97.32	39	LR	LR	13 09 44.9	
	comp=Z,34nm,21.7s,MS3.8,baz=348,slow=30						
ARCES	ARCESS Array B	127.67	351	PKP	PKPdf	12 40 05.6	+1.0
	0.6nm,0.5s,slow=1.2,SNR=5.6						
ARCES	ARCESS Array B	127.67	351	PKP	PKPdf	12 40 05.6	+1.0
CLL	Collm	146.90	351	⇑iPKP1	PKPbc	12 40 44.3	+2.8
BRG	Berggiesshubel	147.17	350	eP	PKPdf	12 40 46.7	+6.3
BRTR	Keskin Array B	147.76	317	PKPbc	PKPdf	12 40 46.1	+4.4
	1.4nm,0.7s,baz=153,slow=2.8,SNR=5.9						
GERES	GERESS Array B	149.16	349	PKPbc	PKPdf	12 40 49.3	+5.7
	0.8nm,0.6s,baz=27,slow=3.0,SNR=6.3						

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*IDC **15** 12:39:28.0±3.9, 2.43N×96.38E, mb4.1/4, mb1 4.2/4, mb1mx3.8/17, mbtmp4.1/4, Error ellipse: s-maj=149.6km s-min=22.9km az=60.0*
*NEIC **15** 12:39:31.5±1.0, 2.32N×96.18E, h30km, mb4.0/1, Error ellipse: s-maj=23.3km s-min=14.6km az=53.0*
ISC 15 12:39:29.5±1.4**, 2.3N**±0.2×**96.2E**±0.2**, h30**km**, n7,** σ**0**^{s}**46**/7**, mb4.2**/5**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.34	56	ePn	Pn	12 40 49.2	-0.2
FITZ	Fitzroy Crossi	35.41	126	P	P	12 46 24.8	-0.4
	5.1nm,0.9s,mb4.4,baz=339,slow=12,SNR=3.3						
WRA	Warramunga Arr	43.50	122	P	P	12 47 32.7	+0.4
	0.4nm,0.4s,mb3.5,baz=302,slow=9.0,SNR=7.1						
MKAR	Makanchi Array	45.91	347	P	P	12 47 51.7	+0.4
	4.0nm,0.7s,mb4.5,baz=162,slow=7.9,SNR=33						
MKAR	Makanchi Array	45.91	347	P	P	12 47 51.7	+0.4
SONM	Songino Array	46.18	10	P	P	12 47 53.8	+0.4
	2.1nm,0.5s,mb4.3,baz=192,slow=9.9,SNR=12						
ZRNK	Zerenda	55.25	340	eP	P	12 49 01.5	-0.8
	1.7nm,1.0s,mb4.0						

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*CSEM **15** 12:46:10.9±0.3, 67.61N×33.85E, h2km, ML2.6, Error ellipse: s-maj=7.4km s-min=2.5km az=91.0, Suspected Mining explosion.*
*HEL **15** 12:46:11.6±0.4, 67.68N×33.98E, ML2.6, ML2.3(BER), ML2.3(NAO), Explosion*
*NAO **15** 12:46:13.3±1.7, 67.73N×33.78E, ML2.3*
ISC 15 12:46:13.4±1.2**, 67.58N**±0.04×**33.0E**±0.2**, n27,** σ**1**^{s}**45**/53**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU4	Liikasenvaara	1.83	230	eP	Pn	12 46 49.5	+3.2
KU4				eS	Sn	12 47 17.3	+6.8
SGF	Sodankyl	2.51	270	eP	Pn	12 46 57.6	+1.6
SGF				eSB	Sb	12 47 37.7	+7.2
KEV	Kevo	3.10	318	eP	Pn	12 47 04.9	+0.4
KEV				eS	Sn	12 47 44.7	+1.8
KEV	Kevo	3.10	318	P	Pn	12 47 04.9	+0.3
KEV				S	Sn	12 47 44.6	+1.7
ARA0	ARCESS Array S	3.39	309	Pn	Pn	12 47 08.6	0.0
	baz=122,slow=16						
ARA0				Pg	Pg	12 47 16.8	-4.3
	baz=116,slow=16						
ARA0				Sn	Sn	12 47 50.3	+0.1
	baz=125,slow=28						
ARA0				Lg		12 48 03.1	
	baz=115,slow=37						
ARA0	ARCESS Array S	3.39	309	eP	Pn	12 47 08.6	0.0
ARA0				ePG	Pg	12 47 16.8	-4.3
ARA0				eS	Sn	12 47 50.3	+0.1
ARA0				eSG	Sg	12 48 03.1	-3.2
OUL	Oulu	3.81	232	eP	Pn	12 47 16.1	+1.5
OUL				eSG	Sg	12 48 20.2	-0.1
KTK1	Kautokeino	3.91	296	eP	Pn	12 47 17.3	+1.3
KTK1				eS	Sn	12 48 04.8	+1.5
KTK1				AML	AML	12 48 23.6	
	comp=Z,18nm,0.4s						
KTK1	Kautokeino	3.91	296	P	Pn	12 47 17.3	+1.2
KTK1				S	Sn	12 48 04.8	+1.4
	comp=Z,18nm,0.4s						
KJN	Kajaani	4.13	214	eP	Pn	12 47 19.5	+0.3
KJN				eS	Sn	12 48 10.4	+1.4
KJN				MSG		12 48 28.2	
	comp=Z,12nm,0.3s						
KJN	Kajaani	4.13	214	P	Pn	12 47 19.4	+0.2
KJN				S	Sn	12 48 10.3	+1.3
	comp=Z,12nm,0.3s						
KIF	Kilpisjarvi	4.76	293	eP	Pn	12 47 27.8	-0.4
KIF				eS	Sn	12 48 25.5	+0.6
KIF	Kilpisjarvi	4.76	293	P	Pn	12 47 27.7	-0.4
KIF				S	Sn	12 48 25.5	+0.6
TRO	Tromso	5.56	298	eP	Pn	12 47 37.7	-1.6
TRO				eS	Sn	12 48 41.5	-3.3
TRO				AML	AML	12 49 14.9	
	comp=Z,5.3nm,0.3s						
TRO	Tromso	5.56	298	P	Pn	12 47 37.7	-1.6
TRO				S	Sn	12 48 41.5	-3.4
	comp=Z,5.3nm,0.3s						
SUF	Sumiainen	5.67	214	eP	Pn	12 47 41.2	+0.2
SUF				e		12 48 53.1	
SUF				MSG		12 49 18.6	
	comp=Z,5.4nm,0.3s						
SUF	Sumiainen	5.67	214	P	Pn	12 47 41.1	+0.1
FIA0	FINESS Array S	6.85	209	Pn	Pn	12 47 56.4	-1.1
	baz=19,slow=14						
FIA0				Sn	Sn	12 49 13.6	-3.6
	baz=42,slow=22						
FIA0				Lg		12 49 47.6	
	baz=9.4,slow=37						
FIA0	FINESS Array S	6.85	209	eP	Pn	12 47 56.4	-1.1
FIA0				eS	Sn	12 49 13.6	-3.6
FIA0				eSG	Sg	12 49 47.6	-14
FIA0	FINESS Array S	6.85	209	P	Pn	12 47 56.4	-1.1
FIA0				S	Sn	12 49 13.5	-3.7
FIA0				Sg	Sg	12 49 47.6	-14
HFS	Hagfors	11.29	238	Pn	P	12 48 57.2	-1.5
	baz=35,slow=11						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HFS				Sn	S	12 51 00.6	-6.3
	baz=45,slow=28						
HFS				Lg		12 52 08.1	
	baz=58,slow=28						
HFS	Hagfors	11.29	238	eP	P	12 48 57.2	-1.5
HFS				eS	S	12 51 00.6	-6.3
HFS				eSG	S	12 52 08.1	+61
HFS	Hagfors	11.29	238	P	P	12 48 57.2	-1.6
HFS				Sn	S	12 51 00.6	-6.3
NB2	NORSAR Subarra	11.46	246	Pn	P	12 48 58.7	-2.5
	baz=49,slow=8.6						
NB2	NORSAR Subarra	11.46	246	eP	P	12 48 58.7	-2.5
SPA0	Spitsbergen Ar	11.64	343	Pn	P	12 48 56.1	-7.5
	baz=146,slow=14						
SPA0	Spitsbergen Ar	11.64	343	eP	P	12 48 56.1	-7.5

*BJI **15** 12:50:03.5, 7.25N×94.05E, h29^{km}, mB4.9, mb4.6, Ms4.7, Msz4.4*

*IDC **15** 12:50:03.7±0.7, 7.47N×94.10E, h16^{km}±2^{km}, mb4.1/15, mb1 4.3/15, mb1mx4.2/22, mbtmp4.2/15, MS4.2/14, Ms1 4.2/14, ms1mx4.1/25, Error ellipse: s-maj=25.0km s-min=15.2km az=58.0*

*HRVD **15** 12:50:04.3±0.4, 7.56N×94.30E, h14^{km}±2^{km}, MW4.9/56, Centroid moment Tensor Solution. LP body waves: s14,c17;Mantle waves: s56,c77; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.46±.20; $M_{\theta\theta}$-1.14±.12; $M_{\phi\phi}$2.60±.17; $M_{r\theta}$-0.81±.36; $M_{\theta\phi}$1.68±.12; $M_{\phi r}$-1.24±.40; Best double couple: $M_0$2.894×10^{16} NP1:ϕ_s161°,δ45°, λ-153°. NP2:ϕ_s51°,δ71°,λ-48°. Principal axes: T 3.655, Plg16°, Azm112°; N -1.523, Plg39°, Azm215°; P -2.132, Plg47°, Azm4°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **15** 12:50:04.6±1.3, 7.53N×94.31E, h33^{km}, mb5.1/24, MS4.4/8 Error ellipse: s-maj=15.9km s-min=7.4km az=108.2*

*NEIC **15** 12:50:04.3±0.4, 7.43N×94.19E, mb4.9/25, Error ellipse: s-maj=12.2km s-min=7.1km az=47.0*

ISC 15 12:50:02.6±1.7**, 7.39N**±0.06×**94.20E**±0.06**, h20**^{km}±12^{km}**, h20**^{km}±.8^{km}**:pP-P, n115,** σ1§**34**/115**, mb4.7**/53**, MS4.3**/30**, 4C-1D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.74	108	ePn	Pn	12 51 42.0	-1.0
IPM	Ipoh	7.34	112	P	Pn	12 51 51.1	-0.3
NNT	Nongplab	7.51	46	P	Pn	12 51 52.6	-1.2
KGM	Kluang	10.54	120	P	P	12 52 36.4	+0.6
CHG	Chiang Mai	12.26	22	⇑P	P	12 53 04.0	+4.9
	10nm,1.1s						
NANT	Nan	12.98	28	⇑P	P	12 53 05.0	-3.8
	69nm,0.8s						
VIS	Vishakhapatnam	14.76	315	eP	P	12 53 31.2	-1.1
VIS				AMb	AMB	12 53 33.9	
	comp=Z,16nm,0.9s						
VIS				e		12 56 03.3	
KSM	Kuching	17.09	109	eP	P	12 54 07.9	+5.7
SHL	Shillong	18.21	353	eP	P	12 54 17.0	+0.9
SHL				e		12 57 57.0	
BLSP	Bilaspur	18.71	323	eP	P	12 54 23.3	+1.1
BLSP				AMb	AMB	12 54 29.1	
	comp=Z,34nm,1.5s						
BLSP				eS	S	12 57 43.7	-3.3
QIZ	Qiongzhong	19.10	51	⇑iP	P	12 54 32.3	+5.4
QIZ				S	S	12 58 03.5	+7.6
QIZ				AMB	AMB		
	comp=Z,305nm,7.3s						
QIZ				LR	LR		
	comp=N,3μm,12.8s						
QIZ				LR	LR		
	comp=E,1μm,13.2s						
QIZ				LR	LR		
	comp=Z,1μm,9.8s						
QIZ	Qiongzhong	19.10	51	P	P	12 54 24.1	-2.9
	comp=Z,29nm,1.4s						
KMI	Kunming	19.43	24	P	P	12 54 33.3	+2.6
KMI				AP		12 54 39.9	
KMI				XP		12 54 43.8	
KMI				PP	PP	12 54 54.4	+6.1
KMI				PPP	PPP	12 55 01.9	+4.6
KMI				S	S	12 58 15.8	+13
KMI				SS	SS	12 58 39.1	+9.3
KMI				PCP	PcP	12 58 49.3	-2.1
KMI				AMB	AMB		
	comp=Z,19nm,1.5s						
KMI				AMB	AMB		
	comp=Z,155nm,4.0s						
KMI				LR	LR		
	comp=N,705nm,11.3s						
KMI				LR	LR		
	comp=E,727nm,12.3s						
KMI				LR	LR		
	comp=Z,838nm,14.0s						
KMI	Kunming	19.43	24	P	P	12 54 33.3	+2.6
KMI				pmax	pmax		
	comp=Z,19nm,1.5s						
KMI	Kunming	19.43	24	P	P	12 54 33.3	+2.6
	comp=Z,19nm,1.5s						
KMI				pP		12 54 39.9	
KMI				sP		12 54 43.7	
KMI				PP	PP	12 54 54.4	+6.1
KMI				PPP	PPP	12 55 01.9	+4.6
KMI				S	S	12 58 15.7	+13
KMI				sS		12 58 27.6	
KMI				SS	SS	12 58 39.1	+9.3
KMI				PcP	PcP	12 58 49.2	-2.2
PKI	Pulchoki	21.73	339	eP	P	12 54 55.7	+1.0
	comp=Z,218nm,1.3s,mb5.4						
PKI	Pulchoki	21.73	339	eP	P	12 54 55.7	+1.0
PKI				pmax	pmax		
	comp=Z,109nm,1.3s,mb5.1						
KAD	Karad	21.88	299	eP	P	12 54 58.4	+2.2
KAD				e		13 01 13.5	
GUN	Gumba	21.88	340	eP	P	12 54 57.1	+0.9
	comp=Z,207nm,1.0s,mb5.5						
DMN	Daman	21.88	338	eP	P	12 54 57.1	+0.9
	comp=Z,150nm,1.1s,mb5.3						
KKM	Kota Kinabalu	21.90	92	eP	P	12 54 56.9	+0.4
KKM				epP		12 55 04.4	
KKM	Kota Kinabalu	21.90	92	P	P	12 55 05.3	+8.8
KKN	Kakani	21.98	338	eP	P	12 54 57.7	+0.5
	comp=Z,119nm,1.0s,mb5.3						
KKN	Kakani	21.98	338	eP	P	12 54 57.7	+0.5
KKN				pmax	pmax		
	comp=Z,59nm,1.0s,mb5.0						
GYA	Guiyang	22.36	31	P	P	12 55 02.9	+1.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
GYA				AMB	AMB		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=N,1μm,16.2s,MS4.6						
GYA				LR	LR		
	comp=E,2μm,15.9s,MS4.6						
GYA				LR	LR		
	comp=Z,860nm,13.5s,MS4.3						
LSA	Lhasa	22.38	353	P	P	12 55 03.0	+1.9
LSA	Lhasa	22.38	353	eP	P	12 55 01.6	+0.5
LSA				e*PP		12 55 08.2	
LSA				pmax	pmax		
	comp=Z,62nm,0.7s,mb5.2						
LSA	Lhasa	22.38	353	eP	P	12 55 01.6	+0.5
	comp=Z,62nm,0.7s,mb5.2						
LSA				epP		12 55 08.2	
GKN	Gorkha	22.41	337	eP	P	12 55 00.4	-1.1
	comp=Z,123nm,0.9s,mb5.3						
BHPL	Bhopal	22.55	316	eP	P	12 55 06.4	+3.5
BHPL				AMb	AMB	12 55 22.6	
	comp=Z,65nm,2.5s,mb4.6						
BHPL				e		13 00 08.0	
KOLN	Koldanda	22.62	335	eP	P	12 55 03.2	-0.4
	comp=Z,64nm,0.7s,mb5.1						
TSM	Tawau	23.74	96	P	P	12 55 24.0	+9.3
CD2	Chengdu	25.05	20	P	P	12 55 31.0	+3.8
LGTI	Lohaghat	25.58	331	eP	P	12 55 36.0	+3.9
NDI	New Delhi	26.56	325	eP	P	12 55 45.0	+3.7
ENH	Enshi	26.90	30	eP	P	12 55 45.5	+1.1
	comp=Z,26nm,1.1s,mb4.7						
ENH				epP	pP	12 55 51.2	+0.9
XAN	Xi'an	29.80	25	P	P	12 56 09.6	-0.9
XAN				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
LZH	Lanzhou	29.89	16	eP	P	12 56 12.1	+0.8
LZH				AMB	AMB		
	comp=Z,41nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,169nm,5.0s						
LZH	Lanzhou	29.89	16	eP	P	12 56 12.1	+0.8
	comp=Z,41nm,1.5s,mb4.9						
LZH				pP	pP	12 56 17.0	-0.3
LZH				sP	sP	12 56 20.5	+0.5
GTA	Gaotai	32.28	8	eP	P	12 56 31.8	-0.4
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.4						
GTA				AMB	AMB		
	comp=Z,61nm,4.8s						
GTA				LR	LR		
	comp=N,265nm,16.4s,MS4.3						
GTA				LR	LR		
	comp=E,385nm,11.6s,MS4.3						
GTA				LR	LR		
	comp=Z,343nm,15.8s,MS4.1						
SSE	Sheshan	34.53	43	P	P	12 56 44.9	-6.9
	comp=Z,21nm,0.7s,mb5.2						
SSE				sP	sP	12 56 57.4	-3.1
SSE				PP	PP	12 58 02.5	-5.7
SSE				PcP	PcP	12 59 20.2	-6.6
SSE				S	S	13 02 07.4	-11
SSE				sS		13 02 22.9	
SSE				ScP		13 03 05.1	
SSE				SS	SS	13 04 35.6	+5.4
SSE				LR	LR		
	comp=Z,470nm,12.2s,MS4.4						
KSH	Kashi	35.94	336	eP	P	12 57 09.6	+5.9
KSH				eAP	pP	12 57 18.8	+9.0
KSH				AMB	AMB		
	comp=Z,70nm,3.5s						
WMQ	Urumqi	36.73	352	eP	P	12 57 10.8	+0.4
WMQ				AP	pP	12 57 18.0	+1.5
WMQ				PP	PP	12 58 35.5	-0.2
WMQ				S	S	13 02 51.5	-0.9
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,147nm,5.4s						
WMQ				LR	LR		
	comp=N,338nm,11.9s						
WMQ				LR	LR		
	comp=E,312nm,25.6s						
WMQ				LR	LR		
	comp=Z,263nm,15.3s,MS4.1						
HHC	Hu-ho-hao-te	36.74	22	eP	P	12 57 12.5	+2.0
HHC				AP	pP	12 57 19.3	+2.7
HHC				XP	sP	12 57 22.3	+3.2
HHC				PP	PP	12 58 40.8	+5.0
HHC				PCP	PcP	12 59 36.0	+2.9
HHC				S	S	13 02 55.0	+2.5
HHC				SCP		13 03 17.8	
HHC				PCS		13 03 22.6	
HHC				SS	SS	13 05 28.4	+8.1
HHC				SCS	ScS	13 07 24.8	+1.8
HHC				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.6						
HHC				AMB	AMB		
	comp=Z,95nm,10.8s						
HHC				LR	LR		
	comp=N,543nm,13.2s,MS4.7						
HHC				LR	LR		
	comp=E,726nm,14.4s,MS4.7						
HHC				LR	LR		
	comp=Z,507nm,13.2s,MS4.5						
AAK	Ala-Archa	39.17	337	eP	P	12 57 29.7	-1.2
AAK				e*PP	pP	12 57 36.0	-1.0
AAK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
AAK	Ala-Archa	39.17	337	eP	P	12 57 29.7	-1.1
	comp=Z,13nm,1.0s,mb4.6						
AAK				epP	pP	12 57 36.0	-1.0
FRU	Bishkek	39.29	337	eP	P	12 57 37.5	+5.6
FRU				pmax	pmax		
	comp=Z,50nm,2.3s,mb4.8						
FRU				MLR	MLR		
	comp=Z,700nm,19.0s,MS4.5						
FITZ	Fitzroy Crossi	40.06	130	P	P	12 57 38.8	+0.3
	comp=Z,3.8nm,0.7s,mb4.2,baz=357,slow=12,SNR=4.4						
MKAR	Makanchi Array	40.57	347	P	P	12 57 41.1	-1.2
	comp=Z,7.4nm,0.8s,mb4.3,baz=166,slow=8.0,SNR=36						
MKAR				pP	pP	12 57 46.8	-1.7
	comp=Z,21nm,0.8s,baz=170,slow=7.0,SNR=30						
MKAR				LR	LR	13 17 44.7	
	comp=Z,139nm,19.9s,MS3.8,baz=173,slow=41						
SONM	Songino Array	41.62	12	P	P	12 57 50.9	0.0
	comp=Z,5.7nm,0.8s,mb4.2,baz=196,slow=9.0,SNR=15						
SONM				PcP	PcP	12 59 48.7	+0.2
	comp=Z,1.2nm,0.7s,baz=192,slow=4.8,SNR=4.3						
SONM				LR	LR	13 16 18.8	
	comp=Z,254nm,18.4s,MS4.1,baz=65,slow=38						
ULN	Ulaanbaatar	41.79	13	i P	P	12 57 41.7	-11
ZAK	Zakamensk	43.52	8	eP	P	12 58 05.6	-0.8
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
KURK	Kurchatov	45.09	346	eP	P	12 58 18.0	-1.1
KURK				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.9						
KURK	Kurchatov	45.09	346	eP	P	12 58 18.0	-1.2
	comp=Z,13nm,0.7s,mb4.9						
CN2	Changchun	45.40	32	eP	P	12 58 23.3	+1.6
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.5						
CN2				LR	LR		
	comp=N,400nm,13.0s,MS4.6						
CN2				LR	LR		
	comp=E,300nm,13.0s,MS4.6						
CN2				LR	LR		
	comp=Z,420nm,14.0s,MS4.5						
NWAO	Narrogin (SRO)	45.69	153	P	P	12 58 24.6	+0.5
	comp=Z,10nm,0.8s,mb4.8,baz=322,slow=11,SNR=3.6						
NWAO				LR	LR	13 15 51.3	
	comp=Z,306nm,19.4s,MS4.2,baz=57,slow=34						
WRA	Warramunga Arr	47.93	125	i P	P	12 58 42.4	+0.4
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	Warramunga Arr	47.93	125	P	P	12 58 42.1	+0.1
	comp=Z,2.4nm,0.6s,mb4.4,baz=305,slow=8.5,SNR=20						
WRAB	Tennant Creek	47.94	125	eP	P	12 58 42.9	+0.9
WRAB				e*PP	pP	12 58 48.4	+0.2
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
WRAB	Tennant Creek	47.94	125	eP	P	12 58 42.9	+0.9
	comp=Z,1.8nm,0.5s,mb4.4						
WRAB				epP	pP	12 58 48.4	+0.2
NVS	Novosibirsk	48.13	352	i P	P	12 58 41.2	-1.8
NVS				pmax	pmax		
	comp=N,15nm,1.0s						
NVS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
NVS				pmax	pmax		
	comp=E,6.0nm,0.9s						
MDJ	Mudanjiang	48.17	34	P	P	12 58 44.6	+1.1
MDJ				S	S	13 05 46.4	+6.0
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,64nm,4.4s						
MDJ				LR	LR		
	comp=N,160nm,14.0s,MS4.5						
MDJ				LR	LR		
	comp=E,330nm,14.6s,MS4.5						
MDJ				LR	LR		
	comp=Z,338nm,14.6s,MS4.5						
MJAR	Matsushiro Arr	49.44	47	P	P	12 58 53.8	+0.3
	comp=Z,0.3nm,0.3s,mb3.8,baz=270,slow=3.6,SNR=2.8						
MJAR				LR	LR	13 19 55.5	
	comp=Z,135nm,18.1s,MS4.0,baz=255,slow=36						
BVAR	Borovoye Array	49.46	341	P	P	12 58 51.7	-1.7
	comp=Z,8.4nm,0.9s,mb4.8,baz=149,slow=8.6,SNR=11						
BVAR				pP	pP	12 58 57.7	-1.9
	comp=Z,8.3nm,0.9s,baz=146,slow=5.3,SNR=19						
BVAR				PcP	PcP	13 00 15.5	-0.1
	comp=Z,1.3nm,0.7s,baz=117,slow=6.4,SNR=3.0						
BRVK	Borovoye	49.53	341	eP	P	12 58 52.6	-1.2
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
BRVK	Borovoye	49.53	341	eP	P	12 58 52.6	-1.3
	comp=Z,10nm,1.1s,mb4.8						
ATD	Arta Tunnel	50.77	279	LR	LR	13 17 15.7	
	comp=Z,281nm,20.4s,MS4.3,baz=348,slow=32						
GNI	Garni	54.82	315	i P	P	12 59 37.9	+4.2
GNI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PMG	Port Moresby	55.33	107	i P	P	12 59 36.5	-1.3
SVE	Sverdlovsk	55.87	338	eP	P	12 59 40.5	-0.6
SVE				e	pP	12 59 47.0	-0.3
SVE				pmax	pmax		
	comp=Z,20nm,2.0s,mb4.8						
SVE				MLR	MLR		
	comp=N,200nm,16.0s,MS4.3						
SVE				MLR	MLR		
	comp=E,100nm,16.0s,MS4.3						
SVE				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.6						
ARU	Arti	56.36	337	⇓iP	P	12 59 43.7	-0.8
ARU				e		13 00 36.8	
ARU				e		13 01 49.9	
ARU				ePPP	PPP	13 03 00.8	-7.9
ARU				eS	S	13 07 33.6	+1.5
ARU				eSS	SS	13 11 23.0	+3.4
ARU				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.2						
ARU				MLR	MLR		
	comp=Z,400nm,21.0s,MS4.5						
ARU				MLR	MLR		
	comp=N,300nm,19.0s,MS4.5						
ARU				MLR	MLR		
	comp=E,200nm,22.0s,MS4.5						
ARU	Arti	56.36	337	eP	P	12 59 42.9	-1.7
	comp=E,2.2nm,0.5s,mb4.4						
ARU				epP	pP	12 59 48.5	-2.3
KMBO	Kilima Mbogo	57.43	264	i P	P	12 59 55.1	+2.3
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KMBO	Kilima Mbogo	57.43	264	LR	LR	13 21 34.6	
	comp=Z,360nm,18.7s,MS4.5,baz=277,slow=33						
KIV	Kislovodsk	57.72	318	i P	P	12 59 57.2	+2.8
KIV				e		13 02 03.6	
KIV				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
KIV				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.9						
SOKR	Solikamsk	59.27	339	⇑iP	P	13 00 08.5	+3.5
SOKR				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
SOKR				MLR	MLR		
	comp=Z,500nm,21.0s,MS4.6						
STKA	Stephens Creek	59.73	134	LR	LR	13 27 15.3	
	comp=Z,170nm,20.2s,MS4.2,baz=193,slow=37						
YAK	Yakutsk	60.43	18	eP	P	13 00 11.0	-1.9
YAK				e*PP	pP	13 00 17.3	-2.0
YAK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
YAK	Yakutsk	60.43	18	eP	P	13 00 10.9	-2.0
	comp=Z,7.8nm,0.6s,mb4.9						
YAK				epP	pP	13 00 17.3	-2.0
BRTR	Keskin Array B	62.79	311	P	P	13 00 27.1	-2.1
	comp=Z,3.5nm,0.7s,mb4.6,baz=135,slow=7.0,SNR=6.8						
BRTR				pP	pP	13 00 33.0	-2.5
	comp=Z,3.5nm,0.7s,baz=126,slow=7.0,SNR=11						
OBN	Obninsk	65.82	328	i P	P	13 00 47.7	-0.9
OBN				i		13 01 20.1	
OBN				eS	S	13 09 32.0	-0.6
OBN				pmax	pmax		
	comp=Z,12nm,0.4s,mb5.3						
OBN				MLR	MLR		
	comp=Z,200nm,22.0s,MS4.3						
MA2	Magadan	67.16	27	eP	P	13 00 56.8	-0.3
MA2				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
MA2	Magadan	67.16	27	eP	P	13 00 56.8	-0.3
	comp=Z,6.3nm,0.9s,mb4.7						
TIXI	Tiksi	67.69	11	i P	P	13 00 57.6	-2.7
TIXI				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
AKASG	Malin Array Be	68.57	322	P	P	13 01 04.1	-2.0
	comp=Z,0.8nm,0.4s,mb4.0,baz=86,slow=4.5,SNR=6.6						
AKASG				pP	pP	13 01 10.0	-2.4
	comp=Z,2.2nm,0.6s,baz=90,slow=4.6,SNR=4.8						
AKASG				PP	PP	13 03 35.6	-4.0
	comp=Z,0.3nm,0.3s,baz=82,slow=6.6,SNR=3.0						
SEY	Seymchan	69.34	25	i P	P	13 01 10.0	-0.6
MATP	Matopo	70.22	245	P	P	13 01 16.5	-0.2
	comp=Z,1.9nm,0.7s,mb4.2,baz=32,slow=8.1,SNR=3.6						
VSU	Vasula	72.03	329	i P	P	13 01 26.4	-0.5
FINES	FINESS Array B	73.17	332	P	P	13 01 32.6	-0.9
	comp=Z,4.5nm,0.8s,mb4.5,baz=124,slow=6.9,SNR=14						
FINES				pP	pP	13 01 38.1	-1.8
	comp=Z,9.0nm,0.8s,baz=124,slow=6.9,SNR=13						
FINES				LR	LR	13 39 49.7	
	comp=Z,154nm,18.8s,MS4.3,baz=124,slow=41						
KAF	Kangasniemi	73.25	333	ep	P	13 01 32.9	-1.1
	comp=Z,9.4nm,0.7s,mb4.8,baz=104,slow=5.5						
KAF	Kangasniemi	73.25	333	eP	P	13 01 32.9	-1.1
KAF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
OJC	Ojcow	74.38	320	eP	P	13 01 46.7	+5.9
KEV	Kevo	75.31	341	ep	P	13 01 47.4	+1.6
	comp=Z,6.4nm,0.7s,mb4.7						
KEV	Kevo	75.31	341	eP	P	13 01 47.4	+1.6
KEV				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
BOSA	Boshof	75.38	238	LR	LR	13 30 44.8	
	comp=Z,114nm,18.6s,MS4.2,baz=280,slow=32						
ARCES	ARCESS Array B	75.74	340	P	P	13 01 47.7	-0.5
	comp=Z,1.0nm,0.4s,mb4.1,baz=105,slow=5.9,SNR=13						
ARCES				pP	pP	13 01 53.5	-1.1
	comp=Z,2.6nm,0.5s,baz=102,slow=5.3,SNR=7.5						
ARCES				LR	LR	13 37 54.8	
	comp=Z,402nm,20.6s,MS4.7,baz=116,slow=38						
BILL	Bilibino	76.51	22	i P	P	13 01 50.2	-2.4
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
BILL				MLR	MLR		
	comp=Z,400nm,22.0s,MS4.7						
BOJS	Bojanci	77.03	315	eP	P	13 02 01.5	+5.6
BRG	Berggiesshubel	78.16	320	eP	P	13 02 08.6	+6.5
BRG				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.7						
BRG				MLR	MLR		
	comp=Z,210nm,14.9s,MS4.6						
BRG	Berggiesshubel	78.16	320	eP	P	13 02 08.6	+6.5
	comp=Z,16nm,1.6s,mb4.7						
BRG				LR	LR		
	comp=Z,210nm,14.9s,MS4.6						
GERES	GERESS Array B	78.23	318	P	P	13 02 02.4	-0.1
	comp=Z,1.3nm,0.7s,mb3.9,baz=90,slow=4.0,SNR=10.0						
GERES				LR	LR	13 40 13.6	
	comp=Z,74nm,20.9s,MS4.0,baz=102,slow=38						
MOX	Moxa	79.63	320	eP	P	13 02 16.0	+5.9
MOX				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.2						
GRA1	Grafenberg Arr	79.87	319	eP	P	13 02 13.8	+2.4
	comp=Z,12nm,1.3s,mb4.7						
GRF	Grafenberg Arr	79.87	319	eP	P	13 02 13.8	+2.4
GRF				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
GRF	Grafenberg Arr	79.87	319	eP	P	13 02 13.8	+2.4
GRF				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
GRF	Grafenberg Arr	79.87	319	eP	P	13 02 13.8	+2.4
	comp=Z,12nm,1.3s,mb4.7						
NB2	NORSAR Subarra	80.18	331	P	P	13 02 11.9	-0.9
	comp=Z,3.3nm,0.8s,mb4.3,baz=93,slow=5.6						
NB2	NORSAR Subarra	80.18	331	P	P	13 02 11.9	-0.9
NB2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
NOA	NORSAR Array B	80.18	331	P	P	13 02 11.9	-0.9
	comp=Z,2.1nm,0.7s,mb4.2,baz=92,slow=5.6,SNR=13						
NOA				pP	pP	13 02 17.8	-1.6
	comp=Z,2.1nm,0.7s,baz=95,slow=5.1,SNR=11						
NOA				LR	LR	13 42 39.2	
	comp=Z,128nm,18.8s,MS4.3,baz=100,slow=39						
ESDC	Sonseca Array	91.58	310	P	P	13 03 10.8	+1.2
	comp=Z,0.7nm,0.7s,mb4.1,baz=63,slow=5.7,SNR=3.5						
ESDC				sP	sP	13 03 17.1	-1.2
	comp=Z,1.5nm,0.6s,baz=50,slow=4.8,SNR=4.8						
ILAR	Eielson Array	95.17	22	LR	LR	13 48 46.7	
	comp=Z,68nm,18.5s,MS4.2,baz=179,slow=37						
DBIC	Dimbokro	98.07	278	LR	LR	13 48 08.4	
	comp=Z,215nm,18.4s,MS4.7,baz=79,slow=36						
PDAR	Pinedale Array	125.59	21	PKP	PKPdf	13 09 05.0	-2.2
	comp=Z,0.7nm,0.8s,baz=315,slow=2.1,SNR=6.6						
PLCA	Paso Flores	144.12	200	PKP	PKPdf	13 09 38.3	-3.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,3.7nm,1.0s,baz=164,slow=6.6,SNR=6.4						
CPUP	**Villa Florida**	**147.01**	**232**	PKPbc	PKPdf	13 09 47.3	+0.5
	comp=Z,3.0nm,0.9s,baz=127,slow=4.2,SNR=5.2						

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*TIF **15** 12:51:51.3, 39.45N×40.83E, h19^{km}±3^{km}*
*CSEM **15** 12:51:51.8, 39.45N×40.82E, h18^{km}, MD2.9, After ISK*
ISK 15 12:51:51.8, 39.45N×40.82E, h18^{km}, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.62**	**43**	*i* PG	Pb	12 52 04.2	+0.4
EZM				*i* SG	Sb	12 52 13.7	+1.7
PTK	**Pertek**	**1.24**	**244**	PN	Pn	12 52 14.9	+0.5
PTK				SN	Sn	12 52 31.8	+1.1
BTMT	**Batman**	**1.36**	**157**	*e*PN	Pn	12 52 16.9	+0.8
BTMT				*e*SN	Sn	12 52 35.4	+1.7

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*NEIC **15** 13:11:29.2±0.6, 7.28N×94.02E, mb4.5/11, Error ellipse: s-maj=21.1km s-min=10.3km az=51.0*
*BJI **15** 13:11:29.2, 7.30N×94.00E, h15^{km}, mb4.3*
*IDC **15** 13:11:30.2±0.9, 7.54N×94.10E, h14^{km}±3^{km}, mb4.1/10, mb1 4.2/10, mb1mx4.0/19, mbtmp4.1/10, MS3.6/2, Ms1 3.6/2, ms1mx3.2/26, Error ellipse: s-maj=38.7km s-min=20.4km az=57.0*
ISC 15 13:11:27.0±0.7**, 7.2N**±0.1×**94.00E**±0.09**, h15^{km}, h15^{km}±.3^{km}:pP-P, n33, σ1^{s}16**/28**, mb4.4**/20**, MS3.7**/2**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.57**	**90**	P	**Pn**	**13 13 08.0**	**+2.4**
KULM	**Kulim**	**6.89**	**106**	*e*Pn	**Pn**	**13 13 08.3**	**-1.8**
CHG	**Chiang Mai**	**12.48**	**22**	P	**P**	**13 14 39.0**	**+12**
NANT	**Nan**	**13.23**	**29**	P	**P**	**13 14 35.0**	**-2.0**
KMI	**Kunming**	**19.66**	**24**	P	**P**	**13 16 00.3**	**+1.8**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.5s						
KMI	**Kunming**	**19.66**	**24**	P	**P**	**13 16 00.3**	**+1.8**
	comp=Z,6.0nm,1.5s						
PKI	**Pulchoki**	**21.81**	**339**	*e*P	**P**	**13 16 22.2**	**+1.5**
	comp=Z,22nm,0.6s,mb4.8						
DMN	**Daman**	**21.96**	**338**	*e*P	**P**	**13 16 23.0**	**+0.9**
	comp=Z,49nm,0.9s,mb4.9						
GUN	**Gumba**	**21.96**	**340**	*e*P	**P**	**13 16 23.8**	**+1.6**
KKN	**Kakani**	**22.06**	**339**	*e*P	**P**	**13 16 23.8**	**+0.7**
	comp=Z,26nm,0.8s,mb4.7						
GKN	**Gorkha**	**22.49**	**338**	*e*P	**P**	**13 16 26.5**	**-0.9**
	comp=Z,58nm,0.9s,mb5.0						
LSA	**Lhasa**	**22.52**	**354**	*e*P	**P**	**13 16 28.6**	**+0.9**
	comp=Z,25nm,0.6s,mb4.8						
GYA	**Guiyang**	**22.61**	**31**	P	**P**	**13 16 28.1**	**-0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**40.69**	**348**	P	**P**	**13 19 07.5**	**-1.0**
	comp=Z,7.1nm,0.7s,mb4.4,baz=172,slow=8.6,SNR=14						
MKAR				pP	pP	13 19 12.2	-0.8
	comp=Z,7.0nm,0.7s,baz=171,slow=7.3,SNR=25						
SONM	**Songino Array**	**41.82**	**13**	P	**P**	**13 19 17.5**	**-0.4**
	comp=Z,1.8nm,0.9s,mb3.7,baz=202,slow=7.8,SNR=3.3						
KURK	**Kurchatov**	**45.20**	**346**	*e*P	**P**	**13 19 44.0**	**-1.3**
	comp=Z,8.7nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**48.01**	**125**	P	**P**	**13 20 08.6**	**+0.8**
	comp=Z,2.7nm,1.1s,mb4.2,baz=305,slow=8.6,SNR=13						
WRA				PcP	PcP	13 21 38.7	+2.5
	comp=Z,0.8nm,0.8s,baz=321,slow=3.0,SNR=3.3						
WRAB	**Tennant Creek**	**48.01**	**125**	*e*P	**P**	**13 20 07.9**	**0.0**
	comp=Z,2.4nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**49.55**	**341**	P	**P**	**13 20 18.6**	**-0.7**
	comp=Z,3.2nm,0.8s,mb4.4,baz=139,slow=8.5,SNR=16						
BVAR				pP	pP	13 20 22.9	-0.9
	comp=Z,3.2nm,0.8s,baz=135,slow=9.4,SNR=14						
BVAR				PcP	PcP	13 21 42.2	+0.8
	comp=Z,0.5nm,0.5s,baz=180,slow=8.6,SNR=2.5						
BRVK	**Borovoye**	**49.62**	**341**	*e*P	**P**	**13 20 18.7**	**-1.1**
	comp=Z,3.6nm,1.0s,mb4.4						
KMBO	**Kilima Mbogo**	**57.21**	**264**	LR	LR	13 46 00.4	
	comp=Z,39nm,19.1s,MS3.5,baz=96,slow=36						
BRTR	**Keskin Array B**	**62.74**	**311**	P	**P**	**13 21 53.6**	**-0.5**
	comp=Z,0.7nm,0.6s,mb4.0,baz=129,slow=7.9,SNR=3.8						
BRTR				pP	pP	13 21 58.0	-0.7
	comp=Z,1.8nm,0.7s,baz=121,slow=7.3,SNR=6.1						
AKASG	**Malin Array Be**	**68.57**	**322**	P	**P**	**13 22 30.9**	**-0.4**
	comp=Z,1.3nm,0.6s,mb4.0,baz=90,slow=4.8,SNR=4.1						
AKASG				pP	pP	13 22 35.4	-0.6
	comp=Z,0.2nm,0.3s,baz=117,slow=2.1,SNR=1.8						
FINES	**FINESS Array B**	**73.22**	**332**	P	**P**	**13 22 59.3**	**+0.2**
	comp=Z,3.9nm,0.7s,mb4.4,baz=162,slow=6.0,SNR=10						
FINES				pP	pP	13 23 03.8	0.0
	comp=Z,4.1nm,0.7s,baz=108,slow=6.0,SNR=8.7						
KAF	**Kangasniemi**	**73.30**	**333**	*e*p	**P**	**13 22 57.7**	**-1.9**
	comp=Z,3.6nm,0.9s,mb4.3						
ARCES	**ARCESS Array B**	**75.82**	**340**	P	**P**	**13 23 14.6**	**+0.5**
	comp=Z,1.6nm,0.7s,mb4.1,baz=90,slow=6.1,SNR=4.5						
GERES	**GERESS Array B**	**78.21**	**318**	P	**P**	**13 23 29.1**	**+1.4**
	comp=Z,1.1nm,0.5s,mb4.0,baz=63,slow=3.0,SNR=11						
GERES				pP	pP	13 23 34.0	+1.6
	comp=Z,1.3nm,0.6s,baz=90,slow=8.0,SNR=7.4						
NB2	**NORSAR Subarra**	**80.22**	**331**	P	**P**	**13 23 38.4**	**+0.1**
	comp=Z,1.2nm,0.7s,mb3.9,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**80.22**	**331**	P	**P**	**13 23 38.4**	**+0.1**
	comp=Z,1.7nm,0.9s,mb4.0,baz=98,slow=5.4,SNR=5.7						
NOA				pP	pP	13 23 43.5	+0.4
	comp=Z,2.0nm,0.6s,baz=94,slow=5.1,SNR=6.9						
NOA				sP	sP	13 23 46.5	+1.8
	comp=Z,1.5nm,0.7s,baz=91,slow=5.7,SNR=4.4						
JMIC	**Jan Mayen**	**87.27**	**341**	LR	LR	14 10 06.0	
	comp=Z,34nm,18.1s,MS3.8,baz=203,slow=40						
PLCA	**Paso Flores**	**143.89**	**200**	PKP	PKPdf	13 31 05.5	-0.3
	comp=Z,2.8nm,0.9s,baz=282,slow=2.9,SNR=4.4						
PLCA	**Paso Flores**	**143.89**	**200**	PKP	PKPdf	13 31 05.5	-0.3
CPUP	**Villa Florida**	**146.75**	**232**	PKPbc	PKPbc	13 31 14.1	+5.0
	comp=Z,2.0nm,0.9s,baz=135,slow=4.3,SNR=4.7						

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*THR **15** 13:19:06.8±0.6, 29.61N×51.23E, h14^{km}±7^{km}, ML3.5*
*KISR **15** 13:19:08.5±0.8, 29.80N×51.28E, h33^{km}, ML3.5*
*CSEM **15** 13:19:08.0±0.1, 29.68N×51.36E, h16^{km}, ML3.5, Error ellipse: s-maj=1.9km s-min=1.5km az=164.0*
*TEH **15** 13:19:10.0, 29.62N×51.24E, h18^{km}, Mn3.5*
ISC 15 13:19:09.2±0.4**, 29.79N**±0.04×**51.29E**±0.03**, h16^{km}, n25, σ0^{s}79**/32**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMOK	**Mook**	**1.45**	**121**	Pn	**Pn**	**13 19 34.4**	**-0.4**
IPAR	**Pars**	**1.53**	**88**	Pn	**Pn**	**13 19 36.2**	**+0.2**
ISRV	**Sarvestan**	**1.64**	**104**	Pn	**Pn**	**13 19 38.1**	**+0.5**
GHIR	**Ghir-Karzin**	**2.11**	**135**	*e*PG	**Pn**	**13 19 43.7**	**-0.7**
GHIR				*e*SG	**Sn**	**13 20 10.7**	**+0.3**
GHIR				AML	AML	13 20 20.4	
	comp=N,424nm,0.3s						
IGAR	**Garneh**	**2.56**	**17**	Pn	**Pn**	**13 19 50.6**	**-0.3**
QRN	**Al-Qurain**	**3.13**	**251**	*e*P	**Pn**	**13 19 59.0**	**+0.1**
QRN				*e*S	**Sn**	**13 20 36.5**	**+0.3**
QRN				AML	AML	13 20 36.5	
	comp=Z,132nm,0.3s						
SHGO	**Shushtar**	**3.15**	**318**	*e*PN	**Pn**	**13 19 59.6**	**+0.4**
SHGO				AML	AML	13 21 28.0	
	comp=N,81nm,0.6s						
KBD	**Kabd**	**3.20**	**260**	*e*P	**Pn**	**13 19 59.8**	**-0.1**
KBD				*e*S	**Sn**	**13 20 38.4**	**+0.4**
IZEF	**Zefreh**	**3.22**	**16**	Pn	**Pn**	**13 19 58.1**	**-2.1**
NASN	**Na'in**	**3.27**	**23**	*e*PN	**Pn**	**13 20 02.8**	**+1.9**
NASN				*e*SG	**Sn**	**13 20 54.6**	**+15**
IMEH	**Mehriz**	**3.28**	**60**	Pn	**Pn**	**13 20 02.5**	**+1.5**
RDF	**Al-Radifah**	**3.38**	**256**	*e*P	**Pn**	**13 20 01.8**	**-0.6**
RDF				AML	AML	13 20 40.0	
	comp=Z,94nm,0.4s						
RDF				*e*S	**Sn**	**13 20 42.2**	**-0.4**
RDF	**Al-Radifah**	**3.38**	**256**	*e*P	**Pn**	**13 20 01.8**	**-0.6**
RDF				*e*S	**Sn**	**13 20 42.2**	**-0.4**
IKLH	**Kalahroud**	**3.52**	**4**	Pn	**Pn**	**13 20 00.0**	**-4.5**
ICHK	**Chekchek**	**3.62**	**47**	Pn	**Pn**	**13 20 06.7**	**+0.8**
IBAF	**Bafgh**	**4.09**	**63**	Pn	**Pn**	**13 20 11.0**	**-1.6**
ISFB	**Sefidab**	**4.62**	**10**	Pn	**Pn**	**13 20 20.0**	**-0.1**
ISFB				Sn	**Sn**	**13 21 12.9**	**-1.1**
KRBR	**Kerman**	**4.75**	**86**	*e*PN	**Pn**	**13 20 21.5**	**-0.4**
ASAO	**Ashtian**	**4.86**	**348**	*e*Pn	**Pn**	**13 20 23.6**	**+0.1**
ASAO	**Ashtian**	**4.86**	**348**	*e*Pn	**Pn**	**13 20 23.6**	**+0.1**
	SNR=52						
IVRN	**Varamin**	**5.20**	**4**	Pn	**Pn**	**13 20 28.6**	**+0.3**
IRAZ	**Razeghan**	**5.71**	**349**	Pn	**Pn**	**13 20 41.3**	**+5.8**
IDMV	**Damavand**	**5.80**	**6**	Pn	**Pn**	**13 20 36.9**	**+0.1**
DAMV	**Damavand**	**5.85**	**5**	*e*PN	**Pn**	**13 20 38.0**	**+0.5**
IFIR	**Firoozkooh**	**5.96**	**12**	Pn	**Pn**	**13 20 39.1**	**+0.1**

MAN 15 13:36:03.1, 11.94N×121.67E, h34^{km}, mb3.7, ML2.4, MS1.9, 2C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OTRP	**Odiongan**	**0.54**	**40**	*e*P	P	13 36 14.4	+0.2
OTRP				*e*S	S	13 36 23.7	+1.5
KALP	**Kalibo**	**0.71**	**112**	*e*P	P	13 36 28.0	+11
SJMP	**San Jose**	**0.74**	**314**	*e*P	P	13 36 17.8	+0.7
SJMP				*e*S	S	13 36 29.2	+1.8
RCP	**Roxas**	**1.12**	**110**	⇑*e*P	P	13 36 24.2	+1.6
RCP				*e*S	S	13 36 40.4	+3.4
CUYO	**Cuyo Island**	**1.26**	**210**	*e*P	P	13 36 23.8	-0.7
BUSP	**Coron**	**1.44**	**272**	*e*P	P	13 36 27.3	+0.2
GUIM	**Jordan**	**1.59**	**145**	*e*P	P	13 36 29.9	+0.6
ENPP	**El Nido**	**2.32**	**252**	*e*P	P	13 36 39.4	-0.3
BCPH	**Baguio City Da**	**4.54**	**347**	⇑*i*P		13 34 42.0	
BCPH				*i* S		13 34 44.6	

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*BJI **15** 13:45:22.3, 32.73S×179.13W, h32^{km}, mB5.0, mb5.1, Ms5.0, Msz4.5*
*CSEM **15** 13:45:23.5, 33.04S×179.19W, h33^{km}, mb5.7*
*MOS **15** 13:45:23.6±1.1, 32.81S×179.17W, h33^{km}, mb5.2/4, Error ellipse: s-maj=14.1km s-min=11.7km az=90.5*
*HRVD **15** 13:45:24.5±0.7, 32.86S×178.83W, h53^{km}±2^{km}, MW4.9/29, Centroid moment Tensor Solution. LP body waves: s23,c28;Mantle waves: s29,c36; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.76±.28; $M_{\theta\theta}$-0.09±.23; $M_{\phi\phi}$-2.67±.21; $M_{r\theta}$0.39±.16; $M_{\theta\phi}$-1.01±.23; $M_{\phi r}$1.15±.14; Best double couple: $M_0$3.134×10^{16} NP1:ϕ_s199°, δ34°, λ90°. NP2:ϕ_s19°, δ56°, λ90°. Principal axes: T 3.005, Plg79°, Azm288°; N .26, Plg0°, Azm19°; P -3.263, Plg11°, Azm109°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **15** 13:45:24.5±2.1, 32.76S×179.22W, h33^{km}±14^{km}, mb5.2/24, MS4.5/10 Error ellipse: s-maj=10.8km s-min=7.8km az=106.0*
*IDC **15** 13:45:26.0±1.6, 32.81S×179.02W, h44^{km}±13^{km}, mb4.3/8, mb1 4.5/9, mb1mx4.4/12, mbtmp4.6/9, ML4.4/1, MS4.0/8, Ms1 4.0/8, ms1mx3.8/22, Error ellipse: s-maj=17.4km s-min=9.7km az=111.0*
ISC 15 13:45:26.8±1.0**, 33.18S**±0.05×**179.30W**±0.08**, h65^{km}±8^{km}, n279, σ1^{s}57**/198**, mb5.0**/37**, 12C-12D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.09**	**17**	P	**P**	**13 46 18.3**	**-10**
	186nm,0.3s,baz=231,slow=23,SNR=10						
RAO				S	**S**	**13 47 03.2**	**-12**
	610nm,0.3s,baz=300,slow=23,SNR=7.1						
RAO	**Raoul Island**	**4.09**	**17**	*e*Pn	**P**	**13 46 18.1**	**-10**
RAO				Sn	**S**	**13 47 04.2**	**-11**
MXZ	**Matakaoa Point**	**4.79**	**203**	P	**P**	**13 46 40.2**	**+2.0**
MXZ				S	**S**	**13 47 42.4**	**+9.4**
MXZ	**Matakaoa Point**	**4.79**	**203**	*e*PN	**P**	**13 46 38.9**	**+0.8**
MXZ				SN	**S**	**13 47 39.7**	**+6.8**
WIZ	**White Island**	**5.20**	**213**	*e*PN	**P**	**13 46 47.8**	**+3.9**
PUZ	**Puketiti**	**5.27**	**202**	*e*P	**P**	**13 46 45.4**	**+0.6**
PUZ				S	**S**	**13 47 50.4**	**+5.4**
PUZ	**Puketiti**	**5.27**	**202**	PN	**P**	**13 46 45.3**	**+0.5**
PUZ				SN	**S**	**13 47 48.5**	**+3.5**
KUZ	**Kuaotunu**	**5.42**	**228**	*e*P	**P**	**13 46 53.1**	**+6.2**
KUZ	**Kuaotunu**	**5.42**	**228**	PN	**P**	**13 46 52.7**	**+5.8**
MWZ	**Matawai**	**5.75**	**206**	*e*P	**P**	**13 46 52.4**	**+0.9**
MWZ	**Matawai**	**5.75**	**206**	*e*PN	**P**	**13 46 51.8**	**+0.3**
MWZ				SN	**S**	**13 48 03.1**	**+6.1**
TGRZ	**Tauranga**	**5.81**	**217**	P	**P**	**13 46 56.4**	**+4.2**
TGRZ	**Tauranga**	**5.81**	**217**	*e*PN	**P**	**13 46 56.1**	**+3.8**
MARZ	**Manawahe**	**5.81**	**213**	P	**P**	**13 46 56.8**	**+4.5**
MARZ	**Manawahe**	**5.81**	**213**	*e*PN	**P**	**13 46 55.8**	**+3.5**
URZ	**Urewera**	**5.85**	**209**	P	**P**	**13 46 54.1**	**+1.3**
	8.5nm,0.3s,baz=54,slow=3.8,SNR=49						
URZ				S	**S**	**13 48 05.8**	**+6.5**
	45nm,0.3s,baz=173,slow=21,SNR=8.8						
URZ	**Urewera**	**5.85**	**209**	*e*P	**P**	**13 46 53.9**	**+1.1**
URZ	**Urewera**	**5.85**	**209**	*e*PN	**P**	**13 46 53.7**	**+0.9**
URZ				SN	**S**	**13 48 05.4**	**+6.0**
EDRZ	**Edgecumbe**	**5.88**	**212**	P	**P**	**13 46 57.7**	**+4.5**
EDRZ	**Edgecumbe**	**5.88**	**212**	*e*PN	**P**	**13 46 57.4**	**+4.2**
WCZ	**Waipu Caves**	**5.92**	**241**	P	**P**	**13 47 00.7**	**+6.8**
WCZ	**Waipu Caves**	**5.92**	**241**	PN	**P**	**13 47 00.6**	**+6.7**
LIRZ	**Lichensteins R**	**5.96**	**215**	P	**P**	**13 47 00.0**	**+5.6**
LIRZ	**Lichensteins R**	**5.96**	**215**	*e*PN	**P**	**13 46 59.1**	**+4.7**
MTAZ	**Motutapu**	**5.96**	**231**	P	**P**	**13 47 01.8**	**+7.4**
MTAZ	**Motutapu**	**5.96**	**231**	PN	**P**	**13 47 01.5**	**+7.1**
MKAZ	**Moumakai**	**6.00**	**228**	P	**P**	**13 47 01.5**	**+6.7**
MKAZ	**Moumakai**	**6.00**	**228**	PN	**P**	**13 47 01.3**	**+6.5**
OTAZ	**Otara**	**6.05**	**230**	P	**P**	**13 47 03.3**	**+7.7**
OTAZ	**Otara**	**6.05**	**230**	PN	**P**	**13 47 02.7**	**+7.1**
UTU	**Utuhina**	**6.19**	**215**	P	**P**	**13 47 02.7**	**+5.1**
UTU	**Utuhina**	**6.19**	**215**	*e*PN	**P**	**13 47 02.2**	**+4.6**
OUZ	**Omahuta**	**6.23**	**249**	*e*P	**P**	**13 47 04.1**	**+5.9**
OUZ	**Omahuta**	**6.23**	**249**	PN	**P**	**13 47 04.1**	**+6.0**
WTAZ	**Waiatarua**	**6.27**	**232**	*e*PN	**P**	**13 47 04.0**	**+5.3**
KNZ	**Kokohu**	**6.32**	**202**	*e*PN	**P**	**13 46 59.2**	**-0.2**
BKZ	**Black Stump Fm**	**6.88**	**208**	*e*P	**P**	**13 47 07.3**	**+0.1**
BKZ	**Black Stump Fm**	**6.88**	**208**	*e*PN	**P**	**13 47 06.3**	**-0.9**
BKZ				SN	**S**	**13 48 27.3**	**+2.6**
HIZ	**Hauiti**	**7.13**	**220**	P	**P**	**13 47 16.0**	**+5.3**
HIZ	**Hauiti**	**7.13**	**220**	*e*PN	**P**	**13 47 15.0**	**+4.2**
KRVZ	**Karewarewa**	**7.18**	**213**	*e*PN	**P**	**13 47 12.1**	**+0.7**
OTVZ	**Oturere**	**7.23**	**213**	*e*PN	**P**	**13 47 13.4**	**+1.3**
TWVZ	**Taurewa**	**7.26**	**214**	P	**P**	**13 47 14.3**	**+1.8**
TWVZ	**Taurewa**	**7.26**	**214**	*e*PN	**P**	**13 47 14.0**	**+1.5**
NGZ	**Ngauruhoe**	**7.27**	**213**	P	**P**	**13 47 14.9**	**+2.3**
NGZ	**Ngauruhoe**	**7.27**	**213**	*e*PN	**P**	**13 47 13.9**	**+1.3**
CNZ	**Chateau**	**7.31**	**213**	P	**P**	**13 47 16.1**	**+2.9**
CNZ	**Chateau**	**7.31**	**213**	*e*PN	**P**	**13 47 14.5**	**+1.3**
WPVZ	**Whakapapa**	**7.32**	**213**	*e*P	**P**	**13 47 16.6**	**+3.3**
WPVZ	**Whakapapa**	**7.32**	**213**	*e*PN	**P**	**13 47 15.5**	**+2.2**
TUVZ	**Tukino**	**7.32**	**212**	P	**P**	**13 47 16.3**	**+3.0**
TUVZ	**Tukino**	**7.32**	**212**	*e*PN	**P**	**13 47 15.5**	**+2.2**
FWVZ	**Far West T-bar**	**7.35**	**213**	*e*P	**P**	**13 47 16.2**	**+2.4**
FWVZ	**Far West T-bar**	**7.35**	**213**	*e*PN	**P**	**13 47 16.0**	**+2.2**
MOVZ	**Moawhango**	**7.39**	**211**	P	**P**	**13 47 14.6**	**+0.3**
MOVZ	**Moawhango**	**7.39**	**211**	*e*PN	**P**	**13 47 14.6**	**+0.3**
WNVZ	**Wahianoa**	**7.39**	**212**	P	**P**	**13 47 16.3**	**+2.0**
WNVZ	**Wahianoa**	**7.39**	**212**	*e*PN	**P**	**13 47 15.5**	**+1.2**
MTVZ	**Mangateitei**	**7.50**	**213**	*e*PN	**P**	**13 47 16.8**	**+1.1**
PWZ	**Pawanui**	**7.50**	**203**	*e*P	**P**	**13 47 14.4**	**-1.4**
PWZ	**Pawanui**	**7.50**	**203**	*e*PN	**P**	**13 47 13.4**	**-2.4**
PWZ				SN	**S**	**13 48 39.0**	**-1.1**
TSZ	**Takapari Road**	**7.85**	**208**	*e*P	**P**	**13 47 20.0**	**-0.6**
TSZ	**Takapari Road**	**7.85**	**208**	*e*PN	**P**	**13 47 19.9**	**-0.8**
WAZ	**Wanganui**	**8.02**	**213**	*e*P	**P**	**13 47 23.7**	**+0.8**
WAZ	**Wanganui**	**8.02**	**213**	*e*PN	**P**	**13 47 23.0**	**+0.1**
BFZ	**Birch Farm**	**8.29**	**204**	*e*P	**P**	**13 47 24.3**	**-2.4**
BFZ	**Birch Farm**	**8.29**	**204**	*e*PN	**P**	**13 47 24.4**	**-2.2**
BFZ				SN	**S**	**13 48 56.5**	**-3.3**
MRZ	**Mangatainoka R**	**8.52**	**207**	*e*P	**P**	**13 47 27.8**	**-2.0**
MRZ	**Mangatainoka R**	**8.52**	**207**	*e*PN	**P**	**13 47 26.5**	**-3.2**
MRZ				SN	**S**	**13 49 03.1**	**-2.2**
KIW	**Kapiti Island**	**8.96**	**209**	P	**P**	**13 47 33.4**	**-2.4**
KIW	**Kapiti Island**	**8.96**	**209**	*e*PN	**P**	**13 47 32.2**	**-3.5**
MTW	**Mount Morrison**	**8.98**	**206**	P	**P**	**13 47 33.4**	**-2.7**
MTW	**Mount Morrison**	**8.98**	**206**	*e*PN	**P**	**13 47 32.5**	**-3.6**
MTW				SN	**S**	**13 49 15.2**	**-1.4**
CAW	**Cannon Point**	**9.10**	**208**	P	**P**	**13 47 35.3**	**-2.4**
CAW	**Cannon Point**	**9.10**	**208**	*e*PN	**P**	**13 47 34.6**	**-3.1**
CAW				SN	**S**	**13 49 18.4**	**-1.2**
TRWZ	**Traveller**	**9.12**	**205**	*e*PN	**P**	**13 47 35.5**	**-2.5**
PAWZ	**Paruwai Farm**	**9.20**	**206**	*e*PN	**P**	**13 47 36.5**	**-2.7**
PAWZ				SN	**S**	**13 49 21.2**	**-0.9**
MSWZ	**Moikau Station**	**9.29**	**206**	P	**P**	**13 47 38.6**	**-1.8**
MSWZ	**Moikau Station**	**9.29**	**206**	*e*PN	**P**	**13 47 37.1**	**-3.3**
DUWZ	**D'Urville Isla**	**9.34**	**214**	*e*PN	**P**	**13 47 39.9**	**-1.1**
MRW	**Makara Radio**	**9.35**	**209**	P	**P**	**13 47 39.4**	**-1.8**
MRW	**Makara Radio**	**9.35**	**209**	*e*PN	**P**	**13 47 39.0**	**-2.1**
MRW				SN	**S**	**13 49 22.7**	**-3.0**
WEL	**Wellington**	**9.37**	**209**	P	**P**	**13 47 40.1**	**-1.3**
WEL	**Wellington**	**9.37**	**209**	*e*PN	**P**	**13 47 39.1**	**-2.3**
WEL				SN	**S**	**13 49 25.4**	**-0.8**
SNZO	**South Karori**	**9.41**	**209**	*e*P	**P**	**13 47 38.1**	**-3.9**
SNZO	**South Karori**	**9.41**	**209**	*e*PN	**P**	**13 47 38.0**	**-4.0**
TCW	**Tory Channel**	**9.51**	**211**	P	**P**	**13 47 40.5**	**-2.9**
TCW	**Tory Channel**	**9.51**	**211**	*e*PN	**P**	**13 47 40.0**	**-3.4**
TCW				SN	**S**	**13 49 27.5**	**-2.2**
TUWZ	**Tuamarina**	**9.84**	**211**	*e*PN	**P**	**13 47 44.7**	**-3.1**
QRZ	**Quartz Range**	**10.04**	**218**	*e*P	**P**	**13 47 48.5**	**-2.1**
QRZ	**Quartz Range**	**10.04**	**218**	*e*PN	**P**	**13 47 48.2**	**-2.4**
BSWZ	**Blackbirch Sta**	**10.10**	**211**	P	**P**	**13 47 48.9**	**-2.4**
BSWZ	**Blackbirch Sta**	**10.10**	**211**	*e*PN	**P**	**13 47 47.6**	**-3.8**
THZ	**Tophouse**	**10.57**	**214**	*e*P	**P**	**13 47 55.1**	**-2.6**
THZ	**Tophouse**	**10.57**	**214**	*e*PN	**P**	**13 47 54.5**	**-3.2**
THZ				SN	**S**	**13 49 52.9**	**-2.4**
KHZ	**Kahutara**	**10.82**	**209**	*e*P	**P**	**13 47 58.3**	**-2.8**
KHZ	**Kahutara**	**10.82**	**209**	*e*PN	**P**	**13 47 57.8**	**-3.3**
DSZ	**Denniston Nort**	**11.09**	**217**	*e*PN	**P**	**13 48 01.6**	**-3.2**
DSZ				SN	**S**	**13 50 04.8**	**-3.1**
LTZ	**Lake Taylor**	**11.66**	**212**	*e*P	**P**	**13 48 08.5**	**-3.9**
LTZ	**Lake Taylor**	**11.66**	**212**	*e*PN	**P**	**13 48 08.1**	**-4.4**
CRLZ	**Canterbury Las**	**12.15**	**209**	SN	**S**	**13 50 28.7**	**-4.9**
MQZ	**McQueen's Vall**	**12.25**	**209**	*e*PN	**P**	**13 48 15.6**	**-4.7**
MQZ				SN	**S**	**13 50 27.4**	**-8.5**
RPZ	**Rata Peaks**	**12.94**	**213**	P	**P**	**13 48 25.5**	**-4.0**
	2.1nm,0.3s,baz=185,slow=23,SNR=10						
RPZ				S	**S**	**13 50 47.8**	**-4.6**
	4.4nm,0.3s,baz=16,slow=23,SNR=13						
RPZ	**Rata Peaks**	**12.94**	**213**	SN	**S**	**13 50 45.8**	**-6.6**
ODZ	**Otahua Downs**	**14.17**	**210**	*e*PN	**P**	**13 48 41.9**	**-3.6**
JCZ	**Jackson Bay**	**14.32**	**217**	*e*P	**P**	**13 48 44.1**	**-3.3**
JCZ	**Jackson Bay**	**14.32**	**217**	*e*PN	**P**	**13 48 43.4**	**-4.0**
DZM	**Mont Dzumac**	**16.78**	**308**	*e*P	**P**	**13 49 22.6**	**+3.8**
DZM	**Mont Dzumac**	**16.78**	**308**	P	**P**	**13 49 22.2**	**+3.4**
	0.4nm,0.3s,baz=101,slow=15,SNR=15						
DZM				LR	LR	13 54 39.5	
	comp=Z,1µm,18.4s,baz=206,slow=33						
DZM	**Mont Dzumac**	**16.78**	**308**	*e*P	**P**	**13 49 22.6**	**+3.7**
AFI	**Afiamalu**	**20.37**	**21**	S	**S**	**13 53 34.4**	**-5.7**
	1.7nm,0.3s,baz=287,slow=22,SNR=4.3						
CNB	**Canberra Magne**	**25.94**	**256**	*e*P	**P**	**13 51 00.2**	**+5.4**
	48nm,1.4s,mb4.7						
HNR	**Honiara**	**30.41**	**316**	P	**P**	**13 51 33.5**	**-1.7**
	74nm,0.5s,mb5.6,baz=90,slow=4.5,SNR=8.8						
PPT	**Papeete**	**30.89**	**67**	LR	LR	14 00 25.1	
	comp=Z,294nm,20.5s,baz=262,slow=30						
STKA	**Stephens Creek**	**32.87**	**261**	P	**P**	**13 51 59.7**	**+3.1**
	2.2nm,0.3s,mb4.4,baz=117,slow=14,SNR=3.2						
STKA				LR	LR	14 04 27.0	
	comp=Z,534nm,18.8s,baz=290,slow=34						
STKA	**Stephens Creek**	**32.87**	**261**	P	**P**	**13 51 59.7**	**+3.1**
STKA				LR	LR	14 04 27.0	
CTA	**Charters Tower**	**33.28**	**284**	⇓*i*P	**P**	**13 52 02.5**	**+2.2**
	55nm,0.6s,mb5.6						
CTA	**Charters Tower**	**33.28**	**284**	P	**P**	**13 52 02.2**	**+2.0**
	59nm,0.5s,mb5.6,baz=111,slow=9.7,SNR=239						
CTAO	**Charters Tower**	**33.28**	**284**	*e*P	**P**	**13 52 02.3**	**+2.0**
	57nm,0.6s,mb5.6						
CTAO				LR	LR		
	comp=Z,492nm,19.0s						
PMG	**Port Moresby**	**38.91**	**300**	*d i*P	**P**	**13 52 48.6**	**+0.7**
PMG	**Port Moresby**	**38.91**	**300**	P	**P**	**13 52 48.7**	**+0.8**
	comp=Z,50nm,0.6s,mb5.5,baz=98,slow=4.6,SNR=32						
PMG	**Port Moresby**	**38.91**	**300**	⇑*i*P	**P**	**13 52 48.8**	**+1.0**
	comp=Z,91nm,0.9s,mb5.6						
PMG				LR	LR		
	comp=Z,392nm,20.0s						
WB2	**Warramunga Arr**	**43.18**	**276**	⇓*i*P	**P**	**13 53 23.1**	**+0.1**
WRAB	**Tennant Creek**	**43.18**	**276**	*i* P	**P**	**13 53 23.2**	**+0.2**
WRAB	**Tennant Creek**	**43.18**	**276**	⇑*i*P	**P**	**13 53 23.8**	**+0.8**
	comp=Z,108nm,0.8s,mb5.6						
WRAB				LR	LR		
	comp=Z,143nm,21.0s						
WRA	**Warramunga Arr**	**43.19**	**276**	P	**P**	**13 53 24.5**	**+1.4**
	comp=Z,44nm,0.3s,mb5.7,baz=114,slow=8.0,SNR=1155						
WRA				S	**S**	**13 59 45.8**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=114,slow=13,SNR=3.1						
VNDA	**Vanda**	**45.23**	**186**	P	**P**	**13 53 42.5**	**+3.8**
	comp=Z,2.1nm,0.7s,mb4.0,baz=45,slow=6.0,SNR=16						
VNDA				PcP	PcP	13 55 18.9	+0.6
	comp=Z,2.9nm,0.5s,baz=346,slow=5.7,SNR=7.2						
VNDA				LR	LR	14 10 41.7	
	comp=Z,96nm,18.4s,baz=48,slow=33						
VNDA	**Vanda**	**45.23**	**186**	*e*P	**P**	**13 53 43.0**	**+4.3**
	comp=Z,2.5nm,0.7s,mb4.0						
KAKA	**Kakadu**	**48.41**	**283**	*e*P	**P**	**13 54 04.5**	**0.0**
	comp=Z,43nm,0.6s,mb5.5						
FITZ	**Fitzroy Crossi**	**51.32**	**273**	⇓*i*P	**P**	**13 54 27.6**	**+0.9**
	comp=Z,51nm,0.8s,mb5.6						
CASY	**Casey**	**52.17**	**209**	⇓*i*P	**P**	**13 54 33.9**	**+1.4**
NWAO	**Narrogin (SRO)**	**52.43**	**252**	P	**P**	**13 54 34.7**	**-0.2**
	comp=Z,6.2nm,0.5s,mb4.9,baz=102,slow=6.4,SNR=8.1						
NWAO				LR	LR	14 16 30.9	
	comp=Z,157nm,19.4s,baz=95,slow=35						
NWAO	**Narrogin (SRO)**	**52.43**	**252**	P	**P**	**13 54 34.7**	**-0.2**
NWAO				LR	LR	14 16 30.9	
KLBR	**Kellerberrin**	**52.45**	**253**	⇓*i*P	**P**	**13 54 35.0**	**-0.1**
	comp=Z,34nm,1.1s,mb5.3						
MUN	**Mundaring**	**53.56**	**252**	*e*P	**P**	**13 54 43.4**	**+0.1**
	comp=Z,15nm,1.0s,mb5.0						
MBWA	**Marble Bar**	**54.88**	**266**	*e*P	**P**	**13 54 52.6**	**-0.4**
	comp=Z,6.9nm,0.5s,mb4.9						
MBWA				LR	LR		
	comp=Z,438nm,19.0s						
QSPA	**South Pole Qui**	**56.94**	**180**	⇑*i*P	**P**	**13 55 11.1**	**+4.0**
	comp=Z,42nm,0.7s,mb5.6						
MIR	**Mirnyy**	**59.15**	**208**	*c i*P	**P**	**13 55 23.8**	**+1.1**
MIR				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.3						
MAW	**Mawson**	**69.32**	**201**	*e*P	**P**	**13 56 30.9**	**+2.1**
	comp=Z,9.8nm,0.9s,mb4.6						
MAW	**Mawson**	**69.32**	**201**	P	**P**	**13 56 30.9**	**+2.1**
	comp=Z,7.4nm,0.6s,mb4.7,baz=140,slow=5.1,SNR=7.9						
KKM	**Kota Kinabalu**	**72.41**	**290**	*e*P	**P**	**13 56 47.4**	**-0.8**
SYO	**Syowa Base**	**74.16**	**194**	⇓P	**P**	**13 56 57.6**	**+0.2**
SYO	**Syowa Base**	**74.16**	**194**	⇓pP	pP	13 57 05.0	-10
KSM	**Kuching**	**74.49**	**282**	*e*P	**P**	**13 56 59.7**	**-0.8**
SNAA	**Sanae**	**75.41**	**179**	⇑*i*P	**P**	**13 57 06.9**	**+2.4**
SNAA	**Sanae**	**75.41**	**179**	⇓*i*	PcP	13 57 11.6	-6.2
SNAA	**Sanae**	**75.41**	**179**		pP	13 57 23.5	+1.0
SNAA	**Sanae**	**75.41**	**179**	*i* P	**P**	**13 57 07.1**	**+2.6**
SNAA	**Sanae**	**75.41**	**179**	LR	LR	14 26 27.9	
	comp=Z,43nm,20.1s,baz=200,slow=32						
VNA3	**Neumayer Olymp**	**75.61**	**177**	⇑*i*P	**P**	**13 57 09.5**	**+3.8**
VNA3	**Neumayer Olymp**	**75.61**	**177**	⇓*i*	**P**	**13 57 14.7**	**+9.0**
VNA3	**Neumayer Olymp**	**75.61**	**177**		PcP	13 57 16.2	-2.4
VNA3	**Neumayer Olymp**	**75.61**	**177**		pP	13 57 21.7	-1.9
VNA3	**Neumayer Olymp**	**75.61**	**177**		sP	13 57 30.4	-0.3
VNA2	**Neumayer--Watz**	**76.03**	**177**	⇑*i*P	**P**	**13 57 12.2**	**+4.1**
VNA2	**Neumayer--Watz**	**76.03**	**177**	⇓*i*	**P**	**13 57 17.4**	**+9.3**
VNA2	**Neumayer--Watz**	**76.03**	**177**		PcP	13 57 20.2	-0.2
VNA2	**Neumayer--Watz**	**76.03**	**177**		pP	13 57 24.5	-1.5
MAIT	**Maitri**	**76.04**	**184**	*e*P	**P**	**13 57 10.7**	**+2.6**
NVL	**N'lazarevskaya**	**76.04**	**184**	⇑*i*P	**P**	**13 57 09.4**	**+1.2**
NVL				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
VNA1	**Neumayer--Stat**	**76.26**	**177**	⇑*i*P	**P**	**13 57 13.7**	**+4.3**
VNA1	**Neumayer--Stat**	**76.26**	**177**	⇓*i*	PcP	13 57 18.9	-2.6
MJAR	**Matsushiro Arr**	**79.92**	**326**	P	**P**	**13 57 28.4**	**-1.9**
	comp=Z,1.8nm,0.9s,mb3.9,baz=156,slow=5.1,SNR=4.4						
PLCA	**Paso Flores**	**81.42**	**133**	P	**P**	**13 57 39.9**	**+1.9**
	comp=Z,1.1nm,0.5s,mb3.9,baz=273,slow=6.9,SNR=7.4						
PLCA				LR	LR	14 28 05.4	
	comp=Z,91nm,18.5s,baz=65,slow=31						
PLCA	**Paso Flores**	**81.42**	**133**	*e*P	**P**	**13 57 40.0**	**+1.9**
	comp=Z,2.0nm,0.8s,mb4.0						
SSE	**Sheshan**	**85.12**	**312**	P	**P**	**13 57 56.3**	**-0.8**
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,35nm,6.0s						
SSE	**Sheshan**	**85.12**	**312**	P	**P**	**13 57 56.2**	**-0.9**
	comp=Z,34nm,0.7s,mb5.4						
YSS	**Yuzh-Sakhalins**	**86.78**	**335**	⇑*i*P	**P**	**13 58 04.2**	**-0.6**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
YSS	**Yuzh-Sakhalins**	**86.78**	**335**	*e*P	**P**	**13 58 04.3**	**-0.5**
	comp=Z,21nm,0.8s,mb5.1						
YSS				LR	LR		
	comp=Z,954nm,21.0s						
NJ2	**Nanjing**	**87.23**	**311**	*e*P	**P**	**13 58 06.8**	**-0.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,70nm,10.3s						
NJ2				LR	LR		

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=N,160nm,14.0s						
NJ2				LR	LR		
	comp=E,190nm,13.3s						
NJ2				LR	LR		
	comp=Z,120nm,23.7s						
PET	Petropavlovsk	87.97	347	*i* P	P	13 58 07.5	-2.8
PET				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
CFAA	Coronel Fontan	88.45	127	LR	LR	14 29 47.0	
	comp=Z,19nm,20.0s,baz=308,slow=30						
MDJ	Mudanjiang	90.30	326	P	P	13 58 21.4	-0.2
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,47nm,5.9s						
MDJ				LR	LR		
	comp=N,51nm,24.1s						
MDJ				LR	LR		
	comp=E,25nm,26.0s						
MDJ				LR	LR		
	comp=Z,80nm,25.0s						
YBH	Yreka Blue Hor	90.89	39	*e*P	P	13 58 24.7	+0.3
	comp=Z,44nm,2.0s,mb5.2						
YBH				LR	LR		
	comp=Z,164nm,19.0s						
TPH	Tonopah	91.41	44	*e*P	P	13 58 26.5	-0.4
	comp=Z,13nm,1.0s,mb5.0						
TPH				LR	LR		
	comp=Z,166nm,21.0s						
TUC	Tucson	91.70	52	*e*P	P	13 58 28.5	+0.1
	comp=Z,3.8nm,1.0s,mb4.6						
CN2	Changchun	91.70	323	*e*P	P	13 58 27.5	-0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.0						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
GYA	Guiyang	91.99	300	⇑*i*P	P	13 58 27.3	-2.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,90nm,3.0s						
GYA				LR	LR		
	comp=N,340nm,17.8s						
GYA				LR	LR		
	comp=E,310nm,18.0s						
GYA				LR	LR		
	comp=Z,360nm,18.2s						
BMN	Battle Mountai	92.98	42	*e*P	P	13 58 33.7	-0.4
	comp=Z,6.2nm,0.9s,mb4.9						
BMN				LR	LR		
	comp=Z,196nm,21.0s						
WVOR	Wild Horse Val	93.55	40	*e*P	P	13 58 35.6	-1.0
	comp=Z,6.2nm,1.1s,mb4.8						
WVOR				LR	LR		
	comp=Z,267nm,19.0s						
KMI	Kunming	94.10	297	P	P	13 58 40.9	+1.4
KMI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb5.2						
KMI	Kunming	94.10	297	P	P	13 58 40.9	+1.4
	comp=Z,7.0nm,0.6s,mb5.2						
ELK	Elko	94.32	43	*e*P	P	13 58 39.2	-1.0
	comp=Z,2.6nm,1.0s,mb4.5						
ELK				LR	LR		
	comp=Z,155nm,19.0s						
HLID	Hailey	96.62	42	*e*P	P	13 58 49.9	-0.6
	comp=Z,1.9nm,0.7s,mb4.6						
PDAR	Pinedale Array	98.90	44	P	P	13 58 59.8	-1.1
	comp=Z,0.6nm,0.8s,mb4.2,baz=214,slow=5.3,SNR=5.7						
PDAR				PKKPbc		14 15 28.1	
	comp=Z,0.3nm,0.4s,baz=45,slow=4.2,SNR=3.7						
LZH	Lanzhou	99.50	307	*e*P	P	13 59 03.6	-0.2
LZH				AMB	AMB		
	comp=Z,16nm,1.2s,mb5.4						
INK	Inuvik	106.75	16	PKKPbc		14 15 05.5	
	comp=Z,0.8nm,0.7s,baz=264,slow=3.6,SNR=3.6						
YKA	Yellowknife Ar	108.42	26	PKKPbc		14 14 59.6	
	comp=Z,2.2nm,0.6s,baz=43,slow=3.3,SNR=8.7						
WMQ	Urumqi	114.06	308	PDIF	Pdif	14 00 07.9	0.0
WMQ				PP	PP	14 04 57.3	-1.2
WMQ				PP	PP		
	comp=Z,63nm,10.8s						
WMQ				LR	LR		
	comp=N,232nm,25.4s						
WMQ				LR	LR		
	comp=E,221nm,24.3s						
WMQ				LR	LR		
	comp=Z,359nm,25.2s						
BOSA	Boshof	114.28	204	PKP	PKPdf	14 04 02.3	+3.1
	comp=Z,2.8nm,0.6s,baz=187,slow=4.2,SNR=3.0						
MKAR	Makanchi Array	118.69	309	PKP	PKPdf	14 04 07.0	-0.3
	comp=Z,3.4nm,0.7s,baz=136,slow=0.9,SNR=26						
KURK	Kurchatov	122.15	313	*i* PKIKP	PKPdf	14 04 13.0	-0.9
KURK	Kurchatov	122.15	313	*e*PKPdf	PKPdf	14 04 13.2	-0.7
AAK	Ala-Archa	122.71	303	*i* PKIKP	PKPdf	14 04 14.8	-0.4
LSZ	Lusaka	125.13	213	*e*PKIKP	PKPdf	14 04 23.1	+2.6
TSUM	Tsumeb	125.47	200	*e*PKPdf	PKPdf	14 04 23.3	+2.2
BVAR	Borovoye Array	127.59	314	*e*PKIKP	PKPdf	14 04 23.9	-0.4
BVAR	Borovoye Array	127.59	314	PKP	PKPdf	14 04 23.9	-0.4
	comp=Z,5.7nm,0.5s,baz=127,slow=1.7,SNR=46						
BRVK	Borovoye	127.66	314	*e*PKIKP	PKPdf	14 04 24.1	-0.3
ZRNK	Zerenda	128.41	314	*e*PKIKP	PKPdf	14 04 25.6	-0.3
KMBO	Kilima Mbogo	131.53	233	*e*PKIKP	PKPdf	14 04 35.5	+2.6
KMBO	Kilima Mbogo	131.53	233	PKP	PKPdf	14 04 35.5	+2.6
	comp=Z,0.9nm,0.5s,baz=82,slow=19,SNR=3.7						
ARU	Arti	134.49	319	*i* PKIKP	PKPdf	14 04 37.1	-0.1
ARU	Arti	134.49	319	*e*PKPdf	PKPdf	14 04 37.3	0.0
SUMG	Summit	135.67	16	*e*PKPdf	PKPdf	14 04 41.5	+2.5
ARCES	ARCESS Array B	141.05	346	*e*PKHKP		14 04 42.6	
ARCES	ARCESS Array B	141.05	346	PKhKP		14 04 42.6	
	comp=Z,1.6nm,0.4s,baz=48,slow=3.1,SNR=24						
ARCES				PKP	PKPdf	14 04 51.1	+2.4
	comp=Z,6.3nm,0.7s,baz=78,slow=1.5,SNR=9.0						
GNI	Garni	144.28	294	*i* PKIKP	PKPdf	14 04 57.1	+1.9
BORG	Borgarnes	145.64	17	PKPbc	PKPbc	14 04 58.4	+0.9
	comp=Z,35nm,0.8s,baz=122,slow=2.8,SNR=7.5						
KIV	Kislovodsk	145.79	301	*i* PKIKP	PKPdf	14 04 58.0	+0.3
KIV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MOS	Moscow	145.94	323	*e*PKP2	PKPab	14 04 58.4	-2.6
MOR8	Moi Rana	145.97	350	*e*P	PKPdf	14 04 57.0	-0.3
MOR8				AMb	AMB	14 04 59.0	
	comp=Z,52nm,1.5s						
STOK	Stokkvaagen	146.01	351	*e*P	PKPdf	14 04 58.1	+0.7
STOK				AMb	AMB	14 04 59.9	
	comp=Z,135nm,1.0s						
VOR	Voronezh	146.59	315	PKP2	PKPab	14 05 20.0	+16
VOR				pmax	pmax		
	comp=Z,30nm,2.0s						
OBN	Obninsk	146.75	322	*i* PKIKP	PKPdf	14 05 00.2	+1.3
OBN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KAF	Kangasniemi	146.76	338	*e*p	PKPdf	14 04 58.2	-0.5
	comp=Z,8.5nm,0.5s						
KAF	Kangasniemi	146.76	338	*e*PKIKP	PKPdf	14 04 58.2	-0.5
KAF				pmax	pmax		
	comp=Z,9.0nm,0.5s						
FINES	FINESS Array B	147.33	338	*i* PKP2	PKPab	14 05 02.1	-4.2
FINES				pmax	pmax		
	comp=Z,27nm,0.6s						
FINES	FINESS Array B	147.33	338	PKP	PKPdf	14 05 00.3	+0.6
	comp=Z,27nm,0.6s,SNR=92						
FINES				PKPbc	PKPdf	14 05 02.1	+2.4
	comp=Z,27nm,0.6s,baz=70,slow=3.2,SNR=94						
NSS	Namsos	147.87	351	*e*P	PKPdf	14 05 02.5	+2.0
NSS				AMb	AMB	14 05 07.3	
	comp=Z,54nm,1.2s						
MALT	Malatya	149.11	290	*e*PKPbc	PKPdf	14 05 08.5	+5.2
VSU	Vasula	149.26	333	*i* PKP2	PKPab	14 05 07.3	-6.8
ANN	Anapa	149.43	303	*i* PKHKP		14 05 08.4	
ANN				pmax	pmax		
	comp=Z,37nm,0.9s						
MOL	Molde	150.27	354	*e*P	PKPdf	14 05 07.0	+2.6
MOL				AMb	AMB	14 05 11.8	
	comp=Z,42nm,0.9s						
MKRJ	Makawir	150.53	276	P	PKPdf	14 05 12.0	+6.3
EIL	Elat	150.64	272	*e*PKPbc	PKPdf	14 05 12.1	+6.2
EIL	Elat	150.64	272	P	PKPdf	14 05 12.9	+6.9
KSHT	Keshet	150.66	279	P	PKPdf	14 05 13.3	+7.4
ZFRI	Zfri	150.68	274	P	PKPdf	14 05 13.0	+7.0
MZDA	Masada	150.70	276	P	PKPdf	14 05 12.5	+6.5
PRNI	Paran	150.78	274	P	PKPdf	14 05 13.2	+7.1
KSDI	Kefar Szold	150.83	280	P	PKPdf	14 05 13.4	+7.3
MMLI	Mount Malkishu	150.89	278	P	PKPdf	14 05 13.7	+7.5
KMTI	Karmit	150.95	273	P	PKPdf	14 05 13.3	+6.9
SLTI	Sal'it	151.17	278	P	PKPdf	14 05 14.3	+7.6
NB2	NORSAR Subarra	151.30	349	PKPabc	PKPdf	14 05 12.3	+6.4
	comp=Z,30nm,0.8s,baz=18,slow=2.6						
NB2	NORSAR Subarra	151.30	349	PKPa		14 05 12.3	
	baz=18,slow=2.6						
NOA	NORSAR Array B	151.30	349	*e*PKIKP	PKPdf	14 05 06.4	+0.5
NOA	NORSAR Array B	151.30	349	PKP	PKPdf	14 05 06.4	+0.4
	comp=Z,2.1nm,0.9s,baz=166,slow=17,SNR=15						
NOA				PKPbc	PKPdf	14 05 12.3	+6.4
	comp=Z,21nm,0.7s,baz=14,slow=4.1,SNR=94						
NOA	NORSAR Array B	151.30	349	PKP	PKPdf	14 05 06.4	+0.5
NOA				PKPbc	PKPdf	14 05 12.3	+6.4
MNK	Minsk	151.38	326	*e*PKIKP	PKPdf	14 05 11.0	+4.8
KZIT	Kziot	151.42	275	P	PKPdf	14 05 15.0	+7.9
NAO01	NORSAR Array S	151.54	350	*e*PKPbc	PKPdf	14 05 12.8	+6.5
NAO01				*e*PKPab	PKPab	14 05 21.2	-2.4
HFS	Hagfors	151.71	346	*e*PKIKP	PKPdf	14 05 06.5	-0.1
HFS	Hagfors	151.71	346	PKP	PKPdf	14 05 06.5	-0.1
	comp=Z,4.4nm,0.8s,baz=180,slow=4.4,SNR=6.7						
HFS				PKPbc	PKPdf	14 05 13.0	+6.5
	comp=Z,30nm,0.7s,baz=135,slow=2.1,SNR=74						
ASK	Askoy	152.53	355	*e*P	PKPdf	14 05 06.7	-1.0
ASK	Askoy	152.53	355	*e*P	PKPdf	14 05 11.1	+3.3
BER	Bergen	152.62	355	*e*P	PKPdf	14 05 08.5	+0.7
EGD	Espegrend	152.74	355	*e*P	PKPdf	14 05 02.8	-5.2
EGD	Espegrend	152.74	355	*e*	PKPdf	14 05 02.6	-5.4
AKASG	Malin Array Be	152.74	318	*e*PKIKP	PKPdf	14 05 15.4	+7.0
AKASG	Malin Array Be	152.74	318	PKPbc	PKPdf	14 05 15.4	+7.1
	comp=Z,9.8nm,0.8s,baz=57,slow=2.1,SNR=5.2						
BRTR	Keskin Array B	152.82	293	*e*PKIKP	PKPdf	14 05 17.5	+8.7
BRTR	Keskin Array B	152.82	293	PKPbc	PKPdf	14 05 17.5	+8.6
	comp=Z,6.7nm,0.5s,baz=144,slow=4.0,SNR=26						
KONO	Kongsberg	152.87	350	*e*PKIKP	PKPdf	14 05 15.8	+7.6
DBIC	Dimbokro	153.12	168	PKP	PKPdf	14 05 12.8	+2.9
	comp=Z,5.2nm,0.7s,baz=274,slow=1.9,SNR=8.5						
DBIC				PKPbc	PKPdf	14 05 20.4	+10
	comp=Z,10nm,0.5s,baz=342,slow=0.5,SNR=21						
DBIC	Dimbokro	153.12	168	*e*PKPdf	PKPdf	14 05 12.8	+2.8
DBIC				*e*PKPbc	PKPdf	14 05 22.3	+12
SUW	Suwalki	153.78	329	*e*PKIKP	PKPdf	14 05 18.0	+8.4
MLR	Muntele Rosu	157.04	310	*e*PKIKP	PKPdf	14 05 15.9	+1.7
MLR	Muntele Rosu	157.04	310	PKP	PKPdf	14 05 15.9	+1.7
	comp=Z,2.4nm,0.7s,baz=220,slow=2.1,SNR=4.1						
MLR				PKPab	PKPab	14 05 46.3	-1.1
	comp=Z,3.5nm,0.9s,baz=17,slow=4.4,SNR=3.3						
EKA	Eskdalemuir Ar	157.69	6	*e*PKIKP	PKPdf	14 05 15.7	+0.9
EKA	Eskdalemuir Ar	157.69	6	PKP	PKPdf	14 05 15.7	+0.9
	comp=Z,1.2nm,0.9s,baz=34,slow=3.0,SNR=3.6						
EKA				PKPab	PKPab	14 05 46.2	-3.6
	comp=Z,2.2nm,0.6s,baz=343,slow=3.2,SNR=8.5						
CLL	Collm	159.78	337	⇑*i*PKP2	PKPab	14 05 57.6	-1.3
CLL				*i* *PPKP2		14 06 15.8	
GERES	GERESS Array B	161.58	332	*e*PKIKP	PKPdf	14 05 20.7	+1.4
GERES	GERESS Array B	161.58	332	PKP	PKPdf	14 05 20.7	+1.4
	comp=Z,0.8nm,0.7s,baz=180,slow=1.3,SNR=7.4						
GERES				PKPab	PKPab	14 06 04.7	-2.1
	comp=Z,1.4nm,0.8s,baz=34,slow=4.8,SNR=7.7						
VISS	Visnje	163.36	323	*e*PKPdf	PKPdf	14 05 21.6	+0.4
DAVOX	Davos	164.72	335	PKPab	PKPab	14 06 18.9	-1.7
	comp=Z,3.1nm,0.6s,baz=324,slow=6.9,SNR=3.4						
SGMF	Saint Gilles	164.74	8	*e*PKP2	PKPab	14 06 17.3	-3.3
	comp=Z,20nm,0.8s						
LOR	Lormes	165.73	351	*e*PKP2	PKPab	14 06 21.7	-3.2
CABF	La Chapelle	165.97	345	*e*PKP2	PKPab	14 06 22.8	-3.2
SSF	Saint Saulge	165.97	352	*e*PKP2	PKPab	14 06 22.8	-3.2
SMF	Signal de Mont	166.34	351	*e*PKP2	PKPab	14 06 24.6	-3.0
	comp=Z,9.8nm,0.8s						
LPG	La Plagne	166.85	341	*e*PKP2	PKPab	14 06 27.0	-2.8
	comp=Z,7.7nm,0.7s						
TCF	Toulx Ste Croi	166.86	355	*e*PKP2	PKPab	14 06 26.2	-3.7
	comp=Z,3.6nm,0.6s						
ORIF	Oris-en-Rattie	167.61	343	*e*PKP2	PKPab	14 06 30.0	-3.2
	comp=Z,9.3nm,0.8s						
PGF	Pioggiola	168.59	327	*e*PKP2	PKPab	14 06 34.5	-3.1
FRF	La Foret Royal	168.64	338	*e*PKP2	PKPab	14 06 34.5	-3.3
LASF	Ste Croix	168.85	348	*e*PKP2	PKPab	14 06 35.2	-3.5
ESDC	Sonseca Array	172.51	29	PKP	PKPdf	14 05 31.1	+3.2
	comp=Z,0.1nm,0.3s,baz=8.6,slow=2.3,SNR=5.1						
ESDC				PKPab	PKPab	14 06 53.0	-2.0
	comp=Z,0.6nm,0.5s,baz=322,slow=3.8,SNR=6.2						

*ATH **15** 14:01:55.5, 39.19N×22.32E, h96km±2km*
*CSEM **15** 14:01:56.0±0.1, 39.18N×22.28E, h80km, ML2.9, Error ellipse: s-maj=1.9km s-min=1.7km az=81.0*
*THE **15** 14:01:57.4, 39.19N×22.37E, h20km, ML2.9*
ISC 15 14:01:56.5±0.6**, 39.16N**±0.02×**22.34E**±0.04**, h91**km±6km**, n34, σ0.58/55, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGG	Agios Georgios	0.14	182	*e*Pg	P	14 02 09.8	+0.3
AGG				*e*Sg	S	14 02 19.0	-0.2
EVR	Evrytania	0.48	239	*e*P	P	14 02 11.9	+0.6
EVR				*e*S	S	14 02 22.7	+0.3
EVR	Evrytania	0.48	239	*e*P	P	14 02 11.9	+0.6
EVR				*e*S	S	14 02 22.6	+0.2
XOR	Xorichti	0.69	73	*e*Pg	P	14 02 13.7	+0.4
XOR				*e*Sg	S	14 02 24.8	-1.0
XOR	Xorichti	0.69	73	*e*Pg	P	14 02 13.6	+0.3
XOR				*e*Sg	S	14 02 24.8	-0.9
NEO	Neokhori	0.70	78	*e*P	P	14 02 13.8	+0.4
LKR	Lokris	0.73	134	*e*P	P	14 02 13.9	+0.3
LKR				*e*S	S	14 02 26.8	+0.5
LKR	Lokris	0.73	134	*e*P	P	14 02 13.9	+0.3
LKR				*e*S	S	14 02 26.5	+0.2
LIT	Litokhoron	0.94	7	*e*Pg	P	14 02 15.8	-0.1
LIT				*e*Sg	S	14 02 29.9	-0.5
MEV	Metsovon	1.06	306	*e*Pg	P	14 02 18.2	+1.0
	comp=Z,14nm,0.4s						
MEV				*e*Sg	S	14 02 33.7	+0.9
AOS	Alonnisos	1.20	89	*e*Pg	P	14 02 19.2	+0.2
AOS				*e*Sg	S	14 02 35.2	-0.6
KZN	Kozani	1.22	339	*e*P	P	14 02 18.5	-0.8
RLS	Riolos of Patr	1.30	212	*e*P	P	14 02 20.5	+0.3
MGER	Gerania Oros	1.38	148	*e*P	P	14 02 21.5	+0.3
MGER				*e*S	S	14 02 39.5	0.0
MGER	Gerania Oros	1.38	148	*e*P	P	14 02 21.5	+0.3
MGER				*e*S	S	14 02 39.4	-0.1
LKD	Levkas	1.39	251	*e*Pg	P	14 02 21.2	-0.1
PLG	Polygyros	1.48	35	*e*P	P	14 02 22.2	-0.3
PLG				*e*S	S	14 02 40.5	-1.3
MPAR	Parnis Oros	1.49	132	*e*P	P	14 02 23.2	+0.6
NSAL	Nisos Salamina	1.53	144	*e*P	P	14 02 23.5	+0.3
NSAL				*e*S	S	14 02 43.0	+0.1
THE	Thessaloniki	1.55	18	*e*Pg	P	14 02 22.4	-0.9
	comp=Z,1.8nm,0.3s						
IGT	Igoumenitsa	1.60	284	*e*Pg	P	14 02 23.7	-0.3
NAIG	Nisos Aigina	1.67	147	*e*P	P	14 02 24.0	-0.9
NAIG				*e*S	S	14 02 46.0	+0.2
NAIG	Nisos Aigina	1.67	147	*e*P	P	14 02 24.0	-0.9
NAIG				*e*S	S	14 02 45.8	0.0
VLS	Valsamata	1.68	235	*e*P	P	14 02 24.3	-0.8
VLS	Valsamata	1.68	235	*e*P	P	14 02 24.4	-0.7
VLS				*e*S	S	14 02 44.7	-1.5
OUR	Ouranopolis	1.73	47	*e*Pb	P	14 02 25.9	+0.3
OUR				*e*Sb	S	14 02 47.6	+0.5
FNA	Florina	1.78	336	*e*Pb	P	14 02 26.9	+0.6
FNA				*e*Sb	S	14 02 48.6	+0.2
GRG	Griva	1.79	2	*e*Pb	P	14 02 26.5	0.0
ITM	Ithomi	2.00	189	*e*P	P	14 02 30.0	+0.7
KEK	Kerkira	2.04	286	*e*P	P	14 02 29.3	-0.5
KEK	Kerkira	2.04	286	*e*P	P	14 02 28.5	-1.3
KNT	Kendrikon	2.04	12	*e*Pn	P	14 02 30.4	+0.5
	comp=Z,5.5nm,0.3s						
KNT				*e*Sn	S	14 02 55.1	+0.6
SRS	Serrai	2.18	26	*e*Pn	P	14 02 31.8	+0.1
SRS				*e*Sn	S	14 02 57.7	0.0
VLI	Veliai	2.48	169	*e*P	P	14 02 35.8	-0.2

*NEIC **15** 14:07:26.0, 41.11S×173.52E, h107km, MG4.2(WEL), After WEL.*
WEL 15 14:07:26.0±0.2**, 41.10S**×**173.51E, h106**km±1km**, ML4.2**/17, **12C-10D, Error ellipse: s-maj=1.4km s-min=1.1km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNZ	Nelson	0.15	220	P	P	14 07 40.6	-0.3
NNZ				S	S	14 07 51.4	-0.6
NNZ	Nelson	0.15	220	⇑PN	P	14 07 40.6	-0.2
NNZ				SN	S	14 07 51.4	-0.6
DUWZ	D'Urville Isla	0.43	47	⇑PN	P	14 07 41.9	-0.2
DUWZ				SN	S	14 07 53.4	-0.7
TUWZ	Tuamarina	0.46	136	⇑PN	P	14 07 42.4	+0.1
TUWZ				SN	S	14 07 53.8	-0.7
TCW	Tory Channel	0.59	101	P	P	14 07 43.4	+0.2
TCW	Tory Channel	0.59	101	⇑PN	P	14 07 43.4	+0.2
TCW				SN	S	14 07 55.1	-1.1
BSWZ	Blackbirch Sta	0.67	156	P	P	14 07 44.1	+0.2
BSWZ	Blackbirch Sta	0.67	156	⇑PN	P	14 07 44.1	+0.3
BSWZ				SN	S	14 07 56.8	-0.5
QRZ	Quartz Range	0.79	290	P	P	14 07 44.4	-0.6
QRZ	Quartz Range	0.79	290	⇓PN	P	14 07 44.4	-0.7
THZ	Tophouse	0.81	214	P	P	14 07 45.1	-0.1
THZ	Tophouse	0.81	214	⇓PN	P	14 07 45.1	0.0
CMWZ	Cape Campbell	0.84	141	P	P	14 07 45.9	+0.4
CMWZ	Cape Campbell	0.84	141	PN	P	14 07 45.8	+0.4
MRW	Makara Radio	0.91	99	P	P	14 07 45.8	-0.4
MRW	Makara Radio	0.91	99	⇑PN	P	14 07 45.8	-0.4
SNZO	South Karori	0.93	104	P	P	14 07 45.9	-0.4
SNZO	South Karori	0.93	104	PN	P	14 07 45.9	-0.5
WEL	Wellington	0.97	102	PN	P	14 07 46.3	-0.5
BHW	Baring Head	1.07	107	PN	P	14 07 47.3	-0.6
KIW	Kapiti Island	1.08	78	P	P	14 07 47.6	-0.5
KIW	Kapiti Island	1.08	78	⇑PN	P	14 07 47.5	-0.5
CAW	Cannon Point	1.18	91	P	P	14 07 48.3	-0.9
CAW	Cannon Point	1.18	91	⇑PN	P	14 07 48.3	-0.8
KHZ	Kahutara	1.32	179	P	P	14 07 50.7	-0.1
KHZ	Kahutara	1.32	179	⇓PN	P	14 07 50.7	-0.1
MSWZ	Moikau Station	1.35	104	P	P	14 07 50.0	-1.2
MSWZ	Moikau Station	1.35	104	PN	P	14 07 49.9	-1.2
DSZ	Denniston Nort	1.44	243	P	P	14 07 51.5	-0.8
DSZ				S	S	14 08 10.1	-1.8
DSZ	Denniston Nort	1.44	243	⇓PN	P	14 07 51.4	-0.9
DSZ				SN	S	14 08 09.6	-2.4
PAWZ	Paruwai Farm	1.47	102	⇑PN	P	14 07 51.6	-1.1
MTW	Mount Morrison	1.50	93	P	P	14 07 51.9	-1.2
MTW	Mount Morrison	1.50	93	⇑PN	P	14 07 51.8	-1.2
MRZ	Mangatainoka R	1.63	75	P	P	14 07 53.1	-1.5
MRZ	Mangatainoka R	1.63	75	⇑PN	P	14 07 53.1	-1.4
TRWZ	Traveller	1.67	101	PN	P	14 07 54.0	-1.1
WAZ	Wanganui	1.75	40	P	P	14 07 55.9	-0.2
WAZ	Wanganui	1.75	40	PN	P	14 07 55.8	-0.3
NRZ	Ngariki Road	1.79	11	P	P	14 07 56.4	-0.2
NRZ	Ngariki Road	1.79	11	⇑PN	P	14 07 56.2	-0.3
NWEZ	Newall Road	1.84	9	P	P	14 07 57.0	-0.2
NWEZ	Newall Road	1.84	9	PN	P	14 07 56.7	-0.6
NEZ	North Egmont	1.88	14	P	P	14 07 57.3	-0.4
NEZ	North Egmont	1.88	14	PN	P	14 07 57.2	-0.5
LTZ	Lake Taylor	1.92	208	⇓PN	P	14 07 57.3	-0.9
RAEZ	Rainy Point	1.93	21	P	P	14 07 58.5	+0.1
RAEZ	Rainy Point	1.93	21	PN	P	14 07 58.3	-0.1
PKE	Pukeiti	1.94	11	P	P	14 07 58.0	-0.4
PKE	Pukeiti	1.94	11	⇓PN	P	14 07 57.8	-0.6
BFZ	Birch Farm	2.12	80	P	P	14 07 58.9	-1.9
BFZ	Birch Farm	2.12	80	PN	P	14 07 58.9	-1.9
TSZ	Takapari Road	2.13	62	P	P	14 07 59.2	-1.9
TSZ	Takapari Road	2.13	62	PN	P	14 07 59.1	-2.0
VRZ	Vera Road	2.19	26	P	P	14 08 01.4	-0.4
VRZ	Vera Road	2.19	26	⇓PN	P	14 08 01.3	-0.5
MTVZ	Mangateitei	2.27	42	PN	P	14 08 01.3	-1.7
PKVZ	Pokaka	2.29	38	PN	P	14 08 01.7	-1.5
TRVZ	Turoa	2.38	42	PN	P	14 08 02.9	-1.5
WNVZ	Wahianoa	2.38	43	P	P	14 08 03.1	-1.4
WNVZ	Wahianoa	2.38	43	PN	P	14 08 03.0	-1.5
DRZ	Dome Shelter	2.41	41	P	P	14 08 03.8	-1.0
DRZ	Dome Shelter	2.41	41	PN	P	14 08 03.7	-1.0
MOVZ	Moawhango	2.41	46	P	P	14 08 02.9	-1.9
MOVZ	Moawhango	2.41	46	⇓PN	P	14 08 02.8	-2.0
FWVZ	Far West T-bar	2.42	41	P	P	14 08 03.6	-1.3
FWVZ	Far West T-bar	2.42	41	PN	P	14 08 03.4	-1.5
WPVZ	Whakapapa	2.45	40	P	P	14 08 03.7	-1.7
WPVZ	Whakapapa	2.45	40	PN	P	14 08 03.7	-1.7
CNZ	Chateau	2.46	40	P	P	14 08 03.8	-1.7
CNZ	Chateau	2.46	40	PN	P	14 08 03.7	-1.8
TUVZ	Tukino	2.46	43	P	P	14 08 04.2	-1.3
TUVZ	Tukino	2.46	43	PN	P	14 08 04.3	-1.2
NGZ	Ngauruhoe	2.50	41	P	P	14 08 04.5	-1.6
NGZ	Ngauruhoe	2.50	41	PN	P	14 08 04.4	-1.7
TWVZ	Taurewa	2.51	37	P	P	14 08 04.4	-1.7
TWVZ	Taurewa	2.51	37	PN	P	14 08 04.3	-1.9
OTVZ	Oturere	2.54	41	PN	P	14 08 05.0	-1.6
WTVZ	West Tongariro	2.54	40	P	P	14 08 05.0	-1.6
WTVZ	West Tongariro	2.54	40	PN	P	14 08 04.9	-1.8
CRLZ	Canterbury Las	2.56	195	P	P	14 08 04.4	-2.5
CRLZ	Canterbury Las	2.56	195	⇓PN	P	14 08 04.4	-2.5
KRVZ	Karewarewa	2.58	40	PN	P	14 08 05.2	-2.0
MQZ	McQueen's Vall	2.68	193	P	P	14 08 05.7	-2.9
MQZ	McQueen's Vall	2.68	193	PN	P	14 08 05.6	-3.0
KATZ	Kakaramea	2.70	39	P	P	14 08 07.2	-1.6
KATZ	Kakaramea	2.70	39	PN	P	14 08 06.6	-2.3
PWZ	Pawanui	2.77	68	*e*P	P	14 08 07.0	-2.7
PWZ	Pawanui	2.77	68	PN	P	14 08 06.8	-2.9
HIZ	Hauiti	2.78	22	P	P	14 08 08.4	-1.5
HIZ	Hauiti	2.78	22	⇓PN	P	14 08 08.3	-1.6
RATZ	Rangitukua	2.82	39	P	P	14 08 08.8	-1.7
RATZ	Rangitukua	2.82	39	*e*PN	P	14 08 08.1	-2.4
WATZ	Wairara	2.94	36	P	P	14 08 10.3	-1.7
BKZ	Black Stump Fm	2.99	51	P	P	14 08 09.8	-2.9
BKZ	Black Stump Fm	2.99	51	PN	P	14 08 09.6	-3.2
WHTZ	Whakaora	3.07	39	P	P	14 08 12.0	-1.8
WHTZ	Whakaora	3.07	39	PN	P	14 08 11.9	-1.9
RPZ	Rata Peaks	3.19	214	*e*P	P	14 08 12.5	-2.9
RPZ	Rata Peaks	3.19	214	PN	P	14 08 12.1	-3.3
UTU	Utuhina	3.58	36	P	P	14 08 18.3	-2.4
UTU	Utuhina	3.58	36	*e*PN	P	14 08 17.2	-3.5
TOZ	Tahuroa Road	3.70	25	*e*P	P	14 08 20.0	-2.4
TOZ	Tahuroa Road	3.70	25	PN	P	14 08 19.9	-2.5
FOZ	Fox Glacier	3.75	228	*e*P	P	14 08 18.9	-4.2
FOZ	Fox Glacier	3.75	228	PN	P	14 08 18.7	-4.4
KNZ	Kokohu	3.81	58	*e*P	P	14 08 19.5	-4.4
KNZ	Kokohu	3.81	58	PN	P	14 08 19.3	-4.6
MARZ	Manawahe	3.96	39	*e*PN	P	14 08 22.2	-3.6
URZ	Urewera	3.97	46	P	P	14 08 21.3	-4.7
URZ	Urewera	3.97	46	PN	P	14 08 21.2	-4.9
URZ				SN	S	14 09 05.7	-6.1
TGRZ	Tauranga	3.98	33	P	P	14 08 23.8	-2.4
TGRZ	Tauranga	3.98	33	PN	P	14 08 23.6	-2.6
LBZ	Lake Benmore	4.10	216	*e*PN	P	14 08 23.4	-4.4
MWZ	Matawai	4.15	50	*e*P	P	14 08 23.8	-4.7
MWZ	Matawai	4.15	50	PN	P	14 08 23.6	-4.9
MKAZ	Moumakai	4.18	18	P	P	14 08 27.1	-1.9
MKAZ	Moumakai	4.18	18	PN	P	14 08 27.1	-1.9
WTAZ	Waiatarua	4.24	12	P	P	14 08 28.9	-0.8
OTAZ	Otara	4.29	15	P	P	14 08 28.9	-1.5
OTAZ	Otara	4.29	15	PN	P	14 08 28.8	-1.6
KAAZ	Kauri Point	4.37	13	P	P	14 08 31.0	-0.5
KAAZ	Kauri Point	4.37	13	PN	P	14 08 30.8	-0.7
MTAZ	Motutapu	4.44	15	P	P	14 08 30.9	-1.6
MTAZ	Motutapu	4.44	15	PN	P	14 08 30.8	-1.7
ODZ	Otahua Downs	4.47	207	*e*P	P	14 08 29.9	-2.9
ODZ	Otahua Downs	4.47	207	PN	P	14 08 29.5	-3.4
JCZ	Jackson Bay	4.60	228	PN	P	14 08 30.1	-4.5
KUZ	Kuaotunu	4.67	22	P	P	14 08 32.8	-2.9
KUZ	Kuaotunu	4.67	22	PN	P	14 08 32.4	-3.3
PUZ	Puketiti	4.75	52	*e*P	P	14 08 31.3	-5.4
PUZ	Puketiti	4.75	52	PN	P	14 08 31.2	-5.5
WKZ	Wanaka	4.98	220	*e*P	P	14 08 35.2	-4.5
WKZ	Wanaka	4.98	220	*e*PN	P	14 08 35.0	-4.7
MXZ	Matakaoa Point	5.13	48	P	P	14 08 37.7	-4.1
MXZ	Matakaoa Point	5.13	48	*e*PN	P	14 08 36.7	-5.1
EAZ	Earnscleugh	5.15	215	*e*P	P	14 08 38.2	-3.9
EAZ	Earnscleugh	5.15	215	*e*PN	P	14 08 36.6	-5.5
WCZ	Waipu Caves	5.19	7	*e*P	P	14 08 40.7	-2.0
WCZ	Waipu Caves	5.19	7	*e*PN	P	14 08 40.2	-2.5
TUZ	Tuapeka	5.61	209	*e*P	P	14 08 45.4	-3.0
TUZ	Tuapeka	5.61	209	*e*PN	P	14 08 44.7	-3.6
MLZ	Mavora Lakes	5.76	221	*e*P	P	14 08 47.9	-2.5
MLZ	Mavora Lakes	5.76	221	*e*PN	P	14 08 45.8	-4.6

*BJI **15** 14:21:50.2, 3.13S×149.18E, h7km, mB5.1, mb4.7, Ms5.0, Msz4.7*
*HRVD **15** 14:21:52.2±0.1, 3.28S×148.89E, h12km, MW5.3/75, Centroid moment Tensor Solution. LP body waves: s56,c109;Mantle waves: s75,c165; Half duration: 1.1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.14±.02; $M_{\theta\theta}$0.88±.02; $M_{\phi\phi}$-0.73±.02; $M_{r\theta}$0.03±.04; $M_{\theta\phi}$0.91±.02; $M_{\phi r}$-0.01±.05; Best double couple: $M_0$1.218×10^{17} NP1: ϕ_s21°, δ89°, λ-180°. NP2: ϕ_s291°, δ90°, λ-1°. Principal*

axes: T 1.287, Plg1°, Azm336°; N -.138, Plg89°, Azm101°; P -1.149, Plg1°, Azm246°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **15** 14:21:52.2±0.4, 3.39S×148.92E, h10km, mb4.9/18, MS4.6/7 Error ellipse: s-maj=12.7km s-min=6.8km az=94.0*

*MOS **15** 14:21:54.5±1.3, 3.41S×148.78E, h34km, mb5.0/17, MS4.5/6, Error ellipse: s-maj=17.1km s-min=8.9km az=91.6*

*IDC **15** 14:21:57.8±2.9, 3.41S×148.86E, h54km±27km, mb4.0/11, mb1 4.1/13, mb1mx4.1/15, mbtmp4.3/13, ML3.4/2, MS4.7/17, Ms1 4.7/17, ms1mx4.7/17, Error ellipse: s-maj=21.2km s-min=11.7km az=105.0*

ISC 15 14:21:54.1±0.4**, 3.41S**±0.04×**148.92E**±0.08**, h34km, (h3km±5.6km:pP-P), n87,** σ1**§21**/104**, mb4.7**/40**, MS4.7**/31**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.21	196	P	P	14 23 23.8	-2.0
PMG				S	S	14 24 37.3	+0.8
PMG				pmax	pmax		
	comp=Z,49nm,0.8s						
PMG	Port Moresby	6.21	196	P	P	14 23 28.7	+3.0
	comp=Z,2.4nm,0.3s,baz=28,slow=10,SNR=12						
PMG				S	S	14 24 37.3	+0.8
	comp=Z,3.7nm,0.3s,baz=2.3,slow=9.9,SNR=4.2						
PMG				LR	LR	14 25 50.4	
	comp=Z,4µm,18.1s,baz=204,slow=38						
PMG	Port Moresby	6.21	196	Pn	P	14 23 23.8	-2.0
	comp=Z,49nm,0.8s						
PMG				S	S	14 24 37.3	+0.8
PMG				LR	LR	14 25 50.4	
HNR	Honiara	12.48	119	LR	LR	14 27 53.1	
	comp=Z,667nm,21.9s,baz=98,slow=28						
CTA	Charters Tower	16.78	189	eP	P	14 25 49.4	+1.1
	comp=Z,16nm,2.0s						
CTA				eS	S	14 28 56.0	+3.5
CTA	Charters Tower	16.78	189	eP	P	14 25 49.4	+1.1
CTA				eS	S	14 28 56.0	+3.5
CTA				pmax	pmax		
	comp=Z,16nm,2.0s						
CTA	Charters Tower	16.78	189	P	P	14 25 49.8	+1.5
	comp=Z,0.2nm,0.3s,baz=23,slow=12,SNR=9.1						
CTA				LR	LR	14 32 05.1	
	comp=Z,2µm,20.1s,baz=7.9,slow=36						
CTAO	Charters Tower	16.78	189	eP	P	14 25 49.0	+0.7
CTAO				pmax	pmax		
	comp=Z,149nm,2.0s						
CTAO	Charters Tower	16.78	189	eP	P	14 25 49.0	+0.7
	comp=Z,149nm,2.0s						
KAKA	Kakadu	18.74	240	eP	P	14 26 09.7	-3.0
	comp=Z,42nm,0.6s						
WRAB	Tennant Creek	21.72	220	eP	P	14 26 43.6	-0.8
WRAB				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.0						
WRAB				MLR	MLR		
	comp=Z,660nm,20.0s,MS4.0						
WRAB	Tennant Creek	21.72	220	eP	P	14 26 43.6	-0.8
	comp=Z,60nm,0.9s,mb5.0						
WRAB				LR	LR		
	comp=Z,660nm,20.0s,MS4.0						
WB2	Warramunga Arr	21.73	220	eP	P	14 26 43.9	-0.6
WB2				eS	S	14 30 41.6	+3.7
WRA	Warramunga Arr	21.73	220	P	P	14 26 43.6	-1.0
	comp=Z,6.9nm,0.7s,mb4.2,baz=38,slow=11,SNR=37						
WRA				S	S	14 30 43.5	+5.5
	comp=Z,2.3nm,1.1s,baz=39,slow=18,SNR=6.6						
DZM	Mont Dzumac	25.17	139	eP	P	14 27 18.5	+0.3
DZM	Mont Dzumac	25.17	139	P	P	14 27 19.0	+0.8
	comp=Z,9.5nm,0.6s,mb4.5,baz=334,slow=21,SNR=22						
DZM				LR	LR	14 36 06.2	
	comp=Z,4µm,19.0s,MS5.0,baz=312,slow=34						
FITZ	Fitzroy Crossi	27.08	236	eP	P	14 27 36.9	+1.0
	comp=Z,56nm,0.8s,mb5.2						
FITZ	Fitzroy Crossi	27.08	236	P	P	14 27 34.6	-1.3
	comp=Z,54nm,0.9s,mb5.1,baz=44,slow=5.3,SNR=33						
FITZ				LR	LR	14 38 43.1	
	comp=Z,3µm,18.7s,MS4.9,baz=75,slow=37						
STKA	Stephens Creek	29.14	193	P	P	14 27 52.4	-2.0
	comp=Z,2.2nm,0.8s,mb3.9,baz=55,slow=8.5,SNR=4.6						
STKA				LR	LR	14 40 29.0	
	comp=Z,2µm,19.5s,MS4.8,baz=12,slow=38						
YHNB	Yeheng	38.67	318	eP	P	14 29 15.9	-0.6
JNU	Nakatsue	40.15	336	P	P	14 29 27.7	-1.0
	comp=Z,31nm,1.1s,mb5.0,baz=79,slow=2.4,SNR=8.8						
QZH	Quanzhou	40.76	315	P	P	14 29 35.3	+1.4
QZH				S	S	14 35 40.3	-1.7
QZH				SS	SS	14 38 40.0	+1.3
QZH				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.1						
QZH				AMB	AMB		
	comp=Z,390nm,5.3s						
QZH				LR	LR		
	comp=N,3µm,22.5s,MS5.2						
QZH				LR	LR		
	comp=E,3µm,24.4s,MS5.2						
QZH				LR	LR		
	comp=Z,3µm,31.8s						
MJAR	Matsushiro Arr	40.98	347	P	P	14 29 34.5	-1.1
	comp=Z,1.0nm,0.7s,mb3.5,baz=173,slow=9.8,SNR=3.5						
MJAR				LR	LR	14 44 30.0	
	comp=Z,930nm,19.5s,MS4.7,baz=180,slow=33						
MJAR	Matsushiro Arr	40.98	347	P	P	14 29 34.5	-1.1
MJAR				LR	LR	14 44 30.0	
MAT	Matsushiro	40.98	347	P	P	14 29 36.0	+0.4
MAT				eS	S	14 35 49.0	+3.8
MAT	Matsushiro	40.98	347	P	P	14 29 36.2	+0.6
MAT				S	S	14 35 48.0	+2.8
URZ	Urewera	43.19	147	LR	LR	14 44 53.9	
	comp=Z,2µm,21.2s,MS5.0,baz=208,slow=32						
GZH	Guangzhou	43.56	309	P	P	14 30 00.9	+4.0
GZH				S	S	14 36 29.4	+6.1
GZH				LR	LR		
	comp=N,328nm,15.5s,MS4.5						
GZH				LR	LR		
	comp=E,480nm,19.9s,MS4.5						
GZH				LR	LR		
	comp=Z,1µm,20.8s,MS4.7						
QIZ	Qiongzhong	44.44	302	P	P	14 30 03.3	-0.7
QIZ				S	S	14 36 38.8	+2.7
QIZ				XS		14 36 44.4	
QIZ				SS	SS	14 39 51.8	+4.8
QIZ				LR	LR		
	comp=N,412nm,20.8s,MS4.6						
QIZ				LR	LR		
	comp=E,582nm,20.8s,MS4.6						
QIZ				LR	LR		
	comp=Z,962nm,33.2s						
QIZ	Qiongzhong	44.44	302	eP	P	14 30 03.5	-0.5
	comp=Z,39nm,1.1s,mb5.0						
NJ2	Nanjing	45.38	323	eP	P	14 30 10.1	-1.3
NJ2				AP	pP	14 30 15.3	-6.2
NJ2				XP	sP	14 30 17.8	-7.9
NJ2				PCP	PcP	14 31 55.5	+4.6
NJ2				S	S	14 36 49.0	-0.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,180nm,5.8s						
NJ2				LR	LR		
	comp=N,2µm,21.9s,MS5.2						
NJ2				LR	LR		
	comp=E,2µm,20.4s,MS5.2						
NJ2				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
DL2	Dalian	49.06	332	eP	P	14 30 41.3	+1.1
DL2				S	S	14 37 44.5	+3.0
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
DL2				LR	LR		
	comp=N,240nm,20.0s,MS4.4						
DL2				LR	LR		
	comp=E,340nm,19.8s,MS4.4						
DL2				LR	LR		
	comp=Z,530nm,22.7s,MS4.5						
GYA	Guiyang	50.49	309	P	P	14 30 53.8	+2.5
GYA				PP	PP	14 32 51.1	+3.2
GYA				PPP	PPP	14 33 50.8	+4.9
GYA				SCP		14 36 06.3	
GYA				S	S	14 38 09.8	+8.3
GYA				PS	PS	14 38 18.6	+4.2
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
GYA				LR	LR		
	comp=N,630nm,18.6s,MS4.8						
GYA				LR	LR		
	comp=E,590nm,18.4s,MS4.8						
GYA				LR	LR		
	comp=Z,680nm,18.4s,MS4.7						
MDJ	Mudanjiang	50.84	342	P	P	14 30 52.8	-0.9
MDJ				AP	pP	14 30 56.0	-7.8
MDJ				XP	sP	14 30 57.3	-11
MDJ				SCP		14 36 05.1	
MDJ				S	S	14 38 10.8	+4.7
MDJ				XS		14 38 16.0	
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,83nm,6.6s						
MDJ				LR	LR		
	comp=N,691nm,31.2s,MS4.6						
MDJ				LR	LR		
	comp=E,569nm,28.0s,MS4.6						
MDJ				LR	LR		
	comp=Z,1µm,33.4s						
CN2	Changchun	51.52	338	eP	P	14 30 58.5	-0.3
CN2				eS	S	14 38 20.5	+5.1
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CN2				AMB	AMB		
	comp=Z,100nm,9.0s						
CN2				LR	LR		
	comp=N,600nm,19.0s,MS4.8						
CN2				LR	LR		
	comp=E,600nm,19.0s,MS4.8						
CN2				LR	LR		
	comp=Z,660nm,19.0s,MS4.7						
XAN	Xi'an	52.98	318	P	P	14 31 08.8	-1.1
XAN				AP	pP	14 31 20.3	+0.2
XAN				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.5						
KMI	Kunming	53.01	305	P	P	14 31 11.5	+1.2
KMI				AP	pP	14 31 13.9	-6.6
KMI				XP	sP	14 31 15.0	-10
KMI				PP	PP	14 33 12.8	+1.2
KMI				S	S	14 38 39.1	+3.1
KMI				SCS	ScS	14 40 57.3	+3.5
KMI				SS	SS	14 42 17.4	+2.8
KMI				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.5						
KMI				AMB	AMB		
	comp=Z,49nm,3.5s						
KMI				LR	LR		
	comp=N,423nm,18.2s,MS4.7						
KMI				LR	LR		
	comp=E,453nm,18.8s,MS4.7						
KMI				LR	LR		
	comp=Z,660nm,19.7s,MS4.7						
KMI	Kunming	53.01	305	P	P	14 31 11.5	+1.2
KMI						14 33 12.8	
KMI				S	S	14 38 39.1	+3.1
KMI				*SS		14 38 43.5	
KMI						14 40 57.2	
KMI				SS	SS	14 42 17.4	+2.8
KMI				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
KMI				MLR	MLR		
	comp=Z,660nm,19.7s,MS4.7						
KMI	Kunming	53.01	305	P	P	14 31 11.5	+1.2
	comp=Z,8.0nm,1.3s,mb4.5						
KMI				pP	pP	14 31 13.9	-6.6
KMI				sP	sP	14 31 15.0	-10
KMI				PP	PP	14 33 12.8	+1.2
KMI				S	S	14 38 39.1	+3.1
KMI				sS		14 38 43.5	
KMI				ScS	ScS	14 40 57.2	+3.4
KMI				SS	SS	14 42 17.4	+2.8
KMI				LR	LR		
	comp=Z,660nm,19.7s,MS4.7						
CD2	Chengdu	54.91	312	P	P	14 31 23.8	-0.4
PET	Petropavlovsk	56.82	7	eP	P	14 31 31.0	-6.6
PET				eS	S	14 39 27.2	+0.5
PET				ePS	PS	14 39 38.6	-5.0
PET				eSS	SS	14 43 19.9	+4.0
PET				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
PET				smax			
	comp=E,200nm,13.0s						
PET				smax			
	comp=N,100nm,6.9s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.6						
LZH	Lanzhou	57.56	317	eP	P	14 31 43.0	-0.1
LZH				AP	pP	14 31 46.4	-7.0
LZH				XP	sP	14 31 48.0	-9.4
LZH				PP	PP	14 33 52.0	-0.4
LZH				eS	S	14 39 36.0	-0.7
LZH				SS	SS	14 43 31.3	+3.1
LZH				AMB	AMB		
	comp=Z,27nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,126nm,5.2s						
LZH				LR	LR		
	comp=E,1µm,17.5s						
LZH				LR	LR		
	comp=Z,2µm,18.5s,MS5.2						
LZH	Lanzhou	57.56	317	eP	P	14 31 43.0	-0.1
LZH						14 33 52.0	
LZH				eS	S	14 39 36.0	-0.7
LZH				*SS		14 39 41.0	
LZH				SS	SS	14 43 31.2	+3.0
LZH				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.1						
LZH				MLR	MLR		
	comp=Z,2µm,18.5s,MS5.2						
LZH	Lanzhou	57.56	317	eP	P	14 31 43.0	-0.1
	comp=Z,27nm,1.5s,mb5.1						
LZH				pP	pP	14 31 46.4	-7.0
LZH				sP	sP	14 31 48.0	-9.4
LZH				PP	PP	14 33 52.0	-0.4
LZH				eS	S	14 39 36.0	-0.7
LZH				sS		14 39 41.0	
LZH				SS	SS	14 43 31.2	+3.0
LZH				LR	LR		
	comp=Z,2µm,18.5s,MS5.2						
HIA	Hailar	58.24	338	eP	P	14 31 46.6	-1.0
HIA				pmax	pmax		
	comp=Z,28nm,1.3s						
HIA				MLR	MLR		
	comp=Z,507nm,20.0s						
HIA	Hailar	58.24	338	eP	P	14 31 46.6	-1.0
	comp=Z,28nm,1.3s,mb5.1						
HIA				LR	LR		
	comp=Z,507nm,20.0s,MS4.6						
PPT	Papeete	61.83	108	eS	S	14 40 37.1	+5.1
	comp=Z,670nm,25.0s						
PPT				eLQ		14 47 35.3	
	comp=Z,2µm,30.8s						
PPT				eLR	LR	14 49 27.2	
	comp=Z,711nm,27.2s,baz=255						
PPT	Papeete	61.83	108	LR	LR	14 55 58.2	
	comp=Z,198nm,18.2s,MS4.3,baz=282,slow=33						
GTA	Gaotai	62.03	318	eP	P	14 32 14.3	+0.6
GTA				AP	pP	14 32 17.9	-6.2
GTA				XP	sP	14 32 20.8	-7.2
GTA				PP	PP	14 34 34.4	+1.9
GTA				PPP	PPP	14 36 04.3	+2.7
GTA				S	S	14 40 40.6	+6.3
GTA				XS		14 40 49.3	
GTA				PS	PS	14 40 58.6	+3.0
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.7						
GTA				AMB	AMB		
	comp=Z,70nm,4.2s						
GTA				LR	LR		
	comp=N,274nm,22.5s,MS4.7						
GTA				LR	LR		
	comp=E,449nm,21.3s,MS4.7						
GTA				LR	LR		
	comp=Z,526nm,21.6s,MS4.7						
TBI	Tubuai	62.65	114	eS	S	14 40 33.5	-8.8
	comp=Z,393nm,30.2s						
TBI				eLQ		14 48 08.3	
	comp=Z,838nm,24.0s						
TBI				eLR	LR	14 49 09.5	
	comp=Z,696nm,27.5s,baz=283						
SONM	Songino Array	63.12	329	P	P	14 32 20.7	-0.1
	comp=Z,4.5nm,1.2s,mb4.5,baz=147,slow=5.0,SNR=11						
SONM				LR	LR	14 59 07.0	
	comp=Z,598nm,20.6s,MS4.8,baz=115,slow=35						
CLNS	Chul'man	63.14	345	eP	P	14 32 23.6	+2.8
CLNS				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
CLNS				pmax	pmax		
	comp=N,10.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.7s						
ZAK	Zakamensk	66.33	330	eP	P	14 32 41.1	-0.4
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
TLY	Talaya	66.97	331	eP	P	14 32 45.8	+0.3
TLY				eS	S	14 41 40.9	+5.9
TLY				eSS	SS	14 45 58.9	+3.3
TLY				pmax	pmax		
	comp=Z,9.0nm,1.9s,mb4.5						
GUN	Gumba	68.10	302	eP	P	14 32 54.4	+1.4
PKI	Pulchoki	68.40	301	eP	P	14 32 56.5	+1.6
	comp=Z,39nm,1.3s,mb5.3						
PKI	Pulchoki	68.40	301	eP	P	14 32 56.5	+1.6
PKI				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0						
KKN	Kakani	68.57	301	eP	P	14 32 53.8	-2.2
	comp=Z,16nm,0.8s,mb5.0						
KKN	Kakani	68.57	301	eP	P	14 32 53.8	-2.2
KKN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
DMN	Daman	68.67	301	eP	P	14 32 57.8	+1.2
	comp=Z,45nm,1.0s,mb5.3						
GKN	Gorkha	69.18	302	eP	P	14 32 58.9	-0.8
	comp=Z,39nm,1.2s,mb5.2						
WMQ	Urumqi	72.12	318	P	P	14 33 17.5	+0.4
WMQ				AP	pP	14 33 20.9	-6.8
WMQ				XP	sP	14 33 22.5	-9.0
WMQ				PP	PP	14 35 59.4	+0.1
WMQ				S	S	14 42 37.8	+2.1
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,232nm,6.7s						
WMQ				LR	LR		
	comp=N,396nm,19.0s,MS4.7						
WMQ				LR	LR		
	comp=E,249nm,22.2s,MS4.7						
WMQ				LR	LR		
	comp=Z,413nm,19.0s,MS4.7						
VNDA	Vanda	74.38	177	eP	P	14 33 29.4	-0.4
VNDA				pmax	pmax		
	comp=Z,11nm,1.6s						
VNDA				MLR	MLR		
	comp=Z,430nm,19.0s						
VNDA	Vanda	74.38	177	P	P	14 33 29.4	-0.4
	comp=Z,1.3nm,0.7s,mb4.0,baz=332,slow=5.1,SNR=11						
VNDA				LR	LR	15 04 44.5	
	comp=Z,305nm,19.7s,MS4.6,baz=346,slow=34						
VNDA	Vanda	74.38	177	eP	P	14 33 29.4	-0.4
	comp=Z,11nm,1.6s,mb4.5						
VNDA				LR	LR		
	comp=Z,430nm,19.0s,MS4.8						
MKAR	Makanchi Array	76.75	320	P	P	14 33 43.8	-0.2
	comp=Z,7.4nm,1.2s,mb4.5,baz=100,slow=6.7,SNR=13						
MKAR				LR	LR	15 08 05.9	
	comp=Z,574nm,18.7s,MS4.9,baz=167,slow=36						
NVS	Novosibirsk	79.07	328	iP	P	14 33 55.4	-1.2
NVS				pmax	pmax		
	comp=N,9.0nm,1.6s						
NVS				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.8						
NVS				pmax	pmax		
	comp=E,12nm,1.5s						
KSH	Kashi	79.10	311	eP	P	14 34 02.0	+4.9
KURK	Kurchatov	80.31	323	eP	P	14 34 03.3	-0.1
KURK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
KURK				MLR	MLR		
	comp=Z,140nm,21.0s,MS4.3						
KURK	Kurchatov	80.31	323	eP	P	14 34 03.3	-0.1
	comp=Z,12nm,1.1s,mb4.7						
KURK				LR	LR		
	comp=Z,140nm,21.0s,MS4.3						
IMA	Indian Mountai	80.48	20	eP	P	14 34 05.5	+1.6
IMA				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
IMA	Indian Mountai	80.48	20	eP	P	14 34 05.5	+1.5
	comp=Z,13nm,1.0s,mb4.8						
MCK	McKinley	81.11	23	eP	P	14 34 06.7	-0.6
MCK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
MCK				MLR	MLR		
	comp=Z,174nm,20.0s,MS4.4						
MCK	McKinley	81.11	23	eP	P	14 34 06.7	-0.6
	comp=Z,6.5nm,1.1s,mb4.5						
MCK				LR	LR		
	comp=Z,174nm,20.0s,MS4.4						
ILAR	Eielson Array	82.36	23	P	P	14 34 13.4	-0.4
	comp=Z,0.7nm,0.8s,mb3.6,baz=259,slow=4.6,SNR=5.5						
ILAR				LR	LR	15 09 11.9	
	comp=Z,211nm,19.7s,MS4.5,baz=182,slow=34						
MAW	Mawson	85.36	203	LR	LR	15 11 03.6	
	comp=Z,606nm,19.7s,MS5.0,baz=273,slow=34						
BVAR	Borovoye Array	85.82	324	P	P	14 34 31.8	+0.4
	comp=Z,1.8nm,0.8s,mb4.3,baz=101,slow=7.6,SNR=9.0						
ZRNK	Zerenda	86.63	323	eP	P	14 34 35.1	-0.3
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.5						
ZRNK	Zerenda	86.63	323	eP	P	14 34 35.1	-0.2
	comp=Z,2.9nm,1.0s,mb4.5						
INK	Inuvik	88.56	21	eP	P	14 34 42.9	-1.4
INK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
INK	Inuvik	88.56	21	eP	P	14 34 42.9	-1.5
	comp=Z,7.4nm,1.3s,mb4.9						
YBH	Yreka Blue Hor	91.03	48	LR	LR	15 09 17.5	
	comp=Z,466nm,19.5s,MS4.9,baz=265,slow=31						
NEW	Newport	95.16	42	LR	LR	15 11 37.6	
	comp=Z,331nm,20.2s,MS4.8,baz=2.7,slow=31						
YKA	Yellowknife Ar	96.00	28	P	P	14 35 20.2	+1.4
	comp=Z,0.6nm,0.6s,mb4.2,baz=270,slow=6.2,SNR=3.3						
YKA				LR	LR	15 16 26.7	
	comp=Z,299nm,19.3s,MS4.8,baz=245,slow=34						
YKA	Yellowknife Ar	96.00	28	P	P	14 35 20.2	+1.4
YKA				LR	LR	15 16 26.7	
LPAZ	La Paz	138.48	119	ePKIKP	PKPdf	14 41 20.7	+3.3
SAML	Samuel	145.72	111	ePKPdf	PKPdf	14 41 31.2	+0.9
SAML				ePKPbc	PKPbc	14 41 32.5	+1.4

*MOS **15** 15:02:46.8±0.8, 52.91N×8.53E, h10km, mb4.0/1, Error ellipse: s-maj=7.4km s-min=3.3km az=85.0*

*NAO **15** 15:02:48.4±3.8, 52.83N×8.53E, ML3.5*

*NEIC **15** 15:02:48.9±0.2, 52.93N×8.62E, h10km, ML4.0(SZGRF), ML4.0(VIE), ML4.0(LDG), ML3.8(FUR), ML3.7(STR), Error ellipse: s-maj=3.3km s-min=2.4km az=103.0*

*CSEM **15** 15:02:48.5±0.1, 52.92N×8.81E, h2km, ML4.1/20, Error ellipse: s-maj=1.4km s-min=1.2km az=138.0*

*BNS **15** 15:02:50.4±0.5, 52.93N×8.69E, h10km, ML3.8*

*IPEC **15** 15:02:50.1±0.1, 52.91N×8.94E, ML3.2/2, Error ellipse: s-maj=1.4km s-min=0.7km az=17.0*

*ZUR_RM **15** 15:02:51, 52.85N×8.78E, h9km, Mw3.7/12, Moment Tensor Solution. s12 Moment tensor: Scale 10^{14}Nm; M_{rr}2.47; $M_{\theta\theta}$0.67; $M_{\phi\phi}$-3.14; $M_{r\theta}$1.70; $M_{\theta\phi}$-0.75; $M_{\phi r}$-1.23; Best double couple: $M_0$3.62×10^{14} NP1:ϕ_s161°, δ62°, λ54°. NP2:ϕ_s38°, δ44°, λ138°. Principal axes: T 3.794, Plg57°, Azm22°; N -.354, Plg31°, Azm180°; P -3.44, Plg10°, Azm276°;*

*IDC **15** 15:02:51.9±3.4, 52.87N×8.81E, h20km±26km, mb3.3/1, mb1 3.8/10, mb1mx3.6/25, mbtmp3.7/10, ML3.9/9 Error ellipse: s-maj=22.0km s-min=9.9km az=76.0*

*LDG **15** 15:02:52.2±0.1, 52.81N×8.71E, h10km, Ml4.0/35, Error ellipse: s-maj=1.9km s-min=1.8km az=158.0*

*STR **15** 15:02:56.4±1.9, 52.42N×7.49E, h10km±1km, Ml3.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

BGR 15 15:02:50.4±0.3**, 52.89N**×**8.75E, h5km**±**3km, ML3.8**/17**, 5C-1D, Error ellipse: s-maj=4.4km s-min=3.3km az=94.0, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IBBN	Ibbenburen	0.84	227	ePg	Pg	15 03 06.5	-0.6
	SNR=468						
IBBN				eSg	Sg	15 03 20.1	+1.7

Code	Station	Δ°	AZ°	Op	ISC	Time	Res
IBBN	Ibbenburen	0.84	227	ePg	Pg	15 03 06.4	-0.8
IBBN				eSg	Sg	15 03 20.3	+1.9
IBBN	Ibbenburen	0.84	227	ePg	Pg	15 03 06.5	-0.7
IBBN				eSg	Sg	15 03 19.7	+1.3
NRDL	Niedersach Rie	0.91	115	ePg	Pg	15 03 07.9	-0.7
	SNR=81						
NRDL				eSg	Sg	15 03 20.4	-0.4
WIT	Witteveen	1.27	268	ePg	Pg	15 03 15.3	-0.4
WIT				eSg	Sg	15 03 34.1	+1.5
HLG	Helgoland	1.40	339	ePn	Pn	15 03 15.9	-0.8
	SNR=2.6						
HLG				eSg	Sg	15 03 35.3	-1.7
BSEG	Bad Segeberg	1.41	41	ePn	Pn	15 03 14.8	-2.0
	SNR=46						
BSEG				eSg	Sn	15 03 34.2	-1.7
BSEG	Bad Segeberg	1.41	41	ePn	Pn	15 03 14.7	-2.1
BSEG				eSg	Sg	15 03 38.4	+1.1
BSEG	Bad Segeberg	1.41	41	ePn	Pn	15 03 14.7	-2.1
BSEG				Sg	Sn	15 03 34.2	-1.7
CLZ	Clausthal	1.44	136	ePn	Pn	15 03 15.6	-1.7
	SNR=16						
CLZ				ePg	Pg	15 03 18.1	-1.1
	SNR=111						
CLZ				eSg	Sn	15 03 34.0	-2.8
CLZ	Clausthal	1.44	136	ePn	Pn	15 03 15.5	-1.8
CLZ	Clausthal	1.44	136	ePg	Pn	15 03 15.5	-1.8
CLZ				Sg	Sn	15 03 34.0	-2.8
WTSB	Winterswijk	1.51	233	ePg	Pn	15 03 16.8	-1.5
	baz=40						
WTSB				eSg	Sn	15 03 37.0	-1.5
WTSB	Winterswijk	1.51	233	ePn	Pn	15 03 16.8	-1.5
	SNR=9.5						
BTEZ	Ruhr-Universit	1.70	213	Pn	Pn	15 03 19.1	-1.9
BKLB	Ruhr-Universit	1.71	213	Pn	Pn	15 03 19.3	-1.8
BSHA	Ruhr-Universit	1.71	213	Pn	Pn	15 03 19.3	-1.9
BNS	Bensberg	2.16	208	ePn	Pn	15 03 25.3	-2.2
STB	Steinbach	2.58	208	ePn	Pn	15 03 31.1	-2.5
TNS	Taunus Mts	2.67	184	ePn	Pn	15 03 32.8	-2.1
	SNR=19						
TNS				ePg	Pg	15 03 40.6	-3.1
	SNR=97						
TNS				eSg	Sg	15 04 15.3	-4.1
TNS	Taunus Mts	2.67	184	ePn	Pn	15 03 32.3	-2.6
TNS	Taunus Mts	2.67	184	Pg	Pg	15 03 40.6	-3.2
	SNR=97						
TNS				Sg	Sg	15 04 15.3	-4.1
KLL	Kalltalsperre	2.71	215	ePn	Pn	15 03 32.4	-3.0
HGN	Heimansgroeve	2.75	221	ePn	Pn	15 03 32.9	-3.1
	baz=30						
HGN				ePg	Pg	15 03 35.7	-10
HGN				eSg	Sg	15 04 18.5	-3.6
HGN	Heimansgroeve	2.75	221	ePn	Pn	15 03 33.1	-3.0
	SNR=11						
HGN	Heimansgroeve	2.75	221	Pn	Pn	15 03 33.1	-2.9
	SNR=11						
HGN				eSg	Sg	15 04 18.5	-3.6
BGG	Burgeitz	2.83	199	ePn	Pn	15 03 34.7	-2.4
BGG				eSn	Sn	15 04 08.4	-3.5
	209nm,1.0s						
MOX	Moxa	2.86	140	ePn	Pn	15 03 36.3	-1.3
	SNR=8.8						
MOX				ePg	Pg	15 03 48.9	+1.3
MOX				eSg	Sg	15 04 22.0	-3.7
MOX	Moxa	2.86	140	i Pn	Pn	15 03 36.5	-1.1
MOX				ePg	Pg	15 03 48.9	+1.3
MOX				eSg	Sg	15 04 22.0	-3.7
MOX	Moxa	2.86	140	i P	Pn	15 03 36.5	-1.1
MOX				Pg	Pg	15 03 49.0	+1.4
MOX				Sg	Sg	15 04 22.0	-3.7
MOX				L		15 04 54.0	
CLL	Collm	3.06	119	ePn	Pn	15 03 38.6	-1.8
	SNR=1.3						
CLL				i Pg	Pg	15 03 52.0	+0.5
CLL	Collm	3.06	119	i P	Pn	15 03 38.6	-1.8
CLL				e		15 04 24.0	
CLL	Collm	3.06	119	i Pn	Pn	15 03 38.6	-1.8
CLL				i Pg	Pg	15 03 52.0	+0.5
CLL				eSn	Sn	15 04 24.0	+6.1
CLL				eSg	Sg	15 04 38.0	+5.7
CLL	Collm	3.06	119	i PN	Pn	15 03 38.6	-1.8
CLL				i		15 03 44.0	
CLL				i PG	Pg	15 03 52.0	+0.5
CLL				e		15 03 55.0	
CLL				eSN	Sn	15 04 24.0	+6.1
CLL				i		15 04 29.7	
CLL				eSG	Sg	15 04 38.0	+5.7
CLL	Collm	3.06	119	i P	Pn	15 03 38.6	-1.8
CLL				eSg	Sg	15 04 22.9	-9.4
RUE	Ruedersdorf	3.09	96	ePb	Pb	15 03 44.6	-0.9
RUE				ePg	Pg	15 03 49.0	-3.0
ABH	Alteburg	3.10	195	P	Pn	15 03 38.4	-2.6
RGN	Rugen	3.18	57	ePn	Pn	15 03 39.0	-3.2
	SNR=1.1						
RGN				ePg	Pg	15 03 50.2	-3.8
	SNR=2.9						
TOD	Tromm	3.29	179	P	Pn	15 03 40.7	-2.9
WERD	Werda	3.29	136	ePn	Pn	15 03 41.7	-2.1
WERD				eSg	Sg	15 04 33.3	-6.8
RUP	Ruppelstein	3.36	199	P	Pn	15 03 41.7	-3.0
RUP				S	Sn	15 04 16.4	-9.1
GUNZ	Gunzen	3.37	137	ePn	Pn	15 03 43.0	-1.8
NKC	Novy Kostel	3.52	138	ePN	Pn	15 03 44.9	-2.0
NKC	Novy Kostel	3.52	138	Pn	Pn	15 03 44.9	-2.0
NKC				eSg	Sg	15 04 38.3	-9.2
COP	Copenhagen	3.54	36	ePg	Pg	15 03 58.1	-2.9
	SNR=2.6						
COP	Copenhagen	3.54	36	eP	Pn	15 03 44.7	-2.5
COP				i S	Sn	15 04 23.5	-6.5
COP				MLR	MLR		
	comp=Z,32nm,21.0s						
COP	Copenhagen	3.54	36	eP	Pn	15 03 44.7	-2.5
COP				i		15 03 57.4	
COP				i S	Sn	15 04 23.5	-6.5
COP	Copenhagen	3.54	36	i P	Pn	15 03 44.7	-2.5
COP				i		15 03 57.4	
COP				i S	Sn	15 04 23.5	-6.5
	comp=Z,30nm,21.0s						
COP	Copenhagen	3.54	36	eP	Pn	15 03 44.7	-2.5
COP				i S	Sn	15 04 23.5	-6.5
	comp=Z,32nm,21.0s						
GRA1	Grafenberg Arr	3.55	153	ePn	Pn	15 03 45.5	-1.9
GRF	Grafenberg Arr	3.55	153	ePn	Pn	15 03 45.5	-1.9
MUD	Monsted U'grnd	3.58	4	ePn	Pn	15 03 44.5	-3.3
	SNR=14						
MUD				eSn	Sn	15 04 25.5	-5.7
MUD	Monsted U'grnd	3.58	4⇑	iP	Pn	15 03 44.4	-3.5
MUD				i S	Sn	15 04 25.6	-5.6
MUD				pmax	pmax		
	comp=Z,71nm,0.4s						
MUD	Monsted U'grnd	3.58	4⇑	iP	Pn	15 03 44.4	-3.5
	comp=Z,71nm,0.4s						
MUD				i		15 03 46.2	
MUD				i S	Sn	15 04 25.6	-5.6
MUD	Monsted U'grnd	3.58	4⇑	iP	Pn	15 03 44.4	-3.5
MUD				i S	Sn	15 04 25.6	-5.6
KTD	Kalmit	3.60	187	P	Pn	15 03 45.0	-3.0
WLF	Walferdange	3.62	208	ePn	Pn	15 03 46.0	-2.3
	SNR=3.0						
WLF	Walferdange	3.62	208	ePn	Pn	15 03 45.1	-3.1
WLF				ePg	Pg	15 03 54.8	-7.7
WLF				eSn	Sn	15 04 40.6	+8.6
WLF	Walferdange	3.62	208	ePn	Pn	15 03 45.1	-3.2
GIVF	Givet	3.71	223	ePn	Pn	15 03 46.5	-3.2
GIVF				ePg	Pg	15 03 59.5	-5.0
GIVF				eSn	Sn	15 04 27.7	-6.7
GIVF				eSg	Sg	15 04 46.2	-7.9
	comp=Z,207nm,0.5s						
GIVF	Givet	3.71	223	eP	Pn	15 03 46.5	-3.2
GIVF				e		15 04 27.7	
NOTT	Nottersdorf	3.73	144	ePn	Pn	15 03 47.8	-2.2
BRG	Berggiesshubel	3.79	120	ePn	Pn	15 03 48.9	-1.9
	SNR=5.3						
BRG				eSg	Sg	15 04 51.9	-4.9
BRG	Berggiesshubel	3.79	120	P	Pn	15 03 48.7	-2.1
BRG				MLR	MLR		
	comp=N,350nm,7.1s						
BRG				MLR	MLR		
	comp=E,199nm,8.9s						
BRG				MLR	MLR		
	comp=Z,390nm,7.4s						
BRG	Berggiesshubel	3.79	120	Pn	Pn	15 03 48.7	-2.1
BRG				Sg	Sg	15 04 51.9	-4.9
BRG	Berggiesshubel	3.79	120	ePn	Pn	15 03 48.7	-2.1
LANF	Langenberg	3.96	189	P	Pn	15 03 49.4	-3.7
LANF				S	Sn	15 04 36.6	-4.0
BAIF	Baives	4.01	227	ePn	Pn	15 03 51.2	-2.7
BAIF				ePg	Pg	15 04 04.9	-5.5
BAIF				eSn	Sn	15 04 34.9	-7.0
BAIF				eSg	Sg	15 04 56.1	-7.8
	comp=Z,89nm,0.5s						
BAIF	Baives	4.01	227	eP	Pn	15 03 51.2	-2.7
BAIF				e		15 04 34.9	
STU	Stuttgart	4.13	176	ePn	Pn	15 03 50.5	-5.1
BSD	Bornholm Skovb	4.27	56⇓	iP	Pn	15 03 53.6	-3.9
BSD				i		15 04 12.2	
BSD				eS	Sg	15 05 01.1	-11
PVCC	Panska Ves	4.32	121	ePN	Pn	15 03 55.6	-2.7
PVCC				eSG	Sg	15 05 09.0	-5.2
WET	Wettzell	4.56	144	ePn	Pn	15 03 59.8	-2.0
	SNR=6.9						
WET	Wettzell	4.56	144	ePn	Pn	15 03 59.8	-1.9
WLS	Welschbruch	4.57	192	P	Pn	15 03 57.7	-4.1
BFO	Black Forest	4.57	184	ePn	Pn	15 03 57.8	-4.0
	SNR=26						
BFO	Black Forest	4.57	184	ePn	Pn	15 03 58.4	-3.4
CDF	Champ du Feu	4.58	192	ePn	Pn	15 03 57.6	-4.4
CDF				eSn	Sn	15 04 47.7	-8.6
CDF				eSg	Sg	15 05 11.6	-11
	comp=Z,83nm,0.6s						
PRU	Pruhonice	4.64	126	eSG	Sg	15 05 18.8	-6.1
PRU	Pruhonice	4.64	126	ePn	Pn	15 04 01.0	-1.8
RFYF	Reffroy	4.74	207	ePn	Pn	15 04 00.9	-3.4
	baz=28						
RFYF				ePg	Pg	15 04 18.6	-6.5
	baz=31						
RFYF				eSn	Sn	15 04 52.5	-8.0
RFYF				eSg	Sg	15 05 18.3	-10
	comp=Z,113nm,0.6s						
RFYF	Reffroy	4.74	207	ePg	Pg	15 04 18.6	-6.5
RFYF				eSn	Sn	15 04 52.5	-8.0
RFYF				eSg	Sg	15 05 18.3	-10
	comp=Z,57nm,0.6s						
ECH	Echery	4.79	193	P	Pn	15 04 00.5	-4.4
KHC	Kasperske Hory	4.84	139	ePn	Pn	15 04 03.3	-2.4
KHC				e		15 04 41.0	
KHC				e		15 05 16.9	
KHC				e		15 05 19.0	
KHC				e		15 05 47.0	
KHC	Kasperske Hory	4.84	139	ePN	Pn	15 04 03.3	-2.4
KHC				ex	x	15 05 16.9	
KHC				ex	x	15 05 47.0	
MEZF	Maizieres J'vi	4.98	210	ePn	Pn	15 04 03.6	-4.1
	baz=32						
MEZF				eSn	Sn	15 04 57.9	-8.5
MEZF				eSg	Sg	15 05 24.7	-11
	comp=Z,206nm,1.1s						
THEF	They Montfort	4.99	202	P	Pn	15 04 04.0	-3.8
THEF				S	Sn	15 04 52.6	-14
KSP	Ksiaz	5.10	111	ePn	Pn	15 04 07.4	-2.0
KSP				ePg	Pg	15 04 15.8	-16
KSP				eSn	Sn	15 05 01.6	-7.9
KSP	Ksiaz	5.10	111	ePn	Pn	15 04 07.4	-2.0
KSP				eSn	Sn	15 05 01.6	-7.9
UPC	Upice	5.10	115	ePN	Pn	15 04 06.1	-3.3
UPC				eSG	Sg	15 05 33.5	-6.8
GEC2	GERESS Array S	5.12	140	ePn	Pn	15 04 07.4	-2.2
	SNR=5.1						
GEC2	GERESS Array S	5.12	140	ePn	Pn	15 04 07.4	-2.2
GERES	GERESS Array B	5.12	140	Pn	Pn	15 04 07.4	-2.1
	comp=Z,1.5nm,0.3s,baz=311,slow=13,SNR=24						
GERES				Lg		15 05 31.4	
	comp=Z,1.7nm,0.3s,baz=320,slow=29,SNR=4.7						
HAU	Haudompre	5.12	198	ePn	Pn	15 04 05.3	-4.4
HAU				ePg	Pg	15 04 25.2	-7.4
HAU				eSn	Sn	15 05 01.4	-8.6
HAU				eSg	Sg	15 05 30.3	-11
	comp=Z,39nm,0.4s						
HAU	Haudompre	5.12	198	eP	Pn	15 04 05.3	-4.4
HAU				e		15 05 01.4	
MOF	Molkenrain	5.15	192	P	Pn	15 04 05.2	-4.8
HINF	Hinteralfeld	5.22	194	ePn	Pn	15 04 05.9	-5.1
HINF				ePg	Pg	15 04 27.8	-6.8
HINF				eSn	Sn	15 05 04.5	-8.0
HINF				eSg	Sg	15 05 33.1	-11
	comp=Z,68nm,0.6s						
HINF	Hinteralfeld	5.22	194	eP	Pn	15 04 05.9	-5.1
HINF				e		15 05 04.5	
SFTF	Sexfontaines	5.25	208	ePn	Pn	15 04 07.5	-4.0
	baz=31						
SFTF				ePg	Pg	15 04 28.3	-6.9
SFTF				eSg	Sg	15 05 34.5	-11
	comp=Z,127nm,0.9s						
SNART	Snartemo	5.54	352	eP	Pn	15 04 10.9	-4.6
SNART				eS	Sn	15 05 12.3	-8.1
SNART				AML	AML	15 05 14.8	
	comp=Z,28nm,0.1s						
WTTA	Wattenberg	5.93	161⇑	iPN	Pn	15 04 18.1	-2.9
VRAC	Vranov	6.10	123	Pn	Pn	15 04 21.3	-2.1
	comp=Z,0.7nm,0.3s,baz=339,slow=14,SNR=2.8						
VRAC				Lg		15 06 04.9	
	comp=Z,0.9nm,0.3s,baz=43,slow=21,SNR=8.4						
MOA	Molln	6.15	143	ePn	Pn	15 04 21.8	-2.4
DAVOX	Davos	6.16	173	Pn	Pn	15 04 22.1	-2.1
	comp=Z,0.6nm,0.3s,baz=346,slow=19,SNR=3.9						
DAVOX				Lg		15 06 07.7	
	comp=Z,1.2nm,0.3s,baz=202,slow=22,SNR=2.4						
MORC	Moravsky Berou	6.33	116	eP	Pn	15 04 23.3	-3.4
MORC				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MORC	Moravsky Berou	6.33	116	ePn	Pn	15 04 23.3	-3.4
	comp=Z,3.9nm,0.5s						
MORC	Moravsky Berou	6.33	116	eP	Pn	15 04 23.3	-3.4
	comp=Z,4.0nm,0.5s						
LOR	Lormes	6.44	211	ePn	Pn	15 04 23.4	-4.9
	baz=34						
LOR				ePg	Pg	15 04 49.7	-9.3
	baz=31						
LOR				eSn	Sn	15 05 32.1	-11
LOR				eSg	Sg	15 06 11.5	-13
	comp=Z,71nm,0.9s						
LOR	Lormes	6.44	211	eP	Pn	15 04 23.4	-4.9
LOR				e		15 05 32.1	
LOR	Lormes	6.44	211	ePg	Pg	15 04 49.7	-9.3
LOR				eSn	Sn	15 05 32.1	-11
LOR				eSg	Sg	15 06 11.5	-13
	comp=Z,35nm,0.9s						
CABF	La Chapelle	6.51	196	ePn	Pn	15 04 24.4	-4.9
CABF				eSn	Sn	15 05 35.0	-10
CABF				eSg	Sg	15 06 13.3	-14
	comp=Z,136nm,1.0s						
KBA	Koelnbreinsper	6.52	151⇑	iPN	Pn	15 04 27.1	-2.3
OKC	Ostrava-Krasne	6.63	114	eSG	Sg	15 06 21.7	-9.3
KMY	Karmoy	6.64	344	eP	Pn	15 04 25.5	-5.6
KMY				eS	Sn	15 05 35.8	-12
KMY				AML	AML	15 05 39.4	
	comp=Z,27nm,0.3s						
BLS5	Blasjo	6.68	350	eP	Pn	15 04 27.4	-4.2
BLS5				eS	Sn	15 05 42.7	-6.3
BLS5				AML	AML	15 05 47.5	
	comp=Z,18nm,0.5s						
SSF	Saint Saulge	6.74	212	ePn	Pn	15 04 27.3	-5.2
SSF				ePg	Pg	15 04 54.8	-10
SSF				eSn	Sn	15 05 40.1	-10
SSF				eSg	Sg	15 06 20.2	-15
	comp=Z,22nm,0.4s						
SSF	Saint Saulge	6.74	212	eP	Pn	15 04 27.3	-5.2
SSF				e		15 05 40.1	
HYF	Humbligny	6.86	217	ePn	Pn	15 04 29.6	-4.6
HYF				eSn	Sn	15 05 42.3	-11
SMF	Signal de Mont	7.01	209	ePn	Pn	15 04 30.6	-5.7
SMF				eSn	Sn	15 05 46.2	-11
SMF				eSg	Sg	15 06 28.1	-16
	comp=Z,22nm,0.6s						
LDF	La Druitiere	7.08	236	ePn	Pn	15 04 31.8	-5.5
LDF				eSn	Sn	15 05 48.3	-11
	comp=Z,19nm,0.5s						
ODD1	Odda	7.14	351	eP	Pn	15 04 32.7	-5.4
FLN	La Foliniere	7.16	238	ePn	Pn	15 04 32.8	-5.6
	baz=52						
FLN				eSn	Sn	15 05 49.6	-11
	comp=Z,32nm,0.5s						
BGF	Bois d'Agland	7.40	213	ePn	Pn	15 04 36.4	-5.3
BGF				eSn	Sn	15 05 56.1	-11
BGF				eSg	Sg	15 06 39.4	-17
	comp=Z,56nm,0.4s						
EKA	Eskdalemuir Ar	7.42	294	P	Pn	15 04 38.0	-4.0
EKA						15 05 55.6	
EKA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
EKA	Eskdalemuir Ar	7.42	294	Pn	Pn	15 04 38.0	-4.1
	comp=Z,4.1nm,0.3s,baz=105,slow=14,SNR=42						
EKA				Sn	Sn	15 05 55.6	-12
	comp=Z,10.0nm,0.3s,baz=107,slow=25,SNR=12						
EKA	Eskdalemuir Ar	7.42	294	Pn	Pn	15 04 38.0	-4.0
EKA				Sn	Sn	15 05 55.7	-12
ESK	Eskdalemuir	7.44	294	eP	Pn	15 04 38.0	-4.3
ESK				e		15 05 53.5	
ESK				pmax	pmax		
	comp=Z,18nm,0.4s						
ESK	Eskdalemuir	7.44	294	ePn	Pn	15 04 38.0	-4.3
	comp=Z,18nm,0.4s						
ESK				eSn	Sn	15 05 53.5	-15
ESK	Eskdalemuir	7.44	294	ePn	Pn	15 04 38.0	-4.3
	comp=Z,18nm,0.4s						
PERS	Pernice	7.49	144	i Pn	Pn	15 04 40.6	-2.4
LPL	La Plagne	7.49	191	eSg	Sg	15 06 44.5	-15
	comp=Z,28nm,0.9s						
LPG	La Plagne	7.51	191	eSg	Sg	15 06 45.4	-15
	comp=Z,41nm,1.1s						
GRR	Gorron	7.59	237	ePn	Pn	15 04 38.7	-5.7
GRR				eSn	Sn	15 05 59.8	-12
	comp=Z,17nm,0.2s						
EGD	Espegrend	7.66	347	eP	Pn	15 04 39.5	-5.8
BER	Bergen	7.75	347	eP	Pn	15 04 41.3	-5.3
HFS	Hagfors	7.76	19	Pn	Pn	15 04 40.6	-6.2
	baz=210,slow=11						
HFS				Sn	Sn	15 06 06.7	-9.4
	baz=208,slow=22						
HFS	Hagfors	7.76	19	P	Pn	15 04 40.5	-6.3
HFS						15 06 04.6	
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HFS	Hagfors	7.76	19	Pn	Pn	15 04 40.5	-6.3
	comp=Z,0.5nm,0.3s,baz=199,slow=14,SNR=117						
HFS				Sn	Sn	15 06 04.6	-11
	comp=Z,0.4nm,0.3s,baz=203,slow=19,SNR=4.1						
TCF	Toulx Ste Croi	7.85	215	ePn	Pn	15 04 42.5	-5.6
TCF				ePg	Pg	15 05 15.4	-12
TCF				eSg	Sg	15 06 53.9	-18
	comp=Z,26nm,0.8s						
ASK	Askoy	7.86	347	eP	Pn	15 04 42.4	-5.8
ASK				eS	Sn	15 06 07.4	-11
ASK				AML	AML	15 06 13.2	
	comp=Z,16nm,0.5s						
NAO01	NORSAR Array S	8.06	7	ePn	P	15 04 43.6	-7.4
	comp=Z,12nm,0.4s						
NAO01				eSn	Sn	15 06 12.1	-12
NAO01	NORSAR Array S	8.06	7	ePn	P	15 04 43.6	-7.4
	comp=Z,12nm,0.4s						
NAO01				eSn	Sn	15 06 12.1	-12
ORIF	Oris-en-Rattie	8.20	194	ePn	P	15 04 48.1	-4.8
ORIF				eSg	Sg	15 07 06.7	-17
	comp=Z,28nm,1.0s						
MBDF	Montbardon	8.27	190	ePn	P	15 04 51.8	-2.1
MBDF				eSg	Sg	15 07 09.1	-17
	comp=Z,17nm,1.0s						
NB2	NORSAR Subarra	8.29	8	Pn	P	15 04 47.5	-6.6
	baz=193,slow=16						
NB2				Sn	Sn	15 06 28.6	-0.5
NOA	NORSAR Array B	8.29	8	P	P	15 04 47.1	-7.0
NOA						15 06 14.9	
NOA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NOA	NORSAR Array B	8.29	8	Pn	P	15 04 47.1	-7.0
	comp=Z,2.4nm,0.3s,baz=242,slow=20,SNR=21						
NOA				Sn	Sn	15 06 14.9	-14
	comp=Z,2.4nm,0.3s,baz=139,slow=25,SNR=5.0						
VIVF	Saint-Julien-l	8.47	200	eP	P	15 04 57.3	+0.6
VIVF				eSg	Sg	15 07 15.2	-17
	comp=Z,68nm,1.5s						
SUE	Sulen	8.48	347	eP	P	15 04 50.6	-6.1
MFF	Saint Martin d	8.53	226	ePn	P	15 04 51.5	-6.0
MFF				eSn	Sn	15 06 23.2	-12
MFF				eSg	Sg	15 07 17.3	-17
	comp=Z,80nm,1.4s						
SGMF	Saint Gilles	8.56	242	ePn	P	15 04 50.8	-7.1
SGMF				eSn	Sn	15 06 22.5	-14
	comp=Z,8.1nm,0.3s						
ROSF	Rostrenen	8.90	244	ePn	P	15 04 57.5	-5.1
ROSF				eSn	Sn	15 06 31.8	-13
	comp=Z,9.9nm,0.4s						
RJF	Les Rejaudoux	8.95	215	ePn	P	15 04 58.0	-5.3
RJF				eSn	Sn	15 06 33.3	-12
RJF				eSg	Sg	15 07 28.2	-20
	comp=Z,21nm,0.7s						
FOO	Floro	8.96	349	eP	P	15 04 57.8	-5.7
QUIF	Quistinic	9.09	242	ePn	P	15 04 57.5	-7.8
QUIF				eSn	Sn	15 06 37.8	-11
	comp=Z,9.0nm,0.4s						
CAF	Calviac	9.10	212	ePn	P	15 04 59.9	-5.5
CAF				eSg	Sg	15 07 33.1	-20
	comp=Z,21nm,0.9s						
LASF	Ste Croix	9.39	202	eSg	Sg	15 07 41.1	-22
	comp=Z,29nm,1.0s						
LFF	La Frestale	9.54	217	ePn	P	15 05 04.5	-6.9
LFF				eSg	Sg	15 07 47.7	-20
	comp=Z,35nm,0.8s						
MOL	Molde	9.73	357	eP	P	15 05 09.7	-4.3
EPF	Esparros	11.35	213	ePn	P	15 05 30.4	-5.8
EPF				eSg	S	15 08 43.3	+59
	comp=Z,32nm,1.2s						
ETSF	Etsaut	11.78	216	ePn	P	15 05 36.8	-5.2
ETSF				eSg	S	15 08 57.3	+62
	comp=Z,17nm,1.0s						
FIA0	FINESS Array S	12.68	41	Pn	P	15 05 48.1	-6.0
	baz=219,slow=12						
FIA0				Sn	S	15 08 05.8	-11
	baz=228,slow=22						
FIA0				Lg		15 09 35.7	
	baz=229,slow=28						
FINES	FINESS Array B	12.68	41	Pn	P	15 05 48.4	-5.8
	comp=Z,0.4nm,0.3s,baz=230,slow=12,SNR=11						
AKASG	Malin Array Be	12.86	92	P	P	15 05 47.6	-8.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	12.86	92	Pn	P	15 05 47.6	-8.9
	comp=Z,1.3nm,0.3s,baz=283,slow=13,SNR=5.3						
KAF	Kangasniemi	13.16	39	ep	P	15 05 49.3	-11
	comp=Z,2.2nm,1.0s						
KAF	Kangasniemi	13.16	39	eP	P	15 05 49.3	-11
KAF				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ESDC	Sonseca Array	15.84	219	Pn	P	15 06 38.0	+2.5
	comp=Z,0.5nm,0.3s,baz=35,slow=11,SNR=5.2						
ARA0	ARCESS Array S	18.43	19	Pn	P	15 07 00.5	-7.4
	baz=209,slow=16						
ARA0				Sn	S	15 10 16.1	-15
	baz=219,slow=28						
ARCES	ARCESS Array B	18.43	19	Pn	P	15 07 01.1	-6.8
	comp=Z,0.3nm,0.3s,baz=206,slow=14,SNR=13						
MKAR	Makanchi Array	45.90	67	P	P	15 11 12.7	-2.5
	comp=Z,0.2nm,0.3s,baz=321,slow=7.0,SNR=4.9						

*NEIC **15** 15:09:24.0, 44.20N×12.09E, h20km, ML3.0(VIE), ML2.8(LDG), ML2.4(ROM), After ROM.*
*CSEM **15** 15:09:24.5±0.1, 44.16N×12.07E, h15km, ML2.8/9, Error ellipse: s-maj=2.3km s-min=1.9km az=61.0*
*LDG **15** 15:09:25.0±0.3, 44.22N×12.13E, h10km, Ml2.8/8, Error ellipse: s-maj=6.2km s-min=3.0km az=102.0*
ROM 15 15:09:24.0±0.2, 44.20N×12.09E, h20km±2km, Md2.7/13, Ml2.4/3, 3C-2D, Error ellipse: s-maj=2.3km s-min=2.0km az=23.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRSN	Barisano	0.08	355⇑	iPg	Pb	15 09 28.1	+0.3
	855nm,0.2s						
SFI	Santa Sofia	0.34	210⇑	iPg	Pb	15 09 31.5	+0.1
SFI				Sg	Sb	15 09 37.8	+1.4
RSM	Repubblica di	0.38	136	Pg	Pb	15 09 32.8	+0.9
	74nm,0.4s						
PGD	Poggio Sodo	0.42	219	Pg	Pb	15 09 33.0	+0.4
PGD				Sg	Sb	15 09 40.5	+2.0
VMG	Vicchio	0.46	239	Pg	Pb	15 09 33.4	+0.1
VMG				Sg	Sb	15 09 41.2	+1.6
	112nm,0.2s						
SEI	Scarperia	0.55	255	Pg	Pb	15 09 35.3	+0.5
SEI				Sg	Sb	15 09 44.4	+2.3
	307nm,0.4s						
FNVD	Fontana Vidola	0.69	268	Pg	Pb	15 09 38.1	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	201nm,0.5s						
BADI	Badiali	0.70	171	Pg	Pb	15 09 38.5	+1.1
FSSB	Fossombrone	0.71	135	Pg	Pb	15 09 37.9	+0.3
	48nm,0.2s						
CSNT	Castellina Chi	0.93	219	Pg	Pb	15 09 43.4	+2.1
	44nm,0.3s						
ARV	Arcevia	0.94	138	Pg	Pb	15 09 42.3	+0.9
	46nm,0.4s						
BDI	Bagni Di Lucca	1.08	263	Pg	Pb	15 09 46.2	+2.3
PII	Pisa	1.23	248	Pg	Pn	15 09 47.5	+1.3
	34nm,0.2s						
SACS	San Casciano d	1.36	186	Pg	Pn	15 09 49.7	+1.6
	41nm,0.7s						
ARCI	Arcidosso	1.42	198	Pg	Pn	15 09 50.8	+1.8
	93nm,1.1s						
NVLJ	Novalja	2.03	79	i Pn	Pn	15 09 57.2	-0.5
NVLJ				i Sn	Sn	15 10 21.4	-1.3
VOY	Vojsko	2.23	34	ePn	Pn	15 10 04.8	+4.1
VOY				eSn	Sn	15 10 26.4	-1.5
PGF	Pioggiola	2.79	235	ePn	Pn	15 10 08.4	-0.2
PGF				eSn	Sn	15 10 41.5	-0.6
	9.5nm,0.4s						
KBA	Koelnbreinsper	3.01	17	⇓iPN	Pn	15 10 11.5	-0.2
KBA				i SG	Sn	15 11 03.1	+15
	7.8nm,0.3s						
SQTA	Sankt Quirin	3.08	349	⇓iPN	Pn	15 10 14.5	+1.7
SQTA				i SG	Sn	15 11 02.8	+13
	8.7nm,0.3s						
SBF	Sospel	3.37	266	ePn	Pn	15 10 16.4	-0.5
SBF				eSn	Sn	15 10 54.5	-2.3
	6.3nm,0.3s						
MBDF	Montbardon	3.84	280	ePn	Pn	15 10 22.4	-1.1
MOA	Molln	3.95	22	⇑iPN	Pn	15 10 25.1	0.0
MOA				i SN	Sn	15 11 10.8	-0.7
FRF	La Foret Royal	3.98	263	eSn	Sn	15 11 08.4	-3.9
	3.3nm,0.4s						
LPG	La Plagne	4.01	291	ePn	Pn	15 10 25.0	-0.9
LMR	La Mourre	4.13	260	ePn	Pn	15 10 26.4	-1.3
LMR				eSn	Sn	15 11 12.7	-3.3
	1.4nm,0.3s						
ORIF	Oris-en-Rattie	4.49	281	ePn	Pn	15 10 32.3	-0.5
CABF	La Chapelle	4.86	302	ePn	Pn	15 10 37.2	-0.8
HINF	Hinteralfeld	5.13	317	ePn	Pn	15 10 39.7	-2.2
HINF				eSn	Sn	15 11 35.6	-5.7
	2.2nm,0.2s						
VIVF	Saint-Julien-l	5.34	280	ePn	Pn	15 10 42.8	-2.0
CDF	Champ du Feu	5.37	323	ePn	Pn	15 10 43.4	-1.8
CDF				eSn	Sn	15 11 41.4	-5.8
	1.3nm,0.3s						
HAU	Haudompre	5.51	316	ePn	Pn	15 10 45.6	-1.6
HAU				eSn	Sn	15 11 44.8	-6.0
	3.2nm,0.2s						
SMF	Signal de Mont	6.30	296	ePn	Pn	15 10 56.0	-2.3
LOR	Lormes	6.52	301	ePn	Pn	15 10 58.0	-3.5
LOR				eSn	Sn	15 12 09.8	-6.3
	2.2nm,0.3s						
SSF	Saint Saulge	6.66	298	ePn	Pn	15 11 01.1	-2.3

MAN 15 15:09:28.3, 6.72N×126.98E, h163km, mb4.2, ML3.0, MS2.7, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.76	288	eP	P	15 09 53.5	+0.7
MATI				eS	S	15 10 12.7	+1.0
KCP	Kidapawan	1.90	279	⇑eP	P	15 10 03.2	-0.2
KCP				i S	S	15 10 31.0	+0.4
GSPH	General Santos	2.12	253	⇑iP	P	15 10 03.1	-2.8
GSPH				i S	S	15 10 29.8	-5.1
BUKP	Musuan	2.23	301	eP	P	15 10 07.4	+0.1
PAGZ	Pagadian	3.75	288	eP	P	15 10 24.8	-1.6

*CSEM **15** 15:17:16.6, 44.33N×12.24E, h2km, ML4.5*
*MOS **15** 15:17:16.7±0.8, 44.30N×12.12E, h13km, mb4.5/19, Error ellipse: s-maj=3.4km s-min=2.4km az=100.4*
*BGS **15** 15:17:17.0±2.9, 44.21N×12.12E, h23km*
*BJI **15** 15:17:17.0, 44.10N×11.72E, h39km, mB4.7, mb4.7, Ms4.6, Msz4.3*
*ROM **15** 15:17:18.0±0.1, 44.21N×12.12E, h23km±1km, Md3.8/4, Ml4.4/19, Error ellipse: s-maj=2.7km s-min=2.0km az=175.0*
*NEIC **15** 15:17:18.0, 44.21N×12.12E, h23km, mb4.2/21, ML4.8(STR), ML4.7(VIE), ML4.7(SZGRF), ML4.6(LDG), ML4.5(FUR), ML4.4(ROM), ML4.1(LJU), After ROM.*
NEIC Felt at Cesena, Forli and Paese.
*LDG **15** 15:17:18.0±0.1, 44.32N×12.36E, h10km, Md4.5/1, Ml4.6/39, Error ellipse: s-maj=2.6km s-min=1.8km az=41.0*
*ZUR_RM **15** 15:17:18, 44.21N×12.12E, h18km, Mw4.4/31, Moment Tensor Solution. s31 Moment tensor: Scale 10^{15}Nm; M_{rr}3.27; $M_{\theta\theta}$-1.73; $M_{\phi\phi}$-1.54; $M_{r\theta}$1.81; $M_{\theta\phi}$2.10; $M_{\phi r}$1.20; Best double couple: $M_0$4.1×10^{15} NP1:ϕ_s108°, δ56°, λ56°. NP2:ϕ_s338°, δ47°, λ130°. Principal axes: T 4.43, Plg62°, Azm320°; N -.659, Plg28°, Azm129°; P -3.771, Plg5°, Azm221°;*
*IDC **15** 15:17:19.2±3.2, 44.27N×12.21E, h21km±20km, mb4.1/10, mb1 4.1/18, mb1mx4.1/25, mbtmp4.1/18, ML4.2/9, MS3.6/4, Ms1 3.6/4, ms1mx3.3/34 Error ellipse: s-maj=14.7km s-min=10.8km az=120.0*
*IPEC **15** 15:17:21.3±0.1, 44.29N×12.15E, h36km±4km, ML4.0/2, Error ellipse: s-maj=0.8km s-min=0.7km az=172.0*
*STR **15** 15:17:22.2±0.2, 44.44N×11.78E, h10km±1km, Ml4.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **15** 15:17:28.6, 44.78N×10.88E, h60km±1km, ML4.1/6*

ISC 15 15:17:18.1±0.3**, 44.29N**±0.01×**12.14E**±0.01**, h23**km±2km**, h25**km±4.3km**: pP-P, n533,** σ1s**21**/671**, mb4.4**/37**, MS4.4**/11**, 84C-19D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRSN	Barisano	0.05	264	⇑iPg	Pb	15 17 22.5	+0.3
RSM	Repubblica di	0.42	148	⇑iPg	Pb	15 17 26.9	0.0
SFI	Santa Sofia	0.44	209	Pg	Pb	15 17 26.1	-1.1
SFI				Sg	Sb	15 17 32.0	-1.4
	46µm,0.4s						
PGD	Poggio Sodo	0.51	216	⇑ePg	Pb	15 17 27.4	-1.0
SEI	Scarperia	0.61	248	⇑iPg	Pb	15 17 29.3	-0.8
CRE	Caprese Michel	0.68	192	⇑ePg	Pb	15 17 30.2	-1.1
FNVD	Fontana Vidola	0.74	261	⇓ePg	Pb	15 17 32.1	-0.2
FNVD				Sg	Sb	15 17 43.8	+1.8
	24µm,0.6s						
FSSB	Fossombrone	0.75	142	⇑ePg	Pb	15 17 31.8	-0.6
	287nm,0.4s						
BADI	Badiali	0.78	175	Pg	Pb	15 17 32.4	-0.5
	40µm,1.0s						
ZCCA	Zocca	0.84	275	⇓ePg	Pb	15 17 35.4	+1.5
RAVA	Ravarino	0.87	303	⇑iPg	Pb	15 17 38.1	+3.7
ARV	Arcevia	0.98	144	⇑ePg	Pb	15 17 35.8	-0.5
MURB	Monte Urbino	1.06	165	Pg	Pn	15 17 38.2	+0.5
	33µm,0.7s						
GSCL	Gusciola	1.12	274	⇑ePg	Pn	15 17 40.1	+1.6
GSCL	Gusciola	1.12	274	P	Pn	15 17 39.3	+0.8
GSCL	Gusciola	1.12	274	⇑ePg	Pn	15 17 40.1	+1.6
TEOL	Teolo	1.12	343	⇑iPn	Pn	15 17 39.7	+1.2
BDI	Bagni Di Lucca	1.14	259	Pg	Pn	15 17 39.9	+1.1
SBPO	S.Benedetto Po	1.16	312	Pg	Pn	15 17 41.6	+2.5
SBPO				Sg	Sb	15 17 59.0	+5.0
	16µm,0.6s						
CING	Cingoli	1.19	140	⇑ePg	Pn	15 17 40.0	+0.5
	6µm,0.6s						
ERBM	Eremo	1.25	277	Pg	Pn	15 17 43.0	+2.6
VLC	Villacollemand	1.27	265	ePn	Pn	15 17 41.7	+1.0
VLC				eSn	Sn	15 18 00.2	+3.1
VLC	Villacollemand	1.27	265	ePn	Pn	15 17 41.7	+1.0
VLC				eSg	Sn	15 18 00.0	+2.9
VLC				eSn	Sn	15 18 00.2	+3.1
AOI	Ancona	1.29	125	⇑ePg	Pn	15 17 42.5	+1.6
	6µm,0.7s						
PII	Pisa	1.30	245	Pg	Pn	15 17 41.0	-0.1
GRFL	Gerfalco	1.42	217	Pg	Pn	15 17 42.7	-0.1
SACS	San Casciano d	1.45	187	⇓ePg	Pn	15 17 43.7	+0.4
SACS				Sg	Sn	15 18 03.9	+2.2
	7µm,1.0s						
ARCI	Arcidosso	1.52	199	⇓ePg	Pn	15 17 44.4	+0.2
ARCI				Sg	Sn	15 18 04.8	+1.4
	13µm,1.0s						
CGRP	Cima Grappa	1.61	351	⇑iPn	Pn	15 17 46.7	+1.1
NRCA	Norcia	1.62	154	⇑ePg	Pn	15 17 46.6	+0.9
CAE	Caneva	1.73	7	⇑iPn	Pn	15 17 48.0	+0.8
SAL	Salo	1.75	319	⇑iPg	Pn	15 17 49.0	+1.5
TLI	Talmassons	1.77	22	⇑iPn	Pn	15 17 48.8	+1.0
CTI	Castel Tesino	1.79	349	⇑ePg	Pn	15 17 49.3	+1.1
LNSS	Leonessa	1.81	159	Pg	Pn	15 17 49.7	+1.3
	6µm,0.8s						
TRI	Trieste	1.83	38	P	Pn	15 17 49.1	+0.5
TRI	Trieste	1.83	38	ePn	Pn	15 17 49.0	+0.4
TRI				eSn	Sn	15 18 12.8	+1.5
MLNI	Malnisio	1.89	10	⇑iPn	Pn	15 17 50.3	+0.8
FAU	Forcella Aurin	1.94	357	⇑iPn	Pn	15 17 51.2	+0.9
MNS	Montasola	1.94	168	⇑ePg	Pn	15 17 51.3	+1.0
NVLJ	Novalja	1.97	81	i Pn	Pn	15 17 51.6	+0.8
NVLJ				i Sn	Sn	15 18 15.8	+0.8
NVLJ	Novalja	1.97	81	i Pn	Pn	15 17 51.5	+0.8
NVLJ				i Sn	Sn	15 18 15.8	+0.8
TERO	Teramo	1.98	147	Pg	Pn	15 17 51.6	+0.8
	7µm,1.0s						
BOB	Bobbio (Coli)	1.99	285	⇑iPg	Pn	15 17 53.5	+2.6
	4µm,0.7s						
CSO	Casso	1.99	4	⇑iPn	Pn	15 17 51.5	+0.5
MAON	Monte Argentar	2.00	202	⇓ePg	Pn	15 17 50.8	-0.4
MAON				Sg	Sn	15 18 16.6	+0.9
	1µm,0.8s						
COLI	Coloredo	2.04	25	⇑iPn	Pn	15 17 52.7	+1.0
MPRI	Monte Prat	2.04	17	⇑iPn	Pn	15 17 53.0	+1.3
BUA	Buia	2.05	19	⇑iPn	Pn	15 17 53.0	+1.1
BAD	Bernadia	2.10	21	⇑iPn	Pn	15 17 53.4	+0.8
BAD	Bernadia	2.10	21	⇑iPn	Pn	15 17 53.3	+0.8
JAVS	Javornik	2.10	40	i Pn	Pn	15 17 53.1	+0.5
JAVS				i Sn	Sn	15 18 20.1	+1.8
	comp=Z,3µm,0.5s						
JAVS	Javornik	2.10	40	i Pn	Pn	15 17 53.1	+0.5
JAVS				i Sn	Sn	15 18 20.1	+1.8
	comp=Z,3µm,0.5s						
VOY	Vojsko	2.14	35	ePn	Pn	15 17 54.0	+0.9
BOO	Bordano	2.14	18	⇑iPn	Pn	15 17 53.9	+0.8
AQU	L'Aquila	2.14	154	eP	Pn	15 17 55.0	+1.8
FIAM	Fiamignano	2.14	160	Pg	Pn	15 17 54.3	+1.1
	comp=Z,2µm,0.7s						
DRE	Drenchia	2.16	29	⇑iPn	Pn	15 17 54.4	+0.9
DRE	Drenchia	2.16	29	⇑iPn	Pn	15 17 54.3	+0.9
CEY	Cerknica	2.17	47	ePn	Pn	15 17 54.0	+0.4
TOLF	Tolfa	2.23	183	Pg	Pn	15 17 54.8	+0.4
	comp=Z,1µm,0.9s						
AFL	Alpe Faloria	2.24	1	⇑iPn	Pn	15 17 56.2	+1.6
CADS	Cadrg	2.24	30	i Pn	Pn	15 17 55.2	+0.7
CADS				eSn	Sn	15 18 23.1	+1.3
	comp=Z,2µm,0.5s						
CADS	Cadrg	2.24	30	i Pn	Pn	15 17 55.2	+0.6
CADS				eSn	Sn	15 18 23.1	+1.3
	comp=Z,2µm,0.5s						
CSMI	Casera Mimoias	2.25	9	⇑iPn	Pn	15 17 55.8	+1.1
MDI	Monti di Nese	2.28	312	⇑iPg	Pn	15 17 55.7	+0.6
	comp=Z,2µm,0.5s						
GENL	Genova Univers	2.28	274	P	Pn	15 17 54.6	-0.5
GENL	Genova Univers	2.28	274	P	Pn	15 17 54.6	-0.5
PTCC	Patocco-Chiusa	2.28	22	Pg	Pn	15 17 55.8	+0.6
APPI	Appiano	2.28	344	P	Pn	15 17 56.5	+1.3
MTCE	Montecelio	2.31	169	P	Pn	15 17 56.3	+0.8
ZOU	Zoufplan	2.34	14	⇑iPn	Pn	15 17 57.2	+1.2
FVI	Forni Avoltri	2.35	11	Pn	Pn	15 17 57.2	+1.1
PLRO	Paularo	2.37	17	⇑iPn	Pn	15 17 57.3	+0.9
LSR	Lussari	2.39	24	⇑iPn	Pn	15 17 57.8	+1.0
CERT	Cerreto	2.42	165	Pn	Pn	15 17 57.5	+0.4
	comp=Z,3µm,1.1s						
LJU	Ljubljana	2.43	43	i Pn	Pn	15 17 58.3	+1.0
LJU				i Sn	Sn	15 18 28.8	+2.2
	comp=Z,2µm,0.6s						
LJU	Ljubljana	2.43	43	ePn	Pn	15 17 58.3	+1.0
LJU				i Sn	Sn	15 18 28.8	+2.1
LJU				eSg	Sn	15 18 38.9	+12
VISS	Visnje	2.44	51	i Pn	Pn	15 17 58.2	+0.8
VISS				i Sn	Sn	15 18 28.6	+1.8
	comp=Z,1µm,0.4s						
VISS	Visnje	2.44	51	i Pn	Pn	15 17 58.2	+0.8
VISS				i Sn	Sn	15 18 28.6	+1.8
	comp=Z,1µm,0.4s						
PTQR	Pietraquaria	2.45	157	Pn	Pn	15 17 59.5	+2.0
	comp=Z,1µm,1.4s						
SEST	Monte Rota	2.46	1	⇑ePn	Pn	15 17 59.6	+1.9
	comp=Z,6µm,0.9s						
BRMO	Bormio	2.52	331	⇑ePn	Pn	15 18 00.3	+1.8
	comp=Z,917nm,0.6s						
BOJS	Bojanci	2.52	60	i Pn	Pn	15 17 59.5	+0.9
BOJS				eSn	Sn	15 18 29.9	+1.0
BOJS				e(Sg)	Sn	15 18 43.1	+14
	comp=Z,3µm,0.9s						
BOJS	Bojanci	2.52	60	i Pn	Pn	15 17 59.5	+0.9
BOJS				eSn	Sn	15 18 29.9	+1.0
	comp=Z,3µm,0.9s						
BERNI	Berninapass	2.60	326	⇑iPg	Pn	15 18 01.3	+1.6
INTR	Introdacqua	2.62	150	P	Pn	15 18 01.5	+1.6
VVLD	Villa Vallelon	2.65	155	P	Pn	15 18 01.9	+1.5
FUORN	Ofenpass	2.68	331	⇑iPg	Pn	15 18 02.8	+1.9
MUGIO	Muggio	2.74	308	⇑ePn	Pn	15 18 01.7	0.0
MUGIO	Muggio	2.74	308	⇑iPg	Pn	15 18 01.7	0.0
SCE	Schlegeis	2.77	354	⇑iPn	Pn	15 18 03.8	+1.7
OBKA	Obir	2.79	37	⇓iPN	Pn	15 18 03.5	+1.0
OBKA				i PG	Pn	15 18 12.3	+10
OBKA				i SN	Sn	15 18 52.1	+16
OBKA	Obir	2.79	37	ePn	Pn	15 18 03.7	+1.2
VAI	Varese	2.87	305	P	Pn	15 18 03.7	+0.2
PGF	Pioggiola	2.88	234	ePn	Pn	15 18 03.4	-0.3
PGF				eSn	Sn	15 18 37.0	-0.9
	comp=Z,866nm,0.5s						
VDL	Val di Lei	2.89	320	⇑ePg	Pn	15 18 05.5	+1.6
KBA	Koelnbreinsper	2.91	16	⇑iPN	Pn	15 18 05.8	+1.6
KBA				i PG	Pn	15 18 15.1	+11
KBA				i SN	Sn	15 18 40.5	+1.6
KBA				i SG	Sn	15 18 55.2	+16
	comp=Z,1µm,0.5s						
KBA	Koelnbreinsper	2.91	16	⇑iP	Pn	15 18 05.8	+1.6
KBA				i		15 18 40.5	
TUE	Stuetta	2.94	319	P	Pn	15 18 05.9	+1.3
CORF	Corte	2.95	229	Pn	Pn	15 18 05.8	+1.0
DAVOX	Davos	2.96	328	Pn	Pn	15 18 06.7	+1.9
	comp=Z,55nm,0.3s,baz=147,slow=7.9,SNR=303						
DAVOX				Sn	Sn	15 18 42.3	+2.4
	comp=Z,77nm,0.3s,baz=307,slow=22,SNR=6.8						
DAVOX				Lg		15 18 55.9	
	comp=Z,128nm,0.3s,baz=3.9,slow=19,SNR=4.4						
DAVOX				LR	LR	15 19 35.9	
	comp=Z,799nm,21.5s,baz=266,slow=46						
DAVOX	Davos	2.96	328	⇑iP	Pn	15 18 06.8	+2.0
WTTA	Wattenberg	3.00	353	⇓iPN	Pn	15 18 07.6	+2.2
WTTA				i SN	Sn	15 18 57.7	+17
SQTA	Sankt Quirin	3.00	348	⇓iPN	Pn	15 18 07.6	+2.2
SQTA				i SN	Sn	15 18 57.8	+17
CII	Carovilli	3.02	148	ePn	Pn	15 18 06.1	+0.5
CII	Carovilli	3.02	148	ePn	Pn	15 18 06.1	+0.5
MIDA	Miranda	3.07	149	P	Pn	15 18 06.6	+0.3
WATA	Walderalm	3.07	353	⇑iPN	Pn	15 18 09.0	+2.6
WATA				i SN	Sn	15 18 59.6	+17
MOTA	Moosalm	3.14	347	⇑iPN	Pn	15 18 09.4	+2.0
MOTA				i SN	Sn	15 19 02.0	+17
PERS	Pernice	3.14	41	i Pn	Pn	15 18 08.2	+0.7
MONE	Monesi	3.16	268	P	Pn	15 18 08.2	+0.5
MONE				S	Sn	15 18 35.4	-10
MONE	Monesi	3.16	268	P	Pn	15 18 08.2	+0.5
NEGI	Negi	3.23	264	P	Pn	15 18 08.6	0.0
NEGI				S	Sn	15 18 36.5	-10
NEGI	Negi	3.23	264	P	Pn	15 18 08.6	-0.1
FUSIO	Fusio	3.27	313	⇑ePg	Pn	15 18 09.6	+0.3
FUSIO	Fusio	3.27	313	⇑eP	Pn	15 18 09.5	+0.2
RFI	Roccamonfina	3.28	155	P	Pn	15 18 10.6	+1.2
SAOF	Saorge	3.32	266	Pn	Pn	15 18 10.5	+0.6
SAOF				Sg	Sn	15 18 49.7	+0.6
FG2	Serracapriola	3.33	137	P	Pn	15 18 09.7	-0.3
TRAV		3.35	293	P	Pn	15 18 09.1	-1.3
TRAV				S	Sn	15 18 37.3	-13
PLONS	Plons	3.37	326	⇑iPg	Pn	15 18 13.2	+2.5
LLS	Linth-Limmern	3.38	320	⇑ePg	Pn	15 18 12.2	+1.5
DAVA	Damuels	3.39	333	i PN	Pn	15 18 13.4	+2.5
DAVA				i SN	Sn	15 18 50.1	-0.8
DAVA	Damuels	3.39	333	ePn	Pn	15 18 13.3	+2.4
DAVA				i Sn	Sn	15 18 50.1	-0.8
AUTN	L'Aution	3.41	267	Pn	Pn	15 18 11.9	+0.7
AUTN				Sg	Sn	15 18 53.0	+1.7
SBF	Sospel	3.42	264	ePn	Pn	15 18 11.4	0.0
SBF				eSn	Sn	15 18 52.3	+0.6
	comp=Z,2µm,0.6s						
STV2	Anna di Valdie	3.46	271	P	Pn	15 18 12.0	0.0
STV2	Anna di Valdie	3.46	271	P	Pn	15 18 12.0	+0.1
REVF	Revere	3.49	263	Pn	Pn	15 18 12.4	+0.1
REVF				Sg	Sn	15 18 55.7	+2.3
LIENZ	Alp Oberkamor	3.53	329	⇑iPg	Pn	15 18 15.0	+2.0
TOUF	Mont Tournerai	3.53	267	Pn	Pn	15 18 13.9	+0.9
TOUF				Sg	Sn	15 18 56.2	+1.7
KOGS	Kog	3.61	52	ePn	Pn	15 18 13.6	-0.5
KOGS				e		15 18 22.9	
MVIF	Mont Vial	3.62	265	Pn	Pn	15 18 14.8	+0.6
MVIF				Sg	Sn	15 18 58.1	+1.5
BLY	Banja Luka	3.63	81	Pn	Pn	15 18 15.3	+0.9
RGNG	Rignano Grg	3.63	135	P	Pn	15 18 13.3	-1.1
MUO	Muotathal	3.64	319	⇑ePg	Pn	15 18 15.9	+1.5
PSB1	Pescosannita	3.64	146	P	Pn	15 18 15.4	+0.9
BNALP	Bannalp	3.67	316	⇑eP	Pn	15 18 15.6	+0.7
BNALP				eSg	Sn	15 19 17.7	+20
UBR	Uberruh	3.68	338	P	Pn	15 18 16.6	+1.6
FENE	Fenestrelle	3.70	283	P	Pn	15 18 13.7	-1.6
HASLI	Hasliberg	3.74	313	ePg	Pn	15 18 16.2	+0.3
FG5	Orsara di Pugl	3.78	142	P	Pn	15 18 16.8	+0.3
ARSA	Arzberg	3.79	37	i PN	Pn	15 18 16.7	+0.1
ARSA				i PG	Pn	15 18 30.9	+14
ARSA				i SG	Sn	15 19 23.9	+23
	comp=Z,293nm,0.5s						
ARSA	Arzberg	3.79	37	ePn	Pn	15 18 16.8	+0.2
CALF	Calern	3.80	264	ePn	Pn	15 18 17.3	+0.5
LKBD	Leukerbad	3.81	305	⇑ePg	Pn	15 18 16.9	0.0
SURF	Saint Ours	3.83	275	Pn	Pn	15 18 16.8	-0.3
CALN	Calern	3.83	264	Pn	Pn	15 18 17.6	+0.4
CALN				Sg	Sn	15 19 03.7	+1.7
MOA	Molln	3.85	22	⇑iPN	Pn	15 18 18.6	+1.1
MOA				i SN	Sn	15 19 03.1	+0.4
WILA	Wila	3.86	325	⇑iPg	Pn	15 18 18.6	+1.0
MBDF	Montbardon	3.87	278	ePn	Pn	15 18 16.8	-0.9
MBDF				eSn	Sn	15 19 02.5	-0.5
	comp=Z,372nm,0.6s						
FUR	Furstenfeldbru	3.92	351	ePn	Pn	15 18 19.8	+1.3
FUR				eSg	Sn	15 19 27.1	+23
FUR	Furstenfeldbru	3.92	351	ePn	Pn	15 18 19.6	+1.1
FUR				eSg	Sn	15 19 27.1	+23
ZUR	Zurich	3.96	322	⇑P	Pn	15 18 20.0	+1.0
BNI	Bardonecchia	3.97	283	eP	Pn	15 18 18.4	-0.8
BNI	Bardonecchia	3.97	283	ePn	Pn	15 18 18.7	-0.5
SENIN	Lac Senin	4.00	303	⇑iPg	Pn	15 18 19.8	+0.3
SENIN	Lac Senin	4.00	303	ePn	Pn	15 18 20.2	+0.7
SENIN				eSn	Sn	15 19 07.5	+1.3
LPG	La Plagne	4.02	289	ePn	Pn	15 18 18.8	-1.1
LPG				eSn	Sn	15 19 04.9	-1.9
	comp=Z,240nm,0.6s						
CSSN	Cassano Irpino	4.03	147	P	Pn	15 18 20.2	+0.1
LPL	La Plagne	4.04	290	ePn	Pn	15 18 18.8	-1.3
LPL				eSn	Sn	15 19 05.8	-1.5
	comp=Z,226nm,0.5s						
FRF	La Foret Royal	4.04	262	ePn	Pn	15 18 20.1	0.0
FRF				eSn	Sn	15 19 06.2	-1.1
	comp=Z,464nm,0.6s						
SISB	Singen-Sch Ber	4.06	328	P	Pn	15 18 21.9	+1.5
GRYON	Gryon	4.06	301	⇓iPg	Pn	15 18 21.2	+0.8
EMV	Vieux Emosson	4.11	297	ePg	Pn	15 18 22.8	+1.6
LMR	La Mourre	4.19	259	ePn	Pn	15 18 21.7	-0.6
LMR				eSn	Sn	15 19 09.4	-1.7
	comp=Z,182nm,0.4s						
AIGLE	Aigle	4.20	301	⇑iPg	Pn	15 18 23.1	+0.7
STON	Ston	4.28	107	i Pn	Pn	15 18 23.4	-0.2
STON				i Sn	Sn	15 19 12.3	-1.1
SULZ	Sulz-Cheisache	4.29	320	⇑iPg	Pn	15 18 23.8	+0.1
SLE	Schleitheim	4.31	325	⇑iPg	Pn	15 18 23.9	-0.1
MRLC	Muro Lucano	4.31	144	P	Pn	15 18 23.5	-0.5
GUT	Gutenstein	4.33	332	P	Pn	15 18 24.5	+0.2
BALST	Balsthal	4.35	316	⇑iPg	Pn	15 18 24.5	-0.1
GDM	Grand'Maison	4.39	284	Pn	Pn	15 18 26.2	+1.0
DGI	Dorgali Grotta	4.39	206	P	Pn	15 18 26.2	+1.0
SGO	Sicignano	4.40	147	P	Pn	15 18 24.8	-0.5
TORNY	Torny	4.41	306	⇑iPg	Pn	15 18 25.8	+0.4
CDT	Castel del Mon	4.42	135	ePn	Pn	15 18 21.8	-3.8
TAVF	Tavernes	4.45	263	Pn	Pn	15 18 26.6	+0.7
SPAK	Spaichingen	4.47	330	P	Pn	15 18 26.8	+0.5
STOF	St-Etienne Org	4.50	268	Pn	Pn	15 18 28.8	+2.1
HDH	Heidenheim	4.50	343	P	Pn	15 18 26.2	-0.5
ORIF	Oris-en-Rattie	4.52	280	ePn	Pn	15 18 27.1	+0.1
ORIF				eSn	Sn	15 19 17.5	-1.9
	comp=Z,448nm,0.6s						
BBS	Basel-Blauen	4.53	316	Pn	Pn	15 18 26.7	-0.5
SOP	Sopron	4.58	41	⇑iPg	Pn	15 18 27.8	-0.1
SOP				eSB	Sn	15 19 16.8	-4.2
SOP	Sopron	4.58	41	P	Pn	15 18 27.9	0.0
BUCH	Bad Urach	4.59	336	P	Pn	15 18 28.0	+0.1
FELD	Feldberg	4.60	323	Pn	Pn	15 18 27.8	-0.3
BOURR	Bourrignon	4.63	314	⇑iPg	Pn	15 18 28.0	-0.5
BOURR	Bourrignon	4.63	314	ePn	Pn	15 18 28.1	-0.4
VILF	Villemus	4.65	267	Pn	Pn	15 18 29.7	+0.8
GRN	Grenoble	4.66	284	Pn	Pn	15 18 29.1	+0.2
SLCN	Sala Consilina	4.68	145	P	Pn	15 18 29.1	-0.1
GEC2	GERESS Array S	4.68	13	ePn	Pn	15 18 28.7	-0.6
GERES	GERESS Array B	4.68	13	P	Pn	15 18 29.1	-0.2
GERES						15 19 21.6	
GERES				pmax	pmax		
	comp=Z,10.0nm,0.3s						
GERES				smax			
	comp=E,49nm,0.3s						
GERES	GERESS Array B	4.68	13	Pn	Pn	15 18 29.1	-0.2
	comp=E,9.7nm,0.3s,baz=193,slow=14,SNR=139						
GERES				Sn	Sn	15 19 21.6	-2.0
	comp=E,49nm,0.3s,baz=199,slow=24,SNR=11						
GERES				Lg		15 19 55.4	
	comp=E,31nm,0.3s,baz=188,slow=30,SNR=5.6						
KIZ	Kirchzarten	4.70	323	P	Pn	15 18 29.0	-0.5
GIMEL	Gimel	4.71	301	⇑iPg	Pn	15 18 29.6	-0.1
PUYF	Puyloubier	4.72	263	Pn	Pn	15 18 30.2	+0.4
PUYF				Sg	Sn	15 19 23.3	-1.2
BAI	Bari	4.72	131	ePn	Pn	15 18 27.9	-1.9
TUBL	Tuebingen Lnz	4.73	335	P	Pn	15 18 31.1	+1.1
SMRF	Simiane la Rot	4.74	268	ePn	Pn	15 18 30.3	+0.2
SMRF				eSn	Sn	15 19 22.5	-2.5
	comp=E,199nm,0.5s						
FBB	Freiburg	4.76	323	P	Pn	15 18 30.9	+0.5
BERF	Bertagne	4.77	260	Pn	Pn	15 18 31.1	+0.5
BRANT	Les Verrieres	4.78	306	⇑ePg	Pn	15 18 30.4	-0.3
TREB	Trebinje	4.78	107	Pn	Pn	15 18 30.5	-0.2
SG1	Sgolgore (BA)	4.81	134	ePn	Pn	15 18 29.4	-1.6
LOMF	Lomont	4.81	311	Pn	Pn	15 18 30.7	-0.5
BFO	Black Forest	4.83	328	ePn	Pn	15 18 30.9	-0.5
BFO				eSn	Sn	15 19 24.6	-2.7
BRY	Bratogost	4.85	104	⇑iPn	Pn	15 18 31.9	+0.2
BRY				eSn	Sn	15 19 27.1	-0.8
BRY	Bratogost	4.85	104	⇑iPn	Pn	15 18 31.9	+0.2
BRY				eS	Sn	15 19 27.1	-0.8
CABF	La Chapelle	4.85	301	ePn	Pn	15 18 31.5	-0.2
CABF				eSn	Sn	15 19 25.5	-2.4
	comp=E,176nm,0.5s						
MGR	Morigerati	4.86	147	P	Pn	15 18 32.8	+1.0
WET	Wettzell	4.88	6	ePn	Pn	15 18 31.4	-0.7
WET				eSn	Sn	15 19 25.2	-3.4
WET				eSn	Sn	15 19 25.7	-2.9
PKS9	Tamasi	4.89	60	eP	Pn	15 18 29.0	-3.2
OCF	Saint Nazaire	4.91	276	Pn	Pn	15 18 32.5	0.0
OG26	St.-Nazaire-De	4.91	276	Pn	Pn	15 18 32.5	0.0
VKA	Vienna	4.92	35	⇓iPN	Pn	15 18 32.9	+0.3
VKA				i SN	Sn	15 19 28.1	-1.4
STU	Stuttgart	4.92	337	ePn	Pn	15 18 31.6	-1.1
GELF	Grande-Etoile	4.94	262	Pn	Pn	15 18 33.5	+0.5
KHC	Kasperske Hory	4.94	11	ePN	Pn	15 18 32.2	-0.8
KHC				ex	x	15 18 41.7	
KHC				eSN	Sn	15 19 27.4	-2.8
KHC				eSG	Sn	15 20 01.4	+31
KHC	Kasperske Hory	4.94	11	ePn	Pn	15 18 32.2	-0.8
KHC				eSn	Sn	15 19 27.4	-2.8
LBG	Lerchenberg	4.95	333	P	Pn	15 18 32.9	-0.2
PKSM	Moragy	4.97	65	⇓eP	Pn	15 18 31.8	-1.6
MOF	Molkenrain	4.98	317	Pn	Pn	15 18 32.9	-0.7
HCY	Herceg Novi	4.99	109	⇑iPn	Pn	15 18 33.3	-0.2
HCY				eSn	Sn	15 19 30.9	-0.3
HCY	Herceg Novi	4.99	109	⇑iPn	Pn	15 18 33.3	-0.3
HCY				eS	Sn	15 19 30.9	-0.3
UPM	Unac-Piva	5.02	100	ePn	Pn	15 18 34.6	+0.5
UPM				eSn	Sn	15 19 31.6	-0.5
PRAF	Pradon	5.05	267	Pn	Pn	15 18 35.9	+1.4
CUC	Castrocucco	5.09	146	P	Pn	15 18 36.3	+1.3
HINF	Hinteralfeld	5.10	316	ePn	Pn	15 18 34.2	-1.0
HINF				eSn	Sn	15 19 29.9	-4.2
	comp=E,589nm,0.5s						

NKY Niksic 5.20 104⇑ *i*Pn **Pn** 15 18 36.5 0.0
NKY *e*Sn **Sn** 15 19 35.2 -1.3
NKY Niksic 5.20 104⇑ *i*Pn **Pn** 15 18 36.5 0.0
NKY *e*S **Sn** 15 19 35.2 -1.3
ZST Bratislava 5.21 40 *e*PN **Pn** 15 18 36.0 -0.7
ZST *e* 15 18 46.2
VSL Villasalto 5.21 204 *e*Pn **Pn** 15 18 36.9 +0.1
comp=E,127nm,0.8s
VSL *e*Sn **Sn** 15 19 31.0 -6.0
PE1 Pezze di Greco 5.23 130 *e*Pn **Pn** 15 18 35.4 -1.6
ECH Echery 5.23 320 Pn **Pn** 15 18 36.6 -0.4
ECH Sg **Sn** 15 19 33.3 -4.1
BBLS Bajina Basta - 5.25 92⇓ *i*Pn **Pn** 15 18 37.1 -0.2
STR Strasbourg 5.25 326 Pn **Pn** 15 18 37.3 -0.1
PKS8 Sarbogard 5.27 58 *e*P **Pn** 15 18 36.2 -1.3
WLS Welschbruch 5.29 323 Pn **Pn** 15 18 37.4 -0.5
BUM Brajici-Budva 5.32 110⇑ *i*Pn **Pn** 15 18 37.6 -0.7
BUM *e*Sn **Sn** 15 19 38.7 -0.8
BUM Brajici-Budva 5.32 110⇑ *i*Pn **Pn** 15 18 37.6 -0.6
CDF Champ du Feu 5.32 322 *e*Pn **Pn** 15 18 37.8 -0.5
CDF *e*Sn **Sn** 15 19 34.8 -4.9
comp=E,102nm,0.3s
PLE Pljevlja 5.33 98 *e*Pn **Pn** 15 18 39.4 +0.9
PLE *e*Sn **Sn** 15 19 39.2 -0.8
PLE Pljevlja 5.33 98 *e*P **Pn** 15 18 39.4 +0.9
PLE *e*S **Sn** 15 19 39.2 -0.8
SIND Sindeldorf 5.35 342 P **Pn** 15 18 37.8 -0.9
VIVF Saint-Julien-l 5.37 279 *e*Pn **Pn** 15 18 37.4 -1.6
VIVF *e*Sn **Sn** 15 19 37.7 -3.1
comp=E,100nm,0.4s
GRA1 Grafenberg Arr 5.44 354 *e*Pn **Pn** 15 18 39.2 -0.8
GRF Grafenberg Arr 5.44 354 *e*Pn **Pn** 15 18 39.2 -0.8
HAU Haudompre 5.48 315 *e*Pn **Pn** 15 18 39.8 -0.7
HAU *e*Sn **Sn** 15 19 39.1 -4.5
comp=E,480nm,0.4s
SRO1 Iza 5.48 49 *e*SN **Sn** 15 19 40.1 -3.5
TTG Podgorica 5.51 107⇑ *i*Pn **Pn** 15 18 41.0 0.0
TTG *e*Sn **Sn** 15 19 43.2 -1.2
TTG Podgorica 5.51 107 *i* P **Pn** 15 18 41.0 0.0
TTG *e*S **Sn** 15 19 43.2 -1.2
LANF Langenberg 5.56 329 Pn **Pn** 15 18 41.1 -0.6
KRUC Moravsky 5.60 30 *e*Pn **Pn** 15 18 41.2 -1.0
KRUC Moravsky 5.60 30 *e*Pg 15 19 02.7
ULC Ulcinj 5.70 112⇑ *i*Pn **Pn** 15 18 42.7 -0.9
ULC *e*Sn **Sn** 15 19 48.0 -1.0
ULC Ulcinj 5.70 112 *i* P **Pn** 15 18 42.7 -0.9
ULC *e*S **Sn** 15 19 48.0 -1.0
SWS Schriesheim 5.71 337 P **Pn** 15 18 43.8 +0.1
KTD Kalmit 5.75 332 Pn **Pn** 15 18 43.8 -0.6
TOD Tromm 5.79 338 Pn **Pn** 15 18 43.8 -1.1
THEF They Montfort 5.81 315 Pn **Pn** 15 18 44.2 -1.0
IVA Berane 5.81 101 *e*Pn **Pn** 15 18 45.8 +0.6
IVA *e*Sn **Sn** 15 19 50.6 -1.3
VRAC Vranov 5.88 30 P **Pn** 15 18 44.9 -1.2
VRAC 15 19 49.9
VRAC pmax pmax
comp=Z,3.0nm,0.3s
VRAC smax
comp=E,11nm,0.3s
VRAC Vranov 5.88 30 Pn **Pn** 15 18 44.9 -1.2
comp=E,3.3nm,0.3s,baz=234,slow=12,SNR=9.7
VRAC *e*Sn **Sn** 15 19 49.9 -3.7
comp=E,10nm,0.3s,baz=301,slow=16,SNR=8.6
VRAC Lg 15 20 31.6
comp=E,3.8nm,0.3s,baz=114,slow=23,SNR=6.4
PRU Pruhonice 5.93 15 *e*PN **Pn** 15 18 45.2 -1.7
PRU *e*SN **Sn** 15 19 50.6 -4.3
PRU AMS AMS 15 21 30.0
comp=E,2µm,12.3s
PVY Plav 5.95 104 *e*Pn **Pn** 15 18 47.6 +0.4
PVY *e*Sn **Sn** 15 19 53.3 -2.0
JAVC Velka Javorina 5.95 38 P **Pn** 15 18 48.4 +1.2
NKC Novy Kostel 5.95 2 *e*PN **Pn** 15 18 46.2 -1.0
NKC *e*SN **Sn** 15 19 49.9 -5.5
NKC AMS AMS 15 21 30.0
comp=E,2µm,15.6s
LASF Ste Croix 5.96 271 *e*Pn **Pn** 15 18 45.8 -1.6
LASF *e*Sn **Sn** 15 19 52.7 -3.0
comp=E,122nm,0.8s
PRA Prague 5.99 14 SN **Sn** 15 19 50.0 -6.4
KOLL Kolacno 6.09 43 *e*PN **Pn** 15 18 47.7 -1.5
KOLL *e*SN **Sn** 15 19 53.2 -5.7
COLF Collangettes 6.13 285 Pn **Pn** 15 18 47.3 -2.4
TANN Tannenbergstha 6.13 2 *e*Pn **Pn** 15 18 49.3 -0.5
TIP Timpagrande 6.16 144 Pn **Pn** 15 18 50.5 +0.3
VYHS Vyhne 6.25 45 *e*Pn **Pn** 15 18 52.4 +1.0
VYHS *e* 15 19 20.6
VYHS *e*Sn **Sn** 15 19 56.5 -6.5
VYHS Vyhne 6.25 45 *e*P **Pn** 15 18 52.4 +1.0
VYHS *e*Sn **Sn** 15 19 56.5 -6.5
PLDF La Plantade 6.26 289 Pn **Pn** 15 18 50.3 -1.2
SFTF Sexfontaines 6.29 311 *e*Pn **Pn** 15 18 50.7 -1.3
baz=132
SFTF *e*Sn **Sn** 15 19 58.4 -5.6
comp=E,195nm,0.6s
SMF Signal de Mont 6.30 295 *e*Pn **Pn** 15 18 50.2 -1.9
SMF *e*Sn **Sn** 15 19 58.8 -5.2
comp=E,634nm,0.6s
RFYF Reffroy 6.33 316 *e*Pn **Pn** 15 18 51.5 -1.0
baz=134
RFYF *e*Sn **Sn** 15 19 58.2 -6.6
comp=E,99nm,0.2s
QSH Qafa e Shtames 6.33 113 *i* Pn **Pn** 15 18 51.2 -1.4
QSH *i* Sn **Sn** 15 20 02.2 -2.8
MOX Moxa 6.37 357 *i* P **Pn** 15 18 53.0 -0.1
MOX *i* 15 20 00.4
MOX MLR MLR
comp=Z,300nm,21.0s
MOX Moxa 6.37 357 *i* Pn **Pn** 15 18 53.0 -0.1
MOX *i* Sn **Sn** 15 20 00.4 -5.5
MOX *e*Sg Sn 15 20 50.3 +44
MOX Moxa 6.37 357 *i* P **Pn** 15 18 53.0 -0.1
MOX S **Sn** 15 20 00.0 -5.9
MOX Sg Sn 15 20 50.0 +44
MOX L 15 32 21.0
MOX Moxa 6.37 357 *e*Pn **Pn** 15 18 50.6 -2.5
MOX Moxa 6.37 357 *i* P **Pn** 15 18 53.0 -0.1
MOX *e*Sn **Sn** 15 20 00.2 -5.7
TIR Tirane 6.39 115 *e*Pn **Pn** 15 18 50.5 -2.9
TIR Tirane 6.39 115 P **Pn** 15 18 52.2 -1.2
LBL Lubilhac 6.41 282 Pn **Pn** 15 18 52.4 -1.2
ABH Alteburg 6.41 322 Pn **Pn** 15 18 53.3 -0.4
RUP Ruppelstein 6.43 329 Pn **Pn** 15 18 53.3 -0.7
TNS Taunus Mts 6.45 338 *e*Pn **Pn** 15 18 53.2 -1.0
GIB Gibilmanna 6.45 167 P **Pn** 15 18 55.6 +1.3
PVCC Panska Ves 6.46 14 AMS AMS 15 21 40.0
comp=Z,2µm,13.0s
MEZF Maizieres J'vi 6.46 313 *e*Pn **Pn** 15 18 52.9 -1.5
baz=132
MEZF *e*Sn **Sn** 15 20 02.1 -6.1
comp=Z,195nm,0.6s
PSZ Piszkesteto 6.50 53 *e*P **Pn** 15 18 53.3 -1.6
PSZ pmax pmax
comp=Z,44nm,0.8s
PSZ Piszkesteto 6.50 53 *e*Pn **Pn** 15 18 53.3 -1.6
comp=Z,44nm,0.8s
PSZ Piszkesteto 6.50 53⇑ *e*PB **Pn** 15 18 53.4 -1.5
PSZ Piszkesteto 6.50 53 *e*Pn **Pn** 15 18 53.3 -1.6
comp=Z,44nm,0.8s
LOR Lormes 6.51 300 *e*Pn **Pn** 15 18 53.5 -1.6
baz=123
LOR *e*Pg Pn 15 19 19.5 +24
LOR *e*Sn **Sn** 15 20 04.1 -5.4
comp=Z,327nm,0.5s
LOR Lormes 6.51 300 *e*P **Pn** 15 18 53.5 -1.6
LOR *e* 15 20 04.1
MORC Moravsky Berou 6.61 32 *e*P **Pn** 15 18 55.1 -1.4
MORC pmax pmax
comp=Z,12nm,0.4s
MORC Moravsky Berou 6.61 32 *e*Pn **Pn** 15 18 55.1 -1.4
comp=Z,12nm,0.4s
MORC Moravsky Berou 6.61 32 *e*Pn **Pn** 15 18 55.1 -1.4
comp=Z,12nm,0.4s
PYM Petit Puy Mans 6.64 286 Pn **Pn** 15 18 55.3 -1.6
SSF Saint Saulge 6.66 298 *e*Pn **Pn** 15 18 55.2 -1.9
SSF *e*Sn **Sn** 15 20 06.1 -6.9
comp=Z,71nm,0.4s
BRG Berggiesshubel 6.70 10 Pn **Pn** 15 18 56.1 -1.6
comp=Z,118nm,0.7s
BRG Pg Pn 15 19 26.9 +29
BRG Sg Sn 15 20 59.5 +45
BRG Berggiesshubel 6.70 10 *e*Pn **Pn** 15 18 56.1 -1.6
BRG Berggiesshubel 6.70 10 Pg Pn 15 19 27.0 +29
BRG *e*Sn **Sn** 15 20 07.9 -6.2
UPC Upice 6.75 21 *e*Pn **Pn** 15 18 57.1 -1.4
UPC *e*Sn **Sn** 15 20 10.7 -4.7
WLF Walferdange 6.76 325 *e*P **Pn** 15 18 57.4 -1.2
WLF pmax pmax
comp=Z,54nm,0.8s
WLF Walferdange 6.76 325 *e*Pn **Pn** 15 18 57.4 -1.2
comp=Z,54nm,0.8s
WLF Walferdange 6.76 325 *e*Pn **Pn** 15 18 57.4 -1.2
comp=Z,54nm,0.8s
OKC Ostrava-Krasne 6.90 34 *e*PN **Pn** 15 18 59.7 -0.8
OKC *e*SN **Sn** 15 20 14.9 -4.2
OKC AMS AMS 15 22 30.0
comp=Z,900nm,12.8s
OKC Ostrava-Krasne 6.90 34 *e*P **Pn** 15 18 59.7 -0.8
comp=Z,900nm,12.8s
BGF Bois d'Agland 6.92 292 *e*Pn **Pn** 15 18 58.6 -2.3
BGF *e*Pg Pn 15 19 27.9 +27
BGF *e*Sn **Sn** 15 20 14.5 -5.3
comp=Z,467nm,0.6s
BGF Bois d'Agland 6.92 292 *e*P **Pn** 15 18 58.6 -2.3
BGF *e* 15 20 14.5
EJON La Jonquera 6.99 258 P **Pn** 15 19 01.1 -0.8
EJON S **Sn** 15 20 16.7 -4.7
EJON La Jonquera 6.99 258 P **Pn** 15 19 01.1 -0.7
comp=Z,4.1nm,0.3s,SNR=5.1
VAE Valguarnera 7.02 165 LR LR 15 22 12.3
comp=Z,442nm,18.1s,baz=141,slow=42
CLL Collm 7.05 4⇓ *i*P **Pn** 15 19 00.7 -1.9
CLL *e* 15 20 17.0
CLL pmax pmax
comp=Z,48nm,0.4s
CLL Collm 7.05 4⇓ *i*Pn **Pn** 15 19 00.7 -1.9
comp=Z,48nm,0.4s
CLL *e*Sn **Sn** 15 20 17.0 -5.8
CLL *i* Sg Sn 15 21 05.4 +43
CLL Collm 7.05 4⇓ *i*PN **Pn** 15 19 00.7 -1.9
comp=Z,logA/T=2.1
CLL *e* 15 19 18.0
CLL *e*SN **Sn** 15 20 17.0 -5.8
CLL *e* 15 20 31.0
CLL *i* 15 21 05.4
CLL *e*SG Sn 15 21 15.0 +52
CLL *e* 15 21 30.0
CLL Collm 7.05 4⇓ *i*Pn **Pn** 15 19 00.7 -1.9
comp=Z,48nm,0.4s
CLL *e*Sn **Sn** 15 20 16.8 -6.0
BOLS Boljevac 7.09 90⇓ *i*Pn **Pb** 15 19 18.0 -2.4
KECS Kecovo 7.13 51 *e*PN **Pn** 15 19 01.8 -2.0
KECS *e* 15 19 12.7
KSP Ksiaz 7.13 22 *e*Pn **Pn** 15 19 01.6 -2.2
KSP *e*Pg Pn 15 19 36.5 +33
KSP *e*Sn **Sn** 15 20 18.1 -6.8
KSP *e*Sg Sn 15 21 01.2 +36
KSP Ksiaz 7.13 22 *e*Pn **Pn** 15 19 01.8 -2.0
KSP *e*Pg **Pn** 15 19 14.9 +11
KSP *e*Sn **Sn** 15 20 18.4 -6.6
KSP *e*Sg Sn 15 20 53.8 +29
KSP Ksiaz 7.13 22 *e*Pn **Pn** 15 19 01.6 -2.2
KSP *e*Sn **Sn** 15 20 18.1 -6.8
SKO Skopje 7.18 106 *i* Pn **Pn** 15 19 03.5 -1.0
FILF Fillols 7.19 259 Pn **Pn** 15 19 04.7 +0.1
CAF Calviac 7.22 279 *e*Pn **Pn** 15 19 03.4 -1.7
CAF *e*Pg Pn 15 19 31.5 +26
CAF *e*Sn **Sn** 15 20 22.2 -5.0
comp=Z,51nm,0.6s
CAF Calviac 7.22 279 *e*P **Pn** 15 19 03.4 -1.7
CAF *e* 15 20 22.2
MTLF Montolieu 7.24 266 *e*Pn **Pn** 15 19 04.0 -1.4
MTLF *e*Sn **Sn** 15 20 23.2 -4.5
comp=Z,30nm,0.5s
HYF Humbligny 7.28 297 *e*Pn **Pn** 15 19 03.8 -2.1
HYF *e*Sn **Sn** 15 20 23.1 -5.6
TCF Toulx Ste Croi 7.29 289 *e*Pn **Pn** 15 19 03.4 -2.6
TCF *e*Pg Pn 15 19 34.5 +29
TCF *e*Sn **Sn** 15 20 21.7 -7.1
comp=Z,71nm,0.4s
TCF Toulx Ste Croi 7.29 289 *e*P **Pn** 15 19 03.4 -2.6
TCF *e* 15 20 21.7
KEK Kerkira 7.31 126 *e*Pn **Pn** 15 19 04.8 -1.5
CARF Carcanieres 7.47 261 Pn **Pn** 15 19 07.5 -1.0
LPEF Le Peyrat 7.55 263 Pn **Pn** 15 19 08.7 -0.9
VALF Valcebollere 7.62 259 Pn **Pn** 15 19 09.7 -0.9
RJF Les Rejaudoux 7.63 281 *e*Pn **Pn** 15 19 08.8 -2.0
RJF *e*Sn **Sn** 15 20 31.6 -5.8
comp=Z,36nm,0.5s
CLZ Clausthal 7.65 352 *e*Pn **Pn** 15 19 09.4 -1.6
GIVF Givet 7.66 322 *e*Pn **Pn** 15 19 09.9 -1.2
GIVF *e*Sn **Sn** 15 20 31.7 -6.4
comp=Z,70nm,0.6s
HGN Heimansgroeve 7.72 329⇓ *e*Pn **Pn** 15 19 11.9 -0.1
comp=Z,34nm,1.0s
HGN *e*Sn **Sn** 15 20 34.1 -5.5
OJC Ojcow 7.89 39 *e*Pn **Pn** 15 19 14.5 +0.1
OJC *e*PP PP 15 19 23.4 +1.5
OJC *e*Pg Pn 15 19 54.6 +40
OJC *e*Sn **Sn** 15 20 42.6 -1.3
OJC *e*Sg Sn 15 21 40.0 +56
CRVS Cervenica-Dubn 7.90 51 *e*PN **Pn** 15 19 14.2 -0.4
CRVS *e* 15 19 22.8
BAIF Baives 7.91 320 *e*Pn **Pn** 15 19 12.5 -2.1
BAIF *e*Sn **Sn** 15 20 36.2 -8.1
comp=Z,79nm,0.8s
STHS Stebnicka Huta 8.07 47 *e*P **P** 15 19 26.8 +10
STHS Stebnicka Huta 8.07 47 *e* **P** 15 19 26.8 +10
SALF Salau 8.11 263 Pn **P** 15 19 16.8 -0.6
EMIR Miracle 8.12 257 P **P** 15 19 19.1 +1.4
EMIR S **Sn** 15 20 42.6 -7.1
EMIR Miracle 8.12 257 P **P** 15 19 19.1 +1.4
comp=Z,3.2nm,0.3s,SNR=5.0
MLS Moulis 8.13 264 Pn **P** 15 19 16.7 -1.0
LFF La Frestale 8.16 279 *e*Pn **P** 15 19 16.9 -1.3
LFF *e*Sn **Sn** 15 20 44.2 -6.5
comp=Z,65nm,0.8s
VTS Vitosha 8.23 98 *i* P **P** 15 19 18.2 -0.9
VTS Vitosha 8.23 98 P **P** 15 19 19.1 0.0
UZH Uzhgorod 8.24 55 *e*P **P** 15 19 26.0 +6.7
UZH *e*S **Sn** 15 20 54.0 +1.3
ETOS Mallorca 8.28 240 P **P** 15 19 20.0 +0.1
ETOS S **Sn** 15 20 45.6 -8.1
ETOS Mallorca 8.28 240 P **P** 15 19 20.0 +0.1
comp=Z,34nm,0.4s,SNR=91
KKB Krupnik 8.37 103 *i* P **P** 15 19 20.5 -0.5
KOLS Kolonicke sedl 8.38 53 *e*PN **P** 15 19 21.2 0.0
EPOB Poblet 8.65 254 P **P** 15 19 24.9 0.0
EPOB S **Sn** 15 20 55.6 -7.1
EPOB Poblet 8.65 254 P **P** 15 19 24.9 0.0
comp=Z,1.7nm,0.2s,SNR=6.8
EPF Esparros 8.65 266 *e*Pn **P** 15 19 23.6 -1.4
EPF *e*Sn **Sn** 15 20 55.5 -7.3
comp=Z,18nm,0.7s
EBIE Bielsa 8.87 264 P **P** 15 19 29.3 +1.3
EBIE S **Sn** 15 21 02.6 -5.7
EBIE Bielsa 8.87 264 P **P** 15 19 29.3 +1.3
comp=Z,16nm,0.5s,SNR=29
EGRA Graus 8.88 260 P **P** 15 19 28.5 +0.2
EGRA S **Sn** 15 21 02.2 -6.4
EGRA Graus 8.88 260 P **P** 15 19 28.5 +0.3
comp=Z,12nm,0.5s,SNR=7.7
PGB Panagyurishte 8.92 97 *e*P **P** 15 19 28.0 -0.7
MFF Saint Martin d 8.95 289 *e*Pn **P** 15 19 26.0 -3.0
MFF *e*Sn **Sn** 15 21 01.8 -8.3
comp=Z,31nm,0.6s
ETSF Etsaut 9.32 266 *e*Pn **P** 15 19 34.0 -0.3
ETSF *e*Sn **Sn** 15 21 13.5 -6.0
comp=Z,21nm,0.7s
LDF La Druitiere 9.50 301 *e*Pn **P** 15 19 33.4 -3.3
LDF *e*Sn **Sn** 15 21 16.8 -7.0
comp=Z,58nm,0.7s
RZN Rozhen 9.57 101 *e*P **P** 15 19 37.0 -0.7
ESAC San Caprasio 9.59 259 P **P** 15 19 38.3 +0.4
ESAC San Caprasio 9.59 259 P **P** 15 19 38.3 +0.4
comp=Z,14nm,0.3s,SNR=4.7
EIBI Ibiza 9.64 241 P **P** 15 19 38.3 -0.2
EIBI Ibiza 9.64 241 P **P** 15 19 38.3 -0.3
comp=Z,11nm,0.4s,SNR=5.6
FLN La Foliniere 9.78 302 *e*Pn **P** 15 19 36.9 -3.6
baz=120
FLN *e*Sn **Sn** 15 21 21.2 -10
comp=Z,41nm,0.4s
LVV L'vov 9.81 52 *e*P **P** 15 19 40.1 -0.8
GRR Gorron 9.88 299 *e*Pn **P** 15 19 38.1 -3.8
GRR *e*Sn **Sn** 15 21 24.9 -8.2
comp=Z,37nm,0.6s
IPRE Itoiz 9.92 266 P **P** 15 19 43.6 +1.2
comp=Z,2.6nm,0.4s,SNR=7.5
EALK Alkurruntz 9.94 269 P **P** 15 19 45.1 +2.5
EALK Alkurruntz 9.94 269 P **P** 15 19 45.1 +2.4
comp=Z,3.8nm,0.4s,SNR=7.9
EARA Aranguren 10.08 266 P **P** 15 19 45.2 +0.5
comp=Z,11nm,0.5s,SNR=7.9
EMOS Mosqueruela 10.13 252 P **P** 15 19 44.2 -1.1
EMOS S **S** 15 21 31.3 -8.0
EMOS Mosqueruela 10.13 252 P **P** 15 19 44.2 -1.1
comp=Z,8.5nm,0.8s,SNR=7.9
RDO Rodhopi 10.35 103 *e*Pn **P** 15 19 47.0 -1.3
RDO Rodhopi 10.35 103 P **P** 15 19 47.7 -0.6
ECRI Cripan 10.79 266 P **P** 15 19 55.2 +0.9
ECRI pmax pmax
comp=Z,6.0nm,0.9s
ECRI Cripan 10.79 266 P **P** 15 19 55.2 +0.9
comp=Z,6.2nm,0.9s
ECRI Cripan 10.79 266 P **P** 15 19 55.2 +0.9
comp=Z,6.2nm,0.9s,SNR=7.9
EBEN Beniarda 10.82 243 P **P** 15 19 54.1 -0.7
comp=Z,19nm,0.6s
EBEN Beniarda 10.82 243 P **P** 15 19 54.1 -0.7
comp=Z,19nm,0.6s,SNR=5.4
ECHE Chera 10.83 249 P **P** 15 19 54.3 -0.6
ECHE pmax pmax
comp=Z,6.0nm,0.8s
ECHE Chera 10.83 249 P **P** 15 19 54.3 -0.7
comp=Z,6.2nm,0.8s
ECHE Chera 10.83 249 P **P** 15 19 54.3 -0.6
comp=Z,6.2nm,0.8s,SNR=7.9
SGMF Saint Gilles 10.92 296 *e*Pn **P** 15 19 52.7 -3.4
SGMF *e*Sn **S** 15 21 49.1 -9.5
comp=Z,17nm,0.4s
QUIF Quistinic 11.23 294 *e*Pn **P** 15 19 55.5 -4.8
QUIF *e*Sn **S** 15 21 56.9 -9.3
comp=Z,30nm,0.6s
ELAN Lanestosa 11.32 270 P **P** 15 20 03.4 +1.9
comp=Z,5.6nm,0.8s
ELAN Lanestosa 11.32 270 P **P** 15 20 03.4 +1.8
comp=Z,5.6nm,0.8s,SNR=7.9
ROSF Rostrenen 11.40 296 *e*Pn **P** 15 19 58.5 -4.2
ROSF *e*Sn **S** 15 21 59.8 -11
comp=Z,20nm,0.6s
ETOB Tobarra 11.71 246 P **P** 15 20 06.7 -0.2
comp=Z,5.6nm,1.2s
ETOB Tobarra 11.71 246 P **P** 15 20 06.7 -0.2
comp=Z,5.6nm,1.2s,SNR=7.9
HGH Gray Hill 12.41 312 *e*P **P** 15 20 13.2 -3.1
HGH AMb AMB 15 20 14.8
comp=Z,58nm,1.4s
EARI Arriondas 12.58 272 P **P** 15 20 17.9 -0.6
comp=Z,2.9nm,0.5s
EARI S **S** 15 22 29.6 -9.4
EARI Arriondas 12.58 272 P **P** 15 20 17.9 -0.7
comp=Z,2.9nm,0.5s,SNR=8.4
MCH1 Michaelchurch 12.70 313 *e*P **P** 15 20 16.1 -4.0
ESDC Sonseca Array 12.84 255 Pn **P** 15 20 18.8 -3.2
comp=Z,0.3nm,0.3s,baz=62,slow=14,SNR=8.1
ESDC Sonseca Array 12.84 255 P **P** 15 20 21.3 -0.7
comp=Z,2.9nm,0.6s
ESDC S **S** 15 22 35.9 -9.2
ESDC Sonseca Array 12.84 255 P **P** 15 20 21.3 -0.7
comp=Z,2.9nm,0.7s,SNR=4.4
ESLA Sonseca Array 12.84 255 *e*Pn **P** 15 20 20.9 -1.1
comp=Z,1.6nm,1.0s
ESLA Sonseca Array 12.84 255 *e*Pn **P** 15 20 20.9 -1.1
comp=Z,1.6nm,1.0s
HTR Trewern Hill 12.88 313 *e*P **P** 15 20 18.4 -4.2
HTR AMb AMB 15 20 23.7
comp=Z,24nm,1.6s
HLM1 Long Mynd 12.92 315 *e*P **P** 15 20 20.3 -2.7
HLM1 AMb AMB 15 20 22.5
comp=Z,29nm,0.6s
SSP1 Stoney Pound 12.98 314 *e*P **P** 15 20 21.0 -2.8
SSP1 AMb AMB 15 20 24.3
comp=Z,25nm,0.6s
EQES Quesada 13.18 246 P **P** 15 20 27.2 +0.7
comp=Z,0.7nm,0.6s
EQES Quesada 13.18 246 P **P** 15 20 27.2 +0.7
comp=Z,0.7nm,0.6s,SNR=7.9
AKASG Malin Array Be 13.20 55 P **P** 15 20 25.5 -1.2
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 13.20 55 Pn **P** 15 20 25.4 -1.2
comp=Z,0.6nm,0.3s,baz=246,slow=12,SNR=6.1
SBD1 Bryn Du 13.33 316 *e*P **P** 15 20 25.8 -2.5
SBD1 AMb AMB 15 20 28.2
comp=Z,44nm,1.7s
EBER Berja 13.59 242 P **P** 15 20 33.5 +1.6
comp=Z,2.8nm,0.4s
EPON Pontenova 13.97 273 P **P** 15 20 39.7 +2.9
comp=Z,5.9nm,0.6s
EADA Adamuz 13.98 250 P **P** 15 20 37.3 +0.2
comp=Z,4.4nm,0.8s
ECAL Calabor 13.99 267 P **P** 15 20 39.7 +2.6
comp=Z,3.6nm,0.5s
ECAB El Cabril 14.60 251 P **P** 15 20 47.2 +2.1
comp=Z,3.2nm,0.8s
EKA Eskdalemuir Ar 14.79 324 P **P** 15 20 45.5 -1.9
EKA pmax pmax
comp=Z,1.0nm,0.3s
EKA Eskdalemuir Ar 14.79 324 Pn **P** 15 20 45.5 -1.9
comp=Z,1.0nm,0.3s,baz=138,slow=14,SNR=18
ESK Eskdalemuir 14.79 324 *e*P **P** 15 20 46.8 -0.7
MTE Manteigas 15.06 262 *e*Pn **P** 15 20 50.4 -0.8
EBAD Badajoz 15.37 256 P **P** 15 20 57.5 +2.4
comp=Z,2.8nm,0.6s
EMIN Mina Concepcio 15.61 252 P **P** 15 21 01.2 +3.0
comp=Z,1.9nm,0.8s
HFS Hagfors 15.90 3 Pn **P** 15 21 05.0 +3.2
comp=Z,0.1nm,0.3s,baz=180,slow=13,SNR=18
EGRO El Granado 16.28 252 P **P** 15 21 08.6 +1.7
comp=Z,24nm,1.7s
NAO01 NORSAR Array S 16.60 358 *e*P **P** 15 21 11.7 +0.9
comp=Z,8.4nm,0.8s
BRTR Keskin Array B 16.60 98 Pn **P** 15 21 08.1 -2.8
comp=Z,0.2nm,0.3s,baz=292,slow=7.8,SNR=2.9
BRTR PcP PcP 15 26 00.8 -0.7
comp=Z,0.2nm,0.3s,baz=250,slow=1.9,SNR=3.6
NB2 NORSAR Subarra 16.79 358 P **P** 15 21 15.1 +2.0
comp=Z,0.6nm,0.7s,baz=175,slow=12
NB2 NORSAR Subarra 16.79 358 P **P** 15 21 15.1 +2.0
NB2 pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 16.79 358 Pn **P** 15 21 10.4 -2.7
comp=Z,0.2nm,0.3s,baz=185,slow=12,SNR=5.8
NOA LR LR 15 28 43.2
comp=Z,217nm,18.5s,baz=30,slow=41
VSU Vasula 16.80 27 *i* P **P** 15 21 13.7 +0.4
VSU Vasula 16.80 27 *i* P **P** 15 21 13.8 +0.5
OBN Obninsk 19.05 47 *i* P **P** 15 21 39.5 -1.6
OBN *e*S **S** 15 25 11.7 +2.3
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,400nm,15.0s
FINES FINESS Array B 19.05 21 P **P** 15 21 39.8 -1.3
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 19.05 21 P **P** 15 21 39.8 -1.3
comp=Z,0.7nm,0.3s,baz=207,slow=8.5,SNR=21
KAF Kangasniemi 19.68 20 *e*p **P** 15 21 45.9 -2.4
comp=Z,4.6nm,0.7s
KAF Kangasniemi 19.68 20 *e*P **P** 15 21 45.9 -2.4
KAF pmax pmax
comp=Z,5.0nm,0.7s
MOS Moscow 19.86 46 *e*P **P** 15 21 55.5 +5.2
KIV Kislovodsk 21.87 80 *i* P **P** 15 22 11.6 +0.6
KIV pmax pmax
comp=Z,16nm,1.0s,mb4.4
KIV MLR MLR
comp=Z,200nm,19.0s,MS3.5
ASF Jabal al Asfar 22.80 114 LR LR 15 32 05.1
comp=Z,191nm,21.8s,MS3.5,baz=59,slow=39
ZEI Tsey 23.00 83 *e*P **P** 15 22 23.9 +1.8
ZEI *i* *PP 15 22 31.6
ZEI pmax pmax
comp=Z,4.0nm,0.5s,mb4.1
GNI Garni 24.40 88 *i* P **P** 15 22 38.1 +2.4
GNI pmax pmax
comp=Z,18nm,0.8s
APA Apatity 25.92 19 *e*P **P** 15 23 06.0 +16
APA MLR MLR
comp=Z,2µm,13.0s,MS4.8

ARCES ARCESS Array B 26.21 11 P **P** 15 22 52.7 +0.2
ARCES 15 26 17.4
ARCES pmax pmax
comp=Z,1.0nm,0.8s
ARCES pmax pmax
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 26.21 11 P **P** 15 22 52.7 +0.2
comp=Z,0.9nm,0.8s,mb3.4,baz=188,slow=8.6,SNR=9.4
ARCES PcP PcP 15 26 17.4 -2.2
comp=Z,1.0nm,0.8s,baz=162,slow=3.8,SNR=6.5
ARCES ARCESS Array B 26.21 11 PcP PcP 15 26 17.4 -2.2
ARU Arti 31.39 51⇑*iP* **P** **15 23 37.4 -1.8**
ARU *e* 15 24 42.0
ARU *e*PPP PPP 15 24 52.6 -5.4
ARU *e* 15 26 30.6
ARU *e*S **S** **15 28 43.8 -0.3**
ARU *e*SS SS 15 30 31.4 -0.5
ARU *e* 15 34 06.3
ARU pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
ARU MLR MLR
comp=Z,400nm,21.0s,MS4.1
ARU MLR MLR
comp=N,200nm,22.0s,MS4.0
ARU MLR MLR
comp=E,300nm,20.5s,MS4.0
ARU MLR MLR
comp=N,900nm,23.0s
ARU MLR MLR
comp=Z,2μm,23.0s
ARU MLR MLR
comp=E,900nm,22.0s
ARU Arti 31.39 51 *e*P **P** **15 23 37.6 -1.6**
comp=E,2.2nm,0.5s,mb4.2
ARU Arti 31.39 51 *e*PcP PcP 15 26 30.6 -2.0
SVE Sverdlovsk 32.55 50 *e*P **P** **15 23 57.8 +8.5**
SVE *e* pP 15 24 04.0 +7.9
SVE *e* 15 25 19.0
SVE *e* 15 34 11.0
SVE MLR MLR
comp=N,200nm,10.0s,MS4.5
SVE MLR MLR
comp=E,400nm,10.0s,MS4.5
SVE MLR MLR
comp=Z,400nm,10.0s,MS4.4
BRVK Borovoye 38.41 56 *i*P **P** **15 24 39.9 +0.7**
DBIC Dimbokro 40.32 207 *e*P **P** **15 24 53.1 -2.4**
DBIC pmax pmax
comp=Z,3.0nm,0.7s
DBIC Dimbokro 40.32 207 P **P** **15 24 53.3 -2.2**
comp=Z,1.3nm,0.5s,mb4.0,baz=5.3,slow=11,SNR=3.3
DBIC Dimbokro 40.32 207 *e*P **P** **15 24 53.1 -2.4**
comp=Z,2.6nm,0.7s,mb4.1
KURK Kurchatov 44.00 57 *e*P **P** **15 25 24.5 -0.6**
KURK pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
KURK Kurchatov 44.00 57 *e*P **P** **15 25 24.5 -0.6**
comp=Z,2.5nm,0.9s,mb3.9
NVS Novosibirsk 45.39 50 *e*P **P** **15 25 36.0 -0.2**
KSH Kashi 46.68 73 *e*P **P** **15 25 46.3 -0.4**
KSH *e*AP pP 15 25 53.0 -0.7
KSH *e*XP sP 15 25 57.0 +0.5
KSH AMB AMB
comp=Z,230nm,3.9s
MKAR Makanchi Array 47.69 61 P **P** **15 25 54.6 +0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 47.69 61 P **P** **15 25 54.6 +0.1**
comp=Z,1.9nm,0.6s,mb4.3,baz=287,slow=6.6,SNR=20
SCHQ Schefferville 49.68 312 P **P** **15 26 08.5 -1.3**
comp=Z,3.5nm,0.9s,mb4.4,baz=11,slow=2.6,SNR=3.8
WMQ Urumqi 52.42 62 *e*P **P** **15 26 31.6 +0.9**
WMQ AP pP 15 26 41.6 +3.8
WMQ XP sP 15 26 45.5 +4.9
WMQ PP PP 15 28 31.4 +0.8
WMQ AMB AMB
comp=Z,17nm,1.8s,mb4.7
WMQ AMB AMB
comp=Z,69nm,7.2s
WMQ LR LR
comp=N,332nm,20.3s,MS4.4
WMQ LR LR
comp=E,221nm,20.6s,MS4.4
WMQ LR LR
comp=Z,423nm,20.2s,MS4.5
TLY Talaya 57.80 47 *e*P **P** **15 27 07.8 -1.8**
TLY pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
TLY MLR MLR
comp=Z,133nm,17.0s,MS4.1
SONM Songino Array 61.42 50 P **P** **15 27 34.8 +0.2**
comp=Z,1.7nm,0.7s,mb4.3,baz=284,slow=8.4,SNR=18
GTA Gaotai 62.44 61 *e*P **P** **15 27 42.3 +0.7**
GTA PP PP 15 29 59.0 -2.0
GTA S **S** **15 36 07.5 +2.0**
GTA SS SS 15 40 14.3 +2.9
GTA AMB AMB
comp=Z,5.0nm,0.5s,mb4.9
GTA AMB AMB
comp=Z,32nm,4.2s
GTA LR LR
comp=N,85nm,14.4s,MS4.2
GTA LR LR
comp=E,89nm,15.6s,MS4.2
GTA LR LR
comp=Z,102nm,17.7s,MS4.0
LSA Lhasa 62.47 74 *e*P **P** **15 27 42.2 +0.3**
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
LSA Lhasa 62.47 74 *e*P **P** **15 27 42.2 +0.2**
comp=Z,5.7nm,0.6s,mb4.9
LSA Lhasa 62.47 74 *e*P **P** **15 27 42.2 +0.3**
comp=Z,5.7nm,0.6s,mb4.9
YKW3 Yellowknife Ar 65.32 336 *e*P **P** **15 27 59.7 -0.2**
YKW3 Yellowknife Ar 65.32 336 *e*P **P** **15 27 59.7 -0.2**
YKA Yellowknife Ar 65.37 336 P **P** **15 28 00.4 +0.2**
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKA Yellowknife Ar 65.37 336 P **P** **15 28 00.4 +0.2**
comp=Z,3.7nm,0.6s,mb4.6,baz=42,slow=6.5,SNR=26
BILL Bilibino 66.32 10 *e*P **P** **15 28 04.4 -1.8**
BILL pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
ULM Lac du Bonnet 66.99 318 P **P** **15 28 10.6 -0.2**
comp=Z,4.4nm,0.6s,mb4.7,baz=40,slow=8.6,SNR=5.5
LZH Lanzhou 67.00 62 *e*P **P** **15 28 11.3 +0.2**
LZH AMB AMB
comp=Z,12nm,1.2s,mb4.8
LZH AMB AMB
comp=Z,50nm,4.0s
LZH Lanzhou 67.00 62 *e*P **P** **15 28 11.2 +0.1**
LZH *PP pP 15 28 15.2 -3.2
LZH *SP sP 15 28 18.2 -2.8
LZH pmax pmax
comp=Z,12nm,1.2s,mb4.8
LZH Lanzhou 67.00 62 *e*P **P** **15 28 11.2 +0.1**
comp=Z,12nm,1.2s,mb4.8
LZH pP pP 15 28 15.2 -3.2
LZH sP sP 15 28 18.2 -2.8
BLO Bloomington 69.29 305 *e*P **P** **15 28 25.0 -0.3**
BLO pmax pmax
comp=Z,34nm,0.7s,mb5.4
BLO Bloomington 69.29 305 *e*P **P** **15 28 25.0 -0.4**
comp=Z,34nm,0.7s,mb5.4
ILAR Eielson Array 70.04 351 P **P** **15 28 29.3 -0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 70.04 351 P **P** **15 28 29.3 -0.2**
comp=Z,0.9nm,0.8s,mb3.8,baz=9.7,slow=6.8,SNR=10
XAN Xi'an 71.50 60 P **P** **15 28 39.1 +0.3**
XAN AMB AMB
comp=Z,14nm,0.7s,mb5.0
KMI Kunming 73.32 71 P **P** **15 28 45.3 -4.4**
KMI AMB AMB
comp=Z,5.0nm,0.9s,mb4.4
CN2 Changchun 74.08 44 *e*P **P** **15 28 54.3 +0.5**
KSU1 Kansas State U 75.08 310 *e*P **P** **15 28 59.3 -0.3**
KSU1 Kansas State U 75.08 310 *e*P **P** **15 28 59.3 -0.4**
RSSD Black Hills 75.25 318 *e*P **P** **15 29 01.0 +0.5**
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
RSSD Black Hills 75.25 318 *e*P **P** **15 29 01.0 +0.5**
comp=Z,2.9nm,0.8s,mb4.3
RSSD Black Hills 75.25 318 *e*P **P** **15 29 01.0 +0.5**
comp=Z,2.9nm,0.8s,mb4.3

MDJ Mudanjiang 75.48 41 P **P** **15 29 00.1 -1.7**
MDJ AMB AMB
comp=Z,5.0nm,0.9s,mb4.4
MDJ AMB AMB
comp=Z,39nm,5.0s
BOZ Bozeman (W) 77.53 323 *e*P **P** **15 29 13.7 +0.4**
BOZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BOZ Bozeman (W) 77.53 323 *e*P **P** **15 29 13.7 +0.5**
comp=Z,2.2nm,0.8s,mb4.1
BOZ Bozeman (W) 77.53 323 *e*P **P** **15 29 13.7 +0.4**
comp=Z,2.2nm,0.8s,mb4.1
MOOW Moose Ponds 78.65 322 *e*P **P** **15 29 18.9 -0.6**
comp=Z,7.7nm,1.5s,mb4.4
LOHW Long Hollow 78.69 321 *e*P **P** **15 29 19.8 +0.1**
comp=Z,1.0nm,0.5s,mb4.0
BW06 Boulder Array 78.88 320 *e*P **P** **15 29 20.5 -0.2**
comp=Z,1.2nm,0.8s,mb3.9
BW06 Boulder Array 78.88 320 *e*P **P** **15 29 20.5 -0.2**
comp=Z,1.1nm,0.8s,mb3.8
PDAR Pinedale Array 78.88 320 P **P** **15 29 21.3 +0.6**
comp=Z,1.1nm,0.7s,mb3.9,baz=44,slow=5.1,SNR=10
NJ2 Nanjing 78.92 56 *e*P **P** **15 29 23.0 +1.8**
NJ2 PCP PcP 15 29 31.1 +0.9
NJ2 AP pP 15 29 33.1 +4.5
NJ2 XP sP 15 29 37.5 +6.5
NJ2 S S 15 39 18.0 +1.1
NJ2 XS 15 39 38.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
NJ2 AMB AMB
comp=Z,80nm,9.2s
NJ2 LR LR
comp=N,130nm,12.8s,MS4.6
NJ2 LR LR
comp=E,160nm,16.4s,MS4.6
NJ2 LR LR
comp=Z,90nm,11.2s
YSS Yuzh-Sakhalins 79.24 32⇓*iP* **P** **15 29 23.5 +0.9**
YSS *e* 15 29 28.5
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 79.24 32 *e*P **P** **15 29 23.6 +1.0**
comp=Z,16nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 79.24 32 *e*P **P** **15 29 23.6 +1.0**
comp=Z,15nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 79.24 32 *e*PcP PcP 15 29 28.5 -2.8
ISCO Idaho Springs 79.28 316 *e*P **P** **15 29 24.3 +1.3**
ISCO pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ISCO Idaho Springs 79.28 316 *e*P **P** **15 29 24.3 +1.3**
comp=Z,4.6nm,0.9s,mb4.4
ISCO Idaho Springs 79.28 316 *e*P **P** **15 29 24.3 +1.3**
comp=Z,4.6nm,0.9s,mb4.4
BMO Blue Mountains 80.53 326 *e*P **P** **15 29 30.4 +0.8**
BMO pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BMO MLR MLR
comp=Z,1μm,20.0s,MS5.3
BMO Blue Mountains 80.53 326 *e*P **P** **15 29 30.4 +0.8**
comp=Z,2.0nm,0.6s,mb4.2
BMO LR LR
comp=Z,1μm,20.0s,MS5.3
BMO Blue Mountains 80.53 326 *e*P **P** **15 29 30.4 +0.8**
comp=Z,2.0nm,0.6s,mb4.2
SDCO Great Sand Dun 80.79 315 *e*P **P** **15 29 32.0 +0.9**
comp=Z,6.4nm,1.4s,mb4.4
SDCO LR LR
comp=Z,1μm,20.0s,MS5.3
SDCO Great Sand Dun 80.79 315 *e*P **P** **15 29 32.0 +0.9**
comp=Z,6.3nm,1.4s,mb4.3
SSE Sheshan 80.99 55 P **P** **15 29 30.1 -2.2**
SSE AMB AMB
comp=Z,27nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,59nm,6.9s
MSU Marysvale 83.46 319 *e*P **P** **15 29 46.3 +1.4**
MNTX Cornudas Mount 85.36 311 *e*P **P** **15 29 54.8 +0.2**
comp=Z,1.0nm,0.7s,mb4.0
SAML Samuel 85.86 253 P **P** **15 29 58.0 +0.6**
comp=Z,0.6nm,0.6s,mb4.0
MJAR Matsushiro Arr 85.87 41 P **P** **15 29 57.8 +0.8**
MJAR pmax pmax
comp=Z,1.0nm,0.7s
MJAR Matsushiro Arr 85.87 41 P **P** **15 29 57.8 +0.8**
comp=Z,1.4nm,0.7s,mb4.3,baz=325,slow=3.1,SNR=4.8
WRA Warramunga Arr 126.58 82 PKIKP PKPdf 15 36 20.3 -3.9
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 126.58 82 PKP PKPdf 15 36 20.3 -3.9
comp=Z,0.5nm,0.9s,baz=313,slow=1.7,SNR=5.5
VNDA Vanda 144.50 169 PKIKP PKPdf 15 36 50.4 -5.1
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA Vanda 144.50 169 PKP PKPdf 15 36 50.4 -5.2
comp=Z,0.7nm,0.9s,baz=188,slow=3.1,SNR=3.6

*ROM **15** 15:23:47.3±0.2, 44.23N×12.10E, h22km±2km, Md3.2/2, Ml3.4/7, Error ellipse: s-maj=2.6km s-min=2.4km az=4.0*
*NEIC **15** 15:23:47.3, 44.23N×12.10E, h22km, ML4.0(VIE), ML3.9(STR), ML3.8(LDG), ML3.6(FUR), ML3.6(SZGRF), ML3.4(ROM), ML3.2(LJU), After ROM.*
*LDG **15** 15:23:47.5±0.1, 44.31N×12.31E, h10km, Md3.4/1, Ml3.8/21, Error ellipse: s-maj=2.8km s-min=2.3km az=63.0*
*CSEM **15** 15:23:47.2±0.1, 44.20N×12.25E, h12km, ML3.9/23, Error ellipse: s-maj=1.4km s-min=1.0km az=132.0*
*STR **15** 15:23:50.4±1.0, 44.32N×11.88E, h10km±1km, Ml3.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*IPEC **15** 15:23:50.9±0.2, 44.36N×12.14E, h29km±2km, ML2.9/1, Error ellipse: s-maj=1.1km s-min=0.9km az=147.0*

ISC 15 15:23:46.4±0.2, 44.28N±0.01×12.06E±0.02, h10km, n149, σ1§27/216, 20C-9D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
BRSN	**Barisano**	**0.01**	**80**	⇑*i*Pg	**Sg**	**15 23 52.1**	**+2.7**
SFI	**Santa Sofia**	**0.41**	**202**	⇓*e*Pg	**Pg**	**15 23 55.6**	**+0.9**
SFI				Sg	**Sg**	15 24 02.1	+1.8
RSM	**Repubblica di**	**0.45**	**141**	Pg	**Pg**	**15 23 56.6**	**+1.1**
PGD	**Poggio Sodo**	**0.47**	**211**	⇓*i*Pg	**Pg**	**15 23 56.9**	**+0.9**
VMG	**Vicchio**	**0.49**	**230**	⇑*i*Pg	**Pg**	**15 23 57.4**	**+1.1**
SEI	**Scarperia**	**0.56**	**246**	Pg	**Pg**	**15 23 58.4**	**+0.8**
CRE	**Caprese Michel**	**0.67**	**187**	Pg	**Pg**	**15 24 00.0**	**+0.2**
CRE				Sg	**Sg**	15 24 10.3	+1.5
FNVD	**Fontana Vidola**	**0.69**	**261**	Pg	**Pg**	**15 24 01.3**	**+1.1**
FNVD				Sg	**Sg**	15 24 13.2	+3.8
	12μm,0.5s						
ZCCA	**Zocca**	**0.78**	**275**	Pg	**Pg**	**15 24 05.4**	**+3.3**
BADI	**Badiali**	**0.78**	**170**	Pg	**Pg**	**15 24 01.9**	**-0.2**
	3μm,0.6s						
FSSB	**Fossombrone**	**0.78**	**139**	Pg	**Pg**	**15 24 01.8**	**-0.3**
	287nm,0.4s						
CSNT	**Castellina Chi**	**0.98**	**215**	Pg	**Pg**	**15 24 05.9**	**-0.2**
ARV	**Arcevia**	**1.01**	**141**	Pg	**Pg**	**15 24 05.9**	**-0.7**
BDI	**Bagni Di Lucca**	**1.08**	**259**	Pg	**Pg**	**15 24 09.4**	**+1.5**
TEOL	**Teolo**	**1.11**	**346**	⇑*i*Pn	**Pn**	**15 24 09.2**	**+1.2**
ERBM	**Eremo**	**1.19**	**277**	Pg	**Pg**	**15 24 13.0**	**+2.8**
	601nm,0.9s						
VLC	**Villacollemand**	**1.21**	**265**	*e*Pn	**Pn**	**15 24 11.3**	**+2.0**
VLC				*e*Sn	**Sn**	**15 24 30.3**	**+4.4**
VLC	**Villacollemand**	**1.21**	**265**	*e*Pn	**Pn**	**15 24 11.4**	**+2.0**
VLC				*e*Sn	**Sn**	**15 24 30.3**	**+4.4**
VLC				*e*Sg	**Sg**	**15 24 31.2**	**+4.4**
CING	**Cingoli**	**1.22**	**137**	Pg	**Pg**	**15 24 10.0**	**-0.8**
	473nm,0.5s						
PII	**Pisa**	**1.24**	**244**	Pg	**Pg**	**15 24 10.9**	**-0.3**
GRFL	**Gerfalco**	**1.38**	**215**	Pg	**Pg**	**15 24 12.6**	**-1.4**
	125nm,0.6s						
SACS	**San Casciano d**	**1.44**	**184**	Pg	**Pg**	**15 24 13.4**	**-1.7**
SACS				Sg	**Sg**	**15 24 33.7**	**-0.6**
	453nm,0.5s						
ARCI	**Arcidosso**	**1.49**	**197**	Pg	**Pg**	**15 24 14.1**	**-2.1**
	906nm,0.9s						
CGRP	**Cima Grappa**	**1.61**	**353**	⇑*i*Pn	**Pn**	**15 24 16.1**	**+1.1**
NRCA	**Norcia**	**1.64**	**152**	Pg	**Pg**	**15 24 16.7**	**-2.4**
SAL	**Salo**	**1.72**	**321**	Pg	**Pg**	**15 24 18.4**	**-2.3**
	638nm,0.5s						
CAE	**Caneva**	**1.75**	**9**	⇑*i*Pn	**Pn**	**15 24 17.8**	**+0.8**
CTI	**Castel Tesino**	**1.79**	**351**	Pg	**Pg**	**15 24 18.8**	**-3.3**
	350nm,0.5s						
TLI	**Talmassons**	**1.80**	**24**	⇑*e*Pn	**Pn**	**15 24 18.3**	**+0.5**
TRI	**Trieste**	**1.87**	**40**	Pg	**Pg**	**15 24 18.7**	**-5.0**
	185nm,0.3s						

TRI Trieste 1.87 40 *e*Pn **Pn** **15 24 18.5 -0.3**
TRI Trieste 1.87 40 *e*Pg **Pg** **15 24 23.1 -0.6**
TRI *e*Sn **Sn** **15 24 41.8 -0.8**
MLNI Malnisio 1.91 12⇑*i*Pn **Pn** **15 24 19.8 +0.5**
BOB Bobbio (Coli) 1.93 285 Pg **Pg** **15 24 22.9 -2.1**
97nm,0.8s
FAU Forcella Aurin 1.95 358⇑*i*Pn **Pn** **15 24 21.2 +1.3**
MAON Monte Argentar 1.97 200 Pg **Pg** **15 24 21.2 -4.6**
189nm,0.9s
CSO Casso 2.00 5⇑*i*Pn **Pn** **15 24 20.9 +0.3**
NVLJ Novalja 2.03 81 *i*Pn **Pn** **15 24 21.0 -0.1**
NVLJ *i*Sn **Sn** **15 24 45.2 -1.5**
NVLJ Novalja 2.03 81 *i*Pn **Pn** **15 24 21.0 -0.1**
NVLJ *i*Sn **Sn** **15 24 45.2 -1.5**
MPRI Monte Prat 2.07 18⇑*i*Pn **Pn** **15 24 22.5 +0.9**
COLI Coloredo 2.07 26⇑*i*Pn **Pn** **15 24 22.2 +0.5**
BUA Buia 2.08 21⇑*i*Pn **Pn** **15 24 22.4 +0.7**
BAD Bernadia 2.12 23⇑*i*Pn **Pn** **15 24 22.8 +0.4**
JAVS Javornik 2.15 41 *i*Pn **Pn** **15 24 22.6 -0.1**
JAVS *e*Sn **Sn** **15 24 49.1 -0.5**
comp=Z,256nm,0.3s
JAVS Javornik 2.15 41 *i*Pn **Pn** **15 24 22.6 -0.1**
JAVS *e*Sn **Sn** **15 24 49.1 -0.5**
comp=Z,256nm,0.3s
AQU L'Aquila 2.16 153 *e*Pn **Pn** **15 24 25.4 +2.5**
VOY Vojsko 2.18 36 *e*Pn **Pn** **15 24 23.3 +0.1**
VOY *e*Sn **Sn** **15 24 49.8 -0.6**
DRE Drenchia 2.20 30⇑*i*Pn **Pn** **15 24 23.9 +0.4**
ROBS Robic 2.21 27 *i*Pn **Pn** **15 24 24.0 +0.3**
ROBS *e*Sn **Sn** **15 24 51.0 -0.3**
TOLF Tolfa 2.22 181 Pg **Pg** **15 24 24.4 -6.3**
comp=Z,71nm,0.6s
CEY Cerknica 2.22 48 *i*Pn **Pn** **15 24 23.5 -0.3**
CEY *i*Sn **Sn** **15 24 51.0 -0.6**
comp=Z,128nm,0.2s
CADS Cadrg 2.28 31 *i*Pn **Pn** **15 24 24.8 +0.2**
ZOU Zoufplan 2.36 15⇓*i*Pn **Pn** **15 24 26.7 +0.9**
PLRO Paularo 2.39 18⇑*i*Pn **Pn** **15 24 26.1 +0.6**
LSR Lussari 2.42 25⇑*i*Pn **Pn** **15 24 27.3 +0.6**
GORS Gorjuse 2.45 33 *i*Pn **Pn** **15 24 27.2 +0.1**
LJU Ljubljana 2.48 44 *i*Pn **Pn** **15 24 27.9 +0.4**
LJU *e*Sn **Sn** **15 24 58.2 +0.1**
VISS Visnje 2.49 51 *i*Pn **Pn** **15 24 27.8 +0.2**
SCE Schlegeis 2.77 355 *e*Pn **Pn** **15 24 33.7 +2.1**
PGF Pioggiola 2.83 233 *e*Pn **Pn** **15 24 32.8 +0.4**
PGF *e*Sn **Sn** **15 25 07.0 +0.1**
comp=Z,76nm,0.4s
OBKA Obir 2.83 37⇑*i*PN **Pn** **15 24 33.0 +0.4**
OBKA *i*PG **Pg** **15 24 41.4 -1.5**
OBKA *i*SN **Sn** **15 25 04.2 -2.9**
OBKA *i*SG **Sg** **15 25 20.9 +0.2**
comp=Z,220nm,0.5s
OBKA Obir 2.83 37 *e*Pn **Pn** **15 24 33.2 +0.6**
CORF Corte 2.91 228 Pn **Pn** **15 24 34.8 +1.2**
KBA Koelnbreinsper 2.94 17⇑*i*PN **Pn** **15 24 35.3 +1.3**
KBA *i*PG **Pg** **15 24 44.0 -1.0**
KBA *i*SN **Sn** **15 25 10.3 +0.6**
KBA *i*SG **Sg** **15 25 25.9 +1.7**
comp=Z,186nm,0.5s
WTTA Wattenberg 3.00 354⇓*i*PN **Pn** **15 24 37.1 +2.2**
WTTA *i*SG **Sg** **15 25 26.8 +0.6**
comp=Z,98nm,0.4s
SQTA Sankt Quirin 3.00 349⇓*i*PN **Pn** **15 24 37.5 +2.6**
SQTA *i*PG **Pg** **15 24 46.2 -0.1**
SQTA *i*SN **Sn** **15 25 12.8 +1.5**
SQTA *i*SG **Sg** **15 25 28.4 +2.2**
comp=Z,103nm,0.3s
WATA Walderalm 3.07 354⇑*i*PN **Pn** **15 24 38.6 +2.6**
WATA *i*SG **Sg** **15 25 29.9 +1.2**
comp=Z,68nm,0.4s
MOTA Moosalm 3.14 348⇓*i*PN **Pn** **15 24 39.6 +2.8**
MOTA *i*SG **Sg** **15 25 31.6 +0.8**
comp=Z,105nm,0.5s
AUTN L'Aution 3.35 267 Pn **Pn** **15 24 41.2 +1.3**
AUTN Sg **Sg** **15 25 21.4 -16**
SBF Sospel 3.36 264 *e*Pn **Pn** **15 24 40.9 +0.9**
SBF *e*Sn **Sn** **15 25 20.5 +0.1**
comp=Z,74nm,0.3s
DAVA Damuels 3.37 334⇑*i*PN **Pn** **15 24 42.8 +2.6**
DAVA *i*SN **Sn** **15 25 23.4 +2.7**
TOUF Mont Tournerai 3.48 267 Pn **Pn** **15 24 43.3 +1.6**
MVIF Mont Vial 3.56 265 Pn **Pn** **15 24 44.2 +1.3**
BNALP Bannalp 3.64 317 *e*Pn **Pn** **15 24 46.3 +2.3**
CALF Calern 3.75 264 *e*Pn **Pn** **15 24 46.4 +0.9**
CALN Calern 3.77 264 Pn **Pn** **15 24 47.1 +1.3**
SURF Saint Ours 3.77 275 Pn **Pn** **15 24 46.2 +0.4**
MBDF Montbardon 3.81 279 *e*Pn **Pn** **15 24 46.4 0.0**
MBDF *e*Sn **Sn** **15 25 28.1 -3.7**
comp=Z,66nm,0.5s
ARSA Arzberg 3.83 38⇓*i*PN **Pn** **15 24 46.3 -0.4**
ARSA *i*PG **Pg** **15 25 00.2 -2.7**
ARSA *i*SG **Sg** **15 25 53.7 -0.2**
comp=Z,37nm,0.6s
MOA Molln 3.88 22⇓*i*PN **Pn** **15 24 48.2 +0.7**
MOA *i*SN **Sn** **15 25 32.6 -1.1**
MOA Molln 3.88 22⇓*i*PN **Pn** **15 24 48.2 +0.7**
MOA *e*Sn **Sn** **15 25 32.3 -1.4**
LPG La Plagne 3.96 290 *e*Pn **Pn** **15 24 48.0 -0.6**
LPG *e*Sn **Sn** **15 25 32.6 -3.1**
comp=Z,51nm,0.4s
FRF La Foret Royal 3.98 261 *e*Pn **Pn** **15 24 49.4 +0.6**
FRF *e*Sn **Sn** **15 25 33.6 -2.5**
comp=Z,30nm,0.4s
LPL La Plagne 3.98 290 *e*Sn **Sn** **15 25 34.6 -1.6**
comp=Z,65nm,0.5s
LMR La Mourre 4.13 259 *e*Pn **Pn** **15 24 51.1 +0.1**
LMR *e*Sn **Sn** **15 25 39.1 -0.8**
comp=Z,28nm,0.4s
STON Ston 4.33 107 *i*Pn **Pn** **15 24 52.7 -1.2**
STON *i*Sn **Sn** **15 25 41.6 -3.4**
GDM Grand'Maison 4.33 284 Pn **Pn** **15 24 55.5 +1.6**
TAVF Tavernes 4.39 263 Pn **Pn** **15 24 55.8 +1.2**
ORIF Oris-en-Rattie 4.46 280 *e*Pn **Pn** **15 24 56.4 +0.7**
ORIF *e*Sn **Sn** **15 25 46.6 -1.7**
comp=Z,46nm,0.5s
BOURR Bourrignon 4.59 314 *e*Pn **Pn** **15 24 57.7 +0.2**
VILF Villemus 4.59 267 Pn **Pn** **15 25 00.8 +3.2**
GRN Grenoble 4.60 284 Pn **Pn** **15 24 58.8 +1.1**
PUYF Puyloubier 4.66 263 Pn **Pn** **15 24 59.6 +1.1**
SMRF Simiane la Rot 4.68 269 *e*Pn **Pn** **15 24 59.4 +0.6**
SMRF *e*Sn **Sn** **15 25 51.8 -2.0**
comp=Z,23nm,0.5s
GEC2 GERESS Array S 4.70 13 *e*Pn **Pn** **15 24 58.6 -0.5**
GEC2 *e*Sn **Sn** **15 25 51.2 -3.2**
BERF Bertagne 4.71 260 Pn **Pn** **15 25 01.1 +1.8**
LOMF Lomont 4.78 312 Sg **Sn** **15 25 51.5 -4.7**
BFO Black Forest 4.80 329 *e*Pn **Pn** **15 25 00.7 +0.2**
BFO *e*Sn **Sn** **15 25 54.1 -2.9**
CABF La Chapelle 4.81 301 *e*Pn **Pn** **15 25 00.6 0.0**
CABF *e*Sn **Sn** **15 25 54.1 -2.9**
comp=Z,12nm,0.3s
TREB Trebinje 4.83 107 *e*Pn **Pn** **15 24 59.7 -1.3**
GELF Grande-Etoile 4.88 262 Pn **Pn** **15 25 02.7 +1.0**
WET Wettzell 4.90 6 *e*Pn **Pn** **15 25 00.9 -0.9**
WET *e*Sn **Sn** **15 25 55.7 -3.6**
MOF Molkenrain 4.95 318 Pn **Pn** **15 25 02.7 +0.1**
KHC Kasperske Hory 4.96 12 PN **Pn** **15 25 01.5 -1.3**
KHC *ex* x 15 25 10.5
KHC *e*SN **Sn** **15 25 56.3 -4.6**
KHC *ex* x 15 26 42.0
KHC Kasperske Hory 4.96 12 Pn **Pn** **15 25 01.5 -1.3**
KHC *e*Sn **Sn** **15 25 56.3 -4.6**
HINF Hinteralfeld 5.06 316 *e*Pn **Pn** **15 25 03.5 -0.7**
HINF *e*Sn **Sn** **15 25 57.6 -5.9**
comp=Z,36nm,0.3s
VSL Villasalto 5.18 204 *e*Pn **Pn** **15 25 06.4 +0.5**
VSL *e*Sn **Sn** **15 26 06.3 -0.3**
VSL Villasalto 5.18 204 *e*Pn **Pn** **15 25 06.4 +0.5**
ECH Echery 5.20 321 Pn **Pn** **15 25 05.9 -0.2**
WLS Welschbruch 5.26 323 Pn **Pn** **15 25 06.7 -0.3**
CDF Champ du Feu 5.29 323 *e*Pn **Pn** **15 25 07.0 -0.5**
CDF *e*Sn **Sn** **15 26 03.2 -6.1**
comp=Z,20nm,0.3s
VIVF Saint-Julien-l 5.31 279 *e*Pn **Pn** **15 25 07.0 -0.7**
GRA1 Grafenberg Arr 5.44 354 *e*Sn **Sn** **15 26 06.2 -6.8**
GRA1 Grafenberg Arr 5.44 354 *e*Sn **Sn** **15 26 06.2 -6.8**
GRF Grafenberg Arr 5.44 354 *e*Sn **Sn** **15 26 06.2 -6.8**
GRF Grafenberg Arr 5.44 354 *e*Sn **Sn** **15 26 06.2 -6.8**
HAU Haudompre 5.44 315 *e*Pn **Pn** **15 25 08.8 -0.8**
HAU *e*Sn **Sn** **15 26 07.4 -5.6**
comp=Z,98nm,0.3s
LANF Langenberg 5.54 330 Pn **Pn** **15 25 10.5 -0.4**

KRUC	**Moravsky**	**5.63**	**30**	*e*Pn	**Pn**	**15 25 10.5**	**-1.7**
THEF	**They Montfort**	**5.77**	**315**	Pn	**Pn**	**15 25 13.8**	**-0.4**
LASF	**Ste Croix**	**5.91**	**271**	*e*Pn	**Pn**	**15 25 15.5**	**-0.6**
LASF				*e*Sn	**Sn**	**15 26 20.6**	**-4.0**
	comp=Z,4.0nm,0.3s						
PRU	**Pruhonice**	**5.95**	**16**	*e*PN	**Pn**	**15 25 16.7**	**-0.1**
PRU				*e*SN	**Sn**	**15 26 19.7**	**-6.1**
NKC	**Novy Kostel**	**5.96**	**2**	*e*PN	**Pn**	**15 25 17.9**	**+1.1**
NKC				*e*SN	**Sn**	**15 26 19.6**	**-6.4**
TANN	**Tannenbergstha**	**6.14**	**2**	*e*Pn	**Pn**	**15 25 19.0**	**-0.4**
PLDF	**La Plantade**	**6.21**	**289**	Pn	**Pn**	**15 25 19.5**	**-0.8**
SMF	**Signal de Mont**	**6.25**	**295**	*e*Pn	**Pn**	**15 25 19.8**	**-1.1**
SMF				*e*Sn	**Sn**	**15 26 28.8**	**-4.3**
	comp=Z,85nm,0.6s						
LBL	**Lubilhac**	**6.35**	**282**	Pn	**Pn**	**15 25 22.3**	**0.0**
MOX	**Moxa**	**6.37**	**357**	*e*Pn	**Pn**	**15 25 22.4**	**-0.3**
MOX				*i* Sn	**Sn**	**15 26 29.8**	**-6.5**
MOX	**Moxa**	**6.37**	**357**	*i* P	**Pn**	**15 25 22.4**	**-0.3**
MOX				S	**Sn**	**15 26 29.0**	**-7.3**
MOX	**Moxa**	**6.37**	**357**	*e*Pn	**Pn**	**15 25 20.7**	**-2.0**
MOX				*e*Sn	**Sn**	**15 26 29.8**	**-6.5**
MEZF	**Maizieres J'vi**	**6.43**	**314**	*e*Pn	**Pn**	**15 25 22.0**	**-1.4**
	baz=130						
MEZF				*e*Sn	**Sn**	**15 26 31.4**	**-6.2**
	comp=Z,14nm,0.3s						
TNS	**Taunus Mts**	**6.43**	**339**	*e*Pn	**Pn**	**15 25 22.8**	**-0.7**
LOR	**Lormes**	**6.47**	**300**	*e*Pn	**Pn**	**15 25 23.1**	**-0.9**
	baz=121						
LOR				*e*Sn	**Sn**	**15 26 32.8**	**-5.9**
	comp=Z,38nm,0.4s						
SSF	**Saint Saulge**	**6.61**	**298**	*e*Pn	**Pn**	**15 25 24.6**	**-1.4**
SSF				*e*Sn	**Sn**	**15 26 35.3**	**-6.9**
	comp=Z,9.0nm,0.4s						
BRG	**Berggiesshubel**	**6.72**	**10**	Sg	**Sg**	**15 27 31.9**	**+1.9**
UPC	**Upice**	**6.78**	**22**	*e*SN	**Sn**	**15 26 40.7**	**-5.8**
UPC	**Upice**	**6.78**	**22**	*e*Sn	**Sn**	**15 26 40.7**	**-5.8**
BGF	**Bois d'Agland**	**6.87**	**293**	*e*Pn	**Pn**	**15 25 28.5**	**-1.2**
BGF				*e*Sn	**Sn**	**15 26 43.8**	**-5.0**
	comp=Z,46nm,0.4s						
CLL	**Collm**	**7.06**	**5**	*e*	**Sn**	**15 27 05.0**	**+12**
CLL				*e*	**Sg**	**15 27 35.0**	**-6.4**
CLL				*e*SG	**Sg**	**15 27 43.0**	**+1.6**
CLL	**Collm**	**7.06**	**5**	*e*Sg	**Sg**	**15 27 35.0**	**-6.4**
CAF	**Calviac**	**7.17**	**279**	*e*Pn	**Pn**	**15 25 32.8**	**-1.0**
MTLF	**Montolieu**	**7.18**	**266**	*e*Pn	**Pn**	**15 25 33.6**	**-0.5**
HYF	**Humbligny**	**7.23**	**298**	*e*Sn	**Sn**	**15 26 52.5**	**-5.3**
TCF	**Toulx Ste Croi**	**7.23**	**290**	*e*Pn	**Pn**	**15 25 33.1**	**-1.7**
TCF				*e*Sn	**Sn**	**15 26 50.3**	**-7.5**
	comp=Z,9.2nm,0.3s						
RJF	**Les Rejaudoux**	**7.57**	**281**	*e*Pn	**Pn**	**15 25 38.2**	**-1.3**
BAIF	**Baives**	**7.87**	**320**	*e*Pn	**Pn**	**15 25 41.1**	**-2.6**
EPF	**Esparros**	**8.59**	**266**	*e*Pn	**P**	**15 25 53.1**	**-0.6**
FLN	**La Foliniere**	**9.74**	**302**	*e*Pn	**P**	**15 26 06.7**	**-2.8**
	baz=122						
SGMF	**Saint Gilles**	**10.87**	**297**	*e*Pn	**P**	**15 26 22.3**	**-2.7**

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*IDC **15** 15:48:51.9±0.8, 20.33N×155.03W, mb4.8/20, mb1 4.9/20, mb1mx4.9/24, mbtmp4.8/20, MS4.5/15, Ms1 4.5/15, ms1mx4.5/17, Error ellipse: s-maj=26.8km s-min=15.1km az=150.0*

*HRVD **15** 15:48:54.5±0.2, 20.34N×155.01W, h12km, MW5.3/69, Centroid moment Tensor Solution. LP body waves: s41,c71; Mantle waves: s69,c141; Half duration: 1.1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.08±.02; $M_{\theta\theta}$0.29±.02; $M_{\phi\phi}$-0.36±.02; $M_{r\theta}$0.51±.05; $M_{\theta\phi}$-0.91±.02; $M_{\phi r}$0.01±.05; Best double couple: $M_0$1.098×10^{17} NP1:ϕ_s171°,δ63°,λ5°. NP2:ϕ_s79°,δ85°,λ153°. Principal axes: T 1.101, Plg23°, Azm32°; N -.007, Plg62°, Azm250°; P -1.095, Plg15°, Azm128°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **15** 15:48:54.5, 20.44N×155.13W, h18km, mb5.2/63, MS4.7/105, MD5.3(HVO), After HVO.*

NEIC Felt [V] at Honokaa, Honomu, Ookala, Papaikou and Pepeekeo; [IV] at Hakalau, Hawi, Hilo, Kamuela, Keaau, Laupahoehoe, Paauilo, Pahoa, Papaaloa and Waikoloa; [III] at Captain Cook, Holualoa, Kailua Kona, Kapaau and Volcano. Felt throughout the Island of Hawaii. Also felt [IV] at Hawaii Kai, Kailua, Manoa and Waimanalo; [III] at Honolulu; [II] at Makiki and Palolo Valley, Oahu. Felt [III] at Haiku, Kula, Makawao and Wailuku; [II] at Kihei and Lahaina, Maui.

*MOS **15** 15:48:54.7±1.0, 20.29N×155.15W, h33km, mb5.3/40, MS4.7/27, Error ellipse: s-maj=8.4km s-min=5.7km az=56.3*

*BJI **15** 15:48:57.4, 20.86N×155.95W, h17km, mB5.2, mb5.0, Ms5.2, Msz4.8*

ISC 15 15:48:51.9±0.1**, 20.37N**±0.02×**155.14W**±0.03**, h10**km**, (h16**km±3.1km**:pP-P), n339,** σ**0.91**/269**, mb5.0**/96**, MS4.7**/131**, 27C-12D, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKU	**Keanakolu**	**0.51**	**202**	⇑*i*P	**Pg**	**15 49 04.4**	**+2.1**
KOH	**Kohala**	**0.65**	**248**	⇓*i*P	**Pb**	**15 49 05.4**	**+0.6**
KOH				*e*S	**Sb**	**15 49 14.2**	**+0.6**
HPU	**Hale Pohaku**	**0.66**	**207**	⇓*e*P	**Pb**	**15 49 06.2**	**+1.2**
NGH	**National Guard**	**0.67**	**171**	⇑*e*P	**Pb**	**15 49 06.4**	**+1.2**
HMH	**Humuula**	**0.82**	**203**	⇓*i*P	**Pb**	**15 49 08.8**	**+0.9**
PLL	**Puu Ulaula**	**0.88**	**200**	⇑*i*P	**Pb**	**15 49 09.5**	**+0.6**
MLH	**Mauna Loa**	**0.90**	**195**	⇑*i*P	**Pb**	**15 49 09.7**	**+0.6**
RSD	**Rainshed**	**0.91**	**188**	⇑*e*P	**Pb**	**15 49 09.8**	**+0.5**
PKL	**Puu Kaliu**	**0.93**	**167**	⇓*e*P	**Pb**	**15 49 09.7**	**0.0**
HUH	**Hualalai**	**0.94**	**224**	⇑*e*P	**Pb**	**15 49 10.7**	**+0.8**
UWE	**Uwekahuna**	**0.95**	**189**	⇑*e*P	**Pb**	**15 49 10.1**	**0.0**
ESR	**Escape Road**	**0.96**	**186**	⇑*e*P	**Pb**	**15 49 10.2**	**0.0**
HUL	**Heiheiahulu**	**0.96**	**171**	⇓*e*P	**Pb**	**15 49 10.1**	**0.0**
NPH	**North Pit**	**0.96**	**188**	⇑*e*P	**Pb**	**15 49 10.2**	**+0.1**
KLCH	**Kalalua Cone**	**0.96**	**176**	⇑*e*P	**Pb**	**15 49 10.1**	**-0.1**
RIM	**Rim**	**0.97**	**188**	⇑*e*P	**Pb**	**15 49 10.6**	**+0.1**
STCH	**Steam Cracks**	**0.97**	**179**	⇑*e*P	**Pb**	**15 49 10.4**	**0.0**
MWH	**Mokuaweoweo**	**0.97**	**206**	⇑*i*P	**Pb**	**15 49 10.9**	**+0.5**
OUT	**Outlet**	**0.98**	**188**	⇑*e*P	**Pb**	**15 49 10.6**	**0.0**
CPK	**Cone Peak**	**0.98**	**190**	⇑*e*P	**Pb**	**15 49 10.5**	**-0.1**
KNHH	**Kane Nui o Ham**	**0.98**	**182**	⇑*e*P	**Pb**	**15 49 10.6**	**0.0**
WIH	**Wilkes Camp**	**0.99**	**205**	⇓*e*P	**Pb**	**15 49 10.9**	**+0.2**
PUH	**Pauahi**	**0.99**	**184**	⇓*e*P	**Pb**	**15 49 10.6**	**-0.1**
AHA	**Ahua**	**1.00**	**187**	⇓*e*P	**Pb**	**15 49 10.7**	**-0.1**
SWH	**Southwest Rift**	**1.01**	**206**	⇑*e*P	**Pb**	**15 49 11.1**	**+0.1**
AIN	**Ainahou**	**1.03**	**197**	⇑*e*P	**Pb**	**15 49 11.5**	**+0.1**
KIH	**Kanekii**	**1.04**	**215**	⇓*e*P	**Pb**	**15 49 11.8**	**+0.4**
DES	**Desert**	**1.05**	**193**	⇓*e*P	**Pb**	**15 49 11.4**	**-0.3**
RCO	**Red Cone**	**1.06**	**206**	⇑*e*P	**Pb**	**15 49 11.7**	**-0.2**
KAE	**Kaena**	**1.07**	**180**	⇑*e*P	**Pb**	**15 49 11.8**	**-0.3**
HLP	**Hilina Pali**	**1.07**	**189**	⇑*e*P	**Pb**	**15 49 11.7**	**-0.5**
PWH	**Poliokeawe Pal**	**1.08**	**184**	⇑*e*P	**Pb**	**15 49 11.9**	**-0.4**
KKH	**Kailua Kona**	**1.09**	**230**	*e*P	**Pb**	**15 49 11.8**	**-0.6**
HKL	**Haleakala**	**1.10**	**288**	*e*P	**Pb**	**15 49 11.2**	**-1.4**
DAH	**Dandelion**	**1.12**	**206**	⇑*e*P	**Pb**	**15 49 12.4**	**-0.6**
WOH	**Wood Valley**	**1.16**	**197**	⇓*e*P	**Pb**	**15 49 13.1**	**-0.5**
PPL	**Puu Pili**	**1.24**	**194**	⇑*e*P	**Pb**	**15 49 14.1**	**-0.9**
HPO	**Honuapo**	**1.33**	**197**	*e*P	**Pb**	**15 49 15.2**	**-1.3**
OVEH	**Oceanview Est**	**1.34**	**206**	⇑*e*P	**Pb**	**15 49 15.7**	**-1.0**
HON	**Honolulu**	**2.84**	**290**	*e*P	**Pn**	**15 49 35.0**	**-3.2**
KIP	**Kipapa**	**2.88**	**292**	*e*P	**Pn**	**15 49 35.3**	**-3.6**
KIP				*e*S	**Sn**	**15 50 03.7**	**-10**
MIDW	**Midway**	**21.69**	**295**	PFAKE		15 54 00.0	+15
MIDW				LR	LR		
	comp=Z,3µm,20.0s,MS4.7						
TAOE	**Nuku Hiva Isla**	**32.57**	**152**	*e*LR	LR	16 03 44.1	
	comp=Z,6µm,25.9s						
HOPS	**Hopland**	**33.24**	**49**	*e*P	**P**	**15 55 30.5**	**-0.9**
	comp=Z,33nm,1.2s,mb5.1						
HOPS				LR	LR		
	comp=Z,1µm,19.0s,MS4.6						
SAO	**San Andreas Ge**	**33.59**	**54**	*e*P	**P**	**15 55 33.3**	**-1.1**
SAO				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.2						
SAO				MLR	MLR		
	comp=Z,1µm,19.0s,MS4.6						
SAO	**San Andreas Ge**	**33.59**	**54**	*e*P	**P**	**15 55 33.3**	**-1.2**
	comp=Z,23nm,0.8s,mb5.2						
SAO				LR	LR		
	comp=Z,1µm,19.0s,MS4.6						
KHMM	**Horse Mountain**	**33.62**	**46**	*e*P	**P**	**15 55 34.9**	**+0.2**
LRV	**Little Rabbit**	**33.80**	**54**	*e*P	**P**	**15 55 35.2**	**-1.1**
KRMB	**Red Mountain**	**33.81**	**44**	*e*P	**P**	**15 55 36.8**	**+0.4**
KEBM	**Edson Butte**	**34.21**	**42**	*e*P	**P**	**15 55 39.8**	**+0.1**
WDC	**Whiskeytown Da**	**34.29**	**47**	*e*P	**P**	**15 55 40.5**	**0.0**
WDC				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
WDC				MLR	MLR		
	comp=Z,2µm,20.0s,MS4.9						
WDC	**Whiskeytown Da**	**34.29**	**47**	*e*P	**P**	**15 55 40.5**	**+0.1**
	comp=Z,12nm,1.0s,mb4.8						
WDC				LR	LR		
	comp=Z,2µm,20.0s,MS4.9						
YBH	**Yreka Blue Hor**	**34.70**	**45**	*e*P	**P**	**15 55 44.9**	**+0.9**
YBH				pmax	pmax		
	comp=Z,48nm,0.9s						
YBH				MLR	MLR		
	comp=Z,2µm,21.0s						
YBH	**Yreka Blue Hor**	**34.70**	**45**	*e*P	**P**	**15 55 44.9**	**+1.0**
	comp=Z,48nm,0.9s,mb5.4						
YBH				LR	LR		
	comp=Z,2µm,21.0s,MS4.8						
CMB	**Columbia Colle**	**34.82**	**52**	*e*P	**P**	**15 55 44.6**	**-0.4**
CMB				pmax	pmax		
	comp=Z,106nm,1.9s,mb5.5						
CMB				MLR	MLR		
	comp=Z,2µm,20.0s,MS4.9						
CMB	**Columbia Colle**	**34.82**	**52**	*e*P	**P**	**15 55 44.6**	**-0.4**
	comp=Z,106nm,1.9s,mb5.5						
CMB				LR	LR		
	comp=Z,2µm,20.0s,MS4.9						
HUMO	**Hull Mountain**	**34.95**	**43**	PFAKE		15 56 00.0	+14
HUMO				LR	LR		
	comp=Z,2µm,22.0s,MS4.8						
LBCM	**Butte Creek Ri**	**35.22**	**47**	P	**P**	**15 55 49.1**	**+0.7**
BUOR	**Burton Butte**	**35.26**	**44**	P	**P**	**15 55 49.8**	**+1.0**
BEKR	**Beckwourth**	**35.51**	**49**	*e*P	**P**	**15 55 50.8**	**-0.2**
	comp=Z,7.4nm,0.8s,mb4.7						
MWC	**Mount Wilson**	**35.52**	**59**	*e*P	**P**	**15 55 50.6**	**-0.5**
OMM	**Old Mammoth Mi**	**35.72**	**53**	*e*P	**P**	**15 55 53.2**	**+0.5**
WCN	**Washoe City**	**35.73**	**50**	*e*P	**P**	**15 55 52.6**	**-0.2**
WCN				*e*		15 56 03.3	
WCN				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
WCN	**Washoe City**	**35.73**	**50**	*e*P	**P**	**15 55 52.6**	**-0.2**
	comp=Z,18nm,0.8s,mb5.0						
WCN				*e*		15 56 03.3	
COR	**Corvallis**	**35.75**	**40**	PFAKE		15 56 00.0	+7.1
COR				LR	LR		
	comp=Z,1µm,22.0s,MS4.7						
WAKE	**Wake Island**	**35.91**	**275**	PFAKE		15 56 10.0	+16
WAKE				LR	LR		
	comp=Z,537nm,19.0s,MS4.3						
MTUM	**Tungsten Hills**	**35.96**	**54**	*e*P	**P**	**15 55 55.1**	**+0.4**
BAR	**Barrett**	**36.35**	**62**	*e*P	**P**	**15 55 57.5**	**-0.6**
MOD	**Modoc**	**36.38**	**46**	P	**P**	**15 55 59.2**	**+0.9**
MOD				LR	LR		
	comp=Z,2µm,19.0s,MS4.8						
DAC	**Darwin (Calif)**	**36.40**	**56**	*e*P	**P**	**15 55 58.0**	**-0.5**
DAC				pmax	pmax		
	comp=Z,51nm,1.7s,mb5.2						
DAC				MLR	MLR		
	comp=Z,2µm,21.0s,MS4.8						
DAC	**Darwin (Calif)**	**36.40**	**56**	*e*P	**P**	**15 55 58.0**	**-0.4**
	comp=Z,51nm,1.7s,mb5.2						
DAC				LR	LR		
	comp=Z,2µm,21.0s,MS4.8						
PFO	**Pinyon Flat Ob**	**36.70**	**61**	*e*P	**P**	**15 56 00.5**	**-0.5**
PFO				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.0						
PFO				MLR	MLR		
	comp=Z,366nm,22.0s,MS4.1						
PFO	**Pinyon Flat Ob**	**36.70**	**61**	*e*P	**P**	**15 56 00.5**	**-0.5**
	comp=Z,26nm,1.1s,mb5.0						
PFO				LR	LR		
	comp=Z,366nm,22.0s,MS4.1						
PINOR	**Pine Mountain**	**36.87**	**43**	P	**P**	**15 56 03.8**	**+1.4**
OCWA	**Octopus Mounta**	**37.03**	**35**	*e*P	**P**	**15 56 04.7**	**+1.0**
	comp=Z,46nm,0.8s,mb5.4						
OCWA				LR	LR		
	comp=Z,2µm,22.0s,MS4.8						
TPH	**Tonopah**	**37.19**	**53**	*e*P	**P**	**15 56 05.3**	**+0.2**
TPH				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
TPH				MLR	MLR		
	comp=Z,1µm,20.0s,MS4.8						
TPH	**Tonopah**	**37.19**	**53**	*e*P	**P**	**15 56 05.3**	**+0.2**
	comp=Z,9.6nm,0.7s,mb4.7						
TPH				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
VIPM	**Ingram Point**	**37.36**	**42**	P	**P**	**15 56 07.9**	**+1.4**
WVOR	**Wild Horse Val**	**37.73**	**46**	PFAKE		15 56 20.0	+10
WVOR				LR	LR		
	comp=Z,2µm,20.0s,MS4.9						
AFI	**Afiamalu**	**37.79**	**207**	PFAKE		15 56 20.0	+10
AFI				LR	LR		
	comp=Z,995nm,19.0s,MS4.6						
LON	**Longmire**	**37.79**	**38**	P	**P**	**15 56 11.0**	**+0.9**
WPW	**White Pass**	**37.92**	**38**	P	**P**	**15 56 12.2**	**+1.1**
BMN	**Battle Mountai**	**37.95**	**50**	*e*P	**P**	**15 56 12.2**	**+0.7**
BMN				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.9						
BMN				MLR	MLR		
	comp=Z,1µm,21.0s,MS4.7						
BMN	**Battle Mountai**	**37.95**	**50**	*e*P	**P**	**15 56 12.2**	**+0.7**
	comp=Z,27nm,1.0s,mb4.9						
BMN				LR	LR		
	comp=Z,1µm,21.0s,MS4.7						
PGC	**Sidney**	**37.96**	**34**	*e*P	**P**	**15 56 12.1**	**+0.7**
	comp=Z,52nm,0.8s,mb5.3						
LDFC	**Landfair**	**38.08**	**59**	*e*P	**P**	**15 56 12.7**	**0.0**
PPT	**Papeete**	**38.09**	**171**	*e*S	**S**	**16 02 09.0**	**+3.8**
	comp=Z,60nm,22.0s						
PPT				*e*LQ		16 04 06.1	
	comp=Z,2µm,25.2s						
PPT				*e*LR	LR	16 04 45.7	
	comp=Z,739nm,25.2s,baz=360						
PPT	**Papeete**	**38.09**	**171**	LR	LR	16 07 40.3	
	comp=Z,380nm,19.8s,MS4.2,baz=348,slow=30						
NEN	**Nelson**	**38.41**	**58**	*e*P	**P**	**15 56 15.7**	**+0.3**
TRCR	**Troy Canyon**	**38.51**	**54**	*e*P	**P**	**15 56 16.8**	**+0.6**
TBM	**Table Mountain**	**38.72**	**38**	P	**P**	**15 56 19.3**	**+1.5**
WTV	**Waterville**	**39.37**	**38**	P	**P**	**15 56 24.3**	**+1.0**
EPH	**Ephrata**	**39.40**	**39**	P	**P**	**15 56 24.5**	**+1.0**
SIT	**Sitka**	**39.46**	**17**	PFAKE		15 56 30.0	+6.1
SIT				LR	LR		
	comp=Z,2µm,21.0s,MS5.0						
ELK	**Elko**	**39.48**	**50**	*e*P	**P**	**15 56 24.9**	**+0.6**
ELK				pmax	pmax		
	comp=Z,40nm,1.1s						
ELK				MLR	MLR		
	comp=Z,1µm,19.0s						
ELK	**Elko**	**39.48**	**50**	*e*P	**P**	**15 56 24.9**	**+0.6**
	comp=Z,40nm,1.1s,mb5.1						
ELK				LR	LR		
	comp=Z,1µm,19.0s,MS4.8						
BMO	**Blue Mountains**	**39.62**	**43**	*e*P	**P**	**15 56 25.6**	**+0.2**
BMO				pmax	pmax		
	comp=Z,32nm,1.4s,mb4.9						
BMO				MLR	MLR		
	comp=Z,1µm,20.0s,MS4.8						
BMO	**Blue Mountains**	**39.62**	**43**	*e*P	**P**	**15 56 25.6**	**+0.2**
	comp=Z,32nm,1.4s,mb4.9						
BMO				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
OD2	**Odessa Site #2**	**39.94**	**39**	P	**P**	**15 56 28.7**	**+0.7**
ARUT	**Antelope Range**	**39.99**	**55**	*e*P	**P**	**15 56 29.1**	**+0.5**
RSO	**Redoubt South**	**40.09**	**2**	*e*P	**P**	**15 56 29.3**	**+0.2**
SMY	**Shemya**	**40.09**	**331**	*e*P	**P**	**15 56 29.1**	**-0.1**
SMY				pmax	pmax		
	comp=Z,103nm,0.8s,mb5.6						
SMY				MLR	MLR		
	comp=Z,2µm,22.0s,MS4.9						
SMY	**Shemya**	**40.09**	**331**	*e*P	**P**	**15 56 29.1**	**-0.1**
	comp=Z,103nm,0.8s,mb5.6						
SMY				LR	LR		
	comp=Z,2µm,22.0s,MS4.9						
SLKM	**Skilak Lake**	**40.25**	**4**	*e*P	**P**	**15 56 30.4**	**0.0**
FX1	**Attu Island--F**	**40.62**	**331**	*e*P	**P**	**15 56 33.8**	**+0.3**
EYAK	**Cordova Ski Ar**	**40.69**	**7**	*e*P	**P**	**15 56 34.1**	**0.0**
SVW2	**Sparrevohn**	**40.69**	**360**	*e*P	**P**	**15 56 34.2**	**+0.2**
SPU	**Mount Spurr**	**40.83**	**2**	*e*P	**P**	**15 56 35.2**	**+0.1**
FIB	**Fire Island**	**40.91**	**4**	PFAKE		15 56 50.0	+14
FIB				LR	LR		
	comp=Z,2µm,22.0s,MS4.8						
HLID	**Hailey**	**41.02**	**46**	*e*P	**P**	**15 56 37.7**	**+0.8**
	comp=Z,58nm,0.8s,mb5.3						
HLID				LR	LR		
	comp=Z,2µm,22.0s,MS4.9						
MVU	**Marysvale**	**41.10**	**54**	*e*P	**P**	**15 56 38.5**	**+0.9**
	comp=Z,36nm,1.0s,mb5.0						
MVU				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
MSU	**Marysvale**	**41.13**	**54**	*e*P	**P**	**15 56 38.7**	**+0.8**
TUC	**Tucson**	**41.23**	**64**	*e*P	**P**	**15 56 38.9**	**+0.2**
TUC				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.4						
TUC				MLR	MLR		
	comp=Z,734nm,20.0s,MS4.5						
TUC	**Tucson**	**41.23**	**64**	*e*P	**P**	**15 56 38.9**	**+0.2**
	comp=Z,14nm,1.3s,mb4.4						
TUC				LR	LR		
	comp=Z,734nm,20.0s,MS4.5						
DIV	**Divide**	**41.26**	**7**	*e*P	**P**	**15 56 38.8**	**+0.2**
	comp=Z,91nm,1.2s,mb5.3						
DIV				LR	LR		
	comp=Z,4µm,19.0s,MS5.2						
NEW	**Newport**	**41.30**	**39**	*e*P	**P**	**15 56 38.9**	**-0.2**
NEW				pmax	pmax		
	comp=Z,28nm,0.9s						
NEW				MLR	MLR		
	comp=Z,778nm,20.0s						
NEW	**Newport**	**41.30**	**39**	P	**P**	**15 56 39.4**	**+0.3**
	comp=Z,28nm,0.9s,mb4.9,baz=236,slow=6.5,SNR=28						
NEW	**Newport**	**41.30**	**39**	*e*P	**P**	**15 56 38.9**	**-0.2**
	comp=Z,28nm,0.9s,mb4.9						
NEW				LR	LR		
	comp=Z,778nm,20.0s,MS4.6						
NLU	**North Lily Min**	**41.57**	**52**	*e*P	**P**	**15 56 41.9**	**+0.5**
NLU				*e*		15 56 52.0	
HVU	**Hansel Valley**	**41.57**	**49**	*e*P	**P**	**15 56 42.0**	**+0.5**
SPUT	**South Promonto**	**41.66**	**50**	*e*P	**P**	**15 56 42.9**	**+0.6**
SML	**Sawmill**	**41.68**	**5**	*e*P	**P**	**15 56 42.0**	**0.0**
NOQ	**North Oquirrh**	**41.72**	**51**	*e*P	**P**	**15 56 43.3**	**+0.6**
MPU	**Maple Canyon**	**41.91**	**52**	*e*P	**P**	**15 56 44.6**	**+0.3**
CTU	**Camp Tracy**	**42.00**	**51**	*e*P	**P**	**15 56 45.4**	**+0.4**
TMUT	**Trail Mountain**	**42.05**	**53**	*e*P	**P**	**15 56 46.2**	**+0.7**
DLBC	**Dease Lake**	**42.17**	**19**	P	**P**	**15 56 47.9**	**+1.7**
	comp=Z,17nm,0.8s,mb4.7,baz=224,slow=8.6,SNR=27						
DLBC	**Dease Lake**	**42.17**	**19**	*e*P	**P**	**15 56 47.1**	**+1.0**
JLU	**Jordanelle**	**42.20**	**52**	*e*P	**P**	**15 56 47.0**	**+0.4**
JLU				*e*		15 56 56.7	
DAU	**Daniels Canyon**	**42.29**	**52**	*e*P	**P**	**15 56 48.0**	**+0.6**
TCUT	**Toone Canyon**	**42.37**	**51**	*e*P	**P**	**15 56 48.6**	**+0.6**
HWUT	**Hardware Ranch**	**42.39**	**50**	PFAKE		15 57 00.0	+12
HWUT				LR	LR		
	comp=Z,666nm,20.0s,MS4.5						
MCMT	**McKenzie Canyo**	**42.53**	**45**	*e*P	**P**	**15 56 49.9**	**+0.6**
SRU	**San Rafael**	**42.53**	**54**	*e*P	**P**	**15 56 49.9**	**+0.6**
TTA	**Tatalina**	**42.54**	**359**	*e*P	**P**	**15 56 49.1**	**0.0**
MSO	**Missoula**	**42.59**	**42**	*e*P	**P**	**15 56 49.4**	**-0.3**
	comp=Z,20nm,1.1s,mb4.8						
MSO				LR	LR		
	comp=Z,694nm,19.0s,MS4.6						
AHID	**Auburn Hatcher**	**43.05**	**49**	PFAKE		15 57 00.0	+6.4
AHID				LR	LR		
	comp=Z,1µm,19.0s,MS4.8						
CHMT	**Chamberlain Mo**	**43.05**	**42**	*e*P	**P**	**15 56 53.1**	**-0.4**
RRI2	**Red Ridge**	**43.07**	**48**	*e*P	**P**	**15 56 54.4**	**+0.6**
	comp=Z,103nm,1.1s,mb5.5						
TPAW	**Teton Pass**	**43.37**	**48**	*e*P	**P**	**15 56 56.7**	**+0.6**
	comp=Z,134nm,1.1s,mb5.6						
REDW	**Red Top Meadow**	**43.40**	**48**	*e*P	**P**	**15 56 56.8**	**+0.3**
	comp=Z,149nm,1.2s,mb5.6						
QLMT	**Earthquake Lak**	**43.48**	**46**	*e*P	**P**	**15 56 57.8**	**+0.8**
SNOW	**Snow King Moun**	**43.50**	**48**	*e*P	**P**	**15 56 57.7**	**+0.5**
	comp=Z,73nm,1.0s,mb5.4						
IMW	**Indian Meadow**	**43.51**	**47**	*e*P	**P**	**15 56 57.7**	**+0.5**
	comp=Z,45nm,1.0s,mb5.2						
MCK	**McKinley**	**43.54**	**4**	*e*P	**P**	**15 56 57.1**	**-0.1**
MCK				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.9						
MCK				MLR	MLR		
	comp=Z,239nm,21.0s,MS4.1						
MCK	**McKinley**	**43.54**	**4**	*e*P	**P**	**15 56 57.1**	**-0.2**
	comp=Z,24nm,0.9s,mb4.9						
MCK				LR	LR		
	comp=Z,239nm,21.0s,MS4.1						
WALA	**Waterton Lakes**	**43.55**	**39**	*e*P	**P**	**15 56 57.8**	**+0.2**
	comp=Z,57nm,0.9s,mb5.3						
MOOW	**Moose Ponds**	**43.59**	**47**	*e*P	**P**	**15 56 58.0**	**0.0**
	comp=Z,42nm,1.2s,mb5.0						
BOZ	**Bozeman (W)**	**43.62**	**44**	*e*P	**P**	**15 56 58.3**	**+0.1**
BOZ				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.3						
BOZ				MLR	MLR		
	comp=Z,1µm,20.0s,MS4.8						
BOZ	**Bozeman (W)**	**43.62**	**44**	*e*P	**P**	**15 56 58.2**	**+0.1**
	comp=Z,58nm,0.9s,mb5.3						
BOZ				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
LOHW	**Long Hollow**	**43.65**	**48**	*e*P	**P**	**15 56 58.6**	**+0.2**
	comp=Z,4.3nm,0.4s,mb4.5						
YMR	**Madison River**	**43.73**	**46**	*e*P	**P**	**15 56 60.0**	**+0.9**
YFT	**Old Faithful**	**43.75**	**46**	*e*P	**P**	**15 57 01.0**	**+1.8**
TBI	**Tubuai**	**43.80**	**172**	*e*S	**S**	**16 03 28.6**	**-1.5**
	comp=Z,120nm,24.8s						
TBI				*e*LQ		16 06 35.0	
	comp=Z,3µm,31.0s						
HRY	**Holter Researc**	**43.88**	**43**	*e*P	**P**	**15 56 60.0**	**-0.2**
YNR	**Norris Junctio**	**43.94**	**46**	*e*P	**P**	**15 57 02.2**	**+1.4**
LKWY	**Lake**	**44.08**	**46**	*e*P	**P**	**15 57 03.5**	**+1.6**
LKWY				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8						
LKWY				MLR	MLR		
	comp=Z,3µm,22.0s,MS5.1						
LKWY	**Lake**	**44.08**	**46**	*e*P	**P**	**15 57 03.5**	**+1.6**
	comp=Z,16nm,0.8s,mb4.8						
LKWY				LR	LR		
	comp=Z,3µm,22.0s,MS5.1						
BW06	**Boulder Array**	**44.14**	**49**	*e*P	**P**	**15 57 02.0**	**-0.4**
	comp=Z,35nm,1.1s,mb5.0						
BW06				LR	LR		
	comp=Z,965nm,22.0s,MS4.7						
PDAR	**Pinedale Array**	**44.14**	**49**	P	**P**	**15 57 02.4**	**0.0**
	comp=Z,23nm,1.0s,mb4.9,baz=236,slow=5.3,SNR=111						
PDAR				LR	LR	16 12 09.0	
	comp=Z,749nm,18.1s,MS4.7,baz=270,slow=32						
LAZ	**Ladron**	**44.47**	**61**	*e*P	**P**	**15 57 05.5**	**+0.3**
LENM	**Lemitar**	**44.58**	**62**	*e*P	**P**	**15 57 06.5**	**+0.4**
ILAR	**Eielson Array**	**44.72**	**5**	P	**P**	**15 57 06.2**	**-0.5**
	comp=Z,38nm,0.8s,mb5.3,baz=196,slow=7.3,SNR=310						
ILAR				LR	LR	16 11 43.2	
	comp=Z,385nm,19.3s,MS4.3,baz=207,slow=31						
BNM	**Barren Site**	**44.87**	**62**	*e*P	**P**	**15 57 08.6**	**+0.2**
GCMT	**Greycliff**	**44.97**	**45**	*e*P	**P**	**15 57 09.2**	**+0.2**
ANMO	**Albuquerque**	**45.08**	**61**	*c i*P	**P**	**15 57 10.4**	**+0.3**
ANMO	**Albuquerque**	**45.08**	**61**	P	**P**	**15 57 10.6**	**+0.5**
	comp=Z,6.7nm,0.9s,mb4.5,baz=252,slow=8.3,SNR=19						
ANMO	**Albuquerque**	**45.08**	**61**	*e*P	**P**	**15 57 10.2**	**+0.1**
	comp=Z,13nm,1.1s,mb4.7						
ANMO				LR	LR		
	comp=Z,844nm,19.0s,MS4.7						
SMCO	**Snowmass**	**45.25**	**55**	*e*P	**P**	**15 57 11.3**	**-0.1**
RWWY	**Rawlins**	**45.57**	**51**	*e*P	**P**	**15 57 12.7**	**-1.2**
	comp=Z,22nm,0.8s,mb5.2						
IMA	**Indian Mountai**	**45.69**	**1**	*e*P	**P**	**15 57 13.8**	**-0.7**
MNTX	**Cornudas Mount**	**45.77**	**65**	*e*P	**P**	**15 57 15.3**	**-0.3**
	comp=Z,19nm,0.9s,mb5.0						
MNTX				LR	LR		
	comp=Z,933nm,19.0s,MS4.8						
EDM	**Edmonton**	**45.81**	**34**	*e*P	**P**	**15 57 14.7**	**-0.9**
TNA	**Tin City**	**45.95**	**353**	PFAKE		15 57 30.0	+13
TNA				LR	LR		
	comp=Z,285nm,19.0s,MS4.2						
SDCO	**Great Sand Dun**	**46.17**	**57**	PFAKE		15 57 30.0	+11
SDCO				LR	LR		
	comp=Z,1µm,20.0s,MS4.9						
ISCO	**Idaho Springs**	**46.39**	**54**	*e*P	**P**	**15 57 20.3**	**-0.1**
ISCO				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
ISCO				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.1						
ISCO	**Idaho Springs**	**46.39**	**54**	*e*P	**P**	**15 57 20.3**	**-0.1**
	comp=Z,12nm,1.0s,mb4.8						
ISCO				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
GDL2	**Guadalupe Moun**	**46.65**	**65**	*e*P	**P**	**15 57 22.9**	**+0.4**
PHWY	**Pilot Hill**	**46.77**	**52**	*e*P	**P**	**15 57 22.6**	**-0.8**
CLNB	**Carlsbad**	**47.06**	**65**	*e*P	**P**	**15 57 26.2**	**+0.4**
CPRX	**Cap Rock**	**47.10**	**63**	*e*P	**P**	**15 57 26.1**	**+0.1**
LTX	**Lajitas**	**47.24**	**68**	*e*P	**P**	**15 57 27.9**	**+0.6**
LTX				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.3						
LTX				MLR	MLR		
	comp=Z,735nm,21.0s,MS4.6						

LTX Lajitas 47.24 68 *e*P **P 15 57 27.9 +0.6**
comp=Z,44nm,1.0s,mb5.3
LTX LR LR
comp=Z,735nm,21.0s,MS4.6
RKT Rikitea 47.49 154 *e*S **S 16 04 04.1 -19**
comp=Z,312nm,25.8s
RKT *e*LQ 16 08 29.2
comp=Z,1µm,27.5s
RKT *e*LR LR 16 10 25.6
comp=Z,1µm,29.2s,baz=335
LAO LASA Array 47.52 45 *e*P **P 15 57 29.4 +0.2**
comp=Z,285nm,1.6s,mb6.0
LAO LR LR
comp=Z,1µm,19.0s,MS5.0
PET Petropavlovsk 48.09 324 *e*P **P 15 57 35.0 +1.4**
PET *e*S **S 16 04 35.2 +4.2**
PET pmax pmax
comp=Z,22nm,0.9s,mb5.2
PET pmax pmax
comp=Z,100nm,7.3s
PET pmax pmax
comp=Z,100nm,7.5s
PET smax
comp=N,400nm,21.5s
PET smax
comp=E,500nm,20.6s
PET Petropavlovsk 48.09 324 PFAKE 15 57 40.0 +6.4
PET LR LR
comp=Z,601nm,20.0s,MS4.6
RSSD Black Hills 48.37 49 *e*P **P 15 57 34.8 -1.1**
RSSD pmax pmax
comp=Z,43nm,1.0s,mb5.4
RSSD MLR MLR
comp=Z,815nm,19.0s,MS4.7
RSSD Black Hills 48.37 49 *e*P **P 15 57 34.8 -1.1**
comp=Z,43nm,1.0s,mb5.4
RSSD LR LR
comp=Z,815nm,19.0s,MS4.7
SKR Severo-Kuril's 48.66 320 *e*P **P 15 57 37.5 -0.5**
SKR *e* 15 59 01.2
SKR *e* 16 04 42.0
SKR pmax pmax
comp=Z,90nm,0.7s,mb5.9
DGMT Dagmar 49.33 43 *e*P **P 15 57 43.1 -0.2**
comp=Z,71nm,1.0s,mb5.7
DGMT LR LR
comp=Z,846nm,20.0s,MS4.7
INK Inuvik 49.80 10 *e*P **P 15 57 45.2 -1.4**
INK pmax pmax
comp=Z,50nm,0.9s
INK Inuvik 49.80 10 P **P 15 57 45.4 -1.2**
comp=Z,40nm,0.9s,mb5.5,baz=204,slow=8.6,SNR=74
INK Inuvik 49.80 10 *e*P **P 15 57 45.2 -1.4**
comp=Z,50nm,0.9s,mb5.5
YKA Yellowknife Ar 50.39 23 P **P 15 57 50.4 -0.8**
comp=Z,9.0nm,0.6s,mb5.0,baz=232,slow=7.9,SNR=49
YKA PcP PcP 15 59 08.3 -1.6
comp=Z,3.1nm,0.7s,baz=242,slow=3.2,SNR=6.7
YKA LR LR 16 16 11.0
comp=Z,954nm,18.6s,MS4.8,baz=230,slow=32
YKW3 Yellowknife Ar 50.43 23 *e*P **P 15 57 50.0 -1.4**
FFC Flin Flon 52.55 36 PFAKE 15 58 20.0 +12
FFC LR LR
comp=Z,244nm,21.0s,MS4.2
HNR Honiara 53.18 240 PFAKE 15 58 20.0 +7.2
HNR LR LR
comp=Z,683nm,20.0s,MS4.7
KSU1 Kansas State U 53.24 56 *e*P **P 15 58 11.8 -1.1**
BILL Bilibino 53.38 343 *i* P **P 15 58 13.2 -0.4**
BILL *i* 15 58 23.1
BILL pmax pmax
comp=Z,28nm,1.7s,mb4.9
BILL MLR MLR
comp=Z,300nm,20.0s,MS4.3
BILL Bilibino 53.38 343 *e*P **P 15 58 12.8 -0.8**
comp=Z,21nm,0.8s,mb5.1
BILL LR LR
comp=Z,499nm,19.0s,MS4.6
MA2 Magadan 54.70 330 PFAKE 15 58 30.0 +6.7
MA2 LR LR
comp=Z,657nm,22.0s,MS4.7
NATX Nacogdoches 54.90 65 *e*P **P 15 58 24.1 -1.1**
NATX LR LR
comp=Z,769nm,20.0s,MS4.8
ULM Lac du Bonnet 55.03 42 P **P 15 58 23.8 -2.1**
comp=Z,9.2nm,0.6s,mb5.0,baz=262,slow=7.9,SNR=10
ULM LR LR 16 19 42.0
comp=Z,426nm,19.3s,MS4.5,baz=331,slow=34
SEY Seymchan 55.31 334 *e*P **P 15 58 27.7 -0.1**
SEY 15 59 25.7
SEY *e* 16 00 26.6
SEY *e*S **S 16 06 14.2 +4.2**
SEY SSS SSS 16 11 57.9 +1.1
SEY pmax pmax
comp=E,6.0nm,1.0s
SEY pmax pmax
comp=Z,12nm,1.0s,mb4.9
SEY pmax pmax
comp=N,10.0nm,1.4s
SEY smax
comp=N,810nm,28.2s
SEY smax
comp=E,450nm,21.9s
SEY MLR MLR
comp=Z,90nm,17.0s,MS3.9
SEY MLR MLR
comp=N,60nm,14.0s,MS3.9
SEY MLR MLR
comp=E,40nm,12.0s,MS3.9
ASAJ Asahikawa 56.32 310 P **P 15 58 35.6 +0.3**
comp=E,25nm,1.1s,mb5.2,baz=249,slow=0.5,SNR=5.9
YSS Yuzh-Sakhalins 56.44 313 ⇓ *i*P **P 15 58 43.0 +6.9**
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.4
YSS Yuzh-Sakhalins 56.44 313 PFAKE 15 58 50.0 +14
YSS LR LR
comp=Z,511nm,22.0s,MS4.6
CCM Cathedral Cave 57.43 57 *e*P **P 15 58 41.0 -2.3**
CCM pmax pmax
comp=Z,19nm,1.3s,mb5.0
CCM MLR MLR
comp=Z,709nm,20.0s,MS4.8
CCM Cathedral Cave 57.43 57 *e*P **P 15 58 41.0 -2.3**
comp=Z,20nm,1.3s,mb5.0
CCM LR LR
comp=Z,709nm,20.0s,MS4.8
FVM French Village 58.08 57 *e*P **P 15 58 44.9 -3.0**
FVM pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
FVM French Village 58.08 57 *e*P **P 15 58 44.9 -3.0**
comp=Z,10nm,0.8s,mb4.9
GLAT Glass 59.07 59 *e*P **P 15 58 54.1 -0.7**
OXF Oxford 59.10 61 *e*P **P 15 58 53.3 -1.7**
OXF pmax pmax
comp=Z,15nm,0.8s,mb5.1
OXF MLR MLR
comp=Z,422nm,19.0s,MS4.6
OXF Oxford 59.10 61 *e*P **P 15 58 53.3 -1.7**
comp=Z,15nm,0.8s,mb5.1
OXF LR LR
comp=Z,422nm,19.0s,MS4.6
MJAR Matsushiro Arr 59.70 301 P **P 15 58 59.9 +0.8**
comp=Z,14nm,1.1s,mb4.9,baz=94,slow=4.7,SNR=17
MJAR LR LR 16 18 40.1
comp=Z,232nm,21.3s,MS4.3,baz=70,slow=30
MAJO Matsushiro 59.70 301 *e*P **P 15 58 58.9 -0.2**
MAJO pmax pmax
comp=Z,40nm,1.0s,mb5.4
MAJO MLR MLR
comp=Z,283nm,19.0s,MS4.4
MAJO Matsushiro 59.70 301 *e*P **P 15 58 58.9 -0.2**
comp=Z,40nm,1.0s,mb5.4
MAJO LR LR
comp=Z,283nm,19.0s,MS4.4
MAT Matsushiro 59.70 301 *e*P **P 15 59 00.0 +0.9**
MAT pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MAT Matsushiro 59.70 301 *e*P **P 15 59 00.0 +0.9**
comp=Z,9.0nm,1.0s,mb4.8
MAT Matsushiro 59.70 301 P **P 15 58 59.8 +0.7**
MAT S **S 16 07 19.0 +11**
PLAL Pickwick Lake 60.15 61 *e*P **P 15 58 59.6 -2.7**
comp=Z,12nm,0.8s,mb5.0
PLAL LR LR
comp=Z,506nm,19.0s,MS4.7
WVT Waverly 60.26 59 PFAKE 15 59 10.0 +7.0
WVT LR LR
comp=Z,332nm,20.0s,MS4.5
LRAL Lakeview Retre 61.24 63 *e*P **P 15 59 07.8 -1.9**
comp=Z,19nm,0.8s,mb5.3
LRAL LR LR
comp=Z,626nm,21.0s,MS4.7
WCI Wyandotte Cave 61.33 57 PFAKE 15 59 20.0 +10
WCI LR LR
comp=Z,603nm,19.0s,MS4.8
SWET Sewanee 61.88 60 *e*P **P 15 59 11.6 -2.4**
MYNC Murphy 63.37 60 *e*P **P 15 59 21.7 -2.1**
MYNC pmax pmax
comp=Z,24nm,0.8s,mb5.4
MYNC MLR MLR
comp=Z,708nm,20.0s,MS4.8
MYNC Murphy 63.37 60 *e*P **P 15 59 21.7 -2.1**
comp=Z,24nm,0.8s,mb5.4
MYNC LR LR
comp=Z,708nm,20.0s,MS4.8
TZTN Tazewell 63.66 58 *e*P **P 15 59 23.8 -1.9**
KLR Kul'dur 63.90 316 *e*P **P 15 59 22.1 -5.0**
KLR MLR MLR
comp=Z,500nm,13.0s,MS4.9
PMG Port Moresby 63.99 248 PFAKE 15 59 40.0 +12
PMG LR LR
comp=Z,472nm,19.0s,MS4.7
YAK Yakutsk 65.27 330 *i* P **P 15 59 33.8 -2.0**
YAK pmax pmax
comp=Z,21nm,0.8s,mb5.2
YAK Yakutsk 65.27 330 *e*P **P 15 59 34.2 -1.7**
comp=Z,29nm,0.9s,mb5.3
YAK LR LR
comp=Z,705nm,22.0s,MS4.8
MDJ Mudanjiang 65.63 311 P **P 15 59 37.8 -0.6**
MDJ AP pP 15 59 45.8 +4.2
MDJ XP sP 15 59 50.1 +7.4
MDJ S S 16 08 22.8 +0.3
MDJ AMB AMB
comp=Z,28nm,1.0s,mb5.2
MDJ AMB AMB
comp=Z,107nm,6.1s
MDJ LR LR
comp=E,546nm,31.8s
MDJ LR LR
comp=Z,761nm,33.8s,MS4.7
MDJ Mudanjiang 65.63 311 PFAKE 15 59 50.0 +12
MDJ LR LR
comp=Z,511nm,22.0s,MS4.7
ELN Prospectdale 65.80 57 P **P 15 59 35.1 -4.5**
BLA Blacksburg 66.06 57 PFAKE 15 59 50.0 +8.7
BLA LR LR
comp=Z,688nm,21.0s,MS4.8
SADO Sadowa 66.14 49 P **P 15 59 39.5 -2.1**
comp=Z,17nm,0.8s,mb5.1,baz=289,slow=7.6
TIXI Tiksi 66.42 340 *i* P **P 15 59 43.2 +0.2**
TIXI pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
TIXI Tiksi 66.42 340 PFAKE 15 59 50.0 +7.0
TIXI LR LR
comp=Z,279nm,20.0s,MS4.5
COW Cow Castle Cre 66.42 62 *e*P **P 15 59 42.3 -1.3**
DWPF Disney 66.75 67 PFAKE 16 00 00.0 +14
DWPF LR LR
comp=Z,417nm,19.0s,MS4.7
NHSC New Hope 66.90 62 *e*P **P 15 59 45.2 -1.5**
NHSC LR LR
comp=Z,525nm,20.0s,MS4.8
CLNS Chul'man 67.73 324 *e*P **P 15 59 49.2 -2.4**
CLNS pmax pmax
comp=Z,25nm,0.8s,mb5.3
CLNS pmax pmax
comp=N,17nm,1.0s
CLNS pmax pmax
comp=E,15nm,1.0s
CBN Corbin 68.30 56 PFAKE 16 00 10.0 +15
CBN LR LR
comp=Z,885nm,19.0s,MS5.0
SDMD Soldier's Deli 68.52 55 *e*P **P 15 59 54.8 -2.1**
CN2 Changchun 68.69 310 *e*P **P 15 59 56.5 -1.2**
CN2 *e*XP sP 16 00 03.8 +1.8
CN2 *e*S S 16 08 57.3 -2.0
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,800nm,21.0s,MS5.0
CN2 LR LR
comp=E,600nm,21.0s,MS5.0
CN2 LR LR
comp=Z,500nm,23.0s,MS4.7
BINY Binghamton 68.73 52 *e*P **P 15 59 56.1 -2.0**
comp=Z,17nm,0.8s,mb5.0
INCN Inchon 68.78 303 PFAKE 16 00 10.0 +12
INCN LR LR
comp=Z,325nm,22.0s,MS4.5
NCB Newcomb 69.74 49 PFAKE 16 00 20.0 +16
NCB LR LR
comp=Z,581nm,19.0s,MS4.8
CTAO Charters Tower 70.05 239 PFAKE 16 00 20.0 +14
CTAO LR LR
comp=Z,641nm,20.0s,MS4.9
PAL Palisades 70.47 53 *e*P **P 16 00 07.2 -1.5**
PAL pmax pmax
comp=Z,15nm,0.7s,mb5.0
PAL Palisades 70.47 53 *e*P **P 16 00 07.2 -1.5**
comp=Z,15nm,0.7s,mb5.0
HIA Hailar 71.72 317 PFAKE 16 00 30.0 +14
HIA LR LR
comp=Z,532nm,22.0s,MS4.8
HRV Harvard--Oak R 71.91 51 PFAKE 16 00 30.0 +13
HRV LR LR
comp=Z,484nm,19.0s,MS4.8
SCHQ Schefferville 72.65 37 P **P 16 00 21.8 +0.3**
comp=Z,2.5nm,0.7s,mb4.3,baz=263,slow=7.1,SNR=3.8
SCHQ LR LR 16 30 23.7
comp=Z,266nm,19.0s,MS4.5,baz=114,slow=34
WVL Waterville 72.86 48 PFAKE 16 00 30.0 +7.1
WVL LR LR
comp=Z,4µm,20.0s,MS5.7
BOD Bodaibo 73.45 326 *e*P **P 16 00 25.0 -1.1**
BOD pmax pmax
comp=Z,27nm,1.2s,mb5.0
PQI Presque Isle 73.54 46 PFAKE 16 00 40.0 +13
PQI LR LR
comp=Z,3µm,20.0s,MS5.6
EMMW East Machias 74.36 48 PFAKE 16 00 40.0 +8.4
EMMW LR LR
comp=Z,4µm,19.0s,MS5.7
SSE Sheshan 74.54 298 P **P 16 00 29.8 -3.2**
SSE XP sP 16 00 43.1 +5.9
SSE PP PP 16 03 15.8 -5.9
SSE S S 16 10 02.6 -4.3
SSE ScS ScS 16 10 37.8 -3.1
SSE SS SS 16 14 50.0 -6.0
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,104nm,6.8s
SSE LR LR
comp=N,139nm,30.5s,MS4.5
SSE LR LR
comp=E,323nm,30.5s,MS4.5
SSE LR LR
comp=Z,439nm,26.2s,MS4.6
SSE Sheshan 74.54 298 P **P 16 00 29.8 -3.2**
comp=Z,40nm,0.7s,mb5.5
SSE sP sP 16 00 43.1 +5.9
SSE PP PP 16 03 15.7 -6.0
SSE S S 16 10 02.6 -4.3
SSE sS 16 10 18.5
SSE ScS ScS 16 10 37.7 -3.2
SSE SS SS 16 14 50.0 -6.0
SSE LR LR
comp=Z,440nm,26.2s,MS4.6
CIT Chita 75.00 320 *e*P **P 16 00 35.9 +0.7**
CIT *e* 16 00 42.4
CIT *e* 16 00 53.9
CIT *e* 16 03 26.1
TATO Taipei 75.90 292 PFAKE 16 00 50.0 +9.1
TATO LR LR
comp=Z,402nm,19.0s,MS4.8
NJ2 Nanjing 76.22 299 *e*P **P 16 00 42.3 -0.3**
NJ2 AP pP 16 00 47.3 +1.6
NJ2 XP sP 16 00 49.5 +2.7
NJ2 PCP PcP 16 00 53.9 -1.1
NJ2 S S 16 10 23.0 -2.4
NJ2 XS 16 10 31.0
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
NJ2 AMB AMB
comp=Z,150nm,5.7s
NJ2 LR LR
comp=N,410nm,14.7s,MS5.0
NJ2 LR LR
comp=E,390nm,17.2s,MS5.0
NJ2 LR LR
comp=Z,270nm,17.3s,MS4.6
SUMG Summit 78.29 16 *e*P **P 16 00 53.5 +0.3**
comp=Z,13nm,0.2s,mb5.5
QZH Quanzhou 78.43 292 P **P 16 00 53.1 -1.8**
QZH S S 16 10 46.1 -3.4
QZH LR LR
comp=Z,1µm,31.8s,MS5.1
ROSC El Rosal 79.72 89 LR LR 16 28 08.2
comp=Z,87nm,20.9s,MS4.1,baz=218,slow=30
BBSR BB Station 79.74 59 PFAKE 16 01 10.0 +8.1
BBSR LR LR
comp=Z,283nm,19.0s,MS4.6
STKA Stephens Creek 79.79 231 ⇑ *i*P **P 16 01 03.0 +0.8**
comp=Z,5.8nm,0.7s,mb4.6
STKA Stephens Creek 79.79 231 P **P 16 01 03.3 +1.1**
comp=Z,7.1nm,0.7s,mb4.7,baz=23,slow=7.6,SNR=17
STKA LR LR 16 31 37.5
comp=Z,756nm,19.9s,MS5.0,baz=26,slow=32
WRAB Tennant Creek 79.79 244 *i* P **P 16 01 01.7 -0.7**
WRAB Tennant Creek 79.79 244 *e*P **P 16 01 01.6 -0.8**
comp=Z,13nm,1.0s,mb4.8
WRAB LR LR
comp=Z,248nm,20.0s,MS4.5
WB2 Warramunga Arr 79.79 244 *e*P **P 16 01 02.4 0.0**
WRA Warramunga Ar 79.80 244 P **P 16 01 02.3 -0.2**
comp=Z,3.4nm,0.8s,mb4.4,baz=63,slow=5.6,SNR=27
ULN Ulaanbaatar 80.21 317 PFAKE 16 01 20.0 +16
ULN LR LR
comp=Z,402nm,19.0s,MS4.8
BTO Baotou 80.56 310 *e*P **P 16 01 06.6 +0.5**
BTO AMB AMB
comp=Z,13nm,0.7s,mb5.0
KBS Kingsbay 80.64 3 PFAKE 16 01 20.0 +14
KBS LR LR
comp=Z,207nm,22.0s,MS4.4
SONM Songino Array 80.64 318 P **P 16 01 07.2 +0.8**
comp=Z,7.5nm,0.7s,mb4.7,baz=59,slow=4.4,SNR=53
SONM LR LR 16 33 10.8
comp=Z,403nm,21.2s,MS4.7,baz=69,slow=33
TLY Talaya 80.96 322 *e*P **P 16 01 08.6 +0.6**
TLY *e*S S 16 11 18.6 +3.1
TLY *e*PS PS 16 12 17.5 +13
TLY *e*SS SS 16 16 24.4 -8.4
TLY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ZAK Zakamensk 81.65 321 *e*P **P 16 01 11.8 +0.2**
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
SDV Santo Domingo 81.85 84 P **P 16 01 13.2 -0.2**
comp=Z,26nm,0.8s,mb5.2
SDV LR LR
comp=Z,129nm,21.0s,MS4.3
TAU Tasmania Unive 82.22 219 PFAKE 16 01 30.0 +15
TAU LR LR
comp=Z,230nm,20.0s,MS4.5
XAN Xi'an 83.56 304 P **P 16 01 25.1 +3.2**
XAN AMB AMB
comp=Z,10.0nm,1.1s,mb4.9
ENH Enshi 84.40 300 PFAKE 16 01 40.0 +14
ENH LR LR
comp=Z,341nm,22.0s,MS4.7
LZH Lanzhou 86.69 307 *e*P **P 16 01 39.5 +2.0**
LZH AP pP 16 01 46.1 +5.4
LZH XP sP 16 01 48.5 +6.8
LZH SKS SKS 16 12 03.3 -3.1
LZH *e*S S 16 12 13.3 +0.3
LZH XS 16 12 21.0
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,140nm,5.3s
LZH LR LR
comp=N,596nm,15.3s
LZH LR LR
comp=Z,892nm,16.5s,MS5.2
LZH Lanzhou 86.69 307 *e*P **P 16 01 39.5 +2.0**
LZH *SP sP 16 01 48.5 +6.8
LZH 16 05 03.5
LZH 16 12 03.3
LZH *e*S S 16 12 13.3 +0.3
LZH SS SS 16 17 57.0 -0.5
LZH pmax pmax
comp=Z,25nm,1.0s,mb5.4
LZH MLR MLR
comp=Z,890nm,16.5s,MS5.2
LZH Lanzhou 86.69 307 *e*P **P 16 01 39.5 +2.0**
comp=Z,25nm,1.0s,mb5.4
LZH pP pP 16 01 46.1 +5.4
LZH sP sP 16 01 48.5 +6.8
LZH PP PP 16 05 03.5 +1.6
LZH SKS SKS 16 12 03.3 -3.1
LZH *e*S S 16 12 13.3 +0.3
LZH sS 16 12 21.0
LZH SS SS 16 17 57.0 -0.5
LZH LR LR
comp=Z,890nm,16.5s,MS5.2
QIZ Qiongzhong 88.02 289 PFAKE 16 02 00.0 +16
QIZ LR LR
comp=Z,385nm,22.0s,MS4.8
BORG Borgarnes 88.06 18 PFAKE 16 01 50.0 +6.7
BORG LR LR
comp=Z,65nm,19.0s,MS4.1
GYA Guiyang 88.08 297 P **P 16 01 48.9 +4.5**
GYA AMB AMB
comp=Z,20nm,0.6s,mb5.5
GYA AMB AMB
comp=Z,140nm,3.2s
GYA LR LR
comp=N,370nm,23.7s,MS5.0
GYA LR LR
comp=E,600nm,25.8s,MS5.0
GYA LR LR
comp=Z,540nm,23.1s,MS4.9
GTA Gaotai 88.28 312 *e*P **P 16 01 46.4 +1.4**
GTA AP pP 16 01 50.0 +1.8
GTA XP sP 16 01 52.8 +3.5
GTA SKS SKS 16 12 14.0 -2.5
GTA S S 16 12 32.3 +4.5
GTA XS 16 12 39.4
GTA AMB AMB
comp=Z,8.0nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,158nm,6.6s
GTA LR LR
comp=N,289nm,20.7s,MS4.8
GTA LR LR
comp=E,294nm,21.6s,MS4.8
GTA LR LR
comp=Z,487nm,25.2s,MS4.8
ZAL Zalesovo 89.94 329 P **P 16 01 54.4 +1.8**
comp=Z,2.2nm,0.9s,mb4.5,baz=55,slow=6.5,SNR=16
ZAL LR LR 16 40 32.3
comp=Z,636nm,18.8s,MS5.1,baz=57,slow=34
KEV Kevo 90.12 359 PFAKE 16 02 00.0 +7.0
KEV LR LR
comp=Z,179nm,20.0s,MS4.5
NVS Novosibirsk 90.14 330 *e*P **P 16 01 53.8 +0.4**
NVS pmax pmax
comp=E,20nm,1.3s
NVS pmax pmax
comp=Z,28nm,1.3s,mb5.4
ARCES ARCESS Array B 90.35 360 P **P 16 01 53.1 -1.0**
comp=Z,3.1nm,0.7s,mb4.7,baz=342,slow=7.7,SNR=9.4
KMI Kunming 91.86 298 P **P 16 02 01.9 -0.2**
KMI PP PP 16 05 40.9 -2.9
KMI SKS SKS 16 12 31.8 -6.4
KMI S S 16 13 00.3 -0.3
KMI PS PS 16 14 11.6 -5.0
KMI AMB AMB
comp=Z,4.0nm,0.6s,mb4.9
KMI AMB AMB
comp=Z,63nm,5.3s
KMI LR LR
comp=N,211nm,20.6s,MS4.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KMI				LR	LR		
	comp=E,306nm,22.9s,MS4.8						
KMI				LR	LR		
	comp=Z,434nm,26.2s,MS4.8						
KMI	Kunming	91.86	298	P	P	16 02 01.9	-0.2
KMI						16 05 40.9	
KMI						16 12 31.7	
KMI				S	S	16 13 00.2	-0.4
KMI				PS	PS	16 14 11.6	-5.0
KMI				SS	SS	16 19 08.1	-4.0
KMI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.9						
KMI				MLR	MLR		
	comp=Z,430nm,26.2s,MS4.8						
KMI	Kunming	91.86	298	P	P	16 02 01.9	-0.2
	comp=Z,4.0nm,0.6s,mb4.9						
KMI				pP	pP	16 02 04.7	-0.6
KMI				sP	sP	16 02 06.0	-0.3
KMI				PP	PP	16 05 40.9	-2.9
KMI				SKS	SKS	16 12 31.7	-6.5
KMI				S	S	16 13 00.2	-0.4
KMI				PS	PS	16 14 11.6	-5.0
KMI				SS	SS	16 19 08.1	-4.0
KMI				LR	LR		
	comp=Z,430nm,26.2s,MS4.8						
LPAZ	La Paz	92.83	106	P	P	16 02 07.5	+0.8
	comp=Z,1.5nm,0.6s,mb4.6,baz=305,slow=3.8,SNR=3.9						
LPAZ				LR	LR	16 35 57.8	
	comp=Z,109nm,19.3s,MS4.3,baz=206,slow=30						
MBWA	Marble Bar	92.85	249	PFAKE		16 02 20.0	+13
MBWA				LR	LR		
	comp=Z,385nm,19.0s,MS4.9						
WMQ	Urumqi	94.09	320	*e*P	P	16 02 12.9	+1.0
WMQ				PP	PP	16 06 01.9	+0.8
WMQ				AMB	AMB		
	comp=Z,62nm,10.1s						
WMQ				LR	LR		
	comp=N,354nm,24.6s,MS4.9						
WMQ				LR	LR		
	comp=E,352nm,23.8s,MS4.9						
WMQ				LR	LR		
	comp=Z,551nm,24.6s,MS4.9						
SAML	Samuel	94.88	98	*e*P	P	16 02 14.4	-1.8
	comp=Z,4.0nm,0.8s,mb4.9						
SAML				LR	LR		
	comp=Z,288nm,22.0s,MS4.7						
KURK	Kurchatov	94.91	329	P	P	16 02 15.1	-0.4
KURK				MLR	MLR		
	comp=Z,127nm,20.0s,MS4.4						
MKAR	Makanchi Array	95.49	324	*i* P	P	16 02 20.0	+1.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	95.49	324	P	P	16 02 18.5	+0.2
	comp=Z,0.6nm,0.7s,mb4.2,baz=45,slow=3.4,SNR=6.0						
MKAR				LR	LR	16 44 19.5	
	comp=Z,248nm,18.8s,MS4.7,baz=21,slow=35						
BRVK	Borovoye	96.99	334	*e*P	P	16 02 24.7	-0.2
BRVK				MLR	MLR		
	comp=Z,70nm,21.0s,MS4.1						
SVE	Sverdlovsk	97.44	341	*e*P	P	16 02 37.0	+10
SVE				MLR	MLR		
	comp=N,100nm,14.0s,MS4.6						
SVE				MLR	MLR		
	comp=E,100nm,14.0s,MS4.6						
SVE				MLR	MLR		
	comp=Z,200nm,14.0s,MS4.8						
NOA	NORSAR Array B	98.14	7	LR	LR	16 44 34.1	
	comp=Z,187nm,20.4s,MS4.6,baz=335,slow=34						
ARU	Arti	98.39	342	PFAKE		16 02 40.0	+8.9
ARU				LR	LR		
	comp=Z,113nm,21.0s,MS4.3						
FINES	FINESS Array B	98.47	359	*i* P	P	16 02 31.5	+0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	FINESS Array B	98.47	359	P	P	16 02 30.1	-1.3
	comp=Z,1.1nm,0.8s,mb4.4,baz=63,slow=4.3,SNR=5.8						
PLCA	Paso Flores	99.07	130	LR	LR	16 36 54.8	
	comp=Z,225nm,21.1s,MS4.6,baz=359,slow=29						
PLCA	Paso Flores	99.07	130	PFAKE		16 02 50.0	+15
PLCA				LR	LR		
	comp=Z,543nm,19.0s,MS5.1						
LSA	Lhasa	99.07	306	PFAKE		16 02 50.0	+15
LSA				LR	LR		
	comp=Z,361nm,21.0s,MS4.8						
KONO	Kongsberg	99.30	8	PFAKE		16 02 50.0	+15
KONO				LR	LR		
	comp=Z,269nm,21.0s,MS4.7						
VNDA	Vanda	100.86	189	PFAKE		16 02 50.0	+8.1
VNDA				LR	LR		
	comp=Z,229nm,20.0s,MS4.7						
ESK	Eskdalemuir	100.92	16	PFAKE		16 02 50.0	+7.4
ESK				LR	LR		
	comp=Z,130nm,21.0s,MS4.4						
AAK	Ala-Archa	102.41	325	P	Pdif	16 02 48.9	-0.8
AAK				MLR	MLR		
	comp=Z,63nm,20.0s,MS4.1						
OBN	Obninsk	104.16	353	P	Pdif	16 02 57.9	+0.9
OBN				pmax	pmax		
	comp=Z,2.0nm,1.5s						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.7						
OBN	Obninsk	104.16	353	PFAKE		16 03 10.0	+13
OBN				LR	LR		
	comp=Z,54nm,20.0s,MS4.1						
CMLA	Cha da Macela	105.26	39	PFAKE		16 07 30.0	
CMLA				LR	LR		
	comp=Z,595nm,21.0s,MS5.1						
CASY	Casey	110.18	205	PFAKE		16 07 40.0	+14
CASY				LR	LR		
	comp=Z,536nm,21.0s,MS5.1						
KIV	Kislovodsk	113.94	346	PFAKE		16 07 40.0	+5.7
KIV				LR	LR		
	comp=Z,90nm,22.0s,MS4.3						
ESLA	Sonseca Array	114.48	24	PFAKE		16 07 50.0	+15
ESLA				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
GNI	Garni	117.01	343	PFAKE		16 07 50.0	+10
GNI				LR	LR		
	comp=Z,295nm,20.0s,MS4.9						
RCBR	Riachuelo	119.40	85	PFAKE		16 08 00.0	+14
RCBR				LR	LR		
	comp=Z,220nm,21.0s,MS4.8						
VNA3	Neumayer Olymp	125.27	167		PKPdf	16 08 05.1	+10
VNA3	Neumayer Olymp	125.27	167	P	PKPdf	16 08 00.4	+4.8
VNA3				P		16 08 05.1	
VNA2	Neumayer--Watz	125.99	167		PKPdf	16 08 06.8	+10
VNA2	Neumayer--Watz	125.99	167	P	PKPdf	16 08 01.7	+4.8
VNA2				P		16 08 06.8	
SNAA	Sanae	126.23	169	PKIKP	PKPdf	16 07 56.6	-0.7
SNAA						16 08 06.4	
DBIC	Dimbokro	140.31	50	PKP	PKPdf	16 08 22.9	-2.4
	comp=Z,4.6nm,0.9s,baz=304,slow=7.3,SNR=4.3						
DBIC	Dimbokro	140.31	50	PKP	PKPdf	16 08 22.9	-2.3
DBIC				LR	LR		
	comp=Z,368nm,20.0s,MS5.1						
MBAR	Mbarara	159.53	343	PFAKE		16 09 00.0	+5.4
MBAR				LR	LR		
	comp=Z,61nm,21.0s,MS4.4						
BOSA	Boshof	171.78	182	PFAKE		16 09 10.0	+5.9
BOSA				LR	LR		
	comp=Z,381nm,20.0s						
TSUM	Tsumeb	173.05	82	PFAKE		16 09 10.0	+5.0
TSUM				LR	LR		
	comp=Z,435nm,21.0s						
LSZ	Lusaka	174.03	327	PFAKE		16 09 10.0	+4.7
LSZ				LR	LR		
	comp=Z,341nm,20.0s						
LBTB	Lobatse	175.32	188	PFAKE		16 09 10.0	+4.5
LBTB				LR	LR		
	comp=Z,400nm,20.0s						

IGQ 15 16:48:57.3, 1.54S×81.38W, h12km±23km, mb4.4, 7C-8D, Error ellipse: s-maj=17.7km s-min=4.9km az=2.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	Jama	1.73	43	P	Pn	16 49 26.9	-0.6
JAMA				S	Sn	16 49 51.5	+1.9
QIL1	Quilotoa	2.54	74	P	Pn	16 49 39.0	-0.1
IGUA	Igualata	2.74	89	⇓P	Pn	16 49 42.4	+0.5
IGUA				S	Sn	16 50 15.1	-0.1
CUSU	Cusua	2.90	88	P	Pn	16 49 46.0	+1.8
ARRY	Arrayan	2.92	89	⇑P	Pn	16 49 45.1	+0.6
RUN5	Runtun	2.96	88	⇓P	Pn	16 49 46.9	+1.9
ULBA	Ulba	2.97	88	⇑P	Pn	16 49 46.9	+1.7
CAMI	Rancho Maria	3.00	73	⇓P	Pn	16 49 48.1	+2.5
PISA	Pisayambo	3.03	81	P	Pn	16 49 48.0	+1.9
PISA				S	Sn	16 50 23.6	+1.0
NAS1	Nasa	3.04	73	P	Pn	16 49 49.0	+2.8
JUA2	San Juan 2	3.07	65	⇑P	Pn	16 49 48.1	+1.4
PINO	Pino	3.09	64	⇓P	Pn	16 49 48.2	+1.2
GGP	Refugio Guagua	3.10	64	⇑P	Pn	16 49 48.7	+1.7
VC1	Cotopaxi 1	3.11	73	⇑P	Pn	16 49 49.7	+2.6
TAMB	Tambo	3.13	74	P	Pn	16 49 49.6	+2.2
JOR1	San Jorge 1	3.14	61	⇓P	Pn	16 49 47.0	-0.6
YANA	Yana	3.14	63	⇓P	Pn	16 49 49.3	+1.6
ANTI	Antisana	3.40	71	⇑P	Pn	16 49 54.4	+3.2
ANTI				S	Sn	16 50 35.6	+3.8
COTA	Cotacachi	3.57	58	P	Pn	16 49 55.8	+2.1
CAYR	Refugio Cayamb	3.71	65	⇓P	Pn	16 49 59.9	+4.2
CAYR				S	Sn	16 50 44.5	+4.7
CAYA	Cayambe	3.75	65	⇓P	Pn	16 50 00.1	+3.9
LORE	San Lorenzo	3.79	42	P	Pn	16 50 01.8	+5.0
CONE	Cono NE Rev Vo	4.01	69	P	Pn	16 50 06.1	+6.1
ECOPE	Copete-Rev Vol	4.02	69	P	Pn	16 50 04.2	+4.1
ECEN	Cerro Negro	4.14	55	⇑P	Pn	16 50 04.4	+2.6
ECEN				S	Sn	16 50 57.0	+6.3

IGQ 15 17:01:13.6, 1.57S×81.14W, h12km±17km, mb4.3, 1C, Error ellipse: s-maj=14.7km s-min=5.8km az=15.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	Jama	1.60	36	P	Pn	17 01 42.4	+0.4
JAMA				S	Sn	17 02 04.0	+1.3
QIL1	Quilotoa	2.32	72	P	Pn	17 01 51.8	-0.5
IGUA	Igualata	2.50	88	P	Pn	17 01 55.4	+0.5
IGUA				S	Sn	17 02 28.5	+3.0
ARRY	Arrayan	2.69	89	P	Pn	17 01 59.0	+1.5
ARRY				S	Sn	17 02 30.9	+0.6
ULBA	Ulba	2.74	87	P	Pn	17 01 59.9	+1.8
CAMI	Rancho Maria	2.78	71	P	Pn	17 02 01.1	+2.2
PISA	Pisayambo	2.80	80	P	Pn	17 02 00.8	+1.7
PISA				S	Sn	17 02 34.3	+1.2
NAS1	Nasa	2.82	71	P	Pn	17 02 02.8	+3.4
JUA2	San Juan 2	2.87	62	P	Pn	17 02 01.7	+1.5
VC1	Cotopaxi 1	2.89	71	P	Pn	17 02 03.0	+2.6
TERV	Terraza Guagua	2.89	61	P	Pn	17 02 01.9	+1.5
PINO	Pino	2.90	61	P	Pn	17 02 01.4	+0.9
GGP	Refugio Guagua	2.90	61	P	Pn	17 02 01.3	+0.8
TAMB	Tambo	2.91	73	P	Pn	17 02 02.4	+1.8
YANA	Yana	2.95	61	P	Pn	17 02 02.1	+0.9
JOR1	San Jorge 1	2.95	58	P	Pn	17 01 59.5	-1.7
ANTI	Antisana	3.18	70	⇑P	Pn	17 02 07.2	+2.7
COTA	Cotacachi	3.38	56	P	Pn	17 02 09.2	+1.9
CAYR	Refugio Cayamb	3.51	63	P	Pn	17 02 12.7	+3.6
CAYA	Cayambe	3.55	63	P	Pn	17 02 13.4	+3.6
ECEN	Cerro Negro	3.96	53	P	Pn	17 02 18.0	+2.4

*CSEM **15** 17:19:00.8±0.1, 44.21N×12.21E, h15km, ML3.0/16, Error ellipse: s-maj=2.7km s-min=1.7km az=132.0*
*ROM **15** 17:19:01.5±0.2, 44.20N×12.09E, h21km±4km, Md2.6/2, Ml2.6/3, Error ellipse: s-maj=2.3km s-min=1.9km az=31.0*
*NEIC **15** 17:19:01.5, 44.20N×12.09E, h21km, ML3.0(VIE), ML2.9(LDG), ML2.6(ROM), ML2.3(LJU), After ROM.*
*LDG **15** 17:19:02.5±0.4, 44.32N×12.19E, h10km, Ml2.9/14, Error ellipse: s-maj=8.1km s-min=4.9km az=96.0*
ISC 15 17:19:01.4±0.3**, 44.28N**±0.02×**12.04E**±0.03**, h21km, n49, σ1s12**/81**, 9C, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRSN	Barisano	0.03	81	⇑*i*Pg	Pb	17 19 05.7	+0.6
SFI	Santa Sofia	0.40	200	Pg	Pb	17 19 09.2	-0.5
SFI				Sg	Sb	17 19 15.6	+0.2
	493nm,0.2s						
RSM	Repubblica di	0.46	140	Pg	Pb	17 19 10.4	-0.3
	72nm,0.4s						
PGD	Poggio Sodo	0.47	210	Pg	Pb	17 19 10.5	-0.3
PGD				Sg	Sb	17 19 18.1	+0.9
	136nm,0.2s						
VMG	Vicchio	0.48	228	Pg	Pb	17 19 11.0	0.0
	373nm,0.6s						
SEI	Scarperia	0.54	246	Pg	Pb	17 19 12.6	+0.5
	411nm,0.4s						
CRE	Caprese Michel	0.66	186	Pg	Pb	17 19 13.7	-0.4
CRE				Sg	Sb	17 19 24.1	+1.2
FNVD	Fontana Vidola	0.67	261	Pg	Pb	17 19 15.3	+1.1
FNVD				Sg	Sb	17 19 26.7	+3.7
	278nm,0.5s						
ZCCA	Zocca	0.77	276	Pg	Pb	17 19 19.3	+3.4
	37nm,0.5s						
BADI	Badiali	0.78	169	Pg	Pb	17 19 15.7	-0.5
	255nm,0.6s						
FSSB	Fossombrone	0.79	138	Pg	Pb	17 19 15.7	-0.6
	80nm,0.4s						
ARV	Arcevia	1.02	140	Pg	Pb	17 19 20.0	-0.2
BDI	Bagni Di Lucca	1.06	259	Pg	Pb	17 19 23.1	+2.2
	18nm,0.2s						
VLC	Villacollemand	1.19	265	*e*Pn	Sb	17 19 45.4	+7.2
NVLJ	Novalja	2.05	81	*i* Pn	Pn	17 19 34.6	-0.7
NVLJ				*i* Sn	Sn	17 19 58.8	-1.6
JAVS	Javornik	2.16	41	*i* Pn	Pn	17 19 36.2	-0.6
JAVS				*e*Sn	Sn	17 20 03.1	-0.2
	comp=Z,19nm,0.2s						
JAVS	Javornik	2.16	41	*i* Pn	Pn	17 19 36.2	-0.6
JAVS				*e*Sn	Sn	17 20 03.1	-0.1
	comp=Z,19nm,0.2s						
VOY	Vojsko	2.19	36	*e*Pn	Pn	17 19 38.0	+0.7
VOY				*e*Pg	Pn	17 19 42.4	+5.1
VOY				*e*Sn	Sn	17 20 03.8	-0.2
VOY	Vojsko	2.19	36	*e*Pg	Pn	17 19 42.4	+5.1
VOY				*e*Sn	Sn	17 20 03.8	-0.2
CADS	Cadrg	2.29	31	*i* Pn	Pn	17 19 38.4	-0.3
CADS				*e*Sn	Sn	17 20 06.3	-0.1
CADS	Cadrg	2.29	31	*i* Pn	Pn	17 19 38.4	-0.3
CADS				*e*Sn	Sn	17 20 06.3	-0.2
VISS	Visnje	2.50	52	*i* Pn	Pn	17 19 41.6	-0.1
VISS				*e*Sn	Sn	17 20 10.8	-1.1
PGF	Pioggiola	2.81	233	*e*Pn	Pn	17 19 46.4	+0.3
PGF				*e*Sn	Sn	17 20 20.6	+0.8
	comp=Z,10.0nm,0.4s						
OBKA	Obir	2.85	38	⇑*i*PN	Pn	17 19 49.7	+3.1
OBKA				*i* SG	Sn	17 20 36.6	+16
	comp=Z,17nm,0.4s						
KBA	Koelnbreinsper	2.94	18	⇑*i*PN	Pn	17 19 48.9	+0.8
KBA				*i* PG	Pn	17 19 57.8	+10
KBA				*i* SN	Sn	17 20 23.9	+0.7
KBA				*i* SG	Sn	17 20 42.3	+19
	comp=Z,14nm,0.5s						
SQTA	Sankt Quirin	3.00	349	⇑*i*PN	Pn	17 19 52.7	+3.9
SQTA				*i* SG	Sn	17 20 42.4	+18
	comp=Z,15nm,0.4s						
WTTA	Wattenberg	3.00	355	⇑*i*PN	Pn	17 19 51.3	+2.5
WTTA				*i* SG	Sn	17 20 40.6	+16
	comp=Z,9.1nm,0.4s						
WATA	Walderalm	3.07	354	⇑*i*PN	Pn	17 19 52.9	+3.0
MOTA	Moosalm	3.13	348	⇑*i*SG	Sn	17 20 45.5	+18
SBF	Sospel	3.34	264	*e*Pn	Pn	17 19 54.5	+0.8
SBF				*e*Sn	Sn	17 20 34.1	+0.9
	comp=Z,10nm,0.4s						
DAVA	Damuels	3.37	334	⇑*i*PN	Pn	17 19 56.0	+2.0
DAVA				*i* SN	Sn	17 20 37.2	+3.4
MBDF	Montbardon	3.79	279	*e*Pn	Pn	17 20 00.0	-0.1
MBDF				*e*Sn	Sn	17 20 41.6	-3.1
	comp=Z,5.6nm,0.5s						
MOA	Molln	3.89	23	⇑*i*PN	Pn	17 20 02.1	+0.6
MOA				*i* SN	Sn	17 20 48.6	+1.5
MOA				*i* SG	Sn	17 21 13.0	+26
	comp=Z,3.8nm,0.6s						
LPG	La Plagne	3.95	290	*e*Pn	Pn	17 20 01.4	-0.9
LPG				*e*Sn	Sn	17 20 46.3	-2.3
	comp=Z,5.5nm,0.4s						
FRF	La Foret Royal	3.96	261	*e*Pn	Pn	17 20 02.8	+0.3
FRF				*e*Sn	Sn	17 20 47.2	-1.7
	comp=Z,1.8nm,0.3s						
LPL	La Plagne	3.97	290	*e*Sn	Sn	17 20 47.9	-1.1
	comp=Z,3.8nm,0.3s						
LMR	La Mourre	4.11	259	*e*Pn	Pn	17 20 04.7	+0.1
LMR				*e*Sn	Sn	17 20 52.7	0.0
	comp=Z,1.1nm,0.2s						
ORIF	Oris-en-Rattie	4.45	280	*e*Pn	Pn	17 20 10.0	+0.6
ORIF				*e*Sn	Sn	17 21 00.2	-0.9
	comp=Z,3.0nm,0.3s						
CABF	La Chapelle	4.79	301	*e*Pn	Pn	17 20 14.3	0.0
HINF	Hinteralfeld	5.05	316	*e*Pn	Pn	17 20 17.0	-1.0
HINF				*e*Sn	Sn	17 21 11.1	-5.3
	comp=Z,4.0nm,0.3s						
CDF	Champ du Feu	5.29	323	*e*Pn	Pn	17 20 20.6	-0.6
CDF				*e*Sn	Sn	17 21 16.7	-5.6
	comp=Z,2.1nm,0.3s						
VIVF	Saint-Julien-l	5.29	279	*e*Pn	Pn	17 20 20.5	-0.9
HAU	Haudompre	5.43	315	*e*Pn	Pn	17 20 22.2	-1.1
HAU				*e*Sn	Sn	17 21 20.8	-5.2
	comp=Z,11nm,0.4s						
LASF	Ste Croix	5.89	271	*e*Pn	Pn	17 20 28.9	-0.8
SMF	Signal de Mont	6.23	295	*e*Pn	Pn	17 20 33.3	-1.3
SMF				*e*Sn	Sn	17 21 42.0	-4.0
	comp=Z,6.1nm,0.4s						
LOR	Lormes	6.45	300	*e*Pn	Pn	17 20 36.4	-1.3
LOR				*e*Sn	Sn	17 21 46.1	-5.4
	comp=Z,3.6nm,0.3s						
SSF	Saint Saulge	6.59	298	*e*Sn	Sn	17 21 48.7	-6.3
	comp=Z,1.0nm,0.3s						
CLL	Collm	7.06	5	*e*SG	Sx	17 22 50.0	
MTLF	Montolieu	7.17	266	*e*Pn	Pn	17 20 47.1	-0.6

IGQ 15 17:29:55.7, 1.84S×82.66W, h12km±10km, mb4.5, 8C-6D, Error ellipse: s-maj=10.9km s-min=10.4km az=57.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUSU	Cusua	4.20	85	P	Pn	17 31 01.7	+0.7
ARRY	Arrayan	4.22	86	⇑P	Pn	17 31 01.0	-0.3
RUN5	Runtun	4.26	84	P	Pn	17 31 04.4	+2.5
ULBA	Ulba	4.27	85	⇓P	Pn	17 31 02.6	+0.6
CAMI	Rancho Maria	4.32	75	⇓P	Pn	17 31 04.5	+1.8
PISA	Pisayambo	4.35	80	⇑P	Pn	17 31 03.9	+0.8
NAS1	Nasa	4.35	74	⇓P	Pn	17 31 05.4	+2.1
NAS1				S	Sn	17 31 52.7	-1.8
JUA2	San Juan 2	4.37	68	⇑P	Pn	17 31 03.9	+0.5
TERV	Terraza Guagua	4.38	68	P	Pn	17 31 04.6	+0.9
PINO	Pino	4.39	68	⇑P	Pn	17 31 04.5	+0.8
GGP	Refugio Guagua	4.39	68	⇑P	Pn	17 31 04.2	+0.4
JOR1	San Jorge 1	4.42	66	P	Pn	17 31 03.2	-1.0
VC1	Cotopaxi 1	4.42	74	⇑P	Pn	17 31 06.5	+2.3
YANA	Yana	4.43	67	P	Pn	17 31 05.1	+0.7
TAMB	Tambo	4.44	75	⇓P	Pn	17 31 06.3	+1.8
ANTI	Antisana	4.71	73	⇓P	Pn	17 31 10.1	+1.8
ANTI				S	Sn	17 31 56.0	-7.5
COTA	Cotacachi	4.83	63	⇑P	Pn	17 31 12.9	+2.9
CAYR	Refugio Cayamb	5.01	68	⇓P	Pn	17 31 15.3	+2.8
CAYA	Cayambe	5.04	68	⇑P	Pn	17 31 15.9	+2.9
ECEN	Cerro Negro	5.39	61	P	Pn	17 31 19.8	+1.9

*IGQ **15** 17:34:40.1, 1.57S×81.26W, h12km±11km, mb4.8, Error ellipse: s-maj=10.8km s-min=4.1km az=3.2*
*IDC **15** 17:34:42.5±0.8, 1.30S×80.57W, mb4.0/9, mb1 4.2/10, mb1mx4.0/20, mbtmp4.0/10, ML3.7/1, MS3.9/5, Ms1 3.9/5, ms1mx3.4/28, Error ellipse: s-maj=52.5km s-min=15.2km az=62.0*
*NEIC **15** 17:34:56.0±2.6, 1.38S×80.45W, h114km±25km, mb4.3/17, MD4.9(IGQ), Error ellipse: s-maj=23.9km s-min=7.3km az=63.0*
ISC 15 17:34:43.1±0.4**, 1.64S**±0.05×**81.11W**±0.03**, h12km, n60, σ1s25**/61**, mb4.1**/21**, MS3.8**/3**, 10C-9D, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	Jama	1.64	34	⇑P	Pn	17 35 10.6	-1.4
JAMA				S	Sn	17 35 32.5	-0.6
QIL1	Quilotoa	2.32	70	P	Pn	17 35 20.0	-1.6
IGUA	Igualata	2.48	87	P	Pn	17 35 23.5	-0.5
IGUA				S	Sn	17 35 54.5	+0.1
CUSU	Cusua	2.64	86	⇓P	Pn	17 35 27.1	+0.8
JUIV	Juive	2.66	86	P	Pn	17 35 27.0	+0.4
ARRY	Arrayan	2.66	87	P	Pn	17 35 27.1	+0.5
ARRY				S	Sn	17 35 58.0	-1.1
RUN5	Runtun	2.70	85	P	Pn	17 35 27.6	+0.5
ULBA	Ulba	2.71	86	⇑P	Pn	17 35 27.6	+0.3
CAMI	Rancho Maria	2.78	70	⇓P	Pn	17 35 29.6	+1.3
PISA	Pisayambo	2.79	78	⇑P	Pn	17 35 29.2	+0.8
NAS1	Nasa	2.82	69	⇓P	Pn	17 35 29.6	+0.8
JUA2	San Juan 2	2.88	61	⇓P	Pn	17 35 29.5	-0.2
VC1	Cotopaxi 1	2.88	70	⇑P	Pn	17 35 30.9	+1.1
TERV	Terraza Guagua	2.90	60	⇓P	Pn	17 35 30.2	+0.2
TAMB	Tambo	2.90	71	⇑P	Pn	17 35 30.6	+0.6
PINO	Pino	2.90	60	⇓P	Pn	17 35 29.5	-0.6
GGP	Refugio Guagua	2.91	60	P	Pn	17 35 30.1	-0.1
YANA	Yana	2.96	59	⇑P	Pn	17 35 30.4	-0.4
JOR1	San Jorge 1	2.96	57	⇓P	Pn	17 35 28.1	-2.7
ANTI	Antisana	3.18	68	⇑P	Pn	17 35 35.3	+1.4
COTA	Cotacachi	3.40	55	⇓P	Pn	17 35 37.3	+0.3
CAYR	Refugio Cayamb	3.51	62	P	Pn	17 35 40.6	+1.9
CAYR				S	Sn	17 36 26.3	+5.7
CAYA	Cayambe	3.55	62	⇑P	Pn	17 35 40.4	+1.1
LORE	San Lorenzo	3.69	38	⇑P	Pn	17 35 43.4	+2.2
CONE	Cono NE Rev Vo	3.80	66	⇓P	Pn	17 35 46.6	+3.8
ECOPE	Copete-Rev Vol	3.81	67	P	Pn	17 35 46.9	+4.0
ECEN	Cerro Negro	3.98	52	⇑P	Pn	17 35 44.8	-0.5
ROSC	El Rosal	9.35	46	Pn	P	17 36 59.2	-1.6
	0.5nm,0.3s,baz=254,slow=23,SNR=2.3						
JTS	JuntasAbangare	12.45	342	LR	LR	17 41 28.8	
	comp=Z,406nm,19.5s,baz=153,slow=33						
SDV	Santo Domingo	14.78	45	*e*P	P	17 38 12.6	-1.4
	41nm,0.9s						
SAML	Samuel	19.27	113	*e*P	P	17 39 04.5	-5.9
	33nm,1.2s						
LPAZ	La Paz	19.38	139	P	P	17 39 10.6	-1.1
	0.1nm,0.3s,baz=352,slow=13,SNR=5.0						
LPAZ				LR	LR	17 47 52.1	
	comp=Z,485nm,19.6s,baz=304,slow=41						
LPAZ	La Paz	19.38	139	*e*P	P	17 39 10.5	-1.2
	9.8nm,1.2s						
LVC	Limon Verde	23.99	151	P	P	17 39 58.6	-0.1
	2.1nm,0.7s,mb3.7,baz=310,slow=16,SNR=2.3						
LVC				LR	LR	17 50 09.1	
	comp=Z,145nm,21.3s,MS3.4,baz=215,slow=39						
LVC	Limon Verde	23.99	151	*e*P	P	17 40 00.5	+1.9
	3.8nm,0.8s,mb3.9						
SIV	San Ignacio	24.36	127	P	P	17 40 00.9	-1.5
	2.9nm,1.0s,mb3.6,baz=306,slow=9.6,SNR=6.0						
CFAA	Coronel Fontan	32.20	159	P	P	17 41 13.1	-0.3
	0.1nm,0.3s,mb3.1,baz=300,slow=3.6,SNR=3.1						
CPUP	Villa Florida	33.55	139	LR	LR	17 57 55.5	
	comp=Z,347nm,18.0s,MS4.1,baz=130,slow=42						
BDFB	Brasilia	35.48	115	LR	LR	17 56 06.0	
	comp=Z,144nm,21.0s,MS3.7,baz=304,slow=36						
PLCA	Paso Flores	40.08	168	P	P	17 42 21.9	+1.8
	3.9nm,0.9s,mb4.1,baz=354,slow=10,SNR=7.3						
PLCA	Paso Flores	40.08	168	*e*P	P	17 42 22.8	+2.6
	5.2nm,0.9s,mb4.3						
MNTX	Cornudas Mount	40.36	327	*e*P	P	17 42 23.7	+1.2
	2.4nm,0.8s,mb4.0						
ANMO	Albuquerque	43.45	329	P	P	17 42 49.2	+1.3
	1.0nm,0.5s,mb3.8,baz=151,slow=10,SNR=3.6						
ANMO	Albuquerque	43.45	329	*e*P	P	17 42 49.5	+1.6
	2.5nm,0.6s,mb4.1						
ANMO				*e*		17 42 58.7	
TUC	Tucson	43.91	323	P	P	17 42 54.1	+2.5
	2.0nm,0.9s,mb3.9						
SDCO	Great Sand Dun	45.22	333	*e*P	P	17 43 04.1	+2.1
	3.3nm,0.8s,mb4.2						
SDCO				*e*		17 43 13.1	
PDAR	Pinedale Array	51.09	333	P	P	17 43 47.6	-0.1
	0.8nm,0.8s,mb3.7,baz=145,slow=11,SNR=6.5						
HWUT	Hardware Ranch	51.13	331	*e*P	P	17 43 48.4	+0.4
	2.2nm,0.6s,mb4.3						
LOHW	Long Hollow	52.23	333	*e*P	P	17 43 55.2	-1.1
	5.4nm,1.3s,mb4.3						
RRI2	Red Ridge	52.35	332	*e*P	P	17 43 57.8	+0.6
	4.2nm,0.6s,mb4.5						
ELK	Elko	52.39	327	*e*P	P	17 43 58.6	+1.1
	6.4nm,1.4s,mb4.4						
ULM	Lac du Bonnet	53.21	348	P	P	17 44 00.9	-2.6
	5.0nm,0.6s,mb4.6,baz=171,slow=9.9,SNR=4.3						
HLID	Hailey	53.99	330	*e*P	P	17 44 10.2	+0.9
	1.6nm,0.9s,mb4.0						
BOZ	Bozeman (W)	54.28	334	*e*P	P	17 44 10.2	-1.2
	8.4nm,1.4s,mb4.5						
NEW	Newport	58.72	333	P	P	17 44 42.2	-0.9

	1.5nm,0.4s,mb4.4						
YKA	**Yellowknife Ar**	**68.78**	**344**	P	**P**	**17 45 46.5**	**-2.5**
	0.4nm,0.4s,mb3.7,baz=138,slow=6.5,SNR=7.2						
YKA	**Yellowknife Ar**	**68.78**	**344**	P	**P**	**17 45 46.5**	**-2.5**
DBIC	**Dimbokro**	**76.55**	**83**	P	**P**	**17 46 32.4**	**-3.4**
	7.3nm,1.1s,mb4.5,baz=298,slow=3.6,SNR=3.4						
ILAR	**Eielson Array**	**81.36**	**337**	P	**P**	**17 46 58.9**	**-2.0**
	0.9nm,1.1s,mb3.6,baz=127,slow=4.5,SNR=3.7						
SNAA	**Sanae**	**84.77**	**162**	eP	**P**	**17 47 16.4**	**-1.7**
	5.3nm,1.2s,mb4.5						

*IDC **15** 17:58:34.4±0.6, 57.48S×147.70W, mb4.2/9, mb1 4.3/9, mb1mx4.3/14, mbtmp4.2/9, MS5.3/12, Ms1 5.3/12, ms1mx5.1/16, Error ellipse: s-maj=29.9km s-min=17.8km az=10.0*

*NEIC **15** 17:58:36.0±0.3, 57.30S×147.64W, h10km, mb4.9/16, MS5.2/7, Error ellipse: s-maj=13.9km s-min=8.3km az=192.0*

*BJI **15** 17:58:35.9, 57.30S×147.60W, h10km, mB5.4, Ms5.5, Msz5.1*

*HRVD **15** 17:58:36.0±0.1, 57.63S×147.90W, h13km±1km, MW5.7/73, Centroid moment Tensor Solution. LP body waves: s65,c143;Mantle waves: s73,c154; Half duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.31±.05; $M_{\theta\theta}$3.29±.06; $M_{\phi\phi}$-2.98±.05; $M_{r\theta}$-0.81±.15; $M_{\theta\phi}$2.55±.05; $M_{\phi r}$-0.09±.12; Best double couple: $M_0$4.113×10^{17} NP1: ϕ_s205°,δ81°,λ175°. NP2:ϕ_s296°,δ85°,λ9°. Principal axes: T 4.33, Plg10°, Azm161°; N -.438, Plg80°, Azm323°; P -3.896, Plg3°, Azm70°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **15** 17:58:37.9±3.0, 57.56S×148.11W, h10km, mb4.9/8 Error ellipse: s-maj=28.3km s-min=20.3km az=95.6*

ISC 15 17:58:34.1±0.4**, 57.2S**±0.1×**147.7W**±0.1**, h10km, n110, σ1s06**/54**, mb4.6**/20**, MS5.2**/20**, 1C-1D, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**25.76**	**200**	eP	**P**	**18 04 06.6**	**+0.7**
SBA				pmax	pmax		
	comp=Z,106nm,1.8s,mb5.1						
SBA	**Scott Base**	**25.76**	**200**	eP	**P**	**18 04 06.6**	**+0.6**
	comp=Z,106nm,1.8s,mb5.1						
VNDA	**Vanda**	**26.59**	**202**	eP	**P**	**18 04 13.5**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,24nm,1.8s						
VNDA				MLR	MLR		
	comp=Z,5µm,21.0s						
VNDA	**Vanda**	**26.59**	**202**	P	**P**	**18 04 12.7**	**-0.9**
	comp=Z,1.3nm,0.8s,mb3.5,baz=56,slow=9.9,SNR=7.9						
VNDA				LR	LR	18 12 20.3	
	comp=Z,5µm,18.2s,MS5.1,baz=71,slow=31						
VNDA	**Vanda**	**26.59**	**202**	eP	**P**	**18 04 13.5**	**-0.1**
	comp=Z,24nm,1.8s,mb4.4						
VNDA				LR	LR		
	comp=Z,5µm,21.0s,MS5.1						
RPZ	**Rata Peaks**	**29.05**	**280**	LR	LR	18 14 18.2	
	comp=Z,7µm,18.1s,MS5.3,baz=128,slow=32						
URZ	**Urewera**	**29.86**	**294**	LR	LR	18 14 36.0	
	comp=Z,7µm,19.2s,MS5.3,baz=142,slow=32						
TBI	**Tubuai**	**33.85**	**357**	eP	**P**	**18 05 16.0**	**-2.7**
TBI				ePP	PP	18 06 33.9	+1.9
	comp=Z,261nm,30.5s						
TBI				eS	**S**	**18 10 33.9**	**-7.8**
	comp=Z,945nm,28.2s						
TBI				eLQ		18 12 43.1	
	comp=Z,3µm,29.5s						
TBI				eLR	LR	18 13 58.8	
	comp=Z,17µm,28.5s,baz=182						
RKT	**Rikitea**	**35.28**	**20**	eP	P	18 05 54.2	+23
RKT				eS	**S**	**18 10 58.5**	**-5.5**
	comp=Z,1µm,26.0s						
RKT				eLQ		18 13 19.5	
	comp=Z,8µm,28.0s						
RKT				eLR	LR	18 14 51.9	
	comp=Z,8µm,28.0s,baz=190						
PPT	**Papeete**	**39.60**	**357**	eP	**P**	**18 06 27.9**	**+21**
PPT				ePP		18 09 26.4	
	comp=Z,2µm,31.0s						
PPT				eS	**S**	**18 12 01.8**	**-8.1**
	comp=Z,1µm,25.8s						
PPT				eS	**S**	**18 12 03.0**	**-6.9**
	comp=Z,1µm,27.0s						
PPT				eLQ		18 14 49.6	
	comp=Z,5µm,34.8s						
PPT				eLR	LR	18 16 36.1	
	comp=Z,17µm,25.5s,baz=187						
PPT	**Papeete**	**39.60**	**357**	LR	LR	18 17 57.3	
	comp=Z,6µm,21.4s,MS5.4,baz=183,slow=29						
CASY	**Casey**	**43.76**	**215**	eP	**P**	**18 06 40.8**	**+0.1**
DZM	**Mont Dzumac**	**48.34**	**297**	P	**P**	**18 07 19.9**	**+2.2**
	comp=Z,9.7nm,1.0s,mb4.8,baz=84,slow=8.5,SNR=4.3						
VNA3	**Neumayer Olymp**	**48.47**	**163**		**P**	**18 07 17.6**	**-0.3**
VNA3	**Neumayer Olymp**	**48.47**	**163**		**P**	**18 07 25.4**	**+7.5**
TAOE	**Nuku Hiva Isla**	**48.59**	**10**	eLR	LR	18 20 37.4	
	comp=Z,21µm,27.0s						
SNAA	**Sanae**	**49.07**	**166**		**P**	**18 07 20.9**	**-1.7**
SNAA	**Sanae**	**49.07**	**166**		**P**	**18 07 22.4**	**-0.2**
SNAA	**Sanae**	**49.07**	**166**		**P**	**18 07 26.4**	**+3.8**
SNAA	**Sanae**	**49.07**	**166**		**P**	**18 07 36.9**	**+14**
SNAA	**Sanae**	**49.07**	**166**	i P	**P**	**18 07 21.9**	**-0.7**
SNAA	**Sanae**	**49.07**	**166**	P	**P**	**18 07 20.0**	**-2.5**
	comp=Z,1.3nm,0.8s,mb4.0,baz=237,slow=8.3,SNR=11						
SNAA	**Sanae**	**49.07**	**166**	eP	**P**	**18 07 20.1**	**-2.5**
VNA2	**Neumayer--Watz**	**49.10**	**164**		**P**	**18 07 22.5**	**-0.3**
VNA2	**Neumayer--Watz**	**49.10**	**164**		**P**	**18 07 30.2**	**+7.4**
PLCA	**Paso Flores**	**50.39**	**106**	eP	**P**	**18 07 33.8**	**+0.7**
PLCA				pmax	pmax		
	comp=Z,11nm,1.2s						
PLCA				MLR	MLR		
	comp=Z,2µm,19.0s						
PLCA	**Paso Flores**	**50.39**	**106**	P	**P**	**18 07 33.7**	**+0.6**
	comp=Z,1.5nm,0.8s,mb4.1,baz=226,slow=12,SNR=4.0						
PLCA				LR	LR	18 25 05.5	
	comp=Z,2µm,18.4s,MS5.2,baz=221,slow=32						
PLCA	**Paso Flores**	**50.39**	**106**	eP	**P**	**18 07 33.8**	**+0.7**
	comp=Z,11nm,1.2s,mb4.8						
PLCA				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
MAW	**Mawson**	**53.46**	**194**	LR	LR	18 28 24.3	
	comp=Z,4µm,18.7s,MS5.5,baz=157,slow=34						
STKA	**Stephens Creek**	**53.59**	**266**	eP	**P**	**18 07 57.9**	**+0.6**
	comp=Z,7.8nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**53.59**	**266**	P	**P**	**18 07 57.0**	**-0.3**
	comp=Z,5.4nm,0.8s,mb4.5,baz=154,slow=11,SNR=8.1						
STKA				LR	LR	18 27 29.6	
	comp=Z,5µm,18.6s,MS5.6,baz=140,slow=32						
SYO	**Syowa Base**	**53.98**	**183**	⇑pP	**P**	**18 08 00.0**	**+0.4**
TRQA	**Tornquist**	**56.81**	**110**	eP	**P**	**18 08 19.7**	**-0.9**
	comp=Z,12nm,1.2s,mb4.8						
TRQA				LR	LR		
	comp=Z,1µm,19.0s,MS5.0						
CFAA	**Coronel Fontan**	**58.48**	**100**	P	**P**	**18 08 31.3**	**-1.1**
	comp=Z,0.4nm,0.9s,mb3.5,baz=201,slow=8.3,SNR=4.9						
CTA	**Charters Tower**	**60.41**	**279**	eP	**P**	**18 08 46.4**	**+0.5**
	comp=Z,4.2nm,1.4s,mb4.3						
CTA	**Charters Tower**	**60.41**	**279**	eP	**P**	**18 08 46.4**	**+0.5**
CTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
CTAO	**Charters Tower**	**60.41**	**279**	eP	**P**	**18 08 46.1**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
CTAO				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.3						
CTAO	**Charters Tower**	**60.41**	**279**	eP	**P**	**18 08 46.1**	**+0.2**
	comp=Z,3.4nm,0.7s,mb4.5						
CTAO				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
LVC	**Limon Verde**	**65.24**	**94**	eP	**P**	**18 09 19.2**	**+1.3**
	comp=Z,22nm,1.4s,mb5.0						
WB2	**Warramunga Arr**	**66.98**	**269**	⇓iP	**P**	**18 09 28.1**	**-0.9**
WRA	**Warramunga Arr**	**66.99**	**269**	P	**P**	**18 09 27.8**	**-1.3**
	comp=Z,6.7nm,1.0s,mb4.6,baz=146,slow=5.5,SNR=22						
WRAB	**Tennant Creek**	**66.99**	**269**	i P	**P**	**18 09 27.8**	**-1.3**
WRAB	**Tennant Creek**	**66.99**	**269**	eP	**P**	**18 09 28.1**	**-1.0**
	comp=Z,52nm,1.5s,mb5.3						
WRAB				LR	LR		
	comp=Z,1µm,20.0s,MS5.1						
CPUP	**Villa Florida**	**68.45**	**105**	eP	**P**	**18 09 37.6**	**-0.5**
CPUP				pmax	pmax		
	comp=Z,16nm,1.3s						
CPUP	**Villa Florida**	**68.45**	**105**	LR	LR	18 34 50.5	
	comp=Z,725nm,18.1s,MS5.0,baz=229,slow=32						
CPUP	**Villa Florida**	**68.45**	**105**	eP	**P**	**18 09 37.6**	**-0.6**
	comp=Z,16nm,1.3s,mb4.9						
PMG	**Port Moresby**	**68.80**	**286**	eP	**P**	**18 09 41.9**	**+1.4**
PMG				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PMG				MLR	MLR		
	comp=Z,3µm,19.0s						
PMG	**Port Moresby**	**68.80**	**286**	eP	**P**	**18 09 41.9**	**+1.4**
	comp=Z,8.0nm,0.7s,mb4.8						
PMG				LR	LR		
	comp=Z,3µm,19.0s,MS5.5						
LPAZ	**La Paz**	**70.80**	**90**	eP	**P**	**18 09 54.6**	**+1.9**
LPAZ				pmax	pmax		
	comp=Z,19nm,1.6s						
LPAZ	**La Paz**	**70.80**	**90**	P	**P**	**18 09 54.2**	**+1.6**
	comp=Z,2.2nm,0.9s,mb4.1,baz=344,slow=3.2,SNR=5.1						
LPAZ				LR	LR	18 34 22.3	
	comp=Z,678nm,20.1s,MS4.9,baz=328,slow=30						
LPAZ	**La Paz**	**70.80**	**90**	eP	**P**	**18 09 54.6**	**+1.9**
	comp=Z,19nm,1.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**73.21**	**263**	eP	**P**	**18 10 07.0**	**+0.1**
	comp=Z,12nm,0.9s,mb4.8						
MBWA	**Marble Bar**	**73.86**	**256**	P	**P**	**18 10 11.8**	**+1.2**
	comp=Z,7.3nm,0.8s,mb4.7						
KAKA	**Kakadu**	**73.95**	**271**	eP	**P**	**18 10 10.3**	**-1.0**
	comp=Z,21nm,1.3s,mb4.9						
SAML	**Samuel**	**79.55**	**90**	eP	**P**	**18 10 43.0**	**+0.3**
	comp=Z,1.6nm,0.6s,mb4.1						
BDFB	**Brasilia**	**82.13**	**106**	P	**P**	**18 10 56.0**	**-0.2**
	comp=Z,3.3nm,0.6s,mb4.5,baz=218,slow=8.8,SNR=4.5						
BDFB				LR	LR	18 43 53.0	
	comp=Z,2µm,19.1s,MS5.5,baz=200,slow=33						
BDFB	**Brasilia**	**82.13**	**106**	P	**P**	**18 10 56.0**	**-0.2**
BDFB				LR	LR	18 43 53.0	
JTS	**JuntasAbangare**	**84.45**	**61**	LR	LR	18 41 12.5	
	comp=Z,1µm,18.1s,MS5.3,baz=163,slow=30						
ROSC	**El Rosal**	**85.12**	**73**	LR	LR	18 42 55.8	
	comp=Z,2µm,18.8s,MS5.4,baz=179,slow=31						
KMI	**Kunming**	**121.31**	**268**	PKIKP	PKPdf	18 17 28.4	-2.0
KMI						18 19 08.6	
KMI				PPP	PPP	18 21 38.1	+0.3
KMI				PS	PS	18 28 48.2	-2.9
KMI				SS	SS	18 35 35.6	+2.2
KMI				SSS	SSS	18 40 06.8	+2.7
KMI				MLR	MLR		
	comp=Z,630nm,20.7s,MS5.2						
KMI	**Kunming**	**121.31**	**268**	PKP	PKPdf	18 17 28.4	-2.0
KMI				sPKP		18 17 38.2	
KMI				PP	PP	18 19 08.6	+6.1
KMI				PPP	PPP	18 21 38.1	+0.3
KMI				SKKS		18 25 58.8	
KMI				PS	PS	18 28 48.2	-2.9
KMI				SS	SS	18 35 35.6	+2.2
KMI				SSS	SSS	18 40 06.8	+2.7
KMI				LR	LR		
	comp=Z,630nm,20.7s,MS5.2						
ILAR	**Eielson Array**	**121.66**	**0**	PKP	PKPdf	18 17 28.1	-2.0
	comp=Z,2.2nm,0.9s,baz=237,slow=1.9,SNR=11						
YKA	**Yellowknife Ar**	**122.09**	**17**	PKP	PKPdf	18 17 30.9	0.0
	comp=Z,0.7nm,0.9s,baz=162,slow=2.2,SNR=3.9						
YKA	**Yellowknife Ar**	**122.09**	**17**	PKP	PKPdf	18 17 30.9	0.0
KLR	**Kul'dur**	**125.12**	**308**	ePKIKP	PKPdf	18 17 35.7	-1.3
HHC	**Hu-ho-hao-te**	**128.60**	**288**	ePKP	PKPdf	18 17 37.8	-6.2
HHC				SKS	SKS	18 24 49.3	-2.3
HHC				SKKS		18 26 40.8	
HHC				SS	SS	18 37 03.6	-1.1
HHC				PP	PP		
	comp=Z,123nm,8.4s						
HHC				LR	LR		
	comp=N,252nm,22.8s,MS5.0						
HHC				LR	LR		
	comp=E,223nm,21.6s,MS5.0						
HHC				LR	LR		
	comp=Z,266nm,22.8s,MS4.9						
SONM	**Songino Array**	**136.11**	**291**	PKP	PKPdf	18 17 55.3	-2.5
	comp=Z,0.4nm,0.4s,baz=22,slow=27,SNR=3.2						
LFA	**Lagoa do Fogo**	**137.85**	**92**	eP	PKPdf	18 18 00.1	-1.2
WMQ	**Urumqi**	**143.40**	**273**	PKP	PKPdf	18 18 10.8	0.0
WMQ				PP	PP	18 21 25.8	+2.8
WMQ				PP	PP		
	comp=Z,107nm,10.9s						
WMQ				LR	LR		
	comp=N,243nm,26.3s,MS4.9						
WMQ				LR	LR		
	comp=E,102nm,25.1s,MS4.9						
WMQ				LR	LR		
	comp=Z,345nm,26.5s,MS5.0						
KSH	**Kashi**	**146.76**	**257**	ePKP	PKPdf	18 18 12.1	-4.7
KSH				eAPKP		18 18 19.1	
EGRO	**El Granado**	**147.27**	**110**	PKP	PKPdf	18 18 21.0	+3.3
EMIN	**Mina Concepcio**	**147.86**	**110**	PKP	PKPdf	18 18 20.6	+2.0
EMIJ	**Mijas**	**147.88**	**114**	PKP	PKPdf	18 18 22.3	+3.6
MKAR	**Makanchi Array**	**148.23**	**273**	i PKIKP	PKPdf	18 18 20.4	+1.5
MKAR				pmax	pmax		
	comp=Z,72nm,1.2s						
MKAR	**Makanchi Array**	**148.23**	**273**	PKPbc	PKPdf	18 18 20.7	+1.8
	comp=Z,14nm,0.7s,baz=117,slow=2.7,SNR=80						
EBAD	**Badajoz**	**148.43**	**109**	PKP	PKPdf	18 18 22.9	+3.4
ELOJ	**Sierra Loja**	**148.65**	**114**	PKIKP	PKPdf	18 18 23.6	+3.7
EGUA	**Guajares**	**148.69**	**115**	PKIKP	PKPdf	18 18 24.1	+4.1
ERON	**Agron**	**148.72**	**115**	PKP	PKPdf	18 18 24.2	+4.2
ECAB	**El Cabril**	**148.73**	**111**	PKP	PKPdf	18 18 23.6	+3.6
ELUQ	**Luque**	**148.91**	**113**	PKIKP	PKPdf	18 18 23.5	+3.2
EBER	**Berja**	**149.08**	**116**	PKP	PKPdf	18 18 24.4	+3.8
EADA	**Adamuz**	**149.23**	**112**	PKP	PKPdf	18 18 23.6	+2.8
ENIJ	**Nijar**	**149.47**	**117**	PKP2	PKPab	18 18 26.4	-3.4
EBAN	**Banos Encina**	**149.62**	**113**	PKHKP		18 18 26.1	
EQES	**Quesada**	**149.70**	**115**	PKP	PKPdf	18 18 26.7	+5.2
AAK	**Ala-Archa**	**149.75**	**259**	i PKP2	PKPab	18 18 28.3	-2.4
AAK	**Ala-Archa**	**149.75**	**259**	ePKPab	PKPab	18 18 29.8	-1.0
FRU	**Bishkek**	**149.83**	**260**	ePKP2	PKPab	18 18 29.0	-2.0
FRU				pmax	pmax		
	comp=Z,160nm,2.5s						
FRU				MLR	MLR		
	comp=Z,600nm,19.0s,MS5.4						
ELOB	**Lobios**	**150.15**	**103**	PKP	PKPdf	18 18 24.4	+2.3
STS	**Santiago**	**150.60**	**101**	PKIKP	PKPdf	18 18 25.8	+3.0
EVIA	**Vianos**	**150.63**	**114**	PKIKP	PKPdf	18 18 27.4	+4.4
ESDC	**Sonseca Array**	**150.68**	**111**	PKPbc	PKPdf	18 18 27.0	+4.0
	comp=Z,1.6nm,0.8s,baz=233,slow=1.3,SNR=7.4						
ESDC	**Sonseca Array**	**150.68**	**111**	PKP	PKPdf	18 18 27.7	+4.7
ESLA	**Sonseca Array**	**150.68**	**111**	ePKPbc	PKPdf	18 18 27.5	+4.5
ESLA				ePKPab	PKPab	18 18 34.7	0.0
ZAL	**Zalesovo**	**150.77**	**286**	PKPbc	PKPdf	18 18 26.5	+3.8
	comp=Z,2.0nm,0.9s,baz=294,slow=3.4,SNR=7.0						
EPON	**Pontenova**	**151.65**	**102**	PKP	PKPdf	18 18 28.9	+4.6
EBEN	**Beniarda**	**151.80**	**117**	PKP	PKPdf	18 18 28.7	+4.0
NVS	**Novosibirsk**	**152.00**	**287**	ePKIKP	PKPdf	18 18 27.5	+3.0
NVS				e		18 22 12.9	
NVS				pmax	pmax		
	comp=Z,32nm,2.0s						
NVS				pmax	pmax		
	comp=N,11nm,1.9s						
NVS				pmax	pmax		
	comp=E,14nm,1.6s						
ECHE	**Chera**	**152.12**	**115**	PKIKP	PKPdf	18 18 29.5	+4.4
KURK	**Kurchatov**	**152.46**	**276**	i PKIKP	PKPdf	18 18 29.8	+4.5
KURK	**Kurchatov**	**152.46**	**276**	ePKPbc	PKPdf	18 18 30.4	+5.1
ZRNK	**Zerenda**	**158.76**	**274**	PKP2	PKPab	18 19 04.6	-4.0
ZRNK				pmax	pmax		
	comp=Z,13nm,1.8s						
AB31	**Akbulak array**	**161.76**	**256**	i PKP2	PKPab	18 19 20.4	-1.3
AB31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SVE	**Sverdlovsk**	**164.63**	**281**	ePKP2	PKPab	18 19 35.6	+1.7
KHC	**Kasperske Hory**	**166.18**	**118**	AMS	AMS	19 36 20.0	
	comp=Z,800nm,20.2s						
NKC	**Novy Kostel**	**166.34**	**112**	AMS	AMS	19 37 50.0	
	comp=Z,1µm,20.8s						
PRU	**Pruhonice**	**167.22**	**117**	AMS	AMS	19 47 10.0	
	comp=Z,800nm,17.8s						
PVCC	**Panska Ves**	**167.58**	**115**	AMS	AMS	19 40 00.0	
	comp=Z,1µm,19.9s						
OKC	**Ostrava-Krasne**	**168.80**	**125**	AMS	AMS	19 43 10.0	
	comp=Z,1µm,18.7s						

*NEIC **15** 18:25:47.4±0.4, 43.77N×105.19W, ML3.1, Error ellipse: s-maj=6.4km s-min=4.9km az=131.0, Suspected Mining explosion.*

NEIC 60 km [40 miles] SSE of Gillette.

*IDC **15** 18:25:48.6±2.2, 44.19N×105.72W, mb4.2/1, mb1 4.0/4, mb1mx3.7/22, mbtmp3.9/4, ML3.6/3, Error ellipse: s-maj=96.9km s-min=8.4km az=146.0*

ISC 15 18:25:46.2±0.6**, 43.76N**±0.04×**105.27W**±0.06**, n36, σ1s01**/40**, mb4.3**/1**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**67**	eP	**Pg**	**18 26 06.0**	**+0.6**
PHWY	**Pilot Hill**	**2.46**	**183**	eP	**Pn**	**18 26 29.4**	**+1.3**
LAO	**LASA Array**	**3.01**	**347**	eP	**Pn**	**18 26 36.2**	**+0.2**
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**18 26 41.2**	**+1.3**
	4.4nm,0.3s,baz=72,slow=15,SNR=76						
PDAR				Pg	**Pg**	**18 26 49.8**	**-2.1**
	15nm,0.3s,baz=82,slow=18,SNR=37						
PDAR				Sn	**Sn**	**18 27 20.1**	**-0.3**
	4.5nm,0.3s,baz=77,slow=20,SNR=4.2						
PDAR				Lg		18 27 26.8	
	17nm,0.3s,baz=72,slow=35,SNR=9.6						
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**18 26 41.2**	**+1.3**
PDAR				Pg	**Pg**	**18 26 49.8**	**-2.1**
PDAR				Sn	**Sn**	**18 27 20.1**	**-0.3**
PDAR				Lg		18 27 26.8	
BW06	**Boulder Array**	**3.29**	**254**	eP	**Pn**	**18 26 41.4**	**+1.4**
GCMT	**Greycliff**	**3.73**	**305**	P	**Pn**	**18 26 47.2**	**+0.9**
LKWY	**Lake**	**3.78**	**284**	P	**Pn**	**18 26 50.1**	**+3.1**
LOHW	**Long Hollow**	**3.87**	**270**	P	**Pn**	**18 26 49.3**	**+0.9**
ISCO	**Idaho Springs**	**3.96**	**184**	ePn	**Pn**	**18 26 48.6**	**-1.0**
MOOW	**Moose Ponds**	**3.97**	**272**	eP	**Pn**	**18 26 50.6**	**+0.9**
SNOW	**Snow King Moun**	**4.00**	**268**	P	**Pn**	**18 26 50.9**	**+0.8**
YNR	**Norris Junctio**	**4.01**	**286**	P	**Pn**	**18 26 47.6**	**-2.6**
REDW	**Red Top Meadow**	**4.08**	**266**	P	**Pn**	**18 26 51.5**	**+0.2**
IMW	**Indian Meadow**	**4.11**	**274**	eP	**Pn**	**18 26 51.7**	**+0.1**
TPAW	**Teton Pass**	**4.14**	**268**	P	**Pn**	**18 26 51.2**	**-0.9**
AHID	**Auburn Hatcher**	**4.38**	**259**	Pn	**Pn**	**18 26 56.1**	**+0.7**
RRI2	**Red Ridge**	**4.42**	**267**	eP	**Pn**	**18 26 56.1**	**0.0**
SMCO	**Snowmass**	**4.75**	**196**	Pn	**Pn**	**18 27 01.1**	**+0.3**
DGMT	**Dagmar**	**4.77**	**9**	eP	**Pn**	**18 27 01.5**	**+0.4**
BOZ	**Bozeman (W)**	**4.91**	**295**	ePn	**Pn**	**18 27 02.1**	**-0.9**
HWUT	**Hardware Ranch**	**5.12**	**247**	ePn	**Pn**	**18 27 05.6**	**-0.4**
TCUT	**Toone Canyon**	**5.25**	**242**	ePn	**Pn**	**18 27 07.9**	**0.0**
HRY	**Holter Researc**	**5.50**	**305**	ePn	**Pn**	**18 27 10.7**	**-0.7**
MCMT	**McKenzie Canyo**	**5.55**	**284**	P	**Pn**	**18 27 11.8**	**-0.2**
DAU	**Daniels Canyon**	**5.57**	**235**	ePn	**Pn**	**18 27 12.7**	**+0.3**
SPUT	**South Promonto**	**5.84**	**248**	Pn	**Pn**	**18 27 16.2**	**0.0**
SRU	**San Rafael**	**6.09**	**222**	ePn	**Pn**	**18 27 18.4**	**-1.3**
TMUT	**Trail Mountain**	**6.30**	**227**	ePn	**Pn**	**18 27 22.6**	**-0.1**
CHMT	**Chamberlain Mo**	**6.45**	**302**	ePn	**Pn**	**18 27 24.2**	**-0.6**
MSU	**Marysvale**	**7.39**	**227**	eP	**Pn**	**18 27 37.7**	**-0.3**
MVU	**Marysvale**	**7.42**	**227**	P	**Pn**	**18 27 38.3**	**-0.1**
ELK	**Elko**	**7.99**	**251**	Pn	**Pn**	**18 27 48.0**	**+1.7**
	0.7nm,0.3s,baz=78,slow=11,SNR=7.6						
ARUT	**Antelope Range**	**8.60**	**229**	eP	**P**	**18 27 53.9**	**-1.0**
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**P**	**18 27 59.0**	**-3.2**
	1.8nm,0.3s,baz=230,slow=9.4,SNR=6.6						
ARCES	**ARCESS Array B**	**61.40**	**18**	P	**P**	**18 36 02.1**	**-3.7**
	2.9nm,1.1s,mb4.3,baz=323,slow=6.1,SNR=4.1						

*NEIC **15** 18:56:04.0, 42.43S×173.93E, h12km, ML3.9(WEL), After WEL.*

NEIC Felt at Kaikoura.

WEL 15 18:56:04.5±0.2**, 42.41S×173.89E, h16km**±1km**, ML3.9**/30**, 10C-2D, Error ellipse: s-maj=1.8km s-min=1.0km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.26**	**267**	P	Pb	18 56 10.1	-0.2
KHZ				S	Sb	18 56 13.8	-0.5
KHZ	**Kahutara**	**0.26**	**267**	⇑P*	Pb	18 56 10.1	-0.2
KHZ				S*	Sb	18 56 13.4	-0.9
BSWZ	**Blackbirch Sta**	**0.69**	**359**	P	Pb	18 56 17.6	-0.1
BSWZ	**Blackbirch Sta**	**0.69**	**359**	⇓P*	Pb	18 56 17.6	0.0
BSWZ				S*	Sb	18 56 26.6	-0.1
CMWZ	**Cape Campbell**	**0.70**	**20**	P	Pb	18 56 19.3	+1.5
CMWZ	**Cape Campbell**	**0.70**	**20**	P*	Pb	18 56 19.2	+1.4
THZ	**Tophouse**	**0.97**	**311**	P	Pb	18 56 22.0	-0.5
THZ	**Tophouse**	**0.97**	**311**	⇓P*	Pb	18 56 22.0	-0.5
TUWZ	**Tuamarina**	**0.97**	**2**	⇑P*	Pb	18 56 22.8	+0.3
TUWZ				S*	Sb	18 56 36.3	+1.4
TCW	**Tory Channel**	**1.23**	**14**	P	Pb	18 56 26.4	-0.4
TCW	**Tory Channel**	**1.23**	**14**	⇑P*	Pb	18 56 26.4	-0.4
BHW	**Baring Head**	**1.24**	**37**	P	Pb	18 56 26.7	-0.3
BHW	**Baring Head**	**1.24**	**37**	⇑P*	Pb	18 56 26.7	-0.3
NNZ	**Nelson**	**1.25**	**342**	P	Pb	18 56 26.4	-0.8
NNZ	**Nelson**	**1.25**	**342**	PN	Pn	18 56 26.4	-0.9
SNZO	**South Karori**	**1.25**	**29**	P	Pb	18 56 27.0	-0.3
SNZO	**South Karori**	**1.25**	**29**	⇑P*	Pb	18 56 27.0	-0.3
LTZ	**Lake Taylor**	**1.25**	**252**	P	Pb	18 56 27.0	-0.3
LTZ	**Lake Taylor**	**1.25**	**252**	⇑PN	Pn	18 56 27.0	-0.5
WEL	**Wellington**	**1.30**	**31**	P	Pb	18 56 27.7	-0.3
WEL	**Wellington**	**1.30**	**31**	P*	Pb	18 56 27.6	-0.4
MRW	**Makara Radio**	**1.32**	**28**	P*	Pb	18 56 27.8	-0.6
MSWZ	**Moikau Station**	**1.42**	**46**	P	Pn	18 56 29.0	-0.7
MSWZ	**Moikau Station**	**1.42**	**46**	⇑P*	Pb	18 56 29.0	-1.0
CRLZ	**Canterbury Las**	**1.50**	**218**	eP	Pn	18 56 30.4	-0.5
CRLZ	**Canterbury Las**	**1.50**	**218**	PN	Pn	18 56 30.1	-0.8
PAWZ	**Paruwai Farm**	**1.54**	**49**	⇑PN	Pn	18 56 30.4	-1.0
CAW	**Cannon Point**	**1.57**	**35**	P	Pn	18 56 31.2	-0.7
CAW	**Cannon Point**	**1.57**	**35**	⇑PN	Pn	18 56 31.2	-0.7
MQZ	**McQueen's Vall**	**1.59**	**214**	P	Pn	18 56 31.1	-1.1
MQZ	**McQueen's Vall**	**1.59**	**214**	PN	Pn	18 56 31.0	-1.2
DUWZ	**D'Urville Isla**	**1.60**	**1**	PN	Pn	18 56 31.4	-1.0
TRWZ	**Traveller**	**1.68**	**54**	PN	Pn	18 56 32.0	-1.4
DSZ	**Denniston Nort**	**1.69**	**292**	P	Pn	18 56 33.2	-0.4
DSZ	**Denniston Nort**	**1.69**	**292**	PN	Pn	18 56 32.9	-0.7
KIW	**Kapiti Island**	**1.72**	**27**	P	Pn	18 56 33.5	-0.6
KIW	**Kapiti Island**	**1.72**	**27**	⇑PN	Pn	18 56 33.5	-0.6
MTW	**Mount Morrison**	**1.73**	**45**	P	Pn	18 56 33.0	-1.3
MTW	**Mount Morrison**	**1.73**	**45**	PN	Pn	18 56 32.9	-1.3
QRZ	**Quartz Range**	**1.88**	**327**	P	Pn	18 56 36.3	0.0
QRZ	**Quartz Range**	**1.88**	**327**	PN	Pn	18 56 36.0	-0.3
MRZ	**Mangatainoka R**	**2.15**	**37**	P	Pn	18 56 38.8	-1.5
MRZ	**Mangatainoka R**	**2.15**	**37**	PN	Pn	18 56 38.6	-1.7
RPZ	**Rata Peaks**	**2.46**	**237**	P	Pn	18 56 43.1	-1.5
RPZ	**Rata Peaks**	**2.46**	**237**	PN	Pn	18 56 43.0	-1.6
BFZ	**Birch Farm**	**2.47**	**47**	eP	Pn	18 56 42.4	-2.4
BFZ	**Birch Farm**	**2.47**	**47**	PN	Pn	18 56 42.2	-2.6
WAZ	**Wanganui**	**2.77**	**18**	P	Pn	18 56 49.3	+0.2
WAZ	**Wanganui**	**2.77**	**18**	PN	Pn	18 56 49.0	-0.2
TSZ	**Takapari Road**	**2.82**	**34**	P	Pn	18 56 47.6	-2.1
TSZ	**Takapari Road**	**2.82**	**34**	PN	Pn	18 56 47.5	-2.3
NRZ	**Ngariki Road**	**3.06**	**1**	P	Pn	18 56 53.8	+0.5
NRZ	**Ngariki Road**	**3.06**	**1**	ePN	Pn	18 56 55.3	+2.0
NWEZ	**Newall Road**	**3.13**	**360**	P	Pn	18 56 54.8	+0.6
NWEZ	**Newall Road**	**3.13**	**360**	ePN	Pn	18 56 54.5	+0.3
NEZ	**North Egmont**	**3.13**	**3**	P	Pn	18 56 56.2	+1.9
NEZ	**North Egmont**	**3.13**	**3**	ePN	Pn	18 56 54.2	-0.1
RAEZ	**Rainy Point**	**3.14**	**7**	P	Pn	18 56 54.3	0.0
RAEZ	**Rainy Point**	**3.14**	**7**	ePN	Pn	18 56 53.7	-0.6
PKE	**Pukeiti**	**3.21**	**1**	P	Pn	18 56 55.6	+0.3
PKE	**Pukeiti**	**3.21**	**1**	ePN	Pn	18 56 55.6	+0.2
MTVZ	**Mangateitei**	**3.25**	**22**	ePN	Pn	18 56 54.6	-1.2
FOZ	**Fox Glacier**	**3.29**	**248**	eP	Pn	18 56 54.2	-2.3
FOZ	**Fox Glacier**	**3.29**	**248**	ePN	Pn	18 56 54.1	-2.4
PKVZ	**Pokaka**	**3.30**	**20**	ePN	Pn	18 56 55.9	-0.8
MOVZ	**Moawhango**	**3.31**	**26**	P	Pn	18 56 55.1	-1.7
MOVZ	**Moawhango**	**3.31**	**26**	ePN	Pn	18 56 54.5	-2.3
WNVZ	**Wahianoa**	**3.34**	**23**	P	Pn	18 56 56.2	-0.9
WNVZ	**Wahianoa**	**3.34**	**23**	ePN	Pn	18 56 55.7	-1.4
VRZ	**Vera Road**	**3.34**	**12**	P	Pn	18 56 57.1	-0.1
VRZ	**Vera Road**	**3.34**	**12**	PN	Pn	18 56 56.9	-0.3
FWVZ	**Far West T-bar**	**3.39**	**22**	eP	Pn	18 56 57.3	-0.6
FWVZ	**Far West T-bar**	**3.39**	**22**	ePN	Pn	18 56 57.0	-0.9
TUVZ	**Tukino**	**3.41**	**24**	P	Pn	18 56 57.2	-0.9
TUVZ	**Tukino**	**3.41**	**24**	ePN	Pn	18 56 57.0	-1.2
WPVZ	**Whakapapa**	**3.44**	**22**	P	Pn	18 56 56.2	-2.3
CNZ	**Chateau**	**3.44**	**22**	P	Pn	18 56 58.2	-0.4
NGZ	**Ngauruhoe**	**3.48**	**23**	P	Pn	18 56 58.3	-0.8
NGZ	**Ngauruhoe**	**3.48**	**23**	ePN	Pn	18 56 58.1	-1.0
OTVZ	**Oturere**	**3.51**	**23**	PN	Pn	18 56 58.4	-1.1
WTVZ	**West Tongariro**	**3.53**	**22**	P	Pn	18 56 58.8	-1.1
WTVZ	**West Tongariro**	**3.53**	**22**	ePN	Pn	18 56 58.4	-1.5
ODZ	**Otahua Downs**	**3.54**	**221**	eP	Pn	18 56 58.1	-1.9
ODZ	**Otahua Downs**	**3.54**	**221**	ePN	Pn	18 56 57.4	-2.5
KRVZ	**Karewarewa**	**3.56**	**22**	ePN	Pn	18 56 59.4	-1.0
BKZ	**Black Stump Fm**	**3.79**	**32**	eP	Pn	18 57 00.2	-3.4
BKZ	**Black Stump Fm**	**3.79**	**32**	PN	Pn	18 56 59.9	-3.7
HIZ	**Hauiti**	**3.96**	**11**	eP	Pn	18 57 05.1	-0.8
HIZ	**Hauiti**	**3.96**	**11**	PN	Pn	18 57 04.8	-1.1
JCZ	**Jackson Bay**	**4.10**	**244**	ePN	Pn	18 57 05.5	-2.5

EAZ	Earnscleugh	4.36	228	*e*P	Pn	18 57 09.6	-2.0
EAZ	Earnscleugh	4.36	228	*e*PN	Pn	18 57 09.1	-2.5
TUZ	Tuapeka	4.69	219	*e*P	Pn	18 57 14.0	-2.3
TUZ	Tuapeka	4.69	219	*e*PN	Pn	18 57 13.5	-2.8
URZ	Urewera	4.82	32	*e*P	Pn	18 57 13.0	-5.2
URZ	Urewera	4.82	32	*e*PN	Pn	18 57 12.8	-5.3
MWZ	Matawai	4.92	36	*e*P	Pn	18 57 14.6	-5.1
MWZ	Matawai	4.92	36	*e*PN	Pn	18 57 13.5	-6.2
MLZ	Mavora Lakes	5.07	233	*e*P	Pn	18 57 19.8	-2.0
MLZ	Mavora Lakes	5.07	233	*e*PN	Pn	18 57 19.7	-2.0
KUZ	Kuaotunu	5.83	15	*e*P	Pn	18 57 26.9	-5.5

NNC 15 19:06:09.9±9.3**,36.65N×69.36E,h236^{km}**±149^{km}**,mpv3.6, 4D,Error ellipse: s-maj=114.6km s-min=62.5km az=61.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	6.50	7	P	P	19 07 42.1	-2.7
	0.8nm,0.3s,baz=178,slow=12,SNR=34						
KK31				⇓S	S	19 09 00.6	+1.7
	1.6nm,0.5s,baz=198,slow=24,SNR=5.8						
AAK	Ala-Archa	7.17	32	⇓P	P	19 07 50.7	-2.5
	3.1nm,0.4s						
AAK				⇓S	S	19 09 17.1	+3.0
	7.1nm,0.8s						
MK31	Makanchi Array	13.98	40	P	P	19 09 17.9	-1.2
	1.0nm,0.4s,baz=217,slow=10,SNR=7.2						
AB31	Akbulak array	14.34	334	P	P	19 09 24.8	+1.1
	0.7nm,0.6s,baz=146,slow=13,SNR=15						
AB31				⇓S	S	19 11 59.4	+2.4
	0.6nm,0.7s						

*IDC **15** 19:18:28.4±0.8,60.63N×60.00W,mb3.8/10,mb1 4.0/12, mb1mx3.8/23,mbtmp3.9/12,ML3.6/2,Error ellipse: s-maj=24.5km s-min=11.3km az=129.0*

*NEIC **15** 19:18:29.5,60.67N×60.15W,h18^{km},ML4.3(OTT),After OTT.*

*OTT **15** 19:18:29.5±0.4,60.67N×60.15W,h18^{km},ML4.3/10, LAlbertaRADOR Sea Seismic Zone. 260km east from Killiniq, Qc*

ISC 15 19:18:26.6±0.6**,60.50N**±0.07×**60.4W**±0.2**,h18^{km},n34, σ1s41**/51**,mb3.8**/10**,Davis Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUQ	Kuujjuuaa	4.76	243	PN	Pn	19 19 43.2	+3.8
KUQ				SN	Sn	19 20 37.7	+2.9
KUQ				LG		19 20 52.3	
KUQ				Trac		19 21 04.2	
	comp=Z,36nm,0.4s						
SCHQ	Schefferville	6.65	214	Pn	Pn	19 20 10.5	+4.5
	8.4nm,0.3s,baz=30,slow=8.4,SNR=6.9						
SCHQ				Sn	Sn	19 21 23.8	+1.6
	9.8nm,0.3s,baz=270,slow=12,SNR=13						
SCHQ	Schefferville	6.65	214	*e*Pn	Pn	19 20 09.9	+3.9
SCHQ				*e*Sn	Sn	19 21 23.7	+1.6
SCHQ	Schefferville	6.65	214	PN	Pn	19 20 10.4	+4.4
SCHQ				SN	Sn	19 21 21.8	-0.3
SCHQ				Trac		19 21 26.9	
	comp=Z,109nm,0.7s						
SFJD	Kangerlussuaq	7.82	29	*i* P	Pn	19 20 19.7	-2.6
SFJD				*i* S	Sn	19 21 40.0	-11
SFJD				*i* S	Sn	19 21 42.6	-8.6
SFJD	Kangerlussuaq	7.82	29	PN	Pn	19 20 19.6	-2.8
SFJD				SN	Sn	19 21 39.0	-12
SFJD				Trac		19 21 50.4	
	comp=Z,15nm,0.2s						
YOSQ	Ashton Mining	10.03	226	PN	P	19 20 54.0	+1.2
YOSQ				SN	S	19 22 41.1	-4.8
YOSQ				Trac		19 22 47.2	
	comp=Z,22nm,0.4s						
LG4Q	La Grande 4	10.15	233	PN	P	19 20 54.7	+0.3
LG4Q				SN	S	19 22 42.0	-6.8
LG4Q				Trac		19 22 48.4	
	comp=Z,14nm,0.4s						
SMQ	Clarke City	10.90	202	PN	P	19 21 04.2	-0.6
SMQ				SN	S	19 23 02.5	-4.8
SMQ				Trac		19 23 04.2	
	comp=Z,16nm,0.4s						
DRLN	Deer Lake	11.38	170	SN	S	19 23 10.3	-8.8
ICQ	Pointe Anglais	11.68	203	PN	P	19 21 13.8	-1.6
ICQ				SN	S	19 23 18.4	-8.0
CNQ	Baie Comeau	12.05	205	PN	P	19 21 19.1	-1.3
CNQ				SN	S	19 23 27.6	-7.7
CNQ				Trac		19 23 49.8	
	comp=Z,6.8nm,0.3s						
WEMQ	Wemindji, Queb	12.17	240	PN	P	19 21 21.8	-0.1
WEMQ				SN	S	19 23 30.6	-7.5
WEMQ				Trac		19 24 00.9	
	comp=Z,1.0nm,0.0s						
QILN	Qililugaq Expl	13.04	309	PN	P	19 21 31.7	-1.8
QILN				SN	S	19 23 46.4	-13
QILN				Trac		19 23 50.3	
	comp=Z,6.1nm,0.3s						
SILO	Sutton Inlier	14.45	256	PN	P	19 21 51.5	-0.4
SILO				SN	S	19 24 22.5	-10
SUMG	Summit	14.79	26	*e*Pn	P	19 21 52.2	-4.0
	7.7nm,0.4s						
VIMO	Victor Mine	14.91	249	PN	P	19 21 57.2	-0.8
VIMO				SN	S	19 24 34.7	-8.7
VIMO				Trac		19 24 52.4	
	comp=Z,8.1nm,0.3s						
MALO	McAlpine Lake	15.17	235	PN	P	19 22 00.1	-1.3
MALO				SN	S	19 24 38.2	-11
SADO	Sadowa	19.32	224	Pn	P	19 22 55.2	+1.9
	0.5nm,0.3s,baz=2.0,slow=10,SNR=4.3						
SADO	Sadowa	19.32	224	Pn	P	19 22 55.2	+1.9
ULM	Lac du Bonnet	22.35	259	P	P	19 23 28.6	+3.8
	3.0nm,0.4s,mb4.1,baz=66,slow=10,SNR=5.4						
YKA	Yellowknife Ar	25.32	298	P	P	19 23 56.6	+3.3
	0.3nm,0.4s,mb3.2,baz=54,slow=7.5,SNR=3.0						
SWET	Sewanee	30.18	225	*e*P	P	19 24 43.7	+5.9
INK	Inuvik	30.69	316	P	P	19 24 43.2	+1.3
	1.1nm,0.6s,mb3.9,baz=48,slow=5.7,SNR=3.5						
INK	Inuvik	30.69	316	P	P	19 24 43.2	+1.3
PDAR	Pinedale Array	34.30	261	P	P	19 25 17.7	+4.0
	0.6nm,0.8s,mb3.6,baz=49,slow=9.6,SNR=4.9						
ARCES	ARCESS Array B	34.32	38	P	P	19 25 14.0	+0.5
	1.2nm,0.8s,mb3.9,baz=300,slow=9.8,SNR=6.0						
ARCES	ARCESS Array B	34.32	38	P	P	19 25 14.0	+0.5
ILAR	Eielson Array	37.06	315	P	P	19 25 41.2	+4.3
	2.0nm,0.8s,mb4.0,baz=54,slow=7.4,SNR=17						
FINES	FINESS Array B	39.04	50	P	P	19 25 54.7	+1.2
	1.0nm,0.9s,mb3.5,baz=304,slow=6.9,SNR=3.4						
FINES	FINESS Array B	39.04	50	P	P	19 25 54.7	+1.2
AKASG	Malin Array Be	47.72	59	P	P	19 27 03.6	0.0
	0.7nm,0.4s,mb4.0,baz=314,slow=7.1,SNR=16						
MKAR	Makanchi Array	68.84	27	P	P	19 29 32.4	+1.0
	0.3nm,0.7s,mb3.3,baz=304,slow=4.4,SNR=2.7						
SONM	Songino Array	71.49	9	P	P	19 29 50.4	+2.9
	1.8nm,0.8s,mb4.0,baz=307,slow=7.2,SNR=4.0						

*ROM **15** 19:35:42.7±0.1,44.50N×8.56E,h18^{km}±3^{km},Md2.9/3, Ml2.7/4,Error ellipse: s-maj=2.6km s-min=2.1km az=148.0*

*NEIC **15** 19:35:42.7,44.50N×8.56E,h18^{km},ML3.1(STR), ML3.1(LDG),ML2.9(GEN),ML2.7(ROM),After ROM.*

*CSEM **15** 19:35:43.0±0.1,44.55N×8.60E,h20^{km},ML3.6/3,Error ellipse: s-maj=1.8km s-min=0.9km az=171.0*

*GEN **15** 19:35:43.1,44.51N×8.59E,h5^{km},ML2.0*

*LDG **15** 19:35:44.0±0.1,44.42N×8.66E,h5^{km},Md3.1/1,Ml3.1/21, Error ellipse: s-maj=2.0km s-min=1.5km az=142.0*

*STR **15** 19:35:46.1±0.5,44.47N×8.45E,h10^{km}±1^{km},Ml3.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 15 19:35:42.6±0.2**,44.50N**±0.02×**8.57E**±0.02**,h11^{km}**±2^{km}**, n100,σ1s11**/173**,6C,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCP	Pian Castagno	0.05	339	P	Pg	19 35 44.5	-0.3
PCP				S	Sg	19 35 45.5	-0.7
PCP	Pian Castagno	0.05	339	P	Pg	19 35 44.5	-0.2
PCP				S	Sg	19 35 45.5	-0.7
GENL	Genova Univers	0.30	108	P	Pg	19 35 48.8	0.0
GENL				S	Sg	19 35 52.8	-0.3
GENL	Genova Univers	0.30	108	P	Pg	19 35 48.8	-0.1
FIN	Finale Ligure	0.39	222	⇑*i*Pg	Pg	19 35 51.1	+0.6
	294nm,0.2s						
ROB	Roburent	0.54	248	P	Pg	19 35 53.5	0.0
ROB				S	Sg	19 36 00.7	-0.2
BOB	Bobbio (Coli)	0.68	66	Pg	Pg	19 35 56.6	+0.3
BOB				Sg	Sg	19 36 06.8	+1.3
	176nm,0.6s						
MONE	Monesi	0.72	235	P	Pb	19 35 57.1	+0.5
MONE				S	Sb	19 36 06.7	+0.5
MONE	Monesi	0.72	235	P	Pb	19 35 57.1	+0.5
MONC	Moncucco Torin	0.74	322	Pg	Pg	19 35 57.7	+0.3
	329nm,0.6s						
IMI	Imperia	0.76	220	⇑*e*Pg	Pg	19 35 58.0	+0.1
IMI				Sg	Sg	19 36 09.9	+1.7
ENR	Entracque	0.87	252	P	Pb	19 35 59.6	+0.4
ENR				S	Sb	19 36 11.2	+0.6
SAOF	Saorge	0.89	235	Pg	Pg	19 36 00.9	+0.5
SAOF				Sg	Sg	19 36 14.3	+1.9
NEGI	Negi	0.90	224	P	Pb	19 36 00.6	+0.8
NEGI				S	Sb	19 36 12.3	+0.8
NEGI	Negi	0.90	224	P	Pb	19 36 00.6	+0.9
CODM		0.92	96	P	Pb	19 35 59.8	-0.3
CODM				S	Sb	19 36 11.3	-0.9
CODM		0.92	96	P	Pb	19 35 59.8	-0.3
CODM				S	Sb	19 36 11.3	-0.9
STV2	Anna di Valdie	0.93	255	P	Pb	19 36 00.7	+0.5
STV2				S	Sb	19 36 12.8	+0.5
STV	Sta Anna Valdi	0.93	255	P	Pb	19 36 00.8	+0.5
STV				S	Sb	19 36 12.8	+0.5
DOI	San Damiano	0.95	271	Pg	Pg	19 36 01.0	-0.6
	460nm,0.4s						
AUTN	L'Aution	0.96	239	Pg	Pg	19 36 02.0	+0.1
AUTN				Sg	Sg	19 36 14.8	0.0
BHB	Bricherasio	0.99	291	P	Pb	19 36 01.8	+0.4
BHB				S	Sb	19 36 14.4	+0.2
BHB	Bricherasio	0.99	291	P	Pb	19 36 01.8	+0.5
SBF	Sospel	1.03	233	*e*Pn	Pn	19 36 03.3	+0.4
SBF				*e*Pg	Pg	19 36 03.8	+0.5
SBF				*e*Sg	Sg	19 36 17.5	+0.4
	351nm,0.3s						
SBF	Sospel	1.03	233	*e*Pg	Pg	19 36 03.8	+0.5
SBF				*e*Sg	Sg	19 36 17.5	+0.4
	175nm,0.3s						
PZZ	Prazzo	1.05	271	P	Pb	19 36 02.8	+0.5
PZZ				S	Sb	19 36 15.9	+0.1
TOUF	Mont Tournerai	1.06	243	Pg	Pg	19 36 04.0	+0.1
GRAM		1.07	90	P	Pb	19 36 02.5	-0.1
GRAM				S	Sb	19 36 15.4	-1.0
GRAM		1.07	90	P	Pb	19 36 02.5	-0.2
GRAM				S	Sb	19 36 15.4	-1.1
BACM		1.10	101	P	Pb	19 36 03.1	-0.1
BACM				S	Sb	19 36 16.5	-0.8
BACM		1.10	101	P	Pb	19 36 03.1	-0.1
BACM				S	Sb	19 36 16.5	-0.8
RSP	Reno Superiore	1.14	305	P	Pb	19 36 03.8	0.0
RSP				S	Sb	19 36 18.0	-0.5
REVF	Revere	1.15	229	Pg	Pg	19 36 05.9	+0.3
TRAV		1.17	330	P	Pb	19 36 04.4	0.0
TRAV				S	Sb	19 36 18.7	-0.7
MVIF	Mont Vial	1.18	240	Pg	Pg	19 36 06.3	0.0
MVIF				Sg	Sg	19 36 21.8	-0.3
VINC	Vinca	1.19	107	P	Pb	19 36 04.8	+0.1
VINC				S	Sb	19 36 19.6	-0.4
VINC	Vinca	1.19	107	P	Pb	19 36 04.8	+0.1
VINC	Vinca	1.19	107	P	Pb	19 36 04.8	+0.1
VINC				S	Sb	19 36 19.6	-0.3
VINC				S	Sb	19 36 19.6	-0.3
FENE	Fenestrelle	1.20	297	P	Pb	19 36 04.7	-0.1
FENE	Fenestrelle	1.20	297	P	Pb	19 36 04.7	-0.1
ORO	Oropa	1.21	340	Pg	Pg	19 36 06.0	-0.7
	176nm,0.2s						
ORX	Oropa	1.21	340	P	Pb	19 36 04.9	-0.1
VALM		1.21	96	P	Pb	19 36 05.1	+0.1
VALM				S	Sb	19 36 19.8	-0.8
VALM		1.21	96	P	Pb	19 36 05.1	0.0
VALM				S	Sb	19 36 19.8	-0.7
SURF	Saint Ours	1.26	270	Pg	Pg	19 36 06.6	-1.2
SURF				Sg	Sg	19 36 23.7	-0.9
MBDF	Montbardon	1.30	281	*e*Pn	Pn	19 36 07.1	+0.3
MBDF				*e*Sn	Sn	19 36 23.8	-0.5
	52nm,0.3s						
ERBM	Eremo	1.32	93	Pg	Pg	19 36 08.9	-0.1
	34nm,0.5s						
SARO	Sassorosso	1.35	103	P	Pb	19 36 07.3	-0.2
SARO	Sassorosso	1.35	103	P	Pb	19 36 07.3	-0.2
SARO	Sassorosso	1.35	103	P	Pb	19 36 07.3	-0.2
VAI	Varese	1.38	6	Pg	Pg	19 36 09.7	-0.4
	28nm,0.4s						
LSD	Ceresole Reale	1.39	314	P	Pn	19 36 08.1	+0.1
CALN	Calern	1.42	239	Pg	Pg	19 36 10.0	-1.0
CALN				Sg	Sg	19 36 30.2	+0.2
GSCL	Gusciola	1.45	95	Pg	Pg	19 36 10.8	-0.9
	50nm,1.1s						
BNI	Bardonecchia	1.46	293	Pg	Pg	19 36 10.0	-1.7
	120nm,1.2s						
MUGIO	Muggio	1.46	13	Pg	Pg	19 36 09.8	-2.1
PII	Pisa	1.61	118	Pg	Pg	19 36 11.6	-3.1
	12nm,0.2s						
MMK	Mattmark	1.61	345	Pg	Pg	19 36 11.4	-3.4
LPG	La Plagne	1.63	308	*e*Pn	Pn	19 36 13.0	+1.5
LPG				*e*Pg	Pg	19 36 17.3	+2.1
LPG				*e*Sn	Sn	19 36 34.1	+1.5
	32nm,0.4s						
LPL	La Plagne	1.66	309	*e*Pn	Pn	19 36 13.5	+1.7
LPL				*e*Pg	Pg	19 36 17.1	+1.4
LPL				*e*Sg	Sg	19 36 40.1	+2.3
	22nm,0.3s						
FRF	La Foret Royal	1.67	237	*e*Pn	Pn	19 36 12.4	+0.3
FRF				*e*Pg	Pg	19 36 15.3	-0.7
FRF				*e*Sn	Sn	19 36 32.5	-1.2
FRF				*e*Sg	Sg	19 36 37.0	-1.4
	128nm,0.2s						
RSL	Roselend	1.82	312	Pn	Pn	19 36 17.7	+3.5
LMR	La Mourre	1.89	233	*e*Pn	Pn	19 36 15.0	-0.2
LMR				*e*Pg	Pg	19 36 18.7	-1.6
LMR				*e*Sn	Sn	19 36 37.6	-1.5
LMR				*e*Sg	Sg	19 36 43.3	-2.2
LMR	La Mourre	1.89	233	*e*Pg	Pg	19 36 18.7	-1.6
LMR				*e*Sn	Sn	19 36 37.6	-1.5
LMR				*e*Sg	Sg	19 36 43.3	-2.2
	52nm,0.2s						
ORIF	Oris-en-Rattie	1.96	283	*e*Pn	Pn	19 36 18.4	+2.2
ORIF				*e*Sn	Sn	19 36 41.6	+0.6
	37nm,0.3s						
PGF	Pioggiola	1.97	171	*e*Pn	Pn	19 36 15.0	-1.4
PGF				*e*Sn	Sn	19 36 36.6	-4.7
	5.1nm,0.3s						
STOF	St-Etienne Org	1.98	256	Pn	Pn	19 36 19.7	+3.3
STOF				Sg	Sg	19 36 48.6	+0.2
TAVF	Tavernes	2.01	245	Pg	Pg	19 36 21.9	-0.9
TAVF				Sg	Sg	19 36 48.4	-1.3
TAVF	Tavernes	2.01	245	Pn	Pn	19 36 18.4	+1.5
TAVF				Pg	Pg	19 36 21.9	-0.9
TAVF				Sg	Sg	19 36 48.4	-1.3
TAVF	Tavernes	2.01	245	Pg	Pg	19 36 21.9	-0.9
TAVF				Sg	Sg	19 36 48.4	-1.3
VILF	Villemus	2.15	254	Pg	Pg	19 36 25.0	-0.6
VILF	Villemus	2.15	254	Pn	Pn	19 36 20.9	+2.0
VILF				Pg	Pg	19 36 25.0	-0.6
VILF	Villemus	2.15	254	Pg	Pg	19 36 25.0	-0.6
SMRF	Simiane la Rot	2.21	257	*e*Pn	Pn	19 36 20.5	+0.7
SMRF				*e*Sn	Sn	19 36 46.5	-0.9
SMRF				*e*Sg	Sg	19 36 54.9	-1.5
	43nm,0.4s						
CORF	Corte	2.24	169	Pn	Pn	19 36 19.2	-1.0
OG01	Vacheresse	2.26	325	Pn	Pn	19 36 22.3	+1.8
PUYF	Puyloubier	2.28	246	Pn	Pn	19 36 22.1	+1.3
BERF	Bertagne	2.39	241	Pn	Pn	19 36 24.3	+1.9
GELF	Grande-Etoile	2.53	245	Pn	Pn	19 36 26.9	+2.6
CABF	La Chapelle	2.74	321	*e*Pn	Pn	19 36 28.9	+1.6
CABF				*e*Sn	Sn	19 37 00.0	-0.8
	9.9nm,0.6s						
VIVF	Saint-Julien-l	2.80	279	*e*Pn	Pn	19 36 29.3	+1.1
VIVF				*e*Sn	Sn	19 37 01.1	-1.3
	7.1nm,0.3s						
LOMF	Lomont	3.10	338	Pn	Pn	19 36 33.6	+1.1
SQTA	Sankt Quirin	3.29	33	⇑*i*PN	Pn	19 36 38.6	+3.5
SQTA				*i* SN	Sn	19 37 20.0	+5.3
MOTA	Moosalm	3.35	31	⇑*i*PN	Pn	19 36 39.6	+3.6
MOTA				*i* SN	Sn	19 37 18.9	+2.6
LASF	Ste Croix	3.41	265	*e*Pn	Pn	19 36 37.1	+0.2
LASF				*e*Sn	Sn	19 37 15.6	-2.1
	10.0nm,0.5s						
WTTA	Wattenberg	3.50	37	⇑*i*PN	Pn	19 36 41.1	+3.0
WTTA				*i* SN	Sn	19 37 24.6	+4.6
MOF	Molkenrain	3.50	344	Pn	Pn	19 36 38.3	+0.2
HINF	Hinteralfeld	3.53	341	*e*Pn	Pn	19 36 38.4	-0.1
HINF				*e*Sn	Sn	19 37 19.3	-1.4
	5.3nm,0.3s						
WATA	Walderalm	3.53	35	⇑*i*PN	Pn	19 36 41.9	+3.3
WATA				*i* SN	Sn	19 37 23.2	+2.4
HAU	Haudompre	3.83	337	*e*Pn	Pn	19 36 42.8	-0.1
HAU				*e*Sn	Sn	19 37 27.3	-1.1
	15nm,0.2s						
ECH	Echery	3.85	346	Pn	Pn	19 36 42.9	-0.2
SMF	Signal de Mont	3.96	305	*e*Pn	Pn	19 36 45.1	+0.5
SMF				*e*Sn	Sn	19 37 29.9	-1.6
	10nm,0.6s						
WLS	Welschbruch	4.01	348	Pn	Pn	19 36 45.0	-0.3
CDF	Champ du Feu	4.02	348	*e*Pn	Pn	19 36 44.8	-0.7
CDF				*e*Sn	Sn	19 37 30.8	-2.3
	8.9nm,0.5s						
LOR	Lormes	4.30	312	*e*Pn	Pn	19 36 49.6	+0.1
LOR				*e*Sn	Sn	19 37 38.3	-2.0
	8.3nm,0.3s						
SSF	Saint Saulge	4.37	308	*e*Pn	Pn	19 36 50.6	+0.1
SSF				*e*Sn	Sn	19 37 39.8	-2.3
	1.1nm,0.4s						
BGF	Bois d'Agland	4.52	299	*e*Pn	Pn	19 36 52.8	+0.2
BGF				*e*Sn	Sn	19 37 43.3	-2.5
	6.8nm,0.3s						
CAF	Calviac	4.66	278	*e*Pn	Pn	19 36 54.7	+0.1
MTLF	Montolieu	4.73	258	*e*Pn	Pn	19 36 55.1	-0.5
MTLF				*e*Sn	Sn	19 37 46.5	-4.7
	3.3nm,0.4s						
TCF	Toulx Ste Croi	4.82	294	*e*Pn	Pn	19 36 58.2	+1.3
TCF				*e*Sn	Sn	19 37 50.1	-3.4
	1.5nm,0.3s						

IDC 15 19:46:07.1±10.0**,17.35S×179.06W,h580^{km}**±106^{km}**, mb2.9**/2**,mb1 3.1**/3**,mb1mx2.9**/12**,mbtmp4.0**/3**,Error ellipse: s-maj=120.0km s-min=71.7km az=131.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.43	249	P	P	19 49 10.5	+0.5
	0.4nm,0.3s,baz=72,slow=19,SNR=6.0						
STKA	Stephens Creek	38.36	240	P	P	19 52 39.5	-1.3
	0.8nm,0.3s,baz=94,slow=10,SNR=15						
WRA	Warramunga Arr	44.12	259	P	P	19 53 25.2	-1.6
	0.7nm,0.5s,baz=94,slow=7.0,SNR=28						
GERES	GERESS Array B	146.91	344	PKPbc	PKPbc	20 04 44.6	+0.6
	0.4nm,0.5s,slow=1.3,SNR=3.8						

*HRVD **15** 21:02:15.7±0.3,8.53N×71.41W,h13^{km}±1^{km},MW4.8/47, Centroid moment Tensor Solution. LP body waves: s17,c23;Mantle waves: s47,c74; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.68±.16; $M_{\theta\theta}$1.81±.10; $M_{\phi\phi}$-0.12±.12; $M_{r\theta}$-0.39±.22; $M_{\theta\phi}$0.27±.07; $M_{\phi r}$0.93±.30; Best double couple: $M_0$2.018×10^{16} NP1:ϕ_s239°,δ46°, λ-127°. NP2:ϕ_s106°,δ55°,λ-58°. Principal axes: T 1.869, Plg5°, Azm175°; N .299, Plg26°, Azm267°; P -2.166, Plg64°, Azm75°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **15** 21:02:15.7±0.1,8.57N×71.34W,h10^{km},mb5.1/133, MD4.6(CAR) Error ellipse: s-maj=3.9km s-min=2.8km az=211.0*

NEIC Felt at Ejido.

*BJI **15** 21:02:15.7,8.60N×71.30W,h10^{km},mB5.5,Ms5.6,Msz5.2*

*FUNV **15** 21:02:15.8,8.57N×71.50W,h0^{km},MW3.8*

*MOS **15** 21:02:16.6±0.8,8.57N×71.39W,h27^{km},mb5.3/71, MS4.2/10,Error ellipse: s-maj=7.8km s-min=5.1km az=61.2*

*IDC **15** 21:02:16.4±2.5,8.57N×71.34W,h13^{km}±15^{km},mb4.7/18, mb1 4.9/20,mb1mx4.8/22,mbtmp4.8/20,ML3.5/1,MS4.1/11, Ms1 4.1/11,ms1mx3.9/19,Error ellipse: s-maj=14.0km s-min=11.1km az=104.0*

ISC 15 21:02:14.8±0.7**,8.54N**±0.02×**71.39W**±0.02**,h13^{km}**±4^{km}**, h9^{km}**±.8^{km}**:pP-P,n398,σ1s15**/395**,mb5.0**/159**,MS4.3**/25**, 14C-8D,Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIGV	El Vigia	0.30	4	*e*P	Pg	21 02 20.9	-0.2
VIGV				*e*S	Sg	21 02 25.0	-0.4
SDV	Santo Domingo	0.82	65	Pg	Pg	21 02 31.4	+0.1
	453nm,0.3s,baz=251,slow=8.5,SNR=621						
SDV				Lg		21 02 42.3	
	2µm,0.3s,baz=180,slow=20,SNR=41						
SDV	Santo Domingo	0.82	65	*e*Pn	Pn	21 02 31.1	-0.8
SDV				*e*Sn	Sn	21 02 42.2	-1.6
CAPV	Capacho	1.14	234	*e*P	Pb	21 02 36.3	+0.4
CAPV				*e*S	Sb	21 02 51.0	+0.6
QARV	Quebrada Arrib	1.86	27	*e*P	Pn	21 02 49.2	+2.4
QARV				*e*S	Sn	21 03 13.2	+3.0
VIRV	Villa del Rosa	2.19	333	*e*P	Pn	21 02 51.2	-0.4
VIRV				*e*S	Sn	21 03 19.1	+0.3
ELOV	Elorza	2.43	129	*e*P	Pn	21 02 57.5	+2.6
ELOV				*e*S	Sn	21 03 28.3	+3.6
DABV	Dabajuro	2.48	17	*e*P	Pn	21 02 57.2	+1.6
DABV				*e*S	Sn	21 03 27.2	+1.2
SIQV	Siquisique	2.61	36	*e*P	Pn	21 02 59.5	+2.1
SIQV				*e*S	Sn	21 03 31.3	+2.1
BAUV	El Baul	3.33	83	*e*P	Pn	21 03 08.8	+1.0
BAUV				*e*S	Sn	21 03 48.2	+0.7
MONV	Montecano	3.67	22	⇑*i*P	Pn	21 03 12.9	+0.4
MONV				*e*S	Sn	21 03 54.4	-1.6
IMOV	Isla Los Monje	3.82	7	*e*P	Pn	21 03 14.7	-0.1
ROSC	El Rosal	4.69	219	Pn	Pn	21 03 29.5	+2.5
	47nm,0.3s,baz=69,slow=8.2,SNR=97						
ROSC				Sn	Sn	21 04 25.1	+3.2
	26nm,0.3s,baz=78,slow=20,SNR=3.1						
ROSC				Lg		21 04 43.8	
	71nm,0.3s,baz=87,slow=21,SNR=4.7						
PAYV	Puerto Ayacuch	4.83	130	*e*P	Pn	21 03 29.1	+0.1
PAYV				*e*S	Sn	21 04 24.2	-1.3
FUNV	FUNVISIS	4.90	67	*e*P	Pn	21 03 30.9	+0.9
MERV	Las Mercedes	5.08	82	*e*P	Pn	21 03 32.9	+0.4
CAOV	Caicara del Or	5.16	103	*e*P	Pn	21 03 33.8	+0.2
CAOV				*e*S	Sn	21 04 32.1	-1.7
BIRV	Birongo	5.40	69	*e*P	Pn	21 03 37.6	+0.6
BIRV				*e*S	Sn	21 04 37.7	-2.1
CUPV	Cœpira	5.73	74	*e*P	Pn	21 03 42.0	+0.3
ORCV	Isla La Orchil	6.05	57	*e*P	Pn	21 03 46.2	-0.1
IBAV	Isla La Blanqu	7.45	63	*e*P	Pn	21 04 04.6	-1.4
IBAV				*e*S	Sn	21 05 25.4	-5.7
ORIV	Oritupano	7.90	86	*e*P	Pn	21 04 10.4	-1.8
CRUV	Carupano	8.31	75	*e*P	P	21 04 17.2	-0.7
LUEV	Luepa	10.20	105	*e*P	P	21 04 41.9	-2.3
SJG	San Juan	10.79	28	*e*P	P	21 04 48.5	-3.7
SJG				*e*		21 06 49.0	
SJG				pmax	pmax		
	comp=Z,150nm,1.0s						
SJG	San Juan	10.79	28	Pn	P	21 04 48.7	-3.5
	comp=Z,18nm,0.3s,baz=210,slow=13,SNR=12						
SJG				Sn	S	21 06 47.9	-5.9
	comp=Z,4.4nm,0.3s,baz=344,slow=23,SNR=4.7						
SJG	San Juan	10.79	28	*e*Pn	P	21 04 48.5	-3.7
	comp=Z,150nm,1.0s						
SJG				*e*		21 06 49.0	
SAML	Samuel	19.20	155	*e*P	P	21 06 39.5	-1.7
	comp=Z,19nm,0.4s						
NNA	Nana	21.10	195	*e*P	P	21 07 00.8	-0.9
	comp=Z,39nm,1.0s,mb4.7						
DWPF	Disney	21.65	335	*e*P	P	21 07 06.5	-0.6
	comp=Z,32nm,0.8s,mb4.8						
ARE	Arequipa	24.84	180	*e*P	P	21 07 39.0	+0.4
LPAZ	La Paz	24.88	173	P	P	21 07 39.3	+0.4
	comp=Z,14nm,1.1s,mb4.4,baz=5.7,slow=9.4,SNR=26						
LPAZ				LR	LR	21 17 57.2	
	comp=Z,796nm,19.2s,MS4.2,baz=101,slow=38						
SIV	San Ignacio	26.43	157	P	P	21 07 53.2	-0.2
	comp=Z,21nm,1.0s,mb4.6,baz=338,slow=9.4,SNR=36						
LRAL	Lakeview Retre	28.33	332	*e*P	P	21 08 09.3	-1.3
	comp=Z,41nm,1.5s,mb4.8						
FWV	Forest Hill	30.14	345	*e*P	P	21 08 25.5	-1.3
PLAL	Pickwick Lake	30.44	332	*e*P	P	21 08 29.1	-0.3
	comp=Z,25nm,0.9s,mb5.0						
LVC	Limon Verde	31.05	176	LR	LR	21 22 17.1	
	comp=Z,293nm,18.6s,MS4.0,baz=21,slow=39						
LVC	Limon Verde	31.05	176	*e*P	P	21 08 33.3	-1.6
	comp=Z,24nm,1.0s,mb5.0						
WVT	Waverly	31.29	334	*e*P	P	21 08 36.5	-0.4

WVT pmax pmax
comp=Z,20nm,0.9s,mb5.0
WVT MLR MLR
comp=Z,423nm,22.0s,MS4.1
WVT Waverly 31.29 334 *eP* **P 21 08 36.5 -0.4**
comp=Z,20nm,0.9s,mb5.0
WVT LR LR
comp=Z,423nm,22.0s,MS4.1
BDFB Brasilia 33.37 136 P **P 21 08 54.9 -0.3**
comp=Z,33nm,1.1s,mb5.2,baz=315,slow=7.8,SNR=16
BDFB LR LR 21 23 29.7
comp=Z,236nm,20.6s,MS3.9,baz=310,slow=38
BAO Brasilia Array 33.38 136 P **P 21 08 55.5 +0.2**
FVM French Village 33.98 333 *eP* **P 21 08 59.8 -0.6**
FVM pmax pmax
comp=Z,44nm,0.8s,mb5.4
FVM French Village 33.98 333 *eP* **P 21 08 59.8 -0.5**
comp=Z,44nm,0.8s,mb5.4
CCM Cathedral Cave 34.42 332 *eP* **P 21 09 02.9 -1.2**
CCM pmax pmax
comp=Z,24nm,0.9s,mb5.1
CCM Cathedral Cave 34.42 332 *eP* **P 21 09 02.9 -1.3**
comp=Z,24nm,0.9s,mb5.1
CPUP Villa Florida 37.26 159 P **P 21 09 27.9 -0.4**
comp=Z,5.5nm,1.0s,mb4.3,baz=343,slow=7.8,SNR=7.6
CPUP LR LR 21 26 10.8
comp=Z,266nm,18.5s,MS4.1,baz=359,slow=38
KSU1 Kansas State U 37.92 327 *eP* **P 21 09 31.9 -1.8**
RCBR Riachuelo 38.15 111 *eP* **P 21 09 35.8 -0.1**
comp=Z,40nm,0.9s,mb5.2
GDL2 Guadalupe Moun 38.59 312 *eP* **P 21 09 39.2 -0.2**
CPRX Cap Rock 38.66 314 *eP* **P 21 09 39.6 -0.4**
MNTX Cornudas Mount 39.09 311 *eP* **P 21 09 43.2 -0.4**
comp=Z,31nm,1.3s,mb4.9
CBKS Cedar Bluff 39.46 324 *eP* **P 21 09 45.9 -0.7**
CBKS pmax pmax
comp=Z,24nm,1.0s,mb4.9
CBKS Cedar Bluff 39.46 324 *eP* **P 21 09 45.9 -0.7**
comp=Z,24nm,1.0s,mb4.9
CFAA Coronel Fontan 40.03 176 LR LR 21 28 29.8
comp=Z,17nm,18.9s,baz=0.4,slow=39
BNM Barren Site 41.21 313 *eP* **P 21 10 01.3 +0.3**
ANMO Albuquerque 41.49 315 *i P* **P 21 10 04.4 +1.1**
ANMO Albuquerque 41.49 315 P **P 21 10 03.4 0.0**
comp=Z,3.3nm,0.8s,mb4.0,baz=144,slow=6.8,SNR=9.9
ANMO Albuquerque 41.49 315 *eP* **P 21 10 03.6 +0.3**
comp=Z,8.7nm,1.2s,mb4.3
LAZ Ladron 41.70 313 *eP* **P 21 10 05.9 +0.8**
CAM4 Nova Friburgo 41.72 138 *eP* **P 21 10 04.5 -0.9**
CAM4 *i* pP 21 10 08.2 -1.1
CAM4 *i* pP 21 10 10.4 +1.1
TUC Tucson 43.48 309 *eP* **P 21 10 19.3 -0.4**
TUC pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
TUC Tucson 43.48 309 *eP* **P 21 10 19.3 -0.4**
comp=Z,5.7nm,1.1s,mb4.2
ISCO Idaho Springs 43.61 321 *eP* **P 21 10 21.2 +0.6**
ISCO pmax pmax
comp=Z,22nm,1.1s,mb4.8
ISCO Idaho Springs 43.61 321 *eP* **P 21 10 21.2 +0.6**
comp=Z,22nm,1.1s,mb4.8
SMCO Snowmass 44.11 319 *eP* **P 21 10 25.9 +1.2**
RSSD Black Hills 45.40 327 *eP* **P 21 10 34.0 -1.0**
RSSD pmax pmax
comp=Z,13nm,1.1s,mb4.7
RSSD Black Hills 45.40 327 *eP* **P 21 10 34.0 -1.1**
comp=Z,13nm,1.1s,mb4.7
ULM Lac du Bonnet 46.29 338 P **P 21 10 40.6 -1.4**
comp=Z,14nm,0.8s,mb5.0,baz=144,slow=9.1,SNR=11
ULM LR LR 21 30 29.5
comp=Z,228nm,21.8s,MS4.1,baz=168,slow=37
SCHQ Schefferville 46.31 4 P **P 21 10 41.5 -0.5**
comp=Z,9.2nm,0.9s,mb4.7,baz=206,slow=7.0,SNR=13
SCHQ LR LR 21 29 25.4
comp=Z,159nm,19.0s,MS4.0,baz=106,slow=35
SRU San Rafael 46.41 317 *eP* **P 21 10 43.1 +0.1**
MSU Marysvale 47.24 316 *eP* **P 21 10 49.8 +0.2**
MVU Marysvale 47.26 316 *eP* **P 21 10 50.5 +0.7**
comp=Z,20nm,1.2s,mb4.9
DAU Daniels Canyon 47.55 318 *eP* **P 21 10 52.6 +0.5**
PDAR Pinedale Array 47.75 322 P **P 21 10 53.4 -0.2**
comp=Z,7.2nm,0.5s,mb5.0,baz=124,slow=9.5,SNR=66
PDAR LR LR 21 34 00.2
comp=Z,97nm,20.8s,MS3.8,baz=322,slow=40
JLU Jordanelle 47.78 319 *eP* **P 21 10 52.4 -1.5**
NEN Nelson 47.91 311 *eP* **P 21 10 54.6 -0.3**
TCUT Toone Canyon 48.02 319 *eP* **P 21 10 55.8 +0.1**
HWUT Hardware Ranch 48.37 320 *eP* **P 21 10 58.2 -0.2**
comp=Z,11nm,0.9s,mb4.9
DGMT Dagmar 48.45 331 *eP* **P 21 10 58.9 0.0**
comp=Z,51nm,1.0s,mb5.5
AHID Auburn Hather 48.69 321 *eP* **P 21 11 00.8 -0.1**
comp=Z,14nm,0.9s,mb5.0
SPUT South Promonto 48.79 319 *eP* **P 21 11 01.5 -0.1**
LOHW Long Hollow 48.85 322 *eP* **P 21 11 02.2 +0.1**
comp=Z,30nm,1.1s,mb5.2
SNOW Snow King Moun 48.86 322 *eP* **P 21 11 01.9 -0.3**
comp=Z,29nm,0.9s,mb5.3
REDW Red Top Meadow 48.87 322 *eP* **P 21 11 02.5 +0.3**
comp=Z,80nm,1.4s,mb5.6
TPAW Teton Pass 49.00 322 *eP* **P 21 11 03.6 +0.4**
comp=Z,14nm,0.8s,mb5.1
MOOW Moose Ponds 49.02 322 *eP* **P 21 11 03.5 +0.1**
comp=Z,14nm,0.9s,mb5.0
PLCA Paso Flores 49.03 179 P **P 21 11 01.9 -1.7**
comp=Z,72nm,0.9s,mb5.7,baz=351,slow=8.0,SNR=53
PLCA LR LR 21 33 45.9
comp=Z,171nm,18.1s,MS4.1,baz=354,slow=38
RRI2 Red Ridge 49.14 322 *eP* **P 21 11 04.3 -0.1**
comp=Z,22nm,0.9s,mb5.2
IMW Indian Meadow 49.21 323 *eP* **P 21 11 04.8 0.0**
comp=Z,24nm,0.9s,mb5.2
HVU Hansel Valley 49.24 319 *eP* **P 21 11 04.9 -0.2**
YFT Old Faithful 49.46 323 *eP* **P 21 11 07.1 +0.3**
YMR Madison River 49.66 323 *eP* **P 21 11 08.9 +0.5**
QLMT Earthquake Lak 50.03 323 *eP* **P 21 11 12.1 +1.0**
BOZ Bozeman (W) 50.60 324 *eP* **P 21 11 15.3 -0.2**
BOZ pmax pmax
comp=Z,19nm,1.2s,mb4.9
BOZ Bozeman (W) 50.60 324 *eP* **P 21 11 15.3 -0.1**
comp=Z,20nm,1.2s,mb4.9
MCMT McKenzie Canyo 50.87 323 *eP* **P 21 11 17.9 +0.4**
HLID Hailey 51.18 320 *eP* **P 21 11 19.1 -0.8**
comp=Z,9.5nm,1.0s,mb4.7
HRY Holter Researc 51.32 325 *eP* **P 21 11 20.2 -0.7**
FFC Flin Flon 52.12 338 *eP* **P 21 11 25.5 -1.3**
WVOR Wild Horse Val 53.40 317 *eP* **P 21 11 35.9 -0.7**
WVOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
WVOR Wild Horse Val 53.40 317 *eP* **P 21 11 35.9 -0.7**
comp=Z,7.1nm,0.9s,mb4.6
WALA Waterton Lakes 53.80 327 *eP* **P 21 11 39.1 -0.3**
comp=Z,6.9nm,1.0s,mb4.5
FRB Frobisher Bay 55.15 2 LR LR 21 34 56.9
comp=Z,308nm,19.4s,MS4.4,baz=157,slow=36
NEW Newport 55.18 324 *eP* **P 21 11 47.8 -1.7**
NEW pmax pmax
comp=Z,19nm,1.1s
NEW Newport 55.18 324 *eP* **P 21 11 47.8 -1.8**
comp=Z,19nm,1.1s,mb5.0
EDM Edmonton 55.94 331 *eP* **P 21 11 53.0 -1.9**
YKA Yellowknife Ar 62.27 339 P **P 21 12 37.0 -1.7**
comp=Z,6.9nm,0.7s,mb4.9,baz=125,slow=7.0,SNR=28
YKA LR LR 21 39 58.6
comp=Z,126nm,19.8s,MS4.1,baz=75,slow=36
YKA Yellowknife Ar 62.27 339 P **P 21 12 37.0 -1.7**
YKA LR LR 21 39 58.6
YKW3 Yellowknife Ar 62.32 339 *eP* **P 21 12 37.3 -1.7**
PTEO Sao Teotonio 63.22 52 *eP* **P 21 12 47.4 +2.1**
comp=Z,63nm,1.3s,mb5.6
PTOM Tomar 63.84 50 *eP* **P 21 12 51.1 +1.7**
comp=Z,40nm,1.2s,mb5.3
EVO Evora 63.95 51 *eP* **P 21 12 48.8 -1.4**
comp=Z,62nm,0.9s,mb5.3
EVO *eR*
comp=Z,105nm,22.2s
PBEJ Beja 63.97 52 *eP* **P 21 12 52.4 +2.1**
comp=Z,25nm,0.9s,mb5.2
EMAZ Mazaricos 64.12 46 P **P 21 12 51.8 +0.6**
comp=Z,9.7nm,0.8s,mb4.9
EZAM Zamans 64.14 47 P **P 21 12 51.1 -0.3**
EZAM pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
EZAM Zamans 64.14 47 P **P 21 12 51.1 -0.3**
comp=Z,8.5nm,0.5s,mb5.0
EGRO El Granado 64.19 52 P **P 21 12 52.9 +1.1**
comp=Z,11nm,0.8s,mb5.0
STS Santiago 64.41 46 P **P 21 12 54.7 +1.6**
STS pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
STS Santiago 64.41 46 P **P 21 12 54.7 +1.6**
comp=Z,8.6nm,0.8s,mb4.8
PVIS Viseu 64.44 49 *eP* **P 21 12 54.9 +1.6**
comp=Z,28nm,0.8s,mb5.3
ELOB Lobios 64.55 48 P **P 21 12 55.3 +1.3**
comp=Z,11nm,0.8s,mb4.9
PCBR Castelo Branco 64.59 50 *eP* **P 21 12 56.0 +1.7**
comp=Z,29nm,1.7s,mb5.0
MTE Manteigas 64.64 49 *eP* **P 21 12 53.9 -0.8**
comp=Z,5.1nm,0.6s,mb4.7
MTE Manteigas 64.64 49 *eP* **P 21 12 56.4 +1.7**
comp=Z,26nm,1.7s,mb5.0
PVRL Vila Real 64.68 48 *eP* **P 21 12 56.5 +1.6**
comp=Z,50nm,1.5s,mb5.3
EBAD Badajoz 64.76 51 P **P 21 12 56.4 +0.9**
comp=Z,9.8nm,0.8s,mb4.9
EMIN Mina Concepcio 64.86 52 P **P 21 12 57.5 +1.4**
comp=Z,8.9nm,0.8s,mb4.8
ESPR Espera 65.37 53 P **P 21 12 59.8 +0.4**
comp=Z,9.1nm,1.0s,mb4.8
PBRG Braganca 65.50 48 *eP* **P 21 13 01.9 +1.7**
comp=Z,12nm,1.1s,mb4.8
EPON Pontenova 65.50 46 P **P 21 13 01.0 +0.8**
comp=Z,12nm,0.9s,mb4.9
ECAL Calabor 65.53 48 P **P 21 12 59.6 -0.8**
comp=Z,8.2nm,0.8s,mb4.8
DBIC Dimbokro 65.90 86 P **P 21 13 01.2 -1.9**
comp=Z,12nm,0.9s,mb4.9,baz=271,slow=6.7,SNR=11
EMIJ Mijas 66.20 54 P **P 21 13 07.0 +2.3**
comp=Z,7.5nm,0.9s,mb4.7
EADA Adamuz 66.56 52 P **P 21 13 08.5 +1.5**
comp=Z,9.1nm,0.7s,mb4.9
DLBC Dease Lake 66.66 331 *eP* **P 21 13 07.2 0.0**
ELUQ Luque 66.72 53 P **P 21 13 10.0 +2.0**
ELUQ pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ELUQ Luque 66.72 53 P **P 21 13 10.0 +1.9**
comp=Z,10nm,0.8s,mb4.9
ELOJ Sierra Loja 66.76 53 P **P 21 13 10.7 +2.4**
ELOJ pmax pmax
comp=Z,18nm,0.7s,mb5.2
ELOJ Sierra Loja 66.76 53 P **P 21 13 10.7 +2.4**
comp=Z,18nm,0.7s,mb5.2
SUMG Summit 67.00 10 *eP* **P 21 13 08.3 -0.9**
comp=Z,42nm,0.9s,mb5.5
ERON Agron 67.02 53 P **P 21 13 11.7 +1.7**
comp=Z,26nm,0.7s,mb5.4
EBAN Banos Encina 67.18 52 P **P 21 13 12.0 +1.1**
EBAN pmax pmax
comp=Z,13nm,0.8s,mb5.0
EBAN Banos Encina 67.18 52 P **P 21 13 12.0 +1.1**
comp=Z,13nm,0.8s,mb5.0
ESDC Sonseca Array 67.24 51 P **P 21 13 10.2 -1.1**
comp=Z,6.1nm,0.7s,mb4.8,baz=260,slow=6.8,SNR=30
ESDC Sonseca Array 67.24 51 P **P 21 13 12.5 +1.3**
comp=Z,5.5nm,0.6s,mb4.8
ESLA Sonseca Array 67.24 51 *eP* **P 21 13 10.4 -0.9**
comp=Z,5.3nm,1.1s,mb4.5
EQES Quesada 67.69 53 P **P 21 13 16.6 +2.5**
comp=Z,14nm,0.7s,mb5.1
EBER Berja 67.74 54 P **P 21 13 17.2 +2.7**
comp=Z,46nm,0.7s,mb5.6
DCN Croghan 67.85 36 *eP* **P 21 13 14.0 -0.9**
EHUE Huescar 68.07 53 P **P 21 13 19.8 +3.2**
EHUE pmax pmax
comp=Z,14nm,1.1s,mb4.9
EHUE Huescar 68.07 53 P **P 21 13 19.8 +3.2**
comp=Z,14nm,1.1s,mb4.9
ELAN Lanestosa 68.16 47 P **P 21 13 18.0 +1.0**
comp=Z,19nm,0.7s,mb5.2
EVIA Vianos 68.23 52 P **P 21 13 19.7 +2.1**
EVIA pmax pmax
comp=Z,20nm,0.7s,mb5.3
EVIA Vianos 68.23 52 P **P 21 13 19.7 +2.1**
comp=Z,20nm,0.7s,mb5.3
ENIJ Nijar 68.29 54 P **P 21 13 19.5 +1.6**
ENIJ pmax pmax
comp=Z,21nm,0.7s,mb5.3
ENIJ Nijar 68.29 54 P **P 21 13 19.5 +1.6**
comp=Z,21nm,0.7s,mb5.3
ECRI Cripan 68.73 48 P **P 21 13 22.5 +1.9**
ECRI pmax pmax
comp=Z,12nm,0.8s,mb4.9
ECRI Cripan 68.73 48 P **P 21 13 22.5 +1.9**
comp=Z,12nm,0.8s,mb4.9
ETOB Tobarra 68.98 52 P **P 21 13 25.1 +2.9**
comp=Z,13nm,0.8s,mb4.9
QUIF Quistinic 69.14 42 *eP* **P 21 13 21.9 -1.1**
comp=Z,65nm,1.1s,mb5.2
QUIF Quistinic 69.14 42 *eP* **P 21 13 21.9 -1.1**
QUIF pmax pmax
comp=Z,32nm,1.1s,mb5.2
ROSF Rostrenen 69.15 41 *eP* **P 21 13 22.1 -0.9**
comp=Z,39nm,1.0s,mb5.0
ROSF Rostrenen 69.15 41 *eP* **P 21 13 22.1 -0.9**
ROSF pmax pmax
comp=Z,19nm,1.0s,mb5.0
ECHE Chera 69.52 51 P **P 21 13 28.0 +2.5**
ECHE pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ECHE Chera 69.52 51 P **P 21 13 28.0 +2.5**
comp=Z,4.1nm,0.6s,mb4.5
EALK Alkurruntz 69.55 47 P **P 21 13 27.9 +2.3**
comp=Z,12nm,0.8s,mb4.9
SGMF Saint Gilles 69.61 42 *eP* **P 21 13 24.8 -1.0**
comp=Z,54nm,1.0s,mb5.1
SGMF Saint Gilles 69.61 42 *eP* **P 21 13 24.8 -1.0**
SGMF pmax pmax
comp=Z,27nm,1.0s,mb5.1
OSSF Osses 69.73 47 *eP* **P 21 13 26.3 -0.4**
SJPF Ste Jean 69.74 47 *eP* **P 21 13 26.1 -0.6**
comp=Z,114nm,0.9s,mb5.5
SJPF Ste Jean 69.74 47 *eP* **P 21 13 26.1 -0.6**
SJPF pmax pmax
comp=Z,57nm,0.9s,mb5.5
LARF Larrau 69.90 47 *eP* **P 21 13 27.5 -0.2**
EMOS Mosqueruela 69.98 50 P **P 21 13 30.6 +2.3**
comp=Z,36nm,0.9s,mb5.3
ESAC San Caprasio 70.13 49 P **P 21 13 30.3 +1.2**
comp=Z,34nm,0.7s,mb5.4
ETSF Etsaut 70.20 48 *eP* **P 21 13 28.9 -0.6**
comp=Z,37nm,0.9s,mb5.0
ETSF Etsaut 70.20 48 *eP* **P 21 13 28.9 -0.6**
ETSF pmax pmax
comp=Z,18nm,0.9s,mb5.0
REYF Montagne du Re 70.34 47 *eP* **P 21 13 30.0 -0.4**
LCHF La Chataignera 70.56 44 *eP* **P 21 13 31.9 +0.2**
VIEF Viey 70.62 48 *eP* **P 21 13 31.8 -0.3**
EBIE Bielsa 70.69 48 P **P 21 13 34.2 +1.7**
comp=Z,30nm,0.7s,mb5.3
GRR Gorron 70.75 42 *eP* **P 21 13 31.8 -1.0**
comp=Z,61nm,0.9s,mb5.2
GRR Gorron 70.75 42 *eP* **P 21 13 31.8 -1.0**
GRR pmax pmax
comp=Z,31nm,0.9s,mb5.2
EBR Ebro Roquetas 70.76 50 *eP* **P 21 13 35.5 +2.5**
EGRA Graus 70.76 48 P **P 21 13 35.3 +2.3**
comp=Z,26nm,0.7s,mb5.3
RESF Ens 70.84 48 *eP* **P 21 13 32.2 -1.3**
EPF Esparros 70.87 47 *eP* **P 21 13 33.2 -0.4**
comp=Z,89nm,0.8s,mb5.5
EPF Esparros 70.87 47 *eP* **P 21 13 33.2 -0.4**
EPF pmax pmax
comp=Z,45nm,0.8s,mb5.5
MFF Saint Martin d 70.96 44 *eP* **P 21 13 33.3 -0.8**
comp=Z,96nm,0.9s,mb5.4
MFF Saint Martin d 70.96 44 *eP* **P 21 13 33.3 -0.8**
MFF pmax pmax
comp=Z,48nm,0.9s,mb5.4
FLN La Foliniere 71.05 41 *eP* **P 21 13 33.8 -0.8**
comp=Z,86nm,0.9s,mb5.4
FLN *eR*
comp=Z,43nm,17.8s
FLN La Foliniere 71.05 41 *eP* **P 21 13 33.8 -0.8**
FLN pmax pmax
comp=Z,43nm,0.9s,mb5.4
FLN MLR MLR
comp=Z,40nm,17.8s,MS3.7
EPOB Poblet 71.25 49 P **P 21 13 37.0 +1.1**
comp=Z,23nm,1.3s,mb5.0
LDF La Druitiere 71.26 42 *eP* **P 21 13 34.9 -1.0**
comp=Z,60nm,0.9s,mb5.2
LDF La Druitiere 71.26 42 *eP* **P 21 13 34.9 -1.0**
LDF pmax pmax
comp=Z,30nm,0.9s,mb5.2
EIBI Ibiza 71.26 52 P **P 21 13 37.7 +1.7**
comp=Z,46nm,0.8s,mb5.5
LFF La Frestale 71.37 46 *eP* **P 21 13 35.6 -1.0**
comp=Z,58nm,0.9s,mb5.2
LFF La Frestale 71.37 46 *eP* **P 21 13 35.6 -1.0**
LFF pmax pmax
comp=Z,29nm,0.9s,mb5.2
SALF Salau 71.46 48 *eP* **P 21 13 37.1 -0.1**
EMIR Miracle 71.63 49 P **P 21 13 40.7 +2.5**
comp=Z,26nm,0.7s,mb5.3
RJF Les Rejaudoux 71.95 45 *eP* **P 21 13 38.9 -1.2**
comp=Z,52nm,0.9s,mb5.2
RJF *eR*
comp=Z,79nm,21.2s
RJF Les Rejaudoux 71.95 45 *eP* **P 21 13 38.9 -1.2**
RJF pmax pmax
comp=Z,26nm,0.9s,mb5.2
RJF MLR MLR
comp=Z,80nm,21.3s,MS4.0
INK Inuvik 72.01 340 *eP* **P 21 13 39.1 -0.9**
INK pmax pmax
comp=Z,59nm,1.6s
INK Inuvik 72.01 340 *eP* **P 21 13 39.1 -1.0**
comp=Z,59nm,1.6s,mb5.3
MTLF Montolieu 72.27 47 *eP* **P 21 13 40.9 -1.1**
comp=Z,52nm,0.9s,mb5.2
MTLF Montolieu 72.27 47 *eP* **P 21 13 40.9 -1.1**
MTLF pmax pmax
comp=Z,26nm,0.9s,mb5.2
CAF Calviac 72.30 46 *eP* **P 21 13 41.0 -1.2**
comp=Z,75nm,0.9s,mb5.3
CAF Calviac 72.30 46 *eP* **P 21 13 41.0 -1.2**
CAF pmax pmax
comp=Z,37nm,0.9s,mb5.3
TCF Toulx Ste Croi 72.54 44 *eP* **P 21 13 42.5 -1.1**
comp=Z,51nm,1.0s,mb5.1
TCF Toulx Ste Croi 72.54 44 *eP* **P 21 13 42.5 -1.1**
TCF pmax pmax
comp=Z,26nm,1.0s,mb5.1
VERF Verneugheol 72.68 45 *eP* **P 21 13 43.8 -0.6**
BGF Bois d'Agland 73.01 44 *eP* **P 21 13 45.3 -1.0**
comp=Z,54nm,0.9s,mb5.2
BGF Bois d'Agland 73.01 44 *eP* **P 21 13 45.3 -1.0**
BGF pmax pmax
comp=Z,27nm,0.9s,mb5.2
PYM Petit Puy Mans 73.04 45 *eP* **P 21 13 45.1 -1.4**
LBL Lubilhac 73.17 45 *eP* **P 21 13 46.1 -1.1**
PLDF La Plantade 73.49 45 *eP* **P 21 13 47.9 -1.2**
COLF Collangettes 73.50 45 *eP* **P 21 13 48.6 -0.6**
SSF Saint Saulge 73.50 44 *eP* **P 21 13 47.8 -1.4**
LASF Ste Croix 73.51 47 *eP* **P 21 13 48.3 -1.0**
comp=Z,65nm,1.3s,mb5.1
SMF Signal de Mont 73.70 44 *eP* **P 21 13 48.8 -1.5**
comp=Z,66nm,0.9s,mb5.2
SMF Signal de Mont 73.70 44 *eP* **P 21 13 48.8 -1.5**
SMF pmax pmax
comp=Z,33nm,0.9s,mb5.3
LOR Lormes 73.76 43 *eP* **P 21 13 49.4 -1.3**
comp=Z,62nm,0.9s,mb5.2
LOR *eR*
comp=Z,76nm,22.8s
LOR Lormes 73.76 43 *eP* **P 21 13 49.4 -1.3**
LOR pmax pmax
comp=Z,31nm,0.9s,mb5.2
LOR MLR MLR
comp=Z,80nm,22.8s,MS4.0
VIVF Saint-Julien-l 74.14 46 *eP* **P 21 13 52.6 -0.3**
comp=Z,68nm,1.0s,mb5.2
VIVF Saint-Julien-l 74.14 46 *eP* **P 21 13 52.6 -0.3**
VIVF pmax pmax
comp=Z,34nm,1.0s,mb5.2
BAIF Baives 74.25 40 *eP* **P 21 13 52.2 -1.2**
comp=Z,14nm,0.9s,mb4.6
BAIF Baives 74.25 40 *eP* **P 21 13 52.2 -1.2**
BAIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GIVF Givet 74.65 40 *eP* **P 21 13 54.8 -0.9**
MEZF Maizieres J'vi 74.67 42 *eP* **P 21 13 55.0 -0.9**
comp=Z,102nm,0.9s,mb5.5
SMRF Simiane la Rot 74.74 47 *eP* **P 21 13 55.2 -1.2**
comp=Z,51nm,1.3s,mb5.0
ORIF Oris-en-Rattie 75.00 46 *eP* **P 21 13 57.2 -0.7**
ORIF *eR*
comp=Z,69nm,20.7s
CABF La Chapelle 75.24 44 *eP* **P 21 13 58.3 -0.9**
comp=Z,62nm,1.2s,mb5.1
CABF La Chapelle 75.24 44 *eP* **P 21 13 58.3 -0.9**
CABF pmax pmax
comp=Z,31nm,1.2s,mb5.1
THEF They Montfort 75.27 42 *eP* **P 21 13 58.6 -0.7**
LMR La Mourre 75.39 48 *eP* **P 21 13 59.2 -1.0**
comp=Z,42nm,1.1s,mb5.0
LMR La Mourre 75.39 48 *eP* **P 21 13 59.2 -1.0**
LMR pmax pmax
comp=Z,21nm,1.1s,mb5.0
HGN Heimansgroeve 75.41 40 *eP* **P 21 13 59.5 -0.6**
comp=Z,19nm,0.6s,mb5.2
HGN *eS* S 21 23 39.9 +1.6
WLF Walferdange 75.47 41 *eP* **P 21 13 59.0 -1.5**
WLF pmax pmax
comp=Z,18nm,0.8s,mb5.0
WLF Walferdange 75.47 41 *eP* **P 21 13 59.0 -1.5**
comp=Z,18nm,0.8s,mb5.1
HAU Haudompre 75.50 43 *eP* **P 21 13 59.6 -1.1**
comp=Z,25nm,1.0s,mb4.8
HAU *eR*
comp=Z,109nm,22.2s
HAU Haudompre 75.50 43 *eP* **P 21 13 59.6 -1.1**
HAU pmax pmax
comp=Z,13nm,1.0s,mb4.8
HAU MLR MLR
comp=Z,110nm,22.3s,MS4.1
RSL Roselend 75.57 45 *eP* **P 21 14 00.6 -0.5**
BNI Bardonecchia 75.58 46 *eP* **P 21 14 03.5 +2.3**
BNI pmax pmax
comp=Z,14nm,0.9s,mb4.9
BNI Bardonecchia 75.58 46 *eP* **P 21 14 03.5 +2.3**
comp=Z,14nm,0.9s,mb4.9
MBDF Montbardon 75.63 46 *eP* **P 21 14 00.7 -0.8**
comp=Z,28nm,0.9s,mb4.9
MBDF Montbardon 75.63 46 *eP* **P 21 14 00.7 -0.8**
MBDF pmax pmax
comp=Z,14nm,0.9s,mb4.9
LPL La Plagne 75.63 45 *eP* **P 21 14 01.1 -0.4**
comp=Z,51nm,0.8s,mb5.2
LPL La Plagne 75.63 45 *eP* **P 21 14 01.1 -0.4**
LPL pmax pmax
comp=Z,26nm,0.8s,mb5.2
LPG La Plagne 75.65 45 *eP* **P 21 14 01.3 -0.3**
comp=Z,56nm,0.9s,mb5.2
LPG La Plagne 75.65 45 *eP* **P 21 14 01.3 -0.3**
LPG pmax pmax
comp=Z,28nm,0.9s,mb5.2
LOMF Lomont 75.78 43 *eP* **P 21 14 01.6 -0.7**
HINF Hinteralfeld 75.83 43 *eP* **P 21 14 01.2 -1.3**
comp=Z,32nm,0.8s,mb5.0
HINF Hinteralfeld 75.83 43 *eP* **P 21 14 01.2 -1.3**
HINF pmax pmax
comp=Z,16nm,0.8s,mb5.0
TOUF Mont Tournerai 75.95 47 *eP* **P 21 14 03.1 -0.2**
MOF Molkenrain 76.02 43 *eP* **P 21 14 02.5 -1.1**
WTSB Winterswijk 76.04 39 *eP* **P 21 14 04.4 +0.8**
comp=Z,9.3nm,0.7s,mb4.8
ECH Echery 76.05 42 *eP* **P 21 14 02.9 -0.9**
RUP Ruppelstein 76.06 41 *eP* **P 21 14 02.9 -0.9**
SBF Sospel 76.08 47 *eP* **P 21 14 03.3 -0.8**
comp=Z,45nm,0.9s,mb5.1
SBF Sospel 76.08 47 *eP* **P 21 14 03.3 -0.8**
SBF pmax pmax
comp=Z,23nm,0.9s,mb5.1
CDF Champ du Feu 76.14 42 *eP* **P 21 14 03.5 -0.8**
comp=Z,34nm,0.9s,mb5.0
CDF Champ du Feu 76.14 42 *eP* **P 21 14 03.5 -0.8**
CDF pmax pmax
comp=Z,17nm,0.9s,mb5.0
SAOF Saorge 76.17 47 *eP* **P 21 14 05.1 +0.5**
WLS Welschbruch 76.19 42 *eP* **P 21 14 03.5 -1.1**
BBS Basel-Blauen 76.25 43 *eP* **P 21 14 03.3 -1.6**
SML Sawmill 76.35 332 *eP* **P 21 14 05.1 -0.1**
ABH Alteburg 76.39 41 *eP* **P 21 14 05.3 -0.4**
LANF Langenberg 76.51 42 *eP* **P 21 14 05.9 -0.5**
FELD Feldberg 76.60 43 *eP* **P 21 14 05.7 -1.2**
BFO Black Forest 76.84 42 *eP* **P 21 14 07.0 -1.2**
BFO pmax pmax

comp=Z,15nm,1.0s,mb4.9
BFO Black Forest 76.84 42 *e*P **P 21 14 07.0 -1.2**
comp=Z,15nm,1.0s,mb4.9
MCK McKinley 76.88 334 *e*P **P 21 14 07.4 -0.7**
MCK pmax pmax
comp=Z,17nm,1.5s,mb4.8
MCK McKinley 76.88 334 *e*P **P 21 14 07.4 -0.7**
comp=Z,16nm,1.5s,mb4.7
TNS Taunus Mts 76.98 40 *e*P **P 21 14 08.6 -0.4**
TNS pmax pmax
comp=Z,29nm,0.9s,mb5.2
TNS Taunus Mts 76.98 40 *e*P **P 21 14 08.6 -0.4**
comp=Z,29nm,0.9s,mb5.2
SLKM Skilak Lake 77.12 330 *e*P **P 21 14 09.5 0.0**
PGF Pioggiola 77.20 48 *e*P **P 21 14 09.4 -1.0**
comp=Z,51nm,1.0s,mb5.1
PGF Pioggiola 77.20 48 *e*P **P 21 14 09.4 -1.0**
PGF pmax pmax
comp=Z,25nm,1.0s,mb5.1
STU Stuttgart 77.42 42 *e*P **P 21 14 11.0 -0.4**
STU pmax pmax
comp=Z,40nm,0.8s,mb5.4
STU Stuttgart 77.42 42 *e*P **P 21 14 11.0 -0.4**
comp=Z,40nm,0.8s,mb5.4
VSL Villasalto 77.51 51 *e*P **P 21 14 11.6 -0.5**
comp=Z,36nm,1.0s,mb5.3
MUD Monsted U'grnd 77.71 34 *i* P **P 21 14 15.4 +2.5**
MUD pmax pmax
comp=Z,25nm,0.8s,mb5.2
MUD Monsted U'grnd 77.71 34 *i* P **P 21 14 15.4 +2.5**
comp=Z,25nm,0.8s,mb5.2
DAVA Damuels 77.86 43⇑*i*P **P 21 14 14.1 +0.2**
comp=Z,14nm,1.1s,mb4.8
SPU Mount Spurr 78.07 331 *e*P **P 21 14 14.3 -0.4**
CLZ Clausthal 78.25 39 *e*P **P 21 14 15.9 0.0**
CLZ pmax pmax
comp=Z,22nm,0.9s,mb5.1
CLZ Clausthal 78.25 39 *e*P **P 21 14 15.9 0.0**
comp=Z,22nm,0.9s,mb5.1
BSEG Bad Segeberg 78.26 37 *e*P **P 21 14 15.5 -0.4**
RSO Redoubt South 78.36 330 P **P 21 14 16.1 -0.3**
MOTA Moosalm 78.69 43⇑*i*P **P 21 14 17.8 -0.6**
comp=Z,1.5nm,0.6s,mb4.1
MOTA Moosalm 78.69 43⇑*i*P **P 21 14 17.8 -0.6**
MOTA pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SQTA Sankt Quirin 78.76 44⇓*i*P **P 21 14 19.0 +0.2**
comp=Z,4.5nm,0.9s,mb4.4
SQTA Sankt Quirin 78.76 44⇓*i*P **P 21 14 19.0 +0.2**
SQTA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GRA1 Grafenberg Arr 78.76 41 *e*P **P 21 14 18.6 -0.2**
comp=Z,26nm,1.4s,mb5.0
GRA1 *e*pP pP 21 14 21.2 -1.7
GRF Grafenberg Arr 78.76 41 *e*P **P 21 14 18.6 -0.2**
GRF *e**PP pP 21 14 21.2 -1.7
GRF pmax pmax
comp=Z,26nm,1.4s,mb5.0
GRF Grafenberg Arr 78.76 41 *e*P **P 21 14 18.6 -0.2**
GRF *e**PP pP 21 14 21.2 -1.7
GRF pmax pmax
comp=Z,26nm,1.4s,mb5.0
GRF Grafenberg Arr 78.76 41 *e*P **P 21 14 18.6 -0.2**
comp=Z,26nm,1.4s,mb5.0
GRF *e*pP pP 21 14 21.2 -1.7
FUR Furstenfeldbru 78.80 43 *e*P **P 21 14 18.5 -0.5**
FUR pmax pmax
comp=Z,25nm,1.0s,mb5.1
FUR Furstenfeldbru 78.80 43 *e*P **P 21 14 18.5 -0.5**
comp=Z,25nm,1.0s,mb5.1
NB2 NORSAR Subarra 79.00 29 P **P 21 14 20.6 +0.8**
comp=Z,20nm,1.1s,mb5.0,baz=269,slow=5.6
NB2 NORSAR Subarra 79.00 29 P **P 21 14 20.6 +0.8**
NB2 pmax pmax
comp=Z,20nm,1.1s,mb5.0
NB2 NORSAR Subarra 79.00 29 P **P 21 14 20.6 +0.8**
baz=268,slow=5.6
NOA NORSAR Array B 79.00 29 P **P 21 14 20.1 +0.3**
comp=Z,7.3nm,0.9s,mb4.6,baz=268,slow=5.6,SNR=18
WATA Walderalm 79.01 43⇑*i*P **P 21 14 20.7 +0.5**
comp=Z,2.1nm,0.7s,mb4.2
WATA Walderalm 79.01 43⇑*i*P **P 21 14 20.7 +0.5**
WATA pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
MOX Moxa 79.02 40 P **P 21 14 22.4 +2.3**
MOX pmax pmax
comp=Z,16nm,1.4s,mb4.8
MOX Moxa 79.02 40 P **P 21 14 22.4 +2.3**
comp=Z,16nm,1.4s,mb4.8
MOX Moxa 79.02 40 *i* P **P 21 14 22.4 +2.3**
comp=Z,logA/T=1.1,mb4.8
WTTA Wattenberg 79.05 44⇓*i*P **P 21 14 20.6 +0.2**
comp=Z,6.4nm,1.0s,mb4.5
WTTA Wattenberg 79.05 44⇓*i*P **P 21 14 20.6 +0.2**
WTTA pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
IMA Indian Mountai 79.12 336 *e*P **P 21 14 23.1 +2.7**
NKC Novy Kostel 79.55 40 *e*P **P 21 14 23.0 -0.1**
NKC *e*pP pP 21 14 25.6 -1.6
SVW2 Sparrevohn 79.77 331 *e*P **P 21 14 26.4 +2.4**
WET Wettzell 79.85 42 *e*P **P 21 14 24.0 -0.7**
WET pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
WET Wettzell 79.85 42 *e*P **P 21 14 24.0 -0.7**
comp=Z,6.0nm,0.8s,mb4.6
CLL Collm 79.89 39⇑*i*P **P 21 14 27.0 +2.2**
CLL pmax pmax
comp=Z,17nm,1.0s,mb4.9
CLL Collm 79.89 39⇑*i*P **P 21 14 27.0 +2.2**
comp=Z,17nm,1.0s,mb4.9
CLL Collm 79.89 39 ⇑P **P 21 14 27.0 +2.2**
comp=Z,logA/T=1.2,mb4.9
CLL *e*PP PP 21 17 20.0 -8.0
HFS Hagfors 80.20 30 LR LR 21 44 55.1
comp=Z,90nm,20.3s,MS4.1,baz=283,slow=32
KBA Koelnbreinsper 80.22 44⇓*i*P **P 21 14 26.9 +0.2**
comp=Z,18nm,0.9s,mb5.0
KBA Koelnbreinsper 80.22 44⇓*i*P **P 21 14 26.9 +0.2**
KBA pmax pmax
comp=Z,18nm,0.9s,mb5.0
KHC Kasperske Hory 80.31 42 P **P 21 14 26.9 -0.2**
KHC *i* pP pP 21 14 30.5 -0.8
KHC AMS AMS 21 45 20.0
comp=Z,100nm,22.3s
GEC2 GERESS Array S 80.40 42 *e*P **P 21 14 27.1 -0.5**
GEC2 pmax pmax
comp=Z,20nm,1.1s,mb5.0
GEC2 GERESS Array S 80.40 42 *e*P **P 21 14 27.1 -0.5**
comp=Z,20nm,1.1s,mb5.0
GERES GERESS Array B 80.40 42 P **P 21 14 27.3 -0.3**
comp=Z,8.5nm,0.8s,mb4.7,baz=270,slow=4.0,SNR=32
BRG Berggiesshubel 80.49 40 *e*P **P 21 14 28.2 +0.1**
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BRG pmax pmax
comp=Z,16nm,1.0s,mb4.9
BRG Berggiesshubel 80.49 40 *e*P **P 21 14 28.2 +0.2**
comp=Z,4.1nm,1.0s,mb4.3
BRG *e* pP 21 14 30.4 -1.8
CADS Cadrg 80.53 45 *e*P **P 21 14 28.1 -0.3**
MOA Molln 80.82 43⇑*i*P **P 21 14 29.6 -0.2**
comp=Z,23nm,1.4s,mb4.9
PVCC Panska Ves 80.90 40 *e*P **P 21 14 30.4 +0.2**
PRU Pruhonice 80.91 41 *e*P **P 21 14 30.1 -0.2**
PRU MLR MLR
comp=Z,100nm,21.7s,MS4.1
PRU Pruhonice 80.91 41 *e*P **P 21 14 30.1 -0.2**
PRU *e*pP pP 21 14 33.0 -1.4
PRU AMS AMS 21 46 40.0
comp=Z,100nm,21.7s
OBKA Obir 81.08 44⇑*i*P **P 21 14 30.9 -0.3**
comp=Z,2.9nm,1.1s,mb4.1
LJU Ljubljana 81.08 45 *e*P **P 21 14 31.3 0.0**
LJU *e* pP 21 14 34.0 -1.4
Cll Carovilli 81.17 49 *e*P **P 21 14 36.0 +4.1**
comp=Z,12nm,0.9s,mb4.8
PDKS Podkum 81.41 45 *e*P **P 21 14 32.4 -0.6**
PDKS *e* pP 21 14 35.7 -1.4
LEGS Legarje 81.64 45 *e*P **P 21 14 33.5 -0.7**
LEGS *e* pP 21 14 36.6 -1.7
ARSA Arzberg 81.70 43⇑*i*P **P 21 14 34.2 -0.3**
comp=Z,9.3nm,0.7s,mb4.8
UPC Upice 81.82 40 *e*P **P 21 14 37.5 +2.5**
DPC Dobruska-Polom 82.03 40 *e*P **P 21 14 35.8 -0.3**
DPC *e*pP pP 21 14 38.9 -1.4
ZST Bratislava 82.70 42 *e*P **P 21 14 41.5 +1.9**

MORC Moravsky Berou 82.86 41 *e*P **P 21 14 40.2 -0.2**
MORC pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MORC Moravsky Berou 82.86 41 *e*P **P 21 14 40.1 -0.3**
comp=Z,9.9nm,0.8s,mb4.9
OKC Ostrava-Krasne 83.24 41 *e*P **P 21 14 42.4 0.0**
OKC *e*pP pP 21 14 45.1 -1.5
VYHS Vyhne 83.82 42 *e*P **P 21 14 48.0 +2.6**
VYHS *e* 21 14 55.4
ARCES ARCESS Array B 84.47 21 P **P 21 14 47.6 -0.6**
comp=Z,3.3nm,0.7s,mb4.6,baz=304,slow=4.4,SNR=11
KECS Kecovo 84.91 42 *e*P **P 21 14 53.9 +3.0**
KECS *e* 21 15 02.2
STHS Stebnicka Huta 85.29 41 *e*P **P 21 14 56.7 +4.0**
STHS *e* 21 15 04.9
STHS Stebnicka Huta 85.29 41 *e*pP pP 21 14 56.7 -0.2
STHS *e* 21 15 04.9
CRVS Cervenica-Dubn 85.50 41 *e*P **P 21 15 03.7 +10**
CRVS Cervenica-Dubn 85.50 41 *e* **P 21 15 03.7 +10**
SUW Suwalki 85.83 36 *e*P **P 21 14 58.3 +3.0**
SUW Suwalki 85.83 36 *e*P **P 21 14 58.3 +3.0**
KOLS Kolonicke sedl 86.03 41 *e*P **P 21 15 02.0 +5.6**
KOLS Kolonicke sedl 86.03 41 *e*sP sP 21 15 02.0 +0.1
KAF Kangasniemi 86.10 28 *e*P **P 21 14 55.5 -1.0**
comp=Z,5.8nm,1.0s,mb4.8,baz=279,slow=4.6
KAF Kangasniemi 86.10 28 *e*P **P 21 14 55.5 -1.0**
KAF pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
FINES FINESS Array B 86.12 29 P **P 21 14 56.6 0.0**
comp=Z,5.7nm,0.8s,mb4.8,baz=198,slow=6.0,SNR=17
KWP Kalwaria 86.20 41 *e*P **P 21 14 57.6 +0.3**
KWP Kalwaria 86.20 41 *e*P **P 21 14 57.6 +0.3**
DRGR 86.64 43⇓*i*P **P 21 15 01.9 +2.4**
VSU Vasula 87.01 31 *i* P **P 21 15 01.1 +0.1**
LVV L'vov 87.02 40 *e*P **P 21 15 04.7 +3.4**
LVV *e* 21 15 15.3
APA Apatity 87.75 22⇑*e*P **P 21 15 05.0 +0.7**
APA pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
APA MLR MLR
comp=Z,300nm,20.0s,MS4.7
VOIR 88.47 44⇓*i*P **P 21 15 12.4 +4.1**
MLR Muntele Rosu 89.08 44⇑*i*P **P 21 15 11.2 0.0**
VNA3 Neumayer Olymp 89.31 163 P **P 21 15 11.8 0.0**
VNA3 Neumayer Olymp 89.31 163 **P 21 15 13.0 +1.2**
VNA3 Neumayer Olymp 89.31 163 **P 21 15 16.5 +4.7**
VNA1 Neumayer--Stat 89.43 163 P **P 21 15 14.1 +1.8**
VNA1 Neumayer--Stat 89.43 163 **P 21 15 17.5 +5.2**
VNA1 Neumayer--Stat 89.43 163 **P 21 15 22.9 +11**
VNA2 Neumayer--Watz 89.81 163 P **P 21 15 13.1 -1.0**
VNA2 Neumayer--Watz 89.81 163 **P 21 15 14.8 +0.7**
VNA2 Neumayer--Watz 89.81 163 **P 21 15 18.3 +4.2**
AKASG Malin Array Be 90.11 39 P **P 21 15 17.3 +1.4**
comp=Z,4.7nm,0.8s,mb4.9,baz=270,slow=4.1,SNR=19
SNAA Sanae 91.46 163 P **P 21 15 21.2 -0.5**
SNAA Sanae 91.46 163 **P 21 15 25.0 +3.3**
SNAA Sanae 91.46 163 *i* P **P 21 15 21.8 +0.1**
OBN Obninsk 93.12 33 *i* P **P 21 15 31.8 +2.1**
OBN *e* 21 19 22.1
OBN pmax pmax
comp=Z,50nm,1.6s,mb5.7
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.4
OBN Obninsk 93.12 33 *e*P **P 21 15 30.4 +0.7**
comp=Z,4.6nm,0.5s,mb5.2
BILL Bilibino 93.57 341 *i* P **P 21 15 34.3 +2.8**
BILL *e* 21 19 19.6
BILL pmax pmax
comp=Z,14nm,1.2s,mb5.3
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.7
BRTR Keskin Array B 95.96 48 P **P 21 15 44.0 +0.9**
comp=Z,1.2nm,0.8s,mb4.4,baz=288,slow=3.9,SNR=5.8
SMY Shemya 97.61 326 *e*P **P 21 15 51.0 +0.8**
SMY MLR MLR
comp=Z,100nm,19.0s,MS4.3
TIXI Tiksi 98.86 354 *i* P **P 21 15 57.5 +2.1**
TIXI pmax pmax
comp=Z,3.0nm,1.3s,mb4.7
MKAR Makanchi Array 120.12 21 PKP PKPdf 21 21 07.7 -1.3
comp=Z,1.0nm,0.8s,baz=346,slow=2.1,SNR=9.2
MKAR Makanchi Array 120.12 21 PKP PKPdf 21 21 07.7 -1.3
SONM Songino Array 123.84 2 PKP PKPdf 21 21 15.8 -0.5
comp=Z,0.9nm,0.5s,baz=315,slow=1.7,SNR=4.4
WMQ Urumqi 124.53 18 PKP PKPdf 21 21 14.8 -3.0
WMQ XPKP 21 21 19.4
WMQ PP PP
comp=Z,40nm,10.7s
WMQ LR LR
comp=N,111nm,22.1s,MS4.7
WMQ LR LR
comp=E,164nm,22.4s,MS4.7
WMQ LR LR
comp=Z,202nm,22.5s,MS4.7
CN2 Changchun 125.71 345 *e*PKP PKPdf 21 21 18.3 -1.7
CN2 PP PP 21 23 12.9 -0.2
CN2 PP PP
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,500nm,15.0s,MS5.4
CN2 LR LR
comp=E,400nm,15.0s,MS5.4
CN2 LR LR
comp=Z,300nm,15.0s,MS5.1
MJAR Matsushiro Arr 127.24 330 PKP PKPdf 21 21 22.6 -0.5
comp=Z,0.4nm,0.4s,baz=67,slow=1.6,SNR=6.0
LZH Lanzhou 135.38 6 *e*PKP PKPdf 21 21 30.4 -8.2
LZH XPKP 21 21 35.5
LZH PP PP
comp=Z,152nm,7.3s
LZH LR LR
comp=E,1μm,20.6s
LZH LR LR
comp=Z,2μm,21.5s
LZH Lanzhou 135.38 6 *e*PKP PKPdf 21 21 30.4 -8.2
LZH sPKP 21 21 35.5
LZH PP PP 21 24 09.8 -5.9
LZH SKKS 21 30 56.0
LZH SS SS 21 41 55.2 -13
LZH LR LR
comp=Z,2μm,21.5s
GYA Guiyang 145.16 3 *i* PKP PKPdf 21 21 56.1 -0.2
GYA PP PP 21 25 18.9 +3.2
GYA SKS SKS 21 29 04.6 -0.1
GYA SKKS 21 32 07.3
GYA PP PP
comp=Z,100nm,7.4s
GYA LR LR
comp=N,430nm,21.5s,MS5.3
GYA LR LR
comp=E,390nm,20.8s,MS5.3
GYA LR LR
comp=Z,750nm,21.0s,MS5.4
KMI Kunming 146.05 10 PKP PKPdf 21 21 55.1 -2.8
KMI PP PP 21 25 20.5 -0.6
KMI SS SS 21 44 11.6 -1.2
KMI PP PP
comp=Z,118nm,28.4s
KMI LR LR
comp=N,498nm,25.6s,MS5.3
KMI LR LR
comp=E,340nm,26.7s,MS5.3
KMI LR LR
comp=Z,152nm,27.2s,MS4.6
WB2 Warramunga Arr 152.65 243 *e*PKP PKPdf 21 22 12.1 +3.8
WRAB Tennant Creek 152.65 243 *e*PKIKP PKPdf 21 22 08.3 0.0
WRAB *e* 21 22 12.6
WRA Warramunga Arr 152.66 243 PKP PKPdf 21 22 06.0 -2.4
comp=Z,5.1nm,0.3s,baz=106,slow=2.6,SNR=21
WRA PKPbc PKPdf 21 22 15.3 +6.9
comp=Z,18nm,0.6s,baz=109,slow=2.3,SNR=70

*IDC **15** 21:14:50.9ₛ0.5, 7.56N×94.13E, mb4.5/18, mb1 4.6/18, mb1mx4.5/22, mbtmp4.5/18, MS3.9/7, Ms1 4.0/7, ms1mx3.8/17, Error ellipse: s-maj=20.1km s-min=13.2km az=59.0*
*NEIC **15** 21:14:53.4±0.3, 7.53N×94.15E, mb4.8/26, Error ellipse: s-maj=8.5km s-min=5.5km az=220.0*
*BJI **15** 21:14:53.4, 7.50N×94.10E, h16km, mB4.8, mb4.7, Ms4.6, Msz4.2*
*MOS **15** 21:14:54.4±1.2, 7.59N×94.08E, h33km, mb5.0/26, MS4.3/7, Error ellipse: s-maj=13.6km s-min=5.8km az=113.6*
ISC 15 21:14:51.6±0.3, 7.46N±0.05×94.13E±0.04, h18km, h18km±1.1km; pP-P, n145, σ1s19/144, mb4.7/60, MS4.2/19, 8C-6D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla** 212nm,0.8s	**6.44**	**92**	P	**Pn**	**21 16 28.0**	**-0.1**
KULM	**Kulim**	**6.83**	**108**	*e*Pn	**Pn**	**21 16 31.1**	**-2.4**
NNT	**Nongplab**	**7.51**	**47**	P	**Pn**	**21 16 40.4**	**-2.7**
CHG	**Chiang Mai** 10.0nm,0.8s	**12.22**	**22**	⇓P	**P**	**21 17 49.5**	**+1.6**
KKTK	**Khon Kaen** 247nm,0.7s	**12.25**	**43**	P	**P**	**21 18 03.0**	**+15**
PALK	**Pallekele**	**13.32**	**270**	Pn	**P**	**21 18 01.8**	**-0.9**
BWNR	**Bhubaneshwar**	**15.10**	**329**	*e*P	**P**	**21 18 30.7**	**+4.7**
KSM	**Kuching**	**17.18**	**109**	*e*Pn	**P**	**21 18 54.0**	**+1.3**
HYB	**Hyderabad**	**18.13**	**305**	*i* P	**P**	**21 19 05.0**	**+0.4**
SHL	**Shillong**	**18.14**	**353**	*e*P	**P**	**21 19 02.0**	**-2.5**
BLSP	**Bilaspur**	**18.62**	**323**	*e*P	**P**	**21 19 10.9**	**+0.4**
BLSP	comp=Z,36nm,0.9s			AMb	AMB	21 19 14.0	
QIZ	**Qiongzhong**	**19.11**	**51**	P	**P**	**21 19 17.0**	**+0.6**
QIZ				S	**S**	**21 22 47.6**	**+1.9**
QIZ	comp=Z,15nm,1.0s			AMB	AMB		
QIZ	comp=Z,186nm,8.2s			AMB	AMB		
QIZ	comp=N,2μm,12.1s			LR	LR		
QIZ	comp=E,970nm,13.4s			LR	LR		
QIZ	comp=Z,850nm,9.7s			LR	LR		
QIZ	**Qiongzhong** comp=Z,40nm,1.4s	**19.11**	**51**	*e*P	**P**	**21 19 15.7**	**-0.7**
KMI	**Kunming**	**19.40**	**24**	⇑P	**P**	**21 19 21.9**	**+2.2**
KMI	comp=Z,20nm,1.2s			pmax	pmax		
KMI	**Kunming** comp=Z,20nm,1.2s	**19.40**	**24**	⇑P	**P**	**21 19 21.9**	**+2.2**
KMI				pP		21 19 25.4	
KMI				sP		21 19 27.1	
KMI				PP	PP	21 19 43.2	+6.0
KMI				PPP	PPP	21 19 52.3	+6.1
KMI				S	**S**	**21 23 05.0**	**+13**
KMI				sS		21 23 13.6	
KMI				SS	SS	21 23 32.3	+14
NGP	**Nagpur**	**19.94**	**315**	*e*P	**P**	**21 19 25.9**	**0.0**
NGP	comp=Z,28nm,0.0s			AMb	AMB	21 19 34.2	
AKL	**Akola**	**21.16**	**310**	*e*P	**P**	**21 19 40.3**	**+1.9**
AKL	comp=Z,33nm,1.1s,mb4.6			AMb	AMB	21 19 45.8	
PKI	**Pulchoki** comp=Z,91nm,0.9s,mb5.2	**21.64**	**339**	*e*P	**P**	**21 19 43.2**	**-0.1**
PKI	**Pulchoki**	**21.64**	**339**	*e*P	**P**	**21 19 43.2**	**-0.1**
PKI	comp=Z,46nm,0.9s,mb4.9			pmax	pmax		
DMN	**Daman** comp=Z,69nm,0.7s,mb5.2	**21.79**	**338**	*e*P	**P**	**21 19 44.9**	**+0.2**
GUN	**Gumba**	**21.79**	**340**	*e*P	**P**	**21 19 44.7**	**0.0**
KKN	**Kakani** comp=Z,103nm,1.0s,mb5.2	**21.89**	**339**	*e*P	**P**	**21 19 45.0**	**-0.7**
KKN	**Kakani**	**21.89**	**339**	*e*P	**P**	**21 19 45.0**	**-0.7**
KKN	comp=Z,52nm,1.0s,mb4.9			pmax	pmax		
LSA	**Lhasa**	**22.30**	**353**	P	**P**	**21 19 51.0**	**+1.2**
LSA	**Lhasa**	**22.30**	**353**	*e*P	**P**	**21 19 48.9**	**-0.9**
LSA	comp=E,65nm,0.8s,mb5.1			pmax	pmax		
LSA	**Lhasa** comp=Z,65nm,0.8s,mb5.1	**22.30**	**353**	*e*P	**P**	**21 19 48.9**	**-0.9**
LSA				*e*pP		21 19 52.6	
GKN	**Gorkha** comp=Z,184nm,1.1s,mb5.4	**22.32**	**337**	*e*P	**P**	**21 19 49.6**	**-0.4**
GYA	**Guiyang**	**22.34**	**31**	⇑*i*P	**P**	**21 19 52.8**	**+2.6**
GYA				AP		21 20 01.3	
GYA				XP		21 20 06.4	
GYA				PP	PP	21 20 21.6	+4.1
GYA	comp=Z,10.0nm,1.0s,mb4.2			AMB	AMB		
GYA	comp=Z,150nm,6.0s			AMB	AMB		
GYA	comp=N,850nm,15.6s,MS4.5			LR	LR		
GYA	comp=E,1μm,15.3s,MS4.5			LR	LR		
GYA	comp=Z,640nm,15.3s,MS4.2			LR	LR		
BHPL	**Bhopal**	**22.45**	**316**	*e*P	**P**	**21 19 53.8**	**+2.5**
BHPL	comp=Z,62nm,1.1s,mb5.0			AMb	AMB	21 20 02.2	
KOLN	**Koldanda** comp=Z,125nm,1.1s,mb5.3	**22.53**	**335**	*e*P	**P**	**21 19 52.6**	**+0.4**
CD2	**Chengdu**	**25.01**	**20**	P	**P**	**21 20 17.0**	**+0.8**
PTH	**Pithoragarh**	**25.58**	**331**	*e*P	**P**	**21 20 23.0**	**+1.4**
SONA	**Sohna**	**26.22**	**324**	*e*P	**P**	**21 20 27.7**	**+0.2**
SONA	comp=Z,46nm,1.3s,mb4.8			AMb	AMB	21 20 34.9	
AYAN	**Aya Nagar**	**26.37**	**325**	*e*P	**P**	**21 20 29.5**	**+0.6**
NDI	**New Delhi**	**26.47**	**325**	*e*P	**P**	**21 20 29.5**	**-0.3**
NDI	comp=Z,50nm,1.5s,mb4.8			AMb	AMB	21 20 37.1	
KUDL	**Kundal**	**26.49**	**323**	*e*P	**P**	**21 20 30.9**	**+0.8**
KHET	**Khetri**	**26.85**	**322**	*e*P	**P**	**21 20 34.9**	**+1.5**
ENH	**Enshi** comp=Z,17nm,0.9s,mb4.6	**26.88**	**30**	*e*P	**P**	**21 20 33.1**	**-0.5**
DDI	**Dehra Dun**	**27.29**	**329**	*e*P	**P**	**21 20 38.5**	**+1.2**
XAN	**Xi'an**	**29.77**	**25**	P	**P**	**21 20 58.8**	**-0.9**
XAN				AP	pP	21 21 04.6	-0.2
XAN	comp=Z,9.0nm,0.8s,mb4.5			AMB	AMB		
LZH	**Lanzhou**	**29.85**	**16**	*e*P	**P**	**21 21 02.3**	**+1.9**
LZH				AP	pP	21 21 06.0	+0.5
LZH				XP	sP	21 21 08.6	+0.8
LZH	comp=E,803nm,14.7s			LR	LR		
LZH	comp=Z,1μm,15.5s,MS4.6			LR	LR		
LZH	**Lanzhou**	**29.85**	**16**	*e*P	**P**	**21 21 02.2**	**+1.8**
LZH				*SP	sP	21 21 08.6	+0.8
LZH	comp=Z,1μm,15.5s,MS4.6			MLR	MLR		
LZH	**Lanzhou**	**29.85**	**16**	*e*P	**P**	**21 21 02.2**	**+1.8**
LZH				pP	pP	21 21 06.0	+0.5
LZH				sP	sP	21 21 08.6	+0.8
LZH	comp=Z,1μm,15.5s,MS4.6			LR	LR		
NJ2	**Nanjing**	**33.59**	**40**	*e*P	**P**	**21 21 30.9**	**-2.3**
NJ2	comp=Z,10.0nm,0.6s,mb4.9			AMB	AMB		
NJ2	comp=Z,70nm,10.0s			AMB	AMB		
NJ2	comp=N,980nm,14.0s,MS4.8			LR	LR		
NJ2	comp=E,820nm,11.8s,MS4.8			LR	LR		
NJ2	comp=Z,290nm,14.4s,MS4.1			LR	LR		
SSE	**Sheshan**	**34.53**	**44**	PKP	**P**	**21 21 36.6**	**-4.7**
SSE	comp=N,555nm,14.7s,MS4.5			LR	LR		
SSE	comp=E,328nm,14.7s,MS4.5			LR	LR		
SSE	comp=Z,365nm,11.0s,MS4.4			LR	LR		
SSE	**Sheshan** comp=Z,18nm,0.8s,mb5.0	**34.53**	**44**	P	**P**	**21 21 36.6**	**-4.7**
SSE				sP	sP	21 21 49.2	+0.5
SSE				PP	PP	21 22 56.1	-1.5
SSE				PcP	PcP	21 24 08.2	-8.1
SSE				S	**S**	**21 27 06.8**	**-1.4**
SSE				sS		21 27 22.4	
SSE				ScP		21 27 51.6	
WMQ	**Urumqi**	**36.66**	**352**	P	**P**	**21 21 59.6**	**+0.4**
WMQ				AP	pP	21 22 04.0	-0.4
WMQ				XP	sP	21 22 06.6	-0.1
WMQ				PP	PP	21 23 23.6	-0.5
WMQ				S	**S**	**21 27 40.8**	**-0.1**
WMQ	comp=Z,13nm,1.0s,mb4.7			AMB	AMB		
WMQ				AMB	AMB		

comp=Z,176nm,5.2s
WMQ LR LR
comp=N,281nm,13.3s,MS4.3
WMQ LR LR
comp=E,321nm,18.1s,MS4.3
WMQ LR LR
comp=Z,199nm,15.2s,MS4.0
HHC Hu-ho-hao-te 36.70 22 ⇑P **P 21 22 00.9 +1.3**
HHC AP pP 21 22 05.8 +0.9
HHC XP sP 21 22 08.8 +1.7
HHC PP PP 21 23 28.6 +3.8
HHC S **S 21 27 49.9 +8.2**
HHC XS 21 27 58.3
HHC SCS ScS 21 32 11.3 -1.4
HHC AMB AMB
comp=Z,21nm,1.4s,mb4.8
HHC AMB AMB
comp=Z,79nm,10.8s
HHC LR LR
comp=N,418nm,14.4s,MS4.5
HHC LR LR
comp=E,510nm,15.6s,MS4.5
HHC LR LR
comp=Z,303nm,15.6s,MS4.2
AAK Ala-Archa 39.08 337 *i* P **P 21 22 18.9 -0.7**
AAK pmax pmax
comp=Z,12nm,1.7s,mb4.3
AAK Ala-Archa 39.08 337 *e*P **P 21 22 18.7 -0.9**
comp=Z,19nm,1.1s,mb4.7
FITZ Fitzroy Crossi 40.15 130 P **P 21 22 28.1 -0.5**
comp=Z,4.1nm,0.6s,mb4.3,baz=346,slow=11,SNR=7.7
MKAR Makanchi Array 40.49 347 *e*P **P 21 22 30.4 -0.7**
MKAR pmax pmax
comp=Z,39nm,1.0s
MKAR Makanchi Array 40.49 347 P **P 21 22 30.2 -0.9**
comp=Z,14nm,0.8s,mb4.8,baz=165,slow=7.9,SNR=69
MKAR LR LR 21 42 22.7
comp=Z,80nm,18.2s,MS3.6,baz=174,slow=41
SONM Songino Array 41.57 12 P **P 21 22 39.8 -0.2**
comp=Z,5.2nm,0.8s,mb4.2,baz=198,slow=7.8,SNR=19
SONM PcP PcP 21 24 37.9 0.0
comp=Z,1.1nm,0.6s,baz=207,slow=3.2,SNR=3.5
SONM LR LR 21 41 17.4
comp=Z,163nm,19.2s,MS3.9,baz=58,slow=38
JNU Nakatsue 42.53 48 P **P 21 22 48.8 +0.7**
comp=Z,11nm,0.9s,mb4.6,baz=248,slow=2.6,SNR=12
ZAK Zakamensk 43.46 9 *e*P **P 21 22 54.7 -0.7**
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
KURK Kurchatov 45.01 346 *e*P **P 21 23 07.2 -0.8**
KURK *e**PP pP 21 23 12.9 -0.3
KURK pmax pmax
comp=Z,17nm,0.8s,mb4.9
KURK Kurchatov 45.01 346 *e*P **P 21 23 07.2 -0.7**
comp=Z,17nm,0.8s,mb4.9
KURK *e*pP pP 21 23 12.9 -0.4
NWAO Narrogin (SRO) 45.78 153 P **P 21 23 15.3 +1.0**
comp=Z,17nm,1.1s,mb4.9,baz=9.9,slow=8.3,SNR=6.2
HIA Hailar 46.91 23 P **P 21 23 22.4 -0.6**
HIA pmax pmax
comp=Z,5.0nm,0.6s
HIA Hailar 46.91 23 P **P 21 23 22.4 -0.6**
comp=Z,4.5nm,0.6s,mb4.6
ZAL Zalesovo 46.95 352 *i* P **P 21 23 23.8 +0.5**
ZAL pmax pmax
comp=Z,11nm,0.6s
ZAL Zalesovo 46.95 352 P **P 21 23 23.2 -0.1**
comp=Z,11nm,0.6s,mb5.0,baz=306,slow=5.6,SNR=54
ZAL Zalesovo 46.95 352 P **P 21 23 23.2 -0.1**
WRA Warramunga Arr 48.03 125 P **P 21 23 32.0 -0.2**
comp=Z,1.5nm,0.4s,mb4.3,baz=305,slow=8.5,SNR=14
WRAB Tennant Creek 48.03 125 *e*P **P 21 23 33.5 +1.3**
WRAB pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
WRAB Tennant Creek 48.03 125 *e*P **P 21 23 33.5 +1.2**
comp=Z,8.4nm,0.9s,mb4.8
NVS Novosibirsk 48.05 352 *i* P **P 21 23 30.6 -1.3**
NVS *e* 21 23 46.9
NVS *e*S **S 21 30 28.0 -0.3**
NVS pmax pmax
comp=Z,16nm,1.0s,mb5.0
NVS pmax pmax
comp=N,15nm,1.3s
NVS pmax pmax
comp=E,8.0nm,1.4s
NVS smax
comp=N,14nm,2.0s
NVS smax
comp=E,11nm,2.0s
VOSK Vostochnaya 48.93 342 P **P 21 23 37.7 -1.0**
VOSK pmax pmax
comp=Z,16nm,1.0s,mb5.0
BVA0 Borovoye Array 49.38 341 *i* P **P 21 23 41.4 -0.8**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
BVAR Borovoye Array 49.38 341 P **P 21 23 41.1 -1.1**
comp=Z,7.2nm,0.8s,mb4.7,baz=149,slow=8.6,SNR=31
BVAR PcP PcP 21 25 04.8 0.0
comp=Z,2.5nm,0.7s,baz=158,slow=4.5,SNR=5.0
BRVK Borovoye 49.44 341 *e*P **P 21 23 41.4 -1.2**
BRVK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BRVK Borovoye 49.44 341 *e*P **P 21 23 41.4 -1.2**
comp=Z,6.2nm,0.9s,mb4.6
MJAR Matsushiro Arr 49.45 48 P **P 21 23 43.8 +0.9**
comp=Z,2.1nm,0.8s,mb4.2,baz=247,slow=8.2,SNR=9.1
MJAR PcP PcP 21 25 05.2 -0.1
comp=Z,2.1nm,0.9s,baz=242,slow=5.9,SNR=5.1
MJAR LR LR 21 47 07.4
comp=Z,94nm,18.4s,MS3.8,baz=245,slow=39
ZRNK Zerenda 49.77 340 *e*P **P 21 23 43.7 -1.4**
ZRNK *e* 21 25 05.5
ZRNK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ZRNK Zerenda 49.77 340 *e*P **P 21 23 43.7 -1.4**
comp=Z,8.3nm,0.9s,mb4.8
ZRNK *e*PcP PcP 21 25 05.5 -0.8
AB31 Akbulak array 50.59 332 *i* P **P 21 23 50.8 -0.7**
AB31 pmax pmax
comp=Z,16nm,1.1s,mb4.9
GNI Garni 54.72 315 *i* P **P 21 24 19.4 -3.0**
GNI pmax pmax
comp=Z,8.0nm,1.3s
GNI Garni 54.72 315 LR LR 21 50 44.7
comp=Z,60nm,21.6s,MS3.6,baz=306,slow=39
SVE Sverdlovsk 55.78 338 *e*P **P 21 24 29.0 -0.9**
SVE pmax pmax
comp=Z,40nm,1.8s,mb5.2
SVE MLR MLR
comp=N,100nm,16.0s
SVE MLR MLR
comp=Z,200nm,16.0s,MS4.3
ARU Arti 56.27 337 ⇑*i*P **P 21 24 32.4 -1.0**
ARU *e* 21 26 32.3
ARU *e*PPP PPP 21 27 53.0 -3.9
ARU *e*S **S 21 32 24.2 +3.6**
ARU *e* 21 34 15.3
ARU pmax pmax
comp=Z,25nm,1.1s,mb5.2
ARU MLR MLR
comp=Z,300nm,21.0s,MS4.4
ARU MLR MLR
comp=N,200nm,20.0s,MS4.3
ARU MLR MLR
comp=E,100nm,19.0s,MS4.3
ARU Arti 56.27 337 *e*P **P 21 24 32.3 -1.0**
comp=E,5.1nm,0.5s,mb4.8
ARU *e*pP pP 21 24 37.6 -1.2
KMBO Kilima Mbogo 57.37 264 LR LR 21 45 42.3
comp=E,216nm,19.8s,MS4.3,baz=95,slow=32
KIV Kislovodsk 57.62 318 *i* P **P 21 24 42.6 -0.6**
KIV *e* 21 25 32.9
KIV *e*S **S 21 32 40.1 +1.5**
KIV pmax pmax
comp=Z,11nm,1.0s,mb4.8
KIV Kislovodsk 57.62 318 *e*P **P 21 24 42.0 -1.2**
comp=Z,22nm,1.0s,mb5.2
KIV pP pP 21 24 47.2 -1.4
SOKR Solikamsk 59.18 339 ⇓*i*P **P 21 24 52.5 -1.4**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.2
SOKR MLR MLR
comp=Z,360nm,21.0s,MS4.5
STKA Stephens Creek 59.83 134 P **P 21 24 57.3 -1.4**
comp=Z,1.4nm,0.4s,mb4.3,baz=324,slow=8.7,SNR=4.8
YAK Yakutsk 60.39 18 *e*P **P 21 24 59.7 -2.4**
YAK pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK MLR MLR
comp=Z,143nm,15.0s,MS4.2
YAK MLR MLR
comp=N,79nm,17.0s,MS4.2
YAK MLR MLR
comp=E,132nm,15.0s,MS4.2
YAK Yakutsk 60.39 18 *e*P **P 21 25 00.7 -1.4**
comp=E,8.4nm,0.4s,mb5.1
BRTR Keskin Array B 62.69 311 P **P 21 25 16.6 -1.4**
comp=E,1.9nm,0.7s,mb4.3,baz=123,slow=7.2,SNR=14
MOS Moscow 65.43 329 *e*P **P 21 25 34.1 -1.5**
MOS pmax pmax
comp=Z,61nm,1.1s,mb5.5
OBN Obninsk 65.72 328 *i* P **P 21 25 36.5 -1.0**
OBN *e* 21 26 06.4
OBN *e*S S 21 34 21.7 +0.5
OBN pmax pmax
comp=Z,36nm,1.7s,mb5.1
OBN Obninsk 65.72 328 *e*P **P 21 25 36.0 -1.5**
comp=Z,9.3nm,0.7s,mb4.9
OBN *e*pP pP 21 25 41.3 -1.7
MA2 Magadan 67.14 27 *e*P **P 21 25 48.4 +2.0**
MA2 pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
TIXI Tiksi 67.64 11 ⇑*i*P **P 21 25 44.8 -4.6**
TIXI pmax pmax
comp=Z,13nm,0.8s,mb5.0
AKASG Malin Array Be 68.47 322 P **P 21 25 53.0 -1.9**
comp=Z,0.4nm,0.3s,mb4.0,baz=90,slow=4.7,SNR=12
VRI Vrincioaia 68.99 316 ⇑P **P 21 25 58.7 +0.5**
MLR Muntele Rosu 69.46 316 ⇓P **P 21 26 00.9 -0.2**
DRGR 71.89 317 ⇑P **P 21 26 15.6 -0.2**
KOLS Kolonicke sedl 72.51 319 *e*P **P 21 26 22.6 +3.2**
CRVS Cervenica-Dubn 73.03 319 *e*P **P 21 26 24.2 +1.7**
CRVS *e*pP pP 21 26 29.9 +1.9
FINES FINESS Array B 73.07 332 P **P 21 26 21.6 -0.9**
comp=Z,7.8nm,0.8s,mb4.7,baz=127,slow=9.5,SNR=26
KAF Kangasniemi 73.16 333 *e*p **P 21 26 22.0 -0.9**
comp=Z,5.9nm,0.6s,mb4.7,baz=104,slow=5.5
KAF Kangasniemi 73.16 333 *e*P **P 21 26 22.0 -0.9**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
STHS Stebnicka Huta 73.25 319 *e*P **P 21 26 24.9 +1.1**
STHS *e* 21 26 42.3
KECS Kecovo 73.62 318 *e*P **P 21 26 24.1 -1.8**
KECS *e*pP pP 21 26 30.8 -0.6
VYHS Vyhne 74.71 318 *e*P **P 21 26 31.8 -0.4**
SRO2 Moca 74.93 317 *e*P **P 21 26 39.3 +5.8**
SRO2 Moca 74.93 317 *e*pP pP 21 26 39.3 +0.2
OKC Ostrava-Krasne 75.30 319 *e*P **P 21 26 36.2 +0.6**
BOSA Boshof 75.36 238 P **P 21 26 38.8 +2.4**
comp=Z,3.2nm,0.7s,mb4.4,baz=96,slow=6.6,SNR=11
ARCES ARCESS Array B 75.65 340 P **P 21 26 37.0 -0.3**
comp=Z,1.7nm,0.5s,mb4.2,baz=93,slow=5.8,SNR=24
ARCES LR LR 22 02 43.6
comp=Z,255nm,21.0s,MS4.5,baz=127,slow=38
ARCES ARCESS Array B 75.65 340 P **P 21 26 37.0 -0.3**
ARCES LR LR 22 02 43.6
ZST Bratislava 75.83 318 *e*P **P 21 26 38.8 +0.1**
ZST *e*pP pP 21 26 44.3 +0.1
BILL Bilibino 76.47 22 *i* P **P 21 26 38.1 -3.8**
BILL *e* 21 26 49.9
BILL *e*S S 21 36 24.8 -0.5
BILL pmax pmax
comp=Z,11nm,1.7s,mb4.5
BILL MLR MLR
comp=Z,200nm,12.0s,MS4.7
DPC Dobruska-Polom 76.52 320 *e*P **P 21 26 43.4 +0.9**
UPC Upice 76.73 320 *e*P **P 21 26 42.9 -0.8**
BOJS Bojanci 76.93 315 *e*P **P 21 26 45.1 +0.2**
PDKS Podkum 77.13 315 *e*P **P 21 26 46.6 +0.6**
PDKS *e* 21 26 52.0 +0.5
LJU Ljubljana 77.46 315 *e*P **P 21 26 48.5 +0.7**
PRU Pruhonice 77.64 319 *e*P **P 21 26 49.1 +0.4**
PRU AMS AMS 22 06 10.0
comp=Z,100nm,18.3s
PVCC Panska Ves 77.65 320 *e*P **P 21 26 51.2 +2.5**
BRG Berggiesshubel 78.06 320 *e*P **P 21 26 52.3 +1.3**
BRG *e* pP 21 26 56.9 +0.3
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BRG MLR MLR
comp=Z,120nm,20.6s,MS4.2
BRG Berggiesshubel 78.06 320 *e*P **P 21 26 52.2 +1.2**
comp=Z,3.2nm,0.9s,mb4.2
BRG *e* pP 21 26 56.9 +0.3
BRG LR LR
comp=Z,120nm,20.6s,MS4.2
GERES GERESS Array B 78.13 318 P **P 21 26 51.7 +0.3**
comp=Z,2.5nm,0.7s,mb4.2,baz=90,slow=4.0,SNR=24
KHC Kasperske Hory 78.22 319 *e*P **P 21 26 52.4 +0.5**
KHC *e*pP pP 21 26 56.7 -0.8
CLL Collm 78.68 321 ⇓*e*P **P 21 27 00.0 +5.6**
CLL pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CLL Collm 78.68 321 ⇓*e*P **P 21 27 00.0 +5.6**
comp=Z,8.0nm,1.0s,mb4.6
CLL Collm 78.68 321 ⇓*e**PP pP 21 27 00.0 +0.1
NKC Novy Kostel 78.99 320 *e*P **P 21 26 54.9 -1.2**
MOX Moxa 79.53 320 *e*P **P 21 27 06.0 +7.0**
MOX *e**PP pP 21 27 16.0 +11
MOX Moxa 79.53 320 *e*P **P 21 27 06.0 +7.0**
MOX pP pP 21 27 16.0 +11
GRA1 Grafenberg Arr 79.77 319 *e*P **P 21 27 01.5 +1.1**
comp=Z,12nm,1.2s,mb4.7
GRA1 *e*pP pP 21 27 07.3 +1.3
GRF Grafenberg Arr 79.77 319 *e*P **P 21 27 01.5 +1.1**
GRF *e**PP pP 21 27 07.3 +1.3
GRF pmax pmax
comp=Z,12nm,1.2s,mb4.7
GRF Grafenberg Arr 79.77 319 *e*P **P 21 27 01.5 +1.1**
GRF *e**PP pP 21 27 07.3 +1.3
GRF pmax pmax
comp=Z,12nm,1.2s,mb4.7
GRF Grafenberg Arr 79.77 319 *e*P **P 21 27 01.5 +1.1**
comp=Z,12nm,1.2s,mb4.7
GRF *e*pP pP 21 27 07.3 +1.3
NB2 NORSAR Subarra 80.09 331 P **P 21 27 00.8 -1.0**
comp=Z,1.9nm,0.6s,mb4.2,baz=92,slow=5.6
NB2 NORSAR Subarra 80.09 331 P **P 21 27 00.8 -1.0**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA NORSAR Array B 80.09 331 P **P 21 27 01.4 -0.4**
comp=Z,3.4nm,0.7s,mb4.4,baz=94,slow=5.3,SNR=19
NOA LR LR 22 07 28.0
comp=Z,72nm,18.6s,MS4.0,baz=100,slow=40
ESDC Sonseca Array 91.48 310 P **P 21 28 00.2 +1.5**
comp=Z,0.7nm,0.6s,mb4.2,baz=62,slow=4.0,SNR=5.2
PDAR Pinedale Array 125.55 21 PKP PKPdf 21 33 54.1 -2.2
comp=Z,0.6nm,0.7s,baz=180,slow=1.5,SNR=5.5
PLCA Paso Flores 144.16 200 PKP PKPdf 21 34 28.9 -1.8
comp=Z,5.3nm,1.0s,baz=231,slow=3.8,SNR=7.9
CPUP Villa Florida 147.00 232 PKPbc 21 34 36.5
comp=Z,2.6nm,0.8s,baz=131,slow=3.0,SNR=6.8
CFAA Coronel Fontan 150.88 212 PKPbc PKPdf 21 34 46.9 +4.9
comp=Z,0.6nm,0.6s,baz=150,slow=2.8,SNR=15
CFAA Coronel Fontan 150.88 212 PKPbc PKPdf 21 34 46.9 +4.9

NEIC ***15*** *21:21:26.1, 17.58N×68.80W, h63km, MD3.8(RSPR), After RSPR.*

RSPR 15 21:21:26.1, 17.58N×68.80W, h63km±25km, MD3.8/3, MD3.8/3, 5C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRPR	**Cabo Rojo, PR**	**1.67**	**75**	⇑*e*P	P	21 21 51.7	-2.0
LSP	**Las Mesas**	**1.74**	**70**	⇑*e*P	P	21 21 53.5	-1.2
PORP	**Portuguez**	**2.12**	**77**	⇑*e*P	P	21 21 58.5	-1.5
HUMP	**Col San Antoni**	**2.87**	**78**	*e*S	S	21 22 42.0	-2.0
CBYP	**Canovanas**	**2.89**	**76**	⇑*e*P	P	21 22 10.1	-0.8
CBYP				*e*S	S	21 22 43.4	-1.1
MTP	**Monte Pirata**	**3.13**	**80**	⇑*e*P	P	21 22 12.8	-1.5
MTP				*e*S	S	21 22 49.2	-1.5

NEIC ***15*** *21:26:22.6±4.2, 19.79N×94.20E, h65km, mb3.9/2, Error ellipse: s-maj=60.1km s-min=29.3km az=179.0*

ISC 15 21:26:21.4±1.3, 20.0N±0.1×94.3E±0.1, h58km±21km, n13, σ0§93/15, mb3.9/2, 2C, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHG	**Chiang Mai**	**4.51**	**104**	PG	**P**	**21 27 29.9**	**+1.0**
CHG				SG	**S**	**21 28 21.1**	**+0.6**
CHRT	**Chiangrai** 632nm,0.6s	**5.13**	**91**	⇑P	**P**	**21 27 37.0**	**-0.5**
BDT	**Bhumibol Dam** 40nm,0.6s	**5.21**	**121**	P	**P**	**21 27 38.0**	**-0.6**
SHL	**Shillong**	**5.98**	**338**	*e*PN	**P**	**21 27 50.5**	**+1.2**
SHL				*e*SN	**S**	**21 28 56.0**	**-1.3**
NANT	**Nan** 381nm,0.9s	**6.13**	**100**	⇑P	**P**	**21 27 50.0**	**-1.4**
LSA	**Lhasa** 7.8nm,0.7s	**10.08**	**344**	*e*Pn	**P**	**21 28 47.1**	**+1.1**
PKI	**Pulchoki** 25nm,0.6s	**11.11**	**314**	*e*P	**P**	**21 29 00.5**	**+0.5**
DMN	**Daman** 6.5nm,0.4s	**11.34**	**314**	*e*P	**P**	**21 29 03.5**	**+0.4**
KKN	**Kakani** 3.4nm,0.2s	**11.34**	**315**	*e*P	**P**	**21 29 03.5**	**+0.4**
GKN	**Gorkha** 12nm,0.3s	**11.91**	**314**	*e*P	**P**	**21 29 10.7**	**0.0**
KOLN	**Koldanda** 6.6nm,0.3s	**12.49**	**310**	*e*P	**P**	**21 29 16.5**	**-2.0**
KURK	**Kurchatov** 1.4nm,0.5s,mb4.2	**33.07**	**342**	*e*P	**P**	**21 32 53.0**	**-0.5**
ZRNK	**Zerenda** 0.7nm,0.5s,mb3.6	**38.27**	**335**	*e*P	**P**	**21 33 38.1**	**+0.6**

IDC 15 21:29:16.1±21.0, 8.08N×92.15E, mb3.9/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.9/4, Error ellipse: s-maj=609.1km s-min=102.6km az=119.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array** 1.1nm,0.8s,baz=169,slow=7.3,SNR=4.9	**39.49**	**349**	P	P	21 36 48.2	-1.9
ZAL	**Zalesovo** 1.2nm,0.5s,baz=308,slow=9.6,SNR=4.7	**46.11**	**354**	P	P	21 37 41.9	-1.9
FINES	**FINESS Array B** 1.1nm,0.7s,baz=121,slow=8.1,SNR=4.1	**71.61**	**332**	P	P	21 40 39.5	-1.6
HFS	**Hagfors** 0.8nm,0.5s,baz=108,slow=4.6,SNR=4.2	**77.28**	**330**	P	P	21 41 12.0	-1.9

NEIC ***15*** *21:30:33.9±0.8, 71.46N×11.98W, h10km, ML3.3(BER), Error ellipse: s-maj=19.6km s-min=8.9km az=204.0*
IDC ***15*** *21:30:33.5±1.6, 71.14N×11.96W, mb3.6/4, mb1 3.7/5, mb1mx3.5/19, mbtmp3.5/5, ML2.9/1, MS3.3/7, Ms1 3.3/7, ms1mx3.1/22, Error ellipse: s-maj=69.3km s-min=16.3km az=14.0*
BER ***15*** *21:30:34.6±0.3, 71.84N×11.99W, h15km, MD3.3, ML3.3*
CSEM ***15*** *21:30:34.5±0.1, 71.38N×11.76W, h10km, ML3.3, Error ellipse: s-maj=8.1km s-min=2.9km az=25.0*

ISC 15 21:30:32.6±0.8, 71.6N±0.1×12.0W±0.2, h10km, n22, σ1§00/26, mb3.5/4, MS3.3/6, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMI	**Jan Mayen**	**1.24**	**121**	*e*P	**Pb**	**21 30 56.3**	**+0.6**
JMI				*e*S	**Sb**	**21 31 11.8**	**+0.3**
JMI				AML	AML	21 31 13.2	
	comp=Z,479nm,0.4s						
JMI	**Jan Mayen** SNR=53	**1.24**	**121**	*e*P	**Pb**	**21 30 56.3**	**+0.7**
JMI				*e*S	**Sb**	**21 31 11.8**	**+0.3**
	comp=Z,479nm,0.4s,SNR=53						
JMIC	**Jan Mayen**	**1.27**	**117**	Pn	**Pn**	**21 30 56.2**	**-0.1**
	comp=Z,63nm,0.3s,baz=197,slow=2.2,SNR=200						
JMIC				Sn	**Sn**	**21 31 11.9**	**-1.7**
	comp=Z,99nm,0.3s,baz=80,slow=0.9,SNR=8.7						
JMIC	**Jan Mayen**	**1.27**	**117**	Pn	**Pn**	**21 30 56.2**	**-0.2**
JMIC				Sn	**Sn**	**21 31 11.9**	**-1.6**
JNW	**Jan Mayen West**	**1.27**	**115**	*e*P	**Pb**	**21 30 56.3**	**+0.1**
JNW				*e*S	**Sb**	**21 31 12.1**	**-0.4**
JNW				AML	AML	21 31 14.4	
	comp=Z,347nm,0.3s						
JNW	**Jan Mayen West** SNR=53	**1.27**	**115**	*e*P	**Pb**	**21 30 56.3**	**+0.1**
JNW				*e*S	**Sb**	**21 31 12.1**	**-0.3**
	comp=Z,347nm,0.3s,SNR=53						
JNE	**Jan Mayen East**	**1.33**	**115**	*e*P	**Pb**	**21 30 57.0**	**-0.2**
JNE				*e*S	**Sb**	**21 31 13.6**	**-0.4**
JNE				AML	AML	21 31 15.2	
	comp=Z,452nm,0.7s						
JNE	**Jan Mayen East** SNR=53	**1.33**	**115**	*e*P	**Pb**	**21 30 57.0**	**-0.2**
JNE				*e*S	**Sb**	**21 31 13.6**	**-0.5**
	comp=Z,452nm,0.7s,SNR=53						
SUMG	**Summit**	**8.19**	**289**	*e*Pn	**P**	**21 32 33.4**	**-1.0**
	comp=Z,4.4nm,0.6s						
KBS	**Kingsbay**	**9.44**	**29**	*e*Pn	**P**	**21 32 50.4**	**-1.3**
KBS	**Kingsbay**	**9.44**	**29**	*e*Pn	**P**	**21 32 50.3**	**-1.4**
ARCES	**ARCESS Array B**	**12.50**	**81**	Pn	**P**	**21 33 33.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=293,slow=12,SNR=14						
ARCES				LR	LR	21 37 37.6	
	comp=Z,85nm,18.9s,baz=294,slow=34						
FINES	**FINESS Array B**	**17.86**	**105**	P	**P**	**21 34 45.2**	**+2.8**
	comp=Z,0.0nm,0.3s,baz=9.5,slow=12,SNR=2.8						
FRB	**Frobisher Bay**	**22.02**	**278**	LR	LR	21 43 43.5	
	comp=Z,89nm,19.5s,MS3.2,baz=147,slow=36						
GERES	**GERESS Array B**	**25.71**	**139**	LR	LR	21 46 44.2	
	comp=Z,63nm,19.1s,MS3.2,baz=95,slow=38						
AKASG	**Malin Array Be**	**27.89**	**116**	P	**P**	**21 36 24.1**	**0.0**
	comp=Z,0.2nm,0.3s,mb3.3,baz=327,slow=9.2,SNR=4.3						
AKASG	**Malin Array Be**	**27.89**	**116**	P	**P**	**21 36 24.0**	**-0.1**
SCHQ	**Schefferville**	**28.46**	**263**	LR	LR	21 46 42.9	
	comp=Z,51nm,19.1s,MS3.1,baz=79,slow=34						
YKA	**Yellowknife Ar**	**36.15**	**310**	P	**P**	**21 37 40.4**	**+4.1**
	comp=Z,0.3nm,0.4s,mb3.6,baz=35,slow=8.7,SNR=4.8						
YKA				LR	LR	21 52 15.6	
	comp=Z,94nm,19.0s,MS3.6,baz=90,slow=36						
BVAR	**Borovoye Array**	**38.63**	**74**	P	**P**	**21 37 59.0**	**+1.8**
	comp=Z,1.4nm,1.1s,mb3.6,baz=288,slow=4.7,SNR=4.9						
ULM	**Lac du Bonnet**	**41.53**	**286**	LR	LR	21 55 54.7	
	comp=Z,30nm,18.9s,MS3.2,baz=305,slow=36						
PDAR	**Pinedale Array**	**52.37**	**293**	P	**P**	**21 39 46.5**	**+0.1**
	comp=Z,0.6nm,0.9s,mb3.5,baz=45,slow=6.4,SNR=4.2						
PDAR				LR	LR	22 00 23.0	
	comp=Z,40nm,21.0s,MS3.4,baz=188,slow=34						

MAN 15 21:30:41.6, 13.52N×121.09E, h1km, mb3.7, ML2.5, MS2.0, 2C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.13**	**263**	⇑*i*P	Pg	21 30 44.6	+0.3
PGP				*i* S	Sg	21 30 46.7	+0.6
LBPH	**Los Banos**	**0.64**	**8**	⇓*i*P	Pg	21 30 54.2	-0.2
BOAC	**Boac**	**0.74**	**95**	*e*P	Pg	21 30 56.0	-0.4
BOAC				*e*S	Sg	21 31 07.7	+1.6
LUBP	**Lubang**	**0.85**	**285**	*e*P	Pg	21 30 57.1	-1.4
SJMP	**San Jose**	**1.05**	**178**	*e*P	Pb	21 31 02.4	+0.1
NBP	**Mount Natib**	**1.38**	**332**	⇑*e*P	Pb	21 31 07.6	-0.4
NBP				*e*S	Sb	21 31 24.6	-1.4

MOS ***15*** *22:05:16.6±0.9, 6.23S×149.19E, h33km, mb5.2/18, Error ellipse: s-maj=14.9km s-min=7.3km az=86.8*
IDC ***15*** *22:05:17.9±2.7, 6.22S×149.28E, h34km±19km, mb4.4/9, mb1 4.6/12, mb1mx4.6/14, mbtmp4.7/12, ML4.6/3, MS5.0/14, Ms1 4.9/14, ms1mx4.9/18, Error ellipse: s-maj=24.0km s-min=13.7km az=83.0*
BJI ***15*** *22:05:19.3, 6.52S×149.86E, h95km, mB5.1, mb4.9*
HRVD ***15*** *22:05:20.7±0.2, 6.54S×149.35E, h35km, MW5.4/68, Centroid moment Tensor Solution. LP body waves: s64,c137;Mantle waves: s68,c145; Half duration: 1§3 Moment tensor: Scale 10^17Nm; Mrr=1.43±.04; Mθθ=1.85±.03; Mφφ=0.41±.03; Mrθ=0.58±.04; Mθφ=0.14±.03; Mφr=0.25±.05; Best double couple: M0=1.774×10^17 NP1: φ=288°, δ37°, λ112°. NP2:φ=81°, δ56°, λ74°. Principal axes: T 1.593, Plg74°, Azm308°; N .359, Plg13°, Azm90°; P -1.955, Plg10°, Azm182°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***15*** *22:05:20.7±0.9, 6.33S×149.24E, h63km±8km, mb5.0/24 Error ellipse: s-maj=8.5km s-min=5.1km az=88.0*

ISC 15 22:05:17.3±1.1**, 6.27S**±0.04×**149.23E**±0.06**, h44**^{km}±10^{km}**, h17**^{km}±5.9^{km}**:pP-P, n157,** σ1^{s}09/118**, mb4.8**/42**, MS4.9**/25**, 6C-4D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.73	213	Pn	P	22 06 15.2	+1.4
	186nm,0.3s,baz=35,slow=5.4,SNR=186						
PMG				Sn	S	22 06 56.7	-0.3
	150nm,0.3s,baz=59,slow=18,SNR=6.9						
PMG	Port Moresby	3.73	213	⇓*i*Pn	P	22 06 15.0	+1.2
CTA	Charters Tower	14.03	192	*e*P	P	22 08 34.9	-0.6
	11nm,0.8s						
CTA	Charters Tower	14.03	192	*e*P	P	22 08 34.9	-0.6
CTA				pmax	pmax		
	comp=Z,11nm,0.8s						
CTA	Charters Tower	14.03	192	Pn	P	22 08 35.2	-0.3
	comp=Z,0.4nm,0.3s,baz=30,slow=14,SNR=8.0						
CTA				LR	LR	22 13 35.4	
	comp=Z,5µm,21.6s,baz=13,slow=35						
CTAO	Charters Tower	14.03	192	*e*P	P	22 08 35.4	-0.1
CTAO				pmax	pmax		
	comp=Z,17nm,0.8s						
CTAO	Charters Tower	14.03	192	*e*Pn	P	22 08 35.4	-0.1
	comp=Z,17nm,0.8s						
KAKA	Kakadu	17.74	248	*e*P	P	22 09 20.9	-2.0
	comp=Z,34nm,0.5s						
WRAB	Tennant Creek	19.83	225	⇓*e*P	P	22 09 46.6	-0.6
WRAB				pmax	pmax		
	comp=Z,108nm,0.6s						
WRAB	Tennant Creek	19.83	225	⇓*e*P	P	22 09 46.5	-0.7
	comp=Z,108nm,0.6s						
WRAB				*e*ScP		22 17 36.5	
WB2	Warramunga Arr	19.84	225	*e*P	P	22 09 45.6	-1.7
WB2				*e*S	S	22 13 24.2	+1.1
WB2				*e*SCS	ScS	22 21 20.6	+5.0
WRA	Warramunga Arr	19.84	225	P	P	22 09 46.8	-0.6
	comp=Z,6.5nm,0.3s,baz=51,slow=11,SNR=294						
WRA				S	S	22 13 23.4	+0.1
	baz=50,slow=20,SNR=10.0						
WRA				PcP	PcP	22 14 04.8	+1.4
	baz=33,slow=2.0,SNR=4.9						
WRA				ScP		22 17 37.1	
	comp=Z,0.2nm,0.3s,baz=38,slow=2.3,SNR=15						
GUMO	Guam	20.20	348	*e*P	P	22 09 52.0	+0.8
GUMO				pmax	pmax		
	comp=Z,386nm,1.4s						
GUMO	Guam	20.20	348	*e*P	P	22 09 52.0	+0.7
	comp=Z,386nm,1.4s						
NOUC	Port Laguerre	22.80	135	*e*P	P	22 10 18.2	+0.9
DZM	Mont Dzumac	22.88	135	*e*P	P	22 10 18.2	0.0
DZM	Mont Dzumac	22.88	135	P	P	22 10 18.2	0.0
	comp=Z,36nm,0.7s,mb4.9,baz=3.9,slow=14,SNR=34						
DZM				LR	LR	22 17 54.5	
	comp=Z,6µm,21.6s,MS5.0,baz=316,slow=33						
DZM	Mont Dzumac	22.88	135	*e*P	P	22 10 18.2	0.0
ARMA	Armidale	24.12	175	*e*P	P	22 10 30.8	+0.6
ARMA				*e*S	S	22 14 47.6	+5.6
FITZ	Fitzroy Crossi	25.84	241	⇑*i*P	P	22 10 46.8	+0.1
	comp=Z,247nm,1.2s,mb5.6						
FITZ				*e*S	S	22 15 12.3	+1.5
FITZ	Fitzroy Crossi	25.84	241	P	P	22 10 46.8	+0.2
	comp=Z,135nm,0.5s,mb5.7,baz=58,slow=4.0,SNR=172						
FITZ				LR	LR	22 22 19.6	
	comp=Z,3µm,18.1s,MS4.8,baz=78,slow=39						
STKA	Stephens Creek	26.45	195	*e*P	P	22 10 52.6	+0.4
	comp=Z,14nm,0.9s,mb4.5						
STKA				*e*S	S	22 15 19.7	-1.1
STKA	Stephens Creek	26.45	195	P	P	22 10 52.7	+0.5
	comp=Z,24nm,0.9s,mb4.7,baz=332,slow=3.8,SNR=18						
STKA				LR	LR	22 21 58.5	
	comp=Z,4µm,18.9s,MS5.0,baz=349,slow=38						
SNPH	Sibulan	30.19	301	⇑*i*P	P	22 11 31.1	+5.1
SNPH				*i* S	pP	22 11 33.1	-4.7
MBWA	Marble Bar	32.16	240	*e*P	P	22 11 42.7	-0.6
	comp=Z,24nm,0.6s,mb5.2						
BLDU	Ballidu	38.95	227	*e*P	P	22 12 40.8	-0.1
	comp=Z,3.0nm,0.6s,mb4.2						
MUN	Mundaring	40.04	226	*e*P	P	22 12 49.9	0.0
	comp=Z,13nm,0.9s,mb4.7						
MUN	Mundaring	40.04	226	*e*P	P	22 12 49.9	0.0
MUN				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
YHNB	Yeheng	41.01	320	*e*P	P	22 13 02.4	+4.4
JNU	Nakatsue	42.88	337	P	P	22 13 12.7	-0.7
	comp=Z,19nm,0.7s,mb4.9,baz=131,slow=6.9,SNR=10						
MJAR	Matsushiro Arr	43.82	347	P	P	22 13 20.0	-0.9
	comp=Z,6.8nm,1.0s,mb4.3,baz=171,slow=9.4,SNR=18						
MJAR				PcP	PcP	22 15 08.1	+0.8
	comp=Z,2.5nm,0.7s,baz=175,slow=6.4,SNR=4.2						
MJAR				ScP		22 18 54.8	
	comp=Z,9.5nm,1.2s,baz=181,slow=5.2,SNR=12						
MJAR				LR	LR	22 29 48.0	
	comp=Z,934nm,19.0s,MS4.7,baz=175,slow=34						
MAJO	Matsushiro	43.83	347	*e*P	P	22 13 19.8	-1.2
MAJO				pmax	pmax		
	comp=Z,74nm,1.4s,mb5.2						
MAJO	Matsushiro	43.83	347	*e*P	P	22 13 19.8	-1.2
	comp=Z,74nm,1.4s,mb5.2						
MAT	Matsushiro	43.83	347	*e*P	P	22 13 19.0	-2.0
MAT				*e*S	S	22 19 46.0	-2.2
MAT				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.7						
MAT				MLR	MLR		
	comp=Z,1µm,22.0s,MS4.8						
MAT	Matsushiro	43.83	347	*e*P	P	22 13 19.0	-2.0
	comp=Z,19nm,1.2s,mb4.7						
MAT				*e*S	S	22 19 46.0	-2.2
MAT				LR	LR		
	comp=Z,1µm,22.0s,MS4.8						
MAT	Matsushiro	43.83	347	P	P	22 13 19.1	-1.9
MAT				S	S	22 19 46.0	-2.2
GZH	Guangzhou	45.62	311	P	P	22 13 40.4	+4.9
GZH				LR	LR		
	comp=N,373nm,19.2s,MS4.6						
GZH				LR	LR		
	comp=E,545nm,18.2s,MS4.6						
GZH				LR	LR		
	comp=Z,829nm,18.9s,MS4.7						
SSE	Sheshan	45.82	326	P	P	22 13 43.3	+6.3
SSE				PCP	PcP	22 15 11.9	-2.4
SSE				AMB	AMB		
	comp=Z,100nm,0.7s,mb5.8						
SSE				AMB	AMB		
	comp=Z,172nm,7.7s						
SSE	Sheshan	45.82	326	P	P	22 13 43.2	+6.2
	comp=Z,100nm,0.7s,mb5.8						
SSE				sP	sP	22 13 55.6	+1.0
SSE				PcP	PcP	22 15 11.9	-2.4
SSE				PP	PP	22 15 34.4	+9.4
SSE				S	S	22 20 36.9	+20
SSE				sS		22 20 52.8	
SSE				ScS	ScS	22 23 32.4	+6.0
SSE				LR	LR		
	comp=Z,2µm,21.1s,MS5.0						
QIZ	Qiongzhong	46.24	304	P	P	22 13 42.4	+2.0
QIZ				S	S	22 20 26.8	+3.8
QIZ				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.4						
KS15	Wonju Array Si	47.84	337	*e*P	P	22 13 53.4	+0.7
NJ2	Nanjing	47.86	325	*e*P	P	22 13 55.4	+2.4
NJ2				PCP	PcP	22 15 23.9	+2.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,270nm,7.9s						
TIA	Tai'an	51.89	327	*e*P	P	22 14 23.4	-0.3
YSS	Yuzh-Sakhalins	53.30	354	⇑*i*P	P	22 14 35.0	+0.8
YSS				*e*		22 22 02.0	
YSS				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.3						
YSS	Yuzh-Sakhalins	53.30	354	*e*P	P	22 14 34.7	+0.5
	comp=Z,22nm,0.9s,mb5.1						
MDJ	Mudanjiang	53.65	343	P	P	22 14 35.6	-1.2
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,255nm,11.8s						
MDJ				LR	LR		
	comp=N,709nm,19.3s,MS4.8						
MDJ				LR	LR		
	comp=E,380nm,20.3s,MS4.8						
MDJ				LR	LR		
	comp=Z,1µm,20.0s,MS4.9						
MDJ	Mudanjiang	53.65	343	*e*P	P	22 14 37.3	+0.6
	comp=Z,21nm,1.1s,mb5.0						
CN2	Changchun	54.28	339	*e*P	P	22 14 45.9	+4.5
KMI	Kunming	54.93	307	P	P	22 14 55.5	+9.1
KMI				*SP	sP	22 15 05.0	+0.9
KMI						22 16 56.3	
KMI				PPP	PPP	22 18 06.2	+2.1
KMI				S	S	22 22 29.1	+6.0
KMI				*SS		22 22 40.0	
KMI				SS	SS	22 26 12.6	+6.0
KMI				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.4						
KMI				MLR	MLR		
	comp=Z,450nm,27.0s,MS4.4						
KMI	Kunming	54.93	307	P	P	22 14 55.5	+9.1
	comp=Z,7.0nm,1.7s,mb4.4						
KMI				pP	pP	22 15 01.7	+2.8
KMI				sP	sP	22 15 05.0	+0.9
KMI				PP	PP	22 16 56.3	+5.3
KMI				PPP	PPP	22 18 06.2	+2.1
KMI				S	S	22 22 29.1	+6.0
KMI				sS		22 22 40.0	
KMI				SS	SS	22 26 12.6	+6.0
KMI				LR	LR		
	comp=Z,450nm,27.0s,MS4.4						
XAN	Xi'an	55.32	319	P	P	22 14 48.5	-0.6
XAN				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.6						
KLR	Kul'dur	57.34	346	*e*P	P	22 15 01.7	-1.7
KLR				*e*	pP	22 15 10.0	-6.0
KLR				*e*		22 17 05.5	
KLR				*e*S	S	22 23 09.5	+15
HHC	Hu-ho-hao-te	58.25	327	*e*P	P	22 15 07.8	-2.0
HHC				PCP	PcP	22 15 57.5	-3.0
HHC				SCP		22 19 48.8	
HHC				PCS		22 19 59.6	
HHC				PS	PS	22 23 27.0	+0.3
HHC				SCS	ScS	22 24 46.1	-5.8
HHC				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.6						
HHC				AMB	AMB		
	comp=Z,244nm,14.4s						
HHC				LR	LR		
	comp=N,391nm,20.4s,MS4.6						
HHC				LR	LR		
	comp=E,318nm,19.2s,MS4.6						
HHC				LR	LR		
	comp=Z,356nm,18.0s,MS4.5						
PET	Petropavlovsk	59.61	7	*c i*P	P	22 15 16.2	-2.9
PET				*e*		22 17 31.5	
PET				*e*S	S	22 23 23.1	-1.2
PET				*e*SS	SS	22 27 22.2	+0.7
PET				pmax	pmax		
	comp=Z,200nm,15.6s						
PET				pmax	pmax		
	comp=Z,33nm,1.5s,mb5.1						
PET	Petropavlovsk	59.61	7	*e*P	P	22 15 18.6	-0.5
	comp=Z,13nm,0.5s,mb5.2						
LZH	Lanzhou	59.87	318	*e*P	P	22 15 22.0	+0.9
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,120nm,4.1s						
LZH	Lanzhou	59.87	318	*e*P	P	22 15 22.0	+0.9
	comp=Z,25nm,1.0s,mb5.2						
LZH				pP	pP	22 15 38.0	+4.2
LZH				sP	sP	22 15 46.0	+7.0
PPT	Papeete	60.70	107	*e*P	P	22 15 15.5	-11
PPT				*e*PP	PP	22 17 42.8	-0.2
	comp=Z,110nm,23.5s						
PPT				*e*S	S	22 23 23.6	-15
	comp=Z,306nm,26.2s						
PPT				*e*SS	SS	22 27 40.2	+1.3
	comp=Z,120nm,23.0s						
PPT				*e*LQ		22 30 46.0	
	comp=Z,2µm,33.2s						
PPT				*e*LR	LR	22 34 17.6	
	comp=Z,880nm,25.0s,baz=271						
PPT	Papeete	60.70	107	LR	LR	22 35 47.1	
	comp=Z,513nm,19.0s,MS4.7,baz=275,slow=30						
HIA	Hailar	61.00	338	*e*P	P	22 15 28.7	+0.1
HIA				pmax	pmax		
	comp=Z,17nm,0.7s						
HIA	Hailar	61.00	338	*e*P	P	22 15 28.7	+0.1
	comp=Z,17nm,0.7s,mb5.3						
TBI	Tubuai	61.23	113	*e*P	P	22 15 23.4	-7.1
TBI				*e*PP	PP	22 17 49.4	+1.7
	comp=Z,135nm,28.0s						
TBI				*e*S	S	22 23 35.9	-9.5
	comp=Z,254nm,26.0s						
TBI				*e*SS	SS	22 27 49.7	+2.3
	comp=Z,240nm,30.0s						
TBI				*e*LQ		22 31 17.9	
	comp=Z,888nm,36.0s						
TBI				*e*LR	LR	22 33 27.1	
	comp=Z,537nm,33.2s,baz=294						
FX1	Attu Island--F	62.34	16	*e*P	P	22 15 38.0	+0.5
GTA	Gaotai	64.38	319	P	P	22 15 52.1	+0.9
GTA				PP	PP	22 18 18.1	+3.2
GTA				S	S	22 24 31.3	+6.6
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.7						
GTA				AMB	AMB		
	comp=Z,173nm,6.9s						
GTA				LR	LR		
	comp=N,373nm,20.4s,MS4.8						
GTA				LR	LR		
	comp=E,480nm,23.1s,MS4.8						
GTA				LR	LR		
	comp=Z,475nm,18.9s,MS4.7						
CASY	Casey	65.59	196	*e*P	P	22 15 57.4	-1.2
MA2	Magadan	65.65	1	*de*P	P	22 15 59.0	0.0
MA2				*e*		22 18 33.0	
MA2				*e*PPP	PPP	22 20 06.9	+6.2
MA2				*e*S	S	22 24 45.6	+5.7
MA2				*e*PS	PS	22 25 01.3	-6.0
MA2				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0						
MA2	Magadan	65.65	1	P	P	22 16 00.8	+1.7
	comp=Z,8.4nm,0.5s,mb5.0						
SONM	Songino Array	65.73	330	P	P	22 15 60.0	+0.2
	comp=Z,1.9nm,0.5s,mb4.4,baz=152,slow=4.0,SNR=6.1						
SONM				LR	LR	22 44 26.9	
	comp=Z,899nm,19.1s,MS5.0,baz=114,slow=36						
CLNS	Chul'man	65.97	346	*e*P	P	22 16 03.2	+2.1
CLNS				*e**PP	pP	22 16 10.3	-3.7
CLNS				*e*PPP	PPP	22 19 59.1	-4.9
CLNS				*e*S	S	22 24 49.3	+5.4
CLNS				*e*PS	PS	22 25 07.2	-4.7
CLNS				*e*		22 25 56.0	
CLNS				*e*SS	SS	22 29 07.9	+7.0
CLNS				*e*SSS	SSS	22 31 58.1	+1.9
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
CLNS				pmax	pmax		
	comp=N,5.0nm,1.1s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.0s						
CLNS				smax			
	comp=Z,2.0nm,0.5s						
CLNS				smax			
	comp=N,8.0nm,0.7s						
CLNS				smax			
	comp=E,6.0nm,1.0s						
LSA	Lhasa	66.18	306	P	P	22 16 02.8	-0.1
LSA	Lhasa	66.18	306	*e*P	P	22 16 03.3	+0.4
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
LSA	Lhasa	66.18	306	*e*P	P	22 16 03.3	+0.4
	comp=Z,5.3nm,0.6s,mb4.8						
ZAK	Zakamensk	68.95	330	*e*P	P	22 16 19.7	-0.2
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
SEY	Seymchan	69.05	2	*e*P	P	22 16 20.7	+0.4
SEY						22 16 43.8	
SEY				PPP	PPP	22 20 31.1	-2.5
SEY				*e*S	S	22 25 22.9	+2.2
SEY				*e*PS	PS	22 25 53.5	+1.1
SEY						22 26 18.7	
SEY				pmax	pmax		
	comp=N,10.0nm,1.2s						
SEY				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
SEY				pmax	pmax		
	comp=E,6.0nm,1.5s						
SEY				smax			
	comp=N,90nm,5.2s						
SEY				smax			
	comp=E,50nm,5.2s						
SEY				MLR	MLR		
	comp=Z,420nm,16.0s,MS4.8						
SEY				MLR	MLR		
	comp=N,280nm,18.0s,MS4.6						
SEY				MLR	MLR		
	comp=E,210nm,19.0s,MS4.6						
TLY	Talaya	69.62	332	*e*P	P	22 16 26.2	+2.2
TLY				*e*S	S	22 25 32.0	+4.3
TLY				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
YAK	Yakutsk	69.76	350	*i* P	P	22 16 26.9	+2.2
YAK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
TAOE	Nuku Hiva Isla	69.97	97	*e*LR	LR	22 36 53.7	
	comp=Z,1µm,28.5s						
MIR	Mirnyy	71.29	201	*c i*P	P	22 16 34.2	+0.3
MIR				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.2						
VNDA	Vanda	71.52	177	*e*P	P	22 16 34.8	-0.3
VNDA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VNDA	Vanda	71.52	177	P	P	22 16 35.1	0.0
	comp=Z,6.9nm,0.9s,mb4.6,baz=337,slow=6.4,SNR=26						
VNDA				LR	LR	22 47 59.7	
	comp=Z,954nm,18.1s,MS5.1,baz=336,slow=36						
VNDA	Vanda	71.52	177	*e*P	P	22 16 34.8	-0.3
	comp=Z,6.7nm,0.8s,mb4.6						
WMQ	Urumqi	74.45	319	*e*P	P	22 16 53.1	+0.2
WMQ				AP	pP	22 17 13.3	+7.5
WMQ				PP	PP	22 19 42.3	+0.9
WMQ				AMB	AMB		
	comp=Z,49nm,2.3s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,167nm,7.8s						
WMQ				LR	LR		
	comp=N,332nm,24.8s,MS4.8						
WMQ				LR	LR		
	comp=E,421nm,23.9s,MS4.8						
WMQ				LR	LR		
	comp=Z,589nm,24.6s,MS4.8						
RKT	Rikitea	74.52	112	*e*P	P	22 16 35.7	-18
RKT				*e*PP	PP	22 19 23.7	-19
	comp=Z,202nm,32.8s						
RKT				*e*S	S	22 26 22.1	-2.1
	comp=Z,281nm,32.2s						
RKT				*e*SS	SS	22 30 50.2	-24
	comp=Z,220nm,37.0s						
RKT				*e*LQ		22 36 45.7	
	comp=Z,2µm,36.5s						
RKT				*e*LR	LR	22 39 31.7	
	comp=Z,805nm,30.5s,baz=285						
BILL	Bilibino	75.11	7	*i* P	P	22 16 55.6	-0.6
BILL				*e*S	S	22 26 32.1	+2.2
BILL				*e*SS	SS	22 31 25.5	+3.7
BILL				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
BILL				MLR	MLR		
	comp=Z,300nm,23.0s,MS4.5						
TIXI	Tiksi	78.92	354	*e*P	P	22 17 15.7	-1.7
TIXI				*e*S	S	22 27 11.9	+0.8
MKAR	Makanchi Array	79.12	320	*i* P	P	22 17 23.3	+4.3
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	Makanchi Array	79.12	320	P	P	22 17 18.6	-0.4
	comp=Z,1.0nm,0.6s,mb3.9,baz=95,slow=9.3,SNR=9.4						
MKAR				LR	LR	22 50 30.9	
	comp=Z,501nm,21.1s,MS4.8,baz=136,slow=34						
ZAL	Zalesovo	80.44	327	*i* P	P	22 17 28.7	+2.8
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAL	Zalesovo	80.44	327	P	P	22 17 25.6	-0.3
	comp=Z,3.2nm,0.6s,mb4.4,baz=356,slow=6.4,SNR=14						
ZAL				LR	LR	22 52 50.7	
	comp=Z,969nm,20.8s,MS5.1,baz=346,slow=36						
NVS	Novosibirsk	81.64	328	*e*P	P	22 17 25.6	-6.6
NVS				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.7						
NVS				pmax	pmax		
	comp=N,7.0nm,1.7s						
NVS				pmax	pmax		
	comp=E,13nm,1.7s						
KURK	Kurchatov	82.76	323	*e*P	P	22 17 36.7	-1.3
KURK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
KURK	Kurchatov	82.76	323	*e*P	P	22 17 36.6	-1.4
	comp=Z,14nm,1.1s,mb4.9						
MAW	Mawson	82.85	203	P	P	22 17 38.7	+0.6
	comp=Z,11nm,1.1s,mb4.8,baz=76,slow=6.4,SNR=5.0						
MAW				LR	LR	22 52 44.5	
	comp=Z,825nm,20.7s,MS5.1,baz=272,slow=34						
SML	Sawmill	82.94	25	*e*P	P	22 17 39.4	+0.7
MCK	McKinley	83.59	23	*e*P	P	22 17 41.5	-0.5
MCK				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.0						
MCK	McKinley	83.59	23	*e*P	P	22 17 41.5	-0.5
	comp=Z,12nm,0.9s,mb5.0						
QSPA	South Pole Qui	83.69	180	*e*P	P	22 17 42.7	+0.5
	comp=Z,22nm,0.9s,mb5.3						
ZRNK	Zerenda	89.10	323	*e*P	P	22 18 09.2	+0.1
ZRNK				pmax	pmax		
	comp=Z,67nm,0.6s						
ZRNK	Zerenda	89.10	323	*e*P	P	22 18 09.2	+0.1
	comp=Z,67nm,0.6s						
BBB	Bella Bella	90.42	38	LR	LR	22 53 42.5	
	comp=Z,974nm,19.1s,MS5.2,baz=195,slow=32						
SYO	Syowa Base	91.09	200	⇑P	P	22 18 17.0	-1.2
INK	Inuvik	91.10	21	*e*P	P	22 18 18.3	+0.1
INK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
INK	Inuvik	91.10	21	*e*P	P	22 18 18.2	+0.1
	comp=Z,8.0nm,1.2s,mb4.9						
YBH	Yreka Blue Hor	92.68	48	LR	LR	22 53 53.3	
	comp=Z,911nm,20.8s,MS5.2,baz=292,slow=32						
NEW	Newport	97.07	42	LR	LR	22 55 24.0	
	comp=Z,498nm,20.9s,MS5.0,baz=231,slow=31						
ARCES	ARCESS Array B	107.20	342	PKiKP		22 23 39.6	
	comp=Z,1.4nm,0.9s,baz=27,slow=2.7,SNR=4.1						
ARCES				PKKPbc		22 34 57.2	
	comp=Z,1.4nm,0.9s,baz=297,slow=2.7,SNR=3.7						
ARCES	ARCESS Array B	107.20	342	PKPdf		22 23 39.6	
ARCES				PKKPbc		22 34 57.2	
BOSA	Boshof	115.89	234	PKP	PKPdf	22 23 57.6	+1.7
	comp=Z,1.3nm,0.6s,baz=113,slow=3.1,SNR=6.0						
OKC	Ostrava-Krasne	120.38	326	AMS	AMS	23 15 20.0	
	comp=Z,800nm,23.8s						
PLCA	Paso Flores	120.67	146	PKP	PKPdf	22 24 06.1	+1.2
	comp=Z,1.2nm,0.5s,baz=205,slow=5.2,SNR=3.9						
PLCA	Paso Flores	120.67	146	PKP	PKPdf	22 24 06.1	+1.2
DPC	Dobruska-Polom	121.13	327	AMS	AMS	23 16 30.0	
	comp=Z,900nm,22.1s						
PVCC	Panska Ves	121.97	328	AMS	AMS	23 18 30.0	
	comp=Z,700nm,19.7s						
BRG	Berggiesshubel	122.11	328	*e*PKIKP	PKPdf	22 24 09.0	+1.6
BRG				*i*		22 35 44.0	
BRG				MLR	MLR		
	comp=Z,710nm,22.4s,MS5.3						
BRG	Berggiesshubel	122.11	328	*e*PKP	PKPdf	22 24 09.0	+1.6
BRG				*i*		22 35 44.0	
BRG				SS	SS	22 43 09.0	+49
BRG				LR	LR		
	comp=Z,710nm,22.4s,MS5.3						
PRU	Pruhonice	122.29	327	AMS	AMS	23 17 20.0	
	comp=Z,700nm,22.0s						
CLL	Collm	122.35	329	*e*PKIKP	PKPdf	22 24 08.0	+0.2
NKC	Novy Kostel	123.26	328	AMS	AMS	23 21 10.0	
	comp=Z,700nm,17.9s						
KHC	Kasperske Hory	123.28	327	AMS	AMS	23 19 00.0	
	comp=Z,800nm,21.5s						
CLZ	Clausthal	123.34	331	*e*PKIKP	PKPdf	22 24 11.0	+1.2
GEC2	GERESS Array S	123.37	326	*e*PKIKP	PKPdf	22 24 11.2	+1.3
GERES	GERESS Array B	123.37	326	PKP	PKPdf	22 24 10.7	+0.8
	comp=Z,1.0nm,0.6s,baz=45,slow=1.9,SNR=12						
WET	Wettzell	123.66	327	*e*PKIKP	PKPdf	22 24 11.3	+0.9
GRA1	Grafenberg Arr	124.22	328	*e*PKPdf	PKPdf	22 24 12.4	+0.9
GRA1				*e*PP	PP	22 26 17.0	+16
GRA1				LR	LR		
	comp=Z,700nm,21.6s,MS5.3						
GRF	Grafenberg Arr	124.22	328	*e*PKIKP	PKPdf	22 24 12.4	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRF				MLR	MLR		
	comp=Z,700nm,21.6s,MS5.3						
GRF	Grafenberg Arr	124.22	328	ePKIKP	PKPdf	22 24 12.4	+0.9
GRF				MLR	MLR		
	comp=Z,700nm,21.6s,MS5.3						
GRF	Grafenberg Arr	124.22	328	ePKP	PKPdf	22 24 12.4	+0.9
GRF				ePP	PP	22 26 17.0	+16
GRF				LR	LR		
	comp=Z,700nm,21.6s,MS5.3						
TNS	Taunus Mts	125.30	330	ePKIKP	PKPdf	22 24 14.1	+0.6
GIVF	Givet	127.13	332	ePKIKP	PKPdf	22 24 17.9	+0.8
BAIF	Baives	127.44	332	ePKIKP	PKPdf	22 24 18.3	+0.6
HINF	Hinteralfeld	127.65	329	ePKIKP	PKPdf	22 24 18.7	+0.5
	comp=Z,28nm,1.3s						
HAU	Haudompre	127.79	329	ePKIKP	PKPdf	22 24 19.2	+0.8
	comp=Z,28nm,1.4s						
HAU				eR			
	comp=Z,1μm,22.5s						
CABF	La Chapelle	128.83	328	ePKIKP	PKPdf	22 24 21.0	+0.5
	comp=Z,66nm,1.7s						
LPL	La Plagne	129.17	326	ePKIKP	PKPdf	22 24 22.0	+0.8
LOR	Lormes	129.53	330	ePKIKP	PKPdf	22 24 22.4	+0.6
LOR				eR			
	comp=Z,1μm,22.8s						
PGF	Pioggiola	129.62	322	ePKIKP	PKPdf	22 24 22.9	+0.8
MBDF	Montbardon	129.64	326	ePKIKP	PKPdf	22 24 22.4	+0.3
SBF	Sospel	129.79	324	ePKIKP	PKPdf	22 24 23.0	+0.6
	comp=Z,31nm,1.1s						
SSF	Saint Saulge	129.85	330	ePKIKP	PKPdf	22 24 23.0	+0.6
SMF	Signal de Mont	129.97	329	ePKIKP	PKPdf	22 24 23.4	+0.8
FLN	La Foliniere	130.50	334	ePKIKP	PKPdf	22 24 24.4	+0.8
FLN				eR			
	comp=Z,1μm,21.0s						
BGF	Bois d'Agland	130.53	330	ePKIKP	PKPdf	22 24 24.3	+0.6
LMR	La Mourre	130.65	324	ePKIKP	PKPdf	22 24 24.0	0.0
	comp=Z,46nm,1.7s						
VIVF	Saint-Julien-l	130.72	327	ePKIKP	PKPdf	22 24 24.7	+0.6
SMRF	Simiane la Rot	130.78	326	ePKIKP	PKPdf	22 24 24.7	+0.4
	comp=Z,12nm,0.9s						
LASF	Ste Croix	131.67	327	ePKIKP	PKPdf	22 24 25.7	-0.2
CAF	Calviac	132.05	329	ePKIKP	PKPdf	22 24 27.1	+0.5
LPAZ	La Paz	136.77	122	PKhKP		22 24 30.2	
	comp=Z,1.0nm,0.7s,baz=219,slow=3.3,SNR=8.3						
LPAZ				PKP	PKPdf	22 24 39.0	+2.9
	comp=Z,5.8nm,1.0s,baz=327,slow=1.3,SNR=12						
LPAZ	La Paz	136.77	122	PKP	PKPdf	22 24 30.2	-5.9
LPAZ				ePKPdf	PKPdf	22 24 37.8	+1.7
CPUP	Villa Florida	138.60	143	PKP	PKPdf	22 24 41.1	+1.8
	comp=Z,3.2nm,0.8s,baz=356,slow=4.0,SNR=6.4						
SDV	Santo Domingo	140.42	84	ePKPdf	PKPdf	22 24 44.8	+2.0
EVO	Evora	141.84	331	ePKIKP	PKPdf	22 24 44.9	+0.2
	comp=Z,23nm,1.4s						
EVO				eR			
	comp=Z,716nm,23.0s						
SAML	Samuel	144.33	115	ePKPdf	PKPdf	22 24 49.0	-0.7
CAM4	Nova Friburgo	149.29	158	eP	PKPdf	22 25 01.3	+3.6
CAM4				i		22 25 01.9	
CAM4				i		22 25 05.5	
CAM4				i		22 25 09.8	
CAM4				i		22 25 13.5	
CAM4				i		22 25 21.1	
BDFB	Brasilia	152.33	142	PKP	PKPdf	22 25 04.9	+2.5
	comp=Z,7.4nm,0.9s,baz=83,slow=0.4,SNR=8.4						
BDFB				PKPbc	PKPdf	22 25 11.1	+8.6
	comp=Z,23nm,0.6s,baz=240,slow=1.9,SNR=27						
BAO	Brasilia Array	152.35	142	P	PKPdf	22 25 04.7	+2.2
DBIC	Dimbokro	154.25	272	PKP	PKPdf	22 25 06.7	+1.5
	comp=Z,3.7nm,1.0s,baz=95,slow=3.2,SNR=3.2						
DBIC				PKPbc	PKPdf	22 25 14.7	+10
	comp=Z,3.7nm,0.6s,baz=115,slow=2.4,SNR=6.2						
DBIC				PKPab	PKPab	22 25 29.2	-0.7
	comp=Z,7.0nm,0.8s,baz=71,slow=5.0,SNR=5.9						

*ISK **15** 22:27:27.0, 36.00N×27.37E, h27km, MD3.3*
*ATH **15** 22:27:28.2, 36.01N×27.65E, h35km, MD3.2/4*
*CSEM **15** 22:27:28.0±0.1, 36.14N×27.52E, h12km, MD3.3, Error ellipse: s-maj=3.2km s-min=1.6km az=126.0*
*NEIC **15** 22:27:28.2, 36.01N×27.65E, h35km, MD3.2(ATH), After ATH.*

ISC 15 22:27:28.1±0.6**, 36.05N**±0.04×**27.50E**±0.06**, h12**km**, n19,** σ**1.07**/27**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.54	72	ePB	Pb	22 27 38.4	-0.5
KARP	Karpathos	0.57	209	ePN	Pn	22 27 40.9	-0.7
BDRM	Kayabasi	1.02	358	i P	Pb	22 27 46.9	-0.2
BDRM				i S	Sb	22 28 01.2	+1.0
BODT	Bodrum	1.02	352	PG	Pg	22 27 46.4	-2.2
DALT	Dalyan (Mudla)	1.17	52	PN	Pn	22 27 49.4	-0.8
YER	Yerkesik	1.26	30	PN	Pn	22 27 50.8	-0.7
YER				SN	Sn	22 28 07.9	-0.4
MLSB	Milas	1.27	10	PN	Pn	22 27 50.8	-0.8
MLSB				SN	Sn	22 28 07.9	-0.6
FETY	Fethiye	1.41	65	PN	Pn	22 27 53.4	-0.3
AYDN	Tasoluk	1.64	11	i P	Pn	22 27 57.9	+0.9
AYDN				i S	Sn	22 28 19.5	+1.5
AKAS	Kas	1.72	83	i P	Pn	22 27 59.3	+1.3
AKAS				i S	Sn	22 28 34.5	+14
NPS	Neapolis	1.72	244	ePN	Pn	22 27 58.6	+0.5
SMG	Samos	1.74	342	ePN	Pn	22 27 59.1	+0.7
XRY	Khrisi	1.88	232	ePN	Pn	22 28 01.0	+0.6
GOLH	Golhisar	2.04	54	i P	Pn	22 28 04.6	+1.9
GOLH				i S	Sn	22 28 33.6	+5.3
DNZL	Cakiroluk	2.06	37	i P	Pn	22 28 03.9	+1.0
DNZL				i S	Sn	22 28 30.4	+1.7
ELL	Elmali	2.07	70	PN	Pn	22 28 03.0	-0.1
DENT	Denizli	2.10	35	PN	Pn	22 28 02.2	-1.3
MANT	Manisa	2.58	19	i P	Pn	22 28 10.5	+0.1
MANT				i S	Sn	22 28 39.1	-2.9
BCK	Bucak	2.86	59	PN	Pn	22 28 13.2	-1.1

MEX 15 22:28:17.9±1.3**, 17.33N**×**95.78W, h19**km±999km**, MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OXX	Oaxaca	0.94	255	i P	Pb	22 28 32.5	-2.8
OXX				i S	Sb	22 28 44.0	-3.2
EVV	El Vigia	1.20	20	eP	Pb	22 28 34.5	-5.2
HUIG	Huatulco	1.58	192	eP	Pn	22 28 43.7	-1.6
HUIG				eS	Sn	22 28 59.8	-5.6

*MAN **15** 22:33:40.1, 19.74N×120.98E, h12km, mb4.4, ML3.3, MS3.1*
*NEIC **15** 22:33:47.6±2.0, 18.99N×121.32E, h36km±19km, mb4.0/2, Error ellipse: s-maj=19.9km s-min=11.3km az=67.0*
*IDC **15** 22:33:49.6±6.9, 19.07N×121.37E, h52km±63km, mb3.6/7, mb1 3.9/8, mb1mx3.6/19, mbtmp3.9/8, ML4.0/1, MS3.7/2, Ms1 3.7/2, ms1mx3.3/25, Error ellipse: s-maj=40.7km s-min=20.8km az=68.0*
*BJI **15** 22:33:54.2, 19.78N×120.34E, h33km, mb4.4, ML3.1*

ISC 15 22:33:48.4±0.8**, 19.26N**±0.05×**121.1E**±0.1**, h41**km±12km**, n23,** σ**0.82**/26**, mb3.8**/9**, MS3.6**/1**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	1.33	139	eP	P	22 34 10.7	-0.3
APYP	Conner	1.39	176	eP	P	22 34 11.1	-0.7
APYP				eS	S	22 34 28.8	-0.4
ABRA	Dolores	1.65	194	eP	P	22 34 14.5	-0.9
CAUP	Cauayan	2.39	164	eP	P	22 34 28.1	+2.1
BCPH	Baguio City Da	2.91	190	⥣eP	P	22 34 33.3	0.0
BCPH				eS	S	22 35 13.2	+5.8
BOLP	Bolinao	3.09	202	eP	P	22 34 34.6	-1.2
BALP	Baler	3.52	173	eP	P	22 34 42.8	+0.7
SCZP	Santa Cruz	3.65	199	eP	P	22 34 44.9	+1.0
YHNB	Yeheng	5.39	2	ePn	P	22 35 09.0	+0.6
YHNB				eSn	S	22 36 09.5	-0.6
QIZ	Qiongzhong	10.67	271	P	P	22 36 15.9	-5.8
QIZ	Qiongzhong	10.67	271	ePn	P	22 36 16.1	-5.6
	7.2nm,0.6s						
QIZ				eSn	S	22 38 12.8	-8.1
JNU	Nakatsue	16.33	30	P	P	22 37 36.4	+0.1
	0.5nm,0.3s,baz=179,slow=15,SNR=4.9						
JNU				LR	LR	22 43 21.5	
	comp=Z,191nm,19.5s,baz=264,slow=35						
JHJ	Hachijo jima 2	21.65	47	LR	LR	22 46 54.7	
	comp=Z,208nm,18.1s,MS3.6,baz=158,slow=36						
MJAR	Matsushiro Arr	22.84	38	P	P	22 38 48.6	-0.4
	2.5nm,0.8s,mb3.7,baz=226,slow=9.7,SNR=9.0						
SONM	Songino Array	30.93	341	P	P	22 40 03.9	+0.4
	0.7nm,0.4s,mb3.8,baz=153,slow=3.2,SNR=2.9						
WRAB	Tennant Creek	41.05	161	eP	P	22 41 24.4	-5.2
	1.0nm,0.3s,mb3.9						
WRA	Warramunga Arr	41.05	161	P	P	22 41 25.8	-3.9
	0.5nm,0.5s,mb3.4,baz=342,slow=9.2,SNR=9.5						
WRA				PcP	PcP	22 43 26.7	-2.9
	0.4nm,0.5s,baz=313,slow=5.1,SNR=6.1						
MKAR	Makanchi Array	41.94	320	P	P	22 41 37.6	+0.9
	0.4nm,0.5s,mb3.4,baz=111,slow=10,SNR=4.7						
BVAR	Borovoye Array	51.51	323	P	P	22 42 52.7	+0.7
	0.4nm,0.7s,mb3.5,baz=101,slow=7.6,SNR=3.6						
BVAR				PcP	PcP	22 44 03.9	-2.0
	0.2nm,0.3s,baz=135,slow=4.1,SNR=2.6						
ZRNK	Zerenda	52.27	323	eP	P	22 42 57.5	-0.2
	2.6nm,1.2s,mb4.0						
ARCES	ARCESS Array B	74.08	339	P	P	22 45 20.4	-1.0
	1.5nm,0.9s,mb3.9,baz=74,slow=8.8,SNR=4.8						
YKA	Yellowknife Ar	87.51	23	P	P	22 46 32.3	-0.4
	2.3nm,0.7s,mb4.5,baz=313,slow=4.7,SNR=14						
YKA	Yellowknife Ar	87.51	23	P	P	22 46 32.3	-0.4

IGQ 15 22:49:34.0, 1.24N×79.62W, h12km±4km, mb4.0, 4C-5D, Error ellipse: s-maj=2.6km s-min=1.4km az=66.6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LORE	San Lorenzo	0.78	86	⥣P	Pb	22 49 52.3	+3.3
COTA	Cotacachi	1.56	125	⥥P	Pn	22 50 03.6	+1.7
COTA				S	Sb	22 50 25.3	+3.2
JOR1	San Jorge 1	1.57	141	⥣P	Pn	22 50 06.4	+4.4
JOR1				S	Sb	22 50 29.1	+6.8
JAMA	Jama	1.60	201	P	Pn	22 50 03.2	+0.8
JAMA				S	Sn	22 50 24.8	+1.7
ECEN	Cerro Negro	1.70	104	⥥P	Pn	22 50 05.8	+2.0
ECEN				S	Sn	22 50 28.8	+3.3
YANA	Yana	1.71	142	⥥P	Pn	22 50 06.2	+2.3
YANA				S	Sn	22 50 29.9	+4.1
PINO	Pino	1.72	144	⥣P	Pn	22 50 06.4	+2.3
TERV	Terraza Guagua	1.73	144	P	Pn	22 50 07.0	+2.7
GGP	Refugio Guagua	1.74	144	⥥P	Pn	22 50 06.5	+2.2
JUA2	San Juan 2	1.77	145	⥣P	Pn	22 50 07.2	+2.5
CAYA	Cayambe	2.00	125	P	Pn	22 50 11.3	+3.2
CAYR	Refugio Cayamb	2.02	127	P	Pn	22 50 12.0	+3.6
NAS1	Nasa	2.18	148	P	Pn	22 50 15.2	+4.5
CAMI	Rancho Maria	2.21	150	P	Pn	22 50 15.0	+3.9
ANTI	Antisana	2.22	139	P	Pn	22 50 14.6	+3.4
ANTI				S	Sn	22 50 46.9	+8.0
VC1	Cotopaxi 1	2.23	147	⥥P	Pn	22 50 15.4	+4.1
TAMB	Tambo	2.29	147	P	Pn	22 50 16.9	+4.6

*NEIC **15** 23:20:35.7±1.3, 7.16N×94.07E, h30km, mb4.3/2, Error ellipse: s-maj=36.6km s-min=15.4km az=213.0*
*IDC **15** 23:20:37.1±6.4, 7.86N×93.37E, mb3.7/8, mb1 3.8/8, mb1mx3.7/19, mbtmp3.7/8, Error ellipse: s-maj=146.8km s-min=48.0km az=142.0*

ISC 15 23:20:33.8±1.3**, 7.1N**±0.2×**94.1E**±0.2**, h30**km**, n13,** σ**1.21**/13**, mb3.8**/10**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.75	105	ePn	Pn	23 22 13.2	-0.4
LSA	Lhasa	22.62	353	eP	P	23 25 34.8	+1.1
	6.3nm,0.8s,mb4.1						
MKAR	Makanchi Array	40.80	348	P	P	23 28 13.2	-0.9
	1.2nm,0.8s,mb3.6,baz=177,slow=7.8,SNR=7.7						
SONM	Songino Array	41.88	12	P	P	23 28 24.6	+1.5
	0.3nm,0.4s,mb3.3,baz=236,slow=5.2,SNR=3.4						
KURK	Kurchatov	45.32	346	eP	P	23 28 49.6	-1.3
	4.0nm,0.9s,mb4.2						
ZAL	Zalesovo	47.27	353	P	P	23 29 05.9	-0.4
	1.6nm,0.4s,mb4.3,baz=354,slow=4.7,SNR=5.7						
BVAR	Borovoye Array	49.68	341	P	P	23 29 23.2	-1.7
	0.9nm,0.8s,mb3.8,baz=143,slow=7.4,SNR=4.9						
BRTR	Keskin Array B	62.89	311	P	P	23 30 58.5	-1.2
	0.3nm,0.5s,mb3.7,baz=113,slow=11,SNR=2.6						
FINES	FINESS Array B	73.35	332	P	P	23 32 03.6	-0.9
	1.3nm,0.8s,mb3.9,baz=124,slow=6.9,SNR=4.2						
GERES	GERESS Array B	78.36	318	P	P	23 32 34.0	+1.0
	0.1nm,0.3s,mb3.2,baz=60,slow=7.9,SNR=3.1						
MOX	Moxa	79.77	320	eP	P	23 32 42.0	+1.3
NB2	NORSAR Subarra	80.36	331	P	P	23 32 45.6	+2.0
	1.4nm,0.8s,mb3.9,baz=94,slow=5.3						
NOA	NORSAR Array B	80.36	331	P	P	23 32 45.8	+2.2
	0.6nm,0.7s,mb3.6,baz=92,slow=5.5,SNR=3.3						

*BJI **15** 23:45:41.9, 6.41S×145.79E, h50km, mB5.0, mb4.7, Ms4.7, Msz4.5*
*IDC **15** 23:45:45.5±4.3, 5.73S×145.54E, h38km±36km, mb4.1/9, mb1 4.3/12, mb1mx4.3/15, mbtmp4.4/12, ML3.8/3, MS4.2/9, Ms1 4.2/9, ms1mx3.9/20, Error ellipse: s-maj=29.6km s-min=17.9km az=67.0*
*HRVD **15** 23:45:46.7±1.0, 6.10S×145.75E, h46km±6km, MW4.9/30, Centroid moment Tensor Solution. LP body waves: s14,c15; Mantle waves: s30,c41; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.18±.43; $M_{\theta\theta}$0.18±.27; $M_{\phi\phi}$-2.36±.25; $M_{r\theta}$1.36±.26; $M_{\theta\phi}$0.94±.15; $M_{\phi r}$0.25±.31; Best double couple: $M_0 2.816\times10^{16}$ NP1: ϕ_s7°, δ50°, λ130°. NP2: ϕ_s135°, δ54°, λ53°. Principal axes: T 2.95, Plg61°, Azm345°; N -.265, Plg29°, Azm159°; P -2.681, Plg3°, Azm251°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **15** 23:45:46.7±1.8, 5.74S×145.59E, h50km±16km, mb4.9/21 Error ellipse: s-maj=12.8km s-min=9.8km az=49.0*

ISC 15 23:45:46.6±2.1**, 5.81S**±0.08×**145.59E**±0.09**, h62**km±19km**, n64,** σ**1.24**/54**, mb4.8**/29**, 2C-1D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.89	157	Pn	P	23 46 43.7	-1.8
	13nm,0.3s,baz=340,slow=8.1,SNR=22						
PMG				Sn	S	23 47 33.6	+3.3
	16nm,0.3s,baz=300,slow=18,SNR=6.2						
PMG				Lg		23 47 56.0	
	baz=100,slow=19,SNR=3.1						
PMG				LR	LR	23 48 35.9	
	comp=Z,3μm,19.9s,baz=17,slow=43						
PMG	Port Moresby	3.89	157	⥣iPn	P	23 46 43.8	-1.7
CTA	Charters Tower	14.20	177	eP	P	23 49 07.4	+1.3
	15nm,1.1s						
CTA	Charters Tower	14.20	177	Pn	P	23 49 05.0	-1.1
	0.5nm,0.3s,baz=345,slow=14,SNR=11						
CTA				LR	LR	23 54 38.6	
	comp=Z,766nm,18.4s,baz=196,slow=37						
CTAO	Charters Tower	14.20	177	ePn	P	23 49 07.1	+0.9
	72nm,1.5s						
HNR	Honiara	14.68	105	LR	LR	23 54 27.5	
	comp=Z,540nm,21.5s,baz=143,slow=35						
WRAB	Tennant Creek	17.79	217	eP	P	23 49 51.8	+0.2
	167nm,1.3s						
WB2	Warramunga Arr	17.79	217	eP	P	23 49 51.2	-0.5
WRA	Warramunga Arr	17.80	217	P	P	23 49 49.9	-1.9
	0.6nm,0.3s,baz=42,slow=12,SNR=91						
FITZ	Fitzroy Crossi	22.99	236	eP	P	23 50 48.3	+1.4
	32nm,0.9s,mb4.8						
FITZ	Fitzroy Crossi	22.99	236	P	P	23 50 48.1	+1.2
	23nm,0.9s,mb4.6,baz=56,slow=3.1,SNR=11						
FITZ				LR	LR	00 00 32.5	
	comp=Z,1μm,18.9s,baz=79,slow=39						
ARMA	Armidale	25.13	168	eP	P	23 51 08.5	+1.0
DZM	Mont Dzumac	25.84	131	P	P	23 51 13.6	-0.6
	21nm,1.1s,mb4.6,baz=339,slow=15,SNR=5.1						
STKA	Stephens Creek	26.20	188	eP	P	23 51 18.3	+0.9
	15nm,0.9s,mb4.5						
STKA	Stephens Creek	26.20	188	P	P	23 51 18.4	+0.9
	17nm,0.8s,mb4.6,baz=322,slow=9.9,SNR=7.2						
STKA				LR	LR	00 01 24.6	
	comp=Z,497nm,21.5s,baz=16,slow=36						
JOW	Kunigami	36.53	333	LR	LR	00 06 20.8	
	comp=Z,568nm,19.9s,baz=321,slow=34						
MJAR	Matsushiro Arr	42.70	351	P	P	23 53 39.2	0.0
	1.4nm,0.5s,mb4.0,baz=191,slow=6.4,SNR=5.3						
QIZ	Qiongzhong	43.00	306	P	P	23 53 43.5	+1.6
KULM	Kulim	46.20	283	eP	P	23 54 07.4	-0.3
GYA	Guiyang	49.51	312	P	P	23 54 34.3	+1.0
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						
ENH	Enshi	49.84	318	eP	P	23 54 37.1	+1.4
	comp=Z,9.7nm,0.9s,mb4.8						
KMI	Kunming	51.77	308	P	P	23 54 51.0	+0.5
KMI				AMB	AMB		
	comp=Z,13nm,1.5s,mb4.6						
KMI				LR	LR		
	comp=N,321nm,13.5s						
KMI				LR	LR		
	comp=E,369nm,13.6s						
KMI				LR	LR		
	comp=Z,321nm,13.5s						
KMI	Kunming	51.77	308	P	P	23 54 51.0	+0.5
	comp=Z,13nm,1.5s,mb4.6						
CD2	Chengdu	54.14	315	eP	P	23 55 09.0	+1.0
HHC	Hu-ho-hao-te	55.95	329	eP	P	23 55 23.1	+2.2
HHC				PCP	PcP	23 56 20.1	+1.5
HHC				PP	PP	23 57 32.0	+4.4
HHC				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.6						
HHC				AMB	AMB		
	comp=Z,138nm,10.8s						
HHC				LR	LR		
	comp=N,247nm,19.2s						
HHC				LR	LR		
	comp=E,302nm,19.2s						
HHC				LR	LR		
	comp=Z,346nm,19.2s						
LZH	Lanzhou	57.16	320	eP	P	23 55 32.4	+2.8
LZH				AMB	AMB		
	comp=Z,29nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,130nm,4.5s						
LZH	Lanzhou	57.16	320	eP	P	23 55 32.4	+2.8
	comp=Z,29nm,1.2s,mb5.2						
LZH				pP	pP	23 55 42.5	-3.6
LZH				sP	sP	23 55 46.0	-7.2
SHL	Shillong	60.74	303	eP	P	23 55 54.0	-0.5
GTA	Gaotai	61.71	321	eP	P	23 56 03.0	+2.2
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.7						
GTA				AMB	AMB		
	comp=Z,75nm,4.5s						
GTA				LR	LR		
	comp=N,240nm,20.4s						
GTA				LR	LR		
	comp=E,262nm,20.4s						
GTA				LR	LR		
	comp=Z,240nm,15.9s						
LSA	Lhasa	63.01	307	P	P	23 56 10.0	+0.3
LSA	Lhasa	63.01	307	eP	P	23 56 10.8	+1.1
	comp=Z,14nm,1.0s,mb5.1						
SONM	Songino Array	63.56	332	P	P	23 56 12.5	-0.6
	comp=Z,1.1nm,0.8s,mb4.0,baz=149,slow=7.2,SNR=8.0						
PPT	Papeete	64.29	107	LR	LR	00 18 12.8	
	comp=Z,105nm,19.8s,baz=270,slow=30						
CASY	Casey	65.07	195	eP	P	23 56 22.5	0.0
	comp=Z,4.3nm,0.9s,mb4.5						
GUN	Gumba	66.59	304	eP	P	23 56 33.0	+0.1
PKI	Pulchoki	66.86	303	eP	P	23 56 32.6	-2.0
	comp=Z,121nm,1.6s,mb5.7						
KKN	Kakani	67.05	303	eP	P	23 56 33.6	-2.2
	comp=Z,39nm,0.9s,mb5.4						
DMN	Daman	67.13	303	eP	P	23 56 33.9	-2.4
	comp=Z,115nm,1.2s,mb5.8						
GKN	Gorkha	67.66	303	eP	P	23 56 37.4	-2.1
	comp=Z,81nm,1.2s,mb5.6						
KOLN	Koldanda	68.44	303	eP	P	23 56 39.8	-4.7
	comp=Z,33nm,0.8s,mb5.4						
WMQ	Urumqi	71.74	320	eP	P	23 57 05.8	+1.6
VNDA	Vanda	72.18	176	P	P	23 57 06.7	+0.4
	comp=Z,2.3nm,1.0s,mb4.1,baz=318,slow=6.0,SNR=8.3						
VNDA				LR	LR	00 28 15.0	
	comp=Z,184nm,19.2s,baz=348,slow=35						
VNDA	Vanda	72.18	176	eP	P	23 57 06.3	0.0
	comp=Z,6.0nm,1.2s,mb4.4						
MKAR	Makanchi Array	76.46	321	P	P	23 57 29.2	-2.3
	comp=Z,1.2nm,0.7s,mb3.9,baz=112,slow=6.5,SNR=8.1						
ZAL	Zalesovo	78.11	328	P	P	23 57 40.2	-0.4
	comp=Z,0.8nm,0.6s,mb3.8,baz=9.7,slow=6.8,SNR=4.6						
ZAL				LR	LR	00 33 28.6	
	comp=Z,132nm,19.1s,baz=346,slow=37						
ZAL	Zalesovo	78.11	328	P	P	23 57 40.2	-0.4
ZAL				LR	LR	00 33 28.6	
AAK	Ala-Archa	80.21	315	P	P	23 57 51.9	-0.3
	comp=Z,2.5nm,0.5s,mb4.4						
KURK	Kurchatov	80.22	324	eP	P	23 57 50.9	-1.2
	comp=Z,8.6nm,1.1s,mb4.6						
IMA	Indian Mountai	83.88	21	eP	P	23 58 09.9	-0.7
	comp=Z,56nm,1.5s,mb5.5						
SML	Sawmill	84.09	26	eP	P	23 58 11.3	-0.4
MCK	McKinley	84.63	24	eP	P	23 58 15.3	+0.9
	comp=Z,8.8nm,1.1s,mb4.8						
BVAR	Borovoye Array	85.79	324	P	P	23 58 20.1	-0.3
	comp=Z,2.9nm,0.6s,mb4.7,baz=135,slow=6.3,SNR=9.7						
BRVK	Borovoye	85.86	324	eP	P	23 58 20.8	+0.1
	comp=Z,2.5nm,0.9s,mb4.4						
SYO	Syowa Base	90.28	200	⥥P	P	23 58 41.0	-0.5
SYO	Syowa Base	90.28	200	⥣PcP	PcP	23 58 43.4	+0.5
INK	Inuvik	92.00	22	eP	P	23 58 48.7	-0.8
	comp=Z,7.5nm,1.2s,mb4.9						
ARU	Arti	93.15	326	eP	P	23 58 55.2	+0.2
	comp=Z,2.1nm,0.7s,mb4.7						
BRG	Berggiesshubel	119.78	327	eP	PKPdf	00 04 35.6	+5.7
GERES	GERESS Array B	120.95	325	PKP	PKPdf	00 04 35.0	+2.8
	comp=Z,0.4nm,0.7s,baz=90,slow=1.3,SNR=4.9						
TIP	Timpagrande	123.24	314	ePKPdf	PKPdf	00 04 39.2	+2.3
SDV	Santo Domingo	143.96	83	ePKPdf	PKPdf	00 05 17.8	+1.7
SIV	San Ignacio	145.86	130	PKPbc	PKPbc	00 05 22.1	+1.8
	comp=Z,15nm,1.0s,baz=232,slow=3.8,SNR=36						
SAML	Samuel	147.79	117	ePKPbc	PKPdf	00 05 26.8	+4.2
DBIC	Dimbokro	150.61	273	PKPbc	PKPdf	00 05 33.0	+5.9
	comp=Z,17nm,1.1s,baz=74,slow=4.8,SNR=7.9						

KRSC 15 23:57:59.1±0.6**, 50.15N**×**156.92E, h26**km±9km**, ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.74	316	i P	Pb	23 58 12.4	-0.9
SKR				eS	Sb	23 58 23.6	+0.6
ALID	Alaid	1.13	310	eP	Pn	23 58 20.1	+0.6
ALID				eS	Sb	23 58 35.8	+1.6
PAU	Pauzhetka	1.32	357	i P	Pn	23 58 23.8	+1.6
PAU				i S	Sn	23 58 41.5	+2.5
PAU				Smax			
	4μm,0.1s						
MIPR	Malaya Ipel'ka	2.13	357	i P	Pn	23 58 35.2	+1.4
MIPR				eS	Sn	23 59 01.3	+1.6
RUS	Russkaya	2.50	23	i P	Pn	23 58 39.1	+0.1
RUS				i S	Sn	23 59 08.0	-0.9
GRL	Gorelyy	2.51	16	eP	Pn	23 58 40.6	+1.4
GRL				eS	Sn	23 59 10.7	+1.4
APC	Apacha	2.78	3	i P	Pn	23 58 43.6	+0.5
APC				i S	Sn	23 59 16.0	-0.2
APC				Smax			
	20nm,0.1s						
PET	Petropavlovsk	3.07	20	eP	Pn	23 58 47.7	+0.5
PET				eS	Sn	23 59 23.1	-0.4
UGLR	Uglovaya	3.29	20	eP	Pn	23 58 51.0	+0.8
AVH	Avacha	3.32	19	eP	Pn	23 58 51.0	+0.3
AVH				eS	Sn	23 59 28.9	-0.8
KOK	Koryaka	3.32	18	i P	Pn	23 58 52.1	+1.4
SMAR	Somma	3.33	20	eP	Pn	23 58 49.8	-1.0
SDLR	Sedlovina	3.36	21	i P	Pn	23 58 51.5	+0.2
NLC	Nalytchevo	3.38	26	i P	Pn	23 58 50.4	-1.2
NLC				eS	Sn	23 59 28.6	-2.7
SPN	Mys Shipunski	3.53	32	i P	Pn	23 58 53.5	-0.2
SPN				i S	Sn	23 59 33.3	-1.7
GNL	Ganaly	3.61	10	eP	Pn	23 58 56.0	+1.2
MKZ	Mys Kozlova	5.31	32	eP	Pn	23 59 17.0	-1.8
MKZ				eS	Sn	00 00 14.6	-5.3
KBTR	Krutoberegovo	7.03	28	eP	Pn	23 59 41.0	-2.1

*NIED **16** 00:00:00, 23.30N×122.20E, h47km, Mw4.6 Best double couple: $M_0 7.94\times10^{15}$ NP1: ϕ_s223°, δ69°, λ147°. NP2: ϕ_s327°, δ59°, λ25°.*
*BJI **16** 00:00:48.5, 23.11N×122.13E, h38km, mB4.6, mb4.4, ML4.7, Ms4.1, Msz3.8*
*NEIC **16** 00:00:50.2±1.2, 23.26N×122.28E, h35km±9km, mb4.8/17, ML5.1(TAP), Error ellipse: s-maj=14.1km s-min=9.3km*

az=215.0
NEIC Recorded [2 TAP] in Hua-lien and T'ai-tung; [1 TAP] in I-lan and T'ai-chung Counties.
*JMA **16** 00:00:51.4±0.2, 23.33N×122.18E, h72km, M4.4*
*IDC **16** 00:00:51.8±0.8, 23.27N×122.46E, h51km±4km, mb4.0/14, mb1 4.1/15, mb1mx4.1/19, mbtmp4.3/15, MS3.9/6, Ms1 3.9/6, ms1mx3.5/28, Error ellipse: s-maj=20.2km s-min=15.8km az=159.0*
ISC 16 00:00:50.2±0.2**, 23.19N**±0.02×**122.19E**±0.03**, h49km, h49km**±.4km**: pP-P, n109, σ1.11**/130**, mb4.5**/34**, MS4.0**/9**, 3C-8D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	1.12	331	eP	P	00 01 07.8	-1.9
YOJ	Yonaguni jima	1.47	31	P	P	00 01 14.9	0.0
YOJ				S	S	00 01 32.4	-0.7
YHNB	Yeheng	1.65	333	eP	P	00 01 16.6	-0.8
HATJ	Hateruma jima	1.71	60	P	P	00 01 18.8	+0.5
HATJ				eS	S	00 01 38.9	-0.2
IRIF	Iriomote-Funau	1.81	51	P	P	00 01 20.2	+0.6
IRIF				S	S	00 01 42.0	+0.5
TATO	Taipei	1.89	340⇑	eP	P	00 01 20.4	-0.3
JKRS	Kuro-shima	1.97	58	P	P	00 01 22.6	+0.8
JKRS				eS	S	00 01 45.6	+0.3
JIJ	Ishigaki jima	2.14	57	P	P	00 01 24.3	+0.1
JIJ				S	S	00 01 48.8	-0.8
JTJ	Tarama	2.71	57	P	P	00 01 32.5	0.0
JTJ				S	S	00 02 04.4	+0.1
BBP	Basco	2.75	184	eP	P	00 01 32.5	-0.4
BBP				eS	S	00 02 00.7	-4.4
JMJ	Miyako jima 2	3.27	60	P	P	00 01 40.6	+0.3
JMJ				eS	S	00 02 17.8	-0.5
JOGS	Gusukube	3.33	61	P	P	00 01 41.6	+0.4
JOGS				eS	S	00 02 19.7	-0.2
QZH	Quanzhou	3.72	299⇓	iP	P	00 01 45.3	-1.4
QZH				S	S	00 02 22.5	-7.2
QZH				Smax			
	comp=N,4µm,0.7s						
QZH				Smax			
	comp=E,3µm,1.0s						
QZH				LR	LR		
	comp=Z,3µm,11.5s						
SGCP	Mt. Cagua	4.93	182	eP	P	00 02 02.4	-1.3
SGCP				eS	S	00 02 57.3	-2.8
JKE	Kume jima 2	5.22	52	P	P	00 02 05.6	-2.1
JKE				eS	S	00 03 02.9	-4.4
APYP	Conner	5.38	190	eP	P	00 02 10.2	+0.3
APYP				eS	S	00 03 12.2	+0.8
CVP	Callao Caves	5.47	184⇓	eP	P	00 02 12.0	+0.8
ABRA	Dolores	5.69	194	eP	P	00 02 14.2	0.0
ABRA				eS	S	00 03 18.1	-0.9
JAGN	Aguni-jima	5.70	53	eS	S	00 03 15.3	-4.2
CAUP	Cauayan	6.23	183	eP	P	00 02 23.5	+1.7
CAUP				eS	S	00 03 29.5	-3.1
JOW	Kunigami	6.60	55	P	P	00 02 23.8	-3.3
	comp=Z,6.4nm,0.3s,baz=247,slow=13,SNR=6.3						
JOW				S	S	00 03 34.8	-7.1
	comp=Z,3.3nm,0.3s,baz=112,slow=19,SNR=2.3						
JOW	Kunigami	6.60	55	eS	S	00 03 37.5	-4.4
BOLP	Bolinao	7.11	198	eP	P	00 02 35.6	+1.4
BOLP				eS	S	00 03 53.1	-1.3
BALP	Baler	7.43	185	eP	P	00 02 39.3	+0.6
BALP				eS	S	00 04 00.2	-2.3
JTK	Tokunoshima	7.63	52	P	P	00 02 37.1	-4.3
SCZP	Santa Cruz	7.68	197	eP	P	00 02 41.2	-0.9
GZH	Guangzhou	8.14	271	P	P	00 02 43.6	-4.8
GZH				Smax			
	comp=N,206nm,0.8s						
GZH				Smax			
	comp=E,208nm,1.0s						
JAM	Amami Oshima	8.46	51	P	P	00 02 48.0	-4.9
JAM				eS	S	00 04 18.7	-9.4
NJ2	Nanjing	9.31	342	eP	P	00 03 03.3	-1.2
NJ2				AP		00 03 06.5	
NJ2				S	S	00 04 45.3	-3.6
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,140nm,4.1s						
NJ2				Smax			
	comp=N,250nm,0.8s						
NJ2				Smax			
	comp=E,210nm,1.0s						
NJ2				LR	LR		
	comp=N,1µm,20.4s						
NJ2				LR	LR		
	comp=E,880nm,19.5s						
NJ2				LR	LR		
	comp=Z,480nm,18.0s						
WHN	Wuhan	10.12	318	P	P	00 03 18.1	+2.3
WHN				S	S	00 04 59.8	-9.2
WHN				LR	LR		
	comp=Z,1µm,11.9s						
SJMP	San Jose	10.72	186	eP	P	00 03 25.7	+1.7
OTRP	Odiongan	10.77	181	eP	P	00 03 25.9	+1.2
BUSP	Coron	11.29	190	eP	P	00 03 31.1	-0.6
QIZ	Qiongzhong	12.24	253	P	P	00 03 43.9	-0.6
QIZ				eS	S	00 05 53.3	-7.0
QIZ				LR	LR		
	comp=N,317nm,15.9s						
QIZ				LR	LR		
	comp=E,377nm,16.5s						
QIZ				LR	LR		
	comp=Z,561nm,16.3s						
GYA	Guiyang	14.46	286⇑	iP	P	00 04 14.1	+0.3
GYA				S	S	00 06 43.3	-10
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s						
GYA				AMB	AMB		
	comp=Z,40nm,5.1s						
GYA				LR	LR		
	comp=N,620nm,13.8s						
GYA				LR	LR		
	comp=E,870nm,12.2s						
GYA				LR	LR		
	comp=Z,840nm,12.9s						
KS15	Wonju Array Si	15.02	18	eP	P	00 04 20.8	-0.1
PAGZ	Pagadian	15.30	176	eP	P	00 04 28.1	+3.5
DL2	Dalian	15.67	358	P	P	00 04 34.0	+4.7
DL2				AMB	AMB		
	comp=Z,20nm,0.8s						
DL2				AMB	AMB		
	comp=Z,260nm,3.7s						
DL2				LR	LR		
	comp=N,270nm,14.1s						
DL2				LR	LR		
	comp=Z,320nm,14.1s						
XAN	Xi'an	15.87	316	P	P	00 04 35.8	+3.9
XAN				AMB	AMB		
	comp=Z,13nm,1.4s						
KMI	Kunming	17.85	280	P	P	00 04 51.9	-4.9
KMI				PP	PP	00 05 08.1	-3.7
KMI				S	S	00 08 08.1	-3.2
KMI				SS	SS	00 08 29.6	-5.7
KMI				AMB	AMB		
	comp=Z,6.0nm,1.2s						
KMI				AMB	AMB		
	comp=Z,122nm,4.6s						
KMI				LR	LR		
	comp=N,318nm,14.4s						
KMI				LR	LR		
	comp=E,369nm,14.4s						
KMI				LR	LR		
	comp=Z,345nm,15.1s						
CD2	Chengdu	18.11	299	P	P	00 05 02.3	+2.3
CBIJ	Chichi jima	18.51	74	LR	LR	00 10 48.7	
	comp=Z,179nm,20.2s,baz=141,slow=33						
MJAR	Matsushiro Arr	19.20	43	P	P	00 05 15.1	+2.4
	comp=Z,0.5nm,0.3s,baz=238,slow=11,SNR=5.8						
HHC	Hu-ho-hao-te	19.75	336	P	P	00 05 18.9	+0.2
HHC				AMB	AMB		
	comp=Z,21nm,1.3s						
HHC				LR	LR		
	comp=N,230nm,16.8s						
HHC				LR	LR		
	comp=E,302nm,18.0s						
HHC				LR	LR		
	comp=Z,346nm,16.8s						
LZH	Lanzhou	20.43	313	eP	P	00 05 27.0	+1.0
LZH				AP		00 05 30.3	
LZH				PP	PP	00 05 46.5	-1.1
LZH				eS	S	00 09 08.0	+0.9
LZH				SS	SS	00 09 35.0	-3.9
LZH				AMB	AMB		
	comp=Z,42nm,1.5s						
LZH				AMB	AMB		
	comp=Z,140nm,4.5s						
LZH				LR	LR		
	comp=N,635nm,12.5s						
LZH				LR	LR		
	comp=Z,890nm,14.0s,MS4.3						
CN2	Changchun	20.73	7	eP	P	00 05 27.9	-1.1
CN2				AMB	AMB		
	comp=Z,20nm,1.3s						
CN2				LR	LR		
	comp=Z,200nm,18.0s,MS3.5						
GTA	Gaotai	24.93	316	eP	P	00 06 11.3	+0.9
GTA				AP		00 06 18.0	
GTA				XP		00 06 22.0	
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.0						
GTA				AMB	AMB		
	comp=Z,59nm,3.9s						
GTA				LR	LR		
	comp=N,150nm,12.3s,MS4.0						
GTA				LR	LR		
	comp=E,262nm,14.1s,MS4.0						
GTA				LR	LR		
	comp=Z,240nm,16.2s,MS3.8						
ASAJ	Asahikawa	26.77	34	P	P	00 06 23.4	-4.1
	comp=Z,2.7nm,0.4s,mb4.1,baz=184,slow=15,SNR=2.4						
SONM	Songino Array	27.64	337	P	P	00 06 34.4	-0.9
	comp=Z,10nm,0.8s,mb4.5,baz=151,slow=9.2,SNR=44						
SONM				LR	LR	00 18 51.5	
	comp=Z,225nm,19.8s,MS3.8,baz=317,slow=39						
WMQ	Urumqi	35.00	314	P	P	00 07 39.9	-0.1
WMQ				PP	PP	00 08 57.3	-2.0
WMQ				S	S	00 13 09.3	+1.7
WMQ				AMB	AMB		
	comp=Z,21nm,0.9s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,114nm,4.9s						
WMQ				LR	LR		
	comp=N,921nm,17.2s,MS4.7						
WMQ				LR	LR		
	comp=E,802nm,16.7s,MS4.7						
WMQ				LR	LR		
	comp=Z,1µm,17.6s,MS4.8						
MKAR	Makanchi Array	39.69	316	P	P	00 08 19.6	+0.4
	comp=Z,3.8nm,0.6s,mb4.3,baz=103,slow=10,SNR=30						
MKAR				PcP	PcP	00 10 25.8	-0.1
	comp=Z,1.3nm,0.7s,baz=90,slow=4.9,SNR=4.1						
MKAR				pPcP		00 10 39.5	
	comp=Z,2.4nm,1.0s,baz=117,slow=2.7,SNR=4.3						
MKAR	Makanchi Array	39.69	316	P	P	00 08 19.6	+0.4
MKAR				PcP	PcP	00 10 25.8	-0.1
MKAR				pPcP		00 10 39.5	
PMG	Port Moresby	40.58	140	LR	LR	00 22 36.3	
	comp=Z,80nm,19.9s,MS3.6,baz=342,slow=32						
ZAL	Zalesovo	41.58	327	P	P	00 08 34.4	-0.2
	comp=Z,5.4nm,0.5s,mb4.4,baz=354,slow=6.6,SNR=13						
ZAL	Zalesovo	41.58	327	P	P	00 08 34.4	-0.2
WRAB	Tennant Creek	44.48	164	P	P	00 08 59.9	+1.1
WRA	Warramunga Arr	44.48	164	P	P	00 08 56.8	-2.0
	comp=Z,0.6nm,0.6s,mb3.5,baz=344,slow=8.8,SNR=5.1						
FX1	Attu Island--F	48.50	39	P	P	00 09 32.9	+2.9
	comp=Z,4.1nm,0.3s,mb4.9,baz=85,slow=14,SNR=11						
FX1	Attu Island--F	48.50	39	P	P	00 09 28.8	-1.3
CTA	Charters Tower	49.01	149	P	P	00 09 37.1	+2.8
	comp=Z,2.7nm,0.8s,mb4.3,baz=350,slow=12,SNR=3.8						
BVAR	Borovoye Array	49.02	321	P	P	00 09 33.9	-0.1
	comp=Z,4.1nm,0.6s,mb4.6,baz=102,slow=8.3,SNR=22						
BVAR				PcP	PcP	00 10 57.1	-0.5
	comp=Z,2.1nm,0.6s,baz=124,slow=2.5,SNR=6.7						
BVAR				pPcP		00 11 11.7	
	comp=Z,1.4nm,0.8s,baz=153,slow=3.3,SNR=3.9						
ZRNK	Zerenda	49.80	321	eP	P	00 09 39.8	-0.3
	comp=Z,11nm,0.9s,mb4.9						
ARU	Arti	56.45	323	eP	P	00 10 27.8	-1.4
	comp=Z,15nm,0.6s,mb5.2						
STKA	Stephens Creek	57.82	160	P	P	00 10 48.0	+8.7
	comp=Z,4.3nm,0.8s,mb4.5,baz=320,slow=9.9,SNR=4.5						
IMA	Indian Mountai	66.68	26	eP	P	00 11 35.7	-2.0
	comp=Z,48nm,1.3s,mb5.4						
KEV	Kevo	70.23	338	ep	P	00 11 59.3	-0.4
	comp=Z,2.4nm,0.5s,mb4.4						
ARCES	ARCESS Array B	70.80	338	P	P	00 12 03.3	+0.2
	comp=Z,2.2nm,0.8s,mb4.1,baz=74,slow=8.8,SNR=4.9						
ARCES				LR	LR	00 50 24.5	
	comp=Z,66nm,18.5s,MS3.9,baz=238,slow=42						
MALT	Malatya	71.31	304	eP	P	00 12 07.8	+1.0
	comp=Z,4.7nm,1.0s,mb4.4						
KAF	Kangasniemi	72.47	331	ep	P	00 12 12.7	-0.4
	comp=Z,2.3nm,0.5s,mb4.4						
FINES	FINESS Array B	72.76	330	P	P	00 12 14.8	-0.1
	comp=Z,5.8nm,0.8s,mb4.6,baz=77,slow=4.7,SNR=29						
FINES				pP	pP	00 12 29.2	+0.3
	comp=Z,1.2nm,0.5s,baz=56,slow=6.9,SNR=3.7						
FINES	FINESS Array B	72.76	330	P	P	00 12 14.8	-0.1
FINES				pP	pP	00 12 29.2	+0.3
AKASG	Malin Array Be	74.22	319	P	P	00 12 23.3	-0.3
	comp=Z,2.1nm,0.6s,mb4.2,baz=59,slow=5.8,SNR=9.9						
AKASG				pP	pP	00 12 37.5	-0.1
	comp=Z,0.2nm,0.3s,baz=58,slow=5.6,SNR=3.1						
AKASG	Malin Array Be	74.22	319	P	P	00 12 23.3	-0.3
AKASG				pP	pP	00 12 37.5	-0.1
AFI	Afiamalu	74.37	113	LR	LR	00 41 34.2	
	comp=Z,113nm,19.9s,MS4.2,baz=66,slow=33						
BRTR	Keskin Array B	74.50	307	P	P	00 12 26.2	+0.7
	comp=Z,1.1nm,0.5s,mb4.1,baz=113,slow=3.8,SNR=8.4						
BRTR				pP	pP	00 12 40.5	+1.0
	comp=Z,1.6nm,0.9s,baz=112,slow=6.7,SNR=5.4						
SUW	Suwalki	76.64	323	P	P	00 12 36.9	-0.4
	comp=Z,24nm,0.7s,mb5.2						
CFR	Carcaliu	76.65	314	⇑P	P	00 12 37.2	-0.4
VRI	Vrincioaia	77.35	315	⇓P	P	00 12 42.4	+0.8
VRI	Vrincioaia	77.35	315	⇓P	P	00 12 42.4	+0.9
MLR	Muntele Rosu	78.00	314	⇓P	P	00 12 46.8	+1.7
MLR	Muntele Rosu	78.00	314	⇓P	P	00 12 46.8	+1.7
KWP	Kalwaria	78.52	319	eP	P	00 12 48.5	+0.6
	comp=Z,5.8nm,0.8s,mb4.6						
NB2	NORSAR Subarra	79.53	332	P	P	00 12 52.8	-0.3
	comp=Z,1.1nm,0.5s,mb4.0,baz=59,slow=5.3						
NOA	NORSAR Array B	79.53	332	P	P	00 12 53.1	0.0
	comp=Z,2.0nm,0.7s,mb4.1,baz=57,slow=5.6,SNR=10						
NOA				pP	pP	00 13 07.5	+0.3
	comp=Z,2.1nm,0.8s,baz=58,slow=5.7,SNR=5.9						
NOA				LR	LR	00 51 40.0	
	comp=Z,151nm,18.2s,MS4.4,baz=45,slow=38						
VYHS	Vyhne	81.31	319	eP	P	00 13 04.1	+1.2
VYHS				e	pP	00 13 17.9	+0.8
CLL	Collm	83.39	323⇓	iP	P	00 13 14.3	+0.8
	comp=Z,10.0nm,1.4s,mb4.7						
CLL				i pP	pP	00 13 28.6	+0.9
CLL	Collm	83.39	323	⇓P	P	00 13 14.3	+0.8
	comp=Z,logA/T=0.9,mb4.7						
CLL				i *SP	sP	00 13 28.6	-4.4
YKA	Yellowknife Ar	83.52	23	P	P	00 13 15.0	+1.2
	comp=Z,0.8nm,0.7s,mb4.0,baz=316,slow=4.4,SNR=5.4						
YKA				pP	pP	00 13 29.2	+1.1
	comp=Z,1.9nm,0.7s,baz=313,slow=4.9,SNR=6.8						
YKA	Yellowknife Ar	83.52	23	P	P	00 13 15.1	+1.2
YKA				pP	pP	00 13 29.2	+1.1
GERES	GERESS Array B	84.19	321	P	P	00 13 18.6	+1.1
	comp=Z,1.9nm,0.7s,mb4.3,baz=72,slow=4.2,SNR=17						
GERES				pP	pP	00 13 33.1	+1.2
	comp=Z,4.1nm,0.9s,baz=56,slow=4.8,SNR=12						
GRA1	Grafenberg Arr	85.19	323	eP	P	00 13 24.3	+1.8
	comp=Z,14nm,1.6s,mb4.8						
GRA1				epP	pP	00 13 38.3	+1.5
GRF	Grafenberg Arr	85.19	323	eP	P	00 13 24.3	+1.8
	comp=Z,14nm,1.6s,mb4.8						
GRF				epP	pP	00 13 38.3	+1.5
KMBO	Kilima Mbogo	85.78	267	P	P	00 13 28.9	+2.7
	comp=Z,0.9nm,0.9s,mb4.0,baz=54,slow=8.5,SNR=4.7						
KMBO				pP	pP	00 13 43.4	+2.7
	comp=Z,0.4nm,0.4s,baz=75,slow=6.1,SNR=3.2						
KMBO	Kilima Mbogo	85.78	267	P	P	00 13 28.9	+2.7
KMBO				pP	pP	00 13 43.4	+2.7
CDF	Champ du Feu	88.06	323	eP	P	00 13 36.8	+0.3
	comp=Z,3.1nm,0.8s,mb4.3						
LPG	La Plagne	89.98	321	eP	P	00 13 45.8	+0.2
	comp=Z,6.8nm,0.8s,mb4.8						
LPL	La Plagne	89.98	321	eP	P	00 13 45.7	+0.1
	comp=Z,13nm,1.2s,mb4.8						
PGF	Pioggiola	90.22	317	eP	P	00 13 46.2	-0.7
	comp=Z,20nm,0.9s,mb5.1						
LOR	Lormes	90.61	323	eP	P	00 13 48.4	-0.1
ORIF	Oris-en-Rattie	90.81	320	eP	P	00 13 48.8	-0.8
SMF	Signal de Mont	90.98	323	eP	P	00 13 49.6	-0.7
	comp=Z,6.6nm,0.8s,mb4.7						
VIVF	Saint-Julien-l	91.55	321	eP	P	00 13 52.3	-0.7
FLN	La Foliniere	92.01	326	eP	P	00 13 54.2	-0.8
TCF	Toulx Ste Croi	92.10	323	eP	P	00 13 55.2	-0.3
CAF	Calviac	93.01	322	eP	P	00 13 58.7	-1.0
RJF	Les Rejaudoux	93.09	323	eP	P	00 13 59.6	-0.4
FFC	Flin Flon	93.67	24	P	P	00 14 02.5	+0.1
TBI	Tubuai	97.47	112	eLR	LR	00 15 20.8	
	comp=Z,131nm,27.2s						
SDV	Santo Domingo	145.74	23	ePKP	PKPdf	00 20 26.7	+2.5

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*IDC **16** 00:02:04.8±9.4, 35.53N×71.62E, mb3.9/5, mb1 4.0/7, mb1mx3.7/20, mbtmp3.9/7, ML3.4/2, Error ellipse: s-maj=167.0km s-min=31.4km az=155.0*
*NEIC **16** 00:02:06.0±7.7, 35.44N×71.67E, h15km±53km, mb3.5/1, Error ellipse: s-maj=19.6km s-min=9.1km az=66.0*
*MOS **16** 00:02:06.6±1.5, 35.40N×71.76E, h33km, mb3.6/1, Error ellipse: s-maj=21.4km s-min=13.4km az=111.9*
*NNC **16** 00:02:13.6±5.7, 35.70N×71.24E, h85km±73km, mpv4.4, Error ellipse: s-maj=45.9km s-min=40.9km az=59.0*
ISC 16 00:02:08.2±1.3**, 35.53N**±0.04×**71.8E**±0.1**, h48km**±17km**, n36, σ1.23**/43**, mb3.7**/5**, 5C-3D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	4.47	133	eP	P	00 03 19.6	+4.3
THN				eS	S	00 04 15.8	+9.0
BHK	Bhakra	5.62	136	e	S	00 04 45.4	+10
SDNR	Sundarnagar	5.89	132	eP	P	00 03 38.4	+3.4
SDNR				eS	S	00 04 48.2	+6.1
DDI	Dehra Dun	7.38	133	e	S	00 05 30.0	+11
AAK	Ala-Archa	7.39	16	⇑P	P	00 03 57.3	+1.2
	5.6nm,0.5s						
AAK				⇓S	S	00 05 20.7	+1.2
	18nm,1.1s						
KK31	Karatay Array	7.63	353	⇑P	P	00 03 59.7	+0.3
	25nm,0.6s,baz=182,slow=13,SNR=223						
KK31				⇓S	S	00 05 23.4	-2.0
	7.0nm,0.6s,baz=166,slow=24,SNR=3.8						
KHET	Khetri	8.17	154	eP	P	00 04 07.3	+0.5
KHET				eS	S	00 05 36.1	-2.7
KHET				AML	AML	00 05 41.7	
	comp=N,18nm,0.1s						
KHET				AML	AML	00 05 41.8	
	comp=E,16nm,0.4s						
AYAN	Aya Nagar	8.35	146	eP	P	00 04 10.3	+1.0
AYAN				e		00 05 46.9	
SONA	Sohna	8.53	147	eP	P	00 04 13.1	+1.3
SONA				eS	S	00 05 47.1	-0.5
SONA				AML	AML	00 06 00.3	
	comp=N,13nm,0.5s						
SONA				AML	AML	00 06 00.6	
	comp=E,18nm,0.5s						
GKN	Gorkha	13.23	121	eP	P	00 05 14.6	-0.9
	comp=E,12nm,0.4s						
MK31	Makanchi Array	13.73	32	⇓P	P	00 05 27.9	+6.0
	comp=E,1.2nm,0.6s,baz=214,slow=11,SNR=8.4						
MKAR	Makanchi Array	13.73	32	Pn	P	00 05 23.4	+1.5
	comp=E,0.0nm,0.3s,baz=214,slow=16,SNR=4.2						
DMN	Daman	13.80	121	eP	P	00 05 22.1	-0.9
	comp=E,14nm,0.6s						
KKN	Kakani	13.81	120	eP	P	00 05 21.9	-1.2
	comp=E,12nm,0.5s						
KKN	Kakani	13.81	120	eP	P	00 05 21.9	-1.2
KKN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PKI	Pulchoki	14.03	121	eP	P	00 05 25.0	-1.1
	comp=Z,9.6nm,0.4s						
PKI	Pulchoki	14.03	121	eP	P	00 05 25.0	-1.1
PKI				pmax	pmax		
	comp=Z,5.0nm,0.4s						
GUN	Gumba	14.16	119	eP	P	00 05 27.6	-0.2
AB31	Akbulak array	16.25	331	P	P	00 05 52.6	-1.8
	comp=Z,1.4nm,0.5s,baz=147,slow=12,SNR=43						
AB31				⇑S	S	00 08 44.7	-8.0
	comp=Z,1.1nm,0.6s,baz=161,slow=22,SNR=4.0						
VOSK	Vostochnaya	17.20	358	⇑P	P	00 06 04.6	-1.8
	comp=Z,3.0nm,0.8s						
BVAR	Borovoye Array	17.52	357	P	P	00 06 09.6	-0.8
	comp=Z,0.5nm,0.3s,baz=159,slow=13,SNR=16						
ZRNK	Zerenda	17.53	354	⇑P	P	00 06 09.9	-0.7
	comp=Z,2.0nm,0.7s						
ZRNK	Zerenda	17.53	354	eP	P	00 06 09.4	-1.1
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZRNK	Zerenda	17.53	354	eP	P	00 06 09.3	-1.2
	comp=Z,1.9nm,0.4s						
ZAL	Zalesovo	20.52	22	P	P	00 06 45.4	+0.7
	comp=Z,3.3nm,0.4s,baz=244,slow=8.3,SNR=14						
ZAL	Zalesovo	20.52	22	P	P	00 06 45.4	+0.7
NVS	Novosibirsk	20.87	19	eP	P	00 06 47.8	-0.5
GNI	Garni	21.84	290	P	P	00 06 58.2	+0.1
	comp=Z,1.8nm,0.5s,mb3.8,baz=14,slow=18,SNR=2.6						
ARU	Arti	22.76	341	eP	P	00 07 08.1	+1.1
AKASG	Malin Array Be	34.07	310	P	P	00 08 52.7	+2.9
	comp=Z,0.2nm,0.3s,mb3.5,baz=98,slow=6.7,SNR=6.0						
FINES	FINESS Array B	38.66	327	P	P	00 09 28.5	+0.1
	comp=Z,0.8nm,0.8s,mb3.5,baz=112,slow=10,SNR=5.2						
FINES	FINESS Array B	38.66	327	P	P	00 09 28.5	+0.1
ARCES	ARCESS Array B	42.29	338	P	P	00 09 59.4	+1.1
	comp=Z,1.9nm,0.6s,mb3.9,baz=112,slow=8.2,SNR=24						
ARE0	ARCESS Array S	42.29	338	eP	P	00 09 58.9	+0.7
NB2	NORSAR Subarra	45.55	324	P	P	00 10 24.0	-0.7
	comp=Z,0.6nm,0.6s,mb3.7,baz=97,slow=7.9						
NOA	NORSAR Array B	45.55	324	P	P	00 10 24.2	-0.4
	comp=Z,0.5nm,0.8s,mb3.5,baz=104,slow=7.1,SNR=4.6						

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*ATH **16** 00:04:49.4, 38.79N×23.29E, h26km±2km, MD2.6/7*
*NEIC **16** 00:04:49.3, 38.79N×23.29E, h26km, MD2.6(ATH), After ATH.*
*THE **16** 00:04:50.2, 38.82N×23.37E, h11km, ML2.4*
*CSEM **16** 00:04:50.0±0.1, 38.80N×23.37E, h20km, MD2.6, Error ellipse: s-maj=2.9km s-min=1.4km az=80.0*
ISC 16 00:04:49.8±0.6**, 38.78N**±0.02×**23.38E**±0.05**, h21km**±6km**, n15, σ0.90**/28**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	Lokris	0.33	246	ePB	Pb	00 04 55.8	-1.2
NEO	Neokhori	0.54	347	ePN	Pn	00 05 00.3	-1.8
NEO				eSN	Sn	00 05 07.9	-2.6
AOS	Alonnisos	0.55	45	ePg	Pb	00 05 00.2	-0.4
AOS				eSg	Sb	00 05 08.2	+0.2
XOR	Xorichti	0.60	346	ePg	Pb	00 05 01.4	-0.1
XOR				eSg	Sb	00 05 09.4	-0.1
MPAR	Parnis Oros	0.69	156	ePN	Pn	00 05 03.0	-1.3
MPAR				eSN	Sn	00 05 13.7	-0.7
MGER	Gerania Oros	0.80	187	ePN	Pn	00 05 05.5	-0.4
MGER				eSN	Sn	00 05 17.0	-0.2
PTL	Penteli	0.82	153	ePN	Pn	00 05 06.5	+0.3
PTL				eSN	Sn	00 05 18.2	+0.4
ATH	Athens Observa	0.85	162	ePB	Pb	00 05 05.6	-0.2
ATH				eSN	Sn	00 05 19.0	+0.5
AGG	Agios Georgios	0.86	287	ePg	Pb	00 05 05.4	-0.5
	comp=Z,2.3nm,0.3s						
AGG				eSg	Sb	00 05 18.4	+1.6
NSAL	Nisos Salamina	0.88	176	ePN	Pn	00 05 06.3	-0.7
NSAL				eSN	Sn	00 05 19.0	-0.1
NAIG	Nisos Aigina	1.03	175	ePN	Pn	00 05 10.0	+0.9
NAIG				eSN	Sn	00 05 25.0	+2.1
PAIG	Paliouri	1.17	11	ePg	Pb	00 05 11.2	+0.1
PAIG				eSg	Sb	00 05 27.2	+1.4
LIT	Litokhoron	1.49	333	ePg	Pn	00 05 15.8	+0.1
LIT				eSg	Sn	00 05 35.5	+0.9
PLG	Polygyros	1.59	2	ePN	Pn	00 05 17.3	+0.1
OUR	Ouranopolis	1.62	16	ePg	Pn	00 05 18.1	+0.6
OUR				eSg	Sn	00 05 38.1	+0.1

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*IDC **16** 00:11:12.9±1.1, 12.58N×93.36E, mb4.0/10, mb1 4.2/10, mb1mx4.0/19, mbtmp4.0/10, MS3.7/1, Ms1 3.7/1, ms1mx3.2/18, Error ellipse: s-maj=44.1km s-min=21.4km az=55.0*
*BJI **16** 00:11:14.1, 12.43N×92.87E, h42km, mB4.6, mb4.6*
*NEIC **16** 00:11:18.1±0.7, 12.76N×93.44E, h30km, mb4.2/6, Error ellipse: s-maj=20.3km s-min=11.2km az=55.0*
ISC 16 00:11:15.9±0.8**, 12.73N**±0.09×**93.34E**±0.08**, h30km, n32,**

σ1§12/31,mb4.2/15,MS3.6/1,2C-1D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	Nakhon Sawan	7.21	65	P	Pn	00 13 00.0	-2.1
CHG	Chiang Mai	8.11	41	⇑P	P	00 13 15.5	+0.9
	26nm,0.7s						
CHRT	Chiangrai	9.42	40	⇓P	P	00 13 32.0	-0.7
	184nm,0.9s						
KMI	Kunming	15.19	34	P	P	00 14 57.8	+7.5
KMI				AMB	AMB		
	comp=Z,17nm,1.1s						
PKI	Pulchoki	16.53	334	eP	P	00 15 06.3	-1.1
	comp=Z,33nm,0.9s						
GUN	Gumba	16.64	336	eP	P	00 15 07.1	-1.7
DMN	Daman	16.69	334	eP	P	00 15 07.8	-1.6
	comp=Z,20nm,0.9s						
KKN	Kakani	16.77	335	eP	P	00 15 08.3	-2.2
LSA	Lhasa	17.01	353	eP	P	00 15 13.3	-0.1
LSA	Lhasa	17.01	353	eP	P	00 15 13.5	0.0
	comp=Z,5.7nm,0.8s						
GKN	Gorkha	17.24	333	eP	P	00 15 12.1	-4.2
	comp=Z,4.8nm,0.3s						
KOLN	Koldanda	17.52	330	eP	P	00 15 14.8	-5.0
GYA	Guiyang	18.53	41	⇑iP	P	00 15 35.8	+3.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CD2	Chengdu	20.49	26	P	P	00 15 54.0	-0.2
ENH	Enshi	22.98	38	eP	P	00 16 19.4	+0.2
	comp=Z,33nm,0.8s,mb4.8						
LZH	Lanzhou	25.11	20	eP	P	00 16 41.1	+1.3
LZH				AP	pP	00 16 49.9	+1.4
LZH				XP	sP	00 16 53.8	+1.3
LZH				AMB	AMB		
	comp=Z,28nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
GTA	Gaotai	27.19	11	eP	P	00 17 00.4	+1.4
GTA				AP	pP	00 17 08.4	+0.7
GTA				XP	sP	00 17 12.8	+1.1
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
MKAR	Makanchi Array	35.21	347	P	P	00 18 09.6	0.0
	comp=Z,2.9nm,0.7s,mb4.3,baz=158,slow=7.8,SNR=24						
SONM	Songino Array	36.66	15	P	P	00 18 22.9	+1.1
	comp=Z,3.7nm,0.9s,mb4.2,baz=196,slow=9.0,SNR=18						
ZAL	Zalesovo	41.66	352	P	P	00 19 04.5	+1.2
	comp=Z,2.2nm,0.5s,mb4.0,baz=308,slow=8.5,SNR=9.9						
BVAR	Borovoye Array	44.18	340	P	P	00 19 23.9	+0.1
	comp=Z,1.6nm,0.8s,mb3.8,baz=141,slow=9.5,SNR=11						
ZRNK	Zerenda	44.58	339	eP	P	00 19 26.9	-0.2
	comp=Z,3.9nm,1.0s,mb4.2						
MJAR	Matsushiro Arr	46.63	51	LR	LR	00 41 23.4	
	comp=Z,73nm,18.9s,MS3.6,baz=225,slow=39						
WRA	Warramunga Arr	51.79	128	P	P	00 20 22.7	-0.8
	comp=Z,0.9nm,0.6s,mb3.9,baz=305,slow=9.2,SNR=3.0						
WRA				PcP	PcP	00 21 34.3	-2.1
	comp=Z,0.2nm,0.6s,baz=313,slow=2.5,SNR=3.2						
WRAB	Tennant Creek	51.79	128	P	P	00 20 22.2	-1.3
BRTR	Keskin Array B	58.73	309	P	P	00 21 14.2	+0.7
	comp=Z,0.5nm,0.8s,mb3.6,baz=141,slow=7.9,SNR=3.7						
FINES	FINESS Array B	68.09	331	P	P	00 22 14.9	+0.1
	comp=Z,1.7nm,0.7s,mb4.2,baz=124,slow=6.9,SNR=7.6						
KAF	Kangasniemi	68.15	332	ep	P	00 22 16.4	+1.2
	comp=Z,2.0nm,0.7s,mb4.3						
ARCES	ARCESS Array B	70.47	340	P	P	00 22 29.8	+0.5
	comp=Z,1.9nm,0.8s,mb4.1,baz=76,slow=5.0,SNR=7.7						
GERES	GERESS Array B	73.72	317	P	P	00 22 50.2	+1.2
	comp=Z,2.1nm,0.9s,mb4.1,baz=76,slow=5.5,SNR=14						
NB2	NORSAR Subarra	75.15	330	P	P	00 22 57.2	+0.2
	comp=Z,0.9nm,0.6s,mb3.9,baz=91,slow=5.3						
NOA	NORSAR Array B	75.15	330	P	P	00 22 57.5	+0.6
	comp=Z,1.4nm,0.7s,mb4.0,baz=90,slow=5.7,SNR=5.6						

SKHL 16 00:20:08.7±0.1, 52.75N×142.70E, h11km±2km, mb3.6/4, Sakhalin Island

IDC 16 00:20:54.9±0.8, 30.50S×179.19W, h296km±8km, mb3.5/2, mb1 3.8/5, mb1mx3.5/13, mbtmp4.5/5, Error ellipse: s-maj=28.3km s-min=14.8km az=121.0
NEIC 16 00:20:55.8±0.7, 30.45S×179.19W, h310km±8km, mb3.7/1, Error ellipse: s-maj=20.7km s-min=7.9km az=109.0
ISC 16 00:20:54.2±0.8, 30.52S±0.05×179.0W±0.2, h323km±12km, n81, σ1§32/95, mb3.6/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.56	36	P	P	00 21 40.7	+0.4
	216nm,0.3s,baz=87,slow=21,SNR=19						
RAO				S	S	00 22 13.5	-2.9
	427nm,0.3s,baz=212,slow=19,SNR=7.0						
MXZ	Matakaoa Point	7.38	197	P	P	00 22 41.9	+0.6
MXZ	Matakaoa Point	7.38	197	PN	P	00 22 41.9	+0.6
MXZ				SN	S	00 24 10.0	+4.6
PUZ	Puketiti	7.88	196	eP	P	00 22 47.3	0.0
PUZ				S	S	00 24 18.8	+2.6
PUZ	Puketiti	7.88	196	PN	P	00 22 47.3	0.0
PUZ				SN	S	00 24 18.1	+1.9
MWZ	Matawai	8.32	199	eP	P	00 22 52.9	+0.3
MWZ	Matawai	8.32	199	ePN	P	00 22 52.7	+0.1
MWZ				SN	S	00 24 28.9	+3.1
URZ	Urewera	8.37	202	P	P	00 22 52.5	-0.8
	18nm,0.3s,baz=347,slow=2.5,SNR=61						
URZ				S	S	00 24 27.1	+0.1
	5.4nm,0.3s,baz=101,slow=16,SNR=3.6						
URZ	Urewera	8.37	202	eP	P	00 22 53.7	+0.4
URZ	Urewera	8.37	202	PN	P	00 22 52.7	-0.6
URZ				SN	S	00 24 31.9	+4.9
KNZ	Kokohu	8.92	197	eP	P	00 23 04.0	+4.1
KNZ	Kokohu	8.92	197	PN	P	00 23 04.0	+4.0
BKZ	Black Stump Fm	9.40	202	eP	P	00 23 05.3	-0.4
BKZ	Black Stump Fm	9.40	202	PN	P	00 23 05.2	-0.5
BKZ				SN	S	00 24 51.8	+2.3
HIZ	Hauiti	9.46	211	eP	P	00 23 12.1	+5.6
HIZ	Hauiti	9.46	211	PN	P	00 23 12.1	+5.6
NGZ	Ngauruhoe	9.72	206	P	P	00 23 13.6	+4.0
NGZ	Ngauruhoe	9.72	206	PN	P	00 23 13.6	+3.9
TUVZ	Tukino	9.78	205	P	P	00 23 13.0	+2.6
TUVZ				P		00 23 13.4	
TUVZ	Tukino	9.78	205	PN	P	00 23 13.0	+2.6
FWVZ	Far West T-bar	9.81	206	P	P	00 23 13.3	+2.6
FWVZ	Far West T-bar	9.81	206	PN	P	00 23 13.3	+2.6
WNVZ	Wahianoa	9.85	205	P	P	00 23 13.0	+1.7
WNVZ	Wahianoa	9.85	205	PN	P	00 23 13.4	+2.1
MOVZ	Moawhango	9.87	205	P	P	00 23 12.5	+1.1
MOVZ	Moawhango	9.87	205	PN	P	00 23 12.7	+1.2
MTVZ	Mangateitei	9.95	206	PN	P	00 23 14.6	+2.2
PWZ	Pawanui	10.08	199	P	P	00 23 15.3	+1.3
PWZ	Pawanui	10.08	199	PN	P	00 23 13.7	-0.3
WAZ	Wanganui	10.46	207	eP	P	00 23 20.8	+2.2
WAZ	Wanganui	10.46	207	PN	P	00 23 20.8	+2.2
BFZ	Birch Farm	10.86	200	eP	P	00 23 24.7	+1.2
BFZ	Birch Farm	10.86	200	PN	P	00 23 24.0	+0.5
BFZ				SN	S	00 25 22.6	+1.0
MRZ	Mangatainoka R	11.05	202	eP	P	00 23 23.3	-2.5
MRZ	Mangatainoka R	11.05	202	PN	P	00 23 23.3	-2.6
MRZ				SN	S	00 25 24.4	-1.4
KIW	Kapiti Island	11.45	204	P	P	00 23 30.9	+0.1
KIW	Kapiti Island	11.45	204	PN	P	00 23 30.9	+0.2
KIW				SN	S	00 25 34.8	+0.2
CAW	Cannon Point	11.62	203	P	P	00 23 31.6	-1.2
CAW	Cannon Point	11.62	203	PN	P	00 23 31.6	-1.2
CAW				SN	S	00 25 36.3	-1.9
TRWZ	Traveller	11.69	200	PN	P	00 23 34.1	+0.5
TRWZ				SN	S	00 25 40.3	+0.6
PAWZ	Paruwai Farm	11.75	201	PN	P	00 23 34.9	+0.5
PAWZ				SN	S	00 25 39.7	-1.4
DUWZ	D'Urville Isla	11.77	207	PN	P	00 23 35.1	+0.4
DUWZ				SN	S	00 25 43.0	+1.4
MSWZ	Moikau Station	11.84	202	P	P	00 23 35.8	+0.4
MSWZ	Moikau Station	11.84	202	PN	P	00 23 35.8	+0.3
MSWZ				SN	S	00 25 41.9	-1.1
MRW	Makara Radio	11.85	204	P	P	00 23 34.8	-0.8
MRW	Makara Radio	11.85	204	PN	P	00 23 34.7	-0.9
MRW				SN	S	00 25 43.0	-0.3
TCW	Tory Channel	11.99	205	P	P	00 23 36.7	-0.6
TCW	Tory Channel	11.99	205	PN	P	00 23 36.6	-0.8
TCW				SN	S	00 25 44.7	-1.7
TUWZ	Tuamarina	12.30	206	PN	P	00 23 38.8	-2.4
TUWZ				SN	S	00 25 51.3	-1.9
NNZ	Nelson	12.34	208	eP	P	00 23 41.1	-0.5
NNZ	Nelson	12.34	208	ePN	P	00 23 41.1	-0.5
NNZ				SN	S	00 25 53.5	-0.6
QRZ	Quartz Range	12.38	212	eP	P	00 23 41.4	-0.7
QRZ	Quartz Range	12.38	212	PN	P	00 23 42.9	+0.8
BSWZ	Blackbirch Sta	12.57	205	P	P	00 23 44.6	+0.2
BSWZ	Blackbirch Sta	12.57	205	PN	P	00 23 44.6	+0.2
BSWZ				SN	S	00 25 59.8	+0.6
THZ	Tophouse	12.99	208	eP	P	00 23 49.8	+0.4
THZ	Tophouse	12.99	208	PN	P	00 23 48.4	-1.1
THZ				SN	S	00 26 06.4	-1.9
KHZ	Kahutara	13.31	205	ePN	P	00 23 50.9	-2.3
KHZ				SN	S	00 26 14.1	-1.3
LTZ	Lake Taylor	14.11	207	eP	P	00 24 01.6	-0.9
MQZ	McQueen's Vall	14.75	205	eP	P	00 24 10.0	+0.2
MQZ	McQueen's Vall	14.75	205	ePN	P	00 24 10.0	+0.2
MQZ				SN	S	00 26 43.9	-2.2
RPZ	Rata Peaks	15.37	208	P	P	00 24 16.5	-0.1
	0.8nm,0.3s,baz=349,slow=5.2,SNR=3.2						
RPZ				S	S	00 27 00.2	+1.4
	2.1nm,0.3s,baz=124,slow=18,SNR=8.8						
DZM	Mont Dzumac	15.54	299	P	P	00 24 17.5	-1.1
	3.3nm,0.3s,baz=96,slow=13,SNR=36						
DZM	Mont Dzumac	15.54	299	eP	P	00 24 19.8	+1.3
NOUC	Port Laguerre	15.63	299	eP	P	00 24 20.8	+1.3
ODZ	Otahua Downs	16.64	207	eSN	S	00 27 26.8	+3.3
CTA	Charters Tower	32.99	280	P	P	00 27 01.2	-0.3
	2.2nm,0.7s,mb3.5,baz=75,slow=12,SNR=3.3						
WB2	Warramunga Arr	43.26	273	eP	P	00 28 26.0	-0.3
WRAB	Tennant Creek	43.26	273	P	P	00 28 25.9	-0.4
	3.1nm,0.6s,mb3.6						
WRA	Warramunga Arr	43.27	273	P	P	00 28 26.1	-0.3
	1.6nm,0.3s,mb3.6,baz=110,slow=8.1,SNR=35						
ARCES	ARCESS Array B	138.53	347	PKhKP		00 39 36.8	
	0.6nm,0.4s,baz=27,slow=2.0,SNR=15						
KAF	Kangasniemi	144.38	340	ep	PKPbc	00 39 52.3	+1.3
FINES	FINESS Array B	144.97	339	PKP	PKPdf	00 39 55.1	+2.9
	6.9nm,0.4s,baz=84,slow=3.3,SNR=98						
NB2	NORSAR Subarra	148.74	350	PKPabc	PKPdf	00 40 05.3	+6.9
	0.8nm,0.6s,baz=22,slow=2.9						
NOA	NORSAR Array B	148.74	350	PKPbc	PKPdf	00 40 05.9	+7.6
	0.7nm,0.6s,baz=33,slow=2.7,SNR=7.4						
AKASG	Malin Array Be	150.88	322	PKPbc	PKPdf	00 40 11.6	+10
	3.0nm,0.6s,baz=49,slow=2.7,SNR=18						
AKASG				PKPab	PKPab	00 40 19.8	+0.8
	0.7nm,0.4s,baz=46,slow=4.8,SNR=8.1						
AKASG	Malin Array Be	150.88	322	PKPbc	PKPdf	00 40 11.6	+10
AKASG				PKPab	PKPab	00 40 19.8	+0.8
BRTR	Keskin Array B	151.92	298	PKPbc	PKPdf	00 40 14.7	+11
	0.5nm,0.5s,baz=150,slow=4.3,SNR=5.5						
CLL	Collm	157.41	340	i PKP2	PKPab	00 40 47.4	+0.8
KHC	Kasperske Hory	159.12	336	ePKPab	PKPab	00 40 55.5	+1.5
GERES	GERESS Array B	159.31	336	PKPab	PKPab	00 40 55.8	+1.0
	0.4nm,0.4s,baz=34,slow=4.8,SNR=7.1						

NEIC 16 00:41:17.5±0.4, 7.49N×94.21E, mb4.8/7, Error ellipse: s-maj=15.7km s-min=9.2km az=224.0
BJI 16 00:41:18.4, 7.50N×94.20E, h16km, mb4.3, Ms4.2, Msz3.9
IDC 16 00:41:18.2±0.8, 7.63N×94.16E, h16km±2km, mb4.0/13, mb1 4.1/13, mb1mx4.1/18, mbtmp4.1/13, MS3.6/7, Ms1 3.7/7, ms1mx3.5/17, Error ellipse: s-maj=24.6km s-min=18.6km az=102.0
ISC 16 00:41:15.5±0.6, 7.4N±0.1×94.2E±0.1, h16km±.3km:pP-P, n39, σ1§17/35, mb4.5/25, MS3.7/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.74	107	eP	Pn	00 42 56.1	-0.1
QIZ	Qiongzhong	19.13	51	P	P	00 45 45.6	+5.1
QIZ				AMB	AMB		
	comp=Z,11nm,1.9s						
QIZ				LR	LR		
	comp=N,515nm,12.7s						
QIZ				LR	LR		
	comp=E,245nm,12.4s						
QIZ				LR	LR		
	comp=Z,242nm,9.3s						
KMI	Kunming	19.46	24	P	P	00 45 51.3	+6.9
KMI				AMB	AMB		
	comp=Z,16nm,1.1s						
PKI	Pulchoki	21.76	339	eP	P	00 46 11.0	+2.6
	comp=Z,34nm,0.8s,mb4.9						
DMN	Daman	21.90	338	eP	P	00 46 12.4	+2.6
	comp=Z,106nm,1.1s,mb5.2						
GUN	Gumba	21.90	340	eP	P	00 46 09.8	0.0
KKN	Kakani	22.00	339	eP	P	00 46 11.7	+0.9
	comp=Z,66nm,0.9s,mb5.0						
LSA	Lhasa	22.41	353	P	P	00 46 16.8	+2.0
LSA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
LSA	Lhasa	22.41	353	eP	P	00 46 16.3	+1.5
	comp=Z,35nm,0.8s,mb4.8						
GKN	Gorkha	22.44	337	eP	P	00 46 14.0	-1.1
	comp=Z,32nm,0.7s,mb4.9						
KOLN	Koldanda	22.64	335	eP	P	00 46 18.9	+1.6
	comp=Z,28nm,0.7s,mb4.8						
GTA	Gaotai	32.31	8	eP	P	00 47 45.4	-0.5
GTA				AP	pP	00 47 50.0	-0.7
GTA				XP	sP	00 47 52.9	+0.1
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.4						
WMQ	Urumqi	36.76	352	eP	P	00 48 24.5	+0.4
MKAR	Makanchi Array	40.60	347	P	P	00 48 55.1	-0.9
	comp=Z,11nm,0.9s,mb4.5,baz=164,slow=7.2,SNR=19						
MKAR				pP	pP	00 48 59.8	-1.1
	comp=Z,9.8nm,0.8s,baz=170,slow=7.7,SNR=26						
SONM	Songino Array	41.65	12	P	P	00 49 04.7	0.0
	comp=Z,5.0nm,0.9s,mb4.1,baz=201,slow=11,SNR=8.0						
SONM				pP	pP	00 49 09.3	-0.3
	comp=Z,5.2nm,0.9s,baz=197,slow=10,SNR=11						
KURK	Kurchatov	45.12	346	eP	P	00 49 31.4	-1.4
	comp=Z,32nm,1.2s,mb5.0						
ZAL	Zalesovo	47.06	352	P	P	00 49 47.9	-0.3
	comp=Z,4.1nm,0.3s,mb4.8,baz=305,slow=5.7,SNR=15						
WRA	Warramunga Arr	47.92	125	P	P	00 49 56.4	+1.0
	comp=Z,1.1nm,0.7s,mb4.0,baz=304,slow=8.7,SNR=7.2						
WRAB	Tennant Creek	47.93	125	eP	P	00 49 55.2	-0.2
GNI	Garni	54.83	315	LR	LR	01 14 54.7	
	comp=Z,40nm,21.7s,MS3.5,baz=356,slow=37						
ARU	Arti	56.38	337	eP	P	00 50 56.7	-1.5
	comp=Z,14nm,1.1s,mb4.9						
KMBO	Kilima Mbogo	57.42	264	P	P	00 51 06.2	-0.1
	comp=Z,1.7nm,0.9s,mb4.1,baz=58,slow=19,SNR=4.2						
KMBO				LR	LR	01 11 31.8	
	comp=Z,70nm,19.8s,MS3.8,baz=279,slow=32						
ASF	Jabal al Asfar	58.54	303	LR	LR	01 20 24.1	
	comp=Z,27nm,19.6s,MS3.4,baz=33,slow=40						
BRTR	Keskin Array B	62.80	311	P	P	00 51 41.1	-1.6
	comp=Z,2.2nm,0.6s,mb4.5,baz=129,slow=7.5,SNR=10						
BRTR				pP	pP	00 51 46.1	-1.7
	comp=Z,2.2nm,0.6s,baz=128,slow=7.2,SNR=15						
AKASG	Malin Array Be	68.59	322	P	P	00 52 17.8	-1.9
	comp=Z,0.8nm,0.5s,mb3.9,baz=89,slow=5.0,SNR=5.3						
AKASG				pP	pP	00 52 23.1	-1.6
	comp=Z,1.1nm,0.6s,baz=91,slow=4.5,SNR=5.4						
AKASG	Malin Array Be	68.59	322	P	P	00 52 17.8	-1.9
AKASG				pP	pP	00 52 23.1	-1.6
FINES	FINESS Array B	73.19	332	P	P	00 52 46.6	-0.6
	comp=Z,1.6nm,0.5s,mb4.2,baz=110,slow=5.2,SNR=13						
FINES				pP	pP	00 52 51.5	-0.8
	comp=Z,6.4nm,0.7s,baz=121,slow=8.1,SNR=14						
FINES				LR	LR	01 31 12.7	
	comp=Z,30nm,18.9s,MS3.6,baz=138,slow=41						
FINES	FINESS Array B	73.19	332	P	P	00 52 46.6	-0.6
FINES				pP	pP	00 52 51.5	-0.8
FINES				LR	LR	01 31 12.7	
KAF	Kangasniemi	73.27	333	ep	P	00 52 46.5	-1.1
	comp=Z,7.0nm,0.8s,mb4.6,baz=104,slow=5.6						
KEV	Kevo	75.33	341	ep	P	00 52 58.9	-0.5
	comp=Z,6.1nm,0.8s,mb4.6						
BOSA	Boshof	75.36	238	P	P	00 53 03.3	+2.9
	comp=Z,1.1nm,0.6s,mb4.0,baz=92,slow=12,SNR=3.0						
BOSA				pP	pP	00 53 09.2	+3.7
	comp=Z,3.6nm,0.7s,baz=75,slow=7.9,SNR=4.9						
ARCES	ARCESS Array B	75.76	340	P	P	00 53 01.8	-0.1
	comp=Z,2.4nm,0.9s,mb4.1,baz=100,slow=5.9,SNR=12						
ARCES				pP	pP	00 53 07.0	-0.1
	comp=Z,2.6nm,0.7s,baz=90,slow=4.9,SNR=4.3						
ARCES				LR	LR	01 29 28.1	
	comp=Z,86nm,18.9s,MS4.1,baz=65,slow=38						
BRG	Berggiesshubel	78.18	320	eP	P	00 53 23.0	+7.4
	comp=Z,12nm,1.6s,mb4.6						
GERES	GERESS Array B	78.24	318	P	P	00 53 16.5	+0.4
	comp=Z,3.0nm,0.8s,mb4.3,baz=90,slow=4.0,SNR=12						
GERES				pP	pP	00 53 22.0	+0.8
	comp=Z,3.0nm,0.8s,baz=90,slow=3.9,SNR=15						
HFS	Hagfors	78.92	330	LR	LR	01 32 08.5	
	comp=Z,55nm,19.8s,MS3.9,baz=255,slow=39						
NB2	NORSAR Subarra	80.20	331	P	P	00 53 25.6	-0.8
	comp=Z,1.7nm,0.6s,mb4.2,baz=93,slow=5.6						
NOA	NORSAR Array B	80.20	331	P	P	00 53 26.3	-0.1
	comp=Z,1.5nm,0.8s,mb4.0,baz=97,slow=5.6,SNR=4.9						
NOA				pP	pP	00 53 31.4	-0.2
	comp=Z,4.0nm,0.8s,baz=95,slow=4.9,SNR=9.3						
NOA				LR	LR	01 33 52.5	
	comp=Z,32nm,19.0s,MS3.7,baz=90,slow=40						
ESDC	Sonseca Array	91.59	310	P	P	00 54 24.5	+1.4
	comp=Z,0.6nm,0.7s,mb4.0,baz=43,slow=4.6,SNR=2.4						
ESDC				pP	pP	00 54 29.6	+1.2
	comp=Z,2.3nm,0.9s,baz=64,slow=4.0,SNR=5.5						
PDAR	Pinedale Array	125.62	21	PKP	PKPdf	01 00 17.9	-2.5
	comp=Z,0.5nm,0.9s,baz=307,slow=4.5,SNR=3.2						

PRU 16 00:46:38.3, 44.08N×12.28E
LDG 16 00:46:40.9±0.4, 44.30N×12.21E, h10km, Ml2.7/14, Error ellipse: s-maj=8.0km s-min=4.8km az=97.0
CSEM 16 00:46:40.4±0.1, 44.22N×12.14E, h12km, ML2.9/19, Error ellipse: s-maj=2.7km s-min=2.1km az=62.0
ROM 16 00:46:40.7±0.2, 44.16N×12.08E, h14km±3km, Md2.7/16, Ml2.3/6, 8C-5D, Error ellipse: s-maj=2.4km s-min=1.5km az=139.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRSN	Barisano	0.12	359	⇓iPg	Pg	00 46 44.0	-0.3
BRSN				Sg	Sg	00 46 47.9	+1.2
	903nm,0.2s						
SFI	Santa Sofia	0.30	214	⇑ePg	Pg	00 46 47.5	+0.2
SFI				Sg	Sg	00 46 53.5	+1.8
	370nm,0.5s						
RSM	Repubblica di	0.35	131	Pg	Pg	00 46 48.6	+0.4
	40nm,0.2s						
PGD	Poggio Sodo	0.38	223	Pg	Pg	00 46 48.7	-0.1
PGD				Sg	Sg	00 46 57.3	+3.1
	170nm,0.4s						
VMG	Vicchio	0.43	243	⇑iPg	Pg	00 46 49.5	-0.2
VMG				Sg	Sg	00 46 57.2	+1.4
	311nm,0.7s						
SEI	Scarperia	0.53	259	Pg	Pg	00 46 50.9	-0.7
SEI				Sg	Sg	00 46 59.7	+0.8
	267nm,0.5s						
CRE	Caprese Michel	0.55	190	Pg	Pg	00 46 52.0	+0.1
CRE				Sg	Sg	00 47 02.3	+2.9
	76nm,0.5s						
BADI	Badiali	0.66	170	Pn	Pn	00 46 54.1	-1.2
FSSB	Fossombrone	0.69	133	Pg	Pg	00 46 53.6	-1.0
FSSB				Sg	Sg	00 47 07.0	+3.1
	34nm,0.2s						
FNVD	Fontana Vidola	0.69	271	Pg	Pg	00 46 53.9	-0.8
FNVD				Sg	Sg	00 47 05.2	+1.1
	228nm,0.6s						
CSNT	Castellina Chi	0.89	220	Pg	Pg	00 46 59.3	+0.6
CSNT				Sg	Sg	00 47 13.5	+2.7
	57nm,0.5s						
ARV	Arcevia	0.91	136	Pg	Pg	00 46 58.3	-0.7
	22nm,0.3s						
RAVA	Ravarino	0.91	311	⇓iPg	Pg	00 46 59.7	+0.6
RAVA				Sg	Sg	00 47 13.9	+2.6
MURB	Monte Urbino	0.95	160	Pg	Pg	00 47 00.1	+0.2
	138nm,0.3s						
BDI	Bagni Di Lucca	1.07	265	Pg	Pg	00 47 02.5	+0.2
	18nm,0.1s						
GSCL	Gusciola	1.09	281	⇑iPg	Pg	00 47 03.1	+0.5
GSCL				Sg	Sg	00 47 19.4	+2.2
	12nm,0.5s						
CING	Cingoli	1.12	134	Pg	Pg	00 47 02.9	-0.4
CING				Sg	Sg	00 47 20.8	+2.4
	27nm,0.5s						
PII	Pisa	1.21	249	⇑iPg	Pg	00 47 03.0	-1.9
PII				Sg	Sg	00 47 22.6	+1.5
	34nm,0.2s						
ERBM	Eremo	1.23	283	Pg	Pg	00 47 05.1	-0.2
ERBM				Sg	Sg	00 47 22.7	+1.0
	26nm,0.6s						
GRFL	Gerfalco	1.29	219	Pg	Pg	00 47 05.2	-1.4
	10.0nm,0.8s						
SACS	San Casciano d	1.31	185	Pg	Pg	00 47 06.2	-0.9
SACS				Sg	Sg	00 47 25.6	+0.9
	34nm,0.7s						
ARCI	Arcidosso	1.38	199	Pn	Pn	00 47 06.8	+1.2
	55nm,1.0s						
NRCA	Norcia	1.52	150	Pn	Pn	00 47 09.3	+1.6
NRCA				Sn	Sn	00 47 32.3	+5.0
	7.0nm,0.4s						
LNSS	Leonessa	1.71	155	Pn	Pn	00 47 12.7	+2.4
MNS	Montasola	1.83	166	Pn	Pn	00 47 13.0	+1.0
MNS				Sn	Sn	00 47 39.7	+4.7
	5.0nm,0.3s						
NVLJ	Novalja	2.04	78	i Pn	Pn	00 47 13.2	-1.9
NVLJ				i Sn	Sn	00 47 37.7	-2.8
NVLJ	Novalja	2.04	78	i Pn	Pn	00 47 13.1	-2.0
NVLJ				i Sn	Sn	00 47 37.6	-2.9
JAVS	Javornik	2.23	38	i Pn	Pn	00 47 14.6	-3.2
VOY	Vojsko	2.27	34	ePn	Pn	00 47 15.8	-2.6
VOY				eSn	Sn	00 47 42.7	-3.6
CADS	Cadrg	2.38	29	i Pn	Pn	00 47 16.6	-3.3
PGF	Pioggiola	2.77	235	ePn	Pn	00 47 25.0	-0.4
PGF				eSn	Sn	00 47 59.2	+0.3
	8.6nm,0.5s						
OBKA	Obir	2.92	36	⇑iPN	Pn	00 47 25.9	-1.8
OBKA				i SG	Sg	00 48 12.3	-5.9
	14nm,0.4s						
WTTA	Wattenberg	3.12	354	⇑iPN	Pn	00 47 29.5	-1.0
WTTA				i SN	Sn	00 48 06.2	-1.7
SQTA	Sankt Quirin	3.12	349	⇓iPN	Pn	00 47 30.7	+0.2
SQTA				i SN	Sn	00 48 08.1	+0.2
WATA	Walderalm	3.20	354	⇑iPN	Pn	00 47 30.8	-0.8
WATA				i SN	Sn	00 48 08.7	-1.1
MOTA	Moosalm	3.26	348	⇑iPN	Pn	00 47 31.8	-0.6
MOTA				i SN	Sn	00 48 11.7	+0.3
SBF	Sospel	3.37	267	ePn	Pn	00 47 33.0	-1.0
SBF				eSn	Sn	00 48 13.0	-1.0
	3.7nm,0.2s						
DAVA	Damuels	3.49	335	⇓iPN	Pn	00 47 35.1	-0.6
DAVA				i SN	Sn	00 48 17.3	+0.2
MBDF	Montbardon	3.84	280	ePn	Pn	00 47 38.5	-2.3
MBDF				eSn	Sn	00 48 20.4	-5.8
	2.0nm,0.3s						
FRF	La Foret Royal	3.98	263	ePn	Pn	00 47 41.5	-1.1
FRF				eSn	Sn	00 48 25.8	-3.7
	2.2nm,0.3s						
MOA	Molln	3.99	22	⇓iPN	Pn	00 47 40.7	-2.2
MOA				i SN	Sn	00 48 27.1	-2.8
LPG	La Plagne	4.02	291	ePn	Pn	00 47 40.3	-3.0
LPG				eSn	Sn	00 48 24.5	-6.2
	3.6nm,0.4s						
LPL	La Plagne	4.04	291	ePn	Pn	00 47 40.4	-3.1
LPL				eSn	Sn	00 48 26.3	-4.8
	3.5nm,0.4s						
LMR	La Mourre	4.12	260	ePn	Pn	00 47 43.3	-1.4
LMR				eSn	Sn	00 48 30.9	-2.3
	1.2nm,0.3s						
ORIF	Oris-en-Rattie	4.50	282	ePn	Pn	00 47 48.7	-1.4
ORIF				eSn	Sn	00 48 38.8	-3.9
	2.5nm,0.4s						
CABF	La Chapelle	4.88	302	ePn	Pn	00 47 53.0	-2.5
KHC	Kasperske Hory	5.08	11	ePN	Pn	00 47 53.4	-4.9
KHC				eSN	Sn	00 48 50.9	-6.5
HINF	Hinteralfeld	5.16	317	ePn	Pn	00 47 55.8	-3.6
HINF				eSn	Sn	00 48 49.9	-10
	2.9nm,0.3s						
VIVF	Saint-Julien-l	5.34	280	ePn	Pn	00 47 59.0	-3.0
CDF	Champ du Feu	5.40	324	ePn	Pn	00 47 59.2	-3.6
CDF				eSn	Sn	00 48 55.8	-10
	1.4nm,0.3s						
HAU	Haudompre	5.54	316	ePn	Pn	00 48 01.0	-3.8
HAU				eSn	Sn	00 48 59.8	-9.2
	3.0nm,0.3s						
LASF	Ste Croix	5.92	272	ePn	Pn	00 48 07.6	-2.6
SMF	Signal de Mont	6.31	296	ePn	Pn	00 48 12.1	-3.6
SMF				eSn	Sn	00 49 21.1	-7.1
	1.0nm,0.2s						
LOR	Lormes	6.54	301	ePn	Pn	00 48 15.2	-3.7
LOR				eSn	Sn	00 49 25.3	-8.7
	1.9nm,0.3s						
SSF	Saint Saulge	6.68	299	ePn	Pn	00 48 16.9	-3.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BGF	**Bois d'Agland**	**6.93**	**293**	*e*Pn	Pn	00 48 20.6	-3.8
BGF				*e*Sn	Sn	00 49 36.0	-7.8
	2.7nm,0.3s						
MTLF	**Montolieu**	**7.19**	**267**	*e*Pn	Pn	00 48 25.8	-2.2

*MOS **16** 01:12:01.5±0.6, 45.81N×26.67E, h95km, mb3.9/1, Error ellipse: s-maj=7.7km s-min=4.1km az=87.6*
*IDC **16** 01:12:02.0±1.1, 46.00N×26.78E, h45km±22km, mb3.3/2, mb1 3.3/7, mb1mx3.2/20, mbtmp3.3/7, ML3.1/5, Error ellipse: s-maj=25.2km s-min=12.5km az=115.0*
*CSEM **16** 01:12:01.2±0.1, 45.77N×26.66E, h100km, MD4.2/4, Error ellipse: s-maj=1.9km s-min=1.8km az=79.0*
*NEIC **16** 01:12:02.9, 45.82N×26.71E, h90km, mb3.0/1, After BUC.*
*BUC **16** 01:12:02.4±0.7, 45.80N×26.65E, h87km±7km, MD4.2/4, Error ellipse: s-maj=6.3km s-min=4.5km az=12.0*
*SOF **16** 01:12:05.0, 45.72N×26.50E, h54km, MD3.2*
*THE **16** 01:12:08.0, 45.21N×26.36E, h6km, ML3.6*
ISC 16 01:12:01.4±0.3**, 45.79N**±0.02×**26.67E**±0.03**, h97**km±3km**, n90, σ0.96**/123**, mb3.4**/2**, 14C-10D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.08**	**27**	⇑*i*P	**P**	**01 12 15.0**	**0.0**
VRI				*i* S	**S**	**01 12 23.9**	**-1.4**
VRI	**Vrincioaia**	**0.08**	**27**	⇑*i*P	**P**	**01 12 14.9**	**-0.1**
VRI				*i* S	**S**	**01 12 23.9**	**-1.4**
BRD	**Bordesti**	**0.35**	**134**	⇑*i*P	**P**	**01 12 17.3**	**+1.4**
BRD				*i* S	**S**	**01 12 26.7**	**-0.2**
MLR	**Muntele Rosu**	**0.59**	**240**	P	**P**	**01 12 17.9**	**+0.1**
	200nm,0.3s,baz=24,slow=3.0,SNR=6134						
MLR				S	**S**	**01 12 28.4**	**-1.6**
	328nm,0.3s,baz=197,slow=20,SNR=28						
MLR	**Muntele Rosu**	**0.59**	**240**	⇑*i*P	**P**	**01 12 18.1**	**+0.4**
MLR				*i* S	**S**	**01 12 28.7**	**-1.3**
MLR	**Muntele Rosu**	**0.59**	**240**	⇑*i*P	**P**	**01 12 18.1**	**+0.3**
MLR				*i* S	**S**	**01 12 28.7**	**-1.3**
ISR	**Istrita**	**0.68**	**188**	⇑*i*P	**P**	**01 12 19.7**	**+1.1**
ISR				*i* S	**S**	**01 12 28.9**	**-2.5**
ISR	**Istrita**	**0.68**	**188**	⇑*i*P	**P**	**01 12 19.7**	**+1.1**
ISR				S	**S**	**01 12 28.9**	**-2.5**
SNX	**Sinaia**	**0.92**	**242**	⇑*i*P	**P**	**01 12 21.8**	**+0.8**
SNX				*i* S	**S**	**01 12 35.5**	**-0.1**
VOIR		**1.20**	**253**	⇑*i*P	**P**	**01 12 24.2**	**0.0**
VOIR				*i* S	**S**	**01 12 40.4**	**-0.8**
CFR	**Carcaliu**	**1.20**	**120**	⇓*i*P	**P**	**01 12 24.6**	**+0.3**
CFR				*i* S	**S**	**01 12 42.6**	**+1.3**
MTUR	**Matau**	**1.27**	**244**	⇑*i*P	**P**	**01 12 26.4**	**+1.3**
MTUR				*i* S	**S**	**01 12 49.2**	**+6.4**
MTUR	**Matau**	**1.27**	**244**	⇑*i*P	**P**	**01 12 26.4**	**+1.3**
MTUR				S	**S**	**01 12 49.2**	**+6.4**
HARR	**Harsova**	**1.42**	**141**	⇓*i*P	**P**	**01 12 27.7**	**+0.8**
HARR				*i* S	**S**	**01 12 45.2**	**-0.6**
BUC	**Bucharest**	**1.44**	**197**	*i* S	**S**	**01 12 47.8**	**+1.5**
BUC1	**Bucharest**	**1.52**	**198**	⇑*i*P	**P**	**01 12 29.0**	**+0.9**
BUC1				*i* S	**S**	**01 12 47.8**	**-0.1**
IAS	**Iasi**	**1.53**	**23**	⇑*i*P	**P**	**01 12 29.1**	**+0.8**
IAS				*i* S	**S**	**01 12 47.7**	**-0.5**
TLCR		**1.62**	**111**	⇑*i*P	**P**	**01 12 30.8**	**+1.3**
TLCR				*i* S	**S**	**01 12 51.4**	**+1.2**
TIRR	**Tirgusor**	**1.82**	**137**	P	**P**	**01 12 32.9**	**+1.0**
TIRR				*i* S	**S**	**01 12 53.9**	**-0.6**
KIS	**Kishinev**	**1.91**	**50**	*e*P	**P**	**01 12 34.0**	**+0.9**
KIS				*i* S	**S**	**01 12 56.0**	**-0.6**
KIS				smax			
	comp=N,460nm,0.6s						
KIS				smax			
	comp=E,410nm,0.7s						
KIS	**Kishinev**	**1.91**	**50**	*e*P	**P**	**01 12 34.0**	**+0.9**
KIS				*i* S	**S**	**01 12 56.0**	**-0.6**
	comp=E,460nm,0.6s						
ZIMR		**2.33**	**204**	⇓*i*P	**P**	**01 12 39.0**	**+0.1**
ZIMR				*i* S	**S**	**01 13 05.3**	**-1.5**
ZIMR		**2.33**	**204**	⇓*i*P	**P**	**01 12 39.0**	**+0.1**
ZIMR				S	**S**	**01 13 05.3**	**-1.5**
PSN	**Preselentsi**	**2.37**	**152**	*i* P	**P**	**01 12 40.5**	**+1.1**
SZH	**Strazhica**	**2.58**	**192**	*i* P	**P**	**01 12 42.2**	**-0.1**
PRD	**Provadia**	**2.65**	**168**	*i* P	**P**	**01 12 44.2**	**+1.0**
PVL	**Pavlikeni**	**2.75**	**201**	*i* P	**P**	**01 12 46.3**	**+1.7**
DRGR		**2.92**	**291**	⇓*i*P	**P**	**01 12 46.8**	**-0.2**
DRGR				*i* S	**S**	**01 13 21.5**	**+0.2**
JMB	**Yambol**	**3.33**	**181**	*i* P	**P**	**01 12 52.5**	**-0.1**
PGB	**Panagyurishte**	**3.71**	**210**	*e*P	**P**	**01 12 58.3**	**+0.5**
ZAPS	**Zavoj/Pirot**	**3.83**	**231**	⇓*i*Pn	**P**	**01 12 58.5**	**-0.9**
ZAPS				Sn	**S**	**01 13 43.9**	**+0.4**
EDRB	**Edirne**	**3.95**	**179**	PN	**P**	**01 13 01.6**	**+0.5**
VTS	**Vitosha**	**4.06**	**219**	*e*P	**P**	**01 13 01.0**	**-1.6**
VTS	**Vitosha**	**4.06**	**219**	⇓*i*P	**P**	**01 13 02.3**	**-0.3**
VTS				*i* S	**S**	**01 13 45.2**	**-4.0**
VTS	**Vitosha**	**4.06**	**219**	⇓*i*P	**P**	**01 13 02.3**	**-0.3**
VTS				*i* S	**S**	**01 13 45.2**	**-4.0**
KDZ	**Kurdzhali**	**4.24**	**193**	*e*P	**P**	**01 13 05.5**	**+0.4**
KOLS	**Kolonicke sedl**	**4.34**	**318**	*i* PN	**P**	**01 13 07.0**	**+0.6**
RZN	**Rozhen**	**4.34**	**200**	*i* P	**P**	**01 13 07.5**	**+1.0**
KWP	**Kalwaria**	**4.68**	**327**	*e*Pn	**P**	**01 13 12.4**	**+1.3**
KWP				*e*		01 13 13.4	
KWP	**Kalwaria**	**4.68**	**327**	*e*Pn	**P**	**01 13 12.4**	**+1.3**
KWP				*e*		01 13 13.4	
KKB	**Krupnik**	**4.71**	**215**	*i* P	**P**	**01 13 12.0**	**+0.5**
CRVS	**Cervenica-Dubn**	**4.71**	**313**	*i* PN	**P**	**01 13 11.2**	**-0.4**
MMB	**Musomiste**	**4.71**	**208**	*e*P	**P**	**01 13 12.2**	**+0.6**
CTT	**Catalca**	**4.82**	**164**	PN	**P**	**01 13 11.8**	**-1.2**
ALN	**Alexandroupoli**	**4.92**	**186**	*e*Pn	**P**	**01 13 14.1**	**-0.2**
	comp=E,1.9nm,0.6s						
ALN				*e*Sn	**S**	**01 14 06.5**	**-3.9**
KECS	**Kecovo**	**5.01**	**305**	*i* PN	**P**	**01 13 15.1**	**-0.5**
KECS				*e*		01 13 21.8	
ISK	**Istanbul-Kandi**	**5.04**	**159**	PN	**P**	**01 13 14.5**	**-1.5**
PSZ	**Piszkesteto**	**5.11**	**297**	*e*P	**P**	**01 13 15.6**	**-1.4**
PSZ	**Piszkesteto**	**5.11**	**297**	⇓*i*P	**P**	**01 13 10.2**	**-6.8**
PSZ	**Piszkesteto**	**5.11**	**297**	*e*P	**P**	**01 13 15.6**	**-1.4**
STHS	**Stebnicka Huta**	**5.16**	**317**	*i* PN	**P**	**01 13 18.3**	**+0.7**
SRS	**Serrai**	**5.18**	**207**	*e*Pn	**P**	**01 13 18.3**	**+0.3**
AKASG	**Malin Array Be**	**5.20**	**18**	P	**P**	**01 13 14.6**	**-3.5**
	comp=E,1.6nm,0.3s,baz=201,slow=13,SNR=6.1						
AKASG				S	**S**	**01 14 10.8**	**-6.5**
	comp=E,19nm,0.3s,baz=196,slow=23,SNR=24						
AKASG	**Malin Array Be**	**5.20**	**18**	P	**P**	**01 13 14.6**	**-3.5**
AKASG				S	**S**	**01 14 10.8**	**-6.5**
BADT	**Buyukada**	**5.25**	**159**	PN	**P**	**01 13 17.9**	**-0.9**
SIM	**Simferopol'**	**5.31**	**96**	*e*P	**P**	**01 13 19.3**	**-0.4**
SIM				*e*S	**S**	**01 14 16.1**	**-4.0**
KNT	**Kendrikon**	**5.38**	**212**	*e*Pn	**P**	**01 13 21.3**	**+0.6**
KNT				*e*Sn	**S**	**01 14 17.1**	**-4.9**
KNT	**Kendrikon**	**5.38**	**212**	*e*Pn	**P**	**01 13 21.3**	**+0.7**
KNT				*e*Sn	**S**	**01 14 17.0**	**-4.9**
HRT	**Hereke**	**5.43**	**155**	PN	**P**	**01 13 19.7**	**-1.6**
SOH	**Sokhos**	**5.53**	**207**	*e*Pn	**P**	**01 13 23.0**	**+0.4**
YLV	**Yalova**	**5.58**	**158**	PN	**P**	**01 13 22.5**	**-0.9**
PKSM	**Moragy**	**5.61**	**277**	⇓*i*P	**P**	**01 13 23.3**	**-0.5**
GRG	**Griva**	**5.75**	**214**	*e*Pn	**P**	**01 13 25.9**	**+0.3**
OUR	**Ouranopolis**	**5.80**	**201**	*e*Pn	**P**	**01 13 26.2**	**-0.1**
	comp=E,1.6nm,0.2s						
HENT	**Hendek**	**5.85**	**147**	*i* P	**P**	**01 13 28.0**	**+1.0**
GPA	**Golpazari**	**6.11**	**153**	PN	**P**	**01 13 29.9**	**-0.7**
PAIG	**Paliouri**	**6.26**	**202**	*e*Pn	**P**	**01 13 32.3**	**-0.5**
SAFT	**Safranbolu**	**6.31**	**134**	PN	**P**	**01 13 31.9**	**-1.6**
FNA	**Florina**	**6.33**	**220**	*e*Pn	**P**	**01 13 34.3**	**+0.7**
FNA				*e*Sn	**S**	**01 14 41.4**	**-3.6**
DST	**Dursunbey**	**6.35**	**166**	*e*PN	**P**	**01 13 34.0**	**0.0**
OJC	**Ojcow**	**6.39**	**316**	*e*Pn	**P**	**01 13 34.2**	**-0.4**
BALT	**Daday**	**6.46**	**129**	*i* P	**P**	**01 13 34.3**	**-1.2**
SGKT	**Sivrigoynuk**	**6.53**	**141**	*i* P	**P**	**01 13 37.5**	**+1.0**
XOR	**Xorichti**	**6.92**	**203**	*e*Pn	**P**	**01 13 41.4**	**-0.4**
ESKT	**Eskisehir**	**6.98**	**152**	*e*PN	**P**	**01 13 41.4**	**-1.4**
ESKT	**Eskisehir**	**6.98**	**152**	*i* P	**P**	**01 13 42.8**	**0.0**
ELDT	**Eldivan**	**7.24**	**135**	*i* P	**P**	**01 13 45.9**	**-0.3**
BOYT	**Boyabat**	**7.40**	**123**	*i* P	**P**	**01 13 47.5**	**-0.9**
MANT	**Manisa**	**7.43**	**168**	*i* P	**P**	**01 13 49.0**	**+0.2**
CTKT	**Corum**	**7.86**	**128**	*i* P	**P**	**01 13 54.2**	**-0.5**
KIZT	**Kizilcal**	**7.91**	**149**	*e*PN	**P**	**01 13 54.7**	**-0.6**
BRTR	**Keskin Array B**	**7.94**	**137**	P	**P**	**01 13 55.1**	**-0.6**
	comp=E,0.4nm,0.3s,baz=330,slow=11,SNR=17						
TKTP	**Tekketepe**	**8.21**	**159**	*i* P	**P**	**01 14 00.0**	**+0.6**
GERES	**GERESS Array B**	**9.32**	**294**	P	**P**	**01 14 15.0**	**+0.6**
	comp=E,0.1nm,0.3s,baz=108,slow=19,SNR=3.0						
FINES	**FINESS Array B**	**15.68**	**359**	P	**P**	**01 15 35.0**	**-2.7**
	comp=E,0.1nm,0.3s,baz=175,slow=17,SNR=3.4						
HFS	**Hagfors**	**16.30**	**336**	P	**P**	**01 15 44.0**	**-1.4**
	comp=E,0.0nm,0.3s,baz=135,slow=16,SNR=6.8						
KAF	**Kangasniemi**	**16.35**	**359**	*e*P	**P**	**01 15 45.9**	**-0.1**
	comp=E,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**23.82**	**359**	P	**P**	**01 17 08.0**	**+2.4**
	comp=E,0.8nm,0.6s,mb3.2,baz=178,slow=9.7,SNR=11						
MKAR	**Makanchi Array**	**37.76**	**68**	P	**P**	**01 19 12.5**	**+3.4**
	comp=E,0.4nm,0.5s,mb3.5,baz=258,slow=8.3,SNR=4.6						
MKAR	**Makanchi Array**	**37.76**	**68**	P	**P**	**01 19 12.5**	**+3.4**

IDC 16 01:19:22.3±2.3**, 7.88N**×**93.67E, mb3.7**/5**, mb1 3.9**/5**, mb1mx3.6**/18**, mbtmp3.7**/5**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.7**/35**, Error ellipse: s-maj=93.1km s-min=29.5km az=58.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.98**	**348**	P	P	01 26 58.7	-1.6
	1.0nm,0.7s,baz=180,slow=8.5,SNR=6.2						
SONM	**Songino Array**	**41.26**	**13**	P	P	01 27 08.5	-2.3
	0.6nm,0.9s,baz=180,slow=11,SNR=3.6						
ZAL	**Zalesovo**	**46.48**	**353**	P	P	01 27 51.9	-1.0
	1.3nm,0.3s,baz=273,slow=5.2,SNR=4.2						
WRA	**Warramunga Arr**	**48.64**	**125**	P	P	01 28 08.4	-1.9
	0.3nm,0.4s,baz=304,slow=8.7,SNR=4.6						
MJAR	**Matsushiro Arr**	**49.51**	**48**	LR	LR	01 49 21.8	
	comp=Z,64nm,18.9s,baz=210,slow=36						
FINES	**FINESS Array B**	**72.49**	**332**	P	P	01 30 50.2	-2.3
	0.6nm,0.7s,baz=135,slow=14,SNR=4.1						

*IDC **16** 01:30:19.9±0.8, 19.11N×121.06E, mb3.8/8, mb1 4.1/9, mb1mx3.8/19, mbtmp3.9/9, ML4.2/1, MS3.7/6, Ms1 3.7/6, ms1mx3.4/33, Error ellipse: s-maj=49.8km s-min=17.4km az=72.0*
*MAN **16** 01:30:23.3, 19.24N×121.06E, h14km, mb5.0, ML3.9, MS4.0*
*NEIC **16** 01:30:24.7±5.4, 19.09N×121.05E, h33km±39km, mb4.0/1, Error ellipse: s-maj=25.6km s-min=11.0km az=71.0*
*BJI **16** 01:30:26.0, 19.10N×121.00E, h33km, mB4.5, mb4.3, Ms3.9, Msz3.8*
ISC 16 01:30:21.3±1.8**, 19.29N**±0.03×**120.92E**±0.06**, h8**km±13km**, n29, σ1.06**/34**, mb3.9**/11**, MS3.8**/5**, 2C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APYP	**Conner**	**1.46**	**168**	*e*P	**Pn**	**01 30 46.8**	**-1.2**
APYP				*e*S	**Sb**	**01 31 06.6**	**-0.1**
SGCP	**Mt. Cagua**	**1.49**	**134**	*e*P	**Pn**	**01 30 46.8**	**-1.6**
BBP	**Basco**	**1.50**	**40**	*e*P	**Pn**	**01 30 49.4**	**+0.7**
BBP				*e*S	**Sb**	**01 31 08.6**	**+0.4**
ABRA	**Dolores**	**1.65**	**187**	*e*P	**Pn**	**01 30 51.5**	**+0.8**
ABRA				*e*S	**Sn**	**01 31 15.0**	**+2.7**
CVP	**Callao Caves**	**1.80**	**152**	⇑*e*P	**Pn**	**01 30 52.0**	**-0.8**
CAUP	**Cauayan**	**2.49**	**160**	*e*P	**Pn**	**01 31 04.6**	**+1.9**
BCPH	**Baguio City Da**	**2.91**	**186**	⇑*e*P	**Pn**	**01 31 08.4**	**-0.4**
BCPH				*e*S	**Sn**	**01 31 47.4**	**+3.0**
BOLP	**Bolinao**	**3.05**	**199**	*e*P	**Pn**	**01 31 11.8**	**+1.0**
BOLP				*e*S	**Sn**	**01 31 47.3**	**-0.6**
BALP	**Baler**	**3.59**	**170**	*e*P	**Pn**	**01 31 19.1**	**+0.7**
BALP				*e*S	**Sn**	**01 32 01.4**	**0.0**
SCZP	**Santa Cruz**	**3.63**	**196**	*e*P	**Pn**	**01 31 19.1**	**+0.1**
SCZP				*e*S	**Sn**	**01 32 07.2**	**+4.7**
POLP	**Polilio Island**	**4.64**	**168**	*e*P	**Pn**	**01 31 32.2**	**-1.2**
POLP				*e*S	**Sn**	**01 32 27.7**	**-0.4**
YHNB	**Yeheng**	**5.37**	**4**	*e*P	**Pn**	**01 31 45.1**	**+1.5**
JOW	**Kunigami**	**10.10**	**41**	LR	LR	01 36 33.0	
	comp=Z,398nm,18.0s,baz=322,slow=37						
QIZ	**Qiongzhong**	**10.48**	**270**	*e*P	**P**	**01 32 54.0**	**-1.0**
QIZ				LR	LR		
	comp=N,336nm,11.9s						
QIZ				LR	LR		
	comp=E,384nm,14.2s						
QIZ				LR	LR		
	comp=Z,601nm,13.8s						
JNU	**Nakatsue**	**16.40**	**31**	Pn	**P**	**01 34 13.9**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=208,slow=14,SNR=4.7						
JNU				LR	LR	01 40 24.0	
	comp=Z,106nm,20.9s,baz=212,slow=37						
CD2	**Chengdu**	**19.35**	**310**	*e*P	**P**	**01 34 50.6**	**+0.7**
JHJ	**Hachijo jima 2**	**21.77**	**47**	LR	LR	01 41 59.1	
	comp=Z,107nm,20.3s,MS3.2,baz=64,slow=32						
LZH	**Lanzhou**	**22.49**	**322**	*e*P	**P**	**01 35 31.3**	**+8.7**
LZH				XP		01 35 44.9	
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb4.5						
LZH				AMB	AMB		
	comp=Z,98nm,4.5s						
LZH				LR	LR		
	comp=N,191nm,13.3s						
LZH				LR	LR		
	comp=Z,296nm,17.5s,MS3.8						
MJAR	**Matsushiro Arr**	**22.93**	**38**	P	**P**	**01 35 32.0**	**+5.1**
	comp=Z,1.2nm,0.4s,mb3.7,baz=242,slow=13,SNR=9.4						
SONM	**Songino Array**	**30.83**	**341**	P	**P**	**01 36 40.0**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=172,slow=8.7,SNR=4.1						
SONM				LR	LR	01 49 14.7	
	comp=Z,115nm,21.7s,MS3.5,baz=105,slow=37						
FITZ	**Fitzroy Crossi**	**37.45**	**173**	P	**P**	**01 37 33.6**	**-3.5**
	comp=Z,1.9nm,0.7s,mb4.0,baz=330,slow=8.1,SNR=2.4						
WRA	**Warramunga Arr**	**41.15**	**161**	P	**P**	**01 38 03.9**	**-3.9**
	comp=Z,0.7nm,0.6s,mb3.5,baz=347,slow=8.7,SNR=9.2						
WRA				PcP	PcP	01 40 05.4	-2.5
	comp=Z,1.5nm,1.0s,baz=356,slow=3.2,SNR=5.2						
MKAR	**Makanchi Array**	**41.79**	**320**	P	**P**	**01 38 12.4**	**-0.4**
	comp=Z,1.0nm,0.7s,mb3.5,baz=117,slow=8.1,SNR=5.6						
ZAL	**Zalesovo**	**44.28**	**330**	P	**P**	**01 38 32.8**	**-0.2**
	comp=Z,0.8nm,0.4s,mb3.8,baz=134,slow=17,SNR=3.2						
ZAL				LR	LR	01 58 58.1	
	comp=Z,205nm,18.1s,MS4.1,baz=94,slow=39						
BVAR	**Borovoye Array**	**51.36**	**323**	P	**P**	**01 39 29.0**	**+0.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=127,slow=7.4,SNR=3.9						
ZRNK	**Zerenda**	**52.12**	**323**	P	**P**	**01 39 32.9**	**-1.1**
	comp=Z,1.5nm,0.8s,mb4.0						
ARCES	**ARCESS Array B**	**73.97**	**339**	P	**P**	**01 41 57.4**	**-1.2**
	comp=Z,2.6nm,0.9s,mb4.2,baz=54,slow=7.8,SNR=6.6						
YKA	**Yellowknife Ar**	**87.56**	**23**	P	**P**	**01 43 09.8**	**-0.8**
	comp=Z,2.0nm,0.9s,mb4.4,baz=316,slow=5.1,SNR=11						
DAVOX	**Davos**	**89.69**	**320**	LR	LR	02 26 27.0	
	comp=Z,91nm,19.7s,MS4.2,baz=77,slow=38						

*LJU **16** 01:37:29.5, 45.54N×14.26E, h8km, ML1.6*
*CSEM **16** 01:37:30.1±0.1, 45.55N×14.28E, h12km, ML2.5/8, Error ellipse: s-maj=2.2km s-min=1.4km az=22.0*
*ROM **16** 01:37:32.5±1.0, 45.54N×14.00E, h17km±5km, Md2.5/3, Error ellipse: s-maj=36.3km s-min=8.6km az=109.0*
ISC 16 01:37:29.7±0.7**, 45.56N**±0.03×**14.28E**±0.03**, h13**km±12km**, n31, σ0.70**/59**, 2C-2D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEY	**Cerknica**	**0.21**	**30**	⇓*i*Pg	**Pg**	**01 37 34.2**	**-0.4**
CEY				*i* Sg	**Sg**	**01 37 37.5**	**-0.4**
	comp=Z,66nm,0.1s						
CEY	**Cerknica**	**0.21**	**30**	Pg	**Pg**	**01 37 34.2**	**-0.4**
CEY				*i* Sg	**Sg**	**01 37 37.5**	**-0.3**
	comp=Z,66nm,0.1s						
JAVS	**Javornik**	**0.37**	**336**	*i* Pg	**Pg**	**01 37 36.8**	**-0.7**
JAVS				*i* Sg	**Sg**	**01 37 42.3**	**-0.3**
	comp=Z,23nm,0.1s						
JAVS	**Javornik**	**0.37**	**336**	*i* Pg	**Pg**	**01 37 36.8**	**-0.7**
JAVS				*i* Sg	**Sg**	**01 37 42.3**	**-0.3**
	comp=Z,23nm,0.1s						
TRI	**Trieste**	**0.39**	**293**	Pg	**Pg**	**01 37 38.0**	**+0.1**
TRI				Sg	**Sg**	**01 37 43.4**	**+0.1**
	comp=Z,18nm,0.3s						
VISS	**Visnje**	**0.47**	**58**	*i* Pg	**Pg**	**01 37 39.1**	**-0.2**
VISS				*i* Sg	**Sg**	**01 37 45.9**	**+0.1**
	comp=Z,6.0nm,0.1s						
VISS	**Visnje**	**0.47**	**58**	*i* Pg	**Pg**	**01 37 39.1**	**-0.2**
VISS				*i* Sg	**Sg**	**01 37 45.9**	**+0.1**
	comp=Z,6.0nm,0.1s						
LJU	**Ljubljana**	**0.52**	**20**	*i* Pg	**Pg**	**01 37 40.2**	**-0.2**
LJU				*i* Sg	**Sg**	**01 37 48.4**	**+1.0**
VOJS	**Vojsko**	**0.55**	**330**	*i* Pg	**Pg**	**01 37 40.1**	**-0.8**
VOJS				*i* Sg	**Sg**	**01 37 48.8**	**+0.4**
BOJS	**Bojanci**	**0.69**	**94**	*i* Pg	**Pg**	**01 37 43.8**	**+0.1**
BOJS				*i* Sg	**Sg**	**01 37 53.3**	**+0.3**
	comp=Z,4.0nm,0.1s						
BOJS	**Bojanci**	**0.69**	**94**	*i* Pg	**Pg**	**01 37 43.8**	**+0.1**
BOJS				*i* Sg	**Sg**	**01 37 53.3**	**+0.3**
	comp=Z,4.0nm,0.1s						
PDKS	**Podkum**	**0.71**	**45**	*i* Pg	**Pg**	**01 37 44.1**	**-0.1**
PDKS				*i* Sg	**Sg**	**01 37 54.0**	**+0.1**
	comp=Z,5.0nm,0.1s						
DRE	**Drenchia**	**0.76**	**325**	⇑*i*Pg	**Pg**	**01 37 43.7**	**-1.4**
DRE				*i* Sg	**Sg**	**01 37 55.7**	**+0.4**
CADS	**Cadrg**	**0.77**	**331**	*i* Pg	**Pg**	**01 37 43.9**	**-1.4**
CADS				*i* Sg	**Sg**	**01 37 55.5**	**-0.1**
	comp=Z,6.0nm,0.1s						
CADS	**Cadrg**	**0.77**	**331**	*i* Pg	**Pg**	**01 37 43.9**	**-1.4**
CADS				*i* Sg	**Sg**	**01 37 55.5**	**-0.2**
	comp=Z,6.0nm,0.1s						
GORS	**Gorjuse**	**0.79**	**346**	*i* Pg	**Pg**	**01 37 44.5**	**-1.1**
GORS				*i* Sg	**Sg**	**01 37 56.9**	**+0.7**
	comp=Z,4.0nm,0.1s						
GORS	**Gorjuse**	**0.79**	**346**	*i* Pg	**Pg**	**01 37 44.5**	**-1.1**
GORS				*i* Sg	**Sg**	**01 37 56.9**	**+0.7**
	comp=Z,4.0nm,0.1s						
LEGS	**Legarje**	**0.83**	**61**	*i* Pg	**Pg**	**01 37 45.9**	**-0.5**
LEGS				*i* Sg	**Sg**	**01 37 57.4**	**-0.2**
	comp=Z,5.0nm,0.1s						
LEGS	**Legarje**	**0.83**	**61**	*i* Pg	**Pg**	**01 37 45.9**	**-0.6**
LEGS				*i* Sg	**Sg**	**01 37 57.4**	**-0.2**
	comp=Z,5.0nm,0.1s						
ROBS	**Robic**	**0.87**	**322**	*i* Pg	**Pg**	**01 37 47.1**	**-0.2**
OBKA	**Obir**	**0.97**	**11**	⇓*i*PG	**Pg**	**01 37 48.4**	**-0.9**
OBKA				*i* SG	**Sg**	**01 38 04.3**	**+2.0**
	comp=Z,5.5nm,0.2s						
BAD	**Bernadia**	**0.99**	**314**	⇑*i*Pg	**Pg**	**01 37 50.3**	**+0.6**
BAD				*i* Sg	**Sg**	**01 38 07.1**	**+4.1**
GCIS	**Gornji Cirnik**	**1.00**	**71**	*i* Pg	**Pg**	**01 37 49.5**	**-0.3**
GCIS				*i* Sg	**Sg**	**01 38 03.2**	**0.0**
DOBS	**Dobrina**	**1.02**	**54**	*i* Pg	**Pg**	**01 37 49.6**	**-0.7**
	comp=Z,7.0nm,0.1s						
DOBS	**Dobrina**	**1.02**	**54**	*i* Pg	**Pg**	**01 37 49.6**	**-0.7**
	comp=Z,7.0nm,0.1s						
GOLS	**Golise**	**1.05**	**64**	*i* Pg	**Pg**	**01 37 50.5**	**-0.3**
GOLS				*i* Sg	**Sg**	**01 38 05.2**	**+0.4**
	comp=Z,13nm,0.2s						
GOLS	**Golise**	**1.05**	**64**	*i* Pg	**Pg**	**01 37 50.5**	**-0.3**
GOLS				*i* Sg	**Sg**	**01 38 05.2**	**+0.4**
	comp=Z,13nm,0.2s						
PTCC	**Patocco-Chiusa**	**1.06**	**323**	Pg	**Pg**	**01 37 52.5**	**+1.4**
PTCC				Sg	**Sg**	**01 38 06.3**	**+0.9**
	comp=Z,5.0nm,0.2s						
NVLJ	**Novalja**	**1.08**	**157**	*i* Pg	**Pg**	**01 37 52.1**	**+0.7**
NVLJ				*i* Sg	**Sg**	**01 38 07.0**	**+1.1**
NVLJ	**Novalja**	**1.08**	**157**	*i* Pg	**Pg**	**01 37 52.1**	**+0.7**
NVLJ				*i* Sg	**Sg**	**01 38 06.9**	**+1.0**
FVI	**Forni Avoltri**	**1.47**	**316**	Pg	**Pg**	**01 37 59.0**	**-0.2**
FVI				Sg	**Sg**	**01 38 19.0**	**+0.1**
	comp=Z,5.0nm,0.2s						

*IDC **16** 01:44:06.7±1.7, 35.52N×70.12E, mb3.9/5, mb1 3.9/7, mb1mx3.6/21, mbtmp3.8/7, ML3.4/2, Error ellipse: s-maj=39.1km s-min=29.3km az=50.0*
*MOS **16** 01:44:10.6±1.0, 35.64N×70.06E, h35km, mb4.3/1, Error ellipse: s-maj=29.2km s-min=10.0km az=89.8*
*NEIC **16** 01:44:12.4±1.1, 35.65N×70.16E, h35km, mb3.6/2, Error ellipse: s-maj=17.6km s-min=16.6km az=142.0*
*NNC **16** 01:44:28.1±15.0, 36.71N×70.38E, h237km±226km, mpv4.0, Error ellipse: s-maj=181.3km s-min=119.7km az=47.0*
ISC 16 01:44:17.5±1.5**, 36.10N**±0.06×**70.5E**±0.1**, h77**km±17km**, n21, σ1.30**/28**, mb3.7**/5**, 4C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.68**	**129**	*e*P	**P**	**01 45 41.2**	**+0.2**
THN				*e*S	**S**	**01 46 44.8**	**-0.8**
DLH	**Dalhousie**	**5.77**	**126**	*e*S	**S**	**01 46 48.0**	**+0.2**
KK31	**Karatay Array**	**6.99**	**0**	⇓P	**P**	**01 45 59.9**	**+0.6**
	3.6nm,0.3s,baz=188,slow=14,SNR=185						
KK31				⇑S	**S**	**01 47 15.7**	**-2.2**
	9.2nm,0.5s,baz=195,slow=27,SNR=5.1						
KKAR	**Karatay Array**	**6.99**	**0**	*e*P	**P**	**01 45 59.8**	**+0.5**
KKAR				*e*S	**S**	**01 47 15.7**	**-2.2**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
SDNR	**Sundarnagar**	**7.10**	**128**	*e*P	**P**	**01 46 01.2**	**+0.5**
SDNR				*e*S	**S**	**01 47 17.0**	**-3.5**
AAK	**Ala-Archa**	**7.23**	**24**	P	**P**	**01 46 04.6**	**+2.1**
	comp=Z,8.2nm,0.7s						
AAK				⇑S	**S**	**01 47 23.2**	**-0.5**
	comp=Z,9.9nm,0.6s						
AAK	**Ala-Archa**	**7.23**	**24**	P	**P**	**01 46 04.5**	**+2.0**
AAK				S	**S**	**01 47 23.2**	**-0.5**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AAK	**Ala-Archa**	**7.23**	**24**	*e*P	**P**	**01 46 02.8**	**+0.3**
	comp=Z,7.3nm,0.4s						
MKAR	**Makanchi Array**	**13.86**	**36**	Pn	**P**	**01 47 34.1**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=230,slow=16,SNR=2.6						
AB31	**Akbulak array**	**15.23**	**333**	⇑P	**P**	**01 47 47.7**	**-1.5**
	comp=Z,7.3nm,0.5s,baz=151,slow=12,SNR=183						
AB31				⇑S	**S**	**01 50 24.2**	**-12**
	comp=Z,1.1nm,0.5s,baz=133,slow=26,SNR=4.1						
AB31	**Akbulak array**	**15.23**	**333**	*e*P	**P**	**01 47 47.7**	**-1.5**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZRNK	**Zerenda**	**16.88**	**357**	*e*P	**P**	**01 48 09.7**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZRNK	**Zerenda**	**16.88**	**357**	*e*P	**P**	**01 48 09.7**	**-0.1**
	comp=Z,1.1nm,0.5s						
BVAR	**Borovoye Array**	**16.92**	**360**	P	**P**	**01 48 11.5**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=164,slow=11,SNR=5.7						
ZAL	**Zalesovo**	**20.44**	**25**	P	**P**	**01 48 52.3**	**+1.7**
	comp=Z,5.8nm,0.3s,baz=252,slow=8.3,SNR=14						
ARU	**Arti**	**21.87**	**342**	*e*P	**P**	**01 49 06.7**	**+1.8**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb3.9						
ARU	**Arti**	**21.87**	**342**	*e*P	**P**	**01 49 06.7**	**+1.8**
	comp=Z,2.2nm,0.3s,mb4.0						
FINES	**FINESS Array B**	**37.57**	**327**	P	**P**	**01 51 25.0**	**-0.7**
	comp=Z,0.9nm,0.7s,mb3.7,baz=96,slow=14,SNR=3.5						
ARCES	**ARCESS Array B**	**41.35**	**338**	P	**P**	**01 51 57.1**	**+0.3**
	comp=Z,0.6nm,0.4s,mb3.7,baz=117,slow=8.1,SNR=15						
HFS	**Hagfors**	**43.12**	**322**	P	**P**	**01 52 11.2**	**-0.1**
	comp=Z,2.0nm,0.8s,mb3.9,baz=111,slow=13,SNR=4.6						
WRA	**Warramunga Arr**	**82.15**	**122**	P	**P**	**01 56 29.2**	**-2.2**
	comp=Z,0.2nm,0.3s,mb3.4,baz=325,slow=5.0,SNR=5.5						

*LDG **16** 01:51:59.3±0.5, 14.42S×167.55E, h62km±4km, Mb4.3/2, Error ellipse: s-maj=20.6km s-min=7.7km az=78.0*
*IDC **16** 01:52:05.5±3.0, 14.88S×167.38E, h120km±24km, mb4.2/10, mb1 4.3/11, mb1mx4.2/16, mbtmp4.7/11, MS3.7/1, Ms1 3.7/1, ms1mx3.0/18, Error ellipse: s-maj=26.6km s-min=14.9km az=60.0*
*NEIC **16** 01:52:06.3±2.1, 14.94S×167.31E, h127km±17km, mb4.6/6, Error ellipse: s-maj=14.8km s-min=9.6km az=218.0*
ISC 16 01:52:06.3±2.5**, 14.97S**±0.10×**167.3E**±0.2**, h145**km±18km**, n46, σ1.20**/26**, mb4.5**/11**, 1C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.11**	**186**	*e*P	**P**	**01 53 47.3**	**-1.6**
DZM				*e*S	**S**	**01 55 09.5**	**+1.0**
DZM	**Mont Dzumac**	**7.11**	**186**	P	**P**	**01 53 47.6**	**-1.2**
	38nm,0.3s,baz=28,slow=17,SNR=180						
DZM				S	**S**	**01 55 09.3**	**+0.8**
	46nm,0.3s,baz=138,slow=24,SNR=18						
DZM	**Mont Dzumac**	**7.11**	**186**	*e*P	**P**	**01 53 47.2**	**-1.6**
DZM				*e*S	**S**	**01 55 09.5**	**+1.0**
HNR	**Honiara**	**9.04**	**307**	S	**S**	**01 55 55.0**	**+0.2**
	15nm,0.3s,baz=205,slow=22,SNR=7.8						
PMG	**Port Moresby**	**20.43**	**283**	P	**P**	**01 56 35.5**	**+1.5**
	25nm,0.8s,baz=62,slow=7.2,SNR=8.2						
CTA	**Charters Tower**	**20.68**	**253**	⇑*i*P	**P**	**01 56 38.5**	**+2.0**
	13nm,0.6s						
CTA	**Charters Tower**	**20.68**	**253**	P	**P**	**01 56 38.5**	**+1.9**
	19nm,0.8s,baz=76,slow=11,SNR=27						
CTAO	**Charters Tower**	**20.68**	**253**	*e*P	**P**	**01 56 38.1**	**+1.6**
	23nm,0.8s						
URZ	**Urewera**	**24.77**	**161**	P	**P**	**01 57 18.4**	**+2.3**
	17nm,0.5s,mb4.8,baz=352,slow=3.4,SNR=17						
RPZ	**Rata Peaks**	**28.83**	**174**	P	**P**	**01 57 52.4**	**-0.7**
	12nm,1.0s,mb4.6,baz=263,slow=5.6,SNR=5.3						
STKA	**Stephens Creek**	**28.85**	**230**	*e*P	**P**	**01 57 54.5**	**+1.1**
	3.8nm,0.3s,mb4.6						
STKA	**Stephens Creek**	**28.85**	**230**	P	**P**	**01 57 54.4**	**+1.1**
	8.0nm,0.6s,mb4.7,baz=34,slow=6.7,SNR=19						
WB2	**Warramunga Arr**	**31.77**	**256**	*e*P	**P**	**01 58 17.6**	**-1.6**
WRAB	**Tennant Creek**	**31.77**	**256**	*e*P	**P**	**01 58 17.3**	**-1.9**
	5.6nm,0.5s,mb4.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**31.78**	**256**	P	**P**	**01 58 18.1**	**-1.3**
	3.7nm,0.6s,mb4.3,baz=85,slow=9.3,SNR=62						
WRA				ScP		02 04 40.8	
	1.0nm,0.8s,baz=84,slow=3.4,SNR=5.3						
FITZ	**Fitzroy Crossi**	**39.99**	**260**	*e*P	**P**	**01 59 28.4**	**-0.1**
	14nm,0.5s,mb4.9						
PPT	**Papeete**	**41.43**	**100**	LR	LR	02 12 43.1	
	comp=Z,87nm,19.9s,baz=301,slow=30						
MBWA	**Marble Bar**	**45.50**	**255**	*e*P	**P**	**02 00 13.2**	**0.0**
MJAR	**Matsushiro Arr**	**58.12**	**333**	P	**P**	**02 01 45.7**	**-1.4**
	0.8nm,0.3s,mb4.0,baz=164,slow=5.1,SNR=4.6						
VNDA	**Vanda**	**62.62**	**181**	P	**P**	**02 02 16.4**	**-0.8**
	2.1nm,0.5s,mb4.3,baz=357,slow=6.9,SNR=17						
SBA	**Scott Base**	**62.90**	**180**	*e*P	**P**	**02 02 19.0**	**+0.1**
	11nm,0.8s,mb4.8						
CASY	**Casey**	**63.31**	**202**	*e*P	**P**	**02 02 21.1**	**-0.7**
SONM	**Songino Array**	**82.70**	**324**	P	**P**	**02 04 16.3**	**+1.2**
	1.0nm,0.4s,mb3.9,baz=152,slow=6.7,SNR=9.0						
MKAR	**Makanchi Array**	**97.39**	**316**	P	**P**	**02 05 25.5**	**+1.0**
	1.0nm,0.7s,mb4.3,baz=99,slow=5.6,SNR=6.6						
ARCES	**ARCESS Array B**	**120.49**	**345**	PKP	PKPdf	02 10 41.3	+1.0
	1.2nm,0.6s,baz=58,slow=1.4,SNR=10						
NB2	**NORSAR Subarra**	**130.86**	**345**	SKPbc		02 14 19.3	
	3.3nm,1.1s,baz=32,slow=3.7						
CABF	**La Chapelle**	**144.76**	**337**	*e*PKIKP	PKPdf	02 11 28.4	+2.5
	21nm,1.1s						
LOR	**Lormes**	**144.97**	**340**	*e*PKIKP	PKPdf	02 11 28.5	+2.3
	17nm,1.2s						
SSF	**Saint Saulge**	**145.27**	**340**	*e*PKIKP	PKPdf	02 11 29.3	+2.5
	24nm,1.0s						
GRR	**Gorron**	**145.27**	**346**	*e*PKIKP	PKPdf	02 11 29.1	+2.4
	18nm,0.9s						
LPL	**La Plagne**	**145.42**	**336**	*e*PKIKP	PKPdf	02 11 30.2	+3.1
	17nm,1.1s						
LPG	**La Plagne**	**145.43**	**336**	*e*PKIKP	PKPdf	02 11 30.2	+3.1
	8.9nm,0.8s						
SMF	**Signal de Mont**	**145.52**	**340**	*e*PKIKP	PKPdf	02 11 29.6	+2.4
	11nm,1.0s						
BGF	**Bois d'Agland**	**145.92**	**341**	*e*PKIKP	PKPdf	02 11 29.9	+2.0
MBDF	**Montbardon**	**146.05**	**335**	*e*PKIKP	PKPdf	02 11 30.5	+2.3
	6.4nm,0.9s						
ORIF	**Oris-en-Rattie**	**146.25**	**336**	*e*PKIKP	PKPdf	02 11 31.1	+2.6
TCF	**Toulx Ste Croi**	**146.37**	**341**	*e*PKIKP	PKPdf	02 11 31.3	+2.7
	3.4nm,0.9s						
MFF	**Saint Martin d**	**146.76**	**344**	*e*PKIKP	PKPdf	02 11 32.0	+2.8
VIVF	**Saint-Julien-l**	**146.77**	**337**	*e*PKIKP	PKPdf	02 11 31.8	+2.5
PGF	**Pioggiola**	**146.77**	**330**	*e*PKIKP	PKPdf	02 11 31.9	+2.5
FRF	**La Foret Royal**	**147.05**	**334**	*e*PKIKP	PKPdf	02 11 32.2	+2.4
	18nm,1.2s						
LMR	**La Mourre**	**147.29**	**334**	*e*PKIKP	PKPdf	02 11 31.9	+1.7
	63nm,1.7s						
CAF	**Calviac**	**147.62**	**340**	*e*PKIKP	PKPdf	02 11 33.1	+2.4
LASF	**Ste Croix**	**147.74**	**337**	*e*PKIKP	PKPdf	02 11 32.9	+1.9
LFF	**La Frestale**	**148.03**	**342**	*e*PKIKP	PKPdf	02 11 33.9	+2.5
MTLF	**Montolieu**	**148.97**	**339**	*e*PKIKP	PKPdf	02 11 35.4	+2.4

*BJI **16** 02:17:18.1, 30.00N×69.50E, h10km, mB5.3, mb5.2, Ms5.2, Msz4.8*

*HRVD **16** 02:17:20.1±0.3, 29.93N×69.65E, h12km, MW5.2/55, Centroid moment Tensor Solution. LP body waves: s40,c63;Mantle waves: s55,c113; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.84±.17; $M_{\theta\theta}$-5.10±.13; $M_{\phi\phi}$1.25±.17; $M_{r\theta}$5.22±.39; $M_{\theta\phi}$-2.54±.13; $M_{\phi r}$3.43±.47; Best double couple: $M_0$8.011×10^{16} NP1: ϕ_s273°,δ22°,λ125°. NP2:ϕ_s57°,δ72°,λ77°. Principal axes: T 7.104, Plg61°, Azm307°; N 1.804, Plg12°, Azm61°; P -8.918, Plg26°, Azm157°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **16** 02:17:20.1±0.2, 30.00N×69.46E, h10km, mb5.4/145, MS4.9/102, MW5.2 Error ellipse: s-maj=4.7km s-min=2.8km az=194.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^{16}Nm; M_{rr}4.57; $M_{\theta\theta}$-4.84; $M_{\phi\phi}$0.28; $M_{r\theta}$4.23; $M_{\theta\phi}$-0.80; $M_{\phi r}$2.09; Best double couple: $M_0$6.7×10^{16} NP1:ϕ_s275°,δ24°,λ114°. NP2:ϕ_s69°,δ68°, λ80°. Principal axes: T 6.64, Plg66°, Azm321°; N .15, Plg10°, Azm73°; P -6.79, Plg22°, Azm167°;*

NEIC Felt at Quetta. Also felt [IV] at Karachi.

*IDC **16** 02:17:21.3±4.2, 30.03N×69.52E, h15km±26km, mb4.8/29, mb1 4.8/30, mb1mx4.8/31, mbtmp4.8/30, ML4.6/1, MS4.6/27, Ms1 4.6/27, ms1mx4.6/29 Error ellipse: s-maj=12.6km s-min=11.8km az=11.0*

*MOS **16** 02:17:22.0±1.0, 30.07N×69.49E, h33km, mb5.5/97, MS4.7/47, Error ellipse: s-maj=5.7km s-min=2.8km az=129.2*

*CRAAG **16** 02:17:24.6, 30.10N×69.46E, Mb5.3*

ISC 16 02:17:18.3±0.6, **30.01N**±0.02×**69.46E**±0.02, **h8**km±3km, **h18**km±1.5km**:pP-P, n761**, σ**1s12**/738, **mb5.2**/222, **MS4.8**/163, **149C-22D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRP	**Derazinda**	**1.84**	**20**	P	**Pn**	**02 17 54.1**	**+3.6**
SBDP	**Sheikh Budin**	**2.56**	**27**	⇓P	**Pn**	**02 18 03.2**	**+2.4**
JASL	**Jaisalmer**	**3.33**	**157**	*e*P	**Pn**	**02 18 13.4**	**+1.6**
JASL				*e*		02 19 04.3	
SARP	**Sargodha**	**3.35**	**55**	⇓P	**Pn**	**02 18 13.0**	**+0.9**
SARP				S	**Sn**	**02 18 49.0**	**-3.6**
THW	**Thamme Wali**	**3.39**	**35**	⇓P	**Pn**	**02 18 14.3**	**+1.7**
CEP	**Cherat**	**4.33**	**28**	⇑P	**Pn**	**02 18 27.5**	**+1.5**
CHCP	**Chirah Chowk**	**4.87**	**41**	⇓P	**Pn**	**02 18 34.5**	**+0.9**
AJM	**Ajmer**	**5.77**	**126**	*e*PN	**Pn**	**02 18 46.5**	**+0.2**
AJM				*e*		02 20 26.2	
AJM				AML	AML	02 20 36.1	
	comp=N,3µm,0.5s						
AJM				AML	AML	02 20 37.9	
	comp=E,3µm,0.7s						
THN	**Thein Dam**	**5.88**	**64**	*e*P	**Pn**	**02 18 47.6**	**-0.3**
THN				*e*		02 19 57.2	
KHET	**Khetri**	**5.88**	**108**	*e*P	**Pn**	**02 18 47.0**	**-1.0**
KHET				*e*		02 20 27.0	
KHET				AML	AML	02 20 38.3	
	comp=E,1µm,0.8s						
KHET				AML	AML	02 20 38.7	
	comp=N,1µm,1.0s						
PONG	**Pong**	**5.90**	**69**	*e*P	**Pn**	**02 18 49.0**	**+0.8**
PONG				*e*		02 19 55.0	
DLH	**Dalhousie**	**6.12**	**64**	*e*P	**Pn**	**02 18 53.0**	**+1.8**
BHK	**Bhakra**	**6.15**	**75**	*e*	**Pn**	**02 18 55.0**	**+3.3**
BHK				*e*		02 20 03.4	
SDNR	**Sundarnagar**	**6.63**	**75**	*e*P	**Pn**	**02 18 57.8**	**-0.7**
SDNR				*e*		02 20 12.0	
BHUJ	**Bhuj**	**6.73**	**178**	*e*PG	**Pg**	**02 19 34.1**	**+1.4**
BHUJ				*i* SN	**Sn**	**02 20 14.0**	**-3.6**
SMLA	**Simla**	**6.74**	**79**	⇓*i*	**Sn**	**02 20 12.8**	**-5.0**
	comp=N,3µm,0.5s						
SMLA				*i*		02 21 09.4	
AYAN	**Aya Nagar**	**6.87**	**101**	*e*P	**Pn**	**02 19 01.1**	**-0.7**
AYAN				*e*		02 20 15.2	
SONA	**Sohna**	**6.90**	**103**	*e*P	**Pn**	**02 19 01.3**	**-0.9**
SONA				*e*		02 20 48.4	
SONA				AML	AML	02 21 11.6	
	comp=E,5µm,0.5s						
SONA				AML	AML	02 21 11.7	
	comp=N,7µm,0.8s						
NDI	**New Delhi**	**6.90**	**99**	*e*P	**Pn**	**02 18 59.0**	**-3.3**
DDI	**Dehra Dun**	**7.45**	**85**	*e*P	**Pn**	**02 19 07.8**	**-2.2**
DDI				*e*		02 21 32.8	
BHV	**Bhavnagar**	**8.57**	**163**	*e*P	**P**	**02 19 25.0**	**-0.6**
PTH	**Pithoragarh**	**9.36**	**90**	*e*P	**P**	**02 19 36.0**	**-0.5**
PTH				*e*		02 22 32.0	
LGTI	**Lohaghat**	**9.40**	**91**	*e*P	**P**	**02 19 33.5**	**-3.5**
LGTI				*e*		02 22 09.0	
BHPL	**Bhopal**	**9.81**	**132**	*e*P	**P**	**02 19 41.0**	**-1.7**
BHPL				*e*S	**Sn**	**02 21 22.7**	**-12**
BHPL				AML	AML	02 22 47.9	
	comp=E,656nm,0.7s						
BHPL				AML	AML	02 22 48.5	
	comp=N,718nm,0.8s						
KSH	**Kashi**	**10.89**	**28**	⇑*i*P	**P**	**02 19 58.8**	**+1.3**
KSH				*e*AP		02 20 02.1	
KSH				*e*XP		02 20 05.0	
KSH				*e*PP	PP	02 20 08.1	+2.4
KSH				*e*PPP	PPP	02 20 15.5	+1.9
KSH				S	**S**	**02 21 59.8**	**-0.8**
KSH				*e*XS		02 22 09.3	
KSH				*e*SS	SS	02 22 14.4	+0.2
KSH				AMB	AMB		
	comp=Z,110nm,1.0s						
KSH				LR	LR		
	comp=N,29µm,11.7s						
KSH				LR	LR		
	comp=E,27µm,8.0s						
BOM	**Bombay**	**11.48**	**164**	*e*	**P**	**02 20 12.1**	**+6.5**
BOM				*e*		02 22 36.6	
AKL	**Akola**	**11.51**	**142**	⇑*i*P	**P**	**02 20 06.6**	**+0.6**
AKL				*i*		02 22 10.1	
ALBI	**Allahabad**	**11.91**	**110**	*e*	**P**	**02 20 06.0**	**-5.4**
WBK	**Wadi Bani Khal**	**11.95**	**234**	⇓P	**P**	**02 20 09.2**	**-2.7**
BIDO	**Bidbid**	**12.01**	**240**	⇓P	**P**	**02 20 11.6**	**-1.2**
POO	**Poona**	**12.11**	**160**	*e*P	**P**	**02 20 14.1**	**-0.1**
POO				*e*		02 22 53.3	
POO				*e*		02 23 16.6	
ASH	**Ashkhabad**	**12.14**	**314**	*e*P	**P**	**02 20 14.0**	**-0.6**
VAN	**Vannovskaya**	**12.30**	**313**	P	**P**	**02 20 17.7**	**+1.1**
BANOM	**Banah**	**12.32**	**254**	⇑P	**P**	**02 20 15.5**	**-1.5**
	SNR=16						
SMDO	**Samad**	**12.33**	**239**	⇓P	**P**	**02 20 15.4**	**-1.7**
	SNR=9.3						
AML	**Almayashu**	**12.57**	**15**	P	**P**	**02 20 20.3**	**+0.1**
	SNR=77						
HOQ	**Hoqain**	**12.59**	**242**	⇑P	**P**	**02 20 18.7**	**-1.9**
	SNR=16						
KOLN	**Koldanda**	**12.59**	**97**	*e*P	**P**	**02 20 17.7**	**-2.9**
	comp=E,579nm,1.0s						
KOLN				*e*S	**S**	**02 22 33.8**	**-8.3**
JMDO	**Jabal Madar**	**12.71**	**236**	⇑P	**P**	**02 20 21.2**	**-1.0**
	SNR=15						
UCH	**Uchtor**	**12.85**	**17**	P	**P**	**02 20 22.9**	**-1.2**
	SNR=63						
KZA	**Kyzart**	**12.91**	**20**	P	**P**	**02 20 23.5**	**-1.4**
	SNR=14						
ASHO	**Ashiyiah**	**13.03**	**249**	⇑P	**P**	**02 20 25.3**	**-1.1**
	SNR=21						
EKS2	**Erkin-Say**	**13.09**	**14**	P	**P**	**02 20 28.2**	**+1.0**
	SNR=10						
KKAR	**Karatay Array**	**13.09**	**3**	*i* P	**P**	**02 20 25.4**	**-1.8**
AAK	**Ala-Archa**	**13.23**	**16**	P	**P**	**02 20 27.9**	**-1.1**
	SNR=30						
AAK	**Ala-Archa**	**13.23**	**16**	⇑*e*P	**P**	**02 20 26.4**	**-2.6**
AAK				*e*S	**S**	**02 22 46.2**	**-11**
AAK				pmax	pmax		
	comp=Z,215nm,0.9s						
AAK	**Ala-Archa**	**13.23**	**16**	⇑*e*Pn	**P**	**02 20 26.4**	**-2.6**
	comp=Z,215nm,0.9s						
AAK				*e*S	**S**	**02 22 46.2**	**-11**
KAD	**Karad**	**13.36**	**160**	*e*P	**P**	**02 20 33.0**	**+2.1**
KAD				*e*		02 23 00.0	
KBK	**Karagaybulak**	**13.37**	**18**	P	**P**	**02 20 29.6**	**-1.3**
	SNR=32						
GKN	**Gorkha**	**13.44**	**95**	*e*P	**P**	**02 20 27.8**	**-4.0**
	comp=Z,279nm,0.6s						
FRU	**Bishkek**	**13.45**	**17**	*i* P	**P**	**02 20 30.5**	**-1.4**
FRU				*e*S	**S**	**02 22 58.0**	**-4.6**
FRU				pmax	pmax		
	comp=Z,300nm,1.7s						
FRU				MLR	MLR		
	comp=N,11µm,12.0s						
FRU				MLR	MLR		
	comp=Z,6µm,12.0s						
CHMS	**Chumysh**	**13.64**	**17**	P	**P**	**02 20 32.5**	**-1.9**
	SNR=60						
TKM2	**Tokmak 2**	**13.79**	**19**	P	**P**	**02 20 34.4**	**-2.0**
	SNR=47						
BLSP	**Bilaspur**	**13.82**	**122**	*e*P	**P**	**02 20 35.9**	**-1.1**
BLSP				*i*		02 22 59.1	
BLSP				*i*		02 23 00.7	
USP	**Ospenovka**	**13.83**	**16**	P	**P**	**02 20 36.8**	**-0.1**
	SNR=22						
DMN	**Daman**	**13.93**	**96**	*e*P	**P**	**02 20 34.8**	**-3.5**
KKN	**Kakani**	**14.04**	**95**	*e*P	**P**	**02 20 35.3**	**-4.5**
	comp=Z,266nm,0.6s						
KKN	**Kakani**	**14.04**	**95**	*e*P	**P**	**02 20 35.3**	**-4.5**
KKN				pmax	pmax		
	comp=Z,133nm,0.6s						
PKI	**Pulchoki**	**14.20**	**96**	*e*P	**P**	**02 20 38.2**	**-3.7**
	comp=Z,331nm,1.0s						
PKI	**Pulchoki**	**14.20**	**96**	*e*P	**P**	**02 20 38.2**	**-3.7**
PKI				pmax	pmax		
	comp=Z,165nm,1.0s						
AAA	**Alma-Ata**	**14.53**	**22**	*e*P	**P**	**02 20 43.0**	**-3.1**
GUN	**Gumba**	**14.53**	**94**	*e*P	**P**	**02 20 41.9**	**-4.3**
HYB	**Hyderabad**	**15.04**	**144**	*e*P	**P**	**02 20 49.0**	**-4.0**
HYB				*e*S	**S**	**02 23 40.0**	**-0.6**
HYB				pmax	pmax		
	comp=Z,100nm,1.0s						
HYB	**Hyderabad**	**15.04**	**144**	*e*P	**P**	**02 20 49.0**	**-4.0**
	comp=Z,100nm,1.0s						
HYB				*e*		02 20 59.0	
HYB				*e*S	**S**	**02 23 40.0**	**-0.6**
HYB	**Hyderabad**	**15.04**	**144**	*i* P	**P**	**02 20 49.0**	**-4.0**
	comp=Z,100nm,1.0s						
HYB				*e*		02 20 59.0	
HYB				*e*S	**S**	**02 23 40.0**	**-0.6**
HYB				LR	LR	02 26 54.0	
	comp=Z,12nm,14.0s						
BOK	**Bokaro**	**15.90**	**109**	⇑*i*	**P**	**02 20 59.9**	**-4.2**
BOK				*i*		02 23 44.0	
SHBG	**Sahibganj**	**16.83**	**102**	*e*	**P**	**02 21 27.2**	**+11**
SHBG				*e*		02 24 37.0	
GTK	**Gangtok**	**17.03**	**94**	*e*	**P**	**02 21 22.0**	**+3.6**
MNGI	**Mangalore**	**17.70**	**163**	*i* P	**P**	**02 21 28.2**	**+1.3**
MNGI				*i* S	**S**	**02 24 48.7**	**+6.6**
	comp=Z,145nm,1.7s						
CAL	**Calcutta**	**18.48**	**109**	*e*	**S**	**02 25 08.5**	**+8.8**
CAL				*e*		02 25 24.8	
CAL				*e*		02 27 00.2	
QRN	**Al-Qurain**	**18.82**	**272**	*e*P	**P**	**02 21 39.5**	**-1.1**
QRN				AMb	AMB	02 21 45.6	
	comp=Z,201nm,1.2s						
LSA	**Lhasa**	**18.82**	**86**	P	**P**	**02 21 42.0**	**+1.4**
LSA				S	**S**	**02 25 12.1**	**+4.7**
LSA				LR	LR		
	comp=N,2µm,12.5s						
LSA				LR	LR		
	comp=E,5µm,11.4s						
LSA				LR	LR		
	comp=Z,7µm,12.5s						
LSA	**Lhasa**	**18.82**	**86**	*e*P	**P**	**02 21 39.5**	**-1.1**
LSA				pmax	pmax		
	comp=Z,106nm,0.8s						
LSA	**Lhasa**	**18.82**	**86**	*e*P	**P**	**02 21 39.5**	**-1.1**
	comp=Z,106nm,0.8s						
KBD	**Kabd**	**18.95**	**273**	*e*P	**P**	**02 21 41.6**	**-0.5**
KBD				AMb	AMB	02 21 45.7	
	comp=Z,861nm,1.2s						
RDF	**Al-Radifah**	**19.11**	**272**	*e*P	**P**	**02 21 43.5**	**-0.6**
RDF				AMb	AMB	02 21 48.6	
	comp=Z,126nm,0.7s						
MKAR	**Makanchi Array**	**19.50**	**27**	*i* P	**P**	**02 21 47.2**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,115nm,1.2s						
MKAR	**Makanchi Array**	**19.50**	**27**	P	**P**	**02 21 47.2**	**-1.2**
	comp=Z,1.8nm,0.3s,baz=206,slow=12,SNR=40						
MKAR				LR	LR	02 30 34.1	
	comp=Z,2µm,18.0s,baz=201,slow=41						
RST	**Umm Al-Ruwaisa**	**19.51**	**274**	*e*P	**P**	**02 21 47.6**	**-1.1**
RST				AMb	AMB	02 21 50.9	
	comp=Z,382nm,1.4s						
MDRS	**Chennai**	**19.60**	**147**	*e*	**P**	**02 21 52.0**	**+2.2**
MDRS				*e*		02 25 34.0	
MDRS				*e*		02 25 58.0	
MDRS				*e*		02 27 31.0	
MDRS				*e*		02 29 29.0	
SALM	**Salem**	**20.00**	**154**	*e*	**S**	**02 25 45.0**	**+11**
WMQ	**Urumqi**	**20.00**	**41**	*e*P	**P**	**02 21 55.5**	**+1.3**
WMQ				AP		02 21 57.4	
WMQ				XP		02 21 59.0	
WMQ				PP	PP	02 22 14.5	+1.2
WMQ				S	**S**	**02 25 33.6**	**0.0**
WMQ				XS		02 25 39.4	
WMQ				AMB	AMB		
	comp=Z,137nm,1.2s						
WMQ				AMB	AMB		
	comp=Z,2µm,4.0s						
WMQ				LR	LR		
	comp=N,538nm,5.0s						
WMQ				LR	LR		
	comp=E,454nm,5.0s						
WMQ				LR	LR		
	comp=Z,366nm,5.6s						
SHL	**Shillong**	**20.32**	**97**	*e*P	**P**	**02 21 56.0**	**-1.6**
SHL				*e*		02 25 29.0	
AB31	**Akbulak array**	**20.54**	**342**	*i* P	**P**	**02 21 59.3**	**-0.4**
AB31				pmax	pmax		
	comp=Z,211nm,1.2s						
RYDS	**Riyadh**	**21.11**	**260**	P	**P**	**02 22 03.5**	**-2.2**
KURK	**Kurchatov**	**21.79**	**16**	⇑*i*P	**P**	**02 22 12.0**	**-0.5**
KURK				pmax	pmax		
	comp=Z,161nm,1.0s,mb5.4						
KURK				MLR	MLR		
	comp=Z,658nm,20.0s,MS4.0						
KURK	**Kurchatov**	**21.79**	**16**	⇑*i*P	**P**	**02 22 12.0**	**-0.5**
	comp=Z,161nm,1.0s,mb5.4						
KURK				LR	LR		
	comp=Z,658nm,20.0s,MS4.0						
MAK	**Makhachkala**	**21.80**	**312**	*c i*P	**P**	**02 22 18.0**	**+5.4**
MAK				*e*		02 22 50.0	
MAK				*e*S	**S**	**02 26 17.5**	**+8.8**
MAK				*e*SS	SS	02 26 59.9	+14
MAK				pmax	pmax		
	comp=Z,1µm,8.0s						
IMP	**Imphal**	**22.33**	**98**	*e*	**P**	**02 22 23.0**	**+5.0**
IMP				*e*S	**S**	**02 26 25.0**	**+6.4**
TRD	**Trivandrum**	**22.52**	**160**	*e*P	**P**	**02 22 23.0**	**+3.0**
TRD				AMb	AMB	02 22 28.3	
	comp=Z,103nm,1.5s,mb5.0						
GNI	**Garni**	**22.55**	**303**	*i* P	**P**	**02 22 23.5**	**+3.5**
GNI	**Garni**	**22.55**	**303**	*c i*P	**P**	**02 22 22.5**	**+2.5**
GNI				pmax	pmax		
	comp=Z,591nm,1.7s						
GNI				MLR	MLR		
	comp=Z,1µm,20.0s						
GNI	**Garni**	**22.55**	**303**	P	**P**	**02 22 23.0**	**+3.0**
	comp=Z,178nm,1.2s,mb5.4,baz=147,slow=2.7,SNR=71						
GNI				LR	LR	02 32 52.1	
	comp=Z,2µm,19.8s,MS4.4,baz=330,slow=41						
GNI	**Garni**	**22.55**	**303**	⇑*i*P	**P**	**02 22 22.6**	**+2.5**
	comp=Z,562nm,1.4s,mb5.8						
GNI				LR	LR		
	comp=Z,1µm,19.0s,MS4.4						
DGRG	**David-gareji**	**22.56**	**307**	P	**P**	**02 22 22.5**	**+2.3**
HKR	**Hakkari**	**22.62**	**296**	*e*P	**P**	**02 22 22.1**	**+1.3**
HAKT	**HAKKARI**	**22.64**	**296**	*i* P	**P**	**02 22 22.0**	**+1.0**
VOSK	**Vostochnaya**	**22.72**	**2**	*i* P	**P**	**02 22 21.9**	**+0.3**
CLDR	**Caldiran**	**22.86**	**300**	*e*P	**P**	**02 22 24.9**	**+1.8**
ZRNK	**Zerenda**	**22.92**	**359**	*e*P	**P**	**02 22 23.9**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,389nm,1.4s,mb5.6						
ZRNK	**Zerenda**	**22.92**	**359**	*e*P	**P**	**02 22 23.9**	**+0.3**
	comp=Z,389nm,1.4s,mb5.6						
BVA0	**Borovoye Array**	**23.00**	**1**	*i* P	**P**	**02 22 25.0**	**+0.6**
BVA0				pmax	pmax		
	comp=Z,52nm,1.4s,mb4.8						
BVAR	**Borovoye Array**	**23.00**	**1**	P	**P**	**02 22 24.8**	**+0.4**
	comp=Z,92nm,1.1s,mb5.1,baz=170,slow=9.0,SNR=201						
BRVK	**Borovoye**	**23.04**	**1**	⇑*i*P	**P**	**02 22 25.2**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,133nm,1.0s,mb5.3						
BRVK				MLR	MLR		
	comp=Z,323nm,20.0s,MS3.8						
BRVK	**Borovoye**	**23.04**	**1**	⇑*i*P	**P**	**02 22 25.2**	**+0.5**
	comp=Z,133nm,1.0s,mb5.3						
BRVK				LR	LR		
	comp=Z,323nm,20.0s,MS3.8						
MTA	**Mtatsminda**	**23.06**	**307**	P	**P**	**02 22 26.7**	**+1.7**
MTA				S	**S**	**02 26 46.5**	**+15**
TBLG	**Delisi**	**23.11**	**307**	P	**P**	**02 22 27.8**	**+2.3**
TBLG				S	**S**	**02 26 48.1**	**+16**
DUS	**Dusheti**	**23.27**	**308**	P	**P**	**02 22 30.9**	**+3.8**
GOR	**Gori**	**23.64**	**307**	P	**P**	**02 22 34.6**	**+3.9**
KARS	**Kars**	**23.89**	**303**	*e*P	**P**	**02 22 37.1**	**+4.0**
ZEI	**Tsey**	**24.09**	**309**	*e*P	**P**	**02 22 34.0**	**-1.1**
ZEI				*i* *PP		02 22 43.4	
ZEI				pmax	pmax		
	comp=Z,31nm,1.0s,mb4.7						
ONI	**Oni**	**24.32**	**308**	P	**P**	**02 22 40.0**	**+2.7**
HILS	**Ha'il**	**24.39**	**271**	P	**P**	**02 22 40.0**	**+1.9**
KAMS	**Al Khamasin**	**24.46**	**253**	P	**P**	**02 22 40.3**	**+1.5**
BTMT	**Batman**	**24.49**	**297**	*e*P	**P**	**02 22 43.0**	**+4.0**
BEST	**Besiri**	**24.60**	**296**	*i* P	**P**	**02 22 42.6**	**+2.5**
MARD	**Mardin**	**24.89**	**295**	*i* P	**P**	**02 22 44.5**	**+1.6**
BNGL	**BINGOL**	**24.90**	**299**	*i* P	**P**	**02 22 46.1**	**+3.2**
ERZM	**Erzurum**	**24.96**	**301**	*i* P	**P**	**02 22 46.9**	**+3.4**
EZM	**Erzurum**	**24.96**	**301**	*i* P	**P**	**02 22 48.0**	**+4.4**
PALK	**Pallekele**	**24.97**	**153**	*e*P	**P**	**02 22 45.8**	**+2.0**
	comp=Z,244nm,1.9s,mb5.4						
PALK				LR	LR		
	comp=Z,288nm,22.0s						
BCA	**Borcka**	**25.20**	**304**	*i* P	**P**	**02 22 48.6**	**+2.7**
KIV	**Kislovodsk**	**25.38**	**311**	⇑*i*P	**P**	**02 22 48.8**	**+1.4**
KIV				pmax	pmax		
	comp=Z,124nm,1.1s,mb5.3						
KIV				MLR	MLR		
	comp=Z,153nm,19.0s						
KIV	**Kislovodsk**	**25.38**	**311**	⇑*i*P	**P**	**02 22 48.8**	**+1.4**
	comp=Z,124nm,1.1s,mb5.3						
KIV				LR	LR		
	comp=Z,153nm,19.0s						
DIY	**Diyarbakir**	**25.42**	**296**	*e*P	**P**	**02 22 45.2**	**-2.6**
GOF	**Gofitskoye**	**25.63**	**313**	⇑*i*P	**P**	**02 22 48.8**	**-1.0**
GOF				*i*		02 23 02.6	
GOF				*i*		02 23 23.6	
GOF				pmax	pmax		
	comp=Z,310nm,1.8s,mb5.5						
TATS	**Tathlith**	**25.73**	**252**	P	**P**	**02 22 53.0**	**+2.0**
PTK	**Pertek**	**26.23**	**298**	*i* P	**P**	**02 22 56.1**	**+0.7**
ZAL	**Zalesovo**	**26.37**	**21**	*i* P	**P**	**02 22 57.4**	**+0.8**
ZAL				pmax	pmax		
	comp=Z,15nm,0.6s						
ZAL	**Zalesovo**	**26.37**	**21**	P	**P**	**02 22 57.2**	**+0.7**
	comp=Z,15nm,0.6s,mb4.7,baz=256,slow=8.8,SNR=36						
ZAL				LR	LR	02 34 30.7	
	comp=Z,1µm,20.2s,MS4.4,baz=254,slow=39						
ZAL	**Zalesovo**	**26.37**	**21**	P	**P**	**02 22 57.2**	**+0.7**
ZAL				LR	LR	02 34 30.7	
URFA	**Urfa**	**26.45**	**294**	*e*P	**P**	**02 22 59.6**	**+2.1**
ELZG	**Elazig**	**26.48**	**297**	*i* P	**P**	**02 23 00.3**	**+2.6**
GUMT	**Gumushane**	**26.50**	**301**	*i* P	**P**	**02 23 00.6**	**+2.7**
GTA	**Gaotai**	**26.55**	**61**	⇑P	**P**	**02 23 00.3**	**+1.9**
GTA				AP	pP	02 23 05.1	+4.3
GTA				XP	sP	02 23 07.8	+6.0
GTA				PP	PP	02 23 45.8	+3.7
GTA				PPP	PPP	02 23 58.0	+3.9
GTA				PCP	PcP	02 26 24.8	+1.3
GTA				S	**S**	**02 27 34.6**	**+3.6**
GTA				XS		02 27 41.3	
GTA				SCS	ScS	02 33 51.8	+0.4
GTA				AMB	AMB		
	comp=Z,32nm,1.2s,mb4.7						
GTA				AMB	AMB		
	comp=Z,211nm,6.0s						
GTA				LR	LR		
	comp=N,1µm,15.3s,MS4.8						
GTA				LR	LR		
	comp=E,1µm,14.1s,MS4.8						
GTA				LR	LR		
	comp=Z,2µm,13.5s,MS4.8						
DJNS	**Zahran al Janu**	**26.61**	**248**	P	**P**	**02 23 01.3**	**+2.2**
NVS	**Novosibirsk**	**26.72**	**18**	*e*P	**P**	**02 22 58.8**	**-0.9**
NVS				*i* S	**S**	**02 27 27.8**	**-5.7**
NVS				pmax	pmax		
	comp=E,34nm,1.6s						
NVS				pmax	pmax		
	comp=Z,86nm,1.6s,mb5.0						
NVS				pmax	pmax		
	comp=N,122nm,1.7s						
NVS				smax			
	comp=N,110nm,2.0s						
NVS				smax			
	comp=E,45nm,2.0s						
ATAB	**Bozova**	**26.87**	**294**	*i* P	**P**	**02 23 03.2**	**+1.9**
MALT	**Malatya**	**26.88**	**296**	*i* P	**P**	**02 23 03.6**	**+2.1**
MALT	**Malatya**	**26.88**	**296**	⇑*i*P	**P**	**02 23 02.9**	**+1.5**
MALT				pmax	pmax		
	comp=Z,183nm,1.8s,mb5.3						
MALT	**Malatya**	**26.88**	**296**	⇑*i*P	**P**	**02 23 02.9**	**+1.5**
	comp=Z,183nm,1.8s,mb5.3						
MYA	**Malataya**	**26.89**	**296**	*e*P	**P**	**02 23 03.5**	**+2.0**
KBRS	**Khaybar**	**26.98**	**268**	P	**P**	**02 23 04.5**	**+2.1**
BLJS	**Baljurashi**	**27.13**	**255**	P	**P**	**02 23 06.5**	**+2.6**
SOC	**Sochi**	**27.23**	**308**	*c i*P	**P**	**02 23 04.9**	**+0.3**
SOC				*e*		02 23 45.1	
SOC				*e*S	**S**	**02 27 41.3**	**-0.7**
SOC				*e*SS	SS	02 28 50.1	-7.3
SOC				pmax	pmax		
	comp=E,57nm,1.7s						
SOC				pmax	pmax		
	comp=Z,91nm,1.7s,mb5.0						

SOC pmax pmax
comp=N,29nm,1.5s
SOC MLR MLR
comp=Z,733nm,13.0s,MS4.4
SOC MLR MLR
comp=N,753nm,14.0s,MS4.5
SOC MLR MLR
comp=E,776nm,16.0s,MS4.5
SOC Sochi 27.23 308⇑ *i*P **P 02 23 04.8 +0.2**
GZT Gaziantep 27.44 294 *i* P **P 02 23 08.3 +1.8**
ARU Arti 27.50 347⇑ *i*P **P 02 23 07.5 +0.6**
ARU *e* 02 23 54.4
ARU *e*PPP PPP 02 24 05.1 -1.6
ARU *i* 02 26 25.8
ARU *e*S **S 02 27 48.8 +2.6**
ARU *e*SS SS 02 29 08.1 +4.3
ARU *e*SSS SSS 02 29 18.9 -2.9
ARU pmax pmax
comp=Z,76nm,1.3s,mb5.2
ARU MLR MLR
comp=N,2μm,16.0s,MS4.9
ARU MLR MLR
comp=Z,4μm,16.0s,MS5.0
ARU MLR MLR
comp=E,1μm,17.0s,MS4.9
ARU Arti 27.50 347 *e*P **P 02 23 07.2 +0.3**
comp=E,119nm,1.4s,mb5.3
ARU LR LR
comp=Z,234nm,22.0s
SVE Sverdlovsk 27.51 349⇑ *e*P **P 02 23 07.7 +0.7**
SVE *e* 02 29 06.0
SVE pmax pmax
comp=Z,100nm,1.5s,mb5.2
SVE MLR MLR
comp=N,3μm,13.0s,MS5.2
SVE MLR MLR
comp=E,2μm,13.0s,MS5.2
SVE MLR MLR
comp=Z,8μm,13.0s,MS5.5
QURS Qurayyt al Mil 27.61 281 P **P 02 23 10.1 +2.0**
GAZ Gaziantep 27.70 294 *e*P **P 02 23 10.6 +1.7**
ASF Jabal al Asfar 27.91 283 P **P 02 23 12.6 +1.7**
comp=Z,4.6nm,0.9s,mb4.1,baz=308,slow=3.7,SNR=5.8
ASF LR LR 02 36 18.9
comp=Z,1μm,20.8s,MS4.5,baz=122,slow=41
LTHS Al Lith 27.96 256 P **P 02 23 14.2 +2.9**
CHG Chiang Mai 28.99 106 ⇑P **P 02 23 20.7 0.0**
comp=Z,78nm,1.1s,mb5.3
CHRT Chiangrai 29.21 103 ⇓P **P 02 23 22.0 -0.7**
comp=Z,116nm,0.9s,mb5.6
LZH Lanzhou 29.35 69 ⇑P **P 02 23 24.8 +1.0**
LZH AP pP 02 23 31.0 +4.8
LZH XP sP 02 23 33.1 +5.9
LZH PP PP 02 24 19.8 +0.9
LZH *e*S **S 02 28 14.6 -1.5**
LZH XS 02 28 26.3
LZH SS SS 02 29 47.6 +0.3
LZH AMB AMB
comp=Z,119nm,1.3s,mb5.5
LZH AMB AMB
comp=Z,353nm,5.2s
LZH LR LR
comp=N,3μm,12.0s
LZH LR LR
comp=Z,3μm,14.9s,MS5.1
CD2 Chengdu 29.52 79 P **P 02 23 26.0 +0.7**
AVNT Avonos 29.72 296 *i* P **P 02 23 27.8 +0.7**
BDT Bhumibol Dam 29.81 109 P **P 02 23 28.0 0.0**
KMI Kunming 29.84 91 P **P 02 23 29.6 +1.3**
KMI AP pP 02 23 32.5 +1.8
KMI XP sP 02 23 33.6 +1.9
KMI PP PP 02 24 27.1 +1.7
KMI PPP PPP 02 24 41.0 +1.8
KMI PCP PcP 02 26 32.4 +0.8
KMI S **S 02 28 25.8 +1.8**
KMI XS 02 28 30.6
KMI SS SS 02 30 01.3 +2.2
KMI SCP 02 30 13.3
KMI PCS 02 30 14.4
KMI SSS SSS 02 30 22.1 +2.1
KMI SSS ScS 02 34 07.1 +0.7
KMI AMB AMB
comp=Z,47nm,0.9s,mb5.2
KMI AMB AMB
comp=Z,490nm,4.2s
KMI LR LR
comp=N,1μm,12.9s,MS4.9
KMI LR LR
comp=E,1μm,13.4s,MS4.9
KMI LR LR
comp=Z,2μm,13.7s,MS4.8
EIL Elat 29.87 278 P **P 02 23 25.2 -3.3**
comp=Z,4.9nm,1.0s,mb4.2
EIL LR LR 02 36 26.4
comp=Z,742nm,19.9s,MS4.3,baz=172,slow=38
HAQS Haql 29.99 277 P **P 02 23 31.5 +1.9**
CTKT Corum 30.03 300 *i* P **P 02 23 30.6 +0.8**
BOYT Boyabat 30.09 302 *i* P **P 02 23 31.2 +0.9**
MEST Erdemli 30.12 292 *i* P **P 02 23 30.5 -0.1**
CDAG Cicekdag 30.20 298 *i* P **P 02 23 30.7 -0.6**
NANT Nan 30.47 104 ⇓P **P 02 23 33.0 -0.9**
comp=Z,106nm,0.9s,mb5.6
CSS Prodhromos 30.76 289 *e*P **P 02 23 36.6 +0.3**
comp=Z,13nm,0.8s,mb4.8
BRTR Keskin Array B 30.77 298 P **P 02 23 37.0 +0.7**
comp=Z,15nm,1.0s,mb4.8,baz=121,slow=7.2,SNR=73
BRTR PcP PcP 02 26 34.5 +0.7
comp=Z,3.8nm,1.0s,baz=124,slow=4.5,SNR=4.4
SOKR Solikamsk 30.78 347⇑ *i*P **P 02 23 35.6 -0.6**
SOKR *i* S **S 02 28 37.1 -1.4**
SOKR pmax pmax
comp=Z,40nm,1.2s,mb5.1
SOKR MLR MLR
comp=Z,2μm,18.0s,MS4.8
ELDT Eldivan 31.04 300 *i* P **P 02 23 39.7 +1.1**
ERMK Ermenek 31.11 292 *i* P **P 02 23 39.9 +0.5**
VOR Voronezh 31.17 323 *e*P **P 02 23 39.5 -0.2**
VOR pmax pmax
comp=Z,250nm,1.6s,mb5.8
BALT Daday 31.23 302 *i* P **P 02 23 41.8 +1.4**
SIM Simferopol' 31.48 308*c* *i*P **P 02 23 42.3 -0.2**
SIM S **S 02 28 51.0 +1.4**
SIM pmax pmax
comp=Z,49nm,1.2s,mb5.2
NST Nakhon Sawan 31.55 110 P **P 02 23 35.0 -8.4**
PECR Pechory 31.80 333 *i* P **P 02 23 44.4 -0.8**
PECR *e*S **S 02 29 01.0 +6.6**
PECR pmax pmax
comp=Z,160nm,2.0s,mb5.5
PECR MLR MLR
comp=N,1μm,16.0s,MS4.9
PECR MLR MLR
comp=E,2μm,16.0s,MS4.9
PECR MLR MLR
comp=Z,2μm,16.0s,MS4.9
KDHN Kadinhani 31.83 296 *i* P **P 02 23 45.0 -0.7**
SGKT Sivrigoynuk 32.08 299 *i* P **P 02 23 48.6 +0.8**
ZAK Zakamensk 32.48 42⇑ *i*P **P 02 23 52.4 +1.2**
ZAK *e* 02 26 37.3
ZAK pmax pmax
comp=Z,12nm,1.1s,mb4.6
GYA Guiyang 32.88 87⇑ *i*P **P 02 23 55.3 +0.4**
GYA AP pP 02 24 01.4 +4.1
GYA XP sP 02 24 04.3 +5.9
GYA PP PP 02 25 01.6 -3.3
GYA PPP PPP 02 25 16.6 -4.1
GYA S **S 02 29 11.8 +0.2**
GYA XS 02 29 20.1
GYA SS SS 02 31 08.9 -1.3
GYA SCS ScS 02 34 23.3 +1.8
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,150nm,4.5s
GYA LR LR
comp=N,2μm,15.0s,MS5.0
GYA LR LR
comp=E,2μm,13.2s,MS5.0
GYA LR LR
comp=Z,2μm,15.9s,MS4.8
ESKT Eskisehir 32.89 297 *i* P **P 02 23 55.1 +0.2**
HENT Hendek 32.98 300 *i* P **P 02 23 56.8 +1.1**
ISP Isparta 33.06 294*c* *i*P **P 02 23 57.0 +0.6**
ISP Isparta 33.06 294 *e*P **P 02 23 56.5 0.0**
comp=Z,228nm,1.5s,mb5.9
TKTP Tekketepe 33.22 295 *i* P **P 02 23 57.5 -0.2**
TLY Talaya 33.26 40 *e*P **P 02 23 59.5 +1.5**
TLY *e* 02 25 24.3
TLY pmax pmax
comp=Z,39nm,1.4s,mb5.1
TLY MLR MLR
comp=Z,2μm,18.0s,MS4.9
SONM Songino Array 33.40 47 P **P 02 24 00.8 +1.6**
comp=Z,17nm,0.8s,mb5.0,baz=247,slow=9.4,SNR=71
SONM LR LR 02 40 16.5
comp=Z,2μm,18.3s,MS4.9,baz=254,slow=41
KKTK Khon Kaen 33.42 107 P **P 02 24 00.0 +0.3**
comp=Z,370nm,0.8s
XAN Xi'an 33.56 73 P **P 02 24 00.3 -0.5**
XAN AP pP 02 24 05.5 +2.3
XAN S **S 02 29 19.8 -2.2**
XAN AMB AMB
comp=Z,20nm,1.2s,mb4.9
XAN LR LR
comp=E,1μm,18.8s
XAN LR LR
comp=Z,2μm,19.9s,MS4.9
ULN Ulaanbaatar 33.83 48 *i* P **P 02 24 00.8 -2.2**
ULN Ulaanbaatar 33.83 48 PFAKE 02 24 10.0 +7.0
ULN LR LR
comp=Z,2μm,22.0s,MS4.7
IRK Irkutsk 33.87 39 *e*P **P 02 24 03.8 +0.5**
IRK *e* 02 25 32.9
IRK pmax pmax
comp=Z,61nm,1.7s,mb5.2
GDZ Gediz 33.92 296 *i* P **P 02 24 03.4 -0.5**
MOS Moscow 34.19 328α *i*P **P 02 24 06.1 +0.1**
MOS *e* 02 24 23.1
MOS *e* 02 25 20.6
MOS *e*PPP PPP 02 25 32.8 -5.8
MOS *e*S **S 02 29 33.2 +1.6**
MOS *e*SS SS 02 31 44.1 +4.1
MOS pmax pmax
comp=Z,500nm,1.9s,mb6.1
MOS pmax pmax
comp=Z,223nm,1.5s,mb5.9
MOS MLR MLR
comp=Z,3μm,18.7s,MS5.0
MOS MLR MLR
comp=N,2μm,19.1s,MS4.9
MOS MLR MLR
comp=E,1μm,19.1s,MS4.9
ULDT Uludag 34.26 298 *i* P **P 02 24 07.6 +0.8**
OBN Obninsk 34.33 326α *i*P **P 02 24 07.1 -0.1**
OBN 02 25 27.0
OBN *e* 02 26 44.0
OBN *i* S **S 02 29 34.4 +0.6**
OBN *i* 02 29 49.2
OBN pmax pmax
comp=Z,213nm,1.7s,mb5.8
OBN MLR MLR
comp=Z,4μm,20.0s,MS5.1
OBN Obninsk 34.33 326 *e*P **P 02 24 06.8 -0.4**
comp=Z,182nm,1.3s,mb5.8
OBN LR LR
comp=Z,865nm,19.0s,MS4.5
BTO Baotou 34.48 61 *e*P **P 02 24 09.8 +1.1**
BTO S **S 02 29 41.3 +5.0**
BTO AMB AMB
comp=Z,66nm,1.2s,mb5.4
BTO LR LR
comp=N,1μm,9.2s
BTO LR LR
comp=E,1μm,12.8s
ENH Enshi 34.49 79 *e*P **P 02 24 08.8 -0.1**
comp=E,64nm,1.2s,mb5.4
ENH LR LR
comp=Z,2μm,20.0s,MS4.8
MANT Manisa 34.62 295 *i* P **P 02 24 09.7 -0.2**
TIRR Tirgusor 35.33 306 ⇑P **P 02 24 16.4 +0.5**
PSN Preselentsi 35.37 304 *e*P **P 02 24 17.0 +0.7**
KIS Kishinev 35.58 310α *i*P **P 02 24 16.5 -1.5**
KIS *e* 02 25 36.0
KIS *e*S **S 02 29 58.0 +4.7**
KIS pmax pmax
comp=Z,180nm,1.0s,mb6.0
KIS MLR MLR
comp=N,500nm,13.0s,MS4.5
KIS MLR MLR
comp=Z,800nm,13.0s,MS4.7
KIS MLR MLR
comp=E,400nm,15.0s,MS4.5
KIS MLR MLR
comp=Z,1μm,12.0s
KDAG Bornova 35.63 295 *i* P **P 02 24 18.5 -0.1**
CFR Carcaliu 35.66 307 ⇓P **P 02 24 18.9 +0.2**
HHC Hu-ho-hao-te 35.67 61 P **P 02 24 20.6 +1.8**
HHC AP pP 02 24 26.1 +4.9
HHC XP sP 02 24 29.8 +7.5
HHC PCP PcP 02 26 46.4 -1.1
HHC S **S 02 30 00.6 +5.9**
HHC SCS ScS 02 34 35.1 -1.0
HHC AMB AMB
comp=Z,28nm,1.8s,mb4.9
HHC LR LR
comp=N,800nm,13.2s,MS4.9
HHC LR LR
comp=E,974nm,12.0s,MS4.9
HHC LR LR
comp=Z,904nm,13.2s,MS4.7
PRD Provadia 35.87 303 *e*P **P 02 24 21.5 +1.0**
AKASG Malin Array Be 36.38 316 P **P 02 24 24.5 -0.2**
comp=Z,34nm,0.9s,mb5.3,baz=103,slow=7.2,SNR=175
AKASG PP PP 02 25 45.1 -2.9
comp=Z,7.8nm,1.0s,baz=97,slow=11,SNR=3.5
AKASG PcP PcP 02 26 49.2 -0.3
comp=Z,3.4nm,0.9s,baz=90,slow=2.1,SNR=5.0
AKASG ScP 02 30 35.6
comp=Z,0.1nm,0.3s,baz=103,slow=2.9,SNR=5.4
JMB Yambol 36.38 302 *e*P **P 02 24 26.5 +1.7**
IAS Iasi 36.46 310 P **P 02 24 25.7 +0.3**
BRD Bordesti 36.49 307 P **P 02 24 28.6 +2.9**
ALN Alexandroupoli 36.66 299 *e*P **P 02 24 28.5 +1.3**
VRI Vrincioaia 36.76 308 ⇓P **P 02 24 28.9 +1.0**
SZH Strazhica 36.94 303 *e*P **P 02 24 30.0 +0.5**
KDZ Kurdzhali 37.18 300 *e*P **P 02 24 32.0 +0.5**
MLR Muntele Rosu 37.23 307 ⇓P **P 02 24 33.6 +1.7**
DGAR Diego Garcia 37.32 175*d* *i*P **P 02 24 33.5 +0.5**
DGAR Diego Garcia 37.32 175 *i* P **P 02 24 33.6 +0.6**
IDI Anoyia 37.65 290 P **P 02 24 36.7 +1.1**
comp=Z,24nm,1.0s,mb4.9,baz=26,slow=7.4,SNR=4.5
RZN Rozhen 37.70 300 *e*P **P 02 24 37.0 +1.1**
VOIR 37.85 307 ⇑P **P 02 24 38.6 +1.5**
VOIR 37.85 307 ⇑P **P 02 24 38.5 +1.4**
QIZ Qiongzhong 38.16 97 P **P 02 24 43.9 +3.9**
QIZ S **S 02 30 30.4 -2.6**
QIZ XS 02 30 44.6
QIZ LR LR
comp=N,811nm,19.2s
QIZ LR LR
comp=Z,674nm,14.4s,MS4.6
QIZ Qiongzhong 38.16 97 PFAKE 02 24 50.0 +10
QIZ LR LR
comp=Z,670nm,20.0s,MS4.5
PGB Panagyurishte 38.17 302 *e*P **P 02 24 41.0 +1.2**
KULM Kulim 38.33 124 *e*P **P 02 24 41.9 +0.4**
PAIG Paliouri 38.43 298 *e*P **P 02 24 43.0 +0.9**
MMB Musomiste 38.44 300 *e*P **P 02 24 43.0 +0.9**
MNK Minsk 38.52 322 *e*P **P 02 24 39.0 -3.6**
SRS Serrai 38.52 299 *e*P **P 02 24 43.5 +0.7**
WHN Wuhan 38.58 78 ⇑P **P 02 24 44.6 +1.2**
WHN S **S 02 30 40.0 +0.8**
WHN LR LR
comp=N,1μm,8.0s
WHN LR LR
comp=E,2μm,10.2s
WHN LR LR
comp=Z,3μm,16.6s
CRAR CRAIOVA 38.59 305 P **P 02 24 45.5 +2.2**
SOH Sokhos 38.70 299 *e*P **P 02 24 45.2 +0.9**
XOR Xorichti 38.81 297 *e*P **P 02 24 43.8 -1.5**
VTS Vitosha 38.88 302 *e*P **P 02 24 46.5 +0.7**
VTS Vitosha 38.88 302 P **P 02 24 47.5 +1.7**
KKB Krupnik 38.93 301 *e*P **P 02 24 47.0 +0.7**
KNT Kendrikon 39.05 300 *e*P **P 02 24 47.3 0.0**
CIT Chita 39.09 43 *e*P **P 02 24 48.5 +1.1**
CIT *e* 02 24 53.5
CIT *e* 02 25 02.5
CIT *e* 02 30 43.3
CIT pmax pmax
comp=Z,113nm,1.6s,mb5.3
LVV L'vov 39.34 313 *e*P **P 02 24 48.3 -1.2**
LVV MLR MLR
comp=N,500nm,16.0s,MS4.6
LVV MLR MLR
comp=E,500nm,16.0s,MS4.6
LVV MLR MLR
comp=Z,600nm,16.0s,MS4.5
LIT Litokhoron 39.35 298 *e*P **P 02 24 49.9 +0.1**
IDID Didziasalis 39.41 322 *e*P **P 02 24 50.1 0.0**
IDID AMb AMB 02 24 53.2
comp=Z,29nm,1.4s,mb4.8
GRG Griva 39.42 299 *e*P **P 02 24 50.2 -0.1**
AGG Agios Georgios 39.49 296 *e*P **P 02 24 50.5 -0.5**
DRGR 39.65 308 P **P 02 24 53.6 +1.4**
GZH Guangzhou 39.67 89 P **P 02 24 54.0 +1.4**
GZH S **S 02 30 56.8 +0.9**
GZH LR LR
comp=N,843nm,16.7s,MS4.8
GZH LR LR
comp=E,659nm,16.0s,MS4.8
GZH LR LR
comp=Z,1μm,12.3s,MS5.0
PUL Pulkovo 39.68 330 *i* P **P 02 24 52.1 -0.1**
PUL *i* S **S 02 30 50.3 -5.2**
PUL pmax pmax
comp=Z,83nm,0.7s,mb5.6
PUL pmax pmax
comp=N,35nm,0.6s
PUL pmax pmax
comp=E,193nm,0.9s
PUL MLR MLR
comp=Z,2μm,15.0s,MS5.0
PUL MLR MLR
comp=N,879nm,12.0s,MS5.0
PUL MLR MLR
comp=E,1μm,14.0s,MS5.0
PUL Pulkovo 39.68 330 *i* P **P 02 24 52.3 +0.1**
ISAL Salakas 39.83 323 *e*P **P 02 24 53.9 +0.3**
ISAL AMb AMB 02 24 56.1
comp=Z,26nm,1.2s,mb4.8
IZAR Zarasai 39.83 323 *e*P **P 02 24 53.2 -0.4**
IZAR AMb AMB 02 24 56.8
comp=Z,31nm,1.4s,mb4.8
BOLS Boljevac 39.87 304⇓ *i*P **P 02 24 54.1 +0.1**
TIA Tai'an 40.08 68 ⇑P **P 02 24 56.5 +0.6**
TIA AMB AMB
comp=Z,78nm,1.2s,mb5.3
KWP Kalwaria 40.13 313⇑ *e*P **P 02 24 57.0 +0.9**
KWP Kalwaria 40.13 313⇑ *e*P **P 02 24 57.0 +0.9**
comp=Z,200nm,1.5s,mb5.6
KWP MLR MLR 02 44 27.2
comp=Z,600nm,20.8s,MS4.4
SKO Skopje 40.16 301⇑ *i*P **P 02 24 56.6 +0.2**
SKO pmax pmax
comp=Z,51nm,1.3s,mb5.1
SKO Skopje 40.16 301⇑ *i*P **P 02 24 56.6 +0.2**
comp=Z,0.1nm,1.3s
FNA Florina 40.20 299 *e*P **P 02 24 57.3 +0.6**
KOLS Kolonicke sedl 40.28 312 *e*P **P 02 24 58.6 +1.2**
KOLS *e*PCP PcP 02 27 02.4 +0.7
VSU Vasula 40.69 327*c* *i*P **P 02 25 00.4 -0.2**
VSU Vasula 40.69 327⇑ *i*P **P 02 25 00.5 -0.1**
CRVS Cervenica-Dubn 40.80 311 *e*P **P 02 25 03.6 +2.0**
SUW Suwalki 40.92 319⇑ *e*P **P 02 25 02.5 -0.1**
SUW *e*pP pP 02 25 09.9 +4.9
SUW *e*PP PP 02 26 37.9 -2.3
SUW *e*PcP PcP 02 27 03.6 -0.1
SUW Suwalki 40.92 319⇑ *e*P **P 02 25 02.5 0.0**
comp=Z,200nm,1.6s,mb5.5
SUW *e*pP pP 02 25 09.9 +4.9
SUW *e*PP PP 02 26 37.9 -2.3
SUW *e*PcP PcP 02 27 03.6 -0.1
SUW MLR MLR 02 46 42.0
comp=Z,2μm,16.5s,MS5.0
IGT Igoumenitsa 41.02 297 *e*P **P 02 25 04.0 +0.5**
STHS Stebnicka Huta 41.03 312 *e*P **P 02 25 03.8 +0.3**
KECS Kecovo 41.38 311 *e*P **P 02 25 06.4 0.0**
PSZ Piszkesteto 41.70 310 *e*P **P 02 25 10.0 +1.1**
PSZ pmax pmax
comp=Z,93nm,1.1s,mb5.3
PSZ Piszkesteto 41.70 310 *e*P **P 02 25 10.0 +1.1**
comp=Z,93nm,1.1s,mb5.3
PSZ Piszkesteto 41.70 310⇑ *i*P **P 02 25 10.3 +1.4**
WAR Warsaw 41.73 316⇑ *e*P **P 02 25 10.1 +1.0**
WAR LR LR
comp=Z,800nm,17.3s,MS4.7
WAR Warsaw 41.73 316⇑ *e*P **P 02 25 10.2 +1.0**
WAR MLR MLR 02 46 44.4
comp=Z,800nm,17.3s,MS4.7
NJ2 Nanjing 42.08 74 *e*P **P 02 25 14.3 +2.0**
NJ2 AP pP 02 25 20.3 +5.5
NJ2 XP sP 02 25 23.3 +7.5
NJ2 PP PP 02 26 55.0 +2.0
NJ2 S **S 02 31 32.0 +0.3**
NJ2 XS 02 31 43.0
NJ2 AMB AMB
comp=Z,60nm,0.9s,mb5.2
NJ2 AMB AMB
comp=Z,240nm,3.6s
NJ2 LR LR
comp=N,4μm,19.3s,MS5.4
NJ2 LR LR
comp=E,2μm,14.8s,MS5.4
NJ2 LR LR
comp=Z,900nm,16.4s,MS4.7
OJC Ojcow 42.09 313 *i*P **P 02 25 12.7 +0.6**
OJC *e*S **S 02 31 26.4 -5.1**
OJC MLR MLR 02 45 57.3
comp=Z,700nm,18.6s,MS4.6
FINES FINESS Array B 42.32 331 P **P 02 25 13.8 0.0**
comp=Z,12nm,0.9s,mb4.5,baz=129,slow=12,SNR=39
FINES PP PP 02 26 53.3 -1.7
comp=Z,4.0nm,0.9s,baz=135,slow=14,SNR=3.4
FINES LR LR 02 45 11.6
comp=Z,2μm,18.3s,MS5.0,baz=114,slow=40
HIA Hailar 42.35 48 *e*P **P 02 25 15.7 +1.4**
HIA pmax pmax
comp=Z,69nm,0.2s
HIA MLR MLR
comp=Z,1μm,20.0s
HIA Hailar 42.35 48 *e*P **P 02 25 15.7 +1.4**
comp=Z,69nm,0.2s,mb5.9
HIA LR LR
comp=Z,1μm,20.0s,MS4.8
PKSM Moragy 42.38 307⇑ *e*P **P 02 25 15.1 +0.5**
PKS8 Sarbogard 42.41 308⇓ *e*P **P 02 25 15.7 +0.9**
VYHS Vyhne 42.47 310 *e*P **P 02 25 16.1 +0.8**
VYHS *e* 02 25 31.5
KAF Kangasniemi 42.55 332 *e*p **P 02 25 16.2 +0.5**
comp=Z,21nm,0.9s,mb4.9,baz=117,slow=8.1
KAF Kangasniemi 42.55 332 *e*P **P 02 25 16.2 +0.5**
KAF pmax pmax
comp=Z,21nm,0.9s,mb4.9
SRO Srobarova 42.74 309 *e*P **P 02 25 19.4 +1.9**
SRO1 Iza 42.79 309 *e*P **P 02 25 19.6 +1.7**
OKC Ostrava-Krasne 43.09 312⇑ *i*P **P 02 25 21.0 +0.7**
OKC AMS AMS 02 47 00.0
comp=Z,400nm,15.6s
RAC Raciborz 43.09 313 *e*P **P 02 25 21.4 +1.1**
RAC *e*S **S 02 31 43.5 -2.7**
LVZ Lovozero 43.10 342 *i* P **P 02 25 20.1 -0.1**
LVZ pmax pmax
comp=E,13nm,1.1s
LVZ pmax pmax
comp=Z,34nm,1.1s,mb5.0
LVZ pmax pmax
comp=N,9.0nm,1.2s
LVZ MLR MLR
comp=Z,2μm,12.0s,MS5.1
LVZ MLR MLR
comp=N,667nm,11.0s,MS5.0
LVZ MLR MLR
comp=E,1μm,16.0s,MS5.0
LVZ Lovozero 43.10 342⇑ *i*P **P 02 25 19.8 -0.4**
APA Apatity 43.23 341⇓ *i*P **P 02 25 21.8 +0.6**
APA *i* 02 25 31.8
APA *i* 02 27 13.0
APA *e*S **S 02 31 53.0 +5.1**
APA *e*SS SS 02 35 10.0 +16
APA pmax pmax
comp=Z,34nm,1.0s,mb5.0
APA pmax pmax

comp=Z,500nm,5.0s
APA MLR MLR

comp=Z,3µm,11.0s,MS5.4
DL2 Dalian 43.42 64 P **P** **02 25 24.9 +1.7**
DL2 S **S** **02 31 52.8 +1.7**
DL2 AMB AMB

comp=Z,20nm,1.0s,mb4.8
DL2 LR LR

comp=N,430nm,16.5s,MS4.7
DL2 LR LR

comp=E,570nm,16.5s,MS4.7
DL2 LR LR

comp=Z,600nm,15.5s,MS4.6
MORC Moravsky Berou 43.47 312 *e*P **P** **02 25 23.9 +0.5**
MORC pmax pmax

comp=Z,48nm,1.2s,mb5.1
MORC Moravsky Berou 43.47 312 *e*P **P** **02 25 23.9 +0.6**
comp=Z,48nm,1.2s,mb5.1
ZST Bratislava 43.59 310 *e*P **P** **02 25 25.1 +0.7**
ZST *e*L 02 49 19.7
KMBO Kilima Mbogo 43.61 231 P **P** **02 25 26.9 +1.8**
comp=Z,3.1nm,0.8s,mb4.1,baz=43,slow=18,SNR=6.4
KMBO LR LR 02 44 52.1

comp=Z,438nm,19.4s,MS4.4,baz=243,slow=38
TIP Timpagrande 43.81 297 *e*P **P** **02 25 26.4 +0.1**
VRAC Vranov 44.03 311 P **P** **02 25 28.8 +0.9**
KOGS Kog 44.05 307 *e*P **P** **02 25 28.7 +0.5**
SSE Sheshan 44.23 75 P **P** **02 25 31.8 +2.0**
SSE XP sP 02 25 36.4 +3.2
SSE PP PP 02 27 14.5 +0.1
SSE PCS 02 31 10.3
SSE S **S** **02 32 03.9 +1.0**
SSE XS 02 32 09.8
SSE AMB AMB

comp=Z,41nm,0.9s,mb5.2
SSE AMB AMB

comp=Z,195nm,4.1s
SSE LR LR

comp=N,1µm,13.8s,MS5.0
SSE LR LR

comp=E,675nm,13.8s,MS5.0
SSE LR LR

comp=Z,815nm,13.5s,MS4.8
DPC Dobruska-Polom 44.32 313 *e*P **P** **02 25 31.4 +1.1**
DPC AMS AMS 02 49 10.0

comp=Z,1µm,16.1s
KSP Ksiaz 44.40 314⇑ *e*P **P** **02 25 31.7 +0.8**
KSP *e*S **S** **02 32 03.0 -2.1**
KSP LR LR

comp=Z,2µm,17.1s,MS5.1
KSP Ksiaz 44.40 314⇑ *e*P **P** **02 25 31.9 +1.0**
comp=Z,200nm,1.6s,mb5.6
KSP MLR MLR 02 47 32.8

comp=Z,2µm,17.7s,MS5.0
UPC Upice 44.53 313⇑ *i*P **P** **02 25 33.1 +1.1**
ARSA Arzberg 44.59 308⇑ *i*P **P** **02 25 33.2 +0.7**
comp=Z,50nm,1.3s,mb5.2
BOJS Bojanci 44.72 306 *i* P **P** **02 25 33.9 +0.3**
SNY Shenyang 44.72 59 ⇑P **P** **02 25 34.1 +0.5**
SNY S **S** **02 32 04.0 -5.9**
SNY LR LR

comp=N,2µm,14.7s,MS5.1
SNY LR LR

comp=E,760nm,16.5s,MS5.1
SNY LR LR

comp=Z,1µm,15.6s,MS4.9
PERS Pernice 44.84 307 *e*P **P** **02 25 34.6 +0.1**
OBKA Obir 45.23 307⇑ *i*P **P** **02 25 38.3 +0.7**
comp=Z,34nm,1.2s,mb5.1
LJU Ljubljana 45.23 307 *e*P **P** **02 25 38.2 +0.5**
PRU Pruhonice 45.42 312⇑ *i*P **P** **02 25 39.5 +0.4**
PRU LR LR

comp=Z,1µm,14.8s,MS4.9
PRU Pruhonice 45.42 312⇑ *i*P **P** **02 25 39.5 +0.4**
PRU AMS AMS 02 49 50.0

comp=Z,1µm,14.8s
PVCC Panska Ves 45.45 313⇑ *i*P **P** **02 25 40.3 +1.0**
PVCC AMS AMS 02 48 00.0

comp=Z,900nm,16.8s
MOA Molln 45.47 309⇑ *i*P **P** **02 25 39.8 +0.3**
comp=Z,42nm,1.0s,mb5.2
CII Carovilli 45.49 301 *e*P **P** **02 25 40.4 +0.6**
comp=Z,66nm,1.4s,mb5.3
BSD Bornholm Skovb 45.86 319 *i* P **P** **02 25 41.8 -0.7**
BSD pmax pmax

comp=Z,33nm,1.4s,mb5.1
BSD Bornholm Skovb 45.86 319 *i* P **P** **02 25 41.8 -0.7**
comp=Z,33nm,1.4s,mb5.1
BRG Berggiesshubel 45.88 313 *e*P **P** **02 25 43.6 +0.9**
BRG *e* 02 27 20.7
BRG pmax pmax

comp=Z,37nm,1.2s,mb5.2
BRG Berggiesshubel 45.88 313 *e*P **P** **02 25 43.6 +0.9**
comp=Z,37nm,1.2s,mb5.2
BRG *e* 02 27 20.7
GEC2 GERESS Array S 45.89 310 *e*P **P** **02 25 43.0 +0.2**
GEC2 pmax pmax

comp=Z,33nm,1.3s,mb5.1
GEC2 GERESS Array S 45.89 310 *e*P **P** **02 25 43.0 +0.2**
comp=Z,33nm,1.3s,mb5.1
GERES GERESS Array B 45.89 310 P **P** **02 25 42.9 0.0**
comp=Z,8.4nm,1.0s,mb4.6,baz=101,slow=6.8,SNR=66
GERES PcP PcP 02 27 19.8 -0.7
comp=Z,5.8nm,1.1s,baz=76,slow=5.5,SNR=5.2
GERES LR LR 02 48 57.1

comp=Z,485nm,19.0s,MS4.5,baz=92,slow=41
ROBS Robic 45.94 307 *e*P **P** **02 25 43.1 -0.1**
KHC Kasperske Hory 45.99 311⇑ *i*P **P** **02 25 43.5 -0.1**
KHC LR LR

comp=Z,600nm,19.9s,MS4.5
KHC Kasperske Hory 45.99 311⇑ *i*P **P** **02 25 43.5 -0.1**
KHC AMS AMS 02 47 20.0

comp=Z,600nm,19.9s
CN2 Changchun 46.01 57 *e*P **P** **02 25 44.6 +0.7**
CN2 *e*AP pP 02 25 50.8 +4.5
CN2 PP PP 02 27 32.3 +0.2
CN2 *e*S **S** **02 32 27.3 -1.1**
CN2 AMB AMB

comp=Z,20nm,0.9s,mb5.0
CN2 AMB AMB

comp=Z,300nm,6.0s
CN2 LR LR

comp=N,900nm,15.0s,MS5.0
CN2 LR LR

comp=E,900nm,15.0s,MS5.0
CN2 LR LR

comp=Z,820nm,14.0s,MS4.8
KBA Koelnbreinsper 46.07 308⇑ *i*P **P** **02 25 44.8 +0.5**
comp=Z,40nm,1.4s,mb5.2
KBA Koelnbreinsper 46.07 308⇑ *i*P **P** **02 25 44.8 +0.5**
KBA pmax pmax

comp=Z,40nm,1.4s,mb5.2
TATO Taipei 46.11 83 PFAKE 02 26 00.0 +15
TATO LR LR

comp=Z,1µm,21.0s,MS4.8
YHNB Yeheng 46.11 84 *e*P **P** **02 25 45.2 +0.3**
AQU L'Aquila 46.13 301 *e*P **P** **02 25 44.8 0.0**
AQU pmax pmax

comp=Z,59nm,1.2s,mb5.4
AQU L'Aquila 46.13 301 *e*P **P** **02 25 44.8 0.0**
comp=Z,59nm,1.2s,mb5.4
RUE Ruedersdorf 46.14 316 *e*P **P** **02 25 44.8 0.0**
KEV Kevo 46.42 341 *e*p **P** **02 25 47.1 +0.3**
comp=Z,19nm,0.9s,mb5.0
KEV Kevo 46.42 341 *e*P **P** **02 25 47.1 +0.3**
KEV pmax pmax

comp=Z,19nm,0.9s,mb5.0
CLL Collm 46.51 314⇑ *i*P **P** **02 25 48.0 +0.3**
CLL *e*S **S** **02 32 41.0 +5.6**
CLL pmax pmax

comp=Z,29nm,1.3s,mb5.0
CLL Collm 46.51 314⇑ *i*P **P** **02 25 48.0 +0.3**
comp=Z,29nm,1.3s,mb5.0
CLL *e* 02 26 13.0
CLL *e*S **S** **02 32 41.0 +5.6**
CLL Collm 46.51 314 ⇑P **P** **02 25 48.0 +0.3**
comp=Z,logA/T=1.3,mb5.0
CLL *e* 02 26 13.0
CLL *e*PP PP 02 27 42.0 +5.0
CLL *e* 02 30 55.0
CLL *e*S **S** **02 32 41.0 +5.6**
CLL *e*SS SS 02 36 12.0 +18
CLL *e*SSS SSS 02 36 52.0 -8.8
CLNS Chul'man 46.67 38 *e*P **P** **02 25 48.3 -0.6**
CLNS *e* 02 27 27.9
CLNS pmax pmax

comp=Z,40nm,0.8s,mb5.4
CLNS pmax pmax

comp=N,14nm,0.7s
CLNS pmax pmax

comp=E,24nm,0.9s
CLNS MLR MLR

comp=Z,2µm,17.0s,MS5.0
CLNS MLR MLR

comp=N,1µm,16.0s,MS5.0
CLNS MLR MLR

comp=E,70nm,11.0s,MS5.0
ARCES ARCESS Array B 46.73 340 P **P** **02 25 49.3 +0.2**
comp=E,20nm,0.9s,mb5.0,baz=125,slow=6.7,SNR=52
ARCES PcP PcP 02 27 22.6 -0.5
comp=E,9.9nm,0.9s,baz=135,slow=3.4,SNR=4.0
ARCES LR LR 02 46 33.8

comp=E,1µm,21.1s,MS4.9,baz=126,slow=38
ARE0 ARCESS Array S 46.73 340 *e*P **P** **02 25 48.9 -0.3**
NKC Novy Kostel 46.78 312⇑ *i*P **P** **02 25 50.6 +0.7**
NKC AMS AMS 02 50 20.0

comp=E,1µm,16.6s
WTTA Wattenberg 47.23 308⇑ *i*P **P** **02 25 53.1 -0.4**
comp=E,45nm,1.2s,mb5.3
WTTA Wattenberg 47.23 308⇑ *i*P **P** **02 25 53.1 -0.4**
WTTA pmax pmax

comp=Z,45nm,1.2s,mb5.3
WATA Walderalm 47.27 308⇑ *i*P **P** **02 25 53.8 0.0**
comp=Z,34nm,1.3s,mb5.1
WATA Walderalm 47.27 308⇑ *i*P **P** **02 25 53.8 0.0**
WATA pmax pmax

comp=Z,34nm,1.3s,mb5.1
MOX Moxa 47.34 313⇓ *i*P **P** **02 25 55.2 +0.9**
MOX pmax pmax

comp=Z,119nm,1.8s,mb5.5
MOX MLR MLR

comp=Z,1µm,15.0s,MS5.0
MOX Moxa 47.34 313⇓ *i*P **P** **02 25 55.2 +0.9**
comp=Z,119nm,1.8s,mb5.5
MOX *e* 02 26 19.0
MOX LR LR

comp=Z,1µm,15.0s,MS5.0
MOX Moxa 47.34 313⇑ *i*P **P** **02 25 55.2 +0.9**
comp=Z,logA/T=1.8,mb5.5
MOX *e* pP 02 25 58.0 +1.3
MOX *e* 02 26 19.0
MOX S **S** **02 32 51.0 +3.8**
MOX SS SS 02 36 39.0 +31
MOX L 02 50 54.0
COP Copenhagen 47.35 320 *i* P **P** **02 25 54.4 +0.1**
COP *i* S **S** **02 32 51.0 +3.7**
COP pmax pmax

comp=Z,80nm,1.2s,mb5.5
COP MLR MLR

comp=Z,600nm,18.0s,MS4.6
COP Copenhagen 47.35 320 *i* P **P** **02 25 54.4 +0.1**
comp=Z,80nm,1.2s,mb5.5
COP *i* S **S** **02 32 51.0 +3.7**
COP *i* 02 36 49.2

comp=Z,600nm,18.0s
FUR Furstenfeldbru 47.48 309 *e*P **P** **02 25 54.9 -0.5**
FUR pmax pmax

comp=Z,32nm,1.0s,mb5.2
FUR Furstenfeldbru 47.48 309 *e*P **P** **02 25 54.9 -0.5**
comp=Z,32nm,1.0s,mb5.2
INCN Inchon 47.50 65 *e*P **P** **02 25 55.6 -0.1**
INCN LR LR

comp=Z,637nm,22.0s,MS4.5
SQTA Sankt Quirin 47.53 308⇑ *i*P **P** **02 25 55.0 -0.8**
comp=Z,27nm,1.2s,mb5.2
SQTA Sankt Quirin 47.53 308⇑ *i*P **P** **02 25 55.0 -0.8**
SQTA pmax pmax

comp=Z,27nm,1.2s,mb5.2
GRA1 Grafenberg Arr 47.55 312 *e*P **P** **02 25 56.8 +0.9**
comp=Z,98nm,1.3s,mb5.7
GRA1 LR LR

comp=Z,500nm,20.1s,MS4.5
GRF Grafenberg Arr 47.55 312 *e*P **P** **02 25 56.8 +0.9**
GRF pmax pmax

comp=Z,98nm,1.3s,mb5.7
GRF MLR MLR

comp=Z,500nm,20.1s,MS4.5
GRF Grafenberg Arr 47.55 312 *e*P **P** **02 25 56.8 +0.9**
GRF pmax pmax

comp=Z,98nm,1.3s,mb5.7
GRF MLR MLR

comp=Z,500nm,20.1s,MS4.5
GRF Grafenberg Arr 47.55 312 *e*P **P** **02 25 56.8 +0.9**
comp=Z,98nm,1.3s,mb5.7
GRF LR LR

comp=Z,500nm,20.1s,MS4.5
MOTA Moosalm 47.60 308⇑ *i*P **P** **02 25 55.4 -1.0**
comp=Z,17nm,0.8s,mb5.1
MOTA Moosalm 47.60 308⇑ *i*P **P** **02 25 55.4 -1.0**
MOTA pmax pmax

comp=Z,17nm,0.8s,mb5.1
MBAR Mbarara 47.82 238 PFAKE
MBAR LR LR 02 26 10.0 +11

comp=Z,148nm,19.0s,MS4.0
MAIM 48.15 304 P **P** **02 25 59.8 -1.0**
CLZ Clausthal 48.18 314 *e*P **P** **02 26 01.3 +0.5**
CLZ pmax pmax

comp=Z,87nm,1.3s,mb5.6
CLZ Clausthal 48.18 314 *e*P **P** **02 26 01.3 +0.5**
comp=Z,87nm,1.3s,mb5.6
HDH Heidenheim 48.20 310 *e*P **P** **02 26 00.4 -0.6**
SARO Sassorosso 48.20 304 P **P** **02 26 01.4 +0.3**
VLC Villacollemand 48.21 304 *e*P **P** **02 26 00.8 -0.4**
comp=Z,126nm,1.7s,mb5.7
UBR Uberruh 48.27 309⇑ *e*P **P** **02 26 00.9 -0.7**
VALM 48.30 304 P **P** **02 26 02.5 +0.6**
BSEG Bad Segeberg 48.36 317 *e*P **P** **02 26 02.7 +0.5**
GRAM 48.42 305 P **P** **02 26 02.9 +0.1**
DAVA Damuels 48.43 308⇑ *i*P **P** **02 26 02.3 -0.5**
comp=Z,65nm,1.4s,mb5.5
BACM 48.43 304 P **P** **02 26 03.5 +0.6**
DAVOX Davos 48.44 308 P **P** **02 26 02.2 -0.8**
comp=Z,4.5nm,0.5s,mb4.7,baz=111,slow=5.8,SNR=15
DAVOX Davos 48.44 308 P **P** **02 26 02.2 -0.8**
KS15 Wonju Array Si 48.49 65 *e*P **P** **02 26 03.4 0.0**
CODM 48.58 304 P **P** **02 26 03.5 -0.5**
SIND Sindeldorf 48.59 311⇑ *e*P **P** **02 26 04.3 +0.2**
TRO Tromso 48.76 339 *e*P **P** **02 26 03.9 -1.2**
TRO AMb AMB 02 26 06.2

comp=Z,53nm,1.5s,mb5.3
TRO *e*S **S** **02 33 06.4 -0.7**
TRO *e*SS SS 02 36 41.7 +8.8
TRO AMS AMS 02 51 32.9

comp=Z,530nm,15.8s,MS4.6
BUCH Bad Urach 48.77 310 *e*P **P** **02 26 05.0 -0.4**
STU Stuttgart 48.87 310 *e*P **P** **02 26 05.8 -0.4**
STU pmax pmax

comp=Z,78nm,1.4s,mb5.5
STU Stuttgart 48.87 310 *e*P **P** **02 26 05.8 -0.4**
comp=Z,78nm,1.4s,mb5.5
GUT Gutenstein 48.93 309⇑ *e*P **P** **02 26 05.8 -0.9**
NB2 NORSAR Subarra 48.94 327 P **P** **02 26 05.6 -0.9**
comp=Z,77nm,1.2s,mb5.6,baz=104,slow=7.4
NB2 NORSAR Subarra 48.94 327 P **P** **02 26 05.6 -0.9**
NB2 pmax pmax

comp=Z,77nm,1.2s,mb5.6
NB2 NORSAR Subarra 48.94 327 P **P** **02 26 05.6 -0.9**
baz=104,slow=7.9
NOA NORSAR Array B 48.94 327 P **P** **02 26 05.6 -0.9**
comp=Z,26nm,0.9s,mb5.3,baz=103,slow=7.8,SNR=61
NOA LR LR 02 50 13.4

comp=Z,2µm,18.5s,MS5.1,baz=105,slow=40
NOA NORSAR Array B 48.94 327 P **P** **02 26 05.6 -0.9**
NOA LR LR 02 50 13.4
MDJ Mudanjiang 48.94 55 P **P** **02 26 07.3 +0.5**
MDJ AP pP 02 26 13.3 +4.0
MDJ XP sP 02 26 15.9 +5.6
MDJ PCP PcP 02 27 30.6 -0.8
MDJ PP PP 02 28 01.1 +0.7
MDJ SCP 02 31 24.3
MDJ S **S** **02 33 11.4 +1.5**
MDJ XS 02 33 21.9
MDJ SCS ScS 02 35 58.6 +1.9
MDJ AMB AMB

comp=Z,26nm,1.4s,mb5.1
MDJ AMB AMB

comp=Z,124nm,6.2s
MDJ LR LR

comp=N,732nm,17.4s,MS4.8
MDJ LR LR

comp=E,285nm,14.2s,MS4.8
MDJ LR LR

comp=Z,1µm,16.3s,MS4.9
MDJ Mudanjiang 48.94 55 *e*P **P** **02 26 06.6 -0.2**
comp=Z,59nm,1.4s,mb5.4
MDJ LR LR

comp=Z,708nm,19.0s,MS4.7
NAO01 NORSAR Array S 49.05 326 *e*P **P** **02 26 06.5 -0.9**
comp=Z,37nm,1.1s,mb5.3
NAO01 LR LR

comp=Z,2µm,19.0s,MS5.1
TOD Tromm 49.12 311 *e*P **P** **02 26 08.5 +0.4**
TOD Tromm 49.12 311 *e*P **P** **02 26 08.4 +0.3**
LBG Lerchenberg 49.13 310⇑ *e*P **P** **02 26 07.8 -0.4**
SPAK Spaichingen 49.15 309 *e*P **P** **02 26 07.8 -0.6**
SWS Schriesheim 49.19 311 *e*P **P** **02 26 09.1 +0.5**
MUD Monsted U'grnd 49.26 320⇑ *i*P **P** **02 26 09.5 +0.4**
comp=Z,80nm,1.3s,mb5.6
MUD *i* S **S** **02 33 24.9 +11**

comp=Z,150nm,16.0s
TNS Taunus Mts 49.35 312 *e*P **P** **02 26 10.4 +0.5**
TNS pmax pmax

comp=Z,54nm,1.6s,mb5.3
TNS Taunus Mts 49.35 312 *e*P **P** **02 26 10.4 +0.5**
comp=Z,54nm,1.6s,mb5.3
PGF Pioggiola 49.36 302 *e*P **P** **02 26 09.2 -0.9**
comp=Z,153nm,1.5s,mb5.5
PGF Pioggiola 49.36 302 *e*P **P** **02 26 09.2 -0.9**
PGF pmax pmax

comp=Z,76nm,1.5s,mb5.5
NSS Namsos 49.44 331 AMS AMS 02 49 31.5
comp=Z,2µm,21.6s,MS5.0
BFO Black Forest 49.45 310 *e*P **P** **02 26 09.6 -1.1**
BFO pmax pmax

comp=Z,23nm,1.2s,mb5.1
BFO Black Forest 49.45 310 *e*P **P** **02 26 09.6 -1.1**
comp=Z,23nm,1.2s,mb5.1
VSL Villasalto 49.46 298⇑ *i*P **P** **02 26 11.0 +0.2**
comp=Z,149nm,1.7s,mb5.7
KONO Kongsberg 49.47 325 *e*P **P** **02 26 09.5 -1.1**
KONO pmax pmax

comp=Z,76nm,1.3s,mb5.6
KONO MLR MLR

comp=Z,2µm,19.0s,MS5.1
KONO Kongsberg 49.47 325 *e*P **P** **02 26 09.5 -1.2**
comp=Z,76nm,1.3s,mb5.6
KONO LR LR

comp=Z,2µm,19.0s,MS5.1
KONO Kongsberg 49.47 325 *e*S **S** **02 33 21.1 +4.0**
KONO *e*SS SS 02 37 01.4 +16
PCP Pian Castagno 49.50 305 P **P** **02 26 11.4 +0.3**
KTD Kalmit 49.59 311 *e*P **P** **02 26 12.2 +0.5**
KTD Kalmit 49.59 311 *e*P **P** **02 26 12.3 +0.6**
FELD Feldberg 49.68 309 *e*P **P** **02 26 11.8 -0.7**
KIZ Kirchzarten 49.74 309 *e*P **P** **02 26 11.9 -1.0**
FIN Finale Ligure 49.77 304 P **P** **02 26 14.1 +0.9**
LANF Langenberg 49.78 311⇑ *e*P **P** **02 26 13.1 -0.1**
ORX Oropa 49.82 306 P **P** **02 26 11.5 -2.0**
ABH Alteburg 49.93 312⇑ *e*P **P** **02 26 14.8 +0.4**
LIBD Limburg 49.94 310 *e*P **P** **02 26 13.9 -0.5**
TRAV 49.99 306 P **P** **02 26 12.6 -2.3**
ROB Roburent 50.01 304 P **P** **02 26 15.3 +0.3**
IMI Imperia 50.03 304 P **P** **02 26 14.7 -0.5**
BBS Basel-Blauen 50.03 309⇑ *e*P **P** **02 26 14.2 -1.0**
YAK Yakutsk 50.06 32⇑ *i*P **P** **02 26 14.5 -0.7**
YAK MLR MLR

comp=Z,416nm,21.0s,MS4.4
WLS Welschbruch 50.10 310⇑ *e*P **P** **02 26 14.8 -0.8**
MONE Monesi 50.11 304 P **P** **02 26 14.3 -1.5**
CDF Champ du Feu 50.15 310⇑ *i*P **P** **02 26 15.3 -0.7**
comp=Z,44nm,1.3s,mb5.0
CDF Champ du Feu 50.15 310⇑ *i*P **P** **02 26 15.3 -0.7**
CDF pmax pmax

comp=Z,22nm,1.3s,mb5.0
NEGI Negi 50.17 304 P **P** **02 26 14.8 -1.4**
KLR Kul'dur 50.20 49 *i* P **P** **02 26 13.8 -2.6**
KLR *e*S **S** **02 33 25.5 -1.7**
KLR pmax pmax

comp=N,34nm,1.6s
KLR pmax pmax

comp=E,50nm,1.6s
KLR pmax pmax

comp=Z,57nm,1.6s,mb5.3
KLR MLR MLR

comp=E,1µm,13.0s
KLR MLR MLR

comp=Z,2µm,13.0s,MS5.4
ECH Echery 50.23 310⇑ *e*P **P** **02 26 16.1 -0.6**
RUP Ruppelstein 50.25 312⇑ *e*P **P** **02 26 17.3 +0.5**
SAOF Saorge 50.26 304 *e*P **P** **02 26 16.5 -0.5**
MOF Molkenrain 50.27 309 *e*P **P** **02 26 16.4 -0.6**
ENR Entracque 50.33 304 P **P** **02 26 16.7 -0.8**
SBF Sospel 50.36 304 *e*P **P** **02 26 17.0 -0.7**
comp=Z,177nm,1.5s,mb5.6
SBF Sospel 50.36 304 *e*P **P** **02 26 17.0 -0.7**
SBF pmax pmax

comp=Z,89nm,1.5s,mb5.6
RSP Reno Superiore 50.37 306 P **P** **02 26 15.8 -1.9**
BHB Bricherasio 50.39 305 P **P** **02 26 15.7 -2.2**
WTSB Winterswijk 50.40 314⇑ *e*P **P** **02 26 17.9 +0.1**
comp=Z,85nm,1.4s,mb5.6
WTSB *e*PP PP 02 28 14.4 0.0
STV Sta Anna Valdi 50.40 304 P **P** **02 26 16.9 -1.1**
LSD Ceresole Reale 50.41 306 P **P** **02 26 17.8 -0.3**
HINF Hinteralfeld 50.46 309 *e*P **P** **02 26 17.5 -0.9**
TOUF Mont Tournerai 50.48 304 *e*P **P** **02 26 18.3 -0.3**
FENE Fenestrelle 50.51 305 P **P** **02 26 16.9 -2.0**
MVIF Mont Vial 50.56 304 *e*P **P** **02 26 16.9 -2.3**
LPG La Plagne 50.69 306⇑ *i*P **P** **02 26 19.7 -0.5**
comp=Z,98nm,1.4s,mb5.2
LPG La Plagne 50.69 306⇑ *i*P **P** **02 26 19.7 -0.5**
LPG pmax pmax

comp=Z,49nm,1.4s,mb5.2
LPL La Plagne 50.70 306⇑ *i*P **P** **02 26 19.8 -0.5**
comp=Z,131nm,1.5s,mb5.3
LPL La Plagne 50.70 306⇑ *i*P **P** **02 26 19.8 -0.5**
LPL pmax pmax

comp=Z,66nm,1.5s,mb5.3
SURF Saint Ours 50.74 305 *e*P **P** **02 26 20.6 0.0**
SURF Saint Ours 50.74 305 *e*P **P** **02 26 20.5 -0.1**
SURF Saint Ours 50.74 305 *e*P **P** **02 26 20.5 -0.1**
MBDF Montbardon 50.75 305 *e*P **P** **02 26 19.3 -1.3**
comp=Z,73nm,1.3s,mb5.2
MBDF Montbardon 50.75 305 *e*P **P** **02 26 19.3 -1.3**
MBDF pmax pmax

comp=Z,36nm,1.3s,mb5.1
CALN Calern 50.77 304 *e*P **P** **02 26 18.9 -1.9**
BNI Bardonecchia 50.78 306⇑ *i*P **P** **02 26 19.1 -1.8**
BNI pmax pmax

comp=Z,56nm,1.5s,mb5.3
BNI Bardonecchia 50.78 306 *e*P **P** **02 26 19.7 -1.2**
comp=Z,56nm,1.5s,mb5.3
HAU Haudompre 50.79 309 *e*P **P** **02 26 20.2 -0.7**
comp=Z,168nm,1.5s,mb5.5
HAU *e*R

comp=Z,505nm,20.2s
HAU Haudompre 50.79 309 *e*P **P** **02 26 20.2 -0.7**
HAU pmax pmax

comp=Z,84nm,1.5s,mb5.5
HAU MLR MLR

comp=Z,510nm,20.3s,MS4.5
WLF Walferdange 50.84 312⇑ *i*P **P** **02 26 21.7 +0.4**
WLF pmax pmax

comp=Z,88nm,1.4s,mb5.5
WLF Walferdange 50.84 312⇑ *i*P **P** **02 26 21.7 +0.5**
comp=Z,88nm,1.4s,mb5.5
HGN Heimansgroeve 50.95 313 *e*P **P** **02 26 22.0 -0.1**
comp=Z,16nm,1.4s,mb4.8
HGN *e*PP PP 02 28 21.5 +2.1
HGN *e*S 02 33 48.7
HGN *e*SS 02 37 55.4
FRF La Foret Royal 50.96 304 *e*P **P** **02 26 21.2 -1.1**
comp=Z,84nm,1.4s,mb5.2
FRF La Foret Royal 50.96 304 *e*P **P** **02 26 21.2 -1.1**
FRF pmax pmax

comp=Z,42nm,1.4s,mb5.2
THEF They Montfort 51.02 310⇑ *e*P **P** **02 26 22.3 -0.3**
CABF La Chapelle 51.06 308⇑ *i*P **P** **02 26 22.8 -0.2**
comp=Z,225nm,1.4s,mb5.6
CABF La Chapelle 51.06 308⇑ *i*P **P** **02 26 22.8 -0.2**
CABF pmax pmax

comp=Z,113nm,1.4s,mb5.6
LMR La Mourre 51.09 303 *e*P **P** **02 26 21.8 -1.4**
comp=Z,54nm,1.5s,mb5.0
LMR La Mourre 51.09 303 *e*P **P** **02 26 21.8 -1.4**

LMR pmax pmax
comp=Z,27nm,1.5s,mb5.0
JOW Kunigami 51.34 78 P **P 02 26 25.2 -0.2**
comp=Z,23nm,0.6s,mb5.3,baz=322,slow=19,SNR=4.2
JOW LR LR 02 53 37.1
comp=Z,712nm,18.6s,MS4.7,baz=104,slow=42
ORIF Oris-en-Rattie 51.36 305 *eP* **P 02 26 24.9 -0.4**
ORIF *eR*
comp=Z,602nm,19.2s
GRN Grenoble 51.42 306 *eP* **P 02 26 24.7 -1.0**
CMAH Djebel Manchou 51.48 295 P **P 02 26 27.5 +1.2**
ABSA Djebel Ababsia 51.51 294 P **P 02 26 29.0 +2.5**
VILF Villemus 51.60 304 *eP* **P 02 26 26.0 -1.1**
MEZF Maizieres J'vi 51.62 310⇑*iP* **P 02 26 26.9 -0.3**
comp=Z,161nm,1.4s,mb5.5
GIVF Givet 51.68 312 *eP* **P 02 26 28.1 +0.4**
comp=Z,211nm,1.3s,mb5.6
GIVF Givet 51.68 312 *eP* **P 02 26 28.1 +0.4**
GIVF pmax pmax
comp=Z,106nm,1.3s,mb5.6
SMRF Simiane la Rot 51.68 304 *eP* **P 02 26 27.0 -0.8**
comp=Z,69nm,1.6s,mb5.0
BER Bergen 51.69 325 *eS* **S 02 33 49.2 +1.5**
BER AMS AMS 02 52 43.0
comp=Z,1μm,16.9s,MS5.0
JNU Nakatsue 51.77 70 LR LR 02 52 59.5
comp=Z,662nm,20.0s,MS4.7,baz=296,slow=41
PRAF Pradon 52.00 304 *eP* **P 02 26 28.6 -1.5**
CKFL Kef-Lekhel 52.08 295 P **P 02 26 31.5 +0.6**
BAIF Baives 52.08 312⇑*iP* **P 02 26 30.8 +0.1**
comp=Z,136nm,1.3s,mb5.4
BAIF Baives 52.08 312⇑*iP* **P 02 26 30.8 +0.1**
BAIF pmax pmax
comp=Z,68nm,1.3s,mb5.4
VIVF Saint-Julien-l 52.22 305⇑*iP* **P 02 26 31.2 -0.6**
comp=Z,186nm,1.5s,mb5.5
VIVF Saint-Julien-l 52.22 305⇑*iP* **P 02 26 31.2 -0.6**
VIVF pmax pmax
comp=Z,93nm,1.5s,mb5.5
TIXI Tiksi 52.28 20 *eP* **P 02 26 26.0 -5.9**
TIXI *eS* **S 02 33 43.3 -12**
TIXI *eSS* SS 02 37 25.6 -6.0
TIXI pmax pmax
comp=Z,28nm,1.3s,mb5.0
TIXI MLR MLR
comp=Z,843nm,12.0s,MS5.0
TIXI Tiksi 52.28 20 *iP* **P 02 26 30.4 -1.5**
TIXI LR LR
comp=Z,556nm,20.0s,MS4.6
CASM Ain Smara 52.29 294 P **P 02 26 33.0 +0.5**
CTEI Djebel Teioual 52.40 294 P **P 02 26 34.5 +1.2**
LOR Lormes 52.52 309⇑*iP* **P 02 26 33.0 -1.0**
comp=Z,80nm,1.4s,mb5.2
LOR *eR*
comp=Z,429nm,20.5s
LOR Lormes 52.52 309⇑*iP* **P 02 26 33.0 -1.0**
LOR pmax pmax
comp=Z,40nm,1.4s,mb5.2
LOR MLR MLR
comp=Z,430nm,20.5s,MS4.5
SMF Signal de Mont 52.60 308⇑*iP* **P 02 26 33.9 -0.7**
comp=Z,231nm,1.5s,mb5.6
SMF Signal de Mont 52.60 308⇑*iP* **P 02 26 33.9 -0.7**
SMF pmax pmax
comp=Z,115nm,1.5s,mb5.6
DFRA Djebel Bou Aff 52.71 295 P **P 02 26 37.0 +1.4**
SSF Saint Saulge 52.78 308⇑*iP* **P 02 26 35.3 -0.7**
SSF pmax pmax
comp=Z,79nm,1.3s,mb5.5
SSF Saint Saulge 52.78 308⇑*iP* **P 02 26 35.3 -0.7**
comp=Z,79nm,1.3s,mb5.5
PLDF La Plantade 52.82 307 *eP* **P 02 26 36.7 +0.4**
CMER Merouana 52.90 294 P **P 02 26 37.5 +0.5**
LASF Ste Croix 52.90 305⇑*iP* **P 02 26 36.3 -0.6**
comp=Z,151nm,1.5s,mb5.4
CKHR Kef el Ahmar 53.12 294 P **P 02 26 39.0 +0.4**
AGO Saint Agoulin 53.15 307⇑*eP* **P 02 26 39.3 +0.5**
SET Setif 53.16 295 P **P 02 26 39.0 0.0**
PYM Petit Puy Mans 53.28 307 *eP* **P 02 26 38.9 -0.8**
BGF Bois d'Agland 53.29 308 *eP* **P 02 26 38.9 -0.8**
HYF Humbligny 53.35 309 *eP* **P 02 26 39.8 -0.4**
FRNF Fournols 53.63 306 *eP* **P 02 26 42.5 +0.2**
AKF Akfadou 53.72 295 P **P 02 26 42.2 -0.8**
TCF Toulx Ste Croi 53.76 308 *eP* **P 02 26 42.6 -0.6**
comp=Z,168nm,1.7s,mb5.4
TCF Toulx Ste Croi 53.76 308 *eP* **P 02 26 42.6 -0.6**
TCF pmax pmax
comp=Z,84nm,1.7s,mb5.4
EJON La Jonquera 53.85 303 P **P 02 26 42.7 -1.2**
comp=Z,30nm,1.1s,mb5.1
LRDF Laroque-de-Fa 54.02 303 *eP* **P 02 26 44.4 -0.7**
CAF Calviac 54.05 306⇑*iP* **P 02 26 45.0 -0.3**
comp=Z,118nm,1.3s,mb5.3
CAF Calviac 54.05 306⇑*iP* **P 02 26 45.0 -0.3**
CAF pmax pmax
comp=Z,59nm,1.3s,mb5.4
ATAF Djebel Tarf 54.12 295 P **P 02 26 46.8 +0.8**
MTLF Montolieu 54.19 304⇑*iP* **P 02 26 45.6 -0.7**
comp=Z,100nm,1.5s,mb5.2
MTLF Montolieu 54.19 304⇑*iP* **P 02 26 45.6 -0.7**
MTLF pmax pmax
comp=Z,50nm,1.5s,mb5.2
RJF Les Rejaudoux 54.38 306⇑*iP* **P 02 26 47.4 -0.3**
comp=Z,139nm,1.6s,mb5.3
RJF *eR*
comp=Z,380nm,19.0s
RJF Les Rejaudoux 54.38 306⇑*iP* **P 02 26 47.4 -0.3**
RJF pmax pmax
comp=Z,69nm,1.6s,mb5.3
RJF MLR MLR
comp=Z,380nm,19.0s,MS4.5
AKET Djebel Ketaf 54.39 295 P **P 02 26 48.4 +0.4**
ETOS Mallorca 54.40 300 P **P 02 26 46.8 -1.2**
comp=Z,84nm,1.5s,mb5.5
LPEF Le Peyrat 54.48 304 *eP* **P 02 26 47.5 -1.0**
VALF Valcebollere 54.49 303 *eP* **P 02 26 48.0 -0.6**
KBS Kingsbay 54.67 348⇑*iP* **P 02 26 49.8 +0.3**
KBS pmax pmax
comp=Z,98nm,1.2s,mb5.7
KBS MLR MLR
comp=Z,685nm,20.0s,MS4.7
KBS Kingsbay 54.67 348⇑*iP* **P 02 26 49.8 +0.3**
comp=Z,98nm,1.2s,mb5.7
KBS LR LR
comp=Z,685nm,20.0s,MS4.7
KBS Kingsbay 54.67 348 *eP* **P 02 26 49.8 +0.3**
KBS AMb AMB 02 26 52.0
comp=Z,67nm,1.7s,mb5.4
KBS AMS AMS 02 53 55.7
comp=Z,549nm,17.3s,MS4.7
ADJB Djebel Djouab 54.72 295 P **P 02 26 50.5 +0.1**
EMIR Miracle 54.94 302 P **P 02 26 51.1 -0.8**
comp=Z,97nm,1.2s,mb5.7
LFF La Frestale 54.98 306⇑*iP* **P 02 26 51.7 -0.5**
comp=Z,135nm,1.5s,mb5.5
LFF La Frestale 54.98 306⇑*iP* **P 02 26 51.7 -0.5**
LFF pmax pmax
comp=Z,67nm,1.5s,mb5.5
LDF La Druitiere 55.03 311 *eP* **P 02 26 51.5 -1.0**
comp=Z,47nm,1.2s,mb5.1
LDF La Druitiere 55.03 311 *eP* **P 02 26 51.5 -1.0**
LDF pmax pmax
comp=Z,23nm,1.2s,mb5.1
MLS Moulis 55.06 304 *eP* **P 02 26 51.3 -1.5**
EMHD Djebel Mahouad 55.09 295 P **P 02 26 54.0 +0.9**
FLN La Foliniere 55.25 311⇑*iP* **P 02 26 53.1 -1.0**
comp=Z,99nm,1.3s,mb5.4
FLN *eR*
comp=Z,708nm,18.5s
FLN La Foliniere 55.25 311⇑*iP* **P 02 26 53.1 -1.0**
FLN pmax pmax
comp=Z,49nm,1.3s,mb5.4
FLN MLR MLR
comp=Z,710nm,18.5s,MS4.8
MFF Saint Martin d 55.33 308⇑*iP* **P 02 26 53.8 -0.9**
comp=Z,128nm,1.6s,mb5.4
MFF Saint Martin d 55.33 308⇑*iP* **P 02 26 53.8 -0.9**
MFF pmax pmax
comp=Z,64nm,1.6s,mb5.4
EPOB Poblet 55.38 302 P **P 02 26 54.1 -1.0**
comp=Z,51nm,1.2s,mb5.4
GRR Gorron 55.55 310 *eP* **P 02 26 55.2 -1.1**
comp=Z,102nm,1.3s,mb5.4
GRR Gorron 55.55 310 *eP* **P 02 26 55.2 -1.1**
GRR pmax pmax
comp=Z,51nm,1.3s,mb5.4

EPF Esparros 55.59 304 *eP* **P 02 26 56.3 -0.3**
RESF Ens 55.63 304 *eP* **P 02 26 56.2 -0.8**
EIBI Ibiza 55.67 299 P **P 02 26 56.6 -0.7**
comp=Z,135nm,1.6s,mb5.7
LCHF La Chataignera 55.72 308 *eP* **P 02 26 57.1 -0.4**
EGRA Graus 55.77 303 P **P 02 26 57.3 -0.6**
comp=Z,33nm,1.2s,mb5.2
EBIE Bielsa 55.80 303 P **P 02 26 57.2 -1.0**
comp=Z,36nm,1.3s,mb5.2
VIEF Viey 55.85 304 *eP* **P 02 26 57.7 -0.8**
EBR Ebro Roquetas 55.92 301 *eP* **P 02 26 58.5 -0.5**
EBR *eRs* 02 50 16.0
REYF Montagne du Re 56.11 304 *eP* **P 02 27 00.2 -0.2**
EBNR Beni Rached 56.18 296 P **P 02 27 02.0 +1.1**
ESK Eskdalemuir 56.22 319 P **P 02 26 59.8 -1.1**
ESK pmax pmax
comp=Z,60nm,1.3s,mb5.5
ESK Eskdalemuir 56.22 319 *eP* **P 02 26 59.5 -1.5**
comp=Z,60nm,1.4s,mb5.4
ESK LR LR
comp=Z,329nm,19.0s,MS4.4
ETSF Etsaut 56.27 304 *eP* **P 02 27 00.7 -0.8**
comp=Z,67nm,1.3s,mb5.2
ECHA Ech Chlef 56.34 296 P **P 02 27 03.0 +0.9**
ESAC San Caprasio 56.44 302 P **P 02 27 01.5 -1.2**
comp=Z,171nm,1.5s,mb5.9
LARF Larrau 56.55 304 *eP* **P 02 27 03.1 -0.4**
ETRT Tiaret 56.59 295 P **P 02 27 04.0 +0.1**
EANR 'Ain N'Sour 56.60 295 P **P 02 27 04.5 +0.5**
SGMF Saint Gilles 56.69 310⇑*iP* **P 02 27 03.7 -0.7**
comp=Z,270nm,1.4s,mb5.8
SJPF Ste Jean 56.70 304⇑*iP* **P 02 27 03.7 -0.9**
comp=Z,82nm,1.6s,mb5.2
EMOS Mosqueruela 56.74 301 P **P 02 27 04.3 -0.6**
comp=Z,124nm,1.4s,mb5.8
MAJO Matsushiro 56.76 64 *eP* **P 02 27 03.8 -1.3**
MAJO pmax pmax
comp=Z,21nm,1.1s,mb5.1
MAJO MLR MLR
comp=Z,372nm,20.0s,MS4.5
MAJO Matsushiro 56.76 64 *eP* **P 02 27 03.8 -1.3**
comp=Z,21nm,1.1s,mb5.1
MAJO LR LR
comp=Z,372nm,20.0s,MS4.5
MAT Matsushiro 56.76 64 *eP* **P 02 27 04.0 -1.1**
MAT pmax pmax
comp=Z,27nm,1.2s,mb5.2
MAT MLR MLR
comp=Z,340nm,18.0s,MS4.5
MAT Matsushiro 56.76 64 *eP* **P 02 27 04.0 -1.1**
comp=Z,27nm,1.2s,mb5.2
MAT LR LR
comp=Z,340nm,18.0s,MS4.5
MAT Matsushiro 56.76 64 P **P 02 27 03.6 -1.5**
MJAR Matsushiro Arr 56.76 64 P **P 02 27 04.4 -0.7**
comp=Z,2.4nm,0.5s,mb4.5,baz=283,slow=10,SNR=27
MJAR LR LR 02 53 51.7
comp=Z,319nm,18.8s,MS4.4,baz=250,slow=39
EALK Alkurruntz 56.88 304 P **P 02 27 05.0 -0.9**
comp=Z,39nm,1.4s,mb5.2
EBEN Beniarda 56.94 299 P **P 02 27 04.8 -1.6**
comp=Z,27nm,1.3s,mb5.6
QUIF Quistinic 57.15 310 *eP* **P 02 27 06.0 -1.7**
comp=Z,165nm,1.6s,mb5.5
QUIF Quistinic 57.15 310 *eP* **P 02 27 06.0 -1.7**
QUIF pmax pmax
comp=Z,82nm,1.6s,mb5.5
ROSF Rostrenen 57.15 311 *eP* **P 02 27 06.3 -1.4**
comp=Z,104nm,1.3s,mb5.4
ROSF Rostrenen 57.15 311 *eP* **P 02 27 06.3 -1.4**
ROSF pmax pmax
comp=Z,52nm,1.3s,mb5.4
ECHE Chera 57.29 300 P **P 02 27 08.5 -0.3**
ECHE pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ECHE Chera 57.29 300 P **P 02 27 08.5 -0.3**
comp=Z,9.0nm,0.8s,mb4.8
ECRI Cripan 57.73 304 P **P 02 27 11.7 -0.2**
comp=Z,8.9nm,0.8s,mb4.8
YSS Yuzh-Sakhalins 57.77 51⇓*iP* **P 02 27 11.6 -0.5**
YSS *e* 02 27 25.2
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.4
YSS MLR MLR
comp=Z,700nm,14.0s,MS4.9
YSS Yuzh-Sakhalins 57.77 51 *eP* **P 02 27 11.1 -1.0**
comp=Z,77nm,1.4s,mb5.5
YSS LR LR
comp=Z,510nm,19.0s,MS4.7
EMUR La Murta 57.93 298 P **P 02 27 11.5 -1.8**
comp=Z,80nm,1.5s,mb5.5
ETOB Torra 57.96 299 P **P 02 27 12.4 -1.1**
comp=Z,60nm,1.4s,mb5.4
JMIC Jan Mayen 58.04 338 *eP* **P 02 27 16.9 +3.2**
JMIC *e* 02 35 18.9
JMIC *e* 02 41 23.7
JMIC LR LR
comp=Z,750μm,18.4s
JMIC Jan Mayen 58.04 338 *e* **P 02 27 16.9 +3.2**
JMIC *eS* **S 02 35 14.5 +1.8**
JMIC AMS AMS 02 56 15.4
comp=Z,750nm,18.4s,MS4.8
ASAJ Asahikawa 58.24 54 LR LR 02 55 18.0
comp=Z,470nm,18.8s,MS4.6,baz=333,slow=39
ELAN Lanestosa 58.26 305 P **P 02 27 14.6 -0.9**
comp=Z,113nm,1.4s,mb5.7
DLF Lyons Farm 58.39 317⇑*iP* **P 02 27 16.2 -0.2**
EVIA Vianos 58.68 299 P **P 02 27 17.8 -0.8**
comp=Z,6.8nm,0.6s,mb4.8
DCN Croghan 58.83 317⇑*iP* **P 02 27 15.7 -3.7**
ENIJ Nijar 58.90 297 P **P 02 27 19.4 -0.8**
comp=Z,64nm,1.3s,mb5.5
JHJ Hachijo jima 2 58.96 67 LR LR 02 57 26.8
comp=Z,509nm,18.1s,MS4.7,baz=294,slow=41
EHUE Huescar 58.97 298 P **P 02 27 19.8 -0.8**
comp=Z,52nm,1.4s,mb5.4
EQES Quesada 59.33 299 P **P 02 27 21.5 -1.6**
comp=Z,91nm,1.4s,mb5.6
EBER Berja 59.45 297 P **P 02 27 23.0 -0.9**
comp=Z,105nm,1.1s,mb5.8
EARI Arriondas 59.50 305 P **P 02 27 21.7 -2.5**
comp=Z,20nm,1.0s,mb5.1
ESDC Sonseca Array 59.51 301 P **P 02 27 23.2 -1.1**
comp=Z,4.8nm,0.8s,mb4.6,baz=65,slow=7.0,SNR=22
ESDC Sonseca Array 59.51 301 P **P 02 27 22.6 -1.7**
comp=Z,29nm,1.4s,mb5.1
ESLA Sonseca Array 59.51 301 *eP* **P 02 27 22.7 -1.6**
comp=Z,20nm,1.5s,mb4.9
ESLA LR LR
comp=Z,1μm,19.0s,MS5.1
EBAN Banos Encina 59.78 299 P **P 02 27 25.0 -1.2**
comp=Z,18nm,1.0s,mb5.1
EALB Alboran 59.83 296 P **P 02 27 25.5 -1.1**
comp=Z,41nm,1.3s,mb5.3
LSZ Lusaka 60.07 227 PFAKE 02 27 40.0 +12
LSZ LR LR
comp=Z,367nm,20.0s,MS4.5
MA2 Magadan 60.33 35 *iP* **P 02 27 26.8 -2.8**
MA2 MLR MLR
comp=Z,707nm,19.0s,MS4.8
ELOJ Sierra Loja 60.34 298 P **P 02 27 27.9 -2.2**
ELOJ pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
ELOJ Sierra Loja 60.34 298 P **P 02 27 27.9 -2.1**
comp=Z,1.5nm,0.5s,mb4.3
EADA Adamuz 60.38 299 P **P 02 27 28.3 -2.0**
comp=Z,72nm,1.4s,mb5.5
SEY Seymchan 60.57 31 *eP* **P 02 27 30.9 -0.3**
SEY *e* 02 28 12.6
SEY *e* 02 29 40.4
SEY PPP PPP 02 31 20.7 +6.7
SEY *eS* **S 02 35 46.7 +1.1**
SEY 02 37 15.7
SEY pmax pmax
comp=E,7.0nm,0.8s
SEY pmax pmax
comp=Z,16nm,0.8s,mb5.2
SEY pmax pmax
comp=N,10.0nm,1.3s
SEY smax
comp=N,150nm,7.6s
SEY smax
comp=E,7.0nm,3.7s
SEY MLR MLR
comp=Z,370nm,14.0s,MS4.7
SEY MLR MLR
comp=N,410nm,23.0s
SEY MLR MLR
comp=E,560nm,15.0s
SEY Seymchan 60.57 31 *iP* **P 02 27 31.3 +0.1**
DAG Danmarks Havn 60.60 345⇓*iP* **P 02 27 31.7 +0.3**
DAG pmax pmax
comp=Z,92nm,1.3s,mb5.8
DAG Danmarks Havn 60.60 345⇓*iP* **P 02 27 31.7 +0.3**
comp=Z,92nm,1.3s,mb5.8
EPON Pontenova 60.87 306 P **P 02 27 32.1 -1.4**
comp=Z,60nm,1.3s,mb5.6
ECAL Calabor 60.94 304 P **P 02 27 33.0 -1.0**
comp=Z,64nm,1.4s,mb5.6
PBRG Braganca 60.98 304 *eP* **P 02 27 33.4 -0.9**
comp=Z,29nm,1.7s,mb5.1
EMIJ Mijas 60.99 298 P **P 02 27 31.9 -2.6**
comp=Z,19nm,0.8s,mb5.3
ECAB El Cabril 61.04 299 P **P 02 27 32.9 -1.8**
comp=Z,45nm,1.4s,mb5.4
ERUA La Rua 61.11 305 P **P 02 27 35.0 -0.2**
ERUA pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
ERUA La Rua 61.11 305 P **P 02 27 35.0 -0.2**
comp=Z,2.7nm,0.5s,mb4.6
ESPR Espera 61.73 298 P **P 02 27 36.9 -2.6**
comp=Z,42nm,1.1s,mb5.5
PVRL Vila Real 61.82 304 *eP* **P 02 27 39.5 -0.6**
comp=Z,45nm,1.9s,mb5.3
ELOB Lobios 61.91 304 P **P 02 27 39.7 -0.9**
comp=Z,86nm,1.3s,mb5.7
MTE Manteigas 61.95 303 *eP* **P 02 27 40.1 -0.8**
comp=Z,67nm,1.5s,mb5.5
MTE Manteigas 61.95 303 *eP* **P 02 27 40.6 -0.3**
comp=Z,61nm,1.7s,mb5.5
MTE *eS* **S 02 36 17.2 +14**
MTE *eLQ* 02 45 10.3
MTE *eLR* LR 02 48 21.2
comp=Z,275nm,18.0s
STS Santiago 61.97 305 P **P 02 27 39.6 -1.5**
STS pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
STS Santiago 61.97 305 P **P 02 27 39.6 -1.5**
comp=Z,6.0nm,0.8s,mb4.8
EBAD Badajoz 62.04 301 P **P 02 27 39.2 -2.3**
comp=Z,27nm,0.9s,mb5.4
PCBR Castelo Branco 62.06 302 *eP* **P 02 27 41.1 -0.6**
comp=Z,50nm,1.4s,mb5.5
EMIN Mina Concepcio 62.08 299 P **P 02 27 39.9 -2.0**
comp=Z,66nm,1.7s,mb5.5
PVIS Viseu 62.11 303 *eP* **P 02 27 40.8 -1.2**
comp=Z,31nm,1.2s,mb5.3
EMAZ Mazaricos 62.26 306 P **P 02 27 41.9 -1.1**
comp=Z,60nm,1.3s,mb5.6
EGRO El Granado 62.76 299 P **P 02 27 44.6 -1.8**
comp=Z,75nm,1.5s,mb5.6
PTOM Tomar 62.81 302 *eP* **P 02 27 46.7 0.0**
comp=Z,89nm,1.6s,mb5.6
EVO Evora 62.85 301⇑*iP* **P 02 27 46.8 -0.1**
comp=Z,104nm,1.4s,mb5.5
EVO *eR*
comp=Z,513nm,21.0s
PBEJ Beja 62.90 300 *eP* **P 02 27 46.8 -0.4**
comp=Z,35nm,1.6s,mb5.2
BORG Borgarnes 63.61 331 PFAKE 02 28 00.0 +8.5
BORG LR LR
comp=Z,200nm,19.0s,MS4.3
PTEO Sao Teotonio 63.69 300 *eP* **P 02 27 52.7 +0.2**
comp=Z,45nm,1.7s,mb5.2
MATP Matopo 63.79 223 P **P 02 27 53.4 0.0**
comp=Z,6.9nm,1.0s,mb4.6,baz=26,slow=8.3,SNR=10
BILL Bilibino 65.01 24⍺*iP* **P 02 28 00.8 +0.2**
BILL *e* 02 28 33.3
BILL *e* 02 30 23.6
BILL pmax pmax
comp=Z,53nm,1.7s,mb5.3
BILL MLR MLR
comp=Z,1μm,16.0s,MS5.2
BILL Bilibino 65.01 24 *eP* **P 02 28 00.7 +0.1**
comp=Z,12nm,0.8s,mb5.0
BILL LR LR
comp=Z,1μm,19.0s,MS5.0
PET Petropavlovsk 66.17 41 *eP* **P 02 28 06.9 -1.4**
PET *eS* S 02 36 50.8 -4.9
PET pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
PET pmax pmax
comp=Z,100nm,12.8s
PET MLR MLR
comp=Z,600nm,21.0s,MS4.8
PET Petropavlovsk 66.17 41 PFAKE 02 28 20.0 +12
PET LR LR
comp=Z,521nm,19.0s,MS4.8
SUMG Summit 66.79 342 *eP* **P 02 28 12.4 +0.5**
comp=Z,63nm,1.1s,mb5.6
LBTB Lobatse 69.01 222 *eP* **P 02 28 26.7 +0.1**
LBTB pmax pmax
comp=Z,11nm,0.9s,mb4.8
LBTB MLR MLR
comp=Z,412nm,21.0s,MS4.7
LBTB Lobatse 69.01 222 P **P 02 28 26.9 +0.3**
comp=Z,5.4nm,0.9s,mb4.5,baz=73,slow=7.9,SNR=6.8
LBTB Lobatse 69.01 222 *eP* **P 02 28 26.7 +0.1**
comp=Z,11nm,0.9s,mb4.8
LBTB LR LR
comp=Z,412nm,21.0s,MS4.7
TSUM Tsumeb 69.92 232 P **P 02 28 33.0 +0.8**
comp=Z,5.1nm,1.1s,mb4.4,baz=22,slow=5.0,SNR=10.0
TSUM Tsumeb 69.92 232 *eP* **P 02 28 32.6 +0.4**
comp=Z,34nm,1.6s,mb5.0
TSUM LR LR
comp=Z,450nm,20.0s,MS4.7
BOSA Boshof 71.96 220 *eP* **P 02 28 43.8 -0.7**
BOSA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BOSA MLR MLR
comp=Z,544nm,19.0s,MS4.8
BOSA Boshof 71.96 220 P **P 02 28 44.1 -0.3**
comp=Z,3.7nm,0.7s,mb4.4,baz=79,slow=5.0,SNR=7.3
BOSA LR LR 03 00 01.5
comp=Z,413nm,18.8s,MS4.7,baz=44,slow=36
BOSA Boshof 71.96 220 *eP* **P 02 28 43.8 -0.6**
comp=Z,5.6nm,0.8s,mb4.5
BOSA LR LR
comp=Z,544nm,19.0s,MS4.8
FITZ Fitzroy Crossi 72.21 124 *eP* **P 02 28 45.2 -0.9**
comp=Z,15nm,0.9s,mb4.9
FITZ Fitzroy Crossi 72.21 124 P **P 02 28 45.2 -0.8**
comp=Z,15nm,0.8s,mb4.9,baz=267,slow=0.9,SNR=7.2
FITZ LR LR 03 01 11.1
comp=Z,310nm,18.5s,MS4.6,baz=286,slow=36
DBIC Dimbokro 73.12 268 P **P 02 28 52.3 +0.7**
comp=Z,5.0nm,0.7s,mb4.6,baz=17,slow=7.1,SNR=4.9
DBIC LR LR 03 04 04.3
comp=Z,549nm,18.7s,MS4.9,baz=39,slow=38
KAKA Kakadu 74.00 115 *eP* **P 02 28 55.7 -0.9**
comp=Z,12nm,0.8s,mb4.9
FX1 Attu Island--F 74.26 38 *eP* **P 02 28 57.2 -0.2**
SMY Shemya 74.83 38 PFAKE 02 29 10.0 +9.3
SMY LR LR
comp=Z,700nm,19.0s,MS5.0
TNA Tin City 75.05 21 PFAKE 02 29 10.0 +8.3
TNA LR LR
comp=Z,232nm,19.0s,MS4.5
CMLA Cha da Macela 75.89 306 PFAKE 02 29 20.0 +13
CMLA LR LR
comp=Z,644nm,21.0s,MS4.9
NWAO Narrogin (SRO) 77.23 140 P **P 02 29 14.5 -0.2**
comp=Z,18nm,1.1s,mb4.9,baz=348,slow=4.5,SNR=3.4
NWAO LR LR 02 58 40.2
comp=Z,323nm,21.9s,MS4.6,baz=261,slow=32
IMA Indian Mountai 78.69 17 *eP* **P 02 29 21.7 -0.3**
WRA Warramunga Arr 79.77 120 P **P 02 29 28.7 -0.1**
comp=Z,16nm,0.8s,mb5.0,baz=320,slow=5.1,SNR=97
WRAB Tennant Creek 79.77 120 *iP* **P 02 29 28.6 -0.2**
WRAB Tennant Creek 79.77 120 *eP* **P 02 29 28.7 -0.1**
comp=Z,53nm,1.0s,mb5.4
WRAB LR LR
comp=Z,98nm,19.0s,MS4.2
WB2 Warramunga Arr 79.78 120 *eP* **P 02 29 28.7 -0.1**
INK Inuvik 80.50 8⇑*iP* **P 02 29 32.6 +0.9**
INK pmax pmax
comp=Z,146nm,1.4s
INK Inuvik 80.50 8⇑*iP* **P 02 29 32.6 +0.9**
comp=Z,146nm,1.4s,mb5.7
TTA Tatalina 80.55 19 *eP* **P 02 29 33.3 +1.2**
MCK McKinley 81.77 16 *eP* **P 02 29 38.7 +0.2**
MCK pmax pmax

comp=Z,38nm,1.3s,mb5.2
MCK MLR MLR

comp=Z,232nm,19.0s,MS4.6
MCK McKinley 81.77 16 *e*P **P 02 29 38.7 +0.2**
comp=Z,38nm,1.3s,mb5.2
MCK LR LR

comp=Z,232nm,19.0s,MS4.6
SVW2 Sparrevohn 82.11 20 *e*P **P 02 29 41.3 +1.0**
SPU Mount Spurr 83.07 19 *e*P **P 02 29 45.1 -0.2**
RSO Redoubt South 83.46 20 *e*P **P 02 29 47.6 +0.4**
PMR Palmer 83.52 17 *e*P **P 02 29 48.2 +0.7**
PMR MLR MLR

comp=Z,400nm,17.0s,MS4.9
SML Sawmill 83.55 17 *e*P **P 02 29 47.5 -0.1**
FIB Fire Island 83.60 18 PFAKE 02 30 00.0 +12
FIB LR LR

comp=Z,1μm,20.0s,MS5.2
SLKM Skilak Lake 84.14 19 *e*P **P 02 29 50.9 +0.3**
PMG Port Moresby 84.17 104 LR LR 03 10 28.6

comp=Z,120nm,21.3s,MS4.2,baz=242,slow=38
DIV Divide 84.77 16 *e*P **P 02 29 54.7 +0.9**
comp=Z,87nm,1.1s,mb5.8
EYAK Cordova Ski Ar 85.27 17 *e*P **P 02 29 57.5 +1.2**
SCHQ Schefferville 87.53 336 P **P 02 30 08.4 +0.9**

comp=Z,4.9nm,1.0s,mb4.7,baz=51,slow=6.7,SNR=4.1
SCHQ LR LR 03 11 13.5

comp=Z,484nm,20.7s,MS4.9,baz=32,slow=37
YKW3 Yellowknife Ar 87.69 2 *e*P **P 02 30 09.2 +1.0**
YKA Yellowknife Ar 87.76 2 P **P 02 30 09.7 +1.2**

comp=Z,26nm,1.0s,mb5.4,baz=346,slow=5.0,SNR=75
YKA LR LR 03 14 41.7

comp=Z,385nm,18.8s,MS4.8,baz=290,slow=39
YKA Yellowknife Ar 87.76 2 P **P 02 30 09.7 +1.2**
YKA LR LR 03 14 41.7
CTA Charters Tower 89.07 114 *e*P **P 02 30 15.6 -0.1**

comp=Z,6.3nm,0.9s,mb5.0
CTA Charters Tower 89.07 114 *e*P **P 02 30 15.6 -0.1**
CTA pmax pmax

comp=Z,6.0nm,0.9s
CTA Charters Tower 89.07 114 LR LR 03 16 43.1

comp=Z,128nm,20.3s,MS4.3,baz=25,slow=40
CTAO Charters Tower 89.07 114 *e*P **P 02 30 15.5 -0.2**
CTAO pmax pmax

comp=Z,46nm,1.6s,mb5.6
CTAO MLR MLR

comp=Z,207nm,21.0s,MS4.5
CTAO Charters Tower 89.07 114 *e*P **P 02 30 15.5 -0.2**
comp=Z,46nm,1.6s,mb5.5
CTAO LR LR

comp=Z,207nm,21.0s,MS4.5
DLBC Dease Lake 90.39 10 *e*P **P 02 30 22.6 +1.6**
SIT Sitka 90.77 13 PFAKE 02 30 30.0 +7.2
SIT LR LR

comp=Z,417nm,21.0s,MS4.8
STKA Stephens Creek 92.02 126 P **P 02 30 29.2 +0.1**

comp=Z,2.7nm,0.9s,mb4.6,baz=320,slow=11,SNR=3.5
STKA LR LR 03 10 52.5

comp=Z,242nm,21.4s,MS4.6,baz=204,slow=35
STKA Stephens Creek 92.02 126 P **P 02 30 29.2 0.0**
STKA LR LR 03 10 52.5
KWAJ Kwajalein Atol 92.64 78 PFAKE 02 30 40.0 +7.6
KWAJ LR LR

comp=Z,73nm,19.0s,MS4.2
PQI Presque Isle 94.55 332 PFAKE 02 30 50.0 +10
PQI LR LR

comp=Z,2μm,21.0s,MS5.7
FFC Flin Flon 95.29 355 *e*P **P 02 30 43.7 +0.1**
FFC pmax pmax

comp=Z,44nm,1.3s,mb5.7
FFC MLR MLR

comp=Z,74nm,19.0s,MS4.2
FFC Flin Flon 95.29 355 *e*P **P 02 30 43.7 +0.1**
comp=Z,44nm,1.3s,mb5.7
FFC LR LR

comp=Z,74nm,19.0s,MS4.2
EMMW East Machias 95.90 331 PFAKE 02 31 00.0 +13
EMMW LR LR

comp=Z,2μm,21.0s,MS5.5
WVL Waterville 96.94 332 PFAKE 02 31 00.0 +8.7
WVL LR LR

comp=Z,3μm,21.0s,MS5.7
EDM Edmonton 97.08 2 *e*P **P 02 30 53.3 +1.5**
MAW Mawson 97.44 183 LR LR 03 08 36.0

comp=Z,331nm,20.7s,MS4.8,baz=75,slow=32
ULM Lac du Bonnet 99.04 351 P **P 02 31 00.0 -0.6**

comp=Z,4.8nm,1.0s,mb5.0,baz=6.4,slow=5.0,SNR=3.9
ULM LR LR 03 21 13.5

comp=Z,222nm,18.9s,MS4.7,baz=356,slow=39
NCB Newcomb 99.22 334 PFAKE 02 31 10.0 +8.3
NCB LR LR

comp=Z,434nm,19.0s,MS5.0
HRV Harvard--Oak R 99.41 332 PFAKE 02 31 10.0 +7.4
HRV LR LR

comp=Z,304nm,20.0s,MS4.8
WES Weston 99.42 332 PFAKE 02 31 10.0 +7.4
WES LR LR

comp=Z,646nm,20.0s,MS5.1
CASY Casey 100.99 164 PFAKE 02 31 20.0 +11
CASY LR LR

comp=Z,722nm,19.0s,MS5.2
NEW Newport 101.86 4 PFAKE 02 31 30.0 +16
NEW LR LR

comp=Z,358nm,19.0s,MS4.9
MSO Missoula 103.46 2 PFAKE 02 31 30.0 +9.4
MSO LR LR

comp=Z,357nm,19.0s,MS4.9
LAO LASA Array 103.56 357 PFAKE 02 31 30.0 +8.9
LAO LR LR

comp=Z,340nm,20.0s,MS4.9
BOZ Bozeman (W) 104.69 1 PFAKE 02 31 40.0 +14
BOZ LR LR

comp=Z,331nm,21.0s,MS4.8
MCWV Mont Chateau 105.04 336 PFAKE 02 35 50.0
MCWV LR LR

comp=Z,492nm,20.0s,MS5.0
BMO Blue Mountains 105.24 5 PFAKE 02 35 50.0
BMO LR LR

comp=Z,402nm,19.0s,MS5.0
CBN Corbin 105.40 333 PFAKE 02 35 50.0
CBN LR LR

comp=Z,493nm,19.0s,MS5.1
MCMT McKenzie Canyo 105.49 2 PKP 02 35 44.1
LKWY Lake 105.78 360 PFAKE 02 36 00.0
LKWY LR LR

comp=Z,702nm,21.0s,MS5.2
RCBR Riachuelo 106.19 273 PFAKE 02 36 00.0
RCBR LR LR

comp=Z,434nm,20.0s,MS5.0
HLID Hailey 106.70 3 PFAKE 02 36 00.0
HLID LR LR

comp=Z,504nm,20.0s,MS5.1
HUMO Hull Mountain 106.84 10 PFAKE 02 36 00.0
HUMO LR LR

comp=Z,253nm,20.0s,MS4.8
BLA Blacksburg 107.42 335 PFAKE 02 36 00.0
BLA LR LR

comp=Z,597nm,20.0s,MS5.2
WVOR Wild Horse Val 107.53 6 PFAKE 02 36 00.0
WVOR LR LR

comp=Z,516nm,19.0s,MS5.1
BW06 Boulder Array 107.58 359 PFAKE 02 36 00.0
BW06 LR LR

comp=Z,568nm,20.0s,MS5.1
PDAR Pinedale Array 107.58 359 PKiKP 02 35 46.3

comp=Z,0.3nm,0.4s,baz=45,slow=3.8,SNR=3.4
AHID Auburn Hatcher 107.58 0 PFAKE 02 36 00.0
AHID LR LR

comp=Z,437nm,21.0s,MS5.0
YBH Yreka Blue Hor 107.74 10 PFAKE 02 36 00.0
YBH LR LR

comp=Z,302nm,22.0s,MS4.8
MOD Modoc 107.88 8 PFAKE 02 36 00.0
MOD LR LR

comp=Z,279nm,19.0s,MS4.8
WCI Wyandotte Cave 108.43 340 PFAKE 02 36 00.0
WCI LR LR

comp=Z,434nm,20.0s,MS5.0
WDC Whiskeytown Da 108.89 10 PFAKE 02 36 00.0
WDC LR LR

comp=Z,225nm,22.0s,MS4.7
ELK Elko 109.47 4 PFAKE 02 36 00.0
ELK LR LR

comp=Z,380nm,21.0s,MS4.9
BMN Battle Mountai 109.64 5 PFAKE 02 36 00.0
BMN LR LR

comp=Z,307nm,20.0s,MS4.9
CCM Cathedral Cave 109.92 344 PFAKE 02 36 00.0
CCM LR LR

comp=Z,589nm,19.0s,MS5.2
ISCO Idaho Springs 110.39 356 PFAKE 02 36 00.0 +6.3
ISCO LR LR

comp=Z,545nm,19.0s,MS5.2
CBKS Cedar Bluff 110.79 351 PFAKE 02 36 10.0 +15
CBKS LR LR

comp=Z,349nm,19.0s,MS5.0
WVT Waverly 110.83 340 PFAKE 02 36 10.0 +15
WVT LR LR

comp=Z,565nm,20.0s,MS5.2
NHSC New Hope 110.95 333 PFAKE 02 36 10.0 +15
NHSC LR LR

comp=Z,423nm,21.0s,MS5.0
CMB Columbia Colle 111.69 8 PKiKP PKPdf 02 35 49.1 -7.1
CMB Columbia Colle 111.69 8 PFAKE 02 36 10.0 +14
CMB LR LR

comp=Z,382nm,19.0s,MS5.0
MVU Marysvale 111.82 1 PFAKE 02 36 10.0 +14
MVU LR LR

comp=Z,466nm,22.0s,MS5.0
PLAL Pickwick Lake 111.97 340 PFAKE 02 36 10.0 +13
PLAL LR LR

comp=Z,723nm,19.0s,MS5.3
TPH Tonopah 111.98 6 PFAKE 02 36 10.0 +13
TPH LR LR

comp=Z,311nm,20.0s,MS4.9
SDCO Great Sand Dun 112.43 356 PFAKE 02 36 10.0 +12
SDCO LR LR

comp=Z,452nm,19.0s,MS5.1
ARUT Antelope Range 112.50 2 P Pdif 02 32 16.3 +16
OXF Oxford 112.80 341 PFAKE 02 36 10.0 +11
OXF LR LR

comp=Z,510nm,20.0s,MS5.1
LRAL Lakeview Retre 113.45 339 PFAKE 02 36 10.0 +10
LRAL LR LR

comp=Z,480nm,20.0s,MS5.1
DAC Darwin (Calif) 113.73 6 PFAKE 02 36 10.0 +10
DAC LR LR

comp=Z,607nm,22.0s,MS5.2
ANMO Albuquerque 115.27 356 PFAKE 02 36 10.0 +6.7
ANMO LR LR

comp=Z,386nm,22.0s,MS5.0
SJG San Juan 115.83 312 PFAKE 02 36 20.0 +15
SJG LR LR

comp=Z,414nm,21.0s,MS5.0
DWPF Disney 115.86 331 PFAKE 02 36 10.0 +5.3
DWPF LR LR

comp=Z,368nm,22.0s,MS5.0
PFO Pinyon Flat Ob 116.48 6 PFAKE 02 36 20.0 +14
PFO LR LR

comp=Z,76nm,20.0s,MS4.3
NATX Nacogdoches 116.74 345 PFAKE 02 36 20.0 +14
NATX LR LR

comp=Z,455nm,21.0s,MS5.1
GDL2 Guadalupe Moun 117.85 354 *e*PKP PKPdf 02 36 07.7 -0.7
TUC Tucson 118.02 0 PFAKE 02 36 20.0 +11
TUC LR LR

comp=Z,479nm,20.0s,MS5.1
MNTX Cornudas Mount 118.43 355 *e*PKP PKPdf 02 36 08.7 -0.9
MNTX LR LR

comp=Z,297nm,19.0s,MS4.9
VNDA Vanda 119.58 166 PFAKE 02 36 20.0 +9.3
VNDA LR LR

comp=Z,338nm,20.0s,MS5.0
LTX Lajitas 120.62 353 PFAKE 02 36 20.0 +6.1
LTX LR LR

comp=Z,498nm,21.0s,MS5.1
SDV Santo Domingo 125.53 309 PFAKE 02 36 30.0 +6.2
SDV LR LR

comp=Z,213nm,22.0s,MS4.8
ROSC El Rosal 130.96 309 PKP PKPdf 02 36 34.5 +0.3
comp=Z,12nm,1.0s,baz=283,slow=22,SNR=9.8
SAML Samuel 131.10 285 *e*PKP PKPdf 02 36 32.9 -1.6
SAML LR LR

comp=Z,259nm,20.0s,MS4.9
JTS JuntasAbangare 132.97 324 PFAKE 02 36 50.0 +12
JTS LR LR

comp=Z,102nm,19.0s,MS4.6
CPUP Villa Florida 133.29 261 PKP PKPdf 02 36 35.6 -2.7
comp=Z,5.7nm,1.1s,baz=27,slow=2.3,SNR=4.2
LPAZ La Paz 138.91 280 PKP PKPdf 02 36 47.9 -0.9
comp=Z,3.5nm,1.1s,baz=4.4,slow=7.1,SNR=7.6
LPAZ La Paz 138.91 280 *e*PKP PKPdf 02 36 48.3 -0.6
LPAZ LR LR

comp=Z,337nm,21.0s,MS5.1
PLCA Paso Flores 145.94 241 PKPbc PKPbc 02 37 00.6 +2.0
comp=Z,20nm,1.2s,baz=104,slow=3.9,SNR=16
PLCA Paso Flores 145.94 241 *e*PKP PKPdf 02 37 00.3 -0.2

MAN ***16*** *02:28:43.8, 13.70N×120.73E, h200km, mb4.2, ML3.0, MS2.8*
IDC ***16*** *02:28:44.4±9.5, 13.57N×120.71E, h209km±94km, mb3.3/7, mb1 3.4/7, mb1mx3.3/18, mbtmp3.8/7, Error ellipse: s-maj=122.0km s-min=18.0km az=65.0*
ISC 16 02:28:43.1±0.4**, 13.67N**±0.04×**120.64E**±0.07**, h202**km±3km**, n31, σ1§10/40, mb3.4/7, 3C-2D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.35**	**119**↑	*e*P	**P**	**02 29 10.4**	**+0.1**
PGP				*e*S	**S**	**02 29 29.7**	**-1.6**
LUBP	**Lubang**	**0.38**	**279**	*e*P	**P**	**02 29 11.4**	**+1.0**
LUBP				*e*S	**S**	**02 29 30.7**	**-0.8**
TGY	**Tagaytay City**	**0.52**	**34**	*e*P	**P**	**02 29 12.2**	**+1.4**
LBPH	**Los Banos**	**0.71**	**48**↑	*e*P	**P**	**02 29 12.7**	**+1.0**
ARP	**Angono**	**1.00**	**30**↑	*e*P	**P**	**02 29 13.9**	**+0.7**
NBP	**Mount Natib**	**1.08**	**349**↑	*e*P	**P**	**02 29 14.6**	**+0.8**
BOAC	**Boac**	**1.20**	**100**	*e*P	**P**	**02 29 14.9**	**+0.1**
BOAC				*e*S	**S**	**02 29 38.4**	**-0.9**
NZB	**Bigte**	**1.27**	**21**↓	*e*P	**P**	**02 29 15.7**	**+0.3**
SJMP	**San Jose**	**1.29**	**159**	*e*P	**P**	**02 29 16.1**	**+0.5**
SJMP				*e*S	**S**	**02 29 37.9**	**-2.7**
POLP	**Polilio Island**	**1.64**	**50**	*e*P	**P**	**02 29 18.8**	**+0.1**
POLP				*e*S	**S**	**02 29 47.7**	**+1.6**
BUSP	**Coron**	**1.71**	**194**	*e*P	**P**	**02 29 20.9**	**+1.5**
BUSP				*e*S	**S**	**02 29 47.7**	**+0.4**
OTRP	**Odiongan**	**1.88**	**134**	*e*P	**P**	**02 29 20.9**	**+0.1**
OTRP				*e*S	**S**	**02 29 47.9**	**-2.1**
SCZP	**Santa Cruz**	**2.21**	**342**	*e*P	**P**	**02 29 24.5**	**+0.2**
SCZP				*e*S	**S**	**02 29 54.5**	**-1.7**
BALP	**Baler**	**2.25**	**24**	*e*P	**P**	**02 29 25.5**	**+0.7**
ENPP	**El Nido**	**2.72**	**206**	*e*P	**P**	**02 29 32.3**	**+2.2**
BOLP	**Bolinao**	**2.78**	**346**	*e*P	**P**	**02 29 31.3**	**+0.5**
BOLP				*e*S	**S**	**02 30 05.9**	**-1.7**
CUYO	**Cuyo Island**	**2.83**	**172**	*e*P	**P**	**02 29 29.3**	**-2.0**
CAUP	**Cauayan**	**3.45**	**19**	*e*P	**P**	**02 29 39.8**	**+1.0**
GUIM	**Jordan**	**3.58**	**148**	*e*P	**P**	**02 29 41.8**	**+1.4**
ABRA	**Dolores**	**3.96**	**1**	*e*P	**P**	**02 29 43.8**	**-1.2**
APYP	**Conner**	**4.21**	**8**	*e*P	**P**	**02 29 48.4**	**+0.2**
IPIL	**Ipil**	**6.15**	**162**	*e*P	**P**	**02 30 13.0**	**0.0**
PAGZ	**Pagadian**	**6.38**	**155**	*e*P	**P**	**02 30 16.6**	**+0.6**
WRA	**Warramunga Arr**	**36.02**	**158**	P	**P**	**02 35 24.7**	**-2.1**
	1.0nm,0.5s,mb3.6,baz=340,slow=9.2,SNR=15						
SONM	**Songino Array**	**36.07**	**344**	P	**P**	**02 35 27.0**	**+0.1**
	0.6nm,0.6s,mb3.3,baz=169,slow=8.6,SNR=3.9						
MKAR	**Makanchi Array**	**46.02**	**324**	P	**P**	**02 36 47.4**	**-0.6**
	0.2nm,0.3s,mb2.9,baz=104,slow=8.9,SNR=5.3						
BVAR	**Borovoye Array**	**55.76**	**326**	P	**P**	**02 38 00.5**	**-0.3**
	0.8nm,0.6s,mb3.4,baz=112,slow=11,SNR=4.4						
ARCES	**ARCESS Array B**	**79.09**	**339**	P	**P**	**02 40 25.7**	**-0.3**
	0.7nm,0.4s,mb3.6,baz=84,slow=6.8,SNR=15						
FINES	**FINESS Array B**	**80.28**	**331**	P	**P**	**02 40 33.1**	**+0.7**
	1.0nm,0.8s,mb3.5,baz=90,slow=6.9,SNR=5.7						
NB2	**NORSAR Subarra**	**87.26**	**333**	P	**P**	**02 41 06.4**	**-1.1**
	0.7nm,0.6s,mb3.6,baz=69,slow=4.5						
NOA	**NORSAR Array B**	**87.26**	**333**	P	**P**	**02 41 06.8**	**-0.6**
	0.7nm,0.6s,mb3.5,baz=69,slow=6.5,SNR=3.8						

STR ***16*** *02:48:38.5±0.6, 43.47N×0.56W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***16*** *02:48:40.5±0.3, 43.38N×0.59W, h6km±5km, mbLg1.9/21, Error ellipse: s-maj=3.0km s-min=2.1km az=9.0, PRXIMO*
NEIC ***16*** *02:48:40.4, 43.35N×0.62W, h2km, ML2.7(LDG), ML2.3(STR), MN2.1(MDD), After LDG.*
LDG ***16*** *02:48:40.4±0.1, 43.35N×0.62W, h2km, Md2.8/2, Ml2.7/10, Error ellipse: s-maj=1.7km s-min=1.1km az=130.0*
CSEM ***16*** *02:48:40.5±0.1, 43.36N×0.62W, h2km, ML2.7/10, Error ellipse: s-maj=1.2km s-min=0.8km az=135.0*

ISC 16 02:48:38.2±0.3**, 43.45N**±0.02×**0.56W**±0.03**, h2**km±4km**, n42, σ1§11/70, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORDF	**Ordiarp**	**0.36**	**230**	Pg	**Pg**	**02 48 45.6**	**+0.2**
ORDF				Sg	**Sg**	**02 48 52.4**	**+2.1**
ORDF	**Ordiarp**	**0.36**	**230**	P	**Pg**	**02 48 45.6**	**+0.2**
ORDF				S	**Sg**	**02 48 51.8**	**+1.5**
ATE	**Arette**	**0.38**	**196**	P	**Pg**	**02 48 45.8**	**+0.1**
ATE				S	**Sg**	**02 48 51.2**	**+0.5**
REYF	**Montagne du Re**	**0.40**	**162**	Pg	**Pg**	**02 48 46.0**	**-0.1**
REYF				Sg	**Sg**	**02 48 52.3**	**+0.9**
LARF	**Larrau**	**0.52**	**218**	Pg	**Pg**	**02 48 48.4**	**-0.1**
LARF				Sg	**Sg**	**02 48 56.0**	**+0.6**
ETSF	**Etsaut**	**0.55**	**180**	*e*Pg	**Pg**	**02 48 48.7**	**-0.4**
ETSF				*e*Pn	**Pn**	**02 48 49.8**	**-2.8**
ETSF				*e*Sg	**Sg**	**02 48 55.4**	**-1.0**
	22nm,0.2s						
ETSF	**Etsaut**	**0.55**	**180**	Pg	**Pg**	**02 48 48.7**	**-0.4**
ETSF				Lg		02 48 55.4	
	11nm,0.2s						
OSSF	**Osses**	**0.55**	**250**	Pg	**Pg**	**02 48 49.5**	**+0.3**
SJPF	**Ste Jean**	**0.59**	**236**	*e*Pg	**Pg**	**02 48 49.8**	**-0.2**
SJPF				*e*Sg	**Sg**	**02 48 57.3**	**-0.6**
	51nm,0.3s						
SJPF				*e*Sn	**Sn**	**02 48 59.4**	**-4.2**
LABF	**Labassere**	**0.61**	**131**	P	**Pg**	**02 48 51.1**	**+0.8**
FDAF	**Les Forges d'A**	**0.63**	**181**	P	**Pg**	**02 48 50.0**	**-0.7**
FDAF				S	**Sg**	**02 48 59.1**	**0.0**
VIEF	**Viey**	**0.70**	**143**	Pg	**Pg**	**02 48 52.0**	**-0.3**
EALK	**Alkurruntz**	**0.73**	**252**	⇑Pg	**Pg**	**02 48 52.8**	**0.0**
	17nm,0.3s,SNR=18						
EALK				Lg		02 49 03.0	
	62nm,0.4s,SNR=4.6						
EPF	**Esparros**	**0.78**	**122**	*e*Pg	**Pg**	**02 48 54.7**	**+1.0**
EPF				*e*Sg	**Sg**	**02 49 04.9**	**+0.9**
	28nm,0.2s						
IPRE	**Itoiz**	**0.87**	**223**	Lg		02 49 07.7	
	21nm,0.3s,SNR=4.9						
RESF	**Ens**	**0.91**	**134**	Pg	**Pg**	**02 48 56.4**	**-0.1**
RESF				Sg	**Sg**	**02 49 10.1**	**+1.4**
EBIE	**Bielsa**	**0.92**	**146**	Pg	**Pg**	**02 48 55.9**	**-0.6**
EBIE				Lg		02 49 08.8	
EBIE	**Bielsa**	**0.92**	**146**	Pg	**Pg**	**02 48 56.2**	**-0.3**
	2.1nm,0.3s,SNR=20						
EBIE				Lg		02 49 08.8	
	11nm,0.3s,SNR=13						
EBIE	**Bielsa**	**0.92**	**146**	Pg	**Pg**	**02 48 55.9**	**-0.6**
	2.1nm,0.3s,SNR=20						
EARA	**Aranguren**	**1.01**	**228**	Lg		02 49 11.8	
	22nm,0.2s,SNR=7.9						
MLS	**Moulis**	**1.30**	**111**	S	**Sb**	**02 49 19.9**	**-0.2**
EGRA	**Graus**	**1.41**	**153**	Pg	**Pg**	**02 49 06.8**	**+0.6**
	3.2nm,0.4s,SNR=13						
EGRA				Lg		02 49 25.5	
	10.0nm,0.5s,SNR=7.2						
SALF	**Salau**	**1.45**	**118**	P	**Pn**	**02 49 08.1**	**+2.6**
SALF				S	**Sb**	**02 49 28.2**	**+3.8**
ECRI	**Cripan**	**1.66**	**240**	Pg	**Pg**	**02 49 10.1**	**-1.3**
	2.4nm,0.2s,SNR=7.9						
ECRI				Lg		02 49 32.3	
	12nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.73**	**178**	Pg	**Pg**	**02 49 11.4**	**-1.3**
	23nm,0.3s,SNR=11						
ESAC				Lg		02 49 33.7	
	28nm,0.2s,SNR=6.2						
ESAC	**San Caprasio**	**1.73**	**178**	Pg	**Pg**	**02 49 11.4**	**-1.2**
	23nm,0.3s,SNR=11						
LFF	**La Frestale**	**1.76**	**32**	*e*Pn	**Pn**	**02 49 11.7**	**+1.7**
LFF				*e*Pg	**Pg**	**02 49 14.7**	**+1.4**
LFF				*e*Sn	**Sn**	**02 49 34.1**	**+0.9**
LFF				*e*Sg	**Sg**	**02 49 39.3**	**+2.5**
	26nm,0.6s						
MTLF	**Montolieu**	**2.02**	**92**	*e*Pn	**Pn**	**02 49 14.4**	**+0.7**
MTLF				*e*Pg	**Pg**	**02 49 19.5**	**+0.9**
MTLF				*e*Sn	**Sn**	**02 49 39.2**	**-0.8**
MTLF				*e*Sg	**Sg**	**02 49 45.3**	**-0.3**
	12nm,0.4s						
CARF	**Carcanieres**	**2.08**	**110**	S	**Sn**	**02 49 45.7**	**+4.3**
ELAN	**Lanestosa**	**2.11**	**265**	Pg	**Pg**	**02 49 19.2**	**-1.2**
	1.9nm,0.4s,SNR=6.3						
ELAN				Lg		02 49 47.2	
	32nm,1.0s,SNR=4.8						
ELAN	**Lanestosa**	**2.11**	**265**	Pg	**Pg**	**02 49 19.2**	**-1.1**
	1.9nm,0.4s,SNR=6.3						
EMIR	**Miracle**	**2.17**	**134**	Pg	**Pg**	**02 49 19.8**	**-1.7**
	3.6nm,0.4s,SNR=6.1						
EMIR				Lg		02 49 48.9	
	5.8nm,0.3s,SNR=6.2						
EMIR	**Miracle**	**2.17**	**134**	Pg	**Pg**	**02 49 19.8**	**-1.7**
	3.6nm,0.4s,SNR=6.1						
RJF	**Les Rejaudoux**	**2.38**	**38**	*e*Pn	**Pn**	**02 49 20.0**	**+1.2**
RJF				*e*Pg	**Pg**	**02 49 26.6**	**+0.9**
RJF				*e*Sn	**Sn**	**02 49 47.6**	**-1.4**
RJF				*e*Sg	**Sg**	**02 49 58.1**	**+0.7**
	6.7nm,0.3s						
CAF	**Calviac**	**2.40**	**51**	*e*Pn	**Pn**	**02 49 19.0**	**-0.1**
CAF				*e*Pg	**Pg**	**02 49 26.6**	**+0.6**
CAF				*e*Sn	**Sn**	**02 49 49.1**	**-0.3**
CAF				*e*Sg	**Sg**	**02 49 58.4**	**+0.4**
	5.8nm,0.3s						
EPOB	**Poblet**	**2.42**	**149**	Pg	**Pg**	**02 49 24.0**	**-2.5**
	0.2nm,0.1s,SNR=7.9						
EPOB				Lg		02 49 56.3	
	2.9nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.42**	**149**	Pg	**Pg**	**02 49 24.0**	**-2.5**
	0.2nm,0.1s,SNR=7.9						
MFF	**Saint Martin d**	**3.17**	**5**	*e*Pn	**Pn**	**02 49 30.9**	**+0.8**
MFF				*e*Pg	**Pg**	**02 49 41.6**	**+0.1**
MFF				*e*Sg	**Sg**	**02 50 22.3**	**-1.4**
	3.1nm,0.2s						
LASF	**Ste Croix**	**3.26**	**77**	*e*Pn	**Pn**	**02 49 32.5**	**+1.1**
LASF				*e*Sn	**Sn**	**02 50 09.6**	**-1.7**
LASF				*e*Sg	**Sg**	**02 50 24.9**	**-1.8**
	8.2nm,0.6s						
TCF	**Toulx Ste Croi**	**3.46**	**34**	*e*Sg	**Sg**	**02 50 31.8**	**-1.4**
	4.6nm,0.4s						
BGF	**Bois d'Agland**	**3.94**	**37**	*e*Pn	**Pn**	**02 49 41.4**	**+0.4**
BGF				*e*Sg	**Sg**	**02 50 47.7**	**-1.6**
	14nm,0.5s						
VIVF	**Saint-Julien-l**	**4.02**	**68**	*e*Sg	**Sg**	**02 50 49.1**	**-2.9**
	4.8nm,0.6s						

WEL 16 02:52:21.3±0.5**, 36.11S×178.12E, h209**km±6km**, ML3.5**/8**, Error ellipse: s-maj=10.0km s-min=5.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.46**	**174**	PN	P	02 52 55.5	-0.3
MXZ				SN	S	02 53 22.0	-0.5
PUZ	**Puketiti**	**1.97**	**177**	PN	P	02 53 00.3	-0.1
PUZ				SN	S	02 53 29.6	-1.0
MWZ	**Matawai**	**2.27**	**192**	PN	P	02 53 03.9	+0.2
MWZ				SN	S	02 53 36.6	+0.1
URZ	**Urewera**	**2.29**	**200**	PN	P	02 53 03.4	-0.6
URZ				SN	S	02 53 36.7	-0.1
KNZ	**Kokohu**	**2.93**	**187**	PN	P	02 53 10.8	-0.3
KNZ				SN	S	02 53 47.8	-1.8
BKZ	**Black Stump Fm**	**3.32**	**202**	PN	P	02 53 15.7	+0.1
BFZ	**Birch Farm**	**4.80**	**197**	*e*PN	P	02 53 31.3	-2.6
BFZ				SN	S	02 54 27.7	-2.7
MRZ	**Mangatainoka R**	**4.97**	**203**	PN	P	02 53 33.0	-3.1
MRZ				SN	S	02 54 29.2	-5.0
KIW	**Kapiti Island**	**5.37**	**207**	PN	P	02 53 35.1	-6.2
KIW				SN	S	02 54 40.0	-3.6

BJI ***16*** *02:52:38.8, 19.10N×121.30E, h9km, mB4.6, mb4.5, Ms4.1, Msz4.0*
MAN ***16*** *02:52:39.7, 19.22N×121.12E, h12km, mb4.8, ML3.7, MS3.7*
NEIC ***16*** *02:52:39.8±0.4, 19.09N×121.26E, mb4.3/2, Error ellipse: s-maj=17.8km s-min=7.3km az=83.0*
IDC ***16*** *02:52:40.2±0.6, 19.09N×121.07E, h28km±4km, mb3.9/13, mb1 4.1/14, mb1mx4.0/20, mbtmp4.1/14, ML3.5/1, MS3.7/2, Ms1 3.8/2, ms1mx3.2/29, Error ellipse: s-maj=36.8km s-min=12.0km az=71.0*
ISC 16 02:52:39.7±0.3**, 19.26N**±0.02×**120.99E**±0.06**, h29**km**, h29**km±1.6km**:pP-P, n44, σ1§19/52, mb4.0**/15**, MS3.9/1, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APYP	Conner	1.41	170	eP	Pn	02 53 03.2	-0.7
APYP				eS	Sn	02 53 22.3	+0.7
SGCP	Mt. Cagua	1.42	135	eP	Pn	02 53 03.0	-0.9
SGCP				eS	Sn	02 53 21.8	-0.1
BBP	Basco	1.49	38	eP	Pn	02 53 05.6	+0.6
BBP				eS	Sn	02 53 25.0	+1.3
ABRA	Dolores	1.62	190	eP	Pn	02 53 06.5	-0.4
ABRA				eS	Sn	02 53 29.4	+2.4
CAUP	Cauayan	2.43	161	eP	Pn	02 53 20.5	+2.0
BCPH	Baguio City Da	2.89	188	⇑eP	Pn	02 53 24.9	-0.1
BCPH				eS	Sn	02 54 03.9	+4.8
BOLP	Bolinao	3.04	200	eP	Pn	02 53 28.6	+1.5
BOLP				eS	Sn	02 54 01.7	-1.3
BALP	Baler	3.54	171	eP	Pn	02 53 35.1	+0.9
BALP				eS	Sn	02 54 15.7	+0.1
SCZP	Santa Cruz	3.61	197	eP	Pn	02 53 35.3	0.0
SCZP				eS	Sn	02 54 23.3	+5.8
POLP	Polilio Island	4.59	169	eP	Pn	02 53 49.0	-0.2
NACB	Ninganchiao	4.92	6	eP	Pn	02 53 52.7	-1.2
YHNB	Yeheng	5.40	4	eP	Pn	02 53 59.8	-0.7
LUBP	Lubang	5.54	188	eP	Pn	02 54 04.3	+1.7
LUBP				eS	Sn	02 55 04.9	-1.1
TATO	Taipei	5.71	5	eP	Pn	02 54 04.8	-0.2
	70nm,0.7s						
SJMP	San Jose	6.76	179	eP	Pn	02 54 16.9	-2.9
QIZ	Qiongzhong	10.54	271	eP	P	02 55 06.5	-5.7
	7.2nm,0.6s						
JNU	Nakatsue	16.39	31	Pn	P	02 56 28.8	-0.8
	0.1nm,0.3s,baz=260,slow=6.1,SNR=4.1						
JNU				LR	LR	03 03 02.1	
	comp=Z,211nm,18.8s,baz=309,slow=38						
CD2	Chengdu	19.42	310	eP	P	02 57 10.0	+3.2
MJAR	Matsushiro Arr	22.91	38	pP		02 57 49.8	
	2.4nm,0.6s,baz=238,slow=12,SNR=5.7						
SONM	Songino Array	30.88	341	P	P	02 58 56.5	+0.5
	1.6nm,0.8s,mb3.9,baz=157,slow=9.4,SNR=9.8						
FITZ	Fitzroy Crossi	37.41	173	P	P	02 59 48.0	-4.3
	4.6nm,0.8s,mb4.4,baz=329,slow=5.9,SNR=3.2						
WRAB	Tennant Creek	41.09	161	P	P	03 00 18.8	-4.1
WRA	Warramunga Arr	41.09	161	P	P	03 00 18.9	-4.1
	1.5nm,0.7s,mb3.7,baz=341,slow=9.1,SNR=11						
WRA				PcP	PcP	03 02 21.9	-1.0
	2.7nm,0.8s,baz=339,slow=3.5,SNR=11						
MKAR	Makanchi Array	41.86	320	P	P	03 00 30.3	+1.3
	1.8nm,1.0s,mb3.7,baz=106,slow=9.2,SNR=4.7						
MKAR				pP	pP	03 00 38.2	+0.7
	1.2nm,0.5s,baz=117,slow=8.8,SNR=8.4						
MKAR	Makanchi Array	41.86	320	P	P	03 00 30.3	+1.3
MKAR				pP	pP	03 00 38.2	+0.7
ZAL	Zalesovo	44.34	330	P	P	03 00 50.5	+1.4
	1.3nm,0.4s,mb4.1,baz=207,slow=6.8,SNR=4.8						
ZAL	Zalesovo	44.34	330	P	P	03 00 50.5	+1.4
KURK	Kurchatov	45.83	323	eP	P	03 01 00.5	-0.5
	2.7nm,0.7s,mb4.3						
BVAR	Borovoye Array	51.43	323	P	P	03 01 45.6	+1.3
	0.4nm,0.6s,mb3.5,baz=121,slow=8.4,SNR=3.1						
BVAR				PcP	PcP	03 02 57.3	-1.3
	0.8nm,0.6s,baz=117,slow=6.4,SNR=2.9						
NWAO	Narrogin (SRO)	52.01	184	P	P	03 01 46.1	-2.9
	8.6nm,0.8s,mb4.7,baz=41,slow=9.0,SNR=3.6						
NWAO				pP	pP	03 01 55.5	-2.3
	12nm,1.0s,baz=334,slow=8.1,SNR=2.3						
ZRNK	Zerenda	52.19	323	eP	P	03 01 49.8	-0.3
	3.7nm,1.0s,mb4.3						
STKA	Stephens Creek	54.55	158	P	P	03 02 05.8	-2.0
	1.8nm,0.6s,mb4.2,baz=12,slow=9.3,SNR=3.4						
STKA				pP	pP	03 02 14.7	-1.8
	2.2nm,0.6s,baz=311,slow=12,SNR=1.7						
STKA	Stephens Creek	54.55	158	P	P	03 02 03.4	-4.4
STKA				P		03 02 05.8	
STKA				pP	pP	03 02 14.7	-1.8
ARCES	ARCESS Array B	74.03	339	P	P	03 04 14.6	+0.3
	2.8nm,0.9s,mb4.2,baz=63,slow=8.1,SNR=4.4						
ARCES	ARCESS Array B	74.03	339	P	P	03 04 14.6	+0.3
FINES	FINESS Array B	75.61	330	P	P	03 04 21.7	-1.8
	1.2nm,0.8s,mb3.9,baz=108,slow=4.4,SNR=3.3						
FINES	FINESS Array B	75.61	330	P	P	03 04 21.7	-1.8
AKASG	Malin Array Be	76.44	319	P	P	03 04 27.3	-1.1
	0.2nm,0.3s,mb3.5,baz=56,slow=5.7,SNR=4.9						
AKASG				pP	pP	03 04 35.9	-1.6
	0.9nm,0.6s,baz=63,slow=5.3,SNR=3.1						
AKASG	Malin Array Be	76.44	319	P	P	03 04 27.3	-1.1
AKASG				pP	pP	03 04 35.9	-1.6
NB2	NORSAR Subarra	82.48	332	P	P	03 04 59.9	-0.8
	1.6nm,0.9s,mb4.0,baz=61,slow=5.3						
NOA	NORSAR Array B	82.48	332	P	P	03 04 59.7	-1.0
	0.7nm,0.8s,mb3.6,baz=70,slow=4.7,SNR=3.4						
NOA				pP	pP	03 05 08.7	-1.2
	1.2nm,0.7s,baz=64,slow=5.0,SNR=5.3						
NOA				LR	LR	03 47 52.2	
	comp=Z,46nm,18.3s,MS3.9,baz=70,slow=40						
NOA	NORSAR Array B	82.48	332	P	P	03 04 59.7	-1.0
NOA				pP	pP	03 05 08.7	-1.2
NOA				LR	LR	03 47 52.2	
YKA	Yellowknife Ar	87.56	23	P	P	03 05 26.4	+0.4
	3.6nm,0.8s,mb4.6,baz=312,slow=4.8,SNR=13						
YKA				pP	pP	03 05 35.1	-0.1
	2.3nm,0.8s,baz=308,slow=4.2,SNR=6.3						
YKA	Yellowknife Ar	87.56	23	P	P	03 05 26.4	+0.4
YKA				pP	pP	03 05 35.1	-0.1

JMA 16 02:55:47.3±0.3**, 31.55N**×**142.48E, h12**km**, M3.5, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.74	305	P	Pn	02 56 32.4	+0.5
JHJ2				eS	Sn	02 57 05.4	+0.1
BSO1	Boso 1	3.34	338	P	Pn	02 56 40.9	+0.4
BSO3	Boso 3	3.64	334	P	Pn	02 56 44.9	+0.2
JHO	Hitachi	5.29	343	P	Pn	02 57 08.3	+0.2
JHO				eS	Sn	02 58 06.6	-3.2
JRY	Ryogami san	5.36	327	P	Pn	02 57 10.1	+1.0
JAG	Ashikaga	5.47	333	P	Pn	02 57 11.6	+0.9
JAG				eS	Sn	02 58 13.6	-0.7

*BJI **16** 03:42:23.7, 11.80S×166.40E, h48km, mB4.8, mb5.1, Ms4.7, Msz4.7*

*HRVD **16** 03:42:25.8±0.5, 11.98S×166.19E, h50km±2km, MW5.0/42, Centroid moment Tensor Solution. LP body waves: s42,c55;Mantle waves: s37,c44; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.30±.25; $M_{\theta\theta}$-0.28±.18; $M_{\phi\phi}$-4.02±.17; $M_{r\theta}$0.24±.19; $M_{\theta\phi}$0.52±.18; $M_{\phi r}$0.56±.22; Best double couple: $M_0$4.238×10^{16} NP1:ϕ_s168°,δ42°,λ84°. NP2:ϕ_s356°,δ49°,λ95°. Principal axes: T 4.354, Plg85°, Azm310°; N -.232, Plg4°, Azm173°; P -4.123, Plg4°, Azm83°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **16** 03:42:25.9±3.0, 11.82S×166.41E, h48km±25km, mb4.4/13, mb1 4.5/15, mb1mx4.5/16, mbtmp4.7/15, ML4.5/2, MS4.0/19, Ms1 4.0/19, ms1mx4.0/26 Error ellipse: s-maj=23.6km s-min=13.8km az=72.0*

*NEIC **16** 03:42:25.8±0.2, 11.81S×166.44E, mb5.0/20, MS4.4/1, Error ellipse: s-maj=7.7km s-min=6.4km az=101.0*

ISC 16 03:42:25.1±1.8**, 11.95S**±0.06×**166.31E**±0.08**, h51**km±15km**, h48**km±.7km**:pP-P, n95, σ0§94**/72**, mb5.1**/37**, MS4.2**/18**, 8C-3D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	6.73	291	P	P	03 44 03.4	-0.4
	30nm,0.3s,baz=160,slow=3.0,SNR=4.6						
HNR				S	S	03 45 18.4	-1.4
	29nm,0.3s,baz=210,slow=20,SNR=2.9						
HNR	Honiara	6.73	291	eP	P	03 44 04.2	+0.4
DZM	Mont Dzumac	10.07	179	eP	P	03 44 50.7	+0.8
DZM				eS	S	03 46 41.8	-0.7
DZM	Mont Dzumac	10.07	179	P	P	03 44 50.7	+0.8
	1.4nm,0.3s,baz=22,slow=18,SNR=18						
DZM				S	S	03 46 40.9	-1.6
	baz=343,slow=19,SNR=2.3						
DZM				LR	LR	03 48 22.4	
	comp=Z,1µm,21.0s,baz=21,slow=35						
DZM	Mont Dzumac	10.07	179	eP	P	03 44 50.7	+0.8
DZM				eS	S	03 46 41.8	-0.7
NOUC	Port Laguerre	10.10	180	eP	P	03 44 51.8	+1.6
NOUC				eS	S	03 46 39.4	-3.8
NOUC	Port Laguerre	10.10	180	eP	P	03 44 51.8	+1.5
NOUC				eS	S	03 46 39.4	-3.8
PMG	Port Moresby	18.98	276	P	P	03 46 48.5	+3.3
	0.5nm,0.3s,baz=152,slow=11,SNR=2.8						
PMG				LR	LR	03 53 12.3	
	comp=Z,1µm,20.3s,baz=305,slow=34						
PMG	Port Moresby	18.98	276	P	P	03 46 46.3	+1.0
CTA	Charters Tower	20.89	245	eP	P	03 47 10.0	+4.5
	17nm,0.9s						
CTA	Charters Tower	20.89	245	P	P	03 47 07.5	+1.9
	23nm,0.9s,baz=72,slow=11,SNR=19						
CTA				LR	LR	03 53 54.3	
	comp=Z,718nm,21.5s,MS4.0,baz=65,slow=33						
CTAO	Charters Tower	20.89	245	eP	P	03 47 07.3	+1.8
	23nm,0.9s						
AFI	Afiamalu	21.45	98	LR	LR	03 54 03.4	
	comp=Z,274nm,19.1s,MS3.7,baz=269,slow=33						
RAO	Raoul Island	22.64	142	LR	LR	03 54 35.5	
	comp=Z,214nm,21.4s,MS3.5,baz=318,slow=32						
URZ	Urewera	27.92	162	LR	LR	03 57 28.3	
	comp=Z,549nm,21.4s,MS4.1,baz=318,slow=32						
STKA	Stephens Creek	30.18	225	⇓iP	P	03 48 33.9	+1.0
	7.1nm,0.6s,mb4.6						
STKA	Stephens Creek	30.18	225	P	P	03 48 34.1	+1.2
	8.9nm,0.7s,mb4.6,baz=34,slow=7.5,SNR=14						
STKA				LR	LR	04 00 01.6	
	comp=Z,599nm,20.8s,MS4.2,baz=30,slow=35						
TOO	Toolangi	31.60	213	eP	P	03 48 46.6	+1.2
	26nm,0.6s,mb5.2						
WRAB	Tennant Creek	31.69	251	eP	P	03 48 45.0	-1.4
	10.0nm,0.8s,mb4.7						
WB2	Warramunga Arr	31.69	251	eP	P	03 48 45.6	-0.8
WRA	Warramunga Arr	31.70	251	P	P	03 48 45.8	-0.7
	10nm,0.7s,mb4.8,baz=84,slow=9.0,SNR=62						
WRA				PcP	PcP	03 51 37.0	-0.3
	5.3nm,0.9s,baz=79,slow=3.0,SNR=11						
RPZ	Rata Peaks	31.92	173	P	P	03 48 47.3	-0.8
	15nm,0.6s,mb5.0,baz=335,slow=1.1,SNR=7.3						
RPZ				LR	LR	03 59 33.8	
	comp=Z,549nm,21.0s,MS4.2,baz=12,slow=32						
KAKA	Kakadu	33.08	265	⇑iP	P	03 48 57.9	-0.6
	13nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	39.69	256	eP	P	03 49 54.6	+0.4
	26nm,0.9s,mb5.0						
FITZ	Fitzroy Crossi	39.69	256	LR	LR	04 05 15.9	
	comp=Z,442nm,18.4s,MS4.3,baz=78,slow=34						
PPT	Papeete	42.95	103	LR	LR	04 05 17.1	
	comp=Z,165nm,19.3s,MS3.9,baz=308,slow=32						
NWAO	Narrogin (SRO)	49.42	237	P	P	03 51 12.8	+0.6
	26nm,0.7s,mb5.3,baz=79,slow=9.0,SNR=16						
MUN	Mundaring	50.07	238	eP	P	03 51 17.5	+0.4
	31nm,0.9s,mb5.3						
JHJ	Hachijo jima 2	51.47	331	LR	LR	04 08 02.2	
	comp=Z,197nm,21.1s,MS4.1,baz=268,slow=30						
JOW	Kunigami	53.38	317	LR	LR	04 09 57.1	
	comp=Z,334nm,20.5s,MS4.4,baz=114,slow=31						
MJAR	Matsushiro Arr	55.02	332	P	P	03 51 51.0	-3.0
	3.9nm,0.9s,mb4.4,baz=166,slow=8.3,SNR=8.8						
MJAR				LR	LR	04 10 23.8	
	comp=Z,98nm,21.5s,MS3.9,baz=140,slow=30						
JNU	Nakatsue	56.13	324	LR	LR	04 10 46.5	
	comp=Z,191nm,21.4s,MS4.2,baz=74,slow=30						
YHNB	Yeheng	56.98	310	eP	P	03 52 07.2	-1.1
ASAJ	Asahikawa	59.82	340	LR	LR	04 13 43.7	
	comp=Z,181nm,20.1s,MS4.2,baz=204,slow=31						
QIZ	Qiongzhong	63.59	298	⇓P	P	03 52 54.0	+0.5
QIZ				S	S	04 01 29.8	+8.1
QIZ				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.1						
QIZ				LR	LR		
	comp=N,327nm,18.6s						
QIZ				LR	LR		
	comp=Z,301nm,12.4s						
FX1	Attu Island--F	64.83	5	LR	LR	04 17 05.7	
	comp=Z,1.8nm,20.7s,baz=148,slow=32						
VNDA	Vanda	65.61	181	P	P	03 53 05.3	-0.3
	comp=Z,6.0nm,1.0s,mb4.6,baz=350,slow=7.3,SNR=20						
VNDA				LR	LR	04 17 28.5	
	comp=Z,95nm,19.2s,MS4.0,baz=26,slow=32						
VNDA	Vanda	65.61	181	eP	P	03 53 04.3	-1.3
	comp=Z,12nm,1.2s,mb4.8						
CASY	Casey	65.74	202	⇑iP	P	03 53 05.6	-1.0
CN2	Changchun	66.79	329	eP	P	03 53 12.1	-1.5
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
ENH	Enshi	68.89	309	eP	P	03 53 25.9	-1.0
	comp=Z,66nm,0.9s,mb5.6						
GYA	Guiyang	69.38	304	⇑iP	P	03 53 30.5	+0.5
GYA				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.5						
XAN	Xi'an	71.13	312	P	P	03 53 40.5	0.0
XAN				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.3						
NANT	Nan	71.52	295	⇑P	P	03 53 41.5	-1.6
	comp=Z,75nm,1.0s,mb5.6						
KMI	Kunming	72.06	301	P	P	03 53 47.8	+1.6
KMI				AP	pP	03 54 01.3	+0.7
KMI				XP	sP	03 54 06.4	+0.3
KMI				PPP	PPP	03 58 11.8	+1.3
KMI				S	S	04 03 03.4	+0.5
KMI				XS		04 03 29.6	
KMI				AMB	AMB		
	comp=Z,55nm,1.2s,mb5.4						
KMI				AMB	AMB		
	comp=Z,101nm,3.1s						
KMI				LR	LR		
	comp=N,147nm,15.0s						
KMI				LR	LR		
	comp=E,128nm,25.3s						
KMI				LR	LR		
	comp=Z,183nm,19.6s,MS4.3						
CHRT	Chiangrai	72.70	295	⇑P	P	03 53 51.0	+0.9
	comp=Z,276nm,1.0s,mb6.1						
CHG	Chiang Mai	73.09	294	⇑P	P	03 53 53.0	+0.5
	comp=Z,25nm,1.2s,mb5.0						
HIA	Hailar	73.42	330	eP	P	03 53 53.3	-0.5
	comp=Z,15nm,1.1s,mb4.8						
CD2	Chengdu	73.58	307	P	P	03 53 55.6	+0.5
LZH	Lanzhou	75.77	312	⇑P	P	03 54 08.6	+1.0
LZH				AP	pP	03 54 22.0	-0.2
LZH				XP	sP	03 54 27.5	-0.2
LZH				PP	PP	03 57 01.5	+1.7
LZH				eS	S	04 03 47.3	+3.1
LZH				XS		04 04 09.3	
LZH				AMB	AMB		
	comp=Z,37nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,97nm,6.4s						
LZH				LR	LR		
	comp=N,614nm,15.3s						
LZH				LR	LR		
	comp=Z,935nm,18.5s,MS5.1						
QSPA	South Pole Qui	78.06	180	⇑iP	P	03 54 19.5	-0.1
	comp=Z,14nm,1.0s,mb4.8						
SONM	Songino Array	79.71	324	P	P	03 54 29.0	-0.2
	comp=Z,3.2nm,0.7s,mb4.3,baz=130,slow=4.0,SNR=18						
GTA	Gaotai	80.08	314	eP	P	03 54 32.1	+0.8
GTA				AP	pP	03 54 46.5	+0.5
GTA				XP	sP	03 54 51.9	+0.3
GTA				PP	PP	03 57 35.1	0.0
GTA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
GTA				AMB	AMB		
	comp=Z,110nm,6.5s						
GTA				LR	LR		
	comp=N,130nm,20.1s,MS4.5						
GTA				LR	LR		
	comp=E,194nm,23.2s,MS4.5						
GTA				LR	LR		
	comp=Z,195nm,24.0s,MS4.4						
SHL	Shillong	81.43	298	eP	P	03 54 39.0	+0.3
LSA	Lhasa	83.30	302	eP	P	03 54 49.6	+1.4
	comp=Z,12nm,0.6s,mb5.1						
MAW	Mawson	84.10	202	P	P	03 54 51.5	+0.1
	comp=Z,4.6nm,0.8s,mb4.6,baz=81,slow=3.3,SNR=6.5						
GUN	Gumba	87.23	299	eP	P	03 55 08.6	+0.7
	comp=Z,47nm,0.9s,mb5.7						
PKI	Pulchoki	87.55	299	eP	P	03 55 09.8	+0.4
	comp=Z,76nm,1.0s,mb5.9						
KKN	Kakani	87.72	299	eP	P	03 55 10.7	+0.5
	comp=Z,45nm,0.8s,mb5.7						
DMN	Daman	87.82	299	eP	P	03 55 11.4	+0.7
	comp=Z,110nm,0.8s,mb6.1						
GKN	Gorkha	88.32	299	eP	P	03 55 13.1	0.0
	comp=Z,76nm,0.8s,mb6.0						
KOLN	Koldanda	89.15	298	eP	P	03 55 16.6	-0.4
WMQ	Urumqi	90.12	315	eP	P	03 55 21.9	+0.7
HLID	Hailey	90.51	46	eP	P	03 55 22.4	-0.6
	comp=Z,0.9nm,0.6s,mb4.3						
MVU	Marysvale	90.79	51	eP	P	03 55 23.5	-0.9
	comp=Z,0.9nm,0.8s,mb4.2						
MSU	Marysvale	90.82	51	eP	P	03 55 24.3	-0.3
MSU				epP	pP	03 55 39.0	-0.6
SYO	Syowa Base	91.08	197	⇓P	P	03 55 22.8	-2.3
HYB	Hyderabad	91.41	287	eP	P	03 55 28.0	+0.2
HYB	Hyderabad	91.41	287	i P	P	03 55 28.0	+0.2
PDAR	Pinedale Array	93.76	47	P	P	03 55 38.6	+0.6
	comp=Z,0.2nm,0.5s,baz=34,slow=3.3,SNR=2.6						
PDAR				LR	LR	04 28 57.1	
	comp=Z,76nm,20.2s,baz=241,slow=30						
MKAR	Makanchi Array	94.55	317	P	P	03 55 41.4	-0.1
	comp=Z,9.6nm,0.6s,mb5.4,baz=93,slow=6.5,SNR=64						
MKAR				LR	LR	04 33 39.9	
	comp=Z,65nm,21.3s,MS4.1,baz=193,slow=32						
ZAL	Zalesovo	94.61	324	P	P	03 55 41.5	-0.1
	comp=Z,1.5nm,0.7s,mb4.5,baz=18,slow=8.1,SNR=7.2						
ZAL	Zalesovo	94.61	324	P	P	03 55 41.5	-0.1
YKA	Yellowknife Ar	95.52	27	P	P	03 55 45.3	-0.1
	comp=Z,0.6nm,0.6s,mb4.2,baz=254,slow=4.7,SNR=4.1						
PHWY	Pilot Hill	96.46	49	eP	P	03 55 50.9	+0.6
PHWY				epP	pP	03 56 05.0	-0.3
ARCES	ARCESS Array B	117.34	346	PKP	PKPdf	04 01 04.2	-0.5
	comp=Z,1.2nm,0.6s,baz=100,slow=2.2,SNR=11						
FINES	FINESS Array B	122.81	339	PKP	PKPdf	04 01 15.1	-0.3
	comp=Z,1.2nm,0.8s,baz=135,slow=2.7,SNR=4.4						
BOSA	Boshof	124.83	222	PKP	PKPdf	04 01 21.0	+0.7
	comp=Z,1.4nm,0.7s,baz=164,slow=4.0,SNR=3.3						
NB2	NORSAR Subarra	127.71	345	PKPdf	PKPdf	04 01 25.0	+0.1
	comp=Z,0.6nm,0.7s,baz=32,slow=1.8						
NOA	NORSAR Array B	127.71	345	PKP	PKPdf	04 01 24.9	0.0
	comp=Z,0.7nm,0.7s,baz=29,slow=1.9,SNR=3.4						
BRTR	Keskin Array B	129.97	312	PP	PP	04 03 42.1	-4.3
	comp=Z,0.9nm,0.8s,baz=104,slow=5.9,SNR=4.3						
GERES	GERESS Array B	136.75	334	PKP	PKPdf	04 01 43.0	+0.9
	comp=Z,0.8nm,0.7s,SNR=6.9						
LOR	Lormes	141.82	341	ePKIKP	PKPdf	04 01 51.7	+0.4
LOR				eR			
	comp=Z,66nm,20.0s						
SSF	Saint Saulge	142.12	341	ePKIKP	PKPdf	04 01 52.1	+0.3
	comp=Z,5.8nm,0.9s						
SMF	Signal de Mont	142.37	340	ePKIKP	PKPdf	04 01 50.8	-1.5
ORIF	Oris-en-Rattie	143.12	337	ePKIKP	PKPdf	04 01 50.8	-2.8
	comp=Z,8.8nm,0.9s						
ORIF				eR			
	comp=Z,112nm,22.2s						
SBF	Sospel	143.35	334	ePKIKP	PKPdf	04 01 51.5	-2.5
	comp=Z,24nm,0.8s						
FRF	La Foret Royal	143.93	335	ePKIKP	PKPdf	04 01 52.8	-2.2
	comp=Z,14nm,0.9s						
LMR	La Mourre	144.17	334	ePKIKP	PKPdf	04 01 53.9	-1.6
	comp=Z,18nm,1.0s						
CAF	Calviac	144.47	341	ePKIKP	PKPdf	04 01 55.5	-0.5
	comp=Z,10nm,1.0s						
LASF	Ste Croix	144.60	338	ePKIKP	PKPdf	04 01 55.7	-0.5
	comp=Z,14nm,0.8s						
LFF	La Frestale	144.88	342	ePKIKP	PKPdf	04 01 56.4	-0.3
ESDC	Sonseca Array	151.07	344	PKPbc	PKPdf	04 02 13.4	+6.5
	comp=Z,1.1nm,0.8s,baz=20,slow=3.9,SNR=5.5						
EVO	Evora	153.05	350	ePKIKP	PKPdf	04 02 08.4	-1.4
	comp=Z,42nm,1.6s						
DBIC	Dimbokro	169.82	240	PKPab	PKPab	04 03 44.4	-0.1
	comp=Z,7.7nm,0.7s,baz=101,slow=7.6,SNR=15						

*MOS **16** 03:45:18.8±0.5, 51.64N×16.22E, h10km, mb3.6/1, Error ellipse: s-maj=12.6km s-min=6.2km az=75.8*

*NEIC **16** 03:45:20.2±0.4, 51.58N×16.20E, h5km, ML3.3(SZGRF), ML3.2(VIE), Error ellipse: s-maj=4.8km s-min=4.6km az=61.0*

*IDC **16** 03:45:21.4±0.8, 51.45N×16.23E, mb1 3.3/7, mb1mx3.2/21, mbtmp3.2/7, ML3.0/7, Error ellipse: s-maj=14.6km s-min=7.7km az=109.0*

*CSEM **16** 03:45:21.6±0.2, 51.49N×16.12E, h1km, ML3.2/5, Error ellipse: s-maj=3.1km s-min=2.0km az=26.0*

*IPEC **16** 03:45:21.5±0.5, 51.52N×16.16E, h7km±2km, ML2.2/3, Error ellipse: s-maj=2.9km s-min=1.3km az=4.0*

*WAR **16** 03:45:22.3, 51.48N×16.08E, h1km, ML2.9, Mining Induced*

*PRU **16** 03:45:22.0, 51.48N×16.08E*

ISC 16 03:45:20.1±0.5**, 51.43N**±0.03×**16.08E**±0.03**, n56, σ1§24**/97**, 1C-4D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.60	167	⇓iPG	Pg	03 45 34.2	+2.0
KSP				⇓eSG	Sg	03 45 43.2	+3.0
KSP	Ksiaz	0.60	167	ePg	Pg	03 45 34.2	+2.0
KSP				eSg	Sg	03 45 42.8	+2.6
KSP	Ksiaz	0.60	167	⇓iPg	Pg	03 45 34.2	+2.0
KSP				eSg	Sg	03 45 42.7	+2.5
UPC	Upice	0.93	183	ePG	Pg	03 45 40.0	+1.4
DPC	Dobruska-Polom	1.09	172	ePG	Pg	03 45 42.8	+0.9
DPC				eSG	Sg	03 45 57.7	+1.2
	31nm,0.2s						
PVCC	Panska Ves	1.32	227	ePg	Pg	03 45 47.0	+0.6
PVCC				eSg	Sg	03 46 05.9	+1.9
BRG	Berggiesshubel	1.46	248	P	Pn	03 45 48.9	+1.1
BRG						03 46 09.5	
BRG	Berggiesshubel	1.46	248	Pn	Pn	03 45 48.9	+1.1
BRG				Pg	Pg	03 45 49.9	+0.6
BRG				Sg	Sg	03 46 09.5	+0.8
BRG	Berggiesshubel	1.46	248	Pg	Pg	03 45 49.9	+0.7
BRG				S	Sb	03 46 09.5	+2.6
PRU	Pruhonice	1.75	215	eP	Pn	03 45 52.7	+0.8
PRU				e		03 46 18.1	
PRU	Pruhonice	1.75	215	ePn	Pn	03 45 52.7	+0.8
PRU				ePg	Pg	03 45 54.5	-0.5
PRU				eSg	Sg	03 46 18.1	-0.2
PRU	Pruhonice	1.75	215	Pn	Pn	03 45 52.7	+0.8
PRU	Pruhonice	1.75	215	Pg	Pg	03 45 54.5	-0.5
PRU				Sg	Sg	03 46 18.1	-0.2
RUE	Ruedersdorf	1.77	307	eP	Pn	03 45 51.2	-1.0
MORC	Moravsky Berou	1.90	150	eP	Pn	03 45 54.5	+0.4
MORC	Moravsky Berou	1.90	150	ePn	Pn	03 45 54.8	+0.7
MORC				eSg	Sg	03 46 22.2	-1.2
	16nm,0.2s						
CLL	Collm	1.94	267	i P	Pn	03 45 54.4	-0.2
CLL				e		03 46 23.0	
CLL	Collm	1.94	267	i Pn	Pn	03 45 54.4	-0.2
CLL				ePg	Pg	03 45 57.0	-1.7
CLL				eSg	Sg	03 46 23.0	-1.5
CLL	Collm	1.94	267	i PN	Pn	03 45 54.4	-0.2
CLL				ePG	Pg	03 45 57.0	-1.7
CLL				e		03 46 02.0	
CLL				eSG	Sg	03 46 23.0	-1.5
CLL	Collm	1.94	267	ePg	Pg	03 45 57.0	-1.7
CLL				eS	Sg	03 46 23.0	-1.5
OKC	Ostrava-Krasne	2.07	140	ePG	Pg	03 46 00.7	-0.7
OKC				eSG	Sg	03 46 27.0	-1.9
OKC	Ostrava-Krasne	2.07	140	Pg	Pg	03 46 00.7	-0.7
OKC				eSg	Sg	03 46 27.5	-1.4
VRAC	Vranov	2.15	171	Pn	Pn	03 45 59.2	+1.5
	1.7nm,0.3s,baz=325,slow=14,SNR=12						
VRAC				Lg		03 46 30.6	
	3.4nm,0.3s,baz=78,slow=20,SNR=9.1						
VRAC	Vranov	2.15	171	ePn	Pn	03 45 58.9	+1.2
VRAC	Vranov	2.15	171	P	Pn	03 45 59.2	+1.5
VRAC				S	Sn	03 46 30.6	+5.2
VRAC				eSg	Sg	03 46 31.6	-0.1
	7.7nm,0.2s						
KRUC	Moravsky	2.38	175	ePn	Pn	03 46 02.8	+1.8
KRUC				eSg	Sg	03 46 38.9	-0.5
	12nm,0.3s						
NKC	Novy Kostel	2.60	244	ePn	Pn	03 46 05.2	+1.1
NKC				eSg	Sg	03 46 46.6	0.0
OJC	Ojcow	2.65	116	ePn	Pn	03 46 03.5	-1.3
OJC				ePg	Pg	03 46 13.0	0.0
OJC				eSg	Sg	03 46 47.7	-0.6
KHC	Kasperske Hory	2.81	216	eP	Pn	03 46 07.4	+0.3
KHC				e		03 46 52.4	
KHC	Kasperske Hory	2.81	216	ePn	Pn	03 46 07.4	+0.3
KHC				ePg	Pg	03 46 13.6	-2.6
KHC				eSg	Sg	03 46 52.4	-1.2
KHC	Kasperske Hory	2.81	216	ePg	Pg	03 46 13.6	-2.6
KHC				eSg	Sg	03 46 52.4	-1.2
MOX	Moxa	2.93	256	ePn	Pn	03 46 09.0	+0.2
MOX				i Pg	Pg	03 46 16.7	-1.9
MOX				i Sg	Sg	03 46 56.6	-1.0
MOX	Moxa	2.93	256	i P	Pn	03 46 09.0	+0.2
MOX				Pg	Pg	03 46 17.0	-1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MOX				Sg	Sg	03 46 57.0	-0.6
MOX	Moxa	2.93	256	i Pg	Pg	03 46 16.7	-1.9
GEC2	GERESS Array S	3.01	212	ePn	Pn	03 46 11.6	+1.7
GEC2				eSg	Sg	03 46 58.5	-1.8
GERES	GERESS Array B	3.01	212	P	Pn	03 46 11.1	+1.2
GERES						03 46 56.2	
GERES	GERESS Array B	3.01	212	Pn	Pn	03 46 11.1	+1.2
	1.3nm,0.3s,baz=28,slow=12,SNR=42						
GERES				Pg	Pg	03 46 17.4	-2.8
	3.0nm,0.3s,baz=28,slow=21,SNR=37						
GERES				Lg		03 46 56.2	
	4.0nm,0.3s,baz=28,slow=28,SNR=13						
GERES	GERESS Array B	3.01	212	Pg	Pg	03 46 17.4	-2.8
SMOL	Smolenice	3.05	163	ePG	Pg	03 46 20.7	-0.2
SMOL				eSG	Sg	03 47 01.2	-0.4
WET	Wettzell	3.08	223	ePn	Pn	03 46 11.6	+0.7
WET				eSg	Sg	03 47 01.0	-1.6
ZST	Bratislava	3.31	168	eSG	Sg	03 47 10.7	+0.5
GRA1	Grafenberg Arr	3.56	243	ePn	Pn	03 46 18.3	+0.6
GRF	Grafenberg Arr	3.56	243	ePn	Pn	03 46 18.3	+0.6
MOA	Molln	3.78	199	⇑iPN	Pn	03 46 21.6	+0.8
MOA				i SG	Sg	03 47 24.1	-1.7
	9.1nm,0.4s						
STHS	Stebnicka Huta	3.87	119	eP	Pn	03 46 22.0	-0.1
STHS				ePg	Pg	03 46 36.3	-1.0
STHS				eSg	Sg	03 47 30.1	+1.3
STHS	Stebnicka Huta	3.87	119	e	Pn	03 46 22.0	-0.1
STHS	Stebnicka Huta	3.87	119	ePG	Pg	03 46 36.3	-1.0
STHS				eSG	Sg	03 47 30.1	+1.3
ARSA	Arzberg	4.20	185	⇓iPN	Pn	03 46 28.5	+1.6
ARSA				i SG	Sg	03 47 38.7	-1.3
	9.8nm,0.5s						
CRVS	Cervenica-Dubn	4.29	124	ePG	Pg	03 46 44.9	-0.7
KWP	Kalwaria	4.59	111	P	Pn	03 46 29.6	-2.8
DAVOX	Davos	6.18	224	Pn	Pn	03 46 56.0	+1.1
	0.3nm,0.3s,baz=39,slow=13,SNR=3.5						
AKASG	Malin Array Be	8.31	90	Pn	P	03 47 16.1	-8.6
	0.8nm,0.3s,baz=280,slow=11,SNR=5.8						
HFS	Hagfors	8.82	352	Pn	P	03 47 26.9	-5.0
	0.0nm,0.3s,baz=166,slow=12,SNR=8.3						
FINES	FINESS Array B	11.44	25	Pn	P	03 48 02.3	-5.3
	0.1nm,0.3s,baz=214,slow=12,SNR=6.6						
ARCES	ARCESS Array B	18.70	10	Pn	P	03 49 35.5	-6.2
	0.2nm,0.3s,baz=190,slow=13,SNR=12						
ARCES	ARCESS Array B	18.70	10	Pn	P	03 49 35.5	-6.2

*BJI **16** 04:00:49.8, 18.60N×121.23E, h48km, mb4.7, Ms3.8, Msz3.6*

*IDC **16** 04:00:49.5±0.7, 19.13N×121.30E, mb3.9/12, mb1 4.1/13, mb1mx4.0/20, mbtmp3.9/13, ML3.6/1, Error ellipse: s-maj=40.1km s-min=16.4km az=73.0*

*MAN **16** 04:00:51.8, 19.21N×121.13E, h1km, mb4.6, ML3.5, MS3.5*

*NEIC **16** 04:00:55.4±0.5, 19.17N×121.35E, h45km, mb4.3/2, Error ellipse: s-maj=21.2km s-min=9.8km az=81.0*

ISC 16 04:00:50.4±2.2**, 19.31N**±0.03×**120.89E**±0.07**, h4**km±15km**, n34, σ1s13**/41**, mb3.8**/15**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	1.48	167	eP	Pn	04 01 17.0	-0.9
BBP	Basco	1.51	42	eP	Pn	04 01 18.3	-0.1
BBP				eS	Sb	04 01 40.2	+2.1
SGCP	Mt. Cagua	1.53	134	eP	Pn	04 01 16.5	-2.0
ABRA	Dolores	1.66	186	eP	Pn	04 01 21.4	+0.9
CAUP	Cauayan	2.52	159	eP	Pn	04 01 34.4	+1.7
BCPH	Baguio City Da	2.93	186	⇑eP	Pn	04 01 38.0	-0.6
BCPH				eS	Sn	04 02 19.4	+4.7
BOLP	Bolinao	3.06	198	eP	Pn	04 01 39.1	-1.3
BOLP				eS	Sn	04 02 23.1	+5.1
BALP	Baler	3.61	169	eP	Pn	04 01 48.6	+0.3
BALP				eS	Sn	04 02 32.6	+0.7
SCZP	Santa Cruz	3.64	195	eP	Pn	04 01 50.5	+1.8
SCZP				eS	Sn	04 02 40.4	+7.8
NACB	Ninganchiao	4.88	8	eP	Pn	04 02 06.1	-0.3
YHNB	Yeheng	5.35	5	eP	Pn	04 02 12.8	-0.2
LUBP	Lubang	5.58	186	eP	Pn	04 02 16.7	+0.6
LUBP				eS	Sn	04 03 28.6	+7.0
SJMP	San Jose	6.81	178	eP	Pn	04 02 29.6	-4.0
QIZ	Qiongzhong	10.44	270	eP	P	04 03 23.6	-0.5
QIZ				eS	S	04 05 17.6	-5.1
QIZ				LR	LR		
	comp=N,327nm,17.9s						
QIZ				LR	LR		
	comp=Z,301nm,12.8s						
JNU	Nakatsue	16.40	31	Pn	P	04 04 42.5	-0.6
	comp=Z,0.2nm,0.3s,baz=197,slow=21,SNR=4.9						
MJAR	Matsushiro Arr	22.93	38	P	P	04 05 58.2	+1.6
	comp=Z,0.8nm,0.3s,mb3.6,baz=184,slow=33,SNR=3.2						
SONM	Songino Array	30.80	341	P	P	04 07 09.4	+0.1
	comp=Z,0.9nm,0.8s,mb3.7,baz=161,slow=9.0,SNR=6.6						
FITZ	Fitzroy Crossi	37.47	173	P	P	04 08 02.2	-4.8
	comp=Z,4.3nm,1.0s,mb4.2,baz=354,slow=7.9,SNR=3.4						
FITZ				PcP	PcP	04 10 23.8	-2.2
	comp=Z,3.7nm,0.7s,baz=13,slow=4.6,SNR=4.4						
WRAB	Tennant Creek	41.17	161	P	P	04 08 32.2	-5.5
WRA	Warramunga Arr	41.18	161	P	P	04 08 32.5	-5.2
	comp=Z,1.1nm,0.6s,mb3.7,baz=342,slow=9.2,SNR=12						
WRA				PcP	PcP	04 10 35.2	-2.5
	comp=Z,1.8nm,0.6s,baz=342,slow=3.4,SNR=12						
MKAR	Makanchi Array	41.76	320	P	P	04 08 43.4	+1.1
	comp=Z,0.7nm,0.5s,mb3.5,baz=116,slow=9.0,SNR=5.9						
MKAR	Makanchi Array	41.76	320	P	P	04 08 43.4	+1.1
ZAL	Zalesovo	44.25	330	P	P	04 09 04.3	+1.9
	comp=Z,0.9nm,0.4s,mb3.9,baz=348,slow=7.5,SNR=4.5						
KURK	Kurchatov	45.73	323	eP	P	04 09 14.8	+0.4
	comp=Z,4.2nm,0.9s,mb4.4						
BVAR	Borovoye Array	51.33	323	P	P	04 09 58.7	+0.9
	comp=Z,0.5nm,0.6s,mb3.6,baz=79,slow=7.3,SNR=2.6						
ZRNK	Zerenda	52.09	323	eP	P	04 10 02.9	-0.7
	comp=Z,1.4nm,0.8s,mb3.9						
ZRNK				e		04 10 11.1	
ILAR	Eielson Array	73.66	27	P	P	04 12 23.9	-2.7
	comp=Z,0.3nm,0.5s,mb3.4,baz=262,slow=4.9,SNR=8.6						
ARCES	ARCESS Array B	73.95	339	P	P	04 12 27.5	-0.7
	comp=Z,1.8nm,0.8s,mb4.0,baz=82,slow=6.4,SNR=4.7						
NB2	NORSAR Subarra	82.39	332	P	P	04 13 13.4	-1.3
	comp=Z,1.1nm,0.8s,mb3.8,baz=65,slow=5.3						
NOA	NORSAR Array B	82.39	332	P	P	04 13 13.8	-0.9
	comp=Z,0.4nm,0.8s,mb3.4,baz=32,slow=5.3,SNR=2.7						
GERES	GERESS Array B	86.42	321	P	P	04 13 35.3	+0.1
	comp=Z,0.3nm,0.7s,mb3.6,baz=14,slow=5.5,SNR=3.8						
YKA	Yellowknife Ar	87.55	23	P	P	04 13 39.7	-0.7
	comp=Z,1.1nm,0.6s,mb4.3,baz=311,slow=4.6,SNR=7.4						
YKA	Yellowknife Ar	87.55	23	P	P	04 13 39.7	-0.7
VNDA	Vanda	99.54	172	P	P	04 14 34.1	-1.3
	comp=Z,0.6nm,0.9s,mb4.0,baz=313,slow=6.2,SNR=3.3						

MAN 16 04:34:49.4, 16.11N×120.00E, h42km, mb3.7, ML2.4, MS1.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	0.28	343	eP	P	04 34 59.5	+1.9
BOLP				eS	S	04 35 05.6	+2.3
SCZP	Santa Cruz	0.35	194	eP	P	04 35 00.7	+2.4
SCZP				eS	S	04 35 07.8	+3.2
BCPH	Baguio City Da	0.62	65	⇑iP	P	04 35 04.2	+2.4
BCPH				i S	S	04 35 14.5	+3.7
BALP	Baler	1.56	103	eP	P	04 35 18.9	+3.7
BALP				eS	S	04 35 39.7	+5.3
ABRA	Dolores	1.67	24	eP	P	04 35 19.0	+2.3
ABRA				eS	S	04 35 40.0	+2.9
CAUP	Cauayan	1.94	65	eP	P	04 35 19.7	-0.8
LUBP	Lubang	2.38	174	eP	P	04 35 26.1	-0.6

*BJI **16** 04:45:34.8, 11.80S×166.50E, h34km, mB5.1, mb4.9, Ms4.9, Msz4.5*

*NEIC **16** 04:45:35.9±0.8, 11.75S×166.49E, mb4.8/7, Error ellipse: s-maj=17.4km s-min=12.3km az=65.0*

*IDC **16** 04:45:37.1±3.6, 11.84S×166.44E, h41km±30km, mb4.2/10, mb1 4.3/12, mb1mx4.2/17, mbtmp4.4/12, ML4.8/2, MS4.3/17, Ms1 4.3/17, ms1mx4.2/24, Error ellipse: s-maj=25.6km s-min=16.3km az=61.0*

ISC 16 04:45:34.9±0.6**, 11.95S**±0.06×**166.40E**±0.09**, h33**km**, h33**km±1.2km**:pP-P, n47, σ1s14**/38**, mb4.6**/19**, MS4.3**/17**, 1C, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.82	291	P	P	04 47 16.2	+1.1
	105nm,0.3s,baz=130,slow=8.6,SNR=11						
HNR				S	S	04 48 28.7	-3.8
	22nm,0.3s,baz=359,slow=18,SNR=3.0						
DZM	Mont Dzumac	10.06	180	eP	P	04 48 01.9	+1.7
DZM				eS	S	04 49 51.4	-1.7
DZM	Mont Dzumac	10.06	180	P	P	04 48 02.4	+2.2
	1.5nm,0.3s,baz=164,slow=14,SNR=18						
DZM				S	S	04 49 50.2	-2.9
	0.7nm,0.3s,baz=354,slow=20,SNR=2.5						
DZM				LR	LR	04 51 34.4	
	comp=Z,2µm,21.6s,baz=25,slow=35						
DZM	Mont Dzumac	10.06	180	eP	P	04 48 01.9	+1.7
DZM				eS	S	04 49 51.4	-1.7
NOUC	Port Laguerre	10.09	181	eP	P	04 48 02.8	+2.1
NOUC	Port Laguerre	10.09	181	eP	P	04 48 02.8	+2.1
PMG	Port Moresby	19.08	276	LR	LR	04 56 23.9	
	comp=Z,2µm,21.4s,baz=306,slow=34						
CTA	Charters Tower	20.97	245	P	P	04 50 19.7	+2.0
	5.2nm,1.0s,baz=84,slow=10,SNR=3.3						
CTA				LR	LR	04 57 26.5	
	comp=Z,1µm,20.6s,MS4.2,baz=49,slow=34						
CTA	Charters Tower	20.97	245	P	P	04 50 19.7	+2.0
CTA				LR	LR	04 57 26.5	
CTAO	Charters Tower	20.97	245	eP	P	04 50 16.2	-1.5
	29nm,1.1s						
AFI	Afiamalu	21.36	98	LR	LR	04 57 05.2	
	comp=Z,716nm,20.8s,MS4.0,baz=258,slow=32						
RAO	Raoul Island	22.57	142	LR	LR	04 58 24.6	
	comp=Z,378nm,18.6s,MS3.9,baz=319,slow=34						
URZ	Urewera	27.89	162	P	P	04 51 23.0	-0.8
	3.5nm,0.4s,mb4.3,baz=349,slow=23,SNR=2.3						
URZ				LR	LR	05 00 39.9	
	comp=Z,840nm,21.5s,MS4.3,baz=316,slow=32						
STKA	Stephens Creek	30.25	225	P	P	04 51 44.8	-0.2
	2.7nm,0.6s,mb4.2,baz=61,slow=8.5,SNR=5.2						
STKA				LR	LR	05 02 50.8	
	comp=Z,1µm,20.3s,MS4.5,baz=27,slow=34						
WB2	Warramunga Arr	31.78	251	eP	P	04 51 57.8	-0.8
WRAB	Tennant Creek	31.78	251	eP	P	04 51 56.6	-2.0
	8.6nm,1.0s,mb4.5						
WRA	Warramunga Arr	31.79	251	P	P	04 51 57.6	-1.2
	2.5nm,0.6s,mb4.3,baz=85,slow=9.3,SNR=34						
RPZ	Rata Peaks	31.90	174	LR	LR	05 00 56.9	
	comp=Z,115nm,21.7s,MS3.5,baz=344,slow=29						
FITZ	Fitzroy Crossi	39.78	256	eP	P	04 53 07.8	+1.3
	12nm,1.0s,mb4.6						
FITZ	Fitzroy Crossi	39.78	256	P	P	04 53 06.8	+0.3
	5.7nm,0.5s,mb4.6,baz=72,slow=4.2,SNR=14						
PPT	Papeete	42.86	103	eS	S	04 59 53.6	-0.3
	218nm,27.5s						
PPT				eLQ		05 03 45.6	
	969nm,31.0s						
PPT				eLR	LR	05 04 53.4	
	1µm,29.0s,baz=271						
PPT	Papeete	42.86	103	LR	LR	05 06 50.1	
	comp=Z,478nm,21.2s,MS4.4,baz=289,slow=30						
TBI	Tubuai	43.40	111	eS	Sx	04 59 40.4	
	146nm,25.2s						
TBI				eLQ		05 03 50.0	
	643nm,32.0s						
TBI				eLR	LR	05 05 59.2	
	1µm,29.0s,baz=280						
CBIJ	Chichi jima	45.38	329	LR	LR	05 11 08.1	
	comp=Z,311nm,21.1s,MS4.2,baz=124,slow=34						
KLBR	Kellerberrin	48.78	238	eP	P	04 54 18.6	-0.2
	83nm,1.7s,mb5.5						
NWAO	Narrogin (SRO)	49.50	237	P	P	04 54 25.6	+1.3
	4.8nm,0.5s,mb4.8,baz=91,slow=6.2,SNR=7.4						
NWAO				LR	LR	05 15 48.0	
	comp=Z,931nm,18.9s,MS4.8,baz=244,slow=36						
JHJ	Hachijo jima 2	51.52	331	LR	LR	05 14 45.5	
	comp=Z,166nm,18.6s,MS4.1,baz=147,slow=34						
TAOE	Nuku Hiva Isla	52.60	92	eLQ		05 07 35.2	
	6µm,36.6s						
TAOE				eLR	LR	05 09 34.3	
	3µm,29.1s						
JNU	Nakatsue	56.19	324	LR	LR	05 15 00.7	
	comp=Z,231nm,21.6s,MS4.2,baz=127,slow=31						
RKT	Rikitea	56.67	110	eP	P	04 55 04.5	-13
RKT				eS	S	05 03 22.2	+16
	106nm,27.8s						
RKT				eSS	SS	05 07 13.7	+19
	79nm,36.5s						
RKT				eLR	LR	05 11 50.2	
	890nm,27.2s,baz=329						
ASAJ	Asahikawa	59.86	340	LR	LR	05 19 47.9	
	comp=Z,269nm,20.1s,MS4.4,baz=152,slow=34						
VNDA	Vanda	65.60	181	P	P	04 56 17.8	+0.5
	0.6nm,0.5s,mb3.9,baz=347,slow=8.2,SNR=5.7						
VNDA				LR	LR	05 21 01.3	
	comp=Z,182nm,18.3s,MS4.3,baz=68,slow=32						
CASY	Casey	65.78	202	eP	P	04 56 18.1	-0.4
	13nm,1.3s,mb4.8						
CASY				epP	pP	04 56 28.0	-0.9
SBA	Scott Base	65.90	180	eP	P	04 56 19.1	0.0
	9.9nm,1.1s,mb4.8						
SBA				epP	pP	04 56 29.7	+0.2
ENH	Enshi	68.97	309	eP	P	04 56 36.1	-3.0
	6.3nm,0.7s,mb4.7						
ENH				e	pP	04 56 47.2	-2.3
GYA	Guiyang	69.46	304	P	P	04 56 42.8	+0.6
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
XAN	Xi'an	71.20	312	P	P	04 56 51.9	-0.8
XAN				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
KMI	Kunming	72.14	301	P	P	04 56 59.4	+1.1
KMI				AMB	AMB		
	comp=Z,21nm,1.8s,mb4.8						
KMI				LR	LR		
	comp=N,360nm,18.8s,MS4.7						
KMI				LR	LR		
	comp=E,242nm,21.4s,MS4.7						
KMI				LR	LR		
	comp=Z,253nm,16.9s,MS4.6						
CD2	Chengdu	73.66	307	eP	P	04 57 07.3	0.0
LZH	Lanzhou	75.84	312	⇑P	P	04 57 20.5	+0.7
LZH				AP	pP	04 57 30.0	-0.2
LZH				XP	sP	04 57 34.3	+0.4
LZH				AMB	AMB		
	comp=Z,31nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,108nm,4.8s						
LZH				LR	LR		
	comp=N,281nm,14.8s						
LZH				LR	LR		
	comp=Z,319nm,17.9s,MS4.7						
QSPA	South Pole Qui	78.06	180	eP	pP	04 57 41.8	0.0
	comp=Z,23nm,1.1s						
SONM	Songino Array	79.77	324	P	P	04 57 41.8	+0.5
	comp=Z,0.9nm,0.6s,mb3.9,baz=131,slow=4.8,SNR=7.1						
GTA	Gaotai	80.15	314	eP	P	04 57 43.8	+0.3
GTA				AP	pP	04 57 54.8	+0.8
GTA				XP	sP	04 57 59.8	+2.2
GTA				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.3						
ILAR	Eielson Array	84.16	18	P	P	04 58 02.8	-0.9
	comp=Z,0.7nm,0.5s,mb4.1,baz=258,slow=5.5,SNR=13						
ILAR				LR	LR	05 35 39.3	
	comp=Z,74nm,19.2s,MS4.1,baz=354,slow=36						
PDAR	Pinedale Array	93.69	47	LR	LR	05 35 18.2	
	comp=Z,105nm,18.1s,MS4.3,baz=86,slow=32						
MKAR	Makanchi Array	94.62	317	P	P	04 58 53.1	-0.5
	comp=Z,2.7nm,0.5s,mb4.9,baz=89,slow=6.3,SNR=31						
ARCES	ARCESS Array B	117.37	346	PKP	PKPdf	05 04 15.7	-0.9
	comp=Z,1.0nm,0.6s,baz=63,slow=2.0,SNR=7.7						

*STR **16** 04:47:14.1±0.3, 43.46N×0.54W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **16** 04:47:16.2±0.4, 43.37N×0.58W, h7km±8km, mbLg1.6/14, Error ellipse: s-maj=3.5km s-min=2.2km az=9.0, PRXIMO*

*LDG **16** 04:47:16.1±0.1, 43.35N×0.62W, h2km, Md2.5/2, Ml2.3/5, Error ellipse: s-maj=2.5km s-min=1.6km az=148.0*

*CSEM **16** 04:47:16.2±0.2, 43.36N×0.61W, ML2.4/6, Error ellipse: s-maj=3.2km s-min=1.8km az=16.0*

ISC 16 04:47:14.3±0.4**, 43.42N**±0.02×**0.56W**±0.03**, h6**km±7km**, n29, σ0s79**/41**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDF	Ordiarp	0.34	233	Pg	Pg	04 47 21.5	+0.3
ORDF				Sg	Sg	04 47 27.3	+1.4
ATE	Arette	0.35	197	P	Pg	04 47 21.2	-0.1
ATE				S	Sg	04 47 26.5	+0.4
REYF	Montagne du Re	0.37	160	Pg	Pg	04 47 21.7	-0.1
REYF				Sg	Sg	04 47 27.7	+0.8
LARF	Larrau	0.49	219	Pg	Pg	04 47 24.0	-0.2
LARF				Sg	Sg	04 47 31.4	+0.6
ETSF	Etsaut	0.52	180	ePg	Pg	04 47 24.2	-0.6
ETSF				eSg	Sg	04 47 31.5	-0.3
	13nm,0.3s						
OSSF	Osses	0.54	252	Pg	Pg	04 47 24.7	-0.4
SJPF	Ste Jean	0.57	238	ePg	Pg	04 47 25.6	-0.2
SJPF				eSg	Sg	04 47 32.9	-0.6
	24nm,0.2s						
LABF	Labassere	0.60	129	P	Pg	04 47 26.6	+0.3
FDAF	Les Forges d'A	0.60	180	P	Pg	04 47 26.0	-0.4
FDAF				S	Sg	04 47 34.7	+0.3
VIEF	Viey	0.69	141	Pg	Pg	04 47 27.7	-0.4
EALK	Alkurruntz	0.72	254	Pg	Pg	04 47 28.6	-0.1
	3.2nm,0.2s,SNR=25						
EALK				Lg		04 47 38.6	
	23nm,0.3s,SNR=12						
EPF	Esparros	0.77	120	ePg	Pg	04 47 30.4	+0.7
EPF				eSg	Sg	04 47 40.9	+1.0
	14nm,0.2s						
IPRE	Itoiz	0.85	224	Lg		04 47 43.8	
	10nm,0.3s,SNR=7.9						
EBIE	Bielsa	0.90	145	Pg	Pg	04 47 31.5	-0.8
	0.8nm,0.3s,SNR=7.8						
EBIE				Lg		04 47 44.5	
	3.4nm,0.2s,SNR=7.5						
EBIE	Bielsa	0.90	145	Pg	Pg	04 47 31.5	-0.8
	0.8nm,0.3s,SNR=7.8						
EARA	Aranguren	0.99	229	Pg	Pg	04 47 34.8	+0.8
	2.3nm,0.3s,SNR=7.9						
EARA				Lg		04 47 47.3	
	38nm,0.2s,SNR=7.9						
MLS	Moulis	1.30	110	S	Sb	04 47 55.6	+0.2
EGRA	Graus	1.39	152	Pg	Pg	04 47 42.9	+0.9
	0.6nm,0.2s,SNR=5.8						
EGRA				Lg		04 48 03.8	
	5.0nm,0.4s,SNR=5.7						
ECRI	Cripan	1.64	241	Pg	Pg	04 47 45.5	-1.6
	2.1nm,0.2s,SNR=7.9						
ECRI				Lg		04 48 08.6	
	5.7nm,0.3s,SNR=7.9						
ESAC	San Caprasio	1.70	178	Pg	Pg	04 47 46.9	-1.3
	6.9nm,0.3s,SNR=6.6						
ESAC				Lg		04 48 09.0	
	19nm,0.3s,SNR=7.9						
ESAC	San Caprasio	1.70	178	Pg	Pg	04 47 46.9	-1.4
	6.9nm,0.3s,SNR=6.6						
LFF	La Frestale	1.78	31	ePg	Pg	04 47 50.5	+0.6
LFF				eSg	Sg	04 48 15.3	+1.6
	9.3nm,0.3s						
MTLF	Montolieu	2.03	91	ePn	Pn	04 47 50.0	+0.6
MTLF				ePg	Pg	04 47 55.1	+0.3
MTLF				eSg	Sg	04 48 21.0	-0.9
	9.9nm,0.5s						
ELAN	Lanestosa	2.10	266	Pg	Pg	04 47 55.8	-0.5
	2.3nm,0.5s,SNR=7.9						
ELAN				Lg		04 48 22.3	
	1.8nm,0.3s,SNR=7.9						
ELAN	Lanestosa	2.10	266	Pg	Pg	04 47 55.8	-0.5
	2.3nm,0.5s,SNR=7.9						
EPOB	Poblet	2.40	149	Pn	Pn	04 47 53.7	-1.0
	0.3nm,0.2s,SNR=4.0						
EPOB				Lg		04 48 31.5	
	1.0nm,0.2s,SNR=4.0						
RJF	Les Rejaudoux	2.40	38	ePg	Pg	04 48 02.5	+0.2
RJF				eSg	Sg	04 48 34.1	-0.2
	4.1nm,0.4s						
CAF	Calviac	2.42	51	eSg	Sg	04 48 34.2	-0.6
	2.5nm,0.2s						
LASF	Ste Croix	3.27	77	ePn	Pn	04 48 08.3	+1.2
LASF				eSg	Sg	04 49 01.0	-2.2
	1.4nm,0.3s						

NEIC 16 04:58:31.7, 34.84N×116.32W, h3km, ML3.8(PAS)**, After PAS., Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDFC	Landfair	1.02	76	eP	Pb	04 58 49.8	-1.9
LDFC				eS	Sb	04 59 03.1	-2.3
PFO	Pinyon Flat Ob	1.24	185	eP	Pb	04 58 53.9	-1.6
NEN	Nelson	1.45	56	eP	Pn	04 58 56.8	-2.2
MWC	Mount Wilson	1.56	247	eP	Pn	04 58 59.3	-1.3
DAC	Darwin (Calif)	1.77	324	eP	Pn	04 59 01.4	-2.1
BAR	Barrett	2.18	188	ePn	Pn	04 59 07.1	-2.3
MTUM	Tungsten Hills	3.09	325	ePn	Pn	04 59 20.9	-1.6
TPH	Tonopah	3.31	348	ePn	Pn	04 59 24.0	-1.5
OMM	Old Mammoth Mi	3.51	323	ePn	Pn	04 59 26.6	-1.9
TRCR	Troy Canyon	3.55	9	ePn	Pn	04 59 27.1	-1.8
ARUT	Antelope Range	3.75	38	ePn	Pn	04 59 29.9	-1.9
LRV	Little Rabbit	4.14	294	ePn	Pn	04 59 34.9	-2.4
CMB	Columbia Colle	4.57	315	ePn	Pn	04 59 41.8	-1.6
SAO	San Andreas Ge	4.59	296	ePn	Pn	04 59 40.3	-3.4
MVU	Marysvale	4.92	41	ePn	Pn	04 59 47.1	-1.4
MSU	Marysvale	4.95	41	ePn	Pn	04 59 47.5	-1.4
WCN	Washoe City	5.23	329	Pn	Pn	04 59 52.9	+0.1
TUC	Tucson	5.27	117	ePn	Pn	04 59 48.6	-4.7
ELK	Elko	5.95	8	ePn	Pn	05 00 01.1	-1.8
BEKR	Beckwourth	5.96	329	Pn	Pn	05 00 01.4	-1.7
TMUT	Trail Mountain	6.04	41	Pn	Pn	05 00 01.6	-2.5
NLU	North Lily Min	6.12	32	Pn	Pn	05 00 04.5	-0.9
SRU	San Rafael	6.30	46	Pn	Pn	05 00 05.7	-2.1
PV10	Paradox Valley	6.83	57	ePn	Pn	05 00 13.1	-2.3
DAU	Daniels Canyon	6.86	34	Pn	Pn	05 00 13.0	-2.7
CTU	Camp Tracy	6.87	30	Pn	Pn	05 00 14.9	-1.0
JLU	Jordanelle	6.92	32	Pn	Pn	05 00 16.0	-0.6
PV01	Paradox Valley	7.05	60	ePn	Pn	05 00 15.8	-2.7
SMCO	Snowmass	8.63	57	ePn	P	05 00 37.2	-3.4
MNTX	Cornudas Mount	9.68	106	ePn	P	05 00 50.8	-4.2

*MOS **16** 05:03:37.7±1.1, 1.57N×66.78E, h10km, mb4.8/6, MS4.0/5, Error ellipse: s-maj=14.7km s-min=8.6km az=83.9*

*IDC **16** 05:03:37.9±0.6, 1.57N×66.83E, mb4.4/14, mb1 4.5/14, mb1mx4.3/22, mbtmp4.4/14, MS4.1/10, Ms1 4.1/10, ms1mx3.9/17, Error ellipse: s-maj=19.7km s-min=16.0km az=114.0*

*NEIC **16** 05:03:39.8±0.3, 1.60N×66.71E, h10km, mb4.8/22, Error ellipse: s-maj=9.7km s-min=7.3km az=126.0*

*BJI **16** 05:03:39.7, 1.60N×66.70E, h10km, mB5.1, mb4.6, Ms4.7, Msz4.3*

ISC 16 05:03:38.6±2.8**, 1.61N**±0.07×**66.73E**±0.06**, h15**km±17km**, n96, σ0s96**/84**, mb4.5**/48**, MS4.1**/16**, 9C, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDRS	Chennai	17.57	49	e	P	05 07 49.0	+4.2
MDRS				e		05 12 09.0	
HYB	Hyderabad	19.54	36	eP	P	05 08 09.0	+0.3
HYB	Hyderabad	19.54	36	i P	P	05 08 09.0	+0.3
ATD	Arta Tunnel	25.66	294	LR	LR	05 17 05.3	
	comp=Z,140nm,18.8s,MS3.5,baz=180,slow=31						
KMBO	Kilima Mbogo	29.59	265	LR	LR	05 20 41.4	
	comp=Z,406nm,18.2s,MS4.1,baz=80,slow=34						
LSA	Lhasa	36.33	37	eP	P	05 10 46.6	+2.6
LSA	Lhasa	36.33	37	eP	P	05 10 46.5	+2.6
	10nm,0.8s,mb4.8						
AAK	Ala-Archa	41.43	9c	i P	P	05 11 28.0	+1.7
AAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.9						
AAK				MLR	MLR		
	comp=Z,300nm,22.0s,MS4.1						
LSZ	Lusaka	41.64	245	eP	P	05 11 28.5	+0.1
	comp=Z,12nm,1.1s,mb4.4						
KMI	Kunming	41.86	53	P	P	05 11 29.4	-0.7
KMI				PP	PP	05 13 13.3	+3.0
KMI				S	S	05 17 48.8	+1.5
KMI				XS		05 17 56.0	
KMI				SS	SS	05 20 51.1	+2.7
KMI				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.2						
KMI				AMB	AMB		
	comp=Z,57nm,3.7s						
KMI				LR	LR		
	comp=N,243nm,19.5s,MS4.3						
KMI				LR	LR		
	comp=E,279nm,19.5s,MS4.3						
KMI				LR	LR		
	comp=Z,369nm,19.5s,MS4.3						
GNI	Garni	43.24	335c	i P	P	05 11 44.4	+3.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GNI				pmax	pmax		
	comp=Z,53nm,2.3s						
GNI				MLR	MLR		
	comp=Z,100nm,19.0s						
MATP	**Matopo**	**43.38**	**238**	P	**P**	**05 11 43.2**	**+0.7**
	comp=Z,8.9nm,1.0s,mb4.5,baz=30,slow=8.5,SNR=11						
MALT	**Malatya**	**44.80**	**328**	*e*P	**P**	**05 11 56.6**	**+2.8**
	comp=Z,2.6nm,0.3s,mb4.5						
GYA	**Guiyang**	**45.62**	**54**	⇑*i*P	**P**	**05 12 00.9**	**+0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
WMQ	**Urumqi**	**45.98**	**21**	*e*P	**P**	**05 12 05.3**	**+2.2**
MKAR	**Makanchi Array**	**47.01**	**15**	*e*P	**P**	**05 12 11.0**	**-0.2**
MKAR	**Makanchi Array**	**47.01**	**15**	P	**P**	**05 12 11.0**	**-0.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=180,slow=8.5,SNR=7.5						
MKAR				LR	LR	05 33 12.6	
	comp=Z,229nm,20.7s,MS4.1,baz=274,slow=38						
KIV	**Kislovodsk**	**47.26**	**336**	⇑*i*P	**P**	**05 12 15.3**	**+2.0**
KIV				pmax	pmax		
	comp=Z,20nm,1.9s,mb4.7						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.8						
LBTB	**Lobatse**	**47.83**	**234**	P	**P**	**05 12 18.6**	**+0.6**
	comp=Z,11nm,1.0s,mb4.8,baz=76,slow=8.3,SNR=7.6						
LBTB	**Lobatse**	**47.83**	**234**	*e*P	**P**	**05 12 19.2**	**+1.2**
	comp=Z,19nm,1.2s,mb5.0						
GTA	**Gaotai**	**48.20**	**35**	*e*P	**P**	**05 12 20.5**	**-0.2**
GTA				AP	pP	05 12 26.3	+1.2
GTA				XP	sP	05 12 28.0	+1.1
GTA				PP	PP	05 14 12.4	-0.2
GTA				PPP	PPP	05 15 02.3	-1.4
GTA				S	**S**	**05 19 18.1**	**-0.2**
GTA				SS	SS	05 22 41.5	-1.2
GTA				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.4						
GTA				AMB	AMB		
	comp=Z,102nm,4.2s						
GTA				LR	LR		
	comp=N,294nm,17.1s,MS4.5						
GTA				LR	LR		
	comp=E,352nm,17.5s,MS4.5						
GTA				LR	LR		
	comp=Z,407nm,15.2s,MS4.5						
SOC	**Sochi**	**48.21**	**334**	*e*P	**P**	**05 12 31.8**	**+11**
SOC				*e*		05 14 12.4	
SOC				*e*S	**S**	**05 19 29.8**	**+11**
SOC				MLR	MLR		
	comp=Z,97nm,15.0s,MS3.9						
SOC				MLR	MLR		
	comp=N,126nm,17.0s,MS4.0						
SOC				MLR	MLR		
	comp=E,77nm,17.0s,MS4.0						
BRTR	**Keskin Array B**	**48.42**	**326**	P	**P**	**05 12 23.3**	**+1.0**
	comp=E,1.7nm,0.8s,mb4.1,baz=151,slow=13,SNR=7.5						
BRTR	**Keskin Array B**	**48.42**	**326**	P	**P**	**05 12 23.3**	**+0.9**
BOSA	**Boshof**	**49.82**	**230**	P	**P**	**05 12 33.2**	**-0.1**
	comp=E,10.0nm,0.9s,mb4.8,baz=75,slow=7.9,SNR=13						
BOSA				LR	LR	05 30 53.6	
	comp=E,486nm,20.0s,MS4.5,baz=54,slow=33						
BOSA	**Boshof**	**49.82**	**230**	*e*P	**P**	**05 12 32.9**	**-0.4**
	comp=E,17nm,1.1s,mb5.0						
KURK	**Kurchatov**	**49.95**	**10**	*e*P	**P**	**05 12 34.2**	**+0.2**
KURK	**Kurchatov**	**49.95**	**10**	*e*P	**P**	**05 12 34.3**	**+0.3**
	comp=E,1.9nm,0.7s,mb4.2						
XAN	**Xi'an**	**50.91**	**46**	P	**P**	**05 12 41.1**	**-0.4**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
ZRNK	**Zerenda**	**51.20**	**2**	*e*P	**P**	**05 12 43.3**	**-0.2**
	comp=Z,142nm,1.2s,mb5.8						
BVAR	**Borovoye Array**	**51.33**	**3**	*e*P	**P**	**05 12 44.2**	**-0.2**
BVAR	**Borovoye Array**	**51.33**	**3**	P	**P**	**05 12 44.2**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=166,slow=6.1,SNR=5.5						
BVAR				PcP	PcP	05 13 59.5	0.0
	comp=Z,0.9nm,0.9s,baz=207,slow=3.2,SNR=3.1						
BRVK	**Borovoye**	**51.36**	**3**	*e*P	**P**	**05 12 45.1**	**+0.5**
	comp=Z,0.5nm,0.6s,mb3.6						
TSUM	**Tsumeb**	**52.49**	**244**	*e*P	**P**	**05 12 55.2**	**+1.5**
	comp=Z,10nm,1.3s,mb4.6						
ZAL	**Zalesovo**	**54.24**	**13**	P	**P**	**05 13 05.5**	**-0.6**
	comp=Z,4.2nm,0.4s,mb4.7,baz=238,slow=4.9,SNR=12						
ZAL				LR	LR	05 33 15.7	
	comp=Z,74nm,22.0s,MS3.7,baz=259,slow=33						
ZAL	**Zalesovo**	**54.24**	**13**	P	**P**	**05 13 05.5**	**-0.6**
ZAL				LR	LR	05 33 15.7	
NVS	**Novosibirsk**	**54.75**	**12**	*i* P	**P**	**05 13 09.2**	**-0.6**
NVS				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
NVS				pmax	pmax		
	comp=N,13nm,1.5s						
SUR	**Sutherland**	**55.00**	**228**	*e*P	**P**	**05 13 12.2**	**+0.2**
ARU	**Arti**	**55.04**	**354**	⇑*i*P	**P**	**05 13 11.2**	**-0.8**
ARU				*e*		05 15 18.4	
ARU				*e*S	**S**	**05 21 05.9**	**+14**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
SVE	**Sverdlovsk**	**55.26**	**356**	*e*P	**P**	**05 13 13.0**	**-0.6**
SONM	**Songino Array**	**57.38**	**31**	*e*P	**P**	**05 13 28.7**	**-0.2**
SONM	**Songino Array**	**57.38**	**31**	P	**P**	**05 13 28.7**	**-0.1**
	comp=Z,6.1nm,1.2s,mb4.5,baz=225,slow=7.0,SNR=20						
SONM				LR	LR	05 38 24.4	
	comp=Z,537nm,20.9s,MS4.6,baz=255,slow=36						
ZAK	**Zakamensk**	**57.62**	**27**	*e*P	**P**	**05 13 29.1**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.6						
NWAO	**Narrogin (SRO)**	**58.70**	**131**	*e*P	**P**	**05 13 36.7**	**-1.6**
NWAO	**Narrogin (SRO)**	**58.70**	**131**	P	**P**	**05 13 36.7**	**-1.6**
	comp=Z,4.3nm,0.5s,mb4.7,baz=291,slow=8.6,SNR=4.5						
NWAO	**Narrogin (SRO)**	**58.70**	**131**	P	**P**	**05 13 36.7**	**-1.6**
OBN	**Obninsk**	**58.70**	**340**	*e*P	**P**	**05 13 36.5**	**-1.5**
OBN				pmax	pmax		
	comp=Z,26nm,2.1s,mb4.9						
TLY	**Talaya**	**58.70**	**26**	*e*P	**P**	**05 13 39.5**	**+1.5**
TLY				*e*S	**S**	**05 21 53.2**	**+13**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
TLY				MLR	MLR		
	comp=Z,361nm,23.0s,MS4.4						
MOS	**Moscow**	**58.87**	**341**	*e*P	**P**	**05 13 38.0**	**-1.1**
MOS				*e*		05 14 22.5	
MOS				*e*		05 15 56.6	
MOS				pmax	pmax		
	comp=Z,48nm,0.7s,mb5.6						
KOLS	**Kolonicke sedl**	**60.56**	**328**	*e*P	**P**	**05 13 51.1**	**+0.3**
VYHS	**Vyhne**	**62.18**	**326**	*e*P	**P**	**05 14 01.1**	**-0.7**
OKC	**Ostrava-Krasne**	**63.29**	**327**	AMS	AMS	05 58 30.0	
	comp=Z,100nm,22.0s						
DPC	**Dobruska-Polom**	**64.56**	**327**	AMS	AMS	06 03 50.0	
	comp=Z,200nm,21.2s						
PRU	**Pruhonice**	**65.36**	**326**	AMS	AMS	06 03 20.0	
	comp=Z,100nm,25.5s						
HIA	**Hailar**	**65.48**	**35**	P	**P**	**05 14 23.8**	**+0.4**
KHC	**Kasperske Hory**	**65.49**	**325**	AMS	AMS	06 04 20.0	
	comp=Z,200nm,23.4s						
PGF	**Pioggiola**	**65.59**	**317**	*e*P	**P**	**05 14 23.3**	**-1.0**
PVCC	**Panska Ves**	**65.61**	**326**	AMS	AMS	06 03 00.0	
	comp=Z,100nm,20.2s						
CLL	**Collm**	**66.86**	**327**	⇑*i*P	**P**	**05 14 32.1**	**-0.1**
CLL				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
CLL	**Collm**	**66.86**	**327**	⇑*i*P	**P**	**05 14 32.1**	**-0.1**
	comp=Z,13nm,1.3s,mb4.8						
CLL	**Collm**	**66.86**	**327**	⇑P	**P**	**05 14 32.1**	**-0.1**
	comp=Z,logA/T=1.0,mb4.8						
LPG	**La Plagne**	**68.18**	**319**	*e*P	**P**	**05 14 39.6**	**-1.0**
	comp=Z,10nm,0.9s,mb4.5						
LPL	**La Plagne**	**68.20**	**319**	*e*P	**P**	**05 14 39.5**	**-1.3**
CDF	**Champ du Feu**	**68.94**	**322**	*e*P	**P**	**05 14 44.5**	**-0.8**
	comp=Z,16nm,1.1s,mb4.6						
CABF	**La Chapelle**	**69.01**	**320**	*e*P	**P**	**05 14 45.4**	**-0.4**
	comp=Z,45nm,1.4s,mb4.9						
WRA	**Warramunga Arr**	**69.59**	**112**	P	**P**	**05 14 48.6**	**-1.1**
	comp=Z,4.9nm,0.8s,mb4.5,baz=288,slow=5.8,SNR=21						
LASF	**Ste Croix**	**69.64**	**317**	*e*P	**P**	**05 14 49.5**	**-0.1**
	comp=Z,34nm,1.3s,mb4.8						
SMF	**Signal de Mont**	**70.48**	**319**	*e*P	**P**	**05 14 53.7**	**-1.0**
LOR	**Lormes**	**70.67**	**320**	*e*P	**P**	**05 14 55.0**	**-0.9**
LOR				*e*R			
	comp=Z,116nm,20.5s						
SSF	**Saint Saulge**	**70.83**	**320**	*e*P	**P**	**05 14 56.0**	**-0.8**
	comp=Z,20nm,1.2s,mb4.6						
BGF	**Bois d'Agland**	**71.10**	**319**	*e*P	**P**	**05 14 58.0**	**-0.5**
	comp=Z,17nm,0.9s,mb4.7						
DBIC	**Dimbokro**	**71.52**	**276**	P	**P**	**05 15 02.5**	**+0.9**
	comp=Z,5.2nm,1.0s,mb4.4,baz=76,slow=8.3,SNR=4.5						
DBIC				LR	LR	05 43 53.6	
	comp=Z,74nm,20.7s,MS3.9,baz=193,slow=34						
EGRA	**Graus**	**71.58**	**314**	P	**P**	**05 15 01.9**	**+0.4**
	comp=Z,7.4nm,0.8s,mb4.7						
EPF	**Esparros**	**71.78**	**315**	*e*P	**P**	**05 15 01.6**	**-1.0**
EBIE	**Bielsa**	**71.83**	**315**	P	**P**	**05 15 03.6**	**+0.6**
	comp=Z,9.8nm,1.0s,mb4.7						
EHUE	**Huescar**	**72.74**	**309**	P	**P**	**05 15 08.5**	**0.0**
	comp=Z,1.5nm,0.8s,mb4.0						
EVIA	**Vianos**	**72.84**	**310**	P	**P**	**05 15 09.4**	**+0.4**
	comp=Z,10nm,0.7s,mb4.9						
ARCES	**ARCESS Array B**	**73.11**	**346**	P	**P**	**05 15 09.9**	**-0.1**
	comp=Z,1.8nm,0.6s,mb4.2,baz=136,slow=6.1,SNR=16						
ARCES				LR	LR	05 48 33.8	
	comp=Z,76nm,21.3s,MS4.0,baz=243,slow=37						
EQES	**Quesada**	**73.11**	**309**	P	**P**	**05 15 10.1**	**-0.5**
	comp=Z,9.4nm,1.0s,mb4.7						
ECRI	**Cripan**	**73.71**	**314**	P	**P**	**05 15 15.0**	**+1.0**
	comp=Z,3.1nm,0.6s,mb4.4						
ESDC	**Sonseca Array**	**74.16**	**311**	P	**P**	**05 15 16.8**	**+0.1**
	comp=Z,4.4nm,0.8s,mb4.4,baz=85,slow=5.0,SNR=13						
ESDC	**Sonseca Array**	**74.16**	**311**	P	**P**	**05 15 16.6**	**-0.1**
	comp=Z,4.6nm,0.6s,mb4.6						
MJAR	**Matsushiro Arr**	**74.20**	**53**	LR	LR	05 50 03.3	
	comp=Z,77nm,20.9s,MS4.0,baz=240,slow=38						
EADA	**Adamuz**	**74.35**	**309**	P	**P**	**05 15 17.4**	**-0.4**
	comp=Z,12nm,1.6s,mb4.6						
ECAB	**El Cabril**	**74.98**	**309**	P	**P**	**05 15 21.3**	**-0.2**
	comp=Z,12nm,1.2s,mb4.7						
VNDA	**Vanda**	**92.68**	**167**	P	**P**	**05 16 52.0**	**+1.2**
	comp=Z,0.6nm,0.9s,mb4.0,baz=278,slow=6.0,SNR=4.1						
VNDA				LR	LR	05 52 20.6	
	comp=Z,159nm,20.6s,MS4.5,baz=271,slow=32						
VNDA	**Vanda**	**92.68**	**167**	*e*P	**P**	**05 16 51.7**	**+1.0**
PDAR	**Pinedale Array**	**135.70**	**356**	PKP	PKPdf	05 22 58.4	-4.3
	comp=Z,0.5nm,0.7s,baz=9.5,slow=5.5,SNR=3.1						
ANMO	**Albuquerque**	**143.07**	**351**	⇑*i*PKIKP	PKPdf	05 23 13.3	-2.8
ANMO	**Albuquerque**	**143.07**	**351**	*e*PKPpre		05 23 11.9	
BNM	**Barren Site**	**143.88**	**351**	*e*PKPpre		05 23 14.7	
LENM	**Lemitar**	**143.92**	**351**	*e*PKPpre		05 23 14.3	
CPRX	**Cap Rock**	**144.42**	**346**	*e*PKPdf	PKPdf	05 23 16.4	-2.1
GDL2	**Guadalupe Moun**	**145.33**	**347**	*e*PKPdf	PKPdf	05 23 18.5	-1.6
MNTX	**Cornudas Mount**	**146.03**	**348**	*e*PKPdf	PKPdf	05 23 20.6	-0.7
LTX	**Lajitas**	**147.88**	**344**	*e*PKPbc	PKPdf	05 23 26.9	+2.3

IGQ 16 06:03:14.1, 2.62S×80.91W, h35^{km}±18^{km}, mb4.0, 9C-7D, Error ellipse: s-maj=13.0km s-min=9.5km az=143.4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.53**	**64**	P	P	06 03 55.1	+1.4
IGUA				S	S	06 04 22.7	-1.1
QIL1	**Quilotoa**	**2.65**	**48**	⇑P	P	06 03 55.3	-0.1
ARRY	**Arrayan**	**2.69**	**66**	⇓P	P	06 03 57.2	+1.2
ARRY				S	S	06 04 26.0	-1.7
RUN5	**Runtun**	**2.76**	**64**	P	P	06 04 00.6	+3.6
ULBA	**Ulba**	**2.76**	**65**	P	P	06 03 59.0	+2.1
ULBA				S	S	06 04 28.3	-1.1
PISA	**Pisayambo**	**2.96**	**58**	⇑P	P	06 04 01.9	+2.0
CAMI	**Rancho Maria**	**3.08**	**51**	⇓P	P	06 04 03.2	+1.6
NAS1	**Nasa**	**3.13**	**51**	⇓P	P	06 04 04.3	+2.0
TAMB	**Tambo**	**3.18**	**53**	⇑P	P	06 04 04.1	+1.2
VC1	**Cotopaxi 1**	**3.19**	**52**	⇑P	P	06 04 05.5	+2.5
VC1				S	S	06 04 41.0	+0.7
JUA2	**San Juan 2**	**3.32**	**44**	P	P	06 04 05.7	+0.8
TERV	**Terraza Guagua**	**3.35**	**44**	P	P	06 04 05.4	+0.1
GGP	**Refugio Guagua**	**3.36**	**44**	⇑P	P	06 04 05.3	-0.2
PINO	**Pino**	**3.36**	**43**	⇑P	P	06 04 05.1	-0.4
YANA	**Yana**	**3.41**	**43**	⇓P	P	06 04 06.2	-0.1
YANA				S	S	06 04 43.4	-2.7
JOR1	**San Jorge 1**	**3.46**	**41**	⇑P	P	06 04 04.2	-2.6
ANTI	**Antisana**	**3.50**	**52**	⇓P	P	06 04 09.4	+2.0
ANTI				S	S	06 04 48.5	+0.4
COTA	**Cotacachi**	**3.90**	**41**	⇑P	P	06 04 15.5	+2.2
CAYR	**Refugio Cayamb**	**3.91**	**48**	⇑P	P	06 04 16.0	+2.7
CAYA	**Cayambe**	**3.96**	**48**	⇓P	P	06 04 16.3	+2.3
ECEN	**Cerro Negro**	**4.51**	**41**	⇓P	P	06 04 22.9	+1.1
ECEN				S	S	06 05 11.8	-2.0

*IDC **16** 06:25:10.5±9.3, 8.05N×92.97E, mb3.9/7, mb1 3.9/7, mb1mx3.7/20, mbtmp3.9/7, Error ellipse: s-maj=229.4km s-min=67.3km az=127.0*
*NEIC **16** 06:25:20.8±0.9, 8.69N×92.37E, h30^{km}, mb4.3/2, Error ellipse: s-maj=49.2km s-min=17.4km az=80.0*
ISC 16 06:25:18.8±1.3, **8.7N**±0.2×**92.3E**±0.5, **h30**^{km}, **n11, σ0.47**/11, **mb3.9**/9, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.94**	**349**	P	**P**	**06 32 44.2**	**+0.4**
	1.3nm,0.7s,mb3.8,baz=158,slow=6.5,SNR=8.4						
MKAR	**Makanchi Array**	**38.94**	**349**	P	**P**	**06 32 44.2**	**+0.4**
KURK	**Kurchatov**	**43.42**	**347**	*e*P	**P**	**06 33 20.8**	**+0.2**
	1.1nm,0.5s,mb3.8						
ZAL	**Zalesovo**	**45.54**	**354**	P	**P**	**06 33 37.5**	**-0.1**
	1.6nm,0.4s,mb4.3,baz=305,slow=4.1,SNR=5.6						
ZAL	**Zalesovo**	**45.54**	**354**	P	**P**	**06 33 37.5**	**-0.1**
BVAR	**Borovoye Array**	**47.67**	**342**	P	**P**	**06 33 54.5**	**+0.1**
	0.6nm,0.5s,mb3.9,baz=149,slow=8.6,SNR=5.4						
BRTR	**Keskin Array B**	**60.54**	**311**	P	**P**	**06 35 28.9**	**+0.1**
	0.8nm,0.6s,mb4.0,baz=135,slow=4.1,SNR=3.6						
FINES	**FINESS Array B**	**71.17**	**332**	P	**P**	**06 36 35.8**	**-0.8**
	0.6nm,0.5s,mb3.8,baz=108,slow=6.0,SNR=5.2						
CASY	**Casey**	**75.94**	**173**	*e*P	**P**	**06 37 04.4**	**+0.1**
	7.6nm,0.8s,mb4.7						
GERES	**GERESS Array B**	**76.03**	**318**	P	**P**	**06 37 05.9**	**+0.8**
	0.1nm,0.2s,mb3.3,baz=90,slow=5.3,SNR=4.1						
HFS	**Hagfors**	**76.86**	**330**	P	**P**	**06 37 08.7**	**-0.8**
	0.8nm,0.5s,mb3.9,baz=104,slow=5.9,SNR=7.8						

*NIED **16** 06:26:00, 36.90N×140.80E, h65^{km}, Mw4.2 Best double couple: Mo2.05×10^{15} NP1:φs195°, δ72°, λ88°. NP2:φs23°, δ18°, λ97°.*
*BJI **16** 06:26:27.1, 36.50N×141.52E, h58^{km}, mb4.4*
*MOS **16** 06:26:31.1±0.8, 36.84N×140.87E, h33^{km}, mb4.4/2, Error ellipse: s-maj=25.5km s-min=14.6km az=97.6*
*JMA **16** 06:26:36.5, 36.91N×140.83E, h64^{km}±1^{km}, M4.0 Broadband fault plane solution: P waves. NP1:φs312°, δ2°, λ27°. NP2:φs195°, δ89°, λ92°. Principal axes: T Plg46°, Azm107°; N Plg2°, Azm15°; P Plg44°, Azm283°;*
JMA Felt II J1.
*NEIC **16** 06:26:36.6±2.2, 36.99N×140.87E, h58^{km}±19^{km}, mb4.4/2 Error ellipse: s-maj=23.7km s-min=20.8km az=214.0*
NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Ibaraki and Tochigi Prefectures.
*IDC **16** 06:26:36.3±2.1, 36.95N×140.86E, h56^{km}±19^{km}, mb3.8/8, mb1 4.0/11, mb1mx3.7/22, mbtmp4.0/11, ML3.8/3, Error ellipse: s-maj=20.8km s-min=15.5km az=108.0*
ISC 16 06:26:35.3±0.6, **36.90N**±0.04×**140.94E**±0.06, **h68**^{km}±3^{km}, **n35, σ0.89**/52, **mb4.0**/12, **10C, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.23**	**331**	⇑P	**P**	**06 26 46.4**	**+0.6**
ONAJ				S	**S**	**06 26 53.5**	**-0.1**
JHO	**Hitachi**	**0.41**	**226**	⇑P	**P**	**06 26 47.6**	**+0.4**
JHO				S	**S**	**06 26 55.5**	**-0.5**
JFK	**Kawauchi**	**0.47**	**354**	⇑P	**P**	**06 26 48.3**	**+0.6**
JFK				S	**S**	**06 26 56.8**	**0.0**
JFT	**Otama**	**0.78**	**322**	⇑P	**P**	**06 26 51.5**	**+0.4**
JFT				S	**S**	**06 27 02.4**	**-0.5**
JSB	**Shiboa**	**0.82**	**275**	⇑P	**P**	**06 26 51.6**	**0.0**
JSB				S	**S**	**06 27 02.6**	**-1.0**
JMM	**Marumori**	**0.97**	**353**	⇑P	**P**	**06 26 54.2**	**+0.7**
JMM				S	**S**	**06 27 07.0**	**-0.1**
JFY	**Yanaizu**	**1.10**	**298**	⇑P	**P**	**06 26 55.3**	**0.0**
JFY				S	**S**	**06 27 09.3**	**-0.9**
JAG	**Ashikaga**	**1.28**	**249**	⇑P	**P**	**06 26 57.7**	**-0.1**
JKT	**Katashina**	**1.36**	**265**	P	**P**	**06 26 59.2**	**+0.3**
JKT				S	**S**	**06 27 16.1**	**-0.2**
JOU	**Okura**	**1.48**	**352**	⇑P	**P**	**06 27 00.9**	**+0.4**
JOU				*e*S	**S**	**06 27 19.6**	**+0.6**
JYS	**Shirataka**	**1.49**	**333**	⇑P	**P**	**06 27 01.1**	**+0.5**
JYS				S	**S**	**06 27 19.5**	**+0.2**
MJAR	**Matsushiro Arr**	**2.22**	**262**	P	**P**	**06 27 11.1**	**+0.4**
	18nm,0.3s,baz=80,slow=16,SNR=66						
MJAR				S	**S**	**06 27 29.0**	**-7.9**
	16nm,0.3s,baz=86,slow=16,SNR=20						
MJAR	**Matsushiro Arr**	**2.22**	**262**	P	**P**	**06 27 11.1**	**+0.4**
MJAR				S	**S**	**06 27 29.0**	**-7.9**
MAJO	**Matsushiro**	**2.22**	**262**	*e*P	**P**	**06 27 11.1**	**+0.4**
MAT	**Matsushiro**	**2.22**	**262**	*e*P	**P**	**06 27 11.0**	**+0.3**
MAT				*e*S	**S**	**06 27 38.0**	**+1.1**
MAT	**Matsushiro**	**2.22**	**262**	P	**P**	**06 27 11.2**	**+0.5**
MAT				S	**S**	**06 27 38.3**	**+1.4**
JHJ	**Hachijo jima 2**	**3.89**	**194**	P	**P**	**06 27 33.9**	**-0.2**
	30nm,0.3s,baz=91,slow=3.6,SNR=11						
JHJ				S	**S**	**06 28 15.2**	**-3.7**
	47nm,0.3s,baz=70,slow=22,SNR=8.2						
ASAJ	**Asahikawa**	**7.32**	**9**	P	**P**	**06 28 19.3**	**-2.5**
ASAJ				S	**S**	**06 29 39.8**	**-4.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=E,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.32**	**9**	P	**P**	**06 28 19.3**	**-2.5**
	comp=E,1.4nm,0.3s,baz=220,slow=9.4,SNR=5.6						
ASAJ				S	**S**	**06 29 39.8**	**-4.3**
	comp=E,1.4nm,0.3s,baz=222,slow=32,SNR=2.6						
YUK	**Yuzh-Kuril'sk**	**8.05**	**26**	*e*P	**P**	**06 28 28.8**	**-3.0**
YUK				*e*S	**S**	**06 29 52.5**	**-10**
YUK				pmax	pmax		
	comp=Z,110nm,0.5s						
YUK				smax			
	comp=N,270nm,0.5s						
YUK				smax			
	comp=E,190nm,0.5s						
YUK				smax			
	comp=N,1μm,0.8s						
KS15	**Wonju Array Si**	**10.43**	**277**	P	**P**	**06 29 00.4**	**-3.9**
ENH	**Enshi**	**26.94**	**265**	*e*P	**P**	**06 32 14.7**	**+2.4**
	comp=N,5.0nm,0.6s,mb4.2						
SONM	**Songino Array**	**27.54**	**304**	P	**P**	**06 32 16.3**	**-1.3**
	comp=N,8.3nm,0.7s,mb4.4,baz=101,slow=7.7,SNR=38						
ZAK	**Zakamensk**	**30.05**	**309**	*e*P	**P**	**06 32 39.5**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
GTA	**Gaotai**	**32.24**	**287**	*e*P	**P**	**06 32 58.6**	**-0.6**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.3						
ZAL	**Zalesovo**	**41.73**	**312**	P	**P**	**06 34 19.1**	**+0.3**
	comp=Z,1.4nm,0.6s,mb3.9,baz=11,slow=8.3,SNR=5.0						
MKAR	**Makanchi Array**	**43.87**	**302**	P	**P**	**06 34 35.8**	**-0.6**
	comp=Z,1.8nm,0.6s,mb4.0,baz=89,slow=10.0,SNR=16						
KURK	**Kurchatov**	**45.71**	**308**	*e*P	**P**	**06 34 50.2**	**-0.9**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	**45.71**	**308**	*e*P	**P**	**06 34 50.2**	**-0.9**
	comp=Z,4.1nm,0.6s,mb4.3						
ILAR	**Eielson Array**	**49.81**	**32**	P	**P**	**06 35 23.4**	**+0.5**
	comp=Z,1.2nm,0.7s,mb3.9,baz=283,slow=7.4,SNR=14						
BVAR	**Borovoye Array**	**50.38**	**312**	P	**P**	**06 35 27.6**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=72,slow=9.4,SNR=4.6						
WRA	**Warramunga Arr**	**56.88**	**187**	P	**P**	**06 36 14.6**	**-1.0**
	comp=Z,2.2nm,0.7s,mb4.3,baz=4.9,slow=7.2,SNR=9.8						
PDAR	**Pinedale Array**	**78.03**	**45**	P	**P**	**06 38 29.7**	**+1.8**
	comp=Z,1.1nm,0.7s,mb3.7,baz=284,slow=3.6,SNR=11						
GERES	**GERESS Array B**	**82.62**	**328**	P	**P**	**06 38 53.0**	**+0.8**
	comp=Z,0.2nm,0.4s,mb3.3,baz=27,slow=6.0,SNR=3.7						
LPAZ	**La Paz**	**147.09**	**59**	PKPbc	PKPdf	06 46 13.7	+5.0
	comp=Z,1.6nm,1.0s,baz=270,slow=1.0,SNR=5.4						

*IDC **16** 06:43:17.0±0.5, 7.91N×94.06E, mb4.2/21, mb1 4.3/21, mb1mx4.2/26, mbtmp4.2/21, MS3.6/4, Ms1 3.6/4, ms1mx3.2/23, Error ellipse: s-maj=17.9km s-min=13.9km az=70.0*
*NEIC **16** 06:43:23.3±0.9, 7.90N×94.12E, h46^{km}±9^{km}, mb4.5/12, Error ellipse: s-maj=7.7km s-min=5.8km az=46.0*
*BJI **16** 06:43:25.4, 7.61N×93.55E, h44^{km}, mB4.9, mb4.7, Ms4.4, Msz4.0*
ISC 16 06:43:22.9±1.4, **7.80N**±0.06×**94.11E**±0.07, **h57**^{km}±13^{km}, **n59, σ1.04**/56, **mb4.4**/35, **MS3.8**/5, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.48**	**95**	P	**P**	**06 44 59.0**	**+1.1**
KULM	**Kulim**	**6.96**	**111**	*e*P	**P**	**06 45 03.2**	**-1.4**
NNT	**Nongplab**	**7.30**	**49**	P	**P**	**06 45 09.0**	**-0.3**
CHG	**Chiang Mai**	**11.91**	**23**	P	**P**	**06 46 21.4**	**+9.1**
NANT	**Nan**	**12.67**	**30**	P	**P**	**06 46 31.0**	**+8.5**
PALK	**Pallekele**	**13.30**	**269**	P	**P**	**06 46 29.8**	**-1.1**
SHL	**Shillong**	**17.79**	**353**	*e*P	**P**	**06 47 30.0**	**+1.7**
QIZ	**Qiongzhong**	**18.92**	**52**	*e*P	**P**	**06 47 49.8**	**+8.0**
QIZ				S	**S**	**06 51 23.8**	**+17**
QIZ				AMB	AMB		
	comp=Z,12nm,1.5s						
QIZ				LR	LR		
	comp=N,587nm,13.9s						
QIZ				LR	LR		
	comp=Z,200nm,9.8s						
QIZ	**Qiongzhong**	**18.92**	**52**	P	**P**	**06 47 50.1**	**+8.3**
PKI	**Pulchoki**	**21.32**	**338**	*e*P	**P**	**06 48 09.0**	**+2.0**
	comp=Z,31nm,0.5s,mb4.9						
GUN	**Gumba**	**21.46**	**340**	*e*P	**P**	**06 48 10.0**	**+1.5**
	comp=Z,59nm,0.6s,mb5.1						
DMN	**Daman**	**21.47**	**338**	*e*P	**P**	**06 48 07.6**	**-0.9**
	comp=Z,24nm,0.6s,mb4.7						
KKN	**Kakani**	**21.57**	**338**	*e*P	**P**	**06 48 06.2**	**-3.3**
LSA	**Lhasa**	**21.96**	**353**	*e*P	**P**	**06 48 15.8**	**+2.4**
LSA	**Lhasa**	**21.96**	**353**	*e*P	**P**	**06 48 12.4**	**-1.0**
	comp=Z,12nm,0.8s,mb4.4						
GYA	**Guiyang**	**22.06**	**31**	P	**P**	**06 48 24.6**	**+10**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
KOLN	**Koldanda**	**22.21**	**335**	*e*P	**P**	**06 48 16.8**	**+0.9**
	comp=Z,32nm,0.7s,mb4.9						
WMQ	**Urumqi**	**36.31**	**352**	*e*P	**P**	**06 50 29.5**	**+6.5**
WMQ				AP	pP	06 50 39.3	+1.7
WMQ				XP	sP	06 50 43.3	-1.4
WMQ				PP	PP	06 51 55.4	+7.9
WMQ				AMB	AMB		
	comp=Z,13nm,1.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,39nm,5.3s						
WMQ				LR	LR		
	comp=N,311nm,16.1s,MS4.3						
WMQ				LR	LR		
	comp=E,233nm,16.2s,MS4.3						
WMQ				LR	LR		
	comp=Z,453nm,16.6s,MS4.3						
MKAR	**Makanchi Array**	**40.15**	**347**	P	**P**	**06 50 53.7**	**-1.2**
	comp=Z,1.9nm,0.6s,mb4.0,baz=167,slow=8.2,SNR=6.5						
MKAR	**Makanchi Array**	**40.15**	**347**	P	**P**	**06 50 53.7**	**-1.2**
FITZ	**Fitzroy Crossi**	**40.39**	**130**	P	**P**	**06 50 56.9**	**-0.3**
	comp=Z,3.0nm,0.6s,mb4.2,baz=171,slow=4.5,SNR=5.8						
SONM	**Songino Array**	**41.24**	**13**	P	**P**	**06 51 04.2**	**+0.3**
	comp=Z,1.6nm,0.7s,mb3.8,baz=208,slow=6.2,SNR=8.5						
JNU	**Nakatsue**	**42.31**	**48**	LR	LR	07 11 14.1	
	comp=Z,66nm,18.1s,MS3.6,baz=104,slow=40						
KURK	**Kurchatov**	**44.67**	**346**	*e*P	**P**	**06 51 30.9**	**-0.9**
	comp=Z,3.9nm,0.8s,mb4.3						
NWAO	**Narrogin (SRO)**	**46.10**	**153**	P	**P**	**06 51 44.0**	**+0.6**
	comp=Z,8.4nm,0.7s,mb4.8,baz=334,slow=6.9,SNR=7.5						
NWAO	**Narrogin (SRO)**	**46.10**	**153**	*e*P	**P**	**06 51 43.6**	**+0.2**
	comp=Z,11nm,1.0s,mb4.8						
HIA	**Hailar**	**46.60**	**23**	P	**P**	**06 51 47.4**	**+0.3**
	comp=Z,5.7nm,0.5s,mb4.8						
WRA	**Warramunga Arr**	**48.24**	**125**	P	**P**	**06 52 00.3**	**-0.1**
	comp=Z,1.1nm,0.4s,mb4.3,baz=302,slow=10.0,SNR=48						
WRAB	**Tennant Creek**	**48.25**	**125**	*e*P	**P**	**06 52 00.2**	**-0.2**
	comp=Z,3.7nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**48.25**	**125**	*e*P	**P**	**06 52 00.2**	**-0.2**
BVAR	**Borovoye Array**	**49.05**	**341**	P	**P**	**06 52 04.3**	**-1.8**
	comp=Z,0.2nm,0.3s,mb3.6,baz=135,slow=13,SNR=2.8						
BVAR				PcP	PcP	06 53 29.5	0.0
	comp=Z,0.5nm,0.6s,baz=162,slow=4.6,SNR=2.7						
BRVK	**Borovoye**	**49.11**	**341**	P	**P**	**06 52 06.2**	**-0.4**
	comp=Z,1.7nm,0.8s,mb4.1						
OPO	**Ambohidratompo**	**53.19**	**240**	P	**P**	**06 52 38.6**	**+0.7**
	comp=Z,0.8nm,0.5s,mb3.9,baz=79,slow=10,SNR=3.0						
KMBO	**Kilima Mbogo**	**57.39**	**264**	P	**P**	**06 53 09.1**	**+0.7**
	comp=Z,0.5nm,0.3s,mb4.0,baz=62,slow=12,SNR=4.8						
KMBO				LR	LR	07 13 51.2	
	comp=Z,50nm,19.3s,MS3.6,baz=108,slow=32						
STKA	**Stephens Creek**	**60.08**	**134**	P	**P**	**06 53 26.5**	**-0.3**
	comp=Z,2.6nm,0.7s,mb4.3,baz=311,slow=7.6,SNR=3.8						
STKA	**Stephens Creek**	**60.08**	**134**	P	**P**	**06 53 26.5**	**-0.3**
BRTR	**Keskin Array B**	**62.45**	**311**	P	**P**	**06 53 39.9**	**-2.8**
	comp=Z,1.2nm,0.8s,mb4.1,baz=112,slow=6.7,SNR=3.9						
MATP	**Matopo**	**70.31**	**245**	P	**P**	**06 54 33.0**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.6nm,0.5s,mb4.2,baz=200,slow=17,SNR=7.9						
FINES	FINESS Array B	72.76	332	P	P	06 54 45.7	-1.0
	comp=Z,1.7nm,0.5s,mb4.2,baz=111,slow=7.8,SNR=9.7						
KAF	Kangasniemi	72.84	333	*e*p	P	06 54 46.2	-1.0
	comp=Z,6.8nm,0.4s,mb4.9,baz=104,slow=5.6						
LBTB	Lobatse	74.18	241	P	P	06 54 56.6	+0.8
	comp=Z,2.3nm,0.4s,mb4.4,baz=139,slow=5.4,SNR=5.3						
LBTB	Lobatse	74.18	241	*e*P	P	06 54 56.5	+0.7
	comp=Z,3.9nm,0.8s,mb4.4						
ARCES	ARCESS Array B	75.32	340	P	P	06 55 01.3	-0.2
	comp=Z,2.1nm,0.6s,mb4.3,baz=90,slow=4.9,SNR=6.9						
ARCES				LR	LR	07 31 00.7	
	comp=Z,52nm,18.7s,MS3.9,baz=102,slow=38						
BOSA	Boshof	75.52	238	P	P	06 55 03.7	+0.2
	comp=Z,2.7nm,0.9s,mb4.2,baz=92,slow=4.0,SNR=6.2						
BOSA	Boshof	75.52	238	P	P	06 55 03.7	+0.2
FX1	Attu Island--F	77.21	38	P	P	06 55 14.3	+1.9
	comp=Z,4.6nm,0.5s,mb4.7,baz=270,slow=8.1,SNR=3.4						
GERES	GERESS Array B	77.86	318	P	P	06 55 15.8	-0.3
	comp=Z,1.4nm,0.6s,mb4.1,baz=90,slow=5.3,SNR=8.8						
HFS	Hagfors	78.50	330	P	P	06 55 18.5	-0.9
	comp=Z,3.1nm,0.5s,mb4.5,baz=104,slow=6.1,SNR=13						
NB2	NORSAR Subarra	79.78	331	P	P	06 55 25.4	-0.9
	comp=Z,1.2nm,0.6s,mb4.0,baz=96,slow=5.0						
NOA	NORSAR Array B	79.78	331	P	P	06 55 25.7	-0.7
	comp=Z,2.0nm,0.7s,mb4.2,baz=209,slow=19,SNR=5.5						
NOA				LR	LR	07 34 41.1	
	comp=Z,23nm,18.1s,MS3.6,baz=175,slow=39						
NOA	NORSAR Array B	79.78	331	P	P	06 55 25.7	-0.7
NOA				LR	LR	07 34 41.1	
SUR	Sutherland	80.27	235	P	P	06 55 31.3	+1.7
	comp=Z,4.8nm,0.8s,mb4.5,baz=50,slow=7.9						
SUR	Sutherland	80.27	235	*e*P	P	06 55 31.3	+1.7
	comp=Z,7.7nm,1.0s,mb4.6						
BNI	Bardonecchia	82.73	314	P	P	06 55 43.2	+1.1
	comp=Z,4.2nm,0.8s,mb4.5						
ESDC	Sonseca Array	91.24	310	P	P	06 56 23.6	0.0
	comp=Z,0.2nm,0.3s,mb3.9,baz=56,slow=4.6,SNR=3.3						
IMA	Indian Mountai	91.70	22	P	P	06 56 25.0	0.0
	comp=Z,11nm,0.8s,mb5.2						
PDAR	Pinedale Array	125.24	21	PKP	PKPdf	07 02 20.4	+2.8
	comp=Z,0.3nm,0.7s,SNR=3.3						
CPUP	Villa Florida	147.20	232	PKPbc	PKPdf	07 03 01.8	+3.6
	comp=Z,1.5nm,0.7s,baz=141,slow=6.2,SNR=5.9						
CFAA	Coronel Fontan	151.16	212	PKPbc	PKPdf	07 03 12.6	+8.2
	comp=Z,0.7nm,0.6s,baz=152,slow=2.0,SNR=16						

NEIC 16 06:46:10.4, 34.85N×116.31W, h2^{km}, ML3.5(PAS), 1C, After PAS., Southern California

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LDFC	Landfair	1.01	77	⇑*e*P	Pb	06 46 28.5	-1.7
PFO	Pinyon Flat Ob	1.24	185	*e*P	Pb	06 46 32.8	-1.4
MWC	Mount Wilson	1.57	247	*e*P	Pn	06 46 38.0	-1.4
DAC	Darwin (Calif)	1.77	324	*e*P	Pn	06 46 40.2	-2.0
BAR	Barrett	2.18	188	*e*Pn	Pn	06 46 46.2	-1.9
MTUM	Tungsten Hills	3.10	325	*e*Pn	Pn	06 46 59.0	-2.1
TPH	Tonopah	3.30	347	*e*Pn	Pn	06 47 02.2	-1.9
TRCR	Troy Canyon	3.54	9	*e*Pn	Pn	06 47 05.0	-2.5
ARUT	Antelope Range	3.74	37	*e*Pn	Pn	06 47 08.3	-2.0
LRV	Little Rabbit	4.14	294	Pn	Pn	06 47 13.5	-2.5
CMB	Columbia Colle	4.57	315	*e*Pn	Pn	06 47 19.4	-2.7
MVU	Marysvale	4.92	41	*e*Pn	Pn	06 47 24.5	-2.5
MSU	Marysvale	4.94	41	*e*Pn	Pn	06 47 24.4	-3.0
WCN	Washoe City	5.23	329	Pn	Pn	06 47 28.9	-2.5
TUC	Tucson	5.26	117	*e*Pn	Pn	06 47 26.9	-5.0
ELK	Elko	5.95	8	*e*Pn	Pn	06 47 39.0	-2.6
TMUT	Trail Mountain	6.03	41	Pn	Pn	06 47 39.3	-3.4
SRU	San Rafael	6.29	46	Pn	Pn	06 47 43.4	-3.0
PV01	Paradox Valley	7.05	60	*e*Pn	Pn	06 47 51.6	-5.5
HVU	Hansel Valley	7.46	21	Pn	Pn	06 47 58.4	-4.4

IDC 16 06:55:06.8±0.7, 6.10S×149.39E, mb3.9/8, mb1 4.2/9, mb1mx4.1/14, mbtmp4.0/9, ML3.6/1, MS3.7/10, Ms1 3.7/10, ms1mx3.5/18, Error ellipse: s-maj=26.5km s-min=18.7km az=98.0
NEIC 16 06:55:12.8±2.1, 6.18S×149.35E, h44^{km}±19^{km}, mb4.5/3, Error ellipse: s-maj=14.2km s-min=12.8km az=85.0
ISC 16 06:55:12.6±2.8**, 6.3S**±0.1×**149.2E**±0.1**, h57^{km}**±25^{km}**, n24, σ0^{s}89**/18**, mb3.9**/9**, MS3.8**/7**, 1C, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.75	213	Pn	P	06 56 10.4	+1.1
	31nm,0.3s,baz=23,slow=6.8,SNR=78						
PMG				Sn	S	06 56 51.4	-1.1
	42nm,0.3s,baz=69,slow=17,SNR=11						
PMG				LR	LR	06 57 54.2	
	comp=Z,969nm,21.3s,baz=359,slow=42						
PMG	Port Moresby	3.75	213	*e*P	P	06 56 10.2	+0.8
HNR	Honiara	11.06	107	LR	LR	07 01 04.0	
	comp=Z,233nm,21.5s,baz=295,slow=33						
CTA	Charters Tower	14.05	192	LR	LR	07 03 40.0	
	comp=Z,263nm,19.8s,baz=34,slow=36						
WRAB	Tennant Creek	19.85	225	*e*P	P	06 59 41.4	-0.3
	21nm,0.6s						
WB2	Warramunga Arr	19.86	225	*e*P	P	06 59 41.8	+0.1
WRA	Warramunga Arr	19.86	225	P	P	06 59 41.9	0.0
	9.9nm,0.7s,baz=51,slow=11,SNR=87						
WRA				PcP	PcP	07 03 58.2	+1.0
	1.5nm,0.7s,baz=35,slow=1.6,SNR=5.3						
DZM	Mont Dzumac	22.87	135	P	P	07 00 12.6	+0.4
	6.4nm,0.6s,mb4.2,baz=5.7,slow=10,SNR=7.7						
DZM				LR	LR	07 06 29.3	
	comp=Z,147nm,20.5s,MS3.4,baz=21,slow=30						
FITZ	Fitzroy Crossi	25.86	241	⇑*i*P	P	07 00 41.9	+1.0
	28nm,0.9s,mb4.8						
FITZ	Fitzroy Crossi	25.86	241	P	P	07 00 42.0	+1.1
	34nm,0.8s,mb4.9,baz=66,slow=4.5,SNR=23						
FITZ				LR	LR	07 12 14.3	
	comp=Z,167nm,18.4s,MS3.6,baz=81,slow=39						
STKA	Stephens Creek	26.47	195	P	P	07 00 46.3	-0.1
	2.1nm,0.7s,mb3.8,baz=4.8,slow=12,SNR=4.5						
STKA				LR	LR	07 12 02.8	
	comp=Z,224nm,18.5s,MS3.7,baz=208,slow=38						
STKA	Stephens Creek	26.47	195	*e*P	P	07 00 48.0	+1.6
MBWA	Marble Bar	32.18	240	P	P	07 01 37.5	0.0
URZ	Urewera	40.65	146	LR	LR	07 17 31.7	
	comp=Z,194nm,18.9s,MS4.0,baz=217,slow=33						
MJAR	Matsushiro Arr	43.82	347	P	P	07 03 13.3	-1.5
	1.6nm,0.5s,mb4.0,baz=178,slow=9.6,SNR=4.2						
MJAR				LR	LR	07 18 31.2	
	comp=Z,111nm,21.1s,MS3.8,baz=195,slow=32						
SONM	Songino Array	65.73	330	P	P	07 05 52.9	-0.8
	0.7nm,0.7s,mb3.8,baz=117,slow=6.4,SNR=3.5						
SONM				LR	LR	07 32 31.3	
	comp=Z,93nm,19.7s,MS4.0,baz=88,slow=34						
VNDA	Vanda	71.53	177	*e*P	P	07 06 27.5	-1.5
	1.7nm,0.9s,mb4.0						
MKAR	Makanchi Array	79.13	320	P	P	07 07 13.6	+0.8
	0.1nm,0.4s,mb3.1,baz=121,slow=5.7,SNR=3.6						
MKAR				LR	LR	07 44 47.9	
	comp=Z,38nm,18.2s,MS3.8,baz=75,slow=38						
ILAR	Eielson Array	84.85	23	P	P	07 07 41.9	-0.2
	0.9nm,0.7s,mb4.0,baz=269,slow=6.4,SNR=12						
BVAR	Borovoye Array	88.30	324	P	P	07 08 00.4	+1.3
	0.2nm,0.4s,mb3.7,baz=101,slow=7.3,SNR=2.7						
GERES	GERESS Array B	123.37	326	PKP	PKPdf	07 14 05.4	+1.8
	0.3nm,0.4s,baz=72,slow=4.2,SNR=5.1						
CFAA	Coronel Fontan	128.07	139	PKP	PKPdf	07 14 15.5	+2.4
	0.2nm,0.7s,baz=280,slow=4.6,SNR=5.4						
SIV	San Ignacio	142.72	127	PKhKP		07 14 38.5	
	1.6nm,0.8s,baz=254,slow=3.8,SNR=8.8						
BDFB	Brasilia	152.33	142	PKPbc	PKPdf	07 15 05.9	+10
	5.3nm,0.6s,baz=152,slow=2.1,SNR=11						

PRE 16 06:57:32.0±2.3, 26.42S×27.38E, h2^{km}, ML4.0
IDC 16 06:57:33.7±0.8, 26.49S×27.23E, mb4.0/9, mb1 4.1/14, mb1mx4.0/25, mbtmp4.1/14, ML3.5/4, Error ellipse: s-maj=18.1km s-min=12.0km az=83.0
NEIC 16 06:57:34.2±0.6, 26.45S×27.26E, h5^{km}, Error ellipse: s-maj=14.2km s-min=7.2km az=103.0
ISC 16 06:57:31.5±0.9**, 26.40S**±0.03×**27.35E**±0.03**, h2^{km}**±6^{km}**, n36, σ1^{s}22**/51**, mb3.8**/10**, South Africa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRYS	Parys	0.53	179	*e*P	Pg	06 57 42.2	+0.2
PRYS				*e*S	Sg	06 57 48.5	-0.6
PRYS				AML	AML	06 57 51.0	
	comp=Z,2μm,0.3s						
KSR	Koster	0.68	323	*e*P	Pg	06 57 34.6	-11
KSR				*e*S	Sg	06 57 43.8	-10
KSR				AML	AML	06 57 50.3	
	comp=Z,9μm,0.6s						
SLR	Silverton	1.06	52	*e*P	Pb	06 57 54.5	+2.3
SLR				*e*S	Sb	06 58 07.1	+0.7
SLR				AML	AML	06 58 14.4	
	comp=Z,2μm,0.3s						
SEK	Senekal	1.94	173	*e*P	Pn	06 58 06.9	+1.1
SEK				*e*S	Sn	06 58 31.2	+0.3
SEK				AML	AML	06 58 33.0	
	comp=Z,2μm,0.2s						
SWZ	Schweizer	1.97	246	*e*P	Pn	06 58 07.0	+0.7
SWZ				*e*S	Sn	06 58 33.3	+1.5
SWZ				AML	AML	06 58 34.9	
	comp=Z,7μm,0.3s						
LBTB	Lobatse	2.10	311	Pn	Pn	06 58 11.2	+3.2
	comp=Z,250nm,0.3s,baz=145,slow=15,SNR=1614						
LBTB				Pg	Pg	06 58 12.6	-0.8
	comp=Z,250nm,0.3s,baz=146,slow=14,SNR=1631						
LBTB				Lg		06 58 39.7	
	comp=Z,371nm,0.3s,baz=52,slow=21,SNR=42						
LBTB				Rg		06 58 46.5	
	comp=Z,898nm,0.7s,baz=188,slow=4.3,SNR=39						
LBTB	Lobatse	2.10	311	*e*P	Pn	06 58 11.0	+3.0
LBTB				*e*S	Sn	06 58 39.3	+4.3
BFT	Belfast (SA)	2.52	74	*e*S	Sn	06 58 45.3	-0.5
BFT				AML	AML	06 58 54.6	
	comp=N,284nm,0.3s						
NWL	Newcastle	2.67	120	*e*P	Pn	06 58 15.5	-0.7
NWL				*e*S	Sn	06 58 48.0	-1.5
NWL				AML	AML	06 59 00.0	
	comp=Z,1μm,0.6s						
BOSA	Boshof	2.89	220	Pn	Pn	06 58 19.6	+0.3
	comp=Z,10.0nm,0.3s,baz=44,slow=14,SNR=339						
BOSA				Lg		06 58 59.3	
	comp=Z,71nm,0.3s,baz=143,slow=21,SNR=7.1						
BOSA	Boshof	2.89	220	*e*P	Pn	06 58 19.5	+0.1
BOSA				*e*S	Sn	06 58 54.8	-0.4
BOSA	Boshof	2.89	220	*e*P	Pn	06 58 19.3	-0.1
POGA	Pongola	3.92	105	*e*P	Pn	06 58 34.4	+0.4
POGA				*e*S	Sn	06 59 21.0	-0.4
POGA				AML	AML	06 59 39.7	
	comp=Z,318nm,0.5s						
KSD	Kokstad	4.51	157	*e*P	Pn	06 58 28.9	-14
MSNA	Messina	4.71	32	*e*S	Sn	06 59 39.1	-2.1
MSNA				AML	AML	07 00 02.6	
	comp=Z,140nm,0.6s						
PKA	Prieska	5.21	230	*e*P	Pn	06 58 37.4	-15
PKA				*e*S	Sn	06 59 32.4	-21
UPI	Upington	5.77	249	*e*P	Pn	06 58 59.4	-0.8
UPI				*e*S	Sn	07 00 06.0	-1.8
MATP	Matopo	6.03	10	Pn	Pn	06 59 05.1	+1.2
	comp=Z,2.2nm,0.3s,baz=193,slow=13,SNR=43						
MATP				Sn	Sn	07 00 11.2	-3.3
	comp=Z,9.6nm,0.3s,baz=271,slow=18,SNR=9.1						
MATP				Lg		07 00 42.1	
	comp=Z,23nm,0.3s,baz=115,slow=20,SNR=11						
MATP	Matopo	6.03	10	Pn	Pn	06 59 05.1	+1.2
MATP				Sn	Sn	07 00 11.2	-3.3
MATP				Lg		07 00 42.1	
SUR	Sutherland	8.25	222	Pn	P	06 59 33.5	-1.6
	comp=Z,2.7nm,0.3s,baz=59,slow=15,SNR=28						
SUR				Sn	Sn	07 01 00.4	-10
	comp=Z,4.5nm,0.3s,baz=347,slow=20,SNR=6.1						
SUR				Lg		07 01 45.2	
	comp=Z,7.9nm,0.3s,baz=310,slow=23,SNR=4.6						
SUR	Sutherland	8.25	222	*e*P	P	06 59 32.5	-2.5
CER	Ceres	9.85	223	*e*P	P	06 59 53.7	-3.5
LSZ	Lusaka	11.09	4	*e*P	P	07 00 12.5	-1.8
	comp=Z,6.2nm,0.6s						
TSUM	Tsumeb	11.50	306	Pn	P	07 00 18.6	-1.3
	comp=Z,1.7nm,0.3s,baz=125,slow=12,SNR=26						
TSUM				Sn	S	07 02 16.4	-14
	comp=Z,0.3nm,0.3s,baz=210,slow=20,SNR=2.6						
TSUM				Lg		07 03 32.5	
	comp=Z,2.0nm,0.3s,baz=237,slow=23,SNR=5.6						
TSUM	Tsumeb	11.50	306	*e*P	P	07 00 18.5	-1.4
	comp=Z,8.1nm,0.6s						
DBIC	Dimbokro	45.35	312	P	P	07 05 53.1	0.0
	comp=Z,1.2nm,0.5s,mb4.0,baz=119,slow=12,SNR=3.6						
SNAA	Sanae	48.34	192	P	P	07 06 16.5	+0.5
	comp=Z,1.0nm,0.5s,mb4.1,baz=218,slow=19,SNR=5.1						
BDFB	Brasilia	70.32	262	P	P	07 08 48.8	-0.1
	comp=Z,4.6nm,1.1s,mb4.3,baz=235,slow=7.7,SNR=3.1						
ESDC	Sonseca Array	71.93	335	P	P	07 08 58.8	+0.5
	comp=Z,0.2nm,0.3s,mb3.5,baz=162,slow=6.6,SNR=4.4						
VNDA	Vanda	72.85	171	P	P	07 09 03.5	+0.4
	comp=Z,0.3nm,0.5s,mb3.5,baz=233,slow=5.1,SNR=4.1						
VNDA	Vanda	72.85	171	P	P	07 09 03.5	+0.4
VNDA				*e*P	pP	07 09 03.8	0.0
GERES	GERESS Array B	75.89	351	P	P	07 09 22.6	+1.5
	comp=Z,0.2nm,0.4s,mb3.4,baz=186,slow=9.9,SNR=3.6						
AKASG	Malin Array Be	76.77	1	P	P	07 09 27.1	+1.2
	comp=Z,0.3nm,0.3s,mb3.7,baz=190,slow=5.8,SNR=8.7						
CFAA	Coronel Fontan	81.03	239	P	P	07 09 49.8	+0.3
	comp=Z,0.1nm,0.6s,mb3.0,baz=146,slow=3.6,SNR=4.2						
FINES	FINESS Array B	87.53	359	P	P	07 10 23.1	+1.5
	comp=Z,1.6nm,0.8s,mb4.3,baz=214,slow=6.9,SNR=3.5						
LPAZ	La Paz	87.66	253	P	P	07 10 25.0	+1.7
	comp=Z,1.7nm,1.1s,mb4.2,baz=116,slow=7.6,SNR=3.4						

NIED 16 07:28:00, 32.20N×129.50E, h8^{km}, Mw3.9 Best double couple: M$_0$6.96×10^{14} NP1:ϕ_s199°, δ79°, λ-166°. NP2: ϕ_s106°, δ76°, λ-11°.
JMA 16 07:28:21.4, 32.17N×129.51E, h8^{km}±2^{km}**, M4.0, 3C-4D, Kyushu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JSJ	Shimokoshiki	0.52	160	⇑P	Pg	07 28 31.4	-0.5
JSJ				S	Sg	07 28 38.5	-0.4
NGSJ	Nagasakinomoza	0.52	28	⇓P	Pg	07 28 31.5	-0.4
NGSJ				S	Sg	07 28 38.6	-0.3
JHD	Hondo	0.61	61	⇓P	Pg	07 28 33.0	-0.6
JHD				S	Sg	07 28 41.9	+0.2
JFU	Fukue jima 2	0.81	307	⇑P	Pb	07 28 37.3	+0.1
JFU				S	Sb	07 28 48.2	+0.2
JZO	Okuchi	0.92	92	⇓P	Pb	07 28 39.3	+0.1
JZO				S	Sb	07 28 51.4	0.0
JUR	Ureshino	0.99	22	⇓P	Pb	07 28 40.2	-0.2
JUR				S	Sb	07 28 53.5	+0.1
JSU	Suzuyama	1.04	129	⇑P	Pb	07 28 40.8	-0.5
JSU				S	Sb	07 28 54.6	-0.3

MEX 16 07:33:34.2±1.0**, 16.98N×96.90W, h62^{km}**±27^{km}**, MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OXX	Oaxaca	0.20	59	*i* P	P	07 33 42.0	-1.8
OXX				*i* S	S	07 33 49.5	-1.5
IISM	Ciudad Serdan	2.05	347	*e*P	P	07 34 05.0	-2.0
YAIG	Yautepec	2.78	313	*i* P	P	07 34 16.3	-1.2
YAIG				*i* S	S	07 34 46.9	-3.1

IDC 16 07:50:02.0±0.8, 29.82N×138.85E, h396^{km}±9^{km}, mb3.1/10, mb1 3.2/13, mb1mx3.1/22, mbtmp3.9/13, Error ellipse: s-maj=21.1km s-min=9.1km az=75.0
NEIC 16 07:50:03.4±1.2, 29.87N×138.78E, h411^{km}±14^{km}, mb3.6/3, Error ellipse: s-maj=17.5km s-min=11.1km az=87.0
ISC 16 07:50:01.8±0.5**, 29.95N**±0.05×**139.3E**±0.2**, h426^{km}**±7^{km}**, n31, σ0^{s}93**/43**, mb3.4**/12**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	3.19	9	P	P	07 51 10.3	+1.3
JHJ2				S	S	07 52 02.3	+0.4
JHJ	Hachijo jima 2	3.19	8	P	P	07 51 09.6	+0.6
	29nm,0.3s,baz=86,slow=14,SNR=13						
JHJ				S	S	07 52 03.0	+1.1
	21nm,0.3s,baz=87,slow=22,SNR=7.1						
CBIJ	Chichi jima	3.84	137	P	P	07 51 13.2	-1.5
	13nm,0.3s,baz=100,slow=24,SNR=4.6						
CBIJ				S	S	07 52 11.1	-0.8
	67nm,0.3s,baz=294,slow=22,SNR=20						
CBIJ	Chichi jima	3.84	137	P	P	07 51 13.0	-1.6
BSO1	Boso 1	4.91	17	P	P	07 51 25.3	+0.4
BSO1				S	S	07 52 29.7	-0.4
BSO3	Boso 3	4.95	12	P	P	07 51 25.5	+0.2
BSO3				S	S	07 52 31.2	+0.4
BSO4	Boso 4	5.11	10	*e*S	S	07 52 34.3	+0.7
JOD2	Odawara 2	5.30	359	P	P	07 51 29.2	+0.4
JOD2				S	S	07 52 38.0	+0.9
JNY	Yasuok	5.52	348	P	P	07 51 32.7	+1.7
JHU	Hanno	5.88	0	P	P	07 51 34.6	-0.2
JHU				S	S	07 52 46.3	-1.7
JRY	Ryogami san	6.06	357	S	S	07 52 51.2	-0.1
JYT	Yasato	6.31	7	P	P	07 51 39.3	-0.1
JYT				S	S	07 52 55.5	-0.8
JAG	Ashikaga	6.46	1	P	P	07 51 40.4	-0.6
JAG				*e*S	S	07 52 56.9	-2.4
MJAR	Matsushiro Arr	6.63	353	P	P	07 51 44.1	+1.2
	1.0nm,0.3s,baz=169,slow=10,SNR=3.9						
MJAR				S	S	07 53 01.7	-0.9
	0.9nm,0.3s,baz=112,slow=18,SNR=4.2						
MAJO	Matsushiro	6.63	353	*e*P	P	07 51 43.1	+0.2
	2.4nm,0.4s						
JHO	Hitachi	6.73	9	P	P	07 51 44.6	+0.6
JHO				*e*S	S	07 53 02.8	-1.9
JFK	Kawauchi	7.52	10	P	P	07 51 53.5	+0.8
JFK				*e*S	S	07 53 20.2	-0.1
SONM	Songino Array	30.87	315	P	P	07 55 42.1	-0.5
	0.5nm,0.4s,mb3.2,baz=127,slow=8.4,SNR=5.8						
FX1	Attu Island--F	33.74	38	*e*P	P	07 56 11.0	+4.1
MKAR	Makanchi Array	46.68	308	P	P	07 57 51.5	-0.3
	0.3nm,0.6s,mb2.8,baz=90,slow=5.8,SNR=3.2						
MKAR	Makanchi Array	46.68	308	P	P	07 57 51.5	-0.3
KURK	Kurchatov	49.15	313	P	P	07 58 09.2	-1.3
	0.5nm,0.5s,mb3.1						
FITZ	Fitzroy Crossi	49.54	197	P	P	07 58 13.5	-0.4
	2.2nm,0.6s,mb3.7,baz=5.7,slow=9.1,SNR=3.5						
WRAB	Tennant Creek	49.82	186	P	P	07 58 15.7	-0.2
	3.1nm,0.4s,mb4.0						
WRA	Warramunga Arr	49.83	186	P	P	07 58 15.6	-0.4
	0.8nm,0.3s,mb3.6,baz=4.0,slow=8.2,SNR=20						
BVAR	Borovoye Array	54.20	316	P	P	07 58 46.7	-0.8
	1.6nm,0.5s,mb3.5,baz=91,slow=7.4,SNR=14						
ILAR	Eielson Array	56.48	30	P	P	07 59 04.2	+0.9
	0.3nm,0.6s,mb2.8,baz=292,slow=5.7,SNR=5.3						
STKA	Stephens Creek	61.53	178	P	P	07 59 38.4	+0.7
	1.6nm,0.6s,mb3.7,baz=9.5,slow=6.1,SNR=2.4						
ARCES	ARCESS Array B	70.00	340	P	P	08 00 31.3	+1.3
	1.8nm,1.0s,mb3.6,baz=63,slow=8.1,SNR=5.7						
FINES	FINESS Array B	74.24	333	P	P	08 00 55.3	+0.5
	0.3nm,0.4s,mb3.2,baz=104,slow=5.7,SNR=4.1						
YBH	Yreka Blue Hor	76.20	50	P	P	08 01 11.8	+5.6
	0.6nm,0.2s,mb3.8,baz=315,slow=2.9,SNR=7.9						

SNSN 16 07:59:40.1, 29.43N×34.92E, h18^{km}, Ml2.1
CSEM 16 07:59:38.9±0.1**, 29.43N×34.89E, h12^{km}, ML2.1, Error ellipse: s-maj=4.7km s-min=1.1km az=85.0, Egypt**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALWS	Ilw as Safayha	0.20	128	P	Pg	07 59 44.4	+1.1
ALWS				P		07 59 44.4	
ALWS				S	Sg	07 59 47.7	+1.3
ALWS				S	Sg	07 59 47.7	+1.3
EIL	Elat	0.24	13	Pg	Pg	07 59 45.3	+1.1
EIL				Sg	Sg	07 59 49.1	+1.4
JMOS	Jabal al Moall	0.33	144	P	Pg	07 59 46.8	+1.0
JMOS				P		07 59 46.8	
JMOS				S	Sg	07 59 51.7	+1.3
JMOS				S	Sg	07 59 51.7	+1.3
MBH	Mount Berech	0.36	4	Pg	Pg	07 59 46.4	0.0
MBH				Sg	Sg	07 59 53.2	+1.8
HAQS	Haql	0.38	174	P	Pg	07 59 47.9	+1.1
HAQS				P		07 59 47.9	
HAQS				S	Sg	07 59 53.5	+1.6
HAQS				S	Sg	07 59 53.5	+1.6
HRFI	Mount Harif	0.62	12	Pg	Pg	07 59 51.7	+0.3
HRFI				Sg	Sg	08 00 00.5	+0.8
KMTI	Karmit	0.68	348	Pg	Pg	07 59 53.1	+0.4
KMTI				Sg	Sg	08 00 02.8	+0.8
TAYS	Tayyib Ism	0.88	181	P	Pb	07 59 56.7	+1.1
TAYS				P		07 59 56.7	
TAYS				S	Sb	08 00 09.0	+2.0
TAYS				S	Sb	08 00 09.0	+2.0
TAYS	Tayyib Ism	0.88	181	P	Pb	07 59 56.7	+1.1
TAYS				S	Sb	08 00 09.0	+2.0
PRNI	Paran	0.92	6	Pg	Pg	07 59 57.7	+0.3
PRNI				Sg	Sg	08 00 10.6	+0.8
BDAS	Al Bad‘	1.01	169	P	Pb	07 59 58.8	+0.9
BDAS				P		07 59 58.8	
BDAS				S	Sb	08 00 12.6	+1.6
BDAS				S	Sb	08 00 12.6	+1.6
BDAS	Al Bad‘	1.01	169	P	Pb	07 59 58.8	+0.9
BDAS				S	Sb	08 00 12.6	+1.6
JMQS	Jabal Moqyreh	1.02	122	P	Pb	07 59 59.2	+1.1
JMQS				P		07 59 59.2	
JMQS				S	Sb	08 00 12.3	+1.1
JMQS				S	Sb	08 00 12.3	+1.1
JMQS	Jabal Moqyreh	1.02	122	P	Pb	07 59 59.2	+1.1
JMQS				S	Sb	08 00 12.3	+1.1
ZFRI	Zfri	1.15	13	Pg	Pg	08 00 01.8	-0.1
ZFRI				Sg	Sg	08 00 17.9	+0.7
KZIT	Kziot	1.53	344	Pn	Pn	08 00 08.5	+2.3

NEIC 16 08:20:29.3±1.0, 19.91S×68.70W, h126^{km}±9^{km}, Error ellipse: s-maj=20.3km s-min=10.6km az=108.0
IDC 16 08:20:29.9±1.0, 19.93S×68.68W, h127^{km}±10^{km}, mb3.8/3, mb1 3.9/6, mb1mx3.6/17, mbtmp4.3/6, MS3.4/1, Ms1 3.4/1, ms1mx2.5/24, Error ellipse: s-maj=28.0km s-min=9.0km az=99.0
ISC 16 08:20:29.3±0.8**, 19.95S**±0.06×**68.6W**±0.2**, h139^{km}**±10^{km}**, n12, σ0^{s}60**/12**, mb4.1**/2**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.67	186	P	P	08 21 12.7	+0.1
	32nm,0.3s,baz=5.3,slow=9.6,SNR=201						
LVC				S	S	08 21 46.1	+0.4
	49nm,0.3s,baz=5.5,slow=9.3,SNR=6.8						
LPAZ	La Paz	3.67	7	P	P	08 21 24.6	-1.1
	7.4nm,0.3s,baz=197,slow=7.6,SNR=149						
LPAZ				S	S	08 22 09.7	+0.7
	2.0nm,0.3s,baz=340,slow=14,SNR=4.5						
ARE	Arequipa	4.42	321	*e*P	P	08 21 27.0	-8.8
ARE				*e*S	S	08 22 12.0	-15
SIV	San Ignacio	8.18	62	P	P	08 22 26.1	0.0
	6.4nm,0.3s,baz=262,slow=10,SNR=206						
CFAA	Coronel Fontan	11.62	178	P	P	08 23 11.1	-0.5
	0.0nm,0.3s,baz=6.3,slow=14,SNR=5.7						
BDFB	Brasilia	20.06	81	P	P	08 24 53.3	-0.4
	1.2nm,0.4s,baz=252,slow=3.2,SNR=5.2						
SDV	Santo Domingo	28.72	356	LR	LR	08 37 44.4	
	comp=Z,67nm,19.4s,baz=60,slow=36						
DBIC	Dimbokro	68.02	74	P	P	08 31 17.2	+1.0
	1.9nm,0.5s,mb4.0,baz=241,slow=7.6,SNR=7.3						
DBIC	Dimbokro	68.02	74	P	P	08 31 17.2	+1.0
YKA	Yellowknife Ar	89.82	340	P	P	08 33 12.9	-0.1
	1.2nm,0.4s,mb4.2,baz=136,slow=4.7,SNR=6.1						
WRA	Warramunga Arr	134.43	211	PKP	PKPdf	08 39 32.0	+0.3
	0.6nm,0.8s,baz=143,slow=1.7,SNR=6.8						
SONM	Songino Array	151.88	7	PKPbc	PKPdf	08 40 10.5	+10
	0.8nm,0.4s,baz=350,slow=0.9,SNR=6.3						

MAN 16 08:25:42.3, 15.69N×120.94E, h30^{km}, mb4.2, ML3.0, MS2.7, Luzon

GUC 16 08:27:01.6±0.6**, 31.99S×71.66W, h15^{km}**±3^{km}**, MD3.5, ML2.3, 1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ILCH	Illapel	0.55	50	*e*P	Pb	08 27 12.4	0.0
ILCH				*i* S	Sb	08 27 20.4	+0.6
ILCH				AMP		08 27 21.0	
	comp=N,249nm,0.2s						
PACH	Papudo	0.57	161	*i* S	Sb	08 27 20.9	+0.5
ROCH	El Roble	1.12	151	*e*P	Pb	08 27 21.8	-0.3
ROCH				*i* S	Sb	08 27 37.2	+0.9
JACH	Jahuel	1.13	128	*e*P	Pb	08 27 21.7	-0.7
JACH				*i* S	Sb	08 27 36.6	-0.1
PEL	Peldehue	1.41	145	*i* S	Sb	08 27 44.8	0.0
LCCH	Las Cruces	1.48	177	*e*P	Pn	08 27 26.5	-1.4
LCCH				*i* S	Sb	08 27 46.0	-0.8
RCDM	Rinconada Maip	1.66	155	*e*P	Pn	08 27 29.8	-0.6
RCDM				*i* S	Sn	08 27 50.8	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CLCH	Cerro Calan	1.69	146	⇑iP	Pn	08 27 30.7	-0.1
CLCH				iS	Sn	08 27 52.1	-0.2
CLCH				AMP		08 27 54.6	
	comp=E,82nm,0.5s						
PCH	Pirque	1.89	150	iS	Sn	08 27 57.8	+0.5

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*IDC **16** 08:29:22.0±2.8,27.49S×69.04W,h79km±23km,mb4.0/1, mb1 3.4/4,mb1mx3.3/15,mbtmp3.6/4,MS3.9/3,Ms1 3.9/3, ms1mx3.0/23,Error ellipse: s-maj=68.6km s-min=17.3km az=90.0*

*NEIC **16** 08:29:22.9±0.5,27.45S×69.14W,h92km±8km,Error ellipse: s-maj=12.3km s-min=7.9km az=109.0*

*GUC **16** 08:29:22.5±0.6,27.54S×69.19W,h105km,ML4.2*

ISC 16 08:29:21.8±0.6**,27.52S**±0.05×**69.1W**±0.1**,h99km**±19km**, n16,**σ0^s**68**/15**,mb4.1**/1**,3C,Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	1.13	278	⇑iP	P	08 29 44.3	+0.4
CPCH				iS	S	08 30 00.2	-0.3
CPCH				AMP		08 30 03.5	
	comp=E,10μm,0.1s						
VACH	Vallenar	1.81	234	⇑iP	P	08 29 52.5	+0.2
VACH				iS	S	08 30 14.9	0.0
TLL	Tololo Astrono	3.04	209	eP	P	08 30 09.2	+0.2
TLL				eS	S	08 30 44.3	-0.2
TLL				AMP		08 31 22.1	
	comp=N,407nm,0.8s						
CPN1	Cerro Paranal	3.11	337	⇑iP	P	08 30 10.8	+0.7
CPN1				AMP		08 30 54.1	
	comp=E,391nm,0.4s						
CFAA	Coronel Fontan	4.14	170	P	P	08 30 25.1	+1.0
	comp=E,0.3nm,0.3s,baz=350,slow=13,SNR=13						
CFAA				S	S	08 31 10.5	-1.1
	comp=E,1.4nm,0.3s,baz=279,slow=24,SNR=19						
LVC	Limon Verde	4.89	2	eP	P	08 30 34.5	+0.2
LVC				eSn	S	08 31 07.2	-23
CPUP	Villa Florida	10.56	86	ePn	P	08 31 52.4	+0.9
	comp=E,1.0nm,0.6s						
LPAZ	La Paz	11.21	5	P	P	08 31 59.0	-1.2
	comp=E,0.1nm,0.3s,baz=208,slow=15,SNR=4.2						
SIV	San Ignacio	13.67	35	P	P	08 32 31.5	-1.0
	comp=E,0.2nm,0.3s,baz=238,slow=12,SNR=7.1						
DBIC	Dimbokro	70.70	71	P	P	08 40 29.7	+0.4
	comp=E,1.3nm,0.4s,mb4.1,baz=214,slow=12,SNR=5.3						
DBIC	Dimbokro	70.70	71	P	P	08 40 29.7	+0.4
ANMO	Albuquerque	71.47	328	LR	LR	09 10 20.3	
	comp=E,46nm,20.8s,slow=34						
PDAR	Pinedale Array	79.24	331	LR	LR	09 12 37.8	
	comp=E,100nm,21.5s,baz=170,slow=33						
YBH	Yreka Blue Hor	84.86	323	LR	LR	09 16 16.4	
	comp=E,67nm,18.7s,baz=154,slow=33						
ZAL	Zalesovo	147.37	29	PKPbc	PKPdf	08 48 55.9	+5.0
	comp=E,2.1nm,0.5s,baz=166,slow=5.3,SNR=4.7						
MKAR	Makanchi Array	150.41	42	PKPbc	PKPdf	08 49 03.3	+7.4
	comp=E,2.4nm,0.6s,baz=332,slow=1.6,SNR=12						

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*IDC **16** 08:44:34.0±5.2,19.47N×109.05W,mb3.9/5,mb1 4.2/5, mb1mx3.9/18,mbtmp3.9/5,MS3.9/20,Ms1 3.9/20, ms1mx3.8/24,Error ellipse: s-maj=133.1km s-min=93.7km az=66.0*

*BJI **16** 08:44:34.5,19.50N×109.50W,h10km,mB5.5,mb4.8, Ms4.9,Msz4.6*

*NEIC **16** 08:44:36.6±0.7,19.51N×109.51W,h10km,mb4.4/17, Error ellipse: s-maj=11.6km s-min=8.3km az=48.0*

ISC 16 08:44:35.4±0.9**,19.56N**±0.09×**109.45W**±0.10**,h10km,n71,** σ**0**^{s}**86**/54**,mb4.2**/18**,MS3.9**/21**,Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LTX	Lajitas	11.06	27	eP	P	08 47 15.8	-1.1
	33nm,1.4s						
MNTX	Cornudas Mount	12.63	16	eP	P	08 47 36.9	-1.2
	16nm,1.4s						
TUC	Tucson	12.76	355	eP	P	08 47 39.3	-0.3
	30nm,1.4s						
GDL2	Guadalupe Moun	13.39	19	eP	P	08 47 48.8	+0.7
CLNB	Carlsbad	13.61	20	eP	P	08 47 51.8	+0.8
CPRX	Cap Rock	14.32	19	eP	P	08 48 01.1	+0.8
BNM	Barren Site	14.75	9	eP	P	08 48 06.7	+0.7
ANMO	Albuquerque	15.56	9	eP	P	08 48 17.0	+0.5
	20nm,1.5s						
NEN	Nelson	16.72	345	eP	P	08 48 32.4	+1.0
SDCO	Great Sand Dun	18.45	10	eP	P	08 48 53.0	0.0
	37nm,1.7s						
PV01	Paradox Valley	18.53	2	eP	P	08 48 53.5	-0.4
PV10	Paradox Valley	18.76	1	eP	P	08 48 55.5	-1.2
MVU	Marysvale	19.03	353	eP	P	08 48 59.7	-0.3
	15nm,1.5s						
MSU	Marysvale	19.04	353	eP	P	08 49 00.5	+0.4
SRU	San Rafael	19.51	357	eP	P	08 49 04.8	-0.8
TPH	Tonopah	19.65	341	eP	P	08 49 06.9	-0.3
SMCO	Snowmass	19.67	6	eP	P	08 49 06.9	-0.5
TMUT	Trail Mountain	19.73	356	eP	P	08 49 08.2	+0.1
ISCO	Idaho Springs	20.44	8	eP	P	08 49 14.9	-0.7
	9.6nm,1.3s						
NLU	North Lily Min	20.45	354	eP	P	08 49 13.4	-2.4
MPU	Maple Canyon	20.48	355	eP	P	08 49 15.9	-0.1
DAU	Daniels Canyon	20.84	356	eP	P	08 49 18.9	-0.9
JLU	Jordanelle	21.05	356	eP	P	08 49 21.8	-0.1
CTU	Camp Tracy	21.16	355	eP	P	08 49 22.8	-0.2
TCUT	Toone Canyon	21.55	356	eP	P	08 49 27.0	0.0
WCN	Washoe City	21.60	338	eP	P	08 49 27.7	+0.3
	28nm,1.5s,mb4.5						
ELK	Elko	21.69	348	eP	P	08 49 28.7	+0.3
	15nm,1.4s,mb4.2						
PHWY	Pilot Hill	21.94	8	eP	P	08 49 30.7	-0.2
HWUT	Hardware Ranch	22.05	356	eP	P	08 49 32.3	+0.3
	13nm,1.2s,mb4.2						
RWWY	Rawlins	22.14	4	eP	P	08 49 32.7	-0.2
BEKR	Beckwourth	22.31	337	eP	P	08 49 35.0	+0.4
	11nm,1.3s,mb4.1						
HVU	Hansel Valley	22.33	353	eP	P	08 49 35.2	+0.4
BW06	Boulder Array	23.14	360	eP	P	08 49 43.4	+0.6
	0.9nm,0.9s,mb3.2						
PDAR	Pinedale Array	23.14	360	P	P	08 49 44.1	+1.4
	1.2nm,1.1s,mb3.2,baz=158,slow=8.0,SNR=8.9						
REDW	Red Top Meadow	23.76	357	eP	P	08 49 49.6	+0.8
	176nm,2.6s,mb5.0						
SNOW	Snow King Moun	23.86	358	eP	P	08 49 50.2	+0.5
	30nm,1.6s,mb4.5						
LOHW	Long Hollow	24.00	358	eP	P	08 49 51.2	+0.1
	25nm,1.7s,mb4.4						
WVOR	Wild Horse Val	24.09	343	eP	P	08 49 53.6	+1.6
	20nm,1.4s,mb4.4						
MOD	Modoc	24.11	340	eP	P	08 49 53.5	+1.4
	13nm,1.2s,mb4.2						
HLID	Hailey	24.29	351	eP	P	08 49 55.1	+1.2
	66nm,2.4s,mb4.6						
PLAL	Pickwick Lake	24.36	47	eP	P	08 49 54.8	+0.2
	11nm,1.3s,mb4.1						
YBH	Yreka Blue Hor	24.81	336	LR	LR	08 59 15.2	
	comp=Z,122nm,19.6s,MS3.4,baz=156,slow=35						
QLMT	Earthquake Lak	25.25	357	eP	P	08 50 04.6	+1.4
JTS	JuntasAbangare	25.37	108	LR	LR	08 59 21.9	
	comp=Z,112nm,18.8s,MS3.4,baz=311,slow=36						
SWET	Sewanee	25.97	48	eP	P	08 50 10.1	+0.2
CHMT	Chamberlain Mo	27.46	354	eP	P	08 50 22.2	-1.4
NEW	Newport	29.30	349	LR	LR	09 02 19.7	
	comp=Z,150nm,20.9s,MS3.6,baz=165,slow=36						
ULM	Lac du Bonnet	32.48	16	LR	LR	09 04 14.6	
	comp=Z,220nm,18.2s,MS3.9,baz=172,slow=36						
SADO	Sadowa	35.56	38	LR	LR	09 05 19.4	
	comp=Z,110nm,20.9s,MS3.6,baz=252,slow=35						
FFC	Flin Flon	35.57	7	eP	P	08 51 33.1	-1.6
SDV	Santo Domingo	39.00	100	LR	LR	09 09 54.4	
	comp=Z,138nm,18.4s,MS3.8,baz=25,slow=39						
SDV	Santo Domingo	39.00	100	eP	P	08 52 05.2	+1.2
	5.6nm,0.8s,mb4.3						
SJG	San Juan	40.93	85	LR	LR	09 08 51.1	
	comp=Z,100nm,18.5s,MS3.7,baz=274,slow=36						
DLBC	Dease Lake	41.64	344	LR	LR	09 10 30.3	
	comp=Z,198nm,18.8s,MS4.0,baz=155,slow=37						
YKA	Yellowknife Ar	43.05	356	P	P	08 52 34.0	-2.7
	0.2nm,0.4s,mb3.2,baz=175,slow=7.4,SNR=5.5						
YKA				LR	LR	09 10 49.0	
	comp=Z,269nm,18.3s,MS4.2,baz=180,slow=36						
YKA	Yellowknife Ar	43.05	356	P	P	08 52 34.0	-2.7
YKA				LR	LR	09 10 49.0	
RPN	Rapa Nui	46.41	180	LR	LR	09 07 30.7	
	comp=Z,294nm,19.4s,MS4.2,baz=326,slow=30						
SCHQ	Schefferville	47.71	32	LR	LR	09 13 51.5	
	comp=Z,71nm,20.1s,MS3.6,baz=64,slow=37						
INK	Inuvik	51.02	349	P	P	08 53 38.8	-0.5
	3.7nm,0.9s,mb4.3,baz=136,slow=9.0,SNR=4.6						
INK				LR	LR	09 15 16.8	
	comp=Z,97nm,18.3s,MS3.9,baz=146,slow=36						
INK	Inuvik	51.02	349	eP	P	08 53 38.0	-1.3
	8.9nm,1.3s,mb4.5						
ILAR	Eielson Array	51.57	341	P	P	08 53 43.4	-0.2
	1.1nm,0.9s,mb3.8,baz=162,slow=4.5,SNR=7.9						
ILAR				LR	LR	09 17 52.7	
	comp=Z,69nm,19.6s,MS3.7,baz=0.3,slow=39						
SAML	Samuel	53.65	118	eP	P	08 53 59.5	-0.3
PPT	Papeete	53.98	229	LR	LR	09 09 18.8	
	comp=Z,128nm,20.2s,MS4.0,baz=119,slow=27						
LPAZ	La Paz	54.02	128	LR	LR	09 13 03.0	
	comp=Z,82nm,21.8s,MS3.8,baz=346,slow=32						
CPUP	Villa Florida	68.11	130	LR	LR	09 23 17.0	
	comp=Z,69nm,19.1s,MS3.9,baz=319,slow=34						
PLCA	Paso Flores	70.03	149	LR	LR	09 20 00.1	
	comp=Z,129nm,19.9s,MS4.2,baz=320,slow=30						
ARCES	ARCESS Array B	85.58	14	P	P	08 57 14.3	-0.3
	2.2nm,0.9s,mb4.4,baz=342,slow=3.8,SNR=4.0						
ARCES				LR	LR	09 35 19.7	
	comp=Z,76nm,20.3s,MS4.1,baz=285,slow=36						
FINES	FINESS Array B	91.81	20	LR	LR	09 39 14.8	
	comp=Z,64nm,18.3s,MS4.1,baz=337,slow=36						
MJAR	Matsushiro Arr	95.25	312	LR	LR	09 33 10.1	
	comp=Z,95nm,19.1s,MS4.3,baz=195,slow=30						
CN2	Changchun	99.39	323	eP	P	08 58 18.3	-1.1
LZH	Lanzhou	116.32	330	ePKP	PKPdf	09 03 18.0	-4.6
LZH				XPKP		09 03 22.6	
LZH				LR	LR		
	comp=N,175nm,18.3s						
LZH				LR	LR		
	comp=Z,299nm,20.2s,MS4.9						

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*NEIC **16** 08:55:52.0,16.65N×93.78W,h177km,mb4.0/2, MD4.0(MEX),After MEX.*

MEX 16 08:55:54.2±0.7**,16.67N**×**93.80W,h155km**±11km**,MD4.0, Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCX	San Cristobal	1.12	87	iP	P	08 56 18.8	-1.8
CMIG	Matias Romero	1.12	292	iP	P	08 56 19.0	-1.7
CMIG				iS	S	08 56 38.8	-2.3
CCIG	Comitan	1.64	103	eP	P	08 56 24.9	-1.0
CCIG				iS	S	08 56 48.1	-2.3
CCIG	Comitan	1.64	103	iP	P	08 56 24.9	-1.0
CCIG				iS	S	08 56 48.1	-2.3
EVV	El Vigia	2.31	320	iP	P	08 56 35.0	+1.3
EVV	El Vigia	2.31	320	iP	P	08 56 34.0	+0.3
HUIG	Huatulco	2.40	248	iP	P	08 56 31.0	-3.8
HUIG				iS	S	08 57 03.8	-2.1
HUIG	Huatulco	2.40	248	iP	P	08 56 31.2	-3.6
HUIG				iS	S	08 57 03.8	-2.1
OXX	Oaxaca	2.83	279	iP	P	08 56 38.2	-2.1
OXX				iS	S	08 57 13.5	-2.0
PPM	Popocatepetl	5.18	298	eP	P	08 57 09.0	-1.9
GDL2	Guadalupe Moun	18.19	330	eP	P	08 59 53.2	-4.6
GDL2				e		09 00 20.7	
MNTX	Cornudas Mount	18.29	327	eP	P	08 59 53.1	-5.8
	4.3nm,1.3s						
GLAT	Glass	19.93	11	eP	P	09 00 09.5	-6.3
BOZ	Bozeman (W)	32.51	336	eP	P	09 02 07.9	-4.4
	4.4nm,0.6s						

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*NEIC **16** 08:59:25.5±0.8,19.79N×109.47W,h10km,mb4.2/14, Error ellipse: s-maj=12.4km s-min=8.7km az=52.0*

*IDC **16** 08:59:26.9±1.4,20.26N×108.93W,mb3.8/7,mb1 3.9/8, mb1mx3.8/21,mbtmp3.8/8,MS3.6/4,Ms1 3.6/4, ms1mx3.2/23,Error ellipse: s-maj=52.6km s-min=21.4km az=58.0*

ISC 16 08:59:24.5±1.0**,19.88N**±0.09×**109.4W**±0.1**,h10km,n53,** σ**0**^{s}**80**/48**,mb4.0**/14**,MS3.6**/4**,Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LTX	Lajitas	10.76	28	eP	P	09 02 02.0	+0.3
	42nm,1.5s						
LTX				e		09 02 15.4	
MNTX	Cornudas Mount	12.31	16	eP	P	09 02 22.6	-0.3
	18nm,1.4s						
TUC	Tucson	12.45	355	eP	P	09 02 24.9	+0.2
	41nm,1.5s						
GDL2	Guadalupe Moun	13.07	19	eP	P	09 02 34.0	+1.0
CLNB	Carlsbad	13.29	21	eP	P	09 02 36.8	+0.9
CPRX	Cap Rock	14.00	20	eP	P	09 02 45.3	0.0
BNM	Barren Site	14.43	9	eP	P	09 02 51.5	+0.6
ANMO	Albuquerque	15.24	9	Pn	P	09 02 58.2	-3.3
	baz=184,slow=14,SNR=1.8						
ANMO	Albuquerque	15.24	9	Pn	P	09 02 58.2	-3.3
ANMO				eP		09 03 02.8	
NEN	Nelson	16.43	344	eP	P	09 03 17.9	+1.0
DAC	Darwin (Calif)	17.86	338	eP	P	09 03 35.8	+1.0
	6.7nm,1.5s						
SDCO	Great Sand Dun	18.12	10	eP	P	09 03 38.8	+0.7
	50nm,1.8s						
ARUT	Antelope Range	18.19	350	eP	P	09 03 40.2	+1.2
PV01	Paradox Valley	18.21	2	eP	P	09 03 38.6	-0.5
PV10	Paradox Valley	18.44	1	eP	P	09 03 41.2	-0.8
MVU	Marysvale	18.72	353	eP	P	09 03 45.6	+0.2
	9.8nm,1.3s						
MSU	Marysvale	18.73	353	eP	P	09 03 46.1	+0.6
MTUM	Tungsten Hills	19.16	337	eP	P	09 03 50.4	-0.3
SRU	San Rafael	19.19	357	eP	P	09 03 50.3	-0.7
SMCO	Snowmass	19.35	6	eP	P	09 03 52.8	-0.1
TPH	Tonopah	19.37	341	eP	P	09 03 53.6	+0.5
ISCO	Idaho Springs	20.12	8	eP	P	09 04 01.1	-0.4
	8.7nm,1.3s						
MPU	Maple Canyon	20.16	355	eP	P	09 04 01.3	-0.6
DAU	Daniels Canyon	20.53	356	eP	P	09 04 05.2	-0.6
JLU	Jordanelle	20.73	356	eP	P	09 04 06.6	-1.3
CTU	Camp Tracy	20.85	355	eP	P	09 04 08.5	-0.5
TCUT	Toone Canyon	21.24	356	eP	P	09 04 12.9	-0.1
WCN	Washoe City	21.32	337	eP	P	09 04 14.3	+0.5
	30nm,1.4s,mb4.4						
ELK	Elko	21.39	348	P	P	09 04 14.2	-0.3
	2.3nm,0.9s,mb3.5,baz=182,slow=7.7,SNR=10						
ELK	Elko	21.39	348	eP	P	09 04 14.5	0.0
	28nm,1.8s,mb4.3						
PHWY	Pilot Hill	21.62	8	eP	P	09 04 15.7	-1.1
HWUT	Hardware Ranch	21.74	356	eP	P	09 04 17.5	-0.5
	9.9nm,1.1s,mb4.2						
HVU	Hansel Valley	22.02	353	eP	P	09 04 20.6	-0.3
BW06	Boulder Array	22.82	360	eP	P	09 04 29.4	+0.7
	4.9nm,1.4s,mb3.7						
PDAR	Pinedale Array	22.82	360	P	P	09 04 28.4	-0.4
	1.6nm,1.1s,mb3.4,baz=164,slow=11,SNR=6.0						
SNOW	Snow King Moun	23.55	358	eP	P	09 04 36.1	+0.3
	39nm,1.8s,mb4.5						
WVOR	Wild Horse Val	23.81	343	eP	P	09 04 39.6	+1.2
	18nm,1.5s,mb4.3						
MOOW	Moose Ponds	23.83	358	eP	P	09 04 38.8	+0.2
	9.6nm,1.7s,mb4.0						
MCMT	McKenzie Canyo	25.05	354	eP	P	09 04 51.1	+0.8
MYNC	Murphy	26.94	51	eP	P	09 05 07.7	-0.3
	9.2nm,1.0s,mb4.3						
CHMT	Chamberlain Mo	27.15	354	eP	P	09 05 09.0	-0.8
NEW	Newport	29.00	349	LR	LR	09 18 00.1	
	comp=Z,63nm,19.6s,MS3.2,baz=19,slow=39						
ULM	Lac du Bonnet	32.16	16	LR	LR	09 18 58.5	
	comp=Z,91nm,20.0s,MS3.5,baz=130,slow=37						
SDV	Santo Domingo	39.01	101	P	P	09 06 52.4	-0.8
	2.4nm,0.4s,mb4.2,baz=294,slow=3.0,SNR=6.2						
SDV	Santo Domingo	39.01	101	eP	P	09 06 52.6	-0.6
	4.8nm,0.8s,mb4.3						
SCHQ	Schefferville	47.41	32	LR	LR	09 28 02.3	
	comp=Z,63nm,18.5s,MS3.6,baz=64,slow=37						
INK	Inuvik	50.72	349	P	P	09 08 25.0	-1.2
	4.7nm,1.1s,mb4.3,baz=134,slow=10,SNR=4.2						
INK	Inuvik	50.72	349	eP	P	09 08 24.4	-1.8
	4.6nm,1.0s,mb4.4						
ILAR	Eielson Array	51.29	340	P	P	09 08 28.9	-1.6
	0.5nm,0.6s,mb3.6,baz=149,slow=7.1,SNR=5.8						
LPAZ	La Paz	54.18	129	P	P	09 08 54.0	+1.3
	0.5nm,0.5s,mb3.7,baz=293,slow=11,SNR=3.9						
CPUP	Villa Florida	68.27	130	LR	LR	09 38 38.4	
	comp=Z,69nm,18.1s,MS3.9,baz=287,slow=34						
ARCES	ARCESS Array B	85.25	14	P	P	09 12 03.5	+1.3
	0.9nm,0.6s,mb4.1,baz=323,slow=4.5,SNR=5.1						
WRA	Warramunga Arr	120.43	258	PKP	PKPdf	09 18 22.9	+2.9
	0.3nm,0.6s,baz=83,slow=2.9,SNR=5.8						

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*NNC **16** 09:33:04.2±6.8,49.99N×87.40E,h16km±40km,mpv3.1, Error ellipse: s-maj=63.6km s-min=36.2km az=73.0*

MOS 16 09:32:58.8±2.6**,50.13N**×**87.76E,h15km,mb3.9**/1**,4C-2D, Error ellipse: s-maj=23.3km s-min=14.2km az=88.3, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKAR	Aktash	0.21	335	iPG	Pg	09 33 03.5	-0.3
UKR	Ust'-Kan	2.07	294	iPN	Pn	09 33 37.0	+3.5
UKR				eS	Sn	09 34 02.7	+3.5
TASR	Tashtagol	2.63	2	ePN	Pn	09 33 46.4	+4.8
TASR				eS	Sn	09 34 20.8	+7.3
ZAL	Zalesovo	4.23	336	iPN	Pn	09 34 08.6	+4.4
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.4s						
MK31	Makanchi Array	4.94	230	⇓Pn	Pn	09 34 17.1	+2.8
	comp=Z,2.1nm,0.5s,baz=60,slow=13,SNR=114						
MK31				⇓Sn	Sn	09 35 14.1	+2.3
	comp=Z,3.6nm,0.4s						
MK31				⇑Lg		09 35 34.6	
	comp=Z,14nm,0.5s						
MKAR	Makanchi Array	4.94	230	PN	Pn	09 34 17.0	+2.7
MKAR						09 35 14.0	
KURK	Kurchatov	5.87	279	⇑Pn	Pn	09 34 27.3	-0.2
	comp=Z,0.9nm,0.7s						
KURK				⇑Sn	Sn	09 35 33.8	-1.4
	comp=Z,1.6nm,0.5s						
KURK				⇑Lg		09 36 01.3	
	comp=Z,14nm,0.8s						
KRAR	Krasnoyarsk	6.65	26	ePN	Pn	09 34 48.0	+10
BRVK	Borovoye	11.26	292	iP	P	09 35 43.3	+1.2
AAK	Ala-Archa	11.83	236	eP	P	09 35 49.9	0.0
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK				MLR	MLR		
	comp=Z,30nm,14.0s						

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*IDC **16** 09:33:37.3±1.5,5.40N×92.97E,mb4.1/8,mb1 4.3/8, mb1mx4.0/20,mbtmp4.1/8,Error ellipse: s-maj=60.4km s-min=24.7km az=53.0*

*NEIC **16** 09:33:42.0±0.7,5.49N×93.11E,h30km,mb4.1/1,Error ellipse: s-maj=24.3km s-min=11.1km az=51.0*

ISC 16 09:33:40.4±0.9**,5.5N**±0.2×**93.2E**±0.2**,h30km,n15,** σ**0**^{s}**52**/14**,mb4.1**/9**,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QIZ	Qiongzhong	21.07	49	eP	P	09 38 24.2	-0.5
MKAR	Makanchi Array	42.16	349	P	P	09 41 32.6	+0.6
	1.2nm,0.5s,mb3.8,baz=168,slow=8.8,SNR=7.6						
SONM	Songino Array	43.64	13	P	P	09 41 44.1	+0.1
	2.6nm,0.8s,mb4.0,baz=196,slow=8.8,SNR=12						
KURK	Kurchatov	46.65	347	eP	P	09 42 07.7	-0.3
WRA	Warramunga Arr	47.74	123	P	P	09 42 17.2	+0.1
	2.4nm,0.7s,mb4.4,baz=302,slow=9.2,SNR=20						
WRAB	Tennant Creek	47.74	123	eP	P	09 42 17.0	-0.1
WB2	Warramunga Arr	47.75	123	eP	P	09 42 17.3	+0.2
ZAL	Zalesovo	48.73	353	P	P	09 42 25.0	+0.7
	2.2nm,0.4s,mb4.5,baz=274,slow=2.2,SNR=6.2						
BVAR	Borovoye Array	50.90	342	P	P	09 42 40.5	-0.3
	1.7nm,0.8s,mb4.0,baz=149,slow=8.6,SNR=7.8						
ZRNK	Zerenda	51.26	341	eP	P	09 42 43.1	-0.4
	1.7nm,0.7s,mb4.1						
FINES	FINESS Array B	74.33	333	P	P	09 45 16.8	+0.1
	1.4nm,0.7s,mb4.0,baz=90,slow=9.5,SNR=5.1						
ARCES	ARCESS Array B	77.13	341	P	P	09 45 33.4	+0.9
	0.9nm,0.4s,mb4.1,baz=92,slow=5.8,SNR=15						
ARCES	ARCESS Array B	77.13	341	P	P	09 45 33.4	+0.9
GERES	GERESS Array B	78.93	319	P	P	09 45 41.7	-1.1
	0.8nm,0.7s,mb3.7,baz=63,slow=3.0,SNR=5.6						
YFT	Old Faithful	125.75	21	ePKPdf	PKPdf	09 52 39.6	-5.2

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*CSEM **16** 09:34:42.8±0.2,37.26N×13.28E,h29km,MD2.9/12, ML3.5/2,Error ellipse: s-maj=3.5km s-min=1.6km az=13.0, After ROM*

ROM 16 09:34:42.8±0.2**,37.26N**×**13.28E,h29km**±2km**,Md2.9**/12**, Ml3.5**/2**,1C,Error ellipse: s-maj=4.1km s-min=1.9km az=129.0,Sicily**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FAVR	Favara	0.31	89	Pg	Pb	09 34 51.0	+0.7
FAVR				Sg	Sb	09 34 57.1	+1.7
	587nm,0.4s						
CLTB	Caltabellotta	0.32	351	Pg	Pb	09 34 51.6	+1.2
CLTB				Sg	Sb	09 34 56.9	+1.2
	509nm,0.3s						
MMGO	Monte Magaggia	0.47	329	Pg	Pb	09 34 52.7	+0.1
MMGO				Sg	Sb	09 35 01.6	+2.2
	243nm,0.3s						
CSLB	Castelbuono	0.91	42	Pg	Pn	09 35 01.3	+1.5
CSLB				Sg	Sb	09 35 15.7	+3.9
	112nm,0.2s						
GIB	Gibilmanna	0.94	39	⇑ePg	Pn	09 35 02.0	+1.9
	116nm,0.5s						
ERC	Erice	0.95	325	Pg	Pn	09 35 01.4	+1.2
	410nm,0.6s						
PLLN	Pollina	1.00	43	Pg	Pn	09 35 03.1	+2.1
PLLN				Sg	Sn	09 35 18.1	+3.9
LVI	Isola Levanzo	1.04	314	Pg	Pn	09 35 02.9	+1.4
PTS	Pantelleria	1.12	247	Pg	Pn	09 35 05.3	+2.6
	73nm,0.3s						
HMDC	Modica	1.24	104	Pg	Pn	09 35 05.4	+1.0
HMDC				Sg	Sn	09 35 23.5	+3.3
	800nm,0.7s						
SSY	Sortino	1.44	94	Pn	Pn	09 35 08.5	+1.3
SSY				Sn	Sn	09 35 30.5	+5.3
	756nm,0.5s						
USI	Ustica	1.45	357	Pn	Pn	09 35 08.9	+1.6
	71nm,0.4s						
AGST	Augusta-Monte	1.55	90	Pn	Pn	09 35 09.6	+0.7
AGST				Sn	Sn	09 35 32.5	+4.3
	102nm,0.3s						

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*STR **16** 09:52:54.8±0.3,43.38N×0.63W,h5km±1km,Ml3.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*MDD **16** 09:52:55.2±0.3,43.39N×0.57W,h2km±3km,mbLg2.7/43, Error ellipse: s-maj=2.3km s-min=1.6km az=172.0, PRXIMO*

*NEIC **16** 09:52:55.1,43.34N×0.60W,h4km,ML3.5(LDG), ML3.4(STR),After LDG.*

*LDG **16** 09:52:55.1±0.0,43.34N×0.60W,h4km,Md3.5/4,Ml3.5/33, Error ellipse: s-maj=0.8km s-min=0.6km az=124.0*

*CSEM **16** 09:52:55.9±0.1,43.36N×0.58W,h10km,ML3.5/33,Error ellipse: s-maj=1.1km s-min=0.8km az=115.0*

ISC 16 09:52:52.2±0.2**,43.51N**±0.01×**0.59W**±0.02**,h6km**±2km**, n126,** σ**1**^{s}**41**/255**,1C-1D,Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORDF	Ordiarp	0.39	221	Pg	Pg	09 53 00.7	+0.7
ORDF	Ordiarp	0.39	221	P	Pg	09 53 00.9	+0.9
ORDF				S	Sg	09 53 07.0	+1.8
ATE	Arette	0.43	191	P	Pg	09 53 00.5	-0.3
ATE				S	Sg	09 53 06.1	-0.4
REYF	Montagne du Re	0.46	162	Pg	Pg	09 53 01.0	-0.4
REYF				Sg	Sg	09 53 07.3	-0.2
REYF	Montagne du Re	0.46	162	P	Pg	09 53 01.1	-0.3
REYF				S	Sg	09 53 07.3	-0.2
LARF	Larrau	0.55	212	Pg	Pg	09 53 03.3	+0.1
LARF	Larrau	0.55	212	P	Pg	09 53 03.4	+0.2
LARF				S	Sg	09 53 10.8	+0.2
OSSF	Osses	0.55	243	Pg	Pg	09 53 04.3	+1.1
OSSF	Osses	0.55	243	P	Pg	09 53 04.3	+1.1
OSSF				S	Sg	09 53 12.5	+1.9
ETSF	Etsaut	0.61	178	ePg	Pg	09 53 03.6	-0.7
ETSF				ePn	Pn	09 53 04.7	-2.3
ETSF				eSg	Sg	09 53 09.6	-2.8
ETSF				eSn	Sn	09 53 11.0	-6.2
	226nm,0.3s						
ETSF	Etsaut	0.61	178	Pg	Pg	09 53 03.6	-0.7
ETSF				Lg		09 53 09.6	
SJPF	Ste Jean	0.61	230	ePg	Pg	09 53 05.0	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SJPF				eP		09 53 06.2	
SJPF				eSg	Sg	09 53 11.4	-1.1
SJPF				eSn	Sn	09 53 14.3	-2.9
	344nm,0.2s						
SJPF	**Ste Jean**	**0.61**	**230**	Pg	**Pg**	**09 53 05.0**	**+0.6**
SJPF				Lg		09 53 11.4	
LABF	**Labassere**	**0.67**	**133**	P	**Pg**	**09 53 05.7**	**+0.2**
FDAF	**Les Forges d'A**	**0.69**	**179**	P	**Pg**	**09 53 05.1**	**-0.8**
FDAF				S	**Sg**	**09 53 13.7**	**-1.3**
EALK	**Alkurruntz**	**0.73**	**247**	⇓Pg	**Pg**	**09 53 07.7**	**+0.9**
	144nm,0.3s,SNR=18						
EALK				Lg		09 53 18.9	
	873nm,0.5s,SNR=7.9						
VIEF	**Viey**	**0.77**	**144**	Pg	**Pg**	**09 53 07.0**	**-0.5**
VIEF				Sg	**Sg**	**09 53 18.5**	**+0.8**
VIEF	**Viey**	**0.77**	**144**	P	**Pg**	**09 53 07.0**	**-0.5**
VIEF				S	**Sg**	**09 53 16.1**	**-1.6**
EPF	**Esparros**	**0.83**	**125**	ePg	**Pg**	**09 53 09.0**	**+0.3**
EPF				ePn	**Pn**	**09 53 11.1**	**+1.0**
EPF				eSg	**Sg**	**09 53 19.3**	**-0.4**
EPF				eSn	**Sn**	**09 53 22.1**	**-0.7**
	347nm,0.3s						
EPF	**Esparros**	**0.83**	**125**	Pg	**Pg**	**09 53 09.0**	**+0.3**
EPF				Lg		09 53 19.3	
IPRE	**Itoiz**	**0.90**	**219**	Pg	**Pg**	**09 53 10.7**	**+0.6**
	14nm,0.2s,SNR=7.9						
IPRE				Lg		09 53 19.9	
	119nm,0.5s,SNR=7.9						
IPRE	**Itoiz**	**0.90**	**219**	Pg	**Pg**	**09 53 10.7**	**+0.6**
	14nm,0.2s,SNR=7.9						
RESF	**Ens**	**0.97**	**136**	Pg	**Pg**	**09 53 11.2**	**-0.4**
RESF				Sg	**Sg**	**09 53 25.6**	**+1.0**
RESF	**Ens**	**0.97**	**136**	P	**Pb**	**09 53 11.4**	**+0.3**
RESF				S	**Sb**	**09 53 24.7**	**+0.7**
EBIE	**Bielsa**	**0.98**	**147**	Pg	**Pg**	**09 53 10.9**	**-0.9**
	8.0nm,0.2s,SNR=7.9						
EBIE				Lg		09 53 24.0	
	55nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**0.98**	**147**	Pg	**Pg**	**09 53 10.9**	**-0.8**
	8.0nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**1.03**	**225**	Pg	**Pg**	**09 53 13.1**	**+0.3**
	56nm,0.3s,SNR=7.9						
EARA				Lg		09 53 27.0	
	86nm,0.3s,SNR=7.9						
MELF	**Melles**	**1.17**	**122**	P	**Pb**	**09 53 15.1**	**+0.6**
MELF				S	**Sb**	**09 53 30.1**	**+0.5**
MLS	**Moulis**	**1.34**	**113**	Pn	**Pn**	**09 53 17.8**	**+0.2**
MLS				Sg	**Sg**	**09 53 38.0**	**+1.0**
MLS	**Moulis**	**1.34**	**113**	P	**Pb**	**09 53 18.0**	**+0.6**
MLS				S	**Sb**	**09 53 35.1**	**+0.3**
EGRA	**Graus**	**1.47**	**153**	Pg	**Pg**	**09 53 20.2**	**-1.3**
	12nm,0.2s,SNR=7.9						
EGRA				Lg		09 53 39.3	
	39nm,0.3s,SNR=7.9						
SALF	**Salau**	**1.50**	**119**	P	**Pn**	**09 53 20.7**	**+0.9**
SALF				S	**Sb**	**09 53 42.5**	**+3.3**
ECRI	**Cripan**	**1.67**	**238**	Pn	**Pn**	**09 53 24.9**	**+2.7**
	32nm,0.4s,SNR=7.9						
ECRI				Sn	**Sn**	**09 53 43.9**	**-0.3**
	12nm,0.2s,SNR=7.9						
ECRI				Lg		09 53 48.1	
	51nm,0.2s,SNR=7.9						
GRBF	**Gourbit**	**1.69**	**112**	P	**Pn**	**09 53 25.2**	**+2.7**
LFF	**La Frestale**	**1.72**	**33**	ePn	**Pn**	**09 53 26.3**	**+3.4**
LFF				ePg	**Pg**	**09 53 29.7**	**+3.1**
LFF				eSn	**Sn**	**09 53 48.6**	**+3.1**
LFF				eSg	**Sg**	**09 53 53.4**	**+3.9**
	252nm,0.6s						
ESAC	**San Caprasio**	**1.79**	**177**	⇑Pn	**Pn**	**09 53 25.0**	**+1.2**
	32nm,0.4s,SNR=18						
ESAC				Pg	**Pg**	**09 53 26.6**	**-1.2**
	55nm,0.7s,SNR=18						
ESAC				Lg		09 53 48.9	
	173nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.79**	**177**	Pn	**Pn**	**09 53 25.0**	**+1.2**
	182nm,0.3s,SNR=18						
ESAC	**San Caprasio**	**1.79**	**177**	Pg	**Pg**	**09 53 26.6**	**-1.2**
	55nm,0.7s,SNR=18						
PAND	**Andorre**	**1.85**	**121**	P	**Pn**	**09 53 29.5**	**+4.8**
PAND				S	**Sn**	**09 53 53.6**	**+5.0**
LPEF	**Le Peyrat**	**1.91**	**106**	P	**Pn**	**09 53 31.1**	**+5.5**
LPEF				S	**Sn**	**09 53 57.0**	**+6.8**
MTLF	**Montolieu**	**2.05**	**94**	ePn	**Pn**	**09 53 28.8**	**+1.2**
MTLF				ePg	**Pg**	**09 53 33.3**	**+0.2**
MTLF				eSn	**Sn**	**09 53 53.0**	**-0.8**
MTLF				eSg	**Sg**	**09 54 00.0**	**-0.4**
	125nm,0.4s						
ELAN	**Lanestosa**	**2.09**	**263**	Pg	**Pg**	**09 53 33.3**	**-0.7**
	7.1nm,0.3s,SNR=7.9						
ELAN				Sn	**Sn**	**09 53 54.6**	**-0.3**
	12nm,0.4s,SNR=7.9						
ELAN				Lg		09 54 01.4	
	18nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**2.09**	**263**	Pg	**Pg**	**09 53 33.3**	**-0.7**
	7.1nm,0.3s,SNR=7.9						
ELAN				Sn	**Sn**	**09 53 54.6**	**-0.4**
	12nm,0.4s,SNR=7.9						
CARF	**Carcanieres**	**2.12**	**111**	P	**Pn**	**09 53 33.3**	**+4.6**
CARF				S	**Sn**	**09 54 00.7**	**+5.0**
VALF	**Valcebollere**	**2.21**	**119**	P	**Pn**	**09 53 34.0**	**+4.1**
VALF				S	**Sn**	**09 54 03.6**	**+5.8**
EMIR	**Miracle**	**2.23**	**135**	Pg	**Pg**	**09 53 34.4**	**-2.2**
	15nm,0.2s,SNR=7.9						
EMIR				Lg		09 54 03.9	
	20nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.23**	**135**	Pg	**Pg**	**09 53 34.4**	**-2.2**
	15nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.35**	**39**	ePn	**Pn**	**09 53 34.8**	**+2.9**
RJF				ePg	**Pg**	**09 53 41.1**	**+2.1**
RJF				eSn	**Sn**	**09 54 02.9**	**+1.5**
RJF				eSg	**Sg**	**09 54 13.0**	**+2.7**
	59nm,0.3s						
LRDF	**Laroque-de-Fa**	**2.35**	**103**	Pn	**Pn**	**09 53 33.4**	**+1.4**
LRDF	**Laroque-de-Fa**	**2.35**	**103**	P	**Pn**	**09 53 33.5**	**+1.5**
LRDF				S	**Sn**	**09 54 05.2**	**+3.6**
CAF	**Calviac**	**2.38**	**52**	ePn	**Pn**	**09 53 34.3**	**+2.0**
CAF				ePg	**Pg**	**09 53 41.5**	**+1.9**
CAF				eSn	**Sn**	**09 54 02.9**	**+0.8**
CAF				eSg	**Sg**	**09 54 13.1**	**+1.8**
	71nm,0.4s						
EPOB	**Poblet**	**2.48**	**150**	Pn	**Pn**	**09 53 35.2**	**+1.4**
	0.6nm,0.3s,SNR=7.9						
EPOB				Pg	**Pg**	**09 53 39.5**	**-2.2**
	7.5nm,0.6s,SNR=7.9						
EPOB				Lg		09 54 10.0	
	18nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**2.48**	**150**	Pn	**Pn**	**09 53 35.2**	**+1.4**
	0.6nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.48**	**150**	Pg	**Pg**	**09 53 39.5**	**-2.2**
	7.5nm,0.6s,SNR=7.9						
FILF	**Fillols**	**2.49**	**111**	P	**Pn**	**09 53 37.1**	**+3.2**
FILF				S	**Sn**	**09 54 12.4**	**+7.3**
SJAF	**Saint Jean de**	**2.74**	**111**	P	**Pn**	**09 53 40.8**	**+3.2**
SJAF				S	**Sn**	**09 54 15.4**	**+4.0**
EJON	**La Jonquera**	**2.76**	**111**	Pn	**Pn**	**09 53 40.9**	**+3.1**
EJON				Pg	**Pg**	**09 53 46.3**	**-1.0**
EJON				Sn	**Sn**	**09 54 11.0**	**-0.9**
EJON				Lg		09 54 22.3	
EJON	**La Jonquera**	**2.76**	**111**	Pn	**Pn**	**09 53 39.8**	**+2.0**
	0.8nm,0.3s,SNR=7.9						
EJON				Pg	**Pg**	**09 53 46.3**	**-1.0**
	3.9nm,0.6s,SNR=7.9						
EJON				Sn	**Sn**	**09 54 11.0**	**-0.9**
	2.4nm,0.5s,SNR=7.9						
EJON				Lg		09 54 22.3	
	8.5nm,0.4s,SNR=7.9						
EJON	**La Jonquera**	**2.76**	**111**	Pn	**Pn**	**09 53 40.9**	**+3.1**
	0.8nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**2.76**	**111**	Pg	**Pg**	**09 53 46.3**	**-1.0**
	3.9nm,0.6s,SNR=7.9						
EJON				Sn	**Sn**	**09 54 11.0**	**-0.9**
	2.4nm,0.5s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.80**	**163**	ePN	**Pn**	**09 53 40.5**	**+2.1**
EBR				eP*	**Pb**	**09 53 45.5**	**+3.2**
EBR				eS*S*		09 54 24.0	
MFF	**Saint Martin d**	**3.11**	**6**	ePn	**Pn**	**09 53 45.3**	**+2.5**
MFF				ePg	**Pg**	**09 53 55.7**	**+1.4**
MFF				eSn	**Sn**	**09 54 22.2**	**+1.4**
MFF				eSg	**Sg**	**09 54 37.8**	**+2.0**
	79nm,0.7s						
EMOS	**Mosqueruela**	**3.14**	**178**	Pn	**Pn**	**09 53 44.8**	**+1.6**
	1.9nm,0.4s,SNR=7.9						
EMOS				Pg	**Pg**	**09 53 52.4**	**-2.4**
	4.4nm,0.3s,SNR=7.9						
EMOS				Lg		09 54 31.9	
	3.0nm,0.6s,SNR=7.9						
EMOS	**Mosqueruela**	**3.14**	**178**	Pn	**Pn**	**09 53 44.8**	**+1.6**
	1.9nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**3.14**	**178**	Pg	**Pg**	**09 53 52.4**	**-2.5**
	4.4nm,0.3s,SNR=7.9						
LBL	**Lubilhac**	**3.25**	**57**	Pn	**Pn**	**09 53 46.9**	**+2.2**
LASF	**Ste Croix**	**3.27**	**78**	ePn	**Pn**	**09 53 46.0**	**+1.0**
LASF				ePg	**Pg**	**09 53 56.6**	**-0.8**
LASF				eSn	**Sn**	**09 54 23.4**	**-1.3**
LASF				eSg	**Sg**	**09 54 39.0**	**-2.0**
	55nm,0.5s						
EARI	**Arriondas**	**3.38**	**268**	Pn	**Pn**	**09 53 48.3**	**+1.7**
	0.1nm,0.1s,SNR=7.9						
EARI				Pg	**Pg**	**09 53 55.3**	**-4.3**
	3.6nm,0.5s,SNR=7.9						
EARI				Sn	**Sn**	**09 54 28.2**	**+0.7**
	0.8nm,0.5s,SNR=7.9						
EARI	**Arriondas**	**3.38**	**268**	Pn	**Pn**	**09 53 48.3**	**+1.8**
	0.1nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**3.38**	**268**	Pg	**Pg**	**09 53 55.3**	**-4.3**
	3.6nm,0.5s,SNR=7.9						
EARI				Sn	**Sn**	**09 54 28.2**	**+0.8**
	0.8nm,0.5s,SNR=7.9						
TCF	**Toulx Ste Croi**	**3.42**	**35**	ePn	**Pn**	**09 53 49.4**	**+2.2**
TCF				ePg	**Pg**	**09 54 01.2**	**+0.8**
TCF				eSn	**Sn**	**09 54 29.0**	**+0.4**
TCF				eSg	**Sg**	**09 54 46.5**	**+0.5**
	47nm,0.5s						
BGF	**Bois d'Agland**	**3.90**	**37**	ePn	**Pn**	**09 53 55.9**	**+1.9**
BGF				eSn	**Sn**	**09 54 40.8**	**0.0**
BGF				eSg	**Sg**	**09 55 02.2**	**+0.1**
	124nm,0.5s						
ECHE	**Chera**	**3.92**	**184**	Pg	**Pg**	**09 54 02.5**	**-7.9**
	1.6nm,0.8s,SNR=7.9						
ECHE				Lg		09 54 53.7	
	2.8nm,0.3s,SNR=7.9						
VIVF	**Saint-Julien-l**	**4.02**	**69**	ePn	**Pn**	**09 53 56.4**	**+0.7**
VIVF				ePg	**Pg**	**09 54 10.9**	**-1.5**
VIVF				eSn	**Sn**	**09 54 41.5**	**-2.2**
VIVF				eSg	**Sg**	**09 55 03.9**	**-2.0**
	67nm,0.9s						
HYF	**Humbligny**	**4.40**	**30**	eSg	**Sg**	**09 55 18.1**	**-0.4**
SMF	**Signal de Mont**	**4.44**	**43**	ePn	**Pn**	**09 54 03.0**	**+1.4**
SMF				eSn	**Sn**	**09 54 52.4**	**-1.9**
SMF				eSg	**Sg**	**09 55 18.5**	**-1.4**
	32nm,0.6s						
SMRF	**Simiane la Rot**	**4.49**	**82**	ePn	**Pn**	**09 54 02.8**	**+0.4**
SMRF				eSn	**Sn**	**09 54 52.6**	**-3.1**
SMRF				eSg	**Sg**	**09 55 16.7**	**-4.9**
	43nm,0.9s						
ETOS	**Mallorca**	**4.52**	**145**	Pn	**Pn**	**09 54 02.4**	**-0.4**
	1.0nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**4.52**	**145**	Pn	**Pn**	**09 54 02.4**	**-0.4**
	1.0nm,0.3s,SNR=7.9						
SSF	**Saint Saulge**	**4.58**	**38**	ePn	**Pn**	**09 54 04.9**	**+1.2**
SSF				eSn	**Sn**	**09 54 56.6**	**-1.4**
SSF				eSg	**Sg**	**09 55 23.2**	**-1.5**
	9.8nm,0.5s						
ESDC	**Sonseca Array**	**4.59**	**215**	Pn	**Pn**	**09 54 02.9**	**-0.9**
	1.6nm,0.4s,baz=38,slow=14,SNR=7.9						
ESDC	**Sonseca Array**	**4.59**	**215**	Pn	**Pn**	**09 54 02.9**	**-0.9**
	1.6nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**4.71**	**161**	Pn	**Pn**	**09 54 04.3**	**-1.1**
	1.0nm,0.7s,SNR=7.9						
EIBI				Sn	**Sn**	**09 54 54.8**	**-6.3**
	5.7nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**4.71**	**161**	Pn	**Pn**	**09 54 04.3**	**-1.1**
	1.0nm,0.7s,SNR=7.9						
EIBI				Sn	**Sn**	**09 54 54.8**	**-6.3**
	5.7nm,0.4s,SNR=7.9						
QUIF	**Quistinic**	**4.77**	**339**	ePn	**Pn**	**09 54 07.6**	**+1.3**
QUIF				eSn	**Sn**	**09 55 01.4**	**-1.3**
QUIF				eSg	**Sg**	**09 55 28.5**	**-2.4**
	18nm,0.4s						
EPON	**Pontenova**	**4.78**	**270**	Pn	**Pn**	**09 54 08.7**	**+2.2**
	1.8nm,0.4s,SNR=7.9						
EPON				Sn	**Sn**	**09 55 01.2**	**-1.9**
	8.5nm,0.4s,SNR=7.9						
EPON	**Pontenova**	**4.78**	**270**	Pn	**Pn**	**09 54 08.7**	**+2.1**
	1.8nm,0.4s,SNR=7.9						
EPON				Sn	**Sn**	**09 55 01.2**	**-1.9**
	8.5nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**4.79**	**253**	Pn	**Pn**	**09 54 07.0**	**+0.3**
	0.5nm,0.4s,SNR=7.9						
ECAL				Sn	**Sn**	**09 54 59.0**	**-4.3**
	3.8nm,0.2s,SNR=7.9						
ECAL				Lg		09 55 26.3	
	0.4nm,0.7s,SNR=7.9						
ECAL	**Calabor**	**4.79**	**253**	Pn	**Pn**	**09 54 07.0**	**+0.3**
	0.5nm,0.4s,SNR=7.9						
ECAL				Sn	**Sn**	**09 54 59.0**	**-4.3**
	3.8nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**4.80**	**177**	Pn	**Pn**	**09 54 06.3**	**-0.6**
EBEN				Sn	**Sn**	**09 55 00.3**	**-3.4**
EBEN	**Beniarda**	**4.80**	**177**	Pn	**Pn**	**09 54 06.3**	**-0.6**
	0.1nm,0.5s,SNR=7.9						
EBEN				Sn	**Sn**	**09 54 59.2**	**-4.4**
	0.4nm,0.6s,SNR=7.9						
EBEN	**Beniarda**	**4.80**	**177**	Pn	**Pn**	**09 54 06.3**	**-0.6**
	0.1nm,0.5s,SNR=7.9						
PBRG	**Braganca**	**4.85**	**252**	ePn	**Pn**	**09 54 08.7**	**+1.3**
PBRG				eSn	**Sn**	**09 55 02.6**	**-2.1**
PBRG				eSg	**Sg**	**09 55 28.7**	**-4.8**
	6.2nm,0.5s						
ORIF	**Oris-en-Rattie**	**4.86**	**71**	ePn	**Pn**	**09 54 08.5**	**+0.9**
ORIF				eSn	**Sn**	**09 55 01.6**	**-3.4**
ORIF				eSg	**Sg**	**09 55 30.0**	**-3.9**
	18nm,0.7s						
GRR	**Gorron**	**4.89**	**358**	ePn	**Pn**	**09 54 10.0**	**+2.0**
GRR				eSn	**Sn**	**09 55 03.6**	**-2.1**
GRR				eSg	**Sg**	**09 55 33.8**	**-1.1**
	21nm,0.6s						
LOR	**Lormes**	**4.89**	**38**	ePg	**Pg**	**09 54 28.4**	**-1.5**
	baz=220						
LOR				eSn	**Sn**	**09 55 04.1**	**-1.8**
LOR				eSg	**Sg**	**09 55 33.2**	**-1.9**
	16nm,0.5s						
ETOB	**Tobarra**	**4.91**	**189**	Pn	**Pn**	**09 54 08.4**	**+0.1**
	1.9nm,0.6s,SNR=7.9						
SGMF	**Saint Gilles**	**4.95**	**345**	ePn	**Pn**	**09 54 10.2**	**+1.4**
SGMF				eSn	**Sn**	**09 55 05.6**	**-1.5**
SGMF				eSg	**Sg**	**09 55 34.1**	**-2.7**
	19nm,0.5s						
EVIA	**Vianos**	**5.07**	**197**	Pn	**Pn**	**09 54 10.8**	**+0.2**
	2.7nm,0.7s,SNR=7.9						
LMR	**La Mourre**	**5.17**	**89**	ePn	**Pn**	**09 54 10.0**	**-2.0**
LMR				eSn	**Sn**	**09 55 08.2**	**-4.7**
LMR				eSg	**Sg**	**09 55 37.2**	**-7.2**
	19nm,0.8s						
ROSF	**Rostrenen**	**5.18**	**340**	ePn	**Pn**	**09 54 13.0**	**+0.8**
ROSF				eSn	**Sn**	**09 55 11.1**	**-2.0**
ROSF				eSg	**Sg**	**09 55 41.1**	**-3.6**
	36nm,0.9s						
FLN	**La Foliniere**	**5.26**	**1**	ePn	**Pn**	**09 54 14.5**	**+1.2**
	baz=181						
FLN				eSn	**Sn**	**09 55 13.6**	**-1.4**
FLN				eSg	**Sg**	**09 55 44.4**	**-2.9**
	26nm,0.6s						
FRF	**La Foret Royal**	**5.26**	**87**	ePn	**Pn**	**09 54 13.2**	**-0.1**
FRF				eSn	**Sn**	**09 55 10.8**	**-4.3**
	12nm,0.6s						
FRF				eSg	**Sg**	**09 55 40.1**	**-7.2**
	29nm,0.8s						
MBDF	**Montbardon**	**5.44**	**74**	ePn	**Pn**	**09 54 15.7**	**-0.1**
MBDF				ePg	**Pg**	**09 54 36.4**	**-4.3**
MBDF				eSn	**Sn**	**09 55 15.6**	**-3.9**
	4.3nm,0.6s						
MBDF				eSg	**Sg**	**09 55 47.4**	**-5.8**
	6.5nm,0.6s						
LPL	**La Plagne**	**5.61**	**66**	ePn	**Pn**	**09 54 18.2**	**0.0**
LPL				eSg	**Sg**	**09 55 52.7**	**-6.1**
	9.4nm,0.7s						
LPG	**La Plagne**	**5.61**	**67**	ePn	**Pn**	**09 54 18.7**	**+0.4**
LPG				eSg	**Sg**	**09 55 53.0**	**-6.1**
	18nm,0.9s						
CABF	**La Chapelle**	**5.66**	**54**	eSg	**Sg**	**09 55 56.2**	**-4.3**
	77nm,1.1s						
ELOB	**Lobios**	**5.75**	**256**	Pn	**Pn**	**09 54 21.0**	**+0.9**
	0.8nm,0.6s,SNR=7.9						
ELOB				Sn	**Sn**	**09 55 24.1**	**-3.2**
	0.7nm,0.6s,SNR=4.0						
ELOB				Lg		09 55 56.9	
	0.8nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.75**	**256**	Pn	**Pn**	**09 54 21.0**	**+0.9**
	0.8nm,0.6s,SNR=7.9						
ELOB				Sn	**Sn**	**09 55 24.1**	**-3.2**
	0.7nm,0.6s,SNR=4.0						
SBF	**Sospel**	**5.83**	**84**	ePn	**Pn**	**09 54 20.7**	**-0.6**
EQES	**Quesada**	**6.00**	**199**	Pn	**Pn**	**09 54 23.5**	**-0.2**
	1.3nm,0.4s,SNR=7.9						
EQES				Sn	**Sn**	**09 55 27.4**	**-6.2**
	1.6nm,0.4s,SNR=7.9						
EQES				Lg		09 56 05.3	
	0.8nm,0.6s,SNR=7.9						
EQES	**Quesada**	**6.00**	**199**	Pn	**Pn**	**09 54 23.5**	**-0.2**
	1.3nm,0.4s,SNR=7.9						
EQES				Sn	**Sn**	**09 55 27.4**	**-6.3**
	1.6nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**6.13**	**211**	Pn	**Pn**	**09 54 25.2**	**-0.3**
	0.1nm,1.0s,SNR=7.9						
EADA				Sn	**Sn**	**09 55 31.1**	**-5.8**
	0.7nm,0.6s,SNR=7.9						
EADA				Lg		09 56 07.7	
	1.8nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**6.13**	**211**	Pn	**Pn**	**09 54 25.2**	**-0.4**
	0.1nm,1.0s,SNR=7.9						
EADA				Sn	**Sn**	**09 55 31.1**	**-5.8**
	0.7nm,0.6s,SNR=7.9						
PCBR	**Castelo Branco**	**6.33**	**237**	eSn	**Sn**	**09 55 35.8**	**-6.0**
PCBR				eSg	**Sg**	**09 56 12.7**	**-10**
	3.8nm,0.5s						
MEZF	**Maizieres J'vi**	**6.35**	**36**	ePn	**Pn**	**09 54 29.1**	**+0.4**
MEZF				eSn	**Sn**	**09 55 39.0**	**-3.5**
MEZF				eSg	**Sg**	**09 56 18.3**	**-5.4**
	31nm,0.8s						
ECAB	**El Cabril**	**6.55**	**216**	Pn	**Pn**	**09 54 30.7**	**-0.7**
	0.5nm,0.4s,SNR=7.9						
ECAB				Sn	**Sn**	**09 55 38.7**	**-8.6**
	1.1nm,0.4s,SNR=7.9						
ECAB				Lg		09 56 20.3	
	0.1nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**6.55**	**216**	Pn	**Pn**	**09 54 30.7**	**-0.7**
ECAB				Sn	**Sn**	**09 55 38.7**	**-8.6**
HAU	**Haudompre**	**6.62**	**45**	eSg	**Sg**	**09 56 26.0**	**-6.4**
	8.6nm,0.5s						
HINF	**Hinteralfeld**	**6.76**	**48**	eSn	**Sn**	**09 55 48.4**	**-4.3**
HINF				eSg	**Sg**	**09 56 29.6**	**-7.7**
	19nm,1.0s						
EBAD	**Badajoz**	**6.79**	**228**	Pn	**Pn**	**09 54 34.3**	**-0.5**
	0.7nm,0.2s,SNR=7.9						
EBAD				Sn	**Sn**	**09 55 44.4**	**-8.9**
	0.9nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**6.79**	**228**	Pn	**Pn**	**09 54 34.2**	**-0.6**
EBAD				Sn	**Sn**	**09 55 44.4**	**-8.8**
BAIF	**Baives**	**7.33**	**25**	ePn	**Pn**	**09 54 42.6**	**+0.1**
BAIF				eSn	**Sn**	**09 56 03.4**	**-3.6**
BAIF				eSg	**Sg**	**09 56 49.0**	**-7.3**
	20nm,0.9s						
CDF	**Champ du Feu**	**7.35**	**45**	ePn	**Pn**	**09 54 42.5**	**-0.3**
CDF				eSg	**Sg**	**09 56 49.0**	**-8.0**
	12nm,0.8s						
EMIN	**Mina Concepcio**	**7.37**	**221**	Pn	**Pn**	**09 54 41.1**	**-1.8**
	0.3nm,0.4s,SNR=7.9						
EMIN				Sn	**Sn**	**09 55 58.5**	**-9.3**
	0.3nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.37**	**221**	Pn	**Pn**	**09 54 41.1**	**-1.8**
EMIN				Sn	**Sn**	**09 55 58.5**	**-9.3**

CASC 16 09:55:30.6±1.4**,13.22N**×**91.16W,MD4.2,7C-1D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.17**	**36**⇑	eP	Pb	09 55 52.0	-1.4
SBLS	**San Blas**	**1.62**	**67**⇑	eP	Pn	09 55 60.0	-0.6
RTR	**El Retiro**	**1.62**	**65**⇑	eP	Pn	09 56 00.1	-0.4
SNJE	**San Jose**	**1.64**	**67**⇑	eP	Pn	09 56 00.5	-0.4
RBDL	**Robledal**	**1.69**	**58**⇓	eP	Pn	09 56 01.6	+0.1
BOQS	**Boqueron**	**1.90**	**74**⇑	eP	Pn	09 56 04.1	-0.5
LFRS	**El Faro**	**2.08**	**79**	eP	Pn	09 56 07.8	+0.6
LFRS				eS	Sn	09 56 34.9	+0.7
LBRS	**Las Brisas**	**2.12**	**76**	eP	Pn	09 56 07.8	+0.1
LCBS	**La Ceiba**	**2.17**	**78**⇑	eP	Pn	09 56 08.8	+0.4
SNVI	**San Vicente**	**2.29**	**80**	eP	Pn	09 56 09.8	-0.4
SNVI				eS	Sn	09 56 40.0	+0.5
MRL	**Marmol**	**2.32**	**38**⇑	eP	Pn	09 56 10.4	-0.3
MRL				eS	Sn	09 56 42.3	+2.0

IDC 16 09:58:49.8±2.9**,18.14S**×**70.07W,h112**km±25km**,mb3.6**/3**, mb1 3.8**/6**,mb1mx3.6**/17**,mbtmp4.1**/6**,Error ellipse: s-maj=46.3km s-min=15.2km az=102.0,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.61**	**45**	P	P	09 59 31.8	+0.2
	25nm,0.3s,baz=224,slow=7.9,SNR=758						
LVC	**Limon Verde**	**4.58**	**167**	P	P	09 59 58.1	-0.1
	3.8nm,0.3s,baz=325,slow=12,SNR=39						
LVC				S	S	10 00 49.5	-1.2
	6.8nm,0.3s,baz=214,slow=21,SNR=7.2						
SIV	**San Ignacio**	**8.86**	**77**	P	P	10 00 54.8	-1.6
	3.1nm,0.3s,baz=264,slow=15,SNR=89						
PLCA	**Paso Flores**	**22.52**	**181**	P	P	10 03 40.6	-0.1
	1.0nm,0.7s,baz=338,slow=15,SNR=3.2						
DBIC	**Dimbokro**	**68.88**	**75**	P	P	10 09 43.0	-1.9
	2.8nm,0.8s,baz=217,slow=5.2,SNR=3.7						
YKA	**Yellowknife Ar**	**87.67**	**341**	P	P	10 11 24.6	-1.9
	1.0nm,0.6s,baz=132,slow=4.9,SNR=5.0						
WRA	**Warramunga Arr**	**135.21**	**213**	PKP	PKPdf	10 17 57.6	+0.6
	0.2nm,0.4s,baz=138,slow=1.4,SNR=9.6						

*STR **16** 10:27:41.4±0.5, 43.45N×0.52W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **16** 10:27:43.4±0.4, 43.37N×0.58W, h7km±9km, mbLg1.6/14, Error ellipse: s-maj=3.7km s-min=2.1km az=8.0, PRXIMO*
*LDG **16** 10:27:43.2±0.1, 43.35N×0.60W, h2km, Md2.4/2, Ml2.3/4, Error ellipse: s-maj=1.6km s-min=1.0km az=145.0*
*CSEM **16** 10:27:43.2±0.1, 43.35N×0.60W, h8km, ML2.5/5, Error ellipse: s-maj=1.5km s-min=1.0km az=156.0*
ISC 16 10:27:41.4±0.4**,43.42N**±0.02×**0.57W**±0.03**,h12**km±4km**, n31,**σ**0**^{s}**87**/48**,Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.34**	**233**	Pg	**Pg**	**10 27 48.9**	**+0.4**
ORDF				Sg	**Sg**	**10 27 55.2**	**+2.0**
ORDF	**Ordiarp**	**0.34**	**233**	P	**Pg**	**10 27 48.9**	**+0.4**
ORDF				S	**Sg**	**10 27 54.6**	**+1.4**
ATE	**Arette**	**0.34**	**196**	P	**Pg**	**10 27 48.6**	**-0.1**
ATE				S	**Sg**	**10 27 54.1**	**+0.6**
REYF	**Montagne du Re**	**0.37**	**160**	Pg	**Pg**	**10 27 49.3**	**+0.2**
REYF				Sg	**Sg**	**10 27 54.9**	**+0.6**
REYF	**Montagne du Re**	**0.37**	**160**	P	**Pg**	**10 27 49.0**	**-0.2**
REYF				S	**Sg**	**10 27 55.1**	**+0.8**
LARF	**Larrau**	**0.49**	**219**	Pg	**Pg**	**10 27 51.4**	**0.0**
LARF				Sg	**Sg**	**10 27 58.8**	**+0.7**
LARF	**Larrau**	**0.49**	**219**	P	**Pg**	**10 27 51.4**	**0.0**
LARF				S	**Sg**	**10 27 58.8**	**+0.7**
ETSF	**Etsaut**	**0.52**	**179**	ePg	**Pg**	**10 27 51.6**	**-0.4**
ETSF				eSg	**Sg**	**10 27 57.9**	**-1.2**
	9.8nm,0.3s						
OSSF	**Osses**	**0.53**	**253**	Pg	**Pg**	**10 27 52.4**	**+0.1**
OSSF				Sg	**Sg**	**10 28 00.7**	**+1.2**
OSSF	**Osses**	**0.53**	**253**	P	**Pb**	**10 27 52.4**	**+0.2**
OSSF				S	**Sg**	**10 28 00.7**	**+1.2**
SJPF	**Ste Jean**	**0.57**	**238**	ePg	**Pg**	**10 27 53.1**	**+0.1**
SJPF				eSg	**Sg**	**10 27 59.5**	**-1.2**
SJPF				eSn	**Sn**	**10 28 01.9**	**-2.3**
	31nm,0.2s						
LABF	**Labassere**	**0.60**	**128**	P	**Pb**	**10 27 53.6**	**+0.3**
VIEF	**Viey**	**0.69**	**141**	P	**Pb**	**10 27 55.3**	**+0.5**
VIEF				S	**Sb**	**10 28 04.9**	**+1.0**
EALK	**Alkurruntz**	**0.71**	**254**	Pg	**Pg**	**10 27 55.7**	**-0.2**
	7.1nm,0.3s,SNR=15						
EALK				Lg		10 28 06.2	
	29nm,0.3s,SNR=7.7						
EPF	**Esparros**	**0.77**	**120**	ePg	**Pg**	**10 27 57.4**	**+0.5**
EPF				eSg	**Sg**	**10 28 07.4**	**+0.2**
	18nm,0.2s						
IPRE	**Itoiz**	**0.84**	**224**	Lg		10 28 10.5	
	6.7nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.90**	**144**	Pg	**Pg**	**10 27 58.8**	**-0.7**
	0.3nm,0.1s,SNR=12						
EBIE				Lg		10 28 12.3	
	1.9nm,0.2s,SNR=7.6						
EBIE	**Bielsa**	**0.90**	**144**	Pg	**Pg**	**10 27 58.8**	**-0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.3nm,0.1s,SNR=12						
EARA	**Aranguren**	**0.98**	**229**	Lg		10 28 15.1	
	48nm,0.2s,SNR=7.9						
EGRA	**Graus**	**1.38**	**152**	Pg	**Pg**	**10 28 09.0**	**-0.1**
	0.4nm,0.2s,SNR=7.9						
EGRA				Lg		10 28 30.0	
	3.1nm,0.4s,SNR=7.9						
ECRI	**Cripan**	**1.64**	**241**	Pg	**Pg**	**10 28 14.1**	**-0.1**
	2.4nm,0.2s,SNR=7.9						
ECRI				Lg		10 28 35.8	
	3.7nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**1.64**	**241**	Pg	**Pg**	**10 28 13.9**	**-0.3**
	2.4nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.70**	**178**	Pg	**Pg**	**10 28 14.4**	**-0.9**
	4.4nm,0.2s,SNR=7.7						
ESAC				Lg		10 28 37.4	
	10nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.70**	**178**	Pg	**Pg**	**10 28 14.4**	**-1.0**
	4.4nm,0.2s,SNR=7.7						
LFF	**La Frestale**	**1.79**	**31**	*e*Pn	**Pn**	**10 28 14.5**	**+2.1**
LFF				*e*Pg	**Pg**	**10 28 17.8**	**+0.6**
LFF				*e*Sg	**Sg**	**10 28 41.7**	**+0.6**
	6.5nm,0.4s						
MTLF	**Montolieu**	**2.03**	**91**	*e*Pn	**Pn**	**10 28 17.1**	**+1.2**
MTLF				*e*Pg	**Pg**	**10 28 21.3**	**-0.8**
MTLF				*e*Sn	**Sn**	**10 28 41.1**	**-0.3**
MTLF				*e*Sg	**Sg**	**10 28 48.1**	**-1.1**
	7.4nm,0.4s						
ELAN	**Lanestosa**	**2.10**	**266**	Pg	**Pg**	**10 28 21.1**	**-2.3**
	0.3nm,0.2s,SNR=4.0						
ELAN				Lg		10 28 49.8	
	1.1nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**2.10**	**266**	Pg	**Pg**	**10 28 21.1**	**-2.3**
	0.3nm,0.2s,SNR=4.0						
EPOB	**Poblet**	**2.40**	**149**	Lg		10 29 00.5	
	2.8nm,0.6s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.41**	**38**	*e*Pg	**Pg**	**10 28 29.0**	**-0.5**
RJF				*e*Sg	**Sg**	**10 29 01.4**	**-0.2**
	4.1nm,0.3s						
CAF	**Calviac**	**2.42**	**51**	*e*Sg	**Sg**	**10 29 01.4**	**-0.7**
	2.4nm,0.2s						

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*STR **16** 10:40:20.5±0.4, 43.47N×0.53W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **16** 10:40:22.4±0.4, 43.38N×0.58W, h7km±8km, mbLg1.7/13, Error ellipse: s-maj=3.8km s-min=2.1km az=8.0, PRXIMO*
*LDG **16** 10:40:22.3±0.1, 43.35N×0.59W, h2km, Md2.5/2, Ml2.4/5, Error ellipse: s-maj=2.3km s-min=1.5km az=160.0*
*CSEM **16** 10:40:22.3±0.1, 43.35N×0.60W, h2km, ML2.5/6, Error ellipse: s-maj=1.5km s-min=1.0km az=163.0*
ISC 16 10:40:20.6±0.4**, 43.43N**±0.02×**0.55W**±0.03**, h7**km±5km**, n35,** σ**0.95**/53**, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.35**	**233**	Pg	**Pg**	**10 40 27.9**	**+0.1**
ORDF				Sg	**Sg**	**10 40 34.4**	**+1.8**
ORDF	**Ordiarp**	**0.35**	**233**	P	**Pg**	**10 40 27.9**	**+0.1**
ORDF				S	**Sg**	**10 40 33.7**	**+1.1**
ATE	**Arette**	**0.36**	**198**	P	**Pg**	**10 40 27.8**	**-0.1**
ATE				S	**Sg**	**10 40 33.0**	**+0.2**
REYF	**Montagne du Re**	**0.38**	**162**	Pg	**Pg**	**10 40 28.1**	**-0.2**
REYF				Sg	**Sg**	**10 40 34.2**	**+0.8**
REYF	**Montagne du Re**	**0.38**	**162**	P	**Pg**	**10 40 28.3**	**0.0**
REYF				S	**Sg**	**10 40 33.7**	**+0.3**
LARF	**Larrau**	**0.50**	**219**	Pg	**Pg**	**10 40 30.6**	**-0.2**
LARF				Sg	**Sg**	**10 40 38.1**	**+0.5**
LARF	**Larrau**	**0.50**	**219**	P	**Pg**	**10 40 30.7**	**-0.1**
LARF				S	**Sg**	**10 40 37.8**	**+0.2**
ETSF	**Etsaut**	**0.53**	**181**	*e*Pg	**Pg**	**10 40 30.8**	**-0.5**
ETSF				*e*Sg	**Sg**	**10 40 37.0**	**-1.4**
	19nm,0.3s						
OSSF	**Osses**	**0.55**	**252**	Pg	**Pg**	**10 40 31.5**	**-0.1**
OSSF				Sg	**Sg**	**10 40 39.8**	**+0.8**
OSSF	**Osses**	**0.55**	**252**	P	**Pg**	**10 40 31.6**	**-0.1**
SJPF	**Ste Jean**	**0.58**	**238**	*e*Pg	**Pg**	**10 40 31.9**	**-0.5**
SJPF				*e*Sg	**Sg**	**10 40 38.5**	**-1.7**
SJPF				*e*Sn	**Sn**	**10 40 41.1**	**-3.7**
	42nm,0.2s						
LABF	**Labassere**	**0.59**	**130**	S	**Sg**	**10 40 42.4**	**+1.9**
VIEF	**Viey**	**0.69**	**142**	Pg	**Pg**	**10 40 34.2**	**-0.2**
VIEF				Sg	**Sg**	**10 40 44.3**	**+0.7**
VIEF	**Viey**	**0.69**	**142**	P	**Pg**	**10 40 34.5**	**+0.1**
VIEF				S	**Sg**	**10 40 44.4**	**+0.7**
EALK	**Alkurruntz**	**0.73**	**254**	Pg	**Pg**	**10 40 34.9**	**-0.3**
	14nm,0.4s,SNR=26						
EALK				Lg		10 40 45.5	
	21nm,0.2s,SNR=11						
EPF	**Esparros**	**0.76**	**121**	*e*Pg	**Pg**	**10 40 36.2**	**+0.3**
EPF				*e*Sg	**Sg**	**10 40 46.4**	**+0.3**
EPF				*e*Sn	**Sn**	**10 40 49.4**	**0.0**
	26nm,0.2s						
IPRE	**Itoiz**	**0.86**	**224**	Pg	**Pg**	**10 40 39.1**	**+1.3**
	5.4nm,0.2s,SNR=4.0						
IPRE				Lg		10 40 50.0	
	15nm,0.4s,SNR=7.9						
IPRE	**Itoiz**	**0.86**	**224**	Pg	**Pg**	**10 40 39.1**	**+1.3**
	5.4nm,0.2s,SNR=4.0						
EBIE	**Bielsa**	**0.90**	**145**	Pg	**Pg**	**10 40 38.0**	**-0.6**
	0.1nm,0.1s,SNR=12						
EBIE				Lg		10 40 50.9	
	4.1nm,0.2s,SNR=7.4						
EBIE	**Bielsa**	**0.90**	**145**	Pg	**Pg**	**10 40 38.0**	**-0.6**
	0.1nm,0.1s,SNR=12						
EARA	**Aranguren**	**1.00**	**229**	Pg	**Pg**	**10 40 40.6**	**0.0**
	0.8nm,0.1s,SNR=4.0						
EARA				Lg		10 40 54.0	
	7.8nm,0.3s,SNR=7.9						
MLS	**Moulis**	**1.29**	**111**	S	**Sb**	**10 41 02.8**	**+1.3**
EGRA	**Graus**	**1.39**	**152**	Pg	**Pg**	**10 40 48.9**	**+0.5**
	1.0nm,0.1s,SNR=5.9						
EGRA				Lg		10 41 09.6	
	2.9nm,0.3s,SNR=4.6						
SALF	**Salau**	**1.44**	**117**	P	**Pn**	**10 40 50.8**	**+3.5**
SALF				S	**Sb**	**10 41 12.7**	**+6.9**
ECRI	**Cripan**	**1.65**	**241**	Lg		10 41 14.7	
	9.3nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.71**	**178**	Pg	**Pg**	**10 40 53.5**	**-1.2**
	21nm,0.3s,SNR=10						
ESAC				Lg		10 41 16.8	
	20nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.71**	**178**	Pg	**Pg**	**10 40 53.6**	**-1.1**
	21nm,0.3s,SNR=10						
LFF	**La Frestale**	**1.77**	**31**	*e*Pg	**Pg**	**10 40 57.0**	**+0.9**
LFF				*e*Sg	**Sg**	**10 41 20.6**	**+0.9**
	8.1nm,0.4s						
MTLF	**Montolieu**	**2.02**	**92**	*e*Pn	**Pn**	**10 40 56.1**	**+0.6**
MTLF				*e*Pg	**Pg**	**10 41 00.3**	**-0.7**
MTLF				*e*Sn	**Sn**	**10 41 20.5**	**-0.8**
MTLF				*e*Sg	**Sg**	**10 41 27.2**	**-0.7**
	14nm,0.5s						
EMIR	**Miracle**	**2.15**	**134**	Pg	**Pg**	**10 41 01.2**	**-2.4**
	0.7nm,0.1s,SNR=7.9						
EMIR				Lg		10 41 32.4	
	1.1nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.15**	**134**	Pg	**Pg**	**10 41 01.2**	**-2.4**
	0.7nm,0.1s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.39**	**38**	*e*Sg	**Sg**	**10 41 40.3**	**0.0**
	4.8nm,0.3s						
EPOB	**Poblet**	**2.40**	**149**	Lg		10 41 39.5	
	0.8nm,0.3s,SNR=7.9						
CAF	**Calviac**	**2.41**	**51**	*e*Sg	**Sg**	**10 41 40.3**	**-0.4**
	3.3nm,0.2s						
LASF	**Ste Croix**	**3.26**	**77**	*e*Sg	**Sg**	**10 42 06.1**	**-3.1**
	0.9nm,0.2s						

IDC 16 11:16:43.0±6.0**, 6.01S**×**149.39E, h42**km±53km**, mb4.0**/4**, mb1 4.3**/5**, mb1mx3.8**/13**, mbtmp4.3**/5**, ML3.6**/1**, MS3.6**/2**, Ms1 3.6**/2**, ms1mx2.8**/18**, Error ellipse: s-maj=58.2km s-min=36.7km az=124.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.03**	**213**	P	P	11 17 42.0	-1.9
	30nm,0.3s,baz=16,slow=5.4,SNR=106						
PMG				S	S	11 18 25.1	-5.4
	26nm,0.3s,baz=37,slow=20,SNR=11						
WB2	**Warramunga Arr**	**20.13**	**225**	*e*P	P	11 21 12.7	-3.7
WRA	**Warramunga Arr**	**20.14**	**225**	P	P	11 21 13.0	-3.5
	9.0nm,0.6s,baz=53,slow=11,SNR=92						
FITZ	**Fitzroy Crossi**	**26.11**	**241**	*e*P	P	11 22 13.3	-1.8
	20nm,1.1s						
FITZ	**Fitzroy Crossi**	**26.11**	**241**	P	P	11 22 13.2	-2.0
	5.8nm,0.3s,baz=47,slow=7.2,SNR=28						
STKA	**Stephens Creek**	**26.75**	**195**	P	P	11 22 19.6	-1.3
	2.3nm,0.7s,baz=0.2,slow=12,SNR=4.4						
JNU	**Nakatsue**	**42.70**	**337**	LR	LR	11 40 38.8	
	comp=Z,72nm,18.9s,baz=214,slow=34						
MJAR	**Matsushiro Arr**	**43.61**	**347**	LR	LR	11 38 20.7	
	comp=Z,76nm,21.0s,baz=220,slow=30						
ILAR	**Eielson Array**	**84.57**	**23**	P	P	11 29 11.3	-1.6
	0.4nm,0.9s,baz=262,slow=4.8,SNR=4.2						

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*STR **16** 11:54:34.6±0.2, 43.46N×0.55W, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **16** 11:54:34.6, 43.46N×0.55W, h5km, ML3.1(LDG), ML2.5(STR), MN2.2(MDD), After STR.*
*MDD **16** 11:54:36.3±0.3, 43.39N×0.57W, mbLg2.2/26, Error ellipse: s-maj=2.7km s-min=1.8km az=179.0, PRXIMO*
*LDG **16** 11:54:36.2±0.1, 43.34N×0.60W, h2km, Md2.7/3, Ml3.1/6, Error ellipse: s-maj=2.5km s-min=1.9km az=132.0*
*CSEM **16** 11:54:36.3±0.0, 43.36N×0.61W, h2km, ML3.1/16, Error ellipse: s-maj=0.9km s-min=0.7km az=137.0*
ISC 16 11:54:33.6±0.3**, 43.47N**±0.01×**0.55W**±0.02**, h3**km±3km**, n90,** σ**1.25**/202**, 2D, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.38**	**227**	Pg	**Pg**	**11 54 41.9**	**+0.7**
ORDF				Sg	**Sg**	**11 54 47.9**	**+1.6**
ORDF	**Ordiarp**	**0.38**	**227**	P	**Pg**	**11 54 42.0**	**+0.8**
ORDF				S	**Sg**	**11 54 47.8**	**+1.5**
ATE	**Arette**	**0.40**	**195**	P	**Pg**	**11 54 41.7**	**+0.1**
ATE				S	**Sg**	**11 54 47.3**	**+0.3**
REYF	**Montagne du Re**	**0.42**	**164**	Pg	**Pg**	**11 54 42.0**	**0.0**
REYF				Sg	**Sg**	**11 54 48.3**	**+0.7**
REYF	**Montagne du Re**	**0.42**	**164**	P	**Pg**	**11 54 42.1**	**+0.1**
REYF				S	**Sg**	**11 54 48.1**	**+0.5**
LARF	**Larrau**	**0.54**	**216**	Pg	**Pg**	**11 54 44.5**	**+0.2**
LARF				Sg	**Sg**	**11 54 52.1**	**+0.6**
LARF	**Larrau**	**0.54**	**216**	P	**Pg**	**11 54 44.8**	**+0.5**
LARF				S	**Sg**	**11 54 52.1**	**+0.6**
OSSF	**Osses**	**0.56**	**247**	Pg	**Pg**	**11 54 45.4**	**+0.6**
OSSF	**Osses**	**0.56**	**247**	P	**Pg**	**11 54 45.5**	**+0.7**
OSSF				S	**Sg**	**11 54 53.6**	**+1.3**
ETSF	**Etsaut**	**0.58**	**180**	*e*Pg	**Pg**	**11 54 44.6**	**-0.5**
ETSF				*e*Pg	**Pg**	**11 54 44.6**	**-0.5**
ETSF				*e*Pn	**Pn**	**11 54 45.8**	**-2.5**
ETSF				*e*Pn	**Pn**	**11 54 46.3**	**-2.0**
ETSF				*e*Sg	**Sg**	**11 54 50.6**	**-2.1**
	137nm,0.5s						
ETSF				*e*Sn	**Sn**	**11 54 52.1**	**-6.2**
	137nm,0.5s						
ETSF	**Etsaut**	**0.58**	**180**	*e*Pg	**Pg**	**11 54 44.6**	**-0.5**
ETSF				*e*Pn	**Pn**	**11 54 45.8**	**-2.5**
ETSF				*e*Pn	**Pn**	**11 54 46.3**	**-2.0**
ETSF				*e*Sg	**Sg**	**11 54 50.6**	**-2.1**
ETSF				*e*Sn	**Sn**	**11 54 52.1**	**-6.2**
ETSF	**Etsaut**	**0.58**	**180**	Pg	**Pg**	**11 54 44.6**	**-0.5**
ETSF				Lg		11 54 50.6	
	68nm,0.5s						
SJPF	**Ste Jean**	**0.61**	**234**	*e*Pg	**Pg**	**11 54 45.9**	**+0.2**
SJPF				*e*Pg	**Pg**	**11 54 46.1**	**+0.4**
SJPF				*e*P		11 54 47.3	
SJPF				*e*Sg	**Sg**	**11 54 52.5**	**-1.3**
SJPF				*e*Sn	**Sn**	**11 54 54.7**	**-4.5**
SJPF				*e*Sn	**Sn**	**11 54 55.2**	**-4.0**
	176nm,0.2s						
SJPF	**Ste Jean**	**0.61**	**234**	Pg	**Pg**	**11 54 45.9**	**+0.2**
SJPF				Lg		11 54 52.5	
SJPF	**Ste Jean**	**0.61**	**234**	*e*Pg	**Pg**	**11 54 46.1**	**+0.4**
LABF	**Labassere**	**0.63**	**133**	P	**Pg**	**11 54 46.7**	**+0.7**
FDAF	**Les Forges d'A**	**0.66**	**181**	P	**Pg**	**11 54 46.1**	**-0.5**
FDAF				S	**Sg**	**11 54 54.8**	**-0.6**
VIEF	**Viey**	**0.73**	**144**	Pg	**Pg**	**11 54 47.9**	**-0.2**
VIEF				Sg	**Sg**	**11 54 58.4**	**+0.7**
VIEF	**Viey**	**0.73**	**144**	P	**Pg**	**11 54 48.1**	**0.0**
VIEF				S	**Sg**	**11 54 58.5**	**+0.7**
EALK	**Alkurruntz**	**0.74**	**250**	⇓Pg	**Pg**	**11 54 48.7**	**+0.4**
EALK				Lg		11 54 59.5	
EALK	**Alkurruntz**	**0.74**	**250**	⇓Pg	**Pg**	**11 54 48.7**	**+0.4**
	14nm,0.2s,SNR=18						
EALK				Lg		11 54 59.5	
	50nm,0.2s,SNR=7.9						
EPF	**Esparros**	**0.79**	**124**	*e*Pg	**Pg**	**11 54 49.8**	**+0.5**
EPF				*e*Pg	**Pg**	**11 54 50.1**	**+0.8**
EPF				*e*Pn	**Pn**	**11 54 52.2**	**+0.9**
EPF				*e*Pn	**Pn**	**11 54 52.3**	**+1.0**
EPF				*e*Sg	**Sg**	**11 55 00.5**	**+0.7**
EPF				*e*Sn	**Sn**	**11 55 02.5**	**-1.3**
	106nm,0.3s						
EPF				*e*Sn	**Sn**	**11 55 03.3**	**-0.5**
	106nm,0.3s						
EPF	**Esparros**	**0.79**	**124**	*e*Pg	**Pg**	**11 54 49.8**	**+0.5**
EPF				*e*Pg	**Pg**	**11 54 50.1**	**+0.8**
EPF				*e*Pn	**Pn**	**11 54 52.3**	**+1.0**
EPF				*e*Sg	**Sg**	**11 55 00.5**	**+0.7**
EPF				*e*Sn	**Sn**	**11 55 02.5**	**-1.3**
EPF				*e*Sn	**Sn**	**11 55 03.3**	**-0.5**
EPF	**Esparros**	**0.79**	**124**	Pg	**Pg**	**11 54 49.8**	**+0.5**
EPF				Lg		11 55 00.5	
EPF	**Esparros**	**0.79**	**124**	*e*Pg	**Pg**	**11 54 50.1**	**+0.8**
IPRE	**Itoiz**	**0.89**	**222**	Pg	**Pg**	**11 54 52.2**	**+0.9**
	5.0nm,0.2s,SNR=6.0						
IPRE				Lg		11 55 03.6	
	10nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**0.89**	**222**	Pg	**Pg**	**11 54 52.2**	**+0.9**
	5.0nm,0.2s,SNR=6.0						
RESF	**Ens**	**0.93**	**135**	Pg	**Pg**	**11 54 52.3**	**+0.1**
RESF	**Ens**	**0.93**	**135**	P	**Pb**	**11 54 52.5**	**+0.4**
RESF				S	**Sg**	**11 55 05.7**	**+1.1**
EBIE	**Bielsa**	**0.94**	**147**	Pg	**Pg**	**11 54 51.9**	**-0.4**
	1.4nm,0.2s,SNR=25						
EBIE				Lg		11 55 04.9	
	5.1nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.94**	**147**	Pg	**Pg**	**11 54 51.9**	**-0.4**
	1.4nm,0.2s,SNR=25						
EARA	**Aranguren**	**1.03**	**227**	Pg	**Pg**	**11 54 54.4**	**+0.3**
	4.1nm,0.1s,SNR=7.9						
EARA				Lg		11 55 08.1	
	14nm,0.2s,SNR=7.9						
MELF	**Melles**	**1.13**	**122**	Pn	**Pn**	**11 54 55.9**	**-0.4**
MLS	**Moulis**	**1.31**	**113**	P	**Pb**	**11 55 00.5**	**+2.0**
MLS				S	**Sb**	**11 55 15.9**	**+0.3**
EGRA	**Graus**	**1.43**	**153**	Pg	**Pg**	**11 55 01.9**	**-0.2**
	1.7nm,0.2s,SNR=8.9						
EGRA				Lg		11 55 21.8	
	3.3nm,0.3s,SNR=6.2						
SALF	**Salau**	**1.46**	**119**	P	**Pn**	**11 55 04.9**	**+4.0**
SALF				S	**Sb**	**11 55 24.3**	**+4.3**
ECRI	**Cripan**	**1.68**	**240**	Pn	**Pn**	**11 55 06.3**	**+2.3**
	5.9nm,0.2s,SNR=7.9						
ECRI				Lg		11 55 29.2	
	17nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**1.73**	**32**	*e*Pg	**Pg**	**11 55 10.8**	**+2.6**
LFF				*e*Pg	**Pg**	**11 55 10.8**	**+2.6**
LFF				*e*Sn	**Sn**	**11 55 29.8**	**+2.0**
LFF				*e*Sg	**Sg**	**11 55 34.9**	**+3.6**
	81nm,0.6s						
LFF				*e*Sg	**Sg**	**11 55 35.1**	**+3.8**
	81nm,0.6s						
LFF	**La Frestale**	**1.73**	**32**	*e*Pg	**Pg**	**11 55 10.8**	**+2.6**
LFF				*e*Sn	**Sn**	**11 55 29.8**	**+2.0**
LFF				*e*Sg	**Sg**	**11 55 34.9**	**+3.6**
LFF				*e*Sg	**Sg**	**11 55 35.1**	**+3.8**
LFF	**La Frestale**	**1.73**	**32**	*e*Pg	**Pg**	**11 55 10.8**	**+2.6**
LFF				*e*Sn	**Sn**	**11 55 29.8**	**+2.0**
LFF				*e*Sg	**Sg**	**11 55 34.9**	**+3.6**
	40nm,0.6s						
ESAC	**San Caprasio**	**1.75**	**178**	Pg	**Pg**	**11 55 06.1**	**-2.4**
	26nm,0.2s,SNR=43						
ESAC				Lg		11 55 30.4	
	28nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.75**	**178**	Pg	**Pg**	**11 55 06.2**	**-2.3**
LPEF	**Le Peyrat**	**1.88**	**105**	S	**Sn**	**11 55 36.6**	**+5.3**
MTLF	**Montolieu**	**2.02**	**93**	*e*Pn	**Pn**	**11 55 10.0**	**+1.0**
MTLF				*e*Pn	**Pn**	**11 55 10.1**	**+1.1**
MTLF				*e*Pg	**Pg**	**11 55 14.0**	**0.0**
MTLF				*e*Pg	**Pg**	**11 55 14.6**	**+0.6**
MTLF				*e*Sn	**Sn**	**11 55 33.8**	**-1.3**
MTLF				*e*Sg	**Sg**	**11 55 40.9**	**0.0**
	57nm,0.6s						
MTLF				*e*Sg	**Sg**	**11 55 41.4**	**+0.5**
	57nm,0.6s						
MTLF	**Montolieu**	**2.02**	**93**	*e*Pn	**Pn**	**11 55 10.1**	**+1.1**
MTLF				*e*Pg	**Pg**	**11 55 14.0**	**0.0**
MTLF				*e*Pg	**Pg**	**11 55 14.6**	**+0.6**
MTLF				*e*Sn	**Sn**	**11 55 33.8**	**-1.3**
MTLF				*e*Sg	**Sg**	**11 55 40.9**	**0.0**
MTLF				*e*Sg	**Sg**	**11 55 41.4**	**+0.5**
MTLF	**Montolieu**	**2.02**	**93**	Pn	**Pn**	**11 55 10.0**	**+1.0**
MTLF				Pg	**Pg**	**11 55 14.0**	**0.0**
MTLF				Sn	**Sn**	**11 55 33.8**	**-1.3**
MTLF				Lg		11 55 40.9	
	28nm,0.6s						
CARF	**Carcanieres**	**2.09**	**110**	P	**Pn**	**11 55 15.5**	**+5.6**
CARF				S	**Sn**	**11 55 44.8**	**+8.0**
ELAN	**Lanestosa**	**2.12**	**264**	Pg	**Pg**	**11 55 13.8**	**-2.0**
	0.5nm,0.3s,SNR=9.4						
ELAN				Lg		11 55 42.7	
	1.9nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**2.12**	**264**	Pg	**Pg**	**11 55 13.8**	**-2.0**
	0.5nm,0.3s,SNR=9.4						
VALF	**Valcebollere**	**2.17**	**119**	P	**Pn**	**11 55 16.7**	**+5.6**
VALF				S	**Sn**	**11 55 44.4**	**+5.5**
EMIR	**Miracle**	**2.19**	**135**	Pg	**Pg**	**11 55 15.7**	**-1.5**
	6.1nm,0.4s,SNR=7.9						
EMIR				Lg		11 55 46.2	
	5.0nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.19**	**135**	Pg	**Pg**	**11 55 15.7**	**-1.5**
	6.1nm,0.4s,SNR=7.9						
LRDF	**Laroque-de-Fa**	**2.32**	**102**	P	**Pn**	**11 55 14.8**	**+1.5**
LRDF				S	**Sn**	**11 55 49.1**	**+6.3**
RJF	**Les Rejaudoux**	**2.36**	**38**	*e*Pg	**Pg**	**11 55 21.9**	**+1.3**
RJF				*e*Pg	**Pg**	**11 55 22.0**	**+1.4**
RJF				*e*Sn	**Sn**	**11 55 43.5**	**-0.1**
RJF				*e*Sn	**Sn**	**11 55 44.1**	**+0.5**
RJF				*e*Sg	**Sg**	**11 55 53.9**	**+1.9**
	60nm,0.8s						
RJF				*e*Sg	**Sg**	**11 55 55.2**	**+3.2**
	60nm,0.8s						
RJF	**Les Rejaudoux**	**2.36**	**38**	*e*Pg	**Pg**	**11 55 21.9**	**+1.3**
RJF				*e*Sn	**Sn**	**11 55 43.5**	**-0.1**
RJF				*e*Sn	**Sn**	**11 55 44.1**	**+0.5**
RJF				*e*Sg	**Sg**	**11 55 53.9**	**+1.9**
RJF				*e*Sg	**Sg**	**11 55 55.2**	**+3.2**
RJF	**Les Rejaudoux**	**2.36**	**38**	Pg	**Pg**	**11 55 21.9**	**+1.3**
RJF				Sn	**Sn**	**11 55 43.5**	**-0.1**
RJF				Lg		11 55 53.9	
	30nm,0.8s						
RJF	**Les Rejaudoux**	**2.36**	**38**	*e*Pg	**Pg**	**11 55 22.0**	**+1.4**
RJF				*e*Sn	**Sn**	**11 55 44.1**	**+0.5**
RJF				*e*Sg	**Sg**	**11 55 53.9**	**+1.9**
	30nm,0.8s						
CAF	**Calviac**	**2.38**	**51**	*e*Pn	**Pn**	**11 55 15.2**	**+1.1**
CAF				*e*Pn	**Pn**	**11 55 15.3**	**+1.2**
CAF				*e*Pg	**Pg**	**11 55 22.6**	**+1.6**
CAF				*e*Pg	**Pg**	**11 55 23.3**	**+2.3**
CAF				*e*Sg	**Sg**	**11 55 54.5**	**+1.8**
	24nm,0.4s						
CAF				*e*Sg	**Sg**	**11 55 54.6**	**+1.9**
	24nm,0.4s						
CAF	**Calviac**	**2.38**	**51**	*e*Pn	**Pn**	**11 55 15.3**	**+1.2**
CAF				*e*Pg	**Pg**	**11 55 22.6**	**+1.6**
CAF	**Calviac**	**2.38**	**51**	Pn	**Pn**	**11 55 15.2**	**+1.1**
CAF				Pg	**Pg**	**11 55 22.6**	**+1.6**
CAF				Lg		11 55 54.5	
	12nm,0.4s						
EPOB	**Poblet**	**2.44**	**150**	Pg	**Pg**	**11 55 20.5**	**-1.8**
	0.6nm,0.1s,SNR=7.9						
EPOB				Lg		11 55 53.1	
	0.8nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.44**	**150**	Pg	**Pg**	**11 55 20.5**	**-1.8**
	0.6nm,0.1s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.76**	**163**	*e*SG	**Sg**	**11 56 05.5**	**-0.1**
EMOS	**Mosqueruela**	**3.11**	**179**	Pn	**Pn**	**11 55 25.6**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
EMOS				Pg	**Pg**	**11 55 33.0**	**-2.6**
	0.4nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**11 55 59.4**	**-3.2**
	SNR=7.9						
EMOS				Lg		11 56 14.4	
	0.5nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**3.11**	**179**	Pn	**Pn**	**11 55 25.6**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**3.11**	**179**	Pg	**Pg**	**11 55 33.0**	**-2.6**
	0.4nm,0.2s,SNR=7.9						
EMOS				Sn	**Sn**	**11 55 59.4**	**-3.3**
	SNR=7.9						
MFF	**Saint Martin d**	**3.14**	**5**	*e*Pn	**Pn**	**11 55 26.5**	**+1.6**
MFF				*e*Pn	**Pn**	**11 55 26.5**	**+1.6**
MFF				*e*Pg	**Pg**	**11 55 36.8**	**+0.5**
MFF				*e*Pg	**Pg**	**11 55 37.2**	**+0.9**
MFF				*e*Sn	**Sn**	**11 56 03.1**	**-0.4**
MFF				*e*Sg	**Sg**	**11 56 18.4**	**+0.3**
	31nm,0.7s						
MFF				*e*Sg	**Sg**	**11 56 18.7**	**+0.6**
MFF	**Saint Martin d**	**3.14**	**5**	*e*Pn	**Pn**	**11 55 26.5**	**+1.6**
MFF				*e*Pg	**Pg**	**11 55 36.8**	**+0.5**
MFF	**Saint Martin d**	**3.14**	**5**	Pn	**Pn**	**11 55 26.5**	**+1.6**
MFF				Pg	**Pg**	**11 55 36.8**	**+0.5**
MFF				Sn	**Sn**	**11 56 03.1**	**-0.4**
MFF				Lg		11 56 18.4	
	16nm,0.7s						
LASF	**Ste Croix**	**3.25**	**78**	*e*Pn	**Pn**	**11 55 27.3**	**+0.8**
LASF				*e*Pn	**Pn**	**11 55 28.0**	**+1.5**
LASF				*e*Pg	**Pg**	**11 55 37.4**	**-1.1**
LASF				*e*Pg	**Pg**	**11 55 37.7**	**-0.8**
LASF				*e*Sg	**Sg**	**11 56 19.9**	**-1.9**
	18nm,0.5s						
LASF				*e*Sg	**Sg**	**11 56 20.4**	**-1.4**
	18nm,0.5s						
LASF	**Ste Croix**	**3.25**	**78**	Pn	**Pn**	**11 55 27.3**	**+0.8**
LASF				Pg	**Pg**	**11 55 37.4**	**-1.1**
LASF				Lg		11 56 19.9	
	8.9nm,0.5s						
EARI	**Arriondas**	**3.40**	**269**	Pn	**Pn**	**11 55 29.7**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
EARI				Pg	**Pg**	**11 55 36.7**	**-4.7**
	0.5nm,0.3s,SNR=7.9						
EARI				Sn	**Sn**	**11 56 09.5**	**-0.5**
	SNR=7.9						
EARI	**Arriondas**	**3.40**	**269**	Pn	**Pn**	**11 55 29.7**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**3.40**	**269**	Pg	**Pg**	**11 55 36.7**	**-4.7**
	0.5nm,0.3s,SNR=7.9						
EARI				Sn	**Sn**	**11 56 09.5**	**-0.5**
	SNR=7.9						
TCF	**Toulx Ste Croi**	**3.43**	**34**	*e*Sg	**Sg**	**11 56 27.7**	**-0.1**
	7.9nm,0.3s						
BGF	**Bois d'Agland**	**3.91**	**37**	*e*Sn	**Sn**	**11 56 21.8**	**-1.2**
BGF				*e*Sg	**Sg**	**11 56 43.3**	**-0.6**
	42nm,0.4s						
VIVF	**Saint-Julien-l**	**4.01**	**68**	*e*Pg	**Pg**	**11 55 52.0**	**-1.5**
VIVF				*e*Sn	**Sn**	**11 56 24.7**	**-0.7**
VIVF				*e*Sg	**Sg**	**11 56 45.0**	**-1.9**
	24nm,0.9s						
VIVF				*e*Sg	**Sg**	**11 56 45.7**	**-1.2**
	24nm,0.9s						
SMF	**Signal de Mont**	**4.44**	**43**	*e*Sg	**Sg**	**11 56 59.5**	**-2.0**
	24nm,0.9s						
ESDC	**Sonseca Array**	**4.58**	**215**	Pn	**Pn**	**11 55 44.1**	**-1.2**
	0.8nm,0.1s,baz=34,slow=13,SNR=4.2						
ESDC	**Sonseca Array**	**4.58**	**215**	Pn	**Pn**	**11 55 44.1**	**-1.3**
	0.8nm,0.1s,SNR=4.2						
SSF	**Saint Saulge**	**4.59**	**37**	*e*Sg	**Sg**	**11 57 04.4**	**-2.0**
	1.9nm,0.3s						
QUIF	**Quistinic**	**4.80**	**339**	*e*Pn	**Pn**	**11 55 48.6**	**0.0**
QUIF				*e*Sg	**Sg**	**11 57 09.9**	**-3.6**
	3.9nm,0.4s						
ECAL	**Calabor**	**4.81**	**254**	Pn	**Pn**	**11 55 48.1**	**-0.5**
	0.6nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**11 56 43.7**	**-2.0**
	SNR=7.9						
ECAL				Lg		11 57 09.3	
	3.8nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**4.81**	**254**	Pn	**Pn**	**11 55 48.1**	**-0.5**
	0.6nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**4.81**	**271**	Pn	**Pn**	**11 55 49.9**	**+1.3**
	0.3nm,0.2s,SNR=7.9						
EPON				Sn	**Sn**	**11 56 42.4**	**-3.3**
	SNR=7.9						
EPON	**Pontenova**	**4.81**	**271**	Pn	**Pn**	**11 55 49.9**	**+1.3**
	0.3nm,0.2s,SNR=7.9						
EPON				Sn	**Sn**	**11 56 42.4**	**-3.3**
GRR	**Gorron**	**4.92**	**358**	*e*Sg	**Sg**	**11 57 15.1**	**-2.2**
	7.2nm,0.5s						
SGMF	**Saint Gilles**	**4.98**	**344**	*e*Pn	**Pn**	**11 55 51.3**	**+0.2**
SGMF				*e*Sg	**Sg**	**11 57 14.4**	**-5.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	5.5nm,0.4s						
LDF	**La Druitiere**	**5.13**	**3**	eSg	**Sg**	**11 57 19.5**	**-4.8**
	9.1nm,0.6s						
FLN	**La Foliniere**	**5.29**	**1**	eSg	**Sg**	**11 57 25.6**	**-4.1**
	4.5nm,0.4s						

KRSC 16 12:02:39.8±1.7**,51.36N×159.92E,h40km**±43km**,ML3.8, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.38**	**322**	i P	P	12 03 02.4	-0.7
RUS				eS	S	12 03 19.6	-0.8
GRL	**Gorelyy**	**1.65**	**317**	eP	P	12 03 07.5	+0.6
GRL				eS	S	12 03 27.2	+0.1
SPN	**Mys Shipunski**	**1.74**	**2**	eP	P	12 03 10.1	+2.0
SPN				eS	S	12 03 31.8	+2.5
PET	**Petropavlovsk**	**1.84**	**335**	eP	P	12 03 09.5	0.0
PET				eS	S	12 03 30.6	-1.1
NLC	**Nalytchevo**	**1.85**	**349**	eP	P	12 03 09.9	+0.3
NLC				eS	S	12 03 31.1	-0.8
PAU	**Pauzhetka**	**1.95**	**274**	eP	P	12 03 11.8	+0.7
PAU				eS	S	12 03 34.6	+0.1
PAU				Smax			
	240nm,0.8s						
UGLR	**Uglovaya**	**1.97**	**340**	eP	P	12 03 12.8	+1.4
SDLR	**Sedlovina**	**2.02**	**342**	eP	P	12 03 12.9	+0.8
SMAR	**Somma**	**2.03**	**341**	eP	P	12 03 13.7	+1.5
AVH	**Avacha**	**2.04**	**340**	eP	P	12 03 13.0	+0.6
AVH				eS	S	12 03 36.5	-0.3
KOK	**Koryaka**	**2.09**	**338**	eP	P	12 03 14.0	+0.9
MIPR	**Malaya Ipel'ka**	**2.17**	**296**	i P	P	12 03 15.2	+1.0
MIPR				eS	S	12 03 39.8	-0.2
APC	**Apacha**	**2.31**	**314**	eP	P	12 03 17.0	+0.7
APC				eS	S	12 03 43.4	-0.3
APC				Smax			
	90nm,0.7s						
SKR	**Severo-Kuril's**	**2.50**	**256**	eP	P	12 03 19.4	+0.5
SKR				eS	S	12 03 51.4	+3.0
GNL	**Ganaly**	**2.63**	**333**	eP	P	12 03 20.9	+0.1
GNL				eS	S	12 03 50.9	-0.9
ALID	**Alaid**	**2.80**	**262**	eP	P	12 03 24.3	+1.1
ALID				eS	S	12 03 56.2	+0.2
MKZ	**Mys Kozlova**	**3.38**	**18**	eP	P	12 03 31.5	0.0
MKZ				eS	S	12 04 09.4	-1.5
TUMR	**Tumrok**	**3.93**	**2**	eP	P	12 03 41.9	+2.6
ESO	**Esso**	**4.63**	**351**	eP	P	12 03 50.2	+1.0
KBTR	**Krutoberegovo**	**5.15**	**18**	eP	P	12 03 57.8	+1.3

MAN 16 12:17:33.5,18.77N×121.94E,h4km,mb4.2,ML3.0,MS2.7, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.53**	**169**	eP	Pg	12 17 44.3	+0.2
SGCP				eS	Sg	12 17 54.5	+3.3
CVP	**Callao Caves**	**1.06**	**186**	eP	Pb	12 17 54.0	-0.1
APYP	**Conner**	**1.12**	**216**	eP	Pb	12 17 54.0	-1.0
APYP				eS	Sb	12 18 11.9	+2.1
ABRA	**Dolores**	**1.61**	**227**	eP	Pn	12 18 02.5	-0.4
ABRA				eS	Sb	12 18 24.5	+0.4
CAUP	**Cauayan**	**1.82**	**184**	eP	Pn	12 18 07.2	+1.4

*NEIC **16** 12:33:37.5,30.55S×71.04W,h55km,After GUC.*

GUC 16 12:33:37.5±0.8**,30.55S×71.04W,h55km**±3km**,ML3.8,4C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.15**	**246**	eP	P	12 33 46.3	+0.3
OVCH				i S	S	12 33 52.8	+0.5
OVCH				AMP		12 33 53.2	
	comp=N,12μm,0.4s						
TLL	**Tololo Astrono**	**0.43**	**29**	⇑iP	P	12 33 49.5	+1.1
TLL				i S	S	12 33 58.1	+1.8
TLL				AMP		12 33 59.5	
	comp=N,11μm,0.3s						
CMCH	**Combarbala**	**0.62**	**177**	⇑iP	P	12 33 50.8	+0.2
CMCH				i S	S	12 34 00.9	+0.7
CMCH				AMP		12 34 03.1	
	comp=E,8μm,0.6s						
ILCH	**Illapel**	**1.09**	**186**	eP	P	12 33 56.9	0.0
ILCH				i S	S	12 34 11.2	0.0
ILCH				AMP		12 34 16.3	
	comp=E,3μm,0.2s						
VACH	**Vallenar**	**1.98**	**7**	⇑iP	P	12 34 09.1	-0.2
VACH				i S	S	12 34 32.8	-0.1
PACH	**Papudo**	**2.01**	**190**	eP	P	12 34 10.2	+0.5
PACH				i S	S	12 34 34.0	+0.4
JACH	**Jahuel**	**2.16**	**170**	eP	P	12 34 11.9	0.0
ZON	**Zonda**	**2.26**	**117**	eP	P	12 34 15.0	+1.7
ZON				eS	S	12 34 50.0	+10
ROCH	**El Roble**	**2.42**	**179**	eP	P	12 34 16.2	+0.7
LCCH	**Las Cruces**	**2.95**	**189**	⇑iP	P	12 34 22.7	-0.5
LNV	**Longovilo**	**3.41**	**185**	eP	P	12 34 28.4	-1.2
CACH	**El Canelo**	**3.58**	**174**	eP	P	12 34 32.1	+0.1

*MOS **16** 12:49:02.2±0.8,36.40N×70.64E,h202km,mb4.5/12,Error ellipse: s-maj=10.8km s-min=5.7km az=89.9*
*BJI **16** 12:49:04.9,36.50N×70.76E,h220km,mB4.6,mb4.6*
*NEIC **16** 12:49:05.5±0.3,36.43N×70.77E,mb4.5/14,Error ellipse: s-maj=8.4km s-min=5.4km az=47.0*
*IDC **16** 12:49:06.0±0.9,36.44N×70.74E,h222km±8km,mb3.8/18, mb1 3.9/20,mb1mx3.8/26,mbtmp4.4/20,Error ellipse: s-maj=11.5km s-min=9.8km az=137.0*
*NNC **16** 12:49:09.2±2.9,36.91N×70.56E,h204km±22km,mpv5.0, Error ellipse: s-maj=24.2km s-min=19.4km az=20.0*

ISC 16 12:49:02.9±0.3**,36.40N**±0.02×**70.76E**±0.04**,h205km**±4km**, h216km**±3.4km**:pP-P,n127,**σ1§**12**/148**,mb4.2**/34**,18C-8D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.73**	**160**	⇑P	**P**	**12 49 51.9**	**+1.7**
CEP				S	**S**	**12 50 27.0**	**+0.3**
CHCP	**Chirah Chowk**	**3.42**	**142**	P	**P**	**12 50 00.2**	**+1.9**
THW	**Thamme Wali**	**3.68**	**167**	⇑P	**P**	**12 50 02.8**	**+1.3**
SBDP	**Sheikh Budin**	**4.09**	**179**	⇑P	**P**	**12 50 06.9**	**+0.4**
DRP	**Derazinda**	**4.66**	**186**	⇑P	**P**	**12 50 14.7**	**+0.9**
SARP	**Sargodha**	**4.74**	**160**	⇑P	**P**	**12 50 15.4**	**+0.7**
SARP				S	**S**	**12 51 08.0**	**-2.4**
JMU	**Jammu**	**5.01**	**136**	e	**S**	**12 51 15.0**	**-1.7**
KSH	**Kashi**	**5.16**	**51**	⇓iP	**P**	**12 50 22.0**	**+1.9**
KSH				S	**S**	**12 51 21.1**	**+1.0**
KSH				Smax			
	comp=N,1μm,0.6s						
KSH				Smax			
	comp=E,1μm,0.4s						
THN	**Thein Dam**	**5.69**	**133**	eP	**P**	**12 50 27.0**	**+0.1**
THN				eS	**S**	**12 51 30.2**	**-2.1**
DLH	**Dalhousie**	**5.77**	**130**	eP	**P**	**12 50 28.0**	**+0.1**
DLH				eS	**S**	**12 51 32.0**	**-2.1**
AML	**Almayashu**	**6.16**	**21**	P	**P**	**12 50 33.3**	**+0.3**
	SNR=1327						
PONG	**Pong**	**6.17**	**134**	e	**P**	**12 50 36.0**	**+2.8**
PONG				eS	**S**	**12 51 43.0**	**-0.5**
UCH	**Uchtor**	**6.51**	**25**	P	**P**	**12 50 38.2**	**+0.7**
	SNR=187						
KZA	**Kyzart**	**6.66**	**30**	P	**P**	**12 50 39.4**	**0.0**
	SNR=98						
EKS2	**Erkin-Say**	**6.68**	**20**	P	**P**	**12 50 39.9**	**+0.3**
	SNR=120						
KK31	**Karatay Array**	**6.70**	**358**	⇓P	**P**	**12 50 39.6**	**-0.3**
	comp=E,54nm,0.3s,baz=190,slow=13,SNR=1098						
KK31				⇑S	**S**	**12 51 50.6**	**-5.2**
	comp=E,108nm,0.4s						
KKAR	**Karatay Array**	**6.70**	**358**	i PN	**P**	**12 50 39.6**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,77nm,0.3s						
BHK	**Bhakra**	**6.84**	**135**	eS	**S**	**12 51 59.5**	**+0.6**
AAK	**Ala-Archa**	**6.86**	**24**	P	**P**	**12 50 42.6**	**+0.5**
	SNR=93						
AAK	**Ala-Archa**	**6.86**	**24**	P	**P**	**12 50 42.5**	**+0.4**
	comp=Z,61nm,0.5s						
AAK				⇑S	**S**	**12 51 57.4**	**-2.1**
	comp=Z,214nm,0.7s						
AAK	**Ala-Archa**	**6.86**	**24**d	i PN	**P**	**12 50 41.5**	**-0.6**
AAK	**Ala-Archa**	**6.86**	**24**	eP	**P**	**12 50 41.4**	**-0.7**
	comp=Z,149nm,0.5s						
KBK	**Karagaybulak**	**7.04**	**26**	P	**P**	**12 50 45.1**	**+0.7**
	SNR=32						
FRU	**Bishkek**	**7.08**	**24**	i PN	**P**	**12 50 45.5**	**+0.6**
FRU				i S	**S**	**12 52 04.0**	**-0.6**
FRU				pmax	pmax		
	comp=Z,230nm,0.9s						
FRU				smax			
	comp=E,260nm,1.5s						
SDNR	**Sundarnagar**	**7.10**	**132**	eP	**P**	**12 50 44.2**	**-1.0**
SDNR				e		12 52 10.0	
ULHL	**Ulahol**	**7.22**	**34**	P	**P**	**12 50 46.9**	**+0.1**
	SNR=86						
CHMS	**Chumysh**	**7.28**	**24**	P	**P**	**12 50 47.3**	**-0.1**
	SNR=91						
USP	**Ospenovka**	**7.44**	**22**	P	**P**	**12 50 49.3**	**-0.3**
	SNR=14						
SMLA	**Simla**	**7.49**	**133**	⇑i	**P**	**12 50 47.6**	**-2.6**
SMLA				i		12 52 06.4	
TKM2	**Tokmak 2**	**7.51**	**28**	P	**P**	**12 50 50.6**	**+0.1**
	SNR=330						
DDI	**Dehra Dun**	**8.60**	**133**	eP	**P**	**12 51 04.2**	**-0.5**
DDI				eS	**S**	**12 52 36.6**	**-3.3**
NDI	**New Delhi**	**9.42**	**143**	e	**P**	**12 51 14.0**	**-1.4**
NDI				eP		12 51 14.9	
NDI				e		12 52 48.0	
AJM	**Ajmer**	**10.43**	**160**	e	**P**	**12 51 27.2**	**-1.1**
AJM				AMb	AMB	12 51 28.8	
	comp=Z,46nm,0.5s						
AJM				e		12 53 08.3	
LGTI	**Lohaghat**	**10.56**	**128**	eP	**P**	**12 51 29.3**	**-0.7**
LGTI				eS	**S**	**12 53 21.3**	**-4.1**
MK31	**Makanchi Array**	**13.49**	**36**	⇑P	**P**	**12 52 07.0**	**-0.1**
	comp=Z,20nm,0.8s						
MK31				S	**S**	**12 54 35.9**	**+3.4**
	comp=Z,0.2nm,0.1s,baz=90,slow=32,SNR=2.7						
MKAR	**Makanchi Array**	**13.49**	**36**	i P	**P**	**12 52 06.9**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MKAR	**Makanchi Array**	**13.49**	**36**	P	**P**	**12 52 07.0**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=222,slow=15,SNR=33						
KOLN	**Koldanda**	**13.86**	**125**	eP	**P**	**12 52 12.7**	**+0.9**
	comp=Z,16nm,0.4s						
BHPL	**Bhopal**	**14.32**	**154**	eP	**P**	**12 52 21.5**	**+3.9**
BHPL				AMb	AMB	12 52 22.4	
	comp=Z,55nm,0.7s						
BHPL				e		12 54 47.9	
GKN	**Gorkha**	**14.41**	**122**	eP	**P**	**12 52 19.5**	**+0.8**
	comp=Z,51nm,0.3s						
WMQ	**Urumqi**	**14.91**	**55**	eP	**P**	**12 52 26.3**	**+1.6**
WMQ				AMB	AMB		
	comp=Z,29nm,0.5s						
DMN	**Daman**	**14.98**	**122**	eP	**P**	**12 52 26.1**	**+0.4**
	comp=Z,28nm,0.5s						
KKN	**Kakani**	**14.99**	**121**	eP	**P**	**12 52 26.0**	**+0.2**
	comp=Z,82nm,0.6s						
KKN	**Kakani**	**14.99**	**121**	eP	**P**	**12 52 26.0**	**+0.2**
KKN				pmax	pmax		
	comp=Z,41nm,0.6s						
AB31	**Akbulak array**	**15.08**	**332**	⇓P	**P**	**12 52 25.5**	**-1.3**
	comp=Z,9.7nm,0.6s						
AB31				⇑S	**S**	**12 55 04.2**	**-4.2**
	comp=Z,9.1nm,0.7s						
AB31	**Akbulak array**	**15.08**	**332**	P	**P**	**12 52 25.4**	**-1.4**
AB31				S	**S**	**12 55 04.1**	**-4.2**
AB31				pmax	pmax		
	comp=Z,11nm,0.6s						
PKI	**Pulchoki**	**15.21**	**121**	eP	**P**	**12 52 28.7**	**+0.1**
	comp=Z,91nm,0.8s						
PKI	**Pulchoki**	**15.21**	**121**	eP	**P**	**12 52 28.7**	**+0.1**
PKI				pmax	pmax		
	comp=Z,46nm,0.8s						
GUN	**Gumba**	**15.33**	**119**	eP	**P**	**12 52 29.8**	**-0.3**
	comp=Z,27nm,0.3s						
KURK	**Kurchatov**	**15.39**	**19**	⇓P	**P**	**12 52 29.1**	**-1.5**
	comp=Z,2.1nm,0.5s						
KURK	**Kurchatov**	**15.39**	**19**	eP	**P**	**12 52 28.5**	**-2.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KURK	**Kurchatov**	**15.39**	**19**	eP	**P**	**12 52 28.5**	**-2.1**
	comp=Z,5.9nm,0.5s						
VOSK	**Vostochnaya**	**16.32**	**0**	⇑P	**P**	**12 52 40.8**	**-1.2**
	comp=Z,11nm,0.7s						
VOSK	**Vostochnaya**	**16.32**	**0**	P	**P**	**12 52 40.7**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
AKL	**Akola**	**16.57**	**159**	eP	**P**	**12 52 50.3**	**+5.3**
AKL				AMb	AMB	12 52 51.7	
	comp=Z,22nm,0.6s						
ZRNK	**Zerenda**	**16.60**	**356**	⇓P	**P**	**12 52 44.7**	**-0.5**
	comp=Z,3.0nm,0.5s						
ZRNK	**Zerenda**	**16.60**	**356**	P	**P**	**12 52 44.6**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZRNK	**Zerenda**	**16.60**	**356**	eP	**P**	**12 52 43.5**	**-1.7**
BVA0	**Borovoye Array**	**16.63**	**359**	P	**P**	**12 52 45.2**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=182,slow=14,SNR=35						
BVA0				⇓S	**S**	**12 55 44.6**	**+1.7**
	comp=Z,2.8nm,1.6s,baz=165,slow=20,SNR=4.5						
BVA0	**Borovoye Array**	**16.63**	**359**	i P	**P**	**12 52 45.1**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**16.63**	**359**	P	**P**	**12 52 44.8**	**-0.8**
	comp=Z,2.5nm,0.3s,baz=158,slow=12,SNR=29						
BVAR				S	**S**	**12 55 48.2**	**+5.4**
	comp=Z,0.4nm,0.3s,baz=163,slow=16,SNR=3.7						
BRVK	**Borovoye**	**16.66**	**359**	P	**P**	**12 52 45.5**	**-0.4**
BRVK	**Borovoye**	**16.66**	**359**	eP	**P**	**12 52 45.2**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BRVK	**Borovoye**	**16.66**	**359**	eP	**P**	**12 52 45.1**	**-0.8**
	comp=Z,10nm,0.7s						
NGP	**Nagpur**	**16.83**	**152**	e	**P**	**12 52 48.5**	**+0.5**
NGP				AMb	AMB	12 52 49.0	
	comp=Z,14nm,0.4s						
POO	**Poona**	**18.01**	**170**	e	**P**	**12 52 56.1**	**-4.7**
LSA	**Lhasa**	**18.34**	**106**	eP	**P**	**12 53 04.6**	**+0.5**
LSA	**Lhasa**	**18.34**	**106**	eP	**P**	**12 53 06.3**	**+2.2**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LSA	**Lhasa**	**18.34**	**106**	eP	**P**	**12 53 06.3**	**+2.2**
	comp=Z,10nm,0.5s						
KAD	**Karad**	**19.25**	**170**	eP	**P**	**12 53 14.8**	**+1.2**
ZAL	**Zalesovo**	**20.07**	**25**	P	**P**	**12 53 22.2**	**+0.5**
	comp=Z,45nm,0.4s,baz=255,slow=5.9,SNR=75						
ZAL				S	**S**	**12 56 53.8**	**+3.1**
	comp=Z,2.7nm,0.5s,baz=12,slow=24,SNR=9.8						
HYB	**Hyderabad**	**20.13**	**158**	eP	**P**	**12 53 26.0**	**+3.5**
HYB	**Hyderabad**	**20.13**	**158**	i P	**P**	**12 53 26.0**	**+3.5**
NVS	**Novosibirsk**	**20.35**	**21**	⇑iP	**P**	**12 53 23.8**	**-0.7**
NVS				i S	**S**	**12 56 58.9**	**+3.1**
NVS				pmax	pmax		
	comp=Z,29nm,0.7s						
NVS				pmax	pmax		
	comp=N,32nm,0.8s						
NVS				pmax	pmax		
	comp=E,12nm,0.7s						
NVS				smax			
	comp=N,22nm,1.0s						
NVS				smax			
	comp=E,33nm,1.2s						
KBD	**Kabd**	**20.66**	**256**	eP	**P**	**12 53 29.8**	**+2.0**
KBD				AMb	AMB	12 53 31.6	
	comp=Z,86nm,0.3s						
QRN	**Al-Qurain**	**20.68**	**255**	eP	**P**	**12 53 29.5**	**+1.5**
GNI	**Garni**	**20.74**	**288**	eP	**P**	**12 53 26.0**	**-2.5**
GNI				pmax	pmax		
	comp=Z,14nm,2.3s						
GNI	**Garni**	**20.74**	**288**	P	**P**	**12 53 29.9**	**+1.4**
	comp=Z,3.1nm,0.4s,baz=198,slow=20,SNR=1.8						
GNI	**Garni**	**20.74**	**288**	P	**P**	**12 53 29.9**	**+1.4**
RDF	**Al-Radifah**	**20.88**	**256**	eP	**P**	**12 53 30.9**	**+0.9**
RDF				AMb	AMB	12 53 33.7	
	comp=Z,18nm,0.3s						
SHL	**Shillong**	**21.04**	**115**	e	**P**	**12 53 34.5**	**+3.0**
	comp=Z,42nm,0.7s,mb5.1						
SHL				e		12 57 16.0	
ARU	**Arti**	**21.67**	**341**	⇑iP	**P**	**12 53 38.6**	**+1.2**
ARU				e		12 54 07.1	
ARU				eS	**S**	**12 57 30.6**	**+11**
ARU				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.7						
KIV	**Kislovodsk**	**22.66**	**298**	P	**P**	**12 53 45.0**	**-2.2**
GTA	**Gaotai**	**23.08**	**74**	eP	**P**	**12 53 53.6**	**+2.4**
GTA				AP		12 54 31.3	
GTA				S	**S**	**12 57 48.8**	**+5.1**
GTA				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.6						
GTA				AMB	AMB		
	comp=Z,176nm,4.6s						
GTA				LR	LR		
	comp=N,128nm,12.2s						
GTA				LR	LR		
	comp=E,127nm,18.2s						
GTA				LR	LR		
	comp=Z,95nm,14.5s						
SOC	**Sochi**	**24.74**	**296**	eP	**P**	**12 53 59.8**	**-7.1**
SOC				e		12 54 46.4	
SOC				eS	**S**	**12 58 06.4**	**-5.1**
SOC				e		13 04 48.5	
SOC				pmax	pmax		
	comp=Z,25nm,0.8s,mb4.9						
SOC				pmax	pmax		
	comp=N,13nm,0.9s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.7s						
ZAK	**Zakamensk**	**27.20**	**49**	eP	**P**	**12 54 30.0**	**+0.7**
ZAK				e	pP	12 55 14.0	+3.8
ZAK				e		12 55 36.7	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.4						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
SONM	**Songino Array**	**28.55**	**55**	P	**P**	**12 54 42.3**	**+0.8**
	comp=Z,1.6nm,0.5s,mb3.9,baz=266,slow=9.1,SNR=13						
SONM				pP	pP	12 55 27.3	+4.5
	comp=Z,0.9nm,0.6s,baz=270,slow=7.2,SNR=1.8						
KMI	**Kunming**	**29.56**	**103**	P	**P**	**12 54 53.3**	**+2.7**
KMI				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.1						
OBN	**Obninsk**	**29.89**	**320**	eP	**P**	**12 54 52.8**	**-0.4**
OBN				pmax	pmax		
	comp=Z,28nm,1.6s,mb4.6						
GYA	**Guiyang**	**32.04**	**98**	P	**P**	**12 55 13.0**	**+0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
ENH	**Enshi**	**32.77**	**89**	eP	**P**	**12 55 19.3**	**+0.8**
	comp=Z,12nm,1.0s,mb4.4						
AKASG	**Malin Array Be**	**32.86**	**309**	P	**P**	**12 55 17.3**	**-1.7**
	comp=Z,0.9nm,0.4s,mb3.7,baz=78,slow=7.1,SNR=5.1						
AKASG				pP	pP	12 56 02.6	+1.1
	comp=Z,0.9nm,0.5s,baz=87,slow=7.6,SNR=2.8						
WHN	**Wuhan**	**36.59**	**86**	eP	**P**	**12 55 49.5**	**-1.4**
FINES	**FINESS Array B**	**37.46**	**326**	P	**P**	**12 55 57.5**	**-0.4**
	comp=Z,2.1nm,0.3s,mb4.1,baz=135,slow=9.4,SNR=33						
FINES				pP	pP	12 56 42.4	+1.3
	comp=Z,0.6nm,0.5s,baz=130,slow=11,SNR=1.8						
LVZ	**Lovozero**	**37.48**	**339**c	iP	**P**	**12 55 57.7**	**-0.2**
LVZ				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.4						
KAF	**Kangasniemi**	**37.61**	**327**	ep	**P**	**12 55 58.5**	**-0.5**
	comp=Z,1.1nm,0.3s,mb3.9,baz=112,slow=8.6						
KAF	**Kangasniemi**	**37.61**	**327**	eP	**P**	**12 55 58.5**	**-0.5**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.8						
NJ2	**Nanjing**	**39.68**	**82**	eP	**P**	**12 56 13.4**	**-3.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
KEV	**Kevo**	**40.83**	**338**	ep	**P**	**12 56 25.1**	**-0.4**
	comp=Z,4.9nm,0.6s,mb4.1						
KEV	**Kevo**	**40.83**	**338**	eP	**P**	**12 56 25.1**	**-0.4**
KEV				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.1						
ARCES	**ARCESS Array B**	**41.17**	**338**	P	**P**	**12 56 28.7**	**+0.4**
	comp=Z,6.5nm,0.6s,mb4.2,baz=113,slow=7.7,SNR=53						
ARCES	**ARCESS Array B**	**41.17**	**338**	P	**P**	**12 56 28.7**	**+0.4**
ARE0	**ARCESS Array S**	**41.17**	**338**	eP	**P**	**12 56 28.5**	**+0.2**
YAK	**Yakutsk**	**44.16**	**35**c	iP	**P**	**12 56 52.1**	**-0.3**
YAK				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.4						
NB2	**NORSAR Subarra**	**44.35**	**323**	P	**P**	**12 56 53.1**	**-0.8**
	comp=Z,3.3nm,0.3s,mb4.1,baz=98,slow=7.4						
NB2	**NORSAR Subarra**	**44.35**	**323**	P	**P**	**12 56 53.1**	**-0.8**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.1						
NOA	**NORSAR Array B**	**44.35**	**323**	P	**P**	**12 56 52.9**	**-1.0**
	comp=Z,3.0nm,0.4s,mb4.0,baz=100,slow=7.7,SNR=18						
NOA				pP	pP	12 57 39.5	+1.4
	comp=Z,1.1nm,0.6s,baz=97,slow=8.1,SNR=2.4						
TIXI	**Tiksi**	**45.94**	**22**c	iP	**P**	**12 57 06.4**	**0.0**
TIXI				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.5						
KMBO	**Kilima Mbogo**	**48.62**	**227**	P	**P**	**12 57 27.9**	**+0.1**
	comp=Z,1.0nm,0.6s,mb3.3,baz=45,slow=17,SNR=3.3						
KMBO	**Kilima Mbogo**	**48.62**	**227**	P	**P**	**12 57 27.9**	**+0.1**
JNU	**Nakatsue**	**48.80**	**75**	P	**P**	**12 57 29.4**	**+0.4**
	comp=Z,2.9nm,0.5s,mb3.9,baz=315,slow=5.7						
YSS	**Yuzh-Sakhalins**	**53.04**	**55**d	iP	**P**	**12 57 59.4**	**-1.2**
YSS				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.2						
MJAR	**Matsushiro Arr**	**53.17**	**68**	P	**P**	**12 58 01.2**	**-0.5**
	comp=Z,0.6nm,0.4s,mb3.3,baz=290,slow=8.9,SNR=3.8						
SEY	**Seymchan**	**54.61**	**34**c	iP	**P**	**12 58 11.6**	**-0.2**
ESDC	**Sonseca Array**	**57.34**	**298**	P	**P**	**12 58 30.6**	**-0.8**
	comp=Z,0.6nm,0.6s,mb3.4,baz=53,slow=7.6,SNR=4.1						
BILL	**Bilibino**	**58.78**	**26**	eP	**P**	**12 58 41.1**	**-0.1**
BILL				e	pP	12 59 27.4	-0.6
BILL				e		13 00 52.8	
BILL				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.4						
MATP	**Matopo**	**69.20**	**222**	P	**P**	**12 59 49.5**	**+0.1**
	comp=Z,1.6nm,0.4s,mb4.0,baz=45,slow=8.6,SNR=5.6						
INK	**Inuvik**	**74.04**	**9**	eP	**P**	**13 00 17.3**	**+0.1**
INK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
INK	**Inuvik**	**74.04**	**9**	eP	**P**	**13 00 17.3**	**+0.1**
	comp=Z,5.0nm,0.6s,mb4.3						
LBTB	**Lobatse**	**74.47**	**222**	P	**P**	**13 00 20.6**	**+0.1**
	comp=Z,1.5nm,0.6s,mb3.8,baz=27,slow=11,SNR=3.2						
ILAR	**Eielson Array**	**74.93**	**16**	P	**P**	**13 00 21.8**	**-0.6**
	comp=Z,2.9nm,0.9s,mb3.9,baz=316,slow=5.6,SNR=23						
FITZ	**Fitzroy Crossi**	**74.99**	**126**	P	**P**	**13 00 23.1**	**-0.5**
	comp=Z,4.4nm,0.8s,mb4.1,baz=332,slow=4.9,SNR=4.7						
SML	**Sawmill**	**77.14**	**18**	eP	**P**	**13 00 34.5**	**-0.2**
BOSA	**Boshof**	**77.54**	**220**	P	**P**	**13 00 37.3**	**-0.3**
	comp=Z,0.8nm,0.4s,mb3.8,baz=62,slow=5.7,SNR=3.2						
YKA	**Yellowknife Ar**	**81.36**	**3**	P	**P**	**13 00 57.6**	**+0.4**
	comp=Z,3.7nm,0.6s,mb4.2,baz=350,slow=5.4,SNR=16						
WRA	**Warramunga Arr**	**82.10**	**122**	P	**P**	**13 01 00.6**	**-1.3**
	comp=Z,2.3nm,0.5s,mb4.1,baz=324,slow=5.0,SNR=39						
WB2	**Warramunga Arr**	**82.11**	**122**	⇑iP	**P**	**13 01 00.9**	**-1.0**

WEL 16 13:07:37.3±0.7**,36.59S×177.91E,h233km**±6km**,ML3.8**/7**, Error ellipse: s-maj=14.0km s-min=9.1km az=90.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**1.51**	**169**	PN	P	13 08 14.0	-0.4
PUZ				SN	S	13 08 41.8	-1.4
MWZ	**Matawai**	**1.77**	**190**	PN	P	13 08 16.3	-0.3
MWZ				SN	S	13 08 47.5	+0.5
URZ	**Urewera**	**1.79**	**201**	PN	P	13 08 16.1	-0.7
URZ				SN	S	13 08 46.8	-0.4
KNZ	**Kokohu**	**2.44**	**184**	PN	P	13 08 23.0	-0.1
KNZ				SN	S	13 08 56.6	-2.0
BFZ	**Birch Farm**	**4.29**	**197**	PN	P	13 08 43.1	-1.3
MRZ	**Mangatainoka R**	**4.46**	**203**	PN	P	13 08 44.4	-2.1
MRZ				SN	S	13 09 38.7	-1.5
KIW	**Kapiti Island**	**4.87**	**208**	PN	P	13 08 49.0	-2.5
KIW				SN	S	13 09 47.5	-1.9
CAW	**Cannon Point**	**5.03**	**205**	ePN	P	13 08 50.7	-2.8
PAWZ	**Paruwai Farm**	**5.16**	**201**	SN	S	13 09 53.3	-2.6

*IDC **16** 13:13:45.4±1.2,8.26N×103.92W,mb4.3/12,mb1 4.4/13, mb1mx4.3/22,mbtmp4.3/13,ML4.0/1,MS4.3/13,Ms1 4.2/13, ms1mx4.1/23,Error ellipse: s-maj=39.7km s-min=14.6km az=51.0*
*NEIC **16** 13:13:47.5±0.8,8.34N×103.73W,h10km,mb4.3/24,Error ellipse: s-maj=20.4km s-min=7.4km az=48.0*

ISC 16 13:13:45.9±0.6**,8.34N**±0.08×**103.73W**±0.09**,h10km,n65,** σ1§**02**/56**,mb4.3**/30**,MS4.3**/12**,Northern East Pacific Rise**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JTS	JuntasAbangare	18.63	83	P	P	13 18 05.9	0.0
	0.4nm,0.3s,baz=320,slow=21,SNR=4.0						
JTS				LR	LR	13 23 08.4	
	comp=Z,535nm,19.8s,baz=264,slow=30						
JTS	JuntasAbangare	18.63	83	eP	P	13 18 06.3	+0.4
	136nm,1.9s						
LTX	Lajitas	20.89	0	eP	P	13 18 31.9	+1.0
	15nm,1.1s						
MNTX	Cornudas Mount	23.29	356	eP	P	13 18 55.8	+0.8
	10nm,0.9s,mb4.2						
GDL2	Guadalupe Moun	23.75	359	eP	P	13 18 59.5	+0.1
CPRX	Cap Rock	24.57	360	eP	P	13 19 08.5	+1.1
TUC	Tucson	24.74	346	eP	P	13 19 09.3	+0.4
	4.6nm,0.9s,mb4.0						
BNM	Barren Site	25.83	354	eP	P	13 19 19.1	-0.1
LAZ	Ladron	26.13	354	eP	P	13 19 23.8	+1.8
ANMO	Albuquerque	26.60	355	P	P	13 19 27.5	+1.1
	1.7nm,0.8s,mb3.6,baz=149,slow=7.3,SNR=6.9						
ANMO	Albuquerque	26.60	355	eP	P	13 19 27.1	+0.7
	2.8nm,0.9s,mb3.8						
NEN	Nelson	29.02	341	eP	P	13 19 49.3	+1.0
LRAL	Lakeview Retre	29.04	30	eP	P	13 19 47.5	-1.1
	3.6nm,0.8s,mb4.2						
SDCO	Great Sand Dun	29.32	357	eP	P	13 19 50.9	-0.1
	2.9nm,1.0s,mb4.0						
ROSC	El Rosal	29.40	95	P	P	13 19 54.0	+2.1
	3.0nm,0.3s,mb4.5,baz=104,slow=22,SNR=3.6						
ROSC				LR	LR	13 28 49.5	
	comp=Z,448nm,21.0s,MS4.1,baz=155,slow=30						
PLAL	Pickwick Lake	30.15	26	eP	P	13 19 55.5	-3.0
	4.9nm,1.0s,mb4.2						
PV10	Paradox Valley	30.29	352	eP	P	13 19 59.7	+0.1
SMCO	Snowmass	30.84	355	eP	P	13 20 04.4	-0.1
ISCO	Idaho Springs	31.37	357	eP	P	13 20 09.4	+0.3
	1.7nm,0.8s,mb3.9						
MYNC	Murphy	32.11	31	eP	P	13 20 12.9	-2.7
	7.2nm,0.8s,mb4.5						
DAU	Daniels Canyon	32.64	349	eP	P	13 20 20.6	+0.4
SDV	Santo Domingo	32.72	87	P	P	13 20 21.6	+0.5
	5.2nm,0.6s,mb4.7,baz=305,slow=12,SNR=9.1						
SDV	Santo Domingo	32.72	87	eP	P	13 20 21.5	+0.3
	9.9nm,0.9s,mb4.7						
PHWY	Pilot Hill	32.86	358	eP	P	13 20 22.7	+0.6
HWUT	Hardware Ranch	33.85	349	eP	P	13 20 31.4	+0.6
	5.9nm,1.1s,mb4.4						
BW06	Boulder Array	34.67	352	eP	P	13 20 38.8	+1.0
	6.2nm,0.9s,mb4.5						
PDAR	Pinedale Array	34.67	352	P	P	13 20 38.8	+0.9
	6.5nm,0.9s,mb4.5,baz=162,slow=9.4,SNR=35						
PDAR				LR	LR	13 35 14.6	
	comp=Z,348nm,21.9s,MS4.1,baz=191,slow=37						
REDW	Red Top Meadow	35.44	351	eP	P	13 20 44.6	+0.2
	8.2nm,1.1s,mb4.6						
ELN	Prospectdale	35.51	32	eP	P	13 20 44.7	-0.4
LOHW	Long Hollow	35.65	351	eP	P	13 20 46.5	+0.4
	9.6nm,1.0s,mb4.7						
BLA	Blacksburg	35.67	33	eP	P	13 20 45.5	-0.9
	3.7nm,0.7s,mb4.4						
MOOW	Moose Ponds	35.80	351	eP	P	13 20 47.4	0.0
	3.6nm,1.1s,mb4.2						
HLID	Hailey	36.31	347	eP	P	13 20 49.9	-1.8
	4.4nm,1.1s,mb4.3						
WVOR	Wild Horse Val	36.41	341	eP	P	13 20 53.0	+0.5
	7.7nm,1.1s,mb4.5						
QLMT	Earthquake Lak	36.96	351	eP	P	13 20 58.7	+1.5
MCMT	McKenzie Canyo	37.20	349	eP	P	13 20 59.9	+0.7
YBH	Yreka Blue Hor	37.26	336	P	P	13 20 59.0	-0.7
	2.3nm,0.7s,mb4.1,baz=56,slow=3.3,SNR=4.3						
BOZ	Bozeman (W)	37.79	351	eP	P	13 21 03.5	-0.6
	5.7nm,1.3s,mb4.1						
HRY	Holter Researc	38.86	351	eP	P	13 21 12.9	-0.2
CHMT	Chamberlain Mo	39.29	350	P	P	13 21 16.2	-0.5
NEW	Newport	41.37	346	P	P	13 21 33.0	-0.8
	2.9nm,0.6s,mb4.1,baz=154,slow=9.4,SNR=6.0						
NEW	Newport	41.37	346	eP	P	13 21 32.7	-1.1
	4.5nm,0.8s,mb4.2						
ULM	Lac du Bonnet	42.29	7	P	P	13 21 40.3	-0.9
	3.9nm,0.7s,mb4.1,baz=228,slow=5.0,SNR=4.7						
ULM				LR	LR	13 39 09.2	
	comp=Z,487nm,21.1s,MS4.4,baz=220,slow=36						
LPAZ	La Paz	42.89	125	P	P	13 21 47.8	+1.1
	4.6nm,0.8s,mb4.2,baz=318,slow=8.5,SNR=12						
LPAZ	La Paz	42.89	125	eP	P	13 21 47.8	+1.1
	8.1nm,1.0s,mb4.4						
RKT	Rikitea	43.73	224	eS	S	13 28 03.7	-19
	144nm,26.5s						
RKT				eLR	LR	13 33 50.0	
	1µm,27.2s,baz=44						
SAML	Samuel	43.89	112	eP	P	13 21 53.6	-1.2
	2.5nm,0.8s,mb4.0						
EDM	Edmonton	45.43	352	eP	P	13 22 06.1	-0.6
LVC	Limon Verde	45.92	133	P	P	13 22 10.9	0.0
	1.8nm,0.4s,mb4.4,baz=174,slow=21,SNR=9.2						
PPT	Papeete	52.10	240	eS	S	13 30 21.2	0.0
	181nm,26.8s						
PPT				eLR	LR	13 37 15.0	
	1µm,25.5s,baz=58						
PPT	Papeete	52.10	240	LR	LR	13 38 10.1	
	comp=Z,582nm,19.3s,MS4.6,baz=71,slow=28						
CFAA	Coronel Fontan	52.24	141	LR	LR	13 40 19.2	
	comp=Z,35nm,19.9s,MS3.4,baz=319,slow=30						
YKA	Yellowknife Ar	54.63	354	P	P	13 23 15.8	-1.1
	0.5nm,0.6s,mb3.7,baz=184,slow=28,SNR=3.3						
YKA				LR	LR	13 44 51.5	
	comp=Z,399nm,20.5s,MS4.5,baz=145,slow=34						
TBI	Tubuai	54.69	234	eS	Sx	13 30 32.8	
	381nm,26.2s						
TBI				eLR	LR	13 38 34.7	
	888nm,29.2s,baz=61						
SCHQ	Schefferville	54.87	25	LR	LR	13 48 38.3	
	comp=Z,342nm,18.6s,MS4.5,baz=118,slow=38						
PLCA	Paso Flores	57.60	150	LR	LR	13 43 26.6	
	comp=Z,195nm,18.0s,MS4.3,baz=316,slow=31						
BDFB	Brasilia	60.10	113	P	P	13 23 56.3	+0.1
	2.6nm,0.8s,mb4.3,baz=158,slow=11,SNR=2.6						
BDFB				LR	LR	13 49 00.7	
	comp=Z,355nm,19.0s,MS4.5,baz=157,slow=35						
SML	Sawmill	62.53	338	eP	P	13 24 10.4	-1.6
INK	Inuvik	63.06	348	eP	P	13 24 12.4	-3.0
	6.7nm,0.8s,mb4.8						
RSO	Redoubt South	63.47	335	P	P	13 24 21.9	+3.6
ILAR	Eielson Array	63.93	341	P	P	13 24 19.3	-1.8
	5.6nm,0.8s,mb4.7,baz=153,slow=5.6,SNR=40						
USHA	Ushuaia	69.52	159	LR	LR	13 48 23.2	
	comp=Z,212nm,18.1s,MS4.4,baz=324,slow=30						
BORG	Borgarnes	79.26	26	LR	LR	14 01 24.1	
	comp=Z,208nm,18.4s,MS4.5,baz=270,slow=36						
VNDA	Vanda	99.05	193	LR	LR	14 02 55.5	
	comp=Z,137nm,19.6s,MS4.5,baz=110,slow=30						
WRA	Warramunga Arr	122.77	252	PKP	PKPdf	13 32 43.8	-2.2
	0.5nm,0.9s,baz=86,slow=2.7,SNR=3.8						

IDC 16 13:27:12.3±1.1**, 4.44N**×**62.76E, mb4.0**/6**, mb1 4.1**/6**, mb1mx3.8**/20**, mbtmp4.0**/6**, MS3.9**/9**, Ms1 3.9**/9**, ms1mx3.7**/19**, Error ellipse: s-maj=34.6km s-min=24.4km az=163.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATD	Arta Tunnel	20.93	291	P	P	13 31 57.2	-2.1
	7.3nm,0.4s,baz=271,slow=18,SNR=3.5						
ATD				LR	LR	13 38 39.4	
	comp=Z,82nm,18.5s,baz=164,slow=33						
KMBO	Kilima Mbogo	26.08	258	P	P	13 32 48.9	-0.8
	2.5nm,0.9s,baz=47,slow=16,SNR=4.9						
KMBO				LR	LR	13 41 12.7	
	comp=Z,217nm,21.8s,baz=92,slow=32						
ASF	Jabal al Asfar	36.72	322	LR	LR	13 48 13.5	
	comp=Z,87nm,20.2s,baz=174,slow=34						
MATP	Matopo	41.74	232	P	P	13 35 03.1	-2.0
	4.3nm,1.1s,baz=31,slow=7.9,SNR=4.4						
MATP				LR	LR	13 49 09.1	
	comp=Z,224nm,21.9s,baz=51,slow=32						
MKAR	Makanchi Array	45.46	19	LR	LR	13 53 37.2	
	comp=Z,69nm,19.8s,baz=180,slow=35						
BOSA	Boshof	48.79	225	LR	LR	13 53 41.4	
	comp=Z,108nm,19.1s,baz=155,slow=33						
SONM	Songino Array	57.12	34	P	P	13 37 01.5	-1.6
	0.2nm,0.3s,baz=233,slow=6.2,SNR=4.1						
SONM				LR	LR	14 01 27.2	
	comp=Z,173nm,21.8s,baz=333,slow=36						
ARCES	ARCESS Array B	69.45	347	P	P	13 38 21.4	-2.8
	2.2nm,0.9s,baz=149,slow=7.1,SNR=6.1						
WRA	Warramunga Arr	74.31	112	P	P	13 38 52.3	-1.7
	1.7nm,1.1s,baz=287,slow=5.5,SNR=6.0						
STKA	Stephens Creek	82.88	123	LR	LR	14 16 01.3	
	comp=Z,206nm,18.2s,baz=217,slow=35						
VNDA	Vanda	96.27	168	LR	LR	14 16 31.4	
	comp=Z,77nm,19.0s,baz=318,slow=31						

*NEIC **16** 13:29:32.9, 36.06S×71.90W, h102^{km}, After GUC.*
NEIC Felt [II] at Linares, Parral and Talca.
GUC 16 13:29:32.9±0.8**, 36.06S**×**71.90W, h102^{km}**±4^{km}**, ML3.9, 10C-2D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCHI	Chillan	0.56	195	⇑iP	P	13 29 49.4	0.0
CCHI				iS	S	13 30 01.5	-0.3
CCHI				AMP		13 30 02.3	
	comp=N,4µm,0.7s						
COCH	Cobquecura	0.73	264	⇑iP	P	13 29 53.3	+2.4
COCH				iS	S	13 30 07.2	+2.9
CTCH	Constitucion	0.84	330	iP	P	13 29 54.9	+2.8
CTCH				iS	S	13 30 09.8	+3.4
CTCH				AMP		13 30 13.0	
	comp=N,9µm,0.4s						
NICH	Los Niches	1.19	27	⇓iP	P	13 29 56.2	+0.2
NICH				iS	S	13 30 13.2	-0.1
SFDO	San Fernando	1.61	27	⇑iP	P	13 30 01.3	+0.2
SFDO				iS	S	13 30 22.1	0.0
CICH	Cipreses	2.12	35	⇑iP	P	13 30 08.3	+0.7
LNV	Longovilo	2.14	11	eP	P	13 30 08.6	+0.7
LNV				iS	S	13 30 35.1	+1.1
CACH	El Canelo	2.21	29	⇑iP	P	13 30 09.2	+0.3
CACH				iS	S	13 30 36.4	+0.7
CHCH	Chadas Angostu	2.36	26	⇑iP	P	13 30 10.7	-0.2
CHCH				iS	S	13 30 39.1	-0.2
TACH	Talagante	2.53	18	⇑iP	P	13 30 12.9	-0.3
TACH				iS	S	13 30 42.8	-0.7
LCCH	Las Cruces	2.59	6	⇑iP	P	13 30 13.7	-0.4
LMEL	Las Melosas	2.61	33	eP	P	13 30 14.8	+0.4
LMEL				iS	S	13 30 46.2	+0.8
LMEL				AMP		13 30 48.4	
	comp=N,392nm,0.4s						
RCDM	Rinconada Maip	2.72	20	⇑iP	P	13 30 15.3	-0.5
RCDM				iS	S	13 30 47.5	-0.6
RCDM				AMP		13 30 53.4	
	comp=N,531nm,0.1s						
CLCH	Cerro Calan	2.89	23	⇓iP	P	13 30 17.9	-0.3
CLCH				iS	S	13 30 51.9	-0.2
CLCH				AMP		13 30 55.2	
	comp=E,307nm,0.2s						
ROCH	El Roble	3.17	14	eP	P	13 30 21.9	-0.1
ROCH				iS	S	13 30 59.2	+0.1
JACH	Jahuel	3.54	18	⇑iP	P	13 30 26.4	-0.6
JACH				iS	S	13 31 07.7	-0.4

*PRU **16** 13:32:58.0, 50.33N×18.75E*
WAR 16 13:32:57.5, 50.26N×**18.86E, h0^{km}, ML2.6, Mining Induced, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	Ojcow	0.60	93	ePG	Pg	13 33 09.0	-0.6
OJC				eSG	Sg	13 33 18.0	+0.4
OKC	Ostrava-Krasne	0.62	228	ePG	Pg	13 33 09.6	-0.4
OKC				eSG	Sg	13 33 20.9	+2.6
	12nm,0.3s						
NIE	Niedzica	1.26	131	ePG	Pg	13 33 22.0	-0.7
NIE				eSG	Sg	13 33 40.0	+0.5
DPC	Dobruska-Polom	1.63	274	ePG	Pg	13 33 26.7	-3.3
DPC				eSG	Sg	13 33 47.9	-3.9
	13nm,0.3s						
KSP	Ksiaz	1.74	291	iPG	Pg	13 33 30.0	-2.2
KSP				eSG	Sg	13 33 52.0	-3.4
KSP	Ksiaz	1.74	291	ePg	Pg	13 33 30.2	-2.0
KSP				eSg	Sg	13 33 52.9	-2.5
STHS	Stebnicka Huta	1.76	118	ePN	Pn	13 33 31.5	+2.1
STHS				eSN	Sn	13 33 55.8	+3.0
VYHS	Vyhne	1.77	181	ePN	Pn	13 33 28.5	-1.0
VYHS				eSN	Sn	13 33 54.1	+1.1
UPC	Upice	1.84	279	eSG	Sg	13 33 53.1	-5.7
KECS	Kecovo	2.07	149	ePN	Pn	13 33 36.4	+2.5
KECS				eSN	Sn	13 34 02.9	+2.2
CRVS	Cervenica-Dubn	2.17	128	ePN	Pn	13 33 38.7	+3.4
CRVS				eSN	Sn	13 34 04.5	+1.3
KOLS	Kolonicke sedl	2.59	120	e	Pn	13 33 47.6	+6.4
KOLS				e		13 34 12.3	
PRU	Pruhonice	2.79	266	eSG	Sg	13 34 23.3	-7.2
KHC	Kasperske Hory	3.61	254	eSG	Sg	13 34 51.1	-6.6
CLL	Collm	3.86	288	eSG	Sg	13 35 01.0	-5.1

*IDC **16** 13:33:38.8±1.1, 23.95N×98.13E, mb3.8/7, mb1 3.9/7, mb1mx3.6/21, mbtmp3.8/7, Error ellipse: s-maj=62.8km s-min=19.3km az=59.0*
*BJI **16** 13:33:45.0, 24.22N×98.05E, h26^{km}, mb4.4, ML3.8, Ms3.6, Msz3.1*
ISC 16 13:33:38.3±0.6**, 23.99N**±0.04×**98.33E**±0.06**, h10^{km}, n13, σ1§31**/18**, mb3.9**/7**, 1C, Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	Kunming	4.17	73	PG	Pg	13 35 01.6	-0.1
KMI				SG	Sg	13 35 56.8	-0.5
KMI				Smax			
	comp=N,182nm,0.8s						
KMI				Smax			
	comp=E,98nm,0.7s						
KMI				LR	LR		
	comp=N,358nm,4.3s						
KMI				LR	LR		
	comp=E,241nm,6.3s						
KMI				LR	LR		
	comp=Z,182nm,7.8s						
CHRT	Chiangrai	4.32	161	⇑PN	Pn	13 34 48.5	+2.9
CHRT				PG	Pg	13 35 03.0	-1.6
CHRT				SG	Sg	13 36 04.0	+1.8
CHG	Chiang Mai	5.19	174	PG	Pg	13 35 19.8	-2.1
CHG				SG	Sg	13 36 29.8	-1.2
NANT	Nan	5.62	156	PG	Pn	13 35 04.0	0.0
NANT				SG	Pg	13 35 30.0	-0.6
BDT	Bhumibol Dam	6.75	174	P	Pn	13 35 22.0	+2.1
	comp=Z,49nm,0.6s						
GYA	Guiyang	7.94	70	P	Pn	13 35 48.8	+12
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
SONM	Songino Array	24.64	13	P	P	13 39 02.3	+2.1
	comp=Z,0.3nm,0.3s,mb3.3,baz=190,slow=8.8,SNR=2.9						
MKAR	Makanchi Array	26.14	334	P	P	13 39 12.5	-1.8
	comp=Z,1.8nm,0.7s,mb3.7,baz=139,slow=9.1,SNR=8.5						
FITZ	Fitzroy Crossi	49.61	145	P	P	13 42 32.3	+0.2
	comp=Z,3.6nm,0.8s,mb4.5,baz=340,slow=7.1,SNR=4.6						
WRA	Warramunga Arr	56.02	138	P	P	13 43 19.9	+0.1
	comp=Z,1.0nm,0.6s,mb4.0,baz=325,slow=7.4,SNR=12						
FINES	FINESS Array B	60.75	328	P	P	13 43 52.3	0.0
	comp=Z,0.4nm,0.5s,mb3.8,baz=117,slow=6.2,SNR=4.0						
HFS	Hagfors	66.86	327	P	P	13 44 31.7	-0.7
	comp=Z,1.5nm,0.8s,mb4.1,baz=34,slow=5.2,SNR=4.3						
NOA	NORSAR Array B	67.93	328	P	P	13 44 39.9	+0.7
	comp=Z,0.5nm,0.7s,mb3.7,baz=80,slow=6.2,SNR=2.2						

*NEIC **16** 13:37:18.9, 35.10S×72.58W, h29^{km}, ML3.7(GUC), After GUC.*
GUC 16 13:37:18.9±0.7**, 35.10S**×**72.58W, h29^{km}**±3^{km}**, MD4.1, ML3.7, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTCH	Constitucion	0.27	149	⇓iP	Pb	13 37 25.9	+0.1
CTCH				iS	Sb	13 37 30.8	+0.3
CTCH				AMP		13 37 31.4	
	comp=E,49µm,0.4s						
CNCO	Chanco	0.63	176	iP	Pb	13 37 31.0	-0.4
CNCO				iS	Sb	13 37 39.6	-0.4
CNCO				AMP		13 37 41.5	
	comp=E,12µm,0.4s						
COCH	Cobquecura	1.04	189	eP	Pn	13 37 37.5	-0.2
COCH				iS	Sn	13 37 51.2	-0.2
COCH				AMP		13 37 53.6	
	comp=E,303nm,0.5s						
NICH	Los Niches	1.11	85	eP	Pn	13 37 38.7	-0.1
NICH				eS	Sn	13 37 53.3	0.0
SFDO	San Fernando	1.38	70	⇑iP	Pn	13 37 42.4	-0.2
LNV	Longovilo	1.50	41	eP	Pn	13 37 44.1	-0.1
LNV				iS	Sn	13 38 04.4	+1.4
CCHI	Chillan	1.55	165	eP	Pn	13 37 45.6	+0.6
CCHI				iS	Sn	13 38 05.5	+1.1
CCHI				AMP		13 38 15.2	
	comp=N,2µm,0.5s						
CCHI				AMP		13 38 15.4	
	comp=N,3µm,0.5s						
CACH	El Canelo	1.91	60	eP	Pn	13 37 51.0	+0.8
CICH	Cipreses	1.94	67	eP	Pn	13 37 51.8	+1.1
CICH				iS	Sn	13 38 16.9	+2.5
CHCH	Chadas Angostu	1.98	54	eP	Pn	13 37 51.7	+0.6
TACH	Talagante	1.98	44	eP	Pn	13 37 52.1	+0.9
PCH	Pirque	2.26	50	eP	Pn	13 37 55.5	+0.3
LMEL	Las Melosas	2.33	58	eP	Pn	13 37 56.8	+0.7
LMEL				AMP		13 38 35.9	
	comp=N,502nm,1.1s						
CLCH	Cerro Calan	2.40	45	eP	Pn	13 37 57.7	+0.5
CLCH				eS	Sn	13 38 27.5	+1.5
CLCH				AMP		13 38 41.2	
	comp=N,710nm,0.8s						

*NEIC **16** 13:42:09.1, 43.92S×169.02E, h5^{km}, ML3.8(WEL), After WEL.*
WEL 16 13:42:08.7±0.1**, 43.91S**×**169.04E, h5^{km}, ML3.6**/9**, 1C, Error ellipse: s-maj=1.7km s-min=1.1km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCZ	Jackson Bay	0.26	230	P	Pg	13 42 13.8	-0.3
JCZ				S	Sg	13 42 17.4	-0.2
JCZ	Jackson Bay	0.26	230	⇑PG	Pg	13 42 13.7	-0.3
JCZ				SG	Sg	13 42 17.4	-0.2
FOZ	Fox Glacier	0.58	54	eP	Pg	13 42 21.6	+1.3
FOZ	Fox Glacier	0.58	54	P*	Pb	13 42 21.6	+0.6
FOZ				SG	Sg	13 42 31.0	+2.9
WKZ	Wanaka	0.92	181	P	Pb	13 42 26.2	-0.6
WKZ	Wanaka	0.92	181	P*	Pb	13 42 26.2	-0.7
WKZ				S*	Sb	13 42 37.7	-1.5
LBZ	Lake Benmore	0.96	121	P	Pb	13 42 27.4	0.0
LBZ	Lake Benmore	0.96	121	P*	Pb	13 42 27.4	0.0
EAZ	Earnscleugh	1.34	172	eP	Pb	13 42 33.6	-0.4
EAZ	Earnscleugh	1.34	172	P*	Pb	13 42 33.6	-0.4
RPZ	Rata Peaks	1.47	83	eP	Pn	13 42 36.3	+0.3
RPZ	Rata Peaks	1.47	83	PN	Pn	13 42 36.2	+0.2
WVZ	Waitaha Valley	1.49	57	eP	Pn	13 42 34.5	-1.7
MLZ	Mavora Lakes	1.57	203	P	Pn	13 42 37.6	+0.2
MLZ	Mavora Lakes	1.57	203	PN	Pn	13 42 37.6	+0.2
ODZ	Otahua Downs	1.62	135	eP	Pn	13 42 38.1	0.0
ODZ	Otahua Downs	1.62	135	PN	Pn	13 42 37.9	-0.2
TUZ	Tuapeka	2.09	169	eP	Pn	13 42 44.4	-0.5
TUZ	Tuapeka	2.09	169	PN	Pn	13 42 44.4	-0.5
WHZ	Wether Hill Ro	2.14	201	eP	Pn	13 42 46.9	+1.4
WHZ	Wether Hill Ro	2.14	201	ePN	Pn	13 42 45.6	+0.1
LTZ	Lake Taylor	2.61	66	PN	Pn	13 42 51.3	-1.0
CRLZ	Canterbury Las	2.62	84	eP	Pn	13 42 51.3	-1.1
CRLZ	Canterbury Las	2.62	84	PN	Pn	13 42 51.3	-1.1
MQZ	McQueen's Vall	2.62	87	eP	Pn	13 42 51.3	-1.2
MQZ	McQueen's Vall	2.62	87	PN	Pn	13 42 51.3	-1.2
DSZ	Denniston Nort	2.96	44	eP	Pn	13 42 55.0	-2.3
DSZ	Denniston Nort	2.96	44	PN	Pn	13 42 54.5	-2.8
THZ	Tophouse	3.56	54	eP	Pn	13 43 04.0	-1.8
THZ	Tophouse	3.56	54	PN	Pn	13 43 04.0	-1.8
QRZ	Quartz Range	4.02	41	eP	Pn	13 43 09.3	-3.0
QRZ	Quartz Range	4.02	41	PN	Pn	13 43 09.3	-3.0
TUWZ	Tuamarina	4.38	57	PN	Pn	13 43 16.1	-1.3
TCW	Tory Channel	4.71	57	P	Pn	13 43 20.8	-1.4
TCW	Tory Channel	4.71	57	PN	Pn	13 43 20.8	-1.4
HIZ	Hauiti	6.94	41	ePN	Pn	13 43 50.0	-3.6

MDD 16 13:42:52.4±2.3**, 35.81N**×**8.67W, mb3.7**/2**, 1D, Error ellipse: s-maj=20.3km s-min=15.8km az=38.0, PRXIMO, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.73	358	ePn	Pn	13 43 21.7	-2.3
PTEO				eSn	Sn	13 43 43.0	-4.2
	5.2nm,0.1s						
EGRO	El Granado	1.97	29	⇓Pn	Pn	13 43 25.9	-1.4
	1.8nm,0.1s,SNR=18						
EGRO				Sn	Sn	13 43 50.3	-2.7
	1.2nm,0.1s,SNR=7.9						
EGRO	El Granado	1.97	29	Pn	Pn	13 43 25.9	-1.4
	1.8nm,0.1s,SNR=18						
EGRO				Sn	Sn	13 43 50.3	-2.8
	1.2nm,0.1s,SNR=7.9						
PBEJ	Beja	2.31	16	ePn	Pn	13 43 30.1	-2.1
PBEJ				eSn	Sn	13 43 57.0	-4.7
	1.9nm,0.1s						
ESPR	Espera	2.50	64	Pn	Pn	13 43 33.3	-1.7
	1.5nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	13 44 03.4	-3.3
	2.1nm,0.2s,SNR=7.9						
ESPR	Espera	2.50	64	Pn	Pn	13 43 33.3	-1.7
	1.5nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	13 44 03.4	-3.3
	2.1nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	2.53	39	Pn	Pn	13 43 33.3	-2.0
	0.6nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	13 44 03.6	-3.7
	0.6nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	2.53	39	Pn	Pn	13 43 33.3	-2.0
	0.6nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	13 44 03.6	-3.7
	0.6nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.23	24	Pn	Pn	13 43 42.6	-2.6
	0.8nm,0.1s,SNR=5.9						
EBAD				Sn	Sn	13 44 20.8	-4.1
	0.6nm,0.0s,SNR=7.9						
EBAD	Badajoz	3.23	24	Pn	Pn	13 43 42.6	-2.7
	0.8nm,0.1s,SNR=5.9						
EBAD				Sn	Sn	13 44 20.8	-4.2
	0.6nm,0.0s,SNR=7.9						
EMIJ	Mijas	3.24	75	Pn	Pn	13 43 43.6	-1.9
	0.3nm,0.1s,SNR=7.9						
EMIJ				Sn	Sn	13 44 21.0	-4.3
	1.4nm,0.4s,SNR=7.9						
ECAB	El Cabril	3.45	48	Pn	Pn	13 43 46.3	-2.1
	0.4nm,0.1s,SNR=7.9						
ECAB				Sn	Sn	13 44 25.5	-5.1
	0.6nm,0.5s,SNR=7.9						
ECAB	El Cabril	3.45	48	Pn	Pn	13 43 46.3	-2.1
	0.4nm,0.1s,SNR=7.9						
ECAB				Sn	Sn	13 44 25.5	-5.1
	0.6nm,0.5s,SNR=7.9						
EADA	Adamuz	4.03	53	Pn	Pn	13 43 53.9	-2.9
	0.7nm,0.1s,SNR=13						
EADA				Sn	Sn	13 44 40.4	-5.1
	3.2nm,0.1s,SNR=11						
EADA	Adamuz	4.03	53	Pn	Pn	13 43 54.2	-2.5
	0.7nm,0.1s,SNR=13						
EADA				Sn	Sn	13 44 40.4	-5.0
	3.2nm,0.1s,SNR=11						
EBAN	Banos Encina	4.56	58	Pn	Pn	13 44 01.1	-3.1
	1.1nm,0.1s,SNR=7.9						
EBAN				Sn	Sn	13 44 52.7	-6.1
	0.3nm,0.2s,SNR=7.9						
EBAN	Banos Encina	4.56	58	Pn	Pn	13 44 00.8	-3.5
	1.1nm,0.1s,SNR=7.9						
EBAN				Sn	Sn	13 44 52.7	-6.1
	0.3nm,0.2s,SNR=7.9						
EQES	Quesada	4.91	64	Pn	Pn	13 44 06.0	-3.2
	0.2nm,0.1s,SNR=7.9						
EQES				Sn	Sn	13 45 00.3	-7.4
	1.7nm,0.4s,SNR=7.9						
EQES	Quesada	4.91	64	Pn	Pn	13 44 06.0	-3.2
	0.2nm,0.1s,SNR=7.9						
EQES				Sn	Sn	13 45 00.3	-7.4
	1.7nm,0.4s,SNR=7.9						
ELOB	Lobios	6.07	4	Pn	Pn	13 44 22.2	-3.4
	0.2nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	13 45 28.3	-8.4
	0.3nm,0.1s,SNR=7.9						
ELOB	Lobios	6.07	4	Pn	Pn	13 44 22.2	-3.4
	0.2nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	13 45 28.3	-8.4
	0.3nm,0.1s,SNR=7.9						
ETOB	Tobarra	6.35	61	Pn	Pn	13 44 25.1	-4.3
	0.2nm,0.1s,SNR=7.9						
ETOB				Sn	Sn	13 45 34.9	-8.7
	0.4nm,0.1s,SNR=5.8						
ETOB	Tobarra	6.35	61	Pn	Pn	13 44 25.2	-4.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.2nm,0.1s,SNR=7.9						
ETOB				Sn	Sn	13 45 34.9	-8.7
	0.4nm,0.1s,SNR=5.8						

*IDC **16** 13:46:13.6±0.8, 28.70N×139.10E, h428km±14km, mb3.5/9, mb1 3.5/12, mb1mx3.3/22, mbtmp4.3/12, Error ellipse: s-maj=34.5km s-min=9.1km az=70.0*
*JMA **16** 13:46:14.5±0.1, 28.87N×139.96E, h473km, M3.6*
*NEIC **16** 13:46:15.3±1.0, 28.76N×139.18E, h452km±14km, mb4.1/1, Error ellipse: s-maj=25.0km s-min=12.9km az=73.0*
ISC 16 13:46:13.6±0.5**, 28.75N**±0.05×**139.5E**±0.1**, h458**km±7km**, n35, σ1s12**/47**, mb3.7**/9**, 1D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.90**	**124**	P	**P**	**13 47 21.2**	**+0.1**
	42nm,0.3s,baz=290,slow=20,SNR=29						
CBIJ				S	**S**	**13 48 13.7**	**-0.7**
	87nm,0.3s,baz=259,slow=22,SNR=19						
CBIJ	**Chichi jima**	**2.90**	**124**	P	**P**	**13 47 21.3**	**+0.2**
CBIJ				S	**S**	**13 48 14.4**	**0.0**
JHHJ	**Haha-jima-NKT**	**3.19**	**131**	S	**S**	**13 48 17.4**	**-0.8**
JHJ2	**Mitsune**	**4.36**	**4**	P	**P**	**13 47 34.4**	**+1.3**
JHJ	**Hachijo jima 2**	**4.36**	**3**	P	**P**	**13 47 33.1**	**0.0**
	7.8nm,0.3s,baz=77,slow=20,SNR=6.4						
JHJ				S	**S**	**13 48 35.6**	**-0.3**
	30nm,0.3s,baz=64,slow=23,SNR=12						
BSO1	**Boso 1**	**6.02**	**12**	P	**P**	**13 47 50.0**	**+0.7**
BSO1				S	**S**	**13 49 05.0**	**+0.1**
BSO3	**Boso 3**	**6.09**	**8**	S	**S**	**13 49 05.9**	**-0.4**
JIE	**Ise**	**6.10**	**338**	P	**P**	**13 47 53.1**	**+2.9**
JKN2	**Miekihoku**	**6.12**	**334**	P	**P**	**13 47 53.2**	**+2.8**
BSO4	**Boso 4**	**6.26**	**6**	S	**S**	**13 49 10.1**	**+0.7**
HMMJ	**Hamamatsu 2**	**6.27**	**347**	P	**P**	**13 47 53.4**	**+1.5**
JOD2	**Odawara 2**	**6.50**	**357**	P	**P**	**13 47 55.3**	**+1.0**
JNY	**Yasuok**	**6.73**	**349**	P	**P**	**13 47 58.2**	**+1.5**
JHU	**Hanno**	**7.08**	**359**	P	**P**	**13 47 59.5**	**-1.0**
JHU				S	**S**	**13 49 22.0**	**-3.1**
JRY	**Ryogami san**	**7.26**	**356**	P	**P**	**13 48 02.7**	**+0.3**
JRY				S	**S**	**13 49 30.0**	**+1.5**
JYT	**Yasato**	**7.48**	**4**	P	**P**	**13 48 04.3**	**-0.4**
JYT				S	**S**	**13 49 30.7**	**-2.0**
JAG	**Ashikaga**	**7.65**	**360**	P	**P**	**13 48 05.7**	**-0.9**
MJAR	**Matsushiro Arr**	**7.84**	**352**	P	**P**	**13 48 08.1**	**-0.6**
	1.1nm,0.3s,baz=176,slow=11,SNR=20						
MJAR				S	**S**	**13 49 39.7**	**-0.2**
	0.3nm,0.3s,baz=106,slow=9.1,SNR=4.8						
MJAR	**Matsushiro Arr**	**7.84**	**352**	P	**P**	**13 48 08.1**	**-0.6**
MJAR				S	**S**	**13 49 39.7**	**-0.2**
MAJO	**Matsushiro**	**7.84**	**352**	*e*P	**P**	**13 48 07.7**	**-1.0**
	4.5nm,0.4s						
MAT	**Matsushiro**	**7.84**	**352**	*e*P	**P**	**13 48 09.0**	**+0.3**
MAT				*e*S	**S**	**13 49 22.0**	**-18**
MAT	**Matsushiro**	**7.84**	**352**	P	**P**	**13 48 08.6**	**-0.1**
MAT				*e*S	**S**	**13 49 41.6**	**+1.7**
MAT	**Matsushiro**	**7.84**	**352**	P	**P**	**13 48 09.2**	**+0.5**
JHO	**Hitachi**	**7.89**	**6**	P	**P**	**13 48 09.1**	**-0.1**
JHO				S	**S**	**13 49 39.9**	**-0.9**
JNU	**Nakatsue**	**8.58**	**303**	P	**P**	**13 48 15.8**	**-1.0**
	0.5nm,0.3s,baz=219,slow=8.7,SNR=4.9						
SONM	**Songino Array**	**31.87**	**316**	P	**P**	**13 52 00.5**	**-0.3**
	0.4nm,0.3s,mb3.3,baz=124,slow=7.4,SNR=5.7						
MKAR	**Makanchi Array**	**47.58**	**309**	P	**P**	**13 54 06.2**	**-1.7**
	2.3nm,0.9s,mb3.5,baz=90,slow=8.5,SNR=5.7						
FITZ	**Fitzroy Crossi**	**48.46**	**198**	P	**P**	**13 54 14.8**	**-0.1**
	2.3nm,0.6s,mb3.7,baz=9.7,slow=7.0,SNR=6.5						
WB2	**Warramunga Arr**	**48.66**	**186**	⇓*i*P	**P**	**13 54 15.8**	**-0.6**
WRA	**Warramunga Arr**	**48.66**	**186**	P	**P**	**13 54 15.6**	**-0.9**
	2.2nm,0.4s,mb3.8,baz=1.3,slow=7.7,SNR=89						
BVAR	**Borovoye Array**	**55.21**	**317**	P	**P**	**13 55 02.9**	**-0.8**
	1.2nm,0.4s,mb3.5,baz=84,slow=7.6,SNR=8.2						
ARCES	**ARCESS Array B**	**71.19**	**340**	P	**P**	**13 56 46.7**	**+0.8**
	1.0nm,0.7s,mb3.5,baz=63,slow=8.1,SNR=6.0						
URZ	**Urewera**	**75.38**	**150**	P	**P**	**13 57 12.9**	**+2.5**
	14nm,0.9s,mb4.5,baz=4.2,slow=7.3,SNR=3.1						
FINES	**FINESS Array B**	**75.40**	**333**	P	**P**	**13 57 09.8**	**-0.2**
	0.7nm,0.4s,mb3.6,baz=115,slow=5.6,SNR=15						
RPZ	**Rata Peaks**	**77.71**	**157**	P	**P**	**13 57 26.3**	**+3.3**
	4.9nm,0.7s,mb4.0,baz=63,slow=6.8,SNR=2.7						

IGQ 16 14:01:15.5, 0.44N×78.16W, h5km±2km**, mb4.3, 9C-9D, Error ellipse: s-maj=1.7km s-min=1.5km az=17.7, Colombia-Ecuador border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COTA	**Cotacachi**	**0.21**	**239**	⇑P	Pg	14 01 20.8	+0.9
CAYA	**Cayambe**	**0.41**	**156**	⇓P	Pg	14 01 23.8	+0.2
ECEN	**Cerro Negro**	**0.42**	**26**	⇓P	Pg	14 01 24.5	+0.6
CAYR	**Refugio Cayamb**	**0.45**	**161**	⇓P	Pg	14 01 24.8	+0.3
JOR1	**San Jorge 1**	**0.66**	**228**	⇑P	Pg	14 01 31.0	+2.4
YANA	**Yana**	**0.70**	**217**	⇑P	Pg	14 01 28.8	-0.6
CONE	**Cono NE Rev Vo**	**0.72**	**135**	⇓P	Pg	14 01 29.6	-0.4
LAV3	**Lava3-Reventad**	**0.75**	**136**	⇓P	Pg	14 01 30.0	-0.5
PINO	**Pino**	**0.75**	**217**	⇑P	Pg	14 01 29.9	-0.6
GGP	**Refugio Guagua**	**0.76**	**216**	⇑P	Pg	14 01 30.1	-0.5
TERV	**Terraza Guagua**	**0.76**	**216**	P	Pg	14 01 30.3	-0.4
ECOPE	**Copete-Rev Vol**	**0.76**	**136**	⇓P	Pg	14 01 30.3	-0.5
JUA2	**San Juan 2**	**0.79**	**215**	⇑P	Pg	14 01 30.6	-0.7
ANTI	**Antisana**	**0.89**	**180**	⇓P	Pb	14 01 32.8	-0.2
LORE	**San Lorenzo**	**1.09**	**321**	⇓P	Pb	14 01 37.1	+0.6
VC1	**Cotopaxi 1**	**1.11**	**193**	⇑P	Pb	14 01 37.0	+0.3
NAS1	**Nasa**	**1.12**	**197**	P	Pb	14 01 37.5	+0.6
TAMB	**Tambo**	**1.15**	**191**	⇑P	Pb	14 01 37.8	+0.3
CAMI	**Rancho Maria**	**1.17**	**197**	P	Pb	14 01 38.4	+0.6
CAMI				S	Sb	14 01 55.9	+2.8
QIL1	**Quilotoa**	**1.50**	**211**	P	Pn	14 01 43.9	+0.7
PISA	**Pisayambo**	**1.51**	**189**	P	Pn	14 01 44.3	+1.0
RUN5	**Runtun**	**1.87**	**188**	P	Pn	14 01 51.4	+3.0
RUN5				S	Sn	14 02 19.2	+6.6
JUIV	**Juive**	**1.88**	**189**	P	Pn	14 01 51.4	+2.7
ULBA	**Ulba**	**1.90**	**188**	P	Pn	14 01 51.0	+2.1
CUSU	**Cusua**	**1.90**	**190**	P	Pn	14 01 51.3	+2.3
CUSU				S	Sn	14 02 19.4	+5.9
ARRY	**Arrayan**	**1.96**	**189**	⇑P	Pn	14 01 52.6	+2.8
ARRY				S	Sn	14 02 19.1	+4.0
IGUA	**Igualata**	**1.98**	**194**	⇓P	Pn	14 01 52.5	+2.4

IDC 16 14:02:15.5±3.9**, 8.71S**×**110.75E, mb3.8**/3**, mb1 4.1**/4**, mb1mx3.8**/16**, mbtmp3.9**/4**, ML3.5**/1**, Error ellipse: s-maj=194.5km s-min=25.9km az=47.0, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.22**	**124**	P	P	14 06 19.0	-0.1
	0.1nm,0.3s,baz=308,slow=5.8,SNR=3.9						
WRA	**Warramunga Arr**	**25.40**	**119**	P	P	14 07 44.3	-2.0
	1.1nm,0.8s,baz=292,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**60.80**	**338**	P	P	14 12 29.6	-2.1
	0.8nm,0.6s,baz=154,slow=7.0,SNR=7.8						
ZAL	**Zalesovo**	**66.16**	**344**	P	P	14 13 04.3	-2.5
	1.3nm,0.5s,baz=49,slow=2.4,SNR=3.9						

*NEIC **16** 14:10:09.8±0.9, 18.70S×69.45W, h126km±10km, mb4.2/1, Error ellipse: s-maj=19.2km s-min=12.8km az=88.0*
*IDC **16** 14:10:10.4±1.4, 18.83S×69.31W, h129km±12km, mb3.3/2, mb1 3.7/5, mb1mx3.4/17, mbtmp3.9/5, Error ellipse: s-maj=31.9km s-min=8.8km az=101.0*
ISC 16 14:10:10.7±1.1**, 18.86S**±0.06×**69.2W**±0.1**, h133**km±11km**, n12, σ0s93**/13**, mb3.5**/2**, 1C, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.77**	**22**	P	**P**	**14 10 55.1**	**-0.1**
	18nm,0.3s,baz=215,slow=6.5,SNR=333						
LPAZ				S	**S**	**14 11 29.2**	**+0.3**
	0.3nm,0.3s,baz=111,slow=18,SNR=1.9						
LPAZ	**La Paz**	**2.77**	**22**	⇑*i*P	**P**	**14 10 55.3**	**+0.2**
LPAZ				S	**S**	**14 11 29.2**	**+0.3**
ARE	**Arequipa**	**3.21**	**318**	*e*P	**P**	**14 10 55.0**	**-6.0**
LVC	**Limon Verde**	**3.74**	**175**	P	**P**	**14 11 08.5**	**+0.5**
	3.9nm,0.3s,baz=337,slow=9.5,SNR=63						
LVC				S	**S**	**14 11 51.3**	**-0.6**
	11nm,0.3s,baz=6.1,slow=12,SNR=8.4						
SIV	**San Ignacio**	**8.30**	**71**	P	**P**	**14 12 07.6**	**-1.7**
	4.6nm,0.3s,baz=259,slow=11,SNR=57						
SIV				S	**S**	**14 13 42.7**	**+1.0**
	baz=358,slow=21,SNR=2.4						
TRQA	**Tornquist**	**20.14**	**163**	*e*P	**P**	**14 14 36.1**	**-0.3**
	8.4nm,0.8s						
PLCA	**Paso Flores**	**21.83**	**183**	P	**P**	**14 14 54.5**	**+1.5**
	1.0nm,0.5s,mb3.5,baz=358,slow=11,SNR=3.9						
PLCA	**Paso Flores**	**21.83**	**183**	P	**P**	**14 14 54.8**	**+1.8**
ESDC	**Sonseca Array**	**84.18**	**45**	P	**P**	**14 22 27.5**	**-0.9**
	0.9nm,0.8s,mb3.6,baz=240,slow=4.1,SNR=4.7						
WRA	**Warramunga Arr**	**135.04**	**212**	PKP	PKPdf	14 29 15.4	+0.4
	0.3nm,0.4s,baz=146,slow=1.7,SNR=9.0						
MJAR	**Matsushiro Arr**	**150.15**	**312**	PKPbc	PKPdf	14 29 44.1	+3.4
	0.9nm,0.6s,baz=106,slow=2.4,SNR=4.1						
SONM	**Songino Array**	**150.88**	**6**	PKPbc	PKPdf	14 29 48.0	+6.5
	1.7nm,0.5s,baz=330,slow=1.5,SNR=8.1						
SONM				pPKPbc		14 30 21.2	
	1.1nm,0.7s,SNR=3.4						

*IDC **16** 15:04:02.4±1.6, 25.74N×141.15E, h117km±16km, mb3.6/8, mb1 3.7/10, mb1mx3.6/18, mbtmp4.0/10, Error ellipse: s-maj=26.4km s-min=14.4km az=82.0*
*NEIC **16** 15:04:03.4±1.9, 25.76N×141.12E, h124km±22km, mb4.4/6, Error ellipse: s-maj=39.5km s-min=10.5km az=76.0*
ISC 16 15:04:01.5±1.2**, 25.73N**±0.07×**141.1E**±0.2**, h123**km±12km**, n22, σ0s82**/23**, mb4.1**/13**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.67**	**35**	P	**P**	**15 04 32.2**	**+0.7**
	195nm,0.3s,baz=156,slow=3.6,SNR=83						
CBIJ				S	**S**	**15 04 53.2**	**-1.0**
	368nm,0.3s,baz=266,slow=22,SNR=56						
MJAR	**Matsushiro Arr**	**11.06**	**348**	P	**P**	**15 06 36.3**	**-0.7**
	1.2nm,0.3s,baz=138,slow=10,SNR=17						
MAJO	**Matsushiro**	**11.06**	**348**	P	**P**	**15 06 37.4**	**+0.3**
	3.7nm,0.3s						
MAT	**Matsushiro**	**11.06**	**348**	*e*P	**P**	**15 06 39.0**	**+2.0**
MAT	**Matsushiro**	**11.06**	**348**	P	**P**	**15 06 38.5**	**+1.5**
ASAJ	**Asahikawa**	**18.38**	**3**	P	**P**	**15 08 09.1**	**-0.2**
	0.7nm,0.3s,baz=137,slow=19,SNR=5.1						
YSS	**Yuzh-Sakhalins**	**21.22**	**3**	P	**P**	**15 08 39.5**	**+0.8**
	8.5nm,0.6s,mb4.2						
SONM	**Songino Array**	**35.05**	**318**	P	**P**	**15 10 44.1**	**-0.2**
	0.6nm,0.5s,mb3.7,baz=125,slow=8.5,SNR=4.9						
CTAO	**Charters Tower**	**45.82**	**173**	*e*P	**P**	**15 12 12.7**	**-0.3**
	2.2nm,0.6s,mb4.1						
WRAB	**Tennant Creek**	**45.86**	**189**	*e*P	**P**	**15 12 13.9**	**+0.5**
	25nm,0.7s,mb5.0						
WB2	**Warramunga Arr**	**45.87**	**189**	*e*P	**P**	**15 12 13.6**	**+0.2**
WRA	**Warramunga Arr**	**45.88**	**189**	P	**P**	**15 12 13.2**	**-0.2**
	7.7nm,0.3s,mb4.9,baz=12,slow=8.7,SNR=142						
FITZ	**Fitzroy Crossi**	**46.10**	**201**	*e*P	**P**	**15 12 16.1**	**+0.9**
	4.8nm,0.9s,mb4.2						
MKAR	**Makanchi Array**	**50.61**	**310**	P	**P**	**15 12 50.5**	**+0.7**
	0.5nm,0.7s,mb3.7,baz=82,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**57.29**	**180**	*e*P	**P**	**15 13 38.1**	**-0.7**
	2.9nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**57.29**	**180**	P	**P**	**15 13 37.6**	**-1.1**
	3.4nm,0.5s,mb4.6,baz=336,slow=9.5,SNR=21						
BVAR	**Borovoye Array**	**58.40**	**318**	P	**P**	**15 13 45.6**	**-0.6**
	1.3nm,0.5s,mb4.3,baz=94,slow=7.2,SNR=12						
ZRNK	**Zerenda**	**59.24**	**318**	P	**P**	**15 13 50.2**	**-1.8**
YKA	**Yellowknife Ar**	**73.79**	**28**	P	**P**	**15 15 24.9**	**+1.2**
	0.2nm,0.3s,mb3.3,baz=285,slow=11,SNR=3.0						
ARCES	**ARCESS Array B**	**74.51**	**341**	P	**P**	**15 15 27.5**	**-0.2**
	1.2nm,0.9s,mb3.6,baz=67,slow=9.2,SNR=7.8						
FINES	**FINESS Array B**	**78.74**	**334**	P	**P**	**15 15 50.4**	**-1.0**
	1.3nm,0.5s,mb4.0,baz=92,slow=5.3,SNR=18						
PDAR	**Pinedale Array**	**85.86**	**44**	P	**P**	**15 16 28.5**	**0.0**
	0.3nm,0.6s,mb3.4,slow=1.5,SNR=3.8						

*NEIC **16** 15:13:52.3±1.3, 19.22S×174.40W, h53km±14km, mb4.6/14, Error ellipse: s-maj=13.1km s-min=9.8km az=122.0*
*IDC **16** 15:13:54.2±3.4, 19.08S×174.63W, h58km±31km, mb4.3/6, mb1 4.4/7, mb1mx4.1/15, mbtmp4.6/7, MS3.8/3, Ms1 3.8/3, ms1mx3.2/24, Error ellipse: s-maj=34.7km s-min=18.0km az=105.0*
ISC 16 15:13:50.8±2.1**, 19.18S**±0.08×**174.4W**±0.1**, h51**km±21km**, n38, σ1s13**/32**, mb4.5**/17**, MS3.8**/3**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.83**	**26**	P	**P**	**15 15 17.7**	**+1.1**
	10.0nm,0.3s,baz=185,slow=6.9,SNR=31						
AFI				S	**S**	**15 16 16.2**	**-6.9**
	54nm,0.3s,baz=91,slow=20,SNR=10.0						
AFI	**Afiamalu**	**5.83**	**26**	*e*Pn	**P**	**15 15 17.1**	**+0.5**
AFI				*e*Sn	**S**	**15 16 15.7**	**-7.3**
RAR	**Rarotonga**	**13.90**	**101**	*e*P	**P**	**15 17 05.1**	**-1.7**
	33nm,0.4s						
DZM	**Mont Dzumac**	**18.14**	**258**	P	**P**	**15 18 04.4**	**+3.7**
	0.9nm,0.3s,baz=81,slow=18,SNR=19						
URZ	**Urewera**	**20.39**	**199**	P	**P**	**15 18 25.4**	**-0.4**
	26nm,0.5s,baz=61,slow=2.3,SNR=30						
URZ				S	**S**	**15 21 56.8**	**-10**
	41nm,1.2s,baz=86,slow=19,SNR=6.6						
PPT	**Papeete**	**23.63**	**90**	LR	LR	15 25 11.6	
	comp=Z,179nm,20.6s,MS3.5,baz=248,slow=28						
SNZO	**South Karori**	**23.93**	**201**	P	**P**	**15 19 01.7**	**+0.8**
RPZ	**Rata Peaks**	**27.33**	**203**	P	**P**	**15 19 35.1**	**+2.2**
	15nm,0.5s,mb4.8,baz=340,slow=5.0,SNR=12						
CTA	**Charters Tower**	**36.99**	**262**	*e*P	**P**	**15 20 57.4**	**+0.1**
	10nm,0.7s,mb4.8						
CTAO	**Charters Tower**	**36.99**	**262**	*e*P	**P**	**15 20 57.3**	**-0.1**
	14nm,0.7s,mb4.9						
TAU	**Tasmania Unive**	**39.93**	**225**	P	**P**	**15 21 21.6**	**0.0**
	14nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**41.39**	**243**	*e*P	**P**	**15 21 33.2**	**-0.5**
	4.3nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**41.39**	**243**	P	**P**	**15 21 33.2**	**-0.5**
	2.5nm,0.6s,mb4.0,baz=77,slow=16,SNR=8.1						
STKA	**Stephens Creek**	**41.39**	**243**	*e*P	**P**	**15 21 32.7**	**-1.0**
WB2	**Warramunga Arr**	**48.12**	**260**	*e*P	**P**	**15 22 26.7**	**-1.1**
WRAB	**Tennant Creek**	**48.12**	**260**	*e*P	**P**	**15 22 23.4**	**-4.4**
	9.8nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**48.13**	**260**	P	**P**	**15 22 26.7**	**-1.3**
	2.3nm,0.3s,mb4.7,baz=97,slow=6.9,SNR=90						
KAKA	**Kakadu**	**51.34**	**269**	*e*P	**P**	**15 22 52.2**	**-0.4**
	4.2nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**56.55**	**261**	*e*P	**P**	**15 23 30.1**	**-0.7**
	8.2nm,2.0s,mb4.4						
SBA	**Scott Base**	**59.42**	**185**	*e*P	**P**	**15 23 51.7**	**+1.6**
	7.5nm,0.8s,mb4.8						
VNDA	**Vanda**	**59.53**	**186**	P	**P**	**15 23 52.0**	**+1.0**
	3.2nm,0.7s,mb4.5,baz=9.3,slow=6.3,SNR=24						
VNDA	**Vanda**	**59.53**	**186**	*e*P	**P**	**15 23 51.6**	**+0.7**
	3.1nm,0.7s,mb4.5						
VNDA				*e*PcP	PcP	15 24 32.6	-5.1
MBWA	**Marble Bar**	**61.43**	**256**	*e*P	**P**	**15 24 01.6**	**-3.0**
	5.0nm,0.7s,mb4.8						
CASY	**Casey**	**66.58**	**205**	*e*P	**P**	**15 24 36.6**	**-0.8**
	2.6nm,0.8s,mb4.3						
MJAR	**Matsushiro Arr**	**71.22**	**321**	P	**P**	**15 25 07.3**	**+0.8**
	2.2nm,0.7s,mb4.2,baz=170,slow=6.7,SNR=8.9						
MJAR	**Matsushiro Arr**	**71.22**	**321**	P	**P**	**15 25 07.3**	**+0.8**
MAJO	**Matsushiro**	**71.22**	**321**	P	**P**	**15 25 07.6**	**+1.1**
	3.3nm,0.7s,mb4.4						
ANMO	**Albuquerque**	**83.97**	**50**	P	**P**	**15 26 16.1**	**-1.1**
	1.0nm,0.6s,mb4.1						
MCK	**McKinley**	**85.00**	**11**	*e*P	**P**	**15 26 22.6**	**+1.0**
	1.9nm,0.6s,mb4.4						
SNAA	**Sanae**	**89.20**	**177**	*e*P	**P**	**15 26 41.8**	**+0.1**
	3.7nm,1.2s,mb4.6						
CFAA	**Coronel Fontan**	**93.12**	**125**	LR	LR	15 59 16.1	
	comp=Z,12nm,20.9s,MS3.3,baz=16,slow=29						
LVC	**Limon Verde**	**96.24**	**116**	LR	LR	15 59 20.0	
	comp=Z,217nm,21.4s,MS4.6,baz=124,slow=28						
BVAR	**Borovoye Array**	**120.22**	**321**	PKP	PKPdf	15 32 37.3	+1.1
	0.2nm,0.3s,SNR=4.6						
ARCES	**ARCESS Array B**	**128.19**	**351**	PKP	PKPdf	15 32 52.1	+1.1
	0.7nm,0.6s,baz=45,slow=1.7,SNR=7.0						
AKASG	**Malin Array Be**	**143.38**	**335**	PKhKP		15 33 17.6	
	1.1nm,0.5s,baz=36,slow=4.2,SNR=6.9						
CLL	**Collm**	**147.41**	**351**	*i* PKP1	PKPdf	15 33 31.8	+5.6
CLL				*i* PKP2	PKPab	15 33 33.4	+0.5
BRTR	**Keskin Array B**	**148.34**	**316**	PKPbc	PKPdf	15 33 33.0	+4.8
	2.0nm,0.8s,baz=102,slow=3.4,SNR=4.3						
GERES	**GERESS Array B**	**149.69**	**349**	PKPbc	PKPdf	15 33 35.9	+5.9
	0.4nm,0.4s,baz=333,slow=3.0,SNR=6.4						

*NEIC **16** 15:35:38.2, 33.52S×70.20W, h7km, ML2.7(GUC), After GUC.*
NEIC Felt [IV] at El Alfafal.
GUC 16 15:35:38.2±0.9**, 33.52S**×**70.20W, h7**km±1km**, MD3.7, ML2.7, 12C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJCH	**San Jose de Ma**	**0.17**	**228**	*i* P	Pg	15 35 42.4	+0.5
SJCH				*i* S	Sg	15 35 45.3	+0.9
SJCH				AMP		15 35 45.8	
	comp=E,3µm,0.3s						
FCH	**Farellones**	**0.21**	**338**	⇑*i*P	Pg	15 35 42.8	+0.2
FSR	**Penalolen**	**0.28**	**279**	⇑*i*P	Pg	15 35 44.5	+0.6
FSR				*i* S	Sg	15 35 48.9	+1.1
FSR				AMP		15 35 50.1	
	comp=E,1µm,0.3s						
PCH	**Pirque**	**0.28**	**250**	⇓*i*P	Pg	15 35 44.8	+0.8
PCH				*i* S	Sg	15 35 49.4	+1.6
CLCH	**Cerro Calan**	**0.31**	**294**	⇑*i*P	Pg	15 35 44.9	+0.4
CLCH				*i* S	Sg	15 35 49.8	+1.0
CLCH				AMP		15 35 51.1	
	comp=E,1µm,0.4s						
CLCH				AMP		15 35 51.4	
	comp=E,2µm,0.6s						
LMEL	**Las Melosas**	**0.32**	**181**	⇓*i*P	Pg	15 35 45.4	+0.6
LMEL				*i* S	Sg	15 35 50.4	+1.2
LMEL				AMP		15 35 51.4	
	comp=N,2µm,0.2s						
DSCH	**Colegio Aleman**	**0.33**	**292**	⇓*i*P	Pg	15 35 45.6	+0.6
DSCH				*i* S	Sg	15 35 50.8	+1.2
DSCH				AMP		15 35 52.0	
	comp=E,2µm,0.3s						
ANTU	**Antumapu**	**0.37**	**263**	⇑*i*P	Pg	15 35 46.1	+0.5
ANTU				*i* S	Sg	15 35 51.6	+1.0
ANTU				AMP		15 35 52.1	
	comp=N,1µm,0.7s						
SAN	**Santiago**	**0.39**	**280**	*i* S	Sg	15 35 52.4	+0.9
SAN				AMP		15 35 56.5	
	comp=N,522nm,0.5s						
RCDM	**Rinconada Maip**	**0.51**	**274**	⇑*i*P	Pg	15 35 48.7	+0.2
RCDM				*i* S	Sg	15 35 56.2	+0.9
RCDM				AMP		15 35 56.7	
	comp=N,2µm,0.1s						
CHCH	**Chadas Angostu**	**0.56**	**223**	⇑*i*P	Pg	15 35 49.7	+0.3
CHCH				*i* S	Sg	15 35 57.9	+1.0
TACH	**Talagante**	**0.63**	**258**	⇓*i*P	Pg	15 35 50.8	-0.1
CACH	**El Canelo**	**0.68**	**209**	⇑*i*P	Pg	15 35 52.3	+0.5
CACH				*i* S	Sg	15 36 02.4	+1.4
CICH	**Cipreses**	**0.81**	**193**	⇑*i*P	Pb	15 35 54.5	+0.3
CICH				*i* S	Sb	15 36 06.1	+0.9
ROCH	**El Roble**	**0.88**	**309**	*i* P	Pb	15 35 55.2	-0.1
JACH	**Jahuel**	**0.90**	**338**	⇑*i*P	Pb	15 35 55.0	-0.8
LNV	**Longovilo**	**1.10**	**247**	⇑*i*P	Pb	15 35 58.6	-0.5
LNV				*i* S	Sb	15 36 13.5	+0.1
LCCH	**Las Cruces**	**1.15**	**272**	⇑*i*P	Pb	15 35 59.5	-0.4
LCCH				*i* S	Sb	15 36 14.9	+0.1
SFDO	**San Fernando**	**1.28**	**212**	⇑*i*P	Pb	15 36 02.8	+0.5
SFDO				*i* S	Sb	15 36 19.9	+1.2
PACH	**Papudo**	**1.43**	**313**	*i* P	Pn	15 36 04.1	-0.6

*MOS **16** 15:48:21.6±1.0, 6.54S×105.94E, h33km, mb5.2/14, Error ellipse: s-maj=13.1km s-min=6.9km az=113.9*
*HRVD **16** 15:48:25.5±1.0, 7.02S×106.15E, h94km±12km, MW4.8/32, Centroid moment Tensor Solution. LP body waves: s3,c3; Mantle waves: s32,c46; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.45±.23; $M_{\theta\theta}$-1.07±.22; $M_{\phi\phi}$1.52±.28; $M_{r\theta}$0.96±.07; $M_{\theta\phi}$-0.55±.23; $M_{\phi r}$0.06±.14; Best double couple: $M_0$1.74×10^{16} NP1:ϕ_s208°, δ63°, λ-23°. NP2: ϕ_s309°, δ70°, λ-151°. Principal axes: T 1.641, Plg4°, Azm77°; N .2, Plg55°, Azm341°; P -1.838, Plg35°, Azm170°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **16** 15:48:25.5±0.2, 6.71S×105.87E, mb5.0/29 Error ellipse: s-maj=9.6km s-min=5.5km az=55.0*
NEIC Felt [III] at Pandegelang and Pelabuhanratu, Java.
*IDC **16** 15:48:25.9±0.7, 6.64S×106.01E, h60km±5km, mb4.5/17, mb1 4.5/17, mb1mx4.5/19, mbtmp4.7/17, MS3.9/10, Ms1 3.9/10, ms1mx3.7/16, Error ellipse: s-maj=17.3km s-min=9.1km az=46.0*
*BJI **16** 15:48:25.4, 6.70S×105.90E, h55km, mB5.3, mb5.0, Ms4.9, Msz4.4*
ISC 16 15:48:25.0±1.3**, 6.67S**±0.04×**105.91E**±0.05**, h67**km±11km**, h60**km±2.9km**:pP-P, n163, σ1s18**/140**, mb4.8**/70**, 14C-12D, Sunda Strait**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**9.00**	**343**	P	**P**	**15 50 41.9**	**+7.3**
KSM	**Kuching**	**9.20**	**29**	P	**P**	**15 50 39.8**	**+2.5**
IPM	**Ipoh**	**12.19**	**336**	P	**P**	**15 51 22.2**	**+4.4**
KULM	**Kulim**	**12.99**	**336**	*e*P	**P**	**15 51 29.3**	**+0.9**
TSM	**Tawau**	**16.16**	**48**	P	**P**	**15 52 16.9**	**+7.5**
KKM	**Kota Kinabalu**	**16.29**	**39**	*e*P	**P**	**15 52 16.7**	**+5.6**
KKM	**Kota Kinabalu**	**16.29**	**39**	P	**P**	**15 52 19.2**	**+8.2**
MBWA	**Marble Bar**	**19.66**	**138**	*e*P	**P**	**15 52 50.5**	**-0.7**
	14nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.34**	**122**	⇑*i*P	**P**	**15 53 19.9**	**+1.4**
	23nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**22.34**	**122**	P	**P**	**15 53 19.3**	**+0.8**
	27nm,0.6s,mb4.7,baz=325,slow=5.3,SNR=46						
FITZ				S	**S**	**15 57 18.5**	**+3.7**
	9.2nm,0.5s,baz=171,slow=15,SNR=3.6						
QIZ	**Qiongzhong**	**25.83**	**9**	*e*P	**P**	**15 53 57.3**	**+5.2**
QIZ				S	**S**	**15 58 14.9**	**+0.4**
QIZ				LR	LR		
	comp=Z,335nm,23.5s						
KAKA	**Kakadu**	**26.82**	**105**	*e*P	**P**	**15 54 00.5**	**-0.8**
	comp=Z,70nm,0.8s,mb5.2						
NWAO	**Narrogin (SRO)**	**28.17**	**160**	P	**P**	**15 54 10.6**	**-2.8**
NWAO	**Narrogin (SRO)**	**28.17**	**160**	LR	LR	16 04 06.1	
	comp=Z,264nm,21.6s,baz=143,slow=33						
WRA	**Warramunga Arr**	**30.58**	**118**	P	**P**	**15 54 34.8**	**-0.1**
	comp=Z,17nm,0.5s,mb5.0,baz=291,slow=10,SNR=257						
WRA				pP	pP	15 54 49.4	-1.8
	comp=Z,2.6nm,0.4s,baz=285,slow=12,SNR=3.4						
WRA				PcP	PcP	15 57 30.7	-1.5
	comp=Z,1.6nm,0.4s,baz=309,slow=2.1,SNR=5.6						
WRA				S	**S**	**15 59 28.7**	**-2.0**
	comp=Z,1.4nm,0.8s,baz=298,slow=17,SNR=4.0						
WRAB	**Tennant Creek**	**30.59**	**118***c*	*i*P	**P**	**15 54 34.9**	**-0.1**
WRAB	**Tennant Creek**	**30.59**	**118**	*e*P	**P**	**15 54 34.3**	**-0.8**
	comp=Z,32nm,0.5s,mb5.3						
WB2	**Warramunga Arr**	**30.59**	**118**	⇑*i*P	**P**	**15 54 34.9**	**-0.2**
MDRS	**Chennai**	**32.16**	**308**	*i* P	**P**	**15 54 47.3**	**-1.5**
TRD	**Trivandrum**	**32.56**	**297**	*e*P	**P**	**15 54 52.8**	**+0.5**
TRD				AMb	AMB	15 54 59.4	
	comp=Z,28nm,1.2s,mb5.0						
VIS	**Vishakhapatnam**	**32.93**	**318**	*e*	**P**	**15 54 52.2**	**-3.3**
VIS				*e*P		15 54 53.2	
VIS				AMb	AMB	15 54 56.1	
	comp=Z,13nm,0.9s,mb4.8						
GYA	**Guiyang**	**32.94**	**1**	P	**P**	**15 54 56.3**	**+0.8**
GYA				AP	pP	15 55 14.3	+2.4
GYA				PP	PP	15 56 09.6	+2.2
GYA				S	**S**	**16 00 08.3**	**+0.8**
GYA				XS		16 00 39.1	
GYA				SS	SS	16 02 12.4	+1.7
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				LR	LR		
	comp=N,340nm,17.2s						
GYA				LR	LR		
	comp=E,410nm,17.8s						
GYA				LR	LR		
	comp=Z,380nm,17.6s						
HYB	**Hyderabad**	**36.10**	**312**	*e*P	**P**	**15 55 23.5**	**+0.9**
HYB	**Hyderabad**	**36.10**	**312**	*i* P	**P**	**15 55 23.5**	**+0.9**
ENH	**Enshi**	**36.89**	**5**	P	**P**	**15 55 30.1**	**+1.0**
BLSP	**Bilaspur**	**36.90**	**321**	*e*P	**P**	**15 55 28.7**	**-0.6**
BLSP				AMb	AMB	15 55 33.7	
	comp=Z,11nm,0.8s,mb4.8						
BLSP				*e*		15 58 37.2	
LSA	**Lhasa**	**38.84**	**339**	*e*P	**P**	**15 55 46.3**	**+0.9**
LSA	**Lhasa**	**38.84**	**339**	*e*P	**P**	**15 55 45.7**	**+0.3**
	comp=Z,9.3nm,0.8s,mb4.7						
PKI	**Pulchoki**	**39.39**	**331**	*e*P	**P**	**15 55 50.6**	**+0.7**
	comp=Z,12nm,0.7s,mb4.8						
GUN	**Gumba**	**39.45**	**332**	*e*P	**P**	**15 55 51.8**	**+1.4**
	comp=Z,41nm,0.7s,mb5.3						
DMN	**Daman**	**39.57**	**330**	*e*P	**P**	**15 55 51.8**	**+0.4**
	comp=Z,23nm,0.8s,mb5.1						
KKN	**Kakani**	**39.63**	**331**	*e*P	**P**	**15 55 52.4**	**+0.4**
	comp=Z,28nm,0.8s,mb5.1						
GKN	**Gorkha**	**40.13**	**330**	*e*P	**P**	**15 55 56.4**	**+0.3**
	comp=Z,30nm,0.8s,mb5.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SSE	**Sheshan**	**40.30**	**20**	P	**P**	**15 55 55.9**	**-1.5**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,213nm,9.2s						
POO	**Poona**	**40.33**	**309**	*e*P	**P**	**15 55 58.5**	**+0.7**
POO				AMb	AMB	15 56 01.8	
	comp=Z,27nm,0.7s,mb5.2						
NJ2	**Nanjing**	**40.44**	**17**	*e*P	**P**	**15 56 01.3**	**+2.7**
NJ2				AP	pP	15 56 19.8	+4.5
NJ2				PP	PP	15 57 39.5	+3.5
NJ2				S	**S**	**16 02 03.0**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,390nm,5.5s						
NJ2				LR	LR		
	comp=N,500nm,19.4s						
NJ2				LR	LR		
	comp=E,720nm,17.9s						
NJ2				LR	LR		
	comp=Z,490nm,17.9s						
KOLN	**Koldanda**	**40.46**	**329**	*e*P	**P**	**15 55 58.6**	**-0.2**
	comp=Z,49nm,0.7s,mb5.4						
XAN	**Xi'an**	**40.59**	**4**	P	**P**	**15 56 00.1**	**+0.3**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.7						
BHPL	**Bhopal**	**40.73**	**318**	*e*P	**P**	**15 56 00.9**	**-0.2**
BHPL				AMb	AMB	15 56 02.6	
	comp=Z,11nm,0.4s,mb5.0						
PMG	**Port Moresby**	**40.92**	**97***c*	*i*P	**P**	**15 56 04.1**	**+1.4**
PMG	**Port Moresby**	**40.92**	**97**	P	**P**	**15 56 03.5**	**+0.8**
	comp=Z,49nm,0.5s,mb5.6,baz=254,slow=4.5,SNR=47						
PMG	**Port Moresby**	**40.92**	**97**	*e*P	**P**	**15 56 04.0**	**+1.3**
	comp=Z,92nm,0.8s,mb5.7						
CTA	**Charters Tower**	**41.33**	**113**	⇑*i*P	**P**	**15 56 07.3**	**+1.3**
	comp=Z,7.6nm,0.8s,mb4.6						
CTAO	**Charters Tower**	**41.33**	**113**	*e*P	**P**	**15 56 07.1**	**+1.1**
STKA	**Stephens Creek**	**41.67**	**132**	⇑*i*P	**P**	**15 56 09.6**	**+0.8**
	comp=Z,20nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**41.67**	**132**	P	**P**	**15 56 09.4**	**+0.7**
	comp=Z,21nm,0.6s,mb5.1,baz=296,slow=7.3,SNR=54						
STKA				pP	pP	15 56 22.9	-2.6
	comp=Z,6.8nm,0.4s,baz=314,slow=9.2,SNR=4.7						
LZH	**Lanzhou**	**42.57**	**358**	⇓P	**P**	**15 56 17.3**	**+1.2**
LZH				AP	pP	15 56 36.0	+3.1
LZH				*e*PP	PP	15 58 00.5	+2.2
LZH				*e*S	**S**	**16 02 36.5**	**+3.1**
LZH				SS	SS	16 05 43.8	+5.0
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,112nm,5.4s						
LZH				LR	LR		
	comp=N,705nm,15.2s						
LZH				LR	LR		
	comp=Z,986nm,18.1s						
SONA	**Sohna**	**44.48**	**323**	*e*P	**P**	**15 56 28.3**	**-3.4**
SONA				AMb	AMB	15 56 33.1	
	comp=Z,18nm,1.0s,mb4.8						
SONA				*e*		16 02 58.8	
NDI	**New Delhi**	**44.72**	**323**	*e*P	**P**	**15 56 31.0**	**-2.6**
KUDL	**Kundal**	**44.77**	**322**	*e*P	**P**	**15 56 33.3**	**-0.8**
KUDL				AMb	AMB	15 56 35.4	
	comp=Z,25nm,0.8s,mb5.0						
AJM	**Ajmer**	**44.77**	**319**	*e*P	**P**	**15 56 34.6**	**+0.5**
AJM				AMb	AMB	15 56 36.6	
	comp=Z,15nm,0.8s,mb4.8						
JNU	**Nakatsue**	**46.14**	**29**	P	**P**	**15 56 44.7**	**-0.1**
	comp=Z,7.3nm,0.8s,mb4.5,baz=64,slow=10,SNR=5.3						
GTA	**Gaotai**	**46.19**	**353**	*e*P	**P**	**15 56 46.3**	**+1.2**
GTA				AP	pP	15 57 05.8	+3.7
GTA				PCP	PcP	15 58 21.0	+0.6
GTA				SCP		16 02 05.4	
GTA				PCS		16 02 13.8	
GTA				S	**S**	**16 03 30.0**	**+4.4**
GTA				SCS	ScS	16 06 32.3	+0.8
GTA				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.7						
GTA				AMB	AMB		
	comp=Z,176nm,4.6s						
GTA				LR	LR		
	comp=N,103nm,14.1s						
GTA				LR	LR		
	comp=E,105nm,14.1s						
GTA				LR	LR		
	comp=Z,196nm,10.2s						
SDNR	**Sundarnagar**	**46.95**	**326**	*e*P	**P**	**15 56 50.2**	**-1.1**
HHC	**Hu-ho-hao-te**	**47.57**	**6**	*e*P	**P**	**15 56 55.9**	**-0.1**
HHC				AMB	AMB		
	comp=Z,24nm,1.4s,mb4.8						
THN	**Thein Dam**	**48.36**	**325**	*e*P	**P**	**15 57 00.0**	**-2.2**
KS15	**Wonju Array Si**	**48.44**	**23**	*e*P	**P**	**15 57 04.2**	**+1.4**
MAT	**Matsushiro**	**52.57**	**33**	*e*P	**P**	**15 57 32.0**	**-2.2**
MAT	**Matsushiro**	**52.57**	**33**	P	**P**	**15 57 32.3**	**-1.9**
MJAR	**Matsushiro Arr**	**52.57**	**33**	P	**P**	**15 57 31.6**	**-2.6**
	comp=Z,1.6nm,0.4s,mb4.4,baz=209,slow=9.1,SNR=16						
MJAR				PcP	PcP	15 58 43.6	0.0
	comp=Z,5.8nm,0.7s,baz=203,slow=5.0,SNR=15						
WMQ	**Urumqi**	**52.89**	**344**	*e*P	**P**	**15 57 38.3**	**+1.8**
CN2	**Changchun**	**53.26**	**18**	*e*P	**P**	**15 57 38.3**	**-0.9**
CN2				XP	sP	15 58 06.0	+1.9
CN2				PCP	PcP	15 58 45.8	-0.3
CN2				*e*S	**S**	**16 05 04.8**	**+1.2**
CN2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.4						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
KSH	**Kashi**	**53.65**	**331**	*e*P	**P**	**15 57 46.0**	**+3.9**
KSH				*e*PCP	PcP	15 58 53.0	+5.4
KSH				*e*S	**S**	**16 05 14.1**	**+5.1**
KSH				AMB	AMB		
	comp=Z,330nm,4.9s						
KSH				LR	LR		
	comp=N,270nm,5.2s						
KSH				LR	LR		
	comp=E,440nm,4.9s						
SONM	**Songino Array**	**54.27**	**0**	P	**P**	**15 57 46.9**	**+0.4**
	comp=E,5.2nm,0.7s,mb4.7,baz=173,slow=8.0,SNR=31						
SONM				pP	pP	15 58 01.4	-2.6
	comp=E,1.8nm,0.6s,baz=190,slow=7.5,SNR=4.1						
SONM				PcP	PcP	15 58 50.0	+0.1
	comp=E,13nm,0.7s,baz=180,slow=3.8,SNR=25						
SONM				ScP		16 02 41.0	
	comp=E,1.6nm,0.7s,baz=188,slow=3.5,SNR=7.7						
SONM				LR	LR	16 22 22.5	
	comp=E,220nm,18.3s,baz=242,slow=38						
ULN	**Ulaanbaatar**	**54.31**	**1**	*i* P	**P**	**15 57 44.7**	**-2.1**
MDJ	**Mudanjiang**	**55.32**	**20**	*e*P	**P**	**15 57 54.2**	**-0.1**
	comp=E,6.8nm,0.6s,mb4.8						
AAK	**Ala-Archa**	**56.79**	**333***c*	*i*P	**P**	**15 58 03.6**	**-1.2**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
AAK				MLR	MLR		
	comp=Z,100nm,20.0s						
ZAK	**Zakamensk**	**56.86**	**358**	*e*P	**P**	**15 58 05.1**	**-0.1**
ZAK				*e*		15 59 00.4	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
HIA	**Hailar**	**57.00**	**11**	*e*P	**P**	**15 58 05.2**	**-1.0**
	comp=Z,6.2nm,0.6s,mb4.8						
HIA				*e*PcP	PcP	15 58 59.6	-0.8
MKAR	**Makanchi Array**	**57.21**	**341**	*i* P	**P**	**15 58 05.9**	**-1.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**57.21**	**341**	P	**P**	**15 58 06.5**	**-1.3**
	comp=Z,3.7nm,0.7s,mb4.5,baz=152,slow=8.1,SNR=22						
MKAR				LR	LR	16 24 03.8	
	comp=Z,54nm,19.2s,baz=0.7,slow=37						
TLY	**Talaya**	**58.15**	**358**	*e*P	**P**	**15 58 14.5**	**+0.3**
TLY				*e*		15 59 05.5	
KKAR	**Karatay Array**	**59.03**	**330**	*i* P	**P**	**15 58 19.0**	**-1.5**
KLR	**Kul'dur**	**60.07**	**19**	*e*P	**P**	**15 58 23.2**	**-4.3**
KURK	**Kurchatov**	**61.82**	**341**	*i* P	**P**	**15 58 37.9**	**-1.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**61.82**	**341**	*e*P	**P**	**15 58 37.7**	**-1.7**
	comp=Z,6.1nm,0.8s,mb4.7						
YSS	**Yuzh-Sakhalins**	**62.58**	**28**	⇓*i*P	**P**	**15 58 43.3**	**-1.2**
ZAL	**Zalesovo**	**62.94**	**346**	LR	LR	16 29 08.0	
	comp=Z,98nm,19.9s,baz=307,slow=39						
NVS	**Novosibirsk**	**64.14**	**346**	*e*P	**P**	**15 58 52.7**	**-1.9**
VOSK	**Vostochnaya**	**66.18**	**338**	P	**P**	**15 59 06.8**	**-1.0**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
BVA0	**Borovoye Array**	**66.64**	**338**	*i* P	**P**	**15 59 09.9**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
BVAR	**Borovoye Array**	**66.64**	**338**	P	**P**	**15 59 09.8**	**-0.9**
	comp=Z,10nm,0.6s,mb4.8,baz=146,slow=8.7,SNR=64						
BVAR				PcP	PcP	15 59 39.6	+0.3
	comp=Z,1.7nm,0.5s,baz=146,slow=11,SNR=3.7						
BRVK	**Borovoye**	**66.71**	**337**	*e*P	**P**	**15 59 09.8**	**-1.3**
	comp=Z,5.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**67.12**	**337**	P	**P**	**15 59 12.7**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**67.12**	**337**	*e*P	**P**	**15 59 12.4**	**-1.3**
	comp=Z,75nm,0.7s,mb5.6						
MAW	**Mawson**	**67.37**	**196**	P	**P**	**15 59 15.0**	**0.0**
	comp=Z,7.0nm,0.7s,mb4.6,baz=48,slow=6.8,SNR=6.8						
MAW				LR	LR	16 22 28.7	
	comp=Z,127nm,18.7s,baz=228,slow=30						
AB31	**Akbulak array**	**68.58**	**330**	*i* P	**P**	**15 59 22.2**	**-0.6**
AB31				pmax	pmax		
	comp=Z,22nm,0.5s,mb5.2						
KMBO	**Kilima Mbogo**	**68.67**	**271**	LR	LR	16 24 48.0	
	comp=Z,64nm,19.9s,baz=98,slow=32						
YAK	**Yakutsk**	**70.92**	**12***c*	*i*P	**P**	**15 59 35.8**	**-1.1**
YAK				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.1						
YAK	**Yakutsk**	**70.92**	**12**	*e*P	**P**	**15 59 35.6**	**-1.2**
	comp=Z,17nm,0.6s,mb5.0						
SVE	**Sverdlovsk**	**73.26**	**336**	*e*P	**P**	**15 59 51.9**	**+1.1**
SVE				*e*	pP	16 00 06.7	-2.3
SVE				pmax	pmax		
	comp=Z,52nm,1.0s,mb5.3						
ARU	**Arti**	**73.86**	**335**	⇑*i*P	**P**	**15 59 54.8**	**+0.5**
ARU				*e*	pP	16 00 10.2	-2.4
ARU				*e*		16 02 39.7	
ARU				*e*S	S	16 09 20.0	+0.8
ARU				*e*SS	SS	16 14 04.3	-2.5
ARU				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.0						
ARU	**Arti**	**73.86**	**335**	*e*P	**P**	**15 59 54.6**	**+0.3**
	comp=Z,30nm,0.8s,mb5.1						
PET	**Petropavlovsk**	**74.26**	**30**	⇑*i*P	**P**	**15 59 56.6**	**-0.1**
PET				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.2						
PET	**Petropavlovsk**	**74.26**	**30**	*e*P	**P**	**15 59 56.4**	**-0.3**
	comp=Z,12nm,0.5s,mb4.9						
ZEI	**Tsey**	**74.62**	**318**	*e*P	**P**	**15 59 57.1**	**-1.9**
ZEI				*i*		16 02 50.3	
ZEI				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.8						
MBAR	**Mbarara**	**75.20**	**271***c*	*i*P	**P**	**16 00 02.7**	**-0.2**
SYO	**Syowa Base**	**75.44**	**200**	⇓P	**P**	**16 00 02.3**	**-0.9**
KIV	**Kislovodsk**	**75.91**	**318**	*e*P	**P**	**16 00 07.7**	**+1.4**
KIV				*e*	pP	16 00 25.4	+0.7
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
KIV	**Kislovodsk**	**75.91**	**318**	P	**P**	**16 00 07.7**	**+1.4**
VNDA	**Vanda**	**76.49**	**169**	P	**P**	**16 00 09.2**	**+0.2**
	comp=Z,3.8nm,0.7s,mb4.2,baz=289,slow=6.6,SNR=21						
VNDA				LR	LR	16 27 28.3	
	comp=Z,85nm,19.4s,baz=300,slow=31						
VNDA	**Vanda**	**76.49**	**169**	*e*P	**P**	**16 00 08.8**	**-0.2**
	comp=Z,7.5nm,1.1s,mb4.3						
SOKR	**Solikamsk**	**76.60**	**337**	⇑*i*P	**P**	**16 00 08.9**	**-1.0**
SOKR				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
MALT	**Malatya**	**76.82**	**312**	*e*P	**P**	**16 00 12.3**	**+0.8**
	comp=Z,3.8nm,0.8s,mb4.2						
SBA	**Scott Base**	**77.57**	**169**	*e*P	**P**	**16 00 16.0**	**+1.0**
	comp=Z,58nm,2.0s,mb5.0						
SEY	**Seymchan**	**77.86**	**20***c*	*i*P	**P**	**16 00 17.0**	**+0.2**
BOSA	**Boshof**	**78.65**	**242**	P	**P**	**16 00 22.6**	**+0.7**
	comp=Z,2.0nm,0.7s,mb4.1,baz=87,slow=11,SNR=5.8						
TIXI	**Tiksi**	**79.61**	**7**	*e*P	**P**	**16 00 22.9**	**-3.4**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
BRTR	**Keskin Array B**	**80.80**	**312**	P	**P**	**16 00 33.9**	**+0.7**
	comp=Z,6.9nm,0.7s,mb4.6,baz=134,slow=7.3,SNR=37						
BRTR				pP	pP	16 00 49.8	-2.0
	comp=Z,4.2nm,0.7s,baz=140,slow=7.7,SNR=6.6						
SUR	**Sutherland**	**82.34**	**238**	*e*P	**P**	**16 00 43.8**	**+2.4**
QSPA	**South Pole Qui**	**83.32**	**180**	⇓*i*P	**P**	**16 00 46.6**	**+1.2**
	comp=Z,15nm,1.1s,mb4.7						
MOS	**Moscow**	**83.53**	**328**	*e*P	**P**	**16 00 46.9**	**0.0**
MOS				pmax	pmax		
	comp=Z,50nm,0.6s,mb5.5						
OBN	**Obninsk**	**83.86**	**327**	*e*P	**P**	**16 00 49.9**	**+1.3**
OBN				*e**PP	pP	16 01 05.4	-1.8
OBN				*e*		16 11 05.8	
OBN				pmax	pmax		
	comp=Z,44nm,1.6s,mb5.0						
OBN	**Obninsk**	**83.86**	**327**	*e*P	**P**	**16 00 50.1**	**+1.6**
	comp=Z,20nm,0.7s,mb5.1						
BILL	**Bilibino**	**85.53**	**19**	*e*P	**P**	**16 00 56.1**	**-0.5**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
CFR	**Carcaliu**	**86.14**	**316**	⇓P	**P**	**16 01 03.7**	**+3.6**
CFR	**Carcaliu**	**86.14**	**316**	⇓P	**P**	**16 01 03.7**	**+3.6**
AKASG	**Malin Array Be**	**86.76**	**322**	*i* P	**P**	**16 01 03.5**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	**Malin Array Be**	**86.76**	**322**	P	**P**	**16 01 03.0**	**0.0**
	comp=Z,3.3nm,0.6s,mb4.4,baz=82,slow=4.8,SNR=19						
VRI	**Vrincioaia**	**87.26**	**317**	⇓P	**P**	**16 01 07.9**	**+2.3**
VRI	**Vrincioaia**	**87.26**	**317**	⇓P	**P**	**16 01 07.9**	**+2.3**
MLR	**Muntele Rosu**	**87.72**	**316**	⇓P	**P**	**16 01 09.5**	**+1.7**
MLR	**Muntele Rosu**	**87.72**	**316**	⇓P	**P**	**16 01 09.5**	**+1.7**
SNAA	**Sanae**	**89.52**	**197***d*	*i*P	**P**	**16 01 17.4**	**+1.7**
APA	**Apatity**	**89.53**	**339**	⇓*i*P	**P**	**16 01 16.0**	**+0.1**
APA				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
VSU	**Vasula**	**90.00**	**329***c*	*i*P	**P**	**16 01 18.8**	**+0.5**
FINES	**FINESS Array B**	**90.97**	**332**	P	**P**	**16 01 23.3**	**+0.6**
	comp=Z,7.2nm,0.8s,mb4.9,baz=124,slow=6.9,SNR=27						
FINES				LR	LR	16 46 22.9	
	comp=Z,34nm,19.4s,baz=27,slow=38						
KAF	**Kangasniemi**	**91.00**	**332**	*e*p	**P**	**16 01 23.5**	**+0.6**
	comp=Z,5.6nm,0.7s,mb4.8,baz=94,slow=4.2						
KAF	**Kangasniemi**	**91.00**	**332**	*e*P	**P**	**16 01 23.5**	**+0.6**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.8						
KEV	**Kevo**	**92.38**	**340**	*e*p	**P**	**16 01 28.3**	**-0.8**
	comp=Z,7.6nm,1.0s,mb4.9						
KEV	**Kevo**	**92.38**	**340**	*e*P	**P**	**16 01 28.3**	**-0.8**
KEV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.9						
ARCES	**ARCESS Array B**	**92.85**	**340**	P	**P**	**16 01 31.7**	**+0.5**
	comp=Z,6.6nm,0.9s,mb5.0,baz=96,slow=6.1,SNR=22						
ARCES				pP	pP	16 01 47.5	-2.7
	comp=Z,2.0nm,0.7s,baz=90,slow=7.3,SNR=3.3						
ARCES				LR	LR	16 48 35.9	
	comp=Z,37nm,18.7s,baz=290,slow=39						
ARCES	**ARCESS Array B**	**92.85**	**340**	P	**P**	**16 01 31.7**	**+0.5**
ARCES				pP	pP	16 01 47.5	-2.7
ARCES				LR	LR	16 48 35.9	
GERES	**GERESS Array B**	**96.42**	**318**	P	**P**	**16 01 47.0**	**-0.9**
	comp=Z,0.4nm,0.6s,mb4.0,baz=198,slow=4.2,SNR=5.8						
NOA	**NORSAR Array B**	**98.07**	**331**	LR	LR	16 53 02.3	
	comp=Z,25nm,18.8s,slow=40						
SCHQ	**Schefferville**	**131.62**	**354**	SKPbc		16 10 50.7	
	comp=Z,5.2nm,0.7s,baz=19,slow=5.9,SNR=7.0						
PDAR	**Pinedale Array**	**132.36**	**35**	PKP	PKPdf	16 07 34.0	+1.8
	comp=Z,0.7nm,0.5s,baz=194,slow=1.1,SNR=7.7						
PDAR				SKPbc		16 10 53.9	
	comp=Z,1.0nm,0.8s,baz=297,slow=3.3,SNR=9.3						
MSU	**Marysvale**	**133.23**	**42**	*e*PKIKP	PKPdf	16 07 35.6	+1.7
SRU	**San Rafael**	**133.97**	**40**	*e*PKPdf	PKPdf	16 07 39.5	+4.2
RSSD	**Black Hills**	**134.42**	**30**	*e*PKIKP	PKPdf	16 07 38.2	+2.2
PV10	**Paradox Valley**	**135.34**	**40**	*e*PKPdf	PKPdf	16 07 39.4	+1.5
ANMO	**Albuquerque**	**139.02**	**42**	*i* PKIKP	PKPdf	16 07 45.3	+0.7
KSU1	**Kansas State U**	**141.85**	**29**	PKPdf	PKPdf	16 07 48.0	-1.6
NCB	**Newcomb**	**142.85**	**0**	*e*PKPdf	PKPdf	16 07 49.6	-1.5
WMOK	**Wichita Mounta**	**143.97**	**36**	*e*PKPdf	PKPdf	16 07 53.2	-0.2
WMOK				*e*		16 08 10.5	
LTX	**Lajitas**	**144.15**	**47**	*e*PKPdf	PKPdf	16 07 55.6	+1.7
QUA2	**Belchertown**	**144.50**	**358**	*e*PKPdf	PKPdf	16 07 54.7	+0.6
BINY	**Binghamton**	**144.58**	**2**	*e*PKPdf	PKPdf	16 07 55.0	+0.8
SLM	**Saint Louis**	**144.98**	**22**	*e*PKPdf	PKPdf	16 07 56.4	+1.4
CCM	**Cathedral Cave**	**145.09**	**24**	*e*PKPdf	PKPdf	16 07 56.4	+1.2
FVM	**French Village**	**145.48**	**23**	*e*PKPdf	PKPdf	16 07 57.1	+1.2
BLO	**Bloomington**	**145.75**	**17**	*e*PKPbc	PKPbc	16 07 58.9	+1.7
BDFB	**Brasilia**	**145.96**	**229**	PKPbc	PKPbc	16 07 59.6	+1.2
	comp=Z,1.8nm,0.3s,baz=172,slow=5.0,SNR=3.7						
WCI	**Wyandotte Cave**	**146.69**	**18**	*e*PKP2	PKPab	16 08 01.8	-1.3
MCWV	**Mont Chateau**	**146.75**	**8**	*e*PKPbc	PKPbc	16 08 02.0	+2.5
UALR	**University of**	**147.36**	**29**	*e*PKPbc	PKPdf	16 08 03.9	+4.7
GNAR	**Gosnell**	**147.39**	**24**	*e*PKPbc	PKPdf	16 08 05.0	+5.8
HBAR	**Harrisburg**	**147.47**	**26**	*e*PKPdf	PKPdf	16 07 59.8	+0.4
UTMT	**University of**	**147.52**	**23**	PKPbc	PKPdf	16 08 03.9	+4.5
WVT	**Waverly**	**148.09**	**21**	*e*PKPbc	PKPdf	16 08 05.7	+5.4
WVT				*e*		16 08 23.2	
OXF	**Oxford**	**148.89**	**25**	PKP2	PKPab	16 08 07.1	-4.9
SWET	**Sewanee**	**149.57**	**19**	*e*PKPbc	PKPdf	16 08 08.9	+6.2
MYNC	**Murphy**	**150.26**	**17**	*e*PKPbc	PKPdf	16 08 11.3	+7.5
MYNC				*e*		16 08 29.1	

WEL 16 15:56:29.3±0.4**, 44.57S×168.29E, h88**^{km}±3^{km}**, ML3.5**/16**, 3D, Error ellipse: s-maj=3.4km s-min=1.7km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WKZ	**Wanaka**	**0.58**	**117**	⇓PN	P	15 56 44.9	+0.2
WKZ				SN	S	15 56 55.7	-0.4
JCZ	**Jackson Bay**	**0.60**	**34**	PN	P	15 56 44.7	-0.2
JCZ				SN	S	15 56 55.5	-0.9
MLZ	**Mavora Lakes**	**0.78**	**186**	PN	P	15 56 46.3	-0.4
MLZ				SN	S	15 56 59.3	-0.3
EAZ	**Earnscleugh**	**0.98**	**133**	PN	P	15 56 48.8	-0.1
EAZ				SN	S	15 57 02.2	-1.4
WHZ	**Wether Hill Ro**	**1.34**	**190**	PN	P	15 56 52.8	-0.7
WHZ				SN	S	15 57 09.7	-1.7
LBZ	**Lake Benmore**	**1.37**	**83**	⇓PN	P	15 56 53.2	-0.5
LBZ				SN	S	15 57 09.9	-1.9
FOZ	**Fox Glacier**	**1.42**	**46**	PN	P	15 56 54.4	-0.1
TUZ	**Tuapeka**	**1.68**	**146**	PN	P	15 56 57.4	-0.3
TUZ				SN	S	15 57 16.4	-2.3
ODZ	**Otahua Downs**	**1.74**	**107**	⇓PN	P	15 56 58.1	-0.5
ODZ				SN	S	15 57 17.5	-2.6
RPZ	**Rata Peaks**	**2.17**	**68**	PN	P	15 57 02.8	-1.5
RPZ				SN	S	15 57 28.4	-1.8
MQZ	**McQueen's Vall**	**3.26**	**76**	*e*PN	P	15 57 17.0	-2.4
CRLZ	**Canterbury Las**	**3.27**	**74**	PN	P	15 57 17.1	-2.6
LTZ	**Lake Taylor**	**3.40**	**60**	PN	P	15 57 18.4	-3.0
DSZ	**Denniston Nort**	**3.82**	**44**	*e*PN	P	15 57 24.5	-2.6
THZ	**Tophouse**	**4.39**	**52**	*e*PN	P	15 57 31.9	-3.1
QRZ	**Quartz Range**	**4.87**	**41**	*e*PN	P	15 57 39.1	-2.6
NNZ	**Nelson**	**5.02**	**50**	*e*PN	P	15 57 41.7	-2.0

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*MOS **16** 16:37:08.0±0.8, 53.79N×161.74E, h15^{km}, mb4.3/1, Error ellipse: s-maj=21.6km s-min=11.6km az=75.1*

KRSC 16 16:37:07.8±0.5**, 53.80N×161.84E, h15**^{km}±3^{km}**, ML4.1, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.76**	**355**	P	Pb	16 37 22.3	+0.1
MKZ				S	Sb	16 37 32.9	+0.8
MKZ	**Mys Kozlova**	**0.76**	**355**	*i* P	Pb	16 37 22.2	0.0
MKZ				*e*S	Sb	16 37 32.9	+0.8
SPN	**Mys Shipunski**	**1.29**	**238**	P	Pb	16 37 31.0	-0.3
SPN				S	Sb	16 37 47.9	+0.3
SPN	**Mys Shipunski**	**1.29**	**238**	*e*P	Pb	16 37 31.0	-0.3
SPN				*e*S	Sb	16 37 48.2	+0.6
KII	**Karymskiy**	**1.43**	**280**	P	Pn	16 37 32.8	-0.6
KII				S	Sb	16 37 50.8	-0.8
KII	**Karymskiy**	**1.43**	**280**	*e*P	Pn	16 37 32.8	-0.6
KII				*e*S	Sb	16 37 51.2	-0.4
NLC	**Nalytchevo**	**1.62**	**248**	P	Pn	16 37 35.9	-0.2
NLC				S	Sn	16 37 56.2	-0.5
NLC	**Nalytchevo**	**1.62**	**248**	*i* P	Pn	16 37 35.9	-0.2
NLC				*i* S	Sn	16 37 56.7	0.0
TUMR	**Tumrok**	**1.78**	**327**	*e*P	Pn	16 37 38.6	+0.2
TUMR				*e*S	Sn	16 38 01.1	+0.2
SDLR	**Sedlovina**	**1.84**	**255**	*e*P	Pn	16 37 39.5	+0.3
SMAR	**Somma**	**1.89**	**255**	*e*P	Pn	16 37 40.2	+0.2
UGLR	**Uglovaya**	**1.90**	**253**	*e*P	Pn	16 37 40.5	+0.5
AVH	**Avacha**	**1.93**	**255**	*e*P	Pn	16 37 40.9	+0.4
AVH				*e*S	Sn	16 38 05.1	+0.6
KOK	**Koryaka**	**1.98**	**256**	*e*P	Pn	16 37 41.4	+0.2
PET	**Petropavlovsk**	**2.06**	**249**	P	Pn	16 37 42.4	0.0
PET				S	Sn	16 38 07.1	-0.8
PET	**Petropavlovsk**	**2.06**	**249**	*e*P	Pn	16 37 42.1	-0.3
PET				*e*S	Sn	16 38 07.1	-0.8
KMNR	**Kamenistaya**	**2.17**	**335**	*e*P	Pn	16 37 44.6	+0.7
KMNR				*e*S	Sn	16 38 11.6	+0.9
GNL	**Ganaly**	**2.32**	**269**	*e*P	Pn	16 37 46.7	+0.6
GNL				*e*S	Sn	16 38 15.2	+0.7
KPT	**Kopyto**	**2.36**	**337**	*e*P	Pn	16 37 47.6	+0.9
KPT				*e*S	Sn	16 38 16.8	+1.2
RUS	**Russkaya**	**2.43**	**237**	P	Pn	16 37 48.4	+0.8
RUS				S	Sn	16 38 17.5	+0.2
RUS	**Russkaya**	**2.43**	**237**	*e*P	Pn	16 37 48.5	+0.9
RUS				*e*S	Sn	16 38 18.4	+1.1
KBTR	**Krutoberegovo**	**2.48**	**13**	P	Pn	16 37 51.3	+2.9
KBTR				S	Sn	16 38 23.6	+5.0
KOZ	**Kozyrevsk**	**2.53**	**334**	P	Pn	16 37 50.3	+1.2
KOZ				S	Sn	16 38 21.5	+1.6
KOZ	**Kozyrevsk**	**2.53**	**334**	*e*P	Pn	16 37 50.1	+1.0
KOZ				*e*S	Sn	16 38 20.9	+1.0
KOZR	**Kozyr**	**2.53**	**335**	PN	Pn	16 37 50.3	+1.2
KOZR				S	Sn	16 38 21.5	+1.6
GRL	**Gorelyy**	**2.59**	**243**	*e*P	Pn	16 37 50.3	+0.4
GRL				*e*S	Sn	16 38 21.2	-0.2
KLY	**Klyuchi**	**2.61**	**345**	P	Pn	16 37 50.5	+0.3
KLY				S	Sn	16 38 20.9	-1.0
KLY	**Klyuchi**	**2.61**	**345**	*e*P	Pn	16 37 50.3	+0.1
KLY				*e*S	Sn	16 38 21.8	-0.1
BKI	**Bering**	**2.79**	**58**	*e*P	Pn	16 37 50.8	-2.0
BKI				*e*S	Sn	16 38 22.0	-4.5
BKI				Smax			
	30nm,1.4s						
ESO	**Esso**	**2.80**	**321**	*e*P	Pn	16 37 53.1	+0.2
ESO				*e*S	Sn	16 38 26.5	-0.2
ESO				Smax			
	60nm,0.4s						
SRDR	**Sredinnyy**	**2.80**	**335**	*e*P	Pn	16 37 53.0	0.0
APC	**Apacha**	**2.94**	**255**	*e*P	Pn	16 37 56.5	+1.6
APC				*e*S	Sn	16 38 31.3	+1.1
APC				Smax			
	60nm,0.8s						
MIPR	**Malaya Ipel'ka**	**3.43**	**246**	*e*P	Pn	16 38 01.8	-0.1
PAU	**Pauzhetka**	**3.85**	**235**	*e*P	Pn	16 38 08.9	+1.0
PAU				*e*S	Sn	16 38 52.6	-0.8
PAU				Smax			
	60nm,0.4s						
SKR	**Severo-Kuril's**	**4.70**	**231**	*e*PN	Pn	16 38 27.5	+7.5

IDC 16 17:08:09.6±1.7**, 2.06N×127.42E, mb4.0**/4**, mb1 4.2**/4**, mb1mx3.8**/15**, mbtmp4.1**/4**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.9**/19**, 1C, Error ellipse: s-maj=103.4km s-min=23.0km az=68.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.11**	**185**	P	P	17 12 45.0	-3.1
	1.2nm,0.5s,baz=1.3,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**22.90**	**163**	P	P	17 13 15.4	-1.0
	7.5nm,0.6s,baz=342,slow=10,SNR=68						
WB2	**Warramunga Arr**	**22.90**	**163**	⇑*i*P	P	17 13 15.3	-1.1
HNR	**Honiara**	**34.36**	**110**	LR	LR	17 29 38.2	
	comp=Z,57nm,18.4s,baz=167,slow=38						
STKA	**Stephens Creek**	**36.34**	**159**	P	P	17 15 15.1	-2.2
	3.9nm,0.7s,baz=350,slow=8.4,SNR=7.0						
MKAR	**Makanchi Array**	**59.30**	**326**	P	P	17 18 13.4	-2.2
	0.6nm,0.3s,baz=113,slow=8.2,SNR=9.5						

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*NEIC **16** 17:12:40.8±2.1, 5.15S×145.40E, h85^{km}±17^{km}, mb4.0/2, Error ellipse: s-maj=21.5km s-min=12.7km az=175.0*

*IDC **16** 17:12:40.5±4.8, 5.18S×145.44E, h78^{km}±40^{km}, mb3.9/5, mb1 4.1/7, mb1mx3.8/14, mbtmp4.3/7, ML4.0/2, Error ellipse: s-maj=31.3km s-min=25.7km az=163.0*

ISC 16 17:12:41.0±3.1**, 5.3S**±0.2×**145.4E**±0.1**, h97**^{km}±25^{km}**, n19,** σ**0**^{s}**69**/21**, mb3.9**/5**, 1C, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.45**	**157**	P	**P**	**17 13 47.8**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	54nm,0.3s,baz=308,slow=10,SNR=278						
PMG				S	S	17 14 38.3	-0.2
	27nm,0.3s,baz=331,slow=23,SNR=15						
PMG	Port Moresby	4.45	157	ePn	P	17 13 47.5	0.0
PMG				e		17 14 00.0	
PMG				eSn	S	17 14 26.7	-12
CTA	Charters Tower	14.74	177	eP	P	17 16 12.4	+6.6
	2.8nm,0.4s						
CTA	Charters Tower	14.74	177	P	P	17 16 12.5	+6.7
	0.8nm,0.3s,baz=3.5,slow=14,SNR=12						
CTAO	Charters Tower	14.74	177	eP	P	17 16 11.9	+6.1
	4.6nm,0.6s						
KAKA	Kakadu	14.80	239	⇑iP	P	17 16 06.2	-0.3
	24nm,0.6s						
WRAB	Tennant Creek	18.12	216	eP	P	17 16 42.2	-5.6
WB2	Warramunga Arr	18.13	216	eP	P	17 16 47.7	-0.2
WRA	Warramunga Arr	18.14	216	P	P	17 16 47.8	-0.1
	0.4nm,0.3s,baz=42,slow=12,SNR=20						
FITZ	Fitzroy Crossi	23.16	235	eP	P	17 17 41.0	+1.3
	7.3nm,0.8s,mb4.1						
FITZ	Fitzroy Crossi	23.16	235	P	P	17 17 41.4	+1.7
	8.3nm,0.4s,mb4.4,baz=27,slow=8.8,SNR=31						
DZM	Mont Dzumac	26.31	131	P	P	17 18 10.2	+0.5
	4.3nm,0.9s,mb3.9,baz=360,slow=6.5,SNR=3.8						
STKA	Stephens Creek	26.71	187	eP	P	17 18 12.9	-0.3
	3.2nm,0.7s,mb4.0						
STKA	Stephens Creek	26.71	187	P	P	17 18 12.7	-0.5
	3.7nm,0.7s,mb4.0,baz=12,slow=10,SNR=9.9						
STKA	Stephens Creek	26.71	187	eP	P	17 18 12.6	-0.5
CASY	Casey	65.55	195	P	P	17 23 14.9	-1.2
VNDA	Vanda	72.73	176	P	P	17 24 00.9	+1.0
	0.7nm,0.6s,mb3.7,baz=340,slow=6.4,SNR=7.4						
VNDA	Vanda	72.73	176	eP	P	17 24 00.2	+0.4
	0.9nm,0.7s,mb3.7						
ILAR	Eielson Array	85.44	23	P	P	17 25 08.2	-0.4
	1.0nm,0.7s,mb3.8,baz=256,slow=5.2,SNR=9.4						

*IDC **16** 17:30:14.3±2.6, 24.15S×175.69W, mb4.3/5, mb1 4.5/5, mb1mx4.2/13, mbtmp4.3/5, Error ellipse: s-maj=138.6km s-min=34.8km az=156.0*

*NEIC **16** 17:30:18.7±2.3, 24.98S×175.39W, h40km, mb4.7/1, Error ellipse: s-maj=134.0km s-min=27.1km az=157.0*

ISC 16 17:30:16.7±2.5**, 24.9S**±0.9×**175.5W**±0.5**, h33km, n6, σ0^{s}94**/6**, mb4.3**/5**, South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	35.59	270	P	P	17 37 13.7	+0.5
	5.4nm,0.7s,mb4.6,baz=120,slow=11,SNR=7.5						
STKA	Stephens Creek	38.19	250	P	P	17 37 35.1	+0.1
	1.7nm,0.5s,mb4.0,baz=102,slow=9.4,SNR=6.9						
WRA	Warramunga Arr	46.43	266	P	P	17 38 41.1	-1.3
	2.2nm,0.8s,mb4.1,baz=100,slow=7.0,SNR=24						
FITZ	Fitzroy Crossi	54.84	265	eP	P	17 39 47.1	+0.9
	6.7nm,0.9s,mb4.7						
FITZ	Fitzroy Crossi	54.84	265	P	P	17 39 46.7	+0.5
	9.7nm,0.9s,mb4.8,baz=156,slow=6.1,SNR=6.0						
PDAR	Pinedale Array	90.61	42	P	P	17 43 17.0	0.0
	0.5nm,0.9s,mb3.8,baz=219,slow=5.8,SNR=3.7						

*CSEM **16** 18:29:08.5±0.1, 51.05N×0.42W, h5km, ML2.9/16, Error ellipse: s-maj=1.2km s-min=0.9km az=52.0*

*NEIC **16** 18:29:09.2, 51.01N×0.39W, h5km, ML2.9(LDG), ML2.2(BGS), After BGS.*

*LDG **16** 18:29:09.2±0.1, 51.01N×0.39W, h5km, Md2.9/3, Ml2.9/17, Error ellipse: s-maj=2.0km s-min=1.2km az=151.0*

BGS 16 18:29:09.2±0.4**, 51.01N×0.39W, h5km, ML2.2, United Kingdom**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WOL	Wolverton	0.61	301	eP	Pg	18 29 19.4	-1.9
WOL				eS	Sg	18 29 27.2	-2.3
WOL				AML	AML	18 29 32.1	
	comp=E,9.4nm,0.3s						
WOL				AML	AML	18 29 32.2	
	comp=N,45nm,0.3s						
SKP1	Kophill	0.76	340	eP	Pg	18 29 23.3	-1.1
SWN1	Swindon	1.02	300	eP	Pb	18 29 28.0	-1.0
SWN1				eS	Sb	18 29 40.9	-1.5
SWN1				AML	AML	18 29 41.5	
	comp=N,101nm,0.3s						
SWN1				AML	AML	18 29 41.6	
	comp=E,83nm,0.4s						
SWK	Warminster	1.18	278	eP	Pb	18 29 30.6	-1.1
HGH	Gray Hill	1.64	294	eP	Pn	18 29 37.7	-1.2
HAE	Alders End	1.70	308	eP	Pn	18 29 38.4	-1.3
AWH	Whinburgh	1.83	27	eP	Pn	18 29 41.7	+0.2
MCH1	Michaelchurch	1.91	302	eP	Pn	18 29 41.7	-1.0
MCH1				eS	Sn	18 30 05.4	-1.9
MCH1				AML	AML	18 30 06.8	
	comp=N,16nm,0.3s						
MCH1				AML	AML	18 30 08.1	
	comp=E,8.2nm,0.4s						
HTR	Trewern Hill	2.09	302	eP	Pn	18 29 43.9	-1.5
HLM1	Long Mynd	2.16	315	eP	Pn	18 29 45.2	-1.1
KWE	Weaver Farm	2.20	337	eP	Pn	18 29 46.8	-0.1
SSP1	Stoney Pound	2.20	311	eP	Pn	18 29 45.8	-1.2
SSP1				eS	Sn	18 30 12.7	-2.2
SSP1				AML	AML	18 30 14.8	
	comp=E,12nm,0.4s						
SSP1				AML	AML	18 30 17.4	
	comp=N,12nm,0.4s						
SSP1	Stoney Pound	2.20	311	eP	Pn	18 29 45.8	-1.2
	comp=N,12nm,0.4s						
SSP1				eS	Sn	18 30 12.7	-2.2
FLN	La Foliniere	2.25	182	ePn	Pn	18 29 45.3	-2.3
FLN				eP		18 29 47.7	
	baz=357						
FLN				ePg	Pg	18 29 50.8	-3.3
	baz=358						
FLN				eSg	Sg	18 30 20.0	-4.1
	comp=N,18nm,0.3s,baz=7.4						
FLN	La Foliniere	2.25	182	ePn	Pn	18 29 45.3	-2.3
FLN				ePg	Pg	18 29 50.8	-3.3
FLN				eSg	Sg	18 30 20.0	-4.1
FLN	La Foliniere	2.25	182	eP	Pn	18 29 47.7	+0.1
FLN	La Foliniere	2.25	182	ePg	Pg	18 29 50.8	-3.3
FLN				eSg	Sg	18 30 20.0	-4.1
	comp=N,9.1nm,0.3s						
LDF	La Druitiere	2.42	176	ePn	Pn	18 29 47.6	-2.5
LDF				ePg	Pg	18 29 54.5	-3.1
LDF				eSn	Sn	18 30 16.2	-4.3
LDF				eSg	Sg	18 30 25.8	-4.1
	comp=N,14nm,0.3s						
GRR	Gorron	2.64	187	ePn	Pn	18 29 50.5	-2.7
GRR				ePg	Pg	18 29 58.1	-3.8
GRR				eSn	Sn	18 30 20.9	-5.1
GRR				eSg	Sg	18 30 32.0	-5.1
	comp=N,11nm,0.2s						
BAIF	Baives	3.08	106	eP	Pn	18 29 59.6	+0.1
BAIF				ePg	Pg	18 30 06.2	-4.6
BAIF				eSn	Sn	18 30 31.7	-5.6
BAIF				eSg	Sg	18 30 46.0	-5.9
	comp=N,6.8nm,0.5s						
SGMF	Saint Gilles	3.10	208	ePn	Pn	18 29 57.4	-2.3
SGMF				ePg	Pg	18 30 06.5	-4.5
SGMF				eSn	Sn	18 30 32.0	-5.5
SGMF				eSg	Sg	18 30 46.4	-5.9
	comp=N,10nm,0.5s						
ROSF	Rostrenen	3.26	216	ePn	Pn	18 30 00.1	-2.0
ROSF				ePg	Pg	18 30 09.7	-4.7
ROSF				eSn	Sn	18 30 36.1	-5.7
ROSF				eSg	Sg	18 30 51.6	-6.3
	comp=N,10nm,0.6s						
GIVF	Givet	3.45	103	ePn	Pn	18 30 01.5	-3.2
GIVF				eP		18 30 05.2	
GIVF				ePg	Pg	18 30 13.0	-5.0
GIVF				eSg	Sg	18 30 57.1	-6.9
	comp=N,7.8nm,0.4s						
GIVF	Givet	3.45	103	eP	Pn	18 30 05.2	+0.5
GIVF				ePg	Pg	18 30 13.0	-5.0
QUIF	Quistinic	3.58	211	ePn	Pn	18 30 04.3	-2.3
QUIF				eSn	Sn	18 30 44.0	-5.9
QUIF				eSg	Sg	18 31 01.9	-6.6
	comp=N,3.0nm,0.3s						
MEZF	Maizieres J'vi	4.33	123	ePn	Pn	18 30 13.6	-3.6
MFF	Saint Martin d	4.41	178	ePn	Pn	18 30 15.0	-3.4
MFF				ePg	Pg	18 30 31.2	-6.1
MFF				eSn	Sn	18 31 03.1	-7.8
MFF				eSg	Sx	18 31 28.0	
	comp=N,2.7nm,0.3s						
SFTF	Sexfontaines	4.51	126	ePg	Pg	18 30 32.5	-6.7
LOR	Lormes	4.67	142	ePn	Pn	18 30 18.0	-4.0
LOR				ePg	Pg	18 30 35.3	-7.1
	baz=321						
LOR				eSn	Sn	18 31 10.5	-6.8
	baz=326						
LOR				eSg	Sx	18 31 36.3	
	comp=N,6.7nm,0.6s,baz=330						
LOR	Lormes	4.67	142	ePg	Pn	18 30 35.3	+13
LOR				eSn	Sn	18 31 10.5	-6.8
LOR				eSg	Sg	18 31 36.3	-8.3
	comp=N,3.3nm,0.6s						
SSF	Saint Saulge	4.71	146	ePn	Pn	18 30 18.4	-4.2
SSF				ePg	Pg	18 30 35.6	-7.6
SSF				eSn	Sn	18 31 10.0	-8.4
SSF				eSg	Sx	18 31 37.3	
	comp=N,5.6nm,0.5s						
BGF	Bois d'Agland	4.94	153	ePn	Pn	18 30 21.5	-4.4
BGF				eSn	Sn	18 31 16.6	-7.6
BGF				eSg	Sg	18 31 44.5	-9.2
	comp=N,21nm,0.4s						
TCF	Toulx Ste Croi	5.03	159	eSn	Sn	18 31 17.8	-8.6
TCF				eSg	Sg	18 31 46.9	-10
	comp=N,6.0nm,0.5s						
SMF	Signal de Mont	5.18	146	ePn	Pn	18 30 25.6	-3.7
SMF				eSg	Sg	18 31 51.9	-10
	comp=N,5.5nm,0.4s						
CDF	Champ du Feu	5.61	115	ePn	Pn	18 30 31.2	-4.2
RJF	Les Rejaudoux	5.85	167	ePn	Pn	18 30 34.3	-4.4
RJF				eSn	Sn	18 31 37.3	-10
RJF				eSg	Sg	18 32 11.7	-12
	comp=N,0.9nm,0.3s						
CAF	Calviac	6.30	164	ePn	Pn	18 30 40.7	-4.4
CAF				eSg	Sg	18 32 26.7	-12
	comp=N,1.0nm,0.2s						

*NEIC **16** 18:32:50.6, 32.46S×71.80W, h30km, ML2.7(GUC), After GUC.*

GUC 16 18:32:50.6±0.6**, 32.46S×71.80W, h30km**±4km**, MD3.5, ML2.7, 5C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.32	104	⇓iP	Pb	18 32 58.2	-0.1
PACH				iS	Sb	18 33 04.0	+0.5
ROCH	El Roble	0.84	128	⇑iP	Pn	18 33 06.3	-0.1
ROCH				iS	Sb	18 33 18.2	+0.7
LCCH	Las Cruces	1.03	169	⇑iP	Pn	18 33 08.8	-0.3
LCCH				iS	Sn	18 33 22.3	-0.4
JACH	Jahuel	1.04	103	⇑iP	Pn	18 33 09.6	+0.3
JACH				iS	Sn	18 33 23.8	+0.8
RCDM	Rinconada Maip	1.32	141	eP	Pn	18 33 13.9	+0.6
RCDM				iS	Sn	18 33 30.9	+0.8
TACH	Talagante	1.39	149	eP	Pn	18 33 14.6	+0.2
TACH				iS	Sn	18 33 32.5	+0.7
CMCH	Combarbala	1.45	28	⇑iP	Pn	18 33 15.7	+0.5
CMCH				iS	Sn	18 33 34.6	+1.3
CMCH				AMP		18 33 37.4	
	comp=E,380nm,0.5s						
LNV	Longovilo	1.53	168	⇑iP	Pn	18 33 16.8	+0.6
LNV				iS	Sn	18 33 37.0	+1.7
FCH	Farellones	1.54	125	eP	Pn	18 33 17.7	+1.3
FCH				iS	Sn	18 33 38.0	+2.5
FCH				AMP		18 33 40.8	
	comp=N,85nm,0.3s						
PCH	Pirque	1.58	137	eP	Pn	18 33 18.1	+1.1
CHCH	Chadas Angostu	1.76	147	eP	Pn	18 33 20.5	+0.9
SFDO	San Fernando	2.25	163	iP	Pn	18 33 26.8	+0.2

*STR **16** 19:09:14.8±0.4, 43.46N×0.53W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **16** 19:09:14.8, 43.46N×0.53W, h5km, ML2.7(LDG), ML2.4(STR), After STR.*

*MDD **16** 19:09:16.7±0.3, 43.39N×0.57W, h3km±5km, mbLg1.9/17, Error ellipse: s-maj=2.7km s-min=2.0km az=3.0, PRXIMO*

*LDG **16** 19:09:16.4±0.1, 43.34N×0.60W, h2km, Md2.6/2, Ml2.7/11, Error ellipse: s-maj=1.4km s-min=0.9km az=133.0*

*CSEM **16** 19:09:16.7±0.1, 43.36N×0.61W, h5km, ML2.6/14, Error ellipse: s-maj=1.5km s-min=0.9km az=142.0*

ISC 16 19:09:14.3±0.3**, 43.44N**±0.02×**0.52W**±0.03**, h5km**±3km**, n54, σ1^{s}13**/93**, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATE	Arette	0.38	201	P	Pg	19 09 22.1	+0.3
ATE				S	Sg	19 09 27.3	+0.3
ORDF	Ordiarp	0.38	233	Pg	Pg	19 09 22.1	+0.2
ORDF	Ordiarp	0.38	233	P	Pg	19 09 22.1	+0.2
ORDF				S	Sg	19 09 27.7	+0.8
REYF	Montagne du Re	0.38	166	Pg	Pg	19 09 22.3	+0.4
REYF				Sg	Sg	19 09 28.6	+1.6
REYF	Montagne du Re	0.38	166	P	Pg	19 09 22.4	+0.4
REYF				S	Sg	19 09 28.6	+1.6
LARF	Larrau	0.53	221	Pg	Pg	19 09 24.8	0.0
LARF				Sg	Sg	19 09 32.3	+0.4
LARF	Larrau	0.53	221	P	Pg	19 09 24.7	-0.1
LARF				S	Sg	19 09 32.2	+0.4
ETSF	Etsaut	0.54	183	ePg	Pg	19 09 24.8	-0.3
ETSF				eSg	Sg	19 09 31.0	-1.4
ETSF				eSn	Sn	19 09 32.5	-5.3
	32nm,0.3s						
OSSF	Osses	0.57	251	Pg	Pg	19 09 25.6	-0.1
OSSF				Sg	Sg	19 09 34.3	+0.9
OSSF	Osses	0.57	251	P	Pg	19 09 25.8	+0.1
OSSF				S	Sg	19 09 34.0	+0.6
SJPF	Ste Jean	0.61	238	ePg	Pg	19 09 26.2	-0.3
SJPF				eSg	Sg	19 09 32.8	-1.8
SJPF				eSn	Sn	19 09 35.5	-4.1
	56nm,0.3s						
FDAF	Les Forges d'A	0.62	183	P	Pg	19 09 26.5	-0.2
FDAF				S	Sg	19 09 35.4	+0.3
VIEF	Viey	0.68	144	Pg	Pg	19 09 28.4	+0.5
VIEF	Viey	0.68	144	P	Pg	19 09 28.6	+0.7
VIEF				S	Sg	19 09 37.8	+0.7
EPF	Esparros	0.75	123	ePg	Pg	19 09 30.3	+1.1
EPF				eSg	Sg	19 09 40.6	+1.3
EPF				eSn	Sn	19 09 43.4	+0.3
	30nm,0.2s						
EALK	Alkurruntz	0.75	253	Pg	Pg	19 09 29.1	-0.2
	5.0nm,0.3s,SNR=47						
EALK				Lg		19 09 40.1	
	23nm,0.2s,SNR=16						
IPRE	Itoiz	0.88	224	Pg	Pg	19 09 33.0	+1.1
	1.0nm,0.1s,SNR=7.9						
IPRE				Lg		19 09 44.5	
	6.8nm,0.4s,SNR=7.9						
EBIE	Bielsa	0.90	147	Pg	Pg	19 09 32.5	+0.3
EBIE				Lg		19 09 46.2	
EBIE	Bielsa	0.90	147	Pg	Pg	19 09 32.3	+0.2
	1.4nm,0.1s,SNR=18						
EBIE				Lg		19 09 46.2	
	3.4nm,0.1s,SNR=6.3						
EBIE	Bielsa	0.90	147	Pg	Pg	19 09 32.5	+0.3
	1.4nm,0.1s,SNR=18						
EARA	Aranguren	1.02	230	Pg	Pg	19 09 35.7	+0.9
	3.5nm,0.2s,SNR=4.0						
EARA				Lg		19 09 48.5	
	74nm,0.2s,SNR=7.9						
MELF	Melles	1.09	121	S	Sb	19 09 48.4	-1.3
EGRA	Graus	1.39	153	Pg	Pg	19 09 42.8	+0.8
EGRA				Lg		19 10 02.3	
EGRA	Graus	1.39	153	Pg	Pg	19 09 42.3	+0.3
	1.2nm,0.2s,SNR=9.0						
EGRA				Lg		19 10 02.0	
	1.6nm,0.2s,SNR=7.5						
EGRA	Graus	1.39	153	Pg	Pg	19 09 42.8	+0.8
	1.2nm,0.2s,SNR=9.0						
SALF	Salau	1.42	118	P	Pn	19 09 45.2	+4.3
SALF				S	Sb	19 10 04.7	+5.3
ECRI	Cripan	1.68	241	Pg	Pg	19 09 46.2	-1.6
ECRI				Lg		19 10 09.4	
ECRI	Cripan	1.68	241	Pg	Pg	19 09 46.5	-1.3
	2.0nm,0.2s,SNR=7.9						
ECRI				Lg		19 10 09.4	
	4.7nm,0.2s,SNR=7.9						
ECRI	Cripan	1.68	241	Pg	Pg	19 09 46.2	-1.6
	2.0nm,0.2s,SNR=7.9						
ESAC	San Caprasio	1.72	179	Pg	Pg	19 09 47.9	-0.7
ESAC				Sn	Sn	19 10 08.4	+0.7
ESAC				Lg		19 10 11.7	
ESAC	San Caprasio	1.72	179	Pg	Pg	19 09 47.6	-1.0
	14nm,0.3s,SNR=23						
ESAC				Sn	Sn	19 10 08.4	+0.7
	9.6nm,0.2s,SNR=6.7						
ESAC				Lg		19 10 11.6	
	19nm,0.3s,SNR=7.9						
ESAC	San Caprasio	1.72	179	Pg	Pg	19 09 47.9	-0.7
	14nm,0.3s,SNR=23						
ESAC				Sn	Sn	19 10 08.4	+0.7
	9.6nm,0.2s,SNR=6.7						
LFF	La Frestale	1.75	31	ePg	Pg	19 09 51.0	+1.8
LFF				eSg	Sg	19 10 15.1	+2.5
	16nm,0.3s						
MTLF	Montolieu	2.00	92	ePn	Pn	19 09 49.9	+0.8
MTLF				eSn	Sn	19 10 14.4	-0.4
MTLF				eSg	Sg	19 10 21.4	+0.6
	18nm,0.4s						
CARF	Carcanieres	2.06	110	S	Sn	19 10 21.8	+5.6
ELAN	Lanestosa	2.14	265	Pg	Pg	19 09 55.4	-1.5
	0.4nm,0.2s,SNR=5.5						
ELAN				Lg		19 10 24.5	
	0.5nm,0.2s,SNR=4.8						
ELAN	Lanestosa	2.14	265	Pg	Pg	19 09 55.4	-1.5
	0.4nm,0.2s,SNR=5.5						
EMIR	Miracle	2.15	135	Pg	Pg	19 09 55.9	-1.2
	2.5nm,0.3s,SNR=7.9						
EMIR				Lg		19 10 25.4	
	12nm,0.3s,SNR=7.9						
EMIR	Miracle	2.15	135	Pg	Pg	19 09 55.9	-1.2
	2.5nm,0.3s,SNR=7.9						
RJF	Les Rejaudoux	2.37	37	ePn	Pn	19 09 56.1	+1.7
RJF				ePg	Pg	19 10 02.4	+0.9
RJF				eSn	Sn	19 10 24.6	+0.4
RJF				eSg	Sg	19 10 34.7	+1.6
	7.0nm,0.3s						
CAF	Calviac	2.38	50	ePn	Pn	19 09 55.5	+0.9
CAF				ePg	Pg	19 10 02.9	+1.1
CAF				eSg	Sg	19 10 34.4	+0.9
	3.4nm,0.2s						
EPOB	Poblet	2.40	150	Pg	Pg	19 10 00.2	-1.9
	0.6nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	19 10 25.2	+0.2
	0.3nm,0.1s,SNR=7.9						
EPOB				Lg		19 10 33.3	
	2.5nm,0.2s,SNR=7.9						
EPOB	Poblet	2.40	150	Pg	Pg	19 10 00.2	-2.0
	0.6nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	19 10 25.2	+0.2
	0.3nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	3.07	179	Pn	Pn	19 10 05.1	+0.6
	0.1nm,0.1s,SNR=7.9						
EMOS				Pg	Pg	19 10 12.9	-2.7
	0.2nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	19 10 41.2	-1.0
	0.3nm,0.2s,SNR=7.9						
EMOS				Lg		19 10 54.9	
	0.5nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	3.07	179	Pn	Pn	19 10 05.1	+0.6
	0.1nm,0.1s,SNR=7.9						
EMOS	Mosqueruela	3.07	179	Pg	Pg	19 10 12.9	-2.7
	0.2nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	19 10 41.2	-0.9
	0.3nm,0.2s,SNR=7.9						
MFF	Saint Martin d	3.17	5	ePn	Pn	19 10 06.8	+0.9
MFF				eSg	Sg	19 10 58.8	-1.1
	3.2nm,0.2s						
LASF	Ste Croix	3.23	77	ePn	Pn	19 10 07.4	+0.6
LASF				eSn	Sn	19 10 44.9	-1.3
LASF				eSg	Sg	19 11 00.5	-1.4
	5.9nm,0.4s						
TCF	Toulx Ste Croi	3.45	33	ePn	Pn	19 10 10.9	+1.1
TCF				eSg	Sg	19 11 07.9	-1.1
	4.1nm,0.5s						
BGF	Bois d'Agland	3.93	36	eSg	Sg	19 11 23.6	-1.4
	13nm,0.4s						
VIVF	Saint-Julien-l	4.00	67	ePg	Pg	19 10 32.2	-1.8
VIVF				eSg	Sg	19 11 25.5	-1.8
	2.7nm,0.4s						
SMRF	Simiane la Rot	4.45	81	ePn	Pn	19 10 24.2	+0.1
SSF	Saint Saulge	4.60	37	ePg	Pg	19 10 45.2	-1.0
SSF				eSg	Sg	19 11 44.9	-2.6
	0.8nm,0.4s						
LMR	La Mourre	5.12	89	ePn	Pn	19 10 31.4	-2.2

IDC 16 19:11:21.1±3.9**, 15.94S**×**69.68W, h159km**±38km**, mb3.7**/2**, mb1 4.2**/2**, mb1mx3.4**/16**, mbtmp4.0**/2**, Error ellipse: s-maj=104.6km s-min=64.5km az=33.0, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.52	103	P	P	19 11 52.5	+0.6
	23nm,0.3s,baz=282,slow=7.6,SNR=308						
LPAZ				S	S	19 12 16.1	+0.4
	6.3nm,0.3s,baz=46,slow=13,SNR=16						
PDAR	Pinedale Array	68.96	330	P	P	19 22 09.6	-1.5
	0.2nm,0.4s,baz=132,slow=9.0,SNR=4.7						
ILAR	Eielson Array	98.94	335	P	P	19 24 41.4	-2.8
	0.9nm,0.6s,baz=117,slow=6.0,SNR=5.7						
MJAR	Matsushiro Arr	147.85	315	PKPbc	PKPdf	19 30 46.8	+2.5
	0.3nm,0.5s,baz=138,slow=0.8,SNR=5.0						
SONM	Songino Array	148.03	5	PKPbc	PKPdf	19 30 47.8	+3.5
	0.6nm,0.6s,baz=327,slow=2.1,SNR=8.7						

IDC 16 19:15:37.6±10.0**, 21.93N**×**144.58E, mb3.7**/4**, mb1 3.7**/4**, mb1mx3.6**/18**, mbtmp3.7**/4**, Error ellipse: s-maj=345.7km s-min=128.1km az=17.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	39.99	320	P	P	19 23 14.1	-1.5
	0.1nm,0.5s,baz=131,slow=7.8,SNR=4.3						
MKAR	Makanchi Array	55.50	312	P	P	19 25 14.3	-2.3
	0.3nm,0.7s,baz=78,slow=9.5,SNR=2.5						
BVAR	Borovoye Array	63.34	319	P	P	19 26 08.4	-2.2
	0.8nm,0.4s,baz=85,slow=7.5,SNR=8.9						
FINES	FINESS Array B	83.53	335	P	P	19 28 07.2	-1.1
	2.0nm,0.9s,baz=68,slow=7.5,SNR=4.9						

IDC 16 19:17:52.7±3.3**, 1.72S**×**99.99E, mb3.8**/5**, mb1 4.0**/5**, mb1mx3.7**/17**, mbtmp3.8**/5**, Error ellipse: s-maj=134.1km s-min=26.3km az=53.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.14	121	P	P	19 25 13.8	-1.9
	0.5nm,0.4s,baz=303,slow=9.0,SNR=7.9						
SONM	Songino Array	49.67	6	P	P	19 26 46.9	-1.3
	0.6nm,0.7s,baz=183,slow=9.2,SNR=8.1						
MKAR	Makanchi Array	50.76	344	P	P	19 26 54.6	-2.0
	0.9nm,0.4s,baz=161,slow=8.6,SNR=20						
ZAL	Zalesovo	56.88	349	P	P	19 27 39.7	-2.0
	1.5nm,0.5s,baz=323,slow=7.5,SNR=6.1						
BVAR	Borovoye Array	59.92	340	P	P	19 27 59.2	-3.7
	0.5nm,0.5s,baz=143,slow=7.4,SNR=3.9						

*IDC **16** 20:46:45.6±0.8, 10.14N×83.14W, mb4.1/10, mb1 4.4/11, mb1mx4.2/21, mbtmp4.2/11, ML4.3/1, MS3.6/10, Ms1 3.6/10, ms1mx3.5/17, Error ellipse: s-maj=21.7km s-min=12.5km az=16.0*

*CASC **16** 20:46:48.5±3.8, 10.08N×83.13W, h13km±15km, MD4.4, ML4.4, MW4.7*

*NEIC **16** 20:46:50.2±0.6, 10.00N×83.21W, h39km±6km, mb4.3/18, MD4.6(CASC), Error ellipse: s-maj=9.6km s-min=5.7km az=216.0*

NEIC Felt at Batan, Caribe Colon, Limon, San Jose, San Marcos de Terrazu and in the Valle Central.

ISC 16 20:46:49.6±0.3**, 10.08N**±0.05×**83.12W**±0.03**, h46km**±5km**, n79, σ1^{s}21**/79**, mb4.2**/27**, MS3.7**/8**, 11C, Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIO	Limon	0.11	131	⇑iP	P	20 46 58.5	+1.6
CNI	Changuinola	0.88	138	⇑iP	P	20 47 06.1	+0.4
SJS	Escuela Geolog	0.93	262	⇑eP	P	20 47 04.7	-1.8
SJS				eS	S	20 47 17.4	-1.5
SJS	Escuela Geolog	0.93	262	⇑eP	P	20 47 04.7	-1.8
SJS				eS	S	20 47 17.3	-1.6
BRU	Baru	1.38	156	⇑iP	P	20 47 13.9	+1.1

FORC	**Fortuna**	**1.58**	**285**	⇑*i*P	**P**	**20 47 14.7**	**-0.9**
FORC				*e*S	**S**	**20 47 36.4**	**+1.4**
DVD	**David**	**1.76**	**158**	⇑*i*P	**P**	**20 47 20.0**	**+1.8**
JTS	**JuntasAbangare**	**1.82**	**277**	Pn	**P**	**20 47 18.0**	**-1.0**
	518nm,0.3s,baz=87,slow=14,SNR=1217						
JTS				Lg		20 47 42.2	
	985nm,0.3s,baz=132,slow=22,SNR=32						
JTS	**JuntasAbangare**	**1.82**	**277**	Pn	**P**	**20 47 18.0**	**-1.0**
JTS				*e*Sn	**S**	**20 47 40.8**	**-0.2**
JTS				Lg		20 47 42.2	
PTP1	**Petroterminal**	**1.98**	**160**	*e*P	**P**	**20 47 21.8**	**+0.5**
SFX2	**San Felix**	**2.16**	**145**	*i* P	**P**	**20 47 24.0**	**+0.2**
SFX2	**San Felix**	**2.16**	**145**	*e*P	**P**	**20 47 24.0**	**+0.2**
CONN	**Concepcion**	**2.87**	**301**	⇑*e*P	**P**	**20 47 31.9**	**-2.2**
ZANG	**Zanguenga, Cho**	**3.39**	**109**	*e*P	**P**	**20 47 40.5**	**-0.9**
ZANG				*e*S	**S**	**20 48 20.2**	**-0.6**
ACLA	**Agua Clara, Si**	**3.44**	**102**	*e*P	**P**	**20 47 40.8**	**-1.2**
AZU	**Azuero**	**3.61**	**129**	⇑*i*P	**P**	**20 47 44.0**	**-0.5**
TICN	**Ticuantepe**	**3.62**	**303**	*e*P	**P**	**20 47 45.8**	**+1.1**
WILN	**Americas 2**	**3.66**	**305**	*e*P	**P**	**20 47 46.6**	**+1.5**
MGAN	**Managua**	**3.70**	**304**	*e*P	**P**	**20 47 47.7**	**+2.0**
MGAN				*e*S	**S**	**20 48 27.9**	**-0.7**
MGAN				*i*		20 48 49.2	
	comp=E,2μm,1.2s						
UPA	**Univ. de Panam**	**3.70**	**107**	⇑*e*P	**P**	**20 47 45.1**	**-0.6**
XAVN	**Gruta Xavier**	**3.76**	**303**	*e*P	**P**	**20 47 48.8**	**+2.2**
PYTN	**Playitas**	**3.78**	**311**	⇑*e*P	**P**	**20 47 43.6**	**-3.3**
APYN	**Apoyeque**	**3.83**	**304**	*e*P	**P**	**20 47 48.3**	**+0.7**
COPN	**Copaltepe**	**4.00**	**302**	*e*P	**P**	**20 47 47.7**	**-2.2**
MOMJ	**Momotombo**	**4.08**	**305**	*e*P	**P**	**20 47 51.3**	**+0.2**
MIRN	**Miramar**	**4.24**	**304**	*e*P	**P**	**20 47 54.9**	**+1.6**
CNGN	**Cerro Negro**	**4.26**	**305**	*e*P	**P**	**20 47 52.0**	**-1.7**
LEON	**Leon**	**4.37**	**302**	*e*P	**P**	**20 47 55.8**	**+0.5**
TEL3	**Telica 3**	**4.42**	**305**	*e*P	**P**	**20 47 55.5**	**-0.4**
TELN	**Telica**	**4.42**	**305**	*e*P	**P**	**20 47 57.0**	**+1.1**
CRIN	**San Cristobal**	**4.66**	**304**	*e*P	**P**	**20 47 58.8**	**-0.4**
ROSC	**El Rosal**	**10.14**	**120**	LR	LR	20 53 33.8	
	comp=E,220nm,19.2s,baz=158,slow=40						
SDV	**Santo Domingo**	**12.37**	**94**	Pn	**P**	**20 49 43.8**	**-1.9**
	comp=E,1.8nm,0.3s,baz=321,slow=13,SNR=12						
SDV				Sn	**S**	**20 51 57.0**	**-6.0**
	comp=E,28nm,0.3s,baz=3.1,slow=16,SNR=28						
SDV	**Santo Domingo**	**12.37**	**94**	*e*P	**P**	**20 49 42.6**	**-3.1**
SDV				*e*S	**S**	**20 51 53.5**	**-10**
HLGC	**Holguin**	**12.72**	**31**	*e*P	**P**	**20 49 47.4**	**-2.9**
SJG	**San Juan**	**18.28**	**62**	P	**P**	**20 51 03.3**	**+1.6**
	comp=E,1.2nm,0.3s,baz=263,slow=8.2,SNR=5.1						
SJG				LR	LR	20 57 14.0	
	comp=E,157nm,18.7s,baz=275,slow=34						
LRAL	**Lakeview Retre**	**23.13**	**352**	*e*P	**P**	**20 51 54.0**	**+1.4**
	comp=E,16nm,1.0s,mb4.4						
JSC	**Jenkinsville**	**24.15**	**4**	*e*P	**P**	**20 52 04.4**	**+1.9**
SWET	**Sewanee**	**25.16**	**355**	*e*P	**P**	**20 52 13.0**	**+0.8**
PLAL	**Pickwick Lake**	**25.20**	**350**	*e*P	**P**	**20 52 13.1**	**+0.5**
	comp=E,12nm,1.2s,mb4.3						
WVT	**Waverly**	**26.29**	**351**	*e*P	**P**	**20 52 21.5**	**-1.2**
	comp=E,4.8nm,0.9s,mb4.0						
LTX	**Lajitas**	**27.14**	**318**	P	**P**	**20 52 33.6**	**+3.0**
SAML	**Samuel**	**27.40**	**133**	*e*P	**P**	**20 52 31.8**	**-1.4**
	comp=E,4.0nm,1.0s,mb3.9						
WMOK	**Wichita Mounta**	**28.42**	**332**	*e*P	**P**	**20 52 40.0**	**-2.1**
	comp=E,10nm,1.4s,mb4.3						
CCM	**Cathedral Cave**	**28.80**	**347**	*e*P	**P**	**20 52 44.5**	**-1.0**
	comp=E,3.7nm,0.6s,mb4.3						
MNTX	**Cornudas Mount**	**29.80**	**319**	*e*P	**P**	**20 52 53.9**	**-0.6**
	comp=E,4.6nm,1.1s,mb4.1						
LPAZ	**La Paz**	**30.10**	**150**	LR	LR	21 06 10.1	
	comp=E,83nm,19.3s,MS3.4,baz=15,slow=39						
ANMO	**Albuquerque**	**32.66**	**323**	P	**P**	**20 53 20.1**	**+0.5**
	comp=E,3.0nm,1.0s,mb4.2,baz=146,slow=6.2,SNR=6.8						
ANMO	**Albuquerque**	**32.66**	**323**	*e*P	**P**	**20 53 19.7**	**+0.1**
	comp=E,3.8nm,1.0s,mb4.3						
SIV	**San Ignacio**	**33.87**	**140**	P	**P**	**20 53 29.8**	**-0.4**
	comp=E,1.2nm,0.7s,mb3.9,baz=301,slow=17,SNR=2.5						
SDCO	**Great Sand Dun**	**34.13**	**327**	*e*P	**P**	**20 53 32.8**	**+0.6**
	comp=E,7.9nm,1.1s,mb4.6						
SADO	**Sadowa**	**34.74**	**5**	P	**P**	**20 53 37.4**	**0.0**
	comp=E,2.4nm,0.7s,mb4.3,baz=195,slow=9.2,SNR=3.9						
ISCO	**Idaho Springs**	**35.73**	**330**	*e*P	**P**	**20 53 46.2**	**+0.3**
	comp=E,6.4nm,1.2s,mb4.4						
PV10	**Paradox Valley**	**36.52**	**325**	*e*P	**P**	**20 53 52.5**	**-0.1**
SRU	**San Rafael**	**37.87**	**324**	*e*P	**P**	**20 54 04.0**	**+0.1**
RSSD	**Black Hills**	**38.46**	**336**	*e*P	**P**	**20 54 09.5**	**+0.8**
	comp=E,2.5nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**39.92**	**329**	P	**P**	**20 54 21.1**	**+0.3**
	comp=E,1.7nm,0.9s,mb3.8,baz=135,slow=8.4,SNR=12						
HWUT	**Hardware Ranch**	**40.15**	**326**	*e*P	**P**	**20 54 22.6**	**-0.2**
	comp=E,17nm,1.2s,mb4.7						
TPH	**Tonopah**	**41.39**	**318**	*e*P	**P**	**20 54 33.9**	**+0.9**
BOZ	**Bozeman (W)**	**43.04**	**331**	*e*P	**P**	**20 54 46.0**	**-0.5**
	comp=E,3.5nm,1.0s,mb4.0						
BDFB	**Brasilia**	**43.14**	**126**	P	**P**	**20 54 48.8**	**+1.1**
	comp=E,4.1nm,0.9s,mb4.2,baz=237,slow=7.9,SNR=4.4						
BDFB				LR	LR	21 14 32.9	
	comp=E,136nm,18.7s,MS3.9,baz=180,slow=39						
CPUP	**Villa Florida**	**44.02**	**146**	LR	LR	21 16 21.8	
	comp=E,97nm,18.8s,MS3.7,baz=158,slow=40						
SCHQ	**Schefferville**	**46.48**	**13**	LR	LR	21 14 15.9	
	comp=E,72nm,20.2s,MS3.6,baz=358,slow=36						
PLCA	**Paso Flores**	**51.87**	**168**	P	**P**	**20 55 57.3**	**+1.7**
	comp=E,2.3nm,0.8s,mb4.2,baz=322,slow=9.0,SNR=3.2						
PLCA	**Paso Flores**	**51.87**	**168**	*e*P	**P**	**20 55 54.5**	**-1.1**
	comp=E,4.1nm,1.0s,mb4.3						
YKA	**Yellowknife Ar**	**57.05**	**343**	P	**P**	**20 56 32.3**	**-0.8**
	comp=E,4.2nm,0.7s,mb4.6,baz=136,slow=7.3,SNR=19						
DLBC	**Dease Lake**	**59.89**	**334**	*e*P	**P**	**20 56 50.8**	**-2.1**
DLBC				*e*	pP	20 56 59.6	-6.4
INK	**Inuvik**	**66.75**	**342**	*e*P	**P**	**20 57 36.7**	**-1.2**
	comp=E,5.0nm,1.1s,mb4.5						
SUMG	**Summit**	**67.87**	**13**	P	**P**	**20 57 44.7**	**-0.1**
	comp=E,9.5nm,0.9s,mb4.8						
ILAR	**Eielson Array**	**69.91**	**336**	P	**P**	**20 57 57.2**	**-0.3**
	comp=E,1.3nm,0.8s,mb3.9,baz=67,slow=11,SNR=7.2						
ILAR				LR	LR	21 30 04.4	
	comp=E,48nm,20.0s,MS3.7,baz=179,slow=37						
ESDC	**Sonseca Array**	**75.31**	**52**	P	**P**	**20 58 31.6**	**+1.7**
	comp=E,0.5nm,0.3s,mb3.9,baz=280,slow=5.6,SNR=20						
ESLA	**Sonseca Array**	**75.31**	**52**	*e*P	**P**	**20 58 30.9**	**+1.0**
	comp=E,1.0nm,0.9s,mb3.8						
ESK	**Eskdalemuir**	**76.04**	**35**	*e*P	**P**	**20 58 32.5**	**-1.3**
	comp=E,4.9nm,0.8s,mb4.5						
NB2	**NORSAR Subarra**	**83.36**	**29**	P	**P**	**20 59 13.4**	**+0.5**
	comp=E,0.5nm,0.7s,mb3.6,baz=279,slow=5.0						
NOA	**NORSAR Array B**	**83.36**	**29**	LR	LR	21 34 45.0	
	comp=E,30nm,19.4s,MS3.7,baz=60,slow=35						
GERES	**GERESS Array B**	**86.95**	**41**	P	**P**	**20 59 31.9**	**+0.9**
	comp=E,0.4nm,0.5s,mb3.9,baz=315,slow=1.9,SNR=5.8						
GERES				LR	LR	21 34 42.4	
	comp=E,28nm,18.4s,MS3.7,baz=337,slow=33						
ARCES	**ARCESS Array B**	**87.01**	**19**	LR	LR	21 35 53.2	
	comp=E,32nm,18.9s,MS3.7,baz=290,slow=34						
WRA	**Warramunga Arr**	**142.59**	**250**	PKhKP		21 06 17.3	
	comp=E,1.0nm,0.9s,baz=98,slow=3.1,SNR=5.5						
WRA				PKP	PKPdf	21 06 20.9	+2.4
	comp=E,1.0nm,0.9s,baz=95,slow=3.1,SNR=6.7						
WRA	**Warramunga Arr**	**142.59**	**250**	PKP	PKPdf	21 06 20.9	+2.4

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*NEIC **16** 20:51:55.6, 35.08S×72.65W, h19^{km}, ML3.6(GUC), After GUC.*

GUC 16 20:51:55.6±0.7**, 35.08S**×**72.65W, h19**^{km}±20^{km}**, MD3.6, ML3.6, 2C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCH	**Constitucion**	**0.32**	**141**	*i* P	Pb	20 52 02.5	0.0
CTCH				*i* S	Sb	20 52 07.4	+0.3
CTCH				AMP		20 52 12.5	
	comp=E,17μm,0.6s						
CNCO	**Chanco**	**0.66**	**171**	⇑*i*P	Pb	20 52 07.7	-0.6
CNCO				*i* S	Sb	20 52 17.1	+0.3
CNCO				AMP		20 52 18.3	
	comp=E,4μm,0.4s						
COCH	**Cobquecura**	**1.05**	**186**	⇑*i*P	Pb	20 52 14.3	-0.6
COCH				*i* S	Sb	20 52 27.7	-0.6
NICH	**Los Niches**	**1.17**	**86**	*e*P	Pb	20 52 15.8	-1.2
NICH				*i* S	Sb	20 52 31.6	-0.2
CCHI	**Chillan**	**1.59**	**163**	AMP		20 52 51.5	
	comp=N,652nm,0.7s						
CACH	**El Canelo**	**1.95**	**61**	*i* P	Pn	20 52 28.9	+0.7
CACH				*i* S	Sn	20 52 54.3	+1.9
CHCH	**Chadas Angostu**	**2.01**	**56**	*i* P	Pn	20 52 29.1	0.0
CHCH				*i* S	Sn	20 52 55.3	+1.3
RCDM	**Rinconada Maip**	**2.21**	**44**	AMP		20 53 08.1	
	comp=E,315nm,0.4s						
ANTU	**Antumapu**	**2.25**	**48**	AMP		20 53 07.5	
	comp=N,624nm,0.4s						
LMEL	**Las Melosas**	**2.37**	**59**	AMP		20 53 10.5	
	comp=N,640nm,0.4s						
CLCH	**Cerro Calan**	**2.43**	**47**	AMP		20 53 17.7	
	comp=N,517nm,0.5s						
FCH	**Farellones**	**2.63**	**49**	AMP		20 53 20.1	
	comp=E,276nm,0.5s						

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*IDC **16** 21:03:51.4±4.2, 30.61N×141.46E, mb3.5/3, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, ML3.0/2, Error ellipse: s-maj=155.1km s-min=22.5km az=72.0*

ISC 16 21:03:50.4±4.5**, 30.9N**±0.2×**142.3E**±0.4**, h26**^{km}±38^{km}**, n6, σ1s03**/8**, mb3.5**/3**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.02**	**317**	Pn	**Pn**	**21 04 37.4**	**-0.3**
	2.5nm,0.3s,baz=131,slow=19,SNR=4.3						
JHJ				Sn	**Sn**	**21 05 13.6**	**+0.1**
	5.1nm,0.3s,baz=258,slow=21,SNR=2.8						
MJAR	**Matsushiro Arr**	**6.52**	**330**	Pn	**Pn**	**21 05 27.4**	**+0.1**
	0.9nm,0.3s,baz=154,slow=11,SNR=18						
MAT	**Matsushiro**	**6.52**	**330**	P	**Pn**	**21 05 27.4**	**+0.1**
MAT				S	**Sn**	**21 06 40.7**	**-0.9**
SONM	**Songino Array**	**32.09**	**312**	P	**P**	**21 10 18.9**	**+1.5**
	0.3nm,0.5s,mb3.3,baz=101,slow=7.3,SNR=3.4						
MKAR	**Makanchi Array**	**48.15**	**307**	P	**P**	**21 12 30.6**	**+0.5**
	0.6nm,0.7s,mb3.8,baz=92,slow=9.6,SNR=4.4						
WRA	**Warramunga Arr**	**51.16**	**190**	P	**P**	**21 12 52.6**	**-1.0**
	0.2nm,0.4s,mb3.4,baz=4.9,slow=7.5,SNR=7.4						

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*CSEM **16** 21:27:50.5±0.9, 26.49N×54.40E, h30^{km}, ML3.2, Error ellipse: s-maj=25.8km s-min=7.9km az=178.0*

*THR **16** 21:27:51.7±0.9, 26.65N×54.48E, h14^{km}±11^{km}, ML3.2*

*KISR **16** 21:27:53.9±1.3, 28.39N×54.41E, h4^{km}±999^{km}, ML3.2*

ISC 16 21:27:48.3±1.5**, 26.7N**±0.1×**54.43E**±0.04**, h10**^{km}**, n7, σ1s09**/11**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.72**	**64**	*e*Pg	**Pg**	**21 28 22.7**	**0.0**
BNDS				*e*SG	**Sg**	**21 28 45.1**	**-0.6**
BNDS				AML	AML	21 28 55.1	
	comp=N,316nm,0.5s						
GHIR	**Ghir-Karzin**	**2.06**	**322**	*e*Pg	**Pg**	**21 28 29.5**	**0.0**
GHIR				*e*Sg	**Sg**	**21 28 57.9**	**+0.8**
GHIR				AML	AML	21 29 03.6	
	comp=N,164nm,0.5s						
KRBR	**Kerman**	**3.90**	**31**	*e*PN	**Pn**	**21 28 53.9**	**+4.3**
QRN	**Al-Qurain**	**6.13**	**291**	*e*P	**Pn**	**21 29 25.1**	**+3.9**
QRN				*e*S	**Sn**	**21 30 31.9**	**-0.3**
QRN				AML	AML	21 30 32.7	
	comp=Z,9.0nm,0.3s						
RDF	**Al-Radifah**	**6.50**	**292**	*e*S	**Sn**	**21 30 40.1**	**-1.2**
NAY	**Al-Naaiem**	**6.86**	**294**	*e*P	**Pn**	**21 29 32.9**	**+1.5**
NAY				*e*S	**Sn**	**21 30 48.4**	**-1.9**
RST	**Umm Al-Ruwaisa**	**7.15**	**295**	*e*P	**Pn**	**21 29 36.4**	**+0.9**

NNC 16 22:11:23.9±5.0**, 39.30N**×**72.39E, mpv3.2, 2C-1D, Error ellipse: s-maj=50.8km s-min=28.4km az=151.0, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.69**	**25**	⇓Pg	Pg	22 12 31.3	-6.3
	2.7nm,0.5s						
AAK				Lg		22 13 20.5	
	8.0nm,0.6s						
KK31	**Karatay Array**	**4.05**	**340**	Pn	Pn	22 12 30.2	+1.7
	2.0nm,0.3s,baz=172,slow=12,SNR=84						
KK31				⇑Lg		22 13 31.4	
	8.5nm,0.6s,baz=153,slow=26,SNR=4.7						
AB31	**Akbulak array**	**13.34**	**322**	⇑Pn	P	22 14 31.8	-5.3
	0.4nm,0.5s,baz=130,slow=14,SNR=11						

NNC 16 22:17:06.5±2.8**, 37.45N**×**71.09E, h211**^{km}±44^{km}**, mpv3.4, 2C-3D, Error ellipse: s-maj=30.2km s-min=18.0km az=32.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.67**	**356**	P	P	22 18 29.2	-1.1
	0.9nm,0.2s,baz=178,slow=12,SNR=71						
KK31				⇓S	S	22 19 36.2	+0.6
	4.2nm,0.5s,baz=178,slow=17,SNR=17						
AAK	**Ala-Archa**	**5.80**	**26**	⇑P	P	22 18 31.2	-0.8
	2.7nm,0.6s						
AAK				⇑S	S	22 19 39.2	+0.6
	5.1nm,0.6s						
AB31	**Akbulak array**	**14.30**	**329**	⇓P	P	22 20 21.0	+0.5
	0.3nm,0.3s,baz=148,slow=11,SNR=15						
AB31				⇓S	S	22 22 57.3	+3.2
	1.1nm,0.6s,baz=147,slow=23,SNR=7.2						

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*MOS **16** 23:00:27.9±0.8, 36.56N×70.87E, h210^{km}, mb4.0/6, Error ellipse: s-maj=15.4km s-min=7.6km az=97.8*

*NEIC **16** 23:00:30.2±1.1, 36.63N×71.09E, h216^{km}±13^{km}, mb4.5/17, Error ellipse: s-maj=12.0km s-min=5.5km az=63.0*

*IDC **16** 23:00:32.0±4.5, 36.61N×71.13E, h234^{km}±43^{km}, mb3.4/9, mb1 3.5/12, mb1mx3.3/22, mbtmp4.0/12, Error ellipse: s-maj=20.9km s-min=16.9km az=17.0*

*NNC **16** 23:00:34.8±2.8, 37.05N×70.91E, h217^{km}±24^{km}, mpv4.4, Error ellipse: s-maj=25.4km s-min=16.3km az=24.0*

ISC 16 23:00:29.7±0.4**, 36.62N**±0.02×**71.13E**±0.06**, h228**^{km}±6^{km}**, n79, σ1s09**/93**, mb3.9**/15**, 6C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.86**	**167**	P	**P**	**23 01 21.0**	**+1.3**
CHCP	**Chirah Chowk**	**3.43**	**149**	P	**P**	**23 01 28.0**	**+1.7**
THW	**Thamme Wali**	**3.85**	**172**	P	**P**	**23 01 32.1**	**+0.9**
SBDP	**Sheikh Budin**	**4.32**	**184**	P	**P**	**23 01 37.0**	**+0.1**
DRP	**Derazinda**	**4.92**	**189**	P	**P**	**23 01 45.7**	**+1.3**
AML	**Almayashu**	**5.85**	**19**	P	**P**	**23 01 56.2**	**+0.1**
	SNR=457						
PONG	**Pong**	**6.13**	**138**	*e*P	**P**	**23 02 00.0**	**+0.3**
PONG				*e*S	**S**	**23 03 10.0**	**+0.1**
EKS2	**Erkin-Say**	**6.37**	**18**	P	**P**	**23 02 02.7**	**0.0**
	SNR=29						
KK31	**Karatay Array**	**6.49**	**356**	⇓P	**P**	**23 02 03.3**	**-1.0**
	5.7nm,0.3s,baz=182,slow=12,SNR=402						
KK31				⇓S	**S**	**23 03 13.5**	**-4.8**
	32nm,0.6s,baz=170,slow=22,SNR=12						
KKAR	**Karatay Array**	**6.49**	**356**	*e*PN	**P**	**23 02 03.3**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.2s						
AAK	**Ala-Archa**	**6.54**	**22**	P	**P**	**23 02 05.3**	**+0.4**
	SNR=30						
AAK	**Ala-Archa**	**6.54**	**22**	⇓P	**P**	**23 02 04.9**	**0.0**
	comp=Z,25nm,0.4s						
AAK				⇑S	**S**	**23 03 17.7**	**-1.6**
	comp=Z,57nm,0.8s						
AAK	**Ala-Archa**	**6.54**	**22**	*e*Pn	**P**	**23 02 04.2**	**-0.8**
	comp=Z,50nm,0.5s						
KBK	**Karagaybulak**	**6.71**	**25**	P	**P**	**23 02 07.6**	**+0.5**
	SNR=9.5						
BHK	**Bhakra**	**6.79**	**138**	*e*S	**S**	**23 03 25.7**	**+0.6**
ULHL	**Ulahol**	**6.87**	**34**	P	**P**	**23 02 09.4**	**+0.3**
	SNR=18						
CHMS	**Chumysh**	**6.95**	**22**	P	**P**	**23 02 10.6**	**+0.4**
	SNR=13						
SDNR	**Sundarnagar**	**7.04**	**135**	*e*P	**P**	**23 02 12.2**	**+0.9**
SDNR				*e*S	**S**	**23 03 28.2**	**-2.5**
USP	**Ospenovka**	**7.12**	**20**	P	**P**	**23 02 12.3**	**-0.1**
	SNR=21						
TKM2	**Tokmak 2**	**7.17**	**27**	P	**P**	**23 02 13.4**	**+0.4**
	SNR=15						
AYAN	**Aya Nagar**	**9.56**	**146**	*e*P	**P**	**23 02 43.3**	**-0.4**
AYAN				AMb	AMB	23 02 44.6	
	comp=Z,2.0nm,0.1s						
AYAN				*e*S	**S**	**23 04 26.2**	**-2.5**
KUDL	**Kundal**	**9.59**	**150**	*e*P	**P**	**23 02 43.2**	**-0.8**
KUDL				AMb	AMB	23 02 43.9	
	comp=Z,19nm,0.6s						
KUDL				*e*S	**S**	**23 04 23.2**	**-6.0**
BISR	**Bishrakh**	**9.62**	**145**	*e*S	**S**	**23 04 27.6**	**-2.6**
SONA	**Sohna**	**9.74**	**147**	*e*P	**P**	**23 02 46.1**	**+0.1**
SONA				AMb	AMB	23 02 48.7	
	comp=Z,8.4nm,0.4s						
SONA				*e*S	**S**	**23 04 28.0**	**-4.8**
LGTI	**Lohaghat**	**10.46**	**130**	*e*S	**S**	**23 04 48.0**	**-1.6**
AJM	**Ajmer**	**10.54**	**163**	⇓*i*	**P**	**23 02 48.0**	**-8.3**
AJM				*i* S	**S**	**23 04 49.0**	**-2.3**
MK31	**Makanchi Array**	**13.13**	**36**	P	**P**	**23 03 28.7**	**0.0**
	comp=Z,1.9nm,0.8s,baz=224,slow=17,SNR=16						
MKAR	**Makanchi Array**	**13.13**	**36**	P	**P**	**23 03 28.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=224,slow=16,SNR=11						
KOLN	**Koldanda**	**13.75**	**126**	*e*P	**P**	**23 03 37.5**	**+1.1**
	comp=Z,13nm,0.2s						
GKN	**Gorkha**	**14.28**	**123**	*e*P	**P**	**23 03 43.2**	**+0.2**
	comp=Z,75nm,0.3s						
BHPL	**Bhopal**	**14.40**	**156**	*e*P	**P**	**23 03 44.8**	**+0.2**
BHPL				AMb	AMB	23 03 49.4	
	comp=Z,51nm,0.5s						
BHPL				*e*		23 06 19.2	
DMN	**Daman**	**14.85**	**123**	*e*P	**P**	**23 03 50.7**	**+0.7**
	comp=Z,42nm,0.6s						
KKN	**Kakani**	**14.85**	**122**	*e*P	**P**	**23 03 50.6**	**+0.6**
	comp=Z,59nm,0.5s						
KKN	**Kakani**	**14.85**	**122**	*e*P	**P**	**23 03 50.6**	**+0.6**
KKN				pmax	pmax		
	comp=Z,30nm,0.5s						
AB31	**Akbulak array**	**15.03**	**331**	P	**P**	**23 03 50.2**	**-1.9**
	comp=Z,3.9nm,0.6s,baz=146,slow=12,SNR=98						
AB31				⇑S	**S**	**23 06 31.4**	**-1.2**
	comp=Z,1.9nm,0.6s						
AB31	**Akbulak array**	**15.03**	**331**	*e*P	**P**	**23 03 50.2**	**-1.9**
AB31				S	**S**	**23 06 31.3**	**-1.3**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PKI	**Pulchoki**	**15.08**	**123**	*e*P	**P**	**23 03 53.3**	**+0.5**
	comp=Z,31nm,0.4s						
PKI	**Pulchoki**	**15.08**	**123**	*e*P	**P**	**23 03 53.3**	**+0.5**
PKI				pmax	pmax		
	comp=Z,16nm,0.4s						
KURK	**Kurchatov**	**15.08**	**19**	P	**P**	**23 03 53.5**	**+0.8**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**15.08**	**19**	P	**P**	**23 03 53.5**	**+0.7**
	comp=Z,0.8nm,0.6s						
GUN	**Gumba**	**15.19**	**121**	*e*P	**P**	**23 03 54.9**	**+0.8**
	comp=Z,34nm,0.4s						
VOSK	**Vostochnaya**	**16.10**	**360**	⇑P	**P**	**23 04 04.5**	**-0.4**
	comp=Z,1.4nm,0.7s						
ZRNK	**Zerenda**	**16.40**	**355**	⇑P	**P**	**23 04 07.7**	**-0.7**
	comp=Z,3.0nm,0.8s						
ZRNK	**Zerenda**	**16.40**	**355**	*e*P	**P**	**23 04 07.7**	**-0.8**
ZRNK				*e*S	**S**	**23 07 03.7**	**+0.9**
BVA0	**Borovoye Array**	**16.41**	**358**	⇑P	**P**	**23 04 08.2**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=158,slow=10,SNR=18						
BVAR	**Borovoye Array**	**16.41**	**358**	P	**P**	**23 04 07.8**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=168,slow=11,SNR=18						
BVAR				S	**S**	**23 07 03.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=162,slow=23,SNR=2.4						
BRVK	**Borovoye**	**16.45**	**358**	⇑P	**P**	**23 04 08.2**	**-0.8**
	comp=Z,0.9nm,0.9s						
BRVK	**Borovoye**	**16.45**	**358**	*e*P	**P**	**23 04 06.7**	**-2.3**
BRVK				*e*S	**S**	**23 07 05.9**	**+2.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**16.45**	**358**	*e*P	**P**	**23 04 06.7**	**-2.3**
	comp=Z,2.3nm,0.8s						
BRVK				*e*S	**S**	**23 07 05.9**	**+2.0**
BLSP	**Bilaspur**	**17.31**	**144**	*e*P	**P**	**23 04 20.2**	**+1.5**
LSA	**Lhasa**	**18.11**	**107**	*e*P	**P**	**23 04 29.9**	**+2.9**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LSA	**Lhasa**	**18.11**	**107**	*e*P	**P**	**23 04 29.9**	**+2.9**
	comp=Z,5.3nm,0.6s						
ZAL	**Zalesovo**	**19.75**	**24**	P	**P**	**23 04 44.6**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=229,slow=6.7,SNR=6.9						
ARU	**Arti**	**21.55**	**341**	*e*P	**P**	**23 05 02.0**	**+0.7**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
ARU	**Arti**	**21.55**	**341**	*e*P	**P**	**23 05 02.0**	**+0.7**
	comp=Z,4.8nm,0.7s,mb4.1						
SONM	**Songino Array**	**28.18**	**55**	P	**P**	**23 06 04.3**	**+1.4**
	comp=Z,0.2nm,0.3s,mb3.2,baz=252,slow=9.1,SNR=2.9						
AKASG	**Malin Array Be**	**32.95**	**309**	P	**P**	**23 06 44.1**	**-0.4**
	comp=Z,0.7nm,0.3s,mb3.6,baz=82,slow=7.0,SNR=9.9						
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**23 07 22.5**	**+0.2**
	comp=Z,2.3nm,0.4s,mb4.1,baz=131,slow=11,SNR=41						
KAF	**Kangasniemi**	**37.58**	**327**	*e*p	**P**	**23 07 22.7**	**-0.8**
	comp=Z,1.0nm,0.4s,mb3.7,baz=112,slow=8.5						
KAF	**Kangasniemi**	**37.58**	**327**	*e*P	**P**	**23 07 22.7**	**-0.8**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
GVD	**Gavdhos**	**37.94**	**282**	P	**P**	**23 07 27.0**	**+0.3**
KEV	**Kevo**	**40.73**	**338**	*e*p	**P**	**23 07 49.1**	**-0.3**
	comp=Z,1.4nm,0.4s,mb3.7						
KEV	**Kevo**	**40.73**	**338**	*e*P	**P**	**23 07 49.1**	**-0.3**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**23 07 52.8**	**+0.6**
	comp=Z,3.5nm,0.5s,mb4.0,baz=113,slow=7.9,SNR=61						
NB2	**NORSAR Subarra**	**44.35**	**323**	P	**P**	**23 08 17.4**	**-1.1**
	comp=Z,3.6nm,0.6s,mb3.9,baz=97,slow=7.4						
NB2	**NORSAR Subarra**	**44.35**	**323**	P	**P**	**23 08 17.4**	**-1.1**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**44.35**	**323**	P	**P**	**23 08 18.3**	**-0.2**
	comp=Z,3.2nm,0.5s,mb3.9,baz=96,slow=7.7,SNR=20						
KMBO	**Kilima Mbogo**	**48.99**	**228**	P	**P**	**23 08 56.5**	**+1.3**
	comp=Z,0.6nm,0.5s,mb3.1,baz=37,slow=17,SNR=3.5						
KMBO	**Kilima Mbogo**	**48.99**	**228**	P	**P**	**23 08 56.5**	**+1.3**
INK	**Inuvik**	**73.77**	**9**	P	**P**	**23 11 41.0**	**+1.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**73.77**	**9**	P	**P**	**23 11 41.0**	**+1.0**
	comp=Z,1.9nm,0.5s,mb4.0,baz=351,slow=4.5,SNR=7.5						
INK	**Inuvik**	**73.77**	**9**	*e*P	**P**	**23 11 39.0**	**-0.9**
	comp=Z,6.0nm,1.0s,mb4.2						
ILAR	**Eielson Array**	**74.64**	**16**	P	**P**	**23 11 45.8**	**+0.8**
	comp=Z,0.4nm,0.6s,mb3.2,baz=326,slow=10,SNR=4.9						
LBTB	**Lobatse**	**74.84**	**222**	P	**P**	**23 11 39.9**	**-7.0**
LBTB				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
LBTB	**Lobatse**	**74.84**	**222**	P	**P**	**23 11 39.9**	**-7.0**
	comp=Z,3.1nm,0.9s,mb3.9						
NWAO	**Narrogin (SRO)**	**81.50**	**142**	P	**P**	**23 12 19.8**	**-3.0**
NWAO				pmax	pmax		
	comp=Z,40nm,1.4s						
NWAO	**Narrogin (SRO)**	**81.50**	**142**	P	**P**	**23 12 19.8**	**-3.0**
	comp=Z,40nm,1.4s,mb4.8						
WRA	**Warramunga Arr**	**81.96**	**122**	P	**P**	**23 12 24.6**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.4,baz=325,slow=4.9,SNR=10						
CTAO	**Charters Tower**	**90.49**	**115**	P	**P**	**23 13 03.8**	**-3.1**
	comp=Z,31nm,1.5s,mb4.9						

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*TEH **16** 23:10:33.4, 30.37N×56.77E, h10^{km}, Mn3.3*

*CSEM **16** 23:10:35.5±0.1, 30.77N×56.69E, h14^{km}, ML3.3, Error ellipse: s-maj=3.5km s-min=2.3km az=76.0*

*THR **16** 23:10:36.2±0.4, 30.73N×56.72E, h14^{km}±4^{km}, ML3.3*

ISC 16 23:10:35.7±0.6**, 30.76N**±0.04×**56.71E**±0.07**, h14**^{km}**, n18, σ1s05**/19**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.78**	**177**	*e*PG	**Pg**	**23 10 50.8**	**-0.6**
KRBR				*e*SG	**Sg**	**23 11 01.0**	**-0.9**
KRBR				AML	AML	23 11 08.0	
	comp=N,1μm,0.2s						
IBAF	**Bafgh**	**1.29**	**310**	Pn	**Pn**	**23 10 58.2**	**-1.1**
IMEH	**Mehriz**	**1.91**	**290**	Pn	**Pn**	**23 11 09.5**	**+1.3**
ICHK	**Chekchek**	**2.46**	**308**	Pn	**Pn**	**23 11 16.9**	**+0.7**
ISAD	**Sadrabad**	**2.84**	**295**	Pn	**Pn**	**23 11 21.1**	**-0.4**
IPAR	**Pars**	**3.30**	**255**	Pn	**Pn**	**23 11 33.0**	**+4.9**
BNDS	**Bandar-Abbas**	**3.38**	**188**	*e*PN	**Pn**	**23 11 30.4**	**+1.2**
ISRV	**Sarvestan**	**3.41**	**247**	Pn	**Pn**	**23 11 25.0**	**-4.6**
ZHSF	**Zahedan**	**3.70**	**107**	*e*Pn	**Pn**	**23 11 34.9**	**+1.2**
NASN	**Na'in**	**3.90**	**302**	*e*PN	**Pn**	**23 11 38.4**	**+1.8**
NASN				*e*SG	**Sg**	**23 12 38.2**	**-7.4**
NASN				AML	AML	23 12 45.9	
	comp=N,39nm,0.5s						
IMOG	**Moghan**	**5.77**	**22**	Pn	**Pn**	**23 12 02.4**	**-0.6**
IFIR	**Firoozkooh**	**5.89**	**327**	Lg		23 13 48.0	
IFIR	**Firoozkooh**	**5.89**	**327**	Pn	**Pn**	**23 12 04.4**	**-0.4**
IPAY	**Payeh**	**5.99**	**18**	Pn	**Pn**	**23 12 05.4**	**-0.7**
IKRD	**Kardeh**	**6.18**	**14**	Pn	**Pn**	**23 12 12.1**	**+3.2**
IDMV	**Damavand**	**6.20**	**322**	Pn	**Pn**	**23 12 08.4**	**-0.8**
IMYA	**Miamay**	**6.24**	**26**	Pn	**Pn**	**23 12 09.4**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
IRAZ	Razeghan	7.34	311	Pn	Pn	23 12 24.0	-1.1

IDC 16 23:23:25.1±0.6, 8.78S×124.00E, mb4.4/10, mb1 4.6/12, mb1mx4.5/17, mbtmp4.5/12, ML4.9/2, MS3.6/4, Ms1 3.6/4, ms1mx3.3/13, Error ellipse: s-maj=28.2km s-min=14.0km az=75.0
NEIC 16 23:23:30.2±1.1, 8.83S×124.08E, h36km±10km, mb4.8/23, Error ellipse: s-maj=11.7km s-min=6.3km az=71.0
BJI 16 23:23:30.2, 8.80S×124.10E, h36km, mB5.0, mb4.7, Ms4.9, Msz4.7
ISC 16 23:23:29.0±1.5, 8.85S±0.05×124.14E±0.09, h43km±14km, n65, σ1.04/67, mb4.7/32, MS3.9/4, 1C, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	9.31	171	eP	P	23 25 43.5	-0.1
	43nm,0.3s						
FITZ				eS	S	23 27 18.9	-9.2
FITZ	Fitzroy Crossi	9.31	171	Pn	P	23 25 43.9	+0.3
	16nm,0.3s,baz=3.8,slow=9.2,SNR=146						
FITZ				Sn	S	23 27 19.4	-8.8
	85nm,0.3s,baz=8.6,slow=8.7,SNR=17						
FITZ				LR	LR	23 30 20.1	
	comp=Z,168nm,19.7s,baz=271,slow=44						
MBWA	Marble Bar	12.96	199	eP	P	23 26 33.3	+0.2
MBWA				eS	S	23 28 46.4	-10
WRA	Warramunga Arr	14.79	139	Pn	P	23 26 56.8	-0.4
	3.5nm,0.3s,baz=320,slow=13,SNR=52						
WRA				Sn	S	23 29 28.2	-12
	8.4nm,0.3s,baz=310,slow=23,SNR=24						
WRAB	Tennant Creek	14.79	139	eP	P	23 26 56.5	-0.7
	37nm,0.8s						
WRAB				eS	S	23 29 27.9	-13
WB2	Warramunga Arr	14.80	139	eP	P	23 26 56.4	-0.9
WB2				eS	S	23 29 28.4	-12
KKM	Kota Kinabalu	16.77	332	P	P	23 27 22.3	-0.2
CTA	Charters Tower	24.11	120	eP	P	23 28 45.0	+3.0
	6.8nm,0.9s,mb4.1						
CTA	Charters Tower	24.11	120	P	P	23 28 44.5	+2.5
	14nm,1.0s,mb4.3,baz=286,slow=12,SNR=6.9						
CTA				LR	LR	23 39 03.6	
	comp=Z,95nm,19.1s,MS3.3,baz=232,slow=39						
MUN	Mundaring	24.17	197	eP	P	23 28 42.7	+0.3
	4.3nm,0.4s,mb4.2						
NWAO	Narrogin (SRO)	24.80	194	P	P	23 28 48.5	-0.1
	6.2nm,0.3s,mb4.6,baz=16,slow=7.7,SNR=32						
NWAO	Narrogin (SRO)	24.80	194	eP	P	23 28 48.0	-0.5
	5.2nm,0.4s,mb4.4						
KULM	Kulim	27.31	300	P	P	23 29 08.6	-3.5
STKA	Stephens Creek	28.07	147	eP	P	23 29 19.9	+1.1
	5.4nm,0.9s,mb4.2						
STKA	Stephens Creek	28.07	147	P	P	23 29 19.8	+1.0
	7.9nm,0.9s,mb4.4,baz=327,slow=9.2,SNR=20						
YHNB	Yeheng	33.42	355	P	P	23 30 01.9	-4.1
ENH	Enshi	41.37	341	P	P	23 31 13.4	+0.7
	6.9nm,0.7s,mb4.4						
MAJO	Matsushiro	47.05	16	P	P	23 31 57.7	-0.7
	10nm,0.9s,mb4.8						
MAT	Matsushiro	47.05	16	eP	P	23 31 59.0	+0.6
	7.5nm,0.8s,mb4.7						
MAT	Matsushiro	47.05	16	P	P	23 31 58.5	+0.1
MJAR	Matsushiro Arr	47.05	16	P	P	23 31 58.6	+0.2
	6.1nm,0.8s,mb4.6,baz=193,slow=8.9,SNR=25						
LZH	Lanzhou	48.61	338	eP	P	23 32 13.5	+2.9
LZH				AP	pP	23 32 25.3	+2.6
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.9						
LSA	Lhasa	49.77	322	P	P	23 32 21.8	+2.2
LSA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
LSA	Lhasa	49.77	322	eP	P	23 32 20.9	+1.3
	comp=Z,5.6nm,0.6s,mb4.8						
HHC	Hu-ho-hao-te	50.79	348	eP	P	23 32 29.9	+2.6
HHC				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,155nm,10.8s						
GUN	Gumba	52.01	316	eP	P	23 32 36.9	+0.3
PKI	Pulchoki	52.12	315	eP	P	23 32 37.2	-0.2
	comp=Z,23nm,0.4s,mb5.4						
KKN	Kakani	52.35	315	eP	P	23 32 39.1	0.0
	comp=Z,27nm,0.8s,mb5.2						
DMN	Daman	52.36	315	eP	P	23 32 39.0	-0.2
	comp=Z,35nm,0.9s,mb5.3						
GKN	Gorkha	52.93	315	eP	P	23 32 43.1	-0.4
	comp=Z,22nm,0.4s,mb5.4						
GTA	Gaotai	53.06	336	eP	P	23 32 45.8	+1.5
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
MDJ	Mudanjiang	53.44	5	P	P	23 32 47.8	+0.8
MDJ				AMB	AMB		
	comp=Z,28nm,0.8s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,86nm,5.3s						
MDJ	Mudanjiang	53.44	5	eP	P	23 32 47.5	+0.4
	comp=Z,30nm,1.1s,mb5.1						
KOLN	Koldanda	53.51	314	eP	P	23 32 47.4	-0.4
	comp=Z,43nm,0.7s,mb5.5						
CASY	Casey	58.11	186	P	P	23 33 19.3	-1.0
	comp=Z,5.2nm,0.9s,mb4.6						
SONM	Songino Array	58.59	346	P	P	23 33 23.1	-0.7
	comp=Z,1.4nm,0.7s,mb4.1,baz=162,slow=7.8,SNR=9.0						
WMQ	Urumqi	61.97	331	eP	P	23 33 46.6	-0.4
WMQ				AP	pP	23 33 59.4	-0.1
WMQ				XP	sP	23 34 04.8	+0.3
WMQ				PP	PP	23 36 05.1	-0.8
WMQ				S	S	23 42 05.5	-0.9
WMQ				AMB	AMB		
	comp=Z,89nm,8.3s						
WMQ				LR	LR		
	comp=N,231nm,21.2s,MS4.4						
WMQ				LR	LR		
	comp=E,202nm,21.7s,MS4.4						
WMQ				LR	LR		
	comp=Z,332nm,21.6s,MS4.5						
MKAR	Makanchi Array	66.75	330	P	P	23 34 17.2	-0.8
	comp=Z,5.9nm,0.9s,mb4.6,baz=136,slow=7.4,SNR=24						
AAK	Ala-Archa	68.34	323	eP	P	23 34 27.0	-1.1
	comp=Z,6.7nm,0.8s,mb4.7						
YAK	Yakutsk	70.79	3	P	P	23 34 42.4	-0.3
	comp=Z,29nm,0.9s,mb5.2						
ZAL	Zalesovo	70.81	337	P	P	23 34 42.3	-0.7
	comp=Z,2.6nm,0.9s,mb4.2,baz=339,slow=4.3,SNR=17						
MAW	Mawson	71.14	201	P	P	23 34 45.1	+0.3
	comp=Z,2.2nm,0.8s,mb4.1,baz=42,slow=6.5,SNR=6.6						
MAW	Mawson	71.14	201	eP	P	23 34 45.0	+0.2
	comp=Z,15nm,1.2s,mb4.8						
KURK	Kurchatov	71.20	331	eP	P	23 34 44.2	-1.3
	comp=Z,9.8nm,0.9s,mb4.7						
VNDA	Vanda	71.38	172	P	P	23 34 46.2	+0.1
	comp=Z,1.4nm,0.4s,mb4.3,baz=320,slow=8.0,SNR=25						
VNDA				LR	LR	00 06 37.5	
	comp=Z,56nm,18.7s,MS3.9,baz=331,slow=36						
OPO	Ambohidratompo	74.93	253	P	P	23 35 09.4	+1.5
	comp=Z,2.5nm,0.8s,mb4.2,baz=81,slow=9.4,SNR=6.0						
SYO	Syowa Base	79.84	201	⇑P	P	23 35 33.3	-1.0
QSPA	South Pole Qui	81.14	180	eP	P	23 35 41.9	+0.9
	comp=Z,3.3nm,0.7s,mb4.4						
NAY	Al-Naaiem	83.03	301	eP	P	23 35 53.1	+1.5
RST	Umm Al-Ruwaisa	83.29	301	eP	P	23 35 52.9	-0.1
ARU	Arti	84.27	329	eP	P	23 35 55.7	-1.6
	comp=Z,5.1nm,1.0s,mb4.6						
MALT	Malatya	92.08	308	P	P	23 36 32.8	-2.4
	comp=Z,4.7nm,1.5s,mb4.6						
SNAA	Sanae	92.47	195		P	23 36 37.6	+1.3
SNAA	Sanae	92.47	195		P	23 36 41.9	+5.6
BOSA	Boshof	93.52	240	LR	LR	00 11 34.8	
	comp=Z,52nm,20.1s,MS4.0,baz=192,slow=31						
BOSA	Boshof	93.52	240	P	P	23 36 42.5	+0.4
	comp=Z,8.6nm,1.3s,mb5.0						
VNA2	Neumayer--Watz	94.08	194		P	23 36 46.1	+2.5
VNA2	Neumayer--Watz	94.08	194		P	23 36 48.8	+5.2
VNA2	Neumayer--Watz	94.08	194		P	23 36 50.2	+6.6
VNA3	Neumayer Olymp	94.40	194		P	23 36 43.6	-1.4
VNA3	Neumayer Olymp	94.40	194		P	23 36 54.2	+9.2
DBIC	Dimbokro	129.45	271	eP	PKPdf	23 42 32.6	-1.8
CPUP	Villa Florida	145.00	178	PKPbc	PKPbc	23 43 04.3	+1.7
	comp=Z,10nm,0.7s,baz=202,slow=3.5,SNR=30						
LVC	Limon Verde	146.22	158	PKPbc	PKPbc	23 43 09.1	+3.4
	comp=Z,4.3nm,0.6s,baz=223,slow=2.4,SNR=6.6						
LPAZ	La Paz	152.23	154	PKPbc	PKPdf	23 43 24.4	+10
	comp=Z,1.0nm,0.5s,baz=172,slow=7.1,SNR=7.4						
LPAZ				PKPab	PKPab	23 43 34.2	+1.1
	comp=Z,1.3nm,0.6s,baz=243,slow=2.3,SNR=3.6						

CASC 16 23:31:10.3±2.8, 13.01N×89.99W, h35km±999km, MD4.4, ML4.0, 18C-15D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBLS	San Blas	0.90	23⇓	iP	P	23 31 31.7	+5.2
SBLS				eS	S	23 31 46.5	+8.0
SNJE	San Jose	0.93	23⇓	eP	P	23 31 32.0	+5.1
SNJE				eS	S	23 31 45.2	+5.9
RTR	El Retiro	0.94	21⇓	iP	P	23 31 32.4	+5.3
RTR				eS	S	23 31 44.3	+4.7
BOQS	Boqueron	1.00	44⇑	eP	P	23 31 33.2	+5.3
BOQS				eS	S	23 31 46.0	+5.0
SNET	Serv Nac Est T	1.00	47⇓	eP	P	23 31 25.1	-2.8
SNET				eS	S	23 31 39.4	-1.6
SNET				i		23 31 49.2	
	comp=Z,14µm,0.4s						
LFRS	El Faro	1.09	56⇓	eP	P	23 31 34.6	+5.3
LFRS				eS	S	23 31 51.1	+7.9
LFU	La Fuente	1.12	49⇑	eP	P	23 31 35.2	+5.4
LFU				eS	S	23 31 50.2	+6.0
RBDL	Robledal	1.14	15⇑	iP	P	23 31 35.3	+5.4
RBDL				eS	S	23 31 52.4	+7.9
LBRS	Las Brisas	1.17	52⇑	eP	P	23 31 36.0	+5.6
LBRS				eS	S	23 31 51.6	+6.2
LCBS	La Ceiba	1.17	57⇑	iP	P	23 31 35.7	+5.3
LCBS				eS	S	23 31 50.4	+4.9
IXG	Ixpaco	1.24	339⇓	eP	P	23 31 30.3	-1.1
SNVI	San Vicente	1.27	62⇑	eP	P	23 31 37.4	+5.6
SNVI				eS	S	23 31 52.6	+4.7
PCG	Pacaya	1.50	336⇓	eP	P	23 31 35.0	-0.2
FUG	Fuego 3	1.65	330⇓	eP	P	23 31 36.6	-0.7
VSM	San Miguel	1.72	76⇓	eP	P	23 31 33.2	-5.0
VSM				eS	S	23 31 55.7	-3.5
BLLM	Bellamira	1.76	76⇓	eP	P	23 31 45.0	+6.2
BLLM				eS	S	23 32 06.8	+6.6
CAHU	Cacacuatique	1.89	66	eP	P	23 31 46.1	+5.4
CAHU				eS	S	23 32 11.2	+7.7
TP2	Tecpan 2	2.03	330⇓	iP	P	23 31 43.2	+0.5
TP2				eS	S	23 32 08.0	+0.9
MRL	Marmol	2.06	8	eP	P	23 31 42.4	-0.8
MRL				eS	S	23 32 10.0	+2.0
CNCH	Conchagua	2.11	83⇓	eP	P	23 31 50.2	+6.2
CNCH				eS	S	23 32 14.6	+5.4
CRIN	San Cristobal	2.88	96⇑	eP	P	23 31 54.7	-0.2
CRIN				eS	S	23 32 27.9	-0.8
LEON	Leon	3.08	101	eP	P	23 31 56.8	-0.9
LEON				eS	S	23 32 32.7	-1.0
TEL3	Telica 3	3.10	98⇑	eP	P	23 31 56.8	-1.1
TEL3				eS	S	23 32 33.7	-0.5
TELN	Telica	3.10	97⇑	eP	P	23 31 57.3	-0.7
MIRN	Miramar	3.25	100⇓	eP	P	23 31 59.0	-1.0
MIRN				eS	S	23 32 36.9	-1.1
CNGN	Cerro Negro	3.25	99⇑	eP	P	23 31 59.4	-0.7
CNGN				eS	S	23 32 36.2	-1.8
COPN	Copaltepe	3.42	104⇑	eP	P	23 32 01.9	-0.6
COPN				eS	S	23 32 42.0	-0.3
MOMJ	Momotombo	3.42	100⇑	eP	P	23 32 01.6	-0.9
MOMJ				eS	S	23 32 40.4	-1.9
APYN	Apoyeque	3.63	102⇑	eP	P	23 32 04.5	-1.1
APYN				eS	S	23 32 46.7	-1.2
XAVN	Gruta Xavier	3.67	103⇑	eP	P	23 32 05.6	-0.6
XAVN				eS	S	23 32 46.7	-2.2
CRUN	El Crucero	3.74	105⇓	eP	P	23 32 07.7	+0.6
CRUN				eS	S	23 32 50.4	-0.2
MGAN	Managua	3.75	103⇑	eP	P	23 32 07.3	+0.1
MGAN				i		23 32 27.0	
	comp=N,154nm,0.4s						
TICN	Ticuantepe	3.79	104⇑	eP	P	23 32 07.7	-0.1
TICN				eS	S	23 32 49.9	-2.0
WILN	Americas 2	3.80	102	eP	P	23 32 07.1	-0.9
WILN				eS	S	23 32 51.5	-0.7
PYTN	Playitas	3.86	97⇑	eP	P	23 32 07.7	-1.1
PYTN				eS	S	23 32 51.5	-2.1
APON	Apoyo	3.98	105⇓	eP	P	23 32 10.1	-0.4
APON				eS	S	23 32 53.6	-3.1
CONN	Concepcion	4.50	108⇑	eP	P	23 32 17.2	-0.7
CONN				eS	S	23 33 08.7	-1.0

BJI 16 23:31:49.9, 1.20N×97.20E, h30km, mB5.1, mb4.8, Ms4.5, Msz4.3
NEIC 16 23:31:52.0±0.5, 1.20N×97.16E, h30km, mb4.5/8, Error ellipse: s-maj=14.4km s-min=7.2km az=49.0
IDC 16 23:31:51.0±0.9, 1.21N×97.10E, h23km±4km, mb4.0/13, mb1 4.2/13, mb1mx4.0/19, mbtmp4.2/13, Error ellipse: s-maj=30.4km s-min=14.4km az=50.0
ISC 16 23:31:49.0±0.6, 1.19N±0.07×97.14E±0.07, h22km, h22km±.6km:pP-P, n37, σ0.84/37, mb4.4/23, MS4.2/1, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	Ipoh	5.14	49	P	Pn	23 33 07.5	+0.7
KULM	Kulim	5.38	41	eP	Pn	23 33 09.6	-0.4
KGM	Kluang	6.24	82	P	Pn	23 33 23.5	+1.3
SNG	Songkhla	6.89	30	P	Pn	23 33 30.0	-1.4
	160nm,0.8s						
CHG	Chiang Mai	17.61	6	P	P	23 35 55.8	+0.9
NANT	Nan	17.85	11	⇓P	P	23 35 57.0	-0.9
	152nm,1.0s						
QIZ	Qiongzhong	21.67	34	P	P	23 36 40.6	+0.2
KMI	Kunming	24.41	12	P	P	23 37 08.8	+1.5
KMI				AP		23 37 14.9	
KMI				XP		23 37 17.3	
KMI				LR	LR		
	comp=N,660nm,14.2s						
KMI				LR	LR		
	comp=E,402nm,8.3s						
KMI				LR	LR		
	comp=Z,626nm,14.5s,MS4.2						
SHL	Shillong	24.76	349	eP	P	23 37 12.0	+1.3
GYA	Guiyang	26.75	19	P	P	23 37 29.3	+0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
PKI	Pulchoki	28.54	338	eP	P	23 37 45.8	+0.3
	comp=Z,19nm,0.9s,mb4.8						
DMN	Daman	28.69	337	eP	P	23 37 46.9	+0.1
	comp=Z,16nm,0.8s,mb4.8						
KKN	Kakani	28.79	338	eP	P	23 37 47.9	+0.2
	comp=Z,23nm,0.8s,mb5.0						
GKN	Gorkha	29.23	337	eP	P	23 37 52.3	+0.6
	comp=Z,31nm,0.9s,mb5.0						
KOLN	Koldanda	29.44	335	eP	P	23 37 54.4	+0.8
	comp=Z,24nm,0.9s,mb4.9						
FITZ	Fitzroy Crossi	33.97	126	eP	P	23 38 33.3	-0.1
	comp=Z,3.8nm,0.7s,mb4.4						
FITZ	Fitzroy Crossi	33.97	126	P	P	23 38 32.7	-0.7
	comp=Z,7.8nm,0.9s,mb4.6,baz=342,slow=6.4,SNR=4.0						
XAN	Xi'an	34.49	17	P	P	23 38 36.3	-1.5
XAN				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.9						
GTA	Gaotai	38.12	3	eP	P	23 39 08.3	0.0
GTA				AP	pP	23 39 14.8	-0.1
GTA				XP	sP	23 39 18.3	+0.6
GTA				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.7						
WRA	Warramunga Arr	42.08	122	P	P	23 39 41.6	+0.3
	comp=Z,2.9nm,0.7s,mb4.0,baz=300,slow=9.0,SNR=9.4						
WRA				pP	pP	23 39 48.7	+0.7
	comp=Z,2.0nm,0.6s,baz=301,slow=9.1,SNR=8.2						
WRAB	Tennant Creek	42.09	122	eP	P	23 39 40.1	-1.3
WB2	Warramunga Arr	42.09	122	eP	P	23 39 41.7	+0.3
JNU	Nakatsue	44.86	41	P	P	23 40 03.7	-0.1
	comp=Z,7.4nm,0.9s,mb4.5,baz=109,slow=6.9,SNR=5.8						
KS15	Wonju Array Si	45.87	35	eP	P	23 40 11.7	0.0
SONM	Songino Array	47.15	9	P	P	23 40 21.9	+0.2
	comp=Z,5.5nm,0.8s,mb4.6,baz=187,slow=8.9,SNR=41						
SONM				pP	pP	23 40 28.8	+0.4
	comp=Z,6.8nm,0.9s,baz=198,slow=7.8,SNR=14						
SONM				PcP	PcP	23 41 53.4	-0.2
	comp=Z,0.9nm,0.6s,baz=185,slow=5.9,SNR=2.7						
MKAR	Makanchi Array	47.24	346	P	P	23 40 22.5	+0.1
	comp=Z,3.3nm,0.6s,mb4.5,baz=160,slow=8.9,SNR=28						
MJAR	Matsushiro Arr	51.74	42	P	P	23 40 55.8	-1.4
	comp=Z,1.2nm,0.8s,mb3.9,baz=225,slow=7.5,SNR=6.9						
KURK	Kurchatov	51.79	345	eP	P	23 40 56.5	-0.8
	comp=Z,6.0nm,1.0s,mb4.5						
STKA	Stephens Creek	53.39	132	P	P	23 41 10.5	+1.0
	comp=Z,2.1nm,0.7s,mb4.2,baz=309,slow=6.5,SNR=3.5						
STKA				pP	pP	23 41 17.4	+1.1
	comp=Z,3.7nm,0.8s,baz=2.3,slow=9.7,SNR=2.8						
STKA	Stephens Creek	53.39	132	P	P	23 41 10.5	+0.9
ZAL	Zalesovo	53.55	351	P	P	23 41 10.6	+0.2
	comp=Z,5.3nm,0.7s,mb4.6,baz=307,slow=5.7,SNR=28						
BRVK	Borovoye	56.30	341	eP	P	23 41 28.8	-1.6
	comp=Z,2.8nm,0.9s,mb4.3						
BRTR	Keskin Array B	69.07	312	P	P	23 42 55.0	-0.6
	comp=Z,0.6nm,0.8s,mb3.6,baz=143,slow=7.2,SNR=3.6						
AKASG	Malin Array Be	75.23	322	P	P	23 43 30.6	-1.4
	comp=Z,0.2nm,0.2s,mb3.6,baz=83,slow=4.3,SNR=4.8						
FINES	FINESS Array B	79.98	333	P	P	23 43 58.0	0.0
	comp=Z,1.5nm,0.8s,mb4.0,baz=111,slow=12,SNR=3.7						
ARCES	ARCESS Array B	82.53	340	P	P	23 44 11.7	+0.6
	comp=Z,0.5nm,0.5s,mb3.8,baz=108,slow=2.9,SNR=4.4						
GERES	GERESS Array B	84.78	319	P	P	23 44 24.0	+1.0
	comp=Z,0.7nm,0.7s,mb3.9,baz=72,slow=4.2,SNR=6.2						
GERES				pP	pP	23 44 30.5	+0.4
	comp=Z,1.1nm,1.0s,baz=90,slow=4.0,SNR=3.3						

BJI 16 23:34:55.4, 34.50N×26.60E, h20km, mB5.2, mb4.4, Ms4.8, Msz4.4
MOS 16 23:34:55.0±1.2, 34.41N×26.58E, h16km, mb4.2/18, Error ellipse: s-maj=6.8km s-min=3.7km az=112.4
IDC 16 23:34:55.3±0.7, 34.63N×26.52E, mb4.0/14, mb1 4.1/20, mb1mx4.0/28, mbtmp4.0/20, ML3.8/6, MS3.1/4, Ms1 3.1/4, ms1mx2.9/24, Error ellipse: s-maj=15.9km s-min=14.3km az=85.0
ATH 16 23:34:57.3, 34.48N×26.65E, h20km±5km, MD3.9/12
NEIC 16 23:34:57.4, 34.48N×26.65E, h20km, mb3.9/21, MD3.9(ATH), After ATH.
CSEM 16 23:34:58.4±0.1, 34.53N×26.90E, h59km, mb4.1/14, Ms3.1, Error ellipse: s-maj=2.2km s-min=1.1km az=37.0
THE 16 23:35:04.2, 34.66N×26.37E, h26km, ML3.9
HLW 16 23:35:05.8, 33.93N×26.98E, h20km, Mb3.6
ISC 16 23:34:55.7±0.2, 34.48N±0.02×26.66E±0.02, h20km, n195, σ1.17/212, mb4.0/27, MS3.1/6, 9C-5D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	Khrisi	0.89	297	ePN	Pn	23 35 13.8	+0.7
KARP	Karpathos	1.14	21	ePN	Pn	23 35 19.1	+2.3
NPS	Neapolis	1.16	313	ePN	Pn	23 35 19.3	+2.2
IDI	Anoyia	1.66	300	Pn	Pn	23 35 28.5	+4.3
	26nm,0.3s,baz=131,slow=13,SNR=220						
ARG	Arkhangelos	2.11	34	ePN	Pn	23 35 34.8	+4.2
THR1	Thera Island	2.13	333	ePb	Pb	23 35 33.1	-0.3
THR1				eSb	Sb	23 35 55.9	-3.7
SANT	Santorini	2.13	333	eP	Pn	23 35 32.8	+2.0
SANT	Santorini	2.13	333	eP	Pn	23 35 32.8	+1.9
GVD	Gavdhos	2.15	280	ePN	Pn	23 35 35.0	+3.8
THR3	Thira Island,	2.18	332	ePb	Pb	23 35 33.9	-0.5
THR3				eSb	Sb	23 35 56.9	-4.4
THR3	Thira Island,	2.18	332	ePb	Pb	23 35 33.8	-0.6
THR3				S	Sn	23 35 56.8	-1.6
VAM	Vamos	2.22	295	ePN	Pn	23 35 36.1	+3.9
BODT	Bodrum	2.63	11	ePN	Pn	23 35 38.0	-0.1
APE	Apeiranthos	2.74	341	ePN	Pn	23 35 41.3	+1.6
APE	Apeiranthos	2.74	341	eP	Pn	23 35 41.7	+2.0
APE	Apeiranthos	2.74	341	ePn	Pn	23 35 41.8	+2.1
DALT	Dalyan (Mudla)	2.80	35	ePN	Pn	23 35 40.2	-0.2
KSL	Kastellorizon	2.92	54	ePN	Pn	23 35 44.5	+2.4
FETY	Fethiye	2.92	42	ePN	Pn	23 35 42.8	+0.6
MLSB	Milas	2.95	18	ePN	Pn	23 35 42.8	+0.1
YER	Yerkesik	2.96	26	ePN	Pn	23 35 44.0	+1.2
AKAS	Kas	2.98	53	i P	Pn	23 35 45.3	+2.3
AKAS				i S	Sn	23 36 18.7	+0.2
KYTH	Kithira	3.46	302	ePN	Pn	23 35 51.9	+2.0
ELL	Elmali	3.48	49	ePN	Pn	23 35 51.3	+1.1
GOLH	Golhisar	3.62	40	i P	Pn	23 35 51.8	-0.4
VLI	Veliai	3.77	307	ePN	Pn	23 35 56.7	+2.5
DENT	Denizli	3.79	30	ePN	Pn	23 35 54.5	-0.1
IZM	Izmir	3.94	7	ePN	Pn	23 35 56.7	0.0
MPAR	Parnis Oros	4.36	328	ePN	Pn	23 36 05.0	+2.4
BCK	Bucak	4.36	46	ePN	Pn	23 36 02.5	-0.1
AKS	Akhisar	4.49	12	ePN	Pn	23 36 03.3	-1.2
ISP	Isparta	4.58	42	ePN	Pn	23 36 04.6	-1.2
ISP	Isparta	4.58	42c	iP	Pn	23 36 07.3	+1.5
ISP	Isparta	4.58	42	eP	Pn	23 36 07.3	+1.6
ITM	Ithomi	4.70	306	ePN	Pn	23 36 09.0	+1.6
LEF	Lefka	5.17	81	ePN	Pn	23 36 13.6	-0.4
AOS	Alonnisos	5.19	335	ePn	Pn	23 36 15.8	+1.5
BALB	Balikesir	5.24	10	ePN	Pn	23 36 13.8	-1.3
SWA1		5.26	189⇑	eP	Pn	23 36 16.4	+1.0
SWA1		5.26	189⇓	eP	Pn	23 36 16.0	+0.7
SWA1				S	Sn	23 37 07.1	-9.1
SWA2		5.32	191⇑	eP	Pn	23 36 16.9	+0.7
ALT	Altintas	5.34	30	ePN	Pn	23 36 15.8	-0.7
EZN	Ezine	5.34	357	ePN	Pn	23 36 16.5	0.0
HDMB	Hadim	5.35	61	ePN	Pn	23 36 16.7	+0.1
DST	Dursunbey	5.36	17	ePN	Pn	23 36 15.1	-1.6
CSS	Prodhromos	5.52	83	eP	Pn	23 36 18.9	-0.1
	17nm,0.5s						
CSS	Prodhromos	5.52	83	eP	Pn	23 36 18.9	-0.1
	17nm,0.5s						
ERMK	Ermenek	5.54	65	i P	Pn	23 36 21.4	+2.2
ERMK				i S	Sn	23 37 18.9	-4.2
LOS	Limnos	5.59	347	ePn	Pn	23 36 21.6	+1.6
XOR	Xorichti	5.61	331	ePn	Pn	23 36 21.9	+1.6
AGG	Agios Georgios	5.71	324	ePn	Pn	23 36 23.1	+1.4
AGG				eSn	Sn	23 37 23.9	-3.7
KONT	Konya--Tatoy	5.76	51	ePN	Pn	23 36 20.4	-2.0
PAIG	Paliouri	5.94	337	ePn	Pn	23 36 26.3	+1.4
BNT	Bandirma	5.95	9	ePN	Pn	23 36 23.7	-1.4
ESKT	Eskisehir	6.05	32	ePN	Pn	23 36 24.4	-2.1
KIZT	Kizilcal	6.07	42	ePN	Pn	23 36 25.8	-1.0
AYT	Al 'Ayyat	6.10	140⇑	eP	Pn	23 36 25.7	-1.4
KOT	Kottamia	6.31	135⇑	eP	Pn	23 36 29.3	-0.8
LKD	Levkas	6.42	313	ePn	Pn	23 36 31.4	-0.2
LKD				eSn	Sn	23 37 40.6	-4.5
ALN	Alexandroupoli	6.43	356	ePn	Pn	23 36 33.0	+1.1
HHAG	Hagoal	6.45	133⇓	eP	Pn	23 36 31.6	-0.5
GLL	Jalalah	6.50	137⇓	eP	Pn	23 36 32.3	-0.5
LIT	Litokhoron	6.52	331	ePn	Pn	23 36 34.6	+1.5
	comp=Z,2.3nm,0.9s						
AMAG	Maghara	6.72	123⇓	eP	Pn	23 36 35.1	-0.8
SRS	Serrai	7.06	341	ePn	Pn	23 36 41.6	+0.9
GRG	Griva	7.29	334	ePn	Pn	23 36 45.5	+1.5
KNT	Kendrikon	7.30	337	ePn	Pn	23 36 44.8	+0.6
FNA	Florina	7.56	328	ePn	Pn	23 36 48.8	+1.1
FNA				eSn	Sn	23 38 10.0	-3.8
BRTR	Keskin Array B	7.65	45	Pn	Pn	23 36 49.5	+0.6
	0.3nm,0.3s,baz=216,slow=12,SNR=23						
BRTR				Sn	Sn	23 38 13.9	-2.1
	0.2nm,0.3s,baz=220,slow=25,SNR=3.7						
BRTR	Keskin Array B	7.65	45	Pn	Pn	23 36 49.5	+0.6
BRTR				S	Sn	23 38 13.9	-2.0
HNKL	Nakhl	7.68	124	P	Pn	23 36 49.1	-0.3
HNKL				S	Sn	23 38 04.8	-12
EIL	Elat	8.51	122	Pn	P	23 37 01.4	+0.5
	1.7nm,0.3s,baz=313,slow=15,SNR=13						
EIL				Sn	Sn	23 38 30.4	-7.0
	3.0nm,0.3s,baz=43,slow=19,SNR=4.6						
EIL	Elat	8.51	122	eP	P	23 37 01.4	+0.5
	9.3nm,0.6s						
EIL	Elat	8.51	122	eP	P	23 37 01.4	+0.4
	9.2nm,0.6s						
HKAT	Jabal Katrina	8.62	131⇑	eP	P	23 37 01.7	-0.9
NUB		8.70	126⇑	eP	P	23 37 03.0	-0.6
ALWS	Ilw as Safayha	8.81	124	P	P	23 37 05.2	+0.1
ALWS				S	Sn	23 38 39.3	-5.5
ASF	Jabal al Asfar	8.87	102	Pn	P	23 37 05.5	-0.4
	0.4nm,0.3s,baz=205,slow=7.3,SNR=4.3						
ASF				Sn	Sn	23 38 41.8	-4.5
	0.7nm,0.3s,baz=242,slow=18,SNR=3.5						
HAQS	Haql	8.88	125	P	P	23 37 06.2	+0.2
HAQS				S	Sn	23 38 40.4	-6.0
JMOS	Jabal al Moall	8.93	124	P	P	23 37 07.1	+0.4
JMOS				S	Sn	23 38 42.5	-5.2
TR1		8.97	134⇑	eP	P	23 37 06.3	-1.0
TIP	Timpagrande	9.22	303	eP	P	23 37 09.0	-1.7
BDAS	Al Bad'	9.39	128	P	P	23 37 13.9	+0.7
HSFG		10.07	140⇑	eP	P	23 37 21.0	-1.5
MALT	Malatya	10.23	65	eP	P	23 37 24.8	+0.2
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MALT	Malatya	10.23	65	eP	P	23 37 24.8	+0.2
	comp=Z,2.9nm,0.8s						
VAE	Valguarnera	10.37	290	Pn	P	23 37 27.2	+0.7
	comp=Z,1.6nm,0.3s,baz=68,slow=16,SNR=5.0						
VAE				Sn	S	23 39 11.0	-12
	comp=Z,1.0nm,0.3s,baz=270,slow=2.0,SNR=2.5						

TBKS Tabuk 10.50 124 P **P** 23 37 29.3 +1.0
MLR Muntele Rosu 11.01 357 Pn **P** 23 37 41.5 +6.2
comp=Z,0.1nm,0.3s,baz=195,slow=12,SNR=3.9
HADB 11.42 141 P **P** 23 37 39.6 -1.3
SIM Simferopol' 11.92 26 P **P** 23 37 50.8 +3.1
SIM MLR MLR
comp=Z,130nm,18.0s
VSL Villasalto 14.69 295 *eP* **P** 23 38 22.0 -2.2
GNI Garni 15.45 63 *eP* **P** 23 38 36.5 +2.2
GNI Garni 15.45 63 LR LR 23 45 15.8
comp=Z,46nm,18.5s,baz=284,slow=40
KIV Kislovodsk 15.59 48 *d iP* **P** 23 38 39.3 +3.3
KIV pmax pmax
comp=Z,14nm,1.2s
KIV MLR MLR
comp=Z,100nm,14.0s
KIV Kislovodsk 15.59 48 *eP* **P** 23 38 38.9 +2.8
comp=Z,12nm,1.0s
ZEI Tsey 15.79 53 *eP* **P** 23 38 39.8 +1.2
PGF Pioggiola 15.98 305 *eP* **P** 23 38 40.4 -0.6
comp=Z,16nm,1.2s
PGF Pioggiola 15.98 305 *eP* **P** 23 38 40.4 -0.6
PGF pmax pmax
comp=Z,8.0nm,1.2s
AKASG Malin Array Be 16.32 6 Pn **P** 23 38 45.4 +0.1
comp=Z,2.4nm,0.3s,baz=192,slow=10,SNR=13
GOF Gofitskoye 16.41 45 *eP* **P** 23 38 50.3 +3.9
OJC Ojcow 16.52 344 *eP* **P** 23 38 54.2 +6.4
OKC Ostrava-Krasne 16.58 340 AMS AMS 23 46 20.0
comp=Z,100nm,11.4s
VRAC Vranov 16.58 336 Pn **P** 23 38 47.3 -1.3
comp=Z,0.2nm,0.3s,baz=169,slow=12,SNR=2.2
GERES GERESS Array B 17.28 330 P **P** 23 38 57.0 -0.4
comp=Z,0.2nm,0.3s,baz=146,slow=12,SNR=16
KHC Kasperske Hory 17.55 330 *eP* **P** 23 39 01.2 +0.4
DPC Dobruska-Polom 17.57 338 *eP* **P** 23 38 59.6 -1.5
DAVOX Davos 17.65 319 P **P** 23 39 02.4 +0.3
comp=Z,0.1nm,0.3s,baz=181,slow=11,SNR=3.0
DAVOS Davos 17.74 319 P **P** 23 39 02.4 -0.7
UPC Upice 17.81 337 *eP* **P** 23 39 03.3 -0.7
PRU Pruhonice 17.87 334 *eP* **P** 23 39 04.3 -0.5
PRU AMS AMS 23 47 30.0
comp=Z,100nm,11.4s
PVCC Panska Ves 18.31 335 *eP* **P** 23 39 08.3 -2.0
MBDF Montbardon 18.38 310 *eP* **P** 23 39 11.0 -0.2
comp=Z,11nm,0.8s
MBDF Montbardon 18.38 310 *eP* **P** 23 39 11.0 -0.2
MBDF pmax pmax
comp=Z,6.0nm,0.8s
LPG La Plagne 18.76 312 *eP* **P** 23 39 15.6 -0.1
comp=Z,5.0nm,0.7s
LPG La Plagne 18.76 312 *eP* **P** 23 39 15.6 -0.1
LPG pmax pmax
comp=Z,3.0nm,0.7s
LPL La Plagne 18.78 312 *eP* **P** 23 39 15.7 -0.3
comp=Z,2.9nm,0.5s
LPL La Plagne 18.78 312 *eP* **P** 23 39 15.7 -0.3
LPL pmax pmax
comp=Z,1.0nm,0.5s
BRG Berggiesshubel 18.82 334 *eP* **P** 23 39 20.2 +3.8
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG Berggiesshubel 18.82 334 *eP* **P** 23 39 20.2 +3.8
comp=Z,3.2nm,1.0s
SMRF Simiane la Rot 18.84 306 *eP* **P** 23 39 16.4 -0.4
comp=Z,8.4nm,1.1s
ORIF Oris-en-Rattie 19.04 309 *eP* **P** 23 39 18.6 -0.5
ORIF *eR*
comp=Z,81nm,23.0s
CLL Collm 19.52 334 P **P** 23 39 23.0 -1.6
CABF La Chapelle 19.71 314 *eP* **P** 23 39 25.9 -0.9
comp=Z,14nm,0.9s
CABF La Chapelle 19.71 314 *eP* **P** 23 39 25.9 -0.9
CABF pmax pmax
comp=Z,7.0nm,0.9s
VIVF Saint-Julien-l 19.79 308 *eP* **P** 23 39 27.2 -0.5
HINF Hinteralfeld 19.93 318 *eP* **P** 23 39 28.6 -0.6
LASF Ste Croix 20.03 305 *eP* **P** 23 39 30.1 -0.2
CDF Champ du Feu 20.05 320 *eP* **P** 23 39 29.6 -0.8
comp=Z,11nm,0.8s
CDF Champ du Feu 20.05 320 *eP* **P** 23 39 29.6 -0.8
CDF pmax pmax
comp=Z,5.0nm,0.8s
HAU Haudompre 20.31 318 *eP* **P** 23 39 33.0 -0.2
comp=Z,3.5nm,0.4s
HAU *eR*
comp=Z,81nm,18.2s
MTLF Montolieu 20.92 302 *eP* **P** 23 39 39.7 +0.2
comp=Z,5.5nm,0.9s
MTLF Montolieu 20.92 302 *eP* **P** 23 39 39.7 +0.2
MTLF pmax pmax
comp=Z,3.0nm,0.9s
SMF Signal de Mont 21.09 312 *eP* **P** 23 39 40.2 -0.9
comp=Z,5.9nm,0.7s,mb3.7
SMF Signal de Mont 21.09 312 *eP* **P** 23 39 40.2 -0.9
SMF pmax pmax
comp=Z,3.0nm,0.7s,mb3.7
MEZF Maizieres J'vi 21.31 318 *eP* **P** 23 39 43.1 -0.3
comp=Z,6.1nm,0.5s,mb3.9
LOR Lormes 21.37 314 *eP* **P** 23 39 43.6 -0.4
comp=Z,4.9nm,0.7s,mb3.6
LOR *eR*
comp=Z,66nm,18.8s
LOR Lormes 21.37 314 *eP* **P** 23 39 43.6 -0.4
LOR pmax pmax
comp=Z,2.0nm,0.7s,mb3.6
LOR MLR MLR
comp=Z,70nm,18.8s,MS3.1
SSF Saint Saulge 21.48 313 *eP* **P** 23 39 45.1 0.0
SSF pmax pmax
comp=Z,9.0nm,0.9s,mb4.1
SSF Saint Saulge 21.48 313 *eP* **P** 23 39 45.1 0.0
comp=Z,9.1nm,0.9s,mb4.1
CAF Calviac 21.53 306 *eP* **P** 23 39 45.8 +0.1
BGF Bois d'Agland 21.66 311 *eP* **P** 23 39 46.7 -0.3
OBN Obninsk 21.76 15 *eP* **P** 23 39 46.3 -1.6
OBN *eS* **S** 23 43 46.3 +3.8
OBN pmax pmax
comp=Z,9.0nm,0.7s,mb4.3
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.3
OBN Obninsk 21.76 15 *eP* **P** 23 39 46.3 -1.6
comp=Z,100nm,17.0s
TCF Toulx Ste Croi 21.95 310 *eP* **P** 23 39 48.9 -1.0
RJF Les Rejaudoux 22.03 307 *eP* **P** 23 39 50.8 +0.2
comp=Z,6.2nm,0.7s,mb3.8
RJF *eR*
comp=Z,84nm,20.2s
RJF Les Rejaudoux 22.03 307 *eP* **P** 23 39 50.8 +0.2
RJF pmax pmax
comp=Z,3.0nm,0.7s,mb3.8
RJF MLR MLR
comp=Z,80nm,20.3s,MS3.1
EPF Esparros 22.16 300 *eP* **P** 23 39 51.8 -0.2
LFF La Frestale 22.42 306 *eP* **P** 23 39 54.5 -0.1
MOS Moscow 22.57 16 *eP* **P** 23 39 54.6 -1.3
MOS pmax pmax
comp=Z,34nm,0.8s,mb4.8
MOS Moscow 22.57 16 *eP* **P** 23 39 54.6 -1.3
comp=Z,34nm,0.8s,mb4.8
BAIF Baives 22.64 320 *eP* **P** 23 39 56.6 0.0
comp=Z,17nm,0.9s,mb4.2
BAIF Baives 22.64 320 *eP* **P** 23 39 56.6 0.0
BAIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.2
ETSF Etsaut 22.77 300 *eP* **P** 23 39 57.7 -0.3
SJPF Ste Jean 23.30 300 *eP* **P** 23 40 03.4 +0.3
comp=Z,20nm,1.2s,mb4.1
SJPF Ste Jean 23.30 300 *eP* **P** 23 40 03.4 +0.3
SJPF pmax pmax
comp=Z,10.0nm,1.2s,mb4.1
MFF Saint Martin d 23.57 309 *eP* **P** 23 40 05.8 0.0
FLN La Foliniere 24.64 314 *eP* **P** 23 40 16.1 0.0
FLN *eR*
comp=Z,85nm,20.8s
ESDC Sonseca Array 24.91 291 P **P** 23 40 19.1 +0.4
comp=Z,0.2nm,0.4s,mb3.0,baz=81,slow=9.3,SNR=6.4
SGMF Saint Gilles 25.70 311 *eP* **P** 23 40 26.5 +0.3
comp=Z,57nm,1.6s,mb4.6
SGMF Saint Gilles 25.70 311 *eP* **P** 23 40 26.5 +0.3
SGMF pmax pmax
comp=Z,29nm,1.6s,mb4.6
FINES FINESS Array B 26.99 359 P **P** 23 40 36.7 -1.2
comp=Z,1.8nm,0.6s,mb3.8,baz=172,slow=14,SNR=13
FINES LR LR 23 51 12.1
comp=Z,41nm,20.8s,MS3.0,baz=157,slow=36

FINES FINESS Array B 26.99 359 P **P** 23 40 36.7 -1.2
FINES LR LR 23 51 12.1
HFS Hagfors 27.03 346 P **P** 23 40 36.0 -2.3
comp=Z,2.7nm,0.7s,mb3.9,baz=149,slow=8.6,SNR=11
HFS LR LR 23 53 07.1
comp=Z,86nm,19.4s,MS3.3,baz=193,slow=41
KAF Kangasniemi 27.66 360 *ep* **P** 23 40 42.1 -1.8
comp=Z,2.7nm,0.8s,mb3.9,baz=178,slow=9.2
KAF Kangasniemi 27.66 360 *eP* **P** 23 40 42.1 -1.8
KAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
NAO01 NORSAR Array S 28.28 344 *eP* **P** 23 40 47.0 -2.6
NAO01 NORSAR Array S 28.28 344 *eP* **P** 23 40 47.0 -2.6
NB2 NORSAR Subarra 28.38 344 P **P** 23 40 48.8 -1.7
comp=Z,1.1nm,0.6s,mb3.7,baz=158,slow=10
NB2 NORSAR Subarra 28.38 344 P **P** 23 40 48.8 -1.7
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
NOA NORSAR Array B 28.38 344 P **P** 23 40 48.2 -2.2
comp=Z,0.8nm,0.6s,mb3.6,baz=148,slow=9.5,SNR=5.9
NOA LR LR 23 53 03.9
comp=Z,33nm,21.7s,MS2.9,baz=155,slow=39
AB31 Akbulak array 28.58 49 *i* P **P** 23 40 52.6 +0.2
EKA Eskdalemuir Ar 29.31 325 P **P** 23 40 58.5 -0.4
comp=Z,1.0nm,0.5s,mb3.8,baz=120,slow=10.0,SNR=6.1
EKA Eskdalemuir Ar 29.31 325 P **P** 23 40 58.5 -0.4
ARCES ARCESS Array B 35.12 359 P **P** 23 41 47.7 -1.9
comp=Z,1.8nm,0.4s,mb4.3,baz=178,slow=9.6,SNR=70
ARCES ARCESS Array B 35.12 359 P **P** 23 41 47.7 -1.9
ARE0 ARCESS Array S 35.12 359 *eP* **P** 23 41 47.6 -1.9
ARE0 ARCESS Array S 35.12 359 *eP* **P** 23 41 47.6 -1.9
KEV Kevo 35.33 0 *ep* **P** 23 41 50.7 -0.7
comp=Z,1.8nm,0.6s,mb4.2
KEV Kevo 35.33 0 *eP* **P** 23 41 50.7 -0.7
KEV pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
DBIC Dimbokro 40.13 234 P **P** 23 42 32.4 +0.3
DBIC pmax pmax
comp=Z,3.0nm,0.7s
DBIC Dimbokro 40.13 234 P **P** 23 42 32.4 +0.3
comp=Z,2.7nm,0.7s,mb4.1,baz=37,slow=5.5,SNR=9.6
MKAR Makanchi Array 43.13 56 P **P** 23 42 57.8 +1.5
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 43.13 56 P **P** 23 42 57.8 +1.4
comp=Z,1.6nm,0.7s,mb3.9,baz=263,slow=9.5,SNR=6.2
ZAL Zalesovo 44.58 46 P **P** 23 43 09.4 +1.4
ZAL pmax pmax
comp=Z,1.0nm,0.6s
ZAL Zalesovo 44.58 46 P **P** 23 43 09.4 +1.4
comp=Z,1.3nm,0.6s,mb4.0,baz=200,slow=11,SNR=4.5
TSUM Tsumeb 54.08 191 P **P** 23 44 23.0 +1.5
comp=Z,1.3nm,0.8s,mb3.9,baz=14,slow=15,SNR=4.0
MATP Matopo 54.62 178 P **P** 23 44 26.9 +1.4
comp=Z,2.7nm,0.8s,mb4.3,baz=345,slow=9.0,SNR=6.7
ZAK Zakamensk 56.27 48 *eP* **P** 23 44 37.8 +0.8
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
SONM Songino Array 58.96 51 P **P** 23 44 57.4 +1.4
comp=Z,1.6nm,0.6s,mb4.2,baz=287,slow=8.6,SNR=8.8
SCHQ Schefferville 64.50 320 P **P** 23 45 32.9 -0.1
comp=Z,1.7nm,0.5s,mb4.3,baz=228,slow=16,SNR=9.0
NJ2 Nanjing 74.29 62 *eP* **P** 23 46 36.9 +3.3
SSE Sheshan 76.49 62 P **P** 23 46 46.5 +0.4
MJAR Matsushiro Arr 84.86 49 P **P** 23 47 31.7 +1.4
MJAR pmax pmax
comp=Z,2.0nm,0.8s
MJAR Matsushiro Arr 84.86 49 P **P** 23 47 31.7 +1.4
comp=Z,1.7nm,0.8s,mb4.2,baz=306,slow=4.8,SNR=8.3

ROM 16 23:45:16.2±0.7, 34.59N×14.99E, h17km, Md3.6/2, Ml3.1/2, Error ellipse: s-maj=14.6km s-min=7.8km az=124.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WDD	**Wield Dalam**	**1.33**	**344**	Pn	Pn	23 45 42.2	+2.0
WDD				Sn	Sn	23 46 01.8	+4.2
SSY	**Sortino**	**2.56**	**2**	Pn	Pn	23 45 59.2	+1.4
	71nm,0.7s						
GIB	**Gibilmanna**	**3.48**	**347**	Pn	Pn	23 46 11.3	+0.4
GIB				Sn	Sn	23 46 55.5	+3.4
	15μm,15.0s						
MSRU	**Castanea**	**3.69**	**6**	Pn	Pn	23 46 14.4	+0.5

ROM 16 23:47:23.7±0.8, 34.00N×14.10E, h12km, Md3.4/2, Ml3.8/1, Error ellipse: s-maj=35.4km s-min=10.9km az=83.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WDD	**Wield Dalam**	**1.90**	**10**	Pn	Pn	23 47 57.3	+1.1
HMDC	**Modica**	**3.00**	**10**	Pn	Pn	23 48 13.0	+1.0
HMDC				Sn	Sn	23 48 51.2	+2.9
SSY	**Sortino**	**3.25**	**14**	Pn	Pn	23 48 17.2	+1.7
SSY				Sn	Sn	23 48 57.7	+3.3
GIB	**Gibilmanna**	**3.98**	**359**	Pn	Pn	23 48 26.6	+0.7
GIB				Sn	Sn	23 49 16.0	+3.0
	589μm,65.0s						
MSRU	**Castanea**	**4.41**	**15**	Pn	Pn	23 48 32.1	+0.2

CASC 17 00:12:18.3±2.2, 13.93N×91.57W, h19km±9km, MD3.8, 8C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.88**	**54**↑	*iP*	Pb	00 12 34.5	-0.1
TP2	**Tecpan 2**	**1.00**	**32**↑	*eP*	Pb	00 12 36.6	-0.2
TP2				*eS*	Sb	00 12 50.8	+1.1
PCG	**Pacaya**	**1.04**	**63**↑	*eP*	Pb	00 12 37.9	+0.4
PCG				*eS*	Sb	00 12 51.7	+0.9
IXG	**Ixpaco**	**1.11**	**77**↑	*eP*	Pb	00 12 37.4	-1.2
IXG				*eS*	Sb	00 12 55.5	+2.8
RBDL	**Robledal**	**1.84**	**84**↑	*eP*	Pn	00 12 55.2	+5.9
RBDL				*eS*	Sn	00 13 19.2	+7.0
RTR	**El Retiro**	**1.87**	**91**↓	*eP*	Pn	00 12 55.6	+5.8
RTR				*eS*	Sn	00 13 19.9	+7.0
SBLS	**San Blas**	**1.89**	**92**↑	*eP*	Pn	00 12 55.4	+5.3
SBLS				*eS*	Sn	00 13 20.0	+6.4
SNJE	**San Jose**	**1.91**	**91**↓	*eP*	Pn	00 12 56.1	+5.8
SNJE				*eS*	Sn	00 13 20.2	+6.2
MRL	**Marmol**	**2.14**	**58**↑	*eP*	Pn	00 12 52.8	-0.9
MRL				*eS*	Sn	00 13 20.9	+0.9
BOQS	**Boqueron**	**2.23**	**95**↑	*eP*	Pn	00 13 00.7	+5.7
BOQS				*eS*	Sn	00 13 27.9	+5.7
LFRS	**El Faro**	**2.45**	**97**↓	*eP*	Pn	00 13 03.8	+5.6
LFRS				*eS*	Sn	00 13 33.2	+5.3
LCBS	**La Ceiba**	**2.53**	**96**↓	*eP*	Pn	00 13 05.1	+5.8
LCBS				*eS*	Sn	00 13 37.9	+8.0

CRAAG ***17*** *01:04:33.2, 21.25N×95.03E, Mb5.5*
CSEM ***17*** *01:04:33.8, 21.35N×94.97E, h33km, mb5.5*
BJI ***17*** *01:04:40.1, 20.67N×94.78E, h120km, mB5.1, mb5.2*
MOS ***17*** *01:04:42.0±0.9, 21.07N×95.03E, h116km, mb5.2/92, Error ellipse: s-maj=7.8km s-min=3.2km az=128.8*
HRVD ***17*** *01:04:44.2±0.5, 20.80N×95.09E, h122km±3km, MW5.0/58, Centroid moment Tensor Solution. LP body waves: s19,c22;Mantle waves: s58,c101; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr 2.43±.14; Mθθ -3.18±.14; Mφφ 0.75±.14; Mrθ 1.49±.12; Mθφ -0.40±.15; Mφr -0.87±.10; Best double couple: M◎3.361×10^16 NP1: φs241°, δ36°, λ53° NP2:φs105°, δ62°, λ114°. Principal axes: T 3.165, Plg64°, Azm57°; N .394, Plg21°, Azm273°; P -3.558, Plg14°, Azm178°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***17*** *01:04:44.1±0.1, 21.02N×94.99E, mb5.0/143 Error ellipse: s-maj=4.2km s-min=2.8km az=215.0*
NEIC Felt at Pagan.
IDC ***17*** *01:04:45.1±0.7, 21.00N×94.93E, h127km±5km, mb4.6/25, mb1 4.7/25, mb1mx4.7/25, mbtmp4.9/25, MS3.8/8, Ms1 3.7/8, ms1mx3.4/26, Error ellipse: s-maj=11.2km s-min=7.7km az=56.0*
BGS ***17*** *01:05:08.0±1.6, 23.52N×91.13E, h120km, mb5.1*
ISC 17 01:04:43.0±0.4, 21.03N±0.02×94.98E±0.02, h122km±3km, h122km±1.8km:pP-P,n665,◇0°96/678, mb5.0/212, 135C-25D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**3.86**	**346**	*i* P	**P**	**01 05 47.0**	**+5.2**
IMP				*i*		01 06 21.0	
CHG	**Chiang Mai**	**4.33**	**120**	⇓P	**P**	**01 05 47.0**	**-1.1**
	150nm,0.8s						
AGT	**Agartala**	**4.47**	**310**	*e*	**P**	**01 05 59.0**	**+9.0**
CHRT	**Chiangrai**	**4.65**	**103**	PG	**P**	**01 05 52.5**	**+0.1**
CHRT				SG		01 05 59.5	
SHL	**Shillong**	**5.34**	**328**	*eP*	**P**	**01 06 03.0**	**+1.3**
SHL				*eS*	**S**	**01 06 59.0**	**-3.5**
NANT	**Nan**	**5.82**	**111**	PN	**P**	**01 06 09.0**	**+0.8**
NANT				PG	**P**	**01 06 21.5**	**+13**
NANT				SG	**S**	**01 07 02.0**	**-12**
CAL	**Calcutta**	**6.36**	**285**	*eP*	**P**	**01 06 15.7**	**+0.2**
CAL				*eS*	**S**	**01 07 22.2**	**-5.0**
NST	**Nakhon Sawan**	**7.23**	**137**	P	**P**	**01 06 27.0**	**-0.4**
	625nm,0.6s						
SHBG	**Sahibganj**	**7.92**	**303**	*eP*	**P**	**01 06 36.5**	**-0.1**
SHBG				*e*		01 07 45.5	
KMI	**Kunming**	**8.23**	**59**	P	**P**	**01 06 46.8**	**+6.0**
KMI				S	**S**	**01 08 21.4**	**+8.8**
KMI				AMB	AMB		
	comp=Z,224nm,1.2s						
KMI				AMB	AMB		
	comp=Z,478nm,3.1s						
KMI				LR	LR		
	comp=N,857nm,4.5s						
KMI				LR	LR		
	comp=E,806nm,6.3s						
KMI				LR	LR		
	comp=Z,476nm,10.5s						
SLGI	**Shiliguri**	**8.24**	**315**↑	*iP*	**P**	**01 06 39.6**	**-1.4**
SLGI				*i* S	**S**	**01 08 06.6**	**-6.4**
GTK	**Gangtok**	**8.55**	**318**	*eP*	**P**	**01 06 43.0**	**-2.1**
GTK				*e*		01 08 17.0	
BWNR	**Bhubaneshwar**	**8.62**	**267**	*e*	**P**	**01 06 52.4**	**+6.3**
BWNR				AMb	AMB	01 06 56.5	
	comp=Z,90nm,0.3s						
KKTK	**Khon Kaen**	**8.78**	**121**	PG	**P**	**01 06 50.0**	**+1.8**
KKTK				SG		01 06 53.0	
BOK	**Bokaro**	**8.85**	**290**↑	*iP*	**P**	**01 06 49.6**	**+0.4**
BOK				*i* S	**S**	**01 08 18.6**	**-9.1**
LSA	**Lhasa**	**9.30**	**339**	P	**P**	**01 06 56.4**	**+1.2**
LSA				S	**S**	**01 08 35.4**	**-3.1**
LSA				Smax			
	comp=N,510nm,0.8s						
LSA				Smax			
	comp=E,720nm,0.8s						
LSA	**Lhasa**	**9.30**	**339**⇓	*iP*	**P**	**01 06 56.3**	**+1.1**
LSA				*e*		01 08 29.8	
LSA				pmax	pmax		
	comp=Z,271nm,0.5s						
LSA	**Lhasa**	**9.30**	**339**⇓	*i*Pn	**P**	**01 06 56.3**	**+1.1**
	comp=Z,271nm,0.5s						
LSA				*e*Sn	**S**	**01 08 29.8**	**-8.7**
NNT	**Nongplab**	**9.54**	**151**	P	**P**	**01 06 58.3**	**-0.2**
GUN	**Gumba**	**10.75**	**311**	*e*Pn	**P**	**01 07 13.0**	**-1.5**
PKI	**Pulchoki**	**10.89**	**309**	*e*Pn	**P**	**01 07 15.5**	**-0.8**
PKI				*e*Sn	**S**	**01 09 10.8**	**-5.5**
	comp=Z,2μm,0.8s						
PKI	**Pulchoki**	**10.89**	**309**	*eP*	**P**	**01 07 15.5**	**-0.8**
PKI				*e*		01 09 10.8	
PKI				pmax	pmax		
	comp=Z,853nm,0.8s						
PKI	**Pulchoki**	**10.89**	**309**	*e*Pn	**P**	**01 07 15.5**	**-0.8**
	comp=Z,853nm,0.8s						
PKI				*e*Sn	**S**	**01 09 10.8**	**-5.5**
KKN	**Kakani**	**11.11**	**309**	*e*Pn	**P**	**01 07 18.1**	**-1.1**
KKN				*e*Sn	**S**	**01 09 17.9**	**-3.6**
	comp=Z,1μm,0.6s						
KKN	**Kakani**	**11.11**	**309**	*eP*	**P**	**01 07 18.1**	**-1.1**
KKN				*e*		01 09 17.9	
KKN				pmax	pmax		
	comp=Z,536nm,0.6s						
KKN	**Kakani**	**11.11**	**309**	*e*Pn	**P**	**01 07 18.1**	**-1.1**
	comp=Z,536nm,0.6s						
KKN				*e*Sn	**S**	**01 09 17.9**	**-3.6**
DMN	**Daman**	**11.13**	**308**	*e*Pn	**P**	**01 07 18.5**	**-1.1**
DMN				*e*Sn	**S**	**01 09 17.4**	**-4.7**
	comp=Z,2μm,0.9s						
DMN	**Daman**	**11.13**	**308**	*e*Pn	**P**	**01 07 18.5**	**-1.1**
	comp=Z,1μm,0.9s						
DMN				*e*Sn	**S**	**01 09 17.4**	**-4.7**
VIS	**Vishakhapatnam**	**11.47**	**255**	*e*S	**S**	**01 09 16.2**	**-14**
VIS				*e*		01 09 17.2	
VIS				AMb	AMB	01 09 21.3	
	comp=Z,206nm,0.5s						
GKN	**Gorkha**	**11.69**	**308**	*e*Pn	**P**	**01 07 26.0**	**-1.0**
GKN				*e*Sn	**S**	**01 09 30.6**	**-4.9**
	comp=Z,571nm,0.3s						
GKN	**Gorkha**	**11.69**	**308**	*e*Pn	**P**	**01 07 26.0**	**-1.0**
	comp=Z,286nm,0.3s						
GKN				*e*Sn	**S**	**01 09 30.6**	**-4.9**
GYA	**Guiyang**	**11.99**	**61**↑	*iP*	**P**	**01 07 32.9**	**+2.0**
GYA				XP		01 08 03.3	
GYA				S	**S**	**01 09 44.8**	**+2.3**
GYA				PCP	PcP	01 13 08.1	+0.5
GYA				SCS	ScS	01 20 04.3	+1.8
GYA				AMB	AMB		
	comp=Z,30nm,0.9s						
GYA				LR	LR		
	comp=N,410nm,10.2s						
GYA				LR	LR		
	comp=E,380nm,11.0s						
GYA				LR	LR		
	comp=Z,370nm,10.8s						
BLSP	**Bilaspur**	**12.00**	**278**	*eP*	**P**	**01 07 31.1**	**0.0**
BLSP				AMb	AMB	01 07 35.3	
	comp=Z,32nm,0.3s						
BLSP				*e*		01 09 33.7	
KOLN	**Koldanda**	**12.35**	**305**	*e*Pn	**P**	**01 07 34.6**	**-1.0**
KOLN				*e*Sn	**S**	**01 09 44.5**	**-6.4**
	comp=Z,909nm,0.5s						
KOLN	**Koldanda**	**12.35**	**305**	*e*Pn	**P**	**01 07 34.6**	**-1.0**
	comp=Z,455nm,0.5s						
KOLN				*e*Sn	**S**	**01 09 44.5**	**-6.4**
CD2	**Chengdu**	**12.61**	**37**	*eP*	**P**	**01 07 41.0**	**+1.9**
CD2				AMB	AMB		
	comp=Z,56nm,0.6s						
ALBI	**Allahabad**	**12.84**	**292**⇓	*iP*	**P**	**01 07 40.0**	**-2.0**
QIZ	**Qiongzhong**	**14.11**	**95**	*eP*	**P**	**01 07 59.6**	**+1.1**
QIZ				*eS*	**S**	**01 10 23.3**	**-9.0**
QIZ				AMB	AMB		
	comp=Z,67nm,1.0s						
QIZ	**Qiongzhong**	**14.11**	**95**	*eP*	**P**	**01 07 59.3**	**+0.7**
	comp=Z,50nm,0.8s						
NGP	**Nagpur**	**14.87**	**273**	*eP*	**P**	**01 08 08.5**	**+0.3**
NGP				AMb	AMB	01 08 14.6	
	comp=Z,36nm,0.4s						
LGTI	**Lohaghat**	**15.74**	**305**	*eP*	**P**	**01 08 21.5**	**+2.5**
LGTI				*e*		01 11 06.7	
JHNI	**Jhansi**	**15.74**	**289**	*eP*	**P**	**01 08 19.0**	**-0.1**
JHNI				*e*		01 11 04.0	
PTH	**Pithoragarh**	**15.81**	**305**	*eP*	**P**	**01 08 19.0**	**-0.9**
PTH				*e*		01 11 08.0	
HYB	**Hyderabad**	**15.92**	**260**	*eP*	**P**	**01 08 23.5**	**+2.1**
HYB				*eS*	**S**	**01 11 15.0**	**+1.1**
HYB	**Hyderabad**	**15.92**	**260**	*i* P	**P**	**01 08 23.5**	**+2.1**
HYB				*eS*	**S**	**01 11 15.0**	**+1.1**
ENH	**Enshi**	**15.98**	**52**↑	*iP*	**P**	**01 08 22.5**	**+0.4**
	comp=Z,168nm,0.9s						
BHPL	**Bhopal**	**16.41**	**281**	*eP*	**P**	**01 08 26.6**	**-0.9**
BHPL				AMb	AMB	01 08 34.3	
	comp=Z,51nm,0.7s						
BHPL				*e*		01 11 20.2	
KULM	**Kulim**	**16.58**	**160**	*eP*	**P**	**01 08 27.6**	**-2.1**
AKL	**Akola**	**16.79**	**272**	*e*	**P**	**01 08 34.4**	**+2.2**
LZH	**Lanzhou**	**16.89**	**25**↑	P	**P**	**01 08 35.0**	**+1.7**
LZH				PP	PP	01 08 59.3	+10
LZH				XP		01 09 09.5	
LZH				*e*S	**S**	**01 11 38.0**	**+2.3**
LZH				AMB	AMB		
	comp=Z,93nm,1.3s						
LZH				AMB	AMB		
	comp=Z,643nm,4.5s						
LZH				LR	LR		
	comp=N,2μm,10.3s						
LZH				LR	LR		
	comp=Z,3μm,12.7s						
GZH	**Guangzhou**	**17.15**	**80**	P	**P**	**01 08 41.9**	**+5.3**
IPM	**Ipoh**	**17.37**	**159**	P	**P**	**01 08 38.8**	**-0.6**
LATR	**Latur**	**17.53**	**265**	*e*	**P**	**01 08 56.0**	**+15**
NDI	**New Delhi**	**17.82**	**299**	*eP*	**P**	**01 08 45.1**	**+0.4**

NDI AMb AMB 01 08 53.0
comp=Z,88nm,0.5s
DDI Dehra Dun 17.82 305 *e*P **P** **01 08 44.2 -0.5**
DDI *e*S **S** **01 11 54.0 -2.5**
XAN Xi'an 17.89 41 P **P** **01 08 45.3 -0.1**
XAN AMB AMB
comp=Z,159nm,0.8s
GTA Gaotai 18.79 12 *e*P **P** **01 08 55.4 +0.1**
GTA S **S** **01 12 17.8 +0.5**
GTA AMB AMB
comp=Z,15nm,1.0s
GTA LR LR
comp=N,326nm,11.0s
GTA LR LR
comp=E,423nm,12.5s
GTA LR LR
comp=Z,234nm,9.5s
SDNR Sundarnagar 19.20 307 *e* **P** **01 09 01.0 +1.2**
SDNR *e*S **S** **01 12 24.6 -1.0**
AJM Ajmer 19.38 290⇑ *i*P **P** **01 09 02.0 +0.3**
AJM *i* 01 12 32.0
PALK Pallekele 19.43 227 *e*P **P** **01 09 01.9 -0.5**
comp=Z,37nm,0.7s
BHK Bhakra 19.58 306 *e* **P** **01 09 05.6 +1.9**
BHK *e* 01 12 34.2
WHN Wuhan 19.83 58⇑P **P** **01 09 07.0 +0.6**
KAD Karad 19.98 263 *e* **P** **01 09 09.1 +1.1**
KAD *e*S **S** **01 12 40.5 -0.4**
POO Poona 20.04 267 *e* **P** **01 09 13.4 +4.8**
POO AMb AMB 01 09 13.6
comp=Z,30nm,0.7s
POO *e*S **S** **01 12 38.6 -3.3**
PONG Pong 20.18 307 *e* **P** **01 09 11.0 +1.1**
PONG *e* 01 12 50.0
DLH Dalhousie 20.45 308 *e* **P** **01 09 13.0 +0.3**
DLH *e* 01 09 51.0
DLH *e* 01 12 55.0
KGM Kluang 20.57 156 P **P** **01 09 14.0 -0.1**
THN Thein Dam 20.58 307 *e* **P** **01 09 13.6 -0.4**
THN *e* 01 13 00.0
BOM Bombay 20.94 268 *e* **P** **01 09 20.6 +2.9**
BOM AMb AMB 01 09 23.1
comp=Z,107nm,0.8s
BOM *e* 01 13 04.2
TRD Trivandrum 21.38 237 *e* **P** **01 09 23.0 +0.9**
TRD *e*S **S** **01 13 09.5 +2.5**
QZH Quanzhou 22.08 75⇑ *i*P **P** **01 09 30.6 +1.7**
QZH AMB AMB
comp=Z,300nm,0.8s,mb5.7
WMQ Urumqi 23.53 347 *e*P **P** **01 09 43.8 +1.0**
WMQ AP 01 10 09.6
WMQ PP PP 01 10 22.4 +3.2
WMQ XP 01 10 24.8
WMQ S **S** **01 13 45.5 +1.2**
WMQ AMB AMB
comp=Z,94nm,0.9s,mb5.1
WMQ AMB AMB
comp=Z,702nm,4.4s
WMQ LR LR
comp=N,206nm,7.2s
WMQ LR LR
comp=E,152nm,6.2s
WMQ LR LR
comp=Z,125nm,9.0s
NJ2 Nanjing 23.96 58 *e*P **P** **01 09 48.5 +1.4**
NJ2 AMB AMB
comp=Z,80nm,1.0s,mb5.0
NJ2 LR LR
comp=N,1μm,18.4s
NJ2 LR LR
comp=E,1μm,19.0s
NJ2 LR LR
comp=Z,890nm,17.3s
HHC Hu-ho-hao-te 24.27 32 *e*P **P** **01 09 51.3 +1.3**
HHC AP 01 10 17.3
HHC XP 01 10 32.8
HHC PP PP 01 10 35.1 +5.7
HHC PCP PcP 01 13 27.5 -0.6
HHC S **S** **01 13 59.6 +2.6**
HHC XS 01 14 42.5
HHC SS SS 01 15 03.9 +2.8
HHC SCP 01 16 53.3
HHC SCS ScS 01 20 40.4 +0.3
HHC AMB AMB
comp=Z,193nm,10.7s
HHC LR LR
comp=E,244nm,11.9s
TIA Tai'an 24.55 47⇑P **P** **01 09 53.5 +0.8**
TIA AMB AMB
comp=Z,47nm,0.9s,mb4.9
KSH Kashi 24.59 323⇑ *i*P **P** **01 09 55.6 +2.6**
KSH *e*AP 01 10 19.5
KSH *e*XP 01 10 33.0
KSH *e*PP PP 01 10 37.8 +4.3
KSH AMB AMB
comp=Z,270nm,2.0s,mb5.3
KSH LR LR
comp=N,1μm,7.8s
KSH LR LR
comp=E,2μm,8.8s
KKM Kota Kinabalu 25.40 123 P **P** **01 10 02.4 +1.4**
SSE Sheshan 25.54 62 P **P** **01 10 03.4 +1.4**
SSE PCP PcP 01 13 30.8 -0.1
SSE AMB AMB
comp=Z,148nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,373nm,5.9s
SSE LR LR
comp=N,180nm,18.3s
SSE LR LR
comp=E,56nm,18.3s
SSE LR LR
comp=Z,113nm,15.8s
TKM2 Tokmak 2 27.20 328 P **P** **01 10 18.4 +1.2**
SNR=12
KBK Karagaybulak 27.34 327 P **P** **01 10 20.2 +1.7**
SNR=8.8
AAK Ala-Archa 27.56 326 P **P** **01 10 22.1 +1.6**
SNR=7.8
AAK Ala-Archa 27.56 326 *e*P **P** **01 10 20.8 +0.3**
AAK pmax pmax
comp=Z,35nm,1.1s,mb4.8
AAK Ala-Archa 27.56 326 *e*P **P** **01 10 20.8 +0.3**
comp=Z,35nm,1.1s,mb4.8
AAK *e* pP 01 10 45.5 -1.1
AML Almayashu 27.64 324 P **P** **01 10 22.9 +1.7**
SNR=11
FRU Bishkek 27.64 327 *e*P **P** **01 10 22.5 +1.3**
MKAR Makanchi Array 27.70 341 P **P** **01 10 22.1 +0.4**
MKAR 01 13 35.6
MKAR Makanchi Array 27.70 341 P **P** **01 10 22.1 +0.4**
comp=Z,17nm,0.7s,mb4.7,baz=151,slow=9.0,SNR=85
MKAR pP pP 01 10 48.3 +0.5
comp=Z,32nm,0.8s,baz=143,slow=10,SNR=12
MKAR PcP PcP 01 13 35.6 -0.2
comp=Z,9.0nm,0.7s,baz=72,slow=3.8,SNR=7.7
MKAR ScP 01 17 04.5
comp=Z,5.4nm,0.7s,baz=153,slow=2.7,SNR=11
TSM Tawau 27.78 124 P **P** **01 10 22.3 -0.4**
EKS2 Erkin-Say 27.95 325 P **P** **01 10 25.3 +1.3**
SNR=14
USP Ospenovka 28.01 327 P **P** **01 10 25.6 +1.0**
SNR=11
SONM Songino Array 28.29 16 P **P** **01 10 27.4 +0.4**
comp=Z,2.5nm,0.5s,mb4.0,baz=202,slow=6.7,SNR=4.1
ULN Ulaanbaatar 28.50 17 *i*P **P** **01 10 28.1 -0.7**
DL2 Dalian 29.00 46 P **P** **01 10 34.1 +0.6**
DL2 AMB AMB
comp=Z,20nm,0.7s,mb4.9
ZAK Zakamensk 30.02 11 *e*P **P** **01 10 42.5 +0.1**
ZAK *e* 01 13 41.0
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.0
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.1
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
KKAR Karatay Array 30.04 323 *i*P **P** **01 10 42.4 -0.3**
KKAR pmax pmax
comp=Z,1.0nm,0.4s
SNY Shenyang 31.79 43⇑P **P** **01 10 57.6 -0.4**
SNY S **S** **01 15 59.3 +1.4**
SNY AMB AMB
comp=Z,20nm,1.4s,mb4.7
SNY AMB AMB
comp=Z,250nm,7.8s
SNY LR LR
comp=E,250nm,7.2s
SNY LR LR
comp=Z,320nm,6.6s
KURK Kurchatov 32.31 340⇑⇑ *e*P **P** **01 11 02.2 -0.2**
KURK *e* 01 13 47.4
KURK *e*S **S** **01 16 05.3 -0.6**
KURK pmax pmax
comp=Z,53nm,0.7s,mb5.4
KURK Kurchatov 32.31 340⇑⇑ *e*P **P** **01 11 02.2 -0.2**
comp=Z,53nm,0.7s,mb5.4
KURK *e*pP pP 01 11 28.2 -1.1
KURK *e*PcP PcP 01 13 47.4 -0.3
KURK *e*S **S** **01 16 05.3 -0.6**
KURK *e*ScP 01 17 19.0
KS15 Wonju Array Si 32.84 53 *e*P **P** **01 11 05.0 -2.1**
WBK Wadi Bani Khal 33.42 279⇑⇑ P **P** **01 11 14.0 +1.8**
ZAL Zalesovo 33.76 349 P **P** **01 11 16.1 +1.2**
comp=Z,54nm,0.7s,mb5.5,baz=308,slow=7.3,SNR=226
ZAL S **S** **01 16 29.5 +1.1**
comp=Z,4.3nm,0.8s,baz=43,slow=22,SNR=20
CN2 Changchun 34.00 41 *e*P **P** **01 11 16.3 -0.7**
CN2 *e*AP pP 01 11 43.3 -0.8
CN2 *e*S **S** **01 16 31.3 -0.9**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 AMB AMB
comp=Z,300nm,3.0s
JNU Nakatsue 34.00 62 P **P** **01 11 17.4 +0.3**
comp=Z,16nm,1.0s,mb4.8,baz=297,slow=6.6,SNR=8.3
JNU PcP PcP 01 13 51.6 -0.9
comp=Z,9.1nm,1.1s,baz=176,slow=6.2,SNR=3.9
BIDO Bidbid 34.13 281⇑⇑ P **P** **01 11 19.9 +1.6**
SMDO Samad 34.23 280⇓⇓ P **P** **01 11 20.9 +1.8**
SNR=15
JMDO Jabal Madar 34.23 279⇑⇑ P **P** **01 11 21.2 +2.0**
HIA Hailar 34.39 29*c* *i*P **P** **01 11 19.8 -0.5**
HIA Hailar 34.39 29 *e*P **P** **01 11 19.6 -0.6**
comp=Z,12nm,0.7s,mb4.8
HOQ Hoqain 34.88 281⇓⇓ P **P** **01 11 25.7 +1.1**
NVS Novosibirsk 34.91 348⇑⇑ *i*P **P** **01 11 24.2 -0.4**
NVS *i* 01 13 52.6
NVS *i*S **S** **01 16 44.2 -1.9**
NVS pmax pmax
comp=Z,124nm,1.4s,mb5.5
NVS pmax pmax
comp=N,93nm,1.5s
NVS pmax pmax
comp=E,49nm,1.3s
NVS smax
comp=N,67nm,1.3s
NVS smax
comp=E,116nm,1.4s
BSY Bisya 35.04 280⇓⇓ P **P** **01 11 27.9 +1.9**
SNR=21
VOSK Vostochnaya 36.66 336 P **P** **01 11 39.6 +0.3**
VOSK pmax pmax
comp=Z,19nm,0.6s,mb5.2
MDJ Mudanjiang 36.99 42 P **P** **01 11 41.5 -0.7**
MDJ AP pP 01 12 06.1 -3.6
MDJ XP sP 01 12 19.8 -4.3
MDJ PP PP 01 13 11.1 0.0
MDJ PCP PcP 01 13 58.3 -2.9
MDJ S **S** **01 17 14.3 -3.6**
MDJ SCP 01 17 34.8
MDJ PCS 01 17 46.3
MDJ XS 01 18 10.1
MDJ SCS ScS 01 21 43.3 +1.6
MDJ AMB AMB
comp=Z,11nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,142nm,7.7s
BVA0 Borovoye Array 37.12 335 *i*P **P** **01 11 43.1 -0.1**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BVAR Borovoye Array 37.12 335 P **P** **01 11 43.2 -0.1**
comp=Z,7.6nm,0.5s,mb4.9,baz=137,slow=9.5,SNR=51
BVAR PcP PcP 01 14 01.5 0.0
comp=Z,28nm,0.6s,baz=157,slow=3.3,SNR=27
BVAR S **S** **01 17 18.8 -1.0**
comp=Z,2.7nm,0.8s,baz=139,slow=13,SNR=4.4
BVAR ScP 01 17 37.0
comp=Z,4.2nm,0.7s,baz=135,slow=4.1,SNR=9.5
BRVK Borovoye 37.18 335 *e*P **P** **01 11 43.4 -0.4**
BRVK *e* 01 14 01.5
BRVK *e*S **S** **01 17 22.1 +1.3**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BRVK Borovoye 37.18 335 *e*P **P** **01 11 43.4 -0.4**
comp=Z,5.2nm,0.6s,mb4.6
BRVK *e*pP pP 01 12 09.6 -1.7
BRVK *e*PcP PcP 01 14 01.5 -0.2
BRVK *e*S **S** **01 17 22.1 +1.2**
ZRNK Zerenda 37.61 334⇑⇑ *e*P **P** **01 11 47.2 -0.2**
ZRNK *e* 01 14 02.6
ZRNK pmax pmax
comp=Z,23nm,0.7s,mb5.1
ZRNK Zerenda 37.61 334⇑⇑ *e*P **P** **01 11 47.1 -0.2**
comp=Z,23nm,0.7s,mb5.1
ZRNK *e*pP pP 01 12 12.2 -2.7
ZRNK sP sP 01 12 25.9 -3.4
ZRNK *e*PcP PcP 01 14 02.5 -0.5
WHFO Wadi Hawf 38.90 273⇑⇑ P **P** **01 11 59.4 +1.0**
SNR=5.5
ABTO Aybut 39.46 272⇑⇑ P **P** **01 12 04.2 +1.2**
AB31 Akbulak array 39.59 324 *i*P **P** **01 12 04.7 +0.9**
AB31 pmax pmax
comp=Z,26nm,0.6s,mb5.2
KLR Kul'dur 40.54 37 *e*P **P** **01 12 08.8 -2.8**
MAJO Matsushiro 40.57 58 *e*P **P** **01 12 12.3 +0.3**
MAJO *e* 01 14 11.8
MAJO pmax pmax
comp=Z,16nm,0.8s,mb4.9
MAJO Matsushiro 40.57 58 *e*P **P** **01 12 12.3 +0.3**
comp=Z,16nm,0.8s,mb4.9
MAJO *e*PcP PcP 01 14 11.8 -0.8
MAT Matsushiro 40.57 58 *e*P **P** **01 12 11.0 -1.0**
MAT pmax pmax
comp=Z,17nm,1.0s,mb4.8
MAT Matsushiro 40.57 58 *e*P **P** **01 12 11.0 -1.0**
comp=Z,17nm,1.0s,mb4.8
MAT Matsushiro 40.57 58 P **P** **01 12 11.4 -0.6**
MJAR Matsushiro Arr 40.57 58 P **P** **01 12 12.7 +0.7**
MJAR 01 14 11.6
MJAR Matsushiro Arr 40.57 58 P **P** **01 12 12.7 +0.7**
comp=Z,8.6nm,0.6s,mb4.7,baz=266,slow=11,SNR=51
MJAR pP pP 01 12 41.4 +1.7
comp=Z,3.2nm,0.8s,baz=269,slow=10,SNR=3.1
MJAR PcP PcP 01 14 11.6 -1.0
comp=Z,5.8nm,0.9s,baz=247,slow=5.3,SNR=8.4
MJAR ScP 01 17 49.5
comp=Z,3.1nm,0.8s,baz=243,slow=5.1,SNR=10
MJAR LR LR 01 31 14.7
comp=Z,75nm,19.7s,baz=200,slow=39
CLNS Chul'man 42.01 24 *e*P **P** **01 12 23.8 +0.2**
CLNS *e* 01 13 58.6
CLNS *e* 01 14 19.9
CLNS *e*S **S** **01 18 37.9 +5.1**
CLNS pmax pmax
comp=Z,22nm,0.6s,mb5.1
CLNS pmax pmax
comp=N,16nm,0.7s
CLNS pmax pmax
comp=E,13nm,0.7s
CLNS pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
CLNS pmax pmax
comp=N,4.0nm,0.7s
CLNS pmax pmax
comp=E,5.0nm,0.8s
CLNS smax
comp=E,10.0nm,0.7s
CLNS smax
comp=Z,4.0nm,0.5s
CLNS smax
comp=N,6.0nm,0.9s
CLNS MLR MLR
comp=Z,100nm,13.0s
CLNS MLR MLR
comp=N,80nm,10.0s
CLNS MLR MLR
comp=E,70nm,14.0s
QRN Al-Qurain 43.15 290 *e*P **P** **01 12 34.4 +1.1**
QRN AMb AMB 01 12 35.3
comp=Z,87nm,0.6s,mb5.7
KBD Kabd 43.35 291 *e*P **P** **01 12 35.5 +0.7**
KBD AMb AMB 01 12 36.5
comp=Z,241nm,0.8s,mb6.0
RDF Al-Radifah 43.48 290 *e*P **P** **01 12 36.5 +0.6**
RDF AMb AMB 01 12 37.5
comp=Z,111nm,0.9s,mb5.6
NAY Al-Naaiem 43.74 291 *e*P **P** **01 12 38.6 +0.6**
NAY AMb AMB 01 12 39.8
comp=Z,65nm,0.7s,mb5.5
SVE Sverdlovsk 43.78 333 *e*P **P** **01 12 38.8 +0.9**
SVE *e* 01 14 23.0
SVE pmax pmax
comp=Z,160nm,1.0s,mb5.7
ARU Arti 44.42 332⇑ *i*P **P** **01 12 43.1 0.0**
ARU *i* 01 14 23.8
ARU *i* 01 14 32.3
ARU *e*SS SS 01 22 24.6 +2.8
ARU pmax pmax
comp=Z,46nm,1.0s,mb5.2
ARU Arti 44.42 332⇑ *i*P **P** **01 12 43.0 -0.1**
comp=Z,21nm,0.4s,mb5.2
ARU *e*PcP PcP 01 14 25.0 -0.2
RYDS Riyadh 44.56 284 P **P** **01 12 45.5 +0.8**
ASAJ Asahikawa 45.49 48 P **P** **01 12 52.0 +0.3**
comp=Z,14nm,0.8s,mb4.8,baz=241,slow=6.5,SNR=6.8
DGRG David-gareji 46.34 308 P **P** **01 13 00.7 +2.2**
YSS Yuzh-Sakhalins 46.38 44 P **P** **01 13 03.9 +5.2**
YSS *e* 01 13 23.1
GNI Garni 46.60 306 *e*P **P** **01 13 02.3 +1.8**
GNI pmax pmax
comp=Z,24nm,0.8s
GNI Garni 46.60 306 *e*P **P** **01 13 02.3 +1.8**
comp=Z,24nm,0.8s,mb5.0
MTA Mtatsminda 46.81 308 P **P** **01 13 03.4 +1.2**
TBLG Delisi 46.86 308 P **P** **01 13 03.5 +0.9**
CLDR Calditan 47.09 304 P **P** **01 13 06.0 +1.6**
SOKR Solikamsk 47.09 335⇑ *i*P **P** **01 13 02.9 -1.2**
SOKR pmax pmax
comp=Z,70nm,0.8s,mb5.4
GOR Gori 47.37 308 P **P** **01 13 08.3 +1.7**
YAK Yakutsk 47.42 21*c* *i*P **P** **01 13 05.0 -1.6**
YAK *e* 01 14 30.2
YAK *e* 01 14 58.7
YAK *e*S **S** **01 19 48.9 -1.5**
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=Z,14nm,0.8s,mb4.7
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
YAK smax
comp=E,8.0nm,1.2s
YAK smax
comp=N,2.0nm,1.0s
YAK Yakutsk 47.42 21 *e*P **P** **01 13 05.9 -0.7**
comp=N,37nm,0.6s,mb5.3
ARSS Ar Rass 47.47 286 P **P** **01 13 07.6 +0.1**
ZEI Tsey 47.66 309 *e*P **P** **01 13 07.1 -1.7**
ZEI *i* 01 15 03.0
ZEI pmax pmax
comp=Z,84nm,0.8s,mb5.6
KARS Kars 47.91 306 P **P** **01 13 11.7 +0.9**
ONI Oni 47.95 309 P **P** **01 13 12.7 +1.6**
TATS Tathlith 48.16 278 P **P** **01 13 12.8 -0.2**
MBWA Marble Bar 48.40 148 *e*P **P** **01 13 14.4 -0.4**
comp=Z,14nm,1.0s,mb4.8
DJNS Zahran al Janu 48.47 275 P **P** **01 13 15.9 +0.5**
HILS Ha'il 48.63 288 P **P** **01 13 17.2 +0.7**
GOF Gofitskoye 48.72 312⇓ *i*P **P** **01 13 15.6 -1.3**
GOF pmax pmax
comp=Z,70nm,1.3s,mb5.4
KIV Kislovodsk 48.75 311*c* *i*P **P** **01 13 17.9 +0.7**
KIV pmax pmax
comp=Z,72nm,0.7s,mb5.7
KIV pmax pmax
comp=N,46nm,1.2s
KIV pmax pmax
comp=E,35nm,1.2s
KIV MLR MLR
comp=N,11nm,20.0s
KIV MLR MLR
comp=Z,44nm,20.0s
KIV MLR MLR
comp=E,39nm,16.0s
KIV Kislovodsk 48.75 311 *e*P **P** **01 13 17.8 +0.6**
comp=E,97nm,0.8s,mb5.8
BTMT Batman 48.88 303 P **P** **01 13 19.4 +1.1**
BCA Borcka 49.13 307 P **P** **01 13 21.1 +1.0**
EZM Erzurum 49.14 305 P **P** **01 13 22.8 +2.5**
FITZ Fitzroy Crossi 49.14 140 *e*P **P** **01 13 19.4 -1.2**
comp=E,6.7nm,0.9s,mb4.6
FITZ *e* 01 14 41.5
FITZ Fitzroy Crossi 49.14 140 P **P** **01 13 19.5 -1.1**
comp=E,6.5nm,0.6s,mb4.7,baz=15,slow=3.8,SNR=11
FITZ PcP PcP 01 14 41.5 -1.0
comp=E,25nm,0.7s,baz=334,slow=3.7,SNR=8.9
FITZ ScP 01 18 23.4
comp=E,5.5nm,0.8s,baz=322,slow=1.9,SNR=3.7
FITZ LR LR 01 34 43.0
comp=E,107nm,21.7s,baz=277,slow=37
BLJS Baljurashi 49.83 279 P **P** **01 13 26.4 +0.6**
PTK Pertek 50.57 304 P **P** **01 13 31.9 +0.7**
GUMT Gumushane 50.63 306 P **P** **01 13 33.3 +1.6**
SOC Sochi 50.81 310*c* *i*P **P** **01 13 32.5 -0.5**
SOC *e* 01 14 51.1
SOC *e* 01 15 30.7
SOC *e*PPP PPP 01 16 34.4 +1.0
SOC pmax pmax
comp=N,16nm,0.7s
SOC pmax pmax
comp=E,27nm,0.7s
SOC pmax pmax
comp=Z,40nm,0.7s,mb5.6
LTHS Al Lith 50.85 279 P **P** **01 13 33.9 +0.3**
KBRS Khaybar 51.04 287 P **P** **01 13 35.8 +0.9**
MALT Malatya 51.30 303 P **P** **01 13 31.9 -4.8**
MALT Malatya 51.30 303 *e*P **P** **01 13 37.5 +0.8**
MALT pmax pmax
comp=Z,23nm,0.8s,mb5.3
MALT Malatya 51.30 303 *e*P **P** **01 13 37.5 +0.8**
comp=Z,22nm,0.8s,mb5.2
MYA Malataya 51.30 303 P **P** **01 13 35.0 -1.8**
GAZ Gaziantep 52.22 301 P **P** **01 13 43.9 +0.2**
QURS Qurayyt al Mil 52.24 294 P **P** **01 13 44.4 +0.5**
YNBS Yanbu' al Bahr 52.38 285 P **P** **01 13 45.4 +0.4**
ASF Jabal al Asfar 52.56 295 P **P** **01 13 47.2 +0.9**
comp=Z,21nm,0.8s,mb5.2,baz=327,slow=5.7,SNR=36
ASF PcP PcP 01 14 55.9 +1.0
comp=Z,7.6nm,1.0s,baz=14,slow=5.0,SNR=3.7
ANN Anapa 52.60 311 *e*P **P** **01 13 43.7 -2.7**
ANN pmax pmax
comp=Z,24nm,0.7s,mb5.3
VOR Voronezh 52.69 320 *e*P **P** **01 13 45.7 -1.3**
VOR pmax pmax
comp=E,60nm,1.0s
VOR pmax pmax
comp=Z,90nm,1.0s,mb5.8
TOKT Tokat 52.85 305 P **P** **01 13 44.1 -4.2**
UMJS Umm Lajj 52.86 286 P **P** **01 13 49.6 +1.0**
TBKS Tabuk 53.17 290 P **P** **01 13 51.6 +0.7**
KSHT Keshet 53.44 296 P **P** **01 13 53.2 +0.5**
BHL Bhannes 53.53 297 *e*P **P** **01 13 54.2 +0.8**
MKRJ Makawir 53.67 294 P **P** **01 13 54.6 +0.2**
HNTI Hanita 53.97 296 P **P** **01 13 56.8 +0.2**
SLTI Sal'it 54.13 295 P **P** **01 13 58.1 +0.3**
ZFRI Zfri 54.14 293 P **P** **01 13 57.7 -0.2**
TIXI Tiksi 54.27 13*c* *i*P **P** **01 13 56.5 -1.8**
TIXI pmax pmax
comp=Z,41nm,1.3s,mb5.3
PRNI Paran 54.31 293 P **P** **01 13 58.9 -0.2**
JMOS Jabal al Moall 54.33 291 P **P** **01 13 59.0 -0.3**
BDAS Al Bad' 54.42 290 P **P** **01 13 59.9 0.0**
EIL Elat 54.42 292 P **P** **01 13 59.4 -0.5**
EIL Elat 54.42 292 *e*P **P** **01 13 59.5 -0.5**
comp=Z,32nm,1.0s,mb5.3
EIL *e*pP pP 01 14 29.1 +0.2
HAQS Haql 54.50 291 P **P** **01 14 00.3 -0.2**
MOS Moscow 54.61 324 *e*P **P** **01 13 58.7 -2.2**
MOS pmax pmax

comp=Z,77nm,1.3s,mb5.6
MA2 Magadan 54.95 31 *e*P **P** **01 14 02.0 -1.4**
MA2 pmax pmax
comp=E,8.0nm,0.8s
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SIM Simferopol' 54.96 311⇑ *e*P **P** **01 14 03.0 -0.7**
SIM S **S** **01 21 36.5 +2.5**
SIM pmax pmax
comp=Z,22nm,0.8s,mb5.2
OBN Obninsk 55.03 323*c i*P **P** **01 14 02.5 -1.5**
OBN *e**PP PcP 01 15 03.4 -0.5
OBN *i* 01 16 10.2
OBN *i* S **S** **01 21 35.7 +0.8**
OBN pmax pmax
comp=Z,62nm,1.4s,mb5.5
OBN Obninsk 55.03 323 *e*P **P** **01 14 02.2 -1.8**
comp=Z,49nm,1.2s,mb5.4
OBN *e*PcP PcP 01 15 03.5 -0.5
BRTR Keskin Array B 55.07 304 P **P** **01 14 04.0 -0.5**
comp=Z,9.4nm,0.8s,mb4.9,baz=117,slow=5.5,SNR=37
CSS Prodhromos 55.40 299⇑ P **P** **01 14 06.4 -0.6**
comp=Z,0.6nm,0.7s
CSS Prodhromos 55.40 299⇑ *e*P **P** **01 14 06.4 -0.6**
MAMC Mammari 55.48 299 ⇑P **P** **01 14 07.4 -0.2**
MAMC Mammari 55.48 299⇑ *e*P **P** **01 14 07.4 -0.2**
ALFC Alevga 55.99 299 ⇑P **P** **01 14 10.5 -0.7**
comp=Z,1.6nm,0.6s,mb4.2
ALFC Alevga 55.99 299⇑ *e*P **P** **01 14 10.5 -0.7**
WRA Warramunga Arr 56.04 134 P **P** **01 14 09.9 -1.9**
comp=Z,4.6nm,0.6s,mb4.7,baz=318,slow=7.6,SNR=19
WRA ScP 01 18 52.3
comp=Z,1.6nm,0.7s,baz=321,slow=4.3,SNR=5.3
WRA PKPPKP 01 44 10.1
comp=Z,1.1nm,0.8s,baz=129,slow=1.2,SNR=4.7
WRAB Tennant Creek 56.04 134 *e*P **P** **01 14 10.1 -1.7**
WRAB *e* 01 15 07.2
WRAB pmax pmax
comp=Z,21nm,1.0s,mb5.1
WRAB Tennant Creek 56.04 134 *e*P **P** **01 14 10.1 -1.7**
comp=Z,21nm,1.0s,mb5.1
WRAB *e*pP pP 01 14 38.2 -2.7
WRAB *e*PcP PcP 01 15 07.2 -1.1
WB2 Warramunga Arr 56.05 134 *e*P **P** **01 14 10.0 -1.9**
WB2 *e* 01 15 07.4
MUN Mundaring 56.49 158 *e*P **P** **01 14 13.6 -1.2**
comp=Z,9.4nm,0.5s,mb5.1
MUN Mundaring 56.49 158 *e*P **P** **01 14 13.6 -1.2**
MUN pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
SEY Seymchan 56.81 27⇑ *i*P **P** **01 14 14.7 -1.9**
SEY *e**PP PcP 01 15 10.3 -0.4
ISP Isparta 57.54 302*c i*P **P** **01 14 20.9 -1.2**
ISP Isparta 57.54 302 *e*P **P** **01 14 20.7 -1.4**
comp=Z,18nm,0.7s,mb5.2
PET Petropavlovsk 57.69 40 *e*P **P** **01 14 20.2 -2.7**
PET MLR MLR
comp=Z,100nm,17.0s
NWAO Narrogin (SRO) 57.71 158 *e*P **P** **01 14 21.7 -1.7**
NWAO pmax pmax
comp=Z,5.0nm,0.7s
NWAO Narrogin (SRO) 57.71 158 P **P** **01 14 21.9 -1.4**
comp=Z,6.9nm,0.6s,mb4.8,baz=345,slow=6.7,SNR=9.2
NWAO Narrogin (SRO) 57.71 158 *e*P **P** **01 14 21.7 -1.7**
comp=Z,5.0nm,0.7s,mb4.7
AKASG Malin Array Be 58.72 317 P **P** **01 14 28.4 -1.8**
comp=Z,28nm,0.6s,mb5.5,baz=80,slow=6.7,SNR=122
AKASG PP PP 01 16 38.9 -4.1
comp=Z,0.4nm,0.3s,baz=89,slow=8.0,SNR=5.0
AKASG S **S** **01 22 19.4 -4.0**
comp=Z,1.1nm,0.7s,baz=87,slow=12,SNR=9.5
AKASG Malin Array Be 58.72 317 P **P** **01 14 28.4 -1.8**
AKASG PP PP 01 16 38.9 -4.1
AKASG S **S** **01 22 19.4 -4.0**
KIS Kishinev 58.77 313ĸ *i*P **P** **01 14 28.0 -2.5**
KIS pmax pmax
comp=Z,100nm,0.7s,mb6.0
KIS pmax pmax
comp=Z,100nm,1.0s,mb5.8
TIRR Tirgusor 59.00 310 ⇑P **P** **01 14 31.7 -0.5**
CFR Carcaliu 59.20 311 ⇓P **P** **01 14 32.9 -0.7**
HARR Harsova 59.34 310 ⇑P **P** **01 14 33.9 -0.7**
PMG Port Moresby 59.52 115*c i*P **P** **01 14 35.6 -0.5**
APA Apatity 60.00 337 ⇓*i*P **P** **01 14 37.6 -1.1**
APA pmax pmax
comp=Z,32nm,0.6s,mb5.5
VRI Vrincioaia 60.19 312 ⇑P **P** **01 14 40.6 +0.3**
KMBO Kilima Mbogo 60.54 256 P **P** **01 14 42.3 -0.9**
comp=Z,3.4nm,0.7s,mb4.5,baz=52,slow=11,SNR=17
KMBO LR LR 01 41 09.1
comp=Z,39nm,20.1s,baz=94,slow=36
MLR Muntele Rosu 60.75 311 P **P** **01 14 44.2 +0.1**
comp=Z,43nm,0.7s,mb5.6,baz=76,slow=2.4,SNR=118
MLR S **S** **01 22 50.2 +0.7**
comp=Z,1.9nm,0.9s,baz=184,slow=19,SNR=3.3
MLR Muntele Rosu 60.75 311 ⇑P **P** **01 14 44.4 +0.3**
ALN Alexandroupoli 60.84 306 *e*P **P** **01 14 44.2 -0.6**
VSU Vasula 60.96 326*c i*P **P** **01 14 44.0 -1.4**
VOIR 61.38 311 ⇓P **P** **01 14 47.7 -0.7**
KAF Kangasniemi 61.67 330 *e*p **P** **01 14 48.3 -1.8**
baz=97,slow=6.5
THR1 Thera Island 61.68 301 *e*P **P** **01 14 48.9 -1.6**
FINES FINESS Array B 61.68 329 P **P** **01 14 49.0 -1.2**
comp=Z,22nm,0.7s,mb5.3,baz=124,slow=6.9,SNR=110
FINES LR LR 01 45 21.3
comp=Z,47nm,18.4s,baz=90,slow=40
RZN Rozhen 61.79 307 *i*P **P** **01 14 50.7 -0.5**
OUR Ouranopolis 62.45 305 *e*P **P** **01 14 54.8 -0.8**
MMB Musomiste 62.54 307 *i*P **P** **01 14 55.0 -1.2**
SUW Suwalki 62.60 321 *e*P **P** **01 14 55.0 -1.4**
SUW Suwalki 62.60 321 *e*P **P** **01 14 55.0 -1.4**
AOS Alonnisos 62.64 304 *e*P **P** **01 14 55.8 -1.1**
SRS Serrai 62.68 306 *e*P **P** **01 14 55.7 -1.4**
PAIG Paliouri 62.72 305 *e*P **P** **01 14 56.6 -0.8**
KEV Kevo 62.85 339 *e*p **P** **01 14 56.2 -1.7**
VTS Vitosha 62.85 308 *i*P **P** **01 14 57.9 -0.3**
KWP Kalwaria 62.87 316 *e*P **P** **01 14 57.9 -0.4**
KWP Kalwaria 62.87 316 *e*P **P** **01 14 57.9 -0.4**
DRGR 62.96 313 ⇓P **P** **01 14 58.9 0.0**
KKB Krupnik 63.00 307 *i*P **P** **01 14 57.7 -1.5**
XOR Xorichti 63.15 304 *e*P **P** **01 14 58.7 -1.5**
KOLS Kolonicke sedl 63.17 315 *i*P **P** **01 14 59.4 -0.9**
THE Thessaloniki 63.20 306 *e*P **P** **01 14 58.9 -1.6**
ARCES ARCESS Array B 63.31 338 P **P** **01 15 00.2 -0.7**
comp=Z,18nm,0.6s,mb5.2,baz=89,slow=7.4,SNR=189
ARCES PcP PcP 01 15 36.8 +0.2
comp=Z,22nm,0.7s,baz=104,slow=5.0,SNR=16
ARCES LR LR 01 48 58.3
comp=Z,65nm,18.4s,baz=100,slow=42
ARE0 ARCESS Array S 63.31 338 *e*P **P** **01 15 00.1 -0.9**
ARE0 *e*PcP PcP 01 15 36.8 +0.1
GRG Griva 63.59 306 *e*P **P** **01 15 01.8 -1.4**
LIT Litokhoron 63.61 305 *e*P **P** **01 15 01.6 -1.7**
BILL Bilibino 63.69 23*c i*P **P** **01 15 02.1 -1.2**
BILL *e* pP 01 15 34.6 +1.5
BILL pmax pmax
comp=Z,25nm,1.5s,mb4.8
BILL Bilibino 63.69 23 *e*P **P** **01 15 01.9 -1.4**
comp=Z,9.2nm,0.5s,mb4.9
CRVS Cervenica-Dubn 63.71 315 *i*P **P** **01 15 04.0 +0.3**
STHS Stebnicka Huta 63.83 316 *i*P **P** **01 15 03.7 -0.8**
AGG Agios Georgios 63.85 304 *e*P **P** **01 15 02.7 -2.2**
KTK1 Kautokeino 64.01 338⇑ *i*P **P** **01 15 04.6 -0.8**
SKO Skopje 64.21 307 *i*P **P** **01 15 05.6 -1.5**
KECS Kecovo 64.38 315 *i*P **P** **01 15 07.3 -0.8**
FNA Florina 64.38 306 *e*P **P** **01 15 06.6 -1.7**
NIE Niedzica 64.44 316⇑ *i*P **P** **01 15 08.5 0.0**
CTA Charters Tower 64.69 126 *e*P **P** **01 15 09.6 -1.0**
comp=Z,4.9nm,0.9s,mb4.3
CTA *e* pP 01 15 42.7 +2.2
CTA Charters Tower 64.69 126 *e*P **P** **01 15 09.6 -1.0**
CTA *e* pP 01 15 42.7 +2.2
CTA pmax pmax
comp=Z,5.0nm,0.9s
CTAO Charters Tower 64.69 126 *e*P **P** **01 15 09.5 -1.1**
CTAO pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
CTAO Charters Tower 64.69 126 *e*P **P** **01 15 09.5 -1.1**
comp=Z,8.6nm,1.0s,mb4.5
OJC Ojcow 64.73 317 *e*P **P** **01 15 09.4 -1.0**
PSZ Piszkesteto 64.81 314 *e*P **P** **01 15 10.0 -0.9**
PSZ pmax pmax
comp=Z,17nm,1.1s,mb4.8
PSZ Piszkesteto 64.81 314 *e*P **P** **01 15 10.0 -0.9**
comp=Z,17nm,1.1s,mb4.8
DIVS Divcibare 65.06 310⇓ *i*P **P** **01 15 11.8 -0.8**
LKD Levkas 65.19 304 *e*P **P** **01 15 11.2 -2.3**
IGT Igoumenitsa 65.33 305 *e*P **P** **01 15 12.0 -2.4**
VYHS Vyhne 65.47 315 *e*P **P** **01 15 14.2 -1.0**
TRO Tromso 65.61 338⇑ *i*P **P** **01 15 13.7 -2.0**
comp=Z,41nm,1.8s,mb5.0
TRO Tromso 65.61 338⇑ *i*P **P** **01 15 13.7 -2.0**
TRO AMb AMB 01 15 15.6
comp=Z,41nm,1.8s,mb5.0
PKSM Moragy 65.80 312⇑ *i*P **P** **01 15 16.5 -0.8**
OKC Ostrava-Krasne 65.82 316⇑ *i*P **P** **01 15 16.8 -0.6**
OKC *e*pP pP 01 15 48.1 +0.8
SRO2 Moca 65.83 314 *e*P **P** **01 15 17.1 -0.3**
SRO Srobarova 65.88 314 *e*P **P** **01 15 17.3 -0.5**
SRO1 Iza 65.93 314 *e*P **P** **01 15 18.0 -0.1**
MORC Moravsky Berou 66.21 316 *e*P **P** **01 15 19.4 -0.5**
MORC pmax pmax
comp=Z,16nm,0.8s,mb4.9
MORC Moravsky Berou 66.21 316 *e*P **P** **01 15 19.4 -0.5**
comp=Z,16nm,0.8s,mb4.9
SMOL Smolenice 66.40 315 *e*P **P** **01 15 20.6 -0.5**
FX1 Attu Island--F 66.44 40 *e*P **P** **01 15 20.5 -0.8**
ZST Bratislava 66.65 315 *e*P **P** **01 15 22.2 -0.4**
KSP Ksiaz 66.92 317⇑ *e*P **P** **01 15 24.0 -0.3**
KSP *e*PcP PcP 01 15 51.6 -0.2
KSP Ksiaz 66.92 317 *e*P **P** **01 15 24.1 -0.1**
DPC Dobruska-Polom 66.94 317⇑ *i*P **P** **01 15 24.5 0.0**
UPC Upice 67.13 317⇑ *i*P **P** **01 15 25.4 -0.2**
UPC *e*pP pP 01 15 53.4 -2.2
MOR8 Moi Rana 67.15 334⇑ *i*P **P** **01 15 23.8 -1.7**
comp=Z,52nm,0.7s,mb5.5
MOR8 Moi Rana 67.15 334⇑ *i*P **P** **01 15 23.8 -1.7**
MOR8 AMb AMB 01 15 24.6
comp=Z,52nm,0.7s,mb5.5
LOF Lofoten 67.49 336⇑ *i*P **P** **01 15 28.3 +0.7**
comp=Z,66nm,1.4s,mb5.3
LOF Lofoten 67.49 336⇑ *i*P **P** **01 15 28.3 +0.7**
LOF AMb AMB 01 15 30.3
comp=Z,66nm,1.4s,mb5.3
HFS Hagfors 67.69 328 LR LR 01 47 30.7
comp=Z,55nm,19.1s,baz=356,slow=38
ARSA Arzberg 67.81 314⇑ *i*P **P** **01 15 29.5 -0.4**
comp=Z,14nm,0.8s,mb4.8
PVCC Panska Ves 68.04 317⇑ *i*P **P** **01 15 31.1 -0.2**
TIP Timpagrande 68.12 305 *e*P **P** **01 15 31.1 -0.9**
TIP *e*pP pP 01 16 02.2 +0.1
PRU Pruhonice 68.12 317⇑ *i*P **P** **01 15 31.7 -0.1**
PRU *e*pP pP 01 16 01.6 -0.3
BOJS Bojanci 68.24 312⇑ *i*P **P** **01 15 32.3 -0.3**
NSS Namsos 68.24 332⇑ *i*P **P** **01 15 30.0 -2.2**
comp=Z,30nm,0.8s,mb5.2
NSS Namsos 68.24 332⇑ *i*P **P** **01 15 30.0 -2.2**
NSS AMb AMB 01 15 31.9
comp=Z,30nm,0.8s,mb5.2
RUE Ruedersdorf 68.31 319 *e*P **P** **01 15 32.2 -0.6**
comp=Z,76nm,1.0s,mb5.5
BRG Berggiesshubel 68.39 318⇑ *i*P **P** **01 15 33.4 0.0**
BRG pmax pmax
comp=Z,22nm,0.5s,mb5.2
BRG Berggiesshubel 68.39 318⇑ *i*P **P** **01 15 33.4 -0.1**
comp=Z,22nm,0.5s,mb5.2
OBKA Obir 68.58 313⇑ *i*P **P** **01 15 34.5 -0.1**
comp=Z,20nm,0.8s,mb5.0
MOA Molln 68.58 314⇑ *i*P **P** **01 15 34.2 -0.4**
comp=Z,25nm,0.6s,mb5.2
LJU Ljubljana 68.66 312 *i*P **P** **01 15 35.1 -0.1**
LJU Ljubljana 68.66 312⇑ *i*P **P** **01 15 35.0 -0.2**
comp=Z,74nm,1.2s,mb5.4
LJU *e* pP 01 16 07.6 +2.3
GEC2 GERESS Array S 68.81 316 *e*P **P** **01 15 36.0 0.0**
GEC2 pmax pmax
comp=Z,40nm,0.9s,mb5.2
GEC2 GERESS Array S 68.81 316 *e*P **P** **01 15 36.0 0.0**
comp=Z,40nm,0.9s,mb5.2
GERES GERESS Array B 68.81 316 P **P** **01 15 36.0 -0.1**
comp=Z,30nm,0.7s,mb5.2,baz=77,slow=6.0,SNR=361
NB2 NORSAR Subarra 68.84 329 P **P** **01 15 34.6 -1.4**
comp=Z,29nm,0.8s,mb5.2,baz=86,slow=6.2
NB2 NORSAR Subarra 68.84 329 P **P** **01 15 34.6 -1.4**
NB2 pmax pmax
comp=Z,29nm,0.8s,mb5.2
NB2 NORSAR Subarra 68.84 329 P **P** **01 15 34.6 -1.4**
baz=86,slow=6.5
NOA NORSAR Array B 68.84 329 P **P** **01 15 34.9 -1.1**
comp=Z,25nm,0.7s,mb5.2,baz=86,slow=6.2,SNR=145
KHC Kasperske Hory 68.86 316⇑ *i*P **P** **01 15 36.0 -0.3**
KHC *e* 01 15 44.0
KHC Kasperske Hory 68.86 316⇑ *i*P **P** **01 15 36.0 -0.3**
KHC x x 01 15 44.0
CLL Collm 68.93 318⇑ *i*P **P** **01 15 36.1 -0.6**
CLL pmax pmax
comp=Z,29nm,1.2s,mb5.0
CLL Collm 68.93 318⇑ *i*P **P** **01 15 36.1 -0.6**
comp=Z,29nm,1.2s,mb5.0
CLL *e* 01 15 45.0
CLL Collm 68.93 318 ⇑P **P** **01 15 36.1 -0.6**
comp=Z,logA/T=1.4,mb5.0
STKA Stephens Creek 68.99 139 *e*P **P** **01 15 36.5 -1.0**
comp=Z,2.5nm,0.4s,mb4.4
STKA Stephens Creek 68.99 139 P **P** **01 15 36.6 -0.9**
comp=Z,3.7nm,0.6s,mb4.4,baz=340,slow=5.3,SNR=12
JAVS Javornik 69.00 312⇑ *i*P **P** **01 15 36.7 -0.5**
comp=Z,72nm,1.1s,mb5.4
JAVS *e* pP 01 16 09.4 +1.9
VOY Vojsko 69.10 313 *e*P **P** **01 15 37.2 -0.6**
VOY *e* 01 15 41.2
WET Wettzell 69.31 316 *e*P **P** **01 15 39.0 -0.1**
WET pmax pmax
comp=Z,23nm,0.9s,mb5.0
WET Wettzell 69.31 316 *e*P **P** **01 15 39.0 -0.1**
comp=Z,23nm,0.9s,mb5.0
KBA Koelnbreinsper 69.31 314⇑ *i*P **P** **01 15 38.5 -0.6**
comp=Z,1.2nm,0.3s,mb4.2
KBA Koelnbreinsper 69.31 314⇑ *i*P **P** **01 15 38.5 -0.6**
KBA pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
NKC Novy Kostel 69.43 317⇑ *i*P **P** **01 15 39.4 -0.4**
CII Carovilli 69.52 308 *e*P **P** **01 15 39.3 -1.2**
comp=Z,6.1nm,0.7s,mb4.5
MOX Moxa 69.89 318 *e*P **P** **01 15 42.3 -0.3**
MOX pmax pmax
comp=Z,15nm,0.6s,mb5.0
MOX Moxa 69.89 318 *e*P **P** **01 15 42.3 -0.3**
comp=Z,15nm,0.6s,mb5.0
MOX Moxa 69.89 318 *i*P **P** **01 15 42.3 -0.3**
comp=Z,logA/T=1.4,mb5.0
AQU L'Aquila 70.07 309 *e*P **P** **01 15 42.4 -1.4**
AQU pmax pmax
comp=Z,17nm,0.8s,mb4.9
AQU L'Aquila 70.07 309 *e*P **P** **01 15 42.4 -1.5**
comp=Z,17nm,0.8s,mb4.9
BSEG Bad Segeberg 70.18 321 *e*P **P** **01 15 44.5 +0.2**
GRA1 Grafenberg Arr 70.29 317 *e*P **P** **01 15 45.5 +0.5**
comp=Z,24nm,0.8s,mb5.1
GRF Grafenberg Arr 70.29 317 *e*P **P** **01 15 45.5 +0.5**
GRF pmax pmax
comp=Z,24nm,0.8s,mb5.1
GRF Grafenberg Arr 70.29 317 *e*P **P** **01 15 45.5 +0.5**
GRF pmax pmax
comp=Z,24nm,0.8s,mb5.1
GRF Grafenberg Arr 70.29 317 *e*P **P** **01 15 45.5 +0.5**
MOL Molde 70.39 331⇑ *i*P **P** **01 15 46.8 +1.4**
comp=Z,48nm,0.8s,mb5.4
MOL Molde 70.39 331⇑ *i*P **P** **01 15 46.8 +1.4**
MOL AMb AMB 01 15 47.7
comp=Z,48nm,0.8s,mb5.4
WTTA Wattenberg 70.43 314⇓ *i*P **P** **01 15 45.0 -0.9**
comp=Z,21nm,0.5s,mb5.2
WTTA Wattenberg 70.43 314⇓ *i*P **P** **01 15 45.0 -0.9**
WTTA pmax pmax
comp=Z,21nm,0.5s,mb5.2
WATA Walderalm 70.46 314⇓ *i*P **P** **01 15 45.4 -0.7**
comp=Z,18nm,0.6s,mb5.1
WATA Walderalm 70.46 314⇓ *i*P **P** **01 15 45.4 -0.7**
WATA pmax pmax
comp=Z,18nm,0.6s,mb5.1
CLZ Clausthal 70.47 319 *e*P **P** **01 15 46.2 +0.1**
CLZ pmax pmax
comp=Z,46nm,1.1s,mb5.2
CLZ Clausthal 70.47 319 *e*P **P** **01 15 46.2 +0.1**
comp=Z,46nm,1.1s,mb5.2
FUR Furstenfeldbru 70.51 315 *e*P **P** **01 15 46.2 -0.2**
FUR pmax pmax
comp=Z,30nm,0.8s,mb5.2
FUR Furstenfeldbru 70.51 315 *e*P **P** **01 15 46.2 -0.2**
comp=Z,30nm,0.8s,mb5.2
SQTA Sankt Quirin 70.72 314⇑ *i*P **P** **01 15 46.9 -0.8**
comp=Z,21nm,0.5s,mb5.2
SQTA Sankt Quirin 70.72 314⇑ *i*P **P** **01 15 46.9 -0.8**
SQTA pmax pmax
comp=Z,21nm,0.5s,mb5.2
MOTA Moosalm 70.77 314⇓ *i*P **P** **01 15 46.3 -1.7**
comp=Z,40nm,0.8s,mb5.3
MOTA Moosalm 70.77 314⇓ *i*P **P** **01 15 46.3 -1.7**
MOTA pmax pmax
comp=Z,40nm,0.8s,mb5.3
HDH Heidenheim 71.14 316 *e*P **P** **01 15 49.8 -0.3**
ODD1 Odda 71.24 328 *e*P **P** **01 15 49.5 -1.0**
UBR Uberruh 71.37 315⇑ *e*P **P** **01 15 50.9 -0.6**
SIND Sindeldorf 71.39 317⇑ *e*P **P** **01 15 51.4 -0.2**
BLS5 Blasjo 71.41 327 *e*P **P** **01 15 52.3 +0.8**
DAVA Damuels 71.60 314⇑ *i*P **P** **01 15 52.5 -0.4**
comp=Z,48nm,0.9s,mb5.3
BUCH Bad Urach 71.72 316⇑ *e*P **P** **01 15 53.4 -0.2**
STU Stuttgart 71.76 316 *e*P **P** **01 15 53.5 -0.3**
STU pmax pmax
comp=Z,42nm,0.8s,mb5.3
STU Stuttgart 71.76 316 *e*P **P** **01 15 53.5 -0.3**
comp=Z,42nm,0.8s,mb5.3
BER Bergen 71.79 328 *e*P **P** **01 15 53.7 -0.1**
ASK Askoy 71.84 329 *e*P **P** **01 15 54.2 +0.1**
TOD Tromm 71.85 317⇑ *e*P **P** **01 15 54.2 -0.1**
TOD Tromm 71.85 317 *e*P **P** **01 15 54.1 -0.2**
MAIM 71.86 311 P **P** **01 15 53.3 -1.2**
SARO Sassorosso 71.86 311 P **P** **01 15 54.8 +0.3**
VALM 71.94 311 P **P** **01 15 55.7 +0.7**
GUT Gutenstein 71.95 315⇑ *e*P **P** **01 15 54.5 -0.5**
TNS Taunus Mts 71.96 318 *e*P **P** **01 15 55.1 +0.1**
TNS pmax pmax
comp=Z,39nm,1.0s,mb5.2
TNS Taunus Mts 71.96 318 *e*P **P** **01 15 55.1 +0.1**
comp=Z,39nm,1.0s,mb5.2
GRAM 72.04 311 P **P** **01 15 56.1 +0.6**
LBG Lerchenberg 72.05 316 *e*P **P** **01 15 55.4 -0.1**
KMY Karmoy 72.05 327 *e*P **P** **01 15 54.8 -0.5**
SPAK Spaichingen 72.16 315 *e*P **P** **01 15 55.9 -0.3**
CODM 72.21 311 P **P** **01 15 56.5 -0.1**
BFO Black Forest 72.42 316 *e*P **P** **01 15 57.2 -0.5**
BFO pmax pmax
comp=Z,13nm,0.8s,mb4.8
BFO Black Forest 72.42 316 *e*P **P** **01 15 57.2 -0.5**
comp=Z,13nm,0.8s,mb4.8
ABH Alteburg 72.60 317⇑ *e*P **P** **01 15 58.8 +0.1**
LANF Langenberg 72.62 316⇑ *e*P **P** **01 15 59.0 +0.1**
WTSB Winterswijk 72.63 320⇑ *e*P **P** **01 15 58.7 -0.1**
comp=Z,13nm,0.9s,mb4.8
FELD Feldberg 72.72 315⇑ *e*P **P** **01 15 59.3 -0.2**
STR Strasbourg 72.73 316 *e*P **P** **01 15 59.6 +0.1**
KIZ Kirchzarten 72.76 315⇑ *e*P **P** **01 15 59.4 -0.3**
LIBD Limburg 72.93 316 *e*P **P** **01 16 00.8 +0.1**
RUP Ruppelstein 72.94 317⇑ *e*P **P** **01 16 01.1 +0.4**
RUP Ruppelstein 72.94 317⇑ *e*P **P** **01 16 01.0 +0.3**
WLS Welschbruch 73.03 316⇑ *e*P **P** **01 16 01.1 +0.2**
CDF Champ du Feu 73.08 316 *e*P **P** **01 16 01.2 -0.4**
comp=Z,67nm,1.0s,mb5.1
CDF Champ du Feu 73.08 316 *e*P **P** **01 16 01.2 -0.4**
CDF pmax pmax
comp=Z,34nm,1.0s,mb5.1
PCP Pian Castagno 73.09 312 P **P** **01 16 00.3 -1.4**
BBS Basel-Blauen 73.14 315 *e*P **P** **01 16 01.4 -0.5**
BBS Basel-Blauen 73.14 315⇑ *e*P **P** **01 16 01.3 -0.6**
ECH Echery 73.20 316⇑ *e*P **P** **01 16 01.9 -0.4**
PGF Pioggiola 73.22 310 *e*P **P** **01 16 02.2 -0.3**
comp=Z,44nm,0.8s,mb5.0
PGF Pioggiola 73.22 310 *e*P **P** **01 16 02.2 -0.3**
PGF pmax pmax
comp=Z,22nm,0.8s,mb5.0
ORX Oropa 73.23 313 P **P** **01 16 00.3 -2.2**
MOF Molkenrain 73.30 315⇑ *e*P **P** **01 16 02.8 -0.1**
FIN Finale Ligure 73.40 311 P **P** **01 16 02.4 -1.1**
HGN Heimansgroeve 73.42 319 *e*P **P** **01 16 03.2 -0.3**
comp=Z,17nm,1.1s,mb4.8
HINF Hinteralfeld 73.49 315 *e*P **P** **01 16 03.2 -0.8**
comp=Z,33nm,1.1s,mb4.8
HINF Hinteralfeld 73.49 315 *e*P **P** **01 16 03.2 -0.8**
HINF pmax pmax
comp=Z,16nm,1.1s,mb4.8
WLF Walferdange 73.53 317 *e*P **P** **01 16 04.3 +0.2**
WLF pmax pmax
comp=Z,80nm,1.0s,mb5.4
WLF Walferdange 73.53 317 *e*P **P** **01 16 04.3 +0.1**
comp=Z,80nm,1.0s,mb5.4
ROB Roburent 73.61 312 P **P** **01 16 04.1 -0.7**
LOMF Lomont 73.62 315⇑ *e*P **P** **01 16 04.4 -0.3**
VSL Villasalto 73.66 306 *e*P **P** **01 16 04.9 -0.2**
comp=Z,10.0nm,0.6s,mb4.7
VSL *e*pP pP 01 16 34.7 -1.0
IMI Imperia 73.69 311 P **P** **01 16 04.8 -0.4**
MONE Monesi 73.75 311 P **P** **01 16 05.4 -0.2**
HAU Haudompre 73.78 316 *e*P **P** **01 16 05.2 -0.5**
LSD Ceresole Reale 73.84 313 P **P** **01 16 06.4 +0.4**
NEGI Negi 73.84 311 P **P** **01 16 05.4 -0.6**
RSP Reno Superiore 73.84 313 P **P** **01 16 04.5 -1.6**
BHB Bricherasio 73.91 312 P **P** **01 16 04.4 -2.0**
SAOF Saorge 73.91 311⇑ *e*P **P** **01 16 06.5 0.0**
ENR Entracque 73.94 312 P **P** **01 16 05.2 -1.5**
THEF They Montfort 73.97 316⇑ *e*P **P** **01 16 06.5 -0.2**
AUTN L'Aution 74.00 311 *e*P **P** **01 16 07.0 0.0**
FENE Fenestrelle 74.00 313 P **P** **01 16 06.4 -0.6**
SBF Sospel 74.02 311 *e*P **P** **01 16 06.6 -0.6**
LPG La Plagne 74.10 313 *e*P **P** **01 16 07.9 +0.3**
comp=Z,80nm,0.9s,mb5.2
LPG La Plagne 74.10 313 *e*P **P** **01 16 07.9 +0.3**
LPG pmax pmax
comp=Z,40nm,0.9s,mb5.2
LPL La Plagne 74.11 313 *e*P **P** **01 16 07.9 +0.3**
comp=Z,63nm,0.6s,mb5.2
LPL La Plagne 74.11 313 *e*P **P** **01 16 07.9 +0.3**
LPL pmax pmax
comp=Z,32nm,0.6s,mb5.2
TOUF Mont Tournerai 74.12 311⇑ *e*P **P** **01 16 07.9 +0.2**
MVIF Mont Vial 74.21 311 *e*P **P** **01 16 07.5 -0.7**
GIVF Givet 74.26 318 *e*P **P** **01 16 08.4 0.0**
comp=Z,40nm,0.8s,mb4.7
GIVF Givet 74.26 318 *e*P **P** **01 16 08.4 0.0**
GIVF pmax pmax
comp=Z,20nm,0.8s,mb4.9
BNI Bardonecchia 74.26 313 *e*P **P** **01 16 08.0 -0.5**
BNI pmax pmax
comp=Z,12nm,0.8s,mb4.7
BNI Bardonecchia 74.26 313 *e*P **P** **01 16 08.0 -0.5**
comp=Z,12nm,0.8s,mb4.7
MBDF Montbardon 74.28 312 *e*P **P** **01 16 07.7 -0.9**
comp=Z,23nm,0.7s,mb4.7
MBDF Montbardon 74.28 312 *e*P **P** **01 16 07.7 -0.9**
MBDF pmax pmax
comp=Z,12nm,0.7s,mb4.7
CABF La Chapelle 74.28 314 *e*P **P** **01 16 08.5 -0.1**
comp=Z,91nm,0.9s,mb5.2
CABF La Chapelle 74.28 314 *e*P **P** **01 16 08.5 -0.1**
CABF pmax pmax
comp=Z,45nm,0.9s,mb5.2
SURF Saint Ours 74.31 312 *e*P **P** **01 16 08.9 +0.1**
CALN Calern 74.43 311 *e*P **P** **01 16 09.6 +0.1**
MEZF Maizieres J'vi 74.50 316 *e*P **P** **01 16 09.8 0.0**
comp=Z,92nm,0.7s,mb5.3
GDM Grand'Maison 74.61 313⇑ *e*P **P** **01 16 10.5 0.0**
FRF La Foret Royal 74.65 311 *e*P **P** **01 16 10.4 -0.4**
comp=Z,81nm,0.9s,mb5.2
FRF La Foret Royal 74.65 311 *e*P **P** **01 16 10.4 -0.4**
FRF pmax pmax
comp=Z,41nm,0.9s,mb5.2
BAIF Baives 74.66 318 *e*P **P** **01 16 10.8 +0.2**
comp=Z,78nm,0.9s,mb5.1
BAIF Baives 74.66 318 *e*P **P** **01 16 10.8 +0.2**
BAIF pmax pmax
comp=Z,39nm,0.9s,mb5.1
LMR La Mourre 74.80 311 *e*P **P** **01 16 11.4 -0.2**
comp=Z,54nm,0.8s,mb5.0
LMR La Mourre 74.80 311 *e*P **P** **01 16 11.4 -0.2**
LMR pmax pmax
comp=Z,27nm,0.8s,mb5.0
LSZ Lusaka 74.81 247 *e*P **P** **01 16 12.3 +0.1**
LSZ pmax pmax
comp=Z,12nm,0.6s,mb4.8
LSZ Lusaka 74.81 247 *e*P **P** **01 16 12.3 +0.1**
comp=Z,12nm,0.6s,mb4.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ORIF	Oris-en-Rattie	74.84	313	eP	P	01 16 11.2	-0.6
	comp=Z,16nm,0.7s,mb4.6						
ORIF	Oris-en-Rattie	74.84	313	eP	P	01 16 11.2	-0.6
ORIF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
GRN	Grenoble	74.85	313	⇑eP	P	01 16 12.3	+0.4
TAVF	Tavernes	75.05	311	⇑eP	P	01 16 13.6	+0.6
STOF	St-Etienne Org	75.06	312	⇑eP	P	01 16 13.7	+0.7
VILF	Villemus	75.23	312	⇑eP	P	01 16 14.5	+0.5
SMRF	Simiane la Rot	75.30	312	eP	P	01 16 14.6	+0.2
	comp=Z,28nm,0.9s,mb4.7						
PUYF	Puyloubier	75.32	311	⇑eP	P	01 16 14.9	+0.3
BERF	Bertagne	75.39	311	⇑eP	P	01 16 15.3	+0.4
GELF	Grande-Etoile	75.55	311	⇑eP	P	01 16 16.1	+0.2
LOR	Lormes	75.59	315	eP	P	01 16 15.6	-0.4
	comp=Z,54nm,1.0s,mb4.9						
LOR	Lormes	75.59	315	eP	P	01 16 15.6	-0.4
LOR				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.9						
PRAF	Pradon	75.62	312	eP	P	01 16 15.3	-1.0
VIVF	Saint-Julien-l	75.69	313	eP	P	01 16 16.4	-0.2
	comp=Z,70nm,1.0s,mb5.0						
VIVF	Saint-Julien-l	75.69	313	eP	P	01 16 16.4	-0.2
VIVF				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.0						
SMF	Signal de Mont	75.77	315	eP	P	01 16 16.9	-0.1
	comp=Z,90nm,0.7s,mb5.3						
SMF	Signal de Mont	75.77	315	eP	P	01 16 16.9	-0.1
SMF				pmax	pmax		
	comp=Z,45nm,0.7s,mb5.3						
CMAH	Djebel Manchou	75.88	304	P	P	01 16 18.0	+0.1
SSF	Saint Saulge	75.88	315	eP	P	01 16 17.5	-0.1
SSF				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.2						
SSF	Saint Saulge	75.88	315	eP	P	01 16 17.5	-0.1
	comp=Z,53nm,1.0s,mb5.2						
HYF	Humbligny	76.39	316	eP	P	01 16 21.0	+0.5
BGF	Bois d'Agland	76.46	315	eP	P	01 16 20.7	-0.2
	comp=Z,30nm,0.7s,mb4.8						
BGF	Bois d'Agland	76.46	315	eP	P	01 16 20.7	-0.2
BGF				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.8						
LASF	Ste Croix	76.46	312	eP	P	01 16 21.1	+0.1
	comp=Z,59nm,0.9s,mb5.0						
CKFL	Kef-Lekhel	76.49	304	P	P	01 16 22.0	+0.7
CASM	Ain Smara	76.70	304	P	P	01 16 23.0	+0.5
CTEI	Djebel Teioual	76.83	304	P	P	01 16 24.0	+0.8
TCF	Toulx Ste Croi	76.95	315	eP	P	01 16 23.9	+0.2
	comp=Z,114nm,1.0s,mb5.3						
TCF	Toulx Ste Croi	76.95	315	eP	P	01 16 23.9	+0.2
TCF				pmax	pmax		
	comp=Z,57nm,1.0s,mb5.3						
DFRA	Djebel Bou Aff	77.10	304	P	P	01 16 26.0	+1.3
BTA	Talkin	77.33	324	⇑eP	P	01 16 25.9	+0.3
CMER	Merouana	77.35	303	P	P	01 16 27.0	+0.9
CAF	Calviac	77.45	313	eP	P	01 16 26.8	+0.4
	comp=Z,32nm,0.9s,mb4.8						
CAF	Calviac	77.45	313	eP	P	01 16 26.8	+0.4
CAF				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
BDL	Dobcross Hall	77.51	324	⇑eP	P	01 16 27.0	+0.4
CKHR	Kef el Ahmar	77.53	304	P	P	01 16 27.5	+0.4
BHH	Howats Hill	77.57	324	⇑eP	P	01 16 27.1	+0.2
SET	Setif	77.57	304	P	P	01 16 28.0	+0.7
EJON	La Jonquera	77.61	311	P	P	01 16 26.8	-0.6
	comp=Z,8.1nm,1.3s,mb4.3						
BBO1	Bothel	77.70	324	⇑eP	P	01 16 27.9	+0.3
RJF	Les Rejaudoux	77.71	314	eP	P	01 16 28.5	+0.6
	comp=Z,76nm,0.9s,mb5.1						
RJF	Les Rejaudoux	77.71	314	eP	P	01 16 28.5	+0.6
RJF				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.1						
BWH	Wardlaw	77.78	325	⇑eP	P	01 16 28.6	+0.5
LDF	La Druitiere	77.78	317	eP	P	01 16 28.2	0.0
	comp=Z,54nm,0.8s,mb5.0						
LDF	La Druitiere	77.78	317	eP	P	01 16 28.2	0.0
LDF				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.0						
MTLF	Montolieu	77.81	312	eP	P	01 16 28.6	+0.1
	comp=Z,30nm,0.8s,mb4.8						
MTLF	Montolieu	77.81	312	eP	P	01 16 28.6	+0.1
MTLF				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.8						
FLN	La Foliniere	77.96	318	eP	P	01 16 29.0	-0.1
	comp=Z,51nm,1.1s,mb4.9						
FLN	La Foliniere	77.96	318	eP	P	01 16 29.0	-0.1
FLN				pmax	pmax		
	comp=Z,26nm,1.1s,mb4.9						
HAE	Alders End	78.17	321	⇑eP	P	01 16 30.6	+0.4
HAE				AMb	AMB	01 16 31.9	
	comp=Z,89nm,1.0s,mb5.5						
HLM1	Long Mynd	78.21	322	⇑eP	P	01 16 30.9	+0.4
HLM1				AMb	AMB	01 16 31.8	
	comp=Z,37nm,0.8s,mb5.2						
VALF	Valcebollere	78.23	311	⇑eP	P	01 16 31.4	+0.6
SBD1	Bryn Du	78.30	322	⇑eP	P	01 16 31.5	+0.6
SBD1				AMb	AMB	01 16 34.9	
	comp=Z,26nm,1.4s,mb4.8						
GRR	Gorron	78.31	317	eP	P	01 16 30.9	-0.2
	comp=Z,22nm,0.7s,mb4.7						
GRR	Gorron	78.31	317	eP	P	01 16 30.9	-0.2
GRR				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
LFF	La Frestale	78.34	314	eP	P	01 16 31.9	+0.6
	comp=Z,46nm,0.7s,mb5.0						
LFF	La Frestale	78.34	314	eP	P	01 16 31.9	+0.6
LFF				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.1						
SSP1	Stoney Pound	78.38	322	⇑eP	P	01 16 31.9	+0.5
MFF	Saint Martin d	78.42	315	eP	P	01 16 31.6	-0.1
	comp=Z,16nm,0.7s,mb4.6						
MFF	Saint Martin d	78.42	315	eP	P	01 16 31.6	-0.1
MFF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
MCH1	Michaelchurch	78.45	321	⇑eP	P	01 16 31.8	0.0
HGH	Gray Hill	78.46	321	⇑eP	P	01 16 31.9	+0.1
HGH				AMb	AMB	01 16 33.3	
	comp=Z,62nm,0.9s,mb5.3						
ETOS	Mallorca	78.46	308	P	P	01 16 33.5	+1.4
	comp=Z,16nm,1.1s,mb4.7						
WPM1	Penmaenmawr	78.55	323	⇑eP	P	01 16 32.8	+0.5
WPM1				AMb	AMB	01 16 33.7	
	comp=Z,46nm,0.8s,mb5.4						
HTR	Trewern Hill	78.58	321	⇑eP	P	01 16 32.8	+0.3
HTR				AMb	AMB	01 16 34.2	
	comp=Z,36nm,1.0s,mb5.2						
WIM	Isle of Man	78.68	324	⇑eP	P	01 16 33.8	+0.8
MLS	Moulis	78.71	312	⇑eP	P	01 16 33.2	-0.2
EMIR	Miracle	78.73	311	P	P	01 16 34.0	+0.5
	comp=Z,43nm,1.1s,mb5.2						
YLL	Llanberis	78.74	323	⇑eP	P	01 16 33.7	+0.3
YLL				AMb	AMB	01 16 34.7	
	comp=Z,34nm,0.9s,mb5.2						
WLF1	Llynfaes	78.82	323	⇑eP	P	01 16 34.5	+0.8
WLF1				AMb	AMB	01 16 35.3	
	comp=Z,46nm,0.8s,mb5.3						
WCB1	Church Bay	78.87	323	⇑eP	P	01 16 34.7	+0.6
WCB1				AMb	AMB	01 16 35.5	
	comp=Z,45nm,0.9s,mb5.3						
YRC	Rhoscolyn	78.93	323	⇑eP	P	01 16 35.1	+0.8
YRE	Yr Eifl	78.94	323	⇑eP	P	01 16 35.0	+0.6
YRE				AMb	AMB	01 16 35.9	
	comp=Z,56nm,0.8s,mb5.5						
EPF	Esparros	79.21	312	eP	P	01 16 35.4	-0.7
EPOB	Poblet	79.23	310	P	P	01 16 36.4	+0.2
	comp=Z,21nm,0.6s,mb5.2						
RESF	Ens	79.29	312	⇑eP	P	01 16 37.3	+0.8
SGMF	Saint Gilles	79.43	318	eP	P	01 16 37.6	+0.4
	comp=Z,50nm,0.7s,mb5.2						
SGMF	Saint Gilles	79.43	318	eP	P	01 16 37.6	+0.4
SGMF				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.2						
EMHD	Djebel Mahouad	79.45	305	P	P	01 16 39.6	+2.0
EBIE	Bielsa	79.46	312	P	P	01 16 38.1	+0.6
	comp=Z,16nm,0.8s,mb4.9						
VIEF	Viey	79.48	312	⇑eP	P	01 16 38.3	+0.7
EGRA	Graus	79.50	311	P	P	01 16 38.1	+0.4
	comp=Z,21nm,0.8s,mb5.0						
EIBI	Ibiza	79.77	308	P	P	01 16 40.0	+0.8
	comp=Z,26nm,0.9s,mb5.0						
EBR	Ebro Roquetas	79.81	310	eP	P	01 16 40.0	+0.6
ROSF	Rostrenen	79.85	318	eP	P	01 16 40.0	+0.6
	comp=Z,70nm,0.8s,mb5.2						
ROSF	Rostrenen	79.85	318	eP	P	01 16 40.0	+0.6
ROSF				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.2						
ETSF	Etsaut	79.88	312	eP	P	01 16 40.3	+0.6
	comp=Z,39nm,0.8s,mb5.0						
ETSF	Etsaut	79.88	312	eP	P	01 16 40.3	+0.6
ETSF				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
QUIF	Quistinic	79.93	317	eP	P	01 16 39.8	-0.1
	comp=Z,20nm,0.7s,mb4.8						
QUIF	Quistinic	79.93	317	eP	P	01 16 39.8	-0.1
QUIF				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
DLF	Lyons Farm	80.02	323	eP	P	01 16 40.0	-0.2
LARF	Larrau	80.13	312	eP	P	01 16 41.9	+0.8
ESAC	San Caprasio	80.21	311	P	P	01 16 41.7	+0.2
	comp=Z,23nm,0.5s,mb5.3						
SJPF	Ste Jean	80.27	312	eP	P	01 16 42.3	+0.5
	comp=Z,12nm,0.7s,mb4.5						
SJPF	Ste Jean	80.27	312	eP	P	01 16 42.3	+0.5
SJPF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
DCN	Croghan	80.41	324	eP	P	01 16 42.0	-0.3
EALK	Alkurruntz	80.43	313	P	P	01 16 43.3	+0.6
	comp=Z,31nm,0.8s,mb5.2						
EBNR	Beni Rached	80.51	305	P	P	01 16 45.0	+1.7
EMOS	Mosqueruela	80.66	310	P	P	01 16 44.8	+0.9
	comp=Z,32nm,0.7s,mb5.3						
ECHA	Ech Chlef	80.69	305	P	P	01 16 46.0	+1.8
EANR	'Ain N'Sour	80.95	305	P	P	01 16 47.0	+1.4
ETRT	Tiaret	80.98	304	P	P	01 16 48.0	+2.2
EBEN	Beniarda	81.03	308	P	P	01 16 46.9	+0.9
	comp=Z,35nm,1.2s,mb5.1						
ECHE	Chera	81.28	309	P	P	01 16 48.1	+0.9
ECHE				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
ECHE	Chera	81.28	309	P	P	01 16 48.1	+0.9
	comp=Z,9.8nm,0.6s,mb4.8						
ECRI	Cripan	81.33	312	P	P	01 16 48.6	+1.2
ECRI				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
ECRI	Cripan	81.33	312	P	P	01 16 48.6	+1.1
	comp=Z,20nm,0.8s,mb5.0						
LBTB	Lobatse	81.46	239	eP	P	01 16 48.8	+0.4
LBTB				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
LBTB	Lobatse	81.46	239	eP	P	01 16 48.8	+0.4
	comp=Z,9.0nm,0.7s,mb4.7						
LBTB				epP	pP	01 17 18.9	-0.7
SUMG	Summit	81.57	347	eP	P	01 16 48.4	+0.3
	comp=Z,56nm,0.8s,mb5.4						
ELAN	Lanestosa	81.75	313	P	P	01 16 50.3	+0.8
	comp=Z,41nm,0.9s,mb5.2						
ETOB	Tobarra	82.03	308	P	P	01 16 52.3	+1.2
	comp=Z,31nm,0.8s,mb5.2						
EMUR	La Murta	82.08	307	P	P	01 16 51.8	+0.4
	comp=Z,43nm,1.4s,mb5.1						
MCK	McKinley	82.15	24	eP	P	01 16 50.7	-0.5
MCK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.6						
MCK	McKinley	82.15	24	eP	P	01 16 50.7	-0.5
	comp=Z,12nm,1.1s,mb4.7						
EVIA	Vianos	82.73	308	P	P	01 16 55.7	+1.0
EVIA				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.1						
EVIA	Vianos	82.73	308	P	P	01 16 55.7	+1.0
	comp=Z,33nm,1.0s,mb5.1						
EARI	Arriondas	82.93	314	P	P	01 16 56.4	+0.8
	comp=Z,50nm,1.9s,mb5.0						
EHUE	Huescar	83.09	308	P	P	01 16 57.3	+0.8
EHUE				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
EHUE	Huescar	83.09	308	P	P	01 16 57.3	+0.8
	comp=Z,12nm,0.8s,mb4.8						
ENIJ	Nijar	83.11	307	P	P	01 16 57.4	+0.8
ENIJ				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.1						
ENIJ	Nijar	83.11	307	P	P	01 16 57.4	+0.7
	comp=Z,27nm,0.9s,mb5.1						
BOSA	Boshof	83.41	236	eP	P	01 16 58.7	+0.4
BOSA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.8						
BOSA	Boshof	83.41	236	P	P	01 16 58.8	+0.5
	comp=Z,11nm,0.6s,mb4.8,baz=55,slow=3.7,SNR=48						
BOSA				pP	pP	01 17 28.9	-0.7
	comp=Z,9.0nm,0.6s,baz=57,slow=4.1,SNR=5.5						
BOSA				LR	LR	01 49 32.3	
	comp=Z,111nm,20.4s,baz=26,slow=32						
BOSA	Boshof	83.41	236	eP	P	01 16 58.6	+0.3
	comp=Z,13nm,0.8s,mb4.8						
BOSA				epP	pP	01 17 28.8	-0.8
ESDC	Sonseca Array	83.41	310	P	P	01 16 58.8	+0.7
	comp=Z,8.6nm,0.7s,mb4.7,baz=51,slow=5.3,SNR=48						
ESDC	Sonseca Array	83.41	310	P	P	01 16 58.8	+0.7
	comp=Z,15nm,0.8s,mb4.9						
ESLA	Sonseca Array	83.41	310	eP	P	01 16 58.3	+0.2
	comp=Z,8.1nm,1.3s,mb4.4						
SML	Sawmill	83.42	25	eP	P	01 16 57.7	0.0
EQES	Quesada	83.45	308	P	P	01 16 59.0	+0.7
	comp=Z,20nm,0.7s,mb5.0						
EBER	Berja	83.64	307	P	P	01 17 00.6	+1.2
	comp=Z,15nm,0.7s,mb4.9						
EBAN	Banos Encina	83.84	308	P	P	01 17 00.8	+0.5
EBAN				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
EBAN	Banos Encina	83.84	308	P	P	01 17 00.8	+0.4
	comp=Z,7.3nm,0.6s,mb4.7						
EALB	Alboran	84.10	306	P	P	01 17 01.2	-0.5
	comp=Z,57nm,0.8s,mb5.5						
EGUA	Guajares	84.17	307	P	P	01 17 01.7	-0.3
INK	Inuvik	84.21	16	eP	P	01 17 01.4	0.0
INK				pmax	pmax		
	comp=Z,48nm,1.4s						
INK	Inuvik	84.21	16	eP	P	01 17 01.4	0.0
	comp=Z,48nm,1.4s,mb5.1						
INK				epP	pP	01 17 32.7	-0.1
EPON	Pontenova	84.22	314	P	P	01 17 02.0	0.0
	comp=Z,22nm,1.0s,mb4.9						
ERON	Agron	84.28	307	P	P	01 17 02.2	-0.4
	comp=Z,5.5nm,0.5s,mb4.6						
EADA	Adamuz	84.42	309	P	P	01 17 03.9	+0.7
	comp=Z,25nm,1.0s,mb5.0						
ELOJ	Sierra Loja	84.49	308	P	P	01 17 03.3	-0.3
ELOJ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
ELOJ	Sierra Loja	84.49	308	P	P	01 17 03.3	-0.3
	comp=Z,3.7nm,0.7s,mb4.3						
ECAL	Calabor	84.49	313	P	P	01 17 04.4	+0.9
	comp=Z,38nm,1.1s,mb5.1						
PBRG	Braganca	84.55	313	eP	P	01 17 03.7	-0.1
	comp=Z,21nm,1.2s,mb4.9						
ECAB	El Cabril	85.07	309	P	P	01 17 07.2	+0.8
	comp=Z,18nm,0.7s,mb5.1						
EMIJ	Mijas	85.17	307	P	P	01 17 08.3	+1.3
	comp=Z,47nm,1.9s,mb5.1						
STS	Santiago	85.34	314	P	P	01 17 09.0	+1.3
STS				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.0						
STS	Santiago	85.34	314	P	P	01 17 09.0	+1.3
	comp=Z,9.0nm,0.5s,mb5.0						
ELOB	Lobios	85.43	313	P	P	01 17 09.2	+1.1
	comp=Z,23nm,1.0s,mb5.1						
PVRL	Vila Real	85.43	312	eP	P	01 17 08.8	+0.7
	comp=Z,20nm,1.1s,mb5.0						
EMAZ	Mazaricos	85.60	314	P	P	01 17 09.5	+0.5
	comp=Z,29nm,1.3s,mb5.0						
TSUM	Tsumeb	85.64	248	eP	P	01 17 10.1	+0.4
	comp=Z,4.5nm,0.8s,mb4.5						
MTE	Manteigas	85.67	312	eP	P	01 17 10.7	+1.3
	comp=Z,36nm,0.9s,mb5.3						
MTE	Manteigas	85.67	312	i P	P	01 17 11.0	+1.7
	comp=Z,48nm,1.1s,mb5.3						
PVIS	Viseu	85.78	312	eP	P	01 17 09.7	-0.2
	comp=Z,20nm,1.0s,mb5.0						
PCBR	Castelo Branco	85.84	311	eP	P	01 17 11.4	+1.2
	comp=Z,44nm,1.2s,mb5.3						
ESPR	Espera	85.86	308	P	P	01 17 10.1	-0.3
	comp=Z,17nm,0.9s,mb5.0						
EBAD	Badajoz	85.95	310	P	P	01 17 11.7	+0.9
	comp=Z,24nm,0.7s,mb5.2						
EMIN	Mina Concepcio	86.10	309	P	P	01 17 12.4	+0.9
	comp=Z,46nm,1.5s,mb5.2						
PTOM	Tomar	86.59	311	eP	P	01 17 14.2	+0.4
	comp=Z,42nm,1.2s,mb5.2						
EVO	Evora	86.76	310	eP	P	01 17 15.7	+1.0
	comp=Z,28nm,0.8s,mb4.9						
EGRO	El Granado	86.78	309	P	P	01 17 16.1	+1.2
	comp=Z,34nm,1.0s,mb5.2						
PBEJ	Beja	86.86	310	eP	P	01 17 16.2	+1.0
	comp=Z,30nm,1.6s,mb5.0						
PTEO	Sao Teotonio	87.68	309	eP	P	01 17 20.1	+1.0
SFJD	Kangerlussuaq	88.57	347	i P	P	01 17 22.5	-0.1
MAW	Mawson	91.50	192	P	P	01 17 36.5	+0.1
	comp=Z,1.8nm,0.8s,mb4.4,baz=46,slow=8.0,SNR=4.9						
MAW				LR	LR	01 53 43.6	
	comp=Z,58nm,18.5s,baz=235,slow=32						
MAW	Mawson	91.50	192	P	P	01 17 36.5	+0.1
MAW				LR	LR	01 53 43.6	
YKA	Yellowknife Ar	93.52	13	P	P	01 17 45.6	-0.1
	comp=Z,3.0nm,0.9s,mb4.6,baz=328,slow=5.0,SNR=13						
DBIC	Dimbokro	96.74	280	P	P	01 18 01.7	+0.2
	comp=Z,4.9nm,0.6s,mb5.1,baz=48,slow=3.8,SNR=11						
DBIC				pP	pP	01 18 33.7	+0.3
	comp=Z,5.8nm,0.9s,baz=26,slow=3.1,SNR=3.7						
DBIC	Dimbokro	96.74	280	P	P	01 18 01.7	+0.2
DBIC				pP	pP	01 18 33.7	+0.3
SYO	Syowa Base	98.13	197	⇑Pdiff	P	01 18 05.6	-0.9
VNDA	Vanda	105.56	168	Pdiff	Pdif	01 18 40.7	+1.2
	comp=Z,0.3nm,0.4s,baz=227,slow=9.8,SNR=5.6						
VNDA	Vanda	105.56	168	Pdif	Pdif	01 18 40.7	+1.2
SNAA	Sanae	112.24	200	⇓iP	PKPdf	01 23 04.7	+1.2
PDAR	Pinedale Array	112.61	19	PKiKP		01 23 06.2	
	comp=Z,1.3nm,0.6s,baz=135,slow=1.3,SNR=12						
VNA2	Neumayer--Watz	113.74	201	⇓iP	PKPdf	01 23 08.3	+1.8
VNA1	Neumayer--Stat	114.05	201	⇓iP	PKPdf	01 23 08.9	+1.7
VNA3	Neumayer Olymp	114.45	200	⇓iP	PKPdf	01 23 09.1	+1.1
MSU	Marysvale	115.53	23	ePKIKP	PKPdf	01 23 13.4	+2.6
SMCO	Snowmass	116.69	19	ePKPdf	PKPdf	01 23 14.4	+1.4
PV10	Paradox Valley	116.76	21	ePKPdf	PKPdf	01 23 15.3	+2.1
ANMO	Albuquerque	120.73	20	ePKIKP	PKPdf	01 23 22.9	+1.9
WCI	Wyandotte Cave	121.05	1	ePKIKP	PKPdf	01 23 21.9	+0.4
LENM	Lemitar	121.27	21	ePKPdf	PKPdf	01 23 24.0	+2.0
BNM	Barren Site	121.40	21	ePKPdf	PKPdf	01 23 24.0	+1.7
TUC	Tucson	121.52	26	ePKIKP	PKPdf	01 23 24.4	+1.9
WMOK	Wichita Mounta	123.02	14	ePKIKP	PKPdf	01 23 25.7	+0.4
WVT	Waverly	123.09	3	ePKIKP	PKPdf	01 23 26.2	+0.7
GDL2	Guadalupe Moun	123.93	20	ePKPdf	PKPdf	01 23 28.6	+1.4
MNTX	Cornudas Mount	124.06	21	ePKPdf	PKPdf	01 23 28.5	+1.0
LTX	Lajitas	126.81	20	ePKIKP	PKPdf	01 23 33.9	+1.1
BAO	Brasilia Array	144.50	272	PKPdf	PKPdf	01 24 07.0	+1.3
BDFB	Brasilia	144.52	272	PKP	PKPdf	01 24 06.8	+1.1
	comp=Z,29nm,0.7s,baz=84,slow=2.6,SNR=44						
BDFB				SKPbc		01 27 35.6	
	comp=Z,11nm,1.0s,baz=89,slow=3.2,SNR=5.5						
SDV	Santo Domingo	147.08	333	PKP	PKPdf	01 24 11.9	+1.8
	comp=Z,186nm,0.8s,baz=17,slow=2.0,SNR=12						
SDV				PKPbc	PKPdf	01 24 14.4	+4.3
	comp=Z,249nm,0.7s,baz=80,slow=3.9,SNR=13						
SDV	Santo Domingo	147.08	333	ePKPdf	PKPdf	01 24 11.7	+1.6
SDV				ePKPbc	PKPdf	01 24 14.0	+3.9
SDV				ePKPab	PKPab	01 24 16.7	+0.2
ROSC	El Rosal	152.22	337	PKP	PKPdf	01 24 21.2	+3.0
	comp=Z,24nm,0.9s,baz=104,slow=22,SNR=22						
ROSC				PKPbc	PKPdf	01 24 28.2	+10
	comp=Z,88nm,0.7s,baz=95,slow=5.8,SNR=53						
CPUP	Villa Florida	154.12	253	ePKIKP	PKPdf	01 24 22.2	+1.8
CPUP				e		01 24 44.3	
CPUP	Villa Florida	154.12	253	PKP	PKPdf	01 24 22.6	+2.2
	comp=Z,8.0nm,0.9s,baz=98,slow=4.1,SNR=13						
CPUP				PKPbc	PKPdf	01 24 29.8	+9.4
	comp=Z,13nm,0.7s,baz=104,slow=3.7,SNR=33						
CPUP				PKPab	PKPab	01 24 44.5	-0.8
	comp=Z,9.7nm,0.7s,baz=94,slow=5.1,SNR=10						
CPUP	Villa Florida	154.12	253	ePKPdf	PKPdf	01 24 22.1	+1.7
CPUP				ePKPbc	PKPdf	01 24 29.7	+9.3
CPUP				ePKPab	PKPab	01 24 44.3	-1.0
SAML	Samuel	155.77	296	ePKPdf	PKPdf	01 24 24.9	+2.0
SAML				ePKPdif		01 24 34.2	
SAML				ePKPab	PKPab	01 24 51.4	-1.2
SIV	San Ignacio	156.75	278	PKP	PKPdf	01 24 26.9	+2.7
	comp=Z,3.3nm,0.9s,baz=100,slow=3.0,SNR=13						
SIV				PKPab	PKPab	01 24 56.5	-0.2
	comp=Z,5.6nm,0.6s,baz=102,slow=6.1,SNR=18						
SIV				pPKPab		01 25 29.2	
	comp=Z,6.8nm,1.0s,baz=86,slow=6.7,SNR=5.9						
PLCA	Paso Flores	156.82	209	PKP	PKPdf	01 24 25.6	+2.0
	comp=Z,3.5nm,1.0s,baz=146,slow=3.9,SNR=4.4						
PLCA	Paso Flores	156.82	209	ePKPdf	PKPdf	01 24 25.3	+1.7
LPAZ	La Paz	163.32	284	PKP	PKPdf	01 24 34.4	+3.0
	comp=Z,4.4nm,0.7s,baz=52,slow=1.9,SNR=23						
LPAZ				PKPab	PKPab	01 25 24.5	-0.6
	comp=Z,3.8nm,0.8s,baz=82,slow=2.7,SNR=7.6						
LPAZ	La Paz	163.32	284	ePKPdf	PKPdf	01 24 34.1	+2.7
LPAZ				ePKPab	PKPab	01 25 24.5	-0.6
LVC	Limon Verde	164.95	261	PKPab	PKPab	01 25 32.5	+0.4
	comp=Z,2.1nm,0.3s,baz=131,slow=6.8,SNR=8.1						

*NEIC **17** 01:22:05.3, 45.06S×167.45E, h94km, ML3.8(WEL), After WEL.*

WEL 17 01:22:05.5±0.3**, 45.05S×167.40E, h87**km±4km**, ML3.6**/7**, 3C-1D, Error ellipse: s-maj=4.3km s-min=1.7km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	Mavora Lakes	0.62	119	P	P	01 22 20.8	-0.4
MLZ				S	S	01 22 32.4	-0.5
MLZ	Mavora Lakes	0.62	119	⇑PN	P	01 22 20.8	-0.4
MLZ				SN	S	01 22 32.4	-0.4
WHZ	Wether Hill Ro	0.93	156	P	P	01 22 24.0	-0.4
WHZ				S	S	01 22 37.3	-1.4
WHZ	Wether Hill Ro	0.93	156	PN	P	01 22 24.0	-0.5
WHZ				SN	S	01 22 37.3	-1.3
WKZ	Wanaka	1.17	80	P	P	01 22 27.2	-0.1
WKZ	Wanaka	1.17	80	⇑PN	P	01 22 27.2	-0.1
WKZ				SN	S	01 22 42.8	-0.9
EAZ	Earnscleugh	1.36	99	P	P	01 22 29.3	-0.6
EAZ				S	S	01 22 46.8	-1.1
EAZ	Earnscleugh	1.36	99	PN	P	01 22 29.3	-0.5
EAZ				SN	S	01 22 46.3	-1.6
JCZ	Jackson Bay	1.37	45	eP	P	01 22 29.3	-0.7
JCZ	Jackson Bay	1.37	45	⇑PN	P	01 22 29.3	-0.6
JCZ				SN	S	01 22 46.9	-1.1
TUZ	Tuapeka	1.81	121	P	P	01 22 34.8	-0.9
TUZ	Tuapeka	1.81	121	PN	P	01 22 34.8	-0.9
LBZ	Lake Benmore	2.09	73	eP	P	01 22 37.6	-1.8
LBZ	Lake Benmore	2.09	73	PN	P	01 22 37.5	-1.9
FOZ	Fox Glacier	2.21	49	eP	P	01 22 40.2	-0.9
FOZ	Fox Glacier	2.21	49	PN	P	01 22 40.1	-1.0
ODZ	Otahua Downs	2.30	91	P	P	01 22 40.5	-1.8
ODZ				S	S	01 23 05.5	-4.1
ODZ	Otahua Downs	2.30	91	⇓PN	P	01 22 40.5	-1.8
ODZ				SN	S	01 23 05.1	-4.6
RPZ	Rata Peaks	2.94	64	eP	P	01 22 45.0	-6.2
RPZ	Rata Peaks	2.94	64	PN	P	01 22 48.1	-3.1
LTZ	Lake Taylor	4.18	59	eP	P	01 23 04.2	-4.2
LTZ	Lake Taylor	4.18	59	ePN	P	01 23 04.2	-4.2

*NIED **17** 02:36:00, 43.80N×147.40E, h44km, Mw3.6 Best double couple: $M_0 2.75\times10^{14}$ NP1:ϕ_s17°, δ67°, λ75°. NP2:ϕ_s231°, δ27°, λ121°.*

JMA 17 02:36:57.0±0.2**, 43.79N×147.36E, h16**km**, M4.1, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.25	251	P	Pb	02 37 19.7	0.0
NEM2				eS	Sb	02 37 36.0	+0.6
JRA	Rausu	1.62	276	P	Pn	02 37 25.4	+0.1
JRA				eS	Sn	02 37 46.9	+1.0
JNK	Nakash	1.93	265	P	Pn	02 37 29.7	+0.1
JNK				eS	Sn	02 37 53.6	0.0
JAK	Akkeshi	2.10	249	P	Pn	02 37 31.9	-0.1
JAK				eS	Sn	02 37 57.0	-0.9
JTKR	Abashiri--Toko	2.50	275	P	Pn	02 37 37.9	+0.1
JAR	Ashorobuto	2.66	261	P	Pn	02 37 40.5	+0.5
JAR				eS	Sn	02 38 11.8	-0.4
JOB	Onbets	2.72	252	P	Pn	02 37 41.3	+0.4
JOB				eS	Sn	02 38 14.2	+0.4
JMP	Maruseppu	2.90	276	P	Pn	02 37 43.6	+0.1
JCH	Churui	3.15	249	P	Pn	02 37 46.6	-0.4
JCH				eS	Sn	02 38 23.7	-0.9
JNBK	Urakawa-nobuka	3.70	248	P	Pn	02 37 54.3	-0.5

*IDC **17** 02:42:36.1±1.0, 8.36N×93.51E, mb3.9/10, mb1 4.0/10, mb1mx3.9/19, mbtmp3.9/10, Error ellipse: s-maj=61.4km s-min=19.3km az=58.0*

*NEIC **17** 02:42:40.6±0.6, 8.30N×93.56E, h30km, mb4.2/8, Error*

ellipse: s-maj=26.6km s-min=7.2km az=52.0

ISC 17 02:42:38.8±0.8, 8.4N±0.2×93.7E±0.2, h30km, n21, σ0s69/20, mb4.0/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	7.59	113	eP	Pn	02 44 29.7	-0.6
PKI	Pulchoki	20.64	339	eP	P	02 47 18.8	+0.2
	8.8nm,0.5s						
DMN	Daman	20.78	338	eP	P	02 47 20.4	+0.3
	13nm,0.7s						
GUN	Gumba	20.79	340	eP	P	02 47 21.9	+1.7
	18nm,0.6s						
KKN	Kakani	20.88	339	eP	P	02 47 21.6	+0.5
	4.4nm,0.1s						
GKN	Gorkha	21.31	338	eP	P	02 47 25.4	-0.1
	11nm,0.5s,mb4.4						
KOLN	Koldanda	21.52	335	eP	P	02 47 26.9	-0.7
	15nm,0.8s,mb4.5						
MKAR	Makanchi Array	39.51	348	P	P	02 50 08.5	-0.1
	0.6nm,0.6s,mb3.5,baz=170,slow=7.4,SNR=5.0						
ZAL	Zalesovo	46.01	353	P	P	02 51 01.5	+0.3
	1.5nm,0.4s,mb4.3,baz=300,slow=10,SNR=8.4						
NWAO	Narrogin (SRO)	46.80	153	P	P	02 51 09.2	+1.4
	6.2nm,0.9s,mb4.5,baz=344,slow=10,SNR=5.6						
BVAR	Borovoye Array	48.38	341	P	P	02 51 18.9	-1.0
	0.3nm,0.6s,mb3.5,baz=143,slow=7.2,SNR=2.9						
WRA	Warramunga Arr	48.94	126	P	P	02 51 24.3	-0.3
	1.1nm,0.7s,mb4.0,baz=307,slow=8.5,SNR=8.3						
WRAB	Tennant Creek	48.94	126	eP	P	02 51 24.7	+0.1
	0.9nm,0.4s,mb4.2						
MJAR	Matsushiro Arr	49.20	48	PcP	PcP	02 52 49.4	-0.2
	0.8nm,0.6s,baz=250,slow=4.4,SNR=4.3						
BRTR	Keskin Array B	61.75	311	P	P	02 52 55.8	-1.2
	0.9nm,0.7s,mb4.0,baz=117,slow=8.3,SNR=6.1						
FINES	FINESS Array B	72.06	332	P	P	02 54 01.8	-0.1
	1.0nm,0.7s,mb3.9,baz=108,slow=6.0,SNR=5.7						
ARCES	ARCESS Array B	74.65	340	P	P	02 54 17.1	+0.3
	1.0nm,0.8s,mb3.8,baz=104,slow=5.0,SNR=5.7						
GERES	GERESS Array B	77.14	318	P	P	02 54 31.0	-0.4
	0.3nm,0.6s,mb3.4,baz=108,slow=4.2,SNR=4.7						
NB2	NORSAR Subarra	79.07	331	P	P	02 54 41.2	-0.5
	0.7nm,0.8s,mb3.6,baz=96,slow=5.3						
NOA	NORSAR Array B	79.07	331	P	P	02 54 41.7	+0.1
	0.4nm,0.7s,mb3.5,baz=92,slow=5.6,SNR=4.3						
NOA	NORSAR Array B	79.07	331	P	P	02 54 41.7	+0.1

IDC 17 03:46:00.6±5.9, 0.90N×96.89E, mb3.8/4, mb1 4.0/4, mb1mx3.6/18, mbtmp3.8/4, Error ellipse: s-maj=284.2km s-min=27.9km az=53.0

NEIC 17 03:46:06.2±1.3, 1.13N×97.22E, h30km, Error ellipse: s-maj=27.3km s-min=20.5km az=52.0

ISC 17 03:46:04.2±1.6, 1.2N±0.2×97.2E±0.2, h30km, n5, σ0s72/5, mb3.8/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.36	40	eP	Pn	03 47 24.2	-0.1
KULM				e		03 47 30.6	
WRA	Warramunga Arr	42.02	122	P	P	03 53 55.0	0.0
	0.5nm,0.7s,mb3.3,baz=301,slow=8.9,SNR=5.6						
MKAR	Makanchi Array	47.27	346	P	P	03 54 37.0	+0.3
	0.9nm,0.6s,mb3.9,baz=161,slow=7.4,SNR=10						
ZAL	Zalesovo	53.58	351	P	P	03 55 25.4	+0.7
	1.5nm,0.6s,mb4.1,baz=255,slow=0.7,SNR=7.0						
BVAR	Borovoye Array	56.28	341	P	P	03 55 43.4	-0.9
	1.1nm,0.7s,mb4.0,baz=143,slow=7.4,SNR=7.2						

MOS 17 04:20:36.5±1.2, 10.20S×116.75E, h33km, mb4.8/12, Error ellipse: s-maj=22.8km s-min=9.8km az=119.0

BJI 17 04:20:38.0, 10.20S×116.50E, h42km, mB5.3, mb4.7

IDC 17 04:20:39.5±0.8, 10.23S×116.74E, h42km±6km, mb4.3/9, mb1 4.3/11, mb1mx4.1/18, mbtmp4.4/11, ML4.1/2, MS3.9/2, Ms1 3.8/2, ms1mx3.0/19, Error ellipse: s-maj=30.1km s-min=17.6km az=69.0

NEIC 17 04:20:40.1±0.4, 10.18S×116.49E, mb4.7/14, Error ellipse: s-maj=17.1km s-min=7.4km az=49.0

ISC 17 04:20:36.4±0.4, 10.39S±0.08×116.70E±0.09, h42km, h42km±1.3km:pP-P, n60, σ1s10/60, mb4.6/30, MS3.9/2, 4C, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBWA	Marble Bar	11.10	165	ePn	P	04 23 11.6	-3.8
	17nm,0.3s						
FITZ	Fitzroy Crossi	11.56	132	eP	P	04 23 21.3	-0.5
	10nm,0.6s						
FITZ				eS	S	04 25 25.5	-5.1
FITZ	Fitzroy Crossi	11.56	132	P	P	04 23 21.0	-0.8
	2.8nm,0.3s,baz=327,slow=5.5,SNR=38						
FITZ				S	S	04 25 21.6	-9.0
	6.6nm,0.3s,baz=183,slow=15,SNR=8.5						
KSM	Kuching	13.39	331	eP	P	04 23 43.5	-2.8
KKM	Kota Kinabalu	16.34	358	eP	P	04 24 29.6	+5.2
WRA	Warramunga Arr	19.48	121	P	P	04 25 03.8	+1.1
	0.4nm,0.3s,baz=292,slow=13,SNR=14						
WRA				S	S	04 28 32.9	-2.0
	0.3nm,0.3s,baz=326,slow=36,SNR=5.0						
WRAB	Tennant Creek	19.48	121	eP	P	04 25 02.5	-0.2
WB2	Warramunga Arr	19.49	121	eP	P	04 25 06.9	+4.1
KULM	Kulim	22.32	314	eP	P	04 25 31.5	-0.4
NWAO	Narrogin (SRO)	22.43	179	eP	P	04 25 37.0	+4.1
NWAO				S	S	04 29 31.8	+0.1
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NWAO	Narrogin (SRO)	22.43	179	P	P	04 25 37.3	+4.4
	comp=Z,8.6nm,0.7s,mb4.3,baz=346,slow=12,SNR=4.3						
NWAO				S	S	04 29 31.8	+0.1
	comp=Z,3.4nm,0.4s,baz=259,slow=17,SNR=3.4						
NWAO	Narrogin (SRO)	22.43	179	eP	P	04 25 37.0	+4.1
	comp=Z,6.8nm,0.7s,mb4.2						
NWAO				S	S	04 29 31.8	+0.1
CTA	Charters Tower	30.05	112	P	P	04 26 49.8	+5.8
	comp=Z,2.8nm,0.6s,mb4.2,baz=271,slow=14,SNR=4.9						
STKA	Stephens Creek	31.42	137	LR	LR	04 41 14.4	
	comp=Z,188nm,19.1s,MS3.8,baz=236,slow=39						
ENH	Enshi	41.02	350	eP	P	04 28 17.4	0.0
	comp=Z,5.9nm,0.5s,mb4.5						
SSE	Sheshan	41.47	6	P	P	04 28 22.6	+1.5
SSE				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,399nm,8.7s						
NJ2	Nanjing	42.25	3	eP	P	04 28 27.4	-0.1
NJ2				AP	pP	04 28 37.1	-2.1
NJ2				XP	sP	04 28 41.0	-3.3
NJ2				PP	PP	04 30 08.8	+0.3
NJ2				S	S	04 34 45.0	+0.2
NJ2				XS		04 35 01.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
LSA	Lhasa	46.85	329	eP	P	04 29 05.3	+0.9
LSA	Lhasa	46.85	329	P	P	04 29 05.0	+0.6
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
LSA	Lhasa	46.85	329	P	P	04 29 05.0	+0.6
	comp=Z,4.6nm,0.6s,mb4.6						
GUN	Gumba	48.38	323	eP	P	04 29 15.7	-0.7
	comp=Z,27nm,0.7s,mb5.4						
PKI	Pulchoki	48.41	322	eP	P	04 29 15.6	-1.0
	comp=Z,13nm,0.8s,mb5.0						
PKI	Pulchoki	48.41	322	eP	P	04 29 15.6	-1.0
PKI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
DMN	Daman	48.62	322	eP	P	04 29 16.6	-1.7
	comp=Z,37nm,1.0s,mb5.4						
KKN	Kakani	48.65	322	eP	P	04 29 17.0	-1.5
	comp=Z,16nm,0.7s,mb5.2						
KKN	Kakani	48.65	322	eP	P	04 29 17.0	-1.5
KKN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
GKN	Gorkha	49.19	322	eP	P	04 29 21.6	-1.1
	comp=Z,17nm,0.5s,mb5.3						
KOLN	Koldanda	49.67	321	eP	P	04 29 25.0	-1.3
	comp=Z,17nm,0.7s,mb5.2						
MJAR	Matsushiro Arr	50.88	22	P	P	04 29 35.4	-0.2
	comp=Z,4.0nm,0.8s,mb4.4,baz=199,slow=8.4,SNR=16						
SONM	Songino Array	58.69	352	P	P	04 30 31.9	-0.2
	comp=Z,1.2nm,0.3s,mb4.3,baz=344,slow=21,SNR=4.1						
MKAR	Makanchi Array	64.69	335	P	P	04 31 11.9	-0.5
	comp=Z,3.0nm,0.5s,mb4.6,baz=153,slow=7.3,SNR=27						
MKAR				pP	pP	04 31 24.7	+0.1
	comp=Z,2.4nm,0.5s,baz=134,slow=6.5,SNR=8.8						
AAK	Ala-Archa	65.36	327c	iP	P	04 31 16.2	-0.6
AAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
AAK	Ala-Archa	65.36	327	eP	P	04 31 16.1	-0.7
	comp=Z,7.1nm,0.9s,mb4.7						
KKAR	Karatay Array	67.86	325	P	P	04 31 31.9	-0.7
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
KURK	Kurchatov	69.27	335	eP	P	04 31 41.0	-0.2
KURK				e*PP	pP	04 31 53.5	0.0
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
KURK	Kurchatov	69.27	335	eP	P	04 31 41.0	-0.2
	comp=Z,8.4nm,0.9s,mb4.7						
KURK				epP	pP	04 31 53.5	0.0
ZAL	Zalesovo	69.56	341	P	P	04 31 42.9	0.0
	comp=Z,3.7nm,0.5s,mb4.6,baz=296,slow=4.7,SNR=10						
VOSK	Vostochnaya	74.01	333	P	P	04 32 09.2	-0.2
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BVAR	Borovoye Array	74.47	333	P	P	04 32 12.6	+0.5
	comp=Z,4.0nm,0.7s,mb4.5,baz=143,slow=8.3,SNR=33						
BVAR				pP	pP	04 32 25.5	+1.0
	comp=Z,3.6nm,0.7s,baz=148,slow=6.7,SNR=9.2						
BRVK	Borovoye	74.54	333	eP	P	04 32 12.7	+0.2
BRVK				e*PP	pP	04 32 25.5	+0.6
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
BRVK	Borovoye	74.54	333	eP	P	04 32 12.7	+0.2
	comp=Z,4.2nm,1.1s,mb4.3						
BRVK				epP	pP	04 32 25.5	+0.6
ZRNK	Zerenda	75.05	332	eP	P	04 32 15.7	+0.3
ZRNK				e*PP	pP	04 32 27.9	+0.1
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ZRNK	Zerenda	75.05	332	eP	P	04 32 15.7	+0.2
	comp=Z,5.2nm,0.7s,mb4.6						
ZRNK				epP	pP	04 32 27.9	+0.1
AB31	Akbulak array	77.41	326	P	P	04 32 29.1	+0.2
AB31				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
SEY	Seymchan	78.10	16	⇑iP	P	04 32 34.0	+1.6
SVE	Sverdlovsk	81.24	333	eP	P	04 32 50.9	+1.5
ARU	Arti	81.98	332	⇑iP	P	04 32 53.8	+0.5
ARU				e		04 36 00.5	
ARU				eS	S	04 43 03.8	+1.0
ARU				eSS	SS	04 48 24.5	-0.9
ARU				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
TIXI	Tiksi	82.26	4	⇑eP	P	04 32 56.2	+1.8
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
MATP	Matopo	84.77	250	pP	pP	04 33 23.4	+2.5
	comp=Z,2.8nm,0.8s,baz=126,slow=3.6,SNR=4.0						
BOSA	Boshof	86.35	242	P	P	04 33 18.6	+2.8
	comp=Z,1.6nm,0.8s,mb4.3,baz=183,slow=20,SNR=3.5						
BOSA				pP	pP	04 33 30.4	+1.9
	comp=Z,3.2nm,0.8s,baz=98,slow=9.9,SNR=3.5						
BOSA				LR	LR	05 09 39.0	
	comp=Z,55nm,18.2s,MS4.0,baz=214,slow=34						
MALT	Malatya	87.33	310	eP	P	04 33 23.3	+2.9
MALT				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.7						
MALT	Malatya	87.33	310	eP	P	04 33 23.3	+2.9
	comp=Z,4.5nm,0.9s,mb4.7						
SNAA	Sanae	89.05	196	eP	P	04 33 27.7	-0.2
BRTR	Keskin Array B	91.28	310	P	P	04 33 40.9	+1.8
	comp=Z,3.1nm,0.9s,mb4.7,baz=114,slow=5.7,SNR=13						
BRTR				pP	pP	04 33 53.4	+1.5
	comp=Z,2.2nm,0.9s,baz=138,slow=4.9,SNR=6.0						
FINES	FINESS Array B	99.34	331	P	P	04 34 15.7	+0.6
	comp=Z,1.2nm,1.0s,mb4.4,baz=151,slow=20,SNR=4.8						
FINES				pP	pP	04 34 29.8	+1.8
	comp=Z,0.5nm,0.6s,baz=135,slow=8.1,SNR=1.4						
WCI	Wyandotte Cave	145.46	33	ePKIKP	PKPdf	04 40 13.9	+3.6
WVT	Waverly	146.08	37	ePKP2	PKPab	04 40 16.5	+1.4
TZTN	Tazewell	148.16	32	ePKPbc	PKPdf	04 40 22.6	+7.8
LRAL	Lakeview Retre	148.65	40	ePKPbc	PKPdf	04 40 24.0	+8.3
BDFB	Brasilia	150.03	211	pPKPbc		04 40 40.4	
	comp=Z,1.5nm,0.5s,baz=138,slow=4.6,SNR=2.5						

LJU 17 04:31:09.3, 46.31N×13.25E, h11km, ML1.3

ROM 17 04:31:09.1±0.1, 46.35N×13.26E, h10km±1km, Md2.5/2, Ml2.2, Error ellipse: s-maj=1.7km s-min=0.6km az=36.0

ISC 17 04:31:09.2±0.8, 46.31N±0.03×13.25E±0.03, h12km±6km, n16, σ0s53/31, 2C-8D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BAD	Bernadia	0.08	184	⇓iPg	Pg	04 31 11.5	-0.3
BAD				i Sg	Sg	04 31 13.0	-0.6
BOO	Bordano	0.10	273	⇓iPg	Pg	04 31 12.0	-0.2
BOO				i Sg	Sg	04 31 13.9	-0.3
PTCC	Patocco-Chiusa	0.12	38	⇑ePg	Pg	04 31 12.0	-0.3
PTCC				Sg	Sg	04 31 13.9	-0.5
	58nm,0.2s						
BUA	Buia	0.13	223	⇓iPg	Pg	04 31 12.6	0.0
BUA				i Sg	Sg	04 31 15.1	+0.3
ROBS	Robic	0.19	111	⇓iPg	Pg	04 31 13.2	-0.3
ROBS				i Sg	Sg	04 31 16.4	0.0
	comp=Z,64nm,0.1s						
MPRI	Monte Prat	0.20	249	⇓ePg	Pg	04 31 13.7	+0.1
MPRI				eSg	Sg	04 31 16.7	+0.1
COLI	Coloredo	0.20	154	⇓iPg	Pg	04 31 13.6	-0.1
COLI				i Sg	Sg	04 31 17.4	+0.7
LSR	Lussari	0.25	50	⇓iPg	Pg	04 31 14.6	0.0
LSR				eSg	Sg	04 31 18.7	+0.5
DRE	Drenchia	0.31	117	⇓iPg	Pg	04 31 15.2	-0.4
DRE				i Sg	Sg	04 31 20.6	+0.7
ZOU	Zoufplan	0.31	322	⇑iPg	Pg	04 31 15.8	+0.1
ZOU				eSg	Sg	04 31 20.9	+0.8
CADS	Cadrg	0.35	104	i Pg	Pg	04 31 15.9	-0.5
CADS				i Sg	Sg	04 31 21.8	+0.5
	comp=Z,4.0nm,0.1s						
FVI	Forni Avoltri	0.43	311	Pg	Pg	04 31 17.7	-0.3
FVI				Sg	Sg	04 31 24.8	+0.8
	comp=Z,12nm,0.2s						
GORS	Gorjuse	0.52	89	i Pg	Pg	04 31 19.2	-0.5
GORS				i Sg	Sg	04 31 26.7	0.0
	comp=Z,4.0nm,0.1s						
VOJS	Vojsko	0.52	123	i Pg	Pg	04 31 19.1	-0.7
VOJS				i Sg	Sg	04 31 27.8	+0.9
JAVS	Javornik	0.70	126	i Pg	Pg	04 31 22.2	-1.2
JAVS				i Sg	Sg	04 31 33.9	+1.0
	comp=Z,1.0nm,0.0s						
VISS	Visnje	1.22	114	i Pg	Pg	04 31 33.3	-0.3

PLV 17 05:01:53.3±1.6, 23.23N×104.21E, h4km±7km, MD3.2

BJI 17 05:01:48.1, 23.43N×104.11E, h9km, ML3.5, Ms4.2, Msz3.8, 2C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGV	Tuan Giao	1.94	199	ePN	Pn	05 02 23.8	+2.1
TGV				ePG	Pg	05 02 26.8	-0.1
TGV				eSG	Sg	05 02 51.8	-1.0
KMI	Kunming	2.10	324	PG	Pn	05 02 24.6	+0.7
KMI				SG	Sn	05 02 51.0	+0.6
KMI				Smax			
	comp=N,123nm,0.7s						
KMI				Smax			
	comp=E,129nm,0.9s						
DBV	Dienbien	2.27	207	ePN	Pn	05 02 29.4	+3.1
DBV				ePG	Pg	05 02 33.6	+0.3
DBV				eSG	Sg	05 03 02.8	-0.8
BVV	Ba Vi	2.59	153	ePn	Pn	05 02 32.8	+1.9
BVV				ePg	Pg	05 02 39.6	-0.3
BVV				eSg	Sg	05 03 09.9	-4.6
MTZV	Met	2.79	132	ePn	Pn	05 02 36.2	+2.5
MTZV				ePg	Pg	05 02 43.9	+0.1
MTZV				eSg	Sg	05 03 17.3	-3.7
KSVV	Ky Son	2.79	155	ePN	Pn	05 02 36.5	+2.7
KSVV				ePG	Pg	05 02 45.0	+1.1
KSVV				eSG	Sg	05 03 19.9	-1.2
HBVN	Hoa-Binh	2.84	156	ePG	Pg	05 02 42.9	-1.8
HBVN				eSG	Sg	05 03 17.1	-5.4
HNV	Hanoi	2.84	146	ePn	Pn	05 02 36.8	+2.3
HNV				ePg	Pg	05 02 44.6	-0.2
HNV				eSG	Sg	05 03 19.0	-3.7
BGV	Bac-Giang	2.89	137	ePn	Pn	05 02 37.4	+2.1
BGV				ePg	Pg	05 02 45.0	-0.9
BGV				eSg	Sg	05 03 19.6	-4.9
YTV	Yen Tu	3.31	133	ePn	Pn	05 02 43.6	+2.4
YTV				ePg	Pg	05 02 52.9	-1.2
YTV				eSg	Sg	05 03 34.3	-4.0
DSV	Doi Son	3.32	148	ePn	Pn	05 02 42.9	+1.6
DSV				ePg	Pg	05 02 52.1	-2.2
DSV				eSg	Sg	05 03 32.3	-6.2
PLV	Phu-Lien	3.50	138	ePn	Pn	05 02 46.4	+2.5
PLV				ePg	Pg	05 02 56.3	-1.7
PLV				eSg	Sg	05 03 39.1	-5.7
GYA	Guiyang	3.80	37	⇑iP	Pn	05 02 48.0	-0.2
GYA				PG	Pg	05 02 59.1	-4.9
GYA				S	Sn	05 03 29.5	-4.1
GYA				SG	Sg	05 03 44.3	-10
GYA				Smax			
	comp=N,290nm,0.8s						
GYA				Smax			
	comp=E,130nm,0.7s						
GYA				LR	LR		
	comp=N,1µm,6.3s						
GYA				LR	LR		
	comp=E,1µm,7.5s						
GYA				LR	LR		
	comp=Z,760nm,6.9s						
CHRT	Chiangrai	5.36	229	⇑PN	Pn	05 03 11.0	+0.7
CHRT				PG	Pg	05 03 31.0	-4.1
CHRT				SG	Sg	05 04 44.5	-2.1
NANT	Nan	5.60	215	P	Pg	05 03 35.0	-4.9
	comp=Z,88nm,0.9s						
QIZ	Qiongzhong	6.91	128	eP	Pn	05 03 33.8	+1.7

KRSC 17 05:31:50.2±0.5, 53.72N×166.77E, h41km±46km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	Bering	1.56	343	eP	P	05 32 14.2	-1.7
BKI				eS	S	05 32 32.3	-2.8
BKI				Smax			
	110nm,0.5s						
MKZ	Mys Kozlova	3.08	288	i P	P	05 32 37.6	0.0
MKZ				eS	S	05 33 12.5	-1.1
KBTR	Krutoberegovo	3.38	319	eP	P	05 32 40.3	-1.5
KBTR				eS	S	05 33 18.8	-2.3
SPN	Mys Shipunski	4.09	264	eP	P	05 32 51.9	+0.1
SPN				eS	S	05 33 36.7	-2.4
TUMR	Tumrok	4.17	295	eP	P	05 32 54.5	+1.5
TUMR				eS	S	05 33 41.1	0.0
KMNR	Kamenistaya	4.30	301	eP	P	05 32 55.4	+0.5
KMNR				eS	S	05 33 43.1	-1.4
KII	Karymskiy	4.34	277	i P	P	05 32 56.0	+0.5
KII				eS	S	05 33 43.4	-2.2
NLC	Nalytchevo	4.47	266	i P	P	05 32 57.3	-0.1
NLC				i S	S	05 33 46.0	-2.8
SDLR	Sedlovina	4.73	268	i P	P	05 33 01.2	+0.2
UGLR	Uglovaya	4.78	267	i P	P	05 33 01.9	+0.3
SMAR	Somma	4.78	268	i P	P	05 33 01.9	+0.2
AVH	Avacha	4.82	268	eP	P	05 33 02.4	+0.2
AVH				eS	S	05 33 54.5	-3.0
KOK	Koryaka	4.88	268	eP	P	05 33 03.2	+0.2
PET	Petropavlovsk	4.91	265	eP	P	05 33 02.7	-0.8
PET				eS	S	05 33 55.8	-4.0
RUS	Russkaya	5.14	259	eP	P	05 33 06.4	-0.4
RUS				eS	S	05 34 02.3	-3.4
GNL	Ganaly	5.25	273	eP	P	05 33 09.0	+0.8
GNL				eS	S	05 34 06.3	-1.9
APC	Apacha	5.82	266	eP	P	05 33 15.6	-0.6

PLV 17 05:45:25.9±1.7, 23.36N×105.32E, h4km±8km, MD4.2

BJI 17 05:45:31.5, 23.46N×104.91E, h30km, ML3.7, Ms3.9, Msz3.7, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DHV	Doan Hung	1.84	172	ePn	Pn	05 45 56.9	-4.8
DHV				ePg	Pn	05 45 59.9	-1.8
DHV				eSG	Sn	05 46 22.8	-1.4
TDV	Tam Dao	2.10	161	ePn	Pn	05 45 58.9	-6.5
TDV				ePg	Pn	05 46 03.2	-2.2
TDV				eSg	Sn	05 46 27.2	-3.5
MTZV	Met	2.32	145	ePn	Pn	05 46 01.2	-7.3
MTZV				ePg	Pn	05 46 05.5	-3.1
MTZV				eSG	Sn	05 46 33.1	-3.2
BVV	Ba Vi	2.38	170	ePn	Pn	05 46 04.7	-4.8
BVV				ePG	Pn	05 46 09.7	+0.2
BVV				eSg	Sn	05 46 40.0	+2.0
BGV	Bac-Giang	2.48	150	ePn	Pn	05 46 03.2	-7.6
BGV				ePg	Pn	05 46 08.3	-2.5
BGV				eSg	Sn	05 46 36.8	-3.6
HNV	Hanoi	2.54	161	ePn	Pn	05 46 06.3	-5.4
HNV				ePG	Pn	05 46 11.9	+0.3
HNV				eSg	Sn	05 46 44.5	+2.6
KMI	Kunming	2.58	310	PG	Pn	05 46 18.9	+6.6
KMI				S	Sn	05 46 44.6	+1.6
KMI				Smax			
	comp=N,133nm,1.0s						
KMI				Smax			
	comp=E,171nm,1.0s						
YTV	Yen Tu	2.84	144	ePN	Pn	05 46 08.9	-7.0
YTV				ePg	Pn	05 46 14.8	-1.1
YTV				eSG	Sn	05 46 49.3	-0.2
DSV	Doi Son	3.02	161	ePn	Pn	05 46 11.4	-7.2
DSV				eSG	Sn	05 46 55.6	+1.5
PLV	Phu-Lien	3.08	149	ePn	Pn	05 46 11.2	-8.2
PLV				ePg	Pn	05 46 19.6	+0.2
PLV				eSg	Sn	05 46 56.4	+0.7
GYA	Guiyang	3.38	28	P	Pn	05 46 22.5	-1.1
GYA				Smax			
	comp=N,260nm,0.8s						
GYA				Smax			
	comp=E,250nm,0.9s						
GYA				LR	LR		
	comp=N,1µm,6.2s						
GYA				LR	LR		
	comp=E,1µm,7.4s						
GYA				LR	LR		
	comp=Z,840nm,7.0s						
GZH	Guangzhou	7.76	91	PG	Pn	05 47 49.8	+24
GZH				SG	Sn	05 49 26.1	+33
GZH				Smax			
	comp=N,130nm,0.8s						
GZH				Smax			
	comp=E,48nm,0.8s						

MDD 17 05:51:35.3±0.3, 38.31N×6.70W, mbLg2.2/10, Error ellipse: s-maj=4.1km s-min=1.8km az=64.0, PRXIMO

INMG 17 05:51:35.4±1.2, 38.31N×6.68W, ML2.0, Error ellipse: s-maj=2.6km s-min=1.9km az=69.0

IGIL 17 05:51:37.9, 38.31N×6.68W, h0km, ML2.7

ISC 17 05:51:33.1±0.4, 38.35N±0.02×6.68W±0.03, n22, σ1s22/36, 4D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EBAD	Badajoz	0.48	328	⇓Pg	Pg	05 51 44.4	+1.7
	13nm,0.1s,SNR=18						
EBAD				Lg		05 51 51.6	
	35nm,0.1s,SNR=24						
EMIN	Mina Concepcio	0.58	179	⇓Pg	Pg	05 51 45.1	+0.5
	3.8nm,0.0s,SNR=18						
EMIN				Lg		05 51 52.1	
	17nm,0.1s,SNR=5.0						
PBEJ	Beja	0.99	251	eP	Pb	05 51 53.0	+0.3
PBEJ				eS	Sg	05 52 05.3	-0.6
	18nm,0.1s						
EGRO	El Granado	1.03	218	⇓Pg	Pg	05 51 54.1	+0.4
	5.4nm,0.1s,SNR=18						
EGRO				Lg		05 52 07.3	
	23nm,0.1s,SNR=18						
ECAB	El Cabril	1.03	105	⇓Pg	Pg	05 51 54.1	+0.4
	3.4nm,0.1s,SNR=18						
ECAB				Lg		05 52 07.9	
	27nm,0.2s,SNR=22						
PCBR	Castelo Branco	1.61	338	ePn	Pn	05 52 04.2	+1.3
PCBR				eSn	Sn	05 52 25.9	+1.1
	7.3nm,0.3s						
ESPR	Espera	1.62	156	Pg	Pg	05 52 04.9	-0.5
	1.4nm,0.1s,SNR=4.0						
ESPR				Lg		05 52 27.5	
	7.9nm,0.2s,SNR=4.0						
EADA	Adamuz	1.67	96	Pn	Pn	05 52 04.3	+0.6

	0.4nm,0.1s,SNR=36						
EADA				Pg	Pg	05 52 06.6	+0.2
	3.7nm,0.1s,SNR=7.9						
EADA				Lg		05 52 28.3	
	9.7nm,0.1s,SNR=14						
ALMR	Almeirim	1.69	299	eP	Pn	05 52 06.5	+2.5
ALMR				eS	Sb	05 52 28.4	+2.0
ALMR				eS	Sb	05 52 28.4	+2.0
ALMR				AML	AML	05 52 33.0	
	comp=E,71nm,0.7s						
PTEO	Sao Teotonio	1.80	244	ePg	Pg	05 52 08.1	-1.0
PTEO				eSg	Sg	05 52 31.4	-1.7
	comp=E,8.6nm,0.3s						
PTOM	Tomar	1.85	314	ePn	Pn	05 52 07.2	+0.9
PTOM				eSg	Sg	05 52 34.0	-0.7
	comp=E,14nm,0.3s						
PLOU	Loures	2.01	286	eSg	Sg	05 52 38.6	-1.3
	comp=E,8.2nm,0.2s						
MTE	Manteigas	2.15	342	ePg	Pg	05 52 15.2	-0.9
MTE				eSn	Sn	05 52 39.1	+0.6
	comp=E,16nm,0.8s						
EBAN	Banos Encina	2.29	94	Pn	Pn	05 52 12.9	+0.3
	comp=E,3.1nm,0.1s,SNR=9.6						
EBAN				Lg		05 52 47.5	
	comp=E,2.8nm,0.2s,SNR=5.7						
ELOJ	Sierra Loja	2.34	120	Pg	Pg	05 52 19.4	-0.4
	comp=E,0.4nm,0.1s,SNR=7.9						
ELOJ				Lg		05 52 50.0	
	comp=E,2.1nm,0.2s,SNR=7.9						
EMIJ	Mijas	2.34	139	Pg	Pg	05 52 16.4	-3.4
	comp=E,0.1nm,0.1s,SNR=4.0						
EMIJ				Lg		05 52 49.7	
	comp=E,1.8nm,0.2s,SNR=4.0						
PVIS	Viseu	2.54	339	ePn	Pn	05 52 17.6	+1.3
PVIS				eSn	Sn	05 52 48.8	+0.4
	comp=E,4.1nm,0.1s						
ERON	Agron	2.64	119	Sn	Sn	05 52 53.9	+3.0
	comp=E,0.5nm,0.2s,SNR=4.0						
ERON				Lg		05 53 01.2	
	comp=E,0.6nm,0.2s,SNR=4.0						
PBRG	Braganca	3.45	359	eSn	Sn	05 53 11.3	-0.1
PBRG				eSg	Sg	05 53 25.5	-2.5
	comp=E,3.3nm,0.4s						
ECAL	Calabor	3.59	359	Pn	Pn	05 52 32.3	+1.2
	comp=E,0.3nm,0.1s,SNR=7.9						
ECAL				Pg	Pg	05 52 42.9	-1.8
	comp=E,0.5nm,0.1s,SNR=4.5						
ECAL				Sn	Sn	05 53 13.5	-1.4
	comp=E,0.2nm,0.1s,SNR=7.9						
ECAL				Lg		05 53 29.8	
	comp=E,7.5nm,0.3s,SNR=7.9						
ELOB	Lobios	3.67	344	Pn	Pn	05 52 33.1	+0.8
	comp=E,0.5nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	05 53 15.4	-1.5
	comp=E,0.2nm,0.1s,SNR=7.9						
ELOB				Lg		05 53 32.1	
	comp=E,0.9nm,0.2s,SNR=7.9						
ETOB	Tobarra	4.04	84	Pn	Pn	05 52 36.6	-1.0
	comp=E,0.7nm,0.2s,SNR=6.2						
ETOB				Sn	Sn	05 53 24.4	-1.9
	comp=E,0.3nm,0.2s,SNR=7.9						
ETOB				Lg		05 53 44.4	
	comp=E,0.5nm,0.1s,SNR=5.0						

KRSC 17 06:08:10.9±0.6, 49.94N×156.27E, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.75	353	i P	Pg	06 08 27.0	+1.1
SKR				i S	Sg	06 08 39.0	+3.1
ALID	Alaid	1.04	334	eP	Pb	06 08 32.8	+1.4
ALID				eS	Sb	06 08 48.4	+3.0
PAU	Pauzhetka	1.57	12	eP	Pn	06 08 41.2	+1.1
PAU				eS	Sb	06 09 03.3	+2.5
PAU				Smax			
	830nm,0.3s						
MIPR	Malaya Ipel'ka	2.36	7	eP	Pn	06 08 52.3	+0.8
GRL	Gorelyy	2.85	23	P	Pn	06 08 59.1	+0.6
GRL				eS	Sn	06 09 34.0	0.0
RUS	Russkaya	2.87	29	eP	Pn	06 08 59.3	+0.6
RUS				eS	Sn	06 09 34.9	+0.5
APC	Apacha	3.04	10	eP	Pn	06 09 02.6	+1.4
APC				eS	Sn	06 09 39.7	+0.9
PET	Petropavlovsk	3.43	25	eS	Sn	06 09 49.6	+1.0
UGLR	Uglovaya	3.64	25	eP	Pn	06 09 12.3	+2.6
KOK	Koryaka	3.67	23	eP	Pn	06 09 12.6	+2.5
AVH	Avacha	3.67	24	eP	Pn	06 09 12.3	+2.2
AVH				eS	Sn	06 09 56.8	+2.1
SMAR	Somma	3.68	24	eP	Pn	06 09 11.6	+1.3
SDLR	Sedlovina	3.72	25	eP	Pn	06 09 12.8	+2.0
NLC	Nalytchevo	3.76	29	eP	Pn	06 09 11.3	-0.1
NLC				eS	Sn	06 09 56.2	-0.9
GNL	Ganaly	3.90	15	eP	Pn	06 09 15.2	+1.8
GNL				eS	Sn	06 10 01.5	+0.9
SPN	Mys Shipunski	3.94	35	P	Pn	06 09 14.1	+0.2
MKZ	Mys Kozlova	5.71	34	eS	Sn	06 10 42.9	-3.3
KBTR	Krutoberegovo	7.41	30	eP	Pn	06 10 02.7	-0.3

*LDG **17** 06:12:35.9±0.3, 26.41N×93.31E, h10km, Mb4.8/24, Ms3.9/8, Error ellipse: s-maj=15.8km s-min=5.5km az=171.0*

*MOS **17** 06:12:37.0±0.7, 26.25N×93.84E, h33km, mb5.0/64, MS4.3/21, Error ellipse: s-maj=14.9km s-min=4.2km az=127.8*

*NEIC **17** 06:12:40.7±0.2, 26.41N×93.39E, mb4.8/78, MS4.1/8, Error ellipse: s-maj=5.1km s-min=3.5km az=204.0*

NEIC Felt [IV] at Itanagar, Arunachal Pradesh. Felt at Dhemaji, Lakhimpur, Morigaon and Nagaon. Felt as far as Upper Assam and at Shillong, Meghalaya. Also felt in parts of Myanmar.

*IDC **17** 06:12:41.0±2.5, 26.48N×93.39E, h24km±15km, mb4.5/22, mb1 4.5/22, mb1mx4.5/24, mbtmp4.6/22, MS4.2/19, Ms1 4.2/19, ms1mx4.1/27, Error ellipse: s-maj=15.8km s-min=10.6km az=49.0*

*BJI **17** 06:12:40.6, 26.62N×93.44E, h28km, mB5.1, mb4.8, ML4.8, Ms4.7, Msz4.5*

ISC 17 06:12:39.6±0.9, **26.46N**±0.03×**93.40E**±0.02, **h30**km±6km, **h29**km±1.3km**: pP-P, n363,** σ1§**07**/377, **mb4.7**/121, **MS4.3**/43, **31C-14D, Northeastern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	1.63	237	eP	Pn	06 13 08.7	+2.0
SHL				eS	Sn	06 13 34.0	+7.2
IMP	Imphal	1.73	164	eP	Pn	06 13 11.0	+2.8
IMP				e		06 13 41.0	
IMP				e		06 14 04.0	
LKP	Lekhapani	2.53	69	eP	Pn	06 13 19.0	-0.6
LKP				eS	Sn	06 13 49.0	-0.8
AGT	Agartala	3.22	218	e	Pn	06 13 38.0	+8.6
LSA	Lhasa	3.80	329	PG	Pn	06 13 41.9	+4.4
LSA				SG	Sn	06 14 39.5	+18
LSA				Smax			
	comp=N,770nm,0.9s						
LSA				Smax			
	comp=E,1μm,0.8s						
LSA	Lhasa	3.80	329	eP	Pn	06 13 41.4	+3.9
GTK	Gangtok	4.36	283	eP	Pn	06 13 47.0	+1.4
GTK				e		06 14 59.0	
SLGI	Shiliguri	4.47	274	ePG	Pn	06 13 59.6	+12
SLGI				e		06 14 42.7	
SHBG	Sahibganj	5.32	258	eP	Pn	06 14 01.0	+2.0
GUN	Gumba	6.86	284	ePn	Pn	06 14 21.0	+0.2
GUN				eSn	Sn	06 15 39.1	+0.5
	comp=E,2μm,1.1s						
GUN	Gumba	6.86	284	ePn	Pn	06 14 21.0	+0.2
	comp=E,1μm,1.1s						
GUN				eSn	Sn	06 15 39.1	+0.5
PKI	Pulchoki	7.22	281	ePn	Pn	06 14 25.5	-0.3
PKI				eSn	Sn	06 15 45.8	-1.8
	comp=E,2μm,1.2s						
PKI	Pulchoki	7.22	281	eP	Pn	06 14 25.5	-0.3
PKI				e		06 15 45.8	
PKI				pmax	pmax		
	comp=Z,1μm,1.2s						
PKI	Pulchoki	7.22	281	ePn	Pn	06 14 25.5	-0.3
	comp=Z,1μm,1.2s						
PKI				eSn	Sn	06 15 45.8	-1.8
BOK	Bokaro	7.31	250	eP	Pn	06 14 26.5	-0.7
BOK				eS	Sn	06 15 45.0	-4.9
KKN	Kakani	7.36	282	ePn	Pn	06 14 27.0	-0.8
KKN				eSn	Sn	06 15 48.4	-2.8
	comp=Z,582nm,0.6s						
KKN	Kakani	7.36	282	ePn	Pn	06 14 27.0	-0.8
	comp=Z,291nm,0.6s						
KKN				eSn	Sn	06 15 48.4	-2.8
DMN	Daman	7.49	281	ePn	Pn	06 14 28.9	-0.7
DMN				eSn	Sn	06 15 52.1	-2.3
	comp=Z,2μm,1.1s						
DMN	Daman	7.49	281	ePn	Pn	06 14 28.9	-0.7
	comp=Z,842nm,1.1s						
DMN				eSn	Sn	06 15 52.1	-2.3
GKN	Gorkha	7.96	283	ePn	Pn	06 14 35.0	-1.1
GKN				eSn	Sn	06 16 03.4	-2.6
	comp=Z,2μm,1.1s						
GKN	Gorkha	7.96	283	ePn	Pn	06 14 35.0	-1.1
	comp=Z,1μm,1.1s						
GKN				eSn	Sn	06 16 03.4	-2.6
KMI	Kunming	8.52	97	P	P	06 14 44.9	+0.9
KMI				Smax			
	comp=N,50nm,1.9s						
KMI				Smax			
	comp=E,52nm,1.3s						
KMI				LR	LR		
	comp=N,2μm,6.4s						
KMI				LR	LR		
	comp=E,755nm,5.7s						
KMI				LR	LR		
	comp=Z,2μm,15.1s						
KOLN	Koldanda	8.83	281	ePn	P	06 14 46.3	-2.0
KOLN				eSn	Sn	06 16 23.4	-4.5
	comp=Z,251nm,0.5s						
KOLN	Koldanda	8.83	281	ePn	P	06 14 46.3	-2.0
	comp=Z,125nm,0.5s						
KOLN				eSn	Sn	06 16 23.4	-4.5
BWNR	Bhubaneshwar	9.29	230	eP	P	06 14 54.2	-0.4
BWNR				e		06 16 36.3	
BWNR				i		06 17 57.1	
CD2	Chengdu	10.12	62	eP	P	06 15 07.0	+1.0
NANT	Nan	10.17	137	P	P	06 15 07.0	+0.2
	comp=Z,162nm,0.6s						
ALBI	Allahabad	10.50	266	e	P	06 15 13.0	+1.7
BDT	Bhumibol Dam	10.54	149	P	P	06 15 11.0	-0.8
BLSP	Bilaspur	11.14	250	eP	P	06 15 18.1	-2.0
BLSP				eS	S	06 17 14.7	-10
GYA	Guiyang	11.88	87	P	P	06 15 30.6	+0.5
GYA				AP		06 15 37.8	
GYA				XP		06 15 40.9	
GYA				PPP	PPP	06 15 48.4	+2.1
GYA				S	S	06 17 42.6	0.0
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				LR	LR		
	comp=N,2μm,14.7s						
GYA				LR	LR		
	comp=E,690nm,9.0s						
GYA				LR	LR		
	comp=Z,890nm,11.1s						
LGTI	Lohaghat	12.01	287	e	P	06 15 39.7	+7.9
LGTI				e		06 17 48.0	
LZH	Lanzhou	13.10	40	⇓P	P	06 15 45.0	-1.3
LZH				AP		06 15 50.8	
LZH				XP		06 15 55.1	
LZH				eS	S	06 18 10.0	-1.9
LZH				XS		06 18 17.9	
LZH				SS	SS	06 18 27.5	+0.3
LZH				AMB	AMB		
	comp=Z,98nm,1.2s						
LZH				AMB	AMB		
	comp=Z,805nm,4.3s						
LZH				LR	LR		
	comp=N,2μm,8.3s						
LZH				LR	LR		
	comp=Z,4μm,10.2s						
KKTK	Khon Kaen	13.35	137	P	P	06 15 56.0	+6.4
GTA	Gaotai	13.99	21	eP	P	06 15 55.5	-2.5
GTA				AP		06 16 03.4	
GTA				XP		06 16 07.1	
GTA				S	S	06 18 27.4	-5.7
GTA				LG2		06 20 20.9	
GTA				AMB	AMB		
	comp=Z,10.0nm,1.3s						
GTA				AMB	AMB		
	comp=Z,114nm,5.7s						
GTA				LR	LR		
	comp=N,3μm,12.6s						
GTA				LR	LR		
	comp=E,2μm,15.2s						
GTA				LR	LR		
	comp=Z,3μm,16.0s						
DDI	Dehra Dun	14.05	289	eP	P	06 15 55.8	-3.0
DDI				e		06 18 29.0	
ENH	Enshi	14.66	71	P	P	06 16 08.3	+1.5
	comp=Z,381nm,0.9s						
BHPL	Bhopal	14.86	261	eP	P	06 16 09.2	-0.2
BHPL				AMb	AMB	06 16 26.3	
	comp=Z,66nm,1.0s						
BHPL				e		06 18 39.9	
BHPL				AML	AML	06 20 45.4	
	comp=N,60nm,0.5s						
BHPL				AML	AML	06 20 45.8	
	comp=E,41nm,0.5s						
SDNR	Sundarnagar	15.23	293	e	P	06 16 11.0	-3.3
XAN	Xi'an	15.38	57	P	P	06 16 13.1	-3.1
XAN				AP		06 16 21.4	
XAN				AMB	AMB		
	comp=Z,16nm,0.9s						
AKL	Akola	16.07	253	eP	P	06 16 28.0	+2.8
AKL				e		06 19 15.4	
	comp=Z,72nm,1.1s						
PONG	Pong	16.19	294	e	P	06 16 31.0	+4.4
HYB	Hyderabad	16.44	240	eP	P	06 16 28.5	-1.4
HYB				eS	S	06 19 29.0	-1.7
HYB	Hyderabad	16.44	240	eP	P	06 16 28.5	-1.4
HYB				e		06 19 19.0	
HYB				eS	S	06 19 29.0	-1.7
HYB	Hyderabad	16.44	240	i P	P	06 16 28.5	-1.4
HYB				e		06 19 19.0	
HYB				eS	S	06 19 29.0	-1.7
THN	Thein Dam	16.51	295	eP	P	06 16 32.6	+1.9
THN				e		06 22 31.2	
AJM	Ajmer	16.80	274	⇑iP	P	06 16 32.0	-2.4
QIZ	Qiongzhong	16.86	113	eP	P	06 16 37.6	+2.5
QIZ				SP		06 16 43.6	
QIZ				XP		06 16 46.9	
QIZ				S	S	06 19 46.3	+6.0
QIZ				AMB	AMB		
	comp=Z,39nm,1.2s						
QIZ				LR	LR		
	comp=E,374nm,13.9s						
QIZ				LR	LR		
	comp=Z,643nm,14.7s						
QIZ	Qiongzhong	16.86	113	eP	P	06 16 34.3	-0.8
	comp=Z,48nm,1.1s						
LATR	Latur	17.49	246	e	S	06 19 47.0	-7.7
WMQ	Urumqi	17.93	346	P	P	06 16 50.3	+1.9
WMQ				AP		06 16 56.3	
WMQ				XP		06 17 00.3	
WMQ				PP	PP	06 17 05.3	+2.3
WMQ				S	S	06 20 07.6	+3.0
WMQ				XS		06 20 17.1	
WMQ				AMB	AMB		
	comp=Z,77nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,52nm,4.8s						
WMQ				LR	LR		
	comp=N,1μm,16.3s						
WMQ				LR	LR		
	comp=E,2μm,16.4s						
WMQ				LR	LR		
	comp=Z,2μm,19.0s						
CHCP	Chirah Chowk	18.84	297	P	P	06 16 57.7	-1.8
WHN	Wuhan	18.85	73	⇑P	P	06 16 58.6	-1.1
KSH	Kashi	19.54	316	eP	P	06 17 09.1	+1.5
KSH				eAP		06 17 16.0	
KSH				eXP		06 17 19.1	
KSH				ePP	PP	06 17 27.3	+1.9
KSH				eS	S	06 20 42.1	+1.4
KSH				eXS		06 20 52.3	
KSH				eSS	SS	06 21 09.3	+1.8
KSH				ePCP	PcP	06 21 28.1	+1.3
KSH				ePCS		06 25 03.3	
KSH				AMB	AMB		
	comp=Z,760nm,3.3s						
KSH				LR	LR		
	comp=N,3μm,17.5s						
KSH				LR	LR		
	comp=E,2μm,11.4s						
POO	Poona	19.70	250	eP	P	06 17 08.5	-1.0
POO				AMb	AMB	06 17 20.4	
	comp=Z,40nm,1.0s						
POO				e		06 20 35.1	
BTO	Baotou	19.73	40	eP	P	06 17 07.4	-2.3
BTO				AMB	AMB		
	comp=Z,61nm,1.4s						
BTO				LR	LR		
	comp=N,1μm,9.5s						
BTO				LR	LR		
	comp=E,2μm,14.4s						
THW	Thamme Wali	19.85	294	P	P	06 17 09.5	-1.6
KAD	Karad	20.00	247	eP	P	06 17 15.0	+2.2
KAD				i		06 20 48.1	
SNG	Songkhla	20.37	159	P	P	06 17 16.5	-0.1
BOM	Bombay	20.42	253	eS	S	06 21 05.8	+6.7
BOM				e		06 23 13.5	
SBDP	Sheikh Budin	20.52	292	⇑P	P	06 17 18.4	+0.4
HHC	Hu-ho-hao-te	20.79	42	eP	P	06 17 18.8	-2.0
HHC				AP		06 17 25.5	
HHC				XP		06 17 28.9	
HHC				PP	PP	06 17 42.1	-0.8
HHC				S	S	06 21 10.0	+3.7
HHC				AMB	AMB		
	comp=Z,29nm,1.6s						
HHC				LR	LR		
	comp=N,2μm,13.1s,MS4.6						
HHC				LR	LR		
	comp=E,1μm,15.6s,MS4.6						
HHC				LR	LR		
	comp=Z,2μm,16.8s,MS4.5						
DRP	Derazinda	20.93	290	P	P	06 17 21.9	-0.4
ULHL	Ulahol	21.12	323	P	P	06 17 25.9	+1.8
	SNR=13						
KZA	Kyzart	21.56	321	P	P	06 17 30.9	+2.3
	SNR=15						
TKM2	Tokmak 2	21.93	323	P	P	06 17 34.1	+1.8
	SNR=27						
KBK	Karagaybulak	22.11	322	P	P	06 17 32.8	-1.3
	SNR=16						
MKAR	Makanchi Array	22.13	339	P	P	06 17 34.5	+0.3
	comp=Z,128nm,0.8s,mb5.4,baz=148,slow=13,SNR=202						
MKAR				S	S	06 21 38.7	+7.5
	comp=Z,0.6nm,0.5s,baz=356,slow=20,SNR=4.1						
MKAR				ScP		06 25 06.1	
	comp=Z,1.3nm,0.9s,baz=45,slow=2.0,SNR=3.8						
MKAR				LR	LR	06 26 11.1	
	comp=Z,174nm,20.2s,MS3.5,baz=166,slow=37						
MKAR	Makanchi Array	22.13	339	P	P	06 17 34.5	+0.3
MKAR				S	S	06 21 38.7	+7.5
MKAR				ScP		06 25 06.1	
MKAR				LR	LR	06 26 11.1	
KULM	Kulim	22.16	161	eP	P	06 17 34.1	-0.7
AAK	Ala-Archa	22.35	321	P	P	06 17 38.8	+2.3
	SNR=21						
AAK	Ala-Archa	22.35	321c	iP	P	06 17 37.7	+1.3
AAK				pmax	pmax		
	comp=Z,102nm,1.4s,mb5.1						
AAK				MLR	MLR		
	comp=Z,400nm,21.0s,MS3.8						
AAK	Ala-Archa	22.35	321	eP	P	06 17 37.4	+1.0
	comp=Z,80nm,1.1s,mb5.1						
FRU	Bishkek	22.41	322	eP	P	06 17 38.0	+1.0
FRU				e		06 17 47.0	
FRU				pmax	pmax		
	comp=Z,80nm,1.4s,mb5.0						
TIA	Tai'an	22.43	59	⇑P	P	06 17 37.4	+0.2
TIA				AMB	AMB		
	comp=Z,58nm,1.3s,mb4.8						
CHMS	Chumysh	22.44	322	P	P	06 17 38.5	+1.2
	SNR=11						
AML	Almayashu	22.49	319	P	P	06 17 38.9	+1.0
	SNR=8.3						
PALK	Pallekele	22.59	215	P	P	06 17 37.9	-1.2
	comp=Z,22nm,0.9s,mb4.6						
USP	Ospenovka	22.76	322	P	P	06 17 42.3	+1.8
	SNR=26						
EKS2	Erkin-Say	22.77	320	P	P	06 17 43.4	+2.8
	SNR=43						
NJ2	Nanjing	22.87	70	eP	P	06 17 42.0	+0.3
NJ2				AP		06 17 51.3	
NJ2				XP		06 17 55.4	
NJ2				PP	PP	06 18 11.4	+0.2
NJ2				S	S	06 21 42.0	-2.8
NJ2				XS		06 21 57.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.8						
NJ2				LR	LR		
	comp=N,4μm,15.8s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,19.4s,MS5.0						
NJ2				LR	LR		
	comp=Z,1μm,18.4s,MS4.4						
SONM	Songino Array	23.66	22	P	P	06 17 49.7	+0.6
	comp=Z,8.6nm,1.0s,mb4.1,baz=207,slow=8.3,SNR=8.7						
SONM				ScP		06 25 11.4	
	comp=Z,1.6nm,0.5s,slow=1.2,SNR=4.4						
SONM				LR	LR	06 28 14.1	
	comp=Z,835nm,20.9s,MS4.2,baz=82,slow=40						
SSE	Sheshan	24.76	73	P	P	06 17 59.3	-0.7
SSE				AP		06 18 07.8	
SSE				XP		06 18 11.8	
SSE				S	S	06 22 19.3	+2.0
SSE				XS		06 22 34.3	
SSE				SCP		06 25 12.4	
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,267nm,5.5s						
SSE				LR	LR		
	comp=N,1μm,18.8s						
SSE				LR	LR		
	comp=Z,253nm,13.2s						
KKAR	Karatay Array	24.96	318	i P	P	06 18 02.9	+1.1
KKAR				pmax	pmax		
	comp=Z,32nm,1.0s,mb4.8						
ZAK	Zakamensk	25.07	15	eP	P	06 18 04.1	+1.4
ZAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
KURK	Kurchatov	26.74	339	⇑iP	P	06 18 18.7	+0.5
KURK				e	pP	06 18 27.6	+0.5
KURK				pmax	pmax		
	comp=Z,73nm,0.9s,mb5.2						
KURK	Kurchatov	26.74	339	⇑iP	P	06 18 18.7	+0.5
	comp=Z,73nm,0.9s,mb5.2						
KURK				e	pP	06 18 27.6	+0.5
ZAL	Zalesovo	28.18	349	P	P	06 18 32.5	+1.2
	comp=Z,15nm,0.9s,mb4.6,baz=312,slow=5.5,SNR=56						
ZAL				LR	LR	06 31 51.0	
	comp=Z,387nm,20.3s,MS4.0,baz=303,slow=41						
SNY	Shenyang	29.12	51	⇓P	P	06 18 39.9	0.0
SNY				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
SNY				AMB	AMB		
	comp=Z,240nm,8.4s						
SNY				LR	LR		
	comp=N,480nm,7.8s						
SNY				LR	LR		
	comp=E,510nm,11.4s						
SNY				LR	LR		
	comp=Z,390nm,8.4s						
NVS	Novosibirsk	29.32	348	⇑iP	P	06 18 41.3	-0.3
NVS				pmax	pmax		
	comp=Z,58nm,1.4s,mb5.1						
NVS				pmax	pmax		
	comp=N,84nm,1.7s						
KSM	Kuching	29.68	144	eP	P	06 18 51.1	+5.9
HIA	Hailar	30.56	35	eP	P	06 18 53.1	+0.5
HIA				e	pP	06 19 02.7	+1.1
CN2	Changchun	31.15	48	eP	P	06 18 58.8	+0.9
CN2				eXP	sP	06 19 09.0	-1.8
CN2				eS	S	06 24 02.3	+1.8
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,700nm,14.0s,MS4.5						
CN2				LR	LR		
	comp=E,300nm,14.0s,MS4.5						
CN2				LR	LR		
	comp=Z,400nm,16.0s,MS4.2						

VOSK Vostochnaya 31.16 333 P **P** **06 18 58.0 +0.2**
VOSK pmax pmax
comp=Z,13nm,0.8s,mb4.8
BVA0 Borovoye Array 31.62 333 *i* P **P** **06 19 02.0 +0.1**
BVA0 pmax pmax
comp=Z,8.0nm,1.5s,mb4.3
BVAR Borovoye Array 31.62 333 P **P** **06 19 01.6 -0.3**
comp=Z,5.0nm,0.8s,mb4.4,baz=135,slow=10,SNR=33
BVAR PcP PcP 06 21 53.1 -0.6
comp=Z,1.2nm,0.5s,baz=144,slow=4.6,SNR=4.7
BVAR ScP 06 25 33.7
comp=Z,1.3nm,0.8s,baz=180,slow=3.0,SNR=4.7
BRVK Borovoye 31.69 333 *eP* **P** **06 19 02.3 -0.2**
BRVK pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
BRVK Borovoye 31.69 333 *eP* **P** **06 19 02.3 -0.2**
comp=Z,7.9nm,1.1s,mb4.5
ZRNK Zerenda 32.14 332 *eP* **P** **06 19 05.9 -0.5**
JNU Nakatsue 33.07 69 P **P** **06 19 14.8 +0.1**
comp=Z,0.8nm,0.3s,mb4.1,baz=243,slow=5.0,SNR=14
MDJ Mudanjiang 34.22 49 P **P** **06 19 24.1 -0.5**
MDJ AP pP 06 19 29.5 -4.1
MDJ XP sP 06 19 33.6 -3.9
MDJ PP PP 06 20 40.9 +1.2
MDJ PCP PcP 06 22 00.8 -0.2
MDJ S **S** **06 24 52.3 +4.0**
MDJ SCP 06 25 44.0
MDJ PCS 06 25 47.0
MDJ SCS ScS 06 29 46.5 +3.1
MDJ AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
MDJ AMB AMB
comp=Z,127nm,5.9s
MDJ LR LR
comp=N,168nm,18.3s,MS4.0
MDJ LR LR
comp=E,144nm,16.9s,MS4.0
MDJ LR LR
comp=Z,127nm,18.3s,MS3.7
AB31 Akbulak array 34.44 320 P **P** **06 19 26.9 +0.5**
AB31 pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
KLR Kul'dur 37.30 42 *eP* **P** **06 19 47.3 -3.3**
KLR MLR MLR
comp=Z,1μm,14.0s,MS4.8
KLR MLR MLR
comp=N,1.0nm,14.0s,MS4.6
KLR MLR MLR
comp=E,700nm,14.0s,MS4.6
CLNS Chul'man 37.78 28 *eP* **P** **06 19 54.6 0.0**
CLNS *e*PPP PP 06 21 22.6 -1.5
CLNS *eS* **S** **06 25 37.9 -5.1**
CLNS pmax pmax
comp=Z,27nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,0.6s
CLNS pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
CLNS pmax pmax
comp=N,6.0nm,0.6s
CLNS pmax pmax
comp=E,7.0nm,0.7s
CLNS smax
comp=N,11nm,0.9s
CLNS smax
comp=Z,4.0nm,0.7s
CLNS smax
comp=E,8.0nm,0.9s
CLNS MLR MLR
comp=Z,500nm,10.0s,MS4.6
CLNS MLR MLR
comp=N,200nm,11.0s,MS4.2
CLNS MLR MLR
comp=E,50nm,10.0s,MS4.2
SVE Sverdlovsk 38.32 331 *eP* **P** **06 20 00.0 +0.8**
SVE *e* pP 06 20 09.0 +0.8
SVE *e* 06 22 12.0
SVE MLR MLR
comp=N,400nm,14.0s,MS4.6
SVE MLR MLR
comp=E,500nm,14.0s,MS4.6
SVE MLR MLR
comp=Z,1μm,14.0s,MS4.8
ARU Arti 39.00 330⇑ *i*P **P** **06 20 05.2 +0.4**
ARU *e* 06 21 35.4
ARU *e* 06 22 15.2
ARU *eS* **S** **06 26 01.5 +0.2**
ARU *e*SS SS 06 28 53.6 +7.8
ARU pmax pmax
comp=Z,26nm,1.5s,mb4.7
ARU MLR MLR
comp=Z,700nm,18.0s,MS4.5
ARU MLR MLR
comp=N,300nm,19.0s,MS4.5
ARU MLR MLR
comp=E,500nm,17.0s,MS4.5
ARU Arti 39.00 330 *eP* **P** **06 20 05.1 +0.3**
comp=E,32nm,1.1s,mb5.0
MAJO Matsushiro 39.20 64 *eP* **P** **06 20 05.6 -1.1**
MAJO pmax pmax
comp=Z,20nm,0.9s,mb4.8
MAJO MLR MLR
comp=Z,372nm,20.0s,MS4.2
MAJO Matsushiro 39.20 64 *eP* **P** **06 20 05.6 -1.1**
comp=Z,20nm,0.9s,mb4.8
MAJO LR LR
comp=Z,372nm,20.0s,MS4.2
MAT Matsushiro 39.20 64 *eP* **P** **06 20 06.0 -0.7**
MAT pmax pmax
comp=Z,13nm,0.8s,mb4.7
MAT Matsushiro 39.20 64 *eP* **P** **06 20 06.0 -0.7**
comp=Z,13nm,0.8s,mb4.7
MAT Matsushiro 39.20 64 P **P** **06 20 06.2 -0.5**
MAT S **S** **06 26 09.6 +5.0**
MJAR Matsushiro Arr 39.20 64 P **P** **06 20 06.8 +0.1**
comp=Z,7.5nm,0.7s,mb4.5,baz=270,slow=9.9,SNR=37
MJAR LR LR 06 36 07.3
comp=Z,242nm,20.3s,MS4.0,baz=270,slow=36
MJAR Matsushiro Arr 39.20 64 P **P** **06 20 06.8 +0.1**
MJAR LR LR 06 36 07.3
HASS Wahat al Ahsa' 39.23 278 P **P** **06 20 07.7 +0.7**
HASS P 06 20 07.7
QRN Al-Qurain 40.19 284 *eP* **P** **06 20 16.6 +1.6**
QRN AMb AMB 06 20 18.3
comp=Z,62nm,0.8s,mb5.4
KBD Kabd 40.33 285 *eP* **P** **06 20 16.8 +0.7**
RDF Al-Radifah 40.49 284 *eP* **P** **06 20 18.0 +0.6**
RDF AMb AMB 06 20 19.4
comp=Z,226nm,0.8s,mb5.9
MIB Mutribah 40.56 286 *eP* **P** **06 20 18.5 +0.5**
MIB AMb AMB 06 20 20.1
comp=Z,182nm,0.7s,mb5.8
SOKR Solikamsk 41.61 333⇑ *i*P **P** **06 20 25.0 -1.2**
SOKR pmax pmax
comp=Z,40nm,1.1s,mb5.0
SOKR MLR MLR
comp=Z,350nm,21.0s,MS4.2
GNI Garni 42.40 301⇑ *eP* **P** **06 20 35.8 +2.8**
GNI pmax pmax
comp=Z,27nm,1.2s
GNI MLR MLR
comp=Z,100nm,25.0s
GNI Garni 42.40 301 *eP* **P** **06 20 33.5 +0.5**
comp=Z,26nm,1.1s,mb4.8
YAK Yakutsk 42.99 24 *eP* **P** **06 20 38.2 +0.7**
YAK *e* pP 06 20 46.5 -0.1
YAK pmax pmax
comp=Z,25nm,0.6s,mb5.1
YAK Yakutsk 42.99 24 *eP* **P** **06 20 38.2 +0.7**
comp=Z,25nm,0.6s,mb5.1
YAK *e* pP 06 20 46.5 -0.1
ASAJ Asahikawa 43.17 53 P **P** **06 20 39.0 -0.2**
comp=Z,7.5nm,0.6s,mb4.6,baz=266,slow=13,SNR=9.3
ZEI Tsey 43.24 305 *eP* **P** **06 20 40.3 +0.5**
ZEI *i* *PP pP 06 20 49.9 +1.0
ZEI pmax pmax
comp=Z,28nm,1.0s,mb5.0
MZLS Mizel 43.46 278 P **P** **06 20 43.9 +2.0**
MZLS P 06 20 43.9
ONI Oni 43.55 305 P **P** **06 20 44.8 +2.5**
YSS Yuzh-Sakhalins 43.71 49 *eP* **P** **06 20 44.0 +0.5**
YSS *e* pP 06 20 53.4 +0.7
GOF Gofitskoye 44.12 308⇓ *i*P **P** **06 20 46.6 -0.3**
GOF pmax pmax
comp=Z,60nm,1.3s,mb5.2
KIV Kislovodsk 44.24 307 *eP* **P** **06 20 49.1 +1.2**
KIV *e* 06 22 34.3
KIV *eS* **S** **06 27 20.3 +1.4**
KIV pmax pmax
comp=Z,24nm,1.0s,mb4.9
KIV MLR MLR
comp=N,148nm,19.0s,MS4.2
KIV MLR MLR
comp=E,203nm,19.0s,MS4.2
KIV MLR MLR
comp=Z,254nm,19.0s,MS4.2
KIV Kislovodsk 44.24 307 *eP* **P** **06 20 48.8 +0.9**
comp=Z,8.1nm,0.6s,mb4.6
ARSS Ar Rass 44.79 281 P **P** **06 20 53.3 +0.7**
ARSS P 06 20 53.3
KAMS Al Khamasin 45.02 273 P **P** **06 20 54.7 +0.2**
KAMS P 06 20 54.7
AFFS 'Afif 45.45 278 P **P** **06 20 59.0 +1.2**
AFFS P 06 20 59.0
HILS Ha'il 45.75 283 P **P** **06 21 01.6 +1.4**
HILS P 06 21 01.6
TATS Tathlith 46.24 272 P **P** **06 21 05.0 +0.9**
TATS P 06 21 05.0
SOC Sochi 46.35 306 *eP* **P** **06 21 04.4 -0.3**
SOC *e* 06 22 31.7
SOC *e*PPP PPP 06 23 38.5 0.0
SOC *eS* **S** **06 27 48.1 -1.2**
SOC *e* 06 31 00.7
SOC *e*SSS SSS 06 32 14.4 -0.2
SOC pmax pmax
comp=N,57nm,0.9s
SOC pmax pmax
comp=Z,64nm,0.9s,mb5.5
SOC pmax pmax
comp=E,30nm,0.7s
SOC MLR MLR
comp=N,181nm,16.0s,MS4.3
SOC MLR MLR
comp=E,238nm,16.0s,MS4.3
SOC MLR MLR
comp=Z,323nm,16.0s,MS4.4
BLJS Baljurashi 47.82 273 P **P** **06 21 18.0 +1.4**
BLJS P 06 21 18.0
LTHS Al Lith 48.76 274 P **P** **06 21 25.4 +1.6**
LTHS P 06 21 25.4
QURS Qurayyt al Mil 48.89 290 P **P** **06 21 26.5 +1.7**
QURS P 06 21 26.5
MOS Moscow 49.41 322 *eP* **P** **06 21 27.2 -1.2**
MOS *e* pP 06 21 37.2 -0.5
MOS *e* 06 22 47.2
MOS *e* 06 23 20.0
MOS pmax pmax
comp=Z,200nm,1.8s,mb5.8
MOS pmax pmax
comp=Z,104nm,1.6s,mb5.6
MOS MLR MLR
comp=Z,700nm,20.0s,MS4.7
OBN Obninsk 49.88 321*c* *i*P **P** **06 21 31.7 -0.3**
OBN *i* *PP pP 06 21 42.3 +1.0
OBN pmax pmax
comp=Z,64nm,1.6s,mb5.4
OBN MLR MLR
comp=Z,300nm,18.0s,MS4.3
OBN Obninsk 49.88 321 *eP* **P** **06 21 32.1 +0.1**
comp=Z,7.6nm,0.4s,mb5.1
TBKS Tabuk 50.13 286 P **P** **06 21 35.7 +1.3**
TBKS P 06 21 35.7
UMJS Umm Lajj 50.15 282 P **P** **06 21 36.6 +2.2**
UMJS P 06 21 36.6
SIM Simferopol' 50.42 308⇑ *eP* **P** **06 21 36.7 +0.4**
SIM pmax pmax
comp=Z,14nm,0.9s,mb5.0
SIM MLR MLR
comp=Z,250nm,23.0s,MS4.2
JMQS Jabal Moqyreh 50.58 287 P **P** **06 21 38.6 +0.9**
JMQS P 06 21 38.6
BRTR Keskin Array B 50.93 301 P **P** **06 21 40.3 +0.1**
comp=Z,6.4nm,0.9s,mb4.6,baz=111,slow=7.4,SNR=23
MA2 Magadan 51.14 33 *eP* **P** **06 21 41.5 0.0**
MA2 *e* pP 06 21 49.6 -1.2
MA2 *e* 06 28 50.8
MA2 pmax pmax
comp=Z,40nm,1.7s,mb5.1
EIL Elat 51.21 288 *eP* **P** **06 21 42.4 -0.1**
comp=Z,12nm,0.8s,mb4.9
SEY Seymchan 52.74 30 *eP* **P** **06 21 53.9 +0.3**
SEY *e* pP 06 22 02.5 -0.4
SEY *e* 06 23 03.5
SEY *e* 06 23 56.1
SEY *eS* **S** **06 29 12.7 -5.2**
SEY 06 31 38.3
SEY *e*SSS SSS 06 34 36.7 -5.2
SEY pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
SEY pmax pmax
comp=E,4.0nm,1.2s
SEY smax
comp=N,60nm,19.4s
SEY smax
comp=E,8.0nm,16.6s
SEY MLR MLR
comp=N,190nm,18.0s,MS4.4
SEY MLR MLR
comp=Z,440nm,18.0s,MS4.5
SEY MLR MLR
comp=E,280nm,21.0s,MS4.4
MBWA Marble Bar 53.77 149 *eP* **P** **06 22 00.8 -0.9**
comp=E,12nm,0.8s,mb4.9
AKASG Malin Array Be 53.82 315 P **P** **06 22 00.7 -1.0**
comp=E,7.1nm,0.8s,mb4.6,baz=76,slow=7.1,SNR=34
KIS Kishinev 54.10 310 *eP* **P** **06 22 03.0 -0.7**
KIS MLR MLR
comp=Z,300nm,12.0s,MS4.6
KIS MLR MLR
comp=Z,300nm,13.0s
LVZ Lovozero 54.12 336 *i* P **P** **06 22 03.1 -0.5**
LVZ pmax pmax
comp=Z,17nm,0.8s,mb5.0
LVZ pmax pmax
comp=N,2.0nm,0.6s
LVZ pmax pmax
comp=E,6.0nm,0.8s
LVZ MLR MLR
comp=Z,309nm,15.0s,MS4.5
LVZ MLR MLR
comp=N,126nm,14.0s,MS4.3
LVZ MLR MLR
comp=E,174nm,15.0s,MS4.3
TIRR Tirgusor 54.50 307⇑⇑ **P** **P** **06 22 08.5 +1.8**
CFR Carcaliu 54.65 308⇓⇓ **P** **P** **06 22 10.1 +2.2**
VRI Vrincioaia 55.60 309⇓⇓ **P** **P** **06 22 15.2 +0.5**
MLR Muntele Rosu 56.17 309 ⇑ LR LR 06 50 47.8
comp=E,204nm,19.3s,MS4.2,baz=122,slow=41
MLR Muntele Rosu 56.17 309⇓⇓ **P** **P** **06 22 19.9 +1.1**
KAF Kangasniemi 56.28 329 *ep* **P** **06 22 17.8 -1.6**
comp=E,4.8nm,0.9s,mb4.5,baz=97,slow=7.1
KAF Kangasniemi 56.28 329 *eP* **P** **06 22 17.8 -1.6**
KAF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
FINES FINESS Array B 56.31 328 P **P** **06 22 19.3 -0.3**
comp=Z,4.3nm,0.7s,mb4.6,baz=121,slow=11,SNR=19
FINES LR LR 06 48 34.9
comp=Z,315nm,19.1s,MS4.4,baz=145,slow=38
KEV Kevo 57.29 338 *ep* **P** **06 22 25.0 -1.5**
SUW Suwalki 57.54 319 *eP* **P** **06 22 27.5 -0.9**
SUW Suwalki 57.54 319 *eP* **P** **06 22 27.5 -0.9**
ARCES ARCESS Array B 57.76 337 P **P** **06 22 29.8 0.0**
comp=Z,9.6nm,0.8s,mb4.9,baz=90,slow=6.1,SNR=38
ARCES LR LR 06 49 37.5
comp=Z,288nm,19.1s,MS4.4,baz=96,slow=38
ARCES ARCESS Array B 57.76 337 P **P** **06 22 29.8 0.0**
ARCES LR LR 06 49 37.5
ARE0 ARCESS Array S 57.76 337 *eP* **P** **06 22 29.4 -0.4**
KWP Kalwaria 58.04 314 *eP* **P** **06 22 32.5 +0.5**
KWP Kalwaria 58.04 314 *eP* **P** **06 22 32.5 +0.5**
KOLS Kolonicke sedl 58.38 313 *eP* **P** **06 22 34.7 +0.3**
KTK1 Kautokeino 58.47 337⇑ *i*P **P** **06 22 34.5 -0.3**
comp=Z,28nm,0.9s,mb5.3
KTK1 Kautokeino 58.47 337⇑ *i*P **P** **06 22 34.5 -0.3**
KTK1 AMb AMB 06 22 35.5
comp=Z,28nm,0.9s,mb5.3
STHS Stebnicka Huta 59.01 314 *eP* **P** **06 22 38.7 -0.1**
BILL Bilibino 59.34 25*c* *i*P **P** **06 22 41.1 +0.3**
BILL *i* *PP pP 06 22 50.2 -0.1
BILL pmax pmax
comp=Z,36nm,1.4s,mb5.2
BILL MLR MLR
comp=Z,200nm,12.0s,MS4.5
BILL Bilibino 59.34 25 *eP* **P** **06 22 40.3 -0.5**
comp=Z,9.3nm,0.6s,mb5.0
KECS Kecovo 59.60 312 *eP* **P** **06 22 42.6 -0.3**
NIE Niedzica 59.61 314 *eP* **P** **06 22 43.6 +0.7**
OJC Ojcow 59.86 315 *eP* **P** **06 22 45.9 +1.3**
TRO Tromso 60.06 337⇑ *i*P **P** **06 22 44.3 -1.5**
comp=Z,22nm,1.5s,mb5.0
TRO Tromso 60.06 337⇑ *i*P **P** **06 22 44.3 -1.5**
TRO AMb AMB 06 22 46.4
comp=Z,22nm,1.5s,mb5.0
TRO *e*pP pP 06 22 51.6 -3.7
PSZ Piszkesteto 60.06 312 *eP* **P** **06 22 45.2 -0.9**
KMBO Kilima Mbogo 60.62 252 *i* P **P** **06 22 57.0 +6.7**
KMBO pmax pmax
comp=Z,5.0nm,0.8s
KMBO Kilima Mbogo 60.62 252 P **P** **06 22 51.1 +0.8**
comp=Z,2.0nm,0.8s,mb4.3,baz=49,slow=14,SNR=6.7
KMBO LR LR 06 50 55.2
comp=Z,92nm,18.7s,MS4.0,baz=96,slow=38
WRA Warramunga Arr 60.86 135 P **P** **06 22 51.7 -0.2**
comp=Z,4.5nm,0.8s,mb4.7,baz=322,slow=7.4,SNR=20
WRAB Tennant Creek 60.86 135*d* *i*P **P** **06 22 57.5 +5.6**
WRAB Tennant Creek 60.86 135 *eP* **P** **06 22 51.2 -0.7**
comp=Z,37nm,0.8s,mb5.6
WB2 Warramunga Arr 60.87 135 *eP* **P** **06 22 51.5 -0.4**
WB2 *e* 06 22 57.7
OKC Ostrava-Krasne 60.96 314 *eP* **P** **06 22 51.7 -0.4**
OKC AMS AMS 06 52 10.0
comp=Z,200nm,26.1s
MORC Moravsky Berou 61.36 314 *eP* **P** **06 22 54.0 -0.8**
MORC pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
MORC Moravsky Berou 61.36 314 *eP* **P** **06 22 54.0 -0.8**
comp=Z,6.3nm,0.9s,mb4.8
MOR8 Moi Rana 61.67 333⇑ *i*P **P** **06 22 55.4 -1.3**
comp=Z,39nm,1.0s,mb5.5
MOR8 Moi Rana 61.67 333⇑ *i*P **P** **06 22 55.4 -1.3**
MOR8 AMb AMB 06 22 57.3
comp=Z,39nm,1.0s,mb5.5
LOF Lofoten 61.97 335⇑ *i*P **P** **06 22 59.8 +1.1**
comp=Z,37nm,1.6s,mb5.3
LOF Lofoten 61.97 335⇑ *i*P **P** **06 22 59.8 +1.1**
LOF AMb AMB 06 23 01.9
comp=Z,37nm,1.6s,mb5.3
KSP Ksiaz 62.00 316 *eP* **P** **06 22 58.8 -0.4**
KSP *e*PP pP 06 23 08.2 -0.5
KSP Ksiaz 62.00 316 *eP* **P** **06 22 59.3 +0.1**
DPC Dobruska-Polom 62.05 315 *eP* **P** **06 22 59.6 +0.1**
DPC epP pP 06 23 10.1 +1.1
UPC Upice 62.23 315 *eP* **P** **06 23 00.9 +0.2**
HFS Hagfors 62.37 326 LR LR 06 52 23.6
comp=Z,311nm,18.0s,MS4.5,baz=82,slow=38
NSS Namsos 62.79 331 *eP* **P** **06 23 02.4 -1.8**
comp=Z,20nm,1.4s,mb5.0
NSS Namsos 62.79 331 *eP* **P** **06 23 02.4 -1.8**
NSS AMb AMB 06 23 05.8
comp=Z,20nm,1.4s,mb5.0
ARSA Arzberg 63.09 312⇓ *i*P **P** **06 23 06.3 -0.1**
comp=Z,4.1nm,1.1s,mb4.5
PVCC Panska Ves 63.13 315 AMS AMS 06 54 00.0
comp=Z,200nm,22.2s
PMG Port Moresby 63.19 117 P **P** **06 23 08.0 +0.5**
comp=Z,16nm,0.6s,mb5.3,baz=323,slow=10,SNR=5.4
PRU Pruhonice 63.24 315 *eP* **P** **06 23 07.3 -0.1**
PRU AMS AMS 06 56 00.0
comp=Z,100nm,19.7s
GOLS Golise 63.26 310 *eP* **P** **06 23 07.0 -0.6**
BRG Berggiesshubel 63.47 316 *eP* **P** **06 23 09.0 +0.2**
BRG pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
BRG MLR MLR
comp=Z,280nm,19.4s,MS4.5
BRG Berggiesshubel 63.47 316 *eP* **P** **06 23 09.0 +0.1**
comp=Z,3.1nm,0.6s,mb4.6
BRG LR LR
comp=Z,280nm,19.4s,MS4.5
NB2 NORSAR Subarra 63.49 327 P **P** **06 23 07.7 -1.1**
comp=Z,0.8nm,0.8s,mb3.9,baz=83,slow=7.0
NB2 NORSAR Subarra 63.49 327 P **P** **06 23 07.7 -1.1**
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb4.0
NB2 NORSAR Subarra 63.49 327 P **P** **06 23 07.7 -1.1**
comp=Z,0.8nm,0.8s,mb3.9
NB2 NORSAR Subarra 63.49 327 P **P** **06 23 07.7 -1.1**
baz=83,slow=7.4
NOA NORSAR Array B 63.49 327 P **P** **06 23 08.0 -0.8**
comp=Z,9.8nm,0.9s,mb4.9,baz=83,slow=6.6,SNR=29
NOA LR LR 06 52 46.6
comp=Z,261nm,20.3s,MS4.4,baz=85,slow=38
NOA NORSAR Array B 63.49 327 P **P** **06 23 08.0 -0.8**
NOA LR LR 06 52 46.6
MOA Molln 63.81 313⇑ *i*P **P** **06 23 10.7 -0.4**
comp=Z,10nm,1.4s,mb4.7
OBKA Obir 63.89 311⇑ *i*P **P** **06 23 10.8 -0.9**
comp=Z,5.0nm,1.1s,mb4.5
CLL Collm 63.98 316 *eP* **P** **06 23 11.0 -1.2**
CLL *i* pP 06 23 22.1 +0.5
CLL pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
CLL Collm 63.98 316 *eP* **P** **06 23 11.0 -1.2**
comp=Z,8.0nm,1.3s,mb4.6
CLL *e* pP 06 23 19.0 -2.6
CLL *i* pP 06 23 22.1 +0.5
CLL Collm 63.98 316 P **P** **06 23 11.0 -1.2**
comp=Z,logA/T=0.8,mb4.6
CLL *e*PP pP 06 23 19.0 -2.6
CLL *i* *SP sP 06 23 22.1 -2.9
GEC2 GERESS Array S 63.99 314 *eP* **P** **06 23 12.3 0.0**
GEC2 pmax pmax
comp=Z,16nm,1.4s,mb4.9
GEC2 GERESS Array S 63.99 314 *eP* **P** **06 23 12.3 0.0**
comp=Z,16nm,1.4s,mb4.9
GERES GERESS Array B 63.99 314 P **P** **06 23 12.0 -0.3**
comp=Z,3.6nm,0.8s,mb4.5,baz=79,slow=6.8,SNR=29
GERES LR LR 06 55 00.6
comp=Z,170nm,20.7s,MS4.2,baz=82,slow=40
LJU Ljubljana 64.00 310 *eP* **P** **06 23 12.8 +0.4**
KHC Kasperske Hory 64.02 314⇑ *eP* **P** **06 23 11.9 -0.6**
KHC Kasperske Hory 64.02 314 *eP* **P** **06 23 12.4 -0.1**
KHC AMS AMS 06 55 00.0
comp=Z,100nm,21.0s
CEY Cerknica 64.13 310 *eP* **P** **06 23 13.0 -0.3**
WET Wettzell 64.46 314 *eP* **P** **06 23 15.4 0.0**
WET pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
WET Wettzell 64.46 314 *eP* **P** **06 23 15.4 0.0**
comp=Z,7.0nm,1.2s,mb4.6
NKC Novy Kostel 64.52 315 *eP* **P** **06 23 15.4 -0.3**
MOX Moxa 64.96 316 P **P** **06 23 18.6 0.0**
MOX MLR MLR
comp=Z,100nm,21.0s,MS4.0
MOX Moxa 64.96 316 *i* P **P** **06 23 18.6 0.0**
MOX L 06 54 50.0
MOL Molde 64.99 329⇑ *i*P **P** **06 23 19.9 +1.3**
comp=Z,36nm,1.8s,mb5.1
MOL Molde 64.99 329⇑ *i*P **P** **06 23 19.9 +1.3**
MOL AMb AMB 06 23 24.9
comp=Z,36nm,1.8s,mb5.1
MOL *e*pP pP 06 23 26.7 -1.4
BSEG Bad Segeberg 65.09 320 *eP* **P** **06 23 19.6 +0.2**
GRA1 Grafenberg Arr 65.41 315 *eP* **P** **06 23 21.9 +0.4**
comp=Z,18nm,1.3s,mb4.9
GRF Grafenberg Arr 65.41 315 *eP* **P** **06 23 21.9 +0.4**
GRF pmax pmax
comp=Z,18nm,1.3s,mb4.9
GRF Grafenberg Arr 65.41 315 *eP* **P** **06 23 21.9 +0.4**
GRF pmax pmax
comp=Z,18nm,1.3s,mb4.9
GRF Grafenberg Arr 65.41 315 *eP* **P** **06 23 21.9 +0.4**
comp=Z,18nm,1.3s,mb4.9
CLZ Clausthal 65.48 317 *eP* **P** **06 23 22.0 +0.1**
CLZ pmax pmax
comp=Z,17nm,1.1s,mb5.0
CLZ Clausthal 65.48 317 *eP* **P** **06 23 22.0 +0.1**
comp=Z,17nm,1.1s,mb5.0
WTTA Wattenberg 65.68 312⇓ *i*P **P** **06 23 22.8 -0.4**
comp=Z,9.5nm,1.1s,mb4.7
WTTA Wattenberg 65.68 312⇓ *i*P **P** **06 23 22.8 -0.4**
WTTA pmax pmax
comp=Z,10.0nm,1.1s,mb4.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WATA	Walderalm	65.70	312	⇑iP	P	06 23 22.9	-0.5
	comp=Z,2.2nm,0.6s,mb4.4						
WATA	Walderalm	65.70	312	⇑iP	P	06 23 22.9	-0.5
WATA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
SQTA	Sankt Quirin	65.97	312	⇓iP	P	06 23 24.6	-0.5
	comp=Z,2.9nm,0.5s,mb4.6						
SQTA	Sankt Quirin	65.97	312	⇓iP	P	06 23 24.6	-0.5
SQTA				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
MOTA	Moosalm	66.01	312	⇓iP	P	06 23 24.6	-0.7
	comp=Z,10.0nm,1.1s,mb4.8						
MOTA	Moosalm	66.01	312	⇓iP	P	06 23 24.6	-0.7
MOTA				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
DAVA	Damuels	66.83	313	⇑iP	P	06 23 29.9	-0.7
	comp=Z,8.3nm,0.9s,mb4.8						
DAVOX	Davos	66.96	312	LR	LR	06 56 30.8	
	comp=Z,187nm,20.9s,MS4.3,baz=76,slow=39						
TNS	Taunus Mts	67.03	316	eP	P	06 23 31.8	0.0
TNS				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
TNS	Taunus Mts	67.03	316	eP	P	06 23 31.8	0.0
	comp=Z,12nm,1.2s,mb4.8						
CDF	Champ du Feu	68.24	314	eP	P	06 23 38.6	-0.8
	comp=Z,14nm,1.1s,mb4.6						
CDF	Champ du Feu	68.24	314	eP	P	06 23 38.6	-0.8
CDF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
WLF	Walferdange	68.61	316	eP	P	06 23 40.3	-1.4
WLF				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.1						
WLF	Walferdange	68.61	316	eP	P	06 23 40.3	-1.4
	comp=Z,27nm,1.1s,mb5.1						
HINF	Hinteralfeld	68.67	314	eP	P	06 23 41.3	-0.8
	comp=Z,5.1nm,0.6s,mb4.3						
HINF	Hinteralfeld	68.67	314	eP	P	06 23 41.3	-0.8
HINF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
PGF	Pioggiola	68.71	308	eP	P	06 23 41.6	-0.8
	comp=Z,26nm,1.4s,mb4.7						
PGF	Pioggiola	68.71	308	eP	P	06 23 41.6	-0.8
PGF				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7						
HAU	Haudompre	68.95	314	eP	P	06 23 42.9	-0.9
HAU				eR			
	comp=Z,141nm,21.5s						
JMIC	Jan Mayen	69.03	340	LR	LR	06 56 04.3	
	comp=Z,119nm,20.3s,MS4.1,baz=73,slow=38						
CTA	Charters Tower	69.05	127	eP	P	06 23 51.2	+6.3
	comp=Z,11nm,0.9s,mb4.8						
CTA	Charters Tower	69.05	127	P	P	06 23 45.9	+1.0
	comp=Z,4.7nm,0.9s,mb4.4,baz=330,slow=10,SNR=3.0						
CTAO	Charters Tower	69.05	127	eP	P	06 23 44.4	-0.5
CTAO				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
CTAO	Charters Tower	69.05	127	eP	P	06 23 44.4	-0.5
	comp=Z,19nm,1.0s,mb5.0						
LPG	La Plagne	69.40	311	eP	P	06 23 46.5	-0.1
LPL	La Plagne	69.41	311	eP	P	06 23 46.5	-0.2
	comp=Z,11nm,0.7s,mb4.6						
LPL	La Plagne	69.41	311	eP	P	06 23 46.5	-0.2
LPL				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
SBF	Sospel	69.42	310	eP	P	06 23 46.0	-0.8
CABF	La Chapelle	69.52	313	eP	P	06 23 46.6	-0.7
	comp=Z,16nm,1.2s,mb4.5						
CABF	La Chapelle	69.52	313	eP	P	06 23 46.6	-0.7
CABF				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
MBDF	Montbardon	69.62	311	eP	P	06 23 47.3	-0.7
	comp=Z,7.3nm,0.8s,mb4.4						
MBDF	Montbardon	69.62	311	eP	P	06 23 47.3	-0.7
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BAIF	Baives	69.70	317	eP	P	06 23 47.3	-1.1
	comp=Z,12nm,1.1s,mb4.4						
BAIF	Baives	69.70	317	eP	P	06 23 47.3	-1.1
BAIF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
FRF	La Foret Royal	70.05	309	eP	P	06 23 49.9	-0.7
	comp=Z,16nm,1.0s,mb4.6						
FRF	La Foret Royal	70.05	309	eP	P	06 23 49.9	-0.7
FRF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
ORIF	Oris-en-Rattie	70.16	311	eP	P	06 23 50.3	-1.0
ORIF				eR			
	comp=Z,162nm,23.0s						
LMR	La Mourre	70.22	309	eP	P	06 23 50.6	-1.0
	comp=Z,16nm,1.1s,mb4.5						
LMR	La Mourre	70.22	309	eP	P	06 23 50.6	-1.0
LMR				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
LOR	Lormes	70.77	314	eP	P	06 23 54.0	-1.0
	comp=Z,9.9nm,0.9s,mb4.4						
LOR				eR			
	comp=Z,132nm,22.8s						
LOR	Lormes	70.77	314	eP	P	06 23 54.0	-1.0
LOR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
LOR				MLR	MLR		
	comp=Z,130nm,22.8s,MS4.1						
SMF	Signal de Mont	70.98	313	eP	P	06 23 55.5	-0.7
VIVF	Saint-Julien-l	71.00	311	eP	P	06 23 55.7	-0.7
	comp=Z,14nm,1.0s,mb4.5						
VIVF	Saint-Julien-l	71.00	311	eP	P	06 23 55.7	-0.7
VIVF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
SSF	Saint Saulge	71.07	314	eP	P	06 23 56.0	-0.7
SSF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
SSF	Saint Saulge	71.07	314	eP	P	06 23 56.0	-0.7
	comp=Z,5.9nm,0.7s,mb4.6						
BGF	Bois d'Agland	71.66	313	eP	P	06 23 59.5	-0.8
LASF	Ste Croix	71.80	311	eP	P	06 24 00.5	-0.7
	comp=Z,18nm,1.2s,mb4.6						
TCF	Toulx Ste Croi	72.16	313	eP	P	06 24 03.0	-0.3
	comp=Z,16nm,0.9s,mb4.6						
TCF	Toulx Ste Croi	72.16	313	eP	P	06 24 03.0	-0.3
TCF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
CAF	Calviac	72.72	312	eP	P	06 24 06.3	-0.3
LDF	La Druitiere	72.86	316	eP	P	06 24 06.7	-0.6
RJF	Les Rejaudoux	72.96	312	eP	P	06 24 08.1	+0.1
	comp=Z,16nm,0.9s,mb4.7						
RJF				eR			
	comp=Z,98nm,21.2s						
RJF	Les Rejaudoux	72.96	312	eP	P	06 24 08.1	+0.1
RJF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
RJF				MLR	MLR		
	comp=Z,100nm,21.3s,MS4.1						
FLN	La Foliniere	73.02	316	eP	P	06 24 07.5	-0.8
FLN				eR			
	comp=Z,105nm,18.8s						
MTLF	Montolieu	73.17	310	eP	P	06 24 08.5	-0.8
	comp=Z,15nm,1.1s,mb4.5						
MTLF	Montolieu	73.17	310	eP	P	06 24 08.5	-0.8
MTLF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
GRR	Gorron	73.39	316	eP	P	06 24 09.7	-0.7
LFF	La Frestale	73.60	312	eP	P	06 24 11.0	-0.7
STKA	Stephens Creek	74.00	139	eP	P	06 24 20.8	+6.4
	comp=Z,4.5nm,0.8s,mb4.5						
STKA	Stephens Creek	74.00	139	P	P	06 24 16.0	+1.6
	comp=Z,5.6nm,0.8s,mb4.5,baz=284,slow=8.9,SNR=6.8						
SGMF	Saint Gilles	74.49	316	eP	P	06 24 16.0	-0.8
	comp=Z,9.4nm,1.0s,mb4.4						
SGMF	Saint Gilles	74.49	316	eP	P	06 24 16.0	-0.8
SGMF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
EPF	Esparros	74.56	311	eP	P	06 24 16.5	-0.9
EPOB	Poblet	74.68	309	P	P	06 24 18.1	0.0
	comp=Z,7.1nm,1.0s,mb4.5						
EBIE	Bielsa	74.83	310	P	P	06 24 19.3	+0.4
	comp=Z,2.4nm,0.8s,mb4.2						
EGRA	Graus	74.89	310	P	P	06 24 19.9	+0.6
	comp=Z,4.8nm,0.9s,mb4.4						
ROSF	Rostrenen	74.90	317	eP	P	06 24 18.5	-0.7
	comp=Z,16nm,0.9s,mb4.6						
ROSF	Rostrenen	74.90	317	eP	P	06 24 18.5	-0.7
ROSF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
QUIF	Quistinic	75.00	316	eP	P	06 24 19.1	-0.7
ETSF	Etsaut	75.23	311	eP	P	06 24 20.8	-0.4
	comp=Z,6.5nm,0.6s,mb4.4						
ETSF	Etsaut	75.23	311	eP	P	06 24 20.8	-0.4
ETSF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
SJPF	Ste Jean	75.59	311	eP	P	06 24 22.3	-1.0
LSZ	Lusaka	75.72	245	eP	P	06 24 24.1	-0.4
LSZ				e	pP	06 24 31.7	-2.4
LSZ				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
LSZ	Lusaka	75.72	245	eP	P	06 24 24.1	-0.4
	comp=Z,13nm,1.0s,mb4.8						
LSZ				e	pP	06 24 31.7	-2.4
SUMG	Summit	75.98	347	eP	P	06 24 25.3	+0.5
	comp=Z,9.1nm,0.9s,mb4.7						
BORG	Borgarnes	76.15	336	LR	LR	06 59 49.1	
	comp=Z,152nm,18.2s,MS4.3,baz=4.6,slow=37						
ECRI	Cripan	76.66	311	P	P	06 24 30.7	+1.4
ECRI				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ECRI	Cripan	76.66	311	P	P	06 24 30.7	+1.4
	comp=Z,3.1nm,0.5s,mb4.5						
ELAN	Lanestosa	77.03	312	P	P	06 24 32.5	+1.2
	comp=Z,13nm,1.4s,mb4.7						
ETOB	Tobarra	77.58	307	P	P	06 24 36.0	+1.5
	comp=Z,3.5nm,0.7s,mb4.4						
EMUR	La Murta	77.69	306	P	P	06 24 36.6	+1.5
	comp=Z,5.2nm,0.6s,mb4.6						
ESDC	Sonseca Array	78.87	309	P	P	06 24 41.4	-0.1
	comp=Z,2.1nm,1.0s,mb4.0,baz=61,slow=5.1,SNR=8.6						
ESDC	Sonseca Array	78.87	309	P	P	06 24 41.5	0.0
	comp=Z,1.9nm,0.8s,mb4.1						
EQES	Quesada	79.03	307	P	P	06 24 43.2	+0.8
	comp=Z,3.8nm,0.8s,mb4.4						
INK	Inuvik	79.41	16	eP	P	06 24 44.4	+0.5
INK				pmax	pmax		
	comp=Z,17nm,1.4s						
INK	Inuvik	79.41	16	P	P	06 24 43.8	-0.1
	comp=Z,2.8nm,0.8s,mb4.3,baz=237,slow=3.9,SNR=5.9						
INK	Inuvik	79.41	16	eP	P	06 24 44.4	+0.5
	comp=Z,17nm,1.4s,mb4.8						
ECAB	El Cabril	80.58	308	P	P	06 24 51.5	+0.7
	comp=Z,3.2nm,0.7s,mb4.4						
EBAD	Badajoz	81.40	309	P	P	06 24 55.7	+0.6
	comp=Z,4.5nm,0.9s,mb4.4						
EMIN	Mina Concepcio	81.61	308	P	P	06 24 56.0	-0.1
	comp=Z,6.5nm,1.0s,mb4.5						
EVO	Evora	82.20	309	eP	P	06 24 59.1	-0.1
	comp=Z,7.8nm,0.9s,mb4.3						
EVO				eR			
	comp=Z,87nm,21.5s						
LBTB	Lobatse	83.06	238	eP	P	06 25 04.7	+0.8
LBTB				e		06 25 11.6	
LBTB				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
LBTB	Lobatse	83.06	238	eP	P	06 25 04.7	+0.8
	comp=Z,8.2nm,0.7s,mb4.9						
LBTB				e		06 25 11.6	
BOSA	Boshof	85.28	235	eP	P	06 25 16.0	+0.9
BOSA				e		06 25 22.4	
BOSA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
BOSA	Boshof	85.28	235	P	P	06 25 15.9	+0.8
	comp=Z,2.3nm,0.6s,mb4.5,baz=105,slow=5.7,SNR=8.3						
BOSA				LR	LR	07 03 41.4	
	comp=Z,117nm,18.1s,MS4.3,baz=217,slow=36						
BOSA	Boshof	85.28	235	eP	P	06 25 16.0	+0.9
	comp=Z,8.4nm,0.9s,mb4.9						
BOSA				e		06 25 22.4	
YKA	Yellowknife Ar	88.57	13	P	P	06 25 31.6	+1.4
	comp=Z,2.0nm,0.8s,mb4.5,baz=334,slow=5.0,SNR=11						
FRB	Frobisher Bay	88.98	352	LR	LR	07 08 02.7	
	comp=Z,108nm,19.7s,MS4.3,baz=263,slow=37						
SUR	Sutherland	90.53	234	LR	LR	07 01 49.6	
	comp=Z,103nm,20.1s,MS4.3,baz=127,slow=33						
DBIC	Dimbokro	94.41	280	P	P	06 25 59.0	+0.6
	comp=Z,2.7nm,0.8s,mb4.7,baz=113,slow=8.5,SNR=3.0						
DBIC				LR	LR	07 14 15.7	
	comp=Z,58nm,20.4s,MS4.0,baz=46,slow=39						
SCHQ	Schefferville	97.28	349	LR	LR	07 13 24.1	
	comp=Z,80nm,20.0s,MS4.2,baz=76,slow=38						
PDAR	Pinedale Array	107.94	18	PKiKP		06 31 06.3	
	comp=Z,0.8nm,0.9s,baz=34,slow=3.3,SNR=6.4						
MSU	Marysvale	111.08	21	ePKIKP	PKPdf	06 31 12.5	-2.7
WMOK	Wichita Mounta	118.06	11	ePKIKP	PKPdf	06 31 24.9	-4.0
VNA2	Neumayer--Watz	118.27	202	e	PKPdf	06 31 32.3	+3.8
VNA2	Neumayer--Watz	118.27	202	PKPdf	PKPdf	06 31 25.1	-3.4
VNA2				e		06 31 32.3	
VNA3	Neumayer Olymp	119.00	201	e	PKPdf	06 31 33.2	+3.3
VNA3	Neumayer Olymp	119.00	201	PKPdf	PKPdf	06 31 26.2	-3.7
VNA3				e		06 31 33.2	
GDL2	Guadalupe Moun	119.26	17	ePKPdf	PKPdf	06 31 28.0	-3.3
GDL2				e		06 31 35.3	
MNTX	Cornudas Mount	119.46	18	ePKPdf	PKPdf	06 31 28.4	-3.3
MNTX				e		06 31 35.9	
LTX	Lajitas	122.16	18	ePKIKP	PKPdf	06 31 33.9	-3.1
SDV	Santo Domingo	141.60	334	ePKPpre		06 32 04.4	
BDFB	Brasilia	142.55	279	PKhKP		06 32 08.2	
	comp=Z,1.5nm,0.7s,baz=32,slow=9.5,SNR=3.8						
ROSC	El Rosal	146.68	337	PKPbc	PKPbc	06 32 22.2	+3.3
	comp=Z,23nm,0.6s,baz=37,slow=0.9,SNR=37						
SAML	Samuel	151.79	304	ePKPdf	PKPdf	06 32 27.8	-2.9
SAML				ePKPbc	PKPdf	06 32 33.8	+3.1
SAML				e		06 32 41.0	
CPUP	Villa Florida	153.81	264	PKPbc	PKPdf	06 32 37.1	+3.9
	comp=Z,2.9nm,0.7s,baz=62,slow=1.5,SNR=5.8						
CPUP	Villa Florida	153.81	264	ePKPbc	PKPdf	06 32 37.4	+4.2
CPUP				e		06 32 44.3	

*IDC **17** 06:13:27.2±1.3, 18.20S×168.37E, mb4.1/7, mb1 4.2/8, mb1mx4.2/13, mbtmp4.1/8, ML3.7/1, MS3.5/2, Ms1 3.5/2, ms1mx3.2/15, Error ellipse: s-maj=31.0km s-min=24.0km az=66.0*

*NEIC **17** 06:13:28.7±0.4, 18.25S×168.37E, h10^{km}, mb4.7/4, Error ellipse: s-maj=11.3km s-min=9.2km az=71.0*

ISC 17 06:13:32.3±0.8**, 18.52S**±0.06×**168.1E**±0.1**, h33^{km}, n49, σ0^{s}99**/24**, mb4.1**/8**, MS3.4**/1**, 4C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.87	204	eP	P	06 14 31.5	+0.6
DZM				eS	S	06 15 14.9	-1.0
DZM	Mont Dzumac	3.87	204	Pn	Pn	06 14 32.1	+1.0
	4.4nm,0.3s,baz=71,slow=22,SNR=62						
DZM				Sn	Sn	06 15 15.6	-0.3
	16nm,0.3s,baz=130,slow=22,SNR=9.7						
DZM	Mont Dzumac	3.87	204	eP	P	06 14 31.5	+0.6
DZM				eS	S	06 15 14.9	-1.0
HNR	Honiara	12.02	318	LR	LR	06 20 09.5	
	comp=Z,164nm,20.0s,baz=116,slow=34						
CTA	Charters Tower	20.70	262	P	P	06 18 13.1	+0.8
	9.3nm,0.9s,baz=84,slow=11,SNR=6.2						
CTA				LR	LR	06 24 57.7	
	comp=Z,174nm,20.5s,MS3.4,baz=47,slow=33						
CTA	Charters Tower	20.70	262	P	P	06 18 13.1	+0.8
CTA				LR	LR	06 24 57.7	
CTAO	Charters Tower	20.70	262	eP	P	06 18 13.2	+0.9
	10.0nm,0.8s						
URZ	Urewera	21.18	160	P	P	06 18 16.9	-0.2
	10.0nm,1.0s,mb4.1,baz=26,slow=15,SNR=1.7						
STKA	Stephens Creek	27.35	236	P	P	06 19 18.8	+2.3
	3.4nm,0.8s,mb3.9,baz=90,slow=11,SNR=4.6						
STKA	Stephens Creek	27.35	236	eP	P	06 19 18.5	+1.9
STKA				e		06 19 31.7	
WRAB	Tennant Creek	31.89	262	eP	P	06 19 56.5	-0.6
WRA	Warramunga Arr	31.90	262	P	P	06 19 55.6	-1.6
	0.4nm,0.5s,mb3.5,baz=82,slow=6.6,SNR=4.9						
KAKA	Kakadu	34.80	274	eP	P	06 20 22.3	0.0
	3.6nm,0.3s,mb4.8						
FITZ	Fitzroy Crossi	40.26	264	P	P	06 21 08.4	+0.4
	7.7nm,0.7s,mb4.5,baz=75,slow=3.4,SNR=10						
VNDA	Vanda	59.12	182	P	P	06 23 31.2	-0.3
	0.2nm,0.4s,mb3.5,baz=301,slow=7.2,SNR=2.7						
VNDA	Vanda	59.12	182	eP	P	06 23 30.9	-0.6
SBA	Scott Base	59.37	180	eP	P	06 23 31.9	-1.5
MJAR	Matsushiro Arr	61.63	333	P	P	06 23 46.0	-3.2
	0.6nm,0.4s,mb4.1,baz=161,slow=8.1,SNR=4.2						
QSPA	South Pole Qui	71.53	180	⇑iP	P	06 24 52.3	+1.0
	6.6nm,0.8s,mb4.6						
SNAA	Sanae	89.83	183	e	pP	06 26 35.2	-3.8
SNAA	Sanae	89.83	183	e	sP	06 26 41.1	-1.3
SNAA	Sanae	89.83	183	⇑iPdif	P	06 26 28.7	+0.3
SNAA				e		06 26 35.2	
SNAA				e	pP	06 26 41.1	+2.1
VNA3	Neumayer Olymp	90.46	181	e	pP	06 26 37.7	-4.3
VNA3	Neumayer Olymp	90.46	181	e	sP	06 26 44.9	-0.5
VNA3	Neumayer Olymp	90.46	181	⇑iPdif	P	06 26 31.7	+0.3
VNA3				e		06 26 37.7	
VNA3				e		06 26 44.9	
VNA2	Neumayer--Watz	90.74	181	e	pP	06 26 38.7	-4.6
VNA2	Neumayer--Watz	90.74	181	e	sP	06 26 46.7	0.0
VNA2	Neumayer--Watz	90.74	181	⇑iPdif	P	06 26 33.1	+0.4
VNA2				e		06 26 38.7	
VNA2				e		06 26 46.7	
ARCES	ARCESS Array B	124.10	345	PKP	PKPdf	06 32 25.8	-1.4
	0.8nm,0.4s,baz=56,slow=3.3,SNR=31						
ARCES	ARCESS Array B	124.10	345	PKP	PKPdf	06 32 25.8	-1.4
BAIF	Baives	146.00	341	ePKP2	PKPab	06 33 09.0	-2.2
	15nm,0.9s						
CDF	Champ du Feu	146.37	337	ePKP2	PKPab	06 33 10.4	-2.3
	14nm,0.8s						
HINF	Hinteralfeld	147.02	337	ePKP2	PKPab	06 33 12.3	-2.9
HAU	Haudompre	147.05	337	ePKP2	PKPab	06 33 12.0	-3.3
MEZF	Maizieres J'vi	147.09	339	ePKP2	PKPab	06 33 12.8	-2.7
	21nm,0.9s						
CABF	La Chapelle	148.31	336	ePKP2	PKPab	06 33 16.1	-4.3
	20nm,0.9s						
LOR	Lormes	148.56	339	ePKP2	PKPab	06 33 15.3	-6.1
	14nm,0.7s						
SSF	Saint Saulge	148.85	339	ePKP2	PKPab	06 33 15.6	-7.0
	14nm,0.8s						
LPL	La Plagne	148.95	334	ePKP2	PKPab	06 33 17.9	-5.1
	7.6nm,0.8s						
LPG	La Plagne	148.96	334	ePKP2	PKPab	06 33 17.9	-5.2
	8.7nm,0.8s						
SMF	Signal de Mont	149.10	339	ePKP2	PKPab	06 33 16.1	-7.5
BGF	Bois d'Agland	149.51	340	ePKP2	PKPab	06 33 18.5	-6.8
ORIF	Oris-en-Rattie	149.79	334	ePKP2	PKPab	06 33 19.6	-6.9
	9.0nm,0.7s						
TCF	Toulx Ste Croi	149.96	340	ePKP2	PKPab	06 33 16.5	-11
SBF	Sospel	149.96	331	ePKP2	PKPab	06 33 19.7	-7.5
PGF	Pioggiola	150.21	328	ePKP2	PKPab	06 33 20.5	-7.8
	22nm,1.0s						
FRF	La Foret Royal	150.55	332	ePKP2	PKPab	06 33 21.2	-8.5
	18nm,1.0s						
SMRF	Simiane la Rot	150.69	334	ePKP2	PKPab	06 33 20.1	-10
	18nm,1.0s						
LMR	La Mourre	150.79	332	ePKP2	PKPab	06 33 21.1	-10
	24nm,1.1s						

ISC 17 06:13:37.0±0.9**, 37.30N**±0.08×**39.31E**±0.04**, h10^{km}, n7, σ0^{s}95**/12**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URFA	Urfa	0.41	290	PG	Pg	06 13 44.9	-0.6
URFA				SG	Sg	06 13 50.9	-0.2
ATAB	Bozova	0.82	282	i P	Pb	06 13 53.4	+0.4
ATAB				i S	Sb	06 14 05.5	+1.6
MARD	Mardin	1.17	89	i P	Pb	06 13 58.3	-0.7
MARD				i S	Sb	06 14 14.1	+0.1
ELZG	Elazig	1.22	348	i P	Pb	06 13 59.6	-0.1
ELZG				i S	Sb	06 14 16.1	+0.8
MALT	Malatya	1.23	326	ePN	Pn	06 13 58.1	-2.1
PTK	Pertek	1.59	2	ePN	Pn	06 14 04.2	-1.2
BEST	Besiri	1.67	69	i P	Pn	06 14 07.2	+0.6
BEST				i S	Sn	06 14 29.1	+1.0

IDC 17 06:54:48.2±11.0**, 31.67S**×**178.80W, h170^{km}**±114^{km}**, mb3.6**/1**, mb1 3.7**/2**, mb1mx3.3**/11**, mbtmp4.0**/2**, Error ellipse: s-maj=105.1km s-min=47.6km az=5.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.38	206	P	P	06 56 33.5	-0.7
	0.1nm,0.3s,baz=148,slow=22,SNR=4.2						
URZ				S	S	06 57 56.3	-0.6
	0.4nm,0.3s,baz=173,slow=11,SNR=2.8						
WRA	Warramunga Arr	43.48	274	P	P	07 02 34.6	-1.6
	1.6nm,0.5s,baz=112,slow=8.1,SNR=20						
KAF	Kangasniemi	145.50	339	ep	PKPdf	07 14 00.8	-4.2
	1.5nm,0.7s						
FINES	FINESS Array B	146.09	339	PKPbc	PKPbc	07 14 07.2	0.0
	1.8nm,0.7s,baz=45,slow=2.0,SNR=7.0						
NOA	NORSAR Array B	149.89	350	PKPbc	PKPdf	07 14 16.2	+4.1
	1.1nm,1.1s,baz=15,slow=4.3,SNR=3.4						

ISC 17 07:24:23.3±0.9**, 40.34N**±0.04×**34.34E**±0.06**, h24^{km}**±13^{km}**, n6, σ0^{s}57**/12**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CORM	Corum	0.28	126	PG	Pb	07 24 29.6	-0.4
CORM				SG	Sb	07 24 34.6	+0.1
CTKT	Corum	0.45	51	i P	Pb	07 24 31.7	-0.9
CTKT				i S	Sb	07 24 39.0	+0.1
ELDT	Eldivan	0.71	282	i P	Pb	07 24 36.9	-0.1
ELDT				i S	Sb	07 24 46.5	+0.2
CDAG	Cicekdag	0.72	178	i P	Pb	07 24 36.4	-0.7
CDAG				i S	Sb	07 24 47.6	+1.0
TOS	Tosya	0.73	341	ePG	Pb	07 24 36.8	-0.5
TOS				eSG	Sb	07 24 47.0	+0.1
BOYT	Boyabat	1.16	22	i P	Pn	07 24 44.2	0.0
BOYT				i S	Sb	07 25 00.3	+1.1

*NIED **17** 07:46:00, 28.50N×128.20E, h20^{km}, Mw3.9 Best double couple: $M_0$8.46×10^{14} NP1:ϕ_s290°, δ75°, λ-56°. NP2:ϕ_s40°, δ36°, λ-155°.*

JMA 17 07:46:53.5±0.2**, 28.50N**×**128.23E, h6^{km}**±2^{km}**, M3.5, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.95	138	P	Pb	07 47 11.7	-0.4
JTK				S	Sb	07 47 24.4	-0.3
JAM	Amami Oshima	1.21	94	P	Pb	07 47 16.3	-0.2
JAM				S	Sb	07 47 32.3	0.0
JIH	Iheya	1.48	189	P	Pn	07 47 20.7	-0.1
JOW	Kunigami	1.66	179	P	Pn	07 47 23.1	-0.3
JOW				S	Sn	07 47 45.6	+0.4

*BJI **17** 07:49:49.0, 5.88N×92.81E, h39^{km}, mB5.1, mb4.7, Ms5.0, Msz4.7*

*IDC **17** 07:49:49.1±0.5, 6.42N×92.97E, mb4.2/19, mb1 4.4/19, mb1mx4.3/21, mbtmp4.2/19, MS3.8/3, Ms1 3.8/3, ms1mx3.3/28, Error ellipse: s-maj=19.4km s-min=14.2km az=63.0*

*MOS **17** 07:49:52.3±1.3, 6.45N×93.05E, h33^{km}, mb4.9/17, Error ellipse: s-maj=14.7km s-min=7.0km az=112.1*

*NEIC **17** 07:49:54.0±2.2, 6.37N×92.94E, h33^{km}±16^{km}, mb4.7/19, Error ellipse: s-maj=9.0km s-min=5.8km az=219.0*

ISC 17 07:49:51.2±2.0**, 6.35N**±0.05×**93.01E**±0.05**, h28^{km}**±14^{km}**, h31^{km}**±3.5^{km}**:pP-P, n107, σ1^{s}20**/103**, mb4.6**/53**, MS3.9**/5**, 6D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	7.67	97	eP	Pn	07 51 44.3	+0.2
PALK	Pallekele	12.25	275	eP	P	07 52 43.7	-3.4
VIS	Vishakhapatnam	14.73	321	i P	P	07 53 18.5	-1.4
VIS				AMb	AMB	07 53 20.8	
	comp=Z,50nm,0.2s						
VIS				e		07 55 47.9	
HYB	Hyderabad	17.90	309	eP	P	07 54 01.0	+0.8
HYB				eS	S	07 57 20.0	+3.8
HYB	Hyderabad	17.90	309	i P	P	07 54 01.0	+0.8
HYB				eS	S	07 57 20.0	+3.8
KSM	Kuching	17.92	105	eP	P	07 54 03.3	+2.9
KSM				e		07 54 11.4	
BOK	Bokaro	18.65	339	eP	P	07 54 09.9	+0.5
BOK				AMb	AMB	07 54 24.0	
	comp=Z,14nm,0.3s						
BLSP	Bilaspur	18.88	327	eP	P	07 54 10.8	-1.4
BLSP				AMb	AMB	07 54 13.8	
	comp=Z,34nm,0.9s						
BLSP				e		07 57 52.4	
SHL	Shillong	19.14	357	eP	P	07 54 13.5	-1.7
NGP	Nagpur	19.98	319	e	P	07 54 31.3	+6.7
NGP				AMb	AMB	07 54 33.2	
	comp=Z,96nm,0.8s						
QIZ	Qiongzhong	20.68	51	⇓P	P	07 54 32.8	+1.0
QIZ	Qiongzhong	20.68	51	eP	P	07 54 32.6	+0.8
	comp=Z,60nm,1.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KMI	Kunming	20.87	25	P	P	07 54 35.3	+1.6
KMI				AP		07 54 45.4	
KMI				AMB	AMB		
	comp=Z,26nm,1.1s						
AKL	Akola	21.07	314	*e*		07 54 48.5	
AKL				AMb	AMB	07 54 55.8	
	comp=Z,30nm,1.0s,mb4.6						
POO	Poona	22.25	305	*e*P	P	07 54 50.0	+2.3
PKI	Pulchoki	22.31	342	*e*P	P	07 54 49.3	+1.1
	comp=Z,85nm,1.0s,mb5.1						
PKI	Pulchoki	22.31	342	*e*P	P	07 54 49.3	+1.1
PKI				pmax	pmax		
	comp=Z,43nm,1.0s,mb4.8						
DMN	Daman	22.44	341	*e*P	P	07 54 50.6	+1.1
	comp=Z,66nm,0.9s,mb5.1						
GUN	Gumba	22.49	343	*e*P	P	07 54 50.6	+0.6
	comp=Z,70nm,1.0s,mb5.0						
BHPL	Bhopal	22.52	320	*e*P	P	07 54 51.5	+1.0
BHPL				AMb	AMB	07 54 55.3	
	comp=Z,20nm,0.6s,mb4.7						
KKN	Kakani	22.55	342	*e*P	P	07 54 51.3	+0.6
	comp=Z,66nm,1.0s,mb5.0						
KKN	Kakani	22.55	342	*e*P	P	07 54 51.3	+0.6
KKN				pmax	pmax		
	comp=Z,33nm,1.0s,mb4.7						
GKN	Gorkha	22.95	341	*e*P	P	07 54 55.9	+1.2
	comp=Z,115nm,1.1s,mb5.2						
KOLN	Koldanda	23.10	338	*e*P	P	07 54 57.9	+1.8
	comp=Z,83nm,1.2s,mb5.0						
LSA	Lhasa	23.30	356	P	P	07 55 00.3	+2.4
LSA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
LSA	Lhasa	23.30	356	*e*P	P	07 54 59.1	+1.2
LSA				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.5						
LSA	Lhasa	23.30	356	*e*P	P	07 54 59.1	+1.2
	comp=Z,16nm,0.9s,mb4.4						
GYA	Guiyang	23.86	32⇓	*i*P	P	07 55 05.1	+1.6
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
CD2	Chengdu	26.44	21	*e*P	P	07 55 28.0	+0.2
ENH	Enshi	28.40	31	*e*P	P	07 55 44.5	-1.2
LZH	Lanzhou	31.22	17	*e*P	P	07 56 10.0	-0.8
LZH				AMB	AMB		
	comp=Z,23nm,1.2s,mb4.9						
XAN	Xi'an	31.25	26	P	P	07 56 09.9	-1.1
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.8						
GTA	Gaotai	33.48	10	*e*P	P	07 56 30.8	+0.3
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.2						
NJ2	Nanjing	35.16	40	*e*P	P	07 56 46.4	+1.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
SSE	Sheshan	36.10	43	P	P	07 56 50.3	-2.6
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,547nm,5.4s						
KSH	Kashi	36.42	338	*e*P	P	07 56 56.1	+0.6
KSH				*e*AP	pP	07 57 07.0	+3.3
KSH				*e*XP	sP	07 57 10.0	+2.8
KSH				*e*S	S	08 02 36.0	+1.4
KSH				*e*PCS		08 03 05.3	
KSH				*e*SCS	ScS	08 07 06.4	-1.5
KSH				AMB	AMB		
	comp=Z,110nm,6.0s						
KSH				LR	LR		
	comp=N,310nm,7.4s						
KSH				LR	LR		
	comp=E,360nm,5.0s						
AAK	Ala-Archa	39.68	338*d*	*i*P	P	07 57 23.0	+0.2
AAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
AAK				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.8						
AAK	Ala-Archa	39.68	338	*e*P	P	07 57 22.9	+0.1
	comp=Z,6.7nm,0.8s,mb4.4						
FITZ	Fitzroy Crossi	40.34	128	*e*P	P	07 57 28.2	-0.2
	comp=Z,6.4nm,0.9s,mb4.3						
FITZ	Fitzroy Crossi	40.34	128	P	P	07 57 27.9	-0.5
	comp=Z,5.5nm,1.0s,mb4.2,baz=332,slow=9.1,SNR=4.3						
MKAR	Makanchi Array	41.34	349	P	P	07 57 36.5	+0.1
	comp=Z,3.6nm,0.7s,mb4.1,baz=166,slow=8.5,SNR=21						
SONM	Songino Array	42.89	13	P	P	07 57 49.8	+0.7
	comp=Z,3.6nm,0.8s,mb4.2,baz=203,slow=9.4,SNR=5.3						
ZAK	Zakamensk	44.72	9	*e*P	P	07 58 01.1	-2.8
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
KURK	Kurchatov	45.83	347	*e*P	P	07 58 12.2	-0.4
KURK				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.8						
KURK	Kurchatov	45.83	347	*e*P	P	07 58 12.2	-0.4
	comp=Z,16nm,1.4s,mb4.8						
ZAL	Zalesovo	47.91	353	P	P	07 58 30.1	+1.0
	comp=Z,4.8nm,0.4s,mb4.9,baz=301,slow=5.5,SNR=28						
WRA	Warramunga Arr	48.32	124	P	P	07 58 32.5	-0.2
	comp=Z,4.6nm,0.8s,mb4.5,baz=304,slow=9.0,SNR=21						
WRAB	Tennant Creek	48.33	124	*e*P	P	07 58 32.4	-0.3
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
WRAB	Tennant Creek	48.33	124	*e*P	P	07 58 32.4	-0.3
	comp=Z,6.5nm,0.7s,mb4.8						
WB2	Warramunga Arr	48.33	124	*e*P	P	07 58 31.9	-0.9
NVS	Novosibirsk	48.99	353⇓	*i*P	P	07 58 36.5	-0.8
NVS				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
NVS				pmax	pmax		
	comp=N,11nm,1.4s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.3s						
MDJ	Mudanjiang	49.69	34	P	P	07 58 44.3	+1.4
MDJ				AP	pP	07 58 50.5	-0.9
MDJ				PCP	PcP	08 00 06.1	+2.0
MDJ				PP	PP	08 00 38.5	+0.4
MDJ				SCP		08 03 57.9	
MDJ				PCS		08 04 01.9	
MDJ				S	S	08 05 53.3	+4.6
MDJ				SS	SS	08 09 24.9	+7.4
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,80nm,10.8s						
BVAR	Borovoye Array	50.08	342	P	P	07 58 44.5	-1.2
	comp=Z,1.3nm,0.5s,mb4.2,baz=149,slow=8.6,SNR=8.8						
MJAR	Matsushiro Arr	51.02	47	P	P	07 58 54.2	+1.1
	comp=Z,1.0nm,0.7s,mb3.9,baz=234,slow=6.6,SNR=5.7						
MJAR				PcP	PcP	08 00 09.3	+0.2
	comp=Z,0.7nm,0.5s,baz=237,slow=6.0,SNR=5.2						
OPO	Ambohidratompo	51.51	240	P	P	07 58 58.1	+1.0
	comp=Z,0.8nm,0.6s,mb3.8,baz=62,slow=20,SNR=2.7						
KLR	Kul'dur	53.76	31	*e*P	P	07 59 11.2	-2.2
BOD	Bodaibo	53.89	14	*e*P	P	07 59 14.2	0.0
BOD				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
KMBO	Kilima Mbogo	56.15	264	*i* P	P	07 59 31.7	+0.4
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KMBO	Kilima Mbogo	56.15	264	P	P	07 59 32.5	+1.2
	comp=Z,1.1nm,0.6s,mb4.1,baz=58,slow=15,SNR=3.1						
KMBO				LR	LR	08 23 14.2	
	comp=Z,63nm,18.3s,MS3.7,baz=90,slow=36						
SVE	Sverdlovsk	56.41	339	*e*P	P	07 59 32.4	-0.2
SVE				*e*	pP	07 59 41.5	+0.4
SVE				*e*PPP	PP	08 01 36.0	-3.7
SVE				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0						
ARU	Arti	56.86	338⇓	*i*P	P	07 59 34.2	-1.6
ARU				*e*		08 01 36.6	
ARU				*e*PPP	PPP	08 02 59.6	-3.4
ARU				*e*S	S	08 07 26.8	+1.1
ARU				*e*SS	SS	08 11 14.2	-0.9
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
KIV	Kislovodsk	57.70	319	*e*P	P	07 59 40.3	-1.7
KIV				pmax	pmax		
	comp=N,6.0nm,1.0s						
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
KIV				pmax	pmax		
	comp=E,3.0nm,0.8s						
CTA	Charters Tower	58.57	118	LR	LR	08 26 06.4	
	comp=E,102nm,21.0s,MS3.9,baz=114,slow=37						
STKA	Stephens Creek	59.89	132	P	P	07 59 57.5	+0.2
	comp=E,4.9nm,0.8s,mb4.6,baz=294,slow=6.1,SNR=7.3						
ANN	Anapa	61.50	318	*e*P	P	08 00 01.6	-6.5
ANN				pmax	pmax		
	comp=Z,42nm,1.2s,mb5.4						
YAK	Yakutsk	61.79	19⇓	*e*P	P	08 00 09.0	-0.8
YAK				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.4						
YAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
BRTR	Keskin Array B	62.58	312	P	P	08 00 14.2	-1.2
	comp=Z,3.5nm,0.8s,mb4.5,baz=117,slow=7.2,SNR=13						
OBN	Obninsk	66.07	328	*e*P	P	08 00 35.8	-2.0
OBN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
AKASG	Malin Array Be	68.66	322	P	P	08 00 52.1	-2.1
	comp=Z,1.2nm,0.6s,mb4.0,baz=87,slow=5.1,SNR=9.3						
TIXI	Tiksi	68.94	11	*e*P	P	08 00 53.8	-1.9
TIXI				*e*		08 01 04.6	
TIXI				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
KOLS	Kolonicke sedl	72.61	319	*e*P	P	08 01 16.2	-2.0
CRVS	Cervenica-Dubn	73.13	319	*e*P	P	08 01 24.0	+2.8
STHS	Stebnicka Huta	73.36	320	*e*P	P	08 01 22.1	-0.5
FINES	FINESS Array B	73.53	333	P	P	08 01 22.2	-1.1
	comp=Z,3.0nm,0.7s,mb4.3,baz=141,slow=12,SNR=11						
KAF	Kangasniemi	73.63	333	*e*p	P	08 01 22.9	-1.0
	comp=Z,4.7nm,1.0s,mb4.4,baz=106,slow=5.6						
KAF	Kangasniemi	73.63	333	*e*P	P	08 01 22.9	-1.0
KAF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
BOSA	Boshof	73.83	238	P	P	08 01 25.9	+0.3
	comp=Z,0.9nm,0.7s,mb3.8,baz=36,slow=6.8,SNR=3.2						
VYHS	Vyhne	74.79	318	*e*P	P	08 01 30.6	-0.3
KEV	Kevo	75.90	341	*e*p	P	08 01 35.4	-1.4
	comp=Z,6.7nm,0.9s,mb4.6						
KEV	Kevo	75.90	341	*e*P	P	08 01 35.4	-1.4
KEV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ZST	Bratislava	75.90	318	*e*P	P	08 01 37.5	+0.3
ARCES	ARCESS Array B	76.32	340	P	P	08 01 39.3	+0.2
	comp=Z,2.9nm,0.8s,mb4.3,baz=98,slow=6.3,SNR=13						
ARCES				LR	LR	08 38 20.3	
	comp=Z,53nm,18.5s,MS3.9,baz=131,slow=38						
MAW	Mawson	76.82	191	P	P	08 01 43.8	+1.8
	comp=Z,4.0nm,1.0s,mb4.3,baz=2.0,slow=6.3,SNR=7.3						
LJU	Ljubljana	77.46	316	*e*P	P	08 01 46.3	+0.4
BRG	Berggiesshubel	78.20	321	*e*P	P	08 01 50.6	+0.7
BRG				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
BRG	Berggiesshubel	78.20	321	*e*P	P	08 01 50.6	+0.7
	comp=Z,0.7nm,0.5s,mb3.9						
GERES	GERESS Array B	78.21	318	P	P	08 01 50.5	+0.5
	comp=Z,3.4nm,0.8s,mb4.3,baz=90,slow=5.3,SNR=34						
KHC	Kasperske Hory	78.31	319	*e*P	P	08 01 51.0	+0.5
KHC				*e*		08 02 02.5	
KHC	Kasperske Hory	78.31	319	*e*P	P	08 01 51.0	+0.5
KHC				pP	pP	08 02 02.5	+3.2
GRA1	Grafenberg Arr	79.88	319	*e*P	P	08 01 59.9	+0.8
	comp=Z,9.0nm,1.1s,mb4.6						
GRF	Grafenberg Arr	79.88	319	*e*P	P	08 01 59.9	+0.8
GRF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
GRF	Grafenberg Arr	79.88	319	*e*P	P	08 01 59.9	+0.8
GRF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
GRF	Grafenberg Arr	79.88	319	*e*P	P	08 01 59.9	+0.8
	comp=Z,9.0nm,1.1s,mb4.6						
NB2	NORSAR Subarra	80.50	331	P	P	08 02 01.0	-1.1
	comp=Z,0.9nm,0.9s,mb3.7,baz=97,slow=4.6						
NB2	NORSAR Subarra	80.50	331	P	P	08 02 01.0	-1.1
NB2				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
NOA	NORSAR Array B	80.50	331	P	P	08 02 01.4	-0.7
	comp=Z,1.7nm,0.9s,mb4.0,baz=96,slow=5.3,SNR=3.6						
NOA	NORSAR Array B	80.50	331	P	P	08 02 01.4	-0.7
BNI	Bardonecchia	82.96	315	P	P	08 02 14.5	-0.8
BNI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
BNI	Bardonecchia	82.96	315	P	P	08 02 14.5	-0.8
	comp=Z,6.9nm,1.1s,mb4.6						
ESDC	Sonseca Array	91.33	310	P	P	08 02 56.9	+0.9
	comp=Z,0.9nm,0.7s,mb4.2,baz=79,slow=3.0,SNR=5.7						
PDAR	Pinedale Array	126.99	21	PKP	PKPdf	08 08 56.0	-2.1
	comp=Z,1.8nm,0.8s,baz=27,slow=3.3,SNR=16						
HWUT	Hardware Ranch	127.25	23	*e*PKPdf	PKPdf	08 08 56.5	-2.2
MSU	Marysvale	129.61	26	*e*PKIKP	PKPdf	08 09 02.7	-0.6
ANMO	Albuquerque	135.01	23	*e*PKIKP	PKPdf	08 09 11.0	-2.5
MNTX	Cornudas Mount	138.29	24	*e*PKPdf	PKPdf	08 09 17.2	-2.5
CPUP	Villa Florida	145.44	232	PKPbc	PKPbc	08 09 29.0	+0.9
	comp=Z,3.0nm,0.8s,baz=103,slow=4.9,SNR=7.2						
LPAZ	La Paz	159.05	240	PKP	PKPdf	08 09 50.9	-1.6
	comp=Z,0.7nm,0.6s,baz=153,slow=2.3,SNR=4.7						

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*NEIC **17** 08:57:15.2±1.3, 62.54N×26.74W, h10km, Error ellipse: s-maj=26.6km s-min=18.8km az=184.0*

IDC 17 08:57:13.6±2.2**, 62.52N×26.78W, mb3.7**/4**, mb1 3.9**/6**, mb1mx3.5**/24**, mbtmp3.8**/6**, ML3.5**/2**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.6**/23**, Error ellipse: s-maj=66.1km s-min=26.3km az=169.0, Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	3.31	45	Pn	Pn	08 58 05.4	-2.2
	11nm,0.3s,baz=207,slow=10,SNR=33						
BORG				LR	LR	08 58 58.2	
	comp=Z,244nm,18.6s,baz=339,slow=32						
BORG	Borgarnes	3.31	45	*e*P	Pn	08 58 05.3	-2.3
BORG				LR	LR	08 58 58.2	
EKA	Eskdalemuir Ar	14.10	110	Pn	P	09 00 34.4	-2.0
	0.1nm,0.3s,baz=311,slow=13,SNR=4.0						
ARCES	ARCESS Array B	21.71	49	P	P	09 02 07.3	-0.5
	2.8nm,0.9s,baz=284,slow=10.0,SNR=7.6						
BVAR	Borovoye Array	47.86	54	P	P	09 05 53.0	-1.4
	1.2nm,0.9s,baz=315,slow=6.3,SNR=5.2						
PDAR	Pinedale Array	50.04	288	P	P	09 06 09.8	-1.6
	0.8nm,0.8s,baz=68,slow=8.0,SNR=6.3						
MKAR	Makanchi Array	57.35	50	P	P	09 07 02.0	-3.3
	1.0nm,0.9s,baz=323,slow=6.1,SNR=4.9						

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*IDC **17** 09:37:30.4±1.1, 5.78S×130.50E, mb4.1/3, mb1 4.4/5, mb1mx4.1/13, mbtmp4.3/5, ML4.5/2, Error ellipse: s-maj=70.9km s-min=22.7km az=69.0*

*NEIC **17** 09:37:40.1±2.4, 5.94S×130.19E, h73km±21km, mb4.0/3, Error ellipse: s-maj=28.3km s-min=17.8km az=61.0*

ISC 17 09:37:44.0±2.1**, 6.31S**±0.08×**130.5E**±0.1**, h149**km±23km**, n16, σ0ˢ69**/18**, mb3.8**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.65	163	*e*P	P	09 39 20.5	+0.2
	16nm,0.1s						
KAKA				*e*S	S	09 40 36.2	+1.0
FITZ	Fitzroy Crossi	12.63	201	*e*P	P	09 40 41.2	+1.9
	3.3nm,0.2s						
FITZ				*e*		09 40 54.3	
FITZ				*e*S	S	09 42 56.5	-0.6
FITZ	Fitzroy Crossi	12.63	201	Pn	P	09 40 39.9	+0.6
	2.5nm,0.3s,baz=25,slow=9.8,SNR=41						
FITZ				Sn	S	09 42 56.7	-0.4
	8.4nm,0.3s,baz=159,slow=7.5,SNR=7.4						
WRAB	Tennant Creek	14.06	165	*e*P	P	09 40 56.7	-1.0
	11nm,0.6s						
WRA	Warramunga Arr	14.06	165	Pn	P	09 40 57.0	-0.8
	1.6nm,0.3s,baz=345,slow=14,SNR=92						
WRA				Sn	S	09 43 30.6	+0.3
	2.6nm,0.3s,baz=347,slow=22,SNR=8.9						
WB2	Warramunga Arr	14.06	165	*e*P	P	09 40 56.7	-1.1
WB2				*e*S	S	09 43 30.7	+0.3
MBWA	Marble Bar	18.05	214	*e*P	P	09 41 46.4	-0.3
STKA	Stephens Creek	27.48	159	*e*P	P	09 43 23.2	+4.8
	5.4nm,1.4s,mb4.0						
STKA	Stephens Creek	27.48	159	P	P	09 43 23.2	+4.9
	1.1nm,0.3s,mb3.9,baz=336,slow=8.9,SNR=9.9						
MKAR	Makanchi Array	67.91	326	P	P	09 48 28.8	+0.2
	2.0nm,0.6s,mb4.0,baz=121,slow=7.7,SNR=19						
VNDA	Vanda	73.07	173	*e*P	P	09 49 05.5	+6.4
	3.1nm,0.7s,mb4.2						
BVAR	Borovoye Array	77.73	328	P	P	09 49 26.3	+0.5
	0.5nm,0.7s,mb3.3,baz=127,slow=7.2,SNR=3.3						
ZRNK	Zerenda	78.44	327	*e*P	P	09 49 29.8	+0.1
	1.0nm,0.6s,mb3.6						
LPAZ	La Paz	150.97	141	PKPbc	PKPdf	09 57 27.0	+13
	0.5nm,0.4s,baz=236,slow=6.9,SNR=7.6						
LPAZ	La Paz	150.97	141	*e*PKPbc	PKPdf	09 57 26.9	+13
SAML	Samuel	159.63	138	*e*PKPdf	PKPdf	09 57 32.7	+7.1

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*HEL **17** 10:07:12.9±0.2, 67.48N×14.21E, h10km±1km, ML2.8, ML2.1(UPP), ML2.2(BER)*

*NEIC **17** 10:07:12.5±0.7, 67.38N×14.28E, h10km, MD2.9(BER), Error ellipse: s-maj=13.6km s-min=7.0km az=107.0*

*IDC **17** 10:07:12.3±1.5, 67.44N×14.18E, mb1 3.0/4, mb1mx2.9/18, mbtmp2.9/4, ML2.6/4, Error ellipse: s-maj=19.4km s-min=7.2km az=121.0*

*NAO **17** 10:07:13.1±1.7, 67.50N×14.37E, ML2.5*

*BER **17** 10:07:15.3±4.3, 67.49N×14.20E, h15km±15km, MD2.9, ML2.2, ML2.5(NAO)*

ISC 17 10:07:12.2±0.5**, 67.35N**±0.02×**14.70E**±0.08**, h10**km**, n40, σ1ˢ46**/84**, Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	Lofoten	0.90	331	*i* P	Pb	10 07 28.4	-1.0
LOF				*i* S	Sb	10 07 38.8	-2.3
LOF	Lofoten	0.90	331	*e*P	Pb	10 07 28.4	-1.0
LOF				*e*S	Sb	10 07 38.8	-2.3
MOR8	Moi Rana	1.19	185	*e*P	Pb	10 07 33.7	-0.7
MOR8				*e*S	Sb	10 07 50.8	+1.1
STOK	Stokkvaagen	1.22	214	*e*P	Pb	10 07 34.2	-0.8
STOK				*e*S	Sb	10 07 51.0	+0.4
STOK				AML	AML	10 07 55.0	
	comp=Z,70nm,0.1s						
NIKU	Nikkaluokta	1.74	71	*e*P	Pn	10 07 45.5	+2.8
NIKU				*e*S	Sn	10 08 11.0	+6.0
KUA	Kurravaara	2.24	72	*e*P	Pn	10 07 53.1	+3.3
TRO	Tromso	2.77	32	*e*P	Pn	10 07 56.9	-0.5
TRO				*e*SG	Sg	10 08 37.4	-7.0
TRO				AML	AML	10 08 43.0	
	comp=Z,16nm,0.4s						
KIF	Kilpisjarvi	2.82	51	*e*P	Pn	10 07 59.8	+1.7
KIF				*e*SG	Sg	10 08 42.0	-4.1
LANU	Lannavaara	2.87	73	*e*P	Pn	10 08 01.1	+2.3
RORSS	Ber_school_1	2.87	211	*e*Sg	Sg	10 08 39.2	-8.5
LILU	Lilltraesk	2.94	133	*e*P	Pn	10 08 02.7	+2.8
LILU				*e*S	Sn	10 08 39.0	+3.5
NSS	Namsos	3.05	203	*e*P	Pn	10 08 01.8	+0.4
NSS				AML	AML	10 08 53.4	
	comp=Z,21nm,0.8s						
PAJU	Pajala	3.29	92	*e*P	Pn	10 08 06.8	+1.9
KTK1	Kautokeino	3.59	59	*e*P	Pn	10 08 10.7	+1.5
KTK1				*e*SG	Sg	10 09 04.7	-7.3
KTK1				AML	AML	10 09 13.4	
	comp=Z,23nm,0.4s						
BURU	Burvik	3.90	132	*e*P	Pn	10 08 16.4	+2.9
UMAU	Umeaa	4.28	142	*e*P	Pn	10 08 20.8	+1.9
ARA0	ARCESS Array S	4.55	56	Pn	Pn	10 08 22.4	-0.3
	baz=244,slow=14						
ARA0				Sn	Sn	10 09 15.0	-1.2
	baz=242,slow=22						
ARA0				Lg		10 09 36.0	
	baz=245,slow=28						
ARA0	ARCESS Array S	4.55	56	*e*P	Pn	10 08 22.4	-0.3
ARA0				*e*S	Sn	10 09 15.0	-1.2
ARA0				*e*SG	Sg	10 09 36.0	-7.6
ARCES	ARCESS Array B	4.55	56	Pn	Pn	10 08 22.6	-0.1
	comp=Z,0.2nm,0.3s,baz=245,slow=13,SNR=14						
ARCES				Pg	Pg	10 08 33.9	-9.1
	comp=Z,0.6nm,0.3s,baz=239,slow=14,SNR=10						
ARCES				Sn	Sn	10 09 17.2	+1.0
	comp=Z,1.1nm,0.3s,baz=237,slow=20,SNR=5.9						
ARCES				Lg		10 09 35.0	
	comp=Z,1.3nm,0.3s,baz=235,slow=19,SNR=4.3						
ARCES	ARCESS Array B	4.55	56	Pn	Pn	10 08 22.6	-0.1
ARCES				Pg	Pg	10 08 33.9	-9.1
ARCES				Sn	Sn	10 09 17.2	+1.0
ARCES				Lg		10 09 35.0	
SGF	Sodankyl	4.56	83	*e*P	Pn	10 08 23.9	+1.0
SGF				*e*S	Sn	10 09 17.2	+0.5
SGF				*e*SG	Sg	10 09 38.9	-5.3
SGF				MSG		10 09 45.3	
	comp=Z,15nm,0.4s						
OUL	Oulu	5.07	111	*e*P	Pn	10 08 31.2	+1.1
OUL				*e*S	Sn	10 09 29.4	-0.1
OUL				*e*SG	Sg	10 09 55.5	-5.5
OUL				MSG		10 09 58.6	
	comp=Z,15nm,0.6s						
KEV	Kevo	5.12	56	*e*P	Pn	10 08 30.8	+0.1
KEV				*e*S	Sn	10 09 28.2	-2.4
KEV				*e*SG	Sg	10 09 52.5	-10
VAF	Ylistaro	5.47	139	*e*P	Pn	10 08 37.0	+1.2
VAF				*e*S	Sn	10 09 40.3	+0.7
VAF				*e*SG	Sg	10 10 08.2	-6.3
VAF				MSG		10 10 12.8	
	comp=Z,9.8nm,0.5s						
MOL	Molde	5.68	216	*e*S	Sn	10 09 36.7	-8.1
MOL				AML	AML	10 10 17.8	
	comp=Z,5.9nm,0.6s						
KU4	Liikasenvaara	5.95	93	*e*P	Pn	10 08 43.5	+1.0
KU4				*e*S	Sn	10 09 50.9	-0.6
KU4				*e*SG	Sg	10 10 22.5	-7.8
KJN	Kajaani	6.28	115	*e*P	Pn	10 08 47.9	+0.6
KJN				*e*S	Sn	10 09 57.7	-2.2
KJN				*e*SG	Sg	10 10 33.0	-8.5
KJN				MSG		10 10 37.2	
	comp=Z,6.8nm,0.5s						
NB2	NORSAR Subarra	6.52	195	Pn	Pn	10 08 50.0	-0.6
	baz=356,slow=11						
NB2				Sn	Sn	10 10 08.0	+2.2
	baz=330,slow=28						
NB2				Lg		10 10 40.8	
NB2	NORSAR Subarra	6.52	195	*e*P	Pn	10 08 50.0	-0.6
NB2				*e*		10 10 08.0	
NB2				*e*		10 10 40.8	
NOA	NORSAR Array B	6.52	195	Pn	Pn	10 08 47.6	-3.0
	comp=Z,0.1nm,0.3s,baz=291,slow=14,SNR=2.3						
NOA				Sn	Sn	10 10 00.1	-5.7
	comp=Z,0.2nm,0.3s,baz=29,slow=6.9,SNR=2.7						
NOA				Lg		10 10 32.8	
	comp=Z,0.6nm,0.3s,baz=39,slow=4.5,SNR=6.3						
NOA	NORSAR Array B	6.52	195	Pn	Pn	10 08 47.6	-3.0
NOA				Sn	Sn	10 10 00.1	-5.7
NOA				Lg		10 10 32.8	
SUF	Sumiainen	6.71	128	*e*P	Pn	10 08 54.2	+0.9
SUF				*e*S	Sn	10 10 08.9	-1.6
SUF				*e*SG	Sg	10 10 45.5	-10
SUF				MSG		10 10 50.1	
	comp=Z,6.9nm,0.5s						
KEF	Keuruu	6.78	135	*e*P	Pn	10 08 54.8	+0.7
KEF				*e*S	Sn	10 10 10.9	-1.3
KEF				*e*SG	Sg	10 10 49.9	-7.9
KEF				MSG		10 10 52.6	
	comp=Z,4.7nm,0.5s						
KAF	Kangasniemi	7.22	131	*e*P	Pn	10 09 01.2	+0.7
KAF				*e*S	Sn	10 10 20.5	-2.9
KAF				*e*SG	Sg	10 11 01.1	-12
KAF				MSG		10 11 10.4	
	comp=Z,6.6nm,0.6s						
HFS	Hagfors	7.26	184	Pn	Pn	10 09 00.2	-0.9
	baz=8.0,slow=11						
HFS				Sn	Sn	10 10 22.1	-2.3
	baz=358,slow=28						
HFS				Lg		10 11 04.2	
	baz=351,slow=37						
HFS	Hagfors	7.26	184	*e*P	Pn	10 09 00.2	-0.9
HFS				*e*S	Sn	10 10 22.1	-2.3
HFS				*e*		10 11 04.2	
HFS	Hagfors	7.26	184	Pn	Pn	10 08 59.6	-1.5
	comp=Z,0.0nm,0.3s,baz=7.1,slow=12,SNR=6.0						
HFS				Sn	Sn	10 10 21.2	-3.2
	comp=Z,0.1nm,0.3s,baz=11,slow=24,SNR=7.3						
HFS				Lg		10 11 01.3	
	comp=Z,0.1nm,0.3s,baz=357,slow=28,SNR=5.9						
FIA0	FINESS Array S	7.70	135	Pn	Pn	10 09 07.3	+0.2
	baz=331,slow=16						
FIA0				Sn	Sn	10 10 33.5	-1.8
	baz=332,slow=28						
FIA0				Lg		10 11 19.9	
	baz=325,slow=28						
FIA0	FINESS Array S	7.70	135	*e*P	Pn	10 09 07.6	+0.5
FIA0				*e*S	Sn	10 10 32.9	-2.3
FIA0				*e*SG	Sg	10 11 17.1	-11
FIA0				MSG		10 11 26.0	
	comp=Z,7.7nm,0.7s						
FINES	FINESS Array B	7.70	135	Pn	Pn	10 09 07.2	+0.1
	comp=Z,0.2nm,0.3s,baz=342,slow=12,SNR=7.8						
FINES				Sn	Sn	10 10 32.4	-2.9
	comp=Z,0.3nm,0.3s,baz=333,slow=23,SNR=6.5						
FINES				Lg		10 11 17.1	
	comp=Z,0.5nm,0.3s,baz=329,slow=22,SNR=7.8						

CSEM 17 10:10:12.0±0.3,37.49N×24.54W,h10km,ML1.9,Error ellipse: s-maj=12.0km s-min=2.6km az=73.0,After PDA
PDA 17 10:10:12.0±1.2,37.49N×24.54W,h10km,MD2.5,ML1.9, Error ellipse: s-maj=13.3km s-min=4.7km az=74.0
SVSA 17 10:10:12.0±1.2,37.49N×24.54W,h10km,MD2.5,ML1.9, Error ellipse: s-maj=13.3km s-min=4.7km az=74.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.65	221	eP	Pb	10 10 22.5	-2.4
PSMN				eS	Sb	10 10 30.3	-3.4
MIRA	Miradouro	0.66	297	eP	Pb	10 10 22.8	-2.3
MIRA				eS	Sb	10 10 29.9	-4.1
PCNG	Congro	0.73	292	eS	Sb	10 10 32.6	-3.6
	14nm,0.1s						
VIF	Vila Franca	0.76	290	eS	Sb	10 10 33.0	-4.0
	13nm,0.2s						
MESC	Monte Escuro	0.78	293	eP	Pb	10 10 24.4	-2.8
MESC				eS	Sb	10 10 34.3	-3.3
PRCH	Ribeira Ch	0.78	288	eS	Sb	10 10 34.1	-3.6
	35nm,0.1s						
LFA	Lagoa do Fogo	0.80	291	eP	Pb	10 10 24.7	-2.8

IDC 17 10:22:36.5±0.6,3.50S×131.16E,mb4.5/12,mb1 4.5/13, mb1mx4.5/16,mbtmp4.5/13,ML3.8/1,MS4.2/8,Ms1 4.2/8, ms1mx4.0/20,Error ellipse: s-maj=30.7km s-min=14.1km az=74.0
NEIC 17 10:22:37.7±0.4,3.52S×131.17E,h10km,mb4.6/16,Error ellipse: s-maj=12.8km s-min=7.9km az=71.0
BJI 17 10:22:37.5,3.24S×131.28E,h8km,mB5.2,mb4.6,Ms4.7, Msz4.3
MOS 17 10:22:39.5±1.3,3.52S×131.12E,h33km,mb4.7/11,Error ellipse: s-maj=19.6km s-min=10.1km az=111.2
ISC 17 10:22:35.6±1.8,**3.69S**±0.04×**131.19E**±0.09,**h11**km±11km, **h16**km±3.2km**:pP-P,n84,**σ1§**32**/86,**mb4.6**/33,**MS4.2**/19, **1C-2D,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.05	172	eP	P	10 24 49.6	+0.4
	33nm,0.4s						
KAKA				eS	Sn	10 26 31.0	-1.2
FITZ	Fitzroy Crossi	15.32	200	eP	P	10 26 11.9	-1.8
	37nm,0.7s						
FITZ				eS	S	10 28 58.6	-5.4
FITZ	Fitzroy Crossi	15.32	200	Pn	P	10 26 11.7	-2.0
	5.2nm,0.3s,baz=17,slow=9.7,SNR=56						
FITZ				Sn	S	10 28 57.9	-6.1
	3.6nm,0.3s,baz=186,slow=18,SNR=4.3						
WRAB	Tennant Creek	16.44	169	eP	P	10 26 25.7	-2.3
WRAB				pmax	pmax		
	comp=Z,114nm,1.1s						
WRAB	Tennant Creek	16.44	169	ePn	P	10 26 25.7	-2.4
	comp=Z,114nm,1.1s						
WRAB				eSn	S	10 29 13.8	-16
WRA	Warramunga Arr	16.44	169	Pn	P	10 26 25.6	-2.5
	comp=Z,1.3nm,0.3s,baz=349,slow=13,SNR=44						
WRA				Sn	S	10 29 23.0	-7.2
	comp=Z,1.9nm,0.3s,baz=352,slow=24,SNR=8.2						
WB2	Warramunga Arr	16.45	169	eP	P	10 26 26.2	-1.9
WB2				eS	S	10 29 22.8	-7.5
PMG	Port Moresby	16.84	110	eP	P	10 26 35.3	+2.1
PMG				pmax	pmax		
	comp=Z,35nm,1.0s						
PMG	Port Moresby	16.84	110	Pn	P	10 26 35.2	+1.9
	comp=Z,1.2nm,0.3s,baz=266,slow=14,SNR=3.7						
PMG	Port Moresby	16.84	110	eP	P	10 26 35.3	+2.0
	comp=Z,35nm,1.0s						
MBWA	Marble Bar	20.63	212	eP	P	10 27 17.2	-0.7
	comp=Z,21nm,0.8s						
KSM	Kuching	21.49	283	eP	P	10 27 28.5	+1.8
CTA	Charters Tower	21.94	139	eP	P	10 27 34.3	+3.1
	comp=Z,16nm,0.9s,mb4.4						
CTA	Charters Tower	21.94	139	eP	P	10 27 34.3	+3.1
CTA				pmax	pmax		
	comp=Z,16nm,0.9s						
CTA	Charters Tower	21.94	139	P	P	10 27 34.2	+3.1
	comp=Z,13nm,0.9s,mb4.3,baz=320,slow=13,SNR=7.9						
CTAO	Charters Tower	21.94	139	eP	P	10 27 34.1	+2.9
CTAO				pmax	pmax		
	comp=Z,42nm,1.0s,mb4.8						
CTAO	Charters Tower	21.94	139	eP	P	10 27 34.1	+2.9
	comp=Z,42nm,1.0s,mb4.8						
STKA	Stephens Creek	29.70	162	eP	P	10 28 46.0	+2.0
	comp=Z,9.8nm,1.0s,mb4.5						
STKA	Stephens Creek	29.70	162	P	P	10 28 46.0	+2.0
	comp=Z,3.4nm,0.3s,mb4.5,baz=330,slow=8.4,SNR=22						
JOW	Kunigami	30.47	355	LR	LR	10 38 55.2	
	comp=Z,993nm,19.6s,MS4.5,baz=135,slow=32						
KLBR	Kellerberrin	30.50	203	eP	P	10 28 51.5	+0.4
	comp=Z,11nm,0.5s,mb4.9						
MUN	Mundaring	31.46	205	eP	P	10 28 59.8	+0.2
	comp=Z,6.0nm,0.8s,mb4.5						
MUN	Mundaring	31.46	205	eP	P	10 28 59.8	+0.2
MUN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
KULM	Kulim	31.78	286	P	P	10 29 02.2	-0.4
NWAO	Narrogin (SRO)	31.89	203	P	P	10 29 03.9	+0.6
	comp=Z,5.3nm,0.4s,mb4.8,baz=47,slow=11,SNR=15						
NWAO	Narrogin (SRO)	31.89	203	eP	P	10 29 03.9	+0.6
CBIJ	Chichi jima	32.39	19	LR	LR	10 39 24.7	
	comp=Z,321nm,20.3s,MS4.0,baz=124,slow=31						
SSE	Sheshan	35.88	345	P	P	10 29 32.5	-5.3
SSE				XP	sP	10 29 45.3	+3.0
SSE				PP	PP	10 30 50.9	-8.2
SSE				PCP	PcP	10 32 06.6	+1.3
SSE				SCP		10 35 49.5	
SSE				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,517nm,6.3s						
SSE				LR	LR		
	comp=N,159nm,20.7s,MS4.1						
SSE				LR	LR		
	comp=E,314nm,20.8s,MS4.1						
SSE				LR	LR		
	comp=Z,304nm,21.8s,MS4.0						
NANT	Nan	37.42	308	P	P	10 29 51.0	+0.1
	comp=Z,62nm,1.0s,mb5.4						
NJ2	Nanjing	37.43	343	eP	P	10 29 50.1	-0.7
NJ2				PP	PP	10 31 19.4	+0.7
NJ2				S	S	10 35 37.0	-1.6
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,630nm,6.4s						
NJ2				LR	LR		
	comp=N,1μm,20.6s,MS4.8						
NJ2				LR	LR		
	comp=E,950nm,19.4s,MS4.8						
NJ2				LR	LR		
	comp=Z,800nm,17.2s,MS4.6						
CHG	Chiang Mai	38.83	306	P	P	10 30 03.1	+0.4
	comp=Z,11nm,0.8s,mb4.7						
KMI	Kunming	39.79	318	P	P	10 30 12.3	+1.7
KMI				AP	pP	10 30 15.5	+1.7
KMI				XP	sP	10 30 17.1	+2.0
KMI				PP	PP	10 31 46.8	+0.8
KMI				PPP	PPP	10 32 06.4	-4.5
KMI				S	S	10 36 13.1	-1.3
KMI				XS		10 36 24.4	
KMI				SS	SS	10 39 00.8	-2.5
KMI				SSS	SSS	10 39 32.9	-6.0
KMI				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.6						
KMI				LR	LR		
	comp=N,333nm,17.4s,MS4.5						
KMI				LR	LR		
	comp=E,463nm,18.6s,MS4.5						
KMI				LR	LR		
	comp=Z,380nm,19.5s,MS4.2						
MJAR	Matsushiro Arr	40.55	9	P	P	10 30 14.1	-2.7
	comp=Z,2.2nm,0.7s,mb3.9,baz=188,slow=9.9,SNR=9.0						
MJAR				LR	LR	10 46 17.9	
	comp=Z,342nm,18.7s,MS4.2,baz=170,slow=35						
MAJO	Matsushiro	40.56	9	eP	P	10 30 13.8	-3.0
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
MAJO	Matsushiro	40.56	9	eP	P	10 30 13.8	-3.0
	comp=Z,6.5nm,0.8s,mb4.3						
MAT	Matsushiro	40.56	9	P	P	10 30 11.0	-5.8
MAT	Matsushiro	40.56	9	P	P	10 30 11.3	-5.5
LZH	Lanzhou	47.11	329	eP	P	10 31 10.3	+0.5
LZH				AP	pP	10 31 15.8	+2.8
LZH				XP	sP	10 31 18.8	+4.5
LZH				PP	PP	10 33 00.6	+0.3
LZH				eS	S	10 38 01.3	+0.2
LZH				eSS	SS	10 41 20.3	-1.0
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,91nm,6.2s						
LZH				LR	LR		
	comp=N,615nm,15.0s						
LZH				LR	LR		
	comp=Z,983nm,18.3s,MS4.8						
CN2	Changchun	47.55	354	eP	P	10 31 13.8	+0.6
HHC	Hu-ho-hao-te	47.82	340	eP	P	10 31 14.1	-1.2
HHC				AP	pP	10 31 20.1	+1.6
HHC				XP	sP	10 31 23.1	+3.3
HHC				PCP	PcP	10 32 43.8	-0.7
HHC				PP	PP	10 33 06.4	-0.2
HHC				SCP		10 36 35.8	
HHC				S	S	10 38 09.8	-1.2
HHC				SCS	ScS	10 41 03.3	-2.9
HHC				SS	SS	10 41 33.0	-1.0
HHC				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,209nm,9.5s						
HHC				LR	LR		
	comp=N,441nm,15.5s,MS4.7						
HHC				LR	LR		
	comp=E,501nm,16.7s,MS4.7						
HHC				LR	LR		
	comp=Z,362nm,22.6s						
SHL	Shillong	47.93	310	eP	P	10 31 15.5	-0.9
MDJ	Mudanjiang	48.11	358	P	P	10 31 15.8	-1.7
MDJ				AP	pP	10 31 17.8	-2.9
MDJ				PCP	PcP	10 32 41.1	-4.4
MDJ				SCP		10 36 34.9	
MDJ				PCS		10 36 38.8	
MDJ				SCS	ScS	10 41 07.5	-0.5
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,100nm,7.0s						
MDJ				LR	LR		
	comp=N,75nm,17.4s,MS3.8						
MDJ				LR	LR		
	comp=E,70nm,19.9s,MS3.8						
MDJ				LR	LR		
	comp=Z,168nm,24.9s,MS3.9						
ASAJ	Asahikawa	48.68	11	LR	LR	10 52 22.6	
	comp=Z,186nm,19.6s,MS4.1,baz=54,slow=37						
LSA	Lhasa	50.71	314	eP	P	10 31 38.6	+0.9
GTA	Gaotai	51.71	329	eP	P	10 31 44.6	-0.5
GTA				AP	pP	10 31 52.4	+4.0
GTA				XP	sP	10 31 55.9	+6.3
GTA				PP	PP	10 33 44.1	+0.5
GTA				PPP	PPP	10 34 48.8	+3.1
GTA				S	S	10 39 07.8	+2.7
GTA				XS		10 39 16.0	
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.4						
GTA				AMB	AMB		
	comp=Z,171nm,4.9s						
GTA				LR	LR		
	comp=N,313nm,16.0s,MS4.5						
GTA				LR	LR		
	comp=E,286nm,19.8s,MS4.5						
GTA				LR	LR		
	comp=Z,239nm,12.9s						
SONM	Songino Array	55.73	340	P	P	10 32 15.4	+0.8
	comp=Z,0.7nm,0.3s,mb4.1,baz=180,slow=7.4,SNR=6.5						
ZAK	Zakamensk	58.97	340	eP	P	10 32 38.0	+0.5
ZAK				e		10 33 26.3	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
PET	Petropavlovsk	61.05	19	eP	P	10 33 01.2	+9.4
PET				pmax	pmax		
	comp=Z,30nm,14.2s						
PET				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
WMQ	Urumqi	61.32	325	eP	P	10 32 53.9	+0.2
CASY	Casey	64.14	189	eP	P	10 33 12.1	0.0
	comp=Z,1.9nm,0.7s,mb4.2						
YAK	Yakutsk	65.55	359	i P	P	10 33 20.3	-0.9
YAK				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
YAK				MLR	MLR		
	comp=Z,100nm,13.0s,MS4.2						
YAK	Yakutsk	65.55	359	eP	P	10 33 19.4	-1.9
	comp=Z,14nm,0.6s,mb5.2						
MKAR	Makanchi Array	66.15	326	i P	P	10 33 24.4	-1.0
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	Makanchi Array	66.15	326	P	P	10 33 24.6	-0.8
	comp=Z,1.9nm,0.4s,mb4.5,baz=115,slow=7.9,SNR=23						
MKAR				LR	LR	11 06 16.7	
	comp=Z,116nm,18.5s,MS4.1,baz=138,slow=40						
FX1	Attu Island--F	66.50	26	LR	LR	11 01 00.8	
	comp=Z,7.1nm,19.6s,MS2.9,baz=230,slow=35						
SEY	Seymchan	68.36	10	i P	P	10 33 41.4	+2.4
AAK	Ala-Archa	68.82	319	i P	P	10 33 43.2	+0.9
AAK				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.3						
AAK				MLR	MLR		
	comp=Z,200nm,22.0s,MS4.3						
ZAL	Zalesovo	69.18	333	i P	P	10 33 43.5	-0.8
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL	Zalesovo	69.18	333	P	P	10 33 44.1	-0.2
	comp=Z,1.8nm,0.3s,mb4.4,baz=19,slow=3.0,SNR=8.7						
ZAL				LR	LR	11 08 23.2	
	comp=Z,90nm,18.4s,MS4.0,baz=339,slow=40						
KURK	Kurchatov	70.35	328	eP	P	10 33 50.1	-1.4
KURK				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
KURK	Kurchatov	70.35	328	eP	P	10 33 50.1	-1.4
	comp=Z,18nm,1.1s,mb4.9						
NVS	Novosibirsk	70.46	333	eP	P	10 33 51.4	-0.6
VNDA	Vanda	75.57	173	eP	P	10 34 23.5	+1.8
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VNDA	Vanda	75.57	173	P	P	10 34 24.0	+2.2
	comp=Z,1.9nm,0.5s,mb4.2,baz=326,slow=6.5,SNR=14						
VNDA	Vanda	75.57	173	eP	P	10 34 23.5	+1.8
	comp=Z,3.6nm,0.8s,mb4.3						
BVAR	Borovoye Array	75.93	327	P	P	10 34 24.2	+0.1
	comp=Z,2.8nm,0.7s,mb4.3,baz=117,slow=6.6,SNR=17						
BRVK	Borovoye	76.00	327	P	P	10 34 24.4	-0.2
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BRVK	Borovoye	76.00	327	P	P	10 34 24.4	-0.2
	comp=Z,4.6nm,0.9s,mb4.4						
SBA	Scott Base	76.44	173	eP	P	10 34 29.9	+3.3
SBA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
SBA	Scott Base	76.44	173	eP	P	10 34 29.9	+3.2
	comp=Z,1.9nm,0.7s,mb4.1						
ZRNK	Zerenda	76.65	327	eP	P	10 34 27.5	-0.7
ZRNK				pmax	pmax		
	comp=Z,85nm,0.8s,mb5.7						
ZRNK	Zerenda	76.65	327	eP	P	10 34 27.5	-0.8
	comp=Z,85nm,0.8s,mb5.7						
MAW	Mawson	78.44	201	P	P	10 34 39.2	+1.4
	comp=Z,3.2nm,0.8s,mb4.3,baz=66,slow=5.3,SNR=8.1						
SVE	Sverdlovsk	82.57	328	eP	P	10 35 04.0	+4.0
SVE				e		10 35 19.0	
SVE				eS	S	10 45 08.0	-7.5
OPO	Ambohidratompo	83.16	252	P	P	10 35 06.1	+2.3
	comp=Z,4.8nm,0.9s,mb4.5,baz=87,slow=3.5,SNR=6.2						
ARU	Arti	83.55	328	⇓iP	P	10 35 06.2	+1.2
ARU				e		10 38 14.3	
ARU				eS	S	10 45 18.8	-6.6
ARU				pmax	pmax		
	comp=Z,6.0nm,1.9s,mb4.4						
SYO	Syowa Base	87.16	201	⇑P	P	10 35 23.7	+1.0
SYO	Syowa Base	87.16	201	⇓pP	pP	10 35 32.5	+6.4
KMBO	Kilima Mbogo	93.86	269	LR	LR	11 16 03.9	
	comp=Z,270nm,20.9s,MS4.7,baz=277,slow=34						
ARCES	ARCESS Array B	98.90	340	P	P	10 36 16.0	-0.8
	comp=Z,1.4nm,0.7s,mb4.6,baz=68,slow=4.9,SNR=6.6						
ARCES				LR	LR	11 27 25.2	
	comp=Z,110nm,19.7s,MS4.4,baz=101,slow=39						
ARCES	ARCESS Array B	98.90	340	P	P	10 36 16.0	-0.8
ARCES				LR	LR	11 27 25.2	
CPUP	Villa Florida	149.04	165	PKPbc	PKPdf	10 42 28.2	+4.6
	comp=Z,2.3nm,0.7s,baz=216,slow=2.8,SNR=5.5						
LPAZ	La Paz	152.45	137	ePKIKP	PKPdf	10 42 36.6	+7.6
LPAZ	La Paz	152.45	137	PKPbc	PKPdf	10 42 37.1	+8.1
	comp=Z,2.4nm,1.0s,baz=264,slow=1.8,SNR=9.4						

IDC 17 10:45:54.7±25.0**,4.46N**×**123.50E,h404**km±313km**, mb3.5**/3**,mb1 3.6**/3**,mb1mx3.1**/17**,mbtmp4.2**/3**,Error ellipse: s-maj=380.7km s-min=38.4km az=61.0,Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.48	157	P	P	10 50 57.4	-1.7
	2.6nm,0.4s,baz=336,slow=9.5,SNR=15						
WB2	Warramunga Arr	26.49	157	eP	P	10 50 57.6	-1.6
STKA	Stephens Creek	40.03	156	eP	P	10 52 52.5	-1.5
	2.3nm,0.8s						
STKA	Stephens Creek	40.03	156	P	P	10 52 52.6	-1.4
	1.8nm,0.4s,baz=351,slow=8.5,SNR=16						
MKAR	Makanchi Array	55.15	327	P	P	10 54 47.1	-2.2
	0.7nm,0.3s,baz=125,slow=7.6,SNR=7.8						

NIED 17 10:50:00,35.50N×140.40E,h47km,Mw4.0 Best double couple: $M_0$9.5×10^14 NP1:ϕ_s64°,δ80°,λ105°. NP2:ϕ_s187°, δ18°,λ35°.
MOS 17 10:50:54.1±0.6,34.86N×140.40E,h33km,mb4.5/2,Error ellipse: s-maj=53.9km s-min=13.2km az=129.3
IDC 17 10:50:54.2±1.0,35.42N×140.52E,mb3.9/7,mb1 4.0/10, mb1mx3.8/23,mbtmp3.9/10,ML3.5/3,MS3.7/2,Ms1 3.7/2, ms1mx3.0/42,Error ellipse: s-maj=30.1km s-min=17.8km az=85.0
JMA 17 10:50:58.3±0.1,35.51N×140.41E,h33km±1km,M3.8
JMA Felt III J1.
NEIC 17 10:51:00.2±1.8,35.41N×140.35E,h41km±14km,mb4.2/2, Error ellipse: s-maj=22.8km s-min=11.4km az=77.0
ISC 17 10:50:58.0±0.4**,35.47N**±0.03×**140.47E**±0.05**,h41**km±4km**, n30,**σ0§**87**/37**,mb3.9**/9**,MS4.2**/1**,4C-4D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.22	258	⇑P	P	10 51 05.1	-0.4
JCN				S	S	10 51 10.4	-0.4
KTR	Katsuura	0.34	201	⇑P	P	10 51 06.6	-0.2
CHOJ	Chosi	0.40	53	⇑P	P	10 51 07.4	0.0
CHOJ				S	S	10 51 13.6	-0.5
BSO4	Boso 4	0.48	192	P	P	10 51 09.4	+0.9
BSO3	Boso 3	0.66	177	⇓P	P	10 51 11.8	+0.9
JYT	Yasato	0.79	344	⇓P	P	10 51 12.2	-0.5
JYT				eS	S	10 51 22.5	-1.1
BSO1	Boso 1	0.91	152	⇓P	P	10 51 14.7	+0.3
BSO1				eS	S	10 51 28.8	+2.2
JIM2	Oshima 3	1.13	229	P	P	10 51 17.6	+0.1
JIM2				eS	S	10 51 32.0	-0.1
JOD2	Odawara 2	1.14	260	⇑P	P	10 51 18.0	+0.3
JAG	Ashikaga	1.26	320	⇓P	P	10 51 18.8	-0.6
MJAR	Matsushiro Arr	2.12	301	Pn	P	10 51 32.4	+0.7
	14nm,0.3s,baz=102,slow=14,SNR=112						
MJAR	Matsushiro Arr	2.12	301	Pn	P	10 51 32.4	+0.7
MAJO	Matsushiro	2.12	301	eP	P	10 51 32.0	+0.3
MAT	Matsushiro	2.12	301	eP	P	10 51 33.0	+1.3
MAT				S	S	10 51 58.0	+0.9
MAT	Matsushiro	2.12	301	P	P	10 51 32.8	+1.1
MAT				eS	S	10 51 58.4	+1.4
JHJ	Hachijo jima 2	2.41	194	Pn	P	10 51 34.8	-1.0
	76nm,0.3s,baz=24,slow=4.7,SNR=33						
JHJ				Sn	S	10 52 01.8	-2.5
	118nm,0.3s,baz=72,slow=23,SNR=9.7						
JHJ				LR	LR	10 52 03.7	
	comp=Z,563nm,19.7s,baz=104,slow=29						
ASAJ	Asahikawa	8.79	10	Pn	P	10 53 01.5	-3.9
	0.4nm,0.3s,baz=205,slow=17,SNR=3.1						
ZAL	Zalesovo	42.44	314	P	P	10 58 51.4	+1.2
	1.0nm,0.4s,mb3.8,baz=357,slow=5.1,SNR=5.3						
MKAR	Makanchi Array	44.32	303	P	P	10 59 06.0	+0.5
	0.8nm,0.4s,mb3.8,baz=86,slow=8.7,SNR=8.8						
KURK	Kurchatov	46.31	309	eP	P	10 59 21.1	-0.2
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KURK	Kurchatov	46.31	309	eP	P	10 59 21.1	-0.2
	comp=Z,4.2nm,0.9s,mb4.4						
BVAR	Borovoye Array	51.07	313	P	P	10 59 58.3	+0.2
	comp=Z,0.5nm,0.5s,mb3.7,baz=82,slow=10,SNR=3.4						
ILAR	Eielson Array	51.23	32	P	P	11 00 00.1	+1.0
	comp=Z,0.6nm,0.6s,mb3.7,baz=274,slow=5.9,SNR=12						
ZRNK	Zerenda	51.91	313	eP	P	11 00 03.2	-1.2
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	Zerenda	51.91	313	eP	P	11 00 03.2	-1.2
	comp=Z,1.3nm,0.6s,mb4.0						
FITZ	Fitzroy Crossi	55.10	197	P	P	11 00 27.8	-0.6
	comp=Z,2.4nm,0.7s,mb4.3,baz=37,slow=5.1,SNR=2.2						
WRAB	Tennant Creek	55.40	187	eP	P	11 00 29.9	-0.7
WRA	Warramunga Arr	55.41	187	P	P	11 00 29.6	-1.0
	comp=Z,0.8nm,0.7s,mb3.9,baz=1.6,slow=7.5,SNR=11						
FINES	FINESS Array B	69.84	332	P	P	11 02 05.8	0.0
	comp=Z,1.6nm,0.9s,mb4.0,baz=117,slow=8.5,SNR=3.7						
BORG	Borgarnes	79.10	352	LR	LR	11 35 14.5	
	comp=Z,114nm,21.7s,MS4.2,baz=26,slow=34						

CSEM 17 11:06:38.5±0.1,37.83N×26.79E,h20km,MD3.5,Error ellipse: s-maj=3.0km s-min=1.7km az=91.0
ATH 17 11:06:39.4,37.75N×26.69E,h5km±1km,MD3.5/5
NEIC 17 11:06:39.4,37.75N×26.69E,h5km,MD3.5(ATH),After ATH.
ISK 17 11:06:39.3,37.84N×26.73E,h32km,MD3.5
ISC 17 11:06:38.7±0.4**,37.83N**±0.02×**26.76E**±0.03**,h11**km±3km**, n41,**σ1§**12**/57**,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	Samos	0.13	153	ePG	Pg	11 06 42.0	0.0
SMG				eSG	Sg	11 06 44.1	-0.1
URLA	Izmir	0.55	346	i P	Pb	11 06 51.2	+1.3
URLA				i S	Sg	11 06 58.5	+1.2
BLCB	Balcova	0.60	21	i PG	Pg	11 06 51.0	+0.1
IZM	Izmir	0.69	34	i PG	Pg	11 06 52.6	-0.1
IZM				i SG	Sg	11 07 02.8	+0.7
KDAG	Bornova	0.70	34	i P	Pb	11 06 52.3	-0.1
KDAG				i S	Sb	11 07 02.2	+0.4
BODT	Bodrum	0.88	150	i PG	Pg	11 06 56.0	-0.3
BODT				i SG	Sg	11 07 08.2	+0.1
AYDN	Tasoluk	0.90	100	i P	Pb	11 06 55.7	-0.1
AYDN				i S	Sb	11 07 07.6	0.0
BDRM	Kayabasi	0.93	144	i P	Pb	11 06 57.8	+1.4
BDRM				i S	Sb	11 07 09.6	+1.1
MLSB	Milas	0.96	123	PG	Pg	11 06 57.1	-0.9
APE	Apeiranthos	1.24	233	PN	Pn	11 07 00.4	-1.5
APE	Apeiranthos	1.24	233	ePB	Pb	11 07 01.3	-0.3
APE				eSB	Sb	11 07 16.9	-0.4
APE	Apeiranthos	1.24	233	ePb	Pb	11 07 01.3	-0.3
APE				eSb	Sb	11 07 16.9	-0.4
AKS	Akhisar	1.34	38	PN	Pn	11 07 03.2	-0.1
YER	Yerkesik	1.39	119	PN	Pn	11 07 03.8	-0.3
PRK	Paraskevi	1.47	345	ePG	Pg	11 07 07.8	-0.3
PRK				eSB	Sg	11 07 29.2	+1.5
AYVA	Ayvalik	1.48	358	i P	Pn	11 07 07.2	+1.8
AYVA				i S	Sg	11 07 29.1	+0.9
MANT	Manisa	1.56	64	i P	Pn	11 07 09.1	+2.5
MANT				i S	Sb	11 07 27.0	+0.1
SANT	Santorini	1.79	216	eP	Pn	11 07 09.2	-0.6
SANT	Santorini	1.79	216	eP	Pn	11 07 09.1	-0.7
DENT	Denizli	1.80	92	PN	Pn	11 07 09.9	-0.1
DNZL	Cakiroluk	1.82	94	i P	Pn	11 07 10.3	+0.1
DNZL				i S	Sn	11 07 39.2	+5.9
DALT	Dalyan (Mudla)	1.83	125	PN	Pn	11 07 10.0	-0.4
ARG	Arkhangelos	1.94	145	ePN	Pn	11 07 14.9	+2.9
ARG				eSN	Sn	11 07 40.5	+4.0
BALB	Balikesir	2.01	25	ePN	Pn	11 07 12.2	-0.8
EZN	Ezine	2.03	350	ePN	Pn	11 07 11.9	-1.3
BTOK	Tokmak	2.17	27	i P	Pn	11 07 18.5	+3.2
CANB	Canakkale	2.20	6	ePN	Pn	11 07 14.7	-1.0
KARP	Karpathos	2.30	172	ePN	Pn	11 07 19.5	+2.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**2.30**	**39**	*e*PN	**Pn**	**11 07 16.4**	**-0.7**
GOLH	**Golhisar**	**2.30**	**104**	*i* P	**Pn**	**11 07 18.1**	**+0.9**
GOLH				*i* S	**Sg**	**11 08 01.9**	**+6.5**
ATH	**Athens Observa**	**2.41**	**274**	*e*PN	**Pn**	**11 07 21.0**	**+2.3**
GDZ	**Gediz**	**2.48**	**59**	*i* P	**Pg**	**11 07 26.7**	**-1.5**
LPK	**Lapseki**	**2.54**	**360**	*e*PN	**Pn**	**11 07 19.4**	**-1.2**
ORLT	**Orhaneli**	**2.77**	**36**	*e*PN	**Pn**	**11 07 23.4**	**-0.5**
TKTP	**Tekketepe**	**2.82**	**85**	*i* P	**Pg**	**11 07 33.3**	**-1.8**
TKTP				*i* S	**Sg**	**11 08 13.9**	**+1.2**
MRMT	**Marmara Adasi**	**2.85**	**13**	*e*PN	**Pn**	**11 07 23.1**	**-1.8**
ULDT	**Uludag**	**2.96**	**38**	*i* P	**Pg**	**11 07 35.3**	**-2.6**
MFT	**Murefte**	**2.98**	**8**	*e*PN	**Pn**	**11 07 26.2**	**-0.7**
YLV	**Yalova**	**3.41**	**36**	*e*PN	**Pn**	**11 07 32.4**	**-0.5**
ESKT	**Eskisehir**	**3.62**	**61**	*e*PN	**Pn**	**11 07 35.1**	**-0.8**
HRT	**Hereke**	**3.75**	**36**	*e*PN	**Pn**	**11 07 36.5**	**-1.2**

*MOS **17** 11:28:51.0±0.8, 84.91N×97.83E, h10km, mb4.6/6, Error ellipse: s-maj=99.9km s-min=15.1km az=86.2*

*IDC **17** 11:28:51.4±0.9, 84.95N×98.13E, mb3.8/12, mb1 3.9/13, mb1mx3.8/23, mbtmp3.8/13, ML3.6/1, MS3.3/1, Ms1 3.4/1, ms1mx2.8/25, Error ellipse: s-maj=36.9km s-min=13.9km az=141.0*

NEIC 17 11:28:53.0±0.3**, 84.94N×98.18E, h10km, mb4.4**/7**, Error ellipse: s-maj=13.9km s-min=5.4km az=138.0, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEV	**Kevo**	**19.31**	**265**	*e*P	P	11 33 17.8	-2.5
KEV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KEV	**Kevo**	**19.31**	**265**	*e*P	P	11 33 17.8	-2.5
	comp=Z,3.1nm,0.6s						
ARCES	**ARCESS Array B**	**19.66**	**266**	P	P	11 33 20.8	-3.4
	comp=Z,0.3nm,0.3s,baz=27,slow=11,SNR=9.7						
INK	**Inuvik**	**25.29**	**43**	*e*P	P	11 34 19.5	-0.7
INK				pmax	pmax		
	comp=Z,12nm,1.2s						
INK	**Inuvik**	**25.29**	**43**	P	P	11 34 19.5	-0.7
	comp=Z,6.6nm,1.0s,baz=22,slow=11,SNR=5.0						
INK	**Inuvik**	**25.29**	**43**	*e*P	P	11 34 19.5	-0.7
	comp=Z,12nm,1.2s						
FINES	**FINESS Array B**	**27.55**	**261**	P	P	11 34 39.0	-2.1
	comp=Z,2.4nm,1.1s,baz=45,slow=5.4,SNR=5.9						
ILAR	**Eielson Array**	**27.89**	**56**	P	P	11 34 42.6	-1.6
	comp=Z,1.1nm,1.1s,baz=352,slow=8.0,SNR=7.5						
ILAR				LR	LR	11 44 45.8	
	comp=Z,58nm,19.1s,baz=179,slow=34						
HFS	**Hagfors**	**29.94**	**273**	P	P	11 35 05.9	+3.2
HFS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
HFS	**Hagfors**	**29.94**	**273**	P	P	11 35 05.9	+3.3
	comp=Z,3.3nm,1.0s,baz=333,slow=9.9,SNR=3.8						
ZAL	**Zalesovo**	**31.31**	**195**	P	P	11 35 19.3	+4.5
	comp=Z,1.1nm,0.3s,baz=6.1,slow=12,SNR=3.8						
BRVK	**Borovoye**	**32.70**	**212**	P	P	11 35 24.8	-2.2
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.6s						
BRVK	**Borovoye**	**32.70**	**212**	P	P	11 35 24.8	-2.2
	comp=Z,7.0nm,1.6s						
BVAR	**Borovoye Array**	**32.73**	**211**	P	P	11 35 25.7	-1.6
	comp=Z,0.5nm,0.6s,baz=18,slow=9.4,SNR=5.3						
ZRNK	**Zerenda**	**32.87**	**213**	*e*P	P	11 35 26.6	-1.8
ZRNK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ZRNK	**Zerenda**	**32.87**	**213**	*e*P	P	11 35 26.6	-1.9
	comp=Z,9.1nm,1.1s						
AKASG	**Malin Array Be**	**37.91**	**255**	P	P	11 36 09.0	-2.4
	comp=Z,0.7nm,0.4s,baz=7.3,slow=8.8,SNR=6.1						
MKAR	**Makanchi Array**	**38.52**	**198**	P	P	11 36 14.0	-2.6
	comp=Z,0.7nm,0.7s,baz=359,slow=6.5,SNR=2.9						
MKAR	**Makanchi Array**	**38.52**	**198**	P	P	11 36 14.0	-2.6
MOX	**Moxa**	**39.51**	**273**	*e*P	P	11 36 30.0	+5.1
GRF	**Grafenberg Arr**	**40.49**	**273**	P	P	11 36 39.4	+6.4
GRF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GRF	**Grafenberg Arr**	**40.49**	**273**	*e*P	P	11 36 39.4	+6.4
GRF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GRF	**Grafenberg Arr**	**40.49**	**273**	*e*P	P	11 36 39.4	+6.4
	comp=Z,8.0nm,0.8s						
GERES	**GERESS Array B**	**41.11**	**270**	P	P	11 36 37.4	-0.7
	comp=Z,0.4nm,0.5s,baz=29,slow=10,SNR=3.2						
NEW	**Newport**	**46.16**	**32**	P	P	11 37 17.3	-1.4
	comp=Z,3.5nm,1.0s,baz=330,slow=6.2,SNR=5.6						
MSO	**Missoula**	**47.74**	**30**	*e*P	P	11 37 29.2	-2.0
	comp=Z,2.1nm,1.0s						
BRTR	**Keskin Array B**	**48.43**	**249**	P	P	11 37 36.0	-0.6
	comp=Z,1.0nm,0.8s,baz=27,slow=3.2,SNR=3.2						
PDAR	**Pinedale Array**	**51.98**	**26**	P	P	11 38 01.4	-2.3
	comp=Z,0.3nm,0.6s,baz=22,slow=4.9,SNR=2.9						
ELK	**Elko**	**53.75**	**31**	P	P	11 38 15.3	-1.6
	comp=Z,1.1nm,0.9s,baz=15,slow=6.3,SNR=4.4						
MSU	**Marysvale**	**56.12**	**29**	*e*P	P	11 38 32.4	-1.8
MVU	**Marysvale**	**56.12**	**29**	*e*P	P	11 38 32.2	-2.0
	comp=Z,5.0nm,1.2s						
PV10	**Paradox Valley**	**56.38**	**26**	*e*P	P	11 38 34.5	-1.6
PV01	**Paradox Valley**	**56.64**	**25**	*e*P	P	11 38 35.8	-2.2
ANMO	**Albuquerque**	**59.89**	**23**	P	P	11 38 57.3	-3.5
	comp=Z,0.9nm,0.6s,baz=310,slow=7.9,SNR=4.8						

*GUC **17** 11:41:54.0±1.2, 23.37S×68.40W, h93km±33km, ML4.7*

*NEIC **17** 11:41:55.1±0.6, 23.07S×68.42W, h100km±5km, mb4.3/13, MD4.2(GUC), Error ellipse: s-maj=9.6km s-min=6.4km az=85.0*

*BJI **17** 11:41:56.1, 23.10S×68.40W, h99km, mB5.2*

*IDC **17** 11:41:56.7±0.4, 22.95S×68.54W, h112km±4km, mb3.9/9, mb1 4.0/12, mb1mx3.9/16, mbtmp4.2/12, MS2.8/2, Ms1 2.9/2, ms1mx2.6/27, Error ellipse: s-maj=20.7km s-min=13.0km az=55.0*

ISC 17 11:41:54.5±0.5**, 23.14S**±0.04×**68.41W**±0.07**, h109**km±5km**, n76, σ1ˢ23**/75**, mb4.2**/19**, 2C-10D, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.70**	**319**	⇓*i*P	**P**	**11 42 13.8**	**+0.9**
LVC				*i* S	**S**	**11 42 28.1**	**+1.4**
LVC				AMP		11 42 29.4	
	comp=E,34μm,0.6s						
LVC	**Limon Verde**	**0.70**	**319**	P	**P**	**11 42 14.8**	**+1.9**
	comp=E,1μm,0.3s,baz=149,slow=5.3						
LVC				S	**S**	**11 42 28.6**	**+1.8**
	comp=E,2μm,0.3s,baz=246,slow=19,SNR=239						
LVC	**Limon Verde**	**0.70**	**319**	⇓*i*Pn	**P**	**11 42 14.9**	**+2.0**
LVC				*e*Sn	**S**	**11 42 28.3**	**+1.5**
ANCH	**Antofagasta**	**1.91**	**253**	⇓*i*P	**P**	**11 42 27.3**	**+0.5**
ANCH				*i* S	**S**	**11 42 50.8**	**-0.1**
ANCH				AMP		11 42 53.8	
	comp=N,6μm,0.2s						
ANCH	**Antofagasta**	**1.91**	**253**	⇑*i*P	**P**	**11 42 27.4**	**+0.6**
ANCH				*i* S	**S**	**11 42 50.8**	**-0.1**
CPCH	**Copiapo**	**4.55**	**202**	*e*P	**P**	**11 42 60.0**	**-2.6**
CPCH				*i* S	**S**	**11 43 49.7**	**-5.0**
CPCH	**Copiapo**	**4.55**	**202**	⇓*i*P	**P**	**11 43 00.4**	**-2.1**
CPCH				*i* S	**S**	**11 43 50.3**	**-4.4**
VACH	**Vallenar**	**5.81**	**201**	⇓*i*P	**P**	**11 43 16.7**	**-2.8**
VACH				*i* S	**S**	**11 44 20.6**	**-4.9**
VACH	**Vallenar**	**5.81**	**201**	*i* P	**P**	**11 43 18.1**	**-1.5**
VACH				*i* S	**S**	**11 44 21.1**	**-4.3**
LPAZ	**La Paz**	**6.82**	**2**	P	**P**	**11 43 33.9**	**+0.4**
	comp=N,18nm,0.3s,baz=188,slow=7.9,SNR=505						
LPAZ				LR	LR	11 46 22.3	
	comp=N,60nm,19.7s,baz=229,slow=40						
LPAZ	**La Paz**	**6.82**	**2**	*e*Pn	**P**	**11 43 34.0**	**+0.4**
	comp=N,64nm,0.5s						
ARE	**Arequipa**	**7.25**	**336**	*e*P	**P**	**11 43 49.0**	**+10**
ARE				*e*S	**S**	**11 44 53.0**	**-7.6**
TLL	**Tololo Astrono**	**7.32**	**196**	*e*P	**P**	**11 43 37.2**	**-3.0**
TLL				*i* S	**S**	**11 44 57.9**	**-4.4**
CFAA	**Coronel Fontan**	**8.43**	**179**	P	**P**	**11 43 54.1**	**-1.2**
	comp=N,0.5nm,0.3s,baz=352,slow=13,SNR=97						
SIV	**San Ignacio**	**9.92**	**46**	P	**P**	**11 44 12.7**	**-2.7**
	comp=N,8.3nm,0.3s,baz=240,slow=9.9,SNR=138						
SIV				S	**S**	**11 45 56.4**	**-9.0**
	comp=N,2.4nm,0.3s,baz=150,slow=19,SNR=4.1						
CPUP	**Villa Florida**	**10.56**	**110**	P	**P**	**11 44 27.9**	**+4.0**
	comp=N,0.1nm,0.3s,baz=292,slow=15,SNR=5.0						
CPUP	**Villa Florida**	**10.56**	**110**	*e*P	**P**	**11 44 25.6**	**+1.7**
SAML	**Samuel**	**14.98**	**20**	*e*P	**P**	**11 45 18.4**	**-3.4**
	comp=N,8.1nm,0.8s						
TRQA	**Tornquist**	**15.86**	**161**	*e*P	**P**	**11 45 31.8**	**-0.8**
	comp=N,12nm,0.8s						
PLCA	**Paso Flores**	**17.63**	**185**	P	**P**	**11 45 56.0**	**+1.4**
	comp=N,0.2nm,0.3s,baz=355,slow=14,SNR=4.1						
PLCA	**Paso Flores**	**17.63**	**185**	*e*P	**P**	**11 45 55.4**	**+0.8**
	comp=N,18nm,1.5s						
BDFB	**Brasilia**	**20.62**	**72**	P	**P**	**11 46 26.6**	**-0.6**
	comp=N,1.4nm,0.3s,baz=253,slow=6.8,SNR=4.1						
VNA3	**Neumayer Olymp**	**58.38**	**161**	*e*	**P**	**11 51 44.4**	**+4.0**
VNA3	**Neumayer Olymp**	**58.38**	**161**	*e*	**P**	**11 51 49.5**	**+9.1**
VNA3	**Neumayer Olymp**	**58.38**	**161**	*e*	PcP	11 52 29.4	-0.4
VNA3	**Neumayer Olymp**	**58.38**	**161**	⇓*i*P	**P**	**11 51 41.0**	**+0.6**
VNA3				*e*		11 51 44.4	
VNA3				*e*		11 51 49.5	
VNA3				*e*		11 52 29.4	
VNA1	**Neumayer--Stat**	**58.59**	**160**	*e*	**P**	**11 51 46.4**	**+4.5**
VNA1	**Neumayer--Stat**	**58.59**	**160**	*e*	**P**	**11 51 51.7**	**+10**
VNA1	**Neumayer--Stat**	**58.59**	**160**	*e*	PcP	11 52 31.4	+0.8
VNA1	**Neumayer--Stat**	**58.59**	**160**	⇓*i*P	**P**	**11 51 43.0**	**+1.1**
VNA1				*e*		11 51 46.4	
VNA1				*e*		11 51 51.7	
VNA1				*e*		11 52 31.4	
VNA2	**Neumayer--Watz**	**58.96**	**160**	*e*	**P**	**11 51 48.1**	**+3.7**
VNA2	**Neumayer--Watz**	**58.96**	**160**	*e*	**P**	**11 51 53.4**	**+9.0**
VNA2	**Neumayer--Watz**	**58.96**	**160**	*e*	PcP	11 52 32.8	+0.8
VNA2	**Neumayer--Watz**	**58.96**	**160**	⇓*i*P	**P**	**11 51 45.3**	**+0.9**
VNA2				*e*		11 51 48.1	
VNA2				*e*		11 51 53.4	
VNA2				*e*		11 52 32.8	
SNAA	**Sanae**	**60.59**	**161**	*e*	**P**	**11 51 59.2**	**+3.7**
SNAA	**Sanae**	**60.59**	**161**	*e*	**P**	**11 52 05.2**	**+10**
SNAA	**Sanae**	**60.59**	**161**	*e*	PcP	11 52 46.6	+8.0
SNAA	**Sanae**	**60.59**	**161**	P	**P**	**11 51 56.1**	**+0.6**
	comp=N,1.4nm,0.7s,mb4.1,baz=288,slow=6.8,SNR=29						
SNAA	**Sanae**	**60.59**	**161**	⇓*i*P	**P**	**11 51 55.8**	**+0.3**
SNAA				*e*		11 51 59.2	
SNAA				*e*		11 52 05.2	
SNAA				*e*		11 52 46.6	
WVT	**Waverly**	**61.74**	**342**	*e*P	**P**	**11 52 00.8**	**-3.0**
	comp=N,2.3nm,0.8s,mb4.3						
WVT				*e*PcP	PcP	11 52 42.4	-1.3
CCM	**Cathedral Cave**	**64.54**	**340**	*e*P	**P**	**11 52 19.7**	**-2.5**
QSPA	**South Pole Qui**	**67.06**	**180**	⇓*i*P	**P**	**11 52 38.9**	**+1.3**
	comp=N,5.7nm,0.5s,mb4.7						
ANMO	**Albuquerque**	**68.12**	**327**	*e*P	**P**	**11 52 44.5**	**-0.4**
	comp=N,1.9nm,0.6s,mb4.1						
DBIC	**Dimbokro**	**68.77**	**73**	P	**P**	**11 52 49.1**	**-0.1**
	comp=N,4.2nm,0.9s,mb4.3,baz=198,slow=6.8,SNR=3.9						
DBIC	**Dimbokro**	**68.77**	**73**	*e*P	**P**	**11 52 48.7**	**-0.6**
SDCO	**Great Sand Dun**	**69.89**	**329**	*e*P	**P**	**11 52 55.2**	**-0.4**
MSU	**Marysvale**	**73.79**	**326**	*e*P	**P**	**11 53 19.3**	**+0.5**
ARUT	**Antelope Range**	**73.92**	**324**	*e*P	**P**	**11 53 20.7**	**+1.1**
RSSD	**Black Hills**	**74.47**	**334**	*e*P	**P**	**11 53 22.7**	**+0.1**
	comp=N,3.3nm,1.0s,mb4.0						
SYO	**Syowa Base**	**74.81**	**159**	⇑P	**P**	**11 53 23.8**	**-0.3**
VNDA	**Vanda**	**75.32**	**190**	P	**P**	**11 53 28.4**	**+1.5**
	comp=N,0.7nm,0.9s,mb3.4,baz=160,slow=1.1,SNR=3.6						
PDAR	**Pinedale Array**	**75.75**	**330**	P	**P**	**11 53 29.9**	**0.0**
	comp=N,0.7nm,0.8s,mb3.5,baz=169,slow=7.6,SNR=6.7						
SNOW	**Snow King Moun**	**76.85**	**330**	*e*P	**P**	**11 53 35.9**	**-0.2**
	comp=N,3.9nm,0.7s,mb4.2						
TPAW	**Teton Pass**	**76.96**	**330**	*e*P	**P**	**11 53 36.7**	**0.0**
	comp=N,3.5nm,0.9s,mb4.1						
ULM	**Lac du Bonnet**	**77.01**	**342**	P	**P**	**11 53 35.6**	**-1.2**
	comp=N,2.2nm,0.5s,mb4.2,baz=164,slow=6.7,SNR=3.8						
IMW	**Indian Meadow**	**77.27**	**330**	*e*P	**P**	**11 53 38.8**	**+0.4**
	comp=N,13nm,1.4s,mb4.5						
GCMT	**Greycliff**	**78.17**	**332**	*e*P	**P**	**11 53 42.6**	**-0.7**
HLID	**Hailey**	**78.67**	**328**	*e*P	**P**	**11 53 46.6**	**+0.5**
	comp=N,6.7nm,1.0s,mb4.4						
TSUM	**Tsumeb**	**79.14**	**106**	*e*P	**P**	**11 53 50.7**	**+1.6**
	comp=N,8.1nm,1.0s,mb4.5						
BMO	**Blue Mountains**	**81.04**	**327**	*e*P	**P**	**11 53 58.9**	**+0.1**
	comp=N,5.1nm,1.2s,mb4.2						
BOSA	**Boshof**	**82.28**	**118**	P	**P**	**11 54 06.8**	**+1.3**
	comp=N,6.1nm,1.0s,mb4.4,baz=251,slow=6.3,SNR=5.9						
BOSA	**Boshof**	**82.28**	**118**	P	**P**	**11 54 06.8**	**+1.3**
MAW	**Mawson**	**82.64**	**163**	P	**P**	**11 54 08.0**	**+1.5**
	comp=N,5.0nm,0.8s,mb4.4,baz=221,slow=5.9,SNR=17						
MAW				pP	pP	11 54 38.6	+3.7
	comp=N,2.7nm,0.7s,baz=229,slow=6.7,SNR=4.3						
LBTB	**Lobatse**	**83.92**	**114**	*e*P	**P**	**11 54 15.2**	**+1.2**
	comp=N,4.9nm,0.7s,mb4.5						
EDM	**Edmonton**	**85.44**	**335**	*e*P	**P**	**11 54 19.7**	**-1.1**
YKA	**Yellowknife Ar**	**92.88**	**340**	P	**P**	**11 54 55.5**	**-0.3**
	comp=N,1.9nm,0.8s,mb4.5,baz=136,slow=4.5,SNR=12						
YKA	**Yellowknife Ar**	**92.88**	**340**	P	**P**	**11 54 55.5**	**-0.3**
AFI	**Afiamalu**	**96.50**	**252**	LR	LR	12 31 12.9	
	comp=N,5.0nm,18.1s,baz=278,slow=31						
WRA	**Warramunga Arr**	**131.77**	**209**	PKP	PKPdf	12 00 57.4	+1.8
	comp=N,0.9nm,0.5s,baz=154,slow=1.7,SNR=22						
ZAL	**Zalesovo**	**143.22**	**26**	PKP	PKPdf	12 01 15.7	+0.3
	comp=N,1.9nm,0.6s,baz=163,slow=4.3,SNR=6.1						
ZAL				pPKP		12 01 47.4	
	comp=N,0.8nm,0.8s,baz=35,slow=1.4,SNR=1.7						
ZAL	**Zalesovo**	**143.22**	**26**	PKP	PKPdf	12 01 15.7	+0.3
ZAL				pPKP		12 01 47.4	
MKAR	**Makanchi Array**	**146.67**	**38**	PKPbc	PKPbc	12 01 23.9	+0.8
	comp=N,6.2nm,0.7s,baz=313,slow=2.8,SNR=27						
MKAR				pPKPbc		12 01 55.3	
	comp=N,3.2nm,0.8s,baz=315,slow=3.4,SNR=5.5						
MKAR	**Makanchi Array**	**146.67**	**38**	PKPbc	PKPbc	12 01 23.9	+0.8
MKAR				pPKPbc		12 01 55.3	
MJAR	**Matsushiro Arr**	**153.43**	**306**	PKPbc	PKPdf	12 01 41.9	+10
	comp=N,1.9nm,0.9s,baz=98,slow=1.3,SNR=6.7						
MJAR				PKPab	PKPab	12 01 54.4	-0.6
	comp=N,2.1nm,0.8s,baz=117,slow=2.7,SNR=8.7						
MJAR				pPKPbc		12 02 13.5	
	comp=N,2.2nm,1.0s,baz=88,slow=1.0,SNR=3.8						
MJAR	**Matsushiro Arr**	**153.43**	**306**	PKPbc	PKPdf	12 01 41.9	+10
MJAR				PKPab	PKPab	12 01 54.4	-0.6
MJAR				pPKPbc		12 02 13.5	
MDJ	**Mudanjiang**	**153.99**	**330**	PKP	PKPdf	12 01 34.5	+1.8

*NEIC **17** 12:13:44.6±0.7, 17.54S×178.69W, h556km±10km, mb4.1/8, Error ellipse: s-maj=24.9km s-min=7.1km az=160.0*

*IDC **17** 12:13:45.4±2.0, 17.41S×178.78W, h558km±29km, mb3.3/7, mb1 3.5/9, mb1mx3.3/17, mbtmp4.2/9, Error ellipse: s-maj=79.0km s-min=14.1km az=151.0*

ISC 17 12:13:44.4±1.2**, 17.6S**±0.3×**178.7W**±0.1**, h565**km±20km**, n19, σ0ˢ72**/19**, mb3.8**/11**, 1C-2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.61**	**63**	P	**P**	**12 15 39.4**	**-0.1**
	2.0nm,0.3s,baz=132,slow=12,SNR=4.6						
AFI	**Afiamalu**	**7.61**	**63**	P	**P**	**12 15 38.1**	**-1.3**
DZM	**Mont Dzumac**	**14.66**	**250**	P	**P**	**12 16 51.8**	**+1.9**
	0.4nm,0.3s,baz=80,slow=18,SNR=5.9						
RAR	**Rarotonga**	**18.24**	**105**	P	**P**	**12 17 24.4**	**0.0**
	10nm,0.6s						
CTA	**Charters Tower**	**33.21**	**260**	P	**P**	**12 19 36.8**	**+0.3**
	2.3nm,0.4s,mb4.0,baz=90,slow=12,SNR=7.7						
CTAO	**Charters Tower**	**33.21**	**260**	*e*P	**P**	**12 19 37.1**	**+0.5**
	2.6nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**38.54**	**241**	⇓*i*P	**P**	**12 20 20.5**	**+0.1**
	3.2nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**12 20 20.7**	**+0.4**
	3.6nm,0.4s,mb4.2,baz=81,slow=11,SNR=20						
WB2	**Warramunga Arr**	**44.39**	**259**	⇓*i*P	**P**	**12 21 06.3**	**-0.7**
WRAB	**Tennant Creek**	**44.39**	**259**	*e*P	**P**	**12 21 06.3**	**-0.7**
	3.7nm,0.3s,mb4.4						
WRA	**Warramunga Arr**	**44.40**	**259**	P	**P**	**12 21 06.7**	**-0.4**
	2.3nm,0.4s,mb4.0,baz=93,slow=7.2,SNR=80						
KAKA	**Kakadu**	**47.29**	**269**	⇑*i*P	**P**	**12 21 29.5**	**+0.2**
	7.0nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**52.79**	**260**	*e*P	**P**	**12 22 09.4**	**-0.2**
	3.8nm,0.9s,mb3.7						
FITZ	**Fitzroy Crossi**	**52.79**	**260**	P	**P**	**12 22 09.3**	**-0.3**
	2.4nm,0.5s,mb3.8,baz=119,slow=2.4,SNR=12						
MBWA	**Marble Bar**	**57.87**	**256**	*e*P	**P**	**12 22 43.5**	**-1.3**
	2.2nm,0.4s,mb3.7						
YBH	**Yreka Blue Hor**	**78.44**	**39**	P	**P**	**12 24 48.8**	**+0.4**
	1.4nm,0.7s,mb3.4,baz=172,slow=7.1,SNR=4.2						
HLID	**Hailey**	**84.56**	**41**	*e*P	**P**	**12 25 19.7**	**+0.3**
	0.7nm,0.7s,mb3.3						
ILAR	**Eielson Array**	**85.61**	**13**	P	**P**	**12 25 24.1**	**+0.1**
	0.3nm,0.4s,mb3.3,baz=233,slow=4.5,SNR=13						
PDAR	**Pinedale Array**	**87.31**	**44**	P	**P**	**12 25 33.1**	**+0.6**
	0.7nm,0.6s,mb3.5,baz=220,slow=2.3,SNR=7.4						

*IDC **17** 12:17:23.9±0.7, 11.34S×74.23W, mb4.1/12, mb1 4.3/14, mb1mx4.2/21, mbtmp4.1/14, ML3.0/2, MS3.4/5, Ms1 3.4/5, ms1mx3.1/24, Error ellipse: s-maj=28.4km s-min=14.8km az=59.0*

*NEIC **17** 12:17:26.6±2.8, 11.30S×73.98W, h13km±18km, mb4.5/14, Error ellipse: s-maj=8.9km s-min=5.6km az=51.0*

NEIC Felt at Lima.

*BJI **17** 12:17:26.6, 11.30S×74.00W, h12km, Ms4.9, Msz4.8*

ISC 17 12:17:27.9±0.3**, 11.15S**±0.05×**73.76W**±0.05**, h33**km**, n61, σ1ˢ08**/56**, mb4.4**/21**, MS3.4**/4**, 1C, Central Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.14**	**254**	⇑*e*Pn	**Pn**	**12 18 12.6**	**-3.7**
NNA				*e*Sn	**Sn**	**12 18 55.0**	**+2.0**
ARE	**Arequipa**	**5.72**	**158**	*e*P	**P**	**12 19 08.0**	**+15**
LPAZ	**La Paz**	**7.48**	**134**	Pn	**Pn**	**12 19 18.4**	**+0.8**
	0.2nm,0.3s,baz=331,slow=13,SNR=10						
LPAZ				Lg		12 21 21.9	
	0.9nm,0.3s,baz=212,slow=23,SNR=6.1						
LPAZ	**La Paz**	**7.48**	**134**	*e*P	**P**	**12 19 18.0**	**+0.6**
	0.6nm,1.1s						
SAML	**Samuel**	**10.64**	**79**	*e*P	**P**	**12 20 01.2**	**0.0**
	18nm,0.8s						
SAML				*e*Sn	**S**	**12 21 56.7**	**-3.6**
SIV	**San Ignacio**	**13.23**	**113**	Pn	**P**	**12 20 35.7**	**-0.4**
	0.6nm,0.3s,baz=298,slow=12,SNR=11						
SIV				Lg		12 24 24.3	
	1.2nm,0.3s,baz=218,slow=19,SNR=3.6						
ROSC	**El Rosal**	**15.91**	**358**	Pn	**P**	**12 21 12.8**	**+1.7**
	0.7nm,0.3s,baz=107,slow=19,SNR=1.8						
ROSC				Lg		12 25 54.5	
	1.2nm,0.3s,baz=270,slow=20,SNR=3.6						
ROSC				LR	LR	12 27 51.1	
	comp=Z,68nm,18.8s,baz=341,slow=39						
ROSC	**El Rosal**	**15.91**	**358**	Pn	**P**	**12 21 12.8**	**+1.7**
ROSC				Lg		12 25 54.5	
ROSC				LR	LR	12 27 51.1	
SDV	**Santo Domingo**	**20.15**	**9**	P	**P**	**12 22 04.5**	**+2.3**
	6.7nm,0.7s,baz=180,slow=5.1,SNR=7.5						
SDV				LR	LR	12 30 40.9	
	comp=Z,127nm,19.9s,MS3.3,baz=204,slow=39						
SDV	**Santo Domingo**	**20.15**	**9**	*e*P	**P**	**12 22 04.4**	**+2.1**
	5.7nm,0.7s						
CFAA	**Coronel Fontan**	**20.98**	**167**	P	**P**	**12 22 08.8**	**-2.0**
	0.6nm,0.6s,baz=343,slow=10,SNR=7.3						
CFAA	**Coronel Fontan**	**20.98**	**167**	P	**P**	**12 22 08.8**	**-2.0**
CPUP	**Villa Florida**	**21.64**	**137**	P	**P**	**12 22 17.0**	**-0.4**
	4.1nm,0.8s,mb3.9,baz=339,slow=14,SNR=7.2						
CPUP				LR	LR	12 31 14.5	
	comp=Z,59nm,21.7s,MS3.0,baz=305,slow=38						
CPUP	**Villa Florida**	**21.64**	**137**	*e*P	**P**	**12 22 16.8**	**-0.7**
	16nm,1.3s,mb4.3						
BDFB	**Brasilia**	**25.43**	**103**	P	**P**	**12 22 57.6**	**+3.0**
	5.7nm,1.0s,mb4.0,baz=280,slow=15,SNR=4.7						
BDFB				LR	LR	12 33 45.5	
	comp=Z,248nm,19.7s,MS3.7,baz=95,slow=38						
BAO	**Brasilia Array**	**25.45**	**103**	P	**P**	**12 22 54.5**	**-0.2**
ELN	**Prospectdale**	**48.57**	**353**	*e*P	**P**	**12 26 12.4**	**+2.2**
LTX	**Lajitas**	**49.52**	**325**	*e*P	**P**	**12 26 17.3**	**-0.4**
	2.1nm,0.4s,mb4.5						
MNTX	**Cornudas Mount**	**52.28**	**326**	*e*P	**P**	**12 26 37.6**	**-0.9**
	0.7nm,0.4s,mb3.9						
LAZ	**Ladron**	**55.28**	**326**	*e*P	**P**	**12 27 00.6**	**-0.1**
ANMO	**Albuquerque**	**55.34**	**327**	*e*P	**P**	**12 27 00.1**	**-0.9**
	2.1nm,1.1s,mb4.1						
SDCO	**Great Sand Dun**	**57.01**	**330**	*e*P	**P**	**12 27 12.1**	**-1.0**
	9.7nm,1.4s,mb4.6						
SMCO	**Snowmass**	**58.85**	**330**	*e*P	**P**	**12 27 26.0**	**+0.1**
PV01	**Paradox Valley**	**58.85**	**328**	*e*P	**P**	**12 27 25.5**	**-0.5**
PV10	**Paradox Valley**	**59.28**	**328**	*e*P	**P**	**12 27 29.3**	**+0.4**
SRU	**San Rafael**	**60.60**	**328**	*e*P	**P**	**12 27 38.3**	**+0.4**
MSU	**Marysvale**	**61.05**	**326**	*e*P	**P**	**12 27 40.6**	**-0.4**
ARUT	**Antelope Range**	**61.24**	**325**	*e*P	**P**	**12 27 42.8**	**+0.5**
DAU	**Daniels Canyon**	**61.94**	**328**	*e*P	**P**	**12 27 46.6**	**-0.4**
PDAR	**Pinedale Array**	**62.86**	**331**	P	**P**	**12 27 52.0**	**-1.1**
	0.9nm,0.7s,mb4.0,baz=90,slow=1.5,SNR=9.2						
HWUT	**Hardware Ranch**	**62.98**	**329**	*e*P	**P**	**12 27 52.4**	**-1.5**
	5.1nm,1.0s,mb4.6						
LOHW	**Long Hollow**	**64.00**	**331**	P	**P**	**12 27 59.3**	**-1.2**
	1.9nm,0.7s,mb4.2						
ULM	**Lac du Bonnet**	**64.13**	**344**	P	**P**	**12 28 00.6**	**-0.6**
	6.4nm,0.8s,mb4.7,baz=160,slow=4.7,SNR=6.4						
LRV	**Little Rabbit**	**64.94**	**319**	*e*P	**P**	**12 28 07.1**	**+0.3**
BOZ	**Bozeman (W)**	**66.02**	**332**	*e*P	**P**	**12 28 12.7**	**-0.8**
	4.0nm,1.1s,mb4.4						
MOD	**Modoc**	**67.91**	**324**	*e*P	**P**	**12 28 25.8**	**+0.3**
	7.2nm,0.9s,mb4.7						
MSO	**Missoula**	**67.97**	**331**	*e*P	**P**	**12 28 25.7**	**0.0**
	5.0nm,1.1s,mb4.5						
YBH	**Yreka Blue Hor**	**69.21**	**323**	P	**P**	**12 28 30.0**	**-3.5**
	2.9nm,0.8s,mb4.2,baz=138,slow=7.0,SNR=3.4						
NEW	**Newport**	**70.50**	**331**	P	**P**	**12 28 39.9**	**-1.4**
	1.8nm,0.6s,mb4.2,baz=178,slow=7.8,SNR=5.2						
DBIC	**Dimbokro**	**70.81**	**79**	P	**P**	**12 28 45.0**	**+1.2**
	5.8nm,0.7s,mb4.6,baz=237,slow=5.4,SNR=13						
DBIC				LR	LR	12 56 10.9	
	comp=Z,39nm,19.7s,MS3.7,baz=188,slow=33						
DBIC	**Dimbokro**	**70.81**	**79**	*e*P	**P**	**12 28 45.1**	**+1.3**
	4.8nm,0.7s,mb4.5						
VNA3	**Neumayer Olymp**	**71.30**	**162**		**P**	**12 28 45.6**	**-0.2**
VNA1	**Neumayer--Stat**	**71.53**	**161**		**P**	**12 28 47.6**	**+0.5**
VNA2	**Neumayer--Watz**	**71.89**	**162**		**P**	**12 28 49.3**	**+0.1**
EDM	**Edmonton**	**72.47**	**336**	*e*P	**P**	**12 28 52.7**	**-0.2**
SNAA	**Sanae**	**73.51**	**162**		**P**	**12 28 54.3**	**-4.5**
SNAA	**Sanae**	**73.51**	**162**		**P**	**12 28 58.2**	**-0.6**
YKA	**Yellowknife Ar**	**79.95**	**342**	P	**P**	**12 29 34.8**	**-0.3**
	4.7nm,0.8s,mb4.5,baz=138,slow=6.0,SNR=31						
YKA	**Yellowknife Ar**	**79.95**	**342**	P	**P**	**12 29 34.8**	**-0.3**
YKW3	**Yellowknife Ar**	**80.01**	**342**	*e*P	**P**	**12 29 34.9**	**-0.5**
ESDC	**Sonseca Array**	**81.98**	**47**	P	**P**	**12 29 49.6**	**+3.3**
	0.5nm,0.8s,mb3.5,baz=252,slow=4.7,SNR=4.9						
VNDA	**Vanda**	**86.16**	**190**	P	**P**	**12 30 06.2**	**-0.2**
	1.6nm,0.8s,mb4.3,baz=106,slow=3.3,SNR=11						
SUMG	**Summit**	**86.67**	**10**	*e*P	**P**	**12 30 11.5**	**+2.5**
	9.5nm,0.8s,mb5.1						
INK	**Inuvik**	**89.69**	**341**	*e*P	**P**	**12 30 24.4**	**+0.9**
	8.5nm,0.9s,mb5.1						
ZAL	**Zalesovo**	**134.03**	**17**	PKP	PKPdf	12 36 44.9	+2.7
	1.1nm,0.3s,baz=194,slow=4.4,SNR=5.4						
WRA	**Warramunga Arr**	**138.53**	**222**	PKP	PKPdf	12 36 51.6	+0.3
	1.1nm,0.8s,baz=147,slow=1.8,SNR=7.6						
MDJ	**Mudanjiang**	**141.08**	**333**	PKP	PKPdf	12 36 55.6	+0.4
MJAR	**Matsushiro Arr**	**141.67**	**317**	PKhKP		12 36 52.4	
	0.9nm,0.8s,baz=114,slow=1.6,SNR=5.4						
HHC	**Hu-ho-hao-te**	**150.05**	**352**	*e*PKP	PKPdf	12 37 10.9	+0.5
LZH	**Lanzhou**	**155.08**	**5**	*e*PKP	PKPdf	12 37 17.5	-0.2
LZH				APKP		12 37 26.5	
LZH				XPKP		12 37 29.6	
LZH				LR	LR		
	comp=N,187nm,18.5s						
LZH				LR	LR		
	comp=Z,347nm,20.0s						
KMI	**Kunming**	**165.71**	**13**	PKP	PKPdf	12 37 32.0	+2.1

*MDD **17** 12:30:40.4±3.1, 36.93N×11.30W, mb3.9/1, Error ellipse: s-maj=29.0km s-min=19.9km az=48.0, PRXIMO*

*NEIC **17** 12:30:40.6, 36.93N×11.30W, MG3.6(MDD), After MDD.*

INMG 17 12:30:41.4±0.6**, 36.75N×11.54W, h31km, ML2.2, Error ellipse: s-maj=4.9km s-min=3.3km az=76.0, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**2.39**	**70**	*e*Pn	Pn	12 31 16.7	-2.6
PTEO				*e*Sn	Sn	12 31 43.7	-4.2
PLOU	**Loures**	**2.85**	**41**	*e*Sn	Sn	12 31 54.5	-5.1
PBEJ	**Beja**	**3.19**	**65**	*e*Pn	Pn	12 31 27.9	-2.9
PBEJ				*e*Sn	Sn	12 32 01.9	-6.3
EGRO	**El Granado**	**3.34**	**75**	Pn	Pn	12 31 29.5	-3.3
EGRO				Sn	Sn	12 32 05.5	-6.4
EGRO	**El Granado**	**3.34**	**75**	Pn	Pn	12 31 29.1	-3.7
	0.2nm,0.1s,SNR=4.0						
EGRO				Sn	Sn	12 32 05.5	-6.4
	1.2nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.34**	**75**	Pn	Pn	12 31 29.5	-3.3
	0.5nm,0.1s,SNR=4.0						
EGRO				Sn	Sn	12 32 05.5	-6.4
	1.2nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**3.78**	**40**	*e*Sn	Sn	12 32 17.4	-5.7
EMIN	**Mina Concepcio**	**4.02**	**74**	Pn	Pn	12 31 38.7	-3.8
EMIN				Sn	Sn	12 32 22.3	-6.8
EMIN	**Mina Concepcio**	**4.02**	**74**	Pn	Pn	12 31 38.6	-3.8
	0.7nm,0.1s,SNR=18						
EMIN				Sn	Sn	12 32 22.3	-6.8
	0.3nm,0.1s,SNR=5.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EMIN	Mina Concepcio	4.02	74	Pn	Pn	12 31 38.7	-3.8
	0.7nm,0.1s,SNR=18						
EMIN				Sn	Sn	12 32 22.3	-6.8
	0.3nm,0.1s,SNR=5.0						
EBAD	Badajoz	4.11	59	Pn	Pn	12 31 40.2	-3.6
	0.7nm,0.1s,SNR=7.7						
EBAD				Sn	Sn	12 32 21.9	-10
	0.7nm,0.2s,SNR=5.0						
EBAD	Badajoz	4.11	59	Pn	Pn	12 31 40.2	-3.6
	0.7nm,0.1s,SNR=7.7						
EBAD				Sn	Sn	12 32 21.9	-10
	0.7nm,0.2s,SNR=5.0						
PCBR	Castelo Branco	4.45	45	*e*Pn	Pn	12 31 44.9	-3.7
PCBR				*e*Sn	Sn	12 32 32.1	-7.8
ESPR	Espera	4.56	87	Pn	Pn	12 31 46.4	-3.8
	1.6nm,0.2s,SNR=6.6						
ESPR				Sn	Sn	12 32 34.9	-8.1
	1.3nm,0.2s,SNR=5.0						
ESPR	Espera	4.56	87	Pn	Pn	12 31 46.4	-3.8
	1.6nm,0.2s,SNR=6.6						
ESPR				Sn	Sn	12 32 34.9	-8.0
	1.3nm,0.2s,SNR=5.0						
MTE	Manteigas	4.81	39	*e*Sn	Sn	12 32 41.6	-7.4
PVIS	Viseu	4.88	35	*e*Sn	Sn	12 32 43.4	-7.5
	2.8nm,0.1s						
ECAB	El Cabril	5.05	73	Pn	Pn	12 31 52.9	-4.2
	0.7nm,0.2s,SNR=9.7						
ECAB				Sn	Sn	12 32 46.9	-8.3
	0.1nm,0.1s,SNR=5.0						
ECAB	El Cabril	5.05	73	Pn	Pn	12 31 52.9	-4.2
	0.7nm,0.2s,SNR=9.7						
ECAB				Sn	Sn	12 32 46.9	-8.3
	0.1nm,0.1s,SNR=5.0						
EADA	Adamuz	5.72	74	Pn	Pn	12 32 02.6	-3.9
EADA				Sn	Sn	12 33 03.6	-8.3
EADA	Adamuz	5.72	74	Pn	Pn	12 32 02.6	-4.0
	0.6nm,0.1s,SNR=5.9						
EADA				Sn	Sn	12 33 03.6	-8.3
	0.4nm,0.1s,SNR=7.9						
EADA	Adamuz	5.72	74	Pn	Pn	12 32 02.6	-3.9
	0.6nm,0.1s,SNR=5.9						
EADA				Sn	Sn	12 33 03.6	-8.3
	0.4nm,0.1s,SNR=7.9						
ELOB	Lobios	5.78	27	Pn	Pn	12 32 02.8	-4.6
	0.2nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	12 33 03.9	-10
	0.8nm,0.1s,SNR=7.9						
ELOB	Lobios	5.78	27	Pn	Pn	12 32 02.8	-4.6
	0.2nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	12 33 03.9	-10
	0.8nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	6.50	17	Sn	Sn	12 33 20.3	-11
	1.6nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	6.50	17	Sn	Sn	12 33 20.3	-11
	1.6nm,0.1s,SNR=7.9						
ESDC	Sonseca Array	6.64	62	Pn	Pn	12 32 14.9	-4.7
	0.6nm,0.2s,baz=247,slow=13,SNR=4.9						
ESDC	Sonseca Array	6.64	62	Pn	Pn	12 32 14.9	-4.7
	0.6nm,0.2s,baz=247,slow=13,SNR=4.9						
EQES	Quesada	6.84	79	Pn	Pn	12 32 17.9	-4.4
	0.1nm,0.1s,SNR=4.0						
EQES	Quesada	6.84	79	Pn	Pn	12 32 17.9	-4.4
	0.1nm,0.1s,SNR=4.0						

*GUC **17** 12:45:00.5±0.9, 36.62S×73.36W, h37km±4km, ML4.4*
*MOS **17** 12:45:01.4±0.8, 36.58S×73.22W, h33km, mb5.0/5, Error ellipse: s-maj=19.1km s-min=10.0km az=84.8*
*NEIC **17** 12:45:02.3±0.2, 36.58S×73.25W, mb4.7/20, ML4.4(GUC), Error ellipse: s-maj=5.0km s-min=3.5km az=119.0*
NEIC Felt [II] at Concepcion and Talcahuano.
*BJI **17** 12:45:02.3, 36.60S×73.20W, h31km, mB4.7, Ms4.9, Msz4.8*
*IDC **17** 12:45:04.2±2.6, 36.55S×73.13W, h48km±23km, mb4.0/11, mb1 4.1/15, mb1mx4.0/19, mbtmp4.2/15, ML3.9/3, MS3.7/8, Ms1 3.7/8, ms1mx3.5/17, Error ellipse: s-maj=28.1km s-min=13.9km az=96.0*
ISC 17 12:45:01.1±0.8**, 36.59S**±0.03×**73.28W**±0.08**, h34**km±7km**, h30**km±1.3km**:pP-P, n126, σ1.00**/102**, mb4.5**/29**, MS4.1**/3**, 3C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.61	41	⇓*i*P	P	12 45 13.9	+0.8
COCH				*i* S	S	12 45 23.0	+1.1
COCH				AMP		12 45 24.9	
	comp=N,6μm,0.7s						
CCHI	Chillan	0.97	91	⇓*i*P	P	12 45 19.2	+0.8
CCHI				*i* S	S	12 45 32.7	+1.5
CCHI				AMP		12 45 39.2	
	comp=N,27μm,0.5s						
CCHI				AMP		12 45 39.4	
	comp=N,17μm,0.6s						
CTCH	Constitucion	1.44	30	*e*P	P	12 45 26.2	+1.1
CTCH				*i* S	S	12 45 45.4	+2.3
CTCH				AMP		12 45 59.8	
	comp=N,45μm,0.4s						
NICH	Los Niches	2.30	47	*e*P	P	12 45 38.6	+1.2
NICH				*i* S	S	12 46 07.4	+2.5
SFDO	San Fernando	2.70	44	*e*P	P	12 45 43.5	+0.3
LNV	Longovilo	3.04	31	*e*P	P	12 45 47.8	-0.2
VLCH	Valdivia	3.21	180	*e*P	P	12 45 49.1	-1.3
CICH	Cipreses	3.25	47	*e*P	P	12 45 51.6	+0.5
CACH	El Canelo	3.30	42	*e*P	P	12 45 52.0	+0.3
LCCH	Las Cruces	3.41	25	*e*P	P	12 45 52.0	-1.3
CHCH	Chadas Angostu	3.41	40	*i* P	P	12 45 53.4	+0.1
TACH	Talagante	3.50	34	*e*P	P	12 45 54.2	-0.4
RCDM	Rinconada Maip	3.70	34	*e*P	P	12 45 56.7	-0.7
RCDM				*i* S	S	12 46 39.3	-1.2
ANTU	Antumapu	3.71	37	*e*P	P	12 45 57.5	0.0
LMEL	Las Melosas	3.72	44	*e*P	P	12 45 58.0	+0.3
PCH	Pirque	3.73	38	*e*P	P	12 45 57.6	-0.2
SJCH	San Jose de Ma	3.80	40	*e*P	P	12 45 58.8	+0.1
DSCH	Colegio Aleman	3.89	36	*e*P	P	12 45 59.9	-0.1
CLCH	Cerro Calan	3.90	36	⇓*i*P	P	12 46 00.0	-0.2
CLCH				*i* S	S	12 46 45.4	-0.1
PEL	Peldehue	4.05	33	*e*P	P	12 46 02.4	+0.1
FCH	Farellones	4.08	38	*e*P	P	12 46 02.8	+0.1
PACH	Papudo	4.32	21	*e*P	P	12 46 04.4	-1.8
JACH	Jahuel	4.49	30	*e*P	P	12 46 07.5	-1.0
PLCA	Paso Flores	4.66	154	P	P	12 46 11.4	+0.5
	comp=N,1.0nm,0.3s,baz=319,slow=11,SNR=17						
PLCA				LR	LR	12 48 06.6	
	comp=N,1μm,18.8s,baz=327,slow=39						
PLCA	Paso Flores	4.66	154	*e*Pn	P	12 46 11.1	+0.1
ZON	Zonda	6.32	39	*e*P	P	12 46 33.0	-1.3
CFAA	Coronel Fontan	6.50	42	P	P	12 46 35.0	-1.9
	comp=N,0.3nm,0.3s,baz=210,slow=12,SNR=12						
CFAA				S	S	12 47 48.4	-2.3
	comp=N,0.6nm,0.3s,baz=107,slow=22,SNR=3.2						
CFAA				LR	LR	12 49 23.3	
	comp=N,69nm,18.8s,baz=235,slow=40						
CFAA	Coronel Fontan	6.50	42	P	P	12 46 35.0	-1.9
CFAA				S	S	12 47 48.4	-2.3
CFAA				LR	LR	12 49 23.3	
TRQA	Tornquist	9.12	103	*e*Pn	P	12 47 13.0	-0.5
	comp=N,12nm,0.7s						
LVC	Limon Verde	14.44	16	P	P	12 48 26.9	+1.9
	comp=N,0.3nm,0.3s,baz=191,slow=5.2,SNR=3.1						
LVC				LR	LR	12 53 25.7	
	comp=N,235nm,21.5s,baz=77,slow=35						
LVC	Limon Verde	14.44	16	Pn	P	12 48 24.7	-0.3
CPUP	Villa Florida	17.00	58	*e*P	P	12 48 58.2	+0.3
CPUP				pmax	pmax		
	comp=Z,12nm,1.3s						
CPUP	Villa Florida	17.00	58	P	P	12 48 57.6	-0.3
	comp=Z,0.1nm,0.3s,baz=251,slow=11,SNR=5.5						
CPUP				LR	LR	12 55 37.8	
	comp=Z,117nm,20.4s,baz=285,slow=38						
CPUP	Villa Florida	17.00	58	*e*P	P	12 48 58.2	+0.4
	comp=Z,12nm,1.3s						
USHA	Ushuaia	18.55	171	LR	LR	12 57 03.3	
	comp=Z,273nm,18.5s,baz=156,slow=39						
LPAZ	La Paz	20.73	14	*e*P	P	12 49 41.8	+0.5
LPAZ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LPAZ	La Paz	20.73	14	P	P	12 49 42.5	+1.2
	comp=Z,2.3nm,0.6s,baz=190,slow=8.7,SNR=8.8						
LPAZ	La Paz	20.73	14	*e*P	P	12 49 41.8	+0.5
	comp=Z,6.5nm,0.6s						
SIV	San Ignacio	23.21	31	P	P	12 50 05.5	-0.5
	comp=Z,5.1nm,1.0s,mb3.9,baz=225,slow=11,SNR=13						
SAML	Samuel	29.01	21	*e*P	P	12 50 58.4	-1.7
	comp=Z,0.7nm,0.5s,mb3.6						
BDFB	Brasilia	30.66	54	P	P	12 51 11.4	-3.4
	comp=Z,2.9nm,0.9s,mb4.1,baz=200,slow=3.8,SNR=3.1						
BDFB				LR	LR	13 04 55.1	
	comp=Z,267nm,20.2s,MS3.9,baz=202,slow=39						
SDV	Santo Domingo	45.30	4	P	P	12 53 16.0	-1.7
	comp=Z,7.5nm,0.9s,mb4.5						
VNA3	Neumayer Olymp	47.37	157		P	12 53 33.6	+0.3
VNA3	Neumayer Olymp	47.37	157		pP	12 53 41.8	-1.5
VNA3	Neumayer Olymp	47.37	157		sP	12 53 49.8	+2.3
VNA1	Neumayer--Stat	47.71	156		pP	12 53 45.1	-1.0
VNA1	Neumayer--Stat	47.71	156		sP	12 53 50.6	+0.3
VNA1	Neumayer--Stat	47.71	156	P	sP	12 53 50.6	+0.3
VNA2	Neumayer--Watz	48.04	156		P	12 53 38.9	+0.3
VNA2	Neumayer--Watz	48.04	156		pP	12 53 46.8	-1.8
VNA2	Neumayer--Watz	48.04	156		sP	12 53 54.4	+1.6
SNAA	Sanae	49.59	157		P	12 53 50.3	-0.2
SNAA	Sanae	49.59	157		pP	12 53 58.2	-2.4
SNAA	Sanae	49.59	157		sP	12 54 03.3	-1.5
SNAA	Sanae	49.59	157	⇓*e*P	P	12 53 50.4	-0.1
SNAA	Sanae	49.59	157	P	P	12 53 50.0	-0.5
	comp=Z,1.2nm,0.8s,mb4.0,baz=282,slow=8.1,SNR=11						
SNAA	Sanae	49.59	157	P	P	12 53 50.3	-0.2
QSPA	South Pole Qui	53.65	180	⇓*i*P	P	12 54 21.4	+0.4
	comp=Z,6.9nm,0.9s,mb4.6						
VNDA	Vanda	61.37	192	P	P	12 55 15.2	-0.3
	comp=Z,0.7nm,0.7s,mb3.9,baz=126,slow=4.3,SNR=5.1						
SYO	Syowa Base	63.84	158	⇑P	P	12 55 29.2	-2.6
SYO	Syowa Base	63.84	158	⇓pP	pP	12 55 37.7	-4.5
SYO	Syowa Base	63.84	158	⇑PcP	PcP	12 56 04.0	-3.3
LRAL	Lakeview Retre	70.44	348	*e*P	P	12 56 12.8	-1.2
	comp=Z,6.0nm,1.1s,mb4.4						
NATX	Nacogdoches	70.88	341	*e*P	P	12 56 16.4	-0.3
	comp=Z,17nm,0.7s,mb5.1						
MAW	Mawson	70.99	164	P	P	12 56 16.5	-0.2
	comp=Z,4.7nm,0.8s,mb4.5,baz=222,slow=8.6,SNR=9.8						
MAW				LR	LR	13 25 36.6	
	comp=Z,173nm,19.6s,MS4.3,baz=228,slow=34						
LTX	Lajitas	71.52	332	*e*P	P	12 56 20.5	0.0
LTX				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
LTX	Lajitas	71.52	332	*e*P	P	12 56 20.5	0.0
	comp=Z,14nm,1.3s,mb4.7						
SWET	Sewanee	72.40	349	*e*P	P	12 56 24.8	-0.9
PLAL	Pickwick Lake	72.53	347	*e*P	P	12 56 25.3	-1.1
	comp=Z,6.9nm,1.0s,mb4.5						
WVT	Waverly	73.60	348	*e*P	P	12 56 31.3	-1.4
WVT				*e*	pP	12 56 41.4	-1.8
WVT				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
WVT	Waverly	73.60	348	*e*P	P	12 56 31.3	-1.5
	comp=Z,14nm,1.0s,mb4.8						
WVT				*e*	pP	12 56 41.4	-1.8
MNTX	Cornudas Mount	74.29	332	*e*P	P	12 56 35.5	-1.2
	comp=Z,6.2nm,1.0s,mb4.5						
MNTX				*e*	pP	12 56 45.6	-1.6
GDL2	Guadalupe Moun	74.36	333	*e*P	P	12 56 36.8	-0.4
WMOK	Wichita Mounta	74.83	338	*e*P	P	12 56 38.7	-1.2
WMOK				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.6						
WMOK	Wichita Mounta	74.83	338	*e*P	P	12 56 38.7	-1.2
	comp=Z,13nm,1.5s,mb4.6						
CPRX	Cap Rock	74.93	334	*e*P	P	12 56 40.6	+0.1
CCM	Cathedral Cave	76.11	345	*e*P	P	12 56 46.0	-1.1
CCM				*e*	pP	12 56 55.4	-2.2
CCM				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
CCM	Cathedral Cave	76.11	345	*e*P	P	12 56 46.0	-1.1
	comp=Z,17nm,1.0s,mb4.9						
CCM				*e*	pP	12 56 55.4	-2.2
BNM	Barren Site	76.94	332	*e*P	P	12 56 52.7	+0.8
DBIC	Dimbokro	76.97	71	*e*P	P	12 56 51.9	-0.6
DBIC	Dimbokro	76.97	71	P	P	12 56 52.0	-0.5
	comp=Z,5.3nm,0.8s,mb4.5,baz=198,slow=8.1,SNR=7.2						
LPM	Los Pinos Moun	77.09	332	*e*P	P	12 56 53.7	+0.9
LAZ	Ladron	77.36	332	*e*P	P	12 56 55.5	+1.2
ANMO	Albuquerque	77.59	333	*c i*P	P	12 56 56.2	+0.7
ANMO	Albuquerque	77.59	333	*e*P	P	12 56 55.5	0.0
	comp=Z,10nm,1.1s,mb4.7						
SDCO	Great Sand Dun	79.75	335	*e*P	P	12 57 07.8	+0.6
	comp=Z,3.4nm,1.0s,mb4.2						
BOSA	Boshof	79.77	118	P	P	12 57 07.2	-0.4
	comp=Z,3.3nm,0.9s,mb4.3,baz=248,slow=7.4,SNR=4.3						
BOSA				LR	LR	13 29 48.9	
	comp=Z,61nm,18.3s,MS4.0,baz=36,slow=34						
SADO	Sadowa	81.16	356	P	P	12 57 14.2	-0.4
	comp=Z,5.0nm,1.0s,mb4.4,baz=140,slow=2.3,SNR=3.9						
PV01	Paradox Valley	81.19	333	*e*P	P	12 57 15.8	+1.0
PV01				*e*	pP	12 57 25.0	-0.5
SMCO	Snowmass	81.54	334	*e*P	P	12 57 17.8	+1.1
PV10	Paradox Valley	81.58	332	*e*P	P	12 57 16.9	0.0
NEN	Nelson	81.60	327	*e*P	P	12 57 17.9	+0.8
SRU	San Rafael	82.78	332	*e*P	P	12 57 23.5	+0.4
ARUT	Antelope Range	82.81	329	P	P	12 57 24.9	+1.7
MSU	Marysvale	82.91	330	*e*P	P	12 57 24.8	+1.1
MVU	Marysvale	82.92	330	*e*P	P	12 57 25.2	+1.5
	comp=Z,9.1nm,1.2s,mb4.7						
TMUT	Trail Mountain	83.21	331	*e*P	P	12 57 26.4	+1.2
DAU	Daniels Canyon	84.19	332	*e*P	P	12 57 31.4	+1.2
HWUT	Hardware Ranch	85.34	332	*e*P	P	12 57 36.5	+0.6
	comp=Z,16nm,1.0s,mb5.1						
PDAR	Pinedale Array	85.62	334	P	P	12 57 37.4	+0.2
	comp=Z,2.9nm,1.0s,mb4.5,baz=148,slow=4.4,SNR=20						
ELK	Elko	86.05	329	*e*P	P	12 57 40.1	+0.8
ELK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ELK	Elko	86.05	329	*e*P	P	12 57 40.1	+0.8
	comp=Z,4.5nm,1.0s,mb4.7						
TPAW	Teton Pass	86.75	334	*e*P	P	12 57 43.5	+0.8
	comp=Z,5.7nm,0.8s,mb4.8						
IMW	Indian Meadow	87.10	334	*e*P	P	12 57 45.2	+0.8
	comp=Z,9.4nm,1.0s,mb5.0						
HLID	Hailey	88.10	331	*e*P	P	12 57 50.1	+0.9
	comp=Z,47nm,2.3s,mb5.3						
ULM	Lac du Bonnet	88.74	346	P	P	12 57 50.8	-1.3
	comp=Z,4.3nm,0.9s,mb4.8,baz=131,slow=3.7,SNR=3.6						
GERES	GERESS Array B	114.68	47	PKP	PKPdf	13 03 37.7	-0.1
	comp=Z,0.1nm,0.3s,baz=315,slow=1.4,SNR=3.9						
AKASG	Malin Array Be	124.67	49	*e*PKIKP	PKPdf	13 03 57.2	+0.3
AKASG	Malin Array Be	124.67	49	PKP	PKPdf	13 03 56.4	-0.6
	comp=Z,0.6nm,0.6s,baz=262,slow=2.8,SNR=5.4						
OBN	Obninsk	130.00	45	*e*PKIKP	PKPdf	13 04 08.0	+1.0
OBN				*e*		13 04 13.7	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SEY	Seymchan	141.73	328	*i* PKIKP	PKPdf	13 04 29.2	+0.9
ZRNK	Zerenda	149.07	46	*e*PKPdf	PKPdf	13 04 42.5	+1.6
ZRNK				*e*PKPbc	PKPdf	13 04 46.3	+5.4
BRVK	Borovoye	149.77	45	*e*PKP2	PKPab	13 04 48.0	-6.4
YAK	Yakutsk	150.78	338	*e*PKIKP	PKPdf	13 04 44.6	+1.3
YAK				*e*		13 04 50.1	
YSS	Yuzh-Sakhalins	151.43	303	*i* PKIKP	PKPab	13 05 01.6	+0.1
AAK	Ala-Archa	154.55	66	*i* PKP2	PKPab	13 05 12.7	-2.1
MJAR	Matsushiro Arr	154.76	279	PKPab	PKPab	13 05 15.2	-0.7
	comp=Z,0.7nm,0.5s,baz=160,slow=5.8,SNR=4.9						
ZAL	Zalesovo	156.94	34	PKP	PKPdf	13 04 53.2	+1.1
	comp=Z,1.5nm,0.6s,baz=191,slow=4.1,SNR=7.8						
ZAL				PKPab	PKPab	13 05 24.7	0.0
	comp=Z,1.6nm,0.3s,baz=165,slow=4.5,SNR=6.9						
ZAL	Zalesovo	156.94	34	PKP	PKPdf	13 04 53.2	+1.1
ZAL				PKPab	PKPab	13 05 24.7	0.0
MKAR	Makanchi Array	159.18	53	PKP	PKPdf	13 04 56.4	+1.3
	comp=Z,0.9nm,0.8s,baz=315,slow=3.4,SNR=4.2						
MKAR				PKPab	PKPab	13 05 33.5	-1.0
	comp=Z,1.8nm,0.8s,baz=304,slow=4.4,SNR=8.6						
MDJ	Mudanjiang	160.91	302	PKP	PKPdf	13 04 58.0	+1.0
KMI	Kunming	168.07	162	PKP	PKPdf	13 05 05.4	+1.4
NJ2	Nanjing	168.99	249	*e*PKP	PKPdf	13 05 05.3	+1.0
NJ2				APKP		13 05 16.0	
NJ2				XPKP		13 05 19.6	
NJ2				PKP2	PKPab	13 06 18.8	+1.1
NJ2				PKS	PKS	13 08 36.0	+0.1
NJ2				SKS	SKS	13 12 05.0	+2.2
GYA	Guiyang	169.90	180	*e*PKP	PKPdf	13 05 03.3	-1.7
GYA				APKP		13 05 14.3	
GYA				XPKP		13 05 17.8	
GYA				PP	PP		
	comp=Z,120nm,7.8s						
HHC	Hu-ho-hao-te	174.30	320	*e*PKP	PKPdf	13 05 08.3	+1.6
LZH	Lanzhou	177.63	101	*e*PKP	PKPdf	13 05 09.0	+1.3
LZH				APKP		13 05 19.5	
LZH				XPKP		13 05 23.1	
LZH				LR	LR		
	comp=N,297nm,18.3s						
LZH				LR	LR		
	comp=Z,498nm,20.4s						

*NEIC **17** 12:45:21.5, 38.39S×175.95E, h166km, MG4.2(WEL), After WEL.*
WEL 17 12:45:22.3±0.3**, 38.39S**×**175.97E, h159**km±2km**, ML4.1**/18**, 1C-6D, Error ellipse: s-maj=1.6km s-min=1.4km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATZ	Paeroa	0.22	87	P	P	12 45 44.1	0.0
PATZ	Paeroa	0.22	87	⇓PN	P	12 45 44.1	0.0
UTU	Utuhina	0.28	38	P	P	12 45 44.1	-0.2
UTU	Utuhina	0.28	38	PN	P	12 45 44.0	-0.2
TAZ	Tarawera	0.45	69	P	P	12 45 44.7	-0.2
TAZ	Tarawera	0.45	69	PN	P	12 45 44.8	-0.1
LIRZ	Lichensteins R	0.51	40	PN	P	12 45 44.6	-0.5
RITZ	Rihia Road	0.59	189	P	P	12 45 45.6	+0.1
RITZ	Rihia Road	0.59	189	PN	P	12 45 45.6	+0.1
EDRZ	Edgecumbe	0.67	65	PN	P	12 45 45.3	-0.6
TGRZ	Tauranga	0.70	19	P	P	12 45 45.6	-0.5
TGRZ	Tauranga	0.70	19	⇓PN	P	12 45 45.6	-0.5
TWVZ	Taurewa	0.80	212	P	P	12 45 46.4	-0.3
TWVZ	Taurewa	0.80	212	PN	P	12 45 46.5	-0.1
OTVZ	Oturere	0.81	197	PN	P	12 45 46.8	+0.1
OTVZ				*e*SN	S	12 46 04.7	-0.8
NGZ	Ngauruhoe	0.83	200	PN	P	12 45 47.1	+0.2
BKZ	Black Stump Fm	0.87	152	P	P	12 45 47.2	+0.1
BKZ				S	S	12 46 05.7	-0.6
BKZ	Black Stump Fm	0.87	152	⇓PN	P	12 45 47.2	0.0
BKZ				SN	S	12 46 05.7	-0.6
WPVZ	Whakapapa	0.88	202	P	P	12 45 48.8	+1.6
HIZ	Hauiti	0.89	262	P	P	12 45 46.6	-0.6
HIZ				S	S	12 46 06.0	-0.4
HIZ	Hauiti	0.89	262	⇓PN	P	12 45 46.6	-0.6
HIZ				SN	S	12 46 06.0	-0.4
URZ	Urewera	0.90	82	*e*P	P	12 45 46.8	-0.6
URZ	Urewera	0.90	82	⇓PN	P	12 45 46.8	-0.5
URZ				SN	S	12 46 05.4	-1.2
TUVZ	Tukino	0.91	196	P	P	12 45 47.4	0.0
TUVZ	Tukino	0.91	196	PN	P	12 45 47.4	0.0
TUVZ				SN	S	12 46 06.0	-0.7
FWVZ	Far West T-bar	0.92	201	P	P	12 45 47.7	+0.2
FWVZ	Far West T-bar	0.92	201	PN	P	12 45 47.5	0.0
WNVZ	Wahianoa	0.98	197	P	P	12 45 48.0	+0.1
WNVZ	Wahianoa	0.98	197	PN	P	12 45 48.0	+0.1
WNVZ				SN	S	12 46 07.1	-0.5
PKVZ	Pokaka	1.02	209	PN	P	12 45 48.0	-0.2
PKVZ				SN	S	12 46 08.5	+0.3
MOVZ	Moawhango	1.03	190	P	P	12 45 47.9	-0.4
MOVZ	Moawhango	1.03	190	⇓PN	P	12 45 47.9	-0.4
MOVZ				SN	S	12 46 06.7	-1.6
MTVZ	Mangateitei	1.07	201	PN	P	12 45 48.5	-0.2
MTVZ				SN	S	12 46 08.8	-0.2
VRZ	Vera Road	1.20	232	*e*P	P	12 45 49.4	-0.5
VRZ	Vera Road	1.20	232	PN	P	12 45 49.5	-0.4
VRZ				SN	S	12 46 11.2	0.0
MWZ	Matawai	1.22	88	*e*P	P	12 45 50.0	-0.1
MWZ	Matawai	1.22	88	PN	P	12 45 49.9	-0.2
MWZ				SN	S	12 46 10.5	-1.1
KNZ	Kokohu	1.47	116	*e*P	P	12 45 52.7	+0.1
KNZ	Kokohu	1.47	116	PN	P	12 45 52.7	+0.1
KNZ				SN	S	12 46 15.3	-0.7
WAZ	Wanganui	1.56	209	*e*P	P	12 45 52.8	-0.7
WAZ	Wanganui	1.56	209	PN	P	12 45 52.7	-0.8
TSZ	Takapari Road	1.66	180	P	P	12 45 54.0	-0.6
TSZ	Takapari Road	1.66	180	PN	P	12 45 54.0	-0.6
PWZ	Pawanui	1.77	157	*e*P	P	12 45 55.5	-0.3
PWZ	Pawanui	1.77	157	PN	P	12 45 55.6	-0.2
PUZ	Puketiti	1.83	81	*e*P	P	12 45 55.7	-0.6
PUZ	Puketiti	1.83	81	PN	P	12 45 55.7	-0.6
PUZ				SN	S	12 46 20.6	-2.0
MRZ	Mangatainoka R	2.29	188	P	P	12 45 59.8	-2.0
MRZ	Mangatainoka R	2.29	188	⇑PN	P	12 45 59.8	-1.9
MRZ				SN	S	12 46 27.6	-4.5
BFZ	Birch Farm	2.29	175	*e*P	P	12 45 59.6	-2.3
KIW	Kapiti Island	2.60	198	P	P	12 46 02.9	-2.8
KIW	Kapiti Island	2.60	198	PN	P	12 46 02.9	-2.8
MTW	Mount Morrison	2.79	187	P	P	12 46 05.1	-2.9
CAW	Cannon Point	2.80	194	P	P	12 46 05.3	-2.9
MRW	Makara Radio	3.00	199	P	P	12 46 07.3	-3.4
WEL	Wellington	3.03	197	P	P	12 46 07.8	-3.3
MSWZ	Moikau Station	3.07	190	P	P	12 46 08.2	-3.4
SNZO	South Karori	3.07	198	P	P	12 46 08.1	-3.5
TCW	Tory Channel	3.10	204	P	P	12 46 08.6	-3.4
BHW	Baring Head	3.13	195	P	P	12 46 08.8	-3.5
NNZ	Nelson	3.46	214	*e*P	P	12 46 12.4	-4.2
BSWZ	Blackbirch Sta	3.69	205	P	P	12 46 15.8	-3.7
THZ	Tophouse	4.11	214	*e*P	P	12 46 20.3	-4.7
KHZ	Kahutara	4.43	204	P	P	12 46 24.8	-4.4
DSZ	Denniston Nort	4.63	222	*e*P	P	12 46 26.2	-5.7
LTZ	Lake Taylor	5.21	212	*e*P	P	12 46 33.1	-6.4
MQZ	McQueen's Vall	5.87	204	P	P	12 46 41.8	-6.4
RPZ	Rata Peaks	6.49	213	*e*P	P	12 46 50.9	-5.6
FOZ	Fox Glacier	7.02	221	*e*P	P	12 46 55.6	-8.0
LBZ	Lake Benmore	7.40	214	*e*P	P	12 47 02.0	-6.7
ODZ	Otahua Downs	7.75	209	*e*P	P	12 47 06.6	-6.7
JCZ	Jackson Bay	7.86	221	*e*P	P	12 47 08.2	-6.5

MAN 17 13:03:24.2, 8.45N×124.76E, h30km, mb4.0, ML2.7, MS2.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	Cagayan de Oro	0.07	272	⇑*e*P	Pn	13 03 30.3	+1.3
CGP				*i* S	Sn	13 03 33.5	+1.7
BUKP	Musuan	0.64	152	*i* P	Pb	13 03 37.2	+0.3
PAGZ	Pagadian	1.49	246	*e*P	Pn	13 03 49.5	+0.1
PAGZ				*e*S	Sn	13 04 07.7	-0.3

KRSC 17 13:23:20.1±0.2**, 53.16N**×**158.29E, h210**km±2km**, ML3.8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOK	Koryaka	0.25	57	*i* P	P	13 23 48.3	+0.3
PET	Petropavlovsk	0.26	122	*i* P	P	13 23 47.9	-0.1
PET				*i* S	S	13 24 08.1	-1.4
AVH	Avacha	0.29	68	*i* P	P	13 23 48.4	+0.3
AVH				*i* S	S	13 24 09.0	-0.7
SMAR	Somma	0.32	71	*i* P	P	13 23 48.8	+0.7
UGLR	Uglovaya	0.33	81	*i* P	P	13 23 48.7	+0.6
SDLR	Sedlovina	0.38	71	*i* P	P	13 23 48.4	+0.1
SDLR				*i* S	S	13 24 09.1	-1.0
GNL	Ganaly	0.57	339	*i* P	P	13 23 48.7	-0.2
GNL				*i* S	S	13 24 09.5	-1.8
GRL	Gorelyy	0.62	192	*e*P	P	13 23 50.0	+0.9
NLC	Nalytchevo	0.64	89	*i* P	P	13 23 49.0	-0.2
NLC				*e*S	S	13 24 10.5	-1.2
APC	Apacha	0.72	251	*i* P	P	13 23 49.4	-0.2
APC				*i* S	S	13 24 10.8	-1.6
APC				Smax			
	50nm,0.8s						
RUS	Russkaya	0.74	169	*i* P	P	13 23 49.3	-0.3
RUS				*e*S	S	13 24 11.0	-1.5
SPN	Mys Shipunski	1.05	93	*i* P	P	13 23 51.2	-0.2
SPN				*i* S	S	13 24 13.7	-1.9
TUMR	Tumrok	2.39	26	*i* P	P	13 24 04.1	+0.2
MKZ	Mys Kozlova	2.47	54	*e*P	P	13 24 04.1	-0.7
MKZ				*e*S	S	13 24 36.1	-3.2
ESO	Esso	2.78	5	*i* P	P	13 24 07.7	-0.5
ALID	Alaid	2.85	218	*e*P	P	13 24 08.8	-0.2
SRDR	Sredinnyy	3.27	14	*i* P	P	13 24 14.0	+0.1
KBTR	Krutoberegovo	4.03	39	*e*P	P	13 24 23.5	+0.3
KBTR				*e*S	S	13 25 09.6	-2.5
BKI	Bering	4.96	63	*e*S	S	13 25 25.2	-7.7
BKI				Smax			
	30nm,1.0s						

*CSEM **17** 13:37:11.3±0.2, 38.01N×26.87E, h32km, MD2.9, Error ellipse: s-maj=7.0km s-min=4.4km az=105.0*
*ATH **17** 13:37:13.9, 37.66N×26.78E, h41km, MD3.0/3*
*ISK **17** 13:37:13.2, 38.03N×27.12E, h28km, MD2.9*
ISC 17 13:37:13.8±0.5**, 37.98N**±0.03×**27.11E**±0.07**, h17**km±14km**, n14, σ0.87**/21**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.34**	**219**	*e*P	**Pb**	**13 37 20.7**	**-0.5**
SMG				*e*S	**Sb**	**13 37 25.7**	**-0.4**
BLCB	**Balcova**	**0.41**	**353**	*i* PG	**Pb**	**13 37 22.4**	**+0.1**
BLCB				*i* SG	**Sb**	**13 37 27.4**	**-0.6**
IZM	**Izmir**	**0.44**	**16**	*i* PG	**Pb**	**13 37 22.4**	**-0.3**
KDAG	**Bornova**	**0.44**	**16**	*i* P	**Pb**	**13 37 22.4**	**-0.4**
KDAG				*i* S	**Sb**	**13 37 33.6**	**+4.8**
URLA	**Izmir**	**0.56**	**313**	*i* P	**Pb**	**13 37 25.3**	**+0.6**
URLA				*i* S	**Sb**	**13 37 42.2**	**+10**
MLSB	**Milas**	**0.86**	**142**	PG	**Pb**	**13 37 29.8**	**-0.2**
MLSB				SG	**Sb**	**13 37 42.5**	**+1.4**
BODT	**Bodrum**	**0.93**	**170**	PG	**Pb**	**13 37 31.9**	**+0.8**
BDRM	**Kayabasi**	**0.95**	**164**	*i* P	**Pb**	**13 37 31.1**	**-0.3**
BDRM				*i* S	**Sb**	**13 37 51.3**	**+7.7**
AKS	**Akhisar**	**1.05**	**31**	PG	**Pb**	**13 37 32.6**	**-0.7**
MANT	**Manisa**	**1.25**	**65**	*i* P	**Pb**	**13 37 37.3**	**+0.8**
YER	**Yerkesik**	**1.26**	**132**	*e*PN	**Pn**	**13 37 35.7**	**-1.0**
PRK	**Paraskevi**	**1.43**	**333**	*e*P	**Pn**	**13 37 41.8**	**+2.6**
PRK				*e*S	**Sb**	**13 38 01.8**	**+4.4**
APE	**Apeiranthos**	**1.55**	**235**	*e*P	**Pn**	**13 37 35.1**	**-5.8**
DALT	**Dalyan (Mudla)**	**1.71**	**134**	*e*PN	**Pn**	**13 37 42.2**	**-1.1**

*NEIC **17** 13:44:59.9±1.5, 0.75N×121.81E, h115km±15km, mb4.3/4, Error ellipse: s-maj=30.1km s-min=7.8km az=62.0*

*IDC **17** 13:45:03.0±10.0, 0.74N×121.98E, h146km±108km, mb3.6/7, mb1 3.8/8, mb1mx3.6/18, mbtmp4.0/8, ML4.6/1, Error ellipse: s-maj=48.6km s-min=22.4km az=74.0*

ISC 17 13:44:58.8±2.0**, 0.7N**±0.1×**121.8E**±0.2**, h122**km±21km**, n15,** $\sigma 0^{s}58$/15**, mb4.0**/9**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**7.63**	**314**	*e*P	**P**	**13 46 48.6**	**0.0**
KAKA	**Kakadu**	**17.06**	**142**	*e*P	**P**	**13 48 52.4**	**+1.0**
	8.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.11**	**169**	*e*P	**P**	**13 49 13.5**	**-1.3**
	2.5nm,0.2s						
FITZ	**Fitzroy Crossi**	**19.11**	**169**	P	**P**	**13 49 13.6**	**-1.2**
	1.5nm,0.3s,baz=4.3,slow=8.1,SNR=28						
WRAB	**Tennant Creek**	**23.98**	**150**	*e*P	**P**	**13 50 03.3**	**+0.1**
	6.8nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**23.98**	**150**	P	**P**	**13 50 02.9**	**-0.3**
	11nm,0.6s,mb4.4,baz=325,slow=11,SNR=140						
WB2	**Warramunga Arr**	**23.98**	**150**	*e*P	**P**	**13 50 03.0**	**-0.3**
STKA	**Stephens Creek**	**37.49**	**152**	P	**P**	**13 52 02.5**	**0.0**
	0.7nm,0.5s,mb3.9,baz=315,slow=10.0,SNR=5.5						
MJAR	**Matsushiro Arr**	**38.75**	**21**	P	**P**	**13 52 12.3**	**-0.5**
	0.7nm,0.7s,mb3.6,baz=197,slow=9.7,SNR=5.0						
MKAR	**Makanchi Array**	**57.33**	**329**	P	**P**	**13 54 37.0**	**+0.6**
	0.7nm,0.4s,mb4.0,baz=128,slow=8.4,SNR=9.9						
ZAL	**Zalesovo**	**61.13**	**336**	P	**P**	**13 55 02.8**	**+0.4**
	1.2nm,0.3s,mb4.5,baz=12,slow=3.6,SNR=3.2						
KURK	**Kurchatov**	**61.72**	**330**	*e*P	**P**	**13 55 06.3**	**-0.1**
BVAR	**Borovoye Array**	**67.21**	**329**	P	**P**	**13 55 41.9**	**0.0**
	0.3nm,0.4s,mb3.5,baz=141,slow=9.2,SNR=4.1						
VNDA	**Vanda**	**81.15**	**172**	*e*P	**P**	**13 57 02.8**	**+1.0**
	0.6nm,0.4s,mb3.8						
ARCES	**ARCESS Array B**	**91.50**	**340**	P	**P**	**13 57 51.8**	**-0.6**
	0.6nm,0.8s,mb3.9,baz=100,slow=5.5,SNR=4.5						

*NEIC **17** 14:17:46.0, 36.58S×73.25W, h41km, MD3.5(GUC), After GUC.*

GUC 17 14:17:46.0±0.8**, 36.58S**×**73.25W, h41**km±3km**, MD3.5, ML3.4, 4C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.58**	**40**	⇓*i*P	P	14 17 58.2	+0.3
COCH				*i* S	S	14 18 07.1	+0.6
CCHI	**Chillan**	**0.94**	**92**	⇑*i*P	P	14 18 03.4	+0.5
CCHI				*i* S	S	14 18 16.1	+0.7
CCHI				AMP		14 18 23.4	
	comp=N,1μm,0.4s						
CNCO	**Chanco**	**1.02**	**35**	⇑*i*P	P	14 18 04.1	+0.1
CNCO				*i* S	S	14 18 18.2	+0.7
CNCO				AMP		14 18 20.2	
	comp=E,3μm,0.3s						
SFDO	**San Fernando**	**2.68**	**43**	*i* P	P	14 18 27.7	0.0
SFDO				*i* S	S	14 18 59.2	0.0
LNV	**Longovilo**	**3.02**	**30**	*i* P	P	14 18 31.9	-0.7
CICH	**Cipreses**	**3.23**	**46**	*i* P	P	14 18 35.7	+0.2
CACH	**El Canelo**	**3.28**	**42**	⇑*i*P	P	14 18 36.1	-0.1
CHCH	**Chadas Angostu**	**3.39**	**40**	*i* P	P	14 18 37.7	-0.1
CHCH				*i* S	S	14 19 17.1	-0.1
FCH	**Farellones**	**4.05**	**38**	⇑*i*P	P	14 18 47.0	-0.2

IDC 17 14:37:31.6±16.0**, 17.43S**×**179.32W, h641**km±168km**, mb2.9**/2**, mb1 3.1**/2**, mb1mx2.8**/11**, mbtmp4.1**/2**, Error ellipse: s-maj=135.0km s-min=92.5km az=101.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.10**	**240**	P	P	14 43 58.4	-1.5
	1.7nm,0.4s,baz=93,slow=12,SNR=10						
WRA	**Warramunga Arr**	**43.86**	**259**	P	P	14 44 44.0	-1.7
	0.9nm,0.5s,baz=95,slow=7.3,SNR=24						
WRA				PcP	PcP	14 46 15.2	-2.2
	0.3nm,0.4s,baz=89,slow=3.8,SNR=5.4						
GERES	**GERESS Array B**	**146.93**	**344**	PKPbc	PKPbc	14 56 03.3	+0.5
	0.5nm,0.5s,baz=27,slow=2.2,SNR=4.3						

*CASC **17** 14:48:08.0±2.1, 13.23N×91.96W, h35km±999km, MD4.3, mb4.0(NEIC)*

*NEIC **17** 14:48:16.6±1.6, 13.95N×91.54W, h49km±20km, mb4.0/9, Error ellipse: s-maj=20.8km s-min=9.8km az=209.0*

*IDC **17** 14:48:17.9±5.5, 14.06N×91.36W, h58km±70km, mb3.8/8, mb1 4.0/9, mb1mx3.7/22, mbtmp4.0/9, ML3.6/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/23, Error ellipse: s-maj=68.4km s-min=29.9km az=21.0*

ISC 17 14:48:06.4±1.7**, 13.3N**±0.1×**91.90W**±0.04**, h10**km±12km**, n45,** $\sigma 1^{s}14$/49**, mb4.1**/15**, MS3.6**/4**, 2C-6D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.53**	**42**	*e*P	**Pn**	**14 48 35.2**	**+1.3**
IXG	**Ixpaco**	**1.65**	**58**	*e*P	**Pn**	**14 48 37.0**	**+1.5**
RTR	**El Retiro**	**2.27**	**75**	⇓*e*P	**Pn**	**14 48 44.1**	**-0.3**
RTR				*e*S	**Sn**	**14 49 13.2**	**+0.6**
SBLS	**San Blas**	**2.27**	**76**	⇓*e*P	**Pn**	**14 48 44.0**	**-0.5**
SBLS				*e*S	**Sn**	**14 49 13.6**	**+0.8**
RBDL	**Robledal**	**2.29**	**69**	⇑*e*P	**Pn**	**14 48 44.3**	**-0.4**
RBDL				*e*S	**Sn**	**14 49 13.6**	**+0.3**
SNJE	**San Jose**	**2.30**	**76**	⇓*e*P	**Pn**	**14 48 44.5**	**-0.4**
SNJE				*e*S	**Sn**	**14 49 14.2**	**+0.8**
BOQS	**Boqueron**	**2.58**	**80**	*e*P	**Pn**	**14 48 48.7**	**-0.2**
MTO2	**Montecristo 2**	**2.69**	**66**	*e*P	**Pn**	**14 48 49.2**	**-1.2**
MRL	**Marmol**	**2.76**	**50**	⇑*e*P	**Pn**	**14 48 54.1**	**+2.6**
LFRS	**El Faro**	**2.78**	**83**	⇓*e*P	**Pn**	**14 48 51.8**	**+0.1**
LFRS				*e*S	**Sn**	**14 49 25.6**	**0.0**
LCBS	**La Ceiba**	**2.86**	**83**	⇓*e*P	**Pn**	**14 48 53.2**	**+0.3**
BLLM	**Bellamira**	**3.56**	**87**	*e*P	**Pn**	**14 49 02.5**	**-0.4**
BLLM				*e*S	**Sn**	**14 49 44.0**	**-1.5**
CNCH	**Conchagua**	**3.96**	**90**	⇓*e*P	**Pn**	**14 49 08.6**	**+0.1**
JTS	**JuntasAbangare**	**7.43**	**113**	P	**Pn**	**14 50 02.6**	**+5.1**
	1.0nm,0.3s,baz=306,slow=19,SNR=3.8						
JTS	**JuntasAbangare**	**7.43**	**113**	P	**Pn**	**14 50 02.1**	**+4.7**
LTX	**Lajitas**	**19.33**	**327**	*e*P	**P**	**14 52 34.9**	**+0.4**
	5.0nm,0.8s						
SDV	**Santo Domingo**	**21.32**	**100**	P	**P**	**14 52 55.7**	**0.0**
	2.0nm,0.5s,mb3.7,baz=313,slow=12,SNR=4.2						
SDV	**Santo Domingo**	**21.32**	**100**	P	**P**	**14 52 57.2**	**+1.5**
CLNB	**Carlsbad**	**21.83**	**332**	*e*P	**P**	**14 53 01.4**	**+0.7**
GDL2	**Guadalupe Moun**	**22.00**	**331**	*e*P	**P**	**14 53 02.6**	**+0.1**
MNTX	**Cornudas Mount**	**22.10**	**328**	*e*P	**P**	**14 53 02.9**	**-0.6**
	7.9nm,0.9s,mb4.1						
WMOK	**Wichita Mounta**	**22.23**	**345**	*e*P	**P**	**14 53 02.3**	**-2.5**
	4.3nm,0.9s,mb3.9						
CPRX	**Cap Rock**	**22.47**	**333**	*e*P	**P**	**14 53 06.5**	**-0.7**
SWET	**Sewanee**	**22.47**	**13**	*e*P	**P**	**14 53 05.4**	**-1.8**
MYNC	**Murphy**	**22.78**	**17**	*e*P	**P**	**14 53 09.3**	**-0.9**
	6.6nm,0.8s,mb4.1						
CCM	**Cathedral Cave**	**24.66**	**1**	*e*P	**P**	**14 53 25.8**	**-2.6**
	3.0nm,0.8s,mb3.9						
BNM	**Barren Site**	**24.69**	**330**	*e*P	**P**	**14 53 30.3**	**+1.5**
LAZ	**Ladron**	**25.14**	**329**	*e*P	**P**	**14 53 34.7**	**+1.6**
ANMO	**Albuquerque**	**25.25**	**331**	P	**P**	**14 53 35.1**	**+0.9**
	2.2nm,0.7s,mb3.8,baz=146,slow=10,SNR=10						
ANMO	**Albuquerque**	**25.25**	**331**	*e*P	**P**	**14 53 35.1**	**+0.9**
	2.2nm,0.7s,mb3.8						
WCI	**Wyandotte Cave**	**25.32**	**10**	*e*P	**P**	**14 53 32.2**	**-2.5**
	13nm,0.6s,mb4.6						
PV10	**Paradox Valley**	**29.24**	**332**	*e*P	**P**	**14 54 10.6**	**0.0**
ARUT	**Antelope Range**	**31.02**	**326**	*e*P	**P**	**14 54 28.1**	**+1.7**
PDAR	**Pinedale Array**	**33.09**	**336**	P	**P**	**14 54 43.8**	**-0.7**
	0.3nm,0.7s,mb3.4,baz=146,slow=5.3,SNR=4.0						
SADO	**Sadowa**	**33.19**	**17**	P	**P**	**14 54 41.8**	**-3.5**
	3.0nm,0.5s,mb4.5,baz=206,slow=5.7,SNR=4.9						
SADO				LR	LR	15 09 10.1	
	comp=Z,111nm,19.0s,MS3.6,baz=190,slow=39						
ELK	**Elko**	**34.12**	**328**	P	**P**	**14 54 54.8**	**+1.3**
	1.0nm,0.7s,mb3.9,baz=146,slow=6.9,SNR=4.3						
HLID	**Hailey**	**35.83**	**332**	*e*P	**P**	**14 55 08.4**	**+0.4**
	8.0nm,1.6s,mb4.4						
MCMT	**McKenzie Canyo**	**36.14**	**334**	*e*P	**P**	**14 55 11.9**	**+1.3**
BOZ	**Bozeman (W)**	**36.31**	**336**	P	**P**	**14 55 12.0**	**0.0**
	0.8nm,0.7s,mb3.8						
LPAZ	**La Paz**	**37.64**	**141**	LR	LR	15 10 54.1	
	comp=Z,34nm,21.2s,MS3.1,baz=96,slow=36						
NEW	**Newport**	**40.66**	**334**	LR	LR	15 15 57.8	
	comp=Z,61nm,19.1s,MS3.5,baz=326,slow=41						
SCHQ	**Schefferville**	**45.83**	**20**	P	**P**	**14 56 27.2**	**-3.0**
	6.8nm,0.7s,mb4.7,baz=216,slow=7.8,SNR=14						
SCHQ				LR	LR	15 16 32.5	
	comp=Z,179nm,18.4s,MS4.0,baz=242,slow=38						
YKA	**Yellowknife Ar**	**51.72**	**347**	P	**P**	**14 57 14.2**	**-1.4**
	2.9nm,0.6s,mb4.4,baz=148,slow=7.6,SNR=18						
YKA	**Yellowknife Ar**	**51.72**	**347**	P	**P**	**14 57 14.2**	**-1.4**
ILAR	**Eielson Array**	**63.51**	**337**	P	**P**	**14 58 39.0**	**+0.3**
	0.9nm,0.6s,mb4.0,baz=96,slow=6.5,SNR=14						

*PRE **17** 14:50:00.2±1.4, 26.40S×27.46E, h2km, ML3.7*

*NEIC **17** 14:50:01.6±0.9, 26.39S×27.49E, h5km, mb3.5/2, Error ellipse: s-maj=18.8km s-min=9.5km az=101.0*

*IDC **17** 14:50:01.5±1.7, 26.47S×27.38E, mb3.9/2, mb1 4.1/6, mb1mx3.7/23, mbtmp4.0/6, ML3.3/4, Error ellipse: s-maj=21.8km s-min=14.3km az=96.0*

ISC 17 14:50:00.1±0.9**, 26.37S**±0.03×**27.39E**±0.04**, h9**km±6km**, n28,** $\sigma 1^{s}26$/46**, mb3.6**/4**, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.56**	**183**	*e*P	**Pg**	**14 50 11.1**	**-0.2**
PRYS				*e*S	**Sg**	**14 50 18.1**	**-0.7**
PRYS				AML	AML	14 50 21.1	
	comp=Z,808nm,0.2s						
KSR	**Koster**	**0.68**	**319**	*e*P	**Pb**	**14 49 54.8**	**-19**
KSR				*e*S	**Sb**	**14 50 04.9**	**-18**
KSR				AML	AML	14 50 13.0	
	comp=Z,1μm,0.2s						
SLR	**Silverton**	**1.02**	**52**	*e*P	**Pb**	**14 50 20.1**	**+0.6**
SLR				*e*S	**Sb**	**14 50 33.7**	**+1.0**
SLR				AML	AML	14 50 38.5	
	comp=Z,537nm,0.3s						
SEK	**Senekal**	**1.96**	**174**	*e*P	**Pn**	**14 50 35.0**	**+1.2**
SEK				*e*S	**Sn**	**14 50 59.2**	**+0.4**
SEK				AML	AML	14 51 03.0	
	comp=Z,689nm,0.3s						
SWZ	**Schweizer**	**2.01**	**246**	*e*P	**Pn**	**14 50 36.8**	**+2.2**
SWZ				*e*S	**Sn**	**14 51 03.4**	**+3.3**
SWZ				AML	AML	14 51 07.1	
	comp=Z,2μm,0.2s						
LBTB	**Lobatse**	**2.10**	**309**	Pn	**Pn**	**14 50 40.0**	**+4.0**
	comp=Z,51nm,0.3s,baz=141,slow=16,SNR=581						
LBTB				Pg	**Pg**	**14 50 41.3**	**-0.8**
	comp=Z,51nm,0.3s,baz=142,slow=17,SNR=587						
LBTB				Lg		14 51 09.6	
	comp=Z,111nm,0.3s,baz=222,slow=22,SNR=45						
LBTB	**Lobatse**	**2.10**	**309**	*e*Pn	**Pn**	**14 50 39.6**	**+3.6**
LBTB				*e*P		14 50 41.1	
LBTB				Pg	**Pg**	**14 50 41.3**	**-0.8**
LBTB				*e*S	**Sn**	**14 51 08.8**	**+6.4**
LBTB				Lg		14 51 09.6	
BFT	**Belfast (SA)**	**2.48**	**75**	*e*S	**Sn**	**14 51 11.8**	**-0.3**
NWL	**Newcastle**	**2.65**	**121**	*e*P	**Pn**	**14 50 43.1**	**-0.7**
NWL				*e*S	**Sn**	**14 51 15.3**	**-1.1**
NWL				AML	AML	14 51 22.3	
	comp=Z,446nm,0.5s						
BOSA	**Boshof**	**2.93**	**220**	Pn	**Pn**	**14 50 49.1**	**+1.4**
	comp=Z,5.0nm,0.3s,baz=45,slow=13,SNR=124						
BOSA				Sn	**Sn**	**14 51 23.8**	**+0.4**
	comp=Z,7.6nm,0.3s,baz=101,slow=21,SNR=8.3						
BOSA				Lg		14 51 31.5	
	comp=Z,30nm,0.3s,baz=325,slow=17,SNR=13						
BOSA	**Boshof**	**2.93**	**220**	*e*P	**Pn**	**14 50 49.0**	**+1.3**
BOSA				*e*S	**Sn**	**14 51 24.3**	**+0.8**
BOSA	**Boshof**	**2.93**	**220**	*e*Pn	**Pn**	**14 50 49.1**	**+1.3**
BOSA				Sn	**Sn**	**14 51 23.8**	**+0.4**
BOSA				*e*S	**Sn**	**14 51 30.9**	**+7.5**
BOSA				Lg		14 51 31.5	
POGA	**Pongola**	**3.90**	**106**	*e*P	**Pn**	**14 51 01.6**	**+0.1**
KSD	**Kokstad**	**4.52**	**157**	*e*P	**Pn**	**14 50 50.5**	**-20**
MSNA	**Messina**	**4.67**	**32**	*e*S	**Sn**	**14 52 04.5**	**-3.0**
MSNA				AML	AML	14 52 31.9	
	comp=Z,48nm,0.4s						
PKA	**Prieska**	**5.25**	**230**	*e*S	**Sn**	**14 52 19.8**	**-2.3**
PKA				AML	AML	14 52 28.8	
	comp=Z,67nm,0.3s						
UPI	**Upington**	**5.81**	**249**	*e*P	**Pn**	**14 51 28.5**	**0.0**
UPI				*e*S	**Sn**	**14 52 32.9**	**-3.1**
UPI				AML	AML	14 53 08.2	
	comp=Z,53nm,0.4s						
SUR	**Sutherland**	**8.29**	**222**	Pn	**P**	**14 52 03.1**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=56,slow=14,SNR=16						
SUR				Sn	**Sn**	**14 53 31.7**	**-6.5**
	comp=Z,2.1nm,0.3s,baz=141,slow=22,SNR=6.5						
SUR				Lg		14 54 21.4	
	comp=Z,3.9nm,0.3s,baz=130,slow=22,SNR=7.1						
SUR	**Sutherland**	**8.29**	**222**	*e*P	**P**	**14 52 03.2**	**-0.1**
SUR				*e*Sn	**Sn**	**14 53 27.9**	**-10**
SUR				*e*Sg	**Sg**	**14 54 17.5**	**-19**
SUR				Lg		14 54 21.4	
CVNA	**Calvinia**	**8.40**	**231**	*e*S	**Sn**	**14 53 34.7**	**-6.2**
CVNA				AML	AML	14 53 39.9	
	comp=Z,10nm,0.3s						
LSZ	**Lusaka**	**11.06**	**4**	*e*P	**P**	**14 52 39.6**	**-2.0**
	comp=Z,3.2nm,0.6s						
LSZ				*e*S	**S**	**14 54 35.3**	**-11**
TSUM	**Tsumeb**	**11.51**	**306**	Pn	**P**	**14 52 47.7**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=116,slow=9.9,SNR=25						
TSUM				Lg		14 56 03.9	
	comp=Z,0.6nm,0.3s,baz=48,slow=21,SNR=4.4						
TSUM	**Tsumeb**	**11.51**	**306**	*e*P	**P**	**14 52 47.4**	**-0.4**
TSUM				Lg		14 56 03.9	
SNAA	**Sanae**	**48.37**	**192**	P	**P**	**14 58 43.9**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.8						
ESDC	**Sonseca Array**	**71.92**	**335**	P	**P**	**15 01 26.7**	**+1.1**
	comp=Z,0.2nm,0.4s,mb3.4,baz=155,slow=6.2,SNR=4.6						
ESLA	**Sonseca Array**	**71.92**	**335**	*e*P	**P**	**15 01 26.8**	**+1.1**
	comp=Z,0.1nm,0.4s,mb3.1						
FINES	**FINESS Array B**	**87.50**	**359**	P	**P**	**15 02 50.7**	**+1.8**
	comp=Z,1.6nm,1.0s,mb4.2,baz=180,slow=5.7,SNR=3.9						
FINES	**FINESS Array B**	**87.50**	**359**	P	**P**	**15 02 50.7**	**+1.8**

*IDC **17** 14:54:08.9±1.4, 6.10N×92.69E, mb3.9/8, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, MS3.3/1, Ms1 3.3/1, ms1mx2.9/16, Error ellipse: s-maj=60.5km s-min=25.9km az=54.0*

*NEIC **17** 14:54:14.9±1.1, 6.22N×92.86E, h38km±12km, mb3.8/2, Error ellipse: s-maj=19.2km s-min=9.4km az=198.0*

ISC 17 14:54:07.9±5.0**, 6.3N**±0.1×**92.9E**±0.1**, h1**km±33km**, n18,** $\sigma 0^{s}71$/17**, mb3.9**/10**, MS3.3**/1**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.83**	**97**	*e*Pn	**Pn**	**14 56 06.0**	**+0.3**
PALK	**Pallekele**	**12.10**	**275**	*e*P	**P**	**14 57 05.3**	**+0.8**
CHG	**Chiang Mai**	**13.79**	**25**	P	**P**	**14 57 32.6**	**+5.4**
NANT	**Nan**	**14.60**	**31**	P	**P**	**14 57 47.0**	**+9.2**
VIS	**Vishakhapatnam**	**14.68**	**322**	*i* P	**P**	**14 57 37.7**	**-1.1**
VIS				*i* S	**S**	**15 00 09.7**	**-14**
SHL	**Shillong**	**19.19**	**357**	*e*P	**P**	**14 58 35.2**	**-0.5**
MKAR	**Makanchi Array**	**41.36**	**349**	P	**P**	**15 01 57.7**	**+0.6**
	0.7nm,0.5s,mb3.6,baz=172,slow=8.8,SNR=6.9						
SONM	**Songino Array**	**42.98**	**13**	P	**P**	**15 02 11.5**	**+1.1**
	1.2nm,0.7s,mb3.7,baz=197,slow=9.0,SNR=4.9						
KURK	**Kurchatov**	**45.84**	**347**	P	**P**	**15 02 33.1**	**-0.2**
	0.6nm,0.6s,mb3.8						
ZAL	**Zalesovo**	**47.95**	**354**	P	**P**	**15 02 51.0**	**+1.0**
	1.6nm,0.6s,mb4.3,baz=297,slow=7.4,SNR=10						
WRA	**Warramunga Arr**	**48.43**	**124**	P	**P**	**15 02 53.2**	**-0.9**
	1.3nm,0.8s,mb4.1,baz=302,slow=9.0,SNR=7.5						
BVAR	**Borovoye Array**	**50.08**	**342**	P	**P**	**15 03 06.3**	**-0.1**
	0.4nm,0.5s,mb3.6,baz=153,slow=9.9,SNR=5.7						
ZRNK	**Zerenda**	**50.44**	**342**	*e*P	**P**	**15 03 09.0**	**-0.1**
	0.7nm,0.5s,mb3.9						
KMBO	**Kilima Mbogo**	**55.98**	**264**	LR	LR	15 26 10.3	
	comp=Z,24nm,18.2s,MS3.3,baz=93,slow=34						
FINES	**FINESS Array B**	**73.51**	**333**	P	**P**	**15 05 42.8**	**-1.2**
	0.6nm,0.8s,mb3.7,baz=101,slow=9.7,SNR=4.3						
ARCES	**ARCESS Array B**	**76.31**	**340**	P	**P**	**15 05 60.0**	**0.0**
	1.2nm,0.8s,mb4.0,baz=112,slow=4.9,SNR=3.4						
GERES	**GERESS Array B**	**78.14**	**318**	P	**P**	**15 06 10.9**	**+0.4**
	0.7nm,0.7s,mb3.9,baz=90,slow=5.3,SNR=9.5						
PDAR	**Pinedale Array**	**127.09**	**21**	PKP	PKPdf	15 13 16.6	+0.4
	0.5nm,0.7s,baz=315,slow=2.1,SNR=4.6						

*NEIC **17** 15:05:49.5, 38.85S×175.85E, h109km, MG4.1(WEL), After WEL.*

WEL 17 15:05:49.5±0.1**, 38.85S**×**175.86E, h108**km±1km**, ML4.2**/20**, 18C-3D, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.07**	**253**	⇑PN	P	15 06 04.2	-0.4
RATZ				SN	S	15 06 16.0	+0.2
RITZ	**Rihia Road**	**0.13**	**181**	P	P	15 06 04.6	0.0
RITZ	**Rihia Road**	**0.13**	**181**	⇑PN	P	15 06 04.6	0.0
RITZ				SN	S	15 06 16.7	+0.7
WATZ	**Wairara**	**0.17**	**324**	P	P	15 06 04.5	-0.2
WATZ				S	S	15 06 15.9	-0.3
WATZ	**Wairara**	**0.17**	**324**	⇑PN	P	15 06 04.5	-0.2
WATZ				SN	S	15 06 15.8	-0.3
KATZ	**Kakaramea**	**0.18**	**225**	PN	P	15 06 04.5	-0.3
HATZ	**Hinemaiaia**	**0.19**	**104**	P	P	15 06 04.6	-0.2
HATZ				S	S	15 06 15.8	-0.5
HATZ	**Hinemaiaia**	**0.19**	**104**	⇑PN	P	15 06 04.6	-0.2
HATZ				SN	S	15 06 15.7	-0.6
WHTZ	**Whakaora**	**0.19**	**23**	P	P	15 06 05.1	+0.3
WHTZ	**Whakaora**	**0.19**	**23**	PN	P	15 06 05.0	+0.2
WTVZ	**West Tongariro**	**0.34**	**218**	P	P	15 06 05.1	-0.3
WTVZ	**West Tongariro**	**0.34**	**218**	PN	P	15 06 05.1	-0.3
WTVZ				SN	S	15 06 17.2	-0.2
OTVZ	**Oturere**	**0.35**	**206**	⇑PN	P	15 06 05.3	-0.2
OTVZ				SN	S	15 06 17.6	+0.2
NGZ	**Ngauruhoe**	**0.39**	**212**	PN	P	15 06 05.3	-0.3
TWVZ	**Taurewa**	**0.40**	**236**	P	P	15 06 05.4	-0.3
TWVZ	**Taurewa**	**0.40**	**236**	⇑PN	P	15 06 05.4	-0.3
CNZ	**Chateau**	**0.43**	**215**	P	P	15 06 05.5	-0.4
CNZ	**Chateau**	**0.43**	**215**	PN	P	15 06 05.4	-0.5
WPVZ	**Whakapapa**	**0.43**	**214**	P	P	15 06 05.5	-0.4
WPVZ	**Whakapapa**	**0.43**	**214**	PN	P	15 06 05.5	-0.4
TUVZ	**Tukino**	**0.45**	**201**	⇑PN	P	15 06 06.0	0.0
TUVZ				SN	S	15 06 18.6	+0.2
FWVZ	**Far West T-bar**	**0.47**	**210**	P	P	15 06 05.9	-0.2
FWVZ	**Far West T-bar**	**0.47**	**210**	PN	P	15 06 05.9	-0.3
FWVZ				SN	S	15 06 18.5	-0.1
DRZ	**Dome Shelter**	**0.49**	**208**	P	P	15 06 04.9	-1.3
DRZ	**Dome Shelter**	**0.49**	**208**	PN	P	15 06 06.4	+0.1
TRVZ	**Turoa**	**0.51**	**208**	PN	P	15 06 06.4	0.0
WNVZ	**Wahianoa**	**0.52**	**203**	P	P	15 06 06.5	0.0
WNVZ	**Wahianoa**	**0.52**	**203**	⇑PN	P	15 06 06.5	+0.1
WNVZ				SN	S	15 06 19.2	-0.1
PATZ	**Paeroa**	**0.56**	**34**	P	P	15 06 06.9	+0.2
PATZ	**Paeroa**	**0.56**	**34**	PN	P	15 06 06.9	+0.2
MOVZ	**Moawhango**	**0.57**	**189**	P	P	15 06 06.5	-0.3
MOVZ	**Moawhango**	**0.57**	**189**	⇑PN	P	15 06 06.5	-0.2
MOVZ				SN	S	15 06 18.7	-1.1
BKZ	**Black Stump Fm**	**0.59**	**123**	P	P	15 06 07.0	+0.1
BKZ	**Black Stump Fm**	**0.59**	**123**	⇓PN	P	15 06 07.0	+0.1
BKZ				SN	S	15 06 19.6	-0.5
PKVZ	**Pokaka**	**0.60**	**222**	⇑PN	P	15 06 06.8	-0.2
PKVZ				SN	S	15 06 20.2	-0.1
MTVZ	**Mangateitei**	**0.62**	**209**	⇑PN	P	15 06 07.0	-0.2
UTU	**Utuhina**	**0.72**	**21**	P	P	15 06 08.1	+0.1
UTU	**Utuhina**	**0.72**	**21**	⇓PN	P	15 06 08.1	+0.1
TAZ	**Tarawera**	**0.80**	**40**	P	P	15 06 08.9	+0.1
TAZ	**Tarawera**	**0.80**	**40**	⇑PN	P	15 06 08.8	+0.1
HIZ	**Hauiti**	**0.85**	**293**	P	P	15 06 08.6	-0.8
HIZ	**Hauiti**	**0.85**	**293**	⇑PN	P	15 06 08.6	-0.8
HIZ				SN	S	15 06 23.1	-1.1
VRZ	**Vera Road**	**0.90**	**252**	P	P	15 06 09.2	-0.7
VRZ	**Vera Road**	**0.90**	**252**	⇑PN	P	15 06 09.2	-0.6
LIRZ	**Lichensteins R**	**0.94**	**26**	P	P	15 06 09.9	-0.3
LIRZ	**Lichensteins R**	**0.94**	**26**	PN	P	15 06 09.9	-0.2
EDRZ	**Edgecumbe**	**1.01**	**43**	PN	P	15 06 10.5	-0.4
MARZ	**Manawahe**	**1.07**	**37**	P	P	15 06 11.4	-0.2
MARZ	**Manawahe**	**1.07**	**37**	PN	P	15 06 11.3	-0.3
WAZ	**Wanganui**	**1.13**	**217**	P	P	15 06 12.0	-0.4
WAZ	**Wanganui**	**1.13**	**217**	⇑PN	P	15 06 12.0	-0.4
WAZ				SN	S	15 06 29.1	-0.4
WAZ				SN	S	15 06 29.1	-0.4
URZ	**Urewera**	**1.14**	**59**	P	P	15 06 11.7	-0.7
URZ	**Urewera**	**1.14**	**59**	⇓PN	P	15 06 11.7	-0.8
URZ				SN	S	15 06 28.5	-1.2
TGRZ	**Tauranga**	**1.16**	**16**	P	P	15 06 12.3	-0.3
TGRZ	**Tauranga**	**1.16**	**16**	PN	P	15 06 12.3	-0.4
TGRZ				SN	S	15 06 30.1	0.0
TSZ	**Takapari Road**	**1.21**	**176**	P	P	15 06 12.8	-0.5
TSZ	**Takapari Road**	**1.21**	**176**	PN	P	15 06 12.8	-0.4
RAEZ	**Rainy Point**	**1.23**	**248**	P	P	15 06 13.1	-0.3
RAEZ	**Rainy Point**	**1.23**	**248**	PN	P	15 06 13.1	-0.3
MWZ	**Matawai**	**1.40**	**69**	*e*P	P	15 06 14.9	-0.6
MWZ	**Matawai**	**1.40**	**69**	PN	P	15 06 14.8	-0.6
MWZ				SN	S	15 06 34.0	-1.0
PWZ	**Pawanui**	**1.41**	**147**	*e*P	P	15 06 15.4	-0.2
PWZ	**Pawanui**	**1.41**	**147**	PN	P	15 06 15.4	-0.2
KNZ	**Kokohu**	**1.42**	**98**	*e*P	P	15 06 15.7	0.0
KNZ	**Kokohu**	**1.42**	**98**	PN	P	15 06 15.7	-0.1
KNZ				*e*SN	S	15 06 34.3	-1.1
NEZ	**North Egmont**	**1.44**	**252**	P	P	15 06 15.6	-0.3
NEZ	**North Egmont**	**1.44**	**252**	PN	P	15 06 15.6	-0.3
PKE	**Pukeiti**	**1.50**	**256**	P	P	15 06 15.7	-1.0
PKE	**Pukeiti**	**1.50**	**256**	PN	P	15 06 15.9	-0.7
PKE				*e*SN	S	15 06 36.7	-0.3
NRZ	**Ngariki Road**	**1.58**	**251**	P	P	15 06 17.0	-0.6
NRZ	**Ngariki Road**	**1.58**	**251**	*e*PN	P	15 06 16.9	-0.7
MRZ	**Mangatainoka R**	**1.83**	**187**	P	P	15 06 19.1	-1.5
MRZ	**Mangatainoka R**	**1.83**	**187**	⇑PN	P	15 06 19.1	-1.6
MRZ				SN	S	15 06 40.7	-3.3
BFZ	**Birch Farm**	**1.86**	**171**	*e*P	P	15 06 19.9	-1.1
BFZ	**Birch Farm**	**1.86**	**171**	⇑PN	P	15 06 19.9	-1.2
BFZ				SN	S	15 06 40.7	-4.0
PUZ	**Puketiti**	**2.03**	**68**	P	P	15 06 22.6	-0.7
PUZ	**Puketiti**	**2.03**	**68**	PN	P	15 06 22.6	-0.7
PUZ				SN	S	15 06 47.0	-1.6
KIW	**Kapiti Island**	**2.14**	**200**	P	P	15 06 22.5	-2.3
KIW	**Kapiti Island**	**2.14**	**200**	⇑PN	P	15 06 22.5	-2.3
KIW				SN	S	15 06 47.1	-4.1
MXZ	**Matakaoa Point**	**2.31**	**57**	P	P	15 06 26.7	-0.4
MXZ	**Matakaoa Point**	**2.31**	**57**	PN	P	15 06 26.7	-0.4
MTW	**Mount Morrison**	**2.33**	**187**	P	P	15 06 24.7	-2.6
CAW	**Cannon Point**	**2.34**	**195**	P	P	15 06 24.9	-2.6
MRW	**Makara Radio**	**2.54**	**200**	P	P	15 06 27.1	-3.1
WEL	**Wellington**	**2.58**	**199**	P	P	15 06 27.5	-3.2
MSWZ	**Moikau Station**	**2.61**	**190**	P	P	15 06 28.0	-3.1
SNZO	**South Karori**	**2.62**	**199**	P	P	15 06 27.9	-3.3
TCW	**Tory Channel**	**2.66**	**207**	P	P	15 06 28.5	-3.3
BHW	**Baring Head**	**2.67**	**196**	P	P	15 06 28.6	-3.3
NNZ	**Nelson**	**3.04**	**218**	*e*P	P	15 06 33.3	-3.6
BSWZ	**Blackbirch Sta**	**3.24**	**207**	P	P	15 06 35.7	-4.0
THZ	**Tophouse**	**3.69**	**217**	*e*P	P	15 06 41.5	-4.2
KHZ	**Kahutara**	**3.98**	**206**	*e*P	P	15 06 45.1	-4.6
DSZ	**Denniston Nort**	**4.25**	**226**	*e*P	P	15 06 48.5	-4.8
LTZ	**Lake Taylor**	**4.78**	**214**	*e*P	P	15 06 54.7	-5.9
MQZ	**McQueen's Vall**	**5.42**	**205**	P	P	15 07 02.2	-7.1
RPZ	**Rata Peaks**	**6.06**	**215**	*e*P	P	15 07 12.4	-5.6
ODZ	**Otahua Downs**	**7.31**	**210**	*e*P	P	15 07 28.4	-6.7
WKZ	**Wanaka**	**7.86**	**218**	*e*P	S	15 08 53.9	-17

IDC 17 15:32:54.4±2.1**, 9.73S**×**120.12E, mb4.1**/2**, mb1 4.0**/3**, mb1mx3.6**/13**, mbtmp3.9**/3**, ML3.6**/1**, Error ellipse: s-maj=228.3km s-min=26.3km az=53.0, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.89**	**148**	eP	P	15 35 27.3	+6.3
	2.7nm,0.8s						
FITZ				eS	Sn	15 37 06.7	-7.3
WRA	**Warramunga Arr**	**17.07**	**128**	P	P	15 36 54.1	-2.1
	0.2nm,0.3s,baz=302,slow=14,SNR=12						
WB2	**Warramunga Arr**	**17.08**	**128**	eP	P	15 36 54.2	-2.1
WB2				eS	S	15 39 44.4	-22
STKA	**Stephens Creek**	**29.69**	**141**	P	P	15 39 02.3	-2.0
	2.1nm,1.0s,baz=311,slow=11,SNR=6.7						
MKAR	**Makanchi Array**	**65.61**	**332**	P	P	15 43 40.2	-2.2
	1.2nm,0.6s,baz=138,slow=7.8,SNR=14						

IDC 17 16:57:53.4±7.6**, 1.85N**×**98.20E, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.6**/17**, mbtmp3.9**/3**, Error ellipse: s-maj=366.6km s-min=28.4km az=54.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**24.35**	**346**	eP	P	17 03 09.2	-5.1
WRA	**Warramunga Arr**	**41.54**	**123**	P	P	17 05 42.9	-1.7
	0.5nm,0.6s,baz=301,slow=9.0,SNR=6.5						
MKAR	**Makanchi Array**	**46.86**	**345**	P	P	17 06 24.9	-2.2
	0.8nm,0.5s,baz=160,slow=8.8,SNR=21						
ZAL	**Zalesovo**	**53.08**	**350**	P	P	17 07 12.7	-2.0
	1.3nm,0.3s,baz=288,slow=1.0,SNR=5.5						

*JMA **17** 17:06:44.3, 39.78N×142.45E, h44km±1km, M3.5 Broadband fault plane solution: P waves. NP1:φs344°, δ29°, λ136°. NP2:φs115°, δ70°, λ68°. Principal axes: T Plg59°, Azm354°; N Plg20°, Azm122°; P Plg22°, Azm221°;*
ISC 17 17:06:44.1±1.5**, 39.78N**±0.04×**142.5E**±0.1**, h43**km±23km**, n10, σ0.24**/19**, 3C-5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.49**	**290**	⇑P	**P**	**17 06 55.1**	**+0.3**
JTH				S	**S**	**17 07 02.6**	**+0.2**
MIYJ	**Miyakonagasawa**	**0.53**	**248**	P	**P**	**17 06 55.4**	**0.0**
MIYJ				eS	**S**	**17 07 03.4**	**-0.1**
JKZ	**Kuzumaki**	**0.90**	**284**	⇓P	**P**	**17 07 00.6**	**+0.2**
JKZ				S	**S**	**17 07 12.3**	**-0.1**
OFUJ	**Ofunato**	**0.93**	**222**	⇓P	**P**	**17 07 00.9**	**+0.1**
OFUJ				eS	**S**	**17 07 12.8**	**-0.4**
JANG	**Nango**	**0.94**	**310**	⇑P	**P**	**17 07 00.7**	**-0.4**
JANG				eS	**S**	**17 07 13.0**	**-0.6**
JOM	**Ohasama**	**0.95**	**252**	⇓P	**P**	**17 07 01.4**	**+0.2**
JOM				S	**S**	**17 07 14.0**	**+0.2**
JMK	**Ichinoseki**	**1.27**	**230**	⇓P	**P**	**17 07 05.8**	**+0.1**
JMK				eS	**S**	**17 07 21.6**	**-0.2**
JAH	**Hinai**	**1.46**	**287**	⇓P	**P**	**17 07 08.7**	**+0.1**
JAH				eS	**S**	**17 07 27.1**	**+0.4**
JTM	**Tenmabayashi**	**1.47**	**314**	⇑P	**P**	**17 07 08.5**	**-0.1**
JTM				eS	**S**	**17 07 26.9**	**0.0**
MAT	**Matsushiro**	**4.65**	**227**	P	**P**	**17 07 53.9**	**+0.1**

*CSEM **17** 17:31:01.3, 23.03S×177.76W, h33km, mb5.6*
*BJI **17** 17:32:02.0, 22.52S×179.58W, h568km, mB4.8, mb4.4*
*NEIC **17** 17:32:03.3±0.7, 22.40S×179.59W, h566km±9km, mb4.5/22, Error ellipse: s-maj=9.5km s-min=6.9km az=147.0*
*IDC **17** 17:32:04.5±1.3, 22.47S×179.68W, h578km±14km, mb3.9/7, mb1 4.0/8, mb1mx3.9/12, mbtmp4.8/8, Error ellipse: s-maj=17.2km s-min=14.9km az=179.0*
ISC 17 17:32:02.9±0.9**, 22.46S**±0.08×**179.64W**±0.07**, h571**km±12km**, n85, σ0.92**/55**, mb4.3**/29**, 9D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.94**	**167**	P	**P**	**17 33 52.4**	**+0.7**
	209nm,0.3s,baz=309,slow=4.2,SNR=11						
RAO				S	**S**	**17 35 20.9**	**+2.5**
	64nm,0.3s,baz=75,slow=20,SNR=3.7						
RAO	**Raoul Island**	**6.94**	**167**	eP	**P**	**17 33 52.1**	**+0.3**
RAO				S	**S**	**17 35 14.0**	**-4.4**
AFI	**Afiamalu**	**11.31**	**43**	P	**P**	**17 34 33.6**	**-1.3**
	3.1nm,0.3s,baz=94,slow=20,SNR=6.3						
AFI				S	**S**	**17 36 31.2**	**-5.6**
	4.9nm,0.3s,baz=72,slow=18,SNR=5.8						
AFI	**Afiamalu**	**11.31**	**43**	eP	**P**	**17 34 32.9**	**-1.9**
DZM	**Mont Dzumac**	**12.89**	**269**	P	**P**	**17 34 55.4**	**+4.7**
	1.8nm,0.3s,baz=79,slow=15,SNR=22						
URZ	**Urewera**	**16.00**	**189**	P	**P**	**17 35 20.1**	**-1.0**
	3.3nm,0.3s,baz=316,slow=2.6,SNR=14						
URZ				S	**S**	**17 37 57.1**	**-3.9**
	1.4nm,0.3s,baz=170,slow=19,SNR=7.8						
SNZO	**South Karori**	**19.39**	**193**	eP	**P**	**17 35 53.0**	**-0.3**
CNB	**Canberra Magne**	**29.88**	**238**	⇓iP	**P**	**17 37 27.8**	**+1.3**
	38nm,0.6s,mb5.1						
CTA	**Charters Tower**	**31.83**	**268**	⇓iP	**P**	**17 37 44.0**	**+0.8**
	18nm,0.4s,mb4.9						
CTAO	**Charters Tower**	**31.83**	**268**	eP	**P**	**17 37 44.0**	**+0.8**
	31nm,0.6s,mb5.0						
TOO	**Toolangi**	**33.52**	**235**	eP	**P**	**17 37 58.2**	**+1.0**
	19nm,0.6s,mb4.8						
PMG	**Port Moresby**	**34.37**	**287**	P	**P**	**17 38 05.1**	**+0.7**
	66nm,0.8s,mb5.2,baz=37,slow=3.0,SNR=3.1						
PMG	**Port Moresby**	**34.37**	**287**	eP	**P**	**17 38 05.2**	**+0.7**
	75nm,0.8s,mb5.3						
STKA	**Stephens Creek**	**35.59**	**246**	⇓iP	**P**	**17 38 15.4**	**+1.0**
	15nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**35.59**	**246**	P	**P**	**17 38 15.4**	**+1.0**
	22nm,0.6s,mb4.9,baz=92,slow=9.5,SNR=115						
STKA				ScP		17 43 19.8	
	1.8nm,0.7s,baz=209,slow=1.6,SNR=3.5						
WB2	**Warramunga Arr**	**42.84**	**264**	⇓iP	**P**	**17 39 12.5**	**-0.6**
WB2				eS	**S**	**17 44 52.8**	**-4.6**
WRAB	**Tennant Creek**	**42.85**	**264**	eP	**P**	**17 39 12.4**	**-0.7**
	57nm,0.8s,mb5.2						
WRA	**Warramunga Arr**	**42.86**	**264**	P	**P**	**17 39 12.6**	**-0.6**
	42nm,0.7s,mb5.0,baz=101,slow=8.5,SNR=248						
WRA				ScP		17 43 49.1	
	4.6nm,0.9s,baz=100,slow=4.1,SNR=11						
WRA				S	**S**	**17 44 52.9**	**-4.7**
	1.8nm,1.0s,baz=100,slow=15,SNR=5.8						
KAKA	**Kakadu**	**46.53**	**274**	⇓iP	**P**	**17 39 40.8**	**-0.8**
	37nm,0.4s,mb5.3						
FITZ	**Fitzroy Crossi**	**51.29**	**264**	⇓iP	**P**	**17 40 16.4**	**-0.5**
	29nm,0.8s,mb4.7						
SBA	**Scott Base**	**55.83**	**183**	eP	**P**	**17 40 49.8**	**+1.6**
	3.7nm,0.9s,mb3.6						
VNDA	**Vanda**	**55.84**	**185**	eP	**P**	**17 40 47.0**	**-1.3**
	4.3nm,0.8s,mb3.7						
KLBR	**Kellerberrin**	**55.86**	**246**	eP	**P**	**17 40 47.9**	**-1.1**
	22nm,0.9s,mb4.4						
MUN	**Mundaring**	**57.12**	**246**	eP	**P**	**17 40 56.9**	**-0.7**
	8.7nm,0.7s,mb4.1						
CASY	**Casey**	**61.55**	**206**	eP	**P**	**17 41 25.9**	**-0.7**
	6.8nm,0.8s,mb4.1						
MJAR	**Matsushiro Arr**	**70.91**	**325**	P	**P**	**17 42 24.0**	**-0.6**
	6.3nm,0.8s,mb4.2,baz=164,slow=6.5,SNR=24						
MAJO	**Matsushiro**	**70.91**	**325**	eP	**P**	**17 42 23.6**	**-0.9**
	4.6nm,0.8s,mb4.1						
MAT	**Matsushiro**	**70.91**	**325**	eP	**P**	**17 42 24.0**	**-0.6**
	9.2nm,0.9s,mb4.3						
MAT	**Matsushiro**	**70.91**	**325**	P	**P**	**17 42 23.5**	**-1.1**
MAW	**Mawson**	**79.21**	**200**	P	**P**	**17 43 10.7**	**+0.8**
	2.7nm,0.6s,mb3.8,baz=130,slow=8.0,SNR=8.7						
MAW	**Mawson**	**79.21**	**200**	eP	**P**	**17 43 10.3**	**+0.4**
	6.1nm,1.0s,mb3.9						
SAO	**San Andreas Ge**	**80.49**	**44**	P	**P**	**17 43 17.6**	**+0.5**
	6.6nm,0.5s,mb4.2						
MDJ	**Mudanjiang**	**81.26**	**326**	P	**P**	**17 43 21.8**	**+0.9**
MDJ				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,145nm,7.5s						
CMB	**Columbia Colle**	**81.93**	**43**	eP	**P**	**17 43 24.3**	**-0.1**
	comp=Z,7.4nm,1.0s,mb4.1						
CN2	**Changchun**	**82.93**	**323**	eP	**P**	**17 43 30.0**	**+0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.2						
SYO	**Syowa Base**	**84.49**	**193**	⇓P	**P**	**17 43 34.5**	**-1.9**
SNAA	**Sanae**	**86.10**	**179**	P	**P**	**17 43 43.3**	**-0.9**
	comp=Z,0.3nm,0.5s,mb3.2,baz=196,slow=15,SNR=7.5						
MSU	**Marysvale**	**87.56**	**46**	eP	**P**	**17 43 52.1**	**+0.3**
NANT	**Nan**	**87.96**	**291**	P	**P**	**17 43 56.0**	**+1.9**
HLID	**Hailey**	**88.80**	**41**	eP	**P**	**17 43 57.8**	**+0.2**
	comp=Z,3.3nm,1.2s,mb4.0						
SRU	**San Rafael**	**88.97**	**47**	eP	**P**	**17 43 58.6**	**+0.2**
PLCA	**Paso Flores**	**89.03**	**134**	P	**P**	**17 43 59.4**	**+0.7**
	comp=Z,3.2nm,1.2s,mb4.0,baz=220,slow=4.9,SNR=3.8						
MNTX	**Cornudas Mount**	**89.12**	**55**	eP	**P**	**17 43 59.5**	**+0.1**
	comp=Z,3.6nm,0.8s,mb4.2						
LTX	**Lajitas**	**89.39**	**58**	eP	**P**	**17 44 01.0**	**+0.3**
CHG	**Chiang Mai**	**89.48**	**291**	⇓P	**P**	**17 44 02.5**	**+1.2**
	comp=Z,18nm,0.9s,mb4.9						
ANMO	**Albuquerque**	**89.81**	**52**	eP	**P**	**17 44 01.8**	**-0.7**
	comp=Z,1.0nm,0.8s,mb3.7						
GDL2	**Guadalupe Moun**	**90.12**	**55**	eP	**P**	**17 44 04.1**	**+0.2**
BW06	**Boulder Array**	**91.42**	**44**	eP	**P**	**17 44 09.8**	**+0.1**
PDAR	**Pinedale Array**	**91.42**	**44**	P	**P**	**17 44 10.1**	**+0.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=207,slow=3.3,SNR=9.0						
MKAR	**Makanchi Array**	**111.42**	**313**	PKiKP		17 49 32.0	
	comp=Z,0.4nm,0.5s,baz=220,slow=1.0,SNR=14						
ARCES	**ARCESS Array B**	**130.55**	**349**	PKP	PKPdf	17 50 09.2	+0.6
	comp=Z,1.1nm,0.6s,baz=43,slow=1.5,SNR=12						
ARCES				SKPbc		17 52 38.1	
	comp=Z,3.2nm,0.9s,baz=45,slow=3.4,SNR=6.1						
KMBO	**Kilima Mbogo**	**137.08**	**242**	SKP		17 53 03.8	
	comp=Z,3.2nm,1.1s,baz=60,slow=3.9,SNR=4.4						
FINES	**FINESS Array B**	**137.19**	**342**	PKhKP		17 50 09.8	
	comp=Z,0.6nm,0.6s,baz=117,slow=4.3,SNR=5.6						
FINES				PKP	PKPdf	17 50 21.1	+0.1
	comp=Z,0.6nm,0.4s,SNR=6.7						
FINES	**FINESS Array B**	**137.19**	**342**	PKP		17 50 09.8	
FINES				PKP	PKPdf	17 50 21.1	+0.1
NB2	**NORSAR Subarra**	**140.71**	**352**	P	PKPdf	17 50 22.2	-5.1
	comp=Z,0.7nm,0.5s,baz=49,slow=4.8						
NOA	**NORSAR Array B**	**140.71**	**352**	PKhKP		17 50 22.8	
	comp=Z,0.5nm,0.5s,baz=12,slow=4.1,SNR=3.7						
HFS	**Hagfors**	**141.20**	**349**	PKhKP		17 50 23.4	
	comp=Z,3.3nm,0.3s,baz=60,slow=3.6,SNR=82						
ELZG	**Elazig**	**143.38**	**305**	i P	PKPbc	17 50 32.9	+1.3
MALT	**Malatya**	**143.84**	**305**	ePKP	PKPdf	17 50 34.6	+1.2
AKASG	**Malin Array Be**	**143.93**	**329**	PKP	PKPdf	17 50 32.6	-0.5
	comp=Z,3.3nm,0.3s,baz=44,slow=4.3,SNR=49						
AKASG				SKP		17 53 18.8	
	comp=Z,0.6nm,0.3s,baz=42,slow=2.6,SNR=11						
SUW	**Suwalki**	**144.08**	**337**	PKP	PKPdf	17 50 33.5	+0.2
GZT	**Gaziantep**	**144.75**	**303**	i P	PKPdf	17 50 36.8	+1.8
BOYT	**Boyabat**	**145.43**	**311**	i P	PKPdf	17 50 39.1	+3.1
COBT	**Iskenderun**	**145.97**	**302**	i P	PKPdf	17 50 40.9	+3.8
BRTR	**Keskin Array B**	**146.95**	**309**	PKPbc	PKPbc	17 50 42.6	+1.6
	comp=Z,3.2nm,0.6s,baz=139,slow=4.8,SNR=16						
EKA	**Eskdalemuir Ar**	**147.06**	**4**	PKPbc	PKPdf	17 50 41.8	+3.4
	comp=Z,1.5nm,0.4s,baz=355,slow=2.5,SNR=20						
KWP	**Kalwaria**	**147.66**	**332**	ePKPbc	PKPdf	17 50 44.4	+4.9
KOLS	**Kolonicke sedl**	**148.37**	**332**	ePKP	PKPdf	17 50 45.7	+5.1
STHS	**Stebnicka Huta**	**148.44**	**334**	ePKP	PKPdf	17 50 47.0	+6.3
CSS	**Prodhromos**	**148.66**	**301**	ePKPbc	PKPdf	17 50 47.0	+5.4
CSS				ePKPab	PKPab	17 50 53.1	-1.4
CRVS	**Cervenica-Dubn**	**148.75**	**333**	ePKP	PKPdf	17 50 47.5	+6.3
KSP	**Ksiaz**	**149.06**	**340**	ePKP	PKPdf	17 50 48.0	+6.4
OKC	**Ostrava-Krasne**	**149.29**	**337**	ePKPbc	PKPdf	17 50 46.4	+4.4
OKC				ePKPab	PKPab	17 50 55.5	-1.1
UPC	**Upice**	**149.44**	**340**	ePKPbc	PKPdf	17 50 48.9	+6.6
DPC	**Dobruska-Polom**	**149.48**	**340**	ePKPbc	PKPdf	17 50 49.1	+6.8
DPC				ePKPab	PKPab	17 50 57.0	-0.4
KECS	**Kecovo**	**149.48**	**333**	ePKP	PKPdf	17 50 49.3	+6.9
CLL	**Collm**	**149.57**	**344**	⇓iPKP1	PKPdf	17 50 48.9	+6.5
CLL				i PKP2	PKPab	17 50 56.4	-1.3
BRG	**Berggiesshubel**	**149.72**	**343**	i PKP	PKPdf	17 50 49.4	+6.7
BRG				e		17 50 57.1	
BRG				LR	LR		
	comp=Z,210nm,22.0s						
PVCC	**Panska Ves**	**149.85**	**342**	ePKPbc	PKPdf	17 50 49.8	+6.9
VYHS	**Vyhne**	**150.14**	**335**	ePKP	PKPdf	17 50 49.8	+6.4
PRU	**Pruhonice**	**150.34**	**341**	ePKPbc	PKPdf	17 50 49.7	+6.0
PRU				ePKPab	PKPab	17 50 58.7	-2.3
NKC	**Novy Kostel**	**150.70**	**344**	ePKPbc	PKPdf	17 50 51.8	+7.6
NKC				ePKPab	PKPab	17 51 01.3	-1.2
KHC	**Kasperske Hory**	**151.39**	**342**	ePKPbc	PKPdf	17 50 52.9	+7.6
KHC				ePKPab	PKPab	17 51 04.0	-1.4
GRF	**Grafenberg Arr**	**151.50**	**345**	ePKP	PKPab	17 51 05.1	-0.7
GERES	**GERESS Array B**	**151.61**	**341**	PKPbc	PKPdf	17 50 53.4	+7.9
	comp=Z,0.8nm,0.5s,baz=45,slow=1.9,SNR=11						
GERES				PKPab	PKPab	17 51 05.1	-1.2
	comp=Z,0.7nm,0.5s,baz=45,slow=3.8,SNR=6.4						

NNC 17 18:01:20.9±3.3**, 37.18N**×**71.09E, h251**km±26km**, mpv3.6, 3C-1D, Error ellipse: s-maj=39.8km s-min=31.0km az=28.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.94**	**356**	P	P	18 02 48.2	-0.6
	3.0nm,0.5s,baz=174,slow=12,SNR=63						
KK31				⇑S	S	18 03 58.2	+0.6
	12nm,0.8s,baz=188,slow=18,SNR=15						
MK31	**Makanchi Array**	**12.70**	**37**	⇓P	P	18 04 12.0	-2.0
	0.8nm,0.7s,baz=224,slow=16,SNR=4.3						
AB31	**Akbulak array**	**14.53**	**330**	⇑P	P	18 04 34.5	-2.1
	0.5nm,0.5s,baz=158,slow=8.9,SNR=22						
VOSK	**Vostochnaya**	**15.55**	**360**	P	P	18 04 48.6	0.0
ZRNK	**Zerenda**	**15.84**	**355**	P	P	18 04 51.6	-0.5
BVA0	**Borovoye Array**	**15.86**	**358**	⇑P	P	18 04 50.9	-1.3
	0.2nm,0.6s,baz=157,slow=11,SNR=13						

*MDD **17** 18:02:17.8±0.5, 40.55N×1.59W, h6km±4km, mbLg1.9/15, Error ellipse: s-maj=4.1km s-min=2.9km az=118.0, PRXIMO*
*NEIC **17** 18:02:17.7, 40.56N×1.60W, h5km, ML2.5(LDG), MN2.0(MDD), After MDD.*
*LDG **17** 18:02:23.6±0.1, 40.76N×1.21W, h15km, Ml2.5/5, Error ellipse: s-maj=4.1km s-min=1.5km az=134.0*
ISC 17 18:02:14.4±0.5**, 40.56N**±0.02×**1.66W**±0.03**, h4**km±3km**, n36, σ1.26**/72**, 1C-1D, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMOS	**Mosqueruela**	**0.92**	**102**	⇓Pg	**Pg**	**18 02 33.4**	**+0.6**
	2.2nm,0.1s,SNR=18						
EMOS				Lg		18 02 45.5	
	2.3nm,0.2s,SNR=7.9						
ECHE	**Chera**	**1.10**	**151**	Pg	**Pg**	**18 02 36.9**	**+0.5**
ECHE				Lg		18 02 53.8	
ECHE	**Chera**	**1.10**	**151**	Pg	**Pg**	**18 02 36.9**	**+0.4**
	1.8nm,0.2s,SNR=21						
ECHE				Lg		18 02 53.8	
	3.6nm,0.2s,SNR=11						
ESAC	**San Caprasio**	**1.47**	**37**	Pg	**Pg**	**18 02 44.3**	**+0.6**
ESAC				Lg		18 03 02.9	
ESAC	**San Caprasio**	**1.47**	**37**	Pg	**Pg**	**18 02 44.3**	**+0.6**
	18nm,0.2s,SNR=7.9						
ESAC				Lg		18 03 02.9	
	77nm,0.2s,SNR=7.9						
EBR	**Ebro Roquetas**	**1.66**	**80**	ePN	**Pn**	**18 02 47.0**	**+2.5**
EBR				eSN	**Sn**	**18 03 08.5**	**+2.1**
ETOB	**Tobarra**	**1.92**	**177**	Pn	**Pn**	**18 02 50.8**	**+2.7**
	2.3nm,0.2s,SNR=7.9						
ETOB				Lg		18 03 19.6	
	3.1nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**1.98**	**244**	Pn	**Pn**	**18 02 50.7**	**+1.6**
	2.9nm,0.2s,baz=63,slow=14,SNR=26						
ESDC				Pg	**Pg**	**18 02 54.6**	**+0.7**
	12nm,0.2s,baz=64,slow=17,SNR=7.9						
ESDC				Sn	**Sn**	**18 03 15.5**	**+0.9**
	1.8nm,0.1s,baz=64,slow=26,SNR=7.9						
ESDC				Lg		18 03 20.3	
	6.0nm,0.1s,baz=62,slow=30,SNR=7.9						
ESLA	**Sonseca Array**	**1.98**	**244**	eP	**Pn**	**18 02 50.6**	**+1.5**
ESLA				eP		18 02 54.4	
ESLA				eS	**Sn**	**18 03 20.2**	**+5.6**
EBEN	**Beniarda**	**2.16**	**149**	Pn	**Pn**	**18 02 55.5**	**+3.9**
	0.1nm,0.2s,SNR=7.9						
EGRA	**Graus**	**2.21**	**42**	Pg	**Pg**	**18 02 56.4**	**-2.1**
EGRA				Lg		18 03 28.1	
EGRA	**Graus**	**2.21**	**42**	Pg	**Pg**	**18 02 56.4**	**-2.1**
	1.2nm,0.2s,SNR=7.9						
EGRA				Lg		18 03 25.3	
	3.7nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.22**	**68**	⇑Pn	**Pn**	**18 02 53.1**	**+0.6**
	4.0nm,0.2s,SNR=18						
EPOB				Pg	**Pg**	**18 02 58.7**	**0.0**
	2.7nm,0.2s,SNR=7.9						
EPOB				Sn	**Sn**	**18 03 19.4**	**-1.3**
	0.6nm,0.1s,SNR=7.9						
EPOB				Lg		18 03 25.2	
	4.3nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**2.48**	**19**	ePn	**Pn**	**18 02 57.7**	**+1.5**
ETSF				ePg	**Pg**	**18 03 04.4**	**+0.5**
ETSF				eSn	**Sn**	**18 03 23.5**	**-3.8**
ETSF				eSg	**Sg**	**18 03 32.8**	**-4.1**
	3.7nm,0.3s						
EBIE	**Bielsa**	**2.52**	**32**	Pn	**Pn**	**18 02 57.2**	**+0.5**
	0.0nm,0.3s,SNR=7.9						
EBIE				Pg	**Pg**	**18 03 04.9**	**+0.2**
	2.4nm,0.3s,SNR=7.9						
EBIE				Sn	**Sn**	**18 03 28.0**	**-0.3**
	0.5nm,0.1s,SNR=7.9						
EBIE				Lg		18 03 38.1	
	1.7nm,0.2s,SNR=4.0						
SJPF	**Ste Jean**	**2.57**	**7**	ePn	**Pn**	**18 02 59.7**	**+2.1**
SJPF				eSn	**Sn**	**18 03 27.1**	**-2.6**
SJPF				eSg	**Sg**	**18 03 38.1**	**-1.9**
	6.9nm,0.4s						
EALK	**Alkurruntz**	**2.66**	**2**	Pn	**Pn**	**18 03 00.5**	**+1.6**
	0.3nm,0.1s,SNR=7.9						
EALK				Sn	**Sn**	**18 03 32.9**	**+1.0**
	0.1nm,0.4s,SNR=7.9						
EALK				Lg		18 03 42.6	
	1.8nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.73**	**173**	Pg	**Pg**	**18 03 08.3**	**-0.6**
	0.3nm,0.2s,SNR=7.9						
EMUR				Sn	**Sn**	**18 03 32.9**	**-0.9**
	0.4nm,0.2s,SNR=7.9						
EMUR				Lg		18 03 46.4	
	0.4nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.75**	**60**	Pn	**Pn**	**18 03 00.8**	**+0.7**
	0.8nm,0.2s,SNR=5.8						
EMIR				Pg	**Pg**	**18 03 06.3**	**-3.1**
	1.8nm,0.1s,SNR=7.9						
EMIR				Sn	**Sn**	**18 03 34.7**	**+0.4**
	2.1nm,0.1s,SNR=7.9						
EMIR				Lg		18 03 42.7	
	4.8nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.77**	**123**	Pn	**Pn**	**18 03 00.5**	**0.0**
	28nm,1.0s,SNR=7.1						
EIBI				Sn	**Sn**	**18 03 32.9**	**-1.9**
	0.1nm,0.3s,SNR=7.9						
EPF	**Esparros**	**2.88**	**30**	ePn	**Pn**	**18 03 03.3**	**+1.3**
EPF				ePg	**Pg**	**18 03 11.4**	**-0.6**
EPF				eSn	**Sn**	**18 03 30.9**	**-6.8**
EPF				eSg	**Sg**	**18 03 43.7**	**-6.8**
	4.4nm,0.2s						
EBAN	**Banos Encina**	**2.91**	**215**	Pn	**Pn**	**18 03 03.3**	**+1.0**
	1.3nm,0.4s,SNR=6.7						
EBAN				Pg	**Pg**	**18 03 12.0**	**-0.4**
	0.9nm,0.1s,SNR=7.9						
EBAN				Sn	**Sn**	**18 03 37.1**	**-1.1**
	0.8nm,0.2s,SNR=7.9						
EBAN				Lg		18 03 50.4	
	1.3nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.96**	**202**	Pg	**Pg**	**18 03 12.7**	**-0.9**
	0.6nm,0.1s,SNR=7.9						
EQES				Sn	**Sn**	**18 03 39.1**	**-0.6**
	0.2nm,0.2s,SNR=7.9						
EQES				Lg		18 03 53.3	
	0.9nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.29**	**224**	Pn	**Pn**	**18 03 08.5**	**+0.6**
	0.6nm,0.3s,SNR=18						
EADA				Pg	**Pg**	**18 03 18.2**	**-1.9**
	0.2nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**18 03 46.6**	**-1.4**
	0.4nm,0.2s,SNR=7.9						
EADA				Lg		18 04 02.3	
	1.8nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**3.81**	**317**	Pn	**Pn**	**18 03 18.0**	**+2.8**
	0.2nm,0.3s,SNR=7.9						
EARI				Sn	**Sn**	**18 04 00.4**	**-0.7**
	0.1nm,0.3s,SNR=7.9						
EARI				Lg		18 04 20.9	
	0.3nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**3.83**	**231**	Pn	**Pn**	**18 03 16.4**	**+1.0**
	1.3nm,0.3s,SNR=10						
ECAB				Sn	**Sn**	**18 04 00.5**	**-1.1**
	0.3nm,0.1s,SNR=7.9						
ECAB				Lg		18 04 20.6	
	0.1nm,0.4s,SNR=7.9						
MTLF	**Montolieu**	**4.01**	**45**	ePn	**Pn**	**18 03 17.6**	**-0.4**
MTLF				ePg	**Pg**	**18 03 30.2**	**-4.2**
MTLF				eSg	**Sg**	**18 04 17.3**	**-11**
	3.7nm,0.5s						
ECAL	**Calabor**	**4.07**	**291**	Pn	**Pn**	**18 03 19.4**	**+0.5**
ECAL				Sn	**Sn**	**18 04 07.0**	**-0.7**
ECAL				Lg		18 04 26.1	
ECAL	**Calabor**	**4.07**	**291**	Pn	**Pn**	**18 03 19.4**	**+0.5**
	1.5nm,0.3s,SNR=7.9						
ECAL				Sn	**Sn**	**18 04 07.0**	**-0.7**
	0.8nm,0.2s,SNR=7.9						
ECAL				Lg		18 04 28.0	
	0.8nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**4.72**	**21**	ePn	**Pn**	**18 03 28.0**	**-0.1**
ELOB	**Lobios**	**5.00**	**287**	Pn	**Pn**	**18 03 32.3**	**+0.2**
ELOB				Sn	**Sn**	**18 04 28.2**	**-3.1**
ELOB	**Lobios**	**5.00**	**287**	Pn	**Pn**	**18 03 32.3**	**+0.2**
	0.6nm,0.1s,SNR=7.9						
ELOB				Sn	**Sn**	**18 04 30.2**	**-1.1**
	0.2nm,0.1s,SNR=7.9						
CAF	**Calviac**	**5.15**	**31**	ePn	**Pn**	**18 03 33.4**	**-0.8**
RJF	**Les Rejaudoux**	**5.28**	**25**	ePn	**Pn**	**18 03 35.6**	**-0.5**
EVO	**Evora**	**5.32**	**250**	ePn	**Pn**	**18 03 46.4**	**+10**
EVO				ePg	**Pg**	**18 04 10.6**	**+10**
EVO				eSn	**Sn**	**18 04 49.3**	**+10**
	1.9nm,0.4s						
LASF	**Ste Croix**	**5.39**	**47**	ePn	**Pn**	**18 03 36.1**	**-1.5**

*MOS **17** 18:31:26.7±1.1, 1.14N×97.35E, h33km, mb4.8/14, MS4.6/4, Error ellipse: s-maj=19.7km s-min=8.2km az=105.6*
*BJI **17** 18:31:29.5, 1.07N×97.35E, h59km, mB5.3, mb4.9, Ms4.8, Msz4.4*
*NEIC **17** 18:31:31.1±2.3, 1.17N×97.30E, h51km±19km, mb4.6/16, Error ellipse: s-maj=16.9km s-min=7.0km az=50.0*
*IDC **17** 18:31:31.9±4.3, 1.12N×97.27E, h65km±37km, mb3.9/13, mb1 4.1/13, mb1mx3.9/19, mbtmp4.2/13, MS4.0/8, Ms1 4.0/8, ms1mx3.7/26, Error ellipse: s-maj=35.6km s-min=13.0km az=48.0*
ISC 17 18:31:26.4±0.5**, 1.03N**±0.06×**97.21E**±0.05**, h33**km**, n86, σ0.98**/89**, mb4.5**/45**, MS4.3**/18**, 4C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.19**	**47**	P	**P**	**18 32 44.3**	**+0.5**
IPM	**Ipoh**	**5.19**	**47**	P	**P**	**18 32 44.2**	**+0.4**
KULM	**Kulim**	**5.45**	**39**	⇑iP	**P**	**18 32 47.1**	**-0.4**
KGM	**Kluang**	**6.18**	**81**	P	**P**	**18 32 59.7**	**+2.0**
KSM	**Kuching**	**13.10**	**88**	eP	**P**	**18 34 45.1**	**+12**
KKM	**Kota Kinabalu**	**19.61**	**75**	eP	**P**	**18 35 54.2**	**-0.8**
MDRS	**Chennai**	**20.63**	**306**	eS	**S**	**18 39 57.0**	**+7.4**
TSM	**Tawau**	**20.89**	**81**	P	**P**	**18 36 09.2**	**+0.7**
VIS	**Vishakhapatnam**	**21.48**	**321**	i P	**P**	**18 36 14.3**	**-0.1**
QIZ	**Qiongzhong**	**21.76**	**34**	P	**P**	**18 36 16.0**	**-1.2**
QIZ				eS	**S**	**18 40 12.8**	**+1.9**
QIZ				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.3						
QIZ				LR	LR		
	comp=N,643nm,14.7s,MS4.4						
QIZ				LR	LR		
	comp=E,879nm,14.2s,MS4.4						
QIZ				LR	LR		
	comp=Z,809nm,12.2s,MS4.3						
QIZ	**Qiongzhong**	**21.76**	**34**	eP	**P**	**18 36 16.8**	**-0.4**
	comp=Z,19nm,1.2s,mb4.4						
HYB	**Hyderabad**	**24.54**	**313**	eP	**P**	**18 36 54.0**	**+9.4**
KMI	**Kunming**	**24.54**	**12**	P	**P**	**18 36 45.8**	**+1.2**
KMI				AMB	AMB		
	comp=Z,55nm,1.5s,mb4.9						
KMI				LR	LR		
	comp=N,2µm,15.9s						
KMI				LR	LR		
	comp=E,717nm,10.7s						
KMI				LR	LR		
	comp=Z,2µm,16.7s,MS4.6						
SHL	**Shillong**	**24.93**	**349**	⇑iP	**P**	**18 36 48.2**	**-0.1**
SHL				eS	**S**	**18 41 08.2**	**+1.3**
GYA	**Guiyang**	**26.87**	**19**	⇑iP	**P**	**18 37 05.9**	**-0.5**
GYA				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.5						
PKI	**Pulchoki**	**28.72**	**338**	eP	**P**	**18 37 24.1**	**+1.1**
	comp=Z,19nm,0.7s,mb4.9						
PKI	**Pulchoki**	**28.72**	**338**	eP	**P**	**18 37 24.1**	**+1.1**

PKI pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
GUN Gumba 28.85 339 *eP* **P 18 37 25.3 +1.1**
comp=Z,27nm,0.4s,mb5.3
DMN Daman 28.87 337 *eP* **P 18 37 24.4 0.0**
comp=Z,12nm,0.8s,mb4.7
KKN Kakani 28.96 338 *eP* **P 18 37 25.7 +0.5**
comp=Z,28nm,0.9s,mb5.0
KKN Kakani 28.96 338 *eP* **P 18 37 25.7 +0.5**
KKN pmax pmax
comp=Z,14nm,0.9s,mb4.7
LSA Lhasa 29.09 349 *eP* **P 18 37 27.9 +1.6**
LSA Lhasa 29.09 349 *eP* **P 18 37 27.8 +1.5**
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
LSA Lhasa 29.09 349 *eP* **P 18 37 27.8 +1.4**
comp=Z,4.8nm,0.6s,mb4.4
GKN Gorkha 29.40 337 *eP* **P 18 37 29.5 +0.4**
comp=Z,46nm,0.9s,mb5.2
KOLN Koldanda 29.62 335 *eP* **P 18 37 31.8 +0.8**
comp=Z,30nm,0.8s,mb5.1
ENH Enshi 31.34 21 *eP* **P 18 37 44.2 -2.1**
comp=Z,17nm,0.7s,mb5.0
FITZ Fitzroy Crossi 33.82 126 *eP* **P 18 38 08.5 +0.5**
comp=Z,7.6nm,0.9s,mb4.6
FITZ Fitzroy Crossi 33.82 126 P **P 18 38 07.7 -0.3**
comp=Z,6.7nm,0.8s,mb4.6,baz=174,slow=3.0,SNR=6.4
LZH Lanzhou 35.42 9 *eP* **P 18 38 21.4 -0.2**
LZH AP pP 18 38 33.5 +2.2
LZH XP sP 18 38 41.5 +5.9
LZH AMB AMB
comp=Z,34nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,102nm,4.5s
LZH LR LR
comp=N,680nm,15.0s
LZH LR LR
comp=Z,834nm,16.2s,MS4.6
NJ2 Nanjing 37.01 31 *eP* **P 18 38 34.8 -0.1**
NJ2 PP PP 18 40 01.6 -0.2
NJ2 S **S 18 44 19.0 +1.2**
NJ2 XS 18 44 35.0
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 AMB AMB
comp=Z,700nm,5.1s
NJ2 LR LR
comp=N,800nm,12.0s,MS4.8
NJ2 LR LR
comp=E,770nm,16.5s,MS4.8
NJ2 LR LR
comp=Z,520nm,18.8s,MS4.3
SSE Sheshan 37.55 35 P **P 18 38 38.3 -1.2**
SSE PP PP 18 40 04.3 -4.0
SSE PCP PcP 18 40 55.3 -2.3
SSE S **S 18 44 26.1 +0.1**
SSE AMB AMB
comp=Z,23nm,1.0s,mb4.9
SSE AMB AMB
comp=Z,1μm,7.5s
SSE LR LR
comp=N,228nm,17.6s,MS4.1
SSE LR LR
comp=E,150nm,17.9s,MS4.1
SSE LR LR
comp=Z,215nm,18.1s,MS4.0
GTA Gaotai 38.27 3 *eP* **P 18 38 45.8 +0.3**
GTA AMB AMB
comp=Z,18nm,0.9s,mb4.8
WRA Warramunga Arr 41.94 122 P **P 18 39 16.6 +0.5**
comp=Z,4.9nm,0.8s,mb4.2,baz=300,slow=9.1,SNR=27
WRA S **S 18 45 30.6 -1.4**
comp=Z,1.3nm,1.3s,baz=270,slow=7.5,SNR=2.7
WRAB Tennant Creek 41.94 122 *i* P **P 18 39 15.5 -0.6**
WRAB Tennant Creek 41.94 122 *eP* **P 18 39 17.6 +1.5**
comp=Z,9.0nm,0.8s,mb4.5
WB2 Warramunga Arr 41.95 122 *eP* **P 18 39 17.3 +1.1**
WMQ Urumqi 43.44 350 *eP* **P 18 39 29.0 +0.9**
KS15 Wonju Array Si 45.95 34 *eP* **P 18 39 48.4 +0.1**
AAK Ala-Archa 46.16 337 *i* P **P 18 39 49.9 0.0**
AAK pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
SONM Songino Array 47.30 8 P **P 18 39 58.7 0.0**
comp=Z,1.7nm,0.4s,mb4.3,baz=188,slow=8.7,SNR=7.6
MKAR Makanchi Array 47.41 346 *i* P **P 18 40 00.0 +0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 47.41 346 P **P 18 39 59.6 -0.1**
comp=Z,3.6nm,0.6s,mb4.5,baz=158,slow=9.2,SNR=42
MKAR LR LR 19 01 59.1
comp=Z,115nm,20.5s,MS3.8,baz=170,slow=39
MKAR Makanchi Array 47.41 346 P **P 18 39 59.6 -0.1**
MKAR LR LR 19 01 59.1
KKAR Karatay Array 48.22 334 P **P 18 40 06.5 +0.5**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
ZAK Zakamensk 49.44 5 *eP* **P 18 40 15.5 +0.2**
ZAK *e* 18 42 58.3
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.0
ZAK pmax pmax
comp=Z,1.0nm,1.2s,mb3.7
CN2 Changchun 49.45 27 *eP* **P 18 40 14.8 -0.7**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
CN2 LR LR
comp=N,400nm,13.0s,MS4.8
CN2 LR LR
comp=E,500nm,13.0s,MS4.8
CN2 LR LR
comp=Z,620nm,13.0s,MS4.8
HIA Hailar 51.80 19 *eP* **P 18 40 33.1 -0.1**
HIA pmax pmax
comp=Z,4.0nm,0.4s
HIA Hailar 51.80 19 *eP* **P 18 40 33.1 -0.1**
comp=Z,4.1nm,0.4s,mb4.7
MJAR Matsushiro Arr 51.81 42 P **P 18 40 32.0 -1.5**
comp=Z,1.0nm,0.5s,mb4.0,baz=215,slow=7.0,SNR=8.8
KURK Kurchatov 51.96 345 *eP* **P 18 40 34.5 +0.1**
KURK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KURK Kurchatov 51.96 345 *eP* **P 18 40 34.5 0.0**
comp=Z,7.8nm,1.0s,mb4.6
CIT Chita 52.63 13 *eP* **P 18 40 33.6 -5.9**
STKA Stephens Creek 53.23 132 *eP* **P 18 40 46.4 +2.2**
comp=Z,4.9nm,0.9s,mb4.4
STKA Stephens Creek 53.23 132 P **P 18 40 44.7 +0.5**
comp=Z,5.1nm,0.9s,mb4.5,baz=300,slow=8.4,SNR=8.2
ZAL Zalesovo 53.72 351 *i* P **P 18 40 48.0 +0.5**
ZAL pmax pmax
comp=Z,6.0nm,0.3s
ZAL Zalesovo 53.72 351 P **P 18 40 47.1 -0.4**
comp=Z,6.0nm,0.3s,mb5.0,baz=314,slow=5.2,SNR=26
ZAL LR LR 19 09 33.0
comp=Z,155nm,18.4s,MS4.1,baz=300,slow=42
NVS Novosibirsk 54.85 350 *eP* **P 18 40 54.2 -1.5**
NVS *e* 18 41 08.1
NVS *eS* **S 18 48 34.3 +1.4**
NVS pmax pmax
comp=Z,12nm,1.2s,mb4.8
NVS pmax pmax
comp=N,8.0nm,1.3s
NVS smax
comp=N,10.0nm,1.9s
KLR Kul'dur 56.40 27 *eP* **P 18 41 04.3 -2.7**
KLR MLR MLR
comp=N,600nm,12.0s,MS5.0
KLR MLR MLR
comp=E,500nm,12.0s,MS5.0
KLR MLR MLR
comp=Z,1μm,12.0s,MS5.1
BVAR Borovoye Array 56.42 341 P **P 18 41 05.7 -1.4**
comp=Z,2.0nm,0.6s,mb4.3,baz=143,slow=7.4,SNR=21
BRVK Borovoye 56.48 341 *eP* **P 18 41 06.5 -1.0**
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
BRVK Borovoye 56.48 341 *eP* **P 18 41 06.5 -1.1**
comp=Z,2.3nm,0.8s,mb4.3
AB31 Akbulak array 57.67 332 *i* P **P 18 41 15.0 -1.0**
AB31 pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BOD Bodaibo 58.18 10 *eP* **P 18 41 18.8 -0.6**
BOD pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
KMBO Kilima Mbogo 59.99 268 LR LR 19 06 28.3
comp=Z,131nm,18.1s,MS4.1,baz=97,slow=35

SVE Sverdlovsk 62.85 338 *eP* **P 18 41 51.8 +0.5**
SVE *e* 18 41 58.3
SVE *eS* **S 18 50 11.0 -5.8**
SVE *eSS* SS 18 54 22.0 -2.0
SVE pmax pmax
comp=Z,20nm,1.5s,mb5.0
SVE MLR MLR
comp=N,100nm,15.0s,MS4.3
SVE MLR MLR
comp=E,100nm,15.0s,MS4.3
SVE MLR MLR
comp=Z,200nm,15.0s,MS4.4
ARU Arti 63.35 337 *i* P **P 18 41 53.5 -1.1**
ARU *e* 18 42 27.0
ARU *e* 18 44 12.8
ARU *eS* **S 18 50 22.8 -0.1**
ARU *e* 18 51 41.0
ARU *eSS* SS 18 54 38.1 +6.5
ARU pmax pmax
comp=Z,5.0nm,1.4s,mb4.5
KIV Kislovodsk 64.44 319 *eP* **P 18 42 03.3 +1.4**
KIV *eS* **S 18 50 39.5 +2.7**
KIV pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
KIV pmax pmax
comp=N,6.0nm,0.9s
YAK Yakutsk 65.58 16 *eP* **P 18 42 07.9 -1.1**
YAK pmax pmax
comp=Z,11nm,1.0s,mb4.8
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK MLR MLR
comp=N,158nm,14.0s,MS4.5
YAK MLR MLR
comp=Z,249nm,14.0s,MS4.6
YAK MLR MLR
comp=E,134nm,16.0s,MS4.5
YAK Yakutsk 65.58 16 *eP* **P 18 42 08.2 -0.8**
comp=E,25nm,1.1s,mb5.2
BRTR Keskin Array B 69.23 312 P **P 18 42 30.5 -1.8**
comp=E,0.4nm,0.3s,mb3.8,baz=144,slow=6.3,SNR=3.9
MAW Mawson 72.55 193 LR LR 19 11 26.0
comp=E,134nm,19.7s,MS4.2,baz=248,slow=33
OBN Obninsk 72.77 328 *eP* **P 18 42 53.9 +0.6**
OBN pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TIXI Tiksi 73.35 10 *eP* **P 18 42 53.8 -2.6**
TIXI pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TIXI MLR MLR
comp=Z,242nm,15.0s,MS4.6
SEY Seymchan 73.92 23 *i* P **P 18 43 00.1 +0.3**
BOSA Boshof 74.70 240 LR LR 19 10 51.8
comp=Z,111nm,19.2s,MS4.2,baz=60,slow=32
AKASG Malin Array Be 75.40 322 *i* P **P 18 43 08.2 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 80.16 333 P **P 18 43 34.7 0.0**
comp=Z,0.5nm,0.5s,mb3.7,baz=104,slow=7.9,SNR=5.2
FINES FINESS Array B 80.16 333 P **P 18 43 34.7 0.0**
ARCES ARCESS Array B 82.70 340 P **P 18 43 48.7 +0.9**
comp=Z,2.8nm,1.1s,mb4.2,baz=98,slow=5.1,SNR=13
ARCES LR LR 19 26 51.4
comp=Z,114nm,18.3s,MS4.3,baz=316,slow=40
ARCES ARCESS Array B 82.70 340 P **P 18 43 48.7 +0.9**
ARCES LR LR 19 26 51.4
GERES GERESS Array B 84.95 319 P **P 18 43 59.7 +0.1**
comp=Z,0.3nm,0.5s,mb3.7,baz=104,slow=5.5,SNR=9.5
VNDA Vanda 85.65 169 LR LR 19 16 13.3
comp=Z,65nm,20.2s,MS4.0,baz=302,slow=31
NOA NORSAR Array B 87.16 331 P **P 18 44 10.2 0.0**
comp=Z,1.0nm,0.8s,mb4.1,baz=95,slow=4.9,SNR=3.6
NOA LR LR 19 29 10.7
comp=Z,61nm,19.1s,MS4.0,baz=65,slow=40
PDAR Pinedale Array 130.19 26 PKP PKPdf 18 50 36.9 +3.1
comp=Z,0.1nm,0.4s,baz=135,slow=4.2,SNR=4.7
CPUP Villa Florida 144.88 222 PKP PKPdf 18 51 03.3 +2.4
comp=Z,1.3nm,0.6s,baz=87,slow=3.9,SNR=3.5

CSEM ***17*** *18:57:21.3±0.1,27.35N×33.95E,h25km,ML3.2,Error ellipse: s-maj=2.4km s-min=1.4km az=77.0*
SNSN ***17*** *18:57:22.1,27.46N×34.24E,Ml2.3*
HLW ***17*** *18:57:22.6,27.36N×33.97E,h17km,Mb3.2*
ISC 17 18:57:20.7±0.4,27.34N±0.03×34.06E±0.04,h10km,n24, σ0s84/2f,5C-7D,Red Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HHRG	**Al Ghardaqah**	**0.45**	**254**	↑*eP*		**Pg**		**18 57 30.7**	**+0.8**
HHRG				S		**Sg**		**18 57 35.4**	**-0.7**
SHRM		**0.55**	**7**	↓P		**Pg**		**18 57 33.4**	**+1.6**
SHRM				S		**Sg**		**18 57 41.2**	**+2.0**
TR1		**0.67**	**352**	↑P		**Pb**		**18 57 34.8**	**+0.9**
ZEIT		**0.70**	**319**	↑P		**Pb**		**18 57 34.4**	**0.0**
HSFG		**0.78**	**189**	↓*eP*		**Pb**		**18 57 47.4**	**+1.5**
TR2		**1.08**	**344**	↓P		**Pb**		**18 57 40.7**	**-0.3**
HKAT	**Jabal Katrina**	**1.18**	**357**	↑*eP*		**Pb**		**18 57 42.7**	**+0.1**
TAYS	**Tayyib Ism**	**1.40**	**31**	P		**Pn**		**18 57 45.6**	**-0.8**
TAYS				S		**Sb**		**18 58 02.4**	**-1.9**
BDAS	**Al Bad'**	**1.42**	**40**	P		**Pn**		**18 57 46.0**	**-0.7**
GRB	**Gharib**	**1.46**	**310**	↓P		**Pn**		**18 57 45.4**	**-1.8**
HDHB	**Dhahab**	**1.46**	**20**	↓P		**Pn**		**18 57 47.0**	**-0.2**
HQSR		**1.61**	**169**	↓P		**Pn**		**18 57 49.1**	**-0.2**
DBAS	**Duba**	**1.71**	**94**	P		**Pn**		**18 57 51.1**	**+0.3**
NUB		**1.75**	**17**	↑*eP*		**Pn**		**18 57 51.1**	**-0.3**
HAQS	**Haql**	**1.87**	**24**	P		**Pn**		**18 57 52.6**	**-0.5**
JMOS	**Jabal al Moail**	**2.04**	**27**	P		**Pn**		**18 57 55.5**	**-0.1**
HADB		**2.05**	**166**	P		**Pn**		**18 57 55.2**	**-0.5**
ALWS	**Ilw as Safayha**	**2.15**	**24**	P		**Pn**		**18 57 57.0**	**0.0**
JMQS	**Jabal Moqyreh**	**2.22**	**46**	P		**Pn**		**18 57 58.7**	**+0.6**
EMRS	**Mersa Alam**	**2.42**	**163**	↓*eP*		**Pn**		**18 58 00.6**	**-0.4**
HNKL	**Nakhl**	**2.58**	**358**	P		**Pn**		**18 58 03.3**	**+0.1**
HAGS	**Hagol**	**3.07**	**164**	P		**Pn**		**18 58 10.1**	**-0.1**
UMJS	**Umm Lajj**	**3.60**	**125**	P		**Pn**		**18 58 17.7**	**0.0**
YNBS	**Yanbu' al Bahr**	**4.64**	**129**	P		**Pn**		**18 58 33.2**	**+0.7**

IDC ***17*** *19:14:58.6±0.5,18.81N×155.37W,mb4.8/21,mb1 4.9/21, mb1mx4.8/24,mbtmp4.8/21,MS4.3/26,Ms1 4.3/26, ms1mx4.3/30,Error ellipse: s-maj=19.4km s-min=13.3km az=129.0*
HRVD ***17*** *19:15:03.0±0.5,18.59N×155.36W,h40km±5km,MW5.1/55, Centroid moment Tensor Solution. LP body waves: s21,c26;Mantle waves: s55,c80; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.70±.37; Mθθ0.30±.25; Mϕϕ-0.99±.24; Mrθ4.19±.41; Mθϕ-1.84±.18; Mϕr1.86±.24; Best double couple: Mo4.992×10^16 NP1:ϕs172°,δ21°,λ15°. NP2:ϕs68°,δ85°,λ110°. Principal axes: T 4.694, Plg47°, Azm359°; N .595, Plg20°, Azm246°; P -5.29, Plg36°, Azm140°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***17*** *19:15:03.0,18.78N×155.45W,h33km,mb5.0/44, MS4.4/91,MD5.4(HVO),After HVO.*
NEIC Felt throughout the Island of Hawaii, maximum intensity V. Felt throughout Maui, maximum intensity III. Felt [III] on Lanai and [II-III] in much of Molokai and Oahu. Felt at Kapaa, Koloa and Princeville, Kauai.
BJI ***17*** *19:15:03.2,19.32N×156.25W,h11km,mB5.3,mb5.1, Ms5.2,Ms2.4.8*
MOS ***17*** *19:15:03.6±0.9,18.95N×155.54W,h38km,mb5.2/33, MS4.3/23,Error ellipse: s-maj=8.0km s-min=5.8km az=72.0*
ISC 17 19:15:02.6±0.6,18.88N±0.04×155.48W±0.03,h32km±2km, h23km±3.1km:pP-P,n311,σ0s92/226,mb4.9/82,MS4.5/121, 22C-25D,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPT	**South Point**	**0.20**	**300**	↓*iP*		**Pb**		**19 15 09.5**	**+0.4**
SPT				*eS*		**Sn**		**19 15 13.9**	**+0.4**
HPO	**Honuapo**	**0.22**	**342**	*eP*		**Pb**		**19 15 09.9**	**+0.7**
PPL	**Puu Piii**	**0.28**	**4**	↓*iP*		**Pb**		**19 15 10.6**	**+0.7**
WOH	**Wood Valley**	**0.37**	**357**	↑*iP*		**Pb**		**19 15 11.8**	**+0.7**
OVEH	**Oceanview Est**	**0.38**	**316**	↓*iP*		**Pb**		**19 15 11.9**	**+0.6**
HLP	**Hilina Pali**	**0.45**	**21**	↓*iP*		**Pb**		**19 15 12.8**	**+0.5**
DES	**Desert**	**0.46**	**11**	↑*iP*		**Pb**		**19 15 12.8**	**+0.2**
PWH	**Poliokeawe Pal**	**0.47**	**31**	↓*iP*		**Pb**		**19 15 12.8**	**+0.2**

KNH Kipuka Nene 0.49 22 ↓*iP* **Pb 19 15 13.2 +0.2**
AIN Ainahou 0.49 3 ↓*iP* **Pb 19 15 13.6 +0.7**
DAH Dandelion 0.51 340 ↓*iP* **Pb 19 15 13.6 +0.4**
KAE Kaena 0.53 39 ↓*iP* **Pb 19 15 13.4 -0.1**
AHA Ahua 0.53 23 ↑*iP* **Pb 19 15 13.6 0.0**
CPK Cone Peak 0.53 16 ↓*iP* **Pb 19 15 13.6 0.0**
RCO Red Cone 0.54 345 ↓*iP* **Pb 19 15 14.0 +0.2**
OUT Outlet 0.54 21 ↑*eP* **Pb 19 15 13.5 -0.3**
OUT *eS* **Sb 19 15 21.1 -0.3**
RIM Rim 0.55 21 ↓*iP* **Pb 19 15 13.7 -0.2**
PUH Pauahi 0.55 27 ↑*iP* **Pb 19 15 13.7 -0.3**
PUH *eS* **Sb 19 15 21.4 -0.4**
NPH North Pit 0.56 20 ↓*iP* **Pb 19 15 13.8 -0.3**
UWE Uwekahuna 0.57 18 ↑*eP* **Pb 19 15 13.8 -0.4**
ESR Escape Road 0.58 24 ↓*iP* **Pb 19 15 14.0 -0.3**
KNHH Kane Nui o Ham 0.58 31 ↓*iP* **Pb 19 15 13.9 -0.4**
SWH Southwest Rift 0.58 349 ↓*iP* **Pb 19 15 14.5 +0.1**
WIH Wilkes Camp 0.59 351 ↓*iP* **Pb 19 15 14.7 +0.1**
STCH Steam Cracks 0.61 34 ↑*iP* **Pb 19 15 14.2 -0.6**
MWH Mokuaweoweo 0.61 350 ↓*iP* **Pb 19 15 15.0 +0.1**
MLH Mauna Loa 0.62 8 ↓*iP* **Pb 19 15 15.1 +0.1**
PLL Puu Ulaula 0.65 2 ↓*iP* **Pb 19 15 15.6 +0.1**
KLCH Kalalua Cone 0.65 37 ↑*iP* **Pb 19 15 14.7 -0.9**
KIH Kanekii 0.68 337 ↑*iP* **Pn 19 15 16.4 +0.3**
HUL Heiheiahulu 0.72 42 ↓*iP* **Pn 19 15 15.5 -1.0**
HUL *eS* **Sb 19 15 25.1 -1.1**
HMH Humuula 0.72 360 ↑*iP* **Pn 19 15 16.7 +0.1**
PKL Puu Kaliu 0.78 43 ↓*iP* **Pn 19 15 16.3 -1.2**
HUH Hualalai 0.87 337 ↓*iP* **Pn 19 15 18.8 0.0**
POHA Pohakuloa 0.87 357 *eP* **Pn 19 15 18.3 -0.5**
HPU Hale Pohaku 0.90 2 ↑*iP* **Pn 19 15 18.9 -0.2**
KKH Kailua Kona 0.92 327 *eP* **Pn 19 15 19.0 -0.5**
NGH National Guard 0.92 28 ↑*iP* **Pn 19 15 18.8 -0.7**
NGH *eS* **Sn 19 15 30.8 -0.9**
WKH Waikii 0.99 350 ↑*eP* **Pn 19 15 20.1 -0.3**
KOH Kohala 1.27 347 ↓*iP* **Pn 19 15 23.5 -1.0**
HKL Haleakala 1.96 338 *eP* **Pn 19 15 33.1 -1.3**
HON Honolulu 3.39 316 *eP* **Pn 19 15 52.3 -2.4**
MIDW Midway 22.08 299 PFAKE 19 20 10.0 +13
MIDW LR LR
comp=Z,2μm,19.0s,MS4.5
HOPS Hopland 34.46 48 PFAKE 19 22 00.0 +10
HOPS LR LR
comp=Z,759nm,19.0s,MS4.5
SAO San Andreas Ge 34.74 52 *eP* **P 19 21 52.1 0.0**
SAO pmax pmax
comp=Z,41nm,1.1s,mb5.3
SAO MLR MLR
comp=Z,678nm,21.0s,MS4.4
SAO San Andreas Ge 34.74 52 *eP* **P 19 21 52.1 0.0**
comp=Z,41nm,1.1s,mb5.3
SAO LR LR
comp=Z,678nm,21.0s,MS4.4
WDC Whiskeytown Da 35.55 45 *eP* **P 19 21 59.5 +0.6**
WDC pmax pmax
comp=Z,15nm,1.3s,mb4.8
WDC MLR MLR
comp=Z,798nm,21.0s,MS4.5
WDC Whiskeytown Da 35.55 45 *eP* **P 19 21 59.5 +0.5**
comp=Z,15nm,1.3s,mb4.8
WDC LR LR
comp=Z,798nm,21.0s,MS4.5
YBH Yreka Blue Hor 35.98 44 *eP* **P 19 22 03.9 +1.3**
YBH pmax pmax
comp=Z,17nm,0.9s
YBH MLR MLR
comp=Z,543nm,19.0s
YBH Yreka Blue Hor 35.98 44 P **P 19 22 03.6 +1.0**
comp=Z,18nm,0.9s,mb5.0,baz=251,slow=5.7,SNR=30
YBH LR LR 19 32 59.3
comp=Z,515nm,21.0s,MS4.3,baz=336,slow=30
YBH Yreka Blue Hor 35.98 44 *eP* **P 19 22 03.9 +1.3**
comp=Z,17nm,0.9s,mb5.0
YBH LR LR
comp=Z,543nm,19.0s,MS4.3
CMB Columbia Colle 35.99 51 *eP* **P 19 22 02.9 +0.2**
CMB pmax pmax
comp=Z,22nm,1.3s,mb4.9
CMB MLR MLR
comp=Z,455nm,20.0s,MS4.2
CMB Columbia Colle 35.99 51 *eP* **P 19 22 02.9 +0.2**
comp=Z,22nm,1.3s,mb4.9
CMB LR LR
comp=Z,455nm,20.0s,MS4.2
HUMO Hull Mountain 36.26 42 PFAKE 19 22 20.0 +15
HUMO LR LR
comp=Z,595nm,22.0s,MS4.3
AFI Afiamalu 36.32 207 LR LR 19 35 29.7
comp=Z,313nm,18.5s,MS4.1,baz=56,slow=34
AFI Afiamalu 36.32 207 PFAKE 19 22 20.0 +14
AFI LR LR
comp=Z,565nm,19.0s,MS4.4
LBCM Butte Creek Ri 36.47 46 P **P 19 22 07.9 +1.2**
MWC Mount Wilson 36.57 58 *eP* **P 19 22 07.7 +0.1**
PPT Papeete 36.68 171 P **P 19 22 07.6 -1.1**
comp=Z,37nm,0.7s,mb5.3,baz=13,slow=17,SNR=3.6
PPT LR LR 19 33 18.6
comp=Z,822nm,21.1s,MS4.5,baz=322,slow=30
BEKR Beckwourth 36.73 48 *eP* **P 19 22 09.6 +0.7**
comp=Z,7.3nm,0.9s,mb4.5
GSTR Great Sitkin T 36.87 339 *eP* **P 19 22 09.9 0.0**
OMM Old Mammoth Mi 36.87 52 *eP* **P 19 22 11.1 +1.0**
WCN Washoe City 36.93 49 *eP* **P 19 22 11.4 +0.8**
WCN pmax pmax
comp=Z,25nm,1.0s,mb5.0
WCN Washoe City 36.93 49 *eP* **P 19 22 11.4 +0.8**
comp=Z,25nm,1.0s,mb5.0
COR Corvallis 37.09 39 PFAKE 19 22 20.0 +8.1
COR LR LR
comp=Z,703nm,19.0s,MS4.5
BAR Barrett 37.34 61 *eP* **P 19 22 13.6 -0.5**
DAC Darwin (Calif) 37.50 55 *eP* **P 19 22 15.9 +0.5**
DAC pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
DAC MLR MLR
comp=Z,516nm,19.0s,MS4.3
DAC Darwin (Calif) 37.50 55 *eP* **P 19 22 15.9 +0.5**
comp=Z,9.3nm,0.9s,mb4.5
DAC LR LR
comp=Z,516nm,19.0s,MS4.3
MOD Modoc 37.65 45 *eP* **P 19 22 17.8 +1.2**
comp=Z,28nm,1.1s,mb4.9
MOD LR LR
comp=Z,612nm,20.0s,MS4.4
PFO Pinyon Flat Ob 37.72 59 *eP* **P 19 22 17.5 +0.3**
PFO pmax pmax
comp=Z,32nm,0.9s,mb5.0
PFO MLR MLR
comp=Z,156nm,21.0s,MS3.8
PFO Pinyon Flat Ob 37.72 59 *eP* **P 19 22 17.5 +0.2**
comp=Z,32nm,0.9s,mb5.1
PFO LR LR
comp=Z,156nm,21.0s,MS3.8
TPH Tonopah 38.34 52 *eP* **P 19 22 23.2 +0.7**
TPH pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
TPH MLR MLR
comp=Z,323nm,20.0s,MS4.1
TPH Tonopah 38.34 52 *eP* **P 19 22 23.2 +0.8**
comp=Z,9.1nm,1.0s,mb4.5
TPH LR LR
comp=Z,323nm,20.0s,MS4.1
OCWA Octopus Mounta 38.43 34 PFAKE 19 22 30.0 +6.9
OCWA LR LR
comp=Z,689nm,19.0s,MS4.5
WVOR Wild Horse Val 39.00 45 *eP* **P 19 22 28.5 +0.6**
WVOR pmax pmax
comp=Z,18nm,1.0s,mb4.8
WVOR MLR MLR
comp=Z,516nm,19.0s,MS4.4
WVOR Wild Horse Val 39.00 45 *eP* **P 19 22 28.5 +0.6**
comp=Z,18nm,1.0s,mb4.8
WVOR LR LR
comp=Z,516nm,19.0s,MS4.4
LDFC Landfair 39.14 57 *eP* **P 19 22 29.5 +0.4**
LON Longmire 39.16 37 P **P 19 22 30.7 +1.5**
BMN Battle Mountai 39.17 48 *eP* **P 19 22 30.6 +1.3**
BMN pmax pmax
comp=Z,34nm,1.1s,mb5.0
BMN MLR MLR
comp=Z,307nm,20.0s,MS4.1
BMN Battle Mountai 39.17 48 *eP* **P 19 22 30.6 +1.2**
comp=Z,34nm,1.1s,mb5.0
BMN LR LR
comp=Z,307nm,20.0s,MS4.1

NEN Nelson 39.48 57 *eP* **P 19 22 33.0 +1.0**
RMW Rattlesnake Mo 39.56 36 P **P 19 22 34.3 +1.8**
TRCR Troy Canyon 39.66 52 *eP* **P 19 22 34.0 +0.6**
TWW Teanaway 39.91 37 P **P 19 22 37.8 +2.3**
ELK Elko 40.69 49 *eP* **P 19 22 43.0 +1.1**
ELK pmax pmax
comp=Z,22nm,1.0s
ELK MLR MLR
comp=Z,416nm,20.0s
ELK Elko 40.69 49 LR LR 19 36 46.7
comp=Z,317nm,18.3s,MS4.2,baz=72,slow=32
ELK Elko 40.69 49 *eP* **P 19 22 43.0 +1.2**
comp=Z,22nm,1.0s,mb4.7
ELK LR LR
comp=Z,416nm,20.0s,MS4.3
BMO Blue Mountains 40.93 42 *eP* **P 19 22 44.0 +0.2**
BMO pmax pmax
comp=Z,12nm,1.3s,mb4.4
BMO MLR MLR
comp=Z,513nm,21.0s,MS4.4
BMO Blue Mountains 40.93 42 *eP* **P 19 22 44.0 +0.2**
comp=Z,12nm,1.3s,mb4.4
BMO LR LR
comp=Z,513nm,21.0s,MS4.4
SIT Sitka 40.97 17 PFAKE 19 22 50.0 +6.0
SIT LR LR
comp=Z,1μm,21.0s,MS4.7
ARUT Antelope Range 41.12 54 *eP* **P 19 22 46.6 +1.2**
SMY Shemya 41.24 332 PFAKE 19 23 00.0 +14
SMY LR LR
comp=Z,1μm,20.0s,MS4.8
RSO Redoubt South 41.58 2 *eP* **P 19 22 49.9 +0.9**
SLKM Skilak Lake 41.75 4 *eP* **P 19 22 51.4 +1.1**
FX1 Attu Island--F 41.76 332 *eP* **P 19 22 51.1 +0.5**
SVW2 Sparrevohn 42.17 360 *eP* **P 19 22 55.0 +1.2**
TUC Tucson 42.18 62 PFAKE 19 23 00.0 +5.7
TUC LR LR
comp=Z,312nm,21.0s,MS4.2
EYAK Cordova Ski Ar 42.20 7 *eP* **P 19 22 55.2 +1.2**
MVU Marysvale 42.24 53 *eP* **P 19 22 56.0 +1.4**
comp=Z,38nm,1.0s,mb5.0
MVU LR LR
comp=Z,350nm,20.0s,MS4.2
HLID Hailey 42.29 45 *eP* **P 19 22 55.4 +0.5**
comp=Z,13nm,0.9s,mb4.6
HLID LR LR
comp=Z,700nm,20.0s,MS4.5
SPU Mount Spurr 42.33 2 *eP* **P 19 22 55.3 +0.2**
NEW Newport 42.66 38 *eP* **P 19 22 58.0 +0.1**
NEW pmax pmax
comp=Z,94nm,1.9s
NEW MLR MLR
comp=Z,341nm,19.0s
NEW Newport 42.66 38 P **P 19 22 57.3 -0.7**
comp=Z,10.0nm,0.7s,mb4.7,baz=230,slow=7.5,SNR=15
NEW LR LR 19 36 56.0
comp=Z,334nm,19.5s,MS4.2,baz=219,slow=31
NEW Newport 42.66 38 *eP* **P 19 22 58.0 0.0**
comp=Z,94nm,1.9s,mb5.2
NEW LR LR
comp=Z,341nm,19.0s,MS4.3
NLU North Lily Min 42.74 51 *eP* **P 19 22 59.3 +0.6**
DIV Divide 42.76 7 *eP* **P 19 22 59.5 +0.8**
comp=Z,257nm,1.7s,mb5.7
DIV LR LR
comp=Z,2μm,22.0s,MS5.0
HVU Hansel Valley 42.79 48 *eP* **P 19 23 00.0 +0.9**
SPUT South Promonto 42.87 49 *eP* **P 19 23 00.7 +0.9**
PMR Palmer 42.90 4 *eP* **P 19 23 00.5 +0.8**
NOQ North Oquirrh 42.91 50 *eP* **P 19 23 01.0 +0.9**
SML Sawmill 43.18 5 *eP* **P 19 23 02.1 +0.1**
CTU Camp Tracy 43.19 50 P **P 19 23 03.1 +0.8**
TMUT Trail Mountain 43.20 52 P **P 19 23 03.2 +0.7**
DAU Daniels Canyon 43.47 51 *eP* **P 19 23 06.0 +1.4**
HWUT Hardware Ranch 43.59 49 PFAKE 19 23 20.0 +14
HWUT LR LR
comp=Z,307nm,21.0s,MS4.2
DLBC Dease Lake 43.68 19 P **P 19 23 06.9 +0.9**
comp=Z,13nm,0.9s,mb4.7,baz=230,slow=8.7,SNR=15
DLBC LR LR 19 38 01.2
comp=Z,679nm,18.3s,MS4.6,baz=128,slow=32
DLBC Dease Lake 43.68 19 *eP* **P 19 23 07.5 +1.4**
MSO Missoula 43.91 41 *eP* **P 19 23 08.3 +0.2**
comp=Z,7.0nm,1.0s,mb4.3
MSO LR LR
comp=Z,264nm,20.0s,MS4.2
TTA Tatalina 44.01 360 *eP* **P 19 23 09.0 +0.3**
AHID Auburn Hatcher 44.28 48 PFAKE 19 23 20.0 +8.8
AHID LR LR
comp=Z,266nm,20.0s,MS4.2
CHMT Chamberlain Mo 44.37 41 P **P 19 23 12.5 +0.6**
WALA Waterton Lakes 44.91 38 *eP* **P 19 23 16.9 +0.7**
comp=Z,26nm,0.8s,mb5.1
MCK McKinley 45.04 4 *eP* **P 19 23 17.4 +0.4**
MCK pmax pmax
comp=Z,21nm,1.0s,mb4.9
MCK MLR MLR
comp=Z,247nm,22.0s,MS4.1
MCK McKinley 45.04 4 *eP* **P 19 23 17.4 +0.4**
comp=Z,21nm,1.0s,mb4.9
MCK LR LR
comp=Z,247nm,22.0s,MS4.1
LKWY Lake 45.35 45 PFAKE 19 23 30.0 +10
LKWY LR LR
comp=Z,732nm,20.0s,MS4.6
BW06 Boulder Array 45.36 48 *eP* **P 19 23 19.6 -0.2**
comp=Z,13nm,0.9s,mb4.8
BW06 LR LR
comp=Z,319nm,21.0s,MS4.2
PDAR Pinedale Array 45.36 48 P **P 19 23 17.5 -2.3**
comp=Z,14nm,1.0s,mb4.8,baz=225,slow=4.2,SNR=6.8
PDAR LR LR 19 38 50.6
comp=Z,192nm,18.3s,MS4.1,baz=99,slow=32
LAZ Ladron 45.47 60 *eP* **P 19 23 21.6 +0.8**
LENM Lemitar 45.58 60 *eP* **P 19 23 22.5 +0.9**
BNM Barren Site 45.86 60 *eP* **P 19 23 24.4 +0.5**
LPM Los Pinos Moun 45.88 60 *eP* **P 19 23 24.8 +0.8**
ANMO Albuquerque 46.09 59 *eP* **P 19 23 26.2 +0.5**
ANMO Albuquerque 46.09 59 P **P 19 23 25.8 0.0**
comp=Z,9.8nm,1.1s,mb4.7,baz=261,slow=8.0,SNR=14
ANMO Albuquerque 46.09 59 *eP* **P 19 23 26.1 +0.3**
comp=Z,14nm,1.2s,mb4.8
ANMO LR LR
comp=Z,434nm,22.0s,MS4.4
MNTX Cornudas Mount 46.70 64 *eP* **P 19 23 30.8 +0.3**
comp=Z,29nm,1.3s,mb5.0
MNTX LR LR
comp=Z,792nm,21.0s,MS4.7
IMA Indian Mountai 47.18 1 *eP* **P 19 23 33.1 -0.8**
IMA pmax pmax
comp=Z,27nm,1.0s,mb5.1
IMA Indian Mountai 47.18 1 *eP* **P 19 23 33.1 -0.8**
comp=Z,27nm,1.0s,mb5.1
EDM Edmonton 47.22 33 *eP* **P 19 23 33.5 -0.9**
SDCO Great Sand Dun 47.26 56 *eP* **P 19 23 35.3 +0.4**
comp=Z,19nm,1.2s,mb4.9
SDCO LR LR
comp=Z,405nm,19.0s,MS4.4
TNA Tin City 47.38 353 PFAKE 19 23 50.0 +15
TNA LR LR
comp=Z,418nm,21.0s,MS4.4
ISCO Idaho Springs 47.53 53 PFAKE 19 23 50.0 +13
ISCO LR LR
comp=Z,498nm,20.0s,MS4.5
GDL2 Guadalupe Moun 47.59 63 *eP* **P 19 23 38.1 +0.5**
CLNB Carlsbad 48.00 63 *eP* **P 19 23 41.5 +0.6**
CPRX Cap Rock 48.06 62 *eP* **P 19 23 41.6 +0.4**
LTX Lajitas 48.10 67 *eP* **P 19 23 42.2 +0.6**
LTX pmax pmax
comp=Z,35nm,1.0s,mb5.3
LTX MLR MLR
comp=Z,833nm,19.0s,MS4.7
LTX Lajitas 48.10 67 *eP* **P 19 23 42.2 +0.6**
comp=Z,34nm,1.0s,mb5.3
LTX LR LR
comp=Z,833nm,19.0s,MS4.7
LAO LASA Array 48.80 44 PFAKE 19 24 00.0 +13
LAO LR LR
comp=Z,578nm,19.0s,MS4.6
PET Petropavlovsk 49.11 325 *eP* **P 19 23 49.6 +0.6**
PET *eS* **S 19 30 54.1 +3.3**
PET pmax pmax
comp=Z,17nm,1.0s,mb5.0
PET MLR MLR
comp=Z,300nm,19.0s,MS4.3
PET Petropavlovsk 49.11 325 PFAKE 19 24 00.0 +11
PET LR LR
comp=Z,475nm,20.0s,MS4.5
RSSD Black Hills 49.60 48 PFAKE 19 24 00.0 +7.1
RSSD LR LR
comp=Z,743nm,22.0s,MS4.6
DGMT Dagmar 50.64 42 PFAKE 19 24 10.0 +9.2
DGMT LR LR
comp=Z,382nm,22.0s,MS4.4
INK Inuvik 51.31 10 *eP* **P 19 24 04.5 -1.2**
INK pmax pmax
comp=Z,87nm,1.1s
INK Inuvik 51.31 10 P **P 19 24 04.3 -1.4**
comp=Z,52nm,1.0s,mb5.4,baz=208,slow=8.3,SNR=32
INK LR LR 19 43 11.4
comp=Z,734nm,18.8s,MS4.7,baz=227,slow=33
INK Inuvik 51.31 10 *eP* **P 19 24 04.5 -1.2**
comp=Z,87nm,1.1s,mb5.6
YKA Yellowknife Ar 51.88 23 P **P 19 24 09.5 -0.5**
comp=Z,21nm,0.7s,mb5.2,baz=231,slow=7.5,SNR=126
YKA LR LR 19 42 59.9
comp=Z,530nm,20.0s,MS4.6,baz=235,slow=32
YKW3 Yellowknife Ar 51.92 23 *eP* **P 19 24 08.8 -1.5**
HNR Honiara 52.18 241 LR LR 19 41 30.1
comp=Z,112nm,20.6s,MS3.9,baz=18,slow=30
FFC Flin Flon 53.94 35 PFAKE 19 24 40.0 +15
FFC LR LR
comp=Z,112nm,20.0s,MS3.9
BILL Bilibino 54.71 343 *c iP* **P 19 24 31.0 +0.1**
BILL *i* pP 19 24 38.9 -1.7
BILL pmax pmax
comp=Z,69nm,0.7s,mb5.8
BILL Bilibino 54.71 343 *eP* **P 19 24 30.8 -0.1**
comp=Z,59nm,0.8s,mb5.7
BILL LR LR
comp=Z,468nm,22.0s,MS4.5
MA2 Magadan 55.82 330 *eP* **P 19 24 30.8 -8.2**
MA2 *ePS* PS 19 32 28.9 -9.1
MA2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MA2 Magadan 55.82 330 PFAKE 19 24 50.0 +11
MA2 LR LR
comp=Z,536nm,21.0s,MS4.6
NATX Nacogdoches 55.83 64 PFAKE 19 24 50.0 +11
NATX LR LR
comp=Z,486nm,22.0s,MS4.5
ULM Lac du Bonnet 56.35 42 P **P 19 24 40.4 -2.6**
comp=Z,8.6nm,0.7s,mb4.9,baz=286,slow=8.5,SNR=5.2
ULM Lac du Bonnet 56.35 42 P **P 19 24 40.4 -2.6**
SEY Seymchan 56.50 334 *eP* **P 19 24 44.1 +0.2**
SEY 19 25 38.9
SEY *eS* **S 19 32 37.8 +6.5**
SEY 19 34 23.9
SEY pmax pmax
comp=N,10.0nm,1.2s
SEY pmax pmax
comp=Z,20nm,1.2s,mb5.0
SEY pmax pmax
comp=E,5.0nm,1.3s
SEY MLR MLR
comp=Z,340nm,18.0s,MS4.5
SEY MLR MLR
comp=N,70nm,14.0s,MS4.2
SEY MLR MLR
comp=E,140nm,17.0s,MS4.2
ASAJ Asahikawa 57.03 311 P **P 19 24 47.9 -0.1**
comp=E,39nm,0.9s,mb5.4,baz=170,slow=3.1,SNR=12
YSS Yuzh-Sakhalins 57.23 314⇑ *eP* **P 19 24 49.3 -0.1**
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.4
YSS Yuzh-Sakhalins 57.23 314 PFAKE 19 25 00.0 +11
YSS LR LR
comp=Z,449nm,21.0s,MS4.5
GUMO Guam 57.29 274 PFAKE 19 25 00.0 +10
GUMO LR LR
comp=Z,670nm,19.0s,MS4.8
UALR University of 57.67 60 P **P 19 24 51.6 -1.0**
CCM Cathedral Cave 58.51 56 PFAKE 19 25 10.0 +12
CCM LR LR
comp=Z,359nm,20.0s,MS4.5
FVM French Village 59.16 57 *eP* **P 19 25 00.2 -2.7**
FVM pmax pmax
comp=Z,12nm,1.1s,mb4.8
FVM French Village 59.16 57 *eP* **P 19 25 00.1 -2.8**
comp=Z,12nm,1.1s,mb4.8
OXF Oxford 60.10 61 PFAKE 19 25 20.0 +11
OXF LR LR
comp=Z,211nm,22.0s,MS4.2
MJAR Matsushiro Arr 60.19 302 P **P 19 25 09.7 -0.3**
comp=Z,7.9nm,0.9s,mb4.8,baz=101,slow=4.0,SNR=28
MJAR LR LR 19 48 19.8
comp=Z,150nm,18.6s,MS4.2,baz=115,slow=33
MAJO Matsushiro 60.20 302 *eP* **P 19 25 08.9 -1.2**
MAJO pmax pmax
comp=Z,20nm,0.9s,mb5.2
MAJO MLR MLR
comp=Z,214nm,19.0s,MS4.3
MAJO Matsushiro 60.20 302 *eP* **P 19 25 08.9 -1.2**
comp=Z,20nm,0.9s,mb5.1
MAJO LR LR
comp=Z,214nm,19.0s,MS4.3
MAT Matsushiro 60.20 302 *eP* **P 19 25 10.0 -0.1**
MAT *eS* **S 19 33 25.0 +5.2**
MAT pmax pmax
comp=Z,25nm,1.2s,mb5.1
MAT Matsushiro 60.20 302 *eP* **P 19 25 10.0 -0.1**
comp=Z,25nm,1.2s,mb5.1
MAT *eS* **S 19 33 25.0 +5.2**
MAT Matsushiro 60.20 302 P **P 19 25 09.8 -0.3**
MAT S **S 19 33 25.0 +5.2**
PLAL Pickwick Lake 61.17 60 *eP* **P 19 25 14.7 -2.0**
PLAL LR LR
comp=Z,211nm,21.0s,MS4.3
WVT Waverly 61.30 59 *eP* **P 19 25 15.7 -1.9**
WVT pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
WVT MLR MLR
comp=Z,148nm,19.0s,MS4.2
WVT Waverly 61.30 59 *eP* **P 19 25 15.7 -1.8**
comp=Z,6.2nm,1.1s,mb4.7
WVT LR LR
comp=Z,148nm,19.0s,MS4.2
LRAL Lakeview Retre 62.21 62 *eP* **P 19 25 22.2 -1.6**
comp=Z,14nm,0.7s,mb5.2
LRAL LR LR
comp=Z,240nm,21.0s,MS4.3
URZ Urewera 62.39 204 P **P 19 25 21.5 -3.4**
comp=Z,9.8nm,0.8s,mb5.0,baz=331,slow=19,SNR=3.3
URZ LR LR 19 45 53.8
comp=Z,325nm,21.0s,MS4.5,baz=313,slow=30
WCI Wyandotte Cave 62.41 56 PFAKE 19 25 40.0 +15
WCI LR LR
comp=Z,229nm,22.0s,MS4.3
SWET Sewanee 62.90 60 *eP* **P 19 25 26.6 -1.7**
RPN Rapa Nui 63.98 134 LR LR 19 46 14.5
comp=Z,376nm,18.0s,MS4.6,baz=310,slow=29
MYNC Murphy 64.39 60 PFAKE 19 25 50.0 +12
MYNC LR LR
comp=Z,234nm,21.0s,MS4.3
TZTN Tazewell 64.71 58 *eP* **P 19 25 38.3 -1.8**
KLR Kul'dur 64.74 316 *eP* **P 19 25 35.7 -4.4**
MDJ Mudanjiang 66.36 311 P **P 19 25 50.1 -0.5**
MDJ PCP PcP 19 26 18.5 -1.6
MDJ S S 19 34 41.6 +4.9
MDJ AMB AMB
comp=Z,50nm,1.0s,mb5.5
MDJ AMB AMB
comp=Z,224nm,6.8s
MDJ LR LR
comp=N,85nm,23.1s
MDJ LR LR
comp=E,274nm,32.0s
MDJ LR LR
comp=Z,348nm,32.0s
MDJ Mudanjiang 66.36 311 PFAKE 19 26 00.0 +9.4
MDJ LR LR
comp=Z,424nm,22.0s,MS4.6
YAK Yakutsk 66.39 330 *c iP* **P 19 25 49.2 -1.3**
YAK pmax pmax
comp=Z,21nm,1.0s,mb5.1
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK Yakutsk 66.39 330 *eP* **P 19 25 49.0 -1.4**
comp=E,24nm,0.8s,mb5.3
YAK LR LR
comp=Z,460nm,20.0s,MS4.7
FWV Forest Hill 66.78 56 *eP* **P 19 25 52.3 -1.1**
JSC Jenkinsville 66.83 60 P **P 19 25 52.5 -1.3**
ELN Prospectdale 66.87 57 *eP* **P 19 25 52.6 -1.4**
BLA Blacksburg 67.14 57 *eP* **P 19 25 54.7 -1.0**
BLA pmax pmax
comp=Z,14nm,0.7s,mb5.1
BLA MLR MLR
comp=Z,230nm,19.0s,MS4.4
BLA Blacksburg 67.14 57 *eP* **P 19 25 54.7 -0.9**
comp=Z,14nm,0.7s,mb5.1
BLA LR LR
comp=Z,230nm,19.0s,MS4.4
COW Cow Castle Cre 67.41 61 *eP* **P 19 25 56.5 -1.0**
TIXI Tiksi 67.70 341 *eP* **P 19 25 56.6 -2.1**
TIXI pmax pmax
comp=Z,11nm,1.0s,mb4.8
TIXI MLR MLR
comp=Z,99nm,15.0s,MS4.2
TIXI Tiksi 67.70 341 PFAKE 19 26 10.0 +11
TIXI LR LR
comp=Z,352nm,20.0s,MS4.6
NHSC New Hope 67.89 61 PFAKE 19 26 10.0 +10
NHSC LR LR
comp=Z,284nm,20.0s,MS4.5
JTS JuntasAbangare 68.43 86 PFAKE 19 26 10.0 +5.9
JTS LR LR
comp=Z,42nm,21.0s,MS3.6
CTA Charters Tower 69.00 239 P **P 19 26 07.8 +0.2**
comp=Z,5.1nm,0.9s,mb4.5,baz=56,slow=14,SNR=2.7
CTA LR LR 19 51 11.2
comp=Z,98nm,19.9s,MS4.0,baz=64,slow=32
INCN Inchon 69.33 304 PFAKE 19 26 20.0 +11
INCN LR LR
comp=Z,245nm,19.0s,MS4.5
CN2 Changchun 69.40 311 *eP* **P 19 26 08.3 -1.3**
CN2 *eS* S 19 35 12.9 -0.1
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CN2 AMB AMB
comp=Z,400nm,7.0s
CN2 LR LR
comp=N,400nm,14.0s,MS5.0
CN2 LR LR
comp=E,500nm,14.0s,MS5.0
CN2 LR LR
comp=Z,500nm,16.0s,MS4.8
CBN Corbin 69.40 55 PFAKE 19 26 20.0 +10
CBN LR LR
comp=Z,287nm,22.0s,MS4.5
RPZ Rata Peaks 69.44 205 LR LR 19 50 22.6
comp=Z,465nm,20.4s,MS4.7,baz=27,slow=31
BINY Binghamton 69.91 51 *eP* **P 19 26 10.8 -1.9**
comp=Z,8.3nm,1.1s,mb4.6
NCB Newcomb 70.95 49 PFAKE 19 26 30.0 +11
NCB LR LR
comp=Z,163nm,21.0s,MS4.3
SNY Shenyang 71.03 309⇑ P **P 19 26 19.4 -0.1**
SNY AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
HIA Hailar 72.57 317 PFAKE 19 26 40.0 +11
HIA LR LR
comp=Z,356nm,19.0s,MS4.7
HRV Harvard--Oak R 73.11 50 PFAKE 19 26 40.0 +8.1
HRV LR LR
comp=Z,219nm,19.0s,MS4.5
BRYW Bryant College 73.22 51 P **P 19 26 32.6 0.0**
comp=Z,78nm,0.6s,mb5.8
SCHQ Schefferville 74.02 37 P **P 19 26 35.0 -2.0**
comp=Z,6.9nm,0.8s,mb4.6,baz=312,slow=5.6,SNR=8.4
SCHQ LR LR 19 56 05.8
comp=Z,164nm,18.8s,MS4.3,baz=293,slow=33
SCHQ Schefferville 74.02 37 P **P 19 26 35.0 -2.0**
SCHQ LR LR 19 56 05.8
WVL Waterville 74.09 48 PFAKE 19 26 50.0 +12
WVL LR LR
comp=Z,6μm,22.0s,MS5.8
BOD Bodaibo 74.50 326 *eP* **P 19 26 39.0 -0.7**
BOD pmax pmax
comp=Z,28nm,1.1s,mb5.1
PQI Presque Isle 74.81 45 PFAKE 19 26 50.0 +8.3
PQI LR LR
comp=Z,2μm,22.0s,MS5.4
EMMW East Machias 75.59 47 PFAKE 19 27 00.0 +14
EMMW LR LR
comp=Z,2μm,21.0s,MS5.4
CIT Chita 75.94 320 *eP* **P 19 26 48.3 +0.3**
CIT *e* 19 26 53.7
CIT pmax pmax
comp=Z,48nm,1.7s,mb5.2
NJ2 Nanjing 76.66 300 *eP* **P 19 26 51.8 -0.7**
NJ2 PP PP 19 29 45.6 -0.9
NJ2 S S 19 36 36.0 +0.5
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
NJ2 AMB AMB
comp=Z,600nm,5.5s
NJ2 LR LR
comp=N,700nm,20.4s,MS5.1
NJ2 LR LR
comp=E,630nm,21.6s,MS5.1
NJ2 LR LR
comp=Z,960nm,17.3s,MS5.2
SFJD Kangerlussuaq 78.44 23⇑ *iP* **P 19 27 01.7 +0.1**
SFJD *eS* S 19 37 09.9 +16
SFJD pmax pmax
comp=Z,46nm,0.7s,mb5.5
SFJD MLR MLR
comp=Z,420nm,18.0s,MS4.8
SFJD Kangerlussuaq 78.44 23⇑ *iP* **P 19 27 01.7 +0.1**
comp=Z,46nm,0.7s,mb5.5
SFJD *eS* S 19 37 09.9 +16
SFJD LR LR
comp=Z,420nm,18.0s,MS4.8
SFJD Kangerlussuaq 78.44 23⇑ *iP* **P 19 27 01.7 +0.1**
comp=Z,46nm,0.7s,mb5.5
SFJD Kangerlussuaq 78.44 23 *eS* S 19 37 09.9 +16
comp=Z,410nm,18.0s
STKA Stephens Creek 78.60 231 *eP* **P 19 27 03.2 0.0**
comp=Z,3.2nm,0.7s,mb4.4
STKA Stephens Creek 78.60 231 P **P 19 27 02.9 -0.2**
comp=Z,2.3nm,0.8s,mb4.1,baz=186,slow=22,SNR=7.0
STKA LR LR 19 57 03.4
comp=Z,187nm,19.8s,MS4.4,baz=206,slow=32
WRAB Tennant Creek 78.86 244 P **P 19 27 01.2 -3.6**
WRA Warramunga Arr 78.87 244 *iP* **P 19 27 06.1 +1.2**
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 78.87 244 P **P 19 27 04.9 0.0**
comp=Z,1.7nm,0.8s,mb4.0,baz=62,slow=5.8,SNR=5.6
SUMG Summit 79.80 16 *eP* **P 19 27 09.5 +0.6**
comp=Z,69nm,1.0s,mb5.5
HHC Hu-ho-hao-te 80.06 310 *eP* **P 19 27 10.4 -0.5**
HHC PP PP 19 30 15.8 +1.2
HHC S S 19 37 15.6 +4.0
HHC SKS SKS 19 37 21.5 -8.2
HHC AMB AMB
comp=Z,279nm,13.1s
HHC LR LR
comp=N,426nm,15.5s,MS5.1
HHC LR LR
comp=E,303nm,10.7s,MS5.1
HHC LR LR
comp=Z,296nm,14.3s,MS4.8
ROSC El Rosal 80.09 88 P **P 19 27 11.1 -0.5**
comp=Z,2.1nm,0.3s,mb4.5,baz=292,slow=22,SNR=3.8
ROSC LR LR 19 56 46.1
comp=Z,70nm,21.1s,MS4.0,baz=329,slow=31
ULN Ulaanbaatar 81.08 317 PFAKE 19 27 30.0 +14
ULN LR LR
comp=Z,326nm,20.0s,MS4.7
BTO Baotou 81.26 310 *eP* **P 19 27 17.1 -0.1**
IRK Irkutsk 81.37 322 *eP* **P 19 27 17.5 0.0**
IRK pmax pmax
comp=Z,37nm,1.5s,mb5.1
SONM Songino Array 81.52 318 P **P 19 27 18.6 +0.2**
comp=Z,7.7nm,0.8s,mb4.7,baz=72,slow=3.9,SNR=25
SONM LR LR 20 04 39.1
comp=Z,408nm,18.1s,MS4.8,baz=72,slow=36
TLY Talaya 81.92 322 *eP* **P 19 27 21.1 +0.7**
TLY pmax pmax
comp=Z,14nm,0.9s,mb4.9
KBS Kingsbay 82.13 2 PFAKE 19 27 30.0 +8.9
KBS LR LR
comp=Z,189nm,20.0s,MS4.5
SDV Santo Domingo 82.34 83 *eP* **P 19 27 23.6 +0.3**
comp=Z,11nm,0.8s,mb4.8
SDV LR LR

comp=Z,114nm,20.0s,MS4.2
ZAK Zakamensk 82.59 321 *e*P P **19 27 24.7 +0.8**
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
SJG San Juan 83.69 73 PFAKE 19 27 40.0 +10
SJG LR LR
comp=Z,88nm,20.0s,MS4.1
FITZ Fitzroy Crossi 85.73 249 LR LR 20 03 00.3
comp=Z,139nm,21.7s,MS4.3,baz=79,slow=34
LZH Lanzhou 87.33 307 *e*P P **19 27 47.0 -1.0**
LZH AP pP 19 27 56.5 -1.6
LZH XP sP 19 28 00.8 -0.6
LZH *e*PP PP 19 31 13.5 -1.3
LZH SKS SKS 19 38 09.0 -10
LZH *e*S S 19 38 23.3 -0.9
LZH AMB AMB
comp=Z,25nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,305nm,6.5s
LZH LR LR
comp=N,677nm,15.8s
LZH LR LR
comp=Z,983nm,18.1s,MS5.3
QIZ Qiongzhong 88.21 289 *e*P P **19 27 53.8 +1.3**
QIZ Qiongzhong 88.21 289 PFAKE 19 28 00.0 +7.5
QIZ LR LR
comp=Z,279nm,19.0s,MS4.7
GTA Gaotai 89.01 311 *e*P P **19 27 56.6 +0.6**
GTA AP pP 19 28 02.6 -3.5
GTA SKS SKS 19 38 24.8 -5.0
GTA S S 19 38 46.9 +7.1
GTA XS 19 38 56.4
GTA AMB AMB
comp=Z,11nm,1.0s,mb5.1
GTA AMB AMB
comp=Z,178nm,8.0s
GTA LR LR
comp=N,279nm,17.1s,MS5.0
GTA LR LR
comp=E,403nm,19.4s,MS5.0
GTA LR LR
comp=Z,349nm,15.6s,MS4.9
ZAL Zalesovo 91.04 329 *i*P P **19 28 06.6 +1.6**
ZAL pmax pmax
comp=Z,5.0nm,0.9s
ZAL Zalesovo 91.04 329 P P **19 28 05.2 +0.2**
comp=Z,5.3nm,0.9s,mb4.9,baz=60,slow=6.3,SNR=34
NVS Novosibirsk 91.26 330⇑ *i*P P **19 28 05.9 -0.1**
NVS pmax pmax
comp=Z,24nm,1.3s,mb5.4
NVS pmax pmax
comp=E,14nm,1.4s
KEV Kevo 91.59 359 PFAKE 19 28 20.0 +13
KEV LR LR
comp=Z,182nm,22.0s,MS4.5
ARCES ARCESS Array B 91.83 360 P P **19 28 07.7 -0.6**
comp=Z,6.6nm,0.9s,mb5.0,baz=346,slow=5.0,SNR=10
ARCES LR LR 20 10 32.9
comp=Z,209nm,19.0s,MS4.6,baz=9.8,slow=36
KMI Kunming 92.26 297 P P **19 28 11.6 +0.3**
KMI AP pP 19 28 20.5 -0.9
KMI XP sP 19 28 23.9 -0.8
KMI S S 19 39 07.9 -1.3
KMI SS SS 19 45 19.8 -3.6
KMI AMB AMB
comp=Z,8.0nm,1.3s,mb4.9
KMI AMB AMB
comp=Z,217nm,5.6s
KMI LR LR
comp=Z,160nm,24.5s,MS4.4
LPAZ La Paz 92.73 106 P P **19 28 13.4 -0.2**
comp=Z,1.4nm,0.6s,mb4.6,baz=218,slow=4.5,SNR=5.9
LPAZ La Paz 92.73 106 P P **19 28 13.4 -0.2**
LPAZ LR LR
comp=Z,188nm,20.0s,MS4.5
SAML Samuel 95.00 98 *e*P P **19 28 22.2 -1.9**
comp=Z,2.3nm,0.8s,mb4.7
WMQ Urumqi 95.01 320 *e*P P **19 28 26.8 +3.3**
WMQ AP pP 19 28 30.4 -3.2
WMQ PP PP 19 32 18.4 +3.4
WMQ S S 19 39 38.0 +5.5
WMQ AMB AMB
comp=Z,36nm,2.3s,mb5.4
WMQ AMB AMB
comp=Z,87nm,8.1s
WMQ LR LR
comp=Z,942nm,25.5s,MS5.2
KURK Kurchatov 96.01 329 *e*P P **19 28 27.6 -0.3**
KURK pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
KURK MLR MLR
comp=Z,72nm,21.0s,MS4.1
KURK Kurchatov 96.01 329 *e*P P **19 28 27.6 -0.3**
comp=Z,1.8nm,0.8s,mb4.5
KURK LR LR
comp=Z,72nm,21.0s,MS4.1
MKAR Makanchi Array 96.50 324 P P **19 28 29.9 -0.3**
comp=Z,2.4nm,1.0s,mb4.6,baz=68,slow=6.5,SNR=9.5
MKAR LR LR 20 11 35.6
comp=Z,186nm,18.7s,MS4.6,baz=90,slow=35
NWAO Narrogin (SRO) 97.83 238 LR LR 20 06 14.0
comp=Z,142nm,21.4s,MS4.4,baz=263,slow=31
BRVK Borovoye 98.18 334 PFAKE 19 28 50.0 +12
BRVK LR LR
comp=Z,64nm,22.0s,MS4.1
PLCA Paso Flores 98.37 130 LR LR 20 02 23.5
comp=Z,195nm,19.9s,MS4.6,baz=311,slow=29
PLCA Paso Flores 98.37 130 PFAKE 19 28 50.0 +11
PLCA LR LR
comp=Z,289nm,19.0s,MS4.8
SVE Sverdlovsk 98.73 341 *e*P P **19 28 33.3 -6.7**
SVE *e* 19 32 41.0
SVE *e*S S 19 40 04.0 +0.4
SVE MLR MLR
comp=N,200nm,16.0s,MS4.8
SVE MLR MLR
comp=E,100nm,16.0s,MS4.8
SVE MLR MLR
comp=Z,200nm,16.0s,MS4.7
SBA Scott Base 98.96 188 PFAKE 19 28 50.0 +9.3
SBA LR LR
comp=Z,655nm,19.0s,MS5.2
VNDA Vanda 99.35 189 LR LR 20 06 33.9
comp=Z,206nm,21.5s,MS4.6,baz=312,slow=31
VNDA Vanda 99.35 189 PFAKE 19 28 50.0 +7.6
VNDA LR LR
comp=Z,390nm,20.0s,MS4.9
NOA NORSAR Array B 99.64 7 LR LR 20 11 32.8
comp=Z,143nm,20.9s,MS4.5,baz=350,slow=34
LSA Lhasa 99.68 306 PFAKE 19 29 00.0 +15
LSA LR LR
comp=Z,177nm,20.0s,MS4.6
ARU Arti 99.70 342 ⇓ *i*P P **19 28 46.3 +1.9**
ARU *e* 19 32 50.7
ARU *e*PPP PPP 19 34 52.6 -7.6
ARU *e*S SKS 19 39 21.9 -6.2
ARU *e*SS SS 19 47 09.3 +1.8
ARU pmax pmax
comp=Z,3.0nm,1.1s,mb4.6
ARU Arti 99.70 342 PFAKE 19 29 00.0 +16
ARU LR LR
comp=Z,64nm,20.0s,MS4.1
FINES FINESS Array B 99.95 359 P P **19 28 43.8 -1.7**
comp=Z,2.0nm,0.9s,mb4.6,baz=14,slow=7.9,SNR=7.0
KONO Kongsberg 100.81 8 PFAKE 19 29 00.0 +11
KONO LR LR
comp=Z,266nm,21.0s,MS4.7
ESK Eskdalemuir 102.43 16 PFAKE 19 29 10.0 +13
ESK LR LR
comp=Z,75nm,19.0s,MS4.2
AAK Ala-Archa 103.43 324 PFAKE 19 29 10.0 +8.6
AAK LR LR
comp=Z,41nm,19.0s,MS4.0
OBN Obninsk 105.59 353 PFAKE 19 33 30.0
OBN LR LR
comp=Z,54nm,20.0s,MS4.1
CASY Casey 108.71 205 PFAKE 19 33 40.0
CASY LR LR
comp=Z,617nm,20.0s,MS5.2
DPC Dobruska-Polom 110.70 6 AMS AMS 20 20 50.0
comp=Z,100nm,19.6s
PRU Pruhonice 110.87 7 AMS AMS 20 16 20.0
comp=Z,100nm,19.8s
OKC Ostrava-Krasne 111.36 4 AMS AMS 20 23 20.0
comp=Z,100nm,21.0s
KHC Kasperske Hory 111.60 8 AMS AMS 20 16 40.0
comp=Z,200nm,20.9s
KIV Kislovodsk 115.30 346 PFAKE 19 33 50.0 +3.6
KIV LR LR
comp=Z,55nm,21.0s,MS4.1
ESLA Sonseca Array 115.97 24 PFAKE 19 33 50.0 +2.1
ESLA LR LR
comp=Z,795nm,19.0s,MS5.3
GNI Garni 118.32 342 PFAKE 19 34 00.0 +7.6
GNI LR LR
comp=Z,191nm,21.0s,MS4.7
BRTR Keskin Array B 121.08 352 PKP PKPdf 19 33 53.1 -4.7
comp=Z,1.1nm,0.8s,baz=117,slow=2.8,SNR=4.6
VNA3 Neumayer Olymp 123.90 167 PKPdf 19 33 58.3 -4.2
VNA3 Neumayer Olymp 123.90 167 PKPdf 19 34 10.5 +8.0
VNA3 Neumayer Olymp 123.90 167 PKPdf 19 34 24.2 +22
VNA3 Neumayer Olymp 123.90 167 PKPdf 19 34 35.6 +33
VNA3 Neumayer Olymp 123.90 167 P PKPdf 19 33 56.4 -6.1
VNA3 P 19 33 58.3
VNA2 Neumayer--Watz 124.61 168 PKPdf 19 33 59.7 -4.1
VNA2 Neumayer--Watz 124.61 168 PKPdf 19 34 03.5 -0.3
VNA2 Neumayer--Watz 124.61 168 PKPdf 19 34 08.5 +4.7
VNA2 Neumayer--Watz 124.61 168 PKPdf 19 34 18.3 +15
VNA2 Neumayer--Watz 124.61 168 PKPdf 19 34 30.5 +27
VNA2 Neumayer--Watz 124.61 168 P PKPdf 19 33 57.7 -6.1
VNA2 P 19 33 59.7
VNA2 P 19 34 03.5
VNA1 Neumayer--Stat 124.65 167 PKPdf 19 34 17.3 +13
SNAA Sanae 124.83 170 PKPdf 19 33 59.4 -4.8
SNAA Sanae 124.83 170 PKPdf 19 34 08.6 +4.4
SNAA Sanae 124.83 170 PKPdf 19 34 17.8 +14
MAW Mawson 125.56 197 PKP PKPdf 19 34 01.4 -4.2
comp=Z,1.1nm,0.7s,baz=162,slow=3.2,SNR=3.3
DBIC Dimbokro 141.49 51 PKP PKPdf 19 34 33.6 -3.3
comp=Z,10nm,0.9s,baz=326,slow=3.7,SNR=7.5
MBAR Mbarara 160.84 341 PFAKE 19 35 10.0 +4.6
MBAR LR LR
comp=Z,61nm,20.0s
BOSA Boshof 170.29 184 PFAKE 19 35 20.0 +7.3
BOSA LR LR
comp=Z,317nm,19.0s
TSUM Tsumeb 173.43 94 PFAKE 19 35 20.0 +5.4
TSUM LR LR
comp=Z,304nm,21.0s
LSZ Lusaka 174.98 315 PFAKE 19 35 20.0 +4.9
LSZ LR LR
comp=Z,365nm,21.0s

CASC 17 19:27:12.2±1.1, 13.80N×90.63W, h72km±7km, MD3.5, 6C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.41**	**24**	⇓ *e*P	P	19 27 25.0	+0.5
IXG				*e*S	S	19 27 34.4	+0.7
PCG	**Pacaya**	**0.59**	**2**	⇓ *e*P	P	19 27 26.8	+0.5
PCG				*e*S	S	19 27 38.5	+1.9
FUG	**Fuego 3**	**0.68**	**342**	⇑ *e*P	P	19 27 27.3	+0.2
FUG				*e*S	S	19 27 39.5	+1.2
RTR	**El Retiro**	**0.96**	**84**	⇑ *e*P	P	19 27 30.1	-0.4
RTR				*e*S	S	19 27 44.8	+0.6
RBDL	**Robledal**	**0.97**	**71**	⇑ *e*P	P	19 27 30.1	-0.5
RBDL				*e*S	S	19 27 44.9	+0.6
SBLS	**San Blas**	**0.98**	**88**	⇑ *e*P	P	19 27 30.6	-0.1
SBLS				*e*S	S	19 27 45.6	+1.0
SNJE	**San Jose**	**0.99**	**86**	⇑ *e*P	P	19 27 30.9	-0.1
SNJE				*e*S	S	19 27 45.8	+0.8
TP2	**Tecpan 2**	**1.05**	**339**	⇓ *e*P	P	19 27 32.5	+0.8
TP2				*e*S	S	19 27 48.0	+1.8
BQQS	**Boqueron**	**1.31**	**93**	*e*P	P	19 27 35.1	-0.2
LFU	**La Fuente**	**1.47**	**92**	*e*P	P	19 27 36.9	-0.5
LFRS	**El Faro**	**1.53**	**96**	⇑ *e*P	P	19 27 38.1	-0.1
LFRS				*e*S	S	19 27 58.5	+1.1
MRL	**Marmol**	**1.55**	**36**	⇓ *i*P	P	19 27 39.3	+0.8
MRL				*e*S	S	19 27 58.1	+0.3
LCBS	**La Ceiba**	**1.61**	**95**	*e*P	P	19 27 39.1	-0.1
LCBS				*e*S	S	19 28 00.4	+1.2
SNVI	**San Vicente**	**1.75**	**96**	*e*P	P	19 27 41.0	-0.1
SNVI				*e*S	S	19 28 04.0	+1.6

*IDC **17** 19:33:15.3±2.0, 19.83N×109.50W, mb4.1/11, mb1 4.2/12, mb1mx4.0/22, mbtmp4.1/12, ML3.1/1, MS3.9/7, Ms1 3.9/7, ms1mx3.7/18, Error ellipse: s-maj=74.8km s-min=15.6km az=65.0*
*NEIC **17** 19:33:17.7±0.7, 19.66N×109.31W, h10km, mb4.4/24, Error ellipse: s-maj=15.2km s-min=8.0km az=64.0*
ISC 17 19:33:19.8±0.7, 19.75N±0.06×109.23W±0.10, h33km, n63, σ1s06/60, mb4.2/26, MS3.8/6, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTX	**Lajitas**	**10.80**	**27**	*e*P	P	**19 35 54.5**	**-0.7**
	42nm,1.1s						
MNTX	**Cornudas Mount**	**12.40**	**15**	*e*P	P	**19 36 16.0**	**-0.7**
	47nm,1.7s						
TUC	**Tucson**	**12.59**	**354**	*e*P	P	**19 36 18.8**	**-0.6**
	15nm,1.0s						
GDL2	**Guadalupe Moun**	**13.15**	**18**	*e*P	P	**19 36 27.8**	**+1.0**
CLNB	**Carlsbad**	**13.36**	**20**	*e*P	P	**19 36 31.2**	**+1.6**
CPRX	**Cap Rock**	**14.07**	**19**	*e*P	P	**19 36 39.8**	**+0.9**
LENM	**Lemitar**	**14.50**	**7**	*e*P	P	**19 36 45.6**	**+1.0**
BNM	**Barren Site**	**14.53**	**9**	*e*P	P	**19 36 45.7**	**+0.7**
LPM	**Los Pinos Moun**	**14.69**	**9**	*e*P	P	**19 36 47.1**	**+0.1**
LAZ	**Ladron**	**14.72**	**7**	*e*P	P	**19 36 48.5**	**+1.1**
PFO	**Pinyon Flat Ob**	**15.23**	**336**	*e*P	P	**19 36 55.4**	**+1.2**
	13nm,0.3s						
ANMO	**Albuquerque**	**15.34**	**9**	Pn	P	**19 36 54.1**	**-1.4**
	baz=195,slow=10,SNR=8.8						
ANMO				LR	LR	19 42 28.7	
	comp=Z,384nm,20.3s,slow=36						
ANMO	**Albuquerque**	**15.34**	**9**	*e*P	P	**19 36 55.0**	**-0.5**
	71nm,1.9s						
NEN	**Nelson**	**16.60**	**344**	*e*P	P	**19 37 11.8**	**+0.3**
SDCO	**Great Sand Dun**	**18.23**	**9**	*e*P	P	**19 37 32.4**	**+0.4**
	29nm,1.3s						
MSU	**Marysvale**	**18.88**	**353**	*e*P	P	**19 37 39.8**	**0.0**
SRU	**San Rafael**	**19.33**	**357**	*e*P	P	**19 37 44.3**	**-0.7**
MTUM	**Tungsten Hills**	**19.34**	**337**	P	P	**19 37 44.1**	**-1.1**
SMCO	**Snowmass**	**19.46**	**5**	*e*P	P	**19 37 46.0**	**-0.5**
ISCO	**Idaho Springs**	**20.23**	**8**	*e*P	P	**19 37 54.0**	**-0.8**
	14nm,1.3s						
MPU	**Maple Canyon**	**20.31**	**355**	*e*P	P	**19 37 56.5**	**+0.9**
CMB	**Columbia Colle**	**20.64**	**334**	*e*P	P	**19 37 57.5**	**-1.6**
	6.0nm,1.1s						
JLU	**Jordanelle**	**20.87**	**355**	*e*P	P	**19 38 01.6**	**+0.2**
CTU	**Camp Tracy**	**20.99**	**355**	*e*P	P	**19 38 04.0**	**+1.4**
WCN	**Washoe City**	**21.50**	**337**	*e*P	P	**19 38 08.5**	**+0.7**
	26nm,1.3s,mb4.5						
ELK	**Elko**	**21.55**	**347**	P	P	**19 38 06.2**	**-2.1**
	4.0nm,1.1s,mb3.8,baz=193,slow=9.0,SNR=8.6						
ELK				LR	LR	19 45 38.5	
	comp=Z,155nm,18.6s,MS3.4,baz=348,slow=35						
ELK	**Elko**	**21.55**	**347**	*e*P	P	**19 38 06.1**	**-2.2**
	20nm,1.5s,mb4.3						
PHWY	**Pilot Hill**	**21.73**	**8**	*e*P	P	**19 38 09.4**	**-0.6**
HWUT	**Hardware Ranch**	**21.88**	**355**	*e*P	P	**19 38 11.3**	**-0.2**
	10nm,1.0s,mb4.2						
HVU	**Hansel Valley**	**22.17**	**353**	*e*P	P	**19 38 13.6**	**-0.9**
BEKR	**Beckwourth**	**22.22**	**337**	*e*P	P	**19 38 16.8**	**+1.9**
	14nm,1.2s,mb4.3						
PDAR	**Pinedale Array**	**22.95**	**359**	P	P	**19 38 21.1**	**-1.0**
	1.9nm,0.9s,mb3.5,baz=180,slow=4.4,SNR=14						
REDW	**Red Top Meadow**	**23.59**	**357**	*e*P	P	**19 38 28.6**	**+0.3**
	9.5nm,1.0s,mb4.2						
RRI2	**Red Ridge**	**23.60**	**356**	*e*P	P	**19 38 31.2**	**+2.8**
	34nm,1.5s,mb4.5						
TPAW	**Teton Pass**	**23.72**	**357**	*e*P	P	**19 38 30.0**	**+0.4**
	25nm,1.3s,mb4.5						
LOHW	**Long Hollow**	**23.82**	**358**	*e*P	P	**19 38 31.0**	**+0.4**
	40nm,1.9s,mb4.5						
WVOR	**Wild Horse Val**	**23.98**	**343**	*e*P	P	**19 38 35.6**	**+3.4**
	9.2nm,1.0s,mb4.2						
MOD	**Modoc**	**24.00**	**339**	*e*P	P	**19 38 34.3**	**+1.9**
	19nm,1.4s,mb4.3						
CCM	**Cathedral Cave**	**24.02**	**37**	*e*P	P	**19 38 32.1**	**-0.5**
PLAL	**Pickwick Lake**	**24.08**	**47**	*e*P	P	**19 38 32.9**	**-0.3**
	7.2nm,1.0s,mb4.1						
IMW	**Indian Meadow**	**24.12**	**357**	P	P	**19 38 33.8**	**+0.2**
	7.5nm,1.1s,mb4.0						
HLID	**Hailey**	**24.14**	**351**	*e*P	P	**19 38 34.5**	**+0.8**
	13nm,1.4s,mb4.2						
FVM	**French Village**	**24.44**	**38**	*e*P	P	**19 38 36.5**	**-0.3**
	18nm,1.4s,mb4.3						
RSSD	**Black Hills**	**24.69**	**9**	*e*P	P	**19 38 38.3**	**-0.7**
	7.8nm,1.1s,mb4.2						
YBH	**Yreka Blue Hor**	**24.73**	**335**	LR	LR	19 47 26.4	
	comp=Z,122nm,20.2s,MS3.4,baz=332,slow=35						
HRY	**Holter Researc**	**26.98**	**356**	P	P	**19 38 59.3**	**-1.1**
CHMT	**Chamberlain Mo**	**27.30**	**354**	*e*P	P	**19 39 02.4**	**-1.0**
NEW	**Newport**	**29.16**	**349**	LR	LR	19 50 53.7	
	comp=Z,167nm,19.7s,MS3.7,baz=67,slow=36						
ULM	**Lac du Bonnet**	**32.24**	**16**	P	P	**19 39 44.7**	**-2.5**
	6.8nm,1.0s,mb4.4,baz=200,slow=9.3,SNR=5.3						
ULM	**Lac du Bonnet**	**32.24**	**16**	P	P	**19 39 44.7**	**-2.5**
SDV	**Santo Domingo**	**38.84**	**101**	P	P	**19 40 44.5**	**+0.9**
	8.9nm,0.8s,mb4.5,baz=349,slow=6.9,SNR=3.2						
SDV	**Santo Domingo**	**38.84**	**101**	*e*P	P	**19 40 45.2**	**+1.6**
	12nm,0.8s,mb4.7						
YKA	**Yellowknife Ar**	**42.87**	**356**	P	P	**19 41 14.1**	**-2.4**
	0.9nm,0.6s,mb3.7,baz=171,slow=7.8,SNR=7.0						
YKA				LR	LR	19 59 16.2	
	comp=Z,191nm,19.4s,MS4.0,baz=205,slow=36						
INK	**Inuvik**	**50.88**	**349**	P	P	**19 42 15.8**	**-3.5**
	4.5nm,1.0s,mb4.3,baz=186,slow=9.9,SNR=5.9						
INK	**Inuvik**	**50.88**	**349**	*e*P	P	**19 42 18.6**	**-0.7**
	9.4nm,0.9s,mb4.7						
SAML	**Samuel**	**53.56**	**118**	*e*P	P	**19 42 38.8**	**-1.3**
	3.2nm,1.2s,mb4.1						
LPAZ	**La Paz**	**53.98**	**129**	P	P	**19 42 43.9**	**+0.8**
	1.6nm,0.8s,mb4.0,baz=352,slow=8.6,SNR=6.6						
LPAZ	**La Paz**	**53.98**	**129**	*e*P	P	**19 42 44.0**	**+0.8**
	2.9nm,0.9s,mb4.2						
PPT	**Papeete**	**54.26**	**230**	LR	LR	20 00 25.2	
	comp=Z,128nm,20.9s,MS4.0,baz=353,slow=30						
LVC	**Limon Verde**	**57.64**	**135**	P	P	**19 43 09.9**	**+0.5**
	1.4nm,0.2s,mb4.5,baz=274,slow=2.5,SNR=8.6						
SIV	**San Ignacio**	**59.18**	**123**	P	P	**19 43 20.0**	**-0.3**
	3.6nm,1.0s,mb4.4,baz=281,slow=8.6,SNR=8.7						
BDFB	**Brasilia**	**69.70**	**116**	P	P	**19 44 29.5**	**+0.8**
	1.3nm,0.6s,mb4.1,baz=301,slow=9.1,SNR=3.7						
BDFB				LR	LR	20 13 39.1	
	comp=Z,202nm,20.4s,MS4.3,baz=202,slow=35						
ARCES	**ARCESS Array B**	**85.34**	**15**	P	P	**19 45 53.7**	**-0.6**
	1.9nm,1.0s,mb4.2,baz=307,slow=6.1,SNR=3.7						

*NEIC **17** 20:08:18.2, 32.84S×68.22W, h10km, ML3.7(GUC), After GUC.*
GUC 17 20:08:18.2±0.9, 32.84S×68.22W, h10km, MD3.8, ML3.7, 1C-2D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**1.81**	**254**	*e*P	Pn	20 08 48.8	-0.9
FCH				*e*S	Sn	20 09 13.0	+0.1
LMEL	**Las Melosas**	**1.94**	**238**	*i*P	Pn	20 08 51.2	-0.5
LMEL				*i*S	Sn	20 09 17.7	+1.3
LMEL				AMP		20 09 19.2	
	comp=N,527nm,0.2s						
JACH	**Jahuel**	**2.01**	**274**	*e*P	Pn	20 08 52.3	-0.3
JACH				*i*S	Sn	20 09 18.8	+0.8
CLCH	**Cerro Calan**	**2.03**	**253**	⇓ *i*P	Pn	20 08 52.4	-0.5
CLCH				*i*S	Sn	20 09 19.1	+0.7
CLCH				AMP		20 09 23.8	
	comp=E,563nm,0.5s						
DSCH	**Colegio Aleman**	**2.05**	**254**	*e*P	Pn	20 08 53.3	+0.1
DSCH				*i*S	Sn	20 09 19.6	+0.5
DSCH				AMP		20 09 26.4	
	comp=N,664nm,0.6s						
PCH	**Pirque**	**2.08**	**247**	⇓ *i*P	Pn	20 08 54.2	+0.6
PCH				*i*S	Sn	20 09 21.1	+1.3
ANTU	**Antumapu**	**2.15**	**250**	AMP		20 09 23.8	
	comp=E,381nm,0.5s						
RCDM	**Rinconada Maip**	**2.27**	**253**	AMP		20 09 27.0	
	comp=N,201nm,0.5s						
CHCH	**Chadas Angostu**	**2.31**	**241**	*e*P	Pn	20 08 57.6	+0.6
CHCH				*i*S	Sn	20 09 27.3	+1.6
CICH	**Cipreses**	**2.36**	**231**	*i*P	Pn	20 08 58.1	+0.5
CICH				*i*S	Sn	20 09 29.0	+2.0
CACH	**El Canelo**	**2.37**	**237**	*i*P	Pn	20 08 58.8	+1.1
CACH				*i*S	Sn	20 09 29.5	+2.4
TACH	**Talagante**	**2.42**	**250**	⇑ *i*P	Pn	20 08 59.2	+0.6
TACH				*i*S	Sn	20 09 29.3	+0.8
CMCH	**Combarbala**	**2.89**	**304**	*i*P	Pn	20 09 05.4	+0.2
CMCH				*i*S	Sn	20 09 41.9	+1.5
CMCH				AMP		20 09 50.1	
	comp=E,2μm,0.7s						
TLL	**Tololo Astrono**	**3.46**	**320**	AMP		20 10 09.7	
	comp=E,330nm,0.5s						

MAN 17 20:18:07.2, 8.17N×125.82E, h10km, mb4.9, ML3.8, MS3.8, 3C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.53**	**88**	⇑ *e*P	Pg	20 18 16.2	-1.8
BIPH				*e*S	Sg	20 18 22.7	-2.5
BUKP	**Musuan**	**0.81**	**249**	*e*P	Pb	20 18 22.4	-0.5
BUKP				*e*S	Sb	20 18 40.9	+7.4
BUTP	**Butuan**	**0.82**	**346**	*e*P	Pb	20 18 22.6	-0.5
CGP	**Cagayan de Oro**	**1.15**	**284**	⇓ *e*P	Pb	20 18 28.3	-0.5
CGP				*e*S	Sb	20 18 47.9	+4.3
MATI	**Mati**	**1.29**	**160**	*e*P	Pb	20 18 26.0	-5.2
KCP	**Kidapawan**	**1.36**	**212**	⇓ *i*P	Pb	20 18 33.5	+1.1
KCP				*i*S	Sb	20 18 53.4	+3.7
SCPH	**Surigao**	**1.64**	**348**	*e*P	Pn	20 18 34.9	-1.5
SCPH				*e*S	Sn	20 19 09.4	+12
CTBH	**Cotabato--PC H**	**1.82**	**239**	⇓ *i*P	Pn	20 18 38.2	-0.8
CTBH				*e*S	Sn	20 19 04.0	+1.7
PAGZ	**Pagadian**	**2.44**	**263**	*e*P	Pn	20 18 48.1	+0.3
TBP	**Tagbilaran**	**2.46**	**308**	*e*P	Pn	20 18 47.8	-0.3
SNPH	**Sibulan**	**2.81**	**295**	⇑ *e*P	Pn	20 18 52.6	-0.5
SNPH				*i*S	Sn	20 19 28.8	+1.4
LLP	**Lapu-Lapu**	**2.81**	**320**	⇑ *i*P	Pn	20 18 53.1	-0.1
LLP				*i*S	Sn	20 19 29.1	+1.6
IPIL	**Ipil**	**3.24**	**264**	*e*P	Pn	20 19 02.6	+3.4
BESP	**Borongan**	**3.43**	**354**	*e*P	Pn	20 19 02.9	+0.9
CNP	**Catarman**	**4.46**	**345**	*e*P	Pn	20 19 16.9	+0.3

MAN 17 20:44:30.9, 8.83N×121.93E, h33km, mb4.1, ML2.9, MS2.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPIL	**Ipil**	**1.21**	**148**	*e*P	P	20 44 52.0	+0.4
IPIL				*e*S	S	20 45 06.0	-1.1
PAGZ	**Pagadian**	**1.74**	**124**	*e*P	P	20 44 59.9	+0.8
GUIM	**Jordan**	**1.90**	**20**	*e*P	P	20 45 01.1	-0.4
CUYO	**Cuyo Island**	**2.20**	**336**	*e*P	P	20 45 05.9	+0.1
ENPP	**El Nido**	**3.42**	**314**	*e*P	P	20 45 22.9	-0.2

*IDC **17** 20:50:23.4±0.9, 56.21N×163.30E, mb3.7/7, mb1 3.9/8, mb1mx3.7/20, mbtmp3.7/8, ML3.0/1, Error ellipse: s-maj=28.4km s-min=15.5km az=27.0*
*KRSC **17** 20:50:24.7±0.9, 55.93N×163.67E, h16km±2km, ML4.1*
*MOS **17** 20:50:25.4±2.1, 55.84N×163.51E, h10km, mb4.3/1, Error ellipse: s-maj=16.4km s-min=10.4km az=74.7*
*NEIC **17** 20:50:28.8±0.6, 56.04N×163.41E, h45km, Error ellipse: s-maj=15.4km s-min=13.2km az=157.0*
ISC 17 20:50:26.3±0.5, 55.88N±0.03×163.79E±0.05, h49km±7km, n48, σ1s13/76, mb3.6/7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.64**	**302**	*i*P	P	**20 50 35.4**	**-3.8**
BKI	**Bering**	**1.41**	**118**	*i*P	P	**20 50 51.0**	**+0.8**
BKI				*i*S	S	**20 51 10.0**	**+2.2**
BKI				Smax			
	310nm,0.6s						
ZLN	**Zelenaya**	**1.68**	**276**	*i*P	P	**20 50 53.8**	**-0.1**
ZLN				*e*S	S	**20 51 14.7**	**+0.3**
CIRR	**Tsirk**	**1.72**	**279**	*e*P	P	**20 50 55.0**	**+0.5**
CIRR				*e*S	S	**20 51 16.7**	**+1.3**
LGNR	**Loginova**	**1.75**	**278**	*e*P	P	**20 50 55.0**	**+0.1**
LGNR				*e*S	S	**20 51 17.2**	**+1.1**
MKZ	**Mys Kozlova**	**1.77**	**222**	*i*P	P	**20 50 54.5**	**-0.7**
MKZ				*e*S	S	**20 51 16.0**	**-0.6**
KLY	**Klyuchi**	**1.81**	**285**	P	P	**20 50 53.2**	**-2.5**
KLY				S	S	**20 51 14.2**	**-3.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KLY	**Klyuchi**	**1.81**	**285**	*i* P	**P**	**20 50 53.3**	**-2.4**
KLY				*e*S	**S**	**20 51 14.2**	**-3.3**
KRSR	**Krestovskiy**	**1.84**	**282**	*e*P	**P**	**20 50 54.9**	**-1.2**
KRSR				*e*S	**S**	**20 51 16.9**	**-1.3**
KMNR	**Kamenistaya**	**2.01**	**268**	*i* P	**P**	**20 50 58.9**	**+0.4**
KMNR				*i* S	**S**	**20 51 23.2**	**+0.8**
KPT	**Kopyto**	**2.01**	**274**	*i* P	**P**	**20 50 58.4**	**-0.1**
KPT				*i* S	**S**	**20 51 22.5**	**+0.1**
TUMR	**Tumrok**	**2.15**	**255**	*i* P	**P**	**20 51 01.3**	**+0.8**
TUMR				*i* S	**S**	**20 51 27.6**	**+1.5**
KOZR	**Kozyr**	**2.20**	**276**	PN	**P**	**20 51 01.7**	**+0.5**
KOZR				S	**S**	**20 51 29.2**	**+2.0**
KOZ	**Kozyrevsk**	**2.21**	**276**	P	**P**	**20 51 01.7**	**+0.4**
KOZ				S	**S**	**20 51 29.2**	**+1.7**
KOZ	**Kozyrevsk**	**2.21**	**276**	*i* P	**P**	**20 51 01.8**	**+0.5**
KOZ				*i* S	**S**	**20 51 28.6**	**+1.1**
SRDR	**Sredinnyy**	**2.32**	**283**	*i* P	**P**	**20 51 02.9**	**-0.1**
SRDR				*e*S	**S**	**20 51 30.6**	**+0.2**
ESO	**Esso**	**2.87**	**273**	*e*P	**P**	**20 51 10.5**	**-0.2**
ESO				*e*S	**S**	**20 51 43.6**	**-0.6**
ESO				Smax			
	130nm,1.0s						
KII	**Karymskiy**	**3.11**	**235**	P	**P**	**20 51 14.7**	**+0.5**
KII	**Karymskiy**	**3.11**	**235**	*e*P	**P**	**20 51 14.2**	**0.0**
OSSR	**Ossora**	**3.40**	**354**	P	**P**	**20 51 17.9**	**-0.4**
OSSR				*e*S	**S**	**20 51 54.5**	**-3.3**
OSSR				Smax			
	160nm,0.4s						
SPN	**Mys Shipunski**	**3.55**	**220**	P	**P**	**20 51 18.6**	**-1.8**
SPN				S	**S**	**20 51 58.0**	**-3.5**
SPN	**Mys Shipunski**	**3.55**	**220**	*e*P	**P**	**20 51 19.1**	**-1.3**
SPN				*i* S	**S**	**20 52 00.0**	**-1.5**
NLC	**Nalytchevo**	**3.75**	**225**	*i* P	**P**	**20 51 23.2**	**0.0**
NLC				*e*S	**S**	**20 52 05.2**	**-1.4**
SDLR	**Sedlovina**	**3.87**	**230**	*e*P	**P**	**20 51 25.2**	**+0.4**
SMAR	**Somma**	**3.91**	**230**	*e*P	**P**	**20 51 25.9**	**+0.4**
AVH	**Avacha**	**3.94**	**230**	*e*P	**P**	**20 51 26.3**	**+0.5**
AVH				*e*S	**S**	**20 52 10.6**	**-0.7**
UGLR	**Uglovaya**	**3.94**	**229**	*i* P	**P**	**20 51 26.4**	**+0.5**
KOK	**Koryaka**	**3.96**	**231**	*e*P	**P**	**20 51 26.8**	**+0.6**
GNL	**Ganaly**	**4.03**	**240**	*e*P	**P**	**20 51 27.6**	**+0.4**
PET	**Petropavlovsk**	**4.14**	**228**	*e*PN	**P**	**20 51 28.9**	**+0.1**
PET				*e*S	**S**	**20 52 17.3**	**+0.8**
PET				pmax	pmax		
	comp=Z,33nm,0.4s						
PET				pmax	pmax		
	comp=E,74nm,0.9s						
PET				smax			
	comp=N,73nm,0.5s						
PET	**Petropavlovsk**	**4.14**	**228**	*e*P	**P**	**20 51 28.1**	**-0.6**
PET	**Petropavlovsk**	**4.14**	**228**	*e*P	**P**	**20 51 28.7**	**-0.1**
PET				*e*S	**S**	**20 52 14.7**	**-1.8**
RUS	**Russkaya**	**4.64**	**224**	P	**P**	**20 51 35.3**	**-0.5**
RUS				S	**S**	**20 52 25.3**	**-3.7**
RUS	**Russkaya**	**4.64**	**224**	*e*P	**P**	**20 51 35.5**	**-0.3**
RUS				*e*S	**S**	**20 52 27.0**	**-2.0**
GRL	**Gorelyy**	**4.73**	**228**	*e*P	**P**	**20 51 37.6**	**+0.6**
APC	**Apacha**	**4.88**	**235**	*e*P	**P**	**20 51 39.0**	**0.0**
APC				*e*S	**S**	**20 52 32.4**	**-2.5**
APC				Smax			
	comp=N,20nm,1.0s						
MIPR	**Malaya Ipel'ka**	**5.49**	**232**	*e*P	**P**	**20 51 48.8**	**+1.2**
FX1	**Attu Island--F**	**6.25**	**115**	Pn	**P**	**20 52 01.3**	**+3.1**
	comp=N,1.1nm,0.3s,baz=109,slow=18,SNR=8.4						
FX1				Sn	**S**	**20 53 07.5**	**-1.6**
	comp=N,0.5nm,0.3s,baz=105,slow=12,SNR=2.6						
FX1	**Attu Island--F**	**6.25**	**115**	*e*P	**P**	**20 52 02.2**	**+4.0**
KAMR	**Kamenskoye**	**6.71**	**10**	*i* P	**P**	**20 52 03.7**	**-1.1**
KAMR				*i* S	**S**	**20 53 16.4**	**-4.3**
KAMR				Smax			
	comp=N,20nm,1.5s						
ILAR	**Eielson Array**	**25.34**	**49**	P	**P**	**20 55 50.5**	**+0.9**
	comp=N,0.7nm,0.9s,mb3.2,baz=261,slow=8.4,SNR=10						
MJAR	**Matsushiro Arr**	**25.96**	**233**	P	**P**	**20 55 57.1**	**+1.3**
	comp=N,0.4nm,0.4s,mb3.3,baz=347,slow=36,SNR=4.1						
MKAR	**Makanchi Array**	**48.89**	**296**	P	**P**	**20 59 06.5**	**-2.2**
	comp=N,0.7nm,0.3s,mb4.1,baz=54,slow=6.7,SNR=34						
NB2	**NORSAR Subarra**	**61.43**	**345**	P	**P**	**21 00 38.8**	**-0.5**
	comp=N,0.6nm,0.7s,mb3.8,baz=17,slow=6.5						
NOA	**NORSAR Array B**	**61.43**	**345**	P	**P**	**21 00 37.8**	**-1.5**
	comp=N,0.8nm,0.7s,mb4.0,baz=18,slow=6.9,SNR=4.8						
AKASG	**Malin Array Be**	**67.29**	**331**	P	**P**	**21 01 17.0**	**-0.3**
	comp=N,0.6nm,0.4s,mb3.9,baz=28,slow=6.3,SNR=6.0						
GERES	**GERESS Array B**	**72.69**	**340**	P	**P**	**21 01 51.2**	**+1.1**
	comp=N,0.1nm,0.4s,mb3.1,baz=27,slow=6.0,SNR=3.6						
BRTR	**Keskin Array B**	**75.78**	**323**	P	**P**	**21 02 09.7**	**+1.5**
	comp=N,0.7nm,0.7s,mb3.7,baz=45,slow=5.2,SNR=3.8						

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*SNSN **17** 21:02:21.1, 24.08N×49.61E, h91^{km}, Ml3.6*
*CSEM **17** 21:02:21.1, 24.08N×49.61E, h91^{km}, ML3.7, After SNSN*
ISC 17 21:02:19.1±2.0**, 24.0N**±0.1×**49.4E**±0.2**, h10**^{km}**, n5,** σ**0^{s}70**/6**,**
Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HASS	**Wahat al Ahsa'**	**1.25**	**12**	P	**Pb**	**21 02 42.2**	**-0.1**
HASS				S	**Sb**	**21 02 58.4**	**+0.2**
MZLS	**Mizel**	**3.84**	**272**	P	**Pn**	**21 03 20.4**	**+0.7**
ARSS	**Ar Rass**	**5.92**	**290**	P	**Pn**	**21 03 48.2**	**-0.8**
TATS	**Tathlith**	**7.05**	**233**	P	**Pn**	**21 04 05.4**	**+0.4**
DJNS	**Zahran al Janu**	**8.29**	**222**	P	**P**	**21 04 22.0**	**-0.4**

MAN 17 21:33:41.4, 9.54N×122.44E, h19^{km}, mb4.5, ML3.3, MS3.2,
2C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.81**	**104**	⇓*i*P	Pb	21 33 55.9	-0.7
SNPH				*i* S	Sb	21 34 06.0	-1.0
GUIM	**Jordan**	**1.09**	**8**	*e*P	Pb	21 34 00.9	-0.5
GUIM				*e*S	Sb	21 34 15.8	+0.5
TBP	**Tagbilaran**	**1.41**	**84**	*e*P	Pn	21 34 05.8	-0.5
TBP				*e*S	Sb	21 34 21.4	-3.0
LLP	**Lapu-Lapu**	**1.69**	**63**	⇑*i*P	Pn	21 34 09.9	-0.4
LLP				*i* S	Sn	21 34 30.0	-1.6
IPIL	**Ipil**	**1.74**	**176**	*e*P	Pn	21 34 09.9	-1.1
IPIL				*e*S	Sn	21 34 29.6	-3.3
CUYO	**Cuyo Island**	**1.92**	**313**	*e*P	Pn	21 34 14.4	+0.9
PAGZ	**Pagadian**	**1.92**	**151**	*e*P	Pn	21 34 13.6	+0.1
RCP	**Roxas**	**2.03**	**8**	⇑*e*P	Pn	21 34 15.4	+0.2
MSLP	**Maasin**	**2.46**	**76**	*e*P	Pn	21 34 21.4	+0.1
BUSP	**Coron**	**3.30**	**318**	*e*P	Pn	21 34 32.7	-0.5
ENPP	**El Nido**	**3.40**	**299**	*e*P	Pn	21 34 34.3	-0.4
BESP	**Borongan**	**3.59**	**55**	*e*P	Pn	21 34 34.7	-2.7

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*NIED **17** 21:35:00, 37.20N×135.20E, h400^{km}, Mw4.1 Best double couple: $M_0$1.71×10^{15} NP1:ϕ_s50°, δ72°, λ-112°. NP2: ϕ_s282°, δ28°, λ-42°.*
*BJI **17** 21:35:49.1, 37.07N×135.08E, h375^{km}, mB4.7, mb4.5*
*MOS **17** 21:35:50.2±0.9, 37.29N×135.23E, h383^{km}, mb4.1/6, Error ellipse: s-maj=17.2km s-min=10.6km az=119.6*
*IDC **17** 21:35:50.7±0.8, 37.31N×135.17E, h370^{km}±10^{km}, mb3.5/9, mb1 3.7/13, mb1mx3.5/22, mbtmp4.3/13, Error ellipse: s-maj=14.4km s-min=10.8km az=70.0*
*JMA **17** 21:35:51.1±0.3, 37.24N×135.21E, h379^{km}±3^{km}, M3.8*
*NEIC **17** 21:35:51.3±0.3, 37.24N×135.22E, h380^{km}±4^{km}, mb4.3/14, Error ellipse: s-maj=8.0km s-min=7.3km az=46.0*
ISC 17 21:35:50.5±0.2**, 37.28N**±0.05×**135.25E**±0.06**, h383**^{km}±4^{km}**,**
n72, σ**0^{s}84**/81**, mb4.1**/23**, 1D, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJH	**Hakui**	**1.27**	**106**	P	**P**	**21 36 41.3**	**+0.1**
JKG	**Kaga**	**1.32**	**139**	P	**P**	**21 36 41.2**	**-0.2**
JHG	**Hegura jima**	**1.44**	**66**	P	**P**	**21 36 42.6**	**+0.6**
JSZ	**Suzu**	**1.69**	**84**	P	**P**	**21 36 43.9**	**+0.6**
JGM	**Miyama**	**1.97**	**143**	P	**P**	**21 36 44.9**	**-0.1**
JGM				S	**S**	**21 37 27.2**	**-0.5**
JWT	**Wachi**	**2.00**	**176**	P	**P**	**21 36 45.0**	**-0.2**
JWT				S	**S**	**21 37 26.7**	**-1.3**
MAJO	**Matsushiro**	**2.48**	**106**	⇓*i*P	**P**	**21 36 48.9**	**+0.3**
MAT	**Matsushiro**	**2.48**	**106**	*e*P	**P**	**21 36 49.0**	**+0.4**
MAT	**Matsushiro**	**2.48**	**106**	P	**P**	**21 36 48.9**	**+0.3**
MAT	**Matsushiro**	**2.48**	**106**	P	**P**	**21 36 49.0**	**+0.4**
MJAR	**Matsushiro Arr**	**2.48**	**106**	P	**P**	**21 36 49.4**	**+0.8**
	26nm,0.3s,baz=276,slow=9.8,SNR=721						
JSD	**Sado**	**2.50**	**72**	P	**P**	**21 36 49.2**	**+0.4**
JIE	**Ise**	**3.12**	**157**	P	**P**	**21 36 54.2**	**+0.5**
JIE				*e*S	**S**	**21 37 43.7**	**+0.3**
JRY	**Ryogami san**	**3.19**	**112**	P	**P**	**21 36 54.8**	**+0.4**
JOD2	**Odawara 2**	**3.70**	**122**	P	**P**	**21 36 59.1**	**+0.1**
JOD2				*e*S	**S**	**21 37 53.6**	**+0.7**
JMK	**Ichinoseki**	**4.99**	**69**	P	**P**	**21 37 12.4**	**+0.2**
JMK				*e*S	**S**	**21 38 17.0**	**+0.8**
BSO1	**Boso 1**	**5.33**	**118**	P	**P**	**21 37 14.3**	**-1.5**
BSO1				*e*S	**S**	**21 38 21.7**	**-0.9**
JNU	**Nakatsue**	**5.48**	**222**	P	**P**	**21 37 16.4**	**-0.9**
	1.1nm,0.3s,baz=120,slow=9.9,SNR=10						
JNU				S	**S**	**21 38 25.7**	**+0.2**
	baz=158,slow=24,SNR=2.0						
JHJ	**Hachijo jima 2**	**5.57**	**137**	P	**P**	**21 37 19.4**	**+1.1**
	7.5nm,0.3s,baz=240,slow=20,SNR=4.6						
JHJ				S	**S**	**21 38 30.8**	**+3.6**
	16nm,0.3s,baz=86,slow=22,SNR=6.9						
KS15	**Wonju Array Si**	**5.87**	**274**	P	**P**	**21 37 21.8**	**+0.2**
MDJ	**Mudanjiang**	**8.49**	**331**	P	**P**	**21 37 52.1**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,33nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,257nm,6.4s						
MDJ	**Mudanjiang**	**8.49**	**331**	*e*P	**P**	**21 37 52.2**	**+0.6**
	comp=Z,40nm,1.1s						
ASAJ	**Asahikawa**	**8.81**	**37**	P	**P**	**21 37 54.9**	**-0.6**
ASAJ				S	**S**	**21 39 31.0**	**-3.2**
ASAJ				pmax	pmax		
	comp=Z,16nm,0.3s						
ASAJ				smax			
	comp=E,3.0nm,0.3s						
ASAJ	**Asahikawa**	**8.81**	**37**	P	**P**	**21 37 54.9**	**-0.7**
	comp=E,16nm,0.3s,baz=237,slow=10,SNR=75						
ASAJ				S	**S**	**21 39 31.0**	**-3.2**
	comp=E,3.0nm,0.3s,baz=104,slow=30,SNR=13						
CN2	**Changchun**	**9.90**	**314**	*e*P	**P**	**21 38 07.5**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**11.15**	**28**	*e*P	**P**	**21 38 21.5**	**-1.5**
YSS				pmax	pmax		
	comp=Z,21nm,0.4s						
YSS	**Yuzh-Sakhalins**	**11.15**	**28**	*e*P	**P**	**21 38 21.5**	**-1.5**
	comp=Z,21nm,0.4s						
KLR	**Kul'dur**	**12.21**	**349**	*e*P	**P**	**21 38 31.0**	**-4.3**
ENH	**Enshi**	**22.49**	**259**	*e*P	**P**	**21 40 18.5**	**-1.4**
	comp=Z,7.6nm,0.3s,mb4.6						
SONM	**Songino Array**	**23.60**	**306**	P	**P**	**21 40 28.4**	**-1.6**
	comp=Z,2.1nm,0.5s,mb3.8,baz=108,slow=8.2,SNR=8.1						
GTA	**Gaotai**	**27.77**	**285**	*e*P	**P**	**21 41 07.8**	**+0.3**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.0						
LSA	**Lhasa**	**37.28**	**272**	*e*P	**P**	**21 42 29.7**	**+1.0**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.8						
LSA	**Lhasa**	**37.28**	**272**	*e*P	**P**	**21 42 29.7**	**+1.0**
	comp=Z,3.0nm,0.6s,mb3.8						
ZAL	**Zalesovo**	**38.12**	**312**	P	**P**	**21 42 34.6**	**-0.8**
	comp=Z,0.9nm,0.4s,mb3.5,baz=46,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**39.80**	**301**	P	**P**	**21 42 48.1**	**-1.1**
	comp=Z,1.6nm,0.5s,mb3.6,baz=86,slow=10,SNR=35						
KURK	**Kurchatov**	**41.89**	**307**	*e*P	**P**	**21 43 05.6**	**-0.4**
GUN	**Gumba**	**42.23**	**272**	*e*P	**P**	**21 43 09.0**	**-0.1**
	comp=Z,33nm,0.4s,mb5.0						
KKN	**Kakani**	**42.76**	**272**	*e*P	**P**	**21 43 13.3**	**0.0**
	comp=Z,15nm,0.4s,mb4.6						
KKN	**Kakani**	**42.76**	**272**	*e*P	**P**	**21 43 13.3**	**0.0**
KKN				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.4						
DMN	**Daman**	**42.98**	**272**	*e*P	**P**	**21 43 16.2**	**+1.2**
GKN	**Gorkha**	**43.18**	**273**	*e*P	**P**	**21 43 16.1**	**-0.6**
	comp=Z,33nm,0.6s,mb4.8						
KOLN	**Koldanda**	**44.11**	**273**	*e*P	**P**	**21 43 23.6**	**-0.4**
	comp=Z,8.1nm,0.5s,mb4.3						
TKM2	**Tokmak 2**	**45.15**	**297**	P	**P**	**21 43 33.0**	**+1.0**
	SNR=7.5						
KZA	**Kyzart**	**45.61**	**296**	P	**P**	**21 43 37.4**	**+1.8**
	SNR=7.1						
KBK	**Karagaybulak**	**45.68**	**296**	P	**P**	**21 43 37.1**	**+1.0**
	SNR=7.2						
USP	**Ospenovka**	**45.85**	**297**	P	**P**	**21 43 37.9**	**+0.4**
	SNR=8.6						
EKS2	**Erkin-Say**	**46.51**	**297**	P	**P**	**21 43 43.0**	**+0.4**
	SNR=5.2						
AML	**Almayashu**	**46.71**	**296**	P	**P**	**21 43 45.7**	**+1.5**
	SNR=34						
BRVK	**Borovoye**	**46.80**	**311**	*e*P	**P**	**21 43 44.2**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
BRVK	**Borovoye**	**46.80**	**311**	*e*P	**P**	**21 43 44.2**	**-0.5**
	comp=Z,1.7nm,0.8s,mb3.4						
ZRNK	**Zerenda**	**47.58**	**311**	*e*P	**P**	**21 43 50.0**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,75nm,0.7s,mb5.1						
ZRNK	**Zerenda**	**47.58**	**311**	*e*P	**P**	**21 43 50.0**	**-0.6**
	comp=Z,75nm,0.7s,mb5.1						
HNR	**Honiara**	**51.91**	**148**	P	**P**	**21 44 22.8**	**-0.9**
	comp=Z,30nm,0.4s,mb4.9,baz=185,slow=12,SNR=2.5						
ARU	**Arti**	**52.88**	**317**	*e*P	**P**	**21 44 29.7**	**-0.5**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.0						
ARU	**Arti**	**52.88**	**317**	*e*P	**P**	**21 44 29.7**	**-0.5**
	comp=Z,6.0nm,0.6s,mb4.0						
WRAB	**Tennant Creek**	**56.91**	**181**	*e*P	**P**	**21 44 58.4**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.0						
WRAB	**Tennant Creek**	**56.91**	**181**	*e*P	**P**	**21 44 58.4**	**-0.8**
	comp=Z,3.2nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**56.92**	**181**	P	**P**	**21 44 58.4**	**-0.9**
	comp=Z,2.4nm,0.4s,mb3.9,baz=357,slow=7.5,SNR=50						
ARCES	**ARCESS Array B**	**61.98**	**338**	P	**P**	**21 45 32.1**	**-0.4**
	comp=Z,1.6nm,0.6s,mb3.7,baz=57,slow=7.7,SNR=17						
KAF	**Kangasniemi**	**65.76**	**331**	*e*p	**P**	**21 45 56.7**	**-0.1**
	comp=Z,2.6nm,0.6s,mb4.0,baz=54,slow=5.9						
KAF	**Kangasniemi**	**65.76**	**331**	*e*P	**P**	**21 45 56.7**	**-0.1**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
FINES	**FINESS Array B**	**66.23**	**330**	P	**P**	**21 45 59.5**	**-0.2**
	comp=Z,2.5nm,0.5s,mb4.1,baz=93,slow=5.7,SNR=27						
AKASG	**Malin Array Be**	**71.01**	**320**	P	**P**	**21 46 28.8**	**-0.2**
	comp=Z,0.3nm,0.4s,mb3.2,baz=49,slow=6.1,SNR=4.8						
AKASG	**Malin Array Be**	**71.01**	**320**	P	**P**	**21 46 28.8**	**-0.2**
NB2	**NORSAR Subarra**	**71.97**	**335**	P	**P**	**21 46 34.6**	**+0.2**
	comp=Z,1.5nm,0.6s,mb3.7,baz=41,slow=6.2						
NB2	**NORSAR Subarra**	**71.97**	**335**	P	**P**	**21 46 34.6**	**+0.2**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
NOA	**NORSAR Array B**	**71.97**	**335**	P	**P**	**21 46 34.5**	**+0.1**
	comp=Z,2.3nm,0.7s,mb3.9,baz=43,slow=5.9,SNR=16						
NOA	**NORSAR Array B**	**71.97**	**335**	P	**P**	**21 46 34.5**	**0.0**
CLL	**Collm**	**78.33**	**327**	P	**P**	**21 47 11.1**	**+0.9**
	comp=Z,logA/T=0.7,mb4.1						
KHC	**Kasperske Hory**	**79.65**	**325**	*e*P	**P**	**21 47 19.0**	**+1.8**
GERES	**GERESS Array B**	**79.80**	**325**	P	**P**	**21 47 19.0**	**+1.0**
	comp=Z,0.7nm,0.5s,mb3.5,baz=39,slow=5.4,SNR=8.5						
MAW	**Mawson**	**117.68**	**204**	*e*PKIKP	PKPdf	21 53 49.9	-0.8

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*ATH **17** 21:48:41.5, 36.13N×28.59E, h20^{km}, MD3.0/3*
*ISK **17** 21:48:42.8, 36.66N×28.14E, h27^{km}, MD3.1*
*CSEM **17** 21:48:42.0±0.1, 36.62N×28.11E, h25^{km}, MD3.1, Error ellipse: s-maj=3.4km s-min=2.8km az=32.0*
ISC 17 21:48:43.1±0.5**, 36.57N**±0.03×**28.13E**±0.05**, h25**^{km}**, n16,**
σ**1^{s}04**/25**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.35**	**181**	*e*PB	**Pb**	**21 48 49.8**	**-1.0**
ARG				*e*SB	**Sb**	**21 48 55.7**	**-0.4**
ARG	**Arkhangelos**	**0.35**	**181**	*e*Pb	**Pb**	**21 48 49.8**	**-1.0**
ARG				*e*Sb	**Sb**	**21 48 55.8**	**-0.3**
DALT	**Dalyan (Mudla)**	**0.45**	**63**	PG	**Pb**	**21 48 52.4**	**-0.1**
YER	**Yerkesik**	**0.58**	**12**	PG	**Pb**	**21 48 53.4**	**-1.2**
YER				SG	**Sb**	**21 49 01.5**	**-1.0**
BDRM	**Kayabasi**	**0.74**	**312**	*i* P	**Pb**	**21 48 56.5**	**-0.8**
BDRM				*i* S	**Sb**	**21 49 07.1**	**+0.1**
FETY	**Fethiye**	**0.77**	**85**	*e*PG	**Pb**	**21 48 58.3**	**+0.6**
MLSB	**Milas**	**0.78**	**339**	*e*PG	**Pb**	**21 48 57.0**	**-1.0**
BODT	**Bodrum**	**0.82**	**307**	*e*PG	**Pb**	**21 48 58.3**	**-0.4**
AYDN	**Tasoluk**	**1.11**	**350**	*i* P	**Pn**	**21 49 03.2**	**0.0**
AYDN				*i* S	**Sb**	**21 49 19.2**	**+1.6**
KARP	**Karpathos**	**1.28**	**218**	*e*PN	**Pn**	**21 49 06.1**	**+0.4**
KARP				*e*SN	**Sn**	**21 49 24.0**	**+1.8**
KARP	**Karpathos**	**1.28**	**218**	*e*Pn	**Pn**	**21 49 06.2**	**+0.5**
KARP				*e*Sn	**Sn**	**21 49 21.6**	**-0.6**
GOLH	**Golhisar**	**1.33**	**59**	*i* P	**Pn**	**21 49 09.9**	**+3.6**
GOLH				*i* S	**Sn**	**21 49 30.0**	**+6.7**
DNZL	**Cakiroluk**	**1.34**	**33**	*i* P	**Pn**	**21 49 08.6**	**+2.1**
DNZL				*i* S	**Sn**	**21 49 30.4**	**+6.8**
ELL	**Elmali**	**1.44**	**82**	*e*PN	**Pn**	**21 49 07.3**	**-0.6**
NPS	**Neapolis**	**2.42**	**238**	*e*PN	**Pn**	**21 49 24.1**	**+2.1**
NPS	**Neapolis**	**2.42**	**238**	*e*Pn	**Pn**	**21 49 22.1**	**+0.1**

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*IDC **17** 22:06:33.7±1.8, 7.59N×92.06E, mb3.9/6, mb1 4.0/6, mb1mx3.7/19, mbtmp3.9/6, Error ellipse: s-maj=65.9km s-min=27.6km az=56.0*
*NEIC **17** 22:06:38.8±0.9, 7.58N×92.18E, h30^{km}, mb4.1/4, Error ellipse: s-maj=20.2km s-min=15.2km az=49.0*
ISC 17 22:06:36.7±0.8**, 7.5N**±0.1×**92.1E**±0.1**, h30**^{km}**, n14,**
σ**1^{s}09**/15**, mb4.0**/10**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.32**	**269**	*e*P	**P**	**22 09 19.9**	**+0.2**
PALK				*e*S	**S**	**22 11 14.0**	**-12**
PKI	**Pulchoki**	**20.91**	**343**	*e*P	**P**	**22 11 26.5**	**+7.1**
DMN	**Daman**	**21.04**	**342**	*e*P	**P**	**22 11 25.8**	**+5.1**
	7.1nm,0.4s,mb4.4						
GKN	**Gorkha**	**21.55**	**342**	*e*P	**P**	**22 11 28.4**	**+2.6**
KOLN	**Koldanda**	**21.68**	**339**	*e*P	**P**	**22 11 27.1**	**0.0**
	18nm,0.8s,mb4.6						
LSA	**Lhasa**	**22.07**	**358**	*e*P	**P**	**22 11 33.1**	**+2.1**
	5.8nm,0.8s,mb4.1						
MKAR	**Makanchi Array**	**40.01**	**349**	P	**P**	**22 14 10.1**	**-0.5**
	2.0nm,0.7s,mb4.0,baz=168,slow=8.7,SNR=30						
SONM	**Songino Array**	**41.96**	**14**	P	**P**	**22 14 26.1**	**-0.5**
	1.4nm,0.8s,mb3.6,baz=199,slow=9.0,SNR=5.9						
KURK	**Kurchatov**	**44.48**	**348**	*e*P	**P**	**22 14 46.4**	**-0.7**
	1.3nm,0.6s,mb3.8						
ZAL	**Zalesovo**	**46.64**	**354**	P	**P**	**22 15 02.2**	**-1.9**
	0.9nm,0.3s,mb4.2,baz=72,slow=14,SNR=3.9						
BVAR	**Borovoye Array**	**48.69**	**343**	P	**P**	**22 15 19.6**	**-0.6**
	1.0nm,0.7s,mb4.0,baz=153,slow=6.6,SNR=4.9						
WRA	**Warramunga Arr**	**49.72**	**124**	P	**P**	**22 15 28.6**	**0.0**
	0.9nm,0.7s,mb3.9,baz=303,slow=8.7,SNR=6.0						
WRAB	**Tennant Creek**	**49.72**	**124**	*e*P	**P**	**22 15 29.1**	**+0.5**
GERES	**GERESS Array B**	**76.74**	**318**	P	**P**	**22 18 26.5**	**-0.5**
	0.2nm,0.4s,mb3.4,baz=79,slow=6.8,SNR=5.6						

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*IDC **17** 22:12:08.5±5.7, 57.01S×26.58W, h195^{km}±54^{km}, mb3.8/6, mb1 3.8/7, mb1mx3.6/16, mbtmp4.3/7, Error ellipse: s-maj=19.6km s-min=15.2km az=95.0*
*NEIC **17** 22:12:09.1±0.5, 56.99S×26.64W, h200^{km}, mb3.9/8, Error ellipse: s-maj=12.3km s-min=9.6km az=84.0*
ISC 17 22:12:02.5±0.6**, 56.82S**±0.09×**26.7W**±0.2**, h150**^{km}**, n38,**
σ**0^{s}89**/37**, mb4.0**/8**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.98**	**157**		**P**	**22 15 41.3**	**+1.6**
VNA1	**Neumayer--Stat**	**15.98**	**157**		**P**	**22 15 43.7**	**+4.0**
VNA1	**Neumayer--Stat**	**15.98**	**157**		**P**	**22 15 46.6**	**+6.9**
VNA1	**Neumayer--Stat**	**15.98**	**157**		**P**	**22 15 53.0**	**+13**
VNA1	**Neumayer--Stat**	**15.98**	**157**		**P**	**22 15 57.5**	**+18**
VNA3	**Neumayer Olymp**	**16.18**	**160**		**P**	**22 15 40.5**	**-1.6**
VNA3	**Neumayer Olymp**	**16.18**	**160**		**P**	**22 15 44.2**	**+2.1**
VNA3	**Neumayer Olymp**	**16.18**	**160**		**P**	**22 15 46.0**	**+3.9**
VNA3	**Neumayer Olymp**	**16.18**	**160**		**P**	**22 15 49.9**	**+7.8**
VNA3	**Neumayer Olymp**	**16.18**	**160**		**P**	**22 15 56.1**	**+14**
VNA2	**Neumayer--Watz**	**16.38**	**157**		**P**	**22 15 44.7**	**+0.1**
VNA2	**Neumayer--Watz**	**16.38**	**157**		**P**	**22 15 46.9**	**+2.3**
VNA2	**Neumayer--Watz**	**16.38**	**157**		**P**	**22 15 49.1**	**+4.5**
VNA2	**Neumayer--Watz**	**16.38**	**157**		**P**	**22 15 54.5**	**+10**
VNA2	**Neumayer--Watz**	**16.38**	**157**		**P**	**22 16 00.3**	**+16**
SNAA	**Sanae**	**17.93**	**155**		**P**	**22 15 57.6**	**-5.5**
SNAA	**Sanae**	**17.93**	**155**		**P**	**22 16 00.5**	**-2.6**
SNAA	**Sanae**	**17.93**	**155**		**P**	**22 16 02.8**	**-0.3**
SNAA	**Sanae**	**17.93**	**155**		**P**	**22 16 08.9**	**+5.8**
SNAA	**Sanae**	**17.93**	**155**		**P**	**22 16 20.4**	**+17**
SNAA	**Sanae**	**17.93**	**155**	P	**P**	**22 16 00.3**	**-2.8**
	0.3nm,0.3s,baz=307,slow=9.2,SNR=53						
SNAA				S	**S**	**22 19 12.6**	**-2.6**
	0.0nm,0.3s,baz=184,slow=22,SNR=3.3						
SNAA	**Sanae**	**17.93**	**155**	P	**P**	**22 16 02.8**	**-0.3**
PMSA	**Palmer Station**	**19.61**	**231**	*e*P	**P**	**22 16 20.9**	**0.0**
	9.4nm,0.8s						
VNDA	**Vanda**	**45.82**	**183**	P	**P**	**22 20 09.7**	**-0.4**
	1.8nm,0.8s,mb3.8,baz=187,slow=4.8,SNR=15						
VNDA	**Vanda**	**45.82**	**183**	*e*P	**P**	**22 20 10.0**	**-0.1**
	1.4nm,0.8s,mb3.6						
BOSA	**Boshof**	**45.91**	**75**	P	**P**	**22 20 11.4**	**-0.1**
	6.1nm,0.9s,mb4.2,baz=215,slow=7.8,SNR=8.3						
BOSA	**Boshof**	**45.91**	**75**	*e*P	**P**	**22 20 11.8**	**+0.4**
	5.7nm,0.8s,mb4.2						
LBTB	**Lobatse**	**48.98**	**72**	P	**P**	**22 20 35.4**	**0.0**
	6.9nm,0.6s,mb4.4,baz=221,slow=7.3,SNR=21						
LBTB	**Lobatse**	**48.98**	**72**	*e*P	**P**	**22 20 35.3**	**-0.1**
	7.5nm,0.7s,mb4.4						
TSUM	**Tsumeb**	**49.83**	**60**	P	**P**	**22 20 42.2**	**+0.3**
	5.9nm,1.2s,mb4.1,baz=280,slow=2.3,SNR=8.3						
LPAZ	**La Paz**	**51.04**	**305**	P	**P**	**22 20 50.9**	**-0.3**
	0.7nm,0.5s,mb3.5,baz=121,slow=5.5,SNR=4.7						
LPAZ	**La Paz**	**51.04**	**305**	*e*P	**P**	**22 20 52.5**	**+1.3**
	0.8nm,0.6s,mb3.5						
SAML	**Samuel**	**55.53**	**315**	P	**P**	**22 21 23.8**	**-0.5**
	0.8nm,0.6s,mb3.7						
LSZ	**Lusaka**	**58.41**	**68**	*e*P	**P**	**22 21 44.3**	**-0.2**
	3.3nm,0.8s,mb4.2						
DBIC	**Dimbokro**	**65.76**	**24**	P	**P**	**22 22 32.9**	**-0.5**
	5.4nm,1.1s,mb4.3,baz=131,slow=12,SNR=5.0						
DBIC	**Dimbokro**	**65.76**	**24**	*e*P	**P**	**22 22 33.4**	**0.0**
	1.5nm,0.5s,mb4.1						
SONM	**Songino Array**	**150.50**	**87**	PKPbc	PKPdf	22 31 35.4	+5.9
	0.8nm,0.5s,baz=225,slow=1.7,SNR=4.5						
ILAR	**Eielson Array**	**150.82**	**311**	PKPbc	PKPdf	22 31 37.2	+7.8
	0.6nm,0.7s,baz=129,slow=4.1,SNR=8.5						
ILAR				pPKPbc		22 32 21.0	
	0.4nm,0.7s,baz=122,slow=2.1,SNR=2.5						

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*CSEM **17** 22:21:53.6±0.1, 34.15N×26.89E, h20^{km}, MD3.3, Error ellipse: s-maj=6.8km s-min=2.1km az=55.0*
*HLW **17** 22:21:55.8, 34.33N×26.96E, h24^{km}, Mb3.2*
*ATH **17** 22:21:58.1, 34.46N×26.65E, h10^{km}, MD3.3/3*
ISC 17 22:21:54.8±0.7**, 34.21N**±0.05×**26.9E**±0.1**, h33**^{km}**, n9,**
σ**0^{s}67**/10**, 1C-4D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	**Khrisi**	**1.21**	**304**	*e*PG	**P**	**22 22 14.8**	**-0.6**
KARP	**Karpathos**	**1.35**	**9**	*e*PB	**Pb**	**22 22 20.0**	**+0.5**
NPS	**Neapolis**	**1.50**	**315**	*e*PG	**P**	**22 22 20.0**	**+0.3**
HMAT	**Matruh**	**3.11**	**177**	⇑*i*P	**P**	**22 22 44.3**	**+1.6**
HMAT				S	**S**	**22 23 19.4**	**+0.3**
SWA1		**5.03**	**192**	⇓*e*P	**P**	**22 23 09.9**	**-0.1**
SWA2		**5.10**	**194**	⇓*e*P	**P**	**22 23 10.4**	**-0.5**
GLL	**Jalalah**	**6.16**	**137**	⇓*e*P	**P**	**22 23 25.7**	**-0.1**
AMAG	**Maghara**	**6.40**	**122**	P	**P**	**22 23 28.7**	**-0.5**
HFRF	**Wahat Farafira**	**7.14**	**170**	⇓*e*P	**P**	**22 23 38.8**	**-0.8**

WEL 17 22:48:43.8±0.4**, 39.75S×173.88E, h224**^{km}±4^{km}**, ML3.5**/13**,**
2C-3D, Error ellipse: s-maj=3.4km s-min=2.2km az=90.0,
Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.85**	**90**	PN	P	22 49 16.1	+0.7
WAZ				SN	S	22 49 40.3	+0.3
VRZ	**Vera Road**	**0.92**	**47**	PN	P	22 49 15.1	-0.7
DUWZ	**D'Urville Isla**	**1.05**	**178**	PN	P	22 49 16.9	+0.4
DUWZ				SN	S	22 49 41.7	-0.3
PKVZ	**Pokaka**	**1.22**	**68**	PN	P	22 49 17.5	-0.3
MTVZ	**Mangateitei**	**1.28**	**74**	⇓PN	P	22 49 17.9	-0.4
MTVZ				*e*SN	S	22 49 44.5	-0.4
KIW	**Kapiti Island**	**1.36**	**145**	PN	P	22 49 18.3	-0.6
KIW				SN	S	22 49 44.9	-1.1
FWVZ	**Far West T-bar**	**1.38**	**69**	PN	P	22 49 18.7	-0.3
WNVZ	**Wahianoa**	**1.39**	**73**	PN	P	22 49 18.9	-0.3
CNZ	**Chateau**	**1.40**	**67**	PN	P	22 49 18.8	-0.5
NGZ	**Ngauruhoe**	**1.45**	**67**	⇑PN	P	22 49 19.2	-0.4
HIZ	**Hauiti**	**1.45**	**32**	PN	P	22 49 18.6	-1.0
TUVZ	**Tukino**	**1.45**	**71**	PN	P	22 49 19.5	-0.2
MOVZ	**Moawhango**	**1.48**	**77**	PN	P	22 49 19.0	-0.9
TCW	**Tory Channel**	**1.49**	**169**	PN	P	22 49 19.8	-0.1
TCW				SN	S	22 49 46.7	-1.2
QRZ	**Quartz Range**	**1.49**	**224**	⇑PN	P	22 49 19.3	-0.7
QRZ				SN	S	22 49 46.0	-1.9

NNZ	**Nelson**	**1.51**	**195**	PN	P	22 49 19.7	-0.5
NNZ				SN	S	22 49 47.0	-1.2
MRZ	**Mangatainoka R**	**1.58**	**125**	⇓PN	P	22 49 20.0	-0.7
MRZ				SN	S	22 49 47.7	-1.6
MRW	**Makara Radio**	**1.60**	**157**	SN	S	22 49 48.0	-1.5
TSZ	**Takapari Road**	**1.63**	**101**	PN	P	22 49 20.5	-0.6
CAW	**Cannon Point**	**1.63**	**147**	*e*PN	P	22 49 20.3	-0.8
SNZO	**South Karori**	**1.68**	**158**	SN	S	22 49 49.2	-1.5
TUWZ	**Tuamarina**	**1.68**	**178**	PN	P	22 49 21.2	-0.4
TUWZ				SN	S	22 49 49.3	-1.4
MTW	**Mount Morrison**	**1.87**	**139**	PN	P	22 49 22.4	-0.9
BFZ	**Birch Farm**	**2.03**	**118**	PN	P	22 49 24.0	-0.8
BKZ	**Black Stump Fm**	**2.10**	**75**	⇓PN	P	22 49 24.4	-1.2
BKZ				*e*SN	S	22 49 54.5	-3.2
THZ	**Tophouse**	**2.14**	**200**	PN	P	22 49 24.9	-1.0
DSZ	**Denniston Nort**	**2.54**	**218**	PN	P	22 49 28.6	-1.5
KHZ	**Kahutara**	**2.67**	**185**	PN	P	22 49 29.9	-1.6
URZ	**Urewera**	**2.92**	**60**	PN	P	22 49 31.5	-2.7
URZ				SN	S	22 50 07.7	-5.8
LTZ	**Lake Taylor**	**3.26**	**201**	PN	P	22 49 35.9	-2.3
MQZ	**McQueen's Vall**	**4.06**	**193**	*e*PN	P	22 49 44.2	-3.5
MQZ				SN	S	22 50 31.7	-5.6
RPZ	**Rata Peaks**	**4.49**	**207**	PN	P	22 49 49.9	-3.1
FOZ	**Fox Glacier**	**4.94**	**218**	PN	P	22 49 53.8	-4.8
LBZ	**Lake Benmore**	**5.39**	**210**	PN	P	22 50 00.1	-4.2
ODZ	**Otahua Downs**	**5.81**	**203**	*e*PN	P	22 50 06.6	-3.0

*ATH **17** 23:06:29.3, 38.76N×27.92E, $h11^{km}\pm4^{km}$, MD3.2/3*
*NEIC **17** 23:06:29.6, 38.77N×27.88E, $h11^{km}$, MD3.2(ATH), MD3.2(ISK), After ATH.*
*ISK **17** 23:06:30.5, 38.72N×27.76E, $h3^{km}$, MD3.2*
*CSEM **17** 23:06:30.8±0.1, 38.71N×27.76E, $h5^{km}$, MD3.2, Error ellipse: s-maj=2.5km s-min=2.0km az=114.0*
ISC 17 23:06:31.0±0.7**, 38.72N**±0.02×**27.79E**±0.03**, h1**$^{km}\pm6^{km}$**, n45,** $\sigma 0^{s}$**78**/60**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.16**	**8**	*i* PG	**Pg**	**23 06 34.6**	**+0.4**
KDAG	**Bornova**	**0.52**	**232**	*i* P	**Pg**	**23 06 41.2**	**0.0**
KDAG				*i* S	**Sg**	**23 06 49.4**	**+1.3**
IZM	**Izmir**	**0.52**	**232**	*i* PG	**Pg**	**23 06 41.0**	**-0.4**
MANT	**Manisa**	**0.65**	**110**	*i* P	**Pg**	**23 06 44.0**	**+0.1**
MANT				*i* S	**Sg**	**23 07 05.2**	**+13**
BLCB	**Balcova**	**0.67**	**240**	*i* PG	**Pg**	**23 06 44.1**	**-0.3**
BLCB				*i* SG	**Sg**	**23 06 53.7**	**+0.4**
BALB	**Balikesir**	**0.92**	**5**	*i* PG	**Pg**	**23 06 48.9**	**-0.5**
URLA	**Izmir**	**1.00**	**249**	*i* P	**Pb**	**23 06 49.9**	**-0.8**
AYVA	**Ayvalik**	**1.04**	**305**	*i* P	**Pb**	**23 06 51.4**	**0.0**
BTOK	**Tokmak**	**1.06**	**10**	*i* P	**Pb**	**23 06 50.8**	**-0.9**
BTOK				*i* S	**Sb**	**23 07 05.2**	**-0.7**
DST	**Dursunbey**	**1.10**	**36**	PN	**Pn**	**23 06 52.3**	**-1.1**
SMG	**Samos**	**1.26**	**217**	*e*PB	**Pb**	**23 06 54.6**	**-0.5**
SMG				*e*SB	**Sb**	**23 07 13.2**	**+1.5**
PRK	**Paraskevi**	**1.29**	**294**	*e*PB	**Pb**	**23 06 55.4**	**-0.3**
PRK				*e*SB	**Sb**	**23 07 13.8**	**+1.1**
PRK	**Paraskevi**	**1.29**	**294**	*e*Pb	**Pb**	**23 06 55.4**	**-0.3**
PRK				*e*Sb	**Sb**	**23 07 12.9**	**+0.2**
GDZ	**Gediz**	**1.37**	**74**	*i* P	**Pb**	**23 06 57.2**	**+0.1**
GDZ				*i* S	**Sb**	**23 07 14.2**	**-0.9**
DENT	**Denizli**	**1.38**	**134**	PN	**Pn**	**23 06 57.2**	**-0.1**
CANB	**Canakkale**	**1.41**	**337**	PN	**Pn**	**23 06 58.1**	**+0.3**
KHL	**Karahalli**	**1.42**	**106**	PN	**Pn**	**23 06 58.2**	**+0.3**
MLSB	**Milas**	**1.42**	**180**	PN	**Pn**	**23 06 58.6**	**+0.6**
DNZL	**Cakiroluk**	**1.43**	**136**	*i* P	**Pn**	**23 06 57.2**	**-0.9**
DNZL				*i* S	**Sb**	**23 07 17.6**	**+0.9**
ORLT	**Orhaneli**	**1.58**	**33**	PN	**Pn**	**23 07 01.0**	**+0.8**
YER	**Yerkesik**	**1.63**	**166**	PN	**Pn**	**23 07 00.1**	**-0.9**
BNT	**Bandirma**	**1.64**	**4**	PN	**Pn**	**23 07 00.1**	**-1.0**
BDRM	**Kayabasi**	**1.67**	**189**	*i* P	**Pn**	**23 07 02.7**	**+1.1**
BDRM				*i* S	**Sb**	**23 07 22.0**	**-1.8**
BODT	**Bodrum**	**1.70**	**193**	*e*PN	**Pn**	**23 07 01.1**	**-0.8**
ULDT	**Uludag**	**1.76**	**36**	*i* P	**Pn**	**23 07 04.1**	**+1.2**
ULDT				*i* S	**Sn**	**23 07 28.1**	**+1.8**
ALT	**Altintas**	**1.84**	**79**	*e*PN	**Pn**	**23 07 04.9**	**+0.9**
MRMT	**Marmara Adasi**	**1.89**	**356**	*e*PN	**Pn**	**23 07 04.6**	**0.0**
GOLH	**Golhisar**	**2.04**	**136**	*i* P	**Pn**	**23 07 06.9**	**+0.1**
GOLH				*i* S	**Sn**	**23 07 32.5**	**-0.7**
DALT	**Dalyan (Mudla)**	**2.06**	**161**	*e*PN	**Pn**	**23 07 06.8**	**-0.3**
MFT	**Murefte**	**2.10**	**349**	*e*PN	**Pn**	**23 07 06.7**	**-1.0**
TKTP	**Tekketepe**	**2.10**	**108**	*i* P	**Pn**	**23 07 07.2**	**-0.5**
TKTP				*i* S	**Sn**	**23 07 44.7**	**+10**
YLV	**Yalova**	**2.21**	**33**	*e*PN	**Pn**	**23 07 10.1**	**+0.8**
ISP	**Isparta**	**2.32**	**111**	*e*PN	**Pn**	**23 07 11.7**	**+0.9**
FETY	**Fethiye**	**2.32**	**153**	*e*PN	**Pn**	**23 07 10.6**	**-0.3**
LIA	**Limnos Island**	**2.34**	**301**	*e*PN	**Pn**	**23 07 11.1**	**0.0**
BADT	**Buyukada**	**2.36**	**25**	*e*PN	**Pn**	**23 07 11.9**	**+0.4**
APE	**Apeiranthos**	**2.43**	**228**	*e*PN	**Pn**	**23 07 12.7**	**+0.3**
ESKT	**Eskisehir**	**2.51**	**71**	*e*PN	**Pn**	**23 07 13.7**	**+0.1**
ESKT	**Eskisehir**	**2.51**	**71**	*i* P	**Pn**	**23 07 17.8**	**+4.1**
ESKT				*i* S	**Sn**	**23 07 53.1**	**+7.8**
HRT	**Hereke**	**2.55**	**34**	*e*PN	**Pn**	**23 07 15.0**	**+0.9**
ELL	**Elmali**	**2.59**	**139**	*e*PN	**Pn**	**23 07 14.4**	**-0.3**
ANTB	**Antalya**	**2.91**	**128**	*e*PN	**Pn**	**23 07 20.0**	**+0.8**
RDO	**Rodhopi**	**2.98**	**325**	*e*PN	**Pn**	**23 07 18.9**	**-1.3**
HENT	**Hendek**	**3.19**	**48**	*i* P	**Pn**	**23 07 31.6**	**+8.4**
HENT				*i* S	**Sn**	**23 08 11.1**	**+8.6**
SGKT	**Sivrigoynuk**	**3.78**	**59**	*i* P	**Pn**	**23 07 38.0**	**+6.4**

*IDC **18** 00:27:20.8±1.0, 10.42S×66.50E, mb4.0/6, mb1 4.1/6, mb1mx3.8/19, mbtmp4.0/6, Error ellipse: s-maj=36.4km s-min=25.3km az=112.0*
*NEIC **18** 00:27:22.3±0.5, 10.41S×66.50E, $h10^{km}$, mb4.2/2, Error ellipse: s-maj=19.8km s-min=13.2km az=126.0*
ISC 18 00:27:20.3±0.8**, 10.4S**±0.1×**66.6E**±0.2**, h10**^{km}**, n11,** $\sigma 0^{s}$**63**/10**, mb4.0**/8**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**37.69**	**259**	*e*P	**P**	**00 34 38.3**	**+0.4**
	5.5nm,1.0s,mb4.2						
LBTB	**Lobatse**	**41.46**	**244**	P	**P**	**00 35 09.2**	**+0.1**
	5.3nm,1.0s,mb4.1,baz=83,slow=11,SNR=4.3						
MAW	**Mawson**	**57.19**	**182**	P	**P**	**00 37 09.0**	**-0.6**
	2.6nm,1.2s,mb4.1,baz=6.0,slow=8.0,SNR=3.9						
MKAR	**Makanchi Array**	**58.65**	**13**	P	**P**	**00 37 19.2**	**-0.9**
	0.3nm,0.6s,mb3.5,baz=197,slow=7.8,SNR=4.7						
MKAR	**Makanchi Array**	**58.65**	**13**	P	**P**	**00 37 19.2**	**-0.9**
ZRNK	**Zerenda**	**63.13**	**2**	*e*P	**P**	**00 37 50.0**	**-0.4**
	1.1nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**65.74**	**107**	P	**P**	**00 38 08.3**	**+0.3**
	0.9nm,0.8s,mb3.8,baz=274,slow=5.2,SNR=6.0						
ZAL	**Zalesovo**	**65.93**	**12**	P	**P**	**00 38 08.6**	**0.0**
	0.6nm,0.3s,mb4.1,baz=124,slow=5.6,SNR=3.1						
ZAL	**Zalesovo**	**65.93**	**12**	P	**P**	**00 38 08.6**	**-0.1**
SONM	**Songino Array**	**67.89**	**28**	P	**P**	**00 38 22.4**	**+1.2**
	1.2nm,0.9s,mb3.9,baz=217,slow=6.2,SNR=4.6						
PDAR	**Pinedale Array**	**147.58**	**355**	PKPbc	PKPdf	00 47 07.5	+2.0
	0.2nm,0.7s,SNR=2.7						

*STR **18** 00:27:28.1±0.2, 42.63N×1.27E, $h5^{km}\pm1^{km}$, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **18** 00:27:28.6±0.2, 42.62N×1.27E, $h4^{km}\pm7^{km}$, mbLg1.6/17, Error ellipse: s-maj=1.6km s-min=1.6km az=89.0, PRXIMO*
*LDG **18** 00:27:28.2±0.0, 42.62N×1.27E, $h4^{km}$, Md2.5/3, Ml2.1/8, Error ellipse: s-maj=0.8km s-min=0.8km az=140.0*
ISC 18 00:27:27.1±0.3**, 42.65N**±0.02×**1.26E**±0.02**, h11**$^{km}\pm3^{km}$**, n38,** $\sigma 1^{s}$**15**/57**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALF	**Salau**	**0.12**	**336**	Pg	**Pg**	**00 27 31.6**	**+1.4**
SALF				Sg	**Sg**	**00 27 33.8**	**+1.5**
SALF	**Salau**	**0.12**	**336**	P	**Pg**	**00 27 31.6**	**+1.4**
SALF				S	**Sg**	**00 27 33.8**	**+1.5**
PAND	**Andorre**	**0.25**	**120**	P	**Pg**	**00 27 32.6**	**+0.2**
PAND				S	**Sg**	**00 27 35.5**	**-0.5**
GRBF	**Gourbit**	**0.28**	**47**	Pg	**Pg**	**00 27 34.3**	**+1.2**
GRBF				Lg		00 27 38.3	
CSOR	**Sort**	**0.29**	**199**	Pg	**Pg**	**00 27 33.4**	**+0.3**
CSOR				Lg		00 27 37.3	
	18nm,0.1s						
MLS	**Moulis**	**0.33**	**339**	Pg	**Pg**	**00 27 35.3**	**+1.3**
MLS				Sg	**Sg**	**00 27 40.4**	**+1.7**
MLS	**Moulis**	**0.33**	**339**	P	**Pg**	**00 27 35.2**	**+1.2**
MLS				S	**Sg**	**00 27 40.2**	**+1.6**
CORG	**Organya**	**0.42**	**174**	Pg	**Pg**	**00 27 35.7**	**0.0**
CORG				Lg		00 27 41.1	
	9.8nm,0.1s						
MELF	**Melles**	**0.43**	**302**	Pg	**Pg**	**00 27 36.7**	**+0.8**
MELF				Sg	**Sg**	**00 27 42.9**	**+1.1**
MELF	**Melles**	**0.43**	**302**	P	**Pg**	**00 27 36.8**	**+0.8**
MELF				S	**Sg**	**00 27 43.0**	**+1.2**
CLLI	**Llivia**	**0.56**	**107**	Pg	**Pg**	**00 27 38.1**	**-0.3**
CLLI				Lg		00 27 45.1	
	1.4nm,0.0s						
LPEF	**Le Peyrat**	**0.57**	**58**	P	**Pb**	**00 27 39.6**	**+1.0**
LPEF				S	**Sg**	**00 27 47.5**	**+1.3**
VALF	**Valcebollere**	**0.61**	**113**	S	**Sb**	**00 27 48.2**	**+0.4**
CARF	**Carcanieres**	**0.63**	**83**	Pg	**Pg**	**00 27 40.2**	**+0.4**
CARF				Sg	**Sg**	**00 27 48.3**	**0.0**
CARF	**Carcanieres**	**0.63**	**83**	P	**Pb**	**00 27 40.2**	**+0.5**
CARF				S	**Sb**	**00 27 48.4**	**+0.1**
EMIR	**Miracle**	**0.76**	**165**	Pg	**Pg**	**00 27 42.6**	**+0.2**
	0.3nm,0.1s,SNR=11						
EMIR				Lg		00 27 52.0	
	6.1nm,0.1s,SNR=6.0						
EPF	**Esparros**	**0.78**	**300**	*e*Pg	**Pg**	**00 27 43.0**	**+0.3**
EPF				*e*Sg	**Sg**	**00 27 53.2**	**+0.1**
	6.1nm,0.2s						
EBIE	**Bielsa**	**0.82**	**273**	Pg	**Pg**	**00 27 44.0**	**+0.3**
	0.7nm,0.1s,SNR=12						
EBIE				Lg		00 27 55.5	
	1.8nm,0.1s,SNR=9.8						
EGRA	**Graus**	**0.83**	**237**	Pg	**Pg**	**00 27 44.0**	**+0.2**
	0.5nm,0.2s,SNR=5.2						
EGRA				Lg		00 27 55.5	
	1.3nm,0.2s,SNR=8.3						
CAVN	**Les Avellanes**	**0.85**	**206**	Pg	**Pg**	**00 27 44.2**	**0.0**
CAVN				Lg		00 27 54.7	
	8.1nm,0.1s						
VIEF	**Viey**	**0.94**	**285**	S	**Sb**	**00 27 58.6**	**+1.4**
FILF	**Fillols**	**0.97**	**95**	S	**Sb**	**00 27 55.6**	**-2.4**
LRDF	**Laroque-de-Fa**	**0.99**	**72**	S	**Sb**	**00 28 00.1**	**+1.5**
MTLF	**Montolieu**	**0.99**	**45**	*e*Pg	**Pg**	**00 27 47.1**	**+0.1**
MTLF				*e*Pn	**Pn**	**00 27 47.4**	**+0.5**
MTLF				*e*Sn	**Sn**	**00 28 01.1**	**+0.2**
	7.5nm,0.3s						
MTLF	**Montolieu**	**0.99**	**45**	Pg	**Pg**	**00 27 47.1**	**+0.1**
MTLF				Lg		00 28 01.1	
	3.8nm,0.3s						
SJAF	**Saint Jean de**	**1.21**	**97**	S	**Sb**	**00 28 06.4**	**+1.3**
EJON	**La Jonquera**	**1.22**	**99**	Pg	**Pg**	**00 27 51.3**	**-0.3**
	0.6nm,0.1s,SNR=6.6						
EJON				Lg		00 28 07.7	
	4.0nm,0.2s,SNR=13						
EPOB	**Poblet**	**1.30**	**186**	Pg	**Pg**	**00 27 52.1**	**-1.0**
	0.7nm,0.1s,SNR=13						
EPOB				Lg		00 28 08.5	
	16nm,0.2s,SNR=20						
ETSF	**Etsaut**	**1.36**	**281**	*e*Pg	**Pg**	**00 27 53.8**	**-0.5**
ETSF				*e*Sg	**Sg**	**00 28 11.8**	**-0.7**
	3.7nm,0.2s						
ESAC	**San Caprasio**	**1.58**	**235**	Pg	**Pg**	**00 27 56.7**	**-2.0**
	2.8nm,0.1s,SNR=7.9						
ESAC				Sn	**Sn**	**00 28 17.2**	**+1.3**
	4.7nm,0.2s,SNR=7.9						
ESAC				Lg		00 28 19.1	
	16nm,0.3s,SNR=9.2						
SJPF	**Ste Jean**	**1.88**	**285**	*e*Sg	**Sg**	**00 28 28.2**	**-1.7**
	1.6nm,0.2s						
EALK	**Alkurruntz**	**2.11**	**287**	Pg	**Pg**	**00 28 08.5**	**-0.7**
	1.0nm,0.3s,SNR=4.0						
EALK				Lg		00 28 37.2	
	1.1nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**2.32**	**351**	*e*Pg	**Pg**	**00 28 11.9**	**-1.6**
LFF				*e*Sg	**Sg**	**00 28 42.2**	**-2.3**
	1.9nm,0.2s						
CAF	**Calviac**	**2.35**	**14**	*e*Sg	**Sg**	**00 28 43.0**	**-2.5**
	1.8nm,0.2s						
LASF	**Ste Croix**	**2.37**	**52**	*e*Pn	**Pn**	**00 28 06.4**	**-0.3**
LASF				*e*Pg	**Pg**	**00 28 12.6**	**-1.9**
LASF				*e*Sg	**Sg**	**00 28 43.4**	**-2.8**
	2.3nm,0.3s						
EMOS	**Mosqueruela**	**2.62**	**210**	Sn	**Sn**	**00 28 41.5**	**-0.9**
	1.1nm,0.4s,SNR=4.0						
EMOS				Lg		00 28 50.8	
	1.6nm,0.5s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.66**	**4**	*e*Sg	**Sg**	**00 28 52.7**	**-3.2**
	2.1nm,0.2s						
VIVF	**Saint-Julien-l**	**3.32**	**47**	*e*Pg	**Pg**	**00 28 29.7**	**-3.7**
VIVF				*e*Sg	**Sg**	**00 29 13.2**	**-4.4**
	0.8nm,0.3s						

*IDC **18** 00:30:16.6±1.1, 10.33S×66.15E, mb4.0/5, mb1 4.1/5, mb1mx3.7/19, mbtmp4.0/5, Error ellipse: s-maj=55.9km s-min=23.0km az=115.0*
*NEIC **18** 00:30:18.4±0.8, 10.39S×66.38E, $h10^{km}$, mb4.2/3, Error ellipse: s-maj=32.5km s-min=15.1km az=124.0*
ISC 18 00:30:16.1±1.0**, 10.4S**±0.2×**66.5E**±0.2**, h10**^{km}**, n9,** $\sigma 0^{s}$**74**/9**, mb4.1**/7**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**37.60**	**259**	*e*P	**P**	**00 37 34.0**	**+1.0**
	3.6nm,0.9s,mb4.1						
LBTB	**Lobatse**	**41.37**	**244**	P	**P**	**00 38 02.9**	**-1.3**
	4.6nm,1.0s,mb4.1,baz=111,slow=8.6,SNR=3.4						
LBTB	**Lobatse**	**41.37**	**244**	P	**P**	**00 38 03.6**	**-0.5**
	4.1nm,0.9s,mb4.1						
MAW	**Mawson**	**57.17**	**182**	P	**P**	**00 40 05.3**	**0.0**
	2.5nm,1.1s,mb4.1,baz=4.9,slow=7.3,SNR=3.0						
MKAR	**Makanchi Array**	**58.68**	**13**	P	**P**	**00 40 15.4**	**-0.7**
	0.4nm,0.6s,mb3.6,baz=198,slow=6.1,SNR=4.3						
ZRNK	**Zerenda**	**63.15**	**2**	*e*P	**P**	**00 40 46.1**	**-0.2**
	4.1nm,1.4s,mb4.4						
ZAL	**Zalesovo**	**65.96**	**12**	P	**P**	**00 41 04.3**	**-0.3**
	1.0nm,0.3s,mb4.4,baz=79,slow=5.5,SNR=3.7						
ZAL	**Zalesovo**	**65.96**	**12**	P	**P**	**00 41 04.3**	**-0.3**
SONM	**Songino Array**	**67.94**	**28**	P	**P**	**00 41 18.4**	**+1.1**
	0.9nm,0.7s,mb3.9,baz=221,slow=9.0,SNR=5.0						

*IDC **18** 00:47:14.8±1.7, 1.97N×96.52E, mb4.1/7, mb1 4.2/7, mb1mx3.9/18, mbtmp4.1/7, Error ellipse: s-maj=69.8km s-min=27.3km az=53.0*
*NEIC **18** 00:47:19.6±0.9, 2.06N×96.63E, $h30^{km}$, mb4.0/2, Error ellipse: s-maj=20.3km s-min=14.7km az=202.0*
ISC 18 00:47:17.9±1.2**, 2.1N**±0.2×**96.6E**±0.1**, h30**^{km}**, n10,** $\sigma 0^{s}$**69**/10**, mb4.0**/9**, 1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.10**	**52**	⇑*i*P	**Pn**	**00 48 34.4**	**0.0**
WRA	**Warramunga Arr**	**42.99**	**122**	P	**P**	**00 55 16.4**	**-0.2**
	1.8nm,0.7s,mb3.9,baz=302,slow=9.0,SNR=6.5						
MKAR	**Makanchi Array**	**46.23**	**346**	P	**P**	**00 55 42.4**	**+0.1**
	4.5nm,0.7s,mb4.5,baz=162,slow=7.7,SNR=35						
SONM	**Songino Array**	**46.33**	**9**	P	**P**	**00 55 43.5**	**+0.5**
	2.0nm,0.6s,mb4.2,baz=188,slow=9.9,SNR=10						
ZAL	**Zalesovo**	**52.57**	**351**	P	**P**	**00 56 31.2**	**+0.3**
	5.1nm,0.5s,mb4.7,baz=308,slow=5.3,SNR=17						
BRVK	**Borovoye**	**55.28**	**341**	*e*P	**P**	**00 56 50.2**	**-0.6**
	1.2nm,0.7s,mb4.0						
ZRNK	**Zerenda**	**55.61**	**340**	*e*P	**P**	**00 56 52.0**	**-1.3**
	1.2nm,0.7s,mb4.0						
FINES	**FINESS Array B**	**78.94**	**333**	P	**P**	**00 59 19.4**	**-0.7**
	0.2nm,0.4s,mb3.4,baz=135,slow=11,SNR=4.2						
ARCES	**ARCESS Array B**	**81.50**	**340**	P	**P**	**00 59 34.3**	**+0.7**
	0.4nm,0.4s,mb3.7,baz=101,slow=6.2,SNR=9.7						
GERES	**GERESS Array B**	**83.76**	**319**	P	**P**	**00 59 46.9**	**+1.2**
	0.1nm,0.4s,mb3.3,baz=104,slow=4.0,SNR=3.9						

*NIED **18** 00:50:00, 35.70N×140.70E, $h53^{km}$, Mw3.6 Best double couple: $M_0 2.5\times10^{14}$ NP1: ϕ_s18°, δ77°, λ96°. NP2: ϕ_s174°, δ14°, λ67°.*
*JMA **18** 00:50:38.4±0.1, 35.75N×140.64E, $h49^{km}\pm1^{km}$, M3.0*
JMA Felt I J1.
ISC 18 00:50:38.5±1.5**, 35.72N**±0.06×**140.7E**±0.1**, h45**$^{km}\pm23^{km}$**, n11,** $\sigma 0^{s}$**70**/13**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.16**	**95**	P	**P**	**00 50 46.4**	**+0.5**
JCN	**Nagara**	**0.48**	**232**	P	**P**	**00 50 50.1**	**+0.9**
JYT	**Yasato**	**0.64**	**323**	P	**P**	**00 50 50.9**	**-0.4**
JYT				S	**S**	**00 50 59.8**	**-0.8**
BSO4	**Boso 4**	**0.77**	**201**	P	**P**	**00 50 53.2**	**+0.1**
JHO	**Hitachi**	**0.90**	**355**	P	**P**	**00 50 54.8**	**0.0**
BSO3	**Boso 3**	**0.92**	**188**	P	**P**	**00 50 55.1**	**-0.1**
BSO1	**Boso 1**	**1.09**	**166**	P	**P**	**00 50 57.5**	**0.0**
JAG	**Ashikaga**	**1.21**	**306**	P	**P**	**00 50 58.9**	**-0.4**
JOD2	**Odawara 2**	**1.37**	**251**	P	**P**	**00 51 01.1**	**-0.5**
JIM2	**Oshima 3**	**1.42**	**226**	P	**P**	**00 51 01.0**	**-1.4**
MAT	**Matsushiro**	**2.16**	**293**	P	**P**	**00 51 14.2**	**+1.5**
MAT				S	**S**	**00 51 39.0**	**+0.6**

*JMA **18** 01:18:27.1±0.2, 30.04N×139.60E, $h446^{km}$, M3.7*
ISC 18 01:18:26.6±1.2**, 30.02N**±0.07×**139.6E**±0.2**, h450**$^{km}\pm17^{km}$**, n15,** $\sigma 0^{s}$**85**/26**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.09**	**4**	P	**P**	**01 19 35.5**	**+0.7**
JHJ2				*e*S	**S**	**01 20 29.4**	**+0.7**
CBIJ	**Chichi jima**	**3.72**	**141**	S	**S**	**01 20 37.4**	**-0.5**
JHHJ	**Haha-jima-NKT**	**4.09**	**145**	P	**P**	**01 19 43.0**	**-0.2**
JHHJ				*e*S	**S**	**01 20 43.1**	**-0.6**
BSO1	**Boso 1**	**4.77**	**14**	P	**P**	**01 19 50.7**	**+1.2**
BSO1				S	**S**	**01 20 55.7**	**+0.8**
BSO3	**Boso 3**	**4.83**	**9**	P	**P**	**01 19 50.4**	**+0.3**
BSO3				S	**S**	**01 20 55.9**	**-0.1**
JIE	**Ise**	**4.98**	**332**	P	**P**	**01 19 51.9**	**+0.4**
BSO4	**Boso 4**	**5.00**	**7**	P	**P**	**01 19 53.6**	**+1.9**
BSO4				S	**S**	**01 20 59.9**	**+1.1**
HMMJ	**Hamamatsu 2**	**5.06**	**343**	P	**P**	**01 19 51.9**	**-0.4**
JOD2	**Odawara 2**	**5.24**	**356**	P	**P**	**01 19 54.1**	**0.0**
JOD2				S	**S**	**01 21 02.5**	**-0.6**
JNY	**Yasuok**	**5.51**	**345**	P	**P**	**01 19 57.4**	**+0.6**
JHU	**Hanno**	**5.82**	**358**	P	**P**	**01 19 59.4**	**-0.5**
JHU				S	**S**	**01 21 10.2**	**-3.3**
JRY	**Ryogami san**	**6.00**	**355**	P	**P**	**01 20 02.0**	**+0.2**
JRY				S	**S**	**01 21 16.3**	**-0.7**
JYT	**Yasato**	**6.21**	**5**	P	**P**	**01 20 03.9**	**-0.1**
JYT				S	**S**	**01 21 19.2**	**-1.7**
JAG	**Ashikaga**	**6.39**	**359**	P	**P**	**01 20 05.1**	**-0.7**
JAG				S	**S**	**01 21 20.6**	**-3.6**
MAT	**Matsushiro**	**6.60**	**351**	P	**P**	**01 20 07.8**	**-0.3**
MAT				S	**S**	**01 21 28.2**	**-0.1**

*CSEM **18** 01:59:20.6, 4.72S×129.76E, $h33^{km}$, mb5.6*
*MOS **18** 01:59:31.0±1.1, 4.72S×129.51E, $h131^{km}$, mb5.2/23, Error ellipse: s-maj=14.3km s-min=7.8km az=109.5*
*BJI **18** 01:59:33.9, 5.07S×129.91E, $h182^{km}$, mB5.2, mb5.5*
*HRVD **18** 01:59:37.1±0.5, 4.59S×129.85E, $h180^{km}\pm3^{km}$, MW5.2/54, Centroid moment Tensor Solution. LP body waves: s29,c32; Mantle waves: s54,c68; Half duration: $1^{s}0$ Moment tensor: Scale 10^{16}Nm; M_{rr}2.98±.49; $M_{\theta\theta}$0.07±.48; $M_{\phi\phi}$-3.05±.54; $M_{r\theta}$1.62±.37; $M_{\theta\phi}$2.96±.49; $M_{\phi r}$6.59±.34; Best double couple: $M_0 7.974\times10^{16}$ NP1: ϕ_s118°, δ27°, λ26°. NP2: ϕ_s5°, δ79°, λ115°. Principal axes: T 8.3, Plg50°, Azm303°; N -.653, Plg24°, Azm180°; P -7.648, Plg29°, Azm75°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **18** 01:59:37.1±0.7, 4.84S×129.61E, $h175^{km}\pm5^{km}$, mb5.4/46 Error ellipse: s-maj=5.2km s-min=3.3km az=67.0*
*IDC **18** 01:59:39.1±1.3, 4.84S×129.69E, $h190^{km}\pm11^{km}$, mb5.0/25, mb1 5.0/27, mb1mx5.0/28, mbtmp5.5/27, Error ellipse: s-maj=12.7km s-min=7.1km az=71.0*
ISC 18 01:59:35.8±0.2**, 4.87S**±0.03×**129.65E**±0.04**, h176**^{km}**, h176**$^{km}\pm2.2^{km}$**:pP-P, n405,** $\sigma 0^{s}$**99**/249**, mb5.4**/110**, 56C-21D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.27**	**161**	⇑*i*P	**P**	**02 01 33.1**	**-0.4**
	681nm,0.6s						
KAKA				*e*S	**S**	**02 02 59.6**	**-5.9**
FITZ	**Fitzroy Crossi**	**13.73**	**196**	⇓*i*P	**P**	**02 02 44.9**	**+0.6**
	14nm,0.3s						
FITZ				*e*		02 02 49.1	
FITZ				*e*S	**S**	**02 05 14.2**	**+1.4**
FITZ	**Fitzroy Crossi**	**13.73**	**196**	P	**P**	**02 02 44.9**	**+0.7**
	4.6nm,0.3s,baz=20,slow=9.4,SNR=48						
FITZ				S	**S**	**02 05 07.1**	**-5.7**
	6.2nm,0.3s,baz=64,slow=11,SNR=2.7						
CGP	**Cagayan de Oro**	**14.12**	**340**	⇓*e*P	**P**	**02 02 50.9**	**+1.6**
TSM	**Tawau**	**14.87**	**308**	P	**P**	**02 02 60.0**	**+1.3**
SNPH	**Sibulan**	**15.49**	**336**	⇑*e*P	**P**	**02 03 08.3**	**+1.9**
TBP	**Tagbilaran**	**15.57**	**338**	*e*P	**P**	**02 03 08.1**	**+0.8**
WRAB	**Tennant Creek**	**15.66**	**163**	*i* P	**P**	**02 03 08.0**	**-0.4**
WRAB	**Tennant Creek**	**15.66**	**163**	*e*Pn	**P**	**02 03 07.5**	**-1.0**
	136nm,0.4s						
WRAB				*e*S	**S**	**02 05 50.0**	**-6.6**
WRA	**Warramunga Arr**	**15.67**	**163**	P	**P**	**02 03 07.3**	**-1.3**
	20nm,0.3s,baz=348,slow=13,SNR=160						
WRA				S	**S**	**02 05 48.8**	**-7.9**
	14nm,0.3s,baz=346,slow=21,SNR=12						
WB2	**Warramunga Arr**	**15.67**	**163**	⇓*i*P	**P**	**02 03 07.4**	**-1.1**
WB2				*e*		02 03 08.8	
WB2				*e*S	**S**	**02 05 52.7**	**-4.1**
LLP	**Lapu-Lapu**	**16.11**	**339**	*e*P	**P**	**02 03 13.5**	**-0.5**
KKM	**Kota Kinabalu**	**17.24**	**309**	⇑*e*P	**P**	**02 03 28.4**	**+0.8**
KKM	**Kota Kinabalu**	**17.24**	**309**	P	**P**	**02 03 28.6**	**+1.1**
RCP	**Roxas**	**17.70**	**337**	⇑*e*P	**P**	**02 03 34.0**	**+1.3**
PMG	**Port Moresby**	**17.95**	**106**	P	**P**	**02 03 36.6**	**+1.2**
PMG				S	**S**	**02 06 47.2**	**+0.4**
PMG				pmax	pmax		
	comp=Z,13nm,0.3s						
PMG				smax			
	comp=N,2.0nm,0.3s						
PMG	**Port Moresby**	**17.95**	**106**	P	**P**	**02 03 36.6**	**+1.2**
	comp=N,13nm,0.3s,baz=302,slow=2.2,SNR=43						
PMG				S	**S**	**02 06 47.2**	**+0.4**
	comp=N,1.5nm,0.3s,baz=215,slow=18,SNR=2.5						
PMG	**Port Moresby**	**17.95**	**106**	*e*P	**P**	**02 03 36.0**	**+0.7**
	comp=N,304nm,0.7s						
CNP	**Catarman**	**17.96**	**344**	*e*P	**P**	**02 03 36.2**	**+0.7**
BATP	**Bataraza**	**17.99**	**319**	*e*P	**P**	**02 03 35.1**	**-0.7**
OTRP	**Odiongan**	**18.72**	**336**	*e*P	**P**	**02 03 45.1**	**+1.7**
MBWA	**Marble Bar**	**18.84**	**210**	⇑*i*P	**P**	**02 03 44.1**	**-0.5**
	comp=N,160nm,0.6s						
ENPP	**El Nido**	**18.93**	**328**	*e*P	**P**	**02 03 46.7**	**+1.1**
PVCP	**Virac**	**19.13**	**344**	*e*P	**P**	**02 03 48.6**	**+0.9**
SJMP	**San Jose**	**19.19**	**334**	*e*P	**P**	**02 03 49.9**	**+1.6**
AUQP	**San Andres**	**19.35**	**339**	*e*P	**P**	**02 03 53.1**	**+3.1**
BOAC	**Boac**	**19.79**	**337**	*e*P	**P**	**02 03 56.0**	**+1.6**
KSM	**Kuching**	**20.32**	**288**	*e*P	**P**	**02 03 58.8**	**-1.1**
LUBP	**Lubang**	**20.70**	**333**	*e*P	**P**	**02 04 05.3**	**+1.7**
BALP	**Baler**	**21.98**	**339**	*e*P	**P**	**02 04 16.7**	**+0.5**
CTA	**Charters Tower**	**22.14**	**135**	⇓*i*P	**P**	**02 04 19.6**	**+1.9**
	comp=N,128nm,0.9s,mb5.3						
CTA	**Charters Tower**	**22.14**	**135**	P	**P**	**02 04 19.7**	**+2.0**
CTA				pmax	pmax		
	comp=Z,132nm,0.7s						
CTA	**Charters Tower**	**22.14**	**135**	P	**P**	**02 04 19.7**	**+2.0**
	comp=Z,132nm,0.7s,mb5.5,baz=317,slow=11,SNR=77						
CTAO	**Charters Tower**	**22.14**	**135**	⇓*e*P	**P**	**02 04 19.4**	**+1.7**
	comp=Z,181nm,0.8s,mb5.5						
SCZP	**Santa Cruz**	**22.66**	**335**	*e*P	**P**	**02 04 21.9**	**-1.1**
BCPH	**Baguio City Da**	**22.94**	**337**	⇑*e*P	**P**	**02 04 26.5**	**+0.9**
BOLP	**Bolinao**	**23.20**	**336**	*e*P	**P**	**02 04 27.1**	**-1.0**
CVP	**Callao Caves**	**23.72**	**341**	*e*P	**P**	**02 04 32.9**	**-0.2**
	comp=Z,49μm,0.5s						
GUMO	**Guam**	**23.76**	**39**	*e*P	**P**	**02 04 33.2**	**-0.3**
	comp=Z,436nm,1.4s,mb5.8						
ABRA	**Dolores**	**24.05**	**339**	*e*P	**P**	**02 04 35.9**	**-0.3**
KGM	**Kluang**	**27.18**	**284**	P	**P**	**02 05 05.6**	**+0.5**
KLBR	**Kellerberrin**	**28.84**	**201**	*e*P	**P**	**02 05 19.6**	**-0.3**
	comp=Z,277nm,0.6s,mb6.2						
STKA	**Stephens Creek**	**29.11**	**159**	⇓*i*P	**P**	**02 05 22.4**	**0.0**
	comp=Z,7.1nm,0.3s,mb4.9						
STKA				*e*S	**S**	**02 09 59.5**	**-0.3**
STKA	**Stephens Creek**	**29.11**	**159**	P	**P**	**02 05 22.4**	**+0.1**
	comp=Z,9.0nm,0.3s,mb5.0,baz=333,slow=7.7,SNR=66						
STKA				S	**S**	**02 09 59.6**	**-0.2**
	comp=Z,5.9nm,0.6s,baz=80,slow=17,SNR=3.0						
MUN	**Mundaring**	**29.77**	**203**	⇑*i*P	**P**	**02 05 27.7**	**-0.5**
	comp=Z,76nm,0.6s,mb5.6						
IPM	**Ipoh**	**30.09**	**288**	P	**P**	**02 05 30.5**	**-0.7**
NWAO	**Narrogin (SRO)**	**30.23**	**201**	P	**P**	**02 05 32.0**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,118nm,0.5s						
NWAO	**Narrogin (SRO)**	**30.23**	**201**	P	**P**	**02 05 32.0**	**-0.2**
	comp=Z,118nm,0.5s,mb5.9,baz=33,slow=7.9,SNR=180						
NWAO	**Narrogin (SRO)**	**30.23**	**201**	⇑*e*P	**P**	**02 05 31.6**	**-0.6**
	comp=Z,51nm,0.4s,mb5.6						
HNR	**Honiara**	**30.39**	**100**	P	**P**	**02 05 32.5**	**-1.3**

HNR pmax pmax
comp=Z,233nm,0.8s,mb6.0
HNR Honiara 30.39 100 P **P** **02 05 32.5 -1.3**
comp=Z,233nm,0.8s,mb6.0,baz=103,slow=2.9,SNR=4.0
KULM Kulim 30.67 289⇑*iP* **P** **02 05 35.3 -0.9**
QIZ Qiongzhong 30.73 321 ⇑P **P** **02 05 36.3 -0.4**
QIZ S **S** **02 10 19.4 -5.9**
QIZ AMB AMB
comp=Z,58nm,1.3s,mb5.2
QIZ Qiongzhong 30.73 321 *eP* **P** **02 05 35.8 -1.0**
comp=Z,72nm,1.1s,mb5.3
ADE Adelaide 31.11 166 *eP* **P** **02 05 40.9 +1.0**
SNG Songkhla 31.34 292 P **P** **02 05 41.5 -0.7**
comp=Z,200nm,1.0s,mb5.8
QZH Quanzhou 31.52 341⇑*iP* **P** **02 05 42.8 -0.8**
QZH AMB AMB
comp=Z,200nm,0.6s,mb6.0
JOW Kunigami 31.54 358 P **P** **02 05 43.6 -0.1**
comp=Z,125nm,1.0s,mb5.6
CBIJ Chichi jima 34.01 20 P **P** **02 06 03.6 -1.3**
comp=Z,86nm,0.3s,mb5.9,baz=87,slow=20,SNR=8.2
NNT Nongplab 34.42 301 P **P** **02 06 09.0 +0.5**
CNB Canberra Magne 35.35 152 *eP* **P** **02 06 18.3 +2.1**
comp=Z,37nm,0.7s,mb5.1
TOO Toolangi 35.63 158 *eP* **P** **02 06 20.7 +2.2**
comp=Z,8.6nm,1.5s
NST Nakhon Sawan 35.64 305 P **P** **02 06 18.0 -0.8**
SSE Sheshan 36.66 348 P **P** **02 06 26.8 -0.4**
SSE AP pP 02 07 02.9 -2.2
SSE S **S** **02 12 00.3 +3.6**
SSE AMB AMB
comp=Z,84nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,1μm,6.1s
SSE LR LR
comp=N,941nm,15.0s
SSE LR LR
comp=E,2μm,15.0s
SSE LR LR
comp=Z,2μm,13.9s
NANT Nan 36.96 310 ⇑P **P** **02 06 30.0 +0.1**
comp=Z,94nm,0.4s,mb5.8
JNU Nakatsue 37.80 2 P **P** **02 06 36.5 -0.2**
comp=Z,39nm,0.9s,mb5.0
NJ2 Nanjing 38.12 345 *eP* **P** **02 06 39.6 +0.1**
NJ2 AP pP 02 07 15.3 -2.2
NJ2 PP PP 02 08 15.3 +3.1
NJ2 S **S** **02 12 21.0 +2.1**
NJ2 AMB AMB
comp=Z,130nm,0.8s,mb5.6
NJ2 AMB AMB
comp=Z,820nm,3.6s
NJ2 LR LR
comp=N,4μm,18.8s
NJ2 LR LR
comp=E,2μm,17.6s
NJ2 LR LR
comp=Z,750nm,18.2s
WHN Wuhan 38.13 338 ⇑P **P** **02 06 40.5 +0.9**
WHN AMB AMB
comp=Z,144nm,1.0s,mb5.6
GYA Guiyang 38.28 326⇑*iP* **P** **02 06 41.3 +0.5**
GYA AP pP 02 07 18.9 0.0
GYA XP sP 02 07 39.0 -0.6
GYA PP PP 02 08 17.6 +3.6
GYA PCP PcP 02 08 51.6 -0.1
GYA S **S** **02 12 21.3 +0.1**
GYA AMB AMB
comp=Z,170nm,0.7s,mb5.8
GYA AMB AMB
comp=Z,240nm,3.0s
GYA LR LR
comp=N,1μm,15.2s
GYA LR LR
comp=E,2μm,15.8s
GYA LR LR
comp=Z,2μm,16.0s
CHRT Chiangrai 38.30 311 ⇑P **P** **02 06 40.0 -1.0**
comp=Z,632nm,0.9s,mb6.2
CHG Chiang Mai 38.32 309 ⇑P **P** **02 06 42.2 +0.9**
comp=Z,150nm,0.8s,mb5.7
DZM Mont Dzumac 39.50 119 *eP* **P** **02 06 51.4 +0.5**
DZM Mont Dzumac 39.50 119 P **P** **02 06 51.4 +0.5**
comp=Z,21nm,0.8s,mb4.8,baz=283,slow=8.0,SNR=21
KMI Kunming 39.65 320 P **P** **02 06 53.8 +1.6**
KMI AP pP 02 07 31.1 +0.7
KMI XP sP 02 07 52.3 +1.1
KMI PP PP 02 08 32.4 +3.2
KMI PPP PPP 02 09 04.4 +5.2
KMI AMB AMB
comp=Z,120nm,1.1s,mb5.4
KMI AMB AMB
comp=Z,447nm,4.2s
KMI LR LR
comp=N,2μm,15.1s
KMI LR LR
comp=E,1μm,17.6s
KMI LR LR
comp=Z,1μm,30.1s
ENH Enshi 39.92 332 *eP* **P** **02 06 54.2 -0.1**
comp=Z,159nm,0.6s,mb5.8
MAJO Matsushiro 41.96 10⇑*iP* **P** **02 07 09.8 -1.2**
comp=Z,70nm,0.9s,mb5.3
MAT Matsushiro 41.96 10 *eP* **P** **02 07 10.0 -1.0**
comp=Z,49nm,0.9s,mb5.1
MAT Matsushiro 41.96 10 P **P** **02 07 09.9 -1.1**
MJAR Matsushiro Arr 41.96 10 P **P** **02 07 10.3 -0.7**
comp=Z,37nm,0.8s,mb5.0,baz=192,slow=11,SNR=64
MJAR PcP PcP 02 09 02.8 -0.8
comp=Z,5.6nm,0.7s,baz=187,slow=4.5,SNR=6.3
KS15 Wonju Array Si 42.12 358 *eP* **P** **02 07 12.7 +0.4**
INCN Inchon 42.22 356 *eP* **P** **02 07 13.8 +0.6**
comp=Z,33nm,0.7s,mb5.1
TIA Tai'an 42.51 345 ⇑P **P** **02 07 14.9 -0.6**
XAN Xi'an 43.37 335 P **P** **02 07 21.8 -0.6**
XAN AMB AMB
comp=Z,187nm,0.9s,mb5.7
DL2 Dalian 44.18 351 P **P** **02 07 29.1 +0.2**
DL2 AMB AMB
comp=Z,50nm,0.7s,mb5.2
IMP Imphal 45.55 312 *i* P **P** **02 07 39.0 -0.9**
SNY Shenyang 46.80 354 ⇑P **P** **02 07 49.3 -0.1**
SNY AMB AMB
comp=Z,70nm,0.6s,mb5.5
SNY LR LR
comp=N,1μm,18.2s
SNY LR LR
comp=E,1μm,20.8s
SNY LR LR
comp=Z,2μm,16.6s
LZH Lanzhou 47.37 331⇑*iP* **P** **02 07 54.5 +0.5**
LZH AP pP 02 08 32.5 -0.7
LZH XP sP 02 08 53.4 +0.2
LZH PP PP 02 09 47.6 +1.2
LZH AMB AMB
comp=Z,95nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,496nm,6.3s
LZH LR LR
comp=N,1μm,15.7s
LZH LR LR
comp=Z,1μm,18.5s
SHL Shillong 47.52 311 *eP* **P** **02 07 55.0 -0.3**
HHC Hu-ho-hao-te 48.42 342 *eP* **P** **02 08 00.9 -1.1**
HHC AP pP 02 08 43.0 +1.6
HHC XP sP 02 09 04.4 +3.2
HHC PCP PcP 02 09 29.4 +3.5
HHC PP PP 02 09 55.6 -0.3
HHC SCP 02 12 57.5
HHC AMB AMB
comp=Z,57nm,1.7s,mb4.9
HHC AMB AMB
comp=Z,259nm,10.7s
HHC LR LR
comp=N,2μm,20.2s
HHC LR LR
comp=E,1μm,19.0s
HHC LR LR
comp=Z,743nm,21.4s
CN2 Changchun 48.59 356 ⇑P **P** **02 08 02.5 -0.8**
CN2 eAP pP 02 08 43.0 +0.3
CN2 PCP PcP 02 09 25.0 -1.5
CN2 AMB AMB
comp=Z,40nm,0.8s,mb5.1
CN2 AMB AMB
comp=Z,2μm,3.0s

BTO Baotou 48.70 340 *eP* **P** **02 08 03.3 -0.9**
MDJ Mudanjiang 49.26 360 P **P** **02 08 08.8 +0.4**
MDJ AP pP 02 08 46.4 -1.5
MDJ XP sP 02 09 04.3 -3.3
MDJ PCP PcP 02 09 28.8 -0.1
MDJ PP PP 02 10 05.6 +1.5
MDJ SCP 02 13 08.3
MDJ AMB AMB
comp=Z,50nm,0.7s,mb5.2
MDJ AMB AMB
comp=Z,137nm,7.0s
MDJ LR LR
comp=N,1μm,25.5s
MDJ LR LR
comp=E,631nm,25.5s
MDJ LR LR
comp=Z,1μm,23.5s
MDJ Mudanjiang 49.26 360⇑*eP* **P** **02 08 08.2 -0.2**
comp=Z,28nm,0.6s,mb5.1
BWNR Bhubaneshwar 49.79 302 *e* **P** **02 08 20.0 +7.2**
BWNR AMb AMB 02 08 20.8
comp=Z,155nm,0.8s,mb5.7
PALK Pallekele 50.31 284 *eP* **P** **02 08 15.5 -1.3**
LSA Lhasa 50.43 315 P **P** **02 08 18.4 +0.9**
LSA AMB AMB
comp=Z,120nm,0.7s,mb5.6
LSA AMB AMB
comp=Z,100nm,4.5s
LSA LR LR
comp=N,1μm,22.6s
LSA LR LR
comp=E,2μm,17.9s
LSA LR LR
comp=Z,1μm,19.3s
LSA Lhasa 50.43 315 *eP* **P** **02 08 18.5 +1.0**
comp=Z,102nm,0.7s,mb5.6
VIS Vishakhapatnam 50.92 297 *eP* **P** **02 08 21.3 0.0**
VIS AMb AMB 02 08 22.6
comp=Z,112nm,0.7s,mb5.6
BOK Bokaro 51.29 306 *eP* **P** **02 08 23.7 -0.4**
BOK AMb AMB 02 08 25.0
comp=Z,54nm,1.6s,mb4.9
GTA Gaotai 51.95 331⇑*iP* **P** **02 08 28.9 +0.1**
GTA AP pP 02 09 09.5 +0.8
GTA XP sP 02 09 28.1 -0.1
GTA PCP PcP 02 09 39.5 +0.6
GTA PP PP 02 10 29.8 +0.8
GTA PPP PPP 02 11 39.8 +1.2
GTA SCP 02 13 18.3
GTA PCS 02 13 29.3
GTA AMB AMB
comp=Z,146nm,0.8s,mb5.7
GTA AMB AMB
comp=Z,380nm,5.7s
GTA LR LR
comp=N,881nm,18.3s
GTA LR LR
comp=E,959nm,19.0s
GTA LR LR
comp=Z,762nm,17.5s
YSS Yuzh-Sakhalins 52.88 11⇓*iP* **P** **02 08 35.1 -0.5**
YSS Yuzh-Sakhalins 52.88 11 *eP* **P** **02 08 35.3 -0.3**
comp=Z,22nm,0.6s,mb5.1
RPZ Rata Peaks 53.13 143 P **P** **02 08 38.0 +0.5**
comp=Z,15nm,0.6s,mb4.9,baz=207,slow=4.6,SNR=5.2
GUN Gumba 53.30 310 *eP* **P** **02 08 39.0 0.0**
comp=Z,576nm,0.7s,mb6.4
PKI Pulchoki 53.49 310 *eP* **P** **02 08 40.0 -0.3**
comp=Z,187nm,0.8s,mb5.9
BLSP Bilaspur 53.67 302 *eP* **P** **02 08 41.0 -0.7**
BLSP AMb AMB 02 08 42.8
comp=Z,152nm,0.9s,mb5.7
KKN Kakani 53.70 310 *eP* **P** **02 08 41.5 -0.4**
comp=Z,309nm,0.8s,mb6.1
DMN Daman 53.74 309 *eP* **P** **02 08 41.9 -0.3**
comp=Z,410nm,0.9s,mb6.2
KLR Kul'dur 53.90 2 *eP* **P** **02 08 39.4 -3.6**
KLR pmax pmax
comp=Z,26nm,0.9s,mb5.0
GKN Gorkha 54.30 310 *eP* **P** **02 08 45.8 -0.4**
comp=Z,507nm,0.7s,mb6.4
URZ Urewera 54.39 134 P **P** **02 08 46.1 -0.7**
comp=Z,11nm,0.6s,mb4.7,baz=126,slow=6.6,SNR=5.4
HIA Hailar 54.59 352 *eP* **P** **02 08 47.5 -0.5**
comp=Z,9.4nm,0.7s,mb4.6
KOLN Koldanda 54.98 309 *eP* **P** **02 08 51.1 -0.1**
comp=Z,423nm,0.7s,mb6.3
HYB Hyderabad 55.08 295⇑*iP* **P** **02 08 51.0 -1.0**
comp=Z,200nm,1.0s,mb5.8
ALBI Allahabad 55.28 305 *eP* **P** **02 08 50.5 -2.9**
NGP Nagpur 55.93 299 *eP* **P** **02 08 57.0 -1.0**
NGP AMb AMB 02 08 58.2
comp=Z,132nm,0.7s,mb5.9
SONM Songino Array 56.32 341 P **P** **02 09 00.7 +0.3**
comp=Z,44nm,0.6s,mb5.5,baz=161,slow=7.0,SNR=198
SONM PcP PcP 02 09 55.0 -0.5
comp=Z,12nm,0.7s,baz=169,slow=4.3,SNR=4.5
SONM ScP 02 13 36.1
comp=Z,3.2nm,1.1s,baz=146,slow=4.5,SNR=4.2
BHPL Bhopal 58.10 301 *eP* **P** **02 09 12.2 -1.1**
BHPL AMb AMB 02 09 14.8
comp=Z,103nm,0.9s,mb5.7
LGTI Lohaghat 58.38 309 *eP* **P** **02 09 14.3 -0.8**
KAD Karad 59.02 293⇑*iP* **P** **02 09 18.0 -1.7**
ZAK Zakamensk 59.55 341 *eP* **P** **02 09 22.5 -0.4**
ZAK *e* pP 02 10 08.0 +4.1
ZAK pmax pmax
comp=Z,16nm,1.1s,mb4.8
ZAK pmax pmax
comp=Z,16nm,1.0s,mb4.8
ZAK pmax pmax
comp=Z,4.0nm,1.1s
POO Poona 59.68 295 *eP* **P** **02 09 22.9 -1.3**
POO ⇓*e* 02 09 24.4
POO AMb AMB 02 09 24.4
comp=Z,118nm,0.9s,mb5.7
SONA Sohna 60.35 306 *eP* **P** **02 09 27.1 -1.6**
SONA AMb AMB 02 09 27.8
comp=Z,230nm,0.7s,mb6.2
AYAN Aya Nagar 60.41 307 *eP* **P** **02 09 27.2 -1.9**
NDI New Delhi 60.42 307 *eP* **P** **02 09 25.0 -4.1**
NDI *eP* 02 09 27.1
NDI AMb AMB 02 09 28.0
comp=Z,148nm,0.6s,mb6.0
DDI Dehra Dun 60.47 309 *eP* **P** **02 09 28.0 -1.4**
TLY Talaya 60.55 342*c iP* **P** **02 09 30.0 +0.3**
TLY pmax pmax
comp=Z,27nm,0.8s,mb5.1
KHET Khetri 61.31 306 *eP* **P** **02 09 33.8 -1.4**
KHET AMb AMB 02 09 34.4
comp=Z,109nm,0.6s,mb5.9
WMQ Urumqi 61.43 327 P **P** **02 09 37.8 +2.1**
WMQ AP pP 02 10 18.8 +1.9
WMQ XP sP 02 10 37.9 +1.9
WMQ PP PP 02 11 57.1 +2.0
WMQ AMB AMB
comp=Z,264nm,0.7s,mb6.2
WMQ AMB AMB
comp=Z,321nm,4.0s
WMQ LR LR
comp=N,2μm,17.3s
WMQ LR LR
comp=E,1μm,17.4s
WMQ LR LR
comp=Z,2μm,17.4s
AJM Ajmer 61.65 303⇑*iP* **P** **02 09 36.0 -1.4**
SDNR Sundarnagar 61.82 310 *eP* **P** **02 09 39.0 +0.5**
PET Petropavlovsk 62.66 19 *iP* **P** **02 09 43.4 -0.4**
PET pmax pmax
comp=Z,31nm,1.3s,mb5.0
CASY Casey 62.74 189 *eP* **P** **02 09 43.0 -1.2**
comp=Z,18nm,0.9s,mb4.9
DLH Dalhousie 63.04 310 *eP* **P** **02 09 45.0 -1.6**
THN Thein Dam 63.18 310 *eP* **P** **02 09 44.8 -2.7**
BOD Bodaibo 63.75 351⇓*iP* **P** **02 09 50.4 -0.4**
BOD pmax pmax
comp=Z,49nm,1.0s,mb5.3
KSH Kashi 66.22 317⇑*iP* **P** **02 10 08.0 +1.0**
KSH *e*PCP PcP 02 10 37.0 +1.4
KSH *e*AP pP 02 10 50.0 +1.2
KSH *e*XP sP 02 11 08.0 +0.2
KSH *e*PP PP 02 12 38.3 +1.6
KSH *e*SCP 02 14 23.0
KSH AMB AMB
comp=Z,110nm,1.0s,mb5.6

KSH LR LR
comp=N,1μm,6.0s
KSH LR LR
comp=E,1μm,6.0s
MKAR Makanchi Array 66.26 326 *i* P **P** **02 10 06.9 -0.3**
MKAR pmax pmax
comp=Z,94nm,0.5s
MKAR Makanchi Array 66.26 326 P **P** **02 10 07.2 0.0**
comp=Z,117nm,0.5s,mb6.0,baz=113,slow=8.7,SNR=1019
MA2 Magadan 66.39 12 *i* P **P** **02 10 08.1 +0.4**
MA2 pmax pmax
comp=Z,26nm,1.0s,mb5.0
MIR Mirnyy 66.60 195*c iP* **P** **02 10 08.6 -0.3**
MIR pmax pmax
comp=Z,48nm,1.4s,mb5.1
YAK Yakutsk 66.70 0 *eP* **P** **02 10 08.0 -1.7**
YAK pmax pmax
comp=Z,105nm,0.7s,mb5.8
YAK pmax pmax
comp=N,24nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.7s
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=Z,32nm,0.8s,mb5.2
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK Yakutsk 66.70 0⇑*iP* **P** **02 10 09.1 -0.5**
comp=E,357nm,0.8s,mb6.2
FX1 Attu Island--F 68.23 27⇑*iP* **P** **02 10 19.6 +0.4**
AAK Ala-Archa 68.70 319*c iP* **P** **02 10 22.0 -0.3**
AAK Ala-Archa 68.70 319⇑*iP* **P** **02 10 21.9 -0.4**
comp=E,65nm,0.9s,mb5.4
FRU Bishkek 68.71 320⇑*eP* **P** **02 10 22.8 +0.4**
FRU pmax pmax
comp=Z,80nm,2.1s,mb5.1
FRU pmax pmax
comp=Z,130nm,2.0s,mb5.3
ZAL Zalesovo 69.53 334 P **P** **02 10 27.1 -0.1**
ZAL pmax pmax
comp=Z,54nm,0.7s
ZAL Zalesovo 69.53 334 P **P** **02 10 27.1 -0.1**
comp=Z,54nm,0.7s,mb5.4,baz=343,slow=5.2,SNR=223
SEY Seymchan 69.79 11*c iP* **P** **02 10 29.2 +0.6**
KURK Kurchatov 70.53 328⇑*iP* **P** **02 10 33.2 -0.1**
comp=Z,257nm,0.8s,mb6.0
NVS Novosibirsk 70.81 334⇑*iP* **P** **02 10 33.7 -1.2**
NVS *e*S S 02 19 27.5 -6.4
NVS pmax pmax
comp=Z,111nm,1.0s,mb5.5
NVS pmax pmax
comp=N,64nm,1.3s
NVS pmax pmax
comp=E,78nm,1.0s
NVS smax
comp=E,121nm,1.9s
NVS smax
comp=N,105nm,2.1s
KKAR Karatay Array 71.52 318 *i* P **P** **02 10 39.1 -0.2**
KKAR pmax pmax
comp=Z,74nm,1.1s,mb5.3
WBK Wadi Bani Khal 74.19 295 ⇓P **P** **02 10 55.8 +0.3**
SNR=18
VNDA Vanda 74.59 173 P **P** **02 10 56.4 -0.3**
VNDA pmax pmax
comp=Z,7.0nm,0.5s
VNDA Vanda 74.59 173 P **P** **02 10 56.4 -0.4**
comp=Z,7.0nm,0.5s,mb4.5,baz=320,slow=6.4,SNR=92
VNDA Vanda 74.59 173⇑*eP* **P** **02 10 56.5 -0.2**
comp=Z,7.3nm,0.6s,mb4.5
JMDO Jabal Madar 74.92 295 ⇓P **P** **02 10 59.7 +0.1**
SNR=19
SMDO Samad 75.11 295 ⇓P **P** **02 11 01.1 +0.4**
SNR=88
BIDO Bidbid 75.14 296 ⇓P **P** **02 11 01.6 +0.7**
SNR=16
SBA Scott Base 75.48 172⇑*iP* **P** **02 11 02.5 +0.8**
comp=Z,28nm,1.7s,mb4.6
BSY Bisya 75.82 295 ⇓P **P** **02 11 05.0 +0.3**
SNR=35
HOQ Hoqain 75.89 296 ⇓P **P** **02 11 05.6 +0.6**
SNR=34
BVA0 Borovoye Array 76.08 328 P **P** **02 11 05.1 -0.4**
BVA0 pmax pmax
comp=Z,37nm,1.2s,mb4.9
BVAR Borovoye Array 76.08 328 P **P** **02 11 05.7 +0.2**
comp=Z,48nm,0.6s,mb5.3,baz=124,slow=5.3,SNR=367
BRVK Borovoye 76.15 328⇑*iP* **P** **02 11 05.8 0.0**
comp=Z,67nm,0.9s,mb5.3
SHAO Shalim 76.40 290 ⇓P **P** **02 11 07.2 -0.7**
SNR=14
ZRNK Zerenda 76.79 327⇑*iP* **P** **02 11 09.4 -0.1**
MAW Mawson 76.80 201 *eP* **P** **02 11 09.8 +0.6**
comp=Z,12nm,0.3s,mb5.0
MAW Mawson 76.80 201 P **P** **02 11 09.8 +0.6**
MAW pmax pmax
comp=Z,16nm,0.4s
MAW Mawson 76.80 201 P **P** **02 11 09.8 +0.6**
comp=Z,16nm,0.4s,mb5.0,baz=71,slow=5.6,SNR=125
BILL Bilibino 77.13 13 *i* P **P** **02 11 10.9 -0.1**
BILL pmax pmax
comp=Z,6.0nm,1.3s
RBK Rabkut 77.66 289 ⇓P **P** **02 11 14.9 0.0**
SNR=23
WHFO Wadi Hawf 78.13 289 ⇓P **P** **02 11 17.5 0.0**
SNR=38
UNV Unalaska Valle 78.91 33 *eP* **P** **02 11 20.8 -0.2**
comp=Z,51nm,0.6s,mb5.3
AB31 Akbulak array 80.63 321 *i* P **P** **02 11 29.9 -0.4**
AB31 pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
OPO Ambohidratompo 81.33 252 P **P** **02 11 35.5 +0.9**
comp=Z,26nm,0.7s,mb5.0,baz=75,slow=4.3,SNR=75
SVE Sverdlovsk 82.77 329⇑*iP* **P** **02 11 42.1 +0.9**
SVE *e* pP 02 12 26.0 +1.2
SVE *e* 02 14 56.0
SVE pmax pmax
comp=Z,40nm,1.6s,mb4.9
ARU Arti 83.72 328⇑*iP* **P** **02 11 45.8 -0.2**
ARU *i* 02 15 00.9
ARU *e*S S 02 21 50.9 -1.2
ARU *e*SS SS 02 27 24.5 -1.6
ARU pmax pmax
comp=Z,90nm,1.0s,mb5.5
ARU Arti 83.72 328 *eP* **P** **02 11 45.7 -0.3**
comp=Z,102nm,1.0s,mb5.5
QRN Al-Qurain 85.09 299 *eP* **P** **02 11 54.4 +0.9**
QRN AMb AMB 02 11 54.9
comp=Z,189nm,0.5s,mb6.1
QSPA South Pole Qui 85.10 180 *eP* **P** **02 11 52.7 +0.3**
comp=Z,14nm,0.6s,mb4.9
KBD Kabd 85.35 300 *eP* **P** **02 11 55.1 +0.3**
KBD AMb AMB 02 11 56.5
comp=Z,332nm,0.7s,mb6.2
UMR Umm Al-Rimmam 85.38 300 *eP* **P** **02 11 56.1 +1.1**
UMR AMb AMB 02 11 57.3
comp=Z,202nm,0.6s,mb6.0
RDF Al-Radifah 85.44 299 *eP* **P** **02 11 55.5 +0.3**
RDF AMb AMB 02 11 56.8
comp=Z,164nm,0.7s,mb5.8
SYO Syowa Base 85.51 201 ⇓P **P** **02 11 53.8 -0.9**
SYO Syowa Base 85.51 201 ⇓PcP PcP 02 11 56.6 -1.1
RYDS Riyadh 85.62 295 P **P** **02 11 57.1 +0.9**
MIB Mutribah 85.74 300 *eP* **P** **02 11 57.7 +1.0**
MIB AMb AMB 02 12 00.1
comp=Z,328nm,1.1s,mb6.0
NAY Al-Naaiem 85.75 300 *eP* **P** **02 11 57.1 +0.4**
NAY AMb AMB 02 11 58.4
comp=Z,210nm,0.8s,mb5.9
MZLS Mizel 86.90 294 P **P** **02 12 04.3 +1.9**
KAMS Al Khamasin 87.06 291 P **P** **02 12 04.2 +0.9**
DJNS Zahran al Janu 87.76 288 P **P** **02 12 08.3 +1.7**
TATS Tathlith 88.01 290 P **P** **02 12 09.3 +1.5**
ARSS Ar Rass 88.88 296 P **P** **02 12 12.8 +1.1**
GNI Garni 89.21 310 *i* P **P** **02 12 14.2 +1.2**
GNI pmax pmax
comp=Z,28nm,1.3s
GNI Garni 89.21 310 P **P** **02 12 14.8 +1.9**
comp=Z,3.6nm,0.4s,mb4.6,baz=161,slow=20,SNR=5.0
GNI Garni 89.21 310 *eP* **P** **02 12 14.3 +1.3**
comp=Z,16nm,0.8s,mb5.0
SLKM Skilak Lake 89.35 29 *eP* **P** **02 12 12.4 -0.7**
TBLG Delisi 89.41 312 P **P** **02 12 14.6 +0.7**
BLJS Baljurashi 89.80 290 P **P** **02 12 17.8 +1.6**
GOR Gori 89.91 312 P **P** **02 12 13.3 -2.9**

Code	Station	Δ	Az	Phase	ISC	Time	Res
ZEI	**Tsey**	**90.15**	**313**	*e*P	**P**	**02 12 14.9**	**-2.4**
ZEI				*i* *PP	pP	02 13 03.9	+2.4
ZEI				*i*		02 15 50.9	
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
HILS	**Ha'il**	**90.31**	**297**	P	**P**	**02 12 19.9**	**+1.5**
ONI	**Oni**	**90.46**	**313**	P	**P**	**02 12 19.3**	**+0.5**
LTHS	**Al Lith**	**90.95**	**290**	P	**P**	**02 12 22.9**	**+1.3**
KIV	**Kislovodsk**	**91.15**	**314**	*i* P	**P**	**02 12 20.3**	**-1.7**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
ILAR	**Eielson Array**	**91.58**	**25**	P	**P**	**02 12 21.9**	**-1.5**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**91.58**	**25**	P	**P**	**02 12 21.9**	**-1.5**
	comp=Z,2.2nm,0.6s,mb4.4,baz=240,slow=5.1,SNR=71						
ILAR				PKKP	PKKP	02 29 42.2	+26
	comp=Z,0.7nm,0.7s,baz=0.1,slow=0.8,SNR=7.6						
KMBO	**Kilima Mbogo**	**92.29**	**269**	*i* P	**P**	**02 12 29.5**	**+1.6**
KMBO				pmax	pmax		
	comp=Z,16nm,0.8s						
KMBO	**Kilima Mbogo**	**92.29**	**269**	P	**P**	**02 12 29.1**	**+1.2**
	comp=Z,16nm,0.8s,mb5.1,baz=60,slow=6.5,SNR=44						
YNBS	**Yanbu' al Bahr**	**93.48**	**294**	P	**P**	**02 12 34.9**	**+1.8**
ASF	**Jabal al Asfar**	**94.89**	**302**	P	**P**	**02 12 40.5**	**+1.1**
	comp=Z,13nm,0.8s,mb5.2,baz=351,slow=2.4,SNR=23						
ANN	**Anapa**	**94.97**	**314**	*e*P	**P**	**02 12 32.2**	**-7.2**
ANN				*i* *PP	pP	02 13 15.6	-8.1
ANN				pmax	pmax		
	comp=Z,64nm,1.4s,mb5.7						
MOS	**Moscow**	**95.13**	**325**	*e*P	**P**	**02 12 35.2**	**-4.7**
OBN	**Obninsk**	**95.72**	**325**	*c* *i*P	**P**	**02 12 41.2**	**-1.4**
OBN				*e**PP	pP	02 13 27.6	+0.7
OBN				*e*		02 16 36.1	
OBN				*e*		02 23 03.1	
OBN				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.6						
OBN				MLR	MLR		
	comp=Z,300nm,24.0s						
OBN	**Obninsk**	**95.72**	**325**	⇑*i*P	**P**	**02 12 41.0**	**-1.6**
	comp=Z,17nm,0.6s,mb5.5						
APA	**Apatity**	**96.86**	**337**	⇓*i*P	**P**	**02 12 46.0**	**-1.5**
APA				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.2						
INK	**Inuvik**	**97.02**	**22**	*e*P	**P**	**02 12 47.6**	**-0.6**
	comp=Z,9.0nm,0.8s,mb5.2						
SNAA	**Sanae**	**97.64**	**194**	*e*	**P**	**02 12 54.5**	**+3.5**
SNAA	**Sanae**	**97.64**	**194**	P	**P**	**02 12 52.1**	**+1.1**
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SNAA	**Sanae**	**97.64**	**194**	P	**P**	**02 12 52.1**	**+1.1**
	comp=Z,1.4nm,0.4s,mb4.7,baz=124,slow=3.9,SNR=33						
SNAA				PKKPbc		02 29 25.0	
	comp=Z,0.7nm,0.5s,baz=270,slow=6.1,SNR=11						
SNAA	**Sanae**	**97.64**	**194**	⇑*i*Pdif	**P**	**02 12 51.6**	**+0.6**
SNAA				*e*		02 12 54.5	
SNAA				*e*	pP	02 13 37.9	+2.6
SNAA				*e*		02 16 53.2	
BRTR	**Keskin Array B**	**97.70**	**309**	P	**P**	**02 12 51.3**	**-0.7**
BRTR						02 16 52.9	
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRTR	**Keskin Array B**	**97.70**	**309**	P	**P**	**02 12 51.3**	**-0.7**
	comp=Z,4.3nm,0.9s,mb4.9,baz=124,slow=4.5,SNR=21						
BRTR				PP	PP	02 16 52.9	-1.6
	comp=Z,1.9nm,0.9s,baz=104,slow=5.1,SNR=5.1						
MBAR	**Mbarara**	**98.83**	**269**	*e*P	**P**	**02 12 56.2**	**-1.5**
	comp=Z,8.3nm,1.1s,mb5.1						
VNA2	**Neumayer--Watz**	**99.22**	**193**	*e*	**P**	**02 13 02.2**	**+4.0**
VNA2	**Neumayer--Watz**	**99.22**	**193**	*e*	**P**	**02 13 04.7**	**+6.5**
VNA2	**Neumayer--Watz**	**99.22**	**193**	⇑*i*Pdif	**P**	**02 12 59.1**	**+0.9**
VNA2				*e*		02 13 02.2	
VNA2				*e*		02 13 04.7	
VNA2				*e*	pP	02 13 42.0	-0.5
VNA2				*e*		02 17 06.5	
VNA2				*e*		02 17 22.6	
ARCES	**ARCESS Array B**	**99.47**	**340**	P	**P**	**02 12 58.6**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,15nm,0.8s						
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**99.47**	**340**	P	**P**	**02 12 58.6**	**-0.7**
	comp=Z,15nm,0.8s,mb5.5,baz=83,slow=6.4,SNR=72						
ARCES				PKiKP		02 17 27.6	
	comp=Z,1.0nm,0.6s,baz=99,slow=1.6,SNR=7.5						
ARCES				PKKPbc		02 29 20.9	
	comp=Z,1.2nm,0.7s,baz=280,slow=3.0,SNR=11						
VNA3	**Neumayer Olymp**	**99.48**	**192**	*e*	**P**	**02 13 03.3**	**+4.0**
VNA3	**Neumayer Olymp**	**99.48**	**192**	*e*	**P**	**02 13 05.8**	**+6.5**
VNA3	**Neumayer Olymp**	**99.48**	**192**	⇑*i*Pdif	**P**	**02 12 59.8**	**+0.5**
VNA3				*e*		02 13 03.3	
VNA3				*e*		02 13 05.8	
VNA3				*e*	pP	02 13 41.5	-2.2
VNA3				*e*		02 17 21.1	
VNA1	**Neumayer--Stat**	**99.62**	**193**	Pdif	**P**	**02 13 01.1**	**+1.1**
VNA1				*e*		02 17 09.2	
VNA1				*e*		02 17 23.7	
LSZ	**Lusaka**	**99.73**	**254**	*e*Pdif	**P**	**02 13 01.9**	**+0.3**
	comp=Z,11nm,0.9s,mb5.3						
BOSA	**Boshof**	**100.23**	**240**	P	P	02 13 03.4	-0.3
BOSA				pmax	pmax		
	comp=Z,11nm,0.7s						
BOSA	**Boshof**	**100.23**	**240**	P	P	02 13 03.4	-0.3
	comp=Z,10nm,0.7s,baz=125,slow=6.1,SNR=24						
BOSA	**Boshof**	**100.23**	**240**	P	P	02 13 03.4	-0.3
AKASG	**Malin Array Be**	**100.35**	**321**	P	P	02 13 02.1	-1.6
AKASG						02 17 06.9	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**100.35**	**321**	P	P	02 13 02.1	-1.6
	comp=Z,1.1nm,0.6s,baz=65,slow=4.1,SNR=8.5						
AKASG				PP	PP	02 17 06.9	-7.2
	comp=Z,0.3nm,0.4s,baz=71,slow=6.8,SNR=4.1						
KAF	**Kangasniemi**	**100.51**	**332**	*e*p	P	02 13 02.1	-2.0
	baz=76,slow=4.2						
LBTB	**Lobatse**	**100.61**	**244**	P	P	02 13 05.5	0.0
LBTB				pmax	pmax		
	comp=Z,11nm,1.2s						
LBTB	**Lobatse**	**100.61**	**244**	P	P	02 13 05.5	+0.1
	comp=Z,11nm,1.2s,baz=160,slow=6.3,SNR=6.2						
LBTB				PKiKP		02 17 30.9	
FINES	**FINESS Array B**	**100.73**	**332**	*i* P	P	02 13 03.6	-1.5
FINES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
FINES	**FINESS Array B**	**100.73**	**332**	P	P	02 13 03.6	-1.5
	comp=Z,5.1nm,0.6s,baz=108,slow=6.0,SNR=26						
FINES				PP	PP	02 17 10.9	-6.0
	comp=Z,1.6nm,0.7s,baz=76,slow=5.7,SNR=3.7						
FINES				PKiKP		02 17 29.6	
	comp=Z,1.3nm,0.6s,baz=153,slow=4.3,SNR=6.7						
SUW	**Suwalki**	**103.58**	**324**	*e*P	Pdif	02 13 17.4	-0.5
SUW	**Suwalki**	**103.58**	**324**	*e*P	Pdif	02 13 17.4	-0.4
KWP	**Kalwaria**	**104.64**	**320**	*e*P	Pdif	02 13 23.1	+0.4
KWP	**Kalwaria**	**104.64**	**320**	*e*P	Pdif	02 13 23.1	+0.4
IDI	**Anoyia**	**104.84**	**305**	PKiKP		02 17 39.1	
	comp=Z,4.1nm,0.5s,baz=242,slow=3.2,SNR=5.3						
YKA	**Yellowknife Ar**	**106.00**	**26**	PKiKP		02 17 39.6	
	comp=Z,2.8nm,0.6s,baz=298,slow=1.8,SNR=13						
YKA				PKKPbc		02 29 02.1	
	comp=Z,1.9nm,0.7s,baz=107,slow=2.8,SNR=7.1						
OKC	**Ostrava-Krasne**	**107.50**	**321**	AMS	AMS	03 18 10.0	
	comp=Z,600nm,19.8s						
NB2	**NORSAR Subarra**	**107.73**	**333**	Pdif	Pdif	02 13 34.8	-1.2
	comp=Z,3.7nm,0.7s,baz=70,slow=4.5						
NOA	**NORSAR Array B**	**107.73**	**333**	Pdiff	Pdif	02 13 35.2	-0.8
	comp=Z,3.4nm,0.8s,baz=69,slow=4.5,SNR=15						
NOA				PKiKP		02 17 42.2	
	comp=Z,1.2nm,0.8s,baz=70,slow=3.5,SNR=5.5						
NOA				PKKPbc		02 28 56.6	
	comp=Z,0.3nm,0.6s,baz=235,slow=3.8,SNR=3.4						
DPC	**Dobruska-Polom**	**108.51**	**322**	*e*PKP		02 17 45.1	
DPC				LR	LR		
	comp=Z,2μm,18.7s						
PVCC	**Panska Ves**	**109.54**	**322**	AMS	AMS	03 20 10.0	
	comp=Z,600nm,18.3s						
PRU	**Pruhonice**	**109.71**	**322**	*e*PKP		02 17 47.0	
PRU				AMS	AMS	03 23 40.0	
	comp=Z,800nm,18.5s						
BRG	**Berggiesshubel**	**109.82**	**323**	P		02 17 38.9	
BRG				LR	LR		
	comp=Z,650nm,22.9s						
ARSA	**Arzberg**	**109.82**	**319**	⇑*i*P		02 17 47.1	
	comp=Z,2.0nm,0.5s						
CLL	**Collm**	**110.25**	**323**	*e*	PKPdf	02 17 48.0	+1.6
CLL				*e*PP	PP	02 18 25.0	-2.8
BOJS	**Bojanci**	**110.45**	**317**	*i* P	PKPdf	02 17 49.0	+2.0
MOA	**Molln**	**110.48**	**319**	⇑*i*P	PKPdf	02 17 48.1	+1.1
	comp=Z,1.7nm,0.5s						
KHC	**Kasperske Hory**	**110.56**	**321**	*e*PKP	PKPdf	02 17 48.7	+1.6
KHC				AMS	AMS	03 15 50.0	
	comp=Z,800nm,20.3s						
GERES	**GERESS Array B**	**110.56**	**321**	P	Pdif	02 13 48.0	-0.8
GERES				*i*		02 17 48.7	
GERES						02 18 22.8	
GERES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**110.56**	**321**	Pdiff	Pdif	02 13 48.0	-0.8
	comp=Z,0.3nm,0.7s,baz=63,slow=2.2,SNR=4.5						
GERES				PKiKP		02 17 48.7	
	comp=Z,3.7nm,0.6s,baz=76,slow=1.6,SNR=36						
GERES				PP	PP	02 18 22.8	-7.3
	comp=Z,0.8nm,0.8s,baz=90,slow=5.9,SNR=2.2						
OBKA	**Obir**	**110.66**	**318**	⇑*i*P	PKPdf	02 17 48.6	+1.3
	comp=Z,2.5nm,0.7s						
NKC	**Novy Kostel**	**110.92**	**322**	AMS	AMS	03 18 50.0	
	comp=Z,600nm,17.9s						
KBA	**Koelnbreinsper**	**111.30**	**319**	⇑*i*P	PKPdf	02 17 49.9	+1.3
	comp=Z,4.7nm,0.6s						
GRF	**Grafenberg Arr**	**111.85**	**322**	*e*PKP	PKPdf	02 17 50.9	+1.4
HLID	**Hailey**	**112.00**	**45**	*e*PKiKP		02 17 52.8	
WTTA	**Wattenberg**	**112.36**	**319**	⇑*i*P	PKPdf	02 17 52.3	+1.7
	comp=Z,20nm,0.4s						
WATA	**Walderalm**	**112.38**	**320**	⇑*i*P	PKPdf	02 17 52.1	+1.5
	comp=Z,5.1nm,0.4s						
SQTA	**Sankt Quirin**	**112.65**	**319**	⇑*i*P	PKPdf	02 17 52.6	+1.4
	comp=Z,3.2nm,0.5s						
MOTA	**Moosalm**	**112.68**	**320**	⇑*i*P	PKPdf	02 17 52.6	+1.4
	comp=Z,4.6nm,0.4s						
DAVA	**Damuels**	**113.48**	**320**	⇑*i*P	PKPdf	02 17 54.5	+1.6
	comp=Z,9.7nm,0.4s						
IMW	**Indian Meadow**	**114.33**	**44**	*e*PKiKP		02 17 57.0	
SNOW	**Snow King Moun**	**114.59**	**44**	*e*PKiKP		02 17 58.2	
LOHW	**Long Hollow**	**114.65**	**44**	*e*PKiKP		02 17 57.6	
MSU	**Marysvale**	**114.92**	**50**	*e*PKiKP		02 17 58.9	
HINF	**Hinteralfeld**	**115.21**	**321**	*e*PKIKP	PKPdf	02 17 56.9	+0.6
	comp=Z,10nm,0.7s						
HAU	**Haudompre**	**115.45**	**322**	*e*PKIKP	PKPdf	02 17 57.7	+1.0
	comp=Z,3.0nm,0.5s						
PGF	**Pioggiola**	**115.60**	**315**	*e*PKIKP	PKPdf	02 17 58.3	+1.1
	comp=Z,9.7nm,0.5s						
PDAR	**Pinedale Array**	**115.64**	**45**	PKP	PKPdf	02 17 59.2	+2.0
	comp=Z,0.9nm,0.5s,baz=65,slow=0.1,SNR=12						
PDAR				PKKPbc		02 28 32.0	
	comp=Z,1.9nm,0.5s,baz=113,slow=5.5,SNR=14						
PDAR				PKKPab		02 28 38.0	
	comp=Z,2.4nm,0.7s,baz=116,slow=6.3,SNR=7.0						
BAIF	**Baives**	**115.90**	**324**	*e*PKIKP	PKPdf	02 17 58.9	+1.4
	comp=Z,12nm,0.8s						
SRU	**San Rafael**	**116.01**	**49**	*e*PKPdf	PKPdf	02 17 59.6	+1.6
LPG	**La Plagne**	**116.14**	**319**	*e*PKIKP	PKPdf	02 17 59.7	+1.6
	comp=Z,18nm,0.6s						
LPL	**La Plagne**	**116.14**	**319**	*e*PKIKP	PKPdf	02 17 59.5	+1.4
	comp=Z,21nm,0.5s						
CABF	**La Chapelle**	**116.15**	**320**	*e*PKIKP	PKPdf	02 17 59.6	+1.5
	comp=Z,28nm,0.6s						
SBF	**Sospel**	**116.26**	**317**	*e*PKIKP	PKPdf	02 17 59.3	+0.9
	comp=Z,30nm,0.7s						
BNI	**Bardonecchia**	**116.35**	**318**	*e*PKPdf	PKPdf	02 17 59.9	+1.4
MBDF	**Montbardon**	**116.40**	**318**	*e*PKIKP	PKPdf	02 17 59.7	+1.1
	comp=Z,14nm,0.6s						
FRF	**La Foret Royal**	**116.90**	**317**	*e*PKIKP	PKPdf	02 18 00.6	+1.0
	comp=Z,12nm,0.6s						
ORIF	**Oris-en-Rattie**	**116.92**	**319**	*e*PKIKP	PKPdf	02 18 00.8	+1.2
	comp=Z,18nm,0.6s						
LMR	**La Mourre**	**117.07**	**317**	*e*PKIKP	PKPdf	02 18 00.9	+1.0
	comp=Z,8.6nm,0.8s						
LOR	**Lormes**	**117.29**	**322**	*e*PKIKP	PKPdf	02 18 00.8	+0.6
	comp=Z,8.0nm,0.8s						
SMRF	**Simiane la Rot**	**117.47**	**318**	*e*PKIKP	PKPdf	02 18 01.9	+1.2
	comp=Z,18nm,0.7s						
SMF	**Signal de Mont**	**117.56**	**321**	*e*PKIKP	PKPdf	02 18 01.7	+0.9
	comp=Z,10nm,0.9s						
SSF	**Saint Saulge**	**117.60**	**321**	*e*PKIKP	PKPdf	02 18 01.6	+0.8
	comp=Z,19nm,0.7s						
VIVF	**Saint-Julien-l**	**117.74**	**319**	*e*PKIKP	PKPdf	02 18 02.4	+1.2
	comp=Z,13nm,0.7s						
BGF	**Bois d'Agland**	**118.22**	**321**	*e*PKIKP	PKPdf	02 18 03.2	+1.1
	comp=Z,31nm,0.7s						
LASF	**Ste Croix**	**118.58**	**318**	*e*PKIKP	PKPdf	02 18 04.1	+1.2
	comp=Z,13nm,0.9s						
USHA	**Ushuaia**	**118.64**	**168**	PKP	PKPdf	02 18 04.1	+1.4
	comp=Z,3.7nm,0.7s,baz=219,slow=6.5,SNR=4.0						
TCF	**Toulx Ste Croi**	**118.73**	**321**	*e*PKIKP	PKPdf	02 18 04.2	+1.1
	comp=Z,17nm,0.7s						
RSSD	**Black Hills**	**118.91**	**42**	*e*PKPdf	PKPdf	02 18 04.2	+0.7
FLN	**La Foliniere**	**119.22**	**325**	*e*PKIKP	PKPdf	02 18 05.0	+1.0
	comp=Z,8.6nm,0.7s						
CAF	**Calviac**	**119.41**	**320**	*e*PKIKP	PKPdf	02 18 05.5	+1.1
	comp=Z,13nm,0.8s						
ISCO	**Idaho Springs**	**119.42**	**47**	*e*PKPdf	PKPdf	02 18 07.3	+2.8
RJF	**Les Rejaudoux**	**119.60**	**320**	*e*PKIKP	PKPdf	02 18 05.8	+1.0
GRR	**Gorron**	**119.62**	**324**	*e*PKIKP	PKPdf	02 18 05.8	+1.1
EJON	**La Jonquera**	**119.87**	**317**	PKP	PKPdf	02 18 06.2	+0.8
MTLF	**Montolieu**	**119.97**	**318**	*e*PKIKP	PKPdf	02 18 06.7	+1.2
	comp=Z,9.5nm,0.6s						
MFF	**Saint Martin d**	**120.05**	**322**	*e*PKIKP	PKPdf	02 18 06.7	+1.1
	comp=Z,30nm,0.5s						
LFF	**La Frestale**	**120.25**	**320**	*e*PKIKP	PKPdf	02 18 07.2	+1.1
	comp=Z,22nm,0.7s						
ANMO	**Albuquerque**	**120.30**	**52**	*e*PKPdf	PKPdf	02 18 08.8	+2.4
ANMO				*e*SKPdf		02 21 26.7	
SGMF	**Saint Gilles**	**120.67**	**325**	*e*PKIKP	PKPdf	02 18 07.7	+0.9
	comp=Z,12nm,0.4s						
ULM	**Lac du Bonnet**	**120.85**	**32**	PKP	PKPdf	02 18 07.8	+0.7
	comp=Z,6.2nm,0.5s,baz=300,slow=1.4,SNR=8.4						
ULM				PKKPbc		02 28 14.1	
	comp=Z,4.1nm,0.6s,baz=95,slow=4.8,SNR=4.4						
ULM	**Lac du Bonnet**	**120.85**	**32**	PKP	PKPdf	02 18 07.8	+0.7
ULM				PKKPbc		02 28 14.1	
ETOS	**Mallorca**	**120.94**	**314**	PKP	PKPdf	02 18 09.0	+1.5
EMIR	**Miracle**	**121.01**	**317**	PKP	PKPdf	02 18 09.1	+1.4
ROSF	**Rostrenen**	**121.03**	**325**	*e*PKIKP	PKPdf	02 18 08.4	+0.9
	comp=Z,12nm,0.7s						
QUIF	**Quistinic**	**121.19**	**325**	*e*PKIKP	PKPdf	02 18 08.6	+0.8
	comp=Z,14nm,0.7s						
EPF	**Esparros**	**121.34**	**318**	*e*PKIKP	PKPdf	02 18 09.3	+1.0
	comp=Z,9.6nm,0.5s						
EPOB	**Poblet**	**121.54**	**316**	PKP	PKPdf	02 18 09.5	+0.8
EBIE	**Bielsa**	**121.62**	**318**	PKP	PKPdf	02 18 10.6	+1.8
EGRA	**Graus**	**121.72**	**317**	PKP	PKPdf	02 18 10.8	+1.9
ETSF	**Etsaut**	**121.99**	**319**	*e*PKIKP	PKPdf	02 18 10.5	+1.0
	comp=Z,14nm,0.8s						
MNTX	**Cornudas Mount**	**122.06**	**56**	*e*PKPdf	PKPdf	02 18 11.8	+1.9
MNTX				*e*SKPdf		02 21 30.0	
EIBI	**Ibiza**	**122.27**	**314**	PKP	PKPdf	02 18 13.3	+3.2
SJPF	**Ste Jean**	**122.33**	**319**	*e*PKIKP	PKPdf	02 18 11.4	+1.3
ESAC	**San Caprasio**	**122.45**	**317**	PKP	PKPdf	02 18 11.6	+1.2
EALK	**Alkurruntz**	**122.47**	**319**	PKP	PKPdf	02 18 11.8	+1.4
GDL2	**Guadalupe Moun**	**122.76**	**55**	*e*PKPdf	PKPdf	02 18 13.4	+2.2
GDL2				*e*SKPdf		02 21 30.0	
EMOS	**Mosqueruela**	**123.02**	**316**	PKP	PKPdf	02 18 13.9	+2.4
ECRI	**Cripan**	**123.41**	**319**	PKP	PKPdf	02 18 14.7	+2.4
EBEN	**Beniarda**	**123.52**	**314**	PKP	PKPdf	02 18 13.9	+1.4
ECHE	**Chera**	**123.69**	**315**	PKP	PKPdf	02 18 14.9	+2.1
ELAN	**Lanestosa**	**123.71**	**320**	PKP	PKPdf	02 18 14.3	+1.5
ETOB	**Tobarra**	**124.49**	**314**	PKP	PKPdf	02 18 15.8	+1.3
EMUR	**La Murta**	**124.60**	**313**	PKP	PKPdf	02 18 15.2	+0.4
EARI	**Arriondas**	**124.80**	**321**	PKP	PKPdf	02 18 17.3	+2.4
EVIA	**Vianos**	**125.17**	**315**	PKP	PKPdf	02 18 17.2	+1.4
ENIJ	**Nijar**	**125.66**	**313**	PKP	PKPdf	02 18 18.1	+1.4
ESDC	**Sonseca Array**	**125.73**	**316**	PKP	PKPdf	02 18 18.3	+1.4
	comp=Z,0.9nm,0.6s,baz=38,slow=2.1,SNR=7.2						
ESDC				PP	PP	02 20 03.6	-12
	comp=Z,1.3nm,0.8s,baz=40,slow=6.2,SNR=4.3						
ESDC	**Sonseca Array**	**125.73**	**316**	PKP	PKPdf	02 18 18.8	+1.9
EQES	**Quesada**	**125.94**	**314**	PKP	PKPdf	02 18 19.7	+2.4
EPON	**Pontenova**	**125.99**	**322**	PKP	PKPdf	02 18 19.3	+2.1
EBER	**Berja**	**126.19**	**313**	PKP	PKPdf	02 18 19.6	+1.8
EBAN	**Banos Encina**	**126.29**	**315**	PKP	PKPdf	02 18 19.2	+1.3
ECAL	**Calabor**	**126.46**	**320**	PKP	PKPdf	02 18 19.3	+1.2
ERUA	**La Rua**	**126.48**	**321**	PKP	PKPdf	02 18 19.2	+1.0
PBRG	**Braganca**	**126.54**	**320**	*e*PKPdf	PKPdf	02 18 20.1	+1.8
EALB	**Alboran**	**126.69**	**312**	PKP	PKPdf	02 18 19.9	+1.1
ERON	**Agron**	**126.80**	**313**	PKP	PKPdf	02 18 20.1	+1.1
EADA	**Adamuz**	**126.84**	**315**	PKP	PKPdf	02 18 20.1	+1.2
ELOJ	**Sierra Loja**	**127.00**	**314**	PKP	PKPdf	02 18 20.5	+1.2
STS	**Santiago**	**127.09**	**322**	PKP	PKPdf	02 18 21.5	+2.1
EMAZ	**Mazaricos**	**127.32**	**322**	PKP	PKPdf	02 18 21.9	+2.1
ELOB	**Lobios**	**127.34**	**321**	PKP	PKPdf	02 18 21.5	+1.6
PVRL	**Vila Real**	**127.44**	**320**	*e*PKPdf	PKPdf	02 18 22.5	+2.4
ECAB	**El Cabril**	**127.48**	**315**	PKP	PKPdf	02 18 22.4	+2.1
EMIJ	**Mijas**	**127.70**	**313**	PKP	PKPdf	02 18 20.7	-0.1
MTE	**Manteigas**	**127.78**	**319**	*e*PKPdf	PKPdf	02 18 23.2	+2.4
PVIS	**Viseu**	**127.85**	**319**	*e*PKPdf	PKPdf	02 18 23.2	+2.3
PCBR	**Castelo Branco**	**128.03**	**318**	*e*PKPdf	PKPdf	02 18 23.6	+2.3
EBAD	**Badajoz**	**128.25**	**317**	PKP	PKPdf	02 18 23.7	+1.9
ESPR	**Espera**	**128.34**	**314**	PKP	PKPdf	02 18 24.0	+2.0
SCHQ	**Schefferville**	**128.43**	**12**	PKP	PKPdf	02 18 23.6	+2.0
	comp=Z,8.2nm,0.5s,baz=345,slow=1.9,SNR=35						
SCHQ				SKPbc		02 21 25.2	
	comp=Z,5.2nm,0.8s,baz=358,slow=4.6,SNR=5.9						
SCHQ	**Schefferville**	**128.43**	**12**	PKP	PKPdf	02 18 23.6	+2.0
SCHQ				SKPbc		02 21 25.2	
EMIN	**Mina Concepcio**	**128.50**	**316**	PKP	PKPdf	02 18 24.7	+2.4
PTOM	**Tomar**	**128.76**	**319**	*e*PKPdf	PKPdf	02 18 25.3	+2.6
EVO	**Evora**	**129.04**	**317**	*e*PKIKP	PKPdf	02 18 24.4	+1.1
	comp=Z,11nm,0.7s						
PBEJ	**Beja**	**129.20**	**317**	*e*PKPdf	PKPdf	02 18 25.5	+1.9
PLOU	**Loures**	**129.63**	**318**	*e*PKPdf	PKPdf	02 18 26.9	+2.5
CCM	**Cathedral Cave**	**130.27**	**43**	*e*PKPdf	PKPdf	02 18 26.8	+1.2
PLCA	**Paso Flores**	**130.99**	**160**	PKIKP	PKPdf	02 18 29.3	+2.4
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PLCA				pmax	pmax		
	comp=N,14nm,0.9s						
PLCA	**Paso Flores**	**130.99**	**160**	PKP	PKPdf	02 18 29.3	+2.4
	comp=N,3.5nm,0.7s,baz=132,slow=0.9,SNR=14						
PLCA				SKPbc		02 21 35.2	
	comp=N,14nm,0.9s,baz=217,slow=3.9,SNR=15						
PLCA	**Paso Flores**	**130.99**	**160**	PKP	PKPdf	02 18 29.3	+2.4
PLCA				SKPbc		02 21 35.2	
BLO	**Bloomington**	**132.71**	**39**	*e*PKPdf	PKPdf	02 18 31.7	+1.5
WCI	**Wyandotte Cave**	**133.41**	**40**	PKPpre		02 18 21.9	
WCI				*e*PKPdf	PKPdf	02 18 33.8	+2.2
WVT	**Waverly**	**133.60**	**43**	*e*PKPdf	PKPdf	02 18 33.7	+1.7
PLAL	**Pickwick Lake**	**134.05**	**44**	*e*PKPdf	PKPdf	02 18 34.0	+1.2
DBIC	**Dimbokro**	**134.71**	**275**	PKIKP	PKPdf	02 18 35.4	+0.9
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
DBIC				pmax	pmax		
	comp=N,5.0nm,1.1s						
DBIC	**Dimbokro**	**134.71**	**275**	PKP	PKPdf	02 18 35.4	+0.8
	comp=N,5.3nm,0.5s,baz=89,slow=3.0,SNR=7.2						
DBIC				SKPbc		02 21 47.3	
	comp=N,4.7nm,1.1s,baz=78,slow=3.9,SNR=3.7						
NCB	**Newcomb**	**135.74**	**25**	*e*PKPdf	PKPdf	02 18 37.1	+1.4
LRAL	**Lakeview Retre**	**135.83**	**46**	*e*PKPpre		02 18 30.8	
TZTN	**Tazewell**	**136.17**	**40**	*e*PKPdf	PKPdf	02 18 39.5	+2.8
ACCN	**Adirondack Com**	**136.45**	**25**	*e*PKPdf	PKPdf	02 18 39.3	+2.3
FWV	**Forest Hill**	**137.19**	**36**	*e*PKPdf	PKPdf	02 18 41.2	+2.7
FWV				*e*SKP		02 21 54.6	
BLA	**Blacksburg**	**137.66**	**36**	*e*PKPdf	PKPdf	02 18 40.7	+1.4
JTS	**JuntasAbangare**	**145.30**	**79**	*e*PKPdf	PKPdf	02 18 55.1	+1.6
LVC	**Limon Verde**	**147.21**	**147**	*e*PKPbc	PKPdf	02 19 02.2	+5.7
CPUP	**Villa Florida**	**148.26**	**168**	PKIKP	PKPdf	02 19 00.4	+2.3
CPUP						02 19 03.4	
CPUP				pmax	pmax		
	comp=Z,21nm,0.6s						
CPUP				pmax	pmax		
	comp=Z,21nm,0.6s						
CPUP				pmax	pmax		
	comp=N,2.0nm,0.7s						
CPUP	**Villa Florida**	**148.26**	**168**	PKP	PKPdf	02 19 00.4	+2.3
	comp=N,21nm,0.6s,baz=206,slow=2.0,SNR=65						
CPUP				PKPbc	PKPdf	02 19 03.4	+5.3
	comp=N,21nm,0.6s,baz=206,slow=2.1,SNR=68						
CPUP				SKPbc		02 22 22.6	
	comp=N,2.2nm,0.7s,baz=162,slow=3.2,SNR=2.7						
CPUP	**Villa Florida**	**148.26**	**168**	*e*PKPdf	PKPdf	02 19 00.1	+2.0
CPUP				*e*PKPbc	PKPdf	02 19 03.3	+5.2
NNA	**Nana**	**148.79**	**123**	*e*PKPbc	PKPdf	02 19 05.6	+6.4
ARE	**Arequipa**	**150.23**	**136**	*e*P	PKPdf	02 19 03.0	+1.6
LPAZ	**La Paz**	**152.59**	**140**	PKIKP	PKPdf	02 19 08.6	+3.7
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,8.0nm,0.5s						
LPAZ	**La Paz**	**152.59**	**140**	PKP	PKPdf	02 19 08.6	+3.7
	comp=Z,2.4nm,0.9s,baz=34,slow=5.6,SNR=7.4						
LPAZ				PKPbc	PKPdf	02 19 14.7	+10
	comp=Z,8.4nm,0.5s,baz=358,slow=0.8,SNR=52						
LPAZ	**La Paz**	**152.59**	**140**	*e*PKPdf	PKPdf	02 19 08.2	+3.4
LPAZ				*e*PKPbc	PKPdf	02 19 14.6	+10
ROSC	**El Rosal**	**156.11**	**89**	PKP	PKPdf	02 19 12.6	+2.9
	comp=Z,2.9nm,0.5s,baz=98,slow=17,SNR=5.2						
ROSC				PKPab	PKPab	02 19 42.0	+1.2
	comp=Z,2.8nm,0.5s,baz=110,slow=20,SNR=3.9						
SDV	**Santo Domingo**	**159.48**	**78**	*e*PKPdf	PKPdf	02 19 15.5	+1.5
SDV				*e*PKPab	PKPab	02 19 54.9	-0.3
BDFB	**Brasilia**	**159.50**	**186**	PKIKP	PKPdf	02 19 16.0	+2.1
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BDFB	**Brasilia**	**159.50**	**186**	PKP	PKPdf	02 19 16.0	+2.1
	comp=Z,3.2nm,0.9s,baz=222,slow=10,SNR=3.7						
SAML	**Samuel**	**161.24**	**137**	*e*PKPdf	PKPdf	02 19 17.6	+1.8

BJI ***18*** *02:04:56.8, 9.90S×124.50E, h10km, mB5.9, mb5.3, Ms5.4, Msz5.0*

IDC ***18*** *02:04:57.8±0.4, 9.92S×124.52E, mb5.0/22, mb1 5.0/22, mb1mx5.0/23, mbtmp5.0/22, MS5.2/1, Ms1 5.2/1, ms1mx4.4/20, Error ellipse: s-maj=18.5km s-min=11.8km az=67.0*

HRVD ***18*** *02:04:59.9±0.4, 10.16S×124.97E, h12km, MW5.3/52, Centroid moment Tensor Solution. LP body waves: s37,c54;Mantle waves: s52,c90; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.40±.06; $M_{\theta\theta}$-0.31±.04; $M_{\phi\phi}$-0.09±.06; $M_{r\theta}$0.80±.12; $M_{\theta\phi}$-0.86±.04; $M_{\phi r}$0.06±.16; Best double couple: $M_0$1.223×10^{17} NP1: ϕ_s188°,δ43°,λ18°. NP2:ϕ_s85°,δ78°,λ132°. Principal axes: T 1.118, Plg42°, Azm34°; N .209, Plg40°, Azm254°; P -1.327, Plg22°, Azm144°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***18*** *02:04:59.9±0.1, 9.95S×124.48E, h10km, mb5.7/28, MS5.2/106, MW5.4 Error ellipse: s-maj=8.3km s-min=5.9km az=64.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^{17}Nm; M_{rr}0.07; $M_{\theta\theta}$0.78; $M_{\phi\phi}$-0.84; $M_{r\theta}$1.02; $M_{\theta\phi}$-0.50; $M_{\phi r}$0.70; Best double couple: $M_0$1.6×10^{17} NP1:ϕ_s150°,δ37°,λ2°. NP2:ϕ_s58°, δ89°,λ127°. Principal axes: T 1.51, Plg35°, Azm0°; N .11, Plg37°, Azm237°; P -1.61, Plg33°, Azm118°;*

NEIC Nine buildings damaged in Timor Tengah Utara. Felt [IV] at Kupang.

CSEM ***18*** *02:05:03.6, 10.13S×124.34E, h60km, mb5.6*

MOS ***18*** *02:05:05.3±0.9, 9.13S×124.12E, h33km, mb5.8/28, MS5.2/31, Error ellipse: s-maj=16.1km s-min=7.6km az=112.1*

ISC 18 02:04:58.2±0.2**, 9.94S**±0.03×**124.52E**±0.04**, h16km, h16km**±2.0km**:pP-P, n441,** σ1s**40**/228**, mb5.4**/93**, MS5.2**/122**, 18C-15D, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.19**	**173**	*e*P	**P**	**02 06 54.7**	**-4.6**
	632nm,0.4s						
FITZ	**Fitzroy Crossi**	**8.19**	**173**	Pn	**P**	**02 06 53.7**	**-5.6**
	7.3nm,0.3s,baz=180,slow=15,SNR=5.2						
FITZ				Sn	**Sn**	**02 08 19.4**	**-13**
	232nm,0.3s,baz=187,slow=5.5,SNR=10						
KAKA	**Kakadu**	**8.24**	**110**	*e*P	**P**	**02 06 57.3**	**-2.7**
	368nm,0.6s						
MBWA	**Marble Bar**	**12.07**	**202**	*e*Pn	**P**	**02 07 48.2**	**-4.5**
	9.6nm,0.4s						
WRA	**Warramunga Arr**	**13.74**	**138**	Pn	**P**	**02 08 08.4**	**-6.5**
	7.5nm,0.3s,baz=310,slow=13,SNR=5.8						
WRA				Sn	**S**	**02 10 32.3**	**-16**
	15nm,0.3s,baz=314,slow=23,SNR=4.7						
TSM	**Tawau**	**15.61**	**335**	P	**P**	**02 08 43.1**	**+3.7**
DAV	**Davao City (W)**	**16.93**	**4**	*e*P	**P**	**02 08 59.0**	**+2.8**
KKM	**Kota Kinabalu**	**17.90**	**332**	*e*P	**P**	**02 09 11.8**	**+3.4**

KKM **Kota Kinabalu** 17.90 332 P **P** 02 09 11.0 +2.6
KSM **Kuching** 18.13 308 *e*P **P** 02 09 12.7 +1.4
SNPH **Sibulan** 19.20 356⇑ *e*P **P** 02 09 26.8 +2.6
TBP **Tagbilaran** 19.51 358 *e*P **P** 02 09 27.1 -0.7
PPR **Puerto Princes** 20.41 343 *e*P **P** 02 09 39.6 +2.0
PMG **Port Moresby** 22.32 91 P **P** 02 09 58.8 +1.9
PMG S **S** 02 13 59.4 +2.7
PMG pmax pmax
comp=Z,47nm,0.8s
PMG smax
comp=N,26nm,0.9s
PMG Port Moresby 22.32 91 P **P** 02 09 58.8 +2.0
comp=N,47nm,0.8s,mb5.0,baz=338,slow=17,SNR=3.7
PMG S **S** 02 13 59.4 +2.7
comp=N,26nm,0.9s,baz=225,slow=13,SNR=1.4
PMG Port Moresby 22.32 91 *e*P **P** 02 09 59.2 +2.4
comp=N,154nm,0.8s,mb5.5
KLBR Kellerberrin 22.44 195 *e*P **P** 02 09 56.5 -1.5
comp=N,436nm,1.2s,mb5.8
MUN Mundaring 23.25 198 *e*P **P** 02 10 04.3 -1.6
comp=N,89nm,1.0s,mb5.2
MUN Mundaring 23.25 198 *e*P **P** 02 10 04.3 -1.6
MUN pmax pmax
comp=Z,89nm,1.0s,mb5.2
CTA Charters Tower 23.26 118 P **P** 02 10 06.1 -0.1
comp=Z,69nm,0.8s,mb5.1,baz=228,slow=21,SNR=3.4
CTA S **S** 02 14 16.8 +3.2
comp=Z,16nm,0.8s,baz=209,slow=20,SNR=1.6
CTAO Charters Tower 23.26 118 PFAKE 02 10 20.0 +14
CTAO LR LR
comp=Z,22µm,19.0s,MS5.6
NWAO Narrogin (SRO) 23.85 195 P **P** 02 10 09.8 -1.9
comp=Z,97nm,0.9s,mb5.2,baz=27,slow=10,SNR=13
NWAO S **S** 02 14 26.4 +2.7
comp=Z,34nm,0.8s,baz=287,slow=15,SNR=2.1
NWAO Narrogin (SRO) 23.85 195 *e*P **P** 02 10 11.0 -0.7
NWAO LR LR
comp=Z,15µm,20.0s,MS5.5
KGM Kluang 24.22 298 P **P** 02 10 18.3 +2.7
STKA Stephens Creek 26.96 147 *e*P **P** 02 10 39.9 -1.2
comp=Z,49nm,0.8s,mb5.1
STKA Stephens Creek 26.96 147 P **P** 02 10 40.0 -1.1
comp=Z,60nm,0.8s,mb5.2,baz=311,slow=9.5,SNR=11
STKA S **S** 02 15 15.7 0.0
comp=Z,11nm,0.7s,baz=268,slow=24,SNR=1.9
IPM Ipoh 27.49 301 P **P** 02 10 46.9 +0.7
CVP Callao Caves 27.59 354 *e*P **P** 02 10 49.0 +2.0
KULM Kulim 28.18 301 *e*P **P** 02 10 52.0 -0.4
GUMO Guam 30.89 41 PFAKE 02 11 30.0 +14
GUMO LR LR
comp=Z,2µm,19.0s,MS4.8
QIZ Qiongzhong 32.22 333 *e*P **P** 02 11 27.3 -0.8
QIZ AMB AMB
comp=Z,29nm,1.9s,mb4.8
QIZ LR LR
comp=N,2µm,15.8s
QIZ LR LR
comp=Z,3µm,20.5s,MS5.0
QIZ Qiongzhong 32.22 333 PFAKE 02 11 40.0 +12
QIZ LR LR
comp=Z,4µm,19.0s,MS5.1
TOO Toolangi 33.38 149 *e*P **P** 02 11 39.9 +1.8
comp=Z,22nm,0.9s,mb5.1
TOO Toolangi 33.38 149 *e*P **P** 02 11 39.9 +1.8
TOO pmax pmax
comp=Z,22nm,0.9s,mb5.1
CNB Canberra Magne 33.92 142 *e*P **P** 02 11 43.2 +0.4
comp=Z,216nm,1.7s,mb5.8
HNR Honiara 34.92 92 S **S** 02 17 21.2 -0.1
comp=Z,143nm,0.9s,baz=252,slow=12,SNR=2.2
HNR Honiara 34.92 92 PFAKE 02 12 00.0 +8.4
HNR LR LR
comp=Z,3µm,20.0s,MS5.1
JOW Kunigami 36.73 6 P **P** 02 12 07.5 +0.7
comp=Z,33nm,0.7s,mb5.3,baz=192,slow=16,SNR=5.6
GYA Guiyang 40.12 335⇑ *i*P **P** 02 12 35.3 +0.2
GYA PP PP 02 14 10.8 -0.5
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,340nm,3.2s
GYA LR LR
comp=N,1µm,16.7s,MS5.0
GYA LR LR
comp=E,1µm,16.8s,MS5.0
GYA LR LR
comp=Z,2µm,18.3s,MS5.0
KMI Kunming 40.80 329 P **P** 02 12 42.8 +2.1
KMI AP pP 02 12 48.1 +2.6
KMI XP sP 02 12 51.0 +3.5
KMI PP PP 02 14 15.1 -3.0
KMI AMB AMB
comp=Z,47nm,1.3s,mb5.0
KMI AMB AMB
comp=Z,656nm,6.2s
KMI LR LR
comp=N,3µm,18.4s,MS5.3
KMI LR LR
comp=E,2µm,14.7s,MS5.3
KMI LR LR
comp=Z,3µm,22.0s
SSE Sheshan 40.92 356 P **P** 02 12 45.0 +3.4
SSE AP pP 02 12 48.3 +1.9
SSE XP sP 02 12 49.4 +1.0
SSE AMB AMB
comp=Z,73nm,1.0s,mb5.3
SSE AMB AMB
comp=Z,964nm,6.1s
SSE LR LR
comp=N,148nm,20.7s,MS4.8
SSE LR LR
comp=E,1µm,20.8s,MS4.8
SSE LR LR
comp=Z,932nm,19.3s,MS4.7
WHN Wuhan 41.42 347 P **P** 02 12 47.0 +1.3
DZM Mont Dzumac 41.93 112 P **P** 02 12 50.3 +0.2
comp=Z,6.9nm,0.7s,mb4.4,baz=253,slow=12,SNR=5.3
NJ2 Nanjing 42.10 353 *e*P **P** 02 12 52.3 +0.9
NJ2 AP pP 02 12 57.6 +1.4
NJ2 XP sP 02 12 59.4 +1.3
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,2µm,3.8s
NJ2 LR LR
comp=N,7µm,19.4s,MS5.5
NJ2 LR LR
comp=E,3µm,23.2s,MS5.5
NJ2 LR LR
comp=Z,13µm,17.8s
ENH Enshi 42.51 341 PFAKE 02 13 10.0 +15
ENH LR LR
comp=Z,3µm,22.0s,MS5.1
JNU Nakatsue 43.24 8 P **P** 02 13 00.2 -0.5
comp=Z,25nm,0.8s,mb5.0,baz=198,slow=8.9,SNR=12
CD2 Chengdu 45.24 335⇓ *i*P **P** 02 13 16.0 -0.8
CD2 AMB AMB
comp=Z,35nm,1.0s,mb5.1
XAN Xi'an 46.17 342 P **P** 02 13 23.1 -1.1
XAN AP pP 02 13 31.4 +2.4
XAN AMB AMB
comp=Z,65nm,0.9s,mb5.6
KWAJ Kwajalein Atol 46.76 68 PFAKE 02 13 40.0 +11
KWAJ LR LR
comp=Z,368nm,20.0s,MS4.3
PALK Pallekele 46.87 290 PFAKE 02 13 40.0 +10
PALK LR LR
comp=Z,1µm,20.0s,MS4.9
INCN Inchon 47.21 2 PFAKE 02 13 40.0 +7.7
INCN LR LR
comp=Z,2µm,20.0s,MS5.0
KS15 Wonju Array Si 47.23 4 *e*P **P** 02 13 33.0 +0.5
SHL Shillong 47.49 319 *e*P **P** 02 13 35.0 +0.3
CAL Calcutta 47.95 313 *e* **P** 02 13 29.4 -9.0
CAL *e* 02 15 05.0
CAL *e* 02 16 12.9
MAJO Matsushiro 47.99 15 *e*P **P** 02 13 38.0 -0.5
MAJO MLR MLR
comp=Z,3µm,20.0s,MS5.2
MAT Matsushiro 47.99 15 *e*P **P** 02 13 37.0 -1.5
MAT *e*S **S** 02 20 33.0 -1.6
MAT pmax pmax
comp=Z,423nm,1.7s,mb6.2
MAT Matsushiro 47.99 15 *e*P **P** 02 13 37.0 -1.5
comp=Z,423nm,1.7s,mb6.2
MAT *e*S **S** 02 20 33.0 -1.6
MAT Matsushiro 47.99 15 P **P** 02 13 36.6 -1.9
MAT S **S** 02 20 32.9 -1.7
MJAR Matsushiro Arr 47.99 15 P **P** 02 13 36.6 -1.9
comp=Z,34nm,0.8s,mb5.4,baz=194,slow=7.4,SNR=56
MJAR S **S** 02 20 33.1 -1.5
comp=Z,0.6nm,0.3s,baz=210,slow=6.0,SNR=3.6
BWNR Bhubaneshwar 48.51 308 *e*P **P** 02 13 44.9 +2.2
BWNR AMb AMB 02 13 53.0
comp=Z,136nm,0.8s,mb6.0
DL2 Dalian 48.66 357 P **P** 02 13 42.8 -0.8
DL2 AMB AMB
comp=Z,60nm,1.0s,mb5.6
DL2 AMB AMB
comp=Z,480nm,4.6s
DL2 LR LR
comp=N,640nm,19.0s,MS4.8
DL2 LR LR
comp=E,670nm,20.6s,MS4.8
DL2 LR LR
comp=Z,670nm,15.1s
VIS Vishakhapatnam 49.10 304 *e*P **P** 02 13 45.4 -1.8
VIS AMb AMB 02 13 51.0
comp=Z,75nm,1.0s,mb5.7
MDRS Chennai 49.54 297 *e* **P** 02 13 41.0 -10
MDRS *e* 02 17 50.0
LZH Lanzhou 49.75 338⇓ *i*P **P** 02 13 52.5 +0.4
LZH AP pP 02 13 55.6 -1.3
LZH AMB AMB
comp=Z,71nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,335nm,6.5s
LZH LR LR
comp=N,2µm,15.5s
LZH LR LR
comp=Z,2µm,17.8s,MS5.3
BOK Bokaro 50.49 312 *e*P **P** 02 13 56.4 -1.5
BOK AMb AMB 02 14 02.2
comp=Z,44nm,1.4s,mb5.3
LSA Lhasa 50.85 322 P **P** 02 14 01.3 +0.8
LSA Lhasa 50.85 322 *e*P **P** 02 14 01.2 +0.7
LSA pmax pmax
comp=Z,50nm,0.6s,mb5.6
LSA MLR MLR
comp=Z,2µm,21.0s,MS5.0
LSA Lhasa 50.85 322 *e*P **P** 02 14 01.2 +0.7
comp=Z,50nm,0.6s,mb5.6
LSA LR LR
comp=Z,2µm,21.0s,MS5.0
DGAR Diego Garcia 51.49 268 PFAKE 02 14 20.0 +14
DGAR LR LR
comp=Z,615nm,20.0s,MS4.6
SNY Shenyang 51.51 359⇓ P **P** 02 14 04.0 -1.4
SNY AMB AMB
comp=Z,40nm,1.5s,mb5.1
SNY LR LR
comp=N,1µm,17.5s
SNY LR LR
comp=Z,1µm,18.6s,MS5.0
HHC Hu-ho-hao-te 51.93 348 *e*P **P** 02 14 06.5 -2.0
HHC PCP PcP 02 15 18.1 -3.2
HHC AMB AMB
comp=Z,728nm,1.9s,mb6.3
HHC AMB AMB
comp=Z,944nm,7.1s
HHC LR LR
comp=N,2µm,19.0s,MS5.2
HHC LR LR
comp=E,1µm,19.0s,MS5.2
HHC LR LR
comp=Z,1µm,19.0s,MS4.9
BLSP Bilaspur 52.37 308 *e*P **P** 02 14 11.3 -0.8
BLSP AMb AMB 02 14 20.0
comp=Z,103nm,1.3s,mb5.6
RPZ Rata Peaks 52.45 138 P **P** 02 14 12.3 -0.2
comp=Z,47nm,0.8s,mb5.5,baz=288,slow=1.1,SNR=10.0
RPZ LR LR 02 34 52.6
comp=Z,2µm,20.1s,MS5.2,baz=275,slow=34
HYB Hyderabad 52.93 301⇓ *e*P **P** 02 14 14.0 -2.4
HYB pmax pmax
comp=Z,200nm,1.4s,mb5.8
HYB Hyderabad 52.93 301⇓ *e*P **P** 02 14 14.0 -2.4
comp=Z,200nm,1.4s,mb5.8
HYB Hyderabad 52.93 301⇓ *i*P **P** 02 14 14.0 -2.4
comp=Z,200nm,1.4s,mb5.8
GUN Gumba 53.05 316 *e*P **P** 02 14 16.7 -0.4
comp=Z,185nm,0.7s,mb6.2
PKI Pulchoki 53.15 316 *e*P **P** 02 14 16.3 -1.6
comp=Z,94nm,0.5s,mb6.0
PKI Pulchoki 53.15 316 *e*P **P** 02 14 16.3 -1.6
PKI pmax pmax
comp=Z,47nm,0.5s,mb5.7
KKN Kakani 53.38 316 *e*P **P** 02 14 18.9 -0.7
comp=Z,146nm,0.9s,mb5.9
KKN Kakani 53.38 316 *e*P **P** 02 14 18.9 -0.7
KKN pmax pmax
comp=Z,73nm,0.9s,mb5.6
DMN Daman 53.39 315 *e*P **P** 02 14 18.8 -0.8
comp=Z,164nm,0.9s,mb6.0
CN2 Changchun 53.49 1 *e*P **P** 02 14 18.6 -1.5
CN2 AMB AMB
comp=Z,30nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,500nm,4.0s
CN2 LR LR
comp=N,1µm,16.0s,MS5.2
CN2 LR LR
comp=E,800nm,16.0s,MS5.2
CN2 LR LR
comp=Z,1µm,17.0s,MS5.0
GKN Gorkha 53.96 315 *e*P **P** 02 14 22.9 -0.8
comp=Z,161nm,0.7s,mb6.1
GTA Gaotai 54.20 336 *e*P **P** 02 14 25.1 -0.3
GTA AP pP 02 14 29.5 -0.7
GTA XP sP 02 14 32.1 0.0
GTA AMB AMB
comp=Z,35nm,1.5s,mb5.1
GTA AMB AMB
comp=Z,419nm,7.2s
GTA LR LR
comp=N,1µm,21.3s,MS5.2
GTA LR LR
comp=E,2µm,19.0s,MS5.2
GTA LR LR
comp=Z,1µm,19.4s,MS5.0
ERM Erimo 54.45 17 PFAKE 02 14 40.0 +13
ERM LR LR
comp=Z,1.0nm,22.0s
MDJ Mudanjiang 54.49 4 P **P** 02 14 26.8 -0.6
MDJ PCP PcP 02 15 30.3 -0.5
MDJ AMB AMB
comp=Z,66nm,1.6s,mb5.3
MDJ AMB AMB
comp=Z,570nm,3.3s
MDJ LR LR
comp=N,959nm,23.8s,MS4.9
MDJ LR LR
comp=E,731nm,24.7s,MS4.9
MDJ LR LR
comp=Z,1µm,24.7s,MS4.8
MDJ Mudanjiang 54.49 4 *e*P **P** 02 14 27.0 -0.5
comp=Z,142nm,1.0s,mb5.8
MDJ LR LR
comp=Z,2µm,20.0s,MS5.1
KOLN Koldanda 54.53 315 *e*P **P** 02 14 27.1 -0.9
comp=Z,163nm,0.9s,mb6.1
URZ Urewera 54.77 130 P **P** 02 14 28.3 -1.3
comp=Z,4.9nm,0.6s,mb4.7,baz=335,slow=16,SNR=3.4
BHPL Bhopal 56.66 306 *i*P **P** 02 14 41.6 -1.8
BHPL AMb AMB 02 14 45.8
comp=Z,60nm,0.8s,mb5.7
CASY Casey 57.08 187 *e*P **P** 02 14 44.7 -1.1
POO Poona 57.43 299 *e*P **P** 02 14 48.2 -0.8
POO AMb AMB 02 14 52.2
comp=Z,71nm,1.6s,mb5.5
DRV Dumont d'Urvil 57.62 173 P **P** 02 14 54.0 +4.3
YSS Yuzh-Sakhalins 58.93 14 P **P** 02 15 00.0 +0.9
YSS *e* 02 15 07.0
YSS 02 15 48.0
YSS 02 17 05.0
YSS *e*S **S** 02 23 04.0 +1.3
YSS *e*SS SS 02 26 44.0 -14
YSS *e*SSS SSS 02 29 14.0 -8.6
YSS pmax pmax
comp=Z,130nm,1.2s,mb5.8
YSS pmax pmax
comp=N,80nm,1.1s
YSS MLR MLR
comp=Z,1µm,19.0s,MS5.0
YSS MLR MLR
comp=N,1µm,21.0s
YSS Yuzh-Sakhalins 58.93 14 *i*P **P** 02 15 00.2 +1.1
HIA Hailar 59.10 356 *e*P **P** 02 15 00.2 0.0
HIA pmax pmax
comp=Z,144nm,1.2s
HIA MLR MLR
comp=Z,2µm,20.0s
HIA Hailar 59.10 356 *e*P **P** 02 15 00.2 0.0
comp=Z,144nm,1.2s,mb5.9
HIA LR LR
comp=Z,2µm,20.0s,MS5.2
KLR Kul'dur 59.25 6 *e*P **P** 02 14 58.2 -3.1
KLR *e*S **S** 02 23 02.0 -4.9
KLR smax
comp=N,700nm,10.0s
KLR smax
comp=E,600nm,10.0s
KLR MLR MLR
comp=N,900nm,15.0s,MS5.2
KLR MLR MLR
comp=E,800nm,15.0s,MS5.2
KLR MLR MLR
comp=Z,1µm,15.0s,MS5.1
BISR Bishrakh 59.43 312 *e*P **P** 02 15 02.0 -0.8
SONA Sohna 59.52 311 *e*P **P** 02 15 00.3 -3.1
SONA AMb AMB 02 15 09.9
comp=Z,77nm,2.1s,mb5.4
SONA *e* 02 16 54.8
SONA *e* 02 16 57.6
AYAN Aya Nagar 59.62 311 *e*P **P** 02 15 01.7 -2.4
SONM Songino Array 59.72 346 P **P** 02 15 03.3 -1.2
comp=Z,18nm,0.8s,mb5.2,baz=169,slow=6.3,SNR=53
SONM S **S** 02 23 12.8 -0.2
comp=Z,0.2nm,0.3s,baz=304,slow=27,SNR=2.3
DDI Dehra Dun 59.96 314 *e*P **P** 02 15 03.8 -2.6
KHET Khetri 60.38 310 *e*P **P** 02 15 07.3 -2.1
KHET AMb AMB 02 15 17.1
comp=Z,49nm,1.1s,mb5.5
KHET *e* 02 17 00.4
MIR Mirnyy 60.45 194*c i*P **P** 02 15 08.0 -1.2
MIR *e* 02 15 54.0
MIR pmax pmax
comp=Z,86nm,1.6s,mb5.5
MIR MLR MLR
comp=N,1µm,18.0s,MS5.2
MIR MLR MLR
comp=E,1µm,18.0s,MS5.2
MIR MLR MLR
comp=Z,4µm,18.0s,MS5.6
AJM Ajmer 60.46 308⇓ *i*P **P** 02 15 07.0 -2.9
KKR Kurukshetra 60.64 313 *e*P **P** 02 15 08.9 -2.2
SDNR Sundarnagar 61.39 314 *e*P **P** 02 15 15.6 -0.5
BHK Bhakra 61.73 314 *e* **P** 02 15 23.4 +4.9
AFI Afiamalu 62.30 101 PFAKE 02 15 40.0 +18
AFI LR LR
comp=Z,1µm,21.0s,MS5.1
THN Thein Dam 62.79 314 *e* **P** 02 15 21.9 -3.6
THN *e* 02 17 16.4
ZAK Zakamensk 62.86 345 *e*P **P** 02 15 24.2 -1.5
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.3
ZAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
ZAK pmax pmax
comp=Z,17nm,1.3s,mb5.0
WMQ Urumqi 63.09 331 P **P** 02 15 29.5 +2.2
WMQ AMB AMB
comp=Z,58nm,1.5s,mb5.5
WMQ AMB AMB
comp=Z,274nm,4.0s
WMQ LR LR
comp=N,1µm,20.0s,MS5.2
WMQ LR LR
comp=E,1µm,23.2s,MS5.2
WMQ LR LR
comp=Z,1µm,17.4s
TLY Talaya 63.96 346*c i*P **P** 02 15 31.1 -1.8
TLY *e* 02 16 07.1
TLY *e*S **S** 02 24 02.0 -4.5
TLY *e*SS SS 02 28 10.4 -6.4
TLY *e*SSS SSS 02 30 53.6 -12
TLY pmax pmax
comp=Z,61nm,1.5s,mb5.4
TLY MLR MLR
comp=Z,650nm,20.0s,MS4.8
IRK Irkutsk 64.33 346 *e*P **P** 02 15 34.3 -1.0
IRK pmax pmax
comp=Z,191nm,1.9s,mb5.8
SKR Severo-Kuril's 66.32 21 *e*P **P** 02 15 40.0 -8.2
SKR *e* 02 15 48.0
SKR *e* 02 25 13.0
SKR *e* 02 25 36.0
SKR pmax pmax
comp=E,1µm,3.0s
SKR pmax pmax
comp=Z,1µm,3.0s
KSH Kashi 66.68 321 *e*P **P** 02 15 51.5 +0.9
KSH *e*AP pP 02 15 56.6 +1.0
KSH *e*XP sP 02 15 58.6 +1.2
KSH *e*PCP PcP 02 16 20.5 +0.8
KSH AMB AMB
comp=Z,40nm,0.7s,mb5.6
KSH LR LR
comp=N,2µm,6.2s
KSH LR LR
comp=E,2µm,7.0s
MIDW Midway 67.75 54 PFAKE 02 16 10.0 +12
MIDW LR LR
comp=Z,498nm,20.0s,MS4.7
MKAR Makanchi Array 67.87 330 P **P** 02 15 57.3 -0.8
comp=Z,24nm,0.5s,mb5.4,baz=133,slow=6.7,SNR=48
MKAR S S 02 24 54.4 +0.1
comp=Z,1.3nm,1.0s,baz=143,slow=12,SNR=3.6
BOD Bodaibo 68.06 354 *e*P **P** 02 15 58.6 -0.4
BOD pmax pmax
comp=Z,94nm,1.6s,mb5.6
AAA Alma-Ata 68.38 325 *e*P **P** 02 16 01.5 +0.2
AAA *e*S S 02 25 00.0 -0.4
AAA smax
comp=E,1µm,7.0s
PET Petropavlovsk 69.15 21 *e*P **P** 02 16 07.2 +1.4
PET *e*S S 02 25 11.3 +2.0
PET pmax pmax
comp=Z,500nm,2.7s,mb6.0
PET pmax pmax
comp=Z,63nm,2.2s,mb5.2
PET pmax pmax
comp=Z,300nm,12.3s
PET smax
comp=E,700nm,5.3s
PET smax
comp=E,500nm,9.4s
PET Petropavlovsk 69.15 21 *e*P **P** 02 16 07.0 +1.2
comp=E,344nm,1.8s,mb6.0
PET LR LR
comp=Z,787nm,21.0s,MS4.9
AAK Ala-Archa 69.43 323*c i*P **P** 02 16 06.4 -1.3
AAK pmax pmax
comp=Z,48nm,1.3s,mb5.3
AAK Ala-Archa 69.43 323 *e*P **P** 02 16 06.3 -1.4
AAK LR LR
comp=Z,473nm,21.0s,MS4.7
VNDA Vanda 70.26 172 *e*P **P** 02 16 11.7 -0.6
VNDA pmax pmax
comp=Z,24nm,1.3s
VNDA Vanda 70.26 172 P **P** 02 16 10.7 -1.6
comp=Z,4.0nm,0.8s,mb4.4,baz=325,slow=5.9,SNR=15
VNDA Vanda 70.26 172 *e*P **P** 02 16 11.7 -0.6
comp=Z,24nm,1.3s,mb5.0
MAW Mawson 70.27 201 *e*P **P** 02 16 11.8 -0.6
comp=Z,16nm,1.0s,mb4.9
MAW Mawson 70.27 201 *e*P **P** 02 16 11.8 -0.6
MAW pmax pmax
comp=Z,16nm,1.0s
MAW Mawson 70.27 201 P **P** 02 16 11.8 -0.7
comp=Z,21nm,1.1s,mb5.0,baz=69,slow=8.1,SNR=18
SBA Scott Base 71.21 171 *e*P **P** 02 16 18.5 +0.4
SBA pmax pmax
comp=Z,45nm,1.6s,mb5.2
SBA MLR MLR
comp=Z,2µm,19.0s,MS5.4
SBA Scott Base 71.21 171 *e*P **P** 02 16 18.5 +0.5
comp=Z,45nm,1.6s,mb5.2

SBA LR LR
comp=Z,2µm,19.0s,MS5.4
YAK Yakutsk 71.86 3⇓ *e*P **P 02 16 23.3 +1.2**
YAK pmax pmax
comp=Z,82nm,1.1s,mb5.6
YAK Yakutsk 71.86 3 *e*P **P 02 16 21.9 -0.2**
comp=Z,38nm,0.6s,mb5.5
YAK LR LR
comp=Z,822nm,21.0s,MS5.0
WBK Wadi Bani Khal 71.86 298 ⇓P **P 02 16 24.0 +1.1**
ZAL Zalesovo 71.95 337 P **P 02 16 23.4 +0.6**
comp=Z,8.8nm,0.5s,mb5.0,baz=345,slow=4.2,SNR=17
ZAL S S 02 25 39.0 -3.0
comp=Z,1.5nm,0.3s,baz=102,slow=15,SNR=8.1
KKAR Karatay Array 72.10 321 *i*P **P 02 16 22.5 -1.4**
KURK Kurchatov 72.33 331 *e*P **P 02 16 24.0 -1.1**
KURK MLR MLR
comp=Z,331nm,21.0s,MS4.6
MA2 Magadan 72.41 14 *i*P **P 02 16 25.9 +0.4**
MA2 pmax pmax
comp=Z,144nm,1.8s,mb5.6
MA2 Magadan 72.41 14 *e*P **P 02 16 25.4 0.0**
MA2 LR LR
comp=Z,798nm,21.0s,MS5.0
JMDO Jabal Madar 72.54 297 ⇑P **P 02 16 26.8 -0.1**
SMDO Samad 72.81 298 P **P 02 16 30.0 +1.5**
SNR=11
BIDO Bidbid 72.89 298 ⇓P **P 02 16 30.1 +1.0**
SNR=19
NVS Novosibirsk 73.24 337 ⇓*i*P **P 02 16 28.7 -1.7**
NVS *e* 02 25 53.9
NVS *e* 02 26 33.1
NVS pmax pmax
comp=Z,154nm,1.9s,mb5.6
NVS pmax pmax
comp=N,77nm,1.4s
NVS pmax pmax
comp=E,74nm,1.7s
BSY Bisya 73.45 297 ⇑P **P 02 16 32.3 0.0**
HOQ Hoqain 73.62 298 ⇑P **P 02 16 33.7 +0.4**
SNR=11
RBK Rabkut 74.61 291 ⇑P **P 02 16 39.3 +0.2**
OPO Ambohidratompo 74.98 253 P **P 02 16 41.9 +0.7**
comp=E,4.4nm,0.8s,mb4.5,baz=311,slow=2.3,SNR=5.2
FX1 Attu Island--F 75.04 28 *e*P **P 02 16 42.4 +1.6**
ASHO Ashiyiah 75.06 299 ⇓P **P 02 16 42.0 +0.4**
SNR=7.5
WHFO Wadi Hawf 75.12 292 ⇑P **P 02 16 41.8 -0.2**
SNR=5.5
BANOM Banah 75.25 300 ⇑P **P 02 16 45.7 +3.0**
SMY Shemya 75.38 29 *e*P **P 02 16 47.1 +4.3**
SMY LR LR
comp=Z,1µm,21.0s,MS5.1
SEY Seymchan 75.76 13⇑*i*P **P 02 16 46.5 +1.8**
BVA0 Borovoye Array 77.76 330 *i*P **P 02 16 54.9 -1.2**
BVA0 pmax pmax
comp=Z,104nm,2.0s,mb5.4
BVAR Borovoye Array 77.76 330 P **P 02 16 55.4 -0.7**
comp=Z,16nm,1.0s,mb4.9,baz=143,slow=7.4,SNR=27
BVAR S S 02 26 44.6 -1.8
comp=Z,0.2nm,0.4s,baz=281,slow=39,SNR=2.2
BRVK Borovoye 77.83 330 *e*P **P 02 16 55.7 -0.8**
BRVK MLR MLR
comp=Z,215nm,22.0s,MS4.4
ZRNK Zerenda 78.40 329 *e*P **P 02 16 58.1 -1.5**
ZRNK pmax pmax
comp=Z,165nm,1.5s,mb5.7
ZRNK Zerenda 78.40 329 *e*P **P 02 16 58.1 -1.5**
comp=Z,164nm,1.5s,mb5.7
SYO Syowa Base 78.97 201 ⇓P **P 02 17 01.5 -0.9**
SYO Syowa Base 78.97 201 ⇑PcP PcP 02 17 12.5 +1.0
QSPA South Pole Qui 80.06 180 *e*P **P 02 17 08.7 +0.5**
comp=Z,78nm,1.5s,mb5.4
AB31 Akbulak array 81.51 323 *i*P **P 02 17 15.8 -0.5**
AB31 pmax pmax
comp=Z,264nm,1.7s,mb5.9
QRN Al-Qurain 83.20 301 *e*P **P 02 17 26.9 +1.4**
QRN AMb AMB 02 17 34.5
comp=Z,296nm,1.4s,mb6.1
BILL Bilibino 83.25 15 *i*P **P 02 17 26.3 +1.3**
BILL MLR MLR
comp=Z,965nm,22.0s,MS5.1
RDF Al-Radifah 83.56 301 *e*P **P 02 17 27.6 +0.1**
RDF AMb AMB 02 17 30.7
comp=Z,167nm,1.4s,mb6.0
NAY Al-Naaiem 83.90 301 *e*P **P 02 17 29.3 +0.2**
NAY AMb AMB 02 17 32.2
comp=Z,31nm,0.6s,mb5.6
MIB Mutribah 83.96 302 *e*P **P 02 17 30.6 +1.1**
MIB AMb AMB 02 17 38.1
comp=Z,69nm,0.8s,mb5.8
POHA Pohakuloa 84.01 69 PFAKE 02 17 40.0 +10
POHA LR LR
comp=Z,12µm,21.0s,MS6.2
KAMS Al Khamasin 84.12 292 P **P 02 17 31.8 +1.3**
MZLS Mizel 84.40 295 P **P 02 17 34.7 +2.9**
DJNS Zahran al Janu 84.52 289 P **P 02 17 35.7 +3.2**
SVE Sverdlovsk 84.54 330⇓*e*P **P 02 17 32.0 +0.3**
SVE *e*S S 02 27 58.0 +1.7
SVE *e*PS PS 02 28 44.0 -10
SVE pmax pmax
comp=Z,200nm,2.5s,mb5.8
TATS Tathlith 84.97 291 P **P 02 17 37.6 +2.9**
ARU Arti 85.39 329⇓*i*P **P 02 17 36.3 +0.4**
ARU *e* 02 20 53.2
ARU *i* S 02 27 57.3
ARU *e*SS SS 02 33 39.8 -3.2
ARU pmax pmax
comp=Z,61nm,1.6s,mb5.5
ARU Arti 85.39 329 *e*P **P 02 17 35.3 -0.6**
comp=Z,260nm,1.9s,mb6.0
ARU LR LR
comp=Z,283nm,21.0s,MS4.6
UNV Unalaska Valle 85.91 34 *e*P **P 02 17 39.9 +1.3**
ARSS Ar Rass 86.56 297 P **P 02 17 44.5 +2.0**
BLJS Baljurashi 86.77 291 P **P 02 17 46.8 +3.2**
KMBO Kilima Mbogo 87.12 269 *i*P **P 02 17 49.2 +3.7**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 87.12 269 P **P 02 17 46.3 +0.8**
comp=Z,2.9nm,0.8s,mb4.5,baz=76,slow=7.2,SNR=8.9
LTHS Al Lith 87.94 291 P **P 02 17 51.8 +2.5**
NVL N'lazarevskaya 87.95 198⇑*i*P **P 02 17 49.2 +1.1**
NVL *i* *PP pP 02 18 01.0 +7.7
NVL *i* *SP sP 02 18 03.7 +8.8
NVL *i* 02 21 31.8
NVL *i* PPP PPP 02 23 28.4 +13
NVL *i* S S 02 28 20.0 -8.8
NVL pmax pmax
comp=Z,2.0nm,1.1s,mb4.3
NVL MLR MLR
comp=Z,240nm,17.8s,MS4.7
MAIT Maitri 87.97 198 *e*P **P 02 17 48.6 +0.3**
HILS Ha'il 88.14 298 P **P 02 17 52.6 +2.6**
DGRG David-gareji 88.49 312 P **P 02 17 54.4 +2.9**
DGRG S 02 28 22.2
GNI Garni 88.63 311 *i*P **P 02 17 51.1 -1.0**
GNI Garni 88.63 311 S 02 28 18.3
comp=Z,2.2nm,0.4s,baz=7.3,slow=10,SNR=1.6
GNI Garni 88.63 311 *e*P **P 02 17 54.1 +2.0**
comp=Z,5.0nm,0.6s,mb5.0
GNI LR LR
comp=Z,608nm,20.0s,MS5.0
TBLG Delisi 89.02 313 P **P 02 17 57.9 +3.9**
ZEI Tsey 89.87 313 *e*P **P 02 17 57.8 -0.1**
ZEI *i* *PP pP 02 18 06.9 +3.8
ZEI pmax pmax
comp=Z,4.0nm,0.5s,mb5.0
ONI Oni 90.15 313 P **P 02 18 01.5 +2.3**
KIV Kislovodsk 91.00 314 *e*P **P 02 18 00.8 -2.3**
KIV *e* 02 21 34.8
KIV *e*PPP PPP 02 23 32.3 -10
KIV *e* 02 28 28.4
KIV *e*SS SS 02 34 58.3 -6.3
KIV pmax pmax
comp=N,9.0nm,1.2s
KIV pmax pmax
comp=Z,7.0nm,1.2s,mb4.9
KIV pmax pmax
comp=E,4.0nm,1.0s
KIV Kislovodsk 91.00 314 PFAKE 02 18 20.0 +17
KIV LR LR
comp=Z,175nm,22.0s,MS4.5
GOF Gofitskoye 91.00 315 *i*P **P 02 18 02.0 -1.1**
GOF *i* S S 02 28 52.0 -5.3
GOF pmax pmax
comp=Z,31nm,1.5s,mb5.4
GOF smax
comp=N,91nm,2.5s
SNAA Sanae 91.52 195 *e* **P 02 18 07.7 +2.8**
SNAA Sanae 91.52 195 *e* **P 02 18 08.7 +3.8**
SNAA Sanae 91.52 195 *e* **P 02 18 10.7 +5.8**
SNAA Sanae 91.52 195 P **P 02 18 06.2 +1.4**
comp=N,3.6nm,0.6s,mb4.9,baz=115,slow=1.9,SNR=12
SNAA S 02 28 36.1
comp=N,0.1nm,0.4s,baz=207,slow=22,SNR=1.7
SNAA Sanae 91.52 195⇑*i*PKPdf **P 02 18 07.1 +2.2**
SNAA *e* 02 18 07.7
SNAA *e* 02 18 08.7
SNAA *e* pP 02 18 10.7 +0.7
SOC Sochi 93.03 314 *e*P **P 02 18 10.0 -2.5**
SOC *e*S 02 28 41.4
SOC *e*PS PS 02 30 33.6 -1.3
SOC MLR MLR
comp=Z,641nm,23.0s,MS5.0
SOC MLR MLR
comp=N,353nm,24.0s,MS5.0
SOC MLR MLR
comp=E,631nm,28.0s,MS5.0
VNA2 Neumayer--Watz 93.12 194 *e*P **P 02 18 14.6 +2.4**
VNA2 Neumayer--Watz 93.12 194 *e*P **P 02 18 15.5 +3.3**
VNA2 Neumayer--Watz 93.12 194 *e* **P 02 18 16.4 +4.2**
VNA2 Neumayer--Watz 93.12 194 *e* **P 02 18 18.2 +6.0**
VNA2 Neumayer--Watz 93.12 194⇑*i*PKPdf **P 02 18 14.6 +2.4**
VNA2 *e*PKPdf **P 02 18 15.5 +3.3**
VNA2 *e* 02 18 16.4
VNA2 *e* 02 18 18.2
ASF Jabal al Asfar 93.22 302 P **P 02 18 14.9 +1.3**
comp=E,4.5nm,1.1s,mb4.8,baz=7.8,slow=3.8,SNR=5.3
BOSA Boshof 93.31 240 P **P 02 18 15.4 +1.3**
comp=E,5.9nm,0.7s,mb5.1,baz=136,slow=20,SNR=7.9
BOSA Boshof 93.31 240 P **P 02 18 15.4 +1.3**
BOSA LR LR
comp=Z,2µm,20.0s,MS5.5
VNA3 Neumayer Olymp 93.44 193 *e* **P 02 18 16.7 +3.0**
VNA3 Neumayer Olymp 93.44 193 *e* **P 02 18 17.4 +3.7**
VNA3 Neumayer Olymp 93.44 193 *e* **P 02 18 19.5 +5.8**
VNA3 Neumayer Olymp 93.44 193⇑*i*PKPdf **P 02 18 15.9 +2.2**
VNA3 *e* 02 18 16.7
VNA3 *e* 02 18 17.4
VNA3 *e* pP 02 18 19.5 +0.7
LSZ Lusaka 93.44 254 *e*P **P 02 18 16.5 +1.6**
LSZ pmax pmax
comp=Z,20nm,1.3s,mb5.4
LSZ MLR MLR
comp=Z,2µm,20.0s,MS5.5
LSZ Lusaka 93.44 254 *e*P **P 02 18 16.5 +1.6**
comp=Z,20nm,1.3s,mb5.4
LSZ LR LR
comp=Z,2µm,20.0s,MS5.5
VNA1 Neumayer--Stat 93.52 194 *e* **P 02 18 17.3 +3.2**
VNA1 Neumayer--Stat 93.52 194 *e* **P 02 18 18.2 +4.1**
VNA1 Neumayer--Stat 93.52 194 *e* **P 02 18 20.6 +6.5**
VNA1 Neumayer--Stat 93.52 194⇑*i*PKPdf **P 02 18 16.6 +2.5**
VNA1 *e* 02 18 17.3
VNA1 *e* 02 18 18.2
VNA1 *e* pP 02 18 20.6 +1.4
MBAR Mbarara 93.62 269 PFAKE 02 18 30.0 +14
MBAR LR LR
comp=Z,225nm,19.0s,MS4.7
LBTB Lobatse 93.82 244 PFAKE 02 18 30.0 +13
LBTB LR LR
comp=Z,2µm,20.0s,MS5.6
VOR Voronezh 94.83 322 *e*P **P 02 18 22.5 +2.0**
VOR pmax pmax
comp=Z,100nm,2.0s,mb5.9
ANN Anapa 94.86 314 *e*P **P 02 18 12.1 -8.7**
ANN *e**PP pP 02 18 22.8 -3.2
ANN pmax pmax
comp=Z,73nm,1.5s,mb5.9
FIB Fire Island 96.36 29 PFAKE 02 18 40.0 +13
FIB LR LR
comp=Z,2µm,21.0s,MS5.5
MOS Moscow 96.38 325 *e*P **P 02 18 28.1 +0.6**
MOS *e* 02 18 44.6
MOS *e* 02 22 21.2
MOS *e*PPP PPP 02 24 20.9 -8.3
MOS pmax pmax
comp=Z,41nm,1.1s,mb5.8
OBN Obninsk 96.90 325 *i*P **P 02 18 30.4 +0.6**
OBN *e* 02 29 06.5
OBN pmax pmax
comp=Z,13nm,0.7s,mb5.5
OBN MLR MLR
comp=Z,800nm,22.0s,MS5.2
OBN Obninsk 96.90 325 *e*P **P 02 18 30.0 +0.2**
comp=Z,18nm,0.9s,mb5.5
OBN LR LR
comp=Z,249nm,19.0s,MS4.7
BRTR Keskin Array B 96.94 309 P **P 02 18 29.8 -0.6**
comp=Z,1.2nm,0.7s,mb4.4,baz=108,slow=3.9,SNR=5.1
MCK McKinley 97.30 27 PFAKE 02 18 40.0 +8.5
MCK LR LR
comp=Z,288nm,21.0s,MS4.7
ILAR Eielson Array 98.31 26 P **P 02 18 34.9 -1.1**
comp=Z,0.7nm,0.6s,mb4.3,baz=270,slow=4.5,SNR=7.0
ILAR PP PP 02 22 43.5 +4.8
comp=Z,1.4nm,0.8s,baz=252,slow=6.5,SNR=5.4
ILAR PKiKPbc 02 35 09.2
comp=Z,0.8nm,0.9s,baz=78,slow=1.5,SNR=7.6
DIV Divide 98.48 29 PFAKE 02 18 50.0 +13
DIV LR LR
comp=Z,3µm,21.0s,MS5.8
AKASG Malin Array Be 100.96 320 P P 02 18 47.0 -1.3
AKASG 02 22 57.3
AKASG S SKS 02 29 25.9 -5.7
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 100.96 320 P P 02 18 47.0 -1.3
comp=Z,1.2nm,0.6s,baz=72,slow=4.6,SNR=4.4
AKASG PP PP 02 22 57.3 -2.3
comp=Z,2.8nm,0.8s,baz=78,slow=6.4,SNR=5.6
AKASG S SKS 02 29 25.9 -5.7
comp=Z,0.1nm,0.3s,baz=134,slow=25,SNR=2.8
KEV Kevo 101.86 339 PFAKE 02 19 00.0 +8.0
KEV LR LR
comp=Z,942nm,22.0s,MS5.3
ARCES ARCESS Array B 102.40 339 PKiKP 02 23 17.9
comp=Z,2.9nm,0.9s,SNR=3.6
TSUM Tsumeb 102.43 248 PFAKE 02 19 10.0 +14
TSUM LR LR
comp=Z,1µm,20.0s,MS5.5
FINES FINESS Array B 102.70 331 PKiKP 02 23 19.0
comp=Z,0.6nm,0.5s,baz=90,slow=1.4,SNR=2.4
SIT Sitka 103.80 34 PFAKE 02 19 10.0 +9.2
SIT LR LR
comp=Z,650nm,19.0s,MS5.2
KBS Kingsbay 103.97 349 PFAKE 02 19 10.0 +8.8
KBS LR LR
comp=Z,767nm,21.0s,MS5.2
KBS Kingsbay 103.97 349 *e*PP PP 02 23 17.0 -4.1
KBS *e*SKSa 02 29 38.1
KBS AMS AMS 03 10 40.9
comp=Z,378nm,23.7s,MS4.8
TRO Tromso 104.67 340 *e*PP PP 02 23 17.4 -9.4
TRO *e*SKSa 02 29 40.3
TRO *i* 02 31 39.0
TRO AMS AMS 03 17 36.1
comp=Z,753nm,18.3s,MS5.3
KOLS Kolonicke sedl 105.47 318 *e*PDIFF Pdif 02 19 11.3 +2.9
NSS Namsos 108.54 335 AMS AMS 03 20 34.1
comp=Z,772nm,24.7s,MS5.2
NB2 NORSAR Subarra109.84 332 PKiKP 02 23 31.6
comp=Z,2.2nm,1.0s,baz=74,slow=1.9
NB2 NORSAR Subarra109.84 332 PKiK 02 23 31.6
baz=74,slow=1.9
NOA NORSAR Array B 109.84 332 PKiKP 02 23 31.9
comp=Z,0.9nm,0.7s,baz=125,slow=1.9,SNR=5.6
NOA NORSAR Array B 109.84 332 PKPdf 02 23 31.9
NAO01 NORSAR Array S 110.05 331 PFAKE 02 23 40.0 +7.7
NAO01 LR LR
comp=Z,985nm,20.0s,MS5.4
COP Copenhagen 110.55 326 *i*P PP 02 24 14.7 +4.1
COP *i*S SKS 02 30 15.5 +1.3
COP *i* 02 32 10.1
COP *i* 02 32 58.0
comp=Z,280nm,20.0s
KONO Kongsberg 111.01 330 PFAKE 02 23 40.0 +5.7
KONO LR LR
comp=Z,651nm,21.0s,MS5.2
GERES GERESS Array B 111.10 319 PKiKP 02 23 34.7
comp=Z,1.7nm,0.8s,baz=90,slow=1.3,SNR=10
CLL Collm 111.12 321 *e*PP PP 02 24 15.0 +0.4
CLL *e* 02 28 37.0
CLL *e* 02 30 08.0
CLL *e* 02 33 33.0
CLL *e*PS PS 02 33 47.0 +6.1
OCWA Octopus Mounta 111.59 43 PFAKE 02 23 50.0 +14
OCWA LR LR
comp=Z,613nm,19.0s,MS5.2
MOX Moxa 112.11 321 *e*PKIKP PKPdf 02 23 39.1 +2.6
MOX *e* 02 24 21.7
MOX MLR MLR
comp=Z,500nm,22.0s,MS5.1
MOX Moxa 112.11 321 *i*P PKPdf 02 23 39.1 +2.6
MOX PP PP 02 24 22.0 +0.3
MOX SKS SKS 02 30 12.0 -8.6
MOX *e* 02 32 15.0
MOX PPS PPS 02 34 57.0 -5.5
MOX L 03 18 59.0
MUD Monsted U'grnd 112.13 327 *i*P PP 02 24 21.7 -0.1
MUD *i* 02 26 20.3
MUD *i*S SKS 02 30 25.5 +5.0
MUD *i* 02 32 14.1
MUD *i* 02 35 13.5
comp=Z,520nm,18.0s
JMIC Jan Mayen 112.48 345 AMS AMS 03 12 51.6
comp=Z,258nm,19.5s,MS4.8
COR Corvallis 112.69 46 PFAKE 02 23 50.0 +12
COR LR LR
comp=Z,927nm,19.0s,MS5.4
YKA Yellowknife Ar 112.74 26 PKiKP 02 23 37.2
comp=Z,1.7nm,0.7s,baz=291,slow=1.7,SNR=8.1
YKA PKKPbc 02 34 23.3
comp=Z,0.3nm,0.4s,baz=109,slow=2.9,SNR=4.0
YKA Yellowknife Ar 112.74 26 PKPdf PKPdf 02 23 37.2 -0.3
YKA PKKPbc 02 34 23.3
BER Bergen 112.79 332 AMS AMS 03 16 12.6
comp=Z,533nm,22.6s,MS5.1
HUMO Hull Mountain 113.22 48 PFAKE 02 23 50.0 +11
HUMO LR LR
comp=Z,494nm,21.0s,MS5.1
HOPS Hopland 113.58 52 PFAKE 02 23 50.0 +10
HOPS LR LR
comp=Z,816nm,21.0s,MS5.3
MOD Modoc 115.27 48 PFAKE 02 23 50.0 +7.0
MOD LR LR
comp=Z,561nm,20.0s,MS5.2
CDF Champ du Feu 115.36 319 *e*PKIKP PKPdf 02 23 42.4 -0.6
PGF Pioggiola 115.41 312 *e*PKIKP PKPdf 02 23 43.0 -0.3
comp=Z,13nm,0.9s
BEKR Beckwourth 115.55 51 PKPdf PKPdf 02 23 41.8 -1.8
HINF Hinteralfeld 115.78 318 *e*PKIKP PKPdf 02 23 43.3 -0.6
comp=Z,8.8nm,0.7s
CMB Columbia Colle 115.79 53 PFAKE 02 23 50.0 +5.8
CMB LR LR
comp=Z,456nm,21.0s,MS5.1
HAU Haudompre 116.06 319 *e*PKIKP PKPdf 02 23 44.2 -0.3
comp=Z,20nm,1.0s
HAU *e*R
comp=Z,672nm,19.8s
NEW Newport 116.12 41 PFAKE 02 24 00.0 +15
NEW LR LR
comp=Z,858nm,20.0s,MS5.4
WVOR Wild Horse Val 116.40 48 *e*PKIKP PKPdf 02 23 45.0 -0.2
WVOR MLR MLR
comp=Z,1µm,22.0s,MS5.5
LPG La Plagne 116.40 316 *e*PKIKP PKPdf 02 23 45.0 -0.2
comp=Z,4.9nm,0.7s
LPL La Plagne 116.41 316 *e*PKIKP PKPdf 02 23 44.9 -0.3
comp=Z,4.6nm,0.7s
GIVF Givet 116.45 321 *e*PKIKP PKPdf 02 23 44.9 -0.2
MBDF Montbardon 116.56 315 *e*PKIKP PKPdf 02 23 45.2 -0.3
comp=Z,4.3nm,0.7s
CABF La Chapelle 116.59 317 *e*PKIKP PKPdf 02 23 45.2 -0.3
comp=Z,30nm,1.0s
BMO Blue Mountains 116.83 45 *e*PKIKP PKPdf 02 23 45.4 -0.6
BMO MLR MLR
comp=Z,505nm,20.0s,MS5.1
BAIF Baives 116.84 321 *e*PKIKP PKPdf 02 23 45.7 -0.2
comp=Z,22nm,1.0s
EDM Edmonton 116.88 35 *e*PKIKP PKPdf 02 23 44.7 -1.2
FRF La Foret Royal 116.91 314 *e*PKIKP PKPdf 02 23 45.5 -0.7
LMR La Mourre 117.05 314 *e*PKIKP PKPdf 02 23 45.6 -0.9
comp=Z,54nm,1.8s
ORIF Oris-en-Rattie 117.14 316 *e*PKIKP PKPdf 02 23 45.7 -0.9
comp=Z,3.0nm,0.6s
ORIF *e*R
comp=Z,873nm,22.8s
SMRF Simiane la Rot 117.57 315 *e*PKIKP PKPdf 02 23 47.2 -0.2
comp=Z,10nm,0.9s
BMN Battle Mountai 117.83 49 PFAKE 02 24 00.0 +12
BMN LR LR
comp=Z,613nm,19.0s,MS5.2
LOR Lormes 117.88 318 *e*PKIKP PKPdf 02 23 47.7 -0.2
comp=Z,12nm,0.8s
LOR *e*R
comp=Z,965nm,22.5s
VIVF Saint-Julien-l 117.98 316 *e*PKIKP PKPdf 02 23 47.9 -0.3
comp=Z,13nm,1.2s
SMF Signal de Mont 118.07 318 *e*PKIKP PKPdf 02 23 48.1 -0.2
comp=Z,18nm,1.2s
SSF Saint Saulge 118.17 318 *e*PKIKP PKPdf 02 23 48.0 -0.5
comp=Z,30nm,1.0s
DAC Darwin (Calif) 118.25 54 PFAKE 02 24 00.0 +11
DAC LR LR
comp=Z,861nm,21.0s,MS5.3
TPH Tonopah 118.25 52 PFAKE 02 24 00.0 +11
TPH LR LR
comp=Z,388nm,19.0s,MS5.0
MSO Missoula 118.59 42 PKPdf PKPdf 02 23 47.1 -2.3
MSO LR LR
comp=Z,264nm,20.0s,MS4.9
LASF Ste Croix 118.75 315 *e*PKIKP PKPdf 02 23 49.2 -0.6
comp=Z,48nm,1.7s
BGF Bois d'Agland 118.75 318 *e*PKIKP PKPdf 02 23 49.0 -0.7
comp=Z,36nm,0.8s
CHMT Chamberlain Mo 119.01 42 *e*PKIKP PKPdf 02 23 50.1 -0.1
ESK Eskdalemuir 119.03 329 *e*PKIKP PKPdf 02 23 49.8 -0.2
ESK MLR MLR
comp=Z,207nm,21.0s,MS4.7
HLID Hailey 119.16 45 *e*PKPdf PKPdf 02 23 50.4 -0.2
HLID LR LR
comp=Z,986nm,21.0s,MS5.4
ELK Elko 119.24 49 *e*PKIKP PKPdf 02 23 51.7 +1.0
ELK MLR MLR
comp=Z,504nm,19.0s
TCF Toulx Ste Croi 119.25 318 *e*PKIKP PKPdf 02 23 50.3 -0.3
comp=Z,45nm,1.5s
PFO Pinyon Flat Ob 119.56 57 PFAKE 02 24 00.0 +8.5
PFO LR LR
comp=Z,210nm,22.0s,MS4.7
CAF Calviac 119.75 316 *e*PKIKP PKPdf 02 23 51.2 -0.4
comp=Z,17nm,1.0s
EJON La Jonquera 119.85 313 PKP PKPdf 02 23 51.3 -0.6
MCMT McKenzie Canyo 119.90 44 *e*PKPdf PKPdf 02 23 52.3 +0.5
RJF Les Rejaudoux 120.01 317 *e*PKIKP PKPdf 02 23 52.0 -0.1
RJF *e*R
comp=Z,813nm,22.5s
MTLF Montolieu 120.09 315 *e*PKIKP PKPdf 02 23 51.3 -1.0
comp=Z,8.9nm,0.9s
FLN La Foliniere 120.16 321 *e*PKIKP PKPdf 02 23 52.0 -0.3
comp=Z,17nm,0.8s
FLN *e*R
comp=Z,1µm,20.5s
BORG Borgarnes 120.30 344 PFAKE 02 24 00.0 +7.8
BORG LR LR
comp=Z,222nm,19.0s,MS4.8
BOZ Bozeman (W) 120.47 43 PFAKE 02 24 00.0 +7.0
BOZ LR LR
comp=Z,571nm,21.0s,MS5.2
GRR Gorron 120.53 321 *e*PKIKP PKPdf 02 23 52.5 -0.6
comp=Z,11nm,0.7s
ETOS Mallorca 120.55 310 PKP PKPdf 02 23 53.8 +0.4
LFF La Frestale 120.64 317 *e*PKIKP PKPdf 02 23 53.0 -0.4
comp=Z,20nm,0.9s
MFF Saint Martin d 120.70 319 *e*PKIKP PKPdf 02 23 53.1 -0.4
comp=Z,37nm,1.0s
EMIR Miracle 120.97 313 PKP PKPdf 02 23 53.2 -1.0
EPOB Poblet 121.44 313 PKP PKPdf 02 23 54.3 -0.8
IMW Indian Meadow 121.48 44 PKPdf PKPdf 02 23 54.9 -0.2
EPF Esparros 121.49 315 *e*PKIKP PKPdf 02 23 54.6 -0.5
TPAW Teton Pass 121.60 45 *e*PKPdf PKPdf 02 23 54.7 -0.6

SGMF Saint Gilles 121.63 321 *e*PKIKP PKPdf 02 23 54.6 -0.6
comp=Z,30nm,1.1s
LKWY Lake 121.64 43 PFAKE 02 24 10.0 +15
LKWY LR LR
comp=Z,685nm,21.0s,MS5.3
REDW Red Top Meadow 121.71 45 *e*PKPdf PKPdf 02 23 54.4 -1.1
HWUT Hardware Ranch 121.71 47 *e*PKPdf PKPdf 02 23 56.2 +0.6
HWUT LR LR
comp=Z,885nm,22.0s,MS5.4
AHID Auburn Hatcher 121.71 46 PFAKE 02 24 10.0 +14
AHID LR LR
comp=Z,560nm,21.0s,MS5.2
EBIE Bielsa 121.73 314 PKP PKPdf 02 23 56.5 +0.9
SNOW Snow King Moun 121.75 45 *e*PKPdf PKPdf 02 23 55.7 +0.1
LOHW Long Hollow 121.80 45 *e*PKPdf PKPdf 02 23 56.1 +0.5
TCUT Toone Canyon 121.96 48 *e*PKPdf PKPdf 02 23 56.6 +0.6
MVU Marysvale 122.03 51 PFAKE 02 24 10.0 +14
MVU LR LR
comp=Z,662nm,22.0s,MS5.2
ROSF Rostrenen 122.04 322 *e*PKIKP PKPdf 02 23 55.2 -0.8
comp=Z,14nm,0.9s
MSU Marysvale 122.05 51 *e*PKIKP PKPdf 02 23 57.5 +1.2
QUIF Quistinic 122.14 321 *e*PKIKP PKPdf 02 23 55.7 -0.5
comp=Z,72nm,1.3s
ETSF Etsaut 122.16 315 *e*PKIKP PKPdf 02 23 55.6 -0.8
FFC Flin Flon 122.21 30 PFAKE 02 24 10.0 +14
FFC LR LR
comp=Z,129nm,20.0s,MS4.6
SJPF Ste Jean 122.56 315 *e*PKIKP PKPdf 02 23 56.8 -0.3
comp=Z,53nm,1.3s
TMUT Trail Mountain 122.59 50 *e*PKPdf PKPdf 02 23 57.5 +0.3
EALK Alkurruntz 122.72 315 PKP PKPdf 02 23 59.5 +2.1
BW06 Boulder Array 122.79 45 PFAKE 02 24 10.0 +12
BW06 LR LR
comp=Z,472nm,19.0s,MS5.2
PDAR Pinedale Array 122.79 45 PKP PKPdf 02 23 57.0 -0.5
comp=Z,2.7nm,0.8s,baz=348,slow=0.7,SNR=17
EMOS Mosqueruela 122.84 312 PKP PKPdf 02 23 56.3 -1.3
SRU San Rafael 123.15 50 *e*PKIKP PKPdf 02 23 59.2 +0.9
ECHE Chera 123.42 311 PKIKP PKPdf 02 23 59.9 +1.0
LAO LASA Array 123.61 40 *e*PKPdf PKPdf 02 23 59.3 +0.2
LAO LR LR
comp=Z,503nm,20.0s,MS5.2
DGMT Dagmar 124.09 37 PFAKE 02 24 10.0 +10
DGMT LR LR
comp=Z,472nm,22.0s,MS5.1
ETOB Tobarra 124.11 310 PKP PKPdf 02 24 00.7 +0.4
RWWY Rawlins 124.79 46 PKPdf PKPdf 02 24 00.2 -1.3
EVIA Vianos 124.83 310 PKIKP PKPdf 02 24 00.8 -0.9
ENIJ Nijar 125.06 308 PKIKP PKPdf 02 24 01.6 -0.6
EHUE Huescar 125.13 309 PKIKP PKPdf 02 24 03.0 +0.7
EQES Quesada 125.50 310 PKP PKPdf 02 24 03.4 +0.3
ESDC Sonseca Array 125.60 312 PKP PKPdf 02 24 02.4 -0.7
comp=Z,1.4nm,0.6s,baz=38,slow=3.1,SNR=12
ESDC PP PP 02 25 50.0 -5.4
comp=Z,1.4nm,0.9s,baz=80,slow=4.5,SNR=4.2
ESDC Sonseca Array 125.60 312 PKP PKPdf 02 24 05.1 +2.0
ESLA Sonseca Array 125.60 312 PFAKE 02 24 10.0 +6.8
ESLA LR LR
comp=Z,3µm,19.0s,MS5.9
SMCO Snowmass 125.78 49 *e*PKPdf PKPdf 02 23 54.0 -9.5
EBAN Banos Encina 125.93 310 PKIKP PKPdf 02 24 03.4 -0.4
RSSD Black Hills 126.06 42 *e*PKIKP PKPdf 02 24 01.6 -2.3
ELOJ Sierra Loja 126.51 309 PKIKP PKPdf 02 24 03.9 -1.0
EPON Pontenova 126.53 317 PKP PKPdf 02 24 05.7 +1.0
EADA Adamuz 126.53 310 PKP PKPdf 02 24 05.2 +0.3
ISCO Idaho Springs 126.57 47 *e*PKIKP PKPdf 02 24 06.1 +1.2
ISCO MLR MLR
comp=Z,605nm,19.0s,MS5.3
ECAL Calabor 126.79 316 PKP PKPdf 02 24 06.0 +0.7
PBRG Braganca 126.84 315 *e*PKP PKPdf 02 24 06.8 +1.4
PBRG *i* - 02 26 02.9
ECAB El Cabril 127.19 311 PKP PKPdf 02 24 07.3 +1.2
SDCO Great Sand Dun 127.32 50 *e*PKPdf PKPdf 02 24 03.6 -2.9
SDCO LR LR
comp=Z,1µm,22.0s,MS5.5
ANMO Albuquerque 127.39 53 *e*PKIKP PKPdf 02 24 07.5 +0.8
ANMO MLR MLR
comp=Z,493nm,20.0s
LPM Los Pinos Moun 127.42 54 *e*PKPdf PKPdf 02 24 06.0 -0.8
STS Santiago 127.64 317 PKIKP PKPdf 02 24 05.5 -1.5
PLCA Paso Flores 127.70 166 *e*PKIKP PKPdf 02 24 05.9 -1.3
PLCA Paso Flores 127.70 166 PKP PKPdf 02 24 06.3 -0.9
comp=Z,6.6nm,0.8s,baz=204,slow=5.4,SNR=9.0
PVRL Vila Real 127.72 315 *e*PKP PKPdf 02 24 09.9 +2.7
PVRL *i* - 02 26 02.5
ELOB Lobios 127.73 316 PKP PKPdf 02 24 08.4 +1.2
ULM Lac du Bonnet 127.82 32 PKP PKPdf 02 24 07.2 +0.1
comp=Z,6.3nm,0.7s,baz=57,slow=1.7,SNR=6.3
ESPR Espera 127.89 309 PKP PKPdf 02 24 07.5 -0.1
MTE Manteigas 127.93 314 *e*PKP PKPdf 02 24 08.8 +1.2
MTE *i* - 02 26 03.5
PVIS Viseu 128.06 315 *e*PKP PKPdf 02 24 07.7 -0.2
PVIS *i* - 02 26 06.5
PCBR Castelo Branco 128.09 313 *e*PKP PKPdf 02 24 09.0 +1.0
PCBR *i* - 02 26 04.6
EBAD Badajoz 128.14 312 PKP PKPdf 02 24 08.8 +0.7
EMIN Mina Concepcio 128.22 311 PKP PKPdf 02 24 07.3 -1.0
PTOM Tomar 128.84 313 *e*PKP PKPdf 02 24 11.0 +1.6
PTOM *i* - 02 26 07.1
EVO Evora 128.95 312 *e*PKIKP PKPdf 02 24 11.7 +2.0
comp=Z,87nm,1.6s
EVO *e*R
comp=Z,941nm,21.8s
PBEJ Beja 129.03 311 *e*PKP PKPdf 02 24 10.9 +1.1
PBEJ *i* - 02 26 05.9
MNTX Cornudas Mount 129.09 57 *e*PKPdf PKPdf 02 24 09.7 -0.4
MNTX LR LR
comp=Z,978nm,22.0s,MS5.5
PLOU Loures 129.65 313 *e*PKP PKPdf 02 24 12.9 +1.9
GDL2 Guadalupe Moun 129.80 56 PKPdf PKPdf 02 24 11.1 -0.4
PTEO Sao Teotonio 129.83 311 *e*PKP PKPdf 02 24 14.4 +3.1
PTEO *i* - 02 26 09.7
DBIC Dimbokro 129.84 270 *e*PKIKP PKPdf 02 24 11.3 -0.7
DBIC MLR MLR
comp=Z,1µm,22.0s
DBIC Dimbokro 129.84 270 PKP PKPdf 02 24 12.0 0.0
comp=Z,5.6nm,0.7s,baz=132,slow=0.7,SNR=6.1
CLNB Carlsbad 130.18 56 *e*PKPdf PKPdf 02 24 11.8 -0.3
LTX Lajitas 131.08 60 PFAKE 02 24 20.0 +6.1
LTX LR LR
comp=Z,772nm,21.0s,MS5.4
CBKS Cedar Bluff 131.17 46 PFAKE 02 24 20.0 +6.2
CBKS LR LR
comp=Z,654nm,21.0s,MS5.3
SCHQ Schefferville 134.32 9 PKP PKPdf 02 24 19.0 -0.2
comp=Z,4.9nm,0.7s,baz=8.2,slow=4.0,SNR=11
CCM Cathedral Cave 137.42 43 PFAKE 02 24 40.0 +15
CCM LR LR
comp=Z,518nm,19.0s,MS5.3
NATX Nacogdoches 137.76 53 PFAKE 02 24 40.0 +14
NATX LR LR
comp=Z,1µm,21.0s,MS5.5
OXF Oxford 140.51 46 *e*PKPpre 02 24 22.8
OXF LR LR
comp=Z,419nm,20.0s,MS5.2
PLAL Pickwick Lake 141.21 45 *e*PKPpre 02 24 30.2
CMLA Cha da Macela 141.36 321 PFAKE 02 24 40.0 +7.4
CMLA LR LR
comp=Z,713nm,22.0s,MS5.4
PQI Presque Isle 141.87 14 PFAKE 02 24 40.0 +6.8
PQI LR LR
comp=Z,3µm,22.0s,MS6.1
NCB Newcomb 142.39 22 *e*PKPpre 02 24 29.3
NCB LR LR
comp=Z,450nm,21.0s,MS5.2
LRAL Lakeview Retre 142.99 47 *e*PKPpre 02 24 31.3
LRAL LR LR
comp=Z,598nm,20.0s,MS5.3
BINY Binghamton 143.17 26 *e*PKPpre 02 24 31.5
BINY LR LR
comp=Z,1µm,22.0s,MS5.6
TZTN Tazewell 143.29 39 *e*PKPpre 02 24 30.8
MCWV Mont Chateau 143.30 32 PFAKE 02 24 50.0 +20
MCWV LR LR
comp=Z,606nm,19.0s,MS5.4
WVL Waterville 143.39 17 *e*PKPpre 02 24 31.8
WVL LR LR
comp=Z,4µm,20.0s,MS6.2
PAYG Puerto Ayora 143.79 105 PFAKE 02 24 50.0 +17
PAYG LR LR
comp=Z,781nm,21.0s,MS5.5
MYNC Murphy 143.83 42 *e*PKHKP 02 24 34.2
MYNC MLR MLR
comp=Z,549nm,19.0s,MS5.3
EMMW East Machias 143.84 15 *e*PKP PKPdf 02 24 33.9 -2.7
EMMW LR LR
comp=Z,4µm,22.0s,MS6.1
CPUP Villa Florida 143.91 177 PKP PKPdf 02 24 34.4 -2.9
comp=Z,4.5nm,0.7s,baz=216,slow=3.5,SNR=9.9
CPUP Villa Florida 143.91 177 *e*PKPdf PKPdf 02 24 34.1 -3.2
CPUP LR LR
comp=Z,1µm,20.0s,MS5.7
FWV Forest Hill 144.25 36 *e*PKP PKPdf 02 24 33.6 -4.0
ELN Prospectdale 144.53 36 *e*PKP PKPdf 02 24 34.8 -3.3
QUA2 Belchertown 144.54 22 *e*PKP PKPdf 02 24 35.8 -2.1
HRV Harvard--Oak R 144.63 21 *e*PKIKP PKPdf 02 24 35.6 -2.5
HRV MLR MLR
comp=Z,622nm,20.0s,MS5.4
BLA Blacksburg 144.73 36 *e*PKHKP 02 24 35.7
BLA MLR MLR
comp=Z,684nm,20.0s,MS5.4
WES Weston 144.82 21 *e*PKIKP PKPdf 02 24 36.5 -1.9
SDMD Soldier's Deli 145.01 29 *e*PKP PKPdf 02 24 36.1 -2.7
BRNJ Basking Ridge 145.02 26 *e*PKP PKPdf 02 24 37.6 -1.2
PAL Palisades 145.03 25 *e*PKIKP PKPdf 02 24 37.3 -1.6
LVC Limon Verde 145.08 158 PKPbc PKPbc 02 24 38.7 +2.6
comp=Z,36nm,0.9s,baz=267,slow=3.6,SNR=17
LVC Limon Verde 145.08 158 *e*PKP PKPdf 02 24 38.6 -0.9
LVC LR LR
comp=Z,1µm,21.0s,MS5.7
BRYW Bryant College 145.16 21 *e*PKP PKPdf 02 24 38.4 -0.7
CBN Corbin 145.67 31 *e*PKP PKPdf 02 24 39.2 -0.8
CBN LR LR
comp=Z,1µm,19.0s,MS5.6
JSC Jenkinsville 146.17 40 *e*PKIKP PKPdf 02 24 41.4 +0.4
COW Cow Castle Cre 147.10 41 *e*PKPdf PKPdf 02 24 41.4 -1.3
COW *e*PKPab PKPab 02 24 45.6 +0.9
HBF Harts Bluff 147.59 41 *e*PKP2 PKPab 02 24 48.0 +1.3
NHSC New Hope 147.61 41 *e*PKPbc PKPdf 02 24 45.6 +2.2
NHSC *e*PKPab PKPab 02 24 48.2 +1.4
NHSC LR LR
comp=Z,622nm,20.0s,MS5.4
TWB Tillmans-White 147.66 41 *e*PKPdf PKPdf 02 24 43.1 -0.4
RGRS Roger Stewart 147.73 41 *e*PKPbc PKPdf 02 24 45.7 +2.0
CSU Charleston Sou 147.76 41 *e*PKPab PKPab 02 24 48.4 +1.0
ARE Arequipa 149.36 149 *e*PKIKP PKPdf 02 24 49.0 +2.3
NNA Nana 149.59 135 *e*PKPdf PKPdf 02 24 47.2 +0.1
NNA *e*PKPab PKPab 02 24 56.0 +0.7
NNA LR LR
comp=Z,243nm,22.0s,MS5.0
DWPF Disney 149.64 50 *e*PKPab PKPab 02 24 53.8 -1.4
DWPF LR LR
comp=Z,939nm,20.0s,MS5.6
JTS JuntasAbangare 150.99 87 *e*PKIKP PKPdf 02 24 54.2 +4.9
JTS *e* 02 25 02.5
JTS MLR MLR
comp=Z,161nm,19.0s
LPAZ La Paz 151.09 154 PKP PKPdf 02 24 49.4 +0.1
comp=Z,1.0nm,0.9s,baz=247,slow=1.8,SNR=3.1
LPAZ PKPbc PKPdf 02 24 54.9 +5.6
comp=Z,24nm,0.9s,baz=160,slow=2.5,SNR=32
LPAZ La Paz 151.09 154 PKP PKPdf 02 24 49.4 +0.1
LPAZ *e*PKPbc PKPdf 02 24 54.6 +5.3
LPAZ PKPbc PKPdf 02 24 54.9 +5.6
LPAZ LR LR
comp=Z,704nm,20.0s,MS5.5
BAO Brasilia Array 153.53 196 PKPdf PKPdf 02 24 56.5 +3.7
BDFB Brasilia 153.53 196 PKPbc PKPdf 02 25 00.2 +7.4
comp=Z,8.1nm,0.8s,baz=201,slow=3.7,SNR=9.3
SIV San Ignacio 153.65 168 PKP PKPdf 02 24 52.8 -0.2
comp=Z,0.8nm,0.7s,baz=171,slow=10,SNR=2.6
SIV PKPbc PKPdf 02 25 00.4 +7.4
comp=Z,7.6nm,0.8s,baz=182,slow=1.7,SNR=14
RCBR Riachuelo 154.99 232 PFAKE 02 25 10.0 +15
RCBR LR LR
comp=Z,981nm,20.0s,MS5.6
SAML Samuel 159.73 158 *e*PKPab PKPab 02 25 37.3 -1.1
SAML LR LR
comp=Z,2µm,19.0s,MS5.9
ROSC El Rosal 160.64 104 PKP PKPdf 02 25 01.6 -0.3
comp=Z,1.1nm,0.4s,baz=271,slow=23,SNR=3.0
SDV Santo Domingo 165.01 93 *e*PKPdf PKPdf 02 25 06.7 +0.5

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*BJI **18** 02:06:45.7, 10.48S×124.88E, h10km, mB5.7, mb5.3, Ms5.4, Msz5.1*

*IDC **18** 02:06:51.5±0.5, 9.85S×124.66E, mb5.0/18, mb1 5.0/18, mb1mx5.0/20, mbtmp5.0/18, MS5.3/9, Ms1 5.3/9, ms1mx5.0/18, Error ellipse: s-maj=24.2km s-min=15.5km az=78.0*

*HRVD **18** 02:06:53.8±0.2, 10.33S×124.72E, h12km, MW5.5/54, Centroid moment Tensor Solution. LP body waves: s54,c93; Mantle waves: s54,c110; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.82±.04; $M_{\theta\theta}$-0.52±.03; $M_{\phi\phi}$-0.30±.05; $M_{r\theta}$1.50±.08; $M_{\theta\phi}$-0.77±.03; $M_{\phi r}$-0.53±.11; Best double couple: $M_0$1.856×10^{17} NP1: ϕ_s205°, δ30°, λ27°. NP2: ϕ_s91°, δ77°, λ118°. Principal axes: T 2.106, Plg50°, Azm32°; N -.499, Plg27°, Azm265°; P -1.607, Plg27°, Azm160°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **18** 02:06:53.8±0.2, 9.91S×124.24E, h10km, mb5.7/31, MS5.2/1, MW5.5 Error ellipse: s-maj=9.1km s-min=6.5km az=78.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^{17}Nm; M_{rr}0.84; $M_{\theta\theta}$0.60; $M_{\phi\phi}$-1.43; $M_{r\theta}$1.26; $M_{\theta\phi}$-0.90; $M_{\phi r}$0.39; Best double couple: $M_0$2×10^{17} NP1: ϕ_s165°, δ44°, λ24°. NP2: ϕ_s57°, δ73°, λ131°. Principal axes: T 2.02, Plg45°, Azm8°; N .02, Plg39°, Azm222°; P -2.04, Plg18°, Azm117°;*

*MOS **18** 02:06:58.3±1.1, 9.27S×124.29E, h33km, mb5.6/23 Error ellipse: s-maj=14.4km s-min=8.1km az=116.4*

ISC 18 02:06:51.9±1.4, **9.93S**±0.04×**124.43E**±0.07, **h17**km±9km, **h21**km±3.2km**: pP-P, n258,** σ1s**21**/180, **mb5.4**/83, **MS5.1**/25, **9C-4D, Timor region**

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

FITZ Fitzroy Crossi 8.21 172 Sn **Sn 02 10 14.4 -12**
125nm,0.3s,baz=343,slow=5.4,SNR=3.1
FITZ LR LR 02 12 13.6
comp=Z,20µm,19.7s,baz=345,slow=39
WRA Warramunga Arr 13.81 137 Pn **P 02 10 02.7 -6.7**
8.9nm,0.3s,baz=311,slow=15,SNR=3.9
WRA Sn **S 02 12 25.1 -18**
4.2nm,0.3s,baz=322,slow=20,SNR=2.7
WRAB Tennant Creek 13.81 137 *i* P **P 02 10 14.7 +5.3**
WRAB Tennant Creek 13.81 137 Pn **P 02 10 15.4 +6.0**
KKM Kota Kinabalu 17.85 332 *e*P **P 02 11 00.6 -0.8**
KSM Kuching 18.05 308 P **P 02 11 03.2 -0.7**
SNPH Sibulan 19.18 356⥣*e*P **P 02 11 24.2 +6.6**
PPR Puerto Princes 20.38 344 *e*P **P 02 11 33.5 +2.8**
PMG Port Moresby 22.41 91 *e*P **P 02 11 55.3 +4.0**
PMG pmax pmax
comp=Z,140nm,0.9s
PMG Port Moresby 22.41 91 *e*P **P 02 11 55.3 +4.0**
comp=Z,140nm,0.9s,mb5.4
KLBR Kellerberrin 22.43 195 *e*P **P 02 11 49.9 -1.5**
comp=Z,423nm,1.4s,mb5.7
MUN Mundaring 23.23 198 *e*P **P 02 11 59.3 0.0**
comp=Z,70nm,1.1s,mb5.0
MUN Mundaring 23.23 198 *e*P **P 02 11 59.3 0.0**
MUN pmax pmax
comp=Z,70nm,1.1s,mb5.0
CTA Charters Tower 23.35 118 LR LR 02 20 31.3
comp=Z,19µm,21.5s,MS5.5,baz=299,slow=35
CTAO Charters Tower 23.35 118 P **P 02 12 07.4 +6.9**
CTAO Charters Tower 23.35 118 P **P 02 12 07.3 +6.8**
comp=Z,381nm,1.5s,mb5.6
NWAO Narrogin (SRO) 23.83 195 P **P 02 12 04.6 -0.5**
comp=Z,75nm,1.0s,mb5.1,baz=23,slow=10,SNR=4.0
NWAO S **S 02 16 22.2 +5.4**
comp=Z,36nm,0.7s,baz=261,slow=18,SNR=2.2
NWAO LR LR 02 22 36.5
comp=Z,10µm,18.9s,MS5.3,baz=174,slow=39
STKA Stephens Creek 27.02 146 LR LR 02 24 35.2
comp=Z,8µm,18.6s,MS5.3,baz=319,slow=40
KULM Kulim 28.10 302 P **P 02 12 43.4 -1.8**
QIZ Qiongzhong 32.16 333 P **P 02 13 21.0 -0.2**
QIZ S **S 02 18 30.3 -1.7**
QIZ XS 02 18 48.9
QIZ LR LR
comp=N,3µm,17.2s,MS5.1
QIZ LR LR
comp=E,2µm,16.0s,MS5.1
QIZ LR LR
comp=Z,4µm,18.2s,MS5.1
CNB Canberra Magne 33.98 142 *e*P **P 02 13 37.2 +0.3**
comp=Z,36nm,0.8s,mb5.3
GZH Guangzhou 34.56 342 P **P 02 13 46.1 +4.2**
GZH LR LR
comp=N,2µm,15.3s,MS5.2
GZH LR LR
comp=E,2µm,13.4s,MS5.2
GZH LR LR
comp=Z,4µm,19.6s
PBA Port Blair 38.10 303 *e*P **P 02 14 15.0 +3.1**
PBA *e* 02 19 21.7
GYA Guiyang 40.07 335⥣*i*P **P 02 14 28.5 +0.2**
GYA AP pP 02 14 30.6 -2.8
GYA XP sP 02 14 42.3 +6.7
GYA PP PP 02 16 04.8 +0.5
GYA PCP PcP 02 16 32.6 -1.0
GYA S **S 02 20 46.9 +14**
GYA AMB AMB
comp=Z,50nm,1.2s,mb5.1
GYA AMB AMB
comp=Z,380nm,3.2s
GYA LR LR
comp=N,1µm,16.8s,MS5.0
GYA LR LR
comp=E,1µm,17.0s,MS5.0
GYA LR LR
comp=Z,2µm,17.2s,MS5.1
KMI Kunming 40.75 329 P **P 02 14 36.4 +2.6**
KMI AP pP 02 14 45.3 +6.3
KMI PP PP 02 16 14.0 +2.9
KMI S **S 02 20 43.6 +0.3**
KMI XS 02 21 02.3
KMI AMB AMB
comp=Z,53nm,1.3s,mb5.0
KMI AMB AMB
comp=Z,603nm,4.7s
KMI LR LR
comp=N,2µm,14.3s,MS5.3
KMI LR LR
comp=E,3µm,16.6s,MS5.3
KMI LR LR
comp=Z,2µm,19.0s,MS5.0
SSE Sheshan 40.90 356 *e*P **P 02 14 37.9 +2.9**
SSE PP PP 02 16 12.8 +0.2
SSE S **S 02 20 47.6 +2.0**
SSE XS 02 21 03.0
SSE SS SS 02 23 51.1 +8.4
SSE SCS ScS 02 24 39.6 +2.3
SSE AMB AMB
comp=Z,53nm,1.5s,mb5.0
SSE AMB AMB
comp=Z,639nm,6.4s
SSE LR LR
comp=N,378nm,18.7s,MS4.8
SSE LR LR
comp=E,1µm,18.7s,MS4.8
SSE LR LR
comp=Z,721nm,24.4s
WHN Wuhan 41.38 347 P **P 02 14 40.8 +1.8**
DZM Mont Dzumac 42.02 112 P **P 02 14 42.2 -2.2**
comp=Z,40nm,1.3s,mb4.9,baz=293,slow=8.0,SNR=3.4
DZM LR LR 02 30 17.4
comp=Z,6µm,18.3s,MS5.5,baz=287,slow=34
NJ2 Nanjing 42.08 353 *e*P **P 02 14 44.8 +0.1**
NJ2 AP pP 02 14 55.0 +5.1
NJ2 PP PP 02 16 25.3 -0.1
NJ2 S **S 02 21 00.0 -3.0**
NJ2 XS 02 21 17.0
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,1µm,5.7s
NJ2 LR LR
comp=N,4µm,19.0s,MS5.4
NJ2 LR LR
comp=E,3µm,18.7s,MS5.4
NJ2 LR LR
comp=Z,14µm,14.0s,MS6.0
JNU Nakatsue 43.24 8 P **P 02 14 54.4 +0.2**
comp=Z,63nm,1.2s,mb5.2,baz=201,slow=5.3,SNR=6.4
PALK Pallekele 46.78 290 *e*P **P 02 15 22.4 -0.4**
comp=Z,102nm,1.5s,mb5.5
INCN Inchon 47.20 2 *e*P **P 02 15 26.2 +0.4**
comp=Z,84nm,1.0s,mb5.6
KS15 Wonju Array Si 47.23 4 *e*P **P 02 15 26.4 +0.4**
MJAR Matsushiro Arr 48.00 15 P **P 02 15 31.2 -0.9**
comp=Z,70nm,1.0s,mb5.7,baz=194,slow=9.0,SNR=20
MJAR S **S 02 22 25.0 -3.2**
comp=Z,0.5nm,0.3s,baz=312,slow=40,SNR=2.2
MAJO Matsushiro 48.00 15 *e*P **P 02 15 30.7 -1.4**
MAJO pmax pmax
comp=Z,361nm,1.4s,mb6.2
MAJO Matsushiro 48.00 15 *e*P **P 02 15 30.7 -1.4**
comp=Z,361nm,1.4s,mb6.2
MAT Matsushiro 48.00 15 *e*P **P 02 15 29.0 -3.1**
comp=Z,141nm,1.2s,mb5.9
MAT *e*S **S 02 22 24.0 -4.2**
MAT LR LR
comp=Z,2µm,20.0s,MS5.2
MAT Matsushiro 48.00 15 P **P 02 15 29.4 -2.7**
MAT S **S 02 22 24.9 -3.3**
BWNR Bhubaneshwar 48.43 308 *e* **P 02 15 42.7 +7.0**
BWNR AMb AMB 02 15 51.2
comp=Z,220nm,1.3s,mb6.0
DL2 Dalian 48.65 357 P **P 02 15 37.0 0.0**
DL2 S **S 02 22 35.6 -1.7**
DL2 AMB AMB
comp=Z,70nm,1.0s,mb5.7
DL2 AMB AMB
comp=Z,230nm,3.9s
DL2 LR LR
comp=N,640nm,13.7s,MS4.9
DL2 LR LR
comp=E,610nm,16.9s,MS4.9
DL2 LR LR
comp=Z,710nm,16.1s,MS4.7
VIS Vishakhapatnam 49.02 304 *e*P **P 02 15 39.0 -1.1**
VIS AMb AMB 02 15 46.7
comp=Z,102nm,1.5s,mb5.6
LZH Lanzhou 49.71 338 ⥣P **P 02 15 46.0 +0.7**
LZH AP pP 02 15 53.3 +2.8
LZH XP sP 02 15 56.4 +3.8
LZH PP PP 02 17 42.1 +1.5
LZH S **S 02 22 52.8 +0.7**
LZH XS 02 23 04.5
LZH AMB AMB
comp=Z,105nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,413nm,6.4s
LZH LR LR
comp=N,2µm,15.4s
LZH LR LR
comp=Z,3µm,18.2s,MS5.3
BOK Bokaro 50.42 312 *i* P **P 02 15 51.1 +0.2**
BOK AMb AMB 02 15 58.3
comp=Z,117nm,1.3s,mb5.7
LSA Lhasa 50.78 322 *e*P **P 02 15 53.1 -0.4**
SNY Shenyang 51.50 359 ⥥P **P 02 15 58.3 -0.5**
SNY AMB AMB
comp=Z,50nm,1.3s,mb5.3
HHC Hu-ho-hao-te 51.90 348 *e*P **P 02 16 01.4 -0.4**
HHC PCP PcP 02 17 14.8 +0.2
HHC PP PP 02 18 00.0 -0.5
HHC SCP 02 21 12.6
HHC S **S 02 23 23.4 +1.2**
HHC PS PS 02 23 33.0 -1.0
HHC SCS ScS 02 25 48.5 +0.4
HHC AMB AMB
comp=Z,45nm,1.7s,mb5.1
HHC AMB AMB
comp=Z,217nm,11.9s
HHC LR LR
comp=N,2µm,19.0s,MS5.2
HHC LR LR
comp=E,1µm,17.8s,MS5.2
HHC LR LR
comp=Z,936nm,16.7s,MS4.9
BTO Baotou 52.01 346 *e*P **P 02 15 59.1 -3.6**
BLSP Bilaspur 52.30 308 *i* P **P 02 16 05.0 -0.1**
BLSP AMb AMB 02 16 13.5
comp=Z,110nm,1.8s,mb5.5
RPZ Rata Peaks 52.52 138 P **P 02 16 05.2 -1.3**
comp=Z,53nm,1.0s,mb5.4,baz=8.0,slow=5.3,SNR=4.0
HYB Hyderabad 52.85 301 *e*P **P 02 16 08.0 -1.3**

HYB pmax pmax
comp=Z,250nm,1.4s,mb6.0
HYB Hyderabad 52.85 301 *e*P **P** **02 16 08.0 -1.3**
comp=Z,250nm,1.4s,mb6.0
HYB Hyderabad 52.85 301 *i* P **P** **02 16 08.0 -1.3**
comp=Z,250nm,1.4s,mb6.0
GUN Gumba 52.98 316 *e*P **P** **02 16 09.4 -0.7**
comp=Z,208nm,0.8s,mb6.1
PKI Pulchoki 53.08 316 *e*P **P** **02 16 10.4 -0.5**
comp=Z,150nm,0.8s,mb6.0
PKI Pulchoki 53.08 316 *e*P **P** **02 16 10.4 -0.5**
PKI pmax pmax
comp=Z,75nm,0.8s,mb5.7
KKN Kakani 53.31 316 *e*P **P** **02 16 12.2 -0.4**
comp=Z,137nm,1.0s,mb5.8
KKN Kakani 53.31 316 *e*P **P** **02 16 12.2 -0.4**
KKN pmax pmax
comp=Z,69nm,1.0s,mb5.5
DMN Daman 53.31 315 *e*P **P** **02 16 12.1 -0.5**
comp=Z,256nm,1.0s,mb6.1
CN2 Changchun 53.48 1 *e*P **P** **02 16 12.8 -0.8**
CN2 *e*AP pP 02 16 23.0 +4.2
CN2 *e*S **S** **02 23 43.4 -0.3**
CN2 AMB AMB
comp=Z,20nm,1.2s,mb4.9
CN2 AMB AMB
comp=Z,600nm,4.0s
CN2 LR LR
comp=N,2µm,15.0s,MS5.2
CN2 LR LR
comp=E,800nm,15.0s,MS5.2
CN2 LR LR
comp=Z,1µm,17.0s,MS5.1
GKN Gorkha 53.88 316 *e*P **P** **02 16 16.1 -0.6**
comp=Z,193nm,0.8s,mb6.1
GTA Gaotai 54.15 337 *e*P **P** **02 16 17.5 -1.0**
GTA AP pP 02 16 27.8 +4.0
GTA XP sP 02 16 32.1 +6.2
GTA PCP PcP 02 17 22.3 -0.8
GTA PP PP 02 18 20.8 -1.1
GTA PPP PPP 02 19 25.8 -6.0
GTA SCP 02 21 21.8
GTA S **S** **02 23 49.6 -3.3**
GTA AMB AMB
comp=Z,29nm,1.3s,mb5.0
GTA AMB AMB
comp=Z,734nm,5.7s
GTA LR LR
comp=N,1µm,16.4s,MS5.2
GTA LR LR
comp=E,2µm,18.3s,MS5.2
GTA LR LR
comp=Z,1µm,16.0s,MS5.1
KOLN Koldanda 54.46 315 *e*P **P** **02 16 20.6 -0.4**
comp=Z,185nm,0.9s,mb6.0
MDJ Mudanjiang 54.48 5 P **P** **02 16 21.6 +0.7**
MDJ PCP PcP 02 17 24.9 +0.6
MDJ PP PP 02 18 25.5 +0.7
MDJ SS SS 02 27 47.3 +7.7
MDJ AMB AMB
comp=Z,122nm,1.3s,mb5.7
MDJ AMB AMB
comp=Z,549nm,5.0s
MDJ LR LR
comp=N,959nm,24.6s,MS4.9
MDJ LR LR
comp=E,731nm,25.4s,MS4.9
MDJ LR LR
comp=Z,1µm,22.9s,MS4.9
MDJ Mudanjiang 54.48 5 *e*P **P** **02 16 20.4 -0.5**
BHPL Bhopal 56.58 306 *e*P **P** **02 16 35.6 -0.7**
BHPL AMb AMB 02 16 44.2
comp=Z,103nm,1.9s,mb5.5
CASY Casey 57.08 187 *e*P **P** **02 16 38.2 -1.2**
comp=Z,52nm,1.2s,mb5.4
POO Poona 57.35 299 *e*P **P** **02 16 38.7 -3.2**
POO AMb AMB 02 16 46.0
comp=Z,75nm,1.2s,mb5.6
YSS Yuzh-Sakhalins 58.94 15⇓ *e*P **P** **02 16 52.3 -0.4**
YSS *e*S **S** **02 24 56.0 -0.2**
YSS pmax pmax
comp=Z,80nm,1.1s,mb5.7
YSS MLR MLR
comp=Z,500nm,18.0s,MS4.7
YSS MLR MLR
comp=N,500nm,19.0s
YSS Yuzh-Sakhalins 58.94 15 *e*P **P** **02 16 51.9 -0.7**
comp=N,122nm,1.3s,mb5.8
HIA Hailar 59.08 356 *e*P **P** **02 16 53.8 +0.2**
HIA pmax pmax
comp=Z,270nm,1.3s
HIA Hailar 59.08 356 *e*P **P** **02 16 53.8 +0.2**
comp=Z,270nm,1.3s,mb6.1
BISR Bishrakh 59.36 312 *e* **P** **02 17 00.6 +4.7**
BISR AMb AMB 02 17 08.1
comp=Z,133nm,0.8s,mb6.0
SONA Sohna 59.45 311 *i* P **P** **02 16 55.3 -1.2**
SONA AMb AMB 02 17 03.4
comp=Z,108nm,1.5s,mb5.7
AYAN Aya Nagar 59.54 311 *i* P **P** **02 16 55.9 -1.2**
SONM Songino Array 59.69 346 P **P** **02 16 57.1 -0.7**
comp=Z,41nm,1.1s,mb5.4,baz=169,slow=6.3,SNR=15
KHET Khetri 60.31 310 *e*P **P** **02 16 58.8 -3.6**
KHET AMb AMB 02 17 08.6
comp=Z,65nm,1.5s,mb5.4
KKR Kurukshetra 60.57 313 *e* **P** **02 16 54.8 -9.3**
CIT Chita 62.40 352 *e*P **P** **02 17 16.7 +0.5**
CIT pmax pmax
comp=Z,259nm,1.6s,mb6.1
WMQ Urumqi 63.04 331 P **P** **02 17 21.8 +1.3**
WMQ PP PP 02 19 41.5 +0.7
WMQ S **S** **02 25 46.4 -2.1**
WMQ XS 02 26 03.3
WMQ AMB AMB
comp=Z,44nm,1.5s,mb5.4
WMQ AMB AMB
comp=Z,508nm,4.8s
WMQ LR LR
comp=N,2µm,19.2s,MS5.4
WMQ LR LR
comp=E,1µm,19.1s,MS5.4
WMQ LR LR
comp=Z,2µm,17.2s,MS5.3
TLY Talaya 63.93 346 *e*P **P** **02 17 25.9 -0.3**
TLY *e*PPP PPP 02 21 14.4 -6.2
TLY *e*S **S** **02 25 59.9 +0.4**
TLY *e*SS SS 02 30 07.5 -2.2
TLY pmax pmax
comp=Z,71nm,1.3s,mb5.5
IRK Irkutsk 64.30 346 *e*P **P** **02 17 29.0 +0.4**
IRK pmax pmax
comp=Z,147nm,1.6s,mb5.8
KSH Kashi 66.61 321 *e*P **P** **02 17 45.0 +1.3**
KSH *e*AP pP 02 17 50.3 +1.2
KSH *e*XP sP 02 17 52.5 +1.4
KSH *e*PCP PcP 02 18 15.8 +2.8
KSH AMB AMB
comp=Z,510nm,2.9s,mb6.0
MKAR Makanchi Array 67.82 330 P **P** **02 17 51.2 0.0**
comp=Z,26nm,0.7s,mb5.3,baz=132,slow=7.2,SNR=9.2
MKAR PP PP 02 20 21.8 -1.0
comp=Z,6.7nm,1.2s,baz=121,slow=8.4,SNR=2.0
BOD Bodaibo 68.04 354 *e*P **P** **02 17 51.6 -0.8**
BOD pmax pmax
comp=Z,96nm,1.3s,mb5.7
PET Petropavlovsk 69.17 21 *e*P **P** **02 18 00.9 +1.4**
PET *e* 02 20 38.2
PET *i* S S 02 27 05.6 +2.7
PET pmax pmax
comp=Z,400nm,5.2s
PET pmax pmax
comp=Z,61nm,1.1s,mb5.4
PET pmax pmax
comp=Z,200nm,14.6s
PET pmax pmax
comp=Z,200nm,10.6s
PET pmax pmax
comp=Z,300nm,7.0s
PET smax
comp=E,1µm,10.2s
PET smax
comp=E,900nm,23.5s
PET MLR MLR
comp=Z,500nm,18.0s,MS4.8
PET Petropavlovsk 69.17 21 *e*P **P** **02 18 00.0 +0.5**
comp=Z,82nm,1.2s,mb5.5

AAK Ala-Archa 69.36 323 *i* P **P** **02 18 00.5 -0.4**
AAK pmax pmax
comp=Z,41nm,1.3s,mb5.2
AAK Ala-Archa 69.36 323 *e*P **P** **02 17 59.1 -1.8**
MAW Mawson 70.25 201 *e*P **P** **02 18 05.6 -0.2**
comp=Z,24nm,1.4s,mb4.9
MAW Mawson 70.25 201 P **P** **02 18 05.8 0.0**
comp=Z,12nm,0.7s,mb4.9,baz=84,slow=6.1,SNR=6.5
MAW LR LR 02 45 47.9
comp=Z,3µm,19.2s,MS5.6,baz=60,slow=33
VNDA Vanda 70.28 172 P **P** **02 18 05.4 -0.5**
comp=Z,6.3nm,1.1s,mb4.5,baz=330,slow=12,SNR=3.9
VNDA S S 02 27 18.4 +2.6
comp=Z,0.7nm,1.1s,baz=285,slow=11,SNR=2.0
VNDA Vanda 70.28 172 *e*P **P** **02 18 05.4 -0.5**
SBA Scott Base 71.24 171 *e*P **P** **02 18 10.9 -0.8**
SBA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SBA Scott Base 71.24 171 *e*P **P** **02 18 10.8 -0.9**
comp=Z,8.8nm,0.8s,mb4.7
YAK Yakutsk 71.85 3 *e*P **P** **02 18 17.6 +2.0**
YAK *e* 02 27 33.3
YAK pmax pmax
comp=Z,40nm,1.2s,mb5.2
YAK pmax pmax
comp=N,20nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK MLR MLR
comp=Z,368nm,17.0s,MS4.7
YAK MLR MLR
comp=N,383nm,18.0s,MS4.8
YAK MLR MLR
comp=E,307nm,18.0s,MS4.8
YAK Yakutsk 71.85 3 *e*P **P** **02 18 15.7 +0.1**
comp=E,44nm,0.6s,mb5.6
ZAL Zalesovo 71.91 337 *i* P **P** **02 18 16.2 +0.1**
ZAL pmax pmax
comp=Z,7.0nm,0.6s
ZAL Zalesovo 71.91 337 P **P** **02 18 15.9 -0.2**
comp=Z,6.5nm,0.6s,mb4.8,baz=339,slow=5.1,SNR=5.4
KKAR Karatay Array 72.04 322 *i* P **P** **02 18 17.0 0.0**
KKAR pmax pmax
comp=Z,21nm,1.0s,mb5.0
KURK Kurchatov 72.28 331 *e*P **P** **02 18 18.0 -0.3**
MA2 Magadan 72.42 14 *d i*P **P** **02 18 21.5 +2.5**
MA2 pmax pmax
comp=Z,61nm,1.7s,mb5.2
MA2 Magadan 72.42 14 *e*P **P** **02 18 20.9 +1.9**
comp=Z,197nm,1.7s,mb5.8
OPO Ambohidratompo 74.89 253 P **P** **02 18 37.4 +3.2**
comp=Z,15nm,1.1s,mb4.8,baz=74,slow=3.1,SNR=4.3
FX1 Attu Island--F 75.07 28 *e*P **P** **02 18 36.2 +1.7**
SEY Seymchan 75.77 13 *i* P **P** **02 18 39.6 +1.3**
BVA0 Borovoye Array 77.70 330 *i* P **P** **02 18 49.3 0.0**
BVA0 pmax pmax
comp=Z,96nm,2.1s,mb5.4
BVAR Borovoye Array 77.70 330 P **P** **02 18 49.5 +0.3**
comp=Z,27nm,1.1s,mb5.1,baz=135,slow=6.3,SNR=13
BRVK Borovoye 77.77 330 *e*P **P** **02 18 49.2 -0.5**
ZRNK Zerenda 78.35 329 *e*P **P** **02 18 52.8 0.0**
ZRNK pmax pmax
comp=Z,155nm,1.4s,mb5.7
ZRNK Zerenda 78.35 329 *e*P **P** **02 18 52.8 0.0**
comp=Z,156nm,1.4s,mb5.8
SYO Syowa Base 78.95 201 ⇑P **P** **02 18 55.2 -0.6**
SYO Syowa Base 78.95 201 ⇓pP pP 02 18 58.5 -2.8
QSPA South Pole Qui 80.07 180 *e*P **P** **02 19 03.0 +1.3**
comp=Z,49nm,1.0s,mb5.4
AB31 Akbulak array 81.45 323 P **P** **02 19 09.7 +0.2**
AB31 pmax pmax
comp=Z,39nm,1.0s,mb5.3
BILL Bilibino 83.26 15 *i* P **P** **02 19 19.5 +1.0**
BILL pmax pmax
comp=Z,18nm,1.7s,mb4.8
PPT Papeete 83.28 107 LR LR 02 51 33.1
comp=Z,1µm,21.9s,MS5.2,baz=264,slow=32
ATD Arta Tunnel 83.84 283 P **P** **02 19 26.1 +3.4**
comp=Z,18nm,1.0s,mb5.2,baz=69,slow=8.6,SNR=2.8
ATD LR LR 02 55 31.8
comp=Z,729nm,20.4s,MS5.0,baz=95,slow=35
MZLS Mizel 84.31 295 P **P** **02 19 29.2 +4.3**
DJNS Zahran al Janu 84.43 289 P **P** **02 19 29.3 +3.7**
TATS Tathlith 84.88 291 P **P** **02 19 31.6 +3.8**
ARU Arti 85.33 329 *i* P **P** **02 19 29.2 0.0**
ARU pmax pmax
comp=Z,37nm,1.3s,mb5.3
ARU Arti 85.33 329 *e*P **P** **02 19 29.0 -0.1**
comp=Z,188nm,1.6s,mb6.0
ARSS Ar Rass 86.47 297 P **P** **02 19 39.1 +3.5**
BLJS Baljurashi 86.68 291 P **P** **02 19 40.5 +3.8**
KMBO Kilima Mbogo 87.03 269 *i* P **P** **02 19 43.1 +4.5**
KMBO pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 87.03 269 P **P** **02 19 42.5 +3.9**
comp=Z,7.0nm,0.9s,mb4.9,baz=37,slow=5.3,SNR=4.7
KMBO Kilima Mbogo 87.03 269 P **P** **02 19 42.5 +3.9**
LTHS Al Lith 87.86 291 P **P** **02 19 46.2 +3.9**
HILS Ha'il 88.06 298 P **P** **02 19 46.7 +3.5**
GNI Garni 88.55 311 *i* P **P** **02 19 47.2 +1.9**
GNI pmax pmax
comp=Z,16nm,1.3s
GNI Garni 88.55 311 *e*P **P** **02 19 48.1 +2.8**
comp=Z,24nm,1.2s,mb5.4
ZEI Tsey 89.80 313 *e*P **P** **02 19 50.1 -1.0**
ZEI *i* *PP pP 02 20 00.3 +3.6
ZEI pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
KIV Kislovodsk 90.93 314 *i* P **P** **02 19 56.9 +0.6**
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
SNAA Sanae 91.51 195 *e* **P** **02 20 03.2 +4.9**
SNAA Sanae 91.51 195 *e* **P** **02 20 09.6 +11**
SNAA Sanae 91.51 195 *e* **P** **02 20 12.7 +14**
SNAA Sanae 91.51 195⇑ *i*P **P** **02 19 59.4 +1.1**
SNAA *e* 02 20 09.6
SNAA *e* 02 20 12.7
SNAA Sanae 91.51 195 P **P** **02 19 59.3 +1.0**
comp=Z,1.6nm,0.6s,mb4.6,baz=113,slow=3.8,SNR=4.6
SNAA Sanae 91.51 195⇑ *i*P **P** **02 19 59.4 +1.1**
SNAA *e* pP 02 20 03.2 -0.7
SNAA *e* 02 20 09.6
SNAA *e* 02 20 12.7
SNAA *e* 02 35 28.2
QURS Qurayyt al Mil 92.65 301 P **P** **02 20 07.8 +3.3**
SOC Sochi 92.96 314 *e*P **P** **02 20 03.8 -1.8**
SOC *e*S SKS 02 30 35.1 -8.4
SOC *e*PS PS 02 32 22.0 -5.6
VNA2 Neumayer--Watz 93.11 194 *e* **P** **02 20 11.0 +5.3**
VNA2 Neumayer--Watz 93.11 194 *e* **P** **02 20 17.3 +12**
VNA2 Neumayer--Watz 93.11 194 *e* **P** **02 20 20.2 +14**
VNA2 Neumayer--Watz 93.11 194⇑ *i*P **P** **02 20 07.1 +1.4**
VNA2 *e* pP 02 20 11.0 -0.2
VNA2 *e* 02 20 17.3
VNA2 *e* 02 20 20.2
VNA2 *e* 02 35 23.5
ASF Jabal al Asfar 93.14 302 P **P** **02 20 07.9 +1.2**
comp=Z,0.9nm,0.5s,mb4.5,baz=202,slow=7.9,SNR=2.2
BOSA Boshof 93.24 240 P **P** **02 20 08.8 +1.5**
comp=Z,12nm,1.2s,mb5.2,baz=118,slow=6.8,SNR=3.0
BOSA Boshof 93.24 240 *e*P **P** **02 20 08.8 +1.5**
LSZ Lusaka 93.36 254 *e*P **P** **02 20 13.2 +5.1**
LSZ *e* 02 20 26.3
LSZ Lusaka 93.36 254 *e*P **P** **02 20 09.6 +1.5**
comp=Z,11nm,1.1s,mb5.2
VNA3 Neumayer Olymp 93.43 193 *e* **P** **02 20 13.4 +6.2**
VNA3 Neumayer Olymp 93.43 193 *e* **P** **02 20 18.4 +11**
VNA3 Neumayer Olymp 93.43 193 *e* **P** **02 20 21.5 +14**
VNA3 Neumayer Olymp 93.43 193⇑ *i*P **P** **02 20 09.3 +2.1**
VNA3 *e* pP 02 20 13.4 +0.7
VNA3 *e* 02 20 18.4
VNA3 *e* 02 20 21.5
VNA3 *e* 02 35 24.3
VNA1 Neumayer--Stat 93.51 194 *e* **P** **02 20 12.8 +5.3**
VNA1 Neumayer--Stat 93.51 194 *e* **P** **02 20 18.4 +11**
VNA1 Neumayer--Stat 93.51 194 *e* **P** **02 20 22.5 +15**
VNA1 Neumayer--Stat 93.51 194⇑ *i*P **P** **02 20 08.9 +1.4**
VNA1 *e* pP 02 20 12.8 -0.3
VNA1 *e* 02 20 18.4
VNA1 *e* 02 20 22.5

LBTB Lobatse 93.74 244 P **P** **02 20 12.0 +2.3**
LBTB pmax pmax
comp=Z,10.0nm,1.1s,mb5.2
LBTB Lobatse 93.74 244 P **P** **02 20 12.0 +2.3**
comp=Z,10.0nm,1.1s,mb5.2
ANN Anapa 94.79 314 *e*P **P** **02 20 06.4 -7.6**
ANN pmax pmax
comp=Z,83nm,1.2s,mb6.0
OBN Obninsk 96.83 325 *i* P **P** **02 20 23.9 +0.8**
OBN *e* 02 24 22.5
OBN *e* 02 30 56.9
OBN *e*SS SS 02 38 18.1 -2.3
OBN pmax pmax
comp=Z,53nm,1.7s,mb5.7
OBN Obninsk 96.83 325 P **P** **02 20 22.1 -1.0**
comp=Z,37nm,1.1s,mb5.7
BRTR Keskin Array B 96.86 309 P **P** **02 20 23.8 +0.2**
comp=Z,1.5nm,0.8s,mb4.5,baz=117,slow=2.8,SNR=4.6
SML Sawmill 97.36 29 *e*P **P** **02 20 18.6 -6.7**
ILAR Eielson Array 98.34 26 P **P** **02 20 28.7 -0.9**
comp=Z,1.2nm,0.9s,mb4.4,baz=284,slow=3.7,SNR=5.6
ILAR PP PP 02 24 22.7 -10
comp=Z,0.8nm,1.0s,baz=248,slow=4.9,SNR=3.1
ILAR LR LR 03 00 50.3
comp=Z,294nm,21.4s,MS4.8,baz=85,slow=33
AKASG Malin Array Be 100.89 320 P P 02 20 41.2 -0.4
AKASG 02 24 50.9
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG pmax pmax
comp=Z,4.0nm,1.0s
AKASG Malin Array Be 100.89 320 P P 02 20 41.2 -0.4
comp=Z,1.5nm,0.6s,baz=75,slow=4.7,SNR=4.7
AKASG PP PP 02 24 50.9 -1.6
comp=Z,4.1nm,1.0s,baz=80,slow=5.9,SNR=5.6
AKASG Malin Array Be 100.89 320 P P 02 20 41.2 -0.4
AKASG PP PP 02 24 50.9 -1.6
ARCES ARCESS Array B 102.36 339 P Pdif 02 20 49.0 +1.2
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 102.36 339 P Pdif 02 20 49.0 +1.2
comp=Z,4.0nm,0.9s,baz=63,slow=2.0,SNR=5.6
GERES GERESS Array B 111.03 319 *i* PKIKP PKPdf 02 25 28.8 +0.6
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 111.03 319 PKiKP 02 25 28.8
comp=Z,1.1nm,0.7s,baz=90,slow=1.3,SNR=5.7
CLL Collm 111.05 321 *e* PKPdf 02 25 32.0 +3.8
CLL *e*PPP PPP 02 28 36.0 +7.2
CLL *e* 02 32 09.0
CLL *e* 02 33 03.0
CLL *e* 02 33 37.0
CLL *e*PS PS 02 35 36.0 +2.2
CLL *e*PPS PPS 02 36 44.0 +0.5
CLL *e* 02 43 34.0
YKA Yellowknife Ar 112.77 26 PKiKP 02 25 31.4
comp=Z,2.3nm,1.0s,baz=296,slow=2.2,SNR=4.4
YKA Yellowknife Ar 112.77 26 PKPdf PKPdf 02 25 31.4 +0.2
CDF Champ du Feu 115.29 319 *e*PKIKP PKPdf 02 25 35.9 -0.6
PGF Pioggiola 115.34 312 *e*PKIKP PKPdf 02 25 36.7 -0.1
comp=Z,51nm,1.6s
HINF Hinteralfeld 115.72 318 *e*PKIKP PKPdf 02 25 36.7 -0.7
comp=Z,8.2nm,0.7s
HAU Haudompre 116.00 319 *e*PKIKP PKPdf 02 25 38.1 +0.1
SBF Sospel 116.21 314 *e*PKIKP PKPdf 02 25 38.7 +0.2
LPG La Plagne 116.33 316 *e*PKIKP PKPdf 02 25 39.2 +0.5
LPL La Plagne 116.34 316 *e*PKIKP PKPdf 02 25 39.3 +0.6
comp=Z,5.0nm,0.7s
MBDF Montbardon 116.49 315 *e*PKIKP PKPdf 02 25 39.3 +0.3
comp=Z,12nm,1.1s
CABF La Chapelle 116.52 317 *e*PKIKP PKPdf 02 25 38.8 -0.2
comp=Z,27nm,1.1s
BAIF Baives 116.78 321 *e*PKIKP PKPdf 02 25 39.6 +0.2
comp=Z,18nm,1.2s
FRF La Foret Royal 116.83 314 *e*PKIKP PKPdf 02 25 39.7 0.0
comp=Z,9.4nm,0.9s
EDM Edmonton 116.92 35 *e*PKIKP PKPdf 02 25 37.9 -1.7
ORIF Oris-en-Rattie 117.07 316 *e*PKIKP PKPdf 02 25 40.1 0.0
comp=Z,8.1nm,0.7s
SMRF Simiane la Rot 117.50 315 *e*PKIKP PKPdf 02 25 41.3 +0.4
comp=Z,31nm,1.4s
LOR Lormes 117.82 318 *e*PKIKP PKPdf 02 25 41.1 -0.3
comp=Z,7.7nm,0.8s
SSF Saint Saulge 118.11 318 *e*PKIKP PKPdf 02 25 41.6 -0.4
comp=Z,24nm,1.0s
LASF Ste Croix 118.68 315 *e*PKIKP PKPdf 02 25 43.4 +0.2
BGF Bois d'Agland 118.69 318 *e*PKIKP PKPdf 02 25 43.1 -0.1
comp=Z,19nm,0.7s
TCF Toulx Ste Croi 119.19 318 *e*PKIKP PKPdf 02 25 44.4 +0.3
comp=Z,20nm,1.1s
HLID Hailey 119.22 45 *e*PKPdf PKPdf 02 25 44.4 +0.2
CAF Calviac 119.68 316 *e*PKIKP PKPdf 02 25 45.6 +0.5
RJF Les Rejaudoux 119.94 317 *e*PKIKP PKPdf 02 25 46.3 +0.7
MCMT McKenzie Canyo 119.95 44 *e*PKPdf PKPdf 02 25 46.5 +0.9
MTLF Montolieu 120.02 315 *e*PKIKP PKPdf 02 25 45.7 -0.1
FLN La Foliniere 120.10 321 *e*PKIKP PKPdf 02 25 45.9 +0.1
comp=Z,15nm,0.9s
GRR Gorron 120.47 321 *e*PKIKP PKPdf 02 25 46.5 -0.1
comp=Z,14nm,0.9s
LFF La Frestale 120.58 317 *e*PKIKP PKPdf 02 25 46.6 -0.3
comp=Z,23nm,0.9s
MFF Saint Martin d 120.63 319 *e*PKIKP PKPdf 02 25 46.6 -0.4
comp=Z,16nm,0.8s
IMW Indian Meadow 121.54 44 PKPdf PKPdf 02 25 49.6 +0.8
SGMF Saint Gilles 121.57 321 *e*PKIKP PKPdf 02 25 48.8 0.0
comp=Z,36nm,1.3s
TPAW Teton Pass 121.66 45 *e*PKPdf PKPdf 02 25 49.2 +0.1
REDW Red Top Meadow 121.76 45 *e*PKPdf PKPdf 02 25 50.0 +0.8
SNOW Snow King Moun 121.80 45 *e*PKPdf PKPdf 02 25 49.6 +0.3
LOHW Long Hollow 121.86 44 *e*PKPdf PKPdf 02 25 50.0 +0.6
ROSF Rostrenen 121.98 322 *e*PKIKP PKPdf 02 25 49.4 -0.1
ETSF Etsaut 122.09 315 *e*PKIKP PKPdf 02 25 49.2 -0.7
PDAR Pinedale Array 122.85 45 PKP PKPdf 02 25 50.7 -0.6
comp=Z,2.9nm,0.9s,baz=180,slow=1.5,SNR=6.8
LAO LASA Array 123.66 40 *e*PKPdf PKPdf 02 25 53.3 +0.5
DGMT Dagmar 124.14 37 PKPdf PKPdf 02 25 53.2 -0.5
RWWY Rawlins 124.85 46 *e*PKPdf PKPdf 02 25 55.3 0.0
ESDC Sonseca Array 125.53 312 PKP PKPdf 02 25 56.7 +0.1
comp=Z,1.7nm,0.7s,baz=27,slow=2.5,SNR=6.0
RSSD Black Hills 126.11 42 *e*PKPdf PKPdf 02 25 57.4 -0.2
ISCO Idaho Springs 126.63 47 *e*PKIKP PKPdf 02 25 59.0 +0.3
SDCO Great Sand Dun 127.38 50 *e*PKPdf PKPdf 02 26 00.4 +0.1
ANMO Albuquerque 127.46 53 *e*PKIKP PKPdf 02 26 01.6 +1.1
PLCA Paso Flores 127.73 166 PKP PKPdf 02 26 00.2 -0.6
comp=Z,2.9nm,0.9s,baz=221,slow=3.1,SNR=4.0
PLCA Paso Flores 127.73 166 PKP PKPdf 02 26 00.2 -0.7
ULM Lac du Bonnet 127.85 32 PKP PKPdf 02 26 00.3 -0.5
comp=Z,9.3nm,1.0s,baz=221,slow=3.5,SNR=4.3
ULM Lac du Bonnet 127.85 32 PKP PKPdf 02 26 00.3 -0.5
MTE Manteigas 127.86 314 *e*PKPdf PKPdf 02 25 59.6 -1.5
EVO Evora 128.88 312 *e*PKIKP PKPdf 02 26 03.8 +0.7
comp=Z,36nm,1.3s
MNTX Cornudas Mount 129.16 57 *e*PKPdf PKPdf 02 26 04.8 +1.0
DBIC Dimbokro 129.75 270 PKP PKPdf 02 26 04.9 -0.6
comp=Z,8.9nm,1.0s,baz=134,slow=10,SNR=3.7
FVM French Village 138.06 43 *e*PKIKP PKPdf 02 26 17.5 -2.8
OXF Oxford 140.56 46 *e*PKIKP PKPdf 02 26 20.1 -4.9
LRAL Lakeview Retre 143.04 47 *e*PKPpre 02 26 25.9
TZTN Tazewell 143.34 39 *e*PKPpre 02 26 26.5
WVL Waterville 143.40 17 *e*PKPpre 02 26 26.6
CPUP Villa Florida 143.92 177 PKP PKPdf 02 26 30.3 -0.7
comp=Z,7.9nm,1.0s,baz=221,slow=6.9,SNR=3.9
CPUP Villa Florida 143.92 177 PKP PKPdf 02 26 30.3 -0.7
ELN Prospectdale 144.57 36 *e*PKPdf PKPdf 02 26 29.1 -2.7
HRV Harvard--Oak R 144.65 21 *e*PKIKP PKPdf 02 26 30.3 -1.5
WES Weston 144.84 20 *e*PKIKP PKPdf 02 26 30.6 -1.5
SDMD Soldier's Deli 145.04 29 *e*PKP PKPdf 02 26 30.6 -1.9
BRNJ Basking Ridge 145.05 26 *e*PKP PKPdf 02 26 29.5 -3.0
PAL Palisades 145.06 25 *e*PKIKP PKPdf 02 26 31.4 -1.1
LVC Limon Verde 145.12 158 PKPbc PKPbc 02 26 32.2 +2.6
comp=Z,20nm,0.8s,baz=258,slow=3.7,SNR=4.8
LVC Limon Verde 145.12 158 *e*PKP PKPdf 02 26 32.3 -0.9
BRYW Bryant College 145.18 21 *e*PKP PKPdf 02 26 31.5 -1.2
CBN Corbin 145.70 31 *e*PKP PKPdf 02 26 32.9 -0.9
JSC Jenkinsville 146.22 40 *e*PKP2 PKPab 02 26 35.5 +0.7
JSC Jenkinsville 146.22 40 *e*PKPbc PKPbc 02 26 35.9 +3.8
COW Cow Castle Cre 147.15 41 *e*PKPbc PKPdf 02 26 39.5 +3.2
HBF Harts Bluff 147.65 41 *e*PKP2 PKPab 02 26 39.7 -0.7
NHSC New Hope 147.66 41 *e*PKPbc PKPdf 02 26 39.7 +2.6
TWB Tillmans-White 147.71 41 PKPbc PKPdf 02 26 40.9 +3.7
RGRS Roger Stewart 147.78 41 *e*PKPbc PKPdf 02 26 40.2 +2.9
CSU Charleston Sou 147.81 41 *e*PKPbc PKPdf 02 26 41.5 +4.1
JTS JuntasAbangare 151.08 87 *e*PKIKP PKPdf 02 26 48.0 +5.0
LPAZ La Paz 151.14 154 PKPbc PKPdf 02 26 48.9 +5.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,23nm,0.9s,baz=180,slow=2.2,SNR=8.6						
BAO	**Brasilia Array**	**153.52**	**197**	PKPdf	PKPdf	02 26 55.0	+8.5
BDFB	**Brasilia**	**153.52**	**197**	PKPbc	PKPdf	02 26 53.9	+7.4
	comp=Z,5.7nm,0.9s,baz=273,slow=4.6,SNR=2.1						

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*ATH **18** 02:16:54.7, 37.81N×26.81E, h18km±14km, MD3.1/3*
*ISK **18** 02:16:56.2, 37.83N×26.71E, h32km, MD3.2*
*CSEM **18** 02:16:56.1±0.1, 37.79N×26.83E, h15km, MD3.1, Error ellipse: s-maj=3.9km s-min=2.1km az=84.0*
ISC 18 02:16:55.4±0.9**, 37.78N**±0.03×**26.74E**±0.05**, h5**km±6km**, n15, σ1ˢ01**/23**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
SMG	**Samos**	**0.10**	**133**	*e*PB	**Pb**	**02 16 58.9**	**-0.5**
SMG				*e*SB	**Sb**	**02 17 00.8**	**-1.2**
BLCB	**Balcova**	**0.65**	**21**	PG	**Pg**	**02 17 08.4**	**0.0**
IZM	**Izmir**	**0.74**	**34**	PG	**Pg**	**02 17 10.2**	**0.0**
IZM				SG	**Sg**	**02 17 20.6**	**+0.5**
BODT	**Bodrum**	**0.85**	**147**	*e*PG	**Pg**	**02 17 12.6**	**+0.3**
BDRM	**Kayabasi**	**0.91**	**142**	*i* P	**Pb**	**02 17 14.1**	**+1.0**
BDRM				*i* S	**Sb**	**02 17 25.3**	**0.0**
AYDN	**Tasoluk**	**0.91**	**97**	*i* P	**Pb**	**02 17 12.8**	**-0.4**
AYDN				*i* S	**Sb**	**02 17 24.5**	**-0.9**
MLSB	**Milas**	**0.95**	**120**	PG	**Pg**	**02 17 14.5**	**0.0**
APE	**Apeiranthos**	**1.20**	**234**	*e*PN	**Pn**	**02 17 17.5**	**-1.2**
APE	**Apeiranthos**	**1.20**	**234**	*e*PN	**Pn**	**02 17 18.3**	**-0.3**
APE				*e*SN	**Sn**	**02 17 36.5**	**+1.1**
AKS	**Akhisar**	**1.38**	**37**	*e*PN	**Pn**	**02 17 19.9**	**-1.4**
YER	**Yerkesik**	**1.39**	**117**	PN	**Pn**	**02 17 20.7**	**-0.7**
PRK	**Paraskevi**	**1.51**	**346**	*e*PN	**Pn**	**02 17 23.0**	**-0.1**
PRK				*e*SN	**Sn**	**02 17 43.0**	**-0.3**
MANT	**Manisa**	**1.60**	**63**	*i* P	**Pn**	**02 17 26.9**	**+2.5**
MANT				*i* S	**Sb**	**02 17 46.0**	**+0.7**
DNZL	**Cakiroluk**	**1.83**	**92**	*i* P	**Pn**	**02 17 29.4**	**+1.7**
DNZL				*i* S	**Sn**	**02 17 54.6**	**+3.1**
DST	**Dursunbey**	**2.35**	**38**	PN	**Pn**	**02 17 33.6**	**-1.5**

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*IDC **18** 02:32:03.8±1.3, 10.03S×124.47E, mb4.0/4, mb1 4.0/4, mb1mx3.8/13, mbtmp4.0/4, Error ellipse: s-maj=78.5km s-min=28.1km az=78.0*
*NEIC **18** 02:32:05.1±0.5, 10.06S×124.42E, h10km, mb4.3/1, Error ellipse: s-maj=15.9km s-min=9.7km az=80.0*
ISC 18 02:32:04.9±0.6**, 10.25S**±0.06×**124.8E**±0.1**, h33**km**, n17, σ0ˢ88**/18**, mb4.0**/5**, Timor region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.85**	**174**	*e*P	**P**	**02 34 01.0**	**+1.5**
	68nm,0.3s						
FITZ	**Fitzroy Crossi**	**7.85**	**174**	Pn	**Pn**	**02 34 00.7**	**+1.0**
	12nm,0.3s,baz=7.3,slow=10,SNR=147						
FITZ				Sn	**Sn**	**02 35 26.0**	**-2.3**
	17nm,0.3s,baz=157,slow=3.4,SNR=12						
KAKA	**Kakadu**	**7.88**	**109**	*e*P	**P**	**02 34 05.0**	**+5.1**
	8.4nm,0.4s						
MBWA	**Marble Bar**	**11.89**	**204**	*e*Pn	**P**	**02 34 55.2**	**+0.1**
WRA	**Warramunga Arr**	**13.32**	**137**	Pn	**P**	**02 35 14.0**	**-0.2**
	1.0nm,0.3s,baz=313,slow=14,SNR=23						
WRA				Sn	**S**	**02 37 37.8**	**-4.4**
	0.9nm,0.3s,baz=309,slow=24,SNR=4.2						
WRAB	**Tennant Creek**	**13.33**	**137**	*e*P	**P**	**02 35 14.2**	**-0.1**
	13nm,0.8s						
WB2	**Warramunga Arr**	**13.33**	**137**	*e*P	**P**	**02 35 14.7**	**+0.3**
WB2				*e*S	**S**	**02 37 37.8**	**-4.6**
NWAO	**Narrogin (SRO)**	**23.62**	**196**	P	**P**	**02 37 18.0**	**+4.1**
STKA	**Stephens Creek**	**26.55**	**147**	*e*P	**P**	**02 37 47.3**	**+5.5**
MJAR	**Matsushiro Arr**	**48.22**	**15**	P	**P**	**02 40 44.6**	**+0.1**
	0.9nm,0.3s,mb4.3,baz=188,slow=8.6,SNR=4.0						
SONM	**Songino Array**	**60.09**	**346**	P	**P**	**02 42 11.0**	**-0.3**
	1.1nm,0.9s,mb3.9,baz=153,slow=5.5,SNR=6.1						
MKAR	**Makanchi Array**	**68.28**	**330**	P	**P**	**02 43 04.5**	**-0.2**
	1.4nm,0.5s,mb4.3,baz=130,slow=7.4,SNR=30						
MKAR	**Makanchi Array**	**68.28**	**330**	P	**P**	**02 43 04.5**	**-0.2**
BVAR	**Borovoye Array**	**78.16**	**330**	P	**P**	**02 44 02.7**	**+0.2**
	0.7nm,0.8s,mb3.6,baz=135,slow=6.1,SNR=3.4						
ZRNK	**Zerenda**	**78.81**	**329**	*e*P	**P**	**02 44 05.3**	**-0.8**
	3.8nm,1.2s,mb4.2						
LPAZ	**La Paz**	**150.69**	**154**	PKPbc	PKPdf	02 52 01.9	+13
	1.5nm,0.7s,baz=169,slow=5.2,SNR=4.0						
LPAZ	**La Paz**	**150.69**	**154**	*e*PKPbc	PKPdf	02 52 01.5	+13

NEIC 18 02:32:27.5, 18.82N×155.43W, h30km, ML3.8(HVO)**, 8C-16D, After HVO., Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
HPO	**Honuapo**	**0.29**	**337**	*e*P	Pb	02 32 33.9	-0.9
PPL	**Puu Pili**	**0.34**	**355**	⇓*e*P	Pb	02 32 34.5	-1.0
WOH	**Wood Valley**	**0.44**	**351**	⇑*i*P	Pb	02 32 35.8	-1.2
OVEH	**Oceanview Est**	**0.46**	**317**	⇓*e*P	Pb	02 32 36.0	-1.3
HLP	**Hilina Pali**	**0.49**	**14**	⇓*i*P	Pb	02 32 36.7	-1.1
PWH	**Poliokeawe Pal**	**0.50**	**23**	⇓*i*P	Pb	02 32 36.6	-1.4
DES	**Desert**	**0.52**	**5**	⇑*i*P	Pb	02 32 36.7	-1.5
KNH	**Kipuka Nene**	**0.53**	**15**	⇓*i*P	Pb	02 32 37.0	-1.4
AIN	**Ainahou**	**0.56**	**357**	⇓*i*P	Pb	02 32 37.6	-1.2
AIN				*e*S	Sb	02 32 44.8	-1.7
AHA	**Ahua**	**0.58**	**16**	⇑*e*P	Pb	02 32 37.3	-1.8
AHA				*e*S	Sb	02 32 44.9	-2.2
DAH	**Dandelion**	**0.58**	**338**	⇓*e*P	Pb	02 32 37.6	-1.6
CPK	**Cone Peak**	**0.58**	**10**	⇓*i*P	Pb	02 32 37.4	-1.8
PUH	**Pauahi**	**0.59**	**20**	⇑*i*P	Pb	02 32 37.5	-1.9
PUH				*e*S	Sb	02 32 45.0	-2.6
RCO	**Red Cone**	**0.61**	**342**	⇓*i*P	Pb	02 32 38.0	-1.8
UWE	**Uwekahuna**	**0.62**	**12**	⇓*e*P	Pb	02 32 37.8	-2.0
UWE				*e*S	Sb	02 32 45.6	-2.6
SWH	**Southwest Rift**	**0.65**	**346**	⇓*i*P	Pb	02 32 38.5	-1.9
WIH	**Wilkes Camp**	**0.66**	**348**	⇓*e*P	Pb	02 32 38.7	-1.8
WIH				*e*S	Sb	02 32 47.4	-2.2
MLH	**Mauna Loa**	**0.68**	**4**	⇓*i*P	Pb	02 32 39.0	-1.8
MLH				*e*S	Sb	02 32 47.4	-2.5
MWH	**Mokuaweoweo**	**0.69**	**347**	⇓*e*P	Pb	02 32 39.0	-1.9
PLL	**Puu Ulaula**	**0.71**	**358**	⇓*i*P	Pb	02 32 39.5	-1.9
KIH	**Kanekii**	**0.76**	**336**	⇑*i*P	Pb	02 32 40.4	-1.7
KIH				*e*S	Sb	02 32 49.8	-2.3
HMH	**Humuula**	**0.79**	**356**	⇑*i*P	Pn	02 32 40.7	-1.9
HMH				*e*S	Sb	02 32 50.4	-2.5
HUH	**Hualalai**	**0.95**	**336**	⇓*e*P	Pn	02 32 42.8	-2.0
HPU	**Hale Pohaku**	**0.96**	**359**	⇑*e*P	Pn	02 32 42.8	-2.2
KKH	**Kailua Kona**	**1.00**	**327**	*e*P	Pn	02 32 42.9	-2.7
KOH	**Kohala**	**1.34**	**346**	⇑*e*P	Pn	02 32 47.5	-3.0
KOH				*e*S	Sn	02 33 02.0	-5.5
HKL	**Haleakala**	**2.04**	**338**	*e*P	Pn	02 32 57.3	-3.2
KIP	**Kipapa**	**3.55**	**317**	*e*P	Pn	02 33 17.2	-4.8

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*ATH **18** 02:36:29.0, 37.71N×26.85E, h21km±4km, MD3.1/3*
*ISK **18** 02:36:30.5, 37.85N×26.74E, h28km, MD3.2*
*CSEM **18** 02:36:30.0±0.1, 37.80N×26.77E, h15km, MD3.1, Error ellipse: s-maj=1.9km s-min=1.4km az=96.0*
ISC 18 02:36:30.2±0.9**, 37.78N**±0.03×**26.75E**±0.05**, h8**km±6km**, n16, σ1ˢ10**/24**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
SMG	**Samos**	**0.10**	**134**	⇑*i*PB	**Pb**	**02 36 33.2**	**-0.7**
SMG				*e*SB	**Sb**	**02 36 35.0**	**-1.3**
BLCB	**Balcova**	**0.65**	**21**	PG	**Pg**	**02 36 42.7**	**-0.6**
IZM	**Izmir**	**0.74**	**33**	PG	**Pg**	**02 36 44.5**	**-0.6**
BODT	**Bodrum**	**0.84**	**148**	PG	**Pg**	**02 36 47.6**	**+0.6**
BODT				SG	**Sg**	**02 36 59.7**	**+1.4**
BDRM	**Kayabasi**	**0.90**	**142**	*i* P	**Pb**	**02 36 49.2**	**+1.5**
BDRM				*i* S	**Sb**	**02 37 00.1**	**+0.5**
AYDN	**Tasoluk**	**0.90**	**97**	*i* P	**Pb**	**02 36 47.2**	**-0.6**
AYDN				*i* S	**Sb**	**02 36 59.0**	**-0.7**
MLSB	**Milas**	**0.95**	**120**	PG	**Pg**	**02 36 48.9**	**-0.3**
APE	**Apeiranthos**	**1.20**	**234**	PN	**Pn**	**02 36 52.6**	**-0.7**
APE	**Apeiranthos**	**1.20**	**234**	*e*PN	**Pn**	**02 36 52.8**	**-0.5**
APE				*e*SN	**Sn**	**02 37 09.5**	**-0.4**
YER	**Yerkesik**	**1.38**	**117**	PN	**Pn**	**02 36 55.6**	**-0.3**
AKS	**Akhisar**	**1.38**	**37**	*e*PN	**Pn**	**02 36 53.6**	**-2.3**
PRK	**Paraskevi**	**1.52**	**346**	*e*PN	**Pn**	**02 36 57.7**	**-0.1**
PRK				*e*SN	**Sn**	**02 37 19.8**	**+1.9**
MANT	**Manisa**	**1.59**	**63**	*i* P	**Pn**	**02 37 00.8**	**+1.9**
MANT				*i* S	**Sb**	**02 37 20.3**	**+0.5**
DNZL	**Cakiroluk**	**1.82**	**92**	*i* P	**Pn**	**02 37 04.7**	**+2.5**
DNZL				*i* S	**Sn**	**02 37 30.8**	**+5.0**
FETY	**Fethiye**	**2.18**	**121**	*e*PN	**Pn**	**02 37 07.0**	**-0.4**
ELL	**Elmali**	**2.72**	**111**	*e*PN	**Pn**	**02 37 14.0**	**-1.1**

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*IDC **18** 02:42:43.5±2.1, 3.50N×95.24E, mb3.9/6, mb1 4.0/6, mb1mx3.7/19, mbtmp3.9/6, Error ellipse: s-maj=89.3km s-min=27.1km az=55.0*
*NEIC **18** 02:42:47.7±1.3, 3.43N×95.13E, h30km, Error ellipse: s-maj=32.2km s-min=17.5km az=208.0*
ISC 18 02:42:46.0±1.5**, 3.5N**±0.2×**95.2E**±0.2**, h30**km**, n7, σ0ˢ71**/7**, mb3.8**/6**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
KULM	**Kulim**	**5.76**	**71**	*e*P	**Pn**	**02 44 12.1**	**+0.3**
MKAR	**Makanchi Array**	**44.60**	**347**	P	**P**	**02 50 58.1**	**+0.8**
	0.7nm,0.4s,mb3.8,baz=162,slow=8.3,SNR=12						
WRA	**Warramunga Arr**	**44.95**	**123**	P	**P**	**02 51 00.5**	**-0.1**
	0.7nm,0.7s,mb3.6,baz=301,slow=9.5,SNR=4.5						
SONM	**Songino Array**	**45.26**	**11**	P	**P**	**02 51 01.1**	**-1.5**
	0.4nm,0.4s,mb3.6,baz=184,slow=8.3,SNR=6.0						
ZAL	**Zalesovo**	**51.04**	**352**	P	**P**	**02 51 47.9**	**+0.5**
	1.6nm,0.4s,mb4.3,baz=262,slow=4.2,SNR=4.4						
FINES	**FINESS Array B**	**77.08**	**333**	P	**P**	**02 54 37.4**	**-0.5**
	1.0nm,0.7s,mb3.8,baz=90,slow=5.6,SNR=4.0						
ARCES	**ARCESS Array B**	**79.75**	**340**	P	**P**	**02 54 52.9**	**+0.5**
	1.1nm,0.8s,mb3.8,baz=106,slow=6.6,SNR=5.7						

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*IDC **18** 02:43:39.8±0.6, 19.63N×146.08E, mb4.3/13, mb1 4.5/13, mb1mx4.2/21, mbtmp4.3/13, Error ellipse: s-maj=25.7km s-min=16.4km az=89.0*
*NEIC **18** 02:43:48.3±1.2, 19.59N×146.08E, h64km±11km, mb5.0/3, Error ellipse: s-maj=15.7km s-min=9.0km az=94.0*
ISC 18 02:43:46.8±1.8**, 19.58N**±0.09×**146.0E**±0.2**, h66**km±16km**, n28, σ0ˢ82**/24**, mb4.3**/16**, 1C, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
SARN	**Sarigan**	**2.88**	**184**	⇑*e*P	**P**	**02 44 31.0**	**-0.4**
SAPN	**Saipan**	**4.35**	**183**	*e*P	**P**	**02 44 51.6**	**-0.4**
GUMO	**Guam**	**6.06**	**191**	*e*P	**P**	**02 45 17.2**	**+1.5**
	127nm,0.6s						
PMG	**Port Moresby**	**28.83**	**178**	*e*P	**P**	**02 49 40.3**	**-0.9**
WRAB	**Tennant Creek**	**40.90**	**197**	*e*P	**P**	**02 51 24.5**	**+0.3**
	14nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**40.91**	**197**	*e*P	**P**	**02 51 25.0**	**+0.7**
WRA	**Warramunga Arr**	**40.91**	**197**	P	**P**	**02 51 24.3**	**-0.1**
	5.6nm,0.6s,mb4.6,baz=11,slow=8.3,SNR=34						
FITZ	**Fitzroy Crossi**	**42.45**	**209**	*e*P	**P**	**02 51 36.8**	**-0.3**
	19nm,0.7s,mb4.9						
DZM	**Mont Dzumac**	**45.97**	**153**	P	**P**	**02 52 04.5**	**-0.9**
	3.5nm,0.6s,mb4.3,baz=30,slow=12,SNR=3.8						
STKA	**Stephens Creek**	**51.34**	**185**	P	**P**	**02 52 46.6**	**-0.1**
	1.5nm,0.5s,mb4.3,baz=59,slow=5.0,SNR=6.8						
ZAL	**Zalesovo**	**57.50**	**322**	P	**P**	**02 53 29.9**	**-1.5**
	2.2nm,0.3s,mb4.7,baz=38,slow=2.9,SNR=3.5						
ZAL	**Zalesovo**	**57.50**	**322**	P	**P**	**02 53 29.9**	**-1.5**
KLBR	**Kellerberrin**	**57.65**	**209**	*e*P	**P**	**02 53 33.1**	**+0.3**
	26nm,1.3s,mb5.1						
MKAR	**Makanchi Array**	**58.06**	**313**	P	**P**	**02 53 35.3**	**-0.1**
	1.4nm,0.7s,mb4.1,baz=96,slow=8.9,SNR=10.0						
NWAO	**Narrogin (SRO)**	**59.01**	**208**	P	**P**	**02 53 42.0**	**-0.2**
	7.1nm,0.7s,mb4.8,baz=54,slow=9.1,SNR=3.6						
NWAO	**Narrogin (SRO)**	**59.01**	**208**	P	**P**	**02 53 42.0**	**-0.2**
ILAR	**Eielson Array**	**62.73**	**26**	P	**P**	**02 54 05.3**	**-1.6**
	1.4nm,0.9s,mb3.9,baz=264,slow=5.5,SNR=16						
BVAR	**Borovoye Array**	**65.98**	**320**	P	**P**	**02 54 28.0**	**-0.2**
	3.4nm,0.5s,mb4.5,baz=89,slow=8.0,SNR=20						
YKA	**Yellowknife Ar**	**77.08**	**28**	P	**P**	**02 55 34.5**	**+0.3**
	2.0nm,0.6s,mb4.0,baz=289,slow=5.6,SNR=9.9						
YKA	**Yellowknife Ar**	**77.08**	**28**	P	**P**	**02 55 34.5**	**+0.3**
TAOE	**Nuku Hiva Isla**	**77.98**	**104**	*e*LR	LR	02 54 43.4	
	3μm,22.8s						
YBH	**Yreka Blue Hor**	**78.16**	**50**	P	**P**	**02 55 41.8**	**+1.2**
	1.5nm,0.8s,mb3.8,baz=185,slow=3.6,SNR=3.3						
ARCES	**ARCESS Array B**	**81.74**	**342**	P	**P**	**02 56 00.9**	**+1.7**
	1.9nm,0.7s,mb4.0,baz=68,slow=6.5,SNR=5.5						
FINES	**FINESS Array B**	**86.20**	**335**	P	**P**	**02 56 22.1**	**+0.4**
	0.6nm,0.3s,mb4.0,baz=117,slow=4.3,SNR=9.3						
PDAR	**Pinedale Array**	**87.00**	**46**	P	**P**	**02 56 26.6**	**+0.5**
	0.5nm,0.7s,mb3.6,baz=243,slow=3.3,SNR=5.0						
CFAA	**Coronel Fontan**	**147.02**	**118**	PKPbc	PKPdf	03 03 23.2	+2.9
	0.3nm,0.8s,baz=282,slow=3.2,SNR=3.7						
LPAZ	**La Paz**	**147.39**	**90**	PKPbc	PKPdf	03 03 26.9	+5.6
	1.6nm,0.6s,baz=295,slow=3.1,SNR=10						
LPAZ	**La Paz**	**147.39**	**90**	*e*PKPbc	PKPdf	03 03 26.7	+5.4

KRSC 18 02:54:15.0±0.7**, 56.03N**×**164.80E, h37**km±6km**, ML4.0, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
BKI	**Bering**	**1.06**	**141**	*i* P	P	02 54 33.6	0.0
BKI				*i* S	S	02 54 47.4	0.0
BKI				Smax			
	2μm,0.6s						
KBTR	**Krutoberegovo**	**1.12**	**280**	*i* P	P	02 54 33.4	-1.0
KBTR				*e*S	S	02 54 47.9	-1.0
MKZ	**Mys Kozlova**	**2.29**	**231**	*e*P	P	02 54 50.6	-0.6
MKZ				*e*S	S	02 55 17.2	-1.3
KLY	**Klyuchi**	**2.34**	**279**	*e*P	P	02 54 51.0	-0.8
KLY				*e*S	S	02 55 17.3	-2.3
KRSR	**Krestovskiy**	**2.38**	**276**	*e*P	P	02 54 52.8	+0.4
KRSR				*e*S	S	02 55 20.2	-0.4
KPT	**Kopyto**	**2.57**	**270**	*i* P	P	02 54 56.5	+1.3
KPT				*e*S	S	02 55 26.9	+1.3
KMNR	**Kamenistaya**	**2.58**	**266**	*i* P	P	02 54 57.1	+1.7
KMNR				*e*S	S	02 55 26.5	+0.6
TUMR	**Tumrok**	**2.74**	**256**	*i* P	P	02 54 59.1	+1.5
TUMR				*e*S	S	02 55 31.2	+1.4
KOZ	**Kozyrevsk**	**2.76**	**273**	*i* P	P	02 54 59.8	+1.9
KOZ				*e*S	S	02 55 31.8	+1.4
SRDR	**Sredinnyy**	**2.86**	**278**	*i* P	P	02 55 00.5	+1.3
SRDR				*e*S	S	02 55 33.7	+0.9
ESO	**Esso**	**3.43**	**271**	*e*P	P	02 55 08.1	+0.7
SPN	**Mys Shipunski**	**4.04**	**225**	*e*P	P	02 55 14.9	-1.2
SPN				*e*S	S	02 55 59.5	-3.4
NLC	**Nalytchevo**	**4.27**	**230**	*e*P	P	02 55 19.1	-0.3
NLC				*e*S	S	02 56 05.7	-3.0
SDLR	**Sedlovina**	**4.41**	**234**	*i* P	P	02 55 21.7	+0.5
SMAR	**Somma**	**4.45**	**234**	*e*P	P	02 55 22.2	+0.3
UGLR	**Uglovaya**	**4.48**	**233**	*i* P	P	02 55 22.8	+0.5
AVH	**Avacha**	**4.48**	**234**	*e*P	P	02 55 22.7	+0.4
AVH				*e*S	S	02 56 12.0	-1.9
KOK	**Koryaka**	**4.51**	**235**	*i* P	P	02 55 23.2	+0.5
GNL	**Ganaly**	**4.60**	**242**	*e*P	P	02 55 24.9	+0.9
GNL				*e*S	S	02 56 15.6	-1.3
RUS	**Russkaya**	**5.16**	**228**	*e*P	P	02 55 31.7	-0.1
RUS				*e*S	S	02 56 27.1	-3.8
APC	**Apacha**	**5.43**	**238**	*e*P	P	02 55 35.8	+0.1
APC				*e*S	S	02 56 34.6	-3.3

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*IDC **18** 02:56:48.7±0.7, 9.96S×124.43E, mb4.3/8, mb1 4.4/8, mb1mx4.2/14, mbtmp4.3/8, MS4.3/4, Ms1 4.3/4, ms1mx3.8/26, Error ellipse: s-maj=36.5km s-min=16.1km az=74.0*
*NEIC **18** 02:56:49.9±0.3, 10.01S×124.41E, h10km, mb4.7/9, Error ellipse: s-maj=11.0km s-min=6.8km az=63.0*
ISC 18 02:56:48.8±0.4**, 10.33S**±0.05×**124.59E**±0.10**, h33**km**, n35, σ1ˢ13**/39**, mb4.5**/14**, MS4.2**/4**, Timor region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.80**	**173**	*e*P	**P**	**02 58 44.4**	**+1.8**
	107nm,0.4s						
FITZ				*e*S	**S**	**03 00 09.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**7.80**	**173**	Pn	**Pn**	**02 58 44.5**	**+1.7**
	48nm,0.3s,baz=3.3,slow=8.8,SNR=135						
FITZ				Sn	**Sn**	**03 00 09.4**	**-1.5**
	32nm,0.3s,baz=191,slow=5.6,SNR=13						
KAKA	**Kakadu**	**8.05**	**108**	*e*P	**P**	**02 58 48.9**	**+2.7**
	19nm,0.3s						
MBWA	**Marble Bar**	**11.74**	**203**	*e*P	**P**	**02 59 39.1**	**+2.2**
	20nm,1.0s						
MBWA				*e*S	**S**	**03 01 42.5**	**-5.3**
WRA	**Warramunga Arr**	**13.41**	**137**	Pn	**P**	**02 59 58.3**	**-1.0**
	1.4nm,0.3s,baz=311,slow=13,SNR=31						
WRA				Sn	**S**	**03 02 22.1**	**-6.0**
	1.3nm,0.3s,baz=315,slow=26,SNR=5.0						
WRAB	**Tennant Creek**	**13.41**	**137**	*e*P	**P**	**02 59 58.8**	**-0.5**
	44nm,1.0s						
WRAB				*e*S	**S**	**03 02 20.5**	**-7.7**
WB2	**Warramunga Arr**	**13.42**	**137**	*e*P	**P**	**02 59 58.8**	**-0.6**
WB2				*e*S	**S**	**03 02 23.0**	**-5.4**
KKM	**Kota Kinabalu**	**18.27**	**333**	*e*P	**P**	**03 01 00.3**	**-1.4**
KLBR	**Kellerberrin**	**22.09**	**196**	*e*P	**P**	**03 01 49.1**	**+6.4**
	40nm,1.2s,mb4.7						
CTA	**Charters Tower**	**23.03**	**117**	*e*P	**P**	**03 01 58.7**	**+6.5**
	11nm,1.1s,mb4.2						
CTA	**Charters Tower**	**23.03**	**117**	P	**P**	**03 01 58.5**	**+6.4**
	13nm,1.0s,mb4.3,baz=324,slow=7.8,SNR=4.7						
CTA				LR	LR	03 09 35.5	
	comp=Z,372nm,20.6s,MS3.8,baz=54,slow=33						
CTAO	**Charters Tower**	**23.03**	**117**	*e*P	**P**	**03 01 58.5**	**+6.3**
	25nm,1.2s,mb4.5						
NWAO	**Narrogin (SRO)**	**23.49**	**196**	P	**P**	**03 02 02.5**	**+6.0**
	5.2nm,0.5s,mb4.2,baz=8.1,slow=11,SNR=5.9						
NWAO				S	**S**	**03 06 16.8**	**+12**
	4.2nm,0.6s,baz=249,slow=19,SNR=2.1						
NWAO	**Narrogin (SRO)**	**23.49**	**196**	*e*P	**P**	**03 02 02.0**	**+5.5**
NWAO				S	**S**	**03 06 16.8**	**+12**
STKA	**Stephens Creek**	**26.60**	**146**	*e*P	**P**	**03 02 31.2**	**+5.0**
	7.1nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**26.60**	**146**	P	**P**	**03 02 31.1**	**+4.9**
	12nm,1.1s,mb4.3,baz=323,slow=7.5,SNR=7.2						
STKA				LR	LR	03 13 52.8	
	comp=Z,744nm,20.2s,MS4.2,baz=26,slow=38						
MAT	**Matsushiro**	**48.35**	**15**	*e*P	**P**	**03 05 30.0**	**+0.6**
	5.0nm,1.0s,mb4.5						
MAT	**Matsushiro**	**48.35**	**15**	P	**P**	**03 05 29.7**	**+0.3**
MJAR	**Matsushiro Arr**	**48.35**	**15**	P	**P**	**03 05 30.0**	**+0.6**
	1.7nm,0.4s,mb4.4,baz=195,slow=9.3,SNR=9.3						
MJAR	**Matsushiro Arr**	**48.35**	**15**	P	**P**	**03 05 30.0**	**+0.6**
PKI	**Pulchoki**	**53.48**	**316**	*e*P	**P**	**03 06 08.5**	**+0.1**
	12nm,0.5s,mb5.1						
KKN	**Kakani**	**53.70**	**316**	*e*P	**P**	**03 06 09.3**	**-0.8**
DMN	**Daman**	**53.71**	**316**	*e*P	**P**	**03 06 10.6**	**+0.5**
GKN	**Gorkha**	**54.28**	**316**	*e*P	**P**	**03 06 12.7**	**-1.6**
	23nm,0.9s,mb5.1						
URZ	**Urewera**	**54.47**	**130**	LR	LR	03 30 07.3	
	comp=Z,276nm,18.5s,MS4.4,baz=95,slow=36						
KOLN	**Koldanda**	**54.85**	**315**	*e*P	**P**	**03 06 18.5**	**0.0**
	18nm,0.9s,mb5.1						
SONM	**Songino Array**	**60.12**	**346**	P	**P**	**03 06 54.7**	**-0.6**
	2.8nm,1.1s,mb4.2,baz=169,slow=6.3,SNR=12						
MKAR	**Makanchi Array**	**68.24**	**330**	P	**P**	**03 07 48.5**	**+0.1**
	1.6nm,0.4s,mb4.4,baz=134,slow=6.8,SNR=26						
VNDA	**Vanda**	**69.87**	**172**	P	**P**	**03 08 03.2**	**+5.4**
	1.5nm,1.1s,mb3.8,baz=316,slow=5.7,SNR=3.2						
VNDA				LR	LR	03 36 42.3	
	comp=Z,284nm,18.2s,MS4.6,baz=247,slow=34						
ZAL	**Zalesovo**	**72.33**	**337**	P	**P**	**03 08 14.1**	**+1.1**
	1.4nm,0.4s,mb4.2,baz=18,slow=2.6,SNR=6.7						
ZRNK	**Zerenda**	**78.77**	**329**	*e*P	**P**	**03 08 49.5**	**-0.2**
	7.4nm,1.2s,mb4.5						
SNAA	**Sanae**	**91.16**	**195**	P	**P**	**03 09 57.6**	**+6.4**
	baz=130,slow=9.2						
LVC	**Limon Verde**	**144.69**	**158**	PKPbc	PKPbc	03 16 29.4	+6.6
	3.7nm,0.8s,baz=284,slow=9.2,SNR=3.6						
LPAZ	**La Paz**	**150.72**	**154**	PKPbc	PKPdf	03 16 46.6	+14
	0.8nm,0.4s,baz=129,slow=5.4,SNR=8.1						
LPAZ	**La Paz**	**150.72**	**154**	*e*PKPbc	PKPdf	03 16 46.0	+13

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*NEIC **18** 03:04:34.9±0.7, 6.78N×72.98W, h164km±8km, mb3.8/4, Error ellipse: s-maj=12.2km s-min=10.1km az=130.0*
*IDC **18** 03:04:34.3±0.8, 6.68N×72.93W, h160km±12km, mb3.7/3, mb1 3.8/6, mb1mx3.4/22, mbtmp4.3/6, MS3.1/2, Ms1 3.1/2, ms1mx2.8/26, Error ellipse: s-maj=48.3km s-min=7.4km az=132.0*
ISC 18 03:04:33.7±0.7**, 6.74N**±0.09×**72.96W**±0.09**, h170**km±8km**, n14, σ0ˢ63**/16**, mb3.8**/6**, 1C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
ROSC	**El Rosal**	**2.32**	**216**	P	**P**	**03 05 15.3**	**+1.1**
	187nm,0.3s,baz=286,slow=11,SNR=368						
ROSC				S	**S**	**03 05 44.5**	**-0.8**
	274nm,0.3s,baz=81,slow=20,SNR=16						
SDV	**Santo Domingo**	**3.14**	**47**	P	**P**	**03 05 25.4**	**+1.1**
	18nm,0.3s,baz=252,slow=12,SNR=96						
SDV				S	**S**	**03 06 03.0**	**-0.1**
	106nm,0.3s,baz=83,slow=21,SNR=44						
SDV				LR	LR	03 06 25.5	
	comp=Z,220nm,19.7s,baz=32,slow=35						
SDV	**Santo Domingo**	**3.14**	**47**	⇑*e*P	**P**	**03 05 25.0**	**+0.7**
SDV				*e*S	**S**	**03 06 02.5**	**-0.7**
SDV				LR	LR	03 06 25.5	
JTS	**JuntasAbangare**	**12.38**	**287**	*e*Pn	**P**	**03 07 25.4**	**+0.2**
JTS				*e*P		03 07 31.7	
SJG	**San Juan**	**13.11**	**30**	P	**P**	**03 07 33.8**	**-0.7**
	2.9nm,0.3s,baz=228,slow=7.3,SNR=6.6						
SJG				LR	LR	03 12 15.2	
	comp=Z,110nm,20.9s,baz=273,slow=35						
SJG	**San Juan**	**13.11**	**30**	*e*Pn	**P**	**03 07 33.6**	**-0.8**
SJG				LR	LR	03 12 15.2	
SAML	**Samuel**	**18.38**	**148**	*e*P	**P**	**03 08 38.1**	**-0.2**
	6.0nm,1.4s						
LTX	**Lajitas**	**36.64**	**312**	*e*P	**P**	**03 11 25.1**	**-0.5**
	1.7nm,0.7s,mb3.8						
MNTX	**Cornudas Mount**	**39.15**	**314**	*e*P	**P**	**03 11 45.9**	**-0.6**
	1.5nm,0.6s,mb3.8						
SDCO	**Great Sand Dun**	**42.72**	**321**	*e*P	**P**	**03 12 16.2**	**+0.6**
	0.8nm,0.6s,mb3.5						
SCHQ	**Schefferville**	**48.21**	**5**	P	**P**	**03 12 59.1**	**+0.3**
	2.7nm,0.5s,mb4.1,baz=185,slow=8.2,SNR=12						
PDAR	**Pinedale Array**	**48.24**	**324**	P	**P**	**03 12 58.9**	**-0.4**
	0.4nm,0.5s,mb3.3,baz=119,slow=8.4,SNR=4.2						
BBB	**Bella Bella**	**63.82**	**326**	P	**P**	**03 14 50.5**	**+0.6**
	5.6nm,0.7s,mb4.5,baz=131,slow=9.3,SNR=2.8						
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	PKPdf	03 24 07.2	+6.9
	0.6nm,0.3s,baz=105,slow=2.9,SNR=12						

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*THR **18** 03:14:46.8±0.4, 29.22N×51.55E, h18km±12km, ML3.7*
*IDC **18** 03:14:48.0±5.4, 29.39N×51.91E, mb3.9/9, mb1 4.0/10, mb1mx3.7/24, mbtmp3.8/10, ML3.3/1, Error ellipse: s-maj=111.7km s-min=29.3km az=0.0*
*CSEM **18** 03:14:49.8±0.1, 29.39N×51.91E, h25km, mb4.4/4, Error ellipse: s-maj=3.3km s-min=2.0km az=174.0*
*NEIC **18** 03:14:50.8±2.6, 29.31N×51.81E, h23km±20km, mb4.4/5, ML3.7(THR), Error ellipse: s-maj=14.3km s-min=8.5km az=211.0*
NEIC Felt in the Kazerun area.
*MOS **18** 03:14:50.1±0.7, 29.24N×51.67E, h33km, mb4.3/4, Error ellipse: s-maj=35.7km s-min=17.0km az=107.4*
*TEH **18** 03:14:52.9, 29.35N×52.12E, h18km, Mn3.5*
ISC 18 03:14:50.3±1.0**, 29.41N**±0.04×**51.88E**±0.03**, h23**km±9km**, n50, σ1ˢ05**/57**, mb4.0**/13**, 5C-2D, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
SHI	**Shiraz**	**0.59**	**67**	Pg	**Pb**	**03 15 01.3**	**-0.7**
IMOK	**Mook**	**0.81**	**116**	Pg	**Pb**	**03 15 04.0**	**-1.7**
ISRV	**Sarvestan**	**1.07**	**91**	Pg	**Pn**	**03 15 10.6**	**+0.5**
IPAR	**Pars**	**1.10**	**67**	Pg	**Pn**	**03 15 10.6**	**+0.1**
GHIR	**Ghir-Karzin**	**1.48**	**139**	*e*Pg	**Pn**	**03 15 15.0**	**-0.9**
GHIR				*e*Sg	**Sn**	**03 15 36.0**	**+1.3**
GHIR	**Ghir-Karzin**	**1.48**	**139**	*e*PG	**Pn**	**03 15 15.8**	**-0.1**
GHIR				*e*SG	**Sn**	**03 15 36.7**	**+2.0**
GHIR				AML	AML	03 15 49.6	
	comp=N,625nm,0.5s						
GHIR	**Ghir-Karzin**	**1.48**	**139**	*e*Pg	**Pn**	**03 15 15.8**	**-0.1**
	SNR=92						
GHIR				*e*Sg	**Sn**	**03 15 36.0**	**+1.3**
IGAR	**Garneh**	**2.84**	**5**	Pn	**Pn**	**03 15 39.8**	**+4.5**
IMEH	**Mehriz**	**3.07**	**49**	Pn	**Pn**	**03 15 38.8**	**+0.1**
NASN	**Na'in**	**3.47**	**13**	*e*PN	**Pn**	**03 15 46.0**	**+1.7**
NASN	**Na'in**	**3.47**	**13**	*e*Pn	**Pn**	**03 15 45.0**	**+0.7**
IZEF	**Zefreh**	**3.50**	**6**	Pn	**Pn**	**03 15 47.0**	**+2.4**
QRN	**Al-Qurain**	**3.54**	**260**	*e*P	**Pn**	**03 15 45.2**	**0.0**
QRN				AML	AML	03 16 29.3	
	comp=Z,106nm,0.5s						
ICHK	**Chekchek**	**3.56**	**37**	Pn	**Pn**	**03 15 45.8**	**+0.2**
KBD	**Kabd**	**3.67**	**267**	*e*P	**Pn**	**03 15 47.7**	**+0.7**
KBD				*e*S	**Sn**	**03 16 31.5**	**+1.4**
KBD				AML	AML	03 16 37.0	
	comp=Z,218nm,0.5s						
SHGO	**Shushtar**	**3.78**	**316**	*e*PN	**Pn**	**03 15 45.4**	**-3.2**
SHGO				AML	AML	03 16 43.1	
	comp=N,149nm,0.7s						
RDF	**Al-Radifah**	**3.82**	**264**	*e*P	**Pn**	**03 15 49.1**	**-0.1**
RDF				*e*S	**Sn**	**03 16 34.5**	**+0.5**
RDF				AML	AML	03 16 38.8	
	comp=Z,73nm,0.4s						
IBAF	**Bafgh**	**3.85**	**55**	Pn	**Pn**	**03 15 49.4**	**-0.3**
IKLH	**Kalahroud**	**3.91**	**356**	Pn	**Pn**	**03 15 52.1**	**+1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIB	Mutribah	3.98	277	eP	Pn	03 15 51.1	-0.4
MIB				eS	Sn	03 16 39.3	+1.4
MIB				AML	AML	03 16 59.2	
	comp=Z,50nm,0.5s						
NAY	Al-Naaiem	4.06	269	eP	Pn	03 15 53.1	+0.5
NAY				eS	Sn	03 16 39.7	-0.3
NAY				AML	AML	03 16 58.6	
	comp=Z,43nm,0.6s						
KRBR	Kerman	4.28	81	ePN	Pn	03 15 57.8	+2.0
KRBR	Kerman	4.28	81	ePn	Pn	03 15 57.0	+1.2
ASAO	Ashtian	5.36	343	ePn	Pn	03 16 09.0	-2.1
ASAO	Ashtian	5.36	343	ePN	Pn	03 16 09.9	-1.2
IVRN	Varamin	5.57	359	Pn	Pn	03 16 15.5	+1.5
IDMV	Damavand	6.15	1	Pn	Pn	03 16 23.2	+1.0
DAMV	Damavand	6.20	1	ePN	Pn	03 16 23.0	+0.1
MALT	Malatya	14.26	312	P	P	03 18 12.4	-0.6
BRTR	Keskin Array B	18.18	309	P	P	03 19 02.7	-0.3
	comp=Z,0.1nm,0.3s,baz=135,slow=12,SNR=7.2						
MLR	Muntele Rosu	25.95	315	P	P	03 20 24.0	+1.3
	comp=Z,4.1nm,0.7s,mb4.1,baz=60,slow=3.9,SNR=11						
BVAR	Borovoye Array	27.23	25	P	P	03 20 34.7	+0.4
	comp=Z,0.6nm,0.4s,mb3.5,baz=211,slow=8.4,SNR=3.2						
MKAR	Makanchi Array	29.31	45	P	P	03 20 52.8	-0.4
	comp=Z,0.2nm,0.4s,mb3.2,baz=233,slow=7.2,SNR=2.9						
KBA	Koelnbreinsper	34.60	311⇑	iP	P	03 21 38.6	-1.0
	comp=Z,2.3nm,0.6s,mb4.3						
KBA	Koelnbreinsper	34.60	311⇑	iP	P	03 21 38.6	-1.0
KBA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
SQTA	Sankt Quirin	36.05	311⇓	iP	P	03 21 50.4	-1.4
	comp=Z,3.6nm,0.6s,mb4.5						
SQTA	Sankt Quirin	36.05	311⇓	iP	P	03 21 50.4	-1.4
SQTA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
MOTA	Moosalm	36.15	311⇑	iP	P	03 21 51.2	-1.5
	comp=Z,4.3nm,0.9s,mb4.4						
MOTA	Moosalm	36.15	311⇑	iP	P	03 21 51.2	-1.5
MOTA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
FINES	FINESS Array B	36.30	339	P	P	03 21 53.1	-0.7
	comp=Z,1.0nm,0.7s,mb3.9,baz=150,slow=11,SNR=3.5						
DAVOX	Davos	36.82	310	P	P	03 21 58.7	+0.3
	comp=Z,2.3nm,0.8s,mb4.0,baz=107,slow=11,SNR=4.4						
DAVOS	Davos	36.89	310	P	P	03 21 58.7	-0.2
DAVA	Damuels	36.94	311⇑	iP	P	03 21 57.7	-1.6
	comp=Z,6.3nm,0.6s,mb4.6						
HFS	Hagfors	39.99	331	P	P	03 22 23.4	-1.3
	comp=Z,1.8nm,0.5s,mb4.0,baz=121,slow=8.6,SNR=13						
NB2	NORSAR Subarra	41.51	331	P	P	03 22 35.4	-1.6
	comp=Z,0.6nm,0.6s,mb3.4,baz=123,slow=8.6						
NB2	NORSAR Subarra	41.51	331	P	P	03 22 35.4	-1.6
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
NOA	NORSAR Array B	41.51	331	P	P	03 22 35.4	-1.6
	comp=Z,0.8nm,0.6s,mb3.5,baz=122,slow=8.4,SNR=6.7						
NOA	NORSAR Array B	41.51	331	P	P	03 22 35.4	-1.6
ARCES	ARCESS Array B	42.92	347	P	P	03 22 48.0	-0.5
	comp=Z,1.9nm,0.8s,mb3.9,baz=149,slow=7.1,SNR=7.4						
ILAR	Eielson Array	84.99	8	P	P	03 27 24.2	-0.3
	comp=Z,0.5nm,0.9s,mb3.6,baz=325,slow=3.9,SNR=5.9						

*IDC **18** 03:17:29.4±3.2, 1.84N×96.95E, mb3.8/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.8/5, Error ellipse: s-maj=132.7km s-min=26.6km az=55.0*
*NEIC **18** 03:17:33.8±1.2, 1.82N×96.94E, h30km, Error ellipse: s-maj=25.5km s-min=18.8km az=223.0*
ISC 18 03:17:31.8±1.6, **1.8N**±0.2×**96.9E**±0.2, **h30**km, **n6**, σ**0s68**/6, **mb3.8**/5, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.06	47	eP	Pn	03 18 47.6	-0.1
WRA	Warramunga Arr	42.61	122	P	P	03 25 27.5	0.0
	0.2nm,0.4s,mb3.2,baz=301,slow=9.0,SNR=3.3						
SONM	Songino Array	46.55	9	P	P	03 25 58.6	0.0
	0.3nm,0.4s,mb3.6,baz=184,slow=9.4,SNR=4.6						
MKAR	Makanchi Array	46.56	346	P	P	03 25 59.2	+0.5
	0.7nm,0.7s,mb3.7,baz=172,slow=8.6,SNR=6.3						
ZAL	Zalesovo	52.88	351	P	P	03 26 47.6	+0.5
	2.8nm,0.4s,mb4.5,baz=111,slow=1.8,SNR=7.3						
BVAR	Borovoye Array	55.56	341	P	P	03 27 05.8	-0.9
	0.8nm,0.5s,mb4.0,baz=135,slow=8.2,SNR=5.8						

*NEIC **18** 03:18:30.5±0.9, 20.02S×69.04W, h96km±9km, mb3.7/2, Error ellipse: s-maj=13.3km s-min=8.9km az=77.0*
*IDC **18** 03:18:33.5±1.5, 20.08S×68.87W, h119km±13km, mb3.6/7, mb1 3.8/11, mb1mx3.7/18, mbtmp4.1/11, MS3.2/1, Ms1 3.2/1, ms1mx3.1/34, Error ellipse: s-maj=21.1km s-min=12.0km az=91.0*
ISC 18 03:18:29.6±0.7, **19.99S**±0.05×**69.00W**±0.06, **h103**km±8km, **n24**, σ**1s09**/29, **mb3.9**/6, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.61	178	P	P	03 19 12.5	+1.4
	82nm,0.3s,baz=342,slow=9.8,SNR=511						
LVC				S	S	03 19 41.6	-0.7
	85nm,0.3s,baz=328,slow=5.9,SNR=22						
LVC				LR	LR	03 20 00.3	
	comp=Z,467nm,19.9s,baz=228,slow=34						
LVC	Limon Verde	2.61	178	ePn	P	03 19 10.9	-0.2
LVC				eS	S	03 19 36.4	-5.8
LVC				S	S	03 19 41.6	-0.7
LVC				LR	LR	03 20 00.3	
LPAZ	La Paz	3.77	13	P	P	03 19 33.0	+6.1
	18nm,0.3s,baz=200,slow=6.9,SNR=399						
LPAZ				S	S	03 20 17.2	+6.6
	1.5nm,0.3s,baz=230,slow=15,SNR=3.6						
LPAZ	La Paz	3.77	13	ePn	P	03 19 33.1	+6.1
LPAZ				S	S	03 20 17.2	+6.6
ARE	Arequipa	4.23	326	eP	P	03 19 33.0	-0.2
ARE				eS	S	03 20 22.0	+0.1
SIV	San Ignacio	8.52	63	P	P	03 20 32.7	+1.0
	7.9nm,0.3s,baz=258,slow=11,SNR=249						
SIV				S	S	03 22 06.2	-0.7
	baz=294,slow=19,SNR=2.7						
SAML	Samuel	12.33	28	ePn	P	03 21 22.8	+0.1
	4.0nm,0.6s						
CPUP	Villa Florida	12.45	123	P	P	03 21 23.9	-0.3
	0.2nm,0.3s,baz=321,slow=11,SNR=6.9						
CPUP	Villa Florida	12.45	123	eP	P	03 21 24.0	-0.2
TRQA	Tornquist	19.01	163	eP	P	03 22 42.3	-3.4
BDFB	Brasilia	20.43	81	P	P	03 23 01.5	+0.7
	3.1nm,0.6s,baz=265,slow=14,SNR=8.2						
PLCA	Paso Flores	20.72	183	P	P	03 23 05.2	+1.7
	2.3nm,0.9s,slow=12,SNR=4.8						
PLCA	Paso Flores	20.72	183	eP	P	03 23 05.0	+1.5
	1.9nm,0.8s						
ELN	Prospectdale	57.98	349	eP	P	03 28 14.4	+0.7
WVT	Waverly	58.59	342	eP	P	03 28 15.7	-2.3
MNTX	Cornudas Mount	62.12	325	eP	P	03 28 40.2	-1.8
	0.5nm,0.4s,mb3.9						
SNAA	Sanae	63.73	161	P	P	03 28 51.4	-0.6
	0.6nm,0.7s,mb3.5,baz=277,slow=9.1,SNR=6.4						
DBIC	Dimbokro	68.39	74	P	P	03 29 22.4	-0.2
	4.1nm,0.8s,mb4.3,baz=224,slow=7.9,SNR=7.3						
DBIC				pP	pP	03 29 50.4	+1.6
	5.8nm,1.0s,baz=86,slow=7.8,SNR=2.4						
DBIC	Dimbokro	68.39	74	P	P	03 29 22.4	-0.2
DBIC				pP	pP	03 29 50.4	+1.6
PDAR	Pinedale Array	72.77	330	P	P	03 29 49.4	+0.9
	0.2nm,0.3s,mb3.4,baz=146,slow=5.3,SNR=3.9						
SCHQ	Schefferville	74.54	1	P	P	03 29 58.6	+0.1
	1.3nm,0.7s,mb3.8,baz=163,slow=11,SNR=4.1						
YKA	Yellowknife Ar	89.74	341	P	P	03 31 18.5	+1.6
	3.1nm,0.7s,mb4.6,baz=132,slow=4.8,SNR=20						
MKAR	Makanchi Array	144.45	35	PKP	PKPdf	03 37 55.1	+1.5
	1.0nm,0.5s,baz=309,slow=3.1,SNR=12						
SONM	Songino Array	151.97	7	PKPbc	PKPdf	03 38 15.3	+10
	1.1nm,0.4s,baz=295,slow=1.1,SNR=9.1						

*IDC **18** 03:21:56.8±7.4, 9.52N×123.17E, h112km±67km, mb3.8/14, mb1 3.9/14, mb1mx3.8/21, mbtmp4.1/14, Error ellipse: s-maj=41.4km s-min=15.3km az=68.0*
*NEIC **18** 03:21:57.9±5.1, 9.49N×123.10E, h121km±47km, mb4.5/5, Error ellipse: s-maj=23.1km s-min=10.4km az=70.0*
*MAN **18** 03:22:02, 9.59N×122.94E, h130km, mb4.8, ML3.7, MS3.7*
ISC 18 03:22:00.3±0.4, **9.52N**±0.04×**122.94E**±0.06, **h151**km±3km, **n42**, σ**1s02**/48, **mb3.9**/19, **3C-2D, Negros**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.34	121⇑	eP	P	03 22 21.7	+0.2
SNPH				iS	S	03 22 37.7	0.0
TBP	Tagbilaran	0.92	79⇓	eP	P	03 22 25.4	+0.8
TBP				eS	S	03 22 42.0	-1.5
LLP	Lapu-Lapu	1.28	52⇓	eP	P	03 22 28.2	+0.2
LLP				eS	S	03 22 47.2	-2.1
AAP	Anini-y	1.33	312	iP	P	03 22 29.0	+0.5
AAP	Anini-y	1.33	312	eP	P	03 22 47.0	+18
AAP				iS	S	03 22 50.5	+0.2
PAGZ	Pagadian	1.71	165	eP	P	03 22 33.8	+1.2
PAGZ				eS	S	03 22 57.0	-0.4
MSLP	Maasin	1.98	72	eP	P	03 22 36.8	+1.2
CGP	Cagayan de Oro	2.03	121⇑	eP	P	03 22 36.7	+0.7
CGP				eS	S	03 23 03.1	-0.5
RCP	Roxas	2.04	355⇑	eP	P	03 22 36.2	-0.1
RCP				iS	S	03 23 02.8	-1.1
CUYO	Cuyo Island	2.31	305	eP	P	03 22 39.4	-0.3
PLP	Palo	2.59	51	eP	P	03 22 43.4	+0.3
BUKP	Musuan	2.65	128	eP	P	03 22 46.3	+2.4
OTRP	Odiongan	2.97	342	eP	P	03 22 46.7	-1.2
BESP	Borongan	3.21	50	eP	P	03 22 52.0	+1.0
CNP	Catarman	3.42	29	eP	P	03 22 54.9	+1.1
SJMP	San Jose	3.43	329	eP	P	03 22 54.3	+0.4
LUBP	Lubang	4.95	328	eP	P	03 23 17.2	+3.3
FITZ	Fitzroy Crossi	27.57	174	P	P	03 27 33.5	-1.9
	2.7nm,0.8s,mb4.0,baz=1.2,slow=9.7,SNR=4.9						
MBWA	Marble Bar	30.65	186	eP	P	03 28 01.3	-1.6
WRA	Warramunga Arr	31.35	159	P	P	03 28 04.9	-4.1
	1.1nm,0.3s,mb4.1,baz=333,slow=11,SNR=17						
SONM	Songino Array	40.67	343	P	P	03 29 27.2	0.0
	0.6nm,0.5s,mb3.5,baz=164,slow=9.0,SNR=5.5						
STKA	Stephens Creek	44.86	157	P	P	03 30 00.3	-1.1
	0.9nm,0.3s,mb3.9,baz=342,slow=8.6,SNR=5.8						
STKA	Stephens Creek	44.86	157	eP	P	03 30 00.2	-1.2
MKAR	Makanchi Array	50.69	325	P	P	03 30 47.0	+0.7
	1.7nm,0.5s,mb3.9,baz=127,slow=8.4,SNR=27						
MKAR				PcP	PcP	03 32 01.1	-0.5
	1.1nm,0.5s,baz=115,slow=3.6,SNR=9.2						
KURK	Kurchatov	54.87	327	eP	P	03 31 17.1	-0.1
	4.7nm,0.6s,mb4.4						
BVAR	Borovoye Array	60.45	327	P	P	03 31 54.0	-2.2
	0.9nm,0.6s,mb3.8,baz=131,slow=12,SNR=5.5						
BVAR				PcP	PcP	03 32 38.3	-0.8
	0.4nm,0.5s,baz=162,slow=4.6,SNR=2.5						
ZRNK	Zerenda	61.18	326	eP	P	03 32 00.5	-0.7
	2.0nm,0.5s,mb4.2						
IMA	Indian Mountai	78.67	24	P	P	03 33 47.4	+0.6
	13nm,1.2s,mb4.4						
ILAR	Eielson Array	81.54	26	P	P	03 34 01.4	-0.7
	0.6nm,0.8s,mb3.2,baz=251,slow=4.3,SNR=7.6						
BRTR	Keskin Array B	83.47	309	P	P	03 34 13.1	+0.6
	0.6nm,0.6s,mb3.5,baz=104,slow=5.1,SNR=4.9						
ARCES	ARCESS Array B	83.75	339	P	P	03 34 13.7	+0.5
	1.7nm,0.5s,mb4.0,baz=81,slow=6.6,SNR=23						
KAF	Kangasniemi	84.76	332	ep	P	03 34 17.9	-0.5
	1.1nm,0.5s,mb3.8,baz=76,slow=4.6						
FINES	FINESS Array B	84.99	331	P	P	03 34 19.8	+0.3
	1.1nm,0.4s,mb3.9,baz=96,slow=4.4,SNR=23						
AKASG	Malin Array Be	85.06	320	P	P	03 34 20.1	-0.1
	1.7nm,0.5s,mb4.0,baz=72,slow=4.1,SNR=9.3						
KMBO	Kilima Mbogo	85.94	268	P	P	03 34 27.2	+1.8
	1.4nm,1.0s,mb3.6,baz=221,slow=18,SNR=3.9						
KMBO	Kilima Mbogo	85.94	268	P	P	03 34 27.2	+1.8
INK	Inuvik	86.18	21	eP	P	03 34 25.5	+0.3
	12nm,1.3s,mb4.5						
MLR	Muntele Rosu	88.15	316	P	P	03 34 36.0	+0.8
	1.6nm,0.6s,mb4.0,baz=261,slow=10,SNR=4.1						
NB2	NORSAR Subarra	91.96	333	P	P	03 34 52.1	-0.6
	0.5nm,0.5s,mb3.8,baz=65,slow=4.5						
NOA	NORSAR Array B	91.96	333	P	P	03 34 52.2	-0.5
	0.7nm,0.6s,mb3.9,baz=65,slow=4.8,SNR=4.3						
NOA	NORSAR Array B	91.96	333	P	P	03 34 52.2	-0.5
PLCA	Paso Flores	146.69	161	PKPbc	PKPbc	03 41 26.3	+2.1
	1.7nm,0.8s,baz=217,slow=16,SNR=4.2						

*ISK **18** 03:31:45.7, 39.80N×26.52E, h16km, MD3.3*
*CSEM **18** 03:31:45.4±0.1, 39.82N×26.54E, h12km, MD3.2, Error ellipse: s-maj=1.5km s-min=1.3km az=148.0*
*ATH **18** 03:31:46.0, 39.82N×26.48E, h3km, MD3.2/5*
*NEIC **18** 03:31:46.0, 39.82N×26.48E, h3km, MD3.2(ATH), MD2.9(ISK), After ATH.*
ISC 18 03:31:45.2±0.6, **39.81N**±0.03×**26.49E**±0.04, **h6**km±6km, **n24**, σ**0s91**/31, **2C, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CANB	Canakkale	0.49	64	iPG	Pg	03 31 55.5	+0.5
CANB				iSG	Sg	03 32 02.7	+1.2
AYVA	Ayvalik	0.52	163	iP	Pg	03 31 56.0	+0.4
AYVA				iS	Sg	03 32 02.5	-0.1
PRK	Paraskevi	0.58	197⇑	iPG	Pg	03 31 56.9	0.0
PRK				eSG	Sg	03 32 05.7	+1.0
LIA	Limnos Island	1.01	276	ePG	Pg	03 32 05.7	+0.3
LIA				eSG	Sg	03 32 19.0	+0.1
BALB	Balikesir	1.08	98	PG	Pg	03 32 06.0	-0.8
MFT	Murefte	1.15	31	PN	Pn	03 32 07.3	-0.5
MRMT	Marmara Adasi	1.16	46	PN	Pn	03 32 07.0	-1.0
BTOK	Tokmak	1.19	92	iP	Pb	03 32 08.7	+0.9
BTOK				iS	Sb	03 32 23.4	+0.2
BNT	Bandirma	1.23	63	PN	Pn	03 32 08.4	-0.5
AKS	Akhisar	1.38	132	PN	Pn	03 32 10.6	-0.5
BLCB	Balcova	1.48	163	ePN	Pn	03 32 11.9	-0.7
RDO	Rodhopi	1.52	332⇑	iPB	Pb	03 32 14.5	+1.0
RDO				eSB	Sb	03 32 34.7	+1.7
IZM	Izmir	1.53	157	PN	Pn	03 32 13.1	-0.1
DST	Dursunbey	1.66	96	PN	Pn	03 32 14.6	-0.5
ORLT	Orhaneli	1.86	82	PN	Pn	03 32 17.9	-0.1
CTT	Catalca	2.00	47	PN	Pn	03 32 19.5	-0.4
EDRB	Edirne	2.05	5	ePN	Pn	03 32 20.4	-0.2
MANT	Manisa	2.08	129	iP	Pn	03 32 23.7	+2.6
MANT				iS	Sn	03 32 49.8	+2.3
SMG	Samos	2.11	173	ePG	Pg	03 32 25.6	-1.8
ISK	Istanbul-Kandi	2.33	56	ePN	Pn	03 32 24.2	-0.5
YLV	Yalova	2.33	70	ePN	Pn	03 32 24.3	-0.5
NVR	Nevrokopi	2.53	308	ePB	Pb	03 32 29.1	-1.6
HRT	Hereke	2.63	66	ePN	Pn	03 32 28.5	-0.5
ESKT	Eskisehir	3.38	93	ePN	Pn	03 32 39.1	-0.5

*CSEM **18** 03:37:26.6±0.6, 31.24N×56.29E, h0km±4km, ML3.3, Error ellipse: s-maj=3.8km s-min=3.2km az=113.0*
*THR **18** 03:37:27.7±0.3, 31.26N×56.43E, h14km±5km, ML3.3*
*TEH **18** 03:37:31.8, 31.35N×56.11E, h10km, Mn3.3*
ISC 18 03:37:28.0±0.6, **31.28N**±0.05×**56.34E**±0.06, **h10**km, **n27**, σ**1s08**/24, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IBAF	Bafgh	0.73	295	Pg	Pg	03 37 41.1	-1.5
KRBR	Kerman	1.34	164	ePG	Pn	03 37 51.9	-1.0
KRBR				AML	AML	03 38 11.9	
	comp=N,576nm,0.2s						
IMEH	Mehriz	1.48	275	Pg	Pn	03 37 55.0	+0.2
ICHK	Chekchek	1.90	301	Pn	Pn	03 38 01.9	+1.0
IPAR	Pars	3.18	244	Pn	Pn	03 38 24.1	+5.0
NASN	Na'in	3.36	298	ePN	Pn	03 38 23.2	+1.6
ISRV	Sarvestan	3.37	237	Pn	Pn	03 38 23.4	+1.6
IGAR	Garneh	3.65	286	Pn	Pn	03 38 26.4	+0.6
IZEF	Zefreh	3.76	296	Pn	Pn	03 38 26.5	-0.9
IMOK	Mook	3.84	236	Pn	Pn	03 38 29.3	+0.8
BNDS	Bandar-Abbas	3.87	182	ePN	Pn	03 38 28.8	-0.1
BNDS				AML	AML	03 39 40.6	
	comp=N,40nm,0.6s						
ZHSF	Zahedan	4.18	112	ePn	Pn	03 38 32.1	-1.2
IKLH	Kalahroud	4.51	298	Pn	Pn	03 38 36.8	-1.2
IANJ	Anjiloo	4.64	335	Pn	Pn	03 38 39.8	-0.1
ILAS	Lasjerd	4.97	326	Pn	Pg	03 39 04.0	-3.3
ISHM	Shahmirzad	5.18	331	Pn	Pn	03 38 47.9	+0.4
IFIR	Firoozkooh	5.28	326	Pn	Pn	03 38 48.1	-0.8
IFIR	Firoozkooh	5.28	326	Lg		03 40 12.0	
IVRN	Varamin	5.36	315	Pn	Pn	03 38 48.3	-1.6
IVRN	Varamin	5.36	315	Lg		03 40 12.7	
IMOG	Moghan	5.43	27	Pn	Pn	03 38 53.0	+2.0
IDMV	Damavand	5.59	321	Pn	Pn	03 38 53.4	+0.1
IPAY	Payeh	5.61	23	Pn	Pn	03 38 54.0	+0.4
IKRD	Kardeh	5.77	18	Pn	Pn	03 39 00.7	+4.9
IMYA	Miamay	5.94	31	Pn	Pn	03 38 58.6	+0.4
ASAO	Ashtian	6.23	303	ePN	Pn	03 39 02.8	+0.5
IRAZ	Razeghan	6.76	309	Lg		03 40 57.0	

*IGIL **18** 03:40:58.7, 37.05N×4.92W, h2km, ML3.0*
*NEIC **18** 03:40:58.5±0.9, 37.00N×5.15W, h6km±9km, MN2.7(MDD), Error ellipse: s-maj=11.8km s-min=6.6km az=187.0*
*MDD **18** 03:41:00.3±0.2, 36.95N×5.07W, h3km±3km, mbLg2.8/24, Error ellipse: s-maj=2.6km s-min=2.1km az=22.0, PRXIMO*
*CSEM **18** 03:41:00.2±0.1, 36.93N×5.09W, h10km, ML3.2/16, Error ellipse: s-maj=1.8km s-min=1.3km az=1.0*
*INMG **18** 03:41:00.6±1.4, 36.95N×5.05W, h4km±2km, ML2.8, Error ellipse: s-maj=2.2km s-min=1.6km az=37.0*
*SFS **18** 03:41:01.0, 36.92N×4.99W, h17km*
*LDG **18** 03:41:03.4±0.8, 36.99N×5.01W, h10km, Md3.7/1, Ml3.3/2, Error ellipse: s-maj=21.9km s-min=6.3km az=173.0*
ISC 18 03:40:58.7±0.3, **37.07N**±0.02×**5.03W**±0.02, **h5**km±2km, **n93**, σ**1s41**/172, **Spain**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIJA	Lijar	0.34	242	P	Pg	03 41 04.6	-1.0
LIJA				S	Sg	03 41 16.8	+6.5
LIJA	Lijar	0.34	242	eP	Pg	03 41 04.6	-1.0
LIJA				iS	Sg	03 41 16.8	+6.6
EMIJ	Mijas	0.54	158	Pg	Pg	03 41 08.8	-0.8
	14nm,0.3s,SNR=49						
EMIJ				Lg		03 41 14.7	
	1µm,0.5s,SNR=10						
REAL	Reales	0.60	194	P	Pg	03 41 11.6	+0.9
REAL				S	Sg	03 41 19.5	+0.8
REAL	Reales	0.60	194	iP	Pg	03 41 11.6	+0.9
REAL				eS	Sg	03 41 19.5	+0.8
ESPR	Espera	0.69	254	Pg	Pg	03 41 11.9	-0.7
ESPR				Lg		03 41 30.1	
ESPR	Espera	0.69	254	Pg	Pg	03 41 11.9	-0.7
	53nm,0.4s,SNR=28						
ESPR				Lg		03 41 23.0	
	474nm,0.7s,SNR=10						
ESPR	Espera	0.69	254	Pg	Pg	03 41 11.9	-0.7
	53nm,0.4s,SNR=28						
ESPR				Lg		03 41 30.1	
	474nm,0.7s,SNR=10						
ELOJ	Sierra Loja	0.70	83	Pg	Pg	03 41 14.4	+1.6
	23nm,0.2s,SNR=22						
ELOJ				Lg		03 41 24.8	
	251nm,0.5s,SNR=15						
ALJ	Aljibe	0.73	223	P	Pg	03 41 18.1	+4.7
ALJ				S	Sg	03 41 30.0	+6.8
GIBL	Gibalbin	0.79	253	P	Pb	03 41 19.3	+4.8
GIBL				S	Sg	03 41 32.0	+6.9
ERON	Agron	0.98	92	Pg	Pg	03 41 19.2	+0.9
	29nm,0.3s,SNR=21						
ERON				Lg		03 41 31.9	
	127nm,0.6s,SNR=23						
ECAB	El Cabril	1.05	343	Pg	Pg	03 41 18.7	-1.1
	47nm,0.4s,SNR=35						
ECAB				Pg	Pg	03 41 22.2	+2.3
	SNR=7.9						
ECAB				Lg		03 41 37.2	
	174nm,0.4s,SNR=9.1						
ECAB	El Cabril	1.05	343	Pg	Pg	03 41 22.2	+2.4
	SNR=7.9						
ECAB				Lg		03 41 37.2	
	174nm,0.4s,SNR=9.1						
EADA	Adamuz	1.16	18	Pn	Pn	03 41 20.1	-1.4
	4.5nm,0.3s,SNR=35						
EADA				Pg	Pg	03 41 24.1	+2.2
	25nm,0.3s,SNR=9.2						
EADA				Sn	Sn	03 41 40.1	+2.3
	19nm,0.2s,SNR=7.9						
EADA				Lg		03 41 41.7	
	149nm,0.4s,SNR=5.4						
EADA	Adamuz	1.16	18	Pn	Pn	03 41 20.1	-1.4
	44nm,0.4s,SNR=35						
EADA	Adamuz	1.16	18	Pg	Pg	03 41 24.1	+2.2
	25nm,0.3s,SNR=9.2						
EADA				Sn	Sn	03 41 40.1	+2.3
	19nm,0.2s,SNR=7.9						
ECOG	Cogollos-Vega	1.19	79	Pn	Pn	03 41 20.2	-1.7
ECOG				Pg	Pg	03 41 23.1	+0.7
ECOG				Lg		03 41 40.7	
ECOG	Cogollos-Vega	1.19	79	Pn	Pn	03 41 20.1	-1.7
	2.8nm,0.2s,SNR=7.9						
ECOG				Pg	Pg	03 41 23.1	+0.7
	36nm,0.2s,SNR=15						
ECOG				Lg		03 41 40.7	
	57nm,0.2s,SNR=9.2						
ECOG	Cogollos-Vega	1.19	79	Pn	Pn	03 41 20.2	-1.7
	2.8nm,0.2s,SNR=7.9						
EGUA	Guajares	1.19	101	Pg	Pg	03 41 22.3	-0.3
	1.1nm,0.4s,SNR=7.9						
EGUA				Lg		03 41 38.1	
	20nm,0.5s,SNR=7.9						
EBAN	Banos Encina	1.48	42	Pn	Pn	03 41 24.6	-1.5
EBAN				Pg	Pg	03 41 29.8	+1.6
EBAN				Sn	Sn	03 41 48.5	+2.6
EBAN	Banos Encina	1.48	42	Pn	Pn	03 41 23.7	-2.3
	3.4nm,0.2s,SNR=12						
EBAN				Pg	Pg	03 41 29.5	+1.3
	21nm,0.2s,SNR=56						
EBAN				Sn	Sn	03 41 48.5	+2.6
	192nm,0.3s,SNR=24						
EBAN	Banos Encina	1.48	42	Pn	Pn	03 41 24.6	-1.4
	4.6nm,0.3s,SNR=12						
EBAN	Banos Encina	1.48	42	Pg	Pg	03 41 29.8	+1.6
	65nm,0.4s,SNR=56						
EBAN				Sn	Sn	03 41 48.5	+2.6
	192nm,0.3s,SNR=24						
EMIN	Mina Concepcio	1.49	299	Pn	Pn	03 41 23.7	-2.4
	0.4nm,0.1s,SNR=19						
EMIN				Pg	Pg	03 41 27.4	-1.0
	16nm,0.4s,SNR=16						
EMIN				Sn	Sn	03 41 46.1	0.0
	13nm,0.4s,SNR=6.1						
EMIN				Lg		03 41 49.2	
	56nm,0.3s,SNR=14						
EMIN	Mina Concepcio	1.49	299	Sn	Sn	03 41 46.1	0.0
	13nm,0.4s,SNR=6.1						
EMIN	Mina Concepcio	1.49	299	Pn	Pn	03 41 23.8	-2.4
EMIN	Mina Concepcio	1.49	299	Pg	Pg	03 41 27.4	-1.0
	16nm,0.4s,SNR=16						
EBER	Berja	1.72	95	Pg	Pg	03 41 32.0	-1.1
	32nm,0.4s,SNR=34						
EBER				Sn	Sn	03 41 52.7	+0.6
	23nm,0.3s,SNR=5.2						
EBER				Lg		03 41 56.7	
	109nm,0.9s,SNR=7.7						
EBER	Berja	1.72	95	Pg	Pg	03 41 32.0	-1.1
	30nm,0.3s,SNR=34						
EBER				Sn	Sn	03 41 52.7	+0.6
	73nm,0.7s,SNR=5.2						
EQES	Quesada	1.72	64	Pn	Pn	03 41 28.5	-1.1
EQES				Pg	Pg	03 41 33.6	+0.5
EQES				Sn	Sn	03 41 53.6	+1.4
EQES				Lg		03 41 58.2	
EQES	Quesada	1.72	64	Pn	Pn	03 41 27.2	-2.4
	1.6nm,0.1s,SNR=28						
EQES				Pg	Pg	03 41 33.6	+0.5
	42nm,0.6s,SNR=6.0						
EQES				Sn	Sn	03 41 53.6	+1.4
	11nm,0.2s,SNR=6.0						
EQES				Lg		03 41 58.2	
	117nm,0.4s,SNR=13						
EQES	Quesada	1.72	64	Pn	Pn	03 41 28.5	-1.1
	28nm,0.6s,SNR=28						
EQES	Quesada	1.72	64	Pg	Pg	03 41 33.6	+0.5
	42nm,0.6s,SNR=6.0						
EQES				Sn	Sn	03 41 53.6	+1.5
	49nm,0.3s,SNR=6.0						
EALB	Alboran	1.96	124	Sn	Sn	03 41 57.1	-1.0
	57nm,0.7s,SNR=7.9						
EALB	Alboran	1.96	124	Sn	Sn	03 41 57.1	-1.1
	57nm,0.7s,SNR=7.9						
EGRO	El Granado	2.01	284	Pn	Pn	03 41 31.1	-2.6
EGRO				Pg	Pg	03 41 35.7	-3.3
EGRO				Sn	Sn	03 41 59.7	+0.1
EGRO				Lg		03 42 05.8	
EGRO	El Granado	2.01	284	Pn	Pn	03 41 30.7	-3.1
	0.2nm,0.1s,SNR=9.5						
EGRO				Pg	Pg	03 41 35.7	-3.3
	8.3nm,0.3s,SNR=9.4						
EGRO				Sn	Sn	03 41 59.7	+0.1
	4.8nm,0.2s,SNR=6.0						
EGRO				Lg		03 42 05.5	
	43nm,0.3s,SNR=6.0						
EGRO	El Granado	2.01	284	Sn	Sn	03 41 59.7	+0.2
	16nm,0.4s,SNR=6.0						

EGRO	El Granado	2.01	284	Pn	Pn	03 41 31.1	-2.6
	5.6nm,0.3s,SNR=9.5						
EGRO	El Granado	2.01	284	Pg	Pg	03 41 35.7	-3.3
	8.3nm,0.3s,SNR=9.4						
EHUE	Huescar	2.08	68	Pn	Pn	03 41 35.1	+0.5
	0.8nm,0.2s,SNR=7.9						
EHUE				Pg	Pg	03 41 39.0	-1.2
	5.9nm,0.2s,SNR=7.9						
EHUE				Sn	Sn	03 42 02.9	+1.7
	4.4nm,0.2s,SNR=10						
EHUE				Lg		03 42 08.5	
	25nm,0.3s,SNR=12						
EHUE	Huescar	2.08	68	Pg	Pg	03 41 39.0	-1.2
	5.9nm,0.2s,SNR=7.9						
EHUE				Sn	Sn	03 42 02.9	+1.7
	17nm,0.4s,SNR=10						
ENIJ	Nijar	2.26	92	Pn	Pn	03 41 37.7	+0.5
	3.4nm,0.4s,SNR=7.9						
ENIJ				Pg	Pg	03 41 42.2	-1.7
	11nm,0.4s,SNR=7.9						
ENIJ				Sn	Sn	03 42 05.0	-0.8
	6.4nm,0.3s,SNR=7.9						
ENIJ				Lg		03 42 13.9	
	14nm,0.4s,SNR=4.9						
ENIJ	Nijar	2.26	92	Pg	Pg	03 41 42.2	-1.7
	11nm,0.4s,SNR=7.9						
ENIJ				Sn	Sn	03 42 05.0	-0.8
	SNR=7.9						
EBAD	Badajoz	2.31	318	Pn	Pn	03 41 35.3	-2.7
	0.4nm,0.1s,SNR=9.3						
EBAD				Pg	Pg	03 41 40.2	-4.5
	1.5nm,0.1s,SNR=14						
EBAD				Sn	Sn	03 42 07.7	+0.7
	9.4nm,0.4s,SNR=5.1						
EBAD				Lg		03 42 16.9	
	39nm,0.6s,SNR=4.7						
EBAD	Badajoz	2.31	318	Pn	Pn	03 41 35.2	-2.7
EBAD	Badajoz	2.31	318	Pg	Pg	03 41 40.2	-4.6
	6.4nm,0.3s,SNR=14						
EBAD				Sn	Sn	03 42 07.7	+0.7
	4.2nm,0.4s,SNR=5.1						
PBEJ	Beja	2.45	294	eSg	Sg	03 42 20.5	+0.1
	26nm,0.3s						
EVIA	Vianos	2.54	51	Pn	Pn	03 41 42.6	+1.3
	0.2nm,0.2s,SNR=7.9						
EVIA				Pg	Pg	03 41 48.8	-0.7
	26nm,0.4s,SNR=17						
EVIA				Sn	Sn	03 42 14.4	+1.5
	8.2nm,0.2s,SNR=4.9						
EVIA				Lg		03 42 25.0	
	40nm,0.4s,SNR=5.5						
EVIA	Vianos	2.54	51	Pg	Pg	03 41 48.8	-0.7
	26nm,0.4s,SNR=17						
EVIA				Sn	Sn	03 42 14.4	+1.4
	41nm,0.5s,SNR=4.9						
ESDC	Sonseca Array	2.74	17	Pn	Pn	03 41 46.6	+2.5
	1.1nm,0.2s,baz=196,slow=12,SNR=8.1						
ESDC				Pg	Pg	03 41 53.6	+0.3
	1.1nm,0.2s,baz=199,slow=17,SNR=18						
ESDC				Lg		03 42 30.9	
	1.6nm,0.6s,baz=198,slow=27,SNR=9.5						
ESDC	Sonseca Array	2.74	17	Pn	Pn	03 41 46.6	+2.5
	1.1nm,0.2s,SNR=8.1						
ESDC	Sonseca Array	2.74	17	Pg	Pg	03 41 53.6	+0.2
	1.1nm,0.2s,SNR=18						
ESLA	Sonseca Array	2.74	17	ePn	Pn	03 41 47.0	+2.9
ESLA				ePg	Pg	03 41 55.0	+1.7
ESLA				eSg	Sg	03 42 33.0	+3.2
ESLA	Sonseca Array	2.74	17	ePn	Pn	03 41 47.0	+2.9
ESLA	Sonseca Array	2.74	17	ePg	Pg	03 41 55.0	+1.6
EVO	Evora	2.78	303	ePn	Pn	03 41 48.0	+3.3
EVO				ePg	Pg	03 41 55.7	+1.4
EVO				eSn	Sn	03 42 22.7	+3.6
EVO				eSg	Sg	03 42 34.7	+3.3
	50nm,0.4s						
PTEO	Sao Teotonio	2.99	280	eSn	Sn	03 42 25.9	+1.7
PTEO				eSg	Sg	03 42 38.5	+0.3
	30nm,0.4s						
EMUR	La Murta	3.11	74	Pn	Pn	03 41 49.4	0.0
	1.7nm,0.4s,SNR=5.0						
EMUR				Pg	Pg	03 41 57.2	-3.6
	7.5nm,0.5s,SNR=6.1						
EMUR				Sn	Sn	03 42 26.3	-1.1
	8.8nm,0.5s,SNR=4.6						
EMUR				Lg		03 42 41.4	
	38nm,0.7s,SNR=7.9						
EMUR	La Murta	3.11	74	Pn	Pn	03 41 49.4	0.0
	5.4nm,0.4s,SNR=5.0						
EMUR	La Murta	3.11	74	Pg	Pg	03 41 57.2	-3.7
	7.5nm,0.5s,SNR=6.1						
EMUR				Sn	Sn	03 42 26.3	-1.1
	8.8nm,0.5s,SNR=4.6						
ETOB	Tobarra	3.17	59	Pn	Pn	03 41 51.5	+1.2
ETOB				Pg	Pg	03 41 59.3	-2.8
ETOB				Sn	Sn	03 42 29.0	+0.1
ETOB				Lg		03 42 44.8	
ETOB	Tobarra	3.17	59	Pn	Pn	03 41 51.5	+1.2
	4.6nm,0.7s,SNR=12						
ETOB				Pg	Pg	03 41 59.3	-2.8
	2.1nm,0.4s,SNR=6.1						
ETOB				Sn	Sn	03 42 29.0	+0.1
	5.5nm,0.3s,SNR=4.6						
ETOB				Lg		03 42 42.8	
	55nm,0.7s,SNR=8.8						
ETOB	Tobarra	3.17	59	Pn	Pn	03 41 51.5	+1.2
	4.6nm,0.7s,SNR=12						
ETOB	Tobarra	3.17	59	Pg	Pg	03 41 59.3	-2.8
	2.1nm,0.4s,SNR=6.1						
ETOB				Sn	Sn	03 42 29.0	0.0
	12nm,0.6s,SNR=4.6						
PCBR	Castelo Branco	3.37	326	ePn	Pn	03 41 56.1	+3.0
PCBR				eSn	Sn	03 42 34.5	+0.5
PCBR				eSg	Sg	03 42 52.9	+1.9
	20nm,0.9s						
ALMR	Almeirim	3.49	308	eP	Pn	03 41 53.3	-1.5
ALMR				AML	AML	03 42 31.2	
	comp=E,36nm,0.7s						
ALMR				eS	Sn	03 42 33.0	-4.0
ALMR				eS	Sn	03 42 33.2	-3.8
PTOM	Tomar	3.68	315	ePn	Pn	03 41 59.9	+2.4
PTOM				eSn	Sn	03 42 42.4	+0.5
PTOM				eSg	Sg	03 43 00.1	-1.3
	comp=E,24nm,0.3s						
PLOU	Loures	3.73	300	eSn	Sn	03 42 43.3	+0.2
PLOU				eSg	Sg	03 43 02.3	-0.7
	comp=E,31nm,0.7s						
MTE	Manteigas	3.87	330	eSn	Sn	03 42 46.0	-0.5
MTE				eSg	Sg	03 43 06.3	-1.2
	comp=E,43nm,0.8s						
ECHE	Chera	4.07	50	Pn	Pn	03 42 03.6	+0.6
	comp=E,0.2nm,0.2s,SNR=7.9						
ECHE				Pg	Pg	03 42 15.9	-4.0
	comp=E,5.1nm,0.5s,SNR=6.3						
ECHE				Sn	Sn	03 42 50.1	-1.5
	comp=E,2.3nm,1.0s,SNR=7.9						
ECHE				Lg		03 43 12.7	
	comp=E,9.6nm,0.7s,SNR=7.9						
EBEN	Beniarda	4.14	65	Pn	Pn	03 42 04.4	+0.4
	comp=E,1.0nm,0.2s,SNR=7.9						
EBEN				Pg	Pg	03 42 15.6	-5.7
	comp=E,2.0nm,0.5s,SNR=7.9						
EBEN				Sn	Sn	03 42 51.8	-1.6
	comp=E,0.7nm,0.3s,SNR=7.9						
EBEN				Lg		03 43 14.6	
	comp=E,7.2nm,0.6s,SNR=7.9						
EBEN	Beniarda	4.14	65	Pn	Pn	03 42 04.4	+0.4
	comp=E,1.0nm,0.2s,SNR=7.9						
EBEN	Beniarda	4.14	65	Pg	Pg	03 42 15.6	-5.7
	comp=E,2.0nm,0.5s,SNR=7.9						
EBEN				Sn	Sn	03 42 51.8	-1.5
	comp=E,0.7nm,0.3s,SNR=7.9						
PVIS	Viseu	4.28	329	ePn	Pn	03 42 08.4	+2.4
PVIS				eSn	Sn	03 42 56.5	-0.4
PVIS				eSg	Sg	03 43 21.0	-0.1
	comp=E,12nm,0.4s						
PVRL	Vila Real	4.70	334	eSn	Sn	03 43 07.1	-0.4
PVRL				eSg	Sg	03 43 34.5	-0.5
	comp=E,9.4nm,0.2s						
EMOS	Mosqueruela	4.85	46	Pn	Pn	03 42 15.2	+1.1
	comp=E,0.6nm,0.2s,SNR=7.9						
EMOS				Pg	Pg	03 42 30.5	-5.1
	comp=E,0.9nm,0.5s,SNR=7.9						
EMOS				Sn	Sn	03 43 09.5	-1.9
	comp=E,17nm,1.4s,SNR=7.9						
EMOS				Lg		03 43 38.2	
	comp=E,3.2nm,0.5s,SNR=7.9						
EMOS	Mosqueruela	4.85	46	Pn	Pn	03 42 15.2	+1.1
	comp=E,0.6nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	4.85	46	Pg	Pg	03 42 30.5	-5.1
	comp=E,0.9nm,0.5s,SNR=7.9						
EMOS				Sn	Sn	03 43 09.5	-1.9
	comp=E,17nm,1.4s,SNR=7.9						
PBRG	Braganca	4.92	345	ePn	Pn	03 42 16.6	+1.6
PBRG				eSn	Sn	03 43 12.0	-1.0
PBRG				eSg	Sg	03 43 39.8	-2.6
	comp=E,10.0nm,0.5s						
ECAL	Calabor	5.05	345	Sn	Sn	03 43 14.4	-1.9
	comp=E,3.4nm,0.3s,SNR=4.7						
ECAL				Lg		03 43 44.3	
	comp=E,24nm,0.6s,SNR=7.9						
ECAL	Calabor	5.05	345	Sn	Sn	03 43 14.4	-1.9
	comp=E,17nm,0.7s,SNR=4.7						
ELOB	Lobios	5.34	335	Sn	Sn	03 43 20.5	-3.2
	comp=E,3.9nm,0.5s,SNR=7.3						
ELOB				Lg		03 43 54.7	
	comp=E,12nm,0.7s,SNR=5.6						
ELOB	Lobios	5.34	335	Sn	Sn	03 43 20.5	-3.2
	comp=E,18nm,0.8s,SNR=7.3						
ERUA	La Rua	5.56	344	Sn	Sn	03 43 25.6	-3.8
	comp=E,8.9nm,0.7s,SNR=7.9						
ERUA				Lg		03 44 00.9	
	comp=E,13nm,0.5s,SNR=7.9						
ESAC	San Caprasio	5.84	36	Sn	Sn	03 43 32.7	-3.5
	comp=E,8.0nm,1.0s,SNR=7.9						
ESAC				Lg		03 44 09.7	
	comp=E,0.8nm,0.2s,SNR=7.9						
SJPF	Ste Jean	6.71	25	ePn	Pn	03 42 40.1	-0.2
EALK	Alkurruntz	6.71	23	Pn	Pn	03 42 40.9	+0.5
	comp=E,0.6nm,0.3s,SNR=7.9						
EALK				Lg		03 44 38.2	
	comp=E,3.6nm,1.1s,SNR=7.9						
ETSF	Etsaut	6.76	29	ePn	Pn	03 42 41.3	+0.3
EBIE	Bielsa	6.88	34	Pn	Pn	03 42 42.0	-0.7
	comp=E,0.7nm,0.4s,SNR=7.9						
EPF	Esparros	7.24	33	ePn	Pn	03 42 48.2	+0.4
EPF				eSn	Sn	03 44 06.2	-5.1
	comp=E,5.3nm,0.8s						

*MOS **18** 04:02:48.8±1.0, 34.63N×26.32E, h10km, mb4.6/16, Error ellipse: s-maj=7.4km s-min=3.5km az=114.7*
*BJI **18** 04:02:50.7, 35.10N×26.40E, h8km, mB5.2, mb4.6, Ms4.1, Msz4.0*
*IDC **18** 04:02:50.8±1.3, 34.79N×26.33E, mb3.9/9, mb1 4.0/17, mb1mx3.9/29, mbtmp3.9/17, ML3.7/6, MS3.7/3, Ms1 3.7/3, ms1mx3.2/35, Error ellipse: s-maj=27.6km s-min=14.7km az=10.0*
*ATH **18** 04:02:51.9, 34.95N×26.47E, h13km±2km, MD4.2/14, ML4.3*
*NEIC **18** 04:02:52.7, 35.06N×26.41E, h8km, mb4.2/26, MS3.9/3, ML4.2(ATH), After ATH.*
*ZUR_RM **18** 04:02:52, 35.06N×26.41E, h12km, Mw4.4/9, Moment Tensor Solution. s9 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.77; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$1.87; $M_{r\theta}$-0.73; $M_{\theta\phi}$3.78; $M_{\phi r}$1.24; Best double couple: $M_0$4.36×10^{15} NP1:ϕ_s178°,δ71°, λ-152°. NP2:ϕ_s78°,δ64°,λ-21°. Principal axes: T 4.838, Plg5°, Azm307°; N -.955, Plg57°, Azm209°; P -3.883, Plg33°, Azm40°;*
*CSEM **18** 04:02:53.3±0.1, 34.91N×26.45E, h40km, mb4.4/11, Ms3.7 Error ellipse: s-maj=3.1km s-min=1.6km az=3.0*
*HLW **18** 04:02:54.2, 35.04N×26.65E, h23km, Mb3.8*
*ISK **18** 04:02:57.5, 35.27N×26.41E, h35km, ML4.0*
ISC 18 04:02:50.4±0.2, **34.79N**±0.02×**26.40E**±0.02, **h13**km, **n211**, σ**1§26**/220, **mb4.2**/27, **MS3.8**/3, **8C-5D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	Khrisi	0.58	279	ePG	Pg	04 03 04.0	+1.7
NPS	Neapolis	0.80	307	ePG	Pg	04 03 06.4	-0.1
KARP	Karpathos	0.98	39	ePB	Pb	04 03 07.7	-1.1
IDI	Anoyia	1.33	292	Pg	Pg	04 03 15.5	-1.6
	54nm,0.3s,baz=117,slow=15,SNR=149						
IDI				Lg		04 03 38.5	
	176nm,0.3s,baz=6.8,slow=21,SNR=11						
IDI				LR	LR	04 03 52.2	
	comp=Z,962nm,19.1s,baz=355,slow=48						
THR1	Thera Island	1.75	334	eP	Pn	04 03 21.4	+0.5
SANT	Santorini	1.75	334⇑	ePn	Pn	04 03 20.7	-0.2
SANT				eSn	Sn	04 03 43.6	+0.4
SANT	Santorini	1.75	334⇑	ePn	Pn	04 03 20.7	-0.1
SANT				eSn	Sn	04 03 43.6	+0.4
THR3	Thira Island,	1.81	334	eP	Pn	04 03 22.6	+0.9
GVD	Gavdhos	1.90	272	eP	Pn	04 03 28.3	+5.3
GVD	Gavdhos	1.90	272	eP	Pn	04 03 28.3	+5.4
VAM	Vamos	1.90	290	ePN	Pn	04 03 26.8	+3.8
VAM				eSN	Sn	04 03 52.1	+5.2
NISR	Nisiros	1.92	18	ePN	Pn	04 03 23.5	+0.4
ARG	Arkhangelos	2.01	44	ePG	Pg	04 03 26.4	-4.1
APE	Apeiranthos	2.38	343	PN	Pn	04 03 28.8	-1.0
APE	Apeiranthos	2.38	343c	iP	Pn	04 03 29.5	-0.3
APE	Apeiranthos	2.38	343	ePB	Pb	04 03 30.6	-2.1
APE	Apeiranthos	2.38	343	iP	Pn	04 03 29.5	-0.3
APE	Apeiranthos	2.38	343	ePn	Pn	04 03 30.3	+0.5
BODT	Bodrum	2.39	18	PN	Pn	04 03 29.1	-0.8
BODT				SN	Sn	04 03 51.5	-7.8
BDRM	Kayabasi	2.43	20	iP	Pn	04 03 34.1	+3.6
DALT	Dalyan (Mudla)	2.69	42	PN	Pn	04 03 35.6	+1.4
MLSB	Milas	2.74	24	PN	Pn	04 03 34.7	-0.3
YER	Yerkesik	2.80	33	PN	Pn	04 03 36.0	+0.2
FETY	Fethiye	2.86	49	PN	Pn	04 03 37.0	+0.3
KSL	Kastellorizon	2.94	62	ePn	Pn	04 03 40.5	+2.8
KSL	Kastellorizon	2.94	62	ePN	Pn	04 03 38.5	+0.8
AYDN	Tasoluk	3.11	22	iP	Pn	04 03 34.8	-5.4
KYTH	Kithira	3.12	299	ePN	Pn	04 03 42.0	+1.7
VLI	Veliai	3.41	305	ePN	Pn	04 03 45.7	+1.2
ELL	Elmali	3.46	55	ePN	Pn	04 03 46.7	+1.5
DNZL	Cakiroluk	3.60	36	iP	Pn	04 03 48.7	+1.5
BLCB	Balcova	3.63	8	ePN	Pn	04 03 46.2	-1.4
DENT	Denizli	3.65	35	ePN	Pn	04 03 47.9	+0.1
IZM	Izmir	3.67	11	ePN	Pn	04 03 46.9	-1.3
HMAT	Matruh	3.73	171⇑	eP	Pn	04 03 52.9	+3.9
HMAT				S	Sn	04 04 35.4	+2.1
ATH	Athens Observa	3.84	327	ePN	Pn	04 03 52.5	+1.9
MPAR	Parnis Oros	3.98	328	ePN	Pn	04 03 54.0	+1.4
ANTB	Antalya	4.05	57	ePN	Pn	04 03 55.6	+2.0
MGER	Gerania Oros	4.07	323	ePN	Pn	04 03 55.5	+1.6
MANT	Manisa	4.08	25	iP	Pn	04 03 55.0	+1.0
AKS	Akhisar	4.24	15	ePN	Pn	04 03 55.0	-1.2
KHL	Karahalli	4.33	35	ePN	Pn	04 03 57.5	-0.1
ITM	Ithomi	4.34	305	ePN	Pn	04 04 00.6	+2.9
ISP	Isparta	4.51	46	ePN	Pn	04 04 01.0	+0.9
AYVA	Ayvalik	4.52	3	iP	Pn	04 04 09.6	+9.3
AOS	Alonnisos	4.81	336	eP	Pn	04 04 06.0	+1.6
BALB	Balikesir	4.99	13	ePN	Pn	04 04 05.7	-1.1
DST	Dursunbey	5.13	20	ePN	Pn	04 04 08.1	-0.7
BTOK	Tokmak	5.13	14	iP	Pn	04 04 10.2	+1.3
XOR	Xorichti	5.24	332	eP	Pn	04 04 11.8	+1.4
AGG	Agios Georgios	5.33	324	eP	Pn	04 04 14.4	+2.6
LEF	Lefka	5.34	85	ePN	Pn	04 04 16.5	+4.6
HDMB	Hadim	5.40	65	ePN	Pn	04 04 15.7	+3.0
EVR	Evrytania	5.52	320	ePN	Pn	04 04 16.8	+2.4
SWA1		5.54	186	P	Pn	04 04 18.5	+3.8
SWA1				S	Sn	04 05 20.3	+1.3
PAIG	Paliouri	5.57	338	eP	Pn	04 04 14.6	-0.4
BNT	Bandirma	5.69	12	ePN	Pn	04 04 15.3	-1.4
CSS	Prodhromos	5.70	86	ePn	Pn	04 04 18.6	+1.6
	12nm,0.6s						
OUR	Ouranopolis	5.86	342	eP	Pn	04 04 18.1	-1.0
OUR	Ouranopolis	5.86	342	eP	Pn	04 04 18.1	-1.0
MRMT	Marmara Adasi	5.88	9	ePN	Pn	04 04 18.1	-1.4
ESKT	Eskisehir	5.91	36	ePN	Pn	04 04 19.8	-0.1
KIZT	Kizilcal	6.00	46	ePN	Pn	04 04 21.9	+0.7
MFT	Murefte	6.03	6	ePN	Pn	04 04 20.4	-1.2
ALN	Alexandroupoli	6.11	358	eP	Pn	04 04 20.0	-2.6
LIT	Litokhoron	6.14	331	eP	Pn	04 04 25.0	+1.8
YLV	Yalova	6.23	21	ePN	Pn	04 04 24.0	-0.4
THE	Thessaloniki	6.43	336	eP	Pn	04 04 28.0	+0.7
SOH	Sokhos	6.49	339	eP	Pn	04 04 29.3	+1.3
GLL	Jalalah	6.88	138⇑	eP	Pn	04 04 34.1	+0.6
GRG	Griva	6.92	334	eP	Pn	04 04 35.5	+1.4
KNT	Kendrikon	6.94	338	eP	Pn	04 04 34.7	+0.4
RZN	Rozhen	7.01	350	eP	Pn	04 04 37.0	+1.6
EDRB	Edirne	7.05	2	ePN	Pn	04 04 34.2	-1.8
AMAG	Maghara	7.07	124⇓	eP	Pn	04 04 35.7	-0.5
MMB	Musomiste	7.11	344	eP	Pn	04 04 39.0	+2.3
FNA	Florina	7.18	328	eP	Pn	04 04 39.8	+2.0
VAY	Valandovo	7.18	336	iP	Pn	04 04 40.4	+2.6
ANTO	Ankara	7.19	43	ePN	Pn	04 04 38.0	+0.1
SUZ		7.35	130	⇓P	Pn	04 04 39.7	-0.5
KKB	Krupnik	7.53	341	eP	Pn	04 04 43.5	+0.8
BRTR	Keskin Array B	7.59	47	Pn	Pn	04 04 42.9	-0.7
	0.2nm,0.3s,baz=239,slow=14,SNR=13						
BRTR				Sn	Sn	04 06 10.1	-0.1
	baz=222,slow=24,SNR=2.8						
KZIT	Kziot	7.76	118	P	Pn	04 04 45.4	-0.6
KZIT				S	Sn	04 06 09.6	-5.0
PGB	Panagyurishte	7.94	348	eP	Pn	04 04 50.0	+1.6
KSHT	Keshet	8.03	100	P	P	04 04 51.3	+1.6
HNKL	Nakhl	8.04	125⇑	eP	P	04 04 49.1	-0.6
HNKL				S	Sn	04 06 13.3	-8.1
SKO	Skopje	8.16	333	iP	P	04 04 53.0	+1.6
VTS	Vitosha	8.18	343	eP	P	04 04 52.8	+1.1
MKRJ	Makawir	8.39	110	P	P	04 04 54.2	-0.5
MKRJ				S	Sn	04 06 24.7	-5.6
PRNI	Paran	8.51	119	P	P	04 04 55.8	-0.4
HRFI	Mount Harif	8.71	121	P	P	04 04 57.9	-1.1
MBH	Mount Berech	8.76	122	P	P	04 04 58.8	-1.0
EIL	Elat	8.86	123	Pn	P	04 05 02.2	+1.0
	0.9nm,0.3s,baz=222,slow=9.8,SNR=6.0						
EIL				Sn	Sn	04 06 39.3	-2.6
	1.0nm,0.3s,baz=324,slow=19,SNR=3.2						
EIL	Elat	8.86	123	ePn	P	04 05 01.6	+0.4
	6.3nm,0.6s						
EIL	Elat	8.86	123	ePn	P	04 05 01.6	+0.4
	6.3nm,0.6s						
TIP	Timpagrande	8.87	302	ePn	P	04 04 59.7	-1.6
TIP	Timpagrande	8.87	302	ePn	P	04 04 59.7	-1.6
ASF	Jabal al Asfar	9.15	104	Pn	P	04 05 05.8	+0.6
	0.6nm,0.3s,baz=156,slow=7.9,SNR=2.5						
ASF				Sn	Sn	04 06 44.9	-4.2
	0.4nm,0.3s,baz=245,slow=19,SNR=2.0						
VAE	Valguarnera	10.06	289	Sn	S	04 07 03.0	-8.3
	2.4nm,0.3s,baz=169,slow=10,SNR=2.6						
DIVS	Divcibare	10.53	334⇑	iPn	P	04 05 25.3	+1.2
MLR	Muntele Rosu	10.70	358	Pn	P	04 05 27.4	+1.0
	0.1nm,0.3s,baz=194,slow=5.6,SNR=5.1						
CII	Carovilli	11.75	310	eP	P	04 05 40.6	-0.2
	12nm,0.9s						
CII	Carovilli	11.75	310	eP	P	04 05 40.6	-0.2
	12nm,0.9s						
KIS	Kishinev	12.33	8	eP	P	04 05 50.0	+1.4
KIS				e		04 08 13.0	
KIS				MLR	MLR		
	comp=Z,300nm,13.0s						
KIS				MLR	MLR		
	comp=Z,300nm,12.0s						
ANN	Anapa	13.10	37	eP	P	04 05 56.6	-2.3
ANN				pmax	pmax		
	comp=Z,61nm,1.1s						
ANN	Anapa	13.10	37	eP	P	04 05 56.6	-2.3
	comp=Z,61nm,1.1s						
SOC	Sochi	13.55	46	eP	P	04 06 02.7	-2.0
SOC				pmax	pmax		
	comp=N,33nm,0.9s						
SOC				pmax	pmax		
	comp=Z,30nm,0.9s						
SOC				pmax	pmax		
	comp=E,17nm,0.8s						
SOC				MLR	MLR		
	comp=Z,170nm,13.0s						
SOC				MLR	MLR		
	comp=N,169nm,14.0s						
SOC				MLR	MLR		
	comp=E,162nm,13.0s						
SOC	Sochi	13.55	46	eP	P	04 06 02.7	-2.0
	comp=E,169nm,14.0s						
PSZ	Piszkesteto	13.99	342	P	P	04 06 09.9	-0.6
GNI	Garni	15.51	64	LR	LR	04 13 53.3	
	comp=E,241nm,20.9s,baz=29,slow=43						
KIV	Kislovodsk	15.55	49	iP	P	04 06 31.0	+0.1
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
KIV				MLR	MLR		
	comp=Z,200nm,17.0s						
KIV	Kislovodsk	15.55	49	iP	P	04 06 31.0	+0.1
	comp=Z,200nm,17.0s						
PGF	Pioggiola	15.62	305	eP	P	04 06 31.3	-0.6
	comp=Z,40nm,1.6s						
PGF	Pioggiola	15.62	305	eP	P	04 06 31.3	-0.6
PGF				pmax	pmax		
	comp=Z,20nm,1.6s						
ZEI	Tsey	15.79	54	eP	P	04 06 30.5	-3.5
AKASG	Malin Array Be	16.04	7	Pn	P	04 06 37.1	-0.1
	comp=Z,0.9nm,0.3s,baz=195,slow=11,SNR=18						
VRAC	Vranov	16.21	336	Pn	P	04 06 40.8	+1.4
	comp=Z,0.4nm,0.3s,baz=150,slow=8.7,SNR=4.5						
GERES	GERESS Array B	16.90	330	Pn	P	04 06 47.5	-0.6
	comp=Z,0.1nm,0.3s,baz=151,slow=14,SNR=8.4						
KHC	Kasperske Hory	17.18	330	eP	P	04 06 50.5	-1.1
KHC				e		04 07 07.5	
KHC	Kasperske Hory	17.18	330	eP	P	04 06 50.5	-1.1
KHC				x	x	04 07 07.5	
DPC	Dobruska-Polom	17.20	338	eP	P	04 06 52.7	+0.8
SBF	Sospel	17.21	307	eP	P	04 06 51.2	-0.9
	comp=Z,28nm,1.0s						
SBF	Sospel	17.21	307	eP	P	04 06 51.2	-0.9
SBF				pmax	pmax		
	comp=Z,14nm,1.0s						
DAVOX	Davos	17.28	319	P	P	04 06 53.1	+0.3
	comp=Z,0.1nm,0.3s,baz=167,slow=17,SNR=2.6						
DAVOX				LR	LR	04 13 10.4	
	comp=Z,167nm,21.7s,baz=162,slow=36						
UPC	Upice	17.44	337	eP	P	04 06 55.8	+0.9
PRU	Pruhonice	17.50	334	eP	P	04 06 55.1	-0.5
FRF	La Foret Royal	17.61	306	eP	P	04 06 56.0	-1.0
	comp=Z,17nm,1.1s						
FRF	La Foret Royal	17.61	306	eP	P	04 06 56.0	-1.0
FRF				pmax	pmax		
	comp=Z,9.0nm,1.1s						
LMR	La Mourre	17.61	305	eP	P	04 06 56.5	-0.6
	comp=Z,58nm,1.6s						
LMR	La Mourre	17.61	305	eP	P	04 06 56.5	-0.6
LMR				pmax	pmax		
	comp=Z,29nm,1.6s						
PVCC	Panska Ves	17.94	335	eP	P	04 07 00.6	-0.5
MBDF	Montbardon	18.02	309	eP	P	04 07 01.3	-0.9
	comp=Z,15nm,1.2s						
MBDF	Montbardon	18.02	309	eP	P	04 07 01.3	-0.9
MBDF				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BNI	Bardonecchia	18.23	310	eP	P	04 07 06.7	+2.0
BNI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BNI	Bardonecchia	18.23	310	eP	P	04 07 06.7	+1.9
	comp=Z,9.7nm,1.3s						
BNI	Bardonecchia	18.23	310	eP	P	04 07 06.7	+2.0
	comp=Z,9.7nm,1.3s						
LPG	La Plagne	18.39	311	eP	P	04 07 05.8	-1.0
	comp=Z,23nm,1.2s						
LPG	La Plagne	18.39	311	eP	P	04 07 05.8	-1.0
LPG				pmax	pmax		
	comp=Z,11nm,1.2s						
LPL	La Plagne	18.41	311	eP	P	04 07 05.8	-1.2
	comp=Z,16nm,1.1s						
LPL	La Plagne	18.41	311	eP	P	04 07 05.8	-1.2
LPL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BRG	Berggiesshubel	18.45	334	eP	P	04 07 05.5	-1.9
BRG				pmax	pmax		
	comp=Z,6.0nm,1.4s						
BRG	Berggiesshubel	18.45	334	eP	P	04 07 05.5	-1.9
	comp=Z,6.4nm,1.4s						
BRG	Berggiesshubel	18.45	334	eP	P	04 07 05.5	-1.9
	comp=Z,6.4nm,1.4s						
SMRF	Simiane la Rot	18.49	306	eP	P	04 07 06.9	-1.1
	comp=Z,35nm,1.4s						
NKC	Novy Kostel	18.50	331	eP	P	04 07 08.8	+0.8
ORIF	Oris-en-Rattie	18.67	309	eP	P	04 07 09.0	-1.2
ORIF				eR			
	comp=Z,286nm,19.2s						
CLL	Collm	19.14	334⇓	iP	P	04 07 16.7	+0.9
CLL				pmax	pmax		
	comp=Z,18nm,1.9s						
CLL	Collm	19.14	334⇓	i*SP		04 07 16.7	
CLL				ePPP	PPP	04 07 36.0	-5.7
CLL	Collm	19.14	334⇓	iP	P	04 07 16.7	+0.9
	comp=Z,18nm,1.9s						
MOX	Moxa	19.15	330	eP	P	04 07 16.0	+0.1
CABF	La Chapelle	19.34	314	eP	P	04 07 16.4	-1.8
	comp=Z,22nm,0.9s						
CABF	La Chapelle	19.34	314	eP	P	04 07 16.4	-1.8
CABF				pmax	pmax		
	comp=Z,11nm,0.9s						

VIVF Saint-Julien-l 19.43 308 *e*P P 04 07 17.8 -1.3
comp=Z,19nm,1.1s
VIVF Saint-Julien-l 19.43 308 *e*P P 04 07 17.8 -1.3
VIVF pmax pmax
comp=Z,10.0nm,1.1s
CDF Champ du Feu 19.67 320 *e*P P 04 07 20.0 -1.9
LASF Ste Croix 19.68 305 *e*P P 04 07 21.2 -0.8
comp=Z,31nm,1.3s
HAU Haudompre 19.94 318 *e*P P 04 07 22.8 -2.0
HAU *e*R
comp=Z,292nm,21.8s
SMF Signal de Mont 20.72 312 *e*P P 04 07 31.5 -1.5
comp=Z,22nm,1.1s
SMF Signal de Mont 20.72 312 *e*P P 04 07 31.5 -1.5
SMF pmax pmax
comp=Z,11nm,1.0s
LOR Lormes 21.00 313 *e*P P 04 07 34.3 -1.5
LOR *e*R
comp=Z,341nm,22.0s
SSF Saint Saulge 21.11 312 *e*P P 04 07 34.9 -2.1
SSF pmax pmax
comp=Z,60nm,1.1s,mb4.8
SSF Saint Saulge 21.11 312 *e*P P 04 07 34.9 -2.1
comp=Z,60nm,1.1s,mb4.8
CAF Calviac 21.17 306 *e*P P 04 07 37.3 -0.3
comp=Z,29nm,1.4s,mb4.1
CAF Calviac 21.17 306 *e*P P 04 07 37.3 -0.3
CAF pmax pmax
comp=Z,15nm,1.4s,mb4.1
BGF Bois d'Agland 21.30 311 *e*P P 04 07 38.0 -0.9
comp=Z,62nm,1.3s,mb4.5
BGF Bois d'Agland 21.30 311 *e*P P 04 07 38.0 -0.9
BGF pmax pmax
comp=Z,31nm,1.3s,mb4.5
OBN Obninsk 21.52 16 *i* P P 04 07 39.2 -1.9
OBN *e**PP 04 07 47.9
OBN *i* 04 08 01.0
OBN pmax pmax
comp=Z,9.0nm,0.6s,mb4.4
OBN MLR MLR
comp=Z,100nm,18.0s,MS3.3
OBN Obninsk 21.52 16 *i* P P 04 07 39.2 -1.9
comp=Z,9.0nm,0.6s,mb4.4
TCF Toulx Ste Croi 21.59 309 *e*P P 04 07 41.1 -0.7
RJF Les Rejaudoux 21.67 306 *e*P P 04 07 42.2 -0.4
comp=Z,30nm,1.2s,mb4.3
RJF *e*R
comp=Z,476nm,18.5s
RJF Les Rejaudoux 21.67 306 *e*P P 04 07 42.2 -0.4
RJF pmax pmax
comp=Z,15nm,1.3s,mb4.3
RJF MLR MLR
comp=Z,480nm,18.5s,MS3.9
EPF Esparros 21.82 300 *e*P P 04 07 44.0 -0.2
BAIF Baives 22.26 320 *e*P P 04 07 46.9 -1.7
comp=Z,61nm,1.2s,mb4.6
BAIF Baives 22.26 320 *e*P P 04 07 46.9 -1.7
BAIF pmax pmax
comp=Z,31nm,1.2s,mb4.6
ETSF Etsaut 22.43 299 *e*P P 04 07 50.3 0.0
SJPF Ste Jean 22.96 299 *e*P P 04 07 55.3 -0.1
comp=Z,29nm,1.1s,mb4.3
SJPF Ste Jean 22.96 299 *e*P P 04 07 55.3 -0.1
SJPF pmax pmax
comp=Z,15nm,1.1s,mb4.3
MFF Saint Martin d 23.21 309 *e*P P 04 07 57.1 -0.8
comp=Z,12nm,0.9s,mb4.0
MFF Saint Martin d 23.21 309 *e*P P 04 07 57.1 -0.8
MFF pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
FLN La Foliniere 24.27 313 *e*P P 04 08 07.0 -1.1
FLN *e*R
comp=Z,365nm,18.2s
GRR Gorron 24.34 312 *e*P P 04 08 07.5 -1.3
comp=Z,50nm,1.2s,mb4.5
GRR Gorron 24.34 312 *e*P P 04 08 07.5 -1.3
GRR pmax pmax
comp=Z,25nm,1.2s,mb4.5
ESDC Sonseca Array 24.59 290 P P 04 08 12.2 +0.8
comp=Z,1.9nm,0.6s,mb3.8,baz=86,slow=9.4,SNR=12
SGMF Saint Gilles 25.34 311 *e*P P 04 08 17.6 -0.8
comp=Z,41nm,1.3s,mb4.5
SGMF Saint Gilles 25.34 311 *e*P P 04 08 17.6 -0.8
SGMF pmax pmax
comp=Z,20nm,1.3s,mb4.5
ROSF Rostrenen 25.81 311 *e*P P 04 08 22.2 -0.6
comp=Z,43nm,1.2s,mb4.5
ROSF Rostrenen 25.81 311 *e*P P 04 08 22.2 -0.6
ROSF pmax pmax
comp=Z,22nm,1.2s,mb4.6
FINES FINESS Array B 26.67 360 P P 04 08 32.6 +2.0
comp=Z,0.6nm,0.5s,mb3.4,baz=149,slow=11,SNR=4.0
HFS Hagfors 26.68 346 P P 04 08 31.6 +0.9
comp=Z,1.7nm,0.9s,mb3.6,baz=129,slow=9.2,SNR=3.6
EKA Eskdalemuir Ar 28.93 324 P P 04 08 50.1 -1.0
comp=Z,4.7nm,0.9s,mb4.2,baz=121,slow=9.7,SNR=6.7
SVE Sverdlovsk 31.95 36 *e*P P 04 09 17.0 -0.9
ARCES ARCESS Array B 34.80 359 P P 04 09 39.7 -2.8
comp=Z,2.3nm,0.8s,mb4.1,baz=180,slow=9.7,SNR=8.1
ZRNK Zerenda 35.04 46 *e*P P 04 09 44.4 -0.3
ZRNK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ZRNK Zerenda 35.04 46 *e*P P 04 09 44.4 -0.4
comp=Z,3.7nm,0.7s,mb4.4
ZRNK Zerenda 35.04 46 *e*P P 04 09 44.4 -0.3
comp=Z,3.7nm,0.7s,mb4.4
BVAR Borovoye Array 35.88 46 P P 04 09 52.5 +0.7
comp=Z,0.5nm,0.4s,mb3.8,baz=252,slow=4.7,SNR=8.1
AAK Ala-Archa 37.92 63⇑*e*P P 04 10 10.8 +1.7
AAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
KURK Kurchatov 40.63 51 *e*P P 04 10 30.8 -0.7
KURK pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
KURK Kurchatov 40.63 51 *e*P P 04 10 30.8 -0.8
comp=Z,7.5nm,1.0s,mb4.3
KURK Kurchatov 40.63 51 *e*P P 04 10 30.8 -0.7
comp=Z,7.5nm,1.0s,mb4.3
MKAR Makanchi Array 43.13 56 P P 04 10 52.4 +0.3
comp=Z,1.5nm,0.7s,mb3.9,baz=280,slow=7.4,SNR=18
NVS Novosibirsk 43.64 45 *e*P P 04 10 57.3 +1.3
WMQ Urumqi 47.31 60 *e*P P 04 11 26.6 +1.1
ZAK Zakamensk 56.23 49 *e*P P 04 12 32.0 -0.4
SONM Songino Array 58.94 51 P P 04 12 51.5 0.0
comp=Z,1.1nm,0.7s,mb4.0,baz=280,slow=8.8,SNR=4.9
SCHQ Schefferville 64.12 320 P P 04 13 26.6 +0.2
comp=Z,3.5nm,0.7s,mb4.5,baz=69,slow=3.7,SNR=7.5
NJ2 Nanjing 74.34 62 *e*P P 04 14 30.4 +0.8
NJ2 PP PP 04 17 14.6 -3.0
NJ2 S S 04 23 59.0 -3.0
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
MDJ Mudanjiang 74.73 46 P P 04 14 29.0 -2.6
MDJ PCP PcP 04 14 43.8 -2.3
MDJ SCS ScS 04 24 39.5 -0.1
MDJ SS SS 04 28 50.0 -6.1
MDJ AMB AMB
comp=Z,4.0nm,1.3s,mb4.2
MDJ AMB AMB
comp=Z,144nm,5.5s
MDJ LR LR
comp=N,77nm,40.5s
MDJ LR LR
comp=E,68nm,17.7s
MDJ LR LR
comp=Z,63nm,15.2s
SSE Sheshan 76.53 62 P P 04 14 39.8 -2.3
SSE AMB AMB
comp=Z,17nm,0.7s,mb5.1
ILAR Eielson Array 80.63 357 P P 04 15 05.0 +1.2
comp=Z,0.5nm,0.8s,mb3.5,baz=350,slow=5.5,SNR=3.2
ANMO Albuquerque 97.81 323 LR LR 04 58 50.0
comp=Z,56nm,18.7s,MS4.1,slow=34

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*NEIC **18** 04:09:37.6, 34.94N×26.45E, h10km, MD3.7(ATH), After ATH.*
*CSEM **18** 04:09:37.3±0.8, 34.89N×26.46E, h2km, MD3.7, Error ellipse: s-maj=21.9km s-min=6.6km az=166.0*
ATH 18 04:09:37.8, 34.95N×26.44E, h10km±1km, MD3.7/7, 3C-2D, Crete

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
XRY Khrisi 0.62 263 *e*PG Pg 04 09 49.5 -0.8
NPS Neapolis 0.75 295⇑*i*PG Pg 04 09 51.9 -0.9
NPS *e*SB Sb 04 10 02.0 -0.4
KARP Karpathos 0.84 45⇑*i*PB Pb 04 09 53.1 -0.9
KARP *e*SB Sb 04 10 06.0 +0.9
SANT Santorini 1.63 331⇓*i*P Pn 04 10 06.9 +0.1
SANT *e*S Sn 04 10 25.6 -2.3
SANT Santorini 1.63 331⇓*i*P Pn 04 10 06.9 +0.2
ARG Arkhangelos 1.87 47 *e*PN Pn 04 10 11.7 +1.5
ARG *e*SN Sn 04 10 37.4 +3.4
VAM Vamos 1.89 285⇑*i*PG Pg 04 10 13.1 -2.5
VAM *e*SN Sn 04 10 38.1 +3.5
GVD Gavdhos 1.94 267 *e*P Pn 04 10 17.5 +6.4
APE Apeiranthos 2.24 341 *e*PB Pb 04 10 16.4 -1.6
APE *e*SN Sn 04 10 45.7 +2.2
VLI Veliai 3.35 303 *i* PN Pn 04 10 32.3 +1.0
ITM Ithomi 4.28 303 *e*PN Pn 04 10 46.3 +1.8
ISP Isparta 4.37 47 *e*P Pn 04 10 45.8 -0.1

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*IDC **18** 04:15:43.8±0.8, 6.74N×72.92W, h165km±10km, mb3.5/3, mb1 3.8/7, mb1mx3.5/20, mbtmp4.2/7, Error ellipse: s-maj=37.0km s-min=7.4km az=132.0*
*NEIC **18** 04:15:44.0±0.8, 6.67N×72.90W, h172km±10km, mb4.1/2, Error ellipse: s-maj=14.4km s-min=13.2km az=134.0*
ISC 18 04:15:42.8±0.7, **6.67N**±0.09×**72.83W**±0.10, **h182**km±8km, **n13**, σ**0s54**/14, **mb3.7**/3, **Northern Colombia**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
ROSC El Rosal 2.33 220 P P 04 16 24.3 +0.1
226nm,0.3s,baz=288,slow=9.6,SNR=695
ROSC S S 04 16 55.9 -0.1
326nm,0.3s,baz=80,slow=20,SNR=14
SDV Santo Domingo 3.10 45 P P 04 16 34.2 +0.9
25nm,0.3s,baz=257,slow=3.6,SNR=88
SDV S S 04 17 12.0 -0.3
147nm,0.3s,baz=81,slow=20,SNR=47
SDV Santo Domingo 3.10 45 P P 04 16 34.2 +0.9
SDV *e*S S 04 17 11.6 -0.7
SDV S S 04 17 12.0 -0.3
JTS JuntasAbangare 12.51 288 P P 04 18 35.4 -0.2
1.3nm,0.3s,baz=31,slow=5.1,SNR=3.9
JTS JuntasAbangare 12.51 288 *e*P P 04 18 35.9 +0.3
45nm,1.4s
SJG San Juan 13.11 29 P P 04 18 42.6 -0.6
2.9nm,0.3s,baz=205,slow=13,SNR=7.4
SAML Samuel 18.25 148 *e*P P 04 19 45.0 -0.2
2.2nm,1.0s
LPAZ La Paz 23.28 169 pP 04 21 12.6
1.0nm,0.8s,baz=327,slow=12,SNR=3.9
SIV San Ignacio 25.34 153 pP pP 04 21 33.0 +1.9
0.5nm,0.6s,baz=323,slow=5.3,SNR=4.2
SCHQ Schefferville 48.27 5 P P 04 24 08.2 +1.1
4.5nm,0.6s,mb4.3,baz=187,slow=7.2,SNR=17
PDAR Pinedale Array 48.37 324 P P 04 24 07.5 -0.6
0.3nm,0.4s,mb3.2,baz=128,slow=8.6,SNR=4.8
YKA Yellowknife Ar 63.51 340 P P 04 25 55.3 -0.2
0.8nm,0.7s,mb3.6,baz=129,slow=6.9,SNR=6.0
WRA Warramunga Arr 150.51 241 PKPbc PKPdf 04 35 16.3 +8.2
0.5nm,0.4s,baz=106,slow=2.9,SNR=12

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*NEIC **18** 05:16:05.5±4.8, 55.16S×28.23W, h4km±29km, mb4.8/11, Error ellipse: s-maj=12.0km s-min=7.6km az=214.0*
*IDC **18** 05:16:05.1±0.6, 55.22S×28.27W, mb4.4/8, mb1 4.5/9, mb1mx4.3/15, mbtmp4.4/9, ML4.2/1, MS4.0/7, Ms1 3.9/7, ms1mx3.8/15, Error ellipse: s-maj=24.2km s-min=16.5km az=42.0*
*BJI **18** 05:16:06.5, 55.20S×28.20W, h5km, mB5.2*
ISC 18 05:16:04.7±0.5, **55.21S**±0.08×**28.3W**±0.1, **h10**km, **n57**, σ**0s98**/36, **mb4.5**/14, **MS4.0**/7, **6C, South Sandwich Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
VNA1 Neumayer--Stat 17.81 158 *e* P 05 20 18.5 +4.7
VNA1 Neumayer--Stat 17.81 158 *e* P 05 20 21.0 +7.2
VNA1 Neumayer--Stat 17.81 158⇑*i*P P 05 20 15.6 +1.8
VNA1 *e* 05 20 18.5
VNA1 *e* 05 20 21.0
VNA1 *e* 05 21 44.6
VNA3 Neumayer Olymp 17.99 160 *e* P 05 20 19.5 +3.4
VNA3 Neumayer Olymp 17.99 160 *e* P 05 20 22.1 +6.0
VNA3 Neumayer Olymp 17.99 160⇑*i*P P 05 20 16.7 +0.6
VNA3 *e* 05 20 19.5
VNA3 *e* 05 20 22.1
VNA3 *e* 05 21 43.6
VNA2 Neumayer--Watz 18.20 158 *e* P 05 20 24.7 +5.9
VNA2 Neumayer--Watz 18.20 158⇑*i*P P 05 20 19.0 +0.2
VNA2 *e* 05 20 24.7
VNA2 *e* 05 21 45.2
SNAA Sanae 19.76 156 *e* P 05 20 37.8 +0.5
SNAA Sanae 19.76 156 *e* P 05 20 40.3 +3.0
SNAA Sanae 19.76 156 P P 05 20 35.9 -1.4
0.8nm,0.3s,baz=300,slow=9.2,SNR=50
SNAA Sanae 19.76 156⇑*i*P P 05 20 35.7 -1.6
SNAA *e* 05 20 37.8
SNAA *e* 05 20 40.3
PMSA Palmer Station 20.00 227 *e*P P 05 20 38.9 -1.0
46nm,0.9s
USHA Ushuaia 22.80 254 P P 05 21 09.2 +0.9
9.0nm,0.8s,mb4.3,baz=100,slow=10,SNR=3.1
TRQA Tornquist 28.42 293 *e*P P 05 22 01.1 -0.1
4.3nm,0.7s,mb4.2
PLCA Paso Flores 31.24 280 PcP PcP 05 25 20.7 -0.3
1.5nm,0.6s,baz=196,slow=1.0,SNR=6.1
PLCA LR LR 05 35 47.5
comp=Z,155nm,18.1s,MS3.7,baz=2.1,slow=38
SYO Syowa Base 32.63 142 ⇑pP P 05 22 36.5 -1.7
QSPA South Pole Qui 35.04 180⇑*i*P P 05 22 59.7 +0.7
9.0nm,0.7s,mb4.8
CPUP Villa Florida 35.79 312 P P 05 23 05.3 -0.5
14nm,0.8s,mb4.9,baz=161,slow=7.1,SNR=36
CPUP Villa Florida 35.79 312 *e*P P 05 23 05.3 -0.6
15nm,0.9s,mb4.9
SUR Sutherland 41.04 77 P P 05 23 51.3 +1.7
34nm,1.2s,mb4.8
MAW Mawson 41.19 144 *e*P P 05 23 50.4 -0.1
3.3nm,0.8s,mb4.0
MAW Mawson 41.19 144 P P 05 23 49.7 -0.8
2.1nm,0.7s,mb3.9,baz=258,slow=9.7,SNR=7.4
MAW PcP PcP 05 25 49.7 -0.6
1.7nm,0.9s,baz=281,slow=5.2,SNR=3.5
MAW LR LR 05 41 28.4
comp=Z,176nm,18.0s,MS4.0,baz=56,slow=37
BDFB Brasilia 42.33 331 P P 05 24 01.1 +0.8
2.5nm,0.7s,mb4.0,baz=184,slow=5.0,SNR=5.5
BDFB LR LR 05 40 53.9
comp=Z,260nm,18.1s,MS4.2,baz=314,slow=35
LVC Limon Verde 44.34 301 *e*P P 05 24 17.1 +0.5
11nm,0.8s,mb4.6
BOSA Boshof 46.38 78 P P 05 24 32.8 0.0
3.9nm,0.8s,mb4.4,baz=216,slow=8.6,SNR=7.5
BOSA LR LR 05 40 39.6
comp=Z,290nm,18.3s,MS4.3,baz=35,slow=32
BOSA Boshof 46.38 78 *e*P P 05 24 31.4 -1.4
VNDA Vanda 47.38 183 P P 05 24 40.7 +0.6
7.5nm,0.7s,mb4.7,baz=188,slow=6.4,SNR=54
VNDA LR LR 05 43 37.7
comp=Z,53nm,19.2s,MS3.5,baz=77,slow=35
VNDA Vanda 47.38 183 *e*P P 05 24 40.6 +0.5
8.2nm,0.8s,mb4.7
LBTB Lobatse 49.38 75 P P 05 24 56.5 +0.3
2.8nm,0.7s,mb4.4,baz=232,slow=12,SNR=5.4
LBTB Lobatse 49.38 75 *e*P P 05 24 56.5 +0.3
LPAZ La Paz 49.38 306 P P 05 24 56.8 +0.5
5.1nm,0.7s,mb4.7,baz=147,slow=6.3,SNR=24
LPAZ La Paz 49.38 306 *e*P P 05 24 56.6 +0.3
19nm,1.4s,mb4.9
SAML Samuel 53.77 316 *e*P P 05 25 28.3 -1.2
8.6nm,1.1s,mb4.6
CASY Casey 54.91 161 *e*P P 05 25 36.6 -0.5
LSZ Lusaka 58.66 70 P P 05 26 00.8 -3.7
DBIC Dimbokro 64.67 26 LR LR 05 49 40.9
comp=Z,83nm,19.1s,MS3.9,baz=246,slow=31
SDV Santo Domingo 72.97 316 *e*P P 05 27 35.9 -0.4
4.4nm,0.8s,mb4.4
KMBO Kilima Mbogo 75.33 70 LR LR 05 58 58.4
comp=Z,186nm,18.5s,MS4.4,baz=266,slow=34
AKASG Malin Array Be 115.89 37 PKP PKPdf 05 34 48.2 -1.7
0.2nm,0.4s,baz=252,slow=2.9,SNR=11
WVOR Wild Horse Val 123.61 297 *e*PKPdf PKPdf 05 35 04.2 -0.8
FINES FINESS Array B 123.93 28 PKP PKPdf 05 35 03.1 -2.1
1.7nm,0.9s,baz=190,slow=17,SNR=3.2
BMO Blue Mountains 124.68 300 *e*PKPdf PKPdf 05 35 05.3 -1.6
EDM Edmonton 128.69 310 *e*PKPdf PKPdf 05 35 12.6 -1.9
ARCES ARCESS Array B 130.39 22 PKP PKPdf 05 35 15.2 -2.0
2.8nm,0.9s,baz=180,slow=3.6,SNR=6.3
BVAR Borovoye Array 134.85 57 PKP PKPdf 05 35 25.2 -0.9
2.1nm,0.9s,baz=225,slow=4.2,SNR=10
YKA Yellowknife Ar 135.13 319 PKP PKPdf 05 35 24.7 -1.6
1.5nm,0.7s,baz=129,slow=2.0,SNR=8.4
YKA Yellowknife Ar 135.13 319 PKP PKPdf 05 35 24.7 -1.6
MKAR Makanchi Array 137.21 71 PKP PKPdf 05 35 30.4 -0.1
0.2nm,0.3s,baz=252,slow=3.8,SNR=4.5
INK Inuvik 144.76 322 *e*PKPdf PKPdf 05 35 40.7 -2.4
NJ2 Nanjing 147.31 121 *e*PKP PKPdf 05 35 44.0 -4.6
NJ2 PKP2 PKPab 05 35 52.8 +1.0
NJ2 PP PP 05 39 17.0 -0.5
ILAR Eielson Array 149.09 313 PKP PKPdf 05 35 47.0 -3.4
0.5nm,0.8s,baz=315,slow=0.7,SNR=7.1
ILAR PKPbc PKPdf 05 35 53.5 +3.1
19nm,0.8s,baz=128,slow=1.9,SNR=152
MCK McKinley 149.75 311 *e*PKPbc PKPdf 05 35 55.4 +3.9
HHC Hu-ho-hao-te 150.02 102 *e*PKP PKPdf 05 35 58.8 +6.2
HHC PKS PKS 05 39 30.8 +7.6
HHC PP PP 05 39 36.8 +4.3
HHC PP PP
comp=Z,115nm,7.1s
SONM Songino Array 151.29 86 PKP PKPdf 05 35 53.9 -0.4
comp=Z,0.7nm,0.8s,baz=207,slow=2.8,SNR=3.6
SONM PKPbc PKPdf 05 35 59.4 +5.1
comp=Z,5.5nm,0.9s,baz=221,slow=3.5,SNR=18
IMA Indian Mountai 152.08 315 *e*PKPbc PKPdf 05 36 01.3 +6.4
MDJ Mudanjiang 162.32 118 PKP PKPdf 05 36 07.0 -1.2

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*IDC **18** 05:23:29.2±0.9, 55.21S×28.25W, mb3.9/4, mb1 4.0/5, mb1mx3.8/14, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=35.6km s-min=22.9km az=49.0*
*NEIC **18** 05:23:30.9±0.5, 55.21S×28.17W, h10km, mb4.0/2, Error ellipse: s-maj=20.2km s-min=11.7km az=60.0*
ISC 18 05:23:29.4±0.9, **55.1S**±0.1×**28.3W**±0.3, **h10**km, **n20**, σ**1s30**/18, **mb4.1**/5, **1D, South Sandwich Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
VNA1 Neumayer--Stat 17.92 158 *e* P 05 27 48.8 +8.9
VNA1 Neumayer--Stat 17.92 158 *e* P 05 27 48.8 +8.9
VNA3 Neumayer Olymp 18.10 161 *e* P 05 27 43.6 +1.4
VNA3 Neumayer Olymp 18.10 161 *e* P 05 27 43.6 +1.4
VNA2 Neumayer--Watz 18.31 158 *e* P 05 27 46.3 +1.5
VNA2 Neumayer--Watz 18.31 158 *e* P 05 27 46.3 +1.5
SNAA Sanae 19.87 156 *e* P 05 28 00.2 -2.9
SNAA Sanae 19.87 156 P P 05 27 59.6 -3.6
0.2nm,0.3s,baz=300,slow=11,SNR=13
SNAA Sanae 19.87 156 *e*P P 05 28 00.3 -2.8
2.7nm,0.5s
SNAA Sanae 19.87 156 *e* P 05 28 00.2 -2.9
QSPA South Pole Qui 35.17 180⇓*i*P P 05 30 23.6 -1.1
4.1nm,1.1s,mb4.3
CPUP Villa Florida 35.72 312 P P 05 30 29.1 -0.8
1.2nm,0.6s,mb4.0,baz=154,slow=8.7,SNR=6.8
CPUP Villa Florida 35.72 312 *e*P P 05 30 30.1 +0.2
BOSA Boshof 46.34 78 P P 05 31 56.7 -0.4
2.3nm,0.9s,mb4.1,baz=209,slow=10,SNR=3.0
BOSA Boshof 46.34 78 P P 05 31 56.7 -0.4
VNDA Vanda 47.51 183 P P 05 32 04.3 -1.4
1.5nm,0.8s,mb4.1,baz=185,slow=7.0,SNR=8.4
LPAZ La Paz 49.32 306 P P 05 32 21.6 +1.1
0.9nm,0.9s,mb3.8,baz=180,slow=10,SNR=3.4
LPAZ La Paz 49.32 306 *e*P P 05 32 22.1 +1.6
ILAR Eielson Array 149.02 313 PKPbc PKPdf 05 43 17.8 +2.9
3.0nm,0.9s,baz=123,slow=1.6,SNR=26
SONM Songino Array 151.26 86 PKPbc PKPdf 05 43 24.1 +5.2
1.1nm,0.7s,baz=230,slow=2.7,SNR=4.6

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*IDC **18** 05:25:25.2±5.2, 5.34S×129.53E, h212km±44km, mb3.7/5, mb1 3.9/7, mb1mx3.7/14, mbtmp4.4/7, Error ellipse: s-maj=45.4km s-min=22.7km az=67.0*
*NEIC **18** 05:25:26.2±1.9, 5.34S×129.65E, h223km±15km, mb4.7/5, Error ellipse: s-maj=17.5km s-min=15.2km az=219.0*
ISC 18 05:25:23.9±2.1, **5.31S**±0.10×**129.4E**±0.1, **h217**km±20km, **n19**, σ**0s83**/20, **mb3.9**/6, **1D, Banda Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
KAKA Kakadu 7.92 158 *e*P P 05 27 17.4 +0.5
25nm,0.5s
KAKA *e*S S 05 28 41.0 -4.3
FITZ Fitzroy Crossi 13.24 196 *e*P P 05 28 26.0 +1.2
39nm,0.6s
FITZ *e*S S 05 30 46.0 -1.6
FITZ Fitzroy Crossi 13.24 196 P P 05 28 25.8 +0.9
6.3nm,0.3s,baz=11,slow=10,SNR=50
FITZ S S 05 30 46.4 -1.3
2.7nm,0.3s,baz=20,slow=12,SNR=4.7
WRAB Tennant Creek 15.30 162⇓*i*P P 05 28 49.9 -0.5
31nm,0.7s
WRA Warramunga Arr 15.30 162 P P 05 28 49.7 -0.7
2.1nm,0.3s,baz=341,slow=11,SNR=44
WRA S S 05 31 34.8 +0.8
1.5nm,0.3s,baz=334,slow=22,SNR=9.9
WB2 Warramunga Arr 15.31 162 *e*P P 05 28 49.5 -1.0
WB2 *e*S S 05 31 35.0 +1.0
MBWA Marble Bar 18.35 210 *e*P P 05 29 25.9 +1.2
27nm,0.8s
KLBR Kellerberrin 28.35 201 *e*P P 05 31 00.2 +0.2
7.2nm,0.6s,mb4.5
STKA Stephens Creek 28.77 158 P P 05 31 03.0 -0.8
2.0nm,0.4s,mb4.1,baz=327,slow=7.7,SNR=5.8
NWAO Narrogin (SRO) 29.74 201 P P 05 31 12.0 -0.3
2.5nm,0.4s,mb4.2,baz=24,slow=9.9,SNR=5.7
NWAO Narrogin (SRO) 29.74 201 P P 05 31 12.0 -0.3
MKAR Makanchi Array 66.52 327 P P 05 35 52.7 +0.3
0.7nm,0.5s,mb3.6,baz=116,slow=9.0,SNR=6.4
VNDA Vanda 74.18 173 P P 05 36 37.2 -0.8
0.6nm,0.6s,mb3.4,baz=309,slow=9.1,SNR=5.7
VNDA Vanda 74.18 173 P P 05 36 37.2 -0.8
MAW Mawson 76.31 201 P P 05 36 50.7 +0.5
1.3nm,0.5s,mb3.8,baz=69,slow=8.2,SNR=5.3
LVC Limon Verde 146.95 148 PKPbc PKPbc 05 44 43.9 +2.8
1.7nm,0.3s,baz=224,slow=2.7,SNR=7.7
CPUP Villa Florida 147.87 169 PKPbc PKPdf 05 44 45.1 +4.4
0.8nm,0.5s,baz=260,slow=3.7,SNR=5.5
LPAZ La Paz 152.38 141 PKPbc PKPdf 05 44 57.2 +9.3
0.5nm,0.4s,baz=53,slow=5.1,SNR=4.3
LPAZ La Paz 152.38 141 PKPbc PKPdf 05 44 57.2 +9.3

CASC 18 05:29:33.0±1.2, **10.91N**×**86.43W**, **h61**km±34km, **MD3.5, ML2.9, 9C-4D, Off coast of Costa Rica**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CONN Concepcion 1.02 51⇓*e*P P 05 29 51.0 -0.6
APON Apoyo 1.06 20⇑*e*P P 05 29 51.6 -0.5
CRUN El Crucero 1.07 7⇑*e*P P 05 29 52.2 -0.1
TICN Ticuantepe 1.13 10⇑*e*P P 05 29 52.3 -0.8
XAVN Gruta Xavier 1.23 5⇑*e*P P 05 29 54.2 -0.3
MGAN Managua 1.24 8⇑*e*P P 05 29 54.2 -0.4
MGAN *e*S S 05 30 11.7 +1.1
MGAN *i* 05 30 17.2
comp=E,209nm,0.5s
WILN Americas 2 1.26 11⇓*e*P P 05 29 54.3 -0.6
WILN *e*S S 05 30 11.5 +0.4
COPN Copaltepe 1.27 353⇑*e*P P 05 29 54.7 -0.3
APYN Apoyeque 1.31 3⇓*e*P P 05 29 55.4 -0.3
MOMJ Momotombo 1.49 356 *e*P P 05 29 57.8 -0.3
MOMJ *e*S S 05 30 16.5 -0.2
MIRN Miramar 1.54 350⇑*e*P P 05 29 58.5 -0.4
LEON Leon 1.56 343⇑*e*P P 05 29 58.6 -0.5
CNGN Cerro Negro 1.60 351⇑*e*P P 05 29 59.5 -0.1
PYTN Playitas 1.66 13 *e*P P 05 29 59.5 -0.8
TEL3 Telica 3 1.70 346⇓*e*P P 05 30 00.8 -0.2
TELN Telica 1.73 347 *e*P P 05 30 02.1 +0.8
CRIN San Cristobal 1.88 341 *e*P P 05 30 03.2 -0.2

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*MOS **18** 06:10:01.3±0.9, 10.87S×166.08E, h33km, mb5.0/18, Error ellipse: s-maj=11.4km s-min=10.6km az=63.6*
*BJI **18** 06:10:05.5, 10.61S×166.38E, h68km, mB5.3, mb5.0, Ms4.9, Msz4.5*
*IDC **18** 06:10:06.6±3.0, 10.96S×166.16E, h69km±25km, mb4.5/16, mb1 4.6/18, mb1mx4.6/19, mbtmp4.8/18, MS3.9/12, Ms1 3.9/12, ms1mx3.7/22, Error ellipse: s-maj=19.9km s-min=12.8km az=71.0*

*NEIC **18** 06:10:07.5±0.9, 10.98S×166.11E, h77km±8km, mb4.8/36, Error ellipse: s-maj=5.7km s-min=5.4km az=193.0*

ISC 18 06:10:05.9±1.4**, 11.01S**±0.05×**166.07E**±0.05**, h75**km±12km**, h90**km±.8km**:pP-P, n159, σ0.83**/120**, mb4.8**/58**, 11C-1D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.22**	**284**	*e*P	**P**	**06 11 38.0**	**+1.0**
HNR				pmax	pmax		
	comp=Z,385nm,0.7s						
HNR	**Honiara**	**6.22**	**284**	P	**P**	**06 11 37.2**	**+0.3**
	comp=Z,63nm,0.3s,baz=157,slow=4.2,SNR=7.9						
HNR				S	**S**	**06 12 47.8**	**+0.4**
	comp=Z,30nm,0.3s,baz=191,slow=20,SNR=2.4						
HNR	**Honiara**	**6.22**	**284**	*e*P	**P**	**06 11 38.0**	**+1.0**
	comp=Z,385nm,0.7s						
DZM	**Mont Dzumac**	**11.01**	**178**	*e*P	**P**	**06 12 41.7**	**-0.8**
DZM				*e*S	**S**	**06 14 35.2**	**-9.4**
DZM	**Mont Dzumac**	**11.01**	**178**	P	**P**	**06 12 41.9**	**-0.6**
	comp=Z,16nm,0.3s,baz=20,slow=21,SNR=161						
DZM				S	**S**	**06 14 38.1**	**-6.5**
	comp=Z,2.1nm,0.3s,baz=129,slow=19,SNR=3.9						
DZM				LR	LR	06 15 34.0	
	comp=Z,216nm,21.4s,baz=23,slow=30						
DZM	**Mont Dzumac**	**11.01**	**178**	*e*P	**P**	**06 12 41.7**	**-0.8**
DZM				*e*S	**S**	**06 14 35.2**	**-9.4**
NOUC	**Port Laguerre**	**11.03**	**179**	*e*P	**P**	**06 12 42.2**	**-0.6**
NOUC				*e*S	**S**	**06 14 37.9**	**-7.3**
NOUC	**Port Laguerre**	**11.03**	**179**	*e*P	**P**	**06 12 42.2**	**-0.6**
NOUC				*e*S	**S**	**06 14 37.9**	**-7.3**
PMG	**Port Moresby**	**18.68**	**273**	*e*P	**P**	**06 14 20.7**	**0.0**
PMG	**Port Moresby**	**18.68**	**273**	LR	LR	06 19 39.0	
	comp=Z,72nm,21.7s,baz=201,slow=30						
CTA	**Charters Tower**	**21.09**	**242**	*e*P	**P**	**06 14 47.2**	**+0.9**
	comp=Z,12nm,0.8s,mb4.3						
CTA	**Charters Tower**	**21.09**	**242**	*e*P	**P**	**06 14 47.2**	**+0.9**
CTA				pmax	pmax		
	comp=Z,12nm,0.8s						
CTA	**Charters Tower**	**21.09**	**242**	P	**P**	**06 14 47.5**	**+1.2**
	comp=Z,8.0nm,0.7s,mb4.2,baz=57,slow=12,SNR=5.6						
CTA				LR	LR	06 21 25.4	
	comp=Z,333nm,19.9s,baz=48,slow=32						
CTAO	**Charters Tower**	**21.09**	**242**	*e*P	**P**	**06 14 46.9**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,44nm,1.3s,mb4.6						
CTAO	**Charters Tower**	**21.09**	**242**	*e*P	**P**	**06 14 46.9**	**+0.6**
	comp=Z,44nm,1.3s,mb4.6						
AFI	**Afiamalu**	**21.82**	**100**	LR	LR	06 21 45.9	
	comp=Z,126nm,19.0s,baz=243,slow=32						
RAO	**Raoul Island**	**23.52**	**143**	LR	LR	06 21 02.2	
	comp=Z,128nm,21.4s,baz=298,slow=28						
URZ	**Urewera**	**28.88**	**162**	P	**P**	**06 15 58.9**	**-0.8**
	comp=Z,3.4nm,0.3s,mb4.4,baz=237,slow=2.9,SNR=7.8						
URZ				LR	LR	06 25 44.6	
	comp=Z,438nm,18.2s,baz=42,slow=32						
STKA	**Stephens Creek**	**30.68**	**224**	*e*P	**P**	**06 16 17.6**	**+1.8**
	comp=Z,6.2nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**30.68**	**224**	P	**P**	**06 16 16.8**	**+0.9**
	comp=Z,2.5nm,0.6s,mb4.1,baz=66,slow=2.6,SNR=6.1						
STKA				PcP	PcP	06 19 11.9	-0.3
	comp=Z,4.1nm,0.7s,baz=61,slow=6.0,SNR=3.7						
WRAB	**Tennant Creek**	**31.78**	**250**	⇑*i*P	**P**	**06 16 25.3**	**-0.2**
WRAB	**Tennant Creek**	**31.78**	**250**	*e*P	**P**	**06 16 24.9**	**-0.6**
	comp=Z,22nm,1.0s,mb4.8						
WB2	**Warramunga Arr**	**31.78**	**250**	⇑*i*P	**P**	**06 16 25.2**	**-0.3**
WRA	**Warramunga Arr**	**31.79**	**250**	P	**P**	**06 16 25.4**	**-0.3**
	comp=Z,7.4nm,0.6s,mb4.6,baz=81,slow=8.8,SNR=24						
WRA				PcP	PcP	06 19 14.6	-0.7
	comp=Z,3.3nm,0.7s,baz=77,slow=3.3,SNR=12						
RPZ	**Rata Peaks**	**32.87**	**173**	P	**P**	**06 16 34.3**	**-0.5**
	comp=Z,61nm,0.7s,mb5.5,baz=77,slow=0.8,SNR=33						
RPZ				LR	LR	06 28 03.1	
	comp=Z,366nm,20.8s,baz=27,slow=33						
KAKA	**Kakadu**	**32.94**	**264**	⇑*i*P	**P**	**06 16 35.3**	**-0.4**
	comp=Z,15nm,0.5s,mb5.1						
FITZ	**Fitzroy Crossi**	**39.69**	**255**	⇑*i*P	**P**	**06 17 33.2**	**+0.6**
	comp=Z,29nm,0.7s,mb5.2						
PPT	**Papeete**	**43.40**	**104**	*e*SS	SS	06 27 56.3	+23
	comp=Z,72nm,29.2s						
PPT				*e*LR	LR	06 30 13.7	
	comp=Z,284nm,29.5s						
TBI	**Tubuai**	**44.05**	**112**	*e*LQ		06 29 03.1	
	comp=Z,324nm,31.5s						
TBI				*e*LR	LR	06 30 46.3	
	comp=Z,393nm,31.0s,baz=285						
NWAO	**Narrogin (SRO)**	**49.74**	**236**	LR	LR	06 40 38.3	
	comp=Z,199nm,20.7s,baz=165,slow=37						
MJAR	**Matsushiro Arr**	**54.08**	**332**	P	**P**	**06 19 23.9**	**-1.4**
	comp=Z,11nm,0.7s,mb5.0,baz=167,slow=9.3,SNR=23						
MAJO	**Matsushiro**	**54.09**	**332**	*e*P	**P**	**06 19 23.8**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
MAJO	**Matsushiro**	**54.09**	**332**	*e*P	**P**	**06 19 23.8**	**-1.6**
	comp=Z,15nm,1.0s,mb5.0						
MAT	**Matsushiro**	**54.09**	**332**	*e*P	**P**	**06 19 24.0**	**-1.4**
MAT				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
MAT	**Matsushiro**	**54.09**	**332**	*e*P	**P**	**06 19 24.0**	**-1.4**
	comp=Z,9.7nm,0.8s,mb4.9						
MAT	**Matsushiro**	**54.09**	**332**	P	**P**	**06 19 23.9**	**-1.5**
JNU	**Nakatsue**	**55.23**	**324**	P	**P**	**06 19 33.0**	**-0.8**
	comp=Z,17nm,0.9s,mb5.1,baz=136,slow=4.6,SNR=11						
JNU				LR	LR	06 39 42.1	
	comp=Z,99nm,19.9s,baz=35,slow=32						
RKT	**Rikitea**	**57.31**	**110**	*e*S	**S**	**06 27 54.2**	**+17**
	comp=Z,301nm,28.0s						
RKT				*e*LR	LR	06 36 33.5	
	comp=Z,296nm,29.5s						
NJ2	**Nanjing**	**62.21**	**315**	*e*P	**P**	**06 20 22.1**	**-0.1**
NJ2				PP	PP	06 22 42.6	+0.6
NJ2				S	**S**	**06 28 39.0**	**-1.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,782nm,5.6s						
FX1	**Attu Island--F**	**63.92**	**5**	*e*P	**P**	**06 20 32.9**	**-0.3**
MDJ	**Mudanjiang**	**64.46**	**332**	P	**P**	**06 20 36.6**	**-0.3**
MDJ				AP	pP	06 20 59.3	+2.9
MDJ				PP	PP	06 23 00.6	-0.7
MDJ				S	**S**	**06 29 08.0**	**-0.2**
MDJ				SCS	ScS	06 30 21.3	+0.9
MDJ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,133nm,5.1s						
MDJ				LR	LR		
	comp=N,124nm,32.7s						
MDJ				LR	LR		
	comp=E,84nm,34.1s						
MDJ				LR	LR		
	comp=Z,54nm,19.1s						
MDJ	**Mudanjiang**	**64.46**	**332**	*e*P	**P**	**06 20 36.4**	**-0.5**
	comp=Z,18nm,1.1s,mb4.8						
CN2	**Changchun**	**65.87**	**329**	*e*P	**P**	**06 20 47.3**	**+1.4**
CASY	**Casey**	**66.53**	**201**	*e*P	**P**	**06 20 48.9**	**-0.8**
	comp=Z,9.4nm,1.1s,mb4.5						
VNDA	**Vanda**	**66.53**	**181**	*e*P	**P**	**06 20 48.9**	**-0.7**
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
VNDA	**Vanda**	**66.53**	**181**	P	**P**	**06 20 49.2**	**-0.4**
	comp=Z,1.9nm,0.7s,mb4.0,baz=332,slow=5.6,SNR=5.1						
VNDA	**Vanda**	**66.53**	**181**	*e*P	**P**	**06 20 48.9**	**-0.8**
	comp=Z,5.8nm,1.1s,mb4.3						
SBA	**Scott Base**	**66.83**	**180**	*e*P	**P**	**06 20 51.8**	**+0.3**
SBA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
SBA	**Scott Base**	**66.83**	**180**	*e*P	**P**	**06 20 51.8**	**+0.3**
	comp=Z,8.1nm,0.9s,mb4.5						
KLR	**Kul'dur**	**67.15**	**336**	*e*P	**P**	**06 20 51.0**	**-2.9**
XAN	**Xi'an**	**70.33**	**312**	P	**P**	**06 21 13.8**	**+0.1**
XAN				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.8						
KMI	**Kunming**	**71.37**	**301**	P	**P**	**06 21 21.3**	**+1.1**
KMI				AP	pP	06 21 45.1	+5.0
KMI				PP	PP	06 24 01.0	-0.3
KMI				S	S	06 30 29.1	-1.8
KMI				XS		06 31 08.0	
KMI				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,290nm,4.2s						
KMI				LR	LR		
	comp=Z,130nm,29.1s						
HHC	**Hu-ho-hao-te**	**72.01**	**320**	*e*P	**P**	**06 21 23.6**	**-0.1**
HHC				PCP	PcP	06 21 44.9	+2.8
HHC				PP	PP	06 24 00.4	-5.7
HHC				XS		06 31 07.4	
HHC				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.6						
HHC				LR	LR		
	comp=N,365nm,14.3s						
HHC				LR	LR		
	comp=E,255nm,11.9s						
HHC				LR	LR		
	comp=Z,345nm,14.3s						
SEY	**Seymchan**	**74.47**	**354**	⇑*i*P	**P**	**06 21 36.8**	**-0.9**
LZH	**Lanzhou**	**74.97**	**312**	⇑P	**P**	**06 21 42.0**	**+0.9**
LZH				PP	PP	06 24 33.5	+1.8
LZH				AMB	AMB		
	comp=Z,32nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,79nm,7.6s						
LZH				LR	LR		
	comp=N,302nm,14.9s						
LZH				LR	LR		
	comp=Z,507nm,17.8s						
CIT	**Chita**	**77.29**	**330**	*e*P	**P**	**06 21 54.7**	**+0.9**
CIT				pmax	pmax		
	comp=Z,71nm,1.1s,mb5.3						
YAK	**Yakutsk**	**78.15**	**343**	*e*P	**P**	**06 21 58.0**	**-0.3**
YAK				pmax	pmax		
	comp=Z,44nm,0.6s,mb5.4						
YAK	**Yakutsk**	**78.15**	**343**	*e*P	**P**	**06 21 58.0**	**-0.3**
	comp=Z,44nm,0.6s,mb5.4						
SONM	**Songino Array**	**78.82**	**324**	P	**P**	**06 22 02.9**	**+0.5**
	comp=Z,6.7nm,0.5s,mb4.7,baz=143,slow=5.6,SNR=39						
SONM				LR	LR	06 54 29.1	
	comp=Z,162nm,19.4s,baz=75,slow=34						
BILL	**Bilibino**	**78.84**	**0**	α*i*P	**P**	**06 22 02.1**	**0.0**
BILL						06 22 09.0	
BILL				*e*SS	SS	06 37 04.4	+3.0
BILL				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.0						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s						
QSPA	**South Pole Qui**	**79.00**	**180**	⇓*i*P	**P**	**06 22 03.0**	**+0.3**
	comp=Z,5.7nm,0.9s,mb4.4						
GTA	**Gaotai**	**79.26**	**314**	*e*P	**P**	**06 22 06.3**	**+1.4**
GTA				AP	pP	06 22 29.8	+4.6
GTA				PP	PP	06 25 08.5	+1.8
GTA				S	S	06 31 57.3	-0.3
GTA				AMB	AMB		
	comp=Z,22nm,0.9s,mb5.0						
GTA				AMB	AMB		
	comp=Z,255nm,6.1s						
GTA				LR	LR		
	comp=N,198nm,15.6s						
GTA				LR	LR		
	comp=E,281nm,15.6s						
GTA				LR	LR		
	comp=Z,214nm,14.5s						
SLKM	**Skilak Lake**	**79.26**	**20**	*e*P	**P**	**06 22 03.9**	**-0.6**
BOD	**Bodaibo**	**80.63**	**335**	*e*P	**P**	**06 22 11.1**	**-0.8**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.4						
DIV	**Divide**	**81.26**	**21**	*e*P	**P**	**06 22 13.7**	**-1.4**
	comp=Z,59nm,0.9s,mb5.4						
ZAK	**Zakamensk**	**81.85**	**325**	*e*P	**P**	**06 22 18.4**	**0.0**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.6						
MCK	**McKinley**	**82.01**	**19**	P	**P**	**06 22 16.7**	**-2.2**
MCK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
MCK	**McKinley**	**82.01**	**19**	P	**P**	**06 22 16.7**	**-2.2**
	comp=Z,8.0nm,0.9s,mb4.5						
TLY	**Talaya**	**82.27**	**326**	*e*P	**P**	**06 22 21.0**	**+0.5**
TLY				*e*		06 32 40.0	
TLY				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.9						
ILAR	**Eielson Array**	**83.38**	**18**	P	**P**	**06 22 25.1**	**-0.7**
	comp=Z,8.1nm,0.6s,mb4.7,baz=238,slow=5.1,SNR=232						
YBH	**Yreka Blue Hor**	**83.64**	**45**	*e*P	**P**	**06 22 28.6**	**+0.9**
YBH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YBH	**Yreka Blue Hor**	**83.64**	**45**	P	**P**	**06 22 28.2**	**+0.5**
	comp=Z,7.2nm,0.8s,mb4.5,baz=220,slow=2.1,SNR=16						
YBH	**Yreka Blue Hor**	**83.64**	**45**	*e*P	**P**	**06 22 28.6**	**+0.9**
	comp=Z,9.6nm,1.0s,mb4.6						
HUMO	**Hull Mountain**	**83.78**	**45**	*e*P	**P**	**06 22 29.2**	**+0.8**
	comp=Z,10.0nm,1.1s,mb4.6						
CMB	**Columbia Colle**	**84.08**	**50**	*e*P	**P**	**06 22 30.1**	**+0.1**
CMB				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
CMB	**Columbia Colle**	**84.08**	**50**	*e*P	**P**	**06 22 30.1**	**+0.1**
	comp=Z,5.5nm,1.0s,mb4.3						
MAW	**Mawson**	**84.87**	**202**	P	**P**	**06 22 33.0**	**-0.3**
	comp=Z,3.4nm,0.6s,mb4.5,baz=74,slow=4.3,SNR=10						
MAW				LR	LR	06 55 59.6	
	comp=Z,142nm,18.4s,baz=243,slow=32						
WCN	**Washoe City**	**84.95**	**49**	*e*P	**P**	**06 22 35.0**	**+0.7**
WCN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
WCN	**Washoe City**	**84.95**	**49**	*e*P	**P**	**06 22 35.0**	**+0.7**
	comp=Z,6.7nm,1.0s,mb4.5						
MTUM	**Tungsten Hills**	**85.24**	**51**	*e*P	**P**	**06 22 36.4**	**+0.6**
MOD	**Modoc**	**85.39**	**46**	*e*P	**P**	**06 22 35.1**	**-1.3**
	comp=Z,1.8nm,0.4s,mb4.3						
GUN	**Gumba**	**86.57**	**299**	*e*P	**P**	**06 22 43.5**	**+0.9**
	comp=Z,23nm,0.7s,mb5.2						
WVOR	**Wild Horse Val**	**86.74**	**46**	*e*P	**P**	**06 22 43.6**	**+0.6**
WVOR				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
WVOR	**Wild Horse Val**	**86.74**	**46**	*e*P	**P**	**06 22 43.6**	**+0.6**
	comp=Z,7.8nm,1.0s,mb4.6						
PKI	**Pulchoki**	**86.90**	**299**	*e*P	**P**	**06 22 44.8**	**+0.6**
	comp=Z,12nm,0.6s,mb5.0						
PKI	**Pulchoki**	**86.90**	**299**	*e*P	**P**	**06 22 44.8**	**+0.6**
PKI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
KKN	**Kakani**	**87.06**	**299**	*e*P	**P**	**06 22 45.6**	**+0.6**
DMN	**Daman**	**87.17**	**299**	*e*P	**P**	**06 22 46.3**	**+0.8**
	comp=Z,16nm,0.7s,mb5.1						
NEN	**Nelson**	**87.64**	**53**	*e*P	**P**	**06 22 47.4**	**-0.2**
GKN	**Gorkha**	**87.66**	**299**	*e*P	**P**	**06 22 47.7**	**-0.2**
	comp=Z,19nm,0.8s,mb5.2						
KOLN	**Koldanda**	**88.50**	**299**	*e*P	**P**	**06 22 51.2**	**-0.7**
	comp=Z,11nm,0.7s,mb5.0						
ARUT	**Antelope Range**	**89.27**	**51**	*e*P	**P**	**06 22 56.3**	**+1.1**
WMQ	**Urumqi**	**89.29**	**315**	*e*P	**P**	**06 22 55.0**	**-0.2**
HLID	**Hailey**	**90.03**	**46**	*e*P	**P**	**06 22 59.2**	**+0.6**
	comp=Z,4.7nm,1.0s,mb4.6						
TUC	**Tucson**	**90.10**	**57**	*e*P	**P**	**06 23 00.2**	**+0.9**
TUC				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
TUC	**Tucson**	**90.10**	**57**	*e*P	**P**	**06 23 00.2**	**+0.9**
	comp=Z,2.0nm,0.6s,mb4.4						
MVU	**Marysvale**	**90.39**	**51**	*e*P	**P**	**06 23 00.8**	**+0.3**
	comp=Z,7.4nm,1.0s,mb4.8						
MSU	**Marysvale**	**90.41**	**51**	*e*P	**P**	**06 23 01.9**	**+1.3**
HVU	**Hansel Valley**	**90.75**	**48**	*e*P	**P**	**06 23 02.2**	**+0.1**
SPUT	**South Promonto**	**90.87**	**48**	P	**P**	**06 22 59.4**	**-3.2**
CTU	**Camp Tracy**	**91.24**	**49**	*e*P	**P**	**06 23 05.3**	**+0.9**
MCMT	**McKenzie Canyo**	**91.43**	**45**	*e*P	**P**	**06 23 05.7**	**+0.5**
HWUT	**Hardware Ranch**	**91.59**	**48**	*e*P	**P**	**06 23 06.5**	**+0.5**
	comp=Z,3.8nm,1.0s,mb4.6						
BOZ	**Bozeman (W)**	**92.46**	**44**	*e*P	**P**	**06 23 10.2**	**+0.3**
BOZ				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
BOZ	**Bozeman (W)**	**92.46**	**44**	*e*P	**P**	**06 23 10.2**	**+0.3**
	comp=Z,3.8nm,1.0s,mb4.6						
IMW	**Indian Meadow**	**92.55**	**46**	*e*P	**P**	**06 23 11.2**	**+0.8**
	comp=Z,4.1nm,1.0s,mb4.7						
HRY	**Holter Researc**	**92.57**	**43**	*e*P	**P**	**06 23 10.6**	**+0.2**
SNOW	**Snow King Moun**	**92.59**	**46**	*e*P	**P**	**06 23 11.6**	**+1.1**
	comp=Z,5.2nm,1.0s,mb4.8						
MOOW	**Moose Ponds**	**92.66**	**46**	*e*P	**P**	**06 23 10.9**	**0.0**
	comp=Z,2.8nm,1.0s,mb4.5						
LOHW	**Long Hollow**	**92.73**	**46**	*e*P	**P**	**06 23 11.5**	**+0.3**
	comp=Z,3.2nm,0.9s,mb4.7						
PDAR	**Pinedale Array**	**93.30**	**47**	P	**P**	**06 23 13.8**	**+0.1**
	comp=Z,1.8nm,0.9s,mb4.4,baz=225,slow=2.1,SNR=12						
PDAR				PKKPbc		06 40 21.6	
	comp=Z,0.3nm,0.7s,baz=90,slow=4.4,SNR=3.8						
MKAR	**Makanchi Array**	**93.71**	**317**	P	**P**	**06 23 16.0**	**+0.5**
	comp=Z,15nm,0.7s,mb5.4,baz=95,slow=6.2,SNR=123						
MKAR	**Makanchi Array**	**93.71**	**317**	P	**P**	**06 23 16.0**	**+0.5**
ZAL	**Zalesovo**	**93.72**	**324**	P	**P**	**06 23 14.4**	**-1.0**
	comp=Z,3.7nm,0.6s,mb4.9,baz=357,slow=6.1,SNR=19						
ZAL				LR	LR	07 02 14.0	
	comp=Z,129nm,19.1s,baz=166,slow=33						
YKA	**Yellowknife Ar**	**94.80**	**27**	P	**P**	**06 23 19.1**	**-1.0**
	comp=Z,2.5nm,0.6s,mb4.8,baz=253,slow=4.7,SNR=11						
YKA	**Yellowknife Ar**	**94.80**	**27**	P	**P**	**06 23 19.1**	**-1.0**
NVS	**Novosibirsk**	**94.81**	**325**	*e*P	**P**	**06 23 19.0**	**-1.4**
KURK	**Kurchatov**	**96.81**	**320**	*e*P	**P**	**06 23 29.3**	**-0.3**
BVAR	**Borovoye Array**	**102.11**	**322**	P	Pdif	06 23 52.6	-0.9
	comp=Z,0.9nm,0.5s,baz=76,slow=6.1,SNR=7.0						
ARCES	**ARCESS Array B**	**116.38**	**346**	PKP	PKPdf	06 28 41.3	+0.7
	comp=Z,4.6nm,0.6s,baz=83,slow=1.8,SNR=38						
HASS	**Wahat al Ahsa'**	**118.39**	**293**	P	PKPdf	06 28 46.5	+1.0
SCHQ	**Schefferville**	**119.83**	**32**	PKP	PKPdf	06 28 48.1	+0.5
	comp=Z,1.2nm,0.7s,baz=270,slow=4.0,SNR=3.9						
KAF	**Kangasniemi**	**121.32**	**339**	*e*p	PKPdf	06 28 47.9	-2.4
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**121.85**	**339**	PKP	PKPdf	06 28 51.8	+0.5
	comp=Z,1.3nm,0.6s,baz=90,slow=1.9,SNR=7.6						
MZLS	**Mizel**	**122.50**	**291**	P	PKPdf	06 28 57.1	+3.7
DJNS	**Zahran al Janu**	**124.09**	**284**	P	PKPdf	06 28 59.1	+2.4
ARSS	**Ar Rass**	**124.19**	**294**	P	PKPdf	06 28 58.9	+2.2
HILS	**Ha'il**	**125.34**	**296**	P	PKPdf	06 29 01.9	+2.9
BOSA	**Boshof**	**125.36**	**223**	PKP	PKPdf	06 29 01.0	+2.0
	comp=Z,7.6nm,0.7s,baz=158,slow=2.0,SNR=17						
BLJS	**Baljurashi**	**125.95**	**287**	P	PKPdf	06 29 03.6	+3.3
NB2	**NORSAR Subarra**	**126.75**	**345**	PKPdf	PKPdf	06 29 01.5	+0.8
	comp=Z,3.1nm,1.0s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**126.75**	**345**	PKP	PKPdf	06 29 01.6	+0.9
	comp=Z,2.5nm,0.7s,baz=34,slow=2.0,SNR=10						
AKASG	**Malin Array Be**	**127.00**	**327**	PKP	PKPdf	06 29 02.5	+1.0
	comp=Z,1.2nm,0.8s,baz=51,slow=1.6,SNR=8.0						
LTHS	**Al Lith**	**127.06**	**287**	P	PKPdf	06 29 05.2	+2.8
ASF	**Jabal al Asfar**	**128.79**	**302**	PKP	PKPdf	06 29 08.1	+2.5
	comp=Z,1.2nm,0.3s,baz=345,slow=4.7,SNR=3.5						
BRTR	**Keskin Array B**	**129.17**	**313**	PKP	PKPdf	06 29 07.2	+1.1
	comp=Z,1.2nm,0.7s,baz=135,slow=3.5,SNR=6.6						
CLL	**Collm**	**134.20**	**337**	⇑*i*PKIKP	PKPdf	06 29 17.1	+1.9
CLL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CLL	**Collm**	**134.20**	**337**	⇑*i*PKIKP	PKPdf	06 29 17.1	+1.9
	comp=Z,logA/T=0.8						
CLL				*e*PP	PP	06 31 55.0	+3.8
CLL	**Collm**	**134.20**	**337**	⇑*i*PKIKP	PKPdf	06 29 17.2	+2.0
	comp=Z,logA/T=0.8						
GERES	**GERESS Array B**	**135.81**	**334**	PKP	PKPdf	06 29 19.4	+1.2
	comp=Z,1.3nm,0.7s,slow=1.3,SNR=10						
LPL	**La Plagne**	**141.34**	**337**	*e*PKIKP	PKPdf	06 29 26.1	-2.2
LPG	**La Plagne**	**141.34**	**337**	*e*PKIKP	PKPdf	06 29 26.2	-2.1
BNI	**Bardonecchia**	**141.74**	**336**	*e*PKIKP	PKPdf	06 29 26.8	-2.2
MBDF	**Montbardon**	**141.97**	**336**	*e*PKIKP	PKPdf	06 29 26.4	-3.0
	comp=Z,5.4nm,0.7s						
ORIF	**Oris-en-Rattie**	**142.17**	**337**	*e*PKIKP	PKPdf	06 29 26.3	-3.5
	comp=Z,12nm,0.7s						
ORIF				*e*R			
	comp=Z,64nm,19.5s						
TCF	**Toulx Ste Croi**	**142.25**	**342**	*e*PKIKP	PKPdf	06 29 27.5	-2.4
	comp=Z,5.2nm,0.7s						
SBF	**Sospel**	**142.41**	**334**	*e*PKIKP	PKPdf	06 29 27.7	-2.5
	comp=Z,38nm,0.9s						
MFF	**Saint Martin d**	**142.64**	**344**	*e*PKIKP	PKPdf	06 29 27.6	-2.9
	comp=Z,19nm,1.1s						
VIVF	**Saint-Julien-l**	**142.67**	**338**	*e*PKIKP	PKPdf	06 29 28.3	-2.3
PGF	**Pioggiola**	**142.75**	**332**	*e*PKIKP	PKPdf	06 29 28.1	-2.7
	comp=Z,59nm,1.5s						
SMRF	**Simiane la Rot**	**143.08**	**336**	*e*PKIKP	PKPdf	06 29 28.7	-2.6
	comp=Z,6.7nm,0.8s						
LMR	**La Mourre**	**143.23**	**335**	*e*PKIKP	PKPdf	06 29 28.9	-2.7
RJF	**Les Rejaudoux**	**143.35**	**342**	*e*PKIKP	PKPdf	06 29 29.2	-2.5
	comp=Z,4.8nm,0.6s						
RJF				*e*R			
	comp=Z,102nm,19.5s						
LASF	**Ste Croix**	**143.64**	**338**	*e*PKIKP	PKPdf	06 29 29.9	-2.4
	comp=Z,26nm,0.9s						
LFF	**La Frestale**	**143.91**	**342**	*e*PKIKP	PKPdf	06 29 30.5	-2.2
	comp=Z,32nm,0.8s						
VSL	**Villasalto**	**144.87**	**328**	*e*PKP	PKPdf	06 29 35.6	+1.0
ESDC	**Sonseca Array**	**150.11**	**344**	PKPbc	PKPdf	06 29 50.2	+6.9
	comp=Z,1.3nm,0.5s,baz=18,slow=2.5,SNR=15						
ESDC				PKPab	PKPab	06 29 56.6	-0.1
	comp=Z,3.0nm,0.6s,baz=12,slow=4.5,SNR=10						
ESLA	**Sonseca Array**	**150.11**	**344**	*e*PKPbc	PKPdf	06 29 50.0	+6.7
MTE	**Manteigas**	**150.19**	**350**	*e*PKPbc	PKPdf	06 29 50.2	+6.9

IDC 18 06:12:14.2±30.0**, 2.27S**×**99.65E, mb4.0**/4**, mb1 4.2**/4**, mb1mx3.7**/17**, mbtmp4.0**/4**, Error ellipse: s-maj=617.3km s-min=134.0km az=165.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**50.24**	**6**	P	P	06 21 12.3	-1.9
	0.8nm,0.5s,baz=188,slow=9.3,SNR=6.0						
MKAR	**Makanchi Array**	**51.19**	**345**	P	P	06 21 19.4	-2.1
	0.9nm,0.3s,baz=154,slow=8.7,SNR=14						
ZAL	**Zalesovo**	**57.36**	**350**	P	P	06 22 03.8	-2.8
	2.1nm,0.3s,baz=242,slow=7.0,SNR=4.4						
BVAR	**Borovoye Array**	**60.31**	**340**	P	P	06 22 24.7	-2.4
	0.4nm,0.5s,baz=108,slow=9.1,SNR=3.5						

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*IDC **18** 06:18:21.8±1.9, 24.29S×111.52W, mb4.2/2, mb1 4.5/3, mb1mx3.9/15, mbtmp4.2/3, ML3.6/1, MS3.6/4, Ms1 3.6/4, ms1mx3.4/17, Error ellipse: s-maj=132.5km s-min=32.9km az=67.0*

*NEIC **18** 06:18:23.4±0.9, 24.47S×111.58W, h10km, mb4.6/2, Error ellipse: s-maj=66.2km s-min=13.0km az=69.0*

ISC 18 06:18:21.5±1.1**, 24.4S**±0.2×**111.5W**±0.4**, h10**km**, n19, σ0.64**/11**, mb4.3**/4**, MS3.5**/3**, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**3.32**	**145**	Pn	**Pn**	**06 19 15.2**	**+0.6**
	6.0nm,0.3s,baz=319,slow=19,SNR=3.3						
RPN				Sn	**Sn**	**06 19 54.4**	**-0.2**
	5.5nm,0.3s,baz=79,slow=8.2,SNR=2.7						
RPN				LR	LR	06 19 58.5	
	comp=Z,1μm,20.5s,baz=260,slow=28						
LPAZ	**La Paz**	**41.30**	**87**	LR	LR	06 39 21.9	
	comp=Z,38nm,20.8s,MS3.2,baz=128,slow=30						
CPUP	**Villa Florida**	**48.66**	**104**	LR	LR	06 42 27.1	
	comp=Z,44nm,21.6s,MS3.4,baz=113,slow=30						
BDFB	**Brasilia**	**59.83**	**94**	LR	LR	06 52 08.7	
	comp=Z,67nm,18.0s,MS3.8,baz=29,slow=34						
MOD	**Modoc**	**66.48**	**353**	*e*P	**P**	**06 29 14.0**	**+0.6**
	3.1nm,1.0s,mb4.3						
PDAR	**Pinedale Array**	**66.86**	**2**	P	**P**	**06 29 14.4**	**-1.4**
	1.2nm,0.7s,mb4.1,baz=172,slow=6.4,SNR=12						
HLID	**Hailey**	**67.69**	**358**	*e*P	**P**	**06 29 21.1**	**+0.1**
	5.6nm,1.0s,mb4.5						
MCMT	**McKenzie Canyo**	**68.91**	**359**	*e*P	**P**	**06 29 29.2**	**+0.6**
HRY	**Holter Researc**	**70.78**	**360**	*e*P	**P**	**06 29 40.4**	**+0.4**
VNA3	**Neumayer Olymp**	**70.82**	**160**	P	**P**	**06 29 39.0**	**-0.8**
VNA2	**Neumayer--Watz**	**71.63**	**160**	P	**P**	**06 29 45.2**	**+0.5**
SNAA	**Sanae**	**72.68**	**162**	P	**P**	**06 29 43.7**	**-7.2**
YKA	**Yellowknife Ar**	**86.64**	**359**	P	**P**	**06 31 05.6**	**-0.4**
	2.3nm,0.9s,mb4.4,baz=173,slow=4.6,SNR=12						
AKASG	**Malin Array Be**	**139.98**	**39**	PKP	PKPdf	06 37 54.0	+0.9
	0.2nm,0.2s,baz=304,slow=2.0,SNR=4.2						
BRTR	**Keskin Array B**	**146.97**	**54**	PKPbc	PKPbc	06 38 07.6	+3.5
	0.8nm,0.7s,baz=260,slow=2.6,SNR=5.1						
BVAR	**Borovoye Array**	**151.39**	**358**	PKP	PKPdf	06 38 11.5	-0.5
	3.5nm,0.7s,baz=90,slow=1.5,SNR=3.7						
BVAR				PKPbc	PKPdf	06 38 17.2	+5.2
	3.6nm,0.7s,slow=1.4,SNR=21						
BVAR				PKPab	PKPab	06 38 24.3	-1.3
	3.7nm,0.8s,slow=2.9,SNR=3.5						
BVAR	**Borovoye Array**	**151.39**	**358**	PKPab	PKPab	06 38 24.3	-1.3
MKAR	**Makanchi Array**	**155.09**	**337**	PKPbc	PKPdf	06 38 24.8	+7.4
	1.0nm,0.7s,baz=129,slow=1.8,SNR=3.6						
MKAR	**Makanchi Array**	**155.09**	**337**	PKPbc	PKPdf	06 38 24.8	+7.4

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*IDC **18** 06:30:28.8±0.8, 14.80N×93.73E, mb4.1/9, mb1 4.3/9, mb1mx4.0/20, mbtmp4.1/9, MS4.0/5, Ms1 4.0/5, ms1mx3.6/21, Error ellipse: s-maj=31.4km s-min=17.9km az=64.0*

*BJI **18** 06:30:32.8, 14.77N×93.73E, h40km, mB4.7, mb4.5, Ms4.5, Msz4.2*

*NEIC **18** 06:30:34.5±1.3, 14.81N×93.70E, h39km±13km, mb4.6/3, Error ellipse: s-maj=11.9km s-min=8.5km az=72.0*

ISC 18 06:30:32.1±0.4**, 14.85N**±0.05×**93.62E**±0.05**, h33**km**, n44, σ1.22**/42**, mb4.2**/14**, MS4.0**/6**, 1C-1D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NST	Nakhon Sawan	6.34	82	P	P	06 32 06.0	+0.4
NNT	Nongplab	6.35	110	P	P	06 32 07.6	+1.9
CHG	Chiang Mai	6.44	52	PG	P	06 32 10.1	+3.1
CHG				SG	S	06 33 20.3	0.0
CHRT	Chiangrai	7.71	49	⇑P	P	06 32 23.0	-1.8
	474nm,0.5s						
IMP	Imphal	9.89	2	*i* P	P	06 32 55.0	0.0
VIS	Vishakhapatnam	10.29	288	*i* P	P	06 32 56.3	-4.3
	9.0nm,0.6s						
VIS				*i* S	S	06 34 42.1	-14
SHL	Shillong	10.79	352	*e*P	P	06 33 02.2	-5.2
SHL				*e*S	S	06 34 57.2	-11
KULM	Kulim	11.75	143	P	P	06 33 19.9	-0.5
HYB	Hyderabad	14.70	282	*e*P	P	06 34 08.0	+8.3
HYB				*e*S	S	06 36 35.0	-7.2
PALK	Pallekele	14.74	241	*e*P	P	06 34 00.1	-0.1
PKI	Pulchoki	14.79	330	*e*P	P	06 33 59.6	-1.1
GUN	Gumba	14.86	332	*e*P	P	06 33 58.7	-2.9
	16nm,0.4s						
LSA	Lhasa	14.96	352	*e*P	P	06 34 01.3	-1.6
LSA	Lhasa	14.96	352	*e*P	P	06 34 03.9	+1.0
	33nm,1.2s						
DMN	Daman	14.97	329	*e*P	P	06 34 03.8	+0.8
	13nm,0.4s						
KKN	Kakani	15.03	330	*e*P	P	06 34 03.8	-0.1
GKN	Gorkha	15.52	329	*e*P	P	06 34 09.6	-0.7
	7.6nm,0.3s						
KOLN	Koldanda	15.88	326	*e*P	P	06 34 14.1	-0.7
	6.3nm,0.3s						
CD2	Chengdu	18.49	28	*e*P	P	06 34 45.0	-2.7
POO	Poona	19.29	284	*e*S	S	06 38 14.0	-14
ENH	Enshi	21.18	41	*e*P	P	06 35 16.2	-0.8
	19nm,0.7s,mb4.5						
LZH	Lanzhou	23.04	22	⇓P	P	06 35 36.5	+1.0
LZH				AP		06 35 46.1	
LZH				XP		06 35 50.3	
LZH				AMB	AMB		
	comp=Z,34nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,75nm,5.7s						
LZH				LR	LR		
	comp=E,428nm,13.5s						
LZH				LR	LR		
	comp=Z,737nm,17.3s,MS4.2						
XAN	Xi'an	23.59	33	P	P	06 35 40.6	-0.2
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
GTA	Gaotai	25.07	11	*e*P	P	06 35 56.6	+1.6
GTA				AP	pP	06 36 03.9	-0.5
GTA				XP	sP	06 36 07.9	-0.2
GTA				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.4						
WMQ	Urumqi	29.32	351	*e*P	P	06 36 35.8	+2.0
MKAR	Makanchi Array	33.23	346	P	P	06 37 08.8	+0.6
	comp=Z,2.0nm,0.8s,mb4.1,baz=153,slow=8.1,SNR=14						
SONM	Songino Array	34.55	15	P	P	06 37 20.3	+0.7
	comp=Z,5.4nm,1.1s,mb4.4,baz=196,slow=9.0,SNR=23						
KURK	Kurchatov	37.78	344	*e*P	P	06 37 47.4	+0.6
	comp=Z,9.0nm,1.1s,mb4.4						
ZAL	Zalesovo	39.61	352	P	P	06 38 02.0	-0.1
	comp=Z,2.9nm,0.5s,mb4.3,baz=291,slow=5.5,SNR=12						
MBWA	Marble Bar	44.02	144	*e*P	P	06 38 38.1	-0.5
MJAR	Matsushiro Arr	45.12	53	LR	LR	06 59 26.5	
	comp=Z,110nm,18.5s,MS3.8,baz=250,slow=38						
FITZ	Fitzroy Crossi	45.47	135	P	P	06 38 48.8	-1.6
	comp=Z,4.4nm,0.6s,mb4.5,baz=328,slow=2.5,SNR=2.6						
WRA	Warramunga Arr	52.90	130	P	P	06 39 45.2	-2.3
	comp=Z,1.5nm,0.9s,mb3.9,baz=315,slow=7.8,SNR=4.1						
BRTR	Keskin Array B	57.64	308	P	P	06 40 21.2	-0.4
	comp=Z,0.4nm,0.4s,mb3.8,baz=124,slow=10,SNR=3.1						
KMBO	Kilima Mbogo	57.96	259	LR	LR	07 00 44.9	
	comp=Z,82nm,20.2s,MS3.8,baz=276,slow=31						
SANT	Santorini	63.85	303	*e*P	P	06 41 06.0	+2.2
ARCES	ARCESS Array B	68.58	339	LR	LR	07 17 04.1	
	comp=Z,88nm,18.1s,MS4.0,baz=286,slow=41						
GERES	GERESS Array B	72.36	317	P	P	06 41 57.4	+0.9
	comp=Z,1.1nm,0.5s,mb4.1,baz=90,slow=6.7,SNR=11						
NOA	NORSAR Array B	73.46	330	P	P	06 42 02.4	-0.4
	comp=Z,0.2nm,0.4s,mb3.4,baz=93,slow=12,SNR=3.3						
LBTB	Lobatse	77.22	240	P	P	06 42 25.4	+0.3
BOSA	Boshof	78.92	236	P	P	06 42 35.6	+1.2
	comp=Z,2.6nm,0.8s,mb4.2,baz=142,slow=4.7,SNR=6.0						
YKA	Yellowknife Ar	99.79	13	LR	LR	07 36 56.9	
	comp=Z,74nm,18.7s,MS4.2,baz=180,slow=40						
VNDA	Vanda	99.82	168	LR	LR	07 31 00.8	
	comp=Z,70nm,18.2s,MS4.2,baz=305,slow=36						
PLCA	Paso Flores	150.76	205	PKPbc	PKPdf	06 50 25.1	+10
	comp=Z,3.6nm,1.0s,baz=129,slow=3.6,SNR=5.8						

JMA 18 07:17:33.3±0.3, 44.00N×148.30E, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.96	252	P	Pn	07 18 08.2	+0.1
NEM2				*e*S	Sn	07 18 33.8	0.0
JRA	Rausu	2.29	270	P	Pn	07 18 13.2	+0.3
JNK	Nakash	2.63	262	P	Pn	07 18 17.8	+0.1
JNK				*e*S	Sn	07 18 50.1	-0.6
JAK	Akkeshi	2.81	250	P	Pn	07 18 20.4	+0.1
JAK				*e*S	Sn	07 18 54.7	-0.6
JAR	Ashorobuto	3.36	260	P	Pn	07 18 29.0	+0.9
JAR				*e*S	Sn	07 19 09.8	+0.4
JCH	Churui	3.86	251	P	Pn	07 18 35.7	+0.5
JCH				*e*S	Sn	07 19 21.3	-0.7
JNBK	Urakawa-nobuka	4.41	249	P	Pn	07 18 42.8	-0.2
JNBK				*e*S	Sn	07 19 34.7	-1.2
JKB	Kayabe	5.74	251	P	Pn	07 19 00.8	-1.0
JKB				*e*S	Sn	07 20 05.6	-3.7
JOT	Ohata	5.95	246	P	Pn	07 19 03.8	-1.0
JOT				*e*S	Sn	07 20 10.6	-4.0

*NEIC **18** 07:48:42.0±2.7, 23.62S×179.93W, h513km±27km, mb5.2/7, Error ellipse: s-maj=23.4km s-min=11.4km az=54.0*

*IDC **18** 07:48:45.2±1.6, 23.60S×179.80E, h535km±13km, mb3.8/6, mb1 3.9/6, mb1mx3.7/11, mbtmp4.7/6, Error ellipse: s-maj=18.0km s-min=17.2km az=58.0*

ISC 18 07:48:46.2±2.3**, 23.69S**±0.08×**179.8E**±0.1**, h567**km±25km**, n51, σ0^{s}88**/34**, mb4.7**/10**, 7C-6D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	14.40	185	SN	S	07 54 18.2	+2.1
URZ	Urewera	14.71	188	P	P	07 51 48.5	-3.5
	3.6nm,0.3s,baz=18,slow=3.3,SNR=22						
URZ				S	S	07 54 20.1	-1.5
	3.1nm,0.3s,baz=58,slow=23,SNR=12						
URZ	Urewera	14.71	188	PN	P	07 51 50.3	-1.7
NNZ	Nelson	18.29	196	*e*PN	P	07 52 25.4	-1.0
NNZ				SN	S	07 55 23.8	+0.1
ARMA	Armidale	25.91	249	*e*P	P	07 53 36.2	+0.6
CTA	Charters Tower	31.27	270	⇓*i*P	P	07 54 23.1	+1.2
	54nm,0.3s,mb5.5						
CTAO	Charters Tower	31.27	270	*e*P	P	07 54 22.7	+0.8
	66nm,0.4s,mb5.5						
PMG	Port Moresby	34.23	289	P	P	07 54 47.5	+0.8
	58nm,0.8s,mb5.2,baz=122,slow=6.5,SNR=9.1						
PMG	Port Moresby	34.23	289	*e*P	P	07 54 47.7	+0.9
	76nm,1.3s,mb5.1						
STKA	Stephens Creek	34.61	248	⇓*i*P	P	07 54 50.9	+1.1
	3.7nm,0.4s,mb4.3						
STKA	Stephens Creek	34.61	248	P	P	07 54 51.0	+1.1
	4.8nm,0.5s,mb4.3,baz=97,slow=9.1,SNR=26						
STKA				ScP		08 00 04.2	
	0.6nm,0.3s,baz=49,slow=11,SNR=2.8						
STKA	Stephens Creek	34.61	248	*e*P	P	07 54 51.0	+1.2
WB2	Warramunga Arr	42.20	266	*e*P	P	07 55 51.1	-0.5
WRAB	Tennant Creek	42.21	266	⇓*e*P	P	07 55 51.4	-0.2
	30nm,0.5s,mb5.1						
WRA	Warramunga Arr	42.22	266	P	P	07 55 51.8	+0.1
	14nm,0.3s,mb4.9,baz=90,slow=6.1,SNR=162						
WRA				ScP		08 00 35.6	
	2.9nm,0.8s,baz=101,slow=4.1,SNR=8.8						
WRA				S	S	08 01 31.2	-1.0
	1.9nm,0.7s,baz=98,slow=13,SNR=6.7						
GUMO	Guam	50.37	314	*e*P	P	07 56 49.1	-4.7
	59nm,0.4s,mb5.4						
FITZ	Fitzroy Crossi	50.64	266	*e*P	P	07 56 55.7	0.0
	29nm,0.7s,mb4.7						
VNDA	Vanda	54.58	185	P	P	07 57 23.7	+0.7
	0.7nm,0.5s,baz=355,slow=7.5,SNR=8.5						
VNDA				ScP		08 01 24.0	
	1.4nm,0.7s,baz=340,slow=3.8,SNR=8.6						
VNDA	Vanda	54.58	185	*e*P	P	07 57 23.0	0.0
	1.6nm,0.9s						
SBA	Scott Base	54.58	183	*e*P	P	07 57 23.9	+0.9
	4.9nm,0.8s,mb3.8						
NWAO	Narrogin (SRO)	55.14	245	*e*P	P	07 57 26.1	-1.4
MBWA	Marble Bar	55.21	260	*e*P	P	07 57 28.0	-0.1
MUN	Mundaring	56.13	246	*e*P	P	07 57 34.6	+0.3
CASY	Casey	60.21	206	*e*P	P	07 58 00.3	-1.1
QSPA	South Pole Qui	66.40	180	*e*P	P	07 58 41.3	+0.8
	9.0nm,0.6s,mb4.5						
MJAR	Matsushiro Arr	71.60	326	P	P	07 59 11.4	-0.8
	4.9nm,0.8s,mb4.0,baz=167,slow=6.0,SNR=11						
MAJO	Matsushiro	71.61	326	*e*P	P	07 59 12.1	-0.1
SNAA	Sanae	84.89	179	⇑*i*	P	08 00 21.5	-0.4
SNAA	Sanae	84.89	179	P	P	08 00 22.0	+0.1
	0.6nm,0.5s,baz=203,slow=10,SNR=18						
VNA3	Neumayer Olymp	85.10	177	⇑*i*	P	08 00 23.0	+0.1
VNA2	Neumayer--Watz	85.52	178	⇑*i*	P	08 00 25.2	+0.2
MKAR	Makanchi Array	111.86	313	PKiKP		08 06 17.8	
	0.4nm,0.5s,baz=194,slow=0.3,SNR=5.1						
BVAR	Borovoye Array	120.14	319	PKP	PKPdf	08 06 33.8	+1.2
	1.2nm,0.4s,baz=90,slow=1.5,SNR=7.9						
ARCES	ARCESS Array B	131.63	348	PKP	PKPdf	08 06 54.2	0.0
	3.3nm,0.9s,slow=1.2,SNR=7.5						
ARCES				SKPbc		08 09 31.4	
	2.7nm,0.9s,baz=45,slow=3.4,SNR=4.6						
ARCES	ARCESS Array B	131.63	348	PKP	PKPdf	08 06 54.2	0.0
ARCES				SKPbc		08 09 31.4	
FINES	FINESS Array B	138.18	341	PKP	PKPdf	08 07 08.8	+2.4
	0.6nm,0.5s,baz=90,slow=1.9,SNR=5.5						
FINES				SKPbc		08 09 52.4	
	3.9nm,0.8s,baz=135,slow=8.1,SNR=9.2						
FINES	FINESS Array B	138.18	341	PKP	PKPdf	08 07 08.8	+2.4
FINES				SKPbc		08 09 52.4	
NB2	NORSAR Subarra	141.84	351	PKPabc	PKPdf	08 07 10.4	-2.4
	1.1nm,0.6s,baz=20,slow=2.9						
NOA	NORSAR Array B	141.84	351	PKhKP		08 07 10.4	
	1.4nm,0.7s,baz=16,slow=4.7,SNR=7.7						
NOA				SKPbc		08 10 01.8	
	1.4nm,0.8s,baz=15,slow=4.2,SNR=4.6						
MALT	Malatya	144.08	303	*e*PKP	PKPdf	08 07 20.5	+3.1
AKASG	Malin Array Be	144.68	327	PKP	PKPdf	08 07 19.8	+1.7
	3.2nm,0.4s,baz=42,slow=4.2,SNR=36						
AKASG				SKPbc		08 10 09.3	
	2.6nm,0.7s,baz=46,slow=2.2,SNR=12						
BRTR	Keskin Array B	147.28	307	PKPbc	PKPdf	08 07 28.2	+5.4
	3.0nm,0.6s,baz=123,slow=3.9,SNR=8.6						
BRTR				PKPab	PKPab	08 07 32.6	+0.2
	4.1nm,0.6s,baz=94,slow=4.4,SNR=14						
CFR	Carcaliu	148.53	320	⇑P	PKPdf	08 07 32.0	+7.5
CFR	Carcaliu	148.53	320	⇑P	PKPdf	08 07 32.0	+7.4
BURAR	Bucovina Array	148.68	326	⇓P	PKPdf	08 07 23.2	-1.5
BURAR	Bucovina Array	148.68	326	⇓P	PKPdf	08 07 23.2	-1.5
MLR	Muntele Rosu	149.62	322	⇑P	PKPdf	08 07 34.7	+8.4
MLR	Muntele Rosu	149.62	322	⇑P	PKPdf	08 07 34.7	+8.4
CLL	Collm	150.59	343	⇓*i*PKP1	PKPdf	08 07 35.9	+8.3
CLL				*i* PKP2	PKPab	08 07 45.0	-0.5
GERES	GERESS Array B	152.58	340	PKPbc	PKPdf	08 07 40.0	+9.5
	0.3nm,0.3s,baz=90,slow=1.3,SNR=4.8						
GERES				PKPab	PKPab	08 07 53.6	-0.3
	0.4nm,0.2s,baz=34,slow=4.8,SNR=3.9						
DAVOX	Davos	155.56	343	PKPab	PKPab	08 08 07.4	+0.8
	4.6nm,0.7s,baz=24,slow=4.8,SNR=4.1						

*BJI **18** 08:08:48.2, 1.80N×110.20W, h10km, mB5.4, Ms4.7, Msz4.6*

*IDC **18** 08:08:48.7±0.9, 1.86N×110.29W, mb4.4/16, mb1 4.5/16, mb1mx4.4/21, mbtmp4.4/16, MS3.9/18, Ms1 3.9/18, ms1mx3.8/24, Error ellipse: s-maj=35.4km s-min=14.2km az=61.0*

*HRVD **18** 08:08:50.2±1.0, 1.93N×110.29W, h14km±2km, MW4.8/45, Centroid moment Tensor Solution. LP body waves: s10,c12; Mantle waves: s45,c60; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.75±.26; Mθθ-1.44±.16; Mφφ-0.31±.16; Mrθ0.31±.40; Mθφ0.34±.13; Mφr-0.49±.57; Best double couple: Mo1.735×10^16 NP1:φs276°,δ38°,λ74°. NP2:φs117°,δ53°,λ103°. Principal axes: T 1.878, Plg77°, Azm72°; N -.293, Plg10°, Azm289°; P -1.593, Plg8°, Azm198°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **18** 08:08:50.2±0.3, 1.84N×110.17W, h10km, mb4.9/33, MS4.1/11 Error ellipse: s-maj=9.4km s-min=5.2km az=70.0*

ISC 18 08:08:48.7±0.5**, 1.86N**±0.07×**110.16W**±0.09**, h10**km**, n120, σ0^{s}94**/99**, mb4.6**/45**, MS4.0**/30**, 4C, Eastcentral Pacific Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTS	JuntasAbangare	26.41	70	LR	LR	08 22 29.7	
	comp=Z,115nm,18.1s,MS3.5,baz=112,slow=31						
RPN	Rapa Nui	28.82	178	LR	LR	08 23 04.2	
	comp=Z,319nm,20.9s,MS3.9,baz=328,slow=30						
BNM	Barren Site	32.30	5	*e*P	P	08 15 20.2	+0.1
LAZ	Ladron	32.50	5	*e*P	P	08 15 22.5	+0.7
ANMO	Albuquerque	33.11	6	P	P	08 15 27.6	+0.5
	1.6nm,0.4s,mb4.3,baz=181,slow=9.4,SNR=13						
ANMO	Albuquerque	33.11	6	*e*P	P	08 15 27.1	+0.1
	21nm,1.5s,mb4.8						
ANMO				LR	LR		
	comp=Z,416nm,20.0s,MS4.1						
NEN	Nelson	33.90	353	*e*P	P	08 15 33.6	-0.4
ARUT	Antelope Range	35.88	356	*e*P	P	08 15 51.9	+0.9
SDCO	Great Sand Dun	35.97	6	*e*P	P	08 15 52.1	+0.4
	comp=Z,62nm,1.8s,mb5.2						
SDCO				LR	LR		
	comp=Z,545nm,20.0s,MS4.3						
MTUM	Tungsten Hills	36.16	349	*e*P	P	08 15 53.5	+0.2
MVU	Marysvale	36.52	357	*e*P	P	08 15 57.1	+0.8
	comp=Z,24nm,1.4s,mb4.8						
MSU	Marysvale	36.53	357	*e*P	P	08 15 57.1	+0.8
TPH	Tonopah	36.62	351	*e*P	P	08 15 58.2	+1.0
	comp=Z,19nm,1.2s,mb4.8						
TPH				LR	LR		
	comp=Z,196nm,21.0s,MS3.9						
TRCR	Troy Canyon	36.66	353	*e*P	P	08 15 58.2	+0.8
UALR	University of	36.72	25	*e*P	P	08 15 58.5	+0.5
	comp=Z,26nm,1.5s,mb4.8						
SRU	San Rafael	37.08	360	*e*P	P	08 16 01.2	+0.2
CMB	Columbia Colle	37.21	347	*e*P	P	08 16 02.1	+0.1
	comp=Z,17nm,1.5s,mb4.7						
CMB				LR	LR		
	comp=Z,434nm,20.0s,MS4.2						
SMCO	Snowmass	37.26	4	*e*P	P	08 16 03.3	+0.9
TMUT	Trail Mountain	37.28	359	*e*P	P	08 16 03.3	+0.7
OXF	Oxford	37.82	28	*e*P	P	08 16 06.7	-0.5
	comp=Z,29nm,1.2s,mb4.9						
LRAL	Lakeview Retre	37.88	33	*e*P	P	08 16 07.5	-0.2
	comp=Z,32nm,1.5s,mb4.8						
LRAL				LR	LR		
	comp=Z,124nm,19.0s,MS3.7						
NLU	North Lily Min	37.96	358	*e*P	P	08 16 08.2	-0.2
ISCO	Idaho Springs	37.99	6	*e*P	P	08 16 10.0	+1.3
	comp=Z,39nm,1.4s,mb5.0						
ISCO				LR	LR		
	comp=Z,724nm,20.0s,MS4.5						
MPU	Maple Canyon	38.01	358	*e*P	P	08 16 09.0	+0.2
WCN	Washoe City	38.28	348	*e*P	P	08 16 12.1	+1.0
	comp=Z,31nm,1.6s,mb4.8						
DAU	Daniels Canyon	38.39	359	*e*P	P	08 16 12.9	+0.9
JLU	Jordanelle	38.59	358	*e*P	P	08 16 14.8	+1.1
CTU	Camp Tracy	38.69	358	*e*P	P	08 16 15.4	+1.0
GNAR	Gosnell	38.73	27	*e*P	P	08 16 15.1	+0.2
ELK	Elko	38.98	354	P	P	08 16 18.1	+1.1
	comp=Z,6.8nm,1.0s,mb4.3,baz=180,slow=7.2,SNR=23						
ELK				LR	LR	08 29 07.2	
	comp=Z,226nm,22.0s,MS4.0,baz=159,slow=31						
ELK	Elko	38.98	354	*e*P	P	08 16 17.6	+0.6
	comp=Z,24nm,1.5s,mb4.7						
ELK				LR	LR		
	comp=Z,271nm,21.0s,MS4.0						
TCUT	Toone Canyon	39.10	359	*e*P	P	08 16 18.7	+0.8
SPUT	South Promonto	39.33	357	*e*P	P	08 16 20.6	+0.7
PHWY	Pilot Hill	39.50	6	*e*P	P	08 16 21.9	+0.7
WVT	Waverly	39.88	29	*e*P	P	08 16 23.7	-0.8
	comp=Z,30nm,1.5s,mb4.8						
WVT				LR	LR		
	comp=Z,231nm,19.0s,MS4.0						
SDV	Santo Domingo	39.94	78	P	P	08 16 26.4	+1.3
	comp=Z,10nm,0.7s,mb4.7,baz=272,slow=2.5,SNR=3.4						
SDV	Santo Domingo	39.94	78	*e*P	P	08 16 26.2	+1.0
	comp=Z,49nm,1.5s,mb5.0						
CCM	Cathedral Cave	39.99	23	*e*P	P	08 16 24.8	-0.6
	comp=Z,60nm,1.9s,mb5.0						
CCM				LR	LR		
	comp=Z,369nm,22.0s,MS4.2						
PDAR	Pinedale Array	40.73	1	P	P	08 16 31.9	+0.5
	comp=Z,1.3nm,0.6s,mb3.8,baz=180,slow=5.9,SNR=18						
PDAR				LR	LR	08 31 38.9	
	comp=Z,315nm,18.1s,MS4.2,baz=175,slow=34						
AHID	Auburn Hatcher	40.74	359	*e*P	P	08 16 31.2	-0.2
	comp=Z,9.4nm,1.1s,mb4.3						
MOD	Modoc	40.90	348	*e*P	P	08 16 33.5	+0.7
	comp=Z,43nm,1.7s,mb4.8						
MOD				LR	LR		
	comp=Z,270nm,20.0s,MS4.1						
MYNC	Murphy	40.97	33	*e*P	P	08 16 33.8	+0.4
	comp=Z,10nm,0.8s,mb4.5						
WVOR	Wild Horse Val	41.11	350	*e*P	P	08 16 35.1	+0.6
	comp=Z,37nm,1.5s,mb4.8						
YBH	Yreka Blue Hor	41.27	346	P	P	08 16 35.9	+0.1
	comp=Z,2.7nm,0.7s,mb4.0,baz=156,slow=12,SNR=7.4						
YBH				LR	LR	08 29 53.1	
	comp=Z,257nm,20.8s,MS4.1,baz=170,slow=31						
HLID	Hailey	41.70	355	*e*P	P	08 16 39.8	+0.5
	comp=Z,16nm,1.4s,mb4.5						
HLID				LR	LR		
	comp=Z,228nm,19.0s,MS4.1						
COW	Cow Castle Cre	41.77	38	*e*P	P	08 16 41.0	+0.9
IMW	Indian Meadow	41.87	359	*e*P	P	08 16 41.1	+0.4
	comp=Z,28nm,1.6s,mb4.6						
WCI	Wyandotte Cave	42.30	28	*e*P	P	08 16 44.0	-0.4
	comp=Z,49nm,1.5s,mb4.9						
TZTN	Tazewell	42.38	32	*e*P	P	08 16 45.2	+0.2
YFT	Old Faithful	42.42	359	*e*P	P	08 16 46.3	+1.1
RSSD	Black Hills	42.43	7	*e*P	P	08 16 45.4	0.0
	comp=Z,17nm,1.3s,mb4.5						
LKWY	Lake	42.53	360	*e*P	P	08 16 46.9	+0.8
	comp=Z,16nm,1.2s,mb4.6						
MCMT	McKenzie Canyo	42.86	357	*e*P	P	08 16 49.8	+1.0
BLO	Bloomington	42.95	27	*e*P	P	08 16 49.1	-0.5
	comp=Z,98nm,1.5s,mb5.3						
BMO	Blue Mountains	43.28	353	*e*P	P	08 16 51.5	-0.7
	comp=Z,3.3nm,1.1s,mb4.0						
PPT	Papeete	43.37	242	LR	LR	08 29 03.8	
	comp=Z,188nm,21.0s,MS4.0,baz=318,slow=28						
BOZ	Bozeman (W)	43.63	359	*e*P	P	08 16 54.6	-0.5
	comp=Z,22nm,1.5s,mb4.7						
ELN	Prospectdale	44.41	34	P	P	08 17 01.0	-0.5
FWV	Forest Hill	44.63	34	*e*P	P	08 17 02.8	-0.5
HRY	Holter Researc	44.70	358	*e*P	P	08 17 03.5	-0.2
LAO	LASA Array	44.78	4	*e*P	P	08 17 03.6	-0.8
	comp=Z,51nm,1.7s,mb5.1						
CHMT	Chamberlain Mo	44.96	357	*e*P	P	08 17 04.7	-1.1
LPAZ	La Paz	45.25	115	P	P	08 17 09.9	+1.5
	comp=Z,0.8nm,0.6s,mb3.7,baz=274,slow=3.6,SNR=5.1						
LPAZ				LR	LR	08 34 10.3	
	comp=Z,40nm,18.4s,MS3.4,baz=72,slow=34						
NEW	Newport	46.62	354	P	P	08 17 19.1	+0.2
	comp=Z,5.3nm,0.9s,mb4.5,baz=160,slow=9.0,SNR=10						
NEW				LR	LR	08 33 48.8	
	comp=Z,147nm,20.5s,MS3.9,baz=178,slow=32						
NEW	Newport	46.62	354	*e*P	P	08 17 17.7	-1.2
	comp=Z,16nm,1.4s,mb4.8						
DGMT	Dagmar	46.72	5	*e*P	P	08 17 19.2	-0.5
	comp=Z,59nm,1.4s,mb5.3						
LVC	Limon Verde	46.99	124	P	P	08 17 24.0	+1.9
	comp=Z,1.7nm,0.5s,mb4.2,baz=280,slow=12,SNR=3.5						
LVC				LR	LR	08 32 21.1	
	comp=Z,71nm,21.1s,MS3.6,baz=322,slow=30						
LVC	Limon Verde	46.99	124	P	P	08 17 24.1	+1.9
LVC				LR	LR	08 32 21.1	
ALLY	Alegheny Colle	47.94	30	*e*P	P	08 17 27.8	-1.6
SAML	Samuel	48.03	104	*e*P	P	08 17 28.6	-1.8
ULM	Lac du Bonnet	49.72	12	LR	LR	08 37 16.4	
	comp=Z,132nm,18.8s,MS4.0,baz=5.5,slow=34						
SADO	Sadowa	50.75	28	P	P	08 17 50.1	-0.8
	comp=Z,8.2nm,0.6s,mb4.8,baz=241,slow=7.0,SNR=12						
SADO				LR	LR	08 39 06.6	
	comp=Z,225nm,18.1s,MS4.2,baz=66,slow=36						
EDM	Edmonton	51.26	358	*e*P	P	08 17 53.3	-1.4
CFAA	Coronel Fontan	51.85	134	P	P	08 17 60.0	+0.5
	comp=Z,0.2nm,0.7s,mb3.2,baz=312,slow=3.5,SNR=4.7						
CFAA				LR	LR	08 34 28.3	
	comp=Z,14nm,20.2s,MS3.0,baz=315,slow=30						
ACCN	Adirondack Com	52.57	33	*e*P	P	08 18 04.0	-0.7
NCB	Newcomb	52.66	32	*e*P	P	08 18 04.4	-1.0
	comp=Z,60nm,1.9s,mb5.2						
PLCA	Paso Flores	55.65	144	LR	LR	08 36 07.1	
	comp=Z,139nm,20.1s,MS4.0,baz=317,slow=29						
CPUP	Villa Florida	58.15	123	P	P	08 18 45.2	-0.1
	comp=Z,2.3nm,0.7s,mb4.3,baz=313,slow=11,SNR=8.6						
CPUP				LR	LR	08 39 18.4	
	comp=Z,38nm,18.4s,MS3.5,baz=298,slow=31						
CPUP	Villa Florida	58.15	123	*e*P	P	08 18 43.5	-1.8
DLBC	Dease Lake	58.55	348	P	P	08 18 48.0	+0.3
	comp=Z,8.4nm,1.0s,mb4.7,baz=182,slow=5.3,SNR=9.3						
DLBC	Dease Lake	58.55	348	*e*P	P	08 18 45.2	-2.4
YKA	Yellowknife Ar	60.58	358	P	P	08 18 59.9	-1.7
	comp=Z,5.6nm,0.7s,mb4.8,baz=168,slow=7.3,SNR=30						
YKA				LR	LR	08 44 18.1	
	comp=Z,140nm,18.1s,MS4.2,baz=105,slow=35						
YKW3	Yellowknife Ar	60.65	358	*e*P	P	08 18 59.6	-2.5
SCHQ	Schefferville	63.45	26	P	P	08 19 19.6	-1.3
	comp=Z,2.8nm,0.7s,mb4.5,baz=269,slow=5.2,SNR=4.3						
SCHQ				LR	LR	08 46 26.8	
	comp=Z,125nm,20.4s,MS4.1,baz=137,slow=36						
BDFB	Brasilia	63.81	108	LR	LR	08 43 50.6	
	comp=Z,111nm,21.5s,MS4.0,baz=176,slow=33						
SML	Sawmill	66.33	341	*e*P	P	08 19 37.8	-1.7
PMR	Palmer	66.43	341	*e*P	P	08 19 39.2	-0.9
MCK	McKinley	67.94	343	*e*P	P	08 19 48.6	-1.0
	comp=Z,22nm,1.7s,mb4.9						
ILAR	Eielson Array	68.14	344	P	P	08 19 49.1	-1.7
	comp=Z,3.1nm,0.8s,mb4.4,baz=157,slow=4.8,SNR=18						
ILAR				LR	LR	08 43 30.3	
	comp=Z,66nm,19.1s,MS3.9,baz=183,slow=31						
INK	Inuvik	68.22	351	P	P	08 19 50.4	-1.0
	comp=Z,5.7nm,0.9s,mb4.6,baz=146,slow=6.7,SNR=9.7						
INK	Inuvik	68.22	351	*e*P	P	08 19 49.8	-1.5
	comp=Z,27nm,1.4s,mb5.1						
IMA	Indian Mountai	71.03	343	*e*P	P	08 20 06.6	-2.0
SUMG	Summit	82.81	17	*e*P	P	08 21 14.2	+0.1
	comp=Z,39nm,1.4s,mb5.2						
VNDA	Vanda	91.36	193	P	P	08 21 56.3	+0.8
	comp=Z,1.8nm,1.1s,mb4.3,baz=39,slow=4.1,SNR=4.3						
VNA3	Neumayer Olymp	95.12	161	*e*	P	08 22 18.9	+6.0
VNA3	Neumayer Olymp	95.12	161	*e*	P	08 22 21.4	+8.5
VNA3	Neumayer Olymp	95.12	161	⇑*i*P	P	08 22 13.5	+0.6
VNA3				*e*		08 22 18.9	
VNA3				*e*		08 22 21.4	
VNA1	Neumayer--Stat	95.68	161	*e*	P	08 22 21.3	+5.8
VNA1	Neumayer--Stat	95.68	161	*e*	P	08 22 23.1	+7.6
VNA1	Neumayer--Stat	95.68	161	⇑*i*P	P	08 22 15.0	-0.5
VNA1				*e*		08 22 21.3	
VNA1				*e*		08 22 23.1	
VNA2	Neumayer--Watz	95.91	161	*e*	P	08 22 22.0	+5.4
VNA2	Neumayer--Watz	95.91	161	*e*	P	08 22 24.0	+7.4
VNA2	Neumayer--Watz	95.91	161	⇑*i*P	P	08 22 16.2	-0.4
VNA2				*e*		08 22 22.0	
VNA2				*e*		08 22 24.0	
SNAA	Sanae	97.16	162	⇑*i*P	P	08 22 19.2	-3.0
SNAA	Sanae	97.16	162	*e*	P	08 22 24.0	+1.8
NJ2	Nanjing	122.66	310	*e*PKP	PKPdf	08 27 40.8	-7.5
NJ2				PP	PP	08 29 24.0	-3.4
HHC	Hu-ho-hao-te	123.02	323	*e*PKP	PKPdf	08 27 46.3	-2.5
HHC				PP	PP	08 29 30.3	+0.6
HHC				PKS	PKS	08 31 22.0	+0.5
HHC				SKS	SKS	08 34 52.5	+1.5
HHC				SKKS		08 36 21.8	
HHC				SS	SS	08 46 08.9	-2.0
HHC				PP	PP		
	comp=Z,132nm,10.7s						
HHC				LR	LR		
	comp=Z,127nm,13.1s,MS4.8						
BVAR	Borovoye Array	125.32	360	PKP	PKPdf	08 27 51.0	-2.0
	comp=Z,1.3nm,0.7s,baz=27,slow=3.3,SNR=7.4						
MKAR	Makanchi Array	130.33	349	PKP	PKPdf	08 27 59.7	-3.2
	comp=Z,1.2nm,0.7s,baz=34,slow=4.4,SNR=7.5						
MKAR	Makanchi Array	130.33	349	PKP	PKPdf	08 27 59.7	-3.2
LZH	Lanzhou	130.72	323	*e*PKP	PKPdf	08 28 01.3	-2.6
LZH				XPKP		08 28 05.8	
LZH				*e*PP	PP	08 30 20.5	-0.2
LZH				SKKS		08 37 13.8	
LZH				*e*SS	SS	08 47 46.3	0.0
LZH				PP	PP		
	comp=Z,108nm,8.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WMQ	Urumqi	131.79	343	ePKP	PKPdf	08 28 01.3	-4.4
KMI	Kunming	138.34	312	PKP	PKPdf	08 28 12.0	-6.3
KMI				LR	LR		
	comp=Z,58nm,16.3s,MS4.4						
GUN	Gumba	146.63	334	eP	PKPbc	08 28 32.2	+1.0
	comp=Z,137nm,1.1s						
KKN	Kakani	147.00	334	eP	PKPbc	08 28 33.2	+1.2
	comp=Z,111nm,1.1s						
DDI	Dehra Dun	147.06	347	e	PKPdf	08 28 31.4	-2.1
GKN	Gorkha	147.08	335	eP	PKPdf	08 28 33.4	-0.2
	comp=Z,154nm,1.4s						
PKI	Pulchoki	147.13	334	eP	PKPdf	08 28 32.6	-1.1
	comp=Z,128nm,1.4s						
DMN	Daman	147.23	334	eP	PKPdf	08 28 33.6	-0.2
	comp=Z,58nm,1.1s						
KOLN	Koldanda	147.71	337	eP	PKPdf	08 28 35.2	+0.6
	comp=Z,86nm,1.3s						

*IDC **18** 08:10:21.2±2.5, 29.74N×142.68E, mb3.9/6, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, ML3.7/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/26, Error ellipse: s-maj=106.2km s-min=23.4km az=73.0*
*JMA **18** 08:10:24.7±0.1, 29.68N×141.90E, h34km, M3.9*
*MOS **18** 08:10:24.3±1.6, 29.84N×142.58E, h33km, mb4.5/1, Error ellipse: s-maj=62.3km s-min=13.8km az=117.7*
*NEIC **18** 08:10:26.7±2.1, 29.82N×142.66E, h40km, mb4.2/1, Error ellipse: s-maj=86.9km s-min=13.3km az=75.0*
ISC 18 08:10:26.4±1.4**, 30.1N**±0.1×**142.6E**±0.2**, h39**km±13km**, n33,** σ1s**37**/43**, mb4.0**/7**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.96	187	Sn	S	08 11 36.8	-10
	20nm,0.3s,baz=348,slow=19,SNR=6.0						
CBIJ				LR	LR	08 12 14.8	
	comp=Z,220nm,18.1s,baz=223,slow=43						
JHJ2	Mitsune	3.85	323	P	P	08 11 24.0	-0.7
JHJ2				eS	S	08 12 07.5	-1.8
JHJ	Hachijo jima 2	3.87	323	Pn	P	08 11 24.1	-0.9
	5.3nm,0.3s,baz=114,slow=19,SNR=3.3						
JHJ				Sn	S	08 12 10.1	+0.1
	9.8nm,0.3s,baz=41,slow=19,SNR=4.1						
BSO3	Boso 3	5.05	340	P	P	08 11 43.6	+2.0
BSO4	Boso 4	5.27	340	P	P	08 11 46.1	+1.3
JOD2	Odawara 2	5.97	331	P	P	08 11 54.4	-0.1
SHZ3	Shizuoka 3	6.21	325	P	P	08 12 00.7	+2.8
JYN	Shimob	6.40	329	P	P	08 12 02.6	+2.0
JNY	Yasuok	6.61	324	P	P	08 12 06.3	+2.7
JRY	Ryogami san	6.70	334	P	P	08 12 04.6	-0.2
JRY				eS	S	08 13 20.2	-0.5
JHO	Hitachi	6.75	346	P	P	08 12 04.4	-1.2
JHO				eS	S	08 13 19.5	-2.6
JAG	Ashikaga	6.87	339	P	P	08 12 06.3	-0.9
JAG				eS	S	08 13 23.0	-2.0
JNG	Nsakai	7.36	331	P	P	08 12 14.2	+0.2
MJAR	Matsushiro Arr	7.43	332	Pn	P	08 12 14.7	-0.3
	2.3nm,0.3s,baz=156,slow=11,SNR=16						
MJAR				Sn	S	08 13 38.6	-0.4
	0.5nm,0.3s,baz=127,slow=19,SNR=4.8						
MAJO	Matsushiro	7.43	332	eP	P	08 12 15.2	+0.2
MAJO				pmax	pmax		
	comp=Z,11nm,0.6s						
MAJO	Matsushiro	7.43	332	eP	P	08 12 15.2	+0.2
	comp=Z,11nm,0.6s						
MAT	Matsushiro	7.43	332	eP	P	08 12 15.0	0.0
MAT				eS	S	08 13 40.0	+1.0
MAT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MAT	Matsushiro	7.43	332	eP	P	08 12 15.0	0.0
	comp=Z,8.4nm,0.9s						
MAT				eS	S	08 13 40.0	+1.0
MAT	Matsushiro	7.43	332	P	P	08 12 14.9	-0.1
MAT				S	S	08 13 39.9	+0.9
JGN	Niukaw	7.57	326	P	P	08 12 18.2	+1.3
JHK	Hiroka	7.76	339	P	P	08 12 19.9	+0.3
JMM	Marumori	7.94	350	P	P	08 12 20.8	-1.2
JMM				eS	S	08 13 46.3	-5.2
JIO	Ouri	8.44	353	eS	S	08 13 57.9	-6.3
SONM	Songino Array	32.89	313	P	P	08 17 01.2	+2.4
	comp=Z,0.9nm,0.6s,mb3.9,baz=198,slow=7.8,SNR=4.3						
MKAR	Makanchi Array	48.90	308	P	P	08 19 09.8	-0.5
	comp=Z,0.4nm,0.5s,mb3.7,baz=90,slow=9.7,SNR=6.1						
WB2	Warramunga Arr	50.33	190	eP	P	08 19 17.1	-4.5
WRA	Warramunga Arr	50.33	190	P	P	08 19 17.4	-4.2
	comp=Z,2.2nm,0.6s,mb4.4,baz=8.3,slow=7.9,SNR=17						
KURK	Kurchatov	51.20	313	eP	P	08 19 27.0	-0.7
KURK				e	pP	08 19 38.9	-0.1
KURK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
KURK	Kurchatov	51.20	313	eP	P	08 19 27.0	-0.7
	comp=Z,3.4nm,1.1s,mb4.2						
KURK				e	pP	08 19 38.9	-0.1
BVAR	Borovoye Array	56.13	316	P	P	08 20 04.7	+0.6
	comp=Z,0.6nm,0.5s,mb3.9,baz=107,slow=7.8,SNR=4.4						
NB2	NORSAR Subarra	81.00	338	P	P	08 22 39.1	+1.0
	comp=Z,0.8nm,0.8s,mb3.7,baz=41,slow=5.0						
NOA	NORSAR Array B	81.00	338	P	P	08 22 39.1	+1.0
	comp=Z,0.9nm,0.7s,mb3.8,baz=41,slow=5.1,SNR=3.8						
BRTR	Keskin Array B	84.25	313	P	P	08 22 56.8	+1.6
	comp=Z,0.7nm,0.4s,mb4.1,baz=88,slow=4.4,SNR=3.3						

JMA 18 09:00:31.5±0.2**, 25.70N**×**123.59E, h177**km**, M3.7, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.34	203	P	P	09 01 02.1	0.0
IRIF	Iriomote-Funau	1.36	175	P	P	09 01 01.8	-0.5
IRIF				eS	S	09 01 24.5	-1.6
JIJ	Ishigaki jima	1.42	159	P	P	09 01 02.5	-0.3
JIJ				S	S	09 01 25.7	-1.3
JTJ	Tarama	1.46	136	S	S	09 01 27.7	+0.1
JKRS	Kuro-shima	1.50	165	P	P	09 01 03.8	+0.2
JKRS				S	S	09 01 27.4	-1.0
JMJ	Miyako jima 2	1.78	119	eS	S	09 01 33.5	+0.3
JOGS	Gusukube	1.89	119	eS	S	09 01 35.9	+0.6
JKE	Kume jima 2	2.94	77	P	P	09 01 19.5	-0.4
JKE				eS	S	09 01 57.5	+0.4
JAGN	Aguni-jima	3.40	74	P	P	09 01 25.1	-0.5
JJT2	Tamagusuku 2	3.77	82	P	P	09 01 30.2	-0.1
JIH	Iheya	4.14	70	P	P	09 01 34.0	-1.1
JIH				eS	S	09 02 20.8	-3.4
JOW	Kunigami	4.36	74	P	P	09 01 36.3	-1.5
JOW				eS	S	09 02 24.3	-4.7

*ATH **18** 09:02:58.2, 34.79N×26.47E, h17km±3km, MD3.7/8*
*NEIC **18** 09:02:58.1, 34.77N×26.46E, h17km, MD3.7(ATH), After ATH.*
*CSEM **18** 09:03:01.3±0.2, 35.10N×26.41E, h5km, MD3.7, Error ellipse: s-maj=5.2km s-min=2.2km az=162.0*
*ISK **18** 09:03:02.0, 34.92N×26.34E, h35km, MD3.6*
ISC 18 09:03:00.9±0.8**, 34.94N**±0.06×**26.35E**±0.04**, h17**km**, n30,** σ1s**23**/43**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.54	263	ePN	Pn	09 03 11.0	-2.6
NPS	Neapolis	0.68	298	ePN	Pn	09 03 13.5	-2.1
NPS				eSN	Sn	09 03 26.2	+0.4
KARP	Karpathos	0.90	48	ePb	Pb	09 03 15.6	-2.1
KARP				eSb	Sb	09 03 30.3	+1.1
KARP	Karpathos	0.90	48	ePB	Pb	09 03 15.6	-2.1
KARP				eSB	Sb	09 03 29.6	+0.4
SANT	Santorini	1.60	333	eP	Pn	09 03 28.6	-0.1
SANT				eS	Sn	09 03 49.4	+0.3
SANT	Santorini	1.60	333	eP	Pn	09 03 28.6	-0.1
SANT				eS	Sn	09 03 49.3	+0.3
VAM	Vamos	1.82	285	ePN	Pn	09 03 33.5	+1.6
GVD	Gavdhos	1.86	267	eP	Pn	09 03 35.2	+2.7
GVD				eS	Sn	09 04 11.5	+16
GVD	Gavdhos	1.86	267	eP	Pn	09 03 35.2	+2.8
ARG	Arkhangelos	1.93	48	ePN	Pn	09 03 34.1	+0.7
ARG	Arkhangelos	1.93	48	ePn	Pn	09 03 34.2	+0.8
APE	Apeiranthos	2.22	343	i PN	Pn	09 03 38.5	+0.9
APE				i SN	Sn	09 04 03.2	-1.7
APE	Apeiranthos	2.22	343	ePB	Pb	09 03 38.5	-1.7
BODT	Bodrum	2.25	20	i PN	Pn	09 03 38.9	+0.7
BODT				i SN	Sn	09 04 05.2	-0.6
BDRM	Kayabasi	2.30	22	i P	Pn	09 03 41.4	+2.7
BDRM				i S	Sn	09 04 08.2	+1.3
DALT	Dalyan (Mudla)	2.60	45	PN	Pn	09 03 43.6	+0.5
MLSB	Milas	2.62	26	PN	Pn	09 03 43.6	+0.3
YER	Yerkesik	2.69	35	PN	Pn	09 03 44.1	-0.3
FETY	Fethiye	2.79	52	PN	Pn	09 03 45.3	-0.5
AKAS	Kas	2.95	63	i P	Pn	09 03 46.9	-1.2
AKAS				i S	Sn	09 04 26.2	+2.8
KYTH	Kithira	3.01	297	ePN	Pn	09 03 50.0	+1.1
VLI	Veliai	3.29	304	ePN	Pn	09 03 53.1	+0.3
ELL	Elmali	3.41	57	ePN	Pn	09 03 53.7	-0.9
URLA	Izmir	3.42	3	i P	Pn	09 03 55.3	+0.7
URLA				i S	Sn	09 04 24.6	-11
GOLH	Golhisar	3.47	48	i P	Pn	09 03 54.9	-0.5
GOLH				i S	Sn	09 04 38.1	+1.7
DNZL	Cakiroluk	3.50	38	i P	Pn	09 03 54.7	-1.2
DNZL				i S	Sn	09 04 46.5	+9.2
MANT	Manisa	3.96	26	i P	Pn	09 04 01.7	-0.7
TKTP	Tekketepe	4.45	45	i P	Pn	09 04 08.9	-0.5
GDZ	Gediz	4.84	30	i P	Pn	09 04 13.7	-1.2
ULDT	Uludag	5.64	22	i P	Pn	09 04 25.7	-0.5

*BER **18** 09:14:03.8±5.3, 59.30N×27.36E, ML2.4(NAO), Suspected explosion*
*HEL **18** 09:14:04.1±0.7, 59.33N×27.01E, ML2.4(UPP), ML2.4(NAO), Explosion*
*IDC **18** 09:14:05.9±2.1, 59.45N×27.05E, mb1 3.1/4, mb1mx3.0/20, mbtmp3.0/4, ML2.9/4, Error ellipse: s-maj=18.9km s-min=10.9km az=117.0*
*NAO **18** 09:14:06.0±2.0, 59.43N×27.03E, ML2.4*
ISC 18 09:14:01.0±1.7**, 59.44N**±0.08×**27.1E**±0.2**, n17,** σ0s**94**/28**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIA0	FINESS Array S	2.08	346	Pg	Pg	09 14 41.5	-0.9
	baz=164,slow=16						
FIA0				Pn	Pn	09 14 42.9	+5.4
	baz=166,slow=18						
FIA0				Lg		09 15 12.2	
	baz=163,slow=37						
FIA0				Rg		09 15 25.6	
	baz=158,slow=56						
FIA0	FINESS Array S	2.08	346	eP	Pn	09 14 41.4	+3.9
FIA0				eSG	Sg	09 15 10.7	+0.6
FIA0				eRG		09 15 26.8	
FINES	FINESS Array B	2.08	346	Pn	Pn	09 14 41.5	+4.0
	2.7nm,0.3s,baz=164,slow=14,SNR=67						
FINES				Lg		09 15 10.8	
	5.9nm,0.3s,baz=159,slow=27,SNR=24						
FINES				Rg		09 15 26.2	
	28nm,1.0s,baz=170,slow=31,SNR=11						
AAL	Aland	3.68	285	eP	Pn	09 15 02.0	+1.6
NRTU	Norrtaelje	4.33	277	eP	Pn	09 15 09.8	+0.2
NRTU				eS	Sn	09 15 60.0	-1.7
GRAU	Graesoe	4.42	285	eP	Pn	09 15 11.2	+0.3
IGGU	Iggoen	5.11	291	eP	Pn	09 15 21.5	+0.8
ARNU	Arnoeviken	5.32	299	eP	Pn	09 15 24.6	+1.1
HFS	Hagfors	6.82	282	Pn	Pn	09 15 44.6	-0.2
	baz=128,slow=11						
HFS				Sn	Sn	09 16 59.5	-4.7
	baz=89,slow=28						
HFS				Lg		09 17 35.8	
	baz=87,slow=28						
HFS	Hagfors	6.82	282	eP	Pn	09 15 44.6	-0.2
HFS				eS	Sn	09 16 59.5	-4.7
HFS				eSG	Sg	09 17 35.8	-12
HFS	Hagfors	6.82	282	Pn	Pn	09 15 44.1	-0.7
	0.0nm,0.3s,baz=138,slow=21,SNR=3.0						
HFS				Sn	Sn	09 16 58.9	-5.3
	0.1nm,0.3s,baz=107,slow=25,SNR=5.6						
HFS				Lg		09 17 33.8	
	0.2nm,0.3s,baz=93,slow=31,SNR=6.4						
NB2	NORSAR Subarra	8.08	288	Pn	P	09 16 02.3	-0.2
	baz=91,slow=14						
NB2				Sn	Sn	09 17 36.1	+0.5
	baz=111,slow=18						
NB2				Lg		09 18 18.2	
	baz=106,slow=37						
NB2	NORSAR Subarra	8.08	288	eP	P	09 16 02.3	-0.2
NB2				e		09 17 36.1	
NB2				e		09 18 18.2	
NOA	NORSAR Array B	8.08	288	Pn	P	09 16 00.3	-2.1
	0.2nm,0.3s,baz=96,slow=10,SNR=2.8						
NOA				Sn	Sn	09 17 27.8	-7.9
	0.2nm,0.3s,baz=136,slow=23,SNR=2.5						
NOA				Lg		09 18 13.9	
	0.4nm,0.3s,baz=155,slow=7.9,SNR=3.9						
ARA0	ARCESS Array S	10.16	357	Pn	P	09 16 30.6	-0.4
	baz=172,slow=16						
ARA0				Sn	S	09 18 19.5	-7.5
	baz=174,slow=28						
ARA0				Lg		09 19 23.7	
	baz=170,slow=28						
ARA0	ARCESS Array S	10.16	357	eP	P	09 16 30.6	-0.4
ARA0				eS	S	09 18 19.5	-7.5
ARA0				e		09 19 23.7	
ARCES	ARCESS Array B	10.16	357	Pn	P	09 16 30.3	-0.7
	0.2nm,0.3s,baz=172,slow=14,SNR=8.3						
ARCES				Lg		09 19 22.7	
	0.3nm,0.3s,baz=180,slow=28,SNR=5.0						

*NEIC **18** 09:44:06.8±2.1, 24.04N×121.71E, h8km±12km, mb4.0/1, Error ellipse: s-maj=20.1km s-min=16.6km az=217.0*
NEIC Recorded [4 TAP] in Hua-lien, [2 TAP] in Nan-t'ou and [1 TAP] in I-lan and T'ai-chung Counties.
*IDC **18** 09:44:13.5±5.7, 24.12N×122.00E, h58km±55km, mb3.4/5, mb1 3.6/6, mb1mx3.4/19, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=46.7km s-min=21.5km az=68.0*
ISC 18 09:44:05.0±1.6**, 23.99N**±0.08×**121.8E**±0.1**, h7**km±10km**, n10,** σ0s**98**/12**, mb3.8**/7**, 2D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.23	322	⇓iP	Pg	09 44 10.2	+0.5
NACB				eS	Sg	09 44 12.2	-0.8
TATO	Taipei	1.01	346	⇓iP	Pb	09 44 25.6	+1.2
TATO				eS	Sb	09 44 37.6	+0.1
JOW	Kunigami	6.54	63	P	Pn	09 45 43.8	-0.2
	2.3nm,0.3s,baz=284,slow=26,SNR=5.2						
SONM	Songino Array	26.75	337	P	P	09 49 47.9	+0.9
	0.9nm,0.7s,mb3.4,baz=135,slow=4.1,SNR=3.0						
MKAR	Makanchi Array	38.84	316	P	P	09 51 33.1	+0.9
	0.5nm,0.6s,mb3.4,baz=98,slow=10,SNR=3.9						
PMG	Port Moresby	41.45	140	P	P	09 52 00.4	+6.3
	25nm,1.0s,mb4.8						
AAK	Ala-Archa	43.03	307	eP	P	09 52 05.1	-1.7
	1.1nm,0.3s,mb4.1						
WRA	Warramunga Arr	45.36	163	P	P	09 52 25.8	-0.1
	0.5nm,0.5s,mb3.6,baz=345,slow=8.8,SNR=7.9						
STKA	Stephens Creek	58.70	160	P	P	09 54 06.5	+0.8
	2.8nm,1.1s,mb4.2,slow=9.1,SNR=3.1						
ILAR	Eielson Array	69.15	27	P	P	09 55 11.8	-1.8
	0.2nm,0.6s,mb3.2,baz=266,slow=4.6,SNR=4.3						

*HLW **18** 09:52:48.0, 31.47N×35.63E, h13km, Mb3.7*
*SNSN **18** 09:52:50.4, 31.26N×35.27E, Ml3.3*
*GII **18** 09:52:51.9±0.1, 31.23N×35.38E, h11km, ML3.5/8, Mw3.2/2*
*CSEM **18** 09:52:51.8±0.1, 31.23N×35.38E, h15km, Mw3.2, Error ellipse: s-maj=2.5km s-min=1.4km az=84.0*
ISC 18 09:52:51.2±0.4**, 31.23N**±0.02×**35.38E**±0.04**, h11**km±3km**, n53,** σ0s**91**/66**, 7C-7D, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZDA	Masada	0.08	347	Pg	Pg	09 52 54.8	+1.0
MZDA				Sg	Sg	09 52 57.1	+1.7
MZDA	Masada	0.08	347	⇓Pg	Pg	09 52 54.8	+1.1
MZDA				Sg	Sg	09 52 57.1	+1.7
YTIR	Yattir	0.27	300	Pg	Pg	09 52 57.9	+1.1
YTIR	Yattir	0.27	300	⇓Pg	Pg	09 52 57.9	+1.0
DSI	Dead Sea	0.34	359	Pg	Pg	09 52 59.2	+0.9
DSI	Dead Sea	0.34	359	⇓Pg	Pg	09 52 59.2	+0.9
MKRJ	Makawir	0.39	34	Pg	Pg	09 52 59.9	+0.6
AMZI	Amatzia	0.46	300	Pg	Pg	09 53 02.3	+1.6
MASH	Mash'abbe Sade	0.56	246	Pg	Pg	09 53 02.6	-0.1
RTMM	Retamin	0.62	254	Pg	Pg	09 53 04.3	+0.4
ZFRI	Zfri	0.70	195	Pg	Pg	09 53 05.1	-0.2
ZFRI	Zfri	0.70	195	⇑Pg	Pg	09 53 05.1	-0.2
RMNI	Mount Ramon	0.83	220	Pg	Pg	09 53 07.7	-0.2
KZIT	Kziot	0.91	249	Pg	Pg	09 53 09.1	-0.4
KZIT				Sg	Sg	09 53 21.4	-0.2
KZIT	Kziot	0.91	249	⇑Pg	Pg	09 53 09.1	-0.3
KZIT				Sg	Sg	09 53 21.4	-0.2
PRNI	Paran	0.94	201	Pg	Pg	09 53 09.5	-0.5
PRNI				Sg	Sg	09 53 22.6	+0.1
PRNI	Paran	0.94	201	⇑Pg	Pg	09 53 09.5	-0.5
PRNI				Sg	Sg	09 53 22.6	+0.1
SLTI	Sal'it	1.05	344	Pg	Pg	09 53 11.4	-0.9
SLTI				Sg	Sg	09 53 25.7	-0.6
SLTI	Sal'it	1.05	344	⇓Pg	Pg	09 53 11.4	-0.9
SLTI				Sg	Sg	09 53 25.7	-0.6
MMLI	Mount Malkishu	1.20	2	Pg	Pg	09 53 13.6	-1.8
HRFI	Mount Harif	1.23	194	Pg	Pg	09 53 14.7	-1.2
KMTI	Karmit	1.26	207	Pg	Pg	09 53 14.8	-1.7
KMTI	Karmit	1.26	207	⇑Pg	Pg	09 53 14.8	-1.6
OFRI	'Ofer	1.43	346	Pn	Pn	09 53 17.3	0.0
OFRI	'Ofer	1.43	346	⇓Pn	Pn	09 53 17.3	0.0
HRSH	Kfar Ka'horesh	1.45	260	⇑eP	Pn	09 53 17.1	-0.5
RSH		1.45	260	P	Pn	09 53 17.1	-0.5
MBH	Mount Berech	1.49	196	Pn	Pn	09 53 18.2	+0.1
AQBJ	Aqaba	1.52	191	Pn	Pn	09 53 19.8	+1.1
HAF	Haifa	1.57	349	Pn	Pn	09 53 19.5	+0.1
EIL	Elat	1.60	194	Pn	Pn	09 53 20.7	+1.0
QURS	Qurayyt al Mil	1.67	84	P	Pn	09 53 21.9	+1.1
QURS				S	Sn	09 53 46.7	+4.4
HNKL	Nakhl	1.77	223	⇑eP	Pn	09 53 22.0	-0.2
HNKL				S	Sn	09 53 47.0	+2.0
MMA0	Mount Meron ar	1.78	1	Pn	Pn	09 53 23.2	+0.9
KSHT	Keshet	1.78	12	Pn	Pn	09 53 22.9	+0.5
HNTI	Hanita	1.86	355	Pn	Pn	09 53 23.7	+0.3
ALWS	Ilw as Safayha	1.93	188	P	Pn	09 53 25.2	+0.7
AMAG	Maghara	1.96	253	⇑eP	Pn	09 53 24.1	-0.8
AMAG				S	Sn	09 53 50.6	+1.0
JMOS	Jabal al Moall	2.07	187	P	Pn	09 53 27.0	+0.6
HBST	Basata	2.08	196	⇑eP	Pn	09 53 26.5	-0.2
HAQS	Haql	2.20	190	P	Pn	09 53 28.8	+0.4
NUB		2.29	196	⇑eP	Pn	09 53 28.5	-1.0
JMQS	Jabal Moqyreh	2.38	169	P	Pn	09 53 31.5	+0.6
HDHB	Dhahab	2.59	195	⇓eP	Pn	09 53 33.3	-0.6
SUZ		2.60	238	⇑eP	Pn	09 53 33.3	-0.8
BHL	Bhannes	2.67	5	ePn	Pg	09 53 41.5	-3.2
BHL				Sn	Sg	09 54 17.4	-3.0
TAYS	Tayyib Ism	2.71	190	P	Pn	09 53 35.9	+0.3
BDAS	Al Bad'	2.80	185	P	Pn	09 53 36.6	-0.3
HKAT	Jabal Katrina	2.96	204	⇓eP	Pn	09 53 38.2	-0.9
HWQ	Hawqa	3.08	9	ePn	Pg	09 53 47.4	-5.2
HWQ				Sn	Sg	09 54 32.6	-1.1
TBKS	Tabuk	3.16	161	P	Pn	09 53 42.1	+0.1
TR2		3.18	207	⇑eP	Pn	09 53 41.3	-1.0
DBAS	Duba	4.04	172	P	Pn	09 53 53.8	-0.7

*IDC **18** 10:11:52.9±3.2, 2.43N×96.22E, mb4.0/5, mb1 4.1/5, mb1mx3.7/18, mbtmp4.0/5, Error ellipse: s-maj=126.8km s-min=26.5km az=55.0*
*NEIC **18** 10:11:57.1±1.0, 2.42N×96.17E, h30km, mb4.0/2, Error ellipse: s-maj=22.8km s-min=11.9km az=207.0*
ISC 18 10:11:55.1±1.5**, 2.4N**±0.2×**96.2E**±0.1**, h30**km**, n9,** σ0s**43**/9**, mb4.0**/7**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.29	57	ePn	Pn	10 13 14.0	-0.3
KKM	Kota Kinabalu	20.30	79	eP	P	10 16 31.7	+0.1
WRA	Warramunga Arr	43.56	122	P	P	10 19 58.5	0.0
	0.3nm,0.6s,mb3.2,baz=301,slow=9.6,SNR=4.7						
MKAR	Makanchi Array	45.80	347	P	P	10 20 16.7	+0.6
	2.8nm,0.5s,mb4.5,baz=164,slow=8.7,SNR=28						
SONM	Songino Array	46.08	10	P	P	10 20 18.8	+0.5
	1.7nm,0.7s,mb4.1,baz=185,slow=8.5,SNR=7.9						
KURK	Kurchatov	50.34	346	P	P	10 20 51.5	+0.2
	1.3nm,0.7s,mb4.1						
ZAL	Zalesovo	52.18	352	P	P	10 21 05.0	-0.2
	1.7nm,0.6s,mb4.2,baz=336,slow=5.4,SNR=6.9						
BVAR	Borovoye Array	54.75	341	P	P	10 21 24.2	-0.1
	1.3nm,0.7s,mb4.1,baz=153,slow=9.9,SNR=6.3						
ZRNK	Zerenda	55.15	340	eP	P	10 21 26.2	-0.9
	1.3nm,0.8s,mb4.0						

IDC 18 10:46:22.3±4.2**, 29.85N**×**141.36E, mb3.4**/2**, mb1 3.6**/3**, mb1mx3.4**/17**, mbtmp3.4**/3**, ML3.3**/1**, Error ellipse: s-maj=158.7km s-min=30.2km az=74.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	7.18	339	Pn	Pn	10 48 08.2	-2.8
	0.5nm,0.3s,baz=154,slow=12,SNR=5.3						
MKAR	Makanchi Array	48.19	308	P	P	10 55 04.4	-1.9
	0.4nm,0.8s,baz=90,slow=8.6,SNR=3.5						
WRA	Warramunga Arr	49.96	189	P	P	10 55 18.0	-2.2
	0.5nm,0.7s,baz=6.6,slow=7.7,SNR=5.4						

*IDC **18** 11:41:59.5±5.3, 6.57S×127.42E, h393km±69km, mb3.1/3, mb1 3.2/5, mb1mx3.1/13, mbtmp3.9/5, Error ellipse: s-maj=49.4km s-min=24.0km az=69.0*
*NEIC **18** 11:42:00.0±2.0, 6.60S×127.25E, h408km±26km, mb4.0/2, Error ellipse: s-maj=31.9km s-min=16.1km az=82.0*
ISC 18 11:41:59.3±2.0**, 6.7S**±0.1×**127.2E**±0.2**, h423**km±25km**, n9,** σ0s**61**/10**, mb3.5**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	7.88	140	eP	P	11 43 54.3	+0.2
	5.7nm,0.4s						
FITZ	Fitzroy Crossi	11.44	188	P	P	11 44 34.4	-0.3
	0.3nm,0.3s,baz=13,slow=13,SNR=6.7						
WRAB	Tennant Creek	14.86	153	eP	P	11 45 11.5	-0.1
	10nm,1.1s						
WRA	Warramunga Arr	14.86	153	P	P	11 45 11.5	-0.2
	0.5nm,0.3s,baz=335,slow=12,SNR=21						
WRA				S	S	11 47 45.9	-0.4
	0.3nm,0.3s,baz=324,slow=19,SNR=10.0						
WB2	Warramunga Arr	14.87	153	eP	P	11 45 11.6	-0.1
STKA	Stephens Creek	28.41	154	P	P	11 47 20.5	+1.2
	0.8nm,0.4s,mb3.4,baz=330,slow=10,SNR=11						
MJAR	Matsushiro Arr	44.22	13	P	P	11 49 30.2	-0.4
	0.9nm,0.5s,mb3.4,baz=195,slow=9.9,SNR=4.0						
MKAR	Makanchi Array	66.49	328	P	P	11 52 08.2	+1.1
	0.7nm,0.5s,mb3.6,baz=121,slow=8.1,SNR=6.1						
KURK	Kurchatov	70.85	330	eP	P	11 52 32.5	-0.9
	1.7nm,0.6s,mb3.8						

*IDC **18** 11:47:22.3±1.0, 5.78S×123.31E, mb3.9/5, mb1 4.1/7, mb1mx3.9/17, mbtmp3.9/7, ML3.7/2, Error ellipse: s-maj=108.0km s-min=19.5km az=65.0*
*NEIC **18** 11:47:23.7±0.5, 5.90S×123.16E, h10km, mb4.0/3, Error ellipse: s-maj=33.3km s-min=8.4km az=58.0*
ISC 18 11:47:21.6±0.6**, 5.9S**±0.2×**123.2E**±0.2**, h10**km**, n13,** σ0s**67**/13**, mb3.9**/7**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	11.36	127	eP	P	11 50 07.2	0.0
	6.3nm,0.5s						
FITZ	Fitzroy Crossi	12.37	169	Pn	P	11 50 20.0	-0.9
	0.2nm,0.3s,baz=356,slow=16,SNR=2.5						
WRAB	Tennant Creek	17.68	143	eP	P	11 51 29.8	+0.1
	2.8nm,0.6s						
WRA	Warramunga Arr	17.68	143	P	P	11 51 29.1	-0.7
	0.3nm,0.3s,baz=317,slow=13,SNR=10.0						
WB2	Warramunga Arr	17.68	143	eP	P	11 51 29.7	-0.2
STKA	Stephens Creek	31.06	149	P	P	11 53 43.6	+1.4
	1.8nm,0.9s,mb3.9,baz=328,slow=11,SNR=3.4						
MKAR	Makanchi Array	63.73	330	P	P	11 57 56.5	+0.5
	0.6nm,0.5s,mb3.9,baz=131,slow=7.0,SNR=7.2						
MKAR	Makanchi Array	63.73	330	P	P	11 57 56.5	+0.5
ZAL	Zalesovo	67.74	337	P	P	11 58 20.6	-0.9
	1.3nm,0.3s,mb4.4,baz=345,slow=3.0,SNR=4.1						
KURK	Kurchatov	68.17	331	eP	P	11 58 24.4	+0.1
	2.3nm,0.8s,mb4.3						
BVAR	Borovoye Array	73.62	330	P	P	11 58 56.8	-0.2
	0.3nm,0.4s,mb3.5,baz=135,slow=10,SNR=4.2						
ZRNK	Zerenda	74.27	329	eP	P	11 59 00.6	-0.2
	0.9nm,0.6s,mb3.9						
VNDA	Vanda	74.43	172	P	P	11 59 02.4	+1.1
	0.4nm,0.6s,mb3.5,baz=319,slow=8.6,SNR=3.9						

IDC **18 11:54:14.0**±1.8**, 1.90N**×**127.40E, mb3.7**/3**, mb1 3.9**/4**, mb1mx3.7**/15**, mbtmp3.8**/4**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx3.0**/16**, Error ellipse: s-maj=104.1km s-min=24.5km az=68.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.95**	**185**	P	P	11 58 47.6	-3.1
	0.6nm,0.3s,baz=6.6,slow=10,SNR=7.0						
WRA	**Warramunga Arr**	**22.75**	**163**	P	P	11 59 18.0	-1.3
	0.9nm,0.4s,baz=342,slow=10,SNR=10						
CBIJ	**Chichi jima**	**28.78**	**28**	LR	LR	12 08 43.7	
	comp=Z,72nm,20.6s,baz=177,slow=30						
STKA	**Stephens Creek**	**36.19**	**159**	P	P	12 01 18.3	-2.1
	0.7nm,0.4s,baz=334,slow=10,SNR=16						
MKAR	**Makanchi Array**	**59.43**	**326**	P	P	12 04 18.8	-2.1
	0.3nm,0.4s,baz=117,slow=8.3,SNR=5.6						

*NEIC **18** 11:56:48.6±1.0, 18.61S×69.51W, h111km±11km, mb3.7/3, Error ellipse: s-maj=19.9km s-min=14.5km az=76.0*
*IDC **18** 11:56:49.7±2.3, 18.71S×69.29W, h121km±27km, mb3.8/1, mb1 3.8/4, mb1mx3.5/17, mbtmp4.0/4, Error ellipse: s-maj=57.8km s-min=14.5km az=101.0*
ISC 18 11:56:47.5±0.7**, 18.65S**±0.06×**69.5W**±0.1**, h117**km±9km**, n13, σ1ˢ13**/14**, mb3.7**/4**, 1C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.70**	**30**	P	**P**	**11 57 32.3**	**+1.7**
	3.1nm,0.3s,baz=222,slow=10,SNR=101						
LPAZ	**La Paz**	**2.70**	**30**	*e*Pn	**P**	**11 57 32.1**	**+1.4**
ARE	**Arequipa**	**2.87**	**319**	⇑*i*P	**P**	**11 57 32.1**	**-0.8**
ARE				*e*S	**S**	**11 58 07.0**	**-0.2**
LVC	**Limon Verde**	**3.98**	**172**	P	**P**	**11 57 49.3**	**+1.5**
	3.7nm,0.3s,baz=354,slow=11,SNR=34						
LVC				S	**S**	**11 58 33.5**	**-0.5**
	8.8nm,0.3s,baz=110,slow=17,SNR=10						
LVC	**Limon Verde**	**3.98**	**172**	*e*Pn	**P**	**11 57 49.2**	**+1.4**
LVC				S	**S**	**11 58 33.5**	**-0.5**
SIV	**San Ignacio**	**8.50**	**73**	P	**P**	**11 58 47.1**	**-2.0**
	3.0nm,0.3s,baz=265,slow=11,SNR=36						
RKT	**Rikitea**	**60.87**	**253**	*e*LR	LR	12 06 21.8	
	333nm,44.2s						
SNAA	**Sanae**	**65.15**	**161**	*e*P	**P**	**12 07 18.7**	**+1.0**
	0.5nm,0.6s,mb3.5						
SDCO	**Great Sand Dun**	**65.51**	**329**	*e*P	**P**	**12 07 20.8**	**+0.2**
	0.6nm,0.5s,mb3.7						
VNDA	**Vanda**	**79.54**	**190**	*e*P	**P**	**12 08 40.7**	**-1.6**
	0.6nm,0.5s,mb3.7						
YKA	**Yellowknife Ar**	**88.32**	**341**	P	**P**	**12 09 27.3**	**+0.8**
	0.7nm,0.4s,mb4.0,baz=134,slow=4.7,SNR=8.9						
YKA	**Yellowknife Ar**	**88.32**	**341**	P	**P**	**12 09 27.3**	**+0.8**
WRA	**Warramunga Arr**	**135.07**	**213**	PKP	PKPdf	12 15 56.4	+2.6
	0.3nm,0.4s,baz=147,slow=1.8,SNR=4.7						

*IDC **18** 12:22:45.9±1.1, 35.38S×78.51E, mb4.0/6, mb1 4.2/6, mb1mx4.0/15, mbtmp4.0/6, MS3.9/6, Ms1 3.8/6, ms1mx3.7/11, Error ellipse: s-maj=36.8km s-min=27.2km az=27.0*
ISC 18 12:22:45.7±0.8**, 35.5S**±0.2×**78.5E**±0.2**, h10**km**, n10, σ0ˢ99**/6**, mb4.0**/6**, MS3.9**/6**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**33.39**	**191**	LR	LR	12 40 29.9	
	comp=Z,197nm,18.8s,MS3.9,baz=53,slow=32						
BOSA	**Boshof**	**45.21**	**263**	LR	LR	12 46 13.1	
	comp=Z,116nm,21.8s,MS3.8,baz=137,slow=31						
LBTB	**Lobatse**	**46.42**	**268**	P	**P**	**12 31 13.4**	**-1.0**
	3.8nm,1.0s,mb4.3,baz=140,slow=3.5,SNR=2.8						
WRA	**Warramunga Arr**	**51.15**	**88**	P	**P**	**12 31 50.4**	**-0.6**
	2.5nm,0.8s,mb4.2,baz=239,slow=7.5,SNR=7.3						
STKA	**Stephens Creek**	**51.82**	**105**	P	**P**	**12 31 55.5**	**-0.5**
	2.5nm,0.9s,mb4.2,baz=253,slow=8.1,SNR=3.8						
VNDA	**Vanda**	**54.22**	**165**	P	**P**	**12 32 14.1**	**+0.9**
	2.1nm,0.9s,mb4.0,baz=276,slow=6.3,SNR=11						
VNDA				LR	LR	12 52 54.6	
	comp=Z,73nm,21.9s,MS3.7,baz=286,slow=33						
MKAR	**Makanchi Array**	**81.97**	**3**	P	**P**	**12 35 07.4**	**+0.6**
	0.2nm,0.4s,mb3.4,baz=153,slow=3.2,SNR=3.3						
MKAR				LR	LR	13 07 26.3	
	comp=Z,50nm,19.1s,MS3.9,baz=42,slow=33						
BRTR	**Keskin Array B**	**85.52**	**327**	P	**P**	**12 35 25.6**	**+0.5**
	0.3nm,0.4s,mb3.9,baz=135,slow=6.1,SNR=2.5						
DBIC	**Dimbokro**	**88.47**	**279**	LR	LR	13 10 22.5	
	comp=Z,72nm,18.2s,MS4.1,baz=56,slow=32						
ZAL	**Zalesovo**	**89.22**	**4**	LR	LR	13 13 06.9	
	comp=Z,56nm,18.6s,MS4.0,baz=44,slow=34						

*NNC **18** 12:23:43.9±1.7, 43.11N×75.49E, mpv3.0, Error ellipse: s-maj=32.0km s-min=7.6km az=141.0*
*KNET **18** 12:23:45.2±0.6, 43.07N×75.42E, h19km±2km, ml2.3, Error ellipse: s-maj=4.4km s-min=2.1km az=29.0*
ISC 18 12:23:45.1±1.1**, 43.14N**±0.05×**75.46E**±0.07**, h13**km±8km**, n11, σ0ˢ22**/18**, 10C-8D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.24**	**155**	⇑P	**Pg**	**12 23 50.5**	**0.0**
	69nm,0.1s,SNR=887						
TKM2				⇑S	**Sg**	**12 23 54.0**	**-0.1**
	1μm,0.1s						
CHMS	**Chumysh**	**0.54**	**255**	P	**Pb**	**12 23 55.7**	**-0.2**
	138nm,0.1s,SNR=295						
CHMS				⇓S	**Sb**	**12 24 02.8**	**-0.3**
	1μm,0.1s						
KBK	**Karagaybulak**	**0.61**	**218**	⇓P	**Pb**	**12 23 57.3**	**+0.1**
	37nm,0.1s,SNR=46						
KBK				⇓S	**Sb**	**12 24 05.0**	**-0.4**
	329nm,0.2s						
USP	**Ospenovka**	**0.71**	**280**	⇑P	**Pb**	**12 23 58.8**	**0.0**
	20nm,0.1s,SNR=77						
USP				⇑S	**Sb**	**12 24 08.5**	**+0.3**
	136nm,0.2s						
AAK	**Ala-Archa**	**0.87**	**235**	⇑P	**Pb**	**12 24 01.6**	**0.0**
	32nm,0.3s,SNR=12						
AAK				⇓S	**Sb**	**12 24 13.2**	**+0.3**
	55nm,0.2s						
AAK	**Ala-Archa**	**0.87**	**235**	⇑P	**Pb**	**12 24 01.6**	**0.0**
	8.6nm,0.3s						
AAK				⇓S	**Sb**	**12 24 13.0**	**+0.1**
	56nm,0.4s						
ULHL	**Ulahol**	**1.07**	**147**	P	**Pb**	**12 24 04.9**	**0.0**
	19nm,0.3s,SNR=54						
KZA	**Kyzart**	**1.08**	**188**	P	**Pb**	**12 24 05.5**	**+0.5**
	46nm,0.1s,SNR=169						
KZA				⇑S	**Sb**	**12 24 18.9**	**0.0**
	101nm,0.3s						
KK31	**Karatay Array**	**3.62**	**271**	⇓Pg	**Pg**	**12 24 52.0**	**-5.4**
	1.2nm,0.5s,baz=90,slow=15,SNR=10.0						
KK31				⇑Lg		12 25 36.4	
	4.4nm,0.5s,baz=87,slow=29,SNR=11						
MK31	**Makanchi Array**	**6.07**	**51**	⇑Pn	**Pn**	**12 25 16.6**	**-0.2**
	0.5nm,0.3s,baz=231,slow=15,SNR=12						
MK31				Pg	Pg	12 25 23.4	-23
	0.8nm,0.5s,baz=231,slow=14,SNR=8.4						
MK31				⇓Sn	**Sn**	**12 26 16.4**	**-10**
	0.2nm,0.3s,baz=226,slow=23						
MK31				⇓Lg		12 26 54.5	
	1.3nm,0.5s,baz=238,slow=29,SNR=3.5						
KURK	**Kurchatov**	**7.88**	**15**	⇑Lg		12 27 52.9	
	2.3nm,0.7s						

*NEIC **18** 13:01:27.4±0.6, 31.66S×67.03W, h109km±15km, mb4.0/3, MD3.8(GUC), Error ellipse: s-maj=11.1km s-min=7.1km az=81.0*
*GUC **18** 13:01:29.2±0.7, 31.72S×67.39W, h150km, MD3.8, ML4.4*
ISC 18 13:01:27.4±0.9**, 31.71S**±0.05×**67.19W**±0.09**, h127**km±14km**, n17, σ0ˢ76**/25**, 5C-4D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**1.28**	**277**	⇑*i*P	**P**	**13 01 53.0**	**-0.3**
ZON				*e*S	**S**	**13 02 13.0**	**+0.2**
JACH	**Jahuel**	**3.04**	**251**	*i* P	**P**	**13 02 16.1**	**+0.7**
JACH				*i* S	**S**	**13 02 51.5**	**-0.3**
FCH	**Farellones**	**3.08**	**238**	⇓*i*P	**P**	**13 02 17.1**	**+1.3**
FCH				*i* S	**S**	**13 02 53.1**	**+0.5**
CLCH	**Cerro Calan**	**3.29**	**238**	AMP		13 03 01.5	
	comp=N,606nm,0.5s						
CMCH	**Combarbala**	**3.30**	**278**	⇓*i*P	**P**	**13 02 19.1**	**+0.3**
CMCH				*i* S	**S**	**13 02 56.6**	**-1.4**
CMCH				AMP		13 03 03.0	
	comp=E,1μm,0.6s						
DSCH	**Colegio Aleman**	**3.31**	**239**	AMP		13 03 05.8	
	comp=E,804nm,0.8s						
LMEL	**Las Melosas**	**3.31**	**229**	⇓*i*P	**P**	**13 02 20.1**	**+1.1**
LMEL				*i* S	**S**	**13 02 58.4**	**+0.2**
LMEL				AMP		13 03 01.4	
	comp=E,193nm,0.5s						
PCH	**Pirque**	**3.39**	**235**	⇓*i*P	**P**	**13 02 20.6**	**+0.6**
PCH				*i* S	**S**	**13 02 60.0**	**-0.1**
TLL	**Tololo Astrono**	**3.47**	**295**	⇑*i*P	**P**	**13 02 21.9**	**+0.9**
TLL				*i* S	**S**	**13 03 02.0**	**+0.1**
TLL				AMP		13 03 03.0	
	comp=N,476nm,0.5s						
ROCH	**El Roble**	**3.47**	**248**	⇑*i*P	**P**	**13 02 21.3**	**+0.2**
ROCH				*i* S	**S**	**13 03 01.3**	**-0.7**
RCDM	**Rinconada Maip**	**3.53**	**239**	*i* P	**P**	**13 02 22.3**	**+0.5**
RCDM				AMP		13 03 06.9	
	comp=E,424nm,0.4s						
CHCH	**Chadas Angostu**	**3.66**	**232**	⇑*i*P	**P**	**13 02 24.1**	**+0.5**
CHCH				*i* S	**S**	**13 03 06.1**	**-0.4**
TACH	**Talagante**	**3.71**	**237**	⇑*i*P	**P**	**13 02 23.9**	**-0.2**
TACH				*i* S	**S**	**13 03 06.2**	**-1.4**
TRQA	**Tornquist**	**7.64**	**147**	*e*Pn	**P**	**13 03 15.6**	**-1.7**
LVC	**Limon Verde**	**9.19**	**350**	*e*Pn	**P**	**13 03 36.8**	**-1.2**
	comp=E,6.0nm,0.3s						
LPAZ	**La Paz**	**15.38**	**357**	*e*Pn	**P**	**13 04 58.6**	**-0.1**
	comp=E,3.5nm,0.5s						
SAML	**Samuel**	**22.95**	**10**	*e*P	**P**	**13 06 21.8**	**+0.4**
	comp=E,1.9nm,0.8s						

SKHL 18 13:06:18.0±0.2**, 54.23N**×**123.09E, h10**km**, mb3.8**/4**, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUP	**Tupik**	**1.85**	**277**	*e*Pg	Pg	13 06 51.8	-3.1
TUP				AMB	AMB	13 06 52.5	
	24nm,0.1s						
TUP				*e*Sg	Sg	13 07 14.0	-5.6
TUP				A		13 07 17.3	
	159nm,0.2s						
KROS	**Kirovskiy**	**2.28**	**83**	*e*Pg	Pg	13 07 00.0	-3.6
KROS				*e*Sg	Sg	13 07 29.6	-4.4
KROS				A		13 07 34.4	
	55nm,0.5s						
ZEA	**Zeya**	**2.51**	**100**	*e*Pg	Pg	13 07 05.4	-2.6
ZEA				AMB	AMB	13 07 07.2	
	10.0nm,0.3s						
ZEA				*e*S	Sn	13 07 30.7	+0.3
ZEA				*e*Sg	Sg	13 07 36.5	-5.0
ZEA				A		13 07 36.9	
	34nm,0.6s						
ZEA				A		13 07 36.9	
	88nm,0.6s						
ZEA				A		13 07 36.9	
	41nm,0.6s						
YASR	**Yasnyy**	**3.05**	**106**	*e*Pn	Pn	13 07 05.5	-1.8
YASR				*e*Pg	Pg	13 07 12.6	-6.3
YASR				*i* Sg	Sg	13 07 52.6	-7.0
YASR				A		13 07 59.0	
	30nm,0.5s						
YASR				A		13 07 59.0	
	29nm,0.5s						
YASR				A		13 07 59.0	
	20nm,0.5s						
BMKR	**Bomnak**	**3.39**	**80**	*e*Pg	Pg	13 07 19.2	-6.5
BMKR				*e*rx	rx	13 07 26.5	
BMKR				AMB	AMB	13 07 29.2	
	6.0nm,0.5s						
BMKR				AMB	AMB	13 07 29.2	
	10.0nm,0.5s						
BMKR				AMB	AMB	13 07 29.2	
	9.0nm,0.5s						
BMKR				*e*Sg	Sg	13 08 03.8	-7.1
BMKR				A		13 08 09.0	
	22nm,0.5s						
BMKR				A		13 08 09.0	
	27nm,0.5s						
BMKR				A		13 08 09.0	
	25nm,0.5s						
CRS	**Chara**	**3.83**	**316**	*e*Pn	Pn	13 07 16.2	-2.1
CRS				*e*Pg	Pg	13 07 27.2	-7.2
CRS				AMB	AMB	13 07 27.6	
	9.0nm,0.4s						
CRS				*e*Sg	Sg	13 08 15.2	-10
CRS				A		13 08 18.1	
	59nm,1.3s						
EKMR	**Ekimchan**	**5.98**	**97**	*e*Sg	Sg	13 09 25.0	-12
EKMR				A		13 09 34.7	
	8.0nm,0.8s						

*IDC **18** 13:26:53.2±0.8, 4.91S×28.75E, mb4.0/12, mb1 4.1/15, mb1mx4.0/24, mbtmp4.0/15, ML2.2/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/23, Error ellipse: s-maj=29.7km s-min=15.4km az=102.0*
*NEIC **18** 13:26:54.5±0.4, 4.94S×28.80E, h10km, mb4.1/1, Error ellipse: s-maj=14.2km s-min=6.4km az=106.0*
ISC 18 13:26:53.9±1.5**, 5.03S**±0.05×**28.9E**±0.1**, h22**km±11km**, n20, σ1ˢ16**/26**, mb4.0**/12**, MS3.1**/2**, Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**4.77**	**23**	*e*Pn	**Pn**	**13 28 05.1**	**-1.4**
MBAR				*e*Pb	**Pb**	**13 28 17.2**	**+0.4**
MBAR				*e*Sb	**Sb**	**13 29 14.4**	**0.0**
KMBO	**Kilima Mbogo**	**9.21**	**65**	Pn	**P**	**13 29 06.9**	**-1.6**
	3.6nm,0.3s,baz=232,slow=18,SNR=25						
KMBO				Sn	**Sn**	**13 30 45.9**	**-6.6**
	4.9nm,0.3s,baz=164,slow=23,SNR=7.1						
KMBO				Lg		13 31 41.0	
	14nm,0.3s,baz=169,slow=23,SNR=11						
KMBO				LR	LR	13 31 55.9	
	comp=Z,73nm,21.1s,baz=270,slow=33						
LSZ	**Lusaka**	**10.20**	**184**	*e*Pn	**P**	**13 29 22.9**	**+0.5**
	12nm,0.4s						
LSZ				*e*Sn	**S**	**13 31 12.2**	**-5.0**
MATP	**Matopo**	**15.30**	**181**	Pn	**P**	**13 30 31.2**	**+0.7**
	1.2nm,0.3s,baz=7.8,slow=14,SNR=17						
MATP				Sn	**S**	**13 33 17.4**	**-2.5**
	0.6nm,0.3s,baz=240,slow=23,SNR=3.3						
MATP				Lg		13 35 03.2	
	0.5nm,0.3s,baz=123,slow=19,SNR=5.1						
MATP				LR	LR	13 36 34.3	
	comp=Z,119nm,18.6s,baz=236,slow=38						
MATP	**Matopo**	**15.30**	**181**	Pn	**P**	**13 30 31.2**	**+0.7**
MATP				Sn	**S**	**13 33 17.4**	**-2.5**
MATP				Lg		13 35 03.2	
MATP				LR	LR	13 36 34.3	
TSUM	**Tsumeb**	**17.89**	**217**	P	**P**	**13 31 02.5**	**-0.7**
	0.5nm,0.3s,baz=23,slow=12,SNR=11						
LBTB	**Lobatse**	**20.12**	**189**	P	**P**	**13 31 30.6**	**+1.3**
	3.1nm,0.8s,baz=14,slow=12,SNR=2.7						
LBTB				LR	LR	13 39 10.0	
	comp=Z,87nm,18.8s,MS3.1,baz=88,slow=36						
BOSA	**Boshof**	**23.70**	**188**	P	**P**	**13 32 08.4**	**+3.2**
	2.0nm,0.8s,mb3.6,baz=354,slow=10,SNR=3.9						
BOSA				LR	LR	13 41 08.1	
	comp=Z,72nm,18.5s,MS3.2,baz=42,slow=36						
DBIC	**Dimbokro**	**35.64**	**289**	P	**P**	**13 33 51.1**	**-1.5**
	10nm,1.1s,mb4.7,baz=90,slow=10,SNR=2.7						
MALT	**Malatya**	**44.03**	**11**	*e*P	**P**	**13 35 03.2**	**+1.3**
	1.5nm,0.5s,mb4.0						
BRTR	**Keskin Array B**	**44.75**	**5**	P	**P**	**13 35 08.4**	**+0.7**
	3.1nm,0.8s,mb4.2,baz=180,slow=9.9,SNR=16						
GERES	**GERESS Array B**	**55.27**	**348**	P	**P**	**13 36 26.9**	**-1.1**
	0.9nm,0.6s,mb4.0,baz=169,slow=6.8,SNR=6.7						
AKASG	**Malin Array Be**	**55.51**	**0**	P	**P**	**13 36 28.8**	**-0.9**
	0.5nm,0.4s,mb3.9,baz=187,slow=6.6,SNR=5.3						
NB2	**NORSAR Subarra**	**67.31**	**351**	P	**P**	**13 37 49.3**	**+0.2**
	1.6nm,0.8s,mb4.1,baz=161,slow=6.2						
NOA	**NORSAR Array B**	**67.31**	**351**	P	**P**	**13 37 49.1**	**0.0**
	1.3nm,0.8s,mb4.0,baz=162,slow=5.9,SNR=4.7						
BVAR	**Borovoye Array**	**67.59**	**26**	P	**P**	**13 37 51.2**	**+0.2**
	1.1nm,0.8s,mb4.0,baz=214,slow=5.3,SNR=6.5						
MKAR	**Makanchi Array**	**69.83**	**36**	P	**P**	**13 38 05.8**	**+0.8**
	1.6nm,0.7s,mb4.1,baz=244,slow=6.4,SNR=14						
ARCES	**ARCESS Array B**	**74.44**	**359**	P	**P**	**13 38 32.2**	**+0.3**
	0.9nm,0.8s,mb3.8,baz=158,slow=6.5,SNR=5.2						
ZAL	**Zalesovo**	**74.94**	**30**	P	**P**	**13 38 35.3**	**+0.3**
	1.1nm,0.4s,mb4.1,baz=5.2,slow=6.6,SNR=3.4						
VNDA	**Vanda**	**93.59**	**171**	P	**P**	**13 40 12.0**	**+2.9**
	0.3nm,0.7s,mb3.8,baz=274,slow=15,SNR=4.0						

*NEIC **18** 13:27:24.6, 37.93S×177.32E, h63km, ML4.0(WEL), After WEL.*
WEL 18 13:27:24.7±0.2**, 37.92S**×**177.32E, h62**km±1km**, ML4.0**/9**, 3C, Error ellipse: s-maj=1.0km s-min=1.0km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.38**	**206**	⇑P*	P	13 27 35.2	-0.5
URZ				S*	S	13 27 43.4	-0.5
WIZ	**White Island**	**0.41**	**345**	P*	P	13 27 35.7	-0.3
WIZ				S*	S	13 27 44.5	+0.2
MWZ	**Matawai**	**0.45**	**159**	P	P	13 27 35.8	-0.6
MWZ				S	S	13 27 44.9	0.0
MWZ	**Matawai**	**0.45**	**159**	⇑P*	P	13 27 35.8	-0.6
MWZ				S*	S	13 27 44.9	-0.1
EDRZ	**Edgecumbe**	**0.50**	**248**	P	P	13 27 36.7	-0.2
EDRZ	**Edgecumbe**	**0.50**	**248**	P*	P	13 27 36.7	-0.2
MARZ	**Manawahe**	**0.52**	**262**	P	P	13 27 36.7	-0.4
MARZ	**Manawahe**	**0.52**	**262**	P*	P	13 27 36.6	-0.4
MKRZ	**Makatiti**	**0.71**	**252**	P	P	13 27 39.5	+0.2
MKRZ				S	S	13 27 41.9	-8.3
MKRZ	**Makatiti**	**0.71**	**252**	P*	P	13 27 39.5	+0.2
TAZ	**Tarawera**	**0.71**	**244**	P	P	13 27 39.5	+0.2
TAZ	**Tarawera**	**0.71**	**244**	P*	P	13 27 39.5	+0.2
LIRZ	**Lichensteins R**	**0.75**	**263**	P	P	13 27 39.7	0.0
LIRZ	**Lichensteins R**	**0.75**	**263**	P*	P	13 27 39.7	0.0
PUZ	**Puketiti**	**0.76**	**102**	P	P	13 27 39.5	-0.3
PUZ	**Puketiti**	**0.76**	**102**	PN	P	13 27 39.5	-0.4
PUZ				SN	S	13 27 51.1	0.0
MXZ	**Matakaoa Point**	**0.86**	**66**	P	P	13 27 41.3	+0.2
MXZ	**Matakaoa Point**	**0.86**	**66**	P*	P	13 27 41.3	+0.2
MXZ				S*	S	13 27 54.3	+0.9
TGRZ	**Tauranga**	**0.86**	**282**	P	P	13 27 40.8	-0.4
TGRZ	**Tauranga**	**0.86**	**282**	⇑P*	P	13 27 40.8	-0.4
UTU	**Utuhina**	**0.93**	**254**	P	P	13 27 42.6	+0.5
UTU	**Utuhina**	**0.93**	**254**	P*	P	13 27 42.6	+0.6
PATZ	**Paeroa**	**0.96**	**241**	P	P	13 27 42.4	-0.1
PATZ	**Paeroa**	**0.96**	**241**	P*	P	13 27 42.3	-0.2
MYRZ	**Mayor Island**	**1.07**	**306**	P*	P	13 27 42.4	-1.6
KNZ	**Kokohu**	**1.13**	**166**	*e*P	P	13 27 44.0	-0.8
KNZ	**Kokohu**	**1.13**	**166**	PN	P	13 27 44.0	-0.8
KNZ				SN	S	13 27 59.8	-0.1
BKZ	**Black Stump Fm**	**1.41**	**207**	P	P	13 27 47.9	-0.8
BKZ	**Black Stump Fm**	**1.41**	**207**	P*	P	13 27 47.9	-0.7
BKZ				S*	S	13 28 06.8	+0.3
TOZ	**Tahuroa Road**	**1.45**	**277**	P*	P	13 27 48.7	-0.7
RITZ	**Rihia Road**	**1.56**	**227**	P	P	13 27 50.7	-0.1
RITZ	**Rihia Road**	**1.56**	**227**	P*	P	13 27 51.0	+0.2
KUZ	**Kuaotunu**	**1.73**	**312**	*e*P	P	13 27 52.2	-0.9
KUZ	**Kuaotunu**	**1.73**	**312**	PN	P	13 27 52.2	-0.9
OTVZ	**Oturere**	**1.80**	**226**	P*	P	13 27 53.7	-0.3
WTVZ	**West Tongariro**	**1.81**	**228**	P	P	13 27 54.1	-0.1
WTVZ	**West Tongariro**	**1.81**	**228**	P*	P	13 27 54.1	-0.1
NGZ	**Ngauruhoe**	**1.84**	**227**	P	P	13 27 54.5	-0.1
NGZ	**Ngauruhoe**	**1.84**	**227**	P*	P	13 27 54.5	-0.1
TWVZ	**Taurewa**	**1.87**	**232**	P	P	13 27 54.8	-0.3
TWVZ	**Taurewa**	**1.87**	**232**	P*	P	13 27 55.1	+0.1
TUVZ	**Tukino**	**1.88**	**224**	P	P	13 27 54.7	-0.4
TUVZ	**Tukino**	**1.88**	**224**	P*	P	13 27 54.7	-0.4
CNZ	**Chateau**	**1.89**	**227**	P*	P	13 27 55.2	-0.1
WPVZ	**Whakapapa**	**1.89**	**227**	P	P	13 27 55.3	0.0
WPVZ	**Whakapapa**	**1.89**	**227**	P*	P	13 27 55.3	-0.1
FWVZ	**Far West T-bar**	**1.93**	**226**	*e*P	P	13 27 55.6	-0.2
FWVZ	**Far West T-bar**	**1.93**	**226**	P*	P	13 27 55.3	-0.4
MOVZ	**Moawhango**	**1.93**	**219**	P	P	13 27 54.8	-1.0
MOVZ	**Moawhango**	**1.93**	**219**	P*	P	13 27 54.8	-1.0
MOVZ				S*	S	13 28 17.8	-1.1
WNVZ	**Wahianoa**	**1.95**	**223**	P	P	13 27 55.7	-0.4
WNVZ	**Wahianoa**	**1.95**	**223**	P*	P	13 27 55.7	-0.5
HIZ	**Hauiti**	**2.03**	**252**	*e*P	P	13 27 57.3	0.0
HIZ	**Hauiti**	**2.03**	**252**	PN	P	13 27 57.1	-0.1
VRZ	**Vera Road**	**2.34**	**238**	*e*P	P	13 28 01.6	-0.1
VRZ	**Vera Road**	**2.34**	**238**	P*	P	13 28 01.6	-0.1
TSZ	**Takapari Road**	**2.39**	**206**	PN	P	13 27 59.5	-2.8
WAZ	**Wanganui**	**2.59**	**224**	P	P	13 28 04.5	-0.7
BFZ	**Birch Farm**	**2.88**	**196**	*e*P	P	13 28 05.2	-4.1
MRZ	**Mangatainoka R**	**3.06**	**206**	*e*P	P	13 28 07.4	-4.4
KIW	**Kapiti Island**	**3.48**	**212**	P	P	13 28 13.3	-4.5
MTW	**Mount Morrison**	**3.53**	**203**	P	P	13 28 13.4	-5.0
CAW	**Cannon Point**	**3.63**	**208**	P	P	13 28 15.5	-4.3
MRW	**Makara Radio**	**3.88**	**211**	P	P	13 28 18.5	-4.8
WEL	**Wellington**	**3.90**	**210**	P	P	13 28 18.8	-4.8
SNZO	**South Karori**	**3.94**	**210**	P	P	13 28 18.9	-5.3
BHW	**Baring Head**	**3.96**	**208**	P	P	13 28 19.1	-5.4
TCW	**Tory Channel**	**4.04**	**215**	P	P	13 28 20.2	-5.4
BSWZ	**Blackbirch Sta**	**4.63**	**214**	P	P	13 28 27.9	-5.9
QRZ	**Quartz Range**	**4.71**	**230**	*e*P	P	13 28 31.1	-3.9
LTZ	**Lake Taylor**	**6.20**	**217**	*e*P	P	13 28 48.2	-7.5

*NEIC **18** 14:41:07.5±0.6, 24.28S×66.91W, h172km±11km, mb4.0/2, Error ellipse: s-maj=12.3km s-min=9.0km az=99.0*
*IDC **18** 14:41:07.3±1.1, 24.22S×66.96W, h167km±16km, mb3.1/1, mb1 3.4/7, mb1mx3.3/18, mbtmp3.8/7, Error ellipse: s-maj=19.8km s-min=15.7km az=90.0*
*GUC **18** 14:41:08.6±0.9, 24.19S×67.54W, h207km±18km, ML4.3*
ISC 18 14:41:07.6±0.6**, 24.26S**±0.06×**67.3W**±0.1**, h204**km±13km**, n17, σ0ˢ89**/25**, mb3.6**/1**, 1C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.59**	**328**	*e*P	**P**	**14 41 43.3**	**+0.4**
SPCH				*i* S	**S**	**14 42 10.7**	**+0.6**
LVC	**Limon Verde**	**2.22**	**317**	⇑*i*P	**P**	**14 41 49.8**	**+0.7**
LVC				*i* S	**S**	**14 42 20.5**	**-0.7**
LVC				AMP		14 42 22.3	
	comp=E,548nm,0.4s						
LVC	**Limon Verde**	**2.22**	**317**	P	**P**	**14 41 49.9**	**+0.7**
	comp=E,31nm,0.3s,baz=126,slow=9.1,SNR=453						
LVC				S	**S**	**14 42 20.6**	**-0.6**
	comp=E,54nm,0.3s,baz=28,slow=23,SNR=42						
CPN1	**Cerro Paranal**	**2.86**	**262**	⇓*i*P	**P**	**14 41 57.2**	**+0.8**
CPN1				*i* S	**S**	**14 42 33.3**	**-0.7**
CPN1				AMP		14 42 38.2	
	comp=E,495nm,0.3s						
ANCH	**Antofagasta**	**2.91**	**281**	*e*P	**P**	**14 41 57.8**	**+0.8**
ANCH				*i* S	**S**	**14 42 34.3**	**-0.8**
ANCH				AMP		14 42 38.0	
	comp=N,1μm,0.6s						
CFAA	**Coronel Fontan**	**7.36**	**186**	P	**P**	**14 42 52.8**	**-0.5**
	comp=N,0.0nm,0.3s,baz=3.0,slow=16,SNR=5.0						
CFAA				S	**S**	**14 44 11.4**	**-4.5**
	comp=N,0.2nm,0.3s,baz=196,slow=14,SNR=6.1						
LPAZ	**La Paz**	**7.97**	**354**	P	**P**	**14 43 02.2**	**+0.9**
	comp=N,0.9nm,0.3s,baz=174,slow=7.9,SNR=12						
LPAZ				S	**S**	**14 44 29.3**	**-0.9**
	comp=N,0.3nm,0.3s,baz=312,slow=24,SNR=6.0						
LPAZ	**La Paz**	**7.97**	**354**	P	**P**	**14 43 02.2**	**+0.8**
LPAZ				S	**S**	**14 44 29.3**	**-0.9**
CPUP	**Villa Florida**	**9.24**	**105**	P	**P**	**14 43 11.7**	**-6.1**
	comp=N,0.1nm,0.3s,baz=288,slow=16,SNR=3.3						
SIV	**San Ignacio**	**10.09**	**36**	P	**P**	**14 43 25.4**	**-3.4**
	comp=N,0.4nm,0.3s,baz=213,slow=15,SNR=12						
SIV				S	**S**	**14 45 19.8**	**+0.5**
	comp=N,0.1nm,0.3s,baz=150,slow=21,SNR=3.2						
TRQA	**Tornquist**	**14.48**	**163**	*e*P	**P**	**14 44 23.6**	**-0.7**
	comp=N,7.2nm,0.8s						
PLCA	**Paso Flores**	**16.65**	**189**	P	**P**	**14 44 51.2**	**+0.4**
	comp=N,0.1nm,0.3s,baz=9.9,slow=15,SNR=3.7						
PLCA	**Paso Flores**	**16.65**	**189**	P	**P**	**14 44 51.2**	**+0.4**
BDFB	**Brasilia**	**20.03**	**68**	P	**P**	**14 45 25.4**	**-1.1**
	comp=N,0.6nm,0.3s,baz=248,slow=7.9,SNR=12						
SNAA	**Sanae**	**59.19**	**161**	P	**P**	**14 50 50.2**	**+1.4**
	comp=N,0.1nm,0.5s,baz=259,slow=10,SNR=10						
SNAA	**Sanae**	**59.19**	**161**	*e*P	**P**	**14 50 49.8**	**+1.0**
	comp=N,1.0nm,0.6s,mb3.6						
MKAR	**Makanchi Array**	**146.89**	**40**	PKPbc	PKPbc	15 00 27.8	+2.7
	comp=N,1.3nm,0.8s,baz=311,slow=3.4,SNR=13						

CASC 18 14:48:01.9±2.0**, 10.46N**×**86.83W, h25**km±47km**, MD3.7, ML3.6, 5C-4D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.60**	**19**	*e*P	Pn	14 48 28.1	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUN				eS	Sn	14 48 50.0	+1.0
CONN	**Concepcion**	**1.61**	**47**⇑	eP	Pn	14 48 28.9	-0.3
APON	**Apoyo**	**1.63**	**27**⇓	eP	Pn	14 48 29.0	-0.4
TICN	**Ticuantepe**	**1.67**	**21**⇑	eP	Pn	14 48 29.9	-0.1
COPN	**Copaltepe**	**1.73**	**8**⇓	eP	Pn	14 48 30.1	-0.7
XAVN	**Gruta Xavier**	**1.75**	**16**	eP	Pn	14 48 30.5	-0.7
XAVN				eS	Sn	14 48 52.5	-0.4
MGAN	**Managua**	**1.77**	**19**⇑	eP	Pn	14 48 30.7	-0.8
MGAN				eS	Sn	14 48 53.5	+0.1
MGAN				i		14 48 54.4	
	comp=E,734nm,0.5s						
WILN	**Americas 2**	**1.81**	**20**	eS	Sn	14 48 54.9	+0.6
APYN	**Apoyeque**	**1.83**	**15**⇑	eP	Pn	14 48 31.6	-0.7
APYN				eS	Sn	14 48 55.8	+1.1
LEON	**Leon**	**1.95**	**358**	eP	Pn	14 48 32.2	-1.8
MOMJ	**Momotombo**	**1.96**	**8**	eP	Pn	14 48 33.0	-1.1
MIRN	**Miramar**	**1.97**	**3**⇓	eP	Pn	14 48 33.7	-0.7
CNGN	**Cerro Negro**	**2.03**	**4**⇓	eP	Pn	14 48 34.5	-0.7
TEL3	**Telica 3**	**2.10**	**360**	eP	Pn	14 48 35.6	-0.6
PYTN	**Playitas**	**2.20**	**20**	eP	Pn	14 48 36.3	-1.3
CRIN	**San Cristobal**	**2.24**	**354**⇑	eP	Pn	14 48 37.8	-0.4
CRIN				eS	Sn	14 49 05.9	+0.6

*NEIC **18** 14:50:40.0±1.3, 6.94S×125.13E, h525^{km}±19^{km}, mb4.0/7, Error ellipse: s-maj=18.1km s-min=12.6km az=72.0*
*IDC **18** 14:50:40.4±3.0, 6.91S×125.06E, h532^{km}±40^{km}, mb3.4/5, mb1 3.5/7, mb1mx3.3/17, mbtmp4.4/7, Error ellipse: s-maj=40.3km s-min=18.5km az=83.0*
ISC 18 14:50:39.2±2.0**, 6.9S**±0.1×**125.0E**±0.2**, h528**^{km}±29^{km}**, n17, σ0^{s}66**/19**, mb3.9**/8**, 2C-1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.14**	**177**⇓	iP	**P**	**14 53 09.8**	**+0.1**
	2.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.14**	**177**	P	**P**	**14 53 09.7**	**0.0**
	1.3nm,0.3s,baz=2.6,slow=8.1,SNR=34						
FITZ				S	**S**	**14 55 10.1**	**-0.2**
	0.8nm,0.3s,baz=166,slow=9.0,SNR=7.1						
MBWA	**Marble Bar**	**15.05**	**199**	P	**P**	**14 53 49.9**	**+0.4**
	2.8nm,0.7s						
WRAB	**Tennant Creek**	**15.82**	**146**	eP	**P**	**14 53 56.9**	**-0.1**
	10nm,0.6s						
WRA	**Warramunga Arr**	**15.82**	**146**	P	**P**	**14 53 57.2**	**+0.1**
	2.0nm,0.3s,baz=326,slow=10,SNR=80						
WRA				S	**S**	**14 56 38.2**	**+1.3**
	baz=319,slow=17,SNR=2.9						
WB2	**Warramunga Arr**	**15.83**	**146**⇑	iP	**P**	**14 53 57.1**	**-0.1**
NWAO	**Narrogin (SRO)**	**26.87**	**195**	P	**P**	**14 55 38.4**	**-0.8**
	1.8nm,0.3s,mb4.2,baz=61,slow=7.6,SNR=3.8						
STKA	**Stephens Creek**	**29.28**	**150**⇑	iP	**P**	**14 55 59.6**	**-0.6**
	6.5nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**29.28**	**150**	P	**P**	**14 55 59.7**	**-0.5**
	6.2nm,0.3s,mb4.7,baz=323,slow=8.7,SNR=71						
MJAR	**Matsushiro Arr**	**44.97**	**15**	P	**P**	**14 58 07.8**	**-0.8**
	2.0nm,0.8s,mb3.7,baz=199,slow=10,SNR=4.4						
MJAR	**Matsushiro Arr**	**44.97**	**15**	P	**P**	**14 58 07.8**	**-0.8**
LSA	**Lhasa**	**48.80**	**320**	eP	**P**	**14 58 39.3**	**+1.3**
	3.5nm,0.6s,mb4.1						
ZAL	**Zalesovo**	**69.38**	**336**	P	**P**	**15 00 54.9**	**-0.5**
	2.3nm,0.3s,mb4.2,baz=8.9,slow=3.3,SNR=3.6						
KURK	**Kurchatov**	**69.92**	**331**	eP	**P**	**15 00 58.9**	**+0.3**
	1.7nm,0.6s,mb3.8						
VNDA	**Vanda**	**73.18**	**172**	P	**P**	**15 01 16.2**	**-0.8**
	0.3nm,0.4s,mb3.1,baz=313,slow=9.4,SNR=5.4						
VNDA	**Vanda**	**73.18**	**172**	P	**P**	**15 01 16.2**	**-0.8**
ZRNK	**Zerenda**	**76.05**	**329**	eP	**P**	**15 01 33.8**	**+0.4**
	1.0nm,0.3s,mb3.7						

*NEIC **18** 15:09:35.6±0.7, 17.93S×178.50W, h566^{km}±8^{km}, mb4.4/34, Error ellipse: s-maj=13.3km s-min=5.2km az=151.0*
*BJI **18** 15:09:35.5, 17.90S×178.50W, h565^{km}, mB4.6, mb4.4*
*IDC **18** 15:09:35.4±1.6, 18.06S×178.38W, h566^{km}±20^{km}, mb3.9/12, mb1 4.0/14, mb1mx3.8/20, mbtmp4.9/14, Error ellipse: s-maj=20.4km s-min=11.7km az=146.0*
ISC 18 15:09:35.0±1.1**, 18.0S**±0.1×**178.52W**±0.08**, h569**^{km}±14^{km}**, h550**^{km}±5.1^{km}**:pP-P, n70, σ0^{s}98**/68**, mb4.3**/45**, 1C-6D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.63**	**59**	P	**P**	**15 11 29.4**	**-1.0**
	14nm,0.3s,baz=282,slow=22,SNR=19						
AFI	**Afiamalu**	**7.63**	**59**	ePn	**P**	**15 11 29.3**	**-1.1**
	33nm,0.5s						
DZM	**Mont Dzumac**	**14.71**	**251**	eP	**P**	**15 12 42.7**	**+1.8**
DZM				eS	**S**	**15 15 19.0**	**+8.4**
DZM	**Mont Dzumac**	**14.71**	**251**	P	**P**	**15 12 42.8**	**+1.9**
	2.5nm,0.3s,baz=82,slow=17,SNR=30						
DZM	**Mont Dzumac**	**14.71**	**251**	eP	**P**	**15 12 42.7**	**+1.8**
DZM				eS	**S**	**15 15 18.9**	**+8.4**
NOUC	**Port Laguerre**	**14.85**	**251**	eP	**P**	**15 12 45.1**	**+2.9**
URZ	**Urewera**	**20.58**	**190**	P	**P**	**15 13 34.1**	**-2.4**
	5.6nm,0.3s,baz=58,slow=16,SNR=11						
CNB	**Canberra Magne**	**33.31**	**232**⇓	iP	**P**	**15 15 28.9**	**+1.2**
	38nm,0.6s,mb5.1						
CTA	**Charters Tower**	**33.34**	**261**⇓	iP	**P**	**15 15 28.2**	**+0.2**
	19nm,0.6s,mb4.8						
CTA	**Charters Tower**	**33.34**	**261**	P	**P**	**15 15 28.2**	**+0.2**
	24nm,0.6s,mb4.9,baz=88,slow=11,SNR=32						
CTAO	**Charters Tower**	**33.34**	**261**	eP	**P**	**15 15 28.1**	**+0.1**
	18nm,0.6s,mb4.8						
PMG	**Port Moresby**	**34.37**	**280**	P	**P**	**15 15 38.2**	**+1.5**
	69nm,0.8s,mb5.2,baz=75,slow=6.8,SNR=12						
PMG	**Port Moresby**	**34.37**	**280**	eP	**P**	**15 15 37.7**	**+1.0**
	79nm,0.9s,mb5.2						
TOO	**Toolangi**	**37.05**	**231**⇓	iP	**P**	**15 15 59.6**	**+1.0**
	13nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**38.51**	**241**⇓	iP	**P**	**15 16 11.7**	**+1.1**
	20nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**15 16 11.7**	**+1.1**
	23nm,0.5s,mb5.0,baz=92,slow=9.5,SNR=56						
WB2	**Warramunga Arr**	**44.51**	**260**⇓	iP	**P**	**15 16 57.4**	**-0.9**
WRAB	**Tennant Creek**	**44.51**	**260**	eP	**P**	**15 16 57.0**	**-1.3**
	33nm,0.6s,mb5.0						
WRA	**Warramunga Arr**	**44.52**	**260**	P	**P**	**15 16 57.5**	**-0.9**
	16nm,0.4s,mb4.9,baz=93,slow=7.3,SNR=408						
KAKA	**Kakadu**	**47.48**	**269**	eP	**P**	**15 17 20.2**	**-0.9**
	42nm,0.4s,mb5.3						
FITZ	**Fitzroy Crossi**	**52.92**	**261**	eP	**P**	**15 18 00.3**	**-0.5**
	9.5nm,0.6s,mb4.3						
MBWA	**Marble Bar**	**57.96**	**256**	eP	**P**	**15 18 34.1**	**-1.6**
	14nm,0.7s,mb4.3						
KLBR	**Kellerberrin**	**58.71**	**244**⇓	iP	**P**	**15 18 39.4**	**-1.3**
	20nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**59.09**	**242**	P	**P**	**15 18 42.1**	**-1.1**
	7.4nm,0.7s,mb4.1,baz=84,slow=3.0,SNR=7.2						
MUN	**Mundaring**	**60.01**	**243**⇑	iP	**P**	**15 18 48.7**	**-0.5**
	8.7nm,0.7s,mb4.2						
MJAR	**Matsushiro Arr**	**67.89**	**323**	P	**P**	**15 19 37.9**	**-1.1**
	2.5nm,0.5s,mb4.0,baz=157,slow=6.9,SNR=7.1						
MAJO	**Matsushiro**	**67.89**	**323**	eP	**P**	**15 19 37.8**	**-1.2**
	3.5nm,0.5s,mb4.2						
KKM	**Kota Kinabalu**	**68.66**	**284**	eP	**P**	**15 19 43.5**	**-0.4**
FX1	**Attu Island--F**	**70.92**	**355**	eP	**P**	**15 19 55.1**	**-1.5**
KSM	**Kuching**	**72.59**	**277**	eP	**P**	**15 20 07.3**	**+0.2**
SSE	**Sheshan**	**75.70**	**310**	P	**P**	**15 20 24.6**	**+0.5**
SSE				AP	pP	15 22 21.8	-2.2
SSE				XP	sP	15 23 19.8	-1.3
SSE				S	S	15 29 22.4	+2.4
SSE				XS		15 32 52.0	
SSE				SS	SS	15 34 31.5	+0.6
SSE				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.5						
SSE				AMB	AMB		
	comp=Z,674nm,6.3s						
NJ2	**Nanjing**	**77.89**	**310**	eP	**P**	**15 20 37.8**	**+1.8**
NJ2				AP	pP	15 22 33.6	-3.1
NJ2				XP	sP	15 23 28.0	-5.5
NJ2				PP	PP	15 23 44.5	+1.7
NJ2				S	S	15 29 46.0	+2.9
NJ2				SKS	SKS	15 29 57.0	+4.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
NJ2				AMB	AMB		
	comp=Z,600nm,4.4s						
MDJ	**Mudanjiang**	**78.17**	**325**	P	**P**	**15 20 37.9**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,55nm,4.0s						
YBH	**Yreka Blue Hor**	**78.63**	**39**	P	**P**	**15 20 40.3**	**+0.6**
	comp=Z,4.8nm,0.5s,mb4.0,baz=176,slow=2.2,SNR=14						
CN2	**Changchun**	**80.00**	**322**	eP	**P**	**15 20 49.6**	**+2.8**
MOD	**Modoc**	**80.19**	**40**	eP	**P**	**15 20 48.3**	**+0.5**
	comp=Z,7.8nm,0.6s,mb4.2						
BMN	**Battle Mountai**	**81.32**	**43**	eP	**P**	**15 20 53.6**	**0.0**
	comp=Z,15nm,1.2s,mb4.3						
WVOR	**Wild Horse Val**	**81.52**	**40**	eP	**P**	**15 20 54.3**	**-0.3**
	comp=Z,10nm,1.0s,mb4.2						
TUC	**Tucson**	**81.82**	**52**	eP	**P**	**15 20 57.2**	**+0.9**
	comp=Z,2.5nm,0.8s,mb3.7						
BBB	**Bella Bella**	**82.42**	**29**	P	**P**	**15 20 58.5**	**-0.4**
	comp=Z,8.0nm,0.8s,mb4.2,baz=207,slow=9.0,SNR=5.1						
BBB	**Bella Bella**	**82.42**	**29**	P	**P**	**15 20 58.5**	**-0.4**
ELK	**Elko**	**82.77**	**43**	eP	**P**	**15 21 01.1**	**+0.1**
	comp=Z,5.2nm,1.0s,mb4.0						
MSU	**Marysvale**	**83.71**	**46**	eP	**P**	**15 21 06.5**	**+0.8**
MAW	**Mawson**	**83.77**	**200**	P	**P**	**15 21 05.7**	**+0.4**
	comp=Z,0.8nm,0.4s,mb3.6,baz=186,slow=9.2,SNR=3.8						
MCK	**McKinley**	**84.62**	**13**	eP	**P**	**15 21 08.2**	**-1.3**
	comp=Z,2.1nm,0.7s,mb3.8						
HLID	**Hailey**	**84.74**	**41**	eP	**P**	**15 21 11.1**	**+0.6**
	comp=Z,3.3nm,0.7s,mb4.0						
SRU	**San Rafael**	**85.13**	**46**	eP	**P**	**15 21 12.8**	**+0.2**
HWUT	**Hardware Ranch**	**85.60**	**44**	eP	**P**	**15 21 14.3**	**-0.5**
	comp=Z,1.9nm,0.8s,mb3.8						
ILAR	**Eielson Array**	**85.97**	**13**	P	**P**	**15 21 14.4**	**-1.6**
	comp=Z,1.9nm,0.4s,mb4.1,baz=223,slow=5.2,SNR=25						
LTX	**Lajitas**	**86.11**	**58**	eP	**P**	**15 21 18.5**	**+0.9**
	comp=Z,2.1nm,0.8s,mb3.8						
ANMO	**Albuquerque**	**86.21**	**52**	eP	**P**	**15 21 18.4**	**+0.4**
	comp=Z,2.6nm,0.9s,mb3.9						
MCMT	**McKenzie Canyo**	**86.35**	**41**	eP	**P**	**15 21 18.9**	**+0.6**
RRI2	**Red Ridge**	**86.59**	**42**	eP	**P**	**15 21 20.2**	**+0.7**
	comp=Z,10nm,0.8s,mb4.5						
TPAW	**Teton Pass**	**86.90**	**42**	eP	**P**	**15 21 21.2**	**+0.3**
	comp=Z,4.4nm,0.7s,mb4.2						
SNOW	**Snow King Moun**	**87.01**	**42**	eP	**P**	**15 21 21.3**	**-0.1**
	comp=Z,7.9nm,0.5s,mb4.6						
IMW	**Indian Meadow**	**87.10**	**42**	eP	**P**	**15 21 22.5**	**+0.6**
	comp=Z,13nm,1.1s,mb4.5						
MOOW	**Moose Ponds**	**87.15**	**42**	eP	**P**	**15 21 21.7**	**-0.4**
	comp=Z,2.0nm,0.9s,mb3.8						
LOHW	**Long Hollow**	**87.18**	**42**	eP	**P**	**15 21 22.3**	**+0.1**
	comp=Z,2.3nm,0.5s,mb4.1						
QLMT	**Earthquake Lak**	**87.23**	**41**	eP	**P**	**15 21 23.4**	**+0.9**
BW06	**Boulder Array**	**87.46**	**43**	eP	**P**	**15 21 23.2**	**-0.4**
	comp=Z,2.1nm,0.6s,mb3.9						
PDAR	**Pinedale Array**	**87.46**	**43**	P	**P**	**15 21 23.9**	**+0.3**
	comp=Z,3.6nm,0.6s,mb4.2,baz=224,slow=3.0,SNR=42						
BOZ	**Bozeman (W)**	**87.50**	**40**	eP	**P**	**15 21 23.6**	**0.0**
	comp=Z,4.6nm,1.4s,mb4.0						
KMI	**Kunming**	**87.77**	**297**	P	**P**	**15 21 26.3**	**+0.9**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
LZH	**Lanzhou**	**90.84**	**308**	P	**P**	**15 21 39.5**	**0.0**
LZH				AP	pP	15 23 42.6	-1.6
LZH				XP	sP	15 24 37.5	-2.9
LZH				PP	PP	15 25 28.3	+1.2
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.8						
RSSD	**Black Hills**	**91.68**	**44**	eP	**P**	**15 21 42.7**	**-0.4**
	comp=Z,2.0nm,0.8s,mb4.2						
INK	**Inuvik**	**91.97**	**15**	eP	**P**	**15 21 42.5**	**-1.3**
	comp=Z,2.0nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**109.10**	**314**	PKiKP		15 27 00.2	
	comp=Z,0.2nm,0.5s,baz=159,slow=0.6,SNR=5.8						
BRTR	**Keskin Array B**	**144.75**	**315**	PKP	PKPdf	15 28 09.0	+1.7
	comp=Z,1.4nm,0.5s,baz=135,slow=1.7,SNR=7.7						
CLL	**Collm**	**145.50**	**347**	i PKP1	PKPbc	15 28 10.8	+1.3
GERES	**GERESS Array B**	**147.64**	**345**	PKPbc	PKPdf	15 28 16.5	+4.6
	comp=Z,1.2nm,0.4s,baz=34,slow=3.4,SNR=11						

*NIED **18** 15:53:00, 25.00N×122.70E, h35^{km}, Mw4.3 Best double couple: $M_0$3.64×10^{15} NP1:ϕ_s76°, δ66°, λ-146°. NP2: ϕ_s330°, δ59°, λ-28°.*
*JMA **18** 15:53:36.8±0.3, 25.01N×122.73E, h16^{km}, M3.7*
*MOS **18** 15:53:41.6±1.5, 24.86N×122.29E, h33^{km}, mb4.4/6, Error ellipse: s-maj=40.7km s-min=11.8km az=114.6*
*BJI **18** 15:53:46.6, 24.80N×122.07E, h66^{km}, mB4.5, mb4.1, Ms4.4, Msz4.1*
*NEIC **18** 15:53:48.2±1.1, 24.73N×121.98E, h68^{km}±9^{km}, mb4.4/4, Error ellipse: s-maj=23.4km s-min=11.5km az=83.0*
*IDC **18** 15:53:48.1±16.0, 24.58N×122.08E, h81^{km}±153^{km}, mb3.7/7, mb1 3.9/7, mb1mx3.6/19, mbtmp4.0/7, MS3.7/8, Ms1 3.7/8, ms1mx3.5/22, Error ellipse: s-maj=76.0km s-min=19.9km az=66.0*
ISC 18 15:53:39.5±1.1**, 24.87N**±0.07×**122.79E**±0.07**, h29**^{km}±10^{km}**, n38, σ0^{s}96**/38**, mb4.2**/16**, MS3.9**/10**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.45**	**154**	P	**Pb**	**15 53 48.4**	**-0.8**
YOJ				eS	**Sb**	**15 53 56.6**	**+0.8**
IRIF	**Iriomote-Funau**	**1.01**	**122**	P	**Pn**	**15 53 57.7**	**-0.1**
TATO	**Taipei**	**1.19**	**275**	ePn	**Pn**	**15 54 00.2**	**-0.2**
JKRS	**Kuro-shima**	**1.27**	**119**	P	**Pn**	**15 54 01.9**	**+0.2**
NACB	**Ninganchiao**	**1.29**	**238**	ePn	**Pn**	**15 54 02.5**	**+0.6**
JIJ	**Ishigaki jima**	**1.33**	**112**	P	**Pn**	**15 54 01.9**	**-0.6**
JNU	**Nakatsue**	**10.85**	**39**	LR	LR	16 01 51.1	
	comp=Z,320nm,19.6s,baz=146,slow=42						
KS15	**Wonju Array Si**	**13.27**	**18**	ePn	**P**	**15 56 59.7**	**+11**
MJAR	**Matsushiro Arr**	**17.61**	**45**	LR	LR	16 05 10.7	
	comp=Z,132nm,21.8s,baz=205,slow=37						
HHC	**Hu-ho-hao-te**	**18.49**	**332**	eP	**P**	**15 57 53.6**	**-1.8**
HHC				PP	PP	15 58 11.5	+0.6
HHC				S	**S**	**16 01 18.5**	**+1.2**
HHC				XS		16 01 35.4	
HHC				SS	SS	16 01 43.9	+2.3
HHC				AMB	AMB		
	comp=Z,14nm,1.0s						
HHC				AMB	AMB		
	comp=Z,225nm,6.0s						
HHC				LR	LR		
	comp=N,524nm,15.6s						
HHC				LR	LR		
	comp=E,603nm,13.2s						
HHC				LR	LR		
	comp=Z,385nm,13.2s						
KKM	**Kota Kinabalu**	**19.75**	**200**	eP	**P**	**15 58 10.2**	**0.0**
LZH	**Lanzhou**	**19.75**	**309**	eP	**P**	**15 58 08.5**	**-1.6**
LZH				AP		15 58 20.3	
LZH				PP	PP	15 58 26.5	-2.1
LZH				XP		15 58 29.0	
LZH				eS	**S**	**16 01 35.4**	**-10**
LZH				eSS	SS	16 02 02.8	-10
LZH				AMB	AMB		
	comp=Z,25nm,1.3s						
LZH				AMB	AMB		
	comp=Z,121nm,4.2s						
LZH				LR	LR		
	comp=N,336nm,10.2s						
LZH				LR	LR		
	comp=Z,537nm,13.0s						
MDJ	**Mudanjiang**	**20.46**	**14**	P	**P**	**15 58 24.4**	**+6.9**
MDJ				AP		15 58 37.0	
MDJ				XP		15 58 45.3	
MDJ				S	**S**	**16 02 13.6**	**+14**
MDJ				PCP	PcP	16 02 29.5	+0.9
MDJ				SCP		16 06 01.4	
MDJ				PCS		16 06 07.6	
MDJ				SCS	ScS	16 09 48.0	+4.7
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,130nm,5.3s						
MDJ				LR	LR		
	comp=N,283nm,15.1s,MS4.1						
MDJ				LR	LR		
	comp=E,517nm,14.6s,MS4.1						
MDJ				LR	LR		
	comp=Z,460nm,12.6s,MS4.0						
GTA	**Gaotai**	**24.17**	**312**	eP	**P**	**15 58 56.4**	**+2.0**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.7s,mb3.7						
ASAJ	**Asahikawa**	**25.09**	**35**	LR	LR	16 09 07.9	
	comp=Z,208nm,18.2s,MS3.7,baz=22,slow=36						
KLR	**Kul'dur**	**25.31**	**14**	eP	**P**	**15 59 06.8**	**+1.7**
KLR				MLR	MLR		
	comp=Z,1μm,13.0s,MS4.5						
KLR				MLR	MLR		
	comp=N,1.0nm,13.0s						
SONM	**Songino Array**	**26.34**	**335**	P	**P**	**15 59 16.1**	**+1.4**
	comp=N,4.5nm,1.1s,mb3.9,baz=149,slow=7.2,SNR=8.8						
SONM				LR	LR	16 10 36.7	
	comp=N,186nm,20.3s,MS3.6,baz=255,slow=38						
ZAK	**Zakamensk**	**29.61**	**334**	eP	**P**	**15 59 43.9**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						
TLY	**Talaya**	**30.51**	**336**	eP	**P**	**15 59 51.5**	**-0.8**
TLY				e		16 00 51.5	
TLY				eS	**S**	**16 04 47.2**	**-3.4**
TLY				eSS	SS	16 06 50.6	+19
TLY				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3						
TLY				MLR	MLR		
	comp=Z,135nm,13.0s,MS3.8						
WMQ	**Urumqi**	**34.26**	**312**	eP	**P**	**16 00 25.4**	**+0.3**
WMQ				AP	pP	16 00 40.4	+6.6
WMQ				XP	sP	16 00 47.6	+10
WMQ				PP	PP	16 01 39.8	-0.6
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,20nm,4.1s						
WMQ				LR	LR		
	comp=N,211nm,16.2s,MS4.1						
WMQ				LR	LR		
	comp=E,212nm,16.7s,MS4.1						
WMQ				LR	LR		
	comp=Z,337nm,17.6s,MS4.1						
MKAR	**Makanchi Array**	**38.88**	**315**	P	**P**	**16 01 04.6**	**+0.5**
	comp=Z,1.1nm,0.7s,mb3.7,baz=98,slow=10,SNR=11						
ZAL	**Zalesovo**	**40.49**	**326**	P	**P**	**16 01 16.9**	**-0.4**
	comp=Z,2.0nm,0.3s,mb4.4,baz=66,slow=2.1,SNR=4.7						
ZAL				LR	LR	16 17 25.4	
	comp=Z,58nm,20.5s,MS3.4,baz=233,slow=35						
KURK	**Kurchatov**	**42.52**	**319**	eP	**P**	**16 01 34.1**	**+0.1**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.3						
KURK	**Kurchatov**	**42.52**	**319**	eP	**P**	**16 01 34.1**	**+0.1**
	comp=Z,8.7nm,1.3s,mb4.3						
WRAB	**Tennant Creek**	**45.93**	**165**	eP	**P**	**16 02 06.6**	**+4.8**
WRAB				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**45.93**	**165**	eP	**P**	**16 02 06.6**	**+4.7**
	comp=Z,19nm,0.9s,mb5.0						
WRA	**Warramunga Arr**	**45.94**	**165**	P	**P**	**16 02 02.0**	**+0.2**
	comp=Z,10nm,0.9s,mb4.7,baz=347,slow=8.4,SNR=16						
BVAR	**Borovoye Array**	**48.08**	**320**	P	**P**	**16 02 17.8**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.7,baz=117,slow=6.4,SNR=2.7						
BRVK	**Borovoye**	**48.15**	**320**	eP	**P**	**16 02 19.1**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BRVK	**Borovoye**	**48.15**	**320**	eP	**P**	**16 02 19.1**	**+0.3**
	comp=Z,1.2nm,0.8s,mb4.0						
ZRNK	**Zerenda**	**48.88**	**320**	eP	**P**	**16 02 24.5**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
ZRNK	**Zerenda**	**48.88**	**320**	eP	**P**	**16 02 24.5**	**0.0**
	comp=Z,4.9nm,1.1s,mb4.5						
OBN	**Obninsk**	**67.87**	**322**	eP	**P**	**16 04 33.9**	**-3.3**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ARCES	**ARCESS Array B**	**69.45**	**338**	LR	LR	16 38 15.4	
	comp=Z,52nm,18.6s,MS3.8,baz=224,slow=38						
FINES	**FINESS Array B**	**71.59**	**330**	P	**P**	**16 04 59.1**	**-0.7**
	comp=Z,1.1nm,0.7s,mb3.9,baz=79,slow=7.1,SNR=4.1						
YKA	**Yellowknife Ar**	**81.77**	**23**	P	**P**	**16 06 01.1**	**+4.6**
	comp=Z,0.7nm,0.7s,mb3.7,baz=306,slow=5.3,SNR=4.6						
YKA				LR	LR	16 44 55.1	
	comp=Z,63nm,18.4s,MS4.0,baz=50,slow=37						
YKA	**Yellowknife Ar**	**81.77**	**23**	P	**P**	**16 06 01.1**	**+4.5**
YKA				LR	LR	16 44 55.1	
PDAR	**Pinedale Array**	**97.22**	**36**	LR	LR	16 50 24.2	
	comp=Z,37nm,19.7s,MS3.9,baz=81,slow=35						

JMA 18 16:12:48.7±0.2**, 27.43N**×**141.05E, h245**^{km}**, M3.9, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.06**	**108**	P	P	16 13 23.9	+0.1
CBIJ				S	S	16 13 50.7	-0.4
JHHJ	**Haha-jima-NKT**	**1.28**	**128**	P	P	16 13 24.9	-0.4
JHHJ				S	S	16 13 54.0	+0.3
JNY	**Yasuok**	**8.36**	**342**	P	P	16 14 47.2	-0.1

*DHMR **18** 16:31:36.3±0.3, 12.66N×40.51E, h10^{km}±20^{km}, ML4.2*
*BJI **18** 16:31:39.9, 12.48N×40.25E, h25^{km}, mB5.4, mb4.7, Ms4.6, Msz4.3*
*IDC **18** 16:31:39.6±2.0, 12.58N×40.66E, mb4.3/12, mb1 4.3/14, mb1mx4.2/21, mbtmp4.3/14, ML4.2/2, MS4.2/14, Ms1 4.2/14, ms1mx4.1/20, Error ellipse: s-maj=48.1km s-min=13.7km az=32.0*
*NEIC **18** 16:31:42.6±0.4, 12.73N×40.75E, h10^{km}, mb4.5/26, ML4.2(DHMR), Error ellipse: s-maj=8.8km s-min=5.9km az=20.0*
*MOS **18** 16:31:42.7±1.2, 12.79N×40.69E, h20^{km}, mb4.8/27, MS4.2/7, Error ellipse: s-maj=11.5km s-min=5.1km az=97.0*
*CSEM **18** 16:31:44.8±0.1, 12.77N×40.87E, h40^{km}, mb4.5/11, Error ellipse: s-maj=3.4km s-min=2.4km az=17.0*
ISC 18 16:31:41.1±0.4**, 12.74N**±0.06×**40.71E**±0.04**, h10**^{km}**, (h24**^{km}±3.9^{km}**:pP-P), n137, σ1^{s}10**/142**, mb4.5**/45**, MS4.3**/21**, 3C-7D, Ethiopia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.41**	**120**	Pn	**Pn**	**16 32 19.6**	**-1.6**
	106nm,0.3s,baz=286,slow=8.7,SNR=90						
ATD				Lg		16 32 56.5	
	54nm,0.3s,baz=256,slow=22,SNR=9.0						
ATD	**Arta Tunnel**	**2.41**	**120**	Pn	**Pn**	**16 32 19.6**	**-1.7**
TRBA	**At Turbah**	**3.36**	**81**	i P	**Pn**	**16 32 34.2**	**-0.5**
TRBA				i S	**Sn**	**16 33 18.5**	**+3.4**
TRBA	**At Turbah**	**3.36**	**81**⇓	eP	**Pn**	**16 32 34.4**	**-0.4**
TRBA				i S	**Sn**	**16 33 19.7**	**+4.6**
TRBA				AML	AML	16 33 45.8	
	comp=Z,1μm,0.6s						
TRBA				AML	AML	16 33 47.0	
	comp=N,1μm,0.6s						
TRBA	**At Turbah**	**3.36**	**81**⇓	eP	**Pn**	**16 32 34.4**	**-0.3**
TRBA				i S	**Sn**	**16 33 19.7**	**+4.6**
	comp=N,634nm,0.6s						
UDYN	**Al 'Udayn**	**3.40**	**69**	i P	**Pn**	**16 32 36.4**	**+1.1**
UDYN				eS	**Sn**	**16 33 21.6**	**+5.4**
UDYN	**Al 'Udayn**	**3.40**	**69**⇓	eP	**Pn**	**16 32 35.3**	**0.0**
UDYN				i S	**Sn**	**16 33 21.2**	**+5.0**
UDYN				AML	AML	16 33 46.0	
	comp=E,828nm,0.7s						
DHBB	**Dhamar BB**	**4.02**	**63**	i P	**Pn**	**16 32 45.7**	**+1.6**
DHBB				i S	**Sn**	**16 33 37.4**	**+5.6**
DHBB	**Dhamar BB**	**4.02**	**63**⇓	eP	**Pn**	**16 32 43.4**	**-0.7**
DHBB				i S	**Sn**	**16 33 35.7**	**+3.9**
DHBB				AML	AML	16 34 18.7	
	comp=E,660nm,0.8s						
BDHA	**Al Bayda'**	**4.89**	**75**	i P	**Pn**	**16 32 53.8**	**-2.7**
BDHA				i S	**Sn**	**16 33 53.1**	**-0.6**
BDHA	**Al Bayda'**	**4.89**	**75**⇓	eP	**Pn**	**16 32 52.8**	**-3.6**
BDHA				i S	**Sn**	**16 33 52.8**	**-0.9**
KMBO	**Kilima Mbogo**	**14.20**	**194**	Pn	**P**	**16 35 04.6**	**0.0**
	comp=E,0.1nm,0.3s,baz=356,slow=13,SNR=4.2						
KMBO				LR	LR	16 40 19.0	
	comp=E,1μm,18.4s,baz=203,slow=37						
MBAR	**Mbarara**	**16.54**	**217**	eP	**P**	**16 35 37.0**	**+2.1**
MBAR				pmax	pmax		
	comp=Z,19nm,1.4s						
MBAR	**Mbarara**	**16.54**	**217**	eP	**P**	**16 35 37.0**	**+2.1**
	comp=Z,19nm,1.4s						
MBAR	**Mbarara**	**16.54**	**217**	eP	**P**	**16 35 37.0**	**+2.1**
	comp=Z,19nm,1.4s						
EIL	**Elat**	**17.68**	**343**	eP	**P**	**16 35 50.8**	**+1.7**
	comp=Z,25nm,1.3s						
EIL	**Elat**	**17.68**	**343**	eP	**P**	**16 35 50.8**	**+1.7**
	comp=Z,24nm,1.3s						
ASF	**Jabal al Asfar**	**19.66**	**350**	P	**P**	**16 36 12.8**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=351,slow=1.7,SNR=11						
ASF				LR	LR	16 42 45.3	
	comp=Z,240nm,20.9s,baz=231,slow=34						
MALT	**Malatya**	**25.55**	**356**	eP	**P**	**16 37 12.9**	**+1.1**
MALT				pmax	pmax		
	comp=Z,24nm,1.2s,mb4.6						
MALT	**Malatya**	**25.55**	**356**	eP	**P**	**16 37 12.9**	**+1.1**
	comp=Z,24nm,1.2s,mb4.6						
IDI	**Anoyia**	**26.62**	**330**	P	**P**	**16 37 22.4**	**+0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,12nm,0.9s,mb4.4,baz=122,slow=8.6,SNR=5.7						
GNI	**Garni**	**27.53**	**7**	LR	LR	16 48 16.5	
	comp=Z,279nm,19.5s,MS3.9,baz=183,slow=36						
BRTR	**Keskin Array B**	**27.60**	**348**	P	**P**	**16 37 31.4**	**+0.8**
	comp=Z,3.7nm,1.0s,mb4.0,baz=174,slow=11,SNR=15						
ONI	**Oni**	**29.83**	**4**	P	**P**	**16 37 51.0**	**+0.4**
ZEI	**Tsey**	**30.05**	**5**	*e*P	**P**	**16 37 51.5**	**-1.1**
ZEI				*i* *PP	pP	16 37 59.9	+4.3
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
ZEI	**Tsey**	**30.05**	**5**	*e*P	**P**	**16 37 51.5**	**-1.1**
	comp=Z,3.0nm,0.6s,mb4.2						
SOC	**Sochi**	**30.75**	**359**	*e*P	**P**	**16 37 56.0**	**-2.7**
SOC				*e*		16 39 04.4	
SOC				*e*S	**S**	**16 43 01.1**	**+0.5**
SOC				*e*SS	SS	16 44 46.5	+3.9
SOC				*e*SSS	SSS	16 44 59.4	-4.9
SOC				MLR	MLR		
	comp=N,480nm,13.0s,MS4.4						
SOC				MLR	MLR		
	comp=E,248nm,13.0s,MS4.4						
SOC				MLR	MLR		
	comp=Z,388nm,13.0s,MS4.2						
KIV	**Kislovodsk**	**31.15**	**3**	*e*P	**P**	**16 37 57.3**	**-5.0**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
KIV				MLR	MLR		
	comp=N,151nm,16.0s,MS3.9						
KIV				MLR	MLR		
	comp=Z,201nm,16.0s,MS3.9						
KIV				MLR	MLR		
	comp=E,131nm,14.0s,MS3.9						
AKASG	**Malin Array Be**	**39.00**	**348**	P	**P**	**16 39 08.9**	**-0.5**
	comp=E,5.7nm,0.9s,mb4.3,baz=171,slow=7.1,SNR=23						
PSZ	**Piszkesteto**	**39.14**	**338**	*e*P	**P**	**16 39 10.4**	**-0.2**
PSZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
PSZ	**Piszkesteto**	**39.14**	**338**	*e*P	**P**	**16 39 10.4**	**-0.2**
	comp=Z,6.5nm,0.9s,mb4.4						
KOLS	**Kolonicke sedl**	**39.19**	**341**	*i* P	**P**	**16 39 13.2**	**+2.3**
CRVS	**Cervenica-Dubn**	**39.42**	**340**	*i* P	**P**	**16 39 13.8**	**+0.9**
KWP	**Kalwaria**	**39.66**	**342**	*e*P	**P**	**16 39 15.0**	**+0.1**
KWP				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
KWP	**Kalwaria**	**39.66**	**342**	*e*P	**P**	**16 39 14.9**	**+0.1**
	comp=Z,11nm,0.9s,mb4.6						
STHS	**Stebnicka Huta**	**39.94**	**340**	*i* P	**P**	**16 39 19.0**	**+1.8**
VYHS	**Vyhne**	**40.01**	**337**	*i* P	**P**	**16 39 18.3**	**+0.5**
ZST	**Bratislava**	**40.45**	**336**	*i* P	**P**	**16 39 23.2**	**+1.9**
OKC	**Ostrava-Krasne**	**41.38**	**338**	*e*P	**P**	**16 39 30.7**	**+1.7**
MORC	**Moravsky Berou**	**41.55**	**337**	*e*P	**P**	**16 39 30.1**	**-0.3**
MORC				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
MORC	**Moravsky Berou**	**41.55**	**337**	*e*P	**P**	**16 39 30.1**	**-0.3**
	comp=Z,4.1nm,1.0s,mb4.0						
AAK	**Ala-Archa**	**41.73**	**38**	⇑*i*P	**P**	**16 39 32.5**	**+0.5**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.2						
AAK				MLR	MLR		
	comp=Z,800nm,19.0s,MS4.6						
AAK	**Ala-Archa**	**41.73**	**38**	*e*P	**P**	**16 39 33.5**	**+1.6**
	comp=Z,2.5nm,0.6s,mb4.0						
FRU	**Bishkek**	**41.92**	**38**	*e*P	**P**	**16 39 35.0**	**+1.5**
FRU				MLR	MLR		
	comp=Z,800nm,18.0s,MS4.6						
GEC2	**GERESS Array S**	**42.38**	**334**	*e*P	**P**	**16 39 37.9**	**+0.7**
GEC2				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.4						
GEC2	**GERESS Array S**	**42.38**	**334**	*e*P	**P**	**16 39 37.9**	**+0.7**
	comp=Z,13nm,1.2s,mb4.4						
GERES	**GERESS Array B**	**42.38**	**334**	P	**P**	**16 39 35.9**	**-1.3**
	comp=Z,6.1nm,1.0s,mb4.2,baz=135,slow=7.5,SNR=24						
GERES				LR	LR	16 59 56.6	
	comp=Z,133nm,18.2s,MS3.9,baz=342,slow=40						
OBN	**Obninsk**	**42.40**	**356**	⇓*i*P	**P**	**16 39 38.0**	**+0.7**
OBN				*e*		16 41 20.9	
OBN				*e*S	**S**	**16 46 05.5**	**+7.0**
OBN				pmax	pmax		
	comp=Z,39nm,2.0s,mb4.7						
DPC	**Dobruska-Polom**	**42.48**	**337**	*e*P	**P**	**16 39 37.1**	**-0.9**
KHC	**Kasperske Hory**	**42.64**	**334**	⇑*i*P	**P**	**16 39 40.0**	**+0.6**
KHC	**Kasperske Hory**	**42.64**	**334**	*e*P	**P**	**16 39 39.4**	**0.0**
KOLN	**Koldanda**	**42.70**	**63**	*e*P	**P**	**16 39 40.1**	**0.0**
	comp=Z,64nm,1.3s,mb5.2						
UPC	**Upice**	**42.72**	**337**	*e*P	**P**	**16 39 39.2**	**-0.8**
PRU	**Pruhonice**	**42.90**	**335**	*e*P	**P**	**16 39 40.2**	**-1.2**
WET	**Wettzell**	**42.96**	**333**	*e*P	**P**	**16 39 41.4**	**-0.6**
WET				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
WET	**Wettzell**	**42.96**	**333**	*e*P	**P**	**16 39 41.4**	**-0.6**
	comp=Z,7.0nm,1.2s,mb4.3						
MOS	**Moscow**	**42.97**	**357**	*e*P	**P**	**16 39 40.9**	**-1.1**
MOS				*e*		16 39 47.6	
MOS				*e*		16 41 21.7	
MOS				*e*		16 41 30.3	
MOS				pmax	pmax		
	comp=Z,37nm,0.6s,mb5.3						
MBDF	**Montbardon**	**43.05**	**324**	*e*pP	**P**	**16 39 42.0**	**-0.8**
BNI	**Bardonecchia**	**43.30**	**325**	P	**P**	**16 39 43.9**	**-0.9**
BNI				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
BNI	**Bardonecchia**	**43.30**	**325**	P	**P**	**16 39 43.9**	**-0.9**
	comp=Z,6.6nm,1.2s,mb4.2						
PVCC	**Panska Ves**	**43.30**	**336**	*e*P	**P**	**16 39 43.6**	**-1.1**
GKN	**Gorkha**	**43.64**	**63**	*e*P	**P**	**16 39 47.7**	**-0.1**
BOSA	**Boshof**	**43.74**	**200**	LR	LR	16 57 47.3	
	comp=Z,719nm,19.1s,MS4.6,baz=24,slow=36						
NOTT	**Nottersdorf**	**43.78**	**333**	*e*P	**P**	**16 39 48.1**	**-0.5**
BRG	**Berggiesshubel**	**43.82**	**336**	*e*P	**P**	**16 39 49.1**	**+0.2**
BRG				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
BRG				MLR	MLR		
	comp=Z,180nm,16.5s,MS4.1						
BRG	**Berggiesshubel**	**43.82**	**336**	*e*P	**P**	**16 39 49.1**	**+0.2**
	comp=Z,7.5nm,1.1s,mb4.3						
BRG				LR	LR		
	comp=Z,180nm,16.5s,MS4.1						
BRG	**Berggiesshubel**	**43.82**	**336**	*e*P	**P**	**16 39 49.1**	**+0.2**
	comp=Z,7.0nm,1.1s,mb4.3						
NKC	**Novy Kostel**	**43.96**	**334**	*e*P	**P**	**16 39 49.3**	**-0.7**
DMN	**Daman**	**43.98**	**63**	*e*P	**P**	**16 39 50.4**	**-0.1**
TANN	**Tannenbergstha**	**44.09**	**334**	*e*P	**P**	**16 39 51.6**	**+0.5**
GRA1	**Grafenberg Arr**	**44.10**	**333**	*e*P	**P**	**16 39 50.9**	**-0.3**
	comp=Z,9.0nm,1.2s,mb4.4						
GRF	**Grafenberg Arr**	**44.10**	**333**	*e*P	**P**	**16 39 50.9**	**-0.3**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.4						
GRF	**Grafenberg Arr**	**44.10**	**333**	*e*P	**P**	**16 39 50.9**	**-0.3**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.4						
GRF	**Grafenberg Arr**	**44.10**	**333**	*e*P	**P**	**16 39 50.9**	**-0.3**
	comp=Z,9.0nm,1.2s,mb4.4						
KKN	**Kakani**	**44.16**	**63**	*e*P	**P**	**16 39 52.2**	**+0.2**
	comp=Z,37nm,1.1s,mb5.0						
KKN	**Kakani**	**44.16**	**63**	*e*P	**P**	**16 39 52.2**	**+0.2**
KKN				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.7						
PKI	**Pulchoki**	**44.23**	**64**	*e*P	**P**	**16 39 52.6**	**0.0**
	comp=Z,17nm,0.9s,mb4.8						
PKI	**Pulchoki**	**44.23**	**64**	*e*P	**P**	**16 39 52.6**	**0.0**
PKI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
BFO	**Black Forest**	**44.52**	**329**	*e*P	**P**	**16 39 55.0**	**+0.4**
BFO				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.5						
BFO	**Black Forest**	**44.52**	**329**	*e*P	**P**	**16 39 55.0**	**+0.4**
	comp=Z,14nm,1.7s,mb4.5						
CLL	**Collm**	**44.54**	**335**	*e*P	**P**	**16 39 52.0**	**-2.7**
CLL				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
CLL	**Collm**	**44.54**	**335**	*e*P	**P**	**16 39 52.0**	**-2.7**
	comp=Z,7.0nm,1.1s,mb4.4						
CLL				*e*		16 40 08.0	
CLL				*e*		16 41 30.0	
CLL	**Collm**	**44.54**	**335**	P	**P**	**16 39 55.0**	**+0.3**
	comp=Z,logA/T=0.8,mb4.4						
CLL	**Collm**	**44.54**	**335**	*e*P	**P**	**16 39 54.8**	**+0.1**
CABF	**La Chapelle**	**44.58**	**326**	*e*pP	**P**	**16 39 53.8**	**-1.4**
MOX	**Moxa**	**44.62**	**334**	*i* P	**P**	**16 39 55.3**	**-0.1**
MOX	**Moxa**	**44.62**	**334**	*e*P	**P**	**16 39 55.3**	**-0.1**
GUN	**Gumba**	**44.70**	**63**	*e*P	**P**	**16 39 57.1**	**+0.7**
DBIC	**Dimbokro**	**45.27**	**267**	LR	LR	16 58 06.8	
	comp=Z,379nm,19.0s,MS4.3,baz=72,slow=35						
ARU	**Arti**	**45.73**	**14**	⇓*i*P	**P**	**16 40 04.7**	**+0.6**
ARU				*e*		16 41 40.8	
ARU				*e*		16 41 51.3	
ARU				*e*PPP	PPP	16 42 36.4	+2.2
ARU				*e*S	**S**	**16 46 50.3**	**+3.7**
ARU				*e*		16 49 56.2	
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
ARU				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.1						
ARU				MLR	MLR		
	comp=N,100nm,17.0s,MS3.9						
ARU				MLR	MLR		
	comp=E,100nm,22.0s,MS3.9						
ARU	**Arti**	**45.73**	**14**	*e*P	**P**	**16 40 04.0**	**-0.1**
	comp=E,7.4nm,0.8s,mb4.7						
TNS	**Taunus Mts**	**45.74**	**331**	*e*P	**P**	**16 40 04.5**	**+0.2**
CLZ	**Clausthal**	**46.03**	**334**	*e*P	**P**	**16 40 06.0**	**-0.6**
ZRNK	**Zerenda**	**46.03**	**23**	*e*P	**P**	**16 40 06.1**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
ZRNK	**Zerenda**	**46.03**	**23**	*e*P	**P**	**16 40 06.1**	**-0.5**
	comp=Z,4.0nm,0.9s,mb4.3						
WLF	**Walferdange**	**46.47**	**329**	*e*P	**P**	**16 40 10.5**	**+0.4**
SVE	**Sverdlovsk**	**46.59**	**15**	*e*P	**P**	**16 40 12.6**	**+1.7**
SVE				*e*S	**S**	**16 47 09.0**	**+10**
SVE				*e*		16 50 11.0	
SVE				*e*SSS	SSS	16 51 20.0	-5.2
SVE				MLR	MLR		
	comp=N,200nm,12.0s,MS4.6						
SVE				MLR	MLR		
	comp=E,400nm,12.0s,MS4.6						
SVE				MLR	MLR		
	comp=Z,300nm,12.0s,MS4.5						
BVAR	**Borovoye Array**	**46.63**	**24**	P	**P**	**16 40 11.2**	**-0.1**
	comp=Z,1.9nm,0.8s,mb4.1,baz=225,slow=4.2,SNR=12						
BUG	**Bochum--Univer**	**47.12**	**332**	*e*P	**P**	**16 40 15.8**	**+0.6**
ESDC	**Sonseca Array**	**47.56**	**313**	P	**P**	**16 40 17.9**	**-0.9**
	comp=Z,2.6nm,0.8s,mb4.3,baz=118,slow=7.2,SNR=9.7						
ESLA	**Sonseca Array**	**47.56**	**313**	*e*P	**P**	**16 40 19.2**	**+0.3**
	comp=Z,8.6nm,1.5s,mb4.6						
BSEG	**Bad Segeberg**	**47.60**	**336**	*e*P	**P**	**16 40 19.1**	**+0.1**
	comp=Z,13nm,1.1s,mb4.9						
MKAR	**Makanchi Array**	**48.65**	**37**	P	**P**	**16 40 26.4**	**-0.9**
	comp=Z,3.5nm,1.0s,mb4.4,baz=233,slow=6.6,SNR=17						
MKAR				LR	LR	17 05 03.9	
	comp=Z,717nm,21.4s,MS4.6,baz=220,slow=41						
KURK	**Kurchatov**	**48.81**	**31**	*e*P	**P**	**16 40 28.4**	**0.0**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
KURK	**Kurchatov**	**48.81**	**31**	*e*P	**P**	**16 40 28.4**	**-0.1**
	comp=Z,7.5nm,1.1s,mb4.6						
KURK	**Kurchatov**	**48.81**	**31**	*e*P	**P**	**16 40 28.4**	**0.0**
	comp=Z,7.5nm,1.1s,mb4.6						
LSA	**Lhasa**	**49.56**	**62**	*e*P	**P**	**16 40 36.3**	**+1.8**
LSA	**Lhasa**	**49.56**	**62**	*e*P	**P**	**16 40 36.0**	**+1.5**
LSA				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.9						
LSA	**Lhasa**	**49.56**	**62**	*e*P	**P**	**16 40 36.0**	**+1.5**
	comp=Z,18nm,1.4s,mb4.9						
LSA	**Lhasa**	**49.56**	**62**	*e*P	**P**	**16 40 36.0**	**+1.5**
	comp=Z,18nm,1.4s,mb4.9						
FINES	**FINESS Array B**	**49.78**	**351**	P	**P**	**16 40 34.6**	**-1.1**
	comp=Z,3.5nm,0.8s,mb4.4,baz=162,slow=12,SNR=11						
KAF	**Kangasniemi**	**50.38**	**351**	*e*p	**P**	**16 40 38.5**	**-1.8**
	comp=Z,3.1nm,0.9s,mb4.3						
KAF	**Kangasniemi**	**50.38**	**351**	*e*P	**P**	**16 40 38.5**	**-1.8**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
WMQ	**Urumqi**	**50.73**	**43**	*e*P	**P**	**16 40 44.8**	**+1.6**
NB2	**NORSAR Subarra**	**52.79**	**342**	P	**P**	**16 40 56.7**	**-1.8**
	comp=Z,7.1nm,1.0s,mb4.5,baz=140,slow=7.4						
NB2	**NORSAR Subarra**	**52.79**	**342**	P	**P**	**16 40 56.7**	**-1.8**
NB2				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
NOA	**NORSAR Array B**	**52.79**	**342**	P	**P**	**16 40 56.9**	**-1.7**
	comp=Z,3.3nm,0.9s,mb4.3,baz=142,slow=7.4,SNR=8.4						
NOA				LR	LR	17 05 53.1	
	comp=Z,60nm,18.9s,MS3.7,baz=170,slow=39						
NVS	**Novosibirsk**	**53.51**	**29**	*e*P	**P**	**16 41 03.1**	**-0.8**
ZAL	**Zalesovo**	**53.77**	**31**	P	**P**	**16 41 04.4**	**-1.4**
	comp=Z,1.3nm,0.6s,mb4.0,baz=229,slow=6.1,SNR=9.4						
ARCES	**ARCESS Array B**	**57.57**	**354**	P	**P**	**16 41 30.6**	**-2.5**
	comp=Z,2.6nm,0.8s,mb4.3,baz=170,slow=7.4,SNR=8.0						
KEV	**Kevo**	**57.63**	**354**	*e*p	**P**	**16 41 29.1**	**-4.4**
	comp=Z,9.3nm,0.9s,mb4.8						
KEV	**Kevo**	**57.63**	**354**	*e*P	**P**	**16 41 29.1**	**-4.4**
KEV				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
GTA	**Gaotai**	**58.22**	**51**	*e*P	**P**	**16 41 37.6**	**-0.4**
GTA				AP	pP	16 41 44.8	+3.7
GTA				XP	sP	16 41 48.8	+6.5
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
LZH	**Lanzhou**	**60.95**	**56**	*e*P	**P**	**16 41 59.3**	**+2.4**
LZH				AP	pP	16 42 02.4	+2.4
LZH				PP	PP	16 44 15.8	+2.5
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,71nm,6.2s						
LZH				LR	LR		
	comp=N,263nm,15.0s						
LZH				LR	LR		
	comp=Z,304nm,18.2s,MS4.5						
SONM	**Songino Array**	**64.37**	**43**	P	**P**	**16 42 18.2**	**-1.2**
	comp=Z,4.7nm,0.9s,mb4.5,baz=259,slow=6.3,SNR=14						
SONM				LR	LR	17 14 59.9	
	comp=Z,533nm,18.6s,MS4.8,baz=258,slow=40						
BOD	**Bodaibo**	**70.42**	**33**	*e*P	**P**	**16 42 53.4**	**-3.9**
SSE	**Sheshan**	**75.46**	**61**	P	**P**	**16 43 23.6**	**-4.0**
SSE				AP	pP	16 43 33.0	+2.3
SSE				XP	sP	16 43 36.8	+5.0
SSE				S	S	16 53 02.9	-3.5
SSE				XS		16 53 18.8	
SSE				SCS	ScS	16 53 34.4	-3.2
SSE				AMB	AMB		
	comp=Z,48nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,985nm,5.7s						
SSE				LR	LR		
	comp=N,84nm,18.3s,MS4.2						
SSE				LR	LR		
	comp=E,89nm,18.2s,MS4.2						
SSE				LR	LR		
	comp=Z,86nm,16.2s,MS4.1						
CN2	**Changchun**	**77.53**	**48**	*e*P	**P**	**16 43 40.3**	**+1.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
YAK	**Yakutsk**	**78.38**	**29**	*e*P	**P**	**16 43 42.0**	**-1.1**
YAK				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
MDJ	**Mudanjiang**	**80.39**	**46**	P	**P**	**16 43 54.5**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,88nm,7.0s						
MAW	**Mawson**	**81.72**	**172**	LR	LR	17 18 07.5	
	comp=Z,74nm,19.1s,MS4.1,baz=58,slow=34						
JNU	**Nakatsue**	**83.30**	**58**	LR	LR	17 24 37.1	
	comp=Z,168nm,18.2s,MS4.5,baz=324,slow=38						
FRB	**Frobisher Bay**	**86.95**	**335**	LR	LR	17 22 49.5	
	comp=Z,87nm,19.0s,MS4.2,baz=135,slow=35						
SEY	**Seymchan**	**88.28**	**25**	⇑*i*P	**P**	**16 44 33.4**	**-0.3**
MJAR	**Matsushiro Arr**	**88.44**	**53**	LR	LR	17 29 20.2	
	comp=Z,127nm,19.6s,MS4.3,baz=280,slow=39						
BILL	**Bilibino**	**90.60**	**18**	*e*P	**P**	**16 44 47.1**	**+2.6**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.6						
BDFB	**Brasilia**	**92.16**	**255**	LR	LR	17 22 19.9	
	comp=Z,222nm,19.0s,MS4.6,baz=22,slow=33						

IDC 18 16:55:03.4±15.0**, 9.69S**×**83.45E, mb3.7**/4**, mb1 3.8**/4**, mb1mx3.6**/18**, mbtmp3.7**/4**, MS4.3**/2**, Ms1 4.3**/2**, ms1mx3.3**/20**, Error ellipse: s-maj=386.2km s-min=95.2km az=143.0, South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**56.23**	**359**	P	P	17 04 45.4	-2.4
	0.3nm,0.6s,baz=190,slow=7.4,SNR=4.4						
STKA	**Stephens Creek**	**57.96**	**122**	LR	LR	17 29 33.4	
	comp=Z,470nm,18.6s,baz=22,slow=36						
CTA	**Charters Tower**	**61.28**	**108**	LR	LR	17 27 08.4	
	comp=Z,139nm,19.1s,baz=230,slow=31						
BRTR	**Keskin Array B**	**67.40**	**320**	P	P	17 06 01.2	-1.8
	0.5nm,0.4s,baz=117,slow=5.5,SNR=4.6						
AKASG	**Malin Array Be**	**76.26**	**328**	P	P	17 06 53.6	-2.1
	1.2nm,0.7s,baz=115,slow=4.8,SNR=8.9						
GERES	**GERESS Array B**	**84.26**	**321**	P	P	17 07 37.4	-0.9
	0.2nm,0.3s,baz=135,slow=4.2,SNR=3.8						

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*IDC **18** 17:05:31.5±1.4, 5.11N×94.60E, mb4.2/8, mb1 4.4/8, mb1mx4.0/21, mbtmp4.2/8, Error ellipse: s-maj=68.5km s-min=18.7km az=56.0*

*NEIC **18** 17:05:35.3±0.7, 4.96N×94.37E, h30^{km}, mb4.2/3, Error ellipse: s-maj=22.5km s-min=8.5km az=47.0*

ISC 18 17:05:33.6±0.9**, 5.0N**±0.2×**94.4E**±0.2**, h30^{km}, n13, σ0^{s}72**/13**, mb4.1**/11**, 1C, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.23**	**87**	*e*Pn	**Pn**	**17 07 06.6**	**+0.6**
LSA	**Lhasa**	**24.79**	**353**	*e*P	**P**	**17 10 55.7**	**+1.2**
	2.8nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**38.40**	**127**	P	**P**	**17 12 54.1**	**-0.4**
	5.3nm,0.9s,mb4.3,baz=326,slow=4.4,SNR=6.5						
FITZ				PcP	PcP	17 15 08.2	+0.2
	5.5nm,1.1s,baz=156,slow=20,SNR=3.6						
MKAR	**Makanchi Array**	**42.96**	**348**	P	**P**	**17 13 31.7**	**0.0**
	2.2nm,0.7s,mb4.0,baz=158,slow=8.4,SNR=31						
SONM	**Songino Array**	**43.92**	**12**	P	**P**	**17 13 38.4**	**-1.1**
	0.8nm,0.6s,mb3.6,baz=191,slow=6.3,SNR=5.7						
SONM				PcP	PcP	17 15 25.3	-0.4
	0.5nm,0.3s,baz=162,slow=3.9,SNR=4.5						
WRA	**Warramunga Arr**	**46.41**	**124**	P	**P**	**17 13 59.7**	**0.0**
	3.8nm,0.5s,mb4.5,baz=300,slow=9.6,SNR=13						
WRAB	**Tennant Creek**	**46.41**	**123**	*e*P	**P**	**17 13 59.6**	**-0.1**
	6.8nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**46.42**	**124**	⇑*i*P	**P**	**17 13 59.7**	**-0.1**
ZAL	**Zalesovo**	**49.44**	**353**	P	**P**	**17 14 22.6**	**-0.3**
	1.3nm,0.5s,mb4.2,baz=256,slow=2.9,SNR=5.4						
BVAR	**Borovoye Array**	**51.80**	**342**	P	**P**	**17 14 40.3**	**-0.7**
	0.4nm,0.4s,mb3.7,baz=153,slow=13,SNR=3.2						
ZRNK	**Zerenda**	**52.18**	**341**	*e*P	**P**	**17 14 42.9**	**-0.9**
	1.1nm,0.5s,mb4.0						
ARCES	**ARCESS Array B**	**78.07**	**340**	P	**P**	**17 17 31.1**	**+0.3**
	1.0nm,0.7s,mb3.9,baz=100,slow=7.4,SNR=3.9						
GERES	**GERESS Array B**	**80.16**	**319**	P	**P**	**17 17 44.1**	**+1.5**
	0.4nm,0.5s,mb3.6,baz=90,slow=5.3,SNR=4.5						

CASC 18 17:09:38.1±1.9**, 10.63N**×**86.84W, h4^{km}**±8^{km}**, MD4.2, 11C-7D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.44**	**21**	⇓*e*P	Pn	17 10 04.2	-0.8
APON	**Apoyo**	**1.48**	**31**	⇑*e*P	Pn	17 10 04.5	-1.1
MASN	**Masaya**	**1.51**	**26**	*e*P	Pn	17 10 05.7	-0.3
MASN				⇑*i*P		17 10 06.7	
CONN	**Concepcion**	**1.51**	**52**	⇑*e*P	Pn	17 10 04.7	-1.3
TICN	**Ticuantepe**	**1.52**	**23**	⇑*e*P	Pn	17 10 05.5	-0.6
TICN				*e*S	Sb	17 10 27.2	+1.3
COPN	**Copaltepe**	**1.56**	**9**	⇓*e*P	Pn	17 10 05.9	-0.8
XAVN	**Gruta Xavier**	**1.59**	**18**	⇓*e*P	Pn	17 10 06.3	-0.9
XAVN				*e*S	Sb	17 10 28.6	+0.6
MGAN	**Managua**	**1.61**	**21**	⇑*e*P	Pn	17 10 06.6	-0.9
MGAN				*e*S	Sb	17 10 28.7	-0.1
WILN	**Americas 2**	**1.65**	**23**	⇑*e*P	Pn	17 10 08.6	+0.6
WILN				*e*S	Sb	17 10 29.0	-0.7
APYN	**Apoyeque**	**1.66**	**17**	⇑*e*P	Pn	17 10 07.4	-0.8
APYN				*e*S	Sb	17 10 32.6	+2.4
LEON	**Leon**	**1.77**	**358**	⇑*i*P	Pn	17 10 09.3	-0.5
LEON				*e*S	Sn	17 10 33.8	+0.8
MOMJ	**Momotombo**	**1.79**	**9**	⇑*e*P	Pn	17 10 08.8	-1.3
MIRN	**Miramar**	**1.80**	**4**	⇓*e*P	Pn	17 10 09.6	-0.6
CNGN	**Cerro Negro**	**1.86**	**4**	*e*P	Pn	17 10 09.4	-1.6
TEL3	**Telica 3**	**1.93**	**360**	⇑*e*P	Pn	17 10 11.3	-0.7
TELN	**Telica**	**1.96**	**0**	*e*P	Pn	17 10 11.8	-0.6
PYTN	**Playitas**	**2.04**	**22**	⇑*e*P	Pn	17 10 12.1	-1.5
CRIN	**San Cristobal**	**2.07**	**354**	⇓*e*P	Pn	17 10 13.6	-0.4
SNVI	**San Vicente**	**3.55**	**327**	*e*P	Pn	17 10 28.6	-6.6
SNVI				*e*S	Sn	17 11 12.8	-5.4
LCBS	**La Ceiba**	**3.66**	**325**	⇓*e*P	Pn	17 10 43.8	+7.0
LCBS				*e*S	Sn	17 11 28.6	+7.7
LFRS	**El Faro**	**3.69**	**324**	⇓*e*P	Pn	17 10 44.1	+7.1
LFRS				*e*S	Sn	17 11 29.4	+7.9
RBDL	**Robledal**	**4.44**	**321**	*e*P	Pn	17 10 57.4	+10
RBDL				*e*S	Sn	17 11 50.2	+9.5

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*NEIC **18** 17:26:28.6±1.2, 24.51N×108.85W, h10^{km}, mb3.9/10, Error ellipse: s-maj=18.0km s-min=11.5km az=48.0*

ISC 18 17:26:26.7±1.5**, 24.5N**±0.1×**108.9W**±0.1**, h10^{km}, n23, σ1^{s}05**/23**, mb4.0**/3**, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNTX	**Cornudas Mount**	**7.77**	**22**	*e*P	**Pn**	**17 28 20.4**	**-2.2**
	4.8nm,0.8s						
TUC	**Tucson**	**7.94**	**348**	*e*P	**Pn**	**17 28 23.9**	**-1.0**
GDL2	**Guadalupe Moun**	**8.61**	**26**	*e*P	**P**	**17 28 33.6**	**-0.6**
LENM	**Lemitar**	**9.74**	**9**	P	**P**	**17 28 47.6**	**-2.4**
LAZ	**Ladron**	**9.95**	**8**	*e*P	**P**	**17 28 53.7**	**+0.8**
ANMO	**Albuquerque**	**10.59**	**11**	*e*P	**P**	**17 29 00.8**	**-0.8**
SDCO	**Great Sand Dun**	**13.48**	**11**	P	**P**	**17 29 41.0**	**+0.4**
	14nm,1.4s						
SMCO	**Snowmass**	**14.69**	**6**	P	**P**	**17 29 57.7**	**+1.2**
ISCO	**Idaho Springs**	**15.47**	**9**	*e*P	**P**	**17 30 08.3**	**+1.7**
	21nm,1.6s						
DAU	**Daniels Canyon**	**15.97**	**353**	*e*P	**P**	**17 30 13.3**	**+0.3**
CBKS	**Cedar Bluff**	**16.20**	**26**	*e*P	**P**	**17 30 16.0**	**-0.1**
	9.2nm,0.8s						
HWUT	**Hardware Ranch**	**17.18**	**353**	*e*P	**P**	**17 30 29.7**	**+1.3**
	14nm,1.1s						
HVU	**Hansel Valley**	**17.51**	**350**	*e*P	**P**	**17 30 33.9**	**+1.4**
BW06	**Boulder Array**	**18.20**	**358**	*e*P	**P**	**17 30 40.0**	**-1.2**
	7.5nm,1.2s						
LOHW	**Long Hollow**	**19.09**	**356**	*e*P	**P**	**17 30 51.3**	**-0.7**
	3.4nm,0.7s						
HLID	**Hailey**	**19.53**	**348**	*e*P	**P**	**17 30 57.0**	**-0.1**
	2.9nm,1.0s						
WVOR	**Wild Horse Val**	**19.61**	**338**	P	**P**	**17 30 57.0**	**-0.9**
RSSD	**Black Hills**	**19.94**	**10**	*e*P	**P**	**17 31 02.7**	**+1.1**
	3.2nm,0.8s						
MCMT	**McKenzie Canyo**	**20.51**	**352**	*e*P	**P**	**17 31 07.8**	**+0.2**
BMO	**Blue Mountains**	**21.41**	**343**	*e*P	**P**	**17 31 16.8**	**0.0**
	5.7nm,1.4s,mb3.7						
WVT	**Waverly**	**21.47**	**53**	*e*P	**P**	**17 31 18.2**	**+0.8**
	8.9nm,1.2s,mb4.0						
MYNC	**Murphy**	**23.83**	**58**	*e*P	**P**	**17 31 41.6**	**+0.8**
	12nm,0.8s,mb4.4						
SAML	**Samuel**	**55.60**	**121**	P	**P**	**17 36 04.4**	**-0.8**

IGQ 18 17:47:45.5, 1.55S×**81.30W, h12^{km}**±15^{km}**, mb4.0, 3C, Error ellipse: s-maj=14.7km s-min=5.2km az=13.1, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**1.68**	**40**	P	Pn	17 48 16.1	+1.1
JAMA				S	Sn	17 48 38.1	+1.5
QIL1	**Quilotoa**	**2.46**	**74**	P	Pn	17 48 26.7	+0.5
IGUA	**Igualata**	**2.66**	**89**	P	Pn	17 48 30.1	+1.2
ARRY	**Arrayan**	**2.84**	**89**	⇑P	Pn	17 48 32.5	+1.0
ULBA	**Ulba**	**2.89**	**88**	P	Pn	17 48 34.1	+1.9
CAMI	**Rancho Maria**	**2.92**	**73**	P	Pn	17 48 35.9	+3.1
PISA	**Pisayambo**	**2.95**	**81**	P	Pn	17 48 35.2	+2.1
NAS1	**Nasa**	**2.96**	**72**	P	Pn	17 48 36.7	+3.4
JUA2	**San Juan 2**	**3.00**	**64**	P	Pn	17 48 36.0	+2.2
TERV	**Terraza Guagua**	**3.02**	**63**	P	Pn	17 48 36.1	+2.0
PINO	**Pino**	**3.02**	**63**	⇑P	Pn	17 48 35.8	+1.6
GGP	**Refugio Guagua**	**3.03**	**63**	⇑P	Pn	17 48 36.3	+2.1
VC1	**Cotopaxi 1**	**3.03**	**73**	P	Pn	17 48 36.9	+2.6
TAMB	**Tambo**	**3.05**	**74**	P	Pn	17 48 37.8	+3.3
JOR1	**San Jorge 1**	**3.07**	**60**	P	Pn	17 48 34.2	-0.6
YANA	**Yana**	**3.08**	**62**	P	Pn	17 48 36.3	+1.4
CAYR	**Refugio Cayamb**	**3.64**	**65**	P	Pn	17 48 46.7	+3.8
CAYA	**Cayambe**	**3.68**	**64**	P	Pn	17 48 47.2	+3.8
ECEN	**Cerro Negro**	**4.08**	**55**	P	Pn	17 48 52.5	+3.4

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*IDC **18** 17:48:58.1±0.8, 15.09S×177.91W, mb4.3/7, mb1 4.6/8, mb1mx4.4/14, mbtmp4.4/8, MS4.2/14, Ms1 4.2/14, ms1mx4.2/15, Error ellipse: s-maj=31.9km s-min=20.1km az=126.0*

*MOS **18** 17:49:04.0±1.7, 15.24S×177.84W, h27km, mb5.1/16, MS4.4/9, Error ellipse: s-maj=26.3km s-min=13.2km az=64.2*
*NEIC **18** 17:49:10.8±5.7, 15.39S×178.17W, h91km±50km, mb4.7/28, Error ellipse: s-maj=21.0km s-min=9.4km az=130.0*
*BJI **18** 17:49:10.8, 15.40S×178.20W, h90km, mB5.2, mb4.6, Ms4.9, Msz4.5*
ISC 18 17:49:03.1±0.3**, 15.38S**±0.08×**178.13W**±0.10**, h33km, n130, σ1.13/85, mb4.8**/43**, MS4.4**/23**, 11C-2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.32**	**77**	Pn	**Pn**	**17 50 28.0**	**-8.5**
	4.5nm,0.3s,baz=279,slow=22,SNR=6.3						
AFI				LR	LR	17 52 00.3	
	comp=Z,1μm,18.1s,baz=56,slow=30						
AFI	**Afiamalu**	**6.32**	**77**	*e*Pn	**Pn**	**17 50 27.9**	**-8.5**
RAO	**Raoul Island**	**13.81**	**179**	LR	LR	17 56 50.5	
	comp=Z,1μm,21.4s,baz=332,slow=34						
HNR	**Honiara**	**22.21**	**283**	LR	LR	18 01 15.9	
	comp=Z,859nm,20.9s,MS4.2,baz=305,slow=33						
URZ	**Urewera**	**23.18**	**190**	P	**P**	**17 54 08.7**	**+1.0**
	9.8nm,0.7s,mb4.3,baz=56,slow=1.9,SNR=5.9						
URZ				LR	LR	18 02 38.3	
	comp=Z,1μm,18.2s,MS4.4,baz=58,slow=35						
PPT	**Papeete**	**27.45**	**99**	*e*S	**S**	**17 59 33.1**	**+8.2**
	88nm,23.0s						
PPT				*e*LQ		18 00 20.6	
	2μm,25.0s						
PPT				*e*LR	LR	18 01 38.4	
	245nm,23.0s						
PPT	**Papeete**	**27.45**	**99**	LR	LR	18 02 47.7	
	comp=Z,216nm,18.3s,MS3.8,baz=93,slow=30						
STKA	**Stephens Creek**	**40.13**	**239**	P	**P**	**17 56 38.6**	**+1.0**
	12nm,0.9s,mb4.6,baz=69,slow=6.6,SNR=20						
STKA				LR	LR	18 11 31.0	
	comp=Z,631nm,21.7s,MS4.4,baz=292,slow=33						
WRA	**Warramunga Arr**	**45.41**	**257**	P	**P**	**17 57 19.8**	**-1.0**
	1.7nm,1.0s,mb3.8,baz=93,slow=7.8,SNR=4.0						
VNDA	**Vanda**	**62.97**	**185**	*e*P	**P**	**17 59 28.6**	**+0.1**
VNDA				pmax	pmax		
	comp=Z,13nm,1.4s						
VNDA	**Vanda**	**62.97**	**185**	P	**P**	**17 59 28.9**	**+0.4**
	comp=Z,4.5nm,1.1s,mb4.5,baz=8.1,slow=6.4,SNR=10						
VNDA	**Vanda**	**62.97**	**185**	*e*P	**P**	**17 59 28.6**	**+0.1**
	comp=Z,13nm,1.4s,mb4.9						
MJAR	**Matsushiro Arr**	**66.06**	**323**	LR	LR	18 23 18.4	
	comp=Z,171nm,19.7s,MS4.3,baz=150,slow=31						
CASY	**Casey**	**68.54**	**204**	*e*P	**P**	**18 00 02.7**	**-1.4**
	comp=Z,5.5nm,0.9s,mb4.5						
SSE	**Sheshan**	**74.36**	**309**	P	**P**	**18 00 36.0**	**-3.6**
SSE				PCP	PcP	18 00 51.5	-3.1
SSE				S	S	18 10 05.0	-5.3
SSE				SCS	ScS	18 10 42.6	-1.8
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,958nm,5.5s						
SSE				LR	LR		
	comp=N,75nm,20.0s,MS4.4						
SSE				LR	LR		
	comp=E,165nm,20.0s,MS4.4						
SSE				LR	LR		
	comp=Z,171nm,20.0s,MS4.3						
QSPA	**South Pole Qui**	**74.66**	**180**	*e*P	**P**	**18 00 39.6**	**-0.8**
	comp=Z,9.5nm,1.0s,mb4.7						
MDJ	**Mudanjiang**	**76.29**	**324**	P	**P**	**18 00 53.1**	**+2.7**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,155nm,6.7s						
YBH	**Yreka Blue Hor**	**76.41**	**39**	*e*P	**P**	**18 00 51.4**	**+0.3**
YBH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YBH	**Yreka Blue Hor**	**76.41**	**39**	*e*P	**P**	**18 00 51.4**	**+0.3**
	comp=Z,10nm,1.0s,mb4.7						
NJ2	**Nanjing**	**76.56**	**309**	*e*P	**P**	**18 00 51.1**	**-1.1**
MTUM	**Tungsten Hills**	**76.69**	**45**	*e*P	**P**	**18 00 53.5**	**+0.7**
HUMO	**Hull Mountain**	**76.76**	**39**	*e*P	**P**	**18 00 54.3**	**+1.2**
	comp=Z,13nm,1.2s,mb4.7						
TPH	**Tonopah**	**77.97**	**45**	*e*P	**P**	**18 01 00.6**	**+0.7**
TPH				pmax	pmax		
	comp=Z,36nm,1.5s,mb5.1						
TPH	**Tonopah**	**77.97**	**45**	*e*P	**P**	**18 01 00.6**	**+0.7**
	comp=Z,36nm,1.5s,mb5.1						
CN2	**Changchun**	**78.20**	**322**	*e*P	**P**	**18 01 07.0**	**+5.9**
MA2	**Magadan**	**78.84**	**344**	*e*P	**P**	**18 01 03.9**	**-0.4**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.5						
BMN	**Battle Mountai**	**79.18**	**43**	*e*P	**P**	**18 01 05.7**	**-0.8**
BMN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BMN				MLR	MLR		
	comp=Z,162nm,20.0s,MS4.4						
BMN	**Battle Mountai**	**79.18**	**43**	*e*P	**P**	**18 01 05.7**	**-0.8**
	comp=Z,6.4nm,0.9s,mb4.5						
BMN				LR	LR		
	comp=Z,162nm,20.0s,MS4.4						
TRCR	**Troy Canyon**	**79.23**	**45**	*e*P	**P**	**18 01 07.2**	**+0.4**
WVOR	**Wild Horse Val**	**79.32**	**40**	*e*P	**P**	**18 01 07.0**	**-0.2**
WVOR				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
WVOR	**Wild Horse Val**	**79.32**	**40**	*e*P	**P**	**18 01 07.0**	**-0.2**
	comp=Z,14nm,1.1s,mb4.8						
TUC	**Tucson**	**79.95**	**53**	*e*P	**P**	**18 01 11.2**	**+0.4**
TUC				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
TUC				MLR	MLR		
	comp=Z,191nm,19.0s,MS4.5						
TUC	**Tucson**	**79.95**	**53**	*e*P	**P**	**18 01 11.2**	**+0.4**
	comp=Z,8.8nm,0.9s,mb4.7						
TUC				LR	LR		
	comp=Z,191nm,19.0s,MS4.5						
ARUT	**Antelope Range**	**80.45**	**47**	*e*P	**P**	**18 01 13.8**	**+0.4**
ELK	**Elko**	**80.64**	**43**	*e*P	**P**	**18 01 13.5**	**-0.8**
ELK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ELK	**Elko**	**80.64**	**43**	*e*P	**P**	**18 01 13.5**	**-0.8**
	comp=Z,9.5nm,1.2s,mb4.6						
SEY	**Seymchan**	**81.39**	**347**	*e*P	**P**	**18 01 17.8**	**0.0**
SEY					pP	18 01 27.0	-1.2
SEY				*e*		18 04 29.0	
SEY				*e*S	S	18 11 17.8	-7.3
SEY				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
SEY				smax			
	comp=N,160nm,19.9s						
SEY				smax			
	comp=E,100nm,22.6s						
SEY				MLR	MLR		
	comp=Z,180nm,19.0s,MS4.5						
SEY				MLR	MLR		
	comp=N,140nm,18.0s,MS4.4						
SEY				MLR	MLR		
	comp=E,80nm,17.0s,MS4.4						
BMO	**Blue Mountains**	**81.42**	**39**	*e*P	**P**	**18 01 17.0**	**-1.3**
BMO				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
BMO				MLR	MLR		
	comp=Z,230nm,19.0s,MS4.5						
BMO	**Blue Mountains**	**81.42**	**39**	*e*P	**P**	**18 01 17.0**	**-1.3**
	comp=Z,7.6nm,1.1s,mb4.5						
BMO				LR	LR		
	comp=Z,230nm,19.0s,MS4.5						
MVU	**Marysvale**	**81.64**	**46**	*e*P	**P**	**18 01 20.2**	**+0.6**
	comp=Z,18nm,1.3s,mb4.8						
MSU	**Marysvale**	**81.66**	**46**	*e*P	**P**	**18 01 19.8**	**+0.1**
MCK	**McKinley**	**82.03**	**13**	*e*P	**P**	**18 01 19.6**	**-1.5**
MCK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
MCK	**McKinley**	**82.03**	**13**	*e*P	**P**	**18 01 19.6**	**-1.5**
	comp=Z,6.5nm,1.1s,mb4.5						
HLID	**Hailey**	**82.56**	**41**	*e*P	**P**	**18 01 23.9**	**-0.3**
	comp=Z,13nm,1.2s,mb4.8						
SPUT	**South Promonto**	**82.76**	**44**	*e*P	**P**	**18 01 25.7**	**+0.4**
HVU	**Hansel Valley**	**82.76**	**43**	*e*P	**P**	**18 01 25.0**	**-0.3**
CTU	**Camp Tracy**	**82.95**	**45**	*e*P	**P**	**18 01 27.8**	**+1.6**
SRU	**San Rafael**	**83.09**	**46**	*e*P	**P**	**18 01 25.1**	**-1.9**
JLU	**Jordanelle**	**83.11**	**45**	*e*P	**P**	**18 01 27.0**	**-0.1**
DAU	**Daniels Canyon**	**83.16**	**45**	*e*P	**P**	**18 01 28.5**	**+1.2**
TCUT	**Toone Canyon**	**83.37**	**44**	*e*P	**P**	**18 01 26.8**	**-1.6**
ILAR	**Eielson Array**	**83.38**	**13**	P	**P**	**18 01 24.9**	**-3.1**
	comp=Z,4.5nm,1.0s,mb4.5,baz=224,slow=6.4,SNR=26						
ILAR				LR	LR	18 31 40.5	
	comp=Z,90nm,20.5s,MS4.1,baz=356,slow=31						
HWUT	**Hardware Ranch**	**83.49**	**44**	*e*P	**P**	**18 01 29.1**	**+0.1**
	comp=Z,7.5nm,1.0s,mb4.7						
PV10	**Paradox Valley**	**83.82**	**48**	*e*P	**P**	**18 01 31.9**	**+1.1**
BNM	**Barren Site**	**83.88**	**52**	*e*P	**P**	**18 01 31.0**	**-0.2**
MNTX	**Cornudas Mount**	**83.91**	**55**	*e*P	**P**	**18 01 32.4**	**+1.0**
	comp=Z,8.3nm,0.9s,mb4.9						
LPM	**Los Pinos Moun**	**83.94**	**52**	*e*P	**P**	**18 01 29.1**	**-2.4**
BILL	**Bilibino**	**83.96**	**354**	*e*P	**P**	**18 01 32.6**	**+1.8**
BILL				*e*		18 12 49.2	
BILL				*e*		18 17 26.3	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
BILL				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.5						
PV01	**Paradox Valley**	**84.05**	**48**	*e*P	**P**	**18 01 29.6**	**-2.4**
MCMT	**McKenzie Canyo**	**84.15**	**41**	*e*P	**P**	**18 01 32.2**	**-0.1**
AHID	**Auburn Hatcher**	**84.32**	**43**	*e*P	**P**	**18 01 34.8**	**+1.5**
	comp=Z,8.1nm,0.4s,mb5.2						
ANMO	**Albuquerque**	**84.32**	**52**	*e*P	**P**	**18 01 34.5**	**+1.1**
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ANMO	**Albuquerque**	**84.32**	**52**	*e*P	**P**	**18 01 34.5**	**+1.0**
	comp=Z,9.2nm,1.1s,mb4.8						
LTX	**Lajitas**	**84.42**	**58**	*e*P	**P**	**18 01 35.5**	**+1.4**
	comp=Z,8.0nm,0.8s,mb4.9						
RRI2	**Red Ridge**	**84.44**	**42**	*e*P	**P**	**18 01 32.3**	**-1.5**
	comp=Z,28nm,1.1s,mb5.3						
TPAW	**Teton Pass**	**84.74**	**42**	*e*P	**P**	**18 01 35.8**	**+0.5**
	comp=Z,14nm,1.0s,mb5.0						
REDW	**Red Top Meadow**	**84.75**	**42**	*e*P	**P**	**18 01 36.2**	**+0.8**
	comp=Z,34nm,1.2s,mb5.4						
SNOW	**Snow King Moun**	**84.86**	**42**	*e*P	**P**	**18 01 37.3**	**+1.4**
	comp=Z,19nm,0.9s,mb5.2						
CHMT	**Chamberlain Mo**	**84.90**	**39**	*e*P	**P**	**18 01 35.9**	**-0.1**
GDL2	**Guadalupe Moun**	**84.90**	**55**	*e*P	**P**	**18 01 34.5**	**-1.9**
IMW	**Indian Meadow**	**84.94**	**42**	*e*P	**P**	**18 01 36.8**	**+0.6**
	comp=Z,26nm,1.1s,mb5.3						
MOOW	**Moose Ponds**	**84.99**	**42**	*e*P	**P**	**18 01 36.3**	**-0.3**
	comp=Z,7.6nm,1.2s,mb4.7						
LOHW	**Long Hollow**	**85.03**	**42**	*e*P	**P**	**18 01 36.5**	**-0.2**
	comp=Z,12nm,1.3s,mb4.9						
BW06	**Boulder Array**	**85.34**	**43**	*e*P	**P**	**18 01 38.1**	**-0.2**
	comp=Z,13nm,1.3s,mb4.9						
PDAR	**Pinedale Array**	**85.34**	**43**	P	**P**	**18 01 35.7**	**-2.6**
	comp=Z,6.2nm,1.1s,mb4.7,baz=243,slow=3.3,SNR=22						
PDAR				LR	LR	18 36 19.7	
	comp=Z,106nm,18.2s,MS4.3,baz=240,slow=33						
HHC	**Hu-ho-hao-te**	**85.71**	**314**	⇑P	**P**	**18 01 44.8**	**+4.7**
HHC				PP	PP	18 05 04.5	+3.5
HHC				S	S	18 12 13.0	+4.2
HHC				SS	SS	18 17 49.4	+0.4
HHC				AMB	AMB		
	comp=Z,13nm,1.6s,mb4.9						
HHC				AMB	AMB		
	comp=Z,255nm,12.0s						
HHC				LR	LR		
	comp=N,304nm,15.6s,MS5.0						
HHC				LR	LR		
	comp=E,338nm,16.8s,MS5.0						
HHC				LR	LR		
	comp=Z,273nm,22.8s						
MAW	**Mawson**	**86.32**	**200**	LR	LR	18 34 57.1	
	comp=Z,141nm,18.7s,MS4.4,baz=265,slow=32						
KMI	**Kunming**	**86.93**	**297**	P	**P**	**18 01 50.0**	**+3.5**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.8						
KMI				LR	LR		
	comp=Z,205nm,22.3s,MS4.5						
YAK	**Yakutsk**	**87.34**	**338**	*i* P	**P**	**18 01 47.4**	**-0.2**
YAK				pmax	pmax		
	comp=Z,35nm,2.9s,mb5.1						
YAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.3						
RSSD	**Black Hills**	**89.56**	**44**	P	**P**	**18 01 58.9**	**+0.3**
RSSD				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.1						
RSSD	**Black Hills**	**89.56**	**44**	P	**P**	**18 01 58.9**	**+0.3**
	comp=Z,10.0nm,1.1s,mb5.1						
LZH	**Lanzhou**	**89.57**	**308**	⇑P	**P**	**18 02 02.1**	**+3.2**
LZH				*e*PP	PP	18 05 38.3	+5.2
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,91nm,7.2s						
LZH				LR	LR		
	comp=N,307nm,15.6s						
LZH				LR	LR		
	comp=Z,463nm,18.5s,MS4.9						
SYO	**Syowa Base**	**91.67**	**193**	⇓pP	pP	18 02 13.2	-5.3
SONM	**Songino Array**	**91.82**	**319**	P	**P**	**18 02 08.5**	**-0.6**
	comp=Z,0.5nm,0.5s,mb4.1,baz=153,slow=2.8,SNR=5.3						
SONM				LR	LR	18 43 33.9	
	comp=Z,71nm,19.2s,MS4.1,baz=256,slow=36						
YKA	**Yellowknife Ar**	**91.93**	**25**	LR	LR	18 37 02.3	
	comp=Z,189nm,18.7s,MS4.6,baz=270,slow=32						
PLCA	**Paso Flores**	**92.87**	**134**	LR	LR	18 33 45.5	
	comp=Z,95nm,18.7s,MS4.3,baz=202,slow=29						
SNAA	**Sanae**	**93.10**	**179**	P	**P**	**18 02 13.8**	**-0.6**
SNAA	**Sanae**	**93.10**	**179**		sP	18 02 32.7	+4.3
VNA3	**Neumayer Olymp**	**93.23**	**176**	⇑*i*P	**P**	**18 02 14.2**	**-0.8**
VNA3	**Neumayer Olymp**	**93.23**	**176**		**P**	**18 02 15.5**	**+0.5**
VNA3	**Neumayer Olymp**	**93.23**	**176**		**P**	**18 02 17.0**	**+2.0**
VNA3	**Neumayer Olymp**	**93.23**	**176**		**P**	**18 02 20.2**	**+5.2**
VNA2	**Neumayer--Watz**	**93.67**	**177**	⇑*i*P	**P**	**18 02 17.8**	**+0.8**
VNA2	**Neumayer--Watz**	**93.67**	**177**		**P**	**18 02 22.9**	**+5.9**
VNA2	**Neumayer--Watz**	**93.67**	**177**		pP	18 02 26.9	-0.7
ULM	**Lac du Bonnet**	**96.81**	**40**	LR	LR	18 38 49.0	
	comp=Z,113nm,21.2s,MS4.3,baz=311,slow=31						
OBN	**Obninsk**	**132.18**	**334**	*e*PKIKP	PKPdf	18 08 18.9	+5.2
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.5						
KIV	**Kislovodsk**	**135.20**	**318**	*i* PKIKP	PKPdf	18 08 16.4	-3.3
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIV				pmax	pmax		
	comp=N,2.0nm,0.7s						
BRTR	**Keskin Array B**	**143.16**	**317**	PKhKP		18 08 31.2	
	comp=N,1.5nm,0.9s,slow=1.2,SNR=4.9						
VYHS	**Vyhne**	**144.15**	**341**	*e*PKP	PKPdf	18 08 36.2	+0.7
ZST	**Bratislava**	**144.95**	**342**	*e*PKP	PKPdf	18 08 40.6	+3.7
KHC	**Kasperske Hory**	**145.00**	**347**	*e*PKP	PKPdf	18 08 36.2	-0.8
KHC				x	x	18 08 38.5	
GERES	**GERESS Array B**	**145.25**	**346**	PKPbc	PKPbc	18 08 36.4	-1.4
	comp=N,2.0nm,0.8s,slow=2.7,SNR=14						
BAIF	**Baives**	**145.36**	**357**	*e*PKIKP	PKPdf	18 08 39.8	+2.3
	comp=N,16nm,0.9s						
WLF	**Walferdange**	**145.63**	**355**	*e*PKP2	PKPdf	18 08 38.7	+0.7
MOA	**Molln**	**146.04**	**345**	⇓*i*P	PKPdf	18 08 40.9	+2.1
	comp=N,21nm,1.1s						
ARSA	**Arzberg**	**146.26**	**343**	⇑*i*P	PKPdf	18 08 40.6	+1.4
	comp=N,18nm,2.3s						
FLN	**La Foliniere**	**146.66**	**3**	*e*PKIKP	PKPdf	18 08 42.4	+2.6
	comp=N,49nm,1.1s						
FLN				*e*R			
	comp=N,120nm,23.0s						
CDF	**Champ du Feu**	**146.76**	**353**	*e*PKIKP	PKPdf	18 08 42.8	+2.8
PERS	**Pernice**	**146.93**	**343**	*e*PKPbc	PKPbc	18 08 47.6	+5.8
GRR	**Gorron**	**147.01**	**3**	*e*PKIKP	PKPdf	18 08 43.6	+3.2
	comp=N,17nm,0.8s						
WATA	**Walderalm**	**147.13**	**348**	⇑*i*P	PKPdf	18 08 44.9	+4.3
	comp=N,6.0nm,0.7s						
WTTA	**Wattenberg**	**147.19**	**348**	⇑*i*P	PKPdf	18 08 42.4	+1.7
	comp=N,19nm,1.2s						
OBKA	**Obir**	**147.21**	**344**	⇑*i*P	PKPdf	18 08 44.2	+3.4
	comp=N,9.7nm,1.1s						
MOTA	**Moosalm**	**147.22**	**348**	⇑*i*P	PKPdf	18 08 46.9	+6.1
	comp=N,9.8nm,0.9s						
SQTA	**Sankt Quirin**	**147.32**	**348**	⇑*i*P	PKPdf	18 08 45.8	+4.9
	comp=N,5.1nm,0.9s						
MBAR	**Mbarara**	**147.35**	**243**	*e*PKIKP	PKPdf	18 08 45.6	+3.6
DAVA	**Damuels**	**147.50**	**350**	⇑*i*P	PKPdf	18 08 41.6	+0.4
	comp=N,14nm,1.1s						
VISS	**Visnje**	**147.77**	**343**	*e*PKPbc	PKPdf	18 08 47.7	+6.0
BOJS	**Bojanci**	**147.93**	**342**	*e*PKPbc	PKPdf	18 08 48.9	+7.0
LOR	**Lormes**	**148.16**	**357**	*e*PKIKP	PKPdf	18 08 45.7	+3.4
LOR				*e*R			
	comp=N,156nm,18.5s						
SSF	**Saint Saulge**	**148.38**	**358**	*e*PKIKP	PKPdf	18 08 45.5	+2.9
SKO	**Skopje**	**148.59**	**331**	*e*PKP	PKPdf	18 08 52.0	+8.9
CABF	**La Chapelle**	**148.67**	**354**	*e*PKIKP	PKPdf	18 08 45.8	+2.7
	comp=N,9.1nm,0.9s						
SMF	**Signal de Mont**	**148.79**	**357**	*e*PKIKP	PKPdf	18 08 46.8	+3.5
LPL	**La Plagne**	**149.68**	**353**	*e*PKIKP	PKPdf	18 08 48.2	+3.4
LPG	**La Plagne**	**149.70**	**353**	*e*PKIKP	PKPdf	18 08 48.5	+3.7
	comp=N,5.4nm,0.5s						
BNI	**Bardonecchia**	**150.15**	**353**	*e*PKIKP	PKPdf	18 08 51.5	+6.0
ORIF	**Oris-en-Rattie**	**150.36**	**354**	*e*PKIKP	PKPdf	18 08 49.3	+3.4
	comp=N,5.1nm,0.8s						
ORIF				*e*R			
	comp=N,112nm,20.0s						
SJPF	**Ste Jean**	**152.23**	**5**	*e*PKIKP	PKPdf	18 08 51.8	+3.1
	comp=N,32nm,1.3s						

CASC 18 17:53:20.1±1.6**, 10.67N×86.78W, h15km**±6km**, MD4.3, 6C-7D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.39**	**20**	⇓*e*P	Pn	17 53 44.8	-0.2
APON	**Apoyo**	**1.42**	**29**	*e*P	Pn	17 53 45.0	-0.6
CONN	**Concepcion**	**1.44**	**52**	⇑*e*P	Pn	17 53 44.7	-1.1
MASN	**Masaya**	**1.45**	**25**	*e*P	Pn	17 53 45.8	-0.1
MASN				⇓*e*P		17 53 46.4	
TICN	**Ticuantepe**	**1.46**	**22**	*e*P	Pn	17 53 45.4	-0.7
TICN				*e*S	Sb	17 54 05.7	+1.0
COPN	**Copaltepe**	**1.51**	**7**	⇓*e*P	Pn	17 53 46.1	-0.7
XAVN	**Gruta Xavier**	**1.54**	**17**	⇑*e*P	Pn	17 53 46.3	-0.8
MGAN	**Managua**	**1.56**	**19**	*e*P	Pn	17 53 46.5	-1.0
MGAN				*e*S	Sn	17 54 09.1	+1.6
WILN	**Americas 2**	**1.59**	**21**	⇑*e*P	Pn	17 53 47.1	-0.9
APYN	**Apoyeque**	**1.61**	**15**	*e*P	Pn	17 53 47.6	-0.6
LEON	**Leon**	**1.74**	**356**	⇑*e*P	Pn	17 53 49.5	-0.6
MOMJ	**Momotombo**	**1.74**	**8**	*e*P	Pn	17 53 49.3	-0.9
MIRN	**Miramar**	**1.76**	**2**	⇓*e*P	Pn	17 53 49.6	-0.8
CNGN	**Cerro Negro**	**1.82**	**2**	⇑*e*P	Pn	17 53 50.4	-0.9
TEL3	**Telica 3**	**1.89**	**358**	⇑*e*P	Pn	17 53 51.8	-0.5
PYTN	**Playitas**	**1.99**	**21**	*e*P	Pn	17 53 52.5	-1.2
CRIN	**San Cristobal**	**2.04**	**353**	⇓*e*P	Pn	17 53 53.7	-0.7
SJS	**Escuela Geolog**	**2.78**	**105**	*e*P	Pn	17 54 03.9	-1.0
SJS				*e*S	Sn	17 54 39.3	+0.8
CNCH	**Conchagua**	**2.79**	**338**	⇓*e*P	Pn	17 54 12.6	+7.5
CNCH				*e*S	Sn	17 54 47.5	+8.7
LCBS	**La Ceiba**	**3.67**	**324**	⇓*e*P	Pn	17 54 25.3	+7.8
LCBS				*e*S	Sn	17 55 08.3	+7.4
LFRS	**El Faro**	**3.69**	**323**	*e*P	Pn	17 54 25.5	+7.7
LFRS				*e*S	Sn	17 55 09.6	+8.1

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*PRU **18** 19:00:08.1, 51.21N×19.01E*
WAR 18 19:00:09, 51.23N×19.26E, ML2.9, 2D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**1.07**	**161**	⇓*i*PG	Pg	19 00 28.8	-1.6
OJC				⇓*e*SG	Sg	19 00 44.8	+0.2
OJC	**Ojcow**	**1.07**	**161**	*i* Pg	Pg	19 00 28.8	-1.6
OJC				*e*Sg	Sg	19 00 43.8	-0.8
OKC	**Ostrava-Krasne**	**1.56**	**207**	*e*PG	Pg	19 00 36.0	-4.2
OKC				*e*SG	Sg	19 00 57.3	-3.8
KSP	**Ksiaz**	**1.91**	**259**	*e*PG	Pg	19 00 42.0	-5.2
KSP				*e*SG	Sg	19 01 08.0	-4.6
DPC	**Dobruska-Polom**	**2.06**	**246**	*e*PG	Pg	19 00 42.5	-7.6
DPC				*e*SG	Sg	19 01 07.4	-10
UPC	**Upice**	**2.18**	**252**	*e*SG	Sg	19 01 13.9	-7.7
KHC	**Kasperske Hory**	**4.21**	**242**	*e*x	x	19 02 02.5	
KHC				*e*SG	Sg	19 02 19.0	-10

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*JMA **18** 19:20:44.3±0.3, 33.56N×141.93E, h75km, M3.2*
*NEIC **18** 19:20:45.3±2.0, 33.37N×141.94E, h35km, mb4.2/1, Error ellipse: s-maj=44.6km s-min=19.7km az=199.0*
*IDC **18** 19:20:47.5±9.2, 33.58N×141.92E, h43km±65km, mb3.5/3, mb1 3.6/4, mb1mx3.3/19, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=79.8km s-min=36.5km az=0.0*
ISC 18 19:20:46.3±1.3**, 33.62N**±0.06×**141.84E**±0.09**, h52km**±11km**, n20, σ1.11/31, mb3.8**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.25**	**326**	P	**P**	**19 21 07.5**	**-0.4**
BSO1				*e*S	**S**	**19 21 25.3**	**+1.4**
BSO2	**Boso 2**	**1.44**	**322**	*e*S	**S**	**19 21 30.4**	**+1.8**
BSO3	**Boso 3**	**1.61**	**317**	P	**P**	**19 21 12.8**	**-0.2**
BSO3				*e*S	**S**	**19 21 35.0**	**+2.3**
JHJ2	**Mitsune**	**1.77**	**254**	P	**P**	**19 21 14.5**	**-0.6**
JHJ2				*e*S	**S**	**19 21 37.8**	**+1.3**
BSO4	**Boso 4**	**1.85**	**318**	P	**P**	**19 21 16.6**	**+0.4**
KTR	**Katsuura**	**1.98**	**321**	*e*S	**S**	**19 21 43.1**	**+1.5**
JIM2	**Oshima 3**	**2.28**	**299**	S	**S**	**19 21 48.7**	**-0.5**
JIZS	**Izushimoda**	**2.69**	**295**	S	**S**	**19 21 58.5**	**-1.2**
JOD2	**Odawara 2**	**2.80**	**307**	P	**P**	**19 21 28.5**	**-1.3**
JOD2				S	**S**	**19 22 01.0**	**-1.6**
JRY	**Ryogami san**	**3.40**	**316**	P	**P**	**19 21 37.3**	**-0.9**
JRY				S	**S**	**19 22 17.1**	**-0.6**
MJAR	**Matsushiro Arr**	**4.17**	**315**	P	**P**	**19 21 49.1**	**+0.1**
	0.8nm,0.3s,baz=158,slow=14,SNR=17						
MJAR				S	**S**	**19 22 37.5**	**+0.6**
	1.6nm,0.3s,baz=270,slow=30,SNR=8.4						
MAJO	**Matsushiro**	**4.17**	**315**	*e*Pn	**P**	**19 21 49.7**	**+0.6**
MAJO				*e*Sn	**S**	**19 22 35.5**	**-1.6**
MAT	**Matsushiro**	**4.17**	**315**	*e*P	**P**	**19 21 50.0**	**+0.9**
MAT				*e*S	**S**	**19 22 36.0**	**-1.0**
MAT	**Matsushiro**	**4.17**	**315**	P	**P**	**19 21 49.5**	**+0.4**
MAT				S	**S**	**19 22 36.1**	**-0.9**
MAT	**Matsushiro**	**4.17**	**315**	P	**P**	**19 21 49.4**	**+0.3**
MAT				S	**S**	**19 22 36.2**	**-0.8**
JMM	**Marumori**	**4.32**	**349**	P	**P**	**19 21 48.6**	**-2.6**
JMM				S	**S**	**19 22 35.4**	**-5.5**
SONM	**Songino Array**	**30.09**	**309**	P	**P**	**19 26 54.2**	**+1.4**
	0.5nm,0.5s,mb3.5,baz=101,slow=6.3,SNR=5.4						
MKAR	**Makanchi Array**	**46.29**	**305**	P	**P**	**19 29 08.9**	**+0.5**
	0.7nm,0.7s,mb3.7,baz=90,slow=8.5,SNR=8.3						
KURK	**Kurchatov**	**48.36**	**311**	P	**P**	**19 29 24.5**	**0.0**
	1.6nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**52.21**	**31**	P	**P**	**19 29 53.6**	**-0.1**
	1.0nm,0.9s,mb3.8,baz=271,slow=6.2,SNR=7.2						
ILAR				pP	pP	19 30 09.0	+1.2
	1.0nm,0.7s,baz=269,slow=5.8,SNR=6.3						

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*IDC **18** 19:27:04.1±1.1, 0.01N×125.53E, mb4.0/7, mb1 4.1/7, mb1mx3.9/16, mbtmp4.0/7, Error ellipse: s-maj=84.0km s-min=19.9km az=66.0*
*NEIC **18** 19:27:08.8±0.5, 0.12N×125.85E, h35km, mb4.4/4, Error ellipse: s-maj=21.1km s-min=9.2km az=59.0*
ISC 18 19:27:06.6±0.7**, 0.2N**±0.1×**125.9E**±0.2**, h33km, n13, σ0.63/13, mb4.1**/10**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**15.65**	**275**	*e*P	**P**	**19 30 46.6**	**+0.1**
WRAB	**Tennant Creek**	**21.62**	**158**	*e*P	**P**	**19 31 55.7**	**-0.1**
	3.7nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**21.62**	**158**	P	**P**	**19 31 55.2**	**-0.7**
	2.3nm,0.6s,mb3.8,baz=338,slow=12,SNR=6.4						
STKA	**Stephens Creek**	**35.15**	**156**	*e*P	**P**	**19 34 00.3**	**+0.9**
	2.9nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**35.15**	**156**	P	**P**	**19 34 00.5**	**+1.0**
	0.7nm,0.4s,mb3.9,baz=297,slow=9.6,SNR=5.2						
SONM	**Songino Array**	**50.42**	**343**	P	**P**	**19 36 03.8**	**+0.8**
	0.8nm,0.5s,mb4.0,baz=162,slow=7.8,SNR=9.5						
MKAR	**Makanchi Array**	**60.03**	**327**	P	**P**	**19 37 11.9**	**-0.7**
	1.3nm,0.4s,mb4.3,baz=119,slow=8.7,SNR=21						
ZAL	**Zalesovo**	**63.40**	**334**	P	**P**	**19 37 35.2**	**+0.1**
	0.7nm,0.4s,mb4.2,baz=284,slow=4.7,SNR=3.5						
ZAL	**Zalesovo**	**63.40**	**334**	P	**P**	**19 37 35.2**	**+0.1**
KURK	**Kurchatov**	**64.32**	**329**	*e*P	**P**	**19 37 39.9**	**-1.3**
	3.2nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**69.87**	**328**	P	**P**	**19 38 16.5**	**+0.5**
	0.7nm,0.5s,mb3.8,baz=146,slow=11,SNR=6.5						
ZRNK	**Zerenda**	**70.57**	**327**	*e*P	**P**	**19 38 20.4**	**+0.2**
	2.9nm,0.6s,mb4.4						
KMBO	**Kilima Mbogo**	**88.66**	**269**	P	**P**	**19 39 58.8**	**+0.1**
	0.9nm,0.8s,mb4.2,baz=59,slow=15,SNR=5.3						

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*MOS **18** 19:37:16.9±1.1, 0.09S×125.08E, h10km, mb5.9/46, MS5.1/46, Error ellipse: s-maj=9.0km s-min=4.9km az=117.2*
*BJI **18** 19:37:18.4, 0.20S×125.10E, h18km, mB5.8, mb5.6, Ms5.4, Msz5.1*
*HRVD **18** 19:37:19.4±0.1, 0.15S×125.19E, h17km, MW5.8/75, Centroid moment Tensor Solution. LP body waves:*

*s75,c166;Mantle waves: s72,c211; Half duration: 2.0s
Moment tensor: Scale 10^{17}Nm; M_{rr}2.51±.06; $M_{\theta\theta}$-2.69±.05; $M_{\phi\phi}$0.17±.06; $M_{r\theta}$0.31±.14; $M_{\theta\phi}$-1.90±.04; $M_{\phi r}$6.16±.15; Best double couple: $M_0$6.766×10^{17} NP1: ϕ_s265°,δ24°,λ157°. NP2:ϕ_s16°,δ81°,λ68°. Principal axes: T 7.707, Plg49°, Azm262°; N -1.884, Plg22°, Azm20°; P -5.824, Plg32°, Azm124°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **18** 19:37:19.4±2.5, 0.16S×125.15E, h19km±15km, mb5.8/78, MS5.1/117, MW5.8 Error ellipse: s-maj=6.1km s-min=4.3km az=62.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^{17}Nm; M_{rr}1.91; $M_{\theta\theta}$2.97; $M_{\phi\phi}$-4.88; $M_{r\theta}$2.82; $M_{\theta\phi}$2.15; $M_{\phi r}$2.69; Best double couple: $M_0$6.2×10^{17} NP1:ϕ_s128°,δ50°,λ19°. NP2:ϕ_s25°,δ75°, λ138°. Principal axes: T 6.33, Plg39°, Azm338°; N -.35, Plg46°, Azm189°; P -5.98, Plg16°, Azm81°;*

NEIC Felt [III] at Bitung and Tondano; [II] at Manado, Indonesia.

*IDC **18** 19:37:20.0±2.5, 0.00S×125.24E, h21km±15km, mb5.2/28, mb1 5.1/28, mb1mx5.1/29, mbtmp5.3/28, MS5.0/12, Ms1 5.0/12, ms1mx4.8/21 Error ellipse: s-maj=16.6km s-min=10.5km az=77.0*

ISC 18 19:37:18.9±0.1**, 0.28S**±0.02×**125.19E**±0.03**, h28**km**, h28**km±2.2km**:pP-P, n675,** σ1.23/498**, mb5.7**/127**, MS5.1**/162**, 74C-30D, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	7.24	359	⇓eP	Pn	19 39 09.2	+3.4
MATI	Mati	7.25	8	eP	Pn	19 39 08.9	+2.9
DAV	Davao City (W)	7.31	3	⇑eP	Pn	19 39 10.0	+3.3
CTBH	Cotabato--PC H	7.51	353	⇑iP	Pn	19 39 12.3	+2.8
CTBH				iS	Sn	19 40 42.3	+7.7
BUKP	Musuan	8.10	359	eP	P	19 39 20.7	+2.9
PAGZ	Pagadian	8.27	347	eP	P	19 39 21.2	+1.1
IPIL	Ipil	8.43	342	eP	P	19 39 23.9	+1.7
TSM	Tawau	8.61	302	P	P	19 39 26.3	+1.6
BUTP	Butuan	9.20	3	eP	P	19 39 35.6	+2.7
TBP	Tagbilaran	9.99	352	eP	P	19 39 45.1	+1.1
MSLP	Maasin	10.35	358	eP	P	19 39 56.8	+7.9
LLP	Lapu-Lapu	10.59	353	eP	P	19 39 54.8	+2.5
KKM	Kota Kinabalu	10.94	305	eP	P	19 39 59.2	+2.2
KKM	Kota Kinabalu	10.94	305	P	P	19 40 00.1	+3.1
GUIM	Jordan	11.14	347	eP	P	19 40 02.3	+2.6
BATP	Bataraza	11.64	321	eP	P	19 40 07.5	+1.0
BESP	Borongan	11.80	1	eP	P	19 40 11.2	+2.5
CUYO	Cuyo Island	11.81	340	eP	P	19 40 11.9	+3.1
PPR	Puerto Princes	11.88	327	eP	P	19 40 11.6	+1.9
RCP	Roxas	12.01	348	⇑eP	P	19 40 16.7	+5.3
KALP	Kalibo	12.21	347	eP	P	19 40 21.0	+6.8
CNP	Catarman	12.71	358	eP	P	19 40 22.1	+1.2
ENPP	El Nido	12.77	334	eP	P	19 40 23.9	+2.3
OTRP	Odiongan	12.94	346	eP	P	19 40 26.9	+3.0
BUSP	Coron	13.17	338	eP	P	19 40 30.7	+3.8
SJMP	San Jose	13.28	342	eP	P	19 40 32.7	+4.2
AUQP	San Andres	13.74	350	eP	P	19 40 41.9	+7.4
PVCP	Virac	13.82	356	eP	P	19 40 37.1	+1.5
BOAC	Boac	14.04	346	eP	P	19 40 43.7	+5.1
KAKA	Kakadu	14.29	150	eP	P	19 40 41.0	-0.8
	142nm,0.6s						
GQP	Guinayangan	14.35	349	eP	P	19 40 49.6	+7.0
LUBP	Lubang	14.76	341	eP	P	19 40 52.4	+4.5
KSM	Kuching	14.98	277	eP	P	19 40 53.5	+2.6
POLP	Polilio Island	15.25	348	eP	P	19 41 00.1	+5.7
BALP	Baler	16.31	348	eP	P	19 41 11.2	+3.2
SCZP	Santa Cruz	16.78	342	eP	P	19 41 17.1	+3.2
BCPH	Baguio City Da	17.16	345	⇑iP	P	19 41 23.1	+4.4
BOLP	Bolinao	17.35	343	eP	P	19 41 24.0	+3.0
CAUP	Cauayan	17.43	349	eP	P	19 41 23.8	+1.7
FITZ	Fitzroy Crossi	17.72	179	eP	P	19 41 25.8	+0.2
	140nm,0.9s						
FITZ				eS	S	19 44 40.1	+0.4
FITZ	Fitzroy Crossi	17.72	179	P	P	19 41 26.1	+0.5
	2.5nm,0.3s,baz=10,slow=11,SNR=30						
FITZ				S	S	19 44 46.5	+6.7
	0.3nm,0.3s,baz=232,slow=12,SNR=3.7						
CVP	Callao Caves	18.17	350	eP	P	19 41 32.0	+0.7
ABRA	Dolores	18.35	346	eP	P	19 41 33.3	-0.2
APYP	Conner	18.44	348	eP	P	19 41 34.7	+0.1
MBWA	Marble Bar	21.43	194	eP	P	19 42 07.7	+0.5
	343nm,1.3s,mb5.5						
MBWA				LR	LR		
	comp=Z,6µm,21.0s,MS4.9						
WRAB	Tennant Creek	21.50	156	d iP	P	19 42 07.0	-0.9
WRAB	Tennant Creek	21.50	156	eP	P	19 42 05.8	-2.1
	comp=Z,402nm,0.9s,mb5.8						
WRAB				LR	LR		
	comp=Z,3µm,21.0s,MS4.6						
WRA	Warramunga Arr	21.50	156	P	P	19 42 07.1	-0.8
	comp=Z,79nm,0.9s,mb5.1,baz=338,slow=11,SNR=117						
WRA				S	S	19 46 05.4	+5.6
	comp=Z,12nm,1.0s,baz=349,slow=15,SNR=4.7						
WRA				ScP		19 49 44.6	
	comp=Z,6.1nm,0.9s,baz=332,slow=3.4,SNR=5.4						
WB2	Warramunga Arr	21.51	156	eP	P	19 42 06.5	-1.4
WB2				eS	S	19 45 57.0	-2.9
WB2				eSCS	ScS	19 53 26.2	-0.8
KGM	Kluang	21.98	276	P	P	19 42 13.7	+0.9
PMG	Port Moresby	23.67	113	d iP	P	19 42 29.8	+0.3
PMG	Port Moresby	23.67	113	P	P	19 42 30.4	+0.9
	comp=Z,23nm,0.7s,mb4.8,baz=344,slow=10.0,SNR=8.6						
PMG	Port Moresby	23.67	113	eP	P	19 42 30.4	+1.0
	comp=Z,169nm,1.0s,mb5.4						
PMG				LR	LR		
	comp=Z,3µm,21.0s,MS4.7						
GUMO	Guam	23.87	54	eP	P	19 42 31.5	+0.1
GUMO				pmax	pmax		
	comp=Z,706nm,1.5s,mb5.9						
GUMO				MLR	MLR		
	comp=Z,4µm,22.0s,MS4.8						
GUMO	Guam	23.87	54	eP	P	19 42 31.5	+0.1
	comp=Z,706nm,1.5s,mb5.9						
GUMO				LR	LR		
	comp=Z,4µm,22.0s,MS4.8						
QIZ	Qiongzhong	24.39	323	⇑iP	P	19 42 36.3	-0.1
QIZ				S	S	19 46 49.4	-2.0
QIZ				XS		19 47 04.3	
QIZ				AMB	AMB		
	comp=Z,94nm,1.5s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,2µm,3.6s						
QIZ				LR	LR		
	comp=N,3µm,17.9s,MS4.9						
QIZ				LR	LR		
	comp=E,2µm,20.8s,MS4.9						
QIZ				LR	LR		
	comp=Z,6µm,19.0s,MS5.1						
QIZ	Qiongzhong	24.39	323	eP	P	19 42 36.3	-0.2
	comp=Z,72nm,0.9s,mb5.1						
IPM	Ipoh	24.62	282	P	P	19 42 39.0	+0.4
KULM	Kulim	25.12	283	eP	P	19 42 42.9	-0.6
UBT	Ubonrachathani	25.20	309	⇓P	P	19 42 45.9	+1.7
TATO	Taipei	25.36	352	PFAKE		19 43 00.0	+14
TATO				LR	LR		
	comp=Z,9µm,21.0s,MS5.2						
SNG	Songkhla	25.60	287	P	P	19 42 48.0	0.0
	comp=Z,560nm,1.0s,mb6.0						
QZH	Quanzhou	25.87	346	P	P	19 42 51.5	+1.1
QZH				S	S	19 47 15.4	-0.7
QZH				LR	LR		
	comp=Z,13µm,35.3s,MS5.2						
GZH	Guangzhou	25.93	334	P	P	19 42 55.3	+4.4
GZH				LR	LR		
	comp=N,5µm,19.4s,MS5.2						
GZH				LR	LR		
	comp=E,4µm,19.7s,MS5.2						
GZH				LR	LR		
	comp=Z,9µm,18.3s,MS5.3						
JOW	Kunigami	27.11	6	P	P	19 42 59.0	-2.8
	comp=Z,162nm,0.7s,mb5.7,baz=213,slow=8.7,SNR=26						
KKTK	Khon Kaen	27.56	308	P	P	19 43 06.0	+0.1
	comp=Z,2µm,0.7s						
NNT	Nongplab	28.30	298	P	P	19 43 12.8	+0.1
CTA	Charters Tower	28.51	135	eP	P	19 43 15.2	+0.7
	comp=Z,20nm,0.9s,mb4.8						
CTA				eS	S	19 48 02.4	+3.4
CTA	Charters Tower	28.51	135	eP	P	19 43 15.2	+0.7
CTA				eS	S	19 48 02.4	+3.4
CTA				pmax	pmax		
	comp=Z,20nm,0.9s						
CTA	Charters Tower	28.51	135	P	P	19 43 14.8	+0.3
	comp=Z,9.8nm,0.7s,mb4.7,baz=308,slow=11,SNR=11						
CTAO	Charters Tower	28.51	135	eP	P	19 43 14.5	0.0
CTAO				pmax	pmax		
	comp=Z,93nm,1.4s,mb5.3						
CTAO				MLR	MLR		
	comp=Z,3µm,20.0s,MS4.8						
CTAO	Charters Tower	28.51	135	eP	P	19 43 14.5	0.0
	comp=Z,93nm,1.4s,mb5.3						
CTAO				LR	LR		
	comp=Z,3µm,20.0s,MS4.8						
NST	Nakhon Sawan	29.39	304	⇓P	P	19 43 22.1	-0.3
	comp=Z,122nm,1.0s,mb5.6						
NANT	Nan	30.62	310	⇑P	P	19 43 33.0	-0.3
	comp=Z,1µm,0.4s						
SSE	Sheshan	31.43	353	P	P	19 43 42.1	+1.8
SSE				AP	pP	19 43 50.1	+1.6
SSE				XP	sP	19 43 54.8	+2.7
SSE				S	S	19 48 48.8	+3.7
SSE				AMB	AMB		
	comp=Z,35nm,0.9s,mb5.2						
SSE				AMB	AMB		
	comp=Z,647nm,4.5s						
SSE				LR	LR		
	comp=N,4µm,27.4s,MS4.9						
SSE				LR	LR		
	comp=E,770nm,27.4s,MS4.9						
SSE				LR	LR		
	comp=Z,4µm,26.4s,MS5.0						
CBIJ	Chichi jima	31.75	30	P	P	19 43 39.8	-3.4
	comp=Z,270nm,1.0s,mb6.0,baz=194,slow=4.2,SNR=4.9						
CBIJ				LR	LR	19 54 49.3	
	comp=Z,797nm,22.0s,MS4.3,baz=68,slow=33						
KLBR	Kellerberrin	31.93	192	eP	P	19 43 45.1	+0.4
	comp=Z,75nm,1.1s,mb5.4						
CHRT	Chiangrai	31.95	310	⇓P	P	19 43 42.0	-3.0
	comp=Z,368nm,1.2s,mb6.1						
CHG	Chiang Mai	32.00	308	⇑P	P	19 43 45.1	-0.3
	comp=Z,150nm,0.9s,mb5.8						
CHG				S	S	19 48 52.6	-1.6
GYA	Guiyang	32.02	328	⇑iP	P	19 43 45.3	-0.2
GYA				AP	pP	19 43 57.8	+4.1
GYA				PP	PP	19 44 46.6	-5.6
GYA				XS		19 49 03.0	
GYA				AMB	AMB		
	comp=Z,80nm,0.6s,mb5.7						
GYA				AMB	AMB		
	comp=Z,960nm,6.3s						
GYA				LR	LR		
	comp=N,3µm,17.2s,MS5.2						
GYA				LR	LR		
	comp=E,3µm,16.7s,MS5.2						
GYA				LR	LR		
	comp=Z,3µm,17.9s,MS5.1						
WHN	Wuhan	32.34	342	P	P	19 43 49.5	+1.2
MUN	Mundaring	32.65	194	eP	P	19 43 51.3	+0.3
	comp=Z,14nm,0.7s,mb5.0						
MUN	Mundaring	32.65	194	eP	P	19 43 51.3	+0.3
MUN				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
NJ2	Nanjing	32.71	350	eP	P	19 43 51.6	+0.1
NJ2				AP	pP	19 44 01.0	+1.4
NJ2				XP	sP	19 44 05.1	+1.9
NJ2				PP	PP	19 45 01.1	+0.1
NJ2				S	S	19 49 06.0	+1.0
NJ2				XS		19 49 23.0	
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,2µm,5.6s						
NJ2				LR	LR		
	comp=N,12µm,15.1s						
NJ2				LR	LR		
	comp=E,7µm,22.3s						
NJ2				LR	LR		
	comp=Z,24µm,17.5s,MS6.0						
KMI	Kunming	33.30	321	P	P	19 43 56.8	0.0
KMI				AP	pP	19 44 06.1	+1.2
KMI				XP	sP	19 44 10.5	+2.0
KMI				PP	PP	19 45 07.9	-0.7
KMI				PPP	PPP	19 45 20.4	-4.8
KMI				PCP	PcP	19 46 39.8	+1.2
KMI				S	S	19 49 17.1	+2.7
KMI				AMB	AMB		
	comp=Z,63nm,1.6s,mb5.3						
KMI				AMB	AMB		
	comp=Z,758nm,3.1s						
KMI				LR	LR		
	comp=N,4µm,19.6s,MS5.3						
KMI				LR	LR		
	comp=E,3µm,17.0s,MS5.3						
KMI				LR	LR		
	comp=Z,3µm,19.6s,MS5.1						
KMI	Kunming	33.30	321	P	P	19 43 57.0	+0.3
NWAO	Narrogin (SRO)	33.33	192	eP	P	19 43 57.8	+0.9
NWAO				pmax	pmax		
	comp=Z,42nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,2µm,22.0s						
NWAO	Narrogin (SRO)	33.33	192	P	P	19 43 57.9	+1.0
	comp=Z,35nm,0.9s,mb5.3,baz=20,slow=7.8,SNR=12						
NWAO	Narrogin (SRO)	33.33	192	eP	P	19 43 57.8	+0.9
	comp=Z,42nm,1.0s,mb5.3						
NWAO				LR	LR		
	comp=Z,2µm,22.0s,MS4.9						
JNU	Nakatsue	33.65	9	P	P	19 43 55.9	-3.8
	comp=Z,50nm,1.0s,mb5.4,baz=232,slow=4.6,SNR=28						
ENH	Enshi	33.86	335	eP	P	19 44 00.8	-0.7
	comp=Z,121nm,0.8s,mb5.9						
STKA	Stephens Creek	35.05	155	⇓iP	P	19 44 12.2	+0.5
	comp=Z,60nm,0.6s,mb5.7						
STKA				eS	S	19 49 40.1	-1.3
STKA	Stephens Creek	35.05	155	P	P	19 44 12.4	+0.6
	comp=Z,47nm,0.7s,mb5.5,baz=324,slow=8.8,SNR=107						
HNR	Honiara	35.77	106	PFAKE		19 44 30.0	+12
HNR				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
ADE	Adelaide	36.75	161	eP	P	19 44 27.9	+1.9
TIA	Tai'an	37.07	349	P	P	19 44 27.0	-1.7
TIA				AMB	AMB		
	comp=Z,42nm,1.2s,mb5.1						
CD2	Chengdu	37.10	329	⇓iP	P	19 44 29.0	0.0
CD2				AMB	AMB		
	comp=Z,132nm,1.4s,mb5.6						
XAN	Xi'an	37.40	337	P	P	19 44 30.3	-1.2
XAN				SS	SS	19 52 53.9	+3.7
XAN				AMB	AMB		
	comp=Z,164nm,1.1s,mb5.8						
XAN				LR	LR		
	comp=N,2µm,23.8s,MS5.0						
XAN				LR	LR		
	comp=E,1µm,20.1s,MS5.0						
XAN				LR	LR		
	comp=Z,4µm,18.6s,MS5.2						
INCN	Inchon	37.59	2	eP	P	19 44 32.8	-0.3
	comp=Z,101nm,1.3s,mb5.4						
INCN				LR	LR		
	comp=Z,3µm,21.0s,MS5.1						
KS15	Wonju Array Si	37.61	4	eP	P	19 44 33.3	0.0
MAJO	Matsushiro	38.58	17	eP	P	19 44 39.9	-1.5
MAJO				pmax	pmax		
	comp=Z,57nm,0.6s,mb5.5						
MAJO				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.0						
MAJO	Matsushiro	38.58	17	eP	P	19 44 39.9	-1.5
	comp=Z,56nm,0.6s,mb5.5						
MAJO				LR	LR		
	comp=Z,2µm,19.0s,MS5.0						
MAT	Matsushiro	38.58	17	eP	P	19 44 40.0	-1.4
MAT				eS	S	19 50 32.0	-3.3
MAT				pmax	pmax		
	comp=Z,272nm,1.5s,mb5.8						
MAT	Matsushiro	38.58	17	eP	P	19 44 40.0	-1.4
	comp=Z,272nm,1.5s,mb5.8						
MAT				eS	S	19 50 32.0	-3.3
MAT	Matsushiro	38.58	17	P	P	19 44 39.8	-1.6
MAT				S	S	19 50 32.2	-3.1
MJAR	Matsushiro Arr	38.58	17	P	P	19 44 40.1	-1.3
	comp=Z,26nm,0.6s,mb5.1,baz=191,slow=9.1,SNR=96						
MJAR				ScP		19 50 38.8	
	comp=Z,14nm,1.2s,baz=199,slow=8.0,SNR=8.2						
ARMA	Armidale	39.12	142	eP	P	19 44 45.9	0.0
DL2	Dalian	39.13	356	P	P	19 44 46.5	+0.5
DL2				S	S	19 50 42.1	-1.5
DL2				SS	SS	19 53 31.5	+2.6
DL2				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.2						
DL2				AMB	AMB		
	comp=Z,350nm,6.7s						
DL2				LR	LR		
	comp=N,1µm,20.0s,MS4.9						
DL2				LR	LR		
	comp=E,1µm,19.4s,MS4.9						
DL2				LR	LR		
	comp=Z,2µm,23.7s,MS5.0						
IMP	Imphal	39.19	312	eP	P	19 44 47.0	+0.4
AGT	Agartala	40.76	308	⇑i	P	19 45 07.0	+7.5
AGT				i		19 46 02.0	
SHL	Shillong	41.17	311	eP	P	19 45 03.0	+0.1
SHL				e		19 50 52.0	
LZH	Lanzhou	41.27	333	⇓P	P	19 45 03.8	+0.2
LZH				PP	PP	19 46 42.8	+0.9
LZH				SCP		19 50 46.8	
LZH				S	S	19 51 11.8	-3.8
LZH				SS	SS	19 54 11.8	-3.0
LZH				SCS	ScS	19 55 02.0	-1.6
LZH				AMB	AMB		
	comp=Z,398nm,1.6s,mb5.8						
LZH				AMB	AMB		
	comp=Z,1µm,5.0s						
LZH				LR	LR		
	comp=N,4µm,14.5s						
LZH				LR	LR		
	comp=Z,6µm,15.6s,MS5.5						
CNB	Canberra Magne	41.51	150	eP	P	19 45 08.4	+2.7
	comp=Z,46nm,0.8s,mb5.2						
TOO	Toolangi	41.57	155	eP	P	19 45 08.5	+2.4
	comp=Z,43nm,0.8s,mb5.1						
TOO	Toolangi	41.57	155	eP	P	19 45 08.5	+2.4
TOO				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.1						
SNY	Shenyang	41.94	358	⇑P	P	19 45 08.3	-0.8
SNY				AP	pP	19 45 14.1	-3.3
SNY				S	S	19 51 22.3	-3.2
SNY				AMB	AMB		
	comp=Z,90nm,1.8s,mb5.1						
SNY				AMB	AMB		
	comp=Z,1µm,4.6s						
SNY				LR	LR		
	comp=N,2µm,20.5s,MS5.0						
SNY				LR	LR		
	comp=E,1µm,23.7s,MS5.0						
SNY				LR	LR		
	comp=Z,2µm,20.9s,MS5.1						
CAL	Calcutta	42.45	305	eP	P	19 45 12.7	-0.8
CAL				e		19 47 33.0	
CAL				e		19 54 48.5	
HHC	Hu-ho-hao-te	42.77	345	eP	P	19 45 14.9	-1.0
HHC				AP	pP	19 45 27.8	+3.6
HHC				PP	PP	19 46 56.4	-1.2
HHC				PCP	PcP	19 47 10.8	+3.2
HHC				SCP		19 50 56.3	
HHC				S	S	19 51 29.8	-7.9
HHC				XS		19 51 48.9	
HHC				SCS	ScS	19 55 11.5	-1.2
HHC				AMB	AMB		
	comp=Z,59nm,1.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,486nm,8.4s						
HHC				LR	LR		
	comp=N,2µm,21.6s,MS5.1						
HHC				LR	LR		
	comp=E,2µm,20.4s,MS5.1						
HHC				LR	LR		
	comp=Z,3µm,26.4s						
BTO	Baotou	42.97	343	eP	P	19 45 16.3	-1.3
BTO				LR	LR		
	comp=N,2µm,20.8s						
BTO				LR	LR		
	comp=E,763nm,14.7s						
KWAJ	Kwajalein Atol	43.21	77	PFAKE		19 45 30.0	+10
KWAJ				LR	LR		
	comp=Z,477nm,20.0s,MS4.4						
CN2	Changchun	43.88	0	⇑P	P	19 45 23.9	-1.0
CN2				eS	S	19 51 53.9	0.0
CN2				AMB	AMB		
	comp=Z,60nm,1.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,700nm,7.0s						
CN2				LR	LR		
	comp=N,1µm,21.0s,MS5.0						
CN2				LR	LR		
	comp=E,2µm,21.0s,MS5.0						
CN2				LR	LR		
	comp=Z,1µm,23.0s,MS4.8						
LSA	Lhasa	44.06	316	P	P	19 45 26.8	+0.2
LSA				AP	pP	19 45 33.3	-1.6
LSA				LR	LR		
	comp=N,1µm,23.2s						
LSA				LR	LR		
	comp=E,2µm,29.5s						
LSA				LR	LR		
	comp=Z,3µm,30.4s						
LSA	Lhasa	44.06	316	eP	P	19 45 26.8	+0.2
LSA				pmax	pmax		
	comp=Z,102nm,0.7s,mb5.7						
LSA	Lhasa	44.06	316	eP	P	19 45 26.8	+0.2
	comp=Z,102nm,0.7s,mb5.7						
MDJ	Mudanjiang	44.87	4	P	P	19 45 32.3	-0.6
MDJ				PCP	PcP	19 47 19.6	+4.9
MDJ				SCP		19 51 10.1	
MDJ				PCS		19 51 11.9	
MDJ				S	S	19 52 02.0	-6.2
MDJ				SS	SS	19 55 18.9	-2.1
MDJ				SCS	ScS	19 55 31.5	+5.8
MDJ				AMB	AMB		
	comp=Z,92nm,0.9s,mb5.6						
MDJ				AMB	AMB		
	comp=Z,660nm,4.3s						
MDJ				LR	LR		
	comp=N,857nm,33.1s						
MDJ				LR	LR		
	comp=E,1µm,23.7s						
MDJ				LR	LR		
	comp=Z,2µm,26.0s						
MDJ	Mudanjiang	44.87	4	eP	P	19 45 32.5	-0.4
	comp=Z,173nm,1.2s,mb5.8						
VIS	Vishakhapatnam	44.89	296	eP	P	19 45 33.3	-0.1
VIS				AMb	AMB	19 45 36.5	
	comp=Z,116nm,1.2s,mb5.6						
PALK	Pallekele	45.00	281	eP	P	19 45 35.5	+1.2
	comp=Z,34nm,1.0s,mb5.1						
PALK				LR	LR		
	comp=Z,592nm,20.0s,MS4.5						
WAKE	Wake Island	45.07	62	PFAKE		19 45 50.0	+15
WAKE				LR	LR		
	comp=Z,1µm,19.0s,MS4.9						
DZM	Mont Dzumac	45.64	121	P	P	19 45 40.3	+1.0
	comp=Z,6.8nm,0.7s,mb4.7,baz=199,slow=11,SNR=5.8						
GTA	Gaotai	45.82	332	eP	P	19 45 39.8	-0.7
GTA				AP	pP	19 45 46.5	-2.3
GTA				XP	sP	19 45 49.3	-2.9
GTA				PCP	PcP	19 47 18.8	+0.7
GTA				PP	PP	19 47 25.4	-2.8
GTA				PPP	PPP	19 48 09.1	-2.4
GTA				SCP		19 51 08.0	
GTA				PCS		19 51 13.3	
GTA				S	S	19 52 19.3	-2.5
GTA				SCS	ScS	19 55 30.6	-1.3
GTA				AMB	AMB		
	comp=Z,184nm,1.2s,mb5.9						
GTA				AMB	AMB		
	comp=Z,665nm,5.7s						
GTA				LR	LR		
	comp=N,2µm,17.9s,MS5.4						
GTA				LR	LR		
	comp=E,3µm,22.1s,MS5.4						
GTA				LR	LR		
	comp=Z,5µm,20.9s,MS5.4						
MDRS	Chennai	46.48	288	eP	P	19 45 45.0	-1.0
MDRS				e		19 47 55.0	
MDRS				e		19 52 58.0	
MDRS				e		19 56 37.0	
MDRS				e		20 00 18.0	
ASAJ	Asahikawa	46.85	17	P	P	19 45 48.1	-0.4
ASAJ				pmax	pmax		
	comp=Z,43nm,0.7s						
ASAJ				MLR	MLR		
	comp=Z,895nm,19.9s						
ASAJ	Asahikawa	46.85	17	P	P	19 45 48.1	-0.4
	comp=Z,43nm,0.7s,mb5.5,baz=238,slow=10,SNR=36						

ASAJ LR LR 20 03 46.3
comp=Z,895nm,19.9s,MS4.7,baz=227,slow=34
TAU Tasmania Unive 46.86 158 PFAKE 19 46 00.0 +11
TAU LR LR
comp=Z,550nm,22.0s,MS4.5
GUN Gumba 46.96 310 *e*P **P** **19 45 49.0 -0.6**
PKI Pulchoki 47.16 309 *e*P **P** **19 45 50.0 -1.2**
KKN Kakani 47.36 309 *e*P **P** **19 45 51.3 -1.6**
comp=Z,893nm,1.4s,mb6.5
KKN Kakani 47.36 309 *e*P **P** **19 45 51.3 -1.6**
KKN pmax pmax
comp=Z,447nm,1.4s,mb6.2
DMN Daman 47.41 309 *e*P **P** **19 45 51.9 -1.3**
comp=Z,643nm,1.4s,mb6.4
BLSP Bilaspur 47.49 301 *e*P **P** **19 45 51.0 -2.9**
BLSP *e* 19 47 46.1
GKN Gorkha 47.96 309 *e*P **P** **19 45 56.0 -1.6**
comp=Z,223nm,0.7s,mb6.3
SALM Salem 48.14 286 *e* **P** **19 45 54.0 -5.1**
KOLN Koldanda 48.66 308 *e*P **P** **19 46 01.7 -1.2**
comp=Z,489nm,0.7s,mb6.6
ALBI Allahabad 49.02 305 *e*P **P** **19 46 03.0 -2.7**
HYB Hyderabad 49.15 293 *e*P **P** **19 46 05.0 -1.8**
HYB *e*S **S** **19 53 28.0 +19**
HYB pmax pmax
comp=Z,200nm,1.0s,mb6.1
HYB Hyderabad 49.15 293 *e*P **P** **19 46 05.0 -1.8**
comp=Z,200nm,1.0s,mb6.1
HYB *e*S **S** **19 53 28.0 +19**
HYB Hyderabad 49.15 293 ⇓*i*P **P** **19 46 05.0 -1.8**
comp=Z,200nm,1.0s,mb6.1
HYB *e*S **S** **19 53 04.0 -5.2**
YSS Yuzh-Sakhalins 49.49 16 *ce*P **P** **19 46 08.0 -1.0**
YSS *e**PP pP 19 46 17.1 -0.4
YSS *e* 19 47 32.1
YSS *e* 19 48 08.9
YSS *e*S **S** **19 53 10.0 -3.6**
YSS pmax pmax
comp=N,160nm,1.8s
YSS pmax pmax
comp=Z,270nm,1.8s,mb6.0
YSS MLR MLR
comp=N,1μm,20.0s,MS5.0
YSS MLR MLR
comp=Z,2μm,20.0s,MS5.0
YSS MLR MLR
comp=E,900nm,18.0s,MS5.0
YSS Yuzh-Sakhalins 49.49 16 *e*P **P** **19 46 08.2 -0.8**
comp=E,100nm,1.4s,mb5.7
YSS LR LR
comp=Z,2μm,21.0s,MS5.0
HIA Hailar 49.57 355 *e*P **P** **19 46 08.7 -1.0**
HIA pmax pmax
comp=Z,157nm,1.1s
HIA Hailar 49.57 355 *e*P **P** **19 46 08.7 -1.0**
comp=Z,157nm,1.1s,mb6.0
KLR Kul'dur 49.64 6 *e*P **P** **19 46 06.3 -3.8**
KLR *e* 19 48 07.0
KLR *e*S **S** **19 53 08.5 -7.1**
KLR pmax pmax
comp=E,56nm,1.8s
KLR pmax pmax
comp=Z,110nm,1.8s,mb5.6
KLR pmax pmax
comp=Z,1μm,9.5s
KLR smax
comp=N,800nm,10.0s
KLR smax
comp=E,500nm,10.0s
KLR MLR MLR
comp=N,600nm,15.0s
KLR MLR MLR
comp=Z,1μm,15.0s,MS4.9
ULN Ulaanbaatar 50.48 344 PFAKE 19 46 30.0 +13
ULN LR LR
comp=Z,2μm,20.0s,MS5.1
SONM Songino Array 50.63 344 P **P** **19 46 16.6 -1.1**
comp=Z,63nm,0.8s,mb5.6,baz=158,slow=7.9,SNR=89
SONM LR LR 20 08 24.7
comp=Z,3μm,20.3s,MS5.2,baz=152,slow=37
SONM PKP2bc 20 17 29.2
comp=Z,0.8nm,0.9s,baz=270,slow=2.5,SNR=3.9
SONM Songino Array 50.63 344 P **P** **19 46 16.6 -1.1**
SONM LR LR 20 08 24.7
SONM ⇑*e* 20 17 29.2
LATR Latur 51.25 294 *e*P **P** **19 46 21.0 -1.8**
AKL Akola 51.49 297 ⇑*i* **P** **19 46 27.5 +2.9**
AKL *i* S **S** **19 53 42.0 +0.4**
BHPL Bhopal 51.95 300 *e*P **P** **19 46 26.7 -1.4**
BHPL AMb AMB 19 46 29.6
comp=Z,803nm,0.3s
LGTI Lohaghat 52.05 309 *e*P **P** **19 46 27.5 -1.3**
PTH Pithoragarh 52.12 309 *e*P **P** **19 46 29.0 -0.3**
PTH *e* 19 51 40.0
CIT Chita 53.02 351 *e*P **P** **19 46 34.6 -1.1**
CIT *e* 19 47 42.4
CIT pmax pmax
comp=Z,313nm,2.0s,mb5.9
DGAR Diego Garcia 53.05 261 *e*P **P** **19 46 36.3 -0.1**
DGAR pmax pmax
comp=Z,328nm,1.1s,mb6.2
DGAR MLR MLR
comp=Z,417nm,19.0s,MS4.5
DGAR Diego Garcia 53.05 261 *e*P **P** **19 46 36.3 -0.1**
comp=Z,328nm,1.1s,mb6.2
DGAR LR LR
comp=Z,417nm,19.0s,MS4.5
KAD Karad 53.15 292 *e*P **P** **19 46 34.2 -3.0**
KAD AMb AMB 19 46 37.9
comp=Z,86nm,1.7s,mb5.4
POO Poona 53.76 293 *e*P **P** **19 46 40.6 -1.0**
ZAK Zakamensk 53.82 343 *e*P **P** **19 46 40.8 -0.8**
ZAK pmax pmax
comp=Z,28nm,1.0s,mb5.2
ZAK pmax pmax
comp=Z,6.0nm,1.1s
NDI New Delhi 54.13 306 *e*P **P** **19 46 40.0 -4.1**
NDI *e* 19 54 08.0
DDI Dehra Dun 54.14 309 *e*P **P** **19 46 41.7 -2.5**
DDI *e* 19 54 07.0
TLY Talaya 54.88 344 *e*P **P** **19 46 47.7 -1.6**
TLY *e* 19 47 50.1
TLY *e*S **S** **19 54 18.7 -8.4**
TLY *e* 19 56 35.0
TLY pmax pmax
comp=Z,123nm,1.1s,mb5.8
SMLA Simla 55.17 309 ⇓*i*P **P** **19 46 49.0 -2.8**
comp=Z,94nm,0.3s,mb6.3
SMLA *i* 19 54 25.3
WMQ Urumqi 55.18 328 P **P** **19 46 50.6 -1.1**
IRK Irkutsk 55.21 344 *e*P **P** **19 46 50.6 -1.2**
IRK pmax pmax
comp=Z,154nm,1.8s,mb5.7
AJM Ajmer 55.43 303 ⇑*i*P **P** **19 46 50.0 -3.7**
SDNR Sundarnagar 55.48 309 *e*P **P** **19 46 52.4 -1.6**
SDNR *e*S **S** **19 54 34.0 -1.5**
MOY Mondy 55.64 342 *e*P **P** **19 46 54.6 -0.3**
MOY pmax pmax
comp=Z,239nm,1.9s,mb5.9
BHK Bhakra 55.88 309 *e*P **P** **19 46 57.2 +0.4**
PONG Pong 56.46 309 *e*P **P** **19 47 00.0 -1.1**
DLH Dalhousie 56.70 310 *e*P **P** **19 47 02.0 -0.7**
THN Thein Dam 56.84 310 *e*P **P** **19 47 00.4 -3.4**
THN *e* 19 54 45.8
CLNS Chul'man 56.94 360 *e*P **P** **19 47 03.1 -1.0**
CLNS *e* 19 48 04.8
CLNS pmax pmax
comp=Z,135nm,0.9s,mb6.0
CLNS pmax pmax
comp=N,54nm,0.7s
CLNS pmax pmax
comp=E,34nm,0.8s
CLNS pmax pmax
comp=Z,28nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,25nm,1.0s
CLNS pmax pmax
comp=E,40nm,1.1s
CLNS MLR MLR
comp=Z,2μm,21.0s,MS5.2
CLNS MLR MLR
comp=N,2μm,23.0s
CLNS MLR MLR
comp=E,100nm,12.0s
SKR Severo-Kuril's 57.18 23 *e*P **P** **19 47 02.0 -3.9**
SKR *e* 19 47 58.0
SKR *e*S **S** **19 54 54.0 -3.7**
SKR *e*SSS SSS 20 00 54.0 -8.9
SKR pmax pmax
comp=Z,2μm,4.0s
SKR smax
comp=N,3μm,16.0s
SKR smax
comp=E,4μm,16.0s
SKR MLR MLR
comp=Z,4μm,20.0s,MS5.6
BHJ Bhuj 58.76 298 ⇑*e* **P** **19 47 25.7 +8.3**
comp=Z,510nm,3.2s
BHJ *e* 19 56 09.8
KSH Kashi 59.85 317 *e*P **P** **19 47 24.6 -0.1**
KSH *e*AP pP 19 47 33.0 -0.3
KSH *e*XP sP 19 47 36.4 0.0
KSH *e*PCP PcP 19 48 12.0 +1.3
KSH *e*PP PP 19 49 38.5 -0.1
KSH *e*PPP PPP 19 51 03.5 -0.9
KSH *e*PCS 19 52 13.1
KSH *e*S **S** **19 55 30.3 -2.4**
KSH *e*XS 19 55 43.5
KSH *e*PS PS 19 55 49.4 -2.2
KSH *e*SCS ScS 19 57 10.4 +1.1
KSH *e*SS SS 19 59 29.0 -1.2
KSH AMB AMB
comp=Z,110nm,1.0s,mb5.8
KSH LR LR
comp=N,2μm,14.9s,MS5.5
KSH LR LR
comp=E,2μm,14.4s,MS5.5
PET Petropavlovsk 59.99 23 *α*i*P* **P** **19 47 25.5 +0.1**
PET *i* S **S** **19 55 34.5 +0.2**
PET *e*SS SS 19 59 34.1 +1.9
PET pmax pmax
comp=Z,600nm,2.4s,mb6.2
PET pmax pmax
comp=Z,93nm,1.6s,mb5.6
PET pmax pmax
comp=N,300nm,2.3s
PET pmax pmax
comp=E,100nm,2.2s
PET pmax pmax
comp=Z,400nm,16.3s
PET smax
comp=N,800nm,12.4s
PET Petropavlovsk 59.99 23 *e*P **P** **19 47 25.2 -0.3**
comp=N,154nm,1.4s,mb5.8
PET LR LR
comp=Z,690nm,21.0s,MS4.8
MKAR Makanchi Array 60.01 327 P **P** **19 47 23.8 -1.8**
MKAR S **S** **19 55 35.6 +0.9**
MKAR Makanchi Array 60.01 327 P **P** **19 47 23.8 -1.9**
comp=Z,76nm,0.6s,mb5.9,baz=124,slow=7.8,SNR=192
MKAR ScP 19 52 08.3
comp=Z,9.4nm,0.9s,baz=117,slow=5.4,SNR=4.9
MKAR S **S** **19 55 35.6 +0.9**
comp=Z,6.5nm,1.2s,baz=138,slow=15,SNR=5.9
MKAR LR LR 20 14 55.4
comp=Z,2μm,18.8s,MS5.3,baz=160,slow=38
MKAR PKP2bc 20 17 03.2
comp=Z,1.5nm,0.9s,baz=288,slow=3.8,SNR=6.6
MKAR Makanchi Array 60.01 327 P **P** **19 47 23.8 -1.9**
MKAR ScP 19 52 08.3
MKAR S **S** **19 55 35.6 +0.9**
MKAR LR LR 20 14 55.4
MKAR ⇑*e* 20 17 03.2
SNZO South Karori 60.51 139 P **P** **19 47 28.4 -0.7**
SNZO LR LR
comp=Z,3μm,20.0s,MS5.4
ULHL Ulahol 61.02 320 P **P** **19 47 33.7 +1.1**
SNR=17
AAA Alma-Ata 61.11 322 *e*P **P** **19 47 30.0 -3.2**
AAA *e*S **S** **19 55 48.0 -0.7**
AAA smax
comp=E,500nm,10.0s
AAA MLR MLR
comp=Z,600nm,24.0s,MS4.7
RAO Raoul Island 61.34 123 PFAKE 19 47 50.0 +15
RAO LR LR
comp=Z,3μm,21.0s,MS5.4
KZA Kyzart 61.58 320 P **P** **19 47 38.4 +2.0**
SNR=16
TKM2 Tokmak 2 61.78 321 P **P** **19 47 37.1 -0.6**
SNR=165
MIDW Midway 61.79 58 PFAKE 19 47 50.0 +12
MIDW LR LR
comp=Z,790nm,19.0s,MS4.9
KBK Karagaybulak 62.06 320 P **P** **19 47 41.1 +1.5**
SNR=66
YAK Yakutsk 62.24 2*c*i*P* **P** **19 47 39.3 -1.2**
YAK *e**PP pP 19 47 42.8 -6.4
YAK *e*S **S** **19 55 59.7 -3.1**
YAK *e* 19 57 26.3
YAK pmax pmax
comp=Z,60nm,0.9s,mb5.7
YAK pmax pmax
comp=N,25nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=N,15nm,0.9s
YAK pmax pmax
comp=Z,29nm,0.9s,mb5.4
YAK pmax pmax
comp=E,18nm,1.0s
YAK smax
comp=N,21nm,1.2s
YAK smax
comp=Z,6.0nm,1.0s
YAK smax
comp=E,16nm,1.2s
YAK MLR MLR
comp=Z,793nm,22.0s,MS4.8
YAK MLR MLR
comp=N,380nm,17.0s,MS4.7
YAK MLR MLR
comp=E,333nm,21.0s,MS4.7
YAK Yakutsk 62.24 2 *e*P **P** **19 47 39.0 -1.5**
comp=E,270nm,0.7s,mb6.5
YAK LR LR
comp=Z,1μm,20.0s,MS5.1
AAK Ala-Archa 62.34 320 P **P** **19 47 43.0 +1.5**
SNR=52
AAK Ala-Archa 62.34 320*c*i*P* **P** **19 47 39.2 -2.3**
AAK pmax pmax
comp=Z,129nm,1.0s,mb6.0
AAK MLR MLR
comp=Z,3μm,22.0s,MS5.4
AAK Ala-Archa 62.34 320 *e*P **P** **19 47 39.5 -2.0**
comp=Z,90nm,0.9s,mb5.9
AAK LR LR
comp=Z,683nm,22.0s,MS4.8
CHMS Chumysh 62.35 320 P **P** **19 47 42.2 +0.6**
SNR=47
FRU Bishkek 62.36 320*ce*P **P** **19 47 41.0 -0.6**
FRU *e*S **S** **19 56 05.5 +0.9**
FRU *e* 19 56 28.0
FRU pmax pmax
comp=Z,250nm,2.3s,mb5.9
FRU MLR MLR
comp=Z,1μm,20.0s,MS5.1
AML Almayashu 62.62 319 P **P** **19 47 46.1 +2.8**
SNR=12
USP Ospenovka 62.65 320 P **P** **19 47 44.6 +1.1**
SNR=6.3
MA2 Magadan 62.94 14*c*i*P* **P** **19 47 45.4 +0.2**
MA2 pmax pmax
comp=Z,140nm,1.4s,mb5.9
MA2 MLR MLR
comp=Z,600nm,19.0s,MS4.8
MA2 Magadan 62.94 14 *e*P **P** **19 47 45.0 -0.1**
comp=Z,77nm,0.8s,mb5.9
MA2 LR LR
comp=Z,678nm,21.0s,MS4.8
ZAL Zalesovo 63.48 335 P **P** **19 47 46.1 -2.7**
comp=Z,31nm,0.9s,mb5.4,baz=346,slow=5.5,SNR=75
ZAL S **S** **19 56 13.9 -4.7**
comp=Z,5.9nm,1.0s,baz=251,slow=22,SNR=18
ZAL LR LR 20 16 45.9
comp=Z,3μm,20.6s,MS5.4,baz=340,slow=37
ZAL PKP2bc 20 16 55.5
comp=Z,1.0nm,0.2s,baz=213,slow=4.0,SNR=4.7
ZAL Zalesovo 63.48 335 P **P** **19 47 46.1 -2.7**
ZAL S **S** **19 56 13.9 -4.7**
ZAL LR LR 20 16 45.9
ZAL ⇑*e* 20 16 55.5
AFI Afiamalu 63.80 105 PFAKE 19 48 00.0 +8.4
AFI LR LR
comp=Z,645nm,21.0s,MS4.8
KURK Kurchatov 64.32 329 *e*P **P** **19 47 52.2 -2.2**
KURK pmax pmax
comp=Z,246nm,0.9s,mb6.2
KURK MLR MLR
comp=Z,212nm,21.0s,MS4.3
KURK Kurchatov 64.32 329 *e*P **P** **19 47 52.2 -2.2**
comp=Z,246nm,0.9s,mb6.2
KURK LR LR
comp=Z,212nm,21.0s,MS4.3
NVS Novosibirsk 64.77 335 *e*P **P** **19 47 53.6 -3.6**
NVS *e*S **S** **19 56 25.3 -9.1**
NVS pmax pmax
comp=N,75nm,1.1s
NVS pmax pmax
comp=E,81nm,1.1s
NVS pmax pmax
comp=Z,109nm,1.1s,mb5.8
NVS smax
comp=N,106nm,2.0s
NVS smax
comp=E,159nm,2.0s
SEY Seymchan 66.26 13 *e*P **P** **19 48 07.1 +0.5**
SEY 19 48 33.4
SEY *e* 19 50 39.2
SEY *e*S S 19 56 54.3 +1.8
SEY 19 57 54.9
SEY *e*SSS SSS 20 04 05.8 +0.1
SEY pmax pmax
comp=N,20nm,1.0s
SEY pmax pmax
comp=Z,60nm,1.0s,mb5.6
SEY smax
comp=N,2μm,13.4s
SEY smax
comp=E,2μm,13.4s
SEY MLR MLR
comp=Z,2μm,21.0s,MS5.2
SEY MLR MLR
comp=N,1μm,23.0s
SEY MLR MLR
comp=E,800nm,17.0s
SEY Seymchan 66.26 13 ⇑*i*P **P** **19 48 06.9 +0.3**
SMY Shemya 66.68 30 *e*P **P** **19 48 10.3 +0.8**
SMY pmax pmax
comp=Z,45nm,0.3s,mb6.0
SMY MLR MLR
comp=Z,900nm,22.0s,MS4.9
SMY Shemya 66.68 30 *e*P **P** **19 48 10.3 +0.8**
comp=Z,44nm,0.3s,mb6.0
SMY LR LR
comp=Z,900nm,22.0s,MS4.9
CASY Casey 66.69 186 *e*P **P** **19 48 09.9 +0.6**
DRV Dumont d'Urvil 67.08 174 S S 19 57 05.0 +2.7
DRV L 20 04 00.0
WBK Wadi Bani Khal 68.24 294 ⇓P **P** **19 48 19.4 -0.4**
JMDO Jabal Madar 68.99 294 ⇓P **P** **19 48 24.0 -0.5**
SNR=8.5
SMDO Samad 69.15 295 ⇑P **P** **19 48 24.5 -1.0**
BIDO Bidbid 69.16 295 ⇑P **P** **19 48 23.5 -2.0**
SNR=13
BVAR Borovoye Array 69.86 328 P **P** **19 48 28.1 -1.2**
comp=Z,20nm,0.3s,mb5.5,baz=135,slow=8.4,SNR=86
BVAR S S 19 57 35.5 -0.2
comp=Z,2.1nm,1.0s,baz=141,slow=18,SNR=2.8
BSY Bisya 69.87 294 ⇑P **P** **19 48 29.8 -0.1**
HOQ Hoqain 69.91 295 ⇓P **P** **19 48 29.9 -0.1**
BRVK Borovoye 69.93 328 *e*P **P** **19 48 27.8 -1.9**
BRVK pmax pmax
comp=Z,134nm,1.1s,mb5.8
BRVK MLR MLR
comp=Z,246nm,20.0s,MS4.5
BRVK Borovoye 69.93 328 *e*P **P** **19 48 27.8 -1.9**
comp=Z,134nm,1.1s,mb5.8
BRVK LR LR
comp=Z,246nm,20.0s,MS4.5
MIR Mirnyy 69.93 193*d*i*P* **P** **19 48 30.4 +0.9**
MIR pmax pmax
comp=Z,77nm,1.4s,mb5.4
ARQ Araqi 70.58 295 ⇑P **P** **19 48 32.9 -1.2**
SNR=20
SHAO Shalim 70.69 289 ⇓P **P** **19 48 35.3 +0.5**
BANOM Banah 71.20 297 ⇓P **P** **19 48 38.1 +0.2**
ASHO Ashiyiah 71.21 296 ⇑P **P** **19 48 38.0 0.0**
SNR=21
GSTR Great Sitkin T 71.56 34 *e*P **P** **19 48 39.8 +0.2**
RBK Rabkut 71.97 288 ⇑P **P** **19 48 42.7 +0.1**
WHFO Wadi Hawf 72.43 289 ⇑P **P** **19 48 44.0 -1.4**
SNR=12
ABTO Aybut 72.82 288 ⇑P **P** **19 48 47.3 -0.4**
BILL Bilibino 73.80 15*c*i*P* **P** **19 48 51.9 -0.5**
BILL pmax pmax
comp=Z,69nm,2.4s,mb5.2
BILL Bilibino 73.80 15 *e*P **P** **19 48 52.0 -0.4**
comp=Z,63nm,1.5s,mb5.3
BILL LR LR
comp=Z,829nm,21.0s,MS5.0
SVE Sverdlovsk 76.57 329 ⇑*i*P **P** **19 49 07.3 -1.2**
SVE *e* 19 49 20.0
SVE *e*S S 19 58 42.0 -9.4
SVE *e*PS SKS 19 59 12.0 -9.1
SVE *e* 19 59 50.0
SVE pmax pmax
comp=Z,420nm,1.8s,mb6.1
SVE MLR MLR
comp=N,400nm,15.0s,MS5.0
SVE MLR MLR
comp=E,400nm,15.0s,MS5.0
SVE MLR MLR
comp=Z,600nm,15.0s,MS5.0
HASS Wahat al Ahsa' 77.00 296 P **P** **19 49 11.6 +0.1**
ARU Arti 77.50 329 ⇑*i*P **P** **19 49 12.2 -1.5**
ARU *e* pP 19 49 21.1 -1.3
ARU *e* 19 52 06.6
ARU *e*PPP PPP 19 54 00.2 +1.5
ARU *i* S S 19 58 56.5 -5.0
ARU *e* 19 59 19.3
ARU *e*SS SS 20 03 59.3 -4.4
ARU *e*SSS SSS 20 07 20.0 -0.7
ARU pmax pmax
comp=Z,114nm,0.8s,mb5.8
ARU MLR MLR
comp=Z,1μm,21.0s,MS5.2
ARU MLR MLR
comp=N,300nm,20.0s,MS5.1
ARU MLR MLR
comp=E,900nm,21.0s,MS5.1
ARU Arti 77.50 329 *e*P **P** **19 49 11.9 -1.8**
comp=E,175nm,1.0s,mb5.9
ARU LR LR
comp=Z,193nm,21.0s,MS4.4
UNV Unalaska Valle 77.58 34 *e*P **P** **19 49 14.8 +0.7**
comp=Z,241nm,1.0s,mb6.1
UNV LR LR
comp=Z,2μm,22.0s,MS5.4
KIP Kipapa 77.81 68 PFAKE 19 49 30.0 +14
KIP LR LR
comp=Z,1μm,21.0s,MS5.2
OPO Ambohidratompo 78.54 251 P **P** **19 49 21.9 +1.8**
comp=Z,28nm,0.8s,mb5.2,baz=75,slow=5.2,SNR=24
QRN Al-Qurain 78.98 299 *e*P **P** **19 49 21.7 -0.7**
QRN AMb AMB 19 49 25.4
comp=Z,171nm,0.4s,mb6.3
KBD Kabd 79.22 300 *e*P **P** **19 49 24.1 +0.4**
UMR Umm Al-Rimmam 79.24 300 *e*P **P** **19 49 23.8 0.0**
UMR AMb AMB 19 49 25.9
comp=Z,118nm,0.7s,mb5.9
RDF Al-Radifah 79.32 299 *e*P **P** **19 49 23.4 -0.8**
RDF AMb AMB 19 49 26.7
comp=Z,117nm,1.0s,mb5.8
SOKR Solikamsk 79.44 331*d*i*P* **P** **19 49 19.5 -4.7**
SOKR pmax pmax
comp=Z,80nm,1.3s,mb5.5
SOKR MLR MLR
comp=Z,2μm,21.0s,MS5.3
MAW Mawson 79.49 200 ⇑*i*P **P** **19 49 25.8 +1.5**
comp=Z,22nm,1.0s,mb5.0
MAW *e*S S 19 59 24.9 +2.4
MAW Mawson 79.49 200 ⇑*i*P **P** **19 49 25.8 +1.5**
MAW *e*S S 19 59 24.9 +2.4
MAW pmax pmax

comp=Z,22nm,1.0s
MAW Mawson 79.49 200 P **P** **19 49 25.9 +1.6**
comp=Z,9.4nm,0.8s,mb4.8,baz=58,slow=6.1,SNR=22
MAW LR LR 20 23 35.3
comp=Z,497nm,18.4s,MS4.9,baz=58,slow=35
MIB Mutribah 79.60 300 *e*P **P** **19 49 25.6 -0.1**
MIB AMb AMB 19 49 27.6
comp=Z,187nm,0.7s,mb6.2
NAY Al-Naaiem 79.62 300 *e*P **P** **19 49 25.1 -0.7**
NAY AMb AMB 19 49 28.2
comp=Z,94nm,1.2s,mb5.6
VNDA Vanda 79.68 172 *e*P **P** **19 49 26.1 +0.9**
VNDA pmax pmax
comp=Z,23nm,1.0s
VNDA MLR MLR
comp=Z,2µm,21.0s
VNDA Vanda 79.68 172 P **P** **19 49 27.4 +2.2**
comp=Z,4.7nm,0.7s,baz=309,slow=6.1,SNR=26
VNDA LR LR 20 24 48.2
comp=Z,1µm,21.0s,baz=328,slow=36
VNDA Vanda 79.68 172 *e*P **P** **19 49 26.1 +0.9**
comp=Z,23nm,1.0s,mb5.1
VNDA LR LR
comp=Z,2µm,21.0s,MS5.4
POHA Pohakuloa 80.00 70 PFAKE 19 49 40.0 +12
POHA LR LR
comp=Z,11µm,20.0s,MS6.2
SBA Scott Base 80.61 172 *e*P **P** **19 49 31.7 +1.5**
SBA pmax pmax
comp=Z,29nm,1.1s,mb5.1
SBA MLR MLR
comp=Z,1µm,21.0s,MS5.3
SBA Scott Base 80.61 172 *e*P **P** **19 49 31.7 +1.5**
comp=Z,29nm,1.1s,mb5.1
SBA LR LR
comp=Z,1µm,21.0s,MS5.3
TNA Tin City 80.85 23 *e*P **P** **19 49 32.2 +0.6**
comp=Z,35nm,1.2s,mb5.2
TNA LR LR
comp=Z,346nm,20.0s,MS4.7
MZLS Mizel 80.96 294 P **P** **19 49 34.2 +1.1**
MAK Makhachkala 81.18 313 *e*P **P** **19 49 34.0 +0.2**
MAK *e* 19 52 38.0
MAK *e*PPP PPP 19 54 30.0 -2.6
MAK *e*S S 19 59 38.0 -2.6
MAK *e*PS PS 20 00 34.0 +2.0
MAK pmax pmax
comp=Z,1µm,2.0s,mb6.4
MAK pmax pmax
comp=Z,306nm,1.7s,mb6.0
MAK pmax pmax
comp=Z,500nm,8.0s
MAK smax
comp=N,900nm,6.0s
MAK smax
comp=E,500nm,6.0s
SDPT Sand Point 81.36 34 *e*P **P** **19 49 34.5 0.0**
comp=E,175nm,0.6s,mb6.2
SDPT LR LR
comp=Z,900nm,23.0s,MS5.1
TATS Tathlith 82.28 290 P **P** **19 49 41.3 +1.3**
DGRG David-gareji 82.55 312 P **P** **19 49 40.7 -0.3**
CHGN Chignik 82.70 33 *e*P **P** **19 49 41.8 +0.4**
GNI Garni 82.87 310 P **P** **19 49 42.8 +0.1**
GNI Garni 82.87 310*c i*P **P** **19 49 43.2 +0.6**
GNI pmax pmax
comp=Z,179nm,1.7s
GNI Garni 82.87 310 P **P** **19 49 43.8 +1.1**
comp=Z,15nm,0.6s,mb5.2,baz=221,slow=4.6,SNR=11
GNI Garni 82.87 310 *e*P **P** **19 49 44.2 +1.5**
comp=Z,131nm,1.0s,mb5.9
GNI LR LR
comp=Z,701nm,21.0s,MS5.0
ARSS Ar Rass 82.88 296 P **P** **19 49 44.1 +1.1**
TBLG Delisi 83.05 312 P **P** **19 49 44.6 +1.0**
TBLG Delisi 83.05 312 P **P** **19 49 44.5 +1.0**
DUS Dusheti 83.12 312 P **P** **19 49 45.5 +1.7**
CLDR Caldiran 83.40 309 P **P** **19 49 46.2 +0.8**
GOR Gori 83.55 312 P **P** **19 49 47.0 +0.9**
ZEI Tsey 83.79 313 *e*P **P** **19 49 44.2 -3.1**
ZEI *i* 19 52 57.3
ZEI pmax pmax
comp=Z,46nm,0.7s,mb5.7
BLJS Baljurashi 84.06 290 P **P** **19 49 51.1 +1.8**
ONI Oni 84.09 313 P **P** **19 49 49.7 +0.8**
KARS Kars 84.17 311 P **P** **19 49 50.7 +1.4**
GOF Gofitskoye 84.64 315⇓*i*P **P** **19 49 52.0 +0.4**
GOF pmax pmax
comp=Z,187nm,1.5s,mb6.0
KIV Kislovodsk 84.78 314*c i*P **P** **19 49 52.3 0.0**
KIV *e* 19 53 12.9
KIV *i* 20 00 13.8
KIV pmax pmax
comp=N,38nm,1.4s
KIV pmax pmax
comp=E,57nm,1.4s
KIV pmax pmax
comp=Z,79nm,1.4s,mb5.7
KIV pmax pmax
comp=N,217nm,3.6s
KIV pmax pmax
comp=E,122nm,3.6s
KIV MLR MLR
comp=N,679nm,23.0s,MS5.1
KIV MLR MLR
comp=E,662nm,23.0s,MS5.1
KIV MLR MLR
comp=Z,836nm,23.0s,MS5.1
KIV Kislovodsk 84.78 314 *e*P **P** **19 49 52.6 +0.3**
comp=Z,357nm,1.7s,mb6.2
KIV LR LR
comp=Z,200nm,22.0s,MS4.5
TTA Tatalina 85.15 27 *e*P **P** **19 49 53.8 +0.2**
LTHS Al Lith 85.19 290 P **P** **19 49 57.1 +2.2**
BTMT Batman 85.21 308 P **P** **19 49 55.5 +0.9**
PECR Pechory 85.29 326 *i*P **P** **19 49 54.4 -0.1**
PECR *e* 19 53 10.4
PECR *e*S S 20 00 19.0 -2.6
PECR pmax pmax
comp=Z,4µm,1.5s
PECR pmax pmax
comp=Z,4µm,2.0s
BCA Borcka 85.35 311 P **P** **19 49 55.8 +0.7**
EZM Erzurum 85.43 310 P **P** **19 49 57.1 +1.5**
DIY Diyarbakir 86.19 308 P **P** **19 50 00.5 +1.1**
RSO Redoubt South 86.31 29 *e*P **P** **19 50 00.0 +0.5**
KBRS Khaybar 86.45 296 P **P** **19 50 03.0 +2.0**
FURI Furi 86.59 279 P **P** **19 50 05.5 +3.5**
IMA Indian Mountai 86.65 24 *e*P **P** **19 50 02.8 +1.8**
IMA pmax pmax
comp=Z,12nm,0.6s,mb5.3
IMA Indian Mountai 86.65 24 *e*P **P** **19 50 02.8 +1.8**
comp=Z,12nm,0.6s,mb5.3
SPU Mount Spurr 86.74 29 *e*P **P** **19 50 01.1 -0.5**
PTK Pertek 86.89 309 P **P** **19 50 03.6 +0.8**
SOC Sochi 86.90 313*c i*P **P** **19 50 01.7 -1.1**
SOC *e* 19 53 24.4
SOC *e*S 20 00 24.4
SOC pmax pmax
comp=N,54nm,1.3s
SOC pmax pmax
comp=Z,197nm,1.3s,mb6.2
SOC pmax pmax
comp=E,33nm,1.0s
SOC MLR MLR
comp=Z,534nm,22.0s,MS4.9
SOC MLR MLR
comp=N,584nm,21.0s,MS5.1
SOC MLR MLR
comp=E,498nm,23.0s,MS5.1
GUMT Gumushane 86.91 310 P **P** **19 50 04.4 +1.5**
URFA Urfa 87.28 307 P **P** **19 50 05.6 +0.8**
SLKM Skilak Lake 87.56 30 *e*P **P** **19 50 05.5 -0.1**
MALT Malatya 87.62 308 P **P** **19 50 07.0 +0.6**
MALT Malatya 87.62 308 *e*P **P** **19 50 07.1 +0.7**
MALT pmax pmax
comp=Z,261nm,1.4s,mb6.3
MALT Malatya 87.62 308 *e*P **P** **19 50 07.1 +0.7**
comp=Z,261nm,1.4s,mb6.3
MYA Malataya 87.62 308 P **P** **19 50 07.9 +1.5**
FIB Fire Island 87.64 29 PFAKE 19 50 20.0 +14
FIB LR LR
comp=Z,2µm,21.0s,MS5.4
VOR Voronezh 87.72 322 *e*P **P** **19 50 06.3 -0.2**
VOR S S 20 00 44.0 -1.0
VOR pmax pmax
comp=E,320nm,1.6s
VOR pmax pmax
comp=Z,620nm,1.6s,mb6.6
VOR smax
comp=N,120nm,1.6s
VOR smax
comp=Z,60nm,1.8s
VOR smax
comp=E,100nm,1.6s
KMBO Kilima Mbogo 87.93 269 P **P** **19 50 10.6 +2.2**
comp=E,88nm,1.1s,mb5.9,baz=70,slow=5.6,SNR=88
KMBO LR LR 20 28 10.7
comp=E,880nm,20.6s,MS5.2,baz=94,slow=35
SYO Syowa Base 88.16 201⇓P **P** **19 50 08.4 +0.2**
SYO Syowa Base 88.16 201⇑P **P** **19 50 09.5 +1.3**
SYO Syowa Base 88.16 201⇑pP pP 19 50 23.8 +6.7
QURS Qurayyt al Mil 88.32 301 P **P** **19 50 11.4 +1.5**
MCK McKinley 88.41 26 *e*P **P** **19 50 08.6 -0.9**
MCK pmax pmax
comp=Z,18nm,1.0s,mb5.3
MCK MLR MLR
comp=Z,195nm,22.0s,MS4.5
MCK McKinley 88.41 26 *e*P **P** **19 50 08.6 -1.0**
comp=Z,18nm,1.0s,mb5.3
MCK LR LR
comp=Z,195nm,22.0s,MS4.5
GAZ Gaziantep 88.55 307 P **P** **19 50 11.3 +0.4**
SML Sawmill 88.57 28 *e*P **P** **19 50 10.4 +0.1**
ANN Anapa 88.60 315 *e*P **P** **19 50 08.3 -2.6**
ANN *i* 19 50 14.3
ANN *e* 20 00 41.3
ANN *i* 20 00 52.0
ANN pmax pmax
comp=Z,241nm,0.9s,mb6.5
ASF Jabal al Asfar 88.70 302 P **P** **19 50 13.0 +1.3**
comp=Z,157nm,1.1s,mb6.3,baz=335,slow=1.7,SNR=116
ASF LR LR 20 35 25.0
comp=Z,433nm,20.8s,MS4.8,baz=313,slow=39
MOS Moscow 88.85 326*a i*P **P** **19 50 11.1 -0.7**
MOS *e* 19 53 45.0
MOS *e* 20 00 34.1
MOS *e*S S 20 00 50.3 -5.1
MOS pmax pmax
comp=Z,800nm,2.7s,mb6.6
MOS pmax pmax
comp=Z,258nm,1.4s,mb6.4
MOS smax
comp=E,1µm,4.1s
TBKS Tabuk 88.93 298 P **P** **19 50 14.3 +1.4**
TOKT Tokat 89.14 310 P **P** **19 50 13.8 +0.2**
FKH Fakeheh 89.15 304 *e*P **P** **19 50 14.9 +1.1**
ILAR Eielson Array 89.36 25 P **P** **19 50 12.2 -1.9**
comp=E,5.6nm,0.7s,mb5.0,baz=238,slow=5.2,SNR=52
HTY Hatay 89.39 306 P **P** **19 50 15.4 +0.5**
OBN Obninsk 89.43 325*c i*P **P** **19 50 13.6 -1.0**
OBN *e* 19 53 45.4
OBN *e* 20 00 41.3
OBN *e*SS SS 20 06 57.9 -1.8
OBN pmax pmax
comp=Z,381nm,1.6s,mb6.5
OBN Obninsk 89.43 325 *e*P **P** **19 50 13.7 -0.9**
comp=Z,268nm,1.1s,mb6.5
OBN LR LR
comp=Z,310nm,22.0s,MS4.7
JMQS Jabal Moqyreh 89.53 299 P **P** **19 50 17.3 +1.5**
KVT Kavak 89.53 311 P **P** **19 50 15.7 +0.2**
KSHT Keshet 89.63 303 P **P** **19 50 16.8 +0.7**
QSPA South Pole Qui 89.66 180 *e*P **P** **19 50 17.1 +1.9**
comp=Z,33nm,0.8s,mb5.7
BNN Bunyan 89.66 309 P **P** **19 50 15.9 -0.2**
HRI Mount Hermon 89.69 303 P **P** **19 50 17.0 +0.6**
CEYT Ceyhan 89.72 307 *e*P **P** **19 50 18.0 +1.6**
KSDI Kefar Szold 89.76 303 P **P** **19 50 17.3 +0.6**
MKRJ Makawir 89.76 301 P **P** **19 50 17.2 +0.5**
BHL Bhannes 89.77 304 *e*P **P** **19 50 17.0 +0.3**
DIV Divide 89.77 29 *e*P **P** **19 50 16.2 +0.1**
comp=Z,187nm,1.2s,mb6.3
DIV LR LR
comp=Z,2µm,22.0s,MS5.4
MMLI Mount Malkishu 89.95 302 P **P** **19 50 18.4 +0.8**
ZFRI Zfri 90.15 300 P **P** **19 50 19.0 +0.4**
HNTI Hanita 90.16 303 P **P** **19 50 19.1 +0.5**
JMOS Jabal al Moall 90.20 299 P **P** **19 50 20.2 +1.4**
BDAS Al Bad' **90.21 298** P **P** **19 50 20.2 +1.3**
ALWS Ilw as Safayha 90.24 299 P **P** **19 50 20.3 +1.3**
AQBJ Aqaba 90.26 300 P **P** **19 50 19.5 +0.4**
SLTI Sal'it 90.27 302 P **P** **19 50 19.6 +0.5**
HAF Haifa 90.29 303 P **P** **19 50 19.5 +0.3**
PRNI Paran 90.30 300 P **P** **19 50 19.8 +0.5**
OFRI 'Ofer 90.32 302 P **P** **19 50 19.6 +0.3**
EIL Elat 90.34 300 P **P** **19 50 19.9 +0.4**
EIL Elat 90.34 300 *e*P **P** **19 50 19.5 0.0**
comp=Z,167nm,1.4s,mb6.2
HAQS Haql 90.36 299 P **P** **19 50 20.9 +1.3**
MBH Mount Berech 90.37 300 P **P** **19 50 20.2 +0.6**
TAYS Tayyib Ism 90.41 298 P **P** **19 50 21.2 +1.4**
LVZ Lovozero 90.46 338 *i*P **P** **19 50 18.1 -1.0**
LVZ pmax pmax
comp=Z,23nm,1.1s,mb5.4
LVZ pmax pmax
comp=N,1.0nm,0.4s
LVZ pmax pmax
comp=E,6.0nm,1.1s
LVZ MLR MLR
comp=Z,1µm,20.0s,MS5.4
LVZ MLR MLR
comp=N,306nm,19.0s,MS5.3
LVZ MLR MLR
comp=E,951nm,19.0s,MS5.3
LVZ Lovozero 90.46 338 *i*P **P** **19 50 18.8 -0.3**
CORM Corum 90.61 310 P **P** **19 50 20.4 -0.1**
NIG Nigde 90.63 308 *e*P **P** **19 50 21.3 +0.7**
KZIT Kziot 90.82 301 P **P** **19 50 21.7 0.0**
APA Apatity 90.94 337⇑*i e*P **P** **19 50 20.5 -0.8**
APA *e* 19 53 54.0
APA *i*S S 20 01 12.0 -2.0
APA *e*PS PS 20 02 22.0 -7.6
APA pmax pmax
comp=Z,43nm,1.4s,mb5.6
APA pmax pmax
comp=Z,500nm,12.0s
SIM Simferopol' **90.96 315***ce*P **P** **19 50 21.3 -0.6**
SIM S 20 00 46.9
SIM pmax pmax
comp=Z,140nm,11.7s
SIM MLR MLR
comp=Z,2µm,26.0s,MS5.5
TOS Tosya 91.06 311 *e*P **P** **19 50 23.2 +0.7**
BZK Bozkurt 91.07 312 P **P** **19 50 22.5 0.0**
PHNC Paralimni 91.11 305 P **P** **19 50 22.1 -0.8**
KAMT Kaman 91.32 309 P **P** **19 50 22.6 -1.1**
BRTR Keskin Array B 91.37 310 P **P** **19 50 23.0 -1.0**
comp=Z,17nm,1.0s,mb5.3,baz=124,slow=4.5,SNR=69
IKL Isikli 91.38 306 P **P** **19 50 25.4 +1.3**
CSS Prodhromos 91.68 305⇑P **P** **19 50 25.4 -0.1**
comp=Z,2.4nm,0.9s
MAMC Mammari 91.77 305 P **P** **19 50 26.5 +0.6**
ANTO Ankara 92.02 310 P **P** **19 50 26.4 -0.5**
ANTO Ankara 92.02 310 P **P** **19 50 27.4 +0.4**
LOD Lodumlu 92.04 310 *e*P **P** **19 50 27.2 +0.1**
ALFC Alevga 92.28 305⇑P **P** **19 50 27.7 -0.6**
comp=Z,1.4nm,0.7s
ALFC Alevga 92.28 305⇑*e*P **P** **19 50 27.7 -0.6**
HDMB Hadim 92.33 307 P **P** **19 50 28.0 -0.4**
PPCY Paphos 92.50 305 P **P** **19 50 28.3 -0.9**
PUL Pulkovo 92.70 330 *i*P **P** **19 50 20.3 -9.3**
KIZT Kizilcal 92.75 309 P **P** **19 50 29.6 -0.7**
KEV Kevo 93.10 340 *e*p **P** **19 50 32.7 +1.5**
comp=Z,4.2nm,0.6s,mb5.0
KEV Kevo 93.10 340 *e*P **P** **19 50 32.7 +1.5**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
ESKT Eskisehir 93.53 309 *e*P **P** **19 50 33.1 -0.8**
ARCES ARCESS Array B 93.65 340 P **P** **19 50 32.3 -1.5**
comp=Z,7.9nm,0.6s,mb5.3,baz=87,slow=6.2,SNR=20
ARCES LR LR 20 38 35.7
comp=Z,1µm,20.8s,MS5.3,baz=82,slow=39
ARE0 ARCESS Array S 93.65 340 *e*P **P** **19 50 32.0 -1.8**
ISP Isparta 93.87 308 P **P** **19 50 33.0 -2.6**
ISP Isparta 93.87 308 P **P** **19 50 35.3 -0.2**
AKASG Malin Array Be 94.00 321 P **P** **19 50 34.7 -1.1**
comp=Z,18nm,0.8s,mb5.6,baz=72,slow=4.2,SNR=102
AKASG PP PP 19 54 27.7 +2.8
comp=Z,2.1nm,0.8s,baz=77,slow=7.0,SNR=4.6
HRT Hereke 94.37 311 *e*P **P** **19 50 36.7 -1.0**
ELL Elmali 94.40 307 *e*P **P** **19 50 37.5 -0.5**
KAF Kangasniemi 94.41 332 *e*p **P** **19 50 35.8 -1.6**
comp=Z,13nm,0.6s,mb5.5,baz=77,slow=4.2
KAF Kangasniemi 94.41 332 *e*P **P** **19 50 35.8 -1.6**
KAF pmax pmax
comp=Z,13nm,0.6s,mb5.5
INK Inuvik 94.43 21 *e*P **P** **19 50 37.2 -0.1**
INK pmax pmax
comp=Z,37nm,1.1s
INK Inuvik 94.43 21 P **P** **19 50 36.8 -0.5**
comp=Z,10nm,0.6s,mb5.4,baz=302,slow=7.2,SNR=18
INK Inuvik 94.43 21 *e*P **P** **19 50 37.2 -0.2**
comp=Z,37nm,1.1s,mb5.7
MBAR Mbarara 94.45 269 *e*P **P** **19 50 38.8 +0.1**
MBAR pmax pmax
comp=Z,6.0nm,0.6s,mb5.2
MBAR MLR MLR
comp=Z,177nm,20.0s,MS4.5
MBAR Mbarara 94.45 269 *e*P **P** **19 50 38.8 0.0**
comp=Z,5.9nm,0.6s,mb5.2
MBAR LR LR
comp=Z,177nm,20.0s,MS4.5
MNK Minsk 94.51 325 *e*P **P** **19 50 37.0 -1.0**
KTK1 Kautokeino 94.54 339 *e*P **P** **19 50 36.7 -1.2**
comp=Z,35nm,1.7s,mb5.5
KTK1 Kautokeino 94.54 339 *e*P **P** **19 50 36.7 -1.2**
KTK1 AMb AMB 19 50 38.8
comp=Z,35nm,1.7s,mb5.5
KIS Kishinev 94.56 317*c i*P **P** **19 50 36.0 -2.4**
KIS *e* 19 54 25.0
KIS *e*PPP PPP 19 56 30.0 -3.0
KIS *e*S S 20 01 40.0 -6.1
KIS *e*PS PS 20 03 10.0 -0.9
KIS *e*SS SS 20 08 08.0 -5.2
KIS MLR MLR
comp=N,600nm,20.0s,MS5.1
KIS MLR MLR
comp=Z,600nm,20.0s,MS5.1
KIS MLR MLR
comp=E,400nm,22.0s,MS5.1
KIS MLR MLR
comp=Z,500nm,20.0s
FINES FINESS Array B 94.61 332 P **P** **19 50 36.5 -1.8**
comp=Z,4.7nm,0.6s,mb5.1,baz=135,slow=8.1,SNR=17
KBS Kingsbay 94.65 350 *e*P **P** **19 50 31.8 -6.4**
KBS Kingsbay 94.65 350 *e*P **P** **19 50 40.3 +2.1**
KBS *e*SKSa 20 01 17.9
KBS AMS AMS 20 40 07.9
comp=Z,1µm,14.8s,MS5.4
VSU Vasula 94.67 329*c i*P **P** **19 50 37.4 -1.2**
VSU Vasula 94.67 329⇑*i*P **P** **19 50 37.5 -1.1**
ISK Istanbul-Kandi 94.81 311 P **P** **19 50 38.6 -1.2**
TIRR Tirgusor 95.04 314⇓P **P** **19 50 40.8 +0.1**
CFR Carcaliu 95.18 315⇑P **P** **19 50 41.8 +0.5**
HARR Harsova 95.36 315⇑P **P** **19 50 42.9 +0.7**
IAS Iasi 95.40 317 P **P** **19 50 42.3 0.0**
SIT Sitka 95.40 33 PFAKE 19 50 50.0 +8.0
SIT LR LR
comp=Z,790nm,20.0s,MS5.2
BNT Bandirma 95.73 310 *e*P **P** **19 50 43.1 -0.9**
TRO Tromso 95.89 340 *e*P **P** **19 50 41.4 -2.6**
comp=Z,34nm,1.4s,mb5.6
TRO Tromso 95.89 340 *e*P **P** **19 50 41.4 -2.6**
TRO AMb AMB 19 50 45.3
comp=Z,34nm,1.4s,mb5.6
TRO *e*SKSa 20 01 19.4
TRO AMS AMS 20 41 48.2
comp=Z,577nm,27.9s,MS4.9
VRI Vrincioaia 96.10 316⇓P **P** **19 50 46.4 +0.9**
IZM Izmir 96.39 308 P **P** **19 50 47.0 0.0**
CANB Canakkale 96.41 310 P **P** **19 50 45.6 -1.5**
EDRB Edirne 96.48 312 P **P** **19 50 46.1 -1.2**
JMB Yambol 96.54 313 *e*P **P** **19 50 48.0 +0.4**
BLCB Balcova 96.57 308 *e*P **P** **19 50 45.9 -1.9**
LSZ Lusaka 96.68 255 *e*P **P** **19 50 49.3 +0.5**
LSZ pmax pmax
comp=Z,22nm,0.8s,mb5.6
LSZ MLR MLR
comp=Z,2µm,20.0s,MS5.5
LSZ Lusaka 96.68 255 *e*P **P** **19 50 49.3 +0.4**
comp=Z,22nm,0.8s,mb5.7
LSZ LR LR
comp=Z,2µm,20.0s,MS5.5
MLR Muntele Rosu 96.69 316 LR LR 20 36 05.1
comp=Z,377nm,21.8s,MS4.8,baz=181,slow=36
MLR Muntele Rosu 96.69 316⇑P **P** **19 50 49.1 +0.9**
BUC1 Bucharest 96.75 314 P **P** **19 50 49.3 +0.8**
BURAR Bucovina Array 96.93 318⇑P **P** **19 50 51.4 +2.1**
BURAR Bucovina Array 96.93 318⇑P **P** **19 50 51.4 +2.2**
ALN Alexandroupoli 97.10 311 *e*P **P** **19 50 48.5 -1.7**
SUW Suwalki 97.28 324 *e*P **P** **19 50 50.1 -0.5**
SUW Suwalki 97.28 324 *e*P **P** **19 50 50.1 -0.5**
VOIR 97.32 316⇑P **P** **19 50 50.9 -0.1**
VOIR 97.32 316⇑P **P** **19 50 50.8 -0.2**
LVV L'vov 97.41 320 *e*P **P** **19 50 50.9 -0.4**
LVV *e*S S 20 02 05.5 -4.7
LVV MLR MLR
comp=Z,600nm,23.0s,MS5.0
LVV MLR MLR
comp=N,2µm,21.0s,MS5.6
LVV MLR MLR
comp=E,400nm,23.0s,MS5.6
DLBC Dease Lake 97.95 31 P **P** **19 50 53.7 +0.2**
comp=E,1.6nm,0.7s,mb4.7,baz=201,slow=12,SNR=4.6
DLBC Dease Lake 97.95 31 *e*P **P** **19 50 53.3 -0.2**
LOF Lofoten 98.20 339 *e*P **P** **19 50 57.0 +2.6**
KWP Kalwaria 98.29 320 *e*P **P** **19 50 55.6 +0.3**
KWP Kalwaria 98.29 320 *e*P **P** **19 50 55.6 +0.3**
PGB Panagyurishte 98.31 313 P **P** **19 50 55.0 -0.6**
CRAR CRAIOVA 98.34 315 P **P** **19 50 56.4 +0.7**
MOR8 Moi Rana 98.53 337 *e*P **P** **19 50 56.1 +0.1**
LBTB Lobatse 98.58 245 PFAKE 19 51 10.0 +13
LBTB LR LR
comp=Z,974nm,19.0s,MS5.3
BOSA Boshof 98.59 241 P **P** **19 50 58.6 +1.5**
comp=Z,6.1nm,1.0s,mb5.1,baz=87,slow=5.4,SNR=7.6
BOSA LR LR 20 29 53.5
comp=Z,2µm,21.0s,MS5.5,baz=89,slow=32
KOLS Kolonicke sedl 98.69 319 *i*P **P** **19 50 58.3 +1.2**
KOLS Kolonicke sedl 98.69 319 PDIF **P** **19 50 58.3 +1.2**
UZH Uzhgorod 98.72 319 *i*P **P** **19 50 59.0 +1.7**
UZH *e*S S 20 02 23.0 +1.8
OUR Ouranopolis 98.72 311 *e*P **P** **19 50 56.9 -0.6**
DRGR 98.74 317 P **P** **19 50 57.6 +0.2**
MMB Musomiste 98.76 312 *e*P **P** **19 50 56.0 -1.6**
AOS Alonnisos 98.94 309 *e*P **P** **19 50 56.6 -1.9**
PAIG Paliouri 99.00 310 *e*P **P** **19 50 57.1 -1.7**
VTS Vitosha 99.01 313 P **P** **19 50 58.0 -0.7**
VTS Vitosha 99.01 313 P **P** **19 50 58.4 -0.3**
SOH Sokhos 99.14 311 *e*P **P** **19 50 56.9 -2.5**
KKB Krupnik 99.20 312 P **P** **19 50 58.8 -0.8**
CRVS Cervenica-Dubn 99.22 320 *i*P **P** **19 51 00.0 +0.5**
CRVS *i*PP PP 19 55 12.3 +7.7
CRVS Cervenica-Dubn 99.22 320 PDIF **P** **19 51 00.0 +0.5**
CRVS *i*PP PP 19 55 12.3 +7.7
STHS Stebnicka Huta 99.27 320 *i*P **P** **19 51 01.1 +1.4**
STHS Stebnicka Huta 99.27 320 PDIF **P** **19 51 01.1 +1.4**
ZAPS Zavoj/Pirot 99.33 314⇑*i*P **P** **19 50 59.3 -0.9**
KNT Kendrikon 99.43 312 *e*P **P** **19 50 59.3 -1.4**
XOR Xorichti 99.45 310 *e*P **P** **19 50 58.5 -2.3**
THE Thessaloniki 99.45 311 *e*P **P** **19 50 57.8 -3.0**
VAY Valandovo 99.66 312⇑*i*P **P** **19 51 00.2 -1.5**
GRG Griva 99.83 311 *e*P **P** **19 51 00.7 -1.9**
NIE Niedzica 99.86 320⇑*e*P **P** **19 51 02.7 +0.2**
LIT Litokhoron 99.89 311 *e*P **P** **19 51 00.4 -2.4**
KECS Kecovo 99.93 319 *i*P **P** **19 51 03.0 +0.2**
KECS *e* 19 55 11.6
KECS Kecovo 99.93 319 PDIF **P** **19 51 03.0 +0.2**
KECS *e*PP PP 19 55 11.6 +1.2
OJC Ojcow 100.03 321⇑*i*P P 19 51 03.0 -0.2
OJC *e*PP PP 19 55 10.2 -0.9
OJC *e*SKS SKS 20 01 37.1 -10
OJC *e*S S 20 02 28.1 -4.1
OJC MLR MLR 20 38 07.8
comp=Z,700nm,23.1s,MS5.1
NSS Namsos 100.07 336 AMS AMS 20 39 38.0
comp=Z,2µm,22.4s,MS5.5
AGG Agios Georgios 100.16 310 *e*P P 19 51 01.4 -2.7
SKO Skopje 100.39 313 *e*P P 19 51 01.4 -3.7
PSZ Piszkesteto 100.43 319 P P 19 51 05.2 +0.1
PSZ pmax pmax

comp=Z,58nm,1.5s
PSZ Piszkesteto 100.43 319 ⇓*i* P P 19 51 05.5 +0.4
FNA Florina 100.63 311 *e*P P 19 51 04.1 -2.0
SNAA Sanae 100.97 195 P P 19 51 09.2 +2.2
SNAA Sanae 100.97 195 P 19 51 15.8 +8.8
SNAA Sanae 100.97 195 P 19 51 19.7 +13
SNAA Sanae 100.97 195 PP 19 55 16.5 -1.7
SNAA Sanae 100.97 195 19 55 34.0
SNAA Sanae 100.97 195 19 55 42.6
SNAA Sanae 100.97 195 P P 19 51 09.5 +2.5
SNAA pmax pmax
comp=Z,9.0nm,1.2s
VYHS Vyhne 101.00 319 *i* P P 19 51 08.1 +0.5
VYHS *i* 19 55 20.4
VYHS *e*S S 20 02 37.3 -3.1
VYHS Vyhne 101.00 319 PDIF P 19 51 08.1 +0.5
VYHS *i* PP PP 19 55 20.4 +1.5
VYHS *e* 20 02 37.3
RAC Raciborz 101.07 321 *e*P P 19 51 08.7 +0.8
RAC MLR MLR 20 43 36.6
comp=Z,1μm,20.0s,MS5.3
OKC Ostrava-Krasne 101.15 321 *e*PDIF P 19 51 07.9 -0.4
OKC AMS AMS 20 43 30.0
comp=Z,700nm,19.5s
MORC Moravsky Berou 101.55 321 *e*P P 19 51 09.9 -0.1
MORC pmax pmax
comp=Z,54nm,1.6s
MORC Moravsky Berou 101.55 321 *e*Pdif P 19 51 09.9 -0.1
comp=Z,54nm,1.6s
PKSM Moragy 101.61 317 ⇓*e*P P 19 51 10.6 +0.2
NB2 NORSAR Subarra101.65 333 P P 19 51 08.0 -2.2
comp=Z,10nm,1.4s,baz=73,slow=4.5
NB2 NORSAR Subarra101.65 333 P P 19 51 08.0 -2.2
baz=72,slow=4.4
NOA NORSAR Array B 101.65 333 P P 19 51 07.7 -2.5
NOA 19 55 21.5
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA pmax pmax
comp=Z,5.0nm,1.0s
NOA NORSAR Array B 101.65 333 P P 19 51 07.7 -2.5
comp=Z,2.1nm,0.8s,baz=69,slow=4.6,SNR=11
NOA PP PP 19 55 21.5 -1.6
comp=Z,4.7nm,1.0s,baz=76,slow=7.7,SNR=3.7
NOA NORSAR Array B 101.65 333 P P 19 51 07.7 -2.5
NOA PP PP 19 55 21.5 -1.6
NAO01 NORSAR Array S 101.87 333 PFAKE 19 51 20.0 +8.8
NAO01 LR LR
comp=Z,2μm,21.0s,MS5.7
SUR Sutherland 101.98 237 PFAKE 19 51 20.0 +7.6
SUR LR LR
comp=Z,784nm,21.0s,MS5.2
KSP Ksiaz 102.07 322 *e*Pdif Pdif 19 51 13.1 +0.8
KSP *e*Sdif 20 02 51.0
KSP *e*SP SP 20 04 32.0 +5.8
KSP *e*SS SS 20 10 00.0 +1.7
KSP *e*SSS SSS 20 13 51.0 -0.4
KSP LR LR
comp=Z,2μm,24.0s,MS5.6
KSP Ksiaz 102.07 322 *e*P Pdif 19 51 13.5 +1.2
DPC Dobruska-Polom 102.17 322 *e*PDIF Pdif 19 51 13.0 +0.2
ZST Bratislava 102.20 319 *i* P Pdif 19 51 13.8 +0.9
ZST *e* 19 55 23.7
ZST Bratislava 102.20 319 PDIF Pdif 19 51 13.8 +0.9
ZST *e*PP PP 19 55 23.7 -3.8
VRAC Vranov 102.26 321 P Pdif 19 51 14.3 +1.1
UPC Upice 102.32 322 *e*PDIF Pdif 19 51 13.6 +0.2
VNA2 Neumayer--Watz 102.59 194 P Pdif 19 51 16.3 +2.2
VNA2 Neumayer--Watz 102.59 194 Pdif 19 51 24.7 +11
VNA2 Neumayer--Watz 102.59 194 Pdif 19 51 26.6 +12
VNA2 Neumayer--Watz 102.59 194 19 55 36.8
VNA2 Neumayer--Watz 102.59 194 19 55 44.3
KONO Kongsberg 102.91 332 PFAKE 19 51 30.0 +14
KONO LR LR
comp=Z,2μm,22.0s,MS5.5
KOGS Kog 103.17 318 *e*P Pdif 19 51 16.6 -0.7
PVCC Panska Ves 103.21 322 *e*PDIF Pdif 19 51 17.5 +0.2
PVCC AMS AMS 20 42 00.0
comp=Z,900nm,23.8s
PRU Pruhonice 103.37 322 *e*PDIF Pdif 19 51 18.0 -0.1
PRU AMS AMS 20 42 00.0
comp=Z,800nm,19.9s
ARSA Arzberg 103.46 319 ⇓*i* P Pdif 19 51 18.9 +0.4
comp=Z,14nm,1.4s
BRG Berggiesshubel 103.49 323 *i* PKP Pdif 19 51 19.7 +1.1
comp=Z,33nm,1.3s
BRG *e* 19 51 32.2
BRG PP tx 19 54 14.0
BRG *e* 19 55 50.1
BRG S tx 20 02 00.0
BRG SS tx 20 10 51.0
BRG LR LR
comp=Z,1μm,20.6s,MS5.4
CLL Collm 103.93 323 ⇓*i* P Pdif 19 51 20.9 +0.4
CLL pmax pmax
comp=Z,22nm,1.4s
CLL Collm 103.93 323 ⇓*i* P Pdif 19 51 20.9 +0.4
comp=Z,22nm,1.4s
CLL *i* pP 19 51 32.8
CLL Collm 103.93 323 ⇓*i* PDIF Pdif 19 51 20.9 +0.4
CLL *i* 19 51 32.8
CLL *i* PP PP 19 55 38.5 -1.9
CLL *e**SPP 19 55 50.0
OCWA Octopus Mounta 103.97 41 PFAKE 19 51 30.0 +9.3
OCWA LR LR
comp=Z,885nm,19.0s,MS5.3
BOJS Bojanci 104.08 317 *e*P Pdif 19 51 21.0 -0.3
MOA Molln 104.13 320 ⇑*i* P Pdif 19 51 22.2 +0.8
comp=Z,23nm,1.3s
MOA *i* 19 55 38.7
comp=Z,11nm,1.2s
KHC Kasperske Hory 104.21 321 *e*P Pdif 19 51 21.6 -0.2
KHC MLR MLR
comp=Z,1μm,22.0s,MS5.3
KHC MLR MLR
comp=E,700nm,20.4s
KHC Kasperske Hory 104.21 321 *e*Pdif Pdif 19 51 21.6 -0.2
KHC *e* 19 51 28.5
KHC *e* 19 54 44.0
KHC LR LR
comp=Z,1μm,22.0s,MS5.3
KHC Kasperske Hory 104.21 321 *e*PDIF Pdif 19 51 21.6 -0.2
KHC pP 19 51 28.5
KHC *ex* x 19 54 44.0
KHC AMS AMS 20 40 30.0
comp=Z,1μm,22.0s
GEC2 GERESS Array S 104.22 321 P Pdif 19 51 21.8 0.0
GEC2 pmax pmax
comp=Z,22nm,1.4s
GEC2 GERESS Array S 104.22 321 *e*P Pdif 19 51 21.8 0.0
comp=Z,22nm,1.4s
GERES GERESS Array B 104.22 321 P Pdif 19 51 21.0 -0.8
GERES 19 55 40.5
GERES pmax pmax
comp=Z,3.0nm,0.9s
GERES pmax pmax
comp=Z,4.0nm,1.0s
GERES GERESS Array B 104.22 321 Pdiff Pdif 19 51 21.0 -0.8
comp=Z,2.7nm,0.8s,baz=72,slow=4.2,SNR=19
GERES PP PP 19 55 40.5 -2.2
comp=Z,4.0nm,1.0s,baz=73,slow=3.3,SNR=5.0
OBKA Obir 104.30 318 ⇑*i* P Pdif 19 51 23.3 +1.1
comp=Z,13nm,1.4s
OBKA *i* 19 55 46.3
comp=Z,13nm,1.3s
TIP Timpagrande 104.40 310 *e*Pdif Pdif 19 51 22.2 -0.7
LJU Ljubljana 104.43 318 *e*P Pdif 19 51 22.9 0.0
BER Bergen 104.56 334 AMS AMS 20 42 30.7
comp=Z,1μm,17.3s,MS5.6
CEY Cerknica 104.58 317 *e*P Pdif 19 51 22.8 -0.7
NKC Novy Kostel 104.59 322 *e*PDIF Pdif 19 51 23.8 +0.4
NKC AMS AMS 20 39 40.0
comp=Z,1μm,28.0s
BSEG Bad Segeberg 104.63 326 P Pdif 19 51 24.0 +0.5
BSEG pmax pmax
comp=Z,100nm,2.4s
BSEG Bad Segeberg 104.63 326 *e*P Pdif 19 51 24.0 +0.5
WET Wettzell 104.65 321 P Pdif 19 51 23.8 +0.1
WET pmax pmax
comp=Z,24nm,1.5s
WET Wettzell 104.65 321 *e*P Pdif 19 51 23.8 +0.1
comp=Z,24nm,1.5s
KBA Koelnbreinsper 104.94 319 ⇓*i* P Pdif 19 51 24.7 -0.3
comp=Z,5.1nm,1.1s

MOX Moxa 104.97 323 *e*P Pdif 19 51 25.8 +0.7
MOX pmax pmax
comp=Z,34nm,1.6s
MOX MLR MLR
comp=Z,600nm,23.0s,MS5.1
MOX Moxa 104.97 323 *e*PKP Pdif 19 51 25.8 +0.7
comp=Z,34nm,1.6s
MOX LR LR
comp=Z,600nm,23.0s,MS5.1
MOX Moxa 104.97 323 *i* P Pdif 19 51 25.8 +0.7
comp=Z,logA/T=1.3
MOX PP PP 19 55 45.0 -3.6
MOX PS PS 20 05 15.0 +15
MOX SSS SSS 20 15 06.0 +29
MOX L 20 43 32.0
ROBS Robic 105.06 318 *e*P Pdif 19 51 24.4 -1.2
CLZ Clausthal 105.32 324 P Pdif 19 51 27.1 +0.5
CLZ pmax pmax
comp=Z,37nm,1.7s
CLZ Clausthal 105.32 324 *e*P Pdif 19 51 27.1 +0.5
comp=Z,37nm,1.7s
COR Corvallis 105.39 44 PFAKE 19 55 50.0
COR LR LR
comp=Z,203nm,20.0s,MS4.7
GRA1 Grafenberg Arr 105.51 322 *e*P Pdif 19 51 27.8 +0.3
comp=Z,39nm,1.6s
GRF Grafenberg Arr 105.51 322 P Pdif 19 51 27.8 +0.3
GRF pmax pmax
comp=Z,39nm,1.6s
GRF Grafenberg Arr 105.51 322 *e*P Pdif 19 51 27.8 +0.3
comp=Z,39nm,1.6s
WTTA Wattenberg 106.00 319 ⇑*i* P Pdif 19 51 30.1 +0.4
comp=Z,20nm,1.3s
WTTA *i* 19 55 56.6
comp=Z,23nm,1.5s
WATA Walderalm 106.02 320 ⇑*i* P Pdif 19 51 30.1 +0.3
comp=Z,21nm,1.4s
HUMO Hull Mountain 106.14 46 PFAKE 19 55 50.0
HUMO LR LR
comp=Z,712nm,22.0s,MS5.2
SQTA Sankt Quirin 106.29 320 ⇑*i* P Pdif 19 51 32.1 +1.1
comp=Z,2.0nm,0.4s
SQTA *i* 19 55 47.5
comp=Z,4.8nm,0.8s
MOTA Moosalm 106.32 320 ⇑*i* P Pdif 19 51 31.8 +0.7
MOTA *i* 19 55 42.2
comp=Z,8.5nm,0.9s
MOTA Moosalm 106.32 320 ⇑*i* P Pdif 19 51 31.8 +0.7
comp=Z,8.5nm,0.9s
MOTA *i* 19 55 42.2
TSUM Tsumeb 106.52 250 PFAKE 19 56 00.0
TSUM LR LR
comp=Z,2μm,22.0s,MS5.6
YBH Yreka Blue Hor 106.55 46 PFAKE 19 56 00.0
YBH LR LR
comp=Z,653nm,22.0s,MS5.1
HOPS Hopland 106.95 49 PFAKE 19 56 00.0
HOPS LR LR
comp=Z,545nm,20.0s,MS5.1
WDC Whiskeytown Da 106.96 47 PFAKE 19 56 00.0
WDC LR LR
comp=Z,628nm,22.0s,MS5.1
DAVA Damuels 107.13 320 ⇑*i* P Pdif 19 51 36.0 +1.3
comp=Z,0.1nm,0.3s
DAVA *i* 19 55 48.1
comp=Z,17nm,1.2s
MOD Modoc 108.23 46 PFAKE 19 56 00.0
MOD LR LR
comp=Z,468nm,22.0s,MS5.0
NEW Newport 108.30 39 PFAKE 19 56 00.0
NEW LR LR
comp=Z,388nm,21.0s,MS4.9
CDF Champ du Feu 108.39 322 *e*PKIKP 19 55 42.6
SAO San Andreas Ge 108.74 51 PFAKE 19 56 00.0
SAO LR LR
comp=Z,467nm,22.0s,MS5.0
PGF Pioggiola 109.23 315 *e*PKIKP 19 55 43.9
comp=Z,86nm,1.5s
CMB Columbia Colle 109.24 50 PKP 19 55 49.7
CMB LR LR
comp=Z,560nm,20.0s,MS5.1
BMO Blue Mountains 109.38 42 *e*PKIKP 19 55 49.1
BMO MLR MLR
comp=Z,419nm,20.0s,MS5.0
LPG La Plagne 109.78 319 *e*PKIKP 19 55 45.5
LPL La Plagne 109.78 319 *e*PKIKP 19 55 45.4
CABF La Chapelle 109.80 320 *e*PKIKP 19 55 45.2
comp=Z,16nm,0.9s
ORIF Oris-en-Rattie 110.56 319 *e*PKIKP 19 55 45.9
comp=Z,32nm,1.4s
ORIF *e*R
comp=Z,636nm,21.8s
MSO Missoula 110.84 39 PFAKE 19 56 00.0 +5.6
MSO LR LR
comp=Z,256nm,21.0s,MS4.8
BMN Battle Mountai 110.89 46 PFAKE 19 56 00.0 +5.4
BMN LR LR
comp=Z,504nm,21.0s,MS5.1
ESK Eskdalemuir 111.04 331 PFAKE 19 56 00.0 +5.5
ESK LR LR
comp=Z,341nm,20.0s,MS4.9
BORG Borgarnes 111.23 345 PFAKE 19 56 00.0 +5.3
BORG LR LR
comp=Z,343nm,22.0s,MS4.9
TPH Tonopah 111.62 49 PFAKE 19 56 10.0 +14
TPH LR LR
comp=Z,471nm,20.0s,MS5.1
HLID Hailey 111.78 42 PFAKE 19 56 10.0 +14
HLID LR LR
comp=Z,361nm,19.0s,MS5.0
DAC Darwin (Calif) 111.86 51 PFAKE 19 56 10.0 +13
DAC LR LR
comp=Z,615nm,20.0s,MS5.2
ELK Elko 112.22 46 *e*PKIKP PKPdf 19 55 54.8 -2.4
ELK MLR MLR
comp=Z,559nm,22.0s
BOZ Bozeman (W) 112.79 40 PFAKE 19 56 10.0 +12
BOZ LR LR
comp=Z,423nm,21.0s,MS5.0
FLN La Foliniere 112.92 324 *e*PKIKP 19 55 51.2
comp=Z,20nm,1.0s
FLN *e*R
comp=Z,996nm,23.0s
FFC Flin Flon 113.47 28 PFAKE 19 56 10.0 +11
FFC LR LR
comp=Z,125nm,20.0s,MS4.5
PFO Pinyon Flat Ob 113.52 53 PFAKE 19 56 10.0 +10
PFO LR LR
comp=Z,168nm,20.0s,MS4.6
LKWY Lake 114.04 40 PFAKE 19 56 10.0 +9.3
LKWY LR LR
comp=Z,716nm,20.0s,MS5.3
NEN Nelson 114.18 51 *e*PKP PKPdf 19 55 58.9 -2.3
LOHW Long Hollow 114.31 41 PKP PKPdf 19 55 59.7 -1.6
AHID Auburn Hatcher 114.33 42 PFAKE 19 56 10.0 +8.7
AHID LR LR
comp=Z,472nm,22.0s,MS5.0
HWUT Hardware Ranch 114.48 44 *e*PKP PKPdf 19 55 59.1 -2.5
HWUT LR LR
comp=Z,733nm,22.0s,MS5.2
ROSF Rostrenen 114.75 325 *e*PKIKP 19 55 54.9
comp=Z,86nm,1.6s
PMSA Palmer Station 114.75 176 PFAKE 19 56 10.0 +8.4
PMSA LR LR
comp=Z,1μm,19.0s,MS5.5
QUIF Quistinic 114.90 324 *e*PKIKP 19 55 54.3
comp=Z,76nm,1.4s
MVU Marysvale 115.19 47 *e*PKP PKPdf 19 56 01.5 -1.6
MVU LR LR
comp=Z,554nm,22.0s,MS5.1
MSU Marysvale 115.22 47 *e*PKIKP PKPdf 19 56 01.4 -1.7
BW06 Boulder Array 115.36 42 PFAKE 19 56 10.0 +6.7
BW06 LR LR
comp=Z,366nm,19.0s,MS5.0
PDAR Pinedale Array 115.36 42 PKP PKPdf 19 56 00.4 -2.9
comp=Z,0.9nm,0.7s,baz=252,slow=2.9,SNR=3.8
PDAR PKKPbc 20 06 35.0
comp=Z,1.9nm,1.0s,baz=162,slow=4.7,SNR=4.2
PDAR PKKP PKKP 20 06 57.8 +6.7
comp=Z,3.3nm,0.9s,baz=115,slow=6.1,SNR=9.0
LAO LASA Array 115.65 37 PFAKE 19 56 10.0 +6.2
LAO LR LR
comp=Z,394nm,20.0s,MS5.0
DGMT Dagmar 115.90 34 PFAKE 19 56 10.0 +5.8
DGMT LR LR
comp=Z,581nm,22.0s,MS5.2

RWWY Rawlins 117.40 42 *e*PKPdf PKPdf 19 56 04.5 -2.8
PV10 Paradox Valley 117.54 46 *e*PKPdf PKPdf 19 56 05.5 -2.1
PV01 Paradox Valley 117.98 46 *e*PKPdf PKPdf 19 56 06.3 -2.1
RSSD Black Hills 118.27 38 *e*PKIKP PKPdf 19 56 05.6 -3.3
RSSD MLR MLR
comp=Z,146nm,20.0s,MS4.6
TUC Tucson 118.45 53 PKIKP PKPdf 19 56 08.1 -1.5
TUC Tucson 118.45 53 *e*PKPdf PKPdf 19 56 07.3 -2.3
TUC LR LR
comp=Z,481nm,21.0s,MS5.1
ISCO Idaho Springs 119.34 43 *e*PKIKP PKPdf 19 56 09.4 -1.7
ISCO MLR MLR
comp=Z,696nm,22.0s,MS5.2
ESDC Sonseca Array 119.36 317 PKP PKPdf 19 56 07.8 -3.4
comp=Z,0.9nm,0.5s,baz=123,slow=3.1,SNR=5.8
ESLA Sonseca Array 119.36 317 PFAKE 19 56 20.0 +8.9
ESLA LR LR
comp=Z,2μm,20.0s,MS5.8
SDCO Great Sand Dun 120.34 45 *e*PKPdf PKPdf 19 56 11.0 -2.1
SDCO LR LR
comp=Z,635nm,21.0s,MS5.2
ANMO Albuquerque 120.83 49 *e*PKIKP PKPdf 19 56 08.3 -5.8
ANMO Albuquerque 120.83 49 *e*PKPdf PKPdf 19 56 12.2 -2.0
ANMO LR LR
comp=Z,448nm,19.0s,MS5.1
LPM Los Pinos Moun 120.95 49 *e*PKPdf PKPdf 19 56 12.0 -2.5
BNM Barren Site 121.02 50 *e*PKPdf PKPdf 19 56 12.7 -1.9
PVRL Vila Real 121.08 320 *e*PKPdf PKPdf 19 56 12.2 -2.3
MTE Manteigas 121.42 319 *e*PKPdf PKPdf 19 56 12.3 -2.9
MTE Manteigas 121.42 319 *e*PKPdf PKPdf 19 56 13.3 -1.9
MTE Manteigas 121.42 319 *e*LR LR 20 36 56.3
comp=Z,594nm,20.3s
PVIS Viseu 121.49 319 *e*PKPdf PKPdf 19 56 12.7 -2.6
PCBR Castelo Branco 121.66 318 *e*PKPdf PKPdf 19 56 13.3 -2.3
PTOM Tomar 122.39 319 *e*PKPdf PKPdf 19 56 15.0 -2.0
EVO Evora 122.68 317 *e*PKIKP PKPdf 19 56 10.0 -7.6
comp=Z,15nm,0.8s
EVO *e*R
comp=Z,777nm,20.5s
MNTX Cornudas Mount 122.95 52 *e*PKPdf PKPdf 19 56 15.8 -2.5
MNTX LR LR
comp=Z,678nm,20.0s,MS5.3
PLOU Loures 123.26 318 *e*PKPdf PKPdf 19 56 15.6 -3.1
GDL2 Guadalupe Moun 123.54 51 *e*PKPdf PKPdf 19 56 16.9 -2.6
CPRX Cap Rock 123.58 50 *e*PKPdf PKPdf 19 56 16.4 -3.1
CBKS Cedar Bluff 123.79 42 *e*PKIKP PKPdf 19 56 16.9 -2.9
CBKS MLR MLR
comp=Z,403nm,20.0s,MS5.1
CLNB Carlsbad 123.89 50 *e*PKPdf PKPdf 19 56 17.5 -2.7
SCHQ Schefferville 124.74 8 PKP PKPdf 19 56 18.2 -3.0
comp=Z,8.4nm,0.7s,baz=6.8,slow=3.7,SNR=17
LTX Lajitas 125.23 54 PKIKP PKPdf 19 56 21.2 -1.6
LTX Lajitas 125.23 54 *e*PKPdf PKPdf 19 56 20.0 -2.9
LTX LR LR
comp=Z,699nm,19.0s,MS5.3
TXAR Lajitas Array 125.23 54 PKP PKPdf 19 56 19.8 -3.0
comp=Z,2.4nm,0.7s,baz=222,slow=1.3,SNR=13
KSU1 Kansas State U 125.67 40 *e*PKPbc PKPdf 19 56 19.9 -3.5
CCM Cathedral Cave 129.65 38 *e*PKIKP PKPdf 19 56 27.9 -3.2
CCM MLR MLR
comp=Z,86nm,20.0s,MS4.4
DBIC Dimbokro 129.76 278 PKP PKPdf 19 56 28.5 -3.5
comp=Z,7.6nm,0.5s,baz=85,slow=0.9,SNR=8.9
DBIC Dimbokro 129.76 278 *e*PKPdf PKPdf 19 56 28.4 -3.6
FVM French Village 130.19 37 *e*PKIKP PKPdf 19 56 29.2 -2.9
NATX Nacogdoches 131.03 46 PFAKE 19 56 40.0 +6.1
NATX LR LR
comp=Z,478nm,20.0s,MS5.2
PQI Presque Isle 132.37 12 PFAKE 19 56 40.0 +4.0
PQI LR LR
comp=Z,3μm,22.0s,MS6.0
WCI Wyandotte Cave 132.42 34 ⇓*e*PKIKP PKPdf 19 56 32.6 -3.8
WCI MLR MLR
comp=Z,113nm,22.0s,MS4.5
WVT Waverly 132.97 37 *e*PKIKP PKPdf 19 56 33.3 -4.2
WVT MLR MLR
comp=Z,423nm,20.0s,MS5.2
OXF Oxford 133.03 40 *e*PKIKP PKPdf 19 56 34.4 -3.2
OXF MLR MLR
comp=Z,520nm,20.0s,MS5.2
NCB Newcomb 133.18 19 *e*PKPdf PKPdf 19 56 34.9 -2.7
PLAL Pickwick Lake 133.58 38 *e*PKPdf PKPdf 19 56 34.7 -3.9
PLAL LR LR
comp=Z,510nm,22.0s,MS5.2
CMLA Cha da Macela 133.96 327 PFAKE 19 56 50.0 +11
CMLA LR LR
comp=Z,3μm,22.0s,MS6.0
WVL Waterville 133.97 15 PFAKE 19 56 50.0 +11
WVL LR LR
comp=Z,6μm,21.0s,MS6.3
EMMW East Machias 134.35 13 PFAKE 19 56 50.0 +10
EMMW LR LR
comp=Z,2μm,20.0s,MS5.8
HRV Harvard--Oak R 135.34 18 PFAKE 19 56 50.0 +8.3
HRV LR LR
comp=Z,361nm,20.0s,MS5.1
LRAL Lakeview Retre 135.52 40 *e*PKPdf PKPdf 19 56 38.5 -3.7
LRAL LR LR
comp=Z,642nm,20.0s,MS5.3
WES Weston 135.53 17 PFAKE 19 56 50.0 +8.0
WES LR LR
comp=Z,1μm,22.0s,MS5.6
BLA Blacksburg 136.29 30 PFAKE 19 56 50.0 +6.5
BLA LR LR
comp=Z,597nm,21.0s,MS5.3
PLCA Paso Flores 136.75 162 PKIKP PKPdf 19 56 41.0 -3.2
PLCA pmax pmax
comp=Z,8.0nm,1.0s
PLCA pmax pmax
comp=N,6.0nm,1.0s
PLCA Paso Flores 136.75 162 PKP PKPdf 19 56 41.0 -3.2
comp=N,8.0nm,1.0s,baz=358,slow=2.1,SNR=4.8
PLCA SKPbc 20 00 13.7
comp=N,6.2nm,1.0s,baz=245,slow=4.4,SNR=5.0
PLCA Paso Flores 136.75 162 *e*PKPdf PKPdf 19 56 40.9 -3.3
PLCA LR LR
comp=Z,486nm,20.0s,MS5.2
CBN Corbin 136.93 26 PFAKE 19 56 50.0 +5.4
CBN LR LR
comp=Z,596nm,21.0s,MS5.3
NHSC New Hope 139.55 34 PFAKE 19 57 00.0 +10
NHSC LR LR
comp=Z,687nm,20.0s,MS5.4
TRQA Tornquist 141.29 171 *e*PKPdf PKPdf 19 56 48.7 -4.0
TRQA LR LR
comp=Z,665nm,22.0s,MS5.3
DWPF Disney 142.37 40 PFAKE 19 57 00.0 +5.2
DWPF LR LR
comp=Z,131nm,22.0s,MS4.7
BBSR BB Station 146.74 15 *e*PKPdf PKPdf 19 56 59.0 -3.2
BBSR *e*PKPab PKPab 19 57 01.8 -0.5
BBSR LR LR
comp=Z,480nm,19.0s,MS5.3
JTS JuntasAbangare 148.42 71 *e*PKIKP PKPdf 19 57 02.6 -2.8
JTS *e* 19 57 06.0
JTS MLR MLR
comp=Z,100nm,21.0s
LVC Limon Verde 153.43 150 PKP PKPdf 19 57 11.2 -1.5
comp=Z,1.4nm,0.6s,baz=262,slow=1.3,SNR=1.6
LVC PKPbc PKPdf 19 57 19.7 +7.1
comp=Z,4.7nm,0.6s,baz=280,slow=5.3,SNR=2.3
LVC Limon Verde 153.43 150 *e*PKPdf PKPdf 19 57 10.5 -2.2
LVC *e*PKPbc PKPdf 19 57 18.9 +6.3
LVC LR LR
comp=Z,877nm,20.0s,MS5.6
CPUP Villa Florida 153.44 175 *e*PKIKP PKPdf 19 57 09.6 -3.0
CPUP *e* 19 57 18.1
CPUP MLR MLR
comp=Z,655nm,21.0s
CPUP Villa Florida 153.44 175 PKP PKPdf 19 57 10.6 -2.0
comp=Z,2.6nm,0.8s,baz=167,slow=5.4,SNR=3.5
CPUP PKPbc PKPdf 19 57 18.5 +5.9
comp=Z,13nm,1.2s,baz=204,slow=2.9,SNR=7.7
NNA Nana 154.96 120 PFAKE 19 57 20.0 +5.1
NNA LR LR
comp=Z,103nm,19.0s,MS4.7
LPAZ La Paz 158.94 142 PKIKP PKPdf 19 57 19.4 -0.6
LPAZ pmax pmax
comp=Z,4.0nm,1.0s
LPAZ pmax pmax
comp=Z,6.0nm,0.9s
LPAZ La Paz 158.94 142 PKP PKPdf 19 57 19.4 -0.7
comp=Z,4.4nm,1.0s,baz=357,slow=1.7,SNR=7.5
LPAZ PKPab PKPab 19 57 56.8 +3.0
comp=Z,5.5nm,0.9s,baz=336,slow=7.2,SNR=5.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LPAZ	**La Paz**	**158.94**	**142**	*e*PKPdf	PKPdf	19 57 18.4	-1.7
LPAZ				LR	LR		
	comp=Z,451nm,21.0s,MS5.3						
SJG	**San Juan**	**159.06**	**32**	PFAKE		19 57 30.0	+10
SJG				LR	LR		
	comp=Z,548nm,22.0s,MS5.3						
ROSC	**El Rosal**	**159.98**	**77**	PKP	PKPdf	19 57 20.4	-0.9
	comp=Z,2.6nm,0.3s,baz=93,slow=22,SNR=5.1						
ROSC				PKPab	PKPab	19 58 01.2	+2.8
	comp=Z,28nm,0.8s,baz=297,slow=4.5,SNR=7.8						
RCBR	**Riachuelo**	**160.17**	**252**	PFAKE		19 57 30.0	+8.5
RCBR				LR	LR		
	comp=Z,625nm,22.0s						
SDV	**Santo Domingo**	**162.07**	**61**	*e*PKPdf	PKPdf	19 57 20.4	-3.0
SDV				LR	LR		
	comp=Z,632nm,22.0s						
SIV	**San Ignacio**	**162.69**	**159**	PKP	PKPdf	19 57 22.1	-1.9
	comp=Z,2.6nm,0.8s,baz=244,slow=1.4,SNR=16						
BAO	**Brasilia Array**	**162.81**	**203**	PKPdf	PKPdf	19 57 19.0	-5.0
BDFB	**Brasilia**	**162.82**	**203**	PKP	PKPdf	19 57 23.1	-0.9
	comp=Z,1.2nm,0.4s,baz=267,slow=9.5,SNR=3.4						
SAML	**Samuel**	**167.61**	**138**	*e*PKPdf	PKPdf	19 57 25.5	-2.8
SAML				LR	LR		
	comp=Z,573nm,21.0s						

*IDC **18** 19:37:47.1±2.6, 51.09N×170.86W, mb3.9/6, mb1 4.2/7, mb1mx4.0/22, mbtmp3.9/7, ML4.1/1, Error ellipse: s-maj=62.9km s-min=31.0km az=30.0*
*NEIC **18** 19:37:52.6, 51.24N×170.83W, h34km, mb3.6/1, ML3.5(AEIC), After AEIC.*
ISC 18 19:37:51.7±1.0, **51.34N**±0.10×**170.93W**±0.06, **h36**km±9km, **n29**, σ**0^s.97**/37, **mb3.8**/6, **Fox Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**2.08**	**37**	P	**P**	**19 38 24.3**	**-0.5**
NIKO				S	**S**	**19 38 48.5**	**-1.2**
ATKA	**Atka Island**	**2.21**	**294**	P	**P**	**19 38 27.2**	**+0.6**
ATKA				S	**S**	**19 38 53.4**	**+0.5**
OKCE	**Okmok Cone E**	**2.69**	**38**	P	**P**	**19 38 33.5**	**-0.1**
OKCD	**Okmok Cone D**	**2.72**	**38**	P	**P**	**19 38 34.9**	**+1.0**
OKCD				S	**S**	**19 39 07.9**	**+2.0**
OKER	**East Rim**	**2.76**	**39**	P	**P**	**19 38 35.0**	**+0.5**
GSMY	**Great Sitkin M**	**3.27**	**284**	P	**P**	**19 38 41.4**	**-0.3**
GSTR	**Great Sitkin T**	**3.28**	**285**	P	**P**	**19 38 42.6**	**+0.7**
GSTD	**Great Sitkin T**	**3.32**	**285**	P	**P**	**19 38 42.8**	**+0.3**
GSTD				S	**S**	**19 39 19.9**	**-1.4**
GSSP	**Great Sitkin S**	**3.35**	**285**	P	**P**	**19 38 43.5**	**+0.6**
GSSP				S	**S**	**19 39 22.7**	**+0.7**
ADAG	**Mount Adagdak**	**3.59**	**283**	P	**P**	**19 38 46.2**	**-0.1**
MCIR	**Makushin Cirqu**	**3.59**	**42**	P	**P**	**19 38 48.0**	**+1.6**
MSW	**Makushin Switc**	**3.61**	**43**	P	**P**	**19 38 46.7**	**0.0**
MSW				S	**S**	**19 39 27.4**	**-1.3**
MNAT	**Makushin Natee**	**3.63**	**44**	P	**P**	**19 38 48.0**	**+1.0**
UNV	**Unalaska Valle**	**3.69**	**45**	P	**P**	**19 38 47.0**	**-0.7**
UNV				S	**S**	**19 39 28.7**	**-1.9**
MTBL	**Makushin Table**	**3.69**	**43**	P	**P**	**19 38 47.7**	**-0.1**
KIKV	**Kanaga Island**	**3.93**	**280**	P	**P**	**19 38 50.6**	**-0.6**
KIKV				S	**S**	**19 39 34.9**	**-1.8**
KIMD	**Kanaga Island**	**3.96**	**279**	P	**P**	**19 38 51.2**	**-0.4**
AKGG	**Akutan Green G**	**4.15**	**44**	P	**P**	**19 38 55.1**	**+0.9**
AHB	**Akutan Harbor**	**4.17**	**46**	P	**P**	**19 38 54.7**	**+0.1**
DOL	**Dolgoi Island**	**6.65**	**51**	P	**P**	**19 39 28.6**	**-0.9**
ILAR	**Eielson Array**	**18.35**	**34**	P	**P**	**19 42 03.6**	**-1.1**
	0.3nm,0.3s,baz=244,slow=11,SNR=5.6						
INK	**Inuvik**	**24.74**	**33**	P	**P**	**19 43 11.8**	**+1.2**
	4.0nm,0.5s,mb4.2,baz=232,slow=9.1,SNR=6.9						
INK	**Inuvik**	**24.74**	**33**	P	**P**	**19 43 11.8**	**+1.2**
PDAR	**Pinedale Array**	**41.56**	**77**	P	**P**	**19 45 36.7**	**-0.4**
	2.0nm,0.8s,mb3.8,baz=315,slow=5.1,SNR=14						
TXAR	**Lajitas Array**	**53.75**	**87**	P	**P**	**19 47 10.7**	**-1.8**
	2.9nm,0.7s,mb4.3,baz=293,slow=5.5,SNR=18						
NB2	**NORSAR Subarra**	**67.96**	**359**	P	**P**	**19 48 49.3**	**+1.1**
	0.2nm,0.4s,mb3.5,baz=1.0,slow=6.2						
NOA	**NORSAR Array B**	**67.96**	**359**	P	**P**	**19 48 49.8**	**+1.5**
	0.3nm,0.6s,mb3.5,baz=19,slow=6.5,SNR=3.8						
AKASG	**Malin Array Be**	**76.91**	**347**	P	**P**	**19 49 41.6**	**+0.3**
	0.4nm,0.4s,mb3.7,baz=17,slow=5.5,SNR=4.4						
GERES	**GERESS Array B**	**80.12**	**357**	P	**P**	**19 49 59.9**	**+1.0**
	0.3nm,0.5s,mb3.5,baz=18,slow=4.2,SNR=4.1						

*IDC **18** 20:03:27.9±1.0, 0.67N×121.17E, mb3.7/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, ML3.8/1, MS4.1/1, Ms1 4.0/1, ms1mx3.4/29, Error ellipse: s-maj=122.5km s-min=17.9km az=64.0*
*NEIC **18** 20:03:29.0±0.7, 0.18N×120.24E, h10km, mb4.5/1, Error ellipse: s-maj=96.1km s-min=11.4km az=59.0*
ISC 18 20:03:30.7±0.7, **0.3N**±0.3×**120.3E**±0.5, **h33**km, **n9**, σ**0^s.91**/9, **mb3.9**/7, **MS4.0**/1, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**7.00**	**324**	*e*Pn	**Pn**	**20 05 11.7**	**-2.0**
FITZ	**Fitzroy Crossi**	**19.04**	**164**	P	**P**	**20 07 53.8**	**+0.9**
	0.2nm,0.3s,slow=6.1,SNR=3.0						
WRA	**Warramunga Arr**	**24.38**	**146**	P	**P**	**20 08 46.4**	**-0.9**
	2.4nm,0.9s,mb3.6,baz=327,slow=10,SNR=8.5						
STKA	**Stephens Creek**	**37.83**	**150**	P	**P**	**20 10 45.4**	**-0.8**
	3.2nm,0.9s,mb4.0,baz=348,slow=8.0,SNR=4.8						
STKA				LR	LR	20 25 27.1	
	comp=Z,276nm,20.6s,MS4.0,baz=292,slow=35						
SONM	**Songino Array**	**48.85**	**348**	P	**P**	**20 12 15.2**	**+0.2**
	0.4nm,0.7s,mb3.6,baz=176,slow=7.0,SNR=3.4						
MKAR	**Makanchi Array**	**56.95**	**330**	P	**P**	**20 13 15.4**	**+0.1**
	0.5nm,0.4s,mb3.9,baz=124,slow=9.1,SNR=6.0						
ZAL	**Zalesovo**	**60.94**	**337**	P	**P**	**20 13 43.1**	**+0.3**
	0.8nm,0.5s,mb4.1,baz=320,slow=6.2,SNR=5.9						
KURK	**Kurchatov**	**61.38**	**331**	*e*P	**P**	**20 13 46.8**	**+1.0**
	2.9nm,0.9s,mb4.4						
BVAR	**Borovoye Array**	**66.84**	**330**	P	**P**	**20 14 22.1**	**+0.7**
	0.2nm,0.4s,mb3.5,baz=117,slow=9.7,SNR=3.4						

*MOS **18** 20:23:40.2±1.4, 0.16S×125.27E, h10km, mb4.9/11, Error ellipse: s-maj=28.3km s-min=10.2km az=113.0*
*IDC **18** 20:23:40.8±0.7, 0.06S×125.25E, mb4.3/13, mb1 4.4/14, mb1mx4.3/18, mbtmp4.3/14, ML3.6/1, Error ellipse: s-maj=40.1km s-min=17.0km az=71.0*
*BJI **18** 20:23:46.6, 0.41S×125.41E, h71km, mB5.4, mb4.8*
*NEIC **18** 20:23:48.7±1.6, 0.21S×125.32E, h66km±16km, mb4.6/12, Error ellipse: s-maj=18.7km s-min=7.2km az=57.0*
ISC 18 20:23:45.7±2.1, **0.22S**±0.08×**125.2E**±0.1, **h51**km±20km, **n50**, σ**1^s.11**/51, **mb4.6**/34, **3D, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.95**	**305**	*e*Pn	**P**	**20 26 22.5**	**0.0**
KAKA	**Kakadu**	**14.31**	**150**	*e*P	**P**	**20 27 07.3**	**0.0**
	9.9nm,0.7s						
KSM	**Kuching**	**15.03**	**276**	*e*Pn	**P**	**20 27 20.9**	**+4.3**
FITZ	**Fitzroy Crossi**	**17.77**	**179**	P	**P**	**20 27 52.9**	**+1.6**
	0.2nm,0.3s,baz=18,slow=12,SNR=2.6						
MBWA	**Marble Bar**	**21.49**	**194**	*e*P	**P**	**20 28 30.3**	**-1.9**
	12nm,1.0s,mb4.2						
WRAB	**Tennant Creek**	**21.52**	**156**	*e*P	**P**	**20 28 31.5**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.3						
WRAB	**Tennant Creek**	**21.52**	**156**	*e*P	**P**	**20 28 31.5**	**-1.1**
	comp=Z,11nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**21.53**	**156**	P	**P**	**20 28 32.1**	**-0.4**
	comp=Z,6.2nm,0.7s,mb4.1,baz=336,slow=12,SNR=35						
WB2	**Warramunga Arr**	**21.53**	**156**	*e*P	**P**	**20 28 32.6**	**0.0**
SSE	**Sheshan**	**31.38**	**353**	P	**P**	**20 30 04.3**	**+0.1**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4						
NJ2	**Nanjing**	**32.66**	**350**	*e*P	**P**	**20 30 16.3**	**+0.9**
NJ2				PP	PP	20 31 26.6	+1.1
NJ2				S	**S**	**20 35 30.0**	**+3.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**35.08**	**155**	P	**P**	**20 30 37.3**	**+1.2**
	comp=Z,3.2nm,0.6s,mb4.4,baz=318,slow=8.4,SNR=14						
MJAR	**Matsushiro Arr**	**38.51**	**17**	P	**P**	**20 31 05.0**	**+0.1**
	comp=Z,1.6nm,0.8s,mb3.8,baz=189,slow=9.3,SNR=4.7						
LSA	**Lhasa**	**44.06**	**315**	*e*P	**P**	**20 31 51.9**	**+1.2**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**44.06**	**315**	*e*P	**P**	**20 31 51.9**	**+1.2**
	comp=Z,6.0nm,0.6s,mb4.5						
GTA	**Gaotai**	**45.80**	**332**	*e*P	**P**	**20 32 06.4**	**+2.0**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
GUN	**Gumba**	**46.97**	**310**	*e*P	**P**	**20 32 13.4**	**-0.4**
KKN	**Kakani**	**47.37**	**309**	*e*P	**P**	**20 32 17.1**	**+0.1**
	comp=Z,5.4nm,0.4s,mb4.8						
DMN	**Daman**	**47.42**	**309**	*e*P	**P**	**20 32 17.4**	**0.0**
	comp=Z,4.9nm,0.5s,mb4.7						
GKN	**Gorkha**	**47.97**	**309**	*e*P	**P**	**20 32 22.1**	**+0.4**
	comp=Z,6.9nm,0.3s,mb5.2						
KOLN	**Koldanda**	**48.67**	**308**	*e*P	**P**	**20 32 27.1**	**0.0**
	comp=Z,30nm,0.7s,mb5.4						
SONM	**Songino Array**	**50.60**	**344**	P	**P**	**20 32 40.7**	**-0.9**
	comp=Z,3.3nm,0.7s,mb4.4,baz=157,slow=9.1,SNR=21						
ZAK	**Zakamensk**	**53.79**	**343**	*e*P	**P**	**20 33 05.2**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
BOD	**Bodaibo**	**58.56**	**353**	*e*P	**P**	**20 33 37.9**	**-1.5**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
MKAR	**Makanchi Array**	**59.99**	**327**	P	**P**	**20 33 48.1**	**-1.4**
	comp=Z,4.3nm,0.6s,mb4.7,baz=129,slow=7.8,SNR=20						
YAK	**Yakutsk**	**62.18**	**2**	⇓*i*P	**P**	**20 34 04.6**	**+0.5**
YAK				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.2						
YAK	**Yakutsk**	**62.18**	**2**	*e*P	**P**	**20 34 04.1**	**+0.1**
	comp=Z,10.0nm,0.6s,mb5.1						
AAK	**Ala-Archa**	**62.33**	**320**	⇓*i*P	**P**	**20 34 04.8**	**-0.6**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**62.33**	**320**	*e*P	**P**	**20 34 04.5**	**-0.9**
	comp=Z,6.1nm,1.0s,mb4.7						
MA2	**Magadan**	**62.88**	**14**	*e*P	**P**	**20 34 10.4**	**+1.6**
MA2				pmax	pmax		
	comp=Z,32nm,2.5s,mb5.0						
ZAL	**Zalesovo**	**63.46**	**335**	P	**P**	**20 34 10.5**	**-2.2**
	comp=Z,1.6nm,0.3s,mb4.6,baz=342,slow=5.1,SNR=5.9						
KURK	**Kurchatov**	**64.30**	**329**	*e*P	**P**	**20 34 16.9**	**-1.3**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
KURK	**Kurchatov**	**64.30**	**329**	*e*P	**P**	**20 34 16.9**	**-1.3**
	comp=Z,7.1nm,0.5s,mb5.0						
BRVK	**Borovoye**	**69.91**	**328**	*e*P	**P**	**20 34 53.5**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
BRVK	**Borovoye**	**69.91**	**328**	*e*P	**P**	**20 34 53.5**	**+0.1**
	comp=Z,2.4nm,0.4s,mb4.5						
ZRNK	**Zerenda**	**70.54**	**328**	*e*P	**P**	**20 34 56.2**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
ZRNK	**Zerenda**	**70.54**	**328**	*e*P	**P**	**20 34 56.2**	**-1.0**
	comp=Z,7.9nm,0.5s,mb4.9						
ARU	**Arti**	**77.48**	**328**	*e*P	**P**	**20 35 38.1**	**+0.6**
ARU				*e*		20 38 32.5	
ARU				*e*S	S	20 45 27.0	+3.9
ARU				*e*SS	SS	20 50 22.6	-3.1
ARU	**Arti**	**77.48**	**328**	*e*P	**P**	**20 35 36.6**	**-0.8**
	comp=Z,5.3nm,0.7s,mb4.6						
KMBO	**Kilima Mbogo**	**87.98**	**269**	P	**P**	**20 36 35.5**	**+3.0**
	comp=Z,1.7nm,0.9s,mb4.3,baz=30,slow=12,SNR=4.2						
KMBO	**Kilima Mbogo**	**87.98**	**269**	P	**P**	**20 36 35.5**	**+3.0**
ASF	**Jabal al Asfar**	**88.71**	**302**	P	**P**	**20 36 37.7**	**+2.2**
	comp=Z,5.5nm,0.9s,mb4.9,baz=337,slow=4.0,SNR=8.2						
ILAR	**Eielson Array**	**89.29**	**25**	P	**P**	**20 36 37.6**	**+0.2**
	comp=Z,0.5nm,0.6s,mb4.1,baz=234,slow=5.9,SNR=5.8						
OBN	**Obninsk**	**89.42**	**325**	*d i*P	**P**	**20 36 39.1**	**+0.8**
OBN				*e*		20 40 08.7	
OBN				*e*		20 47 10.2	
OBN				*e*SS	SS	20 53 25.2	+3.5
OBN				pmax	pmax		
	comp=Z,27nm,2.1s,mb5.2						
BRTR	**Keskin Array B**	**91.38**	**310**	P	**P**	**20 36 47.5**	**-0.3**
	comp=Z,0.7nm,0.6s,mb4.2,baz=146,slow=4.5,SNR=4.8						
ARCES	**ARCESS Array B**	**93.62**	**340**	P	**P**	**20 36 57.3**	**-0.1**
	comp=Z,0.8nm,0.4s,mb4.5,baz=76,slow=5.0,SNR=7.7						
AKASG	**Malin Array Be**	**93.99**	**321**	P	**P**	**20 36 58.7**	**-0.8**
	comp=Z,0.5nm,0.5s,mb4.2,baz=68,slow=4.6,SNR=5.5						
KAF	**Kangasniemi**	**94.38**	**332**	*e*p	**P**	**20 36 58.8**	**-2.2**
	comp=Z,0.6nm,0.5s,mb4.3						
KAF	**Kangasniemi**	**94.38**	**332**	*e*P	**P**	**20 36 58.8**	**-2.2**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.5						
FINES	**FINESS Array B**	**94.58**	**332**	P	**P**	**20 37 03.3**	**+1.4**
	comp=Z,0.4nm,0.5s,mb4.1,baz=90,slow=5.7,SNR=5.1						

*ISK **18** 20:29:05.4, 38.38N×26.25E, h7km, MD3.3*
*ATH **18** 20:29:08.6, 38.19N×26.52E, h39km±13km, MD3.1/3*
*CSEM **18** 20:29:09.2±0.5, 38.29N×26.50E, h25km, MD3.3, Error ellipse: s-maj=14.4km s-min=9.3km az=93.0*
ISC 18 20:29:08.0±0.9, **38.21N**±0.03×**26.45E**±0.06, **h11**km±5km, **n19**, σ**1^s.19**/27, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.19**	**39**	*i* P	**Pg**	**20 29 12.7**	**+0.4**
URLA				*i* S	**Sg**	**20 29 15.4**	**+0.2**
BLCB	**Balcova**	**0.50**	**70**	*i* PG	**Pg**	**20 29 17.8**	**-0.4**
SMG	**Samos**	**0.59**	**148**	*e*PN	**Pn**	**20 29 20.7**	**-1.3**
SMG				*e*SN	**Sn**	**20 29 28.9**	**-2.7**
IZM	**Izmir**	**0.67**	**74**	*i* PG	**Pg**	**20 29 21.1**	**-0.5**
KDAG	**Bornova**	**0.67**	**73**	*i* P	**Pb**	**20 29 20.8**	**-0.5**
KDAG				*i* S	**Sb**	**20 29 29.8**	**-0.5**
PRK	**Paraskevi**	**1.04**	**353**	*e*PN	**Pn**	**20 29 28.6**	**+0.2**
PRK				*e*SN	**Sn**	**20 29 43.3**	**+0.3**
AYVA	**Ayvalik**	**1.11**	**10**	*i* P	**Pb**	**20 29 28.1**	**-0.7**
AYVA				*i* S	**Sb**	**20 29 45.1**	**+2.1**
AYDN	**Tasoluk**	**1.26**	**115**	*i* P	**Pb**	**20 29 32.1**	**+0.8**
AYDN				*i* S	**Sb**	**20 29 46.8**	**-0.6**
AKS	**Akhisar**	**1.26**	**58**	*i* PN	**Pn**	**20 29 31.1**	**-0.5**
AKS				SN	**Sn**	**20 29 49.1**	**+0.5**
BODT	**Bodrum**	**1.34**	**149**	PN	**Pn**	**20 29 34.2**	**+1.5**
APE	**Apeiranthos**	**1.35**	**213**	PN	**Pn**	**20 29 32.2**	**-0.7**
APE	**Apeiranthos**	**1.35**	**213**	*e*Pn	**Pn**	**20 29 32.9**	**0.0**
BDRM	**Kayabasi**	**1.39**	**145**	*i* P	**Pn**	**20 29 33.3**	**-0.2**
BDRM				*i* S	**Sb**	**20 29 52.0**	**+0.8**
MLSB	**Milas**	**1.40**	**131**	PN	**Pn**	**20 29 35.3**	**+1.7**
MANT	**Manisa**	**1.68**	**80**	*i* P	**Pn**	**20 29 39.4**	**+1.7**
BALB	**Balikesir**	**1.81**	**38**	PN	**Pn**	**20 29 37.7**	**-1.7**
YER	**Yerkesik**	**1.81**	**126**	PN	**Pn**	**20 29 41.2**	**+1.7**
CANB	**Canakkale**	**1.86**	**15**	PN	**Pn**	**20 29 36.8**	**-3.4**
BNT	**Bandirma**	**2.43**	**28**	PN	**Pn**	**20 29 45.4**	**-2.9**

IDC 18 20:57:23.3±64.0, **0.49S**×**97.42E**, **mb3.9**/3, **mb1 4.0**/3, **mb1mx3.5**/17, **mbtmp3.9**/3, **Error ellipse: s-maj=1251.0km s-min=161.4km az=175.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**48.77**	**8**	P	P	21 06 10.0	-1.9
	0.7nm,0.6s,baz=187,slow=8.4,SNR=5.7						
MKAR	**Makanchi Array**	**48.93**	**346**	P	P	21 06 11.2	-2.0
	0.7nm,0.4s,baz=156,slow=8.8,SNR=9.4						
ZAL	**Zalesovo**	**55.25**	**351**	P	P	21 06 58.0	-2.6
	1.2nm,0.5s,baz=248,slow=4.7,SNR=3.2						

*NAO **18** 21:09:24.8±3.4, 80.27N×32.25E, ML3.0*
*CSEM **18** 21:09:24.9±2.0, 80.28N×33.22E, h13km±7km, ML2.9, Error ellipse: s-maj=63.2km s-min=18.5km az=47.0, After BER*
ISC 18 21:09:25.3±2.0, **80.1N**±0.1×**31.8E**±0.5, **h10**km, **n10**, σ**0^s.96**/18, **Svalbard region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**3.48**	**245**	Pn	**Pn**	**21 10 20.2**	**-0.5**
	baz=33,slow=10						
SPA0				Sn	**Sn**	**21 11 03.5**	**+1.2**
	baz=38,slow=28						
SPA0				Lg		21 11 19.6	
	baz=56,slow=28						
SPA0	**Spitsbergen Ar**	**3.48**	**245**	Pn	**Pn**	**21 10 20.2**	**-0.4**
	baz=33,slow=9.6,SNR=55						
SPA0				Sn	**Sn**	**21 11 03.5**	**+1.2**
	baz=38,slow=25,SNR=55						
SPA0				Lg		21 11 19.6	
	baz=56,slow=27						
KBS	**Kingsbay**	**3.80**	**262**	*e*P	**Pn**	**21 10 24.6**	**-0.6**
KBS				*e*Sg	**Sg**	**21 11 27.9**	**-3.9**
KBS				AML	AML	21 11 36.5	
	comp=Z,38nm,0.6s						
KBS	**Kingsbay**	**3.80**	**262**	*e*P	**Pn**	**21 10 24.6**	**-0.6**
	SNR=53						
KBS				*e*Sg	**Sg**	**21 11 27.9**	**-3.9**
	comp=Z,38nm,0.6s,SNR=90						
HOPEN	**Hopen**	**3.83**	**204**	*e*P	**Pn**	**21 10 26.8**	**+1.1**
HOPEN				*e*S	**Sn**	**21 11 10.5**	**-0.8**
HOPEN				AML	AML	21 11 39.7	
	comp=Z,87nm,0.6s						
HSP	**Hornsund**	**4.45**	**235**	*e*P	**Pn**	**21 10 34.5**	**0.0**
HSP				*e*S	**Sn**	**21 11 27.0**	**+0.1**
ARA0	**ARCESS Array S**	**10.71**	**192**	Pn	**P**	**21 12 00.2**	**-1.3**
	baz=359,slow=10						
ARA0				Sn	**S**	**21 13 55.8**	**-6.8**
	baz=13,slow=22						
ARA0	**ARCESS Array S**	**10.71**	**192**	Pn	**P**	**21 12 00.2**	**-1.4**
	baz=359,slow=9.4,SNR=55						
ARA0				Sn	**S**	**21 13 55.8**	**-6.8**
	baz=13,slow=21,SNR=55						
FIA0	**FINESS Array S**	**18.80**	**189**	P	**P**	**21 13 47.7**	**+1.1**
	baz=5.8,slow=14						
FIA0	**FINESS Array S**	**18.80**	**189**	Pn	**P**	**21 13 47.7**	**+1.1**
	baz=5.8,slow=13,SNR=55						

*NIED **18** 21:10:00, 43.40N×144.10E, h170km, Mw4.0 Best double couple: M0 1.11×10^15 NP1:φs14°, δ46°, λ84°. NP2:φs203°, δ45°, λ97°.*
*MOS **18** 21:10:09.2±0.9, 43.37N×144.09E, h155km, mb4.0/13, Error ellipse: s-maj=15.9km s-min=9.9km az=95.8*
*JMA **18** 21:10:10.9±0.1, 43.40N×144.09E, h148km±1km, M3.9*
JMA Felt I J1.
*IDC **18** 21:10:10.9±1.1, 43.41N×144.02E, h152km±6km, mb3.8/16, mb1 3.9/17, mb1mx3.8/24, mbtmp4.2/17, Error ellipse: s-maj=15.7km s-min=13.2km az=116.0*
*NEIC **18** 21:10:10.1±0.9, 43.38N×144.06E, h144km±9km, mb4.2/4, Error ellipse: s-maj=13.4km s-min=9.3km az=117.0*
ISC 18 21:10:09.3±0.3, **43.39N**±0.04×**144.12E**±0.05, **h153**km±2km, **n66**, σ**0^s.73**/81, **mb4.0**/21, **9C-5D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAR	**Ashorobuto**	**0.28**	**250**	⇑P	**P**	**21 10 31.4**	**+0.9**
JAR				*e*S	**S**	**21 10 46.4**	**-0.4**
JNK	**Nakash**	**0.47**	**66**	⇑P	**P**	**21 10 31.9**	**+0.6**
JNK				*e*S	**S**	**21 10 48.1**	**-0.1**
JOB	**Onbets**	**0.53**	**203**	⇑P	**P**	**21 10 32.4**	**+0.8**
JOB				*e*S	**S**	**21 10 48.8**	**+0.1**
JAK	**Akkeshi**	**0.58**	**133**	⇑P	**P**	**21 10 32.3**	**+0.5**
JAK				*e*S	**S**	**21 10 48.6**	**-0.5**
JTKR	**Abashiri--Toko**	**0.60**	**345**	⇑P	**P**	**21 10 32.4**	**+0.5**
JTKR				S	**S**	**21 10 48.3**	**-1.0**
JMP	**Maruseppu**	**0.83**	**318**	⇑P	**P**	**21 10 33.8**	**+0.6**
JMP				*e*S	**S**	**21 10 50.6**	**-1.1**
JRA	**Rausu**	**0.91**	**53**	⇑P	**P**	**21 10 35.0**	**+1.2**
JRA				*e*S	**S**	**21 10 53.2**	**+0.6**
JCH	**Churui**	**0.96**	**216**	⇑P	**P**	**21 10 34.7**	**+0.6**
JCH				*e*S	**S**	**21 10 52.1**	**-1.2**
JKK2	**Kamakawa 2**	**1.11**	**296**	P	**P**	**21 10 36.3**	**+0.8**
JKK2				S	**S**	**21 10 55.1**	**-0.6**
JFR	**Furan**	**1.14**	**259**	P	**P**	**21 10 36.6**	**+0.8**
JFR				*e*S	**S**	**21 10 56.5**	**+0.3**
NEM2	**Nemuro 2**	**1.18**	**91**	⇓P	**P**	**21 10 36.6**	**+0.4**
NEM2				*e*S	**S**	**21 10 55.3**	**-1.6**
ASAJ	**Asahikawa**	**1.32**	**304**	PN	**P**	**21 10 38.4**	**+0.8**
ASAJ				S	**S**	**21 10 58.9**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,54nm,0.3s						
ASAJ				smax			
	comp=N,29nm,0.3s						
ASAJ	**Asahikawa**	**1.32**	**304**	P	**P**	**21 10 38.4**	**+0.8**
	comp=N,54nm,0.3s,baz=175,slow=4.5,SNR=314						
ASAJ				S	**S**	**21 10 58.9**	**-0.5**
	comp=N,29nm,0.3s,baz=83,slow=32,SNR=8.1						
YUK	**Yuzh-Kuril'sk**	**1.42**	**62**	⇓*i*PN	**P**	**21 10 38.5**	**0.0**
YUK				S	**S**	**21 11 00.5**	**-0.6**
YUK				pmax	pmax		
	comp=Z,2μm,0.7s						
YUK				pmax	pmax		
	comp=Z,760nm,0.3s						
YUK				smax			
	comp=N,570nm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
JNBK	**Urakawa-nobuka**	**1.50**	**223**	⇑P	**P**	**21 10 39.8**	**+0.4**
JNBK				*e*S	**S**	**21 11 01.5**	**-1.1**
JHR	**Hokuryu**	**1.78**	**282**	⇓P	**P**	**21 10 43.6**	**+1.2**
JSE	**Soyaes**	**1.92**	**325**	P	**P**	**21 10 44.5**	**+0.6**
JSE				*e*S	**S**	**21 11 09.8**	**-0.9**
JEW	**Eniwo**	**2.03**	**255**	P	**P**	**21 10 46.3**	**+1.0**
JEW				*e*S	**S**	**21 11 13.1**	**+0.1**
JYG	**Yagishiri**	**2.21**	**299**	⇓P	**P**	**21 10 48.0**	**+0.6**
YSS	**Yuzh-Sakhalins**	**3.69**	**345**	⇓*e*PN	**P**	**21 11 06.5**	**+0.1**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**3.69**	**345**	*e*Pn	**P**	**21 11 06.3**	**-0.1**
MAJO	**Matsushiro**	**8.21**	**216**	*e*PN	**P**	**21 12 06.3**	**-0.1**
MJAR	**Matsushiro Arr**	**8.21**	**216**	P	**P**	**21 12 05.3**	**-1.2**
	comp=N,0.5nm,0.3s,baz=15,slow=13,SNR=9.1						
MJAR				S	**S**	**21 13 37.9**	**+0.1**
	comp=N,0.3nm,0.3s,baz=176,slow=19,SNR=2.7						
MDJ	**Mudanjiang**	**10.54**	**282**	*e*Pn	**P**	**21 12 36.7**	**-0.4**
	comp=N,6.0nm,0.8s						
JHJ	**Hachijo jima 2**	**10.81**	**200**	S	**S**	**21 14 32.8**	**-6.5**
	comp=N,3.4nm,0.3s,baz=252,slow=23,SNR=4.0						
SONM	**Songino Array**	**26.58**	**293**	P	**P**	**21 15 35.2**	**+0.6**
	comp=N,2.9nm,0.6s,mb4.1,baz=91,slow=8.7,SNR=23						
ZAK	**Zakamensk**	**28.49**	**299**	*e*P	**P**	**21 15 52.4**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.4						
MKAR	**Makanchi Array**	**42.79**	**297**	P	**P**	**21 17 52.6**	**-0.4**
	comp=Z,1.0nm,0.4s,mb3.8,baz=79,slow=10,SNR=17						
ILAR	**Eielson Array**	**43.07**	**36**	P	**P**	**21 17 55.2**	**+0.3**
	comp=Z,2.9nm,0.5s,mb4.2,baz=270,slow=6.7,SNR=27						
KURK	**Kurchatov**	**43.90**	**303**	*e*P	**P**	**21 18 01.2**	**-0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
KURK	**Kurchatov**	**43.90**	**303**	*e*P	**P**	**21 18 01.2**	**-0.6**
	comp=Z,2.3nm,0.4s,mb4.2						
INK	**Inuvik**	**47.82**	**30**	P	**P**	**21 18 32.4**	**0.0**
	comp=Z,2.6nm,0.3s,mb4.3,baz=315,slow=4.3,SNR=9.2						
INK	**Inuvik**	**47.82**	**30**	P	**P**	**21 18 32.4**	**0.0**
BVAR	**Borovoye Array**	**48.02**	**309**	P	**P**	**21 18 34.5**	**+0.2**
	comp=Z,1.6nm,0.3s,mb4.1,baz=78,slow=9.2,SNR=31						
BVAR				PcP	PcP	21 20 00.0	-0.1
	comp=Z,0.7nm,0.5s,baz=90,slow=1.5,SNR=5.7						
ZRNK	**Zerenda**	**48.83**	**309**	*e*P	**P**	**21 18 40.2**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**48.83**	**309**	*e*P	**P**	**21 18 40.2**	**-0.3**
	comp=Z,2.4nm,0.5s,mb4.1						
YKA	**Yellowknife Ar**	**57.31**	**33**	P	**P**	**21 19 43.1**	**+0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA	**Yellowknife Ar**	**57.31**	**33**	P	**P**	**21 19 43.1**	**+0.4**
	comp=Z,0.5nm,0.3s,mb3.8,baz=298,slow=6.0,SNR=3.5						
ARCES	**ARCESS Array B**	**58.80**	**339**	P	**P**	**21 19 52.4**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**58.80**	**339**	P	**P**	**21 19 52.4**	**-0.8**
	comp=Z,0.7nm,0.4s,mb3.8,baz=40,slow=7.1,SNR=15						
KAF	**Kangasniemi**	**63.63**	**332**	*e*p	**P**	**21 20 22.3**	**-3.2**
	comp=Z,2.0nm,0.5s,mb4.2,baz=46,slow=6.2						
KAF	**Kangasniemi**	**63.63**	**332**	*e*P	**P**	**21 20 22.3**	**-3.2**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**63.66**	**190**	P	**P**	**21 20 26.0**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**63.66**	**190**	P	**P**	**21 20 26.0**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.6,baz=6.6,slow=6.7,SNR=11						
FINES	**FINESS Array B**	**64.17**	**332**	*e*P	**P**	**21 20 28.0**	**-1.0**
FINES	**FINESS Array B**	**64.17**	**332**	P	**P**	**21 20 28.1**	**-0.9**
	comp=Z,3.8nm,0.5s,mb4.5,baz=56,slow=6.9,SNR=38						
KIV	**Kislovodsk**	**68.34**	**310**	*i* P	**P**	**21 20 56.4**	**+0.7**
BOZ	**Bozeman (W)**	**68.78**	**47**	*e*P	**P**	**21 20 59.5**	**+1.2**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
BOZ	**Bozeman (W)**	**68.78**	**47**	*e*P	**P**	**21 20 59.5**	**+1.2**
	comp=Z,2.2nm,0.6s,mb4.1						
NB2	**NORSAR Subarra**	**69.12**	**338**	P	**P**	**21 20 59.5**	**-0.6**
	comp=Z,2.9nm,0.8s,mb4.1,baz=34,slow=6.2						
NOA	**NORSAR Array B**	**69.12**	**338**	P	**P**	**21 20 59.3**	**-0.8**
NOA				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.0nm,0.6s						
NOA	NORSAR Array B	69.12	338	P	P	21 20 59.3	-0.8
	comp=Z,1.7nm,0.6s,mb4.0,baz=35,slow=6.2,SNR=12						
HFS	Hagfors	69.14	336	P	P	21 20 59.4	-0.9
HFS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HFS	Hagfors	69.14	336	P	P	21 20 59.4	-0.9
	comp=Z,3.5nm,0.6s,mb4.3,baz=53,slow=7.4,SNR=25						
AKASG	Malin Array Be	70.54	322	P	P	21 21 08.0	-1.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	70.54	322	P	P	21 21 08.0	-1.0
	comp=Z,0.7nm,0.4s,mb3.8,baz=42,slow=6.0,SNR=14						
PDAR	Pinedale Array	71.80	48	P	P	21 21 17.2	+0.6
	comp=Z,0.9nm,0.4s,mb3.8,baz=225,slow=4.2,SNR=9.9						
EKA	Eskdalemuir Ar	77.80	342	P	P	21 21 50.7	+0.3
EKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
EKA	Eskdalemuir Ar	77.80	342	P	P	21 21 50.6	+0.2
	comp=Z,1.5nm,0.6s,mb3.8,baz=23,slow=4.9,SNR=14						
KHC	Kasperske Hory	78.18	329	*e*P	P	21 21 53.5	+0.9
GERES	GERESS Array B	78.37	329	P	P	21 21 53.3	-0.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	78.37	329	P	P	21 21 53.3	-0.3
	comp=Z,0.6nm,0.5s,mb3.5,baz=45,slow=7.5,SNR=5.7						
IDI	Anoyia	84.12	314	P	P	21 22 23.5	-0.4
	comp=Z,2.4nm,0.6s,mb4.1,baz=40,slow=7.7,SNR=5.0						
SIV	San Ignacio	145.27	46	PKPbc	PKPbc	21 29 30.7	+1.4
	comp=Z,6.1nm,0.6s,baz=311,slow=2.4,SNR=34						
BDFB	Brasilia	150.46	24	PKIKP	PKPdf	21 29 44.6	+7.5
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BDFB	Brasilia	150.46	24	PKPbc	PKPdf	21 29 44.6	+7.4
	comp=Z,1.4nm,0.4s,baz=194,slow=4.6,SNR=3.5						

*IDC **18** 21:45:48.1±3.6, 30.29S×177.64W, h46km±29km, mb4.4/5, mb1 4.5/5, mb1mx4.0/13, mbtmp4.7/5, MS3.4/1, Ms1 3.4/1, ms1mx2.8/16, Error ellipse: s-maj=36.9km s-min=24.2km az=122.0*
*NEIC **18** 21:46:21.0±2.8, 30.20S×178.93W, h300km, mb4.4/3, Error ellipse: s-maj=72.9km s-min=22.2km az=48.0*
ISC 18 21:45:45.6±1.9**, 30.46S**±0.09×**177.8W**±0.3**, h33**km**, n18, σ1.02**/14**, mb4.6**/7**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.21	356	P	P	21 46 06.8	+0.6
	185nm,0.3s,baz=42,slow=19,SNR=17						
RAO				S	S	21 46 20.5	-1.3
	2μm,0.3s,baz=97,slow=21,SNR=30						
URZ	Urewera	8.83	207	P	P	21 47 49.5	-4.3
	0.4nm,0.3s,slow=19,SNR=4.0						
URZ				S	S	21 49 29.9	-3.4
	1.1nm,0.3s,baz=191,slow=23,SNR=11						
DZM	Mont Dzumac	16.38	297	LR	LR	21 54 13.1	
	comp=Z,136nm,21.1s,baz=21,slow=31						
CTA	Charters Tower	33.95	279	P	P	21 52 29.3	+1.2
	7.7nm,0.6s,mb4.8,baz=148,slow=10,SNR=13						
CTAO	Charters Tower	33.95	279	*e*P	P	21 52 29.4	+1.3
	8.8nm,0.6s,mb4.9						
STKA	Stephens Creek	34.61	257	*e*P	P	21 52 35.0	+1.4
	11nm,0.8s,mb4.8						
STKA	Stephens Creek	34.61	257	P	P	21 52 34.8	+1.1
	15nm,0.8s,mb5.0,baz=88,slow=9.5,SNR=40						
PMG	Port Moresby	38.77	295	P	P	21 53 09.1	+0.3
	7.2nm,0.5s,mb4.6,baz=174,slow=9.2,SNR=3.1						
WB2	Warramunga Arr	44.24	272	*e*P	P	21 53 53.6	-0.2
WRAB	Tennant Creek	44.24	272	*e*P	P	21 53 53.5	-0.3
	10nm,0.7s,mb4.7						
WRA	Warramunga Arr	44.25	272	P	P	21 53 53.1	-0.8
	7.0nm,0.8s,mb4.4,baz=111,slow=7.9,SNR=35						
QSPA	South Pole Qui	59.65	180	*e*P	P	21 55 55.8	+7.4
	9.4nm,0.8s,mb4.9						
MAW	Mawson	72.30	201	P	P	21 57 09.4	+0.3
	2.5nm,1.0s,mb4.1,baz=135,slow=7.1,SNR=3.3						
FINES	FINESS Array B	145.25	340	PKPbc	PKPbc	22 05 19.3	-0.3
	1.5nm,0.6s,baz=90,slow=3.8,SNR=14						
NB2	NORSAR Subarra	148.84	351	PKPabc	PKPdf	22 05 30.7	+5.6
	1.5nm,0.9s,baz=22,slow=2.8						
NOA	NORSAR Array B	148.84	351	PKPbc	PKPdf	22 05 28.1	+3.0
	1.0nm,0.8s,baz=14,slow=4.3,SNR=3.8						
AKASG	Malin Array Be	151.44	323	PKPbc	PKPdf	22 05 35.9	+6.5
	2.4nm,0.6s,baz=51,slow=2.3,SNR=6.2						
BRTR	Keskin Array B	152.76	298	PKPbc	PKPdf	22 05 40.8	+9.1
	1.2nm,0.8s,baz=135,slow=3.5,SNR=8.5						

*MDD **18** 22:41:07.2±3.1, 36.73N×11.07W, mb4.3/2, Error ellipse: s-maj=27.8km s-min=16.2km az=55.0, PRXIMO*
*NEIC **18** 22:41:07.4, 36.73N×11.06W, MG3.7(MDD), After MDD.*
INMG 18 22:41:08.5±0.6**, 36.59N**×**11.05W, h5**km**, ML2.0, Error ellipse: s-maj=4.4km s-min=2.7km az=78.0, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	2.09	62	*e*Pn	Pn	22 41 42.3	-2.3
PTEO				*e*Sn	Sn	22 42 07.9	-3.4
PBEJ	Beja	2.91	60	*e*Sn	Sn	22 42 27.1	-5.1
	2.0nm,0.1s						
EGRO	El Granado	3.00	71	P	Pn	22 41 54.8	-2.9
EGRO				S	Sn	22 42 29.2	-5.3
EGRO	El Granado	3.00	71	Pn	Pn	22 41 54.8	-2.9
	0.5nm,0.1s,SNR=6.4						
EGRO				Sn	Sn	22 42 29.2	-5.3
	1.2nm,0.2s,SNR=4.5						
EGRO	El Granado	3.00	71	P	Pn	22 41 54.8	-2.9
	0.5nm,0.1s,SNR=6.4						
EGRO				S	Sn	22 42 29.2	-5.3
	1.2nm,0.2s,SNR=4.5						
PTOM	Tomar	3.67	34	*e*Sn	Sn	22 42 45.0	-6.3
EMIN	Mina Concepcio	3.69	70	P	Pn	22 42 03.6	-3.7
EMIN				S	Sn	22 42 45.7	-6.1
EMIN	Mina Concepcio	3.69	70	Pn	Pn	22 42 03.8	-3.6
	0.5nm,0.2s,SNR=10						
EMIN				Sn	Sn	22 42 45.7	-6.1
	0.6nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	3.69	70	P	Pn	22 42 03.6	-3.8
	0.5nm,0.2s,SNR=10						
EMIN				S	Sn	22 42 45.7	-6.1
	0.6nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.86	55	P	Pn	22 42 06.0	-3.8
EBAD				S	Sn	22 42 49.8	-6.4
EBAD	Badajoz	3.86	55	Pn	Pn	22 42 05.5	-4.4
	0.7nm,0.1s,SNR=10						
EBAD				Sn	Sn	22 42 49.8	-6.4
	0.7nm,0.1s,SNR=6.2						
EBAD	Badajoz	3.86	55	P	Pn	22 42 06.0	-3.9
	0.7nm,0.1s,SNR=10						
EBAD				S	Sn	22 42 49.8	-6.4
	0.7nm,0.1s,SNR=6.2						
ESPR	Espera	4.18	85	P	Pn	22 42 10.7	-3.7
ESPR				S	Sn	22 42 57.4	-6.9
ESPR	Espera	4.18	85	Pn	Pn	22 42 10.7	-3.7
	2.6nm,0.1s,SNR=7.0						
ESPR				Sn	Sn	22 42 57.4	-6.9
	1.5nm,0.2s,SNR=7.9						
ESPR	Espera	4.18	85	P	Pn	22 42 10.7	-3.7
	2.6nm,0.1s,SNR=7.0						
ESPR				S	Sn	22 42 57.4	-6.9
	1.5nm,0.2s,SNR=7.9						
PCBR	Castelo Branco	4.29	40	*e*Pn	Pn	22 42 12.3	-3.7
PCBR				*e*Sn	Sn	22 43 00.3	-6.8
	1.5nm,0.2s						
PVIS	Viseu	4.80	30	*e*Sn	Sn	22 43 12.3	-7.7
PVRL	Vila Real	5.35	28	*e*Sn	Sn	22 43 25.2	-8.6
	1.9nm,0.1s						
EADA	Adamuz	5.39	71	P	Pn	22 42 27.4	-4.1
EADA				S	Sn	22 43 25.9	-8.9
EADA	Adamuz	5.39	71	Pn	Pn	22 42 27.4	-4.1
	0.9nm,0.2s,SNR=8.1						
EADA				Sn	Sn	22 43 25.8	-8.9
	0.3nm,0.1s,SNR=7.9						
EADA	Adamuz	5.39	71	P	Pn	22 42 27.4	-4.1
	0.9nm,0.2s,SNR=8.1						
EADA				S	Sn	22 43 25.8	-9.0
	0.3nm,0.1s,SNR=7.9						
ELOB	Lobios	5.75	23	Pn	Pn	22 42 31.6	-5.1
	0.2nm,0.2s,SNR=7.9						
ELOB				Sn	Sn	22 43 33.5	-11
	1.2nm,0.2s,SNR=7.9						
ELOB	Lobios	5.75	23	P	Pn	22 42 31.5	-5.2
	0.2nm,0.2s,SNR=7.9						
ELOB				S	Sn	22 43 33.5	-10
	1.2nm,0.2s,SNR=7.9						
PBRG	Braganca	6.19	31	*e*Sn	Sn	22 43 45.1	-10
ECAL	Calabor	6.30	31	Sn	Sn	22 43 46.4	-11
	0.4nm,0.2s,SNR=7.9						
ECAL	Calabor	6.30	31	S	Sn	22 43 46.4	-11
	0.4nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	6.38	59	Pn	Pn	22 42 40.8	-4.6
	1.6nm,0.1s,baz=245,slow=13,SNR=5.0						
ESDC	Sonseca Array	6.38	59	P	Pn	22 42 40.8	-4.6
	1.6nm,0.1s,baz=245,slow=13,SNR=5.0						
EQES	Quesada	6.48	77	Pn	Pn	22 42 42.6	-4.4
	0.1nm,0.1s,SNR=7.9						
EQES				Sn	Sn	22 43 52.3	-10
	0.1nm,0.2s,SNR=7.9						
EQES	Quesada	6.48	77	P	Pn	22 42 42.6	-4.3
	0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	22 43 52.3	-10
	0.1nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	6.54	13	Sn	Sn	22 43 50.6	-13
	0.6nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	6.54	13	S	Sn	22 43 50.6	-13
	0.6nm,0.1s,SNR=7.9						

*CSEM **18** 22:51:45.5±0.9, 80.31N×34.34E, h15km, ML3.8, Error ellipse: s-maj=21.2km s-min=10.7km az=17.0, After BER*
*NAO **18** 22:51:51.1±6.2, 80.19N×32.03E, h18km±35km, ML3.8*
ISC 18 22:51:49.0±1.6**, 80.0N**±0.1×**31.9E**±0.4**, h10**km**, n10, σ1.34**/16**, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	3.44	247	Pn	Pn	22 52 43.9	+0.1
	baz=27,slow=8.6						
SPA0				Sg	Sg	22 53 43.2	-0.3
	baz=54,slow=28						
HOPEN	Hopen	3.73	205	*e*P	Pn	22 52 49.8	+1.9
HOPEN				*e*S	Sn	22 53 33.0	+0.6
HOPEN				AML	AML	22 54 01.6	
	comp=Z,428nm,0.6s						
KBS	Kingsbay	3.79	264	*e*P	Pn	22 52 47.5	-1.4
KBS				*e*Sg	Sg	22 53 51.7	-3.7
HSP	Hornsund	4.39	236	*e*P	Pn	22 52 58.0	+0.7
HSP				*e*(S)	Sn	22 53 49.2	0.0
KEV	Kevo	10.32	189	*e*p	P	22 54 13.9	-6.1
ARA0	ARCESS Array S	10.59	192	Pn	P	22 54 22.2	-1.5
	baz=7.9,slow=12						
ARA0				Sn	S	22 56 17.0	-6.5
	baz=17,slow=22						
KAF	Kangasniemi	18.00	188	*e*p	P	22 55 58.1	-2.4
	baz=3.1,slow=13						
FIA0	FINESS Array S	18.68	189	P	P	22 56 09.5	+0.7
	baz=20,slow=10						
FIA0				Sn	S	22 59 30.1	-4.0
	baz=3.2,slow=28						
NB2	NORSAR Subarra	19.95	210	P	P	22 56 25.2	+1.6
HFS	Hagfors	20.64	206	P	P	22 56 31.7	+0.9
	baz=27,slow=9.3						

*NEIC **18** 22:52:54.4, 61.23N×150.73W, h53km, ML4.0(PMR), ML3.8(AEIC), After AEIC.*
NEIC Felt [IV] at Eagle River; [III] at Anchorage; [II] at Girdwood, Palmer and Wasilla.
*IDC **18** 22:52:55.9±7.6, 61.62N×151.96W, h50km±55km, mb3.6/4, mb1 3.8/5, mb1mx3.4/19, mbtmp3.9/5, ML4.1/1, Error ellipse: s-maj=81.4km s-min=40.9km az=155.0*
ISC 18 22:52:52.2±0.2**, 61.23N**±0.02×**150.73W**±0.04**, h75**km±4km**, n91, σ0.85**/108**, mb3.9**/4**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VOGL	Vogel Lake	0.28	148	P	P	22 53 04.2	+0.3
VOGL				S	S	22 53 12.7	+0.1
FIB	Fire Island	0.28	103	P	P	22 53 03.9	0.0
RC01	Rabbit Creek A	0.50	106	P	P	22 53 05.4	-0.3
CGLM	Capps Glacier	0.62	278	P	P	22 53 05.9	-1.0
CGLM				S	S	22 53 15.5	-2.1
SPU	Mount Spurr	0.64	266	P	P	22 53 06.1	-1.0
SPU				S	S	22 53 15.9	-2.2
CKN	Chakachatna No	0.70	270	P	P	22 53 07.0	-0.7
SLKM	Skilak Lake	0.77	161	P	P	22 53 08.3	-0.2
CKL	Chakachamna La	0.78	268	P	P	22 53 07.8	-0.9
PMR	Palmer	0.85	64	P	P	22 53 09.4	0.0
PMR				S	S	22 53 22.0	-0.3
GHO	Glory Hole Cre	1.02	57	P	P	22 53 11.9	+0.3
GHO				S	S	22 53 26.7	+0.7
RDT	Redoubt	1.05	232	P	P	22 53 11.5	-0.3
RDT				S	S	22 53 25.7	-0.8
KNK	Knik Glacier	1.11	80	P	P	22 53 13.3	+0.6
CUT	Chulitna	1.20	10	P	P	22 53 13.8	0.0
NNL	Ninilchik	1.22	193	P	P	22 53 15.5	+1.4
PWL	Port Wells	1.23	107	P	P	22 53 14.5	+0.4
PWL				S	S	22 53 31.2	+0.7
RSO	Redoubt South	1.25	233	P	P	22 53 14.5	0.0
SML	Sawmill	1.29	62	P	P	22 53 15.2	+0.2
SML				S	S	22 53 32.0	0.0
SEW	Seward	1.29	150	P	P	22 53 15.1	0.0
CFI	College Fiord	1.44	91	P	P	22 53 17.3	+0.2
ILIM	Iliamna	1.59	225	P	P	22 53 19.3	+0.2
ILIM				S	S	22 53 39.3	+0.4
HOM	Homer	1.64	196	P	P	22 53 20.8	+1.0
IVE	Iliamna Volcan	1.66	224	P	P	22 53 20.4	+0.5
IVE				S	S	22 53 41.6	+1.2
ILW	Iliamna West	1.67	226	P	P	22 53 20.4	+0.3
ILW				S	S	22 53 41.0	+0.3
CNPM	China Poot	1.73	189	P	P	22 53 21.2	+0.3
SCM	Sheep Creek Mo	1.74	68	P	P	22 53 21.4	+0.3
GLI	Glacier Island	1.81	100	P	P	22 53 21.3	-0.7
GLI				S	S	22 53 44.2	+0.4
HUR	Hurricane	1.83	16	P	P	22 53 23.8	+1.5
XLV	Seldovia	1.85	196	P	P	22 53 22.7	+0.1
LTI	Latouche	1.85	129	P	P	22 53 22.2	-0.4
OPT	Oil Point	2.01	219	P	P	22 53 25.9	+1.2
JPK	Jack Peak	2.01	93	P	P	22 53 24.7	-0.1
JPK				S	S	22 53 49.9	+1.1
FID	Port Fidalgo	2.13	101	P	P	22 53 25.1	-1.3
FID				S	S	22 53 52.7	+1.0
VLZ	Valdez	2.13	91	P	P	22 53 26.3	-0.2
HIN	Hinchinbrook I	2.24	110	P	P	22 53 27.1	-0.8
TRF	Thorofare Moun	2.24	5	P	P	22 53 29.0	+1.1
AUL	Augustine Lava	2.29	217	P	P	22 53 30.0	+1.4
AUE	Augustine Isla	2.29	216	P	P	22 53 29.6	+0.9
AGU	Augustine-Summ	2.31	217	P	P	22 53 30.2	+1.3
AUI	Augustine Isla	2.33	216	P	P	22 53 30.1	+0.9
KLU	Klutina	2.33	81	P	P	22 53 29.0	-0.3
KTH	Kantishna Hill	2.33	358	P	P	22 53 30.2	+0.9
KTH				S	S	22 53 58.5	+1.7
SVW2	Sparrevohn	2.35	269	P	P	22 53 28.6	-0.9
RND	Reindeer	2.35	21	P	P	22 53 30.9	+1.3
DIV	Divide	2.41	90	P	P	22 53 29.8	-0.5
DIV				S	S	22 53 59.3	+0.7
EYAK	Cordova Ski Ar	2.53	103	P	P	22 53 31.0	-1.1
CVA	Cordova	2.53	104	P	P	22 53 31.0	-1.1
MCK	McKinley	2.65	18	P	P	22 53 34.7	+1.0
SDG	Sourdough	2.78	60	P	P	22 53 36.5	+0.9
SGAM	Sherman Glacie	2.80	103	P	P	22 53 34.5	-1.4
MID	Middleton Isla	2.84	128	P	P	22 53 36.4	+0.1
BMRM	Bremner River	2.99	92	P	P	22 53 37.7	-0.8
TT01	Tatalina	3.00	306	P	P	22 53 37.8	-0.9
BWN	Browne	3.01	11	P	P	22 53 39.4	+0.6
TTA	Tatalina	3.01	307	P	P	22 53 37.8	-1.1
PAX	Paxson	3.03	52	P	P	22 53 40.2	+1.1
RAGM	Ragged Mountai	3.09	103	P	P	22 53 38.3	-1.5
KAPH	Katmai Pasha	3.21	216	P	P	22 53 42.0	+0.5
GLB	Gilahina Butte	3.34	83	P	P	22 53 42.6	-0.8
KAHG	Katmai Hook Gl	3.35	217	P	P	22 53 43.9	+0.4
KAHC	Katmai Hardscr	3.37	222	P	P	22 53 43.7	-0.1
NEA	Nenana	3.44	12	P	P	22 53 45.0	+0.2
WRH	Wood River Hil	3.47	19	P	P	22 53 46.0	+0.8
KDAK	Kodiak Island	3.58	196	P	P	22 53 47.8	+1.1
CCB	Clear Creek Bu	3.68	20	P	P	22 53 48.1	-0.1
CRQM	Cirque	3.73	94	P	P	22 53 48.0	-0.8
MLY	Manley	3.82	360	P	P	22 53 50.0	0.0
ACHA	Angle Creek He	3.82	220	P	P	22 53 50.6	+0.6
MGLS	Mageik LS	3.82	220	P	P	22 53 50.3	+0.3
TGL	Tana Glacier	3.88	94	P	P	22 53 49.9	-1.0
ANCK	Angle Creek	3.88	220	P	P	22 53 51.1	+0.2
COLA	College	3.89	18	P	P	22 53 51.8	+0.8
CNTC	Contact Creek	3.95	223	P	P	22 53 51.9	0.0
IL1	Eielson Array	3.96	25	P	P	22 53 52.5	+0.4
ILAR	Eielson Array	3.96	25	P	P	22 53 52.7	+0.6
	9.7nm,0.3s,baz=217,slow=16,SNR=254						
ILAR				S	S	22 54 38.6	+1.0
	14nm,0.3s,baz=218,slow=22,SNR=8.4						
KJL	Kejulik	4.02	220	P	P	22 53 53.4	+0.5
BALM	Baldy	4.07	89	P	P	22 53 52.5	-1.1
YAH	Yahtse	4.49	97	P	P	22 53 59.2	-0.2
CTGM	Chitina Glacie	4.57	89	P	P	22 54 00.6	+0.1
BCA3	Beaver Creek A	4.58	62	P	P	22 54 00.3	-0.4
IM3	Indian Mountai	4.96	346	P	P	22 54 05.0	-0.9
IMA	Indian Mountai	5.03	346	*e*P	P	22 54 06.2	-0.7
PNL	Peninsula	5.83	101	P	P	22 54 16.5	-1.2
COLD	Coldfoot	6.03	2	P	P	22 54 21.0	+0.5
BM3	Burnt Mountain	6.76	21	P	P	22 54 30.2	-0.5
WHY	Whitehorse	7.74	87	P	P	22 54 42.6	-1.8
SDPT	Sand Point	7.81	225	P	P	22 54 44.2	-1.1
INK	Inuvik	10.18	39	*e*P	P	22 55 15.3	-2.0
SONM	Songino Array	54.96	307	P	P	23 02 17.5	+0.2
	3.7nm,0.8s,mb4.5,baz=39,slow=7.3,SNR=25						
EKA	Eskdalemuir Ar	60.99	21	P	P	23 03 03.1	+3.8
	1.0nm,0.7s,mb3.9,baz=337,slow=5.4,SNR=3.6						
BVAR	Borovoye Array	61.49	333	P	P	23 03 01.5	-1.2
	0.3nm,0.3s,mb3.8,baz=27,slow=9.7,SNR=3.7						
MKAR	Makanchi Array	64.15	322	P	P	23 03 18.8	-1.5
	0.3nm,0.5s,mb3.4,baz=24,slow=7.1,SNR=3.6						

*CSEM **18** 23:23:55.4±0.2, 75.81N×23.66E, h10km, ML2.8, Error ellipse: s-maj=13.8km s-min=2.1km az=74.0*
*NAO **18** 23:23:57.3±4.5, 76.10N×24.22E, h18km±28km, ML2.7*
*BER **18** 23:23:57.7±1.4, 76.14N×24.63E, h15km±22km, MD2.0, ML2.5, ML2.7(NAO)*
*HEL **18** 23:24:01.7±0.5, 75.84N×25.11E, h10km, ML2.8, MD2.0(BER), ML2.5(BER)*
ISC 18 23:23:53.0±0.7**, 75.96N**±0.03×**25.1E**±0.4**, h10**km**, n21, σ1.64**/35**, 1C, Barents Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPEN	Hopen	0.55	359	⇑*i*P	Pg	23 24 04.7	+0.6
HOPEN				*e*S	Sg	23 24 10.0	-1.6
HOPEN				AML	AML	23 24 10.7	
	comp=Z,461nm,0.3s						
HSP	Hornsund	2.47	300	*e*P	Pn	23 24 33.4	-0.6
HSP				*e*S	Sn	23 25 06.1	+1.6
SPA0	Spitsbergen Ar	2.96	323	Pn	Pn	23 24 39.7	-1.3
	baz=138,slow=16						
SPA0				Lg		23 25 22.6	
	baz=133,slow=28						
SPA0	Spitsbergen Ar	2.96	323	*e*	Pn	23 24 39.7	-1.3
SPA0				*e*S		23 25 22.6	
SPA0	Spitsbergen Ar	2.96	323	Pn	Pn	23 24 39.7	-1.3
	SNR=55						
SPA0				S		23 25 22.5	
KEV	Kevo	6.27	174	*e*P	Pn	23 25 31.4	+3.6
KEV				*e*S	Sn	23 26 40.3	0.0
KEV	Kevo	6.27	174	P	Pn	23 25 31.3	+3.5
KEV				S	Sn	23 26 40.3	0.0
ARA0	ARCESS Array S	6.46	179	Pn	Pn	23 25 33.5	+2.9
	baz=357,slow=11						
ARA0				Sn	Sn	23 26 44.4	-0.8
	baz=3.2,slow=22						
ARA0	ARCESS Array S	6.46	179	*e*P	Pn	23 25 33.5	+2.9
ARA0				*e*S	Sn	23 26 44.4	-0.8
ARA0	ARCESS Array S	6.46	179	P	Pn	23 25 33.5	+2.9
ARA0				S	Sn	23 26 44.3	-0.9
KIF	Kilpisjarvi	7.11	192	*e*P	Pn	23 25 43.1	+3.4
KIF				*e*S	Sn	23 26 58.7	-2.6
SGF	Sodankyl	8.58	176	*e*P	P	23 26 02.1	+2.0
SGF				*e*S	Sn	23 27 35.3	-2.7
SGF				MSN		23 27 40.5	
	comp=Z,1.4nm,0.4s						
SGF	Sodankyl	8.58	176	P	P	23 26 02.1	+1.9
SGF				S	Sn	23 27 35.3	-2.7
	comp=Z,1.4nm,0.4s						
KU4	Liikasenvaara	9.75	169	*e*P	P	23 26 18.1	+2.0
KU4				*e*S	Sn	23 28 01.5	-5.3
KU4				MSN		23 28 04.2	
	comp=Z,0.8nm,0.3s						
OUL	Oulu	10.94	178	*e*P	P	23 26 33.5	+1.1
OUL				*e*S	S	23 28 29.4	-6.4
KJN	Kajaani	11.97	174	*e*P	P	23 26 47.6	+1.2
KJN				*e*S	S	23 28 53.6	-7.4
KJN				MSN		23 28 58.7	
	comp=Z,1.1nm,0.3s						
KJN	Kajaani	11.97	174	P	P	23 26 47.6	+1.2
KJN				S	S	23 28 53.6	-7.4
	comp=Z,1.1nm,0.3s						
SUF	Sumiainen	13.31	178	*e*S	S	23 29 24.6	-8.9
KEF	Keuruu	13.86	180	*e*S	S	23 29 38.8	-7.6
KAF	Kangasniemi	13.92	178	*e*S	S	23 29 39.7	-8.1
FIA0	FINESS Array S	14.59	178	*e*S	S	23 29 57.6	-6.1

PRE 18 23:53:47.7±1.4**, 26.26S**×**27.69E, h2**km**, ML3.5, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRYS	Parys	0.72	204	*e*P	Pg	23 54 02.6	+0.4
PRYS				*e*S	Sg	23 54 11.9	+0.1
PRYS				AML	AML	23 54 20.9	
	comp=Z,496nm,0.6s						
SLR	Silverton	0.75	46	*e*P	Pg	23 54 02.4	-0.2
SLR				*e*S	Sg	23 54 12.4	-0.1
SLR				AML	AML	23 54 18.8	
	comp=Z,353nm,0.6s						
SEK	Senekal	2.06	182	*e*S	Sn	23 54 50.2	-0.1
SEK				AML	AML	23 54 54.3	
	comp=Z,219nm,0.3s						
SWZ	Schweizer	2.30	246	*e*P	Pn	23 54 28.0	+0.8
SWZ				*e*S	Sn	23 54 56.2	-0.2
SWZ				AML	AML	23 55 01.8	
	comp=Z,519nm,0.3s						
NWL	Newcastle	2.49	126	*e*P	Pn	23 54 30.5	+0.6
NWL				*e*S	Sn	23 55 01.1	-0.1
NWL				AML	AML	23 55 09.2	
	comp=Z,273nm,0.6s						
BOSA	Boshof	3.19	222	*e*P	Pn	23 54 39.1	-0.7
BOSA				*e*S	Sn	23 55 16.9	-2.0
POGA	Pongola	3.67	108	*e*P	Pn	23 54 46.4	-0.3
POGA				*e*S	Sn	23 55 30.1	-1.2
POGA				AML	AML	23 55 47.1	
	comp=Z,54nm,0.5s						
KSD	Kokstad	4.53	161	*e*S	Sn	23 55 35.2	-18
PKA	Prieska	5.53	231	*e*S	Sn	23 56 13.1	-4.9
PKA				AML	AML	23 56 23.2	
	comp=Z,27nm,0.4s						
UPI	Upington	6.10	248	*e*S	Sn	23 56 26.4	-5.9
UPI				AML	AML	23 57 00.9	
	comp=Z,19nm,0.5s						
CVNA	Calvinia	8.68	231	*e*S	Sn	23 57 28.9	-7.9
CVNA				AML	AML	23 58 17.1	
	comp=Z,24nm,0.7s						

CASC 19 00:00:06.1±2.1**, 10.93N**×**87.06W, MD4.5, ML3.7, 10C-5D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	1.28	35	⇓*e*P	Pb	00 00 31.2	+0.4
COPN	Copaltepe	1.32	20	⇓*i*P	Pb	00 00 31.1	-0.3
COPN				*e*S	Sb	00 00 49.9	+1.0
TICN	Ticuantepe	1.36	36	*e*P	Pb	00 00 32.1	-0.1
TICN				*e*S	Sb	00 00 51.8	+1.8
MASN	Masaya	1.38	40	*e*P	Pb	00 00 32.1	-0.2
APON	Apoyo	1.38	45	⇓*e*P	Pb	00 00 32.5	0.0
XAVN	Gruta Xavier	1.41	31	⇑*e*P	Pb	00 00 32.2	-0.7
MGAN	Managua	1.45	33	⇑*e*P	Pn	00 00 32.8	-0.8
MGAN				*e*S	Sb	00 00 52.8	+0.3
	comp=E,1μm,0.5s						
LEON	Leon	1.48	6	⇑*e*P	Pn	00 00 33.2	-0.9
WILN	Americas 2	1.49	35	⇑*e*P	Pn	00 00 33.5	-0.8
WILN				*e*S	Sb	00 00 53.0	-0.7
MIRN	Miramar	1.54	13	⇓*e*P	Pn	00 00 33.8	-1.1
MIRN				*e*S	Sb	00 00 57.2	+2.1
CONN	Concepcion	1.54	66	⇑*e*P	Pn	00 00 35.0	0.0
MOMJ	Momotombo	1.55	19	⇑*e*P	Pn	00 00 34.0	-1.1
CNGN	Cerro Negro	1.60	13	⇓*e*P	Pn	00 00 34.8	-0.9
TEL3	Telica 3	1.64	7	⇑*e*P	Pn	00 00 35.4	-1.0
CRIN	San Cristobal	1.76	0	⇑*e*P	Pn	00 00 37.1	-0.9
CRIN				*e*S	Sn	00 01 04.3	+2.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PYTN	Playitas	1.87	31	⇑eP	Pn	00 00 38.5	-1.1
CNCH	Conchagua	2.45	342	⇑eP	Pn	00 00 56.2	+8.2
CNCH				eS	Sn	00 01 28.2	+9.1
SNVI	San Vicente	3.18	327	eP	Pn	00 01 07.2	+8.8
SNVI				eS	Sn	00 01 47.4	+10
LCBS	La Ceiba	3.29	325	eP	Pn	00 01 09.1	+9.2
LCBS				eS	Sn	00 01 50.0	+10

GUC 19 00:41:03.2±0.9, 34.29S×70.23W, h3km±2km, MD3.5, ML2.3, 6C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CICH	Cipreses	0.17	258	⇑iP	Pg	00 41 06.9	+0.3
CICH				iS	Sg	00 41 09.5	+0.7
CACH	El Canelo	0.35	298	⇑iP	Pg	00 41 10.5	+0.2
CACH				iS	Sg	00 41 15.9	+0.9
LMEL	Las Melosas	0.44	2	⇑iP	Pg	00 41 12.5	+0.6
LMEL				iS	Sg	00 41 19.5	+1.7
LMEL				AMP		00 41 19.7	
	comp=N,780nm,0.2s						
CHCH	Chadas Angostu	0.50	315	⇓iP	Pg	00 41 13.6	+0.4
CHCH				iS	Sg	00 41 21.5	+1.6
SJCH	San Jose de Ma	0.65	351	⇑iP	Pg	00 41 16.2	0.0
SJCH				iS	Sg	00 41 26.1	+1.1
SJCH				AMP		00 41 27.0	
	comp=E,305nm,0.3s						
PCH	Pirque	0.71	340	⇓iP	Pg	00 41 17.5	+0.2
PCH				iS	Sg	00 41 28.5	+1.8
ANTU	Antumapu	0.79	334	⇓iP	Pg	00 41 19.1	+0.1
ANTU				iS	Sg	00 41 30.6	+1.0
ANTU				AMP		00 41 31.3	
	comp=N,198nm,0.3s						
TACH	Talagante	0.87	317	⇓iP	Pg	00 41 19.8	-0.7
TACH				iS	Sg	00 41 32.7	+0.6
CLCH	Cerro Calan	0.93	344	⇓iP	Pb	00 41 21.6	+0.1
CLCH				iS	Sg	00 41 35.1	+1.1
CLCH				AMP		00 41 36.9	
	comp=N,188nm,0.5s						
RCDM	Rinconada Maip	0.93	329	⇑iP	Pb	00 41 21.3	-0.3
RCDM				iS	Sb	00 41 34.6	+0.4
RCDM				AMP		00 41 36.0	
	comp=N,198nm,0.1s						
FCH	Farellones	0.96	357	⇓iP	Pb	00 41 22.1	+0.1
FCH				iS	Sb	00 41 36.0	+1.1
FCH				AMP		00 41 40.5	
	comp=N,118nm,0.2s						
SCR	San Cristobal	1.01	320	⇓iP	Pb	00 41 21.4	-1.6
SCR				iS	Sb	00 41 34.9	-1.8
SCR				AMP		00 41 35.6	
	comp=E,69nm,0.2s						
LNV	Longovilo	1.04	288	⇓iP	Pb	00 41 22.5	-1.0
LNV				iS	Sb	00 41 37.2	0.0
PEL	Peldehue	1.20	341	iS	Sb	00 41 43.4	+1.3
PEL				AMP		00 41 44.0	
	comp=N,264nm,0.6s						
LCCH	Las Cruces	1.38	305	⇑iP	Pb	00 41 28.4	-0.9
LCCH				iS	Sb	00 41 47.7	+0.5

IDC 19 00:49:19.6±3.1, 31.30S×68.92W, h91km±27km, mb4.1/5, mb1 4.0/8, mb1mx3.8/14, mbtmp4.2/8, MS2.5/1, Ms1 2.6/1, ms1mx2.4/10, Error ellipse: s-maj=31.9km s-min=27.8km az=77.0
GUC 19 00:49:20.8±0.5, 31.24S×69.23W, h159km±6km, ML4.4
NEIC 19 00:49:21.3±0.5, 31.21S×68.87W, h100km±6km, mb4.7/4, Error ellipse: s-maj=9.9km s-min=6.0km az=89.0
ISC 19 00:49:20.5±0.4, 31.22S±0.03×68.87W±0.05, h110km±4km, n52, σ0^{s}94/67, mb4.3/8, 11C-7D, San Juan Province

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZON	Zonda	0.36	154	⇓iP	P	00 49 37.0	+0.2
ZON				eS	S	00 49 49.0	0.0
CMCH	Combarbala	1.83	271	⇓iP	P	00 49 51.9	+0.1
CMCH				iS	S	00 50 15.3	0.0
CMCH				AMP		00 50 21.5	
	comp=N,13μm,0.7s						
TLL	Tololo Astrono	1.97	302	⇑iP	P	00 49 54.6	+1.0
TLL				iS	S	00 50 19.8	+1.4
TLL				AMP		00 50 24.0	
	comp=N,2μm,0.7s						
ILCH	Illapel	2.01	257	⇑iP	P	00 49 53.2	-0.9
ILCH				iS	S	00 50 18.8	-0.5
ILCH				AMP		00 50 20.1	
	comp=E,4μm,0.5s						
JACH	Jahuel	2.07	225	⇑iP	P	00 49 55.6	+0.7
JACH				iS	S	00 50 21.9	+1.2
FCH	Farellones	2.42	209	⇓iP	P	00 50 00.8	+1.1
FCH				⇓iP		00 50 00.9	
FCH				iS	S	00 50 31.1	+2.0
FCH				iS	S	00 50 31.5	+2.4
FCH				AMP		00 50 34.1	
	comp=E,949nm,0.2s						
FCH	Farellones	2.42	209	⇓iP	P	00 50 00.9	+1.2
FCH				iS	S	00 50 31.5	+2.4
PEL	Peldehue	2.46	218	eP	P	00 50 00.2	0.0
PEL				iS	S	00 50 30.0	0.0
PEL				AMP		00 50 36.1	
	comp=N,2μm,0.3s						
ROCH	El Roble	2.52	226	⇑iP	P	00 50 01.1	0.0
ROCH				iS	S	00 50 31.4	-0.1
PACH	Papudo	2.55	238	iP	P	00 50 00.2	-1.2
CLCH	Cerro Calan	2.59	213	⇓iP	P	00 50 02.2	+0.3
CLCH				iS	S	00 50 33.2	+0.1
CLCH				AMP		00 50 45.2	
	comp=E,1μm,0.7s						
CLCH				AMP		00 50 45.9	
	comp=E,1μm,0.7s						
DSCH	Colegio Aleman	2.61	213	⇑iP	P	00 50 02.4	+0.2
DSCH				iS	S	00 50 33.6	+0.1
DSCH				AMP		00 50 42.0	
	comp=E,2μm,0.5s						
PCH	Pirque	2.77	210	iP	P	00 50 04.5	+0.2
PCH				iS	S	00 50 37.6	+0.2
ANTU	Antumapu	2.78	212	AMP		00 50 39.9	
	comp=E,871nm,0.4s						
RCDM	Rinconada Maip	2.80	215	⇑iP	P	00 50 04.3	-0.4
RCDM				iS	S	00 50 37.5	-0.6
RCDM				AMP		00 50 40.6	
	comp=E,974nm,0.5s						
LMEL	Las Melosas	2.85	203	⇑iP	P	00 50 06.2	+0.6
LMEL				iS	S	00 50 40.7	+1.2
LMEL				AMP		00 50 48.4	
	comp=N,664nm,0.2s						
TACH	Talagante	2.99	215	iP	P	00 50 06.4	-1.0
TACH				iS	S	00 50 41.6	-1.2
CHCH	Chadas Angostu	3.10	209	⇑iP	P	00 50 08.6	-0.3
CHCH				iS	S	00 50 44.7	-0.6
VACH	Vallenar	3.10	328	⇑iP	P	00 50 08.9	+0.1
VACH				iS	S	00 50 45.0	-0.4
LCCH	Las Cruces	3.21	225	⇓iP	P	00 50 08.9	-1.4
LCCH				iS	S	00 50 45.6	-2.4
CACH	El Canelo	3.24	206	⇑iP	P	00 50 11.1	+0.3
CACH				iS	S	00 50 49.2	+0.5
CICH	Cipreses	3.36	203	⇑iP	P	00 50 12.6	+0.2
CICH				iS	S	00 50 51.5	-0.2
LVC	Limon Verde	8.57	360	ePn	P	00 51 21.4	-1.7
LVC				eSn	S	00 52 54.8	-3.9
TRQA	Tornquist	8.87	142	ePn	P	00 51 25.7	-1.5
	comp=N,27nm,0.6s						
TRQA				eSn	S	00 53 00.7	-5.3
PLCA	Paso Flores	9.59	188	P	P	00 51 33.8	-3.0
	comp=N,0.2nm,0.3s,baz=344,slow=14,SNR=2.6						
CPUP	Villa Florida	11.23	67	P	P	00 51 57.0	-1.8
	comp=N,0.2nm,0.3s,baz=255,slow=16,SNR=5.3						
CPUP	Villa Florida	11.23	67	P	P	00 51 57.0	-1.8
CPUP				ePn	P	00 51 58.5	-0.3
LPAZ	La Paz	14.88	3	P	P	00 52 48.5	+2.2
	comp=N,0.4nm,0.3s,baz=175,slow=7.7,SNR=24						
LPAZ				LR	LR	00 59 18.4	
	comp=N,19nm,21.5s,baz=111,slow=40						
LPAZ	La Paz	14.88	3	P	P	00 52 48.5	+2.2
LPAZ				eP		00 52 49.7	
LPAZ				LR	LR	00 59 18.4	
NNA	Nana	20.51	337	P	P	00 53 45.7	-6.1
	comp=N,51nm,1.5s						
SAML	Samuel	22.78	15	eP	P	00 54 15.3	+1.0
	comp=N,3.6nm,0.6s,mb3.9						
VNA3	Neumayer Olymp	50.95	159		P	00 58 15.2	+2.9
VNA3	Neumayer Olymp	50.95	159	e	pP	00 58 39.3	+0.7
VNA3	Neumayer Olymp	50.95	159	e	sP	00 58 50.2	-0.6
VNA2	Neumayer--Watz	51.57	158		P	00 58 17.9	+1.0
VNA2	Neumayer--Watz	51.57	158	e	pP	00 58 43.7	+0.4
VNA2	Neumayer--Watz	51.57	158	e	sP	00 58 55.0	-0.4
SNAA	Sanae	53.18	159		P	00 58 29.3	+0.4
SNAA	Sanae	53.18	159	e	pP	00 58 55.0	-0.4
SNAA	Sanae	53.18	159	e	sP	00 59 06.4	-1.2
SWET	Sewanee	68.00	345	eP	P	01 00 09.1	-0.8
WVT	Waverly	69.32	344	eP	P	01 00 16.9	-1.0
	comp=N,21nm,0.7s,mb5.1						
FVM	French Village	71.73	342	eP	P	01 00 32.3	-0.1
	comp=N,14nm,0.8s,mb4.8						
DBIC	Dimbokro	71.74	70	P	P	01 00 33.1	+0.2
	comp=N,3.0nm,0.5s,mb4.4,baz=206,slow=8.1,SNR=8.7						
CPRX	Cap Rock	71.95	330	eP	P	01 00 34.3	+0.5
BOSA	Boshof	78.96	117	P	P	01 01 13.8	+0.1
	comp=N,5.4nm,1.2s,mb4.3,baz=260,slow=11,SNR=3.0						
PDAR	Pinedale Array	82.56	331	P	P	01 01 33.1	+0.7
	comp=N,1.2nm,0.8s,mb3.8,baz=135,slow=5.1,SNR=8.4						
ULM	Lac du Bonnet	84.57	343	P	P	01 01 42.0	-0.2
	comp=N,5.5nm,0.9s,mb4.5,baz=194,slow=4.2,SNR=3.2						
SCHQ	Schefferville	85.71	1	P	P	01 01 47.7	-0.1
	comp=N,0.8nm,0.5s,mb3.9,baz=232,slow=12,SNR=2.9						
SCHQ	Schefferville	85.71	1	P	P	01 01 47.7	-0.1
MKAR	Makanchi Array	152.92	47	PKPbc	PKPdf	01 09 05.8	+9.1
	comp=N,2.3nm,0.7s,baz=303,slow=1.8,SNR=18						
MKAR				PKPab	PKPab	01 09 17.7	-0.4
	comp=N,2.6nm,0.8s,baz=287,slow=4.3,SNR=14						
SONM	Songino Array	163.01	11	PKPab	PKPab	01 10 01.3	-0.1
	comp=N,0.7nm,0.7s,slow=1.4,SNR=5.8						

KRSC 19 01:09:59.1±0.9, 49.42N×154.82E, h163km±10km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALID	Alaid	1.52	18	eP	P	01 10 30.8	+0.6
ALID				eS	S	01 10 54.4	+0.1
PAU	Pauzhetka	2.41	31	iP	P	01 10 41.7	+1.4
PAU				iS	S	01 11 12.7	+0.7
PAU				Smax			
	230nm,0.1s						
MIPR	Malaya Ipel'ka	3.11	23	eP	P	01 10 49.5	+0.4
MIPR				eS	S	01 11 26.6	-0.8
GRL	Gorelyy	3.75	32	eP	P	01 10 57.7	+0.5
GRL				eS	S	01 11 40.1	-1.9
APC	Apacha	3.81	22	eP	P	01 11 00.8	+2.8
APC				eS	S	01 11 44.1	+0.8
APC				Smax			
	20nm,0.8s						
RUS	Russkaya	3.81	36	eP	P	01 10 59.2	+1.1
RUS				eS	S	01 11 42.9	-0.6
UGLR	Uglovaya	4.55	32	eP	P	01 11 08.4	+0.8
KOK	Koryaka	4.55	30	eP	P	01 11 08.8	+1.1
AVH	Avacha	4.57	31	eP	P	01 11 07.2	-0.7
AVH				eS	S	01 11 57.7	-3.2
SMAR	Somma	4.59	31	eP	P	01 11 09.4	+1.3
SDLR	Sedlovina	4.63	32	eP	P	01 11 08.6	-0.1
GNL	Ganaly	4.70	23	eP	P	01 11 10.0	+0.3
NLC	Nalytchevo	4.71	35	eP	P	01 11 09.5	-0.2
NLC				eS	S	01 12 00.8	-3.4
SPN	Mys Shipunski	4.92	40	eP	P	01 11 13.4	+0.9
SPN				eS	S	01 12 07.6	-1.7
MKZ	Mys Kozlova	6.68	37	eP	P	01 11 35.1	-0.7
MKZ				eS	S	01 12 46.0	-5.1
TUMR	Tumrok	6.72	27	eP	P	01 11 36.7	+0.4
ESO	Esso	6.93	18	eP	P	01 11 38.3	-0.8
KBTR	Krutoberegovo	8.34	32	eP	P	01 11 58.6	+0.7
BKI	Bering	8.95	45	eS	S	01 13 31.6	-13

CSEM 19 01:44:19.0, 22.92N×60.96E, h30km, mb3.5, Error ellipse: s-maj=4.8km s-min=2.9km az=261.0, After OMAN
OMAN 19 01:44:18.9±4.5, 22.92N×60.96E, h30km, 8C-9D, Error ellipse: s-maj=4.8km s-min=2.9km az=261.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WBK	Wadi Bani Khal	1.86	261	⇓P	Pn	01 44 48.3	-1.1
	SNR=6.1						
WBK				⇑S	Sn	01 45 10.9	-1.2
BIDO	Bidbid	2.67	284	⇑P	Pn	01 45 01.2	+0.2
	SNR=13						
SMDO	Samad	2.68	274	⇑P	Pn	01 45 00.8	-0.4
	SNR=62						
SMDO				⇓S	Sn	01 45 33.6	+0.6
JMDO	Jabal Madar	2.69	259	⇓P	Pn	01 45 00.5	-0.8
	SNR=28						
JMDO				⇓S	Sn	01 45 31.9	-1.3
HOQ	Hoqain	3.42	282	⇑P	Pn	01 45 11.7	+0.1
BSY	Bisya	3.47	268	⇑P	Pn	01 45 12.8	+0.4
BSY				⇓S	Sn	01 45 51.6	-1.3
ASHO	Ashiyiah	4.82	292	⇓P	Pn	01 45 33.9	+2.4
	SNR=7.8						
BANOM	Banah	5.19	306	⇓P	Pn	01 45 37.2	+0.5
	SNR=66						
BANOM				⇓S	Sn	01 46 33.4	-3.0
SHAO	Shalim	6.98	227	⇑P	Pn	01 46 00.3	-1.6
RBK	Rabkut	8.32	231	⇑P	P	01 46 15.2	-5.4
WHFO	Wadi Hawf	8.38	235	⇑P	P	01 46 15.6	-5.8
ABTO	Aybut	9.08	234	⇓P	P	01 46 24.5	-6.6

CSEM 19 02:05:12.5, 34.89N×26.34E, h4km, MD3.5/3, After ATH
ATH 19 02:05:12.5, 34.89N×26.34E, h4km, MD3.5/3, Crete

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.53	269	ePG	Pg	02 05 22.5	-0.6
XRY				eSG	Sg	02 05 30.0	-0.2
NPS	Neapolis	0.70	302	ePG	Pg	02 05 25.3	-1.3
VAM	Vamos	1.83	287	ePB	Pb	02 05 47.4	+1.2

CASC 19 02:06:55.8±1.6, 13.79N×90.62W, h64km±13km, MD3.8, 7C-6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.41	23	⇓eP	P	02 07 07.5	+0.1
IXG				eS	S	02 07 16.7	+0.8
PCG	Pacaya	0.60	1	⇑iP	P	02 07 09.8	+0.5
FUG	Fuego 3	0.69	342	⇓eP	P	02 07 09.9	-0.3
RTR	El Retiro	0.95	84	⇑eP	P	02 07 24.8	+11
RTR				⇑eS	S	02 07 40.0	+13
RBDL	Robledal	0.96	71	⇑eP	P	02 07 23.6	+10
RBDL				eS	S	02 07 36.8	+10
SBLS	San Blas	0.97	87	⇓eP	P	02 07 24.9	+11
SBLS				eS	S	02 07 38.9	+12
SNJE	San Jose	0.99	86	⇑eP	P	02 07 25.1	+11
SNJE				eS	S	02 07 39.4	+12
TP2	Tecpan 2	1.06	339	⇓eP	P	02 07 15.8	+0.7
TP2				eS	S	02 07 31.5	+2.2
BOQS	Boqueron	1.30	92	⇑eP	P	02 07 29.0	+10
BOQS				eS	S	02 07 46.5	+11
LFU	La Fuente	1.47	92	eP	P	02 07 30.7	+10
LFU				eS	S	02 07 49.8	+11
LFRS	El Faro	1.53	96	eP	P	02 07 32.1	+11
LFRS				eS	S	02 07 52.0	+12
MRL	Marmol	1.55	35	⇓iP	P	02 07 21.8	0.0
MRL				eS	S	02 07 41.7	+0.5
LCBS	La Ceiba	1.60	95	⇑eP	P	02 07 33.6	+11
LCBS				eS	S	02 07 54.5	+12
SNVI	San Vicente	1.74	96	⇓eP	P	02 07 35.1	+11
SNVI				eS	S	02 07 58.5	+13

MDD 19 02:13:27.1±2.7, 36.86N×11.03W, mb4.2/1, Error ellipse: s-maj=24.0km s-min=14.6km az=55.0, PRXIMO
NEIC 19 02:13:27.1, 36.80N×11.13W, h11km, MG3.5(MDD), After MDD.
INMG 19 02:13:28.4±0.8, 36.74N×11.17W, h20km, ML1.9, Error ellipse: s-maj=5.6km s-min=3.1km az=65.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	2.11	67	ePn	Pn	02 14 00.6	-2.7
PTEO				eSn	Sn	02 14 25.6	-3.7
	5.4nm,0.2s						
PBEJ	Beja	2.93	63	eSn	Sn	02 14 44.7	-5.2
	2.4nm,0.1s						
EGRO	El Granado	3.05	74	Pn	Pn	02 14 13.6	-3.1
EGRO				Sn	Sn	02 14 47.7	-5.4
EGRO	El Granado	3.05	74	Pn	Pn	02 14 14.0	-2.7
	0.3nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	02 14 47.7	-5.4
	2.0nm,0.1s,SNR=6.9						
EGRO	El Granado	3.05	74	Pn	Pn	02 14 13.6	-3.1
	0.4nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	02 14 47.7	-5.3
	2.0nm,0.1s,SNR=6.9						
PTOM	Tomar	3.60	36	eSn	Sn	02 15 02.2	-4.7
	3.4nm,0.2s						
EMIN	Mina Concepcio	3.73	73	Pn	Pn	02 14 23.0	-3.4
EMIN				Sn	Sn	02 15 03.9	-6.4
EMIN	Mina Concepcio	3.73	73	Pn	Pn	02 14 23.0	-3.3
	0.3nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	02 15 03.9	-6.4
	1.3nm,0.1s,SNR=7.4						
EMIN	Mina Concepcio	3.73	73	Pn	Pn	02 14 23.0	-3.4
	0.4nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	02 15 03.9	-6.4
	1.3nm,0.1s,SNR=7.4						
EBAD	Badajoz	3.86	57	Pn	Pn	02 14 24.4	-3.8
	0.3nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	02 15 06.9	-6.6
	4.7nm,0.3s,SNR=6.0						
EBAD	Badajoz	3.86	57	Pn	Pn	02 14 24.4	-3.8
	0.3nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	02 15 06.9	-6.6
	4.7nm,0.3s,SNR=6.0						
PCBR	Castelo Branco	4.24	42	ePn	Pn	02 14 30.6	-3.0
PCBR				eSn	Sn	02 15 16.8	-6.4
ESPR	Espera	4.27	87	Pn	Pn	02 14 30.3	-3.7
ESPR				Sn	Sn	02 15 16.6	-7.3
ESPR	Espera	4.27	87	Pn	Pn	02 14 30.2	-3.8
	2.6nm,0.1s,SNR=5.6						
ESPR				Sn	Sn	02 15 16.5	-7.3
	5.6nm,0.2s,SNR=7.9						
ESPR	Espera	4.27	87	Pn	Pn	02 14 30.3	-3.7
	2.6nm,0.1s,SNR=5.6						
ESPR				Sn	Sn	02 15 16.5	-7.4
	5.6nm,0.2s,SNR=7.9						
MTE	Manteigas	4.63	37	eSn	Sn	02 15 26.3	-6.6
PVIS	Viseu	4.72	32	eSn	Sn	02 15 28.5	-6.8
	2.8nm,0.1s						
EMIJ	Mijas	5.15	90	Pn	Pn	02 14 42.7	-3.7
EMIJ				Sn	Sn	02 15 38.0	-8.1
EMIJ	Mijas	5.15	90	Pn	Pn	02 14 42.5	-3.9
	0.0nm,0.0s,SNR=7.9						
EMIJ				Sn	Sn	02 15 38.0	-8.1
	8.7nm,1.4s,SNR=7.9						
EMIJ	Mijas	5.15	90	Pn	Pn	02 14 42.7	-3.7
	0.2nm,0.1s,SNR=7.9						
EMIJ				Sn	Sn	02 15 38.0	-8.0
	8.7nm,1.4s,SNR=7.9						
PVRL	Vila Real	5.26	30	eSn	Sn	02 15 42.0	-6.9
	2.3nm,0.1s						
EADA	Adamuz	5.44	73	Pn	Pn	02 14 46.6	-3.9
	0.3nm,0.1s,SNR=5.6						
EADA				Sn	Sn	02 15 44.9	-8.4
	1.1nm,0.1s,SNR=7.9						
EADA	Adamuz	5.44	73	Pn	Pn	02 14 46.6	-3.9
	0.3nm,0.1s,SNR=5.6						
EADA				Sn	Sn	02 15 44.9	-8.4
	1.1nm,0.1s,SNR=7.9						
ELOB	Lobios	5.66	24	Pn	Pn	02 14 48.9	-4.7
	0.3nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	02 15 49.8	-8.9
	1.5nm,0.1s,SNR=6.4						
ELOB	Lobios	5.66	24	Pn	Pn	02 14 48.9	-4.7
	0.2nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	02 15 49.8	-9.0
	1.5nm,0.1s,SNR=6.4						
EZAM	Zamans	5.73	19	Sn	Sn	02 15 51.1	-10
	4.2nm,0.6s,SNR=7.9						
ECAL	Calabor	6.22	32	Sn	Sn	02 16 02.8	-10
	1.9nm,0.4s,SNR=7.9						
ECAL	Calabor	6.22	32	Sn	Sn	02 16 02.8	-10
	1.9nm,0.4s,SNR=7.9						
ESDC	Sonseca Array	6.39	61	Sn	Sn	02 16 06.8	-10
	SNR=7.9						
ESDC	Sonseca Array	6.39	61	Sn	Sn	02 16 06.8	-10
	SNR=7.9						
EMAZ	Mazaricos	6.42	15	Sn	Sn	02 16 08.0	-10
	1.7nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	6.42	15	Sn	Sn	02 16 08.0	-10
	1.7nm,0.2s,SNR=7.9						
EQES	Quesada	6.55	78	Pn	Pn	02 15 01.2	-4.9
	0.2nm,0.2s,SNR=7.9						
EQES				Sn	Sn	02 16 11.2	-10
	7.9nm,0.9s,SNR=7.9						
EQES	Quesada	6.55	78	Pn	Pn	02 15 01.2	-5.0
	0.2nm,0.2s,SNR=7.9						
EQES				Sn	Sn	02 16 11.2	-10
	7.9nm,0.9s,SNR=7.9						
EPON	Pontenova	7.26	24	Pn	Pn	02 15 11.1	-5.1
	0.4nm,0.2s,SNR=7.9						
EPON				Sn	Sn	02 16 27.6	-11
	9.6nm,1.2s,SNR=7.9						
EPON	Pontenova	7.26	24	Pn	Pn	02 15 11.1	-5.1
	0.4nm,0.2s,SNR=7.9						
EPON				Sn	Sn	02 16 27.6	-11
	9.6nm,1.2s,SNR=7.9						
ETOB	Tobarra	7.86	73	Sn	Sn	02 16 41.8	-12
	5.5nm,0.9s,SNR=7.9						
ETOB	Tobarra	7.86	73	Sn	Sn	02 16 41.8	-12
	5.5nm,0.9s,SNR=7.9						

BJI 19 02:38:07.8, 0.36N×97.80E, h43km, mB5.2, mb5.0, Ms4.6, Msz4.4
IDC 19 02:38:07.5±0.5, 0.97N×97.79E, mb4.6/16, mb1 4.7/16, mb1mx4.6/19, mbtmp4.6/16, MS3.8/8, Ms1 3.8/8, ms1mx3.6/16, Error ellipse: s-maj=22.3km s-min=13.1km az=60.0
MOS 19 02:38:11.1±1.0, 1.03N×97.82E, h33km, mb4.9/23, Error ellipse: s-maj=16.1km s-min=7.0km az=115.4
NEIC 19 02:38:12.1±0.3, 0.91N×97.82E, h30km, mb4.8/20, Error ellipse: s-maj=10.1km s-min=6.5km az=45.0
ISC 19 02:38:10.5±0.3, 0.92N±0.04×97.80E±0.04, h31km, h31km±1.2km:pP-P, n160, σ1^{s}03/154, mb4.8/66, MS4.1/18, 9C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPM	Ipoh	4.86	42	P	Pn	02 39 24.9	+1.4
KULM	Kulim	5.19	33	⇑iPn	Pn	02 39 29.2	+1.0
KULM				eSn	Sb	02 40 58.6	+16
KGM	Kluang	5.62	79	P	Pn	02 39 35.9	+1.6
SNG	Songkhla	6.82	24	P	Pn	02 39 52.9	+1.7
	270nm,0.9s						
KSM	Kuching	12.52	87	Pn	P	02 41 13.8	+4.2
BDT	Bhumibol Dam	16.26	4	P	P	02 42 04.0	+5.4
CHG	Chiang Mai	17.82	4	P	P	02 42 16.8	-1.3
NANT	Nan	18.00	9	⇓P	P	02 42 20.0	-0.3
	52nm,1.0s						
PALK	Pallekele	18.18	291	P	P	02 42 23.6	+0.9
	8.9nm,0.8s						
KKM	Kota Kinabalu	19.07	74	⇑eP	P	02 42 33.1	-0.3
KKM	Kota Kinabalu	19.07	74	P	P	02 42 34.3	+0.8
TSM	Tawau	20.33	80	P	P	02 42 47.0	-0.2
VIS	Vishakhapatnam	21.93	320	eP	P	02 42 59.8	-3.6
VIS				AMb	AMB	02 43 09.9	
	comp=Z,65nm,1.4s,mb4.9						
BWNR	Bhubaneshwar	22.55	329	eP	P	02 43 11.0	+1.3
BWNR				AMb	AMB	02 43 21.9	
	comp=Z,60nm,0.7s,mb5.1						
KMI	Kunming	24.53	11	P	P	02 43 28.0	-0.9
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
KMI				AMB	AMB		
	comp=Z,93nm,3.9s						
KMI				LR	LR		
	comp=N,384nm,17.2s,MS4.3						
KMI				LR	LR		
	comp=E,666nm,16.1s,MS4.3						
KMI				LR	LR		
	comp=Z,411nm,10.3s						
HYB	Hyderabad	25.04	312	eP	P	02 43 35.0	+1.1
HYB	Hyderabad	25.04	312	iP	P	02 43 35.0	+1.1
SHL	Shillong	25.16	347	eP	P	02 43 35.0	+0.1
	comp=Z,40nm,1.0s,mb4.9						
SHL				e		02 45 53.0	
MNGI	Mangalore	25.71	299	eP	P	02 43 39.1	-1.1

BLSP Bilaspur 26.02 325 eP P 02 43 43.0 0.0
BLSP e 02 49 21.1
GYA Guiyang 26.79 18 P P 02 43 54.9 +4.9
GYA AP pP 02 44 03.8 +4.9
GYA XP sP 02 44 07.8 +4.8
GYA S **S 02 48 25.6 +3.5**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.7
GYA LR LR
comp=N,310nm,16.2s,MS4.1
GYA LR LR
comp=E,240nm,15.8s,MS4.1
GYA LR LR
comp=Z,270nm,15.9s,MS3.9
NGP Nagpur 27.18 319 eP P 02 43 54.1 +0.4
NGP AMb AMB 02 43 57.6
comp=Z,18nm,1.3s,mb4.5
PKI Pulchoki 29.04 337 eP P 02 44 10.4 0.0
comp=Z,58nm,1.1s,mb5.2
PKI Pulchoki 29.04 337 eP P 02 44 10.4 0.0
PKI pmax pmax
comp=Z,29nm,1.1s,mb4.9
GUN Gumba 29.16 338 eP P 02 44 11.8 +0.3
comp=Z,64nm,0.7s,mb5.5
DMN Daman 29.19 336 eP P 02 44 11.7 -0.1
comp=Z,42nm,1.0s,mb5.1
KKN Kakani 29.29 337 eP P 02 44 12.4 -0.2
comp=Z,56nm,0.9s,mb5.3
KKN Kakani 29.29 337 eP P 02 44 12.4 -0.2
KKN pmax pmax
comp=Z,28nm,0.9s,mb5.0
LSA Lhasa 29.31 348 P P 02 44 13.8 +1.0
GKN Gorkha 29.73 336 eP P 02 44 16.4 -0.2
comp=Z,45nm,1.0s,mb5.2
KOLN Koldanda 29.96 334 eP P 02 44 18.8 +0.1
comp=Z,55nm,1.0s,mb5.2
TATO Taipei 33.10 42 eP P 02 44 51.8 +5.6
FITZ Fitzroy Crossi 33.28 126 eP P 02 44 45.4 -2.4
comp=Z,11nm,0.6s,mb5.0
FITZ Fitzroy Crossi 33.28 126 P P 02 44 45.5 -2.2
comp=Z,9.3nm,0.5s,mb4.9,baz=8.2,slow=15,SNR=18
XAN Xi'an 34.55 16 P P 02 44 56.9 -1.8
XAN AMB AMB
comp=Z,23nm,0.8s,mb5.2
LZH Lanzhou 35.44 8 eP P 02 45 06.1 -0.1
LZH AP pP 02 45 16.5 +1.2
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.0
NJ2 Nanjing 36.79 31 eP P 02 45 15.4 -2.2
NJ2 AP pP 02 45 25.1 -1.7
NJ2 XP sP 02 45 29.1 -1.5
NJ2 PP PP 02 46 40.8 -2.6
NJ2 S **S 02 50 57.0 -2.1**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 AMB AMB
comp=Z,2μm,4.7s
NJ2 LR LR
comp=N,2μm,18.4s,MS5.1
NJ2 LR LR
comp=E,2μm,20.5s,MS5.1
NJ2 LR LR
comp=Z,930nm,18.0s,MS4.6
SSE Sheshan 37.30 34 P P 02 45 18.0 -3.9
SSE S **S 02 51 07.1 +0.2**
SSE PCS 02 51 23.3
SSE AMB AMB
comp=Z,38nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,566nm,6.5s
SSE LR LR
comp=N,118nm,26.3s,MS3.7
SSE LR LR
comp=E,121nm,26.3s,MS3.7
SSE LR LR
comp=Z,80nm,18.1s
NWAO Narrogin (SRO) 38.34 153 P P 02 45 31.4 +0.8
comp=Z,10nm,0.8s,mb4.6,baz=310,slow=7.6,SNR=4.0
GTA Gaotai 38.35 3 eP P 02 45 30.8 +0.1
GTA AP pP 02 45 40.3 +0.5
GTA XP sP 02 45 44.3 +0.7
GTA PP PP 02 47 03.6 +1.6
GTA PPP PPP 02 47 25.3 +0.7
GTA S **S 02 51 25.3 +2.5**
GTA SS SS 02 54 06.4 +3.5
GTA AMB AMB
comp=Z,8.0nm,0.9s,mb4.5
GTA AMB AMB
comp=Z,84nm,6.1s
GTA LR LR
comp=N,106nm,13.7s,MS4.2
GTA LR LR
comp=E,219nm,12.2s,MS4.2
GTA LR LR
comp=Z,152nm,9.9s
WRA Warramunga Arr 41.38 122 P P 02 45 54.9 -1.0
comp=Z,7.1nm,0.7s,mb4.4,baz=302,slow=9.1,SNR=27
WRA PcP PcP 02 47 54.3 0.0
comp=Z,2.5nm,0.7s,baz=313,slow=2.6,SNR=6.1
WRAB Tennant Creek 41.38 122 *i* P P 02 45 52.2 -3.7
WRAB Tennant Creek 41.38 122 eP P 02 45 54.2 -1.7
comp=Z,12nm,0.6s,mb4.7
WB2 Warramunga Arr 41.39 122⇑ *i*P P 02 45 54.6 -1.3
HHC Hu-ho-hao-te 41.66 16 eP P 02 46 01.6 +3.6
HHC AP pP 02 46 11.3 +4.1
HHC XP sP 02 46 14.9 +3.9
HHC PP PP 02 47 41.3 +4.0
HHC S **S 02 52 14.5 +2.2**
HHC XS 02 52 30.1
HHC SS SS 02 55 14.3 +1.2
HHC AMB AMB
comp=Z,16nm,1.3s,mb4.5
HHC AMB AMB
comp=Z,184nm,10.8s
HHC LR LR
comp=N,245nm,15.6s,MS4.5
HHC LR LR
comp=E,368nm,14.4s,MS4.5
HHC LR LR
comp=Z,172nm,13.2s,MS4.1
DL2 Dalian 43.65 27 P P 02 46 15.0 +0.8
DL2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
WMQ Urumqi 43.65 349 eP P 02 46 14.6 +0.4
WMQ AP pP 02 46 24.5 +1.1
WMQ XP sP 02 46 28.4 +1.2
WMQ PP PP 02 47 58.3 +0.7
WMQ AMB AMB
comp=Z,24nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,51nm,5.3s
WMQ LR LR
comp=N,321nm,16.7s,MS4.4
WMQ LR LR
comp=E,202nm,16.5s,MS4.4
WMQ LR LR
comp=Z,435nm,17.6s,MS4.4
JNU Nakatsue 44.62 41 P P 02 46 22.4 +0.1
comp=Z,20nm,0.8s,mb5.0,baz=210,slow=8.3,SNR=13
ULHL Ulahol 45.48 338 P P 02 46 28.6 -0.3
SNR=6.4
KS15 Wonju Array Si 45.71 34 eP P 02 46 30.8 0.0
TKM2 Tokmak 2 46.30 337 P P 02 46 36.0 +0.5
SNR=9.1
KBK Karagaybulak 46.33 337 P P 02 46 35.0 -0.7
SNR=5.8
AML Almayashu 46.40 335 P P 02 46 37.1 +0.9
SNR=8.8
AAK Ala-Archa 46.49 336 eP P 02 46 37.1 +0.2
AAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
AAK Ala-Archa 46.49 336 P P 02 46 41.6 +4.7
EKS2 Erkin-Say 46.81 336 P P 02 46 40.2 +0.8
SNR=6.4
SNY Shenyang 46.88 26 ⇑P P 02 46 39.6 -0.4
SNY AMB AMB
comp=Z,30nm,0.9s,mb5.2
SNY AMB AMB
comp=Z,230nm,8.0s
USP Ospenovka 47.02 337 P P 02 46 41.3 +0.2
SNR=17
SONM Songino Array 47.32 8 P P 02 46 43.5 +0.1
comp=Z,11nm,1.0s,mb4.7,baz=189,slow=9.5,SNR=25
SONM PcP PcP 02 48 13.9 -0.5
comp=Z,1.2nm,0.6s,baz=179,slow=5.3,SNR=3.6
ULN Ulaanbaatar 47.44 8 eP P 02 46 44.8 +0.4
MKAR Makanchi Array 47.66 346 eP P 02 46 45.8 -0.3
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 47.66 346 P P 02 46 45.9 -0.2
comp=Z,22nm,0.8s,mb5.2,baz=158,slow=8.1,SNR=123
KKAR Karatay Array 48.57 333 *i* P P 02 46 52.5 -0.7
KKAR pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
CN2 Changchun 49.28 26 eP P 02 46 58.1 -0.6
CN2 eXP sP 02 47 11.0 -0.7
CN2 eS **S 02 54 02.3 +0.6**
CN2 AMB AMB
comp=Z,30nm,0.9s,mb5.3
CN2 AMB AMB
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.5
CN2 LR LR
comp=E,300nm,15.0s,MS4.5
CN2 LR LR
comp=Z,300nm,17.0s,MS4.4
ZAK Zakamensk 49.50 5 eP P 02 46 59.9 -0.3
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
PMG Port Moresby 50.21 103 eP P 02 47 06.8 +0.6
TLY Talaya 50.82 5 eP P 02 47 10.8 +0.5
TLY *e* 02 57 47.7
TLY pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MJAR Matsushiro Arr 51.49 42 LR LR 03 09 58.4
comp=Z,87nm,18.1s,MS3.8,baz=310,slow=37
MDJ Mudanjiang 51.82 29 P P 02 47 18.5 +0.5
MDJ AP pP 02 47 26.8 -0.6
MDJ XP sP 02 47 31.3 +0.3
MDJ PP PP 02 49 15.9 -0.5
MDJ S **S 02 54 43.4 +6.7**
MDJ SS SS 02 58 15.3 +3.9
MDJ AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,75nm,3.8s
MDJ LR LR
comp=N,65nm,19.3s,MS4.0
MDJ LR LR
comp=E,116nm,18.6s,MS4.0
MDJ LR LR
comp=Z,70nm,20.6s,MS3.7
CTAO Charters Tower 51.84 117 eP P 02 47 19.0 +0.5
KURK Kurchatov 52.22 345 eP P 02 47 19.9 -1.0
KURK pmax pmax
comp=Z,11nm,0.8s,mb4.8
KURK Kurchatov 52.22 345 eP P 02 47 19.9 -1.0
comp=Z,11nm,0.8s,mb4.8
CIT Chita 52.61 12 eP P 02 47 27.3 +3.5
CIT pmax pmax
comp=Z,48nm,2.6s,mb5.0
STKA Stephens Creek 52.73 132 eP P 02 47 24.8 -0.2
comp=Z,3.5nm,0.6s,mb4.5
STKA Stephens Creek 52.73 132 P P 02 47 24.6 -0.3
comp=Z,4.1nm,0.5s,mb4.6,baz=323,slow=6.1,SNR=11
KAMS Al Khamasin 55.43 294 P P 02 47 43.7 -1.3
MZLS Mizel 55.81 299 P P 02 47 48.4 +0.7
DJNS Zahran al Janu 55.83 291 P P 02 47 48.6 +0.7
KLR Kul'dur 56.24 26 eP P 02 47 46.0 -4.3
VOSK Vostochnaya 56.26 341 P P 02 47 48.9 -1.6
VOSK pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
BVA0 Borovoye Array 56.71 341 P P 02 47 52.1 -1.6
BVA0 pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
BRVK Borovoye 56.77 341 eP P 02 47 51.8 -2.3
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BRVK Borovoye 56.77 341 eP P 02 47 51.8 -2.4
comp=Z,5.4nm,0.8s,mb4.6
ZRNK Zerenda 57.12 340 eP P 02 47 55.0 -1.6
ZRNK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ZRNK Zerenda 57.12 340 eP P 02 47 55.0 -1.6
comp=Z,7.9nm,1.0s,mb4.7
AB31 Akbulak array 58.04 332 P P 02 48 01.6 -1.5
AB31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
BLJS Baljurashi 58.07 293 P P 02 48 04.6 +0.9
BOD Bodaibo 58.17 10 eP P 02 48 02.2 -1.7
BOD pmax pmax
comp=Z,12nm,0.9s,mb4.9
YSS Yuzh-Sakhalins 60.24 34⇑ eP P 02 48 20.3 +1.9
YSS *e* pP 02 48 29.8 +1.9
KMBO Kilima Mbogo 60.58 268 LR LR 03 09 38.5
comp=Z,86nm,20.6s,MS3.9,baz=98,slow=31
TBLG Delisi 62.59 318 P P 02 48 33.9 -0.4
SVE Sverdlovsk 63.17 338 eP P 02 48 37.0 -0.9
SVE pmax pmax
comp=Z,20nm,1.2s,mb5.1
SVE MLR MLR
comp=N,100nm,11.0s,MS4.4
SVE MLR MLR
comp=E,100nm,11.0s,MS4.4
SVE MLR MLR
comp=Z,100nm,11.0s,MS4.2
ZEI Tsey 63.60 318 eP P 02 48 37.7 -3.3
ZEI *i* *PP pP 02 48 45.0 -5.5
ZEI *i* 02 50 58.9
ZEI pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ARU Arti 63.67 337⇓ *i*P P 02 48 39.5 -1.7
ARU *e* 02 49 13.3
ARU *e* 02 51 02.1
ARU eS **S 02 57 13.9 +2.2**
ARU eSS SS 03 01 22.0 +0.8
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ARU Arti 63.67 337 eP P 02 48 39.2 -2.0
comp=Z,6.4nm,0.8s,mb4.7
KIV Kislovodsk 64.91 319 eP P 02 48 48.1 -1.4
KIV pmax pmax
comp=Z,12nm,0.8s,mb5.0
KIV Kislovodsk 64.91 319 eP P 02 48 48.1 -1.4
comp=Z,12nm,0.8s,mb5.0
YAK Yakutsk 65.52 16⇓ *i*P P 02 48 51.9 -1.2
YAK pmax pmax
comp=Z,31nm,0.6s,mb5.5
JMOS Jabal al Moall 65.86 302 P P 02 48 56.4 +0.5
MKRJ Makawir 65.98 304 P P 02 48 56.6 0.0
HAQS Haql 65.99 301 P P 02 48 57.1 +0.5
EIL Elat 66.11 302 P P 02 48 57.4 0.0
EIL Elat 66.11 302 eP P 02 48 56.7 -0.7
comp=Z,11nm,0.8s,mb4.9
KSHT Keshet 66.21 306 P P 02 48 58.6 +0.6
PRNI Paran 66.22 303 P P 02 48 58.3 +0.2
SOC Sochi 66.73 318 eP P 02 49 02.5 +1.4
SOC *e* 02 49 23.4
SOC *e* 02 51 24.7
SOC ePPP PPP 02 53 11.4 +5.0
SOC eS S 02 57 55.1 +5.7
SOC *e* 02 58 51.7
SOC eSS SS 03 02 05.3 -3.6
SOC pmax pmax
comp=Z,11nm,0.6s,mb5.1
SOC pmax pmax
comp=N,5.0nm,0.7s
SOC pmax pmax
comp=E,3.0nm,0.7s
BR131 Keskin Array S 69.74 312 eP P 02 49 18.6 -1.3
comp=E,2.5nm,0.6s,mb4.3
BRTR Keskin Array B 69.74 312 P P 02 49 18.4 -1.5
comp=E,3.8nm,0.7s,mb4.4,baz=133,slow=7.1,SNR=25
MA2 Magadan 71.33 25 eP P 02 49 29.4 +0.2
MAW Mawson 72.58 193 P P 02 49 37.4 +0.9
comp=E,1.9nm,0.8s,mb4.1,baz=28,slow=7.8,SNR=4.6
MOS Moscow 72.88 329 eP pP 02 49 49.5 +1.4
OBN Obninsk 73.17 328 *d* **iP P 02 49 39.1 -1.1**
OBN *e* 02 52 22.8
OBN eS S 02 59 07.2 +2.6
OBN pmax pmax
comp=Z,23nm,1.9s,mb4.8
TIXI Tiksi 73.36 10 eP P 02 49 36.9 -4.1
TIXI pmax pmax
comp=Z,12nm,1.0s,mb4.8
SEY Seymchan 73.78 23 eP P 02 49 42.9 -0.7
BOSA Boshof 75.16 240 P P 02 49 52.8 +0.5
comp=Z,10nm,0.8s,mb4.8,baz=101,slow=6.6,SNR=19
BOSA LR LR 03 19 08.8
comp=Z,88nm,18.1s,MS4.1,baz=344,slow=33
AKASG Malin Array Be 75.84 322 P P 02 49 54.1 -1.6
comp=Z,3.2nm,0.6s,mb4.4,baz=87,slow=4.8,SNR=21
VRI Vrincioaia 76.23 317 ⇑P P 02 49 58.3 +0.3
MLR Muntele Rosu 76.68 317 ⇑P P 02 50 00.8 +0.3
BURAR Bucovina Array 77.63 319 ⇑P P 02 50 06.6 +0.9
BURAR Bucovina Array 77.63 319 ⇑P P 02 50 06.6 +0.9
KOLS Kolonicke sedl 79.82 320 eP P 02 50 18.2 +0.6
CRVS Cervenica-Dubn 80.34 319 *i* P P 02 50 20.3 -0.1
FINES FINESS Array B 80.52 332 P P 02 50 20.7 -0.4
comp=Z,2.1nm,0.6s,mb4.3,baz=124,slow=6.9,SNR=19
FINES LR LR 03 31 12.8
comp=Z,45nm,18.3s,MS3.9,baz=138,slow=40
FINES FINESS Array B 80.52 332 P P 02 50 20.7 -0.4
STHS Stebnicka Huta 80.57 320 *i* P P 02 50 22.7 +1.1
KAF Kangasniemi 80.60 333 *ep* P 02 50 20.3 -1.2
comp=Z,2.9nm,0.5s,mb4.5,baz=101,slow=4.9
KECS Kecovo 80.91 319 *i* P P 02 50 23.8 +0.4
BILL Bilibino 81.21 21 eP P 02 50 20.4 -4.2
BILL pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
PSZ Piszkesteto 81.21 318 eP P 02 50 23.5 -1.5
PSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
PSZ Piszkesteto 81.21 318 eP P 02 50 23.5 -1.5
comp=Z,6.7nm,0.9s,mb4.6
TIP Timpagrande 82.47 309 eP P 02 50 32.3 +0.6
KEV Kevo 82.56 341 *ep* P 02 50 30.2 -1.4
comp=Z,5.1nm,0.9s,mb4.5
ARCES ARCESS Array B 83.00 340 P P 02 50 34.4 +0.5
comp=Z,5.2nm,0.9s,mb4.6,baz=124,slow=4.4,SNR=16
ARCES LR LR 03 34 32.8
comp=Z,46nm,18.7s,MS3.9,baz=130,slow=41
ZST Bratislava 83.11 318 *i* P P 02 50 35.1 +0.3
KOGS Kog 83.50 316 eP P 02 50 37.5 +0.6
DPC Dobruska-Polom 83.85 320 eP P 02 50 39.5 +0.9
LJU Ljubljana 84.66 316 eP P 02 50 43.8 +1.0
PRU Pruhonice 84.95 320 eP P 02 50 47.6 +3.5
BRG Berggiesshubel 85.40 321 eP P 02 50 47.3 +0.9
BRG pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
BRG Berggiesshubel 85.40 321 eP P 02 50 47.3 +0.9
comp=Z,4.7nm,0.9s,mb4.6
GERES GERESS Array B 85.42 319 P P 02 50 47.4 +1.0
comp=Z,3.4nm,0.9s,mb4.5,baz=135,slow=7.5,SNR=11
GERES LR LR 03 34 13.6
comp=Z,79nm,18.6s,MS4.1,baz=109,slow=39
VNDA Vanda 85.44 169 P P 02 50 47.4 +1.4
comp=Z,1.4nm,0.7s,mb4.2,baz=301,slow=5.2,SNR=9.7
KHC Kasperske Hory 85.52 319 eP P 02 50 47.4 +0.4
CLL Collm 86.02 321 P P 02 50 50.0 +0.6
NB2 NORSAR Subarra 87.54 331 P P 02 50 56.6 0.0
comp=Z,4.6nm,0.8s,mb4.8,baz=95,slow=4.8
NB2 NORSAR Subarra 87.54 331 P P 02 50 56.6 0.0
NB2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
NOA NORSAR Array B 87.54 331 P P 02 50 57.0 +0.4
comp=Z,4.2nm,0.9s,mb4.7,baz=94,slow=5.0,SNR=13
NOA LR LR 03 34 08.4
comp=Z,31nm,18.3s,MS3.8,baz=75,slow=38
QSPA South Pole Qui 90.86 180 eP P 02 51 12.9 +1.0
JMIC Jan Mayen 94.42 342 LR LR 03 35 09.7
comp=Z,28nm,18.7s,MS3.8,baz=72,slow=36
MSO Missoula 124.91 26 *e*PKPdf PKPdf 02 57 09.5 -3.7
DGMT Dagmar 127.23 18 *eP* PKPdf 02 57 14.1 -3.4
PDAR Pinedale Array 130.03 26 PKP PKPdf 02 57 19.6 -3.4
comp=Z,0.7nm,0.6s,baz=315,slow=2.1,SNR=5.0
MSU Marysvale 132.04 32 *e*PKIKP PKPdf 02 57 25.4 -1.6
PV10 Paradox Valley 133.74 29 *e*PKPdf PKPdf 02 57 28.7 -1.5
SMCO Snowmass 134.08 27 *eP* Pdif 02 54 20.0 -4.6
BDFB Brasilia 143.24 245 PKhKP 02 57 41.8
comp=Z,2.0nm,0.7s,baz=135,slow=1.4,SNR=4.2
CPUP Villa Florida 145.20 221 PKPbc PKPbc 02 57 47.8 +1.4
comp=Z,14nm,1.1s,baz=115,slow=6.1,SNR=11
CPUP Villa Florida 145.20 221 *e*PKPdf PKPdf 02 57 47.2 -4.0
LRAL Lakeview Retre 145.93 7 *eP*KPdf PKPdf 02 57 48.1 -4.0
LPAZ La Paz 159.37 222 PKPab PKPab 02 58 50.6 +3.9
comp=Z,0.7nm,0.7s,baz=80,slow=6.1,SNR=4.4

MAN 19 02:56:05.4, 9.91N×126.37E, *h*3km, mb4.5, ML3.4, MS3.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.87**	**262**	*eP*			Pb	02 56 22.2	-0.6
SCPH				*eS*			Sg	02 56 34.4	-0.1
BUTP	**Butuan**	**1.19**	**218**	*eP*			Pb	02 56 25.9	-2.3
BUTP				*eS*			Sb	02 56 43.3	-0.5
MSLP	**Maasin**	**1.50**	**279**	*eP*			Pn	02 56 33.9	+0.6
MSLP				*eS*			Sb	02 56 52.6	-0.3
BESP	**Borongan**	**1.91**	**332**	*eP*			Pn	02 56 39.2	-0.1
BESP				*eS*			Sn	02 57 02.1	-2.0
BUKP	**Musuan**	**2.39**	**213**	*eP*			Pn	02 56 46.4	+0.3
BUKP				*eS*			Sn	02 57 16.6	+0.3
LLP	**Lapu-Lapu**	**2.40**	**280**	*eP*			Pn	02 56 47.0	+0.9
LLP				*eS*			Sn	02 57 15.5	-0.9
TBP	**Tagbilaran**	**2.48**	**265**	*eP*			Pn	02 56 47.9	+0.7
TBP				*eS*			Sn	02 57 14.2	-4.2
CNP	**Catarman**	**3.08**	**327**	*eP*			Pn	02 56 55.0	-0.9
CNP				*eS*			Sn	02 57 31.4	-2.3
PAGZ	**Pagadian**	**3.59**	**235**	*eP*			Pn	02 57 03.0	-0.1
PAGZ				*eS*			Sn	02 57 43.0	-3.6
PVCP	**Virac**	**4.26**	**330**	*eP*			Pn	02 57 12.6	0.0
PVCP				*eS*			Sn	02 58 02.0	-1.5

*NEIC **19** 02:58:02.1, 16.28N×98.36W, h19km, MD3.7(MEX), After MEX.*

MEX 19 02:57:58.9±1.1, 16.11N×98.42W, h18km±38km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.40**	**45**	*eP*			Pb	02 58 06.5	-0.5
PNIG				*i* SG			Sb	02 58 11.4	-1.2
ACX	**Acapulco**	**1.62**	**298**	*eP*			Pn	02 58 23.0	-4.0
ACX				*eS*			Sn	02 58 42.0	-5.6
OXX	**Oaxaca**	**1.89**	**59**	*eP*			Pn	02 58 27.0	-3.8
OXX				*eS*			Sn	02 58 48.0	-6.4
CAIG	**El Cayaco**	**2.01**	**298**	*eP*			Pn	02 58 32.1	-0.3
CAIG				*eS*			Sn	02 58 55.3	-2.0
CAIG	**El Cayaco**	**2.01**	**298**	*eP*			Pn	02 58 29.7	-2.8
CAIG				*i* S			Sn	02 58 52.0	-5.3
PLIG	**Platanillo**	**2.50**	**336**	*eP*			Pn	02 58 37.8	-1.7
PLIG				*eS*			Sn	02 59 05.6	-4.2
YAIG	**Yautepec**	**2.81**	**347**	*eP*			Pn	02 58 42.4	-1.5
YAIG				*eS*			Sn	02 59 12.8	-4.9
PPM	**Popocatepetl**	**2.95**	**356**	*eP*			Pn	02 58 42.0	-4.0
IISM	**Ciudad Serdan**	**3.03**	**19**	*eP*			Pn	02 58 45.0	-2.1
IISM				*eS*			Sn	02 59 20.0	-3.3
CMIG	**Matias Romero**	**3.52**	**73**	*i P*			Pn	02 58 51.2	-2.9
CMIG				*i* S			Sn	02 59 30.3	-5.5

*STR **19** 03:31:23.1±0.9, 52.74N×19.90E, h20km±1km, ML4.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BJI **19** 03:31:55.7, 52.43N×15.49E, h8km, mB4.6, mb4.7, Ms4.5, Msz4.3*
*MOS **19** 03:31:55.5±1.3, 51.64N×16.00E, h10km, mb4.5/8, Error ellipse: s-maj=5.3km s-min=3.3km az=76.8*
*LDG **19** 03:31:55.4±0.1, 51.58N×16.15E, h1km, Md4.3/3, Ml4.7/29, Error ellipse: s-maj=4.0km s-min=2.2km az=176.0, Suspected Mining induced.*
*BGR **19** 03:31:56.2±0.7, 51.53N×16.26E, h1km, ML4.4/7, Error ellipse: s-maj=17.8km s-min=6.7km az=169.0*
*CSEM **19** 03:31:56.1±0.1, 51.58N×16.14E, h2km, mb3.9/2, ML4.7/21, Error ellipse: s-maj=2.0km s-min=1.7km az=101.0*
*NAO **19** 03:31:57.2±3.1, 51.43N×15.91E, ML3.2*
*NEIC **19** 03:31:57.2±0.2, 51.60N×16.07E, h5km, mb4.4/10, ML4.4(SZGRF), ML4.2(CLL), ML4.5(FUR), ML4.4(VIE), ML3.9(BRG), Error ellipse: s-maj=3.6km s-min=3.3km az=157.0*
*IPEC **19** 03:31:57.3±0.3, 51.55N×16.32E, ML3.9/4, Error ellipse: s-maj=3.8km s-min=1.9km az=87.0*
*WAR **19** 03:31:58.7, 51.52N×16.12E, h1km, ML4.0, Mining Induced*
*IDC **19** 03:31:59.2±1.4, 51.49N×16.10E, h10km±10km, mb4.0/6, mb1 4.0/16, mb1mx3.9/25, mbtmp3.9/16, ML3.6/10, Error ellipse: s-maj=9.5km s-min=6.1km az=98.0*
*UPP **19** 03:32:02.0, 51.76N×15.64E, h0km, ML2.9, Mining*

explosion.

ISC 19 03:31:54.9±0.1, 51.56N±0.01×16.11E±0.02, n246, $\sigma 1^{s}44$/361, mb4.3/17, MS4.1/2, 17C-14D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.72	171	⇓iP	Pg	03 32 11.2	+1.9
KSP				e		03 32 24.0	
KSP	Ksiaz	0.72	171	⇓iPg	Pg	03 32 11.2	+1.9
KSP				i		03 32 11.7	
KSP				eSg	Sg	03 32 20.2	+1.3
KSP				e		03 32 24.0	
KSP	Ksiaz	0.72	171	i PG	Pg	03 32 11.2	+1.9
KSP				eSG	Sg	03 32 20.2	+1.3
KSP	Ksiaz	0.72	171	ePg	Pg	03 32 11.3	+2.0
KSP				eSg	Sg	03 32 20.4	+1.4
KSP	Ksiaz	0.72	171	ePg	Pg	03 32 11.1	+1.8
KSP				eSg	Sg	03 32 18.9	0.0
UPC	Upice	1.05	183	ePG	Pg	03 32 17.3	+1.4
DPC	Dobruska-Polom	1.21	174	ePg	Pg	03 32 20.0	+0.9
DPC				eS	Sb	03 32 34.7	+0.2
DPC				eSg	Sg	03 32 35.2	-0.1
PVCC	Panska Ves	1.42	224	ePG	Pg	03 32 23.8	+0.7
BRG	Berggiesshubel	1.52	244	ePn	Pn	03 32 24.9	+1.5
BRG				eSg	Sg	03 32 46.6	+1.0
BRG	Berggiesshubel	1.52	244	P	Pn	03 32 25.1	+1.6
BRG						03 32 47.0	
BRG				smax			
	comp=N,2μm,0.8s						
BRG				MLR	MLR		
	comp=N,2μm,4.6s						
BRG				MLR	MLR		
	comp=E,2μm,3.9s						
BRG				MLR	MLR		
	comp=Z,3μm,4.8s						
BRG	Berggiesshubel	1.52	244	Pn	Pn	03 32 25.1	+1.7
BRG				Pg	Pg	03 32 27.2	+1.9
BRG				Sg	Sg	03 32 47.0	+1.4
BRG	Berggiesshubel	1.52	244	Pg	Pg	03 32 27.2	+1.9
BRG				Sg	Sg	03 32 46.6	+1.0
RUE	Ruedersdorf	1.71	304	⇓ePn	Pn	03 32 27.8	+1.6
RUE				eSn	Sn	03 32 54.4	+5.3
PRA	Prague	1.83	216	PG	Pg	03 32 30.0	-1.4
PRA				SG	Sg	03 32 53.0	-2.7
FBE	Freiberg	1.84	251	Pn	Pn	03 32 29.7	+1.6
FBE				Sg	Sg	03 32 56.5	+0.2
PRU	Pruhonice	1.86	213	ePG	Pg	03 32 32.7	+0.7
PRU				eSG	Sg	03 32 55.4	-1.3
	comp=Z,699nm,0.3s						
CLL	Collm	1.96	264	ePn	Pn	03 32 31.1	+1.4
CLL	Collm	1.96	264	⇓iP	Pn	03 32 31.0	+1.3
CLL				i		03 33 01.3	
CLL	Collm	1.96	264	⇓iPn	Pn	03 32 31.0	+1.3
CLL				i Pg	Pg	03 32 35.1	+1.1
CLL				i Sg	Sg	03 33 01.3	+1.2
CLL	Collm	1.96	264	⇓iPN	Pn	03 32 31.0	+1.3
CLL				i PG	Pg	03 32 35.1	+1.1
CLL				i		03 32 38.4	
CLL				i SG	Sg	03 33 01.3	+1.2
CLL				i L		03 33 07.3	
RAC	Raciborz	1.98	137	ePN	Pn	03 32 31.0	+1.0
RAC				ePN	Pn	03 32 35.0	+5.0
RAC				eSN	Sn	03 32 55.0	-0.9
RAC				eSN	Sn	03 33 01.0	+5.1
RAC	Raciborz	1.98	137	ePg	Pg	03 32 34.7	+0.3
RAC				eSg	Sg	03 33 00.9	+0.1
MORC	Moravsky Berou	2.00	152	⇓iPn	Pn	03 32 31.5	+1.2
MORC				eSn	Sn	03 33 00.3	+3.9
MORC	Moravsky Berou	2.00	152	ePn	Pn	03 32 31.5	+1.2
MORC				eSg	Sg	03 32 57.9	-3.6
	comp=Z,553nm,0.6s						
MORC				eS	Sn	03 33 00.3	+3.9
OKC	Ostrava-Krasne	2.15	142	eP	Pn	03 32 33.0	+0.5
OKC				e		03 33 04.3	
OKC	Ostrava-Krasne	2.15	142	ePn	Pn	03 32 33.0	+0.5
OKC				ePg	Pg	03 32 38.5	+0.6
OKC				eSg	Sg	03 33 04.3	-2.3
OKC	Ostrava-Krasne	2.15	142	ePg	Pg	03 32 38.5	+0.6
OKC				eSg	Sg	03 33 04.3	-2.3
VRAC	Vranov	2.27	172	Pn	Pn	03 32 35.6	+1.4
	comp=Z,10.0nm,0.3s,baz=346,slow=14,SNR=45						
VRAC				Lg		03 33 08.1	
	comp=Z,82nm,0.3s,baz=82,slow=15,SNR=10						
VRAC	Vranov	2.27	172	ePn	Pn	03 32 35.6	+1.4
VRAC				eSg	Sg	03 33 07.7	-2.8
	comp=Z,376nm,0.4s						
VRAC				S	Sn	03 33 08.1	+4.8
KRUC	Moravsky	2.50	176	ePg	Pg	03 32 43.6	-1.2
KRUC				eSg	Sg	03 33 15.4	-2.8
	comp=Z,550nm,0.7s						
TANN	Tannenbergstha	2.57	245	ePn	Pn	03 32 40.6	+2.2
WERD	Werda	2.65	247	ePn	Pn	03 32 41.0	+1.5
NKC	Novy Kostel	2.67	242	ePn	Pn	03 32 41.3	+1.4
NKC				ePg	Pg	03 32 48.5	+0.3
NKC				eSg	Sg	03 33 22.5	-1.2
NKC	Novy Kostel	2.67	242	ePN	Pn	03 32 41.3	+1.4
NKC				ePG	Pg	03 32 48.5	+0.3
NKC				eSG	Sg	03 33 22.5	-1.2
	comp=Z,874nm,0.3s						
OJC	Ojcow	2.69	118	eP	Pn	03 32 39.9	-0.3
OJC				i		03 33 24.0	
OJC	Ojcow	2.69	118	ePn	Pn	03 32 39.9	-0.3
OJC				i Pg	Pg	03 32 49.6	+1.0
OJC				i Sg	Sg	03 33 24.0	-0.5
NEUB	Neuenburg	2.74	264	ePn	Pn	03 32 42.6	+1.7
NEUB				eSg	Sg	03 33 26.4	+0.4
KHC	Kasperske Hory	2.92	215	eP	Pn	03 32 44.4	+1.0
KHC				e		03 33 27.2	
KHC	Kasperske Hory	2.92	215	ePN	Pn	03 32 44.4	+1.0
KHC				ePG	Pg	03 32 51.0	-2.1
KHC				eSG	Sg	03 33 27.2	-4.8
	comp=Z,323nm,0.7s						
MOX	Moxa	2.98	254	ePn	Pn	03 32 45.3	+1.1
MOX				eSg	Sg	03 33 34.2	+0.2
MOX	Moxa	2.98	254	i Pn	Pn	03 32 45.3	+1.1
MOX				i Pg	Pg	03 32 54.2	-0.1
MOX				i Sg	Sg	03 33 34.1	+0.2
MOX	Moxa	2.98	254	i P	Pn	03 32 45.3	+1.1
MOX				Pg	Pg	03 32 54.0	-0.3
MOX				Sg	Sg	03 33 34.0	+0.1
MOX				L		03 33 56.0	
MOX	Moxa	2.98	254	i Pg	Pg	03 32 54.2	-0.1
MOX				Sg	Sg	03 33 34.2	+0.3
WAR	Warsaw	3.12	75	ePg	Pg	03 32 57.9	+0.7
WAR				eSn	Sn	03 33 27.5	+2.7
WAR				eSg	Sg	03 33 44.2	+5.4
GERES	GERESS Array B	3.12	211	P	Pn	03 32 47.5	+1.2
GERES						03 33 25.3	
GERES	GERESS Array B	3.12	211	Pn	Pn	03 32 47.5	+1.2
	comp=Z,6.5nm,0.3s,baz=32,slow=9.5,SNR=103						
GERES				Pg	Pg	03 32 55.9	-1.3
	comp=Z,22nm,0.3s,baz=25,slow=14,SNR=83						
GERES				Sn	Sn	03 33 25.3	+0.4
	comp=Z,23nm,0.3s,baz=22,slow=14,SNR=7.5						
GERES				Lg		03 33 35.8	
	comp=Z,36nm,0.3s,baz=33,slow=27,SNR=12						
GERES	GERESS Array B	3.12	211	Pg	Pg	03 32 55.9	-1.3
GERES				S	Sn	03 33 25.3	+0.4
LIKS	Likavka	3.16	141	ePN	Pn	03 32 49.2	+2.4
LIKS				i PG	Pg	03 32 59.0	+1.0
LIKS				eSG	Sg	03 33 39.1	-1.0
SMOL	Smolenice	3.16	164	eSG	Sg	03 33 37.8	-2.3
WET	Wettzell	3.18	222	ePn	Pn	03 32 48.2	+1.1
VKA	Vienna	3.30	178	⇑iPN	Pn	03 32 50.4	+1.6
VKA				i PG	Pg	03 32 59.0	-1.7
VKA				i SG	Sg	03 33 43.7	-0.9
VKA	Vienna	3.30	178	i Pg	Pg	03 32 59.0	-1.7
VKA				i Sg	Sg	03 33 43.7	-0.9
KOLL	Kolacno	3.33	153	ePN	Pn	03 32 50.2	+1.0
KOLL				eSG	Sg	03 33 42.3	-3.3
ZST	Bratislava	3.42	169	i PN	Pn	03 32 52.8	+2.2
ZST				ePG	Pg	03 33 01.8	-1.4
ZST				eSG	Sg	03 33 46.3	-2.6
ZST	Bratislava	3.42	169	ePg	Pg	03 33 01.8	-1.4
ZST				eSg	Sg	03 33 46.3	-2.6
NIE	Niedzica	3.43	127	ePN	Pn	03 32 52.0	+1.3
NIE				ePG	Pg	03 33 02.0	-1.4
NIE				eSG	Sg	03 33 47.0	-2.2
RGN	Rugen	3.44	332	ePn	Pn	03 32 49.8	-1.0
RGN	Rugen	3.44	332	ePn	Pn	03 32 49.8	-1.0
VYHS	Vyhne	3.53	149	i PN	Pn	03 32 52.8	+0.6
GRA1	Grafenberg Arr	3.63	241	ePn	Pn	03 32 54.4	+0.9
GRA1	Grafenberg Arr	3.63	241	Pn	Pn	03 32 54.4	+0.9
GRF	Grafenberg Arr	3.63	241	ePn	Pn	03 32 54.4	+0.9
BSD	Bornholm Skovb	3.64	349	i P	Pn	03 32 54.2	+0.6
BSD				e		03 33 10.6	
BSD				i S	Sg	03 34 05.1	+9.1
HROE	Hohe Rhon--Fla	3.89	257	⇓iPn	Pn	03 32 58.4	+1.2
MOA	Molln	3.90	199	⇓iPN	Pn	03 32 58.3	+1.0
MOA				i SG	Sg	03 34 02.7	-1.9
	comp=Z,364nm,0.7s						
STHS	Stebnicka Huta	3.92	121	i PN	Pn	03 32 58.9	+1.3
STHS				ePG	Pg	03 33 12.7	-0.4
STHS				eSG	Sg	03 34 06.5	+1.3
KECS	Kecovo	4.17	136	i PN	Pn	03 33 01.4	+0.1
KECS				eSG	Sg	03 34 10.1	-3.7
ARSA	Arzberg	4.33	185	⇑iPN	Pn	03 33 04.5	+1.1
ARSA				i PG	Pg	03 33 19.0	-2.2
ARSA				i SG	Sg	03 34 14.6	-4.3
	comp=Z,196nm,0.6s						
CRVS	Cervenica-Dubn	4.34	126	i PN	Pn	03 33 04.8	+1.1
PSZ	Piszkesteto	4.39	145	⇑iP	Pn	03 33 05.3	+1.0
PSZ				eS	Sb	03 34 15.9	+9.2
PSZ	Piszkesteto	4.39	145	⇑iPn	Pn	03 33 05.2	+0.9
PSZ				eSB	Sb	03 34 15.9	+9.2
PKSG		4.42	159	⇑eP	Pn	03 33 05.5	+0.7
KWP	Kalwaria	4.62	112	ePn	Pn	03 33 08.3	+0.6
KWP				ePg	Pg	03 33 22.5	-4.7
KWP				eSg	Sg	03 34 35.8	+7.0
KWP	Kalwaria	4.62	112	ePn	Pn	03 33 08.3	+0.7
KWP				ePg	Pg	03 33 22.5	-4.7
KWP				eSg	Sg	03 34 35.8	+6.9
KOLS	Kolonicke sedl	4.75	121	i PN	Pn	03 33 09.7	+0.3
KOLS				ePG	Pg	03 33 22.4	-7.2
KBA	Koelnbreinsper	4.83	203	i PN	Pn	03 33 11.7	+1.1
KBA				i SG	Sg	03 34 31.7	-4.0
	comp=Z,172nm,0.7s						
UZH	Uzhgorod	4.94	124	eP	Pn	03 33 16.0	+3.9
SUW	Suwalki	4.95	57	eP	Pn	03 33 12.8	+0.6
SUW				e		03 34 10.3	
SUW	Suwalki	4.95	57	ePn	Pn	03 33 12.8	+0.6
SUW				ePg	Pg	03 33 31.5	-2.2
SUW				eSn	Sn	03 34 10.3	-0.8
SUW				eSg	Sg	03 34 40.2	+0.6
SUW	Suwalki	4.95	57	ePn	Pn	03 33 12.8	+0.5
SUW				ePg	Pg	03 33 31.5	-2.2
SUW				eSn	Sn	03 34 10.3	-0.8
SUW				eSg	Sg	03 34 40.2	+0.6
PKS8	Sarbogard	4.97	159	⇑eP	Pn	03 33 13.2	+0.6
TOD	Tromm	5.05	250	P	Pn	03 33 13.7	+0.1
OBKA	Obir	5.15	192	⇑iPn	Pn	03 33 16.2	+1.1
	comp=Z,115nm,0.7s						
OBKA				i Sg	Sg	03 34 43.3	-3.1
	comp=Z,115nm,0.7s						
WATA	Walderalm	5.15	217	⇑iPN	Pn	03 33 16.6	+1.4
WATA				i SG	Sg	03 34 48.4	+1.9
	comp=Z,88nm,0.6s						
WATA	Walderalm	5.15	217	⇑iPn	Pn	03 33 16.6	+1.4
	comp=Z,88nm,0.6s						
WATA				i Sg	Sg	03 34 48.4	+1.9
PKS9	Tamasi	5.17	163	⇑eP	Pn	03 33 17.4	+2.0
WTTA	Wattenberg	5.19	216	⇓iPn	Pn	03 33 17.2	+1.5
	comp=Z,74nm,0.5s						
WTTA				i Sg	Sg	03 34 46.7	-1.0
	comp=Z,74nm,0.5s						
STU	Stuttgart	5.24	241	ePn	Pn	03 33 15.8	-0.6
STU				eS	Sg	03 34 45.4	-4.0
STU	Stuttgart	5.24	241	ePn	Pn	03 33 15.8	-0.6
LVV	L'vov	5.33	106	eP	Pn	03 33 17.1	-0.5
LVV				i S	Sn	03 34 18.3	-2.3
LVV				MLR	MLR		
	comp=Z,150nm,6.0s						
LVV				MLR	MLR		
	comp=N,100nm,6.5s						
LVV				MLR	MLR		
	comp=E,300nm,6.5s						
LVV	L'vov	5.33	106	eP	Pn	03 33 17.1	-0.5
	comp=E,150nm,6.0s						
LVV				i S	Sn	03 34 18.3	-2.3
MOTA	Moosalm	5.33	220	⇑iPN	Pn	03 33 18.4	+0.8
MOTA				i SG	Sg	03 34 51.8	-0.5
	comp=E,120nm,0.6s						
MOTA	Moosalm	5.33	220	⇑iPn	Pn	03 33 18.4	+0.8
	comp=E,120nm,0.6s						
MOTA				i Sg	Sg	03 34 51.8	-0.5
SQTA	Sankt Quirin	5.39	218	⇑iPN	Pn	03 33 20.0	+1.5
SQTA				i SG	Sg	03 34 56.2	+1.9
	comp=E,53nm,0.5s						
SQTA	Sankt Quirin	5.39	218	⇑iPn	Pn	03 33 20.0	+1.5
	comp=E,53nm,0.5s						
SQTA				i Sg	Sg	03 34 56.2	+1.9
GOLS	Golise	5.56	183	ePn	Pn	03 33 21.4	+0.6
PKSM	Moragy	5.60	162	⇓eP	Pn	03 33 22.3	+0.8
PKSM				eS	Sn	03 34 31.0	+3.5
LJU	Ljubljana	5.61	191	ePn	Pn	03 33 22.2	+0.6
LJU				eSn	Sn	03 34 48.0	+20
	comp=Z,388nm,1.8s						
OSKU	Oskarshamn	5.65	360	P	Pn	03 33 22.2	0.0
ABH	Alteburg	5.69	256	P	Pn	03 33 23.1	+0.4
ABH				S	Sg	03 35 01.7	-2.6
VOY	Vojsko	5.72	196	e(Pn)	Pn	03 33 23.8	+0.7
VOY				e		03 33 41.8	
VOY				e		03 33 49.3	
VOY				e		03 34 04.8	
VOY				e(Sn)	Sg	03 35 02.7	-2.5
BYXU	Byxelkrok	5.77	5	P	Pn	03 33 24.0	+0.1
WTSB	Winterswijk	5.80	278	ePn	Pn	03 33 25.1	+0.9
	comp=Z,40nm,1.2s						
WTSB				eSg	Sg	03 35 05.6	-2.3
DAVA	Damuels	5.89	226	⇑iPN	Pn	03 33 25.3	-0.3
DAVA				i SG	Sg	03 35 11.3	+0.2
	comp=Z,86nm,0.7s						
DAVA	Damuels	5.89	226	⇑iPn	Pn	03 33 25.3	-0.3
	comp=Z,86nm,0.7s						
DAVA				i Sg	Sg	03 35 11.3	+0.2
LANF	Langenberg	5.92	247	P	Pn	03 33 25.1	-0.8
EKSU	Eksjoe	6.05	356	P	Pn	03 33 27.7	-0.1
RUP	Ruppelstein	6.05	256	P	Pn	03 33 27.8	0.0
BOJS	Bojanci	6.08	186	ePn	Pn	03 33 28.3	+0.1
DAVOX	Davos	6.28	223	Pn	Pn	03 33 31.6	+0.5
	comp=Z,1.8nm,0.3s,baz=23,slow=12,SNR=15						
DAVOX				Sn	Sn	03 34 41.9	-2.7
	comp=Z,1.3nm,0.3s,baz=253,slow=19,SNR=3.1						
DAVOX				Lg		03 35 19.3	
	comp=Z,3.6nm,0.3s,baz=198,slow=20,SNR=4.0						
MUD	Monsted U'grnd	6.39	323	i P	Pn	03 33 37.0	+4.5
MUD				MLR	MLR		
	comp=Z,44nm,16.0s						
MUD	Monsted U'grnd	6.39	323	i P	Pn	03 33 37.0	+4.5
MUD				i		03 34 05.8	
MUD				eS	Sx	03 35 39.5	
	comp=Z,40nm,16.0s						
HGN	Heimansgroeve	6.45	267	ePn	Pn	03 33 35.7	+2.2
	comp=Z,25nm,1.5s						
HGN				ePg	Pg	03 34 01.1	-2.6
HGN				eSg	Sg	03 35 23.1	-6.6
HGN	Heimansgroeve	6.45	267	eSg	Sg	03 35 23.1	-6.6
WLS	Welschbruch	6.46	244	P	Pn	03 33 33.8	+0.2
CDF	Champ du Feu	6.51	245	ePn	Pn	03 33 31.1	-3.1
CDF				eSg	Sg	03 35 19.2	-12
	comp=Z,454nm,1.0s						
WLF	Walferdange	6.61	257	eP	Pn	03 33 35.6	-0.1
WLF				pmax	pmax		
	comp=Z,23nm,0.9s						
WLF	Walferdange	6.61	257	ePn	Pn	03 33 35.6	-0.2
	comp=Z,23nm,0.9s						
WLF				eS	Sg	03 35 31.8	-3.3
WLF	Walferdange	6.61	257	ePn	Pn	03 33 35.6	-0.1
	comp=Z,23nm,0.9s						
ECH	Echery	6.68	243	P	Pn	03 33 37.0	+0.3
MOF	Molkenrain	6.90	241	P	Pn	03 33 38.4	-1.4
MOF				S	Sg	03 35 38.5	-6.1
HINF	Hinteralfeld	7.07	242	ePn	Pn	03 33 39.0	-3.2
HINF				eSg	Sg	03 35 37.3	-13
	comp=Z,151nm,0.7s						
HAU	Haudompre	7.25	244	ePn	Pn	03 33 41.6	-3.1
HAU				eSg	Sg	03 35 42.2	-14
	comp=Z,194nm,0.8s						
GIVF	Givet	7.30	263	eSg	Sb	03 35 44.8	+14
	comp=Z,182nm,0.9s						
THEF	They Montfort	7.34	247	P	Pn	03 33 44.5	-1.4
ASKU	Askersund	7.39	355	P	Pn	03 33 48.2	+1.5
RFYF	Reffroy	7.44	251	ePn	Pn	03 33 44.0	-3.4
	baz=69						
RFYF				ePg	Pg	03 34 13.6	-10
RFYF				eSg	Sg	03 35 51.1	-12
	comp=Z,250nm,1.1s						
NYNU	Nynaeshamn	7.54	7	P	Pn	03 33 48.0	-0.8
BAIF	Baives	7.69	263	ePn	Pn	03 33 46.8	-4.0
BAIF				eSg	Sg	03 35 56.5	-14
	comp=Z,214nm,1.2s						
ESKU	Eskilstuna	7.70	1	P	Pn	03 33 50.0	-0.9
MEZF	Maizieres J'vi	7.75	251	eSg	Sb	03 35 59.9	+16
	comp=Z,355nm,1.3s						
SFTF	Sexfontaines	7.90	249	eP	Pn	03 33 53.8	+0.1
	baz=76						
SFTF				eSg	Sg	03 36 05.7	-12
	comp=Z,766nm,1.6s						
NRAU	Nora	8.06	356	P	P	03 33 56.2	+0.2
GRAM		8.14	212	P	P	03 33 57.5	+0.4
GRAM		8.14	212	P	P	03 33 57.5	+0.3
CABF	La Chapelle	8.23	237	eSg	Sb	03 36 15.0	+17
	comp=Z,208nm,0.9s						
NRTU	Norrtaelje	8.27	9	P	P	03 33 57.5	-1.4
AKASG	Malin Array Be	8.30	91	Pn	P	03 33 56.4	-3.0
	comp=Z,4.8nm,0.3s,baz=279,slow=12,SNR=31						
AKASG				Lg		03 36 29.8	
	comp=Z,1.2nm,0.3s,baz=272,slow=26,SNR=4.6						
CODM		8.30	213	P	P	03 33 59.9	+0.5
CODM		8.30	213	P	P	03 33 59.9	+0.5
BACM		8.33	211	P	P	03 34 00.7	+0.9
BACM		8.33	211	P	P	03 34 00.7	+0.9
BACU	Backbrunna	8.34	3	P	P	03 33 58.8	-1.1
VINC	Vinca	8.43	211	P	P	03 34 00.9	-0.2
VINC	Vinca	8.43	211	P	P	03 34 00.9	-0.2
LSD	Ceresole Reale	8.51	228	P	P	03 34 00.9	-1.4
PCP	Pian Castagno	8.65	219	P	P	03 34 04.1	-0.1
FLYU	Flymyra	8.65	6	P	P	03 34 02.5	-1.8
LPL	La Plagne	8.67	229	ePn	P	03 34 00.0	-4.5
LPL				eSg	Sg	03 36 29.1	-14
	comp=Z,116nm,1.1s						
LPG	La Plagne	8.67	229	ePn	P	03 34 01.0	-3.5
LPG				eSg	Sg	03 36 29.4	-14
	comp=Z,262nm,1.3s						
RSP	Reno Superiore	8.70	226	P	P	03 34 03.1	-1.8
HFS	Hagfors	8.71	352	Pn	P	03 34 03.2	-1.8
	baz=190,slow=10						
HFS				Sn	Sn	03 35 40.2	-4.8
	baz=170,slow=28						
HFS	Hagfors	8.71	352	Pn	P	03 34 02.1	-2.9
	comp=Z,0.1nm,0.3s,baz=174,slow=15,SNR=18						
HFS				Sn	Sn	03 35 38.0	-7.1
	comp=Z,0.2nm,0.3s,baz=171,slow=28,SNR=5.4						
HFS				Lg		03 36 36.3	
	comp=Z,0.1nm,0.3s,baz=177,slow=27,SNR=3.6						
GRAU	Graesoe	8.90	8	P	P	03 34 06.0	-1.8
MLR	Muntele Rosu	8.91	129	Pn	P	03 34 06.3	-1.5
	comp=Z,0.0nm,0.3s,baz=180,slow=13,SNR=2.4						
BHB	Bricherasio	8.94	225	P	P	03 34 06.7	-1.6
BNI	Bardonecchia	9.04	228	Pn	P	03 34 12.8	+3.2
	comp=Z,17nm,1.2s						
BNI	Bardonecchia	9.04	228	Pn	P	03 34 12.8	+3.2
	comp=Z,17nm,1.2s						
FIN	Finale Ligure	9.06	219	P	P	03 34 10.5	+0.6
LOR	Lormes	9.06	247	ePn	P	03 34 05.9	-4.1
	baz=68						
LOR				eSg	Sg	03 36 39.0	-18
	comp=Z,100nm,1.0s						
ROB	Roburent	9.12	220	P	P	03 34 10.8	0.0
VSU	Vasula	9.22	37	eP	P	03 34 11.6	-0.5
MBDF	Montbardon	9.25	226	ePn	P	03 34 07.9	-4.6
MBDF				eP		03 34 13.0	
MBDF				eSg	Sg	03 36 47.3	-15
	comp=Z,55nm,1.0s						
MBDF	Montbardon	9.25	226	ePn	P	03 34 07.9	-4.6
MBDF				eSg	Sg	03 36 47.3	-15
MBDF	Montbardon	9.25	226	eP	P	03 34 13.0	+0.5
SSF	Saint Saulge	9.38	246	ePn	P	03 34 09.8	-4.5
SSF				eSg	Sg	03 36 48.5	-19
	comp=Z,76nm,1.1s						
STV	Sta Anna Valdi	9.39	222	P	P	03 34 13.2	-1.3
SMF	Signal de Mont	9.42	243	eSg	Sg	03 36 52.2	-16
	comp=Z,128nm,1.0s						
IMI	Imperia	9.44	219	P	P	03 34 14.4	-0.7
IMI	Imperia	9.44	219	P	P	03 34 14.4	-0.7
ORIF	Oris-en-Rattie	9.52	230	ePn	P	03 34 11.9	-4.2
ORIF				eSg	Sg	03 36 54.2	-17
	comp=Z,115nm,1.1s						
SBF	Sospel	9.66	221	eP	P	03 34 17.7	-0.4
NAO01	NORSAR Array S	9.75	345	ePn	P	03 34 16.6	-2.8
	comp=Z,2.4nm,0.5s						
NAO01	NORSAR Array S	9.75	345	ePn	P	03 34 16.5	-2.8
	comp=Z,2.4nm,0.5s						
NB2	NORSAR Subarra	9.89	346	Pn	P	03 34 18.6	-2.5
	baz=173,slow=16						
NB2				Sn	Sn	03 36 11.5	-2.6
NB2				Lg		03 37 12.4	
NOA	NORSAR Array B	9.89	346	Pn	P	03 34 18.4	-2.8
	comp=Z,0.4nm,0.3s,baz=174,slow=13,SNR=7.6						
NOA				Sn	Sn	03 36 12.1	-2.0
	comp=Z,0.5nm,0.3s,baz=85,slow=16,SNR=3.7						
NOA				Lg		03 37 14.6	
	comp=Z,0.8nm,0.3s,baz=108,slow=7.0,SNR=5.4						
BGF	Bois d'Agland	10.04	245	eSg	Sx	03 37 10.6	
	comp=Z,117nm,1.0s						
VIVF	Saint-Julien-l	10.15	233	eSg	Sx	03 37 14.1	
	comp=Z,133nm,1.4s						
LMR	La Mourre	10.47	222	eP	P	03 34 29.9	+0.6
TCF	Toulx Ste Croi	10.55	245	eSg	Sx	03 37 27.0	
	comp=Z,68nm,1.0s						
LASF	Ste Croix	11.12	232	eSg	Sx	03 37 44.1	
	comp=Z,108nm,1.4s						
FIA0	FINESS Array S	11.32	25	Pn	P	03 34 38.1	-2.8
	baz=192,slow=12						
FIA0				Sn	S	03 36 40.4	-9.0
	baz=209,slow=28						
FINES	FINESS Array B	11.32	25	Pn	P	03 34 38.1	-2.8
	comp=Z,0.5nm,0.3s,baz=198,slow=12,SNR=19						
FINES				Sn	S	03 36 40.3	-9.1
	comp=Z,1.1nm,0.3s,baz=200,slow=22,SNR=6.1						
FINES				Lg		03 38 04.8	
	comp=Z,0.5nm,0.3s,baz=208,slow=20,SNR=4.2						
GRR	Gorron	11.38	260	eSg	Sx	03 37 52.4	
	comp=Z,116nm,1.5s						
CAF	Calviac	11.46	240	eSg	Sx	03 37 56.6	
	comp=Z,147nm,1.7s						
RJF	Les Rejaudoux	11.53	243	eSg	Sx	03 37 57.0	
	comp=Z,60nm,1.1s						
MFF	Saint Martin d	11.75	251	eSg	Sx	03 38 02.9	
	comp=Z,69nm,1.2s						
KAF	Kangasniemi	11.95	24	ep	P	03 34 46.5	-2.8
EKA	Eskdalemuir Ar	12.09	296	Pn	P	03 34 47.3	-3.9
	comp=Z,0.3nm,0.3s,baz=99,slow=13,SNR=8.4						
EKA				Sn	S	03 36 59.1	-8.9
	comp=Z,0.5nm,0.3s,baz=102,slow=25,SNR=3.9						
LFF	La Frestale	12.18	243	eSg	Sx	03 38 17.0	
	comp=Z,118nm,1.2s						
MTLF	Montolieu	12.47	234	eSg	Sx	03 38 26.1	
	comp=Z,100nm,1.6s						
OBN	Obninsk	12.73	66	deP	P	03 34 57.0	-2.8
OBN				eS	S	03 37 21.6	-1.9
OBN				pmax	pmax		
	comp=Z,16nm,1.2s						
EPF	Esparros	13.66	238	eSg	Sx	03 39 04.0	
	comp=Z,66nm,1.4s						
ETSF	Etsaut	14.23	239	eSg	Sx	03 39 23.8	
	comp=Z,83nm,1.6s						
BR131	Keskin Array S	16.98	127	eP	P	03 35 56.8	+1.6
	comp=Z,4.4nm,1.3s						
BR131	Keskin Array S	16.98	127	eP	P	03 35 56.8	+1.6
	comp=Z,4.4nm,1.3s						
BRTR	Keskin Array B	16.98	127	Pn	P	03 35 54.4	-0.9
	comp=Z,0.1nm,0.3s,baz=284,slow=14,SNR=2.7						
SOC	Sochi	17.76	107	eP	P	03 36 05.7	+0.8
SOC				e		03 39 26.2	
SOC				pmax	pmax		
	comp=Z,12nm,0.9s						
SOC				pmax	pmax		
	comp=N,13nm,0.8s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.8s						
SOC				MLR	MLR		
	comp=Z,57nm,10.0s						
SOC				MLR	MLR		
	comp=N,10.0nm,8.0s						
SOC				MLR	MLR		
	comp=E,23nm,9.0s						
SOC	Sochi	17.76	107	eP	P	03 36 05.7	+0.8
	comp=E,12nm,0.9s						
APA	Apatity	18.18	21	⇑iP	P	03 36 07.0	-2.9
APA				e		03 39 29.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
APA				pmax	pmax		
	comp=Z,18nm,1.2s						
APA	Apatity	18.18	21	eS	S	03 39 29.0	-1.8
ESDC	Sonseca Array	18.32	237	P	P	03 36 15.6	+3.6
	comp=Z,0.1nm,0.3s,baz=49,slow=11,SNR=4.8						
ARA0	ARCESS Array S	18.58	10	Pn	P	03 36 12.4	-2.5
	baz=193,slow=14						
ARA0				Sn	S	03 39 28.1	-12
	baz=192,slow=28						
ARCES	ARCESS Array B	18.58	10	Pn	P	03 36 11.5	-3.5
	comp=Z,0.6nm,0.3s,baz=192,slow=14,SNR=30						
ARE0	ARCESS Array S	18.58	10	eP	P	03 36 12.2	-2.7
KEV	Kevo	18.97	12	ep	P	03 36 18.2	-1.4
KEV	Kevo	18.97	12	eP	P	03 36 17.0	-2.6
KEV				pmax	pmax		
	comp=Z,12nm,0.7s						
KEV	Kevo	18.97	12	eP	P	03 36 17.0	-2.6
	comp=Z,12nm,0.7s						
GOF	Gofitskoye	18.99	99	eP	P	03 36 18.0	-2.0
GOF				pmax	pmax		
	comp=Z,21nm,1.2s						
KIV	Kislovodsk	19.34	103	eP	P	03 36 24.5	+0.2
KIV				pmax	pmax		
	comp=N,3.0nm,1.2s						
KIV				pmax	pmax		
	comp=E,5.0nm,1.2s						
KIV				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ZEI	Tsey	20.73	104	eP	P	03 36 38.6	-0.8
ZEI				i *PP		03 36 40.9	
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZEI	Tsey	20.73	104	eP	P	03 36 38.6	-0.8
	comp=Z,2.0nm,0.5s						
GNI	Garni	22.82	109	⇓iP	P	03 37 04.2	+3.9
GNI				pmax	pmax		
	comp=Z,30nm,1.8s						
GNI	Garni	22.82	109	P	P	03 37 02.8	+2.5
	comp=Z,5.9nm,0.4s,mb4.5,baz=279,slow=3.2,SNR=4.6						
GNI	Garni	22.82	109	P	P	03 37 02.6	+2.3
	comp=Z,6.3nm,0.5s,mb4.4						
ARU	Arti	25.12	62	⇓iP	P	03 37 22.8	+0.4
ARU				e		03 37 56.1	
ARU				ePPP	PPP	03 38 05.7	-5.4
ARU				eS	S	03 41 50.1	+4.7
ARU				eSS	SS	03 42 41.5	-2.8
ARU				eSSS	SSS	03 42 53.0	-7.4
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
ARU	Arti	25.12	62	eP	P	03 37 22.6	+0.2
	comp=Z,20nm,1.4s,mb4.6						
SVE	Sverdlovsk	26.21	61	eP	P	03 37 33.4	+0.8
SVE				e		03 43 14.0	
SVE				pmax	pmax		
	comp=Z,40nm,1.5s,mb4.8						
SPA0	Spitsbergen Ar	26.73	0	P	P	03 37 38.6	+1.3
	baz=229,slow=12						
BRVK	Borovoye	32.50	66	eP	P	03 38 29.9	+0.9
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BRVK	Borovoye	32.50	66	eP	P	03 38 29.9	+1.0
	comp=Z,2.6nm,0.7s,mb4.3						
BVAR	Borovoye Array	32.57	66	P	P	03 38 30.5	+0.9
	comp=Z,2.2nm,0.7s,mb4.2,baz=293,slow=7.4,SNR=19						
KURK	Kurchatov	38.17	66	eP	P	03 39 18.2	+0.8
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
KURK	Kurchatov	38.17	66	eP	P	03 39 18.2	+0.8
	comp=Z,2.7nm,0.7s,mb4.1						
NVS	Novosibirsk	38.96	58	eP	P	03 39 21.1	-2.9
NVS				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.3						
NVS				pmax	pmax		
	comp=N,5.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.1s						
AAK	Ala-Archa	39.77	79	eP	P	03 39 32.7	+1.9
AAK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.3						
AAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.7						
AAK	Ala-Archa	39.77	79	eP	P	03 39 32.2	+1.4
	comp=Z,12nm,1.3s,mb4.4						
AAK	Ala-Archa	39.77	79	eP	P	03 39 32.7	+1.9
	comp=Z,100nm,18.0s						
MKAR	Makanchi Array	42.20	69	P	P	03 39 52.2	+1.6
	comp=Z,1.1nm,0.7s,mb3.7,baz=297,slow=5.4,SNR=9.1						
MKAR	Makanchi Array	42.20	69	P	P	03 39 52.2	+1.5
WMQ	Urumqi	47.02	70	eP	P	03 40 31.3	+1.9
ZAK	Zakamensk	51.70	55	eP	P	03 41 07.2	+1.9
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
ZAK	Zakamensk	51.70	55	eP	P	03 41 07.2	+1.9
	comp=Z,1.0nm,0.9s,mb3.8						
SONM	Songino Array	54.89	55	P	P	03 41 30.7	+1.6
	comp=Z,1.9nm,0.8s,mb4.2,baz=294,slow=8.4,SNR=16						
YKA	Yellowknife Ar	59.82	336	P	P	03 42 04.4	+0.7
	comp=Z,2.0nm,0.7s,mb4.3,baz=31,slow=6.8,SNR=8.2						
YKA	Yellowknife Ar	59.82	336	P	P	03 42 04.4	+0.7
LZH	Lanzhou	61.44	67	eP	P	03 42 14.8	-0.3
LZH				AP	pP	03 42 18.3	+3.2
LZH				XP	sP	03 42 19.5	+4.4
LZH				PP	PP	03 44 32.0	-0.6
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,68nm,6.2s						
LZH				LR	LR		
	comp=N,219nm,15.0s						
LZH				LR	LR		
	comp=Z,307nm,18.2s,MS4.5						
CN2	Changchun	67.10	48	eP	P	03 42 51.3	-0.6
IMW	Indian Meadow	74.47	323	eP	P	03 43 37.4	+1.1
	comp=Z,11nm,1.4s,mb4.7						
PDAR	Pinedale Array	74.91	322	P	P	03 43 40.6	+1.8
	comp=Z,0.8nm,0.7s,mb3.9,baz=56,slow=5.3,SNR=9.1						
BMO	Blue Mountains	75.89	328	eP	P	03 43 45.4	+1.0
	comp=Z,6.0nm,0.9s,mb4.7						
HLID	Hailey	76.02	325	eP	P	03 43 46.8	+1.6
	comp=Z,3.3nm,0.8s,mb4.5						
SRU	San Rafael	78.41	320	eP	P	03 44 00.4	+1.9
PV10	Paradox Valley	78.44	319	eP	P	03 44 01.4	+2.7
VNDA	Vanda	151.01	165	PKIKP	PKPdf	03 51 50.5	+6.7
VNDA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
VNDA	Vanda	151.01	165	PKPbc	PKPdf	03 51 50.5	+6.6
	comp=Z,0.9nm,1.0s,baz=272,slow=5.6,SNR=3.4						

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*CSEM **19** 03:56:51.5±0.1, 38.73N×27.91E, h10^{km}, MD3.4, Error ellipse: s-maj=1.8km s-min=1.3km az=114.0*
*ATH **19** 03:56:52.1, 38.70N×27.94E, h33^{km}±9^{km}, MD3.5/3*
*NEIC **19** 03:56:52.0, 38.75N×27.83E, h21^{km}, MD3.5(ATH), MD3.4(ISK), After ISK.*
*ISK **19** 03:56:52.0, 38.75N×27.84E, h18^{km}, MD3.4*
ISC 19 03:56:51.7±0.5**, 38.74N**±0.02×**27.90E**±0.03**, h5**^{km}±4^{km}**, n45,** σ**0^{s}88**/60**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	Akhisar	0.15	333	i PG	Pg	03 56 55.6	+0.7
MANT	Manisa	0.57	116	i P	Pg	03 57 03.3	+0.2
MANT				i S	Sg	03 57 10.4	-0.4
KDAG	Bornova	0.60	236	i P	Pg	03 57 03.6	-0.1
KDAG				i S	Sg	03 57 15.2	+3.4
IZM	Izmir	0.61	236	i PG	Pg	03 57 03.9	0.0
BLCB	Balcova	0.76	242	i PG	Pg	03 57 06.8	-0.1
BALB	Balikesir	0.90	359	i PG	Pg	03 57 09.7	+0.1
BALB				i SG	Sg	03 57 22.4	+0.8
BTOK	Tokmak	1.02	6	i P	Pb	03 57 11.5	0.0
BTOK				i S	Sb	03 57 26.0	+1.0
DST	Dursunbey	1.03	33	i PG	Pg	03 57 11.2	-1.1
AYDN	Tasoluk	1.08	181	i P	Pb	03 57 12.9	+0.5
AYDN				i S	Sb	03 57 27.5	+0.9
URLA	Izmir	1.09	250	i P	Pb	03 57 13.7	+1.0
URLA				i S	Sb	03 57 28.9	+1.9
AYVA	Ayvalik	1.10	301	i P	Pb	03 57 13.9	+1.1
AYVA				i S	Sb	03 57 28.8	+1.6
GDZ	Gediz	1.28	74	i P	Pb	03 57 16.4	+0.5
GDZ				i S	Sb	03 57 34.6	+2.2
DENT	Denizli	1.33	138	PN	Pn	03 57 17.4	+0.5
SMG	Samos	1.33	219	ePN	Pn	03 57 15.9	-1.0
SMG				eSN	Sn	03 57 33.6	-1.5
KHL	Karahalli	1.34	108	PN	Pn	03 57 17.1	+0.1
PRK	Paraskevi	1.37	292	ePN	Pn	03 57 17.5	+0.1
PRK				eSN	Sn	03 57 35.7	-0.4
CANB	Canakkale	1.43	333	PN	Pn	03 57 17.8	-0.5
MLSB	Milas	1.45	184	PN	Pn	03 57 18.0	-0.6
ORLT	Orhaneli	1.51	30	PN	Pn	03 57 19.3	-0.2
BNT	Bandirma	1.61	0	PN	Pn	03 57 20.5	-0.4
YER	Yerkesik	1.63	169	PN	Pn	03 57 20.3	-0.9
EZN	Ezine	1.63	312	PN	Pn	03 57 19.9	-1.3
ULDT	Uludag	1.69	34	i P	Pn	03 57 23.4	+1.3
ULDT				i S	Sn	03 57 44.1	-0.2
BDRM	Kayabasi	1.71	192	i P	Pn	03 57 21.8	-0.5
BDRM				i S	Sn	03 57 47.7	+2.8
BODT	Bodrum	1.74	196	PN	Pn	03 57 21.7	-1.1
ALT	Altintas	1.75	79	PN	Pn	03 57 23.1	+0.2
LPK	Lapseki	1.85	332	PN	Pn	03 57 23.7	-0.7
GOLH	Golhisar	1.99	138	i P	Pn	03 57 27.1	+0.7
GOLH				i S	Sn	03 58 00.4	+8.4
TKTP	Tekketepe	2.02	109	i P	Pn	03 57 31.2	+4.4
TKTP				i S	Sn	03 58 06.9	+14
DALT	Dalyan (Mudla)	2.05	163	ePN	Pn	03 57 26.9	-0.3
ISP	Isparta	2.24	113	ePN	Pn	03 57 30.4	+0.5
FETY	Fethiye	2.30	156	ePN	Pn	03 57 30.6	-0.2
BADT	Buyukada	2.31	24	ePN	Pn	03 57 30.7	-0.2
LIA	Limnos Island	2.41	300	ePN	Pn	03 57 32.0	-0.3
GPA	Golpazari	2.42	50	ePN	Pn	03 57 32.7	+0.2
ESKT	Eskisehir	2.42	70	ePN	Pn	03 57 32.8	+0.3
ESKT	Eskisehir	2.42	70	i P	Pn	03 57 36.9	+4.4
ESKT				i S	Sn	03 58 11.1	+8.3
CTT	Catalca	2.44	9	ePN	Pn	03 57 31.3	-1.4
HRT	Hereke	2.48	33	ePN	Pn	03 57 32.7	-0.7
ISK	Istanbul-Kandi	2.48	21	ePN	Pn	03 57 33.1	-0.3
APE	Apeiranthos	2.51	229	ePN	Pn	03 57 32.7	-1.1
EYL	Eskiyayla	2.52	43	ePN	Pn	03 57 33.3	-0.6
ELL	Elmali	2.55	141	ePN	Pn	03 57 34.0	-0.3
RDO	Rodhopi	3.01	324	ePN	Pn	03 57 40.7	-0.2
EDRB	Edirne	3.23	344	ePN	Pn	03 57 42.6	-1.4

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*NIED **19** 04:31:00, 37.80N×141.30E, h68^{km}, Mw3.6 Best double couple: M$_0$3×10^{14} NP1:ϕ_s137°, δ78°, λ85°. NP2:ϕ_s339°, δ13°, λ111°.*
*JMA **19** 04:31:57.2, 37.81N×141.31E, h65^{km}±1^{km}, M3.9 Broadband fault plane solution: P waves. NP1:ϕ_s108°, δ14°, λ-135°. NP2:ϕ_s334°, δ80°, λ-80°. Principal axes: T Plg34°, Azm55°; N Plg10°, Azm152°; P Plg54°, Azm256°;*
JMA Felt II J1.
ISC 19 04:31:57.1±1.1**, 37.80N**±0.04×**141.33E**±0.09**, h63**^{km}±10^{km}**, n14,** σ**0^{s}15**/24**, 8C-1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	Marumori	0.43	279	⇑P	P	04 32 08.8	+0.1
JMM				S	S	04 32 17.2	0.0
JFK	Kawauchi	0.57	220	⇑P	P	04 32 10.2	+0.1
JFK				S	S	04 32 19.8	+0.2
JIO	Ouri	0.65	1	⇓P	P	04 32 11.3	+0.3
JIO				S	S	04 32 21.3	-0.1
JOU	Okura	0.77	317	⇑P	P	04 32 12.4	-0.1
JOU				eS	S	04 32 23.7	-0.2
ONAJ	Iwakimizuishiy	0.82	211	⇑P	P	04 32 13.0	-0.1
ONAJ				S	S	04 32 24.6	-0.4
JFT	Otama	0.84	250	⇑P	P	04 32 13.4	+0.1
JFT				S	S	04 32 25.6	+0.2
JYS	Shirataka	1.08	293	⇑P	P	04 32 16.7	+0.1
JYS				eS	S	04 32 31.0	0.0
JMK	Ichinoseki	1.15	356	P	P	04 32 17.4	-0.1
JMK				eS	S	04 32 32.7	0.0
JFY	Yanaizu	1.35	253	⇑P	P	04 32 20.3	-0.1
JFY				S	S	04 32 37.5	-0.1
JYK	Kaneyama	1.35	326	P	P	04 32 20.4	0.0
JYA	Atsumi	1.50	302	P	P	04 32 22.5	+0.1
JNS	Sasagawa	1.59	271	P	P	04 32 23.7	0.0
JOM	Ohasama	1.67	359	⇑P	P	04 32 24.6	-0.1
MAT	Matsushiro	2.79	244	P	P	04 32 40.7	+0.2
MAT				S	S	04 33 17.9	+4.8

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*NEIC **19** 04:47:27.1, 35.10S×70.49W, h17^{km}, ML2.6(GUC), After GUC.*
GUC 19 04:47:27.1±0.9**, 35.10S**×**70.49W, h17**^{km}±4^{km}**, MD3.6, ML2.6, 5C-6D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	San Fernando	0.65	318	⇓iP	Pb	04 47 39.5	0.0
SFDO				i S	Sb	04 47 48.4	+0.4
CICH	Cipreses	0.78	4	⇓iP	Pb	04 47 41.0	-0.7
CICH				i S	Sb	04 47 52.4	+0.6
CACH	El Canelo	0.98	355	⇑iP	Pb	04 47 44.7	-0.5
CACH				i S	Sb	04 47 58.6	+0.9
CHCH	Chadas Angostu	1.17	353	⇓iP	Pb	04 47 48.2	-0.2
CHCH				i S	Sb	04 48 04.5	+1.3
LMEL	Las Melosas	1.27	11	⇑iP	Pb	04 47 50.0	-0.2
LMEL				i S	Sb	04 48 07.9	+1.8
LMEL				AMP		04 48 10.6	
	comp=N,147nm,0.1s						
LNV	Longovilo	1.37	326	eP	Pn	04 47 51.6	0.0
LNV				i S	Sb	04 48 10.0	+1.0
PCH	Pirque	1.47	359	eP	Pn	04 47 53.4	+0.3
PCH				i S	Sb	04 48 13.9	+1.9
TACH	Talagante	1.49	346	⇓iP	Pn	04 47 53.6	+0.3
TACH				i S	Sb	04 48 13.5	+1.2
ANTU	Antumapu	1.53	356	eP	Pn	04 47 54.7	+0.8
ANTU				i S	Sn	04 48 15.5	+2.0
ANTU				AMP		04 48 17.2	
	comp=E,218nm,0.3s						
RCDM	Rinconada Maip	1.62	351	eP	Pn	04 47 56.2	+0.9
RCDM				i S	Sn	04 48 18.2	+2.3
RCDM				AMP		04 48 25.5	
	comp=E,244nm,0.1s						
SCR	San Cristobal	1.65	345	⇑iP	Pn	04 47 57.0	+1.3
SCR				i S	Sn	04 48 19.5	+3.0
SCR				AMP		04 48 23.1	
	comp=E,67nm,0.4s						
DSCH	Colegio Aleman	1.69	358	eP	Pn	04 47 57.8	+1.5
DSCH				i S	Sn	04 48 20.5	+2.8
DSCH				AMP		04 48 23.7	
	comp=N,136nm,0.7s						
CLCH	Cerro Calan	1.70	359	⇓iP	Pn	04 47 57.8	+1.4
CLCH				i S	Sn	04 48 21.2	+3.4
CLCH				AMP		04 48 22.0	
	comp=E,151nm,0.3s						
FCH	Farellones	1.77	5	⇓iP	Pn	04 47 59.0	+1.6
FCH				i S	Sn	04 48 23.3	+3.6
FCH				AMP		04 48 26.3	
	comp=N,96nm,0.2s						
LCCH	Las Cruces	1.85	331	⇑iP	Pn	04 47 59.7	+1.2
LCCH				eS	Sn	04 48 23.9	+2.3
ROCH	El Roble	2.16	348	eP	Pn	04 48 04.9	+1.9
ROCH				i S	Sn	04 48 34.2	+4.5
JACH	Jahuel	2.41	358	⇑iP	Pn	04 48 09.3	+2.7
JACH				i S	Sn	04 48 40.8	+4.9

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*NEIC **19** 04:49:38.3, 45.31S×167.28E, h65^{km}, ML3.9(WEL), After WEL.*
WEL 19 04:49:38.2±0.4**, 45.32S**×**167.29E, h68**^{km}±6^{km}**, ML4.0**/9**, 3C-1D, Error ellipse: s-maj=6.2km s-min=2.9km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	Mavora Lakes	0.62	93	P	P	04 49 51.4	-0.9
MLZ				S	S	04 50 01.7	-1.0
MLZ	Mavora Lakes	0.62	93	⇑PN	P	04 49 51.4	-0.9
MLZ				SN	S	04 50 00.9	-1.8
MLZ				SN	S	04 50 02.0	-0.7
WHZ	Wether Hill Ro	0.74	141	P	P	04 49 53.2	-0.4
WHZ				S	S	04 50 04.6	-0.4
WHZ	Wether Hill Ro	0.74	141	PN	P	04 49 53.1	-0.4
WHZ				SN	S	04 50 04.5	-0.5
WKZ	Wanaka	1.32	69	P	P	04 50 00.9	-0.4
WKZ	Wanaka	1.32	69	PN	P	04 50 00.8	-0.5
EAZ	Earnscleugh	1.43	87	P	P	04 50 02.4	-0.4
EAZ	Earnscleugh	1.43	87	PN	P	04 50 02.3	-0.4
EAZ				SN	S	04 50 18.5	-2.3
JCZ	Jackson Bay	1.63	41	P	P	04 50 04.6	-0.8
JCZ	Jackson Bay	1.63	41	PN	P	04 50 04.5	-1.0
TUZ	Tuapeka	1.76	112	eP	P	04 50 06.3	-0.9
TUZ	Tuapeka	1.76	112	PN	P	04 50 06.2	-1.1
LBZ	Lake Benmore	2.26	67	eP	P	04 50 12.2	-2.0
LBZ	Lake Benmore	2.26	67	PN	P	04 50 12.1	-2.1
ODZ	Otahua Downs	2.39	85	eP	P	04 50 14.2	-1.8
ODZ	Otahua Downs	2.39	85	PN	P	04 50 14.2	-1.8
FOZ	Fox Glacier	2.46	45	eP	P	04 50 15.8	-1.2
FOZ	Fox Glacier	2.46	45	ePN	P	04 50 15.6	-1.4
RPZ	Rata Peaks	3.14	61	⇑P	P	04 50 23.3	-3.2
RPZ	Rata Peaks	3.14	61	⇑PN	P	04 50 23.3	-3.3
WVZ	Waitaha Valley	3.34	49	eP	P	04 50 27.2	-2.2
MQZ	McQueen's Vall	4.16	69	eP	P	04 50 36.9	-3.9
MQZ	McQueen's Vall	4.16	69	⇓PN	P	04 50 36.9	-4.0
LTZ	Lake Taylor	4.40	56	eP	P	04 50 39.5	-4.6
LTZ	Lake Taylor	4.40	56	ePN	P	04 50 39.0	-5.1
DSZ	Denniston Nort	4.85	44	P	P	04 50 47.6	-2.9
DSZ	Denniston Nort	4.85	44	ePN	P	04 50 47.2	-3.2
QRZ	Quartz Range	5.91	42	eP	P	04 51 01.0	-4.0
QRZ	Quartz Range	5.91	42	ePN	P	04 51 00.9	-4.1
NNZ	Nelson	6.05	49	eP	P	04 51 04.9	-2.1
NNZ	Nelson	6.05	49	ePN	P	04 51 04.0	-3.0

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*BER **19** 05:26:51.8±1.8, 76.11N×24.43E, h5^{km}±24^{km}, MD2.2, ML2.5, ML2.7(NAO)*
*NAO **19** 05:26:52.6±4.1, 76.05N×23.69E, h19^{km}±28^{km}, ML2.7*
*CSEM **19** 05:26:54.2±1.0, 75.65N×23.05E, h10^{km}, ML2.7, Error ellipse: s-maj=67.2km s-min=16.4km az=72.0*
*HEL **19** 05:26:57.1±0.8, 75.76N×24.30E, h10^{km}, ML2.7, MD2.0(BER), ML2.5(BER)*
ISC 19 05:26:48.0±0.8**, 75.99N**±0.04×**25.2E**±0.4**, h10**^{km}**, n17,** σ**1^{s}57**/29**, Barents Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPEN	Hopen	0.52	354	eP	Pg	05 26 59.4	+0.9
HOPEN				eS	Sg	05 27 04.9	-0.7
HOPEN				AML	AML	05 27 05.3	
	comp=Z,396nm,0.2s						
HSP	Hornsund	2.49	299	eP	Pn	05 27 28.1	-1.2
HSP				eS	Sn	05 28 00.9	+1.0
SPA0	Spitsbergen Ar	2.96	322	Pn	Pn	05 27 34.4	-1.6
	baz=143,slow=12						
SPA0				Lg		05 28 16.8	
	baz=138,slow=56						
SPA0	Spitsbergen Ar	2.96	322	e	Pn	05 27 34.4	-1.6
SPA0				eS	Sn	05 28 16.8	+4.9
SPA0	Spitsbergen Ar	2.96	322	S	Sn	05 28 16.8	+4.9
KEV	Kevo	6.29	174	eP	Pn	05 28 26.5	+3.3
KEV				eS	Sn	05 29 34.1	-1.9
KEV				MSN		05 29 39.3	
	comp=Z,1.7nm,0.2s						
KEV	Kevo	6.29	174	P	Pn	05 28 26.5	+3.3
KEV				S	Sn	05 29 34.0	-1.9
	comp=Z,1.7nm,0.2s						
ARA0	ARCESS Array S	6.50	179	Pn	Pn	05 28 28.2	+2.2
	baz=356,slow=11						
ARA0				Sn	Sn	05 29 39.0	-2.0
	baz=3.1,slow=22						
ARA0	ARCESS Array S	6.50	179	eP	Pn	05 28 28.2	+2.2
ARA0				eS	Sn	05 29 39.0	-2.0
ARA0	ARCESS Array S	6.50	179	P	Pn	05 28 28.2	+2.2
ARA0				S	Sn	05 29 38.9	-2.1
KIF	Kilpisjarvi	7.15	193	eP	Pn	05 28 37.0	+1.7
KIF				eS	Sn	05 29 51.4	-5.9
KIF	Kilpisjarvi	7.15	193	P	Pn	05 28 36.9	+1.7
KIF				S	Sn	05 29 51.4	-5.9
SGF	Sodankyl	8.61	177	eP	P	05 28 57.6	+2.0
SGF				eS	Sn	05 30 28.1	-5.6
SGF				MSN		05 30 31.1	
	comp=Z,0.6nm,0.2s						
SGF	Sodankyl	8.61	177	P	P	05 28 57.5	+2.0
KU4	Liikasenvaara	9.78	170	eS	Sn	05 30 54.8	-7.6
OUL	Oulu	10.97	179	eS	S	05 31 23.4	-8.2
KJN	Kajaani	12.00	175	eP	P	05 29 42.7	+1.0
KJN				eS	S	05 31 49.0	-7.7
KJN				MSN		05 31 53.5	
	comp=Z,0.9nm,0.3s						

NNC 19 05:34:05.3±4.0**, 38.74N**×**72.80E, h214**^{km}±68^{km}**, mpv3.2, 3C-1D, Error ellipse: s-maj=54.3km s-min=25.5km az=17.0, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	4.10	18	⇑P	P	05 35 08.4	-1.0
	1.1nm,0.4s						
AAK				⇑S	S	05 35 59.9	+0.8
	5.6nm,0.8s						
KK31	Karatay Array	4.69	339	⇓P	P	05 35 16.4	-0.5
	3.1nm,0.3s,baz=146,slow=12,SNR=69						
KK31				⇑S	S	05 36 12.5	+0.1
	9.3nm,0.5s,baz=158,slow=26,SNR=32						
AB31	Akbulak array	13.98	323	P	P	05 37 16.8	+1.4
	0.3nm,0.3s,baz=130,slow=12,SNR=6.8						
AB31				S	S	05 39 48.4	+2.7
	0.9nm,0.7s,baz=135,slow=22,SNR=4.1						

IDC 19 06:23:58.9±3.0**, 28.56S**×**178.11W, h152**^{km}±57^{km}**, mb3.3**/1**, mb1 3.6**/1**, mb1mx3.2**/9**, mbtmp3.7**/1**, Error ellipse: s-maj=205.0km s-min=44.0km az=166.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.71	167	P	P	06 24 22.8	+0.7
	740nm,0.3s,baz=90,slow=8.7,SNR=61						
RAO				S	S	06 24 39.8	0.0
	213nm,0.3s,baz=128,slow=19,SNR=4.1						
WRA	Warramunga Arr	43.97	270	P	P	06 31 51.0	-1.6
	0.6nm,0.5s,baz=108,slow=7.8,SNR=2.8						
NB2	NORSAR Subarra	146.92	352	PKPabc	PKPdf	06 43 21.9	+1.6
	0.6nm,0.6s,baz=14,slow=2.8						
NOA	NORSAR Array B	146.92	352	PKPbc	PKPbc	06 43 21.9	-0.2
	0.8nm,0.7s,baz=16,slow=4.5,SNR=4.1						
AKASG	Malin Array Be	149.76	325	PKPbc	PKPdf	06 43 29.7	+4.5
	1.3nm,0.5s,baz=42,slow=3.1,SNR=8.5						

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*JMA **19** 06:35:16.5±0.4, 24.89N×122.70E, h41^{km}, M3.2*
*IDC **19** 06:35:16.5±1.1, 24.86N×122.71E, mb4.0/7, mb1 4.2/7, mb1mx4.0/17, mbtmp4.0/7, MS3.3/3, Ms1 3.3/3, ms1mx3.1/17, Error ellipse: s-maj=63.5km s-min=22.5km az=64.0*
*BJI **19** 06:35:24.9, 24.43N×122.93E, h86^{km}, mB4.6, mb4.1, Ms4.0, Msz3.9*
*NEIC **19** 06:35:25.9±2.6, 24.64N×122.40E, h75^{km}±22^{km}, mb4.7/1, Error ellipse: s-maj=53.6km s-min=12.8km az=68.0*
ISC 19 06:35:19.3±0.5**, 24.83N**±0.07×**122.88E**±0.08**, h33**^{km}**, n22,** σ**0^{s}84**/21**, mb4.1**/8**, MS3.6**/4**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.38	162	P	P	06 35 27.2	-0.9
YOJ				eS	S	06 35 34.9	+0.6
IRIF	Iriomote-Funau	0.92	122	P	P	06 35 35.8	+0.1
JKRS	Kuro-shima	1.18	120	eS	S	06 35 54.4	-0.3
JIJ	Ishigaki jima	1.24	112	P	P	06 35 40.1	-0.2
TATO	Taipei	1.27	277	ePg	P	06 35 44.6	+3.9
NACB	Ninganchiao	1.34	241	i Pg	P	06 35 41.6	-0.2
JNU	Nakatsue	10.83	38	LR	LR	06 42 36.3	
	comp=Z,123nm,18.1s,baz=259,slow=40						
MDJ	Mudanjiang	20.48	14	P	P	06 40 04.3	+7.5
MDJ				AP		06 40 15.1	
MDJ				PP	PP	06 40 30.3	+12
MDJ				PCS		06 47 44.8	
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,122nm,3.4s						
MDJ				LR	LR		
	comp=N,149nm,12.1s,MS3.8						
MDJ				LR	LR		
	comp=E,192nm,12.1s,MS3.8						
MDJ				LR	LR		
	comp=Z,258nm,12.1s,MS3.8						
GTA	Gaotai	24.26	312	eP	P	06 40 39.8	+5.4
GTA				LR	LR		
	comp=N,302nm,13.7s,MS4.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTA				LR	LR		
	comp=E,166nm,12.9s,MS4.0						
GTA				LR	LR		
	comp=Z,199nm,10.6s,MS3.9						
ASAJ	Asahikawa	25.07	35	LR	LR	06 51 12.9	
	comp=Z,74nm,18.3s,MS3.2,baz=183,slow=38						
SONM	Songino Array	26.41	335	P	P	06 40 54.7	0.0
	comp=Z,3.2nm,1.1s,mb3.8,baz=149,slow=7.2,SNR=12						
SONM				LR	LR	06 51 36.0	
	comp=Z,74nm,18.7s,MS3.3,baz=252,slow=37						
MKAR	Makanchi Array	38.97	315	P	P	06 42 43.4	-0.5
	comp=Z,3.7nm,0.9s,mb4.1,baz=103,slow=9.1,SNR=22						
MKAR	Makanchi Array	38.97	315	P	P	06 42 43.4	-0.5
WRAB	Tennant Creek	45.87	165	eP	P	06 43 40.1	-0.5
	comp=Z,11nm,1.0s,mb4.7						
WRA	Warramunga Arr	45.88	165	P	P	06 43 41.3	+0.7
	comp=Z,8.3nm,0.7s,mb4.8,baz=346,slow=8.7,SNR=18						
WB2	Warramunga Arr	45.88	165	eP	P	06 43 40.9	+0.3
BVAR	Borovoye Array	48.17	320	P	P	06 43 57.3	-0.8
	comp=Z,0.3nm,0.4s,mb3.7,baz=72,slow=9.1,SNR=2.9						
FINES	FINESS Array B	71.67	330	P	P	06 46 37.7	-1.5
	comp=Z,1.3nm,0.7s,mb3.9,baz=90,slow=9.7,SNR=3.2						
NB2	NORSAR Subarra	78.38	332	P	P	06 47 18.8	+1.1
	comp=Z,0.6nm,0.7s,mb3.6,baz=57,slow=5.6						
NOA	NORSAR Array B	78.38	332	P	P	06 47 19.3	+1.6
	comp=Z,1.3nm,0.9s,mb3.9,baz=57,slow=5.8,SNR=4.8						
YKA	Yellowknife Ar	81.78	23	P	P	06 47 37.2	+1.4
	comp=Z,0.5nm,0.4s,mb3.8,baz=320,slow=5.0,SNR=4.2						
YKA	Yellowknife Ar	81.78	23	P	P	06 47 37.2	+1.4

*NEIC **19** 06:39:39.3, 11.73N×61.45W, h74km, MD3.5(TRN), After TRN.*

TRN 19 06:39:39.3, 11.73N×61.45W, h75km, MD3.5, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRW	Mount Saint Ca	0.48	335	eP	P	06 39 51.6	-0.9
GRW				eS	S	06 40 03.2	+1.0
TPR	Prospect	0.85	129	eP	P	06 39 56.9	+0.4
TPR				eS	S	06 40 08.6	-0.7
BOT	Bacolet	0.91	128	eP	P	06 39 57.8	+0.7
TRN	Trinidad (W)	1.07	177	eP	P	06 39 58.3	-0.9
TRN				eS	S	06 40 12.4	-1.7
TBH	Brigand Hill	1.29	163	eP	P	06 40 02.9	+0.7
TBH				eS	S	06 40 18.4	-0.7
TPP	Pointe-a-Pierr	1.40	180	eP	P	06 40 04.3	+0.6
TPP				eS	S	06 40 21.4	-0.2
SVB	Belmont	1.55	7	eP	P	06 40 04.7	-1.0
SVB				eS	S	06 40 26.3	+1.3

*MAN **19** 07:58:56.7, 4.06N×126.88E, h95km, mb5.1, ML4.0, MS4.2*
*BJI **19** 07:59:03.1, 4.50N×126.40E, h30km, mB4.9, mb4.7, Ms4.1, Msz4.1*
*IDC **19** 07:59:03.4±3.2, 4.45N×126.32E, h16km±19km, mb4.5/15, mb1 4.6/15, mb1mx4.5/20, mbtmp4.6/15, MS3.8/10, Ms1 3.8/10, ms1mx3.6/22, Error ellipse: s-maj=38.8km s-min=11.2km az=71.0*
*MOS **19** 07:59:04.0±1.0, 4.50N×126.34E, h33km, mb5.0/10, Error ellipse: s-maj=25.2km s-min=10.2km az=103.5*
*NEIC **19** 07:59:05.1±0.3, 4.46N×126.37E, h30km, mb5.0/15, Error ellipse: s-maj=13.0km s-min=5.6km az=71.0*

ISC 19 07:59:02.8±1.8**, 4.47N**±0.04×**126.44E**±0.07**, h26**km±12km**, h27**km±3.1km**: pP-P, n77,** σ1s04/81**, mb4.8**/38**, MS3.9**/16**, 4C-5D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	2.46	356	eP	Pn	07 59 42.4	+0.2
MATI				eS	Sn	08 00 17.2	+5.5
KCP	Kidapawan	2.86	332⇓	eP	Pn	07 59 50.7	+2.9
KCP				i S	Sn	08 00 25.8	+4.0
CTBH	Cotabato--PC H	3.50	321	eP	Pn	07 59 58.3	+1.4
CTBH				i S	Sn	08 00 45.3	+7.4
BUKP	Musuan	3.65	338	eP	Pn	07 59 59.5	+0.4
BUKP				eS	Sn	08 00 40.7	-1.1
CGP	Cagayan de Oro	4.32	336⇑	eP	Pn	08 00 00.6	-8.0
PAGZ	Pagadian	4.53	318	eP	Pn	08 00 12.5	+1.0
PAGZ				eS	Sn	08 01 05.3	+1.3
BUTP	Butuan	4.54	350	eP	Pn	08 00 17.6	+5.9
IPIL	Ipil	5.07	311	eP	Pn	08 00 20.4	+1.3
IPIL				eS	Sn	08 01 16.2	-1.4
SNPH	Sibulan	5.79	327	eP	Pn	08 00 38.9	+10
MSLP	Maasin	5.84	344	eP	Pn	08 00 29.1	-0.9
BESP	Borongan	7.15	352	eP	Pn	08 00 46.5	-2.0
BESP				eS	Sn	08 02 16.6	+6.9
KKM	Kota Kinabalu	10.30	279	ePn	P	08 01 38.4	+6.1
KAKA	Kakadu	18.08	161	eP	P	08 03 12.3	-1.9
	32nm,0.6s						
JOW	Kunigami	22.30	4	LR	LR	08 11 52.3	
	comp=Z,243nm,19.5s,MS3.6,baz=229,slow=34						
FITZ	Fitzroy Crossi	22.44	182	eP	P	08 04 02.1	+0.8
	35nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	22.44	182	P	P	08 04 00.6	-0.8
	55nm,0.8s,mb5.0,baz=9.8,slow=6.2,SNR=25						
WRAB	Tennant Creek	25.47	162⇓	eP	P	08 04 30.3	-0.4
WRAB	Tennant Creek	25.47	162	eP	P	08 04 29.9	-0.8
	39nm,0.7s,mb5.0						
WRA	Warramunga Arr	25.47	163	P	P	08 04 30.3	-0.4
	23nm,0.7s,mb4.8,baz=343,slow=10,SNR=39						
WRA				S	S	08 08 58.4	+4.8
	2.7nm,1.2s,baz=345,slow=18,SNR=2.8						
WB2	Warramunga Arr	25.48	162⇓	iP	P	08 04 30.2	-0.6
MBWA	Marble Bar	26.31	194	eP	P	08 04 38.5	+0.1
	16nm,0.9s,mb4.6						
SSE	Sheshan	26.94	350	P	P	08 04 42.3	-1.9
SSE				AP	pP	08 04 50.6	-1.2
SSE				S	S	08 09 18.4	+0.6
SSE				XS		08 09 33.8	
SSE				PCS		08 11 45.3	
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,877nm,5.1s						
SSE				LR	LR		
	comp=N,171nm,24.4s,MS3.5						
SSE				LR	LR		
	comp=E,65nm,24.4s,MS3.5						
SSE				LR	LR		
	comp=Z,115nm,19.0s						
WHN	Wuhan	28.33	338	eP	P	08 04 54.6	-2.2
NJ2	Nanjing	28.34	346	eP	P	08 04 57.3	+0.4
NJ2				AP	pP	08 05 06.8	+2.2
NJ2				XP	sP	08 05 10.1	+2.1
NJ2				PP	PP	08 05 47.1	-1.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
NJ2				LR	LR		
	comp=N,2μm,16.2s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,17.6s,MS4.9						
NJ2				LR	LR		
	comp=Z,2μm,14.8s,MS4.7						
XAN	Xi'an	33.63	333	P	P	08 05 42.3	-1.2
MJAR	Matsushiro Arr	33.70	17	LR	LR	08 19 13.2	
	comp=Z,184nm,18.1s,MS3.8,baz=195,slow=36						
HNR	Honiara	36.13	113	LR	LR	08 17 42.7	
	comp=Z,120nm,21.1s,MS3.6,baz=278,slow=31						
KLBR	Kellerberrin	36.80	192	eP	P	08 06 10.2	-0.4
	comp=Z,44nm,1.6s,mb5.0						
SNY	Shenyang	37.28	356	⇑P	P	08 06 14.9	+0.4
SNY				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
LZH	Lanzhou	37.72	329	eP	P	08 06 19.5	+1.3
LZH				AP	pP	08 06 26.1	0.0
LZH				XP	sP	08 06 29.5	+0.1
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.8						
NWAO	Narrogin (SRO)	38.20	193	P	P	08 06 22.4	+0.1
	comp=Z,9.5nm,0.8s,mb4.6,baz=39,slow=10,SNR=5.0						
STKA	Stephens Creek	38.92	159	eP	P	08 06 28.7	+0.4
	comp=Z,16nm,0.6s,mb4.9						
STKA	Stephens Creek	38.92	159	P	P	08 06 28.7	+0.3
	comp=Z,20nm,0.7s,mb5.0,baz=334,slow=7.9,SNR=28						
SHL	Shillong	39.21	306	eP	P	08 06 31.0	+0.2
MDJ	Mudanjiang	40.08	3	P	P	08 06 37.9	+0.1
MDJ				AP	pP	08 06 48.3	+2.6
MDJ				XP	sP	08 06 54.9	+6.0
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,83nm,4.2s						
MDJ				LR	LR		
	comp=N,60nm,19.6s,MS3.5						
MDJ				LR	LR		
	comp=E,35nm,22.6s,MS3.5						
MDJ				LR	LR		
	comp=Z,82nm,16.6s						
ASAJ	Asahikawa	41.97	17	LR	LR	08 24 04.2	
	comp=Z,152nm,18.9s,MS3.9,baz=231,slow=36						
GTA	Gaotai	42.32	329	eP	P	08 06 57.3	+1.0
GTA				AP	pP	08 07 02.5	-1.6
GTA				PCP	PcP	08 08 54.8	+4.6
GTA				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.3						
GUN	Gumba	45.06	306	eP	P	08 07 18.7	0.0
	comp=Z,28nm,0.7s,mb5.2						
PKI	Pulchoki	45.31	305	eP	P	08 07 19.9	-0.7
DMN	Daman	45.57	305	eP	P	08 07 22.8	+0.1
	comp=Z,9.6nm,0.7s,mb4.8						
GKN	Gorkha	46.11	305	eP	P	08 07 25.7	-1.2
SONM	Songino Array	46.51	341	P	P	08 07 29.0	-0.8
	comp=Z,1.4nm,0.5s,mb4.2,baz=154,slow=8.8,SNR=9.3						
SONM				PcP	PcP	08 09 05.0	+0.6
	comp=Z,1.3nm,0.6s,baz=163,slow=4.2,SNR=4.3						
SONM				LR	LR	08 29 26.0	
	comp=Z,72nm,21.2s,MS3.6,baz=328,slow=39						
KOLN	Koldanda	46.87	304	eP	P	08 07 32.4	-0.6
	comp=Z,22nm,0.7s,mb5.2						
DZM	Mont Dzumac	47.20	126	P	P	08 07 36.8	+1.2
	comp=Z,8.8nm,0.8s,mb4.8,baz=292,slow=16,SNR=8.8						
BOD	Bodaibo	54.09	352	eP	P	08 08 28.0	+0.5
BOD				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
MKAR	Makanchi Array	56.79	325	P	P	08 08 46.6	-0.6
	comp=Z,3.2nm,0.7s,mb4.5,baz=130,slow=8.0,SNR=16						
MKAR				PcP	PcP	08 09 42.3	-0.4
	comp=Z,3.0nm,0.7s,baz=124,slow=4.5,SNR=5.0						
MKAR				ScP		08 13 41.8	
	comp=Z,0.2nm,0.4s,baz=108,slow=4.6,SNR=3.3						
MKAR				LR	LR	08 34 29.5	
	comp=Z,103nm,19.4s,MS3.9,baz=349,slow=38						
YAK	Yakutsk	57.48	2⇑	eP	P	08 08 51.4	-0.5
YAK				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.5						
YAK				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.9						
KURK	Kurchatov	60.96	327	eP	P	08 09 15.2	-0.9
KURK				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
KURK	Kurchatov	60.96	327	eP	P	08 09 15.2	-1.0
	comp=Z,6.7nm,0.5s,mb5.0						
SEY	Seymchan	61.38	13	i P	P	08 09 19.8	+1.0
BVAR	Borovoye Array	66.55	327	P	P	08 09 52.4	-0.3
	comp=Z,2.9nm,0.7s,mb4.4,baz=135,slow=8.4,SNR=17						
BRVK	Borovoye	66.62	327	eP	P	08 09 52.8	-0.3
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
BRVK	Borovoye	66.62	327	eP	P	08 09 52.8	-0.4
	comp=Z,6.3nm,0.8s,mb4.7						
TIXI	Tiksi	67.11	1⇓	eP	P	08 09 55.5	-0.5
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,100nm,24.0s,MS4.0						
BILL	Bilibino	68.91	15	eP	P	08 10 05.1	-2.2
BILL				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
BILL				MLR	MLR		
	comp=Z,200nm,27.0s,MS4.2						
SVE	Sverdlovsk	73.18	328	eP	P	08 10 45.8	+13
ARU	Arti	74.16	328⇑	iP	P	08 10 38.4	-0.4
ARU				e		08 10 54.7	
ARU				e		08 13 25.1	
ARU				eS	S	08 20 09.8	+0.8
ARU				eSS	SS	08 24 56.0	-0.8
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
IMA	Indian Mountai	81.83	24	eP	P	08 11 22.1	+1.4
IMA				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
IMA	Indian Mountai	81.83	24	eP	P	08 11 22.1	+1.4
	comp=Z,15nm,0.8s,mb5.0						
MCK	McKinley	83.63	26	eP	P	08 11 29.7	-0.4
MCK				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.8						
MCK	McKinley	83.63	26	eP	P	08 11 29.7	-0.3
	comp=Z,11nm,1.4s,mb4.8						
SML	Sawmill	83.82	28	eP	P	08 11 31.7	+0.6
VNDA	Vanda	84.19	173	P	P	08 11 33.8	+1.1
	comp=Z,1.1nm,0.7s,mb4.1,baz=298,slow=4.6,SNR=7.9						
VNDA				LR	LR	08 45 47.9	
	comp=Z,11nm,20.2s,MS3.2,baz=332,slow=33						
MAW	Mawson	84.35	200	P	P	08 11 36.0	+2.4
	comp=Z,1.5nm,0.7s,mb4.2,baz=46,slow=4.0,SNR=3.9						
DIV	Divide	85.04	29	eP	P	08 11 38.6	+1.4
	comp=Z,54nm,0.9s,mb5.7						
PPT	Papeete	85.61	108	LR	LR	08 48 00.5	
	comp=Z,116nm,18.9s,MS4.3,baz=303,slow=34						
OBN	Obninsk	86.29	325⇓	eP	P	08 11 42.6	-1.0
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.2						
BRTR	Keskin Array B	89.33	310	P	P	08 11 59.1	+0.6
	comp=Z,0.5nm,0.4s,mb4.2,baz=117,slow=3.2,SNR=3.8						
INK	Inuvik	89.58	21	P	P	08 12 01.3	+2.2
	comp=Z,1.8nm,0.8s,mb4.5,baz=327,slow=3.6,SNR=3.0						
ARCES	ARCESS Array B	89.66	340	P	P	08 11 59.2	-0.2
	comp=Z,6.7nm,0.7s,mb5.1,baz=83,slow=4.4,SNR=32						
ARCES	ARCESS Array B	89.66	340	P	P	08 11 59.2	-0.2
ARE0	ARCESS Array S	89.66	340	eP	P	08 11 59.0	-0.4
FINES	FINESS Array B	91.05	332	P	P	08 12 06.5	+0.5
	comp=Z,2.7nm,0.7s,mb4.7,baz=76,slow=5.7,SNR=6.5						
FINES				LR	LR	08 57 25.3	
	comp=Z,49nm,18.6s,MS4.0,baz=106,slow=38						
NB2	NORSAR Subarra	98.00	334	P	P	08 12 38.2	+0.4
	comp=Z,3.2nm,0.8s,mb4.9,baz=65,slow=4.5						
NB2	NORSAR Subarra	98.00	334	P	P	08 12 38.2	+0.4
NB2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.9						
NB2	NORSAR Subarra	98.00	334	P	P	08 12 38.2	+0.4
	baz=65,slow=4.4						
NOA	NORSAR Array B	98.00	334	P	P	08 12 38.1	+0.4
	comp=Z,2.4nm,0.7s,mb4.8,baz=66,slow=4.6,SNR=13						
NOA				LR	LR	09 00 49.1	
	comp=Z,58nm,18.1s,MS4.1,baz=80,slow=38						

*MOS **19** 08:04:41.4±1.6, 36.25N×11.39W, h10km, mb4.4/12, Error ellipse: s-maj=10.9km s-min=3.3km az=49.5*
*IDC **19** 08:04:41.2±0.6, 36.05N×11.48W, mb4.1/17, mb1 4.3/18, mb1mx4.1/27, mbtmp4.1/18, ML5.4/2, MS3.7/13, Ms1 3.7/13, ms1mx3.5/25, Error ellipse: s-maj=24.7km s-min=12.1km az=133.0*
*NEIC **19** 08:04:42.2±0.5, 36.25N×11.40W, h5km, mb4.3/14, ML4.9(LDG), Error ellipse: s-maj=6.3km s-min=6.0km az=115.0*
*CNRM **19** 08:04:42.1, 36.14N×11.30W, h30km, MD5.0*
*ZUR_RM **19** 08:04:42, 36.25N×11.40W, h33km, Mw4.6/12, Moment Tensor Solution. s12 Moment tensor: Scale 10^{15}Nm; M_{rr}2.73; $M_{\theta\theta}$-8.17; $M_{\phi\phi}$5.44; $M_{r\theta}$1.61; $M_{\theta\phi}$-4.54; $M_{\phi r}$-1.43; Best double couple: $M_0$8.59×10^{15} NP1:ϕ_s116°,δ79°,λ161°. NP2:ϕ_s210°,δ71°,λ12°. Principal axes: T 7.528, Plg21°, Azm72°; N 2.124, Plg68°, Azm267°; P -9.653, Plg5°, Azm164°;*
*MDD **19** 08:04:43.7±1.2, 36.26N×11.53W, h19km±37km, mb5.5/29 Error ellipse: s-maj=42.0km s-min=7.5km az=55.0, PRXIMO*
*SFS **19** 08:04:43.0, 36.21N×11.70W, h39km*
*IGIL **19** 08:04:44.4, 36.20N×11.40W, h10km, ML5.1*
*LDG **19** 08:04:44.0±0.2, 36.18N×11.64W, h30km, Md4.5/4, Ml4.9/26, ms3.2/6, Error ellipse: s-maj=5.1km s-min=4.0km az=106.0*
*INMG **19** 08:04:44.6±2.0, 36.18N×11.61W, h31km, ML4.6, Error ellipse: s-maj=4.6km s-min=2.9km az=117.0*
*CRAAG **19** 08:04:46.4, 36.09N×11.00W, Mb4.7*
*CSEM **19** 08:04:49.6, 36.66N×10.91W, h30km, mb4.5*

ISC 19 08:04:42.7±0.8**, 36.10N**±0.02×**11.10W**±0.03**, h23**km±7km**, n291,** σ1s58/429**, mb4.1**/24**, MS3.7**/12**, 32C-6D, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	2.39	52	i P	Pn	08 05 24.2	+2.9
PTEO				eS	Sn	08 05 52.5	+2.3
	2μm,0.4s						
PTEO	Sao Teotonio	2.39	52	Pn	Pn	08 05 24.2	+2.9
PTEO				Sn	Sn	08 05 52.0	+1.8
LIS	Lisbon	3.04	30	eP	Pn	08 05 31.7	+1.2
LIS				eS	Sn	08 06 05.6	-1.0
LIS				eS	Sn	08 06 05.6	-1.0
LIS				AML	AML	08 06 09.7	
	comp=N,4μm,0.4s						
INMG	Instituto de M	3.09	30	eP	Pn	08 05 32.6	+1.2
PLOU	Loures	3.18	28	eP	Pn	08 05 33.4	+0.8
PLOU				eS	Sn	08 06 08.4	-1.9
	comp=N,2μm,0.4s						
PLOU	Loures	3.18	28	Pn	Pn	08 05 33.4	+0.8
PLOU				Sn	Sn	08 06 08.3	-2.0
PBEJ	Beja	3.22	52	eP	Pn	08 05 35.3	+2.1
PBEJ				eS	Sn	08 06 12.7	+1.5
	comp=N,1μm,0.3s						
PBEJ	Beja	3.22	52	Pn	Pn	08 05 35.2	+2.0
PBEJ				Sn	Sn	08 06 12.3	+1.1
EGRO	El Granado	3.23	63	⇑Pn	Pn	08 05 36.3	+3.0
	comp=N,309nm,0.2s,SNR=18						
EGRO				Sn	Sn	08 06 13.7	+2.1
	comp=N,1μm,0.4s,SNR=6.5						
EGRO	El Granado	3.23	63	Pn	Pn	08 05 36.3	+3.0
	comp=N,309nm,0.2s,SNR=18						
EGRO				Sn	Sn	08 06 13.7	+2.1
	comp=N,1μm,0.4s,SNR=6.5						
EVO	Evora	3.45	44	ePn	Pn	08 05 37.0	+0.5
	baz=253						
EVO				eSn	Sn	08 06 14.8	-2.4
	comp=N,2μm,0.3s						
EVO				eR			
	comp=N,1μm,18.0s,baz=238						
ALMR	Almeirim	3.65	32	eP	Pn	08 05 39.8	+0.5
ALMR				eS	Sn	08 06 20.7	-1.4
ALMR				eS	Sn	08 06 20.7	-1.3
ALMR				AML	AML	08 06 24.9	
	comp=E,8μm,0.6s						
EMIN	Mina Concepcio	3.91	64	⇑Pn	Pn	08 05 45.4	+2.4
	comp=E,177nm,0.2s,SNR=18						
EMIN				Sn	Sn	08 06 29.8	+1.0
	comp=E,1μm,0.3s,SNR=19						
EMIN	Mina Concepcio	3.91	64	Pn	Pn	08 05 45.4	+2.4
	comp=E,177nm,0.2s,SNR=18						
EMIN				Sn	Sn	08 06 29.9	+1.1
SFS	San Fernando	3.97	83	⇑P	Pn	08 05 47.9	+4.2
SFS				S	Sn	08 06 38.5	+8.4
SFS	San Fernando	3.97	83	ePn	Pn	08 05 47.7	+3.9
SFS	San Fernando	3.97	83	i P	Pn	08 05 47.9	+4.1
SFS				eS	Sn	08 06 38.5	+8.3
RTC	Rabat Centre	4.07	120	P	Pn	08 05 44.0	-1.2
RTC				S	Sn	08 06 30.0	-2.7
RTC	Rabat Centre	4.07	120	i P	Pn	08 05 44.0	-1.2
CNIL	Conil	4.08	85	⇑P	Pn	08 05 50.1	+4.6
CNIL				S	Sn	08 06 42.2	+9.1
CNIL	Conil	4.08	85	i P	Pn	08 05 50.1	+4.6
CNIL				eS	Sn	08 06 42.2	+9.0
PTOM	Tomar	4.10	30	eP	Pn	08 05 45.9	+0.2
PTOM				eS	Sn	08 06 31.1	-2.6
	comp=E,1μm,0.4s						
PTOM	Tomar	4.10	30	Pn	Pn	08 05 45.9	+0.2
PTOM				Sn	Sn	08 06 30.5	-3.2
EBAD	Badajoz	4.19	50	⇑Pn	Pn	08 05 48.1	+1.1
	comp=E,45nm,0.1s,SNR=18						
EBAD				Sn	Sn	08 06 35.7	-0.2
	comp=E,2μm,0.2s,SNR=21						
EBAD	Badajoz	4.19	50	Pn	Pn	08 05 48.1	+1.1
	comp=E,45nm,0.1s,SNR=18						
EBAD				Sn	Sn	08 06 35.7	-0.2
	comp=E,2μm,0.2s,SNR=21						
GIBL	Gibalbin	4.20	79	⇑P	Pn	08 05 50.7	+3.6
GIBL				S	Sn	08 06 40.7	+4.7
GIBL	Gibalbin	4.20	79	i P	Pn	08 05 50.7	+3.6
GIBL				eS	Sn	08 06 40.7	+4.7
ESPR	Espera	4.29	78	⇑Pn	Pn	08 05 51.7	+3.3
	comp=E,465nm,0.4s,SNR=18						
ESPR				Sn	Sn	08 06 40.4	+2.0
	comp=E,6μm,0.3s,SNR=8.4						
ESPR	Espera	4.29	78	Pn	Pn	08 05 51.7	+3.3
	comp=E,465nm,0.4s,SNR=18						
ESPR				Sn	Sn	08 06 40.4	+2.0
	comp=E,6μm,0.3s,SNR=8.4						
MOMI	Momias	4.35	85	⇓P	Pn	08 05 53.2	+3.9
MOMI				S	Sn	08 06 46.1	+6.2
MOMI	Momias	4.35	85	i P	Pn	08 05 53.2	+3.9
MOMI				eS	Sn	08 06 46.1	+6.1
ALJ	Aljibe	4.42	83	⇓P	Pn	08 05 54.3	+4.1
ALJ				S	Sn	08 06 46.2	+4.6
ALJ	Aljibe	4.42	83	i P	Pn	08 05 54.3	+4.1
ALJ				i S	Sn	08 06 46.2	+4.6
LIJA	Lijar	4.65	78	⇓P	Pn	08 05 57.0	+3.5
LIJA				S	Sn	08 06 50.0	+2.4
LIJA	Lijar	4.65	78	i P	Pn	08 05 57.0	+3.4
LIJA				i S	Sn	08 06 50.0	+2.4
PCBR	Castelo Branco	4.70	36	i P	Pn	08 05 54.4	+0.2
PCBR				eS	Sn	08 06 45.6	-3.2
	comp=E,569nm,0.4s						
PCBR	Castelo Branco	4.70	36	Pn	Pn	08 05 54.3	+0.1
PCBR				Sn	Sn	08 06 45.3	-3.5
REAL	Reales	4.77	84	⇓P	Pn	08 05 59.0	+3.8
REAL				S	Sn	08 06 54.6	+4.1
REAL	Reales	4.77	84	i P	Pn	08 05 59.0	+3.8
REAL				eS	Sn	08 06 54.6	+4.1
CIA	Chichaoua	4.92	156	P	Pn	08 05 55.0	-2.4
CIA				S	Sn	08 06 49.0	-5.4
CIA	Chichaoua	4.92	156	i P	Pn	08 05 55.0	-2.4
ECAB	El Cabril	4.95	65	⇑Pn	Pn	08 05 59.7	+2.0
	comp=E,302nm,0.4s,SNR=18						
ECAB				Sn	Sn	08 06 54.1	-0.9
	comp=E,2μm,0.6s,SNR=8.8						
ECAB	El Cabril	4.95	65	Pn	Pn	08 05 59.7	+2.0
	comp=E,302nm,0.4s,SNR=18						
ECAB				Sn	Sn	08 06 54.1	-0.9
	comp=E,2μm,0.6s,SNR=8.8						
MTE	Manteigas	5.12	32⇑	iPn	Pn	08 05 59.8	-0.4
	comp=E,992nm,0.6s						
MTE				eSn	Sn	08 06 53.0	-6.3
MTE	Manteigas	5.12	32	eP	Pn	08 05 59.8	-0.3
MTE				eS	Sn	08 06 55.1	-4.2
	comp=E,1μm,0.6s						
MTE	Manteigas	5.12	32⇑	iPn	Pn	08 05 59.8	-0.3
	comp=E,992nm,0.6s						
MTE				eSn	Sn	08 06 53.0	-6.3
EMIJ	Mijas	5.12	83	⇑Pn	Pn	08 06 02.6	+2.4
	comp=E,139nm,0.5s,SNR=18						
EMIJ				Sn	Sn	08 07 00.6	+1.2
	comp=E,367nm,0.3s,SNR=7.2						
PVIS	Viseu	5.25	28	eP	Pn	08 06 01.1	-0.8
PVIS				eS	Sn	08 06 57.2	-5.3
	comp=E,718nm,0.3s						
PMPS	Porto Santo	5.28	236	eP	Pn	08 05 55.4	-7.0
PMPS				eS	Sn	08 06 46.2	-17
	comp=E,242nm,0.2s						
KIB	El Ksiba	5.46	129	P	Pn	08 06 03.0	-2.0
KIB				S	Sn	08 07 03.0	-4.9
MIF	Mishlifen	5.53	117	P	Pn	08 06 05.0	-0.8
MIF				S	Sn	08 07 06.0	-3.4
OUK	Oukaimeden	5.57	150	P	Pn	08 06 04.0	-2.5
OUK				S	Sn	08 07 04.0	-6.6
EADA	Adamuz	5.60	66	⇑Pn	Pn	08 06 08.6	+1.7
	comp=E,52nm,0.3s,SNR=18						
EADA				Sn	Sn	08 07 11.0	-0.3
	comp=E,598nm,0.3s,SNR=6.9						
EADA	Adamuz	5.60	66	Pn	Pn	08 06 08.6	+1.7
	comp=E,52nm,0.3s,SNR=18						
EADA				Sn	Sn	08 07 11.0	-0.3
	comp=E,598nm,0.3s,SNR=6.9						
ELUQ	Luque	5.67	73	⇑Pn	Pn	08 06 09.9	+2.1
ELUQ				Sn	Sn	08 07 13.8	+0.8
ELUQ	Luque	5.67	73	⇑Pn	Pn	08 06 10.0	+2.1
	comp=E,119nm,0.3s,SNR=18						
ELUQ				Sn	Sn	08 07 13.8	+0.8
	comp=E,129nm,0.2s,SNR=6.1						
ELUQ	Luque	5.67	73	⇑Pn	Pn	08 06 09.9	+2.1
ELUQ				Sn	Sn	08 07 13.8	+0.8
	comp=E,129nm,0.2s,SNR=6.1						
ELOJ	Sierra Loja	5.68	77	Pn	Pn	08 06 10.5	+2.5
	comp=E,46nm,0.4s,SNR=79						
ELOJ				Sn	Sn	08 07 13.5	+0.1
	comp=E,164nm,0.4s,SNR=6.7						
ELOJ	Sierra Loja	5.68	77	Pn	Pn	08 06 10.5	+2.5
	comp=E,46nm,0.4s,SNR=79						
ELOJ				Sn	Sn	08 07 13.4	+0.1

PVRL Vila Real 5.80 26 *e*P **Pn** **08 06 08.6 -1.2**
PVRL *e*S **Sn** **08 07 10.4 -6.0**
comp=E,746nm,0.4s
PVRL Vila Real 5.80 26 Pn **Pn** **08 06 08.6 -1.2**
PVRL Sn **Sn** **08 07 10.0 -6.4**
CZD Col de Zad 5.86 120 P **Pn** **08 06 09.0 -1.5**
CZD S **Sn** **08 07 13.0 -4.7**
MPAL Palemas 5.89 96 P **Pn** **08 06 09.5 -1.5**
MPAL S **Sn** **08 07 15.0 -3.6**
ERON Agron 5.94 79 ⇑Pn **Pn** **08 06 14.7 +3.1**
comp=E,130nm,0.4s,SNR=18
ERON Sn **Sn** **08 07 20.3 +0.5**
comp=E,119nm,0.4s,SNR=6.8
TZK Tazeka 6.01 108 P **Pn** **08 06 11.0 -1.7**
TZK S **Sn** **08 07 16.0 -5.6**
TOU Touzarine 6.09 99 P **Pn** **08 06 12.0 -1.9**
TOU S **Sn** **08 07 18.0 -5.7**
EGUA Guajares 6.11 81 Pn **Pn** **08 06 16.3 +2.2**
comp=E,1.7nm,0.2s,SNR=7.9
EGUA Sn **Sn** **08 07 26.3 +2.2**
comp=E,14nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 6.16 77 Pn **Pn** **08 06 17.4 +2.6**
comp=E,85nm,0.4s,SNR=125
ECOG Sn **Sn** **08 07 26.0 +0.6**
comp=E,107nm,0.2s,SNR=9.8
EBAN Banos Encina 6.19 68 Pn **Pn** **08 06 15.6 +0.4**
comp=E,228nm,0.5s,SNR=238
EBAN Sn **Sn** **08 07 24.2 -1.9**
comp=E,288nm,0.4s,SNR=10
ELOB Lobios 6.22 21 ⇓Pn **Pn** **08 06 13.7 -2.0**
comp=E,67nm,0.2s,SNR=18
ELOB Sn **Sn** **08 07 18.6 -8.3**
comp=E,526nm,0.3s,SNR=21
ELOB Lobios 6.22 21 Pn **Pn** **08 06 13.7 -2.0**
comp=E,67nm,0.2s,SNR=18
EZAM Zamans 6.32 16 Pn **Pn** **08 06 14.0 -3.0**
comp=E,8.6nm,0.2s,SNR=8.9
EZAM Sn **Sn** **08 07 20.0 -9.3**
comp=E,137nm,0.2s,SNR=16
EALB Alboran 6.53 89 Pn **Pn** **08 06 20.9 +0.8**
comp=E,19nm,0.2s,SNR=17
EALB Sn **Sn** **08 07 33.1 -1.6**
comp=E,122nm,0.2s,SNR=11
EALB Alboran 6.53 89 Pn **Pn** **08 06 20.9 +0.8**
comp=E,19nm,0.2s,SNR=17
EALB Sn **Sn** **08 07 33.1 -1.6**
comp=E,122nm,0.2s,SNR=11
PBRG Braganca 6.63 29 *e*P **Pn** **08 06 19.9 -1.5**
PBRG *e*S **Sn** **08 07 29.7 -7.3**
comp=E,236nm,0.6s
PBRG Braganca 6.63 29 Pn **Pn** **08 06 19.8 -1.6**
PBRG Sn **Sn** **08 07 29.6 -7.4**
EQES Quesada 6.64 73 ⇑Pn **Pn** **08 06 23.0 +1.3**
comp=E,72nm,0.2s,SNR=18
EQES Sn **Sn** **08 07 36.7 -0.8**
comp=E,138nm,0.2s,SNR=10
EQES Quesada 6.64 73 Pn **Pn** **08 06 23.0 +1.4**
comp=E,72nm,0.2s,SNR=18
EQES Sn **Sn** **08 07 36.7 -0.8**
comp=E,138nm,0.2s,SNR=10
EBER Berja 6.66 81 Pn **Pn** **08 06 24.6 +2.8**
EBER Sn **Sn** **08 07 37.0 -0.8**
EBER Berja 6.66 81 Pn **Pn** **08 06 24.5 +2.7**
comp=E,24nm,0.2s,SNR=34
EBER Sn **Sn** **08 07 37.0 -0.8**
comp=E,334nm,0.6s,SNR=6.9
EBER Berja 6.66 81 Pn **Pn** **08 06 24.6 +2.8**
comp=E,24nm,0.2s,SNR=34
EBER Sn **Sn** **08 07 37.0 -0.8**
comp=E,334nm,0.6s,SNR=6.9
EMEL Melilla 6.67 95 Pn **Pn** **08 06 23.2 +1.2**
comp=E,185nm,0.2s,SNR=8.0
EMEL Sn **Sn** **08 07 36.4 -1.6**
comp=E,1μm,0.3s,SNR=6.8
ESDC Sonseca Array 6.67 56 Pn **Pn** **08 06 22.3 +0.3**
comp=E,124nm,0.3s,baz=243,slow=13,SNR=533
ESDC Sn **Sn** **08 07 35.0 -3.1**
comp=E,256nm,0.3s,baz=244,slow=24,SNR=15
ESDC Sonseca Array 6.67 56 ⇑Pn **Pn** **08 06 22.2 +0.2**
comp=E,81nm,0.3s,baz=244,slow=13,SNR=18
ESDC Sn **Sn** **08 07 35.5 -2.6**
comp=E,652nm,0.3s,baz=245,slow=23,SNR=41
ESDC Sonseca Array 6.67 56 Pn **Pn** **08 06 22.2 +0.2**
comp=E,81nm,0.3s,SNR=18
ESDC Sn **Sn** **08 07 35.5 -2.6**
comp=E,652nm,0.3s,SNR=41
ESLA Sonseca Array 6.67 56 ⇑*i*Pn **Pn** **08 06 22.3 +0.3**
comp=E,28nm,0.6s
ESLA *e*Sn **Sn** **08 07 35.9 -2.2**
ESLA Sonseca Array 6.67 56 ⇑*i*Pn **Pn** **08 06 22.3 +0.3**
comp=E,28nm,0.6s
ESLA *e*Sn **Sn** **08 07 35.9 -2.2**
MELI Melilla 6.69 95 P **Pn** **08 06 24.0 +1.7**
MELI S **Sn** **08 07 37.6 -0.9**
MELI Melilla 6.69 95 *e*P **Pn** **08 06 24.0 +1.8**
ECAL Calabor 6.75 29 ⇑Pn **Pn** **08 06 21.6 -1.5**
comp=E,48nm,0.4s,SNR=18
ECAL Sn **Sn** **08 07 32.8 -7.2**
comp=E,1μm,0.4s,SNR=15
ECAL Calabor 6.75 29 Pn **Pn** **08 06 21.6 -1.4**
comp=E,48nm,0.4s,SNR=18
ZAI Zaio 6.90 97 P **Pn** **08 06 22.0 -3.2**
ZAI S **Sn** **08 07 37.0 -6.8**
ZFT Errachidia 6.91 124 P **Pn** **08 06 23.5 -1.9**
ZFT S **Sn** **08 07 38.0 -6.1**
ERUA La Rua 6.99 25 ⇓Pn **Pn** **08 06 24.9 -1.6**
comp=E,38nm,0.4s,SNR=18
ERUA Sn **Sn** **08 07 39.8 -6.3**
comp=E,100nm,0.5s,SNR=10.0
EHUE Huescar 7.02 73 Pn **Pn** **08 06 28.0 +1.1**
EHUE Sn **Sn** **08 07 45.5 -1.4**
EHUE Huescar 7.02 73 Pn **Pn** **08 06 28.0 +1.1**
comp=E,93nm,0.8s,SNR=142
EHUE Sn **Sn** **08 07 45.5 -1.3**
comp=E,67nm,0.2s,SNR=9.1
EMAZ Mazaricos 7.03 13 Pn **Pn** **08 06 22.7 -4.3**
EMAZ Sn **Sn** **08 07 35.7 -11**
EMAZ Mazaricos 7.03 13 Pn **Pn** **08 06 23.0 -4.1**
comp=E,17nm,0.1s,SNR=32
EMAZ Sn **Sn** **08 07 35.7 -11**
comp=E,164nm,0.3s,SNR=11
STS Santiago 7.05 15 Pn **Pn** **08 06 23.8 -3.6**
comp=E,18nm,0.2s,SNR=11
STS Sn **Sn** **08 07 38.2 -10**
comp=E,189nm,0.5s,SNR=11
ENIJ Nijar 7.21 80 Pn **Pn** **08 06 31.2 +1.7**
comp=E,94nm,0.4s,SNR=26
ENIJ Sn **Sn** **08 07 51.4 -0.2**
comp=E,47nm,0.4s,SNR=5.4
EFAM Famara 7.25 197 Pn **Pn** **08 06 25.1 -5.1**
comp=E,21nm,0.3s,SNR=8.4
EFAM Sn **Sn** **08 07 39.9 -13**
comp=E,44nm,0.3s,SNR=9.5
EFAM Famara 7.25 197 Pn **Pn** **08 06 25.1 -5.0**
comp=E,21nm,0.3s,SNR=8.4
EFAM Sn **Sn** **08 07 39.9 -13**
comp=E,44nm,0.3s,SNR=9.5
EVIA Vianos 7.29 67 Pn **Pn** **08 06 31.3 +0.5**
comp=E,77nm,0.3s,SNR=88
EVIA Sn **Sn** **08 07 51.7 -2.1**
comp=E,64nm,0.4s,SNR=8.2
EPON Pontenova 7.83 22 Pn **Pn** **08 06 35.3 -2.9**
comp=E,104nm,0.4s,SNR=144
EPON Sn **Sn** **08 07 56.0 -11**
comp=E,62nm,0.3s,SNR=7.8
EPON Pontenova 7.83 22 Pn **Pn** **08 06 35.3 -2.9**
comp=E,104nm,0.4s,SNR=144
OLHC Oulhaca 7.92 93 P **Sn** **08 08 05.0 -4.3**
ETOB Tobarra 8.01 69 Pn **P** **08 06 41.1 +0.3**
comp=E,231nm,0.6s,SNR=152
ETOB Sn **Sn** **08 08 09.1 -2.5**
comp=E,76nm,0.2s,SNR=4.6
ETOB Tobarra 8.01 69 Pn **P** **08 06 41.1 +0.3**
comp=E,231nm,0.6s,SNR=152
ETOB Sn **Sn** **08 08 09.1 -2.6**
comp=E,76nm,0.2s,SNR=4.6
ODZI Dziouia 8.07 93 P **Sn** **08 08 10.0 -3.0**
CFTV Fuerteventura 8.07 199 Pn **P** **08 06 34.7 -6.9**
CFTV Sn **Sn** **08 07 57.8 -15**
CFTV Fuerteventura 8.07 199 Pn **P** **08 06 34.7 -6.9**
comp=E,22nm,0.8s,SNR=9.2
CFTV Sn **Sn** **08 07 57.8 -15**
comp=E,37nm,0.4s,SNR=10
EMUR La Murta 8.08 75 Pn **P** **08 06 42.6 +0.9**
comp=E,38nm,0.3s,SNR=24
EMUR Sn **Sn** **08 08 10.5 -2.7**
comp=E,176nm,0.5s,SNR=6.5
CART Cartagena 8.23 77 *e*Pn **P** **08 06 43.3 -0.5**
comp=E,108nm,0.6s
CART *e*Sn **Sn** **08 08 12.5 -4.5**
CART Cartagena 8.23 77 P **P** **08 06 44.5 +0.7**
CART S **Sn** **08 08 13.3 -3.7**
CART Cartagena 8.23 77 *e*Pn **P** **08 06 43.3 -0.5**
comp=E,108nm,0.6s
OTSS Djebel Tessala 8.42 93 P **Sn** **08 08 18.0 -3.8**
EARI Arriondas 8.50 30 Pn **P** **08 06 46.4 -1.1**
comp=E,6.5nm,0.2s,SNR=38
EARI Sn **Sn** **08 08 13.8 -10**
comp=E,151nm,0.6s,SNR=8.1
EARI Arriondas 8.50 30 Pn **P** **08 06 46.4 -1.1**
comp=E,6.5nm,0.2s,SNR=38
USTO Oran 8.56 89 P **Sn** **08 08 23.0 -2.4**
ECHE Chera 8.73 63 Pn **P** **08 06 51.7 +0.9**
comp=E,25nm,0.6s,SNR=35
ECHE Sn **Sn** **08 08 25.3 -4.3**
comp=E,25nm,0.3s,SNR=5.8
EOSO Osorio 8.85 207 Sn **Sn** **08 08 14.4 -18**
comp=E,164nm,0.7s,SNR=8.2
EBEN Beniarda 9.03 70 Pn **P** **08 06 55.2 +0.2**
comp=E,34nm,0.4s,SNR=37
EBEN Sn **Sn** **08 08 34.4 -2.5**
comp=E,25nm,0.3s,SNR=9.9
EBEN Beniarda 9.03 70 Pn **P** **08 06 55.2 +0.3**
comp=E,34nm,0.4s,SNR=37
EBEN Sn **Sn** **08 08 34.4 -2.5**
comp=E,25nm,0.3s,SNR=9.9
CICO Icod de los Vi 9.08 213 Sn **Sn** **08 08 18.1 -20**
comp=E,5.9nm,0.2s,SNR=5.2
CRAJ Montana Rajada 9.10 212 Sn **Sn** **08 08 21.4 -17**
comp=E,110nm,0.3s,SNR=7.9
CCAN Las Canadas 9.14 212 Pn **P** **08 06 48.6 -7.8**
comp=E,0.9nm,0.2s,SNR=7.9
CCAN Sn **Sn** **08 08 20.5 -19**
comp=E,4.4nm,0.3s,SNR=4.0
CHIO Chio 9.21 213 Sn **Sn** **08 08 23.3 -18**
comp=E,80nm,0.2s,SNR=7.9
ELAN Lanestosa 9.25 37 Pn **P** **08 06 56.6 -1.3**
comp=E,6.8nm,0.4s,SNR=11
ELAN Sn **Sn** **08 08 35.6 -6.7**
comp=E,38nm,0.4s,SNR=7.0
ELAN Lanestosa 9.25 37 Pn **P** **08 06 56.6 -1.3**
comp=E,6.8nm,0.4s,SNR=11
ECRI Cripan 9.29 43 Pn **P** **08 06 57.9 -0.6**
comp=E,15nm,0.3s,SNR=7.9
ECRI Sn **Sn** **08 08 37.4 -6.0**
comp=E,28nm,0.4s,SNR=7.9
EMOS Mosqueruela 9.38 60 Pn **P** **08 07 00.4 +0.7**
comp=E,109nm,0.4s,SNR=56
EMOS Sn **Sn** **08 08 41.5 -3.9**
comp=E,45nm,0.3s,SNR=11
EMOS Mosqueruela 9.38 60 Pn **P** **08 07 00.4 +0.7**
comp=E,109nm,0.4s,SNR=56
EMOS Sn **Sn** **08 08 41.5 -4.0**
comp=E,45nm,0.3s,SNR=11
EHIG Higuera 9.42 219 Sn **Sn** **08 08 28.0 -19**
comp=E,56nm,0.2s,SNR=7.9
EGOM La Gomera 9.46 215 Pn **P** **08 06 50.3 -11**
comp=E,4.1nm,0.2s,SNR=7.9
EGOM Sn **Sn** **08 08 27.9 -20**
comp=E,72nm,0.2s,SNR=6.5
EANR 'Ain N'Sour 9.88 87 P **Sn** **08 09 00.0 +2.1**
EARA Aranguren 9.92 45 Pn **P** **08 07 06.2 -1.0**
comp=E,16nm,0.3s,SNR=7.9
EARA Sn **Sn** **08 08 52.8 -6.1**
comp=E,109nm,0.2s,SNR=4.0
ESAC San Caprasio 10.00 53 Pn **P** **08 07 07.8 -0.4**
comp=E,83nm,0.3s,SNR=14
ESAC Sn **S** **08 08 52.8 -7.9**
comp=E,336nm,0.4s,SNR=6.1
ESAC San Caprasio 10.00 53 Pn **P** **08 07 07.8 -0.4**
comp=E,83nm,0.3s,SNR=14
ECHA Ech Chlef 10.08 86 P **S** **08 09 03.0 +0.2**
ETRT Tiaret 10.10 90 P **S** **08 09 02.0 -1.3**
CHIE El Hierro 10.18 217 Sn **S** **08 08 45.0 -20**
comp=E,11nm,0.2s,SNR=6.3
EBNR Beni Rached 10.21 85 P **S** **08 09 06.0 +0.1**
EBR Ebro Roquetas 10.23 59 *e*Pn **P** **08 07 12.0 +0.6**
EBR *e*PNPN 08 07 20.0
EBR Ebro Roquetas 10.23 59 *e*Sn **S** **08 09 03.0 -3.5**
EALK Alkurruntz 10.25 43 Pn **P** **08 07 10.3 -1.3**
comp=E,14nm,0.4s,SNR=18
EALK Sn **S** **08 08 58.6 -8.3**
comp=E,260nm,0.7s,SNR=4.6
EIBI Ibiza 10.30 70 Pn **P** **08 07 11.9 -0.4**
comp=E,8.6nm,0.2s,SNR=8.1
EIBI Sn **S** **08 09 03.0 -5.0**
comp=E,22nm,0.4s,SNR=7.9
EIBI Ibiza 10.30 70 Pn **P** **08 07 11.9 -0.4**
comp=E,8.6nm,0.2s
EIBI Sn **S** **08 09 03.0 -5.1**
SJPF Ste Jean 10.34 44 *e*Pn **P** **08 07 12.7 -0.2**
SJPF *e*Sn **S** **08 09 02.1 -7.0**
comp=E,129nm,0.5s
OSSF Osses 10.41 44 P **P** **08 07 12.4 -1.4**
LARF Larrau 10.43 45 P **P** **08 07 13.7 -0.4**
ORDF Ordiarp 10.57 45 P **P** **08 07 15.3 -0.7**
ETSF Etsaut 10.59 47 *e*Pn **P** **08 07 16.1 -0.2**
ETSF *e*Sn **S** **08 09 09.2 -6.1**
comp=E,81nm,0.6s
EGRA Graus 10.74 52 Pn **P** **08 07 17.1 -1.3**
comp=E,18nm,0.6s,SNR=13
EGRA Sn **S** **08 09 13.3 -5.7**
comp=E,66nm,0.6s,SNR=6.4
REYF Montagne du Re 10.79 47 P **P** **08 07 19.1 0.0**
EPOB Poblet 10.86 57 Pn **P** **08 07 18.5 -1.4**
comp=E,44nm,0.5s,SNR=34
EPOB Sn **S** **08 09 14.9 -6.8**
comp=E,18nm,0.4s,SNR=7.9
EPOB Poblet 10.86 57 Pn **P** **08 07 18.5 -1.4**
comp=E,44nm,0.5s
EBIE Bielsa 10.90 49 Pn **P** **08 07 20.0 -0.4**
comp=E,32nm,0.5s,SNR=91
EBIE Sn **S** **08 09 15.4 -7.3**
comp=E,36nm,0.4s,SNR=5.6
VIEF Viey 10.93 48 P **P** **08 07 20.2 -0.8**
LABF Labassere 11.06 48 P **P** **08 07 22.2 -0.5**
RESF Ens 11.08 49 P **P** **08 07 22.8 -0.2**
EPF Esparros 11.21 48 *e*Pn **P** **08 07 24.7 0.0**
EPF *e*Sn **S** **08 09 24.0 -6.4**
comp=E,189nm,0.7s
EMHD Djebel Mahouad 11.36 85 P **S** **08 09 34.5 +0.4**
MELF Melles 11.38 50 P **P** **08 07 26.9 -0.2**
EMIR Miracle 11.40 56 Pn **P** **08 07 26.6 -0.8**
comp=E,26nm,0.3s,SNR=21
EMIR Sn **S** **08 09 28.6 -6.5**
comp=E,28nm,0.3s,SNR=4.9
EMIR Miracle 11.40 56 Pn **P** **08 07 26.6 -0.8**
comp=E,26nm,0.3s
ETOS Mallorca 11.58 67 Pn **P** **08 07 30.0 +0.2**
comp=E,22nm,0.4s,SNR=18
ETOS Sn **S** **08 09 33.5 -5.8**
comp=E,3.2nm,0.3s,SNR=7.9
ETOS Mallorca 11.58 67 Pn **P** **08 07 30.0 +0.2**
comp=E,22nm,0.4s
SALF Salau 11.59 51 P **P** **08 07 30.3 +0.4**
MLS Moulis 11.63 50 P **P** **08 07 30.3 -0.2**
VALF Valcebollere 11.95 54 P **P** **08 07 34.4 -0.4**
LPEF Le Peyrat 12.14 52 P **P** **08 07 37.4 +0.1**
CARF Carcanieres 12.15 53 P **P** **08 07 37.5 0.0**
FILF Fillols 12.38 54 P **P** **08 07 39.1 -1.4**
MTLF Montolieu 12.53 51 *e*Pn **P** **08 07 41.8 -0.8**
MTLF *e*Sn **S** **08 09 56.5 -6.0**
comp=E,53nm,0.7s
EJON La Jonquera 12.54 55 Pn **P** **08 07 42.6 -0.1**
comp=E,14nm,0.5s,SNR=7.1
EJON Sn **S** **08 09 57.2 -5.6**
comp=E,9.3nm,0.5s,SNR=7.9
SJAF Saint Jean de 12.56 55 P **P** **08 07 42.3 -0.6**
LFF La Frestale 12.60 42 *e*Pn **P** **08 07 42.3 -1.2**
LFF *e*Sn **S** **08 09 54.3 -10**
comp=E,69nm,0.6s
QUIF Quistinic 13.19 24 *e*Pn **P** **08 07 49.3 -1.9**
QUIF *e*Sn **S** **08 10 04.9 -13**
comp=E,34nm,0.4s
RJF Les Rejaudoux 13.25 42 *e*Pn **P** **08 07 50.4 -1.7**
RJF *e*Sn **S** **08 10 08.0 -12**
comp=E,110nm,0.8s
RJF *e*R
comp=E,276nm,17.8s
MFF Saint Martin d 13.31 35 *e*Pn **P** **08 07 51.4 -1.6**
MFF *e*Sn **S** **08 10 10.5 -11**
comp=E,44nm,0.6s
CAF Calviac 13.32 45 *e*Pn **P** **08 07 51.9 -1.2**
CAF *e*Sn **S** **08 10 13.2 -8.3**
comp=E,62nm,0.9s
ROSF Rostrenen 13.52 23 *e*Pn **P** **08 07 53.1 -2.5**
ROSF *e*Sn **S** **08 10 11.1 -15**
comp=E,75nm,0.8s
SGMF Saint Gilles 13.68 25 *e*Pn **P** **08 07 55.7 -2.0**
SGMF *e*Sn **S** **08 10 16.3 -14**
comp=E,42nm,0.7s
LASF Ste Croix 13.93 51 *e*Pn **P** **08 08 00.9 -0.1**
LASF *e*Sn **S** **08 10 27.9 -8.0**
comp=E,39nm,0.7s
TCF Toulx Ste Croi 14.26 40 *e*Pn **P** **08 08 03.3 -2.0**
TCF *e*Sn **S** **08 10 31.0 -13**
comp=E,53nm,0.7s
GRR Gorron 14.41 28 *e*Pn **P** **08 08 05.0 -2.3**
GRR *e*Sn **S** **08 10 32.5 -15**
comp=E,34nm,0.6s
BGF Bois d'Agland 14.77 41 *e*Pn **P** **08 08 11.2 -0.8**
BGF *e*Sn **S** **08 10 46.2 -10**
comp=E,135nm,0.5s
VIVF Saint-Julien-l 14.83 49 *e*Sn **S** **08 10 50.1 -7.0**
comp=E,19nm,0.7s
FLN La Foliniere 14.86 28 *e*Pn **P** **08 08 11.2 -2.0**
baz=214
FLN *e*Sn **S** **08 10 46.5 -11**
comp=E,44nm,0.9s
FLN *e*R
comp=E,229nm,21.2s
SMRF Simiane la Rot 14.98 53 *e*Pn **P** **08 08 14.9 +0.1**
HYF Humbligny 15.13 38 *e*Sn **S** **08 10 56.8 -7.5**
LMR La Mourre 15.34 57 *e*Pn **P** **08 08 21.1 +1.7**
SMF Signal de Mont 15.36 42 *e*Pn **P** **08 08 18.7 -1.0**
SMF *e*Sn **S** **08 11 00.3 -9.3**
comp=E,30nm,0.9s
SSF Saint Saulge 15.44 40 *e*Pn **P** **08 08 19.7 -1.1**
SSF *e*Sn **S** **08 11 00.3 -11**
comp=E,19nm,0.8s
FRF La Foret Royal 15.52 56 *e*Pn **P** **08 08 22.8 +1.0**
ORIF Oris-en-Rattie 15.61 50 *e*Pn **P** **08 08 25.5 +2.6**
ORIF *e*Sn **S** **08 11 08.9 -6.5**
comp=E,27nm,1.0s
ORIF *e*R
comp=E,410nm,18.5s
LOR Lormes 15.76 40 *e*Pn **P** **08 08 24.4 -0.5**
baz=226
LOR *e*Sn **S** **08 11 07.3 -12**
comp=E,38nm,0.9s
LOR *e*R
comp=E,195nm,19.6s
SBF Sospel 16.16 56 *e*Pn **P** **08 08 33.7 +3.7**
LPL La Plagne 16.42 50 *e*Pn **P** **08 08 36.5 +3.2**
LPG La Plagne 16.42 50 *e*Pn **P** **08 08 35.3 +2.0**
CABF La Chapelle 16.60 45 *e*Pn **P** **08 08 38.8 +3.3**
PGF Pioggiola 16.81 61 *e*Pn **P** **08 08 41.6 +3.3**
SFTF Sexfontaines 16.97 40 *e*Pn **P** **08 08 41.1 +0.9**
MEZF Maizieres J'vi 17.17 39 *e*Pn **P** **08 08 42.7 0.0**
HAU Haudompre 17.54 42 *e*Pn **P** **08 08 49.0 +1.7**
HAU *e*Sn **S** **08 11 53.0 -6.9**
comp=E,12nm,0.6s
HAU *e*R
comp=E,201nm,22.4s
HINF Hinteralfeld 17.70 43 *e*Pn **P** **08 08 51.4 +2.0**
BAIF Baives 17.82 34 *e*Pn **P** **08 08 52.1 +1.2**
BAIF *e*Sn **S** **08 11 59.2 -7.2**
comp=E,24nm,0.7s
GIVF Givet 18.14 35 *e*Pn **P** **08 08 56.8 +2.0**
GIVF *e*Sn **S** **08 12 06.9 -6.6**
comp=E,58nm,0.8s
CDF Champ du Feu 18.28 42 *e*Pn **P** **08 08 59.4 +2.8**
WLF Walferdange 18.47 37 *e*P **P** **08 09 01.4 +2.5**
WLF pmax pmax
comp=Z,49nm,1.1s
WLF Walferdange 18.47 37 *e*P **P** **08 09 01.4 +2.4**
comp=Z,49nm,1.1s
WLF Walferdange 18.47 37 *e*P **P** **08 09 01.4 +2.5**
comp=Z,49nm,1.1s
BFO Black Forest 18.81 43 *e*P **P** **08 09 06.6 +3.5**
DAVOX Davos 18.95 49 P **P** **08 09 08.0 +3.4**
comp=Z,0.4nm,0.3s,baz=263,slow=16,SNR=7.4
DAVOX LR LR 08 16 15.3
comp=Z,321nm,18.3s,baz=251,slow=36
DAVOX Davos 18.95 49 P **P** **08 09 08.0 +3.4**
DAVA Damuels 19.18 48 ⇑*i*P **P** **08 09 06.0 -1.4**
comp=Z,20nm,0.9s
STU Stuttgart 19.54 43 P **P** **08 09 14.1 +2.6**
STU pmax pmax
comp=Z,21nm,0.7s
STU Stuttgart 19.54 43 P **P** **08 09 14.1 +2.6**
comp=Z,21nm,0.7s
STU Stuttgart 19.54 43 P **P** **08 09 14.1 +2.6**
comp=Z,21nm,0.7s
MOTA Moosalm 19.95 49 ⇑*i*P **P** **08 09 18.8 +2.8**
comp=Z,18nm,1.1s
MOTA Moosalm 19.95 49 ⇑*i*P **P** **08 09 18.8 +2.8**
MOTA pmax pmax
comp=Z,18nm,1.1s
SQTA Sankt Quirin 19.95 49 ⇑*i*P **P** **08 09 19.0 +2.9**
comp=Z,7.5nm,0.7s
SQTA Sankt Quirin 19.95 49 ⇑*i*P **P** **08 09 19.0 +2.9**
SQTA pmax pmax
comp=Z,8.0nm,0.7s
TNS Taunus Mts 19.98 39 *e*P **P** **08 09 17.2 +0.9**
EKA Eskdalemuir Ar 19.99 13 P **P** **08 09 17.9 +1.4**
comp=Z,5.1nm,0.8s,baz=196,slow=10,SNR=7.2
WTTA Wattenberg 20.24 50 ⇑*i*P **P** **08 09 21.0 +2.0**
comp=Z,22nm,0.9s
WTTA Wattenberg 20.24 50 ⇑*i*P **P** **08 09 21.0 +2.0**
WTTA pmax pmax
comp=Z,22nm,0.9s
FUR Furstenfeldbru 20.42 47 *e*P **P** **08 09 23.1 +2.1**
GRA1 Grafenberg Arr 21.15 43 *e*P **P** **08 09 30.0 +1.6**
comp=Z,21nm,1.2s,mb4.3
GRF Grafenberg Arr 21.15 43 *e*P **P** **08 09 30.0 +1.6**
GRF pmax pmax
comp=Z,21nm,1.2s,mb4.3
GRF Grafenberg Arr 21.15 43 *e*P **P** **08 09 30.0 +1.6**
GRF pmax pmax
comp=Z,21nm,1.2s,mb4.3
GRF Grafenberg Arr 21.15 43 *e*P **P** **08 09 30.0 +1.6**
comp=Z,21nm,1.2s,mb4.3
KBA Koelnbreinsper 21.23 51 ⇑*i*P **P** **08 09 29.1 -0.1**
comp=Z,18nm,1.3s,mb4.2
KBA Koelnbreinsper 21.23 51 ⇑*i*P **P** **08 09 29.1 -0.1**
KBA pmax pmax
comp=Z,18nm,1.3s,mb4.2
LJU Ljubljana 21.64 55 *e*P **P** **08 09 37.6 +4.2**
LJU *e* 08 09 41.2
LJU *e* 08 09 60.0
LJU *e* 08 10 08.7
NOTT Nottersdorf 21.71 44 *e*P **P** **08 09 35.9 +1.8**
OBKA Obir 21.80 54 ⇑*i*P **P** **08 09 38.0 +3.0**
comp=Z,17nm,0.8s,mb4.5
WET Wettzell 21.82 46 *e*P **P** **08 09 38.4 +3.2**
MOX Moxa 21.87 41 *i* P **P** **08 09 37.2 +1.5**
MOX L 08 18 15.0
MOX Moxa 21.87 41 *e*P **P** **08 09 37.2 +1.5**
MOA Molln 22.10 50 ⇑*i*P **P** **08 09 41.2 +3.2**
comp=Z,9.5nm,0.9s,mb4.2
NKC Novy Kostel 22.11 43 AMS AMS 08 19 50.0
comp=Z,200nm,13.8s
GEC2 GERESS Array S 22.17 47 *e*P **P** **08 09 41.0 +2.3**
GERES GERESS Array B 22.17 47 P **P** **08 09 40.9 +2.3**
comp=Z,10nm,0.8s,mb4.3,baz=236,slow=9.6,SNR=33
GERES LR LR 08 17 45.9
comp=Z,244nm,20.2s,MS3.6,baz=301,slow=35
TANN Tannenbergstha 22.21 43 *e*P **P** **08 09 42.6 +3.5**
KHC Kasperske Hory 22.22 46 *e*P **P** **08 09 42.1 +2.9**
KHC *ex* x 08 09 46.5
KHC *ex* x 08 09 56.0
KHC AMS AMS 08 19 20.0
comp=Z,200nm,17.0s
TIP Timpagrande 22.23 74 *e*P **P** **08 09 45.0 +5.6**
CLL Collm 22.97 41 *e*P 08 09 54.0
CLL *e* 08 10 03.0
CLL Collm 22.97 41 *e**SP **P** **08 09 51.0 +4.5**
CLL *e* 08 10 03.0
PRU Pruhonice 23.17 45 *e*P **P** **08 09 51.1 +2.7**
PRU AMS AMS 08 20 00.0
comp=Z,200nm,14.9s
BRG Berggiesshubel 23.25 43 *e*P 08 09 56.5
BRG pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,4.0nm,0.6s,mb4.0						
BRG	**Berggiesshubel**	**23.25**	**43**	P		08 09 56.5	
	comp=Z,4.1nm,0.6s						
PVCC	**Panska Ves**	**23.44**	**44**	*e*P	**P**	**08 09 56.2**	**+5.2**
PVCC				AMS	AMS	08 18 50.0	
	comp=Z,200nm,14.4s						
VRAC	**Vranov**	**24.09**	**48**	P	**P**	**08 09 59.6**	**+2.2**
	comp=Z,7.4nm,0.9s,mb4.1,baz=252,slow=6.1,SNR=6.0						
UPC	**Upice**	**24.25**	**45**	*e*P	**P**	**08 10 02.1**	**+3.2**
DPC	**Dobruska-Polom**	**24.36**	**46**	AMS	AMS	08 20 50.0	
MORC	**Moravsky Berou**	**24.84**	**48**	*e*P	**P**	**08 10 06.4**	**+1.7**
MORC				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.2						
MORC	**Moravsky Berou**	**24.84**	**48**	*e*P	**P**	**08 10 06.4**	**+1.7**
	comp=Z,9.0nm,1.2s,mb4.2						
OKC	**Ostrava-Krasne**	**25.23**	**48**	AMS	AMS	08 19 40.0	
	comp=Z,200nm,15.8s						
KECS	**Kecovo**	**26.24**	**52**	*e*P	**P**	**08 10 21.5**	**+3.8**
NOA	**NORSAR Array B**	**28.70**	**23**	P	**P**	**08 10 42.0**	**+2.0**
	comp=Z,0.2nm,0.5s,mb3.1,baz=228,slow=12,SNR=1.8						
HFS	**Hagfors**	**28.85**	**26**	P	**P**	**08 10 46.8**	**+5.4**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
HFS				MLR	MLR		
	comp=Z,88nm,18.2s						
HFS	**Hagfors**	**28.85**	**26**	P	**P**	**08 10 46.8**	**+5.5**
	comp=Z,1.7nm,0.7s,mb3.9,baz=204,slow=17,SNR=3.9						
HFS				LR	LR	08 21 54.5	
	comp=Z,88nm,18.2s,MS3.4,baz=228,slow=36						
MLR	**Muntele Rosu**	**29.34**	**60**	P	**P**	**08 10 49.5**	**+3.5**
	comp=Z,2.3nm,0.8s,mb4.0,baz=307,slow=16,SNR=2.3						
DBIC	**Dimbokro**	**29.84**	**167**	P	**P**	**08 10 50.5**	**-0.3**
	comp=Z,9.5nm,0.7s,mb4.6,baz=328,slow=7.3,SNR=8.8						
FINES	**FINESS Array B**	**34.46**	**31**	P	**P**	**08 11 33.0**	**+2.4**
	comp=Z,2.2nm,0.6s,mb4.2,baz=233,slow=9.5,SNR=9.0						
FINES				LR	LR	08 25 15.4	
	comp=Z,135nm,20.0s,MS3.7,baz=244,slow=36						
FINES	**FINESS Array B**	**34.46**	**31**	P	**P**	**08 11 33.0**	**+2.4**
KAF	**Kangasniemi**	**34.89**	**30**	*e*p	**P**	**08 11 36.6**	**+2.3**
BRTR	**Keskin Array B**	**35.20**	**70**	P	**P**	**08 11 39.6**	**+2.5**
	comp=Z,0.7nm,0.9s,mb3.6,baz=252,slow=7.8,SNR=3.6						
ARCES	**ARCESS Array B**	**38.94**	**19**	LR	LR	08 29 12.9	
	comp=Z,83nm,18.3s,MS3.6,baz=287,slow=38						
MALT	**Malatya**	**39.13**	**71**	*e*P	**P**	**08 12 12.4**	**+2.2**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
MALT	**Malatya**	**39.13**	**71**	*e*P	**P**	**08 12 12.4**	**+2.2**
	comp=Z,2.5nm,0.7s,mb4.0						
MALT	**Malatya**	**39.13**	**71**	*e*P	**P**	**08 12 12.4**	**+2.2**
	comp=Z,3.0nm,0.7s,mb4.1						
SCHQ	**Schefferville**	**42.08**	**314**	LR	LR	08 25 53.6	
	comp=Z,81nm,20.3s,MS3.6,baz=70,slow=30						
BVAR	**Borovoye Array**	**57.32**	**45**	P	**P**	**08 14 32.0**	**+0.9**
	comp=Z,0.7nm,0.8s,mb3.7,baz=333,slow=3.2,SNR=4.2						
KMBO	**Kilima Mbogo**	**58.22**	**119**	LR	LR	08 38 14.7	
	comp=Z,58nm,18.9s,MS3.7,baz=108,slow=34						
ULM	**Lac du Bonnet**	**60.19**	**313**	LR	LR	08 37 14.0	
	comp=Z,53nm,18.4s,MS3.7,baz=334,slow=32						
SDV	**Santo Domingo**	**60.28**	**259**	P	**P**	**08 14 50.1**	**-2.0**
	comp=Z,4.4nm,0.9s,mb4.5,baz=357,slow=6.0,SNR=4.8						
BAO	**Brasilia Array**	**62.17**	**221**	P	**P**	**08 15 03.5**	**-1.4**
BDFB	**Brasilia**	**62.19**	**221**	P	**P**	**08 15 03.3**	**-1.7**
	comp=Z,6.3nm,0.8s,mb4.8,baz=58,slow=1.4,SNR=8.2						
BDFB				LR	LR	08 38 09.6	
	comp=Z,56nm,19.7s,MS3.7,baz=287,slow=32						
MKAR	**Makanchi Array**	**66.83**	**48**	P	**P**	**08 15 36.0**	**+1.3**
	comp=Z,0.2nm,0.4s,mb3.5,baz=315,slow=4.1,SNR=3.2						
EDM	**Edmonton**	**68.57**	**321**	*e*P	pP	08 15 52.0	-0.6
SIV	**San Ignacio**	**70.10**	**232**	P	**P**	**08 15 54.1**	**-1.4**
	comp=Z,1.9nm,0.7s,mb4.2,baz=68,slow=7.1,SNR=12						
PDAR	**Pinedale Array**	**72.00**	**310**	P	**P**	**08 16 04.4**	**-2.1**
	comp=Z,0.4nm,0.6s,mb3.6,baz=68,slow=8.0,SNR=5.2						
PDAR				LR	LR	08 44 04.3	
	comp=Z,71nm,20.8s,MS3.9,baz=167,slow=33						
BOSA	**Boshof**	**72.90**	**147**	P	**P**	**08 16 12.8**	**+0.7**
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BOSA				MLR	MLR		
	comp=Z,68nm,21.1s,MS3.9						
BOSA	**Boshof**	**72.90**	**147**	P	**P**	**08 16 12.8**	**+0.7**
	comp=Z,4.4nm,0.9s,mb4.4,baz=310,slow=9.1,SNR=3.9						
BOSA				LR	LR	08 48 12.4	
	comp=Z,68nm,21.1s,MS3.9,baz=159,slow=36						
CPUP	**Villa Florida**	**75.88**	**222**	P	**P**	**08 16 28.0**	**-1.4**
	comp=Z,3.5nm,0.9s,mb4.3,baz=61,slow=6.9,SNR=5.9						
CPUP				LR	LR	08 47 42.5	
	comp=Z,56nm,20.6s,MS3.9,baz=98,slow=34						
SONM	**Songino Array**	**79.54**	**37**	P	**P**	**08 16 51.4**	**+2.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=288,slow=4.6,SNR=3.2						
SONM				LR	LR	08 56 45.2	
	comp=Z,88nm,18.9s,MS4.1,baz=301,slow=39						
WRA	**Warramunga Arr**	**145.72**	**71**	PKP2	PKPbc	08 24 23.1	+2.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**145.72**	**71**	PKPbc	PKPbc	08 24 23.1	+2.5
	comp=Z,0.5nm,0.7s,baz=311,slow=3.1,SNR=4.4						

BJI 19 08:05:07.5, 22.85N×118.58E, h25km, ML4.2, Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.08**	**0**	P	Pn	08 05 42.6	+1.0
QZH				S	Sn	08 06 04.4	-2.6
QZH				Smax			
	comp=N,700nm,0.3s						
QZH				Smax			
	comp=E,1μm,0.6s						
GZH	**Guangzhou**	**4.83**	**274**	PG	Pn	08 06 34.8	+14
GZH				SG	Sn	08 07 30.9	+14
GZH				Smax			
	comp=N,333nm,1.1s						
GZH				Smax			
	comp=E,269nm,0.8s						

*NEIC **19** 08:06:10.9, 16.26N×99.43W, h29km, MD4.2(MEX), After MEX.*

MEX 19 08:06:11.1±1.2**, 16.27N×99.43W, h29**km±33km**, MD4.3, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.76**	**322**	*i* P	Pb	08 06 22.0	-3.7
ACX				*i* S	Sb	08 06 32.0	-3.7
CAIG	**El Cayaco**	**1.12**	**314**	*i* P	Pn	08 06 29.1	-1.9
CAIG				*i* S	Sn	08 06 42.9	-2.6
PNIG	**Pinotepa**	**1.25**	**84**	*e*P	Pn	08 06 30.4	-2.6
PNIG				*e*S	Sn	08 06 45.8	-3.2
PLIG	**Platanillo**	**2.11**	**358**	*e*P	Pn	08 06 42.9	-2.4
PLIG				*e*S	Sn	08 07 07.2	-3.6
YAIG	**Yautepec**	**2.60**	**8**	*e*P	Pn	08 06 49.4	-2.8
YAIG				*i* S	Sn	08 07 18.4	-4.8
OXX	**Oaxaca**	**2.71**	**72**	*i* P	Pn	08 06 52.0	-1.8
OXX				*e*S	Sn	08 07 25.0	-1.0
PPM	**Popocatepetl**	**2.88**	**15**	*e*P	Pn	08 06 52.0	-4.3
PPM				*e*S	Sn	08 07 34.0	+3.6
PPM	**Popocatepetl**	**2.88**	**15**	*e*P	Pn	08 06 52.0	-4.3
PPM				*e*S	Sn	08 07 26.0	-4.4
UNM	**Universidad Na**	**3.05**	**4**	*e*P	Pn	08 07 00.3	+1.7
UNM				*i* S	Sn	08 07 38.0	+3.5
UNM	**Universidad Na**	**3.05**	**4**	*i* P	Pn	08 06 55.6	-3.0
UNM				*e*P		08 07 03.0	
UNM				*i* S	Sn	08 07 30.1	-4.5
HUIG	**Huatulco**	**3.23**	**98**	*e*P	Pn	08 06 57.8	-3.4
HUIG				*e*S	Sn	08 07 34.0	-5.1
IISM	**Ciudad Serdan**	**3.33**	**36**	*e*P	Pn	08 07 07.5	+4.8
IISM				*e*S	Sn	08 07 40.5	-1.3
MOIG	**Morelia**	**3.78**	**334**	*e*P	Pn	08 07 06.7	-2.3
MOIG				*i* S	Sn	08 07 50.6	-2.4
CMIG	**Matias Romero**	**4.43**	**79**	*i* P	Pn	08 07 15.1	-3.1
CMIG				*i* S	Sn	08 08 04.7	-4.8
LVIG	**Laguna Verde**	**4.47**	**39**	*i* S	Sn	08 08 06.2	-4.3
CCIG	**Comitan**	**7.00**	**89**	*i* S	Sn	08 09 09.6	-4.3

*IDC **19** 08:10:55.4±1.1, 5.90N×126.25E, mb4.0/8, mb1 4.1/8, mb1mx3.9/18, mbtmp4.0/8, MS4.1/1, Ms1 4.1/1, ms1mx3.1/17, Error ellipse: s-maj=71.9km s-min=15.9km az=74.0*

*NEIC **19** 08:10:57.6±0.9, 5.99N×126.34E, h15km, mb4.6/1, Error ellipse: s-maj=70.4km s-min=13.1km az=75.0*

ISC 19 08:10:55.4±0.8**, 6.1N**±0.1×**126.4E**±0.4**, h15**km**, n13, σ1s20**/12**, mb4.0**/9**, MS4.0**/1**, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TATO	**Taipei**	**19.38**	**346**	*e*P	**P**	**08 15 22.1**	**-1.4**
	449nm,1.5s						
FITZ	**Fitzroy Crossi**	**24.03**	**182**	P	**P**	**08 16 11.7**	**+0.6**
	7.8nm,0.9s,mb4.1,baz=15,slow=4.5,SNR=5.4						
WRAB	**Tennant Creek**	**27.00**	**163**	*e*P	**P**	**08 16 40.1**	**+1.2**
	6.2nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**27.01**	**163**	P	**P**	**08 16 36.8**	**-2.2**
	2.3nm,0.4s,mb4.1,baz=342,slow=10,SNR=16						
JHJ	**Hachijo jima 2**	**29.65**	**23**	LR	LR	08 27 18.5	
	comp=Z,315nm,19.6s,MS4.0,baz=91,slow=33						
NWAO	**Narrogin (SRO)**	**39.75**	**192**	P	**P**	**08 18 28.2**	**-1.2**
	4.1nm,0.6s,mb4.4,baz=333,slow=2.3,SNR=3.6						
NWAO	**Narrogin (SRO)**	**39.75**	**192**	P	**P**	**08 18 28.2**	**-1.2**
STKA	**Stephens Creek**	**40.42**	**160**	P	**P**	**08 18 35.7**	**+0.7**
	2.6nm,0.3s,mb4.4,baz=335,slow=6.0,SNR=8.4						
STKA	**Stephens Creek**	**40.42**	**160**	*e*P	**P**	**08 18 35.5**	**+0.6**
SONM	**Songino Array**	**44.99**	**341**	P	**P**	**08 19 15.3**	**+3.3**
	0.2nm,0.5s,mb3.2,baz=160,slow=7.3,SNR=2.2						
MKAR	**Makanchi Array**	**55.46**	**325**	P	**P**	**08 20 32.5**	**+0.5**
	0.6nm,0.4s,mb3.9,baz=123,slow=8.3,SNR=6.4						
BVAR	**Borovoye Array**	**65.19**	**327**	P	**P**	**08 21 38.6**	**+0.4**
	0.4nm,0.5s,mb3.7,baz=129,slow=9.2,SNR=2.8						
ARCES	**ARCESS Array B**	**88.15**	**340**	P	**P**	**08 23 46.5**	**0.0**
	1.1nm,0.7s,mb4.2,baz=90,slow=4.9,SNR=7.6						

WEL 19 08:19:00.8±0.6**, 37.73S×179.92E, h33**km**, ML3.6**/15**, Error ellipse: s-maj=4.7km s-min=4.6km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.29**	**277**	*e*PN	Pn	08 19 21.5	-1.3
MXZ				SN	Sn	08 19 37.9	-1.3
PUZ	**Puketiti**	**1.36**	**255**	PN	Pn	08 19 23.0	-0.8
PUZ				SN	Sn	08 19 39.0	-1.9
MWZ	**Matawai**	**1.99**	**251**	PN	Pn	08 19 31.2	-1.6
MWZ				SN	Sn	08 19 53.6	-3.1
KNZ	**Kokohu**	**2.19**	**233**	PN	Pn	08 19 34.2	-1.5
URZ	**Urewera**	**2.29**	**256**	PN	Pn	08 19 36.0	-1.1
URZ				SN	Sn	08 20 02.3	-2.1
TAZ	**Tarawera**	**2.75**	**258**	*e*PN	Pn	08 19 42.3	-1.3
PATZ	**Paeroa**	**2.96**	**256**	PN	Pn	08 19 45.4	-1.4
BKZ	**Black Stump Fm**	**3.05**	**241**	PN	Pn	08 19 46.2	-1.8
BKZ				SN	Sn	08 20 19.9	-3.9
KUZ	**Kuaotunu**	**3.49**	**285**	*e*PN	Pn	08 19 52.5	-1.8
CNZ	**Chateau**	**3.73**	**245**	*e*PN	Pn	08 19 55.4	-2.3
WNVZ	**Wahianoa**	**3.75**	**243**	*e*PN	Pn	08 19 55.9	-2.0
TSZ	**Takapari Road**	**3.87**	**232**	*e*PN	Pn	08 19 55.9	-3.7
BFZ	**Birch Farm**	**4.11**	**223**	*e*PN	Pn	08 19 57.9	-5.1
MRZ	**Mangatainoka R**	**4.47**	**228**	PN	Pn	08 20 03.4	-4.8
MRZ				SN	Sn	08 20 51.6	-8.1
MTW	**Mount Morrison**	**4.84**	**224**	*e*PN	Pn	08 20 07.6	-5.7
KIW	**Kapiti Island**	**4.99**	**230**	*e*PN	Pn	08 20 10.5	-5.0
CAW	**Cannon Point**	**5.05**	**227**	*e*PN	Pn	08 20 10.8	-5.5
CAW				SN	Sn	08 21 05.3	-9.0
TCW	**Tory Channel**	**5.58**	**230**	SN	Sn	08 21 17.7	-10
NNZ	**Nelson**	**6.15**	**233**	SN	Sn	08 21 32.7	-8.9
LTZ	**Lake Taylor**	**7.73**	**227**	*e*PN	Pn	08 20 48.0	-5.9
MQZ	**McQueen's Vall**	**8.13**	**220**	SN	Sn	08 22 15.7	-16

*PRU **19** 08:20:50.0, 51.48N×16.10E*

WAR 19 08:20:49.6, 51.53N×16.14E, h1km**, ML2.8, Mining Induced, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**172**	*i* PG	Pg	08 21 02.3	-1.2
KSP				*e*SG	Sg	08 21 12.3	-0.5
KSP	**Ksiaz**	**0.70**	**172**	*e*Pg	Pg	08 21 02.4	-1.1
KSP				*e*Sg	Sg	08 21 11.7	-1.1
UPC	**Upice**	**1.03**	**184**	*e*PG	Pg	08 21 08.4	-1.7
DPC	**Dobruska-Polom**	**1.19**	**174**	*e*PG	Pg	08 21 10.9	-2.4
DPC				*e*SG	Sg	08 21 26.2	-3.0
	42nm,0.3s						
PVCC	**Panska Ves**	**1.41**	**225**	*e*PG	Pg	08 21 15.1	-2.7
PRU	**Pruhonice**	**1.85**	**214**	*e*PG	Pg	08 21 22.6	-3.9
PRU				*e*x	x	08 21 39.5	
PRU				*e*SG	Sg	08 21 47.2	-3.9
CLL	**Collm**	**1.98**	**265**	*i* PN	Pn	08 21 22.2	-2.3
CLL				*i* PG	Pg	08 21 25.8	-3.2
CLL				*i*		08 21 29.5	
CLL				*i* SG	Sg	08 21 52.0	-3.4
CLL				*i* L		08 21 58.2	
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*PG	Pg	08 21 28.4	-3.6
OKC				*e*SG	Sg	08 21 57.3	-3.0
OJC	**Ojcow**	**2.67**	**118**	*e*PG	Pg	08 21 39.0	-3.8
OJC				*e*SG	Sg	08 22 14.0	-4.3
NKC	**Novy Kostel**	**2.67**	**242**	*e*PN	Pn	08 21 33.2	-1.3
NKC				*e*SG	Sg	08 22 13.9	-4.7
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	Pn	08 21 36.6	-1.3
KHC				*e*PG	Pg	08 21 42.0	-5.7
KHC				*e*SG	Sg	08 22 20.6	-5.9
NIE	**Niedzica**	**3.40**	**127**	*e*P	Pg	08 21 55.5	-2.0
NIE				*e*S	Sg	08 22 38.0	-4.9

ISC 19 08:48:23.7±2.0**, 41.1N**±0.1×**36.6E**±0.1**, h10**km**, n6, σ0s71**/10**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KVT	**Kavak**	**0.39**	**267**	*i* PG	**Pg**	**08 48 31.4**	**-0.4**
KVT				SG	**Sg**	**08 48 36.4**	**-0.7**
BOYT	**Boyabat**	**1.29**	**285**	*i* P	**Pb**	**08 48 46.4**	**-1.3**
BOYT				*i* S	**Sb**	**08 49 04.9**	**+0.8**
CTKT	**Corum**	**1.43**	**251**	*i* P	**Pn**	**08 48 49.9**	**0.0**
CTKT				*i* S	**Sb**	**08 49 08.8**	**+0.6**
CORM	**Corum**	**1.74**	**238**	PN	**Pn**	**08 48 54.4**	**+0.1**
TOS	**Tosya**	**1.92**	**269**	PN	**Pn**	**08 48 56.8**	**-0.1**
BALT	**Daday**	**2.43**	**281**	*i* P	**Pn**	**08 49 05.4**	**+1.2**
BALT				*i* S	**Sn**	**08 49 41.5**	**+7.2**

SKHL 19 09:00:28.2±0.3**, 52.20N×127.75E, h12**km±1km**, mb3.6**/6**, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YASR	**Yasnyy**	**1.10**	**7**	*e*Pg	Pg	09 00 48.2	-2.1
YASR				AMB	AMB	09 00 49.7	
	11nm,0.5s						
YASR				AMB	AMB	09 00 49.7	
	4.0nm,0.5s						
YASR				AMB	AMB	09 00 49.7	
	15nm,0.5s						
YASR				pPg		09 00 52.2	
YASR				*i* Sg	Sg	09 01 03.1	-1.9
YASR				A		09 01 04.1	
	100nm,0.4s						
YASR				A		09 01 04.1	
	200nm,0.4s						
ZEA	**Zeya**	**1.57**	**349**	*e*Pg	Pg	09 00 57.5	-2.1
ZEA				AMB	AMB	09 00 58.7	
	27nm,0.2s						
ZEA				pPg		09 01 01.6	
ZEA				*e*Sg	Sg	09 01 18.6	-2.0
ZEA				A		09 01 19.6	
	110nm,0.3s						
KROS	**Kirovskiy**	**2.29**	**349**	*e*Pg	Pg	09 01 11.5	-2.4
KROS				AMB	AMB	09 01 12.2	
	7.0nm,0.5s						
KROS				*e*Sg	Sg	09 01 39.5	-4.9
KROS				A		09 01 44.0	
	32nm,0.5s						
BMKR	**Bomnak**	**2.60**	**14**	*e*rx	rx	09 01 09.5	
BMKR				*e*Pg	Pg	09 01 15.0	-5.1
BMKR				AMB	AMB	09 01 18.4	
	10.0nm,0.3s						
BMKR				*e*Sn	Sn	09 01 42.0	-0.6
BMKR				*e*Sg	Sg	09 01 49.4	-5.4
BMKR				A		09 01 50.3	
	39nm,0.5s						
EKMR	**Ekimchan**	**3.29**	**73**	*e*rx	rx	09 01 23.5	
EKMR				*e*Pg	Pg	09 01 26.5	-7.3
EKMR				AMB	AMB	09 01 30.5	
	9.0nm,0.5s						
EKMR				*e*Sg	Sg	09 02 10.4	-7.3
EKMR				A		09 02 17.8	
	22nm,0.5s						
EKMR				A		09 02 17.8	
	19nm,0.5s						
EKMR				A		09 02 17.8	
	15nm,0.5s						
KLR	**Kul'dur**	**3.91**	**138**	*e*rx	rx	09 02 12.2	
KLR				*e*Sg	Sg	09 02 31.8	-6.7
TUP	**Tupik**	**5.18**	**299**	*e*Pn	Pn	09 01 48.2	+0.8
TUP				*e*Pg	Pg	09 02 02.0	-10
TUP				AMB	AMB	09 02 08.8	
	3.0nm,0.3s						
TUP				*e*Sg	Sg	09 03 08.0	-13
TUP				A		09 03 18.8	
	16nm,0.8s						

*NEIC **19** 09:04:38.6±1.0, 31.11S×68.31W, h109km±19km, MD3.6(GUC), Error ellipse: s-maj=13.3km s-min=9.0km az=91.0*

*GUC **19** 09:04:38.9±0.8, 31.16S×68.92W, h194km±12km, MD3.6, ML3.7*

ISC 19 09:04:37.7±0.8**, 31.12S**±0.04×**68.31W**±0.07**, h112**km±9km**, n25, σ1s08**/45**, 14C-8D, San Juan Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.53**	**217**	⇓*i*P	**P**	**09 04 55.0**	**-0.1**
ZON				*e*S	**S**	**09 05 07.0**	**-1.1**
CMCH	**Combarbala**	**2.31**	**268**	⇓*i*P	**P**	**09 05 15.5**	**+0.1**
CMCH				*i* S	**S**	**09 05 43.1**	**-0.6**
CMCH				AMP		09 05 45.5	
	comp=E,1μm,0.5s						
TLL	**Tololo Astrono**	**2.35**	**293**	⇑*i*P	**P**	**09 05 17.3**	**+1.3**
TLL				*i* S	**S**	**09 05 46.1**	**+1.4**
TLL				AMP		09 05 50.7	
	comp=N,573nm,0.5s						
JACH	**Jahuel**	**2.49**	**231**	⇑*i*P	**P**	**09 05 18.5**	**+0.7**
JACH				*i* S	**S**	**09 05 49.0**	**+1.1**
ILCH	**Illapel**	**2.50**	**257**	*i* S	**S**	**09 05 46.5**	**-1.7**
ILCH				AMP		09 05 55.0	
	comp=N,272nm,0.3s						
FCH	**Farellones**	**2.77**	**217**	⇓*i*P	**P**	**09 05 22.9**	**+1.4**
FCH				⇑*i*P		09 05 23.4	
FCH				*i* S	**S**	**09 05 56.8**	**+2.2**
FCH				*i* S	**S**	**09 05 57.2**	**+2.6**
FCH				AMP		09 06 05.4	
	comp=E,109nm,0.2s						
FCH	**Farellones**	**2.77**	**217**	⇑*i*P	**P**	**09 05 23.4**	**+1.8**
FCH				*i* S	**S**	**09 05 57.2**	**+2.6**
PEL	**Peldehue**	**2.85**	**224**	*i* S	**S**	**09 05 56.7**	**+0.1**
ROCH	**El Roble**	**2.94**	**230**	⇓*i*P	**P**	**09 05 23.8**	**-0.2**
ROCH				*i* S	**S**	**09 05 58.1**	**-0.7**
CLCH	**Cerro Calan**	**2.95**	**219**	⇑*i*P	**P**	**09 05 25.0**	**+1.0**
CLCH				*i* S	**S**	**09 05 59.7**	**+0.7**
CLCH				AMP		09 06 01.0	
	comp=E,169nm,0.5s						
DSCH	**Colegio Aleman**	**2.97**	**220**	⇑*i*P	**P**	**09 05 25.2**	**+0.9**
DSCH				*i* S	**S**	**09 05 59.6**	**+0.2**
DSCH				AMP		09 06 07.0	
	comp=N,203nm,0.4s						
PACH	**Papudo**	**3.01**	**241**	⇓*i*P	**P**	**09 05 23.9**	**-1.0**
PACH				*i* S	**S**	**09 05 55.4**	**-5.1**
PCH	**Pirque**	**3.11**	**216**	⇓*i*P	**P**	**09 05 27.3**	**+1.1**
PCH				*i* S	**S**	**09 06 04.8**	**+1.9**
LMEL	**Las Melosas**	**3.15**	**210**	⇑*i*P	**P**	**09 05 27.6**	**+0.9**
LMEL				*i* S	**S**	**09 06 12.0**	**+8.0**
LMEL				AMP		09 06 18.9	
	comp=N,91nm,0.0s						
RCDM	**Rinconada Maip**	**3.17**	**221**	⇑*i*P	**P**	**09 05 27.1**	**+0.1**
RCDM				*i* S	**S**	**09 06 03.5**	**-0.7**
RCDM				AMP		09 06 06.6	
	comp=E,198nm,0.1s						
SCR	**San Cristobal**	**3.29**	**223**	⇓*i*P	**P**	**09 05 25.6**	**-3.0**
SCR				*i* S	**S**	**09 06 00.6**	**-6.5**
SCR				AMP		09 06 08.6	
	comp=N,51nm,0.6s						
TACH	**Talagante**	**3.36**	**221**	⇑*i*P	**P**	**09 05 29.1**	**-0.5**
TACH				*i* S	**S**	**09 06 07.7**	**-1.3**
CHCH	**Chadas Angostu**	**3.43**	**215**	⇑*i*P	**P**	**09 05 30.7**	**+0.2**
CHCH				*i* S	**S**	**09 06 01.1**	**-10**
CACH	**El Canelo**	**3.56**	**212**	⇑*i*P	**P**	**09 05 32.9**	**+0.7**
LCCH	**Las Cruces**	**3.62**	**229**	⇑*i*P	**P**	**09 05 31.6**	**-1.6**
LCCH				*i* S	**S**	**09 06 04.2**	**-11**
CICH	**Cipreses**	**3.65**	**209**	⇑*i*P	**P**	**09 05 34.2**	**+0.7**
LNV	**Longovilo**	**3.85**	**222**	⇑*i*P	**P**	**09 05 34.1**	**-2.2**
LNV				*i* S	**S**	**09 06 19.9**	**-0.9**
SFDO	**San Fernando**	**4.16**	**212**	⇓*i*P	**P**	**09 05 39.1**	**-1.3**
SFDO				*i* S	**S**	**09 06 27.7**	**-0.6**
LVC	**Limon Verde**	**8.49**	**356**	*e*P	**P**	**09 06 38.7**	**-0.6**
TRQA	**Tornquist**	**8.66**	**145**	*e*P	**P**	**09 06 41.1**	**-0.5**

IDC 19 09:25:16.4±1.9**, 23.78N×121.39E, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.6**/16**, mbtmp3.6**/3**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.7**/14**, Error ellipse: s-maj=157.4km s-min=26.2km az=65.0, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**26.81**	**337**	P	P	09 30 58.4	-1.7
	0.5nm,0.6s,baz=159,slow=11,SNR=4.5						
SONM				LR	LR	09 41 58.3	
	comp=Z,48nm,19.0s,baz=70,slow=37						
MKAR	**Makanchi Array**	**38.76**	**316**	P	P	09 32 42.5	-1.7
	0.4nm,0.6s,baz=112,slow=7.8,SNR=4.2						
WRA	**Warramunga Arr**	**45.25**	**163**	P	P	09 33 35.7	-2.0
	1.2nm,0.6s,baz=344,slow=8.7,SNR=8.8						

MOS 19 09:40:53.7±1.8**, 42.06N×47.37E, h8**km**, mb3.7**/1**, 2C, Error ellipse: s-maj=39.4km s-min=18.3km az=109.7, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URKR	**Urkarakh**	**0.22**	**62**	*i* PG	Pg	09 41 03.0	+4.6
URKR				pmax	pmax		
	comp=Z,95nm,0.1s						
AKT	**Akhty**	**0.64**	**155**	⇑*i*PG	Pg	09 41 06.0	-0.5
AKT				*i* S	Sg	09 41 16.5	+1.4
AKT				pmax	pmax		
	comp=Z,67nm,0.1s						
KSMR	**Kasumkent**	**0.73**	**129**	*i* PG	Pg	09 41 08.0	-0.3
KSMR				*e*S	Sg	09 41 18.5	+0.5
KRNR	**Karanay**	**0.84**	**336**	⇑*i*PG	Pg	09 41 11.2	+0.7
KRNR				*i* S	Sb	09 41 26.8	+5.5
DBC	**Dubki**	**1.04**	**338**	*e*PG	Pg	09 41 16.0	+1.5
DBC				*i* S	Sb	09 41 35.2	+8.1

*NEIC **19** 10:19:45.6, 18.14N×102.57W, h16km, MD4.2(MEX), After MEX.*

MEX 19 10:19:45.6±0.9**, 18.13N×102.57W, h16**km±17km**, MD4.3, Michoacan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOIG	**Morelia**	**2.02**	**40**	*i* P	Pn	10 20 16.3	-3.2
MOIG				*i* S	Sn	10 20 39.6	-4.9
SFJM	**Santa Fe**	**2.39**	**349**	*i* P	Pn	10 20 20.0	-4.8
CAIG	**El Cayaco**	**2.44**	**116**	*e*P	Pn	10 20 21.3	-4.3
CAIG				*i* S	Sn	10 20 48.1	-7.3
CJM	**Chamela**	**2.71**	**301**	*e*P	Pn	10 20 27.0	-2.4
CJM				*i* S	Sn	10 20 57.8	-4.3
ACX	**Acapulco**	**2.83**	**116**	*e*P	Pn	10 20 28.0	-3.0
ACX				*e*S	Sn	10 20 59.0	-6.0
PLIG	**Platanillo**	**2.93**	**84**	*e*P	Pn	10 20 28.4	-4.0
PLIG				*i* S	Sn	10 21 02.7	-4.9
YAIG	**Yautepec**	**3.40**	**77**	*e*P	Pn	10 20 35.5	-3.7
YAIG				*i* S	Sn	10 21 14.0	-5.6
UNM	**Universidad Na**	**3.43**	**69**	*e*P	Pn	10 20 36.1	-3.5
UNM				*i* S	Sn	10 21 18.5	-1.8
UNM	**Universidad Na**	**3.43**	**69**	*e*P	Pn	10 20 34.5	-5.1
UNM				*e*P		10 20 36.1	
UNM				*i* S	Sn	10 21 15.9	-4.4
PPM	**Popocatepetl**	**3.85**	**75**	*e*P	Pn	10 20 44.0	-1.6
PPM				*e*S	Sn	10 20 58.0	-33
OXX	**Oaxaca**	**5.67**	**100**	*e*P	Pn	10 21 08.0	-3.3
OXX				*e*S	Sn	10 22 14.0	-2.9
CMIG	**Matias Romero**	**7.40**	**97**	*e*P	Pn	10 21 31.7	-4.0
CMIG				*i* S	Sn	10 22 52.7	-7.4

*IDC **19** 10:26:27.9±1.7, 20.64S×178.90W, h587km±27km, mb3.3/7, mb1 3.6/9, mb1mx3.5/14, mbtmp4.4/9, Error ellipse: s-maj=24.4km s-min=15.9km az=156.0*

*NEIC **19** 10:26:28.2±1.1, 20.65S×178.90W, h601km±16km, mb4.0/5, Error ellipse: s-maj=21.8km s-min=13.1km az=162.0*

ISC 19 10:26:27.2±1.0**, 20.8S**±0.1×**178.9W**±0.1**, h594**km±17km**, n22,** σ**0.98**/24**, mb3.9**/11**, 4D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.65**	**46**	P	**P**	**10 28 42.4**	**-0.3**
	35nm,0.3s,baz=27,slow=1.7,SNR=42						
AFI				S	**S**	**10 30 31.4**	**0.0**
	4.6nm,0.3s,baz=197,slow=21,SNR=4.5						
AFI	**Afiamalu**	**9.65**	**46**	⇓*e*Pn	**P**	**10 28 42.1**	**-0.6**
AFI				S	**S**	**10 30 31.4**	**0.0**
DZM	**Mont Dzumac**	**13.73**	**262**	P	**P**	**10 29 24.9**	**+1.9**
	0.7nm,0.3s,baz=89,slow=19,SNR=7.7						
URZ	**Urewera**	**17.72**	**190**	P	**P**	**10 29 59.3**	**-1.9**
	2.9nm,0.3s,baz=340,slow=2.9,SNR=12						
RPZ	**Rata Peaks**	**24.32**	**198**	P	**P**	**10 31 01.4**	**+0.2**
	8.3nm,0.5s,mb4.6,baz=327,slow=14,SNR=7.7						
CTA	**Charters Tower**	**32.64**	**265**	P	**P**	**10 32 13.6**	**+0.5**
	4.9nm,1.0s,mb4.1,baz=108,slow=13,SNR=5.6						
STKA	**Stephens Creek**	**36.91**	**244**	*e*P	**P**	**10 32 48.9**	**+0.7**
	3.9nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**36.91**	**244**	P	**P**	**10 32 49.4**	**+1.2**
	5.5nm,0.7s,mb4.2,baz=93,slow=9.0,SNR=14						
STKA	**Stephens Creek**	**36.91**	**244**	*e*P	**P**	**10 32 48.1**	**-0.1**
WRA	**Warramunga Arr**	**43.74**	**263**	P	**P**	**10 33 41.1**	**-1.9**
	0.8nm,0.4s,mb3.6,baz=98,slow=7.5,SNR=8.9						
MBWA	**Marble Bar**	**56.98**	**258**	*e*P	**P**	**10 35 18.4**	**-1.0**
	4.4nm,0.6s,mb3.9						
SBA	**Scott Base**	**57.49**	**184**	*e*P	**P**	**10 35 23.8**	**+1.7**
	2.2nm,0.6s,mb3.6						
VNDA	**Vanda**	**57.52**	**185**	P	**P**	**10 35 23.1**	**+0.7**
	1.1nm,0.5s,mb3.2,baz=359,slow=7.3,SNR=7.0						
MAW	**Mawson**	**80.98**	**200**	*e*P	**P**	**10 37 40.6**	**-0.8**
	3.2nm,0.4s,mb4.1						
PMSA	**Palmer Station**	**81.31**	**157**	*e*P	**P**	**10 37 43.8**	**+0.6**
	3.2nm,0.6s,mb3.9						
SNAA	**Sanae**	**87.71**	**179**		**P**	**10 38 13.3**	**-0.8**
VNA3	**Neumayer Olymp**	**87.87**	**177**	⇓*i*	**P**	**10 38 14.3**	**-0.6**
VNA2	**Neumayer--Watz**	**88.30**	**177**	⇓*i*	**P**	**10 38 16.8**	**-0.1**
VNA1	**Neumayer--Stat**	**88.53**	**177**	⇓*i*	**P**	**10 38 18.1**	**+0.1**
PLCA	**Paso Flores**	**89.64**	**134**	P	**P**	**10 38 24.8**	**+0.9**
	1.3nm,0.6s,mb4.0,baz=221,slow=4.7,SNR=5.7						
PLCA	**Paso Flores**	**89.64**	**134**	*e*P	**P**	**10 38 24.6**	**+0.8**
	2.2nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**89.76**	**44**	P	**P**	**10 38 24.6**	**+0.3**
	0.6nm,0.7s,mb3.5,baz=207,slow=3.3,SNR=5.1						

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*IDC **19** 10:31:27.2±0.6, 20.37S×168.89E, mb5.0/13, mb1 5.1/15, mb1mx5.1/17, mbtmp5.0/15, ML4.2/2, MS4.7/14, Ms1 4.7/14, ms1mx4.7/16, Error ellipse: s-maj=18.5km s-min=16.1km az=109.0*

*CSEM **19** 10:31:30.7, 20.68S×169.02E, h33km, mb5.5*

*MOS **19** 10:31:30.3±1.1, 20.50S×168.94E, h33km, mb5.5/39, MS4.9/25, Error ellipse: s-maj=10.9km s-min=9.2km az=53.9*

*BJI **19** 10:31:31.2, 20.03S×169.08E, h31km, mB5.4, mb5.2, Ms5.1, Msz4.8*

*HRVD **19** 10:31:32.2±0.1, 20.49S×168.69E, h21km, MW5.5/65, Centroid moment Tensor Solution. LP body waves: s64,c128;Mantle waves: s65,c128; Half duration: 1.4s Moment tensor: Scale 10^{17}Nm; M_{rr}1.37±.03; $M_{\theta\theta}$-0.11±.02; $M_{\phi\phi}$-1.25±.02; $M_{r\theta}$0.47±.04; $M_{\theta\phi}$0.58±.02; $M_{\phi r}$-1.13±.05; Best double couple: $M_0$1.882×10^{17} NP1: ϕ_s337°,δ25°,λ89°. NP2:ϕ_s157°,δ65°,λ90°. Principal axes: T 1.821, Plg70°, Azm68°; N .13, Plg0°, Azm337°; P -1.944, Plg20°, Azm247°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **19** 10:31:32.2±0.2, 20.38S×168.91E, mb5.4/45, MS5.0/107, MW5.4 Error ellipse: s-maj=8.1km s-min=5.4km az=141.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^{17} Nm; M_{rr}1.24; $M_{\theta\theta}$0.17; $M_{\phi\phi}$-1.41; $M_{r\theta}$0.25; $M_{\theta\phi}$-0.55; $M_{\phi r}$-0.62; Best double couple: $M_0$1.6×10^{17} NP1:ϕ_s38°, δ39°,λ122°. NP2:ϕ_s179°,δ58°,λ67°. Principal axes: T 1.48, Plg68°, Azm42°; N .19, Plg19°, Azm192°; P -1.68, Plg10°, Azm285°;*

*LDG **19** 10:31:34.8±0.3, 19.70S×166.98E, h10km, Mb5.5/3, Ms4.9/9 Error ellipse: s-maj=45.7km s-min=7.7km az=95.0*

*BGS **19** 10:31:35.1±2.5, 20.38S×168.91E, h40km*

ISC 19 10:31:30.9±0.2**, 20.47S**±0.05×**168.91E**±0.05**, h38**km**, h38**km±1.3km**:pP-P, n433,** σ**1.01**/187**, mb5.3**/78**, MS5.0**/125**, 16C-29D, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.79**	**235**	*e*P	**P**	**10 32 11.2**	**-3.0**
DZM				*e*S	**S**	**10 32 43.2**	**-3.9**
DZM	**Mont Dzumac**	**2.79**	**235**	Pn	**P**	**10 32 12.3**	**-1.9**
	40nm,0.3s,baz=53,slow=13,SNR=225						
DZM				Sn	**S**	**10 32 43.2**	**-3.8**
	367nm,0.3s,baz=340,slow=23,SNR=12						
DZM				LR	LR	10 32 51.1	
	comp=Z,12μm,20.4s,baz=209,slow=30						
HNR	**Honiara**	**13.97**	**320**	LR	LR	10 39 04.9	
	comp=Z,2μm,20.4s,baz=139,slow=33						
RAO	**Raoul Island**	**14.80**	**129**	LR	LR	10 39 26.3	
	comp=Z,3μm,21.3s,baz=313,slow=32						
ARMA	**Armidale**	**18.46**	**234**	*e*P	**P**	**10 35 45.1**	**-0.6**
ARMA				*e*S	**S**	**10 39 22.2**	**+15**
URZ	**Urewera**	**19.10**	**160**	P	**P**	**10 35 54.1**	**+0.9**
	0.6nm,0.3s,baz=25,slow=6.6,SNR=14						
URZ				LR	LR	10 42 14.3	
	comp=Z,5μm,19.9s,baz=1.0,slow=34						
AFI	**Afiamalu**	**19.57**	**74**	LR	LR	10 41 56.7	
	comp=Z,4μm,19.4s,baz=251,slow=32						
RIV	**Riverview**	**20.61**	**226**	*e*P	**P**	**10 36 09.6**	**+0.2**
RIV				*e*		10 36 20.9	
CTA	**Charters Tower**	**21.25**	**267**	*e*P	**P**	**10 36 16.8**	**+0.7**
	95nm,1.2s,mb5.0						
CTA				*e*S	**S**	**10 40 11.0**	**+5.9**
CTA	**Charters Tower**	**21.25**	**267**	*e*P	**P**	**10 36 16.8**	**+0.7**
CTA				*e*S	**S**	**10 40 11.0**	**+5.9**
CTA				pmax	pmax		
	comp=Z,95nm,1.2s						
CTA	**Charters Tower**	**21.25**	**267**	P	**P**	**10 36 17.1**	**+1.0**
	comp=Z,140nm,1.1s,mb5.2,baz=82,slow=13,SNR=15						
CTAO	**Charters Tower**	**21.25**	**267**	*e*P	**P**	**10 36 16.8**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,264nm,1.2s,mb5.4						
CTAO				MLR	MLR		
	comp=Z,4μm,19.0s,MS4.8						
CTAO	**Charters Tower**	**21.25**	**267**	*e*P	**P**	**10 36 16.8**	**+0.7**
	comp=Z,264nm,1.2s,mb5.4						
CTAO				LR	LR		
	comp=Z,4μm,19.0s,MS4.8						
SNZO	**South Karori**	**21.35**	**168**	PFAKE		10 36 30.0	+13
SNZO				LR	LR		
	comp=Z,4μm,19.0s,MS4.8						
CNB	**Canberra Magne**	**22.68**	**225**	⇓*i*P	**P**	**10 36 31.7**	**+1.5**
	comp=Z,210nm,1.1s,mb5.5						
RPZ	**Rata Peaks**	**23.25**	**176**	P	**P**	**10 36 39.0**	**+3.3**
	comp=Z,25nm,0.9s,mb4.6,baz=17,slow=11,SNR=3.7						
RPZ				LR	LR	10 44 39.4	
	comp=Z,2μm,19.4s,MS4.6,baz=348,slow=34						
PMG	**Port Moresby**	**23.68**	**294**	⇑*e*P	**P**	**10 36 40.8**	**+0.6**
PMG				*e**PP		10 36 52.1	
PMG				pmax	pmax		
	comp=Z,169nm,1.1s						
PMG				MLR	MLR		
	comp=Z,3μm,20.0s						
PMG	**Port Moresby**	**23.68**	**294**	P	**P**	**10 36 41.5**	**+1.3**
	comp=Z,84nm,1.0s,mb5.1,baz=161,slow=4.6,SNR=7.1						
PMG				LR	LR	10 44 26.8	
	comp=Z,2μm,18.5s,MS4.6,baz=327,slow=33						
PMG	**Port Moresby**	**23.68**	**294**	⇑*e*P	**P**	**10 36 40.8**	**+0.6**
	comp=Z,169nm,1.1s,mb5.4						
PMG				*e*pP		10 36 52.1	
PMG				LR	LR		
	comp=Z,3μm,20.0s,MS4.8						
TOO	**Toolangi**	**26.52**	**225**	*e*P	**P**	**10 37 08.8**	**+1.8**
	comp=Z,48nm,1.3s,mb4.9						
TOO	**Toolangi**	**26.52**	**225**	*e*P	**P**	**10 37 08.8**	**+1.8**
TOO				pmax	pmax		
	comp=Z,48nm,1.3s,mb4.9						
STKA	**Stephens Creek**	**26.94**	**240**	*e*P	**P**	**10 37 10.9**	**+0.1**
	comp=Z,34nm,0.9s,mb4.9						
STKA				*e*S	**S**	**10 41 53.7**	**+10**
STKA	**Stephens Creek**	**26.94**	**240**	P	**P**	**10 37 10.9**	**+0.1**
	comp=Z,17nm,0.7s,mb4.7,baz=73,slow=9.3,SNR=36						
STKA				LR	LR	10 47 52.9	
	comp=Z,3μm,19.2s,MS4.8,baz=90,slow=36						
WB2	**Warramunga Arr**	**32.40**	**265**	⇓*i*P	**P**	**10 37 57.5**	**-2.1**
WB2				*i*	pP	10 38 08.3	-1.9
WRAB	**Tennant Creek**	**32.40**	**265**	*e*P	**P**	**10 37 57.5**	**-2.1**
WRAB				*e**PP	pP	10 38 08.4	-1.8
WRAB				*e*		10 40 46.4	
WRAB				pmax	pmax		
	comp=Z,62nm,1.1s,mb5.3						
WRAB				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.6						
WRAB	**Tennant Creek**	**32.40**	**265**	*e*P	**P**	**10 37 57.5**	**-2.1**
	comp=Z,62nm,1.1s,mb5.3						
WRAB				*e*pP	pP	10 38 08.4	-1.9
WRAB				*e*PcP	PcP	10 40 46.4	-0.1
WRAB				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
WRA	**Warramunga Arr**	**32.41**	**265**	P	**P**	**10 37 57.8**	**-1.8**
	comp=Z,25nm,1.1s,mb5.0,baz=94,slow=8.4,SNR=36						
WRA				PcP	PcP	10 40 46.2	-0.4
	comp=Z,4.0nm,1.0s,baz=94,slow=3.0,SNR=4.8						
WRA				ScP		10 44 31.4	
	comp=Z,5.6nm,1.2s,baz=88,slow=4.0,SNR=8.1						
KAKA	**Kakadu**	**35.73**	**277**	*e*P	**P**	**10 38 26.8**	**-1.4**
	comp=Z,23nm,0.9s,mb5.1						
KAKA				*i*	pP	10 38 38.1	-0.9
TBI	**Tubuai**	**38.64**	**102**	*e*LQ		10 47 33.1	
	comp=Z,4μm,30.2s						
TBI	**Tubuai**	**38.64**	**102**	*e*P	**P**	**10 38 40.2**	**-12**
TBI	**Tubuai**	**38.64**	**102**	*e*S	**S**	**10 44 35.1**	**-11**
	comp=Z,732nm,29.0s						
TBI				*e*LR	LR	10 49 34.8	
	comp=Z,1μm,25.8s,baz=262						
PPT	**Papeete**	**39.28**	**93**	*e*LQ		10 47 59.6	
	comp=Z,5μm,29.5s						
PPT	**Papeete**	**39.28**	**93**	*e*P	**P**	**10 38 41.1**	**-17**
PPT	**Papeete**	**39.28**	**93**	*e*PP	PP	10 39 51.3	-41
	comp=Z,63nm,21.2s						
PPT				*e*S	**S**	**10 44 42.8**	**-13**
	comp=Z,1μm,26.0s						
PPT				*e*LR	LR	10 49 40.8	
	comp=Z,3μm,25.0s,baz=254						
PPT	**Papeete**	**39.28**	**93**	LR	LR	10 51 31.3	
	comp=Z,891nm,18.9s,MS4.6,baz=261,slow=31						
WAKE	**Wake Island**	**39.57**	**357**	PFAKE		10 39 10.0	+10
WAKE				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
FITZ	**Fitzroy Crossi**	**40.82**	**266**	*e*P	**P**	**10 39 10.7**	**0.0**
	comp=Z,79nm,0.9s,mb5.3						
FITZ				*i*	pP	10 39 21.8	+0.2
FITZ	**Fitzroy Crossi**	**40.82**	**266**	P	**P**	**10 39 11.1**	**+0.4**
	comp=Z,153nm,1.1s,mb5.6,baz=140,slow=5.3,SNR=29						
GUMO	**Guam**	**41.28**	**323**	PFAKE		10 39 30.0	+15
GUMO				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
MBWA	**Marble Bar**	**45.82**	**260**	*e*P	**P**	**10 39 50.6**	**-0.7**
MBWA				*e*pP	pP	10 40 01.9	-0.4
MBWA				LR	LR		
	comp=Z,5μm,19.0s,MS5.5						
KLBR	**Kellerberrin**	**46.91**	**246**	*e*P	**P**	**10 39 58.8**	**-0.9**
	comp=Z,28nm,0.8s,mb5.2						
KLBR				*e*		10 40 02.8	
KLBR				*e*	pP	10 40 09.3	-1.4
NWAO	**Narrogin (SRO)**	**47.38**	**244**	*e*P	**P**	**10 40 02.1**	**-1.3**
NWAO				*e**PP	pP	10 40 13.5	-0.9
NWAO				pmax	pmax		
	comp=Z,99nm,1.1s						
NWAO				MLR	MLR		
	comp=Z,2μm,22.0s						
NWAO	**Narrogin (SRO)**	**47.38**	**244**	P	**P**	**10 40 02.5**	**-0.9**
	comp=Z,28nm,1.0s,mb5.2,baz=80,slow=7.8,SNR=6.0						
NWAO	**Narrogin (SRO)**	**47.38**	**244**	*e*P	**P**	**10 40 02.0**	**-1.4**
	comp=Z,99nm,1.1s,mb5.7						
NWAO				*e*pP	pP	10 40 13.5	-0.9
NWAO				LR	LR		
	comp=Z,2μm,22.0s,MS5.1						
MUN	**Mundaring**	**48.23**	**245**	*e*P	**P**	**10 40 09.8**	**-0.3**
	comp=Z,16nm,1.1s,mb5.0						
MUN				*i*	pP	10 40 19.9	-1.1
MUN	**Mundaring**	**48.23**	**245**	*e*P	**P**	**10 40 09.8**	**-0.3**
MUN				*i*	pP	10 40 19.9	-1.1
MUN				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
DRV	**Dumont d'Urvil**	**49.77**	**195**	S	**S**	**10 47 31.0**	**+4.3**
DRV				R		10 55 00.0	
MIDW	**Midway**	**50.19**	**16**	PFAKE		10 40 40.0	+15
MIDW				LR	LR		
	comp=Z,822nm,19.0s,MS4.8						
TAOE	**Nuku Hiva Isla**	**50.43**	**85**	*e*S	**S**	**10 47 41.8**	**+5.1**
	comp=Z,3μm,25.5s						
TAOE				*e*SS	SS	10 51 04.1	-3.8
	comp=Z,746nm,26.6s						
TAOE				*e*LR	LR	10 54 46.3	
	comp=Z,4μm,26.8s						
RKT	**Rikitea**	**51.91**	**104**	*e*LQ		10 53 09.5	
	comp=Z,833nm,28.5s						
RKT	**Rikitea**	**51.91**	**104**	*e*P	**P**	**10 40 24.8**	**-13**
RKT	**Rikitea**	**51.91**	**104**	*e*PP	PP	10 42 18.7	-18
	comp=Z,73nm,25.8s						
RKT	**Rikitea**	**51.91**	**104**	*e*S	**S**	**10 48 10.3**	**+13**
	comp=Z,756nm,26.8s						
RKT				*e*SS	SS	10 51 37.1	+5.2
	comp=Z,342nm,28.8s						
KIP	**Kipapa**	**52.72**	**40**	PFAKE		10 40 50.0	+5.7
KIP				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
POHA	**Pohakuloa**	**53.02**	**43**	PFAKE		10 41 00.0	+13
POHA				LR	LR		
	comp=Z,8μm,19.0s,MS5.8						
VNDA	**Vanda**	**57.19**	**182**	*e*P	**P**	**10 41 14.1**	**-2.1**
VNDA				pmax	pmax		
	comp=Z,35nm,1.8s						
VNDA	**Vanda**	**57.19**	**182**	P	**P**	**10 41 17.9**	**+1.8**
	comp=Z,3.6nm,1.1s,mb4.3,baz=11,slow=6.2,SNR=7.0						
VNDA				LR	LR	11 02 11.0	
	comp=Z,495nm,19.4s,MS4.6,baz=20,slow=32						
VNDA	**Vanda**	**57.19**	**182**	*e*P	**P**	**10 41 14.1**	**-2.1**
	comp=Z,35nm,1.8s,mb5.1						
VNDA				*e*PP	PP	10 43 10.2	-15
VNDA				LR	LR	11 02 11.0	
SBA	**Scott Base**	**57.43**	**181**	*e*P	**P**	**10 41 16.7**	**-1.2**
SBA				pmax	pmax		
	comp=Z,51nm,1.3s,mb5.4						
SBA				MLR	MLR		
	comp=Z,431nm,19.0s,MS4.6						
SBA	**Scott Base**	**57.43**	**181**	*e*P	**P**	**10 41 16.7**	**-1.1**
	comp=Z,51nm,1.3s,mb5.4						
SBA				LR	LR		
	comp=Z,431nm,19.0s,MS4.6						
CASY	**Casey**	**58.88**	**204**	PFAKE		10 41 40.0	+12
CASY				LR	LR		
	comp=Z,661nm,21.0s,MS4.7						
MJAR	**Matsushiro Arr**	**63.69**	**333**	P	**P**	**10 42 00.1**	**-0.9**
	comp=Z,15nm,1.0s,mb5.0,baz=169,slow=7.4,SNR=23						
MJAR				PcP	PcP	10 42 38.2	+1.5
	comp=Z,7.1nm,1.0s,baz=174,slow=5.3,SNR=5.0						
MAJO	**Matsushiro**	**63.70**	**333**	*e*P	**P**	**10 41 57.0**	**-4.0**
MAJO				*e*		10 42 34.7	
MAJO				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
MAJO				MLR	MLR		
	comp=Z,514nm,20.0s,MS4.7						
MAJO	**Matsushiro**	**63.70**	**333**	*e*P	**P**	**10 41 57.0**	**-4.0**
	comp=Z,31nm,1.1s,mb5.3						
MAJO				*e*PcP	PcP	10 42 34.7	-2.0
MAJO				LR	LR		
	comp=Z,514nm,20.0s,MS4.7						
MAT	**Matsushiro**	**63.70**	**333**	*e*P	**P**	**10 41 59.0**	**-2.0**
MAT				*e*S	**S**	**10 50 30.0**	**-1.0**
MAT				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.2						
MAT	**Matsushiro**	**63.70**	**333**	*e*P	**P**	**10 41 59.0**	**-2.0**
	comp=Z,26nm,1.0s,mb5.2						
MAT				*e*S	**S**	**10 50 30.0**	**-1.0**
MAT	**Matsushiro**	**63.70**	**333**	P	**P**	**10 41 58.9**	**-2.1**
MAT				S	**S**	**10 50 30.0**	**-1.0**
MIR	**Mirnyy**	**65.79**	**205**	*e*P	**P**	**10 42 13.0**	**-1.0**
MIR				pmax	pmax		
	comp=Z,77nm,1.4s,mb5.5						
QZH	**Quanzhou**	**66.56**	**310**	*e*P	**P**	**10 42 20.1**	**+0.5**
QZH				S	S	10 51 09.3	+2.9
SSE	**Sheshan**	**68.75**	**317**	P	**P**	**10 42 31.9**	**-1.3**
SSE				PCP	PcP	10 42 56.4	-1.5
SSE				S	S	10 51 33.5	+1.0
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,596nm,4.8s						
SSE				LR	LR		
	comp=N,204nm,20.0s,MS4.6						
SSE				LR	LR		
	comp=E,300nm,20.0s,MS4.6						
SSE				LR	LR		
	comp=Z,227nm,22.7s,MS4.3						
QSPA	**South Pole Qui**	**69.59**	**180**	⇓*i*P	**P**	**10 42 37.9**	**+0.3**
	comp=Z,42nm,1.2s,mb5.2						
QIZ	**Qiongzhong**	**69.92**	**300**	*e*P	**P**	**10 42 40.9**	**+0.4**
QIZ				S	S	10 51 55.6	+9.1
QIZ				SCS	ScS	10 52 37.0	+1.1
QIZ				AMB	AMB		
	comp=Z,18nm,1.9s,mb4.7						
QIZ				LR	LR		
	comp=Z,368nm,33.6s,MS4.4						
INCN	**Inchon**	**70.05**	**325**	*e*P	**P**	**10 42 41.2**	**+0.2**
INCN				*e*pP	pP	10 42 52.8	+0.2
INCN				LR	LR		
	comp=Z,491nm,19.0s,MS4.8						
NJ2	**Nanjing**	**70.88**	**316**	*e*P	**P**	**10 42 47.3**	**+1.1**
NJ2				AP	pP	10 43 00.6	+2.9
NJ2				XP	sP	10 43 04.3	+2.4
NJ2				PP	PP	10 45 26.9	+1.3
NJ2				S	S	10 51 59.0	+1.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,90nm,3.8s						
NJ2				LR	LR		
	comp=N,980nm,28.0s,MS5.0						
NJ2				LR	LR		
	comp=E,810nm,32.0s,MS5.0						
NJ2				LR	LR		
	comp=Z,570nm,33.3s,MS4.6						
YSS	**Yuzh-Sakhalins**	**71.14**	**341**	⇓*i*P	**P**	**10 42 48.4**	**+0.9**
YSS				*e*	pP	10 43 01.0	+2.0
YSS				*e*S	S	10 52 02.0	+1.9
YSS				pmax	pmax		
	comp=Z,100nm,1.1s,mb5.7						
YSS				pmax	pmax		
	comp=E,50nm,1.0s						
YSS				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.9						
YSS				MLR	MLR		
	comp=N,500nm,19.0s,MS4.9						
YSS				MLR	MLR		
	comp=E,400nm,18.0s,MS4.9						
YSS	**Yuzh-Sakhalins**	**71.14**	**341**	*e*P	**P**	**10 42 46.8**	**-0.7**
	comp=E,104nm,1.1s,mb5.7						
YSS				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
FX1	**Attu Island--F**	**73.14**	**3**	*e*P	**P**	**10 42 58.0**	**-1.2**
PET	**Petropavlovsk**	**73.73**	**354**	⇓*i*P	**P**	**10 43 02.3**	**-0.3**
PET				*i* S	S	10 52 33.7	+4.2
PET				*e**SS		10 52 56.9	
PET				*e*PS	PS	10 53 16.1	+8.1
PET				*e*PPS	PPS	10 53 30.1	+7.3
PET				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.2						
PET				pmax	pmax		
	comp=Z,300nm,10.1s						
PET				pmax	pmax		
	comp=Z,100nm,5.5s						
PET				smax			
	comp=N,200nm,11.6s						
PET				smax			
	comp=E,400nm,14.0s						
PET				pmax	pmax		
	comp=N,200nm,11.0s						
PET				MLR	MLR		
	comp=Z,400nm,18.3s,MS4.7						
PET	**Petropavlovsk**	**73.73**	**354**	PFAKE		10 43 10.0	+7.4
PET				LR	LR		
	comp=Z,864nm,22.0s,MS5.0						
DL2	**Dalian**	**73.81**	**323**	P	**P**	**10 43 03.8**	**+0.4**
DL2				AP	pP	10 43 15.6	+0.7
DL2				S	S	10 52 37.4	+6.7
DL2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.3						
DL2				LR	LR		
	comp=N,210nm,17.7s,MS4.6						
DL2				LR	LR		
	comp=E,200nm,15.4s,MS4.6						
DL2				LR	LR		
	comp=Z,350nm,17.3s,MS4.7						
MDJ	**Mudanjiang**	**74.06**	**332**	P	**P**	**10 43 05.1**	**+0.4**
MDJ				AP	pP	10 43 17.6	+1.4
MDJ				XP	sP	10 43 22.8	+2.4
MDJ				PP	PP	10 45 48.1	-3.9
MDJ				S	S	10 52 36.5	+3.1
MDJ				SS	SS	10 57 23.1	+2.2
MDJ				AMB	AMB		
	comp=Z,52nm,1.2s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,170nm,3.6s						
MDJ				LR	LR		
	comp=N,236nm,25.3s,MS4.6						
MDJ				LR	LR		
	comp=E,258nm,22.1s,MS4.6						
MDJ				LR	LR		
	comp=Z,275nm,21.2s,MS4.5						
TIA	**Tai'an**	**74.66**	**319**	⇓P	**P**	**10 43 08.6**	**+0.2**
SNY	**Shenyang**	**74.83**	**327**	⇑P	**P**	**10 43 09.0**	**-0.3**
SNY				AP	pP	10 43 18.5	-2.3
SNY				S	S	10 52 47.0	+4.9
SNY				AMB	AMB		
	comp=Z,20nm,1.7s,mb4.8						
SNY				AMB	AMB		
	comp=Z,510nm,5.3s						
SNY				LR	LR		
	comp=N,340nm,18.6s						
SNY				LR	LR		
	comp=Z,370nm,19.1s,MS4.7						
CN2	**Changchun**	**75.35**	**329**	⇑P	**P**	**10 43 12.4**	**+0.2**
CN2				*e*XP	sP	10 43 31.6	+3.7
CN2				*e*S	S	10 52 48.8	+1.0
CN2				AMB	AMB		
	comp=Z,60nm,1.3s,mb5.4						
CN2				AMB	AMB		
	comp=Z,300nm,6.0s						
CN2				LR	LR		
	comp=N,300nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=E,400nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=Z,400nm,16.0s,MS4.8						
NIKO	**Nikolski**	**75.64**	**14**	*e*P	**P**	**10 43 10.6**	**-3.1**
NST	**Nakhon Sawan**	**76.49**	**293**	P	**P**	**10 43 19.0**	**-0.2**
KLR	**Kul'dur**	**76.86**	**336**	*e*P	**P**	**10 43 17.6**	**-3.1**
KLR				*e*S	S	10 53 03.0	-1.2
KLR				pmax	pmax		
	comp=Z,78nm,1.8s,mb5.3						
UNV	**Unalaska Valle**	**76.99**	**15**	*e*P	**P**	**10 43 18.8**	**-2.5**
	comp=Z,114nm,0.9s,mb5.8						
UNV				*e*PcP	PcP	10 43 28.0	-4.5
UNV				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
MAW	**Mawson**	**77.18**	**202**	*e*P	**P**	**10 43 22.0**	**-0.1**
	comp=Z,12nm,1.2s,mb4.7						
MAW	**Mawson**	**77.18**	**202**	*e*P	**P**	**10 43 22.0**	**-0.1**
MAW				pmax	pmax		
	comp=Z,12nm,1.2s						
MAW	**Mawson**	**77.18**	**202**	P	**P**	**10 43 22.1**	**0.0**
	comp=Z,15nm,1.1s,mb4.8,baz=97,slow=7.7,SNR=17						
MAW				LR	LR	11 14 36.1	
	comp=Z,674nm,18.3s,MS5.0,baz=90,slow=34						
NANT	**Nan**	**77.39**	**296**	⇓P	**P**	**10 43 23.0**	**-1.2**
	comp=Z,175nm,1.0s,mb5.9						
BDT	**Bhumibol Dam**	**78.15**	**294**	P	**P**	**10 43 30.0**	**+1.6**
CHRT	**Chiangrai**	**78.64**	**296**	⇓P	**P**	**10 43 31.0**	**-0.1**
	comp=Z,184nm,1.2s,mb5.9						
KMI	**Kunming**	**78.66**	**302**	P	**P**	**10 43 32.5**	**+1.4**
KMI				AP	pP	10 43 43.6	+0.9
KMI				XP	sP	10 43 48.1	+1.2
KMI				PP	PP	10 46 27.8	-3.3
KMI				PPP	PPP	10 48 13.8	-7.0
KMI				S	S	10 53 28.8	+4.8
KMI				SKS	SKS	10 53 39.1	+1.1
KMI				AMB	AMB		

comp=Z,25nm,1.4s,mb5.0
KMI AMB AMB
comp=Z,288nm,5.9s
KMI LR LR
comp=N,279nm,21.2s,MS4.9
KMI LR LR
comp=E,437nm,18.0s,MS4.9
KMI LR LR
comp=Z,362nm,18.0s,MS4.8
XAN Xi'an 78.71 313 P **P 10 43 32.0 +0.8**
XAN AMB AMB
comp=Z,13nm,1.4s,mb4.7
CHG Chiang Mai 78.88 295 ⇓P **P 10 43 34.2 +1.8**
comp=Z,18nm,1.3s,mb4.8
SDPT Sand Point 79.89 17 *e*P **P 10 43 35.3 -1.9**
SDPT LR LR
comp=Z,400nm,18.0s,MS4.8
CD2 Chengdu 80.74 308 *e*P **P 10 43 43.0 +0.8**
HHC Hu-ho-hao-te 80.95 320 *e*P **P 10 43 43.8 +0.7**
HHC AP pP 10 43 57.5 +2.7
HHC XP sP 10 44 02.3 +3.4
HHC S S 10 53 54.5 +6.8
HHC SKS SKS 10 53 56.9 +2.9
HHC AMB AMB
comp=Z,33nm,1.4s,mb5.1
HHC AMB AMB
comp=Z,240nm,9.6s
HHC LR LR
comp=N,349nm,14.4s,MS5.0
HHC LR LR
comp=E,458nm,19.2s,MS5.0
HHC LR LR
comp=Z,351nm,18.0s,MS4.8
BTO Baotou 81.75 319 *e*P **P 10 43 47.5 +0.2**
LZH Lanzhou 83.32 312 ⇑P **P 10 43 57.0 +1.6**
LZH AP pP 10 44 09.5 +2.4
LZH XP sP 10 44 15.0 +3.8
LZH PP PP 10 47 12.0 +2.8
LZH *e*S S 10 54 13.8 +1.9
LZH *e*SS SS 10 59 42.9 +2.2
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,289nm,6.5s
LZH LR LR
comp=N,1μm,15.2s
LZH LR LR
comp=Z,2μm,18.1s,MS5.5
SYO Syowa Base 83.67 196 ⇑P **P 10 43 55.4 -1.0**
SYO Syowa Base 83.67 196 ⇓P **P 10 44 00.0 +3.6**
SEY Seymchan 84.14 352 *e*P **P 10 43 59.2 +0.2**
SEY 10 47 17.4
SEY *e* 10 54 15.2
SEY *e* 10 54 27.8
SEY PS PS 10 55 19.5 +0.5
SEY *e*SS SS 10 59 46.9 -4.9
SEY pmax pmax
comp=Z,16nm,1.1s,mb5.1
SEY pmax pmax
comp=N,4.0nm,0.9s
SEY MLR MLR
comp=N,300nm,19.0s,MS4.9
SEY MLR MLR
comp=E,370nm,19.0s,MS4.9
SEY MLR MLR
comp=Z,710nm,19.0s,MS5.1
CLNS Chul'man 85.40 337 *i* P **P 10 44 06.3 +0.9**
CLNS *e**PP pP 10 44 16.9 -0.2
CLNS pmax pmax
comp=Z,142nm,1.2s,mb6.0
CLNS pmax pmax
comp=N,80nm,1.3s
CLNS pmax pmax
comp=E,18nm,1.6s
CLNS pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
CLNS pmax pmax
comp=N,9.0nm,0.9s
IMP Imphal 85.64 298 *e* **P 10 44 08.0 +0.7**
PMSA Palmer Station 85.87 160 *e*P **P 10 44 07.2 -0.2**
comp=N,69nm,1.2s,mb5.8
PMSA LR LR
comp=Z,674nm,20.0s,MS5.0
SVW2 Sparrevohn 86.17 16 *e*P **P 10 44 09.7 +0.7**
CIT Chita 86.79 329 *e*P **P 10 44 13.5 +1.2**
CIT *e* pP 10 44 24.1 +0.1
CIT pmax pmax
comp=Z,80nm,1.8s,mb5.7
HOPS Hopland 86.81 46 *e*P **P 10 44 12.7 -0.1**
comp=Z,38nm,1.1s,mb5.5
HOPS *e*pP pP 10 44 23.9 -0.6
HOPS LR LR
comp=Z,603nm,19.0s,MS5.0
SAO San Andreas Ge 86.87 49 PFAKE 10 44 20.0 +7.0
SAO LR LR
comp=Z,821nm,19.0s,MS5.2
SLKM Skilak Lake 87.21 19 *e*P **P 10 44 12.7 -1.4**
KHMM Horse Mountain 87.31 44 *e*P **P 10 44 15.8 +0.7**
TNA Tin City 87.57 9 PFAKE 10 44 30.0 +14
TNA LR LR
comp=Z,255nm,20.0s,MS4.6
NVL N'lazarevskaya 87.60 187 ⇓*i*P **P 10 44 15.9 +0.1**
NVL *i**PP pP 10 44 25.9 -1.7
NVL *i**SP sP 10 44 31.8 +0.2
NVL *i* 10 47 45.2
NVL *e*S S 10 54 47.5 -5.3
NVL pmax pmax
comp=Z,2.0nm,1.2s,mb4.2
NVL MLR MLR
comp=Z,46nm,17.1s,MS4.0
MAIT Maitri 87.60 187 *e*P **P 10 44 15.9 +0.1**
SHL Shillong 87.65 298 *e*P **P 10 44 18.5 +1.4**
ULN Ulaanbaatar 87.66 324 PFAKE 10 44 30.0 +13
ULN LR LR
comp=Z,256nm,19.0s,MS4.7
GTA Gaotai 87.74 314 *e*P **P 10 44 18.8 +1.6**
GTA AP pP 10 44 30.6 +1.6
GTA XP sP 10 44 37.6 +4.6
GTA PP PP 10 47 47.8 +2.3
GTA PPP PPP 10 49 44.8 +1.4
GTA SKS SKS 10 54 40.3 +0.5
GTA S S 10 54 58.5 +3.6
GTA AMB AMB
comp=Z,18nm,1.3s,mb5.1
GTA AMB AMB
comp=Z,225nm,6.8s
GTA LR LR
comp=N,147nm,18.2s,MS4.7
GTA LR LR
comp=E,225nm,19.4s,MS4.7
GTA LR LR
comp=Z,272nm,20.5s,MS4.7
SNAA Sanae 87.92 183 *e* **P 10 44 22.3 +5.0**
SNAA Sanae 87.92 183 *e* **P 10 44 27.0 +10**
SNAA Sanae 87.92 183 *e* **P 10 44 32.4 +15**
SNAA Sanae 87.92 183 ⇑*i*P **P 10 44 16.8 -0.5**
SNAA *e* pP 10 44 27.0 -2.1
SNAA *e* 10 44 32.4
SNAA Sanae 87.92 183 ⇑*i*P **P 10 44 16.8 -0.5**
SNAA *e* 10 44 22.3
SNAA *e* pP 10 44 27.0 -2.1
SNAA *e* 10 44 32.4
WDC Whiskeytown Da 87.95 45 *e*P **P 10 44 18.0 -0.1**
WDC pmax pmax
comp=Z,37nm,1.3s,mb5.5
WDC MLR MLR
comp=Z,723nm,20.0s,MS5.1
WDC Whiskeytown Da 87.95 45 *e*P **P 10 44 18.0 -0.2**
comp=Z,37nm,1.3s,mb5.5
WDC LR LR
comp=Z,723nm,20.0s,MS5.1
YAK Yakutsk 87.95 343 *e*P **P 10 44 17.0 -0.6**
YAK *e*S S 10 54 59.0 +2.8
YAK pmax pmax
comp=Z,32nm,1.0s,mb5.5
YAK pmax pmax
comp=N,7.0nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK smax
comp=E,130nm,11.0s
YAK smax
comp=N,97nm,10.4s
YAK MLR MLR
comp=Z,375nm,18.0s,MS4.8
YAK MLR MLR
comp=N,257nm,17.0s,MS4.8
YAK MLR MLR
comp=E,184nm,18.0s,MS4.8
YAK Yakutsk 87.95 343 PFAKE 10 44 30.0 +12
YAK LR LR
comp=Z,727nm,19.0s,MS5.1
SONM Songino Array 88.02 323 P **P 10 44 19.5 +1.3**
comp=Z,14nm,1.2s,mb5.1,baz=135,slow=5.2,SNR=54
SONM LR LR 11 21 39.6
comp=Z,430nm,19.6s,MS4.9,baz=120,slow=34
CMB Columbia Colle 88.21 48 *e*P **P 10 44 19.0 -0.5**
CMB pmax pmax
comp=Z,13nm,0.8s,mb5.2
CMB MLR MLR
comp=Z,921nm,20.0s,MS5.2
CMB Columbia Colle 88.21 48 *e*P **P 10 44 19.0 -0.4**
comp=Z,13nm,0.8s,mb5.2
CMB LR LR
comp=Z,921nm,20.0s,MS5.2
BILL Bilibino 88.27 359 *e*P **P 10 44 18.0 -1.1**
BILL pmax pmax
comp=Z,43nm,1.1s,mb5.6
BILL MLR MLR
comp=Z,356nm,22.0s,MS4.7
BILL Bilibino 88.27 359 *e*P **P 10 44 17.9 -1.1**
comp=Z,42nm,1.1s,mb5.6
BILL *e*sP sP 10 44 39.3 +4.5
BILL LR LR
comp=Z,356nm,22.0s,MS4.7
YBH Yreka Blue Hor 88.40 44 *e*P **P 10 44 20.7 +0.4**
YBH pmax pmax
comp=Z,26nm,1.2s
YBH MLR MLR
comp=Z,679nm,20.0s
YBH Yreka Blue Hor 88.40 44 P **P 10 44 21.0 +0.7**
comp=Z,13nm,1.0s,mb5.1,baz=205,slow=3.2,SNR=14
YBH Yreka Blue Hor 88.40 44 *e*P **P 10 44 20.7 +0.4**
comp=Z,26nm,1.2s,mb5.3
YBH LR LR
comp=Z,679nm,20.0s,MS5.1
VNA3 Neumayer Olymp 88.52 180 *e* **P 10 44 25.3 +5.1**
VNA3 Neumayer Olymp 88.52 180 *e* pP 10 44 30.1 -1.9
VNA3 Neumayer Olymp 88.52 180 *e* sP 10 44 37.2 +1.2
VNA3 Neumayer Olymp 88.52 180 ⇑*i*P **P 10 44 19.6 -0.6**
VNA3 *e* 10 44 25.3
VNA3 *e* pP 10 44 30.1 -1.9
VNA3 *e* 10 44 37.2
HUMO Hull Mountain 88.67 43 *e*P **P 10 44 20.5 -1.0**
comp=Z,31nm,1.1s,mb5.5
HUMO LR LR
comp=Z,1μm,20.0s,MS5.2
VNA2 Neumayer--Watz 88.81 181 *e* **P 10 44 27.1 +5.5**
VNA2 Neumayer--Watz 88.81 181 *e* pP 10 44 32.2 -1.2
VNA2 Neumayer--Watz 88.81 181 *e* sP 10 44 38.9 +1.6
VNA2 Neumayer--Watz 88.81 181 ⇑*i*P **P 10 44 21.4 -0.2**
VNA2 *e* 10 44 27.1
VNA2 *e* pP 10 44 32.2 -1.2
VNA2 *e* 10 44 38.9
LBCM Butte Creek Ri 88.86 45 P **P 10 44 22.4 -0.1**
BEKR Beckwourth 89.08 47 *e*P **P 10 44 23.4 -0.2**
comp=Z,33nm,1.3s,mb5.5
LASM Arnica Sink 89.08 45 P **P 10 44 24.5 +1.0**
DIV Divide 89.09 20 PFAKE 10 44 30.0 +6.9
DIV LR LR
comp=Z,1μm,20.0s,MS5.3
VNA1 Neumayer--Stat 89.10 181 *e* **P 10 44 28.6 +5.6**
VNA1 Neumayer--Stat 89.10 181 *e* pP 10 44 33.0 -1.8
VNA1 Neumayer--Stat 89.10 181 *e* sP 10 44 40.2 +1.5
VNA1 Neumayer--Stat 89.10 181 ⇑*i*P **P 10 44 23.0 0.0**
VNA1 *e* 10 44 28.6
VNA1 *e* pP 10 44 33.0 -1.8
VNA1 *e* 10 44 40.2
MPOR Mary's Peak 89.23 41 P **P 10 44 25.3 +1.1**
DAC Darwin (Calif) 89.41 51 *e*P **P 10 44 24.9 -0.3**
DAC *e* 10 47 51.1
DAC pmax pmax
comp=Z,19nm,1.1s,mb5.3
DAC MLR MLR
comp=Z,898nm,19.0s,MS5.2
DAC Darwin (Calif) 89.41 51 *e*P **P 10 44 24.9 -0.3**
comp=Z,19nm,1.1s,mb5.3
DAC *e*PP PP 10 47 51.1 -7.8
DAC LR LR
comp=Z,898nm,19.0s,MS5.2
COR Corvallis 89.43 41 PFAKE 10 44 40.0 +15
COR LR LR
comp=Z,849nm,19.0s,MS5.2
LSA Lhasa 89.91 302 P **P 10 44 29.6 +1.9**
LSA AMB AMB
comp=Z,10.0nm,1.3s,mb5.0
MOD Modoc 90.06 45 *e*P **P 10 44 27.3 -0.9**
comp=Z,26nm,1.0s,mb5.5
MOD *e*pP pP 10 44 45.0 +5.0
MOD LR LR
comp=Z,615nm,19.0s,MS5.0
MCK McKinley 90.12 17 PFAKE 10 44 40.0 +12
MCK LR LR
comp=Z,378nm,19.0s,MS4.8
SIT Sitka 90.17 27 PFAKE 10 44 40.0 +12
SIT LR LR
comp=Z,2μm,19.0s,MS5.5
BOD Bodaibo 90.30 334 *e*P **P 10 44 28.4 -0.5**
BOD pmax pmax
comp=Z,55nm,1.4s,mb5.7
BEND Bend 90.41 43 P **P 10 44 30.6 +0.9**
TPH Tonopah 90.46 49 *e*P **P 10 44 29.8 -0.3**
TPH pmax pmax
comp=Z,34nm,1.2s,mb5.5
TPH MLR MLR
comp=Z,649nm,19.0s,MS5.1
TPH Tonopah 90.46 49 *e*P **P 10 44 29.8 -0.3**
comp=Z,34nm,1.2s,mb5.5
TPH LR LR
comp=Z,649nm,19.0s,MS5.1
IMA Indian Mountai 90.78 14 *e*P **P 10 44 26.6 -4.3**
IMA pmax pmax
comp=Z,13nm,1.0s,mb5.2
IMA Indian Mountai 90.78 14 *e*P **P 10 44 26.6 -4.4**
comp=Z,13nm,1.0s,mb5.2
CROR Criterion Ridg 91.06 42 P **P 10 44 33.1 +0.3**
VIPM Ingram Point 91.07 42 P **P 10 44 33.5 +0.7**
ZAK Zakamensk 91.11 324 ⇑*i*P **P 10 44 32.9 +0.1**
ZAK pmax pmax
comp=Z,10.0nm,1.3s,mb5.0
WVOR Wild Horse Val 91.41 45 *e*P **P 10 44 33.6 -0.8**
WVOR pmax pmax
comp=Z,31nm,1.1s,mb5.5
WVOR MLR MLR
comp=Z,817nm,20.0s,MS5.2
WVOR Wild Horse Val 91.41 45 *e*P **P 10 44 33.6 -0.8**
comp=Z,31nm,1.1s,mb5.5
WVOR LR LR
comp=Z,817nm,20.0s,MS5.2
BMN Battle Mountai 91.48 47 *e*P **P 10 44 35.2 +0.4**
BMN *e**PP pP 10 44 50.4 +3.7
BMN pmax pmax
comp=Z,30nm,1.2s,mb5.5
BMN MLR MLR
comp=Z,455nm,21.0s,MS4.9
BMN Battle Mountai 91.48 47 *e*P **P 10 44 35.2 +0.4**
comp=Z,30nm,1.2s,mb5.5
BMN *e*pP pP 10 44 50.4 +3.8
BMN LR LR
comp=Z,455nm,21.0s,MS4.9
WPW White Pass 91.53 40 P **P 10 44 35.5 +0.6**
IRK Irkutsk 91.56 326 *e*P **P 10 44 34.8 -0.1**
IRK pmax pmax
comp=Z,36nm,3.5s
FMW Mount Fremont 91.57 40 P **P 10 44 35.7 +0.7**
TLY Talaya 91.59 326 *e*P **P 10 44 35.5 +0.5**
TLY *e*S S 10 55 37.0 +7.4
TLY pmax pmax
comp=Z,22nm,1.6s,mb5.2
TLY MLR MLR
comp=Z,200nm,18.0s,MS4.6
GSM Grass Mountain 91.62 40 P **P 10 44 36.0 +0.7**
RMW Rattlesnake Mo 91.74 39 P **P 10 44 36.5 +0.7**
TUC Tucson 92.94 57 *e*P **P 10 44 41.8 +0.1**
TUC pmax pmax
comp=Z,13nm,1.1s,mb5.3
TUC MLR MLR
comp=Z,394nm,19.0s,MS4.9
TUC Tucson 92.94 57 *e*P **P 10 44 41.8 0.0**
comp=Z,13nm,1.1s,mb5.3
TUC LR LR
comp=Z,394nm,19.0s,MS4.9
ELK Elko 92.98 48 *e*P **P 10 44 41.6 -0.1**
ELK pmax pmax
comp=Z,8.0nm,1.1s
ELK MLR MLR
comp=Z,566nm,21.0s
ELK Elko 92.98 48 *e*P **P 10 44 41.6 -0.1**
comp=Z,7.7nm,1.1s,mb5.0
ELK LR LR
comp=Z,566nm,21.0s,MS5.0
ARUT Antelope Range 93.06 51 *e*P **P 10 44 42.2 +0.1**
DLBC Dease Lake 93.27 27 *e*P **P 10 44 41.6 -1.0**
DLBC *e*sP sP 10 45 06.0 +7.7
BMO Blue Mountains 93.34 43 *e*P **P 10 44 41.9 -1.3**
BMO pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
BMO MLR MLR
comp=Z,821nm,20.0s,MS5.2
BMO Blue Mountains 93.34 43 *e*P **P 10 44 41.9 -1.3**
comp=Z,6.7nm,1.1s,mb5.0
BMO LR LR
comp=Z,821nm,20.0s,MS5.2
GUN Gumba 93.51 298 *e*P **P 10 44 45.0 +0.6**
PKI Pulchoki 93.77 298 *e*P **P 10 44 46.5 +0.9**
comp=Z,76nm,1.2s,mb6.0
PKI Pulchoki 93.77 298 *e*P **P 10 44 46.5 +0.9**
PKI pmax pmax
comp=Z,38nm,1.2s,mb5.7
KKN Kakani 93.96 298 *e*P **P 10 44 47.2 +0.8**
comp=Z,49nm,1.0s,mb5.9
KKN Kakani 93.96 298 *e*P **P 10 44 47.2 +0.8**
KKN pmax pmax
comp=Z,24nm,1.0s,mb5.6
DMN Daman 94.04 298 *e*P **P 10 44 47.9 +1.1**
comp=Z,120nm,1.2s,mb6.2
MVU Marysvale 94.23 51 PFAKE 10 45 00.0 +13
MVU LR LR
comp=Z,769nm,20.0s,MS5.2
MSU Marysvale 94.26 51 *e*P **P 10 44 46.1 -1.4**
GKN Gorkha 94.57 298 *e*P **P 10 44 49.5 +0.3**
comp=Z,51nm,1.1s,mb5.9
HLID Hailey 94.69 45 *e*P **P 10 44 49.5 +0.2**
comp=Z,4.1nm,1.0s,mb4.8
HLID LR LR
comp=Z,688nm,20.0s,MS5.1
NEW Newport 94.92 40 PFAKE 10 45 00.0 +10
NEW LR LR
comp=Z,636nm,19.0s,MS5.1
KOLN Koldanda 95.35 298 *e*P **P 10 44 52.9 +0.1**
comp=Z,36nm,1.2s,mb5.7
DAU Daniels Canyon 95.64 49 *e*P **P 10 44 54.0 +0.2**
HWUT Hardware Ranch 95.87 48 PFAKE 10 45 10.0 +15
HWUT LR LR
comp=Z,552nm,19.0s,MS5.0
TIXI Tiksi 95.88 348 *e*P **P 10 44 51.0 -3.1**
TIXI pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
TIXI Tiksi 95.88 348 PFAKE 10 45 00.0 +5.9
TIXI LR LR
comp=Z,352nm,21.0s,MS4.8
MCMT McKenzie Canyo 96.22 44 *e*P **P 10 44 56.2 -0.1**
MSO Missoula 96.29 42 PFAKE 10 45 10.0 +13
MSO LR LR
comp=Z,371nm,19.0s,MS4.9
PV10 Paradox Valley 96.49 52 *e*P **P 10 44 57.4 -0.3**
AHID Auburn Hatcher 96.62 47 PFAKE 10 45 10.0 +12
AHID LR LR
comp=Z,400nm,21.0s,MS4.9
MNTX Cornudas Mount 97.01 59 PFAKE 10 45 10.0 +10
MNTX LR LR
comp=Z,390nm,20.0s,MS4.9
IMW Indian Meadow 97.14 46 *e*P **P 10 45 01.0 +0.5**
comp=Z,5.8nm,1.2s,mb4.9
ANMO Albuquerque 97.25 56 PFAKE 10 45 10.0 +8.7
ANMO LR LR
comp=Z,396nm,19.0s,MS4.9
BOZ Bozeman (W) 97.33 44 PFAKE 10 45 10.0 +8.7
BOZ LR LR
comp=Z,998nm,19.0s,MS5.3
LTX Lajitas 97.63 62 PFAKE 10 45 10.0 +6.9
LTX LR LR
comp=Z,1μm,19.0s,MS5.3
BW06 Boulder Array 97.68 47 PFAKE 10 45 10.0 +7.0
BW06 LR LR
comp=Z,318nm,19.0s,MS4.8
PDAR Pinedale Array 97.68 47 P **P 10 45 04.0 +1.0**
comp=Z,1.1nm,0.9s,mb4.4,baz=207,slow=3.3,SNR=8.9
PDAR LR LR 11 26 34.5
comp=Z,212nm,18.9s,MS4.7,baz=246,slow=34
LKWY Lake 97.75 45 PFAKE 10 45 10.0 +6.8
LKWY LR LR
comp=Z,583nm,20.0s,MS5.1
INK Inuvik 97.81 18 *e*P **P 10 45 01.3 -1.7**
INK pmax pmax
comp=Z,16nm,1.2s
INK Inuvik 97.81 18 *e*P **P 10 45 01.3 -1.6**
comp=Z,16nm,1.2s,mb5.4
PLCA Paso Flores 97.82 139 LR LR 11 19 36.4
comp=Z,193nm,19.4s,MS4.6,baz=121,slow=30
PLCA Paso Flores 97.82 139 PFAKE 10 45 20.0 +16
PLCA LR LR
comp=Z,264nm,19.0s,MS4.8
WMQ Urumqi 97.83 314 P **P 10 45 03.8 +0.2**
WMQ AP pP 10 45 17.3 +1.8
WMQ XP sP 10 45 22.4 +3.0
WMQ PP PP 10 49 05.1 0.0
WMQ S S 10 56 22.5 -0.7
WMQ AMB AMB
comp=Z,15nm,1.2s,mb5.4
WMQ AMB AMB
comp=Z,135nm,4.4s
WMQ LR LR
comp=N,188nm,11.4s,MS4.9
WMQ LR LR
comp=E,176nm,14.2s,MS4.9
WMQ LR LR
comp=Z,321nm,14.9s,MS4.9
SDCO Great Sand Dun 98.91 53 PFAKE 10 45 20.0 +11
SDCO LR LR
comp=Z,570nm,19.0s,MS5.1
ISCO Idaho Springs 99.48 51 PFAKE 10 45 20.0 +8.8
ISCO LR LR
comp=Z,388nm,20.0s,MS4.9
LAO LASA Array 101.22 44 PFAKE 10 45 30.0 +11
LAO LR LR
comp=Z,935nm,20.0s,MS5.3
RSSD Black Hills 101.92 47 PFAKE 10 45 30.0 +7.9
RSSD LR LR
comp=Z,446nm,19.0s,MS5.0
MKAR Makanchi Array 102.39 315 P Pdif 10 45 24.8 +0.6
MKAR 10 49 37.0
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,1.0s
MKAR Makanchi Array 102.39 315 P Pdif 10 45 24.8 +0.6
comp=Z,1.2nm,0.8s,baz=99,slow=5.9,SNR=11
MKAR PP PP 10 49 37.0 -2.5
comp=Z,1.3nm,1.0s,baz=106,slow=8.8,SNR=3.8
DGMT Dagmar 103.05 43 PFAKE 10 45 40.0 +13
DGMT LR LR
comp=Z,506nm,19.0s,MS5.1
CBKS Cedar Bluff 103.56 53 PFAKE 10 45 40.0 +11
CBKS LR LR
comp=Z,334nm,19.0s,MS4.9
TRQA Tornquist 104.69 141 PFAKE 10 45 50.0 +16
TRQA LR LR
comp=Z,408nm,19.0s,MS5.0
NATX Nacogdoches 105.76 62 PFAKE 10 50 00.0
NATX LR LR
comp=Z,1μm,19.0s,MS5.4
FFC Flin Flon 105.95 37 PFAKE 10 50 00.0
FFC LR LR
comp=Z,130nm,20.0s,MS4.5
NNA Nana 107.76 110 PFAKE 10 50 10.0
NNA LR LR
comp=Z,122nm,19.0s,MS4.5
CCM Cathedral Cave 109.88 56 PFAKE 10 50 10.0
CCM LR LR
comp=Z,369nm,19.0s,MS5.0
OXF Oxford 110.67 60 PFAKE 10 50 10.0 +10
OXF LR LR
comp=Z,676nm,19.0s,MS5.2
BVAR Borovoye Array 111.16 320 PP PP 10 50 49.8 +5.5
comp=Z,0.5nm,0.4s,baz=124,slow=5.3,SNR=4.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLAL	**Pickwick Lake**	**111.83**	**60**	PFAKE		10 50 10.0	+7.9
PLAL				LR	LR		
	comp=Z,739nm,19.0s,MS5.3						
WVT	**Waverly**	**112.23**	**58**	PFAKE		10 50 20.0	+17
WVT				LR	LR		
	comp=Z,283nm,22.0s,MS4.8						
LRAL	**Lakeview Retre**	**112.36**	**62**	PFAKE		10 50 20.0	+17
LRAL				LR	LR		
	comp=Z,431nm,20.0s,MS5.0						
LPAZ	**La Paz**	**113.14**	**119**	PFAKE		10 50 20.0	+15
LPAZ				LR	LR		
	comp=Z,191nm,19.0s,MS4.7						
WCI	**Wyandotte Cave**	**113.76**	**56**	PFAKE		10 50 20.0	+14
WCI				LR	LR		
	comp=Z,415nm,20.0s,MS5.0						
MYNC	**Murphy**	**115.04**	**60**	*e*PKIKP	PKPdf	10 50 08.3	-0.1
MYNC				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.5						
DWPF	**Disney**	**116.21**	**68**	PFAKE		10 50 20.0	+9.2
DWPF				LR	LR		
	comp=Z,341nm,20.0s,MS5.0						
ELN	**Prospectdale**	**118.01**	**58**	*e*PKPdf	PKPdf	10 50 13.8	-0.1
NHSC	**New Hope**	**118.03**	**63**	PFAKE		10 50 30.0	+16
NHSC				LR	LR		
	comp=Z,498nm,19.0s,MS5.2						
ARU	**Arti**	**118.05**	**324**	*i* PKIKP	PKPdf	10 50 13.5	0.0
ARU				*e*		10 51 28.9	
ARU				*e*		10 57 20.6	
ARU				*e*SP	SP	11 01 11.0	+0.9
ARU				*e*SS	SS	11 07 46.2	+4.9
BLA	**Blacksburg**	**118.27**	**58**	PFAKE		10 50 30.0	+16
BLA				LR	LR		
	comp=Z,278nm,19.0s,MS4.9						
MCWV	**Mont Chateau**	**118.90**	**55**	PFAKE		10 50 30.0	+14
MCWV				LR	LR		
	comp=Z,505nm,19.0s,MS5.2						
CBN	**Corbin**	**120.75**	**57**	PFAKE		10 50 30.0	+11
CBN				LR	LR		
	comp=Z,466nm,20.0s,MS5.1						
SAML	**Samuel**	**121.03**	**115**	PFAKE		10 50 30.0	+10
SAML				LR	LR		
	comp=Z,440nm,20.0s,MS5.1						
SDV	**Santo Domingo**	**121.54**	**92**	*e*PKPdf	PKPdf	10 50 20.8	-0.6
SDV				LR	LR		
	comp=Z,188nm,21.0s,MS4.7						
LBTB	**Lobatse**	**122.41**	**220**	PFAKE		10 50 40.0	+17
LBTB				LR	LR		
	comp=Z,304nm,19.0s,MS5.0						
NCB	**Newcomb**	**123.13**	**50**	PFAKE		10 50 40.0	+16
NCB				LR	LR		
	comp=Z,996nm,22.0s,MS5.4						
MDV	**Middlebury**	**123.88**	**50**	*e*PKPdf	PKPdf	10 50 24.9	-0.3
HRV	**Harvard--Oak R**	**125.16**	**52**	PFAKE		10 50 40.0	+12
HRV				LR	LR		
	comp=Z,600nm,19.0s,MS5.3						
APA	**Apatity**	**125.29**	**341**	⇓*i*PKIKP	PKPdf	10 50 28.2	+0.9
APA				*e*		10 52 16.0	
APA				*e*PPS	PPS	11 03 50.0	-0.3
APA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
APA				MLR	MLR		
	comp=Z,500nm,20.0s,MS5.2						
KEV	**Kevo**	**125.65**	**345**	PFAKE		10 50 40.0	+12
KEV				LR	LR		
	comp=Z,387nm,21.0s,MS5.0						
ARCES	**ARCESS Array B**	**126.17**	**345**	PKP	PKPdf	10 50 29.0	+0.1
	comp=Z,3.5nm,0.8s,SNR=12						
ARCES	**ARCESS Array B**	**126.17**	**345**	PKP	PKPdf	10 50 29.0	+0.1
WVL	**Waterville**	**126.35**	**49**	PFAKE		10 50 40.0	+10
WVL				LR	LR		
	comp=Z,4μm,19.0s						
PQI	**Presque Isle**	**127.19**	**46**	PFAKE		10 50 40.0	+8.4
PQI				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
LSZ	**Lusaka**	**127.55**	**230**	PFAKE		10 50 50.0	+17
LSZ				LR	LR		
	comp=Z,568nm,19.0s,MS5.3						
EMMW	**East Machias**	**127.89**	**49**	PFAKE		10 50 50.0	+17
EMMW				LR	LR		
	comp=Z,4μm,22.0s						
KMBO	**Kilima Mbogo**	**128.04**	**252**	PKP	PKPdf	10 50 35.3	+1.2
	comp=Z,8.0nm,1.1s,baz=26,slow=2.8,SNR=7.7						
SJG	**San Juan**	**128.18**	**83**	*e*PKIKP	PKPdf	10 50 34.3	+0.1
GNI	**Garni**	**128.82**	**306**	PFAKE		10 50 50.0	+15
GNI				LR	LR		
	comp=Z,197nm,20.0s,MS4.8						
BDFB	**Brasilia**	**128.98**	**132**	PKP	PKPdf	10 50 36.7	+0.9
	comp=Z,6.1nm,0.7s,baz=190,slow=3.0,SNR=8.1						
BAO	**Brasilia Array**	**129.00**	**132**	P	PKPdf	10 50 37.0	+1.2
KIV	**Kislovodsk**	**129.84**	**311**	*i* PKIKP	PKPdf	10 50 38.3	+1.6
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIV				pmax	pmax		
	comp=N,4.0nm,0.7s						
OBN	**Obninsk**	**130.35**	**326**	⇓*i*PKIKP	PKPdf	10 50 37.6	+0.3
OBN				*i* SS	SS	11 10 16.5	-0.3
OBN				pmax	pmax		
	comp=Z,13nm,0.4s						
OBN				MLR	MLR		
	comp=Z,400nm,22.0s,MS5.1						
OBN	**Obninsk**	**130.35**	**326**	PFAKE		10 50 50.0	+13
OBN				LR	LR		
	comp=Z,103nm,22.0s,MS4.5						
BBSR	**BB Station**	**131.00**	**64**	PFAKE		10 50 50.0	+11
BBSR				LR	LR		
	comp=Z,339nm,20.0s,MS5.0						
TSUM	**Tsumeb**	**131.58**	**217**	PFAKE		10 50 50.0	+9.4
TSUM				LR	LR		
	comp=Z,594nm,19.0s,MS5.3						
FINES	**FINESS Array B**	**131.60**	**337**	PKP	PKPdf	10 50 41.6	+2.0
	comp=Z,0.7nm,0.6s,baz=27,slow=3.1,SNR=3.6						
FINES				SKPbc		10 54 06.0	
	comp=Z,4.3nm,0.8s,baz=162,slow=6.0,SNR=8.9						
FINES	**FINESS Array B**	**131.60**	**337**	PKP	PKPdf	10 50 41.6	+2.0
FINES				SKPbc		10 54 06.0	
MBAR	**Mbarara**	**134.02**	**248**	PFAKE		10 51 00.0	+15
MBAR				LR	LR		
	comp=Z,103nm,20.0s,MS4.5						
AKASG	**Malin Array Be**	**136.30**	**323**	PKP	PKPdf	10 50 49.3	+0.7
	comp=Z,0.3nm,0.3s,baz=52,slow=1.8,SNR=8.2						
NB2	**NORSAR Subarra**	**136.55**	**344**	PKPdf	PKPdf	10 50 40.4	-8.3
	comp=Z,3.1nm,1.2s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**136.55**	**344**	PKIKP	PKPdf	10 50 44.3	-4.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**136.55**	**344**	PKhKP		10 50 44.3	
	comp=Z,0.9nm,0.7s,baz=266,slow=2.7,SNR=3.7						
BR131	**Keskin Array S**	**137.31**	**307**	PFAKE		10 51 00.0	+9.2
BR131				LR	LR		
	comp=Z,218nm,19.0s,MS4.9						
BRTR	**Keskin Array B**	**137.31**	**307**	PKP	PKPdf	10 50 51.0	+0.2
	comp=Z,0.7nm,0.5s,baz=135,slow=3.5,SNR=6.7						
KONO	**Kongsberg**	**138.16**	**344**	PFAKE		10 51 00.0	+8.3
KONO				LR	LR		
	comp=Z,435nm,20.0s,MS5.2						
KECS	**Kecovo**	**142.28**	**325**	*e*PKP	PKPdf	10 51 01.6	+2.3
OKC	**Ostrava-Krasne**	**142.63**	**329**	AMS	AMS	11 56 00.0	
	comp=Z,400nm,20.3s						
KDZ	**Kurdzhali**	**142.65**	**313**	*e*P	PKPdf	10 51 05.3	+5.1
BSEG	**Bad Segeberg**	**142.80**	**339**	PKIKP	PKPdf	10 50 57.8	-2.2
KSP	**Ksiaz**	**142.82**	**331**	*e*PKIKP	PKPdf	10 50 58.0	-2.2
KSP				MLR	MLR		
	comp=Z,1μm,21.8s,MS5.6						
MORC	**Moravsky Berou**	**142.96**	**329**	*e*PKIKP	PKPdf	10 50 59.9	-0.5
DPC	**Dobruska-Polom**	**143.15**	**331**	*e*PKIKP	PKPdf	10 50 59.4	-1.3
DPC				MLR	MLR		
	comp=Z,1μm,22.5s,MS5.6						
UPC	**Upice**	**143.18**	**331**	*e*PKP	PKPdf	10 50 58.9	-1.9
VTS	**Vitosha**	**143.75**	**315**	*e*P	PKPbc	10 51 02.0	+1.1
ZAPS	**Zavoj/Pirot**	**143.81**	**317**	⇓*i*PKP	PKPdf	10 51 01.9	-0.2
PVCC	**Panska Ves**	**143.81**	**332**	*e*PKP	PKPdf	10 51 00.7	-1.1
PVCC				AMS	AMS	11 55 30.0	
	comp=Z,400nm,20.1s						
BRG	**Berggiesshubel**	**143.83**	**333**	*e*PKP	PKPdf	10 51 01.5	-0.4
BRG				*i*		10 51 26.5	
MMB	**Musomiste**	**143.84**	**313**	*i* P	PKPbc	10 51 02.0	+0.8
CLL	**Collm**	**143.89**	**334**	⇓*i*PKIKP	PKPdf	10 51 01.4	-0.6
CLL				*e*		10 51 11.0	
CLL				MLR	MLR		
	comp=Z,400nm,21.0s,MS5.2						
CLL	**Collm**	**143.89**	**334**	⇓*i*PKP	PKPdf	10 51 01.4	-0.6
CLL				*e*		10 51 11.0	
CLL				*i*		10 51 19.8	
CLL				LR	LR		
	comp=Z,400nm,21.0s,MS5.2						
CLL	**Collm**	**143.89**	**334**	⇓*i*PKIKP	PKPdf	10 51 01.4	-0.6
	comp=Z,logA/T=1.7						
CLL				*e*		10 51 11.0	
CLL				*i*		10 51 19.8	
CLL				*e**SPP		10 54 31.0	
BOLS	**Boljevac**	**143.97**	**318**	⇑*i*PKP	PKPdf	10 51 01.2	-1.1
KKB	**Krupnik**	**144.15**	**314**	*i* P	PKPbc	10 51 02.5	+0.4
PRU	**Pruhonice**	**144.21**	**331**	*e*PKP	PKPdf	10 51 01.7	-0.9
PRU				AMS	AMS	11 55 10.0	
	comp=Z,300nm,21.5s						
ZST	**Bratislava**	**144.22**	**327**	*e*PKP	PKPdf	10 51 03.5	+0.8
RCBR	**Riachuelo**	**144.26**	**134**	PFAKE		10 51 20.0	+17
RCBR				LR	LR		
	comp=Z,321nm,20.0s,MS5.1						
CLZ	**Clausthal**	**144.49**	**337**	PKIKP	PKPdf	10 51 03.3	+0.3
NPS	**Neapolis**	**144.59**	**302**	*e*P	PKPbc	10 51 04.5	+1.0
PKSM	**Moragy**	**144.64**	**323**	⇓*e*PKIKP	PKPdf	10 51 04.5	+1.0
ESK	**Eskdalemuir**	**144.71**	**352**	PFAKE		10 51 20.0	+17
ESK				LR	LR		
	comp=Z,97nm,19.0s,MS4.6						
GRUS	**Gruza**	**144.72**	**319**	⇑*i*PKP	PKPdf	10 51 04.9	+1.2
WIT	**Witteveen**	**144.92**	**341**	*e*PKP	PKPdf	10 51 05.6	+1.8
NKC	**Novy Kostel**	**144.94**	**333**	*e*PKP	PKPdf	10 51 04.8	+0.9
NKC				AMS	AMS	11 58 10.0	
	comp=Z,300nm,21.3s						
MOX	**Moxa**	**144.97**	**335**	⇓*i*PKIKP	PKPdf	10 51 05.2	+1.3
MOX				*e*		10 54 30.0	
MOX				MLR	MLR		
	comp=Z,300nm,20.0s,MS5.1						
MOX	**Moxa**	**144.97**	**335**	⇓*i*PKP	PKPdf	10 51 05.2	+1.3
MOX				*e*		10 51 23.9	
MOX				*e*		10 54 30.0	
MOX				LR	LR		
	comp=Z,300nm,20.0s,MS5.1						
MOX	**Moxa**	**144.97**	**335**	⇓*i*P	PKPdf	10 51 05.2	+1.3
	comp=Z,logA/T=2.0						
MOX				pPKP		10 51 24.0	
MOX				PP	PP	10 54 30.0	+4.0
DIVS	**Divcibare**	**145.05**	**320**	⇑*i*PKP	PKPdf	10 51 05.2	+1.0
SKO	**Skopje**	**145.20**	**315**	⇑*i*PKP	PKPdf	10 51 06.3	+1.7
	comp=Z,0.1nm,1.2s						
KHC	**Kasperske Hory**	**145.27**	**331**	*i* PKIKP	PKPdf	10 51 06.0	+1.5
KHC	**Kasperske Hory**	**145.27**	**331**	*e*PKP	PKPdf	10 51 05.3	+0.8
KHC				AMS	AMS	11 55 50.0	
	comp=Z,400nm,21.7s						
GEC2	**GERESS Array S**	**145.42**	**331**	PKIKP	PKPdf	10 51 06.7	+2.0
GERES	**GERESS Array B**	**145.42**	**331**	PKIKP	PKPdf	10 51 06.5	+1.8
GERES				pmax	pmax		
	comp=Z,14nm,0.9s						
GERES	**GERESS Array B**	**145.42**	**331**	PKPbc	PKPbc	10 51 06.5	+1.2
	comp=Z,14nm,0.9s,baz=45,slow=3.8,SNR=59						
NSAL	**Nisos Salamina**	**145.44**	**308**	*e*P	PKPdf	10 51 05.9	+0.8
NAIG	**Nisos Aigina**	**145.47**	**307**	*e*P	PKPdf	10 51 06.0	+0.8
BBLS	**Bajina Basta -**	**145.53**	**320**	⇓*i*PKP	PKPdf	10 51 01.2	-3.9
WET	**Wettzell**	**145.57**	**332**	PKP2	PKPdf	10 51 07.2	+2.2
WTSB	**Winterswijk**	**145.61**	**340**	*e*PKP	PKPdf	10 51 06.0	+1.0
	comp=Z,182nm,1.4s						
ARSA	**Arzberg**	**145.65**	**327**	⇓*i*P	PKPdf	10 51 07.7	+2.5
	comp=Z,36nm,1.4s						
VAM	**Vamos**	**145.66**	**303**	*e*P	PKPdf	10 51 08.2	+2.6
MOA	**Molln**	**145.86**	**329**	⇓*i*P	PKPdf	10 51 08.5	+3.0
	comp=Z,35nm,1.1s						
GRF	**Grafenberg Arr**	**145.86**	**334**	*e*PKP	PKPdf	10 51 08.1	+2.6
GRF				LR	LR		
	comp=Z,300nm,18.8s,MS5.1						
VLI	**Veliai**	**146.24**	**306**	*e*P	PKPdf	10 51 08.9	+2.3
EVR	**Evrytania**	**146.27**	**310**	*e*P	PKPdf	10 51 10.0	+3.5
KYTH	**Kithira**	**146.30**	**305**	*e*P	PKPdf	10 51 09.5	+2.8
DOBS	**Dobrina**	**146.40**	**326**	*e*PKPbc	PKPbc	10 51 09.0	+1.2
DOBS				*e*		10 51 26.3	
TNS	**Taunus Mts**	**146.52**	**337**	PKP2	PKPdf	10 51 09.8	+3.2
JAN	**Janina**	**146.64**	**312**	*e*P	PKPdf	10 51 11.0	+3.9
WME	**Myndd Eilian**	**146.72**	**353**	*e*P	PKPdf	10 51 09.4	+2.6
WCB1	**Church Bay**	**146.77**	**353**	*e*P	PKPdf	10 51 09.3	+2.4
WCB1				AMb	AMB	10 51 11.5	
	comp=Z,151nm,1.4s						
SIND	**Sindeldorf**	**146.79**	**335**	*e*P	PKPdf	10 51 10.6	+3.5
WPM1	**Penmaenmawr**	**146.81**	**352**	*e*P	PKPdf	10 51 09.7	+2.7
WPM1				AMb	AMB	10 51 11.5	
	comp=Z,226nm,0.9s						
ITM	**Ithomi**	**146.84**	**307**	*e*P	PKPdf	10 51 11.0	+3.4
WLF1	**Llynfaes**	**146.84**	**353**	*e*P	PKPdf	10 51 09.7	+2.7
KBA	**Koelnbreinsper**	**146.85**	**329**	⇓*i*P	PKPdf	10 51 10.5	+3.3
	comp=Z,15nm,0.9s						
TOD	**Tromm**	**146.89**	**336**	PKP	PKPdf	10 51 09.8	+2.6
TOD	**Tromm**	**146.89**	**336**	*e*P	PKPdf	10 51 11.0	+3.8
YRC	**Rhoscolyn**	**146.90**	**353**	*e*P	PKPdf	10 51 09.9	+2.7
YRC				AMb	AMB	10 51 11.9	
	comp=Z,185nm,1.3s						
HGN	**Heimansgroeve**	**146.92**	**340**	*e*PKP	PKPdf	10 51 09.3	+2.0
	comp=Z,104nm,1.1s						
VISS	**Visnje**	**146.96**	**326**	*e*PKPbc	PKPbc	10 51 11.2	+2.1
LJU	**Ljubljana**	**146.97**	**326**	*e*PKPbc	PKPbc	10 51 11.0	+1.9
LJU				*e*		10 51 28.3	
FUR	**Furstenfeldbru**	**147.01**	**332**	PKP2	PKPdf	10 51 11.6	+4.1
SBD1	**Bryn Du**	**147.06**	**351**	*e*P	PKPdf	10 51 10.6	+3.2
SBD1				AMb	AMB	10 51 12.9	
	comp=Z,245nm,1.1s						
ABH	**Alteburg**	**147.13**	**338**	PKP	PKPdf	10 51 10.7	+3.1
ABH	**Alteburg**	**147.13**	**338**	*e*P	PKPdf	10 51 11.9	+4.3
HDH	**Heidenheim**	**147.15**	**334**	*e*P	PKPdf	10 51 11.2	+3.5
YRE	**Yr Eifl**	**147.15**	**353**	*e*P	PKPdf	10 51 10.9	+3.3
YRE				AMb	AMB	10 51 14.5	
	comp=Z,120nm,1.6s						
VOY	**Vojsko**	**147.30**	**327**	*e*PKPbc	PKPdf	10 51 11.2	+3.2
VOY				*e*		10 51 21.2	
HLM1	**Long Mynd**	**147.38**	**351**	*e*P	PKPdf	10 51 11.3	+3.4
HLM1				AMb	AMB	10 51 14.4	
	comp=Z,134nm,1.1s						
STU	**Stuttgart**	**147.41**	**335**	*e*PKP2	PKPdf	10 51 12.6	+4.5
RUP	**Ruppelstein**	**147.45**	**338**	PKP	PKPdf	10 51 11.1	+3.0
RUP	**Ruppelstein**	**147.45**	**338**	*e*P	PKPdf	10 51 12.8	+4.7
SSP1	**Stoney Pound**	**147.52**	**351**	*e*P	PKPdf	10 51 12.1	+4.0
WTTA	**Wattenberg**	**147.52**	**331**	⇓*i*P	PKPdf	10 51 10.1	+1.8
	comp=Z,44nm,1.4s						
BUCH	**Bad Urach**	**147.60**	**334**	*e*P	PKPdf	10 51 12.7	+4.3
LBG	**Lerchenberg**	**147.65**	**335**	*e*P	PKPdf	10 51 13.1	+4.6
MOTA	**Moosalm**	**147.70**	**331**	⇓*i*P	PKPdf	10 51 13.3	+4.7
	comp=Z,20nm,0.8s						
SQTA	**Sankt Quirin**	**147.75**	**331**	⇓*i*P	PKPdf	10 51 13.6	+4.9
	comp=Z,22nm,0.7s						
LANF	**Langenberg**	**147.78**	**336**	PKP	PKPdf	10 51 14.1	+5.4
WLF	**Walferdange**	**147.80**	**339**	*e*PKP2	PKPdf	10 51 14.1	+5.4
HAE	**Alders End**	**147.80**	**350**	*e*P	PKPdf	10 51 12.4	+3.8
HAE				AMb	AMB	10 51 16.8	
	comp=Z,240nm,1.3s						
GIVF	**Givet**	**147.85**	**341**	*e*PKIKP	PKPdf	10 51 13.0	+4.2
	comp=Z,148nm,1.2s						
HTR	**Trewern Hill**	**147.87**	**351**	*e*P	PKPdf	10 51 12.7	+4.0
HTR				AMb	AMB	10 51 16.9	
	comp=Z,128nm,1.3s						
UBR	**Uberruh**	**147.89**	**333**	*e*P	PKPdf	10 51 13.5	+4.6
MCH1	**Michaelchurch**	**147.91**	**351**	*e*P	PKPdf	10 51 12.6	+3.8
GUT	**Gutenstein**	**148.00**	**334**	*e*P	PKPdf	10 51 12.9	+3.8
BAIF	**Baives**	**148.07**	**341**	*e*PKIKP	PKPdf	10 51 13.6	+4.5
	comp=Z,106nm,1.1s						
SPAK	**Spaichingen**	**148.11**	**334**	*e*P	PKPdf	10 51 13.8	+4.6
MENF	**Mencas**	**148.20**	**344**	PKP	PKPdf	10 51 14.5	+5.2
HGH	**Gray Hill**	**148.23**	**350**	*e*P	PKPdf	10 51 13.8	+4.5
HGH				AMb	AMB	10 51 15.8	
	comp=Z,157nm,1.3s						
DAVA	**Damuels**	**148.29**	**332**	⇓*i*P	PKPdf	10 51 15.1	+5.6
	comp=Z,19nm,0.8s						
WLS	**Welschbruch**	**148.42**	**336**	PKP	PKPdf	10 51 15.2	+5.5
CDF	**Champ du Feu**	**148.45**	**336**	*e*PKIKP	PKPdf	10 51 14.4	+4.6
LIBD	**Limburg**	**148.54**	**336**	PKP	PKPdf	10 51 15.9	+6.0
LIBD	**Limburg**	**148.54**	**336**	*e*P	PKPdf	10 51 14.4	+4.5
KIZ	**Kirchzarten**	**148.57**	**335**	*e*P	PKPdf	10 51 14.9	+4.9
FELD	**Feldberg**	**148.60**	**335**	*e*P	PKPdf	10 51 15.2	+5.2
ECH	**Echery**	**148.65**	**336**	PKP	PKPdf	10 51 15.7	+5.6
MOF	**Molkenrain**	**148.96**	**336**	PKP	PKPdf	10 51 16.5	+5.9
THEF	**They Montfort**	**149.07**	**338**	PKP	PKPdf	10 51 14.8	+4.0
HINF	**Hinteralfeld**	**149.10**	**336**	*e*PKIKP	PKPdf	10 51 15.9	+5.1
HAU	**Haudompre**	**149.13**	**337**	*e*PKIKP	PKPdf	10 51 16.0	+5.1
	comp=Z,29nm,0.8s						
HAU				*e*R			
	comp=Z,448nm,20.0s						
MEZF	**Maizieres J'vi**	**149.17**	**339**	*e*PKIKP	PKPdf	10 51 16.7	+5.8
LOMF	**Lomont**	**149.49**	**336**	PKP	PKPdf	10 51 18.0	+6.5
TIP	**Timpagrande**	**149.67**	**314**	*e*PKPbc	PKPdf	10 51 18.5	+6.5
CABF	**La Chapelle**	**150.39**	**336**	*e*PKIKP	PKPdf	10 51 19.5	+6.6
	comp=Z,57nm,1.0s						
FLN	**La Foliniere**	**150.52**	**346**	*e*PKIKP	PKPdf	10 51 19.0	+6.0
FLN				*e*R			
	comp=Z,232nm,20.0s						
LOR	**Lormes**	**150.64**	**339**	*e*PKIKP	PKPdf	10 51 19.7	+6.4
	comp=Z,62nm,1.1s						
LOR				*e*R			
	comp=Z,302nm,18.8s						
SSF	**Saint Saulge**	**150.94**	**339**	*e*PKIKP	PKPdf	10 51 20.5	+6.8
	comp=Z,42nm,1.0s						
GRR	**Gorron**	**150.95**	**346**	*e*PKIKP	PKPdf	10 51 20.1	+6.4
	comp=Z,35nm,0.9s						
LPL	**La Plagne**	**151.03**	**334**	*e*PKIKP	PKPdf	10 51 21.3	+7.4
	comp=Z,23nm,0.8s						
LPG	**La Plagne**	**151.03**	**334**	*e*PKIKP	PKPdf	10 51 21.2	+7.3
	comp=Z,35nm,0.9s						
SMF	**Signal de Mont**	**151.18**	**338**	*e*PKIKP	PKPdf	10 51 21.3	+7.2
	comp=Z,20nm,1.0s						
BNI	**Bardonecchia**	**151.42**	**333**	*e*PKIKP	PKPdf	10 51 22.1	+7.6
SGMF	**Saint Gilles**	**151.44**	**348**	*e*PKIKP	PKPdf	10 51 21.2	+6.8
	comp=Z,44nm,0.8s						
ROSF	**Rostrenen**	**151.50**	**349**	*e*PKIKP	PKPdf	10 51 20.8	+6.3
	comp=Z,18nm,0.8s						
MBDF	**Montbardon**	**151.64**	**333**	*e*PKIKP	PKPdf	10 51 21.8	+7.0
	comp=Z,15nm,0.8s						
GRN	**Grenoble**	**151.65**	**334**	PKP	PKPdf	10 51 23.6	+8.8
SURF	**Saint Ours**	**151.82**	**332**	PKP	PKPdf	10 51 23.9	+8.8
PLDF	**La Plantade**	**151.84**	**338**	PKP	PKPdf	10 51 24.7	+10
ORIF	**Oris-en-Rattie**	**151.86**	**334**	*e*PKIKP	PKPdf	10 51 22.2	+7.0
	comp=Z,26nm,0.8s						
ORIF				*e*R			
	comp=Z,519nm,19.0s						
QUIF	**Quistinic**	**151.88**	**349**	*e*PKIKP	PKPdf	10 51 21.8	+6.7
AGO	**Saint Agoulin**	**151.94**	**339**	PKP	PKPdf	10 51 24.7	+9.5
TCF	**Toulx Ste Croi**	**152.04**	**340**	*e*PKIKP	PKPdf	10 51 22.9	+7.5
	comp=Z,36nm,1.0s						
COLF	**Collangettes**	**152.21**	**337**	PKP	PKPdf	10 51 23.2	+7.6
PGF	**Pioggiola**	**152.25**	**327**	*e*PKIKP	PKPdf	10 51 22.6	+6.8
	comp=Z,65nm,0.9s						
PYM	**Petit Puy Mans**	**152.25**	**339**	PKP	PKPdf	10 51 25.3	+10
VIVF	**Saint-Julien-l**	**152.40**	**335**	*e*PKIKP	PKPdf	10 51 22.7	+6.8
	comp=Z,27nm,1.1s						
LBL	**Lubilhac**	**152.61**	**338**	PKP	PKPdf	10 51 27.4	+11
FRF	**La Foret Royal**	**152.62**	**331**	*e*PKIKP	PKPdf	10 51 23.1	+6.8
SMRF	**Simiane la Rot**	**152.76**	**333**	*e*PKIKP	PKPdf	10 51 23.0	+6.5
	comp=Z,52nm,1.1s						
LMR	**La Mourre**	**152.86**	**331**	*e*PKIKP	PKPdf	10 51 23.4	+6.8
	comp=Z,36nm,1.1s						
RJF	**Les Rejaudoux**	**153.14**	**340**	*e*PKIKP	PKPdf	10 51 23.1	+6.2
RJF				*e*R			
	comp=Z,343nm,19.0s						
PBRG	**Braganca**	**158.42**	**351**	*e*PKPab	PKPab	10 52 00.3	-0.8
PVRL	**Vila Real**	**159.06**	**353**	*e*PKPab	PKPab	10 52 03.2	-0.7
PVIS	**Viseu**	**159.64**	**353**	*e*PKPab	PKPab	10 52 05.8	-0.6
ESDC	**Sonseca Array**	**159.91**	**344**	PKPab	PKPab	10 52 07.1	-0.5
	comp=Z,5.1nm,0.8s,baz=11,slow=3.4,SNR=20						
ESLA	**Sonseca Array**	**159.91**	**344**	PFAKE		10 51 40.0	+14
ESLA				LR	LR		
	comp=Z,2μm,20.0s,MS6.0						
MTE	**Manteigas**	**159.91**	**352**	*e*PKPab	PKPab	10 52 06.9	-0.7
PCBR	**Castelo Branco**	**160.45**	**352**	*e*PKPab	PKPab	10 52 08.5	-1.4
PTOM	**Tomar**	**160.78**	**354**	*e*PKPab	PKPab	10 52 11.2	-0.1
EVO	**Evora**	**161.81**	**352**	*e*PKP2	PKPab	10 52 15.2	-0.7
	comp=Z,20nm,0.9s						
EVO				*e*R			
	comp=Z,703nm,19.2s						
PBEJ	**Beja**	**162.28**	**352**	*e*PKPab	PKPab	10 52 17.3	-0.7
DBIC	**Dimbokro**	**165.00**	**205**	PFAKE		10 51 40.0	+8.3
DBIC				LR	LR		
	comp=Z,516nm,19.0s						

NNC 19 10:31:55.7±3.9**, 38.96N**×**69.49E, h10**km±8km**, mpv3.5, 3C-2D, Error ellipse: s-maj=26.9km s-min=20.8km az=2.0, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.21**	**10**	⇑Pn	Pn	10 33 02.3	+0.8
	10nm,0.8s,baz=174,slow=11,SNR=37						
KK31				⇓Sn	Sn	10 33 55.1	+3.6
	3.3nm,0.3s						
KK31				Lg		10 34 09.8	
	8.8nm,0.5s,baz=179,slow=30,SNR=5.9						
AAK	**Ala-Archa**	**5.28**	**44**	⇑Pn	Pn	10 33 14.5	-2.2
	3.0nm,0.6s						
AAK				⇑Sn	Sn	10 34 17.3	-1.1
	11nm,0.6s						
AB31	**Akbulak array**	**12.36**	**329**	Pn	P	10 34 53.4	-1.3
	0.9nm,0.4s,baz=142,slow=13,SNR=21						
AB31				⇓Sn	S	10 37 10.5	-3.1
	2.2nm,0.7s,baz=155,slow=22,SNR=11						

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*NEIC **19** 10:46:29.9, 31.53S×69.98W, h132km, MD3.9(GUC), After GUC.*

*GUC **19** 10:46:29.9±0.8, 31.53S×69.98W, h132km±8km, MD3.9, ML4.1*

*IDC **19** 10:46:31.0±2.8, 31.64S×69.67W, h111km±24km, mb1 3.3/3, mb1mx3.3/14, mbtmp3.6/3, Error ellipse: s-maj=47.1km s-min=24.9km az=113.0*

ISC 19 10:46:29.8±0.6**, 31.50S**±0.03×**69.72W**±0.04**, h111**km±7km**, n30, σ0**s**86**/47**, 9C-9D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.89**	**93**	⇑*i*P	**P**	**10 46 50.0**	**-0.3**
ZON				*e*S	**S**	**10 47 04.0**	**-1.6**
CMCH	**Combarbala**	**1.14**	**286**	⇓*i*P	**P**	**10 46 52.7**	**-0.3**
CMCH				*i* S	**S**	**10 47 10.5**	**+0.1**
CMCH				AMP		10 47 11.5	
	comp=N,13μm,0.6s						
ILCH	**Illapel**	**1.24**	**263**	⇑*i*P	**P**	**10 46 53.9**	**-0.2**
ILCH				*i* S	**S**	**10 47 11.8**	**-0.5**
ILCH				AMP		10 47 13.6	
	comp=N,4μm,0.2s						
CFAA	**Coronel Fontan**	**1.27**	**95**	P	**P**	**10 46 54.5**	**+0.2**
	comp=N,14nm,0.3s,baz=266,slow=10,SNR=216						
CFAA				S	**S**	**10 47 12.8**	**-0.1**
	comp=N,35nm,0.3s,baz=73,slow=21,SNR=44						
JACH	**Jahuel**	**1.39**	**212**	⇑*i*P	**P**	**10 46 55.8**	**-0.1**
JACH				*i* S	**S**	**10 47 15.8**	**+0.4**
TLL	**Tololo Astrono**	**1.62**	**325**	⇑*i*P	**P**	**10 46 59.6**	**+1.0**
TLL				*i* S	**S**	**10 47 21.6**	**+1.4**
TLL				AMP		10 47 24.0	
	comp=N,2μm,0.5s						
PACH	**Papudo**	**1.79**	**234**	*e*P	**P**	**10 46 59.5**	**-1.1**
PACH				*i* S	**S**	**10 47 21.8**	**-1.9**
ROCH	**El Roble**	**1.83**	**216**	⇑*i*P	**P**	**10 47 00.6**	**-0.6**
ROCH				*i* S	**S**	**10 47 24.0**	**-0.6**
PEL	**Peldehue**	**1.83**	**206**	⇓*i*P	**P**	**10 47 00.7**	**-0.4**
PEL				*i* S	**S**	**10 47 24.4**	**-0.2**
PEL				AMP		10 47 25.5	
	comp=N,1μm,0.3s						
FCH	**Farellones**	**1.88**	**195**	⇓*i*P	**P**	**10 47 02.7**	**+0.9**
FCH				*i* S	**S**	**10 47 27.6**	**+1.7**
FCH				AMP		10 47 28.4	
	comp=E,1μm,0.3s						
CLCH	**Cerro Calan**	**2.01**	**200**	⇓*i*P	**P**	**10 47 03.4**	**0.0**
CLCH				*i* S	**S**	**10 47 29.1**	**+0.4**
CLCH				AMP		10 47 31.9	
	comp=E,1μm,0.4s						
CLCH				AMP		10 47 32.4	
	comp=E,2μm,0.5s						
DSCH	**Colegio Aleman**	**2.02**	**201**	*i* S	**S**	**10 47 29.4**	**+0.4**
DSCH				AMP		10 47 32.5	
	comp=E,1μm,0.4s						
RCDM	**Rinconada Maip**	**2.18**	**205**	⇑*i*P	**P**	**10 47 05.5**	**-0.3**
RCDM				*i* S	**S**	**10 47 32.8**	**0.0**
RCDM				AMP		10 47 35.5	
	comp=E,1μm,0.4s						
SJCH	**San Jose de Ma**	**2.20**	**194**	⇓*i*P	**P**	**10 47 06.2**	**+0.2**
SJCH				*i* S	**S**	**10 47 34.4**	**+1.3**
SJCH				AMP		10 47 36.0	
	comp=E,473nm,0.3s						
ANTU	**Antumapu**	**2.20**	**200**	⇓*i*P	**P**	**10 47 05.9**	**-0.1**
ANTU				*i* S	**S**	**10 47 33.1**	**-0.1**
ANTU				AMP		10 47 35.5	
	comp=E,1μm,0.5s						
PCH	**Pirque**	**2.22**	**197**	⇓*i*P	**P**	**10 47 06.4**	**+0.2**
PCH				*i* S	**S**	**10 47 35.0**	**+1.5**
LMEL	**Las Melosas**	**2.38**	**190**	⇑*i*P	**P**	**10 47 08.7**	**+0.3**
LMEL				*e*S	**S**	**10 47 38.3**	**+1.0**
LMEL				AMP		10 47 46.2	
	comp=N,561nm,0.1s						
TACH	**Talagante**	**2.38**	**205**	⇑*i*P	**P**	**10 47 07.6**	**-0.8**

TACH				iS	S	10 47 36.3	-1.1
LCCH	Las Cruces	2.51	218	⇓iP	P	10 47 08.9	-1.3
CHCH	Chadas Angostu	2.55	198	⇓iP	P	10 47 10.2	-0.4
CHCH				iS	S	10 47 41.0	-0.5
CACH	El Canelo	2.71	196	eP	P	10 47 13.5	+0.7
CACH				iS	S	10 47 46.6	+1.3
CICH	Cipreses	2.87	192	eP	P	10 47 15.0	-0.1
VACH	Vallenar	3.05	343	⇑iP	P	10 47 17.5	0.0
VACH				iS	S	10 47 53.4	-0.1
VACH				AMP		10 47 54.9	
	comp=N,2μm,0.1s						
PLCA	Paso Flores	9.24	184	P	P	10 48 39.5	-1.8
	comp=N,0.2nm,0.3s,baz=7.0,slow=17,SNR=5.9						
LPAZ	La Paz	15.21	6	P	P	10 50 02.5	+2.7
	comp=N,0.1nm,0.3s,baz=191,slow=8.0,SNR=5.0						
LPAZ	La Paz	15.21	6	P	P	10 50 02.5	+2.7
SIV	San Ignacio	17.34	29	P	P	10 50 26.2	-0.1
	comp=N,0.2nm,0.3s,baz=217,slow=12,SNR=9.0						
WRA	Warramunga Arr	123.88	208	PKP	PKPdf	11 05 15.8	+0.6
	comp=N,0.4nm,0.3s,baz=159,slow=1.8,SNR=14						
ZAL	Zalesovo	151.08	32	PKPbc	PKPdf	11 06 10.7	+7.6
	comp=N,2.0nm,0.3s,baz=133,slow=11,SNR=4.4						
MKAR	Makanchi Array	153.64	47	PKPbc	PKPdf	11 06 16.7	+10
	comp=N,0.4nm,0.7s,baz=298,slow=1.8,SNR=4.5						

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*NEIC **19** 11:19:41.3, 34.06S×72.55W, h40^{km}, MD3.8(GUC), After GUC.*

GUC 19 11:19:41.3±0.8**, 34.06S×72.55W, h40^{km}**±3^{km}**, MD3.8, ML3.5, 6C-9D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	Longovilo	0.95	84	⇑iP	P	11 19 58.7	+0.4
LNV				iS	S	11 20 11.3	+0.4
LCCH	Las Cruces	1.00	55	⇑iP	P	11 19 59.9	+0.8
LCCH				iS	S	11 20 13.3	+1.0
SFDO	San Fernando	1.39	114	⇓iP	P	11 20 05.0	+0.5
SFDO				iS	S	11 20 23.2	+1.3
TACH	Talagante	1.40	74	⇓iP	P	11 20 05.2	+0.3
RCDM	Rinconada Maip	1.56	69	⇓iP	P	11 20 07.4	+0.3
RCDM				iS	S	11 20 27.5	+1.2
RCDM				AMP		11 20 28.5	
	comp=E,1μm,0.1s						
CHCH	Chadas Angostu	1.58	86	⇓iP	P	11 20 08.2	+0.8
CHCH				iS	S	11 20 28.2	+1.5
CACH	El Canelo	1.62	92	⇑iP	P	11 20 09.3	+1.4
ANTU	Antumapu	1.67	73	iS	S	11 20 30.4	+1.4
ANTU				AMP		11 20 30.9	
	comp=N,1μm,0.4s						
CNCO	Chanco	1.67	180	AMP		11 20 25.7	
	comp=E,586nm,0.5s						
ROCH	El Roble	1.68	50	⇑iP	P	11 20 09.8	+1.0
ROCH				eS	S	11 20 31.4	+2.1
PCH	Pirque	1.75	76	⇓iP	P	11 20 10.6	+0.8
PCH				iS	S	11 20 32.1	+1.2
DSCH	Colegio Aleman	1.78	69	iS	S	11 20 32.9	+1.2
DSCH				AMP		11 20 34.4	
	comp=E,608nm,0.2s						
CICH	Cipreses	1.78	99	eP	P	11 20 11.0	+0.8
CICH				iS	S	11 20 33.7	+1.9
PACH	Papudo	1.78	32	⇓iP	P	11 20 10.7	+0.5
PACH				iS	S	11 20 32.8	+1.0
CLCH	Cerro Calan	1.80	69	⇑iP	P	11 20 11.6	+1.1
CLCH				iS	S	11 20 34.0	+1.7
CLCH				AMP		11 20 38.0	
	comp=E,294nm,0.5s						
SJCH	San Jose de Ma	1.88	78	iP	P	11 20 12.1	+0.6
SJCH				iS	S	11 20 35.5	+1.4
SJCH				AMP		11 20 35.7	
	comp=E,333nm,0.3s						
LMEL	Las Melosas	1.96	84	⇓iP	P	11 20 13.7	+1.0
LMEL				iS	S	11 20 38.5	+2.2
LMEL				AMP		11 20 39.8	
	comp=N,830nm,0.1s						
FCH	Farellones	2.02	69	⇓iP	P	11 20 14.7	+1.1
FCH				iS	S	11 20 39.7	+1.9
FCH				AMP		11 20 41.6	
	comp=E,700nm,0.2s						
JACH	Jahuel	2.14	50	⇑iP	P	11 20 16.2	+0.9
JACH				eS	S	11 20 42.9	+2.1
CMCH	Combarbala	3.16	25	⇓iP	P	11 20 29.5	-0.4
CMCH				iS	S	11 21 06.2	-0.6
CMCH				AMP		11 21 07.3	
	comp=E,169nm,0.5s						

MAN 19 11:56:18.0, 10.42N×126.52E, h12^{km}, mb4.4, ML3.3, MS3.1, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	1.20	238	eP	Pb	11 56 39.8	-0.4
SCPH				eS	Sb	11 56 56.5	+0.9
BESP	Borongan	1.58	318	eP	Pn	11 56 44.6	-1.4
BESP				eS	Sn	11 57 04.7	-1.8
MSLP	Maasin	1.66	260	eP	Pn	11 56 48.0	+0.8
MSLP				eS	Sn	11 57 14.6	+6.0
BUTP	Butuan	1.70	212	eP	Pn	11 56 46.1	-1.6
BUTP				eS	Sn	11 57 10.3	+0.9
CNP	Catarman	2.76	319	eP	Pn	11 57 03.4	+0.5
CNP				eS	Sn	11 57 33.8	-2.7
BUKP	Musuan	2.91	210	eP	Pn	11 57 04.8	-0.3
BUKP				eS	Sn	11 57 41.0	+0.7

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*BJI **19** 11:58:43.7, 1.62N×96.59E, h34^{km}, mB5.1, mb4.9*
*IDC **19** 11:58:44.6±1.0, 2.06N×96.64E, mb4.2/12, mb1 4.4/12, mb1mx4.2/18, mbtmp4.2/12, MS3.6/2, Ms1 3.6/2, ms1mx3.2/22, Error ellipse: s-maj=40.4km s-min=16.5km az=49.0*
*MOS **19** 11:58:48.0±0.9, 2.20N×96.78E, h33^{km}, mb4.8/9, Error ellipse: s-maj=27.2km s-min=10.5km az=111.3*
*NEIC **19** 11:58:49.2±0.5, 2.06N×96.69E, h30^{km}, mb4.5/7, Error ellipse: s-maj=20.6km s-min=6.3km az=51.0*

ISC 19 11:58:48.1±0.7**, 2.2N**±0.1×**96.9E**±0.1**, h33^{km}, n41, σ0^{s}93**/39**, mb4.4**/25**, MS3.6**/2**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHL	Shillong	23.70	349	eP	P	12 03 57.5	-0.5
PKI	Pulchoki	27.49	338	eP	P	12 04 34.1	+0.5
	12nm,0.7s,mb4.5						
PKI	Pulchoki	27.49	338	eP	P	12 04 34.1	+0.5
PKI				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.2						
GUN	Gumba	27.62	339	eP	P	12 04 35.3	+0.5
	comp=Z,29nm,0.7s,mb5.0						
DMN	Daman	27.64	337	eP	P	12 04 36.1	+1.1
KKN	Kakani	27.73	338	eP	P	12 04 36.5	+0.6
	comp=Z,32nm,1.0s,mb4.9						
KKN	Kakani	27.73	338	eP	P	12 04 36.5	+0.6
KKN				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.6						
GKN	Gorkha	28.18	337	eP	P	12 04 40.4	+0.6
	comp=Z,12nm,0.6s,mb4.7						
KOLN	Koldanda	28.40	335	eP	P	12 04 42.6	+0.8
FITZ	Fitzroy Crossi	34.79	127	P	P	12 05 37.6	-0.4
	comp=Z,8.0nm,1.0s,mb4.6,baz=260,slow=6.1,SNR=3.3						
GTA	Gaotai	37.11	4	eP	P	12 05 58.0	+0.6
GTA				AP	pP	12 06 03.9	-3.2
GTA				XP	sP	12 06 07.1	-4.3
GTA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
WRA	Warramunga Arr	42.85	123	P	P	12 06 45.6	+0.3
	comp=Z,3.6nm,0.6s,mb4.2,baz=300,slow=9.3,SNR=19						
WRAB	Tennant Creek	42.86	123	eP	P	12 06 45.9	+0.6
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
WRAB	Tennant Creek	42.86	123	eP	P	12 06 45.9	+0.6
	comp=Z,6.2nm,0.7s,mb4.5						
JNU	Nakatsue	44.26	42	LR	LR	12 26 10.9	
	comp=Z,73nm,18.8s,MS3.6,baz=62,slow=37						
SONM	Songino Array	46.17	9	P	P	12 07 13.1	+1.5
	comp=Z,6.6nm,0.8s,mb4.6,baz=188,slow=8.8,SNR=47						
MKAR	Makanchi Array	46.17	346	iP	P	12 07 11.8	+0.2
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MKAR	Makanchi Array	46.17	346	P	P	12 07 12.1	+0.6
	comp=Z,12nm,0.7s,mb4.9,baz=160,slow=8.1,SNR=88						
KKAR	Karatay Array	47.00	334	iP	P	12 07 19.2	+1.1
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZAK	Zakamensk	48.29	5	eP	P	12 07 27.4	-0.7
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
KURK	Kurchatov	50.73	345	eP	P	12 07 47.1	+0.3
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KURK	Kurchatov	50.73	345	eP	P	12 07 47.1	+0.4
	comp=Z,5.2nm,0.7s,mb4.6						
MJAR	Matsushiro Arr	51.16	43	P	P	12 07 51.3	+1.0
	comp=Z,1.6nm,0.9s,mb3.9,baz=234,slow=8.6,SNR=5.1						
ZAL	Zalesovo	52.49	351	P	P	12 08 00.0	0.0
	comp=Z,7.5nm,0.7s,mb4.8,baz=306,slow=5.8,SNR=27						
CTA	Charters Tower	53.25	117	LR	LR	12 33 54.3	
	comp=Z,64nm,20.1s,MS3.7,baz=252,slow=40						
NVS	Novosibirsk	53.62	350	eP	P	12 08 06.2	-2.2
NVS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
NVS				pmax	pmax		
	comp=N,6.0nm,0.9s						
STKA	Stephens Creek	54.28	132	P	P	12 08 13.9	+0.3
	comp=N,2.2nm,0.9s,mb4.1,baz=312,slow=12,SNR=3.5						
BVA0	Borovoye Array	55.18	341	P	P	12 08 19.1	-0.7
KLR	Kul'dur	55.49	27	eP	P	12 08 20.2	-1.9
ZRNK	Zerenda	55.58	340	eP	P	12 08 21.6	-1.1
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ZRNK	Zerenda	55.58	340	eP	P	12 08 21.6	-1.2
	comp=Z,3.0nm,0.6s,mb4.5						
AB31	Akbulak array	56.46	332	P	P	12 08 28.5	-0.6
EIL	Elat	64.64	302	eP	P	12 09 30.3	+5.2
BRTR	Keskin Array B	68.19	312	P	P	12 09 47.1	-0.3
	comp=Z,0.5nm,0.5s,mb3.8,baz=146,slow=5.2,SNR=3.5						
TIXI	Tiksi	72.24	10	eP	P	12 10 08.9	-2.6
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
AKASG	Malin Array Be	74.25	322	P	P	12 10 22.8	-0.8
	comp=Z,0.2nm,0.3s,mb3.6,baz=106,slow=4.0,SNR=4.3						
FINES	FINESS Array B	78.95	332	P	P	12 10 50.0	+0.1
	comp=Z,1.0nm,0.6s,mb3.9,baz=108,slow=6.0,SNR=5.5						
FINES	FINESS Array B	78.95	332	P	P	12 10 50.0	+0.1
KAF	Kangasniemi	79.03	333	ep	P	12 10 49.1	-1.2
	comp=Z,1.8nm,0.7s,mb4.1,baz=102,slow=5.0						
ARCES	ARCESS Array B	81.47	340	P	P	12 11 04.2	+1.0
	comp=Z,1.1nm,0.6s,mb4.0,baz=104,slow=5.0,SNR=9.5						
GERES	GERESS Array B	83.83	319	P	P	12 11 15.8	+0.1
	comp=Z,0.3nm,0.3s,mb3.9,baz=100,slow=8.1,SNR=4.7						

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*NEIC **19** 11:58:53.3, 35.41N×21.92E, h36^{km}, MD3.7(ATH), After ATH.*
*CSEM **19** 11:58:53.3, 35.41N×21.92E, h36^{km}, MD3.7/8, After ATH*

ATH 19 11:58:53.3, 35.41N×21.92E, h36^{km}±12^{km}**, MD3.7**/8**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	Kithira	1.26	46	ePN	P	11 59 16.5	+1.9
KYTH				eSN	S	11 59 33.0	+2.4
VLI	Veliai	1.54	32	ePN	P	11 59 20.7	+1.9
VLI				eSN	S	11 59 39.0	+1.2
ITM	Ithomi	1.77	0	ePB	P	11 59 23.9	+1.9
ITM				eSN	S	11 59 45.5	+2.1
VAM	Vamos	1.86	89	ePN	P	11 59 24.5	+1.2
VAM				eSN	S	11 59 48.0	+2.1
RLS	Riolos of Patr	2.67	352	ePN	P	11 59 36.2	+1.4
VLS	Valsamata	2.96	339	ePN	P	11 59 39.0	0.0
LKR	Lokris	3.35	15	ePN	P	11 59 44.4	-0.1
EVR	Evrytania	3.50	359	ePN	P	11 59 48.5	+1.8
NEO	Neokhori	4.03	15	ePN	P	11 59 54.2	+0.1

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*NNC **19** 12:09:46.6±3.8, 39.24N×71.06E, h9^{km}±15^{km}, mpv3.4, Error ellipse: s-maj=30.7km s-min=21.5km az=16.0*

ISC 19 12:09:27.5±2.9**, 37.6N**±0.1×**70.6E**±0.4**, h100^{km}, n10, σ0^{s}68**/14**, 3C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	5.09	27	P	P	12 10 42.0	-0.8
	SNR=22						
KK31	Karatay Array	5.48	359	⇓Pn	P	12 10 48.4	+0.3
	1.3nm,0.2s,baz=169,slow=12,SNR=48						
KK31				⇑Sn	S	12 11 39.5	-11
	4.0nm,0.3s,baz=175,slow=22,SNR=7.2						
KK31				⇑Lg		12 11 49.7	
	23nm,0.7s,baz=161,slow=29,SNR=7.2						
EKS2	Erkin-Say	5.59	25	P	P	12 10 49.9	+0.4
	SNR=7.0						
KZA	Kyzart	5.70	37	P	P	12 10 52.4	+1.3
	SNR=18						
AAK	Ala-Archa	5.82	29	P	P	12 10 52.8	+0.1
	SNR=6.0						
AAK	Ala-Archa	5.82	29	⇑Pn	P	12 10 52.5	-0.2
	6.3nm,0.6s						
AAK				⇓Sn	S	12 11 41.8	-17
	13nm,0.8s						
CHMS	Chumysh	6.23	29	P	P	12 10 58.5	+0.1
	SNR=6.8						
USP	Ospenovka	6.37	26	P	P	12 10 59.2	-1.1
	SNR=6.1						
PTH	Pithoragarh	11.34	132	eP	P	12 12 07.5	-0.1
PTH				eS	S	12 13 57.2	-16
AB31	Akbulak array	13.96	330	⇓Pn	P	12 12 48.1	+6.3
	0.2nm,0.3s						
AB31				⇓Sn	S	12 15 09.4	-5.2
	1.9nm,0.7s						

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*NIED **19** 12:15:00, 33.50N×141.20E, h53^{km}, Mw3.8 Best double couple: $M_0$6.38×10^{14} NP1:ϕ_s339°, δ88°, λ-63°. NP2:ϕ_s73°, δ27°, λ-175°.*
*JMA **19** 12:15:16.9±0.2, 33.51N×141.15E, h51^{km}, M3.6*

ISC 19 12:15:17.3±1.1**, 33.53N**±0.06×**141.1E**±0.1**, h66^{km}**±15^{km}**, n14, σ0^{s}52**/19**, 1C, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	1.12	355	P	P	12 15 37.0	-0.5
JHJ2	Mitsune	1.16	249	P	P	12 15 37.6	-0.3
JHJ2				S	S	12 15 52.8	-0.4
BSO3	Boso 3	1.36	339	P	P	12 15 40.6	-0.2
JMY	Miyakejima3	1.43	293	P	P	12 15 42.1	+0.3
BSO4	Boso 4	1.59	337	P	P	12 15 44.3	+0.4
NJJJ	Nii jima 2	1.74	300	P	P	12 15 46.1	+0.1
JKO	Kozu shima	1.76	292	P	P	12 15 46.4	+0.2
JIM2	Oshima 3	1.82	311	P	P	12 15 46.9	-0.2
JIM2				S	S	12 16 08.6	-0.4
JIZS	Izushimoda	2.19	303	P	P	12 15 52.7	+0.5
JIZS				S	S	12 16 19.1	+0.9
JOD2	Odawara 2	2.40	317	P	P	12 15 55.1	-0.1
JOD2				S	S	12 16 23.1	-0.3
JYN	Shimob	2.88	314	P	P	12 16 03.0	+1.0
JRY	Ryogami san	3.07	324	P	P	12 16 04.7	+0.1
MAT	Matsushiro	3.83	322	P	P	12 16 15.7	+0.4
MAT				S	S	12 16 58.1	-1.3
WB2	Warramunga Arr	53.56	188	⇑iP	P	12 24 33.6	-0.3

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*NEIC **19** 12:18:00.6±2.8, 23.89S×179.85W, h494^{km}±31^{km}, mb4.9/4, Error ellipse: s-maj=25.4km s-min=15.6km az=215.0*
*IDC **19** 12:18:01.8±5.5, 23.92S×179.87W, h504^{km}±58^{km}, mb3.6/8, mb1 3.7/9, mb1mx3.6/13, mbtmp4.5/9, Error ellipse: s-maj=34.0km s-min=21.2km az=58.0*

ISC 19 12:18:00.8±4.4**, 24.0S**±0.2×**180.0W**±0.2**, h505^{km}**±49^{km}**, n17, σ0^{s}61**/15**, mb4.1**/10**, 4D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	14.47	189	P	P	12 21 05.5	-0.2
	0.9nm,0.3s,baz=46,slow=1.9,SNR=6.2						
CTA	Charters Tower	31.51	270	⇓iP	P	12 23 43.3	+1.0
	16nm,0.4s,mb4.8						
CTA	Charters Tower	31.51	270	P	P	12 23 43.4	+1.1
	19nm,0.4s,mb4.8,baz=95,slow=11,SNR=54						
CTAO	Charters Tower	31.51	270	eP	P	12 23 43.0	+0.8
	20nm,0.5s,mb4.8						
STKA	Stephens Creek	34.73	248	⇓iP	P	12 24 10.4	+1.2
	2.3nm,0.9s,mb3.6						
STKA	Stephens Creek	34.73	248	P	P	12 24 10.2	+0.9
	1.6nm,0.4s,mb3.8,baz=95,slow=8.8,SNR=6.5						
WB2	Warramunga Arr	42.43	266	⇓iP	P	12 25 11.8	-0.2
WRAB	Tennant Creek	42.43	266	eP	P	12 25 11.8	-0.2
	17nm,0.4s,mb4.8						
WRA	Warramunga Arr	42.44	266	P	P	12 25 12.0	-0.1
	9.5nm,0.3s,mb4.7,baz=96,slow=8.4,SNR=180						
KAKA	Kakadu	46.35	275	⇓iP	P	12 25 41.8	-0.9
	5.5nm,0.3s,mb4.5						
VNDA	Vanda	54.32	185	P	P	12 26 40.3	-0.3
	0.7nm,0.8s,mb3.1,baz=345,slow=3.5,SNR=4.0						
NWAO	Narrogin (SRO)	55.24	246	P	P	12 26 46.8	-0.9
	9.9nm,0.7s,mb4.2,baz=14,slow=4.2,SNR=5.9						
JOW	Kunigami	71.06	312	P	P	12 28 29.1	0.0
	4.0nm,0.5s,mb4.2,baz=135,slow=13,SNR=3.4						
MAW	Mawson	77.70	200	P	P	12 29 06.3	+0.8
	1.5nm,0.6s,mb3.6,baz=118,slow=9.2,SNR=8.0						
PDAR	Pinedale Array	92.71	44	P	P	12 30 19.4	+0.1
	0.4nm,0.7s,mb3.5,baz=207,slow=3.3,SNR=4.0						
AKASG	Malin Array Be	145.04	327	PKPbc	PKPbc	12 36 40.4	-0.1
	0.4nm,0.3s,baz=39,slow=4.2,SNR=5.1						
CLL	Collm	150.93	343	ePKP1	PKPdf	12 36 58.0	+9.0

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*MOS **19** 12:21:10.1±0.8, 8.46S×111.06E, h33^{km}, mb5.1/9, Error ellipse: s-maj=17.8km s-min=9.3km az=112.5*
*NEIC **19** 12:21:13.2±2.2, 8.56S×111.07E, h46^{km}±19^{km}, mb4.8/18, Error ellipse: s-maj=11.5km s-min=7.7km az=60.0*
NEIC Felt [III] at Yogyakarta and [II] at Malang.
*IDC **19** 12:21:13.2±3.3, 8.56S×111.05E, h45^{km}±30^{km}, mb4.4/15, mb1 4.4/16, mb1mx4.4/18, mbtmp4.6/16, ML5.1/1, MS3.8/6, Ms1 3.7/6, ms1mx3.6/17, Error ellipse: s-maj=22.7km s-min=14.5km az=67.0*
*BJI **19** 12:21:14.1, 8.60S×111.10E, h46^{km}, mB5.2, mb4.9, Ms4.9, Msz4.6*

ISC 19 12:21:10.3±0.3**, 8.52S**±0.06×**111.07E**±0.06**, h34^{km}, h34^{km}**±5.1^{km}**:pP-P, n120, σ0^{s}87**/99**, mb4.8**/50**, MS4.0**/8**, 7C-3D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBWA	Marble Bar	15.09	147	ePn	P	12 24 36.7	-6.2
	16nm,0.4s						
MBWA				eSn	S	12 27 07.4	-22
FITZ	Fitzroy Crossi	17.07	125	eP	P	12 25 07.4	-0.7
	9.5nm,0.3s						
FITZ				eS	S	12 28 00.4	-15
FITZ	Fitzroy Crossi	17.07	125	P	P	12 25 07.7	-0.4
	5.2nm,0.3s,baz=314,slow=5.0,SNR=53						
FITZ				S	S	12 27 59.6	-16
	2.0nm,0.3s,baz=8.4,slow=23,SNR=5.8						
FITZ				LR	LR	12 31 00.6	
	comp=Z,104nm,20.6s,baz=301,slow=34						
KAKA	Kakadu	21.41	103	⇓iP	P	12 25 57.7	+0.2
	33nm,0.6s,mb4.8						
KLBR	Kellerberrin	23.78	166	eP	P	12 26 33.9	+13
	12nm,0.7s,mb4.5						
NWAO	Narrogin (SRO)	24.95	168	LR	LR	12 35 08.4	
	comp=Z,209nm,21.9s,MS3.6,baz=311,slow=34						
WRA	Warramunga Arr	25.21	119	P	P	12 26 34.5	-0.4
	10.0nm,0.6s,mb4.5,baz=292,slow=11,SNR=34						
WRA				PcP	PcP	12 30 07.4	-1.2
	1.2nm,0.6s,baz=288,slow=1.9,SNR=4.7						
WRAB	Tennant Creek	25.22	119	iP	P	12 26 35.7	+0.8
WRAB	Tennant Creek	25.22	119	eP	P	12 26 34.5	-0.3
	20nm,0.8s,mb4.7						
WB2	Warramunga Arr	25.23	119	eS	P	12 26 35.4	+0.5
KMI	Kunming	34.41	347	P	P	12 28 04.4	+7.6
KMI				AP	pP	12 28 09.1	+2.4
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
KMI				AMB	AMB		
	comp=Z,183nm,4.6s						
KMI				LR	LR		
	comp=Z,249nm,15.7s,MS4.0						
STKA	Stephens Creek	36.66	134	eP	P	12 28 15.5	-0.3
	comp=Z,3.5nm,0.6s,mb4.4						
STKA				i PCP	PcP	12 30 38.2	-0.4
STKA	Stephens Creek	36.66	134	P	P	12 28 15.8	0.0
	comp=Z,2.0nm,0.3s,mb4.4,baz=322,slow=9.5,SNR=14						
STKA				PcP	PcP	12 30 37.9	-0.8
	comp=Z,6.7nm,0.5s,baz=313,slow=4.4,SNR=6.0						
JOW	Kunigami	38.91	25	P	P	12 28 35.5	+0.8
	comp=Z,3.7nm,0.3s,mb4.5,baz=217,slow=5.8,SNR=5.0						
JOW	Kunigami	38.91	25	P	P	12 28 35.5	+0.8
SSE	Sheshan	40.57	13	P	P	12 28 48.3	-0.1
SSE				AP	pP	12 29 01.8	+3.3
SSE				S	S	12 34 56.8	+1.5
SSE				XS		12 35 19.8	
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,620nm,5.8s						
NJ2	Nanjing	41.03	10	eP	P	12 29 00.3	+8.1
NJ2				AP	pP	12 29 09.8	+7.6
NJ2				XP	sP	12 29 12.4	+5.8
NJ2				PP	PP	12 30 36.1	+6.3
NJ2				S	S	12 35 09.0	+7.0
NJ2				XS		12 35 25.0	
NJ2				AMB	AMB		
	comp=Z,290nm,5.0s						
NJ2				LR	LR		
	comp=N,1μm,26.0s						
NJ2				LR	LR		
	comp=E,680nm,32.0s						
LSA	Lhasa	42.56	334	P	P	12 29 07.6	+2.7
PKI	Pulchoki	43.64	326	eP	P	12 29 13.8	+0.1
	comp=E,6.2nm,0.4s,mb4.7						
GUN	Gumba	43.65	327	eP	P	12 29 13.8	0.0
	comp=E,13nm,0.4s,mb5.0						
DMN	Daman	43.84	326	eP	P	12 29 15.0	-0.3
	comp=E,10nm,0.3s,mb5.0						
KKN	Kakani	43.88	326	eP	P	12 29 15.8	+0.2
GKN	Gorkha	44.40	326	eP	P	12 29 19.5	-0.3
	comp=E,11nm,0.2s,mb5.2						
KOLN	Koldanda	44.81	325	eP	P	12 29 22.6	-0.5
	comp=E,22nm,0.4s,mb5.3						
KS15	Wonju Array Si	48.36	18	eP	P	12 29 52.8	+1.9
GTA	Gaotai	48.82	348	eP	P	12 29 56.0	+1.6
GTA				PCP	PcP	12 31 20.0	+0.8
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.4						
HHC	Hu-ho-hao-te	49.13	1	eP	P	12 30 02.9	+6.1
HHC				AP	pP	12 30 12.8	+5.9
HHC				XP	sP	12 30 17.5	+6.3
HHC				PCP	PcP	12 31 24.6	+4.4
HHC				S	S	12 37 03.9	+5.4
HHC				XS		12 37 20.8	
HHC				SS	SS	12 40 31.3	+5.8
HHC				AMB	AMB		
	comp=Z,16nm,0.9s,mb5.0						
HHC				AMB	AMB		
	comp=Z,219nm,10.8s						
HHC				LR	LR		
	comp=N,134nm,16.8s						
HHC				LR	LR		
	comp=E,428nm,25.2s						
HHC				LR	LR		
	comp=Z,96nm,16.8s,MS3.9						
MJAR	Matsushiro Arr	51.57	28	P	P	12 30 15.2	-0.3
	comp=Z,3.6nm,0.6s,mb4.5,baz=206,slow=8.4,SNR=11						
MJAR				LR	LR	12 52 49.0	
	comp=Z,85nm,18.0s,MS3.8,baz=305,slow=37						
MDJ	Mudanjiang	55.48	16	P	P	12 30 44.1	-0.1
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,47nm,4.1s						
WMQ	Urumqi	56.25	340	P	P	12 30 52.3	+2.6
WMQ				AP	pP	12 31 02.3	+2.2
WMQ				XP	sP	12 31 06.3	+2.2
WMQ				PP	PP	12 32 59.5	+2.9
WMQ				S	S	12 38 39.5	+4.1
WMQ				AMB	AMB		
	comp=Z,50nm,2.4s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,157nm,7.5s						
WMQ				LR	LR		
	comp=N,531nm,20.2s,MS4.7						
WMQ				LR	LR		
	comp=E,402nm,20.7s,MS4.7						
WMQ				LR	LR		
	comp=Z,721nm,20.6s,MS4.8						
SONM	Songino Array	56.26	356	P	P	12 30 50.2	+0.4
	comp=Z,2.5nm,0.4s,mb4.6,baz=174,slow=8.8,SNR=24						
SONM				ScP		12 35 41.2	
	comp=Z,0.8nm,0.9s,baz=162,slow=3.9,SNR=4.0						
SONM				LR	LR	12 57 40.9	
	comp=Z,89nm,18.9s,MS3.9,baz=246,slow=39						
ZAK	Zakamensk	59.05	354	eP	P	12 31 09.1	-0.3

ZAK				e		12 31 57.6	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
KLR	Kul'dur	60.30	15	eP	P	12 31 14.3	-3.7
MKAR	Makanchi Array	60.74	338	eP	P	12 31 20.4	-0.7
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	Makanchi Array	60.74	338	P	P	12 31 20.5	-0.6
	comp=Z,15nm,0.5s,mb5.3,baz=147,slow=7.5,SNR=153						
AAK	Ala-Archa	60.87	330⇓	eP	P	12 31 20.6	-1.4
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
AAK	Ala-Archa	60.87	330	P	P	12 31 21.2	-0.8
	comp=Z,3.6nm,0.9s,mb4.5						
YSS	Yuzh-Sakhalins	62.01	24c	iP	P	12 31 29.4	-0.2
YSS				pmax	pmax		
	comp=Z,42nm,1.3s,mb5.4						
KURK	Kurchatov	65.36	338	eP	P	12 31 50.8	-0.6
KURK				e		12 32 22.9	
KURK				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
KURK	Kurchatov	65.36	338	eP	P	12 31 50.8	-0.6
	comp=Z,6.5nm,0.5s,mb4.9						
KURK				ePcP	PcP	12 32 22.9	-0.4
ZAL	Zalesovo	66.06	343	P	P	12 31 54.4	-1.6
	comp=Z,12nm,0.4s,mb5.3,baz=339,slow=3.6,SNR=28						
MAW	Mawson	67.13	198	P	P	12 32 01.3	-1.1
	comp=Z,1.4nm,0.8s,mb4.0,baz=25,slow=6.0,SNR=4.7						
MAW				LR	LR	12 53 39.7	
	comp=Z,88nm,21.9s,MS3.9,baz=241,slow=29						
HASS	Wahat al Ahsa'	68.47	301	P	P	12 32 10.6	-0.9
VOSK	Vostochnaya	69.91	335	P	P	12 32 18.9	-1.0
VOSK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
BVA0	Borovoye Array	70.38	335	iP	P	12 32 22.2	-0.5
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BVAR	Borovoye Array	70.38	335	P	P	12 32 22.3	-0.4
	comp=Z,6.0nm,0.6s,mb4.7,baz=135,slow=8.4,SNR=46						
BRVK	Borovoye	70.45	335	eP	P	12 32 22.1	-1.1
BRVK				e		12 32 44.3	
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BRVK	Borovoye	70.45	335	eP	P	12 32 22.1	-1.0
	comp=Z,4.4nm,0.8s,mb4.4						
BRVK				ePcP	PcP	12 32 44.3	-0.3
ZRNK	Zerenda	70.91	335	eP	P	12 32 25.0	-0.9
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
ZRNK	Zerenda	70.91	335	eP	P	12 32 25.0	-1.0
	comp=Z,9.4nm,0.6s,mb4.9						
KBD	Kabd	71.56	305	eP	P	12 32 29.5	-0.8
KBD				AMb	AMB	12 32 30.6	
	comp=Z,136nm,0.7s						
RDF	Al-Radifah	71.59	304	eP	P	12 32 29.5	-1.0
RDF				AMb	AMB	12 32 30.7	
	comp=Z,50nm,0.8s,mb5.5						
UMR	Umm Al-Rimmam	71.68	305	eP	P	12 32 30.2	-0.7
UMR				AMb	AMB	12 32 31.3	
	comp=Z,92nm,0.7s,mb5.8						
YAK	Yakutsk	71.81	9	eP	P	12 32 29.5	-1.7
YAK				e		12 32 46.4	
YAK				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.5						
YAK	Yakutsk	71.81	9	eP	P	12 32 29.5	-1.7
	comp=Z,50nm,0.8s,mb5.5						
YAK				ePcP	PcP	12 32 46.4	-3.9
MZLS	Mizel	71.92	299	P	P	12 32 33.2	+0.7
MIB	Mutribah	72.08	305	eP	P	12 32 33.1	-0.2
MIB				AMb	AMB	12 32 34.3	
	comp=Z,40nm,1.1s,mb5.3						
AB31	Akbulak array	72.81	328	P	P	12 32 36.9	-0.5
AB31				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
PET	Petropavlovsk	73.40	28⇑	eP	P	12 32 40.9	+0.1
PET				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
PET	Petropavlovsk	73.40	28	eP	P	12 32 40.5	-0.3
	comp=Z,9.1nm,0.6s,mb4.9						
AFFS	'Afif	73.81	298	P	P	12 32 44.0	+0.2
KMBO	Kilima Mbogo	73.83	271	iP	P	12 32 46.0	+2.0
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KMBO	Kilima Mbogo	73.83	271	P	P	12 32 44.8	+0.8
	comp=Z,0.5nm,0.4s,mb3.8,baz=47,slow=19,SNR=3.5						
BLJS	Baljurashi	73.93	293	P	P	12 32 45.7	+1.2
ARSS	Ar Rass	74.20	300	P	P	12 32 45.8	-0.1
SYO	Syowa Base	75.49	201	⇑PcP	PcP	12 33 04.0	-1.8
HILS	Ha'il	75.88	301	P	P	12 32 56.3	+0.7
SVE	Sverdlovsk	77.09	334	eP	P	12 33 00.0	-1.8
KBRS	Khaybar	77.60	299	P	P	12 33 06.2	+0.9
ARU	Arti	77.76	333⇑	iP	P	12 33 05.1	-0.4
ARU				e		12 36 00.2	
ARU				eS	S	12 42 55.3	+1.2
ARU				eSS	SS	12 47 59.0	+1.6
ARU				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
ARU	Arti	77.76	333	eP	P	12 33 05.0	-0.6
	comp=Z,18nm,1.1s,mb4.9						
SEY	Seymchan	77.94	18⇑	eP	P	12 33 07.2	+0.8
YNBS	Yanbu' al Bahr	78.33	297	P	P	12 33 09.4	+0.1
KIV	Kislovodsk	80.71	317	eP	P	12 33 22.1	+0.3
KIV				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.2						
KIV	Kislovodsk	80.71	317	eP	P	12 33 22.1	+0.3
	comp=Z,25nm,0.7s,mb5.3						
TIXI	Tiksi	80.87	6⇓	eP	P	12 33 21.6	-0.5
TIXI				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.2						
JMQS	Jabal Moqyreh	81.31	301	P	P	12 33 26.3	+1.0
BDAS	Al Bad'	81.86	300	P	P	12 33 28.1	0.0
MALT	Malatya	81.88	311	eP	P	12 33 28.6	+0.6
MALT				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
MALT	Malatya	81.88	311	eP	P	12 33 28.6	+0.6
	comp=Z,4.7nm,0.7s,mb4.5						
EIL	Elat	82.29	302	P	P	12 33 31.0	+0.7
	comp=Z,14nm,1.1s,mb4.8						
BOSA	Boshof	82.32	242	P	P	12 33 30.6	+0.1
	comp=Z,2.7nm,0.8s,mb4.2,baz=48,slow=10,SNR=5.0						
BOSA				LR	LR	13 05 52.3	
	comp=Z,94nm,18.3s,MS4.2,baz=241,slow=33						
SOC	Sochi	82.60	316	eP	P	12 33 31.0	-0.6
SOC				ePPP	PPP	12 38 42.0	+6.1
SOC				eS	S	12 43 44.5	-0.4
SOC				eSS	SS	12 49 04.0	-6.4
SOC				pmax	pmax		
	comp=N,23nm,0.8s						
SOC				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.5						
SOC				pmax	pmax		
	comp=E,12nm,1.0s						
CSS	Prodhromos	84.92	306	eP	P	12 33 44.1	+0.5
	comp=E,24nm,0.9s,mb5.3						
BR131	Keskin Array S	85.85	311	eP	P	12 33 48.7	+0.7
	comp=E,7.5nm,0.7s,mb5.0						
BRTR	Keskin Array B	85.85	311	P	P	12 33 48.6	+0.6
	comp=E,8.3nm,0.8s,mb5.0,baz=127,slow=6.2,SNR=33						
OBN	Obninsk	88.20	326c	eP	P	12 33 59.5	+0.5
OBN				e	PP	12 37 26.2	-2.6
OBN				eS	SKS	12 44 21.1	-1.6
OBN				pmax	x		
	comp=Z,18nm,0.5s						
SNAA	Sanae	89.26	197⇑	iP	P	12 34 04.2	+0.4
SNAA	Sanae	89.26	197		sP	12 34 17.9	-0.3
VNA2	Neumayer--Watz	90.91	197	P	P	12 34 14.6	+3.1
AKASG	Malin Array Be	91.40	321	P	P	12 34 13.6	-0.6
	comp=Z,2.2nm,0.5s,mb4.8,baz=83,slow=4.4,SNR=7.4						
AKASG	Malin Array Be	91.40	321	P	P	12 34 13.6	-0.6
KAF	Kangasniemi	95.02	332	ep	P	12 34 30.5	0.0
FINES	FINESS Array B	95.03	331	P	P	12 34 31.2	+0.6
	comp=Z,1.6nm,0.7s,mb4.6,baz=135,slow=11,SNR=6.4						
FINES	FINESS Array B	95.03	331	P	P	12 34 31.2	+0.6
ARCES	ARCESS Array B	96.37	339	P	P	12 34 36.2	-0.2
	comp=Z,0.8nm,0.5s,mb4.4,baz=100,slow=5.5,SNR=7.9						
NB2	NORSAR Subarra	102.18	331	P	Pdif	12 35 01.3	-1.6
	comp=Z,0.5nm,0.7s,baz=90,slow=4.5						
YKA	Yellowknife Ar	116.83	22	PKP	PKPdf	12 39 52.2	+1.1
	comp=Z,0.6nm,0.4s,baz=315,slow=0.8,SNR=13						
YKA	Yellowknife Ar	116.83	22	PKP	PKPdf	12 39 52.2	+1.1
PDAR	Pinedale Array	130.73	39	PKP	PKPdf	12 40 20.9	+2.4
	comp=Z,0.5nm,0.5s,baz=325,slow=1.2,SNR=5.8						
SCHQ	Schefferville	133.79	358	PKP	PKPdf	12 40 25.8	+1.8
	comp=Z,2.0nm,0.4s,baz=140,slow=3.6,SNR=5.4						
CPUP	Villa Florida	143.57	198	PKP	PKPdf	12 40 41.0	-1.3
	comp=Z,1.5nm,0.5s,baz=115,slow=1.6,SNR=6.2						
MIV	Mineville/With	144.36	6	ePKP	PKPdf	12 40 43.4	+0.2
CCM	Cathedral Cave	144.37	31	ePKIKP	PKPdf	12 40 43.6	+0.2
NCB	Newcomb	144.39	7	ePKP	PKPdf	12 40 43.9	+0.6
MDV	Middlebury	144.47	5	ePKP	PKPdf	12 40 44.0	+0.6
ACCN	Adirondack Com	145.03	6	ePKP	PKPdf	12 40 45.6	+1.2
HRV	Harvard--Oak R	146.07	3	ePKP2	PKPab	12 40 49.1	-0.7
UALR	University of	146.18	36	ePKP	PKPdf	12 40 47.7	+1.1
WCI	Wyandotte Cave	146.54	25	ePKP2	PKPab	12 40 50.6	-1.1
PAL	Palisades	147.35	7	ePKP2	PKPab	12 40 52.8	-2.0
WVT	Waverly	147.57	29	ePKP2	PKPab	12 40 53.4	-2.4
OXF	Oxford	148.02	33	ePKP2	PKPab	12 40 54.0	-3.6
BDFB	Brasilia	148.28	221	PKPbc	PKPdf	12 40 55.6	+5.1
	comp=Z,3.2nm,0.5s,baz=204,slow=4.6,SNR=4.6						
PLAL	Pickwick Lake	148.36	31	ePKPbc	PKPdf	12 40 55.0	+4.8
TZTN	Tazewell	149.10	23	ePKPbc	PKPdf	12 40 57.6	+6.2
SWET	Sewanee	149.21	28	ePKPbc	PKPdf	12 40 57.2	+5.7
ELN	Prospectdale	149.48	19	ePKPbc	PKPdf	12 40 57.9	+6.0
MYNC	Murphy	150.13	26	ePKIKP	PKPdf	12 41 00.2	+7.2
LRAL	Lakeview Retre	150.44	32	ePKPbc	PKPdf	12 41 00.5	+7.0

*NEIC **19** 12:29:49.5, 17.45N×94.58W, h105^{km}, MD3.9(MEX), After MEX.*

MEX 19 12:29:47.8±1.0**, 17.36N×94.64W, h156^{km}**±9^{km}**, MD4.0, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.36	220	iP	P	12 30 08.6	-1.1
CMIG				iS	S	12 30 23.4	-3.1
OXX	Oaxaca	2.01	262	iP	P	12 30 22.0	-1.7
OXX				iS	S	12 30 48.0	-3.4
HUIG	Huatulco	2.12	222	eP	P	12 30 22.8	-2.2
HUIG				eS	S	12 30 51.8	-2.0
HUIG	Huatulco	2.12	222	eP	P	12 30 22.7	-2.4
HUIG				eS	S	12 30 51.8	-2.0
CCIG	Comitan	2.63	114	eP	P	12 30 29.9	-1.4
CCIG				eS	S	12 30 59.3	-5.5
CCIG	Comitan	2.63	114	iP	P	12 30 30.1	-1.2
CCIG				iS	S	12 31 01.5	-3.3
IISM	Ciudad Serdan	3.06	302	eP	P	12 30 34.0	-2.9
IISM				iS	S	12 31 11.0	-3.4
YAIG	Yautepec	4.46	290	eP	P	12 30 54.9	-0.3
YAIG				iS	S	12 31 45.6	-1.4
PLIG	Platanillo	4.74	283	eP	P	12 30 59.2	+0.5

*CSEM **19** 12:36:33.7, 37.42N×54.77E, h10^{km}, ML3.4, After TEH*

TEH 19 12:36:33.7, 37.42N×54.77E, h10^{km}, Mn3.4, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGLO	Galoogah	1.51	223	Pg	Pg	12 36 52.7	-11
ISHM	Shahmirzad	2.00	217	Pn	Pn	12 37 04.7	-3.4
IANJ	Anjiloo	2.07	200	Pn	Pn	12 37 02.4	-6.6
IPRN	Paran-Amol	2.35	241	Pn	Pn	12 37 12.2	-0.8
IPRN	Paran-Amol	2.35	241	Pn	Pn	12 37 12.2	-0.8
IFIR	Firoozkooh	2.41	223	Pn	Pn	12 37 12.7	-1.1
IFIR	Firoozkooh	2.41	223	Lg		12 37 43.6	
IFIR	Firoozkooh	2.41	223	Pn	Pn	12 37 12.6	-1.2
ILAS	Lasjerd	2.51	216	Pn	Pn	12 37 12.2	-3.0
ISFR	Esferayen	2.60	97	Pn	Pn	12 37 11.5	-5.1
IDMV	Damavand	2.88	231	Pn	Pn	12 37 19.6	-0.9
IDMV	Damavand	2.88	231	Pn	Pn	12 37 19.3	-1.2
IKRD	Kardeh	3.07	101	Pn	Pg	12 37 32.1	-2.8
IKRD	Kardeh	3.07	101	Pn	Pg	12 37 32.1	-2.8
IVRN	Varamin	3.45	226	Pn	Pn	12 37 25.6	-3.1
IVRN	Varamin	3.45	226	Lg		12 38 15.2	
IVRN	Varamin	3.45	226	Pn	Pn	12 37 26.9	-1.8
IVRN				Sn	Sn	12 38 06.8	-3.3
IMYA	Miamay	4.41	103	Pn	Pn	12 37 40.5	-1.7

MAN 19 12:49:23.1, 20.02N×120.65E, h27^{km}, mb3.8, ML2.6, MS2.2, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBP	Basco	1.31	71	eP	Pn	12 49 45.3	-0.5
BBP				eS	Sn	12 49 57.8	-4.7
APYP	Conner	2.22	165	eP	Pn	12 49 59.0	+0.2
APYP				eS	Sn	12 50 21.2	-4.4
ABRA	Dolores	2.36	178	eP	Pn	12 49 58.8	-2.0

*OTT **19** 12:52:42.4±0.9, 71.80N×74.80W, h18^{km}, MN3.9/11, 148km southeast from Pond Inlet, Nu Baffin Island Seismic Zone, Northwest Territories*

*NEIC **19** 12:52:43.1±0.9, 72.02N×74.73W, h10^{km}, MN3.9(OTT), Error ellipse: s-maj=20.9km s-min=14.6km az=161.0*

*IDC **19** 12:52:46.7±3.3, 71.82N×76.52W, mb3.7/3, mb1 4.1/5, mb1mx3.6/22, mbtmp3.9/5, ML3.5/2, Error ellipse: s-maj=56.6km s-min=31.8km az=50.0*

ISC 19 12:52:41.8±0.7**, 71.98N**±0.04×**76.8W**±0.1**, h10^{km}, n32, σ1^{s}29**/52**, mb3.7**/3**, Baffin Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PINU	Pond Inlet	0.81	335	PG	Pg	12 52 50.2	-7.7
PINU				SG	Sg	12 53 06.0	-2.8
PINU				Trac		12 53 09.7	
	comp=Z,4μm,0.2s						
TULEG	Thule	5.07	22	PN	Pn	12 53 56.3	-3.4
TULEG				SN	Sn	12 54 50.7	-8.4
TULEG				Trac		12 54 54.7	
	comp=Z,75nm,0.3s						
QILN	Qililugaq Expl	6.32	217	PN	Pn	12 54 18.4	+1.1
QILN				SN	Sn	12 55 30.4	+0.1
QILN				Trac		12 56 10.5	
	comp=Z,372nm,0.6s						
EUNU	Eureka	8.43	349	PN	P	12 54 47.9	+1.0
EUNU				SN	Sn	12 56 21.8	-1.3
YRTN	Rankin Inlet	10.87	220	PN	P	12 55 20.0	-0.3
YRTN				SN	S	12 57 19.6	-3.4
YRTN				LG		12 58 25.7	
YRTN				Trac		12 58 49.5	
	comp=Z,390nm,1.1s						
SUMG	Summit	11.57	69	ePn	P	12 55 19.3	-10
	16nm,0.4s						
SUMG				eSn	S	12 57 13.9	-26
LUPN	Lupin Mine	13.72	260	SN	S	12 58 33.4	+1.7
LUPN				LG		12 59 57.7	
LUPN				Trac		13 00 04.9	
	comp=Z,16nm,0.4s						
GLWN	Glow Worm Lake	13.84	255	PN	P	12 56 00.1	+0.3
GLWN				SN	S	12 58 32.9	-1.7
GLWN				LG		12 59 59.1	
GLWN				LG		12 59 60.0	
GLWN				Trac		13 00 12.3	
	comp=Z,33nm,0.5s						
YNEN	Yamba Lake Nor	14.10	258	PN	P	12 56 04.2	+0.9
YNEN				SN	S	12 58 39.3	-1.5
YNEN				LG		13 00 10.5	
YNEN				Trac		13 00 33.7	
	comp=Z,22nm,0.5s						
ACKN	Achilles Lake	14.11	257	PN	P	12 56 03.4	-0.1
ACKN				SN	S	12 58 41.2	+0.2
ACKN				Trac		13 00 35.9	
	comp=Z,21nm,0.5s						
EKTN	Ekati Mine	14.24	256	PN	P	12 56 06.0	+0.9
EKTN				Trac		13 00 41.1	
	comp=Z,19nm,0.5s						
KUQ	Kuujjuuaa	14.34	162	PN	P	12 55 52.6	-14
KUQ				SN	S	12 58 21.6	-25
KUQ				LG		12 59 59.8	
KUQ				Trac		13 00 06.5	
	comp=Z,61nm,0.6s						
LGSN	Lac de Gras So	14.36	255	PN	P	12 56 07.8	+1.1
LGSN				SN	S	12 58 45.5	-1.5
LGSN				LG		13 00 17.9	
LGSN				Trac		13 00 34.1	
	comp=Z,4.9nm,0.3s						
YMBN	Yamba Lake	14.40	258	PN	P	12 56 08.7	+1.5
YMBN				SN	S	12 58 47.2	-0.6
YMBN				LG		13 00 17.1	
YMBN				Trac		13 00 33.2	
	comp=Z,16nm,0.4s						
MLON	Marlo Lake	14.56	253	PN	P	12 56 10.5	+1.2
MLON				SN	S	12 58 51.4	-0.2
MLON				LG		13 00 22.8	
MLON				Trac		13 00 32.2	
	comp=Z,14nm,0.3s						
BOXN	Box Lake	14.59	253	PN	P	12 56 09.4	-0.3
BOXN				SN	S	12 58 51.1	-1.3
BOXN				LG		13 00 23.3	
BOXN				Trac		13 01 24.2	
	comp=Z,0.8nm,0.1s						
MGTN	Margaret Lake	14.68	252	PN	P	12 56 11.1	+0.3
MGTN				SN	S	12 58 53.5	-1.0
MGTN				Trac		13 00 40.6	
	comp=Z,38nm,0.5s						
KNDN	Kennady Lake	14.76	251	PN	P	12 56 12.2	+0.3
KNDN				SN	S	12 58 55.7	-0.8
KNDN				LG		13 00 27.9	
KNDN				Trac		13 00 41.5	
	comp=Z,10nm,0.5s						
ILKN	Indian Lake	15.96	260	PN	P	12 56 28.8	+1.3
ILKN				SN	S	12 59 24.1	-0.5
ILKN				LG		13 01 14.1	
DSMN	Discovery Mine	16.35	256	PN	P	12 56 33.5	+1.0
DSMN				SN	S	12 59 36.6	+3.0
GALN	Gameti Lake	16.71	263	PN	P	12 56 38.4	+1.3
GALN				SN	S	12 59 32.3	-10
YKW3	Yellowknife Ar	17.03	256	PN	P	12 56 42.3	+1.2
YKW3				SN	S	12 59 49.1	-0.2
YKA	Yellowknife Ar	17.08	256	Pn	P	12 56 42.5	+0.8
	0.6nm,0.3s,baz=40,slow=9.4,SNR=20						
YKA				Lg		13 01 39.5	
	1.5nm,0.3s,baz=40,slow=30,SNR=7.3						
YKA	Yellowknife Ar	17.08	256	Pn	P	12 56 42.5	+0.8
YKA				Lg		13 01 39.5	
SCHQ	Schefferville	17.73	161	Pn	P	12 56 49.0	-0.9
	0.3nm,0.3s,baz=339,slow=14,SNR=3.0						
SCHQ				Lg		13 01 38.5	
	0.8nm,0.3s,baz=236,slow=18,SNR=3.6						
SCHQ	Schefferville	17.73	161	Pn	P	12 56 49.0	-0.9
SCHQ				Lg		13 01 38.5	
SILO	Sutton Inlier	17.91	195	PN	P	12 56 46.2	-5.9
SILO				SN	S	12 59 58.0	-11
SILO				Trac		13 00 59.3	
	comp=Z,4.3nm,0.4s						
VIMO	Victor Mine	19.47	193	PN	P	12 57 08.0	-3.0
VIMO				SN	S	13 00 36.4	-8.3
ULM	Lac du Bonnet	23.43	212	P	P	12 57 54.8	+3.4
	3.7nm,0.8s,mb3.9,baz=354,slow=12,SNR=3.1						
EDM	Edmonton	24.53	240	eP	P	12 58 07.2	+5.2
ILAR	Eielson Array	25.30	289	P	P	12 58 15.8	+6.5
	0.9nm,0.5s,mb3.5,baz=40,slow=8.2,SNR=10						
PDAR	Pinedale Array	33.30	226	P	P	12 59 24.9	+3.6
	0.4nm,0.5s,mb3.6,baz=37,slow=6.1,SNR=5.1						

*MOS **19** 13:09:42.1±1.0, 37.22N×71.97E, h164^{km}, mb4.7/39, Error ellipse: s-maj=7.7km s-min=4.5km az=119.0*

*NEIC **19** 13:09:44.8±0.6, 37.26N×72.05E, h178^{km}±6^{km}, mb4.7/52, Error ellipse: s-maj=5.9km s-min=3.7km az=222.0*

*BJI **19** 13:09:44.9, 37.49N×71.88E, h190^{km}, mB4.9, mb4.8*

*IDC **19** 13:09:48.1±1.9, 37.34N×72.01E, h205^{km}±18^{km}, mb4.1/19, mb1 4.2/22, mb1mx4.2/27, mbtmp4.7/22, MS3.5/1, Ms1 3.5/1, ms1mx2.6/20, Error ellipse: s-maj=13.1km s-min=8.7km az=171.0*

*NNC **19** 13:09:51.8±4.2, 37.77N×71.33E, h197^{km}±37^{km}, mpv4.7, Error ellipse: s-maj=38.8km s-min=29.7km az=173.0*

ISC 19 13:09:44.0±0.3**, 37.21N**±0.02×**71.97E**±0.03**, h184^{km}**±3^{km}**, n224, σ1^{s}05**/265**, mb4.6**/76**, 22C-31D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	3.38	181	⇓P	P	13 10 39.5	+1.4
CHCP	Chirah Chowk	3.69	163	⇓P	P	13 10 44.4	+2.3
KSH	Kashi	3.90	53⇑	iP	P	13 10 46.9	+2.3
KSH				S	S	13 11 32.9	+1.4
KSH				AMB	AMB		
	comp=Z,1μm,1.0s						
KSH				Smax			
	comp=N,1μm,0.8s						
KSH				Smax			
	comp=E,1μm,0.6s						
THW	Thamme Wali	4.41	183	⇑P	P	13 10 51.8	+0.7
SBDP	Sheikh Budin	4.99	191	⇑P	P	13 10 58.9	+0.3
JMU	Jammu	5.08	151	eS	S	13 11 58.5	-0.2
AML	Almayashu	5.09	15	P	P	13 11 00.6	+0.7
	SNR=537						
KZA	Kyzart	5.48	26	P	P	13 11 05.2	+0.2
	SNR=28						
EKS2	Erkin-Say	5.62	14	P	P	13 11 07.5	+0.7
	SNR=52						
DRP	Derazinda	5.64	196	P	P	13 11 07.8	+0.7
THN	Thein Dam	5.67	146⇓	iP	P	13 11 08.0	+0.5
THN				eS	S	13 12 09.1	-3.3
AAK	Ala-Archa	5.75	19	P	P	13 11 09.5	+0.9
	SNR=42						
AAK	Ala-Archa	5.75	19	⇓P	P	13 11 09.4	+0.8
	comp=E,30nm,0.4s						
AAK				⇓S	S	13 12 12.6	-1.7
	comp=E,367nm,0.9s						
AAK	Ala-Archa	5.75	19⇑	iPN	P	13 11 08.3	-0.3
AAK				e		13 12 11.8	
AAK				pmax	pmax		
	comp=Z,57nm,0.4s						
AAK	Ala-Archa	5.75	19⇑	iPn	P	13 11 08.3	-0.3
	comp=Z,57nm,0.4s						
AAK				eSn	S	13 12 11.8	-2.6
KBK	Karagaybulak	5.90	22	P	P	13 11 12.3	+1.7
	SNR=15						
FRU	Bishkek	5.97	19	ePN	P	13 11 12.5	+1.0
FRU				iS	S	13 12 18.0	-1.5
FRU				pmax	pmax		
	comp=Z,70nm,1.7s						
FRU				smax			
	comp=N,1μm,3.2s						
FRU				smax			
	comp=N,740nm,1.8s						
KK31	Karatay Array	6.00	350	⇓P	P	13 11 11.4	-0.3
	comp=N,50nm,0.3s,baz=168,slow=12,SNR=662						
KK31				⇑S	S	13 12 14.3	-5.6
	comp=N,325nm,0.4s						
KKAR	Karatay Array	6.00	350	iPN	P	13 11 11.4	-0.3
ULHL	Ulahol	6.01	32	P	P	13 11 12.1	+0.1
	SNR=66						
CHMS	Chumysh	6.16	19	P	P	13 11 14.8	+0.8
	SNR=15						
PONG	Pong	6.18	147	eP	P	13 11 14.0	-0.2
PONG				eS	S	13 12 22.0	-2.4
TKM2	Tokmak 2	6.35	25	P	P	13 11 17.4	+1.0
	SNR=9.4						
USP	Ospenovka	6.35	17	P	P	13 11 17.4	+0.9
	SNR=22						
BHK	Bhakra	6.85	146	eP	P	13 11 26.0	+3.1
BHK				eS	S	13 12 39.0	-1.0
SDNR	Sundarnagar	7.03	143	eP	P	13 11 25.0	-0.4
SDNR				eS	S	13 12 39.0	-5.4
SMLA	Simla	7.43	143⇑	iP	P	13 11 28.3	-2.4
SMLA				iS	S	13 12 48.3	-5.6
LGTI	Lohaghat	10.38	136	eP	P	13 12 07.7	-1.4
LGTI				eS	S	13 13 57.5	-5.3
AJM	Ajmer	10.93	167⇓	iP	P	13 12 15.0	-1.4
AJM				iS	S	13 14 12.0	-3.9
MK31	Makanchi Array	12.26	35	P	P	13 12 32.2	-1.1
	comp=N,5.2nm,0.3s,baz=216,slow=9.6,SNR=175						
MK31				⇓S	S	13 15 01.1	+14
	comp=N,25nm,1.4s						
MKAR	Makanchi Array	12.26	35	iP	P	13 12 32.2	-1.1
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	Makanchi Array	12.26	35	P	P	13 12 32.6	-0.7
	comp=Z,1.5nm,0.3s,baz=227,slow=19,SNR=49						
KOLN	Koldanda	13.58	131	eP	P	13 12 49.5	-0.7
	comp=Z,86nm,0.4s						
KOLN				eS	S	13 15 12.1	-5.0
	comp=Z,186nm,0.5s						
WMQ	Urumqi	13.65	56	eP	P	13 12 51.9	+1.0
WMQ				XP		13 13 40.1	
WMQ				S	S	13 15 17.8	-0.7
WMQ				AMB	AMB		
	comp=Z,51nm,0.9s						
WMQ				AMB	AMB		
	comp=Z,96nm,4.2s						

WMQ LR LR
comp=N,1µm,16.1s
WMQ LR LR
comp=E,2µm,16.2s
WMQ LR LR
comp=Z,2µm,16.6s
GKN Gorkha 14.06 127 *e*P **P 13 12 56.3 +0.1**
comp=Z,171nm,0.4s
GKN *e*S **S 13 15 21.3 -6.7**
KURK Kurchatov 14.32 17 ⇑P **P 13 13 01.0 +1.8**
comp=Z,13nm,0.8s
KURK ⇑S **S 13 15 41.2 +7.7**
comp=Z,61nm,2.4s
KURK Kurchatov 14.32 17 *e*P **P 13 12 57.8 -1.4**
KURK *e*S **S 13 15 40.8 +7.3**
KURK pmax pmax
comp=Z,26nm,0.8s
KURK Kurchatov 14.32 17 *e*Pn **P 13 12 57.8 -1.4**
comp=Z,26nm,0.8s
KURK *e* 13 13 02.7
KURK *e*S **S 13 15 40.8 +7.3**
ALBI Allahabad 14.53 142 *e*P **P 13 13 00.0 -2.0**
KKN Kakani 14.62 126 *e*P **P 13 13 02.9 -0.3**
comp=Z,169nm,0.6s
KKN *e*S **S 13 15 35.1 -5.5**
KKN Kakani 14.62 126 *e*P **P 13 13 02.9 -0.3**
KKN *e*S **S 13 15 35.1 -5.5**
KKN pmax pmax
comp=Z,85nm,0.6s
DMN Daman 14.64 127 *e*P **P 13 13 03.7 +0.4**
comp=Z,106nm,0.4s
DMN *e*S **S 13 15 36.1 -4.8**
PKI Pulchoki 14.86 126 *e*P **P 13 13 05.9 -0.2**
comp=Z,122nm,0.4s
PKI *e*S **S 13 15 40.2 -5.7**
PKI Pulchoki 14.86 126 *e*P **P 13 13 05.9 -0.2**
PKI *e*S **S 13 15 40.2 -5.7**
PKI pmax pmax
comp=Z,61nm,0.4s
AB31 Akbulak array 14.87 328 ⇑P **P 13 13 03.5 -2.6**
comp=Z,19nm,0.4s
AB31 ⇑S **S 13 15 39.1 -7.0**
comp=Z,28nm,0.6s
AB31 Akbulak array 14.87 328 P **P 13 13 03.7 -2.4**
AB31 S **S 13 15 39.4 -6.7**
AB31 pmax pmax
comp=Z,9.0nm,0.4s
GUN Gumba 14.93 124 *e*P **P 13 13 07.5 +0.5**
comp=Z,108nm,0.4s
GUN *e*S **S 13 15 42.1 -5.5**
VOSK Vostochnaya 15.53 358 ⇓P **P 13 13 12.4 -1.8**
comp=Z,26nm,1.5s
VOSK ⇑S **S 13 15 59.5 -1.4**
comp=Z,28nm,1.1s
VOSK Vostochnaya 15.53 358 *i*P **P 13 13 12.4 -1.9**
BVA0 Borovoye Array 15.86 356 ⇑P **P 13 13 16.1 -2.1**
comp=Z,6.6nm,1.0s
BVA0 ⇑S **S 13 16 05.6 -2.5**
comp=Z,6.5nm,1.8s,baz=164,slow=30,SNR=4.9
BVA0 Borovoye Array 15.86 356 P **P 13 13 17.8 -0.5**
BVA0 pmax pmax
comp=Z,7.0nm,1.0s
BVAR Borovoye Array 15.86 356 P **P 13 13 17.0 -1.3**
comp=Z,6.7nm,0.3s,baz=165,slow=12,SNR=80
BVAR S **S 13 16 11.5 +3.3**
comp=Z,0.4nm,0.3s,baz=150,slow=21,SNR=3.5
ZRNK Zerenda 15.88 353 ⇓P **P 13 13 16.8 -1.8**
comp=Z,54nm,1.1s
ZRNK ⇓S **S 13 16 05.4 -3.3**
comp=Z,25nm,1.3s
ZRNK Zerenda 15.88 353 ⇑*i*P **P 13 13 18.0 -0.6**
ZRNK pmax pmax
comp=Z,42nm,0.5s
ZRNK Zerenda 15.88 353 ⇑*i*P **P 13 13 18.0 -0.6**
comp=Z,42nm,0.5s
BRVK Borovoye 15.89 356 *e*P **P 13 13 17.0 -1.8**
BRVK *e*S **S 13 16 15.4 +6.3**
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 15.89 356 *e*P **P 13 13 17.0 -1.8**
comp=Z,15nm,0.8s
BRVK *e*S **S 13 16 15.4 +6.3**
LSA Lhasa 17.65 110 P **P 13 13 43.3 +3.8**
LSA AMB AMB
comp=Z,60nm,0.8s
POO Poona 18.68 174 *e* **P 13 13 54.0 +3.6**
ZAL Zalesovo 18.93 24 P **P 13 13 51.9 -0.9**
comp=Z,16nm,0.3s,baz=258,slow=6.0,SNR=64
ZAL S **S 13 17 14.5 +1.2**
comp=Z,0.4nm,0.3s,baz=172,slow=24,SNR=7.0
ZAL Zalesovo 18.93 24 P **P 13 13 51.9 -0.9**
ZAL S **S 13 17 14.5 +1.2**
NVS Novosibirsk 19.25 20 ⇑*i*P **P 13 13 54.8 -1.2**
NVS *e*S **S 13 17 19.5 +0.3**
NVS pmax pmax
comp=Z,22nm,1.0s
NVS pmax pmax
comp=N,28nm,1.4s
NVS smax
comp=N,67nm,1.8s
NVS smax
comp=E,46nm,2.0s
SHL Shillong 20.54 119 *e*P **P 13 14 10.0 +0.7**
SHL *e* 13 17 45.5
HYB Hyderabad 20.55 162 *e*P **P 13 14 15.0 +5.5**
SVE Sverdlovsk 21.04 342 ⇓*e*P **P 13 14 13.5 -0.6**
SVE *e* 13 15 09.0
SVE *e*S **S 13 18 02.0 +10**
SVE pmax pmax
comp=Z,80nm,1.5s,mb4.8
SVE MLR MLR
comp=N,100nm,10.0s
SVE MLR MLR
comp=E,100nm,10.0s
SVE MLR MLR
comp=Z,100nm,10.0s
ARU Arti 21.23 339 ⇓*i*P **P 13 14 16.4 +0.4**
ARU *e*S **S 13 17 59.1 +3.3**
ARU pmax pmax
comp=Z,74nm,1.2s,mb4.9
ARU Arti 21.23 339 ⇓*i*P **P 13 14 16.2 +0.2**
comp=Z,126nm,1.4s,mb5.1
GNI Garni 21.43 286 P **P 13 14 21.8 +3.7**
comp=Z,17nm,0.7s,mb4.5,baz=94,slow=6.6,SNR=6.5
GTA Gaotai 21.93 76 *e*P **P 13 14 25.5 +2.6**
GTA AMB AMB
comp=Z,16nm,0.8s,mb4.5
ZEI Tsey 22.16 293 *e*P **P 13 14 26.8 +1.7**
ZEI pmax pmax
comp=Z,4.0nm,0.5s,mb4.1
ONI Oni 22.48 293 P **P 13 14 31.1 +2.9**
GOF Gofitskoye 23.08 299 ⇓*i*P **P 13 14 35.1 +1.2**
GOF *e*S **S 13 18 25.0 -2.7**
GOF pmax pmax
comp=Z,49nm,0.8s,mb5.0
KIV Kislovodsk 23.16 296 P **P 13 14 36.0 +1.2**
KIV pmax pmax
comp=Z,14nm,0.5s,mb4.7
KIV Kislovodsk 23.16 296 P **P 13 14 36.0 +1.2**
comp=Z,14nm,0.5s,mb4.7
LZH Lanzhou 25.54 83 ⇑P **P 13 14 59.5 +2.3**
LZH AMB AMB
comp=Z,29nm,1.4s,mb4.7
ZAK Zakamensk 25.94 50 ⇑*e*P **P 13 15 02.0 +1.3**
ZAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
MALT Malatya 26.46 283 ⇓*e*P **P 13 15 07.7 +2.0**
MALT pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
MALT Malatya 26.46 283 ⇓*e*P **P 13 15 07.7 +2.0**
comp=Z,6.7nm,0.7s,mb4.4
SONM Songino Array 27.29 56 P **P 13 15 14.3 +1.2**
comp=Z,13nm,0.8s,mb4.6,baz=256,slow=10,SNR=66
ULN Ulaanbaatar 27.73 56 *c i*P **P 13 15 05.2 -12**
OBN Obninsk 29.92 318 *d i*P **P 13 15 35.8 -0.7**
OBN *e* 13 16 38.4
OBN *e*S **S 13 20 14.3 -4.6**
OBN pmax pmax
comp=Z,35nm,1.2s,mb5.0
BR131 Keskin Array S 29.97 287 *e*P **P 13 15 37.7 +0.7**
comp=Z,5.9nm,0.5s,mb4.6
BRTR Keskin Array B 29.97 287 P **P 13 15 37.6 +0.5**
comp=Z,7.7nm,0.6s,mb4.6,baz=101,slow=8.4,SNR=32
HHC Hu-ho-hao-te 30.79 71 *e*P **P 13 15 40.3 -3.9**
HHC AP pP 13 16 23.8 +1.3
HHC XP sP 13 16 47.8 +3.9
HHC AMB AMB
comp=Z,11nm,1.2s,mb4.5
HHC AMB AMB
comp=Z,71nm,9.0s
HHC LR LR
comp=N,175nm,12.0s
HHC LR LR
comp=E,179nm,12.0s
HHC LR LR
comp=Z,61nm,13.0s
GYA Guiyang 31.20 100 ⇓*i*P **P 13 15 49.3 +1.3**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.9
CIT Chita 32.60 50 *e*P **P 13 16 00.3 +0.5**
CIT pmax pmax
comp=Z,49nm,1.4s,mb5.0
AKASG Malin Array Be 33.12 308 P **P 13 16 03.6 -0.7**
comp=Z,2.4nm,0.3s,mb4.4,baz=82,slow=7.0,SNR=47
AKASG PP PP 13 17 21.2 -0.9
comp=Z,3.4nm,0.8s,baz=91,slow=13,SNR=6.1
AKASG ScP 13 22 07.2
comp=Z,0.3nm,0.3s,baz=72,slow=3.4,SNR=6.3
AKASG Malin Array Be 33.12 308 P **P 13 16 03.6 -0.7**
AKASG PP PP 13 17 21.2 -0.9
AKASG ScP 13 22 07.2
BOD Bodaibo 34.31 39 *e*P **P 13 16 12.4 -1.9**
BOD pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
VRI Vrincioaia 34.56 299 ⇓P **P 13 16 17.9 +1.3**
MLR Muntele Rosu 35.12 298 P **P 13 16 22.7 +1.3**
comp=Z,17nm,0.7s,mb4.8,baz=92,slow=1.2,SNR=34
MLR Muntele Rosu 35.12 298 ⇑P **P 13 16 23.1 +1.7**
MLR Muntele Rosu 35.12 298 ⇑P **P 13 16 23.1 +1.7**
BURAR Bucovina Array 35.56 302 ⇓P **P 13 16 25.8 +0.7**
BURAR Bucovina Array 35.56 302 ⇓P **P 13 16 25.8 +0.8**
LVZ Lovozero 37.10 338 *i*P **P 13 16 37.2 -0.5**
LVZ pmax pmax
comp=Z,24nm,1.7s,mb4.5
MMB Musomiste 37.15 292 *e*P **P 13 16 39.0 +0.5**
DRGR 37.30 301 ⇓P **P 13 16 41.0 +1.4**
FINES FINESS Array B 37.34 325 P **P 13 16 39.6 -0.2**
comp=Z,5.6nm,0.7s,mb4.3,baz=117,slow=13,SNR=20
FINES PP PP 13 18 06.5 -4.3
comp=Z,4.9nm,0.8s,baz=126,slow=16,SNR=6.3
VTS Vitosha 37.38 294 *i*P **P 13 16 41.2 +0.9**
KAF Kangasniemi 37.46 326 *e*p **P 13 16 40.3 -0.5**
comp=Z,6.9nm,1.0s,mb4.2,baz=110,slow=8.5
KOLS Kolonicke sedl 37.52 304 *e*P **P 13 16 42.2 +0.8**
KOLS *e*PP PP 13 18 12.6 -0.2
KKB Krupnik 37.58 293 *e*P **P 13 16 42.5 +0.4**
STHS Stebnicka Huta 38.18 305 *e*P **P 13 16 47.3 +0.3**
STHS *e*PP PP 13 18 27.9 +7.9
NJ2 Nanjing 38.61 83 *e*P **P 13 16 51.5 +0.8**
NJ2 AP pP 13 17 33.3 +2.9
NJ2 XP sP 13 17 57.5 +5.4
NJ2 PP PP 13 18 28.6 +3.5
NJ2 S **S 13 22 33.0 +0.3**
NJ2 AMB AMB
comp=Z,50nm,1.2s,mb5.0
NJ2 AMB AMB
comp=Z,740nm,5.5s
NJ2 LR LR
comp=N,1µm,30.0s
NJ2 LR LR
comp=E,1µm,28.0s
NJ2 LR LR
comp=Z,1µm,30.0s
KECS Kecovo 38.71 304 *e*PN **P 13 16 47.1 -4.3**
NIE Niedzica 38.79 305 *e*P **P 13 16 53.5 +1.5**
OJC Ojcow 39.11 306 *e*P **P 13 16 54.7 +0.1**
KEV Kevo 40.44 338 *e*p **P 13 17 04.9 -0.5**
comp=Z,3.0nm,0.3s,mb4.4
MORC Moravsky Berou 40.58 306 *e*P **P 13 17 07.6 +0.9**
MORC pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
MORC Moravsky Berou 40.58 306 *e*P **P 13 17 07.6 +0.9**
comp=Z,6.7nm,0.8s,mb4.3
ARCES ARCESS Array B 40.80 337 P **P 13 17 08.5 +0.2**
comp=Z,7.1nm,0.3s,mb4.7,baz=118,slow=9.2,SNR=143
ARCES LR LR 13 35 01.1
comp=Z,58nm,20.1s,baz=90,slow=37
ARCES ARCESS Array B 40.80 337 P **P 13 17 08.5 +0.2**
SSE Sheshan 40.81 84 P **P 13 17 09.8 +1.0**
SSE XP sP 13 18 15.1 +4.7
SSE PCP PcP 13 19 05.8 -0.9
SSE S **S 13 23 07.0 +1.5**
SSE XS 13 24 22.8
SSE AMB AMB
comp=Z,47nm,1.0s,mb5.1
SSE AMB AMB
comp=Z,667nm,5.3s
SSE LR LR
comp=N,20nm,14.7s
SSE LR LR
comp=E,33nm,14.7s
SSE LR LR
comp=Z,36nm,15.0s
VRAC Vranov 41.23 305 P **P 13 17 13.1 +1.1**
comp=Z,6.6nm,0.5s,mb4.5,baz=74,slow=11,SNR=6.8
KTK1 Kautokeino 41.29 336 ⇓*i*P **P 13 17 12.0 -0.3**
PERS Pernice 42.51 301 *e*P **P 13 17 23.2 +0.8**
BRG Berggiesshubel 42.80 308 *i*P **P 13 17 25.3 +0.5**
BRG pmax pmax
comp=Z,13nm,0.8s,mb4.6
BRG Berggiesshubel 42.80 308 *i*P **P 13 17 25.3 +0.5**
comp=Z,13nm,0.8s,mb4.6
YAK Yakutsk 42.94 36 *e*P **P 13 17 25.7 0.0**
YAK pmax pmax
comp=Z,23nm,0.7s,mb4.9
YAK Yakutsk 42.94 36 *e*P **P 13 17 25.7 0.0**
comp=Z,23nm,0.7s,mb4.9
TRO Tromso 42.94 336 *e*P **P 13 17 24.6 -1.0**
HFS Hagfors 43.00 321 P **P 13 17 26.0 -0.2**
comp=Z,21nm,0.4s,mb5.1,baz=90,slow=10,SNR=98
LJU Ljubljana 43.01 301 *i*P **P 13 17 27.9 +1.4**
GERES GERESS Array B 43.16 305 P **P 13 17 28.2 +0.5**
comp=Z,0.5nm,0.3s,mb3.6,baz=90,slow=5.3,SNR=4.7
GERES PP PP 13 19 09.8 -2.4
comp=Z,1.2nm,0.7s,baz=73,slow=14,SNR=7.5
GERES ScP 13 22 46.1
comp=Z,0.3nm,0.2s,baz=135,slow=3.8,SNR=3.4
KHC Kasperske Hory 43.21 305 *i*P **P 13 17 28.3 +0.3**
CLL Collm 43.36 308 ⇓*i*P **P 13 17 29.2 0.0**
CLL pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
CLL Collm 43.36 308 ⇓*i*P **P 13 17 29.2 0.0**
comp=Z,9.0nm,0.9s,mb4.4
CLL Collm 43.36 308 ⇓P **P 13 17 29.2 0.0**
comp=Z,logA/T=1.0,mb4.4
MDJ Mudanjiang 43.38 61 P **P 13 17 30.6 +1.1**
MDJ AMB AMB
comp=Z,6.0nm,0.6s,mb4.4
MDJ AMB AMB
comp=Z,118nm,3.7s
MOR8 Moi Rana 43.59 330 ⇓*i*P **P 13 17 30.1 -0.7**
comp=Z,47nm,0.9s,mb5.1
MOR8 Moi Rana 43.59 330 ⇓*i*P **P 13 17 30.1 -0.7**
MOR8 AMb AMB 13 17 31.2
comp=Z,47nm,0.9s,mb5.1
ROBS Robic 43.67 301 *e*P **P 13 17 32.0 +0.2**
STOK Stokkvaagen 44.19 330 *e*P **P 13 17 35.5 -0.1**
NB2 NORSAR Subarra 44.29 323 P **P 13 17 35.9 -0.6**
comp=Z,19nm,0.8s,mb4.8,baz=93,slow=7.9
NB2 NORSAR Subarra 44.29 323 P **P 13 17 35.9 -0.6**
NB2 pmax pmax
comp=Z,19nm,0.8s,mb4.8
NB2 NORSAR Subarra 44.29 323 P **P 13 17 35.9 -0.6**
baz=93,slow=7.9
NB2 NORSAR Subarra 44.29 323 PP PP 13 19 21.0 -2.2
baz=93,slow=9.3
NOA NORSAR Array B 44.29 323 P **P 13 17 35.9 -0.6**
comp=Z,12nm,0.7s,mb4.6,baz=94,slow=7.8,SNR=51
NOA PP PP 13 19 21.4 -1.8
comp=Z,1.5nm,0.8s,baz=98,slow=9.0,SNR=3.5
MOX Moxa 44.30 308 *e*P **P 13 17 37.3 +0.6**
MOX Moxa 44.30 308 *i*P **P 13 17 37.3 +0.6**
NAO01 NORSAR Array S 44.44 322 ⇓*e*P **P 13 17 36.8 -0.9**
comp=Z,11nm,0.9s,mb4.5
GRA1 Grafenberg Arr 44.67 306 *e*P **P 13 17 41.1 +1.4**
comp=Z,14nm,0.9s,mb4.6
GRF Grafenberg Arr 44.67 306 *e*P **P 13 17 41.1 +1.4**
GRF pmax pmax
comp=Z,14nm,0.9s,mb4.6
GRF Grafenberg Arr 44.67 306 *e*P **P 13 17 41.1 +1.4**
GRF pmax pmax
comp=Z,14nm,0.9s,mb4.6
GRF Grafenberg Arr 44.67 306 *e*P **P 13 17 41.1 +1.4**
comp=Z,14nm,0.9s,mb4.6
TIXI Tiksi 44.83 22 *d i*P **P 13 17 40.8 +0.2**
TIXI pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
FUR Furstenfeldbru 44.86 304 *e*P **P 13 17 42.7 +1.5**
CLZ Clausthal 44.94 309 *e*P **P 13 17 41.9 +0.1**
DAVOX Davos 46.04 302 P **P 13 17 50.4 -0.2**
comp=Z,11nm,0.6s,mb4.7,baz=123,slow=8.9,SNR=12
TNS Taunus Mts 46.36 307 *e*P **P 13 17 54.1 +1.1**
CDF Champ du Feu 47.44 305 *e*P **P 13 18 00.6 -0.8**
PGF Pioggiola 47.64 297 *e*P **P 13 18 02.5 -0.6**
comp=Z,55nm,1.0s,mb4.8
PGF Pioggiola 47.64 297 *e*P **P 13 18 02.5 -0.6**
PGF pmax pmax
comp=Z,28nm,1.0s,mb4.8
JNU Nakatsue 47.66 76 P **P 13 18 04.0 +0.6**
comp=Z,18nm,0.8s,mb4.8,baz=353,slow=0.2,SNR=11
HINF Hinteralfeld 47.84 304 *e*P **P 13 18 03.9 -0.6**
comp=Z,18nm,0.9s,mb4.4
HINF Hinteralfeld 47.84 304 *e*P **P 13 18 03.9 -0.6**
HINF pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
HAU Haudompre 48.13 305 *e*P **P 13 18 06.3 -0.5**
SBF Sospel 48.39 299 *e*P **P 13 18 08.8 0.0**
comp=Z,69nm,0.9s,mb5.0
SBF Sospel 48.39 299 *e*P **P 13 18 08.8 0.0**
SBF pmax pmax
comp=Z,35nm,0.9s,mb5.0
LPG La Plagne 48.44 301 *e*P **P 13 18 09.7 +0.5**
LPL La Plagne 48.45 301 *e*P **P 13 18 09.6 +0.3**
comp=Z,30nm,0.9s,mb4.6
LPL La Plagne 48.45 301 *e*P **P 13 18 09.6 +0.3**
LPL pmax pmax
comp=Z,15nm,0.9s,mb4.6
CABF La Chapelle 48.62 303 *e*P **P 13 18 10.3 -0.3**
comp=Z,18nm,0.6s,mb4.6
CABF La Chapelle 48.62 303 *e*P **P 13 18 10.3 -0.3**
CABF pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
MBDF Montbardon 48.62 300 *e*P **P 13 18 10.6 0.0**
BAIF Baives 49.07 308 *e*P **P 13 18 14.1 +0.1**
LMR La Mourre 49.18 299 *e*P **P 13 18 14.8 -0.1**
SMRF Simiane la Rot 49.65 300 *e*P **P 13 18 18.0 -0.5**
KMBO Kilima Mbogo 49.88 228 *i*P **P 13 18 25.6 +5.0**
KMBO pmax pmax
comp=Z,2.0nm,0.5s
KMBO Kilima Mbogo 49.88 228 P **P 13 18 21.6 +1.0**
comp=Z,1.6nm,0.5s,mb3.9,baz=49,slow=19,SNR=3.3
LOR Lormes 49.94 304 *e*P **P 13 18 19.7 -0.9**
VIVF Saint-Julien-l 50.03 301 *e*P **P 13 18 21.0 -0.3**
comp=Z,15nm,0.8s,mb4.4
VIVF Saint-Julien-l 50.03 301 *e*P **P 13 18 21.0 -0.3**
VIVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
SMF Signal de Mont 50.11 304 *e*P **P 13 18 21.4 -0.5**
comp=Z,38nm,0.9s,mb4.7
SMF Signal de Mont 50.11 304 *e*P **P 13 18 21.4 -0.5**
SMF pmax pmax
comp=Z,19nm,0.9s,mb4.7
SSF Saint Saulge 50.23 304 *e*P **P 13 18 22.0 -0.8**
SSF pmax pmax
comp=Z,19nm,1.3s,mb4.6
SSF Saint Saulge 50.23 304 *e*P **P 13 18 22.0 -0.8**
comp=Z,19nm,1.3s,mb4.6
AVF Avril sur Loir 50.40 304 *e*P **P 13 18 23.5 -0.6**
comp=Z,26nm,0.7s,mb4.7
AVF Avril sur Loir 50.40 304 *e*P **P 13 18 23.5 -0.6**
AVF pmax pmax
comp=Z,13nm,0.7s,mb4.7
LASF Ste Croix 50.81 300 *e*P **P 13 18 27.2 0.0**
comp=Z,16nm,1.1s,mb4.7
TCF Toulx Ste Croi 51.29 304 *e*P **P 13 18 30.5 -0.3**
comp=Z,30nm,0.9s,mb4.6
TCF Toulx Ste Croi 51.29 304 *e*P **P 13 18 30.5 -0.3**
TCF pmax pmax
comp=Z,15nm,0.9s,mb4.6
YSS Yuzh-Sakhalins 51.78 55 *i*P **P 13 18 34.7 +0.3**
YSS pmax pmax
comp=Z,34nm,1.7s,mb4.7
CAF Calviac 51.79 302 *e*P **P 13 18 34.5 0.0**
comp=Z,28nm,1.1s,mb4.5
CAF Calviac 51.79 302 *e*P **P 13 18 34.5 0.0**
CAF pmax pmax
comp=Z,14nm,1.1s,mb4.5
MAJO Matsushiro 51.97 69 *e*P **P 13 18 35.6 -0.4**
MAJO pmax pmax
comp=Z,11nm,0.9s,mb4.5
MAJO Matsushiro 51.97 69 *e*P **P 13 18 35.6 -0.4**
comp=Z,11nm,0.9s,mb4.5
MJAR Matsushiro Arr 51.97 69 P **P 13 18 36.0 0.0**
comp=Z,7.8nm,0.9s,mb4.3,baz=286,slow=9.9,SNR=14
RJF Les Rejaudoux 52.04 302 *e*P **P 13 18 36.4 0.0**
MTLF Montolieu 52.17 300 *e*P **P 13 18 37.1 -0.3**
comp=Z,22nm,0.9s,mb4.5
MTLF Montolieu 52.17 300 *e*P **P 13 18 37.1 -0.3**
MTLF pmax pmax
comp=Z,11nm,0.9s,mb4.5
FLN La Foliniere 52.36 307 *e*P **P 13 18 38.2 -0.5**
GRR Gorron 52.70 307 *e*P **P 13 18 40.1 -1.2**
comp=Z,23nm,0.8s,mb4.7
GRR Gorron 52.70 307 *e*P **P 13 18 40.1 -1.2**
GRR pmax pmax
comp=Z,12nm,0.8s,mb4.7
MFF Saint Martin d 52.76 304 *e*P **P 13 18 40.7 -1.0**
ERM Erimo 53.60 61 *i*P **P 13 18 52.1 +4.1**
SGMF Saint Gilles 53.83 307 *e*P **P 13 18 48.7 -0.8**
comp=Z,62nm,1.1s,mb5.0
SGMF Saint Gilles 53.83 307 *e*P **P 13 18 48.7 -0.8**
SGMF pmax pmax
comp=Z,31nm,1.1s,mb5.0
ETSF Etsaut 54.23 300 *e*P **P 13 18 52.2 -0.4**
comp=Z,18nm,0.8s,mb4.5
ETSF Etsaut 54.23 300 *e*P **P 13 18 52.2 -0.4**
ETSF pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
ROSF Rostrenen 54.26 307 *e*P **P 13 18 51.7 -0.9**
QUIF Quistinic 54.32 307 *e*P **P 13 18 51.8 -1.3**
comp=Z,28nm,0.8s,mb4.7
QUIF Quistinic 54.32 307 *e*P **P 13 18 51.8 -1.3**
QUIF pmax pmax
comp=Z,14nm,0.8s,mb4.7
ELIZ Elizondo 54.81 301 P **P 13 18 51.9 -4.8**
comp=Z,1.0nm,0.6s,mb5.7
ELAN Lanestosa 56.09 302 P **P 13 19 05.8 0.0**
comp=Z,15nm,0.8s,mb4.9
EVIA Vianos 57.20 296 P **P 13 19 13.2 -0.6**
EVIA pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
EVIA Vianos 57.20 296 P **P 13 19 13.2 -0.6**
comp=Z,5.2nm,0.5s,mb4.6
EHUE Huescar 57.60 295 P **P 13 19 16.1 -0.5**
EHUE pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
EHUE Huescar 57.60 295 P **P 13 19 16.1 -0.5**
comp=Z,6.9nm,0.7s,mb4.6
ESDC Sonseca Array 57.82 298 P **P 13 19 17.1 -1.0**
comp=Z,4.2nm,0.5s,mb4.5,baz=58,slow=7.3,SNR=20
ESDC Sonseca Array 57.82 298 P **P 13 19 17.2 -0.9**
comp=Z,12nm,0.6s,mb4.9
EBAN Banos Encina 58.31 296 P **P 13 19 21.2 -0.3**
EBAN pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
EBAN Banos Encina 58.31 296 P **P 13 19 21.2 -0.4**
comp=Z,8.7nm,0.7s,mb4.7
EADA Adamuz 58.88 296 P **P 13 19 24.4 -1.1**
comp=Z,30nm,1.2s,mb5.0
ECAB El Cabril 59.52 297 P **P 13 19 29.1 -0.8**
comp=Z,2.4nm,0.8s,mb4.1
EBAD Badajoz 60.35 298 P **P 13 19 34.6 -1.0**
comp=Z,22nm,0.7s,mb5.1
EMIN Mina Concepcio 60.54 297 P **P 13 19 35.9 -0.9**
comp=Z,28nm,1.1s,mb5.0
SUMG Summit 60.65 341 *e*P **P 13 19 37.4 +0.3**
comp=Z,15nm,0.8s,mb4.9
EGRO El Granado 61.22 297 P **P 13 19 40.7 -0.7**
comp=Z,20nm,0.9s,mb4.9
INK Inuvik 73.08 10 P **P 13 20 55.0 +0.1**
comp=Z,2.3nm,0.6s,mb4.1,baz=356,slow=5.8,SNR=11
YKA Yellowknife Ar 80.50 3 P **P 13 21 36.4 +0.3**
comp=Z,2.1nm,0.6s,mb4.0,baz=351,slow=5.5,SNR=10
YKA Yellowknife Ar 80.50 3 P **P 13 21 36.4 +0.3**
WRA Warramunga Arr 81.71 123 P **P 13 21 42.5 -0.8**
comp=Z,0.4nm,0.5s,baz=328,slow=5.1,SNR=8.1

MAN 19 13:13:32.8, 10.39N×126.69E, h12km, mb4.4, ML3.2, MS3.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.72**	**314**	*e*P	Pn	13 14 01.8	-1.1
BESP				*e*S	Sn	13 14 23.4	-1.6
BUTP	**Butuan**	**1.76**	**217**	*e*P	Pn	13 14 02.6	-0.9
BUTP				*e*S	Sn	13 14 25.9	-0.1
MSLP	**Maasin**	**1.82**	**262**	*e*P	Pn	13 14 04.3	-0.1
MSLP				*e*S	Sn	13 14 28.7	+1.2
CNP	**Catarman**	**2.90**	**317**	*e*P	Pn	13 14 19.6	-0.1
CNP				*e*S	Sn	13 14 50.7	-4.1
BUKP	**Musuan**	**2.97**	**213**	*e*P	Pn	13 14 16.4	-4.3
BUKP				*e*S	Sn	13 14 58.1	+1.5
PAGZ	**Pagadian**	**4.13**	**233**	*e*P	Pn	13 14 37.6	+0.4

PRE 19 13:23:39.2±1.4, 26.36S×27.36E, h2km, ML3.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.56**	**180**	*e*P	Pg	13 23 51.1	+0.6
PRYS				*e*S	Sg	13 23 57.7	-0.3
PRYS				AML	AML	13 24 02.8	
	comp=Z,3μm,0.7s						
SLR	**Silverton**	**1.04**	**53**	*e*P	Pb	13 23 59.8	+0.2
SLR				*e*S	Sb	13 24 13.3	-0.2
SLR				AML	AML	13 24 20.6	
	comp=Z,351nm,0.2s						
SEK	**Senekal**	**1.97**	**173**	*e*S	Sn	13 24 39.9	+0.4
SEK				AML	AML	13 24 41.8	
	comp=Z,797nm,0.4s						
SWZ	**Schweizer**	**1.99**	**245**	*e*P	Pn	13 24 15.0	+0.8
SWZ				*e*S	Sn	13 24 40.0	0.0
SWZ				AML	AML	13 24 46.0	
	comp=Z,2μm,0.3s						
NWL	**Newcastle**	**2.68**	**121**	*e*P	Pn	13 24 24.4	+0.2
NWL				*e*S	Sn	13 24 56.8	-0.9
NWL				AML	AML	13 25 03.5	
	comp=Z,249nm,0.4s						
BOSA	**Boshof**	**2.92**	**219**	*e*P	Pn	13 24 27.4	-0.1
BOSA				*e*S	Sn	13 25 02.3	-1.3
POGA	**Pongola**	**3.93**	**106**	*e*P	Pn	13 24 42.5	+0.5
POGA				*e*S	Sn	13 25 27.7	-1.6
KSD	**Kokstad**	**4.54**	**157**	*e*P	Pn	13 24 19.0	-32
KSD				*e*S	Sn	13 25 10.6	-34
KSD				AML	AML	13 25 27.1	
	comp=Z,66nm,0.4s						
PKA	**Prieska**	**5.23**	**230**	*e*P	Pn	13 24 45.0	-15
PKA				*e*S	Sn	13 25 43.9	-18
PKA				AML	AML	13 26 03.7	
	comp=Z,80nm,0.4s						
CVNA	**Calvinia**	**8.38**	**231**	*e*P	P	13 25 42.6	-2.0
CVNA				*e*S	Sn	13 27 12.4	-8.6
CVNA				AML	AML	13 27 17.0	
	comp=Z,14nm,0.4s						

*NEIC **19** 13:28:24.3±0.4, 0.10N×123.59E, h150km, mb4.2/4, Error ellipse: s-maj=31.3km s-min=8.0km az=71.0*
*IDC **19** 13:28:24.8±6.2, 0.11N×123.63E, h152km±59km, mb3.5/7, mb1 3.8/8, mb1mx3.6/16, mbtmp4.0/8, Error ellipse: s-maj=51.7km s-min=15.0km az=74.0*
ISC 19 13:28:19.0±5.8**, 0.1N**±0.1×**123.3E**±0.3**, h113km**±57km**, n14, σ0s41**/14**, mb4.0**/10**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.24**	**173**	*e*P	**P**	**13 32 25.7**	**-0.3**
	6.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**18.24**	**173**	P	**P**	**13 32 25.7**	**-0.3**
	2.6nm,0.3s,baz=359,slow=7.6,SNR=25						
WRAB	**Tennant Creek**	**22.65**	**152**	*e*P	**P**	**13 33 11.5**	**+0.1**
	3.5nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**22.66**	**152**	P	**P**	**13 33 11.4**	**0.0**
	1.6nm,0.4s,mb3.7,baz=333,slow=10,SNR=32						
WB2	**Warramunga Arr**	**22.66**	**152**	*e*P	**P**	**13 33 11.9**	**+0.4**
STKA	**Stephens Creek**	**36.20**	**153**	P	**P**	**13 35 12.5**	**-0.2**
	1.2nm,0.4s,mb4.2,baz=334,slow=8.6,SNR=5.2						
STKA				PcP	PcP	13 37 34.4	-1.7
	0.6nm,0.3s,baz=61,slow=5.8,SNR=3.2						
MJAR	**Matsushiro Arr**	**38.79**	**19**	P	**P**	**13 35 33.9**	**-0.3**
	1.3nm,0.6s,mb4.0,baz=200,slow=9.2,SNR=4.1						
SONM	**Songino Array**	**49.77**	**345**	P	**P**	**13 37 02.7**	**+0.8**
	0.8nm,0.6s,mb3.9,baz=161,slow=8.6,SNR=8.7						
SONM				PcP	PcP	13 38 20.1	-1.3
	0.4nm,0.9s,baz=171,slow=5.4,SNR=3.5						
MKAR	**Makanchi Array**	**58.70**	**328**	P	**P**	**13 38 07.7**	**+0.6**
	0.7nm,0.3s,mb4.2,baz=124,slow=8.6,SNR=13						
MKAR				PcP	PcP	13 38 54.9	-0.5
	0.6nm,0.4s,baz=168,slow=3.1,SNR=5.4						
MKAR	**Makanchi Array**	**58.70**	**328**	P	**P**	**13 38 07.7**	**+0.6**
MKAR				PcP	PcP	13 38 54.9	-0.5
KURK	**Kurchatov**	**63.05**	**330**	*e*P	**P**	**13 38 36.0**	**-0.4**
	4.2nm,0.5s,mb4.6						
ZRNK	**Zerenda**	**69.25**	**328**	*e*P	**P**	**13 39 15.4**	**-0.3**
	1.0nm,0.5s,mb3.9						
VNDA	**Vanda**	**80.31**	**172**	P	**P**	**13 40 18.7**	**+0.2**
	0.4nm,0.6s,mb3.5,baz=332,slow=5.5,SNR=6.3						
ARCES	**ARCESS Array B**	**92.65**	**340**	P	**P**	**13 41 18.2**	**-0.6**
	0.5nm,0.5s,mb4.2,baz=74,slow=6.6,SNR=6.2						

OTT 19 14:22:02.9±0.3**, 71.80N×74.80W, h18km, MN3.7**/1**, 148km southeast from Pond Inlet, Nu, Aftershock Baffin Island Seismic Zone, Northwest Territories, Baffin Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PINU	**Pond Inlet**	**1.33**	**314**	PG	Pn	14 22 09.3	-17
PINU				SG	Sb	14 22 25.9	-18
PINU				Trac		14 22 28.5	
	comp=Z,392nm,0.3s						
QILN	**Qililugaq Expl**	**6.59**	**224**	PN	Pn	14 23 37.8	-3.7
QILN				SN	Sn	14 24 49.6	-7.4
QILN				LG		14 25 26.0	
QILN				Trac		14 25 27.2	
	comp=Z,5.1nm,0.2s						

HLW 19 14:22:24.2, 20.47N×37.75E, h15km, Mb3.8, 2C-2D, Sudan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HSHL	**Bi'r Shalatayn**	**3.41**	**321**	⇑*e*P	Pn	14 23 16.4	-1.6
HAGS	**Hagol**	**4.66**	**327**	⇓*e*P	Pn	14 23 33.7	-2.0
HAGS				S	Sn	14 24 24.5	-5.5
EMRS	**Mersa Alam**	**5.26**	**330**	⇑*e*P	Pn	14 23 41.9	-2.3
HADB		**5.65**	**330**	⇓*e*P	Pn	14 23 47.7	-2.0

MEX 19 14:38:26.8±0.8**, 16.86N×99.75W, h18km**±29km**, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.16**	**272**	*i* P	Pb	14 38 30.0	-1.2
ACX				*i* S	Sb	14 38 33.5	-0.6
CAIG	**El Cayaco**	**0.53**	**291**	*i* P	Pb	14 38 35.8	-1.4
CAIG				*i* S	Sb	14 38 42.4	-1.9

*NEIC **19** 14:45:39.6, 40.08S×175.03E, h12km, ML3.7(WEL), After WEL.*
NEIC Felt at Wanganui.
WEL 19 14:45:39.5±0.1**, 40.08S×175.02E, h12km, ML3.7**/33**, 12C-4D, Error ellipse: s-maj=1.7km s-min=0.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.32**	**355**	⇑P	Pg	14 45 46.8	+0.6
WAZ				S	Sg	14 45 50.9	+0.2
WAZ	**Wanganui**	**0.32**	**355**	⇑P*	Pb	14 45 46.8	+0.2
WAZ				S*	Sb	14 45 51.9	+0.5
WAZ				S*	Sb	14 45 52.1	+0.7
TSZ	**Takapari Road**	**0.72**	**89**	⇓P	Pb	14 45 53.6	+0.1
TSZ				S	Sb	14 46 03.2	+0.1
TSZ	**Takapari Road**	**0.72**	**89**	⇓P*	Pb	14 45 53.6	+0.1
TSZ				S*	Sb	14 46 03.2	+0.1
MRZ	**Mangatainoka R**	**0.72**	**144**	⇑P	Pb	14 45 53.8	+0.2
MRZ				S	Sb	14 46 03.4	+0.2
MRZ	**Mangatainoka R**	**0.72**	**144**	⇑P*	Pb	14 45 53.7	+0.2
MTVZ	**Mangateitei**	**0.77**	**27**	⇑P*	Pb	14 45 53.7	-0.6
MTVZ				S*	Sb	14 46 04.5	0.0
KIW	**Kapiti Island**	**0.79**	**186**	P	Pb	14 45 53.7	-1.0
KIW				S	Sb	14 46 04.4	-0.7
KIW	**Kapiti Island**	**0.79**	**186**	⇑P*	Pb	14 45 53.7	-1.0
KIW				S*	Sb	14 46 03.6	-1.4
PKVZ	**Pokaka**	**0.82**	**18**	P*	Pb	14 45 54.4	-0.8
WNVZ	**Wahianoa**	**0.87**	**31**	⇑P	Pb	14 45 55.3	-0.7
WNVZ				S	Sb	14 46 07.3	-0.1
WNVZ	**Wahianoa**	**0.87**	**31**	⇑P*	Pb	14 45 55.3	-0.7
WNVZ				S*	Sb	14 46 06.8	-0.6
MOVZ	**Moawhango**	**0.87**	**41**	P	Pb	14 45 55.1	-1.0
MOVZ				S	Sb	14 46 06.5	-1.0
MOVZ	**Moawhango**	**0.87**	**41**	P*	Pb	14 45 54.9	-1.2
MOVZ				S*	Sb	14 46 06.4	-1.1
TRVZ	**Turoa**	**0.88**	**28**	P*	Pb	14 45 55.4	-0.7
TRVZ				S*	Sb	14 46 06.9	-0.6
DRZ	**Dome Shelter**	**0.90**	**28**	P	Pb	14 45 56.1	-0.5
DRZ				S	Sb	14 46 08.3	0.0
DRZ	**Dome Shelter**	**0.90**	**28**	*e*P*	Pb	14 45 55.9	-0.7
FWVZ	**Far West T-bar**	**0.92**	**27**	⇓P	Pb	14 45 56.0	-0.8
FWVZ				S	Sb	14 46 07.8	-0.9
FWVZ	**Far West T-bar**	**0.92**	**27**	P*	Pb	14 45 55.9	-0.9
FWVZ				S*	Sb	14 46 07.4	-1.3
TUVZ	**Tukino**	**0.94**	**31**	P	Pb	14 45 56.8	-0.5
TUVZ	**Tukino**	**0.94**	**31**	P*	Pb	14 45 56.6	-0.7
WPVZ	**Whakapapa**	**0.96**	**25**	⇑P	Pb	14 45 56.8	-0.8
WPVZ				S	Sb	14 46 09.5	-0.5
WPVZ	**Whakapapa**	**0.96**	**25**	⇑P*	Pb	14 45 56.8	-0.8
WPVZ				S*	Sb	14 46 09.3	-0.7
CNZ	**Chateau**	**0.97**	**25**	P	Pb	14 45 56.9	-0.8
CNZ	**Chateau**	**0.97**	**25**	⇓P*	Pb	14 45 56.9	-0.8
VRZ	**Vera Road**	**0.97**	**348**	P	Pb	14 45 57.4	-0.3
VRZ				S	Sb	14 46 11.7	+1.4
VRZ	**Vera Road**	**0.97**	**348**	P*	Pb	14 45 57.4	-0.3
NGZ	**Ngauruhoe**	**1.00**	**27**	P	Pb	14 45 57.3	-1.0
NGZ				S	Sb	14 46 10.8	-0.5
NGZ	**Ngauruhoe**	**1.00**	**27**	P*	Pb	14 45 57.5	-0.9
CAW	**Cannon Point**	**1.03**	**178**	P	Pb	14 45 58.4	-0.4
CAW				S	Sb	14 46 11.7	-0.4
CAW	**Cannon Point**	**1.03**	**178**	⇑P*	Pb	14 45 58.4	-0.4
CAW				S*	Sb	14 46 11.7	-0.4
OTVZ	**Oturere**	**1.04**	**29**	P*	Pb	14 45 58.2	-0.7
TWVZ	**Taurewa**	**1.05**	**18**	P	Pb	14 45 58.0	-1.2
TWVZ				S	Sb	14 46 12.2	-0.5
TWVZ	**Taurewa**	**1.05**	**18**	P*	Pb	14 45 57.9	-1.3
WTVZ	**West Tongariro**	**1.05**	**25**	P	Pb	14 45 58.3	-0.9
WTVZ	**West Tongariro**	**1.05**	**25**	⇑P*	Pb	14 45 58.3	-0.9
NEZ	**North Egmont**	**1.07**	**318**	P	Pb	14 45 59.6	+0.1
NEZ	**North Egmont**	**1.07**	**318**	*e*P*	Pb	14 45 59.5	0.0
KRVZ	**Karewarewa**	**1.09**	**26**	P*	Pb	14 45 58.9	-0.9
DUWZ	**D'Urville Isla**	**1.11**	**229**	P*	Pb	14 45 58.7	-1.4
DUWZ				S*	Sb	14 46 13.2	-1.1
BFZ	**Birch Farm**	**1.11**	**123**	P	Pb	14 46 01.6	+1.4
BFZ	**Birch Farm**	**1.11**	**123**	*e*P*	Pb	14 46 01.3	+1.1
NRZ	**Ngariki Road**	**1.12**	**311**	P	Pb	14 46 00.7	+0.5
NRZ	**Ngariki Road**	**1.12**	**311**	P*	Pb	14 46 00.6	+0.4
MTW	**Mount Morrison**	**1.14**	**161**	P	Pb	14 46 01.0	+0.3
MTW				S	Sb	14 46 16.3	+1.0
MTW	**Mount Morrison**	**1.14**	**161**	P*	Pb	14 46 00.7	0.0
MRW	**Makara Radio**	**1.18**	**192**	P	Pb	14 46 00.5	-0.8
MRW				S	Sb	14 46 15.8	-0.5
MRW	**Makara Radio**	**1.18**	**192**	P*	Pb	14 46 00.5	-0.8
PKE	**Pukeiti**	**1.19**	**317**	P	Pb	14 46 02.1	+0.6
PKE				S	Sb	14 46 19.5	+2.9
PKE	**Pukeiti**	**1.19**	**317**	*e*P*	Pb	14 46 01.7	+0.3
NWEZ	**Newall Road**	**1.20**	**312**	P	Pb	14 46 01.8	+0.2
NWEZ	**Newall Road**	**1.20**	**312**	P*	Pb	14 46 01.7	+0.1
KATZ	**Kakaramea**	**1.22**	**26**	P	Pb	14 46 01.2	-0.8
KATZ				S	Sb	14 46 17.6	+0.2
KATZ	**Kakaramea**	**1.22**	**26**	P*	Pb	14 46 01.1	-0.9
WEL	**Wellington**	**1.22**	**189**	P	Pb	14 46 01.3	-0.8
WEL				S	Sb	14 46 17.5	-0.1
WEL	**Wellington**	**1.22**	**189**	P*	Pb	14 46 01.2	-0.9
SNZO	**South Karori**	**1.26**	**191**	P	Pb	14 46 01.8	-0.8
SNZO				S	Sb	14 46 17.9	-0.7
SNZO	**South Karori**	**1.26**	**191**	*e*P*	Pb	14 46 01.5	-1.1
TCW	**Tory Channel**	**1.27**	**206**	P	Pb	14 46 01.4	-1.5
TCW	**Tory Channel**	**1.27**	**206**	*e*PN	Pn	14 46 01.0	-2.0
RITZ	**Rihia Road**	**1.27**	**31**	P	Pb	14 46 02.6	-0.3
RITZ	**Rihia Road**	**1.27**	**31**	*e*PN	Pn	14 46 02.2	-0.9
BHW	**Baring Head**	**1.34**	**185**	P	Pb	14 46 03.4	-0.6
BHW	**Baring Head**	**1.34**	**185**	PN	Pn	14 46 03.3	-0.7
RATZ	**Rangitukua**	**1.34**	**26**	P	Pb	14 46 03.7	-0.3
RATZ	**Rangitukua**	**1.34**	**26**	*e*PN	Pn	14 46 03.0	-1.0
PAWZ	**Paruwai Farm**	**1.34**	**167**	*e*PN	Pn	14 46 03.3	-0.8
MSWZ	**Moikau Station**	**1.35**	**173**	P	Pn	14 46 04.1	-0.1
MSWZ	**Moikau Station**	**1.35**	**173**	*e*PN	Pn	14 46 03.5	-0.7
TRWZ	**Traveller**	**1.42**	**159**	*e*PN	Pn	14 46 05.3	+0.2
HATZ	**Hinemaiaia**	**1.45**	**35**	P	Pn	14 46 04.9	-0.7
HATZ				S	Sb	14 46 24.0	-0.1
HATZ	**Hinemaiaia**	**1.45**	**35**	*e*PN	Pn	14 46 04.9	-0.7
BKZ	**Black Stump Fm**	**1.46**	**52**	P	Pn	14 46 05.5	-0.2
BKZ	**Black Stump Fm**	**1.46**	**52**	PN	Pn	14 46 05.2	-0.6
WATZ	**Wairara**	**1.47**	**22**	P	Pn	14 46 05.6	-0.4
WATZ	**Wairara**	**1.47**	**22**	PN	Pn	14 46 05.6	-0.3
HIZ	**Hauiti**	**1.56**	**355**	*e*P	Pn	14 46 06.4	-0.9
HIZ	**Hauiti**	**1.56**	**355**	PN	Pn	14 46 06.4	-0.9
TUWZ	**Tuamarina**	**1.58**	**211**	*e*PN	Pn	14 46 06.3	-1.3
BSWZ	**Blackbirch Sta**	**1.85**	**208**	P	Pn	14 46 11.3	-0.1
BSWZ	**Blackbirch Sta**	**1.85**	**208**	*e*PN	Pn	14 46 11.0	-0.4
QRZ	**Quartz Range**	**2.04**	**248**	*e*P	Pn	14 46 12.8	-1.4
QRZ	**Quartz Range**	**2.04**	**248**	*e*PN	Pn	14 46 12.7	-1.4
THZ	**Tophouse**	**2.33**	**223**	P	Pn	14 46 17.5	-0.7
THZ	**Tophouse**	**2.33**	**223**	*e*PN	Pn	14 46 16.9	-1.3
URZ	**Urewera**	**2.44**	**43**	*e*P	Pn	14 46 18.1	-1.7
URZ	**Urewera**	**2.44**	**43**	*e*PN	Pn	14 46 18.0	-1.7
KHZ	**Kahutara**	**2.59**	**205**	P	Pn	14 46 20.5	-1.5
KHZ	**Kahutara**	**2.59**	**205**	*e*PN	Pn	14 46 20.4	-1.6
MWZ	**Matawai**	**2.61**	**49**	*e*P	Pn	14 46 21.3	-1.0
DSZ	**Denniston Nort**	**2.95**	**235**	*e*P	Pn	14 46 26.4	-0.8
LTZ	**Lake Taylor**	**3.40**	**217**	*e*P	Pn	14 46 31.3	-2.3
CRLZ	**Canterbury Las**	**3.93**	**206**	*e*P	Pn	14 46 37.3	-3.7
MQZ	**McQueen's Vall**	**4.04**	**205**	*e*P	Pn	14 46 38.1	-4.4

IDC 19 14:51:13.9±1.9**, 4.94N×126.54E, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.6**/16**, mbtmp3.9**/3**, Error ellipse: s-maj=157.7km s-min=24.8km az=64.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.89**	**163**	P	P	14 56 48.9	-0.5
	3.5nm,0.5s,baz=343,slow=10,SNR=12						
STKA	**Stephens Creek**	**39.32**	**160**	P	P	14 58 43.1	-3.5
	1.1nm,0.6s,baz=8.4,slow=14,SNR=3.4						
MKAR	**Makanchi Array**	**56.46**	**325**	P	P	15 00 57.6	-2.3
	0.6nm,0.4s,baz=120,slow=7.4,SNR=14						

WEL 19 14:54:06.6±0.1**, 40.07S×175.00E, h12km, ML3.5**/29**, 10C-2D, Error ellipse: s-maj=1.4km s-min=0.6km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.31**	**359**	⇑P*	Pb	14 54 14.1	+0.4
WAZ				S*	Sb	14 54 18.2	-0.1
MRZ	**Mangatainoka R**	**0.74**	**143**	⇑P*	Pb	14 54 21.0	+0.1
MRZ				S*	Sb	14 54 30.8	0.0
TSZ	**Takapari Road**	**0.74**	**90**	⇓P*	Pb	14 54 20.8	-0.2
TSZ				S*	Sb	14 54 30.4	-0.3
MTVZ	**Mangateitei**	**0.78**	**28**	⇑P*	Pb	14 54 21.0	-0.6
MTVZ				S*	Sb	14 54 32.5	+0.8
KIW	**Kapiti Island**	**0.79**	**185**	⇑P*	Pb	14 54 21.0	-0.9
KIW				S*	Sb	14 54 31.0	-1.3
PKVZ	**Pokaka**	**0.82**	**19**	⇑P*	Pb	14 54 21.7	-0.7
PKVZ				S*	Sb	14 54 34.1	+0.9
WNVZ	**Wahianoa**	**0.87**	**32**	⇑P*	Pb	14 54 22.5	-0.7
WNVZ				S*	Sb	14 54 34.2	-0.4
TRVZ	**Turoa**	**0.88**	**29**	P*	Pb	14 54 22.6	-0.7
TRVZ				S*	Sb	14 54 34.3	-0.5
MOVZ	**Moawhango**	**0.88**	**42**	P*	Pb	14 54 22.2	-1.2
DRZ	**Dome Shelter**	**0.91**	**29**	P*	Pb	14 54 22.7	-1.1
FWVZ	**Far West T-bar**	**0.92**	**28**	⇓P*	Pb	14 54 23.3	-0.7
FWVZ				S*	Sb	14 54 35.2	-0.8
TUVZ	**Tukino**	**0.95**	**33**	P*	Pb	14 54 23.7	-0.7
VRZ	**Vera Road**	**0.96**	**349**	P*	Pb	14 54 24.9	+0.2
WPVZ	**Whakapapa**	**0.96**	**26**	⇑P*	Pb	14 54 24.0	-0.7
WPVZ				S*	Sb	14 54 36.4	-0.8
WPVZ				S*	Sb	14 54 36.4	-0.8
CNZ	**Chateau**	**0.97**	**26**	P*	Pb	14 54 24.1	-0.8
NGZ	**Ngauruhoe**	**1.01**	**28**	P*	Pb	14 54 24.7	-0.8
NGZ				S*	Sb	14 54 38.5	0.0
CAW	**Cannon Point**	**1.04**	**177**	P*	Pb	14 54 25.6	-0.4
OTVZ	**Oturere**	**1.04**	**30**	⇑P*	Pb	14 54 25.5	-0.6
TWVZ	**Taurewa**	**1.05**	**19**	P*	Pb	14 54 25.2	-1.1
NEZ	**North Egmont**	**1.06**	**319**	P*	Pb	14 54 26.9	+0.6
WTVZ	**West Tongariro**	**1.06**	**26**	⇑P*	Pb	14 54 25.6	-0.8
KRVZ	**Karewarewa**	**1.09**	**27**	⇑P*	Pb	14 54 26.1	-0.8
KRVZ				S*	Sb	14 54 40.8	-0.2
DUWZ	**D'Urville Isla**	**1.10**	**228**	P*	Pb	14 54 26.2	-0.9
DUWZ				S*	Sb	14 54 40.1	-1.0
NRZ	**Ngariki Road**	**1.10**	**311**	*e*P*	Pb	14 54 27.8	+0.7
BFZ	**Birch Farm**	**1.13**	**123**	*e*P*	Pb	14 54 28.2	+0.5
MTW	**Mount Morrison**	**1.15**	**161**	P*	Pb	14 54 28.1	+0.1
MTW				S*	Sb	14 54 43.4	+0.6
PKE	**Pukeiti**	**1.17**	**318**	*e*P*	Pb	14 54 28.8	+0.5
NWEZ	**Newall Road**	**1.18**	**312**	*e*P*	Pb	14 54 28.8	+0.4
MRW	**Makara Radio**	**1.18**	**191**	P*	Pb	14 54 27.9	-0.6
MRW				S*	Sb	14 54 43.1	-0.5
KATZ	**Kakaramea**	**1.22**	**27**	P*	Pb	14 54 28.4	-0.8
WEL	**Wellington**	**1.23**	**188**	P*	Pb	14 54 28.6	-0.6
SNZO	**South Karori**	**1.26**	**190**	P*	Pb	14 54 29.0	-0.8
TCW	**Tory Channel**	**1.27**	**205**	*e*P*	Pb	14 54 28.4	-1.6
RITZ	**Rihia Road**	**1.28**	**32**	*e*PN	Pn	14 54 29.3	-1.0
BHW	**Baring Head**	**1.34**	**184**	PN	Pn	14 54 30.7	-0.6
RATZ	**Rangitukua**	**1.34**	**27**	PN	Pn	14 54 30.7	-0.6
PAWZ	**Paruwai Farm**	**1.35**	**166**	*e*PN	Pn	14 54 30.6	-0.8
MSWZ	**Moikau Station**	**1.36**	**172**	*e*PN	Pn	14 54 30.8	-0.7
BKZ	**Black Stump Fm**	**1.47**	**53**	PN	Pn	14 54 32.1	-0.9
WATZ	**Wairara**	**1.47**	**23**	*e*PN	Pn	14 54 32.6	-0.5
HIZ	**Hauiti**	**1.56**	**356**	*e*PN	Pn	14 54 33.3	-1.0
TUWZ	**Tuamarina**	**1.58**	**210**	*e*PN	Pn	14 54 33.4	-1.2

*IDC **19** 14:55:01.0±0.7, 20.28S×168.82E, mb4.3/11, mb1 4.4/14, mb1mx4.4/17, mbtmp4.4/14, ML3.7/3, MS3.9/10, Ms1 3.9/10, ms1mx3.8/15, Error ellipse: s-maj=19.3km s-min=17.6km az=96.0*
*MOS **19** 14:55:04.7±1.4, 20.33S×168.86E, h33km, mb5.2/8, Error ellipse: s-maj=16.0km s-min=13.2km az=2.8*
*HRVD **19** 14:55:07.1±0.5, 20.41S×168.52E, h30km±1km, MW5.0/48, Centroid moment Tensor Solution. LP body waves: s24,c27;Mantle waves: s48,c65; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}2.63±.25; $M_{\theta\theta}$-0.33±.15; $M_{\phi\phi}$-2.30±.15; $M_{r\theta}$0.15±.23; $M_{\theta\phi}$0.87±.08; $M_{\phi r}$-1.89±.18; Best double couple: $M_0$3.242×10^16 NP1:ϕ_s330°, δ28°, λ74°. NP2:ϕ_s168°, δ63°, λ98°. Principal axes: T 3.276, Plg71°, Azm97°; N -.066, Plg7°, Azm345°; P -3.207, Plg18°, Azm252°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **19** 14:55:07.1±0.4, 20.23S×168.87E, mb4.9/12 Error ellipse: s-maj=10.8km s-min=9.3km az=155.0*
*BJI **19** 14:55:08.0, 20.20S×168.90E, h41km, mB5.2, mb4.6*
*LDG **19** 14:55:10.0±0.1, 19.79S×166.90E, h10km, Mb4.4/2, Error ellipse: s-maj=18.7km s-min=2.9km az=94.0*
*BGS **19** 14:55:11.6±2.8, 20.23S×168.87E, h40km*
ISC 19 14:55:05.7±0.4**, 20.45S**±0.06×**168.71E**±0.06**, h36km, h36km**±1.7km**: pP-P, n116, σ1s29**/63**, mb4.7**/29**, MS4.0**/8**, 4C-3D, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.66**	**232**	*e*P	**P**	**14 55 46.2**	**-0.9**
DZM				*e*S	**S**	**14 56 17.4**	**-1.0**
DZM	**Mont Dzumac**	**2.66**	**232**	Pn	**P**	**14 55 46.6**	**-0.5**
	31nm,0.3s,baz=62,slow=18,SNR=204						
DZM				Sn	**S**	**14 56 17.4**	**-1.0**
	113nm,0.3s,baz=140,slow=23,SNR=15						
DZM	**Mont Dzumac**	**2.66**	**232**	*e*P	**P**	**14 55 46.2**	**-0.9**
DZM				*e*S	**S**	**14 56 17.4**	**-1.0**
HNR	**Honiara**	**13.84**	**321**	LR	LR	15 02 59.0	
	comp=Z,217nm,20.3s,baz=53,slow=35						
URZ	**Urewera**	**19.18**	**160**	P	**P**	**14 59 28.3**	**-0.7**
	0.6nm,0.3s,baz=59,slow=9.0,SNR=3.9						
URZ				LR	LR	15 05 40.2	
	comp=Z,459nm,18.5s,baz=299,slow=33						
AFI	**Afiamalu**	**19.74**	**74**	P	**P**	**14 59 31.1**	**-4.2**
	2.1nm,0.3s,baz=281,slow=18,SNR=3.5						
AFI				LR	LR	15 05 59.4	
	comp=Z,515nm,18.2s,baz=88,slow=34						
CTA	**Charters Tower**	**21.07**	**267**	P	**P**	**14 59 49.9**	**+0.7**
	25nm,0.9s,mb4.5,baz=79,slow=12,SNR=9.4						
CTA				LR	LR	15 07 10.5	
	comp=Z,382nm,21.4s,MS3.8,baz=308,slow=34						
CTA	**Charters Tower**	**21.07**	**267**	P	**P**	**14 59 49.9**	**+0.7**
CTAO	**Charters Tower**	**21.07**	**267**	P	**P**	**14 59 51.2**	**+2.0**
CNB	**Canberra Magne**	**22.56**	**225**	*e*P	**P**	**15 00 07.8**	**+3.8**
	29nm,1.0s,mb4.7						
CNB				*e*pP		15 00 19.1	
RPZ	**Rata Peaks**	**23.28**	**176**	P	**P**	**15 00 11.9**	**+0.9**
	10.0nm,1.0s,mb4.2,baz=353,slow=19,SNR=2.4						
PMG	**Port Moresby**	**23.51**	**295**	P	**P**	**15 00 13.3**	**-0.2**
	37nm,1.1s,mb4.7,baz=108,slow=8.4,SNR=3.1						
PMG	**Port Moresby**	**23.51**	**295**	P	**P**	**15 00 13.4**	**-0.1**
STKA	**Stephens Creek**	**26.79**	**239**	⇓*i*P	**P**	**15 00 45.8**	**+1.3**
	8.4nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**26.79**	**239**	P	**P**	**15 00 44.3**	**-0.1**
	8.2nm,0.7s,mb4.4,baz=77,slow=8.8,SNR=19						
STKA				LR	LR	15 11 17.5	
	comp=Z,248nm,18.9s,MS3.8,baz=286,slow=36						
WB2	**Warramunga Arr**	**32.22**	**265**	*e*P	**P**	**15 01 32.2**	**-0.8**
WB2				*e*pP	pP	15 01 44.4	+1.2
WRAB	**Tennant Creek**	**32.22**	**265**	*e*P	**P**	**15 01 32.3**	**-0.7**
WRAB				*e*	pP	15 01 43.0	-0.2
WRAB				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.0						
WRAB	**Tennant Creek**	**32.22**	**265**	*e*P	**P**	**15 01 32.3**	**-0.7**
	comp=Z,33nm,1.2s,mb5.0						
WRAB				*e*	pP	15 01 43.0	-0.2
WRA	**Warramunga Arr**	**32.23**	**265**	P	**P**	**15 01 31.7**	**-1.3**
	comp=Z,3.0nm,0.7s,mb4.2,baz=92,slow=8.3,SNR=20						
TBI	**Tubuai**	**38.82**	**102**	*e*S	**S**	**15 08 26.2**	**+2.1**
	comp=Z,92nm,27.0s						
TBI				*e*LQ		15 11 09.6	
	comp=Z,542nm,30.0s						
TBI				*e*LR	LR	15 13 12.0	
	comp=Z,229nm,29.5s,baz=271						
PPT	**Papeete**	**39.47**	**93**	*e*P	**P**	**15 02 15.7**	**-19**
PPT	**Papeete**	**39.47**	**93**	*e*PP	PP	15 04 04.8	-4.4
	comp=Z,34nm,22.2s						
PPT				*e*S	x	15 08 06.2	
	comp=Z,94nm,25.5s						
PPT				*e*LR	LR	15 13 31.6	
	comp=Z,318nm,25.0s,baz=251						
PPT	**Papeete**	**39.47**	**93**	LR	LR	15 14 14.0	
	comp=Z,226nm,21.9s,MS4.0,baz=8.1,slow=29						
FITZ	**Fitzroy Crossi**	**40.64**	**266**	*e*P	**P**	**15 02 45.4**	**+1.2**
	comp=Z,22nm,0.9s,mb4.8						
FITZ				*e*pP	pP	15 02 56.4	+1.8
MBWA	**Marble Bar**	**45.64**	**260**	*e*P	**P**	**15 03 25.3**	**+0.4**
	comp=Z,39nm,0.9s,mb5.3						
MBWA				*e*	pP	15 03 36.3	+0.9
KLBR	**Kellerberrin**	**46.75**	**245**	*e*P	**P**	**15 03 33.3**	**-0.2**
	comp=Z,24nm,1.0s,mb5.1						
KLBR				*i* pP	pP	15 03 44.0	0.0
VNDA	**Vanda**	**57.21**	**182**	*e*P	**P**	**15 04 51.4**	**+0.1**
VNDA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
VNDA	**Vanda**	**57.21**	**182**	P	**P**	**15 04 51.3**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.7,baz=352,slow=10,SNR=4.5						
VNDA				LR	LR	15 26 56.3	
	comp=Z,74nm,19.1s,MS3.8,baz=106,slow=33						
VNDA	**Vanda**	**57.21**	**182**	*e*P	**P**	**15 04 51.4**	**+0.1**
	comp=Z,2.6nm,1.0s,mb4.2						
SBA	**Scott Base**	**57.45**	**180**	*e*P	**P**	**15 04 53.4**	**+0.4**
SBA				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
SBA	**Scott Base**	**57.45**	**180**	*e*P	**P**	**15 04 53.4**	**+0.4**
	comp=Z,12nm,1.2s,mb4.8						
CASY	**Casey**	**58.82**	**204**	*e*P	**P**	**15 05 01.1**	**-1.5**
	comp=Z,4.3nm,1.1s,mb4.4						
MJAR	**Matsushiro Arr**	**63.59**	**333**	P	**P**	**15 05 31.9**	**-3.4**
	comp=Z,4.0nm,1.1s,mb4.4,baz=159,slow=8.2,SNR=5.5						
MJAR	**Matsushiro Arr**	**63.59**	**333**	P	**P**	**15 05 31.9**	**-3.4**
SSE	**Sheshan**	**68.61**	**317**	P	**P**	**15 06 10.5**	**+3.1**
SSE				AP	pP	15 06 19.9	+1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SSE				XP	sP	15 06 23.6	+1.3
SSE				PCP	PcP	15 06 32.6	+0.3
SSE				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,333nm,4.9s						
QSPA	South Pole Qui	69.61	180	eP	P	15 06 16.6	+3.9
	comp=Z,17nm,1.0s,mb4.9						
NJ2	Nanjing	70.74	317	eP	P	15 06 26.3	+6.0
NJ2				AP	pP	15 06 37.4	+6.1
NJ2				XP	sP	15 06 40.0	+4.7
NJ2				AMB	AMB		
	comp=Z,720nm,4.0s						
YSS	Yuzh-Sakhalins	71.06	342⇑	eP	P	15 06 23.0	+0.9
YSS				e	pP	15 06 34.0	+1.0
FX1	Attu Island--F	73.13	3	eP	P	15 06 30.9	-3.3
MDJ	Mudanjiang	73.95	332	P	P	15 06 39.8	+0.6
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,66nm,4.6s						
CN2	Changchun	75.23	329	eP	P	15 06 47.3	+0.7
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
MAW	Mawson	77.13	202	P	P	15 06 58.0	+1.1
	comp=Z,6.1nm,1.0s,mb4.5,baz=86,slow=9.1,SNR=7.1						
MAW				LR	LR	15 38 02.8	
	comp=Z,73nm,19.1s,MS4.0,baz=235,slow=33						
KMI	Kunming	78.49	302	P	P	15 07 08.6	+3.4
KMI				XP	sP	15 07 19.8	-0.5
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
CLNS	Chul'man	85.32	338	eP	P	15 07 30.7	-9.3
CLNS				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.2						
CLNS				pmax	pmax		
	comp=N,14nm,1.3s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.8s						
GTA	Gaotai	87.60	314	eP	P	15 07 53.8	+2.3
GTA				AP	pP	15 08 03.3	+0.5
GTA				XP	sP	15 08 07.8	+1.2
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.6						
YAK	Yakutsk	87.88	343	iP	P	15 07 52.4	+0.1
YAK				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.2						
YAK				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.3						
SONM	Songino Array	87.89	323	P	P	15 07 53.9	+1.1
	comp=Z,1.7nm,0.7s,mb4.4,baz=138,slow=3.8,SNR=13						
SNAA	Sanae	87.93	183	P	P	15 07 52.3	-0.1
SNAA	Sanae	87.93	183		P	15 07 57.4	+5.0
SNAA	Sanae	87.93	183		pP	15 08 08.2	+4.5
SNAA	Sanae	87.93	183	iP	P	15 07 51.7	-0.7
SNAA	Sanae	87.93	183	P	P	15 07 51.9	-0.5
	comp=Z,1.5nm,1.1s,mb4.2,baz=179,slow=4.7,SNR=8.1						
BILL	Bilibino	88.25	359	eP	P	15 07 50.9	-3.1
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.8						
BILL	Bilibino	88.25	359	eP	P	15 07 51.2	-2.8
	comp=Z,4.4nm,0.8s,mb4.7						
YBH	Yreka Blue Hor	88.51	44	P	P	15 07 55.8	0.0
	comp=Z,2.6nm,0.6s,mb4.8,baz=188,slow=4.1,SNR=6.3						
VNA3	Neumayer Olymp	88.54	181	P	P	15 07 57.3	+2.0
VNA3	Neumayer Olymp	88.54	181		P	15 08 02.1	+6.8
VNA3	Neumayer Olymp	88.54	181		pP	15 08 08.3	+1.7
VNA2	Neumayer--Watz	88.83	181	P	P	15 07 59.3	+2.6
VNA2	Neumayer--Watz	88.83	181		P	15 08 04.3	+7.6
VNA2	Neumayer--Watz	88.83	181		pP	15 08 09.3	+1.3
ZAK	Zakamensk	90.99	324	eP	P	15 08 06.9	-0.4
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb4.1						
WVOR	Wild Horse Val	91.52	45	eP	P	15 08 08.3	-1.7
WVOR				pmax	pmax		
	comp=Z,11nm,1.3s,mb5.0						
WVOR	Wild Horse Val	91.52	45	eP	P	15 08 08.3	-1.7
	comp=Z,11nm,1.3s,mb5.0						
ELK	Elko	93.10	48	P	P	15 08 15.8	-1.5
BMO	Blue Mountains	93.45	43	eP	P	15 08 17.3	-1.4
PDAR	Pinedale Array	97.80	47	LR	LR	15 45 08.9	
	comp=Z,48nm,19.7s,MS4.0,baz=160,slow=31						
PLCA	Paso Flores	97.96	139	LR	LR	15 43 54.5	
	comp=Z,86nm,21.4s,MS4.2,baz=90,slow=30						
MKAR	Makanchi Array	102.25	315	P	Pdif	15 08 57.3	-1.3
	comp=Z,0.2nm,0.6s,baz=102,slow=6.3,SNR=4.3						
ARCES	ARCESS Array B	126.11	345	PKP	PKPdf	15 14 02.4	-1.5
	comp=Z,0.7nm,0.4s,baz=60,slow=1.5,SNR=18						
GOF	Gofitskoye	129.25	312	ePKHKP		15 13 55.5	
KIV	Kislovodsk	129.69	311	iPKIKP	PKPdf	15 14 12.1	+0.7
KIV				pmax	pmax		
	comp=N,4.0nm,1.2s						
KIV				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KIV				pmax	pmax		
	comp=E,1.0nm,0.6s						
OBN	Obninsk	130.23	326	iPKIKP	PKPdf	15 14 11.6	-0.5
OBN				e		15 16 22.4	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FINES	FINESS Array B	131.51	337	PKP	PKPdf	15 14 12.4	-2.0
	comp=Z,0.4nm,0.4s,baz=170,slow=35,SNR=3.0						
NB2	NORSAR Subarra	136.48	344	PKPdf	PKPdf	15 14 23.9	+0.2
	comp=Z,0.6nm,0.6s,baz=31,slow=1.9						
NOA	NORSAR Array B	136.48	344	PKP	PKPdf	15 14 24.0	+0.3
	comp=Z,0.6nm,0.7s,baz=341,slow=1.5,SNR=3.4						
CLL	Collm	143.80	334	eP	PKPbc	15 14 32.0	-3.8
CLL				e		15 14 46.0	
CLL				e		15 14 58.0	
CLL	Collm	143.80	334	ePKIKP	PKPdf	15 14 34.0	-2.8
CLL				e*PPKP		15 14 48.0	
CLL				e		15 14 58.0	
MOX	Moxa	144.87	334	ePKIKP	PKPdf	15 14 42.1	+3.3
MOX				e		15 14 52.1	
MOX	Moxa	144.87	334	iP	PKPdf	15 14 42.1	+3.3
	comp=Z,logA/T=1.3						
MOX				pPKP		15 14 52.0	
DIVS	Divcibare	144.91	319⇑	iPKP	PKPdf	15 14 38.2	-0.9
SKO	Skopje	145.06	315	eP	PKPdf	15 14 41.3	+1.9
KHC	Kasperske Hory	145.16	331	iPKIKP	PKPdf	15 14 41.1	+1.8
GERES	GERESS Array B	145.31	331	PKPbc	PKPbc	15 14 40.6	+0.5
	comp=Z,4.4nm,0.7s,baz=45,slow=3.8,SNR=22						
MOA	Molln	145.75	329⇓	iP	PKPdf	15 14 43.8	+3.4
	comp=Z,18nm,1.0s						
GRF	Grafenberg Arr	145.76	334	ePKP2	PKPab	15 14 44.5	+1.2
DLF	Lyons Farm	147.01	355	eP	PKPdf	15 14 43.7	+1.3
DLF	Lyons Farm	147.01	355	eP		15 14 56.0	
SBD1	Bryn Du	147.02	351	eP	PKPdf	15 14 46.4	+4.0
DCN	Croghan	147.02	356	eP	PKPdf	15 14 45.0	+2.6
DCN	Croghan	147.02	356	eP		15 14 57.1	
WTTA	Wattenberg	147.41	330⇓	iP	PKPdf	15 14 48.0	+4.8
	comp=Z,15nm,1.0s						
SSP1	Stoney Pound	147.47	351	eP	PKPdf	15 14 47.8	+4.7
MOTA	Moosalm	147.60	331⇑	iP	PKPdf	15 14 48.7	+5.2
	comp=Z,11nm,0.7s						
SQTA	Sankt Quirin	147.64	331⇑	iP	PKPdf	15 14 49.0	+5.4
	comp=Z,6.5nm,0.6s						
WLF	Walferdange	147.71	339	ePKHKP		15 14 40.8	
GIVF	Givet	147.77	340	ePKIKP	PKPdf	15 14 50.2	+6.5
	comp=Z,24nm,0.8s						
HTR	Trewern Hill	147.82	351	eP	PKPdf	15 14 48.4	+4.7
MCH1	Michaelchurch	147.86	350	eP	PKPdf	15 14 48.4	+4.6
BAIF	Baives	148.00	341	ePKIKP	PKPdf	15 14 48.0	+4.0
CDF	Champ du Feu	148.35	336	ePKIKP	PKPdf	15 14 51.3	+6.6
CABF	La Chapelle	150.30	335	ePKIKP	PKPdf	15 14 54.6	+6.8
FLN	La Foliniere	150.45	345	ePKIKP	PKPdf	15 14 54.6	+6.6
	comp=Z,16nm,0.7s						
LDF	La Druitiere	150.52	345	ePKIKP	PKPdf	15 14 54.8	+6.7
LOR	Lormes	150.55	339	ePKIKP	PKPdf	15 14 54.6	+6.4
	comp=Z,6.9nm,0.6s						
SSF	Saint Saulge	150.85	339	ePKIKP	PKPdf	15 14 55.3	+6.7
GRR	Gorron	150.89	346	ePKIKP	PKPdf	15 14 55.2	+6.6
LPL	La Plagne	150.93	333	ePKIKP	PKPdf	15 14 55.6	+6.8
	comp=Z,4.3nm,0.5s						
LPG	La Plagne	150.93	333	ePKIKP	PKPdf	15 14 55.8	+7.0
SGMF	Saint Gilles	151.38	348	ePKIKP	PKPdf	15 14 56.5	+7.1
	comp=Z,51nm,1.1s						
MBDF	Montbardon	151.54	332	ePKIKP	PKPdf	15 14 56.6	+6.9
	comp=Z,4.5nm,0.7s						
ORIF	Oris-en-Rattie	151.76	334	ePKIKP	PKPdf	15 14 56.9	+6.8
	comp=Z,4.0nm,0.5s						
QUIF	Quistinic	151.82	348	ePKIKP	PKPdf	15 14 56.9	+6.8
TCF	Toulx Ste Croi	151.96	340	ePKIKP	PKPdf	15 14 56.8	+6.5
PGF	Pioggiola	152.13	327	ePKIKP	PKPdf	15 14 57.3	+6.6
	comp=Z,125nm,1.4s						
VIVF	Saint-Julien-l	152.31	335	ePKIKP	PKPdf	15 14 57.1	+6.2

*NEIC **19** 15:08:05.4±0.3, 21.41S×68.17W, mb4.6/23, Error ellipse: s-maj=9.1km s-min=6.2km az=79.0*
*BJI **19** 15:08:05.3, 21.40S×68.20W, $h128^{km}$, mB5.1*
*GUC **19** 15:08:06.2±0.9, 21.74S×68.51W, $h148^{km}\pm 9^{km}$, ML4.3*
*IDC **19** 15:08:06.1±0.5, 21.52S×68.24W, $h125^{km}\pm 5^{km}$, mb4.3/9, mb1 4.4/11, mb1mx4.3/15, mbtmp4.6/11, MS2.6/1, Ms1 2.6/1, ms1mx2.4/16, Error ellipse: s-maj=20.7km s-min=8.2km az=106.0*
ISC 19 15:08:03.9±0.3**, 21.36S**±0.03×**68.19W**±0.05**, $h129^{km}$, $h129^{km}\pm 1.3^{km}$:pP-P, n86, $\sigma 1^{s}15$/80, mb4.5**/25**, 6C-4D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.42	208⇑	iP	P	15 08 31.3	-0.1
LVC				iS	S	15 08 50.4	-2.0
LVC				AMP		15 08 52.1	
	comp=E,5μm,0.6s						
LVC	Limon Verde	1.42	208	P	P	15 08 31.2	-0.2
	comp=E,258nm,0.3s,baz=5.7,slow=7.7,SNR=879						
LVC				S	S	15 08 50.1	-2.3
	comp=E,214nm,0.3s,baz=274,slow=23,SNR=68						
LVC	Limon Verde	1.42	208	eP	P	15 08 30.9	-0.5
SPCH	San Pedro de A	1.55	180	eP	P	15 08 33.6	+0.8
SPCH				AMP		15 09 09.4	
	comp=N,2μm,0.8s						
ANCH	Antofagasta	3.10	221⇓	iP	P	15 08 51.6	-0.9
ANCH				iS	S	15 09 24.0	-5.6
CPN1	Cerro Paranal	3.84	212⇓	iP	P	15 09 00.5	-2.1
CPN1				iS	S	15 09 41.4	-6.0
CPN1				AMP		15 09 52.1	
	comp=E,1μm,0.6s						
LPAZ	La Paz	5.04	1	P	P	15 09 22.1	+3.6
	comp=E,9.3nm,0.3s,baz=171,slow=8.0,SNR=86						
LPAZ				S	S	15 10 20.6	+4.4
	comp=E,1.2nm,0.3s,baz=185,slow=11,SNR=3.6						
LPAZ	La Paz	5.04	1	eP	P	15 09 22.5	+3.9
	comp=E,30nm,0.6s						
ARE	Arequipa	5.78	327	eP	P	15 09 29.0	+0.5
ARE				iS	S	15 10 33.2	-1.0
SIV	San Ignacio	8.60	53	P	P	15 10 06.3	-0.2
	comp=E,12nm,0.3s,baz=246,slow=14,SNR=265						
SIV				S	S	15 11 40.0	-2.2
	comp=E,2.3nm,0.3s,baz=302,slow=23,SNR=8.6						
CFAA	Coronel Fontan	10.21	180	P	P	15 10 23.1	-4.8
	comp=E,0.3nm,0.3s,baz=358,slow=13,SNR=19						
CFAA				S	S	15 12 10.8	-10
	comp=E,0.3nm,0.3s,baz=251,slow=19,SNR=6.1						
CFAA	Coronel Fontan	10.21	180	P	P	15 10 23.1	-4.8
CFAA				S	S	15 12 10.8	-10
CPUP	Villa Florida	11.10	119	LR	LR	15 15 44.6	
	comp=E,30nm,18.6s,baz=283,slow=41						
CPUP	Villa Florida	11.10	119	eP	P	15 10 38.1	-1.7
	comp=E,10.0nm,0.9s						
SAML	Samuel	13.24	22	eP	P	15 11 06.6	-1.3
	comp=E,13nm,1.3s						
TRQA	Tornquist	17.49	163	eP	P	15 11 57.4	-3.7
	comp=E,55nm,0.6s						
PLCA	Paso Flores	19.42	185	P	P	15 12 21.0	-1.4
	comp=E,0.7nm,0.3s,baz=1.6,slow=13,SNR=36						
PLCA	Paso Flores	19.42	185	eP	P	15 12 20.6	-1.8
	comp=E,14nm,0.8s						
BDFB	Brasilia	19.95	77	P	P	15 12 28.3	+0.3
	comp=E,11nm,0.5s,baz=258,slow=9.6,SNR=20						
BAO	Brasilia Array	19.97	77	P	P	15 12 27.0	-1.2
SDV	Santo Domingo	30.15	355	P	P	15 14 03.1	-0.9
	comp=E,3.6nm,0.8s,mb4.2						
USHA	Ushuaia	33.43	180	P	P	15 14 31.6	-0.5
	comp=E,7.0nm,0.8s,mb4.4,baz=248,slow=13,SNR=3.7						
SJG	San Juan	39.27	3	P	P	15 15 20.7	-1.0
	comp=E,8.2nm,0.3s,mb4.9,baz=321,slow=19,SNR=3.3						
MYNC	Murphy	58.12	345	P	P	15 17 46.8	+0.4
SWET	Sewanee	58.73	343	eP	P	15 17 50.0	-0.5
BLA	Blacksburg	59.38	349	P	P	15 17 54.4	-0.6
	comp=E,22nm,0.8s,mb5.0						
ELN	Prospectdale	59.46	348	eP	P	15 17 46.5	-9.1
FWV	Forest Hill	59.81	348	eP	P	15 17 55.0	-3.0
VNA3	Neumayer Olymp	60.00	161		P	15 18 06.6	+7.8
VNA3	Neumayer Olymp	60.00	161		P	15 18 12.9	+14
VNA3	Neumayer Olymp	60.00	161		PcP	15 18 46.1	+2.9
VNA3	Neumayer Olymp	60.00	161⇑	iP	P	15 18 01.1	+2.3
VNA3				P		15 18 06.6	
VNA3				P		15 18 12.9	
VNA1	Neumayer--Stat	60.20	161		P	15 18 07.7	+7.6
VNA1	Neumayer--Stat	60.20	161		P	15 18 14.2	+14
VNA1	Neumayer--Stat	60.20	161	P	P	15 18 02.9	+2.8
VNA1				P		15 18 07.7	
VNA1				P		15 18 14.2	
VNA2	Neumayer--Watz	60.57	161⇑	iP	P	15 18 05.1	+2.4
VNA2	Neumayer--Watz	60.57	161		pP	15 18 33.4	-0.3
VNA2	Neumayer--Watz	60.57	161		PcP	15 18 44.9	-0.6
VNA2	Neumayer--Watz	60.57	161		sP	15 18 47.5	-0.4
SNAA	Sanae	62.20	161⇑	iP	P	15 18 13.6	0.0
FVM	French Village	62.62	340	eP	P	15 18 16.4	-0.5
	comp=E,6.4nm,0.8s,mb4.5						
FVM				epP	pP	15 18 47.7	-0.4
GDL2	Guadalupe Moun	63.52	326	P	P	15 18 22.6	-0.3
MNTX	Cornudas Mount	63.66	325	eP	P	15 18 23.2	-0.6
	comp=E,1.2nm,1.0s,mb3.7						
LAZ	Ladron	66.68	326	eP	P	15 18 43.9	+0.7
LAZ				epP	pP	15 19 14.6	-0.1
MAIT	Maitri	66.70	159⇑	iP	P	15 18 43.4	+0.7
ANMO	Albuquerque	66.75	326	P	P	15 18 44.3	+0.7
DBIC	Dimbokro	68.05	73	P	P	15 18 52.1	0.0
	comp=E,43nm,0.7s,mb5.3,baz=219,slow=7.2,SNR=38						
DBIC	Dimbokro	68.05	73	eP	P	15 18 51.6	-0.5
SDCO	Great Sand Dun	68.47	329	eP	P	15 18 54.6	+0.4
	comp=E,20nm,1.4s,mb4.7						
SDCO				epP	pP	15 19 27.2	+1.3
QSPA	South Pole Qui	68.84	180⇑	iP	P	15 18 57.1	+1.3
	comp=E,14nm,0.6s,mb4.9						
SMCO	Snowmass	70.31	329	P	P	15 19 04.6	-0.8
SMCO				epP	pP	15 19 38.8	+1.6
SRU	San Rafael	72.02	327	P	P	15 19 13.7	-1.9
SRU				epP	pP	15 19 46.3	-1.3
ARUT	Antelope Range	72.60	324	eP	P	15 19 18.6	-0.5
ARUT				epP	pP	15 19 52.8	+1.7
RSSD	Black Hills	72.96	334	P	P	15 19 20.6	-0.5
	comp=E,49nm,1.4s,mb5.0						
RSSD				epP	pP	15 19 51.5	-1.7
DAU	Daniels Canyon	73.37	327	eP	P	15 19 23.3	-0.2
DAC	Darwin (Calif)	73.93	320	eP	P	15 19 28.0	+1.1
	comp=E,9.6nm,1.0s,mb4.5						
DAC				epP	pP	15 19 57.7	-1.4
PDAR	Pinedale Array	74.32	330	P	P	15 19 30.5	+1.5
	comp=E,0.5nm,0.7s,baz=153,slow=3.3,SNR=4.7						
PDAR				pP	pP	15 20 01.9	+0.7
	comp=E,1.9nm,1.0s,baz=143,slow=7.4,SNR=6.9						
BW06	Boulder Array	74.32	330	P	P	15 19 30.0	+1.0
	comp=E,3.1nm,1.2s,mb3.9						
BW06				epP	pP	15 20 00.8	-0.4
HWUT	Hardware Ranch	74.42	328	eP	P	15 19 29.6	+0.1
	comp=E,8.2nm,1.0s,mb4.4						
HWUT				epP	pP	15 20 02.1	+0.2
AHID	Auburn Hatcher	75.06	329	P	P	15 19 32.7	-0.4
AHID				epP	pP	15 20 05.5	0.0
MTUM	Tungsten Hills	75.22	321	eP	P	15 19 34.9	+0.7
LOHW	Long Hollow	75.46	330	P	P	15 19 35.5	0.0
	comp=E,1.9nm,0.5s,mb4.0						
LOHW				epP	pP	15 20 06.9	-0.9
TPAW	Teton Pass	75.53	329	P	P	15 19 34.7	-1.1
	comp=E,10nm,1.0s,mb4.4						
TPAW				epP	pP	15 20 08.3	+0.1
RRI2	Red Ridge	75.60	329	eP	P	15 19 36.2	0.0
	comp=E,15nm,0.9s,mb4.6						
RRI2				epP	pP	15 20 09.1	+0.5
ELK	Elko	75.69	325	eP	P	15 19 37.2	+0.5
ELK				epP	pP	15 20 10.6	+1.5
IMW	Indian Meadow	75.83	330	eP	P	15 19 39.2	+1.7
	comp=E,1.1nm,0.5s,mb3.7						
IMW				epP	pP	15 20 11.6	+1.7
SYO	Syowa Base	76.40	159	⇓P	P	15 19 39.9	-0.3
SYO	Syowa Base	76.40	159	⇓PcP	PcP	15 19 47.2	-4.5
VNDA	Vanda	77.11	190	P	P	15 19 44.5	+0.5
	comp=E,1.4nm,0.8s,mb3.7,baz=144,slow=5.1,SNR=9.6						
BMO	Blue Mountains	79.66	327	eP	P	15 19 59.8	+1.2
	comp=E,12nm,1.3s,mb4.4						
BMO				epP	pP	15 20 31.1	0.0
BOSA	Boshof	82.92	118	P	P	15 20 17.4	+1.4
	comp=E,15nm,0.8s,mb4.8,baz=270,slow=4.7,SNR=17						
BOSA	Boshof	82.92	118	eP	P	15 20 16.5	+0.6
	comp=E,13nm,0.8s,mb4.7						
MAW	Mawson	84.28	163	P	P	15 20 22.7	+0.9
	comp=E,5.8nm,0.6s,mb4.5,baz=215,slow=5.4,SNR=25						
LBTB	Lobatse	84.47	115	eP	P	15 20 24.9	+1.1
	comp=E,20nm,0.7s,mb4.9						
ESDC	Sonseca Array	85.26	44	P	P	15 20 30.1	+2.7
	comp=E,3.1nm,0.8s,mb4.1,baz=245,slow=5.2,SNR=12						
YKA	Yellowknife Ar	91.27	340	P	P	15 20 57.1	+1.7
	comp=E,3.5nm,0.6s,mb4.6,baz=134,slow=4.3,SNR=17						
YKA				pP	pP	15 21 30.3	+1.4
	comp=E,3.5nm,0.8s,baz=136,slow=4.7,SNR=6.8						
CASY	Casey	92.63	179	eP	P	15 21 03.5	+1.9
	comp=E,3.5nm,0.6s,mb4.7						
WRA	Warramunga Arr	133.42	210	PKP	PKPdf	15 27 07.4	+1.8
	comp=E,1.6nm,0.7s,baz=151,slow=1.5,SNR=9.4						
ZRNK	Zerenda	134.59	35	ePKP	PKPdf	15 27 09.6	+2.6
ZAL	Zalesovo	141.53	26	PKhKP		15 27 16.4	
	comp=E,1.4nm,0.7s,baz=62,slow=3.0,SNR=6.5						
ZAL				PKP	PKPdf	15 27 22.8	+3.3
	comp=E,2.2nm,0.7s,baz=205,slow=2.7,SNR=9.6						
ZAL				pPKP		15 27 55.9	
	comp=E,0.8nm,0.4s,baz=232,slow=18,SNR=1.6						
ZAL	Zalesovo	141.53	26	PKP	PKPdf	15 27 16.4	-3.1
ZAL				PKP	PKPdf	15 27 22.8	+3.3
ZAL				pPKP		15 27 55.9	
MKAR	Makanchi Array	145.12	36	PKPbc	PKPbc	15 27 29.2	+2.9
	comp=E,17nm,0.8s,baz=321,slow=3.7,SNR=144						
MKAR				pPKPbc		15 28 02.9	
	comp=E,4.6nm,0.7s,baz=334,slow=4.0,SNR=6.2						
SONM	Songino Array	153.22	8	PKP	PKPdf	15 27 41.9	+3.4
	comp=E,0.8nm,0.8s,baz=315,slow=1.7,SNR=5.4						
SONM				PKPbc	PKPdf	15 27 49.9	+11
	comp=E,1.4nm,0.8s,baz=302,slow=0.8,SNR=10						
SONM				PKPab	PKPab	15 28 02.1	+1.3
	comp=E,0.5nm,0.5s,baz=306,slow=2.9,SNR=5.4						
LZH	Lanzhou	163.75	24	ePKP	PKPdf	15 27 53.0	+1.7
LZH				APKP		15 28 28.5	
LZH				XPKP		15 28 42.1	
LZH				LR	LR		
	comp=E,236nm,18.3s						
LZH				LR	LR		
	comp=Z,452nm,20.6s						
NJ2	Nanjing	167.63	331	ePKP	PKPdf	15 27 59.4	+4.8
KMI	Kunming	170.85	64	PKP	PKPdf	15 27 57.9	+1.1

*ATH **19** 15:39:12.6, 40.07N×21.76E, $h17^{km}$, MD3.0/4*
*NEIC **19** 15:39:12.7, 40.10N×21.75E, $h20^{km}$, MD3.0(ATH), After ATH.*
*THE **19** 15:39:13.7, 40.09N×21.84E, $h4^{km}$, ML2.7*
*CSEM **19** 15:39:13.6±0.1, 40.08N×21.82E, $h10^{km}$, MD3.0, Error ellipse: s-maj=1.7km s-min=1.4km az=64.0*
ISC 19 15:39:12.6±0.6**, 40.08N**±0.03×**21.84E**±0.05**, $h9^{km}\pm 6^{km}$, n15, $\sigma 0^{s}80$/23, 3C, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.23	347⇑	iPB	Pb	15 39 18.1	-0.4
KZN				eSB	Sb	15 39 22.0	-0.4
LIT	Litokhoron	0.50	88	ePg	Pg	15 39 23.1	+0.3
LIT				eSg	Sg	15 39 30.3	+0.8
MEV	Metsovon	0.56	238	ePg	Pg	15 39 24.1	+0.3
FNA	Florina	0.79	333	ePg	Pg	15 39 28.2	-0.2
	comp=Z,5.1nm,0.2s						
FNA				eSg	Sg	15 39 39.5	+0.6
GRG	Griva	0.97	26	ePg	Pg	15 39 32.0	-0.1
GRG				eSg	Sg	15 39 46.2	+1.0
THE	Thessaloniki	1.02	57	ePg	Pg	15 39 32.8	-0.3
AGG	Agios Georgios	1.12	160	ePg	Pg	15 39 34.8	-0.4
	comp=Z,2.8nm,0.3s						
AGG				eSg	Sg	15 39 51.4	+1.3
EVR	Evrytania	1.16	181⇑	iPN	Pn	15 39 34.6	-0.4
EVR				eSN	Sn	15 39 50.5	-0.6
EVR	Evrytania	1.16	181⇑	iPn	Pn	15 39 34.6	-0.4
EVR				eSn	Sn	15 39 51.9	+0.8
PLG	Polygyros	1.26	76	ePN	Pn	15 39 37.3	+0.8
XOR	Xorichti	1.27	124	ePg	Pg	15 39 37.2	-0.7
SOH	Sokhos	1.37	57	ePg	Pg	15 39 38.7	-1.4
SOH				eSg	Sg	15 39 58.3	-0.1
PAIG	Paliouri	1.42	96	ePg	Pg	15 39 39.3	-1.7
OUR	Ouranopolis	1.66	81	ePb	Pb	15 39 42.4	-0.6
NVR	Nevrokopi	1.99	50	ePN	Pn	15 39 48.4	+1.5

*IDC **19** 15:40:30.9±0.8, 56.14N×164.55E, mb3.8/8, mb1 4.1/10, mb1mx3.9/21, mbtmp3.9/10, ML3.9/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/30, Error ellipse: s-maj=21.2km s-min=10.9km az=27.0*
*KRSC **19** 15:40:33.5±0.7, 56.09N×164.65E, $h23^{km}\pm 3^{km}$, ML4.4*
*MOS **19** 15:40:33.7±1.3, 56.02N×164.73E, $h40^{km}$, mb4.6/6, Error ellipse: s-maj=13.3km s-min=8.1km az=65.4*
*NEIC **19** 15:40:38.0±0.7, 56.53N×163.00E, $h10^{km}$, mb4.5/11, Error ellipse: s-maj=21.6km s-min=11.9km az=151.0*
ISC 19 15:40:34.5±0.5**, 56.03N**±0.03×**164.69E**±0.05**, $h43^{km}\pm 6^{km}$, n81, $\sigma 1^{s}18$/101, mb4.0**/14**, MS3.3**/1**, 1D, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.06	280	P	P	15 40 51.1	-2.0
KBTR				S	S	15 41 04.5	-2.5
KBTR	Krutoberegovo	1.06	280	iP	P	15 40 51.4	-1.7
KBTR				eS	S	15 41 05.3	-1.7
BKI	Bering	1.10	138	iP	P	15 40 54.0	+0.3
BKI				iS	S	15 41 08.9	+0.9
BKI				Smax			
	12μm,0.5s						
ZLN	Zelenaya	2.18	271	eP	P	15 41 09.9	+0.8
MKZ	Mys Kozlova	2.25	230	P	P	15 41 09.7	-0.3
MKZ				S	S	15 41 36.0	-0.7
MKZ	Mys Kozlova	2.25	230	eP	P	15 41 09.8	-0.2
MKZ				eS	S	15 41 36.3	-0.4
KLY	Klyuchi	2.28	279	P	P	15 41 09.0	-1.4
KLY				S	S	15 41 34.7	-2.7
KLY	Klyuchi	2.28	279	iP	P	15 41 08.9	-1.5
KLY				eS	S	15 41 34.7	-2.7
KRSR	Krestovskiy	2.32	276	eP	P	15 41 11.4	+0.4
KRSR				eS	S	15 41 38.9	+0.4
KPT	Kopyto	2.51	270	iP	P	15 41 14.0	+0.2
KPT				iS	S	15 41 43.3	-0.1
KMNR	Kamenistaya	2.52	266	eP	P	15 41 14.5	+0.5
KMNR				eS	S	15 41 44.8	+1.1
TUMR	Tumrok	2.68	256	iP	P	15 41 17.4	+1.2
TUMR				eS	S	15 41 49.6	+1.9
KOZR	Kozyr	2.69	273	PN	P	15 41 17.6	+1.3
KOZR				S	S	15 41 49.8	+1.9
KOZ	Kozyrevsk	2.70	273	P	P	15 41 17.6	+1.1
KOZ				S	S	15 41 49.8	+1.5
KOZ	Kozyrevsk	2.70	273	eP	P	15 41 17.7	+1.2
KOZ				iS	S	15 41 49.8	+1.5
SRDR	Sredinnyy	2.79	278	iP	P	15 41 18.5	+0.7
SRDR				eS	S	15 41 51.0	+0.4
OSSR	Ossora	3.34	345	iP	P	15 41 24.2	-1.4
ESO	Esso	3.37	271	iP	P	15 41 25.8	-0.2
ESO				iS	S	15 42 03.7	-1.4
ESO				Smax			
	110nm,1.0s						
KII	Karymskiy	3.62	239	P	P	15 41 30.2	+0.7
KII				S	S	15 42 12.6	+1.1
KII	Karymskiy	3.62	239	eP	P	15 41 30.0	+0.5
KII				eS	S	15 42 11.3	-0.2
SPN	Mys Shipunski	4.00	225	P	P	15 41 33.3	-1.6
SPN				S	S	15 42 16.7	-4.5
SPN	Mys Shipunski	4.00	225	eP	P	15 41 34.2	-0.7
SPN				eS	S	15 42 18.8	-2.4
NLC	Nalytchevo	4.23	230	P	P	15 41 37.7	-0.4
NLC				S	S	15 42 23.7	-3.2
NLC	Nalytchevo	4.23	230	eP	P	15 41 38.7	+0.6
NLC				eS	S	15 42 26.1	-0.8
SDLR	Sedlovina	4.36	233	eP	P	15 41 40.5	+0.5
SMAR	Somma	4.40	233	eP	P	15 41 41.2	+0.6
UGLR	Uglovaya	4.43	233	eP	P	15 41 41.5	+0.5
AVH	Avacha	4.43	234	eP	P	15 41 41.5	+0.5
AVH				eS	S	15 42 30.7	-1.3
KOK	Koryaka	4.46	235	eP	P	15 41 42.0	+0.6
GNL	Ganaly	4.55	242	eP	P	15 41 43.2	+0.5
PET	Petropavlovsk	4.63	232	P	P	15 41 44.2	+0.4
PET				S	S	15 42 35.6	-1.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PET	Petropavlovsk	4.63	232	ePN	P	15 41 43.9	+0.1
PET				pmax	pmax		
	comp=Z,100nm,1.6s						
PET				pmax	pmax		
	comp=Z,59nm,0.6s						
PET				MLR	MLR		
	comp=E,500nm,23.0s						
PET				MLR	MLR		
	comp=N,600nm,23.0s						
PET				MLR	MLR		
	comp=Z,200nm,25.0s						
PET	Petropavlovsk	4.63	232	ePn	P	15 41 43.6	-0.2
PET	Petropavlovsk	4.63	232	eP	P	15 41 44.2	+0.4
PET				eS	S	15 42 36.0	-1.0
RUS	Russkaya	5.11	228	P	P	15 41 50.6	0.0
RUS				S	S	15 42 45.9	-3.2
RUS	Russkaya	5.11	228	eP	P	15 41 50.6	0.0
RUS				eS	S	15 42 47.1	-2.0
APC	Apacha	5.38	238	eP	P	15 41 56.4	+2.1
APC				eS	S	15 42 54.4	-1.5
APC				Smax			
	comp=Z,20nm,0.9s						
FX1	Attu Island--F	5.86	119	Pn	P	15 41 59.7	-1.3
	comp=Z,6.8nm,0.3s,baz=317,slow=8.3,SNR=32						
FX1				Sn	S	15 43 04.5	-3.4
	comp=Z,15nm,0.3s,baz=214,slow=23,SNR=16						
MIPR	Malaya Ipel'ka	5.99	234	eP	P	15 42 03.7	+0.9
KAMR	Kamenskoye	6.49	6	i P	P	15 42 08.4	-1.5
KAMR				i S	S	15 43 18.0	-5.5
KAMR				Smax			
	comp=Z,40nm,1.1s						
PAU	Pauzhetka	6.54	229	eP	P	15 42 10.9	+0.3
SKR	Severo-Kuril's	7.42	227	ePN	P	15 42 19.1	-3.7
SKR				pmax	pmax		
	comp=E,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
BILL	Bilibino	12.07	3	⇓ePN	P	15 43 25.7	-0.7
BILL				pmax	pmax		
	comp=Z,10.0nm,1.5s						
BILL				MLR	MLR		
	comp=Z,100nm,15.0s						
YSS	Yuzh-Sakhalins	16.34	245	i P	P	15 44 22.5	+0.4
YSS				pmax	pmax		
	comp=Z,30nm,1.4s						
ASAJ	Asahikawa	18.43	239	P	P	15 44 46.3	-1.9
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,101nm,20.4s						
ASAJ	Asahikawa	18.43	239	P	P	15 44 46.3	-1.9
	comp=Z,0.9nm,0.3s,baz=20,slow=4.6,SNR=29						
ASAJ				LR	LR	15 51 24.5	
	comp=Z,101nm,20.4s,baz=343,slow=36						
YAK	Yakutsk	18.81	303	i P		15 45 01.9	
YAK				pmax	pmax		
	comp=Z,12nm,1.3s						
TIXI	Tiksi	21.70	330	eP	P	15 45 24.8	+1.7
TIXI				e		15 45 35.2	
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
IMA	Indian Mountai	22.07	46	eP	P	15 45 33.5	+6.7
IMA				pmax	pmax		
	comp=Z,43nm,1.1s,mb4.8						
IMA	Indian Mountai	22.07	46	eP	P	15 45 33.5	+6.7
	comp=Z,43nm,1.1s,mb4.8						
RSO	Redoubt South	22.52	61	eP		15 45 43.8	
ILAR	Eielson Array	24.85	50	P	P	15 45 55.5	+1.7
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	Eielson Array	24.85	50	P	P	15 45 55.5	+1.7
	comp=Z,1.5nm,0.9s,mb3.5,baz=267,slow=8.3,SNR=10						
MAJO	Matsushiro	26.46	234	eP	P	15 46 08.8	-0.3
MAJO				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.5						
MAJO	Matsushiro	26.46	234	eP	P	15 46 08.8	-0.3
	comp=Z,15nm,0.9s,mb4.5						
MAT	Matsushiro	26.46	234	eP	P	15 46 10.0	+0.9
MAT				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
MAT	Matsushiro	26.46	234	eP	P	15 46 10.0	+0.9
	comp=Z,10nm,0.8s,mb4.4						
MAT	Matsushiro	26.46	234	P	P	15 46 10.0	+0.9
MJAR	Matsushiro Arr	26.46	234	P	P	15 46 10.2	+1.1
	comp=Z,3.7nm,0.7s,mb4.0,baz=28,slow=6.4,SNR=10						
JNU	Nakatsue	32.70	240	LR	LR	15 59 32.8	
	comp=Z,58nm,19.3s,MS3.3,baz=343,slow=35						
SONM	Songino Array	35.87	282	P	P	15 47 31.5	-0.3
	comp=Z,1.1nm,0.7s,mb3.9,baz=54,slow=8.7,SNR=8.4						
SONM	Songino Array	35.87	282	P	P	15 47 31.5	-0.3
EDM	Edmonton	44.89	58	eP	pP	15 48 57.5	-0.5
WALA	Waterton Lakes	47.27	62	eP	pP	15 49 15.9	-1.0
	comp=Z,5.6nm,0.8s						
BMO	Blue Mountains	48.34	69	eP	pP	15 49 24.9	-0.4
	comp=Z,2.6nm,0.8s						
MOD	Modoc	48.77	73	eP	pP	15 49 28.8	+0.1
	comp=Z,4.6nm,0.6s						
MKAR	Makanchi Array	49.28	296	P	P	15 49 20.4	-0.1
	comp=Z,0.2nm,0.4s,mb3.5,baz=56,slow=7.6,SNR=5.1						
BRVK	Borovoye	50.67	309	eP	P	15 49 31.4	+0.3
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	Borovoye	50.67	309	eP	P	15 49 31.4	+0.3
	comp=Z,1.9nm,0.5s,mb4.3						
ARCES	ARCESS Array B	51.30	343	P	P	15 49 33.0	-2.6
	comp=Z,1.8nm,0.9s,mb4.0,baz=27,slow=11,SNR=3.7						
ZRNK	Zerenda	51.30	310	eP	P	15 49 35.4	-0.4
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	Zerenda	51.30	310	eP	P	15 49 35.4	-0.4
	comp=Z,1.3nm,0.5s,mb4.1						
IMW	Indian Meadow	52.29	65	eP	pP	15 49 56.0	+0.5
	comp=Z,3.9nm,0.8s						
LOHW	Long Hollow	52.67	65	eP	pP	15 49 58.5	+0.2
	comp=Z,3.4nm,0.7s						
PDAR	Pinedale Array	53.81	66	P	P	15 49 57.2	+2.6
	comp=Z,0.5nm,0.6s,mb3.6,slow=4.4,SNR=4.3						
SRU	San Rafael	55.97	69	eP	pP	15 50 22.9	+0.1
FINES	FINESS Array B	58.44	338	eP	P	15 50 26.9	-0.7
FINES	FINESS Array B	58.44	338	P	P	15 50 26.0	-1.6
	comp=Z,0.9nm,0.7s,mb3.9,baz=27,slow=13,SNR=4.7						
NB2	NORSAR Subarra	61.41	346	P	P	15 50 47.9	-0.1
	comp=Z,0.7nm,0.7s,mb3.9,baz=18,slow=6.5						
NB2	NORSAR Subarra	61.41	346	P	P	15 50 47.9	-0.1
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
NOA	NORSAR Array B	61.41	346	P	P	15 50 46.8	-1.2
	comp=Z,1.0nm,0.7s,mb4.0,baz=18,slow=6.7,SNR=4.8						

*MOS **19** 16:26:41.1±0.9, 22.89N×104.55E, h33km, mb4.2/4, Error ellipse: s-maj=54.4km s-min=17.5km az=112.0*
*BJI **19** 16:26:43.7, 23.52N×104.18E, h13km, mB4.4, mb4.5, ML4.2, Ms4.4, Msz4.0*
*IDC **19** 16:26:43.5±2.7, 23.46N×103.95E, mb4.0/9, mb1 4.1/9, mb1mx3.9/19, mbtmp4.0/9, MS3.4/3, Ms1 3.4/3, ms1mx3.1/17, Error ellipse: s-maj=67.1km s-min=52.2km az=99.0*
*NEIC **19** 16:26:45.2±0.6, 23.55N×104.13E, h10km, mb4.2/5, Error ellipse: s-maj=11.7km s-min=9.0km az=222.0*
*PLV **19** 16:26:50.0±1.7, 23.10N×104.29E, MD3.8*
ISC 19 16:26:42.3±0.3**, 23.40N**±0.02×**104.19E**±0.04**, h10**km**, n49, σ1s34**/78**, mb4.0**/14**, MS3.2**/3**, 2C-3D, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGV	Tuan Giao	1.94	202	ePN	Pn	16 27 19.8	+4.0
TGV				ePG	Pg	16 27 22.8	+1.7
TGV				eSG	Sg	16 27 45.1	-1.8
KMI	Kunming	2.17	323	⇓P	Pn	16 27 19.9	+1.0
KMI				PG	Pg	16 27 23.1	-2.5
KMI				S	Sn	16 27 46.5	+0.4
KMI				SG	Sg	16 27 50.3	-4.1
KMI				Smax			
	comp=N,841nm,1.0s						
KMI				Smax			
	comp=E,845nm,0.7s						
DBV	Dienbien	2.27	209	ePN	Pn	16 27 24.5	+4.0
DBV				ePG	Pg	16 27 29.2	+1.4
DBV				eSG	Sg	16 27 57.3	-0.7
BVV	Ba Vi	2.54	154	ePN	Pn	16 27 29.1	+4.9
BVV				ePG	Pg	16 27 33.5	+0.6
BVV				eSG	Sg	16 28 03.9	-2.9
MTZV	Met	2.71	132	ePn	Pn	16 27 31.5	+4.7
MTZV				ePG	Pg	16 27 36.8	+0.3
MTZV				eSg	Sg	16 28 09.5	-3.2
KSVV	Ky Son	2.74	156	ePG	Pg	16 27 37.1	+0.1
KSVV				eSG	Sg	16 28 11.6	-1.9
HNV	Hanoi	2.78	147	ePn	Pn	16 27 32.6	+4.9
HNV				ePG	Pg	16 27 38.3	+0.6
HNV				eSg	Sg	16 28 11.2	-3.6
BGV	Bac-Giang	2.82	138	ePn	Pn	16 27 32.8	+4.4
BGV				ePg	Pg	16 27 39.5	+0.8
BGV				eSg	Sg	16 28 11.2	-5.1
YTV	Yen Tu	3.24	133	ePN	Pn	16 27 38.5	+4.3
YTV				ePg	Pg	16 27 47.6	+0.7
YTV				eSg	Sg	16 28 25.5	-4.6
DSV	Doi Son	3.25	149	ePn	Pn	16 27 38.3	+3.8
DSV				ePg	Pg	16 27 47.5	+0.2
DSV				eSg	Sg	16 28 24.7	-6.0
LAVN	Lang Chanh	3.38	163	ePN	Pn	16 27 40.9	+4.6
LAVN				ePG	Pg	16 27 49.2	-0.5
LAVN				eSG	Sg	16 28 29.8	-5.1
PLV	Phu-Lien	3.43	138	ePN	Pn	16 27 40.9	+3.9
PLV				ePG	Pg	16 27 50.5	-0.4
PLV				eSg	Sg	16 28 30.3	-6.3
GYA	Guiyang	3.78	36	⇑iP	Pn	16 27 42.8	+0.8
GYA				S	Sn	16 28 30.3	+3.3
GYA				SG	Sg	16 28 41.4	-6.9
GYA				Smax			
	comp=N,880nm,0.9s						
GYA				Smax			
	comp=E,950nm,0.9s						
GYA				LR	LR		
	comp=N,940nm,3.3s						
GYA				LR	LR		
	comp=E,1μm,4.5s						
GYA				LR	LR		
	comp=Z,1μm,5.7s						
CHRT	Chiangrai	5.40	230	⇑PN	Pn	16 28 03.0	-1.9
CHRT				PG	Pg	16 28 25.0	-5.1
CHRT				SG	Sg	16 29 33.0	-9.1
NANT	Nan	5.62	216	⇓P	Pn	16 28 07.5	-0.5
QIZ	Qiongzhong	6.84	128	P	Pn	16 28 27.4	+2.3
QIZ				LR	LR		
	comp=N,777nm,10.9s						
QIZ				LR	LR		
	comp=E,571nm,11.1s						
QIZ				LR	LR		
	comp=Z,368nm,8.8s						
KKTK	Khon Kaen	7.14	191	PN	Pn	16 28 33.0	+3.5
KKTK				PG	Pg	16 29 08.0	+3.0
KKTK				SG	Sg	16 30 41.5	+1.3
CD2	Chengdu	7.49	357	eP	Pn	16 28 32.4	-1.9
CD2				S	Sn	16 29 55.4	-4.7
CD2				SG	Sg	16 30 37.0	-15
BDT	Bhumibol Dam	7.82	219	P	Pn	16 28 41.0	+2.0
XAN	Xi'an	11.38	20	P	P	16 29 25.9	-2.1
GTA	Gaotai	16.39	348	eP	P	16 30 37.6	+3.6
GTA				AP		16 30 41.3	
GTA				XP		16 30 43.6	
GTA				AMB	AMB		
	comp=Z,25nm,0.7s						
GTA	Gaotai	16.39	348	eP	P	16 30 37.6	+3.6
	comp=Z,25nm,0.7s						
GTA				pP		16 30 41.3	
GTA				sP		16 30 43.6	
SONM	Songino Array	24.44	4	P	P	16 32 04.0	+1.8
	comp=Z,3.1nm,0.8s,mb3.8,baz=182,slow=9.2,SNR=28						
SONM				LR	LR	16 42 46.5	
	comp=Z,61nm,19.0s,MS3.1,baz=222,slow=40						
JNU	Nakatsue	25.36	62	LR	LR	16 43 54.5	
	comp=Z,63nm,18.4s,MS3.2,baz=146,slow=40						
ZAK	Zakamensk	26.94	359	eP	P	16 32 25.2	-0.4
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
ZAK	Zakamensk	26.94	359	eP	P	16 32 25.2	-0.4
	comp=Z,4.0nm,0.9s,mb4.0						
MKAR	Makanchi Array	29.23	328	P	P	16 32 46.5	+0.1
	comp=Z,0.7nm,0.5s,mb3.6,baz=143,slow=9.7,SNR=13						
MKAR				PcP	PcP	16 35 54.5	+0.8
	comp=Z,0.4nm,0.7s,baz=117,slow=2.7,SNR=3.9						
MKAR	Makanchi Array	29.23	328	P	P	16 32 46.6	+0.2
MKAR				e		16 35 54.5	
MJAR	Matsushiro Arr	32.07	58	LR	LR	16 47 37.5	
	comp=Z,84nm,18.7s,MS3.5,baz=230,slow=39						
KURK	Kurchatov	33.73	330	eP	P	16 33 25.9	+0.1
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
ZAL	Zalesovo	33.81	339	P	P	16 33 25.5	-1.1
	comp=Z,2.1nm,0.4s,mb4.4,baz=353,slow=5.3,SNR=12						
ZAL	Zalesovo	33.81	339	P	P	16 33 25.5	-1.0
BVAR	Borovoye Array	39.11	328	P	P	16 34 12.1	+0.6
	comp=Z,2.1nm,0.7s,mb4.0,baz=117,slow=9.9,SNR=16						
BVAR				PcP	PcP	16 36 21.8	+0.2
	comp=Z,0.7nm,0.7s,baz=180,slow=3.0,SNR=4.7						
BVAR	Borovoye Array	39.11	328	P	P	16 34 12.1	+0.7
BVAR				e		16 36 21.8	
BRVK	Borovoye	39.19	328	eP	P	16 34 13.0	+1.0
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
BRVK	Borovoye	39.19	328	eP	P	16 34 13.0	+1.0
	comp=Z,3.0nm,1.1s,mb3.9						
ZRNK	Zerenda	39.76	327	eP	P	16 34 16.7	-0.1
ZRNK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
ARU	Arti	46.74	327	deP	P	16 35 13.4	+0.2
ARU	Arti	46.74	327	eP	P	16 35 13.4	+0.2
KIV	Kislovodsk	53.86	308	eP	P	16 36 08.0	+0.2
KIV				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
KIV	Kislovodsk	53.86	308	eP	P	16 36 08.0	+0.2
	comp=Z,6.0nm,0.7s,mb4.6						
AKASG	Malin Array Be	62.85	316	P	P	16 37 09.5	-1.0
	comp=Z,1.9nm,0.7s,mb4.4,baz=74,slow=6.7,SNR=8.9						
FINES	FINESS Array B	64.07	328	P	P	16 37 17.4	-1.0
	comp=Z,1.0nm,0.7s,mb3.9,baz=111,slow=12,SNR=5.7						
ARCES	ARCESS Array B	64.34	338	P	P	16 37 19.0	-1.0
	comp=Z,0.9nm,0.8s,mb3.9,baz=80,slow=7.4,SNR=4.1						
NB2	NORSAR Subarra	71.23	329	P	P	16 38 02.1	-1.2
	comp=Z,0.8nm,0.7s,mb3.8,baz=77,slow=6.2						
NB2	NORSAR Subarra	71.23	329	P	P	16 38 02.1	-1.2
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	NORSAR Array B	71.23	329	P	P	16 38 02.5	-0.8
	comp=Z,1.5nm,0.8s,mb4.0,baz=77,slow=6.2,SNR=6.1						
GERES	GERESS Array B	73.06	316	P	P	16 38 14.6	+0.2
	comp=Z,0.3nm,0.5s,mb3.5,baz=79,slow=6.8,SNR=4.5						
SDV	Santo Domingo	147.51	350	ePKPdf	PKPdf	16 46 29.5	+1.5

*BJI **19** 16:28:09.7, 14.72S×167.89E, h87km, mB5.0, mb4.8, Ms4.5, Msz4.0*
*HRVD **19** 16:28:12.1±0.6, 15.07S×167.23E, h106km±6km, MW4.9/45, Centroid moment Tensor Solution. LP body waves: s11,c13;Mantle waves: s45,c58; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.12±.18; $M_{\theta\theta}$-0.79±.19; $M_{\phi\phi}$0.66±.18; $M_{r\theta}$-1.08±.10; $M_{\theta\phi}$2.31±.16; $M_{\phi r}$-0.48±.12; Best double couple: $M_0$2.693×10^{16} NP1: ϕ_s170°,δ65°,λ173°. NP2:ϕ_s262°,δ84°,λ25°. Principal axes: T 2.769, Plg22°, Azm129°; N -.151, Plg64°, Azm275°; P -2.618, Plg13°, Azm34°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **19** 16:28:12.1±1.2, 15.07S×167.29E, h85km±10km, mb5.0/13 Error ellipse: s-maj=10.7km s-min=6.8km az=68.0*
*IDC **19** 16:28:12.0±2.1, 15.07S×167.35E, h88km±17km, mb4.5/16, mb1 4.6/18, mb1mx4.5/21, mbtmp4.9/18, MS3.6/6, Ms1 3.6/6, ms1mx3.5/13, Error ellipse: s-maj=19.2km s-min=11.4km az=73.0*
*LDG **19** 16:28:16.8±0.3, 15.19S×166.69E, h120km, Mb4.7/2, Error ellipse: s-maj=55.9km s-min=9.3km az=88.0*
ISC 19 16:28:11.2±1.4**, 15.14S**±0.05×**167.26E**±0.06**, h92**km±13km**, h73**km±5.4km**: pP-P, n112, σ1s16**/61**, mb4.9**/36**, 1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.94	186	eP	P	16 29 52.6	+0.5
DZM				eS	S	16 31 08.3	-1.7
DZM	Mont Dzumac	6.94	186	P	P	16 29 52.5	+0.5
	29nm,0.3s,baz=0.9,slow=13,SNR=188						
DZM				S	S	16 31 08.9	-1.1
	80nm,0.3s,baz=329,slow=22,SNR=11						
DZM	Mont Dzumac	6.94	186	eP	P	16 29 52.5	+0.5
DZM				eS	S	16 31 08.3	-1.7
HNR	Honiara	9.12	308	P	P	16 30 23.1	+1.5
	18nm,0.3s,baz=131,slow=4.5,SNR=7.5						
HNR	Honiara	9.12	308	ePn	P	16 30 22.1	+0.5
HNR				eSn	S	16 32 04.8	+1.4
PMG	Port Moresby	20.44	284	LR	LR	16 39 51.8	
	comp=Z,107nm,19.7s,baz=298,slow=34						
URZ	Urewera	24.62	161	P	P	16 33 24.9	+0.6
	59nm,0.9s,mb5.0,baz=359,slow=5.3,SNR=30						
URZ				LR	LR	16 41 41.3	
	comp=Z,176nm,20.5s,baz=325,slow=33						
SNZO	South Karori	26.87	168	eP	P	16 33 43.0	-2.2
	46nm,0.8s,mb5.1						
RPZ	Rata Peaks	28.67	174	P	P	16 34 01.2	-0.3
	27nm,0.7s,mb5.0,baz=173,slow=2.3,SNR=15						
STKA	Stephens Creek	28.72	230	eP	P	16 34 02.9	+0.9
	1.8nm,0.4s,mb4.0						
STKA	Stephens Creek	28.72	230	P	P	16 34 02.8	+0.7
	2.1nm,0.4s,mb4.1,baz=56,slow=8.0,SNR=13						
STKA				PcP	PcP	16 37 10.5	+0.2
	1.7nm,0.6s,baz=63,slow=6.8,SNR=3.3						
STKA				LR	LR	16 45 06.2	
	comp=Z,135nm,21.0s,baz=24,slow=35						
WB2	Warramunga Arr	31.70	257	eP	P	16 34 27.1	-1.4
WRAB	Tennant Creek	31.71	257	eP	P	16 34 27.4	-1.0
	3.9nm,0.9s,mb4.1						
WRA	Warramunga Arr	31.72	257	P	P	16 34 27.4	-1.2
	0.8nm,0.4s,mb3.8,baz=85,slow=9.1,SNR=9.0						
RAR	Rarotonga	31.86	106	eP	P	16 34 29.1	-0.7
FITZ	Fitzroy Crossi	39.93	260	eP	P	16 35 38.4	+0.3
	6.5nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	39.93	260	P	P	16 35 38.3	+0.3
	9.8nm,0.7s,mb4.8,baz=109,slow=4.4,SNR=9.8						
PAE	Paea	41.42	100	eP	P	16 35 50.4	+0.1
	100nm,1.0s,mb5.6						
PAE				epP	pP	16 36 09.3	-2.9
	79nm,1.2s						
PPT	Papeete	41.43	99	eP	P	16 35 50.8	+0.4
	42nm,1.0s,mb5.2						
PPT	Papeete	41.43	99	eLR	LR	16 47 54.2	
	98nm,27.2s						
PPT	Papeete	41.43	99	P	P	16 35 50.9	+0.6
	27nm,0.6s,mb5.3,baz=192,slow=3.7,SNR=4.0						
TVO	Taravao	41.73	100	eP	P	16 35 53.1	+0.2
	112nm,0.9s,mb5.6						
PMOR	Pomariorio Ree	43.25	96	eP	P	16 36 06.1	+0.7
	93nm,1.1s,mb5.4						
VAH	Vaihoa	43.48	96	eP	P	16 36 10.0	+2.7
	61nm,0.9s,mb5.3						
MBWA	Marble Bar	45.43	255	eP	P	16 36 23.4	+0.6
	7.7nm,0.7s,mb4.5						
RKT	Rikitea	54.87	108	eLR	LR	16 53 36.2	
	178nm,34.2s						
JOW	Kunigami	56.34	318	P	P	16 37 45.2	0.0
	34nm,0.8s,mb5.4,baz=164,slow=8.4,SNR=8.1						
MJAR	Matsushiro Arr	58.26	333	P	P	16 37 56.6	-2.0
	8.3nm,0.8s,mb4.8,baz=169,slow=9.0,SNR=20						
MJAR				LR	LR	17 01 56.5	
	comp=Z,48nm,18.8s,baz=225,slow=35						
MAJO	Matsushiro	58.26	333	eP	P	16 37 56.3	-2.3
	14nm,0.8s,mb5.0						
MAT	Matsushiro	58.26	333	eP	P	16 37 56.0	-2.6
	16nm,1.0s,mb5.0						
MAT	Matsushiro	58.26	333	P	P	16 37 56.0	-2.6
JNU	Nakatsue	59.24	325	P	P	16 38 04.3	-1.1
	17nm,0.8s,mb5.1,baz=80,slow=9.2,SNR=19						
VNDA	Vanda	62.45	181	P	P	16 38 25.9	-0.7
	8.0nm,0.7s,mb4.9,baz=356,slow=7.2,SNR=57						
VNDA				LR	LR	17 01 56.7	
	comp=Z,29nm,20.8s,baz=331,slow=32						
VNDA	Vanda	62.45	181	P	P	16 38 25.9	-0.7
VNDA				LR	LR	17 01 56.7	
SBA	Scott Base	62.73	180	eP	P	16 38 28.8	+0.3
	13nm,0.7s,mb5.0						
KS15	Wonju Array Si	64.08	326	eP	P	16 38 37.1	-0.7
YSS	Yuzh-Sakhalins	65.61	342	eP	P	16 38 47.6	+0.1
	32nm,0.9s,mb5.2						
MDJ	Mudanjiang	68.63	332	P	P	16 39 05.6	-0.9
MDJ				AP	pP	16 39 23.1	-7.2
MDJ				AMB	AMB		
	comp=Z,26nm,1.0s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,112nm,4.3s						
MDJ				LR	LR		
	comp=N,30nm,20.6s						
MDJ				LR	LR		
	comp=E,44nm,17.6s						
MDJ				LR	LR		
	comp=Z,74nm,16.6s						
CN2	Changchun	69.99	329	⇓P	P	16 39 13.9	-0.9
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
KMI	Kunming	74.51	302	P	P	16 39 43.0	+1.1
KMI				AP	pP	16 40 06.4	+0.3
KMI				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
KMI				LR	LR		
	comp=Z,49nm,29.4s						
QSPA	South Pole Qui	74.89	180	eP	P	16 39 43.4	+0.3
	comp=Z,14nm,0.7s,mb4.8						
HHC	Hu-ho-hao-te	75.89	320	eP	P	16 39 50.5	+1.0
HHC				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.7						
LZH	Lanzhou	78.58	312	eP	P	16 40 05.0	+0.5
LZH				AP	pP	16 40 23.3	-5.5
LZH				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.8						
MAW	Mawson	81.50	202	P	P	16 40 20.8	+1.3
	comp=Z,13nm,0.6s,mb4.9,baz=65,slow=19,SNR=27						
MAW				LR	LR	17 11 23.4	
	comp=Z,66nm,20.8s,baz=246,slow=32						
YAK	Yakutsk	82.41	343	eP	P	16 40 23.8	-0.5
	comp=Z,54nm,0.8s,mb5.4						
SONM	Songino Array	82.81	324	P	P	16 40 26.9	+0.3
	comp=Z,9.7nm,1.0s,mb4.6,baz=146,slow=5.3,SNR=50						
GTA	Gaotai	82.94	314	eP	P	16 40 28.6	+1.2
GTA				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.5						
SHL	Shillong	83.75	298	eP	P	16 40 33.0	+1.1
MCK	McKinley	85.54	18	eP	P	16 40 40.2	+0.3
IMA	Indian Mountai	86.05	15	eP	P	16 40 43.1	+0.9
	comp=Z,14nm,0.8s,mb5.0						
ILAR	Eielson Array	86.92	18	P	P	16 40 44.5	-2.1
	comp=Z,3.0nm,0.8s,mb4.3,baz=237,slow=5.8,SNR=27						
SNAA	Sanae	93.14	183		P	16 41 15.1	-0.5
SNAA	Sanae	93.14	183	P	P	16 41 15.0	-0.6
	comp=Z,1.3nm,0.6s,mb4.4,baz=193,slow=4.1,SNR=43						
SNAA	Sanae	93.14	183	eP	P	16 41 15.0	-0.6
	comp=Z,3.2nm,0.6s,mb4.8						
VNA3	Neumayer Olymp	93.81	181		P	16 41 20.1	+1.5
VNA2	Neumayer--Watz	94.08	182		P	16 41 21.8	+2.0
VNA1	Neumayer--Stat	94.37	181		P	16 41 23.8	+2.6
MKAR	Makanchi Array	97.49	316	P	P	16 41 36.5	+0.6
	comp=Z,4.2nm,0.9s,mb4.9,baz=101,slow=6.2,SNR=12						
YKA	Yellowknife Ar	97.91	27	P	P	16 41 35.5	-1.9
	comp=Z,1.2nm,0.7s,mb4.5,baz=260,slow=5.0,SNR=5.1						
YKA	Yellowknife Ar	97.91	27	P	P	16 41 35.5	-1.9
ARCES	ARCESS Array B	120.64	345	PKP	PKPdf	16 46 52.2	+0.3
	comp=Z,2.5nm,0.5s,baz=88,slow=1.3,SNR=25						
ARCES	ARCESS Array B	120.64	345	PKP	PKPdf	16 46 52.2	+0.3
KAF	Kangasniemi	125.57	339	ep	PKPdf	16 47 00.9	-0.6
FINES	FINESS Array B	126.09	338	PKP	PKPdf	16 47 03.6	+1.1
	comp=Z,0.5nm,0.5s,baz=45,slow=2.7,SNR=7.4						
NB2	NORSAR Subarra	131.01	345	SKPbc		16 50 29.5	
	comp=Z,3.9nm,1.1s,baz=32,slow=3.7						
NOA	NORSAR Array B	131.01	345	PKP	PKPdf	16 47 12.8	+0.8
	comp=Z,0.5nm,0.6s,baz=31,slow=1.8,SNR=3.3						
NOA				SKPbc		16 50 29.1	
	comp=Z,0.9nm,0.8s,baz=38,slow=2.6,SNR=6.3						
AKASG	Malin Array Be	131.06	326	SKPbc		16 50 29.9	
	comp=Z,1.8nm,0.7s,baz=44,slow=4.7,SNR=12						
GERES	GERESS Array B	140.00	333	PKhKP		16 47 21.3	
	comp=Z,0.6nm,0.6s,baz=135,slow=1.4,SNR=3.3						
GERES				SKPbc		16 50 59.9	
	comp=Z,0.3nm,0.5s,baz=135,slow=1.9,SNR=4.7						
CII	Carovilli	144.68	324	ePKPdf	PKPdf	16 47 38.2	+1.0
TIP	Timpagrande	144.74	318	ePKPdf	PKPdf	16 47 39.1	+1.7
AQU	L'Aquila	144.77	326	ePKPdf	PKPdf	16 47 39.3	+1.9
CABF	La Chapelle	144.90	337	ePKP1	PKPbc	16 47 38.7	+1.0
	comp=Z,57nm,0.8s						
OG01	Vacheresse	144.91	336	PKP	PKPdf	16 47 38.9	+1.4
OG01	Vacheresse	144.91	336	eP	PKPdf	16 47 38.9	+1.4
FLN	La Foliniere	144.99	346	ePKP1	PKPbc	16 47 37.9	0.0
	comp=Z,30nm,0.6s						
LDF	La Druitiere	145.06	345	ePKP1	PKPbc	16 47 38.0	0.0
	comp=Z,51nm,1.1s						
LOR	Lormes	145.12	340	ePKP1	PKPbc	16 47 38.9	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,38nm,0.8s						
SSF	**Saint Saulge**	**145.41**	**340**	*e*PKP1	PKPbc	16 47 40.1	+1.1
	comp=Z,79nm,0.8s						
GRR	**Gorron**	**145.43**	**346**	*e*PKP1	PKPbc	16 47 39.7	+0.7
	comp=Z,67nm,0.7s						
RSL	**Roselend**	**145.46**	**336**	PKP	PKPdf	16 47 40.3	+1.8
RSL	**Roselend**	**145.46**	**336**	*e*P	PKPdf	16 47 40.3	+1.8
LPL	**La Plagne**	**145.56**	**336**	*e*PKP1	PKPbc	16 47 41.0	+1.6
	comp=Z,39nm,0.8s						
LPG	**La Plagne**	**145.57**	**335**	*e*PKP1	PKPbc	16 47 41.2	+1.8
	comp=Z,45nm,0.7s						
OG05	**Jujurieux**	**145.61**	**337**	PKP	PKPdf	16 47 40.9	+2.2
OG05	**Jujurieux**	**145.61**	**337**	*e*P	PKPdf	16 47 40.9	+2.2
SGMF	**Saint Gilles**	**145.92**	**348**	*e*PKP1	PKPbc	16 47 40.4	+0.2
	comp=Z,52nm,0.9s						
BNI	**Bardonecchia**	**145.96**	**335**	*e*PKPdf	PKPdf	16 47 42.5	+3.2
ROSF	**Rostrenen**	**145.99**	**349**	*e*PKP1	PKPbc	16 47 41.0	+0.6
BGF	**Bois d'Agland**	**146.07**	**341**	*e*PKP1	PKPbc	16 47 41.7	+1.1
	comp=Z,29nm,0.6s						
MBDF	**Montbardon**	**146.19**	**335**	*e*PKP1	PKPbc	16 47 42.7	+1.7
	comp=Z,28nm,0.8s						
QUIF	**Quistinic**	**146.37**	**348**	*e*PKP1	PKPbc	16 47 42.5	+1.2
ORIF	**Oris-en-Rattie**	**146.39**	**336**	*e*PKP1	PKPbc	16 47 43.1	+1.7
SAOF	**Saorge**	**146.45**	**333**	PKP	PKPdf	16 47 43.6	+3.4
SAOF	**Saorge**	**146.45**	**333**	*e*P	PKPdf	16 47 43.6	+3.4
AUTN	**L'Aution**	**146.50**	**333**	PKP	PKPdf	16 47 43.0	+2.7
AUTN	**L'Aution**	**146.50**	**333**	*e*P	PKPdf	16 47 43.0	+2.7
TCF	**Toulx Ste Croi**	**146.51**	**341**	*e*PKP1	PKPbc	16 47 43.1	+1.4
	comp=Z,20nm,0.9s						
TOUF	**Mont Tournerai**	**146.56**	**333**	PKP	PKPdf	16 47 44.1	+3.7
TOUF	**Mont Tournerai**	**146.56**	**333**	*e*P	PKPdf	16 47 44.1	+3.7
SBF	**Sospel**	**146.60**	**333**	*e*PKP1	PKPbc	16 47 44.1	+2.2
	comp=Z,70nm,0.8s						
PGF	**Pioggiola**	**146.90**	**330**	*e*PKP1	PKPbc	16 47 43.6	+0.9
	comp=Z,55nm,1.0s						
MFF	**Saint Martin d**	**146.91**	**344**	*e*PKP1	PKPbc	16 47 44.0	+1.4
	comp=Z,44nm,0.7s						
VIVF	**Saint-Julien-l**	**146.91**	**337**	*e*PKP1	PKPbc	16 47 44.4	+1.8
	comp=Z,11nm,0.9s						
SMRF	**Simiane la Rot**	**147.29**	**335**	*e*PKP1	PKPdf	16 47 44.9	+3.3
	comp=Z,18nm,0.8s						
LMR	**La Mourre**	**147.43**	**333**	*e*PKP1	PKPdf	16 47 45.1	+3.2
RJF	**Les Rejaudoux**	**147.61**	**341**	*e*PKP1	PKPdf	16 47 46.2	+4.1
	comp=Z,18nm,0.7s						
LASF	**Ste Croix**	**147.88**	**337**	*e*PKP1	PKPdf	16 47 47.1	+4.5
	comp=Z,17nm,0.9s						
LFF	**La Frestale**	**148.18**	**342**	*e*PKP1	PKPdf	16 47 47.7	+4.7
	comp=Z,31nm,0.7s						
MTLF	**Montolieu**	**149.11**	**338**	*e*PKP1	PKPdf	16 47 50.2	+5.6
	comp=Z,22nm,1.0s						
EPF	**Esparros**	**150.02**	**341**	*e*PKP1	PKPdf	16 47 52.6	+6.6
ETSF	**Etsaut**	**150.42**	**342**	*e*PKP1	PKPdf	16 47 53.8	+7.2
	comp=Z,8.6nm,0.6s						
ESDC	**Sonseca Array**	**154.37**	**344**	PKPab	PKPab	16 48 16.9	-0.8
	comp=Z,0.3nm,0.3s,baz=18,slow=4.7,SNR=4.4						

*NEIC **19** 16:32:28.2±1.4, 2.83N×96.22E, h30km, mb4.4/2, Error ellipse: s-maj=33.7km s-min=20.9km az=201.0*
*IDC **19** 16:32:29.6±1.4, 3.74N×96.23E, mb4.0/9, mb1 4.1/9, mb1mx3.9/19, mbtmp4.0/9, Error ellipse: s-maj=57.2km s-min=25.4km az=50.0*
ISC 19 16:32:32.3±1.2**, 3.7N**±0.2×**96.2E**±0.1**, h30**km**, n13, σ0§72**/13**, mb4.0**/11**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.69**	**71**	*e*Pn	**Pn**	**16 33 43.5**	**+0.4**
WRA	**Warramunga Arr**	**44.24**	**124**	P	**P**	**16 40 40.6**	**-0.6**
	1.3nm,0.5s,mb3.9,baz=303,slow=9.2,SNR=8.0						
WRAB	**Tennant Creek**	**44.25**	**124**	*e*P	**P**	**16 40 30.0**	**-11**
	9.7nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**44.55**	**346**	P	**P**	**16 40 43.0**	**-0.3**
	1.8nm,0.4s,mb4.3,baz=162,slow=8.3,SNR=60						
SONM	**Songino Array**	**44.79**	**10**	P	**P**	**16 40 45.5**	**+0.3**
	0.7nm,0.4s,mb3.8,baz=192,slow=8.8,SNR=5.1						
SONM				PcP	PcP	16 42 28.0	+0.6
	0.8nm,0.8s,baz=194,slow=4.5,SNR=2.9						
KURK	**Kurchatov**	**49.09**	**345**	*e*P	**P**	**16 41 18.4**	**-0.5**
	2.1nm,0.6s,mb4.3						
ZAL	**Zalesovo**	**50.90**	**351**	P	**P**	**16 41 32.1**	**-0.6**
	2.8nm,0.9s,mb4.2,baz=3.8,slow=2.0,SNR=6.2						
BVAR	**Borovoye Array**	**53.54**	**341**	P	**P**	**16 41 51.9**	**-0.6**
	0.8nm,0.5s,mb3.9,baz=146,slow=9.9,SNR=6.9						
BRTR	**Keskin Array B**	**66.68**	**312**	P	**P**	**16 43 22.6**	**-0.2**
	0.5nm,0.4s,mb3.9,baz=124,slow=4.5,SNR=4.8						
FINES	**FINESS Array B**	**77.30**	**332**	P	**P**	**16 44 25.3**	**-0.1**
	0.8nm,0.8s,mb3.7,baz=117,slow=4.3,SNR=3.3						
ARCES	**ARCESS Array B**	**79.82**	**340**	P	**P**	**16 44 39.7**	**+0.6**
	0.9nm,0.8s,mb3.8,baz=104,slow=5.0,SNR=5.4						
ARCES	**ARCESS Array B**	**79.82**	**340**	P	**P**	**16 44 39.7**	**+0.6**
GERES	**GERESS Array B**	**82.26**	**319**	P	**P**	**16 44 54.3**	**+2.0**
	0.5nm,0.5s,mb3.7,baz=124,slow=4.8,SNR=4.5						

RSPR 19 16:42:47.0, 19.68N×69.03W, h12km±28km**, MD3.5**/7**, MD3.5**/7**, 7C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**2.37**	**129**⇑	*e*P	Pn	16 43 22.5	-3.8
LSP				*e*S	Sn	16 43 51.2	-4.2
CRPR	**Cabo Rojo, PR**	**2.46**	**132**⇑	*e*P	Pn	16 43 24.3	-3.4
CRPR	**Cabo Rojo, PR**	**2.46**	**132**	*e*S	Sn	16 43 53.2	-4.7
MGP	**Maguayo**	**2.48**	**132**⇑	*e*P	Pn	16 43 24.6	-3.2
MGP				*e*S	Sn	16 43 53.5	-4.7
LRS	**Lares**	**2.48**	**123**⇑	*e*P	Pn	16 43 25.4	-2.5
LRS				*e*S	Sn	16 43 53.4	-4.9
PORP	**Portuguez**	**2.78**	**125**⇑	*e*P	Pn	16 43 30.2	-2.0
PORP				*e*S	Sn	16 44 01.9	-4.1
SJG	**San Juan**	**3.14**	**119**⇑	*e*P	Pn	16 43 33.7	-3.6
MTP	**Monte Pirata**	**3.64**	**115**⇑	*e*P	Pn	16 43 40.7	-3.8

KRSC 19 16:45:51.4±0.8**, 50.30N×157.05E, h62**km±10km**, ML4.1, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.71**	**303**	*i* P	P	16 46 05.6	-0.3
SKR				*i* S	S	16 46 17.1	+0.3
ALID	**Alaid**	**1.11**	**301**	*e*P	P	16 46 12.1	+0.8
ALID				*e*S	S	16 46 26.9	+0.9
PAU	**Pauzhetka**	**1.18**	**353**	*i* P	P	16 46 14.0	+1.9
PAU				*i* S	S	16 46 29.7	+2.1
PAU				Smax			
	1μm,1.0s						
MIPR	**Malaya Ipel'ka**	**1.99**	**355**	*e*P	P	16 46 24.3	+0.9
MIPR				*e*S	S	16 46 47.8	+0.8
RUS	**Russkaya**	**2.33**	**23**	*i* P	P	16 46 28.7	+0.5
RUS				*i* S	S	16 46 55.6	+0.1
GRL	**Gorelyy**	**2.34**	**15**	*i* P	P	16 46 30.2	+1.8
GRL				*i* S	S	16 46 58.3	+2.2
KRMR	**Karymshinskiy**	**2.62**	**14**	*e*S	S	16 47 02.8	-0.3
APC	**Apacha**	**2.63**	**1**	*i* P	P	16 46 33.1	+0.6
APC				*i* S	S	16 47 03.8	+0.5
APC				Smax			
	40nm,1.2s						
PET	**Petropavlovsk**	**2.91**	**19**	*e*P	P	16 46 37.1	+0.7
PET				*e*S	S	16 47 10.0	-0.2
UGLR	**Uglovaya**	**3.12**	**20**	*e*P	P	16 46 40.8	+1.5
AVH	**Avacha**	**3.15**	**19**	*e*P	P	16 46 41.4	+1.6
AVH				*e*S	S	16 47 17.4	+1.0
KOK	**Koryaka**	**3.15**	**18**	*e*P	P	16 46 41.3	+1.4
SMAR	**Somma**	**3.16**	**19**	*e*P	P	16 46 41.3	+1.3
SDLR	**Sedlovina**	**3.19**	**20**	*i* P	P	16 46 41.1	+0.7
NLC	**Nalytchevo**	**3.21**	**26**	*i* P	P	16 46 40.1	-0.6
NLC				*e*S	S	16 47 15.5	-2.4
SPN	**Mys Shipunski**	**3.36**	**32**	*i* P	P	16 46 43.0	+0.3
SPN				*i* S	S	16 47 21.0	-0.6
GNL	**Ganaly**	**3.44**	**9**	*i* P	P	16 46 44.4	+0.4
MKZ	**Mys Kozlova**	**5.13**	**32**	*e*P	P	16 47 06.2	-1.4
MKZ				*e*S	S	16 48 01.0	-5.2
TUMR	**Tumrok**	**5.33**	**19**	*e*P	P	16 47 10.8	+0.5
ESO	**Esso**	**5.72**	**9**	*e*P	P	16 47 14.5	-1.2
KMNR	**Kamenistaya**	**5.79**	**18**	*e*P	P	16 47 17.0	+0.3
KPT	**Kopyto**	**5.99**	**17**	*e*P	P	16 47 20.0	+0.6
KOZ	**Kozyrevsk**	**6.01**	**15**	*e*P	P	16 47 20.6	+0.9
SRDR	**Sredinnyy**	**6.24**	**14**	*e*P	P	16 47 21.8	-1.1
KLY	**Klyuchi**	**6.40**	**18**	*e*P	P	16 47 25.1	-0.1
KBTR	**Krutoberegovo**	**6.85**	**28**	*e*P	P	16 47 30.6	-0.9
KBTR				*e*S	S	16 48 44.6	-4.3
BKI	**Bering**	**7.31**	**44**	*e*S	S	16 48 49.4	-11

IDC 19 17:07:45.1±3.2**, 5.36N×94.76E, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.5**/20**, mbtmp3.6**/4**, Error ellipse: s-maj=126.7km s-min=28.7km az=56.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.66**	**347**	P	P	17 15 43.6	-1.5
	0.9nm,0.6s,baz=165,slow=7.0,SNR=13						
SONM	**Songino Array**	**43.48**	**11**	P	P	17 15 50.0	-1.7
	0.2nm,0.5s,baz=195,slow=9.0,SNR=4.2						
WRA	**Warramunga Arr**	**46.33**	**124**	P	P	17 16 13.1	-1.8
	1.2nm,0.6s,baz=302,slow=9.3,SNR=5.2						
BVAR	**Borovoye Array**	**51.55**	**341**	P	P	17 16 52.5	-2.4
	0.2nm,0.3s,baz=148,slow=14,SNR=3.3						

*NEIC **19** 17:07:51.3, 26.42S×70.99W, h30km, ML3.9(GUC), After GUC.*
GUC 19 17:07:51.3±1.0**, 26.42S×70.99W, h30**km±13km**, ML3.9, 1C-3D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRCH	**Chaqaral**	**0.34**	**77**⇓	*i*P	Pb	17 07 59.5	+0.2
CRCH				*i* S	Sb	17 08 05.0	+0.2
CRCH				AMP		17 08 05.6	
	comp=E,8μm,0.2s						
CPCH	**Copiapo**	**1.09**	**149**⇓	*i*P	Pn	17 08 10.3	-0.3
CPCH				*i* S	Sn	17 08 25.1	+0.2
CPCH				AMP		17 08 27.6	
	comp=N,16μm,0.1s						
CPN1	**Cerro Paranal**	**1.87**	**17**	AMP		17 08 54.0	
	comp=E,1μm,0.4s						
VACH	**Vallenar**	**2.15**	**175**⇓	*i*P	Pn	17 08 26.8	+0.9
VACH				*i* S	Sn	17 08 53.8	+2.0
TLL	**Tololo Astrono**	**3.73**	**178**⇑	*i*P	Pn	17 08 48.5	+0.1
LVC	**Limon Verde**	**4.24**	**27**	*e*P	Pn	17 08 55.3	-0.3
LVC				*e*S	Sn	17 09 58.4	+14
LPAZ	**La Paz**	**10.43**	**15**	*e*Pn	P	17 10 19.1	-3.0

*IDC **19** 17:13:37.1±0.8, 2.87N×93.89E, mb4.4/12, mb1 4.6/12, mb1mx4.4/20, mbtmp4.4/12, MS3.7/2, Ms1 3.7/2, ms1mx3.2/17, Error ellipse: s-maj=36.3km s-min=17.3km az=55.0*
*BJI **19** 17:13:39.4, 2.90N×93.90E, h29km, mB4.4, mb4.7, Ms4.4, Msz4.0*
*MOS **19** 17:13:40.6±0.7, 3.03N×94.01E, h33km, mb4.7/12, Error ellipse: s-maj=24.7km s-min=7.8km az=113.3*
*NEIC **19** 17:13:41.4±0.3, 2.89N×93.95E, mb4.5/13, Error ellipse: s-maj=11.3km s-min=6.2km az=223.0*
ISC 19 17:13:39.5±0.5**, 2.91N**±0.07×**94.02E**±0.06**, h28**km**, h28**km±.8km**:pP-P, n84, σ1§02**/84**, mb4.6**/41**, MS4.1**/6**, 3C-2D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.03**	**70**	*e*Pn	**Pn**	**17 15 23.3**	**0.0**
KULM				*e*Sn	**Sn**	**17 16 39.0**	**-4.1**
SNG	**Songkhla**	**7.82**	**57**	P	**Pn**	**17 15 35.0**	**+0.6**
	428nm,0.8s						
PALK	**Pallekele**	**13.95**	**289**	*e*Pn	**P**	**17 16 55.8**	**-2.0**
PALK				*e*Sn	**S**	**17 19 20.9**	**-12**
NST	**Nakhon Sawan**	**14.04**	**25**	P	**P**	**17 17 05.2**	**+6.2**
KKTK	**Khon Kaen**	**15.91**	**32**	P	**P**	**17 17 28.2**	**+4.9**
	309nm,0.8s						
KSM	**Kuching**	**16.34**	**95**	*e*P	**P**	**17 17 34.4**	**+5.5**
KSM				*e*		17 17 42.3	
CHG	**Chiang Mai**	**16.52**	**17**	⇓P	**P**	**17 17 32.9**	**+1.8**
	16nm,0.9s						
NANT	**Nan**	**17.09**	**22**	P	**P**	**17 17 37.0**	**-1.3**
HYB	**Hyderabad**	**20.93**	**315**	*e*P	**P**	**17 18 22.0**	**-0.7**
HYB	**Hyderabad**	**20.93**	**315**	*i* P	**P**	**17 18 22.0**	**-0.7**
KKM	**Kota Kinabalu**	**22.35**	**81**	*e*P	**P**	**17 18 48.0**	**+11**
KMI	**Kunming**	**23.63**	**20**	P	**P**	**17 18 51.6**	**+2.2**
KMI				AP		17 18 59.6	
KMI				XP		17 19 04.0	
KMI				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.0						
KMI				AMB	AMB		
	comp=Z,68nm,4.2s						
KMI				LR	LR		
	comp=N,413nm,12.1s,MS4.2						
KMI				LR	LR		
	comp=E,299nm,10.1s,MS4.2						
KMI				LR	LR		
	comp=Z,218nm,9.9s						
PKI	**Pulchoki**	**25.86**	**342**	*e*P	**P**	**17 19 10.3**	**-0.5**
	comp=Z,24nm,0.9s,mb4.7						
PKI	**Pulchoki**	**25.86**	**342**	*e*P	**P**	**17 19 10.3**	**-0.5**
PKI				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.4						
DMN	**Daman**	**25.99**	**342**	*e*P	**P**	**17 19 12.3**	**+0.3**
	comp=Z,22nm,0.7s,mb4.8						
GUN	**Gumba**	**26.04**	**343**	*e*P	**P**	**17 19 12.4**	**-0.1**
KKN	**Kakani**	**26.11**	**342**	*e*P	**P**	**17 19 12.8**	**-0.2**
	comp=Z,18nm,0.8s,mb4.7						
KKN	**Kakani**	**26.11**	**342**	*e*P	**P**	**17 19 12.8**	**-0.2**
KKN				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.3						
GKN	**Gorkha**	**26.51**	**341**	*e*P	**P**	**17 19 17.2**	**+0.5**
	comp=Z,38nm,1.0s,mb4.9						
KOLN	**Koldanda**	**26.64**	**339**	*e*P	**P**	**17 19 18.0**	**0.0**
	comp=Z,21nm,0.8s,mb4.7						
XAN	**Xi'an**	**33.95**	**22**	P	**P**	**17 20 22.3**	**-0.5**
XAN				AP	pP	17 20 30.1	-0.9
XAN				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.9						
MBWA	**Marble Bar**	**34.74**	**135**	P	**P**	**17 20 28.9**	**-0.8**
GTA	**Gaotai**	**36.71**	**8**	*e*P	**P**	**17 20 46.4**	**+0.2**
GTA				AP	pP	17 20 55.4	+0.9
GTA				XP	sP	17 21 00.5	+2.5
GTA				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.5						
NJ2	**Nanjing**	**37.22**	**36**	*e*P	**P**	**17 20 46.6**	**-4.0**
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
NJ2				LR	LR		
	comp=E,2μm,12.9s						
NJ2				LR	LR		
	comp=Z,1μm,14.3s,MS4.9						
SSE	**Sheshan**	**37.99**	**40**	P	**P**	**17 20 54.6**	**-2.4**
SSE				AP	pP	17 21 03.6	-1.7
SSE				S	**S**	**17 26 45.3**	**-1.7**
SSE				XS		17 27 00.5	
SSE				AMB	AMB		
	comp=Z,23nm,0.6s,mb5.1						
SSE				LR	LR		
	comp=N,50nm,19.7s,MS3.5						
SSE				LR	LR		
	comp=E,51nm,19.7s,MS3.5						
SSE				LR	LR		
	comp=Z,58nm,15.2s,MS3.5						
ULHL	**Ulahol**	**42.27**	**340**	P	**P**	**17 21 33.7**	**+1.4**
	SNR=5.1						
AML	**Almayashu**	**43.08**	**338**	P	**P**	**17 21 40.5**	**+1.6**
	SNR=11						
KBK	**Karagaybulak**	**43.08**	**339**	P	**P**	**17 21 41.0**	**+2.0**
	SNR=6.3						
TKM2	**Tokmak 2**	**43.09**	**340**	P	**P**	**17 21 40.0**	**+1.0**
	SNR=5.2						
AAK	**Ala-Archa**	**43.22**	**339**⇑	*e*P	**P**	**17 21 40.1**	**0.0**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2						
AAK	**Ala-Archa**	**43.22**	**339**	*e*P	**P**	**17 21 40.5**	**+0.5**
	comp=Z,3.9nm,0.9s,mb4.1						
EKS2	**Erkin-Say**	**43.51**	**338**	P	**P**	**17 21 43.8**	**+1.4**
	SNR=5.8						
USP	**Ospenovka**	**43.77**	**339**	P	**P**	**17 21 45.4**	**+0.9**
	SNR=8.1						
MKAR	**Makanchi Array**	**44.88**	**349**	*i* P	**P**	**17 21 54.1**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MKAR	**Makanchi Array**	**44.88**	**349**	P	**P**	**17 21 54.2**	**+0.7**
	comp=Z,10nm,0.7s,mb4.8,baz=166,slow=8.3,SNR=134						
MKAR	**Makanchi Array**	**44.88**	**349**	P	**P**	**17 21 54.2**	**+0.7**
KKAR	**Karatay Array**	**45.16**	**336**	*i* P	**P**	**17 21 55.8**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**45.64**	**122**	P	**P**	**17 22 00.2**	**+0.4**
	comp=Z,12nm,0.8s,mb4.9,baz=300,slow=8.9,SNR=35						
WRAB	**Tennant Creek**	**45.64**	**122**	*e*P	**P**	**17 22 00.3**	**+0.5**
WRAB				*e**PP	pP	17 22 08.3	+0.1
WRAB				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.2						
WRAB	**Tennant Creek**	**45.64**	**122**	*e*P	**P**	**17 22 00.3**	**+0.4**
	comp=Z,29nm,1.0s,mb5.2						
WRAB				*e*pP	pP	17 22 08.2	+0.1
SONM	**Songino Array**	**46.01**	**12**	P	**P**	**17 22 03.0**	**+0.7**
	comp=Z,5.4nm,0.8s,mb4.5,baz=192,slow=8.8,SNR=54						
ZAK	**Zakamensk**	**47.95**	**8**	*e*P	**P**	**17 22 17.8**	**+0.2**
ZAK				*e*		17 22 31.1	
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
KURK	**Kurchatov**	**49.37**	**347**	*e*P	**P**	**17 22 29.0**	**+0.4**
KURK				*e**PP	pP	17 22 37.5	+0.4
UMR	**Umm Al-Rimmam**	**51.24**	**306**	*e*P	**P**	**17 22 44.1**	**+1.0**
UMR				AMb	AMB	17 22 44.9	
	comp=Z,40nm,0.7s,mb5.5						
ZAL	**Zalesovo**	**51.42**	**353**	P	**P**	**17 22 44.1**	**0.0**
	comp=Z,5.1nm,0.6s,mb4.6,baz=297,slow=5.1,SNR=29						
NAY	**Al-Naaiem**	**51.52**	**306**	*e*P	**P**	**17 22 46.0**	**+0.8**
NAY				AMb	AMB	17 22 46.9	
	comp=Z,15nm,0.8s,mb5.0						
RST	**Umm Al-Ruwaisa**	**51.81**	**306**	*e*P	**P**	**17 22 47.0**	**-0.5**
RST				AMb	AMB	17 22 48.6	
	comp=Z,20nm,0.8s,mb5.1						
NVS	**Novosibirsk**	**52.50**	**352**⇑	*i*P	**P**	**17 22 51.2**	**-1.1**
NVS				*i*		17 23 59.2	
NVS				*i*		17 25 52.8	
NVS				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,10.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.0s						
MJAR	**Matsushiro Arr**	**52.66**	**45**	LR	LR	17 47 25.4	
	comp=E,93nm,19.7s,MS3.8,baz=220,slow=38						
VOSK	**Vostochnaya**	**53.19**	**343**	P	**P**	**17 22 56.7**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
BVA0	**Borovoye Array**	**53.63**	**343**	*i* P	**P**	**17 22 59.9**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
BVAR	**Borovoye Array**	**53.63**	**343**	P	**P**	**17 22 60.0**	**-0.7**
	comp=Z,4.1nm,0.7s,mb4.5,baz=149,slow=8.6,SNR=36						
BRVK	**Borovoye**	**53.69**	**342**	*e*P	**P**	**17 23 00.2**	**-0.9**
BRVK				*e**PP	pP	17 23 09.3	-0.3
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
BRVK	**Borovoye**	**53.69**	**342**	*e*P	**P**	**17 23 00.2**	**-0.9**
	comp=Z,4.7nm,1.0s,mb4.4						
BRVK				*e*pP	pP	17 23 09.3	-0.4
ZRNK	**Zerenda**	**53.99**	**342**	*e*P	**P**	**17 23 01.6**	**-1.7**
ZRNK				*e**PP	pP	17 23 11.3	-0.5
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
ZRNK	**Zerenda**	**53.99**	**342**	*e*P	**P**	**17 23 01.6**	**-1.7**
	comp=Z,5.1nm,1.0s,mb4.4						
ZRNK				*e*pP	pP	17 23 11.3	-0.5
AB31	**Akbulak array**	**54.54**	**333**	*i* P	**P**	**17 23 06.5**	**-0.9**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**56.86**	**131**	P	**P**	**17 23 24.2**	**-0.2**
	comp=Z,5.8nm,0.7s,mb4.7,baz=296,slow=6.9,SNR=12						
STKA	**Stephens Creek**	**56.86**	**131**	*e*P	**P**	**17 23 23.7**	**-0.8**
STKA				*e*pP	pP	17 23 32.8	-0.2
SVE	**Sverdlovsk**	**59.96**	**340**	*e*P	**P**	**17 23 44.2**	**-1.4**
SVE				*e*	pP	17 23 52.5	-1.8
SVE				*e*		17 24 03.0	
SVE				*e*		17 24 35.0	
SVE				pmax	pmax		
	comp=Z,28nm,1.3s,mb5.1						
SVE				MLR	MLR		
	comp=N,100nm,13.0s,MS4.3						
SVE				MLR	MLR		
	comp=E,100nm,13.0s,MS4.3						
SVE				MLR	MLR		
	comp=Z,200nm,13.0s,MS4.4						
ARU	**Arti**	**60.40**	**338**⇑	*i*P	**P**	**17 23 47.2**	**-1.5**
ARU				*e*		17 24 29.9	
ARU				*e*		17 25 59.8	
ARU				*e*S	**S**	**17 32 00.7**	**+0.7**
ARU				*e*SS	SS	17 36 03.5	+4.4
ARU				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
ARU	**Arti**	**60.40**	**338**	P	**P**	**17 23 46.7**	**-2.0**
	comp=Z,4.5nm,0.9s,mb4.5						
ARU				*e*pP	pP	17 23 55.8	-1.5
KIV	**Kislovodsk**	**60.95**	**320**	*e*P	**P**	**17 23 52.2**	**-0.4**
KIV				pmax	pmax		
	comp=N,2.0nm,1.0s						
KIV				pmax	pmax		
	comp=E,4.0nm,1.0s						
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
MALT	**Malatya**	**61.63**	**312**	*e*P	**P**	**17 23 58.3**	**+1.0**
MALT				*e**PP	pP	17 24 06.7	+0.7
MALT				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
MALT	**Malatya**	**61.63**	**312**	*e*P	**P**	**17 23 58.3**	**+1.0**
	comp=Z,6.4nm,1.0s,mb4.7						
MALT				*e*pP	pP	17 24 06.7	+0.7
YAK	**Yakutsk**	**64.72**	**18**⇓	*e*P	**P**	**17 24 14.1**	**-3.2**
YAK				pmax	pmax		
	comp=Z,70nm,1.5s,mb5.5						
BR131	**Keskin Array S**	**65.61**	**313**	*e*P	**P**	**17 24 23.2**	**-0.3**
	comp=Z,1.1nm,0.4s,mb4.2						
BR131				*e*	pP	17 24 31.8	-0.3
BRTR	**Keskin Array B**	**65.61**	**313**	P	**P**	**17 24 22.8**	**-0.6**
	comp=Z,2.2nm,0.7s,mb4.3,baz=135,slow=7.3,SNR=13						
AKASG	**Malin Array Be**	**71.97**	**323**	P	**P**	**17 25 01.4**	**-1.1**
	comp=Z,0.3nm,0.3s,mb3.8,baz=94,slow=4.1,SNR=9.6						
TIXI	**Tiksi**	**72.09**	**11**	*e*P	**P**	**17 25 01.9**	**-1.1**
TIXI				*e*	pP	17 25 08.9	-2.8
BOSA	**Boshof**	**72.90**	**239**	LR	LR	17 51 57.2	
	comp=Z,47nm,21.8s,MS3.7,baz=227,slow=32						
STHS	**Stebnicka Huta**	**76.62**	**320**	*e*P	**P**	**17 25 29.7**	**+0.3**
STHS				*e*pP	pP	17 25 36.4	-1.8
STHS				*e*		17 28 35.9	
KECS	**Kecovo**	**76.93**	**319**	*e*P	**P**	**17 25 31.3**	**+0.1**
KECS				*e*pP	pP	17 25 40.2	+0.2
FINES	**FINESS Array B**	**77.02**	**333**	P	**P**	**17 25 31.1**	**-0.3**
	comp=Z,2.2nm,0.7s,mb4.2,baz=124,slow=6.9,SNR=9.9						
ZST	**Bratislava**	**79.11**	**318**	*e*P	**P**	**17 25 43.6**	**+0.4**
ZST				*e*pP	pP	17 25 53.3	+1.3
ARCES	**ARCESS Array B**	**79.87**	**341**	P	**P**	**17 25 47.2**	**+0.4**
	comp=Z,3.0nm,0.8s,mb4.3,baz=101,slow=6.2,SNR=8.2						
GERES	**GERESS Array B**	**81.44**	**319**	P	**P**	**17 25 56.7**	**+1.2**
	comp=Z,4.5nm,0.7s,mb4.5,baz=104,slow=5.5,SNR=39						
NB2	**NORSAR Subarra**	**83.97**	**331**	P	**P**	**17 26 08.5**	**+0.2**
	comp=Z,2.8nm,0.9s,mb4.4,baz=96,slow=5.3						
NOA	**NORSAR Array B**	**83.97**	**331**	P	**P**	**17 26 08.5**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.2,baz=94,slow=5.4,SNR=5.9						
NOA	**NORSAR Array B**	**83.97**	**331**	P	**P**	**17 26 08.5**	**+0.2**
SBA	**Scott Base**	**89.23**	**168**	*e*P	**P**	**17 26 35.9**	**+2.2**
SBA				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.5						
SBA	**Scott Base**	**89.23**	**168**	*e*P	**P**	**17 26 35.9**	**+2.2**
	comp=Z,2.0nm,0.9s,mb4.5						
CPUP	**Villa Florida**	**143.98**	**227**	PKP	PKPdf	17 33 13.2	-4.8
	comp=Z,3.7nm,0.8s,baz=135,slow=5.0,SNR=7.3						
LPAZ	**La Paz**	**157.98**	**232**	PKPab	PKPab	17 34 11.2	+1.0
	comp=Z,0.4nm,0.3s,baz=82,slow=5.9,SNR=5.1						

*NIED **19** 17:16:00, 45.90N×150.90E, h160km, Mw5.0 Best double couple: $M_0$3.91×10[16] NP1:ϕ_s67°, δ85°, λ-106°. NP2: ϕ_s319°, δ17°, λ-18°.*
*CSEM **19** 17:16:15.7, 47.70N×150.54E, h33km, mb5.5*
*SKHL **19** 17:16:24.9±1.1, 46.64N×150.94E, h158km±27km, mb5.6/4, Ms4.2/1, msh4.9/7*
*CRAAG **19** 17:16:25.4, 46.87N×154.54E, Mb5.1*
*MOS **19** 17:16:25.8±0.8, 46.92N×150.54E, h149km, mb5.1/86, Error ellipse: s-maj=7.0km s-min=3.9km az=97.5*
*BJI **19** 17:16:26.7, 47.08N×150.67E, h165km, mB5.1, mb5.4*
*IDC **19** 17:16:26.8±0.6, 46.92N×150.52E, h146km±4km, mb4.7/25,*

mb1 4.8/27,mb1mx4.8/28,mbtmp5.1/27,MS3.6/7, Ms1 3.6/7,ms1mx3.2/27,Error ellipse: s-maj=11.6km s-min=8.6km az=125.0

HRVD ***19*** *17:16:27.2±0.4,46.77N×150.89E,h160km±3km, MW5.0/62,Centroid moment Tensor Solution. LP body waves: s24,c30;Mantle waves: s62,c109; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.91±.14; $M_{\theta\theta}$=2.27±.15; $M_{\phi\phi}$=-0.36±.15; $M_{r\theta}$=-1.57±.13; $M_{\theta\phi}$=0.89±.14; $M_{\phi r}$=-2.09±.10; Best double couple: M_o3.477×10^{16} NP1: ϕ_s279°,δ29°,λ-40°. NP2:ϕ_s46°,δ72°,λ-113°. Principal axes: T 3.472, Plg23°, Azm154°; N .009, Plg22°, Azm54°; P -3.482, Plg57°, Azm286°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***19*** *17:16:27.2±0.1,46.91N×150.54E,mb5.1/180 Error ellipse: s-maj=4.1km s-min=2.6km az=166.0*

JMA ***19*** *17:16:30.7±0.7,45.87N×150.94E,h186km,M4.9*

BGS ***19*** *17:16:33.9±1.9,48.17N×151.14E,h150km,mb5.1*

ISC 19 17:16:26.2±0.1,**46.85N**±0.02×**150.61E**±0.03,**h155**km, **h155**km±2.1km**:pP-P,n730,**σ0≤**94**/737,**mb5.0**/239, **28C-144D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.50**	**231**	⇑*i*	P	**P**	**17 17 07.8**	**-0.3**
KUR				*i*	S	**S**	**17 17 40.0**	**-0.3**
KUR					pmax	pmax		
	comp=Z,4μm,1.0s							
KUR					pmax	pmax		
	comp=N,180nm,0.8s							
KUR					pmax	pmax		
	comp=E,160nm,0.8s							
KUR					pmax	pmax		
	comp=Z,970nm,0.8s							
KUR					smax			
	comp=N,25μm,2.0s							
KUR					smax			
	comp=E,14μm,2.0s							
KUR					smax			
	comp=N,2μm,0.8s							
KUR					smax			
	comp=E,1μm,0.8s							
KUR	**Kuril'sk**	**2.50**	**231**	*i*	P	**P**	**17 17 07.8**	**-0.3**
KUR				*i*	P		17 17 07.8	
KUR					AMB	AMB	17 17 08.4	
	comp=E,4μm,1.0s							
KUR					AMB	AMB	17 17 08.9	
	comp=E,180nm,0.8s							
KUR					AMB	AMB	17 17 08.9	
	comp=E,160nm,0.8s							
KUR					AMB	AMB	17 17 08.9	
	comp=E,970nm,0.8s							
KUR				*i*	S	**S**	**17 17 40.0**	**-0.3**
KUR					A		17 17 44.6	
	comp=E,25μm,2.0s							
KUR					A		17 17 44.6	
	comp=E,14μm,2.0s							
KUR					A		17 17 45.3	
	comp=E,2μm,0.8s							
KUR					A		17 17 45.3	
	comp=E,1μm,0.8s							
YUK	**Yuzh-Kuril'sk**	**4.37**	**232**κ	*i*	PN	**P**	**17 17 33.0**	**+0.8**
YUK				*i*	S	**S**	**17 18 23.2**	**+0.1**
YUK					pmax	pmax		
	comp=Z,3μm,0.9s							
YUK					pmax	pmax		
	comp=Z,2μm,0.3s							
YUK					smax			
	comp=N,8μm,1.0s							
YUK					smax			
	comp=E,4μm,1.0s							
YUK					smax			
	comp=N,1μm,0.5s							
YUK					smax			
	comp=E,760nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**4.37**	**232**	⇓*i*	P	**P**	**17 17 33.0**	**+0.8**
YUK				⇓*i*	P		17 17 33.0	
YUK					AMB	AMB	17 17 33.5	
	comp=E,3μm,0.9s							
YUK					AMB	AMB	17 17 33.7	
	comp=E,2μm,0.2s							
YUK				*i*	S	**S**	**17 18 23.2**	**+0.1**
YUK					A		17 18 31.5	
	comp=E,8μm,1.0s							
YUK					A		17 18 31.5	
	comp=E,4μm,1.0s							
YUK					A		17 18 41.5	
	comp=E,1μm,0.5s							
YUK					A		17 18 41.5	
	comp=E,760nm,0.5s							
JRA	**Rausu**	**4.84**	**235**		P	**P**	**17 17 40.3**	**+1.9**
NEM2	**Nemuro 2**	**4.90**	**226**		P	**P**	**17 17 38.2**	**-1.0**
NEM2					eS	**S**	**17 18 30.8**	**-4.8**
JNK	**Nakash**	**5.29**	**234**		P	**P**	**17 17 45.5**	**+1.2**
SKR	**Severo-Kuril's**	**5.29**	**41**	*e*	PN	**P**	**17 17 41.5**	**-2.9**
SKR					eS	**S**	**17 18 38.9**	**-6.0**
SKR					smax			
	comp=N,470nm,0.4s							
SKR					smax			
	comp=E,730nm,0.4s							
SKR					smax			
	comp=N,2μm,10.0s							
SKR					smax			
	comp=E,2μm,10.0s							
SKR					MLR	MLR		
	comp=N,1μm,12.0s							
SKR					MLR	MLR		
	comp=E,1μm,12.0s							
SKR					MLR	MLR		
	comp=Z,1μm,12.0s							
SKR	**Severo-Kuril's**	**5.29**	**41**	*e*	P	**P**	**17 17 41.5**	**-2.9**
SKR					AMB	AMB	17 17 43.5	
	comp=Z,120nm,0.5s							
SKR					AMB	AMB	17 17 43.5	
	comp=Z,80nm,0.5s							
SKR					AMB	AMB	17 17 43.5	
	comp=Z,230nm,0.5s							
SKR				*e*	S	**S**	**17 18 38.9**	**-6.0**
SKR					A		17 18 48.0	
	comp=Z,730nm,0.4s							
SKR					A		17 18 48.0	
	comp=Z,200nm,0.4s							
SKR					A		17 18 53.0	
	comp=Z,2μm,10.0s							
SKR					A		17 18 53.0	
	comp=Z,2μm,10.0s							
SKR					A		17 18 53.0	
	comp=Z,1μm,10.0s							
SKR					AMS	AMS	17 20 28.0	
	comp=Z,1μm,12.0s							
YSS	**Yuzh-Sakhalins**	**5.39**	**274**	⇓*i*	PN	**P**	**17 17 49.8**	**+4.1**
YSS				*e*			17 18 46.0	
YSS					pmax	pmax		
	comp=E,390nm,1.1s							
YSS					pmax	pmax		
	comp=Z,360nm,1.1s							
YSS					pmax	pmax		
	comp=N,120nm,0.8s							
YSS					smax			
	comp=N,1μm,3.0s							
YSS					smax			
	comp=E,900nm,3.0s							
YSS					smax			
	comp=N,590nm,1.5s							
YSS					smax			
	comp=E,390nm,1.5s							
YSS					MLR	MLR		
	comp=Z,300nm,14.0s							
YSS	**Yuzh-Sakhalins**	**5.39**	**274**	*e*	P	**P**	**17 17 48.4**	**+2.7**
	comp=Z,374nm,1.0s							
YSS					eS	**S**	**17 18 56.3**	**+9.0**
YSS	**Yuzh-Sakhalins**	**5.39**	**274**	⇓*i*	P	**P**	**17 17 49.8**	**+4.1**
YSS				*i*	S	**S**	**17 18 53.0**	**+5.8**
YSS					A		17 18 59.6	
	comp=Z,1μm,3.0s							
YSS					A		17 18 59.6	
	comp=Z,900nm,3.0s							
YSS					A		17 19 08.0	
	comp=Z,590nm,1.5s							
YSS					A		17 19 08.0	
	comp=Z,390nm,1.5s							
YSS					AMS	AMS	17 20 15.0	
	comp=Z,300nm,14.0s							
JTKR	**Abashiri--Toko**	**5.53**	**241**		P	**P**	**17 17 49.9**	**+2.4**
JTKR					eS	**S**	**17 18 51.2**	**+0.7**
JAK	**Akkeshi**	**5.70**	**230**		P	**P**	**17 17 48.8**	**-0.9**
JAK					eS	**S**	**17 18 50.3**	**-4.3**
JMP	**Maruseppu**	**5.84**	**244**		P	**P**	**17 17 54.2**	**+2.5**
JSE	**Soyaes**	**5.91**	**254**		P	**P**	**17 17 56.4**	**+3.8**
JAR	**Ashorobuto**	**6.00**	**236**		P	**P**	**17 17 55.5**	**+1.6**
PAU	**Pauzhetka**	**6.16**	**39**	*i*	P	**P**	**17 17 55.8**	**-0.1**
UGL	**Uglegorsk**	**6.16**	**294**	*e*	P	**P**	**17 18 00.5**	**+4.6**
UGL					AMB	AMB	17 18 02.0	
	comp=Z,36nm,0.8s							
UGL					eS	**S**	**17 19 12.0**	**+6.3**
UGL					A		17 19 17.0	
	comp=Z,3μm,6.0s							
UGL					A		17 19 17.0	
	comp=Z,3μm,5.0s							
JOB	**Onbets**	**6.22**	**233**		P	**P**	**17 17 57.0**	**+0.2**
JOB					eS	**S**	**17 19 04.2**	**-3.0**
JWK2	**Keihoku**	**6.25**	**259**		P	**P**	**17 18 02.3**	**+5.1**
ASAJ	**Asahikawa**	**6.26**	**247**		PN	**P**	**17 18 00.8**	**+3.5**
ASAJ					S	**S**	**17 19 12.0**	**+3.9**
ASAJ					pmax	pmax		
	comp=Z,141nm,0.3s							
ASAJ	**Asahikawa**	**6.26**	**247**		P	**P**	**17 18 00.8**	**+3.5**
	comp=Z,141nm,0.3s,baz=78,slow=12,SNR=1144							
ASAJ					S	**S**	**17 19 12.0**	**+3.9**
	baz=319,slow=19,SNR=2.3							
JKK2	**Kamakawa 2**	**6.29**	**245**		P	**P**	**17 18 00.7**	**+3.0**
TYV	**Tymovskoe**	**6.61**	**310**⇑	*e*	P	**P**	**17 18 03.5**	**+1.5**
TYV					AMB	AMB	17 18 05.0	
	comp=Z,400nm,2.0s							
TYV					AMB	AMB	17 18 21.0	
	comp=Z,86nm,0.9s							
TYV					eS	**S**	**17 19 19.0**	**+2.5**
TYV					A		17 19 27.0	
	comp=Z,2μm,5.0s							
TYV					A		17 19 27.0	
	comp=Z,3μm,6.0s							
TYV					A		17 19 27.0	
	comp=Z,900nm,4.0s							
JSS	**Shosan**	**6.61**	**251**		P	**P**	**17 18 07.3**	**+5.3**
JCH	**Churui**	**6.67**	**233**		P	**P**	**17 18 02.1**	**-0.8**
JCH					eS	**S**	**17 19 13.9**	**-4.1**
JFR	**Furan**	**6.77**	**240**		P	**P**	**17 18 06.0**	**+1.8**
JFR					eS	**S**	**17 19 20.2**	**-0.1**
JAB	**Ashibetsu**	**6.80**	**244**		P	**P**	**17 18 07.7**	**+3.1**
JHR	**Hokuryu**	**6.99**	**247**		P	**P**	**17 18 10.6**	**+3.5**
JBT2	**Biratori 2**	**7.14**	**238**		P	**P**	**17 18 09.3**	**+0.2**
JEM	**Erimo**	**7.19**	**231**		P	**P**	**17 18 08.4**	**-1.4**
JEM					eS	**S**	**17 19 24.6**	**-5.9**
JNBK	**Urakawa-nobuka**	**7.23**	**234**		P	**P**	**17 18 08.7**	**-1.6**
JEW	**Eniwo**	**7.64**	**242**		P	**P**	**17 18 17.2**	**+1.4**
JEW					eS	**S**	**17 19 40.8**	**-0.5**
JSK	**Shakotan**	**7.98**	**248**		P	**P**	**17 18 22.4**	**+2.2**
PET	**Petropavlovsk**	**8.07**	**37**	*e*	PN	**P**	**17 18 21.1**	**-0.4**
PET					eS	**S**	**17 19 47.6**	**-3.8**
PET					pmax	pmax		
	comp=Z,100nm,0.9s							
PET					pmax	pmax		
	comp=Z,57nm,0.7s							
PET					pmax	pmax		
	comp=Z,100nm,12.8s							
PET					smax			
	comp=E,200nm,3.9s							
PET					smax			
	comp=N,142nm,0.6s							
PET					MLR	MLR		
	comp=Z,300nm,6.0s							
PET					MLR	MLR		
	comp=Z,100nm,15.0s							
PET	**Petropavlovsk**	**8.07**	**37**	*e*	Pn	**P**	**17 18 19.5**	**-2.0**
	comp=Z,45nm,0.7s							
PET					eSn	**S**	**17 19 47.8**	**-3.6**
PET	**Petropavlovsk**	**8.07**	**37**	*e*	P	**P**	**17 18 21.1**	**-0.4**
PET					AMB	AMB	17 18 23.5	
	comp=Z,50nm,0.9s							
PET					AMB	AMB	17 18 32.4	
	comp=Z,50nm,0.7s							
PET					eS	**S**	**17 19 47.6**	**-3.8**
PET					A		17 19 50.8	
	comp=Z,180nm,3.9s							
PET					A		17 19 56.1	
	comp=Z,140nm,0.6s							
PET					A		17 20 10.7	
	comp=Z,110nm,0.5s							
PET					A		17 20 18.1	
	comp=Z,400nm,13.0s							
PET					A		17 20 27.1	
	comp=Z,200nm,14.0s							
PET					AMS	AMS	17 20 42.4	
	comp=Z,300nm,10.0s							
PET					AMS	AMS	17 21 01.4	
	comp=Z,200nm,17.0s							
JNB	**Noboribetsu**	**8.11**	**241**		P	**P**	**17 18 21.5**	**-0.5**
JNB					eS	**S**	**17 19 49.3**	**-3.0**
JKB	**Kayabe**	**8.46**	**238**		P	**P**	**17 18 25.1**	**-1.6**
JKB					eS	**S**	**17 19 54.2**	**-6.6**
JSH	**Shimam**	**8.61**	**245**		P	**P**	**17 18 29.7**	**+1.0**
JYM2	**Yakumo 2**	**8.71**	**241**		eS	**S**	**17 20 02.9**	**-3.8**
JSR	**Shiriuchi**	**9.04**	**238**		P	**P**	**17 18 32.6**	**-1.8**
JTM	**Tenmabayashi**	**9.18**	**232**		P	**P**	**17 18 33.1**	**-3.0**
JTM					eS	**S**	**17 20 06.7**	**-11**
JANG	**Nango**	**9.24**	**229**		P	**P**	**17 18 32.7**	**-4.2**
JANG					eS	**S**	**17 20 09.2**	**-10**
JOSM	**Okushiri--Mats**	**9.28**	**243**		P	**P**	**17 18 37.0**	**-0.4**
JTH	**Tanohata**	**9.39**	**226**		P	**P**	**17 18 34.3**	**-4.6**
JTH					eS	**S**	**17 20 12.0**	**-11**
TEY	**Ternei**	**9.93**	**265**	*e*	P	**P**	**17 18 47.0**	**+1.1**
TEY					AMB	AMB	17 18 48.0	
	comp=Z,160nm,0.9s							
TEY					AMB	AMB	17 18 48.0	
	comp=Z,220nm,0.9s							
OFUJ	**Ofunato**	**10.15**	**223**		P	**P**	**17 18 45.5**	**-3.4**
JRG	**Rokugo**	**10.42**	**228**		P	**P**	**17 18 49.8**	**-2.5**
JRG					eS	**S**	**17 20 39.6**	**-7.3**
JOG2	**Oga 2**	**10.48**	**233**		P	**P**	**17 18 50.8**	**-2.4**
JIO	**Ouri**	**10.80**	**222**		P	**P**	**17 18 53.8**	**-3.6**
JIO					eS	**S**	**17 20 44.4**	**-12**
JYA	**Atsumi**	**11.49**	**228**		P	**P**	**17 19 04.2**	**-2.2**
JYA					eS	**S**	**17 21 06.3**	**-5.9**
JFK	**Kawauchi**	**11.91**	**221**		P	**P**	**17 19 08.5**	**-3.3**
JFY	**Yanaizu**	**12.42**	**224**		P	**P**	**17 19 17.0**	**-1.4**
JFY					eS	**S**	**17 21 26.6**	**-7.3**
MA2	**Magadan**	**12.75**	**0**	*e*	PN	**P**	**17 19 23.1**	**+0.4**
MA2					eS	**S**	**17 21 42.6**	**+0.9**
MA2					pmax	pmax		
	comp=Z,10.0nm,1.1s							
MA2	**Magadan**	**12.75**	**0**	*e*	P	**P**	**17 19 23.5**	**+0.8**
	comp=Z,23nm,0.6s							
KLR	**Kul'dur**	**12.85**	**288**α	*i*	PN	**P**	**17 19 25.0**	**+1.1**
KLR				*e*			17 21 44.0	
KLR					pmax	pmax		
	comp=E,200nm,1.6s							
KLR					pmax	pmax		
	comp=E,88nm,1.6s							
KLR	**Kul'dur**	**12.85**	**288**⇑	*i*	P	**P**	**17 19 25.0**	**+1.1**
KLR					AMB	AMB	17 19 26.7	
	comp=Z,200nm,1.6s							
KLR					AMB	AMB	17 19 26.7	
	comp=Z,90nm,1.6s							
EKMR	**Ekimchan**	**12.95**	**305**	*i*	P	**P**	**17 19 24.5**	**-0.8**
EKMR					AMB	AMB	17 19 30.0	
	comp=Z,30nm,0.8s							
EKMR					AMB	AMB	17 19 30.0	
	comp=Z,50nm,0.8s							
EKMR					AMB	AMB	17 19 30.0	
	comp=Z,90nm,0.8s							
MAJO	**Matsushiro**	**13.83**	**226**	*e*	P	**P**	**17 19 35.9**	**-0.6**
MAJO					pmax	pmax		
	comp=Z,107nm,0.6s							
MAJO	**Matsushiro**	**13.83**	**226**	*e*	Pn	**P**	**17 19 35.9**	**-0.6**
	comp=Z,107nm,0.6s							
MAT	**Matsushiro**	**13.83**	**226**	*e*	P	**P**	**17 19 36.0**	**-0.5**
MAT					pmax	pmax		
	comp=Z,19nm,0.7s							
MAT	**Matsushiro**	**13.83**	**226**	*e*	P	**P**	**17 19 36.0**	**-0.5**
	comp=Z,19nm,0.7s							
MAT					eS	**S**	**17 22 20.0**	**+13**
MAT	**Matsushiro**	**13.83**	**226**		P	**P**	**17 19 36.4**	**-0.1**
MAT					S	**S**	**17 22 10.3**	**+3.7**
MJAR	**Matsushiro Arr**	**13.83**	**226**		P	**P**	**17 19 36.1**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=32,slow=12,SNR=45							
MJAR					S	**S**	**17 22 19.3**	**+13**
	comp=Z,0.3nm,0.3s,baz=20,slow=18,SNR=3.2							
MJAR					LR	LR	17 24 47.8	
	comp=Z,104nm,19.2s,baz=30,slow=36							
MJAR					ScP		17 28 05.0	
	comp=Z,0.5nm,0.3s,baz=82,slow=1.2,SNR=6.4							
MDJ	**Mudanjiang**	**14.85**	**269**		P	**P**	**17 19 50.5**	**+1.2**
MDJ					XP		17 20 32.6	
MDJ					PCP	PcP	17 24 49.4	-0.7
MDJ					SCP		17 28 07.3	
MDJ					PCS		17 28 20.8	
MDJ					SCS	ScS	17 31 46.8	+2.0
MDJ					AMB	AMB		
	comp=Z,182nm,0.8s							
MDJ					AMB	AMB		
	comp=Z,130nm,4.5s							
FX1	**Attu Island--F**	**15.71**	**59**		P	**P**	**17 20 00.8**	**+0.8**
FX1					pmax	pmax		
	comp=Z,9.0nm,0.3s							
FX1	**Attu Island--F**	**15.71**	**59**		P	**P**	**17 20 00.8**	**+0.8**
	comp=Z,9.2nm,0.3s,baz=139,slow=3.7,SNR=24							
FX1	**Attu Island--F**	**15.71**	**59**	*e*	P	**P**	**17 20 00.5**	**+0.5**
BMKR	**Bomnak**	**15.81**	**308**	*e*	P	**P**	**17 20 00.5**	**-0.7**
BMKR					AMB	AMB	17 20 03.9	
	comp=Z,110nm,0.7s							
YASR	**Yasnyy**	**15.86**	**302**	*i*	P	**P**	**17 20 01.0**	**-0.8**
YASR					AMB	AMB	17 20 04.0	
	comp=Z,4.0nm,0.7s							
YASR					AMB	AMB	17 20 04.0	
	comp=Z,50nm,0.7s							
YASR					AMB	AMB	17 20 04.0	
	comp=Z,100nm,0.7s							
SEY	**Seymchan**	**16.16**	**3**	*e*	P	**P**	**17 20 06.7**	**+1.3**
SEY				*e*	S	**S**	**17 22 54.0**	**-5.2**
SEY					pmax	pmax		
	comp=N,10.0nm,0.9s							
SEY					pmax	pmax		
	comp=Z,20nm,0.9s							
SEY					smax			
	comp=N,270nm,9.3s							
SEY					smax			
	comp=E,150nm,11.3s							
SEY					MLR	MLR		
	comp=Z,230nm,18.0s							
SEY					MLR	MLR		
	comp=N,220nm,21.0s							
SEY					MLR	MLR		
	comp=E,14nm,12.0s							
ZEA	**Zeya**	**16.40**	**303**	*e*	P	**P**	**17 20 06.8**	**-1.7**
ZEA					AMB	AMB	17 20 09.5	
	comp=E,160nm,1.3s							
ZEA					AMB	AMB	17 20 09.5	
	comp=E,260nm,1.3s							
ZEA					AMB	AMB	17 20 09.5	
	comp=E,290nm,1.3s							
ZEA					AMB	AMB	17 20 10.0	
	comp=E,400nm,2.0s							
ZEA					AMB	AMB	17 20 10.0	
	comp=E,800nm,2.0s							
ZEA					eS	**S**	**17 23 10.5**	**+5.8**
ZEA					A		17 23 14.0	
	comp=E,400nm,6.0s							
ZEA					A		17 23 14.0	
	comp=E,300nm,6.0s							
KROS	**Kirovskiy**	**16.75**	**306**	*i*	P	**P**	**17 20 11.6**	**-1.2**
KROS					AMB	AMB	17 20 15.0	
	comp=E,40nm,0.6s							
KROS					AMB	AMB	17 20 15.0	
	comp=E,50nm,0.6s							
KROS					AMB	AMB	17 20 15.0	
	comp=E,70nm,0.6s							
CN2	**Changchun**	**17.93**	**269**	⇓	P	**P**	**17 20 24.5**	**-2.3**
CN2				*e*	XP		17 21 11.8	
CN2				*e*	S	**S**	**17 23 34.4**	**-4.4**
CN2					AMB	AMB		
	comp=Z,300nm,5.0s							
CLNS	**Chul'man**	**18.66**	**312**	*e*	P	**P**	**17 20 35.5**	**+1.0**
CLNS				*e*	S	**S**	**17 23 45.8**	**-8.1**
CLNS					pmax	pmax		
	comp=Z,40nm,0.8s							
CLNS					pmax	pmax		
	comp=N,28nm,0.6s							
CLNS					pmax	pmax		
	comp=E,6.0nm,0.6s							
CLNS					smax			
	comp=N,41nm,1.2s							
CLNS					smax			
	comp=Z,11nm,0.9s							
CLNS					smax			
	comp=E,17nm,1.0s							
KS15	**Wonju Array Si**	**19.24**	**249**	*e*	P	**P**	**17 20 41.1**	**+0.5**
YAK	**Yakutsk**	**19.34**	**329***c*	*i*	P	**P**	**17 20 41.5**	**0.0**
YAK				*i*	S	**S**	**17 24 12.2**	**+5.2**
YAK					pmax	pmax		
	comp=Z,124nm,0.8s							
YAK					pmax	pmax		
	comp=N,55nm,1.0s							
YAK					pmax	pmax		
	comp=E,62nm,1.0s							
YAK					smax			
	comp=N,52nm,1.1s							
YAK					smax			
	comp=E,20nm,0.8s							
YAK					smax			
	comp=Z,14nm,0.8s							
YAK	**Yakutsk**	**19.34**	**329**	*e*	P	**P**	**17 20 40.8**	**-0.7**
	comp=Z,288nm,0.7s							
YAK				*e*	S	**S**	**17 24 13.5**	**+6.6**
SNY	**Shenyang**	**19.93**	**265**	⇓	P	**P**	**17 20 47.9**	**+0.2**
SNY					AMB	AMB		
	comp=Z,150nm,0.7s							
INCN	**Inchon**	**20.02**	**251**	⇓*i*	P	**P**	**17 20 49.8**	**+1.1**
	comp=Z,153nm,0.8s							
JNU	**Nakatsue**	**20.33**	**235**		P	**P**	**17 20 52.8**	**+1.0**
	comp=Z,64nm,0.8s,baz=57,slow=7.7,SNR=54							
DL2	**Dalian**	**22.58**	**260**		PR		17 21 15.4	
DL2					AP		17 21 51.8	
DL2					S	**S**	**17 25 11.3**	**+5.3**
DL2					SS	SS	17 26 07.4	+4.6
DL2					AMB	AMB		
	comp=Z,70nm,0.9s,mb5.1							
DL2					AMB	AMB		
	comp=Z,200nm,3.4s							
BILL	**Bilibino**	**22.72**	**15**	*i*	P	**P**	**17 21 14.2**	**-0.7**
BILL				*i*			17 21 50.7	
BILL					pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.2							
BILL					MLR	MLR		
	comp=Z,100nm,18.0s							
BILL	**Bilibino**	**22.72**	**15**	*e*	P	**P**	**17 21 14.1**	**-0.8**
	comp=Z,11nm,0.4s,mb4.7							
CIT	**Chita**	**24.46**	**296**	*e*	P	**P**	**17 21 31.6**	**-0.1**
CIT					pmax	pmax		
	comp=Z,81nm,1.4s,mb5.1							
BOD	**Bodaibo**	**24.61**	**310**	*e*	P	**P**	**17 21 31.5**	**-1.5**
BOD				*e*			17 22 09.9	
BOD					pmax	pmax		
	comp=Z,22nm,1.0s,mb4.6							
BOD					pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.0							
JOW	**Kunigami**	**26.64**	**229**		P	**P**	**17 21 52.2**	**0.0**
	comp=Z,24nm,0.5s,mb5.1,baz=25,slow=8.2,SNR=13							
JOW					PcP	PcP	17 25 12.5	+0.1
	comp=Z,10nm,0.5s,baz=80,slow=6.1,SNR=6.0							
TIXI	**Tiksi**	**26.91**	**345**	*e*	P	**P**	**17 21 48.0**	**-6.2**
TIXI				*e**	PP	pP	17 22 19.7	-6.4
TIXI				*e*	S	**S**	**17 26 11.4**	**-6.4**
TIXI				*e**	SS		17 27 05.2	
TIXI					pmax	pmax		
	comp=Z,11nm,0.6s,mb4.7							
TIA	**Tai'an**	**27.04**	**259**	⇓	P	**P**	**17 21 56.3**	**+0.6**
NJ2	**Nanjing**	**28.40**	**250**	*e*	P	**P**	**17 22 09.0**	**+1.0**
NJ2					AP	pP	17 22 46.1	+5.8
NJ2					XP	sP	17 23 05.6	+7.4
NJ2					PP	PP	17 23 08.1	+2.6
NJ2					S	**S**	**17 26 40.0**	**-2.1**
NJ2					AMB	AMB		
	comp=Z,80nm,0.8s,mb5.5							
NJ2					AMB	AMB		
	comp=Z,450nm,3.7s							
NJ2					LR	LR		
	comp=N,2μm,20.0s							
NJ2					LR	LR		
	comp=E,2μm,22.9s							
NJ2					LR	LR		
	comp=Z,320nm,24.3s							
HHC	**Hu-ho-hao-te**	**28.57**	**272**	⇓*i*	P	**P**	**17 22 09.6**	**+0.1**
HHC					AP	pP	17 22 42.8	+1.0
HHC					XP	sP	17 23 01.4	+1.7
HHC					LR	LR		

comp=N,249nm,15.4s
HHC LR LR
comp=E,206nm,14.3s
HHC LR LR
comp=Z,122nm,15.4s
TNA Tin City 28.92 35 *e*P **P** **17 22 11.9 -0.4**
comp=Z,7.5nm,0.8s,mb4.5
TNA *ep*P pP 17 22 41.1 -3.6
TNA *e*PcP PcP 17 25 16.6 -1.0
SONM Songino Array 29.68 288 P **P** **17 22 18.7 -0.5**
comp=Z,9.3nm,0.8s,mb4.6,baz=78,slow=6.9,SNR=27
SONM PcP PcP 17 25 18.8 -0.8
comp=Z,7.7nm,0.7s,baz=130,slow=2.1,SNR=8.0
SONM ScP 17 28 45.5
comp=Z,1.1nm,0.7s,baz=93,slow=1.6,SNR=3.6
IRK Irkutsk 30.13 298 *e*P **P** **17 22 21.8 -1.5**
IRK *e* 17 25 18.6
IRK pmax pmax
comp=Z,28nm,1.8s,mb4.7
TLY Talaya 30.61 297 *e*P **P** **17 22 26.4 -1.0**
TLY *e* 17 25 22.1
TLY *e*S **S** **17 27 11.3 -5.4**
TLY *e* 17 29 36.8
TLY pmax pmax
comp=Z,29nm,0.9s,mb5.0
TLY MLR MLR
comp=Z,88nm,13.0s
MOY Mondy 32.23 297 *e*P **P** **17 22 41.1 -0.5**
MOY pmax pmax
comp=Z,26nm,1.7s,mb4.7
WHN Wuhan 32.30 253 ⇓P **P** **17 22 42.4 -0.1**
WHN AMB AMB
comp=Z,200nm,0.9s,mb5.8
QZH Quanzhou 33.56 241 ⇑*i*P **P** **17 22 54.8 +1.6**
XAN Xi'an 33.82 263 P **P** **17 22 55.6 +0.3**
XAN AMB AMB
comp=Z,100nm,1.2s,mb5.4
IMA Indian Mountai 34.74 36 P **P** **17 23 03.2 +0.3**
IMA pmax pmax
comp=Z,94nm,0.8s,mb5.5
IMA Indian Mountai 34.74 36 *e*P **P** **17 23 03.0 +0.1**
SPU Mount Spurr 35.35 45 *e*P **P** **17 23 08.3 +0.2**
SPU *ep*P pP 17 23 43.2 +1.6
LZH Lanzhou 36.17 270 ⇓*i*P **P** **17 23 16.0 +0.8**
LZH AP pP 17 23 51.5 +2.6
LZH XP sP 17 24 12.5 +5.5
LZH PP PP 17 24 44.8 +2.4
LZH PCP PcP 17 25 38.5 +0.7
LZH S **S** **17 28 49.0 +6.1**
LZH SS SS 17 31 15.0 -2.1
LZH SCS ScS 17 33 12.0 -1.0
LZH AMB AMB
comp=Z,93nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,317nm,5.2s
SLKM Skilak Lake 36.29 46 *e*P **P** **17 23 13.9 -2.1**
SLKM *i* 17 25 37.0
MCK McKinley 36.69 40 *e*P **P** **17 23 19.2 -0.1**
MCK *e**PP pP 17 23 53.2 +0.2
MCK pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
MCK McKinley 36.69 40 *e*P **P** **17 23 19.1 -0.1**
comp=Z,8.7nm,0.9s,mb4.4
MCK *ep*P pP 17 23 53.2 +0.2
SML Sawmill 37.09 44 *i*P **P** **17 23 22.8 +0.2**
SML *e**PP pP 17 23 56.2 -0.2
GTA Gaotai 37.26 277 ⇓*i*P **P** **17 23 25.3 +1.0**
GTA AP pP 17 24 00.8 +2.7
GTA XP sP 17 24 18.8 +2.5
GTA PP PP 17 24 57.3 +2.7
GTA PCP PcP 17 25 41.8 +0.8
GTA S **S** **17 28 58.8 -0.6**
GTA SCP 17 29 12.8
GTA PCS 17 29 30.3
GTA XS 17 30 00.0
GTA SS SS 17 31 38.5 -2.3
GTA SCS ScS 17 33 21.3 +2.2
GTA AMB AMB
comp=Z,55nm,1.2s,mb5.1
GTA AMB AMB
comp=Z,213nm,6.1s
GTA LR LR
comp=N,109nm,10.3s
GTA LR LR
comp=E,78nm,11.8s
GTA LR LR
comp=Z,100nm,12.9s
ILAR Eielson Array 37.55 39 P **P** **17 23 26.1 -0.3**
comp=Z,5.3nm,0.4s,mb4.5,baz=260,slow=7.6,SNR=86
ILAR *ep*P pP 17 23 58.5 -1.8
comp=Z,4.0nm,0.7s,baz=264,slow=6.5,SNR=2.9
ILAR PcP PcP 17 25 39.2 -2.5
comp=Z,3.0nm,0.5s,baz=288,slow=3.6,SNR=9.6
ILAR ScP 17 29 10.6
comp=Z,0.7nm,0.6s,baz=265,slow=3.6,SNR=4.8
DIV Divide 38.38 44 *e*P **P** **17 23 33.6 +0.1**
comp=Z,52nm,0.6s,mb5.3
DIV *ep*P pP 17 24 06.7 -0.7
CD2 Chengdu 39.18 263 ⇓*i*P **P** **17 23 41.8 +1.4**
CD2 AMB AMB
comp=Z,175nm,1.0s,mb5.6
GYA Guiyang 40.07 255 ⇓*i*P **P** **17 23 48.6 +0.9**
GYA AP pP 17 24 26.8 +5.0
GYA XP sP 17 24 46.5 +6.4
GYA PP PP 17 25 27.8 +2.5
GYA PCP PcP 17 25 49.8 -0.2
GYA S **S** **17 29 42.3 +0.5**
GYA XS 17 30 48.6
GYA SCS ScS 17 33 33.4 -2.1
GYA AMB AMB
comp=Z,240nm,2.4s,mb5.4
ZAL Zalesovo 41.17 305 *i*P **P** **17 23 55.2 -1.3**
ZAL pmax pmax
comp=Z,4.0nm,0.6s
ZAL Zalesovo 41.17 305 P **P** **17 23 54.6 -1.9**
comp=Z,4.1nm,0.6s,mb4.2,baz=48,slow=7.3,SNR=6.0
ZAL PcP PcP 17 25 52.3 -1.0
comp=Z,19nm,0.6s,baz=38,slow=3.6,SNR=25
ZAL ScP 17 29 26.9
comp=Z,1.4nm,0.3s,baz=48,slow=6.2,SNR=3.4
ZAL LR LR 17 43 23.0
comp=Z,118nm,18.4s,baz=42,slow=39
INK Inuvik 42.49 32 ⇓*i*P **P** **17 24 07.9 +0.9**
INK pmax pmax
comp=Z,27nm,0.5s
INK Inuvik 42.49 32 P **P** **17 24 07.9 +0.9**
comp=Z,23nm,0.4s,mb5.2,baz=288,slow=6.5,SNR=69
INK Inuvik 42.49 32 ⇓*i*P **P** **17 24 07.9 +0.9**
comp=Z,27nm,0.5s,mb5.1
WMQ Urumqi 43.28 290 P **P** **17 24 13.6 -0.1**
WMQ AP pP 17 24 49.1 +1.0
WMQ XP sP 17 25 07.3 +1.2
WMQ PP PP 17 25 58.4 +0.1
WMQ S **S** **17 30 27.6 -1.1**
WMQ AMB AMB
comp=Z,47nm,0.6s,mb5.3
WMQ AMB AMB
comp=Z,177nm,5.8s
WMQ LR LR
comp=N,276nm,14.0s
WMQ LR LR
comp=E,94nm,12.2s
WMQ LR LR
comp=Z,274nm,11.0s
QIZ Qiongzhong 43.33 244 ⇓*i*P **P** **17 24 16.4 +2.1**
QIZ S **S** **17 30 35.6 +6.0**
QIZ AMB AMB
comp=Z,43nm,1.1s,mb5.0
QIZ AMB AMB
comp=Z,289nm,7.9s
KMI Kunming 43.58 257 P **P** **17 24 17.8 +1.5**
KMI AP pP 17 24 51.6 +0.9
KMI XP sP 17 25 12.3 +3.6
KMI PCP PcP 17 26 02.5 +0.9
KMI S **S** **17 30 29.8 -3.4**
KMI XS 17 31 35.6
KMI SS SS 17 33 45.3 0.0
KMI AMB AMB
comp=Z,137nm,0.9s,mb5.6
KMI AMB AMB
comp=Z,417nm,3.1s
KMI LR LR
comp=Z,72nm,38.3s
SIT Sitka 44.60 48 *e*P **P** **17 24 25.6 +1.6**
SIT pmax pmax
comp=Z,64nm,1.3s,mb5.1
SIT Sitka 44.60 48 *e*P **P** **17 24 25.6 +1.6**
comp=Z,64nm,1.3s,mb5.1
MKAR Makanchi Array 45.37 296 P **P** **17 24 29.4 -0.9**
comp=Z,25nm,0.7s,mb5.0,baz=68,slow=7.8,SNR=83
MKAR PcP PcP 17 26 07.0 -0.5
comp=Z,15nm,0.6s,baz=75,slow=1.6,SNR=14
MKAR ScP 17 29 43.8
comp=Z,1.6nm,0.7s,baz=52,slow=4.0,SNR=4.3
MKAR LR LR 17 44 05.9
comp=Z,51nm,20.6s,baz=40,slow=37
KURK Kurchatov 45.87 303 *e*P **P** **17 24 32.9 -1.3**
KURK *e* 17 26 08.7
KURK pmax pmax
comp=Z,33nm,0.9s,mb5.0
KURK Kurchatov 45.87 303 *e*P **P** **17 24 32.9 -1.4**
comp=Z,33nm,0.9s,mb5.0
KURK *ep*P pP 17 25 13.4 +4.4
KURK *e*PcP PcP 17 26 08.7 -0.5
DLBC Dease Lake 46.75 45 LR LR 17 44 48.3
comp=Z,50nm,19.1s,baz=120,slow=36
DLBC Dease Lake 46.75 45 ⇓*i*P **P** **17 24 42.8 +1.8**
DLBC *ep*P pP 17 25 17.7 +1.8
LSA Lhasa 48.55 271 P **P** **17 24 57.4 +2.0**
LSA AMB AMB
comp=Z,120nm,0.8s,mb5.6
CHRT Chiangrai 49.17 255 ⇓P **P** **17 25 00.0 -0.3**
comp=Z,447nm,0.7s
VOSK Vostochnaya 49.28 308 P **P** **17 24 59.4 -1.3**
VOSK pmax pmax
comp=Z,22nm,0.8s,mb4.8
BVA0 Borovoye Array 49.46 308 *i*P **P** **17 25 00.6 -1.4**
BRVK Borovoye 49.51 309 ⇓*i*P **P** **17 25 01.0 -1.3**
BRVK *e* 17 26 21.4
BRVK pmax pmax
comp=Z,15nm,0.7s,mb4.7
BRVK Borovoye 49.51 309 ⇓*i*P **P** **17 25 01.0 -1.4**
comp=Z,15nm,0.7s,mb4.7
BRVK *e*PcP PcP 17 26 21.4 -0.9
KKTK Khon Kaen 49.75 249 ⇓P **P** **17 25 05.9 +1.2**
comp=Z,1μm,0.8s
IMP Imphal 49.77 264 *e*P **P** **17 25 04.0 -0.7**
ZRNK Zerenda 50.24 309 ⇓*i*P **P** **17 25 06.4 -1.5**
ZRNK *i* 17 26 24.2
ZRNK pmax pmax
comp=Z,19nm,0.7s,mb4.8
ZRNK Zerenda 50.24 309 ⇓*i*P **P** **17 25 06.4 -1.5**
comp=Z,19nm,0.7s,mb4.8
ZRNK *ep*P pP 17 25 46.8 +3.5
ZRNK *i*PcP PcP 17 26 24.2 -0.7
BBB Bella Bella 50.42 52 LR LR 17 47 37.5
comp=Z,34nm,18.6s,baz=273,slow=37
CHG Chiang Mai 50.48 254 ⇓P **P** **17 25 11.2 +1.0**
comp=Z,150nm,0.8s,mb5.7
SHL Shillong 50.66 267 *e*P **P** **17 25 12.0 +0.5**
POHA Pohakuloa 51.27 103 P **P** **17 25 16.3 +0.1**
ULHL Ulahol 51.36 294 P **P** **17 25 17.0 +0.4**
SNR=8.3
TKM2 Tokmak 2 51.41 295 P **P** **17 25 16.6 -0.3**
SNR=19
BDT Bhumibol Dam 51.57 253 P **P** **17 25 19.0 +0.5**
YKW3 Yellowknife Ar 51.83 36 *e*P **P** **17 25 19.5 -0.3**
YKA Yellowknife Ar 51.87 36 P **P** **17 25 20.0 -0.1**
YKA *e**PP pP 17 25 54.4 -1.2
YKA pmax pmax
comp=Z,17nm,0.4s
YKA Yellowknife Ar 51.87 36 P **P** **17 25 20.0 -0.1**
comp=Z,17nm,0.4s,mb5.0,baz=300,slow=6.8,SNR=48
YKA *ep*P pP 17 25 54.4 -1.1
comp=Z,6.0nm,0.7s,baz=298,slow=6.9,SNR=1.4
YKA Yellowknife Ar 51.87 36 P **P** **17 25 20.1 -0.1**
YKA *ep*P pP 17 25 54.4 -1.1
CHMS Chumysh 51.89 295 P **P** **17 25 20.5 -0.1**
SNR=9.1
USP Ospenovka 51.90 296 P **P** **17 25 20.2 -0.4**
SNR=58
KBK Karagaybulak 51.95 295 P **P** **17 25 21.2 +0.2**
SNR=19
NST Nakhon Sawan 51.98 251 P **P** **17 25 18.8 -2.7**
FRU Bishkek 52.06 295 ⇓*e*P **P** **17 25 21.0 -0.8**
FRU pmax pmax
comp=Z,65nm,1.3s,mb5.1
KZA Kyzart 52.07 294 P **P** **17 25 22.7 +0.8**
SNR=32
AAK Ala-Archa 52.25 295 P **P** **17 25 23.2 0.0**
SNR=20
AAK Ala-Archa 52.25 295 *d*P **P** **17 25 21.7 -1.5**
AAK pmax pmax
comp=Z,37nm,0.8s,mb5.1
AAK Ala-Archa 52.25 295 ⇓*e*P **P** **17 25 21.5 -1.7**
comp=Z,38nm,0.8s,mb5.1
AAK *ep*P pP 17 26 02.0 +3.2
AAK *e*PcP PcP 17 26 31.1 -1.4
SVE Sverdlovsk 52.58 316 ⇓*i*P **P** **17 25 23.6 -1.9**
SVE *e* 17 26 32.7
SVE pmax pmax
comp=Z,88nm,1.2s,mb5.4
EKS2 Erkin-Say 52.68 295 P **P** **17 25 26.1 -0.3**
SNR=70
AML Almayashu 53.02 295 P **P** **17 25 29.2 +0.3**
SNR=23
KSH Kashi 53.02 291 *e*P **P** **17 25 29.8 +0.8**
KSH *e*AP pP 17 26 08.5 +3.9
KSH *e*XP sP 17 26 28.9 +7.3
KSH *e*PCP PcP 17 26 36.1 +0.7
KSH *e*PP PP 17 27 32.3 +0.6
KSH *e*PCS 17 30 33.0
KSH *e*S **S** **17 32 42.5 -2.4**
KSH *e*SCS ScS 17 34 57.3 -1.9
KSH *e*SS SS 17 36 22.3 -3.6
KSH AMB AMB
comp=Z,110nm,1.0s,mb5.5
KSH LR LR
comp=N,310nm,4.8s
KSH LR LR
comp=E,410nm,5.8s
GUN Gumba 53.28 273 *e*P **P** **17 25 31.7 +0.7**
comp=E,122nm,0.6s,mb5.8
KKN Kakani 53.77 274 *e*P **P** **17 25 35.2 +0.6**
comp=E,183nm,0.6s,mb6.0
KKN Kakani 53.77 274 *e*P **P** **17 25 35.2 +0.6**
KKN pmax pmax
comp=Z,92nm,0.6s,mb5.7
ARU Arti 53.77 317 ⇑*i*P **P** **17 25 32.5 -1.7**
ARU *i* 17 26 36.6
ARU *e* 17 27 34.4
ARU *e*PPP PPP 17 28 46.4 -4.8
ARU *e*S **S** **17 32 53.2 -1.5**
ARU *e*SS SS 17 36 33.1 -4.4
ARU pmax pmax
comp=Z,81nm,1.0s,mb5.4
ARU Arti 53.77 317 ⇓*i*P **P** **17 25 32.3 -1.9**
comp=Z,81nm,0.9s,mb5.5
ARU *ep*P pP 17 26 13.8 +3.9
ARU *e*PcP PcP 17 26 37.0 -1.1
PKI Pulchoki 53.82 273 *e*P **P** **17 25 35.5 +0.5**
comp=Z,111nm,0.6s,mb5.8
PKI Pulchoki 53.82 273 *e*P **P** **17 25 35.5 +0.5**
PKI pmax pmax
comp=Z,55nm,0.6s,mb5.5
DMN Daman 54.00 273 *e*P **P** **17 25 37.1 +0.8**
comp=Z,440nm,0.9s
GKN Gorkha 54.07 274 *e*P **P** **17 25 37.4 +0.6**
comp=Z,342nm,0.7s
KKAR Karatay Array 54.44 298 *i*P **P** **17 25 37.8 -1.5**
KKAR pmax pmax
comp=Z,28nm,0.7s,mb5.1
KOLN Koldanda 54.93 275 *e*P **P** **17 25 43.8 +0.7**
comp=Z,217nm,0.7s,mb6.0
MBW Mount Baker 55.58 53 P **P** **17 25 47.2 -0.3**
LVZ Lovozero 55.99 336 *d*P **P** **17 25 48.8 -1.3**
LVZ pmax pmax
comp=Z,46nm,1.3s,mb5.2
APA Apatity 56.56 336 ⇑*i*P **P** **17 25 52.4 -1.8**
APA *i* 17 26 48.0
APA *e* 17 33 26.0
APA pmax pmax
comp=Z,23nm,0.7s,mb5.1
KEV Kevo 56.67 340 *ep* **P** **17 25 52.6 -2.3**
comp=Z,24nm,0.9s,mb5.0
KEV Kevo 56.67 340 ⇓*e*P **P** **17 25 52.3 -2.6**
KEV *e* 17 26 48.4
KEV pmax pmax
comp=Z,23nm,0.8s,mb5.1
KEV Kevo 56.67 340 ⇓*e*P **P** **17 25 52.3 -2.6**
comp=Z,23nm,0.8s,mb5.0
KEV *ep*P pP 17 26 34.6 +3.7
KEV *e*PcP PcP 17 26 48.4 -0.7
AB31 Akbulak array 57.04 309 *i*P **P** **17 25 56.1 -1.6**
AB31 pmax pmax
comp=Z,28nm,0.9s,mb5.1
ARCES ARCESS Array B 57.19 340 P **P** **17 25 56.9 -1.6**
ARCES *PP pP 17 26 30.2 -4.5
ARCES 17 26 50.7
ARCES ARCESS Array B 57.19 340 P **P** **17 25 56.9 -1.7**
comp=Z,18nm,0.9s,mb4.9,baz=53,slow=6.1,SNR=27
ARCES pP pP 17 26 30.2 -4.4
comp=Z,1.5nm,0.4s,baz=31,slow=7.1,SNR=1.4
ARCES PcP PcP 17 26 50.6 -0.4
comp=Z,12nm,0.6s,baz=56,slow=4.4,SNR=12
ARCES ARCESS Array B 57.19 340 P **P** **17 25 56.9 -1.7**
ARCES pP pP 17 26 30.2 -4.4
ARCES PcP PcP 17 26 50.6 -0.4
THN Thein Dam 57.36 284 *e*P **P** **17 25 57.8 -2.4**
EDM Edmonton 57.48 45 ⇓*i*P **P** **17 26 00.2 -0.6**
SSOR Sweet Springs 57.50 57 P **P** **17 26 01.8 +0.8**
EPH Ephrata 57.66 54 P **P** **17 26 01.7 -0.4**
ALBI Allahabad 57.74 274 *e*P **P** **17 26 00.0 -3.0**
VFP Flag Point 57.80 56 P **P** **17 26 03.6 +0.4**
FRIS Frissel Point 58.08 58 P **P** **17 26 05.7 +0.5**
KTK1 Kautokeino 58.11 340 *e*P **P** **17 26 03.8 -1.2**
comp=Z,41nm,0.9s,mb5.3
KTK1 Kautokeino 58.11 340 *e*P **P** **17 26 03.8 -1.2**
KTK1 AMb AMB 17 26 05.5
comp=Z,41nm,0.9s,mb5.3
SNG Songkhla 58.12 244 P **P** **17 26 06.5 +0.7**
comp=Z,220nm,0.9s,mb6.0
OD2 Odessa Site #2 58.13 53 P **P** **17 26 04.8 -0.6**
BWNR Bhubaneshwar 58.33 266 *e* P **P** **17 26 14.9 +7.7**
BWNR AMb AMB 17 26 15.7
comp=Z,71nm,0.6s,mb5.7
NEW Newport 58.47 52 P **P** **17 26 07.3 -0.5**
NEW pmax pmax
comp=Z,34nm,1.0s
NEW Newport 58.47 52 P **P** **17 26 07.2 -0.6**
TRO Tromso 58.58 342 *e*P **P** **17 26 05.6 -2.7**
comp=Z,43nm,1.2s,mb5.2
TRO Tromso 58.58 342 *e*P **P** **17 26 05.6 -2.7**
TRO AMb AMB 17 26 08.2
comp=Z,43nm,1.2s,mb5.2
NDI New Delhi 58.70 280 *e*P **P** **17 26 08.9 -0.8**
NDI AMb AMB 17 26 09.7
comp=Z,83nm,0.5s,mb5.8
YBH Yreka Blue Hor 59.20 60 ⇓*e*P **P** **17 26 13.1 +0.1**
YBH pmax pmax
comp=Z,5.0nm,0.9s
YBH Yreka Blue Hor 59.20 60 ⇓*e*P **P** **17 26 13.1 +0.1**
comp=Z,5.0nm,0.9s,mb4.3
BLSP Bilaspur 59.62 271 *e*P **P** **17 26 15.2 -0.8**
BLSP AMb AMB 17 26 16.3
comp=Z,134nm,0.6s,mb6.0
WALA Waterton Lakes 59.69 49 ⇓*i*P **P** **17 26 15.9 -0.3**
comp=Z,38nm,0.7s,mb5.3
WALA *e* pP 17 26 51.3 -1.4
WALA *ep*P pP 17 26 55.4 +2.7
BSMT Bassoo Peak 59.97 51 P **P** **17 26 18.5 +0.3**
WDC Whiskeytown Da 60.00 61 P **P** **17 26 18.4 0.0**
WDC pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
WDC Whiskeytown Da 60.00 61 *e*P **P** **17 26 18.1 -0.4**
comp=Z,3.9nm,0.7s,mb4.3
LTIM Timbered Crate 60.27 60 P **P** **17 26 20.4 +0.1**
BMO Blue Mountains 60.44 55 ⇓*e*P **P** **17 26 21.2 -0.2**
comp=Z,5.4nm,0.8s,mb4.4
MOD Modoc 60.52 59 ⇓*e*P **P** **17 26 21.9 0.0**
comp=Z,14nm,0.6s,mb5.0
SUMG Summit 60.71 3 *e*P **P** **17 26 22.1 -0.7**
comp=Z,56nm,0.7s,mb5.5
LOF Lofoten 60.93 343 *e*P **P** **17 26 24.8 +0.4**
MSO Missoula 61.06 51 *e*P **P** **17 26 25.2 -0.4**
comp=Z,39nm,1.2s,mb5.1
MSO *ep*P pP 17 27 01.0 -1.1
WVOR Wild Horse Val 61.17 58 *e*P **P** **17 26 25.9 -0.4**
WVOR *e**PP pP 17 27 01.7 -1.3
WVOR *i* pP 17 27 06.0 +3.0
WVOR pmax pmax
comp=Z,16nm,0.8s,mb4.9
WVOR Wild Horse Val 61.17 58 *e*P **P** **17 26 25.9 -0.4**
comp=Z,16nm,0.8s,mb4.9
WVOR *ep*P pP 17 27 01.7 -1.3
WVOR *i*PcP PcP 17 27 06.0 -1.3
CHMT Chamberlain Mo 61.37 51 P **P** **17 26 27.3 -0.3**
BEKR Beckwourth 61.76 61 ⇓*e*P **P** **17 26 29.8 -0.5**
comp=Z,13nm,0.8s,mb4.8
FFC Flin Flon 61.76 39 *e*P **P** **17 26 29.6 -0.5**
FFC *e**PP pP 17 27 06.0 -0.8
FFC *e* pP 17 27 09.8 +3.0
FFC pmax pmax
comp=Z,48nm,0.8s,mb5.4
FFC Flin Flon 61.76 39 *e*P **P** **17 26 29.6 -0.5**
comp=Z,48nm,0.8s,mb5.4
FFC *ep*P pP 17 27 06.0 -0.8
FFC *e*PcP PcP 17 27 09.8 +0.4
VIS Vishakhapatnam 61.79 266 *e*P **P** **17 26 31.3 +0.5**
BHPL Bhopal 62.10 275 *e*P **P** **17 26 32.3 -0.5**
BHPL AMb AMB 17 26 34.1
comp=Z,201nm,1.1s,mb5.9
NGP Nagpur 62.39 272 *e*P **P** **17 26 34.0 -0.8**
NGP AMb AMB 17 26 35.7
comp=Z,188nm,0.8s,mb6.0
MOR8 Moi Rana 62.40 341 *e*P **P** **17 26 30.7 -3.5**
comp=Z,54nm,0.6s,mb5.5
MOR8 Moi Rana 62.40 341 *e*P **P** **17 26 30.7 -3.5**
MOR8 AMb AMB 17 26 33.5
comp=Z,54nm,0.6s,mb5.6
KAF Kangasniemi 62.62 334 *ep* **P** **17 26 33.1 -2.6**
comp=Z,15nm,0.7s,mb4.9,baz=38,slow=6.2
CMB Columbia Colle 62.89 62 P **P** **17 26 37.9 0.0**
CMB pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
CMB Columbia Colle 62.89 62 *e*P **P** **17 26 37.5 -0.4**
comp=Z,5.0nm,0.7s,mb4.5
CMB *e* 17 26 45.0
BOZ Bozeman (W) 63.05 51 ⇓*i*P **P** **17 26 39.0 +0.2**
BOZ *e* pP 17 27 14.5 -1.1
BOZ pmax pmax
comp=Z,30nm,0.8s,mb5.2
BOZ Bozeman (W) 63.05 51 ⇓*i*P **P** **17 26 39.0 +0.3**
comp=Z,30nm,0.8s,mb5.2
BOZ *e*PcP PcP 17 27 14.5 -0.3
FINES FINESS Array B 63.21 334 P **P** **17 26 37.3 -2.3**
comp=Z,16nm,0.6s,mb5.0,baz=72,slow=6.0,SNR=61
FINES PcP PcP 17 27 14.4 -0.8
comp=Z,12nm,0.7s,baz=117,slow=4.3,SNR=7.9
BMN Battle Mountai 63.26 59 ⇓*i*P **P** **17 26 40.3 +0.1**
BMN *e* pP 17 27 15.6 -1.5
BMN *e**SP sP 17 27 32.7 -1.2
BMN pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
BMN Battle Mountai 63.26 59 ⇓*i*P **P** **17 26 40.3 +0.1**
comp=Z,8.2nm,0.6s,mb4.7
BMN *e*PcP PcP 17 27 15.6 -0.2
BMN *es*P sP 17 27 32.7 -1.2
MOS Moscow 63.38 324 *e*P **P** **17 26 37.5 -3.3**
AKL Akola 64.08 273 *e*P **P** **17 26 48.0 +2.2**
AKL AMb AMB 17 26 51.7
comp=Z,194nm,0.8s,mb6.0
YNR Norris Junctio 64.16 52 *e*P **P** **17 26 47.1 +1.1**
ELK Elko 64.21 57 ⇓*e*P **P** **17 26 46.2 -0.1**
ELK *e* pP 17 27 20.1 -3.2
ELK pmax pmax
comp=Z,5.0nm,0.7s
ELK Elko 64.21 57 ⇓*e*P **P** **17 26 46.2 -0.1**
comp=Z,5.2nm,0.7s,mb4.5
ELK *e* 17 26 56.8
ELK *e*PcP PcP 17 27 20.1 +0.5
OBN Obninsk 64.25 324 *d*P **P** **17 26 44.3 -2.0**
OBN *e* 17 29 13.4
OBN *es*P S 17 35 41.8 +32
OBN pmax pmax
comp=Z,68nm,1.6s,mb5.2
OBN Obninsk 64.25 324 *e*P **P** **17 26 44.3 -2.0**
comp=Z,23nm,0.6s,mb5.2
YFT Old Faithful 64.25 52 ⇓*e*P **P** **17 26 47.9 +1.4**
NSS Namsos 64.35 342 *e*P **P** **17 26 44.0 -2.8**
comp=Z,29nm,2.0s,mb4.8
NSS Namsos 64.35 342 *e*P **P** **17 26 44.0 -2.8**
NSS AMb AMB 17 26 50.4

comp=Z,29nm,2.0s,mb4.8
IMW Indian Meadow 64.56 52⇓ *iP* **P 17 26 49.4 +0.9**
comp=Z,37nm,1.2s,mb5.1
IMW *epP* pP 17 27 26.1 +0.6
RRI2 Red Ridge 64.72 53⇓ *iP* **P 17 26 50.2 +0.7**
comp=Z,40nm,0.8s,mb5.3
MOOW Moose Ponds 64.77 52 *eP* **P 17 26 50.2 +0.3**
comp=Z,20nm,1.0s,mb4.9
TPH Tonopah 64.78 61⇓ *eP* **P 17 26 50.0 -0.1**
TPH pmax pmax
comp=Z,11nm,0.8s,mb4.7
TPH Tonopah 64.78 61⇓ *eP* **P 17 26 50.0 -0.1**
comp=Z,11nm,0.8s,mb4.7
TPAW Teton Pass 64.82 53⇓ *eP* **P 17 26 50.9 +0.6**
comp=Z,61nm,1.1s,mb5.3
TPAW *e* pP 17 27 26.3 -0.9
LOHW Long Hollow 64.93 52⇓ *iP* **P 17 26 51.5 +0.6**
comp=Z,23nm,1.1s,mb4.9
HVU Hansel Valley 64.94 55 *eP* **P 17 26 51.1 0.0**
SNOW Snow King Moun 64.95 53 P **P 17 26 51.0 0.0**
comp=Z,37nm,1.1s,mb5.1
REDW Red Top Meadow 64.96 53 *eP* **P 17 26 51.5 +0.3**
comp=Z,52nm,1.3s,mb5.2
DGMT Dagmar 64.97 45⇓ *iP* **P 17 26 50.8 -0.4**
comp=Z,83nm,0.6s,mb5.7
LAO LASA Array 65.18 48⇓ *eP* **P 17 26 52.6 +0.1**
comp=Z,60nm,1.0s,mb5.4
HYB Hyderabad 65.28 269⇓ *iP* **P 17 26 53.0 -0.6**
HYB pmax pmax
comp=Z,180nm,1.0s,mb5.9
HYB Hyderabad 65.28 269⇓ *iP* **P 17 26 53.0 -0.6**
comp=Z,180nm,1.0s,mb5.9
VSU Vasula 65.32 331 *d iP* **P 17 26 51.1 -2.1**
SFJD Kangerlussuaq 65.34 9⇓ *iP* **P 17 26 52.1 -1.1**
SFJD pmax pmax
comp=Z,57nm,0.7s,mb5.5
SFJD Kangerlussuaq 65.34 9⇓ *iP* **P 17 26 52.1 -1.1**
comp=Z,56nm,0.7s,mb5.5
SPUT South Promonto 65.43 55⇓ *iP* **P 17 26 54.3 +0.1**
TRCR Troy Canyon 65.57 60⇓ *iP* **P 17 26 54.9 -0.3**
DAC Darwin (Calif) 65.73 62 *eP* **P 17 26 55.6 -0.6**
DAC pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
DAC Darwin (Calif) 65.73 62 *eP* **P 17 26 55.6 -0.6**
comp=Z,2.4nm,0.4s,mb4.4
HWUT Hardware Ranch 65.73 55⇓ *eP* **P 17 26 56.2 +0.1**
comp=Z,15nm,0.6s,mb5.0
NOQ North Oquirrh 66.06 56 *eP* **P 17 26 58.1 -0.1**
BW06 Boulder Array 66.07 53⇓ *iP* **P 17 26 58.0 -0.3**
comp=Z,25nm,0.6s,mb5.2
BW06 *epP* pP 17 27 34.4 -0.9
PDAR Pinedale Array 66.07 53 P **P 17 26 58.1 -0.2**
comp=Z,23nm,0.5s,mb5.2,baz=291,slow=0.9,SNR=239
PDAR pP pP 17 27 32.0 -3.3
comp=Z,2.6nm,0.9s,baz=212,slow=2.4,SNR=1.1
PDAR PKPPKP 17 55 21.6
comp=Z,0.4nm,0.9s,baz=117,slow=3.3,SNR=3.6
PDAR LR LR 17 58 27.5
comp=Z,33nm,19.2s,baz=243,slow=38
TCUT Toone Canyon 66.15 55⇓ *eP* **P 17 26 59.0 +0.2**
CTU Camp Tracy 66.24 55 *eP* **P 17 26 59.2 -0.2**
JLU Jordanelle 66.47 55 P **P 17 27 00.9 +0.1**
NLU North Lily Min 66.55 56⇓ *eP* **P 17 27 01.3 -0.1**
DAU Daniels Canyon 66.71 55 P **P 17 27 02.7 +0.4**
DAU Daniels Canyon 66.71 55⇓ *iP* **P 17 27 02.5 +0.2**
DAU *epP* pP 17 27 43.1 +3.6
MPU Maple Canyon 66.76 56⇓ *eP* **P 17 27 02.7 +0.1**
BHUJ Bhuj 67.38 280 *eP* **P 17 27 07.4 +0.6**
BHUJ AMb AMB 17 27 13.2
comp=Z,105nm,1.2s,mb5.5
MVU Marysvale 67.44 57⇓ *iP* **P 17 27 07.2 +0.2**
comp=Z,16nm,1.5s,mb4.6
MVU *ePcP* PcP 17 27 32.7 -0.4
MSU Marysvale 67.46 57 *eP* **P 17 27 07.5 +0.4**
TMUT Trail Mountain 67.48 56⇓ *iP* **P 17 27 07.5 +0.2**
ULM Lac du Bonnet 67.56 40 P **P 17 27 06.6 -0.9**
comp=Z,25nm,0.7s,mb5.1,baz=311,slow=6.6,SNR=15
ULM Lac du Bonnet 67.56 40⇓ *eP* **P 17 27 06.6 -0.9**
comp=Z,7.2nm,0.9s,mb4.4
NB2 NORSAR Subarra 67.57 340 P **P 17 27 05.8 -1.5**
comp=Z,55nm,1.4s,mb5.1,baz=28,slow=6.5
NB2 NORSAR Subarra 67.57 340 P **P 17 27 05.8 -1.5**
NB2 pmax pmax
comp=Z,55nm,1.4s,mb5.1
NB2 NORSAR Subarra 67.57 340 P **P 17 27 05.8 -1.5**
baz=28,slow=6.9
NOA NORSAR Array B 67.57 340 P **P 17 27 05.8 -1.5**
comp=Z,7.5nm,0.5s,mb4.7,baz=28,slow=6.4,SNR=48
NOA PcP PcP 17 27 32.6 -0.6
comp=Z,6.3nm,0.8s,baz=28,slow=3.4,SNR=5.3
POO Poona 67.74 274 *eP* **P 17 27 09.4 +0.3**
NAO01 NORSAR Array S 67.82 340⇓ *iP* **P 17 27 06.9 -2.0**
comp=Z,16nm,0.8s,mb4.8
SRU San Rafael 68.00 56⇓ *iP* **P 17 27 10.4 0.0**
RSSD Black Hills 68.06 48⇓ *iP* **P 17 27 10.4 -0.3**
RSSD *i* 17 27 36.1
RSSD pmax pmax
comp=Z,12nm,0.5s,mb4.9
RSSD Black Hills 68.06 48⇓ *iP* **P 17 27 10.4 -0.3**
comp=Z,12nm,0.5s,mb4.9
RSSD *i* PcP PcP 17 27 36.1 +0.5
WRAB Tennant Creek 68.07 197 *i* P **P 17 27 08.9 -2.2**
WB2 Warramunga Arr 68.08 196 *eP* **P 17 27 09.7 -1.5**
WRA Warramunga Arr 68.08 197 P **P 17 27 09.8 -1.4**
comp=Z,6.9nm,0.8s,mb4.4,baz=16,slow=6.8,SNR=16
KAD Karad 68.35 272 *eP* **P 17 27 15.0 +2.1**
FITZ Fitzroy Crossi 68.45 206⇓ *iP* **P 17 27 12.7 -0.8**
comp=Z,17nm,0.6s,mb5.0
FITZ Fitzroy Crossi 68.45 206 P **P 17 27 13.1 -0.4**
comp=Z,22nm,0.6s,mb5.1,baz=14,slow=3.9,SNR=30
GOF Gofitskoye 68.53 313⇑ *iP* **P 17 27 12.4 -1.1**
GOF pmax pmax
comp=Z,61nm,1.3s,mb5.2
PV10 Paradox Valley 69.35 56 *eP* **P 17 27 19.1 +0.4**
PV10 *ePcP* PcP 17 27 41.6 +0.5
ASK Askoy 69.40 343 *eP* **P 17 27 17.7 -0.8**
comp=Z,101nm,1.9s,mb5.2
ASK Askoy 69.40 343 *eP* **P 17 27 17.7 -0.8**
ASK AMb AMB 17 27 26.2
comp=Z,101nm,1.9s,mb5.2
BER Bergen 69.46 342 *eP* **P 17 27 18.4 -0.5**
comp=Z,39nm,1.2s,mb5.0
BER Bergen 69.46 342 *eP* **P 17 27 18.4 -0.5**
BER AMb AMB 17 27 37.5
comp=Z,39nm,1.2s,mb5.0
KIV Kislovodsk 69.49 313 *eP* **P 17 27 18.7 -0.7**
KIV pmax pmax
comp=N,14nm,1.0s
KIV pmax pmax
comp=Z,22nm,1.0s,mb4.8
KIV pmax pmax
comp=E,11nm,0.9s
KIV Kislovodsk 69.49 313⇓ *eP* **P 17 27 19.0 -0.4**
comp=E,25nm,0.8s,mb5.0
EGD Espegrend 69.58 342 *eP* **P 17 27 19.2 -0.5**
comp=E,58nm,1.8s,mb5.0
EGD Espegrend 69.58 342 *eP* **P 17 27 19.2 -0.5**
EGD AMb AMB 17 27 47.8
comp=Z,58nm,1.8s,mb5.0
ZEI Tsey 69.72 311 *eP* **P 17 27 19.2 -1.6**
ZEI pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
PV01 Paradox Valley 69.78 56 *eP* **P 17 27 21.4 +0.1**
SMCO Snowmass 69.95 54⇓ *eP* **P 17 27 22.6 +0.3**
SUW Suwalki 70.08 330 *eP* **P 17 27 43.1 -0.8**
SUW Suwalki 70.08 330 *eP* **P 17 27 43.1 -0.8**
ONI Oni 70.08 311 P **P 17 27 22.9 -0.2**
BLS5 Blasjo 70.09 341 *eP* **P 17 27 23.9 +1.1**
comp=Z,31nm,1.6s,mb4.8
BLS5 Blasjo 70.09 341 *eP* **P 17 27 23.9 +1.1**
BLS5 AMb AMB 17 27 32.3
comp=Z,31nm,1.6s,mb4.8
ISCO Idaho Springs 70.26 53⇓ *iP* **P 17 27 24.4 +0.2**
ISCO *e*PP* pP 17 28 01.4 -0.3
ISCO pmax pmax
comp=Z,26nm,1.2s,mb4.8
ISCO Idaho Springs 70.26 53⇓ *iP* **P 17 27 24.4 +0.3**
comp=Z,26nm,1.2s,mb4.8
ISCO *epP* pP 17 28 01.4 -0.3
AKASG Malin Array Be 70.50 325 P **P 17 27 23.6 -1.8**
comp=Z,6.8nm,0.4s,mb4.7,baz=34,slow=6.1,SNR=54
GNI Garni 71.15 309 P **P 17 27 30.4 +1.0**
comp=Z,9.9nm,0.6s,mb4.8,baz=20,slow=6.3,SNR=6.6
SOC Sochi 71.24 314 *eP* **P 17 27 30.4 +0.5**
SOC *e* 17 30 05.0
SOC *eS* S 17 36 32.6 -0.4
SOC *e* 17 37 22.4
SOC pmax pmax
comp=E,8.0nm,0.7s
SOC pmax pmax
comp=Z,28nm,0.7s,mb5.1
SOC pmax pmax
comp=N,49nm,1.2s
SDCO Great Sand Dun 71.78 54⇓ *iP* **P 17 27 33.2 0.0**
comp=N,18nm,1.1s,mb4.7
TUC Tucson 72.55 61⇓ *eP* **P 17 27 37.8 0.0**
TUC *e*PP* pP 17 28 13.4 -2.2
TUC pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
TUC Tucson 72.55 61⇓ *eP* **P 17 27 37.8 -0.1**
comp=Z,7.8nm,1.1s,mb4.3
TUC *epP* pP 17 28 13.4 -2.2
TRD Trivandrum 72.67 264 *eP* **P 17 27 39.3 +0.4**
TRD AMb AMB 17 27 40.2
comp=Z,71nm,0.6s,mb5.6
MLA1 Latheron 73.03 346 *eP* **P 17 27 39.6 -0.5**
ERZM Erzurum 73.11 311 *i* P **P 17 27 41.2 +0.3**
MBWA Marble Bar 73.21 210⇓ *iP* **P 17 27 41.1 -0.7**
comp=Z,8.7nm,0.5s,mb4.7
LAZ Ladron 73.23 58 *eP* **P 17 27 42.1 +0.4**
ANMO Albuquerque 73.23 57⇓ *iP* **P 17 27 42.1 +0.3**
ANMO *e*PP* pP 17 28 18.8 -0.8
ANMO pmax pmax
comp=Z,6.0nm,0.7s
ANMO Albuquerque 73.23 57⇓ *iP* **P 17 27 42.1 +0.4**
comp=Z,6.2nm,0.7s,mb4.5
ANMO *epP* pP 17 28 18.8 -0.8
MVH1 Achvaich 73.52 346 *eP* **P 17 27 42.4 -0.6**
LPM Los Pinos Moun 73.59 57 *eP* **P 17 27 44.3 +0.4**
MCD Coleburn Disti 73.70 346 *eP* **P 17 27 43.4 -0.6**
KWP Kalwaria 73.84 328 P **P 17 27 44.5 -0.5**
KWP pmax pmax
comp=Z,20nm,0.7s,mb5.0
KWP Kalwaria 73.84 328 *eP* **P 17 27 45.0 0.0**
KWP Kalwaria 73.84 328 *eP* **P 17 27 45.0 0.0**
SCHQ Schefferville 73.87 21 P **P 17 27 45.0 0.0**
comp=Z,25nm,0.6s,mb5.2,baz=347,slow=6.0,SNR=35
SCHQ Schefferville 73.87 21⇓ *iP* **P 17 27 45.0 0.0**
comp=Z,23nm,0.8s,mb5.0
MDO Dochfour 74.02 346 *eP* **P 17 27 44.9 -0.9**
BSEG Bad Segeberg 74.09 337 *eP* **P 17 27 46.9 +0.6**
KPL Plockton 74.32 347 *eP* **P 17 27 46.8 -0.8**
BANOM Banah 74.35 291⇓ P **P 17 27 48.3 -0.2**
SNR=6.2
OJC Ojcow 74.39 330 *eP* **P 17 27 47.5 -0.6**
KSB Sheil Bridge 74.41 347 *eP* **P 17 27 47.8 -0.3**
BURAR Bucovina Array 74.55 325⇓ P **P 17 27 48.5 -0.6**
STHS Stebnicka Huta 74.55 328 *iP* **P 17 27 49.2 +0.1**
STHS *e* 17 28 04.6
KOLS Kolonicke sedl 74.58 328 *iP* **P 17 27 48.9 -0.4**
KOLS *e* 17 28 08.6
BIDO Bidbid 74.86 288⇓ P **P 17 27 52.5 +1.2**
SNR=11
NIE Niedzica 74.88 329 *eP* **P 17 27 51.1 +0.1**
WBK Wadi Bani Khal 74.94 287⇑ P **P 17 27 53.0 +1.2**
SNR=11
KSP Ksiaz 75.03 332 *eP* **P 17 27 50.7 -1.1**
BOYT Boyabat 75.21 316 *iP* **P 17 27 53.5 +0.6**
SMDO Samad 75.23 288⇑ P **P 17 27 54.0 +0.5**
HOQ Hoqain 75.34 289⇑ P **P 17 27 54.4 +0.3**
SNR=17
VRI Vrincioaia 75.36 323⇑ P **P 17 27 54.9 +1.2**
ASHO Ashiyiah 75.38 290⇓ P **P 17 27 54.6 +0.3**
SNR=9.4
ELZG Elazig 75.39 311 *iP* **P 17 27 55.4 +1.3**
UPC Upice 75.41 332 *eP* **P 17 27 53.3 -0.6**
DPC Dobruska-Polom 75.45 332 *eP* **P 17 27 54.0 -0.1**
MORC Moravsky Berou 75.54 331⇓ *eP* **P 17 27 54.3 -0.3**
MORC *e* 17 28 05.8
MORC pmax pmax
comp=Z,11nm,0.8s,mb4.5
MORC Moravsky Berou 75.54 331⇓ *eP* **P 17 27 54.2 -0.4**
comp=Z,11nm,0.8s,mb4.5
MORC *ePcP* PcP 17 28 05.8 -1.4
KECS Kecovo 75.61 328 *iP* **P 17 27 54.5 -0.6**
KECS *e* 17 28 07.9
CLL Collm 75.65 334⇓ *iP* **P 17 27 54.0 -1.2**
CLL *e* 17 28 07.0
CLL pmax pmax
comp=Z,17nm,0.6s,mb4.8
CLL Collm 75.65 334⇓ *iP* **P 17 27 54.0 -1.2**
comp=Z,17nm,0.6s,mb4.8
CLL *i* 17 28 00.8
CLL *e* 17 28 07.0
CLL *i* pP pP 17 28 39.0 +5.6
CLL Collm 75.65 334⇓ P **P 17 27 54.0 -1.2**
comp=Z,logA/T=1.5,mb4.9
CLL *i* 17 28 00.8
CLL *ePCP* PcP 17 28 07.0 -0.6
CLL *i* 17 28 12.2
CLL *i* 17 28 39.0
JMDO Jabal Madar 75.68 287⇑ P **P 17 27 56.7 +0.8**
SNR=27
BRG Berggiesshubel 75.75 333 *eP* **P 17 27 54.9 -0.9**
BRG *i* 17 28 08.1
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb4.1
BRG Berggiesshubel 75.75 333 *eP* **P 17 27 54.9 -0.9**
comp=Z,5.8nm,1.1s,mb4.1
BRG *i* 17 28 01.9
BRG *i* 17 28 08.1
MALT Malatya 75.81 311 *eP* **P 17 27 57.1 +0.7**
MALT pmax pmax
comp=Z,12nm,0.8s,mb4.6
MALT Malatya 75.81 311 *eP* **P 17 27 57.1 +0.6**
comp=Z,12nm,0.8s,mb4.6
BALT Daday 75.84 316 *iP* **P 17 27 56.6 0.0**
PVCC Panska Ves 75.85 333 *eP* **P 17 27 57.4 +1.0**
CTKT Corum 75.88 315 *iP* **P 17 27 56.8 0.0**
CLZ Clausthal 75.94 336 *eP* **P 17 27 57.1 +0.3**
comp=Z,26nm,0.9s,mb4.9
MLR Muntele Rosu 75.98 323⇑ P **P 17 27 57.9 +0.6**
MLR Muntele Rosu 75.98 323⇑ P **P 17 27 57.8 +0.6**
BSY Bisya 76.01 288⇑ P **P 17 27 58.6 +0.8**
SNR=9.0
ARQ Araqi 76.03 289⇑ P **P 17 27 58.5 +0.6**
SNR=19
CPRX Cap Rock 76.10 56⇓ *eP* **P 17 27 58.2 0.0**
VYHS Vyhne 76.19 329 *iP* **P 17 27 58.2 -0.1**
MNTX Cornudas Mount 76.19 58⇓ *iP* **P 17 27 58.6 -0.1**
comp=Z,13nm,0.8s,mb4.6
DRGR 76.19 326⇓ P **P 17 27 58.1 -0.3**
PSZ Piszkesteto 76.30 328 *eP* **P 17 27 58.7 -0.2**
PSZ *e* 17 28 11.0
PSZ pmax pmax
comp=Z,28nm,1.1s,mb4.8
PSZ Piszkesteto 76.30 328 *eP* **P 17 27 58.6 -0.3**
comp=Z,28nm,1.1s,mb4.8
PSZ *ePcP* PcP 17 28 11.0 +0.5
PRU Pruhonice 76.33 333 *eP* **P 17 27 58.7 -0.4**
GDL2 Guadalupe Moun 76.42 57 *eP* **P 17 28 00.0 +0.1**
PSN Preselentsi 76.50 321 *eP* **P 17 28 06.0 +5.8**
ELDT Eldivan 76.64 316 *iP* **P 17 28 01.5 +0.5**
MOX Moxa 76.65 335 *eP* **P 17 28 06.1 +5.3**
MOX Moxa 76.65 335 *iP* **P 17 28 06.1 +5.3**
CLNB Carlsbad 76.65 57 *eP* **P 17 28 01.2 -0.1**
NKC Novy Kostel 76.76 334 *eP* **P 17 28 00.7 -0.8**
GZT Gaziantep 76.98 311 *iP* **P 17 28 03.6 +0.6**
ZST Bratislava 77.04 330 *eP* **P 17 28 03.2 +0.1**
BR131 Keskin Array S 77.13 315⇓ *eP* **P 17 28 03.5 -0.2**
comp=Z,7.0nm,0.8s,mb4.3
BRTR Keskin Array B 77.13 315 P **P 17 28 03.8 0.0**
comp=Z,9.1nm,0.8s,mb4.5,baz=70,slow=4.2,SNR=37
KHC Kasperske Hory 77.39 333 *eP* **P 17 28 04.8 -0.2**
KHC *e* 17 28 17.5
KHC Kasperske Hory 77.39 333 *eP* **P 17 28 04.8 -0.2**
KHC *i* 17 28 10.5
KHC *e* 17 28 17.5
KHC Kasperske Hory 77.39 333 *eP* **P 17 28 04.8 -0.2**
KHC *i x* x 17 28 10.5
KHC PCP PcP 17 28 17.5 +2.4
WET Wettzell 77.59 333 *eP* **P 17 28 06.0 -0.1**
WET *e* 17 28 11.3
WET pmax pmax
comp=Z,25nm,0.9s,mb4.8
WET Wettzell 77.59 333 *eP* **P 17 28 06.0 -0.1**
comp=Z,25nm,0.9s,mb4.8
WET *ePcP* PcP 17 28 11.3 -4.7
GEC2 GERESS Array S 77.60 332 *eP* **P 17 28 06.2 +0.1**
GEC2 *e* 17 28 11.4
GERES GERESS Array B 77.60 332 P **P 17 28 05.7 -0.5**
comp=Z,6.2nm,0.5s,mb4.5,baz=38,slow=5.7,SNR=39
GRA1 Grafenberg Arr 77.61 334 *eP* **P 17 28 06.6 +0.4**
comp=Z,51nm,0.9s,mb5.2
GRA1 *ePcP* PcP 17 28 11.3 -4.8
GRA1 *epP* pP 17 28 50.6 +6.1
GRF Grafenberg Arr 77.61 334 *eP* **P 17 28 06.6 +0.4**
GRF *e* 17 28 11.3
GRF pmax pmax
comp=Z,51nm,0.9s,mb5.2
GRF Grafenberg Arr 77.61 334 *eP* **P 17 28 06.6 +0.4**
GRF *e* 17 28 11.3
GRF pmax pmax
comp=Z,51nm,0.9s,mb5.2
GRF Grafenberg Arr 77.61 334 *eP* **P 17 28 06.6 +0.4**
comp=Z,51nm,0.9s,mb5.2
GRF *ePcP* PcP 17 28 11.3 -4.8
GRF *epP* pP 17 28 50.6 +6.1
SZH Strazhica 77.80 322 *eP* **P 17 28 07.0 -0.4**
TNS Taunus Mts 77.93 336 *eP* **P 17 28 08.3 +0.4**
HGN Heimansgroeve 78.11 338 *eP* **P 17 28 08.2 -0.7**
comp=Z,47nm,1.2s,mb5.0
HGN *epP* pP 17 28 54.3 +7.0
HGN *esP* sP 17 29 10.1 +6.0
SBD1 Bryn Du 78.15 344 *eP* **P 17 28 09.2 +0.2**
JMB Yambol 78.17 321 *eP* **P 17 28 10.0 +0.6**
MOA Molln 78.29 332⇓ *iP* **P 17 28 10.1 +0.2**
comp=Z,7.0nm,0.6s,mb4.5
COBT Iskenderun 78.30 311 *i* P **P 17 28 10.0 -0.3**
DLF Lyons Farm 78.35 346 *eP* **P 17 28 09.1 -1.1**
TOD Tromm 78.39 336 *eP* **P 17 28 10.0 -0.4**
ARSA Arzberg 78.39 331⇓ *iP* **P 17 28 10.6 +0.1**
comp=Z,5.6nm,0.6s,mb4.4
DCN Croghan 78.42 347 *eP* **P 17 28 09.3 -1.2**
HLM1 Long Mynd 78.45 344 *eP* **P 17 28 10.8 +0.2**
HLM1 AMb AMB 17 28 14.4
comp=Z,37nm,0.9s,mb5.0
SSP1 Stoney Pound 78.59 344 *eP* **P 17 28 12.0 +0.6**
ESKT Eskisehir 78.62 317 *iP* **P 17 28 11.5 -0.5**
STKA Stephens Creek 78.78 188 *eP* **P 17 28 13.1 +0.2**
comp=Z,2.6nm,0.4s,mb4.2
STKA Stephens Creek 78.78 188 P **P 17 28 13.4 +0.5**
comp=Z,2.9nm,0.4s,mb4.3,baz=6.0,slow=6.2,SNR=23
HAE Alders End 78.84 343⇑ *eP* **P 17 28 13.1 +0.2**
HAE AMb AMB 17 28 16.8
comp=Z,114nm,2.0s,mb5.2
ULDT Uludag 78.92 318 *iP* **P 17 28 13.6 +0.1**
LTX Lajitas 78.93 59⇓ *iP* **P 17 28 14.1 +0.3**
LTX pmax pmax
comp=Z,17nm,0.6s,mb4.8
LTX Lajitas 78.93 59⇓ *iP* **P 17 28 14.1 +0.3**
comp=Z,17nm,0.6s,mb4.8
TXAR Lajitas Array 78.93 59 P **P 17 28 14.0 +0.2**
comp=Z,18nm,0.6s,mb4.9
TXAR pP pP 17 28 49.1 -3.1
HTR Trewern Hill 78.94 344⇑ *eP* **P 17 28 14.0 +0.7**
HTR AMb AMB 17 28 16.7
comp=Z,66nm,1.5s,mb5.0
FUR Furstenfeldbru 78.95 334 *eP* **P 17 28 13.7 +0.2**
FUR pmax pmax
comp=Z,70nm,1.0s,mb5.2
FUR Furstenfeldbru 78.95 334 *eP* **P 17 28 13.7 +0.2**
comp=Z,70nm,1.0s,mb5.2
MCH1 Michaelchurch 78.97 344 *eP* **P 17 28 13.7 +0.2**
CCM Cathedral Cave 79.00 45⇓ *eP* **P 17 28 13.1 -0.9**
CCM pmax pmax
comp=Z,31nm,1.3s,mb4.8
CCM Cathedral Cave 79.00 45⇓ *eP* **P 17 28 13.1 -0.9**
comp=Z,31nm,1.3s,mb4.8
GIVF Givet 79.00 338 *eP* **P 17 28 13.6 -0.1**
HASS Wahat al Ahsa' 79.05 295 P **P 17 28 14.6 +0.1**
WLF Walferdange 79.06 337 P **P 17 28 13.8 -0.2**
WLF *e* 17 28 18.8
WLF pmax pmax
comp=Z,12nm,0.8s,mb4.6
WLF Walferdange 79.06 337 P **P 17 28 13.8 -0.3**
comp=Z,12nm,0.8s,mb4.6
WLF *ePcP* PcP 17 28 18.8 -3.5
PERS Pernice 79.07 331 *eP* **P 17 28 14.0 -0.2**
BAIF Baives 79.19 339 *eP* **P 17 28 14.7 -0.1**
MENF Mencas 79.23 340 *eP* **P 17 28 14.8 -0.1**
LANF Langenberg 79.23 336 *eP* **P 17 28 15.0 0.0**
KBA Koelnbreinsper 79.27 332⇓ *iP* **P 17 28 16.0 +0.8**
comp=Z,45nm,1.3s,mb4.9
KBA Koelnbreinsper 79.27 332⇓ *iP* **P 17 28 16.0 +0.8**
KBA pmax pmax
comp=Z,45nm,1.3s,mb4.9
HGH Gray Hill 79.27 344 *eP* **P 17 28 15.4 +0.2**
HGH AMb AMB 17 28 18.2
comp=Z,77nm,1.3s,mb5.2
MEST Erdemli 79.32 313 *iP* **P 17 28 15.5 -0.2**
KDZ Kurdzhali 79.34 321 *eP* **P 17 28 16.8 +1.0**
OBKA Obir 79.37 331⇓ *iP* **P 17 28 16.4 +0.6**
comp=Z,6.9nm,0.6s,mb4.5
VTS Vitosha 79.49 323 *iP* **P 17 28 16.5 0.0**
DIVS Divcibare 79.50 326⇓ *iP* **P 17 28 16.2 -0.3**
GCIS Gornji Cirnik 79.56 330 *eP* **P 17 28 16.5 -0.4**
WATA Walderalm 79.60 333⇓ *iP* **P 17 28 17.5 +0.5**
comp=Z,24nm,0.4s,mb5.2
WATA Walderalm 79.60 333⇓ *iP* **P 17 28 17.5 +0.5**
WATA pmax pmax
comp=Z,24nm,0.4s,mb5.2
GDZ Gediz 79.60 317 *iP* **P 17 28 15.3 -1.9**
RZN Rozhen 79.61 322 *eP* **P 17 28 18.0 +0.8**
WTTA Wattenberg 79.64 333⇓ *iP* **P 17 28 18.0 +0.7**
comp=Z,32nm,0.6s,mb5.1
WTTA Wattenberg 79.64 333⇓ *iP* **P 17 28 18.0 +0.7**
WTTA pmax pmax
comp=Z,32nm,0.6s,mb5.1
BFO Black Forest 79.67 335 *eP* **P 17 28 17.0 -0.4**
BFO *e* 17 28 20.7
BFO pmax pmax
comp=Z,52nm,0.9s,mb5.2
BFO Black Forest 79.67 335 *eP* **P 17 28 17.0 -0.4**
comp=Z,52nm,0.9s,mb5.2
BFO *ePcP* PcP 17 28 20.7 -4.3
BTOK Tokmak 79.73 319 *iP* **P 17 28 18.0 +0.1**
MOTA Moosalm 79.74 333⇓ *iP* **P 17 28 18.1 +0.3**
comp=Z,43nm,1.1s,mb5.0
MOTA Moosalm 79.74 333⇓ *iP* **P 17 28 18.1 +0.3**
MOTA pmax pmax
comp=Z,43nm,1.1s,mb5.0
SQTA Sankt Quirin 79.82 333⇓ *iP* **P 17 28 18.7 +0.5**
comp=Z,17nm,0.8s,mb4.7
SQTA Sankt Quirin 79.82 333⇓ *iP* **P 17 28 18.7 +0.5**
SQTA pmax pmax
comp=Z,17nm,0.8s,mb4.7
WLS Welschbruch 79.88 336 *eP* **P 17 28 18.2 -0.3**
CDF Champ du Feu 79.90 336 *eP* **P 17 28 18.3 -0.3**
comp=Z,76nm,0.9s,mb5.0
CDF Champ du Feu 79.90 336 *eP* **P 17 28 18.3 -0.3**
CDF pmax pmax
comp=Z,38nm,0.9s,mb5.0
MMB Musomiste 80.11 322 *eP* **P 17 28 19.5 -0.4**
ECH Echery 80.11 336 *eP* **P 17 28 19.3 -0.4**
KKB Krupnik 80.14 323 *eP* **P 17 28 20.0 -0.1**
DAVA Damuels 80.16 334⇓ *iP* **P 17 28 21.2 +1.1**
comp=Z,39nm,0.8s,mb5.1
FELD Feldberg 80.18 335 *eP* **P 17 28 19.8 -0.3**
SHAO Shalim 80.40 286⇓ P **P 17 28 23.3 +1.4**
SNR=5.1
THEF They Montfort 80.42 337 *eP* **P 17 28 21.3 -0.1**
MOF Molkenrain 80.45 336 *eP* **P 17 28 21.1 -0.5**
HAU Haudompre 80.52 337 *eP* **P 17 28 21.9 -0.1**
comp=Z,43nm,0.8s,mb4.8
HAU Haudompre 80.52 337 *eP* **P 17 28 21.9 -0.1**
HAU pmax pmax
comp=Z,22nm,0.8s,mb4.8
HINF Hinteralfeld 80.56 336 *eP* **P 17 28 22.0 -0.1**
comp=Z,12nm,0.7s,mb4.4
HINF Hinteralfeld 80.56 336 *eP* **P 17 28 22.0 -0.1**
HINF pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
SKO Skopje 80.72 324 *iP* **P 17 28 23.5 +0.3**
SKO pmax pmax
comp=Z,23nm,0.8s,mb4.9
SKO Skopje 80.72 324 *iP* **P 17 28 23.5 +0.3**
comp=Z,0.0nm,0.8s
PARMO Parma 80.83 45⇓ *eP* **P 17 28 23.9 +0.1**
LOMF Lomont 80.99 336 *eP* **P 17 28 22.6 -1.8**
CSS Prodhromos 81.00 312⇓ *eP* **P 17 28 24.6 -0.2**
comp=Z,20nm,0.7s,mb4.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ALLY	Alegheny Colle	81.02	36	eP	P	17 28 24.9	+0.1
WCI	Wyandotte Cave	81.20	42	⇓eP	P	17 28 25.5	-0.2
WCI				e*PP	pP	17 29 04.5	+0.2
WCI				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.9						
WCI	Wyandotte Cave	81.20	42	⇓eP	P	17 28 25.5	-0.3
	comp=Z,28nm,0.8s,mb4.9						
WCI				epP	pP	17 29 04.5	+0.2
KSHT	Keshet	81.26	309	P	P	17 28 28.0	+1.8
FLN	La Foliniere	81.51	341	eP	P	17 28 26.9	-0.2
	comp=Z,120nm,0.7s,mb5.4						
FLN	La Foliniere	81.51	341	eP	P	17 28 26.9	-0.2
FLN				pmax	pmax		
	comp=Z,60nm,0.7s,mb5.3						
LDF	La Druitiere	81.59	341	eP	P	17 28 26.7	-0.8
QURS	Qurayyt al Mil	81.68	307	P	P	17 28 30.4	+2.1
WHFO	Wadi Hawf	81.69	287	⇑P	P	17 28 28.8	+0.1
	SNR=21						
RBK	Rabkut	81.71	287	⇓P	P	17 28 29.1	+0.4
	SNR=7.6						
LOR	Lormes	81.86	338	eP	P	17 28 28.8	-0.2
	comp=Z,56nm,0.8s,mb5.0						
LOR	Lormes	81.86	338	eP	P	17 28 28.8	-0.2
LOR				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.9						
CABF	La Chapelle	81.87	336	eP	P	17 28 29.0	0.0
	comp=Z,56nm,1.0s,mb4.9						
CABF	La Chapelle	81.87	336	eP	P	17 28 29.0	0.0
CABF				pmax	pmax		
	comp=Z,28nm,1.0s,mb4.8						
MMLI	Mount Malkishu	81.89	309	P	P	17 28 30.5	+1.1
GRR	Gorron	81.95	341	eP	P	17 28 29.3	-0.1
	comp=Z,166nm,0.6s,mb5.5						
GRR	Gorron	81.95	341	eP	P	17 28 29.3	-0.1
GRR				pmax	pmax		
	comp=Z,83nm,0.6s,mb5.5						
OG01	Vacheresse	81.96	336	eP	P	17 28 31.4	+1.9
SSF	Saint Saulge	82.15	338	eP	P	17 28 29.9	-0.5
SSF				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.8						
SSF	Saint Saulge	82.15	338	eP	P	17 28 29.9	-0.5
	comp=Z,21nm,0.8s,mb4.8						
NATX	Nacogdoches	82.17	51	eP	P	17 28 31.7	+0.8
	comp=Z,49nm,0.7s,mb5.2						
WVT	Waverly	82.18	44	⇓eP	P	17 28 30.6	-0.3
WVT				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.5						
WVT	Waverly	82.18	44	⇓eP	P	17 28 30.6	-0.2
	comp=Z,12nm,0.9s,mb4.5						
HILS	Ha'il	82.20	302	P	P	17 28 32.4	+1.2
ORX	Oropa	82.22	335	P	P	17 28 32.1	+1.2
TRAV		82.40	335	P	P	17 28 32.3	+0.5
ABTO	Aybut	82.41	287	⇑P	P	17 28 32.7	+0.4
AVF	Avril sur Loir	82.44	338	eP	P	17 28 31.6	-0.3
	comp=Z,106nm,1.0s,mb5.1						
AVF	Avril sur Loir	82.44	338	eP	P	17 28 31.6	-0.3
AVF				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.1						
SGMF	Saint Gilles	82.44	342	eP	P	17 28 31.6	-0.3
	comp=Z,186nm,0.8s,mb5.5						
SGMF	Saint Gilles	82.44	342	eP	P	17 28 31.6	-0.3
SGMF				pmax	pmax		
	comp=Z,93nm,0.8s,mb5.5						
SMF	Signal de Mont	82.44	338	eP	P	17 28 31.9	-0.1
	comp=Z,209nm,1.0s,mb5.4						
SMF	Signal de Mont	82.44	338	eP	P	17 28 31.9	-0.1
SMF				pmax	pmax		
	comp=Z,104nm,1.0s,mb5.4						
MKRJ	Makawir	82.46	309	P	P	17 28 34.1	+1.7
ARSS	Ar Rass	82.47	300	P	P	17 28 33.2	+0.6
ROSF	Rostrenen	82.51	343	eP	P	17 28 32.0	-0.3
RSL	Roselend	82.56	335	eP	P	17 28 33.0	+0.4
GRAM		82.62	333	P	P	17 28 34.3	+1.4
LSD	Ceresole Reale	82.62	335	P	P	17 28 34.0	+1.1
LPL	La Plagne	82.69	335	eP	P	17 28 34.0	+0.7
	comp=Z,123nm,0.9s,mb5.3						
LPL	La Plagne	82.69	335	eP	P	17 28 34.0	+0.7
LPL				pmax	pmax		
	comp=Z,62nm,0.9s,mb5.3						
LPG	La Plagne	82.70	335	eP	P	17 28 34.2	+0.9
	comp=Z,145nm,0.8s,mb5.4						
LPG	La Plagne	82.70	335	eP	P	17 28 34.2	+0.9
LPG				pmax	pmax		
	comp=Z,73nm,0.8s,mb5.5						
CODM		82.77	333	P	P	17 28 33.8	+0.1
BGF	Bois d'Agland	82.78	338	eP	P	17 28 33.3	-0.4
	comp=Z,45nm,0.7s,mb5.0						
BGF	Bois d'Agland	82.78	338	eP	P	17 28 33.3	-0.4
BGF				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.0						
SARO	Sassorosso	82.78	332	P	P	17 28 34.3	+0.5
RSP	Reno Superiore	82.87	335	P	P	17 28 34.3	+0.1
QUIF	Quistinic	82.89	343	eP	P	17 28 33.1	-1.1
	comp=Z,106nm,1.1s,mb5.2						
QUIF	Quistinic	82.89	343	eP	P	17 28 33.1	-1.1
QUIF				pmax	pmax		
	comp=Z,53nm,1.1s,mb5.2						
PLAL	Pickwick Lake	82.99	45	⇓eP	P	17 28 34.5	-0.5
	comp=Z,6.7nm,0.6s,mb4.5						
MAIM		83.00	332	P	P	17 28 34.3	-0.6
FENE	Fenestrelle	83.04	335	P	P	17 28 35.6	+0.6
PCP	Pian Castagno	83.04	334	P	P	17 28 36.6	+1.5
PLDF	La Plantade	83.13	337	eP	P	17 28 36.7	+1.2
BNI	Bardonecchia	83.13	335	eP	P	17 28 35.9	+0.4
BNI				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.0						
BNI	Bardonecchia	83.13	335	eP	P	17 28 35.9	+0.4
	comp=Z,23nm,0.8s,mb5.0						
EVR	Evrytania	83.14	322	eP	P	17 28 35.0	-0.7
BHB	Bricherasio	83.15	335	P	P	17 28 35.2	-0.4
GDM	Grand'Maison	83.15	336	eP	P	17 28 37.8	+2.2
AGO	Saint Agoulin	83.18	338	eP	P	17 28 36.8	+1.1
TCF	Toulx Ste Croi	83.19	339	eP	P	17 28 36.2	+0.4
	comp=Z,77nm,1.1s,mb5.0						
TCF	Toulx Ste Croi	83.19	339	eP	P	17 28 36.2	+0.4
TCF				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.0						
GRN	Grenoble	83.22	336	eP	P	17 28 38.0	+2.1
MBDF	Montbardon	83.40	335	eP	P	17 28 36.7	-0.2
	comp=Z,30nm,0.8s,mb4.8						
MBDF	Montbardon	83.40	335	eP	P	17 28 36.7	-0.2
MBDF				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.8						
AQU	L'Aquila	83.41	330	eP	P	17 28 38.3	+1.3
AQU				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.9						
AQU	L'Aquila	83.41	330	eP	P	17 28 38.3	+1.3
	comp=Z,16nm,0.6s,mb4.9						
FIN	Finale Ligure	83.44	334	P	P	17 28 37.5	+0.4
ROB	Roburent	83.47	334	P	P	17 28 37.5	+0.3
MFF	Saint Martin d	83.47	340	eP	P	17 28 37.7	+0.5
	comp=Z,141nm,0.9s,mb5.4						
MFF	Saint Martin d	83.47	340	eP	P	17 28 37.7	+0.5
MFF				pmax	pmax		
	comp=Z,71nm,0.9s,mb5.4						
ORIF	Oris-en-Rattie	83.48	336	eP	P	17 28 37.6	+0.3
	comp=Z,108nm,0.8s,mb5.3						
ORIF	Oris-en-Rattie	83.48	336	eP	P	17 28 37.6	+0.3
ORIF				pmax	pmax		
	comp=Z,54nm,0.8s,mb5.3						
ZFRI	Zfri	83.48	308	P	P	17 28 38.5	+0.9
HRV	Harvard--Oak R	83.49	30	⇓eP	P	17 28 37.4	0.0
HRV				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.0						
HRV	Harvard--Oak R	83.49	30	⇓eP	P	17 28 37.4	0.0
	comp=Z,29nm,0.9s,mb5.0						
PYM	Petit Puy Mans	83.49	338	eP	P	17 28 38.6	+1.3
KLBR	Kellerberrin	83.51	208	eP	P	17 28 37.8	+0.1
	comp=Z,13nm,0.7s,mb4.8						
COLF	Collangettes	83.53	337	eP	P	17 28 38.4	+1.0
LCHF	La Chataignera	83.54	341	eP	P	17 28 38.6	+1.2
SURF	Saint Ours	83.61	335	eP	P	17 28 39.9	+2.1
PPT	Papeete	83.62	124	LR	LR	18 05 39.6	
	comp=Z,83nm,18.2s,baz=331,slow=35						
KZIT	Kziot	83.62	309	P	P	17 28 38.9	+0.6
ENR	Entracque	83.67	334	P	P	17 28 37.0	-1.1
STV2	Anna di Valdie	83.68	334	P	P	17 28 37.9	-0.2
STV	Sta Anna Valdi	83.68	334	P	P	17 28 37.5	-0.7
MONE	Monesi	83.70	334	P	P	17 28 37.9	-0.4
PRNI	Paran	83.73	308	P	P	17 28 39.8	+1.0
IMI	Imperia	83.81	334	P	P	17 28 39.1	+0.2
SWET	Sewanee	83.82	43	⇓eP	P	17 28 38.7	-0.5
SWET				epP	pP	17 29 16.6	-1.4
SWET				i	pP	17 29 20.8	+2.9
TZTN	Tazewell	83.83	41	eP	P	17 28 39.2	0.0
SAOF	Saorge	83.84	334	eP	P	17 28 40.1	+1.1
AUTN	L'Aution	83.87	334	eP	P	17 28 39.9	+0.7
VIVF	Saint-Julien-l	83.88	336	eP	P	17 28 39.4	+0.3
	comp=Z,96nm,0.9s,mb5.2						
VIVF	Saint-Julien-l	83.88	336	eP	P	17 28 39.4	+0.3
VIVF				pmax	pmax		
	comp=Z,48nm,0.9s,mb5.2						
TOUF	Mont Tournerai	83.91	334	eP	P	17 28 40.3	+1.0
FRNF	Fournols	83.94	338	eP	P	17 28 40.6	+1.1
SBF	Sospel	83.99	334	eP	P	17 28 39.9	+0.2
	comp=Z,159nm,0.8s,mb5.5						
SBF	Sospel	83.99	334	eP	P	17 28 39.9	+0.2
SBF				pmax	pmax		
	comp=Z,80nm,0.8s,mb5.5						
BRYW	Bryant College	84.02	30	eP	P	17 28 40.1	+0.2
	comp=Z,42nm,0.6s,mb5.3						
MVIF	Mont Vial	84.05	334	eP	P	17 28 40.8	+0.8
AFFS	'Afif	84.08	299	P	P	17 28 41.7	+1.0
REVF	Revere	84.12	334	eP	P	17 28 41.4	+1.0
FWV	Forest Hill	84.17	39	eP	P	17 28 40.9	+0.1
AQBJ	Aqaba	84.19	308	P	P	17 28 42.1	+1.0
MBH	Mount Berech	84.22	308	P	P	17 28 42.2	+1.0
SDMD	Soldier's Deli	84.25	35	eP	P	17 28 40.9	-0.3
VLS	Valsamata	84.28	323	eP	P	17 28 41.0	-0.3
RJF	Les Rejaudoux	84.29	339	eP	P	17 28 40.7	-0.5
	comp=Z,113nm,1.2s,mb5.2						
RJF	Les Rejaudoux	84.29	339	eP	P	17 28 40.7	-0.5
RJF				pmax	pmax		
	comp=Z,57nm,1.2s,mb5.2						
EIL	Elat	84.29	308	P	P	17 28 42.6	+1.0
EIL	Elat	84.29	308	⇓iP	P	17 28 42.6	+1.0
	comp=Z,76nm,0.9s,mb5.4						
MUN	Mundaring	84.37	209	eP	P	17 28 42.2	+0.2
	comp=Z,18nm,1.7s,mb4.5						
MUN	Mundaring	84.37	209	eP	P	17 28 42.2	+0.2
MUN				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.5						
JMQS	Jabal Moqyreh	84.40	307	P	P	17 28 43.6	+1.4
ELN	Prospectdale	84.49	39	eP	P	17 28 42.0	-0.5
FRF	La Foret Royal	84.50	335	eP	P	17 28 41.8	-0.5
	comp=Z,88nm,1.1s,mb5.1						
FRF	La Foret Royal	84.50	335	eP	P	17 28 41.8	-0.5
FRF				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.1						
CAF	Calviac	84.50	338	eP	P	17 28 42.9	+0.6
VLI	Veliai	84.50	320	eP	P	17 28 41.2	-1.3
NPS	Neapolis	84.51	318	eP	P	17 28 42.0	-0.5
ALWS	Ilw as Safayha	84.51	308	P	P	17 28 44.0	+1.3
ITM	Ithomi	84.56	321	eP	P	17 28 42.0	-0.7
JMOS	Jabal al Moall	84.60	308	P	P	17 28 44.5	+1.3
BLA	Blacksburg	84.65	39	eP	P	17 28 43.0	-0.2
BLA				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.1						
BLA	Blacksburg	84.65	39	eP	P	17 28 43.0	-0.2
	comp=Z,34nm,0.9s,mb5.1						
PGF	Pioggiola	84.70	333	eP	P	17 28 43.2	-0.1
	comp=Z,47nm,0.9s,mb4.9						
PGF	Pioggiola	84.70	333	eP	P	17 28 43.2	-0.1
PGF				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.9						
LMR	La Mourre	84.75	335	eP	P	17 28 43.2	-0.3
	comp=Z,114nm,0.9s,mb5.3						
LMR	La Mourre	84.75	335	eP	P	17 28 43.2	-0.3
LMR				pmax	pmax		
	comp=Z,57nm,0.9s,mb5.3						
HAQS	Haql	84.79	308	P	P	17 28 45.2	+1.1
XRY	Khrisi	84.79	317	eP	P	17 28 44.0	0.0
LASF	Ste Croix	84.82	337	eP	P	17 28 43.9	0.0
LFF	La Frestale	84.82	339	eP	P	17 28 43.7	-0.2
	comp=Z,62nm,0.6s,mb5.2						
LFF	La Frestale	84.82	339	eP	P	17 28 43.7	-0.2
LFF				pmax	pmax		
	comp=Z,31nm,0.6s,mb5.2						
KYTH	Kithira	84.83	320	eP	P	17 28 43.0	-1.1
KBRS	Khaybar	84.87	303	P	P	17 28 46.1	+1.5
NWAO	Narrogin (SRO)	84.91	208	P	P	17 28 45.2	+0.5
	comp=Z,12nm,0.5s,mb4.9,baz=58,slow=5.5,SNR=22						
NWAO	Narrogin (SRO)	84.91	208	P	P	17 28 45.2	+0.5
TIP	Timpagrande	84.96	326	⇓eP	P	17 28 44.7	0.0
LRAL	Lakeview Retre	85.08	45	eP	P	17 28 45.1	-0.4
	comp=Z,6.8nm,0.8s,mb4.4						
BDAS	Al Bad'	85.18	307	P	P	17 28 47.1	+1.1
TAYS	Tayyib Ism	85.21	307	P	P	17 28 47.3	+1.1
MTLF	Montolieu	85.94	337	eP	P	17 28 49.6	+0.2
	comp=Z,37nm,0.7s,mb4.9						
MTLF	Montolieu	85.94	337	eP	P	17 28 49.6	+0.2
MTLF				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.9						
FILF	Fillols	86.58	337	eP	P	17 28 53.4	+0.9
MLS	Moulis	86.59	338	eP	P	17 28 53.1	+0.5
EJON	La Jonquera	86.59	337	P	P	17 28 54.5	+1.9
	comp=Z,52nm,1.3s,mb5.2						
EPF	Esparros	86.71	339	eP	P	17 28 53.0	-0.1
	comp=Z,38nm,0.9s,mb4.9						
EPF	Esparros	86.71	339	eP	P	17 28 53.0	-0.1
EPF				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.9						
VALF	Valcebollere	86.87	337	eP	P	17 28 55.1	+1.2
RESF	Ens	86.92	339	eP	P	17 28 55.6	+1.4
VIEF	Viey	86.93	339	eP	P	17 28 55.2	+1.0
EALK	Alkurruntz	86.98	340	P	P	17 28 54.4	0.0
	comp=Z,55nm,0.9s,mb5.4						
SJPF	Ste Jean	87.02	340	eP	P	17 28 54.5	-0.1
ETSF	Etsaut	87.06	339	eP	P	17 28 55.1	+0.3
	comp=Z,45nm,0.7s,mb5.1						
ETSF	Etsaut	87.06	339	eP	P	17 28 55.1	+0.3
ETSF				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.1						
ELAN	Lanestosa	87.41	341	P	P	17 28 56.1	-0.3
	comp=Z,46nm,1.2s,mb5.2						
EMIR	Miracle	87.45	337	P	P	17 28 57.2	+0.5
	comp=Z,32nm,1.0s,mb5.1						
EGRA	Graus	87.50	338	P	P	17 28 57.9	+1.0
	comp=Z,33nm,1.0s,mb5.1						
EARI	Arriondas	87.72	343	P	P	17 28 57.6	-0.3
	comp=Z,76nm,1.5s,mb5.3						
ECRI	Cripan	87.79	340	P	P	17 28 58.6	+0.3
	comp=Z,9.3nm,0.5s,mb4.9						
EPON	Pontenova	88.08	344	P	P	17 28 58.7	-1.0
	comp=Z,84nm,0.9s,mb5.6						
EPOB	Poblet	88.10	338	P	P	17 28 59.9	+0.1
	comp=Z,40nm,1.0s,mb5.2						
ESAC	San Caprasio	88.15	339	P	P	17 29 00.8	+0.7
	comp=Z,109nm,1.0s,mb5.6						
STS	Santiago	88.76	345	P	P	17 29 02.3	-0.6
STS				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.1						
STS	Santiago	88.76	345	P	P	17 29 02.3	-0.7
	comp=Z,13nm,0.5s,mb5.1						
EMAZ	Mazaricos	88.78	345	P	P	17 29 01.0	-2.0
	comp=Z,98nm,1.2s,mb5.6						
ERUA	La Rua	88.98	344	P	P	17 29 03.7	-0.2
	comp=Z,17nm,0.7s,mb5.1						
ETOS	Mallorca	89.10	336	P	P	17 29 03.6	-1.0
	comp=Z,35nm,1.7s,mb5.0						
ECAL	Calabor	89.33	343	P	P	17 29 05.0	-0.7
	comp=Z,46nm,1.3s,mb5.2						
EMOS	Mosqueruela	89.43	338	P	P	17 29 06.2	+0.1
	comp=Z,14nm,0.6s,mb5.1						
PBRG	Braganca	89.47	343	eP	P	17 29 05.6	-0.6
	comp=Z,28nm,1.5s,mb5.0						
EZAM	Zamans	89.50	345	P	P	17 29 06.3	-0.1
EZAM				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
EZAM	Zamans	89.50	345	P	P	17 29 06.3	-0.1
	comp=Z,14nm,0.6s,mb5.1						
ELOB	Lobios	89.66	344	P	P	17 29 06.4	-0.7
	comp=Z,5.3nm,0.4s,mb4.8						
PVRL	Vila Real	90.17	344	eP	P	17 29 09.2	-0.4
	comp=Z,60nm,0.7s,mb5.6						
EIBI	Ibiza	90.20	337	P	P	17 29 10.3	+0.6
	comp=Z,35nm,0.8s,mb5.3						
CMAH	Djebel Manchou	90.58	331	P	P	17 29 11.5	-0.1
PVIS	Viseu	90.74	344	eP	P	17 29 11.9	-0.4
	comp=Z,33nm,0.8s,mb5.4						
ESDC	Sonseca Array	90.92	341	P	P	17 29 12.7	-0.4
	comp=Z,5.9nm,0.6s,mb4.8,baz=13,slow=3.8,SNR=33						
ESLA	Sonseca Array	90.92	341	⇓eP	P	17 29 12.5	-0.7
	comp=Z,6.5nm,1.3s,mb4.5						
MTE	Manteigas	90.98	343	⇓iP	P	17 29 12.7	-0.7
	comp=Z,25nm,0.6s,mb5.4						
MTE	Manteigas	90.98	343	eP	P	17 29 13.0	-0.4
	comp=Z,41nm,0.8s,mb5.5						
CKFL	Kef-Lekhel	91.02	332	P	P	17 29 14.0	+0.3
DFRA	Djebel Bou Aff	91.16	332	P	P	17 29 16.0	+1.7
CASM	Ain Smara	91.22	332	P	P	17 29 14.5	-0.1
ETOB	Tobarra	91.32	339	P	P	17 29 15.0	0.0
	comp=Z,35nm,1.1s,mb5.3						
PCBR	Castelo Branco	91.51	343	eP	P	17 29 15.1	-0.8
	comp=Z,25nm,1.0s,mb5.2						
EVIA	Vianos	91.56	339	P	P	17 29 16.5	+0.4
	comp=Z,8.6nm,0.5s,mb5.0						
SET	Setif	91.63	333	P	P	17 29 19.0	+2.5
CKHR	Kef el Ahmar	91.76	332	P	P	17 29 18.0	+0.9
EBAN	Banos Encina	92.32	340	P	P	17 29 19.6	0.0
	comp=Z,9.5nm,1.0s,mb4.8						
EBAD	Badajoz	92.46	343	P	P	17 29 18.8	-1.5
	comp=Z,19nm,0.9s,mb5.1						
EADA	Adamuz	92.50	341	P	P	17 29 19.9	-0.5
	comp=Z,6.6nm,0.9s,mb4.7						
ECAB	El Cabril	92.78	341	P	P	17 29 21.1	-0.6
	comp=Z,29nm,1.1s,mb5.3						
ELUQ	Luque	93.01	340	P	P	17 29 22.8	0.0
	comp=Z,8.5nm,1.0s,mb4.8						
PBEJ	Beja	93.34	343	eP	P	17 29 23.7	-0.6
	comp=Z,17nm,1.3s,mb5.0						
EMIN	Mina Concepcio	93.34	342	P	P	17 29 23.3	-1.0
	comp=Z,21nm,0.9s,mb5.3						
ELOJ	Sierra Loja	93.38	340	P	P	17 29 24.1	-0.4
	comp=Z,5.2nm,0.6s,mb4.8						
ERON	Agron	93.42	340	P	P	17 29 24.0	-0.7
	comp=Z,11nm,0.5s,mb5.2						
ATD	Arta Tunnel	93.49	291	P	P	17 29 26.7	+1.2
	comp=Z,14nm,0.8s,mb5.2,baz=30,slow=5.3,SNR=7.0						
EGRO	El Granado	93.73	343	P	P	17 29 25.3	-0.8
	comp=Z,9.6nm,0.7s,mb5.0						
PTEO	Sao Teotonio	93.97	344	eP	P	17 29 26.9	-0.2
	comp=Z,39nm,1.1s,mb5.5						
ESPR	Espera	94.03	341	P	P	17 29 27.5	+0.1
	comp=Z,18nm,1.0s,mb5.2						
DBIC	Dimbokro	122.44	331	PKP	PKPdf	17 35 04.0	+0.8
	comp=Z,12nm,0.6s,baz=24,slow=2.3,SNR=21						
LSZ	Lusaka	123.07	284	ePKPdf	PKPdf	17 35 06.1	+1.8
LSZ				ePP	PP	17 36 39.8	-11
VNDA	Vanda	124.29	177	PKP	PKPdf	17 35 06.2	+0.7
	comp=Z,4.3nm,0.7s,baz=317,slow=4.3,SNR=51						
MAW	Mawson	131.40	211	ePKIKP	PKPdf	17 35 19.6	+0.5
MAW	Mawson	131.40	211	SKPbc		17 38 30.8	
	comp=Z,14nm,1.1s,baz=73,slow=5.0,SNR=14						
SAML	Samuel	132.53	48	ePKPdf	PKPdf	17 35 23.6	+0.9
BOSA	Boshof	134.08	273	PKP	PKPdf	17 35 27.0	+1.9
	comp=Z,4.3nm,0.6s,baz=54,slow=2.8,SNR=9.0						
BOSA				PP	PP	17 37 58.0	-3.7
	comp=Z,4.2nm,0.8s,baz=91,slow=9.9,SNR=4.0						
BOSA	Boshof	134.08	273	PKP	PKPdf	17 35 27.0	+1.9
BOSA				PP	PP	17 37 58.0	-3.7
LPAZ	La Paz	135.79	60	PKP	PKPdf	17 35 30.9	+2.4
	comp=Z,5.0nm,0.9s,baz=4.9,slow=5.1,SNR=14						
LPAZ	La Paz	135.79	60	ePKPdf	PKPdf	17 35 30.4	+1.8
LPAZ				ePKPdf		17 36 10.9	
LVC	Limon Verde	140.11	66	ePKPdf	PKPdf	17 35 36.9	+0.6
BDFB	Brasilia	145.24	33	PKIKP	PKPdf	17 35 47.0	+1.6
BDFB				pmax	pmax		
	comp=Z,15nm,0.5s						
BDFB	Brasilia	145.24	33	PKPbc	PKPbc	17 35 47.0	+1.1
	comp=Z,15nm,0.5s,baz=308,slow=3.4,SNR=21						
NVL	N'lazarevskaya	149.00	205	⇓iPKIKP	PKPdf	17 35 54.6	+4.6
NVL				i *PP		17 35 58.6	
MAIT	Maitri	149.03	205	ePKP	PKPdf	17 35 56.1	+6.1
CPUP	Villa Florida	149.88	57	PKP2	PKPdf	17 35 59.2	+6.5
CPUP	Villa Florida	149.88	57	ePKPdf	PKPdf	17 35 54.0	+1.3
CPUP				ePKPbc	PKPdf	17 35 59.0	+6.4
CPUP				ePKPab	PKPab	17 36 04.4	-1.6
CPUP				epPKPdf		17 36 38.4	
PLCA	Paso Flores	149.93	93	PKIKP	PKPdf	17 35 53.2	+0.9
PLCA						17 36 38.0	
PLCA				pmax	pmax		
	comp=Z,23nm,0.7s						
PLCA	Paso Flores	149.93	93	PKP	PKPdf	17 35 53.2	+0.9
	comp=Z,4.9nm,1.2s,baz=252,slow=5.5,SNR=3.9						
PLCA				PKPbc	PKPdf	17 35 59.2	+6.9
	comp=Z,23nm,0.7s,baz=261,slow=2.8,SNR=91						
PLCA				pPKPbc		17 36 38.0	
	comp=Z,8.1nm,0.8s,baz=281,slow=3.5,SNR=3.4						
PLCA	Paso Flores	149.93	93	PKPdf	PKPdf	17 35 52.9	+0.6
PLCA				i PKPbc	PKPdf	17 35 59.2	+6.9
PLCA				epPKPdf		17 36 37.2	
SNAA	Sanae	152.14	198	P	PKPdf	17 35 56.5	+1.8
SNAA	Sanae	152.14	198	⇓i	PKPdf	17 36 02.5	+7.8
SNAA	Sanae	152.14	198		PKPdf	17 36 03.9	+9.2
SNAA	Sanae	152.14	198			17 36 41.4	
SNAA	Sanae	152.14	198			17 37 05.0	
SNAA	Sanae	152.14	198	PKP	PKPdf	17 35 55.7	+1.0
	comp=Z,0.7nm,0.9s,baz=128,slow=2.2,SNR=6.0						
SNAA				PKPbc	PKPdf	17 36 02.7	+8.0
	comp=Z,6.1nm,0.6s,baz=185,slow=2.8,SNR=122						
SNAA	Sanae	152.14	198	ePKPdf	PKPdf	17 35 55.6	+0.9
SNAA				ePKPbc	PKPdf	17 36 02.5	+7.8
VNA2	Neumayer--Watz	153.64	196	⇓i	PKPdf	17 36 07.3	+11
VNA2	Neumayer--Watz	153.64	196		PKPab	17 36 14.5	-6.0
VNA2	Neumayer--Watz	153.64	196		PKPab	17 36 17.6	-2.9
VNA2	Neumayer--Watz	153.64	196		PKPab	17 36 20.9	+0.4
VNA2	Neumayer--Watz	153.64	196			17 37 01.6	
VNA2	Neumayer--Watz	153.64	196	PKPdf	PKPdf	17 35 59.7	+2.9
VNA2				⇓iP		17 36 07.3	
VNA2				P		17 36 14.5	
VNA2				P		17 36 17.6	
VNA2				P		17 36 20.9	
VNA3	Neumayer Olymp	153.78	194	⇓i	PKPdf	17 36 07.1	+10
VNA3	Neumayer Olymp	153.78	194	⇑i	PKPab	17 36 21.3	+0.2
VNA3	Neumayer Olymp	153.78	194			17 36 50.2	
VNA3	Neumayer Olymp	153.78	194			17 37 02.9	
VNA3	Neumayer Olymp	153.78	194	PKPdf	PKPdf	17 35 59.5	+2.5
VNA3				⇓iP		17 36 07.1	
VNA3				⇑iP		17 36 21.3	
VNA1	Neumayer--Stat	154.03	196	⇑i	PKPdf	17 36 08.4	+11
VNA1	Neumayer--Stat	154.03	196		PKPab	17 36 22.8	+0.7
VNA1	Neumayer--Stat	154.03	196	⇑iPKPdf	PKPdf	17 36 01.1	+3.8
VNA1				⇑iP		17 36 08.4	
VNA1				P		17 36 22.8	

*MDD **19** 17:30:55.4±2.8, 36.61N×9.67W, mbLg2.6/10, Error ellipse: s-maj=23.9km s-min=17.6km az=41.0, PRXIMO*

*NEIC **19** 17:30:55.6, 36.52N×9.79W, h18km, ML2.2(LIS), MN2.7(MDD), After MDD.*

*INMG **19** 17:30:56.5±0.8, 36.59N×9.70W, h5km, ML2.2, Error ellipse: s-maj=6.1km s-min=3.7km az=55.0*

*CSEM **19** 17:30:57.0±0.7, 36.40N×9.54W, h40km, mb2.7, Error ellipse: s-maj=13.1km s-min=9.0km az=29.0*

ISC 19 17:30:56.3±1.4**, 36.71N**±0.06×**9.54W**±0.08**, h10km, n38, σ1§32**/63**, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.06	38	ePn	Pn	17 31 18.4	+1.2
PTEO				eSn	Sn	17 31 35.0	+3.0
PTEO	Sao Teotonio	1.06	38	eP	Pb	17 31 18.8	+2.5
PTEO				eS	Sb	17 31 35.7	+5.7
	16nm,0.1s						
PTEO	Sao Teotonio	1.06	38	ePn	Pn	17 31 18.4	+1.3
PTEO				eSn	Sn	17 31 35.0	+3.0
EGRO	El Granado	1.84	63	P	Pn	17 31 29.0	+0.7
EGRO				S	Sn	17 31 53.6	+1.8
EGRO	El Granado	1.84	63	P	Pn	17 31 29.0	+0.7
	0.9nm,0.1s,SNR=8.3						
EGRO				S	Sn	17 31 53.6	+1.8
	4.5nm,0.1s,SNR=14						
EGRO	El Granado	1.84	63	P	Pn	17 31 29.0	+0.7
	0.9nm,0.1s,SNR=8.3						
EGRO				S	Sn	17 31 53.6	+1.8
	4.5nm,0.1s,SNR=14						
PBEJ	Beja	1.87	45	ePn	Pn	17 31 29.5	+0.8
PBEJ				eSn	Sn	17 31 54.9	+2.2
PBEJ	Beja	1.87	45	ePn	Pn	17 31 30.1	+1.3
PBEJ				eSn	Sn	17 31 55.1	+2.4
	6.5nm,0.2s						
PBEJ	Beja	1.87	45	ePn	Pn	17 31 29.5	+0.7
PLOU	Loures	2.20	8	ePn	Pn	17 31 33.3	-0.1
PLOU				eSn	Sn	17 32 01.6	+0.8
	25nm,0.3s						
PLOU	Loures	2.20	8	ePn	Pn	17 31 33.3	-0.1
PLOU				eSn	Sn	17 32 01.5	+0.7
EMIN	Mina Concepcio	2.52	64	P	Pn	17 31 38.5	+0.4
EMIN				S	Sn	17 32 09.9	+0.7
EMIN	Mina Concepcio	2.52	64	P	Pn	17 31 38.5	+0.5
	0.6nm,0.1s,SNR=6.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EMIN				S	Sn	17 32 09.9	+0.7
	1.9nm,0.1s,SNR=7.7						
EMIN	Mina Concepcio	2.52	64	P	Pn	17 31 38.5	+0.5
	0.6nm,0.1s,SNR=6.9						
EMIN				S	Sn	17 32 09.9	+0.8
	1.9nm,0.1s,SNR=7.7						
EBAD	Badajoz	2.86	44	P	Pn	17 31 43.0	+0.1
EBAD				S	Sn	17 32 19.4	+1.6
EBAD	Badajoz	2.86	44	P	Pn	17 31 42.3	-0.7
	2.1nm,0.1s,SNR=12						
EBAD				S	Sn	17 32 19.4	+1.6
	3.6nm,0.1s,SNR=9.4						
EBAD	Badajoz	2.86	44	P	Pn	17 31 43.0	+0.1
	2.1nm,0.1s,SNR=12						
EBAD				S	Sn	17 32 19.4	+1.6
	3.6nm,0.1s,SNR=9.4						
ESPR	Espera	2.96	86	S	Sn	17 32 20.1	-0.2
	13nm,0.3s,SNR=4.0						
ESPR	Espera	2.96	86	S	Sn	17 32 20.1	-0.2
	13nm,0.3s,SNR=4.0						
PTOM	Tomar	3.04	17	eSn	Sn	17 32 22.0	-0.2
	9.2nm,0.1s						
PCBR	Castelo Branco	3.52	27	ePn	Pn	17 31 52.3	0.0
PCBR				eSn	Sn	17 32 33.0	-1.5
PCBR	Castelo Branco	3.52	27	eSn	Sn	17 32 34.6	+0.1
PCBR	Castelo Branco	3.52	27	ePn	Pn	17 31 52.3	0.0
PCBR				eSn	Sn	17 32 33.0	-1.5
ECAB	El Cabril	3.56	66	P	Pn	17 31 52.7	-0.1
	0.5nm,0.1s,SNR=7.9						
ECAB				S	Sn	17 32 33.9	-1.4
	3.0nm,0.2s,SNR=6.7						
ECAB	El Cabril	3.56	66	P	Pn	17 31 52.7	0.0
	0.5nm,0.1s,SNR=7.9						
ECAB				S	Sn	17 32 33.9	-1.4
	3.0nm,0.2s,SNR=6.7						
MTE	Manteigas	4.00	22	eSn	Sn	17 32 44.2	-2.5
MTE	Manteigas	4.00	22	eSn	Sn	17 32 46.5	-0.2
	4.0nm,0.4s						
MTE	Manteigas	4.00	22	eSn	Sn	17 32 44.2	-2.5
PVIS	Viseu	4.20	17	eSn	Sn	17 32 50.3	-1.4
	6.3nm,0.1s						
EADA	Adamuz	4.21	68	P	Pn	17 32 02.2	+0.1
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	17 32 50.1	-1.8
	1.7nm,0.1s,SNR=7.9						
EADA	Adamuz	4.21	68	P	Pn	17 32 02.2	+0.1
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	17 32 50.1	-1.8
	1.7nm,0.1s,SNR=7.9						
ELOJ	Sierra Loja	4.34	83	P	Pn	17 32 02.6	-1.3
	1.5nm,0.2s,SNR=7.9						
ELOJ				S	Sn	17 32 51.1	-4.1
	1.8nm,0.1s,SNR=7.9						
EQES	Quesada	5.28	76	S	Sn	17 33 17.0	-1.8
	1.1nm,0.2s,SNR=4.0						
EQES	Quesada	5.28	76	S	Sn	17 33 17.0	-1.8
	1.1nm,0.2s,SNR=4.0						
ELOB	Lobios	5.28	12	S	Sn	17 33 14.0	-4.8
	3.0nm,0.2s,SNR=7.2						
ECAL	Calabor	5.66	22	P	Pn	17 32 21.4	-1.1
	0.5nm,0.1s,SNR=7.9						
ECAL				S	Sn	17 33 26.0	-2.4
	2.8nm,0.2s,SNR=7.9						
ECAL	Calabor	5.66	22	P	Pn	17 32 21.4	-1.2
	0.5nm,0.1s,SNR=7.9						
ECAL				S	Sn	17 33 26.0	-2.4
	2.8nm,0.2s,SNR=7.9						
ERUA	La Rua	5.97	17	S	Sn	17 33 31.2	-5.0
	6.1nm,0.1s,SNR=7.9						

*NNC **19** 17:49:19.2±9.0, 37.88N×71.70E, h235km±111km, mpv2.9, Error ellipse: s-maj=140.0km s-min=81.3km az=64.0*

ISC 19 17:49:08.7±1.2**, 37.09N**±0.07×**72.2E**±0.2**, h200km, n4, σ0.83**/8**, 2C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THN	Thein Dam	5.49	147	eP	P	17 50 30.7	+0.6
THN				eS	S	17 51 32.6	-0.7
AAK	Ala-Archa	5.81	17	P	P	17 50 35.9	+1.6
AAK				⇓S	S	17 51 40.2	-0.7
	7.8nm,0.8s						
KK31	Karatay Array	6.14	349	⇑P	P	17 50 37.9	-0.6
	0.5nm,0.3s,baz=168,slow=14,SNR=28						
KK31				⇑S	S	17 51 42.1	-6.3
	7.4nm,0.5s,baz=182,slow=19,SNR=24						
AB31	Akbulak array	15.05	328	⇓P	P	17 52 32.3	-0.2
	0.6nm,0.7s,baz=218,slow=9.3,SNR=14						
AB31				⇓S	S	17 55 07.2	-6.7
	1.0nm,0.6s,baz=154,slow=22,SNR=5.9						

*NEIC **19** 18:02:52.8±0.4, 43.72N×105.24W, ML3.1, Error ellipse: s-maj=6.0km s-min=4.4km az=128.0, Suspected Mining explosion.*
NEIC 70 km [40 miles] SSE of Gillette.
*IDC **19** 18:02:52.4±2.2, 43.94N×105.58W, mb3.9/1, mb1 3.9/4, mb1mx3.5/23, mbtmp3.8/4, ML3.5/3, Error ellipse: s-maj=84.1km s-min=8.5km az=149.0*

ISC 19 18:02:51.4±0.6**, 43.72N**±0.05×**105.26W**±0.07**, n33, σ0.96**/37**, mb4.1**/1**, 1C, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.97	65	⇑eP	Pb	18 03 11.2	+0.4
RWWY	Rawlins	2.48	216	ePn	Pn	18 03 35.0	+1.3
LAO	LASA Array	3.05	347	ePn	Pn	18 03 42.2	+0.4
BW06	Boulder Array	3.28	255	ePn	Pn	18 03 44.9	-0.2
PDAR	Pinedale Array	3.28	255	Pn	Pn	18 03 45.2	+0.2
	3.4nm,0.3s,baz=71,slow=15,SNR=84						
PDAR				Lg		18 04 29.8	
	10nm,0.3s,baz=61,slow=30,SNR=8.9						
GCMT	Greycliff	3.76	305	ePn	Pn	18 03 52.2	+0.3
LOHW	Long Hollow	3.88	270	ePn	Pn	18 03 53.9	+0.4
ISCO	Idaho Springs	3.92	184	ePn	Pn	18 03 54.8	+0.6
MOOW	Moose Ponds	3.97	272	ePn	Pn	18 03 56.3	+1.4
SNOW	Snow King Moun	4.00	268	ePn	Pn	18 03 55.5	+0.2
REDW	Red Top Meadow	4.08	267	ePn	Pn	18 03 56.4	0.0
YFT	Old Faithful	4.08	282	ePg	Pg	18 04 09.4	-3.5
IMW	Indian Meadow	4.11	274	ePn	Pn	18 03 58.0	+1.1
IMW				ePg	Pg	18 04 08.4	-5.0
TPAW	Teton Pass	4.14	269	ePn	Pn	18 03 57.8	+0.6
AHID	Auburn Hatcher	4.37	259	ePn	Pn	18 04 00.8	+0.2
RRI2	Red Ridge	4.42	267	ePn	Pn	18 04 01.4	+0.2
SMCO	Snowmass	4.71	196	Pn	Pn	18 04 05.6	+0.2
SMCO				ePg	Pg	18 04 19.2	-6.3
DGMT	Dagmar	4.81	8	ePn	Pn	18 04 07.4	+0.6
HWUT	Hardware Ranch	5.10	248	ePn	Pn	18 04 10.2	-0.8
TCUT	Toone Canyon	5.24	242	ePn	Pn	18 04 12.2	-0.6
DAU	Daniels Canyon	5.55	236	ePn	Pn	18 04 18.5	+1.3
SPUT	South Promonto	5.83	248	ePn	Pn	18 04 20.2	-1.0
HVU	Hansel Valley	5.86	253	ePn	Pn	18 04 20.7	-0.9
SRU	San Rafael	6.07	222	ePn	Pn	18 04 22.9	-1.7
SRU				ePb	Pb	18 04 39.6	+1.6
SRU				ePg	Pg	18 04 48.5	-4.0
PV01	Paradox Valley	6.11	205	ePn	Pn	18 04 24.8	-0.4
TMUT	Trail Mountain	6.28	227	ePn	Pn	18 04 27.1	-0.4
CHMT	Chamberlain Mo	6.48	302	ePn	Pn	18 04 29.0	-1.3
MSU	Marysvale	7.37	227	ePn	Pn	18 04 41.3	-1.5
ELK	Elko	7.98	252	Pn	Pn	18 04 51.7	+0.4
	0.3nm,0.3s,baz=52,slow=12,SNR=5.0						
ELK				Lg		18 07 00.5	
	0.1nm,0.3s,baz=184,slow=14,SNR=2.1						
ULM	Lac du Bonnet	9.15	41	Pn	P	18 05 03.2	-4.5
	2.0nm,0.3s,baz=234,slow=11,SNR=9.5						
ULM	Lac du Bonnet	9.15	41	Pn	P	18 05 03.2	-4.5
ARCES	ARCESS Array B	61.44	18	P	P	18 13 09.0	-2.2
	0.7nm,0.5s,mb4.1,baz=329,slow=5.3,SNR=8.8						
ARCES	ARCESS Array B	61.44	18	P	P	18 13 09.0	-2.2

IDC 19 18:11:23.3±1.6**, 18.04S×176.22W, h547km**±22km**, mb3.0**/3**, mb1 3.4**/4**, mb1mx3.1**/14**, mbtmp4.2**/4**, Error ellipse: s-maj=32.6km s-min=22.9km az=126.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.93	47	P	P	18 13 01.2	-0.6
	49nm,0.3s,baz=36,slow=23,SNR=14						
RAO	Raoul Island	11.27	188	P	P	18 13 54.5	-0.2
	114nm,0.3s,baz=56,slow=23,SNR=4.6						
URZ	Urewera	20.97	195	P	P	18 15 23.6	-5.7
	4.4nm,0.3s,baz=193,slow=22,SNR=14						
STKA	Stephens Creek	40.40	242	P	P	18 18 14.5	-0.7
	1.9nm,0.9s,baz=63,slow=9.0,SNR=7.0						
WRA	Warramunga Arr	46.65	259	P	P	18 19 02.4	-2.0
	1.1nm,0.4s,baz=96,slow=7.1,SNR=30						
VNDA	Vanda	60.50	185	P	P	18 20 39.7	-2.1
	1.0nm,0.9s,baz=28,slow=6.0,SNR=5.1						
BRTR	Keskin Array B	146.33	316	PKPbc	PKPbc	18 30 03.9	+1.6
	0.6nm,0.6s,baz=34,slow=5.2,SNR=4.1						
GERES	GERESS Array B	148.23	348	PKPbc	PKPdf	18 30 06.6	+3.4
	0.1nm,0.4s,baz=45,slow=1.9,SNR=3.7						

CASC 19 18:17:47.2±1.1**, 13.76N×91.02W, h33km**±4km**, MD3.8, 3C-5D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.68	53	⇓eP	Pn	18 18 00.3	-0.2
IXG				eS	Sb	18 18 10.8	+0.9
FUG	Fuego 3	0.70	14	⇓eP	Pn	18 18 01.3	+0.4
PCG	Pacaya	0.74	32	⇑eP	Pn	18 18 01.8	+0.4
PCG				eS	Sb	18 18 13.2	+1.6
TP2	Tecpan 2	1.01	360	⇓eP	Pn	18 18 06.1	+0.8
TP2				eS	Sn	18 18 20.6	+2.2
RBDL	Robledal	1.34	75	eP	Pn	18 18 27.7	+18
RBDL				eS	Sn	18 18 45.8	+19
RTR	El Retiro	1.34	84	eP	Pn	18 18 28.1	+18
RTR				eS	Sn	18 18 45.9	+19
SBLS	San Blas	1.36	87	⇑eP	Pn	18 18 27.9	+18
SBLS				eS	Sn	18 18 45.9	+19
SNJE	San Jose	1.38	86	⇓eP	Pn	18 18 28.2	+18
SNJE				eS	Sn	18 18 46.5	+19
BOQS	Boqueron	1.69	91	eP	Pn	18 18 33.2	+18
BOQS				eS	Sn	18 18 53.4	+18
MRL	Marmol	1.82	45	⇑eP	Pn	18 18 16.6	-0.3
MRL				eS	Sn	18 18 39.4	+0.3
LFRS	El Faro	1.91	94	⇓eP	Pn	18 18 35.6	+18
LFRS				eS	Sn	18 18 59.1	+18
LCBS	La Ceiba	1.98	93	eP	Pn	18 18 37.1	+18
LCBS				eS	Sn	18 19 01.4	+18

*NEIC **19** 18:42:09.6, 33.40S×68.89W, h9km, mb3.5/1, ML3.7(GUC), After GUC.*

GUC 19 18:42:09.6±0.8**, 33.40S×68.89W, h9km**±2km**, MD3.7, ML3.7, 9C-8D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FCH	Farellones	1.18	273	⇓iP	Pb	18 42 31.5	-0.2
FCH				i S	Sb	18 42 48.2	+1.3
FCH				AMP		18 42 51.1	
	comp=N,1µm,0.4s						
LMEL	Las Melosas	1.19	248	i P	Pb	18 42 31.6	-0.2
LMEL				i S	Sb	18 42 48.1	+1.0
LMEL				AMP		18 42 50.0	
	comp=N,3µm,0.4s						
SJCH	San Jose de Ma	1.25	259	⇓iP	Pb	18 42 32.1	-0.8
SJCH				i S	Sb	18 42 49.8	+0.8
SJCH				AMP		18 42 50.6	
	comp=N,3µm,0.3s						
FSR	Penalolen	1.38	266	⇓iP	Pn	18 42 35.0	-0.1
FSR				i S	Sb	18 42 54.0	+1.4
FSR				AMP		18 42 55.9	
	comp=E,4µm,0.3s						
PCH	Pirque	1.38	260	⇑iP	Pn	18 42 34.9	-0.2
CLCH	Cerro Calan	1.38	270	⇓iP	Pn	18 42 35.0	-0.1
CLCH				i S	Sb	18 42 53.8	+1.0
CLCH				AMP		18 42 56.7	
	comp=N,3µm,0.6s						
CLCH				AMP		18 42 58.6	
	comp=N,3µm,0.7s						
DSCH	Colegio Aleman	1.41	270	⇑iP	Pn	18 42 35.7	+0.1
DSCH				i S	Sb	18 42 55.1	+1.5
DSCH				AMP		18 42 57.5	
	comp=N,4µm,0.4s						
ANTU	Antumapu	1.47	263	⇑iP	Pn	18 42 36.5	0.0
ANTU				i S	Sb	18 42 57.1	+1.7
ANTU				AMP		18 42 57.7	
	comp=N,7µm,0.3s						
PEL	Peldehue	1.53	279	i P	Pn	18 42 37.6	+0.3
PEL				i S	Sb	18 42 58.2	+1.1
CHCH	Chadas Angostu	1.57	250	⇑iP	Pn	18 42 37.9	+0.1
CHCH				i S	Sb	18 42 59.9	+1.7
CICH	Cipreses	1.57	234	⇓iP	Pn	18 42 38.0	+0.1
CICH				i S	Sb	18 43 00.3	+1.9
CACH	El Canelo	1.60	243	⇑iP	Pn	18 42 38.7	+0.4
CACH				i S	Sb	18 43 00.8	+1.7
JACH	Jahuel	1.60	296	⇑iP	Pn	18 42 38.7	+0.3
JACH				i S	Sb	18 43 00.9	+1.6
RCDM	Rinconada Maip	1.61	266	i P	Pn	18 42 39.0	+0.6
RCDM				i S	Sb	18 43 01.5	+2.1
RCDM				AMP		18 43 02.1	
	comp=N,2µm,0.4s						
TACH	Talagante	1.73	261	⇑iP	Pn	18 42 40.4	+0.2
TACH				i S	Sn	18 43 04.8	+2.2
SCR	San Cristobal	1.77	266	⇓iP	Pn	18 42 36.2	-4.5
SCR				i S	Sn	18 42 56.8	-6.8
SCR				AMP		18 42 58.4	
	comp=N,905nm,0.6s						
ROCH	El Roble	1.83	283	⇑iP	Pn	18 42 42.8	+1.2
ROCH				i S	Sn	18 43 08.6	+3.4
ZON	Zonda	1.86	5	eP	Pn	18 42 39.5	-2.5
ZON				eS	Sn	18 43 06.5	+0.7
SFDO	San Fernando	2.14	235	eP	Pn	18 42 47.4	+1.3
SFDO				i S	Sn	18 43 14.8	+1.8
LNV	Longovilo	2.18	255	⇓iP	Pn	18 42 47.4	+0.9
LNV				i S	Sn	18 43 15.9	+1.9
LCCH	Las Cruces	2.25	267	⇑iP	Pn	18 42 48.4	+0.9
LCCH				i S	Sn	18 43 17.5	+1.9
PACH	Papudo	2.31	291	⇓iP	Pn	18 42 49.5	+1.0
PACH				i S	Sn	18 43 19.2	+1.9
TRQA	Tornquist	7.29	132	ePn	Pn	18 43 52.2	-6.7
TRQA				Sn	Sn	18 45 10.0	-13
PLCA	Paso Flores	7.44	190	ePn	Pn	18 43 59.5	-1.5
PLCA				eS	Sn	18 45 56.8	+30
LPAZ	La Paz	17.05	2	eP	P	18 46 07.5	-2.4
	comp=N,4.4nm,1.0s						

*JMA **19** 18:59:55.6±0.1, 29.18N×139.74E, h427km, M4.0*
*MOS **19** 18:59:55.3±0.8, 29.24N×139.36E, h410km, mb3.9/7, Error ellipse: s-maj=20.7km s-min=8.3km az=114.4*
*IDC **19** 18:59:55.5±0.7, 29.20N×139.35E, h395km±8km, mb3.7/15, mb1 3.8/18, mb1mx3.7/24, mbtmp4.4/18, Error ellipse: s-maj=17.5km s-min=9.3km az=71.0*
*NEIC **19** 18:59:57.1±0.9, 29.29N×139.49E, h413km±9km, mb4.0/11, Error ellipse: s-maj=11.4km s-min=8.9km az=99.0*
*BJI **19** 18:59:57.1, 29.30N×139.50E, h413km, mB4.8, mb4.4*

ISC 19 18:59:55.5±0.3**, 29.18N**±0.04×**139.59E**±0.07**, h419km**±4km**, n75, σ0.98**/82**, mb4.0**/33**, 1C-1D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.09	131	P	P	19 01 01.2	-0.1
	133nm,0.3s,baz=292,slow=22,SNR=48						
CBIJ				S	S	19 01 52.6	-0.5
	109nm,0.3s,baz=118,slow=23,SNR=6.1						
CBIJ	Chichi jima	3.09	131	P	P	19 01 01.1	-0.2
JHHJ	Haha-jima-NKT	3.42	137	P	P	19 01 03.9	-0.1
JHHJ				S	S	19 01 57.7	-0.4
JHJ2	Mitsune	3.93	3	P	P	19 01 09.0	+0.4
JHJ2				eS	S	19 02 05.8	-0.2
JHJ	Hachijo jima 2	3.93	2	P	P	19 01 07.5	-1.2
	17nm,0.3s,baz=261,slow=20,SNR=7.8						
JHJ				S	S	19 02 04.6	-1.5
	28nm,0.3s,baz=239,slow=23,SNR=8.8						
JIM2	Oshima 3	5.53	359	eS	S	19 02 35.7	+1.4
BSO1	Boso 1	5.59	12	P	P	19 01 24.9	-0.1
BSO1				eS	S	19 02 34.9	-0.5
JIE	Ise	5.75	335	P	P	19 01 29.0	+2.3
JOD2	Odawara 2	6.08	356	P	P	19 01 32.8	+2.5
JRY	Ryogami san	6.84	355	P	P	19 01 38.1	-0.6
JTO	Tosashimizu	6.88	304	P	P	19 01 39.9	+0.8
MJAR	Matsushiro Arr	7.43	351	P	P	19 01 43.5	-1.8
	1.1nm,0.3s,baz=174,slow=10,SNR=10						
MJAR	Matsushiro Arr	7.43	351	P	P	19 01 43.5	-1.8
MAJO	Matsushiro	7.44	351	eP	P	19 01 43.3	-2.0
MAJO				eS	S	19 03 13.3	+1.3
MAT	Matsushiro	7.44	351	eP	P	19 01 44.0	-1.3
MAT				eS	S	19 03 07.0	-5.0
MAT	Matsushiro	7.44	351	P	P	19 01 44.1	-1.2
MAT				eS	S	19 03 07.0	-5.0
JHS	Saijyo	7.99	318	P	P	19 01 52.6	+1.1
JNU	Nakatsue	8.43	300	P	P	19 01 57.5	+1.0
	0.9nm,0.3s,baz=110,slow=9.3,SNR=14						
JSJ	Shimokoshiki	8.88	289	P	P	19 02 02.3	+0.7
JMK	Ichinoseki	9.84	7	P	P	19 02 13.1	+0.5
JTU	Tsushima	10.17	304	P	P	19 02 16.6	+0.2
JOW	Kunigami	10.27	260	P	P	19 02 18.8	+1.2
	4.4nm,0.3s,baz=100,slow=11,SNR=15						
NEM2	Nemuro 2	15.00	18	P	P	19 03 10.3	+1.2
MDJ	Mudanjiang	17.34	335	P	P	19 03 33.3	+0.5
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,136nm,3.9s						
SNY	Shenyang	18.11	318	⇑P	P	19 03 42.9	+2.4
CIT	Chita	29.90	327	eP	P	19 05 28.3	0.0
SONM	Songino Array	31.63	315	P	P	19 05 43.1	-0.1
	comp=Z,2.7nm,0.4s,mb3.9,baz=126,slow=8.7,SNR=44						
GTA	Gaotai	34.17	298	eP	P	19 06 04.3	-0.6
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb3.8						
ZAK	Zakamensk	34.54	318	⇓iP	P	19 06 07.8	-0.1
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.7						
PMG	Port Moresby	39.05	168	P	P	19 06 47.4	+1.8
	comp=Z,24nm,1.1s,mb4.4,baz=180,slow=5.0,SNR=3.7						
ZAL	Zalesovo	46.43	318	P	P	19 07 42.0	-1.9
	comp=Z,3.4nm,0.3s,mb4.1,baz=37,slow=7.0,SNR=8.5						
GUN	Gumba	46.85	282	eP	P	19 07 48.0	+0.5
	comp=Z,38nm,0.7s,mb4.8						
PKI	Pulchoki	47.34	282	eP	P	19 07 50.7	-0.6
MKAR	Makanchi Array	47.39	308	P	P	19 07 50.7	-0.7
	comp=Z,1.5nm,0.4s,mb3.7,baz=91,slow=9.2,SNR=34						
MKAR				PcP	PcP	19 09 12.9	-1.7
	comp=Z,0.4nm,0.4s,baz=79,slow=6.2,SNR=3.6						
MKAR	Makanchi Array	47.39	308	P	P	19 07 50.7	-0.7
MKAR				PcP	PcP	19 09 12.9	-1.7
KKN	Kakani	47.39	282	eP	P	19 07 51.5	-0.2
	comp=Z,9.1nm,0.4s,mb4.5						
KKN	Kakani	47.39	282	eP	P	19 07 51.5	-0.2
KKN				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.2						
NVS	Novosibirsk	47.47	319	eP	P	19 07 49.4	-2.5
DMN	Daman	47.59	282	eP	P	19 07 52.8	-0.4
	comp=Z,7.6nm,0.4s,mb4.4						
GKN	Gorkha	47.88	283	eP	P	19 07 55.2	-0.2
KOLN	Koldanda	48.83	283	eP	P	19 08 02.4	-0.2
	comp=Z,24nm,0.7s,mb4.6						
WRAB	Tennant Creek	49.08	187	eP	P	19 08 04.6	0.0
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
WRAB	Tennant Creek	49.08	187	eP	P	19 08 04.6	0.0
	comp=Z,1.8nm,0.4s,mb3.8						
WRA	Warramunga Arr	49.09	187	P	P	19 08 04.9	+0.2
	comp=Z,1.1nm,0.4s,mb3.6,baz=0.9,slow=7.7,SNR=45						
KURK	Kurchatov	49.89	313	eP	P	19 08 09.3	-1.0
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
KURK	Kurchatov	49.89	313	eP	P	19 08 09.3	-1.0
	comp=Z,6.2nm,0.6s,mb4.1						
MBWA	Marble Bar	53.58	203	eP	P	19 08 37.5	-0.2
	comp=Z,3.3nm,0.6s,mb3.7						
MBWA				i PcP	PcP	19 09 38.1	+0.2
VOSK	Vostochnaya	54.62	316	P	P	19 08 43.4	-1.3
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.7						
BVA0	Borovoye Array	54.96	316	i P	P	19 08 46.2	-0.9
BVAR	Borovoye Array	54.96	316	P	P	19 08 46.3	-0.9
	comp=Z,7.7nm,0.4s,mb4.3,baz=92,slow=7.4,SNR=85						
BVAR				PcP	PcP	19 09 42.8	0.0
	comp=Z,0.9nm,0.3s,baz=104,slow=3.3,SNR=3.6						
BRVK	Borovoye	55.02	316	eP	P	19 08 46.7	-0.9
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.7						
BRVK	Borovoye	55.02	316	eP	P	19 08 46.7	-0.9
	comp=Z,3.3nm,0.6s,mb3.7						
ZRNK	Zerenda	55.80	316	eP	P	19 08 52.1	-0.9
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.8						
ZRNK	Zerenda	55.80	316	eP	P	19 08 52.1	-0.9
	comp=Z,2.6nm,0.6s,mb3.7						
ILAR	Eielson Array	57.01	29	P	P	19 09 01.8	+0.6
	comp=Z,1.5nm,0.9s,mb3.3,baz=272,slow=5.8,SNR=12						
ARU	Arti	61.37	321	eP	P	19 09 30.1	-0.4
ARU				pmax	pmax		
	comp=Z,14nm,0.3s,mb4.9						
ARU	Arti	61.37	321	eP	P	19 09 30.1	-0.5
	comp=Z,14nm,0.3s,mb4.9						
AB31	Akbulak array	62.00	313	P	P	19 09 34.0	-0.8
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
INK	Inuvik	62.10	25	P	P	19 09 36.3	+1.1
	comp=Z,3.5nm,0.4s,mb4.2,baz=299,slow=4.8,SNR=8.6						
KEV	Kevo	70.26	340	ep	P	19 10 25.9	0.0
	comp=Z,6.4nm,0.8s,mb4.2						
ARCES	ARCESS Array B	70.82	340	P	P	19 10 30.1	+0.9
	comp=Z,3.4nm,0.5s,mb4.1,baz=68,slow=8.6,SNR=27						
KAF	Kangasniemi	74.60	333	ep	P	19 10 51.0	-0.1
	comp=Z,3.3nm,0.5s,mb4.2,baz=54,slow=5.3						
FINES	FINESS Array B	75.06	333	P	P	19 10 54.0	+0.3
	comp=Z,2.5nm,0.5s,mb4.1,baz=90,slow=5.7,SNR=35						
FINES	FINESS Array B	75.06	333	P	P	19 10 54.0	+0.3
UMR	Umm Al-Rimmam	77.69	297	eP	P	19 11 08.7	-0.2
RDF	Al-Radifah	78.10	296	eP	P	19 11 10.9	-0.2
RDF				AMb	AMB	19 11 11.5	
	comp=Z,18nm,0.6s,mb4.9						
NAY	Al-Naaiem	78.20	297	eP	P	19 11 11.6	0.0
NAY				AMb	AMB	19 11 14.4	
	comp=Z,9.6nm,0.6s,mb4.6						
AKASG	Malin Array Be	79.58	323	P	P	19 11 18.6	+0.2
	comp=Z,1.8nm,0.4s,mb4.0,baz=51,slow=5.2,SNR=18						
NB2	NORSAR Subarra	80.82	337	P	P	19 11 25.1	+0.4
	comp=Z,1.5nm,0.6s,mb3.9,baz=44,slow=5.3						
NB2	NORSAR Subarra	80.82	337	P	P	19 11 25.1	+0.4
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
NOA	NORSAR Array B	80.82	337	P	P	19 11 25.4	+0.7
	comp=Z,2.7nm,0.6s,mb4.2,baz=46,slow=5.0,SNR=13						
BRTR	Keskin Array B	82.91	312	P	P	19 11 36.9	+1.1
	comp=Z,2.4nm,0.7s,mb4.0,baz=101,slow=4.6,SNR=14						
PDAR	Pinedale Array	84.33	44	P	P	19 11 45.0	+2.2
	comp=Z,0.5nm,0.5s,mb3.5,baz=315,slow=2.1,SNR=5.4						
GERES	GERESS Array B	88.54	328	P	P	19 12 02.9	+0.1
	comp=Z,0.2nm,0.5s,mb3.1,baz=34,slow=4.8,SNR=5.1						
LPAZ	La Paz	151.48	69	PKPbc	PKPdf	19 19 06.8	+12
	comp=Z,0.5nm,0.4s,baz=270,slow=3.0,SNR=4.6						

*IDC **19** 19:19:04.8±1.7, 20.55S×169.49E, mb3.8/4, mb1 3.9/5, mb1mx3.8/12, mbtmp3.8/5, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.7/15, Error ellipse: s-maj=53.9km s-min=33.0km az=130.0*
*NEIC **19** 19:19:10.5±0.9, 20.49S×169.32E, h35km, mb4.3/2, Error ellipse: s-maj=28.7km s-min=19.6km az=134.0*

ISC 19 19:19:10.8±4.4**, 20.6S**±0.2×**169.3E**±0.2**, h46km**±32km**, n14, σ0.71**/13**, mb3.8**/5**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.98	241	eP	P	19 19 56.7	-0.2
DZM				eS	S	19 20 31.3	-0.4
DZM	Mont Dzumac	2.98	241	Pn	P	19 19 57.0	+0.1
	4.8nm,0.3s,baz=65,slow=17,SNR=90						
DZM				LR	LR	19 20 32.6	
	comp=Z,150nm,18.9s,baz=19,slow=27						
DZM				Sn	S	19 20 32.7	+1.0
	29nm,0.3s,baz=135,slow=17,SNR=12						
DZM	Mont Dzumac	2.98	241	eP	P	19 19 56.7	-0.2
DZM				eS	S	19 20 31.3	-0.4
STKA	Stephens Creek	27.14	240	P	P	19 24 52.9	+1.2
	1.4nm,0.8s,mb3.5,baz=62,slow=11,SNR=3.7						
STKA	Stephens Creek	27.14	240	eP	P	19 24 53.0	+1.2
WRA	Warramunga Arr	32.72	265	P	P	19 25 40.3	-1.1
	0.5nm,0.7s,mb3.5,baz=92,slow=8.4,SNR=5.8						
SBA	Scott Base	57.28	181	eP	P	19 28 55.8	0.0
	3.3nm,0.9s,mb4.4						
MAW	Mawson	77.16	202	P	P	19 31 00.4	-0.5
	0.9nm,0.8s,mb3.8,baz=39,slow=4.1,SNR=3.6						
MAW	Mawson	77.16	202	eP	P	19 31 00.5	-0.5
	1.8nm,0.8s,mb4.0						
SONM	Songino Array	88.33	323	P	P	19 31 59.2	+0.5
	0.6nm,0.9s,mb3.8,baz=117,slow=5.5,SNR=4.7						
CLL	Collm	144.17	334	ePKIKP	PKPdf	19 38 40.0	-1.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**144.88**	**352**	PKP	PKPdf	19 38 42.0	-0.4
	0.7nm,0.5s,baz=11,slow=4.3,SNR=3.9						
MOX	**Moxa**	**145.24**	**335**	*e*P	PKPdf	19 38 44.0	+0.8
GERES	**GERESS Array B**	**145.71**	**331**	PKPbc	PKPbc	19 38 45.8	+1.0
	1.1nm,0.6s,baz=41,slow=2.5,SNR=9.0						

*IDC **19** 20:03:37.5±1.2, 2.87N×93.91E, mb4.2/9, mb1 4.3/9, mb1mx4.0/22, mbtmp4.2/9, Error ellipse: s-maj=41.5km s-min=24.2km az=45.0*
*NEIC **19** 20:03:42.2±0.7, 2.90N×93.91E, h30km, mb4.6/1, Error ellipse: s-maj=19.6km s-min=9.4km az=205.0*
ISC 19 20:03:40.9±0.8**, 3.1N**±0.1×**94.06E**±0.07**, h30km, n13, σ1.02**/14**, mb4.2**/10**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.93**	**71**	*e*Pn	**Pn**	**20 05 24.1**	**+0.8**
KULM				*e*Sn	**Sn**	**20 06 40.6**	**-1.3**
KSM	**Kuching**	**16.31**	**95**	*e*Pn	**P**	**20 07 32.2**	**+2.5**
KSM				*e*		20 07 42.8	
MKAR	**Makanchi Array**	**44.75**	**349**	P	**P**	**20 11 54.4**	**+0.8**
	3.9nm,0.7s,mb4.4,baz=168,slow=8.5,SNR=40						
WRA	**Warramunga Arr**	**45.67**	**122**	P	**P**	**20 12 00.5**	**-0.7**
	3.7nm,0.8s,mb4.3,baz=301,slow=8.7,SNR=17						
WRAB	**Tennant Creek**	**45.68**	**122**	*e*P	**P**	**20 12 00.6**	**-0.7**
	5.8nm,0.7s,mb4.6						
WRAB				*e*	pP	20 12 08.8	-1.5
SONM	**Songino Array**	**45.86**	**12**	P	**P**	**20 12 03.2**	**+0.9**
	1.4nm,0.7s,mb4.0,baz=194,slow=8.6,SNR=18						
ZAL	**Zalesovo**	**51.28**	**353**	P	**P**	**20 12 44.0**	**-0.3**
	2.1nm,0.5s,mb4.3,baz=276,slow=3.7,SNR=9.6						
BVAR	**Borovoye Array**	**53.51**	**342**	P	**P**	**20 13 00.1**	**-0.8**
	1.3nm,0.6s,mb4.0,baz=158,slow=8.0,SNR=5.0						
BVAR	**Borovoye Array**	**53.51**	**342**	P	**P**	**20 13 00.1**	**-0.8**
BRTR	**Keskin Array B**	**65.55**	**313**	P	**P**	**20 14 22.4**	**-1.8**
	0.7nm,0.8s,mb3.8,baz=135,slow=6.1,SNR=4.1						
IDI	**Anoyia**	**71.28**	**306**	P	**P**	**20 14 59.9**	**0.0**
	2.9nm,0.7s,mb4.3,baz=114,slow=10.0,SNR=3.7						
GERES	**GERESS Array B**	**81.36**	**319**	P	**P**	**20 15 56.8**	**+0.5**
	1.5nm,0.8s,mb4.0,baz=104,slow=5.5,SNR=11						
DAVOX	**Davos**	**83.80**	**317**	P	**P**	**20 16 09.5**	**+0.6**
	0.8nm,0.4s,mb4.2,baz=140,slow=6.8,SNR=5.9						

*MOS **19** 20:07:01.2±1.8, 41.49N×48.59E, h15km, mb4.1/1, Error ellipse: s-maj=8.2km s-min=6.9km az=109.2*
*CSEM **19** 20:07:01.2±0.2, 41.48N×48.53E, h15km, mb4.1, Error ellipse: s-maj=5.6km s-min=3.8km az=168.0*
*IDC **19** 20:07:02.1±1.4, 41.65N×48.34E, mb3.8/6, mb1 3.8/9, mb1mx3.6/21, mbtmp3.7/9, ML2.9/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/25, Error ellipse: s-maj=27.1km s-min=12.6km az=139.0*
*NEIC **19** 20:07:05.0±0.8, 41.91N×48.35E, h10km, mb3.6/4, Error ellipse: s-maj=18.1km s-min=6.6km az=162.0*
*NNC **19** 20:07:17.3±5.1, 42.23N×49.67E, Error ellipse: s-maj=50.9km s-min=35.9km az=9.0*
ISC 19 20:07:02.2±0.8**, 41.69N**±0.04×**48.66E**±0.04**, h13km**±4km**, n68, σ1.44**/98**, mb3.7**/8**, MS3.0**/1**, 6C-5D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMR	**Kasumkent**	**0.41**	**258**	*i* Pg	**Pg**	**20 07 09.0**	**-1.6**
KSMR				*i* Sg	**Sg**	**20 07 14.0**	**-2.2**
AKT	**Akhty**	**0.73**	**253**	*i* PG	**Pg**	**20 07 11.5**	**-5.3**
AKT				pmax	pmax		
	comp=Z,886nm,0.2s						
AKT	**Akhty**	**0.73**	**253**	*i* Pg	**Pg**	**20 07 11.5**	**-5.3**
	comp=Z,886nm,0.2s						
URKR	**Urkarakh**	**0.90**	**302**	*i* PG	**Pg**	**20 07 19.5**	**-0.7**
URKR				*e*S	**Sb**	**20 07 31.0**	**+0.2**
URKR				pmax	pmax		
	comp=Z,665nm,0.2s						
URKR	**Urkarakh**	**0.90**	**302**	*i* Pg	**Pg**	**20 07 19.5**	**-0.7**
	comp=Z,665nm,0.2s						
URKR				*e*Sg	**Sb**	**20 07 31.0**	**+0.2**
MNSR	**Manas**	**1.23**	**326**	*e*PG	**Pg**	**20 07 27.0**	**+0.2**
MNSR				*e*S	**Sg**	**20 07 44.2**	**+1.0**
MNSR				pmax	pmax		
	comp=Z,214nm,0.3s						
MNSR	**Manas**	**1.23**	**326**	*e*Pg	**Pg**	**20 07 27.0**	**+0.2**
	comp=Z,214nm,0.3s						
MNSR				*e*Sg	**Sg**	**20 07 44.2**	**+1.0**
MAK	**Makhachkala**	**1.53**	**326**	*e*PN	**Pn**	**20 07 38.0**	**+8.6**
MAK				*i*		20 07 58.0	
BUJR	**Buynaksk**	**1.61**	**315**	*e*PN	**Pn**	**20 07 35.9**	**+5.3**
BUJR				*i* S	**Sn**	**20 07 58.8**	**+7.4**
BUJR				pmax	pmax		
	comp=Z,157nm,0.3s						
DGRG	**David-gareji**	**2.48**	**266**	P	**Pn**	**20 07 43.7**	**+0.8**
DGRG				S	**Sn**	**20 08 25.1**	**+12**
DGRG	**David-gareji**	**2.48**	**266**	P	**Pn**	**20 07 43.3**	**+0.4**
DGRG				S	**Sn**	**20 08 12.7**	**-0.6**
DGRG	**David-gareji**	**2.48**	**266**	P	**Pn**	**20 07 43.7**	**+0.7**
DGRG				S	**Sn**	**20 08 25.1**	**+12**
MTA	**Mtatsminda**	**2.89**	**271**	P	**Pn**	**20 07 48.6**	**-0.3**
MTA				S	**Sn**	**20 08 31.0**	**+7.1**
MTA	**Mtatsminda**	**2.89**	**271**	P	**Pn**	**20 07 48.7**	**-0.3**
MTA				S	**Sn**	**20 08 30.6**	**+6.6**
TBLG	**Delisi**	**2.93**	**272**	P	**Pn**	**20 07 49.3**	**-0.2**
TBLG				S	**Sn**	**20 08 33.3**	**+8.4**
TBLG	**Delisi**	**2.93**	**272**	P	**Pn**	**20 07 49.3**	**-0.2**
TBLG				S	**Sn**	**20 08 33.3**	**+8.4**
GNI	**Garni**	**3.34**	**244**	PN	**Pn**	**20 07 55.3**	**0.0**
GNI						20 08 36.4	
GNI				pmax	pmax		
	comp=Z,9.0nm,0.3s						
GNI				smax			
	comp=N,13nm,0.3s						
GNI	**Garni**	**3.34**	**244**	Pn	**Pn**	**20 07 55.3**	**0.0**
	comp=N,8.7nm,0.3s,baz=304,slow=2.0,SNR=21						
GNI				Sn	**Sn**	**20 08 36.4**	**+1.1**
	comp=N,13nm,0.3s,baz=248,slow=12,SNR=4.9						
GNI	**Garni**	**3.34**	**244**	*e*Pn	**Pn**	**20 07 54.9**	**-0.4**
GOR	**Gori**	**3.41**	**276**	P	**Pn**	**20 07 56.8**	**+0.5**
GOR				S	**Sn**	**20 08 43.6**	**+6.6**
ZEI	**Tsey**	**3.69**	**289**	*e*PN	**Pn**	**20 08 00.4**	**+0.1**
ZEI				*e*		20 08 13.0	
ZEI				*e*		20 08 43.3	
ZEI				*e*		20 09 03.7	
ZEI				pmax	pmax		
	comp=Z,29nm,0.1s						
ZEI				pmax	pmax		
	comp=Z,63nm,0.2s						
ZEI				smax			
	comp=N,55nm,0.2s						
ONI	**Oni**	**3.97**	**285**	P	**Pn**	**20 08 06.6**	**+2.3**
ONI				S	**Sn**	**20 08 56.7**	**+5.4**
KUBR	**Kubataba**	**4.40**	**300**	P	**Pn**	**20 08 12.3**	**+2.0**
SHAR	**Shatzhatmas**	**4.87**	**297**	PN	**Pn**	**20 08 17.6**	**+0.7**
KIV	**Kislovodsk**	**4.94**	**299**	*e*PN	**Pn**	**20 08 18.8**	**+0.8**
KIV				*e*S	**Sn**	**20 09 16.5**	**+0.8**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				pmax	pmax		
	comp=N,5.0nm,0.9s						
KIV				pmax	pmax		
	comp=E,4.0nm,1.0s						
KIV				MLR	MLR		
	comp=N,8.0nm,16.0s						
KIV				MLR	MLR		
	comp=E,35nm,16.0s						
KIV				MLR	MLR		
	comp=Z,42nm,16.0s						
KIV	**Kislovodsk**	**4.94**	**299**	*e*Pn	**Pn**	**20 08 14.4**	**-3.5**
KIV	**Kislovodsk**	**4.94**	**299**	*e*Pn	**Pn**	**20 08 14.4**	**-3.6**
GOF	**Gofitskoye**	**5.30**	**311**	*e*P	**Pn**	**20 08 17.5**	**-5.6**
GOF				*e*S	**Sn**	**20 09 31.0**	**+6.2**
AB31	**Akbulak array**	**10.95**	**42**	⇓P	**P**	**20 09 43.0**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=213,slow=12,SNR=39						
AB31				⇓S	**S**	**20 11 42.7**	**-2.2**
	comp=Z,3.0nm,0.4s,baz=225,slow=22,SNR=7.1						
ABKAR	**Akbulak array**	**10.95**	**42**	Pn	**P**	**20 09 42.5**	**+1.0**
ABKAR				Sn	**S**	**20 11 47.9**	**+3.0**
OBN	**Obninsk**	**15.61**	**333**	⇑*e*P	**P**	**20 10 41.4**	**-2.0**
OBN				*e*S	**S**	**20 13 37.0**	**+0.4**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ARU	**Arti**	**16.09**	**20**	⇓*i*P	**P**	**20 10 49.1**	**-0.4**
ARU				*e*S	**S**	**20 13 47.1**	**-0.6**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARU	**Arti**	**16.09**	**20**	*e*Pn	**P**	**20 10 48.4**	**-1.1**
	comp=Z,3.7nm,0.6s						
ARU				*e*Sn	**S**	**20 13 39.7**	**-8.0**
ARU	**Arti**	**16.09**	**20**	*e*Pn	**P**	**20 10 48.4**	**-1.1**
ARU	**Arti**	**16.09**	**20**	*i* P	**P**	**20 10 49.1**	**-0.4**
ARU				*e*Sn	**S**	**20 13 39.7**	**-8.0**
AKASG	**Malin Array Be**	**16.15**	**310**	Pn	**P**	**20 10 45.5**	**-4.9**
	comp=Z,0.2nm,0.3s,baz=117,slow=12,SNR=2.5						
KK31	**Karatay Array**	**16.20**	**78**	P	**P**	**20 10 52.5**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=266,slow=14,SNR=7.7						
KK31				⇓S	**S**	**20 13 46.9**	**-3.6**
	comp=Z,3.0nm,0.8s						
SVE	**Sverdlovsk**	**17.01**	**23**	*e*P	**P**	**20 11 00.0**	**-1.1**
SVE				*e*		20 14 03.0	
ZRNK	**Zerenda**	**17.74**	**44**	⇑P	**P**	**20 11 11.0**	**+0.7**
	comp=Z,2.0nm,0.7s						
ZRNK				⇑S	**S**	**20 14 23.3**	**-2.3**
	comp=Z,4.2nm,1.1s						
ZRNK	**Zerenda**	**17.74**	**44**	*e*P	**P**	**20 11 11.0**	**+0.7**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ZRNK	**Zerenda**	**17.74**	**44**	*e*P	**P**	**20 11 11.0**	**+0.7**
	comp=Z,4.3nm,1.0s						
ZRNK	**Zerenda**	**17.74**	**44**	*e*P	**P**	**20 11 11.0**	**+0.7**
	comp=Z,4.3nm,1.0s						
BRVK	**Borovoye**	**18.46**	**45**	*e*P	**P**	**20 11 21.0**	**+1.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**18.46**	**45**	*e*P	**P**	**20 11 21.0**	**+1.7**
	comp=Z,1.6nm,0.6s						
BVA0	**Borovoye Array**	**18.50**	**45**	⇑P	**P**	**20 11 21.6**	**+1.8**
	comp=Z,0.6nm,1.4s,baz=230,slow=14,SNR=13						
BVA0				⇑S	**S**	**20 14 41.4**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=230,slow=24,SNR=6.7						
BVA0	**Borovoye Array**	**18.50**	**45**	*i* P	**P**	**20 11 21.5**	**+1.7**
BVA0				*i* S	**S**	**20 14 41.7**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.4s						
BVA0	**Borovoye Array**	**18.50**	**45**	*i* P	**P**	**20 11 21.5**	**+1.7**
	comp=Z,1.0nm,1.4s						
BVAR	**Borovoye Array**	**18.50**	**45**	P	**P**	**20 11 21.8**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=230,slow=13,SNR=10						
BVAR				S	**S**	**20 14 40.3**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=232,slow=24,SNR=6.0						
VOSK	**Vostochnaya**	**18.67**	**46**	⇓P	**P**	**20 11 24.6**	**+2.7**
	comp=Z,1.8nm,0.7s						
VOSK				⇑S	**S**	**20 14 44.5**	**-2.2**
	comp=Z,1.6nm,0.8s						
AAK	**Ala-Archa**	**19.16**	**79**	*i* P	**P**	**20 11 26.3**	**-1.5**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	**Ala-Archa**	**19.16**	**79**	*i* P	**P**	**20 11 26.3**	**-1.5**
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**22.48**	**56**	*e*P	**P**	**20 12 06.4**	**+3.9**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
KURK	**Kurchatov**	**22.48**	**56**	*e*P	**P**	**20 12 06.4**	**+3.9**
	comp=Z,3.7nm,0.7s,mb3.9						
KURK	**Kurchatov**	**22.48**	**56**	*e*P	**P**	**20 12 06.4**	**+3.9**
	comp=Z,3.7nm,0.7s,mb3.9						
FINES	**FINESS Array B**	**24.02**	**333**	P	**P**	**20 12 17.6**	**+0.3**
	comp=Z,5.3nm,0.4s,mb4.3,baz=142,slow=12,SNR=71						
FINES	**FINESS Array B**	**24.02**	**333**	P	**P**	**20 12 17.5**	**+0.2**
KAF	**Kangasniemi**	**24.43**	**334**	*e*p	**P**	**20 12 20.9**	**-0.3**
MK31	**Makanchi Array**	**24.51**	**67**	P	**P**	**20 12 33.0**	**+11**
	comp=Z,1.7nm,0.6s,mb3.8,baz=265,slow=7.2,SNR=7.7						
MKAR	**Makanchi Array**	**24.51**	**67**	P	**P**	**20 12 26.1**	**+3.9**
	comp=Z,0.5nm,0.6s,mb3.2,baz=263,slow=7.5,SNR=3.4						
GERES	**GERESS Array B**	**25.45**	**298**	P	**P**	**20 12 28.8**	**-2.3**
	comp=Z,0.3nm,0.3s,mb3.2,baz=100,slow=8.1,SNR=4.8						
ZAL	**Zalesovo**	**26.87**	**50**	*i* P	**P**	**20 12 44.3**	**+0.1**
ZAL	**Zalesovo**	**26.87**	**50**	*i* P	**P**	**20 12 44.3**	**+0.1**
HFS	**Hagfors**	**28.25**	**323**	P	**P**	**20 12 54.9**	**-1.9**
	comp=Z,1.2nm,0.4s,mb3.9,baz=123,slow=9.2,SNR=28						
NB2	**NORSAR Subarra**	**29.74**	**323**	P	**P**	**20 13 07.7**	**-2.4**
	comp=Z,0.4nm,0.5s,mb3.4,baz=116,slow=9.3						
NOA	**NORSAR Array B**	**29.74**	**323**	P	**P**	**20 13 08.0**	**-2.1**
	comp=Z,1.6nm,0.7s,mb3.9,baz=118,slow=8.4,SNR=8.6						
NOA	**NORSAR Array B**	**29.74**	**323**	P	**P**	**20 13 08.0**	**-2.1**
ARCES	**ARCESS Array B**	**30.40**	**344**	P	**P**	**20 13 15.6**	**-0.3**
	comp=Z,0.4nm,0.6s,mb3.3,baz=138,slow=11,SNR=3.3						
ARCES				LR	LR	20 27 59.0	
	comp=Z,34nm,18.3s,MS3.0,baz=163,slow=41						
ARCES	**ARCESS Array B**	**30.40**	**344**	P	**P**	**20 13 15.6**	**-0.3**
ARCES				LR	LR	20 27 59.0	

*NEIC **19** 20:09:17.7, 40.41N×37.40E, h5km, MD3.5(ISK), After ISK.*
*ISK **19** 20:09:17.7, 40.41N×37.40E, h5km, MD3.5*
*CSEM **19** 20:09:17.7, 40.41N×37.40E, h5km, MD3.5, After ISK*
ISC 19 20:09:18.2±0.5**, 40.38N**±0.04×**37.39E**±0.04**, h5km, n26, σ0.86**/35**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOKT	**Tokat**	**0.65**	**265**	*i* PG	**Pg**	**20 09 30.6**	**-0.5**
SVST	**Sivas**	**0.69**	**209**	*i* P	**Pg**	**20 09 30.7**	**-1.4**
SVST				*i* S	**Sg**	**20 09 41.7**	**+0.3**
KVT	**Kavak**	**1.24**	**305**	PN	**Pn**	**20 09 41.8**	**-0.3**
KVT				SN	**Sn**	**20 09 58.3**	**-1.1**
KVT	**Kavak**	**1.24**	**305**	Pn	**Pn**	**20 09 41.8**	**-0.3**
KVT				Sg	**Sg**	**20 09 58.8**	**-0.6**
GUMT	**Gumushane**	**1.60**	**87**	*i* PN	**Pn**	**20 09 47.2**	**-0.1**
YOZ	**Yozgat**	**1.75**	**246**	PN	**Pn**	**20 09 49.9**	**+0.4**
BNN	**Bunyan**	**1.94**	**218**	PN	**Pn**	**20 09 52.6**	**+0.5**
CTKT	**Corum**	**2.00**	**278**	*i* P	**Pn**	**20 09 52.7**	**-0.3**
CTKT				*i* S	**Sn**	**20 10 23.0**	**+4.3**
CORM	**Corum**	**2.12**	**265**	PN	**Pn**	**20 09 55.3**	**+0.5**
PTK	**Pertek**	**2.15**	**133**	*e*PN	**Pn**	**20 09 55.5**	**+0.4**
BOYT	**Boyabat**	**2.15**	**300**	*i* P	**Pn**	**20 09 55.1**	**0.0**
BOYT				*i* S	**Sn**	**20 10 26.2**	**+3.6**
MYA	**Malataya**	**2.20**	**158**	*e*PN	**Pn**	**20 09 56.2**	**+0.2**
MALT	**Malatya**	**2.22**	**158**	*e*PN	**Pn**	**20 09 55.9**	**-0.2**
MALT	**Malatya**	**2.22**	**158**	*e*Pn	**Pn**	**20 09 55.7**	**-0.4**
MALT				*e*Sg	**Sg**	**20 10 29.2**	**-2.7**
BYBT	**Boyabat**	**2.27**	**300**	*e*PN	**Pn**	**20 09 56.5**	**-0.3**
CDAG	**Cicekdag**	**2.44**	**253**	*i* P	**Pn**	**20 09 59.5**	**+0.2**
CDAG				*i* S	**Sn**	**20 10 33.4**	**+3.6**
AVNT	**Avonos**	**2.53**	**232**	*i* P	**Pn**	**20 10 02.6**	**+2.0**
AVNT				*i* S	**Sn**	**20 10 37.2**	**+5.0**
TOS	**Tosya**	**2.64**	**285**	*e*PN	**Pn**	**20 10 02.5**	**+0.3**
BR131	**Keskin Array S**	**2.95**	**258**	*e*Pn	**Pn**	**20 10 06.5**	**-0.1**
BR131				*e*S	**Sg**	**20 10 53.5**	**-3.0**
BZK	**Bozkurt**	**3.00**	**303**	*e*PN	**Pn**	**20 10 07.3**	**-0.1**
KAMT	**Kaman**	**3.00**	**252**	*e*PN	**Pn**	**20 10 07.8**	**+0.4**
EZM	**Erzurum**	**3.08**	**98**	*e*PN	**Pn**	**20 10 08.7**	**+0.2**
NIG	**Nigde**	**3.13**	**224**	*e*PN	**Pn**	**20 10 09.5**	**+0.3**
BCA	**Borcka**	**3.38**	**70**	*e*PN	**Pn**	**20 10 12.7**	**0.0**
ANTO	**Ankara**	**3.56**	**263**	*e*PN	**Pn**	**20 10 15.9**	**+0.6**
KIZT	**Kizilcal**	**4.51**	**252**	*e*PN	**Pn**	**20 10 28.7**	**0.0**

IDC 19 20:32:58.4±5.0**, 2.22S**×**98.22E, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.4**/16**, mbtmp3.4**/3**, Error ellipse: s-maj=182.9km s-min=30.9km az=56.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.43**	**119**	P	P	20 40 30.3	-1.8
	0.2nm,0.4s,baz=300,slow=9.5,SNR=5.8						
SONM	**Songino Array**	**50.36**	**7**	P	P	20 41 58.1	-1.1
	0.1nm,0.3s,baz=191,slow=7.3,SNR=2.8						
MKAR	**Makanchi Array**	**50.78**	**346**	P	P	20 41 59.4	-3.0
	0.5nm,0.6s,baz=157,slow=9.3,SNR=5.5						

*NEIC **19** 20:36:16.4±0.9, 25.73S×179.56W, h440km±10km, mb4.4/7, Error ellipse: s-maj=13.6km s-min=13.0km az=105.0*
*IDC **19** 20:36:17.8±1.4, 25.92S×179.57W, h453km±17km, mb3.8/5, mb1 4.0/9, mb1mx3.7/17, mbtmp4.8/9, Error ellipse: s-maj=25.1km s-min=21.3km az=179.0*
ISC 19 20:36:14.8±0.6**, 25.63S**±0.07×**179.56W**±0.09**, h440km, n28, σ1.33**/28**, mb4.2**/8**, 2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.89**	**158**	P	**P**	**20 37 30.0**	**+1.1**
	217nm,0.3s,baz=29,slow=21,SNR=11						
RAO				S	**S**	**20 38 28.8**	**+1.4**
	514nm,0.3s,baz=246,slow=22,SNR=9.7						
RAO	**Raoul Island**	**3.89**	**158**	*e*P	**P**	**20 37 29.9**	**+1.0**
RAO				*e*S	**S**	**20 38 28.1**	**+0.8**
URZ	**Urewera**	**12.90**	**192**	P	**P**	**20 39 03.0**	**-2.5**
	6.4nm,0.3s,baz=8.8,slow=4.4,SNR=47						
URZ				S	**S**	**20 41 19.3**	**-3.1**
	3.8nm,0.3s,baz=277,slow=22,SNR=5.1						
DZM	**Mont Dzumac**	**13.29**	**283**	P	**P**	**20 39 11.9**	**+2.2**
	1.7nm,0.3s,baz=86,slow=16,SNR=12						
AFI	**Afiamalu**	**13.76**	**34**	P	**P**	**20 39 13.4**	**-1.3**
	5.0nm,0.3s,baz=176,slow=4.6,SNR=5.5						
AFI				S	**S**	**20 41 33.5**	**-5.8**
	1.4nm,0.3s,baz=38,slow=21,SNR=3.8						
AFI	**Afiamalu**	**13.76**	**34**	*e*P	**P**	**20 39 14.0**	**-0.8**
AFI				*e*S	**S**	**20 41 37.4**	**-1.9**
RPZ	**Rata Peaks**	**19.60**	**201**	P	**P**	**20 40 12.7**	**-0.5**
	0.9nm,0.3s,baz=284,slow=3.2,SNR=5.1						
CTA	**Charters Tower**	**31.93**	**273**	*e*P	**P**	**20 42 04.9**	**+1.0**
	12nm,0.4s,mb4.6						
CTA	**Charters Tower**	**31.93**	**273**	P	**P**	**20 42 05.2**	**+1.2**
	13nm,0.4s,mb4.6,baz=94,slow=10,SNR=26						
CTAO	**Charters Tower**	**31.93**	**273**	*e*P	**P**	**20 42 04.8**	**+0.9**
	15nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**34.49**	**250**	⇓*i*P	**P**	**20 42 25.7**	**+0.2**
	4.5nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**34.49**	**250**	P	**P**	**20 42 25.8**	**+0.4**
	4.6nm,0.4s,mb4.2,baz=94,slow=11,SNR=47						
WB2	**Warramunga Arr**	**42.71**	**268**	*e*P	**P**	**20 43 32.5**	**-0.4**
WRAB	**Tennant Creek**	**42.71**	**268**	⇓*e*P	**P**	**20 43 32.5**	**-0.5**
	4.8nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**42.72**	**268**	P	**P**	**20 43 32.8**	**-0.2**
	2.7nm,0.3s,mb4.0,baz=100,slow=6.9,SNR=107						
KAKA	**Kakadu**	**46.89**	**277**	*e*P	**P**	**20 44 04.9**	**-0.7**
	78nm,1.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**51.12**	**267**	*e*P	**P**	**20 44 36.8**	**-0.6**
	7.8nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**51.12**	**267**	P	**P**	**20 44 37.2**	**-0.2**
	7.9nm,0.5s,mb4.2,baz=149,slow=7.5,SNR=22						
MBWA	**Marble Bar**	**55.49**	**261**	*e*P	**P**	**20 45 07.4**	**-1.3**
	22nm,1.4s,mb4.2						
MJAR	**Matsushiro Arr**	**73.55**	**326**	P	**P**	**20 47 04.3**	**+1.3**
	0.4nm,0.3s,mb3.5,baz=166,slow=8.4,SNR=4.3						
MAW	**Mawson**	**76.28**	**200**	P	**P**	**20 47 16.7**	**-1.0**
VNA3	**Neumayer Olymp**	**83.13**	**177**		**P**	**20 47 55.5**	**+2.0**
VNA2	**Neumayer--Watz**	**83.55**	**177**		**P**	**20 47 57.8**	**+2.3**
NB2	**NORSAR Subarra**	**143.85**	**351**	PKPabc	PKPdf	20 54 59.4	+1.6
	6.9nm,0.8s,baz=15,slow=3.1						
NOA	**NORSAR Array B**	**143.85**	**351**	PKP	PKPdf	20 54 59.6	+1.8
	4.1nm,0.8s,baz=16,slow=4.9,SNR=16						
AKASG	**Malin Array Be**	**146.63**	**326**	PKPbc	PKPbc	20 55 07.5	+2.6
	0.6nm,0.5s,baz=43,slow=4.4,SNR=6.3						
BRTR	**Keskin Array B**	**148.92**	**305**	PKPbc	PKPdf	20 55 14.3	+7.4
	0.7nm,0.6s,baz=151,slow=3.6,SNR=4.6						
CLL	**Collm**	**152.62**	**343**	*i* PKP1	PKPdf	20 55 23.7	+12

*NEIC **19** 20:44:36.6±0.5, 19.92S×67.63W, h202km±5km, mb4.3/6, Error ellipse: s-maj=9.4km s-min=5.9km az=76.0*
*IDC **19** 20:44:36.9±1.1, 19.97S×67.59W, h205km±10km, mb3.9/13, mb1 4.0/18, mb1mx3.9/22, mbtmp4.4/18, Error ellipse: s-maj=13.1km s-min=8.4km az=90.0*
ISC 19 20:44:35.1±0.5**, 19.92S**±0.04×**67.62W**±0.05**, h202km**±5km**, n50, σ0.96**/52**, mb4.1**/17**, 2C-1D, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.94**	**204**	P	**P**	**20 45 25.3**	**+0.7**
	48nm,0.3s,baz=5.3,slow=8.2,SNR=243						
LVC				S	**S**	**20 46 01.4**	**-1.5**
	147nm,0.3s,baz=323,slow=9.0,SNR=70						
LVC	**Limon Verde**	**2.94**	**204**	⇑*i*Pn	**P**	**20 45 25.2**	**+0.6**
LVC				*e*Sn	**S**	**20 46 02.2**	**-0.7**
LPAZ	**La Paz**	**3.65**	**352**	P	**P**	**20 45 36.8**	**+3.6**
	6.3nm,0.3s,baz=173,slow=7.9,SNR=126						
LPAZ				S	**S**	**20 46 18.6**	**+0.4**
	0.9nm,0.3s,baz=219,slow=18,SNR=4.2						
LPAZ	**La Paz**	**3.65**	**352**	⇓*i*Pn	**P**	**20 45 36.8**	**+3.6**
LPAZ				*e*Sn	**S**	**20 46 21.0**	**+2.9**
ARE	**Arequipa**	**5.04**	**312**	⇑*i*P	**P**	**20 45 51.1**	**+0.4**
ARE				*i* S	**S**	**20 46 48.1**	**-1.3**
SIV	**San Ignacio**	**7.36**	**59**	P	**P**	**20 46 20.8**	**+0.1**
	42nm,0.3s,baz=254,slow=10,SNR=558						
SIV				S	**S**	**20 47 42.8**	**-0.5**
	baz=315,slow=24,SNR=3.5						
CPUP	**Villa Florida**	**11.41**	**126**	P	**P**	**20 47 15.2**	**+1.8**
	0.5nm,0.3s,baz=334,slow=16,SNR=7.5						
CPUP	**Villa Florida**	**11.41**	**126**	*e*Pn	**P**	**20 47 15.0**	**+1.7**
CPUP				*e*Sn	**S**	**20 49 16.8**	**-0.9**
SAML	**Samuel**	**11.72**	**22**	*e*Pn	**P**	**20 47 17.2**	**-0.1**
	3.3nm,0.5s						
NNA	**Nana**	**11.86**	**310**	Pn	**P**	**20 47 25.6**	**+6.5**
NNA				Sn	**S**	**20 49 28.3**	**+0.2**
TRQA	**Tornquist**	**18.72**	**166**	P	**P**	**20 48 40.2**	**-0.4**
	15nm,0.7s						
BDFB	**Brasilia**	**19.15**	**80**	P	**P**	**20 48 45.6**	**+0.5**
	2.4nm,0.3s,baz=264,slow=7.5,SNR=11						
PLCA	**Paso Flores**	**20.89**	**186**	P	**P**	**20 49 03.2**	**+0.7**
	15nm,0.8s,baz=6.8,slow=11,SNR=40						
PLCA				S	**S**	**20 52 42.6**	**+4.2**
	0.3nm,0.4s,baz=324,slow=20,SNR=4.2						
PLCA				PcP	PcP	20 53 03.0	-0.6
	1.0nm,0.6s,baz=323,slow=3.9,SNR=3.7						
PLCA	**Paso Flores**	**20.89**	**186**	P	**P**	**20 49 03.2**	**+0.7**
PLCA				S	**S**	**20 52 42.6**	**+4.2**
PLCA				PcP	PcP	20 53 03.0	-0.6
SDV	**Santo Domingo**	**28.78**	**354**	*e*P	**P**	**20 50 14.8**	**-1.6**
	1.6nm,0.4s,mb4.0						
USHA	**Ushuaia**	**34.86**	**181**	P	**P**	**20 51 06.9**	**-1.8**
	10nm,1.0s,mb4.3,baz=7.1,slow=8.1,SNR=3.7						
PMSA	**Palmer Station**	**44.89**	**178**	*e*P	**P**	**20 52 31.6**	**+0.8**
SWET	**Sewanee**	**57.52**	**342**	P	**P**	**20 54 04.0**	**-1.5**
TXAR	**Lajitas Array**	**60.05**	**324**	P	**P**	**20 54 22.5**	**-0.5**
	1.6nm,0.5s,mb3.9,baz=150,slow=9.2,SNR=12						
TXAR	**Lajitas Array**	**60.05**	**324**	P	**P**	**20 54 22.5**	**-0.5**
GDL2	**Guadalupe Moun**	**62.64**	**325**	*e*P	**P**	**20 54 40.1**	**-0.2**
SNAA	**Sanae**	**63.38**	**161**	P	**P**	**20 54 43.8**	**-0.8**
	0.6nm,0.5s,mb3.5,baz=268,slow=8.1,SNR=6.2						
SNAA	**Sanae**	**63.38**	**161**	*e*P	**P**	**20 54 44.3**	**-0.3**
LPM	**Los Pinos Moun**	**65.47**	**325**	P	**P**	**20 54 59.5**	**+0.9**
ANMO	**Albuquerque**	**65.87**	**326**	P	**P**	**20 55 01.8**	**+0.6**
	3.4nm,0.7s,mb4.1,baz=138,slow=5.5,SNR=6.3						
ANMO	**Albuquerque**	**65.87**	**326**	P	**P**	**20 55 01.8**	**+0.6**
DBIC	**Dimbokro**	**67.13**	**73**	P	**P**	**20 55 08.0**	**-1.4**
	3.6nm,0.6s,mb4.2,baz=221,slow=9.0,SNR=10.0						
SDCO	**Great Sand Dun**	**67.53**	**328**	*e*P	**P**	**20 55 12.3**	**+0.7**
	5.9nm,0.6s,mb4.4						
MSU	**Marysvale**	**71.58**	**325**	*e*P	**P**	**20 55 37.7**	**+1.6**
PDAR	**Pinedale Array**	**73.36**	**329**	P	**P**	**20 55 47.0**	**+0.3**
	0.8nm,0.6s,mb3.6,baz=126,slow=4.8,SNR=6.9						
ULM	**Lac du Bonnet**	**74.19**	**342**	P	**P**	**20 55 50.5**	**-0.7**
	12nm,0.5s,mb4.8,baz=149,slow=6.7,SNR=13						
ULM	**Lac du Bonnet**	**74.19**	**342**	P	**P**	**20 55 50.5**	**-0.8**
SCHQ	**Schefferville**	**74.45**	**0**	P	**P**	**20 55 51.7**	**-0.9**
	2.8nm,0.6s,mb4.1,baz=179,slow=9.5,SNR=5.9						
WVOR	**Wild Horse Val**	**77.85**	**324**	*e*P	**P**	**20 56 07.0**	**-4.8**
	2.1nm,0.5s,mb4.0						
VNDA	**Vanda**	**78.60**	**190**	P	**P**	**20 56 16.5**	**+1.2**
	0.5nm,0.6s,mb3.3,baz=121,slow=3.1,SNR=5.3						
BMO	**Blue Mountains**	**78.76**	**326**	*e*P	**P**	**20 56 16.3**	**-0.3**
	6.5nm,0.9s,mb4.3						
YBH	**Yreka Blue Hor**	**79.72**	**321**	P	**P**	**20 56 21.7**	**-0.2**
	1.6nm,0.5s,mb3.9,baz=131,slow=5.4,SNR=3.6						
BOSA	**Boshof**	**83.12**	**118**	P	**P**	**20 56 40.5**	**+0.6**
	2.9nm,0.7s,mb4.1,baz=39,slow=2.0,SNR=3.7						
BOSA	**Boshof**	**83.12**	**118**	P	**P**	**20 56 40.5**	**+0.6**
MAW	**Mawson**	**85.48**	**163**	P	**P**	**20 56 51.3**	**+0.5**
	1.4nm,0.5s,mb3.9,baz=191,slow=5.2,SNR=3.0						
YKA	**Yellowknife Ar**	**90.11**	**340**	P	**P**	**20 57 13.4**	**+0.6**
	9.5nm,0.6s,mb4.8,baz=131,slow=4.5,SNR=23						
YKA	**Yellowknife Ar**	**90.11**	**340**	P	**P**	**20 57 13.4**	**+0.6**
BVAR	**Borovoye Array**	**133.82**	**34**	PKP	PKPdf	21 03 29.6	+1.8
	0.2nm,0.3s,baz=225,slow=6.1,SNR=2.8						
WRA	**Warramunga Arr**	**134.92**	**210**	PKP	PKPdf	21 03 32.2	+1.5
	1.6nm,0.4s,baz=154,slow=1.6,SNR=30						
ZAL	**Zalesovo**	**140.02**	**25**	PKP	PKPdf	21 03 41.2	+2.1
	1.5nm,0.8s,baz=285,slow=3.0,SNR=7.9						
ZAL	**Zalesovo**	**140.02**	**25**	PKP	PKPdf	21 03 41.2	+2.1
MKAR	**Makanchi Array**	**143.65**	**36**	PKP	PKPdf	21 03 45.7	+0.1
	1.2nm,0.5s,baz=334,slow=2.8,SNR=20						
MKAR	**Makanchi Array**	**143.65**	**36**	PKP	PKPdf	21 03 45.7	0.0
SONM	**Songino Array**	**151.74**	**9**	PKP	PKPdf	21 04 01.6	+2.9
	3.4nm,0.6s,baz=307,slow=2.1,SNR=6.9						
SONM				PKPbc	PKPdf	21 04 07.8	+9.1
	5.9nm,0.5s,baz=299,slow=1.3,SNR=66						
SONM				PKPab	PKPab	21 04 17.3	0.0
	1.2nm,0.4s,baz=306,slow=1.7,SNR=6.6						
SONM				pPKPbc		21 05 02.7	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.1nm,0.7s,baz=319,slow=1.0,SNR=3.0						
MJAR	**Matsushiro Arr**	**151.99**	**312**	PKPbc	PKPdf	21 04 08.0	+8.6
	1.8nm,0.5s,baz=119,slow=1.4,SNR=5.7						

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*CSEM **19** 20:50:25.2±0.1, 35.63N×49.92E, h2km, ML4.7/2, Error ellipse: s-maj=2.7km s-min=1.5km az=44.0*
*THR **19** 20:50:26.1±0.7, 35.58N×49.91E, h14km±8km, ML3.4*
*TEH **19** 20:50:28.5, 35.81N×50.07E, h10km, Mn3.5*
ISC 19 20:50:26.7±0.5**, 35.59N**±0.04×**49.98E**±0.04**, h10km, n28, σ1§38**/32**, Western Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IRAZ	**Razeghan**	**0.19**	**192**	Pg	**Pg**	**20 50 30.2**	**-0.7**
IMHD	**Mahdasht**	**0.57**	**80**	Pg	**Pg**	**20 50 37.8**	**-0.4**
THKV	**Tehran--Karaj**	**0.80**	**66**	*e*PG	**Pg**	**20 50 42.5**	**-0.3**
ASAO	**Ashtian**	**1.04**	**178**	*e*PG	**Pg**	**20 50 45.4**	**-2.3**
ASAO				*e*SG	**Sg**	**20 50 59.7**	**-1.9**
ASAO				AML	AML	20 51 00.5	
	comp=E,597nm,0.4s						
ASAO	**Ashtian**	**1.04**	**178**	*e*Pg	**Pg**	**20 50 45.3**	**-2.3**
	SNR=90						
ASAO				*e*Sg	**Sg**	**20 50 59.7**	**-1.9**
	comp=E,597nm,0.4s,SNR=90						
IVRN	**Varamin**	**1.55**	**112**	Pn	**Pn**	**20 50 55.2**	**+0.7**
DAMV	**Damavand**	**1.62**	**88**	*e*PG	**Pg**	**20 50 56.7**	**-2.4**
DAMV				*e*SG	**Sg**	**20 51 19.5**	**-1.3**
DAMV				AML	AML	20 51 22.9	
	comp=N,1μm,0.3s						
DAMV	**Damavand**	**1.62**	**88**	*e*Pg	**Pg**	**20 50 56.7**	**-2.5**
	SNR=90						
DAMV				*e*Sg	**Sg**	**20 51 19.5**	**-1.3**
	comp=N,1μm,0.3s,SNR=90						
IDMV	**Damavand**	**1.67**	**90**	Pn	**Pn**	**20 50 57.1**	**+0.8**
IDMV	**Damavand**	**1.67**	**90**	Sn	**Sn**	**20 51 18.2**	**+0.2**
IPRN	**Paran-Amol**	**1.95**	**70**	Pn	**Pn**	**20 51 03.0**	**+2.8**
IFIR	**Firoozkooh**	**2.26**	**88**	Pn	**Pn**	**20 51 06.2**	**+1.5**
IKOM	**Komasi**	**2.47**	**236**	Pn	**Pn**	**20 51 10.6**	**+2.9**
IKLH	**Kalahroud**	**2.62**	**149**	Pn	**Pn**	**20 51 11.5**	**+1.6**
IVIS	**Veys**	**2.78**	**248**	Pn	**Pn**	**20 51 15.2**	**+3.1**
IGLO	**Galoogah**	**2.94**	**75**	Pn	**Pn**	**20 51 21.1**	**+6.7**
IDHR	**Dehrash**	**3.08**	**254**	Pn	**Pn**	**20 51 19.5**	**+3.1**
IBST	**Bostanabad**	**3.25**	**311**	Pn	**Pn**	**20 51 17.7**	**-1.2**
IZEF	**Zefreh**	**3.32**	**143**	Pn	**Pn**	**20 51 20.9**	**+1.1**
GRMI	**Germi**	**3.62**	**333**	*e*PN	**Pn**	**20 51 23.7**	**-0.3**
GRMI				AML	AML	20 52 22.1	
	comp=N,44nm,0.5s						
NASN	**Na'in**	**3.64**	**139**	*e*Pn	**Pn**	**20 51 25.2**	**+0.9**
IGAR	**Garneh**	**3.81**	**150**	Pn	**Pn**	**20 51 25.1**	**-1.7**
IAZR	**Azarshahr**	**3.83**	**304**	Pn	**Pn**	**20 51 26.1**	**-1.0**
ISHB	**Shabestar**	**4.41**	**309**	Pn	**Pn**	**20 51 33.7**	**-1.6**
ISAD	**Sadrabad**	**4.79**	**139**	Pn	**Pn**	**20 51 41.4**	**+0.6**
ICHK	**Chekchek**	**4.97**	**131**	Pn	**Pn**	**20 51 43.7**	**+0.5**
IMEH	**Mehriz**	**5.71**	**136**	Pn	**Pn**	**20 51 53.7**	**+0.1**
IBAF	**Bafgh**	**6.14**	**129**	Pn	**Pn**	**20 51 59.7**	**0.0**

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*NEIC **19** 20:50:26.4±3.8, 6.76S×129.63E, h117km±40km, mb4.0/1, Error ellipse: s-maj=28.3km s-min=20.7km az=46.0*
*IDC **19** 20:50:29.9±7.7, 6.91S×129.43E, h151km±78km, mb3.3/5, mb1 3.6/7, mb1mx3.4/15, mbtmp3.9/7, Error ellipse: s-maj=73.7km s-min=29.1km az=58.0*
ISC 19 20:50:32.3±3.3**, 7.1S**±0.1×**129.4E**±0.1**, h198km**±35km**, n10, σ1§26**/13**, mb3.5**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.53**	**198**	P	**P**	**20 53 13.2**	**+1.1**
	2.0nm,0.3s,baz=23,slow=9.6,SNR=21						
FITZ				S	**S**	**20 55 15.8**	**-1.9**
	1.8nm,0.3s,baz=1.2,slow=22,SNR=3.1						
WRAB	**Tennant Creek**	**13.60**	**160**	*e*Pn	**P**	**20 53 37.9**	**-0.5**
WRAB				*e*Sn	**S**	**20 56 06.6**	**+1.4**
WRA	**Warramunga Arr**	**13.61**	**160**	P	**P**	**20 53 37.8**	**-0.7**
	0.5nm,0.3s,baz=339,slow=9.7,SNR=24						
WRA				S	**S**	**20 56 03.2**	**-2.2**
	1.8nm,0.3s,baz=333,slow=22,SNR=11						
MBWA	**Marble Bar**	**16.82**	**213**	P	**P**	**20 54 19.2**	**+1.3**
	9.0nm,1.0s						
STKA	**Stephens Creek**	**27.12**	**157**	P	**P**	**20 56 01.1**	**+2.2**
	1.0nm,0.5s,mb3.7,baz=333,slow=20,SNR=4.1						
STKA	**Stephens Creek**	**27.12**	**157**	*e*P	**P**	**20 56 01.4**	**+2.5**
SONM	**Songino Array**	**58.38**	**342**	P	**P**	**21 00 08.6**	**-0.4**
	0.2nm,0.6s,mb3.0,baz=144,slow=6.2,SNR=2.9						
MKAR	**Makanchi Array**	**68.02**	**327**	P	**P**	**21 01 12.3**	**+0.2**
	0.6nm,0.4s,mb3.6,baz=124,slow=7.6,SNR=16						
ZAL	**Zalesovo**	**71.44**	**334**	P	**P**	**21 01 31.6**	**-1.1**
	0.9nm,0.2s,mb4.0,baz=291,slow=4.7,SNR=3.3						
BVAR	**Borovoye Array**	**77.86**	**328**	P	**P**	**21 02 09.2**	**-0.1**
	0.3nm,0.4s,mb3.3,baz=127,slow=7.2,SNR=2.8						

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*IDC **19** 21:06:27.1±1.0, 22.05N×144.86E, mb3.8/7, mb1 4.0/7, mb1mx3.8/21, mbtmp3.8/7, Error ellipse: s-maj=37.6km s-min=22.3km az=86.0*
ISC 19 21:06:30.5±1.1**, 22.0N**±0.1×**144.8E**±0.3**, h33km, n8, σ0§54**/7**, mb3.8**/7**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**40.04**	**319**	P	**P**	**21 14 04.1**	**0.0**
	0.2nm,0.5s,mb3.1,baz=135,slow=8.2,SNR=2.9						
WRA	**Warramunga Arr**	**42.91**	**194**	P	**P**	**21 14 28.0**	**-0.1**
	0.7nm,0.3s,mb3.9,baz=15,slow=8.5,SNR=38						
FITZ	**Fitzroy Crossi**	**44.03**	**207**	P	**P**	**21 14 37.1**	**0.0**
	7.7nm,0.7s,mb4.5,baz=358,slow=9.7,SNR=8.8						
MKAR	**Makanchi Array**	**55.57**	**312**	P	**P**	**21 16 05.9**	**+0.9**
	0.2nm,0.5s,mb3.4,baz=86,slow=9.3,SNR=4.7						
BVAR	**Borovoye Array**	**63.39**	**319**	P	**P**	**21 16 57.7**	**-1.1**
	0.6nm,0.4s,mb4.0,baz=98,slow=9.8,SNR=4.8						
NVAR	**Mina Array Bea**	**81.81**	**52**	P	**P**	**21 18 47.9**	**+0.1**
	0.5nm,0.7s,mb3.5,baz=285,slow=4.3,SNR=4.0						
FINES	**FINESS Array B**	**83.53**	**335**	P	**P**	**21 18 56.0**	**0.0**
	1.2nm,1.0s,mb4.0,baz=63,slow=3.1,SNR=4.2						
LPAZ	**La Paz**	**148.46**	**85**	PKPbc	PKPdf	21 26 16.9	+6.1
	0.8nm,0.5s,baz=221,slow=9.3,SNR=6.0						

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*IDC **19** 21:23:05.3±1.4, 22.01N×144.84E, mb3.5/4, mb1 3.6/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=60.5km s-min=27.5km az=73.0*
ISC 19 21:23:08.9±3.0**, 22.0N**±0.2×**144.6E**±0.9**, h33km, n6, σ1§21**/5**, mb3.6**/5**, 1D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.97**	**320**	P	**P**	**21 30 42.7**	**+0.9**
	0.1nm,0.3s,mb3.0,baz=135,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**42.82**	**194**	P	**P**	**21 31 05.9**	**+0.2**
	0.5nm,0.5s,mb3.5,baz=17,slow=8.4,SNR=10.0						
MKAR	**Makanchi Array**	**55.47**	**312**	P	**P**	**21 32 43.2**	**+0.5**
	0.4nm,0.7s,mb3.5,baz=89,slow=8.9,SNR=3.9						
KK31	**Karatay Array**	**63.91**	**308**	P	**P**	**21 33 39.1**	**-1.7**
	0.5nm,0.4s,mb3.9,baz=182,slow=14,SNR=16						
KK31				⇓S	Px	21 34 50.7	
	0.6nm,0.5s						
FINES	**FINESS Array B**	**83.50**	**335**	P	**P**	**21 35 34.2**	**-0.1**
	0.6nm,0.6s,mb3.9,baz=63,slow=3.1,SNR=4.2						
LPAZ	**La Paz**	**148.63**	**85**	PKPbc	PKPdf	21 42 55.2	+5.7
	0.6nm,0.5s,baz=36,slow=3.8,SNR=4.8						

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*IDC **19** 21:47:23.7±4.4, 30.75S×177.44W, h15km±26km, mb4.5/10, mb1 4.6/11, mb1mx4.5/15, mbtmp4.5/11, ML3.5/1, MS3.9/9, Ms1 3.9/9, ms1mx3.8/19, Error ellipse: s-maj=20.6km s-min=16.9km az=81.0*
*MOS **19** 21:47:25.4±1.2, 30.75S×177.56W, h33km, mb4.8/6, Error ellipse: s-maj=16.4km s-min=13.4km az=98.3*
*HRVD **19** 21:47:26.6±0.8, 30.63S×177.29W, h22km±2km, MW4.8/33, Centroid moment Tensor Solution. LP body waves: s16,c18;Mantle waves: s33,c42; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.60±.31; $M_{\theta\theta}$0.75±.23; $M_{\phi\phi}$-2.35±.19; $M_{r\theta}$0.50±.51; $M_{\theta\phi}$-0.33±.17; $M_{\phi r}$0.54±.28; Best double couple: $M_0$2.166×10^{16} NP1:ϕ_s164°,δ41°,λ56°. NP2:ϕ_s25°,δ57°,λ116°. Principal axes: T 1.862, Plg67°, Azm347°; N .608, Plg22°, Azm190°; P -2.471, Plg8°, Azm97°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **19** 21:47:26.6±0.3, 30.77S×177.53W, h35km, mb4.9/12, MS4.5/36 Error ellipse: s-maj=8.2km s-min=8.0km az=105.0*
*BJI **19** 21:47:26.6, 30.80S×177.50W, h35km, mB5.6, mb5.1*
ISC 19 21:47:25.2±0.4**, 30.86S**±0.05×**177.64W**±0.09**, h33km, n154, σ1§14**/56**, mb4.8**/21**, MS4.3**/46**, 9C-3D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.62**	**351**	Pn	**Pn**	**21 47 51.2**	**-0.8**
	588nm,0.3s,baz=125,slow=4.0,SNR=31						
RAO				Sn	**Sn**	**21 48 12.6**	**+0.8**
	1μm,0.3s,baz=107,slow=22,SNR=6.9						
RAO	**Raoul Island**	**1.62**	**351**⇑	*i*Pn	**Pn**	**21 47 50.7**	**-1.2**
RAO				*e*Sn	**Sn**	**21 48 11.4**	**-0.4**
RAO				Sn	**Sn**	**21 48 12.6**	**+0.8**
URZ	**Urewera**	**8.56**	**209**	Pn	**P**	**21 49 22.5**	**-7.2**
	0.9nm,0.3s,baz=353,slow=5.3,SNR=8.5						
URZ				Sn	**Sn**	**21 51 01.5**	**-4.9**
	3.6nm,0.3s,baz=162,slow=23,SNR=8.7						
URZ	**Urewera**	**8.56**	**209**	*e*PN	**P**	**21 49 22.7**	**-7.0**
URZ				SN	**Sn**	**21 50 59.1**	**-7.3**
URZ				SN	**Sn**	**21 50 59.1**	**-7.3**
MRZ	**Mangatainoka R**	**11.22**	**207**	SN	**S**	**21 51 58.3**	**-13**
SNZO	**South Karori**	**12.12**	**209**	*e*P	**P**	**21 50 17.7**	**-0.8**
MQZ	**McQueen's Vall**	**14.96**	**208**	SN	**S**	**21 53 23.9**	**-17**
RPZ	**Rata Peaks**	**15.66**	**212**	Pn	**P**	**21 50 59.0**	**-5.9**
	1.1nm,0.3s,baz=45,slow=8.1,SNR=5.8						
RPZ				Sn	**S**	**21 53 37.5**	**-20**
	0.3nm,0.3s,baz=1.8,slow=14,SNR=2.1						
DZM	**Mont Dzumac**	**16.71**	**298**	Pn	**P**	**21 51 20.8**	**+2.4**
	0.2nm,0.3s,baz=170,slow=14,SNR=2.7						
DZM				LR	LR	21 56 44.4	
	comp=Z,1μm,18.1s,baz=206,slow=33						
RAR	**Rarotonga**	**18.68**	**63**	*e*P	**P**	**21 51 40.4**	**-2.7**
TBI	**Tubuai**	**26.13**	**80**	*e*LQ		21 57 46.3	
	395nm,26.0s						
ARMA	**Armidale**	**26.41**	**263**⇑	*i*P	**P**	**21 53 02.0**	**+1.3**
PPT	**Papeete**	**28.71**	**69**	*e*LQ		21 58 43.5	
	323nm,23.8s						
PPT				*e*LR	LR	21 59 55.4	
	144nm,21.8s,baz=232						
PPT	**Papeete**	**28.71**	**69**	LR	LR	22 01 39.2	
	comp=Z,154nm,21.2s,MS3.6,baz=136,slow=30						
HNR	**Honiara**	**29.83**	**311**	LR	LR	22 03 23.7	
	comp=Z,166nm,20.4s,MS3.7,baz=35,slow=32						
CTA	**Charters Tower**	**34.18**	**280**⇑	*i*P	**P**	**21 54 11.1**	**+1.4**
	18nm,0.7s,mb5.1						
CTA	**Charters Tower**	**34.18**	**280**	P	**P**	**21 54 11.2**	**+1.5**
	17nm,0.6s,mb5.2,baz=109,slow=9.1,SNR=20						
CTAO	**Charters Tower**	**34.18**	**280**	*e*P	**P**	**21 54 11.1**	**+1.4**
	21nm,0.7s,mb5.2						
STKA	**Stephens Creek**	**34.68**	**258**	*e*P	**P**	**21 54 14.9**	**+1.0**
	14nm,0.5s,mb5.2						
STKA	**Stephens Creek**	**34.68**	**258**	P	**P**	**21 54 15.1**	**+1.2**
	15nm,0.4s,mb5.2,baz=101,slow=10,SNR=63						
STKA				LR	LR	22 07 42.9	
	comp=Z,466nm,20.1s,MS4.2,baz=27,slow=35						
STKA	**Stephens Creek**	**34.68**	**258**	*e*P	**P**	**21 54 14.1**	**+0.2**
RKT	**Rikitea**	**38.61**	**89**	*e*LR	LR	22 04 18.9	
	209nm,32.8s,baz=256						
WB2	**Warramunga Arr**	**44.42**	**272**	*e*P	**P**	**21 55 34.0**	**-0.8**
WRAB	**Tennant Creek**	**44.42**	**272**	*i* P	**P**	**21 55 34.4**	**-0.5**
WRAB	**Tennant Creek**	**44.42**	**272**	*e*P	**P**	**21 55 34.4**	**-0.4**
	27nm,0.6s,mb5.2						
WRAB				LR	LR		
	comp=Z,300nm,20.0s,MS4.2						
WRA	**Warramunga Arr**	**44.43**	**272**	P	**P**	**21 55 34.4**	**-0.5**
	comp=Z,19nm,0.6s,mb5.0,baz=112,slow=8.0,SNR=149						
WRA				ScP		22 01 10.9	
	comp=Z,0.3nm,0.6s,baz=101,slow=3.9,SNR=4.7						
SBA	**Scott Base**	**47.61**	**184**	*e*P	**P**	**21 56 02.1**	**+2.7**
	comp=Z,13nm,1.0s,mb4.9						
SBA				*e*	pP	21 56 13.5	+4.3
VNDA	**Vanda**	**47.68**	**186**	P	**P**	**21 56 00.2**	**+0.2**
	comp=Z,1.1nm,0.7s,mb4.0,baz=342,slow=5.5,SNR=7.4						
VNDA				LR	LR	22 13 50.5	
	comp=Z,110nm,19.4s,MS3.8,baz=320,slow=33						
VNDA	**Vanda**	**47.68**	**186**	*e*P	**P**	**21 55 59.5**	**-0.5**
	comp=Z,1.7nm,0.8s,mb4.1						
VNDA				LR	LR	22 13 50.5	
FITZ	**Fitzroy Crossi**	**52.67**	**270**	*e*P	**P**	**21 56 37.6**	**-1.1**
	comp=Z,8.4nm,0.6s,mb4.8						
CASY	**Casey**	**54.88**	**208**	*e*P	**P**	**21 56 53.4**	**-1.0**
	comp=Z,12nm,0.8s,mb5.0						
MBWA	**Marble Bar**	**56.48**	**264**	*e*P	**P**	**21 57 04.9**	**-1.7**
QSPA	**South Pole Qui**	**59.26**	**180**	*e*P	**P**	**21 57 25.2**	**-0.1**
	comp=Z,33nm,0.9s						
QSPA				LR	LR		
	comp=Z,1.0nm,19.0s						
PMSA	**Palmer Station**	**71.72**	**156**	*e*P	**P**	**21 58 44.9**	**-0.5**
	comp=Z,4.5nm,0.8s,mb4.5						
MAW	**Mawson**	**71.99**	**201**	P	**P**	**21 58 47.2**	**+0.3**
	comp=Z,2.8nm,0.7s,mb4.3,baz=130,slow=8.1,SNR=10						
SNAA	**Sanae**	**77.69**	**178**⇑	*i*P	**P**	**21 59 19.4**	**-0.2**
SNAA	**Sanae**	**77.69**	**178**		PcP	21 59 28.5	-1.5
SNAA	**Sanae**	**77.69**	**178**		pP	21 59 30.0	0.0
SNAA	**Sanae**	**77.69**	**178**		sP	21 59 34.2	+0.6
SNAA	**Sanae**	**77.69**	**178**	*i* P	**P**	**21 59 19.3**	**-0.3**
SNAA	**Sanae**	**77.69**	**178**	*e*P	**P**	**21 59 19.3**	**-0.4**
VNA3	**Neumayer Olymp**	**77.83**	**176**⇑	*i*P	**P**	**21 59 20.7**	**+0.3**
VNA3	**Neumayer Olymp**	**77.83**	**176**		PcP	21 59 29.8	-0.8
VNA3	**Neumayer Olymp**	**77.83**	**176**		sP	21 59 35.5	+1.1
VNA2	**Neumayer--Watz**	**78.27**	**177**⇑	*i*P	**P**	**21 59 23.7**	**+0.9**
VNA2	**Neumayer--Watz**	**78.27**	**177**		PcP	21 59 31.0	-1.5
VNA2	**Neumayer--Watz**	**78.27**	**177**		pP	21 59 35.5	+2.3
VNA2	**Neumayer--Watz**	**78.27**	**177**		sP	21 59 39.0	+2.2
VNA1	**Neumayer--Stat**	**78.50**	**176**	P	**P**	**21 59 25.0**	**+0.9**
VNA1	**Neumayer--Stat**	**78.50**	**176**		sP	21 59 39.3	+1.2
MJAR	**Matsushiro Arr**	**78.79**	**325**	P	**P**	**21 59 24.5**	**-1.9**
	comp=Z,1.9nm,0.7s,mb4.1,baz=162,slow=6.0,SNR=6.8						
PLCA	**Paso Flores**	**81.97**	**133**	P	**P**	**21 59 43.3**	**+0.1**
	comp=Z,4.1nm,1.0s,mb4.3,baz=248,slow=4.3,SNR=6.6						
PLCA				LR	LR	22 28 07.4	
	comp=Z,117nm,21.9s,MS4.2,baz=212,slow=30						
PLCA	**Paso Flores**	**81.97**	**133**	*e*P	**P**	**21 59 43.7**	**+0.5**
	comp=Z,4.8nm,1.0s,mb4.4						
PLCA				LR	LR	22 28 07.4	
SSE	**Sheshan**	**84.64**	**311**	P	**P**	**21 59 57.0**	**0.0**
SSE				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,471nm,4.4s						
YSS	**Yuzh-Sakhalins**	**85.29**	**334**	*i* P	**P**	**21 59 57.8**	**-2.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
YSS				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.3						
YSS	**Yuzh-Sakhalins**	**85.29**	**334**	PFAKE		22 00 10.0	+10
YSS				LR	LR		
	comp=Z,111nm,19.0s,MS4.3						
SAO	**San Andreas Ge**	**85.40**	**42**	PFAKE		22 00 10.0	+9.4
SAO				LR	LR		
	comp=Z,290nm,19.0s,MS4.7						
PET	**Petropavlovsk**	**86.05**	**346**	PFAKE		22 00 10.0	+6.7
PET				LR	LR		
	comp=Z,109nm,20.0s,MS4.2						
HOPS	**Hopland**	**86.06**	**40**	PFAKE		22 00 10.0	+6.2
HOPS				LR	LR		
	comp=Z,223nm,19.0s,MS4.6						
PFO	**Pinyon Flat Ob**	**86.29**	**47**	PFAKE		22 00 20.0	+15
PFO				LR	LR		
	comp=Z,50nm,19.0s,MS3.9						
NJ2	**Nanjing**	**86.78**	**310**	*e*P	**P**	**22 00 09.5**	**+2.1**
NJ2				AP	pP	22 00 17.1	-0.9
NJ2				XP	sP	22 00 19.6	-1.8
NJ2				PP	PP	22 03 34.1	+1.7
NJ2				S	S	22 10 43.0	+1.9
NJ2				XS		22 10 58.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.0						
CMB	**Columbia Colle**	**86.89**	**42**	*e*P	**P**	**22 00 08.0**	**+0.2**
	comp=Z,5.3nm,1.0s,mb4.7						
CMB				LR	LR		
	comp=Z,200nm,19.0s,MS4.5						
DAC	**Darwin (Calif)**	**87.34**	**44**	PFAKE		22 00 20.0	+10
DAC				LR	LR		
	comp=Z,212nm,19.0s,MS4.6						
WDC	**Whiskeytown Da**	**87.47**	**39**	PFAKE		22 00 20.0	+9.4
WDC				LR	LR		
	comp=Z,109nm,19.0s,MS4.3						
CFAA	**Coronel Fontan**	**88.72**	**126**	LR	LR	22 32 01.4	
	comp=Z,8.0nm,19.3s,baz=190,slow=30						
TPH	**Tonopah**	**88.76**	**43**	PFAKE		22 00 30.0	+13
TPH				LR	LR		
	comp=Z,108nm,20.0s,MS4.3						
TUC	**Tucson**	**89.15**	**51**	PFAKE		22 00 30.0	+11
TUC				LR	LR		
	comp=Z,125nm,20.0s,MS4.3						
MOD	**Modoc**	**89.60**	**39**	PFAKE		22 00 30.0	+9.3
MOD				LR	LR		
	comp=Z,177nm,19.0s,MS4.5						
BMN	**Battle Mountai**	**90.32**	**42**	PFAKE		22 00 30.0	+5.9
BMN				LR	LR		
	comp=Z,241nm,20.0s,MS4.6						
CN2	**Changchun**	**90.69**	**323**	*e*P	**P**	**22 00 25.3**	**-0.5**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.5						
WVOR	**Wild Horse Val**	**90.87**	**39**	PFAKE		22 00 40.0	+13
WVOR				LR	LR		
	comp=Z,213nm,19.0s,MS4.6						
ELK	**Elko**	**91.67**	**42**	P	**P**	**22 00 30.3**	**-0.1**
	comp=Z,1.1nm,0.7s,mb4.3,baz=247,slow=5.9,SNR=5.5						
MVU	**Marysvale**	**92.05**	**46**	PFAKE		22 00 40.0	+7.8
MVU				LR	LR		
	comp=Z,149nm,21.0s,MS4.4						
ANMO	**Albuquerque**	**93.62**	**51**	P	**P**	**22 00 39.6**	**+0.1**
	comp=Z,1.2nm,0.7s,mb4.5,baz=48,slow=2.8,SNR=3.7						
ANMO	**Albuquerque**	**93.62**	**51**	*e*P	**P**	**22 00 40.2**	**+0.8**
	comp=Z,1.3nm,0.6s,mb4.5						
ANMO				LR	LR		
	comp=Z,171nm,19.0s,MS4.5						
HWUT	**Hardware Ranch**	**94.36**	**43**	PFAKE		22 00 50.0	+7.4
HWUT				LR	LR		
	comp=Z,174nm,19.0s,MS4.5						
SDCO	**Great Sand Dun**	**95.85**	**49**	PFAKE		22 01 00.0	+10
SDCO				LR	LR		
	comp=Z,174nm,20.0s,MS4.5						
BW06	**Boulder Array**	**96.25**	**43**	PFAKE		22 01 00.0	+8.8
BW06				LR	LR		
	comp=Z,157nm,20.0s,MS4.5						
PDAR	**Pinedale Array**	**96.25**	**43**	P	**P**	**22 00 51.1**	**-0.1**
	comp=Z,0.4nm,0.7s,mb4.0,baz=135,slow=6.3,SNR=4.2						
PDAR				LR	LR	22 40 38.9	
	comp=Z,110nm,19.3s,MS4.3,baz=120,slow=33						
ISCO	**Idaho Springs**	**96.94**	**48**	PFAKE		22 01 10.0	+16
ISCO				LR	LR		
	comp=Z,142nm,20.0s,MS4.5						
MCK	**McKinley**	**96.97**	**12**	PFAKE		22 01 00.0	+6.0
MCK				LR	LR		
	comp=Z,79nm,19.0s,MS4.2						
BILL	**Bilibino**	**99.33**	**354**⇑	*e*P	**P**	**22 01 06.7**	**+2.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.9						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.4						
CPUP	**Villa Florida**	**99.46**	**128**	LR	LR	22 38 13.3	
	comp=Z,56nm,18.3s,MS4.1,baz=292,slow=31						
YAK	**Yakutsk**	**101.78**	**337**	PFAKE		22 01 30.0	+14
YAK				LR	LR		
	comp=Z,98nm,21.0s,MS4.3						
OXF	**Oxford**	**105.42**	**59**	PFAKE		22 06 00.0	
OXF				LR	LR		
	comp=Z,125nm,19.0s,MS4.5						
PLAL	**Pickwick Lake**	**106.61**	**59**	PFAKE		22 06 00.0	
PLAL				LR	LR		
	comp=Z,209nm,19.0s,MS4.7						
WCI	**Wyandotte Cave**	**109.29**	**57**	PFAKE		22 06 00.0	
WCI				LR	LR		
	comp=Z,207nm,19.0s,MS4.7						
NHSC	**New Hope**	**111.79**	**64**	PFAKE		22 06 10.0	+13
NHSC				LR	LR		
	comp=Z,151nm,21.0s,MS4.6						
MCWV	**Mont Chateau**	**114.48**	**57**	PFAKE		22 06 10.0	+8.1
MCWV				LR	LR		
	comp=Z,241nm,19.0s,MS4.8						
CBN	**Corbin**	**115.79**	**59**	PFAKE		22 06 20.0	+16
CBN				LR	LR		
	comp=Z,125nm,19.0s,MS4.5						
MKAR	**Makanchi Array**	**118.30**	**310**	*i* PKIKP	PKPdf	22 06 09.0	-0.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**118.30**	**310**	PKP	PKPdf	22 06 08.8	-0.3
	comp=Z,0.6nm,0.5s,baz=94,slow=1.4,SNR=15						
HRV	**Harvard--Oak R**	**121.31**	**56**	PFAKE		22 06 30.0	+15
HRV				LR	LR		
	comp=Z,199nm,19.0s,MS4.8						
WES	**Weston**	**121.45**	**56**	PFAKE		22 06 30.0	+15
WES				LR	LR		
	comp=Z,749nm,20.0s,MS5.3						
KURK	**Kurchatov**	**121.59**	**314**	PKIKP	PKPdf	22 06 14.7	-0.7
KURK	**Kurchatov**	**121.59**	**314**	PFAKE		22 06 30.0	+15
KURK				LR	LR		
	comp=Z,14nm,20.0s,MS3.6						
AAK	**Ala-Archa**	**122.62**	**303**	*i* PKIKP	PKPdf	22 06 17.5	-0.1
AAK	**Ala-Archa**	**122.62**	**303**	PFAKE		22 06 30.0	+12
AAK				LR	LR		
	comp=Z,18nm,20.0s,MS3.7						
WVL	**Waterville**	**123.14**	**54**	PFAKE		22 06 30.0	+11
WVL				LR	LR		
	comp=Z,4μm,22.0s						
PQI	**Presque Isle**	**124.67**	**52**	PFAKE		22 06 30.0	+8.6
PQI				LR	LR		
	comp=Z,1μm,20.0s						
EMMW	**East Machias**	**124.70**	**54**	PFAKE		22 06 30.0	+8.5
EMMW				LR	LR		
	comp=Z,2μm,21.0s						
KKAR	**Karatay Array**	**125.58**	**303**	*i* PKIKP	PKPdf	22 06 23.7	+0.5
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SCHQ	**Schefferville**	**126.37**	**42**	PFAKE		22 06 40.0	+16
SCHQ				LR	LR		
	comp=Z,199nm,20.0s,MS4.8						
BVA0	**Borovoye Array**	**126.95**	**315**	*i* PKIKP	PKPdf	22 06 25.8	+0.2
BRVK	**Borovoye**	**127.01**	**316**	PFAKE		22 06 40.0	+14
BRVK				LR	LR		
	comp=Z,9.0nm,20.0s,MS3.5						
ZRNK	**Zerenda**	**127.78**	**315**	PKIKP	PKPdf	22 06 27.5	+0.3
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AB31	**Akbulak array**	**133.44**	**310**	*i* PKIKP	PKPdf	22 06 39.0	+0.9
AB31				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ARU	**Arti**	**133.64**	**320**	*i* PKIKP	PKPdf	22 06 39.3	+1.0
ARU				*e*		22 09 05.6	
ARU				*e*SS	SS	22 26 53.2	+1.2
ARU	**Arti**	**133.64**	**320**	PFAKE		22 06 50.0	+12
ARU				LR	LR		
	comp=Z,21nm,19.0s,MS3.9						
KMBO	**Kilima Mbogo**	**134.05**	**233**	PFAKE		22 06 50.0	+10
KMBO				LR	LR		
	comp=Z,404μm,19.0s						
ARCES	**ARCESS Array B**	**139.10**	**348**	PKhKP		22 06 39.6	
	comp=Z,1.2nm,0.7s,baz=45,slow=3.4,SNR=6.3						
GNI	**Garni**	**144.55**	**297**	*i* PKIKP	PKPdf	22 06 58.4	+0.2
MOS	**Moscow**	**144.88**	**325**	*e*PKHKP		22 06 55.9	
ZEI	**Tsey**	**145.01**	**302**	*e*PKIKP	PKPdf	22 06 59.1	+0.1
KAF	**Kangasniemi**	**145.08**	**341**	*e*pkp	PKPdf	22 06 57.5	-1.0
	baz=39,slow=3.1						
GOF	**Gofitskoye**	**145.31**	**306**⇓	*i*PKIKP	PKPdf	22 07 00.2	+0.8
ONI	**Oni**	**145.36**	**301**	P	PKPdf	22 07 01.3	+1.8
FINES	**FINESS Array B**	**145.68**	**340**	*i* PKP2	PKPab	22 07 00.2	-2.0
FINES				pmax	pmax		
	comp=Z,15nm,0.4s						
FINES	**FINESS Array B**	**145.68**	**340**	PKPbc	PKPbc	22 07 00.1	-0.1
	comp=Z,15nm,0.4s,baz=90,slow=3.3,SNR=176						
OBN	**Obninsk**	**145.72**	**325***c*	*i*PKP2	PKPab	22 07 00.8	-1.8
OBN				*e*SS	SS	22 29 06.8	-5.9
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.6						
KIV	**Kislovodsk**	**145.74**	**304**	*i* PKP2	PKPab	22 07 01.6	-1.4
KIV				pmax	pmax		
	comp=N,9.0nm,0.9s						
KIV				pmax	pmax		
	comp=Z,12nm,0.9s						
KIV				pmax	pmax		
	comp=E,5.0nm,0.8s						
KIV	**Kislovodsk**	**145.74**	**304**	PFAKE		22 07 10.0	+10
KIV				LR	LR		
	comp=Z,8.0nm,19.0s,MS3.5						
VSU	**Vasula**	**147.77**	**336**	*i* PKP2	PKPab	22 07 06.4	-4.0
SOC	**Sochi**	**147.92**	**304**	*i* PKP2	PKPab	22 07 13.6	+2.1
SOC				*e*		22 10 36.3	
SOC				*e*PPP	PPP	22 13 55.1	-3.4
SOC				*e*		22 23 19.1	
SOC				*e*SS	SS	22 29 38.5	+0.2
SOC				*e*SSS	SSS	22 35 12.5	-1.5
SOC				pmax	pmax		
	comp=N,19nm,1.0s						
SOC				pmax	pmax		
	comp=Z,20nm,1.0s						
SOC				pmax	pmax		

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=E,6.0nm,0.8s						
NB2	**NORSAR Subarra**	**149.25**	**352**	PKPabc	PKPdf	22 07 10.2	+4.8
	comp=E,3.4nm,0.7s,baz=15,slow=2.7						
NOA	**NORSAR Array B**	**149.25**	**352**	PKPbc	PKPdf	22 07 10.2	+4.9
	comp=E,3.4nm,0.7s,baz=14,slow=4.3,SNR=18						
ANN	**Anapa**	**149.26**	**307**	ePKP2	PKPab	22 07 14.8	-2.1
ANN				pmax	pmax		
	comp=Z,29nm,0.8s						
HFS	**Hagfors**	**149.75**	**349**	PKPbc	PKPdf	22 07 11.2	+5.0
	comp=Z,8.1nm,0.8s,baz=90,slow=3.0,SNR=22						
KSHT	**Keshet**	**151.59**	**283**	P	PKPdf	22 07 18.5	+8.6
KSDI	**Kefar Szold**	**151.74**	**284**	P	PKPdf	22 07 18.7	+8.6
BHL	**Bhannes**	**151.79**	**285**	eP	PKPdf	22 07 15.8	+5.6
ZFRI	**Zfri**	**151.84**	**278**	P	PKPdf	22 07 18.5	+8.2
AKASG	**Malin Array Be**	**151.85**	**322**	PKPbc	PKPdf	22 07 16.8	+7.1
	comp=Z,5.6nm,0.7s,baz=49,slow=2.7,SNR=20						
MMLI	**Mount Malkishu**	**151.87**	**282**	P	PKPdf	22 07 19.3	+9.0
EIL	**Elat**	**151.88**	**276**	P	PKPdf	22 07 18.6	+8.2
MBH	**Mount Berech**	**151.93**	**276**	P	PKPdf	22 07 19.2	+8.7
MMA0	**Mount Meron ar**	**151.94**	**283**	P	PKPdf	22 07 18.1	+7.7
PRNI	**Paran**	**151.95**	**277**	P	PKPdf	22 07 18.9	+8.4
SLTI	**Sal'it**	**152.17**	**281**	P	PKPdf	22 07 19.4	+8.7
KZIT	**Kziot**	**152.55**	**278**	P	PKPdf	22 07 20.1	+8.8
BRTR	**Keskin Array B**	**153.09**	**298**	PKPbc	PKPdf	22 07 20.4	+8.6
	comp=Z,2.1nm,0.5s,baz=135,slow=3.5,SNR=14						
DBIC	**Dimbokro**	**155.01**	**163**	PFAKE		22 07 30.0	+15
DBIC				LR	LR		
	comp=Z,207nm,20.0s,MS5.0						
BURAR	**Bucovina Array**	**155.78**	**320**	⇓P	PKPdf	22 07 32.5	+17
KWP	**Kalwaria**	**155.78**	**327**	ePKP	PKPab	22 07 43.2	-1.0
MLR	**Muntele Rosu**	**156.51**	**315**	⇑P	PKPdf	22 07 30.5	+14
DRGR		**157.64**	**321**	⇓P	PKPab	22 07 51.7	-0.6
UPC	**Upice**	**157.87**	**336**	ePKPab	PKPab	22 07 52.3	-0.8
DPC	**Dobruska-Polom**	**157.90**	**336**	ePKPab	PKPab	22 07 51.9	-1.3
CLL	**Collm**	**158.09**	**342**	ePKP2	PKPab	22 07 52.0	-2.1
CLL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CLL	**Collm**	**158.09**	**342**	ePKP2	PKPab	22 07 52.0	-2.1
CLL				i		22 07 57.2	
CLL				i *PPKP2		22 08 02.9	
BRG	**Berggiesshubel**	**158.22**	**340**	ePKP2	PKPab	22 08 00.4	+5.8
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PRU	**Pruhonice**	**158.81**	**338**	ePKPab	PKPab	22 07 55.9	-1.3
KHC	**Kasperske Hory**	**159.87**	**338**	ePKPab	PKPab	22 08 00.6	-1.1
GERES	**GERESS Array B**	**160.07**	**338**	PKP	PKPdf	22 07 22.5	+2.1
	comp=Z,0.1nm,0.3s,baz=51,slow=8.5,SNR=3.5						
GERES				PKPab	PKPab	22 08 01.9	-0.7
	comp=Z,0.6nm,0.6s,baz=39,slow=8.5,SNR=5.1						

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*IDC **19** 22:21:40.6±1.1, 23.33S×68.12W, h109km±20km, mb3.7/1, mb1 3.3/4, mb1mx3.2/16, mbtmp3.7/4, Error ellipse: s-maj=31.9km s-min=17.6km az=97.0*

*NEIC **19** 22:21:43.3, 23.22S×68.40W, h117km, mb3.6/1, After GUC.*

*GUC **19** 22:21:43.3±1.1, 23.22S×68.40W, h117km±11km, ML4.0*

ISC 19 22:21:40.6±0.7**, 23.23S**±0.08×**68.23W**±0.09**, h134**km±9km**, n12, σ1s25**/19**, 3C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**0.32**	**4**	⇓iP	**P**	**22 22 01.3**	**+2.0**
SPCH				i S	**S**	**22 22 14.7**	**+1.0**
SPCH				AMP		22 22 15.4	
	comp=N,8μm,0.4s						
LVC	**Limon Verde**	**0.88**	**314**	i P	**P**	**22 22 03.7**	**+0.8**
LVC				i S	**S**	**22 22 19.0**	**-1.0**
LVC				AMP		22 22 19.6	
	comp=N,5μm,0.2s						
LVC	**Limon Verde**	**0.88**	**314**	P	**P**	**22 22 03.8**	**+0.9**
	comp=N,112nm,0.3s,baz=128,slow=9.3,SNR=874						
LVC				S	**S**	**22 22 18.5**	**-1.5**
	comp=N,532nm,0.3s,baz=158,slow=8.4,SNR=185						
LVC	**Limon Verde**	**0.88**	**314**	⇑iP	**P**	**22 22 03.9**	**+0.9**
LVC				i S	**S**	**22 22 19.1**	**-1.0**
ANCH	**Antofagasta**	**2.06**	**257**	⇑iP	**P**	**22 22 16.4**	**+0.5**
ANCH				i S	**S**	**22 22 41.5**	**-1.2**
ANCH				AMP		22 22 45.3	
	comp=N,1μm,0.0s						
CPN1	**Cerro Paranal**	**2.43**	**235**	⇑iP	**P**	**22 22 21.8**	**+1.0**
CPN1				i S	**S**	**22 22 51.4**	**+0.1**
CPN1				AMP		22 22 51.8	
	comp=N,587nm,0.3s						
LPAZ	**La Paz**	**6.91**	**1**	P	**P**	**22 23 22.1**	**+1.5**
	comp=N,0.2nm,0.3s,baz=190,slow=9.9,SNR=4.7						
CFAA	**Coronel Fontan**	**8.34**	**180**	P	**P**	**22 23 38.2**	**-1.5**
	comp=N,0.1nm,0.3s,baz=3.2,slow=12,SNR=6.7						
CFAA				S	**S**	**22 25 08.1**	**-4.6**
	comp=N,0.0nm,0.3s,baz=67,slow=21,SNR=3.3						
SIV	**San Ignacio**	**9.86**	**44**	P	**P**	**22 23 57.9**	**-2.2**
	comp=N,3.3nm,0.3s,baz=234,slow=12,SNR=41						
SIV				S	**S**	**22 25 40.0**	**-9.1**
	comp=N,0.5nm,0.3s,baz=140,slow=21,SNR=7.0						
TRQA	**Tornquist**	**15.71**	**162**	P	**P**	**22 25 17.3**	**+1.6**
	comp=N,2.9nm,0.8s						
BDFB	**Brasilia**	**20.49**	**72**	P	**P**	**22 26 09.3**	**-0.4**
	comp=N,3.6nm,0.4s,baz=252,slow=10,SNR=8.1						
WRA	**Warramunga Arr**	**131.77**	**209**	PKP	PKPdf	22 40 40.7	+2.0
	comp=N,0.5nm,0.8s,baz=160,slow=1.7,SNR=4.6						

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*ATH **19** 22:36:15.1, 40.41N×21.11E, h21km±1km, MD3.2/6*

*NEIC **19** 22:36:15.0, 40.42N×21.10E, h19km, MD3.2(ATH), After ATH.*

*CSEM **19** 22:36:15.9±0.1, 40.38N×21.12E, h5km, ML3.1, Error ellipse: s-maj=1.6km s-min=1.6km az=140.0*

*THE **19** 22:36:17.0, 40.35N×21.24E, h4km, ML3.1*

ISC 19 22:36:15.4±0.4**, 40.35N**±0.02×**21.20E**±0.03**, h12**km±4km**, n27, σ1s35**/46**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBN	**Korca**	**0.42**	**311**	i Pg	**Pg**	**22 36 23.3**	**-0.7**
KBN				i Sg	**Sg**	**22 36 29.6**	**-0.1**
KZN	**Kozani**	**0.44**	**96**	ePN	**Pn**	**22 36 25.6**	**-1.5**
KZN				eSN	**Sn**	**22 36 33.6**	**-1.3**
FNA	**Florina**	**0.45**	**17**	ePg	**Pg**	**22 36 24.8**	**+0.1**
	comp=Z,30nm,0.3s						
FNA				eSg	**Sg**	**22 36 32.0**	**+1.2**
LSK	**Leskovik**	**0.50**	**246**	i Pg	**Pg**	**22 36 24.8**	**-0.9**
LSK				i Sg	**Sg**	**22 36 32.0**	**-0.6**
MEV	**Metsovon**	**0.57**	**178**	ePg	**Pg**	**22 36 26.9**	**-0.1**
	comp=Z,18nm,0.4s						
MEV				eSg	**Sg**	**22 36 36.1**	**+1.4**
JAN	**Janina**	**0.75**	**201**	ePN	**Pn**	**22 36 30.0**	**-1.5**
JAN				eSN	**Sn**	**22 36 41.0**	**-1.8**
LIT	**Litokhoron**	**1.02**	**104**	ePg	**Pg**	**22 36 37.0**	**+1.2**
	comp=Z,14nm,0.4s						
LIT				eSg	**Sg**	**22 36 50.6**	**+1.1**
LIT	**Litokhoron**	**1.02**	**104**	ePg	**Pg**	**22 36 37.0**	**+1.2**
	14nm,0.4s						
LIT				eSg	**Sg**	**22 36 50.6**	**+1.1**
SRN	**Sarande**	**1.04**	**243**	i Pg	**Pg**	**22 36 38.5**	**+2.3**
SRN				i Sg	**Sg**	**22 36 52.3**	**+2.2**
IGT	**Igoumenitsa**	**1.06**	**220**	ePg	**Pg**	**22 36 36.2**	**-0.5**
GRG	**Griva**	**1.09**	**56**	ePg	**Pg**	**22 36 36.9**	**-0.5**
GRG				eSg	**Sg**	**22 36 53.2**	**+1.2**
KEK	**Kerkira**	**1.25**	**240**	ePN	**Pn**	**22 36 38.5**	**-0.3**
THE	**Thessaloniki**	**1.37**	**78**	ePg	**Pg**	**22 36 42.4**	**-0.5**
THE				eSg	**Sg**	**22 36 59.9**	**-1.3**
EVR	**Evrytania**	**1.51**	**162**	ePb	**Pb**	**22 36 43.6**	**+0.7**
EVR				eSn	**Sn**	**22 37 06.4**	**+4.3**
EVR	**Evrytania**	**1.51**	**162**	ePN	**Pb**	**22 36 43.6**	**+0.7**
EVR				eSN	**Sn**	**22 37 05.8**	**+3.7**
QSH	**Qafa e Shtames**	**1.53**	**320**	i Pg	**Pg**	**22 36 43.5**	**-2.5**
QSH				i Sg	**Sg**	**22 37 05.5**	**-0.9**
AGG	**Agios Georgios**	**1.59**	**146**	ePg	**Pg**	**22 36 44.7**	**-2.5**
AGG				eSg	**Sg**	**22 37 06.0**	**-2.4**
SKO	**Skopje**	**1.63**	**6**	i Pn	**Pn**	**22 36 46.5**	**+2.4**
LKD	**Levkas**	**1.70**	**195**	ePb	**Pb**	**22 36 48.2**	**+2.1**
	comp=Z,4.3nm,0.6s						
LKD				eSb	**Sb**	**22 37 10.1**	**+2.7**
SOH	**Sokhos**	**1.70**	**73**	ePb	**Pb**	**22 36 46.7**	**+0.4**
SOH				eSb	**Sb**	**22 37 09.9**	**+2.4**
PLG	**Polygyros**	**1.71**	**89**	ePN	**Pn**	**22 36 46.9**	**+1.5**
PLG	**Polygyros**	**1.71**	**89**	ePn	**Pn**	**22 36 47.1**	**+1.7**
XOR	**Xorichti**	**1.82**	**122**	ePb	**Pb**	**22 36 47.4**	**-0.8**
XOR				eSb	**Sb**	**22 37 10.9**	**-0.1**
NEO	**Neokhori**	**1.87**	**123**	ePB	**Pb**	**22 36 49.0**	**-0.1**
PAIG	**Paliouri**	**1.95**	**102**	ePb	**Pb**	**22 36 49.5**	**-0.8**
PAIG				eSb	**Sb**	**22 37 14.0**	**-0.5**
OUR	**Ouranopolis**	**2.12**	**90**	ePn	**Pn**	**22 36 52.5**	**+1.3**
NVR	**Nevrokopi**	**2.25**	**63**	ePB	**Pb**	**22 36 54.2**	**-1.4**

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*IDC **19** 23:03:02.7±0.5, 24.76S×179.70E, h507km±4km, mb4.0/12, mb1 4.1/14, mb1mx4.1/16, mbtmp4.9/14, Error ellipse: s-maj=14.0km s-min=10.9km az=65.0*

*NEIC **19** 23:03:03.2±1.1, 24.82S×179.65E, h520km±11km, mb4.8/13, Error ellipse: s-maj=14.2km s-min=9.5km az=45.0*

*BJI **19** 23:03:03.2, 24.80S×179.60E, h519km, mB4.7, mb4.6*

ISC 19 23:03:03.2±0.8**, 24.98S**±0.05×**179.46E**±0.08**, h518**km±9km**, n100, σ1s05**/70**, mb4.5**/23**, 11C-6D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.86**	**152**	P	**P**	**23 04 30.8**	**+0.2**
	205nm,0.3s,baz=80,slow=22,SNR=12						
RAO				S	**S**	**23 05 40.3**	**+0.4**
	46nm,0.3s,baz=98,slow=22,SNR=2.9						
RAO	**Raoul Island**	**4.86**	**152**	eP	**P**	**23 04 30.8**	**+0.2**
RAO				S	**S**	**23 05 43.6**	**+3.8**
DZM	**Mont Dzumac**	**12.29**	**281**	P	**P**	**23 05 47.8**	**+2.4**
	1.2nm,0.3s,baz=83,slow=18,SNR=9.2						
DZM				S	**S**	**23 08 01.2**	**+5.4**
	0.2nm,0.3s,baz=104,slow=20,SNR=2.1						
PUZ	**Puketiti**	**13.10**	**184**	ePN	**P**	**23 05 49.8**	**-3.8**
PUZ				SN	**S**	**23 08 09.1**	**-1.9**
URZ	**Urewera**	**13.39**	**188**	P	**P**	**23 05 55.4**	**-1.3**
	13nm,0.3s,baz=7.0,slow=3.5,SNR=50						
URZ				S	**S**	**23 08 15.1**	**-1.4**
	4.2nm,0.3s,baz=248,slow=21,SNR=7.1						
URZ	**Urewera**	**13.39**	**188**	ePN	**P**	**23 05 53.6**	**-3.1**
URZ				SN	**S**	**23 08 14.8**	**-1.7**
BKZ	**Black Stump Fm**	**14.37**	**189**	SN	**S**	**23 08 35.1**	**+0.4**
NGZ	**Ngauruhoe**	**14.53**	**192**	ePN	**P**	**23 06 08.2**	**0.0**
CNZ	**Chateau**	**14.56**	**192**	ePN	**P**	**23 06 08.2**	**-0.4**
TUVZ	**Tukino**	**14.61**	**192**	PN	**P**	**23 06 08.7**	**-0.4**
SNZO	**South Karori**	**16.76**	**193**	eP	**P**	**23 06 30.4**	**+0.1**
SNZO				eS	**S**	**23 09 20.1**	**+2.1**
QRZ	**Quartz Range**	**16.83**	**198**	PN	**P**	**23 06 32.2**	**+1.2**
NNZ	**Nelson**	**16.97**	**196**	PN	**P**	**23 06 32.0**	**-0.4**
THZ	**Tophouse**	**17.61**	**196**	ePN	**P**	**23 06 38.8**	**+0.2**
THZ				SN	**S**	**23 09 33.0**	**+0.5**
LTZ	**Lake Taylor**	**18.72**	**197**	ePN	**P**	**23 06 48.5**	**-0.9**
RPZ	**Rata Peaks**	**19.92**	**198**	P	**P**	**23 06 57.7**	**-3.0**
	20nm,0.5s,baz=245,slow=21,SNR=4.8						
ARMA	**Armidale**	**25.20**	**251**	⇑iP	**P**	**23 07 49.3**	**+0.5**
CTA	**Charters Tower**	**31.01**	**272**	⇓iP	**P**	**23 08 40.2**	**+0.7**
	70nm,0.6s,mb5.4						
CTA	**Charters Tower**	**31.01**	**272**	P	**P**	**23 08 40.4**	**+0.9**
	87nm,0.5s,mb5.5,baz=95,slow=11,SNR=116						
CTAO	**Charters Tower**	**31.01**	**272**	eP	**P**	**23 08 40.4**	**+0.9**
	72nm,0.5s,mb5.5						
STKA	**Stephens Creek**	**33.88**	**250**	eP	**P**	**23 09 04.7**	**+1.1**
	14nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**33.88**	**250**	P	**P**	**23 09 05.0**	**+1.4**
	16nm,0.6s,mb4.7,baz=91,slow=9.1,SNR=58						
STKA	**Stephens Creek**	**33.88**	**250**	eP	**P**	**23 09 04.9**	**+1.3**
PMG	**Port Moresby**	**34.40**	**291**	P	**P**	**23 09 08.3**	**+0.2**
	55nm,0.8s,mb5.2,baz=116,slow=5.4,SNR=11						
PMG	**Port Moresby**	**34.40**	**291**	eP	**P**	**23 09 08.4**	**+0.3**
	66nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**41.85**	**268**	⇓iP	**P**	**23 10 08.4**	**-0.4**
WB2				eS	**S**	**23 15 49.5**	**-0.2**
WRAB	**Tennant Creek**	**41.85**	**268**	eP	**P**	**23 10 08.6**	**-0.3**
	89nm,1.0s,mb5.2						
WRA	**Warramunga Arr**	**41.86**	**268**	P	**P**	**23 10 08.7**	**-0.2**
	33nm,0.6s,mb5.0,baz=102,slow=8.0,SNR=80						
WRA				ScP		23 14 56.8	
	2.5nm,0.8s,baz=102,slow=3.8,SNR=4.6						
WRA				S	**S**	**23 15 48.1**	**-1.8**
	8.3nm,0.8s,baz=101,slow=14,SNR=18						
KAKA	**Kakadu**	**45.93**	**276**	⇓iP	**P**	**23 10 39.6**	**-1.2**
	17nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**50.27**	**267**	eP	**P**	**23 11 13.6**	**+0.2**
	49nm,0.8s,mb5.0						
VNDA	**Vanda**	**53.27**	**185**	P	**P**	**23 11 35.0**	**+0.5**
	4.6nm,0.8s,mb3.9,baz=358,slow=7.9,SNR=25						
VNDA				ScP		23 15 42.1	
	1.6nm,0.8s,baz=348,slow=5.4,SNR=6.8						
VNDA	**Vanda**	**53.27**	**185**	eP	**P**	**23 11 35.1**	**+0.7**
VNDA				ScP		23 15 42.1	
SBA	**Scott Base**	**53.28**	**183**	eP	**P**	**23 11 34.5**	**0.0**
	20nm,0.9s,mb4.5						
MBWA	**Marble Bar**	**54.71**	**261**	eP	**P**	**23 11 44.3**	**-1.0**
CASY	**Casey**	**58.93**	**206**	⇑iP	**P**	**23 12 13.0**	**-0.6**
CASY	**Casey**	**58.93**	**206**	eP	**P**	**23 12 13.2**	**-0.4**
	14nm,0.9s,mb4.2						
QSPA	**South Pole Qui**	**65.11**	**180**	eP	**P**	**23 12 54.4**	**+1.0**
	23nm,0.7s,mb4.7						
KSM	**Kuching**	**71.81**	**280**	eP	**P**	**23 13 35.1**	**+0.2**
MJAR	**Matsushiro Arr**	**72.51**	**326**	P	**P**	**23 13 37.3**	**-1.2**
	15nm,0.9s,mb4.4,baz=165,slow=6.2,SNR=26						
MAT	**Matsushiro**	**72.51**	**326**	eP	**P**	**23 13 37.0**	**-1.5**
	16nm,0.8s,mb4.5						
MAT	**Matsushiro**	**72.51**	**326**	P	**P**	**23 13 37.1**	**-1.4**
JNU	**Nakatsue**	**74.01**	**319**	P	**P**	**23 13 46.6**	**-0.4**
	12nm,0.8s,mb4.4,baz=58,slow=4.9,SNR=5.9						
MAW	**Mawson**	**76.58**	**201**	⇑iP	**P**	**23 14 01.5**	**+1.0**
	5.6nm,0.6s,mb4.2						
MAW	**Mawson**	**76.58**	**201**	P	**P**	**23 14 01.8**	**+1.3**
	6.6nm,0.6s,mb4.3,baz=134,slow=6.7,SNR=28						
MAW	**Mawson**	**76.58**	**201**	eP	**P**	**23 14 01.5**	**+1.0**
	7.3nm,0.5s,mb4.4						
PMSA	**Palmer Station**	**78.12**	**157**	eP	**P**	**23 14 09.3**	**+0.4**
	20nm,1.1s,mb4.4						
KS15	**Wonju Array Si**	**78.77**	**321**	eP	**P**	**23 14 12.4**	**-0.5**
SYO	**Syowa Base**	**81.86**	**194**	⇓P	**P**	**23 14 26.6**	**-1.6**
MDJ	**Mudanjiang**	**82.89**	**327**	P	**P**	**23 14 34.3**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,45nm,3.5s						
SNAA	**Sanae**	**83.60**	**179**	⇑i	**P**	**23 14 36.5**	**-0.4**
SNAA	**Sanae**	**83.60**	**179**	P	**P**	**23 14 36.7**	**-0.1**
	comp=Z,1.4nm,0.7s,mb3.6,baz=207,slow=4.6,SNR=20						
VNA3	**Neumayer Olymp**	**83.83**	**177**	⇑i	**P**	**23 14 38.7**	**+0.7**
VNA2	**Neumayer--Watz**	**84.24**	**178**	⇑i	**P**	**23 14 41.0**	**+1.0**
VNA1	**Neumayer--Stat**	**84.48**	**177**	⇑i	**P**	**23 14 41.7**	**+0.5**
PLCA	**Paso Flores**	**87.87**	**134**	P	**P**	**23 14 59.3**	**+1.3**
	comp=Z,3.7nm,1.1s,mb4.0,baz=248,slow=2.1,SNR=4.4						
PLCA	**Paso Flores**	**87.87**	**134**	eP	**P**	**23 14 59.4**	**+1.4**
	comp=Z,11nm,1.3s,mb4.4						
XAN	**Xi'an**	**89.02**	**308**	P	**P**	**23 15 04.8**	**+1.2**
XAN				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.9						
KMI	**Kunming**	**89.33**	**298**	P	**P**	**23 15 07.1**	**+1.9**
KMI				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.6						
TXAR	**Lajitas Array**	**91.41**	**58**	P	**P**	**23 15 14.4**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=217,slow=6.3,SNR=5.0						
ILAR	**Eielson Array**	**93.19**	**14**	P	**P**	**23 15 19.4**	**-2.6**
	comp=Z,0.6nm,0.9s,mb3.6,baz=206,slow=6.9,SNR=5.2						
ILAR				pP	pP	23 17 12.4	-5.6
	comp=Z,0.3nm,0.7s,baz=190,slow=5.5,SNR=2.6						
ILAR				PP	PP	23 19 13.3	-2.7
	comp=Z,0.1nm,0.5s,baz=178,slow=21,SNR=3.9						
SONM	**Songino Array**	**97.60**	**319**	pP	pP	23 17 37.2	-1.5
	comp=Z,0.4nm,0.9s,baz=117,slow=5.5,SNR=2.3						
SONM				PP	PP	23 19 51.1	+1.2
	comp=Z,0.2nm,0.3s,baz=124,slow=4.5,SNR=4.3						
MKAR	**Makanchi Array**	**112.52**	**312**	PKiKP		23 20 39.8	
	comp=Z,0.4nm,0.6s,baz=88,slow=1.9,SNR=5.2						
MKAR				SKP		23 23 27.1	
	comp=Z,0.5nm,0.7s,baz=11,slow=0.4,SNR=5.9						
MKAR				PKKPbc		23 31 31.9	
	comp=Z,0.8nm,1.0s,baz=278,slow=8.6,SNR=4.4						
MKAR				PKKPab		23 31 40.1	
	comp=Z,0.5nm,0.8s,slow=2.4,SNR=4.1						
KURK	**Kurchatov**	**115.64**	**316**	ePKPdf	PKPdf	23 20 45.4	-0.3
BVAR	**Borovoye Array**	**120.92**	**318**	PKP	PKPdf	23 20 56.0	+0.1
	comp=Z,2.0nm,0.7s,baz=46,slow=0.4,SNR=12						
ZRNK	**Zerenda**	**121.75**	**318**	ePKPdf	PKPdf	23 20 57.5	0.0
ARCES	**ARCESS Array B**	**132.83**	**348**	PKP	PKPdf	23 21 18.2	-0.1
	comp=Z,2.2nm,0.7s,baz=180,slow=1.2,SNR=4.9						
ARCES				PP	PP	23 23 57.9	+4.6
	comp=Z,3.2nm,0.8s,baz=56,slow=8.7,SNR=5.3						
FINES	**FINESS Array B**	**139.30**	**341**	SKPbc		23 24 18.4	
	comp=Z,2.0nm,0.5s,baz=90,slow=5.7,SNR=8.4						
NB2	**NORSAR Subarra**	**143.06**	**351**	PKPabc	PKPdf	23 21 34.3	-2.4
	comp=Z,9.1nm,0.8s,baz=15,slow=3.5						
NOA	**NORSAR Array B**	**143.06**	**351**	PKP	PKPdf	23 21 34.9	-1.8
	comp=Z,6.7nm,0.8s,baz=15,slow=4.9,SNR=20						
NOA				SKPbc		23 24 28.6	
	comp=Z,1.9nm,0.9s,baz=16,slow=4.2,SNR=4.0						
NAO01	**NORSAR Array S**	**143.30**	**351**	ePKPdf	PKPdf	23 21 35.2	-2.0
HFS	**Hagfors**	**143.50**	**348**	PKP	PKPdf	23 21 35.8	-1.7
	comp=Z,7.4nm,0.4s,baz=56,slow=4.2,SNR=100						
HFS				SKPbc		23 24 29.4	
	comp=Z,3.7nm,0.9s,baz=214,slow=11,SNR=3.7						
AKASG	**Malin Array Be**	**145.60**	**326**	PKPbc	PKPbc	23 21 42.9	+0.2
	comp=Z,4.3nm,0.6s,baz=44,slow=4.2,SNR=40						
AKASG				pPKPbc		23 23 41.9	
	comp=Z,0.6nm,0.4s,baz=38,slow=4.1,SNR=3.8						
AKASG				SKPbc		23 24 34.6	
	comp=Z,0.6nm,0.4s,baz=45,slow=2.7,SNR=8.8						
AKASG	**Malin Array Be**	**145.60**	**326**	PKPbc	PKPbc	23 21 42.9	+0.2
AKASG				pPKPbc		23 23 41.9	
AKASG				SKPbc		23 24 34.6	
ASF	**Jabal al Asfar**	**146.48**	**291**	PKPbc	PKPbc	23 21 48.0	+2.5
	comp=Z,9.2nm,0.8s,baz=329,slow=0.8,SNR=7.1						
ASF				pPKPbc		23 23 44.7	
	comp=Z,1.1nm,0.3s,baz=242,slow=2.2,SNR=1.6						
ASF				SKPbc		23 24 38.9	
	comp=Z,2.6nm,0.5s,baz=116,slow=2.2,SNR=3.6						
BR131	**Keskin Array S**	**147.82**	**306**	ePKPbc	PKPdf	23 21 50.5	+5.1
BR131				ePKPab	PKPab	23 21 55.5	-0.4
BRTR	**Keskin Array B**	**147.82**	**306**	PKPbc	PKPdf	23 21 50.4	+5.0
	comp=Z,2.8nm,0.7s,baz=138,slow=3.6,SNR=15						
BRTR				pPKPbc		23 23 47.9	
	comp=Z,1.8nm,1.2s,baz=90,slow=1.2,SNR=2.8						
BURAR	**Bucovina Array**	**149.57**	**325**	⇑P	PKPdf	23 21 56.0	+8.0
BURAR	**Bucovina Array**	**149.57**	**325**	⇑P	PKPdf	23 21 56.0	+8.0
EKA	**Eskdalemuir Ar**	**149.62**	**3**	PKPbc	PKPdf	23 21 52.6	+4.8
	comp=Z,2.8nm,0.9s,baz=315,slow=3.5,SNR=3.6						
KOLS	**Kolonicke sedl**	**150.15**	**329**	ePKP	PKPdf	23 21 54.5	+5.6
KOLS				e		23 21 56.4	
STHS	**Stebnicka Huta**	**150.27**	**331**	ePKP	PKPdf	23 21 54.9	+5.9
STHS				e		23 23 58.9	
OJC	**Ojcow**	**150.28**	**333**	ePKP	PKPdf	23 21 55.8	+6.8
MLR	**Muntele Rosu**	**150.44**	**321**	PKP	PKPdf	23 21 50.6	+1.2
	comp=Z,1.6nm,0.8s,baz=156,slow=14,SNR=1.8						
MLR				PKPbc	PKPdf	23 21 56.3	+6.9
	comp=Z,2.4nm,0.6s,baz=339,slow=6.2,SNR=4.3						
MLR				pPKP		23 23 51.4	
	comp=Z,0.6nm,0.3s,baz=111,slow=18,SNR=1.8						
MLR	**Muntele Rosu**	**150.44**	**321**	⇓P	PKPdf	23 21 54.1	+4.7
KSP	**Ksiaz**	**151.10**	**338**	eP	PKPdf	23 21 57.9	+7.7
DRGR		**151.41**	**325**	⇑P	PKPdf	23 21 59.0	+8.2
UPC	**Upice**	**151.48**	**338**	ePKPbc	PKPdf	23 21 58.1	+7.3
UPC				ePKPab	PKPab	23 22 07.8	-2.8
DPC	**Dobruska-Polom**	**151.50**	**337**	ePKPbc	PKPdf	23 21 59.0	+8.2
DPC				ePKPab	PKPab	23 22 09.9	-0.8
CLL	**Collm**	**151.73**	**342**	⇓iP	PKPdf	23 21 54.5	+3.4
CLL				i		23 22 10.2	
CLL	**Collm**	**151.73**	**342**	⇑iPKP1	PKPdf	23 21 59.4	+8.3
CLL				i PKP2	PKPab	23 22 10.2	-1.5
CLL				e*PPKP		23 24 03.0	
BRG	**Berggiesshubel**	**151.84**	**340**	i P	PKPdf	23 21 59.5	+8.2
BRG				i		23 22 11.1	
PVCC	**Panska Ves**	**151.94**	**339**	ePKPbc	PKPdf	23 21 59.7	+8.3
PVCC				ePKPab	PKPab	23 22 11.4	-1.2
PRU	**Pruhonice**	**152.42**	**339**	ePKPbc	PKPdf	23 22 00.0	+7.9
MOX	**Moxa**	**152.71**	**343**	eP	PKPab	23 22 14.0	-1.8
KHC	**Kasperske Hory**	**153.48**	**339**	ePKPbc	PKPdf	23 22 03.0	+9.5
KHC				ePKPab	PKPab	23 22 17.7	-1.4
GRA1	**Grafenberg Arr**	**153.68**	**343**	eP	PKPab	23 22 19.5	-0.4
GRF	**Grafenberg Arr**	**153.68**	**343**	eP	PKPab	23 22 19.5	-0.4
GERES	**GERESS Array B**	**153.68**	**338**	PKPbc	PKPdf	23 22 03.2	+9.3
	comp=Z,0.6nm,0.8s,baz=63,slow=2.2,SNR=6.1						
GERES				PKPab	PKPab	23 22 19.2	-0.8
	comp=Z,1.1nm,0.8s,baz=34,slow=4.8,SNR=8.0						
GERES				pPKPbc		23 24 03.3	
	comp=Z,0.5nm,0.8s,baz=27,slow=3.0,SNR=3.0						
DAVOX	**Davos**	**156.70**	**342**	PKPab	PKPab	23 22 32.1	-0.7
	comp=Z,4.1nm,0.7s,baz=128,slow=16,SNR=4.7						
ESDC	**Sonseca Array**	**165.06**	**10**	PKPab	PKPab	23 23 06.9	-2.4
	comp=Z,0.3nm,0.4s,baz=346,slow=6.1,SNR=4.7						

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*IDC **19** 23:20:40.2±2.4, 19.09N×66.11W, mb3.6/3, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, ML3.8/1, MS2.5/1, Ms1 2.5/1, ms1mx2.4/22, Error ellipse: s-maj=68.3km s-min=18.3km az=73.0*

*RSPR **19** 23:20:41.1, 19.14N×65.41W, h34km±14km, MD3.7/11, MD3.7/11*

*NEIC **19** 23:20:41.1, 19.14N×65.41W, h34km, MD3.7(RSPR), After RSPR.*

ISC 19 23:20:40.0±1.2**, 19.09N**±0.09×**65.42W**±0.05**, h45**km±19km**, n18, σ0s34**/29**, mb3.6**/3**, 4C-8D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.85**	**149**	⇑eP	**P**	**23 20 56.0**	**+0.4**
STVI				eS	**S**	**23 21 07.3**	**0.0**
CBYP	**Canovanas**	**0.91**	**207**	⇓eP	**P**	**23 20 56.4**	**-0.1**
CBYP				eS	**S**	**23 21 08.8**	**+0.1**
MTP	**Monte Pirata**	**1.00**	**187**	⇓eP	**P**	**23 20 58.1**	**+0.4**
MTP				eS	**S**	**23 21 11.0**	**+0.2**
HUMP	**Col San Antoni**	**1.02**	**203**	⇓eP	**P**	**23 20 58.0**	**-0.1**
HUMP				eS	**S**	**23 21 11.1**	**-0.5**
TBVI	**Tortola**	**1.02**	**131**	⇑eP	**P**	**23 20 58.2**	**+0.1**
TBVI				eS	**S**	**23 21 11.3**	**-0.3**
CPD	**Cerro la Pandu**	**1.14**	**204**	⇓eP	**P**	**23 20 59.8**	**+0.1**
CPD				eS	**S**	**23 21 13.9**	**-0.6**
SJG	**San Juan**	**1.19**	**215**	⇓iP	**P**	**23 21 00.5**	**+0.1**
SJG				eS	**S**	**23 21 16.4**	**+0.7**
SJG	**San Juan**	**1.19**	**215**	Pn	**P**	**23 21 00.5**	**+0.1**
	93nm,0.3s,baz=31,slow=15,SNR=54						
SJG				Sn	**S**	**23 21 16.2**	**+0.5**
	198nm,0.3s,baz=273,slow=18,SNR=24						
SJG	**San Juan**	**1.19**	**215**	⇓eP	**P**	**23 21 00.3**	**-0.1**
SJG				eS	**S**	**23 21 16.2**	**+0.5**
PORP	**Portuguez**	**1.54**	**228**	⇓iP	**P**	**23 21 05.6**	**0.0**
LRS	**Lares**	**1.56**	**240**	⇑eP	**P**	**23 21 05.4**	**-0.4**
LSP	**Las Mesas**	**1.82**	**240**	⇑eP	**P**	**23 21 09.2**	**-0.2**
MGP	**Maguayo**	**1.91**	**236**	⇑iP	**P**	**23 21 10.8**	**0.0**
MGP				eS	**S**	**23 21 34.0**	**+0.4**
MGP	**Maguayo**	**1.91**	**236**	⇓iP	**P**	**23 21 10.8**	**0.0**
MGP				eS	**S**	**23 21 34.0**	**+0.4**
SDV	**Santo Domingo**	**11.33**	**207**	Pn	**P**	**23 23 22.0**	**-0.2**
	0.6nm,0.3s,baz=28,slow=12,SNR=2.5						
SDV				LR	LR	23 27 12.3	
	comp=Z,28nm,21.9s,baz=346,slow=36						
TXAR	**Lajitas Array**	**36.20**	**294**	P	**P**	**23 27 39.9**	**-0.6**
	0.7nm,0.8s,mb3.6,baz=111,slow=11,SNR=3.5						
PDAR	**Pinedale Array**	**43.97**	**312**	P	**P**	**23 28 45.1**	**+0.6**
	0.4nm,0.7s,mb3.2,baz=104,slow=11,SNR=3.9						
CPUP	**Villa Florida**	**45.83**	**170**	P	**P**	**23 29 05.5**	**+5.8**
	1.5nm,0.8s,mb4.0,baz=346,slow=8.3,SNR=2.9						

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*IDC **19** 23:28:07.5±1.9, 20.52S×168.81E, h6km±10km, mb4.3/16, mb1 4.4/19, mb1mx4.4/23, mbtmp4.4/19, ML3.4/3, MS4.7/14, Ms1 4.7/14, ms1mx4.6/18, Error ellipse: s-maj=9.9km s-min=8.1km az=5.0*

*MOS **19** 23:28:10.9±2.0, 20.41S×168.73E, h33km, mb5.2/6, MS4.9/4, Error ellipse: s-maj=14.3km s-min=12.2km az=170.3*

*HRVD **19** 23:28:11.9±0.2, 20.49S×168.63E, h18km, MW5.4/61, Centroid moment Tensor Solution. LP body waves: s61,c116;Mantle waves: s60,c115; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.19±.03; $M_{\theta\theta}$-0.08±.02; $M_{\phi\phi}$-1.11±.02; $M_{r\theta}$0.41±.04; $M_{\theta\phi}$0.45±.02; $M_{\phi r}$-1.03±.05; Best double couple: $M_0$1.659×10^{17} NP1: ϕ_s341°, δ24°, λ92°. NP2: ϕ_s159°, δ66°, λ89°. Principal axes: T 1.616, Plg69°, Azm67°; N .086, Plg1°, Azm159°; P -1.702, Plg21°, Azm249°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **19** 23:28:11.9±0.3, 20.53S×168.80E, h35km, mb5.2/14, MS5.0/10 Error ellipse: s-maj=9.4km s-min=7.8km az=138.0*

*BJI **19** 23:28:11.8, 19.51S×169.44E, h23km, mB5.4, mb4.9, Ms5.0, Msz4.7*

*LDG **19** 23:28:14.4±0.1, 20.00S×166.58E, h10km, Mb4.9/2, Ms4.8/9, Error ellipse: s-maj=21.9km s-min=4.5km az=87.0*

ISC 19 23:28:09.7±0.3**, 20.54S**±0.05×**168.82E**±0.05**, h33**km**, (h18**km±5.7km**:pP-P), n181, σ1s29**/108**, mb4.7**/34**, MS4.8**/24**, 10C-5D, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.69**	**235**	eP	**P**	**23 28 49.8**	**-1.8**
DZM				eS	**S**	**23 29 22.6**	**-0.8**

DZM Mont Dzumac 2.69 235 Pn **Pn** **23 28 50.1 -1.7**
44nm,0.3s,baz=60,slow=16,SNR=270
DZM Sn **Sn** **23 29 22.9 -0.7**
219nm,0.3s,baz=127,slow=23,SNR=14
DZM Mont Dzumac 2.69 235 *e*P **P** **23 28 49.8 -1.8**
DZM *e*S **S** **23 29 22.6 -0.8**
HNR Honiara 13.98 321 Sn **S** **23 34 06.0 +3.3**
15nm,0.3s,baz=226,slow=15,SNR=2.5
HNR LR LR 23 35 53.0
comp=Z,1μm,20.4s,baz=137,slow=33
RAO Raoul Island 14.82 128 LR LR 23 36 19.4
comp=Z,3μm,18.2s,baz=246,slow=33
ARMA Armidale 18.36 234 *e*P **P** **23 32 25.0 +1.4**
ARMA *i* S **S** **23 36 00.7 +17**
URZ Urewera 19.06 160 P **P** **23 32 30.7 -1.3**
0.2nm,0.3s,baz=21,slow=10.0,SNR=1.8
URZ S **S** **23 36 06.7 +7.0**
baz=6.5,slow=20,SNR=1.8
URZ LR LR 23 38 55.0
comp=Z,3μm,19.6s,baz=16,slow=34
AFI Afiamalu 19.66 73 P **P** **23 32 36.7 -2.1**
0.9nm,0.3s,baz=201,slow=16,SNR=1.8
AFI S **S** **23 36 20.1 +6.8**
1.1nm,0.3s,baz=97,slow=20,SNR=2.2
AFI LR LR 23 38 39.4
comp=Z,4μm,19.3s,baz=253,slow=32
CTA Charters Tower 21.17 267 *e*P **P** **23 32 58.7 +4.1**
35nm,1.3s,mb4.5
CTA *i* S **S** **23 36 53.7 +11**
CTA Charters Tower 21.17 267 *e*P **P** **23 32 54.2 -0.4**
CTA Charters Tower 21.17 267 P **P** **23 32 54.2 -0.4**
6.5nm,0.6s,mb4.1,baz=114,slow=17,SNR=4.3
CTA S **S** **23 36 49.4 +6.2**
9.6nm,1.1s,baz=300,slow=17,SNR=1.8
CTA Charters Tower 21.17 267 P **P** **23 32 54.2 -0.4**
CTA S **S** **23 36 49.4 +6.2**
CTA *i* S **S** **23 36 53.7 +11**
CTAO Charters Tower 21.17 267 *e*P **P** **23 32 54.9 +0.4**
128nm,1.4s,mb5.1
CTAO LR LR
comp=Z,3μm,19.0s,MS4.8
CNB Canberra Magne 22.57 225 *e*P **P** **23 33 09.6 +1.1**
RPZ Rata Peaks 23.18 176 P **P** **23 33 16.3 +1.9**
comp=Z,7.5nm,0.9s,mb4.1,baz=45,slow=13,SNR=1.8
PMG Port Moresby 23.64 295 P **P** **23 33 19.0 -0.1**
comp=Z,16nm,0.9s,mb4.5,baz=125,slow=13,SNR=2.8
PMG S **S** **23 37 37.8 +10**
comp=Z,3.0nm,0.3s,baz=192,slow=19,SNR=1.6
PMG LR LR 23 40 54.0
comp=Z,2μm,19.8s,MS4.5,baz=322,slow=32
PMG Port Moresby 23.64 295 *e*P **P** **23 33 19.0 -0.1**
comp=Z,59nm,1.1s,mb4.9
PMG S **S** **23 37 37.8 +10**
PMG LR LR 23 40 54.0
TOO Toolangi 26.42 225 ⇑*i*P **P** **23 33 47.6 +2.3**
comp=Z,9.0nm,0.8s,mb4.3
STKA Stephens Creek 26.84 240 *e*P **P** **23 33 49.6 +0.4**
comp=Z,13nm,0.8s,mb4.5
STKA *e*S **S** **23 38 32.3 +11**
STKA Stephens Creek 26.84 240 P **P** **23 33 49.2 0.0**
comp=Z,14nm,0.8s,mb4.5,baz=83,slow=9.5,SNR=21
STKA S **S** **23 38 29.1 +7.6**
comp=Z,2.2nm,0.9s,baz=146,slow=22,SNR=2.0
STKA LR LR 23 44 39.7
comp=Z,2μm,18.9s,MS4.7,baz=14,slow=37
STKA Stephens Creek 26.84 240 *e*P **P** **23 33 50.1 +0.8**
STKA *e*S **S** **23 38 32.3 +11**
WB2 Warramunga Arr 32.32 265 *e*P **P** **23 34 36.4 -1.8**
WRAB Tennant Creek 32.32 265 *e*P **P** **23 34 35.9 -2.3**
comp=Z,57nm,1.5s,mb5.2
WRAB LR LR
comp=Z,1μm,19.0s,MS4.6
WRA Warramunga Arr 32.33 265 *e*P **P** **23 34 36.5 -1.8**
WRA Warramunga Arr 32.33 265 P **P** **23 34 36.5 -1.8**
comp=Z,2.2nm,0.6s,mb4.1,baz=93,slow=8.4,SNR=16
TBI Tubuai 38.70 102 *e*LQ 23 44 15.0
comp=Z,4μm,30.2s
TBI Tubuai 38.70 102 *e*S **S** **23 41 14.6 -12**
comp=Z,669nm,28.5s
TBI *e*LR LR 23 46 04.4
comp=Z,1μm,28.8s,baz=263
PPT Papeete 39.36 93 *e*LQ 23 44 24.2
comp=Z,2μm,30.8s
PPT Papeete 39.36 93 *e*S **S** **23 41 23.4 -13**
comp=Z,904nm,25.5s
PPT *e*LR LR 23 46 23.0
comp=Z,3μm,28.0s,baz=252
PPT Papeete 39.36 93 LR LR 23 50 20.6
comp=Z,924nm,18.0s,MS4.7,baz=259,slow=34
FITZ Fitzroy Crossi 40.74 266 ⇑*i*P **P** **23 35 49.7 +0.3**
comp=Z,34nm,0.8s,mb5.0
FITZ Fitzroy Crossi 40.74 266 P **P** **23 35 49.5 +0.1**
comp=Z,39nm,1.0s,mb5.0,baz=149,slow=5.9,SNR=22
FITZ S **S** **23 41 59.5 +2.1**
comp=Z,5.8nm,0.8s,baz=27,slow=18,SNR=1.9
MBWA Marble Bar 45.73 260 *e*P **P** **23 36 30.1 +0.1**
comp=Z,60nm,1.2s,mb5.4
KLBR Kellerberrin 46.81 246 *e*P **P** **23 36 37.3 -1.0**
comp=Z,35nm,1.0s,mb5.2
NWAO Narrogin (SRO) 47.28 244 P **P** **23 36 40.9 -1.1**
comp=Z,5.9nm,0.7s,mb4.6,baz=238,slow=12,SNR=3.3
NWAO S **S** **23 43 34.8 +2.6**
comp=Z,7.1nm,0.8s,baz=41,slow=20,SNR=2.8
NWAO Narrogin (SRO) 47.28 244 *e*P **P** **23 36 40.8 -1.2**
NWAO S **S** **23 43 34.8 +2.6**
DRV Dumont d'Urvil 49.68 195 S **S** **23 44 08.0 +2.7**
DRV R 23 52 00.0
TAOE Nuku Hiva Isla 50.52 85 *e*LR LR 23 51 30.1
comp=Z,28μm,33.8s
RKT Rikitea 51.97 104 *e*PP PP 23 38 57.7 -19
comp=Z,101nm,32.2s
RKT Rikitea 51.97 104 *e*S **S** **23 44 20.3 -17**
comp=Z,324nm,25.0s
RKT *e*SS SS 23 47 59.9 -13
comp=Z,295nm,28.0s
RKT *e*LR LR 23 51 06.0
comp=Z,708nm,27.8s,baz=258
VNDA Vanda 57.12 182 P **P** **23 37 54.5 -0.6**
comp=Z,0.5nm,0.6s,mb3.7,baz=314,slow=6.0,SNR=3.5
VNDA S **S** **23 45 55.8 +10**
comp=Z,0.1nm,0.3s,baz=290,slow=9.5,SNR=1.9
VNDA LR LR 00 00 02.2
comp=Z,466nm,18.4s,MS4.6,baz=18,slow=34
VNDA Vanda 57.12 182 *e*P **P** **23 37 54.9 -0.2**
comp=Z,151nm,2.7s,mb5.5
VNDA S **S** **23 45 55.8 +10**
VNDA LR LR 00 00 02.2
SBA Scott Base 57.36 181 *e*P **P** **23 37 57.2 +0.4**
comp=Z,22nm,1.1s,mb5.1
CASY Casey 58.78 204 *e*P **P** **23 38 06.4 -0.4**
CASY Casey 58.78 204 *e*P **P** **23 38 07.3 +0.5**
MJAR Matsushiro Arr 63.72 333 *e*P **P** **23 38 40.1 -0.5**
MJAR Matsushiro Arr 63.72 333 P **P** **23 38 40.1 -0.4**
comp=Z,1.0nm,0.4s,mb4.2,baz=170,slow=8.4,SNR=4.2
JNU Nakatsue 64.50 325 P **P** **23 38 45.1 -0.6**
comp=Z,3.4nm,0.3s,mb4.8,baz=89,slow=14,SNR=5.7
MIR Mirnyy 65.69 205 *e*P **P** **23 38 57.0 +4.2**
MIR pmax pmax
comp=Z,70nm,1.8s,mb5.4
MIR MLR MLR
comp=N,410nm,18.0s,MS4.9
MIR MLR MLR
comp=E,520nm,18.0s,MS4.9
MIR MLR MLR
comp=Z,820nm,18.0s,MS5.0
ASAJ Asahikawa 68.68 340 S S 23 48 19.4 +8.2
comp=Z,9.3nm,0.3s,baz=92,slow=34,SNR=8.7
QSPA South Pole Qui 69.52 180 *e*P **P** **23 39 16.6 +0.1**
comp=Z,32nm,1.2s,mb5.1
YSS Yuzh-Sakhalins 71.18 341 *e* **P** **23 39 27.0 -0.1**
YSS *e* 23 48 46.0
YSS MLR MLR
comp=Z,1μm,19.0s,MS5.1
YSS MLR MLR
comp=N,1μm,18.0s
PET Petropavlovsk 73.78 354 *e*P **P** **23 39 41.6 -0.8**
PET *e*S S 23 49 12.0 +2.0
PET pmax pmax
comp=Z,200nm,8.0s
PET pmax pmax
comp=Z,200nm,11.0s
PET pmax pmax
comp=Z,18nm,1.5s,mb4.8
PET pmax pmax
comp=Z,200nm,15.7s
PET smax
comp=E,400nm,15.1s

MDJ Mudanjiang 74.08 332 P **P** **23 39 44.4 +0.1**
MDJ S S 23 49 15.9 +2.4
MDJ AMB AMB
comp=Z,14nm,1.0s,mb4.8
MDJ AMB AMB
comp=Z,148nm,4.8s
MDJ LR LR
comp=N,211nm,22.1s,MS4.5
MDJ LR LR
comp=E,205nm,25.0s,MS4.5
MDJ LR LR
comp=Z,267nm,18.3s
KLR Kul'dur 76.89 336 *e*P **P** **23 39 57.2 -3.1**
KLR *e* 23 40 09.7
KLR *e*S S 23 49 48.5 +4.0
MAW Mawson 77.09 202 P **P** **23 40 01.6 +0.5**
comp=Z,2.6nm,0.9s,mb4.2,baz=96,slow=4.6,SNR=7.3
MAW S S 23 49 50.8 +4.7
comp=Z,0.7nm,0.8s,baz=272,slow=19,SNR=1.6
MAW LR LR 00 09 36.1
comp=Z,580nm,20.4s,MS4.9,baz=90,slow=32
MAW Mawson 77.09 202 *e*P **P** **23 39 56.9 -4.1**
comp=Z,6.8nm,1.8s,mb4.3
MAW *e* 23 40 13.6
MAW S S 23 49 50.8 +4.7
MAW LR LR 00 09 36.1
KMI Kunming 78.63 302 P **P** **23 40 12.6 +2.2**
KMI AP pP 23 40 18.8 -2.0
KMI XP sP 23 40 21.5 -2.9
KMI PP PP 23 43 10.8 +0.5
KMI PPP PPP 23 45 00.4 +0.5
KMI S S 23 50 12.4 +8.8
KMI SS SS 23 55 11.1 +0.4
KMI SSS SSS 23 58 44.3 +15
KMI AMB AMB
comp=Z,4.0nm,1.1s,mb4.3
KMI AMB AMB
comp=Z,251nm,4.6s
KMI LR LR
comp=N,323nm,15.8s,MS4.9
KMI LR LR
comp=E,307nm,17.8s,MS4.9
KMI LR LR
comp=Z,272nm,18.4s,MS4.6
HHC Hu-ho-hao-te 80.95 320 *e*P **P** **23 40 29.3 +6.7**
HHC S S 23 50 32.8 +5.2
HHC SKS SKS 23 50 39.9 +5.9
HHC SS SS 23 55 46.8 +1.6
HHC AMB AMB
comp=Z,13nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,150nm,10.8s
HHC LR LR
comp=N,262nm,18.0s,MS4.8
HHC LR LR
comp=E,256nm,18.0s,MS4.8
HHC LR LR
comp=Z,294nm,16.8s,MS4.7
MA2 Magadan 81.19 351 *e*P **P** **23 40 29.7 +6.3**
MA2 *e* 23 50 32.9
MA2 *e* 23 51 26.5
LZH Lanzhou 83.31 312 ⇓P **P** **23 40 35.8 +1.0**
LZH AP pP 23 40 45.5 +0.3
LZH XP sP 23 40 49.1 +0.3
LZH PP PP 23 43 51.5 +3.0
LZH SKS SKS 23 50 54.0 +3.6
LZH *e*S S 23 50 57.3 +5.6
LZH XS 23 51 13.5
LZH AMB AMB
comp=Z,33nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,312nm,7.5s
LZH LR LR
comp=N,879nm,15.2s
LZH LR LR
comp=Z,985nm,18.1s,MS5.2
SYO Syowa Base 83.58 196 ⇑P **P** **23 40 34.8 -0.6**
SYO Syowa Base 83.58 196 ⇑P **P** **23 40 46.2 +11**
PMSA Palmer Station 85.83 160 *e*P **P** **23 40 47.8 +1.1**
comp=Z,35nm,0.9s,mb5.6
HOPS Hopland 86.92 46 PFAKE 23 41 00.0 +7.3
HOPS LR LR
comp=Z,565nm,20.0s,MS5.0
SHL Shillong 87.62 298 *e*P **P** **23 40 56.0 -0.4**
GTA Gaotai 87.73 314 *e*P **P** **23 40 58.3 +1.7**
GTA AP pP 23 41 03.3 -3.9
GTA XP sP 23 41 06.8 -3.8
GTA AMB AMB
comp=Z,6.0nm,0.8s,mb4.9
SNAA Sanae 87.85 183 **P** **23 40 54.5 -1.9**
SNAA Sanae 87.85 183 **P** **23 41 02.9 +6.5**
SNAA Sanae 87.85 183 **P** **23 41 11.2 +15**
SNAA Sanae 87.85 183 *i* P **P** **23 40 55.9 -0.5**
SNAA Sanae 87.85 183 P **P** **23 40 56.9 +0.5**
comp=Z,1.7nm,0.9s,mb4.3,baz=194,slow=8.7,SNR=10
SNAA Sanae 87.85 183 *e*P **P** **23 40 56.9 +0.5**
SONM Songino Array 88.02 323 *e*P **P** **23 40 58.5 +0.7**
SONM Songino Array 88.02 323 P **P** **23 40 58.4 +0.7**
comp=Z,3.0nm,0.8s,mb4.5,baz=142,slow=4.5,SNR=20
SONM LR LR 00 18 17.8
comp=Z,361nm,20.4s,MS4.8,baz=121,slow=34
CMB Columbia Colle 88.31 48 *e*P **P** **23 40 60.0 +0.6**
comp=Z,13nm,1.4s,mb5.0
CMB LR LR
comp=Z,770nm,20.0s,MS5.1
BILL Bilibino 88.34 359 *e*P **P** **23 40 56.8 -2.0**
BILL pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
BILL MLR MLR
comp=Z,300nm,21.0s,MS4.7
VNA3 Neumayer Olymp 88.45 180 **P** **23 41 00.0 +0.7**
VNA3 Neumayer Olymp 88.45 180 **P** **23 41 05.9 +6.6**
VNA3 Neumayer Olymp 88.45 180 **P** **23 41 11.5 +12**
VNA3 Neumayer Olymp 88.45 180 **P** **23 41 17.8 +19**
YBH Yreka Blue Hor 88.50 44 P **P** **23 41 01.2 +1.0**
comp=Z,1.4nm,0.6s,mb4.5,baz=223,slow=0.6,SNR=2.9
VNA2 Neumayer--Watz 88.74 181 **P** **23 41 02.1 +1.4**
VNA2 Neumayer--Watz 88.74 181 **P** **23 41 09.2 +8.5**
VNA2 Neumayer--Watz 88.74 181 **P** **23 41 13.3 +13**
VNA2 Neumayer--Watz 88.74 181 **P** **23 41 16.7 +16**
VNA1 Neumayer--Stat 89.03 181 **P** **23 41 01.0 -1.1**
VNA1 Neumayer--Stat 89.03 181 **P** **23 41 06.0 +3.9**
VNA1 Neumayer--Stat 89.03 181 **P** **23 41 10.6 +8.5**
VNA1 Neumayer--Stat 89.03 181 **P** **23 41 17.8 +16**
VNA1 Neumayer--Stat 89.03 181 **P** **23 41 20.9 +19**
BOD Bodaibo 90.33 334 *e*P **P** **23 41 19.8 +11**
ZAK Zakamensk 91.12 324 *e*P **P** **23 41 12.8 +0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.6
WVOR Wild Horse Val 91.51 45 *e*P **P** **23 41 14.9 +0.6**
comp=Z,7.8nm,1.0s,mb5.0
ILAR Eielson Array 91.58 17 P **P** **23 41 12.8 -1.4**
comp=Z,0.9nm,0.7s,mb4.2,baz=238,slow=5.2,SNR=11
ILAR LR LR 00 22 16.4
comp=Z,460nm,18.2s,MS5.0,baz=192,slow=36
ELK Elko 93.08 48 P **P** **23 41 20.8 -0.8**
comp=Z,0.4nm,0.4s,mb4.2,baz=178,slow=23,SNR=3.1
TXAR Lajitas Array 97.73 62 LR LR 00 20 01.5
comp=Z,697nm,18.0s,MS5.2,baz=310,slow=32
PDAR Pinedale Array 97.78 47 LR LR 00 16 13.8
comp=Z,259nm,20.8s,MS4.7,baz=247,slow=30
PLCA Paso Flores 97.82 139 LR LR 00 17 00.2
comp=Z,171nm,21.9s,MS4.5,baz=42,slow=30
MKAR Makanchi Array 102.39 315 P Pdif 23 42 05.2 +1.6
comp=Z,0.4nm,0.6s,baz=98,slow=6.4,SNR=5.6
KEV Kevo 125.69 345 PFAKE 23 47 20.0 +13
KEV LR LR
comp=Z,315nm,20.0s,MS5.0
ARCES ARCESS Array B 126.22 345 PKP PKPdf 23 47 10.3 +1.8
comp=Z,2.4nm,0.9s,baz=135,slow=1.7,SNR=4.6
ARCES ARCESS Array B 126.22 345 PKP PKPdf 23 47 10.3 +1.7
KMBO Kilima Mbogo 127.95 252 PKP PKPdf 23 47 17.1 +3.7
comp=Z,1.2nm,1.0s,baz=51,slow=16,SNR=2.5
BDFB Brasilia 128.99 132 PKP PKPdf 23 47 17.3 +2.0
comp=Z,2.1nm,0.6s,baz=134,slow=2.8,SNR=3.5
OBN Obninsk 130.36 326 ⇓*e*PKHKP 23 47 08.5
OBN *e*SS SS 00 06 49.6 -7.2
OBN pmax pmax
comp=Z,20nm,2.6s
FINES FINESS Array B 131.63 337 PKP PKPdf 23 47 23.9 +4.9
comp=Z,0.9nm,0.8s,baz=45,slow=2.7,SNR=3.7
NOA NORSAR Array B 136.59 344 PKP PKPdf 23 47 30.9 +2.6
comp=Z,0.2nm,0.7s,baz=28,slow=1.2,SNR=3.0
BRTR Keskin Array B 137.29 307 PKP PKPdf 23 47 37.7 +7.5
comp=Z,0.5nm,0.5s,baz=162,slow=3.9,SNR=4.0

VYHS Vyhne 143.16 326 *e*PKP PKPdf 23 47 35.4 -4.9
DPC Dobruska-Polom 143.17 330 *e*PKP PKPdf 23 47 44.9 +4.7
UPC Upice 143.20 331 *e*PKP PKPdf 23 47 45.8 +5.5
PVCC Panska Ves 143.84 332 *e*PKP PKPdf 23 47 41.5 +0.1
PVCC *ep*PKP 23 47 52.7
SRO Srobarova 143.86 326 *e*PKP PKPdf 23 47 43.2 +1.7
CLL Collm 143.92 334 *e*PKHKP 23 47 38.0
CLL pmax pmax
comp=Z,91nm,2.8s
CLL Collm 143.92 334 *e*PKP PKPdf 23 47 38.0 -3.5
CLL *i* 23 47 52.4
CLL *i* 23 48 10.2
CLL Collm 143.92 334 *e* PKPbc 23 47 38.0 -2.6
CLL *i* PKIKP PKPdf 23 47 41.5 0.0
CLL *i* *PKP 23 47 52.4
CLL *i* 23 48 10.2
PRU Pruhonice 144.24 331 *e*P PKPbc 23 47 43.5 +2.0
PRU *ex* x 23 47 53.0
CLZ Clausthal 144.53 337 *e*PKPbc PKPbc 23 47 43.4 +1.1
NKC Novy Kostel 144.97 333 *e*PKP PKPdf 23 47 44.5 +1.1
NKC *ep*PKP 23 47 55.9
MOX Moxa 144.99 335 *e*PKIKP PKPdf 23 47 45.8 +2.4
MOX *e* 23 47 56.1
MOX pmax pmax
comp=Z,134nm,2.0s
MOX MLR MLR
comp=Z,200nm,19.0s,MS4.9
MOX Moxa 144.99 335 *i* P PKPdf 23 47 45.8 +2.4
MOX PP2 23 47 56.0
MOX L 00 00 23.0
DIVS Divcibare 145.05 319 ⇓*i*PKP PKPdf 23 47 44.8 +1.1
IDI Anoyia 145.12 303 PKPbc PKPbc 23 47 46.2 +1.7
comp=Z,22nm,1.0s,baz=5.3,slow=8.5,SNR=8.9
SKO Skopje 145.19 315 ⇑*i*P PKPdf 23 47 45.9 +1.8
KHC Kasperske Hory 145.29 331 *e*PKP PKPdf 23 47 45.1 +1.1
KHC *ep*PKP 23 47 56.3
GERES GERESS Array B 145.44 331 PKPbc PKPbc 23 47 45.7 +0.9
comp=Z,4.4nm,0.8s,baz=35,slow=3.1,SNR=30
WET Wettzell 145.59 332 *e*PKPbc PKPbc 23 47 46.9 +1.7
WTSB Winterswijk 145.65 340 *e*PKP PKPdf 23 47 45.8 +1.3
comp=Z,50nm,2.3s
ARSA Arzberg 145.66 327 ⇑*i*P PKPdf 23 47 47.0 +2.3
comp=Z,6.6nm,1.2s
ARSA *i* 23 47 59.6
comp=Z,30nm,1.6s
MOA Molln 145.88 329 ⇓*i*P PKPdf 23 47 48.1 +3.1
comp=Z,9.7nm,1.2s
MOA *i* 23 48 00.2
comp=Z,42nm,1.9s
GRA1 Grafenberg Arr 145.89 334 *e*PKPbc PKPbc 23 47 48.6 +2.7
GRA1 LR LR
comp=Z,300nm,19.5s,MS5.1
GRF Grafenberg Arr 145.89 334 *e*PKP PKPdf 23 47 48.6 +3.6
GRF LR LR
comp=Z,300nm,19.5s,MS5.1
DOBS Dobrina 146.42 326 *e*PKPbc PKPbc 23 47 48.8 +1.5
TNS Taunus Mts 146.55 337 *e*PKPbc PKPbc 23 47 50.1 +2.7
OBKA Obir 146.66 327 *e*(P) PKPdf 23 47 53.0 +6.6
comp=Z,0.6nm,0.5s
KBA Koelnbreinsper 146.87 329 ⇑*i*P PKPdf 23 47 52.1 +5.4
comp=Z,5.2nm,0.9s
KBA *i* 23 48 01.3
comp=Z,13nm,1.1s
TOD Tromm 146.92 336 PKP PKPdf 23 47 50.5 +3.7
HGN Heimansgroeve 146.96 340 *e*PKP PKPdf 23 47 50.0 +3.3
comp=Z,57nm,2.9s
VISS Visnje 146.98 326 *e*PKPbc PKPbc 23 47 50.5 +1.9
LJU Ljubljana 146.98 326 *e*PKPbc PKPbc 23 47 50.2 +1.7
LJU *e* 23 48 43.6
FUR Furstenfeldbru 147.03 332 *e*PKPbc PKPdf 23 47 51.7 +4.7
DLF Lyons Farm 147.11 355 *e*P PKPdf 23 47 49.3 +2.4
DCN Croghan 147.12 356 *e*P PKPdf 23 47 49.3 +2.4
ABH Alteburg 147.16 337 PKP PKPdf 23 47 51.4 +4.3
JAVS Javornik 147.32 327 *e*PKPbc PKPdf 23 47 51.2 +3.7
STU Stuttgart 147.44 335 *e*PKP PKPdf 23 47 52.6 +4.9
RUP Ruppelstein 147.48 338 PKP PKPdf 23 47 52.9 +5.2
WTTA Wattenberg 147.54 331 ⇓*i*P PKPdf 23 47 52.7 +4.9
comp=Z,25nm,1.3s
MOTA Moosalm 147.73 331 ⇑*i*P PKPdf 23 47 52.9 +4.8
comp=Z,6.8nm,0.8s
SQTA Sankt Quirin 147.77 331 ⇑*i*P PKPdf 23 47 53.6 +5.4
comp=Z,3.5nm,0.6s
LANF Langenberg 147.81 336 PKP PKPdf 23 47 55.7 +7.5
WLF Walferdange 147.83 339 *e*PKP PKPdf 23 47 55.0 +6.8
GIVF Givet 147.89 340 *e*PKIKP PKPdf 23 47 54.6 +6.3
BAIF Baives 148.12 341 *e*PKIKP PKPdf 23 47 54.3 +5.6
comp=Z,74nm,1.6s
BFO Black Forest 148.14 335 *e*PKPbc PKPdf 23 47 55.0 +6.3
DAVA Damuels 148.31 332 ⇑*i*P PKPdf 23 47 55.9 +6.8
comp=Z,11nm,1.3s
DAVA *i* 23 48 06.9
comp=Z,8.4nm,0.7s
WLS Welschbruch 148.45 336 PKP PKPdf 23 47 55.1 +5.9
CDF Champ du Feu 148.48 336 *e*PKIKP PKPdf 23 47 55.5 +6.2
comp=Z,9.9nm,0.7s
FELD Feldberg 148.63 335 PKP PKPdf 23 47 55.1 +5.5
ECH Echery 148.68 336 PKP PKPdf 23 47 57.9 +8.3
MOF Molkenrain 148.99 336 PKP PKPdf 23 47 56.6 +6.5
THEF They Montfort 149.11 337 PKP PKPdf 23 47 56.2 +5.9
HINF Hinteralfeld 149.13 336 *e*PKIKP PKPdf 23 47 56.6 +6.2
MEZF Maizieres J'vi 149.20 339 *e*PKIKP PKPdf 23 47 57.6 +7.2
LOMF Lomont 149.52 336 PKP PKPdf 23 47 57.9 +6.9
CABF La Chapelle 150.42 336 *e*PKIKP PKPdf 23 47 58.8 +6.4
comp=Z,8.0nm,0.7s
FLN La Foliniere 150.56 346 *e*PKIKP PKPdf 23 47 58.8 +6.2
comp=Z,73nm,1.3s
FLN *e*R
comp=Z,246nm,20.2s
LOR Lormes 150.67 339 *e*PKIKP PKPdf 23 47 59.6 +6.8
comp=Z,13nm,1.0s
LOR *e*R
comp=Z,217nm,22.0s
SSF Saint Saulge 150.97 339 *e*PKIKP PKPdf 23 47 59.8 +6.6
LPL La Plagne 151.05 333 *e*PKIKP PKPdf 23 48 00.3 +6.9
LPG La Plagne 151.06 333 *e*PKIKP PKPdf 23 48 00.3 +6.9
comp=Z,9.3nm,0.8s
SMF Signal de Mont 151.22 338 *e*PKIKP PKPdf 23 47 59.9 +6.3
BGF Bois d'Agland 151.63 339 *e*PKIKP PKPdf 23 48 00.5 +6.3
MBDF Montbardon 151.67 332 *e*PKIKP PKPdf 23 48 01.3 +7.0
comp=Z,6.9nm,0.8s
ORIF Oris-en-Rattie 151.89 334 *e*PKIKP PKPdf 23 48 01.6 +6.9
comp=Z,6.9nm,0.7s
ORIF *e*R
comp=Z,399nm,19.0s
TCF Toulx Ste Croi 152.08 340 *e*PKIKP PKPdf 23 48 01.4 +6.5
VIVF Saint-Julien-l 152.43 335 *e*PKIKP PKPdf 23 48 01.9 +6.4
LASF Ste Croix 153.40 335 *e*PKIKP PKPdf 23 48 03.3 +6.5
comp=Z,17nm,1.2s
MTLF Montolieu 154.65 337 *e*PKIKP PKPdf 23 48 05.0 +6.4
ESDC Sonseca Array 159.95 344 PKPab PKPab 23 48 46.4 -0.8
comp=Z,0.4nm,0.6s,baz=20,slow=4.4,SNR=3.9

NEIC ***20*** *00:09:09.8, 17.17N×93.87W, h168km, MD4.1(MEX), After MEX.*

MEX 20 00:09:10.0±0.7, 16.97N×94.01W, h201km±8km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.84**	**278**	*i* P	P	00 09 37.5	-1.6
CMIG				*i* S	S	00 09 58.7	-3.0
HUIG	**Huatulco**	**2.34**	**240**	*e*P	P	00 09 51.2	-1.5
HUIG				*e*S	S	00 10 22.6	-3.0
OXX	**Oaxaca**	**2.60**	**273**	*i* P	P	00 09 55.0	-0.5
OXX				*i* S	S	00 10 29.0	-1.7
IISM	**Ciudad Serdan**	**3.78**	**303**	*i* P	P	00 10 06.0	-3.7
IISM				*i* S	S	00 10 50.0	-5.8
PPM	**Popocatepetl**	**4.86**	**296**	*e*P	P	00 10 18.5	-4.8
YAIG	**Yautepec**	**5.17**	**292**	*e*P	P	00 10 25.2	-2.0
YAIG				*e*S	S	00 11 24.7	-2.5
PLIG	**Platanillo**	**5.42**	**286**	*e*P	P	00 10 28.4	-2.1
PLIG				*e*S	S	00 11 31.1	-2.0

LDG ***20*** *01:27:45.9±0.1, 49.35N×6.92E, h2km, Md3.8/1, Ml3.9/37, Error ellipse: s-maj=1.2km s-min=1.0km az=144.0*
CSEM ***20*** *01:27:45.8±0.0, 49.36N×6.92E, h2km, ML4.0/22, Error ellipse: s-maj=0.7km s-min=0.7km az=157.0*
STR ***20*** *01:27:46.2±0.2, 49.36N×6.89E, h1km±1km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
BNS ***20*** *01:27:46.6±1.3, 49.40N×6.90E, h1km, ML3.6*

BGR **20** *01:27:46.3±0.3, 49.43N×6.91E, h1km, ML3.7/16, Error ellipse: s-maj=4.4km s-min=3.3km az=20.0*
IPEC **20** *01:27:46.3±0.1, 49.40N×6.88E, h8km, ML3.2/2, Error ellipse: s-maj=0.7km s-min=0.6km az=92.0*
NEIC **20** *01:27:46.0, 49.38N×6.91E, h1km, ML3.9(LDG), ML3.5(LEDBW), ML3.5(STR), ML3.3(SZGRF), After LEDBW.*
ZUR **20** *01:27:46.8, 49.40N×6.90E, h5km, ML3.5/12*
LEDBW **20** *01:27:46.2±0.2, 49.38N×6.91E, h1km, ML3.3, Error ellipse: s-maj=6.0km s-min=2.0km az=102.0*
ISC 20 01:27:43.6±0.1**, 49.352N**±0.010×**6.81E**±0.01**, n200, σ1§31**/390**, 14C-31D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.39	25	⇓Pg	Pg	01 27 52.9	+1.7
RUP	Ruppelstein	0.39	25	Pg	Pg	01 27 52.9	+1.6
RUP				Sg	Sg	01 27 58.8	+2.4
WLF	Walferdange	0.53	306	ePg	Pg	01 27 57.2	+3.0
	SNR=200						
WLF				eSg	Sg	01 28 03.9	+2.6
	SNR=630						
ABH	Alteburg	0.71	42	⇓iPg	Pg	01 27 58.3	+0.5
LANF	Langenberg	0.75	119	Pg	Pg	01 27 59.4	+0.8
LANF	Langenberg	0.75	119	⇓iPg	Pg	01 27 59.5	+1.0
LANF	Langenberg	0.75	119	Pg	Pg	01 27 59.5	+0.9
KTD	Kalmit	0.83	92	⇓iPg	Pg	01 28 00.7	+0.5
KTD	Kalmit	0.83	92	Pg	Pg	01 28 00.6	+0.4
KTD				Sg	Sg	01 28 13.5	+2.2
BGG	Burgeitz	0.92	22	ePg	Pg	01 28 02.4	+0.5
BGG				eSg	Sg	01 28 14.7	+0.5
	1µm,0.6s						
CDF	Champ du Feu	0.99	162	ePg	Pg	01 28 04.4	+1.1
CDF				ePn	Pn	01 28 05.4	+0.9
CDF				eSn	Sn	01 28 18.7	-0.7
	280nm,0.2s						
STR	Strasbourg	0.99	140	Pg	Pg	01 28 05.0	+1.6
WLS	Welschbruch	1.00	159	Pg	Pg	01 28 04.8	+1.2
WLS				Sg	Sg	01 28 19.4	+2.4
WLS	Welschbruch	1.00	159	⇓iP	Pb	01 28 04.9	+1.4
WLS				P		01 28 05.9	
WLS	Welschbruch	1.00	159	Pg	Pg	01 28 04.9	+1.3
WLS				Sg	Sg	01 28 19.4	+2.4
RFYF	Reffroy	1.14	231	ePg	Pg	01 28 09.1	+2.8
	baz=54						
RFYF				eSg	Sg	01 28 23.8	+2.3
	1µm,0.2s,baz=49						
ECH	Echery	1.16	168	Pg	Pg	01 28 07.8	+1.1
ECH	Echery	1.16	168	P	Pb	01 28 07.8	+1.7
SWS	Schriesheim	1.24	83	⇓ePn	Pn	01 28 07.8	-0.3
SWS				Sg	Sg	01 28 24.5	-0.4
SWS	Schriesheim	1.24	83	⇓eP	Pb	01 28 07.8	+0.2
SWS				Sg	Sg	01 28 24.5	-0.4
STB	Steinbach	1.24	1	⇑ePg	Pg	01 28 08.5	+0.1
STB				eSg	Sg	01 28 25.4	+0.4
	653nm,1.1s						
THEF	They Montfort	1.25	206	Pg	Pg	01 28 10.0	+1.4
THEF				Sg	Sg	01 28 26.9	+1.7
THEF	They Montfort	1.25	206	P	Pb	01 28 10.2	+2.5
LIBD	Limburg	1.31	156	⇓Pn	Pn	01 28 11.1	+2.0
TOD	Tromm	1.32	78	⇓iPn	Pn	01 28 08.9	-0.4
TOD				Sg	Sg	01 28 27.3	-0.4
TOD	Tromm	1.32	78	⇓iP	Pb	01 28 08.9	-0.1
TOD				Sg	Sg	01 28 27.3	-0.4
TOD	Tromm	1.32	78	Pg	Pb	01 28 08.9	-0.1
TOD				Sg	Sg	01 28 27.1	-0.6
KLL	Kalltalsperre	1.34	346	⇑ePg	Pg	01 28 10.1	-0.2
KLL				eSg	Sg	01 28 28.1	0.0
	379nm,0.6s						
TNS	Taunus Mts	1.37	50	ePg	Pg	01 28 09.5	-1.5
	SNR=125						
TNS				eSg	Sg	01 28 28.4	-0.9
	SNR=306						
TNS	Taunus Mts	1.37	50	ePg	Pg	01 28 09.6	-1.4
TNS				eSg	Sg	01 28 28.9	-0.4
TNS	Taunus Mts	1.37	50	ePg	Pg	01 28 09.6	-1.4
TNS				eSg	Sg	01 28 28.0	-1.3
HAU	Haudompre	1.38	193	ePn	Pn	01 28 11.3	+1.2
HAU				ePg	Pg	01 28 12.3	+1.1
HAU				eSn	Sn	01 28 28.7	-0.7
HAU				eSg	Sg	01 28 30.3	+0.7
	312nm,0.2s						
BFO	Black Forest	1.43	135	⇓ePn	Pn	01 28 11.1	+0.2
BFO				Pg	Pg	01 28 12.8	+0.7
BFO				Sg	Sg	01 28 31.3	+0.1
BFO	Black Forest	1.43	135	ePg	Pg	01 28 11.1	-1.1
BFO				eSg	Sg	01 28 30.9	-0.4
BFO	Black Forest	1.43	135	ePn	Pn	01 28 11.0	+0.1
BFO	Black Forest	1.43	135	ePg	Pg	01 28 11.1	-1.1
BFO				eSg	Sg	01 28 30.4	-0.9
MEZF	Maizieres J'vi	1.44	234	ePn	Pn	01 28 12.2	+1.2
	baz=58						
MEZF				ePg	Pg	01 28 13.7	+1.4
	baz=57						
MEZF				eSn	Sn	01 28 31.0	+0.2
MEZF				eSg	Sg	01 28 33.1	+1.6
	411nm,0.4s						
MEZF	Maizieres J'vi	1.44	234	ePg	Pg	01 28 13.7	+1.4
MEZF				eSn	Sn	01 28 31.0	+0.2
MEZF				eSg	Sg	01 28 33.1	+1.6
	205nm,0.4s						
LBG	Lerchenberg	1.48	117	⇓ePn	Pn	01 28 11.5	0.0
LBG				Pg	Pg	01 28 13.3	+0.3
LBG				Sg	Sg	01 28 30.9	-1.8
LBG	Lerchenberg	1.48	117	⇓eP	Pn	01 28 11.5	0.0
LBG				Pg	Pg	01 28 13.3	+0.3
GIVF	Givet	1.49	301	ePn	Pn	01 28 13.6	+1.9
GIVF				ePg	Pg	01 28 14.7	+1.3
GIVF				eSn	Sn	01 28 32.1	-0.1
GIVF				eSg	Sg	01 28 35.0	+1.7
	2µm,0.7s						
MOF	Molkenrain	1.52	172	Pg	Pg	01 28 14.8	+0.9
MOF				Sg	Sg	01 28 35.1	+1.0
MOF	Molkenrain	1.52	172	Pn	Pn	01 28 12.6	+0.5
MOF				Pg	Pg	01 28 15.0	+1.1
MOF				Sg	Sg	01 28 35.2	+1.2
MOF	Molkenrain	1.52	172	P	Pg	01 28 15.0	+1.1
MOF				S	Sg	01 28 35.2	+1.2
FBB	Freiburg	1.52	153	P*	Pb	01 28 14.9	+2.5
HGN	Heimansgroeve	1.52	338	ePn	Pn	01 28 13.2	+1.0
	54nm,0.2s,baz=150						
HGN				ePg	Pg	01 28 14.8	+0.8
	193nm,0.3s						
HGN				eSn	Sn	01 28 33.3	+0.3
HGN				eSg	Sg	01 28 35.4	+1.1
HGN				eRg		01 28 52.8	
HINF	Hinteralfeld	1.54	179	ePn	Pn	01 28 12.7	+0.3
HINF				ePg	Pg	01 28 14.7	+0.4
HINF				eSn	Sn	01 28 31.7	-1.6
HINF				eSg	Sg	01 28 34.8	+0.1
	823nm,0.2s						
KIZ	Kirchzarten	1.58	152	⇓iPn	Pn	01 28 13.0	0.0
KIZ				Pg	Pg	01 28 15.4	+0.3
KIZ				Sg	Sg	01 28 35.8	-0.3
KIZ	Kirchzarten	1.58	152	⇓iP	Pn	01 28 13.0	+0.1
KIZ				Pg	Pg	01 28 15.4	+0.3
KIZ				Sg	Sg	01 28 35.8	-0.3
KIZ	Kirchzarten	1.58	152	PG	Pg	01 28 15.4	+0.3
KIZ				SG	Sg	01 28 35.8	-0.3
BNS	Bensberg	1.63	8	ePg	Pg	01 28 15.9	-0.2
BNS				eSg	Sg	01 28 35.5	-2.4
	2µm,0.5s						
SFTF	Sexfontaines	1.64	226	ePn	Pn	01 28 15.5	+1.6
	baz=57						
SFTF				ePg	Pg	01 28 17.5	+1.2
	baz=48						
SFTF				eSn	Sn	01 28 35.5	-0.5
	baz=53						
SFTF				eSg	Sg	01 28 39.3	+1.1
	245nm,0.3s,baz=51						
SFTF	Sexfontaines	1.64	226	ePg	Pg	01 28 17.5	+1.2
SFTF				eSn	Sn	01 28 35.5	-0.5
SFTF				eSg	Sg	01 28 39.3	+1.1
	122nm,0.3s						
STU	Stuttgart	1.67	109	ePn	Pn	01 28 14.3	0.0
	SNR=5.5						
STU				eSn	Sn	01 28 36.1	-0.6
	SNR=31						
FELD	Feldberg	1.68	151	Pn	Pn	01 28 14.7	+0.3
FELD				Pg	Pg	01 28 17.3	+0.3
FELD				Sg	Sg	01 28 40.0	+0.7
FELD	Feldberg	1.68	151	P	Pn	01 28 14.7	+0.4
FELD				Pg	Pg	01 28 17.3	+0.3
FELD	Feldberg	1.68	151	PG	Pg	01 28 17.3	+0.3
FELD	Feldberg	1.68	151	Pg	Pg	01 28 17.1	+0.1
FELD				Sg	Sg	01 28 38.9	-0.5
TUBL	Tuebingen Lnz	1.71	118	⇓Pn	Pn	01 28 15.2	+0.3
TUBL				Pg	Pg	01 28 17.9	+0.1
SPAK	Spaichingen	1.81	133	Pg	Pg	01 28 19.7	0.0
SIND	Sindeldorf	1.83	89	⇓iPn	Pn	01 28 15.9	-0.6
BAIF	Baives	1.83	294	ePn	Pn	01 28 18.4	+1.8
BAIF				ePg	Pg	01 28 21.2	+1.0
BAIF				eSn	Sn	01 28 40.7	-0.1
BAIF				eSg	Sg	01 28 46.2	+1.6
	547nm,0.7s						
BUCH	Bad Urach	1.90	117	⇓ePn	Pn	01 28 17.7	+0.1
SLE	Schleitheim	1.94	144	⇓iPn	Pn	01 28 18.6	+0.5
SLE	Schleitheim	1.94	144	⇑iPmP		01 28 22.5	
BBS	Basel-Blauen	1.94	166	Pn	Pn	01 28 20.0	+1.8
BBS	Basel-Blauen	1.94	166	Pn	Pn	01 28 19.2	+1.0
BBS	Basel-Blauen	1.94	166	P	Pn	01 28 20.0	+1.8
BBS	Basel-Blauen	1.94	166	Pg	Pg	01 28 24.0	+1.6
BOURR	Bourrignon	1.98	172	⇑iPn	Pn	01 28 19.6	+0.9
BOURR				eSg	Sg	01 28 49.0	-0.5
GUT	Gutenstein	1.99	129	⇓ePn	Pn	01 28 19.1	+0.2
LOMF	Lomont	2.00	180	Pg	Pg	01 28 24.0	+0.4
LOMF	Lomont	2.00	180	⇓Pn	Pn	01 28 19.9	+0.9
LOMF	Lomont	2.00	180	Pn	Pn	01 28 19.7	+0.7
LOMF				Pg	Pg	01 28 24.0	+0.4
LOMF	Lomont	2.00	180	Pg	Pg	01 28 24.0	+0.4
BALST	Balsthal	2.10	163	⇑iPn	Pn	01 28 21.2	+0.8
TRULL	Truellikon	2.11	143	ePn	Pn	01 28 21.7	+1.1
TRULL	Truellikon	2.11	143	⇑iPmP		01 28 24.8	
BUG	Bochum--Univer	2.11	8	ePn	Pn	01 28 21.2	+0.7
	SNR=9.9						
BUG				ePg	Pg	01 28 24.5	-1.2
	SNR=9.9						
FLACH	Flaach	2.13	146	eP	Pn	01 28 22.4	+1.6
STEIN	Stein am Rhein	2.17	140	⇓iPn	Pn	01 28 23.4	+2.0
SISB	Singen-Sch Ber	2.20	139	Pn	Pn	01 28 22.9	+1.1
SISB				P*	Pb	01 28 27.5	+3.5
SISB				S*	Sb	01 28 56.6	+4.8
WEIN	Weingarten	2.33	141	eP	Pn	01 28 25.9	+2.2
WEIN	Weingarten	2.33	141	ePn	Pn	01 28 25.8	+2.1
WEIN	Weingarten	2.33	141	ePmP		01 28 29.8	
HDH	Heidenheim	2.37	108	Pn	Pn	01 28 23.9	-0.3
HDH				Pg	Pg	01 28 29.3	-1.5
HDH	Heidenheim	2.37	108	P	Pn	01 28 23.9	-0.3
HDH				Pg	Pg	01 28 29.3	-1.5
HDH	Heidenheim	2.37	108	Pg	Pg	01 28 29.3	-1.5
BRANT	Les Verrieres	2.43	185	⇓iPn	Pn	01 28 26.0	+0.9
HROE	Hohe Rhon--Fla	2.46	60	⇑iPn	Pn	01 28 25.2	-0.4
TORNY	Torny	2.58	178	ePn	Pn	01 28 28.2	+0.9
NORI	Noerdlinger Ri	2.59	103	⇓iPn	Pn	01 28 27.2	-0.2
WTSB	Winterswijk	2.62	360	ePn	Pn	01 28 28.7	+0.9
WTSB				ePg	Pg	01 28 33.5	-2.3
	135nm,1.1s						
WTSB				eSg	Sg	01 29 06.1	-4.7
WTSB	Winterswijk	2.62	360	ePg	Pg	01 28 33.5	-2.3
	135nm,1.1s						
WTSB				eSg	Sg	01 29 06.1	-4.6
MUO	Muotathal	2.68	152	ePn	Pn	01 28 30.2	+1.5
MUO				eSg	Sg	01 29 11.8	-1.0
BNALP	Bannalp	2.71	156	ePn	Pn	01 28 30.8	+1.7
BNALP				eSg	Sg	01 29 11.9	-1.8
HASLI	Hasliberg	2.75	160	⇑ePn	Pn	01 28 30.8	+1.1
UBR	Uberruh	2.76	126	⇓ePn	Pn	01 28 30.5	+0.7
UBR				S*	Sb	01 29 14.6	+6.6
CABF	La Chapelle	2.79	190	ePn	Pn	01 28 30.7	+0.5
CABF				ePg	Pg	01 28 38.0	-1.2
CABF				eSg	Sg	01 29 14.1	-2.2
	427nm,0.8s						
GIMEL	Gimel	2.84	188	⇓iPn	Pn	01 28 31.7	+0.6
LOR	Lormes	2.87	225	ePn	Pn	01 28 31.6	+0.2
	baz=52						
LOR				eSn	Sn	01 29 05.3	-1.9
LOR				eSg	Sg	01 29 16.5	-2.6
	153nm,0.4s,baz=44						
GRA1	Grafenberg Arr	2.89	82	ePn	Pn	01 28 33.0	+1.2
GRA1				eSg	Sg	01 29 15.7	-4.2
GRF	Grafenberg Arr	2.89	82	ePn	Pn	01 28 33.0	+1.2
DAVA	Damuels	2.91	134	⇓iPN	Pn	01 28 33.1	+1.1
DAVA				i SG	Sg	01 29 21.3	+0.9
	108nm,0.7s						
SENIN	Lac Senin	3.01	174	ePn	Pn	01 28 34.4	+1.0
IBBN	Ibbenburen	3.02	11	ePg	Pg	01 28 41.3	-2.6
	SNR=1.8						
IBBN				eSg	Sg	01 29 18.3	-5.8
	SNR=8.6						
GRB1	Grafenberg Arr	3.17	87	ePn	Pn	01 28 35.6	0.0
GRB1				eSg	Sg	01 29 22.6	-6.3
FUR	Furstenfeldbru	3.18	110	ePn	Pn	01 28 36.5	+0.7
	SNR=6.4						
FUR				ePg	Pg	01 28 45.9	-1.2
	SNR=18						
FUR				eSn	Sn	01 29 11.7	-3.4
	SNR=8.0						
SSF	Saint Saulge	3.18	225	ePn	Pn	01 28 35.9	0.0
SSF				eSn	Sn	01 29 13.3	-1.8
SSF				eSg	Sg	01 29 25.5	-4.1
	109nm,0.7s						
MOX	Moxa	3.36	66	ePn	Pn	01 28 37.6	-0.8
	SNR=6.2						
MOX				ePg	Pg	01 28 46.6	-4.1
	SNR=30						
MOX				eSn	Sn	01 29 16.3	-3.3
	SNR=17						
MOX				eSg	Sg	01 29 30.2	-5.2
	SNR=34						
MOX	Moxa	3.36	66	ePn	Pn	01 28 38.1	-0.3
MOX				i Pg	Pg	01 28 46.5	-4.1
MOX				eSn	Sn	01 29 16.5	-3.1
MOX				eSg	Sg	01 29 30.7	-4.7
MOX	Moxa	3.36	66	i P	Pn	01 28 38.1	-0.3
MOX				Pg	Pg	01 28 46.0	-4.6
MOX				S	Sn	01 29 16.0	-3.6
MOX				Sg	Sg	01 29 31.0	-4.4
SMF	Signal de Mont	3.36	217	ePn	Pn	01 28 38.0	-0.4
SMF				eSn	Sn	01 29 16.4	-3.3
SMF				eSg	Sg	01 29 32.4	-3.2
	90nm,0.3s						
CLZ	Clausthal	3.37	41	ePn	Pn	01 28 38.3	-0.3
	SNR=5.1						
CLZ				ePg	Pg	01 28 47.1	-3.7
	SNR=19						
MZEK	Zeckenberg-Ebn	3.39	78	⇑iPn	Pn	01 28 39.5	+0.6
HYF	Humbligny	3.48	235	ePn	Pn	01 28 40.0	-0.1
HYF				ePg	Pg	01 28 52.0	-1.0
HYF				eSg	Sg	01 29 36.9	-2.5
NOTT	Nottersdorf	3.49	80	ePn	Pn	01 28 39.2	-1.0
MOTA	Moosalm	3.50	123	⇓iPN	Pn	01 28 41.1	+0.8
MOTA				i SG	Sg	01 29 37.4	-2.6
	15nm,0.3s						
FUORN	Ofenpass	3.58	138	ePn	Pn	01 28 43.6	+2.0
SQTA	Sankt Quirin	3.63	124	⇑iPN	Pn	01 28 43.8	+1.6
SQTA				i SG	Sg	01 29 44.4	0.0
	26nm,0.4s						
NEUB	Neuenburg	3.69	58	ePg	Pg	01 28 52.1	-5.0
	SNR=6.0						
NEUB				eSg	Sg	01 29 41.1	-5.2
	SNR=12						
GUNZ	Gunzen	3.71	72	ePn	Pn	01 28 43.4	0.0
	SNR=5.9						
GUNZ				ePg	Pg	01 28 54.0	-3.7
	SNR=29						
GUNZ				eSg	Sg	01 29 42.0	-5.1
	SNR=67						
WERD	Werda	3.72	71	ePn	Pn	01 28 42.6	-0.9
	SNR=6.0						
WERD				ePg	Pg	01 28 53.6	-4.2
	SNR=31						
WERD				eSg	Sg	01 29 42.2	-5.1
	SNR=60						
NKC	Novy Kostel	3.76	74	ePN	Pn	01 28 54.1	+10
NKC	Novy Kostel	3.76	74	ePn	Pn	01 28 44.3	+0.3
NKC	Novy Kostel	3.76	74	ePg	Pg	01 28 54.2	-4.4
NKC				eSg	Sg	01 29 41.5	-7.1
WATA	Walderalm	3.76	121	⇑iPN	Pn	01 28 45.4	+1.3
WATA				i SG	Sg	01 29 47.1	-1.8
	18nm,0.4s						
ORX	Oropa	3.81	168	P	Pn	01 28 46.5	+1.7
ORX	Oropa	3.81	168	P	Pn	01 28 46.5	+1.8
TANN	Tannenbergstha	3.81	72	ePn	Pn	01 28 45.2	+0.5
	SNR=8.9						
TANN				ePg	Pg	01 28 55.5	-4.0
	SNR=36						
TANN				eSg	Sg	01 29 44.2	-6.1
	SNR=45						
LPL	La Plagne	3.84	181	ePn	Pn	01 28 45.7	+0.5
LPL				eSn	Sn	01 29 27.8	-3.9
LPL				eSg	Sg	01 29 46.0	-5.3
	55nm,0.8s						
WTTA	Wattenberg	3.84	121	⇑iPN	Pn	01 28 46.7	+1.5
WTTA				i SG	Sg	01 29 51.0	-0.4
	12nm,0.4s						
LPG	La Plagne	3.86	181	ePn	Pn	01 28 45.9	+0.5
LPG				eSg	Sg	01 29 46.3	-5.7
	100nm,0.9s						
BGF	Bois d'Agland	3.86	225	ePn	Pn	01 28 44.8	-0.7
BGF				eSn	Sn	01 29 29.4	-2.9
BGF				eSg	Sg	01 29 49.1	-3.1
	313nm,0.4s						
LSD	Ceresole Reale	3.90	176	P	Pn	01 28 47.0	+0.9
LSD	Ceresole Reale	3.90	176	P	Pn	01 28 47.0	+0.9
WET	Wettzell	3.98	91	ePn	Pn	01 28 46.9	-0.2
	SNR=35						
WET				eSg	Sg	01 29 50.1	-6.0
	SNR=29						
PLDF	La Plantade	4.01	214	Pn	Pn	01 28 47.6	-0.1
AGO	Saint Agoulin	4.13	218	Pn	Pn	01 28 49.2	-0.2
RSP	Reno Superiore	4.21	176	P	Pn	01 28 51.4	+0.9
RJOB	Jochberg	4.29	110	⇓iPn	Pn	01 28 52.2	+0.6
BNI	Bardonecchia	4.30	181	ePn	Pn	01 28 52.3	+0.5
TCF	Toulx Ste Croi	4.36	227	ePn	Pn	01 28 51.7	-0.9
TCF				eSn	Sn	01 29 40.8	-4.1
TCF				eSg	Sg	01 30 03.8	-4.9
	75nm,0.6s						
CLL	Collm	4.42	61	ePn	Pn	01 28 49.7	-3.8
	SNR=1.5						
CLL				ePg	Pg	01 29 06.0	-5.9
CLL				eSn	Sn	01 29 41.0	-5.5
CLL				eSg	Sg	01 30 02.3	-8.5
	SNR=17						
CLL	Collm	4.42	61	ePn	Pn	01 28 50.0	-3.5
CLL				ePg	Pg	01 29 06.0	-5.9
CLL				eSn	Sn	01 29 41.0	-5.5
CLL				i Sg	Sg	01 30 04.4	-6.4
CLL	Collm	4.42	61	ePN	Pn	01 28 50.0	-3.5
CLL				ePG	Pg	01 29 06.0	-5.9
CLL				i		01 29 24.5	
CLL				eSN	Sn	01 29 41.0	-5.5
CLL				i SG	Sg	01 30 04.4	-6.4
PYM	Petit Puy Mans	4.43	217	Pn	Pn	01 28 53.2	-0.4
KHC	Kasperske Hory	4.44	90	ePN	Pn	01 28 53.2	-0.5
KHC				eSN	Sn	01 29 36.7	-10
KHC				ex	x	01 29 42.1	
KHC				i x	x	01 30 10.0	
ORIF	Oris-en-Rattie	4.48	189	ePn	Pn	01 28 53.6	-0.7
ORIF				eSg	Sg	01 30 06.7	-6.1
	105nm,0.8s						
GEC2	GERESS Array S	4.55	94	ePn	Pn	01 28 55.0	-0.4
	SNR=74						
GEC2				eSn	Sn	01 29 45.1	-4.8
	SNR=24						
MBDF	Montbardon	4.63	180	eP	Pn	01 28 57.3	+0.9
MBDF				eSg	Sg	01 30 10.5	-7.1
	34nm,0.8s						
VIVF	Saint-Julien-l	4.73	199	ePn	Pn	01 28 56.2	-1.6
VIVF				ePg	Pg	01 29 13.9	-4.1
VIVF				eSn	Sn	01 29 49.1	-5.1
VIVF				eSg	Sg	01 30 14.1	-6.9
	48nm,0.6s						
LBL	Lubilhac	4.78	212	Pn	Pn	01 28 58.0	-0.6
FLN	La Foliniere	4.83	266	ePn	Pn	01 28 59.3	0.0
	baz=82						
FLN				ePg	Pg	01 29 16.2	-3.9
	baz=87						
FLN				eSg	Sg	01 30 19.0	-5.5
	95nm,0.7s,baz=83						
FLN	La Foliniere	4.83	266	ePg	Pg	01 29 16.2	-3.9
FLN				eSg	Sg	01 30 19.0	-5.5
	48nm,0.7s						
BRG	Berggiesshubel	4.83	69	ePn	Pn	01 28 58.4	-0.9
	SNR=2.0						
BRG				ePg	Pg	01 29 13.7	-6.4
	SNR=8.4						
BRG				eSg	Sg	01 30 16.5	-8.0
	SNR=7.1						
BRG	Berggiesshubel	4.83	69	Pn	Pn	01 28 58.3	-1.1
BRG				Pg	Pg	01 29 13.9	-6.2
BRG				Sg	Sg	01 30 15.4	-9.2
BRG	Berggiesshubel	4.83	69	Pn	Pn	01 28 58.3	-1.0
KBA	Koelnbreinsper	4.92	115	⇑iPN	Pn	01 29 01.6	+1.0
KBA				i SN	Sn	01 29 56.1	-3.1
PRU	Pruhonice	5.06	80	ePN	Pn	01 29 01.1	-1.4
PRU				eSG	Sg	01 30 21.9	-10
PVCC	Panska Ves	5.15	74	ePN	Pn	01 29 02.1	-1.6
PVCC				ex	x	01 29 21.6	
GRR	Gorron	5.15	262	ePn	Pn	01 29 03.6	-0.2
GRR				ePg	Pg	01 29 23.2	-3.3
GRR				eSn	Sn	01 30 00.5	-4.4
GRR				eSg	Sg	01 30 29.6	-5.5
	70nm,0.6s						
MOA	Molln	5.17	104	i PN	Pn	01 29 03.8	-0.3
MOA				i SN	Sn	01 30 01.2	-4.1
RJF	Les Rejaudoux	5.42	224	ePn	Pn	01 29 05.9	-1.7
RJF				eSn	Sn	01 30 05.8	-5.8
RJF				eSg	Sg	01 30 35.4	-8.5
	102nm,0.9s						
MFF	Saint Martin d	5.42	242	ePn	Pn	01 29 06.9	-0.7
MFF				ePg	Pg	01 29 30.2	-1.6
MFF				eSn	Sn	01 30 05.8	-5.9
MFF				eSg	Sg	01 30 36.2	-7.9
	80nm,0.8s						
MFF	Saint Martin d	5.42	242	ePn	Pn	01 29 06.9	-0.7
MFF				eSn	Sn	01 30 05.8	-5.9
MFF				eSg	Sg	01 30 36.2	-7.9
	40nm,0.8s						
SMRF	Simiane la Rot	5.45	189	ePn	Pn	01 29 05.4	-2.5
SMRF				eSg	Sg	01 30 37.6	-7.2
	46nm,1.0s						
ROBS	Robic	5.48	122	ePn	Pn	01 29 10.0	+1.6
CAF	Calviac	5.49	218	ePn	Pn	01 29 07.0	-1.5
CAF				eSn	Sn	01 30 07.8	-5.5
CAF				eSg	Sg	01 30 38.5	-7.7
	71nm,0.9s						
SBF	Sospel	5.51	175	ePn	Pn	01 29 07.2	-1.6
SBF				eSn	Sn	01 30 07.4	-6.4
	20nm,0.6s						
LASF	Ste Croix	5.66	202	ePn	Pn	01 29 09.3	-1.6
LASF				eSg	Sg	01 30 43.4	-8.4
	48nm,0.8s						
OBKA	Obir	5.93	116	⇑iPN	Pn	01 29 15.9	+1.2
OBKA				i SN	Sn	01 30 23.2	-1.1
JAVS	Javornik	6.00	122	ePn	Pn	01 29 16.4	+0.6
LMR	La Mourre	6.02	182	ePn	Pn	01 29 14.0	-2.1
LMR				eSn	Sn	01 30 19.6	-7.2
	1.9nm,0.3s						
LFF	La Frestale	6.05	225	ePn	Pn	01 29 14.4	-2.1
LFF				eSg	Sg	01 30 55.8	-9.2
	104nm,0.7s						
UPC	Upice	6.05	75	ePN	Pn	01 29 15.8	-0.7
ARSA	Arzberg	6.18	107	⇓iPN	Pn	01 29 18.3	0.0
ARSA				i SN	Sn	01 30 26.6	-4.1
ARSA				i SG	Sg	01 31 08.5	-0.8
	8.3nm,0.6s						
ARSA	Arzberg	6.18	107	⇓iPn	Pn	01 29 18.3	0.0
	8.3nm,0.6s						
ARSA				i Sn	Sn	01 30 26.6	-4.1
ARSA				i Sg	Sg	01 31 08.5	-0.8
PERS	Pernice	6.20	113	ePn	Pn	01 29 18.9	+0.3
PERS				eSn	Sn	01 30 22.5	-8.7
KSP	Ksiaz	6.28	73	ePg	Pg	01 29 42.8	-6.2
KSP				eSg	Sg	01 31 01.5	-11
SGMF	Saint Gilles	6.29	263	ePn	Pn	01 29 18.6	-1.2
SGMF				eSn	Sn	01 30 26.5	-6.9
SGMF				eSg	Sg	01 31 05.1	-7.8
	68nm,0.7s						
VRAC	Vranov	6.39	87	eSg	Sg	01 31 06.6	-10
ROSF	Rostrenen	6.74	265	ePn	Pn	01 29 24.5	-1.6
ROSF				eSn	Sn	01 30 36.8	-7.7
ROSF				eSg	Sg	01 31 19.2	-8.6
	72nm,0.8s						
QUIF	Quistinic	6.77	262	ePn	Pn	01 29 24.8	-1.8
QUIF				eSn	Sn	01 30 37.6	-7.8
QUIF				eSg	Sg	01 31 19.0	-10
	89nm,1.0s						
MTLF	Montolieu	6.80	210	ePg	Pg	01 29 51.9	-7.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MTLF				eSg	**Sg**	**01 31 18.6**	**-11**
	39nm,0.9s						
BOJS	**Bojanci**	**6.90**	**121**	i Pn	**Pn**	**01 29 28.9**	**+0.4**
KOGS	**Kog**	**6.98**	**111**	i Pn	**Pn**	**01 29 29.1**	**-0.4**
MORC	**Moravsky Berou**	**6.99**	**82**	ePn	**Pn**	**01 29 27.4**	**-2.4**
EPF	**Esparros**	**7.75**	**218**	ePn	**Pn**	**01 29 37.7**	**-2.7**
EPF				eSg	**Sg**	**01 31 50.5**	**-11**
	24nm,0.9s						
VYHS	**Vyhne**	**7.97**	**92**	ePN	**Pn**	**01 29 41.1**	**-2.3**
ETSF	**Etsaut**	**8.23**	**221**	ePn	**P**	**01 29 44.4**	**-2.8**
ETSF				eSg	**Sg**	**01 32 04.9**	**-13**
	32nm,1.0s						
EMIR	**Miracle**	**8.31**	**208**	P	**P**	**01 29 53.5**	**+5.4**
EMIR				S	**Sn**	**01 31 22.7**	**-1.1**
EMIR	**Miracle**	**8.31**	**208**	P	**P**	**01 29 53.5**	**+5.3**
	0.1nm,0.1s,SNR=7.9						
EMIR				S	**Sn**	**01 31 22.7**	**-1.1**
	0.5nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**8.36**	**225**	ePn	**P**	**01 29 45.7**	**-3.2**
SJPF				eSg	**Sg**	**01 32 09.2**	**-13**
	40nm,1.1s						
EGRA	**Graus**	**8.47**	**215**	P	**P**	**01 29 51.9**	**+1.4**
EGRA				S	**Sn**	**01 31 27.9**	**0.0**
EGRA	**Graus**	**8.47**	**215**	P	**P**	**01 29 51.9**	**+1.4**
	0.3nm,0.1s,SNR=7.9						
KECS	**Kecovo**	**9.05**	**90**	ePN	**P**	**01 29 53.8**	**-4.7**
ELAN	**Lanestosa**	**9.36**	**233**	P	**P**	**01 30 00.8**	**-2.0**
ELAN				S	**Sn**	**01 31 41.4**	**-8.6**
EARI	**Arriondas**	**10.28**	**238**	P	**P**	**01 30 12.8**	**-2.5**
EARI				S	**S**	**01 32 00.4**	**-12**
EPON	**Pontenova**	**11.37**	**243**	P	**P**	**01 30 25.6**	**-4.6**
EPON				S	**S**	**01 32 24.5**	**-15**

MAN 20 01:28:36.3, 9.15N×125.67E, h26km, mb4.2, ML3.0, MS2.7, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.19**	**194**	eP	Pb	01 28 42.8	+0.9
BUTP				eS	Sb	01 28 50.1	+4.4
SCPH	**Surigao**	**0.65**	**344**	eP	Pb	01 28 49.9	+0.8
SCPH				eS	Sb	01 29 00.2	+2.5
BUKP	**Musuan**	**1.40**	**205**	eP	Pn	01 29 01.2	+0.7
BUKP				eS	Sn	01 29 25.5	+7.3

*IDC **20** 02:02:33.0±2.0, 29.90N×69.78E, mb3.7/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.4/1, MS4.1/2, Ms1 4.1/2, ms1mx3.1/24, Error ellipse: s-maj=47.9km s-min=37.9km az=149.0*
*NNC **20** 02:02:42.2±2.1, 31.06N×70.22E, Error ellipse: s-maj=50.0km s-min=17.4km az=94.0*
*NDI **20** 02:02:47.5±3.5, 30.07N×70.35E, h10km, ML3.7*
ISC 20 02:02:32.4±0.8**, 30.07N**±0.05×**69.93E**±0.06**, h10km, n30, σ1.66**/33**, mb3.5**/3**, MS4.1**/2**, 1C-3D, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JASL	**Jaisalmer**	**3.25**	**164**	i P	**Pg**	**02 03 38.6**	**+1.3**
JASL				e		02 04 24.0	
AJM	**Ajmer**	**5.48**	**130**	e	**Pn**	**02 04 10.6**	**+14**
AJM				eS	**Sn**	**02 05 02.1**	**+2.0**
THN	**Thein Dam**	**5.49**	**63**	e	**Pn**	**02 03 57.7**	**+1.4**
THN				eS	**Sn**	**02 05 02.3**	**+2.0**
PONG	**Pong**	**5.50**	**68**	e	**Pn**	**02 04 00.0**	**+3.5**
KHET	**Khetri**	**5.51**	**110**	i P	**Pn**	**02 04 03.0**	**+6.4**
KHET				eS	**Sn**	**02 05 01.4**	**+0.5**
KHET				AML	AML	02 05 33.3	
	comp=N,41nm,0.5s						
KHET				AML	AML	02 05 37.6	
	comp=E,45nm,0.5s						
DLH	**Dalhousie**	**5.73**	**63**	eP	**Pn**	**02 04 07.0**	**+7.4**
DLH				eS	**Sn**	**02 05 06.0**	**-0.2**
BHK	**Bhakra**	**5.75**	**75**	e	**Sn**	**02 05 10.2**	**+3.5**
BHK				e		02 05 40.2	
SDNR	**Sundarnagar**	**6.23**	**75**	e	**Pn**	**02 04 08.4**	**+1.7**
SDNR				e		02 05 36.4	
AYAN	**Aya Nagar**	**6.48**	**102**	e	**Pn**	**02 04 10.8**	**+0.5**
AYAN				e		02 05 56.1	
AYAN				AML	AML	02 06 20.2	
	comp=Z,19nm,1.0s						
SONA	**Sohna**	**6.51**	**104**	e	**Pn**	**02 04 08.3**	**-2.4**
SONA				eS	**Sn**	**02 05 24.0**	**-1.9**
SONA				AML	AML	02 06 03.8	
	comp=N,184nm,0.7s						
SONA				AML	AML	02 06 15.3	
	comp=E,434nm,0.0s						
BISR	**Bishrakh**	**6.72**	**101**	e	**Sg**	**02 06 03.9**	**-12**
BHUJ	**Bhuj**	**6.79**	**182**	AML	AML	02 05 41.7	
	comp=E,34nm,0.6s						
BHUJ				AML	AML	02 05 43.9	
	comp=N,11nm,0.2s						
DDI	**Dehra Dun**	**7.04**	**86**	e	**Pg**	**02 04 50.0**	**-3.0**
DDI				e	**Sg**	**02 06 21.0**	**-5.8**
KLP	**Kalpa**	**7.31**	**76**	i	**Pn**	**02 04 21.6**	**-0.3**
KLP				AML	AML	02 06 39.8	
	comp=N,1μm,1.0s						
KLP				AML	AML	02 06 40.9	
	comp=E,1μm,0.7s						
LGTI	**Lohaghat**	**8.99**	**91**	e	**P**	**02 04 57.5**	**+12**
BHPL	**Bhopal**	**9.55**	**134**	eS	**Sn**	**02 06 38.2**	**-3.3**
BHPL				AML	AML	02 06 45.5	
	comp=E,9.3nm,0.3s						
BHPL				AML	AML	02 06 45.8	
	comp=N,8.3nm,0.2s						
KOLN	**Koldanda**	**12.20**	**97**	eP	**P**	**02 05 27.8**	**-1.4**
	comp=N,5.1nm,0.3s						
KK31	**Karatay Array**	**13.02**	**2**	⇓Pn	**P**	**02 05 37.1**	**-3.0**
	comp=N,0.9nm,0.3s,baz=180,slow=12,SNR=27						
KK31				⇑Sn	**S**	**02 07 56.0**	**-10**
	comp=N,5.3nm,0.9s,baz=192,slow=22,SNR=7.8						
GKN	**Gorkha**	**13.04**	**95**	eP	**P**	**02 05 39.5**	**-0.9**
	comp=N,9.7nm,0.3s						
PKI	**Pulchoki**	**13.80**	**97**	eP	**P**	**02 05 47.7**	**-2.9**
	comp=N,3.5nm,0.3s						
GUN	**Gumba**	**14.13**	**95**	eP	**P**	**02 05 53.9**	**-1.0**
	comp=N,34nm,0.4s						
MK31	**Makanchi Array**	**19.27**	**26**	⇓P	**P**	**02 06 57.3**	**-2.4**
	comp=N,0.8nm,0.6s,baz=208,slow=9.8,SNR=10						
MKAR	**Makanchi Array**	**19.27**	**26**	P	**P**	**02 06 59.6**	**-0.1**
	comp=N,0.1nm,0.3s,baz=214,slow=12,SNR=9.7						
AB31	**Akbulak array**	**20.61**	**341**	⇓P	**P**	**02 07 13.9**	**-0.4**
	comp=N,0.3nm,0.4s,baz=153,slow=11,SNR=20						
ZAL	**Zalesovo**	**26.18**	**20**	P	**P**	**02 08 11.9**	**+3.2**
	comp=N,1.2nm,0.5s,mb3.7,baz=309,slow=23,SNR=3.0						
SONM	**Songino Array**	**33.06**	**47**	P	**P**	**02 09 12.6**	**+2.4**
	comp=N,0.2nm,0.6s,mb3.2,baz=262,slow=8.4,SNR=4.5						
AKASG	**Malin Array Be**	**36.62**	**316**	P	**P**	**02 09 41.0**	**+0.4**
	comp=N,0.2nm,0.2s,mb3.5,baz=100,slow=6.8,SNR=4.8						
JOW	**Kunigami**	**50.93**	**78**	LR	LR	02 35 01.4	
	comp=N,245nm,19.1s,MS4.2,baz=205,slow=38						
JNU	**Nakatsue**	**51.37**	**70**	LR	LR	02 35 02.1	
	comp=N,122nm,19.0s,MS4.0,baz=21,slow=38						
VNDA	**Vanda**	**119.53**	**166**	PKP	PKPdf	02 21 22.8	-1.9
	comp=N,0.3nm,0.6s,baz=297,slow=4.5,SNR=5.2						

*NEIC **20** 02:11:40.2, 18.28N×67.44W, h125km, MD3.5(RSPR), After RSPR.*
RSPR 20 02:11:40.2, 18.29N×67.44W, h125km±1km**, MD3.5**/11**, MD3.5**/11**, 4C-7D, Mona Passage**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**0.29**	**104**⇓	eP	P	02 11 57.7	-0.1
MPR				eS	S	02 12 10.6	-0.7
LSP	**Las Mesas**	**0.35**	**108**⇓	eP	P	02 11 57.5	-0.6
LSP				eS	S	02 12 11.7	0.0
MGP	**Maguayo**	**0.43**	**130**⇓	eP	P	02 11 57.8	-0.8
MGP				eS	S	02 12 11.9	-0.5
LRS	**Lares**	**0.56**	**89**⇑	eP	P	02 11 58.6	-0.7
LRS				eS	S	02 12 13.3	-0.5
PORP	**Portuguez**	**0.80**	**107**⇓	eP	P	02 12 00.8	-0.2
PORP				eS	S	02 12 16.4	-0.4
SJG	**San Juan**	**1.24**	**98**⇓	eP	P	02 12 04.8	-0.6
SJG				eS	S	02 12 23.6	-0.9
CPD	**Cerro la Pandu**	**1.47**	**99**⇑	eP	P	02 12 07.7	-0.4
CPD				eS	S	02 12 28.9	-0.4
CBYP	**Canovanas**	**1.50**	**90**⇓	eP	P	02 12 07.8	-0.7
CBYP				eS	S	02 12 29.2	-0.8
HUMP	**Col San Antoni**	**1.52**	**95**⇑	eP	P	02 12 08.0	-0.6
HUMP				eS	S	02 12 29.8	-0.4
MTP	**Monte Pirata**	**1.80**	**96**⇑	eP	P	02 12 11.6	-0.3
MTP				eS	S	02 12 36.1	+0.1
STVI	**Saint Thomas**	**2.35**	**88**⇓	eP	P	02 12 18.2	-0.8
STVI				eS	S	02 12 48.2	-0.1

*IDC **20** 02:17:27.4±1.1, 5.70N×125.88E, mb3.9/6, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=98.1km s-min=18.1km az=72.0*
*MAN **20** 02:17:28.1, 5.43N×126.71E, h21km, mb4.4, ML3.3, MS3.1*
ISC 20 02:17:32.9±1.4**, 5.63N**±0.08×**126.2E**±0.1**, h42km**±18km**, n14, σ1.03**/19**, mb3.9**/6**, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.31**	**3**	eP	**P**	**02 17 54.6**	**-0.5**
MATI				eS	**S**	**02 18 08.0**	**-3.7**
GSPH	**General Santos**	**1.31**	**290**	eP	**P**	**02 17 55.3**	**+0.2**
GSPH				i S	**S**	**02 18 11.2**	**-0.5**
KCP	**Kidapawan**	**1.75**	**322**⇑	eP	**P**	**02 18 05.7**	**+4.4**
KCP				i S	**S**	**02 18 28.4**	**+5.8**
BUKP	**Musuan**	**2.50**	**333**	eP	**P**	**02 18 12.3**	**+0.3**
BUKP				eS	**S**	**02 18 42.9**	**+1.5**
BUTP	**Butuan**	**3.36**	**350**	eP	**P**	**02 18 23.9**	**-0.5**
BUTP				eS	**S**	**02 19 08.6**	**+5.2**
PAGZ	**Pagadian**	**3.55**	**308**	eP	**P**	**02 18 27.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**23.59**	**181**	eP	**P**	**02 22 40.3**	**-0.5**
	11nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**23.59**	**181**	P	**P**	**02 22 39.8**	**-1.0**
	8.3nm,0.4s,mb4.5,baz=22,slow=8.7,SNR=17						
WRA	**Warramunga Arr**	**26.65**	**163**	P	**P**	**02 23 09.1**	**-0.8**
	3.0nm,0.6s,mb4.0,baz=342,slow=10,SNR=11						
WB2	**Warramunga Arr**	**26.65**	**163**	eP	**P**	**02 23 11.6**	**+1.7**
STKA	**Stephens Creek**	**40.09**	**159**	P	**P**	**02 25 07.1**	**+1.0**
	0.9nm,0.4s,mb3.8,baz=341,slow=9.1,SNR=5.3						
SONM	**Songino Array**	**45.33**	**341**	P	**P**	**02 25 44.6**	**-4.0**
	0.1nm,0.3s,mb3.1,baz=153,slow=6.4,SNR=2.8						
MKAR	**Makanchi Array**	**55.70**	**325**	P	**P**	**02 27 04.5**	**-2.9**
	0.3nm,0.5s,mb3.6,baz=129,slow=9.2,SNR=3.3						
ARCES	**ARCESS Array B**	**88.49**	**340**	P	**P**	**02 30 21.6**	**-0.1**
	4.7nm,1.1s,mb4.6,baz=98,slow=6.4,SNR=3.7						

*ATH **20** 02:35:00.7, 37.74N×26.75E, h19km±2km, MD3.1/3*
*ISK **20** 02:35:00.6, 37.83N×26.71E, h23km, MD3.2*
*CSEM **20** 02:35:00.4±0.1, 37.82N×26.72E, h20km, MD3.1, Error ellipse: s-maj=3.4km s-min=2.0km az=107.0*
ISC 20 02:35:00.5±0.7**, 37.80N**±0.03×**26.72E**±0.05**, h10km**±5km**, n17, σ0.93**/27**, 1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.13**	**132**⇓	iPB	**Pb**	**02 35 04.6**	**0.0**
SMG				eSB	**Sb**	**02 35 07.0**	**-0.2**
URLA	**Izmir**	**0.57**	**350**	i P	**Pg**	**02 35 12.6**	**+0.6**
URLA				i S	**Sg**	**02 35 19.0**	**-0.7**
BLCB	**Balcova**	**0.64**	**24**	i PG	**Pg**	**02 35 13.2**	**-0.2**
IZM	**Izmir**	**0.74**	**36**	i PG	**Pg**	**02 35 15.2**	**-0.2**
IZM				SG	**Sg**	**02 35 26.0**	**+0.7**
KDAG	**Bornova**	**0.74**	**36**	i P	**Pb**	**02 35 14.6**	**-0.5**
KDAG				i S	**Sb**	**02 35 25.1**	**0.0**
BODT	**Bodrum**	**0.87**	**147**	PG	**Pg**	**02 35 18.5**	**+0.5**
AYDN	**Tasoluk**	**0.93**	**98**	i P	**Pb**	**02 35 18.3**	**0.0**
AYDN				i S	**Sb**	**02 35 30.2**	**-0.3**
BDRM	**Kayabasi**	**0.93**	**141**	i P	**Pb**	**02 35 19.6**	**+1.3**
BDRM				i S	**Sb**	**02 35 31.3**	**+0.8**
MLSB	**Milas**	**0.98**	**120**	i PG	**Pg**	**02 35 19.3**	**-0.8**
APE	**Apeiranthos**	**1.19**	**233**	ePN	**Pn**	**02 35 23.1**	**-0.1**
APE				eSN	**Sn**	**02 35 39.5**	**0.0**
APE	**Apeiranthos**	**1.19**	**233**	i Pn	**Pn**	**02 35 22.6**	**-0.6**
APE				eSn	**Sn**	**02 35 38.0**	**-1.5**
AKS	**Akhisar**	**1.38**	**38**	i PN	**Pn**	**02 35 25.2**	**-0.8**
YER	**Yerkesik**	**1.41**	**117**	PN	**Pn**	**02 35 25.7**	**-0.6**
PRK	**Paraskevi**	**1.49**	**347**	ePN	**Pn**	**02 35 29.6**	**+2.1**
PRK				eSN	**Sn**	**02 35 50.3**	**+3.2**
MANT	**Manisa**	**1.61**	**64**	i P	**Pn**	**02 35 32.3**	**+3.1**
MANT				i S	**Sn**	**02 35 49.6**	**-0.5**
DALT	**Dalyan (Mudla)**	**1.84**	**123**	ePN	**Pn**	**02 35 32.4**	**-0.1**
BALB	**Balikesir**	**2.05**	**26**	ePN	**Pn**	**02 35 33.8**	**-1.7**

*CSEM **20** 02:52:37.3±0.1, 59.47N×30.40W, h2km, mb4.2/6, Error ellipse: s-maj=3.0km s-min=2.2km az=47.0*
*IDC **20** 02:52:40.1±0.7, 59.37N×30.48W, mb3.7/15, mb1 4.0/17, mb1mx3.9/26, mbtmp3.8/17, ML3.6/2, MS3.4/14, Ms1 3.4/14, ms1mx3.3/24, Error ellipse: s-maj=21.6km s-min=13.6km az=178.0*
*NEIC **20** 02:52:41.2±0.5, 59.38N×30.37W, h10km, mb4.2/7, Error ellipse: s-maj=10.9km s-min=7.0km az=206.0*
ISC 20 02:52:39.4±0.5**, 59.43N**±0.06×**30.4W**±0.1**, h10km, n48, σ1.06**/43**, mb3.8**/19**, MS3.3**/13**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**6.83**	**35**	Pn	**Pn**	**02 54 21.6**	**-0.6**
	5.2nm,0.3s,baz=244,slow=7.7,SNR=25						
BORG				Sn	**Sn**	**02 55 40.3**	**-0.4**
	1.3nm,0.3s,baz=73,slow=22,SNR=7.5						
BORG	**Borgarnes**	**6.83**	**35**	eP	**Pn**	**02 54 20.5**	**-1.7**
	20nm,0.5s						
BORG	**Borgarnes**	**6.83**	**35**	eP	**Pn**	**02 54 20.5**	**-1.6**
	20nm,0.5s						
SUMG	**Summit**	**13.58**	**350**	eP	**P**	**02 55 53.4**	**-0.7**
SUMG	**Summit**	**13.58**	**350**	eP	**P**	**02 55 53.4**	**-0.8**
JMIC	**Jan Mayen**	**14.66**	**29**	LR	LR	03 00 30.3	
	comp=Z,62nm,21.4s,baz=251,slow=32						
EKA	**Eskdalemuir Ar**	**15.20**	**94**	Pn	**P**	**02 56 15.7**	**+0.1**
	0.1nm,0.3s,baz=290,slow=17,SNR=3.3						
EKA	**Eskdalemuir Ar**	**15.20**	**94**	Pn	**P**	**02 56 15.6**	**+0.1**
SCHQ	**Schefferville**	**20.12**	**273**	P	**P**	**02 57 14.0**	**-1.9**
	2.3nm,0.7s,baz=66,slow=10.0,SNR=3.3						
SCHQ				LR	LR	03 03 37.5	
	comp=Z,86nm,20.8s,MS3.1,baz=70,slow=33						
SCHQ	**Schefferville**	**20.12**	**273**	P	**P**	**02 57 14.0**	**-1.9**
SCHQ				LR	LR	03 03 37.5	
FLN	**La Foliniere**	**20.36**	**108**	eP	**P**	**02 57 17.7**	**-0.8**
	127nm,1.5s						
FLN				eR			
	96nm,20.7s						
NB2	**NORSAR Subarra**	**20.48**	**68**	P	**P**	**02 57 18.8**	**-0.9**
	0.7nm,0.7s,baz=282,slow=10						
NOA	**NORSAR Array B**	**20.48**	**68**	P	**P**	**02 57 19.1**	**-0.5**
	0.9nm,0.7s,baz=282,slow=10,SNR=4.8						
NOA				LR	LR	03 04 37.1	
	comp=Z,70nm,18.6s,MS3.0,baz=295,slow=35						
NOA	**NORSAR Array B**	**20.48**	**68**	P	**P**	**02 57 19.1**	**-0.6**
BAIF	**Baives**	**21.83**	**100**	eP	**P**	**02 57 32.1**	**-1.4**
	49nm,1.1s,mb4.6						
HFS	**Hagfors**	**21.91**	**69**	LR	LR	03 05 10.5	
	comp=Z,97nm,18.2s,MS3.2,baz=284,slow=34						
MFF	**Saint Martin d**	**22.04**	**112**	eP	**P**	**02 57 34.8**	**-0.8**
	15nm,1.0s,mb4.0						
TCF	**Toulx Ste Croi**	**23.39**	**110**	eP	**P**	**02 57 48.7**	**-0.1**
	11nm,1.0s,mb4.0						
SSF	**Saint Saulge**	**23.47**	**107**	eP	**P**	**02 57 49.0**	**-0.6**
	1.9nm,0.7s,mb3.6						
LOR	**Lormes**	**23.50**	**106**	eP	**P**	**02 57 49.7**	**-0.2**
	11nm,0.9s,mb4.0						
LOR				eR			
	106nm,21.2s						
BGF	**Bois d'Agland**	**23.51**	**108**	eP	**P**	**02 57 49.4**	**-0.5**
LFF	**La Frestale**	**23.69**	**114**	eP	**P**	**02 57 51.4**	**-0.3**
ARCES	**ARCESS Array B**	**25.13**	**43**	P	**P**	**02 58 07.2**	**+1.8**
	3.1nm,0.8s,mb3.9,baz=270,slow=8.5,SNR=4.7						
ARCES				LR	LR	03 06 00.8	
	comp=Z,51nm,19.3s,MS3.0,baz=212,slow=32						
ARCES	**ARCESS Array B**	**25.13**	**43**	P	**P**	**02 58 07.2**	**+1.8**
VIVF	**Saint-Julien-l**	**25.62**	**109**	eP	**P**	**02 58 09.7**	**-0.6**
ESDC	**Sonseca Array**	**25.88**	**128**	P	**P**	**02 58 13.7**	**+1.0**
	1.3nm,0.7s,mb3.6,baz=329,slow=9.2,SNR=9.1						
ESLA	**Sonseca Array**	**25.88**	**128**	eP	**P**	**02 58 14.3**	**+1.6**
ESLA	**Sonseca Array**	**25.88**	**128**	eP	**P**	**02 58 14.3**	**+1.6**
LPL	**La Plagne**	**26.15**	**106**	eP	**P**	**02 58 15.1**	**-0.1**
ORIF	**Oris-en-Rattie**	**26.16**	**107**	eP	**P**	**02 58 14.9**	**-0.4**
ORIF				eR			
	40nm,18.4s						
DAVOX	**Davos**	**26.84**	**100**	LR	LR	03 08 31.8	
	comp=Z,54nm,18.5s,MS3.1,baz=263,slow=35						
KAF	**Kangasniemi**	**27.07**	**60**	ep	**P**	**02 58 26.6**	**+3.2**
FINES	**FINESS Array B**	**27.21**	**61**	P	**P**	**02 58 25.2**	**+0.5**
	2.6nm,0.8s,mb3.8,baz=214,slow=6.9,SNR=5.2						
FINES				LR	LR	03 08 45.9	
	comp=Z,30nm,18.4s,MS2.9,baz=352,slow=35						
GERES	**GERESS Array B**	**27.42**	**93**	P	**P**	**02 58 29.0**	**+2.3**
	0.1nm,0.3s,mb2.9,baz=282,slow=12,SNR=3.6						
GERES				LR	LR	03 09 26.3	
	comp=Z,97nm,19.1s,MS3.4,baz=327,slow=37						
AKASG	**Malin Array Be**	**34.14**	**78**	P	**P**	**02 59 25.7**	**-0.5**
	0.2nm,0.3s,mb3.5,baz=305,slow=8.3,SNR=4.6						
ULM	**Lac du Bonnet**	**37.32**	**286**	LR	LR	03 14 11.6	
	comp=Z,74nm,18.2s,MS3.5,baz=204,slow=35						
YKA	**Yellowknife Ar**	**38.26**	**312**	P	**P**	**03 00 03.1**	**+2.2**
	1.3nm,0.8s,mb3.7,baz=41,slow=6.6,SNR=3.2						
INK	**Inuvik**	**40.99**	**326**	LR	LR	03 16 49.3	
	comp=Z,45nm,19.2s,MS3.4,baz=48,slow=35						
BRTR	**Keskin Array B**	**43.98**	**87**	P	**P**	**03 00 49.7**	**+1.6**
	0.4nm,0.6s,mb3.3,slow=4.3,SNR=3.3						
ILAR	**Eielson Array**	**47.24**	**328**	P	**P**	**03 01 15.0**	**+1.2**
	0.4nm,1.0s,mb3.3,baz=27,slow=4.0,SNR=5.1						
ILAR				LR	LR	03 20 14.8	
	comp=Z,34nm,19.4s,MS3.3,baz=181,slow=35						
PDAR	**Pinedale Array**	**49.28**	**287**	P	**P**	**03 01 29.7**	**-0.2**
	1.7nm,0.7s,mb4.2,baz=60,slow=7.5,SNR=15						
PDAR				LR	LR	03 21 04.8	
	comp=Z,71nm,18.3s,MS3.7,baz=217,slow=35						
KURK	**Kurchatov**	**56.12**	**46**	eP	**P**	**03 02 19.5**	**-1.2**
	3.5nm,0.8s,mb4.4						
KURK	**Kurchatov**	**56.12**	**46**	eP	**P**	**03 02 19.5**	**-1.2**
	3.5nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**56.80**	**272**	P	**P**	**03 02 25.1**	**-0.9**
	0.6nm,1.0s,mb3.6,baz=53,slow=6.4,SNR=4.4						
TXAR				LR	LR	03 25 57.7	
	comp=Z,65nm,18.8s,MS3.8,baz=335,slow=35						
MKAR	**Makanchi Array**	**60.73**	**47**	P	**P**	**03 02 53.5**	**+0.5**
	2.2nm,0.9s,mb4.3,baz=337,slow=4.9,SNR=16						
SONM	**Songino Array**	**67.42**	**30**	P	**P**	**03 03 37.1**	**+0.5**
	0.6nm,0.8s,mb3.7,baz=333,slow=6.4,SNR=3.1						
BDFB	**Brasilia**	**76.17**	**197**	P	**P**	**03 04 29.3**	**0.0**
	1.1nm,0.5s,mb4.0,baz=9.1,slow=7.9,SNR=4.1						
KMBO	**Kilima Mbogo**	**79.78**	**110**	LR	LR	03 42 16.1	
	comp=Z,54nm,19.6s,MS3.9,baz=94,slow=37						

*NEIC **20** 03:15:50.0±0.3, 0.01S×123.03E, mb4.6/15, Error ellipse: s-maj=13.0km s-min=5.8km az=66.0*
*BJI **20** 03:15:49.9, 0.00N×123.00E, h162km, mB4.7, mb4.4*
*IDC **20** 03:15:50.1±0.7, 0.06S×123.04E, h164km±5km, mb4.0/13, mb1 4.2/14, mb1mx4.0/21, mbtmp4.5/14, MS3.4/1, Ms1 3.4/1, ms1mx2.9/24, Error ellipse: s-maj=20.3km s-min=7.6km az=77.0*
ISC 20 03:15:48.1±0.3**, 0.02N**±0.05×**123.04E**±0.09**, h158km, h158km**±3.6km**: pP-P, n51, σ1.18**/49**, mb4.3**/26**, 6C-2D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**9.07**	**311**	eP	**P**	**03 17 58.1**	**+1.7**
KSM	**Kuching**	**12.81**	**277**	ePn	**P**	**03 18 39.5**	**-6.0**
KSM				eP		03 18 51.6	
FITZ	**Fitzroy Crossi**	**18.19**	**172**⇑	iP	**P**	**03 19 50.6**	**-1.0**
	58nm,0.5s						
FITZ				i S	**S**	**03 23 07.5**	**+1.4**
FITZ	**Fitzroy Crossi**	**18.19**	**172**	P	**P**	**03 19 50.9**	**-0.7**
	12nm,0.3s,baz=3.0,slow=7.5,SNR=96						
FITZ				S	**S**	**03 23 07.7**	**+1.6**
	0.2nm,0.3s,baz=188,slow=19,SNR=7.5						
MBWA	**Marble Bar**	**21.30**	**189**	eP	**P**	**03 20 21.8**	**-1.5**
	31nm,0.9s,mb4.6						
WRAB	**Tennant Creek**	**22.72**	**151**	eP	**P**	**03 20 37.7**	**+0.4**
	42nm,0.8s,mb4.9						
WRAB				epP		03 21 10.0	
WRA	**Warramunga Arr**	**22.72**	**151**	P	**P**	**03 20 38.1**	**+0.9**
	16nm,0.5s,mb4.8,baz=327,slow=11,SNR=18						
WRA				pP		03 21 06.8	
	23nm,0.7s,baz=327,slow=11,SNR=11						
WRA				sP		03 21 28.6	
	21nm,0.9s,baz=329,slow=10,SNR=4.8						
WRA				S	**S**	**03 24 32.1**	**+1.9**
	3.4nm,0.9s,baz=332,slow=16,SNR=3.7						
WRA				ScP		03 27 47.9	
	1.6nm,0.8s,baz=338,slow=2.6,SNR=6.0						
WB2	**Warramunga Arr**	**22.73**	**151**⇑	iP	**P**	**03 20 37.9**	**+0.6**
WB2				eS	**S**	**03 24 34.2**	**+3.9**
KULM	**Kulim**	**22.96**	**284**	P	**P**	**03 20 39.8**	**+0.1**
JOW	**Kunigami**	**27.13**	**10**	LR	LR	03 30 49.7	
	comp=Z,76nm,19.6s,baz=14,slow=33						
KMI	**Kunming**	**31.75**	**323**	P	**P**	**03 22 02.8**	**+3.2**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
KLBR	**Kellerberrin**	**31.84**	**189**⇑	iP	**P**	**03 21 58.2**	**-2.1**
	comp=Z,15nm,0.6s,mb4.9						
NWAO	**Narrogin (SRO)**	**33.23**	**189**	P	**P**	**03 22 10.8**	**-1.5**
	comp=Z,9.5nm,0.7s,mb4.7,baz=7.6,slow=15,SNR=9.4						
NWAO	**Narrogin (SRO)**	**33.23**	**189**	eP	**P**	**03 22 10.5**	**-1.7**
	comp=Z,6.6nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**36.26**	**153**⇑	iP	**P**	**03 22 38.3**	**+0.4**
	comp=Z,18nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**36.26**	**153**	P	**P**	**03 22 38.2**	**+0.4**
	comp=Z,24nm,0.8s,mb4.9,baz=324,slow=8.5,SNR=37						
STKA				PcP	PcP	03 24 59.6	-0.3
	comp=Z,4.1nm,0.6s,baz=333,slow=9.8,SNR=3.5						
MAJO	**Matsushiro**	**38.97**	**20**	P	**P**	**03 22 58.7**	**-1.8**
MJAR	**Matsushiro Arr**	**38.97**	**20**	P	**P**	**03 22 59.9**	**-0.6**
	comp=Z,3.7nm,0.6s,mb4.2,baz=197,slow=9.5,SNR=11						
ARMA	**Armidale**	**40.68**	**141**	eP	**P**	**03 23 14.9**	**+0.3**
TOO	**Toolangi**	**42.77**	**153**	eP	**P**	**03 23 33.0**	**+1.4**
	comp=Z,9.0nm,0.7s,mb4.5						
GTA	**Gaotai**	**44.59**	**334**	eP	**P**	**03 23 49.3**	**+3.1**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.0						
MDJ	**Mudanjiang**	**44.78**	**7**	P	**P**	**03 23 47.9**	**+0.2**
MDJ				AP	pP	03 24 21.4	-1.5
MDJ				PCP	PcP	03 25 26.3	-1.1
MDJ				PP	PP	03 25 35.8	+0.6
MDJ				SCP		03 29 04.4	
MDJ				PCS		03 29 20.3	
MDJ				S	**S**	**03 30 15.3**	**+3.3**
MDJ				XS		03 31 14.3	
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,59nm,5.8s						
MDJ				LR	LR		
	comp=N,79nm,6.8s						
MDJ				LR	LR		
	comp=E,100nm,11.8s						
MDJ				LR	LR		
	comp=Z,137nm,5.4s						
GUN	**Gumba**	**45.13**	**311**	eP	**P**	**03 23 52.4**	**+1.7**
PKI	**Pulchoki**	**45.31**	**310**	eP	**P**	**03 23 52.8**	**+0.7**
DMN	**Daman**	**45.56**	**310**	eP	**P**	**03 23 55.2**	**+1.1**
	comp=Z,36nm,1.1s,mb4.9						
GKN	**Gorkha**	**46.12**	**310**	eP	**P**	**03 23 59.5**	**+1.0**
	comp=Z,26nm,0.8s,mb4.9						
KOLN	**Koldanda**	**46.80**	**309**	eP	**P**	**03 24 04.6**	**+0.8**
	comp=Z,25nm,0.8s,mb4.9						
ASAJ	**Asahikawa**	**47.24**	**19**	P	**P**	**03 24 07.4**	**+0.4**
	comp=Z,1.5nm,0.3s,mb4.0,baz=243,slow=13,SNR=3.4						
SONM	**Songino Array**	**49.77**	**345**	P	**P**	**03 24 27.4**	**+0.9**
	comp=Z,3.5nm,0.8s,mb4.0,baz=158,slow=9.1,SNR=26						
SONM				pP	pP	03 25 03.9	+1.6
	comp=Z,2.8nm,0.9s,baz=164,slow=9.0,SNR=4.9						
SONM				ScP		03 29 24.2	
	comp=Z,0.5nm,0.8s,baz=146,slow=5.2,SNR=3.8						
WMQ	**Urumqi**	**53.79**	**329**	eP	**P**	**03 24 56.1**	**-0.4**
MKAR	**Makanchi Array**	**58.62**	**328**	P	**P**	**03 25 30.2**	**-0.6**
	comp=Z,1.9nm,0.7s,mb4.0,baz=123,slow=8.6,SNR=23						
MKAR				pP	pP	03 26 09.1	+1.3
	comp=Z,3.1nm,0.7s,baz=118,slow=8.2,SNR=3.6						
ZAL	**Zalesovo**	**62.31**	**336**	P	**P**	**03 25 54.0**	**-1.8**
	comp=Z,1.2nm,0.4s,mb4.1,baz=95,slow=13,SNR=3.3						
ZAL				pP	pP	03 26 32.6	-0.6
	comp=Z,1.2nm,0.3s,baz=41,slow=22,SNR=1.3						
KURK	**Kurchatov**	**62.98**	**330**	eP	**P**	**03 25 58.8**	**-1.3**
	comp=Z,4.3nm,0.6s,mb4.5						
CASY	**Casey**	**66.76**	**185**⇑	iP	**P**	**03 26 23.3**	**-1.0**
BVAR	**Borovoye Array**	**68.48**	**329**	P	**P**	**03 26 33.9**	**-1.3**
	comp=Z,0.6nm,0.6s,mb3.5,baz=124,slow=11,SNR=4.9						
ZRNK	**Zerenda**	**69.17**	**328**	eP	**P**	**03 26 37.6**	**-1.7**
	comp=Z,1.9nm,0.6s,mb4.0						
ZRNK				epP	pP	03 27 13.6	-3.8
OPO	**Ambohidratompo**	**76.60**	**251**	P	**P**	**03 27 22.7**	**-0.7**
	comp=Z,1.0nm,0.3s,mb3.9,baz=90,slow=8.1,SNR=7.0						
MAW	**Mawson**	**79.03**	**200**⇑	iP	**P**	**03 27 35.5**	**-0.2**
	comp=Z,5.5nm,0.9s,mb4.2						
MAW	**Mawson**	**79.03**	**200**	P	**P**	**03 27 35.6**	**-0.1**
	comp=Z,7.0nm,0.9s,mb4.3,baz=53,slow=8.3,SNR=15						
VNDA	**Vanda**	**80.26**	**172**	P	**P**	**03 27 42.3**	**+0.1**
	comp=Z,5.1nm,0.8s,mb4.2,baz=317,slow=6.0,SNR=40						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VNDA	Vanda	80.26	172	eP	P	03 27 41.8	-0.5
	comp=Z,4.5nm,0.8s,mb4.2						
SBA	Scott Base	81.22	171	eP	P	03 27 48.0	+0.7
SYO	Syowa Base	87.66	201	⇓P	P	03 28 17.8	-1.6
SYO	Syowa Base	87.66	201	⇓PcP	PcP	03 28 20.6	-0.8
QSPA	South Pole Qui	89.95	180	eP	P	03 28 30.6	+0.6
	comp=Z,4.5nm,0.7s,mb4.5						
ILAR	Eielson Array	90.01	25	P	P	03 28 30.1	-0.4
	comp=Z,0.4nm,0.6s,mb3.5,baz=240,slow=5.3,SNR=6.9						
PDAR	Pinedale Array	116.56	41	PKP	PKPdf	03 34 15.8	+2.3
	comp=Z,0.2nm,0.7s,baz=153,slow=3.3,SNR=5.1						
PDAR				PKKPab		03 44 46.8	
	comp=Z,1.0nm,0.7s,baz=112,slow=4.9,SNR=8.8						
TXAR	Lajitas Array	126.77	53	PKP	PKPdf	03 34 36.5	+2.9
	comp=Z,0.6nm,0.6s,baz=217,slow=1.1,SNR=8.9						
DBIC	Dimbokro	127.59	278	PKP	PKPdf	03 34 35.6	0.0
	comp=Z,5.5nm,1.0s,baz=74,slow=0.4,SNR=3.7						
LPAZ	La Paz	160.44	146	PKP	PKPdf	03 35 33.1	+3.7
	comp=Z,1.3nm,1.0s,baz=126,slow=4.1,SNR=3.7						
LPAZ				PKPab	PKPab	03 36 11.7	-2.0
	comp=Z,31nm,0.3s,baz=246,slow=5.4,SNR=339						
BDFB	Brasilia	162.14	209	PKPab	PKPab	03 36 20.4	-0.7
	comp=Z,1.7nm,0.8s,baz=139,slow=9.3,SNR=3.6						

*CSEM **20** 03:42:06.3±0.1, 37.03N×30.93E, h106^{km}±3^{km}, MD3.5, Error ellipse: s-maj=3.5km s-min=2.8km az=15.0*
*ISK **20** 03:42:07.9, 36.98N×30.91E, h116^{km}, MD3.5*
*HLW **20** 03:42:18.7, 36.10N×30.69E, h21^{km}, Mb3.1*
ISC 20 03:42:07.8±0.5, **37.02N**±0.04×**30.93E**±0.04, **h123**^{km}±7^{km}, **n29**, σ**0.73**/38, **3C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	Antalya	0.25	242	PG	P	03 42 24.6	-0.3
BCK	Bucak	0.52	329	PG	P	03 42 26.5	+0.2
BCK				SG	S	03 42 38.7	-1.6
ELL	Elmali	0.86	252	PG	P	03 42 28.6	-0.3
ISP	Isparta	0.89	338	i PG	P	03 42 29.1	-0.1
GOLH	Golhisar	1.11	282	i P	P	03 42 32.9	+1.4
GOLH				i S	S	03 42 50.3	+1.0
GOLH	Golhisar	1.11	282	i P	P	03 42 32.9	+1.4
GOLH				i S	S	03 42 50.3	+1.0
TKTP	Tekketepe	1.13	335	i P	P	03 42 30.6	-1.0
TKTP				i S	S	03 42 48.5	-1.1
HDMB	Hadim	1.25	92	PN	P	03 42 33.4	+0.4
AKAS	Kas	1.32	234	i P	P	03 42 34.8	+1.1
AKAS				i S	S	03 42 53.9	+0.4
KONT	Konya--Tatoy	1.47	50	PN	P	03 42 36.1	+0.6
ERMK	Ermenek	1.64	103	i P	P	03 42 39.3	+2.0
ERMK				i S	S	03 42 59.8	-0.1
DNZL	Cakiroluk	1.64	295	i P	P	03 42 37.7	+0.3
DNZL				i S	S	03 43 00.3	+0.3
DENT	Denizli	1.68	297	PN	P	03 42 38.1	+0.3
KDHN	Kadinhani	1.77	32	i P	P	03 42 39.3	+0.3
KDHN				i S	S	03 43 01.6	-1.1
DALT	Dalyan (Mudla)	1.85	263	PN	P	03 42 39.6	-0.3
KIZT	Kizilcal	2.01	22	PN	P	03 42 42.6	+0.7
YER	Yerkesik	2.12	274	PN	P	03 42 43.1	-0.2
IKL	Isikli	2.35	108	PN	P	03 42 46.6	+0.2
LEF	Lefka	2.47	139	PN	P	03 42 47.4	-0.6
ESKT	Eskisehir	2.50	359	PN	P	03 42 48.9	+0.5
BODT	Bodrum	2.89	272	ePN	P	03 42 53.7	+0.1
KAMT	Kaman	3.22	42	ePN	P	03 42 58.0	+0.1
BNN	Bunyan	4.30	63	ePN	P	03 43 12.4	-0.1
AMAG	Maghara	6.63	163	⇑eP	P	03 43 43.5	-0.5
SLUM		7.26	222	⇓eP	P	03 43 52.4	-0.1
SLUM				S	S	03 45 00.7	-13
SWA1		8.88	211	⇑eP	P	03 44 13.5	-0.7
SWA2		9.00	212	⇑eP	P	03 44 15.2	-0.8
SWA2		9.00	212	P	P	03 44 15.1	-0.8
HFRF	Wahat Farafira	10.08	193	P	P	03 44 29.6	-0.7

WEL 20 04:36:12.8±0.1, **37.25S**×**176.64E**, **h218**^{km}±1^{km}, **ML4.0**/15, **2C-4D, Error ellipse: s-maj=2.0km s-min=2.0km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.07	160	⇓PN	P	04 36 45.0	-0.1
URZ				SN	S	04 37 10.0	-0.2
MWZ	Matawai	1.29	147	PN	P	04 36 46.6	-0.2
MWZ				SN	S	04 37 12.7	-0.5
MXZ	Matakaoa Point	1.36	104	⇓PN	P	04 36 47.1	-0.3
PUZ	Puketiti	1.52	123	⇓PN	P	04 36 48.5	-0.3
PUZ				SN	S	04 37 15.3	-1.2
BKZ	Black Stump Fm	1.92	183	⇓PN	P	04 36 52.0	-0.3
BKZ				eSN	S	04 37 21.5	-1.2
KNZ	Kokohu	1.95	156	⇑PN	P	04 36 52.4	-0.2
KNZ				SN	S	04 37 21.9	-1.2
CNZ	Chateau	2.13	203	PN	P	04 36 54.8	+0.5
TUVZ	Tukino	2.16	201	PN	P	04 36 55.0	+0.3
FWVZ	Far West T-bar	2.18	203	PN	P	04 36 55.7	+0.8
WNVZ	Wahianoa	2.23	201	PN	P	04 36 55.6	+0.2
MOVZ	Moawhango	2.27	198	PN	P	04 36 55.4	-0.4
PKVZ	Pokaka	2.28	206	PN	P	04 36 56.2	+0.3
MTVZ	Mangateitei	2.32	203	PN	P	04 36 56.4	0.0
PWZ	Pawanui	2.78	176	PN	P	04 37 00.3	-1.1
WAZ	Wanganui	2.82	207	PN	P	04 37 02.0	+0.1
TSZ	Takapari Road	2.86	191	PN	P	04 37 01.0	-1.3
TSZ				eSN	S	04 37 39.1	-1.5
BFZ	Birch Farm	3.44	185	ePN	P	04 37 07.3	-1.8
MRZ	Mangatainoka R	3.51	193	⇑PN	P	04 37 07.8	-2.1
MRZ				SN	S	04 37 50.8	-3.2
KIW	Kapiti Island	3.85	200	PN	P	04 37 11.7	-2.3

*CSEM **20** 04:36:59.7±0.1, 35.73N×1.07W, h35^{km}, mb3.6/7, Error ellipse: s-maj=2.4km s-min=1.8km az=43.0*
*NEIC **20** 04:37:00.8, 35.68N×1.09W, h23^{km}, MG3.6(MDD), After MDD.*
*MDD **20** 04:37:01.5±0.4, 35.70N×1.04W, h34^{km}±27^{km}, mb3.7/7, Error ellipse: s-maj=7.9km s-min=5.7km az=166.0, PRXIMO*
*CRAAG **20** 04:37:01.7, 35.68N×1.03W, Ml2.8*
ISC 20 04:37:00.4±0.5, **35.79N**±0.03×**1.12W**±0.04, **h34**^{km}, **n40**, σ**1.07**/73, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	Oran	0.47	97	P	P	04 37 10.0	-0.5
ODZI	Dziouia	0.51	190	P	P	04 37 11.0	0.0
OTSS	Djebel Tessala	0.57	152	P	P	04 37 12.0	0.0
OLHC	Oulhaca	0.59	204	P	P	04 37 13.0	+0.8
ENIJ	Nijar	1.47	324	P	P	04 37 25.5	+0.6
	0.2nm,0.2s,SNR=4.0						
ENIJ				S	S	04 37 41.9	-1.2
	0.4nm,0.2s,SNR=4.0						
ZAI	Zaio	1.56	239	i P	P	04 37 23.0	-3.1
ZAI				i S	S	04 37 40.0	-5.3
EALB	Alboran	1.56	276	P	P	04 37 26.4	+0.3
	1.2nm,0.3s,SNR=7.9						
EALB				S	S	04 37 44.9	-0.5
	11nm,0.1s,SNR=7.9						
EALB	Alboran	1.56	276	P	P	04 37 26.4	+0.3
	1.2nm,0.3s,SNR=7.9						
EALB				S	S	04 37 44.9	-0.5
	11nm,0.1s,SNR=7.9						
EMLI	Melilla	1.57	252	P	P	04 37 26.2	-0.1
	20nm,0.1s,SNR=7.9						
EMLI				S	S	04 37 45.6	0.0
	40nm,0.1s,SNR=7.9						
EMEL	Melilla	1.57	252	P	P	04 37 26.2	-0.2
	20nm,0.1s,SNR=7.9						
EMEL				S	S	04 37 45.6	-0.1
	40nm,0.1s,SNR=7.9						
EBER	Berja	1.81	308	P	P	04 37 30.4	+0.7
	2.7nm,0.2s,SNR=7.3						
EBER				S	S	04 37 51.7	+0.1
	8.6nm,0.3s,SNR=5.8						
EBER	Berja	1.81	308	P	P	04 37 30.4	+0.7
	2.7nm,0.2s,SNR=7.3						
EBER				S	S	04 37 51.7	+0.1
	8.6nm,0.3s,SNR=5.8						
EMUR	La Murta	2.05	357	P	P	04 37 33.4	+0.2
	1.0nm,0.1s,SNR=7.9						
EMUR				S	S	04 37 56.3	-1.6
	5.3nm,0.3s,SNR=9.2						
EMUR	La Murta	2.05	357	P	P	04 37 33.4	+0.2
	1.0nm,0.1s,SNR=7.9						
EQES	Quesada	2.55	323	P	P	04 37 42.9	+2.6
EQES				S	S	04 38 12.2	+1.8
EQES	Quesada	2.55	323	P	P	04 37 42.8	+2.5
	1.5nm,0.2s,SNR=44						
EQES				S	S	04 38 12.2	+1.8
	7.6nm,0.4s,SNR=7.4						
EQES	Quesada	2.55	323	P	P	04 37 42.9	+2.6
	1.5nm,0.2s,SNR=44						
EQES				S	S	04 38 12.2	+1.8
	7.6nm,0.4s,SNR=7.4						
ETOB	Tobarra	2.87	353	P	P	04 37 46.4	+1.5
	1.3nm,0.1s,SNR=16						
ETOB				S	S	04 38 18.4	-0.3
	2.2nm,0.3s,SNR=5.6						
ETOB	Tobarra	2.87	353	P	P	04 37 46.4	+1.5
	1.3nm,0.1s,SNR=16						
ETOB				S	S	04 38 18.4	-0.2
	2.2nm,0.3s,SNR=5.6						
EBEN	Beniarda	3.00	14	P	P	04 37 46.9	+0.2
	0.4nm,0.1s,SNR=7.9						
EBEN				S	S	04 38 21.4	-0.4
	0.3nm,0.1s,SNR=7.9						
EBEN	Beniarda	3.00	14	P	P	04 37 46.9	+0.2
	0.4nm,0.1s,SNR=7.9						
EBEN				S	S	04 38 21.4	-0.5
	0.3nm,0.1s,SNR=7.9						
EVIA	Vianos	3.05	339	P	P	04 37 48.3	+0.8
EVIA				S	S	04 38 24.1	+0.9
EVIA	Vianos	3.05	339	P	P	04 37 50.6	+3.1
	0.7nm,0.1s,SNR=7.9						
EVIA				S	S	04 38 24.1	+0.9
	6.1nm,0.4s,SNR=6.2						
EVIA	Vianos	3.05	339	P	P	04 37 48.3	+0.8
EVIA				S	S	04 38 24.1	+0.9
	6.1nm,0.4s,SNR=6.2						
EMIJ	Mijas	3.05	286	P	P	04 37 46.7	-0.7
	2.9nm,0.2s,SNR=13						
EMIJ				S	S	04 38 21.5	-1.7
	2.1nm,0.1s,SNR=7.9						
EBAN	Banos Encina	3.19	319	P	P	04 37 51.1	+1.7
EBAN				S	S	04 38 27.5	+0.8
EBAN	Banos Encina	3.19	319	P	P	04 37 52.7	+3.3
	0.5nm,0.1s,SNR=7.9						
EBAN				S	S	04 38 27.5	+0.8
	0.8nm,0.2s,SNR=7.9						
EBAN	Banos Encina	3.19	319	P	P	04 37 51.1	+1.7
EBAN				S	S	04 38 27.5	+0.8
	0.8nm,0.2s,SNR=7.9						
EADA	Adamuz	3.64	312	P	P	04 37 57.1	+1.2
EADA				P		04 38 02.1	
EADA				S	S	04 38 37.3	-1.0
EADA	Adamuz	3.64	312	P	P	04 38 02.1	+6.2
	0.4nm,0.1s,SNR=4.7						
EADA				S	S	04 38 37.3	-1.1
	0.5nm,0.1s,SNR=7.9						
EADA	Adamuz	3.64	312	P	P	04 37 57.1	+1.2
EADA				S	S	04 38 37.3	-1.0
	0.5nm,0.1s,SNR=7.9						
EIBI	Ibiza	3.78	31	P	P	04 37 58.0	+0.2
	6.4nm,0.8s,SNR=10.0						
EIBI				S	S	04 38 39.4	-2.4
	1.6nm,0.2s,SNR=7.9						
EIBI	Ibiza	3.78	31	P	P	04 37 58.0	+0.1
	6.4nm,0.8s,SNR=10.0						
EIBI				S	S	04 38 39.5	-2.3
EMIN	Mina Concepcio	4.87	296	P	P	04 38 13.6	+0.3
	0.3nm,0.2s,SNR=7.9						
EMIN				S	S	04 39 05.8	-3.5
	0.2nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	4.87	296	P	P	04 38 13.6	+0.3
EMIN				S	S	04 39 05.8	-3.5
ETOS	Mallorca	5.05	37	P	P	04 38 15.4	-0.4
ETOS				S	S	04 39 09.1	-4.7
ETOS	Mallorca	5.05	37	P	P	04 38 15.4	-0.4
	0.3nm,0.1s,SNR=7.9						
ETOS	Mallorca	5.05	37	P	P	04 38 15.4	-0.4
ETOS				S	S	04 39 09.1	-4.7
EGRO	El Granado	5.40	291	P	P	04 38 20.5	-0.3
	0.6nm,0.2s,SNR=9.2						
EGRO				S	S	04 39 19.2	-3.4
	0.3nm,0.2s,SNR=7.9						
EGRO	El Granado	5.40	291	P	P	04 38 20.5	-0.2

*MOS **20** 04:48:09.3±1.1, 17.90S×178.50W, h541^{km}, mb4.9/24, Error ellipse: s-maj=12.4km s-min=8.3km az=51.8*
*BGS **20** 04:48:13.8±2.9, 18.01S×178.50W, h584^{km}*
*HRVD **20** 04:48:13.4±1.1, 18.24S×178.39W, h596^{km}±6^{km}, MW5.2/22, Centroid moment Tensor Solution. LP body waves: s22,c26; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.38±.85; $M_{\theta\theta}$-1.07±1.12; $M_{\phi\phi}$-3.31±1.01; $M_{r\theta}$7.12±.97; $M_{\theta\phi}$-1.67±1.21; $M_{\phi r}$-2.68±.89; Best double couple: $M_0$8.002×10^{16} NP1:ϕ_s239°,δ13°,λ47°. NP2: ϕ_s102°,δ81°,λ99°. Principal axes: T 10.025, Plg53°, Azm23°; N -4.046, Plg9°, Azm281°; P -5.979, Plg35°, Azm185°; nsta1 refers to body waves, cutoff=40s.*
*IDC **20** 04:48:14.0±1.4, 18.03S×178.44W, h595^{km}±15^{km}, mb4.3/16, mb1 4.4/18, mb1mx4.3/21, mbtmp5.2/18 Error ellipse: s-maj=14.1km s-min=10.7km az=144.0*
*NEIC **20** 04:48:13.4±0.6, 18.01S×178.50W, h584^{km}±7^{km}, mb4.9/52, Error ellipse: s-maj=8.0km s-min=4.0km az=144.0*
*BJI **20** 04:48:13.3, 18.00S×178.50W, h584^{km}, mB4.6, mb4.4*
ISC 20 04:48:12.4±0.7, **17.98S**±0.07×**178.53W**±0.05, **h583**^{km}±8^{km}, **h577**^{km}±5.0^{km}**:pP-P**, **n395**, σ**0.80**/202, **mb4.8**/73, **41C-23D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.65	59	eP	P	04 50 08.7	+0.3
AFI				eS	S	04 51 39.9	-1.1
AFI				pmax	pmax		
	comp=Z,260nm,1.1s						
AFI	Afiamalu	7.65	59	P	P	04 50 08.6	+0.2
	comp=Z,8.9nm,0.3s,baz=199,slow=1.7,SNR=9.7						
AFI				S	S	04 51 39.3	-1.6
	comp=Z,2.7nm,0.3s,baz=3.5,slow=23,SNR=2.5						
AFI	Afiamalu	7.65	59	ePn	P	04 50 08.7	+0.3
	comp=Z,260nm,1.1s						
AFI				eS	S	04 51 39.9	-1.1
DZM	Mont Dzumac	14.69	251	eP	P	04 51 20.2	+2.3
DZM	Mont Dzumac	14.69	251	P	P	04 51 19.9	+2.0
	comp=Z,3.0nm,0.3s,baz=83,slow=16,SNR=19						
NOUC	Port Laguerre	14.83	251	eP	P	04 51 21.4	+2.2
RAR	Rarotonga	17.97	103	eP	P	04 51 49.0	-0.2
RAR				pmax	pmax		
	comp=Z,68nm,1.3s						
RAR	Rarotonga	17.97	103	eP	P	04 51 49.0	-0.2
	comp=Z,68nm,1.3s						
URZ	Urewera	20.57	190	P	P	04 52 10.5	-2.7
	comp=Z,5.5nm,0.7s,baz=132,slow=14,SNR=3.8						
URZ				S	S	04 55 17.7	-9.0
	comp=Z,4.6nm,0.7s,baz=240,slow=18,SNR=2.9						
ARMA	Armidale	29.80	240	eP	P	04 53 33.8	-1.0
CNB	Canberra Magne	33.29	232	eP	P	04 54 05.2	+1.0
	comp=Z,39nm,0.5s,mb5.3						
CTA	Charters Tower	33.32	261	⇓iP	P	04 54 05.1	+0.6
	comp=Z,56nm,0.7s,mb5.3						
CTA	Charters Tower	33.32	261	⇓iP	P	04 54 05.1	+0.6
CTA				pmax	pmax		
	comp=Z,56nm,0.7s						
CTA	Charters Tower	33.32	261	P	P	04 54 04.7	+0.1
	comp=Z,65nm,0.7s,mb5.4,baz=88,slow=10,SNR=77						
PMG	Port Moresby	34.35	280	⇓iP	P	04 54 15.0	+1.8
PMG				pmax	pmax		
	comp=Z,325nm,0.9s						
PMG	Port Moresby	34.35	280	P	P	04 54 14.8	+1.6
	comp=Z,274nm,0.8s,baz=79,slow=5.9,SNR=49						
PMG	Port Moresby	34.35	280	⇓iP	P	04 54 15.0	+1.8
	comp=Z,325nm,0.9s,mb6.0						
TOO	Toolangi	37.03	231	eP	P	04 54 35.8	+0.7
	comp=Z,26nm,0.7s,mb4.9						
TOO	Toolangi	37.03	231	eP	P	04 54 35.8	+0.7
TOO				pmax	pmax		
	comp=Z,26nm,0.7s,mb4.9						
STKA	Stephens Creek	38.49	241	⇓iP	P	04 54 48.0	+1.0
	comp=Z,48nm,1.0s,mb5.0						
STKA	Stephens Creek	38.49	241	P	P	04 54 48.1	+1.1
	comp=Z,58nm,0.9s,mb5.1,baz=86,slow=8.9,SNR=58						
POHA	Pohakuloa	43.77	32	eP	P	04 55 29.0	-0.1
WB2	Warramunga Arr	44.49	260	⇓iP	P	04 55 34.1	-0.6
WB2				eS	S	05 01 22.9	-5.8
WRAB	Tennant Creek	44.49	260	i P	P	04 55 34.5	-0.3
WRAB	Tennant Creek	44.49	260	eP	P	04 55 34.1	-0.7
	comp=Z,79nm,0.8s,mb5.3						
WRA	Warramunga Arr	44.50	260	P	P	04 55 33.9	-0.9
	comp=Z,46nm,0.7s,mb5.1,baz=96,slow=7.5,SNR=54						
WRA				S	S	05 01 24.3	-4.6
	comp=Z,1.3nm,0.5s,baz=95,slow=12,SNR=4.7						
KAKA	Kakadu	47.46	269	⇓iP	P	04 55 56.8	-0.6
	comp=Z,76nm,0.4s,mb5.6						
KAKA				eS	S	05 02 09.1	-0.9
FITZ	Fitzroy Crossi	52.90	261	⇓iP	P	04 56 36.7	-0.4
	comp=Z,13nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	52.90	261	P	P	04 56 36.9	-0.2
	comp=Z,16nm,0.5s,mb4.6,baz=103,slow=2.0,SNR=39						
KLBR	Kellerberrin	58.69	244	⇓iP	P	04 57 15.6	-1.3
	comp=Z,22nm,0.6s,mb4.5						
NWAO	Narrogin (SRO)	59.07	242	P	P	04 57 18.1	-1.3
	comp=Z,10nm,0.8s,mb4.0,baz=142,slow=4.4,SNR=5.7						
MUN	Mundaring	59.99	243	eP	P	04 57 24.9	-0.6
	comp=Z,8.5nm,0.6s,mb4.2						
MUN	Mundaring	59.99	243	eP	P	04 57 24.9	-0.6
MUN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.2						
VNDA	Vanda	60.37	185	P	P	04 57 26.7	-0.7
	comp=Z,1.0nm,0.7s,baz=350,slow=6.3,SNR=10						
MJAR	Matsushiro Arr	67.89	323	P	P	04 58 14.7	-0.6
	comp=Z,4.1nm,0.6s,mb4.1,baz=163,slow=7.4,SNR=12						
MAT	Matsushiro	67.89	323	eP	P	04 58 15.0	-0.3
MAT	Matsushiro	67.89	323	P	P	04 58 15.0	-0.3
GSTR	Great Sitkin T	69.80	2	eP	P	04 58 25.1	-1.3
JNU	Nakatsue	70.11	316	P	P	04 58 26.5	-2.0
	comp=Z,2.8nm,0.6s,mb3.9,baz=135,slow=10,SNR=4.0						
FX1	Attu Island--F	70.93	355	eP	P	04 58 31.8	-1.2
ASAJ	Asahikawa	71.28	331	P	P	04 58 36.0	+0.9
	comp=Z,6.8nm,0.4s,mb4.5,baz=123,slow=14,SNR=7.0						
QSPA	South Pole Qui	72.08	180	eP	P	04 58 39.2	-0.1
	comp=Z,12nm,0.8s,mb4.5						
UNV	Unalaska Valle	72.27	7	eP	P	04 58 38.8	-2.0
	comp=Z,74nm,0.7s,mb5.3						
KSM	Kuching	72.58	277	eP	P	04 58 43.8	+0.5
YSS	Yuzh-Sakhalins	73.42	333	i P	P	04 58 47.5	+0.1
YSS				i *PP	pP	05 00 38.8	-10
YSS				pmax	pmax		
	comp=Z,33nm,1.7s,mb4.6						
SSE	Sheshan	75.69	310	eP	P	04 59 01.3	+0.9
SSE				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.5						
SSE				AMB	AMB		
	comp=Z,139nm,5.4s						
SAO	San Andreas Ge	76.56	44	eP	P	04 59 05.0	0.0
SAO				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.0						
SAO	San Andreas Ge	76.56	44	eP	P	04 59 05.0	+0.1
	comp=Z,48nm,0.8s,mb5.0						
LRV	Little Rabbit	76.65	44	eP	P	04 59 05.8	+0.3
NSHM	Saint Helena R	76.82	42	eP	P	04 59 06.2	-0.1
MWC	Mount Wilson	77.47	48	eP	P	04 59 09.8	-0.1
BAR	Barrett	77.66	50	eP	P	04 59 10.7	-0.3
KRMB	Red Mountain	77.81	39	eP	P	04 59 12.2	+0.6
NJ2	Nanjing	77.89	310	eP	P	04 59 16.1	+3.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
CMB	Columbia Colle	77.97	43	eP	P	04 59 12.3	-0.2
CMB				pmax	pmax		
	comp=Z,37nm,0.9s,mb4.8						
CMB	Columbia Colle	77.97	43	eP	P	04 59 12.3	-0.2
	comp=Z,37nm,0.9s,mb4.8						
MDJ	Mudanjiang	78.17	325	P	P	04 59 14.1	+0.7
MDJ				AP	pP	05 01 15.6	-1.0
MDJ				XP	sP	05 02 15.1	+0.4
MDJ				PP	PP	05 02 21.8	+0.4
MDJ				S	S	05 08 23.6	+2.6
MDJ				SCS	ScS	05 08 41.3	+2.8
MDJ				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,41nm,6.2s						
PFO	Pinyon Flat Ob	78.29	49	eP	P	04 59 13.9	-0.4
PFO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
PFO	Pinyon Flat Ob	78.29	49	eP	P	04 59 13.9	-0.4
	comp=Z,9.9nm,0.9s,mb4.2						
YBH	Yreka Blue Hor	78.65	39	eP	P	04 59 16.6	+0.6
YBH				pmax	pmax		
	comp=Z,35nm,0.8s						
YBH	Yreka Blue Hor	78.65	39	eP	P	04 59 16.6	+0.6
	comp=Z,35nm,0.8s,mb4.7						
OMM	Old Mammoth Mi	78.66	44	eP	P	04 59 16.5	+0.4
MTUM	Tungsten Hills	78.80	45	eP	P	04 59 17.4	+0.5
DAC	Darwin (Calif)	78.88	46	eP	P	04 59 17.2	-0.1
DAC				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.4						
DAC	Darwin (Calif)	78.88	46	eP	P	04 59 17.2	-0.2
	comp=Z,23nm,1.2s,mb4.4						
BEKR	Beckwourth	79.02	42	eP	P	04 59 18.3	+0.2
	comp=Z,30nm,0.7s,mb4.7						
HUMO	Hull Mountain	79.03	38	eP	P	04 59 18.5	+0.5
	comp=Z,43nm,1.0s,mb4.7						
BUOR	Burton Butte	79.25	39	P	P	04 59 19.8	+0.6
LASM	Arnica Sink	79.26	40	P	P	04 59 19.8	+0.6
NVAR	Mina Array Bea	79.55	44	P	P	04 59 21.2	+0.4
	comp=Z,24nm,0.7s,mb4.6,baz=219,slow=7.7,SNR=189						
LDFC	Landfair	79.99	48	eP	P	04 59 23.8	+0.6
CN2	Changchun	80.00	322	eP	P	04 59 23.5	+0.5
CN2				eAP	pP	05 01 28.5	+1.5
CN2				eS	S	05 08 43.5	+3.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
CN2				AMB	AMB		
	comp=Z,100nm,5.0s						
TPH	Tonopah	80.08	45	eP	P	04 59 23.8	+0.2
TPH				pmax	pmax		
	comp=Z,48nm,1.2s,mb4.7						
TPH	Tonopah	80.08	45	eP	P	04 59 23.8	+0.2
	comp=Z,48nm,1.2s,mb4.7						
MOD	Modoc	80.21	40	eP	P	04 59 24.5	+0.3
	comp=Z,52nm,0.7s,mb5.0						
NEN	Nelson	80.47	48	eP	P	04 59 25.7	+0.1
RSO	Redoubt South	80.89	13	eP	P	04 59 26.1	-1.1
SVW2	Sparrevohn	80.93	11	eP	P	04 59 26.5	-0.9
TRCR	Troy Canyon	81.33	45	eP	P	04 59 30.1	+0.2
BMN	Battle Mountai	81.34	43	eP	P	04 59 30.0	+0.1
BMN				pmax	pmax		
	comp=Z,54nm,1.0s,mb4.9						
BMN	Battle Mountai	81.34	43	eP	P	04 59 30.0	+0.1
	comp=Z,54nm,1.0s,mb4.9						
OOW	Octopus West	81.48	34	P	P	04 59 31.4	+0.9
SLKM	Skilak Lake	81.48	14	eP	P	04 59 29.4	-0.9
VFP	Flag Point	81.51	37	P	P	04 59 30.9	+0.3
WVOR	Wild Horse Val	81.53	40	eP	P	04 59 31.2	+0.3
WVOR				pmax	pmax		
	comp=Z,56nm,0.9s,mb5.1						
WVOR	Wild Horse Val	81.53	40	eP	P	04 59 31.2	+0.3
	comp=Z,56nm,0.9s,mb5.1						
SPU	Mount Spurr	81.69	13	eP	P	04 59 29.6	-1.8
TUC	Tucson	81.83	52	eP	P	04 59 33.5	+0.9
TUC				pmax	pmax		
	comp=Z,35nm,1.1s,mb4.8						
TUC	Tucson	81.83	52	eP	P	04 59 33.5	+0.8
	comp=Z,35nm,1.1s,mb4.8						
WPW	White Pass	82.28	36	P	P	04 59 34.8	+0.2
ARUT	Antelope Range	82.51	46	eP	P	04 59 35.9	0.0
TTA	Tatalina	82.56	10	eP	P	04 59 35.8	+0.2
EYAK	Cordova Ski Ar	82.60	16	eP	P	04 59 34.9	-1.0
PMR	Palmer	82.69	14	eP	P	04 59 35.4	-0.9
ELK	Elko	82.79	43	eP	P	04 59 37.3	0.0
ELK				pmax	pmax		
	comp=Z,30nm,0.9s						
ELK	Elko	82.79	43	eP	P	04 59 37.3	+0.1
	comp=Z,30nm,0.9s,mb4.8						
SML	Sawmill	83.07	14	eP	P	04 59 37.3	-0.9
BMO	Blue Mountains	83.67	39	eP	P	04 59 41.1	-0.4
BMO				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.6						
BMO	Blue Mountains	83.67	39	eP	P	04 59 41.1	-0.4
	comp=Z,18nm,1.0s,mb4.5						
MVU	Marysvale	83.70	46	eP	P	04 59 42.7	+0.9
	comp=Z,30nm,1.2s,mb4.7						
MSU	Marysvale	83.73	46	eP	P	04 59 42.8	+0.8
WTV	Waterville	83.74	35	P	P	04 59 41.7	-0.1
MAW	Mawson	83.76	200	⇑iP	P	04 59 41.3	-0.1
	comp=Z,2.4nm,0.4s,mb4.1						
MAW	Mawson	83.76	200	⇑iP	P	04 59 41.3	-0.1
MAW				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MAW	Mawson	83.76	200	P	P	04 59 41.1	-0.3
	comp=Z,3.0nm,0.5s,mb4.1,baz=133,slow=6.6,SNR=26						
SEY	Seymchan	83.81	347	eP	P	04 59 41.6	-0.2

SEY *e* 05 02 31.6
SEY pmax pmax
comp=N,20nm,0.8s
SEY pmax pmax
comp=E,6.0nm,0.8s
SEY pmax pmax
comp=Z,20nm,0.8s,mb4.7
MCK McKinley 84.63 13 *eP* **P 04 59 44.6 -1.2**
MCK pmax pmax
comp=Z,26nm,0.9s,mb4.9
MCK McKinley 84.63 13 *eP* **P 04 59 44.6 -1.2**
comp=Z,26nm,0.9s,mb4.9
TMUT Trail Mountain 84.77 46 *eP* **P 04 59 47.9 +0.8**
MPU Maple Canyon 84.82 45 *eP* **P 04 59 47.5 +0.2**
PNT Penticton 84.86 34 P **P 04 59 47.3 +0.1**
SPUT South Promonto 84.90 44 *eP* **P 04 59 47.6 0.0**
HVU Hansel Valley 84.91 43 *eP* **P 04 59 47.7 0.0**
CTU Camp Tracy 85.06 45 *eP* **P 04 59 48.4 0.0**
SRU San Rafael 85.15 46 *eP* **P 04 59 49.1 +0.2**
JLU Jordanelle 85.22 45 *eP* **P 04 59 49.2 0.0**
DAU Daniels Canyon 85.26 45 *eP* **P 04 59 49.4 0.0**
TCUT Toone Canyon 85.49 44 *eP* **P 04 59 50.6 +0.1**
LENM Lemitar 85.52 52 *eP* **P 04 59 49.8 -1.1**
HWUT Hardware Ranch 85.62 44 *eP* **P 04 59 50.4 -0.8**
comp=Z,8.0nm,0.7s,mb4.5
NEW Newport 85.63 36 *eP* **P 04 59 50.4 -0.6**
NEW pmax pmax
comp=Z,18nm,0.8s
NEW Newport 85.63 36 *eP* **P 04 59 50.4 -0.7**
comp=Z,18nm,0.8s,mb4.8
MNTX Cornudas Mount 85.71 55 *eP* **P 04 59 52.0 +0.2**
comp=Z,27nm,1.0s,mb4.8
BNM Barren Site 85.77 52 *eP* **P 04 59 52.2 +0.1**
LPM Los Pinos Moun 85.83 52 *eP* **P 04 59 52.7 +0.4**
PV10 Paradox Valley 85.85 48 *eP* **P 04 59 52.0 -0.3**
IMA Indian Mountai 85.86 10 *eP* **P 04 59 51.3 -0.4**
DLBC Dease Lake 85.94 23 *eP* **P 04 59 52.3 0.0**
ILAR Eielson Array 85.98 13 P **P 04 59 51.0 -1.3**
comp=Z,15nm,0.5s,mb4.9,baz=234,slow=5.6,SNR=132
PV01 Paradox Valley 86.07 48 *eP* **P 04 59 53.2 -0.2**
LTX Lajitas 86.13 58 *eP* **P 04 59 54.8 +0.9**
LTX pmax pmax
comp=Z,52nm,0.9s,mb5.2
LTX Lajitas 86.13 58 *eP* **P 04 59 54.8 +0.9**
comp=Z,52nm,0.9s,mb5.2
TXAR Lajitas Array 86.13 58 P **P 04 59 54.6 +0.8**
comp=Z,32nm,0.7s,mb5.0,baz=219,slow=6.1,SNR=347
ANMO Albuquerque 86.23 52 *eP* **P 04 59 54.1 -0.1**
ANMO pmax pmax
comp=Z,20nm,1.0s
ANMO Albuquerque 86.23 52*c iP* **P 04 59 54.2 0.0**
ANMO Albuquerque 86.23 52 *eP* **P 04 59 54.1 -0.1**
comp=Z,20nm,1.0s,mb4.7
MCMT McKenzie Canyo 86.37 41 *eP* **P 04 59 54.9 +0.3**
AHID Auburn Hatcher 86.48 43 *eP* **P 04 59 55.2 +0.1**
comp=Z,46nm,2.1s,mb4.7
BILL Bilibino 86.49 354 *i* P **P 04 59 53.9 -0.7**
BILL pmax pmax
comp=Z,27nm,1.7s,mb4.6
BILL Bilibino 86.49 354 *eP* **P 04 59 55.4 +0.8**
comp=Z,6.5nm,0.4s,mb4.6
RRI2 Red Ridge 86.61 42 *eP* **P 04 59 56.3 +0.5**
comp=Z,78nm,0.8s,mb5.5
GDL2 Guadalupe Moun 86.71 55 *eP* **P 04 59 56.9 +0.4**
MSO Missoula 86.71 38 *eP* **P 04 59 55.3 -0.8**
comp=Z,7.1nm,0.5s,mb4.7
TPAW Teton Pass 86.92 42 *eP* **P 04 59 57.9 +0.7**
comp=Z,31nm,1.0s,mb5.0
REDW Red Top Meadow 86.92 43 *eP* **P 04 59 57.5 +0.3**
comp=Z,67nm,1.1s,mb5.3
SNOW Snow King Moun 87.03 42 *eP* **P 04 59 58.2 +0.5**
comp=Z,57nm,0.9s,mb5.3
CLNB Carlsbad 87.11 55 *eP* **P 04 59 58.3 -0.1**
IMW Indian Meadow 87.11 42 *eP* **P 04 59 58.8 +0.7**
comp=Z,50nm,0.8s,mb5.3
IMW *e*PP PP 05 03 30.9 -3.1
MOOW Moose Ponds 87.17 42 *eP* **P 04 59 58.6 +0.2**
comp=Z,12nm,0.8s,mb4.7
MOOW *e*PP PP 05 03 31.2 -3.3
LOHW Long Hollow 87.19 42 *eP* **P 04 59 58.7 +0.2**
comp=Z,23nm,0.8s,mb5.0
LOHW *e*PP PP 05 03 31.2 -3.5
QLMT Earthquake Lak 87.25 41 *eP* **P 04 59 59.6 +0.8**
CPRX Cap Rock 87.42 54 *eP* **P 04 59 59.4 -0.4**
YFT Old Faithful 87.44 42 *eP* **P 05 00 01.6 +1.9**
YMR Madison River 87.46 41 *eP* **P 05 00 00.9 +1.2**
PDAR Pinedale Array 87.48 43 P **P 04 59 59.7 -0.2**
comp=Z,20nm,0.6s,mb5.0,baz=218,slow=3.1,SNR=200
BOZ Bozeman (W) 87.52 40 *eP* **P 05 00 00.0 0.0**
BOZ pmax pmax
comp=Z,34nm,1.4s,mb4.9
BOZ Bozeman (W) 87.52 40 *eP* **P 05 00 00.0 0.0**
comp=Z,34nm,1.4s,mb4.9
SMCO Snowmass 87.65 48 *eP* **P 05 00 01.1 +0.4**
KMI Kunming 87.76 297 P **P 05 00 02.6 +1.0**
KMI AMB AMB
comp=Z,7.0nm,0.7s,mb4.5
LKWY Lake 87.77 42 *eP* **P 05 00 02.9 +1.7**
LKWY pmax pmax
comp=Z,22nm,1.0s,mb4.8
LKWY Lake 87.77 42 *eP* **P 05 00 02.9 +1.7**
comp=Z,22nm,1.0s,mb4.8
WALA Waterton Lakes 87.86 36 *eP* **P 05 00 01.1 -0.4**
comp=Z,16nm,0.9s,mb4.8
HRY Holter Researc 87.91 39 *eP* **P 05 00 01.6 -0.2**
SDCO Great Sand Dun 88.10 49 *eP* **P 05 00 02.8 -0.1**
comp=Z,58nm,1.9s,mb5.0
RWWY Rawlins 88.56 45 *eP* **P 05 00 04.6 -0.4**
comp=Z,68nm,1.3s,mb5.3
ISCO Idaho Springs 88.87 47 *eP* **P 05 00 06.8 +0.3**
ISCO pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
ISCO Idaho Springs 88.87 47 *eP* **P 05 00 06.8 +0.3**
comp=Z,6.0nm,1.0s,mb4.4
SYO Syowa Base 89.06 193 ⇓P **P 05 00 04.0 -2.7**
SYO Syowa Base 89.06 193 ⇑PcP PcP 05 00 07.2 -0.6
YAK Yakutsk 89.59 338*c iP* **P 05 00 10.1 +0.8**
YAK pmax pmax
comp=Z,16nm,0.6s,mb5.0
PHWY Pilot Hill 89.59 46 *eP* **P 05 00 09.8 0.0**
EDM Edmonton 90.28 33 *eP* **P 05 00 11.6 -1.0**
SNAA Sanae 90.53 179⇑*iP* **P 05 00 12.2 -1.2**
SNAA Sanae 90.53 179⇑*iP* **P 05 00 12.2 -1.2**
SNAA Sanae 90.53 179 *e* **P 05 00 13.8 +0.4**
SNAA Sanae 90.53 179 *e* **P 05 00 19.2 +5.8**
SNAA Sanae 90.53 179*d iP* **P 05 00 12.4 -1.0**
VNA3 Neumayer Olymp 90.68 176 *e* **P 05 00 15.5 +1.4**
VNA3 Neumayer Olymp 90.68 176 *e* **P 05 00 21.2 +7.1**
VNA3 Neumayer Olymp 90.68 176 *e* pP 05 02 18.8 -2.5
VNA3 Neumayer Olymp 90.68 176⇓*iP* **P 05 00 13.5 -0.6**
VNA3 *e* 05 00 15.5
VNA3 *e* 05 00 21.2
VNA3 *e* pP 05 02 18.8 -2.5
VNA3 *e* 05 08 19.8
VNA3 *e* 05 10 41.9
LZH Lanzhou 90.84 308 *eP* **P 05 00 18.3 +2.6**
LZH PP PP 05 04 06.8 +3.2
LZH *e*S S 05 10 28.5 +7.1
LZH SS SS 05 16 52.3 +5.8
LZH AMB AMB
comp=Z,25nm,1.6s,mb4.9
LZH AMB AMB
comp=Z,96nm,5.0s
VNA2 Neumayer--Watz 91.12 177 *e* **P 05 00 17.9 +1.8**
VNA2 Neumayer--Watz 91.12 177 *e* **P 05 00 23.4 +7.3**
VNA2 Neumayer--Watz 91.12 177 *e* pP 05 02 18.0 -5.4
VNA2 Neumayer--Watz 91.12 177⇓*iP* **P 05 00 15.9 -0.2**
VNA2 *e* 05 00 17.9
VNA2 *e* 05 00 23.4
VNA2 *e* 05 02 18.0
VNA2 *e* 05 08 18.1
VNA2 *e* 05 10 31.7
VNA1 Neumayer--Stat 91.35 177 *e* **P 05 00 19.0 +1.8**
VNA1 Neumayer--Stat 91.35 177 *e* **P 05 00 24.9 +7.7**
VNA1 Neumayer--Stat 91.35 177 *e* pP 05 02 14.3 -10
VNA1 Neumayer--Stat 91.35 177⇓*iP* **P 05 00 17.0 -0.2**
VNA1 *e* 05 00 19.0
VNA1 *e* 05 00 24.9
VNA1 *e* 05 02 14.3
VNA1 *e* 05 08 12.8
VNA1 *e* 05 10 30.2
PLCA Paso Flores 91.37 134 P **P 05 00 17.6 -0.3**
comp=Z,0.6nm,0.5s,mb3.8,baz=208,slow=4.3,SNR=4.9
RSSD Black Hills 91.69 44 *eP* **P 05 00 19.0 -0.3**
RSSD pmax pmax
comp=Z,21nm,1.0s,mb5.1
RSSD Black Hills 91.69 44 *eP* **P 05 00 19.0 -0.3**
comp=Z,21nm,1.0s,mb5.1
INK Inuvik 91.98 15 *eP* **P 05 00 18.9 -1.2**
INK pmax pmax
comp=Z,32nm,1.0s
INK Inuvik 91.98 15 *eP* **P 05 00 18.9 -1.2**
comp=Z,32nm,1.0s,mb5.3
DGMT Dagmar 93.32 40 *eP* **P 05 00 27.0 +0.3**
comp=Z,64nm,0.9s,mb5.7
YKA Yellowknife Ar 94.44 25 P **P 05 00 30.7 -0.7**
comp=Z,3.5nm,0.5s,mb4.8,baz=238,slow=4.6,SNR=12
YKA Yellowknife Ar 94.44 25 P **P 05 00 30.7 -0.7**
KSU1 Kansas State U 95.08 51 *eP* **P 05 00 35.2 +0.4**
MKAR Makanchi Array 109.10 314 PKiKP 05 05 36.2
comp=Z,2.5nm,0.5s,baz=176,slow=0.8,SNR=11
MKAR PKKPbc 05 16 43.8
comp=Z,0.7nm,0.7s,baz=270,slow=2.4,SNR=4.3
VOSK Vostochnaya 116.49 320 PKIKP PKPdf 05 05 49.8 -0.5
VOSK pmax pmax
comp=Z,3.0nm,0.7s
BVA0 Borovoye Array 116.82 321 *i* PKIKP PKPdf 05 05 50.9 0.0
BVA0 pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 116.82 321 PKP PKPdf 05 05 51.1 +0.2
comp=Z,6.5nm,0.4s,baz=97,slow=2.2,SNR=25
SCHQ Schefferville 116.99 37 PKP PKPdf 05 05 50.5 -0.7
comp=Z,1.0nm,0.4s,baz=37,slow=12,SNR=3.7
KKAR Karatay Array 117.27 310 *i* PKIKP PKPdf 05 05 51.9 -0.2
ZRNK Zerenda 117.66 321 PKIKP PKPdf 05 05 52.2 -0.4
ZRNK pmax pmax
comp=Z,3.0nm,0.6s
ZRNK Zerenda 117.66 321 *eP* PKPdf 05 05 51.8 -0.8
BDFB Brasilia 120.90 121 PKP PKPdf 05 05 59.1 -0.6
comp=Z,1.3nm,0.5s,baz=6.6,slow=14,SNR=2.9
OPO Ambohidratompo122.22 233 PKP PKPdf 05 06 02.8 +0.5
comp=Z,3.2nm,0.9s,baz=104,slow=19,SNR=3.5
ARU Arti 122.84 326 *i* PKIKP PKPdf 05 06 02.5 -0.1
ARU *e* 05 07 50.2
ARU Arti 122.84 326 *eP* PKPdf 05 06 02.4 -0.2
AB31 Akbulak array 123.90 318 *i* PKIKP PKPdf 05 06 04.6 -0.2
AB31 pmax pmax
comp=Z,10.0nm,1.0s
KEV Kevo 125.91 349 *ep* PKPdf 05 06 07.7 -0.4
ARCES ARCESS Array B 126.36 350 PKP PKPdf 05 06 08.7 -0.3
comp=Z,9.7nm,0.6s,baz=133,slow=1.3,SNR=40
BOSA Boshof 128.29 207 PKP PKPdf 05 06 14.1 +0.3
comp=Z,5.0nm,0.9s,baz=170,slow=6.9,SNR=4.5
BOSA Boshof 128.29 207 PKP PKPdf 05 06 14.1 +0.3
KAF Kangasniemi 132.62 344 *ep* PKPdf 05 06 20.3 -0.7
FINES FINESS Array B 133.22 344 PKP PKPdf 05 06 20.1 -2.0
comp=Z,4.7nm,0.6s,baz=135,slow=2.7,SNR=14
OBN Obninsk 134.30 333 *i* PKIKP PKPdf 05 06 26.1 +1.8
OBN pmax pmax
comp=Z,7.0nm,1.1s
NB2 NORSAR Subarra136.43 353 PKPdf PKPdf 05 06 28.4 +0.3
comp=Z,1.9nm,0.7s,baz=14,slow=1.8
NOA NORSAR Array B 136.43 353 PKIKP PKPdf 05 06 28.3 +0.2
NOA NORSAR Array B 136.43 353 PKhKP 05 06 18.1
comp=Z,1.7nm,0.7s,baz=21,slow=2.4,SNR=8.8
NOA PKP PKPdf 05 06 28.3 +0.3
comp=Z,4.6nm,0.8s,baz=14,slow=4.1,SNR=11
KMBO Kilima Mbogo 139.99 245 PKP PKPdf 05 06 36.1 +0.2
comp=Z,1.2nm,0.5s,baz=59,slow=19,SNR=2.6
AKASG Malin Array Be 140.56 332 PKIKP PKPdf 05 06 36.4 +0.6
AKASG Malin Array Be 140.56 332 PKhKP 05 06 30.0
comp=Z,5.3nm,0.5s,baz=43,slow=4.2,SNR=42
AKASG PKP PKPdf 05 06 36.4 +0.6
comp=Z,4.8nm,0.5s,baz=40,slow=3.2,SNR=17
AKASG SKPbc 05 09 17.2
comp=Z,0.2nm,0.4s,baz=41,slow=3.2,SNR=4.3
AKASG Malin Array Be 140.56 332 PKP PKPdf 05 06 36.4 +0.6
AKASG SKPbc 05 09 17.2
GZT Gaziantep 142.95 309 *i* P PKPdf 05 06 40.0 -0.4
BOYT Boyabat 143.08 316 *i* P PKPbc 05 06 40.7 +1.6
KIS Kishinev 143.35 328 *e*PKHKP 05 06 39.0
BSEG Bad Segeberg 143.46 351 PKIKP PKPdf 05 06 40.4 -0.3
CTKT Corum 143.54 315 *i* P PKPbc 05 06 42.1 +1.6
WIM Isle of Man 143.59 6 *eP* PKPbc 05 06 40.2 0.0
WIM AMb AMB 05 06 40.6
comp=Z,83nm,0.7s
BALT Daday 144.01 318 *i* P PKPbc 05 06 43.4 +1.5
DCN Croghan 144.05 9 *eP* PKPdf 05 06 32.8 -8.9
DCN Croghan 144.05 9⇑*iP* PKPbc 05 06 41.1 -0.5
DCN Croghan 144.05 9⇑*iP* PKPbc 05 06 41.1 -0.5
KWP Kalwaria 144.09 336 *e*PKP PKPdf 05 06 43.0 +1.1
KWP Kalwaria 144.09 336 *e*PKP PKPdf 05 06 43.0 +1.1
DLF Lyons Farm 144.21 8 *eP* PKPdf 05 06 33.7 -8.3
DLF Lyons Farm 144.21 8⇑*iP* PKPdf 05 06 41.7 -0.3
DLF Lyons Farm 144.21 8⇑*iP* PKPdf 05 06 41.7 -0.3
COBT Iskenderun 144.24 308 *i* P PKPdf 05 06 44.0 +1.4
AVNT Avonos 144.34 312 *i* P PKPdf 05 06 43.7 +1.0
WCB1 Church Bay 144.36 6⇑*eP* PKPdf 05 06 42.6 +0.4
WCB1 AMb AMB 05 06 43.8
comp=Z,110nm,1.2s
WME Myndd Eilian 144.37 6⇑*eP* PKPdf 05 06 42.8 +0.5
WLF1 Llynfaes 144.46 6⇑*eP* PKPdf 05 06 43.0 +0.6
WLF1 AMb AMB 05 06 43.9
comp=Z,115nm,0.7s
YRC Rhoscolyn 144.48 6⇑*eP* PKPdf 05 06 43.1 +0.6
YRC AMb AMB 05 06 43.8
comp=Z,82nm,0.8s
ELDT Eldivan 144.51 316 *i* P PKPdf 05 06 44.8 +1.8
WPM1 Penmaenmawr 144.54 6⇑*eP* PKPdf 05 06 43.4 +0.8
TLCR 144.56 326 ⇓P PKPdf 05 06 44.5 +1.6
BURAR Bucovina Array 144.62 332⇑P PKPdf 05 06 45.5 +2.7
BURAR Bucovina Array 144.62 332⇑P PKPdf 05 06 45.5 +2.6
YLL Llanberis 144.63 6⇑*eP* PKPdf 05 06 43.3 +0.5
OJC Ojcow 144.63 340 *e*PKP PKPdf 05 06 44.2 +1.4
BR131 Keskin Array S 144.75 315 *eP* PKPdf 05 06 45.0 +1.7
BRTR Keskin Array B 144.75 315 PKP PKPdf 05 06 44.0 +0.6
comp=Z,12nm,0.8s,baz=139,slow=4.2,SNR=55
YRE Yr Eifl 144.76 6⇑*eP* PKPdf 05 06 43.8 +0.9
STHS Stebnicka Huta 144.81 337 *e*PKP PKPdf 05 06 45.6 +2.5
KOLS Kolonicke sedl 144.82 336 *e*PKP PKPdf 05 06 45.2 +2.0
CFR Carcaliu 144.93 326⇑P PKPdf 05 06 45.4 +1.9
SBD1 Bryn Du 144.95 5⇑*eP* PKPdf 05 06 44.9 +1.6
SBD1 AMb AMB 05 06 45.6
comp=Z,92nm,0.7s
WIT Witteveen 145.00 354 *e*PKP PKPdf 05 06 46.0 +2.7
ASF Jabal al Asfar 145.11 301 PKPbc PKPbc 05 06 45.1 -0.1
comp=Z,8.3nm,0.7s,baz=11,slow=0.3,SNR=13
NIE Niedzica 145.14 338 *e*PKP PKPdf 05 06 46.6 +2.9
KSP Ksiaz 145.14 344⇑*iP*KP PKPdf 05 06 46.3 +2.6
KSP Ksiaz 145.14 344 *e*PKP PKPdf 05 06 46.6 +2.9
CRVS Cervenica-Dubn 145.15 337 *e*PKP PKPdf 05 06 45.9 +2.1
VRI Vrancioaia 145.18 329 ⇓P PKPdf 05 06 47.2 +2.3
HARR Harsova 145.36 326 ⇓P PKPdf 05 06 47.2 +2.9
HLM1 Long Mynd 145.36 5⇑*eP* PKPdf 05 06 45.9 +1.9
HLM1 AMb AMB 05 06 47.2
comp=Z,63nm,0.9s
SGKT Sivrigoynuk 145.37 317 *i* P PKPdf 05 06 44.9 +0.5
SSP1 Stoney Pound 145.44 5⇑*eP* PKPdf 05 06 46.3 +2.1
SSP1 AMb AMB 05 06 47.5
comp=Z,115nm,0.8s
CLZ Clausthal 145.48 350 PKP2 PKPab 05 06 48.4 -1.6
OKC Ostrava-Krasne 145.50 341 *i* PKP PKPdf 05 06 46.3 +2.0
OKC *ex* x 05 06 48.9
CLL Collm 145.50 347⇑*iPKP1* PKPbc 05 06 46.9 +1.3
UPC Upice 145.52 344 *i* PKP PKPdf 05 06 47.2 +2.9
UPC *ex* x 05 06 49.1
DPC Dobruska-Polom 145.58 343 *i* PKP PKPdf 05 06 47.7 +3.3
BRG Berggiesshubel 145.70 346 *i* PKIKP PKPdf 05 06 46.3 +1.7
BRG *i* 05 06 49.8
BRG pmax pmax
comp=Z,7.0nm,0.4s
BRG pmax pmax
comp=Z,45nm,0.7s
BRG pmax pmax
comp=Z,30nm,0.9s
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG Berggiesshubel 145.70 346 *i* PKP PKPdf 05 06 49.8 +5.1
BRG *ep*PKP 05 09 11.6
MORC Moravsky Berou 145.74 341 *e*PKIKP PKPdf 05 06 47.7 +3.0
HTR Trewern Hill 145.77 5⇑*eP* PKPdf 05 06 46.9 +2.2
HTR AMb AMB 05 06 48.1
comp=Z,73nm,1.4s
MEST Erdemli 145.78 309 *i* P PKPdf 05 06 47.7 +2.5
WTSB Winterswijk 145.82 354 *e*PKP PKPdf 05 06 47.3 +2.5
comp=Z,101nm,1.0s
WTSB *ep*PKP 05 08 58.2
MLR Muntele Rosu 145.83 329 ⇓P PKPdf 05 06 48.3 +3.3
KECS Kecovo 145.86 337 *e*PKP PKPdf 05 06 48.3 +3.3
MCH1 Michaelchurch 145.87 5⇑*eP* PKPdf 05 06 47.2 +2.3
MCH1 AMb AMB 05 06 47.9
comp=Z,75nm,0.8s
PVCC Panska Ves 145.87 345 *i* PKP PKPdf 05 06 48.1 +3.2
PVCC *ex* x 05 06 50.5
UMJS Umm Lajj 145.98 289 P PKPdf 05 06 49.8 +3.9
HENT Hendek 145.98 318 *i* P PKPdf 05 06 47.3 +1.9
HGH Gray Hill 146.24 5⇑*eP* PKPdf 05 06 48.2 +2.7
HGH AMb AMB 05 06 50.2
comp=Z,99nm,1.1s
VOIR 146.31 329 ⇑P PKPdf 05 06 50.0 +4.2
DRGR 146.35 333 ⇓P PKPdf 05 06 50.0 +4.1
PRU Pruhonice 146.38 345 *i* PKP PKPdf 05 06 49.4 +3.6
PRU *ex* x 05 06 51.8
MOX Moxa 146.41 348 *e*PKIKP PKPdf 05 06 47.3 +1.5
MOX Moxa 146.41 348 *i* P PKPdf 05 06 47.3 +1.5
comp=Z,logA/T=1.5
VYHS Vyhne 146.44 339 *i* PKP PKPdf 05 06 49.9 +3.9
KOLL Kolacno 146.51 339 *i* PKP PKPdf 05 06 50.2 +4.1
PSZ Piszkesteto 146.55 337⇑*i*PKIKP PKPdf 05 06 50.1 +3.9
PSZ Piszkesteto 146.55 337⇑*i*PKP/p 05 06 50.1
PRD Provadia 146.63 324 *eP* PKPdf 05 06 51.0 +4.5
NKC Novy Kostel 146.63 347 *i* PKP PKPdf 05 06 50.2 +4.0
ESKT Eskisehir 146.71 316 *i* P PKPdf 05 06 49.3 +2.5
SMOL Smolenice 146.89 340 *e*PKP PKPdf 05 06 51.5 +4.8
DBAS Dubna 146.93 292 P PKPdf 05 06 52.0 +4.6
HGN Heimansgroeve 147.09 355 *e*PKP PKPdf 05 06 51.0 +4.0
comp=Z,26nm,0.6s
SRO Srobarova 147.20 339 *e*PKP PKPdf 05 06 51.6 +4.3
ZST Bratislava 147.27 341 *e*PKP PKPdf 05 06 52.4 +5.1
JMOS Jabal al Moall 147.32 296 P PKPdf 05 06 52.9 +4.9
TNS Taunus Mts 147.35 352 PKP2 PKPab 05 06 55.8 -1.5
EIL Elat 147.35 297 *e*PKPbc PKPdf 05 06 52.5 +4.5
SZH Strazhica 147.38 326 *e*P PKPdf 05 06 52.0 +4.3
GRF Grafenberg Arr 147.40 348 PKP2 PKPab 05 06 56.5 -1.0
GRF Grafenberg Arr 147.40 348 *e*PKP2 PKPab 05 06 52.5 -5.0
GRF Grafenberg Arr 147.40 348 *e*PKP PKPdf 05 06 52.5 +5.0
KHC Kasperske Hory 147.41 345 *i* PKP PKPdf 05 06 52.4 +4.9
KHC *ex* x 05 06 56.7
ULDT Uludag 147.48 319 *i* P PKPdf 05 06 52.4 +4.5
BDAS Al Bad' 147.48 295 P PKPdf 05 06 53.1 +4.8
HAQS Haql 147.50 296 P PKPdf 05 06 53.3 +5.0
WET Wettzell 147.56 346 *e*PKHKP 05 06 48.6
WET *e* 05 06 57.4
WET Wettzell 147.56 346 *e*PKPdf PKPdf 05 06 48.6 +0.8
WET *e*PKPbc PKPdf 05 06 52.5 +4.7
WET *e*PKPab PKPab 05 06 57.4 -0.8
GEC2 GERESS Array S 147.65 345 PKP2 PKPab 05 06 58.2 -0.3
GERES GERESS Array B 147.65 345 PKP PKPdf 05 06 47.5 -0.4
comp=Z,26nm,0.6s,SNR=130
GERES PKPbc PKPdf 05 06 52.7 +4.8
comp=Z,22nm,0.5s,baz=25,slow=3.1,SNR=153
TAYS Tayyib Ism 147.66 295 P PKPdf 05 06 53.7 +5.1
ABH Alteburg 147.80 353 PKP PKPdf 05 06 53.4 +5.3
TKTP Tekketepe 147.83 314 *i* P PKPdf 05 06 53.8 +4.2
TOD Tromm 147.90 351 PKHKP 05 06 53.1
RUP Ruppelstein 148.03 353 PKHKP 05 06 53.8
WLF Walferdange 148.16 354 *e*PKP2 PKPab 05 06 54.5 -6.0
BTOK Tokmak 148.39 319 *i* P PKPdf 05 06 54.0 +4.7
MOA Molln 148.42 343⇑*iP* PKPdf 05 06 54.7 +5.6
comp=Z,18nm,0.8s
ARSA Arzberg 148.60 341⇑*iP* PKPdf 05 06 54.9 +5.5
comp=Z,15nm,0.9s
STU Stuttgart 148.65 350 *e*PKIKP PKPdf 05 06 50.8 +1.3
STU *e* 05 07 01.5
STU Stuttgart 148.65 350 *e*PKPdf PKPdf 05 06 50.8 +1.4
STU *e*PKPbc PKPdf 05 06 55.6 +6.1
STU *e*PKPab PKPab 05 07 01.5 -1.1
LANF Langenberg 148.65 352 PKP PKPdf 05 06 55.1 +5.8
KDZ Kurdzhali 148.76 324 *i* P PKPdf 05 06 55.6 +5.7
FUR Furstenfeldbru 148.84 347 PKHKP 05 06 55.9
RZN Rozhen 149.12 325 *i* P PKPdf 05 06 56.3 +5.9
BFO Black Forest 149.21 351 PKHKP 05 06 56.7
FLN La Foliniere 149.25 3 *e*PKIKP PKPdf 05 06 51.0 +0.6
comp=Z,30nm,0.8s
WLS Welschbruch 149.26 352 PKP PKPdf 05 06 56.6 +6.2
VTS Vitosha 149.28 328 *i* P PKPdf 05 06 57.4 +6.7
KBA Koelnbreinsper 149.37 344⇑*iP* PKPdf 05 06 56.4 +5.7
comp=Z,24nm,0.6s
ECH Echery 149.48 352 PKP PKPdf 05 06 56.8 +6.0
AYVA Ayvalik 149.49 319 *i* P PKPdf 05 06 56.9 +5.8
GRUS Gruza 149.50 332⇓*iPKP* PKPdf 05 06 57.5 +6.5
OBKA Obir 149.56 342⇑*iP* PKPdf 05 06 56.8 +5.8
comp=Z,12nm,0.8s
WATA Walderalm 149.56 346⇓*iP* PKPdf 05 06 57.5 +6.5
comp=Z,2.1nm,0.6s
DOBS Dobrina 149.60 341 *e*PKPbc PKPdf 05 06 57.2 +6.1
THEF They Montfort 149.60 354 PKP PKPdf 05 06 57.3 +6.3
GRR Gorron 149.61 3 *e*PKIKP PKPdf 05 06 52.4 +1.4
WTTA Wattenberg 149.62 346⇑*iP* PKPdf 05 06 57.8 +6.7
comp=Z,58nm,0.5s
DIVS Divcibare 149.65 333⇓*iPKP* PKPdf 05 06 57.5 +6.2
MOTA Moosalm 149.66 347⇑*iP* PKPdf 05 06 52.1 +1.0
comp=Z,3.4nm,0.6s
MOTA *i* 05 06 57.8
comp=Z,40nm,0.9s
MOTA *i* 05 07 04.5
comp=Z,8.5nm,0.6s
MOTA Moosalm 149.66 347⇑*i*PKIKP PKPdf 05 06 52.1 +1.0
MOTA *i* 05 07 04.5
KDAG Bornova 149.66 317 *i* P PKPdf 05 06 57.4 +6.0
FELD Feldberg 149.70 351 PKP PKPdf 05 06 57.5 +6.3
MMB Musomiste 149.72 326 *i* P PKPdf 05 06 57.5 +6.1
SQTA Sankt Quirin 149.75 347⇓*iP* PKPdf 05 06 53.0 +1.7
comp=Z,5.9nm,1.0s
SQTA *i* 05 06 58.2
comp=Z,38nm,0.6s
SQTA *i* 05 07 08.2
comp=Z,11nm,0.5s
MOF Molkenrain 149.84 352 PKP PKPdf 05 06 57.5 +6.1
KKB Krupnik 149.87 327 *i* P PKPdf 05 06 58.3 +6.7
DAVA Damuels 149.96 349⇑*iP* PKPdf 05 06 58.6 +7.0
comp=Z,43nm,0.9s
LJU Ljubljana 149.99 342 *e*PKPdf PKPdf 05 06 52.5 +0.8
LJU *i* PKPbc PKPdf 05 06 58.2 +6.6
LJU *i* PKPab PKPab 05 07 06.0 -2.1
LJU *e* 05 09 31.2
ROBS Robic 150.10 343 *i* PKPbc PKPdf 05 06 57.1 +5.3
VOY Vojsko 150.18 342⇑*eP* PKPdf 05 06 58.4 +6.4
VOY Vojsko 150.18 342 *e*PKPbc PKPdf 05 06 58.4 +6.4
BOJS Bojanci 150.24 340 *i* PKPbc PKPdf 05 06 59.2 +7.1
LOMF Lomont 150.38 353 PKP PKPdf 05 06 59.0 +6.8
LOR Lormes 150.72 357 *e*PKIKP PKPdf 05 06 54.1 +1.3
comp=Z,4.2nm,0.6s
SSF Saint Saulge 150.95 357 *e*PKIKP PKPdf 05 06 53.8 +0.7
comp=Z,15nm,0.8s
MFF Saint Martin d 151.42 2 *e*PKIKP PKPdf 05 06 54.9 +1.1
comp=Z,18nm,0.8s
TCF Toulx Ste Croi 151.76 359 *e*PKIKP PKPdf 05 06 55.0 +0.7
comp=Z,16nm,1.0s
AGO Saint Agoulin 151.97 358 PKP PKPdf 05 07 02.8 +8.2
PLDF La Plantade 152.03 357 PKP PKPdf 05 07 03.2 +8.6
LPL La Plagne 152.19 352 *e*PKIKP PKPdf 05 06 57.5 +2.6
LPG La Plagne 152.21 352 *e*PKIKP PKPdf 05 06 57.7 +2.8
comp=Z,5.3nm,0.6s
PYM Petit Puy Mans 152.28 358 PKP PKPdf 05 07 03.9 +8.9
BNI Bardonecchia 152.65 352 *e*PKIKP PKPdf 05 06 58.6 +3.0
BNI *e* 05 07 05.0
BNI *e* 05 07 18.7
RJF Les Rejaudoux 152.75 360 *e*PKIKP PKPdf 05 06 57.0 +1.3
comp=Z,16nm,0.9s
LBL Lubilhac 152.78 357 PKP PKPdf 05 07 04.9 +9.2
CAF Calviac 153.13 359 *e*PKIKP PKPdf 05 06 57.8 +1.6
LASF Ste Croix 153.90 356 *e*PKIKP PKPdf 05 06 59.5 +2.3
comp=Z,12nm,0.9s
ETSF Etsaut 155.10 4 *e*PKIKP PKPdf 05 07 01.4 +2.5
comp=Z,19nm,1.1s
PBRG Braganca 155.23 15 *e*PKPab PKPab 05 07 29.4 -0.9
PVRL Vila Real 155.48 17 *e*PKPab PKPab 05 07 30.6 -0.8
PVIS Viseu 155.95 18 *e*PKPab PKPab 05 07 32.5 -0.9
MTE Manteigas 156.34 17 *e*PKPdf PKPdf 05 07 02.5 +1.9
MTE Manteigas 156.34 17 *e*PKPab PKPab 05 07 34.3 -0.8
PTOM Tomar 156.79 20 *e*PKPab PKPab 05 07 35.8 -1.3
PCBR Castelo Branco 156.88 18 *e*PKPdf PKPdf 05 07 03.4 +2.1
PCBR Castelo Branco 156.88 18 *e*PKPab PKPab 05 07 36.2 -1.3
ESDC Sonseca Array 157.87 11 PKP PKPdf 05 07 03.1 +0.5
comp=Z,0.2nm,0.4s,baz=12,slow=1.8,SNR=6.0
ESDC PKPab PKPab 05 07 40.1 -1.6
comp=Z,3.8nm,0.7s,baz=335,slow=3.9,SNR=14
EVO Evora 157.91 20 *e*PKP2 PKPab 05 07 38.7 -3.3
comp=Z,17nm,0.8s
PBEJ Beja 158.42 20 *e*PKPdf PKPdf 05 07 05.5 +2.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBEJ	Beja	158.42	20	ePKPab	PKPab	05 07 43.0	-1.2
DBIC	Dimbokro	167.18	150	PKP	PKPdf	05 07 12.2	-0.1
	comp=Z,4.4nm,0.6s,baz=181,slow=4.0,SNR=8.2						

IDC 20 04:58:54.5±2.1, 26.36N×95.57E, mb3.8/4, mb1 4.1/4, mb1mx3.8/16, mbtmp3.8/4, Error ellipse: s-maj=76.2km s-min=25.5km az=70.0

ISC 20 04:58:59.1±0.6, 26.60N±0.06×95.20E±0.05, h74km±10km, n25, σ1§15/27, mb3.7/4, 4C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	Lekhapani	1.06	46	eP	P	04 59 19.0	+0.1
LKP				eS	S	04 59 33.0	-0.6
IMP	Imphal	2.14	213	eP	P	04 59 35.0	+1.6
IMP				eS	S	04 59 58.0	-0.8
SHL	Shillong	3.15	252	eP	P	04 59 48.0	+0.3
SHL				eS	S	05 00 24.5	+0.2
AGT	Agartala	4.48	234⇑	i	P	05 00 20.0	+14
AGT				i		05 00 41.0	
GTK	Gangtok	5.92	279	eP	P	05 00 29.0	+3.0
GTK				eS	S	05 01 35.0	+1.8
CHRT	Chiangrai	7.91	147	⇑P	P	05 00 54.0	+0.4
	132nm,1.0s						
CHG	Chiang Mai	8.48	155	⇑P	P	05 01 01.9	+0.5
	16nm,0.6s						
BOK	Bokaro	8.88	254⇑	iP	P	05 01 05.6	-1.2
BOK				i P		05 01 06.0	
BOK				i S	S	05 02 38.6	-7.7
BOK				eS	S	05 02 38.9	-7.4
BOK				AML	AML	05 02 46.0	
	comp=N,67nm,0.5s						
BOK				AML	AML	05 02 46.4	
	comp=E,32nm,0.7s						
NANT	Nan	9.27	146	P	P	05 01 12.0	-0.1
	comp=E,62nm,0.9s						
BWNR	Bhubaneshwar	10.66	236	eS	S	05 03 24.4	-5.0
BWNR				AML	AML	05 03 33.8	
	comp=E,54nm,0.6s						
BWNR				AML	AML	05 03 36.2	
	comp=N,42nm,0.4s						
BLSP	Bilaspur	12.71	252	eP	P	05 01 56.6	-1.8
BLSP				eS	S	05 04 11.4	-7.3
BLSP				AML	AML	05 04 56.6	
	comp=E,19nm,0.3s						
BLSP				AML	AML	05 04 56.8	
	comp=N,26nm,0.6s						
BHPL	Bhopal	16.47	262	eP	P	05 02 45.0	-1.8
BHPL				eS	S	05 05 36.0	-10
KHET	Khetri	17.30	279	eP	P	05 02 56.5	-0.7
KHET				eS	S	05 05 54.6	-11
POO	Poona	21.27	252	e	P	05 03 42.0	+0.8
MKAR	Makanchi Array	22.60	336	P	P	05 04 00.9	+6.8
	comp=N,1.5nm,0.7s,mb3.4,baz=147,slow=12,SNR=7.4						
SONM	Songino Array	22.95	20	P	P	05 04 01.4	+3.9
	comp=N,5.4nm,1.1s,mb3.8,baz=214,slow=8.9,SNR=15						
AKASG	Malin Array Be	54.87	315	pP	pP	05 08 39.0	-4.0
	comp=N,1.2nm,0.6s,baz=78,slow=6.3,SNR=3.6						
KAF	Kangasniemi	57.00	328	ep	pP	05 08 55.4	-2.9
FINES	FINESS Array B	57.05	328	pP	pP	05 08 56.1	-2.5
	comp=N,1.6nm,0.6s,baz=117,slow=8.5,SNR=3.5						
KEV	Kevo	57.77	338	ep	sP	05 09 10.4	-1.7
WRA	Warramunga Arr	59.84	137	P	P	05 08 59.5	0.0
	comp=N,1.4nm,0.6s,mb4.1,baz=321,slow=7.5,SNR=12						
WRA				pP	pP	05 09 14.7	-4.0
	comp=N,2.0nm,0.6s,baz=328,slow=7.5,SNR=6.0						
NB2	NORSAR Subarra	64.23	327	P	pP	05 09 43.7	-3.9
	comp=N,1.6nm,0.6s,baz=83,slow=6.5						
NOA	NORSAR Array B	64.23	327	pP	pP	05 09 43.9	-3.7
	comp=N,2.5nm,0.8s,baz=82,slow=6.6,SNR=5.2						
GERES	GERESS Array B	65.05	314	pP	pP	05 09 49.3	-3.9
	comp=N,0.2nm,0.3s,baz=206,slow=40,SNR=2.3						
ILAR	Eielson Array	77.13	23	P	P	05 10 50.0	+4.2
	comp=N,0.5nm,0.8s,mb3.3,baz=309,slow=5.8,SNR=4.9						
ILAR				pP	pP	05 11 03.6	-2.2
	comp=N,0.6nm,0.8s,baz=283,slow=5.3,SNR=3.9						

IDC 20 05:05:53.4±1.1, 53.34N×160.04E, mb4.0/14, mb1 4.2/15, mb1mx4.1/23, mbtmp4.0/15, ML4.0/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/19, Error ellipse: s-maj=30.6km s-min=20.7km az=157.0

MOS 20 05:05:55.4±1.3, 52.78N×160.68E, h33km, mb4.8/8, Error ellipse: s-maj=14.1km s-min=7.0km az=89.5

KRSC 20 05:05:58.7±0.7, 52.94N×160.39E, h35km±2km, ML4.7

NEIC 20 05:05:58.8±1.1, 53.17N×160.18E, h39km±12km, mb4.5/10, Error ellipse: s-maj=15.5km s-min=8.2km az=161.0

ISC 20 05:05:56.7±0.4, 52.86N±0.02×160.60E±0.04, h35km, n99, σ1§28/132, mb4.2/26, MS3.5/2, 4C-2D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.42	305	i P	P	05 06 07.0	+0.8
SPN				eS	S	05 06 12.9	0.0
NLC	Nalytchevo	0.82	293	i P	P	05 06 12.1	+0.3
NLC				i S	S	05 06 21.4	-1.5
SDLR	Sedlovina	1.12	293	i P	P	05 06 16.7	+0.7
SDLR				i S	S	05 06 29.8	-0.6
UGLR	Uglovaya	1.13	289	i P	P	05 06 16.8	+0.6
UGLR				i S	S	05 06 30.3	-0.4
SMAR	Somma	1.16	291	i P	P	05 06 17.1	+0.5
SMAR				i S	S	05 06 30.3	-1.2
PET	Petropavlovsk	1.19	279	P	P	05 06 17.4	+0.4
PET				S	S	05 06 30.7	-1.6
PET	Petropavlovsk	1.19	279⇓	iPN	P	05 06 17.5	+0.5
PET				eS	S	05 06 32.8	+0.5
PET				pmax	pmax		
	comp=Z,2μm,0.5s						
PET				pmax	pmax		
	comp=Z,2μm,0.5s						
PET				smax			
	comp=E,4μm,0.3s						
PET				smax			
	comp=E,4μm,0.6s						
PET	Petropavlovsk	1.19	279	eP	P	05 06 17.1	0.0
PET	Petropavlovsk	1.19	279	i P	P	05 06 17.4	+0.4
PET				i S	S	05 06 30.9	-1.4
AVH	Avacha	1.19	291	i P	P	05 06 17.9	+0.8
AVH				i S	S	05 06 31.5	-0.9
KOK	Koryaka	1.26	291	i P	P	05 06 18.7	+0.6
RUS	Russkaya	1.34	252	P	P	05 06 20.3	+1.0
RUS				S	S	05 06 36.2	+0.1
RUS	Russkaya	1.34	252	i P	P	05 06 20.2	+0.9
RUS				eS	S	05 06 36.2	+0.1
KII	Karymskiy	1.36	330	P	P	05 06 20.1	+0.4
KII				S	S	05 06 35.7	-1.1
KII	Karymskiy	1.36	330	i P	P	05 06 20.0	+0.3
KII				i S	S	05 06 35.7	-1.1
KRMR	Karymshinskiy	1.50	270	i P	P	05 06 21.3	-0.2
KRMR				i S	S	05 06 39.2	-0.9
GRL	Gorelyy	1.57	260	i P	P	05 06 24.2	+1.7
GRL				i S	S	05 06 42.8	+1.0
GNL	Ganaly	1.80	299	i P	P	05 06 26.9	+1.0
GNL				i S	S	05 06 47.2	-0.5
MKZ	Mys Kozlova	1.83	21	P	P	05 06 27.0	+0.7
MKZ				S	S	05 06 46.8	-1.7
MKZ	Mys Kozlova	1.83	21	i P	P	05 06 27.0	+0.7
MKZ				i S	S	05 06 48.7	+0.2
APC	Apacha	2.08	273	i P	P	05 06 31.9	+2.0
APC				i S	S	05 06 55.8	+0.9
APC				Smax			
	comp=E,2μm,0.7s						
MIPR	Malaya Ipel'ka	2.42	258	eP	P	05 06 36.8	+2.2
TUMR	Tumrok	2.44	354	eP	P	05 06 36.8	+1.7
TUMR				i S	S	05 07 04.5	+0.5
PAU	Pauzhetka	2.72	241	eP	P	05 06 41.2	+2.2
KMNR	Kamenistaya	2.91	356	eP	P	05 06 43.8	+2.1
KMNR				eS	S	05 07 16.4	+0.5
KPT	Kopyto	3.12	356	eP	P	05 06 46.2	+1.5
KPT				eS	S	05 07 20.7	-0.6
ZLN	Zelenaya	3.17	2	eP	P	05 06 47.9	+2.5
ZLN				eS	S	05 07 23.8	+1.4
LGNR	Loginova	3.23	1	eP	P	05 06 49.4	+3.1
LGNR				eS	S	05 07 25.0	+0.9
KOZ	Kozyrevsk	3.23	353	P	P	05 06 47.8	+1.5
KOZ				S	S	05 07 22.5	-1.6
KOZ	Kozyrevsk	3.23	353	eP	P	05 06 47.7	+1.4
KOZ				eS	S	05 07 23.2	-0.9
KOZR	Kozyr	3.24	353	PN	P	05 06 47.8	+1.4
CIRR	Tsirk	3.27	1	eP	P	05 06 48.4	+1.6
CIRR				eS	S	05 07 24.7	-0.2
KRSR	Krestovskiy	3.37	360	eP	P	05 06 49.6	+1.4
KRSR				eS	S	05 07 26.5	-1.0
KLY	Klyuchi	3.46	1	P	P	05 06 51.3	+1.7
KLY				S	S	05 07 29.8	-0.1
KLY	Klyuchi	3.46	1	eP	P	05 06 51.5	+1.9
KLY				eS	S	05 07 29.8	-0.1
SRDR	Sredinnyy	3.50	352	i P	P	05 06 50.8	+0.6
SKR	Severo-Kuril's	3.53	234	ePN	P	05 06 49.0	-1.6
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
KBTR	Krutoberegovo	3.60	20	P	P	05 06 52.5	+1.0
KBTR				S	S	05 07 32.0	-1.4
KBTR	Krutoberegovo	3.60	20	eP	P	05 06 53.4	+1.9
KBTR				eS	S	05 07 33.8	+0.4
ALID	Alaid	3.71	240	eP	P	05 06 54.6	+1.5
BKI	Bering	3.94	51	i P	P	05 06 57.1	+0.7
BKI				i S	S	05 07 39.2	-3.0
BKI				Smax			
	comp=Z,60nm,0.5s						
OSSR	Ossora	6.55	11	S	S	05 08 44.6	-3.0
FX1	Attu Island--F	7.61	85	eP	P	05 07 49.1	+1.2
FX1				eS	S	05 09 08.6	-5.2
KAMR	Kamenskoye	10.08	15	eP	P	05 08 23.2	+1.3
ASAJ	Asahikawa	14.76	241	P	P	05 09 24.2	-0.3
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	14.76	241	Pn	P	05 09 24.2	-0.3
	comp=Z,0.9nm,0.3s,baz=85,slow=21,SNR=5.8						
BILL	Bilibino	15.47	8⇑	iP	P	05 09 35.8	+2.2
BILL				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MAJO	Matsushiro	22.64	233	eP	P	05 10 55.9	+0.3
MAJO				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.5						
MAJO	Matsushiro	22.64	233	eP	P	05 10 55.9	+0.3
	comp=Z,12nm,0.6s,mb4.5						
MAT	Matsushiro	22.64	233	eP	P	05 10 56.0	+0.4
MAT				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.4						
MAT	Matsushiro	22.64	233	eP	P	05 10 56.0	+0.4
	comp=Z,11nm,0.7s,mb4.4						
MAT	Matsushiro	22.64	233	P	P	05 10 55.8	+0.2
MJAR	Matsushiro Arr	22.64	233	P	P	05 10 56.0	+0.4
	comp=Z,8.4nm,0.5s,mb4.4,baz=16,slow=8.6,SNR=18						
TIXI	Tiksi	23.42	335	eP	P	05 10 58.0	-4.9
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
SONM	Songino Array	34.25	284	P	P	05 12 37.1	-3.9
	comp=Z,0.5nm,0.5s,mb3.7,baz=71,slow=7.2,SNR=6.0						
SONM				PcP	PcP	05 15 15.5	-1.7
	comp=Z,0.7nm,0.7s,slow=1.2,SNR=5.1						
SONM				LR	LR	05 27 51.3	
	comp=Z,79nm,18.1s,MS3.5,baz=153,slow=39						
ZAL	Zalesovo	43.18	303	LR	LR	05 33 41.0	
	comp=Z,47nm,18.9s,MS3.4,baz=228,slow=39						
KURK	Kurchatov	48.12	302	eP	P	05 14 30.4	-4.2
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
KURK	Kurchatov	48.12	302	eP	P	05 14 30.4	-4.2
	comp=Z,3.3nm,0.6s,mb4.5						
MKAR	Makanchi Array	48.53	296	P	P	05 14 33.5	-4.4
	comp=Z,0.5nm,0.5s,mb3.8,baz=51,slow=7.1,SNR=8.0						
BVAR	Borovoye Array	50.77	309	P	P	05 14 50.1	-4.8
	comp=Z,0.7nm,0.5s,mb3.9,baz=63,slow=10,SNR=4.6						
ZRNK	Zerenda	51.47	309	P	P	05 14 55.8	-4.4
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	Zerenda	51.47	309	P	P	05 14 55.8	-4.4
	comp=Z,0.9nm,0.6s,mb3.9						
ARCES	ARCESS Array B	53.61	342	P	P	05 15 11.6	-4.4
	comp=Z,2.6nm,0.9s,mb4.2,baz=40,slow=7.3,SNR=6.8						
PDAR	Pinedale Array	57.37	61	P	P	05 15 43.1	-0.4
	comp=Z,0.3nm,0.6s,mb3.5,baz=347,slow=2.9,SNR=4.0						
KAF	Kangasniemi	59.82	337	ep	P	05 15 56.5	-3.8
	comp=Z,1.0nm,0.4s,mb4.2,baz=30,slow=6.3						
FINES	FINESS Array B	60.46	337	P	P	05 16 02.2	-2.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	60.46	337	P	P	05 15 59.5	-5.2
	comp=Z,1.3nm,0.6s,mb4.2,baz=45,slow=5.4,SNR=6.9						
NB2	NORSAR Subarra	63.85	344	P	P	05 16 24.0	-3.2
	comp=Z,1.0nm,0.6s,mb4.0,baz=20,slow=7.0						
NB2	NORSAR Subarra	63.85	344	P	P	05 16 24.0	-3.2
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NOA	NORSAR Array B	63.85	344	P	P	05 16 24.1	-3.0
	comp=Z,1.4nm,0.7s,mb4.1,baz=22,slow=6.8,SNR=5.0						
AKASG	Malin Array Be	68.97	329	P	P	05 16 57.1	-2.7
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	Malin Array Be	68.97	329	P	P	05 16 55.8	-4.0
	comp=Z,1.8nm,0.3s,mb4.5,baz=29,slow=6.4,SNR=22						
TXAR	Lajitas Array	70.45	67	P	P	05 17 10.5	+1.3
	comp=Z,0.3nm,0.5s,mb3.5,baz=293,slow=4.7,SNR=5.6						
CLL	Collm	72.68	339	P	P	05 17 20.3	-1.7
	comp=Z,logA/T=0.9,mb4.6						
BURAR	Bucovina Array	72.93	330	⇑P	P	05 17 21.5	-2.1
BURAR	Bucovina Array	72.93	330	⇑P	P	05 17 21.5	-2.1
MLR	Muntele Rosu	74.61	329	⇑P	P	05 17 32.3	-1.1
GERES	GERESS Array B	74.85	338	P	P	05 17 32.7	-2.0
	comp=Z,0.7nm,0.4s,mb4.0,baz=45,slow=3.8,SNR=7.5						
VOIR		74.94	329	⇓P	P	05 17 34.6	-0.7
CDF	Champ du Feu	76.59	342	eP	P	05 17 43.5	-1.1
BRTR	Keskin Array B	77.00	321	P	P	05 17 44.4	-2.8
	comp=Z,1.7nm,0.7s,mb4.1,baz=47,slow=2.8,SNR=8.3						
HINF	Hinteralfeld	77.24	342	eP	P	05 17 46.7	-1.6
LOR	Lormes	78.30	344	eP	P	05 17 53.0	-1.1
SSF	Saint Saulge	78.55	344	eP	P	05 17 53.7	-1.9
LPL	La Plagne	79.47	342	eP	P	05 18 00.0	-0.6
	comp=Z,13nm,0.8s,mb4.6						
LPL	La Plagne	79.47	342	eP	P	05 18 00.0	-0.6
LPL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
LPG	La Plagne	79.49	342	eP	P	05 18 00.0	-0.7
	comp=Z,19nm,0.8s,mb4.8						
LPG	La Plagne	79.49	342	eP	P	05 18 00.0	-0.7
LPG				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
TCF	Toulx Ste Croi	79.52	345	eP	P	05 17 59.6	-1.2
ORIF	Oris-en-Rattie	80.21	342	eP	P	05 18 03.7	-0.9
	comp=Z,12nm,0.8s,mb4.6						
ORIF	Oris-en-Rattie	80.21	342	eP	P	05 18 03.7	-0.9
ORIF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
MBDF	Montbardon	80.23	341	eP	P	05 18 03.8	-0.9
	comp=Z,7.0nm,0.7s,mb4.4						
MBDF	Montbardon	80.23	341	eP	P	05 18 03.8	-0.9
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
VIVF	Saint-Julien-l	80.49	343	eP	P	05 18 05.2	-0.9
	comp=Z,8.8nm,0.8s,mb4.5						
VIVF	Saint-Julien-l	80.49	343	eP	P	05 18 05.2	-0.9
VIVF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
SBF	Sospel	80.93	341	eP	P	05 18 07.4	-1.0
ASF	Jabal al Asfar	82.18	315	P	P	05 18 13.5	-1.6
	comp=Z,3.5nm,0.6s,mb4.5,baz=304,slow=2.5,SNR=6.8						
ETSF	Etsaut	83.25	346	eP	P	05 18 19.7	-0.7
ESDC	Sonseca Array	86.88	348	P	P	05 18 37.6	-0.8
	comp=Z,0.9nm,0.7s,mb4.1,baz=12,slow=4.6,SNR=4.7						

KRSC 20 05:10:37.6±0.5, 49.49N×156.64E, h54km±45km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	Alaid	1.55	334	i P	P	05 11 03.2	-0.2
ALID				i S	S	05 11 22.1	-0.4
PAU	Pauzhetka	1.98	3	eP	P	05 11 10.6	+1.2
PAU				eS	S	05 11 34.3	+1.3
MIPR	Malaya Ipel'ka	2.79	1	eP	P	05 11 21.2	+0.3
RUS	Russkaya	3.18	21	i P	P	05 11 26.9	+0.5
RUS				i S	S	05 12 02.7	-0.6
GRL	Gorelyy	3.20	16	eP	P	05 11 28.8	+2.1
UGLR	Uglovaya	3.97	19	eP	P	05 11 39.0	+1.5
AVH	Avacha	4.00	18	eP	P	05 11 38.2	+0.2
AVH				eS	S	05 12 22.3	-1.8
KOK	Koryaka	4.01	17	eP	P	05 11 40.2	+2.1
SMAR	Somma	4.01	19	eP	P	05 11 39.6	+1.5
SDLR	Sedlovina	4.04	19	eP	P	05 11 38.6	0.0
NLC	Nalytchevo	4.06	24	eP	P	05 11 38.1	-0.7
NLC				eS	S	05 12 23.1	-2.4
SPN	Mys Shipunski	4.19	29	eP	P	05 11 40.9	+0.3
SPN				eS	S	05 12 26.9	-1.9
GNL	Ganaly	4.29	10	eP	P	05 11 42.8	+0.8
KBTR	Krutoberegovo	7.70	27	eP	P	05 12 29.2	-0.3

WEL 20 05:12:07.4±0.4, 35.93S×179.44E, h33km, ML3.8/5, Error ellipse: s-maj=6.5km s-min=4.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.86	209	P*	Pb	05 12 36.7	-4.0
MXZ				S*	Sb	05 12 58.5	-5.2
PUZ	Puketiti	2.34	204	PN	Pn	05 12 42.7	-1.7
PUZ				SN	Sn	05 13 10.0	-2.2
MWZ	Matawai	2.84	212	P*	Pb	05 12 50.3	-7.0
MWZ				S*	Sb	05 13 22.9	-9.1
URZ	Urewera	2.98	218	P*	Pb	05 12 52.8	-6.8
URZ				S*	Sb	05 13 26.5	-9.3
BKZ	Black Stump Fm	3.99	215	P*	Pb	05 13 05.3	-12

CASC 20 05:45:55.0±1.2, 11.69N×87.12W, h61km±17km, MD3.9, ML3.3, 4C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.71	47⇑	eP	P	05 46 09.2	-0.3
COPN				eS	S	05 46 20.4	+0.1
LEON	Leon	0.75	17⇓	iP	P	05 46 10.2	+0.1
LEON				eS	S	05 46 22.0	+0.7
MIRN	Miramar	0.84	28⇑	eP	P	05 46 11.1	-0.1
MIRN				eS	S	05 46 23.7	+0.4
XAVN	Gruta Xavier	0.90	60	eP	P	05 46 11.6	-0.3
XAVN				eS	S	05 46 25.4	+0.8
CNGN	Cerro Negro	0.90	27⇓	eP	P	05 46 12.0	0.0
CNGN				eS	S	05 46 26.0	+1.3
MOMJ	Momotombo	0.91	38	eP	P	05 46 12.1	0.0
MOMJ				eS	S	05 46 24.4	-0.5
TEL3	Telica 3	0.92	17⇓	eP	P	05 46 12.3	+0.2
TELN	Telica	0.95	17	eP	P	05 46 12.8	+0.1
TELN				eS	S	05 46 26.4	+0.7
MGAN	Managua	0.97	62	eP	P	05 46 12.3	-0.5
MGAN				eS	S	05 46 26.3	+0.1
MGAN				i		05 46 27.0	
	comp=N,607nm,0.6s						
CRIN	San Cristobal	1.00	4⇑	eP	P	05 46 14.0	+0.6
CRIN				eS	S	05 46 27.2	+0.2
WILN	Americas 2	1.02	63⇓	eP	P	05 46 12.9	-0.7
WILN				eS	S	05 46 27.8	+0.3
APON	Apoyo	1.05	78	eP	P	05 46 13.4	-0.6
PYTN	Playitas	1.34	51	eP	P	05 46 17.9	-0.2
PYTN				eS	S	05 46 34.9	-0.2
CONN	Concepcion	1.47	95⇑	eP	P	05 46 19.2	-0.6
CNCH	Conchagua	1.72	336	eP	P	05 46 45.8	+22
CNCH				eS	S	05 47 07.8	+24
BLLM	Bellamira	2.05	328	eP	P	05 46 51.8	+24
BLLM				eS	S	05 47 16.5	+24
LCBS	La Ceiba	2.66	317	eP	P	05 46 59.0	+22
LCBS				eS	S	05 47 30.7	+23
LFRS	El Faro	2.70	316	eP	P	05 46 59.6	+23
LFRS				eS	S	05 47 31.5	+23
RTR	El Retiro	3.30	312	eP	P	05 47 09.5	+24
RTR				eS	S	05 47 47.6	+24

CSEM 20 06:15:52.0±0.1, 35.34N×23.34E, h78km±2km, MD3.7, Error ellipse: s-maj=5.5km s-min=2.7km az=71.0

HLW 20 06:15:53.8, 35.37N×23.69E, h23km, Mb3.8

IDC 20 06:15:53.2±4.2, 35.35N×23.29E, h69km±31km, mb3.6/3, mb1 3.6/4, mb1mx3.3/22, mbtmp3.8/4, ML3.1/1, Error ellipse: s-maj=55.4km s-min=32.3km az=28.0

ATH 20 06:15:54.0, 35.47N×23.47E, h54km±2km, MD3.7/10

NEIC 20 06:15:54.0, 35.47N×23.47E, h53km, MD3.7(ATH), After ATH.

ISC 20 06:15:51.8±0.7, 35.28N±0.04×23.33E±0.09, h84km±8km, n26, σ1§07/30, mb3.7/3, 4C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	Vamos	0.72	79	eP	P	06 16 07.4	-0.9
GVD	Gavdhos	0.76	125	eP	P	06 16 10.0	+1.3
KYTH	Kithira	1.03	346	eP	P	06 16 11.0	-0.7
IDI	Anoyia	1.27	89	P	P	06 16 15.5	+0.8
	34nm,0.3s,baz=271,slow=14,SNR=85						
IDI				S	S	06 16 32.5	+0.5
	68nm,0.3s,baz=20,slow=21,SNR=26						
VLI	Veliai	1.47	347	eP	P	06 16 17.2	-0.2
NPS	Neapolis	1.86	90	eP	P	06 16 23.0	+0.5
XRY	Khrisi	1.98	101	eP	P	06 16 25.5	+1.4
SANT	Santorini	2.04	57	eP	P	06 16 24.1	-0.8
SANT	Santorini	2.04	57	eP	P	06 16 24.1	-0.9
NAIG	Nisos Aigina	2.48	3	eP	P	06 16 30.7	-0.4
APE	Apeiranthos	2.52	44	eP	P	06 16 31.0	-0.6
MPAR	Parnis Oros	2.89	6	eP	P	06 16 36.5	-0.2
KARP	Karpathos	3.14	84	eP	P	06 16 40.5	+0.3
KARP	Karpathos	3.14	84	eP	P	06 16 41.5	+1.3
SLUM		4.09	157⇑	eP	P	06 16 54.8	+1.4
SLUM				S	S	06 17 39.0	-1.3
HMAT	Matruh	5.23	142⇓	eP	P	06 17 08.8	-0.2
HMAT				S	S	06 18 04.5	-4.1
SWA2		6.28	163⇓	eP	P	06 17 24.3	+0.8
SWA1		6.33	161	⇓P	P	06 17 24.9	+0.8
SWA1				S	S	06 18 32.2	-3.5
HFRF	Wahat Farafira	9.15	151⇑	eP	P	06 18 02.5	-0.4
BRTR	Keskin Array B	9.31	58	P	P	06 18 04.7	-0.3
	0.2nm,0.3s,baz=236,slow=13,SNR=9.2						
AMAG	Maghara	9.49	116⇑	eP	P	06 18 04.5	-3.1
HRSH	Kfar Ka'horesh	9.72	113⇑	eP	P	06 18 07.7	-2.8
GERES	GERESS Array B	15.31	335	P	P	06 19 28.7	+4.5
	0.2nm,0.3s,baz=151,slow=14,SNR=4.4						
HFS	Hagfors	25.65	349	P	P	06 21 15.7	+0.8
	1.0nm,0.4s,mb3.6,baz=129,slow=9.2,SNR=9.3						
ARCES	ARCESS Array B	34.33	1	P	P	06 22 31.5	-0.3
	0.7nm,0.5s,mb3.8,baz=180,slow=9.7,SNR=6.0						
MKAR	Makanchi Array	44.96	56	P	P	06 24 01.3	+1.4
	0.8nm,0.4s,mb3.8,baz=267,slow=7.9,SNR=20						

GUC 20 06:17:19.6±0.5, 22.08S×68.75W, h134km±4km, MD3.8, ML3.4, 1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.55	196	eP	P	06 17 40.4	+0.8
LVC				i S	S	06 17 56.0	+1.2
LVC				AMP		06 17 57.8	
	comp=N,1μm,0.6s						
SPCH	San Pedro de A	0.97	148⇓	iP	P	06 17 43.4	+0.7
SPCH				i S	S	06 18 01.9	+1.6
SPCH				AMP		06 18 16.5	
	comp=E,562nm,0.7s						
ANCH	Antofagasta	2.21	224	eP	P	06 17 59.2	+2.3
ANCH				i S	S	06 18 27.4	+2.3
CPN1	Cerro Paranal	2.95	211	i P	P	06 18 07.8	+1.2
CPN1				i S	S	06 18 44.2	+1.9
CPN1				AMP		06 18 48.8	
	comp=E,165nm,0.4s						

IDC 20 06:40:34.0±1.2, 7.43S×127.64E, mb3.9/4, mb1 4.2/6, mb1mx4.0/15, mbtmp4.0/6, ML4.2/2, Error ellipse: s-maj=58.9km s-min=20.6km az=64.0

ISC 20 06:40:48.2±1.6, 8.0S±0.1×127.9E±0.1, h150km, n9, σ1§49/14, mb3.7/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.53	137	eP	P	06 42 24.2	+1.2
	52nm,0.3s						
KAKA				eS	S	06 43 35.2	-1.4
FITZ	Fitzroy Crossi	10.31	192	eP	P	06 43 14.0	+0.8
	11nm,1.1s						
FITZ				eS	S	06 45 05.3	-1.5
FITZ	Fitzroy Crossi	10.31	192	Pn	P	06 43 11.9	-1.4
	1.1nm,0.3s,baz=37,slow=6.5,SNR=13						
FITZ				Sn	S	06 45 08.0	+1.3
	4.1nm,0.3s,baz=356,slow=13,SNR=6.9						
WRA	Warramunga Arr	13.47	153	Pn	P	06 43 54.4	+0.1
	1.2nm,0.3s,baz=324,slow=13,SNR=20						
WRA				Sn	S	06 46 15.7	-5.1
	2.1nm,0.3s,baz=333,slow=23,SNR=11						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	13.48	153	eP	P	06 43 54.6	+0.2
WB2				eS	S	06 46 15.1	-5.8
CTA	Charters Tower	21.52	126	P	P	06 45 30.2	+4.0
	9.0nm,1.1s,mb4.1,baz=300,slow=9.4,SNR=5.0						
STKA	Stephens Creek	27.02	154	P	P	06 46 21.8	+3.5
	1.7nm,0.4s,mb4.0,baz=263,slow=9.6,SNR=2.9						
SONM	Songino Array	58.70	343	P	P	06 50 30.6	-1.8
	0.2nm,0.4s,mb3.3,baz=162,slow=6.4,SNR=3.2						
MKAR	Makanchi Array	67.88	328	P	P	06 51 30.1	-2.5
	0.3nm,0.4s,mb3.4,baz=111,slow=8.2,SNR=6.4						

NEIC 20 07:06:15.0, 38.60N×112.69W, h1km, ML3.5(SLC), 1C, After SLC., Utah

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MVU	Marysvale	0.39	104	⇑iPg	Pg	07 06 23.2	+0.5
MVU				eSg	Sg	07 06 27.5	-0.5
MSU	Marysvale	0.41	102	i Pg	Pg	07 06 23.7	+0.5
ARUT	Antelope Range	1.00	216	ePg	Pg	07 06 34.6	-0.4
ARUT				eSg	Sg	07 06 48.0	-0.4
TMUT	Trail Mountain	1.35	59	eP	Pb	07 06 41.7	+1.0
TMUT				eS	Sb	07 06 58.4	0.0
NLU	North Lily Min	1.43	19	eP	Pn	07 06 42.4	+0.2
NLU				eS	Sb	07 07 02.9	+2.0
MPU	Maple Canyon	1.63	30	ePn	Pn	07 06 45.8	+0.7
MPU				eS	Sb	07 07 08.0	+1.3
SRU	San Rafael	1.77	73	ePn	Pn	07 06 48.1	+1.2
SRU				eS	Sn	07 07 11.3	+1.0
NOQ	North Oquirrh	2.10	12	ePn	Pn	07 06 51.7	0.0
DAU	Daniels Canyon	2.12	31	ePn	Pn	07 06 53.3	+1.3
DAU				eSg	Sg	07 07 24.2	-1.5
CTU	Camp Tracy	2.21	19	ePn	Pn	07 06 53.7	+0.4
JLU	Jordanelle	2.22	25	ePn	Pn	07 06 54.5	+1.1
TRCR	Troy Canyon	2.29	265	ePn	Pn	07 06 53.4	-0.9
TRCR				ePg	Pg	07 06 57.0	-3.6
TRCR				eS	Sn	07 07 27.9	+4.3
BGU	Big Grassy Mou	2.34	354	ePn	Pn	07 06 54.7	-0.3
BGU				ePg	Pg	07 07 00.5	-1.1
BGU				eSg	Sg	07 07 31.1	-1.7
TCUT	Toone Canyon	2.70	21	ePn	Pn	07 07 00.2	-0.1
SPUT	South Promonto	2.71	4	ePn	Pn	07 07 00.6	+0.1
SPUT				Sn	Sn	07 07 31.8	-2.6
SPUT				eSg	Sg	07 07 43.2	-2.0
PV10	Paradox Valley	2.88	93	ePn	Pn	07 07 02.6	-0.2
PV10				ePg	Pg	07 07 07.8	-4.6
ELK	Elko	2.91	318	ePn	Pn	07 07 02.2	-1.0
ELK				ePg	Pg	07 07 11.5	-1.6
ELK				eSg	Sg	07 07 49.8	-2.0
HWUT	Hardware Ranch	3.12	16	ePn	Pn	07 07 06.5	+0.1
HWUT				eSg	Sg	07 07 55.1	-3.9
HVU	Hansel Valley	3.18	359	ePn	Pn	07 07 06.4	-0.6
HVU				eSg	Sg	07 07 55.6	-5.1
PV01	Paradox Valley	3.27	97	ePn	Pn	07 07 09.3	+0.9
PV01				eSg	Sg	07 07 56.4	-7.5
NEN	Nelson	3.41	211	ePn	Pn	07 07 09.5	-0.9
NEN				ePg	Pg	07 07 17.7	-5.4
NEN				eSg	Sg	07 08 02.1	-6.5
TPH	Tonopah	3.60	263	ePn	Pn	07 07 11.9	-1.2
TPH				ePg	Pg	07 07 20.5	-6.4
TPH				eSg	Sg	07 08 07.3	-7.6
BMN	Battle Mountai	3.95	299	ePn	Pn	07 07 17.5	-0.6
BMN				eSg	Sg	07 08 19.7	-6.9
LDFC	Landfair	4.02	210	ePn	Pn	07 07 17.6	-1.3
AHID	Auburn Hatcher	4.33	16	Pn	Pn	07 07 21.0	-2.5
SMCO	Snowmass	4.50	81	ePn	Pn	07 07 27.3	+1.5
SMCO				ePg	Pg	07 07 38.5	-6.2
SMCO				eSg	Sg	07 08 30.3	-14
DAC	Darwin (Calif)	4.54	241	ePg	Pg	07 07 40.3	-5.3
DAC				eSg	Sg	07 08 38.9	-7.2
MTUM	Tungsten Hills	4.80	257	ePn	Pn	07 07 24.9	-5.2
MTUM				ePg	Pg	07 07 46.0	-4.9
MTUM				eSg	Sg	07 08 48.7	-6.3
RRI2	Red Ridge	4.85	12	ePg	Pg	07 07 41.3	-11
REDW	Red Top Meadow	4.96	16	ePn	Pn	07 07 31.1	-1.2
TPAW	Teton Pass	5.06	15	ePn	Pn	07 07 33.5	-0.3
	10nm,0.7s						
OMM	Old Mammoth Mi	5.07	261	ePg	Pg	07 07 49.9	-6.2
SNOW	Snow King Moun	5.07	16	ePn	Pn	07 07 33.2	-0.8
	8.2nm,0.6s						
RWWY	Rawlins	5.21	52	Pn	Pn	07 07 35.6	-0.3
	24nm,0.6s						
RWWY				ePg	Pg	07 07 54.4	-4.6
LOHW	Long Hollow	5.25	17	ePn	Pn	07 07 36.5	0.0
	8.4nm,0.6s						
MOOW	Moose Ponds	5.35	15	ePn	Pn	07 07 39.0	+1.1
	5.9nm,0.7s						
IMW	Indian Meadow	5.45	13	ePn	Pn	07 07 37.9	-1.5
	11nm,0.5s						
ISCO	Idaho Springs	5.63	76	ePg	Pg	07 07 58.6	-8.7
	6.7nm,0.4s						
ISCO				Sg	Sg	07 09 06.0	-16
SDCO	Great Sand Dun	5.73	96	ePn	Pn	07 07 41.3	-2.0
	8.9nm,0.6s						
WVOR	Wild Horse Val	5.93	312	ePg	Pg	07 08 03.4	-10
	32nm,1.1s						
WVOR				eSg	Sg	07 09 18.9	-14
CMB	Columbia Colle	6.08	267	ePg	Pg	07 08 07.3	-9.0
	6.0nm,0.6s						
ANMO	Albuquerque	6.19	124	ePn	Pn	07 07 48.9	-0.8
	20nm,0.6s						
ANMO				ePg	Pg	07 08 10.2	-8.3
ANMO				eSg	Sg	07 09 26.9	-14
MCMT	McKenzie Canyo	6.22	359	Pg	Pg	07 08 02.7	-17
LENM	Lemitar	6.39	132	ePg	Pg	07 08 11.7	-11
LENM				eSg	Sg	07 09 32.0	-16
TUC	Tucson	6.47	166	ePg	Pg	07 08 12.6	-12
	12nm,0.9s						
TUC				eSg	Sg	07 09 35.5	-15
LPM	Los Pinos Moun	6.49	129	ePg	Pg	07 08 15.6	-9.0
BNM	Barren Site	6.61	130	ePg	Pg	07 08 17.2	-10
BNM				eSg	Sg	07 09 39.5	-15
MOD	Modoc	6.69	302	ePn	Pn	07 07 55.6	-1.2
	14nm,0.6s						
MOD				ePg	Pg	07 08 21.9	-6.6
MOD				eSg	Sg	07 09 44.5	-13
BMO	Blue Mountains	7.13	333	Pn	Pn	07 08 02.7	-0.3
	3.4nm,0.6s						

*NEIC **20** 07:17:58.9, 32.25S×70.86W, h73km, MD3.5(GUC), After GUC.*

GUC 20 07:17:58.9±0.7, 32.25S×70.86W, h73km±3km, MD3.5, ML3.5, 9C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JACH	Jahuel	0.49	153	⇑iP	P	07 18 12.2	+0.2
JACH				i S	S	07 18 22.3	+0.6
PACH	Papudo	0.57	239	⇓iP	P	07 18 13.2	+0.3
PACH				i S	S	07 18 23.7	+0.6
ILCH	Illapel	0.66	336	eP	P	07 18 14.2	+0.4
ILCH				i S	S	07 18 25.7	+0.8
ILCH				AMP		07 18 26.4	
	comp=N,4μm,0.1s						
ROCH	El Roble	0.74	190	⇑iP	P	07 18 14.7	+0.1
PEL	Peldehue	0.91	171	i P	P	07 18 17.1	+0.5
PEL				i S	S	07 18 30.4	+0.7
IHA	Instituto Hidr	1.02	220	⇓iP	P	07 18 17.9	-0.1
IHA				i S	S	07 18 32.5	+0.1
CMCH	Combarbala	1.08	353	eP	P	07 18 18.7	-0.1
CMCH				i S	S	07 18 34.0	+0.4
CMCH				AMP		07 18 35.3	
	comp=E,2μm,0.2s						
DSCH	Colegio Aleman	1.17	168	⇑iP	P	07 18 20.2	+0.2
DSCH				i S	S	07 18 36.4	+0.6
DSCH				AMP		07 18 37.7	
	comp=E,2μm,0.3s						
CLCH	Cerro Calan	1.18	167	⇓iP	P	07 18 20.1	0.0
CLCH				i S	S	07 18 36.6	+0.7
CLCH				AMP		07 18 41.4	
	comp=E,779nm,0.5s						
CLCH				AMP		07 18 43.5	
	comp=E,1μm,0.6s						
FCH	Farellones	1.18	156	⇓iP	P	07 18 20.7	+0.6
FCH				i S	S	07 18 37.4	+1.4
FCH				AMP		07 18 39.8	
	comp=E,1μm,0.2s						
STL	Santa Lucia	1.20	171	⇑iP	P	07 18 19.7	-0.7
STL				i S	S	07 18 35.8	-0.7
RCDM	Rinconada Maip	1.24	178	eP	P	07 18 20.6	-0.3
RCDM				i S	S	07 18 37.7	+0.3
RCDM				AMP		07 18 40.4	
	comp=E,2μm,0.2s						
FSR	Penalolen	1.26	167	eP	P	07 18 21.4	+0.2
FSR				i S	S	07 18 38.3	+0.5
FSR				AMP		07 18 42.6	
	comp=N,768nm,0.1s						
ANTU	Antumapu	1.33	172	eP	P	07 18 22.1	-0.2
ANTU				i S	S	07 18 40.0	+0.4
ANTU				AMP		07 18 41.2	
	comp=N,737nm,0.6s						
LCCH	Las Cruces	1.36	206	⇑iP	P	07 18 22.9	+0.2
PCH	Pirque	1.40	168	⇑iP	P	07 18 23.3	+0.1
PCH				i S	S	07 18 41.9	+0.8
TACH	Talagante	1.41	183	eP	P	07 18 22.8	-0.4
TACH				i S	S	07 18 41.5	+0.3
SJCH	San Jose de Ma	1.45	163	eP	P	07 18 23.9	0.0
SJCH				i S	S	07 18 42.9	+0.6
SJCH				AMP		07 18 47.2	
	comp=N,393nm,0.4s						
LMEL	Las Melosas	1.69	161	eP	P	07 18 27.7	+0.7
LMEL				i S	S	07 18 49.2	+1.5
LMEL				AMP		07 18 53.8	
	comp=N,994nm,0.1s						
CHCH	Chadas Angostu	1.69	174	⇑iP	P	07 18 26.7	-0.4
CHCH				i S	S	07 18 48.0	+0.2
LNV	Longovilo	1.77	195	⇑iP	P	07 18 27.4	-0.6
CACH	El Canelo	1.88	174	⇑iP	P	07 18 30.0	+0.4
CACH				i S	S	07 18 54.0	+1.8
ZON	Zonda	1.98	70	eP	P	07 18 32.0	+1.1
ZON				eS	S	07 18 57.0	+2.4
TLL	Tololo Astrono	2.07	1	eP	P	07 18 32.7	+0.4
TLL				i S	S	07 18 58.2	+1.3
TLL				AMP		07 19 08.0	
	comp=N,555nm,0.3s						
CICH	Cipreses	2.10	170	eP	P	07 18 33.3	+0.7
SFDO	San Fernando	2.37	183	eP	P	07 18 36.1	-0.2

IDC 20 07:40:29.3±3.1, 5.22N×95.09E, mb3.8/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.8/4, Error ellipse: s-maj=121.7km s-min=28.3km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	42.87	347	P	P	07 48 29.4	-1.7
	1.0nm,0.3s,baz=170,slow=7.7,SNR=25						
SONM	Songino Array	43.55	11	P	P	07 48 34.9	-1.7
	0.8nm,0.7s,baz=192,slow=8.6,SNR=5.6						
WRA	Warramunga Arr	45.98	124	P	P	07 48 54.6	-1.8
	0.4nm,0.3s,baz=303,slow=8.8,SNR=5.4						
BVAR	Borovoye Array	51.79	341	P	P	07 49 38.7	-2.3
	0.2nm,0.3s,baz=149,slow=8.4,SNR=3.0						

*IDC **20** 08:15:23.6±12.0, 0.30S×125.36E, h485km±184km, mb3.3/3, mb1 3.5/4, mb1mx3.1/17, mbtmp4.2/4, Error ellipse: s-maj=142.9km s-min=25.0km az=62.0*

ISC 20 08:15:01.6±4.8, 0.4N±0.2×126.6E±0.5, h227km±51km, n8, σ0.74/8, mb4.0/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	14.28	156	eP	P	08 18 15.0	-0.2
	14nm,1.0s						
FITZ	Fitzroy Crossi	18.43	183	eP	P	08 19 02.3	-0.1
	14nm,1.4s						
FITZ	Fitzroy Crossi	18.43	183	P	P	08 19 02.4	-0.1
	0.9nm,0.3s,baz=347,slow=12,SNR=11						
WRA	Warramunga Arr	21.62	160	P	P	08 19 35.1	+0.8
	9.6nm,0.3s,mb4.8,baz=333,slow=11,SNR=76						
WB2	Warramunga Arr	21.62	160	eP	P	08 19 34.8	+0.5
STKA	Stephens Creek	35.13	157	eP	P	08 21 34.5	-0.9
	4.5nm,0.8s,mb4.0						
STKA	Stephens Creek	35.13	157	P	P	08 21 34.6	-0.9
	6.0nm,0.7s,mb4.2,baz=334,slow=9.7,SNR=14						
SONM	Songino Array	50.38	342	P	P	08 23 37.6	0.0
	0.8nm,0.8s,mb3.1,baz=170,slow=7.8,SNR=5.6						

*NIED **20** 08:15:00, 42.90N×145.00E, h53km, Mw3.8 Best double couple: Mo5.36×10^14 NP1:φs26°, δ68°, λ77°. NP2:φs238°, δ26°, λ119°.*
*MOS **20** 08:15:28.3±3.0, 43.16N×144.98E, h33km, mb4.1/1, Error ellipse: s-maj=20.6km s-min=12.8km az=68.9*
*JMA **20** 08:15:30.1±0.1, 42.94N×145.03E, h51km±1km, M4.0*
JMA Felt I J1.
*NEIC **20** 08:15:30.6±3.4, 42.98N×144.96E, h56km±41km, Error ellipse: s-maj=38.9km s-min=17.2km az=183.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
*IDC **20** 08:15:35.1±2.6, 43.36N×144.89E, h80km±21km, mb3.5/8, mb1 3.7/9, mb1mx3.5/21, mbtmp3.8/9, Error ellipse: s-maj=23.2km s-min=20.2km az=78.0*

ISC 20 08:15:28.7±0.6, 42.93N±0.05×145.05E±0.05, h58km±4km, n24, σ0.73/37, mb3.7/8, 1C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAK	Akkeshi	0.27	285	⇓P	P	08 15 38.9	+0.5
JAK				S	S	08 15 45.3	-0.2
NEM2	Nemuro 2	0.67	49	⇑P	P	08 15 43.0	+0.5
NEM2				S	S	08 15 52.3	-0.5
JNK	Nakash	0.70	340	⇓P	P	08 15 43.3	+0.4
JNK				eS	S	08 15 52.9	-0.6
JOB	Onbets	0.89	269	⇓P	P	08 15 46.1	+0.7
JOB				S	S	08 15 57.7	-0.2
JAR	Ashorobuto	1.01	292	⇓P	P	08 15 47.7	+0.7
JAR				eS	S	08 16 00.5	0.0
JRA	Rausu	1.01	3	⇓P	P	08 15 47.8	+0.7
JRA				eS	S	08 16 00.7	0.0
YUK	Yuzh-Kuril'sk	1.26	28	ePN	P	08 15 50.1	-0.4
YUK				i S	S	08 16 05.3	-1.3
YUK				pmax	pmax		
	comp=Z,2μm,0.8s						
YUK				pmax	pmax		
	comp=Z,720nm,0.3s						
YUK				pmax	pmax		
	comp=N,360nm,0.5s						
YUK				pmax	pmax		
	comp=E,190nm,0.3s						
YUK				smax			
	comp=E,3800μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK				smax			
	comp=N,10μm,0.6s						
YUK				smax			
	comp=E,2μm,0.7s						
JCH	Churui	1.28	256	⇓P	P	08 15 50.9	+0.1
JCH				eS	S	08 16 06.1	-1.1
JTKR	Abashiri--Toko	1.33	322	⇓P	P	08 15 52.6	+1.0
JTKR				eS	S	08 16 08.9	+0.3
ASAJ	Asahikawa	2.14	305	PN	P	08 16 04.5	+1.7
ASAJ				S	S	08 16 27.3	-0.9
ASAJ				pmax	pmax		
	comp=Z,40nm,0.3s						
ASAJ				smax			
	comp=N,17nm,0.3s						
ASAJ	Asahikawa	2.14	305	P	P	08 16 04.5	+1.7
	comp=N,40nm,0.3s,baz=130,slow=7.9,SNR=68						
ASAJ				S	S	08 16 27.2	-1.0
	comp=N,17nm,0.3s,baz=96,slow=10.0,SNR=6.3						
KUR	Kuril'sk	3.07	40	ePN	P	08 16 14.8	-1.2
KUR				eS	S	08 16 52.6	+0.8
KUR				pmax	pmax		
	comp=Z,60nm,0.5s						
KUR				smax			
	comp=N,160nm,0.4s						
KUR				smax			
	comp=E,100nm,0.4s						
MAJO	Matsushiro	8.27	222	ePN	P	08 17 27.7	-0.8
MJAR	Matsushiro Arr	8.27	222	PN	P	08 17 35.8	+7.3
MJAR				S	S	08 19 11.0	+10
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				smax			
	comp=N,1.0nm,0.3s						
MJAR	Matsushiro Arr	8.27	222	P	P	08 17 35.8	+7.3
	comp=N,0.5nm,0.3s,baz=27,slow=13,SNR=4.5						
MJAR				S	S	08 19 11.0	+10
	comp=N,0.8nm,0.3s,baz=200,slow=14,SNR=4.4						
SONM	Songino Array	27.39	294	P	P	08 21 10.6	+0.2
	comp=N,1.5nm,0.8s,mb3.6,baz=80,slow=6.5,SNR=9.9						
ILAR	Eielson Array	43.05	36	P	P	08 23 24.6	+0.7
	comp=N,0.3nm,0.5s,mb3.2,baz=262,slow=6.1,SNR=5.9						
MKAR	Makanchi Array	43.61	298	P	P	08 23 29.0	+0.3
	comp=N,1.7nm,0.7s,mb3.9,baz=81,slow=9.1,SNR=19						
FINES	FINESS Array B	64.90	332	P	P	08 26 02.8	-0.8
	comp=N,1.1nm,0.7s,mb4.0,baz=27,slow=6.2,SNR=4.0						
NOA	NORSAR Array B	69.80	338	P	P	08 26 33.7	-0.6
	comp=N,0.4nm,0.7s,mb3.5,baz=51,slow=5.0,SNR=2.8						
HFS	Hagfors	69.84	336	P	P	08 26 34.0	-0.6
	comp=N,1.7nm,0.6s,mb4.1,baz=59,slow=8.6,SNR=6.6						
AKASG	Malin Array Be	71.32	323	P	P	08 26 43.1	-0.5
	comp=N,0.2nm,0.3s,mb3.5,baz=40,slow=5.8,SNR=4.8						
PDAR	Pinedale Array	71.61	48	P	P	08 26 46.6	+1.1
	comp=N,0.3nm,0.4s,mb3.6,baz=7.8,slow=1.1,SNR=5.0						
SIV	San Ignacio	145.09	48	PKP	PKPdf	08 35 01.7	+1.9
	comp=N,1.2nm,0.7s,baz=342,slow=3.7,SNR=6.7						

*ATH **20** 08:18:44.8, 38.62N×23.42E, h23km, MD3.5/14, ML3.8*
*NEIC **20** 08:18:45.0, 38.63N×23.54E, h20km, ML3.8(ATH), After ATH.*
*CSEM **20** 08:18:45.5±0.1, 38.64N×23.49E, h5km, ML3.8, Error ellipse: s-maj=2.2km s-min=1.1km az=79.0*
*THE **20** 08:18:48.4, 38.82N×23.41E, h10km, ML3.4*

ISC 20 08:18:44.6±0.5, 38.61N±0.02×23.49E±0.04, h17km±6km, n42, σ1.15/58, Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKR	Lokris	0.39	277	ePb	Pb	08 18 51.8	-0.9
LKR	Lokris	0.39	277	ePB	Pb	08 18 51.7	-1.0
LKR				eSB	Sb	08 18 57.2	-0.9
MPAR	Parnis Oros	0.49	157	ePN	Pn	08 18 55.5	-1.1
PTL	Penteli	0.63	152	ePN	Pn	08 18 58.0	-0.6
AOS	Alonnisos	0.64	28	ePg	Pb	08 18 57.9	+0.9
AOS				eSg	Sb	08 19 06.5	+1.1
MGER	Gerania Oros	0.64	196	ePN	Pn	08 18 57.5	-1.3
ATH	Athens Observa	0.66	164	ePN	Pn	08 18 58.4	-0.6
ATH				eSN	Sn	08 19 08.3	-0.6
ATH	Athens Observa	0.66	164	ePn	Pn	08 18 58.4	-0.6
ATH				eSn	Sn	08 19 08.4	-0.5
NSAL	Nisos Salamina	0.70	182	ePN	Pn	08 18 59.0	-0.6
NSAL				eSN	Sn	08 19 08.5	-1.4
NSAL	Nisos Salamina	0.70	182	ePn	Pn	08 18 59.0	-0.6
NSAL				eSn	Sn	08 19 10.0	+0.1
NEO	Neokhori	0.73	344	ePN	Pn	08 18 59.0	-1.1
NEO	Neokhori	0.73	344	ePn	Pn	08 18 59.1	-1.0
NEO				eSn	Sn	08 19 09.1	-1.7
XOR	Xorichti	0.80	343	ePg	Pb	08 19 00.0	+0.4
NAIG	Nisos Aigina	0.84	180	ePN	Pn	08 19 01.5	-0.2
AGG	Agios Georgios	1.00	295	ePg	Pb	08 19 03.5	+0.4
	comp=Z,28nm,0.5s						
AGG				eSg	Sb	08 19 16.6	+0.9
AGG	Agios Georgios	1.00	295	ePg	Pb	08 19 03.5	+0.4
	28nm,0.5s						
AGG				eSg	Sb	08 19 16.6	+0.8
PAIG	Paliouri	1.33	6	ePg	Pn	08 19 09.3	+0.7
PAIG				eSg	Sb	08 19 25.5	+0.2
EVR	Evrytania	1.35	284	ePN	Pn	08 19 09.5	+0.6
EVR				eSN	Sn	08 19 27.7	+1.2
EVR	Evrytania	1.35	284	ePn	Pn	08 19 10.9	+2.0
LIT	Litokhoron	1.68	333	ePg	Pn	08 19 13.9	+0.3
	comp=Z,10.0nm,0.3s						
LIT				eSg	Sn	08 19 34.2	-0.8
RLS	Riolos of Patr	1.68	252	ePn	Pn	08 19 16.8	+3.1
PLG	Polygyros	1.77	359	ePN	Pn	08 19 15.4	+0.5
OUR	Ouranopolis	1.77	12	ePg	Pn	08 19 15.7	+0.8
LOS	Limnos	1.81	42	ePb	Pb	08 19 16.4	-0.6
LIA	Limnos Island	1.84	45	ePN	Pn	08 19 17.4	+1.4
ITM	Ithomi	1.89	221	ePN	Pn	08 19 17.5	+0.9
ITM	Ithomi	1.89	221	ePn	Pn	08 19 19.2	+2.6
VLI	Veliai	1.93	193	ePB	Pb	08 19 18.2	-0.8
THE	Thessaloniki	2.06	349	ePb	Pb	08 19 18.7	-2.6
MEV	Metsovon	2.12	305	ePb	Pb	08 19 21.2	-1.0
	comp=Z,5.0nm,0.4s						
SOH	Sokhos	2.22	357	ePn	Pn	08 19 21.9	+0.6
SOH				eSn	Sn	08 19 47.4	-1.1
LKD	Levkas	2.23	274	ePn	Pn	08 19 24.3	+2.8
APE	Apeiranthos	2.23	133	ePN	Pn	08 19 22.9	+1.4
VLS	Valsamata	2.32	260	ePN	Pn	08 19 23.0	+0.2
VLS	Valsamata	2.32	260	ePn	Pn	08 19 26.0	+3.2
KYTH	Kithira	2.35	189	ePB	Pb	08 19 25.0	-1.1
GRG	Griva	2.49	341	ePn	Pn	08 19 24.7	-0.5
GRG				eSn	Sn	08 19 52.6	-3.0
SRS	Serrai	2.51	2	ePn	Pn	08 19 25.9	+0.4
SRS				eSn	Sn	08 19 55.0	-1.0
IGT	Igoumenitsa	2.63	292	ePn	Pn	08 19 29.9	+2.7
FNA	Florina	2.72	324	ePn	Pn	08 19 29.7	+1.2
FNA				eSn	Sn	08 20 00.2	-1.1
ALN	Alexandroupoli	3.02	40	ePn	Pn	08 19 32.9	+0.2
VAM	Vamos	3.24	170	ePN	Pn	08 19 37.5	+1.6

IDC 20 08:37:43.3±2.1, 5.56N×94.79E, h48km±8km, mb3.8/5, mb1 4.0/5, mb1mx3.6/20, mbtmp4.1/5, MS3.5/1, Ms1 3.5/1, ms1mx2.9/26, Error ellipse: s-maj=84.0km s-min=18.3km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	42.48	347	P	P	08 45 33.6	-1.8
	3.7nm,0.5s,baz=166,slow=8.1,SNR=37						
MKAR				pP	pP	08 45 46.5	-1.8
	0.9nm,0.5s,baz=163,slow=8.4,SNR=4.1						
SONM	Songino Array	43.28	11	P	P	08 45 41.0	-1.0
	1.0nm,0.8s,baz=196,slow=9.0,SNR=6.1						
SONM				pP	pP	08 45 53.0	-1.9
	1.2nm,0.8s,baz=192,slow=6.4,SNR=4.7						
WRA	Warramunga Arr	46.41	124	P	P	08 46 05.3	-2.0
	0.7nm,0.3s,baz=306,slow=8.4,SNR=9.5						
WRA				pP	pP	08 46 18.5	-1.9
	2.8nm,0.7s,baz=303,slow=9.2,SNR=7.6						
ZAL	Zalesovo	48.91	352	P	P	08 46 24.2	-2.2
	2.2nm,0.4s,baz=313,slow=4.8,SNR=3.4						
ZAL				pP	pP	08 46 37.0	-2.5
	1.2nm,0.3s,baz=220,slow=1.9,SNR=1.3						
BVAR	Borovoye Array	51.38	341	P	P	08 46 42.3	-2.9
	0.7nm,0.5s,baz=158,slow=8.0,SNR=5.5						
BVAR				pP	pP	08 46 56.7	-1.7
	1.2nm,0.6s,baz=129,slow=9.2,SNR=4.4						
ASAJ	Asahikawa	56.75	40	LR	LR	09 11 39.0	
	comp=Z,43nm,18.9s,baz=4.3,slow=36						

GUC 20 08:38:14.5±0.5, 22.81S×67.50W, h150km±9km, ML3.8, 1C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.32	278	⇑iP	P	08 38 43.3	+0.8
LVC				i S	S	08 39 05.3	+1.2
LVC				AMP		08 39 06.9	
	comp=E,221nm,0.7s						
ANCH	Antofagasta	2.81	251	⇓iP	P	08 39 00.8	+0.6
ANCH				i S	S	08 39 35.5	+0.4
ANCH				AMP		08 39 38.4	
	comp=N,567nm,0.1s						
CPN1	Cerro Paranal	3.21	235	eP	P	08 39 06.7	+1.4
CPN1				i S	S	08 39 46.7	+2.4
CPN1				AMP		08 39 51.9	
	comp=E,233nm,0.5s						
CRCH	Chaqaral	4.52	218	i S	S	08 40 16.4	+1.5
CPCH	Copiapo	5.21	209	i S	S	08 40 33.0	+1.7

*NEIC **20** 08:47:01.2, 38.45S×175.89E, h173km, MG4.2(WEL), After WEL.*

WEL 20 08:47:01.1±0.3, 38.45S×175.91E, h174km±2km, ML4.2/16, 20C-2D, Error ellipse: s-maj=1.7km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WHTZ	Whakaora	0.22	170	P	P	08 47 24.6	0.0
WHTZ	Whakaora	0.22	170	PN	P	08 47 24.5	-0.1
PATZ	Paeroa	0.28	75	P	P	08 47 24.8	0.0
PATZ	Paeroa	0.28	75	PN	P	08 47 24.8	0.0
WATZ	Wairara	0.29	208	P	P	08 47 24.6	-0.2
WATZ	Wairara	0.29	208	PN	P	08 47 24.7	-0.1
UTU	Utuhina	0.36	39	P	P	08 47 25.0	0.0
UTU	Utuhina	0.36	39	PN	P	08 47 24.9	-0.1
RATZ	Rangitukua	0.43	194	P	P	08 47 25.0	-0.3
RATZ	Rangitukua	0.43	194	⇑PN	P	08 47 25.0	-0.3

HATZ	Hinemaiaia	0.46	162	PN	P	08 47 25.1	-0.3
TAZ	Tarawera	0.52	65	P	P	08 47 24.9	-0.8
TAZ	Tarawera	0.52	65	PN	P	08 47 25.1	-0.6
RITZ	Rihia Road	0.53	184	P	P	08 47 25.8	+0.1
RITZ	Rihia Road	0.53	184	PN	P	08 47 25.8	+0.2
KATZ	Kakaramea	0.55	198	P	P	08 47 25.6	-0.2
KATZ	Kakaramea	0.55	198	PN	P	08 47 25.5	-0.2
WTVZ	West Tongariro	0.71	201	P	P	08 47 26.4	-0.1
WTVZ	West Tongariro	0.71	201	⇑PN	P	08 47 26.4	-0.2
TWVZ	Taurewa	0.72	211	P	P	08 47 26.3	-0.3
TWVZ	Taurewa	0.72	211	⇑PN	P	08 47 26.3	-0.3
OTVZ	Oturere	0.73	195	PN	P	08 47 26.5	-0.2
NGZ	Ngauruhoe	0.76	198	P	P	08 47 26.7	-0.1
NGZ	Ngauruhoe	0.76	198	PN	P	08 47 26.6	-0.2
CNZ	Chateau	0.80	201	P	P	08 47 26.7	-0.3
CNZ	Chateau	0.80	201	PN	P	08 47 26.6	-0.4
WPVZ	Whakapapa	0.80	201	P	P	08 47 27.1	0.0
WPVZ	Whakapapa	0.80	201	PN	P	08 47 27.1	0.0
HIZ	Hauiti	0.83	266	eP	P	08 47 26.7	-0.5
HIZ	Hauiti	0.83	266	⇑PN	P	08 47 26.7	-0.5
TUVZ	Tukino	0.84	194	P	P	08 47 27.3	0.0
TUVZ	Tukino	0.84	194	PN	P	08 47 27.3	+0.1
TUVZ				SN	S	08 47 47.2	-0.3
BKZ	Black Stump Fm	0.85	148	P	P	08 47 27.3	0.0
BKZ	Black Stump Fm	0.85	148	⇑PN	P	08 47 27.3	0.0
BKZ				SN	S	08 47 46.9	-0.7
FWVZ	Far West T-bar	0.85	199	P	P	08 47 27.1	-0.2
FWVZ	Far West T-bar	0.85	199	PN	P	08 47 27.1	-0.2
DRZ	Dome Shelter	0.86	198	P	P	08 47 27.6	+0.2
DRZ	Dome Shelter	0.86	198	PN	P	08 47 27.4	0.0
TRVZ	Turoa	0.89	198	⇑PN	P	08 47 27.6	0.0
WNVZ	Wahianoa	0.91	195	P	P	08 47 27.8	+0.1
WNVZ	Wahianoa	0.91	195	⇑PN	P	08 47 27.8	+0.1
PKVZ	Pokaka	0.94	208	⇑PN	P	08 47 27.7	-0.2
MOVZ	Moawhango	0.96	187	P	P	08 47 27.7	-0.3
MOVZ				S	S	08 47 47.3	-1.6
MOVZ	Moawhango	0.96	187	⇑PN	P	08 47 27.7	-0.3
MOVZ				SN	S	08 47 47.2	-1.6
URZ	Urewera	0.96	79	P	P	08 47 27.5	-0.6
URZ	Urewera	0.96	79	⇑PN	P	08 47 27.5	-0.6
URZ				SN	S	08 47 47.7	-1.2
MTVZ	Mangateitei	0.99	200	PN	P	08 47 28.1	-0.1
VRZ	Vera Road	1.12	233	P	P	08 47 28.8	-0.6
VRZ	Vera Road	1.12	233	PN	P	08 47 28.8	-0.5
MWZ	Matawai	1.28	85	eP	P	08 47 30.5	-0.3
MWZ				S	S	08 47 52.1	-1.7
MWZ	Matawai	1.28	85	⇓PN	P	08 47 30.5	-0.3
MWZ				SN	S	08 47 52.1	-1.7
WAZ	Wanganui	1.48	209	P	P	08 47 32.0	-0.8
WAZ	Wanganui	1.48	209	⇑PN	P	08 47 32.0	-0.8
KNZ	Kokohu	1.49	113	eP	P	08 47 32.9	+0.1
KNZ	Kokohu	1.49	113	PN	P	08 47 32.9	0.0
KNZ				SN	S	08 47 55.4	-2.0
TSZ	Takapari Road	1.60	179	P	P	08 47 33.3	-0.6
TSZ	Takapari Road	1.60	179	⇑PN	P	08 47 33.3	-0.6
TSZ				SN	S	08 47 59.1	-0.2
NEZ	North Egmont	1.63	239	P	P	08 47 33.7	-0.5
NEZ	North Egmont	1.63	239	PN	P	08 47 33.7	-0.6
PKE	Pukeiti	1.67	243	P	P	08 47 33.7	-0.9
PKE	Pukeiti	1.67	243	⇑PN	P	08 47 33.7	-0.9
PWZ	Pawanui	1.74	155	P	P	08 47 35.0	-0.3
PWZ				S	S	08 48 00.7	-1.0
PWZ	Pawanui	1.74	155	PN	P	08 47 35.0	-0.3
PWZ				SN	S	08 48 00.7	-1.0
NRZ	Ngariki Road	1.77	240	P	P	08 47 34.5	-1.2
NRZ	Ngariki Road	1.77	240	PN	P	08 47 34.5	-1.2
NWEZ	Newall Road	1.79	242	P	P	08 47 34.8	-1.0
NWEZ	Newall Road	1.79	242	PN	P	08 47 34.8	-1.0
MXZ	Matakaoa Point	2.09	66	eP	P	08 47 38.6	-0.5
MXZ				S	S	08 48 07.3	-1.2
MXZ	Matakaoa Point	2.09	66	PN	P	08 47 38.6	-0.6
MXZ				SN	S	08 48 07.3	-1.2
MRZ	Mangatainoka R	2.22	186	P	P	08 47 38.8	-1.8
MRZ	Mangatainoka R	2.22	186	⇑PN	P	08 47 38.8	-1.8
MRZ				SN	S	08 48 07.8	-3.3
BFZ	Birch Farm	2.24	173	eP	P	08 47 39.3	-1.6
BFZ	Birch Farm	2.24	173	PN	P	08 47 39.3	-1.5
BFZ				SN	S	08 48 08.5	-3.0
KIW	Kapiti Island	2.52	197	P	P	08 47 41.8	-2.5
KIW				S	S	08 48 13.3	-4.2
KIW	Kapiti Island	2.52	197	⇑PN	P	08 47 41.8	-2.5
KIW				SN	S	08 48 13.3	-4.2
MTW	Mount Morrison	2.72	186	P	P	08 47 43.8	-2.8
MTW	Mount Morrison	2.72	186	⇑PN	P	08 47 43.8	-2.8
CAW	Cannon Point	2.73	193	P	P	08 47 44.0	-2.7
CAW	Cannon Point	2.73	193	⇑PN	P	08 47 44.0	-2.7
DUWZ	D'Urville Isla	2.80	213	⇓PN	P	08 47 44.6	-3.0
MRW	Makara Radio	2.92	198	PN	P	08 47 46.1	-3.0
TRWZ	Traveller	2.95	183	PN	P	08 47 46.5	-2.8
PAWZ	Paruwai Farm	2.95	187	PN	P	08 47 46.3	-3.1
WEL	Wellington	2.96	197	P	P	08 47 46.5	-3.1
WEL	Wellington	2.96	197	PN	P	08 47 46.5	-3.1
SNZO	South Karori	3.00	198	P	P	08 47 46.8	-3.2
SNZO	South Karori	3.00	198	⇑PN	P	08 47 46.8	-3.2
MSWZ	Moikau Station	3.00	190	P	P	08 47 46.9	-3.1
MSWZ				S	S	08 48 22.5	-5.2
MSWZ	Moikau Station	3.00	190	⇑PN	P	08 47 46.9	-3.1
MSWZ				SN	S	08 48 22.5	-5.2
TCW	Tory Channel	3.03	204	P	P	08 47 47.3	-3.1
TCW	Tory Channel	3.03	204	⇑PN	P	08 47 47.3	-3.1
BHW	Baring Head	3.06	195	P	P	08 47 47.5	-3.3
BHW	Baring Head	3.06	195	PN	P	08 47 47.5	-3.2
TUWZ	Tuamarina	3.33	206	PN	P	08 47 50.5	-3.8
NNZ	Nelson	3.38	214	eP	P	08 47 50.8	-4.0
QRZ	Quartz Range	3.52	227	eP	P	08 47 51.9	-4.8
CMWZ	Cape Campbell	3.54	201	P	P	08 47 54.1	-2.7
BSWZ	Blackbirch Sta	3.61	205	P	P	08 47 54.2	-3.5
THZ	Tophouse	4.03	214	eP	P	08 47 58.6	-4.5
KHZ	Kahutara	4.35	204	P	P	08 48 03.4	-3.9
DSZ	Denniston Nort	4.55	222	eP	P	08 48 04.3	-5.6
CRLZ	Canterbury Las	5.69	205	eP	P	08 48 19.1	-5.6
MQZ	McQueen's Vall	5.80	204	eP	P	08 48 20.1	-6.0
WVZ	Waitaha Valley	6.06	219	eP	P	08 48 24.5	-5.1
RPZ	Rata Peaks	6.41	213	eP	P	08 48 28.9	-5.3
FOZ	Fox Glacier	6.94	221	eP	P	08 48 34.3	-6.9
LBZ	Lake Benmore	7.32	214	eP	P	08 48 39.8	-6.5
ODZ	Otahua Downs	7.67	209	eP	P	08 48 45.3	-5.6
JCZ	Jackson Bay	7.78	222	eP	P	08 48 46.4	-5.9
WKZ	Wanaka	8.19	217	eP	P	08 48 51.0	-6.8
EAZ	Earnscleugh	8.37	214	eP	P	08 48 53.4	-6.8
TUZ	Tuapeka	8.82	210	eP	P	08 49 01.0	-5.1

*ISK **20** 09:00:41.2, 37.01N×27.39E, h32km, MD3.0*
*ATH **20** 09:00:42.2, 36.89N×27.51E, h30km±1km, MD2.8/4*
*CSEM **20** 09:00:42.1±0.2, 36.91N×27.51E, h10km, MD3.0, Error ellipse: s-maj=3.5km s-min=2.3km az=37.0*
*NEIC **20** 09:00:42.6, 36.86N×27.50E, h29km, MD2.8(ATH), After ATH.*
ISC 20 09:00:41.7±0.8**, 36.83N**±0.04×**27.47E**±0.04**, h4**km±7km**, n13,** σ1s**04**/23**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.24	355	*i* P	Pg	09 00 45.8	-0.6
BDRM				*i* S	Sg	09 00 49.7	+0.1
BODT	Bodrum	0.27	331	*i* PG	Pg	09 00 47.3	+0.3
BODT				*i* SG	Sg	09 00 51.3	+0.8
NISR	Nisiros	0.35	232	ePB	Pb	09 00 51.5	+1.4
MLSB	Milas	0.52	28	*i* PG	Pg	09 00 50.9	-1.3
MLSB				*i* SG	Sg	09 00 58.4	-0.8
YER	Yerkesik	0.72	65	*i* PG	Pg	09 00 55.1	-0.9
YER				*i* SG	Sg	09 01 06.0	+0.5
ARG	Arkhangelos	0.81	139	ePN	Pn	09 00 59.0	-0.6
ARG				eSN	Sn	09 01 10.7	-1.5
DALT	Dalyan (Mudla)	0.94	93	PG	Pg	09 01 00.5	+0.2
DALT				SG	Sg	09 01 12.9	0.0
SMG	Samos	1.01	330	ePN	Pb	09 01 00.9	-0.5
SMG				eSN	Sn	09 01 14.9	-2.5
SMG	Samos	1.01	330	ePb	Pb	09 01 00.9	-0.5
SMG				eSn	Sn	09 01 16.2	-1.2
KARP	Karpathos	1.30	191	ePN	Pn	09 01 07.2	+0.5
DNZL	Cakiroluk	1.52	55	*i* P	Pn	09 01 11.9	+2.2
DNZL				*i* S	Sb	09 01 31.6	+1.9
APE	Apeiranthos	1.57	279	ePN	Pn	09 01 06.3	-4.3
URLA	Izmir	1.68	336	*i* P	Pn	09 01 12.2	+0.2
URLA				*i* S	Sb	09 01 38.3	+4.0

MAN 20 09:19:06.8, 10.77N×125.74E, h17km, mb3.9, ML2.7, MS2.3, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.88	340	eP	Pb	09 19 23.4	+0.3
BESP				eS	Sb	09 19 36.5	+2.1
SCPH	Surigao	1.01	194	eP	Pb	09 19 25.2	-0.3
SCPH				eS	Sb	09 19 53.2	+15
MSLP	Maasin	1.08	234	eP	Pb	09 19 25.8	-0.7
MSLP				eS	Sb	09 19 36.9	-3.2
CNP	Catarman	2.03	329	eP	Pn	09 19 40.1	-0.6
CNP				eS	Sn	09 20 07.0	+1.2

*CSEM **20** 09:44:17.0±0.1, 37.78N×25.44W, h0km, ML2.7, Error ellipse: s-maj=4.5km s-min=2.3km az=15.0, After PDA*
*PDA **20** 09:44:17.0±0.6, 37.78N×25.44W, h0km, MD2.4, ML2.7, Error ellipse: s-maj=0.7km s-min=0.6km az=39.0*
SVSA 20 09:44:17.0±0.6**, 37.78N×25.44W, h0km, MD2.4, ML2.7, Error ellipse: s-maj=0.7km s-min=0.6km az=39.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESC	Monte Escuro	0.02	349	*i* P	Pg	09 44 17.9	+0.5
VIF	Vila Franca	0.03	178	*i* P	Pg	09 44 18.2	+0.6
LFA	Lagoa do Fogo	0.03	266	*i* P	Pg	09 44 18.3	+0.6
PCNG	Congro	0.04	103	*i* P	Pg	09 44 18.3	+0.6
PCNG				*i* S	Sg	09 44 19.6	+1.4
PCNG	Congro	0.04	103	*i* S	Sg	09 44 19.6	+1.4
PMAT	Coroa da Mata	0.05	330	eP	Pg	09 44 18.3	+0.4
PMAT				eS	Sg	09 44 19.6	+1.0
PRCH	Ribeira Ch	0.06	213	eP	Pg	09 44 18.6	+0.5
PRCH				eS	Sg	09 44 19.9	+1.0
PVER	Pico Vermelho	0.06	291	eP	Pg	09 44 18.9	+0.7
PVER				eS	Sg	09 44 20.2	+1.1
FRA1	Furnas	0.07	116	eP	Pg	09 44 19.2	+0.7
CML	Cha da Macela	0.08	267	eP	Pg	09 44 19.6	+0.9
PFAD	Fenais da Ajud	0.11	56	eP	Pg	09 44 19.9	+0.6
PFAD				eS	Sg	09 44 22.3	+1.5
MIRA	Miradouro	0.13	85	eP	Pg	09 44 20.6	+1.0
MIRA				eS	Sg	09 44 23.6	+2.3
FAC	Faja de Cima	0.17	269	eP	Pg	09 44 21.6	+1.3
FAC				eS	Sg	09 44 24.3	+1.8
PSAN	Santo Antonio	0.24	289	eP	Pg	09 44 22.8	+1.0
PFET	Feteiras	0.28	279	eP	Pg	09 44 23.4	+0.8
SET2	Ginetes	0.30	283	eP	Pg	09 44 23.8	+0.9
PSMN	Pico do Norte,	0.83	159	eP	Pg	09 44 31.6	-1.9
PSMN				eS	Sg	09 44 42.2	-2.3
PSCM	Serra do Cume	1.61	306	eP	Pn	09 44 42.9	-3.9
PSCM				eS	Sb	09 45 02.0	-6.1
	49nm,0.2s						
PSCM	Serra do Cume	1.61	306	eP	Pn	09 44 42.9	-3.9
PSCM				eS	Sb	09 45 02.0	-6.1
	49nm,0.2s						
PSBA	Serra de Santa	1.78	304	erx		09 45 07.4	

*BJI **20** 10:48:40.3, 22.35N×120.58E, h25km, mb4.6, ML3.8, Ms4.2, Msz3.9*
*IDC **20** 10:48:40.3±1.0, 22.63N×120.75E, mb3.8/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/16, Error ellipse: s-maj=33.6km s-min=19.1km az=80.0*
*JMA **20** 10:48:44.8±0.3, 22.74N×120.88E, h116km, M3.7*
*NEIC **20** 10:48:45.1±0.8, 22.62N×120.88E, h35km, mb4.5/1, ML4.6(TAP), Error ellipse: s-maj=22.0km s-min=11.7km az=97.0*
NEIC Recorded [2 TAP] in Chia-i, T'ai-nan and T'ai-tung Counties.
ISC 20 10:48:42.5±0.6**, 22.68N**±0.05×**120.73E**±0.04**, h33km, n23,** σ1s**15**/31**, mb3.9**/6**, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	1.68	28	eP	P	10 49 10.3	+0.4
TATO	Taipei	2.39	17	eP	P	10 49 23.7	+3.7
YOJ	Yonaguni jima	2.74	49	P	P	10 49 26.4	+1.3
YOJ				eS	S	10 49 58.0	+0.6
QZH	Quanzhou	2.98	319	P	P	10 49 28.8	+0.3
QZH				S	S	10 50 00.6	-3.0
QZH				Smax			
	comp=N,320nm,0.8s						
QZH				Smax			
	comp=E,320nm,0.6s						
HATJ	Hateruma jima	3.14	64	P	P	10 49 31.7	+1.0
HATJ				S	S	10 50 06.8	-0.7
IRIF	Iriomote-Funau	3.21	59	P	P	10 49 32.7	+1.0
IRIF				S	S	10 50 09.1	-0.1
JKRS	Kuro-shima	3.38	62	P	P	10 49 34.6	+0.4
JKRS				eS	S	10 50 13.9	+0.1
JIJ	Ishigaki jima	3.55	61	P	P	10 49 36.7	+0.1
JIJ				eS	S	10 50 16.3	-1.7
JTJ	Tarama	4.13	61	P	P	10 49 44.7	-0.1
JTJ				eS	S	10 50 31.8	-0.8
JOGS	Gusukube	4.76	63	P	P	10 49 54.1	+0.4
JKE	Kume jima 2	6.60	55	P	P	10 50 18.7	-1.0
GZH	Guangzhou	6.82	275	P	P	10 50 20.3	-2.5
JOW	Kunigami	8.00	57	Pn	P	10 50 36.6	-2.6
	comp=E,2.4nm,0.3s,baz=162,slow=8.1,SNR=9.9						
JOW	Kunigami	8.00	57	P	P	10 50 36.6	-2.6
NJ2	Nanjing	9.48	350	eP	P	10 51 01.6	+1.9
NJ2				AP		10 51 05.9	
NJ2				XP		10 51 08.8	
NJ2				S	S	10 52 45.3	-1.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,340nm,5.4s						
NJ2				Smax			
	comp=N,120nm,0.7s						
NJ2				Smax			
	comp=E,140nm,0.8s						
NJ2				LR	LR		
	comp=N,1μm,14.7s						
NJ2				LR	LR		
	comp=E,750nm,14.2s						
NJ2				LR	LR		
	comp=Z,860nm,14.1s						
MJAR	Matsushiro Arr	20.49	44	P	P	10 53 21.4	+1.3
	comp=Z,2.2nm,0.6s,baz=232,slow=9.3,SNR=9.9						
MJAR				LR	LR	11 01 29.1	
	comp=Z,45nm,18.4s,baz=185,slow=37						
MJAR	Matsushiro Arr	20.49	44	P	P	10 53 21.4	+1.3
MJAR				LR	LR	11 01 29.1	
SONM	Songino Array	27.60	339	P	P	10 54 29.3	+0.5
	comp=Z,0.3nm,0.5s,mb3.2,baz=180,slow=4.3,SNR=3.0						
MKAR	Makanchi Array	39.14	317	P	P	10 56 10.5	+2.0
	comp=Z,0.6nm,0.7s,mb3.4,baz=111,slow=10.0,SNR=4.0						
FITZ	Fitzroy Crossi	40.82	173	P	P	10 56 22.8	+0.1
	comp=Z,9.5nm,1.0s,mb4.4,baz=339,slow=8.3,SNR=5.5						
WRAB	Tennant Creek	44.39	162	P	P	10 56 50.3	-1.6
	comp=Z,10.0nm,1.1s,mb4.5						
WRA	Warramunga Arr	44.40	162	P	P	10 56 52.1	+0.1
	comp=Z,0.6nm,0.3s,mb3.8,baz=341,slow=8.4,SNR=28						
STKA	Stephens Creek	57.81	159	P	P	10 58 33.4	+0.2
	comp=Z,0.6nm,0.4s,mb4.0,baz=291,slow=17,SNR=3.1						

*IDC **20** 10:54:46.2±1.0, 35.09N×77.77E, mb4.1/8, mb1 4.2/9, mb1mx4.0/20, mbtmp4.1/9, ML4.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/19, Error ellipse: s-maj=32.5km s-min=19.9km az=37.0*
*BJI **20** 10:54:48.3, 35.29N×77.83E, h9km, mb4.2, ML4.3*
*NEIC **20** 10:54:49.5±0.5, 35.34N×77.79E, h10km, mb4.2/4, Error ellipse: s-maj=16.0km s-min=5.4km az=59.0*
*MOS **20** 10:54:50.2±1.4, 35.30N×77.85E, h33km, mb4.6/4, Error ellipse: s-maj=16.4km s-min=6.1km az=106.9*
*NNC **20** 10:54:53.3±2.2, 35.81N×77.79E, h15km±30km, mpv4.4, Error ellipse: s-maj=40.0km s-min=11.8km az=170.0*
*DMN **20** 10:55:55.7±28.0, 31.52N×81.57E, h10km, Mb4.9/1, Error ellipse: s-maj=754.9km s-min=47.6km az=144.0*
ISC 20 10:54:46.8±1.2**, 35.41N**±0.03×**77.99E**±0.05**, h5**km±8km**, n63,** σ1s**20**/73**, mb4.1**/11**, MS3.0**/1**, 8C-2D, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	3.32	211	ePB	Pb	10 55 47.0	+1.2
DLH				eSB	Sb	10 56 34.0	+7.3
THN	Thein Dam	3.52	213	ePB	Pb	10 55 48.1	-1.2
THN				eSB	Sb	10 56 38.8	+6.2
PONG	Pong	3.84	207	e	Pn	10 56 00.0	+12
SDNR	Sundarnagar	3.99	193	ePB	Pb	10 55 59.0	+1.6
SDNR				eSB	Sb	10 56 53.0	+6.7
BHK	Bhakra	4.19	199	ePG	Pg	10 56 10.5	0.0
BHK				e		10 56 57.1	
CHCP	Chirah Chowk	4.27	247	P	Pn	10 55 55.1	+1.1
CHCP				S	Sn	10 56 46.0	+1.1
SMLA	Simla	4.33	189	*i* P	Px	10 56 09.3	
SMLA				*i* S	Sx	10 57 01.0	
KSH	Kashi	4.40	339	eP	Pn	10 56 01.3	+5.5
KSH				S	Sn	10 56 55.4	+7.2
KSH				Smax			
	comp=N,630nm,1.4s						
KSH				Smax			
	comp=E,290nm,0.6s						
THW	Thamme Wali	5.80	245	P	Pn	10 56 14.2	-1.4
NDI	New Delhi	6.74	186	eP	Pn	10 56 34.0	+5.2
NDI				eS	Sn	10 57 47.0	+0.2
AYAN	Aya Nagar	6.95	186	eP	Pn	10 56 30.4	-1.4
AYAN				AMb	AMB	10 56 37.1	
	comp=Z,2.2nm,0.9s						
SONA	Sohna	7.18	186	*i* P	Pn	10 56 33.8	-1.2
SONA				AMb	AMB	10 56 42.1	
	comp=Z,16nm,0.4s						
SONA				eS	Sn	10 57 51.2	-6.7
KHET	Khetri	7.54	195	eP	Pn	10 56 38.0	-2.2
KHET				AMb	AMB	10 56 48.8	
	comp=Z,11nm,0.5s						
KHET				eS	Sn	10 58 00.6	-6.4
AAK	Ala-Archa	7.71	340	⇑Pn	Pn	10 56 39.1	-3.3
	comp=Z,22nm,0.9s						
AAK				⇑Lg		10 58 45.8	
	comp=Z,69nm,1.1s						
AAK	Ala-Archa	7.71	340*d*	*i*P	Pn	10 56 44.5	+2.1
AAK	Ala-Archa	7.71	340	eP	Pn	10 56 44.1	+1.7
	comp=Z,18nm,0.7s						
FRU	Bishkek	7.86	342	eP	Pn	10 56 48.0	+3.4
FRU				pmax	pmax		
	comp=Z,50nm,1.9s						
FRU				pmax	pmax		
	comp=E,240nm,2.0s						
KOLN	Koldanda	8.99	146	eP	P	10 57 00.8	+0.5
	comp=E,38nm,0.5s						
GKN	Gorkha	9.30	141	eP	P	10 57 04.5	-0.1
	comp=E,65nm,0.4s						
KK31	Karatay Array	9.62	325	Pn	P	10 57 07.6	-1.3
	comp=E,1.2nm,0.3s,baz=138,slow=13,SNR=38						
KK31				⇑Sn	Sn	10 58 54.8	-3.8
	comp=E,3.4nm,0.5s,baz=149,slow=24,SNR=4.4						
KKAR	Karatay Array	9.62	325	*i* P	P	10 57 07.6	-1.3
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KKN	Kakani	9.81	139	eP	P	10 57 10.9	-0.7
	comp=Z,50nm,0.5s						
KKN	Kakani	9.81	139	eP	P	10 57 10.9	-0.7
KKN				pmax	pmax		
	comp=Z,25nm,0.5s						
DMN	Daman	9.87	140	eP	P	10 57 12.7	+0.3
	comp=Z,32nm,0.6s						
GUN	Gumba	10.05	136	eP	P	10 57 16.0	+1.1
PKI	Pulchoki	10.06	139	eP	P	10 57 15.4	+0.4
	comp=Z,32nm,0.5s						
PKI	Pulchoki	10.06	139	eP	P	10 57 15.4	+0.4
PKI				pmax	pmax		
	comp=Z,16nm,0.5s						
WMQ	Urumqi	11.24	39	P	P	10 57 36.8	+5.6
WMQ				S	S	10 59 38.4	0.0
MK31	Makanchi Array	11.82	15	Pn	P	10 57 39.0	-0.1
	comp=Z,1.4nm,0.4s,baz=194,slow=13,SNR=23						
MK31				⇑Sn	S	10 59 50.5	-2.0
	comp=Z,23nm,1.0s						
MKAR	Makanchi Array	11.82	15	Pn	P	10 57 38.9	-0.2
	comp=Z,1.0nm,0.3s,baz=202,slow=14,SNR=20						
KURK	Kurchatov	15.30	2	P	P	10 58 25.9	+0.9
GTA	Gaotai	17.79	71	eP	P	10 59 01.3	+4.7
GTA				AP		10 59 08.6	
GTA				XP		10 59 12.1	
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s						
VOSK	Vostochnaya	18.01	346	⇑P	P	10 59 00.5	+1.2
	comp=Z,1.9nm,0.6s						
VOSK	Vostochnaya	18.01	346	P	P	10 59 00.5	+1.2
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVA0	Borovoye Array	18.41	345	⇓P	P	10 59 04.7	+0.3
	comp=Z,0.6nm,0.6s						
BVAR	Borovoye Array	18.41	345	P	P	10 59 05.4	+1.0
	comp=Z,0.8nm,0.3s,baz=157,slow=11,SNR=24						
BRVK	Borovoye	18.47	345	eP	P	10 59 06.5	+1.5
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRVK	Borovoye	18.47	345	eP	P	10 59 06.5	+1.5
	comp=Z,4.6nm,0.8s						
ZRNK	Zerenda	18.66	343	⇑P	P	10 59 07.5	+0.2
	comp=Z,3.8nm,0.6s						
ZRNK	Zerenda	18.66	343	eP	P	10 59 08.1	+0.8
ZRNK				pmax	pmax		
	comp=Z,80nm,0.8s						
ZRNK	Zerenda	18.66	343	eP	P	10 59 08.1	+0.7
	comp=Z,80nm,0.8s						
AB31	Akbulak array	19.15	322	P	P	10 59 11.1	-2.2
	comp=Z,4.6nm,0.8s,baz=131,slow=9.3,SNR=25						
NVS	Novosibirsk	19.77	9	eP	P	10 59 19.3	-1.1
NVS				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ZAK	Zakamensk	23.66	43	eP	P	11 00 02.6	+2.9
SONM	Songino Array	24.45	51	P	P	11 00 10.9	+3.5
	comp=Z,5.2nm,0.5s,mb4.2,baz=246,slow=9.6,SNR=38						
ARU	Arti	24.82	334	⇑*i*P	P	11 00 11.2	+0.3
ARU				e		11 00 46.2	
ARU				ePPP	PPP	11 00 55.2	-3.3
ARU				eS	S	11 04 36.2	+5.0
ARU				eSS	SS	11 05 29.8	+1.6
ARU				eSSS	SSS	11 05 44.4	+0.1
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
ARU	Arti	24.82	334	P	P	11 00 09.7	-1.3
	comp=Z,9.0nm,0.8s,mb4.3						
ULN	Ulaanbaatar	24.88	51*c*	*i*P	P	11 00 01.8	-10
KIV	Kislovodsk	28.30	298	eP	P	11 00 45.3	+2.2
KIV				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
SOC	Sochi	30.42	297	eP	P	11 01 01.0	-1.1
SOC				e		11 02 03.1	
SOC				eS	S	11 06 04.1	+1.8
SOC				eSS	SS	11 07 56.1	+15
SOC				pmax	pmax		
	comp=N,13nm,0.7s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.7s						
SOC				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.7						
ANN	Anapa	32.12	299	eP	P	11 01 06.3	-11
BRTR	Keskin Array B	35.15	291	P	P	11 01 42.2	-1.0
	comp=Z,1.5nm,0.6s,mb4.1,baz=121,slow=8.4,SNR=6.3						
AKASG	Malin Array Be	38.04	309	P	P	11 02 06.7	-0.9
	comp=Z,0.7nm,0.4s,mb3.7,baz=76,slow=7.3,SNR=4.0						
FINES	FINESS Array B	41.58	325	P	P	11 02 36.8	+0.1
	comp=Z,1.0nm,0.3s,mb3.9,baz=124,slow=9.7,SNR=11						
ARCES	ARCESS Array B	44.36	336	P	P	11 02 59.7	+0.4
	comp=Z,4.3nm,0.9s,mb4.2,baz=106,slow=7.9,SNR=8.3						
ARCES	ARCESS Array B	44.36	336	P	P	11 02 59.7	+0.4
GERES	GERESS Array B	48.15	307	LR	LR	11 26 07.3	
	comp=Z,19nm,21.8s,MS3.0,baz=111,slow=39						
NB2	NORSAR Subarra	48.65	323	P	P	11 03 34.6	+1.4
	comp=Z,0.7nm,0.6s,mb3.9,baz=91,slow=7.9						
NB2	NORSAR Subarra	48.65	323	P	P	11 03 34.6	+1.4
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NOA	NORSAR Array B	48.65	323	P	P	11 03 32.7	-0.5
	comp=Z,1.0nm,0.7s,mb4.0,baz=91,slow=7.6,SNR=3.9						
INK	Inuvik	73.95	12	P	P	11 06 23.4	-0.8
	comp=Z,1.1nm,0.5s,mb4.1,baz=294,slow=10.0,SNR=2.1						
WRA	Warramunga Arr	76.69	126	P	P	11 06 40.1	-0.7
	comp=Z,1.0nm,0.8s,mb3.8,baz=314,slow=7.0,SNR=14						
VNDA	Vanda	122.96	165	PKP	PKPdf	11 13 40.3	-5.4
	comp=Z,0.5nm,0.5s,baz=34,slow=3.6,SNR=2.7						

*CSEM **20** 11:16:02.6±0.1, 37.78N×25.45W, h1km, ML2.8, Error ellipse: s-maj=5.4km s-min=2.7km az=8.0, After PDA*

*PDA **20** 11:16:02.6±0.9, 37.78N×25.45W, h1km±1km, MD2.6, ML2.8, Error ellipse: s-maj=1.4km s-min=0.9km az=66.0*

SVSA 20 11:16:02.6±0.9**, 37.78N×25.45W, h1**km±1km**, MD2.6, ML2.8, Error ellipse: s-maj=1.4km s-min=0.9km az=66.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESC	**Monte Escuro**	**0.02**	**4**	*i* P	Pg	11 16 03.5	+0.5
LFA	**Lagoa do Fogo**	**0.03**	**261**	*i* P	Pg	11 16 03.9	+0.7
VIF	**Vila Franca**	**0.03**	**170**	*i* P	Pg	11 16 03.9	+0.6
VIF				*i* S	Sg	11 16 04.8	+1.1
VIF	**Vila Franca**	**0.03**	**170**	*i* S	Sg	11 16 04.8	+1.1
PCNG	**Congro**	**0.04**	**104**	*i* P	Pg	11 16 04.0	+0.6
PCNG				*i* S	Sg	11 16 05.4	+1.4
PCNG	**Congro**	**0.04**	**104**	*i* S	Sg	11 16 05.4	+1.4
PMAT	**Coroa da Mata**	**0.04**	**334**	*i* P	Pg	11 16 04.0	+0.5
	6μm,0.2s						
PRCH	**Ribeira Ch**	**0.06**	**208**	*i* P	Pg	11 16 04.2	+0.5
PRCH				*i* S	Sg	11 16 05.7	+1.2
PRCH	**Ribeira Ch**	**0.06**	**208**	*i* S	Sg	11 16 05.7	+1.2
PVER	**Pico Vermelho**	**0.06**	**291**	*i* P	Pg	11 16 04.6	+0.9
PVER				*i* S	Sg	11 16 05.8	+1.3
PVER	**Pico Vermelho**	**0.06**	**291**	*i* S	Sg	11 16 05.8	+1.3
CML	**Cha da Macela**	**0.08**	**266**	*i* P	Pg	11 16 05.3	+1.1
CML				*i* S	Sg	11 16 07.0	+1.8
FRA1	**Furnas**	**0.08**	**115**	*i* P	Pg	11 16 05.0	+0.8
PFAD	**Fenais da Ajud**	**0.12**	**58**	*i* P	Pg	11 16 05.7	+0.8
PFAD				*i* S	Sg	11 16 07.9	+1.4
MIRA	**Miradouro**	**0.13**	**86**	*i* P	Pg	11 16 06.3	+1.0
MIRA				*i* S	Sg	11 16 09.3	+2.2
FAC	**Faja de Cima**	**0.16**	**269**	*e*P	Pg	11 16 06.8	+1.0
FAC				*i* S	Sg	11 16 09.8	+1.8
PSAN	**Santo Antonio**	**0.23**	**289**	*e*P	Pg	11 16 08.5	+1.2
PFET	**Feteiras**	**0.27**	**279**	*e*P	Pg	11 16 09.1	+1.0
SET2	**Ginetes**	**0.29**	**283**	*e*P	Pg	11 16 09.4	+1.0
SET4	**Mosteiros**	**0.29**	**289**	*e*P	Pg	11 16 09.3	+0.8
PSMN	**Pico do Norte,**	**0.83**	**158**	*e*P	Pg	11 16 17.3	-1.9
PSMN				*e*S	Sg	11 16 28.1	-2.1
PFAV	**Pico das Favas**	**1.59**	**306**	*e*S	Sb	11 16 47.7	-5.4
PSCM	**Serra do Cume**	**1.61**	**306**	*e*P	Pn	11 16 27.7	-4.6
PSCM				*e*S	Sb	11 16 47.6	-5.9
	49nm,0.3s						
PSCM	**Serra do Cume**	**1.61**	**306**	*e*P	Pn	11 16 27.7	-4.6
PSCM				*e*S	Sb	11 16 47.6	-5.9
	49nm,0.3s						
RIB2	**Ribeirinha**	**1.63**	**304**	*e*S	Sb	11 16 47.7	-6.4
	20nm,0.2s						
ADH	**Angra Heroismo**	**1.66**	**302**	*e*rx		11 16 18.3	
ASBA	**Santa Barbara**	**1.75**	**303**	*e*S	Sn	11 16 51.5	-6.2
	17nm,0.1s						
PSBA	**Serra de Santa**	**1.78**	**304**	*e*rx		11 16 22.5	

IDC 20 11:42:41.4±1.2**, 3.59N×127.25E, mb3.9**/6**, mb1 4.1**/6**, mb1mx3.9**/19**, mbtmp4.0**/6**, 1D, Error ellipse: s-maj=87.1km s-min=17.3km az=71.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.61**	**184**	P	P	11 47 34.7	-0.6
	4.8nm,0.5s,baz=16,slow=12,SNR=10						
WRA	**Warramunga Arr**	**24.40**	**164**	P	P	11 48 01.2	-1.6
	4.1nm,0.5s,baz=342,slow=11,SNR=56						
WB2	**Warramunga Arr**	**24.41**	**164**	⇓*i*P	P	11 48 00.9	-1.9
STKA	**Stephens Creek**	**37.82**	**160**	P	P	11 49 59.5	-2.0
	3.9nm,0.7s,baz=336,slow=7.7,SNR=7.9						
SONM	**Songino Array**	**47.59**	**341**	P	P	11 51 19.4	-1.5
	0.2nm,0.3s,baz=135,slow=6.1,SNR=3.5						
MKAR	**Makanchi Array**	**57.96**	**325**	P	P	11 52 35.8	-2.3
	0.5nm,0.4s,baz=121,slow=8.1,SNR=18						
BVAR	**Borovoye Array**	**67.72**	**327**	P	P	11 53 40.2	-2.6
	0.4nm,0.4s,baz=108,slow=9.1,SNR=3.6						

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*NIED **20** 12:14:00, 35.60N×139.40E, h38km, Mw3.6 Best double couple: M0 3.05×10^14 NP1:φs52°, δ87°, λ86°. NP2:φs286°, δ5°, λ144°.*

*JMA **20** 12:14:36.3±0.1, 35.65N×139.41E, h33km±1km, M3.4 Broadband fault plane solution: P waves. NP1:φs290°, δ31°, λ152°. NP2:φs45°, δ76°, λ62°. Principal axes: T Plg51°, Azm283°; N Plg27°, Azm52°; P Plg26°, Azm156°;*

JMA Felt III J1.

ISC 20 12:14:36.1±0.6**, 35.60N**±0.03**×139.47E**±0.05**, h31**km±4km**, n12, σ0s77**/22**, 4C-4D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.25**	**70**	⇑P	**Pb**	**12 14 43.8**	**+0.9**
TOK				*e*S	**Sn**	**12 14 50.0**	**+1.8**
JHU	**Hanno**	**0.29**	**328**	⇓P	**Pb**	**12 14 43.2**	**-0.3**
JHU				S	**Sb**	**12 14 48.4**	**-0.2**
JOD2	**Odawara 2**	**0.46**	**223**	⇓P	**Pb**	**12 14 45.8**	**-0.1**
JOD2				S	**Sb**	**12 14 53.2**	**+0.5**
JRY	**Ryogami san**	**0.62**	**312**	⇓P	**Pn**	**12 14 47.5**	**-1.2**
JYN	**Shimob**	**0.76**	**262**	⇑P	**Pn**	**12 14 50.1**	**-0.7**
JYN				*e*S	**Sn**	**12 15 01.4**	**+0.1**
JAG	**Ashikaga**	**0.82**	**359**	⇓P	**Pn**	**12 14 51.0**	**-0.6**
JAG				S	**Sn**	**12 15 02.1**	**-0.6**
JIM2	**Oshima 3**	**0.88**	**182**	P	**Pn**	**12 14 51.3**	**-1.2**
JIM2				S	**Sn**	**12 15 04.2**	**-0.1**
JIZS	**Izushimoda**	**1.01**	**209**	P	**Pn**	**12 14 53.8**	**-0.5**
JIZS				*e*S	**Sn**	**12 15 07.7**	**+0.2**
SHZ3	**Shizuoka 3**	**1.16**	**243**	⇑P	**Pn**	**12 14 56.7**	**+0.2**
SHZ3				*e*S	**Sn**	**12 15 12.6**	**+1.2**
BSO3	**Boso 3**	**1.17**	**133**	P	**Pn**	**12 14 55.9**	**-0.6**
JKT	**Katashina**	**1.18**	**351**	⇑P	**Pn**	**12 14 56.5**	**-0.2**
JKT				S	**Sn**	**12 15 11.8**	**0.0**
MAT	**Matsushiro**	**1.39**	**313**	P	**Pn**	**12 15 00.1**	**+0.4**
MAT				S	**Sn**	**12 15 18.5**	**+1.3**

MAN 20 12:54:45.7, 15.02N×120.22E, h6km**, mb4.4, ML3.2, MS3.0, 2C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBP	**Mount Natib**	**0.34**	**146**	*i* P	Pg	12 54 52.7	+0.2
SCZP	**Santa Cruz**	**0.81**	**338**	*e*P	Pb	12 55 02.0	+0.2
SCZP				*e*S	Sg	12 55 15.1	+2.5
NZB	**Bigte**	**0.86**	**101**	*e*P	Pb	12 55 01.9	-0.8
QVPH	**Quezon City--P**	**0.89**	**115**	⇓*e*P	Pb	12 55 03.1	-0.1
QVPH				*e*S	Sb	12 55 15.6	+0.6
PCPH	**Palayan**	**1.00**	**57**	⇓*e*P	Pb	12 55 04.3	-0.7
PCPH				*e*S	Sb	12 55 17.3	-0.9
ARP	**Angono**	**1.02**	**118**	*e*P	Pb	12 55 04.3	-1.0
TGY	**Tagaytay City**	**1.15**	**143**	⇑*e*P	Pb	12 55 01.0	-6.6
LBPH	**Los Banos**	**1.27**	**133**	*e*P	Pb	12 55 08.7	-0.9
LUBP	**Lubang**	**1.28**	**179**	*e*P	Pb	12 55 09.2	-0.7
LUBP				*e*S	Sb	12 55 28.6	+2.1
BOLP	**Bolinao**	**1.38**	**348**	*e*P	Pb	12 55 10.7	-0.8
BOLP				*e*S	Sb	12 55 28.1	-1.2
BCPH	**Baguio City Da**	**1.39**	**14**	⇑*i*P	Pn	12 55 11.2	-0.6
BCPH				*i* S	Sb	12 55 20.7	-9.0
BALP	**Baler**	**1.49**	**61**	*e*P	Pn	12 55 12.7	-0.4
BALP				*e*S	Sb	12 55 31.5	-0.9
POLP	**Polilio Island**	**1.68**	**100**	*e*P	Pn	12 55 15.8	-0.1
POLP				*e*S	Sn	12 55 40.1	+2.1
CAUP	**Cauayan**	**2.45**	**39**	*e*P	Pn	12 55 27.2	+0.3
SJMP	**San Jose**	**2.69**	**161**	*e*P	Pn	12 55 30.8	+0.4
SJMP				*e*S	Sn	12 56 01.4	-2.3
APYP	**Conner**	**2.99**	**19**	*e*P	Pn	12 55 37.3	+2.8
APYP				*e*S	Sn	12 56 14.7	+3.6
BUSP	**Coron**	**3.00**	**180**	*e*P	Pn	12 55 28.4	-6.3
BUSP				*e*S	Sn	12 56 08.9	-2.6

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*NIED **20** 13:06:00, 24.70N×122.30E, h32km, Mw5.3 Best double couple: M0 9.46×10^16 NP1:φs237°, δ85°, λ170°. NP2: φs328°, δ80°, λ5°.*

*IDC **20** 13:06:01.5±0.4, 24.68N×122.17E, mb4.7/20, mb1 4.7/24, mb1mx4.7/27, mbtmp4.7/24, ML4.1/4, MS4.7/20, Ms1 4.7/20, ms1mx4.6/33, Error ellipse: s-maj=16.2km s-min=10.9km az=65.0*

*JMA **20** 13:06:02.9±0.3, 24.74N×122.33E, h33km, M5.6*

JMA Felt I J1.

*HRVD **20** 13:06:02.9±0.2, 24.72N×122.25E, h13km±1km, MW5.2/66, Centroid moment Tensor Solution. LP body waves: s46, c79; Mantle waves: s66, c132; Half duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.08±.02; Mθθ0.93±.02; Mφφ-0.84±.02; Mrθ0.20±.05; Mθφ-0.19±.02; Mφr0.07±.04; Best double couple: M0 .929×10^17 NP1: φs141°, δ78°, λ2°. NP2:φs51°, δ88°, λ168°. Principal axes: T .981, Plg10°, Azm6°; N -.103, Plg77°, Azm220°; P -.878, Plg7°, Azm97°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **20** 13:06:02.9±1.2, 24.72N×122.34E, h12km±7km, mb5.1/49, MS4.9/12, ML5.4(TAP) Error ellipse: s-maj=6.2km s-min=5.5km az=98.0*

NEIC Recorded [3 TAP] in Hua-lien and I-lan; [2 TAP] in T'ai-pei; [1 TAP] in Hsin-chu, Miao-li and T'ao-yuan Counties. Recorded [1 JMA] on Yonaguni-jima, Ryukyu Islands.

*BJI **20** 13:06:04.5, 25.07N×122.24E, h9km, mB5.3, mb5.0, ML5.4, Ms5.5, Msz5.3*

*MOS **20** 13:06:04.8±1.6, 24.78N×122.31E, h33km, mb5.2/40, MS5.1/23, Error ellipse: s-maj=9.4km s-min=5.8km az=109.7*

ISC 20 13:06:02.8±0.6**, 24.71N**±0.02**×122.35E**±0.02**, h22**km±4km**, h19**km±2.6km**:pP-P, n291, σ1s22**/289**, mb5.1**/90**, MS5.0**/47**, 16C-9D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.66**	**112**	P	**Pb**	**13 06 15.8**	**+0.3**
YOJ				*e*S	**Sb**	**13 06 24.8**	**+0.7**
TATO	**Taipei**	**0.82**	**289**	⇓*i*P	**Pb**	**13 06 18.7**	**+0.4**
NACB	**Ninganchiao**	**0.87**	**232**	*e*P	**Pb**	**13 06 19.1**	**0.0**
IRIF	**Iriomote-Funau**	**1.31**	**106**	P	**Pn**	**13 06 25.5**	**-0.7**
IRIF				*e*S	**Sb**	**13 06 43.4**	**+0.3**
HATJ	**Hateruma jima**	**1.48**	**116**	P	**Pn**	**13 06 28.4**	**-0.1**
HATJ				*e*S	**Sn**	**13 06 48.0**	**+0.6**
JKRS	**Kuro-shima**	**1.59**	**107**	P	**Pn**	**13 06 29.8**	**-0.3**
JKRS				S	**Sn**	**13 06 50.4**	**+0.3**
JIJ	**Ishigaki jima**	**1.67**	**102**	P	**Pn**	**13 06 30.3**	**-1.0**
JIJ				*e*S	**Sn**	**13 06 53.7**	**+1.5**
JTJ	**Tarama**	**2.15**	**91**	P	**Pn**	**13 06 37.8**	**-0.2**
JMJ	**Miyako jima 2**	**2.68**	**87**	P	**Pn**	**13 06 46.4**	**+0.7**
JOGS	**Gusukube**	**2.78**	**88**	P	**Pn**	**13 06 47.4**	**+0.2**
QZH	**Quanzhou**	**3.42**	**275**	P	**Pn**	**13 06 55.3**	**-0.9**
QZH				S	**Sn**	**13 07 35.3**	**-1.2**
QZH				Smax			
	comp=N,15μm,1.4s						
QZH				Smax			
	comp=E,7μm,1.4s						
QZH				LR	LR		
	comp=N,52μm,11.0s						
QZH				LR	LR		
	comp=E,61μm,14.2s						
QZH				LR	LR		
	comp=Z,52μm,8.8s						
BBP	**Basco**	**4.26**	**185**	*e*P	**Pn**	**13 07 06.6**	**-1.6**
BBP				*e*S	**Sn**	**13 07 47.7**	**-10**
JKE	**Kume jima 2**	**4.32**	**67**	P	**Pn**	**13 07 09.2**	**+0.2**
JAGN	**Aguni-jima**	**4.80**	**66**	P	**Pn**	**13 07 16.8**	**+1.0**
NAH1	**Naha**	**5.05**	**72**	P	**Pn**	**13 07 23.9**	**+4.5**
JJT2	**Tamagusuku 2**	**5.09**	**73**	P	**Pn**	**13 07 20.0**	**+0.2**
JIH	**Iheya**	**5.57**	**64**	P	**Pn**	**13 07 27.1**	**+0.5**
JOW	**Kunigami**	**5.75**	**67**	Pn	**Pn**	**13 07 28.9**	**-0.2**
	comp=Z,24nm,0.3s,baz=229,slow=9.6,SNR=92						
SSE	**Sheshan**	**6.44**	**351**	⇓P	**Pn**	**13 07 35.5**	**-3.4**
SSE				S	**Sn**	**13 08 49.8**	**-2.8**
SSE				AMB	AMB		
	comp=Z,142nm,0.7s						
SSE				AMB	AMB		
	comp=Z,207nm,3.5s						
SSE				Smax			
	comp=N,634nm,1.4s						
SSE				Smax			
	comp=E,1μm,1.5s						
SSE				LR	LR		
	comp=N,7μm,14.7s						
SSE				LR	LR		
	comp=E,22μm,14.8s						
SSE				LR	LR		
	comp=Z,16μm,15.2s						
SGCP	**Mt. Cagua**	**6.44**	**183**	*e*P	**Pn**	**13 07 37.0**	**-2.0**
SGCP				*e*S	**Sn**	**13 08 39.8**	**-13**
JTK	**Tokunoshima**	**6.67**	**61**	P	**Pn**	**13 07 41.3**	**-0.9**
APYP	**Conner**	**6.89**	**189**	*e*P	**Pn**	**13 07 45.2**	**-0.1**
APYP				*e*S	**Sn**	**13 08 53.0**	**-11**
ABRA	**Dolores**	**7.19**	**193**	*e*P	**Pn**	**13 07 49.2**	**-0.3**
ABRA				*e*S	**Sn**	**13 09 07.7**	**-3.6**
JAM	**Amami Oshima**	**7.47**	**59**	P	**Pn**	**13 07 52.4**	**-1.0**
CAUP	**Cauayan**	**7.75**	**184**	*e*P	**Pn**	**13 07 58.2**	**+1.0**
NJ2	**Nanjing**	**7.93**	**338**	*e*P	**Pn**	**13 07 55.3**	**-4.5**
NJ2				AP		13 07 59.3	
NJ2				XP		13 08 02.3	
NJ2				S	**Sn**	**13 09 26.0**	**-3.8**
NJ2				XS		13 09 31.6	
NJ2				AMB	AMB		
	comp=Z,70nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,190nm,7.2s						
NJ2				Smax			
	comp=N,4μm,1.1s						
NJ2				Smax			
	comp=E,3μm,1.1s						
NJ2				LR	LR		
	comp=Z,23μm,11.4s						
JNN	**Nakanoshima**	**8.42**	**51**	P	**P**	**13 08 08.1**	**+1.5**
BOLP	**Bolinao**	**8.60**	**196**	*e*P	**P**	**13 08 06.6**	**-2.4**
BALP	**Baler**	**8.95**	**185**	*e*P	**P**	**13 08 13.7**	**-0.4**
WHN	**Wuhan**	**9.16**	**311**	P	**P**	**13 08 14.3**	**-2.6**
WHN				S	**Sn**	**13 09 49.3**	**-11**
WHN				Smax			
	comp=N,680nm,1.2s						
WHN				Smax			
	comp=E,1μm,1.5s						
WHN				LR	LR		
	comp=N,48μm,9.8s						
WHN				LR	LR		
	comp=E,39μm,10.7s						
WHN				LR	LR		
	comp=Z,21μm,15.5s						
SCZP	**Santa Cruz**	**9.18**	**195**	*e*P	**P**	**13 08 16.7**	**-0.4**
JNU	**Nakatsue**	**11.22**	**40**	Pn	**P**	**13 08 46.0**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=217,slow=18,SNR=11						
JNU				Sn	**S**	**13 10 58.4**	**+7.3**
	baz=148,slow=17,SNR=1.3						
JNU				LR	LR	13 13 39.1	
	comp=Z,3μm,18.5s,baz=223,slow=40						
SJMP	**San Jose**	**12.24**	**186**	*e*P	**P**	**13 08 59.6**	**+0.6**
OTRP	**Odiongan**	**12.29**	**181**	*e*P	**P**	**13 09 00.2**	**+0.6**
CNP	**Catarman**	**12.33**	**169**	*e*P	**P**	**13 09 01.6**	**+1.4**
QIZ	**Qiongzhong**	**12.91**	**246**	*e*P	**P**	**13 09 09.3**	**+1.4**
QIZ				*e*S	**S**	**13 11 35.8**	**+3.9**
QIZ				AMB	AMB		
	comp=Z,22nm,1.6s						
QIZ				LR	LR		
	comp=N,10μm,13.2s						
QIZ				LR	LR		
	comp=E,7μm,12.6s						
QIZ				LR	LR		
	comp=Z,4μm,14.3s						
INCN	**Inchon**	**13.25**	**15**	P	**P**	**13 09 08.6**	**-3.7**
	comp=Z,206nm,1.0s						
KS15	**Wonju Array Si**	**13.54**	**19**	P	**P**	**13 09 14.4**	**-1.8**
CUYO	**Cuyo Island**	**13.85**	**185**	*e*P	**P**	**13 09 17.4**	**-2.9**
DL2	**Dalian**	**14.16**	**358**	⇑P	**P**	**13 09 24.3**	**-0.1**
DL2				AMB	AMB		
	comp=Z,60nm,1.5s						
DL2				AMB	AMB		
	comp=Z,200nm,7.8s						
DL2				LR	LR		
	comp=N,3μm,11.7s						
DL2				LR	LR		
	comp=E,4μm,12.3s						
DL2				LR	LR		
	comp=Z,5μm,14.9s						
GYA	**Guiyang**	**14.26**	**280**	⇑*i*P	**P**	**13 09 27.1**	**+1.4**
GYA				AP		13 09 31.3	
GYA				XP		13 09 33.8	
GYA				AMB	AMB		
	comp=Z,50nm,1.0s						
GYA				LR	LR		
	comp=N,11μm,9.9s						
GYA				LR	LR		
	comp=E,10μm,9.0s						
GYA				LR	LR		
	comp=Z,9μm,9.3s						
LLP	**Lapu-Lapu**	**14.40**	**174**	*e*P	**P**	**13 09 27.3**	**-0.3**
MSLP	**Maasin**	**14.69**	**170**	*e*P	**P**	**13 09 32.9**	**+1.4**
XAN	**Xi'an**	**14.93**	**312**	P	**P**	**13 09 33.8**	**-0.7**
XAN				AP		13 09 37.3	
XAN				S	**S**	**13 12 15.8**	**-4.2**
XAN				AMB	AMB		
	comp=Z,11nm,1.3s						
XAN				LR	LR		
	comp=N,12μm,15.5s						
XAN				LR	LR		
	comp=E,9μm,15.5s						
XAN				LR	LR		
	comp=Z,9μm,10.4s						
TBP	**Tagbilaran**	**15.01**	**174**	*e*P	**P**	**13 09 34.2**	**-1.4**
BATP	**Bataraza**	**16.41**	**196**	*e*P	**P**	**13 09 55.2**	**+1.6**
PAGZ	**Pagadian**	**16.80**	**176**	*e*P	**P**	**13 09 59.1**	**+0.5**
IPIL	**Ipil**	**16.83**	**179**	*e*P	**P**	**13 09 57.5**	**-1.5**
BUKP	**Musuan**	**16.94**	**171**	*e*P	**P**	**13 10 00.3**	**0.0**
SNY	**Shenyang**	**17.10**	**3**	⇑P	**P**	**13 10 02.1**	**-0.1**
SNY				AMB	AMB		
	comp=Z,20nm,1.7s						
SNY				AMB	AMB		
	comp=Z,850nm,11.8s						
SNY				LR	LR		
	comp=E,7μm,12.5s						
SNY				LR	LR		
	comp=Z,6μm,14.3s						
JHJ	**Hachijo jima 2**	**17.40**	**57**	P	**P**	**13 10 09.3**	**+3.4**
	comp=Z,5.2nm,0.3s,baz=175,slow=6.5,SNR=6.2						
CD2	**Chengdu**	**17.56**	**295**	*e*P	**P**	**13 10 07.0**	**-0.9**
CD2				LR	LR		
	comp=E,12μm,10.0s						
KMI	**Kunming**	**17.79**	**275**	P	**P**	**13 10 12.4**	**+1.5**
KMI				AP		13 10 15.8	
KMI				XP		13 10 17.3	
KMI				PP	PP	13 10 27.8	+2.2
KMI				PPP	PPP	13 10 37.1	+2.7
KMI				S	**S**	**13 13 31.4**	**+5.3**
KMI				XS		13 13 38.5	
KMI				SS	SS	13 13 51.3	+2.4
KMI				SSS	SSS	13 14 04.1	+1.7
KMI				AMB	AMB		
	comp=Z,22nm,1.0s						
KMI				AMB	AMB		
	comp=Z,375nm,3.5s						
KMI				LR	LR		
	comp=N,11μm,11.6s						
KMI				LR	LR		
	comp=E,10μm,10.6s						
KMI				LR	LR		
	comp=Z,9μm,15.8s						
CBIJ	**Chichi jima**	**18.01**	**78**	P	**P**	**13 10 13.9**	**+0.3**
	comp=Z,2.1nm,0.3s,baz=280,slow=20,SNR=6.7						
CBIJ				LR	LR	13 17 33.7	
	comp=Z,1μm,18.7s,baz=256,slow=38						
MAJO	**Matsushiro**	**18.01**	**45**	*e*P	**P**	**13 10 12.0**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,56nm,1.3s						
MAJO	**Matsushiro**	**18.01**	**45**	*e*P	**P**	**13 10 12.0**	**-1.6**
	comp=Z,56nm,1.3s						
MAT	**Matsushiro**	**18.01**	**45**	*e*P	**P**	**13 10 19.0**	**+5.4**
	comp=Z,31nm,1.5s						
MAT				*e*S	**S**	**13 13 45.0**	**+14**
MAT	**Matsushiro**	**18.01**	**45**	P	**P**	**13 10 13.5**	**-0.1**
MAT				S	**S**	**13 13 45.0**	**+14**
MJAR	**Matsushiro Arr**	**18.01**	**45**	P	**P**	**13 10 12.2**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=243,slow=13,SNR=12						
MJAR				LR	LR	13 18 02.1	
	comp=Z,3μm,18.8s,baz=235,slow=40						
HHC	**Hu-ho-hao-te**	**18.44**	**333**	*e*P	**P**	**13 10 20.0**	**+1.1**
HHC				AP		13 10 23.3	
HHC				XP		13 10 26.3	
HHC				PP	PP	13 10 37.5	+3.1
HHC				AMB	AMB		
	comp=Z,39nm,2.3s						
HHC				AMB	AMB		
	comp=Z,1μm,4.8s						
HHC				LR	LR		
	comp=N,13μm,13.1s						
HHC				LR	LR		
	comp=E,17μm,12.5s						
HHC				LR	LR		
	comp=Z,13μm,11.3s						
BTO	**Baotou**	**18.91**	**330**	*e*P	**P**	**13 10 24.6**	**+0.1**
BTO				S	**S**	**13 13 56.3**	**+5.0**
BTO				AMB	AMB		
	comp=Z,127nm,1.8s						
BTO				LR	LR		
	comp=N,15μm,12.3s						
BTO				LR	LR		
	comp=E,27μm,13.5s						
CN2	**Changchun**	**19.21**	**7**	*e*P	**P**	**13 10 28.0**	**-0.1**
CN2				*e*XP		13 10 35.0	
CN2				PP	PP	13 10 45.0	-0.2
CN2				*e*S	**S**	**13 13 57.8**	**-0.4**
CN2				AMB	AMB		
	comp=Z,130nm,0.9s						
CN2				AMB	AMB		
	comp=Z,710nm,4.0s						
CN2				LR	LR		
	comp=N,10μm,15.0s						
CN2				LR	LR		
	comp=E,5μm,15.0s						
CN2				LR	LR		
	comp=Z,10μm,16.0s						
KKM	**Kota Kinabalu**	**19.47**	**199**	*e*P	**P**	**13 10 29.0**	**-2.3**
KKM	**Kota Kinabalu**	**19.47**	**199**	P	**P**	**13 10 33.8**	**+2.5**
LZH	**Lanzhou**	**19.54**	**310**	⇑P	**P**	**13 10 32.5**	**+0.6**
LZH				AP		13 10 36.0	
LZH				XP		13 10 38.5	
LZH				PP	PP	13 10 50.5	+0.7
LZH				*e*S	**S**	**13 14 06.0**	**+0.5**
LZH				XS		13 14 10.5	
LZH				AMB	AMB		
	comp=Z,153nm,1.3s						
LZH				AMB	AMB		
	comp=Z,1μm,4.5s						
LZH				LR	LR		
	comp=N,5μm,10.2s						
LZH				LR	LR		
	comp=Z,7μm,11.9s						
MDJ	**Mudanjiang**	**20.71**	**15**	P	**P**	**13 10 43.8**	**-0.5**
MDJ				AP		13 10 46.3	
MDJ				S	**S**	**13 14 37.3**	**+7.6**
MDJ				XS		13 14 41.9	
MDJ				PCP	PcP	13 14 51.8	-1.8
MDJ				SCP		13 18 28.6	
MDJ				PCS		13 18 29.9	
MDJ				SCS	ScS	13 22 12.0	+2.5
MDJ				AMB	AMB		
	comp=Z,67nm,1.9s						
MDJ				AMB	AMB		
	comp=Z,163nm,3.0s						
MDJ				LR	LR		
	comp=N,4μm,22.3s						
MDJ				LR	LR		
	comp=E,11μm,16.4s						
MDJ				LR	LR		
	comp=Z,10μm,15.5s						
TSM	**Tawau**	**20.75**	**193**	P	**P**	**13 10 44.3**	**-0.6**
CHG	**Chiang Mai**	**22.50**	**259**	⇓P	**P**	**13 11 05.6**	**+3.2**
	comp=Z,30nm,1.2s,mb4.6						
NST	**Nakhon Sawan**	**22.68**	**251**	P	**P**	**13 11 07.0**	**+2.7**
GUMO	**Guam**	**23.94**	**113**	*e*P	**P**	**13 11 17.9**	**+1.3**
GUMO				pmax	pmax		
	comp=Z,600nm,1.5s,mb5.8						
GUMO	**Guam**	**23.94**	**113**	*e*P	**P**	**13 11 17.9**	**+1.3**
	comp=Z,600nm,1.5s,mb5.8						
GTA	**Gaotai**	**23.98**	**313**	P	**P**	**13 11 17.9**	**+1.2**
GTA				AP		13 11 22.5	
GTA				XP		13 11 25.4	
GTA				S	**S**	**13 15 37.6**	**+8.4**
GTA				AMB	AMB		
	comp=Z,40nm,1.5s,mb4.6						
GTA				AMB	AMB		
	comp=Z,933nm,5.2s						
GTA				LR	LR		
	comp=N,8μm,17.1s,MS5.4						
GTA				LR	LR		
	comp=E,6μm,18.3s,MS5.4						
GTA				LR	LR		
	comp=Z,5μm,16.0s,MS5.1						
ASAJ	**Asahikawa**	**25.45**	**35**	P	**P**	**13 11 32.0**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,14nm,0.6s						
ASAJ				MLR	MLR		

comp=Z,6µm,18.5s
ASAJ Asahikawa 25.45 35 P **P** **13 11 31.9 +1.2**
comp=Z,14nm,0.6s,mb4.7,baz=249,slow=14,SNR=19
ASAJ LR LR 13 21 51.0
comp=Z,6µm,18.5s,MS5.1,baz=243,slow=37
KLR Kul'dur 25.56 14 *e*P **P** **13 11 28.7 -3.0**
KLR *e* 13 12 04.5
KLR pmax pmax
comp=E,50nm,1.6s
KLR pmax pmax
comp=Z,80nm,1.6s,mb5.0
KLR pmax pmax
comp=Z,800nm,9.5s
KLR MLR MLR
comp=N,9µm,13.0s
KLR MLR MLR
comp=Z,16µm,13.0s,MS5.7
KSM Kuching 25.87 209 *e*P **P** **13 11 34.4 -0.6**
SONM Songino Array 26.31 335 P **P** **13 11 38.9 +0.2**
comp=Z,49nm,1.0s,mb5.0,baz=146,slow=8.9,SNR=25
SONM PcP PcP 13 15 04.9 -0.3
comp=Z,3.7nm,0.9s,baz=180,slow=5.8,SNR=3.0
SONM ScP 13 18 41.7
comp=Z,0.6nm,0.8s,baz=180,slow=2.5,SNR=3.5
SONM LR LR 13 23 24.1
comp=Z,4µm,21.1s,MS4.9,baz=147,slow=40
YUK Yuzh-Kuril'sk 27.19 39 P **P** **13 11 51.6 +4.7**
YUK MLR MLR
comp=Z,4µm,16.0s,MS5.1
YUK MLR MLR
comp=E,7µm,18.0s
YSS Yuzh-Sakhalins 27.53 31*d* *i*P **P** **13 11 51.6 +1.7**
YSS pmax pmax
comp=Z,201nm,1.2s,mb5.6
YSS MLR MLR
comp=Z,2µm,17.0s,MS4.9
YSS Yuzh-Sakhalins 27.53 31 *e*P **P** **13 11 50.3 +0.4**
comp=Z,162nm,1.0s,mb5.6
SHL Shillong 27.56 278 *e*P **P** **13 11 52.0 +1.6**
SHL *e* 13 16 26.0
CIT Chita 28.08 348 *e*P **P** **13 11 54.3 -0.5**
CIT pmax pmax
comp=Z,308nm,2.0s,mb5.6
LSA Lhasa 28.14 287 *e*P **P** **13 11 57.4 +1.8**
AGT Agartala 28.33 275⇑ *i* **P** **13 12 04.0 +6.7**
AGT *i* 13 12 26.0
IPM Ipoh 28.65 229 P **P** **13 12 01.6 +1.3**
ZAK Zakamensk 29.58 335 *e*P **P** **13 12 07.3 -1.0**
ZAK *e* 13 18 51.2
ZAK pmax pmax
comp=Z,22nm,1.1s
ZAK pmax pmax
comp=Z,2.0nm,1.3s
TLY Talaya 30.49 337*c* *i*P **P** **13 12 15.9 -0.5**
TLY *e* pP 13 12 21.0 -1.8
TLY *e*PPP PPP 13 13 21.0 -10
TLY *e*S **S** **13 17 14.6 -0.7**
TLY *e*SS SS 13 19 01.6 +5.5
TLY pmax pmax
comp=Z,254nm,2.3s,mb5.5
TLY MLR MLR
comp=Z,4µm,13.0s,MS5.3
IRK Irkutsk 30.74 338 *e*P **P** **13 12 17.3 -1.3**
IRK *e* 13 13 31.0
IRK *e* 13 15 11.1
IRK pmax pmax
comp=Z,214nm,2.2s,mb5.6
GUN Gumba 32.77 284 *e*P **P** **13 12 37.9 +1.3**
comp=Z,442nm,1.7s,mb6.1
PKI Pulchoki 33.20 283 *e*P **P** **13 12 40.9 +0.5**
comp=Z,194nm,1.5s,mb5.8
PKI Pulchoki 33.20 283 *e*P **P** **13 12 40.9 +0.5**
PKI pmax pmax
comp=Z,97nm,1.5s,mb5.5
KKN Kakani 33.30 283 *e*P **P** **13 12 41.6 +0.3**
comp=Z,276nm,1.5s,mb6.0
KKN Kakani 33.30 283 *e*P **P** **13 12 41.6 +0.3**
KKN pmax pmax
comp=Z,138nm,1.5s,mb5.7
DMN Daman 33.47 283 *e*P **P** **13 12 43.2 +0.5**
comp=Z,221nm,1.4s,mb5.9
GKN Gorkha 33.86 284 *e*P **P** **13 12 46.6 +0.5**
comp=Z,289nm,1.4s,mb6.0
WMQ Urumqi 34.06 313 P **P** **13 12 48.5 +0.8**
WMQ AP pP 13 12 52.6 -1.5
WMQ XP sP 13 12 55.3 -1.6
WMQ S **S** **13 18 12.9 +1.8**
WMQ XS 13 18 19.8
WMQ AMB AMB
comp=Z,41nm,1.8s,mb5.1
WMQ LR LR
comp=N,4µm,13.8s,MS5.5
WMQ LR LR
comp=E,4µm,13.7s,MS5.5
WMQ LR LR
comp=Z,5µm,12.4s,MS5.4
KOLN Koldanda 34.79 284 *e*P **P** **13 12 55.0 +0.9**
comp=Z,283nm,1.6s,mb5.9
BLSP Bilaspur 36.90 274 *e*P **P** **13 13 13.7 +1.7**
BLSP AMb AMB 13 13 20.5
comp=Z,48nm,2.6s,mb4.9
VIS Vishakhapatnam 36.94 267 *e*P **P** **13 13 13.2 +0.8**
VIS AMb AMB 13 13 20.9
comp=Z,42nm,0.4s,mb5.6
YAK Yakutsk 37.64 6 *e*P **P** **13 13 20.7 +2.9**
YAK *e**PP pP 13 13 31.2 +7.0
YAK *e* 13 14 47.7
YAK *e*PPP PPP 13 15 09.2 +1.3
YAK *e* 13 15 39.3
YAK *e*S **S** **13 19 12.1 +6.2**
YAK *e* 13 23 25.4
YAK pmax pmax
comp=Z,14nm,0.9s,mb4.7
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
YAK smax
comp=E,31nm,7.4s
YAK smax
comp=N,11nm,4.4s
YAK MLR MLR
comp=E,3µm,14.0s,MS5.2
YAK MLR MLR
comp=Z,710nm,15.3s,MS4.6
YAK MLR MLR
comp=N,932nm,16.0s,MS5.2
YAK Yakutsk 37.64 6 *e*P **P** **13 13 15.8 -2.0**
comp=N,25nm,0.8s,mb5.0
YAK LR LR
comp=Z,2µm,21.0s,MS4.8
KAKA Kakadu 38.48 164 *e*P **P** **13 13 24.4 -0.9**
comp=Z,23nm,0.8s,mb5.0
KAKA *e* 13 15 42.4
MKAR Makanchi Array 38.71 315 P **P** **13 13 25.9 -1.0**
comp=Z,9.2nm,0.6s,mb4.7,baz=100,slow=10,SNR=15
MKAR ScP 13 19 23.6
comp=Z,1.8nm,1.0s,baz=101,slow=6.2,SNR=4.5
PET Petropavlovsk 39.28 34 *e*P **P** **13 13 30.6 -1.1**
PET *e*S **S** **13 19 38.8 +7.9**
PET pmax pmax
comp=Z,26nm,1.7s,mb4.7
PET smax
comp=E,400nm,36.0s
PET MLR MLR
comp=Z,2µm,18.0s,MS5.1
PET MLR MLR
comp=Z,2µm,17.0s
PET Petropavlovsk 39.28 34 *e*P **P** **13 13 29.2 -2.4**
comp=Z,38nm,1.2s,mb5.0
PET LR LR
comp=Z,2µm,22.0s,MS5.0
MA2 Magadan 40.10 22 *e*P **P** **13 13 41.1 +2.8**
MA2 pmax pmax
comp=Z,18nm,1.0s,mb4.8
MA2 MLR MLR
comp=Z,2µm,17.0s,MS5.0
NDI New Delhi 40.33 286 *e*P **P** **13 13 39.5 -1.1**
BHPL Bhopal 40.93 278 *e*P **P** **13 13 48.4 +2.8**
BHPL AMb AMB 13 13 51.0
comp=Z,20nm,2.6s,mb4.3
KSH Kashi 41.51 302 *e*P **P** **13 13 57.5 +7.4**
KSH *e*AP pP 13 14 02.3 +5.7
KSH *e*XP sP 13 14 05.3 +6.0
KSH *e*PCS 13 19 41.1
KSH *e*SCS ScS 13 23 56.0 +5.5
KSH AMB AMB
comp=Z,110nm,1.0s,mb5.4
KSH LR LR
comp=N,3µm,10.6s
KSH LR LR
comp=E,2µm,8.5s
PMG Port Moresby 41.66 141*c* *i*P **P** **13 13 55.2 +3.5**
PMG Port Moresby 41.66 141 P **P** **13 13 52.8 +1.1**
comp=E,45nm,0.9s,mb5.1,baz=308,slow=7.7,SNR=7.1
ULHL Ulahol 41.70 306 P **P** **13 13 52.7 +1.0**
SNR=7.7
TKM2 Tokmak 2 42.28 307 P **P** **13 13 57.7 +1.3**
SNR=10.0
KZA Kyzart 42.40 306 P **P** **13 14 04.3 +6.9**
SNR=11
FITZ Fitzroy Crossi 42.67 175 *e*P **P** **13 13 58.8 -1.2**
comp=E,9.8nm,0.6s,mb4.7
FITZ *i* pP 13 14 04.3 -2.2
FITZ *e* 13 15 55.6
FITZ Fitzroy Crossi 42.67 175 P **P** **13 13 58.7 -1.2**
comp=E,9.0nm,0.4s,mb4.8,baz=5.1,slow=2.0,SNR=25
FITZ PcP PcP 13 15 54.5 +2.2
comp=E,25nm,0.7s,baz=190,slow=3.1,SNR=7.6
FITZ LR LR 13 32 09.2
comp=E,266nm,21.8s,MS4.1,baz=29,slow=37
CHMS Chumysh 42.91 307 P **P** **13 14 07.1 +5.6**
SNR=6.6
FRU Bishkek 42.98 307 *e*P **P** **13 14 08.0 +5.9**
FRU pmax pmax
comp=Z,80nm,1.9s,mb5.1
FRU MLR MLR
comp=N,6µm,13.0s
AAK Ala-Archa 43.03 307⇑ *i*P **P** **13 14 02.6 0.0**
AAK pmax pmax
comp=Z,18nm,1.5s,mb4.6
AAK MLR MLR
comp=Z,3µm,20.0s,MS5.2
AAK Ala-Archa 43.03 307 *e*P **P** **13 14 02.5 -0.1**
comp=Z,28nm,1.4s,mb4.8
SEY Seymchan 43.12 20 *e*P **P** **13 14 02.6 -0.4**
SEY *e* 13 15 43.3
SEY pmax pmax
comp=N,4.0nm,0.9s
SEY pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
USP Ospenovka 43.13 308 P **P** **13 14 08.4 +5.0**
SNR=7.7
AML Almayashu 43.55 306 P **P** **13 14 13.3 +6.6**
SNR=11
MBWA Marble Bar 45.67 183 *e*P **P** **13 14 22.5 -1.6**
MBWA LR LR
comp=Z,826nm,21.0s,MS4.7
WRAB Tennant Creek 45.89 164*c* *i*P **P** **13 14 25.7 -0.1**
WRAB Tennant Creek 45.89 164 *e*P **P** **13 14 25.3 -0.5**
comp=Z,207nm,0.8s,mb6.1
WRA Warramunga Arr 45.89 164 P **P** **13 14 25.5 -0.4**
comp=Z,126nm,0.7s,mb6.0,baz=346,slow=8.7,SNR=430
WRA PcP PcP 13 16 04.3 +1.0
comp=Z,7.8nm,1.0s,baz=343,slow=3.7,SNR=5.1
WB2 Warramunga Arr 45.90 164 *e*P **P** **13 14 25.3 -0.6**
KKAR Karatay Array 46.00 307 *i*P **P** **13 14 26.8 +0.4**
KKAR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TIXI Tiksi 47.11 3 *e*P **P** **13 14 30.9 -3.9**
TIXI *e* 13 16 23.1
TIXI *e*SS SS 13 24 48.7 +3.5
TIXI pmax pmax
comp=Z,43nm,1.2s,mb5.2
TIXI MLR MLR
comp=Z,4µm,15.0s,MS5.5
VOSK Vostochnaya 47.52 320 P **P** **13 14 37.2 -1.1**
VOSK pmax pmax
comp=Z,79nm,2.0s,mb5.4
BVA0 Borovoye Array 47.94 320 P **P** **13 14 40.8 -0.8**
BVA0 pmax pmax
comp=Z,17nm,1.7s,mb4.8
BVAR Borovoye Array 47.94 320 P **P** **13 14 40.6 -1.0**
comp=Z,4.5nm,0.6s,mb4.7,baz=112,slow=8.0,SNR=20
BVAR PcP PcP 13 16 12.1 +2.0
comp=Z,7.9nm,0.9s,baz=88,slow=4.5,SNR=5.6
BVAR ScP 13 20 00.8
comp=Z,1.7nm,0.9s,baz=135,slow=4.2,SNR=4.9
BRVK Borovoye 48.01 320 *e*P **P** **13 14 41.0 -1.1**
BRVK pmax pmax
comp=Z,16nm,1.0s,mb5.0
BRVK Borovoye 48.01 320 *e*P **P** **13 14 41.0 -1.1**
comp=Z,16nm,1.0s,mb5.0
ZRNK Zerenda 48.73 320 *e*P **P** **13 14 46.5 -1.2**
ZRNK pmax pmax
comp=Z,28nm,0.9s,mb5.3
ZRNK Zerenda 48.73 320 *e*P **P** **13 14 46.5 -1.2**
comp=Z,28nm,0.9s,mb5.3
CTA Charters Tower 50.24 150 *e*P **P** **13 15 00.3 +0.6**
comp=Z,19nm,1.1s,mb5.0
CTA *i* pP 13 15 05.0 -1.3
CTA Charters Tower 50.24 150 *e*P **P** **13 15 00.3 +0.6**
CTA pmax pmax
comp=Z,19nm,1.1s
CTA Charters Tower 50.24 150 P **P** **13 14 59.8 +0.1**
comp=Z,49nm,0.9s,mb5.5,baz=317,slow=6.9,SNR=13
CTA LR LR 13 35 10.1
comp=Z,409nm,18.8s,MS4.5,baz=137,slow=35
BILL Bilibino 50.83 20*d* *i*P **P** **13 15 04.5 +1.0**
BILL pmax pmax
comp=Z,19nm,1.4s,mb4.8
BILL MLR MLR
comp=Z,4µm,21.0s,MS5.4
BILL Bilibino 50.83 20 *e*P **P** **13 15 00.9 -2.6**
comp=Z,5.0nm,0.4s,mb4.8
AB31 Akbulak array 53.83 314 P **P** **13 15 25.0 -1.2**
AB31 pmax pmax
comp=Z,18nm,0.9s,mb5.0
ARU Arti 55.33 323⇑ *i*P **P** **13 15 34.9 -2.2**
ARU *e* 13 16 35.6
ARU *e* 13 17 40.0
ARU *e*PPP PPP 13 18 53.8 -2.1
ARU *e*S **S** **13 23 17.4 -0.8**
ARU *e* 13 25 23.4
ARU pmax pmax
comp=Z,35nm,1.1s,mb5.3
ARU MLR MLR
comp=Z,2µm,16.0s,MS5.2
ARU MLR MLR
comp=N,900nm,15.0s,MS5.1
ARU MLR MLR
comp=E,1µm,16.0s,MS5.1
ARU Arti 55.33 323 *e*P **P** **13 15 34.7 -2.4**
comp=E,43nm,1.1s,mb5.4
KLBR Kellerberrin 56.16 185 *e*P **P** **13 15 42.1 -1.3**
comp=E,31nm,1.1s,mb5.2
NWAO Narrogin (SRO) 57.52 185 P **P** **13 15 51.4 -1.7**
comp=E,33nm,1.0s,mb5.3,baz=349,slow=6.2,SNR=7.9
NWAO LR LR 13 41 42.4
comp=E,272nm,19.3s,MS4.4,baz=138,slow=37
NWAO Narrogin (SRO) 57.52 185 P **P** **13 15 51.4 -1.7**
NWAO LR LR 13 41 42.4
STKA Stephens Creek 59.20 161 *e*P **P** **13 16 03.7 -1.2**
comp=E,6.5nm,0.6s,mb4.8
STKA *i* pP 13 16 09.7 -1.9
STKA Stephens Creek 59.20 161 P **P** **13 16 03.8 -1.1**
comp=E,7.9nm,0.7s,mb4.8,baz=318,slow=6.1,SNR=18
STKA LR LR 13 42 20.5
comp=E,299nm,18.8s,MS4.4,baz=23,slow=37
ADE Adelaide 61.35 165⇓ *i*P **P** **13 16 19.5 0.0**
TTA Tatalina 64.52 30 *e*P **P** **13 16 44.8 +4.8**
SVW2 Sparrevohn 64.89 32 *e*P **P** **13 16 48.2 +5.7**
CNB Canberra Magne 64.95 156 *e*P **P** **13 16 43.6 +0.3**
comp=E,14nm,0.9s,mb5.0
IMA Indian Mountai 65.26 27 *e*P **P** **13 16 47.1 +2.4**
GNI Garni 65.38 305 P **P** **13 16 47.2 +1.3**
comp=E,3.5nm,0.3s,mb4.8,baz=118,slow=17,SNR=2.2
ZEI Tsey 65.45 308 *e*P **P** **13 16 47.1 +0.7**
ZEI *i**PP pP 13 16 57.5 +4.3
ZEI pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
QRN Al-Qurain 65.59 292 *e*P **P** **13 16 46.2 -1.3**
QRN AMb AMB 13 16 52.1
comp=Z,53nm,1.0s,mb5.5
GOF Gofitskoye 65.62 310⇑ *i*P **P** **13 16 49.5 +2.1**
GOF pmax pmax
comp=Z,50nm,1.7s,mb5.3
KBD Kabd 65.66 292 *e*P **P** **13 16 46.2 -1.7**
TOO Toolangi 65.67 160 *e*P **P** **13 16 47.6 -0.2**
comp=Z,8.3nm,0.5s,mb5.0
TOO Toolangi 65.67 160 *e*P **P** **13 16 47.6 -0.2**
TOO pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
ONI Oni 65.82 307 P **P** **13 16 54.1 +5.4**
RDF Al-Radifah 65.85 292 *e*P **P** **13 16 47.7 -1.4**
RDF AMb AMB 13 16 53.6
comp=Z,118nm,1.1s,mb5.8
KIV Kislovodsk 66.08 309*d* *i*P **P** **13 16 50.0 -0.4**
KIV pmax pmax
comp=Z,28nm,0.7s,mb5.4
KIV MLR MLR
comp=Z,1µm,15.0s,MS5.3
KIV Kislovodsk 66.08 309 *e*P **P** **13 16 49.9 -0.4**
comp=Z,70nm,1.3s,mb5.5
KIV LR LR
comp=Z,251nm,20.0s,MS4.4
APA Apatity 67.02 335⇑ *e*P **P** **13 16 58.3 +2.3**
APA *e*S S 13 25 51.0 +4.2
APA *e* 13 26 54.0
APA pmax pmax
comp=Z,16nm,1.0s,mb5.0
APA MLR MLR
comp=Z,3µm,14.0s,MS5.6
MOS Moscow 67.03 322 *e*P **P** **13 16 58.7 +2.5**
MOS *e* 13 17 08.5
MOS *e* 13 19 23.5
MOS *e*PPP PPP 13 20 58.4 -4.2
MOS pmax pmax
comp=Z,34nm,0.6s,mb5.5
MOS MLR MLR
comp=Z,2µm,18.5s,MS5.2
MCK McKinley 67.58 29 *e*P **P** **13 16 57.7 -1.9**
MCK pmax pmax
comp=Z,14nm,1.4s,mb4.8
MCK McKinley 67.58 29 *e*P **P** **13 16 57.7 -1.9**
comp=Z,14nm,1.4s,mb4.8
OBN Obninsk 67.74 322⇓ *e*P **P** **13 17 03.5 +2.8**
OBN *i* 13 17 25.3
OBN *e* 13 19 32.5
OBN *e*S S 13 25 58.1 +2.4
OBN pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
OBN MLR MLR
comp=Z,800nm,20.0s,MS4.9
COLA College 67.83 27 *i*P **P** **13 17 11.3 +10**
SML Sawmill 68.22 31 *e*P **P** **13 17 02.2 -1.4**
ILAR Eielson Array 68.26 27 P **P** **13 17 04.4 +0.6**
comp=Z,0.7nm,0.6s,baz=274,slow=5.4,SNR=8.9
ILAR PP PP 13 19 28.9 -7.7
comp=Z,1.1nm,0.9s,baz=290,slow=8.6,SNR=4.1
ILAR LR LR 13 49 28.8
comp=Z,771nm,18.2s,baz=115,slow=38
SOC Sochi 68.26 309 *e*P **P** **13 17 01.0 -3.2**
SOC *e* 13 19 33.8
SOC *e*PPP PPP 13 21 17.2 +3.0
SOC *e*S S 13 25 59.4 -2.6
SOC *e*SS SS 13 30 29.5 +2.8
SOC pmax pmax
comp=N,15nm,0.8s
SOC pmax pmax
comp=E,18nm,0.8s
SOC pmax pmax
comp=Z,17nm,0.8s,mb5.1
SOC MLR MLR
comp=Z,1µm,18.0s,MS5.1
SOC MLR MLR
comp=N,765nm,17.0s,MS5.0
SOC MLR MLR
comp=E,362nm,18.0s,MS5.0
KEV Kevo 68.88 338 *e*p **P** **13 17 10.7 +3.1**
MARD Mardin 69.07 302 *i*P **P** **13 17 09.2 -0.1**
ARCES ARCESS Array B 69.45 338 P **P** **13 17 09.5 -1.6**
comp=E,3.0nm,0.9s,mb4.2,baz=90,slow=9.7,SNR=4.6
ARCES LR LR 13 55 53.3
comp=E,1µm,18.0s,MS5.1,baz=220,slow=43
ANN Anapa 69.55 311 *e*P **P** **13 16 58.6 -13**
ANN pmax pmax
comp=Z,48nm,1.2s,mb5.3
ANN MLR MLR
comp=N,863nm,16.0s,MS5.3
ANN MLR MLR
comp=E,985nm,16.0s,MS5.3
ANN MLR MLR
comp=Z,996nm,16.0s,MS5.2
DIV Divide 69.57 31 *e*P **P** **13 17 12.6 +0.7**
comp=Z,48nm,1.1s,mb5.3
KBS Kingsbay 69.72 349 *e*PP PP 13 19 46.2 -2.6
KBS *e*SS SS 13 30 55.6 +6.8
KBS AMS AMS 13 52 09.7
comp=Z,1µm,15.5s,MS5.2
ARSS Ar Rass 70.41 290 P **P** **13 17 16.8 -0.8**
MALT Malatya 70.58 304 *e*P **P** **13 17 18.8 +0.3**
MALT pmax pmax
comp=Z,28nm,1.0s,mb5.2
MALT Malatya 70.58 304 *e*P **P** **13 17 18.8 +0.4**
comp=Z,28nm,1.0s,mb5.2
KAMS Al Khamasin 71.08 284 P **P** **13 17 23.3 +1.6**
HILS Ha'il 71.16 292 P **P** **13 17 22.2 0.0**
KAF Kangasniemi 71.22 330 *e*p **P** **13 17 22.3 +0.4**
GZT Gaziantep 71.51 303 *i*P **P** **13 17 24.2 +0.1**
FINES FINESS Array B 71.53 330 P **P** **13 17 22.8 -1.0**
comp=Z,5.0nm,1.1s,mb4.4,baz=90,slow=5.6,SNR=4.3
FINES PP PP 13 20 00.1 -4.3
comp=Z,0.5nm,0.4s,baz=140,slow=11,SNR=6.0
FINES LR LR 13 51 15.7
comp=Z,2µm,19.4s,MS5.3,baz=251,slow=38
TRO Tromso 71.61 339 AMS AMS 13 57 39.0
comp=Z,944nm,19.9s,MS5.1
SIM Simferopol' 71.78 312 *e*P **P** **13 17 25.3 -0.3**
SIM pmax pmax
comp=Z,15nm,0.5s,mb5.2
SIM MLR MLR
comp=Z,460nm,16.5s,MS4.8
VSU Vasula 72.13 327*d* *i*P **P** **13 17 27.0 -0.4**
BOYT Boyabat 72.27 308 *i*P **P** **13 17 27.9 -0.7**
INK Inuvik 72.34 22 *e*P **P** **13 17 27.3 -1.2**
INK pmax pmax
comp=Z,29nm,1.5s
INK Inuvik 72.34 22 *e*P **P** **13 17 27.3 -1.2**
comp=Z,29nm,1.5s,mb5.0
DJNS Zahran al Janu 72.90 282 P **P** **13 17 37.1 +4.3**
AKASG Malin Array Be 73.18 318 P **P** **13 17 32.6 -1.1**
comp=Z,1.9nm,0.7s,mb4.1,baz=58,slow=5.6,SNR=4.7
BALT Daday 73.32 308 *i*P **P** **13 17 34.7 -0.1**
ELDT Eldivan 73.62 307 *e*P **P** **13 17 35.5 -1.0**
ASF Jabal al Asfar 73.65 298 P **P** **13 17 36.1 -0.8**
comp=Z,2.9nm,0.4s,mb4.5,baz=0.6,slow=1.6,SNR=1.9
BR131 Keskin Array S 73.71 307 *e*P **P** **13 17 36.7 -0.3**
comp=Z,17nm,1.0s,mb4.9
BRTR Keskin Array B 73.71 307 P **P** **13 17 36.9 -0.2**
comp=Z,7.8nm,0.9s,mb4.6,baz=97,slow=6.5,SNR=18
KIS Kishinev 74.65 315 *e*P **P** **13 17 40.0 -2.3**
KIS MLR MLR
comp=Z,2µm,18.0s,MS5.3
KIS MLR MLR
comp=E,2µm,20.0s
KIS MLR MLR
comp=Z,1µm,18.0s
CSS Prodhromos 75.52 302 *e*P **P** **13 17 46.9 -0.7**
comp=Z,18nm,0.8s,mb5.0
ATD Arta Tunnel 75.82 276 LR LR 13 49 33.0
comp=Z,281nm,21.9s,MS4.5,baz=47,slow=34
NSS Namsos 76.24 335 AMS AMS 13 53 13.5
comp=Z,1µm,19.7s,MS5.2
KWP Kalwaria 77.48 319 *e*P **P** **13 17 55.9 -2.3**
KWP pmax pmax
comp=Z,43nm,1.3s,mb5.2
KWP Kalwaria 77.48 319 *e*P **P** **13 17 55.9 -2.3**
comp=Z,43nm,1.3s,mb5.2
DLBC Dease Lake 77.95 31 *e*P **P** **13 18 01.1 +0.5**
NB2 NORSAR Subarra 78.25 332 P **P** **13 18 01.5 -0.7**
comp=Z,5.2nm,1.0s,mb4.4,baz=60,slow=5.6
NB2 NORSAR Subarra 78.25 332 P **P** **13 18 01.5 -0.7**
NB2 pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
NB2 NORSAR Subarra 78.25 332 P **P** **13 18 01.5 -0.7**
baz=60,slow=5.9
NOA NORSAR Array B 78.25 332 P **P** **13 18 02.0 -0.2**
comp=Z,0.8nm,0.8s,baz=72,slow=2.3,SNR=5.8
NOA LR LR 13 51 45.3
comp=Z,759nm,21.9s,baz=65,slow=35
CRVS Cervenica-Dubn 78.52 319 *e*P **P** **13 18 03.7 -0.2**

OJC	**Ojcow**	**78.95**	**320**	*e*P	**P**	**13 18 06.9**	**+0.6**
KECS	**Kecovo**	**79.28**	**318**	*e*P	**P**	**13 18 10.6**	**+2.5**
OKC	**Ostrava-Krasne**	**80.07**	**320**	AMS	AMS	13 52 30.0	
	comp=Z,1µm,17.4s						
VYHS	**Vyhne**	**80.27**	**319**	*e*P	**P**	**13 18 14.5**	**+1.1**
MORC	**Moravsky Berou**	**80.45**	**321**	P	**P**	**13 18 15.7**	**+1.3**
MORC				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.6						
MORC	**Moravsky Berou**	**80.45**	**321**	P	**P**	**13 18 15.7**	**+1.3**
	comp=Z,13nm,1.5s,mb4.6						
KSP	**Ksiaz**	**80.67**	**322**	*e*P	**P**	**13 18 22.3**	**+6.8**
KSP				MLR	MLR		
	comp=Z,3µm,18.0s,MS5.6						
DPC	**Dobruska-Polom**	**80.89**	**321**	*e*P	**P**	**13 18 23.1**	**+6.5**
DPC				AMS	AMS	13 54 20.0	
	comp=Z,1µm,17.5s						
UPC	**Upice**	**80.99**	**322**	*e*P	**P**	**13 18 23.6**	**+6.4**
BER	**Bergen**	**81.05**	**333**	*e*	**P**	**13 18 19.0**	**+1.7**
BER				AMS	AMS	13 52 38.8	
	comp=Z,798nm,17.7s,MS5.1						
PVCC	**Panska Ves**	**81.79**	**322**	AMS	AMS	13 59 10.0	
	comp=Z,1µm,18.0s						
PRU	**Pruhonice**	**82.07**	**322**	*e*P	**P**	**13 18 26.2**	**+3.4**
PRU				LR	LR		
	comp=Z,900nm,16.6s,MS5.2						
PRU	**Pruhonice**	**82.07**	**322**	*e*P	**P**	**13 18 26.2**	**+3.4**
PRU				AMS	AMS	13 55 10.0	
	comp=Z,900nm,16.6s						
YKA	**Yellowknife Ar**	**82.07**	**23**	*i* P	**P**	**13 18 27.6**	**+5.0**
YKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YKA	**Yellowknife Ar**	**82.07**	**23**	P	**P**	**13 18 24.5**	**+1.9**
	comp=Z,4.9nm,0.9s,mb4.5,baz=313,slow=5.1,SNR=8.7						
YKA				LR	LR	13 57 26.7	
	comp=Z,572nm,20.1s,MS4.9,slow=38						
CLL	**Collm**	**82.27**	**323**	*e*	**P**	**13 18 39.0**	**+15**
KHC	**Kasperske Hory**	**83.03**	**321** ⇑	*i*P	**P**	**13 18 29.3**	**+1.5**
KHC	**Kasperske Hory**	**83.03**	**321**	*e*P	**P**	**13 18 32.7**	**+4.9**
KHC				LR	LR		
	comp=Z,1µm,17.8s,MS5.2						
KHC	**Kasperske Hory**	**83.03**	**321**	*e*P	**P**	**13 18 32.7**	**+4.9**
KHC				AMS	AMS	13 54 30.0	
	comp=Z,1µm,17.8s						
GERES	**GERESS Array B**	**83.11**	**321**	P	**P**	**13 18 27.9**	**-0.3**
	comp=Z,0.3nm,0.2s,baz=11,slow=27,SNR=1.9						
GERES				LR	LR	13 57 22.5	
	comp=Z,1µm,18.4s,baz=230,slow=37						
GRA1	**Grafenberg Arr**	**84.07**	**322**	*e*P	**P**	**13 18 37.6**	**+4.5**
	comp=Z,8.0nm,1.2s,mb4.7						
GRA1				*e*PP	PP	13 21 53.4	+4.4
GRA1				LR	LR		
	comp=Z,1µm,20.1s,MS5.2						
GRF	**Grafenberg Arr**	**84.07**	**322**	P	**P**	**13 18 37.6**	**+4.5**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.7						
GRF	**Grafenberg Arr**	**84.07**	**322**	*e*P	**P**	**13 18 37.6**	**+4.5**
	comp=Z,8.0nm,1.2s,mb4.7						
GRF				*e*PP	PP	13 21 53.4	+4.4
GRF				LR	LR		
	comp=Z,1µm,20.1s,MS5.2						
KMBO	**Kilima Mbogo**	**86.01**	**267**	P	**P**	**13 18 45.1**	**+1.5**
	comp=Z,11nm,1.0s,mb5.0,baz=37,slow=7.5,SNR=16						
KMBO				LR	LR	13 56 45.4	
	comp=Z,376nm,20.6s,MS4.8,baz=93,slow=36						
CDF	**Champ du Feu**	**86.95**	**323**	*e*P	**P**	**13 18 52.2**	**+4.8**
EDM	**Edmonton**	**88.63**	**30**	P	**P**	**13 18 57.6**	**+2.3**
LPG	**La Plagne**	**88.90**	**321**	*e*P	**P**	**13 19 01.5**	**+4.7**
	comp=Z,4.3nm,0.4s,mb4.9						
LPL	**La Plagne**	**88.90**	**321**	*e*P	**P**	**13 19 01.7**	**+4.9**
	comp=Z,8.6nm,0.7s,mb4.9						
SBF	**Sospel**	**89.43**	**319**	*e*P	**P**	**13 19 03.5**	**+4.1**
ORIF	**Oris-en-Rattie**	**89.74**	**321**	*e*P	**P**	**13 19 05.7**	**+4.9**
ORIF				*e*R			
	comp=Z,1µm,19.8s						
SMF	**Signal de Mont**	**89.87**	**323**	*e*P	**P**	**13 19 05.6**	**+4.2**
	comp=Z,25nm,1.0s,mb5.2						
NEW	**Newport**	**89.97**	**35**	*e*P	**P**	**13 19 02.1**	**+0.3**
NEW				pmax	pmax		
	comp=Z,11nm,1.1s						
NEW				MLR	MLR		
	comp=Z,383nm,20.0s						
NEW	**Newport**	**89.97**	**35**	*e*P	**P**	**13 19 02.1**	**+0.3**
	comp=Z,11nm,1.1s,mb5.1						
NEW				LR	LR		
	comp=Z,383nm,20.0s,MS4.8						
SMRF	**Simiane la Rot**	**90.46**	**320**	*e*P	**P**	**13 19 08.6**	**+4.4**
VIVF	**Saint-Julien-l**	**90.47**	**321**	*e*P	**P**	**13 19 08.4**	**+4.2**
	comp=Z,10nm,0.9s,mb4.9						
YBH	**Yreka Blue Hor**	**90.65**	**43**	P	**P**	**13 19 02.4**	**-2.7**
	comp=Z,6.5nm,1.1s,mb4.9						
TCF	**Toulx Ste Croi**	**90.98**	**323**	*e*P	**P**	**13 19 11.0**	**+4.5**
WALA	**Waterton Lakes**	**91.10**	**33**	*e*P	**P**	**13 19 07.7**	**+0.7**
	comp=Z,14nm,1.3s,mb5.1						
CASY	**Casey**	**91.15**	**185**	*e*P	**P**	**13 19 07.2**	**+0.4**
WDC	**Whiskeytown Da**	**91.41**	**44**	P	**P**	**13 19 08.8**	**+0.2**
WDC				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8						
WDC	**Whiskeytown Da**	**91.41**	**44**	P	**P**	**13 19 08.8**	**+0.1**
	comp=Z,4.9nm,0.9s,mb4.8						
MBAR	**Mbarara**	**91.71**	**270**	*e*P	**P**	**13 19 14.5**	**+3.8**
	comp=Z,6.4nm,1.1s,mb4.9						
RJF	**Les Rejaudoux**	**91.97**	**323**	*e*P	**P**	**13 19 16.2**	**+5.1**
	comp=Z,12nm,0.8s,mb5.0						
RJF				*e*R			
	comp=Z,1µm,20.2s						
BMO	**Blue Mountains**	**91.98**	**38**	*e*P	**P**	**13 19 10.9**	**-0.3**
BMO				pmax	pmax		
	comp=Z,83nm,0.4s						
BMO	**Blue Mountains**	**91.98**	**38**	*e*P	**P**	**13 19 10.9**	**-0.3**
	comp=Z,83nm,0.4s						
MOD	**Modoc**	**92.02**	**42**	*e*P	**P**	**13 19 12.3**	**+0.9**
	comp=Z,14nm,1.0s,mb5.2						
WVOR	**Wild Horse Val**	**92.70**	**40**	*e*P	**P**	**13 19 13.8**	**-0.7**
WVOR				pmax	pmax		
	comp=Z,27nm,0.4s,mb6.0						
WVOR				MLR	MLR		
	comp=Z,346nm,19.0s,MS4.8						
WVOR	**Wild Horse Val**	**92.70**	**40**	*e*P	**P**	**13 19 13.8**	**-0.7**
	comp=Z,27nm,0.4s,mb6.0						
WVOR				LR	LR		
	comp=Z,346nm,19.0s,MS4.8						
CMB	**Columbia Colle**	**94.24**	**45**	P	**P**	**13 19 20.2**	**-1.5**
CMB				pmax	pmax		
	comp=Z,12nm,1.1s,mb5.2						
CMB				MLR	MLR		
	comp=Z,210nm,20.0s,MS4.6						
CMB	**Columbia Colle**	**94.24**	**45**	P	**P**	**13 19 20.1**	**-1.6**
	comp=Z,12nm,1.1s,mb5.2						
CMB				LR	LR		
	comp=Z,210nm,20.0s,MS4.6						
PPT	**Papeete**	**95.49**	**107**	*e*P	**P**	**13 19 22.5**	**-5.4**
PPT	**Papeete**	**95.49**	**107**	*e*S	S	13 31 11.8	+32
	comp=Z,330nm,24.8s						
PPT				*e*SS	SS	13 36 21.3	-51
	comp=Z,85nm,26.0s						
PPT				*e*LR	LR	13 49 24.7	
	comp=Z,852nm,33.2s,baz=288						
PPT	**Papeete**	**95.49**	**107**	LR	LR	13 54 51.6	
	comp=Z,234nm,19.2s,MS4.7,baz=301,slow=31						
PDAR	**Pinedale Array**	**97.58**	**36**	P	**P**	**13 19 43.0**	**+6.2**
	comp=Z,0.3nm,0.8s,baz=207,slow=4.0,SNR=4.3						
PDAR				LR	LR	14 09 39.8	
	comp=Z,276nm,18.6s,baz=345,slow=39						
TBI	**Tubuai**	**97.90**	**112**	*e*S	S	13 31 32.5	+32
	comp=Z,184nm,29.8s						
TBI				*e*SS	SS	13 36 59.4	-46
	comp=Z,111nm,24.5s						
TBI				*e*LR	LR	13 50 28.9	
	comp=Z,380nm,32.0s,baz=308						
ULM	**Lac du Bonnet**	**98.05**	**24**	LR	LR	14 13 40.9	
	comp=Z,333nm,18.9s,MS4.8,baz=304,slow=41						
VNDA	**Vanda**	**104.66**	**172**	P	Pdif	13 20 10.6	+2.8
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VNDA	**Vanda**	**104.66**	**172**	Pdiff	Pdif	13 20 10.6	+2.8
	comp=Z,0.6nm,0.8s,baz=332,slow=6.8,SNR=6.2						
VNDA	**Vanda**	**104.66**	**172**	Pdif	Pdif	13 20 10.6	+2.8
VNDA				*e*PKiKP		13 24 24.3	
VNDA				LR	LR		
	comp=Z,235nm,22.0s,MS4.7						
RKT	**Rikitea**	**110.25**	**107**	*e*P	Pdif	13 20 54.9	+21
RKT	**Rikitea**	**110.25**	**107**	*e*S	SKS	13 31 51.2	+34
	comp=Z,118nm,41.0s						
RKT				*e*SS	SS	13 40 55.5	+20
	comp=Z,130nm,26.5s						
RKT				*e*LR	LR	13 56 19.1	
	comp=Z,464nm,26.8s,baz=303						
VNA2	**Neumayer--Watz**	**125.72**	**198** ⇑	*i*	PKPdf	13 25 09.5	+2.9
VNA2	**Neumayer--Watz**	**125.72**	**198** ⇑	*i*	PKPdf	13 25 17.5	+11
VNA1	**Neumayer--Stat**	**126.11**	**198** ⇑	*i*	PKPdf	13 25 10.3	+3.0
VNA1	**Neumayer--Stat**	**126.11**	**198**		PKPdf	13 25 18.6	+11
VNA1	**Neumayer--Stat**	**126.11**	**198**		PKPdf	13 25 24.8	+17
VNA3	**Neumayer Olymp**	**126.18**	**197** ⇑	*i*	PKPdf	13 25 09.9	+2.5
VNA3	**Neumayer Olymp**	**126.18**	**197**		PKPdf	13 25 17.8	+10
SDV	**Santo Domingo**	**144.29**	**22**	PKPdf	PKPdf	13 25 37.7	-4.6
ROSC	**El Rosal**	**146.43**	**31**	PKPbc	PKPbc	13 25 44.9	+1.8
	comp=Z,2.9nm,0.4s,baz=270,slow=20,SNR=2.6						
PLCA	**Paso Flores**	**160.72**	**149**	PKP2	PKPab	13 26 45.9	+0.6
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PLCA	**Paso Flores**	**160.72**	**149**	PKPab	PKPab	13 26 45.9	+0.6
	comp=Z,1.3nm,0.7s,baz=315,slow=20,SNR=2.1						
LPAZ	**La Paz**	**167.10**	**51**	PKP	PKPdf	13 26 10.7	-1.1
	comp=Z,1.8nm,0.8s,baz=13,slow=6.7,SNR=7.3						
LPAZ				PKPab	PKPab	13 27 16.7	+3.0
	comp=Z,3.1nm,0.9s,baz=0.5,slow=9.0,SNR=6.5						
LPAZ	**La Paz**	**167.10**	**51**	PKP	PKPdf	13 26 10.7	-1.1
LPAZ				*e*PKPbc	PKPdf	13 26 14.4	+2.6
LPAZ				PKPab	PKPab	13 27 16.7	+3.0
LPAZ				LR	LR		
	comp=Z,334nm,21.0s						
BDFB	**Brasilia**	**167.23**	**313**	PKP	PKPdf	13 26 11.4	-0.5
	comp=Z,10.0nm,1.0s,baz=34,slow=2.6,SNR=7.5						
CPUP	**Villa Florida**	**178.36**	**190**	PKP2	PKPab	13 28 02.6	-0.7
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CPUP	**Villa Florida**	**178.36**	**190**	PKPab	PKPab	13 28 02.6	-0.7
	comp=Z,3.3nm,0.9s,baz=90,slow=20,SNR=4.1						

*CSEM **20** 13:25:51.9±0.3, 35.09N×3.96W, h5km±2km, MD3.0, Error ellipse: s-maj=6.9km s-min=6.1km az=54.0*
*CNRM **20** 13:25:53.2, 35.14N×3.90W, h6km, MD3.0*
*MDD **20** 13:25:55.0±0.2, 35.02N×3.91W, mb3.4/4, Error ellipse: s-maj=2.5km s-min=1.5km az=33.0, PRXIMO*
*NEIC **20** 13:25:56.0, 35.23N×3.99W, MG3.3(MDD), After MDD.*
ISC 20 13:25:52.8±0.7**, 35.14N**±0.03×**4.02W**±0.03**, h5**km±4km**, n32, σ1s18**/57**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.11**	**36**	P	**Pg**	**13 25 54.5**	**-0.6**
MPAL				S	**Sg**	**13 25 56.5**	**-0.2**
MPAL	**Palemas**	**0.11**	**36**	*i* P	**Pg**	**13 25 54.5**	**-0.6**
TOU	**Touzarine**	**0.28**	**129**	P	**Pg**	**13 25 57.0**	**-1.4**
TOU				S	**Sg**	**13 26 01.0**	**-1.2**
TOU	**Touzarine**	**0.28**	**129**	*i* P	**Pg**	**13 25 57.0**	**-1.4**
EMEL	**Melilla**	**0.88**	**79**	P	**Pb**	**13 26 10.9**	**+0.6**
	110nm,0.2s,SNR=7.9						
EMEL				S	**Sb**	**13 26 24.0**	**+1.9**
	176nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.89**	**79**	P	**Pb**	**13 26 10.9**	**+0.6**
	110nm,0.2s,SNR=7.9						
EMLI				S	**Sb**	**13 26 24.0**	**+1.7**
	176nm,0.2s,SNR=7.9						
TZK	**Tazeka**	**1.05**	**187**	*i* P	**Pb**	**13 26 12.5**	**-0.7**
TZK				*i* S	**Sb**	**13 26 27.0**	**-0.1**
ZAI	**Zaio**	**1.06**	**99**	P	**Pb**	**13 26 11.5**	**-1.7**
ZAI				S	**Sb**	**13 26 23.5**	**-3.7**
ZAI	**Zaio**	**1.06**	**99**	*e*P	**Pb**	**13 26 11.5**	**-1.7**
EALB	**Alboran**	**1.13**	**45**	P	**Pb**	**13 26 15.9**	**+1.4**
	3.8nm,0.1s,SNR=7.9						
EALB				S	**Sb**	**13 26 28.5**	**-0.9**
	20nm,0.1s,SNR=6.5						
DKH	**Dar Kharkhour**	**1.15**	**288**	*e*P	**Pb**	**13 26 16.0**	**+1.2**
DKH				*i* S	**Sb**	**13 26 32.0**	**+2.1**
EMIJ	**Mijas**	**1.55**	**337**	P	**Pn**	**13 26 21.6**	**+0.4**
EMIJ				S	**Sb**	**13 26 40.9**	**-0.6**
EMIJ	**Mijas**	**1.55**	**337**	P	**Pn**	**13 26 21.6**	**+0.4**
	1.1nm,0.1s,SNR=7.9						
EMIJ				S	**Sb**	**13 26 40.9**	**-0.6**
	5.7nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.73**	**12**	S	**Sn**	**13 26 44.8**	**-1.7**
	0.9nm,0.1s,SNR=4.0						
EBER	**Berja**	**1.98**	**27**	P	**Pn**	**13 26 28.0**	**+0.7**
	0.4nm,0.1s,SNR=4.0						
EBER				S	**Sn**	**13 26 51.7**	**-1.1**
	6.6nm,0.2s,SNR=5.7						
EBER	**Berja**	**1.98**	**27**	P	**Pn**	**13 26 28.0**	**+0.6**
	SNR=4.0						
EBER				S	**Sn**	**13 26 51.7**	**-1.1**
	6.6nm,0.2s,SNR=5.7						
EQES	**Quesada**	**2.77**	**16**	P	**Pn**	**13 26 39.8**	**+1.2**
	1.2nm,0.1s,SNR=4.0						
EQES				S	**Sn**	**13 27 13.1**	**+0.3**
	5.0nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.77**	**16**	P	**Pn**	**13 26 39.8**	**+1.2**
	1.2nm,0.1s,SNR=4.0						
EQES				S	**Sn**	**13 27 13.1**	**+0.3**
	5.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.06**	**352**	P	**Pn**	**13 26 43.1**	**+0.3**
	1.0nm,0.1s,SNR=4.0						
EADA				S	**Sn**	**13 27 20.7**	**+0.5**
	0.8nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**3.06**	**352**	P	**Pn**	**13 26 43.1**	**+0.4**
	1.0nm,0.1s,SNR=4.0						
EADA				S	**Sn**	**13 27 20.7**	**+0.5**
	0.8nm,0.2s,SNR=4.0						
ECAB	**El Cabril**	**3.14**	**339**	P	**Pn**	**13 26 45.0**	**+1.1**
	0.3nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**13 27 21.4**	**-0.9**
	1.0nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**3.14**	**339**	P	**Pn**	**13 26 45.0**	**+1.1**
	0.3nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**13 27 21.4**	**-0.9**
	1.0nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.39**	**322**	P	**Pn**	**13 26 47.9**	**+0.5**
EMIN				S	**Sn**	**13 27 26.2**	**-2.3**
EMIN	**Mina Concepcio**	**3.39**	**322**	P	**Pn**	**13 26 48.2**	**+0.8**
	1.1nm,0.1s,SNR=9.2						
EMIN				S	**Sn**	**13 27 26.2**	**-2.3**
	0.3nm,0.1s						
EMIN	**Mina Concepcio**	**3.39**	**322**	P	**Pn**	**13 26 47.9**	**+0.5**
	1.1nm,0.1s,SNR=9.2						
EMIN				S	**Sn**	**13 27 26.2**	**-2.3**
	0.3nm,0.1s						
EGRO	**El Granado**	**3.68**	**312**	P	**Pn**	**13 26 52.4**	**+0.8**
	0.7nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**13 27 34.5**	**-1.4**
	1.7nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.68**	**312**	P	**Pn**	**13 26 52.4**	**+0.8**
	0.7nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**13 27 34.5**	**-1.4**
	1.7nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.02**	**29**	P	**Pn**	**13 26 57.9**	**+1.4**
ETOB	**Tobarra**	**4.02**	**29**	P	**Pn**	**13 26 57.4**	**+0.9**
	1.0nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**4.02**	**29**	P	**Pn**	**13 26 57.9**	**+1.5**
	1.0nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**4.33**	**327**	P	**Pn**	**13 27 01.2**	**+0.3**
	0.8nm,0.1s,SNR=6.1						
EBAD				S	**Sn**	**13 27 50.0**	**-2.6**
	2.9nm,0.2s						
EBAD	**Badajoz**	**4.33**	**327**	P	**Pn**	**13 27 01.2**	**+0.3**
	0.8nm,0.1s,SNR=6.1						
EBAD				S	**Sn**	**13 27 50.0**	**-2.5**

IDC 20 13:29:26.7±1.6**, 1.45N**×**97.09E, mb4.2**/7**, mb1 4.2**/7**, mb1mx3.9**/19**, mbtmp4.2**/7**, Error ellipse: s-maj=54.8km s-min=21.5km az=56.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**39.15**	**47**	P	P	13 36 56.5	-1.6
	9.2nm,0.7s,baz=230,slow=7.9,SNR=6.6						
WRA	**Warramunga Arr**	**42.26**	**122**	P	P	13 37 21.7	-2.1
	0.8nm,0.6s,baz=302,slow=9.2,SNR=8.4						
SONM	**Songino Array**	**46.90**	**9**	P	P	13 37 59.1	-1.6
	4.2nm,0.9s,baz=190,slow=8.5,SNR=24						
SONM				PcP	PcP	13 39 31.3	-2.6
	0.2nm,0.4s,baz=198,slow=4.6,SNR=2.4						
MKAR	**Makanchi Array**	**46.97**	**346**	P	P	13 37 60.0	-1.3
	3.0nm,0.7s,baz=160,slow=8.3,SNR=29						
STKA	**Stephens Creek**	**53.61**	**132**	P	P	13 38 50.5	-1.6
	1.1nm,0.6s,baz=323,slow=11,SNR=3.9						
BVAR	**Borovoye Array**	**55.98**	**341**	P	P	13 39 06.3	-2.9
	0.7nm,0.5s,baz=166,slow=6.1,SNR=5.8						
ARCES	**ARCESS Array B**	**82.26**	**340**	P	P	13 41 49.3	-1.7
	4.2nm,1.0s,baz=90,slow=3.6,SNR=4.8						

*IDC **20** 13:40:58.1±1.4, 5.45S×146.86E, h214km±13km, mb3.7/8, mb1 3.9/12, mb1mx3.9/14, mbtmp4.4/12, Error ellipse: s-maj=15.6km s-min=10.7km az=107.0*
*NEIC **20** 13:40:59.3±1.4, 5.42S×146.88E, h228km±14km, mb4.7/7, Error ellipse: s-maj=13.5km s-min=10.9km az=142.0*
ISC 20 13:40:56.6±1.2**, 5.37S**±0.07×**146.94E**±0.07**, h213**km±11km**, n28, σ0s98**/28**, mb3.9**/9**, 2C-1D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.02**	**177**	P	**P**	**13 42 00.6**	**+1.0**
	8.6nm,0.3s,baz=345,slow=6.2,SNR=38						
PMG				S	**S**	**13 42 47.5**	**-1.0**
	70nm,0.3s,baz=211,slow=20,SNR=20						
HNR	**Honiara**	**13.51**	**108**	P	**P**	**13 44 02.7**	**+1.6**
	4.5nm,0.3s,baz=315,slow=5.7,SNR=3.2						
CTA	**Charters Tower**	**14.65**	**183**	*e*P	**P**	**13 44 17.3**	**+2.1**
	15nm,0.9s						
CTA	**Charters Tower**	**14.65**	**183**	P	**P**	**13 44 14.4**	**-0.7**
	0.8nm,0.3s,baz=1.6,slow=13,SNR=11						
CTAO	**Charters Tower**	**14.65**	**183**	*e*P	**P**	**13 44 16.7**	**+1.6**
	24nm,0.9s						
KAKA	**Kakadu**	**16.07**	**242** ⇑	*i*P	**P**	**13 44 32.1**	**-0.4**
	49nm,0.6s						
KAKA				*e*S	**S**	**13 47 24.8**	**+0.9**
WRAB	**Tennant Creek**	**18.97**	**219**	*e*P	**P**	**13 45 03.1**	**-0.8**
	46nm,0.5s						
WB2	**Warramunga Arr**	**18.97**	**219** ⇓	*i*P	**P**	**13 45 03.5**	**-0.5**
WB2				*e*S	**S**	**13 48 24.3**	**+0.9**
WRA	**Warramunga Arr**	**18.98**	**219**	P	**P**	**13 45 03.7**	**-0.4**
	7.3nm,0.3s,baz=46,slow=9.4,SNR=273						
WRA				S	**S**	**13 48 24.8**	**+1.3**
	0.7nm,0.3s,baz=39,slow=20,SNR=7.9						
FITZ	**Fitzroy Crossi**	**24.36**	**237** ⇑	*i*P	**P**	**13 45 56.3**	**-0.4**
	50nm,0.4s						
FITZ	**Fitzroy Crossi**	**24.36**	**237**	P	**P**	**13 45 56.5**	**-0.3**
	73nm,0.4s,baz=39,slow=6.3,SNR=162						
DZM	**Mont Dzumac**	**25.13**	**133**	P	**P**	**13 46 04.6**	**+0.7**
	7.9nm,0.9s,mb4.3,baz=157,slow=3.4,SNR=3.1						
ARMA	**Armidale**	**25.31**	**170**	*e*P	**P**	**13 46 03.8**	**-1.7**
STKA	**Stephens Creek**	**26.84**	**190**	*e*P	**P**	**13 46 18.1**	**-1.4**
	3.4nm,1.1s,mb3.9						
STKA	**Stephens Creek**	**26.84**	**190**	P	**P**	**13 46 18.4**	**-1.1**
	2.2nm,0.4s,mb4.1,baz=356,slow=9.4,SNR=10.0						
MBWA	**Marble Bar**	**30.70**	**237**	*e*P	**P**	**13 46 50.0**	**-3.8**
	8.2nm,0.9s,mb4.4						
MJAR	**Matsushiro Arr**	**42.48**	**350**	P	**P**	**13 48 32.5**	**-0.1**
	1.8nm,0.7s,mb3.6,baz=179,slow=9.2,SNR=8.2						
DRV	**Dumont d'Urvil**	**61.38**	**183**	R		13 51 00.0	
FX1	**Attu Island--F**	**62.13**	**18**	*e*P	**P**	**13 50 58.5**	**+1.4**
SONM	**Songino Array**	**63.83**	**331**	P	**P**	**13 51 08.8**	**+0.5**
	1.7nm,0.6s,mb3.9,baz=152,slow=6.1,SNR=13						
VNDA	**Vanda**	**72.54**	**177**	P	**P**	**13 52 01.5**	**-0.1**
	1.3nm,0.7s,mb3.7,baz=332,slow=6.2,SNR=11						
RKT	**Rikitea**	**76.96**	**112**	*e*LQ		13 53 16.7	
	119nm,31.0s						
MKAR	**Makanchi Array**	**76.98**	**320**	P	**P**	**13 52 26.8**	**-0.6**
	0.4nm,0.4s,mb3.4,baz=101,slow=6.7,SNR=7.2						
MKAR	**Makanchi Array**	**76.98**	**320**	P	**P**	**13 52 26.8**	**-0.6**
MAW	**Mawson**	**82.81**	**203**	P	**P**	**13 52 57.1**	**-0.8**
	0.8nm,0.6s,mb3.6,baz=37,slow=9.1,SNR=4.1						
ILAR	**Eielson Array**	**84.93**	**23**	P	**P**	**13 53 07.6**	**-0.9**
	2.8nm,0.7s,mb4.1,baz=254,slow=5.1,SNR=38						
SIV	**San Ignacio**	**145.08**	**128**	PKPbc	PKPbc	14 00 10.4	+0.5
	3.4nm,0.6s,baz=235,slow=3.4,SNR=26						
SJG	**San Juan**	**145.29**	**66**	PKPbc	PKPbc	14 00 10.3	-0.1
	12nm,0.3s,baz=254,slow=3.9,SNR=3.4						

*IDC **20** 13:54:55.6±0.4, 12.04N×143.72E, mb4.9/27, mb1 4.9/27, mb1mx4.8/31, mbtmp4.8/27, MS3.8/8, Ms1 3.8/8, ms1mx3.6/22, Error ellipse: s-maj=19.3km s-min=11.3km az=83.0*
*BJI **20** 13:54:56.1, 12.22N×143.75E, h12km, mB5.0, mb4.8, Ms4.7, Msz4.4*
*HRVD **20** 13:54:58.3±0.7, 12.07N×143.66E, h12km±2km, MW4.8/44, Centroid moment Tensor Solution. LP body waves: s10,c11;Mantle waves: s44,c65; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.66±.25; Mθθ-0.37±.14; Mφφ2.03±.15; Mrθ0.35±.54; Mθφ0.13±.11; Mφr0.04±.30; Best double couple: M0 1.894×10^16 NP1:φs349°, δ46°, λ-110°. NP2:φs197°, δ48°, λ-70°. Principal axes: T 2.038, Plg1°, Azm273°; N -.285, Plg14°, Azm3°; P -1.75, Plg76°, Azm180°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **20** 13:54:58.8±0.9, 12.07N×143.58E, h33km, mb4.9/24 Error ellipse: s-maj=12.4km s-min=7.0km az=97.6*
*NEIC **20** 13:54:58.3±2.6, 12.06N×143.70E, h17km±16km, mb4.9/35, Error ellipse: s-maj=6.7km s-min=4.6km az=107.0*
ISC 20 13:54:54.2±1.6**, 12.06N**±0.04×**143.60E**±0.05**, h1**km±9km**, h13**km±1.1km**:pP-P, n155, σ1s02**/147**, mb4.9**/78**, MS4.1**/16**, 7C-6D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.96**	**39**	*e*P	**Pn**	**13 55 29.1**	**+0.2**
SAPN	**Saipan**	**3.77**	**33**	*e*P	**Pn**	**13 55 55.3**	**+0.5**
SAPN				*e*S	**Sn**	**13 56 36.8**	**-3.6**
SARN	**Sarigan**	**5.07**	**24**	*e*P	**Pn**	**13 56 14.2**	**+1.0**
JOW	**Kunigami**	**20.58**	**318**	P	**P**	**13 59 39.0**	**+1.7**
	27nm,0.4s,baz=142,slow=12,SNR=34						
JOW				LR	LR	14 06 01.7	
	comp=Z,69nm,19.6s,baz=183,slow=32						
JHJ	**Hachijo jima 2**	**21.25**	**351**	LR	LR	14 06 33.5	
	comp=Z,278nm,21.2s,MS3.6,baz=162,slow=33						
PMG	**Port Moresby**	**21.61**	**170**	P	**P**	**13 59 46.9**	**-1.1**
	21nm,0.9s,mb4.6,baz=305,slow=8.1,SNR=3.2						
PMG				LR	LR	14 07 31.0	
	comp=Z,140nm,19.9s,MS3.4,baz=0.1,slow=35						
JNU	**Nakatsue**	**23.99**	**333**	P	**P**	**14 00 12.6**	**+1.3**
	12nm,0.6s,mb4.6,baz=120,slow=3.2,SNR=14						
JNU				LR	LR	14 07 15.0	
	comp=Z,162nm,19.8s,MS3.5,baz=170,slow=31						
MJAR	**Matsushiro Arr**	**24.86**	**350**	P	**P**	**14 00 18.7**	**-1.0**
	4.6nm,0.9s,mb4.2,baz=183,slow=12,SNR=10.0						
MJAR				PcP	PcP	14 03 57.5	+0.5
	2.1nm,0.7s,baz=174,slow=3.1,SNR=7.0						
MJAR				LR	LR	14 08 11.6	
	comp=Z,228nm,20.8s,MS3.7,baz=175,slow=32						
MJAR	**Matsushiro Arr**	**24.86**	**350**	P	**P**	**14 00 18.7**	**-1.0**
MJAR				PcP	PcP	14 03 57.5	+0.5
MJAR				LR	LR	14 08 11.6	
MAJO	**Matsushiro**	**24.86**	**350**	*e*P	**P**	**14 00 18.8**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
MAJO	**Matsushiro**	**24.86**	**350**	*e*P	**P**	**14 00 18.8**	**-0.9**
	comp=Z,8.9nm,0.8s,mb4.5						
MAT	**Matsushiro**	**24.86**	**350**	P	**P**	**14 00 17.0**	**-2.7**
	comp=Z,8.0nm,1.0s,mb4.4						
KAKA	**Kakadu**	**26.99**	**205**	*e*P	**P**	**14 00 41.5**	**+1.8**
	comp=Z,21nm,0.8s,mb4.9						
SSE	**Sheshan**	**28.07**	**316**	*e*P	**P**	**14 00 47.1**	**-2.3**
SSE				S	**S**	**14 05 32.8**	**-0.7**
SSE				XS		14 05 38.3	
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,61nm,4.9s						
SSE				LR	LR		
	comp=N,202nm,29.1s,MS3.8						
SSE				LR	LR		
	comp=E,250nm,29.1s,MS3.8						
KS15	**Wonju Array Si**	**28.94**	**334**	P	**P**	**14 00 57.5**	**+0.3**
NJ2	**Nanjing**	**30.23**	**315**	*e*P	**P**	**14 01 08.0**	**-0.8**
NJ2				AP	pP	14 01 12.1	+3.0
NJ2				XP	sP	14 01 15.0	+5.8
NJ2				PP	PP	14 02 06.5	-0.8
NJ2				PPP	PPP	14 02 19.6	-2.0
NJ2				S	**S**	**14 06 06.0**	**-2.1**
NJ2				XS		14 06 15.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,350nm,4.7s						
NJ2				LR	LR		
	comp=N,780nm,18.0s,MS4.6						
NJ2				LR	LR		
	comp=E,850nm,16.3s,MS4.6						
NJ2				LR	LR		
	comp=Z,580nm,15.3s,MS4.3						
ASAJ	**Asahikawa**	**31.96**	**359**	P	**P**	**14 01 23.3**	**-0.6**

ASAJ 14 04 15.7
ASAJ pmax pmax
comp=Z,3.0nm,0.6s
ASAJ pmax pmax
comp=Z,4.0nm,0.7s
ASAJ Asahikawa 31.96 359 P **P** **14 01 23.2 -0.6**
comp=Z,3.3nm,0.6s,mb4.4,baz=220,slow=13,SNR=6.0
ASAJ PcP PcP 14 04 15.7 +1.5
comp=Z,3.9nm,0.7s,baz=174,slow=3.8,SNR=5.4
WRAB Tennant Creek 33.07 196 *e*P **P** **14 01 32.5 -1.3**
WRAB pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
WRAB Tennant Creek 33.07 196 *e*P **P** **14 01 32.5 -1.3**
comp=Z,8.5nm,0.4s,mb5.0
WB2 Warramunga Arr 33.08 196 *e*P **P** **14 01 33.2 -0.7**
WRA Warramunga Arr 33.08 196 P **P** **14 01 33.4 -0.5**
comp=Z,5.4nm,0.6s,mb4.7,baz=20,slow=9.7,SNR=82
MDJ Mudanjiang 34.60 342 P **P** **14 01 46.8 0.0**
MDJ AP pP 14 01 50.0 +2.9
MDJ XP sP 14 01 51.3 +4.1
MDJ PP PP 14 03 05.9 +2.9
MDJ PCP PcP 14 04 18.8 -2.8
MDJ S **S** **14 07 18.3 +2.2**
MDJ XS 14 07 23.6
MDJ SCP 14 08 05.3
MDJ AMB AMB
comp=Z,4.0nm,1.0s,mb4.3
MDJ AMB AMB
comp=Z,62nm,4.8s
MDJ LR LR
comp=N,103nm,11.7s
MDJ LR LR
comp=E,195nm,17.1s
MDJ LR LR
comp=Z,167nm,17.1s
YSS Yuzh-Sakhalins 34.79 359 *i*P **P** **14 01 48.3 -0.1**
FITZ Fitzroy Crossi 34.82 211 *e*P **P** **14 01 49.4 +0.4**
comp=Z,12nm,0.9s,mb4.8
FITZ Fitzroy Crossi 34.82 211 P **P** **14 01 49.0 0.0**
comp=Z,15nm,0.9s,mb4.9,baz=24,slow=6.1,SNR=4.6
CN2 Changchun 35.29 337 *e*P **P** **14 01 53.3 +0.5**
GYA Guiyang 37.54 298⇓*i*P **P** **14 02 15.1 +3.2**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
MBWA Marble Bar 40.49 216 P **P** **14 02 37.0 +0.5**
DZM Mont Dzumac 40.65 146 P **P** **14 02 37.5 -0.4**
comp=Z,25nm,0.8s,mb5.0,baz=355,slow=11,SNR=14
KMI Kunming 40.69 295 P **P** **14 02 38.0 -0.1**
KMI S **S** **14 08 50.0 +1.0**
KMI AMB AMB
comp=Z,3.0nm,0.9s,mb4.0
KMI LR LR
comp=N,278nm,16.5s,MS4.3
KMI LR LR
comp=E,215nm,17.2s,MS4.3
KMI LR LR
comp=Z,174nm,6.8s
CD2 Chengdu 41.27 303⇓*i*P **P** **14 02 44.0 +1.2**
KULM Kulim 42.95 265 *e*P **P** **14 02 54.0 -2.9**
LZH Lanzhou 43.04 311 *e*P **P** **14 02 58.5 +1.1**
LZH AP pP 14 03 01.8 +4.2
LZH XP sP 14 03 03.3 +5.5
LZH PP PP 14 04 41.5 +1.8
LZH *e*S **S** **14 09 23.3 -0.4**
LZH XS 14 09 31.5
LZH *e*SS SS 14 12 29.5 +0.5
LZH AMB AMB
comp=Z,32nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,107nm,6.2s
LZH LR LR
comp=N,526nm,15.0s
LZH LR LR
comp=Z,893nm,18.2s,MS4.7
STKA Stephens Creek 43.73 182⇓*i*P **P** **14 03 01.7 -1.2**
comp=Z,3.6nm,0.4s,mb4.5
STKA Stephens Creek 43.73 182 P **P** **14 03 01.9 -1.0**
comp=Z,3.8nm,0.4s,mb4.5,baz=5.9,slow=7.6,SNR=23
ULN Ulaanbaatar 46.95 327*c i*P **P** **14 03 16.6 -12**
FX1 Attu Island--F 47.10 24 *e*P **P** **14 03 29.2 -0.3**
GTA Gaotai 47.29 313 *e*P **P** **14 03 32.5 +1.2**
GTA AP pP 14 03 37.5 +6.0
GTA XP sP 14 03 40.8 +9.1
GTA PCP PcP 14 05 03.9 +1.1
GTA PP PP 14 05 22.5 +0.6
GTA PPP PPP 14 06 12.0 +3.0
GTA S **S** **14 10 24.8 +0.1**
GTA XS 14 10 33.3
GTA SS SS 14 13 46.3 +0.9
GTA AMB AMB
comp=Z,13nm,0.8s,mb5.1
GTA AMB AMB
comp=Z,161nm,8.0s
GTA LR LR
comp=N,155nm,16.7s,MS4.2
GTA LR LR
comp=E,126nm,17.1s,MS4.2
GTA LR LR
comp=Z,118nm,17.1s,MS3.9
SONM Songino Array 47.29 326 P **P** **14 03 32.0 +0.9**
comp=Z,6.6nm,0.5s,mb5.0,baz=148,slow=7.3,SNR=67
SONM PcP PcP 14 05 03.1 +0.4
comp=Z,2.3nm,0.7s,baz=125,slow=3.8,SNR=4.7
MA2 Magadan 47.73 5*ce*P **P** **14 03 34.7 +0.2**
MA2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
TOO Toolangi 49.40 178 *e*P **P** **14 03 47.9 +0.2**
comp=Z,8.0nm,1.1s,mb4.7
TOO Toolangi 49.40 178 *e*P **P** **14 03 47.9 +0.2**
TOO pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
ZAK Zakamensk 50.44 327⇑*i*P **P** **14 03 55.7 +0.3**
ZAK *e* 14 05 14.5
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
YAK Yakutsk 50.90 352⇓*i*P **P** **14 03 57.1 -1.7**
YAK MLR MLR
comp=Z,100nm,14.0s,MS4.0
YAK Yakutsk 50.90 352 *e*P **P** **14 03 57.5 -1.3**
comp=Z,16nm,0.6s,mb5.1
BOD Bodaibo 50.91 340 *e*P **P** **14 03 57.5 -1.4**
BOD pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
NWAO Narrogin (SRO) 51.33 209 P **P** **14 04 02.1 -0.3**
comp=Z,24nm,1.2s,mb5.0,baz=297,slow=11,SNR=3.7
LSA Lhasa 51.61 298 *e*P **P** **14 04 06.9 +2.3**
MOY Mondy 52.35 328 *e*P **P** **14 04 09.9 -0.1**
NIKO Nikolski 55.62 33 *e*P **P** **14 04 31.0 -3.0**
GUN Gumba 56.02 296 *e*P **P** **14 04 38.1 +0.9**
comp=Z,72nm,0.8s,mb5.8
PKI Pulchoki 56.41 295 *e*P **P** **14 04 40.2 +0.2**
comp=Z,16nm,0.8s,mb5.1
PKI Pulchoki 56.41 295 *e*P **P** **14 04 40.2 +0.2**
PKI pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
KKN Kakani 56.54 295 *e*P **P** **14 04 41.2 +0.3**
comp=Z,20nm,0.7s,mb5.2
KKN Kakani 56.54 295 *e*P **P** **14 04 41.2 +0.3**
KKN pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
DMN Daman 56.68 295 *e*P **P** **14 04 42.4 +0.5**
comp=Z,14nm,0.5s,mb5.2
GKN Gorkha 57.12 296 *e*P **P** **14 04 45.4 +0.3**
comp=Z,15nm,0.3s,mb5.5
UNV Unalaska Valle 57.28 33 *e*P **P** **14 04 43.0 -2.8**
comp=Z,56nm,1.0s,mb5.5
WMQ Urumqi 57.31 315 P **P** **14 04 46.4 +0.2**
WMQ AP pP 14 04 49.6 +3.1
WMQ XP sP 14 04 51.3 +4.7
WMQ PP PP 14 06 55.0 0.0
WMQ AMB AMB
comp=Z,24nm,1.6s,mb5.0
WMQ AMB AMB
comp=Z,85nm,5.7s
WMQ LR LR
comp=N,421nm,19.2s,MS4.6
WMQ LR LR
comp=E,302nm,19.7s,MS4.6
WMQ LR LR
comp=Z,559nm,19.6s,MS4.7
BILL Bilibino 57.87 10*d i*P **P** **14 04 48.6 -1.2**
BILL pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
BILL MLR MLR
comp=Z,200nm,21.0s,MS4.2
BILL Bilibino 57.87 10 *e*P **P** **14 04 48.7 -1.1**
comp=Z,7.9nm,0.8s,mb4.8
KOLN Koldanda 58.02 295 *e*P **P** **14 04 51.9 +0.5**
comp=Z,25nm,0.8s,mb5.3
SDPT Sand Point 61.09 33 *e*P **P** **14 05 09.2 -2.9**
MKAR Makanchi Array 61.74 317 *i*P **P** **14 05 16.6 -0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 61.74 317 P **P** **14 05 17.1 +0.3**
comp=Z,4.3nm,0.6s,mb4.8,baz=91,slow=8.9,SNR=58
CHGN Chignik 62.52 32 *e*P **P** **14 05 15.7 -6.1**
NVS Novosibirsk 63.32 326 *e*P **P** **14 05 25.8 -1.2**
KURK Kurchatov 64.96 321 *e*P **P** **14 05 37.8 -0.1**
KURK pmax pmax
comp=Z,29nm,0.8s,mb5.6
KURK Kurchatov 64.96 321 *e*P **P** **14 05 37.8 0.0**
comp=Z,29nm,0.8s,mb5.6
SVW2 Sparrevohn 65.60 28 *e*P **P** **14 05 40.9 -0.9**
AAK Ala-Archa 66.58 311⇑*i*P **P** **14 05 47.4 -1.0**
AAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.6
RSO Redoubt South 66.70 29 *e*P **P** **14 05 46.4 -2.4**
POO Poona 67.25 285⇓*i*P **P** **14 05 53.0 0.0**
comp=Z,70nm,1.0s,mb5.8
PMR Palmer 68.71 28 *e*P **P** **14 05 59.4 -2.0**
MCK McKinley 69.35 26 P **P** **14 06 04.4 -0.9**
KKAR Karatay Array 69.53 312 *i*P **P** **14 06 06.8 0.0**
KKAR pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
VOSK Vostochnaya 69.97 322 P **P** **14 06 08.8 -0.5**
VOSK pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
BVA0 Borovoye Array 70.36 322 *i*P **P** **14 06 11.6 -0.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
BVAR Borovoye Array 70.36 322 P **P** **14 06 11.9 +0.2**
comp=Z,16nm,0.4s,mb5.5,baz=105,slow=7.7,SNR=112
BRVK Borovoye 70.43 322 *e*P **P** **14 06 12.1 0.0**
BRVK pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
BRVK Borovoye 70.43 322 *e*P **P** **14 06 12.1 0.0**
comp=Z,7.1nm,0.6s,mb5.0
ILAR Eielson Array 70.47 25 P **P** **14 06 09.9 -2.2**
comp=Z,7.4nm,0.5s,mb5.0,baz=258,slow=5.8,SNR=124
ZRNK Zerenda 71.19 322 *e*P **P** **14 06 16.6 -0.1**
ZRNK pmax pmax
comp=Z,67nm,0.6s,mb6.0
ZRNK Zerenda 71.19 322 *e*P **P** **14 06 16.6 -0.1**
comp=Z,67nm,0.6s,mb6.0
PPT Papeete 72.24 113 *e*LR LR 14 27 40.6
comp=Z,297nm,33.2s,baz=284
PPT Papeete 72.24 113 LR LR 14 31 35.4
comp=Z,171nm,19.9s,MS4.3,baz=184,slow=30
TBI Tubuai 74.31 119 *e*LR LR 14 28 43.9
comp=Z,241nm,38.0s,baz=297
INK Inuvik 76.25 22 *e*P **P** **14 06 44.8 -1.0**
INK pmax pmax
comp=Z,23nm,0.9s
INK Inuvik 76.25 22 P **P** **14 06 45.2 -0.7**
comp=Z,21nm,0.8s,mb5.3,baz=274,slow=5.9,SNR=20
INK Inuvik 76.25 22 *e*P **P** **14 06 44.8 -1.0**
comp=Z,23nm,0.9s,mb5.3
AB31 Akbulak array 76.85 318 P **P** **14 06 49.7 +0.1**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
ARU Arti 77.32 325⇓*i*P **P** **14 06 52.2 +0.2**
ARU *e* 14 07 00.7
ARU *e* 14 09 47.6
ARU *e*S S 14 16 42.9 +1.1
ARU *e*SS SS 14 21 42.5 -0.2
ARU pmax pmax
comp=Z,12nm,0.8s,mb5.1
ARU Arti 77.32 325 *e*P **P** **14 06 52.0 -0.1**
comp=Z,15nm,0.9s,mb5.1
DLBC Dease Lake 77.93 32 P **P** **14 06 56.1 +0.7**
comp=Z,2.9nm,0.6s,mb4.6,baz=260,slow=5.5,SNR=10
DLBC Dease Lake 77.93 32 *e*P **P** **14 06 55.6 +0.3**
CASY Casey 81.84 193 *e*P **P** **14 07 16.1 -0.1**
HUMO Hull Mountain 84.45 48 *e*P **P** **14 07 31.1 +1.0**
comp=Z,5.4nm,0.6s,mb5.0
HBO Huckleberry Mo 84.67 46 P **P** **14 07 32.0 +0.8**
YKA Yellowknife Ar 84.78 27 P **P** **14 07 31.8 +0.6**
comp=Z,5.6nm,0.4s,mb5.1,baz=286,slow=5.1,SNR=16
YBH Yreka Blue Hor 84.81 49 *e*P **P** **14 07 32.4 +0.5**
YBH pmax pmax
comp=Z,4.0nm,0.6s
YBH Yreka Blue Hor 84.81 49 P **P** **14 07 33.2 +1.3**
comp=Z,6.0nm,0.6s,mb5.0,baz=167,slow=1.3,SNR=16
YBH Yreka Blue Hor 84.81 49 *e*P **P** **14 07 32.4 +0.5**
comp=Z,4.1nm,0.6s,mb4.8
BUOR Burton Butte 85.03 48 P **P** **14 07 33.9 +0.9**
TBM Table Mountain 85.17 43 P **P** **14 07 34.3 +0.8**
LHEM Herd Peak 85.19 49 P **P** **14 07 34.9 +1.1**
APA Apatity 86.44 339⇑*i*P **P** **14 07 40.0 +0.6**
APA pmax pmax
comp=Z,20nm,0.8s,mb5.3
MOD Modoc 86.53 48 *e*P **P** **14 07 40.8 +0.4**
comp=Z,3.3nm,0.6s,mb4.7
BEKR Beckwourth 86.94 50 *e*P **P** **14 07 42.8 +0.3**
comp=Z,6.3nm,1.0s,mb4.8
RKT Rikitea 86.95 114 *e*LR LR 14 34 45.8
comp=Z,132nm,36.2s,baz=295
NEW Newport 87.19 41 *e*P **P** **14 07 43.6 +0.1**
NEW pmax pmax
comp=Z,21nm,0.8s
NEW Newport 87.19 41 P **P** **14 07 44.3 +0.8**
comp=Z,18nm,0.8s,mb5.4,baz=285,slow=4.5,SNR=22
NEW Newport 87.19 41 *e*P **P** **14 07 43.6 +0.2**
comp=Z,21nm,0.8s,mb5.4
CMB Columbia Colle 87.34 52 *e*P **P** **14 07 45.4 +0.9**
CMB pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
CMB Columbia Colle 87.34 52 *e*P **P** **14 07 45.4 +0.9**
comp=Z,4.1nm,0.8s,mb4.7
KEV Kevo 87.59 342 *ep* **P** **14 07 44.7 -0.2**
comp=Z,6.7nm,0.6s,mb5.2
WVOR Wild Horse Val 87.61 47 *e*P **P** **14 07 46.0 +0.3**
WVOR pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
WVOR Wild Horse Val 87.61 47 *e*P **P** **14 07 46.0 +0.3**
comp=Z,3.9nm,0.6s,mb4.9
BMO Blue Mountains 87.94 45 *e*P **P** **14 07 47.5 +0.3**
BMO pmax pmax
comp=Z,20nm,1.1s,mb5.4
BMO Blue Mountains 87.94 45 *e*P **P** **14 07 47.5 +0.4**
comp=Z,20nm,1.1s,mb5.4
EDM Edmonton 88.11 36 *e*P **P** **14 07 48.9 +1.1**
ARCES ARCESS Array B 88.15 342 P **P** **14 07 48.1 +0.5**
comp=Z,7.8nm,0.6s,mb5.2,baz=67,slow=6.0,SNR=33
WALA Waterton Lakes 89.01 40 *e*P **P** **14 07 53.8 +1.6**
comp=Z,6.2nm,0.9s,mb4.8
KIV Kislovodsk 89.44 315 *e*P **P** **14 07 52.5 -1.9**
KIV pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
KIV pmax pmax
comp=N,3.0nm,0.8s
KIV pmax pmax
comp=E,4.0nm,0.8s
OBN Obninsk 89.70 327*c i*P **P** **14 07 55.3 0.0**
OBN pmax pmax
comp=Z,20nm,1.0s,mb5.3
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.4
TPH Tonopah 89.75 51 *e*P **P** **14 07 56.8 +0.8**
TPH pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
TPH Tonopah 89.75 51 *e*P **P** **14 07 56.8 +0.8**
comp=Z,6.4nm,0.6s,mb5.0
VNDA Vanda 90.03 176 P **P** **14 07 55.8 -0.6**
comp=Z,0.9nm,0.8s,mb4.0,baz=322,slow=5.6,SNR=4.7
ELK Elko 90.51 48 *e*P **P** **14 08 00.6 +1.2**
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 90.51 48 *e*P **P** **14 08 00.6 +1.1**
comp=Z,4.0nm,0.8s,mb4.8
KAF Kangasniemi 91.59 335 *ep* **P** **14 08 02.5 -1.4**
comp=Z,9.0nm,0.7s,mb5.2,baz=58,slow=4.4
FINES FINESS Array B 92.02 335 P **P** **14 08 05.3 -0.6**
comp=Z,12nm,0.7s,mb5.4,baz=98,slow=4.1,SNR=24
NEN Nelson 92.24 53 *e*P **P** **14 08 07.7 +0.2**
IMW Indian Meadow 92.58 44 *e*P **P** **14 08 10.4 +1.5**
comp=Z,4.1nm,0.6s,mb5.0
MOOW Moose Ponds 92.77 44 *e*P **P** **14 08 10.7 +1.0**
comp=Z,4.7nm,1.0s,mb4.9
LOHW Long Hollow 92.91 44 *e*P **P** **14 08 11.4 +1.0**
comp=Z,2.2nm,0.8s,mb4.6
MSU Marysvale 93.43 50 *e*P **P** **14 08 13.3 +0.4**
PDAR Pinedale Array 93.92 45 P **P** **14 08 15.8 +0.8**
comp=Z,0.6nm,0.5s,mb4.2,baz=254,slow=1.7,SNR=7.9
PDAR LR LR 14 42 49.2
comp=Z,92nm,20.2s,MS4.2,baz=33,slow=31
JMIC Jan Mayen 95.01 351 P **P** **14 08 19.6 +0.3**
comp=Z,13nm,0.5s,mb5.6,baz=206,slow=9.8,SNR=3.1
BRTR Keskin Array B 97.21 313 P **P** **14 08 30.6 +0.5**
comp=Z,1.1nm,0.8s,mb4.6,baz=63,slow=2.8,SNR=5.5
HFS Hagfors 97.73 337 P **P** **14 08 31.2 -0.7**
comp=Z,2.9nm,0.6s,mb5.2,baz=72,slow=4.7,SNR=10
NB2 NORSAR Subarra 98.03 339 P **P** **14 08 32.5 -0.8**
comp=Z,3.4nm,0.8s,mb5.1,baz=49,slow=4.5
NB2 NORSAR Subarra 98.03 339 P **P** **14 08 32.5 -0.8**
NB2 pmax pmax
comp=Z,3.0nm,0.8s,mb5.1
NB2 NORSAR Subarra 98.03 339 P **P** **14 08 32.5 -0.8**
baz=49,slow=4.6
NOA NORSAR Array B 98.03 339 P **P** **14 08 32.9 -0.4**
comp=Z,0.8nm,0.8s,mb4.5,baz=53,slow=4.3,SNR=6.2
NOA LR LR 14 55 18.2
comp=Z,30nm,18.6s,MS3.8,baz=230,slow=37
PLCA Paso Flores 138.60 140 PKP PKPdf 14 14 22.7 -1.6
comp=Z,3.5nm,1.1s,baz=162,slow=3.2,SNR=3.9
PLCA Paso Flores 138.60 140 PKP PKPdf 14 14 22.7 -1.6
DBIC Dimbokro 143.53 299 PKIKP PKPdf 14 14 31.0 -2.7
DBIC pmax pmax
comp=Z,12nm,1.0s
DBIC Dimbokro 143.53 299 PKP PKPdf 14 14 31.0 -2.8
comp=Z,12nm,0.9s,baz=30,slow=6.0,SNR=8.5
DBIC Dimbokro 143.53 299 *e*PKPpre 14 14 30.2
CFAA Coronel Fontan 144.82 129 PKP PKPdf 14 14 33.5 -2.0
comp=Z,0.5nm,0.7s,baz=241,slow=4.3,SNR=6.6
LVC Limon Verde 147.31 113 PKPbc PKPdf 14 14 41.7 +1.8
comp=Z,2.7nm,0.7s,baz=275,slow=8.8,SNR=4.3
LPAZ La Paz 148.97 102 *e*PKIKP PKPdf 14 14 43.6 +0.8
LPAZ La Paz 148.97 102 PKPbc PKPdf 14 14 44.6 +1.8
comp=Z,3.4nm,0.8s,baz=354,slow=5.0,SNR=12
SIV San Ignacio 155.75 102 PKP PKPdf 14 14 52.5 0.0
comp=Z,0.5nm,0.5s,baz=0.6,slow=11,SNR=3.5
SIV PKPab PKPab 14 15 19.4 -0.1
comp=Z,0.6nm,0.8s,baz=55,slow=12,SNR=3.7

*STR **20** 14:04:47.4±1.5, 46.23N×9.13E, h10km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **20** 14:04:48.9, 46.30N×9.10E, h2km, ML2.8(LDG), ML2.7(VIE), ML2.1(ZUR), After ZUR.*
*ROM **20** 14:04:48.4±0.2, 46.30N×9.14E, h12km, Md2.5/6, Ml1.8/1, Error ellipse: s-maj=2.3km s-min=1.6km az=56.0*
*CSEM **20** 14:04:48.7±0.1, 46.27N×9.11E, h2km, ML2.9/11, Error ellipse: s-maj=1.3km s-min=1.2km az=62.0, Suspected Mining explosion.*
*LDG **20** 14:04:49.0±0.1, 46.30N×9.11E, h2km, Md2.7/3, Ml2.8/14, Error ellipse: s-maj=1.4km s-min=1.1km az=115.0*

ZUR 20 14:04:48.8, 46.31N×9.11E, h2km±2km, ML2.1/8, 9C-6D,
Suspected Mining explosion., Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VDL	**Val di Lei**	**0.31**	**54**	⇓*i*P		Pg 14 04 55.1	+0.2
VDL	**Val di Lei**	**0.31**	**54**	⇑*i*P		Pg 14 04 55.1	+0.2
VDL				*i* S		Sg 14 04 59.1	+0.1
FUSIO	**Fusio**	**0.34**	**296**	⇑*i*P		Pg 14 04 56.0	+0.3
FUSIO				*e*S		Sg 14 05 00.5	+0.2
MUGIO	**Muggio**	**0.39**	**187**	⇑*e*Pg		Pg 14 04 56.5	0.0
MUGIO				Sg		Sg 14 05 02.1	+0.4
MUGIO	**Muggio**	**0.39**	**187**	*i* S		Sg 14 05 01.9	+0.2
MUGIO	**Muggio**	**0.39**	**187**	⇑*i*P		Pg 14 04 56.5	0.0
VAI	**Varese**	**0.50**	**209**	⇓*i*Pg		Pg 14 04 59.0	+0.2
VAI				Sg		Sg 14 05 07.1	+1.6
	24nm,0.3s						
LLS	**Linth-Limmern**	**0.55**	**353**	⇑*i*P		Pg 14 04 59.8	+0.1
LLS				*i* S		Sg 14 05 07.1	+0.1
MDI	**Monti di Nese**	**0.67**	**142**	Pg		Pg 14 05 02.4	+0.1
MDI				Sg		Sg 14 05 12.3	+1.1
	38nm,0.3s						
DAVOX	**Davos**	**0.71**	**48**	⇓*i*P		Pg 14 05 02.8	-0.2
DAVOX	**Davos**	**0.71**	**48**	*e*P		Pg 14 05 02.8	-0.2
DAVOX				*i* S		Sg 14 05 12.1	-0.4
MUO	**Muotathal**	**0.74**	**334**	*e*P		Pg 14 05 03.7	+0.1
MUO				*e*S		Sg 14 05 13.5	+0.1
MUO	**Muotathal**	**0.74**	**334**	⇑*e*P		Pg 14 05 03.8	+0.2
PLONS	**Plons**	**0.77**	**14**	⇓*e*P		Pg 14 05 04.0	-0.1
PLONS	**Plons**	**0.77**	**14**	*e*P		Pg 14 05 04.0	-0.1
MMK	**Mattmark**	**0.84**	**253**	Pg		Pg 14 05 04.7	-0.8
MMK				Sg		Sg 14 05 19.1	+2.4
FUORN	**Ofenpass**	**0.85**	**68**	⇑*i*P		Pg 14 05 05.3	-0.6
FUORN	**Ofenpass**	**0.85**	**68**	Pg		Pg 14 05 05.3	-0.6
FUORN				Sg		Sg 14 05 18.1	+0.8
DAVA	**Damuels**	**1.11**	**28**	⇓*i*PG		Pg 14 05 10.9	-0.1
DAVA				*i* SG		Sg 14 05 26.5	+0.6
	28nm,0.3s						
BBS	**Basel-Blauen**	**1.60**	**317**	Pg		Pg 14 05 18.6	-2.1
BBS				Sg		Sg 14 05 42.2	+0.2
SQTA	**Sankt Quirin**	**1.71**	**57**	⇑*i*PG		Pg 14 05 23.7	+0.8
SQTA				*i* SG		Sg 14 05 49.0	+3.4
	11nm,0.3s						
MOTA	**Moosalm**	**1.72**	**52**	⇑*i*PG		Pg 14 05 23.5	+0.4
MOTA				*i* SG		Sg 14 05 48.4	+2.4
	13nm,0.4s						
FELD	**Feldberg**	**1.74**	**335**	Pg		Pg 14 05 22.6	-1.0
FELD				Sg		Sg 14 05 46.5	-0.4
LPG	**La Plagne**	**1.84**	**245**	*e*Pg		Pg 14 05 23.4	-2.1
LPG				*e*Sg		Sg 14 05 46.5	-3.4
	7.0nm,0.4s						
LPL	**La Plagne**	**1.84**	**245**	*e*Pn		Pn 14 05 20.1	-1.5
LPL				*e*Pg		Pg 14 05 23.3	-2.2
LPL				*e*Sg		Sg 14 05 46.8	-3.3
	8.7nm,0.5s						
LOMF	**Lomont**	**1.89**	**304**	Pg		Pg 14 05 24.2	-2.2
WTTA	**Wattenberg**	**1.98**	**60**	⇓*i*PG		Pg 14 05 27.1	-1.2
WTTA				*i* SG		Sg 14 05 57.2	+2.4
	6.1nm,0.4s						
MOF	**Molkenrain**	**2.06**	**320**	Pg		Pg 14 05 26.2	-3.6
CABF	**La Chapelle**	**2.11**	**279**	*e*Pn		Pn 14 05 23.3	-2.2
CABF				*e*P		14 05 26.0	
CABF				*e*Pg		Pg 14 05 28.6	-2.4
CABF				*e*Sg		Sg 14 05 55.2	-4.0
	24nm,0.5s						
HINF	**Hinteralfeld**	**2.16**	**315**	*e*Pn		Pn 14 05 24.2	-2.0
HINF				*e*P		14 05 27.2	
HINF				*e*Sn		Sn 14 05 49.9	-4.0
HINF				*e*Sg		Sg 14 05 56.6	-4.2
	13nm,0.4s						
MBDF	**Montbardon**	**2.28**	**227**	*e*P		Pn 14 05 28.3	+0.3
MBDF				*e*Sg		Sg 14 06 00.7	-4.0
	5.9nm,0.4s						
CDF	**Champ du Feu**	**2.45**	**330**	*e*Pn		Pn 14 05 28.7	-1.7
CDF				*e*P		14 05 31.2	
CDF				*e*Pg		Pg 14 05 34.7	-3.0
CDF				*e*Sn		Sn 14 05 56.1	-5.1
CDF				*e*Sg		Sg 14 06 05.9	-4.4
	21nm,0.5s						
HAU	**Haudompre**	**2.54**	**313**	*e*Pn		Pn 14 05 29.3	-2.4
HAU				*e*P		14 05 32.0	
HAU				*e*Sn		Sn 14 05 58.6	-4.9
	17nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.66**	**240**	*e*Pn		Pn 14 05 31.1	-2.3
ORIF				*e*Pg		Pg 14 05 38.1	-3.8
ORIF				*e*Sg		Sg 14 06 12.6	-4.8
	4.9nm,0.4s						
SBF	**Sospel**	**2.72**	**207**	*e*P		Pn 14 05 34.9	+0.7
SBF				*e*Sn		Sn 14 06 03.5	-4.5
	8.7nm,0.4s						
RFYF	**Reffroy**	**3.39**	**315**	*e*Pn		Pn 14 05 41.0	-2.8
RFYF				*e*Sg		Sg 14 06 35.7	-6.0
	14nm,0.4s						
LMR	**La Mourre**	**3.50**	**213**	*e*P		Pn 14 05 46.2	+0.9
MEZF	**Maizieres J'vi**	**3.53**	**310**	*e*Pn		Pn 14 05 42.5	-3.2
MEZF				*e*Sg		Sg 14 06 39.7	-6.5
	18nm,0.3s						
SMF	**Signal de Mont**	**3.66**	**277**	*e*P		Pn 14 05 47.8	+0.2
SMF				*e*Sg		Sg 14 06 43.9	-6.7
	5.4nm,0.3s						
LOR	**Lormes**	**3.74**	**287**	*e*P		Pn 14 05 49.6	+0.9
LOR				*e*Pg		Pg 14 05 58.3	-5.1
	baz=106						
LOR				*e*Sn		Sn 14 06 27.5	-6.3
LOR				*e*Sg		Sg 14 06 46.3	-6.9
	6.8nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LOR	Lormes	3.74	287	ePg	Pg	14 05 58.3	-5.1
LOR				eSn	Sn	14 06 27.5	-6.3
LOR				eSg	Sg	14 06 46.3	-6.9
	3.4nm,0.4s						
SSF	Saint Saulge	3.93	283	ePn	Pn	14 05 47.9	-3.6
SSF				eSg	Sg	14 06 52.2	-7.5
	3.4nm,0.5s						

*IDC **20** 14:12:06.6±1.6, 31.14N×103.90E, mb3.5/2, mb1 3.6/3, mb1mx3.5/19, mbtmp3.4/3, Error ellipse: s-maj=88.7km s-min=26.7km az=59.0*

*BJI **20** 14:12:09.8, 31.15N×103.78E, h14^{km}, ML3.5*

ISC 20 14:12:06.4±0.7**, 31.17N**±0.05×**103.98E**±0.07**, h10^{km}, n6, σ0^{s}87**/11**, mb3.5**/2**, 1D, Sichuan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CD2	Chengdu	0.32	217	⇓iPG	Pg	14 12 13.0	0.0
CD2				SG	Sg	14 12 17.4	0.0
XAN	Xi'an	5.06	54	P	Pn	14 13 28.4	+4.3
XAN				PG	Pg	14 13 46.3	-1.1
XAN				S	Sn	14 14 23.8	+0.4
XAN				SG	Sg	14 14 45.9	-8.9
XAN				Smax			
	comp=N,52nm,0.8s						
XAN				Smax			
	comp=E,41nm,1.0s						
GYA	Guiyang	5.25	153	PG	Pg	14 13 47.8	-3.3
GYA				SG	Sg	14 15 02.0	+0.9
GYA				Smax			
	comp=N,60nm,1.0s						
GYA				Smax			
	comp=E,50nm,0.8s						
SONM	Songino Array	16.75	6	Pn	P	14 16 03.4	+0.8
	baz=180,slow=10,SNR=3.1						
MKAR	Makanchi Array	22.86	319	P	P	14 17 11.1	+0.2
	comp=E,0.4nm,0.8s,mb2.9,baz=128,slow=11,SNR=3.1						
WRA	Warramunga Arr	58.58	146	P	P	14 22 05.4	-0.5
	comp=E,1.6nm,0.7s,mb4.2,baz=338,slow=7.9,SNR=15						

*NNC **20** 14:29:44.3±10.0, 43.37N×84.53E, mpv2.9, Error ellipse: s-maj=245.8km s-min=100.8km az=65.0*

BJI 20 14:29:51.4, 43.62N×84.46E, h14^{km}, ML3.2, 1C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	2.35	84	P	Pn	14 30 30.9	+0.6
WMQ				S	Sn	14 31 04.8	+5.6
WMQ				SG	Sg	14 31 07.1	-2.8
WMQ				Smax			
	comp=N,31nm,0.3s						
WMQ				Smax			
	comp=E,31nm,0.3s						
MK31	Makanchi Array	3.52	335	Pn	Pn	14 30 46.3	-0.7
	comp=E,0.5nm,0.3s,baz=157,slow=15,SNR=79						
MK31				⇑Pg	Pg	14 30 54.7	-7.1
	comp=E,1.7nm,0.3s						
MK31				⇓Lg		14 31 41.5	
	comp=E,10nm,0.7s,baz=150,slow=29,SNR=3.5						

*LDG **20** 15:21:06.8±0.0, 48.34N×6.65E, h10^{km}, Md3.2/3, Ml3.3/26, Error ellipse: s-maj=0.8km s-min=0.6km az=160.0*

*STR **20** 15:21:06.3±0.2, 48.35N×6.67E, h10^{km}±1^{km}, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **20** 15:21:06.3, 48.35N×6.67E, h10^{km}, ML3.3(LDG), ML3.3(VIE), ML2.9(STR), ML2.8(SZGRF), After STR.*

*LEDBW **20** 15:21:06.9±0.2, 48.34N×6.66E, h10^{km}, ML2.9, Error ellipse: s-maj=8.0km s-min=4.0km az=178.0*

*CSEM **20** 15:21:06.6±0.0, 48.34N×6.67E, h12^{km}, ML3.3/29, Error ellipse: s-maj=0.7km s-min=0.5km az=159.0*

*BGR **20** 15:21:07.7±0.6, 48.41N×6.72E, h10^{km}, ML3.0/12, Error ellipse: s-maj=7.8km s-min=5.6km az=30.0*

*PRU **20** 15:21:07.4, 48.36N×6.73E*

ISC 20 15:21:04.1±0.2**, 48.34N**±0.01×**6.58E**±0.02**, h11^{km}**±2^{km}**, n103, σ1^{s}31**/216**, 10C-11D, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HAU	Haudompre	0.36	206	ePg	Pg	15 21 14.4	+2.7
HAU				ePn	Pn	15 21 15.4	+0.5
HAU				eSg	Sg	15 21 19.4	+2.6
	340nm,0.2s						
ECH	Echery	0.40	107	⇑iPg	Pg	15 21 13.9	+1.4
ECH				iSg	Sg	15 21 18.5	+0.6
ECH	Echery	0.40	107	Pg	Pg	15 21 13.7	+1.3
ECH				Sg	Sg	15 21 18.3	+0.3
THEF	They Montfort	0.41	255	⇑iPg	Pg	15 21 15.5	+2.9
THEF	They Montfort	0.41	255	Pg	Pg	15 21 15.4	+2.8
THEF				Sg	Sg	15 21 22.0	+3.7
CDF	Champ du Feu	0.47	80	ePg	Pg	15 21 14.8	+1.1
CDF				ePn	Pn	15 21 16.9	+0.5
CDF				eSg	Sg	15 21 20.3	+0.2
	365nm,0.2s						
CDF				eSn	Sn	15 21 23.6	-0.9
WLS	Welschbruch	0.52	81	⇑iPg	Pg	15 21 15.9	+1.2
WLS				Sg	Sg	15 21 22.3	+0.5
WLS	Welschbruch	0.52	81	Pg	Pg	15 21 15.8	+1.1
WLS				Sg	Sg	15 21 22.1	+0.3
HINF	Hinteralfeld	0.55	161	ePg	Pg	15 21 16.9	+1.6
HINF				ePn	Pn	15 21 19.0	+1.5
HINF				eSg	Sg	15 21 23.8	+1.0
	438nm,0.2s						
HINF				eSn	Sn	15 21 26.7	+0.1
MOF	Molkenrain	0.61	142	⇓iPg	Pg	15 21 18.0	+1.5
MOF	Molkenrain	0.61	142	Pg	Pg	15 21 17.8	+1.3
LIBD	Limburg	0.71	105	⇑iPg	Pg	15 21 19.9	+1.5
LIBD	Limburg	0.71	105	Pg	Pg	15 21 19.8	+1.4
LIBD				Sg	Sg	15 21 27.9	0.0
RFYF	Reffroy	0.79	292	ePg	Pg	15 21 22.8	+2.7
	baz=110						
RFYF				ePn	Pn	15 21 23.2	+2.2
RFYF				eSg	Sg	15 21 33.7	+2.9
RFYF				eSn	Sn	15 21 34.9	+2.1
	517nm,0.2s						
STR	Strasbourg	0.83	72	Pg	Pg	15 21 22.4	+1.6
FBB	Freiburg	0.91	111	⇑iPg	Pg	15 21 23.5	+1.0
KIZ	Kirchzarten	0.97	112	⇓ePn	Pn	15 21 24.1	+0.5
KIZ				Sg	Sg	15 21 36.3	-0.4
KIZ	Kirchzarten	0.97	112	⇓eP	Pn	15 21 24.1	+0.5
KIZ				⇓eP		15 21 24.3	
KIZ				eS	Sb	15 21 36.1	+1.0
KIZ				S	Sg	15 21 36.3	-0.4
LOMF	Lomont	1.00	170	⇓ePn	Pn	15 21 25.7	+1.8
LOMF	Lomont	1.00	170	Pg	Pg	15 21 25.6	+1.4
LOMF				Sg	Sg	15 21 39.1	+1.5
MEZF	Maizieres J'vi	1.03	280	ePg	Pg	15 21 27.0	+2.1
	baz=99						
MEZF				eSg	Sg	15 21 41.0	+2.3
	169nm,0.3s						
LANF	Langenberg	1.04	51	Pg	Pg	15 21 24.9	0.0
LANF				Sg	Sg	15 21 38.0	-0.8
LANF	Langenberg	1.04	51	P	Pb	15 21 25.0	+1.4
SFTF	Sexfontaines	1.04	263	ePn	Pn	15 21 26.7	+2.2
	baz=83						
SFTF				ePg	Pg	15 21 27.4	+2.4
SFTF				eSg	Sg	15 21 41.3	+2.4
	142nm,0.2s						
FELD	Feldberg	1.06	115	eP	Pb	15 21 25.9	+1.9
FELD				P		15 21 25.9	
FELD				eS	Sb	15 21 38.8	+1.2
FELD	Feldberg	1.06	115	Pg	Pg	15 21 25.9	+0.5
FELD				Sg	Sg	15 21 39.1	-0.4
BBS	Basel-Blauen	1.07	144	Pg	Pg	15 21 26.7	+1.1
BBS	Basel-Blauen	1.07	144	Pg	Pg	15 21 26.4	+0.8
BBS				Sg	Sg	15 21 40.5	+0.5
BFO	Black Forest	1.17	90	ePg	Pg	15 21 26.5	-1.0
	SNR=47						
BFO				eSg	Sg	15 21 41.6	-1.5
	SNR=111						
BFO	Black Forest	1.17	90	⇑iP	Pb	15 21 26.5	+0.7
BFO	Black Forest	1.17	90	ePg	Pg	15 21 26.5	-1.0
BFO				eSg	Sg	15 21 42.1	-1.0
WLF	Walferdange	1.36	348	ePg	Pg	15 21 32.6	+1.2
	SNR=8.2						
WLF				eSg	Sg	15 21 49.7	+0.1
	SNR=17						
WLF	Walferdange	1.36	348	eP	Pn	15 21 31.6	+2.5
WLF				eS	Sb	15 21 50.2	+3.8
WLF	Walferdange	1.36	348	eP	Pn	15 21 31.6	+2.5
WLF				eS	Sb	15 21 50.2	+3.8
KTD	Kalmit	1.40	45	Pg	Pg	15 21 32.4	+0.3
KTD				Sg	Sg	15 21 50.5	-0.3
KTD	Kalmit	1.40	45	S	Sg	15 21 50.5	-0.3
KTD	Kalmit	1.40	45	Pg	Pg	15 21 32.2	+0.1
RUP	Ruppelstein	1.40	13	Pg	Pg	15 21 32.9	+0.7
RUP	Ruppelstein	1.40	13	Pg	Pg	15 21 32.9	+0.7
RUP				Sg	Sg	15 21 50.5	-0.5
SPAK	Spaichingen	1.49	98	Pg	Pg	15 21 34.2	+0.2
LBG	Lerchenberg	1.51	76	⇑iPn	Pn	15 21 31.3	+0.1
LBG				Pg	Pg	15 21 34.3	0.0
ABH	Alteburg	1.67	22	Pg	Pg	15 21 37.4	-0.2
ABH	Alteburg	1.67	22	Pg	Pg	15 21 37.4	-0.2
ABH				Sg	Sg	15 21 58.7	-1.3
TUBL	Tuebingen Lnz	1.68	83	Pg	Pg	15 21 37.7	+0.1
GUT	Gutenstein	1.71	98	⇓ePg	Pg	15 21 38.3	-0.2
SISB	Singen-Sch Ber	1.73	111	Pg	Pg	15 21 38.8	+0.1
CABF	La Chapelle	1.76	191	ePn	Pn	15 21 36.1	+1.3
CABF				ePg	Pg	15 21 39.9	+0.6
CABF				eSn	Sn	15 21 57.0	-0.3
CABF				eSg	Sg	15 22 02.5	-0.2
	119nm,0.5s						
STU	Stuttgart	1.79	75	ePg	Pg	15 21 39.4	-0.5
	SNR=4.0						
STU				eSg	Sg	15 22 01.9	-1.9
	SNR=4.4						
STU	Stuttgart	1.79	75	ePg	Pg	15 21 39.3	-0.6
STU				eSg	Sg	15 22 02.1	-1.7
SWS	Schriesheim	1.81	50	Pg	Pg	15 21 40.0	-0.3
BUCH	Bad Urach	1.85	85	Pn	Pn	15 21 36.2	0.0
BUCH				⇓iPg	Pg	15 21 40.9	-0.3
BUCH	Bad Urach	1.85	85	Pn	Pn	15 21 36.2	+0.1
BUCH				⇓iPg	Pg	15 21 40.9	-0.2
BUCH	Bad Urach	1.85	85	⇓iPG	Pg	15 21 40.9	-0.2
BUCH	Bad Urach	1.85	85	⇓iPg	Pg	15 21 40.9	-0.2
TOD	Tromm	1.94	48	Pg	Pg	15 21 42.4	-0.5
TOD	Tromm	1.94	48	Pg	Pg	15 21 42.2	-0.7
GIVF	Givet	2.11	328	ePn	Pn	15 21 41.6	+1.7
GIVF				ePg	Pg	15 21 46.4	0.0
GIVF				eSn	Sn	15 22 05.2	-1.1
GIVF				eSg	Sg	15 22 13.6	-0.9
	14nm,0.2s						
LOR	Lormes	2.12	241	ePn	Pn	15 21 41.0	+1.0
	baz=62						
LOR				ePg	Pg	15 21 47.1	+0.5
	baz=62						
LOR				eSn	Sn	15 22 06.1	-0.5
LOR				eSg	Sg	15 22 14.8	-0.1
	43nm,0.2s						
LOR	Lormes	2.12	241	ePg	Pg	15 21 47.1	+0.5
LOR				eSn	Sn	15 22 06.1	-0.5
LOR				eSg	Sg	15 22 14.8	-0.1
	22nm,0.2s						
SIND	Sindeldorf	2.24	62	Pg	Pg	15 21 47.4	-1.5
TNS	Taunus Mts	2.25	32	ePn	Pn	15 21 42.2	+0.3
	SNR=1.8						
TNS				ePg	Pg	15 21 48.0	-1.1
	SNR=5.6						
TNS				eSg	Sg	15 22 14.8	-4.3
	SNR=21						
TNS	Taunus Mts	2.25	32	ePn	Pn	15 21 42.3	+0.5
TNS				eSg	Sg	15 22 16.1	-3.0
BAIF	Baives	2.33	319	ePn	Pn	15 21 44.2	+1.3
BAIF				ePg	Pg	15 21 50.4	-0.2
BAIF				eSg	Sg	15 22 19.8	-1.8
	31nm,0.6s						
HDH	Heidenheim	2.42	83	Pg	Pg	15 21 51.4	-1.2
SSF	Saint Saulge	2.44	240	ePn	Pn	15 21 45.2	+0.7
SSF				ePg	Pg	15 21 52.9	+0.1
SSF				eSg	Sg	15 22 24.2	-1.2
	35nm,0.4s						
SSF	Saint Saulge	2.44	240	ePg	Pg	15 21 52.9	+0.1
SSF				eSg	Sg	15 22 24.2	-1.2
	18nm,0.4s						
UBR	Uberruh	2.46	104	Pg	Pg	15 21 52.7	-0.6
DAVA	Damuels	2.46	114	⇑iPN	Pn	15 21 46.7	+1.9
DAVA				iSG	Sg	15 22 23.9	-2.1
	6.9nm,0.2s						
SMF	Signal de Mont	2.51	229	ePn	Pn	15 21 45.6	0.0
SMF				ePg	Pg	15 21 54.4	+0.1
SMF				eSg	Sg	15 22 26.7	-1.2
	55nm,0.3s						
LPL	La Plagne	2.82	178	ePg	Pg	15 21 59.4	-1.1
LPL				eSg	Sg	15 22 36.3	-1.8
	10nm,0.3s						
LPG	La Plagne	2.84	178	ePn	Pn	15 21 50.8	+0.5
LPG				ePg	Pg	15 21 59.7	-1.2
LPG				eSg	Sg	15 22 36.9	-1.9
	13nm,0.4s						
HYF	Humbligny	2.86	250	ePn	Pn	15 21 51.5	+0.9
HYF				ePg	Pg	15 22 00.7	-0.7
HYF				eSn	Sn	15 22 24.5	-0.9
HYF				eSg	Sg	15 22 38.4	-1.2
BGF	Bois d'Agland	3.10	236	ePn	Pn	15 21 53.8	-0.1
BGF				ePg	Pg	15 22 05.3	-0.7
BGF				eSn	Sn	15 22 29.4	-1.9
BGF				eSg	Sg	15 22 45.3	-2.0
	50nm,0.3s						
MOTA	Moosalm	3.20	106	⇑iPN	Pn	15 21 57.5	+2.1
MOTA				iSG	Sg	15 22 46.7	-4.1
	12nm,0.2s						
SQTA	Sankt Quirin	3.31	108	⇓iPN	Pn	15 21 59.6	+2.6
SQTA				iSG	Sg	15 22 50.4	-4.1
	17nm,0.2s						
GRF	Grafenberg Arr	3.34	64	eSg	Sg	15 22 49.9	-5.5
ORIF	Oris-en-Rattie	3.45	188	ePn	Pn	15 21 59.0	0.0
ORIF				ePg	Pg	15 22 11.1	-2.0
ORIF				eSg	Sg	15 22 55.3	-3.8
	17nm,0.4s						
WTTA	Wattenberg	3.57	106	⇑iPN	Pn	15 22 03.0	+2.3
WTTA				iSG	Sg	15 22 59.5	-3.6
	3.1nm,0.2s						
MBDF	Montbardon	3.61	178	eSg	Sg	15 23 00.9	-3.5
	7.2nm,0.5s						
TCF	Toulx Ste Croi	3.61	237	ePn	Pn	15 22 01.2	0.0
TCF				ePg	Pg	15 22 14.3	-2.0
TCF				eSn	Sn	15 22 42.3	-2.0
TCF				eSg	Sg	15 23 01.4	-3.0
	7.6nm,0.2s						
VIVF	Saint-Julien-l	3.72	201	ePn	Pn	15 22 02.6	-0.2
VIVF				ePg	Pg	15 22 15.8	-2.6
VIVF				eSg	Sg	15 23 02.9	-5.2
	28nm,0.4s						
MOX	Moxa	4.01	53	ePn	Pn	15 22 06.7	-0.3
	SNR=1.5						
MOX				ePg	Pg	15 22 18.7	-5.6
	SNR=2.7						
MOX				eSn	Sn	15 22 52.7	-1.8
MOX				eSg	Sg	15 23 12.1	-5.7
	SNR=5.2						
MOX	Moxa	4.01	53	S	Sn	15 22 52.0	-2.5
MOX				Sg	Sg	15 23 11.0	-6.8
WET	Wettzell	4.25	77	ePn	Pn	15 22 09.7	-0.5
	SNR=1.8						
WET				ePg	Pg	15 22 24.9	-4.0
	SNR=3.6						
WET				eSn	Sn	15 22 55.5	-4.8
	SNR=11						
WET				eSg	Sg	15 23 18.0	-7.5
	SNR=6.9						
GUNZ	Gunzen	4.27	59	ePg	Pg	15 22 25.8	-3.7
	SNR=4.2						
GUNZ				eSg	Sg	15 23 18.0	-8.4
	SNR=8.6						
NKC	Novy Kostel	4.28	61	ePG	Pg	15 22 25.2	-4.5
NKC				eSG	Sg	15 23 18.6	-8.2
WERD	Werda	4.29	58	ePg	Pg	15 22 25.4	-4.5
	SNR=4.4						
WERD				eSn	Sn	15 22 55.8	-5.8
	SNR=4.6						
WERD				eSg	Sg	15 23 19.7	-7.5
	SNR=8.9						
TANN	Tannenbergstha	4.37	59	ePg	Pg	15 22 27.1	-4.3
	SNR=5.2						
TANN				eSg	Sg	15 23 22.9	-6.7
	SNR=7.9						
RJF	Les Rejaudoux	4.61	231	eSg	Sg	15 23 32.7	-5.1
	10nm,0.4s						
CAF	Calviac	4.62	224	ePn	Pn	15 22 15.1	-0.4
CAF				ePg	Pg	15 22 33.1	-3.2
CAF				eSg	Sg	15 23 32.7	-5.2
	10nm,0.5s						
LASF	Ste Croix	4.66	205	ePn	Pn	15 22 15.4	-0.7
LASF				ePg	Pg	15 22 33.8	-3.4
LASF				eSg	Sg	15 23 33.7	-5.6
	26nm,0.8s						
KHC	Kasperske Hory	4.70	78	ePN	Pn	15 22 15.8	-0.9
KHC				ePG	Pg	15 22 33.0	-5.0
KHC				eSN	Sn	15 23 07.5	-4.3
KHC				eSG	Sg	15 23 32.7	-7.9
FLN	La Foliniere	4.71	278	ePn	Pn	15 22 16.8	-0.1
FLN				eSn	Sn	15 23 08.7	-3.4
FLN				eSg	Sg	15 23 36.0	-5.0
	14nm,0.4s						
KBA	Koelnbreinsper	4.74	103	⇑iPN	Pn	15 22 34.6	+17
KBA				iSN	Sn	15 23 11.9	-0.8
GEC2	GERESS Array S	4.75	81	ePn	Pn	15 22 17.1	-0.4
	SNR=1.6						
GEC2				ePg	Pg	15 22 34.0	-5.0
	SNR=2.8						
GEC2				eSn	Sn	15 23 09.9	-3.3
	SNR=3.8						
GEC2				eSg	Sg	15 23 34.7	-7.7
	SNR=4.2						
MFF	Saint Martin d	4.88	252	ePn	Pn	15 22 18.7	-0.6
MFF				eSg	Sg	15 23 41.1	-5.6
	7.6nm,0.4s						
CLL	Collm	5.11	52	ePg	Pg	15 22 44.0	-2.2
CLL				eSg	Sg	15 23 47.0	-7.3
	SNR=2.7						
LFF	La Frestale	5.26	232	eSg	Sg	15 23 52.5	-6.9
	20nm,0.5s						
MTLF	Montolieu	5.85	213	ePn	Pn	15 22 31.5	-1.4
MTLF				ePg	Pg	15 22 55.1	-5.9
MTLF				eSg	Sg	15 24 11.0	-8.0
	7.1nm,0.7s						
SGMF	Saint Gilles	6.10	273	ePn	Pn	15 22 35.4	-1.1
SGMF				eSn	Sn	15 23 40.8	-6.2
	2.6nm,0.3s						
QUIF	Quistinic	6.54	270	ePn	Pn	15 22 41.7	-1.0
QUIF				eSn	Sn	15 23 52.2	-5.8
	4.6nm,0.4s						
ROSF	Rostrenen	6.57	274	ePn	Pn	15 22 42.0	-1.1
EPF	Esparros	6.87	222	eSg	Sg	15 24 42.8	-10
	2.3nm,0.3s						

IDC 20 15:26:32.3±3.2**, 10.27N×92.62E, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.6**/19**, mbtmp3.7**/4**, Error ellipse: s-maj=127.8km s-min=24.4km az=67.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	37.45	348	P	P	15 33 47.2	-2.0
	0.1nm,0.4s,baz=163,slow=7.8,SNR=5.5						
SONM	Songino Array	39.20	15	P	P	15 34 02.4	-1.5
	0.2nm,0.4s,baz=188,slow=7.6,SNR=3.5						
WRA	Warramunga Arr	50.87	126	P	P	15 35 34.9	-2.5
	1.0nm,0.5s,baz=306,slow=8.3,SNR=15						
STKA	Stephens Creek	62.83	134	P	P	15 37 00.7	-1.8
	1.1nm,0.5s,baz=308,slow=9.0,SNR=4.0						

*IDC **20** 15:26:45.6±0.8, 29.89S×72.69W, mb4.1/4, mb1 4.4/8, mb1mx4.2/18, mbtmp4.2/8, ML4.5/4, MS3.8/3, Ms1 3.8/3, ms1mx3.2/20, Error ellipse: s-maj=28.3km s-min=21.8km az=97.0*

*NEIC **20** 15:26:52.7, 30.03S×72.52W, h39^{km}, mb4.2/1, After GUC.*

*GUC **20** 15:26:52.7±0.9, 30.03S×72.52W, h39^{km}±4^{km}, ML4.7*

ISC 20 15:26:50.0±0.9**, 29.95S**±0.03×**72.72W**±0.07**, h47^{km}**±11^{km}**, n40, σ1^{s}16**/49**, mb4.0**/5**, MS4.0**/2**, 6C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	1.47	117	⇑iP	P	15 27 14.8	+0.1
OVCH				iS	S	15 27 31.9	-1.0
OVCH				AMP		15 27 36.5	
	comp=E,6μm,0.6s						
TLL	Tololo Astrono	1.68	98	⇓iP	P	15 27 18.6	+1.0
TLL				iS	S	15 27 38.5	+0.6
TLL				AMP		15 27 42.4	
	comp=N,14μm,0.5s						
CMCH	Combarbala	1.93	130	⇑iP	P	15 27 21.6	+0.6
CMCH				iS	S	15 27 43.9	-0.2
CMCH				AMP		15 27 46.3	
	comp=N,21μm,0.8s						
ILCH	Illapel	2.15	142	⇑iP	P	15 27 24.4	+0.2
ILCH				iS	S	15 27 48.9	-0.9
ILCH				AMP		15 27 50.1	
	comp=N,3μm,0.2s						
VACH	Vallenar	2.19	52	⇓iP	P	15 27 24.3	-0.5
VACH				iS	S	15 27 50.6	-0.2
VACH				AMP		15 27 51.5	
	comp=N,16μm,0.2s						
JACH	Jahuel	3.28	147	⇑iP	P	15 27 41.1	+0.8
JACH				iS	S	15 28 17.4	-1.0
CPCH	Copiapo	3.31	40	⇑iP	P	15 27 39.7	-1.1
CPCH				iS	S	15 28 17.2	-2.0
CPCH				AMP		15 28 19.0	
	comp=E,8μm,0.1s						
ZON	Zonda	3.83	116	eP	P	15 27 50.0	+2.0
ZON				eS	S	15 28 35.0	+2.7
FCH	Farellones	3.96	149	eP	P	15 27 50.8	+0.9
FCH				iS	S	15 28 34.6	-1.0
TACH	Talagante	4.00	158	⇑iP	P	15 27 50.6	+0.3
PCH	Pirque	4.12	153	eP	P	15 27 52.2	+0.1
PCH				iS	S	15 28 37.2	-2.3
CFAA	Coronel Fontan	4.20	114	Pn	P	15 27 55.4	+2.1
	comp=E,3.6nm,0.3s,baz=297,slow=13,SNR=192						
CFAA				Sn	S	15 28 42.9	+1.2
	comp=E,4.3nm,0.3s,baz=90,slow=14,SNR=4.0						
CFAA				Lg		15 28 59.5	
	comp=E,7.7nm,0.3s,baz=33,slow=16,SNR=5.6						
CHCH	Chadas Angostu	4.35	157	eP	P	15 27 55.5	+0.2
CHCH				iS	S	15 28 42.9	-2.5
LMEL	Las Melosas	4.44	152	eP	P	15 27 57.5	+0.8
LMEL				iS	S	15 28 45.6	-2.1
CACH	El Canelo	4.53	157	⇓iP	P	15 27 58.7	+0.7
CICH	Cipreses	4.78	156	eP	P	15 28 02.0	+0.6
SFDO	San Fernando	4.88	163	eP	P	15 28 02.2	-0.5
LVC	Limon Verde	8.06	26	Pn	P	15 28 42.9	-4.3
	comp=E,4.1nm,0.3s,baz=176,slow=8.1,SNR=18						
LVC				Sn	S	15 30 12.0	-5.9
	comp=E,9.9nm,0.3s,baz=91,slow=20,SNR=5.8						
PLCA	Paso Flores	10.91	171	Pn	P	15 29 25.4	-0.9
	comp=E,1.1nm,0.3s,baz=335,slow=12,SNR=24						
CPUP	Villa Florida	14.05	79	Pn	P	15 30 04.3	-3.8
	comp=E,0.3nm,0.3s,baz=279,slow=14,SNR=12						
CPUP				LR	LR	15 35 52.8	
	comp=E,192nm,20.9s,baz=305,slow=39						
CPUP	Villa Florida	14.05	79	Pn	P	15 30 04.3	-3.9
CPUP				LR	LR	15 35 52.8	
LPAZ	La Paz	14.23	18	Pn	P	15 30 07.3	-3.3
	comp=E,0.5nm,0.3s,baz=196,slow=7.7,SNR=6.8						
SIV	San Ignacio	17.53	40	P	P	15 30 46.4	-6.3
	comp=E,1.0nm,0.3s,baz=227,slow=7.7,SNR=10						
SAML	Samuel	22.72	25	eP	P	15 31 48.8	-0.2
	comp=E,11nm,1.4s,mb4.1						
USHA	Ushuaia	25.06	174	P	P	15 32 11.6	+0.4
	comp=E,5.9nm,0.6s,mb4.3,baz=358,slow=11,SNR=3.2						
BDFB	Brasilia	26.78	63	P	P	15 32 27.4	-0.2
	comp=E,7.4nm,0.8s,mb4.3,baz=240,slow=8.0,SNR=7.8						
BDFB				LR	LR	15 42 51.2	
	comp=E,96nm,18.9s,MS3.4,baz=169,slow=36						
VNA3	Neumayer Olymp	53.33	159		P	15 36 15.3	+9.0
VNA2	Neumayer--Watz	53.98	158		P	15 36 14.0	+3.0
VNA2	Neumayer--Watz	53.98	158		P	15 36 19.8	+8.8
SNAA	Sanae	55.56	159		P	15 36 22.4	-0.1
SNAA	Sanae	55.56	159		P	15 36 30.2	+7.7
SNAA	Sanae	55.56	159		P	15 36 35.7	+13
SNAA	Sanae	55.56	159		P	15 36 39.0	+16
TXAR	Lajitas Array	65.92	331	P	P	15 37 34.1	+0.6
	comp=E,0.2nm,0.3s,mb3.7,baz=149,slow=10,SNR=3.6						
PDAR	Pinedale Array	79.89	333	P	P	15 38 55.5	+0.2
	comp=E,0.4nm,0.6s,mb3.5,baz=153,slow=8.1,SNR=4.2						
AFI	Afiamalu	90.80	254	LR	LR	16 09 00.3	
	comp=E,280nm,20.9s,MS4.7,baz=178,slow=28						
WRA	Warramunga Arr	123.97	211	PKP	PKPdf	15 45 45.1	+1.4
	comp=E,0.6nm,0.5s,baz=159,slow=1.7,SNR=10						
ZAL	Zalesovo	151.01	28	PKP	PKPdf	15 46 33.0	+1.7
	comp=E,0.8nm,0.3s,baz=243,slow=3.7,SNR=3.5						
ZAL				PKPbc	PKPdf	15 46 39.5	+8.3
	comp=E,5.7nm,0.6s,baz=175,slow=2.5,SNR=26						
ZAL				PKPab	PKPab	15 46 47.5	+0.5
	comp=E,5.1nm,0.7s,baz=186,slow=2.9,SNR=15						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MJAR	**Matsushiro Arr**	**153.38**	**292**	PKPab	PKPab	15 46 58.1	+0.6
	comp=E,0.9nm,0.5s,baz=112,slow=1.5,SNR=5.7						
MKAR	**Makanchi Array**	**154.34**	**42**	PKPbc	PKPdf	15 46 47.2	+11
	comp=E,0.3nm,0.8s,slow=2.4,SNR=4.6						
MKAR				PKPab	PKPab	15 47 01.4	+0.2
	comp=E,0.3nm,0.5s,baz=294,slow=4.3,SNR=4.3						

NNC 20 15:46:32.3±9.1, 37.27N×71.23E, h245km±118km, mpv3.7, 3C-1D, Error ellipse: s-maj=107.6km s-min=69.3km az=39.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.86**	**355**	⇓P	P	15 47 57.6	-1.5
	2.6nm,0.3s,baz=174,slow=12,SNR=60						
KK31				⇑S	S	15 49 08.1	+1.2
	0.8nm,0.3s,baz=1.3,slow=27,SNR=4.1						
AAK	**Ala-Archa**	**5.92**	**24**	P	P	15 47 59.5	-0.4
AAK				S	S	15 49 09.3	+1.0
AB31	**Akbulak array**	**14.51**	**329**	⇑P	P	15 49 48.3	+0.5
	0.8nm,0.4s,baz=145,slow=13,SNR=42						
AB31				⇑S	S	15 52 25.8	+3.1
	0.6nm,0.6s,baz=162,slow=23,SNR=2.8						

*IDC **20** 16:09:23.9±0.9, 15.37S×173.00W, mb4.0/5, mb1 4.3/5, mb1mx4.0/16, mbtmp4.0/5, Error ellipse: s-maj=49.4km s-min=20.6km az=132.0*
*NEIC **20** 16:09:25.4±0.5, 15.35S×173.01W, h10km, mb4.6/2, Error ellipse: s-maj=26.3km s-min=10.1km az=133.0*
ISC 20 16:09:24.0±0.7, 15.3S±0.2×173.2W±0.2, h10km, n15, σ0s41/11, mb4.1/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.91**	**44**	Pn	**Pn**	**16 09 56.9**	**-0.1**
	435nm,0.3s,baz=88,slow=1.0,SNR=761						
AFI				Sn	**Sn**	**16 10 16.4**	**-4.9**
	429nm,0.3s,baz=34,slow=20,SNR=6.1						
URZ	**Urewera**	**24.44**	**199**	P	**P**	**16 14 44.0**	**-0.1**
	9.6nm,0.4s,mb4.5,baz=65,slow=2.4,SNR=12						
WRA	**Warramunga Arr**	**50.11**	**257**	P	**P**	**16 18 21.6**	**0.0**
	0.2nm,0.5s,mb3.4,baz=92,slow=6.9,SNR=4.9						
BMO	**Blue Mountains**	**78.39**	**37**	eP	**P**	**16 21 25.7**	**-0.8**
	2.6nm,1.3s,mb4.0						
DIV	**Divide**	**79.24**	**13**	eP	**P**	**16 21 31.0**	**+0.3**
	9.8nm,0.5s,mb5.0						
TXAR	**Lajitas Array**	**80.35**	**56**	P	**P**	**16 21 37.5**	**+0.2**
	0.8nm,0.6s,mb3.8,baz=225,slow=7.1,SNR=7.5						
PV01	**Paradox Valley**	**80.47**	**46**	eP	**P**	**16 21 38.6**	**+0.7**
CHMT	**Chamberlain Mo**	**81.89**	**37**	eP	**P**	**16 21 45.0**	**-0.1**
PDAR	**Pinedale Array**	**82.02**	**42**	P	**P**	**16 21 46.0**	**+0.1**
	0.8nm,0.7s,mb3.8,baz=212,slow=2.9,SNR=8.3						
ILAR	**Eielson Array**	**82.29**	**11**	P	**P**	**16 21 46.6**	**-0.1**
	1.3nm,0.8s,mb3.9,baz=220,slow=5.6,SNR=12						
ARCES	**ARCESS Array B**	**124.54**	**352**	PKP	PKPdf	16 28 24.2	-2.1
	2.4nm,0.8s,baz=337,slow=9.2,SNR=3.8						
CLL	**Collm**	**143.74**	**353**	ePKIKP	PKPdf	16 28 59.0	-3.2
GERES	**GERESS Array B**	**146.07**	**352**	PKPbc	PKPbc	16 29 05.6	+1.2
	0.5nm,0.4s,slow=5.3,SNR=4.8						
BR131	**Keskin Array S**	**146.23**	**321**	ePKPbc	PKPbc	16 29 07.7	+2.6
BRTR	**Keskin Array B**	**146.23**	**321**	PKPbc	PKPbc	16 29 07.7	+2.6
	1.7nm,0.6s,baz=114,slow=3.3,SNR=13						

SKHL 20 16:39:28.1±0.2, 48.97N×141.67E, h10km, mb3.8/4, Sakhalin Island

*IDC **20** 16:41:24.0±0.9, 11.65S×56.74W, mb4.1/6, mb1 4.3/9, mb1mx4.1/25, mbtmp4.1/9, ML4.5/2, MS3.6/6, Ms1 3.6/6, ms1mx3.2/22, Error ellipse: s-maj=20.6km s-min=17.8km az=114.0*
*NEIC **20** 16:41:25.0, 11.60S×56.80W, h3km, mb4.3/6, MN4.3(BDF), After BDF.*
NEIC Felt [IV] at Tabapora. Also felt at Porto dos Gauchos and Povoado de Sao Joao.
ISC 20 16:41:24.1±0.7, 11.59S±0.07×56.94W±0.07, h10km, n33, σ1s22/34, mb4.0/10, MS3.9/3, 3C-1D, Brazil

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**5.94**	**222**	Pn	**Pn**	**16 42 54.5**	**+0.3**
	1.1nm,0.3s,baz=60,slow=14,SNR=14						
SIV				Pg	**Pg**	**16 43 13.3**	**-9.3**
	3.5nm,0.3s,baz=59,slow=15,SNR=26						
SIV				Sn	**Sn**	**16 43 52.7**	**-10**
	5.8nm,0.3s,baz=90,slow=18,SNR=4.7						
SIV				Lg		16 44 31.6	
	12nm,0.3s,baz=137,slow=22,SNR=4.7						
SAML	**Samuel**	**6.68**	**293**	⇓ePn	**Pn**	**16 43 06.0**	**+1.3**
SAML				eSn	**Sn**	**16 44 22.4**	**+0.7**
SAML				eSg	**Sg**	**16 44 54.4**	**-12**
BDFB	**Brasilia**	**9.57**	**116**	Pn	**P**	**16 43 39.6**	**-5.6**
	2.6nm,0.3s,baz=291,slow=15,SNR=11						
BDFB				Sn	**Sn**	**16 45 18.6**	**-15**
	7.8nm,0.3s,baz=124,slow=22,SNR=8.8						
BDFB				Lg		16 46 17.9	
	13nm,0.3s,baz=218,slow=6.6,SNR=6.7						
BDFB				LR	LR	16 47 40.1	
	comp=Z,188nm,21.6s,baz=304,slow=40						
BAO	**Brasilia Array**	**9.59**	**116**	P	**P**	**16 43 39.0**	**-6.4**
LPAZ	**La Paz**	**11.82**	**245**	Pn	**P**	**16 44 16.2**	**+0.3**
	0.9nm,0.3s,baz=52,slow=12,SNR=26						
LPAZ				Sn	**S**	**16 46 23.8**	**-5.1**
	0.5nm,0.3s,baz=286,slow=20,SNR=3.2						
LPAZ				Lg		16 47 39.4	
	1.1nm,0.3s,baz=304,slow=7.1,SNR=6.6						
LPAZ				LR	LR	16 49 03.2	
	comp=Z,106nm,21.6s,baz=106,slow=38						
LPAZ	**La Paz**	**11.82**	**245**	ePn	**P**	**16 44 15.6**	**-0.3**
	2.5nm,0.8s						
LPAZ				eSn	**S**	**16 46 27.4**	**-1.5**
CPUP	**Villa Florida**	**14.67**	**181**	Pn	**P**	**16 44 56.3**	**+2.6**
	0.1nm,0.3s,baz=28,slow=16,SNR=4.2						
CPUP				LR	LR	16 50 43.2	
	comp=Z,90nm,19.0s,baz=328,slow=38						
CPUP	**Villa Florida**	**14.67**	**181**	P	**P**	**16 44 56.5**	**+2.8**
	12nm,1.4s						
NNA	**Nana**	**19.48**	**267**	P	**P**	**16 45 52.4**	**-1.8**
	5.8nm,0.9s						
CFAA	**Coronel Fontan**	**22.48**	**206**	P	**P**	**16 46 26.9**	**+1.8**
	0.5nm,0.8s,mb3.0,baz=30,slow=8.8,SNR=8.1						
ROSC	**El Rosal**	**23.79**	**312**	LR	LR	16 56 31.0	
	comp=Z,329nm,20.1s,MS3.8,baz=214,slow=38						
SDV	**Santo Domingo**	**24.48**	**326**	P	**P**	**16 46 47.1**	**+2.3**
	1.8nm,0.3s,mb4.0,baz=109,slow=4.4,SNR=4.1						
SDV				LR	LR	16 56 55.9	
	comp=Z,294nm,18.4s,MS3.8,baz=44,slow=38						
SDV	**Santo Domingo**	**24.48**	**326**	eP	**P**	**16 46 46.0**	**+1.2**
	7.5nm,1.1s,mb4.0						
TRQA	**Tornquist**	**26.74**	**189**	eP	**P**	**16 47 04.7**	**-1.1**
	6.7nm,1.0s,mb4.1						
PLCA	**Paso Flores**	**31.41**	**200**	P	**P**	**16 47 47.0**	**-0.7**
	2.4nm,0.8s,mb4.1,baz=26,slow=8.7,SNR=6.8						
PLCA	**Paso Flores**	**31.41**	**200**	eP	**P**	**16 47 46.6**	**-1.1**
	3.8nm,1.0s,mb4.2						
WVT	**Waverly**	**55.69**	**330**	eP	**P**	**16 51 01.9**	**-1.3**
	5.6nm,1.1s,mb4.5						
FVM	**French Village**	**58.43**	**329**	eP	**P**	**16 51 21.1**	**-1.6**
	2.3nm,0.4s,mb4.6						
VNA3	**Neumayer Olymp**	**66.18**	**165**	⇑i	**P**	**16 52 13.7**	**-0.1**
VNA3	**Neumayer Olymp**	**66.18**	**165**		**P**	**16 52 24.5**	**+11**
VNA2	**Neumayer--Watz**	**66.58**	**164**	⇑i	**P**	**16 52 17.0**	**+0.7**
VNA2	**Neumayer--Watz**	**66.58**	**164**		**P**	**16 52 28.2**	**+12**
SNAA	**Sanae**	**68.22**	**164**	⇑i	**P**	**16 52 25.7**	**-1.0**
SNAA	**Sanae**	**68.22**	**164**		**P**	**16 52 33.2**	**+6.5**
SNAA	**Sanae**	**68.22**	**164**	P	**P**	**16 52 25.4**	**-1.3**
	2.4nm,0.9s,mb4.2,baz=325,slow=5.4,SNR=21						
PDAR	**Pinedale Array**	**72.36**	**322**	P	**P**	**16 52 52.1**	**-0.2**
	0.8nm,0.8s,mb3.7,baz=101,slow=7.6,SNR=6.7						
BOSA	**Boshof**	**77.76**	**117**	LR	LR	17 22 21.9	
	comp=Z,84nm,19.1s,MS4.1,baz=37,slow=32						
GERES	**GERESS Array B**	**86.29**	**39**	P	**P**	**16 54 07.8**	**+0.3**
	0.3nm,0.5s,mb3.8,baz=315,slow=3.8,SNR=3.9						
VNDA	**Vanda**	**88.36**	**188**	P	**P**	**16 54 18.0**	**+1.1**
	1.1nm,1.0s,mb4.0,baz=140,slow=6.5,SNR=4.7						
SONM	**Songino Array**	**141.26**	**18**	PKP	PKPdf	17 00 57.6	-0.8
	0.6nm,0.8s,baz=315,slow=2.0,SNR=4.0						
LSA	**Lhasa**	**145.30**	**54**	ePKPdf	PKPdf	17 01 04.3	-1.6
WRA	**Warramunga Arr**	**146.76**	**200**	PKPbc	PKPbc	17 01 08.3	+1.2
	4.0nm,1.0s,baz=164,slow=2.7,SNR=12						
WRAB	**Tennant Creek**	**146.76**	**200**	ePKPbc	PKPbc	17 01 08.3	+1.3

*NEIC **20** 17:44:51.8, 32.58S×71.63W, h27km, ML3.3(GUC), After GUC.*
GUC 20 17:44:51.8±0.8, 32.58S×71.63W, h27km±3km, MD4.0, ML3.3, 3C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.17**	**76**	⇓iP	Pb	17 44 58.0	+0.7
IHA	**Instituto Hidr**	**0.45**	**181**	⇓iP	Pb	17 45 01.0	-0.2
IHA				i S	Sb	17 45 07.3	-0.3
ROCH	**El Roble**	**0.65**	**127**	⇑iP	Pb	17 45 04.7	+0.1
JACH	**Jahuel**	**0.88**	**97**	⇑iP	Pb	17 45 08.1	-0.3
JACH				i S	Sb	17 45 20.0	+0.2
LCCH	**Las Cruces**	**0.90**	**177**	⇓iP	Pb	17 45 07.7	-0.9
LCCH				i S	Sb	17 45 19.8	-0.4
ILCH	**Illapel**	**1.02**	**23**	eP	Pn	17 45 10.1	-0.3
ILCH				i S	Sb	17 45 23.9	+0.2
ILCH				AMP		17 45 29.4	
	comp=N,1μm,0.3s						
RCDM	**Rinconada Maip**	**1.14**	**143**	eP	Pn	17 45 12.0	-0.2
RCDM				i S	Sn	17 45 27.1	0.0
RCDM				AMP		17 45 28.5	
	comp=E,1μm,0.1s						
SAN	**Santiago**	**1.19**	**137**	eP	Pn	17 45 12.7	-0.2
SAN				i S	Sn	17 45 28.7	+0.3
SAN				AMP		17 45 34.7	
	comp=E,927nm,0.5s						
STL	**Santa Lucia**	**1.19**	**136**	eP	Pn	17 45 12.2	-0.7
STL				i S	Sn	17 45 28.3	0.0
STL				AMP		17 45 35.2	
	comp=N,448nm,0.3s						
DSCH	**Colegio Aleman**	**1.21**	**133**	eP	Pn	17 45 13.0	-0.2
DSCH				i S	Sn	17 45 29.3	+0.5
DSCH				AMP		17 45 31.1	
	comp=N,1μm,0.4s						
TACH	**Talagante**	**1.22**	**152**	⇓iP	Pn	17 45 13.3	0.0
TACH				i S	Sn	17 45 29.0	0.0
CLCH	**Cerro Calan**	**1.23**	**132**	⇓iP	Pn	17 45 13.5	0.0
CLCH				i S	Sn	17 45 29.8	+0.5
CLCH				AMP		17 45 31.7	
	comp=N,1μm,0.4s						
CLCH				AMP		17 45 32.3	
	comp=N,1μm,0.3s						
FSR	**Penalolen**	**1.29**	**134**	i P	Pn	17 45 14.8	+0.4
FSR				i S	Sn	17 45 31.4	+0.5
FSR				AMP		17 45 34.9	
	comp=N,779nm,0.6s						
ANTU	**Antumapu**	**1.29**	**140**	eP	Pn	17 45 14.7	+0.3
ANTU				i S	Sn	17 45 31.2	+0.2
ANTU				AMP		17 45 34.7	
	comp=N,889nm,0.4s						
FCH	**Farellones**	**1.35**	**124**	eP	Pn	17 45 15.6	+0.4
FCH				i S	Sn	17 45 34.0	+1.6
FCH				AMP		17 45 35.3	
	comp=E,906nm,0.3s						
LNV	**Longovilo**	**1.39**	**172**	eP	Pn	17 45 14.8	-0.9
LNV				i S	Sn	17 45 32.7	-0.6
PCH	**Pirque**	**1.40**	**138**	⇓iP	Pn	17 45 16.2	+0.3
PCH				i S	Sn	17 45 34.6	+1.0
CMCH	**Combarbala**	**1.50**	**21**	eP	Pn	17 45 17.2	-0.2
CMCH				i S	Sn	17 45 37.0	+0.9
CMCH				AMP		17 45 40.5	
	comp=E,3μm,0.5s						
SJCH	**San Jose de Ma**	**1.51**	**135**	eP	Pn	17 45 17.8	+0.3
SJCH				i S	Sn	17 45 37.5	+1.1
SJCH				AMP		17 45 44.7	
	comp=N,443nm,0.2s						
CHCH	**Chadas Angostu**	**1.58**	**149**	i P	Pn	17 45 19.3	+0.8
LMEL	**Las Melosas**	**1.74**	**137**	⇑iP	Pn	17 45 21.7	+0.9
LMEL				i S	Sn	17 45 44.0	+1.7
LMEL				AMP		17 45 47.3	
	comp=N,1μm,0.2s						
CACH	**El Canelo**	**1.76**	**151**	eP	Pn	17 45 22.4	+1.3
CACH				i S	Sn	17 45 45.4	+2.6
CICH	**Cipreses**	**2.01**	**150**	eP	Pn	17 45 25.5	+0.9
CICH				eS	Sn	17 45 51.7	+2.5
SFDO	**San Fernando**	**2.09**	**166**	⇓iP	Pn	17 45 26.2	+0.3
TLL	**Tololo Astrono**	**2.51**	**17**	eP	Pn	17 45 32.6	+0.9
TLL				i S	Sn	17 46 02.6	+0.8
TLL				AMP		17 46 12.0	
	comp=N,432nm,0.7s						
ZON	**Zonda**	**2.71**	**68**	eP	Pn	17 45 37.0	+2.3
ZON				eS	Sn	17 46 17.0	+10

*CSEM **20** 17:53:50.9±0.4, 33.59N×45.52E, h10km, ML3.8, Error ellipse: s-maj=11.4km s-min=4.9km az=110.0*
*TEH **20** 17:53:52.0, 33.52N×45.51E, h10km, Mn3.8*
*KISR **20** 17:53:54.1±1.5, 32.54N×44.32E, h6km±999km, ML3.6*
ISC 20 17:53:50.5±0.6, 33.59N±0.04×45.56E±0.05, h10km, n19, σ1s20/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BHD	**Baghdad**	**1.04**	**252**	i Pn	**Pn**	**17 54 10.5**	**-0.6**
BHD				eS	**Sb**	**17 54 24.0**	**+0.4**
IGHG	**Ghaleghazi**	**1.12**	**48**	Pg	**Pg**	**17 54 13.8**	**+0.9**
IDHR	**Dehrash**	**1.30**	**31**	Pg	**Pg**	**17 54 16.5**	**-0.1**
IVIS	**Veys**	**1.42**	**49**	Pg	**Pg**	**17 54 18.8**	**-0.2**
IKOM	**Komasi**	**1.73**	**70**	Pn	**Pn**	**17 54 23.9**	**+3.0**
IRAZ	**Razeghan**	**4.04**	**62**	Pn	**Pn**	**17 54 54.8**	**+1.0**
HAKT	**HAKKARI**	**4.24**	**340**	i P	**Pn**	**17 54 55.5**	**-1.2**
KBD	**Kabd**	**4.76**	**157**	eP	**Pn**	**17 55 05.2**	**+1.0**
KBD				eS	**Sn**	**17 55 59.6**	**-0.5**
KBD				AML	AML	17 55 59.7	
	comp=Z,85nm,0.4s						
RDF	**Al-Radifah**	**4.95**	**159**	eP	**Pn**	**17 55 08.0**	**+1.3**
RDF				eS	**Sn**	**17 56 01.9**	**-2.9**
RDF				AML	AML	17 56 06.3	
	comp=Z,40nm,0.2s						
IKLH	**Kalahroud**	**5.04**	**91**	Pn	**Pn**	**17 55 14.3**	**+6.3**
QRN	**Al-Qurain**	**5.23**	**157**	eP	**Pn**	**17 55 12.2**	**+1.5**
QRN				eS	**Sn**	**17 56 11.4**	**-0.5**
QRN				AML	AML	17 56 13.1	
	comp=Z,50nm,0.3s						
QRN	**Al-Qurain**	**5.23**	**157**	eP	**Pn**	**17 55 12.2**	**+1.4**
QRN				eS	**Sn**	**17 56 11.4**	**-0.5**
IVRN	**Varamin**	**5.29**	**73**	Pn	**Pn**	**17 55 11.9**	**+0.3**
IVRN				Sn	**Sn**	**17 56 10.0**	**-3.4**
MARD	**Mardin**	**5.39**	**315**	i P	**Pn**	**17 55 08.4**	**-4.5**
BEST	**Besiri**	**5.53**	**322**	i P	**Pg**	**17 55 31.9**	**-9.1**
IDMV	**Damavand**	**5.69**	**68**	Pn	**Pn**	**17 55 16.6**	**-0.7**
IZEF	**Zefreh**	**5.71**	**95**	Pn	**Pn**	**17 55 16.2**	**-1.3**
IGAR	**Garneh**	**5.74**	**102**	Pn	**Pn**	**17 55 14.3**	**-3.6**
GZT	**Gaziantep**	**7.53**	**302**	i P	**Pg**	**17 56 15.9**	**-4.9**

ISC 20 18:04:01.4±0.6, 37.83N±0.03×29.59E±0.05, h10km, n9, σ0s87/15, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.45**	**260**	ePG	**Pg**	**18 04 16.5**	**+5.9**
DNZL	**Cakiroluk**	**0.46**	**252**	i P	**Pg**	**18 04 09.9**	**-0.8**
DNZL				i S	**Sg**	**18 04 17.3**	**+0.4**
KHL	**Karahalli**	**0.49**	**354**	PG	**Pg**	**18 04 10.4**	**-1.0**
KHL				SG	**Sg**	**18 04 17.8**	**-0.3**
GOLH	**Golhisar**	**0.59**	**182**	i P	**Pg**	**18 04 12.2**	**-1.2**
GOLH				i S	**Sg**	**18 04 22.3**	**+0.9**
TKTP	**Tekketepe**	**0.61**	**70**	i P	**Pb**	**18 04 13.2**	**-0.5**
TKTP				i S	**Sg**	**18 04 23.3**	**+1.3**
ISP	**Isparta**	**0.73**	**89**	PG	**Pg**	**18 04 12.2**	**-3.8**
MANT	**Manisa**	**1.05**	**309**	i P	**Pb**	**18 04 21.6**	**+0.5**
MANT				i S	**Sb**	**18 04 35.7**	**+0.9**
GDZ	**Gediz**	**1.26**	**356**	i P	**Pb**	**18 04 25.0**	**+0.2**
ULDT	**Uludag**	**2.33**	**351**	i P	**Pn**	**18 04 47.7**	**+7.2**
ULDT				i S	**Sn**	**18 05 18.4**	**+8.9**

*LDG **20** 18:06:54.4±0.1, 43.07N×108.95E, h10km, Mb5.0/16, Ms4.2/8, Error ellipse: s-maj=5.2km s-min=3.1km az=68.0*
*BJI **20** 18:06:54.7, 43.19N×108.99E, h19km, mB5.2, mb5.0, ML5.4, Ms5.3, Msz4.9*
*IDC **20** 18:06:54.6±0.4, 43.10N×109.28E, mb4.8/25, mb1 4.9/28, mb1mx4.9/28, mbtmp4.8/28, ML4.1/3, MS4.2/16, Ms1 4.2/16, ms1mx4.1/21, Error ellipse: s-maj=16.2km s-min=9.8km az=44.0*
*HRVD **20** 18:06:57.4±0.2, 43.01N×109.06E, h12km, MW5.0/65, Centroid moment Tensor Solution. LP body waves: s36,c46; Mantle waves: s65,c122; Half duration: 0*
Moment tensor: Scale 10^{16}Nm; M_{rr}3.72±.10; $M_{\theta\theta}$0.43±.10; $M_{\phi\phi}$-4.15±.09; $M_{r\theta}$1.87±.34; $M_{\theta\phi}$0.68±.08; $M_{\phi r}$-0.97±.28; Best double couple: $M_0$4.528×10^{16} NP1:ϕ_s13°,δ41°,λ125°. NP2:ϕ_s150°,δ58°,λ64°. Principal axes: T 4.607, Plg66°, Azm10°; N -.161, Plg22°, Azm165°; P -4.448, Plg9°, Azm259°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*NEIC **20** 18:06:57.4±0.2, 43.05N×109.26E, mb5.1/80 Error ellipse: s-maj=5.8km s-min=4.5km az=193.0*
*MOS **20** 18:06:58.9±1.2, 43.23N×109.16E, h33km, mb5.2/64, MS4.6/26, Error ellipse: s-maj=8.0km s-min=4.3km az=123.0*
ISC 20 18:06:56.0±0.1, 43.11N±0.02×109.12E±0.03, h16km, h16km±1.2km:pP-P, n330, σ1s24/353, mb5.0/125, MS4.5/33, 7C-29D, Mongolia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTO	**Baotou**	**2.59**	**165**	eP	**Pn**	**18 07 38.8**	**+0.8**
BTO				PG	**Pn**	**18 07 41.1**	**+3.1**
BTO				S	**Sn**	**18 08 09.8**	**+0.3**
BTO				SG	**Sn**	**18 08 12.5**	**+3.0**
BTO				Smax			
	comp=N,5μm,0.3s						
BTO				Smax			
	comp=E,10μm,0.6s						
HHC	**Hu-ho-hao-te**	**2.90**	**140**	eP	**Pn**	**18 07 42.5**	**0.0**
HHC				PG	**Pn**	**18 07 50.8**	**+8.3**
HHC				S	**Sn**	**18 08 19.3**	**+2.0**
HHC				SG	**Sn**	**18 08 24.9**	**+7.6**
HHC				Smax			
	comp=N,14μm,0.5s						
HHC				Smax			
	comp=E,17μm,0.7s						
SONM	**Songino Array**	**5.10**	**339**	Pn	**Pn**	**18 08 12.7**	**-0.9**
	comp=E,18nm,0.3s,baz=161,slow=15,SNR=531						
SONM				Pg	**Pn**	**18 08 31.8**	**+18**
	comp=E,69nm,0.3s,baz=169,slow=17,SNR=21						
SONM				Lg		18 09 38.2	
	comp=E,252nm,0.3s,baz=160,slow=25,SNR=10						
SONM				LR	LR	18 10 27.8	
	comp=E,2μm,20.9s,baz=156,slow=41						
TIY	**Taiyuan**	**5.96**	**154**	eP	**Pn**	**18 08 28.0**	**+2.3**
TIY				LR	LR		
	comp=E,15μm,7.0s						
GTA	**Gaotai**	**7.92**	**245**	P	**Pn**	**18 08 49.3**	**-4.0**
GTA				S	**Sn**	**18 10 16.9**	**-6.6**
GTA				Smax			
	comp=N,873nm,1.6s						
GTA				Smax			
	comp=E,792nm,1.8s						
GTA				LR	LR		
	comp=N,11μm,6.1s						
GTA				LR	LR		
	comp=E,10μm,7.2s						
GTA				LR	LR		
	comp=Z,11μm,6.8s						
LZH	**Lanzhou**	**8.11**	**212**	⇑P	**P**	**18 08 53.8**	**-2.1**
LZH				AP		18 08 56.0	
LZH				PP	PP	18 09 00.8	-2.8
LZH				S	**Sn**	**18 10 25.0**	**-3.1**
LZH				AMB	AMB		
	comp=Z,183nm,1.3s						
LZH				AMB	AMB		
	comp=Z,805nm,4.2s						
LZH				Smax			
	comp=N,2μm,1.2s						
LZH				Smax			
	comp=E,6μm,1.1s						
LZH				LR	LR		
	comp=N,12μm,7.2s						
LZH				LR	LR		
	comp=Z,13μm,8.3s						
ZAK	**Zakamensk**	**8.30**	**333**	eP	**P**	**18 08 56.1**	**-2.5**
ZAK				pmax	pmax		
	comp=Z,108nm,1.1s						
XAN	**Xi'an**	**9.06**	**181**	P	**P**	**18 09 07.3**	**-1.8**
XAN				AP		18 09 18.6	
XAN				S	**Sn**	**18 10 45.0**	**-6.7**
XAN				AMB	AMB		
	comp=Z,11nm,0.5s						
XAN				LR	LR		
	comp=N,4μm,10.1s						
XAN				LR	LR		
	comp=E,2μm,7.1s						
XAN				LR	LR		
	comp=Z,5μm,11.5s						
TIA	**Tai'an**	**9.25**	**136**	eP	**P**	**18 09 12.4**	**+0.7**
TIA				S	**Sn**	**18 11 04.0**	**+7.6**
TIA				LR	LR		
	comp=N,3μm,10.0s						
TIA				LR	LR		
	comp=E,4μm,12.0s						
TLY	**Talaya**	**9.34**	**339**	eP	**P**	**18 09 10.8**	**-2.2**
TLY				pmax	pmax		
	comp=Z,140nm,1.9s						
CIT	**Chita**	**9.40**	**17**	eP	**P**	**18 09 12.3**	**-1.5**
CIT				e		18 10 54.1	
CIT				pmax	pmax		
	comp=Z,216nm,1.4s						
MOY	**Mondy**	**10.17**	**330**	eP	**P**	**18 09 23.8**	**-0.5**
MOY				eS	**S**	**18 11 26.1**	**+7.0**
MOY				pmax	pmax		
	comp=Z,99nm,1.3s						
MOY				pmax	pmax		
	comp=E,4μm,1.9s						
DL2	**Dalian**	**10.34**	**110**	P	**P**	**18 09 28.3**	**+1.6**
DL2				S	**S**	**18 11 30.3**	**+7.0**
DL2				AMB	AMB		
	comp=Z,30nm,0.6s						
DL2				AMB	AMB		
	comp=Z,150nm,6.9s						
DL2				LR	LR		
	comp=N,3μm,9.9s						
DL2				LR	LR		
	comp=E,4μm,7.6s						
DL2				LR	LR		
	comp=Z,3μm,6.6s						
SNY	**Shenyang**	**10.76**	**92**	⇓P	**P**	**18 09 31.9**	**-0.5**
SNY				S	**S**	**18 11 32.8**	**-0.7**
SNY				SS	SS	18 11 42.4	-5.0
SNY				AMB	AMB		
	comp=Z,10.0nm,0.4s						
SNY				AMB	AMB		
	comp=Z,270nm,10.4s						
SNY				LR	LR		
	comp=N,13μm,6.1s						
SNY				LR	LR		
	comp=Z,14μm,9.2s						
CN2	**Changchun**	**11.89**	**81**	eP	**P**	**18 09 48.3**	**+0.5**
CN2				AMB	AMB		
	comp=Z,80nm,0.8s						
CN2				AMB	AMB		
	comp=Z,590nm,4.0s						
CN2				LR	LR		
	comp=N,3μm,7.0s						
CN2				LR	LR		
	comp=E,13μm,7.0s						
CN2				LR	LR		
	comp=Z,11μm,8.0s						
ENH	**Enshi**	**12.82**	**179**	eP	**P**	**18 09 59.4**	**-0.9**
	comp=Z,20nm,0.6s						
CD2	**Chengdu**	**12.90**	**201**	eP	**P**	**18 10 02.6**	**+1.2**
CD2				LR	LR		
	comp=E,8μm,6.0s						
NJ2	**Nanjing**	**13.46**	**142**	eP	**P**	**18 10 11.6**	**+2.9**
NJ2				AP		18 10 15.9	
NJ2				XP		18 10 18.8	
NJ2				PP	PP	18 10 21.5	+2.1
NJ2				PPP	PPP	18 10 28.4	+2.0
NJ2				S	**S**	**18 12 42.0**	**+3.1**
NJ2				XS		18 12 47.0	
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,570nm,4.5s						
NJ2				LR	LR		
	comp=N,7μm,15.0s						
NJ2				LR	LR		
	comp=E,9μm,16.6s						
NJ2				LR	LR		
	comp=Z,4μm,19.4s						
INCN	**Inchon**	**14.49**	**107**	eP	**P**	**18 10 21.2**	**-1.1**
	comp=Z,85nm,0.9s						

INCN e 18 10 31.3
MDJ Mudanjiang 14.85 77 P P 18 10 26.9 +0.1
MDJ AP 18 10 33.0
MDJ XP 18 10 36.1
MDJ S **S 18 13 16.5 +4.8**
MDJ AMB AMB
comp=Z,21nm,1.7s
MDJ AMB AMB
comp=Z,414nm,6.1s
MDJ LR LR
comp=N,3µm,8.2s
MDJ LR LR
comp=E,2µm,8.9s
MDJ LR LR
comp=Z,4µm,7.9s
MDJ Mudanjiang 14.85 77 *e*P **P 18 10 29.4 +2.5**
comp=Z,64nm,0.8s
SSE Sheshan 15.36 137 *e*P **P 18 10 34.3 +0.7**
SSE AMB AMB
comp=Z,26nm,0.7s
SSE AMB AMB
comp=Z,246nm,5.8s
SSE LR LR
comp=N,2µm,16.5s
SSE LR LR
comp=E,3µm,16.6s
SSE LR LR
comp=Z,3µm,11.5s
KS15 Wonju Array Si 15.39 105 *e*P **P 18 10 32.5 -1.5**
GYA Guiyang 16.73 188⇑*i*P **P 18 10 50.0 -1.3**
GYA AP 18 10 54.8
GYA XP 18 10 57.3
GYA PP PP 18 11 05.4 +0.1
GYA S **S 18 14 05.3 +9.4**
GYA AMB AMB
comp=Z,50nm,0.7s
GYA AMB AMB
comp=Z,310nm,4.8s
GYA LR LR
comp=N,2µm,15.6s
GYA LR LR
comp=E,3µm,11.4s
GYA LR LR
comp=Z,2µm,16.6s
KLR Kul'dur 16.80 61 *e*P **P 18 10 51.6 -0.3**
KLR pmax pmax
comp=E,70nm,2.2s
KLR pmax pmax
comp=Z,82nm,2.2s
KLR pmax pmax
comp=E,600nm,12.0s
KLR pmax pmax
comp=Z,700nm,12.0s
KLR MLR MLR
comp=N,3µm,8.0s
KLR MLR MLR
comp=E,6µm,8.0s
KLR MLR MLR
comp=Z,11µm,8.0s
CLNS Chul'man 17.02 31 *e*P **P 18 10 57.9 +3.3**
CLNS *e*S **S 18 14 06.0 +3.8**
CLNS pmax pmax
comp=N,13nm,0.7s
CLNS pmax pmax
comp=E,12nm,0.7s
CLNS pmax pmax
comp=Z,23nm,0.7s
CLNS pmax pmax
comp=N,23nm,0.7s
CLNS pmax pmax
comp=Z,29nm,0.7s
CLNS pmax pmax
comp=E,18nm,0.6s
CLNS smax
comp=N,50nm,0.8s
CLNS smax
comp=Z,17nm,0.8s
CLNS smax
comp=E,22nm,1.0s
CLNS MLR MLR
comp=N,2µm,9.0s
CLNS MLR MLR
comp=Z,3µm,9.0s
KMI Kunming 18.69 198 P **P 18 11 13.3 -2.4**
KMI AP 18 11 17.8
KMI PP PP 18 11 28.8 -2.9
KMI S **S 18 14 30.3 -10**
KMI AMB AMB
comp=Z,34nm,1.3s
KMI AMB AMB
comp=Z,453nm,3.8s
KMI LR LR
comp=N,2µm,12.7s
KMI LR LR
comp=E,2µm,11.2s
KMI LR LR
comp=Z,2µm,11.8s
MKAR Makanchi Array 19.30 290 P **P 18 11 19.5 -3.3**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR MLR MLR
comp=Z,1µm,18.9s
MKAR Makanchi Array 19.30 290 P **P 18 11 19.5 -3.2**
comp=Z,0.6nm,0.3s,baz=94,slow=14,SNR=79
MKAR PcP PcP 18 15 43.4 -1.5
comp=Z,0.8nm,0.3s,baz=166,slow=0.8,SNR=13
MKAR Lg 18 16 43.5
baz=98,slow=20,SNR=3.7
MKAR LR LR 18 18 06.1
comp=Z,1µm,18.9s,baz=99,slow=35
ZAL Zalesovo 19.31 313 P **P 18 11 20.9 -1.9**
comp=Z,1.0nm,0.3s,baz=0.2,slow=10,SNR=12
ZAL Lg 18 16 47.5
comp=Z,0.1nm,0.3s,baz=350,slow=12,SNR=3.5
ZAL Zalesovo 19.31 313 P **P 18 11 20.9 -1.9**
ZAL Lg 18 16 47.5
LSA Lhasa 19.65 233 P **P 18 11 25.3 -1.5**
LSA AP 18 11 33.1
LSA S **S 18 15 05.1 +3.2**
LSA LR LR
comp=N,1µm,11.2s
LSA LR LR
comp=E,1µm,9.2s
LSA LR LR
comp=Z,2µm,10.2s
LSA Lhasa 19.65 233 *e*P **P 18 11 25.1 -1.7**
LSA pmax pmax
comp=Z,47nm,0.9s
LSA Lhasa 19.65 233 *e*P **P 18 11 25.1 -1.8**
comp=Z,47nm,0.9s
JNU Nakatsue 19.76 113 P **P 18 11 26.5 -1.6**
comp=Z,0.5nm,0.3s,baz=347,slow=5.7,SNR=15
JNU LR LR 18 18 45.6
comp=Z,377nm,21.3s,baz=316,slow=36
GZH Guangzhou 20.28 169 P **P 18 11 28.6 -5.0**
GZH S **S 18 15 22.6 +7.5**
GZH LR LR
comp=N,3µm,9.7s
GZH LR LR
comp=E,1µm,7.2s
GZH LR LR
comp=Z,4µm,10.1s,MS5.1
NVS Novosibirsk 20.51 314 *e*P **P 18 11 35.3 -0.5**
NVS *e*S **S 18 15 18.9 -0.8**
NVS pmax pmax
comp=Z,87nm,1.3s
NVS pmax pmax
comp=N,70nm,1.5s
NVS pmax pmax
comp=E,102nm,1.4s
NVS smax
comp=E,29nm,1.5s
IMP Imphal 22.14 219 *e*P **P 18 11 54.0 +1.5**
SHL Shillong 22.48 224 *e*P **P 18 11 55.0 -0.9**
comp=E,91nm,1.2s,mb5.1
SHL *e* 18 16 08.5
JOW Kunigami 22.50 130 P **P 18 11 55.4 -0.7**
comp=E,22nm,0.7s,mb4.7,baz=335,slow=9.4,SNR=10
JOW LR LR 18 21 26.0
comp=E,570nm,19.9s,MS4.0,baz=136,slow=39
YAK Yakutsk 22.51 26 *e*P **P 18 11 59.1 +3.3**
YAK *e**PP 18 12 07.1
YAK *e* 18 12 23.8
YAK *e* 18 15 50.8
YAK *e*SS SS 18 16 44.9 +6.0
YAK *e* 18 23 05.6
YAK pmax pmax
comp=Z,44nm,1.0s,mb4.8
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,14nm,1.0s
YAK pmax pmax
comp=Z,16nm,1.0s,mb4.4
YAK pmax pmax
comp=N,5.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK MLR MLR
comp=Z,1µm,9.0s
YAK MLR MLR
comp=N,899nm,8.0s
YAK MLR MLR
comp=E,541nm,7.0s
YAK Yakutsk 22.51 26 *e*P **P 18 11 55.0 -0.8**
comp=E,134nm,0.6s,mb5.5
YAK *e* 18 12 56.1
MAJO Matsushiro 23.21 97 *e*P **P 18 11 59.4 -3.5**
comp=E,43nm,0.9s,mb4.9
MAT Matsushiro 23.21 97 *e*P **P 18 12 02.0 -0.9**
MAT *e*S **S 18 16 13.0 +3.1**
MAT pmax pmax
comp=Z,29nm,0.8s,mb4.8
MAT Matsushiro 23.21 97 *e*P **P 18 12 02.0 -0.9**
comp=Z,29nm,0.8s,mb4.8
MAT *e*S **S 18 16 13.0 +3.1**
MAT Matsushiro 23.21 97 P **P 18 12 01.6 -1.3**
MAT S **S 18 16 13.0 +3.1**
MJAR Matsushiro Arr 23.21 97 P **P 18 12 02.3 -0.6**
comp=Z,63nm,1.1s,mb5.0,baz=288,slow=9.7,SNR=61
MJAR LR LR 18 20 40.2
comp=Z,426nm,18.4s,MS3.9,baz=310,slow=36
AAA Alma-Ata 23.38 282 *i* P **P 18 12 06.6 +2.1**
AAA *i* S **S 18 16 19.2 +6.3**
AAA pmax pmax
comp=Z,540nm,4.8s
AAA smax
comp=E,1µm,6.3s
AAA MLR MLR
comp=Z,3µm,11.9s,MS4.9
YSS Yuzh-Sakhalins 23.97 69 *e*P **P 18 12 10.8 +0.6**
YSS *e**SP 18 12 15.0
YSS *e*S **S 18 16 26.0 +3.0**
YSS *e* 18 17 05.0
YSS pmax pmax
comp=Z,50nm,1.0s,mb4.9
YSS smax
comp=E,2µm,14.0s
YSS MLR MLR
comp=Z,3µm,12.0s,MS5.0
YSS MLR MLR
comp=N,1µm,13.0s,MS5.1
YSS MLR MLR
comp=E,4µm,12.0s,MS5.1
YSS Yuzh-Sakhalins 23.97 69 *e*P **P 18 12 08.5 -1.7**
comp=E,42nm,1.0s,mb4.8
QIZ Qiongzhong 24.02 178 ⇑P **P 18 12 11.4 +0.5**
QIZ S **S 18 16 26.1 +2.0**
QIZ XS 18 16 35.8
QIZ AMB AMB
comp=Z,40nm,1.7s,mb4.6
QIZ AMB AMB
comp=Z,254nm,5.3s
QIZ LR LR
comp=N,2µm,11.2s,MS4.8
QIZ LR LR
comp=E,1µm,10.7s,MS4.8
QIZ LR LR
comp=Z,2µm,10.7s,MS4.8
ULHL Ulahol 24.11 279 P **P 18 12 11.5 -0.1**
SNR=17
GUN Gumba 24.14 239 *e*P **P 18 12 11.9 -0.1**
comp=Z,277nm,0.9s,mb5.7
ASAJ Asahikawa 24.17 76 P **P 18 12 10.7 -1.5**
ASAJ pmax pmax
comp=Z,44nm,0.8s
ASAJ MLR MLR
comp=Z,617nm,19.9s
ASAJ Asahikawa 24.17 76 P **P 18 12 10.7 -1.5**
comp=Z,44nm,0.8s,mb4.9,baz=288,slow=6.7,SNR=25
ASAJ LR LR 18 21 45.9
comp=Z,617nm,19.9s,MS4.1,baz=3.5,slow=37
TKM2 Tokmak 2 24.42 281 P **P 18 12 18.6 +3.9**
SNR=22
CHRT Chiangrai 24.47 202 ⇑P **P 18 12 17.5 +2.2**
comp=Z,390nm,1.2s,mb5.7
KKN Kakani 24.60 239 *e*P **P 18 12 15.8 -0.7**
comp=Z,249nm,1.0s,mb5.7
KKN Kakani 24.60 239 *e*P **P 18 12 15.8 -0.7**
KKN pmax pmax
comp=Z,124nm,1.0s,mb5.4
PKI Pulchoki 24.67 239 *e*P **P 18 12 17.2 0.0**
comp=Z,139nm,1.1s,mb5.4
PKI Pulchoki 24.67 239 *e*P **P 18 12 17.2 0.0**
PKI pmax pmax
comp=Z,70nm,1.1s,mb5.1
DMN Daman 24.83 239 *e*P **P 18 12 18.1 -0.7**
comp=Z,106nm,0.8s,mb5.5
GKN Gorkha 24.86 241 *e*P **P 18 12 18.2 -0.8**
comp=Z,353nm,1.2s,mb5.8
KZA Kyzart 24.86 279 P **P 18 12 22.4 +3.5**
SNR=10
KBK Karagaybulak 24.95 281 P **P 18 12 17.2 -2.5**
SNR=15
CHMS Chumysh 25.01 282 P **P 18 12 20.3 -0.1**
SNR=11
KSH Kashi 25.06 273 *e*P **P 18 12 21.8 +1.0**
KSH *e*PCP PcP 18 15 53.8 -2.5
KSH *e*PCS 18 19 34.6
KSH *e*SCS ScS 18 23 16.8 -3.7
KSH AMB AMB
comp=Z,40nm,0.7s,mb5.1
KSH AMB AMB
comp=Z,360nm,4.0s
USP Ospenovka 25.14 282 P **P 18 12 21.2 -0.3**
SNR=7.7
FRU Bishkek 25.14 281 *e*P **P 18 12 21.5 -0.1**
FRU pmax pmax
comp=Z,140nm,1.6s,mb5.2
NANT Nan 25.26 199 ⇓P **P 18 12 23.0 +0.1**
comp=Z,350nm,0.4s
AAK Ala-Archa 25.28 281 P **P 18 12 23.7 +0.9**
SNR=14
AAK Ala-Archa 25.28 281⇓*i*P **P 18 12 22.5 -0.3**
AAK pmax pmax
comp=Z,53nm,1.3s,mb4.9
AAK MLR MLR
comp=Z,1µm,16.0s,MS4.5
AAK Ala-Archa 25.28 281 *e*P **P 18 12 21.5 -1.3**
comp=Z,35nm,0.9s,mb4.9
KOLN Koldanda 25.68 242 *e*P **P 18 12 25.3 -1.5**
comp=Z,489nm,1.0s,mb6.0
CHG Chiang Mai 25.70 203 ⇓P **P 18 12 28.4 +1.3**
comp=Z,54nm,1.3s,mb4.9
EKS2 Erkin-Say 25.79 281 P **P 18 12 28.5 +0.9**
SNR=12
AML Almayashu 25.97 280 P **P 18 12 29.2 -0.2**
SNR=23
JHJ Hachijo jima 2 25.98 102 LR LR 18 22 17.5
comp=Z,637nm,18.3s,MS4.2,baz=276,slow=36
VOSK Vostochnaya 27.02 304 P **P 18 12 38.4 -0.4**
VOSK pmax pmax
comp=Z,44nm,1.3s,mb4.8
KKTK Khon Kaen 27.22 193 P **P 18 12 40.5 -0.5**
comp=Z,432nm,0.8s,mb6.0
BVA0 Borovoye Array 27.41 305 *i* P **P 18 12 41.5 -0.9**
BVA0 pmax pmax
comp=Z,8.0nm,1.2s,mb4.1
BVAR Borovoye Array 27.41 305 P **P 18 12 41.5 -0.9**
comp=Z,11nm,0.7s,mb4.5,baz=97,slow=10,SNR=43
BVAR ScP 18 19 44.7
comp=Z,1.7nm,0.9s,baz=135,slow=2.0,SNR=4.8
BRVK Borovoye 27.47 305 *e*P **P 18 12 42.0 -1.0**
BRVK pmax pmax
comp=Z,15nm,0.8s,mb4.6
BRVK Borovoye 27.47 305 *e*P **P 18 12 42.0 -1.0**
comp=Z,15nm,0.8s,mb4.6
DDI Dehra Dun 27.81 253 *e*P **P 18 12 46.0 -0.3**
KKAR Karatay Array 28.02 283 *i* P **P 18 12 46.4 -1.7**
KKAR pmax pmax
comp=Z,15nm,0.8s,mb4.7
ZRNK Zerenda 28.23 304 *e*P **P 18 12 49.6 -0.2**
NDI New Delhi 29.38 251 *e*P **P 18 13 00.3 -0.2**
NDI AMb AMB 18 13 11.0
comp=Z,31nm,2.8s,mb4.5
MA2 Magadan 30.16 42 *e*P **P 18 13 08.8 +1.8**
MA2 *e*S **S 18 18 06.5 +2.5**
MA2 *e*SSS SSS 18 20 01.9 -1.5
MA2 pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
MA2 MLR MLR
comp=Z,1µm,20.0s,MS4.5
TIXI Tiksi 30.21 12 *e*P **P 18 13 03.2 -4.2**
TIXI *e* 18 14 04.7
TIXI *e*S **S 18 17 59.7 -5.1**
TIXI pmax pmax
comp=Z,33nm,0.8s,mb5.1
TIXI MLR MLR
comp=Z,1µm,12.0s,MS4.7
BLSP Bilaspur 30.67 236 *e*P **P 18 13 11.0 -0.9**
BLSP *i* P 18 13 12.6
BLSP AMb AMB 18 13 15.0
comp=Z,47nm,1.0s,mb5.3
CBIJ Chichi jima 31.17 110 LR LR 18 25 33.3
comp=Z,318nm,19.1s,MS4.0,baz=313,slow=36
SEY Seymchan 31.84 36 *e*P **P 18 13 16.9 -5.0**
SEY *e* 18 16 13.4
SEY *e* 18 18 35.9
SEY *e* 18 20 39.6
AJM Ajmer 32.53 251 *e*P **P 18 13 28.2 -0.1**
AJM AMb AMB 18 13 30.4
comp=Z,34nm,1.0s,mb5.2
BHPL Bhopal 32.83 243 *e*P **P 18 13 28.5 -2.3**
BHPL AMb AMB 18 13 33.0
comp=Z,42nm,1.0s,mb5.3
NGP Nagpur 33.30 238 *e*P **P 18 13 33.8 -1.1**
NGP AMb AMB 18 13 40.6
comp=Z,25nm,1.6s,mb4.9
PET Petropavlovsk 33.92 55 *e*P **P 18 13 41.7 +1.6**
PET *e*PPP PPP 18 15 06.8 -4.8
PET pmax pmax
comp=Z,28nm,1.2s,mb5.1
PET pmax pmax
comp=Z,300nm,4.0s
PET pmax pmax
comp=Z,100nm,3.6s
PET pmax pmax
comp=Z,200nm,11.2s
PET MLR MLR
comp=Z,600nm,16.0s,MS4.4
PET Petropavlovsk 33.92 55 P **P 18 13 38.6 -1.5**
comp=Z,25nm,1.1s,mb5.1
AB31 Akbulak array 34.09 298 P **P 18 13 40.1 -1.5**
AB31 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ARU Arti 34.44 311*d i*P **P 18 13 44.2 -0.3**
ARU pmax pmax
comp=Z,47nm,1.3s,mb5.3
ARU MLR MLR
comp=Z,800nm,18.0s,MS4.5
ARU Arti 34.44 311 *e*P **P 18 13 43.1 -1.4**
comp=Z,28nm,0.8s,mb5.2
AKL Akola 34.91 240 *e* **P 18 13 55.4 +6.5**
HYB Hyderabad 36.43 235 *e*P **P 18 14 03.0 +1.2**
HYB Hyderabad 36.43 235 *i* P **P 18 14 03.0 +1.2**
KULM Kulim 38.40 194 P **P 18 14 18.0 -0.4**
POO Poona 38.52 242⇓*i*P **P 18 14 17.0 -2.3**
comp=Z,70nm,1.0s,mb5.3
BILL Bilibino 38.71 30 *e*P **P 18 14 18.6 -1.8**
BILL *e**PP pP 18 14 24.9 -0.4
BILL pmax pmax
comp=Z,25nm,0.8s,mb5.0
BILL Bilibino 38.71 30 *e*P **P 18 14 18.6 -1.8**
comp=Z,25nm,0.8s,mb5.0
BILL *e*pP pP 18 14 24.9 -0.4
APA Apatity 45.72 329⇑*e*P **P 18 15 20.6 +3.1**
APA *i* 18 17 07.6
APA pmax pmax
comp=Z,21nm,1.0s,mb5.0
APA MLR MLR
comp=Z,1µm,12.0s,MS5.0
MOS Moscow 46.13 312 *e*P **P 18 15 21.7 +0.9**
MOS *e* 18 16 55.9
MOS *e* 18 17 11.1
MOS *e*PPP PPP 18 17 54.0 +0.8
MOS *e*S **S 18 22 08.0 +2.8**
MOS *e* 18 22 13.1
MOS pmax pmax
comp=Z,132nm,1.3s,mb5.7
MOS MLR MLR
comp=Z,800nm,21.2s,MS4.6
GOF Gofitskoye 46.31 296⇑*i*P **P 18 15 23.7 +1.3**
GOF pmax pmax
comp=Z,70nm,1.3s,mb5.4
VOR Voronezh 46.40 306 *e*P **P 18 15 23.5 +0.4**
VOR pmax pmax
comp=Z,40nm,1.4s,mb5.2
ZEI Tsey 46.63 293 *e*P **P 18 15 23.7 -1.3**
ZEI pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
OBN Obninsk 46.88 311*d i*P **P 18 15 27.9 +1.1**
OBN *i* 18 17 00.5
OBN *e* 18 17 16.4
OBN *e*S **S 18 22 29.5 +13**
OBN pmax pmax
comp=Z,65nm,1.6s,mb5.3
OBN MLR MLR
comp=Z,400nm,17.0s,MS4.5
OBN Obninsk 46.88 311 *e*P **P 18 15 26.7 -0.1**
comp=Z,18nm,0.7s,mb5.1
KIV Kislovodsk 46.96 295*d i*P **P 18 15 28.7 +1.1**
KIV pmax pmax
comp=Z,66nm,1.3s,mb5.4
KIV MLR MLR
comp=Z,600nm,15.0s,MS4.7
KIV Kislovodsk 46.96 295 *e*P **P 18 15 27.8 +0.2**
comp=Z,65nm,1.2s,mb5.4
ONI Oni 47.01 293 P **P 18 15 30.3 +2.3**
GNI Garni 47.15 289*d i*P **P 18 15 31.1 +1.9**
GNI pmax pmax
comp=Z,52nm,1.3s
GNI MLR MLR
comp=Z,500nm,18.0s
GNI Garni 47.15 289 P **P 18 15 31.3 +2.2**
comp=Z,8.1nm,0.6s,mb4.8,baz=236,slow=3.4,SNR=5.3
GNI Garni 47.15 289 *e*P **P 18 15 30.6 +1.4**
comp=Z,63nm,1.4s,mb5.3
KEV Kevo 47.67 332 *e*p **P 18 15 32.6 -0.3**
comp=Z,17nm,0.8s,mb5.1
ARCES ARCESS Array B 48.23 332 P **P 18 15 36.8 -0.5**
comp=Z,8.4nm,0.9s,mb4.8,baz=73,slow=8.4,SNR=20
ARCES LR LR 18 37 57.0
comp=Z,185nm,18.3s,MS4.1,baz=63,slow=39
ARE0 ARCESS Array S 48.23 332 P **P 18 15 39.6 +2.4**
TNA Tin City 48.96 33 *e*P **P 18 15 39.7 -3.2**
comp=Z,24nm,0.7s,mb5.3
TNA *e*pP pP 18 15 46.3 -1.5
SOC Sochi 49.08 296 *e*P **P 18 15 40.8 -3.3**
SOC *e* 18 17 35.9
SOC *i* S **S 18 22 43.8 -3.4**
SOC *e* 18 25 30.6
SOC *e*SS SS 18 26 11.9 -2.2
SOC pmax pmax
comp=Z,11nm,0.6s,mb5.1
SOC pmax pmax
comp=N,8.0nm,0.7s
SOC pmax pmax
comp=E,9.0nm,0.9s
SOC MLR MLR
comp=N,648nm,20.0s,MS4.7
SOC MLR MLR
comp=E,333nm,20.0s,MS4.7
SOC MLR MLR
comp=Z,779nm,20.0s,MS4.7
KAF Kangasniemi 49.90 322 *e*p **P 18 15 49.1 -1.1**
comp=Z,30nm,1.0s,mb5.3,baz=72,slow=7.2
ANN Anapa 50.06 298 *e*P **P 18 15 52.3 +0.7**
ANN *e*S **S 18 23 09.4 +8.7**
ANN pmax pmax
comp=Z,56nm,1.2s,mb5.5
ANN MLR MLR
comp=N,2µm,17.0s,MS5.1
ANN MLR MLR
comp=E,914nm,17.0s,MS5.1
ANN MLR MLR
comp=Z,905nm,17.0s,MS4.8

FINES FINES Array B 50.22 322 P P 18 15 52.3 -0.4
comp=Z,23nm,0.7s,mb5.3,baz=104,slow=7.9,SNR=66
FINES LR LR 18 37 59.2
comp=Z,247nm,18.1s,MS4.3,baz=253,slow=37
VSU Vasula 50.93 318 *e*P **P 18 15 58.2 +0.2**
SIM Simferopol' 52.12 300 *e*P **P 18 16 07.0 -0.3**
SIM *e*S **S 18 23 26.3 -2.8**
SIM pmax pmax
comp=Z,15nm,1.3s,mb4.8
SIM MLR MLR
comp=Z,320nm,16.2s,MS4.5
MALT Malatya 52.34 290 *e*P **P 18 16 08.7 -0.4**
MALT pmax pmax
comp=Z,17nm,1.3s,mb4.8
MALT Malatya 52.34 290 *e*P **P 18 16 08.7 -0.4**
comp=Z,17nm,1.3s,mb4.8
AKASG Malin Array Be 52.61 308 P **P 18 16 10.3 -0.5**
comp=Z,7.5nm,0.8s,mb4.7,baz=54,slow=7.7,SNR=35
AKASG PcP PcP 18 17 21.2 +0.3
comp=Z,0.9nm,0.6s,baz=52,slow=5.9,SNR=4.4
UNV Unalaska Valle 53.77 47 *e*P **P 18 16 19.3 -0.1**
comp=Z,48nm,0.8s,mb5.5
IMA Indian Mountai 54.25 30 *e*P **P 18 16 22.4 -0.3**
IMA *e*P 18 16 22.6
KIS Kishinev 54.49 304 *e*P **P 18 16 22.0 -2.7**
KIS *e* 18 18 30.0
KIS MLR MLR
comp=Z,9μm,13.0s
KIS MLR MLR
comp=N,500nm,11.0s
KIS MLR MLR
comp=E,500nm,11.0s
KIS MLR MLR
comp=Z,800nm,12.0s
SUW Suwalki 54.53 314 *e*P **P 18 16 26.4 +1.5**
SUW Suwalki 54.53 314 *e*P **P 18 16 26.4 +1.4**
TTA Tatalina 54.76 34 *e*P **P 18 16 26.5 0.0**
TTA *e* 18 16 39.3
BR131 Keskin Array S 54.90 294 *e*P **P 18 16 26.3 -1.6**
comp=Z,2.9nm,0.6s,mb4.5
BRTR Keskin Array B 54.90 294 P **P 18 16 27.7 -0.2**
comp=Z,4.6nm,0.8s,mb4.5,baz=89,slow=5.4,SNR=19
SVW2 Sparrevohn 55.78 36 *e*P **P 18 16 34.3 +0.3**
TIRR Tirgusor 55.95 301 ⇓P **P 18 16 35.8 +0.4**
LVV L'vov 55.98 309 *e*P **P 18 16 36.2 +0.6**
VRI Vrincioaia 56.30 304 ⇓P **P 18 16 40.4 +2.5**
HFS Hagfors 56.30 323 P **P 18 16 36.4 -1.2**
comp=Z,31nm,0.8s,mb5.4,baz=63,slow=6.6,SNR=33
BURAR Bucovina Array 56.35 306 ⇓P **P 18 16 38.9 +0.6**
BURAR Bucovina Array 56.35 306 ⇓P **P 18 16 38.8 +0.5**
ASF Jabal al Asfar 56.60 285 P **P 18 16 40.6 +0.3**
comp=Z,12nm,1.0s,mb4.9,baz=186,slow=1.3,SNR=14
KWP Kalwaria 56.83 309 *e*P **P 18 16 42.2 +0.6**
NB2 NORSAR Subarra 56.92 325 P **P 18 16 40.5 -1.6**
comp=Z,35nm,1.0s,mb5.3,baz=61,slow=6.5
NB2 NORSAR Subarra 56.92 325 P **P 18 16 40.5 -1.6**
NB2 pmax pmax
comp=Z,35nm,1.0s,mb5.3
NB2 NORSAR Subarra 56.92 325 P **P 18 16 40.5 -1.6**
baz=61,slow=6.9
NOA NORSAR Array B 56.92 325 P **P 18 16 40.5 -1.6**
comp=Z,14nm,0.9s,mb5.0,baz=57,slow=6.5,SNR=26
NOA LR LR 18 40 36.5
comp=Z,172nm,18.9s,MS4.2,baz=55,slow=36
MLR Muntele Rosu 56.96 304 ⇓P **P 18 16 45.2 +2.5**
MCK McKinley 57.16 31 *e*P **P 18 16 42.8 -1.0**
MCK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MCK McKinley 57.16 31 *e*P **P 18 16 42.8 -1.0**
comp=Z,8.9nm,1.0s,mb4.8
SPU Mount Spurr 57.23 35 P **P 18 16 42.5 -1.8**
RSO Redoubt South 57.30 36 *e*P **P 18 16 44.9 0.0**
ILAR Eielson Array 57.36 30 P **P 18 16 44.0 -1.2**
comp=Z,16nm,0.8s,mb5.1,baz=295,slow=7.2,SNR=60
ILAR PcP PcP 18 17 40.1 +1.1
comp=Z,3.2nm,0.7s,baz=288,slow=4.6,SNR=2.4
ILAR LR LR 18 41 07.4
comp=Z,189nm,18.2s,MS4.2,baz=134,slow=36
KOLS Kolonicke sedl 57.42 309 *i*P **P 18 16 45.6 -0.2**
STHS Stebnicka Huta 57.76 310 *e*P **P 18 16 49.2 +1.0**
CRVS Cervenica-Dubn 57.90 309 *i*P **P 18 16 50.3 +1.1**
CRVS *e* 18 18 53.0
GKP Gorka Klasztor 57.99 315 *e*P **P 18 16 51.7 +1.9**
GKP Gorka Klasztor 57.99 315 *e*P **P 18 16 51.7 +1.9**
OJC Ojcow 58.17 311 *e*P **P 18 16 51.0 0.0**
NIE Niedzica 58.29 310 *e*P **P 18 16 52.4 +0.5**
SML Sawmill 58.42 33 *e*P **P 18 16 51.5 -1.1**
KECS Kecovo 58.67 309 ⇓P **P 18 16 56.5 +1.9**
KECS *e* 18 18 59.0
OKC Ostrava-Krasne 59.28 311 *e*P **P 18 16 58.7 -0.1**
OKC AMS AMS 18 43 50.0
comp=Z,500nm,14.3s
EIL Elat 59.39 283 *e*P **P 18 16 59.7 -0.1**
comp=Z,14nm,1.1s,mb4.9
KAKA Kakadu 59.51 153 *e*P **P 18 17 02.7 +1.8**
comp=Z,7.3nm,0.5s,mb5.0
INK Inuvik 59.53 23 *e*P **P 18 16 58.6 -1.7**
INK pmax pmax
comp=Z,23nm,0.7s
INK Inuvik 59.53 23 P **P 18 16 59.6 -0.7**
comp=Z,26nm,0.7s,mb5.4,baz=334,slow=8.1,SNR=8.1
INK Inuvik 59.53 23 *e*P **P 18 16 58.6 -1.7**
comp=Z,23nm,0.7s,mb5.3
VYHS Vyhne 59.60 310 *e*P **P 18 17 02.1 +1.1**
MORC Moravsky Berou 59.64 311 *e*P **P 18 17 00.9 -0.4**
MORC pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MORC Moravsky Berou 59.64 311 *e*P **P 18 17 00.9 -0.4**
comp=Z,10nm,0.8s,mb4.9
RZN Rozhen 59.69 300 *e*P **P 18 17 04.0 +2.2**
KSP Ksiaz 59.75 313 *e*P **P 18 17 02.9 +0.8**
KSP Ksiaz 59.75 313 *e*P **P 18 17 03.6 +1.5**
DIV Divide 59.82 33 *e*P **P 18 17 01.8 -0.5**
comp=Z,86nm,0.7s,mb5.9
DPC Dobruska-Polom 60.00 312 *e*P **P 18 17 03.1 -0.7**
DPC AMS AMS 18 40 40.0
comp=Z,600nm,14.2s
UPC Upice 60.09 313 *e*P **P 18 17 06.0 +1.7**
VTS Vitosha 60.15 302 *e*P **P 18 17 07.0 +2.1**
EYAK Cordova Ski Ar 60.16 33 *e*P **P 18 17 04.2 -0.5**
MMB Musomiste 60.37 301 *e*P **P 18 17 08.5 +2.1**
MID Middleton Isla 60.58 35 *e*P **P 18 17 07.5 0.0**
KKB Krupnik 60.62 301 *e*P **P 18 17 09.0 +0.9**
ZST Bratislava 60.74 310 *i*P **P 18 17 11.2 +2.4**
PVCC Panska Ves 60.85 313 *e*P **P 18 17 11.3 +1.8**
PVCC AMS AMS 18 44 10.0
comp=Z,600nm,13.4s
BRG Berggiesshubel 60.99 314 *e*P **P 18 17 11.8 +1.3**
BRG pmax pmax
comp=Z,23nm,1.2s,mb5.2
BRG MLR MLR
comp=Z,610nm,17.3s,MS4.8
BRG Berggiesshubel 60.99 314 *e*P **P 18 17 11.8 +1.3**
comp=Z,23nm,1.2s,mb5.2
BRG LR LR
comp=Z,610nm,17.3s,MS4.8
BSEG Bad Segeberg 61.12 318 *e*P **P 18 17 13.0 +1.7**
PRU Pruhonice 61.16 313 *e*P **P 18 17 13.1 +1.5**
PRU AMS AMS 18 43 50.0
comp=Z,400nm,13.7s
CLL Collm 61.24 315 ⇓*e*P **P 18 17 05.0 -7.2**
CLL *i* 18 17 13.5
CLL Collm 61.24 315 ⇓P **P 18 17 13.5 +1.3**
comp=Z,logA/T=1.3,mb5.2
NKC Novy Kostel 62.14 314 *e*P **P 18 17 20.2 +1.9**
NKC AMS AMS 18 45 00.0
comp=Z,700nm,14.3s
ARSA Arzberg 62.15 310 ⇓*i*P **P 18 17 17.2 -1.2**
comp=Z,4.2nm,0.7s,mb4.7
KHC Kasperske Hory 62.16 312 ⇑*i*P **P 18 17 18.7 +0.3**
KHC Kasperske Hory 62.16 312 *e*P **P 18 17 18.3 -0.1**
KHC AMS AMS 18 42 40.0
comp=Z,400nm,11.9s
GEC2 GERESS Array S 62.26 312 *e*P **P 18 17 20.2 +1.1**
GEC2 pmax pmax
comp=Z,17nm,1.5s,mb5.0
GEC2 GERESS Array S 62.26 312 *e*P **P 18 17 20.2 +1.1**
comp=Z,17nm,1.5s,mb5.0
GERES GERESS Array B 62.26 312 P **P 18 17 19.2 +0.2**
comp=Z,3.0nm,0.9s,mb4.4,baz=53,slow=6.7,SNR=16
CLZ Clausthal 62.29 316 *e*P **P 18 17 21.0 +1.7**
CLZ pmax pmax
comp=Z,25nm,1.3s,mb5.2
CLZ Clausthal 62.29 316 *e*P **P 18 17 21.0 +1.7**
comp=Z,25nm,1.3s,mb5.2

MOX Moxa 62.34 315 *e*P **P 18 17 19.8 +0.2**
MOX pmax pmax
comp=Z,17nm,1.4s,mb5.0
MOX MLR MLR
comp=Z,200nm,18.0s,MS4.3
MOX Moxa 62.34 315 *e*P **P 18 17 19.8 +0.2**
comp=Z,17nm,1.4s,mb5.0
MOX LR LR
comp=Z,200nm,18.0s,MS4.3
MOX Moxa 62.34 315 *i*P **P 18 17 19.8 +0.2**
comp=Z,logA/T=1.1,mb5.0
MOX SS tx 18 30 36.0
MOX LR LR 18 37 21.0
MOX L 18 41 28.0
SUMG Summit 62.41 349 *e*P **P 18 17 18.6 -1.2**
comp=Z,5.1nm,0.8s,mb4.7
MOA Molln 62.51 311 ⇓*i*P **P 18 17 22.6 +1.8**
comp=Z,17nm,1.4s,mb5.0
WET Wettzell 62.53 313 *e*P **P 18 17 22.5 +1.6**
WET pmax pmax
comp=Z,23nm,1.5s,mb5.1
WET Wettzell 62.53 313 *e*P **P 18 17 22.5 +1.6**
comp=Z,23nm,1.5s,mb5.1
PERS Pernice 62.73 309 *e*P **P 18 17 21.8 -0.4**
FITZ Fitzroy Crossi 62.77 162 *e*P **P 18 17 22.2 -0.7**
comp=Z,24nm,1.1s,mb5.2
FITZ Fitzroy Crossi 62.77 162 P **P 18 17 21.2 -1.7**
comp=Z,21nm,0.9s,mb5.3,baz=354,slow=7.6,SNR=8.6
GRA1 Grafenberg Arr 63.10 314 *e*P **P 18 17 26.4 +1.8**
comp=Z,52nm,1.3s,mb5.5
GRA1 LR LR
comp=Z,300nm,18.7s,MS4.5
GRF Grafenberg Arr 63.10 314 *e*P **P 18 17 26.4 +1.8**
GRF pmax pmax
comp=Z,52nm,1.3s,mb5.5
GRF MLR MLR
comp=Z,300nm,18.7s,MS4.5
GRF Grafenberg Arr 63.10 314 *e*P **P 18 17 26.4 +1.8**
GRF pmax pmax
comp=Z,52nm,1.3s,mb5.5
GRF MLR MLR
comp=Z,300nm,18.7s,MS4.5
GRF Grafenberg Arr 63.10 314 *e*P **P 18 17 26.4 +1.8**
comp=Z,52nm,1.3s,mb5.5
GRF LR LR
comp=Z,300nm,18.7s,MS4.5
OBKA Obir 63.12 309 ⇓*i*P **P 18 17 23.1 -1.7**
comp=Z,8.6nm,1.3s,mb4.7
KBA Koelnbreinsper 63.47 311 ⇓*i*P **P 18 17 27.6 +0.5**
comp=Z,26nm,1.4s,mb5.2
KBA Koelnbreinsper 63.47 311 ⇓*i*P **P 18 17 27.6 +0.5**
KBA pmax pmax
comp=Z,26nm,1.4s,mb5.2
FUR Furstenfeldbru 63.96 312 *e*P **P 18 17 32.3 +2.0**
FUR pmax pmax
comp=Z,20nm,0.8s,mb5.2
FUR Furstenfeldbru 63.96 312 *e*P **P 18 17 32.3 +2.0**
comp=Z,20nm,0.8s,mb5.2
WTTA Wattenberg 64.30 311 ⇓*i*P **P 18 17 33.8 +1.3**
comp=Z,17nm,0.7s,mb5.2
WTTA Wattenberg 64.30 311 ⇓*i*P **P 18 17 33.8 +1.3**
WTTA pmax pmax
comp=Z,17nm,0.7s,mb5.2
MOTA Moosalm 64.54 312 ⇓*i*P **P 18 17 35.1 +1.0**
comp=Z,18nm,1.1s,mb5.0
MOTA Moosalm 64.54 312 ⇓*i*P **P 18 17 35.1 +1.0**
MOTA pmax pmax
comp=Z,18nm,1.1s,mb5.0
SQTA Sankt Quirin 64.56 312 ⇓*i*P **P 18 17 34.3 +0.1**
comp=Z,11nm,0.8s,mb5.0
SQTA Sankt Quirin 64.56 312 ⇓*i*P **P 18 17 34.3 +0.1**
SQTA pmax pmax
comp=Z,11nm,0.8s,mb4.9
DAVA Damuels 65.25 312 ⇓*i*P **P 18 17 38.3 -0.3**
comp=Z,15nm,1.5s,mb4.8
BFO Black Forest 65.44 314 *e*P **P 18 17 40.5 +0.7**
BFO pmax pmax
comp=Z,18nm,1.7s,mb4.8
BFO Black Forest 65.44 314 *e*P **P 18 17 40.5 +0.7**
comp=Z,18nm,1.7s,mb4.8
CDF Champ du Feu 65.94 314 *e*P **P 18 17 42.9 -0.1**
comp=Z,33nm,1.2s,mb4.9
CDF Champ du Feu 65.94 314 *e*P **P 18 17 42.9 -0.1**
CDF pmax pmax
comp=Z,17nm,1.2s,mb5.0
HINF Hinteralfeld 66.53 314 *e*P **P 18 17 46.4 -0.4**
comp=Z,9.2nm,0.9s,mb4.5
HINF Hinteralfeld 66.53 314 *e*P **P 18 17 46.4 -0.4**
HINF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
WRAB Tennant Creek 66.89 154 *d*iP **P 18 17 49.8 +0.2**
WRAB Tennant Creek 66.89 154 *e*P **P 18 17 45.8 -3.8**
comp=Z,91nm,1.5s,mb5.6
WRA Warramunga Arr 66.90 154 P **P 18 17 47.1 -2.5**
comp=Z,21nm,1.2s,mb5.0,baz=345,slow=7.2,SNR=16
WB2 Warramunga Arr 66.90 154 *e*P **P 18 17 47.3 -2.3**
DLBC Dease Lake 67.57 29 *e*P **P 18 17 52.7 -0.5**
LPL La Plagne 68.05 312 *e*P **P 18 17 56.5 +0.1**
comp=Z,6.2nm,0.6s,mb4.5
LPL La Plagne 68.05 312 *e*P **P 18 17 56.5 +0.1**
LPL pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
LPG La Plagne 68.05 312 *e*P **P 18 17 56.4 -0.1**
comp=Z,12nm,0.7s,mb4.7
LPG La Plagne 68.05 312 *e*P **P 18 17 56.4 -0.1**
LPG pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
BNI Bardonecchia 68.38 312 *e*P **P 18 17 58.8 +0.3**
BNI pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BNI Bardonecchia 68.38 312 *e*P **P 18 17 58.8 +0.3**
comp=Z,6.4nm,0.9s,mb4.7
LOR Lormes 68.45 315 *e*P **P 18 17 58.5 -0.4**
comp=Z,13nm,0.9s,mb4.6
LOR *e*R
comp=Z,462nm,19.8s
LOR Lormes 68.45 315 *e*P **P 18 17 58.5 -0.4**
LOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
LOR MLR MLR
comp=Z,460nm,19.8s,MS4.7
MBDF Montbardon 68.53 312 *e*P **P 18 17 59.1 -0.4**
comp=Z,11nm,0.6s,mb4.7
MBDF Montbardon 68.53 312 *e*P **P 18 17 59.1 -0.4**
MBDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
PGF Pioggiola 68.67 309 *e*P **P 18 17 59.6 -0.8**
SBF Sospel 68.72 311 *e*P **P 18 17 59.9 -0.7**
SMF Signal de Mont 68.86 315 *e*P **P 18 18 01.1 -0.3**
ORIF Oris-en-Rattie 68.90 312 *e*P **P 18 18 01.1 -0.6**
comp=Z,10nm,0.8s,mb4.5
ORIF *e*R
comp=Z,544nm,20.2s
AVF Avril sur Loir 69.02 315 *e*P **P 18 18 01.9 -0.5**
comp=Z,39nm,1.5s,mb4.8
AVF Avril sur Loir 69.02 315 *e*P **P 18 18 01.9 -0.5**
AVF pmax pmax
comp=Z,20nm,1.5s,mb4.8
YKA Yellowknife Ar 69.06 20 P **P 18 18 01.9 -0.5**
comp=Z,8.0nm,0.6s,mb4.8,baz=326,slow=6.1,SNR=11
YKA LR LR 18 49 58.3
comp=Z,363nm,19.3s,MS4.6,slow=37
YKA Yellowknife Ar 69.06 20 P **P 18 18 01.9 -0.5**
YKA LR LR 18 49 58.2
FRF La Foret Royal 69.35 311 *e*P **P 18 18 04.1 -0.4**
comp=Z,28nm,1.0s,mb4.9
FRF La Foret Royal 69.35 311 *e*P **P 18 18 04.1 -0.4**
FRF pmax pmax
comp=Z,14nm,1.0s,mb4.8
FLN La Foliniere 69.64 318 *e*P **P 18 18 05.7 -0.4**
FLN *e*R
comp=Z,411nm,17.5s
LASF Ste Croix 70.54 312 *e*P **P 18 18 11.1 -0.7**
CAF Calviac 70.93 314 *e*P **P 18 18 13.4 -0.7**
MFF Saint Martin d 70.94 316 *e*P **P 18 18 13.1 -1.0**
comp=Z,18nm,0.9s,mb4.7
MFF Saint Martin d 70.94 316 *e*P **P 18 18 13.1 -1.0**
MFF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
RJF Les Rejaudoux 70.97 315 *e*P **P 18 18 13.5 -0.8**
RJF *e*R
comp=Z,407nm,21.8s
SGMF Saint Gilles 70.99 319 *e*P **P 18 18 13.9 -0.5**
CTA Charters Tower 71.56 143 P **P 18 18 17.4 -1.0**
comp=Z,9.0nm,0.7s,mb4.8,baz=315,slow=2.9,SNR=3.0
CTAO Charters Tower 71.56 143 P **P 18 18 17.4 -0.9**

CTAO pmax pmax
comp=Z,84nm,1.4s,mb5.5
CTAO Charters Tower 71.56 143 P **P 18 18 17.4 -0.9**
comp=Z,84nm,1.4s,mb5.5
EPF Esparros 73.13 313 *e*P **P 18 18 26.9 -0.3**
ETSF Etsaut 73.70 314 *e*P **P 18 18 30.5 0.0**
comp=Z,19nm,1.0s,mb4.7
ETSF Etsaut 73.70 314 *e*P **P 18 18 30.5 0.0**
ETSF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KMBO Kilima Mbogo 77.61 257 *i*P **P 18 18 55.8 +2.6**
KMBO pmax pmax
comp=Z,9.0nm,1.2s
KMBO Kilima Mbogo 77.61 257 P **P 18 18 54.6 +1.4**
comp=Z,9.1nm,1.1s,mb4.6,baz=36,slow=6.1,SNR=11
KMBO LR LR 18 57 24.4
comp=Z,122nm,18.4s,MS4.3,baz=87,slow=39
ESDC Sonseca Array 77.80 313 P **P 18 18 54.3 +0.6**
comp=Z,1.0nm,0.5s,mb4.0,baz=37,slow=5.3,SNR=7.6
NEW Newport 80.32 29 P **P 18 19 07.6 +0.4**
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 80.32 29 P **P 18 19 07.6 +0.3**
comp=Z,9.3nm,1.0s,mb4.7
STKA Stephens Creek 80.34 152 *e*P **P 18 19 07.1 -0.6**
comp=Z,5.9nm,0.4s,mb4.9
STKA Stephens Creek 80.34 152 P **P 18 19 06.7 -1.1**
comp=Z,5.8nm,0.6s,mb4.7,baz=337,slow=6.9,SNR=22
MBAR Mbarara 81.93 262 *e*P **P 18 19 16.5 +0.1**
MBAR pmax pmax
comp=Z,36nm,1.4s,mb5.1
MBAR Mbarara 81.93 262 *e*P **P 18 19 16.5 +0.1**
comp=Z,36nm,1.4s,mb5.1
SCHQ Schefferville 82.37 358 P **P 18 19 17.8 -0.1**
comp=Z,5.4nm,0.9s,mb4.5,slow=6.1,SNR=4.4
SCHQ Schefferville 82.37 358 P **P 18 19 17.8 -0.1**
MSO Missoula 82.67 28 *e*P **P 18 19 19.3 -0.2**
comp=Z,6.3nm,1.0s,mb4.6
MSO *e*pP pP 18 19 24.2 -0.5
CHMT Chamberlain Mo 82.83 28 *e*P **P 18 19 19.3 -1.1**
BMO Blue Mountains 83.13 31 *e*P **P 18 19 22.3 +0.3**
comp=Z,5.6nm,0.7s,mb4.7
HRY Holter Researc 83.48 27 *e*P **P 18 19 21.3 -2.5**
DGMT Dagmar 84.20 22 *e*P **P 18 19 28.0 +0.7**
comp=Z,48nm,0.9s,mb5.6
MOD Modoc 84.41 35 *e*P **P 18 19 27.7 -0.8**
comp=Z,16nm,1.3s,mb5.0
MOD *e*pP pP 18 19 32.6 -1.1
ULM Lac du Bonnet 84.49 16 P **P 18 19 27.9 -0.8**
comp=Z,10.0nm,0.9s,mb4.9,baz=337,slow=6.0,SNR=5.9
ULM LR LR 18 59 53.9
comp=Z,118nm,19.0s,MS4.3,baz=351,slow=38
ULM Lac du Bonnet 84.49 16 P **P 18 19 27.9 -0.8**
ULM LR LR 18 59 53.9
WDC Whiskeytown Da 84.53 37 *e*P **P 18 19 28.7 -0.5**
WDC *e**PP pP 18 19 33.8 -0.6
WDC pmax pmax
comp=Z,15nm,1.3s,mb5.0
WDC Whiskeytown Da 84.53 37 *e*P **P 18 19 28.7 -0.5**
comp=Z,15nm,1.3s,mb5.0
WDC *e*pP pP 18 19 33.8 -0.5
WVOR Wild Horse Val 84.65 33 *e*P **P 18 19 27.5 -2.2**
WVOR pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
WVOR Wild Horse Val 84.65 33 *e*P **P 18 19 27.5 -2.1**
comp=Z,10nm,1.1s,mb4.9
MCMT McKenzie Canyo 84.78 29 *e*P **P 18 19 30.9 +0.6**
BEKR Beckwourth 86.07 36 *e*P **P 18 19 37.5 +0.6**
comp=Z,16nm,1.0s,mb5.2
IMW Indian Meadow 86.26 28 *e*P **P 18 19 38.8 +1.2**
MOOW Moose Ponds 86.45 28 P **P 18 19 40.7 +2.1**
comp=Z,13nm,1.3s,mb5.0
BMN Battle Mountai 86.91 34 P **P 18 19 42.2 +1.3**
BMN pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
BMN Battle Mountai 86.91 34 P **P 18 19 42.2 +1.3**
comp=Z,5.0nm,0.7s,mb4.8
ELK Elko 87.43 32 *e*P **P 18 19 43.1 -0.3**
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 87.43 32 *e*P **P 18 19 43.1 -0.3**
comp=Z,3.6nm,0.8s,mb4.7
CMB Columbia Colle 87.58 37 *e*P **P 18 19 43.6 -0.6**
CMB pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
CMB Columbia Colle 87.58 37 *e*P **P 18 19 43.6 -0.6**
comp=Z,5.3nm,0.8s,mb4.8
CMB *e*pP pP 18 19 48.0 -1.4
PDAR Pinedale Array 87.73 27 P **P 18 19 45.0 +0.2**
comp=Z,0.8nm,0.6s,mb4.1,baz=45,slow=2.6,SNR=2.6
PDAR PP PP 18 23 06.0 -6.9
comp=Z,0.3nm,0.6s,baz=288,slow=5.7,SNR=2.6
PDAR LR LR 19 01 04.0
comp=Z,77nm,18.7s,MS4.1,baz=159,slow=37
RSSD Black Hills 88.23 23 *e*P **P 18 19 47.3 +0.1**
RSSD pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
RSSD Black Hills 88.23 23 *e*P **P 18 19 47.3 +0.1**
comp=Z,9.4nm,0.7s,mb5.1
PHWY Pilot Hill 90.38 25 *e*P **P 18 19 58.6 +1.2**
PHWY *e*pP pP 18 20 03.1 +0.6
MSU Marysvale 90.54 31 *e*P **P 18 19 58.7 +0.5**
SMCO Snowmass 91.81 27 *e*P **P 18 20 03.9 -0.1**
PV01 Paradox Valley 92.19 29 *e*P **P 18 20 06.9 +1.1**
PV01 *e*pP pP 18 20 11.5 +0.5
SDCO Great Sand Dun 93.59 27 *e*P **P 18 20 12.3 +0.1**
comp=Z,22nm,1.5s,mb5.4
ANMO Albuquerque 95.79 29 *e*P **P 18 20 23.7 +1.3**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 95.79 29 *e*P **P 18 20 23.7 +1.3**
comp=Z,6.1nm,1.0s,mb5.0
TXAR Lajitas Array 101.87 29 PP PP 18 24 59.8 -3.8
comp=Z,0.3nm,0.7s,baz=4.1,slow=13,SNR=3.2
VNDA Vanda 124.62 168 PKP PKPdf 18 25 53.3 -4.0
comp=Z,0.9nm,0.6s,baz=255,slow=5.7,SNR=3.3
SAML Samuel 145.31 347 *e*P PKPbc 18 26 33.2 -0.5
BDFB Brasilia 146.36 317 PKPbc PKPbc 18 26 37.1 +0.9
comp=Z,15nm,0.8s,baz=312,slow=2.7,SNR=8.0
LPAZ La Paz 153.16 354 PKIKP PKPdf 18 26 47.9 -1.3
LPAZ 18 26 54.5
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 153.16 354 PKP PKPdf 18 26 47.9 -1.3
comp=Z,1.3nm,0.5s,baz=30,slow=7.7,SNR=6.6
LPAZ PKPbc PKPdf 18 26 54.5 +5.2
comp=Z,1.3nm,0.5s,baz=34,slow=12,SNR=7.6
LPAZ La Paz 153.16 354 *e*PKPdf PKPdf 18 26 47.4 -1.8
CPUP Villa Florida 159.94 322 PKP PKPdf 18 26 55.0 -2.7
comp=Z,1.4nm,0.9s,baz=162,slow=3.2,SNR=2.4
CPUP Villa Florida 159.94 322 PKP PKPdf 18 26 55.0 -2.7
PLCA Paso Flores 177.61 354 PKP PKPdf 18 27 07.3 -1.3
comp=Z,3.1nm,1.0s,baz=301,slow=12,SNR=4.0

IDC ***20*** *18:13:07.4±1.7,32.49N×117.51E,mb4.0/6,mb1 4.1/6, mb1mx3.9/19,mbtmp4.0/6,Error ellipse: s-maj=112.7km s-min=26.8km az=58.0*

BJI ***20*** *18:13:08.7,32.58N×116.82E,h14km,ML4.3*

ISC 20 18:13:10.1±0.8,32.92N±0.06×117.28E±0.09,h10km,n9,
σ0s56/13,mb4.0/6,Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NJ2	**Nanjing**	**1.59**	**123**	*e*P	**Pn**	**18 13 38.3**	**-0.2**
NJ2				PG	**Pg**	**18 13 41.0**	**-0.8**
NJ2				S	**Sb**	**18 13 59.3**	**+0.2**
NJ2				SG	**Sg**	**18 14 03.5**	**+0.5**
NJ2				Smax			
	comp=N,15μm,0.3s						
NJ2				Smax			
	comp=E,8μm,0.2s						
TIA	**Tai'an**	**3.28**	**358**	PG	**Pg**	**18 14 14.6**	**-1.1**
TIA				SG	**Sg**	**18 15 00.0**	**+0.5**
TIA				Smax			
	comp=N,361nm,0.7s						
TIA				Smax			
	comp=E,308nm,0.7s						
MKAR	**Makanchi Array**	**29.95**	**308**	P	**P**	**18 19 20.5**	**-0.1**
	comp=E,5.6nm,1.1s,mb4.2,baz=102,slow=8.8,SNR=4.2						
BVAR	**Borovoye Array**	**38.90**	**315**	P	**P**	**18 20 37.2**	**-0.2**
	comp=E,0.8nm,0.6s,mb3.6,baz=117,slow=9.3,SNR=4.3						
WRA	**Warramunga Arr**	**55.04**	**160**	P	**P**	**18 22 37.3**	**-7.2**
	comp=E,2.1nm,0.8s,mb4.2,baz=346,slow=8.0,SNR=5.2						

BRTR	Keskin Array B	65.41	303	P	P	18 23 55.7	+0.6
	comp=E,0.7nm,0.4s,mb4.0,baz=79,slow=3.4,SNR=4.5						
HFS	Hagfors	68.32	328	P	P	18 24 13.8	+0.6
	comp=E,2.5nm,0.8s,mb4.3,baz=117,slow=6.6,SNR=4.7						
NB2	NORSAR Subarra	68.95	330	P	P	18 24 17.5	+0.4
	comp=E,1.3nm,0.7s,mb4.0,baz=62,slow=5.8						
NOA	NORSAR Array B	68.95	330	P	P	18 24 16.5	-0.6
	comp=E,0.9nm,0.7s,mb3.8,baz=60,slow=6.0,SNR=3.3						

GUC 20 18:25:49.1±1.1, 26.11S×70.35W, h87km±14km, ML4.2, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRCH	Chaqaral	0.34	226	⇓iP	P	18 26 03.0	+0.6
CRCH				i S	S	18 26 12.2	-0.4
CRCH				AMP		18 26 12.6	
	comp=N,18μm,0.3s						
CPCH	Copiapo	1.24	180	eP	P	18 26 12.9	+1.0
CPCH				i S	S	18 26 29.6	+0.6
CPCH				AMP		18 26 30.6	
	comp=E,13μm,0.1s						
CPN1	Cerro Paranal	1.48	358	eP	P	18 26 15.4	+0.5
CPN1				i S	S	18 26 35.1	+1.2
CPN1				AMP		18 26 36.6	
	comp=E,2μm,0.4s						
ANCH	Antofagasta	2.42	359	eP	P	18 26 27.0	-0.5
VACH	Vallenar	2.48	188	eP	P	18 26 28.2	-0.3
VACH				i S	S	18 26 57.5	-0.3
LVC	Limon Verde	3.72	21	eP	P	18 26 45.4	-0.2

*CSEM **20** 19:06:17.9±0.1, 41.76N×23.64E, h2km, MD2.9, Error ellipse: s-maj=2.3km s-min=1.5km az=123.0*
*SOF **20** 19:06:18.6, 41.73N×23.58E, h8km, MD2.9*
*ATH **20** 19:06:20.8, 41.64N×23.67E, h9km, MD3.0/3*
*THE **20** 19:06:21.0, 41.56N×23.61E, h2km, ML2.9*
ISC 20 19:06:18.3±0.4, 41.67N±0.02×23.59E±0.03, h2km, n25, σ0s96/37, 2C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMB	Musomiste	0.13	126	i Pg	Pg	19 06 23.5	+2.6
NVR	Nevrokopi	0.38	147	⇑iPB	Pb	19 06 27.2	-0.1
KKB	Krupnik	0.42	298	i Pg	Pg	19 06 26.0	-0.8
KNT	Kendrikon	0.72	226	ePg	Pg	19 06 33.5	+0.8
KNT				eSg	Sg	19 06 43.1	+0.8
RZN	Rozhen	0.85	88	i Pg	Pg	19 06 35.5	+0.3
SOH	Sokhos	0.86	192	ePg	Pg	19 06 35.3	-0.2
SOH				eSg	Sg	19 06 46.8	-0.2
PLD	Plovdiv	0.94	62	i Pg	Pg	19 06 39.0	+1.9
VTS	Vitosha	0.97	343	i Pg	Pg	19 06 36.0	-1.6
PGB	Panagyurishte	0.98	26	i Pg	Pg	19 06 36.5	-1.4
THE	Thessaloniki	1.13	205	ePg	Pg	19 06 41.0	+0.1
	comp=Z,3.8nm,0.5s						
THE				eSg	Sg	19 06 55.6	-0.5
GRG	Griva	1.14	232	ePg	Pg	19 06 40.8	-0.2
GRG				eSg	Sg	19 06 56.4	+0.2
PLG	Polygyros	1.30	185	ePB	Pb	19 06 44.5	+1.5
OUR	Ouranopolis	1.36	167	ePg	Pg	19 06 45.0	-0.5
OUR				eSg	Sg	19 07 02.3	-1.4
KDZ	Kurdzhali	1.37	90	i P	Pb	19 06 43.5	-0.9
DIM	Dimitrovgrad	1.50	75	i P	Pn	19 06 48.0	+1.6
RDO	Rodhopi	1.56	109	ePG	Pg	19 06 48.6	-0.8
RDO				eSB	Sb	19 07 09.4	+1.8
PAIG	Paliouri	1.74	178	ePb	Pb	19 06 49.5	-1.1
PAIG				eSb	Sb	19 07 12.5	-0.4
PAIG	Paliouri	1.74	178	ePb	Pb	19 06 49.5	-1.1
PAIG				eSb	Sb	19 07 12.5	-0.4
LIT	Litokhoron	1.77	208	ePb	Pb	19 06 50.0	-1.2
LIT				eSb	Sb	19 07 13.7	-0.1
ZAPS	Zavoj/Pirot	1.78	337	⇑iPn	Pn	19 06 50.6	+0.3
ZAPS				Sn	Sn	19 07 13.7	-0.1
FNA	Florina	1.89	243	ePb	Pb	19 06 53.8	+0.7
FNA				eSb	Sb	19 07 18.1	+1.0
ALN	Alexandroupoli	2.01	112	ePb	Pb	19 06 54.6	-0.6
ALN				eSb	Sb	19 07 19.8	-0.9
XOR	Xorichti	2.32	188	ePn	Pn	19 06 58.2	+0.2
XOR	Xorichti	2.32	188	ePn	Pn	19 06 58.2	+0.2
AGG	Agios Georgios	2.81	200	ePn	Pn	19 07 05.5	+0.5

*TIR **20** 19:08:27.9, 42.43N×19.79E, h11km, Ml3.2*
*BEO **20** 19:08:28.3±0.3, 42.41N×19.82E, h12km*
*NEIC **20** 19:08:29.8, 42.43N×19.80E, h10km, ML3.1(PDG), After PDG.*
*CSEM **20** 19:08:29.0±0.1, 42.42N×19.88E, h5km, ML3.1, Error ellipse: s-maj=2.1km s-min=1.5km az=67.0*
*THE **20** 19:08:33.6, 42.41N×20.08E, h12km, ML3.3*
ISC 20 19:08:29.0±0.3, 42.42N±0.02×19.83E±0.02, h3km±2km, n61, σ1s14/108, 21C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BCI	Bajram Curri	0.18	105	i Pg	Pg	19 08 32.3	-0.4
BCI				i Sg	Sg	19 08 35.6	+0.4
PVY	Plav	0.21	31	⇑iPg	Pg	19 08 33.1	-0.1
PVY				eSg	Sg	19 08 37.0	+1.0
PVY	Plav	0.21	31	⇑iPg	Pg	19 08 33.1	-0.1
PVY				eSg	Sg	19 08 37.0	+1.0
PUK	Puka	0.38	173	i Pg	Pg	19 08 35.9	-0.6
PUK				i Sg	Sg	19 08 41.8	+0.3
TTG	Podgorica	0.42	272	⇑iPg	Pg	19 08 36.3	-1.1
TTG				eSg	Sg	19 08 42.8	-0.2
TTG	Podgorica	0.42	272	⇑iPg	Pg	19 08 36.3	-1.1
TTG				eSg	Sg	19 08 42.8	-0.2
IVA	Berane	0.46	6	⇑iPg	Pg	19 08 38.0	-0.2
IVA				eSg	Sg	19 08 44.8	+0.5
IVA	Berane	0.46	6	⇑iPg	Pg	19 08 38.0	-0.2
IVA				eSg	Sg	19 08 44.8	+0.5
KKS	Kukesi	0.55	128	i Pg	Pg	19 08 39.2	-0.8
KKS				i Sg	Sg	19 08 48.1	+0.8
ULC	Ulcinj	0.62	224	⇑iPg	Pg	19 08 40.5	-0.9
ULC				eSg	Sg	19 08 50.6	+0.8
ULC	Ulcinj	0.62	224	⇑iPg	Pg	19 08 40.5	-0.9
ULC				eSg	Sg	19 08 50.6	+0.8
BUM	Brajici-Budva	0.70	261	⇓iPg	Pg	19 08 41.7	-1.3
BUM				eSg	Sg	19 08 52.6	+0.3
BUM	Brajici-Budva	0.70	261	⇓iPg	Pg	19 08 41.7	-1.3
BUM				eSg	Sg	19 08 52.6	+0.3
NKY	Niksic	0.73	303	⇑iPg	Pg	19 08 42.1	-1.5
NKY				eSg	Sg	19 08 53.9	+0.5
NKY	Niksic	0.73	303	⇑iPg	Pg	19 08 42.1	-1.5
NKY				eSg	Sg	19 08 53.9	+0.6
PHP	Peshkopia	0.86	148	i Pg	Pg	19 08 46.8	+0.6
PHP				i Sg	Sg	19 08 59.0	+1.4
QSH	Qafa e Shtames	0.89	176	i pg?	Pg	19 08 48.0	+1.2
QSH				i Sg	Sg	19 09 03.0	+4.2
PLE	Pljevlja	0.97	341	ePg	Pg	19 08 46.8	-1.6
PLE				eSg	Sg	19 09 01.9	+0.6
PLE	Pljevlja	0.97	341	ePg	Pg	19 08 46.8	-1.5
PLE				eSg	Sg	19 09 01.9	+0.6
HCY	Herceg Novi	0.99	272	⇓iPg	Pg	19 08 47.2	-1.5
HCY				eSg	Sg	19 09 02.0	+0.2
HCY	Herceg Novi	0.99	272	⇓iPg	Pg	19 08 47.2	-1.5
HCY				eSg	Sg	19 09 02.0	+0.2
PRZA	Preza	0.99	187	i Pg	Pg	19 08 48.2	-0.6
PRZA				i Sg	Sg	19 09 04.0	+2.0
UPM	Unac-Piva	1.04	320	⇓iPg	Pg	19 08 49.0	-0.7
UPM				eSg	Sg	19 09 03.9	+0.4
UPM	Unac-Piva	1.04	320	⇓iPg	Pg	19 08 49.0	-0.7
UPM				eSg	Sg	19 09 03.9	+0.3
BRY	Bratogost	1.06	298	ePg	Pg	19 08 48.3	-1.9
BRY				eSg	Sg	19 09 04.6	+0.1
BRY	Bratogost	1.06	298	ePg	Pg	19 08 48.3	-2.0
BRY				eSg	Sg	19 09 04.6	+0.1
TIR	Tirane	1.07	179	i Pg	Pg	19 08 49.5	-0.8
TIR				i Sg	Sg	19 09 07.0	+2.5
SKO	Skopje	1.28	110	⇑iPn	Pn	19 08 52.8	-0.8
SKO				i		19 08 56.9	
SKO				i Sn	Sn	19 09 12.6	+1.2
SKO				Lg		19 09 18.5	
	comp=Z,0.2nm,0.7s						
SKO	Skopje	1.28	110	⇑iPn	Pn	19 08 52.8	-0.8
SKO				i Sn	Sn	19 09 12.6	+1.2
BBLS	Bajina Basta -	1.48	348	⇑iPn	Pn	19 08 56.0	-0.6
BBLS				Sn	Sn	19 09 17.5	+0.8
BARS	Barje	1.53	74	⇑iPn	Pn	19 08 37.7	-20
BARS				Sn	Sn	19 09 00.1	-18
GRUS	Gruza	1.61	23	⇓iPn	Pn	19 08 59.0	+0.6
STON	Ston	1.64	287	i Pn	Pn	19 08 58.4	-0.4
STON				i Sn	Sn	19 09 23.6	+3.0
DIVS	Divcibare	1.69	4	⇑iPn	Pn	19 08 59.6	+0.1
DIVS				Sn	Sn	19 09 23.6	+1.8
FNA	Florina	2.00	144	ePb	Pb	19 09 05.4	-0.3
	comp=Z,2.3nm,0.7s						
FNA				eSb	Sb	19 09 29.7	-1.3
ZAPS	Zavoj/Pirot	2.23	66	⇑iPn	Pn	19 09 06.7	-0.6
ZAPS				Sn	Sn	19 09 34.7	-1.1
GRG	Griva	2.42	126	ePn	Pn	19 09 10.8	+0.9
GRG				eSn	Sn	19 09 39.3	-1.1
BAI	Bari	2.56	240	ePn	Pn	19 09 11.3	-0.8
SG1	Sgolgore (BA)	2.84	237	ePn	Pn	19 09 15.6	-0.4
CDT	Castel del Mon	2.98	245	ePn	Pn	19 09 17.1	-0.8
LIT	Litokhoron	3.06	138	ePn	Pn	19 09 19.5	+0.4
LIT				eSn	Sn	19 09 56.3	-0.4
SOH	Sokhos	3.08	120	ePn	Pn	19 09 19.8	+0.2
PKSM	Moragy	3.89	348	⇓eP	Pn	19 09 29.3	-1.7
PKSM				eS	Sn	19 10 14.4	-3.4
TIP	Timpagrande	3.98	217	eP	Pn	19 09 30.4	-1.8
TIP	Timpagrande	3.98	217	eP	Pn	19 09 30.4	-1.9
CII	Carovilli	4.17	262	eP	Pn	19 09 34.8	-0.1
CII	Carovilli	4.17	262	eP	Pn	19 09 34.8	-0.1
NVLJ	Novalja	4.20	302	i Pn	Pn	19 09 42.1	+6.8
NVLJ				i Sn	Sn	19 10 25.9	+0.3
PKSN	Nyarlorinc	4.48	0	eP	Pn	19 09 37.2	-2.2
BOJS	Bojanci	4.52	315	i Pn	Pn	19 09 41.3	+1.4
BOJS				eSn	Sn	19 10 34.3	+0.5
PKS8	Sarbogard	4.54	350	⇑eP	Pn	19 09 38.7	-1.5
VISS	Visnje	4.94	315	ePn	Pn	19 09 47.2	+1.4
VISS				eSn	Sn	19 10 44.3	0.0
CEY	Cerknica	5.12	312	ePn	Pn	19 09 50.4	+2.0
PERS	Pernice	5.40	323	ePn	Pn	19 09 51.1	-1.2
OBKA	Obir	5.57	319	⇑iPN	Pn	19 09 57.7	+3.0
OBKA				i SN	Sn	19 11 03.3	+3.2
OBKA				i SG	Sg	19 11 37.4	+3.0
	comp=Z,10nm,0.7s						
OBKA	Obir	5.57	319	⇑iPn	Pn	19 09 57.7	+3.0
	comp=Z,10nm,0.7s						
OBKA				i Sn	Sn	19 11 03.3	+3.2
OBKA				i Sg	Sg	19 11 37.4	+3.0
VOY	Vojsko	5.59	312	ePn	Pn	19 09 56.7	+1.7
VOY				e		19 10 00.9	
VOY				e		19 11 01.0	
VOJS	Vojsko	5.60	312	i Pn	Pn	19 09 55.8	+0.7
ARSA	Arzberg	5.72	329	⇑iPN	Pn	19 09 56.9	0.0
ARSA				i SN	Sn	19 11 04.4	+0.4
ROBS	Robic	5.93	312	ePn	Pn	19 09 59.4	-0.4
MOA	Molln	6.71	326	⇑iPN	Pn	19 10 12.8	+2.0
MOA				i SN	Sn	19 11 26.3	-2.3

*BJI **20** 19:18:13.5, 0.28N×97.77E, h39km, mb4.7, Ms4.2, Msz4.2*
*NEIC **20** 19:18:17.8±0.6, 0.85N×97.34E, mb4.3/1, Error ellipse: s-maj=15.2km s-min=12.2km az=60.0*
*IDC **20** 19:18:17.7±0.8, 0.81N×97.30E, h22km±5km, mb3.8/11, mb1 4.0/11, mb1mx3.9/17, mbtmp4.0/11, MS3.4/2, Ms1 3.4/2, ms1mx3.0/31, Error ellipse: s-maj=35.2km s-min=16.2km az=47.0*
ISC 20 19:18:16.0±0.8, 0.9N±0.1×97.4E±0.1, h23km±.4km:pP-P, n21, σ0s84/19, mb4.1/15, MS3.6/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.46	37	eP	Pn	19 19 38.7	+0.5
KMI	Kunming	24.65	12	P	P	19 23 36.5	-0.1
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.3						
KMI				LR	LR		
	comp=N,276nm,9.3s						
KMI				LR	LR		
	comp=E,195nm,10.0s						
KMI				LR	LR		
	comp=Z,256nm,12.4s,MS3.9						
LSA	Lhasa	29.27	349	eP	P	19 24 20.4	+1.3
	comp=Z,4.0nm,0.7s,mb4.3						
ENH	Enshi	31.41	20	eP	P	19 24 35.8	-2.2
XAN	Xi'an	34.71	17	P	P	19 25 05.6	-1.0
XAN				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.8						
GTA	Gaotai	38.41	3	eP	P	19 25 38.5	+0.7
GTA				AP	pP	19 25 45.4	+0.8
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
WRA	Warramunga Arr	41.71	122	P	P	19 26 04.9	-0.4
	comp=Z,1.1nm,0.5s,mb3.7,baz=301,slow=9.0,SNR=7.9						
WRA				pP	pP	19 26 11.7	-0.4
	comp=Z,1.3nm,0.6s,baz=306,slow=8.7,SNR=4.8						
SONM	Songino Array	47.42	8	P	P	19 26 51.4	+0.6
	comp=Z,1.2nm,0.5s,mb4.1,baz=191,slow=9.8,SNR=17						
MKAR	Makanchi Array	47.60	346	P	P	19 26 52.7	+0.5
	comp=Z,3.5nm,0.5s,mb4.7,baz=159,slow=9.2,SNR=50						
MKAR				LR	LR	19 49 21.5	
	comp=Z,23nm,18.4s,MS3.2,baz=261,slow=39						
MKAR	Makanchi Array	47.60	346	P	P	19 26 52.7	+0.5
MKAR				LR	LR	19 49 21.5	
MJAR	Matsushiro Arr	51.80	42	P	P	19 27 25.0	+0.5
	comp=Z,0.5nm,0.5s,mb3.7,baz=211,slow=7.1,SNR=4.0						
STKA	Stephens Creek	53.00	132	P	P	19 27 34.0	+0.4
	comp=Z,1.4nm,0.8s,mb3.9,baz=308,slow=14,SNR=2.4						
ZAL	Zalesovo	53.90	351	P	P	19 27 39.3	-0.5
	comp=Z,2.9nm,0.6s,mb4.4,baz=274,slow=8.1,SNR=13						
ZRNK	Zerenda	57.02	340	eP	P	19 28 01.0	-1.5
BRTR	Keskin Array B	69.47	312	P	P	19 29 24.4	-0.6
	comp=Z,0.4nm,0.5s,mb3.6,baz=80,slow=8.8,SNR=2.7						
AKASG	Malin Array Be	75.63	322	P	P	19 30 00.7	-0.4
	comp=Z,0.4nm,0.4s,mb3.7,baz=89,slow=4.9,SNR=6.9						
AKASG				pP	pP	19 30 07.5	-0.8
	comp=Z,0.7nm,0.6s,baz=94,slow=4.6,SNR=3.4						
MLR	Muntele Rosu	76.43	317	LR	LR	20 07 26.5	
	comp=Z,40nm,20.8s,MS3.7,baz=209,slow=39						
FINES	FINESS Array B	80.37	333	P	P	19 30 27.3	+0.3
	comp=Z,1.1nm,0.7s,mb3.9,baz=108,slow=4.4,SNR=3.3						
ARCES	ARCESS Array B	82.90	340	P	P	19 30 40.5	+0.5
	comp=Z,2.0nm,0.8s,mb4.2,baz=104,slow=3.7,SNR=5.0						
GERES	GERESS Array B	85.18	319	P	P	19 30 52.8	+0.8
	comp=Z,0.1nm,0.3s,mb3.4,baz=90,slow=5.3,SNR=4.7						
GERES				pP	pP	19 31 00.4	+1.1
	comp=Z,0.8nm,0.8s,baz=108,slow=4.2,SNR=4.5						
CPUP	Villa Florida	144.89	222	PKP	PKPdf	19 37 53.5	-3.1
	comp=Z,1.2nm,0.7s,baz=109,slow=3.3,SNR=4.0						
CPUP				pPKP		19 38 01.2	
	comp=Z,2.8nm,0.6s,baz=150,slow=4.3,SNR=5.2						

*MOS **20** 19:37:44.6±1.9, 19.51N×146.35E, h33km, mb4.8/4, Error ellipse: s-maj=22.1km s-min=9.2km az=102.1*
*BJI **20** 19:37:48.5, 19.40N×146.40E, h100km, mB4.3, mb4.1*
*NEIC **20** 19:37:52.6±1.0, 19.41N×146.36E, h100km±8km, mb4.5/8, Error ellipse: s-maj=19.5km s-min=6.3km az=82.0*
*IDC **20** 19:37:57.3±4.8, 19.43N×146.23E, h141km±44km, mb4.1/12, mb1 4.0/15, mb1mx3.9/25, mbtmp4.5/15, MS3.5/5, Ms1 3.5/5, ms1mx3.1/34, Error ellipse: s-maj=28.8km s-min=10.8km az=84.0*
ISC 20 19:37:51.6±1.2, 19.43N±0.05×146.2E±0.2, h104km±10km, n49, σ0s95/45, mb4.4/20, 2C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SARN	Sarigan	2.75	189	⇑eP	P	19 38 34.5	-0.5
SAPN	Saipan	4.22	186	⇑eP	P	19 38 54.9	-0.1
SAPN				eS	S	19 39 44.2	+0.7
GUMO	Guam	5.95	193	eP	P	19 39 17.9	-0.7
JHJ	Hachijo jima 2	14.79	338	P	P	19 41 19.3	+2.7
	3.8nm,0.3s,baz=71,slow=18,SNR=4.0						
MJAR	Matsushiro Arr	18.44	339	P	P	19 42 01.6	+0.2
	1.1nm,0.3s,baz=162,slow=9.8,SNR=13						
MAJO	Matsushiro	18.44	339	eP	P	19 42 00.7	-0.7
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MAJO	Matsushiro	18.44	339	eP	P	19 42 00.7	-0.7
	comp=Z,5.9nm,0.4s						
MAT	Matsushiro	18.44	339	P	P	19 42 02.0	+0.6
MAT	Matsushiro	18.44	339	P	P	19 42 01.9	+0.5
JNU	Nakatsue	19.33	318	P	P	19 42 11.8	+0.6
	comp=Z,0.4nm,0.3s,baz=153,slow=11,SNR=3.3						
KS15	Wonju Array Si	24.05	322	eP	P	19 42 55.8	-2.2
ASAJ	Asahikawa	24.80	354	LR	LR	19 51 59.9	
	comp=Z,26nm,19.1s,baz=160,slow=34						
PMG	Port Moresby	28.67	178	P	P	19 43 40.9	-0.1
	comp=Z,7.5nm,0.5s,mb4.5,baz=60,slow=8.1,SNR=4.2						
PMG				LR	LR	19 53 38.2	
	comp=Z,62nm,21.7s,baz=81,slow=33						
MDJ	Mudanjiang	28.68	335	P	P	19 43 40.8	0.0
MDJ				AP	pP	19 44 00.8	-2.9
MDJ				XP	sP	19 44 11.8	-4.0
MDJ				PCP	PcP	19 46 50.8	+1.8
MDJ				S	S	19 48 21.8	+1.2
MDJ				XS		19 48 57.1	
MDJ				PCS		19 50 33.3	
MDJ				AMB	AMB		
	comp=Z,2.0nm,1.6s,mb3.5						
MDJ				AMB	AMB		
	comp=Z,13nm,3.7s						
MDJ				LR	LR		
	comp=N,95nm,16.5s						
MDJ				LR	LR		
	comp=E,47nm,7.8s						
MDJ				LR	LR		
	comp=Z,89nm,16.3s						
CTA	Charters Tower	39.28	180	P	P	19 45 15.1	+3.3
	comp=Z,7.4nm,1.0s,mb4.5,baz=326,slow=7.3,SNR=2.9						
CTA				LR	LR	19 58 13.7	
	comp=Z,264nm,19.4s,baz=24,slow=31						
CTA	Charters Tower	39.28	180	P	P	19 45 15.1	+3.3
CTA				LR	LR	19 58 13.7	
WRAB	Tennant Creek	40.81	197	eP	P	19 45 25.3	+0.8
WRAB				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.0						
WRAB	Tennant Creek	40.81	197	eP	P	19 45 25.3	+0.8
	comp=Z,19nm,0.7s,mb5.0						
WB2	Warramunga Arr	40.82	197	eP	P	19 45 25.3	+0.7
WRA	Warramunga Arr	40.83	197	P	P	19 45 25.5	+0.9
	comp=Z,11nm,0.7s,mb4.8,baz=12,slow=8.4,SNR=66						
FITZ	Fitzroy Crossi	42.42	210	eP	P	19 45 38.3	+0.5
	comp=Z,5.2nm,0.3s,mb4.7						
FITZ	Fitzroy Crossi	42.42	210	P	P	19 45 38.2	+0.4
	comp=Z,6.6nm,0.3s,mb4.8,baz=15,slow=9.7,SNR=38						
SONM	Songino Array	42.88	321	P	P	19 45 40.9	-0.3
	comp=Z,1.3nm,0.5s,mb3.9,baz=133,slow=7.8,SNR=27						
DZM	Mont Dzumac	45.74	153	LR	LR	20 00 35.3	
	comp=Z,203nm,20.4s,baz=6.0,slow=30						
MBWA	Marble Bar	47.95	214	P	P	19 46 19.5	-2.3
LSA	Lhasa	50.72	293	eP	P	19 46 44.9	+2.0
LSA				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
LSA	Lhasa	50.72	293	eP	P	19 46 44.9	+2.0
	comp=Z,1.7nm,0.3s,mb4.5						
STKA	Stephens Creek	51.21	185	eP	P	19 46 46.5	-0.1
	comp=Z,2.2nm,0.4s,mb4.5						
STKA	Stephens Creek	51.21	185	P	P	19 46 45.6	-1.0
	comp=Z,1.3nm,0.4s,mb4.3,baz=308,slow=8.2,SNR=9.1						
WMQ	Urumqi	54.21	310	eP	P	19 47 07.6	-1.1
KLBR	Kellerberrin	57.62	209	eP	P	19 47 33.0	-0.2
	comp=Z,66nm,1.5s,mb5.5						
ZAL	Zalesovo	57.75	322	P	P	19 47 32.8	-1.0
	comp=Z,1.0nm,0.3s,mb4.3,baz=349,slow=8.6,SNR=4.6						
MKAR	Makanchi Array	58.31	314	P	P	19 47 38.5	+0.6
	comp=Z,1.1nm,0.4s,mb4.2,baz=86,slow=9.7,SNR=10						
NWAO	Narrogin (SRO)	58.98	208	P	P	19 47 42.1	-0.5
	comp=Z,17nm,1.0s,mb5.0,baz=9.3,slow=3.3,SNR=6.3						
ILAR	Eielson Array	62.77	26	P	P	19 48 07.8	-0.1
	comp=Z,0.4nm,0.7s,mb3.5,baz=256,slow=7.4,SNR=3.5						
BVAR	Borovoye Array	66.23	320	P	P	19 48 30.3	-0.2
	comp=Z,6.0nm,0.4s,mb4.7,baz=93,slow=7.5,SNR=54						
BRVK	Borovoye	66.29	320	eP	P	19 48 30.7	-0.1
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
BRVK	Borovoye	66.29	320	eP	P	19 48 30.7	-0.1
	comp=Z,2.4nm,0.6s,mb4.2						
ZRNK	Zerenda	67.07	320	eP	P	19 48 34.9	-0.8
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ZRNK	Zerenda	67.07	320	eP	P	19 48 34.9	-0.9
	comp=Z,3.7nm,0.9s,mb4.2						
ARCES	ARCESS Array B	81.95	342	P	P	19 50 05.0	+4.2
	comp=Z,1.4nm,0.7s,mb3.9,baz=69,slow=7.7,SNR=4.1						
ARCES				LR	LR	20 27 53.5	
	comp=Z,11nm,20.5s,baz=323,slow=37						
ARCES	ARCESS Array B	81.95	342	P	P	19 50 05.0	+4.2
ARCES				LR	LR	20 27 53.5	
KAF	Kangasniemi	85.95	336	ep	P	19 50 20.9	+0.1
FINES	FINESS Array B	86.43	335	P	P	19 50 23.0	-0.2
	comp=Z,1.5nm,0.4s,mb4.2,baz=69,slow=4.2,SNR=9.5						
HFS	Hagfors	91.89	338	P	P	19 50 49.2	+0.2
	comp=Z,2.6nm,0.8s,mb4.5,baz=69,slow=4.1,SNR=6.8						
STS	Santiago	113.78	340	PKIKP	PKPdf	19 56 18.3	+0.2
PLCA	Paso Flores	142.13	132	PKP	PKPdf	19 57 12.4	+0.7
	comp=Z,1.2nm,0.8s,baz=233,slow=10,SNR=2.7						
LPAZ	La Paz	147.19	90	PKPbc	PKPdf	19 57 24.5	+3.5
	comp=Z,0.6nm,0.5s,baz=236,slow=3.6,SNR=2.4						
LPAZ	La Paz	147.19	90	PKPbc	PKPdf	19 57 24.5	+3.5

IDC 20 19:50:11.3±5.3, 30.26S×178.43W, h61km±37km, mb3.6/2, mb1 3.8/2, mb1mx3.5/11, mbtmp3.9/2, Error ellipse: s-maj=91.9km s-min=31.2km az=143.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.10	24	P	P	19 50 30.6	-0.4
	64nm,0.3s,baz=128,slow=19,SNR=2.8						
RAO				S	S	19 50 45.3	-0.3
	121nm,0.3s,baz=78,slow=20,SNR=4.6						
STKA	Stephens Creek	34.15	257	P	P	19 56 50.8	-1.8
	1.4nm,0.6s,baz=108,slow=12,SNR=5.0						
WRA	Warramunga Arr	43.72	272	P	P	19 58 10.3	-2.1
	0.6nm,0.4s,baz=111,slow=8.0,SNR=13						
FINES	FINESS Array B	144.89	340	PKP	PKPdf	20 09 38.0	-2.6
	0.8nm,0.4s,baz=90,slow=6.9,SNR=8.7						
AKASG	Malin Array Be	150.97	323	PKPbc	PKPdf	20 09 57.8	+6.9
	1.0nm,0.7s,baz=49,slow=3.0,SNR=5.7						

*CSEM **20** 19:54:02.8±0.2, 36.76N×0.75E, h25km, ML4.4/9, Error ellipse: s-maj=3.7km s-min=2.3km az=162.0*
*MDD **20** 19:54:04.5±0.6, 37.10N×0.71E, mb4.9/28, Error ellipse: s-maj=8.7km s-min=6.7km az=54.0, PRXIMO*
*NEIC **20** 19:54:04.9±0.6, 36.87N×0.67E, h10km, MG5.0(MDD), Error ellipse: s-maj=7.4km s-min=2.6km az=157.0*
*ZUR_RM **20** 19:54:04, 36.87N×0.67E, h12km, Mw3.8/17, Moment Tensor Solution. s17 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.01; $M_{\theta\theta}$-3.08; $M_{\phi\phi}$3.09; $M_{r\theta}$0.52; $M_{\theta\phi}$-4.20; $M_{\phi r}$-2.55; Best double couple: $M_0$5.77×10^{14} NP1:ϕ_s200°, δ81°, λ22°. NP2:ϕ_s106°, δ68°, λ170°. Principal axes: T 6.229, Plg22°, Azm65°; N -.925, Plg66°, Azm222°; P -5.304, Plg8°, Azm331°;*
*SFS **20** 19:54:07.0, 36.93N×0.77E*
*LDG **20** 19:54:09.6±0.2, 36.96N×0.64E, h25km, Md3.6/3, Ml3.9/22, Error ellipse: s-maj=4.4km s-min=1.8km az=149.0*
*INMG **20** 19:54:09.1±1.2, 36.98N×0.57E, h31km, ML3.4, Error ellipse: s-maj=6.3km s-min=3.2km az=118.0*
*CRAAG **20** 19:54:09.5, 36.75N×0.70E, Ml3.8*
*STR **20** 19:54:19.4±0.5, 37.89N×0.65E, h10km±1km, Ml3.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 20 19:54:04.4±0.2, 37.11N±0.02×0.61E±0.02, h10km, n207, σ1s46/323, 7C-9D, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKGL	Djebel Kef Gue	1.07	179	P	Pb	19 54 24.0	-0.5
EBNR	Beni Rached	1.10	138	P	Pb	19 54 25.0	-0.1
ECHF	Ech Chlef	1.11	148	P	Pb	19 54 24.5	-0.9
ECHA	Ech Chlef	1.13	147	P	Pb	19 54 24.5	-1.1
EANR	'Ain N'Sour	1.22	161	P	Pb	19 54 27.0	-0.1
CART	Cartagena	1.37	291	eP	Pn	19 54 30.6	+0.9
CART	Cartagena	1.37	291	P	Pn	19 54 30.5	+0.8
CART				S	Sb	19 54 45.8	-1.4
CART	Cartagena	1.37	291	eP	Pn	19 54 30.5	+0.8
OJBR	Djebel Berber	1.54	188	P	Pn	19 54 26.0	-6.1
OJGS	Djebel Guires	1.60	176	P	Pn	19 54 32.0	-1.0
EMUR	La Murta	1.65	297	⇓Pn	Pn	19 54 35.3	+1.6
EMUR				Sn	Sn	19 54 53.7	-1.3
EMUR	La Murta	1.65	297	⇓Pn	Pn	19 54 35.3	+1.6
	253nm,0.3s,SNR=18						
EMUR				Sn	Sn	19 54 53.9	-1.2
	806nm,0.3s,SNR=6.1						
EMUR	La Murta	1.65	297	Pn	Pn	19 54 35.3	+1.6
	253nm,0.3s,SNR=18						
EMUR				Sn	Sn	19 54 53.7	-1.3
	806nm,0.3s,SNR=6.1						
USTO	Oran	1.66	215	P	Pn	19 54 34.0	+0.1

EBEN Beniarda 1.73 338 ⇓Pn Pn 19 54 37.1 +2.3
EBEN Sn Sn 19 54 57.1 +0.1
EBEN Beniarda 1.73 338 ⇓Pn Pn 19 54 36.9 +2.2
111nm,0.2s,SNR=18
EBEN Sn Sn 19 54 58.7 +1.7
161nm,0.3s,SNR=11
EBEN Beniarda 1.73 338 Pn Pn 19 54 37.1 +2.3
111nm,0.2s,SNR=18
EBEN Sn Sn 19 54 57.1 +0.1
161nm,0.3s,SNR=11
ETRT Tiaret 1.80 162 P Pn 19 54 35.0 -0.9
ODJA Bouhanifia 1.88 199 P Pn 19 54 28.0 -9.0
ABA Alger-Bouzarea 1.96 98 P Pn 19 54 36.0 -2.2
EIBI Ibiza 2.00 17 Pn Pn 19 54 40.3 +1.6
EIBI Sn Sn 19 55 02.2 -1.8
EIBI Ibiza 2.00 17 Pn Pn 19 54 40.3 +1.6
43nm,0.2s,SNR=131
EIBI Sn Sn 19 55 02.3 -1.7
293nm,0.1s,SNR=5.8
EIBI Ibiza 2.00 17 Pn Pn 19 54 40.3 +1.6
43nm,0.2s,SNR=131
EMHD Djebel Mahouad 2.09 115 P Pn 19 54 40.0 0.0
OTSS Djebel Tessala 2.15 212 P Pn 19 54 33.0 -7.8
ENIJ Nijar 2.26 267 ⇑Pn Pn 19 54 42.2 -0.2
ENIJ Sn Sn 19 55 06.8 -3.8
ENIJ Nijar 2.26 267 ⇑Pn Pn 19 54 42.2 -0.2
3.0nm,0.3s,SNR=18
ENIJ Sn Sn 19 55 08.1 -2.6
5.3nm,0.4s,SNR=4.0
ENIJ Nijar 2.26 267 Pn Pn 19 54 42.2 -0.2
3.0nm,0.3s,SNR=18
ENIJ Sn Sn 19 55 06.8 -3.8
5.3nm,0.4s,SNR=4.0
ETOB Tobarra 2.30 313 ⇓Pn Pn 19 54 45.6 +2.6
157nm,0.2s,SNR=18
ETOB Sn Sn 19 55 12.0 +0.4
129nm,0.2s,SNR=5.0
ETOB Tobarra 2.30 313 Pn Pn 19 54 45.6 +2.6
157nm,0.2s,SNR=18
ETOB Sn Sn 19 55 12.0 +0.4
129nm,0.2s,SNR=5.0
ODZI Dziouia 2.35 220 P Pn 19 54 33.0 -11
ADJB Djebel Djouab 2.46 112 P Pn 19 54 45.3 0.0
OLHC Oulhaca 2.48 222 P Pn 19 54 32.0 -14
EHUE Huescar 2.65 286 Pn Pn 19 54 51.8 +3.8
EHUE Sn Sn 19 55 22.6 +2.2
EHUE Huescar 2.65 286 Pn Pn 19 54 51.4 +3.4
7.8nm,0.1s,SNR=7.9
EHUE Sn Sn 19 55 22.6 +2.2
110nm,0.2s,SNR=16
ECHE Chera 2.77 334 ⇓Pn Pn 19 54 52.2 +2.4
ECHE Sn Sn 19 55 24.2 +0.5
ECHE Chera 2.77 334 ⇓Pn Pn 19 54 52.2 +2.4
84nm,0.3s,SNR=18
ECHE Sn Sn 19 55 26.0 +2.4
35nm,0.3s,SNR=5.0
ECHE Chera 2.77 334 Pn Pn 19 54 52.2 +2.4
84nm,0.3s,SNR=18
ECHE Sn Sn 19 55 24.2 +0.5
35nm,0.3s,SNR=5.0
EBER Berja 2.81 267 Pn Pn 19 54 50.2 -0.1
62nm,0.2s,SNR=62
EBER Sn Sn 19 55 21.8 -2.9
247nm,0.2s,SNR=5.0
EBER Berja 2.81 267 Pn Pn 19 54 50.2 -0.1
62nm,0.2s,SNR=62
EBER Sn Sn 19 55 21.8 -2.8
247nm,0.2s,SNR=5.0
EVIA Vianos 2.90 303 ⇓Pn Pn 19 54 53.5 +1.9
EVIA Sn Sn 19 55 28.2 +1.3
EVIA Vianos 2.90 303 ⇓Pn Pn 19 54 53.5 +2.0
124nm,0.4s,SNR=18
EVIA Sn Sn 19 55 28.2 +1.3
178nm,0.3s,SNR=4.8
EQES Quesada 3.01 284 Pn Pn 19 54 55.3 +2.2
EQES Sn Sn 19 55 30.3 +0.6
EQES Quesada 3.01 284 Pn Pn 19 54 55.3 +2.2
40nm,0.2s,SNR=116
EQES Sn Sn 19 55 31.3 +1.6
222nm,0.1s,SNR=5.0
EQES Quesada 3.01 284 Pn Pn 19 54 55.3 +2.1
40nm,0.2s,SNR=116
EQES Sn Sn 19 55 30.3 +0.6
222nm,0.1s,SNR=5.0
EALB Alboran 3.16 249 Pn Pn 19 54 53.6 -1.7
27nm,0.2s,SNR=7.2
EALB Sn Sn 19 55 29.5 -4.0
157nm,0.2s,SNR=5.0
EALB Alboran 3.16 249 Pn Pn 19 54 53.6 -1.7
27nm,0.2s,SNR=7.2
EALB Sn Sn 19 55 29.5 -3.9
157nm,0.2s,SNR=5.0
ETOS Mallorca 3.17 32 ⇑Pn Pn 19 54 55.4 0.0
ETOS Sn Sn 19 55 30.0 -3.6
ETOS Mallorca 3.17 32 ⇑Pn Pn 19 54 55.3 0.0
106nm,0.3s,SNR=18
ETOS Sn Sn 19 55 31.0 -2.6
200nm,0.2s,SNR=5.0
ETOS Mallorca 3.17 32 Pn Pn 19 54 55.3 -0.1
106nm,0.3s,SNR=18
ETOS Sn Sn 19 55 30.0 -3.7
200nm,0.2s,SNR=5.0
ECOG Cogollos-Vega 3.34 274 Pn Pn 19 54 59.8 +2.0
12nm,0.1s,SNR=22
ECOG Sn Sn 19 55 41.7 +3.7
118nm,0.2s,SNR=23
EGUA Guajares 3.36 267 Pn Pn 19 54 57.9 -0.1
4.6nm,0.2s,SNR=7.9
EGUA Sn Sn 19 55 35.8 -2.6
17nm,0.3s,SNR=4.0
EMOS Mosqueruela 3.36 346 Pn Pn 19 55 01.3 +3.2
EMOS Sn Sn 19 55 38.0 -0.5
EMOS Mosqueruela 3.36 346 Pn Pn 19 55 00.6 +2.4
26nm,0.1s,SNR=55
EMOS Sn Sn 19 55 38.7 +0.2
81nm,0.2s,SNR=5.0
EMOS Mosqueruela 3.36 346 Pn Pn 19 55 01.3 +3.2
26nm,0.1s,SNR=55
EMOS Sn Sn 19 55 38.0 -0.5
81nm,0.2s,SNR=5.0
EMEL Melilla 3.40 239 Pn Pn 19 54 57.8 -0.9
89nm,0.1s,SNR=4.0
EMEL Sn Sn 19 55 33.8 -5.8
104nm,0.2s,SNR=7.9
ZAI Zaio 3.46 233 *i* P Pn 19 54 54.5 -5.0
ERON Agron 3.54 270 Pn Pn 19 55 01.8 +1.2
ERON Sn Sn 19 55 43.7 +0.7
ERON Agron 3.54 270 Pn Pn 19 55 00.1 -0.6
35nm,0.3s,SNR=17
ERON Sn Sn 19 55 43.7 +0.7
32nm,0.3s,SNR=4.0
EBAN Banos Encina 3.65 288 ⇑Pn Pn 19 55 03.7 +1.5
EBAN Sn Sn 19 55 44.9 -0.8
EBAN Banos Encina 3.65 288 ⇑Pn Pn 19 55 03.7 +1.5
12nm,0.2s,SNR=18
EBAN Sn Sn 19 55 49.0 +3.3
28nm,0.2s,SNR=4.0
EBAN Banos Encina 3.65 288 Pn Pn 19 55 03.7 +1.5
12nm,0.2s,SNR=18
EBAN Sn Sn 19 55 44.9 -0.9
28nm,0.2s,SNR=4.0
EBR Ebro Roquetas 3.71 359 *e*PN Pn 19 55 05.0 +1.9
EBR eSN Sn 19 55 45.2 -2.1
ELOJ Sierra Loja 3.81 272 Pn Pn 19 55 06.5 +2.0
ELOJ Sn Sn 19 55 50.2 +0.3
ELOJ Sierra Loja 3.81 272 Pn Pn 19 55 06.5 +2.0
44nm,0.3s,SNR=91
ELOJ Sn Sn 19 55 52.2 +2.3
53nm,0.4s,SNR=19
ELUQ Luque 3.92 278 Pn Pn 19 55 07.5 +1.5
ELUQ Sn Sn 19 55 52.1 -0.5
ELUQ Luque 3.92 278 Pn Pn 19 55 07.5 +1.5
7.8nm,0.2s,SNR=21
ELUQ Sn Sn 19 55 52.1 -0.5
51nm,0.2s,SNR=5.0
ELUQ Luque 3.92 278 Pn Pn 19 55 07.4 +1.4
MAHO Mahon 4.00 45 P Pn 19 55 04.5 -2.6
MAHO S Sn 19 55 47.9 -6.7
MAHO Mahon 4.00 45 *i* P Pn 19 55 04.5 -2.6
EADA Adamuz 4.25 286 Pn Pn 19 55 11.1 +0.3
EADA Sn Sn 19 55 58.2 -2.9
EADA Adamuz 4.25 286 Pn Pn 19 55 11.4 +0.6
7.3nm,0.2s,SNR=50
EADA Sn Sn 19 55 58.2 -2.9
53nm,0.1s,SNR=5.0
EADA Adamuz 4.25 286 Pn Pn 19 55 11.1 +0.3
EPOB Poblet 4.25 5 Pn Pn 19 55 12.1 +1.3
54nm,0.2s,SNR=140
EPOB Sn Sn 19 55 57.2 -3.9
54nm,0.2s,SNR=5.0
EPOB Poblet 4.25 5 Pn Pn 19 55 12.1 +1.3
54nm,0.2s,SNR=140
EPOB Sn Sn 19 55 57.2 -4.0
54nm,0.2s,SNR=5.0
EMIJ Mijas 4.35 264 Pn Pn 19 55 09.8 -2.5
EMIJ Sn Sn 19 55 57.2 -6.5
EMIJ Mijas 4.35 264 Pn Pn 19 55 09.8 -2.5
10nm,0.2s,SNR=37
EMIJ Sn Sn 19 55 57.2 -6.5
27nm,0.2s,SNR=6.6
ESDC Sonseca Array 4.42 307 Pn Pn 19 55 13.9 +0.8
23nm,0.2s,baz=122,slow=14,SNR=350
ESDC Sonseca Array 4.42 307 Pn Pn 19 55 13.9 +0.8
23nm,0.2s,SNR=350
ESLA Sonseca Array 4.42 307 *e*P Pn 19 55 13.5 +0.4
ESLA Sonseca Array 4.42 307 *e*P Pn 19 55 13.5 +0.4
ESAC San Caprasio 4.68 350 Pn Pn 19 55 19.0 +2.1
25nm,0.3s,SNR=30
ESAC Sn Sn 19 56 10.7 -1.3
238nm,0.3s,SNR=9.9
ESAC San Caprasio 4.68 350 Pn Pn 19 55 19.0 +2.1
25nm,0.3s,SNR=30
ESAC Sn Sn 19 56 10.7 -1.3
238nm,0.3s,SNR=9.9
EMIR Miracle 4.85 8 Pn Pn 19 55 21.3 +2.0
8.7nm,0.1s,SNR=7.9
EMIR Sn Sn 19 56 13.6 -2.7
39nm,0.2s,SNR=4.0
EMIR Miracle 4.85 8 Pn Pn 19 55 21.3 +2.0
8.7nm,0.1s,SNR=7.9
EMIR Sn Sn 19 56 13.6 -2.7
39nm,0.2s,SNR=4.0
TZK Tazeka 4.93 234 *i* P Pn 19 55 15.5 -5.0
EGRA Graus 5.09 358 Pn Pn 19 55 25.1 +2.5
EGRA Sn Sn 19 56 23.3 +1.1
EGRA Graus 5.09 358 Pn Pn 19 55 25.2 +2.6
1.7nm,0.2s,SNR=4.0
EGRA Sn Sn 19 56 23.3 +1.1
7.9nm,0.3s,SNR=4.0
DKH Dar Kharkhour 5.09 253 *i* P Pn 19 55 18.0 -4.6
ESPR Espera 5.18 269 Pn Pn 19 55 24.3 +0.3
3.3nm,0.2s,SNR=4.0
ESPR Sn Sn 19 56 23.0 -1.6
16nm,0.3s,SNR=4.0
VALF Valcebollere 5.40 11 P Pn 19 55 28.9 +1.9
VALF S Sn 19 56 28.9 -1.1
CMAH Djebel Manchou 5.48 93 P Pn 19 55 26.5 -1.6
ABSA Djebel Ababsia 5.58 97 P Pn 19 55 29.0 -0.5
CABS Djebel Ababsia 5.58 97 P Pn 19 55 29.0 -0.5
EJON La Jonquera 5.62 17 Pn Pn 19 55 30.0 -0.1
5.8nm,0.2s,SNR=14
EJON Sn Sn 19 56 30.5 -4.9
24nm,0.2s,SNR=5.0
FILF Fillols 5.65 15 P Pn 19 55 31.8 +1.3
FILF S Sn 19 56 31.8 -4.5
SALF Salau 5.66 4 P Pn 19 55 32.3 +1.6
SALF S Sn 19 56 32.9 -3.7
RESF Ens 5.70 358 P Pn 19 55 34.0 +2.8
CARF Carcanieres 5.72 11 P Pn 19 55 33.0 +1.5
CARF S Sn 19 56 35.8 -2.2
MELF Melles 5.76 1 P Pn 19 55 35.2 +3.1
MELF S Sn 19 56 36.7 -2.3
VIEF Viey 5.79 356 P Pn 19 55 34.9 +2.4
VIEF S Sn 19 56 36.7 -3.0
EMIN Mina Concepcio 5.83 279 Pn Pn 19 55 31.7 -1.5
EMIN Sn Sn 19 56 35.3 -5.6
EMIN Mina Concepcio 5.83 279 Pn Pn 19 55 31.9 -1.2
4.7nm,0.2s,SNR=51
EMIN Sn Sn 19 56 35.3 -5.6
17nm,0.3s,SNR=5.0
ETSF Etsaut 5.85 352 *e*Pn Pn 19 55 35.5 +2.1
ETSF *e*Sn Sn 19 56 38.4 -3.0
14nm,0.3s
MLS Moulis 5.86 3 P Pn 19 55 35.6 +2.2
IPRE Itoiz 5.89 346 Pn Pn 19 55 33.3 -0.6
4.7nm,0.2s,SNR=4.0
IPRE Sn Sn 19 56 39.8 -2.5
5.1nm,0.3s,SNR=4.0
EARA Aranguren 5.90 344 Pn Pn 19 55 36.9 +2.8
7.6nm,0.2s,SNR=7.9
EARA Sn Sn 19 56 40.9 -1.8
16nm,0.2s,SNR=4.0
LPEF Le Peyrat 5.92 9 P Pn 19 55 36.9 +2.6
LPEF S Sn 19 56 40.4 -2.6
EPF Esparros 5.92 358 *e*Pn Pn 19 55 36.3 +1.9
EPF *e*Sn Sn 19 56 39.1 -4.0
23nm,0.3s
LABF Labassere 5.95 356 P Pn 19 55 36.9 +2.2
LABF S Sn 19 56 40.7 -3.0
ECRI Cripan 6.00 337 Pn Pn 19 55 38.5 +3.0
ECRI Cripan 6.00 337 Pn Pn 19 55 38.5 +3.1
21nm,0.2s,SNR=7.9
REYF Montagne du Re 6.00 353 P Pn 19 55 37.6 +2.0
MIF Mishlifen 6.04 234 *i* P Pn 19 55 30.5 -5.5
LARF Larrau 6.05 349 P Pn 19 55 38.1 +1.9
SJPF Ste Jean 6.16 347 *e*Pn Pn 19 55 39.7 +1.9
SJPF *e*Sn Sn 19 56 45.8 -3.3
26nm,0.5s
CZD Col de Zad 6.17 230 *i* P Pn 19 55 34.5 -3.3
ORDF Ordiarp 6.21 349 P Pn 19 55 40.5 +2.0
EBAD Badajoz 6.25 288 Pn Pn 19 55 38.3 -0.7
EBAD Sn Sn 19 56 46.4 -4.9
EBAD Badajoz 6.25 288 Pn Pn 19 55 38.4 -0.6
2.1nm,0.1s,SNR=6.9
EBAD Sn Sn 19 56 46.4 -4.9
42nm,0.2s,SNR=13
OSSF Osses 6.31 347 P Pn 19 55 41.6 +1.8
OSSF S Sn 19 56 48.9 -3.8
EALK Alkurruntz 6.32 346 Pn Pn 19 55 41.9 +1.9
EALK Sn Sn 19 56 49.5 -3.5
EALK Alkurruntz 6.32 346 Pn Pn 19 55 40.9 +1.0
10nm,0.2s,SNR=30
EALK Sn Sn 19 56 49.5 -3.5
53nm,0.5s,SNR=5.4
MTLF Montolieu 6.35 11 *e*Pn Pn 19 55 42.0 +1.6
MTLF *e*Sn Sn 19 56 49.4 -4.3
19nm,0.4s
EGRO El Granado 6.47 276 Pn Pn 19 55 40.1 -1.9
2.5nm,0.1s,SNR=26
EGRO Sn Sn 19 56 50.0 -6.7
21nm,0.2s,SNR=14
PBEJ Beja 6.80 280 *e*P Pn 19 55 45.9 -0.8
PBEJ *i* S Sn 19 56 58.4 -6.6
13nm,0.3s
ELAN Lanestosa 6.86 334 Pn Pn 19 55 49.6 +2.0
ELAN Sn Sn 19 57 03.1 -3.4
ELAN Lanestosa 6.86 334 ⇑Pn Pn 19 55 49.5 +1.9
62nm,0.2s,SNR=18
ELAN Sn Sn 19 57 03.1 -3.4
9.2nm,0.2s,SNR=7.9
PCBR Castelo Branco 6.91 296 *e*P Pn 19 55 47.8 -0.5
PCBR *e*S Sn 19 57 02.9 -4.9
18nm,0.4s
EVO Evora 6.97 284 *e*Pn Pn 19 55 49.9 +0.7
EVO *e*Sn Sn 19 57 05.1 -4.3
36nm,0.3s
KIB El Ksiba 7.09 232 *i* P Pn 19 55 46.0 -4.9
MTE Manteigas 7.17 300 *e*P Pn 19 55 52.3 +0.3
MTE *e*S Sn 19 57 08.7 -5.7
22nm,0.4s
VSL Villasalto 7.29 68 *e*P Pn 19 55 50.6 -3.1
61nm,0.2s
PBRG Braganca 7.37 312 *e*P Pn 19 55 54.6 -0.2
LASF Ste Croix 7.38 18 *e*Pn Pn 19 55 55.7 +0.7
LASF *e*Sn Sn 19 57 13.0 -6.7
8.0nm,0.3s
PTEO Sao Teotonio 7.45 276 *e*P Pn 19 55 54.7 -1.2
PTEO *e*S Sn 19 57 14.7 -6.7
19nm,0.4s
ECAL Calabor 7.45 313 Pn Pn 19 55 56.0 +0.1
20nm,0.2s,SNR=83
ECAL Sn Sn 19 57 14.2 -7.2
3.3nm,0.2s,SNR=4.0
PTOM Tomar 7.52 292 *e*P Pn 19 55 56.1 -0.8
PTOM *e*S Sn 19 57 16.7 -6.4
20nm,0.8s
PVIS Viseu 7.55 301 *e*P Pn 19 55 56.7 -0.6
PVIS *e*S Sn 19 57 16.8 -7.0
13nm,0.3s
EARI Arriondas 7.62 326 Pn Pn 19 55 59.6 +1.3
2.6nm,0.2s,SNR=25
EARI Sn Sn 19 57 22.0 -3.7
4.4nm,0.3s,SNR=4.0
LMR La Mourre 7.68 34 *e*Pn Pn 19 55 58.8 -0.3
LMR *e*Sn Sn 19 57 19.7 -7.4
16nm,0.2s
PVRL Vila Real 7.69 305 *e*P Pn 19 55 58.5 -0.8
PVRL *e*S Sn 19 57 20.9 -6.4
25nm,0.1s
LFF La Frestale 7.83 1 *e*Pn Pn 19 56 01.6 +0.5
LFF *e*Sn Sn 19 57 25.9 -4.8
13nm,0.4s
SMRF Simiane la Rot 7.83 27 *e*Pn Pn 19 56 01.1 -0.1
SMRF *e*Sn Sn 19 57 24.9 -5.9
7.8nm,0.5s
CAF Calviac 7.89 8 *e*Pn Pn 19 56 02.7 +0.7
CAF *e*Sn Sn 19 57 25.8 -6.4
10nm,0.4s
FRF La Foret Royal 7.92 34 *e*Pn Pn 19 56 02.1 -0.4
FRF *e*Sn Sn 19 57 26.1 -7.0
33nm,0.4s
ERUA La Rua 7.97 314 Pn Pn 19 56 02.6 -0.5
15nm,0.2s,SNR=13
RJF Les Rejaudoux 8.22 4 *e*Pn P 19 56 07.1 +0.5
RJF *e*Sn Sn 19 57 34.2 -6.3
5.4nm,0.3s
ELOB Lobios 8.22 308 Pn P 19 56 05.8 -0.8
ELOB Sn Sn 19 57 32.2 -8.3
ELOB Lobios 8.22 308 Pn P 19 56 06.0 -0.6
3.7nm,0.1s,SNR=19
ELOB Sn Sn 19 57 32.2 -8.3
2.5nm,0.2s,SNR=7.9
VIVF Saint-Julien-l 8.33 20 *e*Pn P 19 56 08.3 +0.2
VIVF *e*Sn Sn 19 57 36.4 -6.8
5.7nm,0.4s
PGF Pioggiola 8.43 47 *e*Pn P 19 56 07.0 -2.6
PGF *e*Sn Sn 19 57 37.0 -8.8
15nm,0.4s
SBF Sospel 8.52 35 *e*Pn P 19 56 10.2 -0.5
SBF *e*Sn Sn 19 57 38.4 -9.5
21nm,0.5s
EPON Pontenova 8.59 319 Pn P 19 56 11.6 -0.2
9.9nm,0.3s,SNR=26
NEGI Negi 8.63 37 P P 19 56 11.4 -1.0
NEGI Negi 8.63 37 P P 19 56 11.4 -0.9
ORIF Oris-en-Rattie 8.76 25 *e*Pn P 19 56 15.2 +1.1
ORIF *e*Sn Sn 19 57 46.9 -7.0
7.0nm,0.5s
STV Sta Anna Valdi 8.76 33 P P 19 56 14.7 +0.5
STV Sta Anna Valdi 8.76 33 P P 19 56 14.6 +0.4
STV2 Anna di Valdie 8.76 33 P P 19 56 14.8 +0.7
STV2 Anna di Valdie 8.76 33 P P 19 56 14.8 +0.6
IMI Imperia 8.77 37 P P 19 56 13.6 -0.6
IMI Imperia 8.77 37 P P 19 56 13.6 -0.6
EZAM Zamans 8.77 308 Pn P 19 56 14.0 -0.3
2.6nm,0.2s,SNR=7.9
ENR Entracque 8.79 34 P P 19 56 15.1 +0.5
ENR Entracque 8.79 34 P P 19 56 15.1 +0.5
MBDF Montbardon 8.92 30 *e*Pn P 19 56 17.4 +1.0
ROB Roburent 9.05 35 P P 19 56 19.1 +1.0
ROB Roburent 9.05 35 P P 19 56 19.1 +1.0
STS Santiago 9.09 312 Pn P 19 56 18.4 -0.4
9.8nm,0.2s,SNR=7.5
FIN Finale Ligure 9.14 37 P P 19 56 18.9 -0.5
FIN Finale Ligure 9.14 37 P P 19 56 18.9 -0.5
BHB Bricherasio 9.22 31 P P 19 56 21.9 +1.5
TCF Toulx Ste Croi 9.25 7 *e*Pn P 19 56 19.8 -1.1
TCF *e*Sn Sn 19 57 57.0 -9.1
6.7nm,0.6s
EMAZ Mazaricos 9.38 311 Pn P 19 56 22.1 -0.7
4.0nm,0.1s,SNR=12
RSP Reno Superiore 9.47 30 P P 19 56 25.2 +1.3
RSP Reno Superiore 9.47 30 P P 19 56 25.2 +1.3
MFF Saint Martin d 9.51 357 *e*Pn P 19 56 24.2 -0.2
MFF *e*Sn Sn 19 58 03.7 -8.7
3.1nm,0.3s
CIA Chichaoua 9.52 237 *i* P P 19 56 18.0 -6.6
PCP Pian Castagno 9.55 36 P P 19 56 24.8 -0.3
PCP Pian Castagno 9.55 36 P P 19 56 24.8 -0.2
LPG La Plagne 9.57 27 *e*Pn P 19 56 27.0 +1.8
LPG *e*Sn Sn 19 58 06.3 -7.6
8.6nm,0.5s
LPL La Plagne 9.58 27 *e*Pn P 19 56 26.7 +1.3
LPL *e*Sn Sn 19 58 06.7 -7.4
5.6nm,0.5s
BGF Bois d'Agland 9.59 9 *e*Pn P 19 56 25.2 -0.3
BGF *e*Sn Sn 19 58 07.7 -6.7
7.0nm,0.4s
LSD Ceresole Reale 9.68 28 P P 19 56 28.6 +1.7
LSD Ceresole Reale 9.68 28 P P 19 56 28.6 +1.7
SMF Signal de Mont 9.83 13 *e*Pn P 19 56 28.7 -0.1
AVF Avril sur Loir 9.89 11 *e*Pn P 19 56 30.0 +0.3
MAIM 10.13 45 P P 19 56 32.2 -0.8
MAIM 10.13 45 P P 19 56 32.2 -0.8
BACM 10.14 42 P P 19 56 33.3 +0.2
ORX Oropa 10.15 31 P P 19 56 33.7 +0.4
ORX Oropa 10.15 31 P P 19 56 33.7 +0.4
SARO Sassorosso 10.26 43 P P 19 56 34.2 -0.6
SARO Sassorosso 10.26 43 P P 19 56 34.2 -0.5
VALM 10.28 42 P P 19 56 34.9 -0.1
VALM 10.28 42 P P 19 56 34.9 -0.1
CABF La Chapelle 10.33 22 *e*Pn P 19 56 36.2 +0.4
LOR Lormes 10.43 12 *e*Pn P 19 56 36.5 -0.7
QUIF Quistinic 11.15 347 *e*Pn P 19 56 47.1 +0.1
QUIF *e*Sn S 19 58 44.3 -8.5
3.2nm,0.4s
GRR Gorron 11.33 355 *e*Pn P 19 56 49.1 -0.2
SGMF Saint Gilles 11.38 349 *e*Pn P 19 56 49.8 -0.3
ROSF Rostrenen 11.58 347 *e*Pn P 19 56 52.9 +0.1
HINF Hinteralfeld 11.65 21 *e*Pn P 19 56 53.1 -0.6
FLN La Foliniere 11.68 356 *e*Pn P 19 56 53.3 -0.8
MEZF Maizieres J'vi 11.84 15 *e*Pn P 19 56 55.9 -0.4
CDF Champ du Feu 12.31 21 *e*Pn P 19 57 02.2 -0.4

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*MDD **20** 19:57:21.3₀0.8, 37.07N×0.48E, mbLg2.8/29, Error ellipse: s-maj=5.7km s-min=5.2km az=30.0, PRXIMO*
*NEIC **20** 19:57:21.0₀0.7, 36.88N×0.70E, h10km, MN2.9(MDD), Error ellipse: s-maj=10.3km s-min=3.1km az=152.0*
*CRAAG **20** 19:57:22.4, 36.95N×0.61E, Ml3.2*
*CSEM **20** 19:57:22.4₀0.1, 36.99N×0.62E, h25km, ML3.2/8, Error ellipse: s-maj=2.7km s-min=2.5km az=36.0*
*SFS **20** 19:57:22.0, 37.06N×0.60E*
*INMG **20** 19:57:24.8₀1.0, 37.02N×0.73E, h31km, ML2.7, Error ellipse: s-maj=4.7km s-min=2.3km az=135.0*
*LDG **20** 19:57:25.8₀0.2, 36.96N×0.65E, h25km, Md3.3/3, Ml3.4/12, Error ellipse: s-maj=4.6km s-min=1.9km az=153.0*

ISC 20 19:57:20.6₀0.3, 37.10N₀0.02×0.59E₀0.02, h10km, n116, σ1§47/203, 3D, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OKGL	**Djebel Kef Gue**	**1.06**	**177**		P	**Pb**	**19 57 41.0**	**+0.5**
EBNR	**Beni Rached**	**1.11**	**136**		P	**Pb**	**19 57 41.0**	**-0.4**
ECHF	**Ech Chlef**	**1.12**	**147**		P	**Pb**	**19 57 41.0**	**-0.6**
ECHA	**Ech Chlef**	**1.14**	**146**		P	**Pb**	**19 57 41.0**	**-0.9**
EANR	**'Ain N'Sour**	**1.22**	**160**		P	**Pb**	**19 57 42.5**	**-0.8**
CART	**Cartagena**	**1.35**	**292**		P	**Pb**	**19 57 46.7**	**+1.1**
CART					S	**Sb**	**19 58 01.9**	**-1.0**
CART	**Cartagena**	**1.35**	**292**	*i*	P	**Pb**	**19 57 46.7**	**+1.1**
CART					*e*S	**Sb**	**19 58 01.9**	**-0.9**
OJBR	**Djebel Berber**	**1.52**	**187**		P	**Pn**	**19 57 46.0**	**-2.0**
EMUR	**La Murta**	**1.63**	**298**		P	**Pn**	**19 57 51.7**	**+2.1**
EMUR	21nm,0.2s,SNR=9.7				S	**Sn**	**19 58 10.2**	**-0.5**
EMUR	130nm,0.3s **La Murta**	**1.63**	**298**		P	**Pn**	**19 57 51.7**	**+2.1**
EMUR	21nm,0.2s,SNR=9.7				S	**Sn**	**19 58 10.2**	**-0.6**
USTO	130nm,0.3s **Oran**	**1.64**	**214**		P	**Sn**	**19 58 08.0**	**-3.0**
EBEN	**Beniarda**	**1.73**	**338**	⇓	P	**Pn**	**19 57 53.3**	**+2.4**
EBEN	20nm,0.1s,SNR=18				S	**Sn**	**19 58 14.3**	**+1.1**
EBEN	32nm,0.3s,SNR=5.8 **Beniarda**	**1.73**	**338**		P	**Pn**	**19 57 53.3**	**+2.4**
EBEN	20nm,0.1s,SNR=18				S	**Sn**	**19 58 14.3**	**+1.1**
ABA	32nm,0.3s,SNR=5.8 **Alger-Bouzarea**	**1.98**	**98**		P	**Pn**	**19 57 52.3**	**-2.3**

EIBI	Ibiza	2.02	17	P	Pn	19 57 56.7	+1.6
	5.8nm,0.1s,SNR=13						
EIBI				S	Sn	19 58 19.5	-1.0
	64nm,0.2s,SNR=7.9						
EIBI	Ibiza	2.02	17	P	Pn	19 57 56.7	+1.6
	5.8nm,0.1s,SNR=13						
EIBI				S	Sn	19 58 19.5	-1.1
	64nm,0.2s,SNR=7.9						
ENIJ	Nijar	2.24	268	⇓Pn	Pn	19 57 58.5	+0.2
ENIJ				Sn	Sn	19 58 24.4	-1.7
ENIJ	Nijar	2.24	268	P	Pn	19 57 58.4	+0.1
	1.1nm,0.1s,SNR=18						
ENIJ				S	Sn	19 58 24.4	-1.7
	2.0nm,0.3s,SNR=5.0						
ENIJ	Nijar	2.24	268	P	Pn	19 57 58.5	+0.2
	1.1nm,0.1s,SNR=18						
ENIJ				S	Sn	19 58 24.4	-1.8
	2.0nm,0.3s,SNR=5.0						
ETOB	Tobarra	2.29	313	P	Pn	19 58 01.8	+2.8
	24nm,0.1s,SNR=23						
ETOB				S	Sn	19 58 28.4	+0.9
	18nm,0.3s,SNR=5.8						
ETOB	Tobarra	2.29	313	P	Pn	19 58 01.8	+2.8
	24nm,0.1s,SNR=23						
ETOB				S	Sn	19 58 28.4	+1.0
	18nm,0.3s,SNR=5.8						
EHUE	Huescar	2.63	287	P	Pn	19 58 06.9	+3.0
	2.5nm,0.2s,SNR=4.7						
EHUE				S	Sn	19 58 37.5	+1.4
	26nm,0.2s,SNR=16						
ECHE	Chera	2.77	334	Pn	Pn	19 58 08.4	+2.5
ECHE				Sn	Sn	19 58 40.4	+0.6
ECHE	Chera	2.77	334	⇓P	Pn	19 58 08.3	+2.4
	17nm,0.3s,SNR=18						
ECHE				S	Sn	19 58 40.4	+0.6
	13nm,0.6s						
ECHE	Chera	2.77	334	P	Pn	19 58 08.4	+2.5
	17nm,0.3s,SNR=16						
ECHE				S	Sn	19 58 40.4	+0.7
	13nm,0.6s						
EBER	Berja	2.79	267	Pn	Pn	19 58 06.8	+0.7
EBER				Sn	Sn	19 58 38.3	-1.9
EBER	Berja	2.79	267	P	Pn	19 58 06.9	+0.7
	28nm,0.2s,SNR=6.3						
EBER				S	Sn	19 58 38.3	-1.9
	37nm,0.3s,SNR=6.0						
EBER	Berja	2.79	267	P	Pn	19 58 06.8	+0.7
	28nm,0.2s,SNR=6.3						
EBER				S	Sn	19 58 38.3	-1.9
	37nm,0.3s,SNR=6.0						
EVIA	Vianos	2.89	303	Pn	Pn	19 58 09.6	+2.1
EVIA				Sn	Sn	19 58 43.6	+0.9
EVIA	Vianos	2.89	303	P	Pn	19 58 09.7	+2.2
	15nm,0.3s,SNR=12						
EVIA				S	Sn	19 58 43.6	+0.9
	53nm,0.4s						
EVIA	Vianos	2.89	303	P	Pn	19 58 09.6	+2.1
	15nm,0.3s,SNR=12						
EVIA				S	Sn	19 58 43.6	+0.9
	53nm,0.4s						
EQES	Quesada	2.99	285	Pn	Pn	19 58 11.7	+2.6
EQES				Sn	Sn	19 58 46.4	+1.1
EQES	Quesada	2.99	285	P	Pn	19 58 11.6	+2.5
	4.9nm,0.1s,SNR=7.4						
EQES				S	Sn	19 58 46.4	+1.1
	81nm,0.3s						
EQES	Quesada	2.99	285	P	Pn	19 58 11.7	+2.7
	4.9nm,0.1s,SNR=7.4						
EQES				S	Sn	19 58 46.4	+1.1
	81nm,0.3s						
ETOS	Mallorca	3.19	33	P	Pn	19 58 11.6	-0.2
	7.5nm,0.1s,SNR=19						
ETOS				S	Sn	19 58 47.8	-2.5
	55nm,0.3s,SNR=23						
ETOS	Mallorca	3.19	33	P	Pn	19 58 11.6	-0.2
	7.5nm,0.1s,SNR=19						
ETOS				S	Sn	19 58 47.8	-2.5
	55nm,0.3s,SNR=23						
EGUA	Guajares	3.33	267	P	Pn	19 58 14.5	+0.6
	2.1nm,0.3s,SNR=7.9						
EGUA				S	Sn	19 58 53.4	-0.5
	SNR=7.9						
EMOS	Mosqueruela	3.36	346	P	Pn	19 58 17.0	+2.7
	6.6nm,0.1s,SNR=17						
EMOS				S	Sn	19 58 55.1	+0.4
	8.6nm,0.3s						
EMOS	Mosqueruela	3.36	346	P	Pn	19 58 17.0	+2.7
	6.6nm,0.1s,SNR=17						
EMOS				S	Sn	19 58 55.1	+0.4
	8.6nm,0.3s						
ERON	Agron	3.51	270	Pn	Pn	19 58 18.2	+1.7
ERON				Sn	Sn	19 58 58.4	-0.1
ERON	Agron	3.51	270	P	Pn	19 58 17.8	+1.3
	7.0nm,0.2s,SNR=7.9						
ERON				S	Sn	19 58 58.4	-0.1
	8.0nm,0.2s,SNR=7.9						
ERON	Agron	3.51	270	P	Pn	19 58 18.2	+1.8
	7.0nm,0.2s,SNR=7.9						
ERON				S	Sn	19 58 58.4	-0.1
	SNR=7.9						
EBAN	Banos Encina	3.63	288	Pn	Pn	19 58 19.9	+1.8
EBAN				Sn	Sn	19 59 00.8	-0.6
EBAN	Banos Encina	3.63	288	P	Pn	19 58 20.0	+1.9
	3.0nm,0.2s,SNR=6.9						
EBAN				S	Sn	19 59 00.8	-0.6
	15nm,0.2s,SNR=5.0						
EBAN	Banos Encina	3.63	288	P	Pn	19 58 19.9	+1.8
	3.0nm,0.2s,SNR=6.9						
EBAN				S	Sn	19 59 00.8	-0.6
	15nm,0.2s,SNR=5.0						
EBR	Ebro Roquetas	3.72	359	*e*PN	Pn	19 58 19.5	+0.2
EBR				*e*SN	Sn	19 59 02.0	-1.7
ELOJ	Sierra Loja	3.79	272	Pn	Pn	19 58 23.0	+2.7
ELOJ				Sn	Sn	19 59 05.6	+0.2
ELOJ	Sierra Loja	3.79	272	P	Pn	19 58 22.9	+2.6
	13nm,0.3s,SNR=9.1						
ELOJ				S	Sn	19 59 05.6	+0.2
	4.8nm,0.3s						
ELOJ	Sierra Loja	3.79	272	P	Pn	19 58 23.0	+2.7
	13nm,0.3s,SNR=9.1						
ELOJ				S	Sn	19 59 05.6	+0.2
	4.8nm,0.3s						
ELUQ	Luque	3.89	278	P	Pn	19 58 23.7	+1.9
	3.8nm,0.2s,SNR=6.5						
ELUQ				S	Sn	19 59 07.9	-0.3
	13nm,0.3s						
EADA	Adamuz	4.23	286	Pn	Pn	19 58 27.8	+1.2
EADA				Sn	Sn	19 59 15.1	-1.7
EADA	Adamuz	4.23	286	P	Pn	19 58 27.4	+0.7
	1.0nm,0.1s,SNR=7.9						
EADA				S	Sn	19 59 15.1	-1.7
	5.9nm,0.4s,SNR=6.4						
EADA	Adamuz	4.23	286	P	Pn	19 58 27.8	+1.1
	1.0nm,0.1s,SNR=7.9						
EADA				S	Sn	19 59 15.1	-1.7
	5.9nm,0.4s,SNR=6.4						
EPOB	Poblet	4.27	5	Pn	Pn	19 58 28.7	+1.6
EPOB				Sn	Sn	19 59 13.7	-3.9
EPOB	Poblet	4.27	5	P	Pn	19 58 28.2	+1.1
	6.9nm,0.2s,SNR=16						
EPOB				S	Sn	19 59 13.8	-3.8
	4.2nm,0.3s						
EPOB	Poblet	4.27	5	P	Pn	19 58 28.2	+1.1
	6.9nm,0.2s,SNR=16						
EPOB				Sn	Sn	19 59 13.6	-4.0
EMIJ	Mijas	4.33	265	Pn	Pn	19 58 26.5	-1.5
EMIJ				Sn	Sn	19 59 13.5	-5.7
EMIJ	Mijas	4.33	265	P	Pn	19 58 26.2	-1.8
	3.5nm,0.2s,SNR=12						
EMIJ				S	Sn	19 59 13.5	-5.7
	3.3nm,0.1s,SNR=7.9						
EMIJ	Mijas	4.33	265	P	Pn	19 58 26.5	-1.5
	3.5nm,0.2s,SNR=12						
EMIJ				Sn	Sn	19 59 13.5	-5.7
ESDC	Sonseca Array	4.40	307	P	Pn	19 58 30.1	+1.1
	3.5nm,0.2s,baz=121,slow=14,SNR=11						
ESDC				S	Sn	19 59 17.8	-3.3
	5.9nm,0.3s,baz=121,slow=24,SNR=14						
ESDC	Sonseca Array	4.40	307	P	Pn	19 58 30.1	+1.0
	3.5nm,0.2s,SNR=11						
ESDC				Sn	Sn	19 59 17.8	-3.2
ESAC	San Caprasio	4.69	350	P	Pn	19 58 35.5	+2.4
	3.9nm,0.2s,SNR=6.4						
ESAC				S	Sn	19 59 26.4	-1.8
	35nm,0.3s,SNR=5.0						
ESAC	San Caprasio	4.69	350	P	Pn	19 58 35.5	+2.4
	3.9nm,0.2s,SNR=6.4						
EMIR	Miracle	4.87	8	S	Sn	19 59 29.8	-2.9
	SNR=7.9						
ESPR	Espera	5.16	269	S	Sn	19 59 38.0	-2.2
	3.2nm,0.3s,SNR=4.0						
ESPR	Espera	5.16	269	S	Sn	19 59 38.0	-2.2
	SNR=7.9						
EJON	La Jonquera	5.63	18	P	Pn	19 58 48.1	+1.7
	1.8nm,0.2s,SNR=4.7						
EJON				S	Sn	19 59 46.6	-5.3
	7.3nm,0.3s,SNR=5.0						
EJON	La Jonquera	5.63	18	P	Pn	19 58 48.1	+1.7
	1.8nm,0.2s,SNR=4.7						
EJON				Sn	Sn	19 59 46.6	-5.3
EMIN	Mina Concepcio	5.81	279	Pn	Pn	19 58 48.4	-0.6
EMIN				Sn	Sn	19 59 53.0	-3.5
EMIN	Mina Concepcio	5.81	279	P	Pn	19 58 48.4	-0.6
	1.9nm,0.2s,SNR=7.9						
EMIN				S	Sn	19 59 51.9	-4.6
	2.8nm,0.3s,SNR=8.4						
EMIN	Mina Concepcio	5.81	279	Pn	Pn	19 58 48.4	-0.6
EMIN				Sn	Sn	19 59 53.0	-3.5
ETSF	Etsaut	5.86	352	*e*Pn	Pn	19 58 51.3	+1.7
ETSF				*e*Sn	Sn	19 59 55.0	-2.7
	3.8nm,0.3s						
EPF	Esparros	5.93	358	*e*Pn	Pn	19 58 52.9	+2.3
EPF				*e*Sn	Sn	19 59 56.3	-3.1
	3.6nm,0.3s						
SJPF	Ste Jean	6.17	348	*e*Pn	Pn	19 58 55.4	+1.4
SJPF				*e*Sn	Sn	20 00 01.7	-3.6
	2.5nm,0.3s						
EBAD	Badajoz	6.23	288	P	Pn	19 58 55.0	+0.2
	0.8nm,0.1s,SNR=6.3						
EBAD				S	Sn	20 00 02.9	-4.1
	3.1nm,0.4s,SNR=5.0						
EBAD	Badajoz	6.23	288	Pn	Pn	19 58 55.0	+0.1
EBAD				Sn	Sn	20 00 02.8	-4.1
EALK	Alkurruntz	6.32	346	P	Pn	19 58 58.1	+2.0
	2.4nm,0.3s,SNR=7.9						
EALK				S	Sn	20 00 05.8	-3.4
	3.4nm,0.3s,SNR=7.9						
MTLF	Montolieu	6.36	11	*e*Pn	Pn	19 58 57.7	+1.0
MTLF				*e*Sn	Sn	20 00 05.6	-4.6
	3.1nm,0.5s						
EGRO	El Granado	6.45	276	P	Pn	19 58 56.9	-1.0
	1.4nm,0.1s,SNR=7.9						
EGRO				S	Sn	20 00 06.0	-6.3
	4.9nm,0.6s,SNR=5.1						
EGRO	El Granado	6.45	276	Pn	Pn	19 58 56.9	-1.0
EGRO				Sn	Sn	20 00 06.0	-6.3
PBEJ	Beja	6.78	280	*e*P	Pn	19 59 02.5	-0.1
PBEJ				*e*S	Sn	20 00 15.5	-5.1
	2.7nm,0.2s						
ELAN	Lanestosa	6.86	335	Pn	Pn	19 59 05.3	+1.6
ELAN				Sn	Sn	20 00 19.0	-3.5
ELAN	Lanestosa	6.86	335	P	Pn	19 59 05.9	+2.2
	14nm,0.2s,SNR=42						
ELAN				S	Sn	20 00 19.0	-3.5
	1.8nm,0.3s,SNR=5.0						
ELAN	Lanestosa	6.86	335	Pn	Pn	19 59 05.3	+1.6
ELAN				Sn	Sn	20 00 19.0	-3.6
PCBR	Castelo Branco	6.89	296	*e*S	Sn	20 00 20.7	-2.8
	4.5nm,0.6s						
EVO	Evora	6.96	284	*e*Pn	Pn	19 59 05.6	+0.5
EVO				*e*Sn	Sn	20 00 21.7	-3.4
	6.9nm,0.3s						
MTE	Manteigas	7.16	300	*e*S	Sn	20 00 27.2	-2.9
PBRG	Braganca	7.36	312	*e*P	Pn	19 59 11.4	+0.6
PBRG				*e*S	Sn	20 00 29.7	-5.5
LASF	Ste Croix	7.40	19	*e*Pn	Pn	19 59 11.8	+0.5
LASF				*e*Sn	Sn	20 00 30.7	-5.5
	2.5nm,0.4s						
PTEO	Sao Teotonio	7.43	276	*e*P	Pn	19 59 10.7	-1.1
PTEO				*e*S	Sn	20 00 31.9	-5.1
ECAL	Calabor	7.44	313	P	Pn	19 59 12.4	+0.5
	6.2nm,0.3s,SNR=7.9						
ECAL				S	Sn	20 00 32.1	-5.1
	1.0nm,0.2s,SNR=7.9						
ECAL	Calabor	7.44	313	Pn	Pn	19 59 12.4	+0.5
ECAL				Sn	Sn	20 00 32.1	-5.2
PTOM	Tomar	7.50	292	*e*S	Sn	20 00 33.7	-5.1
PVIS	Viseu	7.53	301	*e*S	Sn	20 00 34.0	-5.5
EARI	Arriondas	7.62	326	P	Pn	19 59 15.4	+1.0
	4.0nm,0.7s,SNR=5.8						
EARI				S	Sn	20 00 37.4	-4.2
	1.3nm,0.5s,SNR=4.0						
EARI	Arriondas	7.62	326	Pn	Pn	19 59 15.4	+1.0
EARI				Sn	Sn	20 00 37.4	-4.2
PVRL	Vila Real	7.68	305	*e*P	Pn	19 59 14.8	-0.4
PVRL				*e*S	Sn	20 00 38.8	-4.3
	8.1nm,0.1s						
LMR	La Mourre	7.70	34	*e*Pn	Pn	19 59 15.3	-0.2
LMR				*e*Sn	Sn	20 00 35.6	-8.1
	6.2nm,0.3s						
SMRF	Simiane la Rot	7.85	27	*e*Pn	Pn	19 59 17.9	+0.3
SMRF				*e*Sn	Sn	20 00 41.0	-6.4
	2.3nm,0.3s						
CAF	Calviac	7.90	8	*e*Pn	Pn	19 59 18.9	+0.6
CAF				*e*Sn	Sn	20 00 43.7	-5.0
	1.7nm,0.3s						
FRF	La Foret Royal	7.94	34	*e*Pn	Pn	19 59 18.7	-0.2
FRF				*e*Sn	Sn	20 00 42.1	-7.6
	9.0nm,0.4s						
ERUA	La Rua	7.96	314	P	Pn	19 59 19.7	+0.5
	2.3nm,0.2s,SNR=7.9						
ELOB	Lobios	8.21	308	S	Sn	20 00 48.2	-8.1
	1.8nm,0.2s,SNR=7.9						
VIVF	Saint-Julien-l	8.34	20	*e*Pn	P	19 59 24.7	+0.2
PGF	Pioggiola	8.46	47	*e*Pn	P	19 59 23.6	-2.5
PGF				*e*Sn	Sn	20 00 52.4	-10
	1.6nm,0.2s						
SBF	Sospel	8.54	36	*e*Pn	P	19 59 26.9	-0.3
SBF				*e*Sn	Sn	20 00 56.0	-8.5
	2.9nm,0.3s						
EPON	Pontenova	8.58	319	Pn	P	19 59 28.2	+0.4
EPON	Pontenova	8.58	319	Pn	P	19 59 28.2	+0.4
ORIF	Oris-en-Rattie	8.78	25	*e*Pn	P	19 59 30.3	-0.2
TCF	Toulx Ste Croi	9.26	7	*e*Pn	P	19 59 37.3	+0.1
MFF	Saint Martin d	9.51	357	*e*Pn	P	19 59 40.5	-0.1
LPG	La Plagne	9.59	27	*e*Pn	P	19 59 42.6	+1.0
LPL	La Plagne	9.60	27	*e*Pn	P	19 59 41.7	-0.1
CABF	La Chapelle	10.35	22	*e*Pn	P	19 59 51.6	-0.5
GRR	Gorron	11.33	355	*e*Pn	P	20 00 05.1	-0.5
SGMF	Saint Gilles	11.38	349	*e*Pn	P	20 00 05.7	-0.6

IDC 20 19:59:27.0±3.1, 20.41S×166.81E, mb3.9/3, mb1 4.0/3, mb1mx3.7/13, mbtmp4.0/3, Error ellipse: s-maj=60.9km s-min=33.1km az=59.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	1.69	192	*e*P	Pn	19 59 56.7	-1.3
DZM				*e*S	Sb	20 00 28.4	+8.0
DZM	Mont Dzumac	1.69	192	Pn	Pn	19 59 57.0	-1.0
	7.8nm,0.3s,baz=63,slow=19,SNR=58						
DZM				Sn	Sn	20 00 27.4	+6.9
	41nm,0.3s,baz=118,slow=23,SNR=12						
NOUC	Port Laguerre	1.75	196	*e*P	Pn	19 59 58.7	-0.1
NOUC				*e*S	Sn	20 00 31.1	+9.0
RPZ	Rata Peaks	23.51	172	P	P	20 04 39.4	0.0
	7.6nm,0.4s,baz=125,slow=13,SNR=5.2						
STKA	Stephens Creek	25.29	238	P	P	20 04 54.6	-2.1
	2.1nm,0.9s,baz=85,slow=11,SNR=2.8						
WRA	Warramunga Arr	30.46	265	P	P	20 05 42.5	-1.3
	0.8nm,1.0s,baz=92,slow=8.5,SNR=5.1						
WRA				pP	pP	20 05 54.1	+10
	0.6nm,0.5s,baz=93,slow=8.4,SNR=2.3						
GERES	GERESS Array B	144.38	329	PKP	PKPdf	20 19 04.0	-2.8
	0.6nm,0.6s,baz=45,slow=3.8,SNR=6.1						

IDC 20 20:02:40.0±1.0, 42.96N×109.12E, mb4.0/8, mb1 4.0/11, mb1mx3.8/23, mbtmp3.8/11, ML3.3/3, Error ellipse: s-maj=26.6km s-min=15.1km az=45.0
BJI 20 20:02:41.4, 43.23N×109.03E, h24km, mb4.2, ML4.3, Ms3.8, Msz3.5
MOS 20 20:02:42.5±1.7, 42.98N×108.96E, h33km, mb4.2/8, Error ellipse: s-maj=24.5km s-min=13.5km az=116.3
ISC 20 20:02:43.4±0.5, 43.04N±0.05×109.1E±0.1, h33km, n26, σ1s42/32, mb4.0/9, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	Baotou	2.54	163	*e*P	P	20 03 24.4	+1.3
BTO				PG	P	20 03 25.9	+2.8
BTO				S	S	20 03 55.6	+2.4
BTO				Smax			
	comp=N,263nm,0.3s						
BTO				Smax			
	comp=E,453nm,0.4s						
SONM	Songino Array	5.15	339	P	P	20 03 58.9	-1.3
SONM				S	S	20 05 01.1	+1.9
SONM	Songino Array	5.15	339	Pn	Pn	20 03 58.9	-1.4
	comp=E,1.8nm,0.3s,baz=162,slow=15,SNR=78						
SONM				Pg	P	20 04 16.5	+16
	comp=E,8.3nm,0.3s,baz=161,slow=17,SNR=37						
SONM				Sn	Sn	20 05 01.1	+1.8
	comp=E,5.9nm,0.3s,baz=155,slow=20,SNR=6.7						
SONM				Lg		20 05 23.5	
	comp=E,20nm,0.3s,baz=154,slow=29,SNR=14						
GTA	Gaotai	7.86	246	P	P	20 04 34.3	-3.9
GTA				PG	P	20 05 01.4	+23
GTA				SG	S	20 06 43.8	+37
GTA				Smax			
	comp=N,115nm,0.7s						
GTA				Smax			
	comp=E,84nm,0.9s						
GTA				LR	LR		
	comp=N,256nm,7.2s						
GTA				LR	LR		
	comp=E,301nm,8.4s						
GTA				LR	LR		
	comp=Z,302nm,8.7s						
ZAK	Zakamensk	8.35	334	*e*P	P	20 04 57.0	+12
ZAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XAN	Xi'an	8.99	181	P	P	20 04 52.6	-1.3
XAN				AMB	AMB		
	comp=Z,5.0nm,1.0s						
MOY	Mondy	10.21	330	*e*P	P	20 05 19.0	+8.3
MOY				*e*S	S	20 07 12.0	+6.9
MOY				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MOY				pmax	pmax		
	comp=E,192nm,1.8s						
MKAR	Makanchi Array	19.29	290	P	P	20 07 05.5	-2.5
	comp=E,0.1nm,0.3s,baz=90,slow=15,SNR=4.1						
ZAL	Zalesovo	19.33	313	P	P	20 07 08.2	-0.2
	comp=E,0.2nm,0.3s,baz=350,slow=7.6,SNR=3.7						
NVS	Novosibirsk	20.54	314	*e*P	P	20 07 20.9	-0.4
NVS				pmax	pmax		
	comp=Z,7.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.2s						
MJAR	Matsushiro Arr	23.24	96	P	P	20 07 47.8	-0.7
MJAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MJAR	Matsushiro Arr	23.24	96	P	P	20 07 47.8	-0.6
	comp=Z,1.5nm,1.0s,mb3.4,baz=286,slow=11,SNR=4.6						
ASAJ	Asahikawa	24.22	76	P	P	20 07 59.0	+1.1
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ASAJ	Asahikawa	24.22	76	P	P	20 07 59.0	+1.1
	comp=Z,2.9nm,0.5s,mb3.9,baz=280,slow=16,SNR=3.8						
BVAR	Borovoye Array	27.41	305	P	P	20 08 27.9	+0.1
	comp=Z,0.8nm,0.6s,mb3.4,baz=106,slow=10,SNR=7.8						
TIXI	Tiksi	30.28	12	*e*P	P	20 08 50.6	-2.6
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
FINES	FINESS Array B	50.25	322	P	P	20 11 37.8	-0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	50.25	322	P	P	20 11 37.8	-0.2
	comp=Z,1.6nm,0.6s,mb4.2,baz=108,slow=6.0,SNR=5.8						
HFS	Hagfors	56.33	323	P	P	20 12 24.8	+1.9
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	Hagfors	56.33	323	P	P	20 12 24.8	+1.8
	comp=Z,1.2nm,0.6s,mb4.1,baz=98,slow=10,SNR=5.2						
ILAR	Eielson Array	57.44	30	P	P	20 12 30.3	-0.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	Eielson Array	57.44	30	P	P	20 12 30.2	-0.5
	comp=Z,1.1nm,0.7s,mb4.0,baz=283,slow=6.5,SNR=16						
INK	Inuvik	59.61	22	P	P	20 12 45.7	-0.2
INK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
INK	Inuvik	59.61	22	P	P	20 12 45.7	-0.2
	comp=Z,1.5nm,0.3s,mb4.5,baz=206,slow=6.5,SNR=3.3						
WRA	Warramunga Arr	66.85	154	P	P	20 13 32.8	-1.4
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
WRA	Warramunga Arr	66.85	154	P	P	20 13 32.8	-1.4
	comp=Z,1.3nm,0.9s,mb3.9,baz=342,slow=7.0,SNR=4.5						

HLW 20 20:58:27.5, 21.46N×25.95E, h16km, Mb3.9, 3C-2D, Sudan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDK2	Wahat Dakhilah	3.97	44⇑	*e*P	Pn	20 59 25.9	-3.3
HDK1	Dakhla	5.15	37⇑	*e*P	Pn	20 59 42.6	-3.3
HDK1				S	Sn	21 00 39.0	-6.8
ASHG	Umm Shaghir	5.58	70⇓	*e*P	Pn	20 59 49.2	-2.8
GTR	Jabal at Tayr	5.84	46⇑	*e*P	Pn	20 59 52.8	-2.9
HFRF	Wahat Farafira	6.06	20⇓	*e*P	Pn	20 59 55.9	-2.8

MAN 20 20:59:42.4, 9.42N×126.09E, h20km, mb4.1, ML2.9, MS2.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.65	226	*e*P	Pb	20 59 55.5	+0.6
BUTP				*e*S	Sb	21 00 05.5	+2.1
SCPH	Surigao	0.69	301	*e*P	Pb	20 59 56.5	+0.9
SCPH				*e*S	Sb	21 00 08.1	+3.4
BUKP	Musuan	1.84	214	*e*P	Pn	21 00 13.1	-0.3
BUKP				*e*S	Sn	21 00 37.1	+0.7
BESP	Borongan	2.26	344	*e*P	Pn	21 00 19.4	0.0
BESP				*e*S	Sn	21 00 49.1	+2.2
MATI	Mati	2.47	176	*e*P	Pn	21 00 21.9	-0.4
MATI				*e*S	Sn	21 00 52.4	+0.2
CNP	Catarman	3.37	336	*e*P	Pn	21 00 34.9	-0.3
CNP				*e*S	Sn	21 01 15.5	+0.3
SJMP	San Jose	5.74	302	*e*P	Pn	21 00 24.8	-44

IDC 20 21:05:55.8±3.7, 1.08N×97.30E, mb3.8/4, mb1 4.0/4, mb1mx3.6/18, mbtmp3.8/4, Error ellipse: s-maj=154.5km s-min=28.1km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.88	122	P	P	21 13 48.1	-1.7
	0.5nm,0.7s,baz=301,slow=9.1,SNR=3.7						
SONM	Songino Array	47.23	8	P	P	21 14 30.9	-1.5
	0.8nm,0.5s,baz=201,slow=7.4,SNR=4.6						
SONM				PcP	PcP	21 16 01.9	-2.3
	0.4nm,0.7s,baz=180,slow=2.9,SNR=2.6						
MKAR	Makanchi Array	47.38	346	P	P	21 14 31.7	-1.9
	0.7nm,0.6s,baz=158,slow=8.1,SNR=6.7						
ZAL	Zalesovo	53.68	351	P	P	21 15 18.6	-2.8
	1.1nm,0.3s,baz=346,slow=12,SNR=3.5						

CASC 20 21:07:15.1±2.1, 12.08N×87.04W, h66km±12km, MD3.8, 6C-11D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	Leon	0.37	23⇓	*i*P	P	21 07 26.1	-0.3
LEON				*e*S	S	21 07 34.3	-0.5
COPN	Copaltepe	0.45	77⇓	*e*P	P	21 07 27.2	+0.1
COPN				*e*S	S	21 07 36.4	+0.3
MIRN	Miramar	0.48	42⇓	*e*P	P	21 07 27.5	+0.1
MIRN				*e*S	S	21 07 38.4	+1.9
TEL3	Telica 3	0.53	21⇓	*e*P	P	21 07 27.9	-0.1
TEL3				*e*S	S	21 07 37.7	+0.3
CNGN	Cerro Negro	0.54	39⇑	*e*P	P	21 07 27.9	-0.2
CNGN				*e*S	S	21 07 39.0	+1.4
TELN	Telica	0.56	21⇑	*e*P	P	21 07 28.3	-0.1
TELN				*e*S	S	21 07 38.5	+0.5
MOMJ	Momotombo	0.59	56⇑	*e*P	P	21 07 28.6	-0.1
MOMJ				*e*S	S	21 07 40.4	+1.8
CRIN	San Cristobal	0.62	359	*e*P	P	21 07 28.6	-0.4
CRIN				*e*S	S	21 07 38.8	-0.4
XAVN	Gruta Xavier	0.70	84⇓	*e*P	P	21 07 30.1	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XAVN				eS	S	21 07 40.9	0.0
MGAN	Managua	0.78	85	⇓eP	P	21 07 30.8	0.0
MGAN				eS	S	21 07 42.2	-0.2
TICN	Ticuantepe	0.79	93	⇑eP	P	21 07 31.2	+0.2
TICN				eS	S	21 07 43.4	+0.6
WILN	Americas 2	0.84	84	⇓eP	P	21 07 31.6	0.0
WILN				eS	S	21 07 44.2	+0.4
PYTN	Playitas	1.06	64	eP	P	21 07 34.2	-0.3
PYTN				eS	S	21 07 49.3	+0.4
CNCH	Conchagua	1.42	327	⇓eP	P	21 08 07.1	+28
CNCH				eS	S	21 08 25.6	+28
CONN	Concepcion	1.48	110	⇓eP	P	21 07 39.6	-0.5
CONN				eS	S	21 07 56.4	-2.3
BLLM	Bellamira	1.79	319	⇓eP	P	21 08 12.3	+28
BLLM				eS	S	21 08 33.9	+28
SNVI	San Vicente	2.32	311	⇓eP	P	21 08 20.5	+29
SNVI				eS	S	21 08 47.4	+28
LCBS	La Ceiba	2.46	310	⇑eP	P	21 08 21.4	+28
LCBS				eS	S	21 08 51.1	+29
LFRS	El Faro	2.50	308	⇑eP	P	21 08 22.0	+28
LFRS				eS	S	21 08 50.5	+27
BOQS	Boqueron	2.73	307	eP	P	21 08 18.3	+21
BOQS				eS	S	21 08 53.0	+23

*BJI **20** 21:07:41.1, 0.46N×97.30E, h38km, mB5.2, mb4.9, Ms4.8, Msz4.7*
*IDC **20** 21:07:42.0±0.9, 0.98N×97.04E, mb4.3/12, mb1 4.4/12, mb1mx4.3/17, mbtmp4.3/12, MS4.1/9, Ms1 4.1/9, ms1mx4.0/16, Error ellipse: s-maj=38.6km s-min=17.9km az=48.0*
*MOS **20** 21:07:45.6±1.2, 1.20N×97.35E, h33km, mb4.7/10, Error ellipse: s-maj=22.6km s-min=9.3km az=106.9*
*NEIC **20** 21:07:46.6±0.5, 0.99N×97.18E, h30km, mb4.6/12, Error ellipse: s-maj=15.7km s-min=9.7km az=48.0*
ISC 20 21:07:45.3±0.5, **1.03N**±0.07×**97.21E**±0.06, **h33**km, **(h26**km±5.3km**:pP-P), n73, σ1.s24**/70, **mb4.5**/35, **MS4.2**/14, **4C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.19	47	P	P	21 09 02.7	0.0
KULM	Kulim	5.45	39	eP	P	21 09 05.6	-0.7
KGM	Kluang	6.18	81	P	P	21 09 17.7	+1.0
SNG	Songkhla	6.99	29	P	P	21 09 26.0	-1.9
	140nm,0.8s						
UBT	Ubonrachathani	16.09	28	P	P	21 11 34.0	+3.2
KKTK	Khon Kaen	16.18	20	P	P	21 11 34.0	+2.0
NANT	Nan	17.98	11	⇑P	P	21 11 54.0	-0.6
	325nm,0.4s						
CHRT	Chiangrai	18.89	8	⇑P	P	21 12 04.5	-1.3
	118nm,0.8s						
KKM	Kota Kinabalu	19.61	75	P	P	21 12 14.6	+0.7
QIZ	Qiongzhong	21.75	34	P	P	21 12 35.5	-0.5
QIZ				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.4						
QIZ				LR	LR		
	comp=E,921nm,13.7s						
QIZ				LR	LR		
	comp=Z,809nm,12.8s,MS4.3						
KMI	Kunming	24.54	12	⇑P	P	21 13 04.9	+1.5
KMI				AP		21 13 10.6	
KMI				PP	PP	21 13 40.8	+1.2
KMI				S	S	21 17 21.3	+2.2
KMI				SS	SS	21 18 19.4	+4.3
KMI				AMB	AMB		
	comp=Z,36nm,1.4s,mb4.7						
KMI				AMB	AMB		
	comp=Z,355nm,4.0s						
KMI				LR	LR		
	comp=N,2µm,14.5s,MS4.7						
KMI				LR	LR		
	comp=E,664nm,13.7s,MS4.7						
KMI				LR	LR		
	comp=Z,2µm,14.5s,MS4.7						
SHL	Shillong	24.93	349	eP	P	21 13 08.5	+1.4
PKI	Pulchoki	28.71	338	eP	P	21 13 43.3	+1.5
GUN	Gumba	28.84	339	eP	P	21 13 44.9	+1.9
DMN	Daman	28.86	337	eP	P	21 13 45.3	+2.1
KKN	Kakani	28.96	338	eP	P	21 13 44.8	+0.8
	comp=Z,24nm,0.8s,mb5.0						
KKN	Kakani	28.96	338	eP	P	21 13 44.8	+0.8
KKN				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
LSA	Lhasa	29.09	349	eP	P	21 13 46.9	+1.7
LSA	Lhasa	29.09	349	eP	P	21 13 46.0	+0.8
LSA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
LSA	Lhasa	29.09	349	eP	P	21 13 46.0	+0.8
	comp=Z,12nm,0.8s,mb4.7						
GKN	Gorkha	29.39	337	eP	P	21 13 48.6	+0.7
	comp=Z,54nm,1.1s,mb5.2						
KOLN	Koldanda	29.61	335	eP	P	21 13 50.8	+0.9
	comp=Z,25nm,0.6s,mb5.1						
ENH	Enshi	31.33	21	eP	P	21 14 02.9	-2.2
	comp=Z,16nm,0.6s,mb5.0						
LGTI	Lohaghat	32.55	332	eP	P	21 14 17.0	+1.2
FITZ	Fitzroy Crossi	33.83	126	LR	LR	21 27 39.5	
	comp=Z,417nm,21.0s,MS4.1,baz=287,slow=35						
XAN	Xi'an	34.62	17	P	P	21 14 32.1	-1.5
XAN				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.2						
GTA	Gaotai	38.27	3	eP	P	21 15 04.6	+0.3
GTA				AP	pP	21 15 10.4	-3.7
GTA				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.8						
WRA	Warramunga Arr	41.94	122	P	P	21 15 35.2	+0.2
	comp=Z,3.6nm,0.6s,mb4.2,baz=300,slow=9.1,SNR=28						
WRAB	Tennant Creek	41.95	122	eP	P	21 15 35.1	0.0
WB2	Warramunga Arr	41.95	122	eP	P	21 15 35.5	+0.4
WMQ	Urumqi	43.44	350	eP	P	21 15 48.1	+1.1
WMQ				AP	pP	21 15 58.0	+1.2
WMQ				XP	sP	21 16 01.9	+0.9
WMQ				PP	PP	21 17 31.1	+1.2
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,178nm,4.6s						
WMQ				LR	LR		
	comp=N,321nm,16.2s,MS4.4						
WMQ				LR	LR		
	comp=E,202nm,16.7s,MS4.4						
WMQ				LR	LR		
	comp=Z,481nm,19.6s,MS4.4						
JNU	Nakatsue	44.92	41	LR	LR	21 34 54.6	
	comp=Z,267nm,20.1s,MS4.2,baz=328,slow=36						
KS15	Wonju Array Si	45.95	34	eP	P	21 16 07.1	-0.1
SONM	Songino Array	47.29	8	P	P	21 16 17.9	+0.3
	comp=Z,6.3nm,0.4s,mb4.9,baz=190,slow=9.4,SNR=25						
SONM				PcP	PcP	21 17 49.1	+0.4
	comp=Z,2.8nm,0.7s,baz=193,slow=3.3,SNR=6.9						
SONM				LR	LR	21 38 53.5	
	comp=Z,802nm,18.7s,MS4.7,baz=188,slow=40						
MKAR	Makanchi Array	47.40	346	P	P	21 16 18.7	+0.2
	comp=Z,7.3nm,0.7s,mb4.7,baz=159,slow=7.9,SNR=45						
MKAR				LR	LR	21 40 21.4	
	comp=Z,162nm,21.4s,MS4.0,baz=170,slow=41						
KKAR	Karatay Array	48.21	334	i P	P	21 16 24.8	0.0
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ZAK	Zakamensk	49.44	5	eP	P	21 16 32.0	-2.2
ZAK				e		21 17 56.7	
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
CN2	Changchun	49.45	27	eP	P	21 16 33.8	-0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
HIA	Hailar	51.79	19	eP	P	21 16 39.3	-13
MJAR	Matsushiro Arr	51.81	42	P	P	21 16 52.8	+0.4
	comp=Z,1.0nm,0.5s,mb4.0,baz=225,slow=8.8,SNR=3.7						
MJAR				LR	LR	21 38 58.8	
	comp=Z,114nm,19.7s,MS3.9,baz=225,slow=36						
MDJ	Mudanjiang	52.01	29	P	P	21 16 52.8	-0.9
MDJ				AP	pP	21 17 01.9	-1.8
MDJ				XP	sP	21 17 05.8	-1.9
MDJ				PCP	PcP	21 18 04.6	-1.3
MDJ				PP	PP	21 18 50.9	-1.7
MDJ				SCP		21 21 59.3	
MDJ				S	S	21 24 15.3	+1.8
MDJ				XS		21 24 30.4	
MDJ				SS	SS	21 27 54.1	+5.5
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.8s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,68nm,4.7s						
MDJ				LR	LR		
	comp=N,370nm,16.5s,MS4.5						
MDJ				LR	LR		
	comp=E,176nm,20.1s,MS4.5						
MDJ				LR	LR		
	comp=Z,541nm,13.7s						
MDJ	Mudanjiang	52.01	29	eP	P	21 16 55.2	+1.4
	comp=Z,5.8nm,0.7s,mb4.6						
STKA	Stephens Creek	53.24	132	eP	P	21 17 03.5	+0.4
	comp=Z,4.4nm,0.6s,mb4.6						
STKA	Stephens Creek	53.24	132	P	P	21 17 03.9	+0.7
	comp=Z,4.8nm,0.6s,mb4.6,baz=299,slow=7.6,SNR=19						
ZAL	Zalesovo	53.71	351	P	P	21 17 05.8	-0.5
	comp=Z,5.1nm,0.5s,mb4.7,baz=308,slow=6.6,SNR=28						
ZAL				LR	LR	21 44 20.2	
	comp=Z,165nm,18.5s,MS4.1,baz=297,slow=41						
NVS	Novosibirsk	54.84	350	⇑iP	P	21 17 13.0	-1.6
NVS				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
ATD	Arta Tunnel	54.93	283	LR	LR	21 37 50.9	
	comp=Z,72nm,19.2s,MS3.8,baz=324,slow=33						
VOSK	Vostochnaya	55.96	341	P	P	21 17 20.8	-1.9
VOSK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.7						
KLR	Kul'dur	56.40	27	eP	P	21 17 22.8	-3.1
KLR				pmax	pmax		
	comp=Z,1.0nm,12.0s						
KLR				pmax	pmax		
	comp=N,600nm,12.0s						
KLR				pmax	pmax		
	comp=E,500nm,12.0s						
BVA0	Borovoye Array	56.41	341	i P	P	21 17 24.7	-1.2
BRVK	Borovoye	56.47	341	eP	P	21 17 25.0	-1.4
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BRVK	Borovoye	56.47	341	eP	P	21 17 25.0	-1.4
	comp=Z,3.4nm,0.8s,mb4.4						
ZRNK	Zerenda	56.81	340	P	P	21 17 22.5	-6.3
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
BOD	Bodaibo	58.17	10	eP	P	21 17 37.7	-0.6
BOD				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
KMBO	Kilima Mbogo	59.99	268	P	P	21 17 57.1	+5.6
	comp=Z,0.4nm,0.3s,mb3.9,baz=83,slow=12,SNR=4.0						
KMBO				LR	LR	21 41 54.1	
	comp=Z,105nm,19.1s,MS4.0,baz=94,slow=34						
ARU	Arti	63.34	337	eP	P	21 18 11.2	-2.2
ARU				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.7						
ARU	Arti	63.34	337	eP	P	21 18 11.2	-2.2
	comp=Z,7.3nm,1.1s,mb4.7						
KIV	Kislovodsk	64.44	319	eP	P	21 18 12.8	-8.0
KIV				pmax	pmax		
	comp=N,2.0nm,1.0s						
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
KIV	Kislovodsk	64.44	319	eP	P	21 18 17.1	-3.7
	comp=Z,3.7nm,0.7s,mb4.5						
BR131	Keskin Array S	69.23	312	eP	P	21 18 48.7	-2.5
	comp=Z,0.7nm,0.6s,mb3.8						
BRTR	Keskin Array B	69.23	312	P	P	21 18 50.4	-0.7
	comp=Z,1.5nm,0.8s,mb4.0,baz=123,slow=7.5,SNR=8.7						
MAW	Mawson	72.55	193	LR	LR	21 47 42.2	
	comp=Z,138nm,18.1s,MS4.3,baz=250,slow=33						
TIXI	Tiksi	73.35	10	eP	P	21 19 12.1	-3.2
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,144nm,14.0s,MS4.4						
AKASG	Malin Array Be	75.39	322	P	P	21 19 26.4	-1.1
	comp=Z,0.6nm,0.5s,mb3.8,baz=86,slow=4.7,SNR=5.1						
AKASG	Malin Array Be	75.39	322	P	P	21 19 26.4	-1.1
FINES	FINESS Array B	80.15	333	P	P	21 19 53.1	-0.5
	comp=Z,0.8nm,0.6s,mb3.9,baz=124,slow=6.9,SNR=6.2						
KAF	Kangasniemi	80.23	333	ep	P	21 19 53.9	-0.1
ARCES	ARCESS Array B	82.69	340	P	P	21 20 07.7	+0.9
	comp=Z,1.4nm,0.5s,mb4.2,baz=99,slow=5.0,SNR=15						
GERES	GERESS Array B	84.94	319	P	P	21 20 19.5	+1.0
	comp=Z,1.4nm,0.8s,mb4.2,baz=108,slow=4.2,SNR=7.7						
NB2	NORSAR Subarra	87.15	331	P	P	21 20 29.7	+0.7
	comp=Z,2.5nm,0.8s,mb4.5,baz=95,slow=4.8						
NB2	NORSAR Subarra	87.15	331	P	P	21 20 29.7	+0.7
NB2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6						
NOA	NORSAR Array B	87.15	331	P	P	21 20 29.9	+0.8
	comp=Z,2.0nm,0.8s,mb4.4,baz=94,slow=4.7,SNR=5.1						
CPUP	Villa Florida	144.89	222	ePKIKP	PKPdf	21 27 21.8	+1.9

IDC 20 21:15:59.8±3.4, **1.35N**×**97.46E, mb3.7**/4, **mb1 3.9**/4, **mb1mx3.6**/18, **mbtmp3.7**/4, **Error ellipse: s-maj=139.3km s-min=27.7km az=57.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.90	122	P	P	21 23 52.1	-1.8
	0.5nm,0.7s,baz=304,slow=9.2,SNR=4.1						
SONM	Songino Array	46.95	8	P	P	21 24 33.3	-0.8
	0.9nm,0.4s,baz=191,slow=10,SNR=9.1						
SONM				PcP	PcP	21 26 04.9	-2.3
	0.4nm,0.7s,baz=199,slow=4.5,SNR=3.1						
MKAR	Makanchi Array	47.16	346	P	P	21 24 34.1	-1.8
	0.7nm,0.5s,baz=160,slow=8.4,SNR=6.9						
ZAL	Zalesovo	53.45	351	P	P	21 25 20.1	-3.6
	0.8nm,0.6s,baz=298,slow=7.4,SNR=4.2						

*ATH **20** 21:20:29.8, 39.99N×23.08E, h25km, MD3.0/3*
*THE **20** 21:20:30.7, 40.01N×23.10E, h17km, ML2.4*
*CSEM **20** 21:20:30.8±0.1, 40.01N×23.11E, h20km, ML2.4, Error ellipse: s-maj=2.9km s-min=2.0km az=85.0*
ISC 20 21:20:30.6±0.4, **40.00N**±0.03×**23.11E**±0.05, **h28**km±5km, **n14, σ0.s81**/23, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PAIG	Paliouri	0.45	99	ePg	Pb	21 20 39.2	-0.9
PAIG				eSg	Sb	21 20 46.7	+0.2
PLG	Polygyros	0.46	35	ePB	Pb	21 20 39.2	-1.0
LIT	Litokhoron	0.48	282	ePg	Pb	21 20 39.2	-1.5
	comp=Z,6.8nm,0.3s						
LIT				eSg	Sb	21 20 47.5	0.0
XOR	Xorichti	0.64	174	ePg	Pb	21 20 43.3	+0.1
XOR				eSg	Sb	21 20 52.8	+1.1
THE	Thessaloniki	0.64	350	ePg	Pb	21 20 42.7	-0.6
	comp=Z,2.8nm,0.3s						
THE				eSg	Sb	21 20 52.1	+0.2
NEO	Neokhori	0.70	172	ePN	Pn	21 20 43.4	-1.2
NEO				eSN	Sn	21 20 53.5	-1.0
OUR	Ouranopolis	0.75	63	ePg	Pb	21 20 45.1	0.0
SOH	Sokhos	0.84	13	ePg	Pb	21 20 46.8	+0.2
SOH				eSg	Sb	21 20 58.9	+1.3
AOS	Alonnisos	1.02	144	ePg	Pn	21 20 48.9	-0.3
AOS				eSg	Sb	21 21 03.6	+1.0
GRG	Griva	1.10	331	ePg	Pn	21 20 50.2	-0.1
GRG				eSg	Sn	21 21 05.3	+0.7
AGG	Agios Georgios	1.14	212	ePg	Pn	21 20 51.4	+0.4
AGG				eSg	Sn	21 21 07.0	+1.2
NVR	Nevrokopi	1.47	23	ePN	Pn	21 20 56.9	+1.3
FNA	Florina	1.54	301	ePg	Pn	21 20 56.2	-0.4
ALN	Alexandroupoli	2.42	67	ePn	Pn	21 21 08.4	-0.8

NNC 20 21:27:32.6±6.0, **37.87N**×**70.66E, h71**km±141km, **mpv3.5, 3C-1D, Error ellipse: s-maj=45.6km s-min=33.4km az=167.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.23	359	P	P	21 28 47.9	-2.0
	2.5nm,0.4s,baz=169,slow=11,SNR=94						
KK31				⇓S	S	21 29 47.9	-1.6
	4.7nm,0.3s,baz=173,slow=22,SNR=14						
AAK	Ala-Archa	5.59	30	⇑S	S	21 29 56.9	-1.6
	5.0nm,0.8s						
AB31	Akbulak array	13.76	329	⇑P	P	21 30 45.1	-0.4
	0.2nm,0.4s,baz=164,slow=10,SNR=6.2						
AB31				⇑S	S	21 33 14.5	-2.5
	0.8nm,0.5s,baz=152,slow=23,SNR=9.5						

*LDG **20** 21:54:04.8±0.1, 43.08N×109.08E, h19km, Mb5.5/36, Ms4.5/9, Error ellipse: s-maj=10.4km s-min=4.5km az=68.0*
*BJI **20** 21:54:04.0, 43.14N×109.03E, h15km, mB5.5, mb5.2, ML5.9, Ms5.5, Msz5.4*
*IDC **20** 21:54:04.8±0.3, 43.08N×109.10E, mb5.2/30, mb1 5.3/34, mb1mx5.3/35, mbtmp5.2/34, ML4.4/4, MS4.5/19, Ms1 4.5/19, ms1mx4.5/22, Error ellipse: s-maj=12.5km s-min=9.3km az=44.0*
*HRVD **20** 21:54:05.7±0.2, 43.04N×109.04E, h12km, MW5.2/66, Centroid moment Tensor Solution. LP body waves: s44,c63;Mantle waves: s66,c134; Half duration: 1.s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.69±.01; $M_{\theta\theta}$0.05±.01; $M_{\phi\phi}$-0.73±.01; $M_{r\theta}$0.01±.04; $M_{\theta\phi}$0.16±.01; $M_{\phi r}$0.11±.04; Best double couple: M_0.736×10^{17} NP1:ϕ_s166°,δ41°,λ86°. NP2:ϕ_s352°,δ49°,λ94°. Principal axes: T .699, Plg85°, Azm295°; N .074, Plg3°, Azm169°; P -.773, Plg4°, Azm79°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 21:54:05.7±1.8, 43.07N×109.02E, h6km±11km, mb5.5/174, MS4.8/87, MW5.2 Error ellipse: s-maj=3.3km s-min=2.3km az=198.0, Moment Tensor Solution. s7 Moment tensor: Scale 10^{16}Nm; M_{rr}7.23; $M_{\theta\theta}$-1.46; $M_{\phi\phi}$-5.77; $M_{r\theta}$-3.37; $M_{\theta\phi}$5.01; $M_{\phi r}$-1.44; Best double couple: $M_0$9.1×10^{16} NP1: ϕ_s171°,δ49°,λ127°. NP2:ϕ_s303°,δ53°,λ56°. Principal axes: T 9.05, Plg63°, Azm151°; N .05, Plg26°, Azm325°; P -9.1, Plg2°, Azm56°;*
*MOS **20** 21:54:08.2±0.9, 43.13N×108.96E, h32km, mb5.6/106, MS4.9/49 Error ellipse: s-maj=6.5km s-min=3.3km az=122.7*
ISC 20 21:54:05.1±0.1, **43.05N**±0.02×**108.99E**±0.02, **h13**km, **h13**km±2.3km**:pP-P, n790, σ0.s95**/779, **mb5.4**/241, **MS4.8**/120, **145C-21D, Mongolia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTO	Baotou	2.56	162	eP	Pn	21 54 49.6	+2.5
BTO				PG	Pg	21 54 51.6	-4.7
BTO				SG	Sg	21 55 21.0	-10
BTO				Smax			
	comp=N,5µm,0.4s						
BTO				Smax			
	comp=E,10µm,0.7s						
SONM	Songino Array	5.12	340	P	Pn	21 55 23.2	-0.2
SONM						21 56 25.1	
SONM	Songino Array	5.12	340	Pn	Pn	21 55 23.2	-0.2
	comp=E,37nm,0.3s,baz=164,slow=14,SNR=504						
SONM				Pg	Pg	21 55 41.0	-6.4
	comp=E,179nm,0.3s,baz=164,slow=17,SNR=33						
SONM				Sn	Sn	21 56 25.1	+2.0
	comp=E,260nm,0.3s,baz=172,slow=19,SNR=7.2						
SONM				Lg		21 56 47.1	
	comp=E,734nm,0.3s,baz=159,slow=28,SNR=12						
SONM				LR	LR	21 57 43.7	
	comp=E,3µm,20.9s,baz=163,slow=43						
GTA	Gaotai	7.81	245	P	Pn	21 55 59.6	-1.7
GTA				S	Sn	21 57 28.4	-2.0
GTA				Smax			
	comp=N,4µm,0.8s						
GTA				Smax			
	comp=E,3µm,1.7s						
GTA				LR	LR		
	comp=N,17µm,6.4s						
GTA				LR	LR		
	comp=E,27µm,6.1s						
GTA				LR	LR		
	comp=Z,30µm,7.6s						
LZH	Lanzhou	8.01	211	⇑P	P	21 56 03.8	-0.2
LZH				AP		21 56 05.8	
LZH				XP		21 56 08.8	
LZH				PP	PP	21 56 10.5	-1.2
LZH				S	Sn	21 57 35.0	-0.3
LZH				SS	SS	21 57 50.3	+1.9
LZH				AMB	AMB		
	comp=Z,313nm,1.1s						
LZH				AMB	AMB		
	comp=Z,1µm,4.3s						
LZH				Smax			
	comp=N,7µm,1.2s						
LZH				Smax			
	comp=E,5µm,1.2s						
LZH				LR	LR		
	comp=N,24µm,6.7s						
LZH				LR	LR		
	comp=Z,29µm,8.1s						
ZAK	Zakamensk	8.31	334	eP	P	21 56 06.5	-1.8
ZAK				pmax	pmax		
	comp=Z,344nm,1.1s						
XAN	Xi'an	9.00	180	P	P	21 56 15.5	-2.3
XAN				AP		21 56 21.1	
XAN				SS	SS	21 58 12.1	-1.0
XAN				AMB	AMB		
	comp=Z,102nm,0.9s						
XAN				LR	LR		
	comp=N,8µm,11.9s						
XAN				LR	LR		
	comp=E,6µm,8.7s						
XAN				LR	LR		
	comp=Z,12µm,11.9s						
TIA	Tai'an	9.27	135	⇓P	P	21 56 21.0	-0.5
TIA				S	Sn	21 58 10.0	+3.3
TIA				AMB	AMB		
	comp=Z,21nm,0.8s						
TIA				LR	LR		
	comp=N,5µm,12.0s						
TIA				LR	LR		
	comp=E,4µm,10.0s						
TLY	Talaya	9.36	339	eP	P	21 56 20.6	-2.2
TLY				pmax	pmax		
	comp=Z,108nm,0.9s						
TLY				MLR	MLR		
	comp=Z,3µm,9.1s						
CIT	Chita	9.49	17	eP	P	21 56 22.8	-1.7
CIT				e		21 58 00.9	
CIT				pmax	pmax		
	comp=Z,454nm,1.2s						
HIA	Hailar	9.71	46	Pn	P	21 56 23.9	-3.5
IRK	Irkutsk	9.73	343	eP	P	21 56 25.9	-1.9
IRK				pmax	pmax		
	comp=Z,304nm,0.9s						
MOY	Mondy	10.18	331	eP	P	21 56 32.0	-1.9
MOY				eS	S	21 58 28.5	-0.4
MOY				pmax	pmax		
	comp=Z,358nm,1.5s						
DL2	Dalian	10.41	109	P	P	21 56 35.8	-1.4
DL2				S	S	21 58 31.6	-3.1
DL2				AMB	AMB		
	comp=Z,50nm,1.0s						
DL2				AMB	AMB		
	comp=Z,140nm,4.6s						
DL2				LR	LR		
	comp=N,6µm,6.0s						
DL2				LR	LR		
	comp=E,5µm,9.3s						
DL2				LR	LR		
	comp=Z,8µm,8.7s						
SNY	Shenyang	10.85	92	⇑P	P	21 56 40.6	-2.6
SNY				S	S	21 58 34.6	-11
SNY				AMB	AMB		
	comp=Z,90nm,1.0s						
SNY				AMB	AMB		
	comp=Z,390nm,12.0s						
SNY				LR	LR		
	comp=E,28µm,9.2s						
SNY				LR	LR		
	comp=Z,34µm,8.6s						
CN2	Changchun	11.99	81	eP	P	21 56 57.5	-1.2
CN2				PPP	PPP	21 57 14.3	-1.1
CN2				eS	S	21 59 12.3	-1.0
CN2				AMB	AMB		
	comp=Z,110nm,0.9s						
CN2				AMB	AMB		
	comp=Z,420nm,3.0s						
CN2				LR	LR		
	comp=Z,27µm,8.0s						
CD2	Chengdu	12.82	201	P	P	21 57 12.6	+2.9
CD2				S	S	21 59 28.0	-5.3
CD2				LR	LR		
	comp=E,13µm,6.0s						
NJ2	Nanjing	13.47	141	eP	P	21 57 19.3	+0.9
NJ2				AP		21 57 22.1	

NJ2 XP 21 57 24.6
NJ2 PP PP 21 57 29.4 +0.3
NJ2 PPP PPP 21 57 36.3 +0.2
NJ2 S **S** **21 59 47.0 -1.9**
NJ2 XS 21 59 54.0
NJ2 AMB AMB
comp=Z,100nm,1.2s
NJ2 AMB AMB
comp=Z,360nm,9.0s
NJ2 LR LR
comp=N,10µm,17.4s
NJ2 LR LR
comp=E,14µm,11.6s
NJ2 LR LR
comp=Z,8µm,11.4s
INCN Inchon 14.56 107 *e*P **P** **21 57 31.8 -0.9**
comp=Z,170nm,1.1s
MDJ Mudanjiang 14.95 77 P **P** **21 57 36.3 -1.4**
MDJ AP 21 57 37.9
MDJ S **S** **22 00 22.8 -1.2**
MDJ PCP PcP 22 02 46.4 -1.3
MDJ AMB AMB
comp=Z,38nm,1.7s
MDJ AMB AMB
comp=Z,436nm,6.7s
MDJ LR LR
comp=N,8µm,8.2s
MDJ LR LR
comp=E,10µm,8.6s
MDJ LR LR
comp=Z,10µm,7.9s
MDJ Mudanjiang 14.95 77 Pn **P** **21 57 37.0 -0.7**
SSE Sheshan 15.38 137 *e*P **P** **21 57 42.9 -0.5**
SSE AP 21 57 46.3
SSE S **S** **22 00 34.1 -0.1**
SSE AMB AMB
comp=Z,55nm,0.8s
SSE AMB AMB
comp=Z,234nm,4.7s
SSE LR LR
comp=N,3µm,17.1s
SSE LR LR
comp=E,5µm,17.1s
SSE LR LR
comp=Z,6µm,12.2s
KS15 Wonju Array Si 15.47 105 *e*P **P** **21 57 42.3 -2.2**
WMQ Urumqi 15.49 280 P **P** **21 57 46.4 +1.6**
WMQ AP 21 57 49.9
WMQ XP 21 57 53.4
WMQ PP PP 21 57 59.1 +1.8
WMQ S **S** **22 00 38.5 +1.8**
WMQ XS 22 00 44.0
WMQ AMB AMB
comp=Z,441nm,1.0s
WMQ AMB AMB
comp=Z,609nm,4.0s
WMQ LR LR
comp=N,6µm,6.0s
WMQ LR LR
comp=E,10µm,7.0s
WMQ LR LR
comp=Z,11µm,5.4s
GYA Guiyang 16.66 187⇑ *i*P **P** **21 57 57.3 -2.6**
GYA AP 21 58 01.4
GYA XP 21 58 04.9
GYA PP PP 21 58 11.8 -2.0
GYA S **S** **22 01 03.9 -0.1**
GYA SS SS 22 01 25.8 +1.4
GYA AMB AMB
comp=Z,110nm,1.2s
GYA AMB AMB
comp=Z,410nm,4.8s
GYA LR LR
comp=N,5µm,13.4s
GYA LR LR
comp=E,5µm,9.8s
GYA LR LR
comp=Z,5µm,14.6s
KLR Kul'dur 16.91 61 *e*P **P** **21 58 00.0 -2.8**
KLR *e* 22 01 17.9
KLR pmax pmax
comp=N,64nm,1.8s
KLR pmax pmax
comp=E,120nm,1.8s
KLR pmax pmax
comp=Z,100nm,1.8s
KLR pmax pmax
comp=E,900nm,11.0s
KLR pmax pmax
comp=Z,1µm,11.0s
KLR MLR MLR
comp=E,14µm,9.0s
KLR MLR MLR
comp=Z,21µm,9.0s
CLNS Chul'man 17.12 31 *e*P **P** **21 58 07.7 +2.3**
CLNS *e*S **S** **22 01 15.8 +1.6**
CLNS pmax pmax
comp=Z,100nm,1.0s
CLNS pmax pmax
comp=N,94nm,0.9s
CLNS pmax pmax
comp=E,61nm,0.9s
CLNS smax
comp=N,653nm,12.5s
CLNS smax
comp=Z,1µm,11.9s
CLNS smax
comp=E,65nm,11.1s
CLNS MLR MLR
comp=N,3µm,11.0s
CLNS MLR MLR
comp=E,2µm,11.0s
CLNS MLR MLR
comp=Z,6µm,11.0s
KMI Kunming 18.61 198 ⇑P **P** **21 58 23.5 -0.7**
KMI AP 21 58 26.5
KMI PP PP 21 58 39.3 -0.7
KMI PPP PPP 21 58 52.5 +3.5
KMI S **S** **22 01 48.5 +0.2**
KMI SS SS 22 02 10.8 -2.2
KMI SSS SSS 22 02 17.6 -8.7
KMI AMB AMB
comp=Z,51nm,1.3s
KMI AMB AMB
comp=Z,2µm,5.6s
KMI LR LR
comp=N,3µm,10.3s
KMI LR LR
comp=E,5µm,8.9s
KMI LR LR
comp=Z,3µm,10.0s
MKAR Makanchi Array 19.24 290 P **P** **21 58 29.8 -1.7**
comp=Z,3.1nm,0.3s,baz=93,slow=12,SNR=193
MKAR PcP PcP 22 02 53.4 -1.1
comp=Z,2.5nm,0.3s,baz=206,slow=0.7,SNR=20
MKAR LR LR 22 05 16.3
comp=Z,2µm,18.6s,baz=97,slow=35
ZAL Zalesovo 19.28 313 P **P** **21 58 30.6 -1.4**
comp=Z,1.8nm,0.3s,baz=0.9,slow=11,SNR=61
LSA Lhasa 19.54 233 P **P** **21 58 35.8 +0.6**
LSA AP 21 58 43.1
LSA S **S** **22 02 15.8 +6.5**
LSA AMB AMB
comp=Z,40nm,1.0s
LSA AMB AMB
comp=Z,1µm,6.5s
LSA LR LR
comp=N,3µm,16.3s
LSA LR LR
comp=E,5µm,8.9s
LSA LR LR
comp=Z,6µm,8.2s
LSA Lhasa 19.54 233 P **P** **21 58 35.3 +0.2**
QZH Quanzhou 19.71 153⇑ *i*P **P** **21 58 37.3 +0.2**
QZH S **S** **22 02 13.0 -0.1**
QZH AMB AMB
comp=Z,170nm,1.2s
QZH LR LR
comp=N,2µm,5.7s
QZH LR LR
comp=E,6µm,8.7s
QZH LR LR
comp=Z,7µm,12.4s
JNU Nakatsue 19.83 113 P **P** **21 58 37.8 -0.6**
comp=Z,0.6nm,0.3s,baz=307,slow=2.9,SNR=20
JNU LR LR 22 07 02.9
comp=Z,2µm,19.4s,baz=309,slow=39
NVS Novosibirsk 20.49 314⇑ *i*P **P** **21 58 44.2 -1.0**
NVS *e* 22 02 27.3
NVS pmax pmax
comp=Z,260nm,1.4s
NVS pmax pmax
comp=N,200nm,1.6s
NVS pmax pmax
comp=E,290nm,1.5s
TATO Taipei 20.75 146 P **P** **21 58 49.2 +1.2**
comp=E,521nm,1.5s
NACB Ninganchiao 21.51 147 *e*P **P** **21 58 57.1 +1.3**
IMP Imphal 22.03 219⇑ *i*P **P** **21 59 02.0 +1.0**
SHL Shillong 22.37 224 *e*P **P** **21 59 06.0 +1.6**
comp=E,580nm,1.0s,mb6.0
SHL *e*S **S** **22 03 15.0 +10**
JOW Kunigami 22.54 130 P **P** **21 59 07.3 +1.3**
comp=E,33nm,1.0s,mb4.7,baz=346,slow=10,SNR=7.0
JOW LR LR 22 08 18.3
comp=E,1µm,18.6s,MS4.3,baz=134,slow=38
JOW Kunigami 22.54 130 P **P** **21 59 07.3 +1.3**
JOW LR LR 22 08 18.3
YAK Yakutsk 22.61 26*d i*P **P** **21 59 08.1 +1.7**
YAK *e* 21 59 38.2
YAK *e*S **S** **22 03 11.4 +2.6**
YAK pmax pmax
comp=Z,116nm,0.9s,mb5.3
YAK pmax pmax
comp=N,40nm,1.1s
YAK pmax pmax
comp=E,37nm,1.1s
YAK pmax pmax
comp=E,26nm,1.1s
YAK pmax pmax
comp=Z,41nm,1.1s,mb4.8
YAK pmax pmax
comp=N,24nm,1.0s
YAK smax
comp=N,13nm,2.2s
YAK smax
comp=Z,5.0nm,0.8s
YAK smax
comp=E,5.0nm,0.7s
YAK MLR MLR
comp=Z,3µm,10.0s,MS5.0
YAK MLR MLR
comp=N,2µm,8.0s
YAK MLR MLR
comp=E,2µm,8.0s
YAK Yakutsk 22.61 26 *e*P **P** **21 59 05.0 -1.4**
comp=E,295nm,0.8s,mb5.8
YAK LR LR
comp=Z,788nm,21.0s,MS4.1
MAJO Matsushiro 23.30 96 *e*P **P** **21 59 12.2 -1.2**
MAJO pmax pmax
comp=Z,110nm,1.1s,mb5.2
MAJO MLR MLR
comp=Z,1µm,19.0s,MS4.3
MAJO Matsushiro 23.30 96 *e*P **P** **21 59 12.2 -1.1**
comp=Z,110nm,1.1s,mb5.2
MAJO LR LR
comp=Z,1µm,19.0s,MS4.3
MAT Matsushiro 23.30 96 *e*P **P** **21 59 12.0 -1.4**
MAT *e*S **S** **22 03 24.0 +2.7**
MAT pmax pmax
comp=Z,400nm,1.8s,mb5.5
MAT Matsushiro 23.30 96 *e*P **P** **21 59 12.0 -1.4**
comp=Z,400nm,1.8s,mb5.5
MAT *e*S **S** **22 03 24.0 +2.7**
MAT Matsushiro 23.30 96 P **P** **21 59 12.4 -1.0**
MAT S **S** **22 03 24.0 +2.7**
MJAR Matsushiro Arr 23.30 96 P **P** **21 59 13.5 +0.1**
comp=Z,79nm,1.0s,mb5.1,baz=289,slow=11,SNR=58
MJAR LR LR 22 07 43.0
comp=Z,800nm,18.9s,MS4.2,baz=305,slow=35
AAA Alma-Ata 23.30 282 *i* P **P** **21 59 15.0 +1.6**
AAA pmax pmax
comp=Z,2µm,4.2s
AAA MLR MLR
comp=Z,7µm,10.0s,MS5.4
QIZ Qiongzhong 23.96 178⇑ *i*P **P** **21 59 21.4 +1.4**
QIZ S **S** **22 03 40.1 +7.1**
QIZ XS 22 03 47.0
QIZ AMB AMB
comp=Z,64nm,1.4s,mb4.9
QIZ AMB AMB
comp=Z,496nm,5.9s
QIZ LR LR
comp=N,4µm,11.4s
QIZ LR LR
comp=E,1µm,8.7s
QIZ LR LR
comp=Z,5µm,11.2s,MS5.3
GUN Gumba 24.02 239 *e*P **P** **21 59 21.9 +1.4**
comp=Z,714nm,1.0s,mb6.0
YSS Yuzh-Sakhalins 24.08 69⇓ *e*P **P** **21 59 20.5 -0.4**
YSS *e**SP 21 59 25.0
YSS *e* 21 59 54.0
YSS *e* 22 03 02.5
YSS *e*S **S** **22 03 36.0 +1.2**
YSS pmax pmax
comp=Z,50nm,1.0s,mb4.9
YSS smax
comp=E,3µm,14.0s
YSS MLR MLR
comp=Z,7µm,13.0s,MS5.3
YSS MLR MLR
comp=N,2µm,14.0s,MS5.6
YSS MLR MLR
comp=E,12µm,12.0s,MS5.6
YSS Yuzh-Sakhalins 24.08 69 P **P** **21 59 20.6 -0.3**
comp=E,61nm,1.0s,mb5.0
YSS LR LR
comp=Z,2µm,19.0s,MS4.5
AGT Agartala 24.09 223⇓ *i* **P** **21 59 30.0 +8.8**
AGT *i* 22 00 04.0
ASAJ Asahikawa 24.27 76 P **P** **21 59 21.2 -1.6**
ASAJ pmax pmax
comp=Z,81nm,0.8s
ASAJ MLR MLR
comp=Z,1µm,19.1s
ASAJ Asahikawa 24.27 76 P **P** **21 59 21.2 -1.6**
comp=Z,81nm,0.8s,mb5.2,baz=292,slow=7.9,SNR=31
ASAJ LR LR 22 09 12.4
comp=Z,1µm,19.1s,MS4.4,baz=159,slow=38
CHRT Chiangrai 24.38 201⇑ P **P** **21 59 25.5 +1.5**
comp=Z,1µm,1.1s,mb6.3
KKN Kakani 24.48 239 *e*P **P** **21 59 26.4 +1.4**
comp=Z,692nm,1.0s,mb6.0
KKN Kakani 24.48 239 *e*P **P** **21 59 26.4 +1.4**
KKN pmax pmax
comp=Z,346nm,1.0s,mb5.7
PKI Pulchoki 24.56 239 *e*P **P** **21 59 26.8 +1.1**
comp=Z,543nm,1.1s,mb6.0
PKI Pulchoki 24.56 239 *e*P **P** **21 59 26.8 +1.1**
PKI pmax pmax
comp=Z,272nm,1.1s,mb5.7
DMN Daman 24.72 239 *e*P **P** **21 59 28.6 +1.3**
comp=Z,538nm,0.9s,mb6.1
GKN Gorkha 24.75 241 *e*P **P** **21 59 28.4 +0.9**
comp=Z,717nm,0.9s,mb6.2
KSH Kashi 24.97 273 *e*P **P** **21 59 32.8 +3.2**
KSH *e*AP 21 59 36.4
KSH *e*XP 21 59 39.5
KSH *e*PP PP 22 00 10.0 +3.0
KSH *e*PCP PcP 22 03 05.3 -0.5
KSH *e*S **S** **22 03 54.3 +4.3**
KSH *e*XS 22 04 01.1
KSH *e*PCS 22 06 44.5
KSH AMB AMB
comp=Z,180nm,0.8s,mb5.7
FRU Bishkek 25.07 281 *i* P **P** **21 59 31.5 +1.1**
FRU *i* pP 21 59 36.0 +1.8
NANT Nan 25.17 199⇑ P **P** **21 59 32.0 +0.3**
comp=Z,1µm,0.4s
AAK Ala-Archa 25.20 281⇑ *i*P **P** **21 59 31.8 +0.1**
AAK MLR MLR
comp=Z,1µm,20.0s,MS4.3
KOLN Koldanda 25.57 242 *e*P **P** **21 59 36.5 +1.2**
comp=Z,1µm,1.1s,mb6.3
CHG Chiang Mai 25.61 202⇑ P **P** **21 59 36.4 +0.6**
comp=Z,150nm,1.1s,mb5.4
CHTO Chiang Mai 25.61 202 P **P** **21 59 36.4 +0.6**
CHTO sS 22 04 15.5
JHJ Hachijo jima 2 26.06 102 LR LR 22 09 29.5
comp=Z,1µm,19.3s,MS4.4,baz=127,slow=36
YUK Yuzh-Kuril'sk 26.61 75 *e*P **P** **21 59 44.0 -0.8**
YUK *e* 22 00 32.0
YUK *e*PPP PPP 22 00 46.0 +5.2
YUK *e*S **S** **22 04 23.0 +5.8**
YUK *e*SS SS 22 05 48.0 +20
YUK pmax pmax
comp=Z,2µm,4.0s
YUK pmax pmax
comp=Z,410nm,1.0s,mb5.9
YUK smax
comp=E,5µm,13.0s
YUK MLR MLR
comp=Z,5µm,11.0s,MS5.3
YUK MLR MLR
comp=N,1µm,16.0s,MS5.2
YUK MLR MLR
comp=E,5µm,12.0s,MS5.2
CAL Calcutta 26.70 227 *e* **S** **22 04 28.4 +9.4**
CAL *e* 22 08 42.6
LGTI Lohaghat 26.71 249 *e* **P** **21 59 51.0 +5.1**
VOSK Vostochnaya 26.98 304 *i* P **P** **21 59 47.9 -0.2**
KKTK Khon Kaen 27.14 193⇑ P **P** **21 59 49.5 -0.4**
comp=E,1µm,0.4s
BVA0 Borovoye Array 27.36 305 P **P** **21 59 51.7 +0.1**
BVA0 pmax pmax
comp=Z,52nm,1.7s,mb4.8
BVAR Borovoye Array 27.36 305 P **P** **21 59 51.8 +0.2**
comp=Z,37nm,0.9s,mb4.9,baz=106,slow=11,SNR=182
BVAR PcP PcP 22 03 10.5 -0.6
comp=Z,17nm,0.8s,baz=90,slow=3.0,SNR=5.2
BRVK Borovoye 27.43 305 *e*P **P** **21 59 52.3 +0.1**
BRVK pmax pmax
comp=Z,99nm,1.1s
BRVK MLR MLR
comp=Z,201nm,19.0s
BRVK Borovoye 27.43 305 *e*P **P** **21 59 52.3 +0.1**
comp=Z,99nm,1.1s
BRVK LR LR
comp=Z,201nm,19.0s
DDI Dehra Dun 27.70 253 *e*P **P** **21 59 52.5 -2.4**
DDI *e* 22 04 45.5
SDNR Sundarnagar 27.80 256 *e* **P** **22 00 06.0 +10**
SMLA Simla 27.87 255 *i* P **P** **21 59 55.2 -1.2**
KKAR Karatay Array 27.94 283 *i* P **P** **21 59 57.0 0.0**
KKAR pmax pmax
comp=Z,88nm,1.1s,mb5.3
KKAR Karatay Array 27.94 283 *i* P **P** **21 59 57.1 +0.1**
ZRNK Zerenda 28.19 305 P **P** **21 59 59.3 +0.2**
ZRNK pmax pmax
comp=Z,166nm,1.4s,mb5.5
ZRNK Zerenda 28.19 305 *i* P **P** **21 59 59.4 +0.3**
THN Thein Dam 28.20 259 *e*P **P** **21 59 57.6 -1.8**
NST Nakhon Sawan 28.32 198 P **P** **22 00 00.0 -0.6**
NDI New Delhi 29.27 251 *e*P **P** **22 00 09.2 +0.1**
NDI AMb AMB 22 00 19.1
comp=Z,74nm,0.8s,mb5.5
NDI *e*S **S** **22 05 07.4 +7.1**
BWNR Bhubaneshwar 29.88 228 *e* **P** **22 00 22.9 +8.3**
BWNR AMb AMB 22 00 24.2
comp=Z,37nm,1.0s,mb5.1
MA2 Magadan 30.26 42*d e*P **P** **22 00 18.0 +0.4**
MA2 *e* 22 01 16.8
MA2 *e*S **S** **22 05 14.3 -1.4**
MA2 *e*SSS SSS 22 06 58.5 -17
MA2 pmax pmax
comp=Z,20nm,1.8s,mb4.5
MA2 MLR MLR
comp=Z,4µm,18.0s,MS5.1
MA2 Magadan 30.26 42⇑ *i*P **P** **22 00 18.1 +0.5**
MA2 LR LR
comp=Z,2µm,19.0s,MS4.8
TIXI Tiksi 30.29 12 *e*P **P** **22 00 11.7 -6.0**
TIXI *e*S **S** **22 05 04.2 -12**
TIXI pmax pmax
comp=Z,64nm,0.8s,mb5.4
TIXI MLR MLR
comp=Z,3µm,12.0s,MS5.2
TIXI Tiksi 30.29 12 PFAKE 22 00 30.0 +12
TIXI LR LR
comp=Z,1µm,22.0s,MS4.5
BLSP Bilaspur 30.56 235 *e*P **P** **22 00 20.1 -0.5**
BLSP AMb AMB 22 00 25.7
comp=Z,160nm,0.8s,mb5.9
NNT Nongplab 31.39 198 P **P** **22 00 29.0 +1.0**
SEY Seymchan 31.95 36 *e*P **P** **22 00 33.5 +1.1**
SEY *e* 22 01 44.0
SEY 22 03 22.0
SEY *e*S **S** **22 05 45.6 +3.5**
SEY *e*SS SS 22 07 32.3 -1.8
SEY 22 11 02.3
SEY pmax pmax
comp=N,7.0nm,0.8s
SEY pmax pmax
comp=E,6.0nm,0.8s
SEY pmax pmax
comp=Z,20nm,0.8s,mb5.0
SEY smax
comp=N,300nm,17.0s
SEY smax
comp=E,500nm,19.6s
SEY MLR MLR
comp=Z,2µm,17.0s,MS4.8
AJM Ajmer 32.42 251 *e*P **P** **22 00 36.4 -0.6**
AJM AMb AMB 22 00 38.4
comp=Z,124nm,1.2s,mb5.6
AJM *e* 22 02 58.9
BHPL Bhopal 32.72 243 *e*P **P** **22 00 38.6 -0.9**
BHPL AMb AMB 22 00 41.0
comp=Z,154nm,1.1s,mb5.8
BHPL *e* 22 02 27.6
NGP Nagpur 33.18 238 *e*P **P** **22 00 43.0 -0.5**
NGP AMb AMB 22 00 45.8
comp=Z,70nm,1.5s,mb5.4
NGP *e* 22 05 59.0
PET Petropavlovsk 34.04 55⇓ *i*P **P** **22 00 52.2 +1.6**
PET *e* 22 02 02.7
PET *i*S **S** **22 06 11.1 -3.5**
PET SS SS 22 08 17.2 -5.1
PET pmax pmax
comp=Z,46nm,1.3s,mb5.2
PET pmax pmax
comp=Z,100nm,14.6s
PET MLR MLR
comp=Z,2µm,13.0s,MS5.1
PET Petropavlovsk 34.04 55 *e*P **P** **22 00 52.0 +1.4**
comp=Z,9.5nm,0.6s,mb4.9
PET LR LR
comp=Z,1µm,19.0s,MS4.6
AB31 Akbulak array 34.04 298 P **P** **22 00 50.9 +0.2**
AB31 pmax pmax
comp=Z,53nm,0.7s,mb5.6
ARU Arti 34.41 311⇑ *i*P **P** **22 00 54.0 +0.1**
ARU *e* 22 02 06.4
ARU *i* 22 03 25.5
ARU *e*S **S** **22 06 23.2 +2.8**
ARU *e*SSS SSS 22 08 52.8 -4.5
ARU *e* 22 11 15.2
ARU pmax pmax
comp=Z,162nm,1.0s,mb5.9
ARU MLR MLR
comp=Z,2µm,15.0s,MS5.0
ARU MLR MLR
comp=N,300nm,13.0s,MS4.9
ARU MLR MLR
comp=E,2µm,14.0s,MS4.9
ARU Arti 34.41 311⇑ *i*P **P** **22 00 53.8 -0.1**
comp=E,159nm,0.8s,mb6.0
ARU *e*PcP PcP 22 03 28.3 -1.3
ARU LR LR
comp=Z,489nm,20.0s,MS4.2
AKL Akola 34.80 240 *e* **P** **22 01 01.8 +4.2**
AKL ⇓ *i* 22 01 02.3
AKL AMb AMB 22 01 03.4
comp=Z,229nm,0.9s,mb6.1
AKL *i* 22 12 24.8
HYB Hyderabad 36.32 235 *e*P **P** **22 01 10.0 -0.4**
HYB Hyderabad 36.32 235 *i* P **P** **22 01 10.0 -0.4**
HYB *e*PcP PcP 22 03 35.0 -0.5
SNG Songkhla 36.48 194 P **P** **22 01 13.0 +1.1**
LATR Latur 36.77 238 *e*P **P** **22 01 15.5 +1.2**
KULM Kulim 38.32 193 *e*P **P** **22 01 28.2 +0.9**
POO Poona 38.41 242⇓ *i*P **P** **22 01 27.0 -1.0**
comp=Z,240nm,1.0s,mb5.9
BILL Bilibino 38.81 30*c i*P **P** **22 01 31.7 +0.8**

BILL pmax pmax
comp=Z,145nm,1.7s,mb5.4
BILL MLR MLR
comp=Z,2μm,16.0s,MS5.0
BILL Bilibino 38.81 30 *eP* **P 22 01 31.5 +0.6**
comp=Z,142nm,1.4s,mb5.5
BILL LR LR
comp=Z,3μm,19.0s,MS5.1
KAD Karad 39.10 240 *eP* **P 22 01 33.0 -0.8**
KSM Kuching 41.41 178 *eP* **P 22 01 53.8 +0.9**
KSM *ePcP* PcP 22 03 51.2 -0.4
PECR Pechory 42.44 312 *i* P **P 22 02 01.6 +0.8**
PECR *e* 22 03 50.0
PECR *ePPP* PPP 22 04 16.0 +1.2
PECR *eS* **S 22 08 25.0 +3.2**
PECR pmax pmax
comp=Z,2μm,1.6s,mb6.4
PECR smax
comp=N,400nm,6.6s
PECR MLR MLR
comp=N,2μm,10.0s,MS5.4
PECR MLR MLR
comp=E,2μm,15.0s,MS5.4
GUMO Guam 42.58 123 *eP* **P 22 02 01.9 -0.6**
GUMO pmax pmax
comp=Z,555nm,1.3s,mb6.1
GUMO MLR MLR
comp=Z,1μm,21.0s,MS4.8
GUMO Guam 42.58 123 *eP* **P 22 02 01.9 -0.6**
comp=Z,555nm,1.3s,mb6.1
GUMO LR LR
comp=Z,1μm,21.0s,MS4.8
FX1 Attu Island--F 42.73 54 *eP* **P 22 02 03.0 -0.2**
PALK Pallekele 43.46 223 *eP* **P 22 02 10.0 +0.4**
comp=Z,138nm,1.4s,mb5.5
PALK LR LR
comp=Z,177nm,21.0s,MS3.9
MAK Makhachkala 44.05 292 *d iP* **P 22 02 16.0 +1.9**
MAK *e* 22 04 04.0
MAK *eS* **S 22 08 49.0 +3.5**
MAK *eSS* SS 22 12 07.0 +12
MAK pmax pmax
comp=Z,500nm,4.0s
MAK smax
comp=E,400nm,8.0s
MAK MLR MLR
comp=N,2μm,13.0s,MS5.5
MAK MLR MLR
comp=E,3μm,13.0s,MS5.5
MAK MLR MLR
comp=Z,3μm,13.0s,MS5.5
LVZ Lovozero 45.21 329 *d iP* **P 22 02 22.4 -0.7**
LVZ pmax pmax
comp=Z,88nm,1.7s,mb5.3
LVZ Lovozero 45.21 329 *i* P **P 22 02 22.5 -0.6**
APA Apatity 45.72 329⇓ *iP* **P 22 02 27.5 +0.4**
APA *i* 22 04 14.0
APA *eS* **S 22 09 13.0 +3.8**
APA pmax pmax
comp=Z,60nm,1.1s,mb5.4
APA MLR MLR
comp=Z,2μm,12.0s,MS5.3
DGRG David-gareji 46.10 291 P **P 22 02 25.8 -4.6**
MOS Moscow 46.10 312 *α iP* **P 22 02 30.6 +0.4**
MOS *e* 22 04 05.0
MOS *e* 22 04 20.1
MOS *ePPP* PPP 22 05 04.9 +2.5
MOS *eS* **S 22 09 15.8 +1.0**
MOS *e* 22 12 23.5
MOS pmax pmax
comp=Z,800nm,1.4s
MOS pmax pmax
comp=Z,454nm,0.9s
MOS MLR MLR
comp=N,2μm,15.7s
MOS MLR MLR
comp=E,2μm,15.7s
MOS MLR MLR
comp=Z,3μm,15.7s
GOF Gofitskoye 46.25 296⇑ *iP* **P 22 02 30.7 -0.9**
GOF pmax pmax
comp=Z,300nm,1.7s,mb6.0
VOR Voronezh 46.36 306 *eP* **P 22 02 32.5 +0.1**
VOR *e* 22 04 23.0
VOR pmax pmax
comp=E,190nm,1.4s
VOR pmax pmax
comp=Z,200nm,1.4s,mb5.8
TBLG Delisi 46.42 291 P **P 22 02 34.7 +1.7**
ZEI Tsey 46.56 293 *eP* **P 22 02 32.0 -2.1**
ZEI *i* *PP pP 22 02 37.2 -0.9
ZEI pmax pmax
comp=Z,62nm,1.2s,mb5.4
OBN Obninsk 46.85 311 *c iP* **P 22 02 35.9 -0.3**
OBN *i* 22 04 08.9
OBN *i* 22 04 27.2
OBN *eS* **S 22 09 27.7 +2.2**
OBN pmax pmax
comp=Z,255nm,1.6s,mb5.9
OBN MLR MLR
comp=Z,2μm,19.0s,MS5.0
OBN Obninsk 46.85 311⇑ *iP* **P 22 02 35.9 -0.3**
comp=Z,121nm,0.9s,mb5.8
OBN LR LR
comp=Z,210nm,19.0s,MS4.1
KIV Kislovodsk 46.90 295 *eP* **P 22 02 37.5 +0.7**
KIV S **S 22 09 38.2 +12**
KIV pmax pmax
comp=Z,238nm,1.1s,mb6.0
KIV MLR MLR
comp=Z,263nm,20.0s,MS4.2
KIV Kislovodsk 46.90 295 *eP* **P 22 02 37.5 +0.7**
comp=Z,238nm,1.1s,mb6.0
KIV S **S 22 09 38.2 +12**
KIV LR LR
comp=Z,263nm,20.0s,MS4.2
ONI Oni 46.94 293 P **P 22 02 38.7 +1.6**
GNI Garni 47.08 289 *c iP* **P 22 02 40.0 +1.8**
GNI pmax pmax
comp=Z,147nm,1.7s
GNI MLR MLR
comp=Z,700nm,22.0s
GNI Garni 47.08 289 P **P 22 02 40.5 +2.3**
comp=Z,19nm,0.6s,mb5.2,baz=307,slow=2.6,SNR=25
GNI LR LR 22 23 45.6
comp=Z,574nm,21.4s,MS4.5,baz=232,slow=38
GNI Garni 47.08 289 *eP* **P 22 02 39.9 +1.7**
comp=Z,12nm,0.8s,mb4.9
GNI LR LR
comp=Z,677nm,22.0s,MS4.6
KEV Kevo 47.68 332 *ep* **P 22 02 42.1 -0.5**
comp=Z,41nm,0.7s,mb5.6
KEV Kevo 47.68 332⇑ *iP* **P 22 02 42.8 +0.2**
KEV pmax pmax
comp=Z,94nm,1.2s,mb5.7
KEV MLR MLR
comp=Z,277nm,22.0s,MS4.2
KEV Kevo 47.68 332⇑ *iP* **P 22 02 42.8 +0.2**
comp=Z,94nm,1.2s,mb5.7
KEV LR LR
comp=Z,277nm,22.0s,MS4.2
ARCES ARCESS Array B 48.24 332 P **P 22 02 47.1 +0.1**
comp=Z,29nm,0.8s,baz=72,slow=8.6,SNR=69
ARCES PcP PcP 22 04 13.4 -1.0
comp=Z,13nm,0.8s,baz=34,slow=4.4,SNR=4.6
ARCES LR LR 22 27 03.2
comp=Z,70nm,18.4s,baz=51,slow=41
ARE0 ARCESS Array S 48.24 332 *eP* **P 22 02 46.9 0.0**
PUL Pulkovo 48.74 319⇑ *iP* **P 22 02 51.5 +0.6**
HAKT HAKKARI 48.97 287 *i* P **P 22 02 53.2 +0.3**
SOC Sochi 49.02 296 *c iP* **P 22 02 52.6 -0.7**
SOC *e* 22 04 42.7
SOC *ePPP* PPP 22 05 33.7 -6.8
SOC *i* S **S 22 09 57.4 +1.1**
SOC *e* 22 12 35.4
SOC *i* SS SS 22 13 25.6 +2.5
SOC *eSSS* SSS 22 14 47.0 +2.0
SOC pmax pmax
comp=N,39nm,1.7s
SOC pmax pmax
comp=Z,124nm,1.7s,mb5.7
SOC pmax pmax
comp=E,38nm,1.3s
SOC MLR MLR
comp=N,745nm,14.0s,MS5.0

SOC MLR MLR
comp=E,648nm,14.0s,MS5.0
SOC MLR MLR
comp=Z,1μm,14.0s,MS5.0
TNA Tin City 49.06 33⇑ *iP* **P 22 02 53.6 +0.3**
comp=Z,106nm,1.2s,mb5.8
TNA LR LR
comp=Z,910nm,22.0s,MS4.7
KTK1 Kautokeino 49.15 332⇑ *iP* **P 22 02 55.1 +1.2**
comp=Z,184nm,1.4s,mb5.9
KTK1 Kautokeino 49.15 332⇑ *iP* **P 22 02 55.1 +1.2**
KTK1 AMb AMB 22 02 59.0
comp=Z,184nm,1.4s,mb5.9
HSP Hornsund 49.26 343 *eP* **P 22 02 54.9 +0.1**
KBS Kingsbay 49.46 345 PFAKE 22 03 10.0 +14
KBS LR LR
comp=Z,388nm,20.0s,MS4.4
ERZM Erzurum 49.51 291 *i* P **P 22 02 59.3 +2.1**
KAF Kangasniemi 49.89 322 *ep* **P 22 02 59.0 -0.8**
comp=Z,110nm,0.8s,mb5.9,baz=71,slow=7.2
ANN Anapa 50.00 298 *eP* **P 22 03 00.6 -0.2**
ANN *e* 22 04 58.4
ANN *eS* **S 22 10 10.9 +1.0**
ANN pmax pmax
comp=Z,197nm,1.3s,mb6.0
ANN MLR MLR
comp=N,2μm,14.0s,MS5.3
ANN MLR MLR
comp=E,765nm,14.0s,MS5.3
ANN MLR MLR
comp=Z,1μm,14.0s,MS5.1
BNGL BINGOL 50.10 290 *i* P **P 22 03 06.2 +4.6**
FINES FINESS Array B 50.21 322 P **P 22 03 02.2 +0.1**
comp=Z,118nm,0.7s,mb6.0,baz=104,slow=7.9,SNR=332
FINES LR LR 22 25 19.0
comp=Z,347nm,18.4s,MS4.4,baz=252,slow=37
KBD Kabd 50.38 275 *i* P **P 22 03 03.9 0.0**
KBD AMb AMB 22 03 05.2
comp=Z,536nm,0.6s
TRO Tromso 50.44 333 *eP* **P 22 03 03.0 -0.9**
QRN Al-Qurain 50.45 275 *eP* **P 22 03 04.4 -0.1**
QRN AMb AMB 22 03 05.9
comp=Z,257nm,0.8s,mb6.3
BEST Besiri 50.52 288 *i* P **P 22 03 05.7 +0.9**
RDF Al-Radifah 50.62 275 *eP* **P 22 03 05.8 0.0**
RDF AMb AMB 22 03 07.0
comp=Z,402nm,0.9s,mb6.3
NAY Al-Naaiem 50.66 276 *eP* **P 22 03 05.9 -0.2**
NAY AMb AMB 22 03 08.5
comp=Z,123nm,1.1s,mb5.7
VSU Vasula 50.91 318 *c iP* **P 22 03 07.4 -0.1**
VSU Vasula 50.91 318⇑ *iP* **P 22 03 07.5 0.0**
MARD Mardin 51.13 288 *i* P **P 22 03 09.6 +0.1**
ELZG Elazig 51.81 290 *i* P **P 22 03 16.4 +1.8**
SIM Simferopol' 52.07 300 *c iP* **P 22 03 16.3 -0.2**
SIM *e* 22 05 11.0
SIM *ePPP* PPP 22 06 20.0 +0.9
SIM *eS* **S 22 10 33.0 -5.4**
SIM *ePS* PS 22 10 51.0 +1.4
SIM pmax pmax
comp=Z,47nm,1.1s,mb5.3
SIM MLR MLR
comp=Z,730nm,16.5s,MS4.8
IDID Didziasalis 52.08 314 *i* P **P 22 03 16.8 +0.3**
IDID AMb AMB 22 03 18.5
comp=Z,73nm,1.0s,mb5.6
IDID *ePP* PP 22 05 14.7 -0.8
IZAR Zarasai 52.17 315 *i* P **P 22 03 17.4 +0.2**
IZAR AMb AMB 22 03 18.5
comp=Z,52nm,0.7s,mb5.6
MALT Malatya 52.28 290⇑ *iP* **P 22 03 19.9 +1.7**
ISAL Salakas 52.30 315 *i* P **P 22 03 18.4 +0.3**
ISAL AMb AMB 22 03 20.2
comp=Z,61nm,1.1s,mb5.4
IIGN Ignalina 52.34 314 *eP* **P 22 03 18.9 +0.5**
AKASG Malin Array Be 52.57 308 P **P 22 03 19.6 -0.6**
comp=Z,64nm,0.8s,mb5.6,baz=52,slow=7.7,SNR=247
AKASG PcP PcP 22 04 29.3 -1.2
comp=Z,12nm,0.7s,baz=53,slow=4.4,SNR=6.9
SVST Sivas 52.58 293 *i* P **P 22 03 21.4 +1.0**
LOF Lofoten 52.80 332 *eP* **P 22 03 23.8 +2.1**
BOYT Boyabat 53.17 295 *i* P **P 22 03 22.8 -2.0**
MELSS Ber_school_2 53.26 331 *eP* **P 22 03 24.9 -0.2**
MOR8 Moi Rana 53.28 330⇑ *iP* **P 22 03 23.5 -1.8**
comp=Z,101nm,1.1s,mb5.7
MOR8 Moi Rana 53.28 330⇑ *iP* **P 22 03 23.5 -1.8**
MOR8 AMb AMB 22 03 25.7
comp=Z,101nm,1.1s,mb5.7
GZT Gaziantep 53.34 290 *i* P **P 22 03 26.6 +0.5**
CTKT Corum 53.63 295 *i* P **P 22 03 28.6 +0.4**
UNV Unalaska Valle 53.88 47 *eP* **P 22 03 28.4 -1.4**
comp=Z,65nm,1.0s,mb5.5
UNV LR LR
comp=Z,2μm,19.0s,MS5.1
BALT Daday 54.12 296 *i* P **P 22 03 32.4 +0.7**
IMA Indian Mountai 54.35 30 P **P 22 03 22.4 -11**
IMA Indian Mountai 54.35 30 *eP* **P 22 03 33.1 0.0**
CDAG Cicekdag 54.39 294 *i* P **P 22 03 33.1 -0.7**
KIS Kishinev 54.44 304 *α iP* **P 22 03 32.0 -2.0**
KIS *e* 22 05 32.0
KIS *eS* **S 22 11 08.0 -2.6**
KIS pmax pmax
comp=Z,200nm,1.0s,mb6.0
KIS MLR MLR
comp=Z,2μm,12.0s,MS5.4
KIS MLR MLR
comp=N,1μm,10.0s,MS5.5
KIS MLR MLR
comp=E,2μm,10.0s,MS5.5
KIS MLR MLR
comp=Z,2μm,12.0s
AVNT Avonos 54.49 293 *i* P **P 22 03 33.5 -1.0**
SUW Suwalki 54.50 314⇑ *eP* **P 22 03 33.8 -0.6**
SUW *e* 22 04 37.0
SUW Suwalki 54.50 314⇑ *eP* **P 22 03 33.8 -0.6**
SUW *epP* pP 22 03 35.4 -3.0
SUW *ePcP* PcP 22 04 37.0 -0.7
SUW Suwalki 54.50 314⇑ *eP* **P 22 03 33.8 -0.5**
comp=Z,400nm,1.7s,mb6.2
SUW *epP* pP 22 03 35.4 -3.0
SUW *ePcP* PcP 22 04 37.0 -0.7
SUW MLR MLR 22 27 37.4
comp=Z,2μm,14.4s,MS5.3
ELDT Eldivan 54.60 295 *i* P **P 22 03 35.0 -0.3**
COBT Iskenderun 54.67 289 *i* P **P 22 03 35.6 -0.3**
BR131 Keskin Array S 54.83 294 *eP* **P 22 03 37.1 +0.1**
comp=Z,19nm,0.8s,mb5.2
BR131 *ePP* PP 22 05 40.8 -0.7
BR131 LR LR
comp=Z,401nm,19.0s,MS4.5
BRTR Keskin Array B 54.83 294 P **P 22 03 37.3 +0.3**
comp=Z,22nm,0.8s,mb5.2,baz=79,slow=5.9,SNR=144
BRTR PcP PcP 22 04 39.1 -0.1
comp=Z,7.9nm,0.7s,baz=76,slow=4.3,SNR=3.7
BRTR PP PP 22 05 41.7 +0.2
comp=Z,8.3nm,0.8s,baz=79,slow=8.2,SNR=3.9
TTA Tatalina 54.86 34 *eP* **P 22 03 39.2 +2.3**
NSS Namsos 54.93 328 *eP* **P 22 03 35.9 -1.6**
comp=Z,131nm,1.0s,mb5.9
NSS Namsos 54.93 328 *eP* **P 22 03 35.9 -1.6**
NSS AMb AMB 22 03 37.6
comp=Z,131nm,1.0s,mb5.9
TLCR 55.29 302⇑ *iP* **P 22 03 40.2 -0.1**
TLCR 55.29 302⇑ *iP* **P 22 03 40.2 -0.1**
ANTO Ankara 55.33 295 P **P 22 03 41.3 +0.7**
SGKT Sivrigoynuk 55.46 296 *i* P **P 22 03 41.0 -0.6**
CFR Carcaliu 55.72 302⇓ *iP* **P 22 03 43.3 -0.1**
SVW2 Sprevohn 55.89 36 *eP* **P 22 03 44.2 -0.1**
TIRR Tirgusor 55.90 301⇑ *iP* **P 22 03 44.3 -0.4**
TIRR Tirgusor 55.90 301⇑ *iP* **P 22 03 44.3 -0.4**
LVV L'vov 55.95 309 *eP* **P 22 03 44.9 -0.1**
LVV *e* 22 05 48.2
LVV *eS* **S 22 11 27.6 -3.1**
LVV *eSS* SS 22 15 17.6 +0.8
LVV MLR MLR
comp=Z,300nm,10.0s,MS4.7
LVV MLR MLR
comp=N,400nm,9.0s
LVV MLR MLR
comp=E,300nm,9.0s
DAG Danmarks Havn 56.03 347⇓ *iP* **P 22 03 44.0 -1.2**
DAG pmax pmax
comp=Z,26nm,0.5s,mb5.5
DAG Danmarks Havn 56.03 347⇓ *iP* **P 22 03 44.0 -1.2**

comp=Z,26nm,0.5s,mb5.5
MEST Erdemli 56.09 291 *i* P **P 22 03 45.7 -0.4**
VRI Vrincioaia 56.25 304⇓ *iP* **P 22 03 47.8 +0.6**
BURAR Bucovina Array 56.31 306⇑ *iP* **P 22 03 47.5 -0.1**
BURAR Bucovina Array 56.31 306⇑ *iP* **P 22 03 47.5 -0.1**
PSN Preselentsi 56.42 301 *i* P **P 22 03 49.3 +0.9**
BHL Bhannes 56.46 287 *eP* **P 22 03 48.6 -0.3**
WAR Warsaw 56.47 313 *eP* **P 22 03 48.8 +0.1**
WAR pmax pmax
comp=Z,1.0nm,1.5s
WAR MLR MLR
comp=Z,1μm,17.2s
WAR Warsaw 56.47 313 *eP* **P 22 03 48.8 +0.1**
comp=Z,0.6nm,1.5s
WAR *epP* pP 22 03 51.3 -1.4
WAR LR LR
comp=Z,1μm,17.2s
WAR Warsaw 56.47 313 *eP* **P 22 03 48.8 +0.2**
comp=Z,600nm,1.5s,mb6.4
WAR *epP* pP 22 03 51.3 -1.4
WAR MLR MLR 22 28 55.4
comp=Z,1μm,17.2s,MS5.0
ASF Jabal al Asfar 56.52 285 P **P 22 03 50.1 +0.7**
comp=Z,51nm,1.0s,mb5.5,baz=303,slow=1.6,SNR=53
QURS Qurayyt al Mil 56.65 284 P **P 22 03 50.9 +0.6**
KWP Kalwaria 56.79 309⇑ *eP* **P 22 03 51.3 +0.3**
KWP *ePcP* PcP 22 04 45.7 -1.0
KWP *eS* **S 22 11 49.5 +7.6**
KWP Kalwaria 56.79 309⇑ *eP* **P 22 03 51.3 +0.3**
comp=Z,300nm,0.9s,mb6.3
KWP *ePcP* PcP 22 04 45.7 -1.0
KWP *eS* **S 22 11 49.5 +7.6**
KWP MLR MLR 22 25 24.2
comp=Z,1μm,19.0s,MS4.9
ESKT Eskisehir 56.80 295 *i* P **P 22 03 50.2 -1.0**
AFFS 'Afif 56.82 273 P **P 22 03 51.2 -0.4**
KSDI Kefar Szold 56.84 286 P **P 22 03 51.7 +0.1**
KSHT Keshet 56.85 286 P **P 22 03 51.9 +0.2**
ERMK Ermenek 56.90 291 *i* P **P 22 03 52.0 0.0**
NB2 NORSAR Subarra 56.91 325 P **P 22 03 50.9 -0.8**
comp=Z,114nm,1.0s,mb5.9,baz=60,slow=7.0
NB2 NORSAR Subarra 56.91 325 P **P 22 03 50.9 -0.8**
NB2 pmax pmax
comp=Z,114nm,1.0s,mb5.9
NB2 NORSAR Subarra 56.91 325 P **P 22 03 50.9 -0.8**
baz=60,slow=6.9
NOA NORSAR Array B 56.91 325 P **P 22 03 50.8 -1.0**
comp=Z,53nm,0.9s,mb5.6,baz=58,slow=6.6,SNR=94
NOA PcP PcP 22 04 45.4 -1.6
comp=Z,8.8nm,0.8s,baz=63,slow=4.3,SNR=3.7
NOA LR LR 22 29 11.6
comp=Z,362nm,18.1s,MS4.5,baz=60,slow=37
NOA NORSAR Array B 56.91 325 P **P 22 03 50.8 -0.9**
NOA PcP PcP 22 04 45.4 -1.6
NOA LR LR 22 29 11.6
MLR Muntele Rosu 56.91 304⇓ *iP* **P 22 03 52.0 0.0**
NAO01 NORSAR Array S 57.15 325 *eP* **P 22 03 52.0 -1.5**
comp=Z,87nm,1.0s,mb5.7
PRD Provadia 57.16 301 *i* P **P 22 03 54.5 +0.8**
HNTI Hanita 57.24 287 P **P 22 03 54.4 -0.1**
MCK McKinley 57.25 31 *eP* **P 22 03 53.3 -0.8**
MCK *e* 22 05 57.8
MCK pmax pmax
comp=Z,26nm,1.0s,mb5.2
MCK MLR MLR
comp=Z,225nm,21.0s,MS4.2
MCK McKinley 57.25 31 *eP* **P 22 03 53.3 -0.8**
comp=Z,26nm,1.0s,mb5.2
MCK *ePP* PP 22 05 57.8 -5.2
MCK LR LR
comp=Z,225nm,21.0s,MS4.2
SPU Mount Spurr 57.34 35 *eP* **P 22 03 54.5 -0.2**
SPU *ePcP* PcP 22 04 47.7 -1.0
KOLS Kolonicke sedl 57.38 309 *i* P **P 22 03 54.8 -0.4**
MMLI Mount Malkishu 57.42 286 P **P 22 03 55.9 +0.1**
BUC1 Bucharest 57.44 302 P **P 22 03 56.2 +0.5**
ILAR Eielson Array 57.46 30 P **P 22 03 54.8 -0.8**
comp=Z,24nm,0.8s,mb5.3,baz=290,slow=6.7,SNR=210
ILAR LR LR 22 30 55.7
comp=Z,1μm,18.1s,MS5.0,baz=316,slow=38
ILAR PKPPKP 22 33 44.5
comp=Z,0.9nm,1.0s,baz=124,slow=2.0,SNR=5.2
OFRI 'Ofer 57.63 286 P **P 22 03 57.0 -0.2**
STHS Stebnicka Huta 57.73 309 *i* P **P 22 03 57.5 -0.1**
MKRJ Makawir 57.76 285 P **P 22 03 58.3 +0.2**
SLTI Sal'it 57.80 286 P **P 22 03 58.3 -0.1**
CRVS Cervenica-Dubn 57.86 309 *i* P **P 22 03 58.1 -0.5**
ISP Isparta 57.90 294 *eP* **P 22 03 58.5 -0.5**
ISP pmax pmax
comp=Z,26nm,0.8s,mb5.3
ISP Isparta 57.90 294 *eP* **P 22 03 58.5 -0.5**
comp=Z,26nm,0.8s,mb5.3
TKTP Tekketepe 57.92 294 *i* P **P 22 03 58.0 -1.2**
GKP Gorka Klasztor 57.97 315⇑ *eP* **P 22 03 59.3 0.0**
GKP MLR MLR
comp=Z,3μm,14.3s,MS5.5
GKP Gorka Klasztor 57.97 315⇑ *eP* **P 22 03 59.3 0.0**
comp=Z,0.1nm,0.9s
GKP *epP* pP 22 04 00.5 -2.8
GKP LR LR
comp=Z,3μm,14.3s
GKP Gorka Klasztor 57.97 315⇑ *eP* **P 22 03 59.3 0.0**
comp=Z,100nm,0.9s,mb5.8
GKP *epP* pP 22 04 00.5 -2.8
GKP MLR MLR 22 30 12.3
comp=Z,3μm,14.3s,MS5.5
SZH Strazhica 58.05 301 *eP* **P 22 04 00.4 +0.5**
JMB Yambol 58.05 300 *i* P **P 22 04 00.5 +0.6**
MZDA Masada 58.09 285 P **P 22 04 00.5 +0.1**
FIB Fire Island 58.12 34 P **P 22 03 58.4 -1.8**
FIB MLR MLR
comp=Z,1μm,21.0s,MS5.0
OJC Ojcow 58.13 311⇑ *iP* **P 22 04 00.4 0.0**
DRGR 58.20 306⇑ *iP* **P 22 04 01.4 +0.4**
NIE Niedzica 58.25 310⇑ *iP* **P 22 04 01.7 +0.4**
KONO Kongsberg 58.32 324 PFAKE 22 04 10.0 +8.4
KONO LR LR
comp=Z,490nm,20.0s,MS4.6
PMR Palmer 58.32 33 *eP* **P 22 04 00.3 -1.3**
PMR *e* pP 22 04 05.2 -0.4
PMR MLR MLR
comp=Z,1μm,19.0s,MS5.0
MUKL Al Mukalla 58.37 260⇑ *eP* **P 22 04 02.4 -0.1**
KBRS Khaybar 58.45 277 P **P 22 04 03.3 +0.3**
SLKM Skilak Lake 58.45 35 P **P 22 04 01.7 -0.8**
SLKM Skilak Lake 58.45 35 *eP* **P 22 04 01.1 -1.4**
SML Sawmill 58.52 33 *eP* **P 22 04 02.4 -0.6**
BTOK Tokmak 58.53 297 *i* P **P 22 04 02.7 -0.6**
KECS Kecovo 58.63 309 *i* P **P 22 04 04.1 +0.1**
KECS *e* 22 04 53.6
ZFRI Zfri 58.65 284 P **P 22 04 04.3 0.0**
PRNI Paran 58.88 284 P **P 22 04 06.1 +0.1**
DIM Dimitrovgrad 58.93 300 *eP* **P 22 04 06.5 +0.4**
DNZL Cakiroluk 58.96 294 *i* P **P 22 04 05.7 -0.7**
TBKS Tabuk 58.99 281 P **P 22 04 07.1 +0.3**
KZIT Kziot 59.00 285 P **P 22 04 06.3 -0.5**
RAC Raciborz 59.09 311 *eP* **P 22 04 07.3 +0.2**
RAC MLR MLR 22 30 14.1
comp=Z,2μm,15.4s,MS5.2
COP Copenhagen 59.12 319 *eP* **P 22 04 06.3 -1.0**
COP pmax pmax
comp=Z,53nm,0.9s,mb5.6
COP Copenhagen 59.12 319 *eP* **P 22 04 06.3 -1.0**
comp=Z,53nm,0.9s,mb5.6
COP Copenhagen 59.12 319 *i* P **P 22 04 06.3 -1.0**
comp=Z,53nm,0.9s,mb5.6
TATS Tathlith 59.16 269 P **P 22 04 07.6 -0.4**
AQBJ Aqaba 59.20 283 P **P 22 04 08.0 -0.2**
KDZ Kurdzhali 59.22 300 *i* P **P 22 04 09.8 +1.7**
OKC Ostrava-Krasne 59.24 311⇑ *iP* **P 22 04 08.0 -0.2**
OKC AMS AMS 22 30 10.0
comp=Z,1μm,12.8s
MBH Mount Berech 59.26 283 P **P 22 04 08.5 -0.1**
PSZ Piszkesteto 59.26 309⇑ *eP* **P 22 04 08.5 +0.1**
PSZ Piszkesteto 59.26 309⇑ *iP* **P 22 04 08.5 +0.1**
EIL Elat 59.31 283 P **P 22 04 09.0 +0.1**
EIL Elat 59.31 283 *eP* **P 22 04 08.8 -0.2**
comp=Z,91nm,1.3s,mb5.7
ALWS Ilw as Safayha 59.43 283 P **P 22 04 09.9 +0.1**
JMOS Jabal al Moall 59.48 283 P **P 22 04 10.2 +0.1**
KAKA Kakadu 59.50 153⇑ *iP* **P 22 04 09.5 -0.9**
comp=Z,23nm,0.8s,mb5.2
PGB Panagyurishte 59.53 301 *i* P **P 22 04 11.0 +0.7**
VYHS Vyhne 59.56 310 *i* P **P 22 04 10.6 +0.2**

MORC Moravsky Berou 59.61 311 *e*P **P 22 04 10.7 0.0**
MORC pmax pmax
comp=Z,64nm,0.9s,mb5.7
MORC Moravsky Berou 59.61 311 *e*P **P 22 04 10.7 0.0**
comp=Z,64nm,0.9s,mb5.7
INK Inuvik 59.63 22 P **P 22 04 10.3 -0.3**
INK pmax pmax
comp=Z,31nm,0.7s
INK MLR MLR
comp=Z,697nm,18.0s
INK Inuvik 59.63 22 P **P 22 04 10.3 -0.3**
comp=Z,31nm,0.7s,mb5.4,baz=316,slow=8.7,SNR=38
INK LR LR 22 30 29.1
comp=Z,697nm,18.0s,MS4.8,baz=199,slow=37
INK Inuvik 59.63 22 *e*P **P 22 04 10.0 -0.6**
comp=Z,36nm,0.8s,mb5.5
RZN Rozhen 59.64 300 *i* P **P 22 04 11.8 +0.8**
HAQS Haql 59.68 283 P **P 22 04 11.5 0.0**
KSP Ksiaz 59.73 313⇓*e*P **P 22 04 11.3 -0.2**
KSP *e*PcP PcP 22 04 57.5 -0.7
KSP *e*S **S 22 12 19.0 -1.2**
KSP LR LR
comp=Z,5μm,14.9s,MS5.8
KSP Ksiaz 59.73 313⇑*e*P **P 22 04 11.4 -0.1**
comp=Z,300nm,1.7s,mb6.0
KSP *e*PcP PcP 22 04 57.8 -0.4
KSP MLR MLR 22 31 10.1
comp=Z,3μm,16.4s,MS5.5
KOLL Kolacno 59.77 310 *i* P **P 22 04 12.4 +0.6**
PKSN Nyarlorinc 59.82 308 *e*P **P 22 04 12.6 +0.4**
BDAS Al Bad' 59.91 282 P **P 22 04 12.8 -0.3**
DIV Divide 59.92 33 *e*P **P 22 04 12.3 -0.3**
comp=Z,317nm,1.3s,mb6.2
DIV LR LR
comp=Z,2μm,21.0s,MS5.3
DPC Dobruska-Polom 59.97 312⇑*i*P **P 22 04 13.6 +0.4**
DPC AMS AMS 22 31 10.0
comp=Z,1μm,16.0s
TAYS Tayyib Ism 60.01 282 P **P 22 04 13.5 -0.3**
UPC Upice 60.06 313⇑*i*P **P 22 04 13.8 0.0**
VTS Vitosha 60.10 302 *i* P **P 22 04 14.5 +0.3**
VTS Vitosha 60.10 302 P **P 22 04 14.6 +0.4**
UMJS Umm Lajj 60.19 278 P **P 22 04 15.3 +0.3**
BOLS Boljevac 60.21 304⇑*i*P **P 22 04 14.1 -0.8**
YNBS Yanbu' al Bahr 60.23 277 P **P 22 04 15.5 +0.1**
MUD Monsted U'grnd 60.24 321⇑*i*P **P 22 04 14.9 -0.1**
comp=Z,98nm,0.9s,mb5.8
comp=Z,650nm,18.0s
DJNS Zahran al Janu 60.27 267 P **P 22 04 16.1 +0.4**
EYAK Cordova Ski Ar 60.27 33 *e*P **P 22 04 15.0 -0.1**
MMB Musomiste 60.32 301 *i* P **P 22 04 16.8 +1.1**
BLJS Baljurashi 60.32 270 P **P 22 04 16.2 +0.2**
VRAC Vranov 60.38 311⇑P **P 22 04 16.6 +0.6**
VRAC Vranov 60.38 311 P **P 22 04 16.3 +0.3**
PKS8 Sarbogard 60.52 308⇑*e*P **P 22 04 16.5 -0.5**
KKB Krupnik 60.57 301 *i* P **P 22 04 17.6 +0.2**
MID Middleton Isla 60.68 35 *e*P **P 22 04 18.3 +0.4**
ZST Bratislava 60.70 310 *i* P **P 22 04 18.6 +0.4**
ZST *e* 22 06 42.5
PVCC Panska Ves 60.82 313⇑*i*P **P 22 04 19.2 +0.2**
PVCC AMS AMS 22 31 50.0
comp=Z,2μm,13.1s
OUR Ouranopolis 60.84 299 *e*P **P 22 04 18.7 -0.5**
PKSM Moragy 60.90 307⇑P **P 22 04 18.8 -0.8**
PKS9 Tamasi 60.91 308⇑*e*P **P 22 04 19.0 -0.6**
GRUS Gruza 60.93 304⇑*i*P **P 22 04 19.3 -0.5**
LTHS Al Lith 60.95 271 P **P 22 04 20.3 +0.1**
BRG Berggiesshubel 60.96 314⇑*i*P **P 22 04 19.9 0.0**
BRG S **S 22 12 45.0 +8.9**
BRG pmax pmax
comp=Z,71nm,0.9s,mb5.8
BRG MLR MLR
comp=Z,2μm,12.8s,MS5.4
BRG Berggiesshubel 60.96 314⇑*i*P **P 22 04 19.9 0.0**
comp=Z,70nm,0.9s,mb5.8
BRG S **S 22 12 45.0 +8.9**
BRG SS SS 22 17 01.0 +24
BRG LR LR
comp=Z,2μm,12.8s,MS5.4
SOH Sokhos 60.97 300 *e*P **P 22 04 18.8 -1.4**
BSEG Bad Segeberg 61.11 318 *e*P **P 22 04 21.1 +0.2**
PRU Pruhonice 61.13 313⇑*i*P **P 22 04 21.0 -0.1**
PRU LR LR
comp=Z,2μm,15.0s,MS5.3
PRU Pruhonice 61.13 313⇑*i*P **P 22 04 21.0 -0.1**
PRU AMS AMS 22 31 50.0
comp=Z,2μm,15.0s
VAY Valandovo 61.19 301⇑*i*P **P 22 04 21.6 0.0**
CLL Collm 61.22 315⇑*i*P **P 22 04 21.1 -0.6**
CLL *e*S **S 22 12 39.0 -0.3**
CLL pmax pmax
comp=Z,64nm,0.9s,mb5.8
CLL Collm 61.22 315⇑*i*P **P 22 04 21.1 -0.6**
comp=Z,64nm,0.9s,mb5.8
CLL *e*S **S 22 12 39.0 -0.3**
CLL Collm 61.22 315 ⇑P **P 22 04 21.1 -0.6**
comp=Z,logA/T=1.9,mb5.8
CLL *i* PP PP 22 06 36.8 -1.9
CLL *e* 22 07 14.0
CLL *e*PPP PPP 22 08 07.0 0.0
CLL *e*S **S 22 12 39.0 -0.3**
CLL *e*SS SS 22 16 42.0 +0.9
DIVS Divcibare 61.26 305⇓*i*P **P 22 04 21.1 -0.9**
PAIG Paliouri 61.26 299 *e*P **P 22 04 21.0 -1.1**
SOP Sopron 61.29 310⇓*e*P **P 22 04 23.0 +0.8**
GRG Griva 61.50 301 *e*P **P 22 04 23.3 -0.5**
SKO Skopje 61.54 302 *i* P **P 22 04 24.2 +0.2**
DHBB Dhamar BB 61.67 264⇑*e*P **P 22 04 26.0 +0.7**
XOR Xorichti 61.88 299 *e*P **P 22 04 25.0 -1.3**
LIT Litokhoron 61.92 300 *e*P **P 22 04 25.2 -1.4**
IVA Berane 61.99 304⇑*i*P **P 22 04 26.9 -0.2**
PLE Pljevlja 62.04 304⇑*i*P **P 22 04 27.5 +0.1**
PVY Plav 62.10 303 *e*P **P 22 04 26.8 -1.0**
NKC Novy Kostel 62.11 314⇑*i*P **P 22 04 27.5 -0.2**
NKC AMS AMS 22 32 20.0
comp=Z,2μm,14.5s
ARSA Arzberg 62.11 310⇑*i*P **P 22 04 27.5 -0.3**
comp=Z,22nm,0.9s,mb5.3
KHC Kasperske Hory 62.13 312⇑*i*P **P 22 04 27.7 -0.2**
KHC Kasperske Hory 62.13 312⇑*i*P **P 22 04 27.8 -0.1**
KHC LR LR
comp=Z,1μm,16.7s,MS5.2
KHC Kasperske Hory 62.13 312⇑*i*P **P 22 04 27.8 -0.1**
KHC pP pP 22 04 30.5 -1.5
KHC AMS AMS 22 32 30.0
comp=Z,1μm,16.7s
KOGS Kog 62.15 309 *e*P **P 22 04 26.9 -1.1**
GEC2 GERESS Array S 62.23 312 *e*P **P 22 04 28.3 -0.2**
GEC2 pmax pmax
comp=Z,40nm,1.2s,mb5.4
GEC2 GERESS Array S 62.23 312 *e*P **P 22 04 28.3 -0.2**
comp=Z,40nm,1.2s,mb5.4
GERES GERESS Array B 62.23 312 P **P 22 04 28.3 -0.2**
comp=Z,13nm,0.9s,mb5.1,baz=53,slow=6.7,SNR=69
GERES LR LR 22 33 04.9
comp=Z,894nm,20.0s,MS4.9,baz=240,slow=38
FNA Florina 62.24 301 *e*P **P 22 04 27.6 -1.1**
CLZ Clausthal 62.27 316 *e*P **P 22 04 29.1 +0.3**
CLZ pmax pmax
comp=Z,68nm,1.2s,mb5.7
CLZ Clausthal 62.27 316 *e*P **P 22 04 29.1 +0.3**
comp=Z,68nm,1.2s,mb5.7
MOX Moxa 62.31 315⇓*i*P **P 22 04 28.9 -0.2**
MOX pmax pmax
comp=Z,59nm,1.3s,mb5.6
MOX MLR MLR
comp=Z,600nm,19.0s,MS4.8
MOX Moxa 62.31 315⇓*i*P **P 22 04 28.9 -0.2**
comp=Z,59nm,1.3s,mb5.6
MOX LR LR
comp=Z,600nm,19.0s,MS4.8
MOX Moxa 62.31 315⇓*i*P **P 22 04 28.9 -0.2**
comp=Z,logA/T=1.7,mb5.6
MOX S **S 22 13 03.0 +10**
MOX SS SS 22 17 48.0 +49
MOX QM 22 28 36.0
MOX RM 22 29 50.0
UPM Unac-Piva 62.41 304⇑*i*P **P 22 04 28.6 -1.2**
SUMG Summit 62.45 349 *e*P **P 22 04 29.6 -0.1**
comp=Z,59nm,1.2s,mb5.6
MOA Molln 62.48 311⇑*i*P **P 22 04 30.5 +0.3**
comp=Z,42nm,1.4s,mb5.4
WET Wettzell 62.50 313 *e*P **P 22 04 30.4 +0.1**
WET pmax pmax
comp=Z,38nm,1.0s,mb5.5
WET Wettzell 62.50 313 *e*P **P 22 04 30.4 +0.1**
comp=Z,38nm,1.0s,mb5.5
NKY Niksic 62.57 304⇑*i*P **P 22 04 28.8 -2.1**
TTG Podgorica 62.63 304 *e*P **P 22 04 29.7 -1.6**
PERS Pernice 62.69 309 *e*P **P 22 04 31.2 -0.4**
PERS Pernice 62.69 309 *e*P **P 22 04 31.1 -0.5**
FITZ Fitzroy Crossi 62.75 162⇑*i*P **P 22 04 31.2 -1.2**
comp=Z,74nm,0.9s,mb5.8
FITZ Fitzroy Crossi 62.75 162 P **P 22 04 31.5 -0.8**
comp=Z,93nm,0.9s,mb5.9,baz=1.5,slow=7.8
BRY Bratogost 62.80 304⇑*i*P **P 22 04 31.1 -1.3**
ULC Ulcinj 62.90 303⇑*i*P **P 22 04 31.7 -1.3**
BUM Brajici-Budva 62.92 304⇑*i*P **P 22 04 31.9 -1.3**
GRA1 Grafenberg Arr 63.07 314 *e*P **P 22 04 34.5 +0.4**
comp=Z,136nm,1.0s,mb6.0
GRA1 *e*PP PP 22 06 50.6 -3.9
GRA1 *e*S **S 22 13 08.1 +5.3**
GRA1 LR LR
comp=Z,700nm,19.0s,MS4.8
GRF Grafenberg Arr 63.07 314 *e*P **P 22 04 34.5 +0.4**
GRF *e* 22 06 50.6
GRF *e*S **S 22 13 08.1 +5.3**
GRF pmax pmax
comp=Z,136nm,1.0s,mb6.0
GRF MLR MLR
comp=Z,700nm,19.0s,MS4.8
GRF Grafenberg Arr 63.07 314 *e*P **P 22 04 34.5 +0.4**
GRF *e* 22 06 50.6
GRF *e*S **S 22 13 08.1 +5.3**
GRF pmax pmax
comp=Z,136nm,1.0s,mb6.0
GRF MLR MLR
comp=Z,700nm,19.0s,MS4.8
GRF Grafenberg Arr 63.07 314 *e*P **P 22 04 34.5 +0.4**
comp=Z,136nm,1.0s,mb6.0
GRF *e*PP PP 22 06 50.6 -3.9
GRF *e*S **S 22 13 08.1 +5.3**
GRF LR LR
comp=Z,700nm,19.0s,MS4.8
HCY Herceg Novi 63.08 304⇑*i*P **P 22 04 33.3 -0.9**
OBKA Obir 63.08 309⇑*i*P **P 22 04 34.1 -0.1**
comp=Z,36nm,1.1s,mb5.4
BOJS Bojanci 63.26 308 *e*P **P 22 04 34.8 -0.6**
VISS Visnje 63.32 309 *e*P **P 22 04 34.8 -1.0**
LJU Ljubljana 63.36 309 *e*P **P 22 04 35.2 -0.8**
KBA Koelnbreinsper 63.43 310⇑*i*P **P 22 04 36.8 +0.3**
comp=Z,106nm,1.0s,mb5.9
KBA Koelnbreinsper 63.43 310⇑*i*P **P 22 04 36.8 +0.3**
KBA pmax pmax
comp=Z,106nm,1.0s,mb5.9
VOY Vojsko 63.73 309 *e*P **P 22 04 37.2 -1.2**
VOY *e* pP 22 04 41.5 -1.0
VOY *e* 22 04 49.2
VOY *e* 22 05 13.8
ROBS Robic 63.83 310 *e*P **P 22 04 37.5 -1.5**
FUR Furstenfeldbru 63.94 312 *e*P **P 22 04 40.0 +0.3**
FUR pmax pmax
comp=Z,72nm,1.0s,mb5.7
FUR Furstenfeldbru 63.94 312 *e*P **P 22 04 40.0 +0.3**
comp=Z,72nm,1.0s,mb5.7
WTSB Winterswijk 63.99 318 *e*P **P 22 04 39.6 -0.4**
comp=Z,56nm,1.5s,mb5.4
SIND Sindeldorf 64.12 314⇑*e*P **P 22 04 40.7 -0.2**
TNS Taunus Mts 64.20 315 *e*P **P 22 04 41.7 +0.3**
TNS pmax pmax
comp=Z,47nm,1.4s,mb5.3
TNS Taunus Mts 64.20 315 *e*P **P 22 04 41.7 +0.3**
comp=Z,47nm,1.4s,mb5.3
WATA Walderalm 64.26 312⇑*i*P **P 22 04 41.9 0.0**
comp=Z,50nm,1.0s,mb5.5
WATA Walderalm 64.26 312⇑*i*P **P 22 04 41.9 0.0**
WATA pmax pmax
comp=Z,50nm,1.0s,mb5.5
WTTA Wattenberg 64.27 311⇑*i*P **P 22 04 42.1 +0.2**
comp=Z,73nm,0.9s,mb5.7
WTTA Wattenberg 64.27 311⇑*i*P **P 22 04 42.1 +0.2**
WTTA pmax pmax
comp=Z,73nm,0.9s,mb5.7
TOD Tromm 64.39 315⇑*e*P **P 22 04 42.5 -0.2**
TOD Tromm 64.39 315⇑*e*P **P 22 04 42.7 0.0**
MOTA Moosalm 64.51 312⇑*i*P **P 22 04 43.5 0.0**
comp=Z,61nm,1.0s,mb5.6
MOTA Moosalm 64.51 312⇑*i*P **P 22 04 43.5 0.0**
MOTA pmax pmax
comp=Z,61nm,1.0s,mb5.6
SQTA Sankt Quirin 64.53 312⇑*i*P **P 22 04 43.6 0.0**
comp=Z,49nm,0.9s,mb5.5
SQTA Sankt Quirin 64.53 312⇑*i*P **P 22 04 43.6 0.0**
SQTA pmax pmax
comp=Z,49nm,0.9s,mb5.5
MBWA Marble Bar 64.65 169 *e*P **P 22 04 43.7 -1.1**
comp=Z,70nm,1.0s,mb5.7
STU Stuttgart 64.69 314 *e*P **P 22 04 44.4 -0.2**
STU pmax pmax
comp=Z,34nm,0.9s,mb5.4
STU Stuttgart 64.69 314 *e*P **P 22 04 44.4 -0.2**
comp=Z,34nm,0.9s,mb5.4
BUCH Bad Urach 64.80 313⇑*e*P **P 22 04 45.2 -0.1**
ATD Arta Tunnel 64.81 262 P **P 22 04 46.7 +0.8**
comp=Z,52nm,0.9s,mb5.6,baz=327,slow=7.9,SNR=14
ATD Arta Tunnel 64.81 262 P **P 22 04 46.7 +0.8**
UBR Uberruh 64.86 312 *e*P **P 22 04 45.6 -0.1**
ABH Alteburg 64.87 316⇑*e*P **P 22 04 45.8 0.0**
ABH Alteburg 64.87 316⇑*e*P **P 22 04 46.1 +0.3**
LBG Lerchenberg 64.96 314⇑*e*P **P 22 04 46.2 -0.2**
HGN Heimansgroeve 65.15 317 *e*P **P 22 04 46.8 -0.7**
comp=Z,59nm,2.0s,mb5.3
HGN *e*S S 22 13 24.4 -4.0
GUT Gutenstein 65.15 313⇑*e*P **P 22 04 47.1 -0.5**
DAVA Damuels 65.22 312⇑*i*P **P 22 04 48.0 0.0**
comp=Z,43nm,1.1s,mb5.4
RUP Ruppelstein 65.23 316⇑*e*P **P 22 04 48.4 +0.3**
RUP Ruppelstein 65.23 316⇑*e*P **P 22 04 48.2 +0.1**
LANF Langenberg 65.29 315⇑*e*P **P 22 04 48.0 -0.5**
SPAK Spaichingen 65.31 313 *e*P **P 22 04 48.4 -0.2**
BFO Black Forest 65.41 314 *e*P **P 22 04 48.8 -0.5**
BFO pmax pmax
comp=Z,22nm,0.9s,mb5.2
BFO Black Forest 65.41 314 *e*P **P 22 04 48.8 -0.5**
comp=Z,22nm,0.9s,mb5.2
KIZ Kirchzarten 65.86 314⇑*e*P **P 22 04 51.4 -0.7**
FELD Feldberg 65.86 314 *e*P **P 22 04 51.7 -0.5**
WLS Welschbruch 65.88 314⇑*e*P **P 22 04 52.1 -0.1**
CDF Champ du Feu 65.92 314 *e*P **P 22 04 52.2 -0.3**
comp=Z,118nm,1.3s,mb5.5
CDF Champ du Feu 65.92 314 *e*P **P 22 04 52.2 -0.3**
CDF pmax pmax
comp=Z,59nm,1.3s,mb5.5
CII Carovilli 66.04 305 *e*P **P 22 04 53.0 -0.4**
comp=Z,88nm,1.4s,mb5.6
TIP Timpagrande 66.06 302⇑*i*P **P 22 04 53.2 -0.4**
ECH Echery 66.10 314⇑*e*P **P 22 04 53.4 -0.3**
GIVF Givet 66.12 317 *e*P **P 22 04 53.4 -0.4**
AQU L'Aquila 66.19 306 *e*P **P 22 04 54.4 0.0**
AQU pmax pmax
comp=Z,57nm,1.2s,mb5.5
AQU L'Aquila 66.19 306 *e*P **P 22 04 54.4 +0.1**
comp=Z,57nm,1.2s,mb5.5
MOF Molkenrain 66.34 314⇑*e*P **P 22 04 54.9 -0.3**
BBS Basel-Blauen 66.38 313⇑*e*P **P 22 04 54.9 -0.6**
BBS Basel-Blauen 66.38 313 *e*P **P 22 04 54.9 -0.6**
ESK Eskdalemuir 66.43 325 *e*P **P 22 04 55.5 -0.2**
ESK pmax pmax
comp=Z,68nm,1.4s,mb5.5
ESK MLR MLR
comp=Z,134nm,21.0s,MS4.1
ESK Eskdalemuir 66.43 325 *e*P **P 22 04 55.5 -0.1**
comp=Z,68nm,1.4s,mb5.5
ESK LR LR
comp=Z,134nm,21.0s,MS4.1
BAIF Baives 66.45 317 *e*P **P 22 04 55.2 -0.7**
HINF Hinteralfeld 66.51 314 *e*P **P 22 04 55.7 -0.6**
comp=Z,52nm,1.0s,mb5.2
HINF Hinteralfeld 66.51 314 *e*P **P 22 04 55.7 -0.6**
HINF pmax pmax
comp=Z,26nm,1.0s,mb5.2
HAU Haudompre 66.66 314 *e*P **P 22 04 56.8 -0.4**
HAU *e*R
comp=Z,736nm,18.0s
SIT Sitka 66.67 32 *e*P **P 22 04 57.8 +0.7**
SIT pmax pmax
comp=Z,39nm,1.0s,mb5.4
SIT MLR MLR
comp=Z,1μm,20.0s,MS5.2
SIT Sitka 66.67 32 *e*P **P 22 04 57.8 +0.7**
comp=Z,39nm,1.0s,mb5.4
SIT LR LR
comp=Z,1μm,20.0s,MS5.2
THEF They Montfort 66.70 315⇑*e*P **P 22 04 57.3 -0.2**
VALM 66.80 310 P **P 22 04 57.9 -0.4**
LOMF Lomont 66.81 314⇑*e*P **P 22 04 57.0 -1.3**
GRAM 66.82 310 P **P 22 04 57.8 -0.5**
VLC Villacollemand 66.84 309 *e*P **P 22 04 58.8 +0.3**
comp=Z,55nm,1.0s,mb5.5
WRAB Tennant Creek 66.88 154 *e*P **P 22 04 57.5 -1.6**
WRAB pmax pmax
comp=Z,147nm,1.2s,mb5.9
WRAB Tennant Creek 66.88 154 *e*P **P 22 04 57.5 -1.7**
comp=Z,147nm,1.2s,mb5.9
WRA Warramunga Arr 66.88 154 P **P 22 04 57.9 -1.3**
comp=Z,42nm,1.0s,mb5.4,baz=348,slow=6.8,SNR=86
WRA PKPPKP 22 33 26.8
comp=Z,1.2nm,0.8s,baz=189,slow=2.8,SNR=4.9
WB2 Warramunga Arr 66.89 154⇑*i*P **P 22 04 57.8 -1.4**
MAIM 66.93 309 P **P 22 04 57.4 -1.6**
BACM 66.95 310 P **P 22 04 58.6 -0.5**
CODM 67.00 310 P **P 22 04 58.8 -0.7**
MEZF Maizieres J'vi 67.02 315 *e*P **P 22 04 59.3 -0.2**
comp=Z,105nm,1.4s,mb5.4
ORX Oropa 67.27 312 P **P 22 04 59.8 -1.4**
PCP Pian Castagno 67.64 310 P **P 22 05 02.1 -1.4**
DLBC Dease Lake 67.67 29 P **P 22 05 04.3 +0.9**
comp=Z,10nm,0.8s,mb4.9,baz=310,slow=6.0,SNR=25
DLBC Dease Lake 67.67 29 *e*P **P 22 05 03.9 +0.4**
CABF La Chapelle 67.67 313 *e*P **P 22 05 03.0 -0.7**
comp=Z,45nm,0.9s,mb5.2
CABF La Chapelle 67.67 313 *e*P **P 22 05 03.0 -0.7**
CABF pmax pmax
comp=Z,22nm,0.9s,mb5.2
LSD Ceresole Reale 67.83 312 P **P 22 05 04.9 +0.2**
RSP Reno Superiore 67.97 312 P **P 22 05 03.6 -2.0**
LPL La Plagne 68.02 312 *e*P **P 22 05 06.1 +0.2**
comp=Z,64nm,1.0s,mb5.3
LPL La Plagne 68.02 312 *e*P **P 22 05 06.1 +0.2**
LPL pmax pmax
comp=Z,32nm,1.0s,mb5.3
LPG La Plagne 68.02 312 *e*P **P 22 05 06.2 +0.3**
comp=Z,143nm,1.3s,mb5.5
LPG La Plagne 68.02 312 *e*P **P 22 05 06.2 +0.3**
LPG pmax pmax
comp=Z,72nm,1.3s,mb5.5
FIN Finale Ligure 68.04 310 P **P 22 05 04.0 -2.0**
FENE Fenestrelle 68.15 312 P **P 22 05 05.5 -1.2**
BHB Bricherasio 68.16 311 P **P 22 05 05.1 -1.7**
ROB Roburent 68.17 311 P **P 22 05 05.4 -1.5**
BNI Bardonecchia 68.35 312 *e*P **P 22 05 07.7 -0.2**
BNI pmax pmax
comp=Z,17nm,0.8s,mb5.1
BNI Bardonecchia 68.35 312 *e*P **P 22 05 07.7 -0.3**
comp=Z,17nm,0.8s,mb5.1
MONE Monesi 68.37 310 P **P 22 05 06.8 -1.3**
IMI Imperia 68.40 310 P **P 22 05 07.3 -1.0**
LOR Lormes 68.42 315 *e*P **P 22 05 07.3 -1.1**
comp=Z,40nm,0.9s,mb5.1
LOR *e*R
comp=Z,808nm,20.2s
LOR Lormes 68.42 315 *e*P **P 22 05 07.3 -1.1**
LOR pmax pmax
comp=Z,20nm,0.9s,mb5.2
LOR MLR MLR
comp=Z,810nm,20.3s,MS5.0
ENR Entracque 68.46 311 P **P 22 05 06.4 -2.3**
MBDF Montbardon 68.50 312 *e*P **P 22 05 08.1 -0.8**
comp=Z,47nm,0.8s,mb5.2
MBDF Montbardon 68.50 312 *e*P **P 22 05 08.1 -0.8**
MBDF pmax pmax
comp=Z,23nm,0.8s,mb5.2
STV2 Anna di Valdie 68.50 311 P **P 22 05 06.6 -2.4**
STV Sta Anna Valdi 68.51 311 P **P 22 05 06.4 -2.5**
SAOF Saorge 68.54 311⇑*e*P **P 22 05 08.7 -0.5**
NEGI Negi 68.55 310 P **P 22 05 08.0 -1.2**
AUTN L'Aution 68.61 311⇑*e*P **P 22 05 09.1 -0.5**
PGF Pioggiola 68.64 309 *e*P **P 22 05 09.1 -0.7**
comp=Z,137nm,1.2s,mb5.5
PGF *e*pP pP 22 05 15.5 +1.6
PGF Pioggiola 68.64 309 *e*P **P 22 05 09.1 -0.7**
PGF *e**PP pP 22 05 15.5 +1.6
PGF pmax pmax
comp=Z,69nm,1.2s,mb5.5
SBF Sospel 68.69 310 *e*P **P 22 05 09.2 -0.9**
comp=Z,122nm,0.9s,mb5.5
SBF Sospel 68.69 310 *e*P **P 22 05 09.2 -0.9**
SBF pmax pmax
comp=Z,61nm,0.9s,mb5.5
TOUF Mont Tournerai 68.69 311⇑*e*P **P 22 05 09.7 -0.4**
SSF Saint Saulge 68.74 315 *e*P **P 22 05 09.4 -0.9**
SSF pmax pmax
comp=Z,11nm,0.9s,mb4.8
SSF Saint Saulge 68.74 315 *e*P **P 22 05 09.4 -0.9**
comp=Z,11nm,0.9s,mb4.8
REVF Revere 68.80 310⇑*e*P **P 22 05 10.0 -0.8**
SMF Signal de Mont 68.84 315 *e*P **P 22 05 10.3 -0.6**
comp=Z,129nm,1.4s,mb5.4
SMF Signal de Mont 68.84 315 *e*P **P 22 05 10.3 -0.6**
SMF pmax pmax
comp=Z,64nm,1.4s,mb5.4
ORIF Oris-en-Rattie 68.87 312 *e*P **P 22 05 10.6 -0.6**
comp=Z,46nm,0.9s,mb5.1
ORIF *e*R
comp=Z,1μm,21.0s
AVF Avril sur Loir 69.00 315 *e*P **P 22 05 11.3 -0.6**
comp=Z,33nm,0.9s,mb5.0
AVF Avril sur Loir 69.00 315 *e*P **P 22 05 11.3 -0.6**
AVF pmax pmax
comp=Z,16nm,0.9s,mb5.0
HYF Humbligny 69.05 316 *e*P **P 22 05 12.1 -0.2**
CALN Calern 69.06 311⇑*e*P **P 22 05 12.0 -0.4**
YKW3 Yellowknife Ar 69.09 20 *e*P **P 22 05 11.2 -1.0**
YKA Yellowknife Ar 69.15 20 P **P 22 05 11.9 -0.6**
comp=Z,13nm,0.7s,mb5.0,baz=326,slow=6.1,SNR=20
YKA PKPPKP 22 33 24.5
comp=Z,4.2nm,1.0s,baz=138,slow=3.2,SNR=6.1
YKA LR LR 22 38 24.8
comp=Z,478nm,19.4s,MS4.7,baz=310,slow=38
YKA Yellowknife Ar 69.15 20 P **P 22 05 11.9 -0.6**
YKA P'P' 22 33 24.6
YKA LR LR 22 38 24.8
SFJD Kangerlussuaq 69.18 352 *i* P **P 22 05 12.9 +0.2**
SFJD *e*S S 22 14 19.8 +3.1
SFJD pmax pmax
comp=Z,23nm,0.7s,mb5.2
SFJD MLR MLR
comp=Z,290nm,17.0s,MS4.6
SFJD Kangerlussuaq 69.18 352 *i* P **P 22 05 12.9 +0.2**
comp=Z,23nm,0.7s,mb5.2
SFJD *e*S S 22 14 19.8 +3.1
comp=Z,290nm,17.0s
DLF Lyons Farm 69.24 325⇑*i*P **P 22 05 13.3 0.0**
FRF La Foret Royal 69.32 311 *e*P **P 22 05 12.8 -1.2**
comp=Z,63nm,1.3s,mb5.1
FRF La Foret Royal 69.32 311 *e*P **P 22 05 12.8 -1.2**
FRF pmax pmax
comp=Z,32nm,1.3s,mb5.1
PLDF La Plantade 69.39 314⇑*e*P **P 22 05 15.0 +0.6**
BGF Bois d'Agland 69.41 315 *e*P **P 22 05 13.8 -0.7**
DCN Croghan 69.52 325⇑*i*P **P 22 05 15.2 +0.2**
LMR La Mourre 69.54 311 *e*P **P 22 05 14.3 -1.0**
comp=Z,127nm,1.5s,mb5.3
LMR La Mourre 69.54 311 *e*P **P 22 05 14.3 -1.0**
LMR pmax pmax
comp=Z,64nm,1.5s,mb5.3
VIVF Saint-Julien-l 69.56 313 *e*P **P 22 05 14.6 -0.8**
AGO Saint Agoulin 69.60 314⇑*e*P **P 22 05 16.6 +1.0**
FURI Furi 69.60 263 P **P 22 05 18.6 +2.4**
TAVF Tavernes 69.61 311 *e*P **P 22 05 15.7 0.0**
FLN La Foliniere 69.62 318 *e*P **P 22 05 15.2 -0.5**
comp=Z,48nm,1.0s,mb5.1
FLN *e*R
comp=Z,691nm,20.0s
FLN La Foliniere 69.62 318 *e*P **P 22 05 15.2 -0.5**
FLN pmax pmax
comp=Z,24nm,1.0s,mb5.1
FLN MLR MLR
comp=Z,690nm,20.0s,MS4.9
SMRF Simiane la Rot 69.64 311 *e*P **P 22 05 15.5 -0.4**
comp=Z,48nm,1.1s,mb5.0
COLF Collangettes 69.65 314 *e*P **P 22 05 16.1 +0.1**
PYM Petit Puy Mans 69.86 314⇑*e*P **P 22 05 18.3 +1.1**
TCF Toulx Ste Croi 69.92 315 *e*P **P 22 05 17.3 -0.3**

comp=Z,42nm,1.0s,mb5.0
TCF Toulx Ste Croi 69.92 315 *e*P P **22 05 17.3 -0.3**
TCF pmax pmax
comp=Z,21nm,1.0s,mb5.0
PRAF Pradon 69.98 312 *e*P P **22 05 17.6 -0.4**
GRR Gorron 70.05 318 *e*P P **22 05 17.4 -0.9**
comp=Z,50nm,0.9s,mb5.1
GRR Gorron 70.05 318 *e*P P **22 05 17.4 -0.9**
GRR pmax pmax
comp=Z,25nm,0.9s,mb5.1
LBL Lubilhac 70.08 314 *e*P P **22 05 19.6 +1.1**
LASF Ste Croix 70.52 312 *e*P P **22 05 20.5 -0.7**
comp=Z,39nm,1.0s,mb5.0
CAF Calviac 70.91 314 *e*P P **22 05 23.6 0.0**
comp=Z,57nm,1.2s,mb5.1
CAF Calviac 70.91 314 *e*P P **22 05 23.6 0.0**
CAF pmax pmax
comp=Z,29nm,1.2s,mb5.1
MFF Saint Martin d 70.92 316 *e*P P **22 05 22.8 -0.8**
comp=Z,122nm,1.2s,mb5.4
MFF Saint Martin d 70.92 316 *e*P P **22 05 22.8 -0.8**
MFF pmax pmax
comp=Z,61nm,1.2s,mb5.4
RJF Les Rejaudoux 70.94 315 *e*P P **22 05 23.6 -0.2**
SGMF Saint Gilles 70.97 319 *e*P P **22 05 23.6 -0.3**
comp=Z,98nm,1.2s,mb5.3
SGMF Saint Gilles 70.97 319 *e*P P **22 05 23.6 -0.3**
SGMF pmax pmax
comp=Z,49nm,1.2s,mb5.3
LCHF La Chataignera 71.17 317 *e*P P **22 05 25.7 +0.5**
ROSF Rostrenen 71.26 319 *e*P P **22 05 24.9 -0.8**
comp=Z,69nm,1.2s,mb5.2
ROSF *e*pP pP 22 05 31.1 +1.3
ROSF Rostrenen 71.26 319 *e*P P **22 05 24.9 -0.8**
ROSF e*PP pP 22 05 31.1 +1.3
ROSF pmax pmax
comp=Z,35nm,1.2s,mb5.2
QUIF Quistinic 71.50 319 *e*P P **22 05 26.6 -0.5**
comp=Z,144nm,1.4s,mb5.4
QUIF Quistinic 71.50 319 *e*P P **22 05 26.6 -0.5**
QUIF pmax pmax
comp=Z,72nm,1.4s,mb5.4
CTA Charters Tower 71.57 143 *e*P P **22 05 28.0 0.0**
comp=Z,26nm,1.0s,mb5.1
CTA Charters Tower 71.57 143 *e*P P **22 05 28.0 0.0**
CTA pmax pmax
comp=Z,26nm,1.0s
CTA Charters Tower 71.57 143 P P **22 05 28.2 +0.2**
comp=Z,26nm,1.0s,mb5.1,baz=331,slow=8.1
CTAO Charters Tower 71.57 143 *e*P P **22 05 27.9 -0.1**
CTAO pmax pmax
comp=Z,183nm,1.6s,mb5.8
CTAO Charters Tower 71.57 143 *e*P P **22 05 27.9 -0.1**
comp=Z,183nm,1.6s,mb5.8
LFF La Frestale 71.59 315 *e*P P **22 05 27.8 +0.1**
comp=Z,154nm,1.3s,mb5.5
LFF La Frestale 71.59 315 *e*P P **22 05 27.8 +0.1**
LFF pmax pmax
comp=Z,77nm,1.3s,mb5.5
MTLF Montolieu 71.89 313 *e*P P **22 05 29.3 -0.2**
EJON La Jonquera 72.13 312 P P **22 05 31.0 0.0**
comp=Z,122nm,0.7s,mb5.8
VALF Valcebollere 72.63 312⇑ *e*P P **22 05 34.4 +0.5**
MLS Moulis 72.75 313⇑ *e*P P **22 05 34.8 +0.2**
BBB Bella Bella 73.09 33 P P **22 05 37.2 +0.8**
comp=Z,6.5nm,0.7s,mb4.7,baz=344,slow=6.9,SNR=4.3
EPF Esparros 73.11 313 *e*P P **22 05 36.3 -0.4**
comp=Z,25nm,0.8s,mb4.9
EPF Esparros 73.11 313 *e*P P **22 05 36.3 -0.4**
EPF pmax pmax
comp=Z,12nm,0.8s,mb4.9
EMIR Miracle 73.23 312 P P **22 05 37.7 +0.3**
comp=Z,19nm,0.7s,mb5.1
RESF Ens 73.26 313⇑ *e*P P **22 05 38.5 +0.9**
VIEF Viey 73.38 313⇑ *e*P P **22 05 39.1 +0.9**
ETSF Etsaut 73.67 314 *e*P P **22 05 40.6 +0.6**
comp=Z,42nm,0.8s,mb5.1
ETSF Etsaut 73.67 314 *e*P P **22 05 40.6 +0.6**
ETSF pmax pmax
comp=Z,21nm,0.8s,mb5.1
EGRA Graus 73.69 313 P P **22 05 40.9 +0.8**
comp=Z,15nm,0.9s,mb4.9
LARF Larrau 73.80 314⇑ *e*P P **22 05 41.8 +1.1**
EPOB Poblet 73.86 312 P P **22 05 41.2 +0.1**
comp=Z,18nm,0.7s,mb5.1
SJPF Ste Jean 73.88 314 *e*P P **22 05 40.6 -0.5**
SJPF *e*pP pP 22 05 45.1 -0.1
SJPF Ste Jean 73.88 314 *e*P P **22 05 40.6 -0.5**
SJPF pmax pmax
comp=Z,34nm,1.1s,mb5.2
EALK Alkurruntz 73.95 315 P P **22 05 42.1 +0.5**
comp=Z,14nm,0.9s,mb4.9
ETOS Mallorca 73.98 310 P P **22 05 42.3 +0.5**
comp=Z,21nm,0.7s,mb5.2
ESAC San Caprasio 74.44 313 P P **22 05 45.2 +0.7**
comp=Z,20nm,0.8s,mb5.1
EBR Ebro Roquetas 74.55 312 *e*P P **22 05 45.0 -0.1**
KLBR Kellerberrin 74.71 172 *e*P P **22 05 45.6 -0.6**
comp=Z,80nm,1.0s,mb5.6
ECRI Cripan 74.90 315 P P **22 05 47.9 +0.8**
ECRI pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ECRI Cripan 74.90 315 P P **22 05 47.9 +0.8**
comp=Z,5.5nm,0.6s,mb4.7
ELAN Lanestosa 74.94 316 P P **22 05 48.1 +0.8**
comp=Z,24nm,0.8s,mb5.2
MUN Mundaring 74.96 174 *e*P P **22 05 46.6 -1.0**
comp=Z,60nm,1.0s,mb5.5
MUN Mundaring 74.96 174 *e*P P **22 05 46.6 -1.0**
MUN pmax pmax
comp=Z,60nm,1.0s,mb5.5
EIBI Ibiza 75.32 310 P P **22 05 49.8 +0.2**
comp=Z,23nm,0.8s,mb5.2
EMOS Mosqueruela 75.39 312 P P **22 05 50.5 +0.6**
comp=Z,15nm,0.7s,mb5.0
EARI Arriondas 75.79 317 P P **22 05 53.0 +0.9**
comp=Z,15nm,0.8s,mb5.0
NWAO Narrogin (SRO) 75.99 173 P P **22 05 53.5 0.0**
comp=Z,48nm,0.9s,mb5.4,baz=358,slow=6.3,SNR=11
ECHE Chera 76.21 312 P P **22 05 54.6 0.0**
ECHE pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ECHE Chera 76.21 312 P P **22 05 54.6 0.0**
comp=Z,7.7nm,0.8s,mb4.7
EPON Pontenova 76.74 318 P P **22 05 56.7 -0.8**
comp=Z,11nm,1.5s,mb4.6
ETOB Tobarra 77.19 311 P P **22 06 00.8 +0.7**
comp=Z,13nm,0.8s,mb4.9
EDM Edmonton 77.43 25 *e*P P **22 06 01.7 +0.6**
KMBO Kilima Mbogo 77.50 257 P P **22 06 03.5 +1.2**
comp=Z,32nm,1.0s,mb5.2,baz=33,slow=8.0,SNR=62
KMBO LR LR 22 41 12.8
comp=Z,169nm,20.6s,MS4.3,baz=274,slow=36
ECAL Calabor 77.55 317 P P **22 06 02.5 +0.5**
comp=Z,7.9nm,0.6s,mb4.8
EMUR La Murta 77.59 310 P P **22 06 02.4 +0.1**
comp=Z,19nm,0.8s,mb5.1
PBRG Braganca 77.66 316 *e*P P **22 06 03.3 +0.7**
comp=Z,14nm,1.2s,mb4.8
PGC Sidney 77.72 33 *e*P P **22 06 02.9 +0.1**
comp=Z,96nm,1.2s,mb5.6
EVIA Vianos 77.72 312 P P **22 06 04.6 +1.6**
EVIA pmax pmax
comp=Z,46nm,0.8s,mb5.5
EVIA Vianos 77.72 312 P P **22 06 04.6 +1.6**
comp=Z,46nm,0.8s,mb5.5
ESDC Sonseca Array 77.77 313 P P **22 06 04.0 +0.8**
comp=Z,12nm,0.7s,mb4.9,baz=33,slow=5.1,SNR=46
ESDC PP PP 22 08 59.7 -1.1
comp=Z,3.2nm,0.9s,baz=44,slow=8.8,SNR=4.6
ESDC Sonseca Array 77.77 313 P P **22 06 04.1 +0.8**
comp=Z,8.6nm,0.6s,mb4.9
ESLA Sonseca Array 77.77 313 *e*P P **22 06 03.9 +0.6**
comp=Z,90nm,2.2s,mb5.3
ESLA LR LR
comp=Z,3µm,21.0s,MS5.6
ELOB Lobios 78.27 317 P P **22 06 06.6 +0.7**
comp=Z,7.8nm,0.7s,mb4.8
EHUE Huescar 78.36 311 P P **22 06 07.4 +0.9**
EHUE pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
EHUE Huescar 78.36 311 P P **22 06 07.4 +0.8**
comp=Z,5.6nm,0.8s,mb4.5
PVRL Vila Real 78.54 317 *e*P P **22 06 08.5 +1.1**
comp=Z,18nm,1.3s,mb4.8
PVRL Vila Real 78.54 317 *e*PP PP 22 09 03.3 -3.9

PNT Penticton 78.63 30 P P **22 06 08.0 +0.2**
EQES Quesada 78.63 312 P P **22 06 08.7 +0.7**
comp=Z,27nm,1.0s,mb5.1
EBAN Banos Encina 78.76 312 P P **22 06 10.0 +1.3**
EBAN pmax pmax
comp=Z,15nm,0.9s,mb4.9
EBAN Banos Encina 78.76 312 P P **22 06 10.0 +1.2**
comp=Z,14nm,0.9s,mb4.9
PVIS Viseu 79.05 316 *e*P P **22 06 11.4 +1.2**
comp=Z,34nm,1.1s,mb5.2
PVIS Viseu 79.05 316 *e*PP PP 22 09 09.2 -2.0
FFC Flin Flon 79.08 18 P P **22 06 09.5 -0.6**
FFC pmax pmax
comp=Z,32nm,1.0s,mb5.2
FFC Flin Flon 79.08 18 *e*P P **22 06 09.9 -0.2**
comp=Z,32nm,1.0s,mb5.2
FFC LR LR
comp=Z,140nm,19.0s,MS4.3
MTE Manteigas 79.10 316 *e*P P **22 06 09.4 -1.1**
comp=Z,55nm,1.0s,mb5.1
MTE Manteigas 79.10 316 *e*P P **22 06 11.9 +1.3**
comp=Z,50nm,1.6s,mb5.2
MTE Manteigas 79.10 316 *e*PP PP 22 09 11.6 -0.1
MTE *e*S S 22 16 04.0 -4.2
MTE *e*SS SS 22 21 10.1 -7.1
MTE *e*- 22 25 27.3
MTE *e*LQ 22 33 12.4
MTE *e*LR LR 22 35 52.3
comp=Z,659nm,18.2s
EADA Adamuz 79.19 313 P P **22 06 12.1 +1.0**
comp=Z,20nm,0.9s,mb5.0
RMW Rattlesnake Mo 79.33 32 P P **22 06 13.1 +1.5**
ELUQ Luque 79.46 312 P P **22 06 13.8 +1.2**
ELUQ pmax pmax
comp=Z,48nm,1.1s,mb5.3
ELUQ Luque 79.46 312 P P **22 06 13.8 +1.2**
comp=Z,48nm,1.1s,mb5.3
PCBR Castelo Branco 79.49 315 *e*P P **22 06 14.0 +1.4**
comp=Z,24nm,1.8s,mb4.8
PCBR Castelo Branco 79.49 315 *e*PP PP 22 09 12.3 -2.5
ERON Agron 79.61 311 P P **22 06 13.4 +0.1**
comp=Z,18nm,0.8s,mb5.0
ELOJ Sierra Loja 79.70 312 P P **22 06 14.1 +0.2**
ELOJ pmax pmax
comp=Z,11nm,1.0s,mb4.7
ELOJ Sierra Loja 79.70 312 P P **22 06 14.1 +0.3**
comp=Z,11nm,1.0s,mb4.7
EBAD Badajoz 80.05 314 P P **22 06 16.9 +1.2**
comp=Z,27nm,1.0s,mb5.1
PTOM Tomar 80.13 316 *e*P P **22 06 17.3 +1.2**
comp=Z,40nm,1.3s,mb5.2
STKA Stephens Creek 80.33 152⇑ *i*P P **22 06 17.2 -0.1**
comp=Z,18nm,0.6s,mb5.2
STKA Stephens Creek 80.33 152 P P **22 06 17.6 +0.3**
comp=Z,24nm,0.7s,mb5.2,baz=340,slow=6.2,SNR=56
NEW Newport 80.42 29 P P **22 06 18.0 +0.6**
NEW pmax pmax
comp=Z,14nm,0.9s
NEW MLR MLR
comp=Z,343nm,20.7s
NEW Newport 80.42 29 P P **22 06 18.0 +0.6**
comp=Z,14nm,0.9s,mb4.9,baz=322,slow=5.5,SNR=16
NEW LR LR 22 43 40.0
comp=Z,343nm,20.7s,MS4.7,baz=206,slow=37
NEW Newport 80.42 29 *e*P P **22 06 17.9 +0.5**
comp=Z,29nm,1.2s,mb5.1
NEW LR LR
comp=Z,480nm,21.0s,MS4.8
EMIJ Mijas 80.47 312 P P **22 06 17.2 -0.8**
comp=Z,16nm,0.8s,mb5.0
EMIN Mina Concepcio 80.61 314 P P **22 06 19.7 +1.0**
comp=Z,19nm,0.8s,mb5.1
EVO Evora 80.74 315 *e*P P **22 06 18.4 -1.0**
comp=Z,58nm,1.1s,mb5.1
EVO *e*R
comp=Z,617nm,19.0s
ESPR Espera 80.83 313 P P **22 06 21.1 +1.2**
comp=Z,60nm,0.8s,mb5.6
WALA Waterton Lakes 80.85 27 *e*P P **22 06 20.1 +0.4**
comp=Z,31nm,1.2s,mb5.1
PBEJ Beja 81.04 314 *e*P P **22 06 22.3 +1.3**
comp=Z,25nm,1.1s,mb5.0
PBEJ Beja 81.04 314 *e*PP PP 22 09 25.6 -2.6
COR Corvallis 81.06 35 *e*P P **22 06 22.6 +1.7**
COR pmax pmax
comp=Z,94nm,1.3s,mb5.6
COR MLR MLR
comp=Z,104nm,21.0s,MS4.2
COR Corvallis 81.06 35 *e*P P **22 06 22.6 +1.7**
comp=Z,94nm,1.3s,mb5.6
COR LR LR
comp=Z,104nm,21.0s,MS4.2
EGRO El Granado 81.21 314 P P **22 06 21.9 +0.1**
MBAR Mbarara 81.83 262 *e*P P **22 06 26.2 +0.7**
MBAR pmax pmax
comp=Z,94nm,1.3s,mb5.6
MBAR MLR MLR
comp=Z,83nm,19.0s,MS4.1
MBAR Mbarara 81.83 262 *e*P P **22 06 26.2 +0.6**
comp=Z,94nm,1.3s,mb5.6
MBAR LR LR
comp=Z,83nm,19.0s,MS4.1
PTEO Sao Teotonio 81.85 315 *e*P P **22 06 26.5 +1.3**
comp=Z,34nm,1.2s,mb5.2
SCHQ Schefferville 82.43 358 P P **22 06 28.4 +0.6**
comp=Z,23nm,1.0s,mb5.1,baz=16,slow=6.3,SNR=13
SCHQ Schefferville 82.43 358 *e*P P **22 06 28.0 +0.2**
comp=Z,41nm,1.1s,mb5.3
MSO Missoula 82.76 28 *e*P P **22 06 30.3 +0.6**
comp=Z,42nm,1.2s,mb5.3
MSO LR LR
comp=Z,360nm,20.0s,MS4.7
HUMO Hull Mountain 82.81 36 *e*P P **22 06 31.0 +1.0**
comp=Z,41nm,1.3s,mb5.3
HUMO LR LR
comp=Z,374nm,20.0s,MS4.8
CHMT Chamberlain Mo 82.92 28 *e*P P **22 06 30.8 +0.2**
ARMA Armidale 82.93 144 *e*P P **22 06 28.9 -2.0**
BMO Blue Mountains 83.23 31 *e*P P **22 06 32.6 +0.4**
comp=Z,24nm,0.8s,mb5.3
BMO LR LR
comp=Z,499nm,19.0s,MS4.9
BUOR Burton Butte 83.38 36 P P **22 06 34.3 +1.3**
OPO Ambohidratompo 83.50 237 P P **22 06 35.5 +1.5**
comp=Z,9.2nm,0.8s,mb4.8,baz=27,slow=4.5,SNR=8.5
HRY Holter Researc 83.58 27 *e*P P **22 06 34.4 +0.5**
YBH Yreka Blue Hor 83.63 36 *e*P P **22 06 35.1 +0.9**
YBH pmax pmax
comp=Z,18nm,1.3s
YBH MLR MLR
comp=Z,291nm,20.0s
YBH Yreka Blue Hor 83.63 36 P P **22 06 34.9 +0.7**
comp=Z,7.8nm,0.8s,mb4.9,baz=48,slow=5.2,SNR=10
YBH Yreka Blue Hor 83.63 36 *e*P P **22 06 35.1 +0.9**
comp=Z,18nm,1.3s,mb5.0
YBH LR LR
comp=Z,291nm,20.0s,MS4.7
KHMM Horse Mountain 83.87 37 *e*P P **22 06 37.1 +1.6**
DGMT Dagmar 84.30 21 *e*P P **22 06 38.2 +0.8**
comp=Z,175nm,1.0s,mb6.1
DGMT LR LR
comp=Z,1µm,19.0s,MS5.3
MOD Modoc 84.51 35 *e*P P **22 06 39.9 +1.2**
comp=Z,51nm,1.4s,mb5.5
MOD LR LR
comp=Z,353nm,19.0s,MS4.8
ULM Lac du Bonnet 84.58 16 P P **22 06 38.0 -0.7**
comp=Z,23nm,0.8s,mb5.3,baz=340,slow=5.7,SNR=16
ULM LR LR 22 47 34.6
comp=Z,362nm,18.1s,MS4.8,baz=1.6,slow=38
BOZ Bozeman (W) 84.58 27 *e*P P **22 06 39.6 +0.7**
BOZ pmax pmax
comp=Z,24nm,1.3s,mb5.2
BOZ MLR MLR
comp=Z,402nm,20.0s,MS4.8
BOZ Bozeman (W) 84.58 27 *e*P P **22 06 39.5 +0.6**
comp=Z,24nm,1.3s,mb5.2
BOZ LR LR
comp=Z,402nm,20.0s,MS4.8
WDC Whiskeytown Da 84.64 37 *e*P P **22 06 40.0 +0.7**
WDC pmax pmax
comp=Z,36nm,1.2s,mb5.4
WDC MLR MLR
comp=Z,323nm,19.0s,MS4.7
WDC Whiskeytown Da 84.64 37 *e*P P **22 06 40.0 +0.6**
comp=Z,36nm,1.2s,mb5.4
WDC LR LR

comp=Z,323nm,19.0s,MS4.7
WVOR Wild Horse Val 84.75 33 *e*P P **22 06 40.9 +1.1**
WVOR pmax pmax
comp=Z,31nm,1.1s,mb5.3
WVOR MLR MLR
comp=Z,346nm,22.0s,MS4.7
WVOR Wild Horse Val 84.75 33 *e*P P **22 06 40.9 +1.0**
comp=Z,31nm,1.1s,mb5.3
WVOR LR LR
comp=Z,346nm,22.0s,MS4.7
KIPM Iron Peak 84.85 38 *e*P P **22 06 42.0 +1.6**
MCMT McKenzie Canyo 84.88 28 *e*P P **22 06 41.5 +1.1**
QLMT Earthquake Lak 85.36 28 P P **22 06 42.8 0.0**
HLID Hailey 85.42 30 PFAKE 22 07 00.0 +17
HLID LR LR
comp=Z,202nm,21.0s,MS4.5
HOPS Hopland 85.70 38 *e*P P **22 06 45.4 +0.7**
comp=Z,74nm,1.3s,mb5.8
HOPS LR LR
comp=Z,263nm,20.0s,MS4.6
YFT Old Faithful 85.90 27 *e*P P **22 06 48.2 +2.7**
LKWY Lake 85.94 27 PFAKE 22 07 00.0 +14
LKWY LR LR
comp=Z,807nm,19.0s,MS5.1
BEKR Beckwourth 86.17 36 *e*P P **22 06 47.9 +0.9**
comp=Z,33nm,0.9s,mb5.6
CNB Canberra Magne 86.26 148 *e*P P **22 06 48.4 +0.9**
comp=Z,32nm,1.0s,mb5.5
IMW Indian Meadow 86.35 28 *e*P P **22 06 49.5 +1.7**
comp=Z,89nm,1.4s,mb5.8
MOOW Moose Ponds 86.55 28 *e*P P **22 06 50.0 +1.2**
comp=Z,38nm,1.4s,mb5.4
RRI2 Red Ridge 86.71 28 *e*P P **22 06 50.8 +1.3**
comp=Z,38nm,1.3s,mb5.5
TOO Toolangi 86.83 152 *e*P P **22 06 51.1 +0.8**
comp=Z,26nm,1.0s,mb5.4
TOO Toolangi 86.83 152 *e*P P **22 06 51.1 +0.8**
TOO pmax pmax
comp=Z,26nm,1.0s,mb5.4
REDW Red Top Meadow 86.86 28 P P **22 06 51.4 +1.2**
comp=Z,29nm,1.0s,mb5.5
BMN Battle Mountai 87.01 33 *e*P P **22 06 52.6 +1.5**
BMN pmax pmax
comp=Z,12nm,0.7s,mb5.2
BMN MLR MLR
comp=Z,364nm,21.0s,MS4.8
BMN Battle Mountai 87.01 33 *e*P P **22 06 52.6 +1.5**
comp=Z,12nm,0.7s,mb5.2
BMN LR LR
comp=Z,364nm,21.0s,MS4.8
AHID Auburn Hatcher 87.30 28 PFAKE 22 07 00.0 +7.6
AHID LR LR
comp=Z,458nm,21.0s,MS4.9
ELK Elko 87.53 32 *e*P P **22 06 54.2 +0.6**
ELK pmax pmax
comp=Z,7.0nm,0.8s
ELK MLR MLR
comp=Z,419nm,21.0s
ELK Elko 87.53 32 *e*P P **22 06 54.2 +0.7**
comp=Z,7.1nm,0.8s,mb5.0
ELK LR LR
comp=Z,419nm,21.0s,MS4.8
CMB Columbia Colle 87.68 37 *e*P P **22 06 54.1 -0.3**
CMB pmax pmax
comp=Z,39nm,1.4s,mb5.4
CMB MLR MLR
comp=Z,339nm,22.0s,MS4.7
CMB Columbia Colle 87.68 37 *e*P P **22 06 54.1 -0.3**
comp=Z,39nm,1.4s,mb5.4
CMB LR LR
comp=Z,339nm,22.0s,MS4.7
BW06 Boulder Array 87.82 27 PFAKE 22 07 10.0 +15
BW06 LR LR
comp=Z,385nm,20.0s,MS4.8
PDAR Pinedale Array 87.82 27 LR LR 22 48 53.9
comp=Z,318nm,19.8s,MS4.7,baz=159,slow=38
HWUT Hardware Ranch 88.15 29 PFAKE 22 07 10.0 +13
HWUT LR LR
comp=Z,519nm,20.0s,MS4.9
SAO San Andreas Ge 88.26 38 *e*P P **22 06 57.1 0.0**
SAO pmax pmax
comp=Z,17nm,1.2s,mb5.2
SAO MLR MLR
comp=Z,344nm,19.0s,MS4.8
SAO San Andreas Ge 88.26 38 *e*P P **22 06 57.1 0.0**
comp=Z,17nm,1.2s,mb5.2
SAO LR LR
comp=Z,344nm,19.0s,MS4.8
RSSD Black Hills 88.33 23 *e*P P **22 06 58.4 +1.1**
RSSD pmax pmax
comp=Z,75nm,1.1s,mb5.8
RSSD Black Hills 88.33 23 *e*P P **22 06 58.4 +1.1**
comp=Z,75nm,1.1s,mb5.8
OMM Old Mammoth Mi 88.64 36 *e*P P **22 07 00.4 +1.4**
TPH Tonopah 89.00 35 *e*P P **22 07 02.2 +1.5**
TPH pmax pmax
comp=Z,39nm,1.5s,mb5.5
TPH MLR MLR
comp=Z,290nm,21.0s,MS4.7
TPH Tonopah 89.00 35 *e*P P **22 07 02.2 +1.5**
comp=Z,39nm,1.5s,mb5.5
TPH LR LR
comp=Z,290nm,21.0s,MS4.7
MTUM Tungsten Hills 89.04 36 *e*P P **22 07 02.3 +1.4**
TRCR Troy Canyon 89.44 33 *e*P P **22 07 03.4 +0.6**
DAC Darwin (Calif) 90.37 36 P P **22 07 00.1 -7.0**
DAC pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
DAC Darwin (Calif) 90.37 36 *e*P P **22 07 08.2 +1.1**
comp=Z,5.1nm,1.0s,mb4.8
DAC LR LR
comp=Z,293nm,20.0s,MS4.7
PHWY Pilot Hill 90.47 25 *e*P P **22 07 09.0 +1.5**
ISA Isabella 90.50 37 PFAKE 22 07 20.0 +12
ISA LR LR
comp=Z,99nm,21.0s,MS4.2
PQI Presque Isle 90.62 358 PFAKE 22 07 20.0 +12
PQI LR LR
comp=Z,2µm,21.0s,MS5.5
MVU Marysvale 90.63 31 PFAKE 22 07 20.0 +12
MVU LR LR
comp=Z,408nm,21.0s,MS4.8
ISCO Idaho Springs 91.79 26 *e*P P **22 07 14.7 +1.1**
ISCO MLR MLR
comp=Z,660nm,19.0s,MS5.1
MWC Mount Wilson 91.89 37 *e*P P **22 07 15.3 +1.1**
SMCO Snowmass 91.90 27 *e*P P **22 07 15.8 +1.7**
NEN Nelson 92.06 34 *e*P P **22 07 16.2 +1.3**
PV01 Paradox Valley 92.29 29 *e*P P **22 07 17.6 +1.7**
EMMW East Machias 92.57 357 PFAKE 22 07 30.0 +13
EMMW LR LR
comp=Z,2µm,21.0s,MS5.5
WVL Waterville 92.76 359 PFAKE 22 07 30.0 +12
WVL LR LR
comp=Z,4µm,21.0s,MS5.8
PFO Pinyon Flat Ob 93.12 37 *e*P P **22 07 20.9 +1.1**
PFO pmax pmax
comp=Z,18nm,1.0s,mb5.5
PFO MLR MLR
comp=Z,93nm,19.0s,MS4.3
PFO Pinyon Flat Ob 93.12 37 *e*P P **22 07 20.9 +1.0**
comp=Z,18nm,1.0s,mb5.5
PFO LR LR
comp=Z,93nm,19.0s,MS4.3
LSZ Lusaka 93.73 253 *e*P P **22 07 23.4 +0.4**
LSZ pmax pmax
comp=Z,10.0nm,1.3s,mb5.1
LSZ Lusaka 93.73 253 *e*P P **22 07 23.4 +0.4**
comp=Z,10nm,1.3s,mb5.1
ACCN Adirondack Com 93.92 2 P P **22 07 23.5 +0.2**
CBKS Cedar Bluff 94.45 22 PFAKE 22 07 40.0 +14
CBKS LR LR
comp=Z,523nm,19.0s,MS5.0
HRV Harvard--Oak R 94.83 0 PFAKE 22 07 40.0 +13
HRV LR LR
comp=Z,304nm,20.0s,MS4.8
WES Weston 94.95 0 PFAKE 22 07 40.0 +12
WES LR LR
comp=Z,855nm,19.0s,MS5.2
KSU1 Kansas State U 95.00 20 *e*P P **22 07 28.8 +0.5**
ANMO Albuquerque 95.89 29 *e*P P **22 07 34.4 +1.8**
ANMO pmax pmax
comp=Z,24nm,1.2s
ANMO MLR MLR
comp=Z,341nm,19.0s
ANMO Albuquerque 95.89 29 *e*P P **22 07 34.4 +1.9**

	comp=Z,24nm,1.2s,mb5.5						
ANMO				LR	LR		
	comp=Z,341nm,19.0s,MS4.8						
LAZ	**Ladron**	**96.14**	**29**	P	**P**	**22 07 35.0**	**+1.3**
LPM	**Los Pinos Moun**	**96.41**	**29**	*e*P	**P**	**22 07 36.9**	**+2.0**
BNM	**Barren Site**	**96.55**	**29**	P	**P**	**22 07 36.8**	**+1.2**
TUC	**Tucson**	**96.62**	**33**	PFAKE		22 07 50.0	+14
TUC				LR	LR		
	comp=Z,465nm,22.0s,MS4.9						
CCM	**Cathedral Cave**	**97.20**	**16**	PFAKE		22 07 50.0	+12
CCM				LR	LR		
	comp=Z,130nm,19.0s,MS4.4						
WCI	**Wyandotte Cave**	**97.92**	**12**	*e*P	**P**	**22 07 42.7**	**+1.1**
WCI				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.7						
WCI	**Wyandotte Cave**	**97.92**	**12**	P	**P**	**22 07 38.9**	**-2.7**
	comp=Z,20nm,0.9s,mb5.7						
WCI				LR	LR		
	comp=Z,95nm,19.0s,MS4.3						
CPRX	**Cap Rock**	**98.53**	**27**	P	**P**	**22 07 43.5**	**-0.9**
MNTX	**Cornudas Mount**	**99.21**	**29**	*e*P	**P**	**22 07 48.1**	**+0.5**
	comp=Z,3.6nm,0.9s,mb4.9						
MNTX				LR	LR		
	comp=Z,270nm,19.0s,MS4.8						
BLA	**Blacksburg**	**99.66**	**8**	PFAKE		22 08 00.0	+10
BLA				LR	LR		
	comp=Z,454nm,20.0s,MS5.0						
WVT	**Waverly**	**99.72**	**14**	PFAKE		22 08 00.0	+10
WVT				LR	LR		
	comp=Z,429nm,19.0s,MS5.0						
TZTN	**Tazewell**	**99.96**	**10**	P	**P**	**22 07 51.1**	**+0.2**
PLAL	**Pickwick Lake**	**100.79**	**14**	PFAKE		22 08 10.0	+15
PLAL				LR	LR		
	comp=Z,434nm,20.0s,MS5.0						
LTX	**Lajitas**	**101.97**	**29**	PFAKE		22 08 10.0	+10
LTX				LR	LR		
	comp=Z,411nm,19.0s,MS5.0						
TXAR	**Lajitas Array**	**101.97**	**29**	P	P	22 08 01.7	+1.6
	comp=Z,0.6nm,0.6s,baz=315,slow=2.6,SNR=4.0						
TXAR				PP	PP	22 12 12.9	-1.0
	comp=Z,0.7nm,0.6s,baz=350,slow=7.6,SNR=3.7						
TXAR				PKKPbc		22 24 05.3	
	comp=Z,0.1nm,0.3s,baz=127,slow=6.3,SNR=4.2						
DBIC	**Dimbokro**	**102.47**	**291**	P	Pdif	22 08 02.2	-0.6
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DBIC	**Dimbokro**	**102.47**	**291**	P	Pdif	22 08 02.2	-0.6
	comp=Z,3.0nm,0.7s,baz=45,slow=4.3,SNR=3.6						
DBIC	**Dimbokro**	**102.47**	**291**	P	Pdif	22 08 02.2	-0.6
JSC	**Jenkinsville**	**102.47**	**9**	P	Pdif	22 07 54.5	-7.8
LRAL	**Lakeview Retre**	**102.88**	**14**	PFAKE		22 08 20.0	+16
LRAL				LR	LR		
	comp=Z,546nm,19.0s,MS5.1						
NHSC	**New Hope**	**103.75**	**8**	PFAKE		22 08 20.0	+12
NHSC				LR	LR		
	comp=Z,421nm,19.0s,MS5.0						
BBSR	**BB Station**	**104.72**	**354**	PFAKE		22 08 20.0	+7.7
BBSR				LR	LR		
	comp=Z,162nm,20.0s,MS4.6						
DWPF	**Disney**	**108.54**	**10**	PFAKE		22 12 50.0	
DWPF				LR	LR		
	comp=Z,102nm,20.0s,MS4.4						
MAW	**Mawson**	**115.69**	**198**	*e*P	PKPdf	22 12 46.7	-3.0
	comp=Z,2.2nm,0.7s						
MAW	**Mawson**	**115.69**	**198**	PKP	PKPdf	22 12 47.6	-2.1
	comp=Z,3.5nm,0.8s,baz=321,slow=5.3,SNR=7.8						
MAW				PKKPbc		22 23 19.1	
	comp=Z,3.0nm,0.9s,baz=227,slow=3.9,SNR=6.8						
SJG	**San Juan**	**118.98**	**355**	PFAKE		22 13 10.0	+13
SJG				LR	LR		
	comp=Z,182nm,20.0s,MS4.7						
SYO	**Syowa Base**	**122.79**	**204**	⇑PKPdf	PKPdf	22 13 00.4	-2.9
VNDA	**Vanda**	**124.58**	**168**	*e*PKIKP	PKPdf	22 13 02.8	-3.8
VNDA				MLR	MLR		
	comp=Z,132nm,19.0s						
VNDA	**Vanda**	**124.58**	**168**	PKP	PKPdf	22 13 03.5	-3.0
	comp=Z,2.2nm,0.8s,baz=308,slow=5.0,SNR=13						
JTS	**JuntasAbangare**	**125.41**	**17**	PFAKE		22 13 20.0	+10
JTS				LR	LR		
	comp=Z,59nm,19.0s,MS4.3						
SBA	**Scott Base**	**125.59**	**167**	PFAKE		22 13 20.0	+11
SBA				LR	LR		
	comp=Z,250nm,20.0s,MS4.9						
SDV	**Santo Domingo**	**128.31**	**360**	*e*PKPdf	PKPdf	22 13 12.8	-2.6
SDV				LR	LR		
	comp=Z,171nm,19.0s,MS4.8						
RCBR	**Riachuelo**	**131.70**	**310**	PFAKE		22 13 30.0	+8.2
RCBR				LR	LR		
	comp=Z,228nm,20.0s,MS4.9						
ROSC	**El Rosal**	**132.22**	**4**	PKP	PKPdf	22 13 21.8	-1.0
	comp=Z,3.2nm,0.5s,baz=98,slow=15,SNR=6.0						
QSPA	**South Pole Qui**	**132.80**	**180**	PFAKE		22 13 30.0	+7.8
QSPA				LR	LR		
	comp=Z,121µm,19.0s						
PAYG	**Puerto Ayora**	**134.41**	**28**	PFAKE		22 13 40.0	+13
PAYG				LR	LR		
	comp=Z,546nm,21.0s,MS5.2						
SNAA	**Sanae**	**137.01**	**206**		PKPdf	22 13 28.6	-1.4
SNAA	**Sanae**	**137.01**	**206**	*i* PKIKP	PKPdf	22 13 28.9	-1.1
VNA2	**Neumayer--Watz**	**138.54**	**206**		PKPdf	22 13 32.4	-0.6
VNA2	**Neumayer--Watz**	**138.54**	**206**		PKPdf	22 13 36.9	+3.9
VNA1	**Neumayer--Stat**	**138.87**	**207**		PKPdf	22 13 33.0	-0.6
VNA1	**Neumayer--Stat**	**138.87**	**207**	P	PKPdf	22 13 33.0	-0.6
VNA3	**Neumayer Olymp**	**139.23**	**206**		PKPdf	22 13 35.2	+1.0
VNA3	**Neumayer Olymp**	**139.23**	**206**		PKPdf	22 13 44.2	+10
BAO	**Brasilia Array**	**146.32**	**317**	PKPdf	PKPdf	22 13 47.0	-1.0
BDFB	**Brasilia**	**146.34**	**317**	PKP2	PKPab	22 13 47.3	-1.5
BDFB				pmax	pmax		
	comp=Z,94nm,0.9s						
BDFB	**Brasilia**	**146.34**	**317**	PKPbc	PKPbc	22 13 47.3	+1.4
	comp=Z,94nm,0.9s,baz=62,slow=1.0,SNR=49						
LPAZ	**La Paz**	**153.21**	**354**	PKIKP	PKPdf	22 13 58.1	-0.5
LPAZ						22 14 04.9	
LPAZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LPAZ	**La Paz**	**153.21**	**354**	PKP	PKPdf	22 13 58.1	-0.5
	comp=Z,6.9nm,0.8s,baz=3.2,slow=3.8,SNR=34						
LPAZ				PKPbc	PKPdf	22 14 04.8	+6.2
	comp=Z,7.6nm,0.6s,baz=4.8,slow=8.1,SNR=27						
LPAZ	**La Paz**	**153.21**	**354**	*e*PKPdf	PKPdf	22 13 57.5	-1.2
LVC	**Limon Verde**	**159.54**	**354**	*e*PKPdf	PKPdf	22 14 06.4	-0.3
LVC				*e*PKPab	PKPab	22 14 43.6	-0.2
CPUP	**Villa Florida**	**159.93**	**322**	PKPdf	PKPdf	22 14 05.2	-1.8
CPUP				PKPab	PKPab	22 14 44.0	-1.4
CPUP	**Villa Florida**	**159.93**	**322**	PKIKP	PKPdf	22 14 05.6	-1.4
CPUP						22 14 44.1	
CPUP				pmax	pmax		
	comp=Z,11nm,1.0s						
CPUP				pmax	pmax		
	comp=Z,12nm,0.9s						
CPUP	**Villa Florida**	**159.93**	**322**	PKP	PKPdf	22 14 05.5	-1.4
	comp=Z,11nm,0.9s,baz=65,slow=4.4,SNR=23						
CPUP				PKPab	PKPab	22 14 44.1	-1.3
	comp=Z,12nm,0.9s,baz=39,slow=7.4,SNR=8.1						
CPUP	**Villa Florida**	**159.93**	**322**	*e*PKPdf	PKPdf	22 14 05.0	-2.0
CPUP				*e*PKPab	PKPab	22 14 44.1	-1.3
PLCA	**Paso Flores**	**177.66**	**351**	PKP	PKPdf	22 14 16.6	-1.3
	comp=Z,8.5nm,0.9s,baz=128,slow=0.8,SNR=13						
PLCA				PKPab	PKPab	22 16 02.5	-0.4
	comp=Z,3.6nm,0.9s,baz=323,slow=5.7,SNR=4.9						
PLCA	**Paso Flores**	**177.66**	**351**	*e*PKPdf	PKPdf	22 14 16.6	-1.3

*NNC **20** 21:57:05.5±33.0, 39.67N×71.98E, mpv3.6, Error ellipse: s-maj=281.8km s-min=162.2km az=179.0*

ISC 20 21:57:01.6±2.6**, 39.3N**±0.1×**71.9E**±0.2**, h10**km**, n11, σ0§91**/13**, 4C, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.18**	**25**	P	**Pn**	**21 57 53.6**	**+0.9**
	SNR=102						
EKS2	**Erkin-Say**	**3.69**	**22**	P	**Pn**	**21 58 00.1**	**+0.2**
	SNR=16						
KZA	**Kyzart**	**3.80**	**41**	P	**Pn**	**21 58 01.1**	**-0.3**
	SNR=12						
AAK	**Ala-Archa**	**3.91**	**29**	P	**Pn**	**21 58 03.6**	**+0.6**
	SNR=10						
AAK	**Ala-Archa**	**3.91**	**29**	⇑Pn	**Pn**	**21 58 02.5**	**-0.5**
	12nm,0.7s						
AAK				⇑Sn	**Sn**	**21 58 48.7**	**-0.7**
	16nm,0.7s						
KK31	**Karatay Array**	**4.00**	**345**	⇑Pn	**Pn**	**21 58 02.9**	**-1.4**
	5.1nm,0.3s,baz=146,slow=12						
KK31				⇑Sn	**Sn**	**21 58 52.2**	**+0.5**
	7.7nm,0.3s,baz=140,slow=24						
KBK	**Karagaybulak**	**4.11**	**33**	P	**Pn**	**21 58 06.8**	**+0.9**
	SNR=11						
CHMS	**Chumysh**	**4.32**	**29**	P	**Pn**	**21 58 08.8**	**-0.1**
	SNR=20						
ULHL	**Ulahol**	**4.45**	**46**	P	**Pn**	**21 58 09.3**	**-1.4**
	SNR=7.1						
USP	**Ospenovka**	**4.46**	**25**	P	**Pn**	**21 58 10.5**	**-0.4**
	SNR=13						
TKM2	**Tokmak 2**	**4.61**	**36**	P	**Pn**	**21 58 14.8**	**+1.9**
	SNR=5.6						

*ATH **20** 22:48:12.2, 38.98N×27.85E, h19km±4km, MD3.4/3*
*ISK **20** 22:48:12.3, 38.93N×27.79E, h21km, MD3.4*
*CSEM **20** 22:48:12.1±0.1, 38.92N×27.84E, h15km, MD3.4, Error ellipse: s-maj=1.9km s-min=1.4km az=118.0*

ISC 20 22:48:12.4±0.5**, 38.92N**±0.03×**27.83E**±0.04**, h14**km±4km**, n36, σ0§70**/40**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.05**	**201**	*i* PG	**Pg**	**22 48 16.0**	**+0.8**
IZM	**Izmir**	**0.69**	**221**	PG	**Pg**	**22 48 25.8**	**-0.7**
BALB	**Balikesir**	**0.72**	**3**	PG	**Pg**	**22 48 26.9**	**-0.1**
BALB				SG	**Sg**	**22 48 37.6**	**+0.9**
BLCB	**Balcova**	**0.82**	**229**	PG	**Pg**	**22 48 28.6**	**-0.4**
DST	**Dursunbey**	**0.92**	**42**	PG	**Pg**	**22 48 30.4**	**-0.6**
PRK	**Paraskevi**	**1.26**	**285**	*e*PN	**Pn**	**22 48 36.5**	**+0.9**
PRK				*e*SN	**Sn**	**22 48 53.1**	**+0.8**
PRK	**Paraskevi**	**1.26**	**285**	*e*Pn	**Pn**	**22 48 36.5**	**+0.9**
PRK				*e*Sn	**Sn**	**22 48 53.0**	**+0.7**
ORLT	**Orhaneli**	**1.39**	**36**	PN	**Pn**	**22 48 37.9**	**+0.4**
BNT	**Bandirma**	**1.43**	**3**	PN	**Pn**	**22 48 38.0**	**-0.1**
SMG	**Samos**	**1.45**	**213**	*e*PN	**Pn**	**22 48 40.1**	**+1.8**
SMG				*e*SN	**Sn**	**22 49 00.7**	**+3.7**
KHL	**Karahalli**	**1.45**	**114**	*e*PN	**Pn**	**22 48 38.7**	**+0.3**
EZN	**Ezine**	**1.48**	**308**	PN	**Pn**	**22 48 37.9**	**-0.8**
DENT	**Denizli**	**1.50**	**141**	PN	**Pn**	**22 48 39.5**	**+0.4**
MLSB	**Milas**	**1.63**	**182**	PN	**Pn**	**22 48 40.0**	**-0.8**
LPK	**Lapseki**	**1.67**	**331**	PN	**Pn**	**22 48 41.1**	**-0.4**
ALT	**Altintas**	**1.78**	**85**	PN	**Pn**	**22 48 43.3**	**+0.3**
YER	**Yerkesik**	**1.82**	**169**	PN	**Pn**	**22 48 43.6**	**0.0**
BODT	**Bodrum**	**1.90**	**193**	PN	**Pn**	**22 48 44.6**	**-0.3**
DALT	**Dalyan (Mudla)**	**2.24**	**163**	*e*PN	**Pn**	**22 48 49.1**	**-0.6**
CTT	**Catalca**	**2.27**	**11**	*e*PN	**Pn**	**22 48 48.8**	**-1.3**
LIA	**Limnos Island**	**2.27**	**296**	*e*PN	**Pn**	**22 48 50.9**	**+0.8**
ISK	**Istanbul-Kandi**	**2.34**	**23**	PN	**Pn**	**22 48 50.2**	**-0.8**
GPA	**Golpazari**	**2.35**	**54**	*e*PN	**Pn**	**22 48 51.3**	**+0.1**
HRT	**Hereke**	**2.36**	**36**	PN	**Pn**	**22 48 50.6**	**-0.8**
ISP	**Isparta**	**2.36**	**116**	*e*PN	**Pn**	**22 48 51.5**	**+0.1**
ESKT	**Eskisehir**	**2.42**	**75**	*e*PN	**Pn**	**22 48 52.8**	**+0.6**
EYL	**Eskiyayla**	**2.43**	**47**	*e*PN	**Pn**	**22 48 52.1**	**-0.2**
APE	**Apeiranthos**	**2.60**	**225**	*e*PN	**Pn**	**22 48 54.2**	**-0.6**
APE	**Apeiranthos**	**2.60**	**225**	*e*PB	**Pb**	**22 48 57.0**	**-1.3**
ARG	**Arkhangelos**	**2.71**	**175**	*e*PN	**Pn**	**22 48 57.5**	**+1.1**
ARG	**Arkhangelos**	**2.71**	**175**	*e*Pn	**Pn**	**22 48 56.6**	**+0.2**
ELL	**Elmali**	**2.72**	**142**	*e*PN	**Pn**	**22 48 56.6**	**+0.1**
EDRB	**Edirne**	**3.04**	**344**	*e*PN	**Pn**	**22 49 00.8**	**-0.2**
KIZT	**Kizilcal**	**3.16**	**90**	*e*PN	**Pn**	**22 49 03.0**	**+0.2**
ANTO	**Ankara**	**3.96**	**75**	*e*PN	**Pn**	**22 49 14.3**	**+0.2**
SAFT	**Safranbolu**	**4.38**	**57**	*e*PN	**Pn**	**22 49 20.6**	**+0.5**

OTT 20 23:01:25.3±0.2**, 53.02N**×**66.91W, MN2.9**/7**, Blast, Labrador City, Nl Mining explosion., Labrador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**1.82**	**1**	PN	Pn	23 01 58.2	+0.1
SCHQ				SG	Sg	23 02 22.4	-3.4
SCHQ				Trac		23 02 24.5	
	comp=Z,26nm,0.1s						
SMQ	**Clarke City**	**2.80**	**177**	PN	Pn	23 02 10.7	-1.5
SMQ				SN	Sn	23 02 45.0	-2.2
YOSQ	**Ashton Mining**	**3.21**	**269**	PN	Pn	23 02 16.0	-1.9
YOSQ				SN	Sn	23 02 51.6	-5.8
YOSQ				Trac		23 03 03.0	
	comp=Z,20nm,0.1s						
ICQ	**Pointe Anglais**	**3.51**	**184**	PN	Pn	23 02 20.8	-1.5
ICQ				Trac		23 03 07.0	
	comp=Z,4.6nm,0.1s						
CNQ	**Baie Comeau**	**3.79**	**192**	PN	Pn	23 02 25.0	-1.3
CNQ				SN	Sn	23 03 10.7	-1.6
CNQ				Trac		23 03 13.1	
	comp=Z,3.6nm,0.1s						
GSQ	**Grosses Roches**	**4.12**	**182**	PN	Pn	23 02 29.6	-1.3
GSQ				SN	Sn	23 03 18.9	-1.6
GSQ				SG	Sg	23 03 32.1	-10
GSQ				Trac		23 03 32.6	
	comp=Z,0.7nm,0.0s						
LG4Q	**La Grande 4**	**4.36**	**281**	PN	Pn	23 02 31.2	-3.1
LG4Q				SN	Sn	23 03 19.9	-6.7
LG4Q				Trac		23 03 41.1	
	comp=Z,4.5nm,0.2s						
LMQ	**La Malbaie**	**5.90**	**203**	PN	Pn	23 02 53.7	-2.4
LMQ				Trac		23 04 05.1	
	comp=Z,2.4nm,0.1s						
WEMQ	**Wemindji, Queb**	**6.68**	**275**	PN	Pn	23 03 02.3	-4.8
DRLN	**Deer Lake**	**7.01**	**119**	PN	Pn	23 03 06.7	-5.1
DRLN				SN	Sn	23 04 20.1	-13
LMN	**Caledonia Moun**	**7.30**	**168**	PN	Pn	23 03 11.8	-4.1
LMN				SN	Sn	23 04 30.6	-10
VLDQ	**Val d'Or**	**8.32**	**238**	PN	P	23 03 26.2	-3.9
VIMO	**Victor Mine**	**10.18**	**276**	PN	P	23 03 47.8	-7.8
SILO	**Sutton Inlier**	**10.76**	**285**	PN	P	23 03 55.8	-7.9

*MOS **20** 23:10:41.6±1.5, 22.21N×142.94E, h221km, mb4.1/6, Error ellipse: s-maj=22.7km s-min=11.5km az=107.5*
*IDC **20** 23:10:45.8±1.6, 22.00N×142.78E, h250km±13km, mb3.9/16, mb1 4.0/20, mb1mx3.9/28, mbtmp4.5/20, Error ellipse: s-maj=16.1km s-min=10.8km az=86.0*
*NEIC **20** 23:10:47.5±2.2, 22.02N×142.87E, h269km±21km, mb4.3/9, Error ellipse: s-maj=14.1km s-min=9.3km az=96.0*

ISC 20 23:10:45.2±1.2**, 22.00N**±0.07×**142.9E**±0.1**, h259**km±11km**, n47, σ1§06**/47**, mb4.1**/24**, 2C, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.11**	**353**	P	**P**	**23 12 04.5**	**+1.4**
	27nm,0.3s,baz=250,slow=17,SNR=5.5						
CBIJ				S	**S**	**23 13 03.0**	**-1.0**
	73nm,0.3s,baz=288,slow=23,SNR=17						
JHJ	**Hachijo jima 2**	**11.41**	**347**	P	**P**	**23 13 21.9**	**-0.2**
	8.8nm,0.3s,baz=261,slow=22,SNR=14						
MJAR	**Matsushiro Arr**	**15.04**	**345**	P	**P**	**23 14 04.8**	**-2.1**
	4.3nm,0.3s,baz=190,slow=13,SNR=18						
MJAR				S	**S**	**23 16 47.2**	**+0.4**
	0.2nm,0.3s,baz=130,slow=33,SNR=4.2						
MAJO	**Matsushiro**	**15.04**	**345**	*e*P	**P**	**23 14 07.4**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,22nm,0.4s						
MAJO	**Matsushiro**	**15.04**	**345**	*e*P	**P**	**23 14 07.4**	**+0.5**
	comp=Z,22nm,0.4s						
MAT	**Matsushiro**	**15.04**	**345**	P	**P**	**23 14 07.0**	**+0.1**
MAT				pmax	pmax		
	comp=Z,12nm,0.7s						
MAT	**Matsushiro**	**15.04**	**345**	P	**P**	**23 14 07.0**	**+0.1**
	comp=Z,12nm,0.7s						
MAT	**Matsushiro**	**15.04**	**345**	P	**P**	**23 14 07.1**	**+0.2**
MAT				S	**S**	**23 16 51.4**	**+4.5**
JNU	**Nakatsue**	**15.34**	**319**	P	**P**	**23 14 10.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=129,slow=13,SNR=2.0						
KS15	**Wonju Array Si**	**20.11**	**323**	*e*P	**P**	**23 15 01.2**	**+0.7**
ASAJ	**Asahikawa**	**22.05**	**359**	P	**P**	**23 15 21.4**	**+2.0**
	comp=Z,21nm,0.7s,mb4.6,baz=234,slow=30,SNR=16						
KLR	**Kul'dur**	**28.57**	**345**	*e*P	**P**	**23 16 15.8**	**-3.4**
SONM	**Songino Array**	**38.92**	**320**	P	**P**	**23 17 47.5**	**0.0**
	comp=Z,1.6nm,0.4s,mb3.8,baz=126,slow=6.7,SNR=24						
SONM				ScP		23 23 16.4	
	comp=Z,0.2nm,0.4s,baz=143,slow=3.9,SNR=3.6						
ZAK	**Zakamensk**	**41.93**	**322**	*e*P	**P**	**23 18 13.0**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.6						
WB2	**Warramunga Arr**	**42.51**	**192**	⇑*i*P	**P**	**23 18 17.1**	**0.0**
WRA	**Warramunga Arr**	**42.51**	**192**	P	**P**	**23 18 17.1**	**-0.1**
	comp=Z,12nm,0.6s,mb4.3,baz=11,slow=8.1,SNR=55						
FITZ	**Fitzroy Crossi**	**43.28**	**204**	⇑*i*P	**P**	**23 18 23.5**	**+0.2**
	comp=Z,8.7nm,0.3s,mb4.5						
LSA	**Lhasa**	**46.86**	**291**	*e*P	**P**	**23 18 53.2**	**+1.9**
UNV	**Unalaska Valle**	**49.54**	**37**	*e*P	**P**	**23 19 11.5**	**+0.1**
	comp=Z,33nm,0.5s,mb4.9						
TIXI	**Tiksi**	**50.32**	**354**	*e*P	**P**	**23 19 14.0**	**-3.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.7						
STKA	**Stephens Creek**	**53.59**	**181**	*e*P	**P**	**23 19 40.9**	**-0.8**
	comp=Z,2.0nm,0.3s,mb3.9						
STKA	**Stephens Creek**	**53.59**	**181**	P	**P**	**23 19 40.5**	**-1.2**
	comp=Z,2.5nm,0.4s,mb3.9,baz=15,slow=7.3,SNR=14						
ZAL	**Zalesovo**	**53.80**	**322**	P	**P**	**23 19 42.6**	**-0.3**
	comp=Z,1.6nm,0.3s,mb3.8,baz=4.7,slow=8.2,SNR=6.8						
MKAR	**Makanchi Array**	**54.28**	**313**	P	**P**	**23 19 46.3**	**-0.2**
	comp=Z,0.8nm,0.4s,mb3.4,baz=90,slow=9.1,SNR=18						
ILAR	**Eielson Array**	**61.90**	**27**	P	**P**	**23 20 38.1**	**-0.8**
	comp=Z,5.0nm,0.7s,mb4.2,baz=259,slow=5.5,SNR=37						
BVAR	**Borovoye Array**	**62.25**	**319**	P	**P**	**23 20 40.9**	**-0.5**
	comp=Z,6.4nm,0.3s,mb4.7,baz=89,slow=7.0,SNR=21						
ARU	**Arti**	**68.85**	**324**	*e*P	**P**	**23 21 23.2**	**+0.1**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
ARU	**Arti**	**68.85**	**324**	*e*P	**P**	**23 21 23.2**	**0.0**
	comp=Z,5.6nm,0.7s,mb4.4						
DLBC	**Dease Lake**	**70.03**	**34**	P	**P**	**23 21 31.0**	**+0.7**
	comp=Z,1.9nm,0.7s,mb3.9,baz=302,slow=6.0,SNR=7.1						
YKA	**Yellowknife Ar**	**76.32**	**28**	P	**P**	**23 22 07.1**	**+0.4**
	comp=Z,3.2nm,0.5s,mb4.2,baz=292,slow=6.0,SNR=6.4						
YKA	**Yellowknife Ar**	**76.32**	**28**	P	**P**	**23 22 07.1**	**+0.4**
ARCES	**ARCESS Array B**	**78.54**	**341**	P	**P**	**23 22 18.2**	**-0.6**
	comp=Z,2.9nm,0.5s,mb4.2,baz=74,slow=8.4,SNR=14						
YBH	**Yreka Blue Hor**	**78.84**	**50**	P	**P**	**23 22 22.8**	**+1.8**
	comp=Z,0.9nm,0.5s,mb3.7,baz=8.7,slow=13,SNR=2.4						
NEW	**Newport**	**80.25**	**42**	P	**P**	**23 22 29.1**	**+0.9**
	comp=Z,2.7nm,0.7s,mb4.1,baz=252,slow=7.0,SNR=4.3						
CMB	**Columbia Colle**	**81.81**	**52**	*e*P	**P**	**23 22 35.3**	**-1.3**
CMB				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
CMB	**Columbia Colle**	**81.81**	**52**	*e*P	**P**	**23 22 35.3**	**-1.3**
	comp=Z,3.4nm,1.1s,mb4.0						
KAF	**Kangasniemi**	**82.32**	**335**	*e*p	**P**	**23 22 37.0**	**-1.7**
	comp=Z,5.3nm,1.1s,mb4.2,baz=56,slow=4.9						
FINES	**FINESS Array B**	**82.78**	**334**	P	**P**	**23 22 41.1**	**0.0**
	comp=Z,3.9nm,0.4s,mb4.6,baz=85,slow=4.4,SNR=56						
ELK	**Elko**	**84.44**	**48**	*e*P	**P**	**23 22 48.4**	**-1.5**
ELK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ELK	**Elko**	**84.44**	**48**	*e*P	**P**	**23 22 48.4**	**-1.4**
	comp=Z,2.7nm,0.9s,mb4.1						
PDAR	**Pinedale Array**	**87.38**	**45**	P	**P**	**23 23 06.2**	**+2.1**
	comp=Z,0.3nm,0.4s,mb3.5,baz=225,slow=1.3,SNR=3.3						
NB2	**NORSAR Subarra**	**88.56**	**339**	P	**P**	**23 23 08.7**	**-0.5**
	comp=Z,1.3nm,0.7s,mb3.9,baz=45,slow=5.0						
NB2	**NORSAR Subarra**	**88.56**	**339**	P	**P**	**23 23 08.7**	**-0.5**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
NOA	**NORSAR Array B**	**88.56**	**339**	P	**P**	**23 23 08.7**	**-0.5**
	comp=Z,1.1nm,0.6s,mb3.8,baz=46,slow=4.8,SNR=3.7						
PLCA	**Paso Flores**	**146.18**	**131**	PKPbc	PKPbc	23 29 57.4	+2.6
	comp=Z,1.0nm,0.4s,baz=268,slow=7.4,SNR=4.6						
PLCA	**Paso Flores**	**146.18**	**131**	PKPbc	PKPbc	23 29 57.4	+2.6
LPAZ	**La Paz**	**150.20**	**84**	PKPbc	PKPdf	23 30 08.8	+8.3
	comp=Z,1.7nm,0.6s,baz=182,slow=24,SNR=8.9						

IDC 20 23:28:04.3±1.6**, 0.86N**×**124.91E, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.7**/15**, mbtmp4.0**/3**, Error ellipse: s-maj=197.3km s-min=24.0km az=62.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.64**	**156**	P	P	23 33 07.1	-1.4
	3.9nm,0.5s,baz=335,slow=10,SNR=17						
WB2	**Warramunga Arr**	**22.65**	**156**	*e*P	P	23 33 08.6	0.0
STKA	**Stephens Creek**	**36.19**	**156**	P	P	23 35 08.6	-2.2
	1.8nm,0.5s,baz=330,slow=8.1,SNR=4.5						
MKAR	**Makanchi Array**	**58.91**	**327**	P	P	23 38 05.4	-2.2
	0.4nm,0.4s,baz=127,slow=8.1,SNR=13						

*PRE **20** 23:28:35.6±2.2, 26.37S×27.60E, h2km, ML3.6*
*IDC **20** 23:28:37.0±1.3, 26.41S×27.60E, mb3.7/3, mb1 4.1/7, mb1mx3.8/23, mbtmp4.0/7, ML4.1/3, Error ellipse: s-maj=18.5km s-min=14.3km az=81.0*
*NEIC **20** 23:28:37.1±1.0, 26.36S×27.66E, h5km, mb4.3/1, Error ellipse: s-maj=19.1km s-min=11.0km az=103.0*

ISC 20 23:28:35.5±0.8**, 26.37S**±0.03×**27.59E**±0.04**, h5**km±6km**, n23, σ1§14**/41**, mb3.8**/3**, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.59**	**200**	*e*P	**Pg**	**23 28 47.7**	**+0.4**
PRYS				*e*S	**Sg**	**23 28 55.3**	**+0.1**
PRYS				AML	AML	23 29 02.2	
	comp=Z,2µm,0.6s						
KSR	**Koster**	**0.81**	**310**	*e*P	**Pg**	**23 28 53.2**	**+1.6**
KSR				*e*S	**Sg**	**23 29 03.9**	**+1.4**
KSR				AML	AML	23 29 12.8	
	comp=Z,1µm,0.2s						
SLR	**Silverton**	**0.89**	**45**	*e*P	**Pb**	**23 28 52.9**	**0.0**
SLR				*e*S	**Sb**	**23 29 04.1**	**-0.8**
SLR				AML	AML	23 29 05.7	
	comp=Z,396nm,0.4s						
SEK	**Senekal**	**1.94**	**179**	*e*S	**Sn**	**23 29 35.0**	**+0.4**
SEK				AML	AML	23 29 38.5	
	comp=Z,383nm,0.4s						
SWZ	**Schweizer**	**2.17**	**248**	*e*P	**Pn**	**23 29 14.2**	**+1.4**
SWZ				*e*S	**Sn**	**23 29 40.9**	**+0.5**
SWZ				AML	AML	23 29 47.5	
	comp=Z,1µm,0.4s						
LBTB	**Lobatse**	**2.25**	**306**	Pn	**Pn**	**23 29 17.1**	**+3.3**
	comp=Z,71nm,0.3s,baz=138,slow=15,SNR=542						
LBTB				Pg	**Pg**	**23 29 18.9**	**-1.4**
	comp=Z,71nm,0.3s,baz=141,slow=17,SNR=524						
LBTB				Lg		23 29 48.6	
	comp=Z,163nm,0.3s,baz=225,slow=23,SNR=32						
LBTB				Rg		23 29 58.9	
	comp=Z,96nm,0.3s,baz=279,slow=18,SNR=13						
LBTB	**Lobatse**	**2.25**	**306**	*e*P	**Pn**	**23 29 17.2**	**+3.3**
LBTB				Pg	**Pg**	**23 29 18.9**	**-1.4**
LBTB				Lg		23 29 48.6	
LBTB				Rg		23 29 58.9	
BFT	**Belfast (SA)**	**2.31**	**73**	*e*S	**Sn**	**23 29 44.2**	**+0.4**
BFT				AML	AML	23 29 47.4	
	comp=N,252nm,0.3s						
NWL	**Newcastle**	**2.50**	**123**	*e*P	**Pn**	**23 29 18.4**	**+1.0**
NWL				*e*S	**Sn**	**23 29 48.7**	**+0.1**
NWL				AML	AML	23 29 54.8	
	comp=Z,391nm,0.5s						
BOSA	**Boshof**	**3.05**	**222**	Pn	**Pn**	**23 29 26.1**	**+0.9**
	comp=Z,9.8nm,0.3s,baz=49,slow=13,SNR=218						
BOSA				Pg	**Pg**	**23 29 33.9**	**-2.4**
	comp=Z,15nm,0.3s,baz=48,slow=14,SNR=34						
BOSA				Sn	**Sn**	**23 29 59.9**	**-2.7**
	comp=Z,16nm,0.3s,baz=33,slow=16,SNR=9.3						
BOSA				Lg		23 30 10.6	
	comp=Z,20nm,0.3s,baz=310,slow=16,SNR=8.7						
BOSA				Rg		23 30 30.6	
	comp=Z,31nm,0.3s,baz=296,slow=15,SNR=4.1						
BOSA	**Boshof**	**3.05**	**222**	*e*P	**Pn**	**23 29 26.2**	**+1.0**
BOSA				*e*S	**Sn**	**23 30 02.1**	**-0.4**
BOSA	**Boshof**	**3.05**	**222**	*e*P	**Pn**	**23 29 25.8**	**+0.6**
BOSA				Pn	**Pn**	**23 29 26.1**	**+0.9**
BOSA				Pg	**Pg**	**23 29 33.9**	**-2.4**
BOSA				Sn	**Sn**	**23 29 59.9**	**-2.7**
BOSA				Lg		23 30 10.6	
BOSA				Rg		23 30 30.6	
POGA	**Pongola**	**3.73**	**106**	*e*P	**Pn**	**23 29 35.4**	**+0.5**
POGA				*e*S	**Sn**	**23 30 19.5**	**-0.3**
POGA				AML	AML	23 30 35.1	
	comp=Z,263nm,0.4s						
PKA	**Prieska**	**5.39**	**231**	*e*P	**Pn**	**23 29 44.6**	**-14**
PKA				*e*S	**Sn**	**23 30 44.5**	**-17**
PKA				AML	AML	23 31 09.0	
	comp=Z,59nm,0.3s						
SUR	**Sutherland**	**8.41**	**223**	Pn	**P**	**23 30 40.6**	**-0.3**
	comp=Z,3.8nm,0.3s,baz=52,slow=15,SNR=31						
SUR				Sn	**Sn**	**23 32 07.7**	**-10**
	comp=Z,1.1nm,0.3s,baz=355,slow=21,SNR=3.5						
SUR				Lg		23 32 58.5	
	comp=Z,3.6nm,0.3s,baz=138,slow=23,SNR=4.1						
CVNA	**Calvinia**	**8.54**	**232**	*e*P	**P**	**23 30 41.1**	**-1.6**
CVNA				*e*S	**Sn**	**23 32 09.9**	**-11**
CER	**Ceres**	**10.02**	**224**	*e*S	**S**	**23 33 09.7**	**+13**
LSZ	**Lusaka**	**11.05**	**3**	*e*P	**P**	**23 31 14.7**	**-2.7**
	comp=Z,3.3nm,0.4s						
TSUM	**Tsumeb**	**11.66**	**306**	Pn	**P**	**23 31 24.1**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=116,slow=9.3,SNR=29						

TSUM				Sn	**S**	**23 33 32.8**	**-4.6**
	comp=Z,0.2nm,0.3s,baz=79,slow=21,SNR=2.6						
TSUM				Lg		23 34 43.0	
	comp=Z,1.2nm,0.3s,baz=54,slow=20,SNR=5.2						
SNAA	**Sanae**	**48.41**	**192**	P	**P**	**23 37 20.5**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.8,baz=35,slow=7.9,SNR=8.2						
SNAA	**Sanae**	**48.41**	**192**	*e*P	**P**	**23 37 20.4**	**+0.4**
	comp=Z,2.6nm,0.9s,mb4.3						
ESDC	**Sonseca Array**	**71.99**	**335**	P	**P**	**23 40 02.7**	**+0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=152,slow=5.5,SNR=7.8						
MKAR	**Makanchi Array**	**87.98**	**34**	P	**P**	**23 41 28.2**	**+0.6**
	comp=Z,0.3nm,0.6s,mb3.7,baz=227,slow=3.5,SNR=5.0						

*NEIC **21** 00:35:08.0, 35.02S×70.48W, h11km, ML2.6(GUC), After GUC.*

GUC 21 00:35:08.0±0.7**, 35.02S×70.48W, h11**km±4km**, MD3.6, ML2.6, 5C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.59**	**312**⇓	*i*P	Pb	00 35 19.2	-0.8
SFDO				*i* S	Sg	00 35 27.8	-0.3
CICH	**Cipreses**	**0.69**	**4**⇑	*i*P	Pb	00 35 20.8	-0.9
CICH				*i* S	Sb	00 35 30.7	-0.3
CACH	**El Canelo**	**0.90**	**354**⇑	*i*P	Pb	00 35 24.5	-0.7
CACH				*i* S	Sb	00 35 37.0	-0.1
CHCH	**Chadas Angostu**	**1.09**	**352**⇑	*i*P	Pb	00 35 28.2	-0.2
CHCH				*i* S	Sb	00 35 42.9	+0.5
LMEL	**Las Melosas**	**1.19**	**11**⇑	*i*P	Pb	00 35 29.6	-0.5
LMEL				*i* S	Sb	00 35 46.1	+0.8
LMEL				AMP		00 35 48.7	
	comp=N,121nm,0.2s						
LNV	**Longovilo**	**1.31**	**324**⇓	*i*P	Pb	00 35 31.4	-0.7
LNV				*i* S	Sb	00 35 49.2	+0.4
TACH	**Talagante**	**1.41**	**344**⇓	*i*P	Pn	00 35 33.6	-0.2
TACH				*i* S	Sb	00 35 52.8	+1.0
ANTU	**Antumapu**	**1.45**	**355**	*i* S	Sb	00 35 54.3	+1.4
ANTU				AMP		00 35 57.2	
	comp=E,144nm,0.4s						
RCDM	**Rinconada Maip**	**1.55**	**350**⇑	*i*P	Pn	00 35 35.8	+0.1
RCDM				*i* S	Sb	00 35 57.2	+1.5
RCDM				AMP		00 35 58.2	
	comp=E,270nm,0.1s						
CLCH	**Cerro Calan**	**1.62**	**358**	*e*P	Pn	00 35 37.4	+0.7
CLCH				*i* S	Sn	00 36 00.0	+2.3
CLCH				AMP		00 36 01.0	
	comp=E,119nm,0.4s						
FCH	**Farellones**	**1.69**	**5**	*e*P	Pn	00 35 38.9	+1.1
FCH				*i* S	Sn	00 36 02.1	+2.5
FCH				AMP		00 36 03.0	
	comp=N,88nm,0.3s						
LCCH	**Las Cruces**	**1.78**	**329**⇓	*i*P	Pn	00 35 39.6	+0.5
LCCH				*i* S	Sn	00 36 03.7	+1.7
ROCH	**El Roble**	**2.08**	**348**	*i* P	Pn	00 35 45.3	+1.9
ROCH				*i* S	Sn	00 36 13.8	+4.2
JACH	**Jahuel**	**2.33**	**358**	*e*P	Pn	00 35 48.3	+1.4
JACH				*e*S	Sn	00 36 18.1	+2.3

GUC 21 00:41:29.9±0.7**, 22.21S×68.90W, h119**km±5km**, ML3.6, 1C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.40**	**181**⇓	*i*P	P	00 41 47.9	+0.6
LVC				*i* S	S	00 42 01.7	+1.3
LVC				AMP		00 42 02.3	
	comp=E,2μm,0.3s						
LVC				AMP		00 42 02.6	
	comp=N,2μm,0.4s						
SPCH	**San Pedro de A**	**0.95**	**137**⇓	*i*P	P	00 41 52.1	+0.4
SPCH				*i* S	S	00 42 09.5	+1.6
SPCH				AMP		00 42 10.6	
	comp=N,306nm,0.4s						
SPCH				AMP		00 42 21.9	
	comp=E,378nm,0.6s						
ANCH	**Antofagasta**	**2.02**	**223**⇑	*i*P	P	00 42 05.6	+1.6
ANCH				*i* S	S	00 42 31.4	+1.6
ANCH				AMP		00 42 34.0	
	comp=N,2μm,0.0s						
ANCH				AMP		00 42 34.0	
	comp=E,2μm,0.1s						
CPN1	**Cerro Paranal**	**2.78**	**210**	*e*P	P	00 42 15.3	+1.2
CPN1				*i* S	S	00 42 49.2	+1.7
CPN1				AMP		00 42 51.2	
	comp=N,237nm,0.2s						
CPN1				AMP		00 42 52.6	
	comp=E,246nm,0.2s						

*NEIC **21** 00:47:19.9, 19.05N×64.77W, h18km, MD3.5(RSPR), After RSPR.*

RSPR 21 00:47:19.9, 19.05N×64.77W, h17km±27km**, MD3.5**/11**, MD3.5**/11**, 8C-3D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.71**	**195**⇑	*e*P	Pb	00 47 31.4	-2.0
STVI				*e*S	Sb	00 47 42.2	-0.5
MTP	**Monte Pirata**	**1.21**	**218**⇑	*e*P	Pb	00 47 39.0	-2.9
MTP				*e*S	Sb	00 47 53.4	-3.6
CBYP	**Canovanas**	**1.28**	**233**⇑	*e*P	Pn	00 47 39.7	-3.5
CBYP				*e*S	Sb	00 47 55.5	-3.8
HUMP	**Col San Antoni**	**1.36**	**229**⇓	*e*P	Pn	00 47 41.1	-3.1
HUMP				*e*S	Sb	00 47 58.0	-3.5
CPD	**Cerro la Pandu**	**1.48**	**228**⇓	*e*P	Pn	00 47 43.8	-2.1
CPD				*e*S	Sn	00 48 01.4	-3.4
SJG	**San Juan**	**1.60**	**235**⇑	*e*P	Pn	00 47 44.5	-3.2
SJG				*e*S	Sn	00 48 04.5	-3.6
SJG	**San Juan**	**1.60**	**235**⇑	*e*P	Pn	00 47 44.3	-3.4
SJG				*e*S	Sn	00 48 03.7	-4.4
PORP	**Portuguez**	**2.03**	**241**⇑	*e*P	Pn	00 47 51.0	-2.7
LRS	**Lares**	**2.10**	**250**⇓	*e*P	Pn	00 47 51.3	-3.6
LSP	**Las Mesas**	**2.36**	**249**⇑	*e*P	Pn	00 47 56.0	-2.6
MGP	**Maguayo**	**2.43**	**245**⇑	*e*P	Pn	00 47 56.7	-2.8

ISC 21 00:53:14.5±1.1**, 37.81N**±0.04×**26.8E**±0.1**, h10**km**, n7, σ0.40**/11**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.56**	**346**	*i* P	**Pg**	**00 53 25.8**	**-0.1**
URLA				*i* S	**Sg**	**00 53 34.0**	**+0.5**
BLCB	**Balcova**	**0.61**	**21**	PG	**Pg**	**00 53 26.3**	**-0.5**
BLCB				SG	**Sg**	**00 53 35.4**	**+0.4**
IZM	**Izmir**	**0.70**	**34**	PG	**Pg**	**00 53 28.1**	**-0.5**
KDAG	**Bornova**	**0.71**	**34**	*i* P	**Pb**	**00 53 27.8**	**-0.7**
KDAG				*i* S	**Sb**	**00 53 38.4**	**+0.4**
BODT	**Bodrum**	**0.86**	**150**	*e*PG	**Pg**	**00 53 31.9**	**0.0**
AYDN	**Tasoluk**	**0.89**	**100**	*i* P	**Pb**	**00 53 31.6**	**0.0**
BDRM	**Kayabasi**	**0.92**	**144**	*i* P	**Pb**	**00 53 32.2**	**+0.1**
BDRM				*i* S	**Sb**	**00 53 44.6**	**+0.5**

*NEIC **21** 01:10:19.0±0.7, 19.90S×69.01W, h92km±9km, mb3.9/3, Error ellipse: s-maj=10.9km s-min=7.5km az=91.0*
*GUC **21** 01:10:19.5±0.6, 20.03S×69.80W, h80km, ML4.3*
*IDC **21** 01:10:21.7±1.8, 20.04S×68.86W, h116km±15km, mb3.6/3, mb1 3.8/7, mb1mx3.6/19, mbtmp4.2/7, Error ellipse: s-maj=33.8km s-min=13.6km az=107.0*

ISC 21 01:10:17.6±0.7**, 19.86S**±0.05×**69.07W**±0.08**, h101**km±10km**, n23, σ1.07**/29**, mb4.2**/3**, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.74**	**177**	*e*P	**P**	**01 11 02.2**	**+1.4**
LVC				*i* S	**S**	**01 11 34.6**	**+1.4**
LVC				AMP		01 11 43.5	
	comp=N,1μm,0.4s						
LVC	**Limon Verde**	**2.74**	**177**	P	**P**	**01 11 02.5**	**+1.7**
	comp=N,39nm,0.3s,baz=4.6,slow=8.9,SNR=164						
LVC				S	**S**	**01 11 34.5**	**+1.3**
	comp=N,68nm,0.3s,baz=138,slow=23,SNR=21						
SPCH	**San Pedro de A**	**3.14**	**165**	*e*P	**P**	**01 11 10.0**	**+3.8**
SPCH				*i* S	**S**	**01 11 48.2**	**+5.3**
SPCH	**San Pedro de A**	**3.14**	**165**	*e*P	**P**	**01 11 10.5**	**+4.3**
LPAZ	**La Paz**	**3.67**	**14**	P	**P**	**01 11 19.5**	**+6.0**
	comp=N,5.6nm,0.3s,baz=187,slow=8.6,SNR=232						
LPAZ	**La Paz**	**3.67**	**14**	*e*Pn	**P**	**01 11 19.0**	**+5.6**
ANCH	**Antofagasta**	**4.00**	**198**	*e*P	**P**	**01 11 17.1**	**-0.9**
ANCH				*e*S	**S**	**01 11 59.9**	**-4.1**
ANCH	**Antofagasta**	**4.00**	**198**	*e*P	**P**	**01 11 17.5**	**-0.5**
ANCH				*e*S	**S**	**01 11 59.9**	**-4.1**
ARE	**Arequipa**	**4.09**	**325**	*e*P	**P**	**01 11 20.0**	**+0.7**
ARE				*e*S	**S**	**01 12 05.0**	**-1.3**
CPN1	**Cerro Paranal**	**4.90**	**194**	*i* P	**P**	**01 11 29.3**	**-1.0**
SIV	**San Ignacio**	**8.53**	**64**	P	**P**	**01 12 19.9**	**0.0**
	comp=N,7.4nm,0.3s,baz=260,slow=10,SNR=300						
NNA	**Nana**	**10.82**	**315**	P	**P**	**01 12 56.7**	**+5.9**
	comp=N,14nm,0.8s						
CFAA	**Coronel Fontan**	**11.72**	**176**	P	**P**	**01 13 01.2**	**-1.4**
	comp=N,0.1nm,0.3s,baz=317,slow=9.6,SNR=2.9						
CFAA				S	**S**	**01 15 00.1**	**-12**
	comp=N,0.1nm,0.3s,baz=336,slow=10,SNR=4.5						
SAML	**Samuel**	**12.25**	**29**	*e*P	**P**	**01 13 09.3**	**-0.5**
CPUP	**Villa Florida**	**12.57**	**123**	P	**P**	**01 13 13.7**	**-0.3**
	comp=N,0.5nm,0.3s,baz=321,slow=14,SNR=16						
CPUP	**Villa Florida**	**12.57**	**123**	*e*P	**P**	**01 13 13.5**	**-0.4**
	comp=N,23nm,1.2s						
TRQA	**Tornquist**	**19.15**	**163**	*e*P	**P**	**01 14 34.5**	**-0.8**
	comp=N,3.2nm,0.8s						
BDFB	**Brasilia**	**20.48**	**82**	P	**P**	**01 14 49.8**	**+0.4**
	comp=N,2.8nm,0.4s,baz=259,slow=12,SNR=5.0						
PLCA	**Paso Flores**	**20.84**	**183**	P	**P**	**01 14 52.8**	**-0.1**
	comp=N,1.7nm,0.6s,baz=4.6,slow=12,SNR=9.1						
JTS	**JuntasAbangare**	**33.80**	**331**	P	**P**	**01 16 54.1**	**+1.9**
	comp=N,15nm,1.1s,mb4.7						
SDCO	**Great Sand Dun**	**66.77**	**329**	*e*P	**P**	**01 21 01.5**	**+1.1**
	comp=N,1.0nm,0.8s,mb3.7						
DBIC	**Dimbokro**	**68.42**	**74**	P	**P**	**01 21 10.4**	**-0.7**
	comp=N,1.9nm,0.6s,mb4.1,baz=210,slow=11,SNR=8.0						
SONM	**Songino Array**	**151.86**	**6**	PKPbc	PKPdf	01 30 03.3	+10
	comp=N,0.5nm,0.4s,baz=320,slow=1.1,SNR=4.5						

*ATH **21** 01:33:21.8, 39.79N×20.42E, h25km±1km, MD3.5/4*
*NEIC **21** 01:33:21.8, 39.79N×20.42E, h25km, MD3.5(ATH), After ATH.*
*CSEM **21** 01:33:22.7±0.1, 39.69N×20.39E, h3km±1km, MD3.5, Error ellipse: s-maj=5.1km s-min=2.7km az=31.0*

ISC 21 01:33:23.2±0.4**, 39.69N**±0.04×**20.39E**±0.04**, h10**km**, n20, σ0.99**/26**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.16**	**196**	*e*P	**Pg**	**01 33 26.4**	**-0.6**
JAN	**Janina**	**0.36**	**95**	*e*PB	**Pb**	**01 33 29.6**	**-1.6**
JAN				*e*SB	**Sb**	**01 33 35.5**	**-1.0**
SRN	**Sarande**	**0.36**	**302**	*i* Pg	**Pg**	**01 33 29.7**	**-0.9**
SRN				*i* Sg	**Sg**	**01 33 36.1**	**+0.6**
KEK	**Kerkira**	**0.46**	**273**	*e*PB	**Pb**	**01 33 31.5**	**-1.4**
KEK				*e*SB	**Sb**	**01 33 39.6**	**+0.2**
MEV	**Metsovon**	**0.65**	**81**	*e*P	**Pb**	**01 33 34.4**	**-1.8**
TPE	**Tepelena**	**0.67**	**334**	*i* Pg	**Pg**	**01 33 35.9**	**-0.9**
TPE				*i* Sg	**Sg**	**01 34 04.0**	**+18**
LKD	**Levkas**	**1.00**	**168**	*e*P	**Pb**	**01 33 41.5**	**-0.7**
FNA	**Florina**	**1.33**	**34**	*e*P	**Pb**	**01 33 47.9**	**+0.2**
EVR	**Evrytania**	**1.34**	**125**	*e*PN	**Pn**	**01 33 47.9**	**-0.2**
EVR				*e*SN	**Sn**	**01 34 06.5**	**+0.4**
VLS	**Valsamata**	**1.52**	**174**	*e*PN	**Pn**	**01 33 51.1**	**+0.5**
VLS				*e*SN	**Sn**	**01 34 12.1**	**+1.6**
AGG	**Agios Georgios**	**1.64**	**113**	*e*P	**Pn**	**01 33 53.2**	**+0.8**
LIT	**Litokhoron**	**1.67**	**75**	*e*P	**Pn**	**01 33 53.6**	**+0.9**
TIR	**Tirane**	**1.70**	**347**	*i* Pn	**Pn**	**01 33 57.2**	**+3.9**
QSH	**Qafa e Shtames**	**1.87**	**349**	*i* Pn	**Pn**	**01 34 02.0**	**+6.4**
GRG	**Griva**	**1.99**	**50**	*e*P	**Pn**	**01 33 58.1**	**+0.8**
XOR	**Xorichti**	**2.19**	**98**	*e*P	**Pn**	**01 34 00.3**	**+0.1**
XOR	**Xorichti**	**2.19**	**98**	*e*P	**Pn**	**01 34 00.3**	**+0.1**
SKO	**Skopje**	**2.42**	**19**	*e*Pn	**Pn**	**01 34 05.3**	**+1.9**
SOH	**Sokhos**	**2.53**	**63**	*e*P	**Pn**	**01 34 05.9**	**+0.7**
PAIG	**Paliouri**	**2.54**	**84**	*e*P	**Pn**	**01 33 54.7**	**-11**

*IDC **21** 01:42:42.8±0.5, 4.41N×96.32E, h12km±2km, mb4.6/22, mb1 4.7/22, mb1mx4.7/23, mbtmp4.7/22, MS4.4/14, Ms1 4.4/14, ms1mx4.2/22, Error ellipse: s-maj=18.5km s-min=10.6km az=53.0*
*HRVD **21** 01:42:43.5±0.2, 4.07N×96.12E, h19km±1km, MW5.1/65, Centroid moment Tensor Solution. LP body waves: s43,c57; Mantle waves: s65,c110; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.52±.19; $M_{\theta\theta}$-1.66±.15; $M_{\phi\phi}$3.18±.18; $M_{r\theta}$1.70±.37; $M_{\theta\phi}$5.49±.14; $M_{\phi r}$0.52±.37; Best double couple: $M_0$6.277×10^{16} NP1: ϕ_s348°, δ72°, λ-175°. NP2: ϕ_s257°, δ85°, λ-18°. Principal axes: T 6.981, Plg9°, Azm304°; N -1.409, Plg71°, Azm62°; P -5.573, Plg16°, Azm211°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **21** 01:42:43.5±0.2, 4.34N×96.27E, mb5.1/58, MS4.6/28 Error ellipse: s-maj=8.5km s-min=4.8km az=46.0*
NEIC Felt [V] at Meulaboh and [II] at Banda Aceh.
*BJI **21** 01:42:43.5, 4.30N×96.30E, h14km, mB5.0, mb4.8, Ms5.2, Msz4.8*
*MOS **21** 01:42:44.7±1.2, 4.53N×96.45E, h33km, mb5.2/49, MS4.4/19, Error ellipse: s-maj=12.8km s-min=5.0km az=124.1*

ISC 21 01:42:42.1±0.2**, 4.22N**±0.04×**96.18E**±0.03**, h15**km**, h15**km±.6km**: pP-P, n363, σ1.35**/340**, mb5.0**/114**, MS4.6**/66**, 23C-19D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.58**	**76**	*e*Pn	**Pn**	**01 43 53.9**	**+1.3**
KULM				*e*Sn	**Sn**	**01 44 44.7**	**-1.4**
IPM	**Ipoh**	**4.85**	**86**	P	**Pn**	**01 43 56.9**	**+0.6**
SNG	**Songkhla**	**5.30**	**56**	P	**Pn**	**01 44 04.0**	**+1.2**
	414nm,1.0s						
KGM	**Kluang**	**7.46**	**107**	P	**Pn**	**01 44 35.3**	**+2.1**
NST	**Nakhon Sawan**	**12.02**	**19**	P	**P**	**01 45 39.0**	**+2.9**
KKTK	**Khon Kaen**	**13.69**	**28**	P	**P**	**01 46 11.0**	**+13**
	4μm,0.8s						
KSM	**Kuching**	**14.37**	**101**	*e*P	**P**	**01 46 12.8**	**+5.5**
NANT	**Nan**	**15.15**	**17**	PG	**P**	**01 46 22.0**	**+4.6**
NANT				SG	rx	01 46 26.0	
PALK	**Pallekele**	**15.69**	**282**	*e*P	**P**	**01 46 25.0**	**+0.4**
	150nm,1.2s						
PALK				*e*S	**S**	**01 49 04.7**	**-14**
MDRS	**Chennai**	**18.02**	**300**	*e*	**P**	**01 46 56.0**	**+2.0**
MDRS				*e*		01 50 24.0	
MDRS				*e*		01 51 46.0	
MDRS				*e*		01 54 53.0	
BWNR	**Bhubaneshwar**	**18.90**	**329**	*e*	**P**	**01 47 20.1**	**+15**
BWNR				AMb	AMB	01 47 20.9	
	comp=Z,39nm,0.4s						
TRD	**Trivandrum**	**19.57**	**284**	*e*P	**P**	**01 47 11.4**	**-1.1**
QIZ	**Qiongzhong**	**19.87**	**41**	P	**P**	**01 47 18.3**	**+2.5**
QIZ				AP		01 47 24.9	
QIZ				AMB	AMB		
	comp=Z,30nm,1.0s						
QIZ				LR	LR		
	comp=N,4μm,14.1s						
QIZ				LR	LR		
	comp=E,6μm,15.8s						
QIZ				LR	LR		
	comp=Z,2μm,18.7s						
QIZ	**Qiongzhong**	**19.87**	**41**	*e*P	**P**	**01 47 17.3**	**+1.5**
	comp=Z,53nm,1.1s						
KKM	**Kota Kinabalu**	**20.04**	**84**	*e*P	**P**	**01 47 16.5**	**-1.2**
KKM	**Kota Kinabalu**	**20.04**	**84**	P	**P**	**01 47 18.6**	**+0.9**
IMP	**Imphal**	**20.55**	**354**	*e*	**P**	**01 47 26.0**	**+3.0**
SHL	**Shillong**	**21.62**	**349**	*e*P	**P**	**01 47 34.0**	**+0.2**
SHL				*e*S	**S**	**01 51 30.0**	**+2.3**
HYB	**Hyderabad**	**21.68**	**309**⇑	*e*P	**P**	**01 47 35.0**	**+0.5**
HYB				*SP		01 47 44.1	
HYB						01 48 01.0	
HYB				PPP	PPP	01 48 14.2	+5.1
HYB				S	**S**	**01 51 33.2**	**+4.2**
HYB				*SS		01 51 38.7	
HYB				*e*S	**S**	**01 51 42.0**	**+13**
HYB				SS	SS	01 52 09.1	+3.4
HYB				SSS	SSS	01 52 23.6	+3.5
HYB				pmax	pmax		
	comp=Z,160nm,1.0s,mb5.4						
HYB	**Hyderabad**	**21.68**	**309**⇑	*e*P	**P**	**01 47 35.0**	**+0.5**
	comp=Z,160nm,1.0s,mb5.4						
HYB				*e*S	**S**	**01 51 42.0**	**+13**
HYB	**Hyderabad**	**21.68**	**309**⇑	*i*P	**P**	**01 47 35.0**	**+0.5**
	comp=Z,160nm,1.0s,mb5.4						
HYB				*e*S	**S**	**01 51 36.0**	**+7.0**
KMI	**Kunming**	**21.72**	**16**	P	**P**	**01 47 37.5**	**+2.7**
KMI				AP		01 47 41.8	
KMI				XP		01 47 44.1	
KMI				AMB	AMB		
	comp=Z,249nm,4.2s						
KMI				LR	LR		
	comp=N,3μm,18.8s,MS4.8						
KMI				LR	LR		
	comp=E,3μm,19.7s,MS4.8						
KMI				LR	LR		
	comp=Z,1μm,19.8s,MS4.3						
KMI	**Kunming**	**21.72**	**16**	P	**P**	**01 47 37.5**	**+2.7**
	comp=Z,0.3nm,4.2s						
KMI				pP		01 47 41.8	
KMI				sP		01 47 44.1	
KMI				PP	PP	01 48 01.0	+1.2
KMI				PPP	PPP	01 48 14.2	+4.7
KMI				S	**S**	**01 51 33.2**	**+3.7**
KMI				sS		01 51 38.7	
KMI				SS	SS	01 52 09.1	+2.6
KMI				SSS	SSS	01 52 23.6	+2.7
KMI				LR	LR		
	comp=Z,1μm,19.8s,MS4.3						
BLSP	**Bilaspur**	**22.41**	**324**	*e*P	**P**	**01 47 41.5**	**-0.3**
BLSP				AMb	AMB	01 47 48.1	
	comp=Z,102nm,1.0s,mb5.2						
BLSP				*e*S	**S**	**01 51 44.3**	**+2.0**
NGP	**Nagpur**	**23.66**	**317**	*e*P	**P**	**01 47 55.6**	**+1.5**
NGP				AMb	AMB	01 48 00.8	
	comp=Z,156nm,0.7s,mb5.5						
NGP				*e*		01 52 20.6	
LATR	**Latur**	**23.81**	**308**	*e*P	**P**	**01 47 59.0**	**+3.5**
GYA	**Guiyang**	**24.28**	**23**⇑	*i*P	**P**	**01 48 04.3**	**+4.2**
GYA				AP		01 48 08.6	
GYA				XP		01 48 11.4	
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
GYA				AMB	AMB		
	comp=Z,460nm,4.1s						
GYA				LR	LR		
	comp=N,2μm,15.2s,MS4.8						
GYA				LR	LR		
	comp=E,1μm,12.9s,MS4.8						
GYA				LR	LR		
	comp=Z,2μm,14.4s,MS4.8						
AKL	**Akola**	**24.81**	**313**	*e*	**P**	**01 48 11.7**	**+6.4**
AKL				AMb	AMB	01 48 17.4	
	comp=Z,236nm,1.0s,mb5.7						
KAD	**Karad**	**25.17**	**303**	*e*P	**P**	**01 48 09.7**	**+1.0**
KAD				AMb	AMB	01 48 16.2	
	comp=Z,92nm,0.9s,mb5.3						
PKI	**Pulchoki**	**25.39**	**337**	*e*P	**P**	**01 48 09.5**	**-1.2**
	comp=Z,27nm,0.4s,mb5.1						
GUN	**Gumba**	**25.52**	**338**	*e*P	**P**	**01 48 11.1**	**-0.8**
	comp=Z,49nm,0.4s,mb5.3						
DMN	**Daman**	**25.54**	**337**	*e*P	**P**	**01 48 11.5**	**-0.6**
	comp=Z,43nm,0.8s,mb5.0						
KKN	**Kakani**	**25.63**	**337**	*e*P	**P**	**01 48 11.7**	**-1.3**
	comp=Z,95nm,1.0s,mb5.3						
KKN	**Kakani**	**25.63**	**337**	*e*P	**P**	**01 48 11.7**	**-1.3**
KKN				pmax	pmax		
	comp=Z,48nm,1.0s,mb5.0						
LSA	**Lhasa**	**25.78**	**350**	P	**P**	**01 48 15.8**	**+1.5**
LSA				AP	pP	01 48 23.9	+5.2
LSA				XP	sP	01 48 28.4	+7.7
LSA				S	**S**	**01 52 48.6**	**+8.1**
LSA				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.5						
LSA				LR	LR		
	comp=N,700nm,25.2s						
LSA				LR	LR		
	comp=E,1μm,32.0s						
LSA				LR	LR		
	comp=Z,1μm,26.3s,MS4.2						
LSA	**Lhasa**	**25.78**	**350**	*e*P	**P**	**01 48 15.4**	**+1.1**
LSA				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.1						
LSA				MLR	MLR		
	comp=Z,632nm,20.0s,MS4.1						
LSA	**Lhasa**	**25.78**	**350**	*e*P	**P**	**01 48 15.4**	**+1.0**
	comp=Z,58nm,0.9s,mb5.1						
LSA				*e*ScP		01 55 26.4	
LSA				LR	LR		
	comp=Z,632nm,20.0s,MS4.1						
POO	**Poona**	**26.05**	**305**⇓	*i*P	**P**	**01 48 16.0**	**-0.9**
	comp=Z,114nm,1.2s,mb5.3						
GKN	**Gorkha**	**26.08**	**336**	*e*P	**P**	**01 48 15.5**	**-1.6**
	comp=Z,65nm,0.4s,mb5.5						
BHPL	**Bhopal**	**26.19**	**318**	*e*P	**P**	**01 48 17.4**	**-0.7**
BHPL				AMb	AMB	01 48 22.6	
	comp=Z,76nm,1.0s,mb5.2						
BHPL				*e*S	**S**	**01 52 45.7**	**-1.6**
KOLN	**Koldanda**	**26.31**	**334**	*e*P	**P**	**01 48 17.9**	**-1.3**
	comp=Z,92nm,0.6s,mb5.5						
CD2	**Chengdu**	**27.49**	**14**	*e*P	**P**	**01 48 33.8**	**+3.8**
ENH	**Enshi**	**28.80**	**24**	PFAKE		01 48 50.0	+8.2
ENH				LR	LR		
	comp=Z,2μm,20.0s,MS4.7						
QZH	**Quanzhou**	**29.81**	**44**	*e*P	**P**	**01 48 51.3**	**+0.3**
QZH				LR	LR		
	comp=N,6μm,17.6s,MS5.4						
QZH				LR	LR		
	comp=E,6μm,18.3s,MS5.4						
QZH				LR	LR		
	comp=Z,2μm,21.0s,MS4.7						
DDI	**Dehra Dun**	**31.09**	**329**	*e*P	**P**	**01 49 04.0**	**+1.8**
DDI				*e*S	**S**	**01 54 06.5**	**+0.6**
WHN	**Wuhan**	**31.30**	**31**	⇑P	**P**	**01 49 09.0**	**+5.0**
XAN	**Xi'an**	**31.95**	**20**	P	**P**	**01 49 13.9**	**+4.2**
XAN				AP	pP	01 49 16.3	+2.2
XAN				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.9						
LZH	**Lanzhou**	**32.49**	**12**	*e*P	**P**	**01 49 17.4**	**+3.0**
LZH				AP	pP	01 49 21.8	+3.0
LZH				XP	sP	01 49 26.3	+5.6
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,140nm,5.9s						
LZH				LR	LR		
	comp=E,5μm,16.0s						
LZH				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
LZH	**Lanzhou**	**32.49**	**12**	*e*P	**P**	**01 49 17.4**	**+3.0**
	comp=Z,20nm,1.2s,mb4.8						
LZH				pP	pP	01 49 21.8	+3.0
LZH				sP	sP	01 49 26.3	+5.6
LZH				PP	PP	01 50 19.0	-3.8
LZH				PPP	PPP	01 50 31.6	-6.7
LZH				S	**S**	**01 54 18.3**	**-9.3**
LZH				sS		01 54 34.0	
LZH				SS	SS	01 56 00.5	-23
LZH				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
THN	**Thein Dam**	**33.98**	**328**	*e*P	**P**	**01 49 24.8**	**-2.6**
NJ2	**Nanjing**	**34.91**	**35**	*e*P	**P**	**01 49 36.5**	**+1.1**
NJ2				AP	pP	01 49 40.9	+1.1
NJ2				XP	sP	01 49 43.5	+1.8
NJ2				PP	PP	01 50 53.9	+0.5
NJ2				S	**S**	**01 55 05.0**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,40nm,5.3s						
NJ2				LR	LR		
	comp=Z,1μm,17.3s,MS4.7						
GTA	**Gaotai**	**35.18**	**5**	*e*P	**P**	**01 49 36.6**	**-1.0**
GTA				AP	pP	01 49 43.5	+1.4
GTA				SCP		01 55 53.6	
GTA				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
GTA				AMB	AMB		
	comp=Z,100nm,6.1s						
GTA				LR	LR		
	comp=N,758nm,20.9s,MS4.7						
GTA				LR	LR		
	comp=E,921nm,17.1s,MS4.7						
GTA				LR	LR		
	comp=Z,788nm,16.7s,MS4.5						
SSE	**Sheshan**	**35.62**	**39**	*e*P	**P**	**01 49 41.8**	**+0.4**
SSE				AP	pP	01 49 46.1	+0.2
SSE				S	**S**	**01 55 17.4**	**+1.2**
SSE				AMB	AMB		
	comp=Z,31nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,159nm,4.0s						
SSE				LR	LR		
	comp=N,939nm,14.0s,MS4.9						

SSE LR LR
comp=E,1µm,14.0s,MS4.9
SSE LR LR
comp=Z,1µm,13.2s,MS4.9
SSE Sheshan 35.62 39 *e*P **P 01 49 41.7 +0.3**
comp=Z,31nm,0.8s,mb5.3
SSE pP pP 01 49 46.1 +0.2
SSE PP PP 01 51 07.7 +5.7
SSE S **S 01 55 17.4 +1.2**
SSE sS 01 55 24.1
SSE SS SS 01 58 06.9 +31
SSE ScS ScS 02 00 04.2 +6.2
SSE LR LR
comp=Z,1µm,13.2s,MS4.9
FITZ Fitzroy Crossi 36.55 128 *e*P **P 01 49 47.5 -1.9**
comp=Z,27nm,1.2s,mb5.0
FITZ *e*pP pP 01 49 52.1 -1.8
comp=Z,35nm,0.8s
FITZ Fitzroy Crossi 36.55 128 P **P 01 49 47.5 -1.9**
comp=Z,39nm,0.6s,mb5.4,baz=316,slow=2.9,SNR=11
JOW Kunigami 38.02 50 pP pP 01 50 03.0 -3.1
comp=Z,14nm,0.2s,baz=118,slow=23,SNR=5.1
HHC Hu-ho-hao-te 39.00 19 ⇓P **P 01 50 15.0 +5.2**
HHC AP pP 01 50 19.3 +5.0
HHC XP sP 01 50 22.3 +6.2
HHC SCP 01 56 09.5
HHC SCS ScS 02 00 20.5 +3.5
HHC AMB AMB
comp=Z,15nm,1.4s,mb4.5
HHC AMB AMB
comp=Z,86nm,9.5s
HHC LR LR
comp=N,1µm,17.8s,MS5.1
HHC LR LR
comp=E,2µm,16.7s,MS5.1
HHC LR LR
comp=Z,1µm,19.0s,MS4.7
KSH Kashi 39.61 335 *e*P **P 01 50 18.0 +3.1**
KSH *e*AP pP 01 50 23.1 +3.7
KSH *e*XP sP 01 50 25.3 +4.1
KSH *e*PP PP 01 51 54.3 +4.4
KSH *e*PCS 01 56 16.8
KSH *e*S **S 01 56 21.3 +4.3**
KSH *e*XS 01 56 28.3
KSH *e*SS SS 01 59 11.3 +6.2
KSH AMB AMB
comp=Z,170nm,1.4s,mb5.6
KSH LR LR
comp=N,1µm,14.0s,MS5.1
KSH LR LR
comp=E,1µm,13.5s,MS5.1
KAKA Kakadu 39.76 116 *e*P **P 01 50 14.8 -1.5**
comp=E,26nm,0.6s,mb5.1
WMQ Urumqi 40.14 350 P **P 01 50 19.1 -0.1**
WMQ AP pP 01 50 23.6 -0.1
WMQ XP sP 01 50 26.1 +0.6
WMQ PP PP 01 51 54.9 -0.5
WMQ S **S 01 56 23.4 -1.4**
WMQ AMB AMB
comp=Z,13nm,1.1s,mb4.6
WMQ AMB AMB
comp=Z,191nm,4.0s
WMQ LR LR
comp=N,473nm,18.2s
WMQ LR LR
comp=E,671nm,24.8s
WMQ LR LR
comp=Z,483nm,15.6s,MS4.5
MUN Mundaring 40.73 154 *e*P **P 01 50 25.2 +1.0**
comp=Z,33nm,1.0s,mb4.9
MUN Mundaring 40.73 154 *e*P **P 01 50 25.2 +1.0**
MUN pmax pmax
comp=Z,33nm,1.0s,mb4.9
KLBR Kellerberrin 41.12 151 *e*P **P 01 50 27.8 +0.4**
comp=Z,57nm,1.2s,mb5.1
NWAO Narrogin (SRO) 42.00 153 P **P 01 50 33.7 -0.9**
comp=Z,26nm,0.7s,mb5.0,baz=289,slow=5.6,SNR=4.3
AAK Ala-Archa 42.84 336 ⇓*i*P **P 01 50 40.4 -1.0**
AAK pmax pmax
comp=Z,17nm,1.2s,mb4.7
AAK Ala-Archa 42.84 336 *e*P **P 01 50 39.3 -2.0**
comp=Z,14nm,0.9s,mb4.7
AAK LR LR
comp=Z,150nm,20.0s,MS3.9
FRU Bishkek 42.96 337 P **P 01 50 47.0 +4.7**
KS15 Wonju Array Si 43.98 37 *e*P **P 01 50 49.3 -1.4**
MKAR Makanchi Array 44.08 346 P **P 01 50 49.5 -1.9**
comp=Z,4.3nm,0.6s,mb4.4,baz=160,slow=8.3,SNR=41
MKAR LR LR 02 14 45.4
comp=Z,423nm,18.2s,MS4.4,baz=172,slow=44
SONM Songino Array 44.33 10 P **P 01 50 52.2 -1.1**
comp=Z,2.9nm,0.4s,mb4.3,baz=198,slow=7.8,SNR=16
SONM PcP PcP 01 52 35.9 -2.2
comp=Z,4.5nm,1.0s,baz=195,slow=4.6,SNR=3.1
SONM ScP 01 56 27.7
comp=Z,1.2nm,0.7s,baz=199,slow=3.0,SNR=4.7
SONM LR LR 02 10 30.1
comp=Z,847nm,20.0s,MS4.7,baz=7.8,slow=38
ULN Ulaanbaatar 44.47 10 PFAKE 01 51 00.0 +5.4
ULN LR LR
comp=Z,721nm,20.0s,MS4.6
WRA Warramunga Arr 44.53 124 P **P 01 50 54.3 -1.0**
comp=Z,54nm,0.5s,mb5.6,baz=303,slow=9.2,SNR=208
WRA pP pP 01 50 59.1 -0.8
comp=Z,145nm,0.6s,baz=302,slow=9.2,SNR=44
WRA ScP 01 56 30.9
comp=Z,3.1nm,1.1s,baz=317,slow=3.5,SNR=4.6
WRAB Tennant Creek 44.53 124 *e*P **P 01 50 54.3 -1.1**
WRAB *e**PP pP 01 50 59.3 -0.6
WRAB pmax pmax
comp=Z,241nm,0.7s,mb6.1
WRAB Tennant Creek 44.53 124 *e*P **P 01 50 54.3 -1.1**
comp=Z,241nm,0.7s,mb6.1
WRAB *e*pP pP 01 50 59.3 -0.6
WB2 Warramunga Arr 44.54 124 *e*P **P 01 50 54.3 -1.2**
WB2 *e*pP pP 01 50 59.2 -0.7
SNY Shenyang 44.74 29 ⇑P **P 01 50 59.6 +2.8**
SNY LR LR
comp=N,1µm,18.6s,MS5.0
SNY LR LR
comp=E,1µm,15.3s,MS5.0
SNY LR LR
comp=Z,1µm,19.2s,MS4.9
KKAR Karatay Array 44.91 333 *i*P **P 01 50 56.7 -1.5**
KKAR pmax pmax
comp=Z,16nm,0.8s,mb4.9
ZAK Zakamensk 46.39 6 *e*P **P 01 51 08.8 -0.9**
ZAK *e* 01 52 47.4
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
CN2 Changchun 47.13 29 *e*P **P 01 51 14.9 -0.8**
CN2 *e*XP sP 01 51 21.9 -0.1
CN2 *e*S **S 01 58 05.9 -0.6**
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,1µm,17.0s,MS5.0
CN2 LR LR
comp=E,1µm,17.0s,MS5.0
CN2 LR LR
comp=Z,1µm,18.0s,MS4.9
TLY Talaya 47.71 6 *e*P **P 01 51 18.1 -2.0**
TLY *e* 01 53 02.6
TLY *e*S **S 01 57 58.4 -16**
TLY *e*SS SS 02 01 34.5 -2.8
TLY pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
TLY MLR MLR
comp=Z,401nm,16.0s,MS4.5
IRK Irkutsk 48.33 7 *e*P **P 01 51 28.8 +3.8**
IRK *e* 01 53 16.2
IRK pmax pmax
comp=Z,417nm,0.5s
GUMO Guam 48.91 76 PFAKE 01 51 40.0 +10
GUMO LR LR
comp=Z,2µm,19.0s,MS5.0
HIA Hailar 49.15 20 PFAKE 01 51 40.0 +8.7
HIA LR LR
comp=Z,928nm,20.0s,MS4.8
MDJ Mudanjiang 49.78 31 P **P 01 51 36.4 +0.2**
MDJ AP pP 01 51 40.8 0.0
MDJ PCS 01 56 54.0
MDJ S **S 01 58 46.3 +2.6**

MDJ AMB AMB
comp=Z,13nm,1.3s,mb4.8
MDJ AMB AMB
comp=Z,50nm,5.5s
MDJ LR LR
comp=N,722nm,22.1s,MS4.8
MDJ LR LR
comp=E,634nm,20.6s,MS4.8
MDJ LR LR
comp=Z,602nm,21.1s,MS4.6
MAJO Matsushiro 50.21 45 P **P 01 51 43.4 +3.7**
comp=Z,18nm,1.0s,mb5.0
MAJO LR LR
comp=Z,691nm,21.0s,MS4.6
MAT Matsushiro 50.21 45 *e*P **P 01 51 42.0 +2.3**
comp=Z,43nm,1.6s,mb5.2
MAT S S 01 59 11.0 +21
MAT LR LR
comp=Z,710nm,20.0s,MS4.7
MAT Matsushiro 50.21 45 P **P 01 51 42.3 +2.6**
MJAR Matsushiro Arr 50.21 45 sP sP 01 51 42.8 -3.2
comp=Z,6.6nm,0.7s,baz=242,slow=8.3,SNR=7.0
MJAR LR LR 02 13 16.4
comp=Z,380nm,20.5s,MS4.4,baz=220,slow=37
ZAL Zalesovo 50.42 351 P **P 01 51 38.7 -2.3**
comp=Z,4.5nm,0.3s,mb5.0,baz=291,slow=4.1,SNR=12
ZAL LR LR 02 18 17.3
comp=Z,633nm,18.5s,MS4.7,baz=111,slow=42
NVS Novosibirsk 51.54 350 *e*P **P 01 51 46.9 -2.6**
NVS *e*S **S 01 59 04.1 -3.8**
NVS pmax pmax
comp=Z,11nm,1.0s,mb4.7
NVS smax
comp=N,38nm,2.0s
DHBB Dhamar BB 52.00 285 *e*P **P 01 51 56.2 +2.7**
KBD Kabd 52.15 304 *e*P **P 01 51 53.7 -0.8**
KBD AMb AMB 01 52 00.1
comp=Z,344nm,0.8s
RDF Al-Radifah 52.19 304 *e*P **P 01 51 54.1 -0.7**
RDF AMb AMB 01 51 59.3
comp=Z,142nm,0.5s
NAY Al-Naaiem 52.55 304 *e*P **P 01 51 56.8 -0.7**
NAY AMb AMB 01 51 58.3
comp=Z,58nm,0.4s,mb5.9
PMG Port Moresby 52.58 105 P **P 01 51 56.5 -1.3**
comp=Z,32nm,0.9s,mb5.2,baz=335,slow=4.9,SNR=5.7
VOSK Vostochnaya 52.63 341 P **P 01 51 54.4 -3.3**
VOSK pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
KAMS Al Khamasin 52.65 292 P **P 01 51 58.2 -0.1**
RST Umm Al-Ruwaisa 52.83 304 *e*P **P 01 51 59.3 -0.3**
RST AMb AMB 01 52 00.8
comp=Z,76nm,0.6s,mb5.8
BVA0 Borovoye Array 53.08 341 P **P 01 52 01.2 +0.1**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BRVK Borovoye 53.14 341 P **P 01 51 58.7 -2.8**
BRVK pmax pmax
comp=Z,12nm,0.8s,mb4.9
BRVK MLR MLR
comp=Z,64nm,19.0s,MS3.7
BRVK Borovoye 53.14 341 P **P 01 51 58.6 -2.9**
comp=Z,12nm,0.8s,mb4.9
BRVK LR LR
comp=Z,64nm,19.0s,MS3.7
DJNS Zahran al Janu 53.20 289 P **P 01 52 04.3 +1.9**
OPO Ambohidratompo 53.30 243 P **P 01 52 03.4 +0.3**
comp=Z,1.5nm,0.6s,mb4.1,baz=49,slow=9.3,SNR=3.6
ZRNK Zerenda 53.48 340 P **P 01 52 00.7 -3.3**
ZRNK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
TATS Tathlith 53.54 291 P **P 01 52 09.2 +4.3**
KLR Kul'dur 54.05 28 *e*P **P 01 52 05.0 -3.2**
KLR *e*S **S 01 59 42.5 +0.3**
KLR MLR MLR
comp=E,900nm,15.0s
KLR MLR MLR
comp=Z,2µm,15.0s,MS5.2
AB31 Akbulak array 54.38 332 P **P 01 52 08.3 -2.4**
AB31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
CTA Charters Tower 54.79 118 *e*P **P 01 52 13.0 -1.1**
comp=Z,9.2nm,0.9s,mb4.8
CTA *e*pP pP 01 52 18.7 +0.1
CTA Charters Tower 54.79 118 *e*P **P 01 52 13.0 -1.1**
CTA *e**PP pP 01 52 18.7 +0.1
CTA pmax pmax
comp=Z,9.0nm,0.9s
CTAO Charters Tower 54.79 118 PFAKE 01 52 30.0 +16
CTAO LR LR
comp=Z,377nm,20.0s,MS4.5
AFFS 'Afif 54.80 296 P **P 01 52 14.7 +0.6**
BOD Bodaibo 55.26 12 *e*P **P 01 52 07.9 -9.1**
BOD pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
BLJS Baljurashi 55.34 291 P **P 01 52 23.9 +5.9**
STKA Stephens Creek 56.14 133 *e*P **P 01 52 22.5 -1.2**
comp=Z,8.5nm,0.7s,mb4.9
STKA Stephens Creek 56.14 133 P **P 01 52 22.2 -1.5**
comp=Z,8.4nm,0.7s,mb4.9,baz=322,slow=8.7,SNR=10
STKA LR LR 02 19 42.2
comp=Z,587nm,20.5s,MS4.7,baz=116,slow=40
HILS Ha'il 56.64 300 P **P 01 52 28.3 +0.9**
HAKT HAKKARI 56.18 312 *i*P **P 01 52 34.6 -3.4**
GNI Garni 58.43 315 ⇓*i*P **P 01 52 39.2 -0.6**
GNI pmax pmax
comp=Z,23nm,1.3s
GNI Garni 58.43 315 *e*P **P 01 52 38.2 -1.6**
comp=Z,33nm,0.9s,mb5.4
GNI LR LR
comp=Z,250nm,21.0s,MS4.3
YSS Yuzh-Sakhalins 58.47 36 *e*P **P 01 52 44.0 +4.0**
YSS *e* 01 52 51.0
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.4
YSS MLR MLR
comp=E,500nm,16.0s
YSS MLR MLR
comp=Z,500nm,16.0s,MS4.7
YSS Yuzh-Sakhalins 58.47 36 PFAKE 01 52 50.0 +10
YSS LR LR
comp=Z,544nm,20.0s,MS4.7
DGRG David-gareji 58.53 317 P **P 01 52 39.5 -1.0**
MTA Mtatsminda 59.03 317 P **P 01 52 42.8 -1.1**
TBLG Delisi 59.08 317 P **P 01 52 43.1 -1.2**
TBLG Delisi 59.08 317 P **P 01 52 43.8 -0.5**
KMBO Kilima Mbogo 59.12 266 P **P 01 52 45.9 +1.0**
comp=Z,4.1nm,0.8s,mb4.5,baz=58,slow=7.9,SNR=13
KMBO LR LR 02 15 02.1
comp=Z,403nm,18.6s,MS4.6,baz=83,slow=33
KMBO Kilima Mbogo 59.12 266 P **P 01 52 45.9 +1.0**
KMBO LR LR 02 15 02.1
YNBS Yanbu' al Bahr 59.37 296 P **P 01 52 51.3 +4.8**
ARU Arti 60.02 337 ⇓*i*P **P 01 52 48.7 -1.8**
ARU *e* 01 53 31.4
ARU *e* 01 54 58.6
ARU *e*S **S 02 00 59.3 -1.5**
ARU *e* 02 02 38.6
ARU *e*SS SS 02 04 53.2 -5.6
ARU pmax pmax
comp=Z,19nm,1.2s,mb5.0
ARU Arti 60.02 337 *e*P **P 01 52 47.4 -3.2**
comp=Z,6.4nm,0.4s,mb5.0
ARU LR LR
comp=Z,105nm,19.0s,MS4.0
ZEI Tsey 60.08 318 *e*P **P 01 52 47.6 -3.5**
ZEI *i *PP pP 01 52 57.7 +1.9
ZEI *i* 01 55 07.4
ZEI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BEST Besiri 60.11 312 *i*P **P 01 52 53.7 +2.3**
MARD Mardin 60.28 311 *i*P **P 01 52 54.9 +2.2**
ERZM Erzurum 60.74 314 *i*P **P 01 52 55.4 -0.3**
KIV Kislovodsk 61.37 319 *c*P **P 01 52 58.5 -1.4**
KIV *e* 01 53 41.3
KIV *e*PPP PPP 01 56 39.7 -6.0
KIV *e*S **S 02 01 17.0 -1.3**
KIV pmax pmax
comp=Z,52nm,1.0s,mb5.6
KIV pmax pmax
comp=N,37nm,1.1s
KIV MLR MLR
comp=N,125nm,18.0s,MS4.2
KIV MLR MLR
comp=E,95nm,18.0s,MS4.2

KIV MLR MLR
comp=Z,148nm,18.0s,MS4.2
KIV Kislovodsk 61.37 319 *e*P **P 01 52 57.5 -2.5**
comp=Z,48nm,0.8s,mb5.7
KIV LR LR
comp=Z,41nm,22.0s,MS3.5
GOF Gofitskoye 61.60 320 ⇓*i*P **P 01 52 58.8 -2.7**
GOF pmax pmax
comp=Z,70nm,1.6s,mb5.5
TOO Toolangi 61.82 137 *e*P **P 01 53 03.6 +0.5**
comp=Z,9.7nm,0.9s,mb4.9
TOO Toolangi 61.82 137 *e*P **P 01 53 03.6 +0.5**
TOO pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
ELZG Elazig 62.01 312 *i*P **P 01 53 04.0 -0.4**
ATAB Bozova 62.21 310 *i*P **P 01 53 08.2 +2.5**
MALT Malatya 62.37 311 *e*P **P 01 53 06.1 -0.6**
MALT pmax pmax
comp=Z,32nm,1.2s,mb5.3
MALT Malatya 62.37 311 *e*P **P 01 53 06.1 -0.6**
comp=Z,32nm,1.2s,mb5.3
GZT Gaziantep 62.74 310 *i*P **P 01 53 08.2 -0.9**
JMOS Jabal al Moall 62.78 301 P **P 01 53 09.1 -0.4**
YAK Yakutsk 62.83 17 *e*P **P 01 53 11.3 +1.9**
YAK *e* 01 53 23.9
YAK pmax pmax
comp=Z,13nm,1.0s,mb5.0
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=Z,13nm,1.2s,mb4.9
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK MLR MLR
comp=Z,778nm,18.0s,MS4.9
YAK MLR MLR
comp=N,515nm,17.0s,MS4.9
YAK MLR MLR
comp=E,389nm,17.0s,MS4.9
YAK Yakutsk 62.83 17 *e*P **P 01 53 11.7 +2.3**
comp=E,82nm,1.4s,mb5.7
YAK LR LR
comp=Z,1µm,19.0s,MS5.0
TAYS Tayyib Ism 62.87 300 P **P 01 53 12.2 +2.1**
KSHT Keshet 62.99 305 P **P 01 53 11.9 +1.0**
ZFRI Zfri 62.99 302 P **P 01 53 11.5 +0.6**
MZDA Masada 62.99 303 P **P 01 53 11.7 +0.8**
EIL Elat 63.01 301 P **P 01 53 11.5 +0.5**
EIL Elat 63.01 301 *e*P **P 01 53 10.9 -0.2**
comp=Z,34nm,1.1s,mb5.4
MBH Mount Berech 63.06 301 P **P 01 53 12.1 +0.7**
PRNI Paran 63.10 302 P **P 01 53 12.3 +0.7**
MMLI Mount Malkishu 63.19 304 P **P 01 53 13.1 +0.9**
SOC Sochi 63.21 317 *c*P **P 01 53 09.2 -3.0**
SOC *e* 01 53 48.8
SOC *e*PPP PPP 01 57 06.2 +2.1
SOC *e*S **S 02 01 36.3 -5.2**
SOC *e*SS SS 02 05 41.4 -8.4
SOC *e*SSS SSS 02 08 35.6 +0.5
SOC MLR MLR
comp=Z,137nm,19.0s,MS4.2
SOC MLR MLR
comp=N,103nm,20.0s,MS4.3
SOC MLR MLR
comp=E,169nm,18.0s,MS4.3
KAHT Ahir Dag 63.34 310 *i*P **P 01 53 13.3 +0.1**
SLTI Sal'it 63.46 304 P **P 01 53 14.8 +0.8**
HNTI Hanita 63.54 305 P **P 01 53 15.6 +1.1**
OFRI 'Ofer 63.59 304 P **P 01 53 15.6 +0.7**
ANN Anapa 65.18 318 *e*P **P 01 53 20.2 -4.8**
ANN *e*S S 02 02 00.5 -5.3
ANN pmax pmax
comp=Z,109nm,7.2s
ANN MLR MLR
comp=N,414nm,23.0s,MS4.6
ANN MLR MLR
comp=E,118nm,23.0s,MS4.6
ANN MLR MLR
comp=Z,276nm,23.0s,MS4.4
CSS Prodhromos 65.44 307 *e*P **P 01 53 25.7 -1.3**
comp=Z,95nm,1.4s,mb5.6
MBAR Mbarara 65.56 267 *e*P **P 01 53 27.8 -0.2**
MBAR pmax pmax
comp=Z,17nm,1.3s,mb4.9
MBAR Mbarara 65.56 267 *e*P **P 01 53 27.8 -0.2**
comp=Z,17nm,1.3s,mb4.9
CDAG Cicekdag 65.77 312 *i*P **P 01 53 31.7 +2.7**
BR131 Keskin Array S 66.34 312 *e*P **P 01 53 31.1 -1.5**
comp=Z,15nm,0.5s,mb5.3
BRTR Keskin Array B 66.34 312 P **P 01 53 31.4 -1.2**
comp=Z,16nm,0.5s,mb5.3,baz=132,slow=7.4,SNR=27
BRTR pP pP 01 53 34.9 -2.3
comp=Z,22nm,0.7s,baz=136,slow=7.0,SNR=48
ELDT Eldivan 66.70 312 *i*P **P 01 53 33.3 -1.5**
KDHN Kadinhani 67.20 310 *i*P **P 01 53 34.5 -3.6**
SIM Simferopol' 67.46 317 *d*P **P 01 53 42.3 +2.7**
SIM *e*S S 02 02 35.4 +1.8
SIM pmax pmax
comp=Z,28nm,0.8s,mb5.3
SIM MLR MLR
comp=Z,370nm,25.1s,MS4.5
ISP Isparta 68.28 309 *c*P **P 01 53 43.9 -1.0**
ESKT Eskisehir 68.38 311 *i*P **P 01 53 43.5 -2.0**
TKTP Tekketepe 68.47 309 *i*P **P 01 53 43.9 -2.1**
HENT Hendek 68.64 312 *i*P **P 01 53 48.3 +1.2**
MA2 Magadan 69.08 26 PFAKE 01 54 00.0 +11
MA2 LR LR
comp=Z,453nm,20.0s,MS4.7
MOS Moscow 69.23 329 *e*P **P 01 53 47.5 -2.9**
MOS *e* 01 53 56.9
MOS *e* 01 54 11.1
MOS *e* 01 56 20.6
MOS *e*PPP PPP 01 57 58.9 -5.2
MOS *e*S S 02 02 56.2 +1.8
MOS *e*SS SS 02 07 19.5 -3.4
MOS pmax pmax
comp=Z,49nm,0.7s,mb5.5
MOS smax
comp=N,400nm,2.7s
GDZ Gediz 69.33 310 *i*P **P 01 53 52.3 +1.0**
OBN Obninsk 69.53 328 *k*P **P 01 53 50.4 -1.8**
OBN *e* 01 54 03.4
OBN 01 56 24.0
OBN *e*S S 02 02 53.9 -4.1
OBN *e* 02 03 42.1
OBN pmax pmax
comp=Z,33nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.7
OBN Obninsk 69.53 328 *e*P **P 01 53 48.2 -4.0**
comp=Z,52nm,1.0s,mb5.4
LSZ Lusaka 70.03 252 P **P 01 53 55.8 -0.1**
LSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LSZ Lusaka 70.03 252 P **P 01 53 55.8 -0.1**
comp=Z,6.7nm,1.0s,mb4.5
TIXI Tiksi 70.41 10 *e*P **P 01 53 52.5 -4.9**
TIXI pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
TIXI MLR MLR
comp=Z,497nm,16.0s,MS4.9
MIR Mirnyy 70.64 181 *e*P **P 01 54 03.0 +4.2**
MIR *e* 01 54 25.0
MIR pmax pmax
comp=Z,24nm,1.4s,mb4.9
CASY Casey 71.10 174 *e*P **P 01 54 01.3 -0.3**
CASY LR LR
comp=Z,530nm,22.0s,MS4.8
PSN Preselentsi 71.25 315 *e*P **P 01 54 05.0 +2.1**
TIRR Tirgusor 71.26 316 ⇓P **P 01 54 02.0 -0.9**
SEY Seymchan 71.41 24 *e*P **P 01 54 06.9 +3.4**
SEY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KIS Kishinev 71.57 318 *e*P **P 01 54 05.0 +0.2**
KIS *e* 01 54 20.0
KIS MLR MLR
comp=Z,300nm,15.0s,MS4.7
KIS MLR MLR
comp=Z,300nm,15.0s
CFR Carcaliu 71.61 316 ⇑P **P 01 54 04.5 -0.5**
HARR Harsova 71.64 316 ⇑P **P 01 54 05.0 -0.2**

PRD Provadia 71.70 314 *e*P **P** **01 54 07.0 +1.4**
AKASG Malin Array Be 72.26 322 P **P** **01 54 06.7 -2.1**
comp=Z,9.7nm,0.5s,mb5.0,baz=87,slow=5.3,SNR=19
AKASG pP pP 01 54 10.7 -2.8
comp=Z,9.4nm,0.5s,baz=85,slow=5.3,SNR=16
VRI Vrincioaia 72.72 317 ⇓P **P** **01 54 10.9 -0.8**
DIM Dimitrovgrad 72.84 313 *e*P **P** **01 54 16.0 +3.6**
KDZ Kurdzhali 72.86 312 *e*P **P** **01 54 17.0 +4.5**
MLR Muntele Rosu 73.19 316 ⇓P **P** **01 54 14.1 -0.3**
RZN Rozhen 73.38 312 *e*P **P** **01 54 19.0 +3.4**
BURAR Bucovina Array 74.10 318 ⇑P **P** **01 54 19.6 0.0**
BURAR Bucovina Array 74.10 318 ⇑P **P** **01 54 19.6 0.0**
MMB Musomiste 74.10 312 *e*P **P** **01 54 20.0 +0.3**
KKB Krupnik 74.62 312 *e*P **P** **01 54 22.0 -0.7**
VTS Vitosha 74.63 313 *e*P **P** **01 54 22.0 -0.8**
VTS Vitosha 74.63 313 ⇑P **P** **01 54 21.8 -1.0**
IDID Didziasalis 74.91 326 *i* P **P** **01 54 23.6 -0.6**
IDID AMb AMB 01 54 29.5
comp=Z,18nm,0.8s,mb5.0
IIGN Ignalina 75.21 326 *e*P **P** **01 54 25.1 -0.8**
IZAR Zarasai 75.30 327 *e*P **P** **01 54 25.3 -1.0**
IZAR AMb AMB 01 54 31.6
comp=Z,14nm,0.8s,mb5.0
ISAL Salakas 75.32 327 *e*P **P** **01 54 25.4 -1.1**
ISAL AMb AMB 01 54 31.8
comp=Z,12nm,0.9s,mb4.8
MAW Mawson 75.41 193 *e*P **P** **01 54 28.0 +1.2**
comp=Z,4.3nm,0.8s,mb4.4
MAW Mawson 75.41 193 *e*P **P** **01 54 28.0 +1.2**
MAW pmax pmax
comp=Z,4.0nm,0.8s
MAW Mawson 75.41 193 P **P** **01 54 27.4 +0.6**
comp=Z,5.7nm,0.9s,mb4.5,baz=354,slow=8.6,SNR=9.3
MAW LR LR 02 19 41.6
comp=Z,128nm,21.7s,MS4.2,baz=179,slow=29
BOSA Boshof 75.42 239 P **P** **01 54 28.4 +0.8**
comp=Z,2.4nm,0.5s,mb4.4,baz=40,slow=5.8,SNR=4.7
BOSA LR LR 02 25 44.6
comp=Z,230nm,18.1s,MS4.5,baz=78,slow=34
BOSA Boshof 75.42 239 P **P** **01 54 28.4 +0.8**
BOSA LR LR 02 25 44.6
DRGR 75.63 317 ⇑P **P** **01 54 29.0 +0.5**
VSU Vasula 75.74 329 ⇓*i*P **P** **01 54 27.6 -1.2**
KWP Kalwaria 76.11 320 *e*P **P** **01 54 31.0 -0.1**
KWP *e* 01 54 41.8
KWP Kalwaria 76.11 320 *e*P **P** **01 54 31.0 -0.1**
KWP *e* pP 01 54 35.5 -0.3
KWP ePcP PcP 01 54 41.8 -1.9
KWP Kalwaria 76.11 320 *e*P **P** **01 54 31.0 -0.1**
KWP *e* pP 01 54 35.5 -0.4
KWP ePcP PcP 01 54 41.9 -1.8
KWP MLR MLR 02 32 32.5
comp=Z,100nm,23.0s,MS4.1
KOLS Kolonicke sedl 76.27 319 *e*P **P** **01 54 32.5 +0.5**
SUW Suwalki 76.63 325 *e*P **P** **01 54 32.9 -1.0**
SUW *e* 01 54 43.3
SUW Suwalki 76.63 325 *e*P **P** **01 54 32.9 -1.0**
SUW *e* pP 01 54 36.8 -1.9
SUW ePcP PcP 01 54 43.3 -2.6
SUW Suwalki 76.63 325 *e*P **P** **01 54 32.9 -1.0**
SUW *e* pP 01 54 36.8 -1.9
SUW ePcP PcP 01 54 43.3 -2.5
SUW MLR MLR 02 27 20.8
comp=Z,200nm,28.2s,MS4.3
CRVS Cervenica-Dubn 76.80 319 *e*P **P** **01 54 38.1 +3.1**
CRVS Cervenica-Dubn 76.80 319 *e*pP pP 01 54 38.1 -1.6
FINES FINESS Array B 76.86 332 P **P** **01 54 33.5 -1.6**
comp=Z,6.5nm,0.5s,mb4.8,baz=124,slow=6.9,SNR=25
FINES pP pP 01 54 38.0 -1.7
comp=Z,6.5nm,0.5s,baz=120,slow=7.1,SNR=14
FINES LR LR 02 33 34.7
comp=Z,188nm,20.5s,MS4.4,baz=101,slow=40
KAF Kangasniemi 76.94 333 *ep* **P** **01 54 33.4 -2.1**
comp=Z,12nm,0.8s,mb4.9,baz=103,slow=5.2
KAF Kangasniemi 76.94 333 *e*P **P** **01 54 33.4 -2.1**
KAF pmax pmax
comp=Z,12nm,0.8s,mb4.9
STHS Stebnicka Huta 77.02 320 *e*P **P** **01 54 36.7 +0.5**
DIVS Divcibare 77.16 314 ⇑*i*P **P** **01 54 40.5 +3.4**
KECS Kecovo 77.37 319 *e*P **P** **01 54 38.0 -0.2**
NIE Niedzica 77.62 320 *e*P **P** **01 54 39.5 0.0**
PSZ Piszkesteto 77.69 318 *e*P **P** **01 54 39.2 -0.7**
PSZ *e**PP pP 01 54 43.5 -1.1
PSZ pmax pmax
comp=Z,23nm,0.8s,mb5.2
PSZ Piszkesteto 77.69 318 *e*P **P** **01 54 39.2 -0.7**
comp=Z,23nm,0.8s,mb5.2
PSZ epP pP 01 54 43.5 -1.2
PSZ Piszkesteto 77.69 318 *e*P **P** **01 54 40.1 +0.2**
OJC Ojcow 78.06 320 *e*P **P** **01 54 41.9 0.0**
PKSM Moragy 78.34 316 ⇓P **P** **01 54 43.0 -0.5**
PKS8 Sarbogard 78.39 317 *e*P **P** **01 54 43.9 +0.1**
VYHS Vyhne 78.46 319 *e*P **P** **01 54 44.8 +0.7**
BILL Bilibino 78.72 21 P **P** **01 54 42.0 -3.2**
BILL SS SS 02 09 45.0 -3.1
BILL pmax pmax
comp=Z,15nm,2.2s,mb4.5
BILL MLR MLR
comp=Z,1μm,15.0s,MS5.3
BILL Bilibino 78.72 21 PFAKE 01 55 00.0 +15
BILL LR LR
comp=Z,290nm,21.0s,MS4.6
OKC Ostrava-Krasne 79.07 320 *e*P **P** **01 54 46.9 -0.5**
OKC epP pP 01 54 52.3 +0.1
OKC AMS AMS 02 38 50.0
comp=Z,300nm,25.3s
ARCES ARCESS Array B 79.36 340 P **P** **01 54 47.0 -1.7**
comp=Z,9.4nm,0.4s,mb5.0,baz=100,slow=6.6,SNR=61
ARCES LR LR 02 32 56.8
comp=Z,346nm,18.5s,MS4.7,baz=142,slow=38
MORC Moravsky Berou 79.45 320 *e*P **P** **01 54 49.9 +0.4**
MORC *e**PP pP 01 54 53.8 -0.5
MORC pmax pmax
comp=Z,24nm,1.0s,mb5.1
MORC Moravsky Berou 79.45 320 *e*P **P** **01 54 49.9 +0.4**
comp=Z,24nm,1.0s,mb5.1
MORC epP pP 01 54 53.8 -0.4
ZST Bratislava 79.58 318 *e*P **P** **01 54 49.5 -0.8**
KTK1 Kautokeino 80.00 340 *e*P **P** **01 54 51.2 -0.9**
comp=Z,48nm,1.1s,mb5.3
KTK1 Kautokeino 80.00 340 *e*P **P** **01 54 51.2 -0.9**
KTK1 epP pP 01 54 55.9 -0.9
KTK1 AMb AMB 01 54 56.7
comp=Z,48nm,1.1s,mb5.4
KOGS Kog 80.01 316 *e*P **P** **01 54 52.5 -0.1**
GKP Gorka Klasztor 80.02 323 *e*P **P** **01 54 55.9 +3.4**
GKP LR LR
comp=Z,200nm,25.5s,MS4.3
GKP Gorka Klasztor 80.02 323 *e*P **P** **01 54 55.9 +3.5**
GKP MLR MLR 02 31 14.6
comp=Z,200nm,25.5s,MS4.3
DPC Dobruska-Polom 80.29 320 *e*P **P** **01 54 54.3 +0.3**
DPC MLR MLR
comp=Z,200nm,19.9s,MS4.5
DPC Dobruska-Polom 80.29 320 *e*P **P** **01 54 54.3 +0.3**
DPC epP pP 01 54 58.8 +0.1
DPC AMS AMS 02 36 00.0
comp=Z,200nm,19.9s
KSP Ksiaz 80.35 321 *e*P **P** **01 54 55.2 +0.9**
KSP epP pP 01 54 59.0 -0.1
KSP Ksiaz 80.35 321 *e*P **P** **01 54 56.1 +1.8**
KSP *e*PcP PcP 01 54 59.2 -2.7
KSP epP pP 01 55 01.4 +2.3
KSP MLR MLR 02 36 22.6
comp=Z,300nm,22.1s,MS4.6
UPC Upice 80.50 320 *e*P **P** **01 54 52.7 -2.4**
UPC epP pP 01 54 59.8 -0.1
ARSA Arzberg 80.57 317 ⇑*i*P **P** **01 54 59.5 +4.0**
comp=Z,17nm,1.3s,mb4.8
BOJS Bojanci 80.64 315 *e*P **P** **01 54 56.0 0.0**
TSUM Tsumeb 80.65 250 PFAKE 01 55 10.0 +13
TSUM LR LR
comp=Z,255nm,20.0s,MS4.6
LJU Ljubljana 81.18 316 *e*P **P** **01 54 59.2 +0.4**
LJU *e* pP 01 55 03.5 0.0
OBKA Obir 81.19 316 ⇑*i*P **P** **01 55 01.9 +3.1**
comp=Z,15nm,1.1s,mb4.8
PRU Pruhonice 81.40 320 *e*P **P** **01 54 59.3 -0.6**
PRU MLR MLR
comp=Z,200nm,20.5s,MS4.5
PRU Pruhonice 81.40 320 *e*P **P** **01 54 59.3 -0.6**
PRU epP pP 01 55 03.9 -0.7
PRU AMS AMS 02 36 30.0
comp=Z,200nm,20.5s

PVCC Panska Ves 81.42 320 *e*P **P** **01 55 01.2 +1.3**
PVCC AMS AMS 02 36 20.0
comp=Z,200nm,17.1s
MOA Molln 81.45 318 ⇑*i*P **P** **01 55 00.4 +0.2**
comp=Z,13nm,1.1s,mb4.8
VOY Vojsko 81.62 316 *e*P **P** **01 55 01.2 +0.1**
VOY *e* pP 01 55 05.8 0.0
TRO Tromso 81.63 340 *e*P **P** **01 54 58.6 -2.1**
comp=Z,30nm,1.6s,mb5.0
TRO Tromso 81.63 340 *e*P **P** **01 54 58.6 -2.1**
TRO AMb AMB 01 55 03.9
comp=Z,30nm,1.6s,mb5.0
AQU L'Aquila 81.83 312 *e*P **P** **01 55 04.9 +2.6**
comp=Z,103nm,1.5s,mb5.5
BRG Berggiesshubel 81.84 321 *e*P **P** **01 55 01.8 -0.3**
BRG *i* pP 01 55 07.8 +0.9
BRG pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
BRG MLR MLR
comp=Z,230nm,21.5s,MS4.5
BRG Berggiesshubel 81.84 321 *e*P **P** **01 55 01.8 -0.3**
comp=Z,7.4nm,1.3s,mb4.5
BRG *i* pP 01 55 07.8 +0.9
BRG LR LR
comp=Z,230nm,21.5s,MS4.5
GEC2 GERESS Array S 81.88 319 *e*P **P** **01 55 03.8 +1.4**
GEC2 pmax pmax
comp=Z,24nm,1.0s,mb5.1
GEC2 GERESS Array S 81.88 319 *e*P **P** **01 55 03.8 +1.4**
comp=Z,24nm,1.0s,mb5.1
GERES GERESS Array B 81.88 319 P **P** **01 55 02.8 +0.4**
comp=Z,2.5nm,0.6s,mb4.4,baz=118,slow=5.5,SNR=15
GERES pP pP 01 55 07.0 -0.2
comp=Z,7.5nm,0.7s,baz=114,slow=5.1,SNR=31
GERES LR LR 02 38 39.0
comp=Z,86nm,18.1s,MS4.2,baz=341,slow=41
KHC Kasperske Hory 81.98 319 *e*P **P** **01 55 02.5 -0.4**
KHC MLR MLR
comp=Z,200nm,22.5s,MS4.4
KHC Kasperske Hory 81.98 319 *e*P **P** **01 55 02.5 -0.4**
KHC *e*pP pP 01 55 06.8 -0.8
KHC AMS AMS 02 37 10.0
comp=Z,200nm,22.5s
WET Wettzell 82.44 319 *e*P **P** **01 55 06.5 +1.2**
WET pmax pmax
comp=Z,23nm,1.5s,mb4.9
WET Wettzell 82.44 319 *e*P **P** **01 55 06.5 +1.2**
comp=Z,23nm,1.5s,mb4.9
CLL Collm 82.45 321 *i* P **P** **01 55 09.7 +4.4**
CLL *e*S S 02 05 27.0 +7.2
CLL pmax pmax
comp=Z,15nm,1.2s,mb4.8
CLL Collm 82.45 321 *i* P **P** **01 55 09.7 +4.4**
comp=Z,15nm,1.2s,mb4.8
CLL *e*pP pP 01 55 14.0 +3.9
CLL *e*S S 02 05 27.0 +7.2
CLL Collm 82.45 321 P **P** **01 55 09.7 +4.4**
comp=Z,logA/T=1.1,mb4.8
CLL *e**PP pP 01 55 14.0 +3.9
CLL *e* 01 55 33.0
CLL *e*PP PP 01 58 21.0 +4.5
CLL *e*S S 02 05 27.0 +7.2
SYO Syowa Base 82.55 198 ⇑P **P** **01 55 09.2 +3.8**
SYO Syowa Base 82.55 198 ⇑PcP PcP 01 55 11.6 +0.5
HFS Hagfors 82.61 330 P **P** **01 55 05.1 -0.8**
comp=Z,7.3nm,0.6s,mb4.9,baz=100,slow=4.9,SNR=37
HFS pP pP 01 55 09.7 -1.0
comp=Z,11nm,0.5s,baz=90,slow=4.4,SNR=13
NKC Novy Kostel 82.76 320 *e*P **P** **01 55 06.2 -0.7**
NKC *e*pP pP 01 55 11.1 -0.6
MOR8 Moi Rana 82.81 336 *e*P **P** **01 55 07.5 +0.6**
WTTA Wattenberg 83.21 317 ⇑*i*P **P** **01 55 09.0 -0.3**
comp=Z,17nm,1.0s,mb5.0
WTTA Wattenberg 83.21 317 ⇑*i*P **P** **01 55 09.0 -0.3**
WTTA pmax pmax
comp=Z,17nm,1.0s,mb5.0
WATA Walderalm 83.25 317 ⇓*i*P **P** **01 55 10.4 +0.9**
comp=Z,7.3nm,0.6s,mb4.9
WATA Walderalm 83.25 317 ⇓*i*P **P** **01 55 10.4 +0.9**
WATA pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
MOX Moxa 83.31 320 *e*P **P** **01 55 14.4 +4.7**
MOX MLR MLR
comp=Z,100nm,19.0s,MS4.2
MOX Moxa 83.31 320 *i* P **P** **01 55 14.4 +4.7**
MOX L 02 40 47.0
LOF Lofoten 83.36 338 *e*P **P** **01 55 11.0 +1.4**
FUR Furstenfeldbru 83.47 318 *e*P **P** **01 55 11.3 +0.7**
FUR pmax pmax
comp=Z,11nm,0.6s,mb5.1
FUR Furstenfeldbru 83.47 318 *e*P **P** **01 55 11.3 +0.7**
comp=Z,11nm,0.6s,mb5.1
GRA1 Grafenberg Arr 83.54 319 *e*P **P** **01 55 12.5 +1.6**
comp=Z,70nm,2.1s,mb5.4
GRA1 *e*pP pP 01 55 15.7 0.0
GRA1 LR LR
comp=Z,300nm,20.6s,MS4.7
GRF Grafenberg Arr 83.54 319 *e*P **P** **01 55 12.5 +1.6**
GRF pmax pmax
comp=Z,70nm,2.1s,mb5.4
GRF MLR MLR
comp=Z,300nm,20.6s,MS4.7
GRF Grafenberg Arr 83.54 319 *e*P **P** **01 55 12.5 +1.6**
GRF pmax pmax
comp=Z,70nm,2.1s,mb5.4
GRF MLR MLR
comp=Z,300nm,20.6s,MS4.7
GRF Grafenberg Arr 83.54 319 *e*P **P** **01 55 12.5 +1.6**
comp=Z,70nm,2.1s,mb5.4
GRF *e*pP pP 01 55 15.7 0.0
GRF LR LR
comp=Z,300nm,20.6s,MS4.7
MOTA Moosalm 83.58 317 ⇓*i*P **P** **01 55 10.8 -0.4**
comp=Z,4.2nm,0.5s,mb4.8
MOTA Moosalm 83.58 317 ⇓*i*P **P** **01 55 10.8 -0.4**
MOTA pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
NSS Namsos 83.72 334 *e*P **P** **01 55 10.2 -1.3**
NB2 NORSAR Subarra 83.89 331 P **P** **01 55 11.2 -1.2**
comp=Z,4.7nm,0.9s,mb4.6,baz=93,slow=5.6
NB2 NORSAR Subarra 83.89 331 P **P** **01 55 11.2 -1.2**
NB2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
NB2 NORSAR Subarra 83.89 331 P **P** **01 55 11.2 -1.2**
baz=93,slow=5.6
NOA NORSAR Array B 83.89 331 P **P** **01 55 11.5 -0.9**
comp=Z,4.1nm,0.8s,mb4.6,baz=96,slow=5.9,SNR=6.8
NOA pP pP 01 55 16.1 -1.2
comp=Z,10nm,0.9s,baz=95,slow=4.9,SNR=15
NOA LR LR 02 40 17.5
comp=Z,98nm,19.2s,MS4.2,baz=70,slow=41
CLZ Clausthal 84.11 322 *e*P **P** **01 55 15.0 +1.2**
CLZ pmax pmax
comp=Z,21nm,0.9s,mb5.3
CLZ Clausthal 84.11 322 *e*P **P** **01 55 15.0 +1.2**
comp=Z,21nm,0.9s,mb5.3
BSEG Bad Segeberg 84.17 324 *e*P **P** **01 55 15.4 +1.4**
DAVA Damuels 84.41 317 ⇓*i*P **P** **01 55 19.7 +4.3**
comp=Z,18nm,0.8s,mb5.3
DAVOX Davos 84.41 316 P **P** **01 55 15.9 +0.5**
comp=Z,16nm,0.5s,mb5.4,baz=117,slow=13,SNR=16
KBS Kingsbay 84.77 349 *e*P **P** **01 55 18.5 +1.9**
TNS Taunus Mts 85.33 320 *e*P **P** **01 55 21.3 +1.4**
TNS pmax pmax
comp=Z,12nm,1.2s,mb4.9
TNS Taunus Mts 85.33 320 *e*P **P** **01 55 21.3 +1.4**
comp=Z,12nm,1.2s,mb4.9
BFO Black Forest 85.44 318 *e*P **P** **01 55 21.2 +0.7**
BFO pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
BFO Black Forest 85.44 318 *e*P **P** **01 55 21.2 +0.7**
comp=Z,9.0nm,0.8s,mb5.0
MOL Molde 85.65 332 *e*P **P** **01 55 25.1 +3.9**
comp=Z,55nm,1.4s,mb5.6
MOL Molde 85.65 332 *e*P **P** **01 55 25.1 +3.9**
MOL AMb AMB 01 55 41.5
comp=Z,55nm,1.4s,mb5.6
BNI Bardonecchia 86.69 315 P **P** **01 55 27.8 +1.0**
BNI pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
BNI Bardonecchia 86.69 315 P **P** **01 55 27.8 +1.1**
comp=Z,9.9nm,0.9s,mb5.0
RAO Raoul Island 88.47 119 PFAKE 01 55 50.0 +14
RAO LR LR
comp=Z,2μm,20.0s,MS5.5
VNDA Vanda 88.97 169 P **P** **01 55 37.5 +0.5**
comp=Z,1.8nm,0.7s,mb4.5,baz=312,slow=8.0,SNR=7.5
VNDA LR LR 02 33 20.9
comp=Z,178nm,18.8s,MS4.5,baz=179,slow=34
EKA Eskdalemuir Ar 91.86 326 P **P** **01 55 51.5 +0.7**
comp=Z,2.6nm,0.4s,mb4.9,baz=90,slow=5.1,SNR=13
ESDC Sonseca Array 95.11 310 P **P** **01 56 07.0 +0.8**
comp=Z,0.7nm,0.5s,mb4.3,baz=65,slow=3.7,SNR=7.3
ESLA Sonseca Array 95.11 310 PFAKE 01 56 20.0 +14
ESLA LR LR
comp=Z,839nm,19.0s,MS5.2
SNAA Sanae 96.83 198 *e* **P** **01 56 22.0 +8.7**
SNAA Sanae 96.83 198 P **P** **01 56 14.8 +1.5**
SNAA *e* 01 56 22.0
ILAR Eielson Array 97.33 23 LR LR 02 45 58.5
comp=Z,189nm,18.2s,MS4.6,baz=141,slow=39
VNA2 Neumayer--Watz 98.40 199 *e* **P** **01 56 31.8 +11**
VNA2 Neumayer--Watz 98.40 199 Pdif **P** **01 56 24.3 +3.9**
VNA2 *e* 01 56 31.8
TBI Tubuai 114.01 114 *e*PP 02 03 49.7
comp=Z,67nm,39.5s
TBI Tubuai 114.01 114 *e*SS SS 02 19 04.8 +58
comp=Z,87nm,35.5s
TBI *e*LR LR 02 37 05.5
comp=Z,403nm,27.5s,baz=293
PPT Papeete 114.37 107 *e*LQ 02 33 13.3
comp=Z,300nm,35.2s
PPT Papeete 114.37 107 *e*PP PP 02 02 46.4 +23
comp=Z,38nm,27.2s
MSO Missoula 122.63 24 *e*PKPdf PKPdf 02 01 40.8 -0.3
TAOE Nuku Hiva Isla 123.89 98 *e*S SKS 02 09 06.4 +19
comp=Z,7μm,38.9s
TAOE *e*LQ 02 36 02.0
comp=Z,4μm,30.3s
TAOE Nuku Hiva Isla 123.89 98 *e*SS SS 02 20 40.5 +26
comp=Z,13μm,37.8s
BOZ Bozeman (W) 124.52 23 *e*PKPdf PKPdf 02 01 45.3 +0.3
MCMT McKenzie Canyo 124.69 25 *e*PKPdf PKPdf 02 01 45.0 -0.3
REDW Red Top Meadow 126.72 24 *e*PKPdf PKPdf 02 01 48.9 -0.2
ELK Elko 126.81 30 *e*PKPdf PKPdf 02 01 49.8 +0.4
NVAR Mina Array Bea 126.90 34 pPKP 02 01 51.4
comp=Z,1.9nm,0.7s,baz=280,slow=3.1,SNR=5.3
PDAR Pinedale Array 127.74 24 PKP PKPdf 02 01 49.3 -1.9
comp=Z,1.5nm,0.5s,baz=162,slow=1.5,SNR=14
PDAR pPKP 02 01 53.1
comp=Z,1.5nm,0.5s,baz=127,slow=1.7,SNR=13
TRCR Troy Canyon 128.43 32 *e*PKPdf PKPdf 02 01 51.5 -1.2
RSSD Black Hills 128.56 19 *e*PKPdf PKPdf 02 01 53.9 +1.2
MVU Marysvale 130.02 29 *e*PKPdf PKPdf 02 01 56.2 +0.6
MSU Marysvale 130.03 29 *e*PKPdf PKPdf 02 01 55.8 +0.1
NEN Nelson 130.82 34 *e*PKPdf PKPdf 02 01 57.8 +0.5
SADO Sadowa 131.05 356 SKPbc 02 05 17.9
comp=Z,3.5nm,0.9s,baz=331,slow=19,SNR=2.5
PV10 Paradox Valley 131.60 27 *e*PKPdf PKPdf 02 02 00.1 +1.4
ANMO Albuquerque 135.60 27 *e*PKIKP PKPdf 02 02 02.9 -3.3
MNTX Cornudas Mount 138.80 28 *e*PKP PKPdf 02 02 08.8 -3.3
WVT Waverly 139.68 5 *e*PKPpre 02 02 07.8
TXAR Lajitas Array 141.58 28 PKP PKPdf 02 02 12.4 -4.9
comp=Z,1.0nm,0.5s,baz=144,slow=1.1,SNR=7.6
TXAR SKPbc 02 05 49.6
comp=Z,0.7nm,0.7s,baz=135,slow=1.8,SNR=3.8
PLCA Paso Flores 141.74 196 PKP PKPdf 02 02 15.6 -1.6
comp=Z,1.2nm,0.7s,baz=178,slow=9.2,SNR=4.4
PLCA Paso Flores 141.74 196 PKP PKPdf 02 02 15.6 -1.6
LRAL Lakeview Retre 142.82 4 *e*PKPdf PKPdf 02 02 14.7 -4.6
BDFB Brasilia 143.02 250 PKP PKPdf 02 02 17.6 -2.5
comp=Z,2.3nm,0.8s,baz=135,slow=5.7,SNR=2.8
CPUP Villa Florida 146.44 226 PKPbc PKPbc 02 02 24.4 +1.0
comp=Z,5.0nm,0.8s,baz=120,slow=3.6,SNR=12
CPUP Villa Florida 146.44 226 *e*PKPdf PKPdf 02 02 24.9 -0.9
DWPF Disney 147.77 356 *e*PKP PKPdf 02 02 30.2 +2.3
LPAZ La Paz 160.47 231 PKP PKPdf 02 02 44.9 -0.7
comp=Z,0.6nm,0.6s,baz=228,slow=15,SNR=2.9
LPAZ PKPab PKPab 02 03 26.5 +0.9
comp=Z,2.6nm,0.8s,baz=86,slow=2.5,SNR=7.3
LPAZ La Paz 160.47 231 PKP PKPdf 02 02 44.9 -0.7
LPAZ PKPab PKPab 02 03 26.5 +0.9

MAN 21 02:26:29.8, 10.06N×124.00E, h70km, mb3.5, ML2.2, MS1.7, 1C-1D, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.26**	**353**	⇑*e*P		P		02 26 43.4	+2.5
LLP				*e*S		S		02 26 51.1	+2.2
TBP	**Tagbilaran**	**0.39**	**200**	*e*P		P		02 26 37.9	-3.8
TBP				*e*S		S		02 26 42.0	-8.6
MSLP	**Maasin**	**0.85**	**85**	*e*P		P		02 26 47.9	+1.3
MSLP				*e*S		S		02 27 00.4	+1.3
SNPH	**Sibulan**	**1.04**	**227**	⇓*i*P		P		02 26 49.9	+0.8
SNPH				*i* S		S		02 27 09.2	+5.9
PAGZ	**Pagadian**	**2.28**	**196**	*e*P		P		02 27 05.7	-0.4
PAGZ				*e*S		S		02 27 30.4	-2.6
BUKP	**Musuan**	**2.41**	**154**	*e*P		P		02 27 06.1	-1.8
BUKP				*e*S		S		02 27 30.8	-5.4

IDC ***21*** *02:31:03.7±17.0, 39.71N×143.31E, mb3.4/2, mb1 3.4/3, mb1mx3.3/20, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=315.1km s-min=53.2km az=105.0*
JMA ***21*** *02:31:05.8±0.2, 39.47N×143.37E, h34km, M3.4*
ISC 21 02:31:06.9±1.6, 39.45N±0.06×143.3E±0.1, h45km±15km, n15, σ0.953/21, mb3.2/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.17**	**277**	P		P	**P**	**02 31 27.0**	**-0.1**
JTH	**Tanohata**	**1.23**	**294**	P		P	**P**	**02 31 27.6**	**-0.3**
JTH				*e*S		S	**S**	**02 31 43.5**	**-0.1**
OFUJ	**Ofunato**	**1.34**	**255**	P		P	**P**	**02 31 29.4**	**-0.2**
OFUJ				*e*S		S	**S**	**02 31 46.6**	**+0.2**
JOM	**Ohasama**	**1.57**	**272**	P		P	**P**	**02 31 33.3**	**+0.4**
JANG	**Nango**	**1.67**	**304**	P		P	**P**	**02 31 33.2**	**-1.1**
JMK	**Ichinoseki**	**1.71**	**254**	P		P	**P**	**02 31 35.0**	**+0.2**
JMK				*e*S		S	**S**	**02 31 56.2**	**+0.6**
JIO	**Ouri**	**1.83**	**238**	P		P	**P**	**02 31 36.1**	**-0.5**
JIO				*e*S		S	**S**	**02 31 57.6**	**-1.0**
JTM	**Tenmabayashi**	**2.19**	**308**	P		P	**P**	**02 31 41.5**	**-0.1**
JTM				*e*S		S	**S**	**02 32 07.8**	**+0.3**
JAH	**Hinai**	**2.20**	**291**	P		P	**P**	**02 31 42.2**	**+0.4**
JOU	**Okura**	**2.34**	**243**	P		P	**P**	**02 31 43.9**	**+0.1**
JOU				*e*S		S	**S**	**02 32 11.0**	**-0.4**
JYK	**Kaneyama**	**2.36**	**258**	P		P	**P**	**02 31 45.0**	**+0.9**
MJAR	**Matsushiro Arr** 1.2nm,0.3s,baz=43,slow=12,SNR=8.6	**4.97**	**236**	Pn		P	**P**	**02 32 21.4**	**+0.3**
MAT	**Matsushiro**	**4.97**	**236**	P		P	**P**	**02 32 21.6**	**+0.5**
MAT				*e*S		rx		02 32 32.0	
SONM	**Songino Array** 0.3nm,0.7s,mb3.0,baz=100,slow=7.5,SNR=3.5	**27.79**	**300**	P		P	**P**	**02 36 54.2**	**+0.7**
MKAR	**Makanchi Array** 0.3nm,0.5s,mb3.3,baz=90,slow=8.5,SNR=4.5	**44.16**	**300**	P		P	**P**	**02 39 11.8**	**-0.8**

INMG ***21*** *02:34:33.2±0.8, 36.04N×7.31W, h26km±17km, ML1.1, Error ellipse: s-maj=10.2km s-min=4.8km az=18.0*
MDD 21 02:34:33.9±2.8, 36.24N×7.11W, h85km±36km, mb2.6/2, Error ellipse: s-maj=24.5km s-min=14.3km az=180.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EGRO	**El Granado** 1.0nm,0.1s,SNR=7.9	**1.33**	**347**	P		P	P	02 34 56.0	-1.6
EGRO				S		S	S	02 35 14.9	-0.4
EMIN	**Mina Concepcio** 0.9nm,0.1s,SNR=7.9	**1.57**	**13**	P		P	P	02 35 00.3	-0.4
EMIN				S		S	S	02 35 20.8	+0.3
PTEO	**Sao Teotonio** 1.4nm,0.1s,SNR=7.9	**1.84**	**316**	*e*Pn		P	P	02 35 02.2	-2.1
PTEO				*e*Sn		S	S	02 35 23.6	-3.1
PBEJ	**Beja** 0.7nm,0.2s	**1.89**	**341**	*e*Pn		P	P	02 35 04.3	-0.6
PBEJ				*e*Sn		S	S	02 35 27.4	-0.3
EBAD	**Badajoz** 0.2nm,0.1s,SNR=7.7	**2.51**	**2**	P		P	P	02 35 13.6	0.0
EBAD				S		S	S	02 35 43.3	+0.1
EADA	**Adamuz** 0.4nm,0.1s,SNR=8.9	**2.79**	**46**	P		P	P	02 35 17.5	0.0
EADA				S		S	S	02 35 49.7	-0.4
EQES	**Quesada** 0.1nm,0.1s,SNR=7.9	**3.59**	**63**	P		P	P	02 35 28.4	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EQES				S	S	02 36 10.5	+0.5
	0.0nm,0.2s,SNR=7.9						
PCBR	Castelo Branco	3.61	355	ePn	P	02 35 28.4	-0.4
PCBR				eSn	S	02 36 08.7	-1.7
ETOB	Tobarra	5.03	60	P	P	02 35 47.8	-0.7
	1.1nm,0.1s,SNR=7.9						
ETOB				S	S	02 36 44.1	-1.7
	2.4nm,0.7s,SNR=16						

IDC ***21*** *02:36:15.4±2.3, 34.85N×24.42E, mb3.6/2, mb1 3.6/6, mb1mx3.4/26, mbtmp3.4/6, ML3.6/4, Error ellipse: s-maj=37.8km s-min=13.8km az=145.0*
ATH ***21*** *02:36:17.6, 35.09N×24.27E, h17^{km}, MD3.6/8*
CSEM ***21*** *02:36:17.6±0.2, 35.09N×24.27E, h17^{km}, MD3.6/8, Error ellipse: s-maj=6.2km s-min=1.1km az=25.0, After ATH*
NEIC ***21*** *02:36:17.6, 35.09N×24.27E, h17^{km}, MD3.6(ATH), After ATH.*
ISC 21 02:36:17.5±1.0**, 35.08N**±0.06×**24.33E**±0.06**, h12**^{km}±9^{km}**, n18,** σ**1^{s}06**/20**, mb3.5**/2**, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.31	220	ePb	Pb	02 36 24.0	-0.4
GVD				ePg	Pg	02 36 24.2	+0.3
VAM	Vamos	0.35	342	ePB	Pb	02 36 24.3	-0.8
VAM				eSB	Sb	02 36 29.9	-0.3
IDI	Anoyia	0.51	65	Pg	Pg	02 36 26.9	-0.9
	35nm,0.3s,baz=237,slow=15,SNR=516						
IDI				Lg		02 36 34.6	
	324nm,0.3s,baz=342,slow=22,SNR=127						
NPS	Neapolis	1.07	80	ePN	Pn	02 36 38.4	+0.2
XRY	Khrisi	1.14	100	ePN	Pn	02 36 40.0	+0.8
SANT	Santorini	1.59	35	ePn	Pn	02 36 45.4	-0.2
KYTH	Kithira	1.60	319	ePN	Pn	02 36 46.5	+0.7
VLI	Veliai	1.99	326	ePN	Pn	02 36 51.9	+0.5
APE	Apeiranthos	2.21	26	ePN	Pn	02 36 56.5	+1.9
KARP	Karpathos	2.36	78	ePB	Pb	02 36 58.9	-0.7
ARG	Arkhangelos	3.29	69	ePN	Pn	02 37 11.8	+1.8
BRTR	Keskin Array B	8.74	55	Pn	P	02 38 26.1	-0.5
	0.1nm,0.3s,baz=206,slow=10,SNR=2.7						
MLR	Muntele Rosu	10.48	6	Pn	P	02 38 52.4	+1.8
	0.1nm,0.3s,baz=173,slow=8.1,SNR=2.9						
GERES	GERESS Array B	15.84	333	Pn	P	02 40 05.7	+3.8
	0.1nm,0.3s,baz=146,slow=11,SNR=7.1						
AKASG	Malin Array Be	16.02	11	Pn	P	02 40 02.7	-1.4
	1.0nm,0.3s,baz=202,slow=9.4,SNR=4.5						
HFS	Hagfors	26.01	348	P	P	02 41 50.4	-1.3
	1.3nm,0.7s,mb3.6,baz=159,slow=13,SNR=5.3						
MKAR	Makanchi Array	44.39	56	P	P	02 44 27.9	-1.5
	0.5nm,0.5s,mb3.5,baz=268,slow=8.1,SNR=6.4						
MKAR	Makanchi Array	44.39	56	P	P	02 44 27.9	-1.5

NIED ***21*** *02:45:00, 39.40N×143.40E, h17^{km}, Mw3.6 Best double couple: $M_0$2.56×10^{14} NP1:ϕ_s47°, δ71°, λ103°. NP2:ϕ_s191°, δ23°, λ56°.*
JMA ***21*** *02:45:04.6±0.2, 39.45N×143.42E, h32^{km}±4^{km}, M3.6*
ISC 21 02:45:04.5±1.6**, 39.46N**±0.06×**143.5E**±0.1**, h32**^{km}**, n12,** σ**0^{s}65**/17**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.28	276	P	Pn	02 45 26.3	-0.2
JTH	Tanohata	1.33	291	P	Pn	02 45 27.1	0.0
OFUJ	Ofunato	1.45	255	P	Pn	02 45 28.9	0.0
JOM	Ohasama	1.69	271	P	Pn	02 45 32.7	+0.4
JANG	Nango	1.76	302	P	Pn	02 45 33.0	-0.3
JMK	Ichinoseki	1.82	254	P	Pn	02 45 34.4	+0.2
JMK				eS	Sn	02 45 55.5	-0.9
JIO	Ouri	1.94	239	P	Pn	02 45 35.6	-0.3
JIO				eS	Sn	02 45 58.3	-1.0
JTM	Tenmabayashi	2.27	306	P	Pn	02 45 40.9	+0.3
JTM				eS	Sn	02 46 08.7	+1.0
JOU	Okura	2.45	244	P	Pn	02 45 43.3	+0.1
JOU				eS	Sn	02 46 13.0	+0.7
JYK	Kaneyama	2.48	258	P	Pn	02 45 44.0	+0.4
JEM	Erimo	2.56	355	P	Pn	02 45 45.7	+0.9
JEM				eS	Sn	02 46 13.6	-1.6
MAT	Matsushiro	5.08	237	P	Pn	02 46 20.7	+0.2

NEIC ***21*** *03:12:35.0, 37.77N×27.57E, h6^{km}, MD3.4(ISK), MD3.4(ATH), After ISK.*
ISK ***21*** *03:12:35.5, 37.77N×27.57E, h6^{km}, MD3.4*
CSEM ***21*** *03:12:35.4±0.1, 37.78N×27.62E, h5^{km}, MD3.4, Error ellipse: s-maj=2.3km s-min=1.7km az=61.0*
ATH ***21*** *03:12:36.5, 37.79N×27.57E, h6^{km}±4^{km}, MD3.4/5*
ISC 21 03:12:36.0±0.3**, 37.77N**±0.02×**27.56E**±0.03**, h6**^{km}**, n30,** σ**1^{s}09**/42**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AYDN	Tasoluk	0.28	114	i P	Pg	03 12 41.5	-0.1
AYDN				i S	Sg	03 12 45.0	-0.4
MLSB	Milas	0.51	160	i PG	Pg	03 12 45.7	-0.5
SMG	Samos	0.58	264	ePG	Pg	03 12 47.5	-0.1
SMG				eSB	Sb	03 12 56.1	-0.2
IZM	Izmir	0.67	339	i PG	Pg	03 12 48.6	-0.8
KDAG	Bornova	0.67	340	i P	Pg	03 12 48.8	-0.6
KDAG				i S	Sg	03 12 58.6	+0.2
BDRM	Kayabasi	0.71	188	i P	Pg	03 12 49.2	-1.1
BDRM				i S	Sg	03 12 58.8	-0.9
BODT	Bodrum	0.74	196	PG	Pg	03 12 49.3	-1.4
BODT				SG	Sg	03 13 01.3	+0.7
BLCB	Balcova	0.74	326	PG	Pg	03 12 50.3	-0.5
YER	Yerkesik	0.86	138	PG	Pg	03 12 52.2	-1.0
URLA	Izmir	0.96	308	i P	Pb	03 12 54.8	+0.1
URLA				i S	Sb	03 13 07.9	+0.4
MANT	Manisa	1.06	47	i P	Pb	03 12 55.9	-0.5
MANT				i S	Sb	03 13 08.5	-2.0
AKS	Akhisar	1.12	10	PN	Pn	03 12 57.1	-1.1
DENT	Denizli	1.17	90	PN	Pn	03 12 58.3	-0.6
DNZL	Cakiroluk	1.18	94	i P	Pb	03 12 58.4	0.0
DNZL				i S	Sb	03 13 16.6	+2.8
DALT	Dalyan (Mudla)	1.32	139	PN	Pn	03 13 00.3	-0.7
ARG	Arkhangelos	1.62	164	ePG	Pg	03 13 06.7	-1.6
ARG				eSB	Sb	03 13 30.1	+3.6
GOLH	Golhisar	1.68	108	i P	Pn	03 13 07.8	+1.7
GOLH				i S	Sn	03 13 28.7	+0.6
APE	Apeiranthos	1.76	247	ePN	Pn	03 13 07.6	+0.2
APE	Apeiranthos	1.76	247	ePN	Pn	03 13 10.0	+2.6
PRK	Paraskevi	1.79	326	ePN	Pn	03 13 10.0	+2.3
PRK				eSN	Sn	03 13 34.3	+3.4
BALB	Balikesir	1.88	7	PN	Pn	03 13 09.2	+0.2
GDZ	Gediz	2.00	48	i P	Pn	03 13 13.9	+3.2
DST	Dursunbey	2.01	24	ePN	Pn	03 13 10.4	-0.5
ELL	Elmali	2.13	118	ePN	Pn	03 13 12.3	-0.3
TKTP	Tekketepe	2.20	82	i P	Pn	03 13 13.3	-0.3
AKAS	Kas	2.24	133	i P	Pn	03 13 16.4	+2.2
AKAS				i S	Sn	03 13 43.4	+0.9
KARP	Karpathos	2.24	188	ePN	Pn	03 13 16.0	+1.8
EZN	Ezine	2.27	335	ePN	Pn	03 13 14.5	-0.1
ORLT	Orhaneli	2.50	24	ePN	Pn	03 13 18.3	+0.4
BNT	Bandirma	2.60	6	PN	Pn	03 13 19.3	0.0

MOS ***21*** *03:20:32.1±2.0, 47.33N×7.54E, h10^{km}, mb3.5/1, Error ellipse: s-maj=7.7km s-min=5.5km az=83.1*
LDG ***21*** *03:20:33.6±0.1, 47.26N×7.67E, h14^{km}, Md2.8/3, Ml2.8/15, Error ellipse: s-maj=1.1km s-min=1.0km az=112.0*
BGR ***21*** *03:20:33.5±1.1, 47.25N×7.59E, h25^{km}, ML2.3, Error ellipse: s-maj=15.6km s-min=6.7km az=41.0*
ZUR ***21*** *03:20:33.1, 47.27N×7.66E, h25^{km}, ML2.6/7*
CSEM ***21*** *03:20:33.5±0.1, 47.26N×7.66E, h20^{km}, ML2.8/18, Error ellipse: s-maj=1.0km s-min=0.9km az=169.0*
NEIC ***21*** *03:20:34.1, 47.30N×7.60E, h26^{km}, ML2.8(LDG), ML2.7(VIE), ML2.6(ZUR), ML2.5(STR), After ZUR.*
LEDBW ***21*** *03:20:34.6±0.2, 47.30N×7.65E, h26^{km}±1^{km}, ML2.4, Error ellipse: s-maj=6.0km s-min=4.0km az=145.0*
STR ***21*** *03:20:35.1±0.6, 47.31N×7.62E, h10^{km}±1^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 21 03:20:33.7±0.3**, 47.27N**±0.02×**7.62E**±0.02**, h31**^{km}±2^{km}**, n111,** σ**0^{s}94**/185**, 33C-8D, Switzerland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BALST	Balsthal	0.08	40	⇓iPg	Pn	03 20 38.7	0.0
BALST				eSg	Sn	03 20 41.8	+0.2
BBS	Basel-Blauen	0.21	339	Pg	Pb	03 20 40.2	+0.1
BBS	Basel-Blauen	0.21	339	Pg	Pb	03 20 40.1	-0.1
BBS				Sg	Sb	03 20 43.3	-1.2
BOURR	Bourrignon	0.29	295	⇑iPg	Pb	03 20 41.5	+0.3
BOURR				eSg	Sb	03 20 46.5	+0.3
BOURR	Bourrignon	0.29	295	⇑iP	Pb	03 20 41.6	+0.4
SULZ	Sulz-Cheisache	0.42	53	⇑iPg	Pb	03 20 43.0	-0.1
SULZ				eSg	Sb	03 20 49.2	-0.3
LOMF	Lomont	0.54	279	⇑ePn	Pn	03 20 45.7	+0.5
LOMF				Sn	Sn	03 20 53.0	-0.3
LOMF	Lomont	0.54	279	Pg	Pb	03 20 45.6	+0.7
LOMF				Sg	Sb	03 20 53.0	+0.5
HASLI	Hasliberg	0.63	144	⇓iPg	Pb	03 20 46.5	+0.2
FELD	Feldberg	0.66	23	eP	Pb	03 20 46.3	-0.5
FELD				⇑iP		03 20 46.3	
FELD				eP		03 20 46.9	
FELD				P		03 20 46.9	
FELD				eS	Sb	03 20 56.2	+0.5
FELD	Feldberg	0.66	23	⇑iPN	Pn	03 20 46.3	-0.6
FELD				PG	Pb	03 20 46.9	+0.1
FELD	Feldberg	0.66	23	Pg	Pb	03 20 46.8	0.0
FELD				Sg	Sb	03 20 55.7	0.0
ZUR	Zurich	0.66	81	⇓iP	Pb	03 20 46.7	-0.1
ZUR	Zurich	0.66	81	i Sg	Sb	03 20 55.7	-0.1
ZUR	Zurich	0.66	81	⇑iP	Pb	03 20 46.7	-0.1
ZUR				i S	Sb	03 20 55.7	-0.1
MOF	Molkenrain	0.67	331	Pg	Pb	03 20 47.2	+0.3
MOF				Sg	Sb	03 20 56.7	+0.8
MOF	Molkenrain	0.67	331	P	Pb	03 20 47.4	+0.5
TORNY	Torny	0.67	222	⇑iPg	Pb	03 20 47.8	+0.9
TORNY	Torny	0.67	222	⇑iPn	Pn	03 20 47.3	+0.2
TORNY	Torny	0.67	222	⇑iP	Pn	03 20 47.3	+0.2
BNALP	Bannalp	0.68	126	eSg	Sb	03 20 56.7	+0.3
BNALP	Bannalp	0.68	126	⇓iP	Pb	03 20 47.4	+0.2
BNALP				eS	Sb	03 20 56.7	+0.3
FLACH	Flaach	0.71	65	⇑iP	Pb	03 20 47.3	-0.3
KIZ	Kirchzarten	0.71	17	Pn	Pb	03 20 47.1	-0.6
KIZ				⇑iPg	Pb	03 20 47.8	+0.1
KIZ				Sn	Sb	03 20 56.3	-0.9
KIZ				Sg	Sb	03 20 57.3	+0.1
KIZ	Kirchzarten	0.71	17	P	Pb	03 20 47.1	-0.6
KIZ						03 20 56.3	
KIZ	Kirchzarten	0.71	17	Pn	Pb	03 20 47.1	-0.6
KIZ				⇑iPg	Pb	03 20 47.8	+0.1
KIZ				Sn	Sb	03 20 56.3	-1.0
KIZ	Kirchzarten	0.71	17	P	Pb	03 20 47.1	-0.6
KIZ				⇑iP		03 20 47.8	
KIZ				⇓eP		03 20 47.9	
KIZ				S	Sb	03 20 56.3	-0.9
KIZ				eS	Sb	03 20 56.4	-0.8
KIZ				S	Sb	03 20 57.3	+0.1
KIZ	Kirchzarten	0.71	17	⇑iPG	Pb	03 20 47.8	+0.1
KIZ				SN	Sb	03 20 56.3	-1.0
KIZ	Kirchzarten	0.71	17	⇑iPg	Pb	03 20 47.8	+0.1
KIZ				S	Sb	03 20 56.3	-1.0
FBB	Freiburg	0.75	12	Pg	Pn	03 20 48.5	+0.3
HINF	Hinteralfeld	0.75	317	ePn	Pn	03 20 48.2	0.0
HINF				ePg	Pn	03 20 48.6	+0.4
HINF				eSg	Sb	03 20 58.8	+0.5
	59nm,0.2s						
HINF	Hinteralfeld	0.75	317	eP	Pn	03 20 48.2	0.0
HINF				e		03 20 58.8	
HINF	Hinteralfeld	0.75	317	ePg	Pn	03 20 48.6	+0.4
HINF				eSg	Sb	03 20 58.8	+0.5
	30nm,0.2s						
MUO	Muotathal	0.76	113	⇑iPn	Pn	03 20 48.5	+0.2
SLE	Schleitheim	0.77	50	⇑iPn	Pn	03 20 47.7	-0.8
SLE	Schleitheim	0.77	50	ePg	Pn	03 20 48.7	+0.2
TRULL	Truellikon	0.82	62	⇓iP	Pn	03 20 47.5	-1.6
BRANT	Les Verrieres	0.85	247	⇓iPn	Pn	03 20 49.9	+0.3
LIBD	Limburg	0.88	359	Pg	Pn	03 20 51.0	+0.9
LKBD	Leukerbad	0.88	179	⇑iPn	Pn	03 20 51.1	+1.0
WILA	Wila	0.89	80	⇑iPn	Pn	03 20 50.0	-0.2
WILA	Wila	0.89	80	⇑iPg	Pn	03 20 51.0	+0.8
SENIN	Lac Senin	0.93	194	⇑iPn	Pn	03 20 51.0	+0.2
SENIN	Lac Senin	0.93	194	ePg	Pn	03 20 52.0	+1.2
STEIN	Stein am Rhein	0.94	64	⇑iPn	Pn	03 20 50.3	-0.6
WEIN	Weingarten	0.97	74	ePg	Pn	03 20 52.3	+1.0
WEIN	Weingarten	0.97	74	⇑iPn	Pn	03 20 50.9	-0.4
ECH	Echery	0.99	342	Pg	Pn	03 20 52.5	+0.8
ECH				Sg	Sn	03 21 06.0	+1.3
ECH	Echery	0.99	342	P	Pn	03 20 52.6	+0.9
SISB	Singen-Sch Ber	1.00	65	⇑iPn	Pn	03 20 51.2	-0.6
SISB				Sg	Sn	03 21 05.9	+0.9
LLS	Linth-Limmern	1.04	113	⇑iPn	Pn	03 20 52.8	+0.4
FUSIO	Fusio	1.09	138	⇓iP	Pn	03 20 54.3	+1.3
HAU	Haudompre	1.13	311	ePn	Pn	03 20 53.6	0.0
HAU				ePg	Pn	03 20 55.7	+2.1
HAU				eSn	Sn	03 21 08.6	+0.4
HAU				eSg	Sn	03 21 10.1	+1.9
	35nm,0.2s						
HAU	Haudompre	1.13	311	eP	Pn	03 20 53.6	0.0
HAU				e		03 21 08.6	
WLS	Welschbruch	1.16	351	Pg	Pn	03 20 57.4	+3.4
WLS	Welschbruch	1.16	351	Pn	Pn	03 20 54.1	+0.1
BFO	Black Forest	1.16	24	ePn	Pn	03 20 52.8	-1.3
BFO				eSg	Sn	03 21 10.2	+1.2
CDF	Champ du Feu	1.16	349	ePn	Pn	03 20 53.8	-0.3
CDF				ePg	Pn	03 20 55.8	+1.7
CDF				eSn	Sn	03 21 09.1	0.0
CDF				eSg	Sn	03 21 10.8	+1.7
	15nm,0.2s						
CDF	Champ du Feu	1.16	349	eP	Pn	03 20 53.8	-0.3
CDF				e		03 21 09.1	
GIMEL	Gimel	1.18	232	⇑iPn	Pn	03 20 54.2	-0.2
PLONS	Plons	1.23	100	ePg	Pn	03 20 56.7	+1.7
PLONS	Plons	1.23	100	⇑iPn	Pn	03 20 55.2	+0.2
CABF	La Chapelle	1.24	238	ePn	Pn	03 20 55.3	+0.1
CABF				ePg	Pn	03 20 57.5	+2.3
CABF				eSn	Sn	03 21 10.6	-0.3
CABF				eSg	Sn	03 21 13.3	+2.4
	25nm,0.2s						
CABF	La Chapelle	1.24	238	eP	Pn	03 20 55.3	+0.1
CABF				e		03 21 13.3	
LIENZ	Alp Oberkamor	1.28	88	⇑iPn	Pn	03 20 55.9	+0.1
GUT	Gutenstein	1.29	51	⇑iPn	Pn	03 20 54.6	-1.4
DAVA	Damuels	1.54	89	⇑iPN	Pn	03 20 59.6	+0.1
DAVA				i SG	Sn	03 21 22.7	+4.1
	5.8nm,0.1s						
DAVA	Damuels	1.54	89	ePn	Pn	03 20 59.5	0.0
DAVA				eSg	Sn	03 21 22.5	+3.8
LBG	Lerchenberg	1.60	29	Pn	Pn	03 20 58.5	-1.9
BUCH	Bad Urach	1.66	44	⇑iPn	Pn	03 20 59.4	-1.8
UBR	Uberruh	1.74	75	Pn	Pn	03 21 01.9	-0.4
STU	Stuttgart	1.84	35	eSg	Sn	03 21 34.5	+8.3
LPL	La Plagne	1.86	200	ePg	Pn	03 21 08.5	+4.4
LPL				eSg	Sn	03 21 31.6	+4.9
	8.8nm,0.4s						
LPG	La Plagne	1.87	199	ePg	Pn	03 21 08.7	+4.5
LPG				eSg	Sn	03 21 32.5	+5.5
	9.2nm,0.4s						
SFTF	Sexfontaines	1.98	299	ePn	Pn	03 21 05.9	+0.2
	baz=121						
SFTF				ePg	Pn	03 21 11.3	+5.6
	baz=123						
SFTF				eSn	Sn	03 21 29.1	-0.5
SFTF				eSg	Sn	03 21 36.0	+6.4
	18nm,0.3s						
SFTF	Sexfontaines	1.98	299	ePg	Pn	03 21 11.3	+5.6
SFTF				eSn	Sn	03 21 29.1	-0.5
SFTF				eSg	Sn	03 21 36.0	+6.4
	9.1nm,0.3s						
RFYF	Reffroy	1.98	314	ePn	Pn	03 21 05.8	0.0
	baz=129						
RFYF				ePg	Pn	03 21 11.2	+5.4
RFYF				eSg	Sn	03 21 37.4	+7.6
	baz=145						
RFYF	Reffroy	1.98	314	ePg	Pn	03 21 11.2	+5.4
RFYF				eSg	Sn	03 21 37.4	+7.6
MEZF	Maizieres J'vi	2.12	306	ePn	Pn	03 21 07.4	-0.4
MEZF				eSg	Sn	03 21 41.6	+8.3
	21nm,0.3s						
MOTA	Moosalm	2.38	87	⇑iPN	Pn	03 21 12.6	+1.2
MOTA				i SG	Sn	03 21 48.6	+8.8
	4.0nm,0.1s						
SQTA	Sankt Quirin	2.45	90	⇑iPN	Pn	03 21 14.0	+1.5
SQTA				i SG	Sn	03 21 50.1	+8.4
	6.8nm,0.2s						
SIND	Sindeldorf	2.47	32	Pg	Pn	03 21 20.4	+7.7
LOR	Lormes	2.56	271	ePn	Pn	03 21 13.7	-0.4
	baz=89						
LOR				ePg	Pn	03 21 22.0	+7.9
	baz=94						
LOR				eSn	Sn	03 21 42.3	-2.2
LOR				eSg	Sn	03 21 52.8	+8.3
	11nm,0.2s						
LOR	Lormes	2.56	271	eP	Pn	03 21 13.7	-0.4
LOR				e		03 21 42.3	
LOR	Lormes	2.56	271	ePg	Pn	03 21 22.0	+7.9
LOR				eSn	Sn	03 21 42.3	-2.2
LOR				eSg	Sn	03 21 52.8	+8.3
	5.7nm,0.2s						
WLF	Walferdange	2.59	338	eSg	Sn	03 21 55.6	+10
MBDF	Montbardon	2.61	193	ePn	Pn	03 21 13.8	-1.0
MBDF				ePg	Pn	03 21 21.7	+6.9
MBDF				eSg	Sn	03 21 55.5	+10
	1.6nm,0.3s						
MBDF	Montbardon	2.61	193	eP	Pn	03 21 13.8	-1.0
MBDF				e		03 21 55.5	
ORIF	Oris-en-Rattie	2.65	208	ePn	Pn	03 21 14.5	-0.8
ORIF				ePg	Pn	03 21 22.7	+7.4
ORIF				eSg	Sn	03 21 55.7	+9.0
	6.6nm,0.4s						
ORIF	Oris-en-Rattie	2.65	208	eP	Pn	03 21 14.5	-0.8
ORIF				e		03 21 55.7	
SMF	Signal de Mont	2.66	258	ePn	Pn	03 21 14.6	-0.9
SMF				ePg	Pn	03 21 23.6	+8.1
SMF				eSg	Sn	03 21 57.0	+10
	10nm,0.2s						
SMF	Signal de Mont	2.66	258	eP	Pn	03 21 14.6	-0.9
SMF				e		03 21 57.0	
WTTA	Wattenberg	2.74	89	⇑iPN	Pn	03 21 17.8	+1.2
WTTA				i SG	Sn	03 22 00.3	+11
	3.3nm,0.3s						
SSF	Saint Saulge	2.81	267	ePn	Pn	03 21 17.0	-0.7
SSF				ePg	Pn	03 21 26.5	+8.8
SSF				eSg	Sn	03 22 02.3	+11
SSF	Saint Saulge	2.81	267	ePg	Pn	03 21 26.5	+8.8
SSF				eSg	Sn	03 22 02.3	+11
AVF	Avril sur Loir	2.96	262	ePn	Pn	03 21 18.8	-0.9
AVF				ePg	Pn	03 21 28.9	+9.2
AVF				eSg	Sn	03 22 06.6	+12
	2.7nm,0.2s						
TNS	Taunus Mts	3.00	10	eSn	Sn	03 21 51.9	-3.8
	SNR=1.4						
TNS				eSg	Sn	03 22 09.5	+14
	SNR=2.1						
VIVF	Saint-Julien-l	3.17	221	ePn	Pn	03 21 20.6	-2.1
VIVF				ePg	Pn	03 21 32.5	+10
VIVF				eSg	Sn	03 22 13.1	+13
	8.3nm,0.4s						
BGF	Bois d'Agland	3.35	259	ePn	Pn	03 21 24.2	-1.0
BGF				ePg	Pn	03 21 36.3	+11
BGF				eSg	Sn	03 22 18.9	+15
	11nm,0.4s						
HYF	Humbligny	3.39	272	ePn	Pn	03 21 25.2	-0.7
HYF				eSg	Sn	03 22 20.7	+15
BAIF	Baives	3.59	322	ePn	Pn	03 21 28.5	-0.2
SMRF	Simiane la Rot	3.59	204	ePn	Pn	03 21 27.2	-1.6
TCF	Toulx Ste Croi	3.84	257	ePn	Pn	03 21 30.8	-1.5
WET	Wettzell	3.99	60	eSg	Sn	03 22 38.5	+18
	SNR=2.2						
NKC	Novy Kostel	4.36	45	eSG	Px	03 22 53.2	
GEC2	GERESS Array S	4.37	67	ePn	Pn	03 21 37.4	-2.4
	SNR=1.3						
GEC2				eSn	Sn	03 22 25.6	-4.9
	SNR=2.5						
GEC2				eSg	Sn	03 22 52.0	+22
	SNR=3.0						
GUNZ	Gunzen	4.39	43	eSg	Sn	03 22 50.3	+19
	SNR=2.1						
KHC	Kasperske Hory	4.40	63	ePG	Pn	03 21 56.9	+17
KHC				eSG	Sn	03 22 51.7	+21
WERD	Werda	4.44	43	eSg	Px	03 22 53.5	
	SNR=2.2						
TANN	Tannenbergstha	4.49	44	eSg	Px	03 22 57.4	
	SNR=2.3						
GRR	Gorron	5.81	284	ePn	Pn	03 21 58.2	-2.0

IDC ***21*** *03:26:02.7±1.0, 12.94N×145.19E, mb4.2/8, mb1 4.4/8, mb1mx4.2/19, mbtmp4.2/8, MS3.3/1, Ms1 3.3/1, ms1mx2.6/20, Error ellipse: s-maj=38.9km s-min=24.4km az=85.0*
NEIC ***21*** *03:26:09.4±1.4, 12.83N×145.16E, h54^{km}±12^{km}, mb4.5/7, Error ellipse: s-maj=24.6km s-min=12.7km az=95.0*
ISC 21 03:26:08.1±1.4**, 12.81N**±0.09×**145.2E**±0.2**, h62**^{km}±10^{km}**, n22,** σ**1^{s}09**/21**, mb4.4**/15**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.85	336	ePg	P	03 26 24.9	+0.5
GUMO				eSg	S	03 26 36.1	-0.5
SAPN	Saipan	2.44	12	P	P	03 26 47.1	+0.5
JOW	Kunigami	21.15	314	LR	LR	03 37 05.7	
	comp=Z,83nm,18.7s,baz=212,slow=32						
MJAR	Matsushiro Arr	24.46	346	P	P	03 31 21.9	-0.5
	1.8nm,0.5s,mb3.8,baz=171,slow=10,SNR=8.9						
MAJO	Matsushiro	24.46	346	P	P	03 31 19.2	-3.3
	8.6nm,1.0s,mb4.1						
CTAO	Charters Tower	32.71	178	eP	P	03 32 35.0	-2.0
	11nm,0.9s,mb4.8						
WRAB	Tennant Creek	34.25	198	eP	P	03 32 51.0	+0.6
	26nm,1.3s,mb5.0						
WRA	Warramunga Arr	34.27	198	P	P	03 32 51.0	+0.5
	3.5nm,0.9s,mb4.3,baz=20,slow=9.7,SNR=8.1						
SONM	Songino Array	47.56	325	P	P	03 34 40.0	+0.7
	1.4nm,0.7s,mb4.1,baz=139,slow=8.3,SNR=8.8						
SONM				PcP	PcP	03 36 09.9	+1.2
	0.9nm,0.8s,baz=153,slow=2.8,SNR=4.1						
BILL	Bilibino	56.87	9	P	P	03 35 43.0	-5.6
	15nm,1.5s,mb4.8						
MKAR	Makanchi Array	62.29	316	P	P	03 36 25.7	-0.4
	0.6nm,0.5s,mb4.0,baz=90,slow=9.2,SNR=6.1						
MKAR	Makanchi Array	62.29	316	P	P	03 36 25.7	-0.4
MCK	McKinley	67.98	26	eP	P	03 37 01.7	-0.7
	3.7nm,1.1s,mb4.3						
ILAR	Eielson Array	69.12	25	P	P	03 37 09.1	-0.4
	5.0nm,0.6s,mb4.6,baz=250,slow=6.2,SNR=57						
BVAR	Borovoye Array	70.75	322	P	P	03 37 20.2	+0.6
	1.2nm,0.5s,mb4.1,baz=100,slow=9.0,SNR=7.0						
ZRNK	Zerenda	71.58	322	P	P	03 37 23.4	-1.1
	2.0nm,1.0s,mb4.0						
INK	Inuvik	74.95	22	eP	P	03 37 43.0	-0.9
	5.6nm,0.9s,mb4.5						
DLBC	Dease Lake	76.45	33	eP	P	03 37 55.4	+2.7
ARCES	ARCESS Array B	87.93	342	P	P	03 38 53.7	+1.9
	3.0nm,0.8s,mb4.5,baz=84,slow=8.2,SNR=4.9						
ARCES	ARCESS Array B	87.93	342	P	P	03 38 53.7	+1.9
FINES	FINESS Array B	92.01	335	P	P	03 39 11.7	+0.6
	3.1nm,0.8s,mb4.7,baz=101,slow=7.1,SNR=6.0						
LPAZ	La Paz	147.55	100	PKPbc	PKPdf	03 45 51.6	+8.1
	2.2nm,0.8s,baz=267,slow=1.8,SNR=10						

MEX 21 03:26:21.6±0.3**, 15.29N**×**95.13W, h29**^{km}±104^{km}**, MD4.1, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.06	297	i P	Pn	03 26 38.0	-2.6
HUIG				i S	Sn	03 26 50.8	-3.6
CMIG	Matias Romero	1.81	7	i P	Pn	03 26 49.0	-2.4
CMIG				i S	Sn	03 27 10.0	-3.6
OXX	Oaxaca	2.35	320	eP	Pn	03 27 02.0	+2.8
CCIG	Comitan	3.05	71	i P	Pn	03 27 06.5	-2.5
CCIG				i S	Sn	03 27 40.5	-4.4

WEL 21 03:29:14.7±0.2**, 44.53S**×**168.46E, h5**^{km}**, ML3.8**/9**, 4C-1D, Error ellipse: s-maj=1.3km s-min=1.2km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.40	250	⇑PG	Pg	03 29 23.2	+0.4
MSZ				SG	Sg	03 29 28.4	+0.2
WKZ	Wanaka	0.50	127	⇓PG	Pg	03 29 24.7	+0.1
WKZ				SG	Sg	03 29 31.6	+0.3
JCZ	Jackson Bay	0.51	25	⇑PG	Pg	03 29 24.6	-0.2
JCZ				SG	Sg	03 29 31.5	-0.1
MLZ	Mavora Lakes	0.84	194	⇑P*	Pb	03 29 31.1	-0.2
MLZ				S*	Sb	03 29 41.9	-0.8
EAZ	Earnscleugh	0.92	139	P*	Pb	03 29 32.2	-0.7
EAZ				eS*	Sb	03 29 45.8	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LBZ	Lake Benmore	1.25	84	⇑P*	Pb	03 29 38.6	+0.3
FOZ	Fox Glacier	1.31	43	PN	Pn	03 29 39.9	+0.2
WHZ	Wether Hill Ro	1.41	195	PN	Pn	03 29 40.5	-0.6
ODZ	Otahua Downs	1.64	109	PN	Pn	03 29 44.4	0.0
ODZ				SN	Sn	03 30 04.8	-1.2
TUZ	Tuapeka	1.65	150	PN	Pn	03 29 44.4	-0.1
TUZ				SN	Sn	03 30 04.9	-1.3
RPZ	Rata Peaks	2.04	67	PN	Pn	03 29 49.6	-0.5
LTZ	Lake Taylor	3.27	59	ePN	Pn	03 30 05.7	-2.1

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*NIED **21** 03:31:00, 39.50N×143.40E, h17km, Mw3.7 Best double couple: $M_0$4.34×10^{14} NP1:ϕ_s33°, δ71°, λ106°. NP2:ϕ_s173°, δ25°, λ52°.*
*JMA **21** 03:31:01.4±0.2, 39.47N×143.42E, h33km, M3.8*
ISC 21 03:31:01.5±2.1**, 39.45N**±0.08×**143.5E**±0.2**, h33km, n14, $\sigma 0^{s}91$**/16**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.31	276	P	P	03 31 23.2	-0.4
JTH	Tanohata	1.36	292	P	P	03 31 23.8	-0.5
OFUJ	Ofunato	1.47	256	P	P	03 31 25.5	-0.4
JOM	Ohasama	1.71	272	P	P	03 31 29.5	+0.2
JANG	Nango	1.79	302	P	P	03 31 29.8	-0.6
JMK	Ichinoseki	1.84	255	P	P	03 31 31.2	0.0
JIO	Ouri	1.95	240	P	P	03 31 32.4	-0.4
JYK	Kaneyama	2.50	259	P	P	03 31 40.8	+0.2
JMM	Marumori	2.64	234	P	P	03 31 41.9	-0.8
JOT	Ohata	2.69	317	P	P	03 31 45.1	+1.7
JNBK	Urakawa-nobuka	2.89	349	P	P	03 31 47.1	+0.9
JNBK				eS	S	03 32 19.8	-0.3
JKB	Kayabe	3.08	323	P	P	03 31 51.0	+2.1
JCH	Churui	3.17	358	P	P	03 31 50.3	+0.2
JCH				eS	S	03 32 25.1	-2.1
MAT	Matsushiro	5.09	237	P	P	03 32 17.7	+0.3
MAT				S	rx	03 32 28.1	

WEL 21 03:31:59.2±0.1**, 44.53S**×**168.47E, h5km, ML3.9**/10**, 3C-1D, Error ellipse: s-maj=1.2km s-min=0.8km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.41	249	⇑PG	Pg	03 32 07.8	+0.3
MSZ				SG	Sg	03 32 13.6	+0.6
WKZ	Wanaka	0.49	127	⇓PG	Pg	03 32 09.3	+0.2
WKZ				SG	Sg	03 32 15.6	-0.1
JCZ	Jackson Bay	0.50	25	⇑PG	Pg	03 32 09.3	0.0
JCZ				SG	Sg	03 32 16.3	+0.4
MLZ	Mavora Lakes	0.84	194	⇑P*	Pb	03 32 15.7	-0.3
MLZ				S*	Sb	03 32 27.4	0.0
EAZ	Earnscleugh	0.92	140	P*	Pb	03 32 16.9	-0.4
LBZ	Lake Benmore	1.24	84	P*	Pb	03 32 23.2	+0.5
LBZ				eS*	Sb	03 32 38.7	-0.1
FOZ	Fox Glacier	1.31	43	ePN	Pn	03 32 24.2	0.0
FOZ				eSN	Sn	03 32 44.1	+1.9
WHZ	Wether Hill Ro	1.41	195	ePN	Pn	03 32 24.8	-0.9
WHZ				eSN	Sn	03 32 43.0	-1.9
ODZ	Otahua Downs	1.63	109	ePN	Pn	03 32 29.0	+0.1
TUZ	Tuapeka	1.65	150	PN	Pn	03 32 29.1	+0.1
TUZ				eSN	Sn	03 32 50.0	-0.8
RPZ	Rata Peaks	2.03	67	PN	Pn	03 32 34.2	-0.4

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*CSEM **21** 04:07:33.0, 0.90S×148.30E, h2km, mb5.5*
*IDC **21** 04:07:34.3±0.6, 0.99S×148.52E, mb4.8/13, mb1 4.9/14, mb1mx4.9/17, mbtmp4.8/14, ML4.2/1, MS4.2/13, Ms1 4.2/13, ms1mx4.2/14, Error ellipse: s-maj=25.3km s-min=13.7km az=89.0*
*MOS **21** 04:07:38.1±1.6, 0.93S×148.35E, h33km, mb4.8/12, Error ellipse: s-maj=22.7km s-min=9.2km az=92.1*
*BJI **21** 04:07:40.2, 1.19S×149.09E, h91km, mB5.1, mb5.0*
*HRVD **21** 04:07:42.5±0.5, 0.80S×148.46E, h29km±5km, MW4.9/40, Centroid moment Tensor Solution. LP body waves: s13,c14;Mantle waves: s40,c58; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.94±.24; $M_{\theta\theta}$-1.40±.16; $M_{\phi\phi}$0.45±.14; $M_{r\theta}$-2.27±.46; $M_{\theta\phi}$-0.29±.16; $M_{\phi r}$0.11±.23; Best double couple: $M_0$2.576×10^{16} NP1:ϕ_s61°, δ16°, λ59°. NP2:ϕ_s273°, δ77°, λ98°. Principal axes: T 2.358, Plg58°, Azm194°; N .435, Plg8°, Azm91°; P -2.794, Plg31°, Azm356°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **21** 04:07:42.5±1.8, 1.01S×148.39E, h62km±16km, mb5.0/38 Error ellipse: s-maj=10.2km s-min=6.6km az=79.0*
ISC 21 04:07:37.6±0.3**, 1.03S**±0.04×**148.50E**±0.07**, h33km, (h82km**±4.3km**:pP-P), n119, $\sigma 1^{s}18$**/114**, mb4.9**/56**, MS4.2**/22**, 5C-4D, Admiralty Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.43	189	P	P	04 09 41.3	+1.1
PMG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PMG	Port Moresby	8.43	189	Pn	P	04 09 41.3	+1.0
	comp=Z,0.6nm,0.3s,baz=348,slow=16,SNR=3.2						
PMG	Port Moresby	8.43	189	eP	P	04 09 42.9	+2.7
	comp=Z,151nm,0.9s						
PMG				eSn	Sn	04 11 07.5	-7.9
CTA	Charters Tower	19.07	186	eP	P	04 12 01.6	+1.5
	comp=Z,22nm,0.9s						
CTA	Charters Tower	19.07	186	P	P	04 12 00.9	+0.8
CTA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CTA				MLR	MLR		
	comp=Z,936nm,18.3s						
CTA	Charters Tower	19.07	186	P	P	04 12 00.9	+0.8
	comp=Z,0.5nm,0.3s,baz=17,slow=11,SNR=9.6						
CTA				LR	LR	04 19 14.2	
	comp=Z,936nm,18.3s,baz=39,slow=37						
CTAO	Charters Tower	19.07	186	eP	P	04 12 00.5	+0.4
	comp=Z,48nm,1.0s						
KAKA	Kakadu	19.70	233	eP	P	04 12 06.8	-0.3
	comp=Z,48nm,0.7s						
WRAB	Tennant Creek	23.34	215	i P	P	04 12 44.3	+0.3
WRAB	Tennant Creek	23.34	215	eP	P	04 12 43.4	-0.6
	comp=Z,285nm,1.1s,mb5.6						
WB2	Warramunga Arr	23.34	215	⇑iP	P	04 12 44.4	+0.3
WRA	Warramunga Arr	23.35	215	P	P	04 12 44.5	+0.3
WRA				pmax	pmax		
	comp=Z,128nm,1.0s						
WRA	Warramunga Arr	23.35	215	P	P	04 12 44.5	+0.3
	comp=Z,128nm,1.0s,mb5.3,baz=38,slow=10,SNR=159						
DZM	Mont Dzumac	27.25	141	LR	LR	04 22 36.9	
	comp=Z,508nm,19.9s,MS4.1,baz=203,slow=33						
FITZ	Fitzroy Crossi	28.14	232	eP	P	04 13 28.2	-0.9
	comp=Z,24nm,0.7s,mb4.9						
FITZ	Fitzroy Crossi	28.14	232	P	P	04 13 27.9	-1.2
	comp=Z,32nm,0.7s,mb5.1,baz=47,slow=4.5,SNR=18						
FITZ				LR	LR	04 25 50.5	
	comp=Z,700nm,18.4s,MS4.3,baz=72,slow=39						
CBIJ	Chichi jima	28.62	348	LR	LR	04 23 33.7	
	comp=Z,311nm,19.6s,MS3.9,baz=133,slow=34						
STKA	Stephens Creek	31.36	191	⇑iP	P	04 13 56.1	-1.6
	comp=Z,6.9nm,0.6s,mb4.7						
STKA	Stephens Creek	31.36	191	P	P	04 13 56.1	-1.5
	comp=Z,8.3nm,0.7s,mb4.7,baz=356,slow=7.8,SNR=16						
STKA				LR	LR	04 26 56.4	
	comp=Z,952nm,19.7s,MS4.5,baz=21,slow=37						
KKM	Kota Kinabalu	32.99	283	P	P	04 14 09.3	-2.7
CNB	Canberra Magne	34.12	179	eP	P	04 14 21.9	+0.3
	comp=Z,35nm,1.1s,mb5.2						
MBWA	Marble Bar	34.46	233	eP	P	04 14 23.8	-0.9
	comp=Z,9.8nm,0.7s,mb4.8						
NACB	Ninganchiao	36.19	316	P	P	04 14 36.4	-2.9
TOO	Toolangi	36.47	184	⇑iP	P	04 14 41.7	+0.2
	comp=Z,26nm,1.0s,mb5.1						
JNU	Nakatsue	37.82	336	P	P	04 14 52.6	-0.3
	comp=Z,41nm,0.8s,mb5.2,baz=123,slow=8.4,SNR=31						
KSM	Kuching	38.27	274	P	P	04 14 56.5	-0.3
MJAR	Matsushiro Arr	38.59	347	P	P	04 14 56.9	-2.4
	comp=Z,1.7nm,0.4s,mb4.1,baz=167,slow=9.3,SNR=7.2						
MJAR				LR	LR	04 29 08.2	
	comp=Z,203nm,19.6s,MS4.0,baz=170,slow=34						
MAJO	Matsushiro	38.59	347	eP	P	04 14 55.6	-3.7
	comp=Z,7.4nm,0.8s,mb4.5						
SSE	Sheshan	41.16	323	eP	P	04 15 20.9	+0.2
SSE				PCP	PcP	04 17 18.8	-1.4
SSE				S	S	04 21 33.9	+2.4
SSE				AMB	AMB		
	comp=Z,42nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,70nm,3.5s						
SSE				LR	LR		
	comp=N,42nm,21.4s,MS3.8						
SSE				LR	LR		
	comp=E,126nm,21.4s,MS3.8						
SSE				LR	LR		
	comp=Z,176nm,21.8s,MS3.9						
SSE	Sheshan	41.16	323	eP	P	04 15 20.9	+0.2
	comp=Z,42nm,0.7s,mb5.2						
SSE				pP	pP	04 15 29.6	-0.9
SSE				sP	sP	04 15 33.5	-1.2
SSE				PcP	PcP	04 17 18.7	-1.5
SSE				S	S	04 21 33.9	+2.4
SSE				sS		04 21 49.3	
SSE				SS	SS	04 24 49.4	+19
SSE				ScS	ScS	04 25 23.1	+2.9
SSE				LR	LR		
	comp=Z,180nm,21.8s,MS3.9						
KLBR	Kellerberrin	42.04	221	eP	P	04 15 27.4	-0.6
	comp=Z,24nm,0.7s,mb4.9						
RAO	Raoul Island	42.56	134	P	P	04 15 29.4	-2.9
	comp=Z,709nm,1.0s						
KS15	Wonju Array Si	42.77	336	P	P	04 15 30.1	-3.8
QIZ	Qiongzhong	42.87	300	P	P	04 15 38.4	+3.4
QIZ	Qiongzhong	42.87	300	eP	P	04 15 36.5	+1.5
	comp=Z,57nm,1.3s,mb5.1						
NJ2	Nanjing	43.24	322	eP	P	04 15 38.3	+0.5
NJ2				PP	PP	04 17 21.4	+1.0
NJ2				S	S	04 22 06.0	+3.8
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,40nm,5.6s						
NJ2				LR	LR		
	comp=N,3μm,22.4s						
NJ2				LR	LR		
	comp=E,4μm,19.7s						
NJ2				LR	LR		
	comp=Z,1μm,21.1s						
NWAO	Narrogin (SRO)	43.24	220	eP	P	04 15 37.1	-0.7
	comp=Z,56nm,1.3s,mb5.1						
URZ	Urewera	45.41	148	P	P	04 15 54.4	-0.7
	comp=Z,12nm,0.9s,mb4.7,baz=350,slow=17,SNR=3.6						
YSS	Yuzh-Sakhalins	48.05	355	⇑eP	P	04 16 14.6	-1.2
YSS	Yuzh-Sakhalins	48.05	355	eP	P	04 16 14.9	-1.0
	comp=Z,20nm,0.7s,mb5.3						
KULM	Kulim	48.20	278	eP	P	04 16 15.5	-1.9
KKTK	Khon Kaen	48.26	293	P	P	04 16 20.0	+2.2
	comp=Z,340nm,1.0s						
ENH	Enshi	48.46	313	eP	P	04 16 18.7	-0.5
	comp=Z,17nm,0.9s,mb5.1						
MDJ	Mudanjiang	48.47	342	P	P	04 16 18.8	-0.3
MDJ				AP	pP	04 16 41.4	+12
MDJ				PCP	PcP	04 17 43.9	-1.4
MDJ				PP	PP	04 18 12.0	+0.6
MDJ				PCS		04 21 39.9	
MDJ				S	S	04 23 18.3	+1.6
MDJ				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,40nm,7.7s						
MDJ				LR	LR		
	comp=N,135nm,32.9s,MS3.8						
MDJ				LR	LR		
	comp=E,90nm,33.6s,MS3.8						
MDJ				LR	LR		
	comp=Z,189nm,30.8s,MS3.9						
MDJ	Mudanjiang	48.47	342	eP	P	04 16 18.9	-0.1
	comp=Z,19nm,0.9s,mb5.1						
CN2	Changchun	49.17	338	eP	P	04 16 24.5	0.0
CN2				eAP	pP	04 16 42.6	+8.2
CN2				eS	S	04 23 23.4	-3.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2				LR	LR		
	comp=N,330nm,19.0s,MS4.4						
CN2				LR	LR		
	comp=E,230nm,19.0s,MS4.4						
CN2				LR	LR		
	comp=Z,220nm,19.0s,MS4.2						
NST	Nakhon Sawan	50.57	291	P	P	04 16 37.5	+1.9
XAN	Xi'an	50.95	317	P	P	04 16 37.8	-0.4
XAN				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
KMI	Kunming	51.33	304	P	P	04 16 40.4	-0.8
KMI				S	S	04 23 52.8	-3.9
KMI				SS	SS	04 27 26.9	-3.4
KMI				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.9						
KMI				LR	LR		
	comp=N,186nm,10.0s						
KMI				LR	LR		
	comp=E,229nm,16.7s						
KMI				LR	LR		
	comp=Z,211nm,14.8s,MS4.3						
KMI	Kunming	51.33	304	P	P	04 16 40.4	-0.8
	comp=Z,9.0nm,0.6s,mb4.9						
KMI				S	S	04 23 52.7	-4.0
KMI				PS	PS	04 24 12.4	+2.4
KMI				sS		04 24 23.0	
KMI				SS	SS	04 27 26.9	-3.4
KMI				SSS	SSS	04 29 07.0	-1.3
KMI				LR	LR		
	comp=Z,210nm,14.8s,MS4.3						
KLR	Kul'dur	52.11	346	eP	P	04 16 43.3	-3.4
CD2	Chengdu	53.04	311	P	P	04 16 54.3	+0.3
HHC	Hu-ho-hao-te	53.51	325	eP	P	04 16 57.3	0.0
HHC				AP	pP	04 17 20.5	+13
HHC				PP	PP	04 18 58.0	-1.4
HHC				S	S	04 24 15.6	-11
HHC				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,198nm,8.3s						
HHC				LR	LR		
	comp=N,211nm,16.7s,MS4.4						
HHC				LR	LR		
	comp=E,201nm,14.3s,MS4.4						
HHC				LR	LR		
	comp=Z,282nm,21.4s						
BTO	Baotou	54.24	324	eP	P	04 17 03.0	+0.3
BTO				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						
PET	Petropavlovsk	54.53	8	eP	P	04 17 07.9	+3.3
PET				i S	S	04 24 41.2	+1.3
PET				pmax	pmax		
	comp=Z,30nm,13.0s						
PET				smax			
	comp=N,200nm,17.2s						
PET				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.9						
HIA	Hailar	55.90	338	eP	P	04 17 14.5	-0.1
	comp=Z,14nm,0.3s,mb5.5						
HIA				e		04 17 18.8	
FX1	Attu Island--F	57.56	17	eP	P	04 17 26.3	-0.1
GTA	Gaotai	59.99	318	eP	P	04 17 44.4	+0.9
GTA				AP	pP	04 18 04.9	+11
GTA				PCP	PcP	04 18 30.6	+1.5
GTA				PP	PP	04 19 57.9	+0.1
GTA				S	S	04 25 51.5	-0.5
GTA				SS	SS	04 29 46.8	-3.0
GTA				AMB	AMB		
	comp=Z,15nm,0.7s,mb5.1						
GTA				AMB	AMB		
	comp=Z,44nm,4.9s						
GTA				LR	LR		
	comp=N,138nm,20.1s,MS4.3						
GTA				LR	LR		
	comp=E,194nm,22.0s,MS4.3						
GTA				LR	LR		
	comp=Z,140nm,20.5s,MS4.1						
MA2	Magadan	60.46	1	eP	P	04 17 42.1	-4.2
	comp=Z,10.0nm,0.8s,mb4.9						
CIT	Chita	60.50	336	eP	P	04 17 46.4	-0.4
SHL	Shillong	60.71	300	eP	P	04 17 46.1	-2.4
SONM	Songino Array	60.88	329	P	P	04 17 50.0	+0.6
	comp=Z,7.5nm,0.7s,mb4.9,baz=148,slow=6.5,SNR=49						
SONM				LR	LR	04 42 43.7	
	comp=Z,184nm,21.9s,MS4.2,baz=97,slow=35						
LSA	Lhasa	62.58	304	P	P	04 18 03.0	+2.0
LSA	Lhasa	62.58	304	P	P	04 18 02.9	+1.9
	comp=Z,6.5nm,0.8s,mb4.8						
PPT	Papeete	62.98	109	LR	LR	04 40 55.1	
	comp=Z,229nm,18.7s,MS4.4,baz=154,slow=32						
ZAK	Zakamensk	64.08	330	⇓iP	P	04 18 10.8	+0.2
ZAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
YAK	Yakutsk	64.50	350	⇑iP	P	04 18 12.1	-1.1
YAK				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.2						
TLY	Talaya	64.70	331	eP	P	04 18 12.0	-2.6
TLY				eS	S	04 26 43.3	-7.7
TLY				e		04 27 57.5	
TLY				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
TLY				MLR	MLR		
	comp=Z,137nm,20.0s,MS4.1						
BOD	Bodaibo	64.79	340	eP	P	04 18 17.7	+2.6
BOD				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
MOY	Mondy	66.00	330	eP	P	04 18 23.8	+0.8
GUN	Gumba	66.51	301	eP	P	04 18 27.0	+0.4
PKI	Pulchoki	66.83	301	eP	P	04 18 29.1	+0.5
	comp=Z,42nm,1.1s,mb5.4						
KKN	Kakani	66.99	301	eP	P	04 18 30.0	+0.3
	comp=Z,52nm,1.0s,mb5.5						
DMN	Daman	67.10	301	eP	P	04 18 31.2	+0.9
	comp=Z,54nm,1.0s,mb5.5						
GKN	Gorkha	67.59	301	eP	P	04 18 33.8	+0.4
	comp=Z,36nm,1.0s,mb5.4						
KOLN	Koldanda	68.43	300	eP	P	04 18 39.1	+0.4
	comp=Z,21nm,0.8s,mb5.2						
BILL	Bilibino	70.03	7	eP	P	04 18 48.1	+0.3
BILL				pmax	pmax		
	comp=Z,19nm,1.7s,mb4.8						
BILL				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.1						
BILL	Bilibino	70.03	7	P	P	04 18 47.6	-0.2
	comp=Z,8.7nm,0.8s,mb4.7						
WMQ	Urumqi	70.08	318	P	P	04 18 47.8	-0.7
WMQ				AP	pP	04 19 07.8	+9.0
WMQ				S	S	04 27 50.3	-5.5
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,113nm,4.2s						
WMQ				LR	LR		
	comp=N,314nm,19.2s,MS4.7						
WMQ				LR	LR		
	comp=E,214nm,19.5s,MS4.7						
WMQ				LR	LR		
	comp=Z,401nm,19.6s,MS4.7						
CASY	Casey	70.41	195	eP	P	04 18 49.7	-0.4
	comp=Z,21nm,0.8s,mb5.1						
TIXI	Tiksi	73.66	354	eP	P	04 19 06.7	-2.7
TIXI				eS	S	04 28 31.0	-5.3
TIXI				e		04 29 02.9	
DDI	Dehra Dun	73.71	302	e	P	04 19 12.0	+1.5
MKAR	Makanchi Array	74.68	319	P	P	04 19 16.4	+0.7
	comp=Z,2.1nm,0.7s,mb4.2,baz=97,slow=6.5,SNR=16						
MKAR				LR	LR	04 50 33.2	
	comp=Z,92nm,21.2s,MS4.0,baz=180,slow=34						
VNDA	Vanda	76.76	177	P	P	04 19 27.7	+0.6
	comp=Z,9.8nm,0.7s,mb4.8,baz=329,slow=6.1,SNR=70						
VNDA				LR	LR	04 52 17.1	
	comp=Z,92nm,19.4s,MS4.1,baz=332,slow=35						
VNDA	Vanda	76.76	177	eP	P	04 19 27.2	+0.2
	comp=Z,12nm,0.7s,mb4.9						
NVS	Novosibirsk	76.85	327	eP	P	04 19 27.7	-0.3
SLKM	Skilak Lake	77.16	26	eP	P	04 19 29.8	+0.2
SBA	Scott Base	77.37	176	eP	P	04 19 31.7	+1.2
	comp=Z,6.0nm,0.9s,mb4.5						
PMR	Palmer	78.11	26	eP	P	04 19 40.7	+5.9
	comp=Z,5.8nm,0.9s,mb4.5						
AAK	Ala-Archa	78.97	314	⇓iP	P	04 19 40.4	+0.5
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
AAK	Ala-Archa	78.97	314	eP	P	04 19 40.4	+0.5
	comp=Z,5.4nm,1.0s,mb4.4						
MCK	McKinley	79.11	24	eP	P	04 19 38.6	-1.7
	comp=Z,19nm,1.2s,mb4.9						
DIV	Divide	79.41	27	P	P	04 19 42.3	+0.4
	comp=Z,26nm,0.8s,mb5.2						
ILAR	Eielson Array	80.36	23	P	P	04 19 45.6	-1.4
	comp=Z,3.9nm,0.7s,mb4.4,baz=252,slow=5.6,SNR=40						
ILAR				LR	LR	04 53 39.8	
	comp=Z,99nm,19.2s,MS4.2,baz=1.0,slow=34						
BRVK	Borovoye	83.74	324	eP	P	04 20 03.5	-1.2
	comp=Z,13nm,1.0s,mb5.0						
ZRNK	Zerenda	84.49	323	eP	P	04 20 09.0	+0.6
	comp=Z,21nm,1.2s,mb5.2						
INK	Inuvik	86.51	21	P	P	04 20 18.1	+0.1
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	Inuvik	86.51	21	P	P	04 20 18.1	0.0
	comp=Z,3.6nm,0.8s,mb4.6,baz=280,slow=5.1,SNR=3.3						
MAW	Mawson	87.38	202	P	P	04 20 23.0	+0.7
	comp=Z,2.4nm,0.6s,mb4.6,baz=92,slow=8.2,SNR=7.7						
MAW				LR	LR	04 57 12.2	
	comp=Z,137nm,19.2s,MS4.4,baz=336,slow=34						
QSPA	South Pole Qui	88.90	180	eP	P	04 20 30.4	+1.1
	comp=Z,12nm,1.1s,mb5.1						
ARU	Arti	90.82	326	⇓iP	P	04 20 40.6	+1.8
ARU				e	PP	04 24 14.3	-2.8
ARU				eS	SKS	04 31 08.4	+2.3
ARU				eSP	SP	04 32 39.5	-1.9
ARU				ePS	PS	04 32 47.9	+1.5
ARU				eSS	SS	04 37 34.0	-3.0
ARU				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8						
NVAR	Mina Array Bea	93.15	52	P	P	04 20 51.7	+1.7
	comp=Z,0.4nm,0.3s,mb4.3,baz=260,slow=5.5,SNR=6.3						
NVAR	Mina Array Bea	93.15	52	P	P	04 20 51.7	+1.7
BMO	Blue Mountains	93.70	45	eP	P	04 20 53.6	+1.3
	comp=Z,6.0nm,1.1s,mb4.9						
SYO	Syowa Base	95.74	200	⇓P	P	04 21 00.4	-0.7
PDAR	Pinedale Array	99.47	47	LR	LR	05 00 15.6	
	comp=Z,90nm,19.2s,MS4.3,baz=268,slow=32						
KIV	Kislovodsk	102.07	315	i P	Pdif	04 21 30.4	+0.1
GERES	GERESS Array B	118.61	328	PKP	PKPdf	04 26 23.8	+1.5
	comp=Z,0.3nm,0.6s,baz=304,slow=3.5,SNR=2.7						
PLCA	Paso Flores	125.34	144	PKIKP	PKPdf	04 26 39.0	+3.3
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PLCA	Paso Flores	125.34	144	PKP	PKPdf	04 26 39.0	+3.3
	comp=Z,1.2nm,0.9s,baz=262,slow=3.9,SNR=3.0						
SDV	Santo Domingo	140.28	77	PKP	PKPdf	04 27 06.3	+2.0
	comp=Z,2.0nm,0.6s,baz=315,slow=2.9,SNR=3.0						
SDV	Santo Domingo	140.28	77	ePKPdf	PKPdf	04 27 05.3	+1.0
SIV	San Ignacio	146.25	121	PKPbc	PKPbc	04 27 18.2	+2.3
	comp=Z,14nm,0.8s,baz=240,slow=3.5,SNR=66						
SAML	Samuel	146.92	108	ePKPbc	PKPbc	04 27 18.5	+1.0
DBIC	Dimbokro	152.84	283	PKIKP	PKPdf	04 27 35.2	+10
DBIC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
DBIC	Dimbokro	152.84	283	PKPbc	PKPdf	04 27 35.2	+10
	comp=Z,8.2nm,1.1s,baz=153,slow=3.8,SNR=4.6						
DBIC	Dimbokro	152.84	283	ePKPbc	PKPdf	04 27 31.3	+6.2
BDFB	Brasilia	156.75	136	PKP2	PKPab	04 28 01.6	-0.6
BDFB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BDFB	Brasilia	156.75	136	PKPab	PKPab	04 28 01.6	-0.6
	comp=Z,4.5nm,1.0s,baz=194,slow=4.2,SNR=3.2						

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*CRAAG **21** 04:09:55.4, 36.61N×2.20E, Ml2.6*
*CSEM **21** 04:09:55.7±0.3, 36.69N×2.14E, h25km, ML2.6, Error ellipse: s-maj=7.9km s-min=6.7km az=54.0*
*MDD **21** 04:09:56.3±1.7, 36.73N×2.16E, h22km±25km, mb3.7/3, Error ellipse: s-maj=13.9km s-min=9.1km az=133.0, PRXIMO*
*NEIC **21** 04:09:57.9, 36.85N×2.11E, MG3.7(MDD), After MDD.*
ISC 21 04:09:54.9±0.6**, 36.76N**±0.04×**2.10E**±0.05**, h10km, n22, $\sigma 0^{s}97$**/36**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EBNR	Beni Rached	0.66	225	P	Pb	04 10 08.0	0.0
ABA	Alger-Bouzarea	0.75	87	P	Pb	04 10 10.0	+0.4
EMHD	Djebel Mahouad	0.89	129	P	Pb	04 10 10.5	-1.4
ABMS	Boumerdes	1.11	90	P	Pb	04 10 16.1	+0.4
EANR	'Ain N'Sour	1.15	225	P	Pb	04 10 16.0	-0.4
ETRT	Tiaret	1.52	206	P	Pn	04 10 22.0	-0.3
EIBI	Ibiza	2.34	345	P	Pn	04 10 35.4	+1.4
EIBI				S	Sn	04 11 02.6	-0.5
EIBI	Ibiza	2.34	345	P	Pn	04 10 35.4	+1.3
	3.8nm,0.1s,SNR=26						
EIBI				S	Sn	04 11 02.6	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.8nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.34**	**345**	P	**Pn**	**04 10 35.4**	**+1.4**
	8.5nm,0.2s,SNR=26						
EIBI				S	**Sn**	**04 11 02.6**	**-0.5**
	2.8nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**2.67**	**317**	P	**Pn**	**04 10 39.9**	**+1.1**
EBEN				S	**Sn**	**04 11 10.7**	**-0.9**
EBEN	**Beniarda**	**2.67**	**317**	P	**Pn**	**04 10 39.9**	**+1.1**
	0.4nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**04 11 12.1**	**+0.5**
	0.4nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**2.67**	**317**	P	**Pn**	**04 10 39.9**	**+1.0**
	0.4nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**04 11 10.7**	**-0.9**
	0.4nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.05**	**10**	P	**Pn**	**04 10 44.6**	**+0.4**
ETOS				S	**Sn**	**04 11 19.8**	**-1.4**
ETOS	**Mallorca**	**3.05**	**10**	P	**Pn**	**04 10 44.6**	**+0.4**
	2.1nm,0.3s,SNR=7.4						
ETOS				S	**Sn**	**04 11 20.5**	**-0.7**
	0.4nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.05**	**10**	P	**Pn**	**04 10 44.6**	**+0.4**
	2.1nm,0.3s,SNR=7.4						
ETOS				S	**Sn**	**04 11 19.8**	**-1.4**
	0.4nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.45**	**304**	P	**Pn**	**04 10 51.3**	**+1.4**
ETOB				S	**Sn**	**04 11 31.6**	**+0.3**
ETOB	**Tobarra**	**3.45**	**304**	P	**Pn**	**04 10 51.8**	**+1.9**
	0.3nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**04 11 31.6**	**+0.3**
	0.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.45**	**304**	P	**Pn**	**04 10 51.3**	**+1.4**
	0.3nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**04 11 31.6**	**+0.3**
	0.2nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.12**	**331**	P	**Pn**	**04 11 00.4**	**+1.0**
	1.4nm,0.2s,SNR=12						
EMOS				S	**Sn**	**04 11 46.7**	**-1.5**
	0.2nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.12**	**331**	P	**Pn**	**04 11 00.4**	**+1.0**
	1.4nm,0.2s,SNR=12						
EMOS				S	**Sn**	**04 11 46.7**	**-1.6**
	0.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.25**	**286**	S	**Sn**	**04 11 51.9**	**+0.3**
	0.3nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.25**	**286**	S	**Sn**	**04 11 49.2**	**-2.4**
	0.3nm,0.1s,SNR=7.9						

MEX 21 04:23:41.2±0.4, 16.42N×93.76W, h153km±9km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.27**	**302**	*i* P	P	04 24 07.3	-1.7
CMIG				*i* S	S	04 24 27.8	-2.6
CCIG	**Comitan**	**1.56**	**95**	*i* P	P	04 24 10.8	-1.2
CCIG				*i* S	S	04 24 33.4	-2.4
HUIG	**Huatulco**	**2.35**	**254**	*i* P	P	04 24 19.0	-2.1
HUIG				*i* S	S	04 24 49.4	-2.3
OXX	**Oaxaca**	**2.91**	**283**	*e*P	P	04 24 27.0	-1.3

MAN 21 04:43:37.4, 6.10N×124.46E, h424km, mb4.4, ML3.2, MS3.0
NEIC 21 04:43:39.5±1.1, 6.26N×124.52E, h416km±15km, mb4.5/10, Error ellipse: s-maj=10.6km s-min=5.9km az=77.0
IDC 21 04:43:40.0±1.8, 6.26N×124.56E, h415km±21km, mb3.8/11, mb1 3.9/11, mb1mx3.6/22, mbtmp4.6/11, Error ellipse: s-maj=23.3km s-min=9.3km az=78.0
ISC 21 04:43:38.5±0.3, 6.25N±0.04×124.49E±0.07, h422km±3km, n46, σ0^{s}90/52, mb4.2/16, 5D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**1.71**	**19**	*e*P	**P**	**04 44 36.3**	**+0.9**
BUKP				*e*S	**S**	**04 45 21.5**	**+1.5**
MATI	**Mati**	**1.89**	**69**	*e*P	**P**	**04 44 35.9**	**-0.4**
MATI				*e*S	**S**	**04 45 20.8**	**-0.9**
PAGZ	**Pagadian**	**1.93**	**325**	*e*P	**P**	**04 44 37.0**	**+0.4**
PAGZ				*e*S	**S**	**04 45 22.6**	**+0.4**
IPIL	**Ipil**	**2.44**	**309**	*e*P	**P**	**04 44 39.5**	**-0.3**
BUTP	**Butuan**	**2.92**	**23**	*e*P	**P**	**04 44 41.4**	**-1.8**
SNPH	**Sibulan**	**3.31**	**338**	⇓*e*P	**P**	**04 44 46.4**	**0.0**
GUIM	**Jordan**	**4.73**	**337**	*e*P	**P**	**04 44 57.6**	**-2.0**
BESP	**Borongan**	**5.39**	**10**	*e*P	**P**	**04 45 06.6**	**+0.4**
BESP				*e*S	**S**	**04 46 14.8**	**-0.4**
CUYO	**Cuyo Island**	**5.71**	**323**	*e*P	**P**	**04 45 08.9**	**-0.7**
CNP	**Catarman**	**6.22**	**2**	*e*P	**P**	**04 45 16.1**	**+1.1**
TSM	**Tawau**	**6.87**	**254**	P	**P**	**04 45 22.9**	**+0.7**
PVCP	**Virac**	**7.30**	**357**	*e*P	**P**	**04 45 27.6**	**+0.7**
PVCP				*e*S	**S**	**04 46 53.0**	**+0.5**
KKM	**Kota Kinabalu**	**8.23**	**269**	*e*Pn	**P**	**04 45 37.4**	**0.0**
KKM	**Kota Kinabalu**	**8.23**	**269**	P	**P**	**04 45 37.0**	**-0.3**
BALP	**Baler**	**9.85**	**343**	*e*P	**P**	**04 45 54.3**	**-1.5**
CAUP	**Cauayan**	**10.94**	**346**	*e*P	**P**	**04 46 08.1**	**-0.2**
KAKA	**Kakadu**	**20.43**	**157**	⇓*i*P	**P**	**04 47 47.9**	**+1.7**
	29nm,0.6s						
JOW	**Kunigami**	**20.78**	**10**	P	**P**	**04 47 50.9**	**+1.4**
	3.4nm,0.4s,baz=131,slow=26,SNR=4.4						
GUMO	**Guam**	**21.34**	**68**	P	**P**	**04 47 55.5**	**+0.6**
	194nm,1.2s						
FITZ	**Fitzroy Crossi**	**24.23**	**177**	⇓*i*P	**P**	**04 48 21.5**	**+0.1**
	18nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**24.23**	**177**	P	**P**	**04 48 21.5**	**+0.1**
	22nm,0.4s,mb5.0,baz=2.5,slow=6.7,SNR=90						
PMG	**Port Moresby**	**27.43**	**124**	P	**P**	**04 48 49.6**	**-0.5**
	31nm,1.0s,mb4.7,baz=279,slow=13,SNR=2.8						
PMG	**Port Moresby**	**27.43**	**124**	*e*P	**P**	**04 48 48.8**	**-1.3**
MBWA	**Marble Bar**	**27.64**	**190**	*e*P	**P**	**04 48 50.8**	**-1.1**
WRAB	**Tennant Creek**	**27.77**	**160**	*e*P	**P**	**04 48 52.5**	**-0.5**
WRA	**Warramunga Arr**	**27.78**	**160**	P	**P**	**04 48 52.5**	**-0.5**
	3.0nm,0.3s,mb4.1,baz=342,slow=9.2,SNR=45						
WRA				ScP		04 54 57.4	
	1.3nm,0.6s,baz=339,slow=3.1,SNR=5.7						
WB2	**Warramunga Arr**	**27.78**	**160**	⇓*i*P	**P**	**04 48 52.7**	**-0.4**
WB2				*e*S	**S**	**04 53 01.8**	**-3.3**
MAJO	**Matsushiro**	**32.66**	**21**	*e*P	**P**	**04 49 34.3**	**-0.8**
	9.8nm,0.8s,mb4.2						
MJAR	**Matsushiro Arr**	**32.66**	**21**	P	**P**	**04 49 35.1**	**+0.1**
	3.3nm,0.4s,mb4.0,baz=195,slow=10,SNR=12						
KLBR	**Kellerberrin**	**38.18**	**189**	*e*P	**P**	**04 50 21.4**	**+0.2**
	103nm,1.8s,mb4.9						
NWAO	**Narrogin (SRO)**	**39.57**	**190**	P	**P**	**04 50 33.2**	**+0.6**
	8.8nm,0.4s,mb4.5,baz=25,slow=12,SNR=10						
NWAO	**Narrogin (SRO)**	**39.57**	**190**	*e*P	**P**	**04 50 29.5**	**-3.2**
	18nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**41.28**	**158**	⇓*i*P	**P**	**04 50 48.1**	**+1.6**
	3.2nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**41.28**	**158**	P	**P**	**04 50 48.1**	**+1.6**
	3.8nm,0.4s,mb4.1,baz=331,slow=8.5,SNR=11						
STKA	**Stephens Creek**	**41.28**	**158**	*e*P	**P**	**04 50 47.4**	**+0.9**
SONM	**Songino Array**	**44.22**	**343**	P	**P**	**04 51 10.2**	**+0.5**
	0.3nm,0.4s,baz=151,slow=15,SNR=3.3						
MKAR	**Makanchi Array**	**54.22**	**325**	P	**P**	**04 52 25.4**	**+0.5**
	3.3nm,0.5s,mb3.9,baz=120,slow=7.7,SNR=56						
MKAR				ScP		04 56 40.6	
	0.5nm,0.6s,baz=122,slow=4.5,SNR=4.4						
MA2	**Magadan**	**56.85**	**16**	P	**P**	**04 52 42.0**	**-1.1**
BVAR	**Borovoye Array**	**64.00**	**327**	P	**P**	**04 53 30.9**	**+0.3**
	2.0nm,0.8s,mb3.7,baz=135,slow=8.4,SNR=12						
BRVK	**Borovoye**	**64.07**	**327**	*e*P	**P**	**04 53 30.3**	**-0.7**
	3.0nm,0.9s,mb3.8						
ZRNK	**Zerenda**	**64.72**	**327**	*e*P	**P**	**04 53 34.9**	**-0.3**
	1.3nm,0.8s,mb3.6						
PMR	**Palmer**	**82.82**	**29**	P	**P**	**04 55 17.2**	**-0.6**
	12nm,2.0s,mb4.3						
MCK	**McKinley**	**82.92**	**27**	*e*P	**P**	**04 55 18.8**	**+0.5**
	7.9nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**83.80**	**26**	P	**P**	**04 55 23.4**	**+0.8**
	1.5nm,0.5s,mb4.0,baz=242,slow=5.1,SNR=18						
VNDA	**Vanda**	**86.20**	**172**	P	**P**	**04 55 35.5**	**+1.4**
	0.9nm,0.6s,mb3.7,baz=293,slow=7.3,SNR=4.5						
VNDA	**Vanda**	**86.20**	**172**	P	**P**	**04 55 35.5**	**+1.3**

MAN 21 05:34:44.1, 15.73N×121.04E, h9km, mb4.1, ML2.9, MS2.6, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.52**	**89**	*e*P	Pg	05 34 54.4	-0.2
BALP				*e*S	Sg	05 35 01.8	+0.3
SCZP	**Santa Cruz**	**1.09**	**273**	*e*P	Pb	05 35 04.5	-0.2
BOLP	**Bolinao**	**1.26**	**301**	*e*P	Pb	05 35 06.7	-0.9
BOLP				*e*S	Sb	05 35 25.0	+1.2
POLP	**Polilio Island**	**1.32**	**139**	*e*P	Pb	05 35 08.0	-0.6
POLP				*e*S	Sb	05 35 26.5	+0.9
CAUP	**Cauayan**	**1.42**	**32**	*e*P	Pn	05 35 08.9	-1.3
CAUP				*e*S	Sb	05 35 28.9	+0.4
ABRA	**Dolores**	**1.93**	**351**	*e*P	Pn	05 35 16.0	-1.6
LUBP	**Lubang**	**2.13**	**201**	*e*P	Pn	05 35 20.8	+0.5
APYP	**Conner**	**2.13**	**5**	*e*P	Pn	05 35 20.5	+0.1
APYP				*e*S	Sn	05 35 50.4	+3.2

CASC 21 05:42:56.8±2.4, 8.37N×82.85W, h0km±8km, MD4.0, 2C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.40**	**80**	⇓*i*P	Pg	05 43 04.5	-0.2
DVD				*e*S	Sg	05 43 12.8	+2.8
PTP1	**Petroterminal**	**0.44**	**112**	⇑*i*P	Pg	05 43 01.0	-4.7
PTP1				*e*S	Sg	05 43 04.5	-7.1
BRU	**Baru**	**0.52**	**33**	⇓*i*P	Pg	05 43 08.1	+1.0
BRU				*e*S	Sg	05 43 20.2	+6.1
CNI	**Changuinola**	**1.09**	**17**	⇑*i*P	Pb	05 43 17.2	-1.0
CNI				*e*S	Sb	05 43 32.7	-0.1
SJS	**Escuela Geolog**	**1.96**	**323**	*e*S	Sn	05 43 58.9	+1.5

GUC 21 05:44:00.5±1.0, 28.20S×71.23W, h56km±22km, ML3.5, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.56**	**132**	⇓*i*P	P	05 44 13.5	+0.6
VACH				*i* S	S	05 44 22.6	+0.6
CPCH	**Copiapo**	**1.14**	**43**	⇑*i*P	P	05 44 20.9	+0.4
CPCH				*i* S	S	05 44 35.7	+0.2
CPCH				AMP		05 44 36.7	
	comp=E,8μm,0.1s						
LSCH	**La Serena**	**1.71**	**180**	⇑*i*P	P	05 44 28.3	-0.2
LSCH				*i* S	S	05 44 48.8	-0.4
LSCH				AMP		05 44 54.4	
	comp=N,228nm,0.4s						
TLL	**Tololo Astrono**	**2.00**	**169**	⇑*i*P	P	05 44 33.1	+0.5
TLL				*i* S	S	05 44 58.1	+1.8
TLL				AMP		05 44 59.9	
	comp=N,214nm,0.2s						
CMCH	**Combarbala**	**2.97**	**176**	⇓*i*P	P	05 44 45.0	-1.5
CMCH				*i* S	S	05 45 19.4	-1.7
CMCH				AMP		05 45 38.5	
	comp=E,332nm,0.8s						

MAN 21 06:04:30.2, 16.48N×121.38E, h24km, mb3.8, ML2.6, MS2.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.62**	**42**	*e*P	Pb	06 04 42.1	-0.3
CAUP				*e*S	Sb	06 04 53.5	+2.7
BALP	**Baler**	**0.76**	**166**	*e*P	Pb	06 04 45.1	+0.5
BALP				*e*S	Sb	06 04 56.7	+2.1
BCPH	**Baguio City Da**	**0.78**	**263**	⇑*i*P	Pb	06 04 44.7	-0.3
BCPH				*i* S	Sb	06 04 56.6	+1.6

NEIC 21 06:31:11.0, 39.34N×25.56E, h18km, MD3.2(ATH), MD3.2(ISK), After ISK.
ISK 21 06:31:11.8, 39.34N×25.56E, h17km, MD3.2
ATH 21 06:31:16.7, 39.65N×26.03E, h5km, MD3.2/4
CSEM 21 06:31:16.2±0.2, 39.37N×25.89E, h40km, MD3.2, Error ellipse: s-maj=5.0km s-min=2.2km az=18.0
ISC 21 06:31:16.4±0.5, 39.56N±0.04×25.95E±0.05, h5km, n24, σ1^{s}17/29, Aegean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.40**	**142**	*e*PB	**Pb**	**06 31 25.5**	**-0.2**
PRK				*e*SB	**Sb**	**06 31 32.0**	**+0.1**
LIA	**Limnos Island**	**0.68**	**300**	*e*PB	**Pb**	**06 31 30.4**	**0.0**
LOS	**Limnos**	**0.76**	**299**	*e*P	**Pg**	**06 31 32.6**	**+0.9**
LPK	**Lapseki**	**1.02**	**37**	PN	**Pn**	**06 31 36.7**	**-0.6**
URLA	**Izmir**	**1.30**	**157**	*i* P	**Pb**	**06 31 40.2**	**-0.9**
URLA				*i* S	**Sb**	**06 31 56.1**	**-1.8**
ALN	**Alexandroupoli**	**1.33**	**3**	*e*P	**Pb**	**06 31 43.0**	**+1.4**
BLCB	**Balcova**	**1.45**	**144**	*e*PN	**Pn**	**06 31 38.8**	**-4.7**
RKY	**Sarkoy-Tekirda**	**1.47**	**40**	*e*PN	**Pn**	**06 31 43.8**	**+0.2**
BALB	**Balikesir**	**1.49**	**86**	*e*PN	**Pn**	**06 31 43.6**	**-0.4**
BALB				*e*SN	**Sn**	**06 32 06.2**	**+2.1**
KDAG	**Bornova**	**1.55**	**138**	*i* P	**Pn**	**06 31 48.2**	**+3.3**
KDAG				*i* S	**Sb**	**06 32 08.2**	**+3.1**
IZM	**Izmir**	**1.55**	**138**	*e*PN	**Pn**	**06 31 40.4**	**-4.5**
AKS	**Akhisar**	**1.60**	**115**	*e*PN	**Pn**	**06 31 42.8**	**-2.8**
RDO	**Rodhopi**	**1.61**	**349**	*e*PB	**Pb**	**06 31 46.0**	**-0.3**
AOS	**Alonnisos**	**1.65**	**257**	*e*P	**Pn**	**06 31 46.5**	**+0.2**
BNT	**Bandirma**	**1.71**	**62**	*e*PN	**Pn**	**06 31 46.7**	**-0.5**
SMG	**Samos**	**1.98**	**159**	*e*PN	**Pn**	**06 31 54.4**	**+3.4**
DST	**Dursunbey**	**2.07**	**88**	*e*PN	**Pn**	**06 31 51.1**	**-1.2**
MANT	**Manisa**	**2.30**	**117**	*i* P	**Pn**	**06 31 57.5**	**+1.9**
MANT				*i* S	**Sn**	**06 32 28.5**	**+4.0**
ORLT	**Orhaneli**	**2.32**	**77**	*e*PN	**Pn**	**06 31 55.6**	**-0.3**
EDRB	**Edirne**	**2.36**	**15**	*e*PN	**Pn**	**06 31 55.4**	**-1.0**
SLVT	**Silivri**	**2.40**	**45**	*e*PN	**Pn**	**06 31 57.0**	**0.0**
CTT	**Catalca**	**2.47**	**49**	*e*PN	**Pn**	**06 31 57.7**	**-0.3**
ISK	**Istanbul-Kandi**	**2.81**	**57**	*e*PN	**Pn**	**06 32 02.5**	**-0.4**
SILT	**Sile**	**3.24**	**59**	*e*PN	**Pn**	**06 32 08.8**	**-0.2**

CSEM 21 06:39:36.4±0.4, 41.35N×28.94W, h5km, ML3.3, Error ellipse: s-maj=8.6km s-min=6.2km az=169.0, After PDA
PDA 21 06:39:36.4±1.2, 41.35N×28.94W, h5km, ML3.3, Error ellipse: s-maj=17.5km s-min=7.4km az=72.0
SVSA 21 06:39:36.4±1.2, 41.35N×28.94W, h5km, ML3.3, Error ellipse: s-maj=17.5km s-min=7.4km az=72.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**2.77**	**176**	*e*P	Pn	06 40 16.5	-5.8
PMAN	**Manadas**	**2.79**	**166**	*e*P	Pn	06 40 16.9	-5.7
PMAN				*e*S	Sn	06 40 47.5	-10
	27nm,0.4s						
PMAN	**Manadas**	**2.79**	**166**	*e*P	Pn	06 40 16.9	-5.7
PMAN				*e*S	Sn	06 40 47.5	-10
	27nm,0.4s						
HOR	**Horta**	**2.83**	**175**	*e*P	Pn	06 40 17.6	-5.5
PSBA	**Serra de Santa**	**2.86**	**154**	*i* P	Pn	06 40 18.6	-5.0
PSBA				*e*S	Sn	06 40 49.5	-9.3
	43nm,0.4s						
PICO	**Pico**	**2.87**	**172**	*e*P	Pn	06 40 18.4	-5.3
PICO				*e*S	Sn	06 40 49.6	-10
PBIS	**Biscoitos**	**2.89**	**153**	*e*P	Pn	06 40 18.2	-5.8
ASBA	**Santa Barbara**	**2.90**	**154**	*e*P	Pn	06 40 18.4	-5.8
ASBA				*e*S	Sn	06 40 50.8	-9.1
	27nm,0.3s						
ASBA	**Santa Barbara**	**2.90**	**154**	*e*P	Pn	06 40 18.4	-5.8
ASBA				*e*S	Sn	06 40 50.8	-9.1
	27nm,0.3s						
PVNV	**Vila Nova**	**2.92**	**152**	*e*P	Pn	06 40 18.8	-5.7
PVNV				*e*S	Sn	06 40 50.1	-10
	16nm,0.2s						
PVNV	**Vila Nova**	**2.92**	**152**	*e*P	Pn	06 40 18.8	-5.7
PVNV				*e*S	Sn	06 40 50.1	-10
	16nm,0.2s						
PPAD	**Pico dos Padre**	**2.93**	**154**	*e*P	Pn	06 40 18.8	-5.8
ADH	**Angra Heroismo**	**2.99**	**154**	*e*rx		06 40 18.5	
PSCM	**Serra do Cume**	**2.99**	**152**	*e*P	Pn	06 40 20.4	-5.0
RIB2	**Ribeirinha**	**3.00**	**153**	*e*P	Pn	06 40 19.7	-5.8
SET4	**Mosteiros**	**4.23**	**144**	*e*P	Pn	06 40 41.1	-1.9
SET2	**Ginetes**	**4.25**	**144**	*e*P	Pn	06 40 41.8	-1.6
PFET	**Feteiras**	**4.29**	**144**	*e*P	Pn	06 40 41.8	-2.0
PSAN	**Santo Antonio**	**4.29**	**144**	*e*P	Pn	06 40 41.6	-2.2
FAC	**Faja de Cima**	**4.38**	**144**	*e*P	Pn	06 40 43.6	-1.6
FAC				*e*S	Sn	06 41 27.9	-9.4
CML	**Cha da Macela**	**4.43**	**143**	*e*P	Pn	06 40 43.9	-2.0
MESC	**Monte Escuro**	**4.46**	**142**	*e*P	Pn	06 40 43.6	-2.7
MESC				*e*S	Sn	06 41 32.3	-7.0
VIF	**Vila Franca**	**4.50**	**142**	*e*rx		06 40 43.9	
MIRA	**Miradouro**	**4.54**	**140**	*e*P	Pn	06 40 45.2	-2.3
MIRA				*e*S	Sn	06 41 33.8	-7.6
PSMN	**Pico do Norte,**	**5.28**	**144**	*e*P	Pn	06 40 55.2	-2.7

NNC 21 07:02:55.3±19.0, 42.71N×85.51E, mpv2.8, Error ellipse: s-maj=369.9km s-min=125.8km az=61.0
BJI 21 07:02:55.0, 42.38N×84.87E, h16km, ML3.0, 2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.52**	**54**	*e*P	Pn	07 03 39.3	+3.2
WMQ				SG	Sn	07 04 15.3	+8.6
WMQ				Smax			
	comp=N,25nm,0.6s						
WMQ				Smax			
	comp=E,47nm,0.6s						
MK31	**Makanchi Array**	**4.78**	**338**	⇓Pg	Pn	07 04 20.6	+12
	comp=E,0.5nm,0.3s,baz=152,slow=16,SNR=6.2						
MK31				⇓Lg		07 05 22.1	
	comp=E,4.4nm,0.5s,baz=148,slow=29,SNR=8.3						

KNET 21 07:08:51.1±0.3, 42.27N×76.01E, h15km±2km, ml2.6, Error ellipse: s-maj=2.7km s-min=2.0km az=149.0
NNC 21 07:08:52.5±3.5, 42.40N×75.99E, mpv3.0, Error ellipse: s-maj=112.9km s-min=21.4km az=12.0
ISC 21 07:08:52.1±0.8, 42.29N±0.05×76.01E±0.05, h1km±8km, n10, σ0^{s}73/19, 9C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.17**	**103**	⇑P	**Pg**	**07 08 55.5**	**-0.1**
	336nm,0.1s,SNR=2922						
ULHL				⇓S	**Sg**	**07 08 58.3**	**+0.4**
	5μm,0.2s						
KZA	**Kyzart**	**0.60**	**250**	⇑P	**Pg**	**07 09 03.7**	**-0.4**
	19nm,0.1s,SNR=40						
KZA				⇑S	**Sg**	**07 09 12.3**	**+0.1**
	262nm,0.2s						
TKM2	**Tokmak 2**	**0.70**	**334**	P	**Pg**	**07 09 05.9**	**-0.3**
	70nm,0.1s,SNR=221						
TKM2				⇓S	**Sg**	**07 09 16.3**	**+0.7**
	1μm,0.1s						
KBK	**Karagaybulak**	**0.87**	**295**	⇓P	**Pg**	**07 09 08.9**	**-0.5**
	41nm,0.1s,SNR=13						
KBK				⇑S	**Sg**	**07 09 21.4**	**+0.4**
	131nm,0.1s						
CHMS	**Chumysh**	**1.17**	**308**	⇓P	**Pb**	**07 09 13.9**	**-0.9**
	19nm,0.1s,SNR=8.4						
CHMS				⇑S	**Sb**	**07 09 30.2**	**-0.2**
	62nm,0.2s						
AAK	**Ala-Archa**	**1.18**	**288**	⇓P	**Pb**	**07 09 13.9**	**-1.0**
	12nm,0.2s,SNR=10						
AAK				⇑S	**Sb**	**07 09 30.0**	**-0.5**
	68nm,0.4s						
AAK	**Ala-Archa**	**1.18**	**288**	⇑P	**Pb**	**07 09 13.8**	**-1.1**
	3.7nm,0.3s						
AAK				⇑S	**Sb**	**07 09 29.9**	**-0.6**
	29nm,0.4s						
USP	**Ospenovka**	**1.48**	**312**	⇓P	**Pn**	**07 09 19.5**	**-0.5**
	49nm,0.3s,SNR=37						
USP				⇓S	**Sb**	**07 09 39.9**	**+0.4**
	77nm,0.2s						
AML	**Almayashu**	**1.73**	**266**	⇓P	**Pn**	**07 09 24.1**	**+0.6**
	11nm,0.2s,SNR=13						
AML				⇑S	**Sb**	**07 09 47.3**	**+0.7**
	29nm,0.2s						
KK31	**Karatay Array**	**4.14**	**283**	⇓Pg	**Pb**	**07 10 08.5**	**+3.0**
	1.5nm,0.2s,baz=96,slow=15,SNR=20						
KK31				Lg		07 11 01.1	
	3.4nm,0.5s,baz=101,slow=29,SNR=11						

TIF 21 07:36:14.9, 42.47N×43.18E, h6km±1km
MOS 21 07:36:18.9±1.2, 42.68N×43.55E, h10km, mb4.1/1, Error ellipse: s-maj=13.7km s-min=8.4km az=87.9
CSEM 21 07:36:18.9±0.2, 42.68N×43.55E, h10km, mb4.1, Error ellipse: s-maj=11.5km s-min=5.7km az=102.0, After OBN
ISC 21 07:36:16.3±0.4, 42.60N±0.03×43.15E±0.04, h10km, n25, σ1^{s}28/39, Western Caucasus

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.22**	**94**	P	**Pg**	**07 36 20.5**	**-0.6**
ONI				S	**Sg**	**07 36 23.9**	**-0.4**
ZEI	**Tsey**	**0.58**	**72**	*e*PG	**Pg**	**07 36 25.2**	**-2.8**
ZEI				*e*		07 36 35.9	
ZEI				pmax	pmax		
	comp=Z,31nm,0.1s						
ZEI				smax			
	comp=N,637nm,0.3s						
ZEI	**Tsey**	**0.58**	**72**	*e*Pg	**Pg**	**07 36 25.2**	**-2.8**
	comp=N,31nm,0.1s						
ZEI				*e*Sg	**Sg**	**07 36 35.9**	**0.0**
	comp=N,637nm,0.3s						
BCHG	**Becho**	**0.61**	**316**	P	**Pb**	**07 36 28.5**	**0.0**
BCHG				S	**Sg**	**07 36 37.1**	**+0.4**
GOR	**Gori**	**0.94**	**130**	P	**Pb**	**07 36 33.2**	**-1.1**
GOR				S	**Sb**	**07 36 46.1**	**-0.4**
ARNR	**Ardon**	**1.02**	**54**	*e*PG	**Pg**	**07 36 35.0**	**-1.8**
SHAR	**Shatzhatmas**	**1.20**	**343**	*i* PG	**Pg**	**07 36 40.2**	**-0.1**
SHAR				*e*S	**Sb**	**07 37 00.3**	**+6.2**
KUBR	**Kubataba**	**1.22**	**9**	*e*Pg	**Pg**	**07 36 41.1**	**+0.4**
KUBR				*e*Sg	**Sg**	**07 37 02.5**	**+5.5**
DUS	**Dusheti**	**1.26**	**113**	P	**Pb**	**07 36 41.4**	**+1.7**
KIV	**Kislovodsk**	**1.40**	**346**	*i* PG	**Pg**	**07 36 43.8**	**-0.5**
KIV				*e*S	**Sb**	**07 37 06.0**	**+6.1**
PYA	**Pyatigorsk**	**1.44**	**357**	*e*PG	**Pg**	**07 36 44.6**	**-0.5**
PYA				*e*S	**Sb**	**07 37 07.1**	**+6.1**
TBLG	**Delisi**	**1.47**	**126**	P	**Pn**	**07 36 42.3**	**-0.6**
TBLG				S	**Sb**	**07 37 01.9**	**+0.2**
MTA	**Mtatsminda**	**1.52**	**126**	P	**Pn**	**07 36 43.5**	**-0.3**
MTA				S	**Sb**	**07 37 03.2**	**-0.1**
BCA	**Borcka**	**1.62**	**225**	*i* PN	**Pn**	**07 36 44.9**	**-0.2**
BCA				*i* SN	**Sn**	**07 37 03.4**	**-2.7**
KARS	**Kars**	**1.98**	**181**	PN	**Pn**	**07 36 52.3**	**+2.0**
DGRG	**David-gareji**	**2.02**	**124**	P	**Pn**	**07 36 52.6**	**+1.8**
DGRG				S	**Sn**	**07 37 21.2**	**+4.9**
GOF	**Gofitskoye**	**2.46**	**358**	*e*Pn	**Pn**	**07 36 59.2**	**+2.0**
SOC	**Sochi**	**2.70**	**293**	*e*PN	**Pn**	**07 37 08.4**	**+7.8**
SOC				*e*		07 37 41.3	
SOC				*e*		07 37 48.4	
SOC				MLR	MLR		
	comp=Z,17nm,4.0s						
SOC				MLR	MLR		
	comp=N,50nm,7.0s						
SOC				MLR	MLR		
	comp=E,10.0nm,4.0s						
SOC	**Sochi**	**2.70**	**293**	*e*Pn	**Pn**	**07 37 08.4**	**+7.8**
SOC				*e*Sn	**Sn**	**07 37 41.3**	**+7.6**
SOC				*e*Sb	**Sb**	**07 37 48.4**	**+11**
	comp=E,50nm,7.0s						
GNI	**Garni**	**2.72**	**153**	*e*PN	**Pn**	**07 37 03.4**	**+2.5**
GNI	**Garni**	**2.72**	**153**	*i* PN	**Pn**	**07 37 04.8**	**+3.9**
GNI				pmax	pmax		
	comp=Z,23nm,0.7s						
GNI	**Garni**	**2.72**	**153**	*i* Pn	**Pn**	**07 37 04.8**	**+3.9**
	comp=Z,23nm,0.7s						
EZM	**Erzurum**	**3.01**	**207**	*e*PN	**Pn**	**07 37 06.1**	**+1.1**
GUMT	**Gumushane**	**3.48**	**233**	*e*PN	**Pn**	**07 37 09.7**	**-2.0**
PTK	**Pertek**	**4.67**	**219**	*e*PN	**Pn**	**07 37 28.0**	**-0.6**

IDC 21 07:38:22.6±0.8, 1.00S×129.26E, mb4.2/7, mb1 4.4/8, mb1mx4.2/17, mbtmp4.2/8, ML4.6/1, MS3.7/10, Ms1 3.7/10, ms1mx3.6/17, Error ellipse: s-maj=59.3km s-min=17.5km az=77.0
NEIC 21 07:38:28.4±0.6, 1.28S×128.76E, h45km, mb4.5/4, Error ellipse: s-maj=26.8km s-min=9.8km az=69.0
ISC 21 07:38:24.0±0.6, 1.28S±0.08×129.1E±0.2, h33km, n26, σ1^{s}37/22, mb4.3/10, MS3.7/10, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.84**	**164**	*e*P	**P**	**07 41 14.1**	**+0.5**
	25nm,0.8s						
KAKA				*e*S	**S**	**07 43 22.4**	**-3.1**
KKM	**Kota Kinabalu**	**14.77**	**300**	*e*P	**P**	**07 41 49.7**	**-2.8**
WRAB	**Tennant Creek**	**19.24**	**165**	*e*P	**P**	**07 42 49.2**	**+0.7**
	18nm,0.5s						
WRAB				*e*S	**S**	**07 46 05.8**	**-13**
WRA	**Warramunga Arr**	**19.25**	**165**	P	**P**	**07 42 49.9**	**+1.4**
	1.9nm,0.3s,baz=350,slow=12,SNR=27						
WB2	**Warramunga Arr**	**19.25**	**165**	*e*P	**P**	**07 42 49.5**	**+0.9**
WB2				*e*S	**S**	**07 46 13.6**	**-5.0**
MBWA	**Marble Bar**	**21.77**	**204**	P	**P**	**07 43 14.5**	**-0.4**
	20nm,1.0s,mb4.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JOW	Kunigami	27.95	358	LR	LR	07 53 28.4	
	comp=Z,172nm,19.1s,MS3.7,baz=178,slow=33						
STKA	Stephens Creek	32.65	160	eP	P	07 44 59.7	+4.4
	5.0nm,0.9s,mb4.4						
STKA	Stephens Creek	32.65	160	P	P	07 44 58.0	+2.7
	3.4nm,0.7s,mb4.4,baz=308,slow=7.7,SNR=4.7						
STKA	Stephens Creek	32.65	160	eP	P	07 44 57.8	+2.5
JNU	Nakatsue	34.25	3	P	P	07 45 06.6	-2.6
	14nm,0.6s,mb5.1,baz=237,slow=17,SNR=6.9						
JNU				LR	LR	07 56 31.5	
	comp=Z,112nm,21.0s,MS3.6,baz=165,slow=32						
MJAR	Matsushiro Arr	38.57	12	P	P	07 45 44.8	-0.8
	2.3nm,0.6s,mb4.1,baz=195,slow=10,SNR=6.1						
MJAR				LR	LR	07 58 57.4	
	comp=Z,79nm,18.5s,MS3.6,baz=205,slow=32						
SONM	Songino Array	52.77	341	P	P	07 47 38.5	+0.4
	1.5nm,0.9s,mb3.9,baz=143,slow=6.2,SNR=6.2						
SONM				LR	LR	08 09 51.0	
	comp=Z,55nm,20.9s,MS3.6,baz=290,slow=36						
MKAR	Makanchi Array	62.99	326	P	P	07 48 50.5	+0.5
	1.0nm,0.7s,mb4.1,baz=128,slow=9.1,SNR=4.9						
MKAR				LR	LR	08 18 01.7	
	comp=Z,33nm,19.3s,MS3.5,baz=7.3,slow=38						
MKAR	Makanchi Array	62.99	326	P	P	07 48 50.5	+0.5
MKAR				LR	LR	08 18 01.6	
AAK	Ala-Archa	65.64	319	P	P	07 49 06.6	-0.6
ZAL	Zalesovo	66.09	333	LR	LR	08 19 32.1	
	comp=Z,56nm,18.2s,MS3.8,baz=167,slow=38						
KURK	Kurchatov	67.20	328	eP	P	07 49 12.1	-4.9
	9.5nm,1.0s,mb4.8						
BVAR	Borovoye Array	72.78	327	P	P	07 49 51.6	+0.7
	1.2nm,0.7s,mb4.0,baz=98,slow=10,SNR=10.0						
BRVK	Borovoye	72.85	327	eP	P	07 49 51.8	+0.5
	3.3nm,0.9s,mb4.3						
VNDA	Vanda	78.20	173	P	P	07 50 24.9	+3.5
	0.6nm,0.6s,mb3.7,baz=301,slow=7.9,SNR=3.5						
VNDA				LR	LR	08 24 57.2	
	comp=Z,72nm,21.6s,MS4.0,baz=331,slow=36						
MAW	Mawson	79.93	201	LR	LR	08 23 48.5	
	comp=Z,56nm,18.0s,MS4.0,baz=67,slow=34						
ILAR	Eielson Array	88.59	25	LR	LR	08 29 17.8	
	comp=Z,33nm,20.1s,MS3.7,baz=1.7,slow=35						
ARCES	ARCESS Array B	95.93	340	LR	LR	08 36 53.4	
	comp=Z,32nm,20.9s,MS3.8,baz=258,slow=37						
TXAR	Lajitas Array	122.62	56	PKP	PKPdf	07 57 21.6	+4.5
	0.4nm,0.9s,baz=180,slow=1.3,SNR=4.2						
CPUP	Villa Florida	151.86	168	PKPbc	PKPdf	07 58 21.4	+12
	5.1nm,1.0s,baz=59,slow=0.8,SNR=9.1						

*NEIC **21** 07:46:24.9±1.5, 13.36N×88.99W, h106km±17km, mb4.0/3, Error ellipse: s-maj=27.9km s-min=10.0km az=222.0*
*CASC **21** 07:46:25.5±3.0, 12.89N×89.12W, h20km±28km, MD4.2, ML3.9, mb4.0(NEIC)*
*IDC **21** 07:46:25.4±3.3, 13.42N×88.98W, h104km±41km, mb3.5/6, mb1 3.7/7, mb1mx3.5/21, mbtmp3.8/7, MS3.0/1, Ms1 3.0/1, ms1mx2.4/18, Error ellipse: s-maj=55.8km s-min=25.3km az=37.0*
ISC 21 07:46:24.0±1.3**, 13.3N**±0.2×**89.0W**±0.2**, h115**km±13km**, n38, σ0ˢ91**/31**, mb4.0**/7**, 2C-9D, El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LFRS	El Faro	0.30	356	⇓iP	Px	07 47 06.7	
LFRS				eS	Sx	07 47 18.8	
LCBS	La Ceiba	0.34	10	⇓iP	Px	07 47 07.8	
LCBS				eS	Sx	07 47 19.4	
SNVI	San Vicente	0.35	34	⇓eP	Px	07 47 08.9	
SNVI				eS	Sx	07 47 20.5	
SNET	Serv Nac Est T	0.41	333	eP	Px	07 47 05.9	
SNET				eS	Sx	07 47 16.4	
SNET				i		07 47 18.3	
	comp=Z,11µm,0.3s						
LBRS	Las Brisas	0.42	359	⇓iP	Px	07 47 08.4	
LBRS				eS	Sx	07 47 20.2	
LFU	La Fuente	0.43	350	⇓iP	Px	07 47 07.8	
LFU				eS	Sx	07 47 19.9	
BOQS	Boqueron	0.48	331	⇓iP	Px	07 47 06.4	
BOQS				eS	Sx	07 47 19.7	
VSM	San Miguel	0.75	81	eP	Px	07 47 14.9	
VSM				eS	Sx	07 47 28.9	
SBLS	San Blas	0.77	313	⇓iP	Px	07 47 06.7	
SBLS				eS	Sx	07 47 22.9	
SNJE	San Jose	0.78	315	⇓iP	Px	07 47 07.1	
SNJE				eS	Sx	07 47 21.9	
RTR	El Retiro	0.82	314	⇓iP	Px	07 47 07.6	
RTR				eS	Sx	07 47 23.4	
RBDL	Robledal	1.01	322	⇑iP	Px	07 47 10.8	
RBDL				eS	Sx	07 47 27.6	
CRIN	San Cristobal	2.03	107	eP	P	07 46 57.5	-0.6
TEL3	Telica 3	2.26	109	⇑eP	P	07 46 59.8	-1.4
LEON	Leon	2.28	113	eP	P	07 47 01.7	+0.4
CNGN	Cerro Negro	2.42	109	eP	P	07 47 02.8	-0.5
MIRN	Miramar	2.43	111	eP	P	07 47 01.9	-1.5
COPN	Copaltepe	2.64	115	eP	P	07 47 05.8	-0.4
COPN				eS	S	07 47 37.9	-0.2
XAVN	Gruta Xavier	2.89	113	eP	P	07 47 10.9	+1.3
XAVN				eS	S	07 47 44.0	0.0
MGAN	Managua	2.96	113	eP	P	07 47 11.7	+1.1
MGAN				eS	S	07 47 46.0	+0.2
	comp=E,256nm,0.5s						
CRUN	El Crucero	2.98	116	eP	P	07 47 11.6	+0.8
APON	Apoyo	3.22	115	eP	P	07 47 15.2	+1.2
JTS	JuntasAbangare	5.00	126	P	P	07 47 38.8	+0.6
	comp=E,1.2nm,0.3s,baz=306,slow=23,SNR=8.5						
JTS				S	S	07 48 35.8	+0.5
	comp=E,2.5nm,0.3s,baz=306,slow=18,SNR=2.9						
JTS				Lg		07 48 56.8	
	comp=E,2.2nm,0.3s,baz=119,slow=22,SNR=7.0						
JTS	JuntasAbangare	5.00	126	ePn	P	07 47 37.7	-0.5
JTS				eSn	S	07 48 33.5	-1.8
JTS				S	S	07 48 35.8	+0.5
SDV	Santo Domingo	18.59	102	P	P	07 50 37.5	+2.7
	comp=E,0.7nm,0.3s,baz=294,slow=5.9,SNR=6.9						
SDV	Santo Domingo	18.59	102	eP	P	07 50 33.2	-1.6
	comp=E,4.0nm,0.6s						
LTX	Lajitas	20.93	322	P	P	07 50 59.0	-0.1
TXAR	Lajitas Array	20.93	322	P	P	07 50 59.4	+0.2
	comp=E,1.6nm,0.6s,baz=144,slow=11,SNR=38						
WVT	Waverly	22.74	3	P	P	07 51 17.7	+0.8
ANMO	Albuquerque	26.68	327	LR	LR	08 06 08.4	
	comp=E,28nm,19.3s,slow=44						
SAML	Samuel	33.89	129	eP	P	07 52 58.0	0.0
	comp=E,1.6nm,0.7s,mb4.0						
NVAR	Mina Array Bea	36.04	319	P	P	07 53 17.2	+1.2
	comp=E,0.8nm,0.6s,mb3.8,baz=125,slow=9.2,SNR=6.1						
NVAR				PcP	PcP	07 55 41.5	+1.2
	comp=E,0.3nm,0.6s,baz=124,slow=3.3,SNR=4.4						
NVAR				pPcP		07 55 55.3	
	comp=E,0.7nm,0.7s,baz=123,slow=5.1,SNR=4.8						
LVC	Limon Verde	40.79	151	P	P	07 53 50.7	-5.0
	comp=E,8.1nm,1.2s,mb4.4						
SCHQ	Schefferville	44.92	18	P	P	07 54 29.6	+0.7
	comp=E,1.4nm,0.6s,mb3.9,baz=217,slow=12,SNR=6.6						
YKA	Yellowknife Ar	52.38	345	P	P	07 55 25.7	-0.6
	comp=E,1.1nm,0.4s,mb4.2,baz=132,slow=7.9,SNR=4.8						
YKA	Yellowknife Ar	52.38	345	P	P	07 55 25.7	-0.6
INK	Inuvik	61.92	343	P	P	07 56 32.0	-1.5
	comp=E,2.8nm,0.8s,mb4.3,baz=76,slow=4.2,SNR=3.0						
ILAR	Eielson Array	64.61	336	P	P	07 56 50.1	-1.0
	comp=E,0.3nm,0.6s,mb3.3,baz=161,slow=4.1,SNR=4.5						

KRSC 21 07:46:37.3±0.8**, 53.29N**×**163.39E, h42**km±42km**, ML4.0, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	1.60	323	i P	P	07 47 02.6	-1.1
MKZ				i S	S	07 47 21.7	-1.7
SPN	Mys Shipunski	2.04	266	i P	P	07 47 09.2	-0.6
SPN				i S	S	07 47 32.3	-1.8
NLC	Nalytchevo	2.43	269	i P	P	07 47 14.7	-0.8
NLC				i S	S	07 47 42.4	-1.9
BKI	Bering	2.44	37	eP	P	07 47 13.7	-2.0
BKI				i S	S	07 47 39.5	-5.0
BKI				Smax			
	110nm,0.3s						
KII	Karymskiy	2.46	289	eP	P	07 47 15.9	0.0
KII				eS	S	07 47 44.0	-1.0
SDLR	Sedlovina	2.71	272	i P	P	07 47 19.2	-0.2
SDLR				i S	S	07 47 49.8	-1.4
UGLR	Uglovaya	2.75	270	i P	P	07 47 20.1	+0.2
UGLR				i S	S	07 47 51.2	-1.0
SMAR	Somma	2.75	271	i P	P	07 47 19.9	-0.2
SMAR				eS	S	07 47 50.5	-1.9
TUMR	Tumrok	2.76	318	i P	P	07 47 19.8	-0.3
TUMR				i S	S	07 47 50.7	-1.8
AVH	Avacha	2.79	271	i P	P	07 47 20.7	+0.1
AVH				i S	S	07 47 52.2	-1.2
KOK	Koryaka	2.85	272	i P	P	07 47 21.6	+0.1
KOK				eS	S	07 47 53.4	-1.5
PET	Petropavlovsk	2.87	267	eP	P	07 47 21.5	-0.2
PET				eS	S	07 47 53.7	-1.5
KBTR	Krutoberegovo	2.94	354	eP	P	07 47 22.1	-0.7
KBTR				eS	S	07 47 53.8	-3.4
RUS	Russkaya	3.08	256	eP	P	07 47 23.6	-1.1
RUS				i S	S	07 47 58.6	-2.0
KMNR	Kamenistaya	3.08	325	eP	P	07 47 24.1	-0.6
KMNR				eS	S	07 47 59.2	-1.5
KPT	Kopyto	3.25	327	eP	P	07 47 29.0	+1.8
KPT				eS	S	07 48 06.2	+1.1
GNL	Ganaly	3.28	279	eP	P	07 47 27.7	+0.2
GNL				eS	S	07 48 03.9	-1.8
GRL	Gorelyy	3.30	259	eP	P	07 47 27.8	-0.1
GRL				eS	S	07 48 04.3	-2.0
KLY	Klyuchi	3.42	333	eP	P	07 47 28.4	-1.1
KLY				eS	S	07 48 05.9	-3.4
KOZ	Kozyrevsk	3.44	325	eP	P	07 47 29.8	-0.1
KOZ				eS	S	07 48 08.9	-1.0
SRDR	Sredinnyy	3.70	326	i P	P	07 47 32.7	-0.8
SRDR				eS	S	07 48 14.2	-2.3
APC	Apacha	3.77	267	i P	P	07 47 35.2	+0.7
APC				i S	S	07 48 17.9	-0.4
APC				Smax			
	90nm,0.7s						
ESO	Esso	3.80	316	eP	P	07 47 34.8	0.0
ESO				i S	S	07 48 16.3	-2.5
ESO				Smax			
	30nm,0.7s						
MIPR	Malaya Ipel'ka	4.15	258	eP	P	07 47 40.6	+0.7
MIPR				eS	S	07 48 25.8	-2.0
PAU	Pauzhetka	4.42	248	eP	P	07 47 43.1	-0.7
PAU				eS	S	07 48 30.4	-4.3

*IDC **21** 08:04:58.9±1.6, 20.20S×68.94W, h86km±23km, mb3.4/2, mb1 3.6/5, mb1mx3.3/17, mbtmp3.8/5, Error ellipse: s-maj=44.5km s-min=8.8km az=98.0*
*NEIC **21** 08:04:59.9±0.7, 20.26S×68.82W, h88km±16km, Error ellipse: s-maj=13.2km s-min=9.2km az=93.0*
ISC 21 08:04:58.9±0.8**, 20.23S**±0.05×**68.8W**±0.1**, h99**km±15km**, n11, σ0ˢ70**/18**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.37	182	P	P	08 05 36.8	-0.1
	11nm,0.3s,baz=2.7,slow=8.9,SNR=72						
LVC				S	S	08 06 06.1	+0.8
	96nm,0.3s,baz=325,slow=9.9,SNR=56						
LVC	Limon Verde	2.37	182	P	P	08 05 36.9	-0.1
LVC				eSn	S	08 06 02.2	-3.1
LVC				S	S	08 06 06.1	+0.8
LPAZ	La Paz	3.98	9	P	P	08 05 59.5	+0.6
	1.1nm,0.3s,baz=211,slow=6.6,SNR=38						
LPAZ				S	S	08 06 43.8	-1.0
	0.8nm,0.3s,baz=108,slow=5.1,SNR=3.6						
LPAZ	La Paz	3.98	9	P	P	08 05 59.5	+0.6
LPAZ				eSn	S	08 06 35.6	-9.1
LPAZ				S	S	08 06 43.8	-1.0
ARE	Arequipa	4.53	325	eP	P	08 06 07.0	+0.4
SIV	San Ignacio	8.48	61	P	P	08 07 00.1	-0.3
	1.5nm,0.3s,baz=258,slow=11,SNR=38						
CFAA	Coronel Fontan	11.34	178	P	P	08 07 32.3	-6.6
	0.0nm,0.3s,baz=1.3,slow=12,SNR=7.8						
CFAA				S	S	08 09 32.5	-12
	0.0nm,0.3s,baz=157,slow=21,SNR=4.6						
CPUP	Villa Florida	12.17	122	P	P	08 07 50.4	+0.4
SAML	Samuel	12.47	27	P	P	08 07 59.0	+5.0
BDFB	Brasilia	20.30	80	P	P	08 09 29.4	+0.3
	2.3nm,0.4s,baz=267,slow=10,SNR=4.7						
PLCA	Paso Flores	20.49	184	P	P	08 09 30.2	-0.6
	1.9nm,0.8s,baz=348,slow=12,SNR=6.4						

IDC 21 08:10:33.5±4.3**, 2.93N**×**96.36E, mb3.9**/3**, mb1 4.0**/3**, mb1mx3.7**/18**, mbtmp3.9**/3**, Error ellipse: s-maj=236.3km s-min=29.1km az=52.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.67	123	P	P	08 18 40.3	-1.8
	0.4nm,0.8s,baz=301,slow=9.0,SNR=3.0						
MKAR	Makanchi Array	45.37	346	P	P	08 18 53.6	-1.8
	1.9nm,0.7s,baz=164,slow=8.2,SNR=16						
ARCES	ARCESS Array B	80.64	340	P	P	08 22 47.9	-1.4
	1.2nm,0.6s,baz=97,slow=7.2,SNR=5.2						

KRSC 21 08:46:30.1±0.6**, 55.29N**×**159.93E, h2**km±1km**, ML3.8, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUMR	Tumrok	0.12	93	i P	Pg	08 46 33.8	+1.2
TUMR				eS	Sg	08 46 36.8	+2.5
KMNR	Kamenistaya	0.50	20	i P	Pg	08 46 41.9	+1.8
KMNR				eS	Sg	08 46 51.1	+4.4
KPT	Kopyto	0.70	14	eP	Pg	08 46 44.6	+0.6
KPT				eS	Sg	08 46 55.2	+1.9
KOZ	Kozyrevsk	0.77	358	eP	Pg	08 46 46.6	+1.1
KOZ				eS	Sg	08 46 59.3	+3.5
ZLN	Zelenaya	0.88	34	eP	Pg	08 46 49.8	+2.1
ZLN				eS	Sg	08 47 04.1	+4.7
ESO	Esso	0.94	313	i P	Pb	08 46 49.6	+0.7
ESO				i S	Sg	08 47 03.6	+2.0
ESO				Smax			
	870nm,0.3s						
KRSR	Krestovskiy	1.00	21	eP	Pb	08 46 49.9	+0.2
KRSR				eS	Sb	08 47 04.6	+1.5
SRDR	Sredinnyy	1.04	353	eP	Pb	08 46 50.4	0.0
SRDR				eS	Sb	08 47 05.0	+0.7
KLY	Klyuchi	1.10	21	eP	Pb	08 46 54.5	+2.9
KLY				eS	Sb	08 47 12.2	+6.0
MKZ	Mys Kozlova	1.27	125	i P	Pb	08 46 53.4	-1.1
MKZ				i S	Sb	08 47 10.5	-0.7
KII	Karymskiy	1.29	193	i P	Pb	08 46 55.8	+1.1
KII				i S	Sb	08 47 13.6	+2.0
KBTR	Krutoberegovo	1.88	59	eP	Pn	08 47 03.1	-0.4
KBTR				eS	Sn	08 47 27.8	-0.2
GNL	Ganaly	1.98	217	i P	Pn	08 47 06.4	+1.5
GNL				eS	Sn	08 47 32.9	+2.3
SDLR	Sedlovina	2.11	197	i P	Pn	08 47 08.0	+1.2
SDLR				i S	Sn	08 47 35.3	+1.4
SMAR	Somma	2.14	199	i P	Pn	08 47 08.9	+1.7
SMAR				i S	Sn	08 47 37.5	+2.8
KOK	Koryaka	2.14	201	eP	Pn	08 47 09.3	+2.0
KOK				eS	Sn	08 47 37.7	+2.9
AVH	Avacha	2.15	199	eP	Pn	08 47 09.0	+1.6
AVH				eS	Sn	08 47 37.4	+2.5
NLC	Nalytchevo	2.15	189	eP	Pn	08 47 08.3	+0.9
NLC				eS	Sn	08 47 36.4	+1.3
UGLR	Uglovaya	2.18	198	eP	Pn	08 47 09.2	+1.3
UGLR				eS	Sn	08 47 37.8	+1.9
SPN	Mys Shipunski	2.20	179	eP	Pn	08 47 08.6	+0.5
SPN				eS	Sn	08 47 36.8	+0.6
PET	Petropavlovsk	2.39	199	eP	Pn	08 47 11.0	+0.1
PET				eS	Sn	08 47 40.6	-0.6
APC	Apacha	2.88	216	i P	Pn	08 47 19.1	+1.3
APC				eS	Sn	08 47 55.2	+1.7
APC				Smax			
	100nm,0.9s						
RUS	Russkaya	2.98	197	eP	Pn	08 47 20.6	+1.3
RUS				eS	Sn	08 47 58.7	+2.5
BKI	Bering	3.46	89	eP	Pn	08 47 23.8	-2.3
BKI				eS	Sn	08 48 03.6	-4.6
PAU	Pauzhetka	4.26	207	eS	Sn	08 48 30.4	+1.9

*HEL **21** 08:48:18.7±0.2, 59.31N×27.08E, ML1.9, ML2.2(UPP), ML2.4(NAO), Explosion*
*NAO **21** 08:48:19.5±2.5, 59.36N×26.87E, ML2.4*
*BER **21** 08:48:19.0±3.6, 59.34N×27.14E, ML2.4(NAO), Suspected explosion*
*IDC **21** 08:48:20.0±2.0, 59.40N×27.10E, mb1 3.0/4, mb1mx2.9/21, mbtmp2.9/4, ML2.8/4, Error ellipse: s-maj=17.5km s-min=9.9km az=127.0*
ISC 21 08:48:17.1±0.7**, 59.31N**±0.03×**27.0E**±0.1**, n29, σ1ˢ14**/47**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSU	Vasula	0.86	188	eP	Pg	08 48 34.6	+0.4
VSU				eS	Sg	08 48 45.4	-0.3
VJF	Virojoki	1.27	13	eP	Pb	08 48 40.8	-0.8
VJF				eS	Sb	08 48 56.2	-2.2
PVF	Pernaja	1.36	336	eP	Pb	08 48 43.8	+0.7
PVF				eS	Sb	08 49 01.7	+0.8
FIA0	FINESS Array S	2.19	349	Pn	Pn	08 48 56.0	+0.8
	baz=166,slow=18						
FIA0				Lg		08 49 27.1	
	baz=168,slow=37						
FIA0				Rg		08 49 39.2	
	baz=164,slow=56						
FIA0	FINESS Array S	2.19	349	eP	Pn	08 48 56.0	+0.9
FIA0				eSB	Sb	08 49 24.8	-0.2
FINES	FINESS Array B	2.19	349	Pn	Pn	08 48 56.0	+0.8
	1.5nm,0.3s,baz=165,slow=14,SNR=35						
FINES				Pg	Pg	08 48 57.3	-3.4
	1.5nm,0.3s,baz=166,slow=17,SNR=35						
FINES				Sn	Sn	08 49 25.5	+2.2
	5.4nm,0.3s,baz=170,slow=27,SNR=27						
FINES				Lg		08 49 26.6	
	5.4nm,0.3s,baz=170,slow=27,SNR=23						
FINES				Rg		08 49 38.2	
	1.9nm,0.3s,baz=171,slow=27,SNR=4.2						
KAF	Kangasniemi	2.83	354	eP	Pn	08 49 05.4	+1.0
KAF				eS	Sn	08 49 39.3	-0.4
KAF				MSG		08 49 48.2	
	comp=Z,3.7nm,0.2s						
KEF	Keuruu	3.04	341	eP	Pn	08 49 09.2	+1.7
KEF				eSG	Sg	08 49 52.4	-6.1
KEF				MSG		08 49 55.1	
	comp=Z,2.6nm,0.3s						
SUF	Sumiainen	3.44	354	eP	Pn	08 49 13.9	+0.8
SUF				eS	Sn	08 49 54.6	-0.6
SUF				MSG		08 49 58.0	
	comp=Z,2.1nm,0.3s						
NRTU	Norrtaelje	4.26	279	eP	Pn	08 49 25.9	+1.2
GRAU	Graesoe	4.37	287	eP	Pn	08 49 25.9	-0.4
NYNU	Nynaeshamn	4.62	270	eP	Pn	08 49 30.7	+0.9
NYNU				eS	Sn	08 50 24.1	-0.9
FLYU	Flymyra	4.67	284	eP	Pn	08 49 30.3	-0.2
BACU	Backbrunna	5.04	280	eP	Pn	08 49 35.4	-0.4
IGGU	Iggoen	5.08	292	eP	Pn	08 49 36.1	-0.1
VIKU	Vikbolandet	5.38	266	eP	Pn	08 49 40.8	+0.2
ESKU	Eskilstuna	5.42	274	eP	Pn	08 49 42.6	+1.4
UMAU	Umeaa	5.48	330	eP	Pn	08 49 42.5	+0.5
HEMU	Hemsoen	5.50	312	eP	Pn	08 49 42.9	+0.6
FALU	Falun	5.73	287	eP	Pn	08 49 44.9	-0.5
HFS	Hagfors	6.76	283	Pn	Pn	08 49 58.5	-1.5
	baz=101,slow=11						
HFS				Sn	Sn	08 51 14.9	-3.8
	baz=110,slow=28						
HFS				Lg		08 51 48.4	
	baz=89,slow=37						
HFS	Hagfors	6.76	283	eP	Pn	08 49 58.5	-1.5
HFS				eS	Sn	08 51 14.9	-3.8
HFS				eSG	Sg	08 51 48.4	-14
HFS	Hagfors	6.76	283	Pn	Pn	08 49 58.6	-1.5
	comp=Z,0.0nm,0.3s,baz=90,slow=19,SNR=3.4						
HFS				Sn	Sn	08 51 13.7	-5.0
	comp=Z,0.1nm,0.3s,baz=90,slow=27,SNR=5.3						
HFS				Lg		08 51 50.2	
	comp=Z,0.2nm,0.3s,baz=93,slow=28,SNR=6.1						
NB2	NORSAR Subarra	8.04	289	Pn	P	08 50 15.7	-2.3
	baz=86,slow=12						
NB2				Lg		08 52 29.6	
NB2	NORSAR Subarra	8.04	289	eP	P	08 50 15.7	-2.3
NB2				eSG		08 52 29.6	
NOA	NORSAR Array B	8.04	289	Pn	P	08 50 16.1	-1.9
	comp=Z,0.2nm,0.3s,baz=25,slow=12,SNR=1.3						
NOA				Sn	Sn	08 51 43.6	-7.1
	comp=Z,0.1nm,0.3s,baz=78,slow=12,SNR=2.2						
NOA				Lg		08 52 27.6	
	comp=Z,0.4nm,0.3s,baz=9.9,slow=23,SNR=3.2						
ARA0	ARCESS Array S	10.29	357	Pn	P	08 50 45.0	-3.9
	baz=172,slow=14						
ARA0				Sn	S	08 52 35.9	-10
	baz=174,slow=28						
ARA0				Lg		08 53 33.4	
	baz=163,slow=37						
ARA0	ARCESS Array S	10.29	357	eP	P	08 50 45.0	-3.9
ARA0				eS	S	08 52 35.9	-10
ARA0				eSG		08 53 33.4	
ARCES	ARCESS Array B	10.29	357	Pn	P	08 50 44.7	-4.2
	comp=Z,0.2nm,0.3s,baz=172,slow=14,SNR=11						
ARCES				Sn	S	08 52 36.2	-10
	comp=Z,0.1nm,0.3s,baz=171,slow=23,SNR=2.9						

*IDC **21** 09:09:23.7±3.1, 1.18N×97.11E, mb4.0/5, mb1 4.2/5, mb1mx3.8/19, mbtmp4.0/5, Error ellipse: s-maj=126.4km s-min=26.3km az=54.0*
ISC 21 09:09:25.8±3.0**, 1.1N**±0.5×**96.9E**±0.7**, h33**km**, n6, σ0ˢ56**/6**, mb4.0**/5**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHL	Shillong	24.84	349	eP	P	09 14 46.5	-0.2
WRA	Warramunga Arr	42.23	122	P	P	09 17 17.8	0.0
	1.0nm,0.6s,mb3.6,baz=301,slow=9.1,SNR=8.1						
MKAR	Makanchi Array	47.30	346	P	P	09 17 58.9	+0.8
	1.3nm,0.5s,mb4.1,baz=160,slow=8.4,SNR=11						
SONM	Songino Array	47.32	9	P	P	09 17 58.2	0.0
	1.0nm,0.7s,mb3.9,baz=188,slow=8.7,SNR=6.5						
ZAL	Zalesovo	53.64	351	P	P	09 18 45.9	-0.3
	1.9nm,0.3s,mb4.5,baz=310,slow=6.9,SNR=7.4						
BVAR	Borovoye Array	56.28	341	P	P	09 19 05.1	-0.3
	1.6nm,0.7s,mb4.1,baz=149,slow=8.6,SNR=8.9						

IDC 21 09:28:56.0±1.5**, 1.18N**×**122.77E, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.7**/17**, mbtmp3.9**/3**, Error ellipse: s-maj=213.0km s-min=23.7km az=61.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.86	152	P	P	09 34 11.7	-0.4
	0.9nm,0.3s,baz=330,slow=11,SNR=16						
WB2	Warramunga Arr	23.87	152	eP	P	09 34 11.6	-0.6
STKA	Stephens Creek	37.41	153	P	P	09 36 10.9	-1.8
	1.7nm,0.4s,baz=348,slow=9.1,SNR=16						
MKAR	Makanchi Array	57.50	328	P	P	09 38 46.7	-2.7
	0.5nm,0.4s,baz=122,slow=7.4,SNR=9.1						

*NEIC **21** 09:41:00.1, 30.57S×71.39W, h28km, ML2.8(GUC), After GUC.*
GUC 21 09:41:00.1±0.5**, 30.57S**×**71.39W, h28**km±3km**, MD3.8, ML2.8, 3C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSCH	La Serena	0.67	11	⇑iP	Pb	09 41 12.7	-0.5
LSCH				i S	Sb	09 41 22.1	-0.1
LSCH				AMP		09 41 22.5	
	comp=N,730nm,0.2s						
CMCH	Combarbala	0.69	151	⇑iP	Pb	09 41 13.2	-0.3
CMCH				i S	Sb	09 41 23.3	+0.6
CMCH				AMP		09 41 25.5	
	comp=E,898nm,0.7s						
ILCH	Illapel	1.08	170	eP	Pn	09 41 19.3	-0.2
ILCH				i S	Sn	09 41 33.4	-0.2
ILCH				AMP		09 41 38.6	
	comp=N,254nm,0.4s						
FCH	Farellones	2.90	161	eP	Pn	09 41 46.4	+0.8
FCH				eS	Sn	09 42 21.5	+1.6
FCH				AMP		09 42 30.0	
	comp=E,46nm,0.2s						
CLCH	Cerro Calan	2.91	166	eP	Pn	09 41 46.0	+0.3
CLCH				AMP		09 42 28.2	
	comp=E,72nm,0.6s						
TACH	Talagante	3.10	173	⇑iP	Pn	09 41 48.5	+0.2

*IDC **21** 09:52:49.1±0.6, 1.04S×23.70W, mb4.1/14, mb1 4.3/14,*

mb1mx4.2/24, mbtmp4.1/14, MS4.3/17, Ms1 4.3/17, ms1mx4.3/18, Error ellipse: s-maj=26.8km s-min=14.4km az=141.0

*NEIC **21** 09:52:50.5±0.3, 1.01S×23.69W, h10km, mb4.7/36, MS4.3/2, Error ellipse: s-maj=9.4km s-min=6.2km az=131.0*

*BJI **21** 09:52:50.4, 1.00S×23.70W, h10km, mB5.1, Ms4.7, Msz4.6*

ISC 21 09:52:48.7±0.3**, 1.01S**±0.06×**23.61W**±0.07**, h10**km**, n77,** σ**0.92**/66**, mb4.5**/44**, MS4.4**/18**, 2C, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**20.21**	**68**	P	**P**	**09 57 25.6**	**-1.2**
	39nm,0.9s,baz=231,slow=12,SNR=27						
DBIC				LR	LR	10 03 35.2	
	comp=Z,988nm,20.6s,MS4.2,baz=231,slow=32						
DBIC	**Dimbokro**	**20.21**	**68**⇑	*e*P	**P**	**09 57 24.5**	**-2.3**
	71nm,1.1s						
BAO	**Brasilia Array**	**28.10**	**238**	P	**P**	**09 58 40.0**	**-3.0**
BDFB	**Brasilia**	**28.12**	**238**	P	**P**	**09 58 41.5**	**-1.7**
	5.1nm,0.8s,mb4.2,baz=42,slow=6.5,SNR=5.2						
BDFB				LR	LR	10 08 50.1	
	comp=Z,2μm,18.9s,MS4.7,baz=71,slow=34						
SIV	**San Ignacio**	**39.82**	**246**	P	**P**	**10 00 25.2**	**+1.0**
	4.0nm,1.0s,mb4.1,baz=92,slow=11,SNR=16						
CPUP	**Villa Florida**	**41.05**	**229**	P	**P**	**10 00 34.8**	**+0.5**
	2.0nm,0.8s,mb3.8,baz=72,slow=10,SNR=6.4						
CPUP				LR	LR	10 17 27.9	
	comp=Z,622nm,21.7s,MS4.4,baz=162,slow=36						
CPUP	**Villa Florida**	**41.05**	**229**	*e*P	**P**	**10 00 34.0**	**-0.2**
	3.5nm,0.9s,mb4.0						
TSUM	**Tsumeb**	**44.21**	**117**	P	**P**	**10 00 59.5**	**-0.7**
	6.6nm,1.0s,mb4.3						
ESDC	**Sonseca Array**	**44.31**	**22**	P	**P**	**10 01 02.7**	**+1.9**
	3.5nm,0.8s,mb4.1,baz=212,slow=8.5,SNR=19						
ESLA	**Sonseca Array**	**44.31**	**22**	*e*P	**P**	**10 01 02.5**	**+1.8**
	3.0nm,1.4s,mb3.8						
LPAZ	**La Paz**	**46.41**	**248**	P	**P**	**10 01 16.4**	**-1.3**
	9.8nm,0.9s,mb4.7,baz=75,slow=3.5,SNR=36						
LPAZ				LR	LR	10 19 33.1	
	comp=Z,256nm,21.8s,MS4.1,baz=84,slow=35						
LPAZ	**La Paz**	**46.41**	**248**	*e*P	**P**	**10 01 16.6**	**-1.1**
	7.9nm,0.8s,mb4.7						
SJPF	**Ste Jean**	**48.31**	**22**	*e*P	**P**	**10 01 31.9**	**-0.4**
	18nm,0.8s,mb4.8						
ETSF	**Etsaut**	**48.38**	**23**	*e*P	**P**	**10 01 32.5**	**-0.4**
	11nm,0.7s,mb4.7						
EPF	**Esparros**	**48.84**	**23**	*e*P	**P**	**10 01 36.5**	**+0.1**
	24nm,1.0s,mb4.9						
MTLF	**Montolieu**	**49.87**	**25**	*e*P	**P**	**10 01 43.9**	**-0.4**
	5.8nm,0.7s,mb4.5						
TRQA	**Tornquist**	**50.98**	**219**	P	**P**	**10 01 54.2**	**+1.3**
	3.0nm,0.8s,mb4.3						
ROSC	**El Rosal**	**51.00**	**277**	LR	LR	10 22 39.7	
	comp=Z,262nm,18.1s,MS4.3,baz=343,slow=35						
CAF	**Calviac**	**51.11**	**23**	*e*P	**P**	**10 01 53.3**	**-0.4**
	34nm,1.2s,mb4.9						
LASF	**Ste Croix**	**51.15**	**25**	*e*P	**P**	**10 01 53.7**	**-0.4**
	46nm,1.3s,mb4.9						
MFF	**Saint Martin d**	**51.71**	**20**	*e*P	**P**	**10 01 57.8**	**-0.4**
FRF	**La Foret Royal**	**51.99**	**28**	*e*P	**P**	**10 01 59.8**	**-0.6**
	18nm,0.9s,mb4.7						
VIVF	**Saint-Julien-l**	**52.13**	**25**	*e*P	**P**	**10 02 00.7**	**-0.8**
	7.9nm,0.7s,mb4.5						
SUR	**Sutherland**	**52.15**	**131**	P	**P**	**10 02 02.4**	**+0.6**
ROSF	**Rostrenen**	**52.23**	**17**	*e*P	**P**	**10 02 01.5**	**-0.7**
	90nm,1.5s,mb5.2						
SGMF	**Saint Gilles**	**52.37**	**18**	*e*P	**P**	**10 02 01.3**	**-1.9**
	48nm,1.1s,mb5.0						
ORIF	**Oris-en-Rattie**	**52.70**	**26**	*e*P	**P**	**10 02 05.1**	**-0.6**
ORIF				*e*R			
	214nm,20.0s						
MBDF	**Montbardon**	**52.95**	**27**	*e*P	**P**	**10 02 07.2**	**-0.4**
	39nm,1.3s,mb4.9						
GRR	**Gorron**	**53.02**	**19**	*e*P	**P**	**10 02 07.6**	**-0.5**
LSZ	**Lusaka**	**53.03**	**108**	P	**P**	**10 02 10.1**	**+1.5**
	5.7nm,1.0s,mb4.5						
AVF	**Avril sur Loir**	**53.16**	**23**	*e*P	**P**	**10 02 08.9**	**-0.2**
	3.4nm,0.5s,mb4.2						
SSF	**Saint Saulge**	**53.44**	**23**	*e*P	**P**	**10 02 10.7**	**-0.5**
	28nm,1.4s,mb4.7						
LPG	**La Plagne**	**53.54**	**26**	*e*P	**P**	**10 02 12.0**	**+0.1**
LPL	**La Plagne**	**53.54**	**26**	*e*P	**P**	**10 02 11.8**	**-0.2**
LOR	**Lormes**	**53.75**	**23**	*e*P	**P**	**10 02 13.1**	**-0.3**
LOR				*e*R			
	289nm,19.8s						
BOSA	**Boshof**	**54.08**	**125**	P	**P**	**10 02 16.1**	**0.0**
	5.7nm,1.1s,mb4.4,baz=327,slow=8.7,SNR=3.1						
BOSA				LR	LR	10 20 27.9	
	comp=Z,459nm,20.6s,MS4.5,baz=285,slow=31						
BOSA	**Boshof**	**54.08**	**125**	*e*P	**P**	**10 02 15.2**	**-0.9**
	13nm,1.2s,mb4.7						
CABF	**La Chapelle**	**54.12**	**25**	*e*P	**P**	**10 02 16.0**	**-0.2**
MBAR	**Mbarara**	**54.34**	**90**	*e*P	**P**	**10 02 18.9**	**+0.7**
	5.4nm,1.1s,mb4.4						
HAU	**Haudompre**	**55.34**	**24**	*e*P	**P**	**10 02 25.1**	**0.0**
	19nm,0.9s,mb4.8						
HAU				*e*R			
	245nm,18.8s						
CDF	**Champ du Feu**	**56.04**	**24**	*e*P	**P**	**10 02 29.9**	**-0.2**
BAIF	**Baives**	**56.18**	**21**	*e*P	**P**	**10 02 30.7**	**-0.4**
	103nm,1.7s,mb5.3						
PLCA	**Paso Flores**	**57.98**	**221**	LR	LR	10 28 56.0	
	comp=Z,188nm,18.9s,MS4.2,baz=55,slow=37						
GERES	**GERESS Array B**	**59.19**	**28**	P	**P**	**10 02 53.3**	**+0.9**
	0.5nm,0.4s,mb3.9,baz=210,slow=7.9,SNR=3.0						
GERES				LR	LR	10 27 32.6	
	comp=Z,178nm,18.8s,MS4.2,baz=256,slow=35						
MOX	**Moxa**	**59.57**	**25**	*e*P	**P**	**10 02 56.0**	**+1.1**
MOX				S	**S**	**10 11 09.0**	**+5.9**
MOX				LR	LR	10 21 29.0	
CLL	**Collm**	**60.65**	**25**	P	**P**	**10 03 03.0**	**+0.7**
CLL				*e*S	**S**	**10 11 20.0**	**+3.0**
KMBO	**Kilima Mbogo**	**60.85**	**91**	LR	LR	10 26 52.7	
	comp=Z,815nm,18.5s,MS4.9,baz=96,slow=34						
PSZ	**Piszkesteto**	**61.65**	**32**	*e*P	**P**	**10 03 09.8**	**+0.6**
	4.2nm,0.8s,mb4.6						
MORC	**Moravsky Berou**	**61.66**	**29**	*e*P	**P**	**10 03 09.7**	**+0.6**
	6.7nm,0.9s,mb4.8						
SCHQ	**Schefferville**	**65.97**	**334**	LR	LR	10 27 55.8	
	comp=Z,270nm,20.9s,MS4.4,baz=326,slow=32						
BR131	**Keskin Array S**	**66.05**	**45**	P	**P**	**10 03 39.0**	**+1.0**
	1.6nm,0.6s,mb4.2						
BRTR	**Keskin Array B**	**66.05**	**45**	P	**P**	**10 03 38.3**	**+0.2**
	1.0nm,0.7s,mb4.0,baz=240,slow=5.8,SNR=5.5						
MYNC	**Murphy**	**66.83**	**309**	*e*P	**P**	**10 03 44.9**	**+1.7**
	23nm,1.4s,mb5.0						
AKASG	**Malin Array Be**	**68.25**	**33**	P	**P**	**10 03 51.1**	**-0.7**
	0.4nm,0.3s,mb4.0,baz=239,slow=7.3,SNR=7.4						
MALT	**Malatya**	**69.03**	**48**	P	**P**	**10 03 56.4**	**-0.4**
	4.4nm,0.8s,mb4.4						
PMSA	**Palmer Station**	**70.00**	**197**	P	**P**	**10 04 06.4**	**+4.0**
	84nm,1.3s,mb5.5						
WVT	**Waverly**	**70.02**	**309**	P	**P**	**10 04 02.9**	**0.0**
	4.1nm,1.0s,mb4.3						
SNAA	**Sanae**	**71.79**	**173**	P	**P**	**10 04 12.0**	**-1.1**
	0.4nm,1.0s,mb3.3,baz=56,slow=7.0,SNR=2.9						
SNAA	**Sanae**	**71.79**	**173**	*e*P	**P**	**10 04 13.9**	**+0.8**
	7.8nm,1.5s,mb4.4						
FINES	**FINESS Array B**	**72.82**	**23**	P	**P**	**10 04 20.3**	**+1.0**
	1.2nm,0.7s,mb4.0,baz=201,slow=12,SNR=3.1						
FINES				LR	LR	10 35 58.0	
	comp=Z,116nm,19.1s,MS4.2,baz=187,slow=36						
CCM	**Cathedral Cave**	**73.17**	**310**	*e*P	**P**	**10 04 22.0**	**+0.2**
	8.4nm,1.1s,mb4.6						
SUMG	**Summit**	**74.07**	**355**	P	**P**	**10 04 27.5**	**+1.1**
	12nm,1.1s,mb4.8						
SUMG				*e*		10 04 35.1	
ARCES	**ARCESS Array B**	**77.66**	**16**	LR	LR	10 37 46.1	
	comp=Z,93nm,19.9s,MS4.1,baz=66,slow=35						
ULM	**Lac du Bonnet**	**79.51**	**322**	LR	LR	10 36 04.5	
	comp=Z,164nm,18.6s,MS4.4,baz=123,slow=33						
TXAR	**Lajitas Array**	**81.83**	**300**	P	**P**	**10 05 09.4**	**-0.5**
	1.1nm,0.9s,mb3.8,baz=122,slow=6.6,SNR=10						
TXAR				LR	LR	10 36 45.9	
	comp=Z,103nm,20.2s,MS4.2,baz=35,slow=32						
GDL2	**Guadalupe Moun**	**82.71**	**302**	*e*P	**P**	**10 05 15.0**	**+0.5**
ANMO	**Albuquerque**	**84.71**	**305**	P	**P**	**10 05 23.2**	**-1.4**
	1.9nm,1.0s,mb4.2						
LAO	**LASA Array**	**85.66**	**317**	P	**P**	**10 05 29.9**	**+0.8**
	8.5nm,0.9s,mb5.0						
PDAR	**Pinedale Array**	**87.70**	**313**	P	**P**	**10 05 39.5**	**+0.3**
	0.3nm,0.6s,mb3.7,baz=98,slow=6.4,SNR=4.1						
PDAR				LR	LR	10 40 47.0	
	comp=Z,114nm,18.6s,MS4.3,baz=104,slow=33						
MAW	**Mawson**	**87.72**	**157**	LR	LR	10 35 53.3	
	comp=Z,139nm,19.9s,MS4.4,baz=72,slow=30						
QSPA	**South Pole Qui**	**89.06**	**180**⇑	*i*P	**P**	**10 05 51.7**	**+6.8**
	7.3nm,1.0s,mb5.0						
YKA	**Yellowknife Ar**	**91.35**	**332**	LR	LR	10 41 26.5	
	comp=Z,341nm,20.6s,MS4.8,baz=85,slow=32						
CN2	**Changchun**	**129.28**	**29**	*e*PKP	PKPdf	10 11 55.1	-5.9
CN2				*e*PP	PP	10 14 08.3	-2.9
CN2				LR	LR		
	comp=Z,180nm,22.0s,MS4.7						
MDJ	**Mudanjiang**	**130.52**	**25**	PKP	PKPdf	10 12 01.3	-2.0
NJ2	**Nanjing**	**133.04**	**45**	*e*PKP	PKPdf	10 12 02.3	-6.2
STKA	**Stephens Creek**	**144.41**	**158**	PKP	PKPdf	10 12 28.9	0.0
	comp=Z,2.6nm,0.6s,baz=193,slow=3.1,SNR=6.4						
WRA	**Warramunga Arr**	**149.98**	**135**	PKPbc	PKPdf	10 12 43.9	+5.5
	comp=Z,0.8nm,0.6s,baz=242,slow=2.0,SNR=8.1						

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*ATH **21** 10:11:22.3, 38.67N×24.74E, h39km±2km, MD3.3/14, ML3.0*

*NEIC **21** 10:11:22.3, 38.67N×24.74E, h39km, MD3.3(ATH), After ATH.*

*CSEM **21** 10:11:23.3±0.2, 38.67N×24.75E, h54km±3km, ML2.7, Error ellipse: s-maj=2.0km s-min=1.8km az=116.0*

*THE **21** 10:11:24.1, 38.75N×24.71E, h14km, ML2.7*

ISC 21 10:11:23.5±0.6**, 38.66N**±0.03×**24.75E**±0.04**, h51**km±26km**, n26,** σ**0.60**/39**, 2C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.85**	**307**	*e*Pg	**P**	**10 11 38.6**	**-0.7**
PTL	**Penteli**	**0.93**	**229**	*e*PN	**P**	**10 11 40.0**	**-0.4**
MPAR	**Parnis Oros**	**0.94**	**238**	*e*PB	**P**	**10 11 40.1**	**-0.6**
ATH	**Athens Observa**	**1.06**	**230**	*e*PN	**P**	**10 11 42.0**	**-0.4**
ATH				*e*SN	**S**	**10 11 56.7**	**+0.4**
NSAL	**Nisos Salamina**	**1.26**	**234**	*e*PN	**P**	**10 11 45.0**	**-0.1**
LIA	**Limnos Island**	**1.28**	**15**⇑	*i*PN	**P**	**10 11 45.0**	**-0.5**
LIA				*e*SN	**S**	**10 12 02.0**	**+0.2**
LOS	**Limnos**	**1.30**	**11**	*e*Pg	**P**	**10 11 45.8**	**0.0**
PRK	**Paraskevi**	**1.32**	**63**	*e*PN	**P**	**10 11 45.8**	**-0.3**
PRK				*e*SN	**S**	**10 12 03.1**	**+0.2**
NAIG	**Nisos Aigina**	**1.34**	**228**	*e*PN	**P**	**10 11 47.5**	**+1.1**
MGER	**Gerania Oros**	**1.35**	**241**	*e*PN	**P**	**10 11 46.8**	**+0.3**
NEO	**Neokhori**	**1.35**	**299**	*e*PB	**P**	**10 11 45.9**	**-0.7**
NEO				*e*SN	**S**	**10 12 03.4**	**-0.2**
LKR	**Lokris**	**1.37**	**270**⇑	*i*PN	**P**	**10 11 46.4**	**-0.4**
LKR				*e*SN	**S**	**10 12 04.5**	**+0.5**
XOR	**Xorichti**	**1.41**	**301**	*e*Pg	**P**	**10 11 47.2**	**-0.1**
XOR				*e*Sg	**S**	**10 12 05.4**	**+0.5**
PAIG	**Paliouri**	**1.52**	**327**	*e*Pg	**P**	**10 11 48.8**	**+0.1**
PAIG				*e*Sg	**S**	**10 12 07.9**	**+0.4**
APE	**Apeiranthos**	**1.70**	**158**	*e*PN	**P**	**10 11 51.5**	**+0.1**
APE				*e*SN	**S**	**10 12 12.6**	**+0.5**
OUR	**Ouranopolis**	**1.78**	**341**	*e*Pb	**P**	**10 11 52.5**	**+0.1**
	comp=Z,2.3nm,0.5s						
SMG	**Samos**	**1.90**	**119**	*e*PB	**P**	**10 11 54.8**	**+0.7**
SMG				*e*SN	**S**	**10 12 17.2**	**+0.4**
AGG	**Agios Georgios**	**1.92**	**282**	*e*Pb	**P**	**10 11 55.4**	**+0.9**
AGG				*e*Sb	**S**	**10 12 19.0**	**+1.5**
AGG	**Agios Georgios**	**1.92**	**282**	*e*Pb	**P**	**10 11 55.3**	**+0.8**
AGG				*e*Sb	**S**	**10 12 19.0**	**+1.5**
LIT	**Litokhoron**	**2.27**	**310**	*e*Pn	**P**	**10 11 59.1**	**-0.3**
THE	**Thessaloniki**	**2.41**	**326**	*e*Pn	**P**	**10 12 01.2**	**-0.2**
VLI	**Veliai**	**2.41**	**217**	*e*PN	**P**	**10 12 00.8**	**-0.6**
VLI				*e*SN	**S**	**10 12 28.6**	**-1.2**
SOH	**Sokhos**	**2.41**	**334**	*e*Pn	**P**	**10 12 01.6**	**+0.2**
ALN	**Alexandroupoli**	**2.45**	**24**	*e*Pn	**P**	**10 12 01.8**	**-0.1**
ALN				*e*Sn	**S**	**10 12 31.4**	**+0.7**
RDO	**Rodhopi**	**2.56**	**13**	*e*PN	**P**	**10 12 01.8**	**-1.7**
GRG	**Griva**	**2.92**	**322**	*e*Pn	**P**	**10 12 08.3**	**-0.4**

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*IDC **21** 10:18:14.5±0.7, 4.03S×143.17E, h51km±5km, mb3.9/10, mb1 4.2/12, mb1mx4.1/15, mbtmp4.3/12, MS3.5/1, Ms1 3.5/1, ms1mx2.9/12, Error ellipse: s-maj=30.0km s-min=12.9km az=71.0*

*NEIC **21** 10:18:15.4±1.9, 4.06S×143.10E, h64km±18km, mb4.7/10, Error ellipse: s-maj=15.1km s-min=9.6km az=104.0*

ISC 21 10:18:12.3±2.1**, 4.05S**±0.08×**143.03E**±0.08**, h48**km±20km**, h53**km±1.4km**:pP-P, n33,** σ**0.98**/35**, mb4.4**/18**, MS3.5**/1**, 2C-2D, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.72**	**143**	P	**P**	**10 19 51.6**	**+0.7**
	16nm,0.3s,baz=325,slow=10,SNR=37						
PMG				S	**S**	**10 21 06.9**	**0.0**
	baz=296,slow=23,SNR=3.6						
PMG	**Port Moresby**	**6.72**	**143**	P	**P**	**10 19 51.6**	**+0.7**
PMG				*e*Pn	**P**	**10 19 52.2**	**+1.3**
PMG				S	**S**	**10 21 06.9**	**0.0**
KAKA	**Kakadu**	**13.55**	**230**⇑	*i*P	**P**	**10 21 23.1**	**-0.9**
	100nm,0.5s						
CTAO	**Charters Tower**	**16.25**	**169**	*e*P	**P**	**10 22 06.5**	**+7.6**
WRAB	**Tennant Creek**	**17.91**	**207**	*e*P	**P**	**10 22 19.4**	**-0.4**
	45nm,0.6s						
WB2	**Warramunga Arr**	**17.92**	**207**⇓	*i*P	**P**	**10 22 19.9**	**+0.1**
WRA	**Warramunga Arr**	**17.93**	**207**	P	**P**	**10 22 19.9**	**0.0**
	2.1nm,0.3s,baz=28,slow=13,SNR=99						
WRA				Lg		10 27 42.3	
	baz=6.1,slow=29,SNR=3.2						
FITZ	**Fitzroy Crossi**	**22.02**	**229**⇓	*i*P	**P**	**10 23 04.7**	**+0.5**
	21nm,0.6s,mb4.7						
FITZ				*e*S	**S**	**10 27 04.2**	**+5.0**
STKA	**Stephens Creek**	**27.72**	**183**	P	**P**	**10 23 57.8**	**-0.6**
	1.4nm,0.5s,mb3.9,baz=353,slow=7.8,SNR=3.6						
MBWA	**Marble Bar**	**28.32**	**231**	*e*P	**P**	**10 24 04.7**	**+0.8**
KKM	**Kota Kinabalu**	**28.59**	**290**	P	**P**	**10 24 04.8**	**-1.6**
BLDU	**Ballidu**	**36.26**	**220**	*e*P	**P**	**10 25 14.9**	**+1.9**
	4.8nm,0.5s,mb4.7						
NWAO	**Narrogin (SRO)**	**37.51**	**217**	P	**P**	**10 25 20.9**	**-2.5**
JNU	**Nakatsue**	**38.71**	**344**	P	**P**	**10 25 34.4**	**+0.9**
	6.8nm,0.7s,mb4.5,baz=46,slow=10,SNR=4.2						
MJAR	**Matsushiro Arr**	**40.62**	**354**	P	**P**	**10 25 49.2**	**-0.2**
	2.4nm,0.9s,mb3.8,baz=171,slow=7.5,SNR=6.1						
MJAR				LR	LR	10 41 44.4	
	comp=Z,62nm,18.6s,MS3.5,baz=210,slow=35						
KULM	**Kulim**	**43.33**	**282**	P	**P**	**10 26 11.7**	**-0.1**
YSS	**Yuzh-Sakhalins**	**50.78**	**360**	P	**P**	**10 27 09.6**	**-0.2**
	9.7nm,1.0s,mb4.7						
SONM	**Songino Array**	**60.82**	**333**	P	**P**	**10 28 23.2**	**+1.2**
	0.9nm,0.7s,mb4.0,baz=153,slow=5.5,SNR=5.9						
MA2	**Magadan**	**63.72**	**4**	*e*P	**P**	**10 28 38.1**	**-3.0**
	48nm,1.2s,mb5.4						
MKAR	**Makanchi Array**	**73.49**	**321**	P	**P**	**10 29 42.5**	**+0.7**
	0.5nm,0.5s,mb3.7,baz=101,slow=9.7,SNR=6.6						
MKAR				pP	pP	10 29 57.6	+2.0
	2.0nm,0.7s,baz=100,slow=7.4,SNR=10						
VNDA	**Vanda**	**74.11**	**176**	P	**P**	**10 29 44.5**	**-0.3**
	0.5nm,0.5s,mb3.7,baz=321,slow=3.8,SNR=4.1						
VNDA	**Vanda**	**74.11**	**176**	*e*P	**P**	**10 29 44.1**	**-0.8**
	3.0nm,1.2s,mb4.1						
ZAL	**Zalesovo**	**75.28**	**329**	P	**P**	**10 29 52.5**	**+0.5**
	1.6nm,0.3s,mb4.4,baz=22,slow=10,SNR=4.5						
KURK	**Kurchatov**	**77.30**	**324**	P	**P**	**10 30 03.1**	**-0.4**
	3.1nm,0.9s,mb4.2						
KURK				*e*	pP	10 30 18.2	+0.9
MAW	**Mawson**	**82.53**	**202**	P	**P**	**10 30 31.4**	**+0.3**
	2.1nm,1.0s,mb4.1,baz=97,slow=8.1,SNR=4.2						
BVAR	**Borovoye Array**	**82.88**	**324**	P	**P**	**10 30 34.7**	**+1.5**
	2.1nm,0.6s,mb4.3,baz=104,slow=6.1,SNR=11						
BVAR				pP	pP	10 30 48.3	+1.1
	1.9nm,0.6s,baz=108,slow=9.1,SNR=4.8						
BRVK	**Borovoye**	**82.95**	**324**	*e*P	**P**	**10 30 34.3**	**+0.8**
	3.0nm,0.8s,mb4.4						
BRVK				*e*	pP	10 30 50.3	+2.8
ZRNK	**Zerenda**	**83.66**	**324**	P	**P**	**10 30 37.3**	**+0.1**
ZRNK				*e*	pP	10 30 53.0	+1.9
MCK	**McKinley**	**84.07**	**25**	*e*P	**P**	**10 30 37.6**	**-1.3**
	3.7nm,0.8s,mb4.6						
ILAR	**Eielson Array**	**85.28**	**24**	P	**P**	**10 30 43.8**	**-1.2**
	3.0nm,0.7s,mb4.5,baz=256,slow=4.9,SNR=30						
ILAR				pP	pP	10 30 59.1	+0.2
	2.2nm,0.7s,baz=255,slow=4.9,SNR=9.2						
QSPA	**South Pole Qui**	**85.91**	**180**⇑	*i*P	**P**	**10 30 48.3**	**+0.5**
	6.9nm,0.6s,mb5.1						
LPAZ	**La Paz**	**143.16**	**124**	PKhKP		10 37 41.2	
	0.4nm,0.4s,baz=52,slow=8.3,SNR=3.3						
DBIC	**Dimbokro**	**147.92**	**276**	PKPbc	PKPdf	10 37 54.4	+4.1
	4.0nm,1.0s,baz=153,slow=9.0,SNR=2.4						
DBIC				pPKPbc		10 38 10.3	
	4.2nm,0.8s,baz=114,slow=4.9,SNR=1.9						

ISC 21 10:47:58.9±1.6**, 40.70N**±0.04×**35.2E**±0.1**, h10**km**, n6,** σ**0.92**/12**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.33**	**257**	*i* P	**Pg**	**10 48 05.2**	**-0.5**
CTKT				*i* S	**Sg**	**10 48 05.7**	**-4.6**
CORM	**Corum**	**0.68**	**221**	PG	**Pg**	**10 48 11.6**	**-1.0**
CORM				SG	**Sg**	**10 48 22.2**	**+0.4**
BOYT	**Boyabat**	**0.76**	**342**	*i* P	**Pb**	**10 48 13.6**	**-0.2**
BOYT				*i* S	**Sb**	**10 48 23.4**	**-0.4**
CDAG	**Cicekdag**	**1.25**	**211**	*i* P	**Pb**	**10 48 21.1**	**-1.0**
CDAG				*i* S	**Sb**	**10 48 38.9**	**+0.8**
ELDT	**Eldivan**	**1.37**	**262**	*i* P	**Pn**	**10 48 25.1**	**+0.9**
ELDT				*i* S	**Sb**	**10 48 41.0**	**-0.7**
BALT	**Daday**	**1.61**	**302**	*i* P	**Pn**	**10 48 29.6**	**+2.0**
BALT				*i* S	**Sn**	**10 48 53.8**	**+5.2**

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*MOS **21** 10:55:52.8±0.8, 26.86N×125.07E, h265km, mb4.0/8, Error ellipse: s-maj=18.8km s-min=11.5km az=111.5*

*NEIC **21** 10:55:52.5±0.5, 26.78N×125.03E, h247km±5km, mb4.1/11, Error ellipse: s-maj=7.3km s-min=6.0km az=119.0*

*BJI **21** 10:55:52.3, 26.67N×124.97E, h277km, mB4.8, mb4.4*

*IDC **21** 10:55:52.2±1.8, 26.84N×125.09E, h242km±18km, mb3.6/12, mb1 3.7/14, mb1mx3.7/22, mbtmp4.2/14, Error ellipse: s-maj=23.7km s-min=11.7km az=61.0*

*JMA **21** 10:55:53.0±0.4, 26.93N×124.92E, h210km, M4.8*

ISC 21 10:55:50.8±0.2**, 26.75N**±0.04×**125.10E**±0.04**, h243**km±3km**, n74,** σ**1.10**/94**, mb4.0**/23**, 1C, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.57**	**105**	P	**P**	**10 56 30.6**	**+1.2**
JKE				*e*S	**S**	**10 56 58.6**	**-0.7**
JAGN	**Aguni-jima**	**1.93**	**94**	P	**P**	**10 56 33.4**	**+1.1**
JAGN				S	**S**	**10 57 03.5**	**-1.0**
JMJ	**Miyako jima 2**	**1.93**	**175**	P	**P**	**10 56 34.2**	**+1.8**
JMJ				S	**S**	**10 57 04.6**	**0.0**
JOGS	**Gusukube**	**2.00**	**172**	P	**P**	**10 56 35.1**	**+2.1**
JOGS				S	**S**	**10 57 05.9**	**+0.2**
JTJ	**Tarama**	**2.13**	**190**	P	**P**	**10 56 35.5**	**+1.2**
JTJ				S	**S**	**10 57 06.9**	**-1.0**
NAH1	**Naha**	**2.38**	**103**	P	**P**	**10 56 38.3**	**+1.5**
NAH1				*e*S	**S**	**10 57 11.5**	**-1.0**
JJT2	**Tamagusuku 2**	**2.45**	**104**	P	**P**	**10 56 39.5**	**+2.0**
JJT2				*e*S	**S**	**10 57 13.9**	**+0.2**
JIJ	**Ishigaki jima**	**2.53**	**200**	P	**P**	**10 56 38.7**	**+0.4**
JIJ				S	**S**	**10 57 12.4**	**-2.7**
JIH	**Iheya**	**2.58**	**83**	P	**P**	**10 56 39.9**	**+1.1**
JIH				S	**S**	**10 57 14.1**	**-1.9**
JKRS	**Kuro-shima**	**2.69**	**202**	P	**P**	**10 56 40.5**	**+0.6**
JKRS				S	**S**	**10 57 15.9**	**-2.2**
IRIF	**Iriomote-Funau**	**2.70**	**208**	P	**P**	**10 56 40.5**	**+0.4**
IRIF				S	**S**	**10 57 17.5**	**-0.9**
JOW	**Kunigami**	**2.84**	**88**	P	**P**	**10 56 42.4**	**+0.8**
	60nm,0.3s,baz=179,slow=8.6,SNR=461						
JOW				S	**S**	**10 57 18.4**	**-2.5**
	128nm,0.3s,baz=163,slow=29,SNR=60						
JOW	**Kunigami**	**2.84**	**88**	P	**P**	**10 56 42.6**	**+1.0**
JOW				*e*S	**S**	**10 57 18.6**	**-2.4**
HATJ	**Hateruma jima**	**2.92**	**204**	P	**P**	**10 56 42.9**	**+0.4**
HATJ				S	**S**	**10 57 20.4**	**-2.2**
YOJ	**Yonaguni jima**	**2.96**	**220**	P	**P**	**10 56 43.7**	**+0.9**
YOJ				S	**S**	**10 57 22.8**	**-0.4**
JTK	**Tokunoshima**	**3.58**	**72**	P	**P**	**10 56 49.8**	**-0.1**
JTK				S	**S**	**10 57 32.6**	**-3.2**
TATO	**Taipei**	**3.70**	**242**	*e*Pn	**P**	**10 56 53.7**	**+2.4**
NACB	**Ninganchiao**	**4.07**	**232**	*e*Pn	**P**	**10 56 55.2**	**-0.5**
NACB				*e*S	**S**	**10 57 39.7**	**-6.5**
JAM	**Amami Oshima**	**4.33**	**66**	P	**P**	**10 56 58.4**	**-0.4**
JAM				*e*S	**S**	**10 57 47.8**	**-3.9**
JZK	**Kikaishima**	**4.60**	**69**	P	**P**	**10 57 02.8**	**+0.7**
JZK				*e*S	**S**	**10 57 55.4**	**-2.2**
JNN	**Nakanoshima**	**5.22**	**53**	P	**P**	**10 57 10.3**	**+0.7**
JNN				*e*S	**S**	**10 58 11.2**	**+0.1**
JMZ	**Minamidaito 2**	**5.57**	**98**	P	**P**	**10 57 15.9**	**+1.8**
JMZ				S	**S**	**10 58 18.8**	**-0.3**
QZH	**Quanzhou**	**6.13**	**254**⇑	*i*P	**P**	**10 57 22.6**	**+1.5**
JTN	**Tanegashima 3**	**6.47**	**52**	P	**P**	**10 57 25.0**	**-0.3**
NJ2	**Nanjing**	**7.59**	**316**	*e*P	**P**	**10 57 39.4**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
JNU	**Nakatsue**	**8.09**	**37**	P	**P**	**10 57 48.0**	**+2.1**
	comp=Z,5.3nm,0.3s,baz=228,slow=8.4,SNR=52						
KS15	**Wonju Array Si**	**10.92**	**12**	*e*P	**P**	**10 58 23.2**	**+1.3**
ENH	**Enshi**	**14.17**	**288**	P	**P**	**10 58 57.9**	**-4.5**
JHJ	**Hachijo jima 2**	**14.22**	**60**	P	**P**	**10 59 09.7**	**+6.6**
	comp=Z,12nm,0.3s,baz=182,slow=8.2,SNR=11						
MJAR	**Matsushiro Arr**	**14.82**	**46**	P	**P**	**10 59 10.5**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=236,slow=11,SNR=8.5						
CN2	**Changchun**	**17.02**	**1**	*e*P	**P**	**10 59 36.3**	**+0.6**
CN2				*e*S	**S**	**11 02 35.6**	**-0.1**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
KMI	**Kunming**	**20.17**	**270**	P	**P**	**11 00 08.8**	**+0.8**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.5s						
KMI	**Kunming**	**20.17**	**270**	P	**P**	**11 00 08.8**	**+0.8**
	comp=Z,9.0nm,0.5s						
HIA	**Hailar**	**22.86**	**351**	*e*P	**P**	**11 00 34.0**	**0.0**
GTA	**Gaotai**	**24.57**	**307**	*e*P	**P**	**11 00 49.9**	**-0.2**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.3						
SONM	**Songino Array**	**25.65**	**330**	P	**P**	**11 00 59.7**	**-0.1**
	comp=Z,1.6nm,0.3s,mb4.1,baz=149,slow=11,SNR=13						
SONM				PcP	PcP	11 04 23.8	-0.3
	comp=Z,0.8nm,0.6s,baz=155,slow=4.4,SNR=4.7						
WMQ	**Urumqi**	**34.61**	**309**	*e*P	**P**	**11 02 18.0**	**-0.6**
MKAR	**Makanchi Array**	**39.10**	**312**	P	**P**	**11 02 55.8**	**-0.3**
	comp=Z,11nm,0.4s,mb4.7,baz=98,slow=11,SNR=147						
MKAR				PcP	PcP	11 05 00.3	-0.8
	comp=Z,0.6nm,0.6s,baz=76,slow=5.0,SNR=4.7						
ZAL	**Zalesovo**	**40.16**	**324**	P	**P**	**11 03 03.5**	**-1.2**
	comp=Z,4.5nm,0.5s,mb4.2,baz=359,slow=7.7,SNR=12						
KURK	**Kurchatov**	**42.52**	**317**	*e*P	**P**	**11 03 22.8**	**-1.0**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.0						
KURK	**Kurchatov**	**42.52**	**317**	*e*P	**P**	**11 03 22.8**	**-1.0**
	comp=Z,2.6nm,0.5s,mb3.9						
FITZ	**Fitzroy Crossi**	**44.58**	**179**	*e*P	**P**	**11 03 41.2**	**+0.5**
	comp=Z,5.5nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**47.27**	**168**	P	**P**	**11 04 02.1**	**+0.3**
	comp=Z,1.1nm,0.4s,mb3.5,baz=349,slow=8.8,SNR=29						
WRA				PcP	PcP	11 05 28.2	-0.9
	comp=Z,0.6nm,0.8s,baz=352,slow=3.8,SNR=4.7						
WB2	**Warramunga Arr**	**47.27**	**168**	*e*P	**P**	**11 04 01.8**	**+0.1**
BVAR	**Borovoye Array**	**48.02**	**318**	P	**P**	**11 04 06.3**	**-0.8**
	comp=Z,0.8nm,0.3s,mb3.5,baz=101,slow=9.0,SNR=9.0						
BVAR				PcP	PcP	11 05 30.4	-1.0
	comp=Z,0.3nm,0.3s,baz=108,slow=4.7,SNR=3.8						
BRVK	**Borovoye**	**48.09**	**318**	*e*P	**P**	**11 04 06.6**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
BRVK	**Borovoye**	**48.09**	**318**	*e*P	**P**	**11 04 06.6**	**-1.0**
	comp=Z,1.2nm,0.4s,mb3.6						
ZRNK	**Zerenda**	**48.84**	**318**	*e*P	**P**	**11 04 12.1**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb3.9						
ZRNK	**Zerenda**	**48.84**	**318**	*e*P	**P**	**11 04 12.1**	**-1.2**
	comp=Z,4.1nm,0.7s,mb3.9						
KLBR	**Kellerberrin**	**58.43**	**187**	*e*P	**P**	**11 05 23.0**	**-0.3**
	comp=Z,129nm,1.6s,mb5.3						
STKA	**Stephens Creek**	**60.38**	**164**	*e*P	**P**	**11 05 36.9**	**+0.4**
	comp=Z,4.4nm,1.4s,mb3.9						
STKA	**Stephens Creek**	**60.38**	**164**	P	**P**	**11 05 36.8**	**+0.3**
	comp=Z,1.7nm,0.6s,mb3.9,baz=110,slow=9.4,SNR=5.9						
STKA	**Stephens Creek**	**60.38**	**164**	P	**P**	**11 05 36.1**	**-0.4**
MCK	**McKinley**	**64.60**	**29**	*e*P	**P**	**11 06 01.9**	**-1.8**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
MCK	**McKinley**	**64.60**	**29**	*e*P	**P**	**11 06 01.9**	**-1.9**
	comp=Z,1.3nm,0.5s,mb3.8						
PMR	**Palmer**	**64.87**	**32**	*e*P	**P**	**11 06 11.3**	**+5.8**
ILAR	**Eielson Array**	**65.31**	**28**	P	**P**	**11 06 07.4**	**-0.8**
	comp=Z,0.5nm,0.5s,mb3.4,baz=263,slow=4.9,SNR=9.9						
DIV	**Divide**	**66.55**	**32**	*e*P	**P**	**11 06 16.4**	**+0.2**
	comp=Z,20nm,0.7s,mb4.8						
ARCES	**ARCESS Array B**	**68.49**	**338**	P	**P**	**11 06 26.8**	**-1.3**
	comp=Z,2.9nm,0.9s,mb3.9,baz=72,slow=7.7,SNR=6.8						
INK	**Inuvik**	**69.52**	**23**	P	**P**	**11 06 33.5**	**-0.8**
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
INK	Inuvik	69.52	23	P	P	11 06 33.5	-0.8
	comp=Z,4.1nm,0.9s,mb4.1						
FINES	FINESS Array B	71.02	330	P	P	11 06 42.6	-0.9
	comp=Z,0.5nm,0.3s,mb3.6,baz=72,slow=6.0,SNR=4.0						
BRTR	Keskin Array B	74.49	307	P	P	11 07 04.3	0.0
	comp=Z,0.5nm,0.4s,mb3.5,baz=56,slow=4.5,SNR=4.6						
DLBC	Dease Lake	74.93	32	eP	P	11 07 07.5	+1.2
NB2	NORSAR Subarra	77.59	333	P	P	11 07 20.3	-0.8
	comp=Z,1.0nm,0.5s,mb3.7,baz=55,slow=5.3						
NB2	NORSAR Subarra	77.59	333	P	P	11 07 20.3	-0.8
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
NOA	NORSAR Array B	77.59	333	P	P	11 07 20.3	-0.8
	comp=Z,1.3nm,0.6s,mb3.7,baz=55,slow=5.4,SNR=4.7						
SUMG	Summit	80.30	355	eP	P	11 07 35.6	+0.2
	comp=Z,5.2nm,0.8s,mb4.2						
MOX	Moxa	83.20	324	eP	P	11 07 56.0	+5.2
NEW	Newport	86.87	36	eP	P	11 08 10.1	+1.2
NEW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NEW	Newport	86.87	36	eP	P	11 08 10.1	+1.2
	comp=Z,3.8nm,0.8s,mb4.2						
PDAR	Pinedale Array	94.48	37	P	P	11 08 45.5	+1.2
	comp=Z,0.3nm,0.4s,mb3.6,SNR=3.9						
TXAR	Lajitas Array	107.25	43	PKiKP		11 13 50.4	
	comp=Z,0.7nm,1.1s,baz=200,slow=1.9,SNR=4.0						
DBIC	Dimbokro	121.25	297	PKP	PKPdf	11 14 15.7	+0.2
	comp=Z,1.7nm,0.6s,baz=177,slow=1.2,SNR=3.8						

IDC 21 11:13:08.8±3.0**, 16.94S**×**178.02W, mb3.7**/3**, mb1 4.1**/3**, mb1mx3.8**/13**, mbtmp3.7**/3**, Error ellipse: s-maj=279.7km s-min=31.7km az=158.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.19	259	P	P	11 21 27.7	-1.8
	0.3nm,0.4s,baz=95,slow=7.2,SNR=11						
TXAR	Lajitas Array	85.16	58	P	P	11 25 47.8	-0.8
	0.7nm,0.8s,baz=220,slow=6.8,SNR=10						
PDAR	Pinedale Array	86.39	43	P	P	11 25 52.9	-1.5
	0.4nm,0.6s,baz=225,slow=1.3,SNR=4.6						

*MOS **21** 11:33:27.8±1.6, 37.69N×73.81E, h33km, mb4.1/4, Error ellipse: s-maj=19.1km s-min=8.7km az=103.9*
*BJI **21** 11:33:28.3, 37.51N×73.05E, h38km, mB4.4, ML4.4, Ms4.2, Msz3.8*
*NEIC **21** 11:33:29.3±0.4, 37.73N×73.93E, h35km, mb4.4/10, Error ellipse: s-maj=14.2km s-min=6.1km az=53.0*
*IDC **21** 11:33:36.7±5.6, 37.84N×73.51E, h78km±49km, mb3.7/8, mb1 3.9/10, mb1mx3.7/22, mbtmp4.0/10, ML4.0/2, MS3.1/2, Ms1 3.1/2, ms1mx2.8/24, Error ellipse: s-maj=35.6km s-min=17.8km az=14.0*
*NNC **21** 11:33:37.8±25.0, 38.53N×72.91E, mpv4.1, Error ellipse: s-maj=112.5km s-min=63.5km az=11.0*
ISC 21 11:33:30.7±0.7**, 37.46N**±0.04×**73.81E**±0.08**, h74**km±9km**, n68, σ1**s**18**/68**, mb4.1**/17**, 6C-4D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	2.67	39	eP	P	11 34 17.8	+5.3
KSH				S	S	11 34 55.8	+12
KSH				Smax			
	comp=N,930nm,0.9s						
KSH				Smax			
	comp=E,1µm,1.0s						
CHCP	Chirah Chowk	3.81	187	P	P	11 34 31.9	+3.4
CEP	Cherat	3.94	204	P	P	11 34 32.0	+1.8
CEP				S	S	11 35 26.0	+10
AML	Almayashu	4.67	359	P	P	11 34 38.7	-1.7
	SNR=16						
KZA	Kyzart	4.75	13	P	P	11 34 42.0	+0.5
	SNR=59						
THW	Thamme Wali	4.95	201	P	P	11 34 45.0	+0.8
ULHL	Ulahol	5.14	21	P	P	11 34 48.1	+1.3
	SNR=19						
AAK	Ala-Archa	5.20	6	P	P	11 34 47.9	+0.2
	SNR=18						
AAK	Ala-Archa	5.20	6	⇑Pn	P	11 34 48.0	+0.4
	comp=E,56nm,0.8s						
AAK				⇑Lg		11 35 50.5	
	comp=E,129nm,1.2s						
AAK	Ala-Archa	5.20	6	ePn	P	11 34 46.5	-1.1
EKS2	Erkin-Say	5.20	360	P	P	11 34 47.1	-0.6
	SNR=13						
KBK	Karagaybulak	5.27	9	P	P	11 34 49.2	+0.6
	SNR=29						
CHMS	Chumysh	5.58	7	P	P	11 34 53.0	+0.1
	SNR=12						
TKM2	Tokmak 2	5.63	14	P	P	11 34 54.3	+0.8
	SNR=26						
USP	Ospenovka	5.83	5	P	P	11 34 55.8	-0.5
	SNR=9.3						
KK31	Karatay Array	6.18	337	⇑Pn	P	11 34 56.4	-4.8
	comp=E,9.3nm,0.6s,baz=165,slow=13,SNR=95						
KK31				⇓Lg		11 36 06.6	
	comp=E,12nm,0.4s,baz=152,slow=23,SNR=4.6						
DRP	Derazinda	6.43	209	P	P	11 35 01.8	-2.9
MK31	Makanchi Array	11.25	31	⇓P	P	11 36 11.2	+0.7
	comp=E,11nm,1.2s,baz=201,slow=9.4,SNR=21						
MKAR	Makanchi Array	11.25	31	P	P	11 36 10.9	+0.5
	comp=E,0.2nm,0.3s,baz=218,slow=14,SNR=22						
KOLN	Koldanda	12.69	137	eP	P	11 36 30.4	+0.6
	comp=E,8.4nm,0.3s						
GKN	Gorkha	13.10	133	eP	P	11 36 34.8	-0.3
KKN	Kakani	13.64	132	eP	P	11 36 42.0	-0.1
	comp=E,23nm,0.5s						
KKN	Kakani	13.64	132	eP	P	11 36 42.0	-0.1
KKN				pmax	pmax		
	comp=Z,11nm,0.5s						
DMN	Daman	13.67	133	eP	P	11 36 42.0	-0.5
	comp=Z,23nm,0.7s						
KURK	Kurchatov	13.70	13	⇓Pn	P	11 36 39.5	-3.2
	comp=Z,4.3nm,1.4s						
KURK				⇑Lg		11 40 39.1	
	comp=Z,15nm,1.8s						
KURK	Kurchatov	13.70	13	eP	P	11 36 36.4	-6.3
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KURK	Kurchatov	13.70	13	eP	P	11 36 36.4	-6.3
	comp=Z,5.6nm,0.8s						
PKI	Pulchoki	13.88	132	eP	P	11 36 44.7	-0.5
	comp=Z,18nm,0.5s						
PKI	Pulchoki	13.88	132	eP	P	11 36 44.7	-0.5
PKI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
AB31	Akbulak array	15.49	324	⇓Pn	P	11 36 59.0	-6.9
	comp=Z,3.2nm,0.6s,baz=136,slow=12,SNR=53						
AB31				⇑Lg		11 39 39.5	
	comp=Z,9.9nm,1.1s,baz=138,slow=24,SNR=8.6						
BVA0	Borovoye Array	15.75	352	P	P	11 37 04.7	-4.5
	comp=Z,2.5nm,1.2s,baz=157,slow=12,SNR=58						
BVAR	Borovoye Array	15.75	352	P	P	11 37 05.0	-4.2
	comp=Z,0.3nm,0.3s,baz=154,slow=13,SNR=9.5						
BRVK	Borovoye	15.80	352	eP	P	11 37 05.0	-4.7
BRVK				pmax	pmax		
	comp=Z,18nm,1.1s						
BRVK	Borovoye	15.80	352	eP	P	11 37 05.0	-4.7
	comp=Z,18nm,1.1s						
ZRNK	Zerenda	15.86	349	⇑P	P	11 37 09.1	-1.4
	comp=Z,5.8nm,0.8s						
ZRNK	Zerenda	15.86	349	eP	P	11 37 05.9	-4.6
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZRNK	Zerenda	15.86	349	eP	P	11 37 05.9	-4.5
	comp=Z,9.5nm,0.8s						
ZAL	Zalesovo	18.14	21	P	P	11 37 38.2	-0.7
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ZAL	Zalesovo	18.14	21	P	P	11 37 38.2	-0.7
	comp=Z,3.1nm,0.3s,baz=259,slow=7.3,SNR=18						
ZAL	Zalesovo	18.14	21	P	P	11 37 38.2	-0.7
NVS	Novosibirsk	18.54	17	eP	P	11 37 42.1	-1.5
NVS				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NVS				pmax	pmax		
	comp=N,5.0nm,0.7s						
GTA	Gaotai	20.45	76	eP	P	11 38 10.8	+6.5
GTA				AMB	AMB		
	comp=Z,78nm,4.2s						
GTA				LR	LR		
	comp=N,250nm,12.5s						
GTA				LR	LR		
	comp=E,417nm,13.7s						
GTA				LR	LR		
	comp=Z,272nm,13.7s						
ARU	Arti	21.56	337	eP	P	11 38 05.3	-10
	comp=Z,17nm,1.2s,mb4.3						
GNI	Garni	22.77	286	LR	LR	11 48 43.2	
	comp=Z,36nm,19.0s,baz=62,slow=40						
GNI	Garni	22.77	286	eP	P	11 38 31.8	+4.5
	comp=Z,32nm,1.2s,mb4.5						
ZAK	Zakamensk	24.67	49	eP	P	11 38 50.7	+5.1
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.6						
SONM	Songino Array	25.94	56	P	P	11 39 02.8	+5.2
	comp=Z,1.2nm,0.6s,mb3.5,baz=262,slow=8.7,SNR=12						
MALT	Malatya	27.84	283	P	P	11 39 14.8	-0.3
MALT				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.7						
MALT	Malatya	27.84	283	P	P	11 39 14.8	-0.4
	comp=Z,3.2nm,1.1s,mb3.8						
PALK	Pallekele	30.69	167	P	P	11 39 51.9	+11
	comp=Z,28nm,1.3s,mb4.8						
BR131	Keskin Array S	31.30	287	P	P	11 39 45.7	-0.2
BRTR	Keskin Array B	31.30	287	P	P	11 39 46.4	+0.5
	comp=Z,1.2nm,0.5s,mb3.9,baz=105,slow=8.9,SNR=6.2						
MLR	Muntele Rosu	36.30	298	P	P	11 40 30.4	+1.7
	comp=Z,3.2nm,0.9s,mb4.2,baz=135,slow=4.3,SNR=5.3						
FINES	FINESS Array B	37.98	325	P	P	11 40 43.0	+0.4
	comp=Z,1.0nm,0.5s,mb3.9,baz=129,slow=12,SNR=6.0						
GVD	Gavdhos	39.87	282	P	P	11 41 07.8	+9.2
	comp=Z,26nm,0.9s,mb5.0						
ARCES	ARCESS Array B	41.15	336	P	P	11 41 10.3	+1.6
	comp=Z,0.9nm,0.5s,mb3.8,baz=117,slow=8.1,SNR=8.4						
MORC	Moravsky Berou	41.62	306	P	P	11 41 15.5	+2.7
HFS	Hagfors	43.72	321	P	P	11 41 28.3	-1.5
	comp=Z,2.0nm,0.5s,mb4.1,baz=111,slow=13,SNR=12						
GERES	GERESS Array B	44.23	305	LR	LR	12 02 32.6	
	comp=Z,23nm,18.7s,baz=142,slow=40						
NB2	NORSAR Subarra	44.99	322	P	P	11 41 39.7	-0.2
	comp=Z,0.9nm,0.5s,mb3.8,baz=91,slow=7.9						
NB2	NORSAR Subarra	44.99	322	P	P	11 41 39.7	-0.2
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
NOA	NORSAR Array B	44.99	322	P	P	11 41 40.6	+0.7
	comp=Z,1.3nm,0.6s,mb3.9,baz=93,slow=7.7,SNR=4.5						
NAO01	NORSAR Array S	45.14	322	P	P	11 41 37.7	-3.5
	comp=Z,7.5nm,0.9s,mb4.4						
SUMG	Summit	60.88	341	P	P	11 43 36.4	-1.0
	comp=Z,8.3nm,1.2s,mb4.6						
ILAR	Eielson Array	73.23	17	P	P	11 44 56.2	+1.4
	comp=Z,1.2nm,1.1s,mb3.6,baz=320,slow=5.4,SNR=5.0						
WRA	Warramunga Arr	80.62	124	P	P	11 45 43.0	+6.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	80.62	124	P	P	11 45 43.0	+5.9
	comp=Z,0.7nm,0.6s,mb3.6,baz=323,slow=4.7,SNR=12						
SCHQ	Schefferville	82.07	338	P	P	11 45 42.9	-1.0

*NEIC **21** 11:40:43.4±0.3, 22.94N×92.16E, h10km, mb4.6/28, Error ellipse: s-maj=6.9km s-min=4.6km az=212.0*
NEIC Felt [V] at Bandarban and [IV] at Chittagong, Bangladesh. Felt at Khagrachari and Rangamati, Bangladesh. Felt [III] at Shillong, India. Seiches occurred in the Bandarban area, Bangladesh.
*BJI **21** 11:40:43.4, 23.15N×92.14E, h10km, mB4.7, mb4.6, ML4.5, Ms4.3, Msz4.0*
*IDC **21** 11:40:43.5±1.0, 23.07N×92.38E, mb4.1/11, mb1 4.3/11, mb1mx4.2/19, mbtmp4.1/11, MS3.7/4, Ms1 3.7/4, ms1mx3.5/15, Error ellipse: s-maj=31.8km s-min=16.0km az=41.0*
*MOS **21** 11:40:45.1±1.4, 22.94N×92.22E, h33km, mb4.8/9, Error ellipse: s-maj=13.7km s-min=8.5km az=103.4*
*LDG **21** 11:41:04.9±0.2, 24.85N×91.63E, h39km, Mb4.5/12, Ms3.5/2, Error ellipse: s-maj=11.8km s-min=7.6km az=174.0*
ISC 21 11:40:41.7±1.0**, 22.98N**±0.03×**92.05E**±0.02**, h11**km±6km**, h19**km±2.1km**: pP-P, n144, σ1**s**44**/160**, mb4.5**/36**, MS3.9**/8**, 3C-3D, India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGT	Agartala	1.16	321	⇓i	x	11 41 15.0	
AGT				i		11 42 09.0	
SHL	Shillong	2.58	357	eP	Pn	11 41 25.3	+1.2
SHL				eS	Sn	11 41 54.6	-1.1
CAL	Calcutta	3.46	263	e	Pg	11 41 48.8	-2.1
CAL				eS	Sn	11 42 20.2	+2.0
SHBG	Sahibganj	4.58	300	eP	Pn	11 41 55.2	+2.6
SHBG				eS	Sn	11 42 46.5	0.0
SLGI	Shiliguri	4.96	319	e	Pb	11 42 07.9	-0.4
GTK	Gangtok	5.33	325	e	Pb	11 42 08.0	-6.7
GTK				e		11 43 08.0	
BOK	Bokaro	5.72	279	⇑iP	Pn	11 42 12.4	+3.7
BOK				i S	Sn	11 43 13.4	-1.7
BWNR	Bhubaneshwar	6.40	246	eP	Pb	11 42 29.5	-3.3
BWNR				eS	Sn	11 43 36.1	+4.1
LSA	Lhasa	6.74	353	P	Pn	11 42 24.3	+1.3
LSA				S	Sn	11 43 37.0	-3.5
LSA				Smax			
	comp=N,130nm,0.9s						
LSA				Smax			
	comp=E,330nm,0.8s						
LSA	Lhasa	6.74	353	eP	Pn	11 42 24.1	+1.1
LSA				pmax	pmax		
	comp=Z,67nm,0.4s						
LSA	Lhasa	6.74	353	ePn	Pn	11 42 24.1	+1.1
	comp=Z,67nm,0.4s						
GUN	Gumba	7.43	313	ePn	Pn	11 42 34.5	+1.8
GUN				eSn	Sn	11 43 55.1	-2.7
	comp=Z,737nm,0.5s						
GUN	Gumba	7.43	313	ePn	Pn	11 42 34.5	+1.8
	comp=Z,368nm,0.5s						
GUN				eSn	Sn	11 43 55.1	-2.7
PKI	Pulchoki	7.55	309	ePn	Pn	11 42 35.4	+1.0
PKI				eSn	Sn	11 43 56.9	-3.9
	comp=Z,586nm,0.4s						
PKI	Pulchoki	7.55	309	eP	Pn	11 42 35.4	+1.0
PKI				e		11 43 56.9	
PKI				pmax	pmax		
	comp=Z,293nm,0.4s						
PKI	Pulchoki	7.55	309	ePn	Pn	11 42 35.4	+1.0
	comp=Z,293nm,0.4s						
PKI				eSn	Sn	11 43 56.9	-3.9
KKN	Kakani	7.77	309	ePn	Pn	11 42 38.2	+0.7
KKN				eSn	Sn	11 44 02.3	-4.1
	comp=Z,611nm,0.5s						
KKN	Kakani	7.77	309	eP	Pn	11 42 38.2	+0.7
KKN				e		11 44 02.3	
KKN				pmax	pmax		
	comp=Z,305nm,0.5s						
KKN	Kakani	7.77	309	ePn	Pn	11 42 38.2	+0.7
	comp=Z,305nm,0.5s						
KKN				eSn	Sn	11 44 02.3	-4.1
DMN	Daman	7.79	308	ePn	Pn	11 42 39.0	+1.2
DMN				eSn	Sn	11 44 02.2	-4.7
	comp=Z,560nm,0.4s						
DMN	Daman	7.79	308	ePn	Pn	11 42 39.0	+1.2
	comp=Z,280nm,0.4s						
DMN				eSn	Sn	11 44 02.2	-4.7
CHRT	Chiangrai	7.84	112	⇓P	Pn	11 42 35.0	-3.5
	comp=Z,487nm,0.6s						
GKN	Gorkha	8.36	308	ePn	P	11 42 45.7	0.0
GKN				eSn	Sn	11 44 15.4	-5.6
	comp=Z,626nm,0.3s						
GKN	Gorkha	8.36	308	ePn	P	11 42 45.7	0.0
	comp=Z,313nm,0.3s						
GKN				eSn	Sn	11 44 15.4	-5.6
KOLN	Koldanda	9.01	304	ePn	P	11 42 54.0	-0.7
KOLN				eSn	Sn	11 44 30.8	-6.3
	comp=Z,1µm,0.7s						
KOLN	Koldanda	9.01	304	ePn	P	11 42 54.0	-0.7
	comp=Z,646nm,0.7s						
KOLN				eSn	Sn	11 44 30.8	-6.3
BLSP	Bilaspur	9.21	267	eP	P	11 42 58.7	+1.3
BLSP				AMb	AMB	11 43 02.0	
	comp=Z,82nm,0.6s						
BLSP				eS	Sn	11 44 34.3	-7.9
BLSP				AML	AML	11 44 38.9	
	comp=N,697nm,0.2s						
BLSP				AML	AML	11 44 39.4	
	comp=E,416nm,0.2s						
ALBI	Allahabad	9.64	286	eS	Sn	11 44 42.0	-11
KMI	Kunming	10.00	76	P	P	11 43 10.0	+1.6
KMI				XP		11 43 20.8	
KMI				S	S	11 45 03.6	+2.0
KMI				AMB	AMB		
	comp=Z,11nm,0.9s						
KMI				AMB	AMB		
	comp=Z,58nm,3.1s						
KMI				LR	LR		
	comp=N,1µm,8.8s						
KMI				LR	LR		
	comp=E,599nm,12.7s						
KMI				LR	LR		
	comp=Z,471nm,11.4s						
KMI	Kunming	10.00	76	P	P	11 43 10.0	+1.6
	comp=Z,11nm,0.9s						
KMI				sP		11 43 20.7	
KMI				PP	PP	11 43 26.1	+10
KMI				S	S	11 45 03.6	+2.0
KKTK	Khon Kaen	12.11	121	P	P	11 43 38.0	+0.8
	comp=Z,309nm,0.8s						
LGTI	Lohaghat	12.40	304	eP	P	11 43 41.5	+0.5
LGTI				eS	S	11 45 52.0	-8.2
PTH	Pithoragarh	12.47	304	eP	P	11 43 41.0	-1.0
PTH				e		11 45 51.0	
JHNI	Jhansi	12.58	284	eS	S	11 45 52.0	-13
JHNI				e		11 46 43.0	
BHPL	Bhopal	13.46	274	eP	P	11 43 55.0	-0.3
BHPL				AMb	AMB	11 44 03.6	
	comp=Z,46nm,0.6s						
BHPL				e		11 46 15.6	
BHPL				AML	AML	11 46 21.4	
	comp=E,146nm,0.6s						
BHPL				AML	AML	11 46 23.2	
	comp=N,120nm,0.9s						
HYB	Hyderabad	13.83	249	eP	P	11 44 00.0	-0.1
HYB				eS	S	11 46 35.0	+0.4
HYB	Hyderabad	13.83	249	i P	P	11 44 00.0	-0.1
HYB				e		11 46 23.0	
HYB				eS	S	11 46 35.0	+0.4
AKL	Akola	14.15	264	⇓iP	P	11 44 03.5	-0.8
AKL				i		11 46 36.0	
SONA	Sohna	14.48	294	e	P	11 44 06.3	-2.4
SONA				AMb	AMB	11 44 11.0	
	comp=Z,35nm,0.7s						
SONA				e		11 46 34.2	
SONA				e		11 46 35.2	
DDI	Dehra Dun	14.48	303	e	P	11 44 06.6	-2.1
DDI				e		11 46 48.0	
NDI	New Delhi	14.51	296	e	P	11 44 06.5	-2.5
NDI				e		11 46 36.0	
AYAN	Aya Nagar	14.52	295	e	P	11 44 07.5	-1.6
AYAN				AMb	AMB	11 44 08.1	
	comp=Z,4.1nm,0.7s						
AYAN				e		11 46 38.7	
LATR	Latur	15.19	255	eP	P	11 44 20.0	+2.0
KHET	Khetri	15.51	292	e	P	11 44 20.7	-1.4
KHET				e		11 46 51.6	
SMLA	Simla	15.53	305	i	P	11 44 17.9	-4.5
SMLA				i		11 47 03.8	
SDNR	Sundarnagar	15.86	306	e	P	11 44 25.0	-1.6
SDNR				e		11 47 12.6	
AJM	Ajmer	16.20	286	e	P	11 44 28.6	-2.3
AJM				AMb	AMB	11 44 30.8	
	comp=Z,24nm,0.7s						
AJM				e		11 47 13.8	
LZH	Lanzhou	16.59	35	eP	P	11 44 35.3	-0.5
LZH				AP		11 44 39.3	
LZH				XP		11 44 43.5	
LZH				PP	PP	11 44 49.0	-0.6
LZH				eS	S	11 47 39.0	-0.3
LZH				XS		11 47 48.3	
LZH				SS	SS	11 47 56.0	-3.5
LZH				AMB	AMB		
	comp=Z,30nm,1.1s						
LZH				AMB	AMB		
	comp=Z,180nm,4.0s						
LZH				LR	LR		
	comp=E,680nm,11.1s						
LZH				LR	LR		
	comp=Z,640nm,16.9s						
LZH	Lanzhou	16.59	35	eP	P	11 44 35.3	-0.5
LZH				eS	S	11 47 39.0	-0.3
LZH				pmax	pmax		
	comp=Z,30nm,1.1s						
LZH	Lanzhou	16.59	35	eP	P	11 44 35.3	-0.5
	comp=Z,30nm,1.1s						
LZH				pP		11 44 39.3	
LZH				sP		11 44 43.5	
LZH				PP	PP	11 44 49.0	-0.6
LZH				eS	S	11 47 39.0	-0.3
LZH				sS		11 47 48.3	
LZH				SS	SS	11 47 56.0	-3.5
QIZ	Qiongzhong	17.07	100	⇑P	P	11 44 45.0	+3.0
QIZ				LR	LR		
	comp=E,221nm,14.5s						
QIZ				LR	LR		
	comp=Z,281nm,15.3s						
ENH	Enshi	17.18	61	eP	P	11 44 43.8	+0.4
	comp=Z,129nm,0.8s						
ENH				eS	S	11 47 50.7	-2.4
THN	Thein Dam	17.24	307	eP	P	11 44 46.8	+2.7
POO	Poona	17.59	259	eP	P	11 44 52.0	+3.5
POO				e		11 47 51.0	
GTA	Gaotai	17.66	20	eP	P	11 44 47.8	-1.4
GTA				AP		11 44 51.3	
GTA				XP		11 44 53.8	
GTA				S	S	11 48 02.6	-1.2
GTA				XS		11 48 07.5	
GTA				SS	SS	11 48 24.3	-1.9
GTA				PCP	PcP	11 49 27.9	-1.0
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s						
GTA				AMB	AMB		
	comp=Z,85nm,4.6s						
GTA				LR	LR		
	comp=N,250nm,13.3s						
GTA				LR	LR		
	comp=E,417nm,13.7s						
GTA				LR	LR		
	comp=Z,272nm,13.7s						
KAD	Karad	17.70	255	e	P	11 44 55.0	+5.1
KAD				AMb	AMB	11 45 04.6	
	comp=Z,40nm,1.8s						
KAD				e		11 47 53.4	
XAN	Xi'an	18.44	50	P	P	11 44 56.4	-2.7
XAN				AP		11 45 06.3	
XAN				AMB	AMB		
	comp=Z,13nm,0.8s						
JASL	Jaisalmer	19.57	286	e	P	11 45 19.1	+6.6
JASL				e		11 48 41.8	
CHCP	Chirah Chowk	19.63	307	P	P	11 45 13.3	+0.1
THW	Thamme Wali	20.41	303	P	P	11 45 21.7	+0.2
CEP	Cherat	20.71	306	P	P	11 45 25.4	+0.8
CEP				S	S	11 48 42.0	-29
SBDP	Sheikh Budin	20.95	301	P	P	11 45 28.6	+1.5
WMQ	Urumqi	21.09	351	P	P	11 45 29.4	+1.0
WMQ				AP		11 45 33.5	
WMQ				XP		11 45 36.4	
WMQ				PP	PP	11 45 52.8	+1.2
WMQ				S	S	11 49 19.8	+1.7
WMQ				XS		11 49 26.4	
WMQ				AMB	AMB		
	comp=Z,25nm,0.6s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,129nm,6.0s						
WMQ				LR	LR		
	comp=N,209nm,14.0s						
WMQ				LR	LR		
	comp=E,464nm,20.4s						
WMQ				LR	LR		
	comp=Z,188nm,13.2s,MS3.6						
DRP	Derazinda	21.25	299	P	P	11 45 32.6	+2.5
WHN	Wuhan	21.26	65	⇑P	P	11 45 30.0	-0.3
KSH	Kashi	21.41	324	eP	P	11 45 34.1	+2.4
KSH				eAP		11 45 39.3	
KSH				eXP		11 45 43.0	
KSH				eS	S	11 49 32.6	+8.5
KSH				AMB	AMB		
	comp=Z,180nm,4.3s						
KSH				LR	LR		
	comp=N,840nm,12.5s,MS4.7						
KSH				LR	LR		
	comp=E,2µm,14.8s,MS4.7						
BTO	Baotou	23.20	37	eP	P	11 45 53.3	+3.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HHC	**Hu-ho-hao-te**	**24.23**	**38**	*e*P	**P**	**11 46 03.8**	**+4.3**
HHC				AP		11 46 08.3	
HHC				XP		11 46 11.4	
HHC				PP	PP	11 46 36.8	+2.4
HHC				S	**S**	**11 50 15.3**	**+0.6**
HHC				XS		11 50 23.4	
HHC				SS	SS	11 51 03.5	-4.0
HHC				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.2						
HHC				AMB	AMB		
	comp=Z,141nm,8.0s						
HHC				LR	LR		
	comp=N,176nm,11.6s,MS4.0						
HHC				LR	LR		
	comp=E,262nm,13.4s,MS4.0						
HHC				LR	LR		
	comp=Z,282nm,13.4s,MS3.9						
AAK	**Ala-Archa**	**24.44**	**327**	P	**P**	**11 46 04.2**	**+2.7**
AAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**24.44**	**327**	P	**P**	**11 46 04.2**	**+2.7**
	comp=Z,11nm,0.8s,mb4.3						
FRU	**Bishkek**	**24.53**	**328**	P	**P**	**11 46 06.6**	**+4.2**
FRU				*e*		11 46 40.0	
MKAR	**Makanchi Array**	**25.03**	**344**	P	**P**	**11 46 09.0**	**+1.9**
	comp=Z,5.5nm,0.6s,mb4.3,baz=159,slow=8.9,SNR=19						
NJ2	**Nanjing**	**25.37**	**63**	*e*P	**P**	**11 46 10.4**	**-0.1**
NJ2				AP	pP	11 46 14.6	+0.8
NJ2				XP	sP	11 46 17.4	+2.1
NJ2				PP	PP	11 46 49.8	+0.4
NJ2				S	**S**	**11 50 35.0**	**+0.9**
NJ2				XS		11 50 42.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,40nm,4.6s						
NJ2				LR	LR		
	comp=N,1μm,20.8s						
NJ2				LR	LR		
	comp=E,320nm,13.0s						
NJ2				LR	LR		
	comp=Z,300nm,13.0s						
TIA	**Tai'an**	**25.39**	**53**	*e*P	**P**	**11 46 10.0**	**-0.6**
SONM	**Songino Array**	**27.32**	**21**	P	**P**	**11 46 29.2**	**+0.8**
	comp=Z,2.1nm,0.6s,mb3.9,baz=205,slow=9.1,SNR=17						
ZAK	**Zakamensk**	**28.72**	**15**	*e*P	**P**	**11 46 43.6**	**+2.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.9						
KURK	**Kurchatov**	**29.60**	**343**	*e*P	**P**	**11 46 48.9**	**0.0**
KURK				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.6						
KURK	**Kurchatov**	**29.60**	**343**	*e*P	**P**	**11 46 48.9**	**0.0**
	comp=Z,16nm,1.2s,mb4.6						
ZAL	**Zalesovo**	**31.39**	**352**	P	**P**	**11 47 04.7**	**0.0**
	comp=Z,2.2nm,0.5s,mb4.2,baz=298,slow=10						
ZAL				LR	LR	12 00 32.1	
	comp=Z,85nm,20.2s,MS3.4,baz=137,slow=38						
NVS	**Novosibirsk**	**32.49**	**350**	*e*P	**P**	**11 47 16.0**	**+1.7**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.5						
NVS				pmax	pmax		
	comp=N,11nm,1.4s						
JOW	**Kunigami**	**33.01**	**76**	P	**P**	**11 47 18.1**	**-1.0**
	comp=N,26nm,0.4s,mb5.5,baz=271,slow=7.8,SNR=44						
KS15	**Wonju Array Si**	**33.93**	**57**	P	**P**	**11 47 25.7**	**-1.3**
HIA	**Hailar**	**34.12**	**33**	P	**P**	**11 47 28.7**	**+0.2**
HIA				pmax	pmax		
	comp=Z,11nm,1.4s						
HIA	**Hailar**	**34.12**	**33**	P	**P**	**11 47 28.7**	**+0.2**
	comp=Z,11nm,1.4s,mb4.6						
BVAR	**Borovoye Array**	**34.23**	**337**	P	**P**	**11 47 31.3**	**+1.9**
	comp=Z,1.8nm,0.5s,mb4.2,baz=142,slow=11,SNR=10.0						
BVAR				PcP	PcP	11 50 08.8	+2.6
	comp=Z,0.5nm,0.5s,baz=90,slow=2.9,SNR=2.5						
BRVK	**Borovoye**	**34.30**	**337**	*e*P	**P**	**11 47 30.9**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**34.30**	**337**	*e*P	**P**	**11 47 30.9**	**+0.9**
	comp=Z,2.1nm,0.8s,mb4.1						
CN2	**Changchun**	**34.42**	**45**	*e*P	**P**	**11 47 32.0**	**+0.8**
CN2				*e*XP	sP	11 47 39.0	+3.0
CN2				*e*S	**S**	**11 52 59.0**	**+1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				LR	LR		
	comp=N,180nm,19.0s,MS3.9						
CN2				LR	LR		
	comp=E,130nm,19.0s,MS3.9						
CN2				LR	LR		
	comp=Z,170nm,20.0s,MS3.8						
ZRNK	**Zerenda**	**34.69**	**335**	*e*P	**P**	**11 47 32.9**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**34.69**	**335**	*e*P	**P**	**11 47 32.9**	**-0.5**
	comp=Z,4.2nm,0.6s,mb4.5						
MDJ	**Mudanjiang**	**37.47**	**46**	P	**P**	**11 47 56.4**	**-0.6**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,49nm,7.6s						
KLR	**Kul'dur**	**40.71**	**40**	*e*P	**P**	**11 48 22.0**	**-1.9**
KLR				*e*		11 50 02.7	
ARU	**Arti**	**41.43**	**332**	P	**P**	**11 48 29.9**	**+0.2**
ARU				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
ARU	**Arti**	**41.43**	**332**	P	**P**	**11 48 29.9**	**+0.2**
	comp=Z,10nm,0.9s,mb4.5						
MAJO	**Matsushiro**	**41.90**	**60**	*e*P	**P**	**11 48 32.3**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
MAJO	**Matsushiro**	**41.90**	**60**	*e*P	**P**	**11 48 32.3**	**-1.6**
	comp=Z,6.7nm,0.8s,mb4.3						
MAT	**Matsushiro**	**41.90**	**60**	*e*P	**P**	**11 48 32.0**	**-1.8**
MAT				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.3						
MAT	**Matsushiro**	**41.90**	**60**	*e*P	**P**	**11 48 32.0**	**-1.8**
	comp=Z,9.0nm,1.0s,mb4.3						
MAT	**Matsushiro**	**41.90**	**60**	P	**P**	**11 48 32.0**	**-1.8**
MJAR	**Matsushiro Arr**	**41.91**	**60**	P	**P**	**11 48 33.5**	**-0.3**
	comp=Z,5.9nm,1.0s,mb4.2,baz=269,slow=11,SNR=17						
MJAR				LR	LR	12 07 30.6	
	comp=Z,127nm,21.7s,MS3.8,baz=240,slow=39						
YSS	**Yuzh-Sakhalins**	**46.95**	**47**	*e*P	**P**	**11 49 14.4**	**+0.2**
MALT	**Malatya**	**47.96**	**301**	*e*P	**P**	**11 49 33.0**	**+11**
	comp=Z,4.7nm,1.0s,mb4.5						
MBWA	**Marble Bar**	**51.51**	**146**	*e*P	**P**	**11 49 48.1**	**-1.6**
	comp=Z,7.9nm,0.8s,mb4.7						
BRTR	**Keskin Array B**	**51.73**	**303**	pP	pP	11 50 01.9	+7.3
	comp=Z,1.0nm,0.5s,baz=117,slow=11,SNR=4.0						
FITZ	**Fitzroy Crossi**	**52.39**	**138**	*e*P	**P**	**11 49 56.3**	**-0.1**
	comp=Z,8.0nm,0.8s,mb4.7						
MA2	**Magadan**	**54.71**	**32**	*e*P	**P**	**11 50 08.2**	**-4.7**
	comp=Z,35nm,1.1s,mb5.3						
AKASG	**Malin Array Be**	**55.44**	**317**	P	**P**	**11 50 22.0**	**+3.5**
	comp=Z,0.3nm,0.3s,mb3.8,baz=78,slow=6.8,SNR=2.7						
FINES	**FINESS Array B**	**58.62**	**329**	P	**P**	**11 50 43.5**	**+2.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,105nm,19.0s						
FINES	**FINESS Array B**	**58.62**	**329**	P	**P**	**11 50 43.5**	**+2.7**
	comp=Z,1.0nm,0.7s,mb4.0,baz=144,slow=12,SNR=3.1						
FINES				LR	LR	12 19 23.0	
	comp=Z,105nm,19.0s,MS4.0,baz=310,slow=40						
MUN	**Mundaring**	**59.34**	**156**	*e*P	**P**	**11 50 45.3**	**-1.0**
WRA	**Warramunga Arr**	**59.35**	**133**	P	**P**	**11 50 46.1**	**-0.4**
	comp=Z,7.6nm,0.5s,mb5.0,baz=321,slow=7.3,SNR=48						
WRAB	**Tennant Creek**	**59.35**	**133**	*e*P	**P**	**11 50 46.2**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.2						
WRAB	**Tennant Creek**	**59.35**	**133**	*e*P	**P**	**11 50 46.2**	**-0.3**
	comp=Z,26nm,1.1s,mb5.2						
WB2	**Warramunga Arr**	**59.36**	**133**	*e*P	**P**	**11 50 46.4**	**-0.2**
KWP	**Kalwaria**	**59.58**	**315**	P	**P**	**11 50 44.8**	**-2.8**
	comp=Z,30nm,1.0s,mb5.3						
ARCES	**ARCESS Array B**	**60.50**	**338**	P	**P**	**11 50 53.9**	**+0.2**
	comp=Z,0.8nm,0.5s,mb4.0,baz=108,slow=7.7,SNR=6.8						
NWAO	**Narrogin (SRO)**	**60.57**	**156**	P	**P**	**11 50 52.6**	**-2.1**
NWAO				pmax	pmax		
	comp=Z,50nm,1.4s						
NWAO	**Narrogin (SRO)**	**60.57**	**156**	P	**P**	**11 50 52.5**	**-2.1**
	comp=Z,50nm,1.4s,mb5.5						
PMG	**Port Moresby**	**62.80**	**114**	P	**P**	**11 51 10.1**	**+0.2**
PMG				pmax	pmax		
	comp=Z,27nm,0.7s						
PMG	**Port Moresby**	**62.80**	**114**	P	**P**	**11 51 10.1**	**+0.2**
	comp=Z,27nm,0.7s,mb5.5,baz=350,slow=6.1,SNR=5.7						
GERES	**GERESS Array B**	**65.52**	**315**	P	**P**	**11 51 30.9**	**+3.7**
GERES				*PP	pP	11 51 36.9	+6.2
GERES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**65.52**	**315**	P	**P**	**11 51 30.9**	**+3.7**
	comp=Z,0.4nm,0.2s,mb4.0,baz=90,slow=7.8,SNR=3.2						
GERES				pP	pP	11 51 36.9	+6.2
	comp=Z,3.2nm,0.7s,baz=63,slow=6.0,SNR=7.3						
NB2	**NORSAR Subarra**	**65.76**	**328**	P	**P**	**11 51 29.3**	**+0.8**
	comp=Z,0.7nm,0.5s,mb4.0,baz=86,slow=6.2						
NB2	**NORSAR Subarra**	**65.76**	**328**	P	**P**	**11 51 29.3**	**+0.8**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NOA	**NORSAR Array B**	**65.76**	**328**	P	**P**	**11 51 29.4**	**+0.8**
	comp=Z,0.4nm,0.5s,mb3.7,baz=101,slow=5.7,SNR=2.7						
NOA				pP	pP	11 51 36.5	+4.5
	comp=Z,2.7nm,0.8s,baz=86,slow=6.5,SNR=4.4						
NOA				LR	LR	12 22 29.9	
	comp=Z,40nm,20.1s,MS3.6,baz=75,slow=38						
PGF	**Pioggiola**	**69.88**	**309**	*e*P	Px	11 52 05.0	
	comp=Z,20nm,0.8s						
SBF	**Sospel**	**70.69**	**310**	*e*P	Px	11 52 10.2	
LPG	**La Plagne**	**70.79**	**312**	*e*P	Px	11 52 10.8	
	comp=Z,9.8nm,0.6s						
LPL	**La Plagne**	**70.80**	**312**	*e*P	Px	11 52 10.7	
	comp=Z,12nm,0.7s						
MBDF	**Montbardon**	**70.95**	**311**	*e*P	Px	11 52 11.7	
	comp=Z,9.7nm,0.8s						
MEZF	**Maizieres J'vi**	**71.22**	**315**	*e*P	Px	11 52 12.3	
FRF	**La Foret Royal**	**71.32**	**310**	*e*P	Px	11 52 13.4	
ORIF	**Oris-en-Rattie**	**71.52**	**312**	*e*P	Px	11 52 14.8	
	comp=Z,10nm,0.9s						
SMRF	**Simiane la Rot**	**71.97**	**311**	*e*P	Px	11 52 17.4	
STKA	**Stephens Creek**	**72.26**	**137**	P	**P**	**11 52 05.5**	**-3.7**
LOR	**Lormes**	**72.30**	**314**	*e*P	Px	11 52 18.9	
SSF	**Saint Saulge**	**72.58**	**314**	*e*P	Px	11 52 20.2	
	comp=Z,8.9nm,0.7s						
TCF	**Toulx Ste Croi**	**73.65**	**314**	*e*P	Px	11 52 27.2	
	comp=Z,8.3nm,0.6s						
MTLF	**Montolieu**	**74.49**	**311**	*e*P	Px	11 52 32.3	
	comp=Z,5.9nm,0.7s						
ETSF	**Etsaut**	**76.56**	**311**	*e*P	Px	11 52 43.8	
	comp=Z,3.1nm,0.7s						
INK	**Inuvik**	**83.08**	**16**	*e*P	**P**	**11 53 08.9**	**+0.7**
INK				pmax	pmax		
	comp=Z,11nm,1.2s						
INK	**Inuvik**	**83.08**	**16**	*e*P	**P**	**11 53 08.9**	**+0.7**
	comp=Z,12nm,1.2s,mb4.8						
TXAR	**Lajitas Array**	**125.83**	**17**	PKP	PKPdf	11 59 46.1	-1.3
	comp=Z,0.3nm,0.6s,baz=282,slow=1.8,SNR=5.1						
SDV	**Santo Domingo**	**144.08**	**330**	*e*PKPdf	PKPdf	12 00 17.7	-3.8

IDC ***21*** *11:48:18.7±4.4, 64.20N×163.95W, mb3.3/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.3/3, Error ellipse: s-maj=108.7km s-min=26.3km az=153.0*

NEIC ***21*** *11:48:21.1, 64.61N×163.47W, h30km, ML3.9(PMR), ML3.8(AEIC), After AEIC.*

ISC 21 11:48:18.1±1.9**, 64.73N**±0.09×**163.3W**±0.1**, h8**km±13km**, n18,** σ**0.95**/23**, mb3.3**/3**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNA	**Tin City**	**2.13**	**295**	P	**Pn**	**11 48 54.4**	**-0.1**
TNA				S	**Sn**	**11 49 21.2**	**-0.3**
TTA	**Tatalina**	**3.69**	**116**	P	**Pn**	**11 49 17.2**	**+0.5**
TTA				S	**Sn**	**11 50 01.8**	**+0.9**
TT01	**Tatalina**	**3.70**	**116**	P	**Pn**	**11 49 17.4**	**+0.5**
IM3	**Indian Mountai**	**4.18**	**68**	P	**Pn**	**11 49 25.2**	**+1.5**
IMA	**Indian Mountai**	**4.23**	**67**	P	**Pn**	**11 49 25.1**	**+0.6**
SVW2	**Sparrevohn**	**5.06**	**133**	P	**Pn**	**11 49 35.4**	**-0.8**
KTH	**Kantishna Hill**	**5.54**	**97**	P	**Pn**	**11 49 43.1**	**+0.3**
KTH				S	**Sn**	**11 50 46.7**	**-0.8**
COLD	**Coldfoot**	**5.90**	**59**	P	**Pn**	**11 49 47.6**	**-0.4**
SPU	**Mount Spurr**	**6.23**	**120**	P	**Pn**	**11 49 51.1**	**-1.5**
MCK	**McKinley**	**6.33**	**93**	*e*P	**Pn**	**11 49 53.9**	**-0.3**
RSO	**Redoubt South**	**6.47**	**127**	*e*P	**Pn**	**11 49 54.6**	**-1.5**
CCB	**Clear Creek Bu**	**6.63**	**84**	P	**Pn**	**11 49 58.5**	**+0.2**
ILAR	**Eielson Array**	**7.01**	**82**	Pn	**Pn**	**11 50 02.7**	**-0.9**
	baz=272,slow=14,SNR=5.3						
ILAR				Pg	**Pg**	**11 50 21.8**	**-16**
	0.4nm,0.3s,baz=279,slow=14,SNR=5.3						
ILAR				Sn	**Sn**	**11 51 23.1**	**-1.3**
	2.8nm,0.3s,baz=96,slow=39,SNR=1.8						
ILAR				Lg		11 52 06.2	
	baz=282,slow=30,SNR=0.9						
PMR	**Palmer**	**7.13**	**110**	*e*P	**Pn**	**11 50 06.0**	**+0.7**
	3.7nm,0.4s						
BILL	**Bilibino**	**12.57**	**299**	P	**P**	**11 51 16.2**	**-3.7**
PDAR	**Pinedale Array**	**37.05**	**100**	P	**P**	**11 55 31.4**	**+1.4**
	0.3nm,0.8s,mb3.1,baz=307,slow=4.5,SNR=4.1						
NVAR	**Mina Array Bea**	**37.10**	**113**	P	**P**	**11 55 31.6**	**+1.1**
	0.2nm,0.3s,mb3.4,baz=314,slow=6.5,SNR=4.1						
TXAR	**Lajitas Array**	**50.96**	**104**	P	**P**	**11 57 22.6**	**+0.8**
	0.3nm,0.8s,mb3.3,baz=317,slow=4.8,SNR=5.1						

MAN 21 11:55:53.2, 20.83N×122.39E, h11km, mb4.3, ML3.2, MS2.9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBP	**Basco**	**0.55**	**226**	*e*P	Pg	11 56 04.4	0.0
BBP				*e*S	Sg	11 56 12.0	+0.2
SGCP	**Mt. Cagua**	**2.59**	**187**	*e*P	Pn	11 56 35.9	+0.1
SGCP				*e*S	Sn	11 57 07.8	+0.1
APYP	**Conner**	**3.14**	**200**	*e*P	Pn	11 56 42.2	-1.4
APYP				*e*S	Sn	11 57 19.9	-1.7
ABRA	**Dolores**	**3.54**	**207**	*e*P	Pn	11 56 48.7	-0.6
ABRA				*e*S	Sn	11 57 31.4	-0.1
CAUP	**Cauayan**	**3.90**	**188**	*e*P	Pn	11 56 55.8	+1.4
BALP	**Baler**	**5.12**	**189**	*e*P	Pn	11 57 11.4	-0.3
PVCP	**Virac**	**7.39**	**167**	*e*P	Pn	11 57 43.0	-0.7
PVCP				*e*S		11 57 57.5	
BESP	**Borongan**	**9.63**	**162**	*e*P	P	11 57 59.6	-15
BESP				*e*S		11 58 05.8	

MOS ***21*** *12:02:39.2±1.8, 59.14S×16.79W, h10km, mb4.7/8, Error ellipse: s-maj=40.5km s-min=15.8km az=100.9*

IDC ***21*** *12:02:39.4±0.6, 59.00S×16.85W, mb4.5/14, mb1 4.6/14, mb1mx4.5/19, mbtmp4.5/14, ML5.7/1, MS4.5/14, Ms1 4.5/14, ms1mx4.5/14, Error ellipse: s-maj=20.7km s-min=14.1km az=21.0*

HRVD ***21*** *12:02:40.4±0.2, 59.18S×16.77W, h17km±1km, MW5.3/69, Centroid moment Tensor Solution. LP body waves: s57,c100; Mantle waves: s69,c132; Half duration: 1.2s Moment tensor: Scale 10^17 Nm; M_{rr}0.11±.03; $M_{\theta\theta}$-0.21±.04; $M_{\phi\phi}$0.10±.03; $M_{r\theta}$-0.06±.07; $M_{\theta\phi}$1.31±.03; $M_{\phi r}$0.06±.06; Best double couple: $M_0$1.321×10^17 NP1: ϕ_s87°, δ88°, λ-2°. NP2: ϕ_s177°, δ88°, λ-178°. Principal axes: T 1.264, Plg0°, Azm312°; N .114, Plg87°, Azm214°; P -1.378, Plg3°, Azm42°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***21*** *12:02:40.4±0.2, 59.01S×16.78W, h10km, mb4.9/16 Error ellipse: s-maj=7.8km s-min=5.4km az=61.0*

BJI ***21*** *12:02:40.3, 59.00S×16.80W, h10km, Ms4.9, Msz4.5*

ISC 21 12:02:38.5±0.3**, 59.04S**±0.05×**16.7W**±0.1**, h10**km**, n77,** σ**0.99**/52**, mb4.7**/22**, MS4.5**/13**, 7C-5D, East of South Sandwich Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.18**	**167**	⇓*i*	**P**	**12 05 33.6**	**-1.3**
VNA1	**Neumayer--Stat**	**12.18**	**167**	⇑	**P**	**12 05 39.2**	**+4.3**
VNA2	**Neumayer--Watz**	**12.55**	**166**	⇓*i*	**P**	**12 05 38.2**	**-1.5**
VNA2	**Neumayer--Watz**	**12.55**	**166**	⇑*i*	**P**	**12 05 39.2**	**-0.5**
VNA3	**Neumayer Olymp**	**12.60**	**169**		**P**	**12 05 39.0**	**-1.4**
VNA3	**Neumayer Olymp**	**12.60**	**169**	⇑*i*	**P**	**12 05 41.3**	**+0.9**
SNAA	**Sanae**	**13.88**	**162**		**P**	**12 05 55.9**	**-1.3**
SNAA	**Sanae**	**13.88**	**162**	⇑*i*	**P**	**12 05 58.0**	**+0.8**
SNAA	**Sanae**	**13.88**	**162**	Pn	**P**	**12 05 55.8**	**-1.4**
	38nm,0.3s,baz=339,slow=14,SNR=1362						
SNAA				Sn	**S**	**12 08 17.2**	**-15**
	1.6nm,0.3s,baz=224,slow=17,SNR=6.4						
SNAA				LR	LR	12 10 00.5	
	comp=Z,743nm,21.1s,baz=103,slow=32						
SNAA	**Sanae**	**13.88**	**162**	⇑*i*P	**P**	**12 05 58.0**	**+0.8**
NVL	**N'lazarevskaya**	**16.65**	**146**	⇑*i*P	**P**	**12 06 30.9**	**-2.2**
NVL				*i* S	**S**	**12 09 37.4**	**+0.1**
NVL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NVL				MLR	MLR		
	comp=Z,70nm,16.6s						
SYO	**Syowa Base**	**25.61**	**136**	⇓P	**P**	**12 08 08.0**	**-0.9**
SYO	**Syowa Base**	**25.61**	**136**	⇓pP	pP	12 08 09.8	-2.1
USHA	**Ushuaia**	**27.93**	**256**	LR	LR	12 16 37.8	
	comp=Z,3μm,20.9s,MS4.8,baz=91,slow=30						
QSPA	**South Pole Qui**	**31.20**	**180**	⇓*i*P	**P**	**12 09 00.5**	**+1.1**
	comp=Z,17nm,1.2s,mb4.8						
MAW	**Mawson**	**34.27**	**138**	*e*P	**P**	**12 09 27.0**	**+0.8**
	comp=Z,16nm,1.1s,mb4.9						
MAW	**Mawson**	**34.27**	**138**	P	**P**	**12 09 26.8**	**+0.6**
	comp=Z,17nm,1.0s,mb5.0,baz=247,slow=8.3,SNR=24						
MAW				LR	LR	12 21 13.8	
	comp=Z,726nm,21.4s,MS4.4,baz=246,slow=32						
TRQA	**Tornquist**	**35.63**	**286**	*e*P	**P**	**12 09 38.2**	**+0.1**
	comp=Z,42nm,1.3s,mb5.2						
SUR	**Sutherland**	**36.58**	**60**	*e*P	**P**	**12 09 45.3**	**-0.9**
	comp=Z,11nm,0.6s,mb4.9						
PLCA	**Paso Flores**	**37.97**	**274**	P	**P**	**12 09 57.0**	**-0.8**
PLCA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PLCA				MLR	MLR		
	comp=Z,669nm,18.9s						
PLCA	**Paso Flores**	**37.97**	**274**	P	**P**	**12 09 57.0**	**-0.8**
	comp=Z,5.8nm,0.9s,mb4.3,baz=134,slow=7.9,SNR=10						
PLCA				LR	LR	12 25 05.5	
	comp=Z,669nm,18.9s,MS4.5,baz=132,slow=36						
PLCA	**Paso Flores**	**37.97**	**274**	*e*P	**P**	**12 09 56.7**	**-1.1**
	comp=Z,16nm,1.3s,mb4.6						
BOSA	**Boshof**	**41.78**	**62**	P	**P**	**12 10 30.6**	**+1.2**
BOSA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
BOSA	**Boshof**	**41.78**	**62**	P	**P**	**12 10 30.6**	**+1.2**
	comp=Z,5.1nm,0.9s,mb4.2,baz=257,slow=8.8,SNR=4.7						
CPUP	**Villa Florida**	**43.12**	**301**	LR	LR	12 25 35.3	
	comp=Z,386nm,21.0s,MS4.3,baz=158,slow=32						
CPUP	**Villa Florida**	**43.12**	**301**	*e*P	**P**	**12 10 39.9**	**-0.5**
	comp=Z,27nm,1.4s,mb4.8						
SBA	**Scott Base**	**43.35**	**181**	*e*P	**P**	**12 10 43.6**	**+2.0**
FCH	**Farellones**	**43.51**	**282**	⇑*i*P	**P**	**12 10 43.8**	**+0.3**
VNDA	**Vanda**	**43.70**	**180**	P	**P**	**12 10 46.7**	**+2.3**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNDA				MLR	MLR		
	comp=Z,394nm,21.0s						
VNDA	**Vanda**	**43.70**	**180**	P	**P**	**12 10 46.6**	**+2.2**
	comp=Z,2.0nm,0.8s,mb3.9,baz=197,slow=7.4,SNR=7.4						
VNDA				LR	LR	12 27 48.8	
	comp=Z,394nm,21.0s,MS4.3,baz=185,slow=34						
VNDA	**Vanda**	**43.70**	**180**	*e*P	**P**	**12 10 44.4**	**0.0**
	comp=Z,9.3nm,1.3s,mb4.3						
CFAA	**Coronel Fontan**	**43.87**	**285**	P	**P**	**12 10 45.8**	**-0.6**
	comp=Z,2.6nm,0.9s,mb4.0,baz=141,slow=9.2,SNR=26						
LBTB	**Lobatse**	**45.03**	**60**	P	**P**	**12 10 56.5**	**+0.6**
LBTB				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
LBTB	**Lobatse**	**45.03**	**60**	P	**P**	**12 10 56.5**	**+0.7**
	comp=Z,8.9nm,0.9s,mb4.6,baz=219,slow=7.5,SNR=8.6						
LBTB	**Lobatse**	**45.03**	**60**	*e*P	**P**	**12 10 56.0**	**+0.1**
	comp=Z,13nm,1.0s,mb4.7						
CASY	**Casey**	**48.99**	**155**	*e*P	**P**	**12 11 27.7**	**+1.3**
BDFB	**Brasilia**	**49.08**	**319**	P	**P**	**12 11 28.5**	**+0.8**
	comp=Z,4.8nm,0.8s,mb4.6,baz=161,slow=7.0,SNR=4.7						
BDFB				LR	LR	12 29 13.6	
	comp=Z,2μm,18.7s,MS5.0,baz=162,slow=32						
MATP	**Matopo**	**50.32**	**60**	P	**P**	**12 11 37.9**	**+0.6**
	comp=Z,5.3nm,0.8s,mb4.6,baz=205,slow=7.6,SNR=7.2						
MATP				LR	LR	12 29 39.0	
	comp=Z,380nm,18.3s,MS4.4,baz=198,slow=32						
LVC	**Limon Verde**	**51.67**	**291**	P	**P**	**12 11 48.4**	**+1.0**
	comp=Z,24nm,0.9s,mb5.1,baz=144,slow=11,SNR=15						
LVC				LR	LR	12 31 04.4	
	comp=Z,378nm,19.8s,MS4.4,baz=159,slow=33						
LVC	**Limon Verde**	**51.67**	**291**	*e*P	**P**	**12 11 48.1**	**+0.6**
	comp=Z,29nm,1.0s,mb5.2						
SIV	**San Ignacio**	**53.84**	**304**	P	**P**	**12 12 02.9**	**-0.7**
	comp=Z,6.8nm,1.0s,mb4.5,baz=161,slow=7.5,SNR=20						
LSZ	**Lusaka**	**54.73**	**57**	*e*P	**P**	**12 12 08.8**	**-1.4**
	comp=Z,18nm,1.4s,mb4.9						
LPAZ	**La Paz**	**56.74**	**296**	P	**P**	**12 12 25.3**	**+0.5**
	comp=Z,15nm,1.1s,mb4.9,baz=158,slow=6.8,SNR=31						
LPAZ				LR	LR	12 36 02.8	
	comp=Z,395nm,18.3s,MS4.5,baz=146,slow=35						
LPAZ	**La Paz**	**56.74**	**296**	*e*P	**P**	**12 12 25.0**	**+0.2**
	comp=Z,20nm,1.1s,mb5.1						
SAML	**Samuel**	**61.04**	**305**	*e*P	**P**	**12 12 53.2**	**-1.4**
	comp=Z,19nm,1.2s,mb5.1						
NNA	**Nana**	**64.61**	**290**	*e*P	**P**	**12 13 17.6**	**-0.6**
	comp=Z,52nm,1.3s,mb5.4						
DBIC	**Dimbokro**	**66.18**	**13**	P	**P**	**12 13 28.4**	**0.0**
DBIC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
DBIC	**Dimbokro**	**66.18**	**13**	P	**P**	**12 13 28.4**	**0.0**
	comp=Z,5.2nm,1.0s,mb4.5,baz=173,slow=7.4,SNR=3.6						
MBAR	**Mbarara**	**69.00**	**52**	*e*P	**P**	**12 13 46.4**	**+0.3**
	comp=Z,9.3nm,1.4s,mb4.5						
KMBO	**Kilima Mbogo**	**71.30**	**59**	LR	LR	12 41 29.4	
	comp=Z,298nm,21.1s,MS4.5,baz=275,slow=33						
ROSC	**El Rosal**	**78.22**	**301**	LR	LR	12 46 22.8	
	comp=Z,320nm,21.4s,MS4.6,baz=178,slow=34						
SDV	**Santo Domingo**	**80.23**	**306**	P	**P**	**12 14 51.2**	**+0.5**
	comp=Z,4.9nm,0.7s,mb4.5,baz=180,slow=3.0						
SDV	**Santo Domingo**	**80.23**	**306**	*e*P	**P**	**12 14 51.1**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.4						
RKT	**Rikitea**	**83.75**	**235**	*e*S	S	12 25 19.6	-11
	comp=Z,119nm,25.8s						
RKT				*e*SS	SS	12 30 45.9	-14
	comp=Z,132nm,28.5s						
RKT				*e*LR	LR	12 41 23.9	
	comp=Z,631nm,29.2s,baz=150						
STKA	**Stephens Creek**	**87.65**	**162**	P	**P**	**12 15 28.4**	**+0.6**
	comp=Z,4.4nm,0.8s,mb4.8,baz=135,slow=7.1,SNR=4.1						
STKA				LR	LR	12 53 12.9	
	comp=Z,314nm,20.3s,MS4.7,baz=200,slow=35						
STKA	**Stephens Creek**	**87.65**	**162**	*e*P	**P**	**12 15 28.2**	**+0.4**
TBI	**Tubuai**	**89.15**	**222**	*e*S	S	12 25 14.8	-67
	comp=Z,100nm,32.0s						
TBI				*e*SS	SS	12 32 08.4	-11
	comp=Z,112nm,32.8s						
TBI				*e*LR	LR	12 43 06.7	
	comp=Z,271nm,35.0s,baz=171						
PPT	**Papeete**	**94.51**	**225**	*e*S	S	12 26 36.8	-33
	comp=Z,52nm,23.5s						
PPT				*e*SS	SS	12 33 35.0	-1.0
	comp=Z,326nm,26.8s						
PPT				*e*LQ		12 42 28.0	
	comp=Z,140nm,25.0s						
PPT				*e*LR	LR	12 45 35.6	
	comp=Z,414nm,28.0s,baz=154						
PPT	**Papeete**	**94.51**	**225**	LR	LR	12 50 07.2	
	comp=Z,227nm,18.4s,MS4.7,baz=149,slow=30						
VIF	**Vila Franca**	**96.70**	**353**	*e*S	S	12 27 38.5	+11
	comp=Z,22nm,0.1s						
VIF	**Vila Franca**	**96.70**	**353**	*e*S	S	12 27 42.3	+15
	comp=Z,76nm,0.1s						
TAOE	**Nuku Hiva Isla**	**98.66**	**237**	*e*LQ		12 20 45.4	
	comp=Z,2μm,24.6s						
TAOE				*e*LR	LR	12 24 07.5	
	comp=Z,3μm,40.6s						
TAOE	**Nuku Hiva Isla**	**98.66**	**237**	*e*PP	PP	12 19 46.7	-36
	comp=Z,382nm,25.6s						
TAOE	**Nuku Hiva Isla**	**98.66**	**237**	*e*S	S	12 27 13.7	-31
	comp=Z,6μm,33.6s						
TAOE				*e*SS	SS	12 33 36.1	-58
	comp=Z,3μm,27.9s						
TAOE				*e*LR	LR	12 47 20.1	
	comp=Z,1μm,27.9s						
MKAR	**Makanchi Array**	**132.66**	**67**	PKP	PKPdf	12 21 55.4	-0.4
	comp=Z,0.4nm,0.9s,SNR=3.6						
WMQ	**Urumqi**	**133.14**	**74**	*e*PKP	PKPdf	12 21 54.9	-1.9
NJ2	**Nanjing**	**139.97**	**112**	*e*PKP	PKPdf	12 22 05.3	-4.4
MOY	**Mondy**	**145.03**	**74**	*e*PKIKP	PKPdf	12 22 21.4	+3.6
MOY				pmax	pmax		
	comp=Z,34nm,2.1s						
SONM	**Songino Array**	**145.38**	**83**	PKPbc	PKPbc	12 22 17.0	+1.0
	comp=Z,5.4nm,1.0s,baz=225,slow=3.5,SNR=11						
ZAK	**Zakamensk**	**145.40**	**77**	*e*PKIKP	PKPdf	12 22 20.0	+1.6
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
TLY	**Talaya**	**146.37**	**76**	*e*PKP2	PKPab	12 22 27.2	+6.0
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s						
DLBC	**Dease Lake**	**146.67**	**298**	*e*PKPdf	PKPdf	12 22 18.9	-1.5
MJAR	**Matsushiro Arr**	**152.21**	**133**	PKPbc	PKPdf	12 22 38.0	+8.3
	comp=Z,0.5nm,0.5s,baz=312,slow=39,SNR=3.4						
CN2	**Changchun**	**152.39**	**107**	*e*PKP	PKPdf	12 22 25.8	-3.9

MDJ	Mudanjiang	155.02	110	PKP	PKPdf	12 22 31.8	-1.5
ILAR	Eielson Array	156.39	305	PKP2	PKPab	12 23 02.4	+0.1
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ILAR	Eielson Array	156.39	305	PKPab	PKPab	12 23 02.4	+0.1
	comp=Z,2.1nm,1.0s,baz=97,slow=3.0,SNR=11						

IDC 21 12:17:42.4±2.6**, 1.30N**×**97.29E, mb4.0**/5**, mb1 4.1**/5**, mb1mx3.8**/19**, mbtmp4.0**/5**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx3.1**/16**, Error ellipse: s-maj=113.3km s-min=25.1km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.01	122	P	P	12 25 35.6	-1.9
	1.0nm,0.6s,baz=302,slow=9.1,SNR=10						
SONM	Songino Array	47.02	8	P	P	12 26 16.3	-1.1
	1.4nm,0.7s,baz=190,slow=8.8,SNR=7.3						
MKAR	Makanchi Array	47.17	346	P	P	12 26 17.0	-1.5
	1.3nm,0.6s,baz=159,slow=8.1,SNR=15						
MKAR				LR	LR	12 48 11.6	
	comp=Z,42nm,19.4s,baz=177,slow=39						
ZAL	Zalesovo	53.47	351	P	P	12 27 03.7	-2.9
	1.5nm,0.4s						
BVAR	Borovoye Array	56.19	341	P	P	12 27 23.3	-3.1
	1.5nm,0.7s,baz=143,slow=7.4,SNR=7.2						
PDAR	Pinedale Array	129.92	26	PKP	PKPdf	12 36 55.0	-1.4
	0.4nm,0.7s,baz=207,slow=3.3,SNR=3.4						

*BJI **21** 12:18:04.6, 2.97N×95.35E, h10km, mB4.6, mb4.7, Ms4.2, Msz4.1*
*IDC **21** 12:18:07.9±2.4, 2.75N×95.70E, h21km±5km, mb4.2/5, mb1 4.3/5, mb1mx3.8/19, mbtmp4.3/5, Error ellipse: s-maj=84.1km s-min=25.4km az=54.0*
*NEIC **21** 12:18:08.1±0.8, 2.67N×95.67E, mb4.6/9, Error ellipse: s-maj=16.2km s-min=10.7km az=207.0*
ISC 21 12:18:06.5±0.8**, 2.7N**±0.1×**95.70E**±0.09**, h23**km**, h23**km±.8km**: pP-P, n26,** σ**0.98**/29**, mb4.5**/16**, MS4.0**/2**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.56	62	ePn	Pn	12 19 30.9	+0.8
KSM	Kuching	14.65	95	P	P	12 21 41.4	+6.9
KKM	Kota Kinabalu	20.72	80	eP	P	12 22 48.4	+0.2
KMI	Kunming	23.29	16	P	P	12 23 14.8	+1.0
KMI				AP		12 23 20.0	
KMI				XP		12 23 22.3	
KMI				PP	PP	12 23 46.0	+0.9
KMI				S	S	12 27 18.3	-2.6
KMI				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.3						
KMI				LR	LR		
	comp=N,413nm,11.8s,MS4.1						
KMI				LR	LR		
	comp=E,206nm,14.3s,MS4.1						
KMI				LR	LR		
	comp=Z,445nm,13.2s,MS4.1						
KMI	Kunming	23.29	16	P	P	12 23 14.8	+1.0
	comp=Z,17nm,1.2s,mb4.3						
KMI				pP		12 23 20.0	
KMI				sP		12 23 22.3	
KMI				PP	PP	12 23 46.0	+0.9
KMI				S	S	12 27 18.2	-2.7
KMI				SS	SS	12 27 56.1	-12
KMI				LR	LR		
	comp=Z,450nm,13.2s,MS4.1						
PKI	Pulchoki	26.61	339	eP	P	12 23 47.3	+2.0
	comp=Z,18nm,0.6s,mb4.8						
DMN	Daman	26.75	339	eP	P	12 23 48.9	+2.3
	comp=Z,19nm,0.8s,mb4.7						
GUN	Gumba	26.76	340	eP	P	12 23 47.1	+0.4
KKN	Kakani	26.86	339	eP	P	12 23 48.2	+0.6
	comp=Z,22nm,0.9s,mb4.7						
LSA	Lhasa	27.19	351	P	P	12 23 44.4	-6.2
LSA	Lhasa	27.19	351	eP	P	12 23 51.5	+0.9
	comp=Z,9.1nm,0.7s,mb4.4						
GKN	Gorkha	27.28	338	eP	P	12 23 51.2	-0.2
	comp=Z,20nm,0.7s,mb4.8						
KOLN	Koldanda	27.47	336	eP	P	12 23 54.0	+0.8
	comp=Z,23nm,0.8s,mb4.8						
HHC	Hu-ho-hao-te	40.58	19	eP	P	12 25 46.0	-0.1
HHC				AP	pP	12 25 54.0	+1.0
HHC				S	S	12 31 53.3	-0.7
HHC				XS		12 32 05.1	
HHC				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.4						
HHC				AMB	AMB		
	comp=Z,114nm,10.7s						
HHC				LR	LR		
	comp=N,120nm,17.8s,MS4.0						
HHC				LR	LR		
	comp=E,147nm,17.8s,MS4.0						
HHC				LR	LR		
	comp=Z,185nm,17.8s,MS4.0						
WRA	Warramunga Arr	44.10	122	P	P	12 26 15.1	-0.1
	comp=Z,3.8nm,1.0s,mb4.1,baz=301,slow=8.9,SNR=7.7						
MKAR	Makanchi Array	45.44	347	P	P	12 26 24.8	-0.7
	comp=Z,3.5nm,0.4s,mb4.5,baz=164,slow=8.8,SNR=36						
MKAR				pP	pP	12 26 31.8	-0.6
	comp=Z,7.0nm,0.8s,baz=164,slow=8.8,SNR=14						
MKAR	Makanchi Array	45.44	347	P	P	12 26 24.8	-0.7
MKAR				pP	pP	12 26 31.8	-0.6
SONM	Songino Array	45.89	10	P	P	12 26 28.8	-0.3
	comp=Z,2.7nm,0.7s,mb4.3,baz=192,slow=8.9,SNR=10						
SONM				pP	pP	12 26 35.0	-1.0
	comp=Z,5.0nm,0.8s,baz=188,slow=8.1,SNR=12						
CN2	Changchun	48.67	29	eP	P	12 26 50.5	-0.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
KURK	Kurchatov	49.97	346	eP	P	12 26 59.8	-1.0
	comp=Z,6.6nm,0.7s,mb4.8						
KURK				epP	pP	12 27 07.2	-0.7
ZAL	Zalesovo	51.84	352	P	P	12 27 14.1	-1.0
	comp=Z,3.2nm,0.7s,mb4.4,baz=299,slow=4.9,SNR=6.3						
ZAL				pP	pP	12 27 20.5	-1.5
	comp=Z,2.5nm,0.5s,baz=304,slow=7.3,SNR=3.2						
ZAL	Zalesovo	51.84	352	P	P	12 27 14.1	-1.0
ZAL				pP	pP	12 27 20.5	-1.5
BVAR	Borovoye Array	54.35	341	P	P	12 27 32.5	-1.1
	comp=Z,3.1nm,0.7s,mb4.3,baz=142,slow=7.7,SNR=14						
BVAR				pP	pP	12 27 38.9	-1.7
	comp=Z,4.5nm,0.8s,baz=141,slow=9.5,SNR=9.8						
BVAR	Borovoye Array	54.35	341	P	P	12 27 32.5	-1.1
BVAR				pP	pP	12 27 38.9	-1.7
ZRNK	Zerenda	54.73	341	eP	P	12 27 35.0	-1.5
	comp=Z,4.8nm,0.9s,mb4.5						
ZRNK				epP	pP	12 27 42.0	-1.4
LBTB	Lobatse	73.22	243	P	P	12 29 38.0	-0.2
LBTB				epP	pP	12 29 45.5	0.0

*IDC **21** 12:45:17.1±2.7, 22.87N×92.01E, mb3.7/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=99.9km s-min=29.5km az=67.0*
*NEIC **21** 12:45:19.4±1.2, 23.06N×92.24E, h10km, mb4.2/4, Error ellipse: s-maj=25.7km s-min=17.5km az=41.0*
*BJI **21** 12:45:24.3, 23.23N×92.65E, h10km, mB4.6, mb4.1, ML3.7*
ISC 21 12:45:17.5±0.8**, 23.02N**±0.06×**91.90E**±0.06**, h10**km**, n19,** σ**1.70**/22**, mb3.7**/5**, 1D, India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGT	Agartala	1.05	325	⇓iS	Sb	12 45 51.0	+0.2
AGT				i		12 46 17.0	
SHL	Shillong	2.54	360	eP	Pn	12 46 00.5	+1.1
SHL				eS	Sn	12 46 29.5	-1.2
IMP	Imphal	2.56	46	eP	Pn	12 46 01.0	+1.3
IMP				e		12 46 16.0	
CAL	Calcutta	3.33	262	eS	Sn	12 46 50.2	-0.6
CAL				e		12 47 26.2	
GTK	Gangtok	5.23	326	ePB	Pb	12 46 45.0	-3.7
LSA	Lhasa	6.69	354	P	Pn	12 47 01.4	+3.2
LSA				S	Sn	12 48 13.3	-2.0
LSA				Smax			
	comp=N,30nm,1.0s						
LSA				Smax			
	comp=E,50nm,1.0s						
LSA	Lhasa	6.69	354	ePn	Pn	12 46 57.0	-1.3
	comp=E,10nm,0.4s						
LSA				eSn	Sn	12 48 12.2	-3.0
LGTI	Lohaghat	12.26	304	eP	P	12 48 17.0	+1.8
DDI	Dehra Dun	14.35	303	e	P	12 48 41.5	-1.3
DDI				e		12 51 14.5	
LZH	Lanzhou	16.64	36	eP	P	12 49 14.3	+1.9
LZH				AP		12 49 22.5	
LZH				AMB	AMB		
	comp=Z,20nm,1.2s						
LZH	Lanzhou	16.64	36	eP	P	12 49 14.3	+1.9
	comp=Z,20nm,1.2s						
LZH				pP		12 49 22.5	
LZH				sP		12 49 29.0	
ENH	Enshi	17.29	62	eP	P	12 49 17.2	-3.4
	comp=Z,15nm,0.8s						
AAK	Ala-Archa	24.34	328	eP	P	12 50 37.8	+1.4
	comp=Z,6.3nm,1.3s,mb3.9						
MKAR	Makanchi Array	24.96	344	P	P	12 50 43.7	+1.3
	comp=Z,0.9nm,0.6s,mb3.5,baz=160,slow=8.4,SNR=9.6						
SONM	Songino Array	27.34	22	P	P	12 51 04.8	+0.4
	comp=Z,0.6nm,0.6s,mb3.3,baz=203,slow=9.4,SNR=5.0						
KURK	Kurchatov	29.52	343	P	P	12 51 21.1	-3.1
WRA	Warramunga Arr	59.48	133	P	P	12 55 20.9	-2.4
	comp=Z,0.5nm,0.6s,mb3.7,baz=320,slow=7.7,SNR=5.5						
NWAO	Narrogin (SRO)	60.66	156	P	P	12 55 25.9	-5.3
	comp=Z,330nm,2.2s						
MORC	Moravsky Berou	62.80	315	P	P	12 55 47.6	+2.2
	comp=Z,1.6nm,0.7s,mb4.3						

WEL 21 13:48:03.7±0.1**, 41.62S**×**174.27E, h5**km**, ML3.5**/21**, 4C-5D, Error ellipse: s-maj=0.9km s-min=0.9km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.14	196	⇑P*	Pb	13 48 06.4	-1.9
CMWZ				eSG	Sg	13 48 09.6	+1.1
TUWZ	Tuamarina	0.31	307	⇓PG	Pg	13 48 09.8	-0.1
TUWZ				SG	Sg	13 48 14.8	+0.8
BSWZ	Blackbirch Sta	0.31	251	⇓PG	Pg	13 48 09.6	-0.3
BSWZ				SG	Sg	13 48 14.8	+0.7
TCW	Tory Channel	0.40	1	⇑PG	Pg	13 48 11.8	0.0
TCW				eSG	Sg	13 48 18.0	+0.7
SNZO	South Karori	0.45	47	⇑PG	Pg	13 48 13.1	+0.3
BHW	Baring Head	0.50	66	PG	Pg	13 48 14.1	+0.4
BHW				eSG	Sg	13 48 22.2	+1.8
WEL	Wellington	0.50	49	PG	Pg	13 48 14.0	+0.2
WEL				eSG	Sg	13 48 21.8	+1.3
MRW	Makara Radio	0.51	40	PG	Pg	13 48 13.8	0.0
MRW				eSG	Sg	13 48 21.4	+0.8
MSWZ	Moikau Station	0.77	75	PG	Pg	13 48 19.0	0.0
MSWZ				eSG	Sg	13 48 29.8	+0.6
NNZ	Nelson	0.78	301	⇓P*	Pb	13 48 18.2	-1.1
NNZ				eS*	Sb	13 48 28.7	-1.2
CAW	Cannon Point	0.79	50	PG	Pg	13 48 18.9	-0.5
CAW				eSG	Sg	13 48 30.1	+0.1
DUWZ	D'Urville Isla	0.85	342	PG	Pg	13 48 19.9	-0.8
KIW	Kapiti Island	0.90	33	PG	Pg	13 48 20.7	-0.9
PAWZ	Paruwai Farm	0.90	75	PG	Pg	13 48 21.7	0.0
KHZ	Kahutara	0.97	214	⇓P*	Pb	13 48 22.7	+0.1
KHZ				SG	Sg	13 48 36.5	+0.6
THZ	Tophouse	1.03	261	P*	Pb	13 48 22.8	-0.8
THZ				eSG	Sg	13 48 37.2	-0.9
MTW	Mount Morrison	1.04	64	P*	Pb	13 48 23.9	+0.2
TRWZ	Traveller	1.09	79	P*	Pb	13 48 24.3	-0.4
MRZ	Mangatainoka R	1.38	47	⇓P*	Pb	13 48 29.1	-0.4
QRZ	Quartz Range	1.53	300	PN	Pn	13 48 31.3	-0.5
QRZ				SN	Sn	13 48 52.5	+0.2
DSZ	Denniston Nort	1.85	265	PN	Pn	13 48 36.4	0.0
DSZ				eSN	Sn	13 49 01.2	+0.8
LTZ	Lake Taylor	1.89	231	⇑PN	Pn	13 48 35.8	-1.2
WAZ	Wanganui	1.94	17	ePN	Pn	13 48 38.1	+0.5
MQZ	McQueen's Vall	2.40	209	PN	Pn	13 48 40.8	-3.5

NNC 21 13:51:36.2±2.5**, 37.71N**×**71.74E, h152**km±49km**, mpv3.8, 2C-2D, Error ellipse: s-maj=26.3km s-min=21.2km az=170.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.35	22	⇓P	P	13 52 54.2	-1.0
	2.3nm,0.3s						
AAK				⇑S	S	13 53 56.2	-0.2
	6.7nm,0.6s						
KK31	Karatay Array	5.47	351	⇓P	P	13 52 56.1	-0.7
	6.4nm,0.3s,baz=164,slow=10,SNR=84						
KK31				⇑S	S	13 53 58.1	-1.2
	3.6nm,0.2s,baz=168,slow=26,SNR=3.6						
AB31	Akbulak array	14.35	327	P	P	13 54 52.3	-0.9
	0.8nm,0.3s,baz=133,slow=15,SNR=55						

ISC 21 14:49:19.0±2.1**, 40.11N**±0.06×**28.3E**±0.1**, h10**km**, n6,** σ**0.93**/10**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORLT	Orhaneli	0.46	98	PG	Pg	14 49 27.3	-1.1
DST	Dursunbey	0.56	153	ePG	Pg	14 49 32.2	+1.8
DST				eSG	Sg	14 49 37.8	-0.1
ULDT	Uludag	0.64	87	iP	Pb	14 49 31.4	-0.5
ULDT				iS	Sg	14 49 41.3	+0.8
YLV	Yalova	0.94	60	ePG	Pg	14 49 37.2	-0.6
GDZ	Gediz	1.37	138	iP	Pb	14 49 44.0	-0.3
GDZ				iS	Sb	14 50 00.1	-1.5
ESKT	Eskisehir	2.05	106	iP	Pn	14 49 54.6	+0.6
ESKT				iS	Sn	14 50 20.6	+0.8

*KRSC **21** 14:57:23.9±1.1, 55.12N×162.37E, h24km±3km, ML4.4*
*MOS **21** 14:57:24.1±1.1, 55.09N×162.30E, h35km, mb4.0/1, Error ellipse: s-maj=32.7km s-min=12.9km az=77.0*
ISC 21 14:57:23.7±0.4**, 55.11N**±0.02×**162.42E**±0.05**, h24**km**, n40,** σ**0.98**/79**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.68	216	iP	Pb	14 57 37.2	+0.3
MKZ				iS	Sb	14 57 46.1	+0.2
KBTR	Krutoberegovo	1.12	12	iP	Pn	14 57 44.4	+0.2
KBTR				iS	Sb	14 57 59.5	+0.9
ZLN	Zelenaya	1.29	315	iP	Pn	14 57 47.3	+0.8
ZLN				eS	Sn	14 58 05.2	+2.0
TUMR	Tumrok	1.31	279	iP	Pn	14 57 47.0	+0.1
TUMR				iS	Sn	14 58 03.7	0.0
CIRR	Tsirk	1.38	318	eP	Pn	14 57 48.6	+0.7
CIRR				eS	Sn	14 58 05.6	+0.1
LGNR	Loginova	1.38	316	eP	Pn	14 57 48.6	+0.7
LGNR				eS	Sn	14 58 05.5	0.0
KMNR	Kamenistaya	1.40	298	iP	Pn	14 57 48.3	+0.2
KMNR				eS	Sn	14 58 06.0	0.0
KPT	Kopyto	1.51	305	iP	Pn	14 57 50.1	+0.4
KPT				eS	Sn	14 58 09.4	+0.6
KRSR	Krestovskiy	1.53	317	iP	Pn	14 57 50.1	+0.2
KRSR				eS	Sn	14 58 09.1	-0.1
KLY	Klyuchi	1.57	321	P	Pn	14 57 49.5	-1.0
KLY				S	Sn	14 58 07.5	-2.7
KLY	Klyuchi	1.57	321	iP	Pn	14 57 49.4	-1.1
KLY				eS	Sn	14 58 07.5	-2.7
SVLR	Shiveluch	1.62	336	eP	Pn	14 57 50.5	-0.7
SVLR				eS	Sn	14 58 09.2	-2.3
KOZR	Kozyr	1.72	305	PN	Pn	14 57 53.1	+0.4
KOZR				S	Sn	14 58 14.5	+0.4
KOZ	Kozyrevsk	1.73	304	iP	Pn	14 57 53.1	+0.3
KOZ				eS	Sn	14 58 14.5	+0.2
SRDR	Sredinnyy	1.95	310	iP	Pn	14 57 56.1	+0.2
SRDR				eS	Sn	14 58 20.1	+0.2
KII	Karymskiy	2.04	239	eP	Pn	14 57 58.4	+1.2
KII				eS	Sn	14 58 22.2	+0.1
BKI	Bering	2.04	86	iP	Pn	14 57 57.8	+0.5
BKI				iS	Sn	14 58 21.3	-1.0
BKI				Smax			
	130nm,0.4s						
ESO	Esso	2.27	293	iP	Pn	14 57 59.9	-0.6
ESO				eS	Sn	14 58 26.0	-2.0
ESO				Smax			
	160nm,0.9s						
SPN	Mys Shipunski	2.46	216	P	Pn	14 58 01.6	-1.7
SPN				S	Sn	14 58 29.0	-3.9
SPN	Mys Shipunski	2.46	216	eP	Pn	14 58 02.6	-0.7
SPN				iS	Sn	14 58 29.6	-3.3
NLC	Nalytchevo	2.65	224	P	Pn	14 58 05.5	-0.5
NLC				S	Sn	14 58 35.7	-2.1
NLC	Nalytchevo	2.65	224	eP	Pn	14 58 05.5	-0.5
NLC				eS	Sn	14 58 35.6	-2.2
SDLR	Sedlovina	2.77	230	eP	Pn	14 58 08.0	+0.3
SDLR				iS	Sn	14 58 41.3	+0.6
SMAR	Somma	2.82	230	eP	Pn	14 58 08.7	+0.3
SMAR				iS	Sn	14 58 42.9	+1.0
AVH	Avacha	2.84	231	eP	Pn	14 58 09.0	+0.3
AVH				eS	Sn	14 58 41.9	-0.7
UGLR	Uglovaya	2.84	229	eP	Pn	14 58 09.3	+0.6
UGLR				eS	Sn	14 58 43.2	+0.6
KOK	Koryaka	2.87	232	eP	Pn	14 58 10.3	+1.2
KOK				iS	Sn	14 58 45.0	+1.7
GNL	Ganaly	2.97	243	iP	Pn	14 58 10.9	+0.3
GNL				eS	Sn	14 58 44.8	-1.1
PET	Petropavlovsk	3.05	228	P	Pn	14 58 11.7	+0.1
PET				S	Sn	14 58 46.6	-1.1
PET	Petropavlovsk	3.05	228	ePN	Pn	14 58 12.4	+0.8
PET				eS	Sn	14 58 47.3	-0.4
PET				pmax	pmax		
	comp=Z,89nm,0.4s						
PET				smax			
	comp=E,262nm,0.4s						
PET				smax			
	comp=N,204nm,0.4s						
PET				MLR	MLR		
	comp=Z,100nm,19.0s						
PET	Petropavlovsk	3.05	228	eP	Pn	14 58 11.9	+0.3
PET				iS	Sn	14 58 47.3	-0.4
RUS	Russkaya	3.54	222	P	Pn	14 58 17.9	-0.8
RUS				S	Sn	14 58 57.4	-2.9
RUS	Russkaya	3.54	222	eP	Pn	14 58 17.8	-0.9
RUS				eS	Sn	14 58 57.3	-3.0
GRL	Gorelyy	3.63	227	eP	Pn	14 58 21.0	+1.1
GRL				eS	Sn	14 59 02.4	-0.1
APC	Apacha	3.80	237	eP	Pn	14 58 22.5	+0.3
APC				eS	Sn	14 59 05.0	-1.7
APC				Smax			
	comp=Z,50nm,1.2s						
OSSR	Ossora	4.17	5	eP	Pn	14 58 27.0	-0.5
OSSR				eS	Sn	14 59 12.9	-3.2
MIPR	Malaya Ipel'ka	4.40	232	eP	Pn	14 58 32.8	+2.0
MIPR				eS	Sn	14 59 22.5	+0.5
PAU	Pauzhetka	4.96	225	eP	Pn	14 58 38.2	-0.6
PAU				eS	Sn	14 59 32.5	-3.6
SKR	Severo-Kuril's	5.85	223	eS	Sn	14 59 53.0	-5.3
KAMR	Kamenskoye	7.63	13	eP	Pn	14 59 16.6	+0.3
KAMR				eS	Sn	15 00 38.6	-4.2

*MOS **21** 15:38:10.4±1.0, 83.87N×110.95E, h10km, mb4.4/9, Error ellipse: s-maj=82.7km s-min=12.5km az=89.9*
*IDC **21** 15:38:11.3±1.0, 83.82N×111.35E, mb3.8/12, mb1 4.0/12, mb1mx3.9/22, mbtmp3.8/12, MS3.2/12, Ms1 3.2/12, ms1mx2.9/38, Error ellipse: s-maj=22.7km s-min=20.1km az=154.0*
*NEIC **21** 15:38:12.7±0.4, 83.83N×111.09E, h10km, mb4.3/12, Error ellipse: s-maj=8.8km s-min=7.2km az=153.0*
*BJI **21** 15:38:12.6, 83.80N×111.10E, h10km, mB4.9, mb4.4, Ms4.5, Msz4.4*
ISC 21 15:38:10.9±0.4**, 83.83N**±0.06×**110.8E**±0.5**, h10**km**, n48,** σ**1.09**/43**, mb4.0**/23**, MS3.1**/12**, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	Kingsbay	13.55	305	eP	P	15 41 22.9	-2.2
BILL	Bilibino	19.23	110	P	P	15 42 38.0	+0.6
KEV	Kevo	20.60	280	eP	P	15 42 51.1	-1.2
KEV				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KEV	Kevo	20.60	280	eP	P	15 42 51.1	-1.2
	comp=Z,7.2nm,0.7s						
ARCES	ARCESS Array B	20.97	282	P	P	15 42 55.9	-0.2
	comp=Z,2.4nm,0.5s,baz=21,slow=10,SNR=11						
ARCES				LR	LR	15 50 53.1	
	comp=Z,26nm,19.5s,MS2.6,baz=349,slow=36						
ARE0	ARCESS Array S	20.97	282	P	P	15 42 55.0	-1.1
YAK	Yakutsk	22.34	156	eP	P	15 43 08.0	-1.9
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
YAK	Yakutsk	22.34	156	eP	P	15 43 08.0	-1.9
	comp=Z,8.6nm,0.8s,mb4.2						
SUMG	Summit	23.08	337	eP	P	15 43 19.5	+2.6
INK	Inuvik	25.12	52	eP	P	15 43 40.3	+3.7
	comp=Z,13nm,1.1s,mb4.4						
ILAR	Eielson Array	27.34	66	P	P	15 43 57.2	0.0
	comp=Z,1.0nm,1.0s,mb3.3,baz=339,slow=9.9,SNR=4.5						
ILAR				LR	LR	15 53 48.7	
	comp=Z,29nm,21.8s,MS2.8,baz=184,slow=34						
KAF	Kangasniemi	28.08	276	ep	P	15 44 03.9	-0.1
	comp=Z,2.6nm,0.6s,mb4.0						
KAF	Kangasniemi	28.08	276	eP	P	15 44 03.9	-0.1
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
FINES	FINESS Array B	28.76	276	P	P	15 44 10.3	+0.3
	comp=Z,3.7nm,0.8s,mb4.2,baz=45,slow=5.4,SNR=9.4						
FINES				LR	LR	15 57 51.1	
	comp=Z,32nm,19.5s,MS2.9,baz=120,slow=41						
ARU	Arti	30.30	241	eP	P	15 44 23.7	-0.2
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
ARU	Arti	30.30	241	eP	P	15 44 23.7	-0.2
	comp=Z,5.5nm,0.9s,mb4.3						
NOA	NORSAR Array B	30.72	290	P	P	15 44 27.7	+0.1
	comp=Z,1.3nm,0.8s,mb3.8,baz=9.2,slow=8.8,SNR=3.4						
NOA				LR	LR	15 59 30.7	
	comp=Z,14nm,18.4s,MS2.6,baz=90,slow=42						
ZAL	Zalesovo	30.77	210	P	P	15 44 27.6	-0.4
	comp=Z,0.7nm,0.5s,mb3.8,baz=88,slow=6.4,SNR=4.6						
ZAL				LR	LR	15 58 17.9	
	comp=Z,93nm,18.1s,MS3.5,baz=80,slow=39						
HFS	Hagfors	31.35	287	P	P	15 44 33.3	+0.1
	comp=Z,2.3nm,0.8s,mb4.0,baz=72,slow=4.6,SNR=4.1						
BRVK	Borovoye	32.62	227	P	P	15 44 44.2	-0.1
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BRVK	Borovoye	32.62	227	P	P	15 44 44.2	-0.1
	comp=Z,1.2nm,0.7s,mb3.9						
BVAR	Borovoye Array	32.65	227	P	P	15 44 45.4	+0.9
	comp=Z,0.4nm,0.4s,mb3.7,baz=346,slow=6.1,SNR=4.0						
ZRNK	Zerenda	32.83	228	eP	P	15 44 46.4	+0.3
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
ZRNK	Zerenda	32.83	228	eP	P	15 44 46.4	+0.3
	comp=Z,2.2nm,0.7s,mb4.2						
SONM	Songino Array	36.17	185	P	P	15 45 14.9	0.0
	comp=Z,1.1nm,1.0s,mb3.7,baz=352,slow=8.7,SNR=5.9						
MKAR	Makanchi Array	38.04	212	P	P	15 45 30.3	-0.2
	comp=Z,1.7nm,0.8s,mb3.8,baz=7.1,slow=7.4,SNR=16						
MKAR				LR	LR	16 02 29.5	
	comp=Z,50nm,18.4s,MS3.4,baz=152,slow=38						
YSS	Yuzh-Sakhalins	38.09	144	eP	P	15 45 31.4	+0.4
MDJ	Mudanjiang	39.74	159	P	P	15 45 44.0	-0.8
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,73nm,5.9s						
WMQ	Urumqi	40.72	206	eP	P	15 45 54.3	+1.4
KWP	Kalwaria	40.74	275	eP	P	15 45 54.1	+1.1
KWP				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
KWP	Kalwaria	40.74	275	eP	P	15 45 54.1	+1.1
	comp=Z,8.4nm,0.9s,mb4.4						
GERES	GERESS Array B	42.48	284	P	P	15 46 07.6	+0.5
	comp=Z,0.5nm,0.3s,mb3.6,baz=7.1,slow=7.9,SNR=4.5						
MLR	Muntele Rosu	44.48	271	LR	LR	16 06 48.3	
	comp=Z,35nm,18.9s,MS3.3,baz=61,slow=38						
ULM	Lac du Bonnet	45.56	24	LR	LR	16 07 53.2	
	comp=Z,22nm,18.5s,MS3.1,baz=48,slow=39						
ULM	Lac du Bonnet	45.56	24	P	P	15 46 33.1	+1.2
BOZ	Bozeman (W)	49.27	39	P	P	15 47 00.6	-0.5
BOZ				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
BOZ	Bozeman (W)	49.27	39	P	P	15 47 00.6	-0.5
	comp=Z,5.3nm,1.2s,mb4.5						
BRTR	Keskin Array B	49.36	262	P	P	15 47 03.5	+1.7
	comp=Z,1.1nm,0.5s,mb4.1,slow=4.9,SNR=5.6						
IMW	Indian Meadow	51.06	38	eP	P	15 47 15.9	+1.1
	comp=Z,3.5nm,0.9s,mb4.3						
RSSD	Black Hills	51.26	32	eP	P	15 47 15.3	-1.0
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
RSSD	Black Hills	51.26	32	eP	P	15 47 15.3	-1.0
	comp=Z,3.4nm,0.9s,mb4.3						
SADO	Sadowa	51.55	9	LR	LR	16 07 04.7	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,32nm,20.8s,MS3.3,baz=171,slow=34						
PDAR	**Pinedale Array**	**52.27**	**37**	P	**P**	**15 47 23.4**	**-0.6**
	comp=Z,0.2nm,0.6s,mb3.2,baz=37,slow=4.5,SNR=2.8						
PDAR				LR	LR	16 12 05.0	
	comp=Z,27nm,19.5s,MS3.3,baz=179,slow=39						
YBH	**Yreka Blue Hor**	**52.33**	**49**	LR	LR	16 08 38.2	
	comp=Z,38nm,20.5s,MS3.4,baz=65,slow=35						
HWUT	**Hardware Ranch**	**53.30**	**39**	P	**P**	**15 47 33.4**	**+1.8**
	comp=Z,2.7nm,0.9s,mb4.2						
MSU	**Marysvale**	**56.33**	**40**	*e*P	**P**	**15 47 51.1**	**-2.6**
PV01	**Paradox Valley**	**56.95**	**37**	*e*P	**P**	**15 47 56.7**	**-1.5**
TXAR	**Lajitas Array**	**66.00**	**33**	LR	LR	16 16 53.3	
	comp=Z,29nm,19.2s,MS3.5,baz=200,slow=35						

*NEIC **21** 15:41:41.6±1.0, 39.38N×14.68E, h10km, MD3.7(PDG), Error ellipse: s-maj=15.0km s-min=8.4km az=171.0*
*ROM **21** 15:41:42.5±0.2, 39.40N×14.85E, h25km±3km, Md3.6/3, Ml3.8/10, Error ellipse: s-maj=5.3km s-min=4.3km az=14.0*
*CSEM **21** 15:41:44.0±0.1, 39.38N×14.70E, h40km, MD3.6/3, Error ellipse: s-maj=1.8km s-min=1.3km az=95.0*
ISC 21 15:41:44.6±0.4**, 39.40N**±0.02×**14.89E**±0.05**, h53**km±12km**, n68, σ0ˢ83**/94**, Tyrrhenian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
STR5	**Stromboli 5**	**0.66**	**158**	Pg	**P**	**15 41 57.7**	**-0.2**
STR5				Sg	**S**	**15 42 06.5**	**-1.4**
SLNA	**Salina**	**0.84**	**183**	*i* Pg	**P**	**15 41 59.7**	**-0.6**
MGR	**Morigerati**	**0.90**	**35**	Pg	**P**	**15 42 00.1**	**-1.0**
MGR				Sg	**S**	**15 42 14.8**	**+1.3**
	4μm,0.5s						
LLI	**Lipari**	**0.96**	**177**	Pg	**P**	**15 42 01.7**	**-0.3**
	5μm,0.7s						
VPL	**Vulcano Piano**	**1.02**	**176**	Pg	**P**	**15 42 02.9**	**0.0**
	3μm,0.8s						
SLCN	**Sala Consilina**	**1.14**	**30**	Pg	**P**	**15 42 04.1**	**-0.4**
SGO	**Sicignano**	**1.20**	**15**	Pg	**P**	**15 42 04.5**	**-0.8**
MSRU	**Castanea**	**1.24**	**157**	Pn	**P**	**15 42 05.7**	**-0.2**
	1μm,0.4s						
ISOR	**Termini**	**1.25**	**340**	Pn	**P**	**15 42 06.0**	**-0.1**
MSI	**Messina ING**	**1.30**	**156**	Pn	**P**	**15 42 06.9**	**-0.1**
	2μm,0.8s						
SCLL	**Scilla**	**1.31**	**150**	*e*Pn	**P**	**15 42 07.2**	**+0.1**
	361nm,0.5s						
GRI	**Girifalco**	**1.32**	**115**	Pn	**P**	**15 42 07.8**	**+0.6**
	3μm,0.5s						
ORI	**Oriolo Calabro**	**1.37**	**61**	*i* Pn	**P**	**15 42 08.9**	**+1.0**
MRLC	**Muro Lucano**	**1.43**	**19**	Pn	**P**	**15 42 08.6**	**-0.1**
CSSN	**Cassano Irpino**	**1.46**	**4**	Pn	**P**	**15 42 09.1**	**0.0**
	439nm,0.6s						
TIP	**Timpagrande**	**1.47**	**98**	*e*Pn	**P**	**15 42 10.0**	**+0.8**
TIP	**Timpagrande**	**1.47**	**98**	*e*Pn	**P**	**15 42 10.0**	**+0.8**
OVO	**Vesuviano**	**1.47**	**345**	Pn	**P**	**15 42 11.2**	**+1.9**
USI	**Ustica**	**1.50**	**243**	Pn	**P**	**15 42 07.4**	**-2.3**
PLLN	**Pollina**	**1.52**	**203**	Pn	**P**	**15 42 09.8**	**-0.2**
MTTG	**Motta San Giov**	**1.53**	**156**	Pn	**P**	**15 42 10.3**	**+0.2**
	318nm,0.5s						
SNAL	**S. Angelo Dei**	**1.54**	**9**	Pn	**P**	**15 42 10.4**	**+0.2**
	4μm,1.1s						
GIB	**Gibilmanna**	**1.56**	**206**	*e*Pn	**P**	**15 42 10.0**	**-0.5**
	450nm,0.8s						
CSLB	**Castelbuono**	**1.60**	**204**	Pn	**P**	**15 42 10.7**	**-0.4**
	111nm,0.3s						
SOI	**Samo**	**1.61**	**145**	Pn	**P**	**15 42 11.6**	**+0.4**
LTRZ	**Laterza**	**1.91**	**50**	*e*Pn	**P**	**15 42 16.1**	**+0.8**
	606nm,0.5s						
CDT	**Castel del Mon**	**1.98**	**32**	*e*Pn	**P**	**15 42 16.4**	**0.0**
SG1	**Sgolgore (BA)**	**1.99**	**43**	*e*Pn	**P**	**15 42 16.9**	**+0.5**
RFI	**Roccamonfina**	**2.02**	**340**	Pn	**P**	**15 42 18.8**	**+1.9**
	63nm,1.0s						
VAGA	**Valle Agricola**	**2.07**	**346**	Pn	**P**	**15 42 19.6**	**+1.9**
BSSO	**Busso**	**2.15**	**354**	Pn	**P**	**15 42 17.8**	**-1.0**
AGST	**Augusta-Monte**	**2.16**	**173**	*e*Pn	**P**	**15 42 20.2**	**+1.3**
	360nm,0.4s						
CLTB	**Caltabellotta**	**2.25**	**216**	Pn	**P**	**15 42 20.9**	**+0.8**
	51nm,0.4s						
SSY	**Sortino**	**2.25**	**176**	Pn	**P**	**15 42 20.8**	**+0.6**
	460nm,0.4s						
BAI	**Bari**	**2.28**	**41**	*e*Pn	**P**	**15 42 20.7**	**0.0**
RGNG	**Rignano Grg**	**2.33**	**13**	Pn	**P**	**15 42 22.5**	**+1.1**
CII	**Carovilli**	**2.36**	**349**	*e*Pn	**P**	**15 42 20.6**	**-1.2**
CII	**Carovilli**	**2.36**	**349**	*e*Pn	**P**	**15 42 20.6**	**-1.2**
PE1	**Pezze di Greco**	**2.40**	**53**	*e*Pn	**P**	**15 42 22.2**	**-0.1**
MS1	**Monte Sant'Ang**	**2.44**	**19**	*e*Pn	**P**	**15 42 23.4**	**+0.5**
HMDC	**Modica**	**2.44**	**182**	Pn	**P**	**15 42 23.8**	**+0.9**
	253nm,0.9s						
LCI	**Lecce**	**2.65**	**68**	Pn	**P**	**15 42 26.7**	**+0.8**
	53nm,0.4s						
AQU	**L'Aquila**	**3.16**	**340**	Pn	**P**	**15 42 36.7**	**+3.6**
HCY	**Herceg Novi**	**4.09**	**41**	*e*Pn	**P**	**15 42 46.0**	**-0.2**
HCY				*e*Sn	**S**	**15 43 33.8**	**+0.5**
HCY	**Herceg Novi**	**4.09**	**41**	*e*Pn	**P**	**15 42 46.0**	**-0.2**
HCY				*e*Sn	**S**	**15 43 33.8**	**+0.5**
ULC	**Ulcinj**	**4.19**	**51**	*e*Pn	**P**	**15 42 47.0**	**-0.5**
ULC				*e*Sn	**S**	**15 43 35.9**	**+0.2**
ULC	**Ulcinj**	**4.19**	**51**	*e*Pn	**P**	**15 42 47.0**	**-0.6**
ULC				*e*Sn	**S**	**15 43 35.9**	**+0.2**
BUM	**Brajici-Budva**	**4.20**	**45**	*e*Pn	**P**	**15 42 46.6**	**-1.1**
BUM				*e*Sn	**S**	**15 43 36.1**	**+0.1**
BUM	**Brajici-Budva**	**4.20**	**45**	*e*Pn	**P**	**15 42 46.6**	**-1.1**
BUM				*e*Sn	**S**	**15 43 36.1**	**+0.1**
TIR	**Tirane**	**4.27**	**61**	*i* Pn	**P**	**15 43 06.0**	**+17**
TIR				*i* Sn	**S**	**15 43 39.0**	**+1.2**
VSL	**Villasalto**	**4.27**	**273**	*e*Pn	**P**	**15 42 44.4**	**-4.3**
VSL				*e*Sn	**S**	**15 43 30.3**	**-7.5**
VSL	**Villasalto**	**4.27**	**273**	*e*Pn	**P**	**15 42 44.4**	**-4.3**
VSL				*e*Sn	**S**	**15 43 30.3**	**-7.5**
QSH	**Qafa e Shtames**	**4.37**	**59**	*i* Pn	**P**	**15 42 49.0**	**-1.2**
QSH				*i* Sn	**S**	**15 43 40.0**	**-0.4**
BRY	**Bratogost**	**4.45**	**37**	*e*Pn	**P**	**15 42 50.6**	**-0.7**
BRY				*e*Sn	**S**	**15 43 42.0**	**-0.4**
BRY	**Bratogost**	**4.45**	**37**	*e*Pn	**P**	**15 42 50.6**	**-0.7**
BRY				*e*Sn	**S**	**15 43 42.0**	**-0.4**
TTG	**Podgorica**	**4.49**	**46**	*e*Pn	**P**	**15 42 51.0**	**-0.8**
TTG				*e*Sn	**S**	**15 43 43.0**	**-0.2**
TTG	**Podgorica**	**4.49**	**46**	*e*Pn	**P**	**15 42 51.0**	**-0.8**
TTG				*e*Sn	**S**	**15 43 43.0**	**-0.2**
NKY	**Niksic**	**4.61**	**41**	*e*Pn	**P**	**15 42 52.3**	**-1.2**
NKY				*e*Sn	**S**	**15 43 45.9**	**-0.5**
NKY	**Niksic**	**4.61**	**41**	*e*Pn	**P**	**15 42 52.3**	**-1.2**
NKY				*e*Sn	**S**	**15 43 45.9**	**-0.4**
UPM	**Unac-Piva**	**4.86**	**37**	*e*Pn	**P**	**15 42 56.6**	**-0.4**
UPM				*e*Sn	**S**	**15 43 51.6**	**-0.9**
UPM	**Unac-Piva**	**4.86**	**37**	*e*Pn	**P**	**15 42 56.6**	**-0.4**
UPM				*e*Sn	**S**	**15 43 51.6**	**-1.0**
PVY	**Plav**	**5.00**	**49**	*e*Pn	**P**	**15 42 59.2**	**+0.3**
PVY				*e*Sn	**S**	**15 43 55.7**	**-0.4**
PVY	**Plav**	**5.00**	**49**	*e*Pn	**P**	**15 42 59.2**	**+0.3**
PVY				*e*Sn	**S**	**15 43 55.7**	**-0.4**
IVA	**Berane**	**5.13**	**46**	*e*Pn	**P**	**15 43 01.1**	**+0.4**
IVA				*e*Sn	**S**	**15 43 59.3**	**-0.1**
IVA	**Berane**	**5.13**	**46**	*e*Pn	**P**	**15 43 01.1**	**+0.3**
IVA				*e*Sn	**S**	**15 43 59.3**	**-0.1**
PLE	**Pljevlja**	**5.18**	**39**	*e*Pn	**P**	**15 43 01.4**	**-0.1**
PLE				*e*Sn	**S**	**15 43 59.8**	**-1.0**
PLE	**Pljevlja**	**5.18**	**39**	*e*Pn	**P**	**15 43 01.4**	**-0.1**
PLE				*e*Sn	**S**	**15 43 59.8**	**-1.0**
SKO	**Skopje**	**5.60**	**61**	*e*Pn	**P**	**15 43 08.5**	**+1.2**

IDC 21 15:45:26.6±1.4**, 1.57N**×**125.81E, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.7**/16**, mbtmp3.8**/4**, Error ellipse: s-maj=141.3km s-min=24.9km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
WRA	**Warramunga Arr**	**22.95**	**159**	P	P	15 50 32.8	-1.1
	2.3nm,0.6s,baz=337,slow=11,SNR=26						
WB2	**Warramunga Arr**	**22.96**	**159**	*e*P	P	15 50 33.8	-0.1
SONM	**Songino Array**	**49.06**	**343**	P	P	15 54 15.4	-2.0
	0.4nm,0.5s,baz=144,slow=8.5,SNR=3.7						
MKAR	**Makanchi Array**	**58.82**	**326**	P	P	15 55 27.3	-2.0
	0.8nm,0.4s,baz=118,slow=8.0,SNR=24						
MKAR				PcP	PcP	15 56 15.7	-2.9
	0.7nm,0.9s,baz=117,slow=5.4,SNR=3.9						
BVAR	**Borovoye Array**	**68.64**	**328**	P	P	15 56 31.6	-2.1
	0.5nm,0.5s,baz=153,slow=9.7,SNR=4.0						

WEL 21 16:04:19.3±0.2**, 38.07S**×**176.40E, h143**km±1km**, ML3.7**/15**, 7C, Error ellipse: s-maj=1.9km s-min=1.8km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
URZ	**Urewera**	**0.59**	**109**	⇑PN	P	16 04 40.2	-0.6
URZ				SN	S	16 04 56.7	-0.7
MWZ	**Matawai**	**0.93**	**107**	PN	P	16 04 42.8	-0.2
MWZ				SN	S	16 05 00.5	-0.7
BKZ	**Black Stump Fm**	**1.10**	**176**	⇑PN	P	16 04 44.2	-0.3
BKZ				SN	S	16 05 03.0	-1.0
NGZ	**Ngauruhoe**	**1.27**	**209**	PN	P	16 04 46.3	0.0
CNZ	**Chateau**	**1.31**	**210**	PN	P	16 04 46.6	-0.1
WPVZ	**Whakapapa**	**1.32**	**210**	⇑PN	P	16 04 46.6	-0.1
TUVZ	**Tukino**	**1.33**	**206**	PN	P	16 04 46.8	-0.2
FWVZ	**Far West T-bar**	**1.36**	**209**	PN	P	16 04 47.0	-0.2
FWVZ				*e*SN	S	16 05 08.1	-0.5
KNZ	**Kokohu**	**1.38**	**134**	PN	P	16 04 47.3	-0.1
KNZ				SN	S	16 05 07.8	-1.3
WNVZ	**Wahianoa**	**1.41**	**206**	⇑PN	P	16 04 47.4	-0.3
MOVZ	**Moawhango**	**1.43**	**201**	PN	P	16 04 47.1	-0.9
MOVZ				*e*SN	S	16 05 08.6	-1.3
MTVZ	**Mangateitei**	**1.50**	**209**	⇑PN	P	16 04 48.3	-0.4
MTVZ				*e*SN	S	16 05 11.6	+0.3
MXZ	**Matakaoa Point**	**1.59**	**72**	PN	P	16 04 49.1	-0.5
MXZ				SN	S	16 05 11.9	-1.1
TSZ	**Takapari Road**	**2.02**	**190**	PN	P	16 04 53.1	-1.5
TSZ				SN	S	16 05 19.1	-2.5
BFZ	**Birch Farm**	**2.61**	**183**	PN	P	16 04 59.7	-2.4
MRZ	**Mangatainoka R**	**2.67**	**194**	⇑PN	P	16 05 00.0	-2.8
MRZ				SN	S	16 05 31.8	-4.3
KIW	**Kapiti Island**	**3.02**	**202**	PN	P	16 05 03.7	-3.6
KIW				SN	S	16 05 39.0	-5.1
MTW	**Mount Morrison**	**3.16**	**192**	⇑PN	P	16 05 05.5	-3.7
CAW	**Cannon Point**	**3.21**	**198**	PN	P	16 05 06.1	-3.7
PAWZ	**Paruwai Farm**	**3.39**	**192**	PN	P	16 05 08.2	-4.0
MRW	**Makara Radio**	**3.42**	**202**	PN	P	16 05 08.5	-4.1
WEL	**Wellington**	**3.45**	**201**	PN	P	16 05 08.9	-4.1
MSWZ	**Moikau Station**	**3.46**	**195**	PN	P	16 05 08.9	-4.2
SNZO	**South Karori**	**3.49**	**201**	PN	P	16 05 09.1	-4.4
SNZO				SN	S	16 05 48.6	-6.6
TCW	**Tory Channel**	**3.54**	**207**	PN	P	16 05 10.1	-4.1
TUWZ	**Tuamarina**	**3.86**	**209**	PN	P	16 05 13.8	-4.5
NNZ	**Nelson**	**3.92**	**216**	PN	P	16 05 14.8	-4.3

ISC 21 16:24:39.4±0.7**, 39.13N**±0.05×**30.36E**±0.07**, h10**km**, n7, σ1ˢ10**/11**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
ALT	**Altintas**	**0.21**	**248**	*i* PG	**Pg**	**16 24 43.8**	**-0.1**
ALT				*i* SG	**Sg**	**16 24 45.9**	**-1.0**
ESKT	**Eskisehir**	**0.54**	**45**	PG	**Pg**	**16 24 50.1**	**-0.3**
ESKT	**Eskisehir**	**0.54**	**45**	*i* P	**Pg**	**16 24 49.8**	**-0.7**
ESKT				*i* S	**Sg**	**16 24 58.4**	**+0.6**
TKTP	**Tekketepe**	**1.09**	**181**	*i* P	**Pb**	**16 24 59.2**	**-0.7**
TKTP				*i* S	**Sb**	**16 25 16.1**	**+2.0**
KIZT	**Kizilcal**	**1.22**	**102**	*e*PN	**Pn**	**16 25 01.1**	**-1.4**
ULDT	**Uludag**	**1.38**	**317**	*i* P	**Pn**	**16 25 06.6**	**+1.8**
SGKT	**Sivrigoynuk**	**1.94**	**42**	*i* P	**Pn**	**16 25 12.7**	**-0.2**
SGKT				*i* S	**Sn**	**16 25 32.0**	**-5.6**

GUC 21 16:38:48.0±0.4**, 22.39S**×**70.10W, h25**km±12km**, ML3.5, 1C, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
LVC	**Limon Verde**	**1.12**	**102**	⇑*i*P	Pn	16 39 07.8	-0.5
LVC				*i* S	Sb	16 39 23.1	+0.4
LVC				AMP		16 39 23.7	
	comp=E,2μm,0.2s						
ANCH	**Antofagasta**	**1.32**	**193**	*e*P	Pn	16 39 12.9	+1.8
ANCH				*i* S	Sn	16 39 30.1	+2.1
SPCH	**San Pedro de A**	**1.83**	**107**	*e*P	Pn	16 39 19.8	+1.4
SPCH				*i* S	Sn	16 39 43.5	+2.6
SPCH				AMP		16 39 57.5	
	comp=E,989nm,0.6s						
CPN1	**Cerro Paranal**	**2.25**	**187**	*e*P	Pn	16 39 26.2	+1.8
CPN1				AMP		16 40 09.6	
	comp=E,230nm,0.4s						

IDC 21 17:39:14.4±4.4**, 8.23S**×**114.90E, mb3.5**/3**, mb1 3.6**/3**, mb1mx3.4**/15**, mbtmp3.5**/3**, Error ellipse: s-maj=210.6km s-min=31.2km az=49.0, Bali region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
WRA	**Warramunga Arr**	**22.14**	**124**	P	P	17 44 11.9	-1.6
	0.3nm,0.5s,baz=300,slow=11,SNR=4.5						
SONM	**Songino Array**	**56.32**	**353**	P	P	17 48 57.2	-2.2
	0.4nm,0.5s,baz=175,slow=7.1,SNR=4.2						
MKAR	**Makanchi Array**	**61.99**	**335**	P	P	17 49 36.3	-2.4
	0.5nm,0.4s,baz=142,slow=7.0,SNR=6.8						

*MAN **21** 18:01:21.0, 5.66N×125.68E, h171km, mb4.6, ML3.4, MS3.3*
*IDC **21** 18:01:39.2±25.0, 4.05N×122.63E, h353km±287km, mb3.0/4, mb1 3.2/4, mb1mx2.9/19, mbtmp3.7/4, Error ellipse: s-maj=228.1km s-min=39.6km az=60.0*
ISC 21 18:01:20.2±0.7**, 5.62N**±0.09×**125.6E**±0.1**, h185**km±9km**, n15, σ1ˢ13**/20**, mb3.7**/5**, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
DMPH	**Davao City--Mi**	**1.46**	**356**	*e*P	**P**	**18 01 53.2**	**+0.7**
MATI	**Mati**	**1.46**	**26**	*e*P	**P**	**18 01 52.2**	**-0.3**
MATI				*e*S	**S**	**18 02 15.2**	**-2.3**
KCP	**Kidapawan**	**1.48**	**339**	⇓*i*P	**P**	**18 01 53.1**	**+0.3**
KCP				*i* S	**S**	**18 02 16.6**	**-1.2**
BUKP	**Musuan**	**2.31**	**346**	*e*P	**P**	**18 02 02.0**	**+0.5**
BUKP				*e*S	**S**	**18 02 32.5**	**-0.8**
BIPH	**Bislig**	**2.65**	**16**	*i* S	**S**	**18 02 41.4**	**+1.1**
PAGZ	**Pagadian**	**3.14**	**315**	*e*P	**P**	**18 02 12.0**	**+0.7**
BUTP	**Butuan**	**3.33**	**360**	*e*P	**P**	**18 02 12.9**	**-0.8**
BUTP				*e*S	**S**	**18 02 57.1**	**+2.2**
IPIL	**Ipil**	**3.72**	**306**	*e*P	**P**	**18 02 19.1**	**+0.5**
IPIL				*e*S	**S**	**18 02 58.0**	**-5.6**
BESP	**Borongan**	**5.95**	**358**	*e*P	**P**	**18 02 48.1**	**+0.8**
FITZ	**Fitzroy Crossi**	**23.57**	**180**	*e*P	**P**	**18 06 16.0**	**+0.7**
	6.9nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**26.81**	**162**	P	**P**	**18 06 44.7**	**-0.7**
	0.6nm,0.4s,mb3.5,baz=333,slow=11,SNR=22						
STKA	**Stephens Creek**	**40.28**	**159**	*e*P	**P**	**18 08 42.0**	**+1.2**
	2.3nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**40.28**	**159**	P	**P**	**18 08 42.1**	**+1.2**
	2.8nm,0.5s,mb4.1,baz=320,slow=7.2,SNR=9.4						
MKAR	**Makanchi Array**	**55.38**	**325**	P	**P**	**18 10 36.2**	**-1.1**
	0.4nm,0.4s,mb3.5,baz=120,slow=8.5,SNR=6.2						
BVAR	**Borovoye Array**	**65.14**	**327**	P	**P**	**18 11 40.5**	**-2.8**
	0.1nm,0.3s,mb3.1,baz=101,slow=7.3,SNR=2.4						

NDI 21 18:24:59.5±6.3**, 18.41N**×**83.39E, h12**km±66km**, ML3.7, Southern India**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
BWNR	**Bhubaneshwar**	**2.96**	**50**	*e*P	Pn	18 25 48.4	+1.1
BWNR				*e*S	Sn	18 26 19.7	-3.3
BWNR				AML	AML	18 26 24.5	
	comp=E,549nm,0.4s						
BWNR				AML	AML	18 26 25.0	
	comp=N,650nm,0.4s						
BLSP	**Bilaspur**	**3.89**	**343**	*e*P	Pn	18 25 58.3	-2.2
BLSP				*e*S	Sn	18 26 44.6	-1.9
BLSP				AML	AML	18 26 58.2	
	comp=N,169nm,0.2s						
BLSP				AML	AML	18 26 58.7	
	comp=E,268nm,0.2s						
AKL	**Akola**	**6.43**	**292**	*e*P	Pn	18 26 31.9	-4.5
AKL				*e*S	Sn	18 27 42.9	-7.5
AKL				AML	AML	18 28 28.5	
	comp=N,65nm,0.6s						
AKL				AML	AML	18 28 29.0	
	comp=E,44nm,0.4s						
LATR	**Latur**	**6.48**	**271**	*e*	Sn	18 27 52.0	+0.3
BHPL	**Bhopal**	**7.36**	**312**	*i* P	Pn	18 26 47.2	-2.3
BHPL				*e*S	Sn	18 28 06.3	-7.5
BHPL				AML	AML	18 28 53.0	
	comp=E,38nm,0.3s						
BHPL				AML	AML	18 28 53.8	
	comp=N,53nm,0.5s						
KAD	**Karad**	**8.83**	**264**	*e*	Sn	18 28 58.0	+7.6
POO	**Poona**	**9.05**	**272**	*e*	P	18 27 13.0	0.0
POO				*e*		18 28 55.0	
SHL	**Shillong**	**10.62**	**46**	*e*	S	18 30 03.5	+29
SONA	**Sohna**	**11.38**	**331**	*e*S	S	18 29 37.5	-16
SONA				*e*		18 30 43.0	
SONA				AML	AML	18 30 52.4	
	comp=E,30nm,0.6s						
SONA				AML	AML	18 30 52.4	
	comp=N,21nm,0.6s						
AYAN	**Aya Nagar**	**11.56**	**331**	*e*	S	18 29 59.5	+2.1
KUDL	**Kundal**	**11.58**	**328**	*e*S	S	18 29 43.2	-15
KALG	**Kalgarh**	**11.83**	**340**	*e*	P	18 27 19.6	-32
KALG				*e*		18 29 25.9	
KHET	**Khetri**	**11.88**	**326**	*e*S	S	18 29 49.0	-16
KHET				*e*		18 31 04.3	
KHET				AML	AML	18 31 08.9	
	comp=N,13nm,0.9s						
KHET				AML	AML	18 31 09.8	
	comp=E,25nm,0.6s						

*FUNV **21** 18:50:28.2, 10.66N×62.40W, h98km, MW3.4*
*NEIC **21** 18:50:29.0, 10.78N×62.41W, h18km, MD3.7(TRN), After TRN.*
*TRN **21** 18:50:29.0, 10.78N×62.41W, h18km, MD3.7*
ISC 21 18:50:26.7±0.6**, 10.63N**±0.04×**62.49W**±0.03**, h104**km±6km**, n20, σ1ˢ09**/37**, 4C-4D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
GUIV	**Guiria**	**0.26**	**87**	⇑*i*P	**P**	**18 50 41.9**	**+0.1**
GUIV				*e*S	**S**	**18 50 51.4**	**-1.7**
GUNV	**Guanoco**	**0.65**	**223**	⇓*i*P	**P**	**18 50 46.3**	**+2.1**
GUNV				*e*S	**S**	**18 50 58.2**	**+0.8**
CRUV	**Carupano**	**0.73**	**273**	⇑*i*P	**P**	**18 50 46.1**	**+1.1**
CRUV				*e*S	**S**	**18 50 59.0**	**+0.3**
ITEV	**Isla Los Testi**	**0.95**	**319**	⇑*i*P	**P**	**18 50 48.1**	**+0.8**
ITEV				*e*S	**S**	**18 51 02.2**	**-0.4**
TRN	**Trinidad (W)**	**1.07**	**89**	⇑*i*P	**P**	**18 50 48.9**	**+0.4**
TRN				*e*S	**S**	**18 51 02.0**	**-2.9**
TPP	**Pointe-a-Pierr**	**1.07**	**107**	*e*P	**P**	**18 50 49.6**	**+1.1**
TPP				*e*S	**S**	**18 51 03.4**	**-1.5**
TBH	**Brigand Hill**	**1.41**	**96**	*e*P	**P**	**18 50 53.3**	**+0.7**
TBH				*e*S	**S**	**18 51 13.8**	**+2.0**
TPR	**Prospect**	**1.77**	**72**	*e*P	**P**	**18 50 57.1**	**+0.1**
TPR				*e*S	**S**	**18 51 19.0**	**-0.6**
ORIV	**Oritupano**	**1.80**	**210**	⇓*i*P	**P**	**18 50 59.1**	**+1.7**
ORIV				*e*S	**S**	**18 51 20.6**	**+0.5**
BOT	**Bacolet**	**1.82**	**73**	*e*P	**P**	**18 50 57.5**	**-0.2**
BOT				*e*S	**S**	**18 51 19.8**	**-0.9**
PCRV	**Puerto La Cruz**	**2.16**	**258**	⇓*i*P	**P**	**18 51 03.2**	**+1.1**
PCRV				*e*S	**S**	**18 51 28.3**	**-0.2**
GURV	**El Guri**	**2.92**	**192**	⇓*i*P	**P**	**18 51 12.8**	**+0.4**
GURV				*e*S	**S**	**18 51 45.1**	**-1.7**
CUPV	**Cœpira**	**3.29**	**260**	*e*P	**P**	**18 51 18.5**	**+0.9**
CUPV				*e*S	**S**	**18 51 55.3**	**-0.7**
BIRV	**Birongo**	**3.72**	**268**	*e*P	**P**	**18 51 24.6**	**+1.2**
BIRV				*e*S	**S**	**18 52 04.7**	**-1.7**
MERV	**Las Mercedes**	**3.99**	**250**	*e*P	**P**	**18 51 26.6**	**-0.5**
MERV				*e*S	**S**	**18 52 11.6**	**-1.6**
CAOV	**Caicara del Or**	**5.01**	**229**	*e*P	**P**	**18 51 40.1**	**-0.9**
CAOV				*e*S	**S**	**18 52 33.7**	**-4.4**
PHG	**Guadaloupe-2**	**5.41**	**9**	*e*P	**P**	**18 51 47.0**	**+0.7**
LZG	**Guadaloupe-1**	**5.52**	**7**	*e*P	**P**	**18 51 47.9**	**+0.1**
BAUV	**El Baul**	**5.72**	**253**	*e*P	**P**	**18 51 49.5**	**-1.0**
BAUV				*e*S	**S**	**18 52 50.5**	**-5.0**
DEG	**La Desirade**	**5.81**	**14**	*e*P	**P**	**18 51 50.8**	**-1.0**

*MOS **21** 19:17:47.0±0.7, 7.99S×13.82W, h10km, mb5.5/19, MS4.6/19, Error ellipse: s-maj=31.3km s-min=7.1km az=64.5*
*IDC **21** 19:17:48.2±0.4, 8.15S×13.49W, mb4.5/28, mb1 4.5/29, mb1mx4.5/33, mbtmp4.4/29, ML3.7/1, MS4.8/27, Ms1 4.8/27, ms1mx4.7/30, Error ellipse: s-maj=13.9km s-min=11.2km az=146.0*
*HRVD **21** 19:17:49.6±0.2, 8.12S×13.56W, h12km, MW5.2/67, Centroid moment Tensor Solution. LP body waves: s54,c92; Mantle waves: s67,c144; Half duration: 1ˢ0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.88±.02; $M_{\theta\theta}$-0.04±.02; $M_{\phi\phi}$0.91±.02; $M_{r\theta}$-0.02±.05; $M_{\theta\phi}$0.16±.02; $M_{\phi r}$0.11±.04; Best double couple: M_0.919×10^{17} NP1:ϕ_s12°, δ42°, λ-86°. NP2:ϕ_s187°, δ48°, λ-94°. Principal axes: T .951, Plg3°, Azm279°; N -.065, Plg3°, Azm189°; P -.886, Plg86°, Azm61°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **21** 19:17:49.6±0.2, 8.13S×13.49W, h10km, mb5.3/93, MS4.8/57 Error ellipse: s-maj=5.6km s-min=3.8km az=120.0*
*BJI **21** 19:17:49.5, 8.10S×13.50W, h10km, mB6.1, Ms5.3, Msz5.1*
ISC 21 19:17:48.0±0.2**, 8.04S**±0.04×**13.55W**±0.04**, h10**km**, (h16**km±.1km**:pP-P), n358, σ1ˢ00**/295**, mb5.1**/117**, MS4.8**/77**, 16C-11D, Ascension Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
DBIC	**Dimbokro**	**16.99**	**31**	P	**P**	**19 21 48.9**	**+1.3**
	0.2nm,0.3s,baz=184,slow=10,SNR=9.2						
DBIC				LR	LR	19 26 54.6	
	comp=Z,2μm,21.6s,baz=192,slow=32						
DBIC	**Dimbokro**	**16.99**	**31**	*e*P	**P**	**19 21 46.8**	**-0.7**
	129nm,1.6s						
RCBR	**Riachuelo**	**22.30**	**274**	*e*P	**P**	**19 22 46.9**	**-0.4**
	36nm,0.9s,mb4.8						
RCBR				LR	LR		
	comp=Z,4μm,20.0s,MS4.8						
TSUM	**Tsumeb**	**32.16**	**113**	P	**P**	**19 24 16.6**	**-1.7**
	comp=Z,5.2nm,0.8s,mb4.4,baz=266,slow=6.8,SNR=4.0						
TSUM				LR	LR	19 34 38.9	
	comp=Z,3μm,20.5s,MS5.0,baz=275,slow=32						
TSUM	**Tsumeb**	**32.16**	**113**	P	**P**	**19 24 15.6**	**-2.8**
	comp=Z,18nm,1.3s,mb4.7						
TSUM				LR	LR		
	comp=Z,3μm,20.0s,MS5.0						
BAO	**Brasilia Array**	**34.51**	**254**	P	**P**	**19 24 38.0**	**-0.7**
BDFB	**Brasilia**	**34.53**	**254**	P	**P**	**19 24 39.4**	**+0.4**
	comp=Z,17nm,0.8s,mb5.0,baz=98,slow=6.2,SNR=20						
BDFB				LR	LR	19 36 06.7	
	comp=Z,3μm,20.9s,MS5.0,baz=82,slow=32						
SUR	**Sutherland**	**40.02**	**132**	P	**P**	**19 25 23.2**	**-1.8**
SUR				LR	LR		
	comp=Z,683nm,19.0s,MS4.5						
LBTB	**Lobatse**	**40.95**	**119**	P	**P**	**19 25 32.1**	**-0.5**
	comp=Z,16nm,1.2s,mb4.5,baz=302,slow=12,SNR=6.9						
LBTB				LR	LR	19 40 07.1	
	comp=Z,3μm,19.8s,MS5.1,baz=294,slow=33						
LBTB	**Lobatse**	**40.95**	**119**	*e*P	**P**	**19 25 32.2**	**-0.5**
	comp=Z,151nm,2.0s,mb5.3						
LBTB				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
LSZ	**Lusaka**	**41.45**	**104**	*e*P	**P**	**19 25 37.1**	**+0.3**
	comp=Z,59nm,1.8s,mb4.9						
LSZ				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
BOSA	**Boshof**	**41.87**	**124**	P	**P**	**19 25 38.5**	**-1.7**
	comp=Z,8.7nm,1.0s,mb4.3,baz=277,slow=5.6,SNR=5.8						
BOSA				LR	LR	19 39 53.2	
	comp=Z,2μm,20.9s,MS4.9,baz=288,slow=32						
BOSA	**Boshof**	**41.87**	**124**	*e*P	**P**	**19 25 36.7**	**-3.5**
	comp=Z,24nm,1.3s,mb4.7						
BOSA				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
MATP	**Matopo**	**42.45**	**111**	P	**P**	**19 25 44.0**	**-1.1**
	comp=Z,33nm,1.1s,mb4.9,baz=280,slow=7.0,SNR=22						
MATP				LR	LR	19 41 27.7	
	comp=Z,3μm,19.0s,MS5.1,baz=278,slow=34						
MATP	**Matopo**	**42.45**	**111**	P	**P**	**19 25 44.0**	**-1.1**
MATP				LR	LR	19 41 27.7	
MBAR	**Mbarara**	**44.74**	**83**	*i* P	**P**	**19 26 04.0**	**+0.2**
MBAR	**Mbarara**	**44.74**	**83**	*e*P	**P**	**19 26 03.2**	**-0.6**
	comp=Z,104nm,1.8s,mb5.4						
MBAR				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
EMIJ	**Mijas**	**45.12**	**10**	P	**P**	**19 26 07.0**	**+0.4**
	comp=Z,52nm,1.6s,mb5.1						
ESPR	**Espera**	**45.25**	**9**	P	**P**	**19 26 09.7**	**+2.2**
	comp=Z,15nm,1.0s,mb4.8						
CPUP	**Villa Florida**	**45.34**	**241**	LR	LR	19 43 18.3	

comp=Z,1µm,19.0s,MS4.9,baz=97,slow=34
CPUP Villa Florida 45.34 241 *e*P P **19 26 08.0 -0.4**
comp=Z,46nm,1.7s,mb5.0
CPUP LR LR
comp=Z,1µm,20.0s,MS4.9
ELOJ Sierra Loja 45.80 10 P P **19 26 13.2 +1.3**
comp=Z,1.0nm,0.4s,mb4.1
EBER Berja 45.80 12 P P **19 26 13.5 +1.6**
comp=Z,73nm,1.6s,mb5.4
EMIN Mina Concepcio 46.02 8 P P **19 26 14.9 +1.3**
comp=Z,189nm,2.6s,mb5.6
ELUQ Luque 46.18 10 P P **19 26 15.2 +0.2**
comp=Z,34nm,1.2s,mb5.2
ECAB El Cabril 46.49 9 P P **19 26 18.1 +0.7**
comp=Z,189nm,3.1s
EVO Evora 46.61 6 *e*P P **19 26 17.6 -0.7**
comp=Z,111nm,1.6s,mb5.2
EVO *e*R
comp=Z,331nm,17.8s
EQES Quesada 46.64 11 P P **19 26 18.5 0.0**
comp=Z,160nm,3.0s
EADA Adamuz 46.72 10 P P **19 26 19.4 +0.2**
comp=Z,161nm,2.4s,mb5.5
EHUE Huescar 46.75 12 P P **19 26 22.0 +2.6**
comp=Z,3.2nm,0.3s,mb4.7
EBAD Badajoz 46.95 7 P P **19 26 22.7 +1.7**
comp=Z,58nm,2.0s,mb5.2
SIV San Ignacio 47.06 256 P P **19 26 23.0 +0.9**
comp=Z,5.0nm,1.0s,mb4.4,baz=90,slow=9.8,SNR=18
EMUR La Murta 47.07 13 P P **19 26 23.3 +1.4**
comp=Z,74nm,2.4s,mb5.2
EVIA Vianos 47.56 12 P P **19 26 26.1 +0.3**
comp=Z,5.1nm,1.0s,mb4.5
ETOB Tobarra 47.77 13 P P **19 26 28.4 +1.0**
comp=Z,151nm,2.4s,mb5.6
ESLA Sonseca Array 48.29 10 *e*P P **19 26 31.6 +0.1**
ESLA LR LR
comp=Z,3µm,19.0s,MS5.3
ESDC Sonseca Array 48.29 10 P P **19 26 32.6 +1.1**
comp=Z,0.5nm,0.4s,baz=180,slow=7.4,SNR=8.1
ESDC PP PP 19 28 23.2 -0.4
comp=Z,0.2nm,0.2s,baz=181,slow=13,SNR=3.5
ESDC Sonseca Array 48.29 10 P P **19 26 32.0 +0.5**
comp=Z,12nm,1.7s,mb4.7
EIBI Ibiza 48.83 15 P P **19 26 34.6 -1.0**
comp=Z,153nm,2.0s,mb5.7
SAML Samuel 49.07 265 *e*P P **19 26 39.0 +1.2**
comp=Z,71nm,1.5s,mb5.5
SAML LR LR
comp=Z,2µm,20.0s,MS5.1
EMOS Mosqueruela 49.65 13 P P **19 26 44.0 +2.1**
comp=Z,184nm,2.7s,mb5.6
ELOB Lobios 49.91 5 P P **19 26 45.2 +1.2**
comp=Z,115nm,1.8s,mb5.6
ECAL Calabor 50.12 7 P P **19 26 46.9 +1.3**
comp=Z,185nm,2.9s,mb5.6
ERTA Horta de San J 50.40 14 P P **19 26 56.4 +8.8**
comp=Z,0.4nm,0.6s
ERUA La Rua 50.52 6 P P **19 26 49.8 +1.2**
comp=Z,5.3nm,0.5s,mb4.7
EMAZ Mazaricos 50.91 4 P P **19 26 52.3 +0.8**
comp=Z,183nm,1.8s,mb5.7
ESAC San Caprasio 50.95 13 P P **19 26 52.5 +0.7**
comp=Z,313nm,2.4s,mb5.8
EPOB Poblet 50.95 14 P P **19 26 53.1 +1.3**
comp=Z,188nm,2.0s,mb5.7
KMBO Kilima Mbogo 51.06 85 P P **19 26 54.2 +1.2**
comp=Z,2.7nm,1.1s,mb4.1,baz=243,slow=14,SNR=6.5
KMBO LR LR 19 47 23.9
comp=Z,2µm,18.2s,MS5.1,baz=275,slow=35
KMBO Kilima Mbogo 51.06 85 P P **19 26 54.2 +1.2**
KMBO LR LR 19 47 23.9
EGRA Graus 51.57 13 P P **19 26 57.4 +0.9**
comp=Z,84nm,1.5s,mb5.5
EARI Arriondas 51.65 8 P P **19 26 59.1 +2.0**
comp=Z,255nm,3.0s
ETSF Etsaut 52.05 12 *e*P P **19 26 59.7 -0.5**
comp=Z,186nm,1.9s,mb5.4
SJPF Ste Jean 52.13 11 *e*P P **19 27 00.2 -0.5**
SALF Salau 52.31 14 *e*P P **19 27 03.6 +1.5**
EPF Esparros 52.37 13 *e*P P **19 27 02.8 +0.2**
comp=Z,112nm,1.7s,mb5.2
EJON La Jonquera 52.44 15 P P **19 27 03.4 +0.3**
comp=Z,171nm,4.0s
TRQA Tornquist 52.85 228 *e*P P **19 27 05.3 -0.9**
comp=Z,59nm,1.5s,mb5.3
TRQA LR LR
comp=Z,950nm,21.0s,MS4.8
MTLF Montolieu 53.10 14 *e*P P **19 27 06.9 -1.2**
comp=Z,104nm,1.7s,mb5.2
LPAZ La Paz 53.85 256 P P **19 27 14.1 +0.3**
comp=Z,4.8nm,0.9s,mb4.4,baz=77,slow=7.1,SNR=19
LPAZ LR LR 19 47 59.5
comp=Z,738nm,20.2s,MS4.7,baz=89,slow=34
LPAZ La Paz 53.85 256 *e*P P **19 27 14.1 +0.2**
comp=Z,36nm,1.6s,mb5.1
LPAZ LR LR
comp=Z,904nm,20.0s,MS4.8
LASF Ste Croix 54.21 15 *e*P P **19 27 15.5 -0.6**
comp=Z,100nm,1.7s,mb5.2
LFF La Frestale 54.28 12 *e*P P **19 27 16.1 -0.5**
LMR La Mourre 54.28 18 *e*P P **19 27 16.0 -0.6**
comp=Z,91nm,1.5s,mb5.2
PGF Pioggiola 54.39 20 *e*P P **19 27 16.8 -0.6**
comp=Z,96nm,1.5s,mb5.2
FRF La Foret Royal 54.53 18 *e*P P **19 27 17.9 -0.6**
CAF Calviac 54.56 14 *e*P P **19 27 17.9 -0.8**
comp=Z,121nm,1.9s,mb5.3
TIP Timpagrande 54.75 29 *e*P P **19 27 19.5 -0.7**
RJF Les Rejaudoux 54.80 13 *e*P P **19 27 19.7 -0.7**
comp=Z,69nm,1.3s,mb5.2
RJF *e*R
comp=Z,1µm,22.8s
LVC Limon Verde 55.03 248 LR LR 19 50 08.1
comp=Z,884nm,19.2s,MS4.8,baz=117,slow=35
LVC Limon Verde 55.03 248 P P **19 27 17.2 -5.2**
comp=Z,10nm,1.1s,mb4.8
LVC LR LR
comp=Z,1µm,20.0s,MS4.9
SBF Sospel 55.05 18 *e*P P **19 27 21.6 -0.7**
TOUF Mont Tournerai 55.12 18 *e*P P **19 27 23.9 +1.0**
LBL Lubilhac 55.13 14 *e*P P **19 27 24.5 +1.6**
VIVF Saint-Julien-l 55.15 16 *e*P P **19 27 22.7 -0.3**
SAOF Saorge 55.20 18 *e*P P **19 27 28.9 +5.5**
ORIF Oris-en-Rattie 55.54 17 *e*P P **19 27 25.8 -0.1**
ORIF *e*R
comp=Z,1µm,18.0s
MBDF Montbardon 55.63 17 *e*P P **19 27 26.3 -0.2**
MFF Saint Martin d 55.69 11 *e*P P **19 27 26.2 -0.7**
comp=Z,124nm,1.8s,mb5.3
AQU L'Aquila 55.87 24 *e*P P **19 27 28.4 +0.2**
comp=Z,63nm,1.6s,mb5.4
AQU *e* 19 27 35.0
AGO Saint Agoulin 55.88 14 *e*P P **19 27 29.7 +1.5**
TCF Toulx Ste Croi 55.88 13 *e*P P **19 27 27.8 -0.5**
comp=Z,190nm,1.8s,mb5.5
CFAA Coronel Fontan 55.89 237 P P **19 27 27.4 -1.1**
comp=Z,0.4nm,0.4s,baz=39,slow=5.4,SNR=10
BNI Bardonecchia 55.90 17 *e*P P **19 27 29.2 +0.9**
comp=Z,28nm,1.4s,mb5.1
PLDF La Plantade 55.92 14 *e*P P **19 27 30.3 +1.8**
IDI Anoyia 56.31 38 P P **19 27 32.2 +0.6**
comp=Z,19nm,1.1s,mb5.0,baz=246,slow=6.5,SNR=5.3
LPG La Plagne 56.32 17 *e*P P **19 27 31.6 +0.1**
LPL La Plagne 56.33 17 *e*P P **19 27 31.6 +0.1**
comp=Z,84nm,1.5s,mb5.3
QUIF Quistinic 56.46 8 *e*P P **19 27 31.4 -1.0**
SMF Signal de Mont 56.60 14 *e*P P **19 27 32.5 -1.0**
comp=Z,117nm,1.9s,mb5.3
AVF Avril sur Loir 56.62 14 *e*P P **19 27 32.7 -0.9**
comp=Z,89nm,1.8s,mb5.2
ROSF Rostrenen 56.86 8 *e*P P **19 27 34.3 -1.0**
SGMF Saint Gilles 56.88 9 *e*P P **19 27 34.5 -0.9**
comp=Z,145nm,1.8s,mb5.4
SSF Saint Saulge 56.91 14 *e*P P **19 27 34.8 -0.9**
comp=Z,123nm,1.7s,mb5.3
ARE Arequipa 57.08 256 *e*P P **19 27 37.0 -0.3**
CABF La Chapelle 57.15 16 *e*P P **19 27 36.2 -1.2**
comp=Z,169nm,1.8s,mb5.5
LOR Lormes 57.19 14 *e*P P **19 27 36.5 -1.2**
LOR *e*R
comp=Z,669nm,20.0s
GRR Gorron 57.28 10 *e*P P **19 27 37.3 -1.0**
FLN La Foliniere 57.71 10 *e*P P **19 27 40.4 -0.9**
FLN *e*R
comp=Z,596nm,22.5s
LOMF Lomont 58.03 16 *e*P P **19 27 43.6 +0.1**

SJG San Juan 58.06 297 LR LR 19 48 47.9
comp=Z,608nm,19.5s,MS4.7,baz=102,slow=32
SJG San Juan 58.06 297 PFAKE 19 28 00.0 +16
SJG LR LR
comp=Z,611nm,22.0s,MS4.7
BBS Basel-Blauen 58.33 17 *e*P P **19 27 45.4 -0.2**
DAVOX Davos 58.43 19 LR LR 19 53 22.0
comp=Z,940nm,18.4s,MS4.9,baz=218,slow=36
HINF Hinteralfeld 58.47 16 *e*P P **19 27 45.1 -1.5**
HAU Haudompre 58.51 16 *e*P P **19 27 45.5 -1.3**
HAU *e*R
comp=Z,397nm,20.5s
MOF Molkenrain 58.58 16 *e*P P **19 27 46.9 -0.4**
THEF They Montfort 58.61 15 *e*P P **19 27 47.7 +0.1**
MEZF Maizieres J'vi 58.63 14 *e*P P **19 27 46.8 -0.9**
FELD Feldberg 58.84 17 *e*P P **19 27 49.0 -0.2**
DAVA Damuels 58.88 18⇑ *i*P P **19 27 49.1 -0.3**
comp=Z,21nm,1.2s,mb5.0
ECH Echery 58.91 16 *e*P P **19 27 49.3 -0.4**
LIBD Limburg 58.98 16 *e*P P **19 27 49.9 -0.2**
CDF Champ du Feu 59.13 16 *e*P P **19 27 49.5 -1.7**
WLS Welschbruch 59.15 16 *e*P P **19 27 50.8 -0.5**
SKO Skopje 59.17 30 *e*P P **19 27 51.5 -0.1**
TAYS Tayyib Ism 59.19 50 P P **19 27 52.7 +0.8**
ROBS Robic 59.20 22 *e*P P **19 27 51.3 -0.4**
SQTA Sankt Quirin 59.24 19⇓ *i*P P **19 27 51.1 -0.9**
comp=Z,23nm,1.2s,mb5.1
BDAS Al Bad' 59.31 50 P P **19 27 53.5 +0.8**
SDV Santo Domingo 59.31 285 LR LR 19 51 15.6
comp=Z,769nm,20.0s,MS4.8,baz=122,slow=34
SDV Santo Domingo 59.31 285 *e*P P **19 27 53.4 +0.6**
comp=Z,137nm,0.5s
SDV LR LR
comp=Z,688nm,21.0s,MS4.8
MOTA Moosalm 59.32 19⇑ *i*P P **19 27 51.5 -1.0**
comp=Z,14nm,1.3s,mb4.8
BFO Black Forest 59.35 17 P P **19 27 51.9 -0.8**
BFO pmax pmax
comp=Z,48nm,1.6s,mb5.3
BFO Black Forest 59.35 17 *e*P P **19 27 51.9 -0.8**
comp=Z,48nm,1.6s,mb5.3
ATD Arta Tunnel 59.36 72 LR LR 19 52 34.5
comp=Z,1µm,19.1s,MS5.0,baz=224,slow=35
LJU Ljubljana 59.41 22 *e*P P **19 27 53.7 +0.6**
WTTA Wattenberg 59.42 20⇓ *i*P P **19 27 52.0 -1.2**
comp=Z,31nm,1.5s,mb5.1
UMJS Umm Lajj 59.52 55 P P **19 27 55.1 +0.9**
JMOS Jabal al Moall 59.68 50 P P **19 27 56.4 +1.1**
OPO Ambohidratompo 59.79 107 P P **19 27 56.4 +0.3**
comp=Z,5.0nm,1.0s,mb4.5,baz=290,slow=9.8,SNR=3.9
LANF Langenberg 59.79 16 *e*P P **19 27 55.5 -0.2**
GOLS Golise 59.80 23 *e*P P **19 27 54.3 -1.5**
OBKA Obir 59.80 22⇓ *i*P P **19 27 56.1 +0.2**
comp=Z,5.0nm,0.8s,mb4.6
EIL Elat 59.82 49 *e*P P **19 27 52.4 -3.8**
comp=Z,52nm,1.4s,mb5.4
BAIF Baives 59.89 13 *e*P P **19 27 54.8 -1.6**
comp=Z,129nm,1.7s,mb5.4
PLCA Paso Flores 59.99 227 P P **19 27 56.0 -1.2**
comp=Z,2.4nm,0.8s,mb4.3,baz=43,slow=4.7,SNR=7.3
PLCA Paso Flores 59.99 227 *e*P P **19 27 55.4 -1.8**
comp=Z,22nm,1.7s,mb4.9
GIVF Givet 60.07 14 *e*P P **19 27 56.5 -1.1**
FUR Furstenfeldbru 60.10 19 P P **19 27 57.3 -0.5**
FUR pmax pmax
comp=Z,190nm,2.1s,mb5.8
FUR Furstenfeldbru 60.10 19 *e*P P **19 27 57.3 -0.5**
comp=Z,190nm,2.1s,mb5.8
DIVS Divcibare 60.11 27⇑ *i*P P **19 27 57.4 -0.6**
JMQS Jabal Moqyreh 60.12 50 P P **19 27 59.5 +1.2**
RUP Ruppelstein 60.25 15 *e*P P **19 27 58.6 -0.3**
TBKS Tabuk 60.31 51 P P **19 28 01.1 +1.5**
GOLH Golhisar 60.44 39 *i*P P **19 27 57.4 -3.0**
VTS Vitosha 60.51 31 P P **19 28 01.6 +0.9**
ABH Alteburg 60.54 16 *e*P P **19 28 00.7 -0.2**
TOD Tromm 60.63 16 *e*P P **19 28 01.4 -0.1**
ARSA Arzberg 60.79 22⇓ *i*P P **19 28 03.0 +0.4**
comp=Z,17nm,1.7s,mb4.9
MOA Molln 60.84 21⇓ *i*P P **19 28 02.2 -0.7**
comp=Z,14nm,1.6s,mb4.8
BLJS Baljurashi 60.94 62 P P **19 28 05.9 +1.9**
HGN Heimansgroeve 60.95 14 *e*P P **19 28 03.6 0.0**
comp=Z,17nm,1.7s,mb4.9
HGN *ex* x 19 28 08.9
HGN *e*S **S** **19 36 27.9 +8.0**
TNS Taunus Mts 61.09 16 P P **19 28 04.2 -0.4**
TNS pmax pmax
comp=Z,34nm,1.5s,mb5.3
TNS Taunus Mts 61.09 16 *e*P P **19 28 04.2 -0.4**
comp=Z,34nm,1.5s,mb5.3
PKSM Moragy 61.18 25⇑ *e*P P **19 28 05.4 +0.2**
TKTP Tekketepe 61.41 39 *i*P P **19 28 07.0 0.0**
GRA1 Grafenberg Arr 61.42 18 *e*P P **19 28 06.2 -0.6**
comp=Z,101nm,2.2s,mb5.6
GRA1 *ep*P pP 19 28 11.2 +1.2
GRA1 LR LR
comp=Z,500nm,18.3s,MS4.7
GRF Grafenberg Arr 61.42 18 P P **19 28 06.2 -0.6**
GRF pmax pmax
comp=Z,101nm,2.2s,mb5.6
GRF Grafenberg Arr 61.42 18 *e*P P **19 28 06.2 -0.6**
comp=Z,101nm,2.2s,mb5.6
GRF *ep*P pP 19 28 11.2 +1.2
GRF LR LR
comp=Z,500nm,18.3s,MS4.7
WET Wettzell 61.47 19 P P **19 28 06.5 -0.7**
WET pmax pmax
comp=Z,58nm,1.8s,mb5.4
WET Wettzell 61.47 19 *e*P P **19 28 06.5 -0.7**
comp=Z,58nm,1.8s,mb5.4
GEC2 GERESS Array S 61.49 20 P P **19 28 06.8 -0.5**
GEC2 pmax pmax
comp=Z,58nm,1.7s,mb5.4
GEC2 GERESS Array S 61.49 20 *e*P P **19 28 06.8 -0.5**
comp=Z,58nm,1.7s,mb5.4
GERES GERESS Array B 61.49 20 P P **19 28 06.8 -0.5**
comp=Z,1.5nm,0.9s,mb4.1,baz=225,slow=1.9,SNR=16
GERES PP PP 19 30 21.5 -3.5
comp=Z,0.9nm,0.9s,baz=186,slow=13,SNR=4.6
GERES LR LR 19 55 15.8
comp=Z,441nm,19.7s,MS4.6,baz=166,slow=36
GDZ Gediz 61.56 37 *i*P P **19 28 07.1 -0.8**
KHC Kasperske Hory 61.69 20 *e*P P **19 28 07.2 -1.5**
KHC MLR MLR
comp=Z,500nm,20.6s,MS4.7
KHC Kasperske Hory 61.69 20 *e*P P **19 28 07.2 -1.5**
KHC *ex* x 19 28 22.0
KHC AMS AMS 19 54 10.0
comp=Z,500nm,20.6s
DJNS Zahran al Janu 61.91 65 P P **19 28 12.6 +2.0**
ROSC El Rosal 61.97 280 P P **19 28 12.8 +1.8**
comp=Z,4.4nm,0.4s,mb4.9,baz=104,slow=13,SNR=15
ROSC LR LR 19 52 50.1
comp=Z,2µm,20.7s,MS5.3,baz=184,slow=34
ULDT Uludag 62.04 36 *i*P P **19 28 10.5 -0.6**
ZST Bratislava 62.17 23 *e*P P **19 28 12.2 +0.3**
ZST *e*L 19 56 28.9
NKC Novy Kostel 62.28 19 *e*P P **19 28 11.5 -1.1**
NKC AMS AMS 19 55 50.0
comp=Z,600nm,17.2s
MOX Moxa 62.38 18 *e*P P **19 28 12.6 -0.7**
MOX pmax pmax
comp=Z,60nm,1.9s,mb5.4
MOX MLR MLR
comp=Z,300nm,19.0s,MS4.5
MOX Moxa 62.38 18 *e*P P **19 28 12.6 -0.7**
comp=Z,60nm,1.9s,mb5.4
MOX LR LR
comp=Z,300nm,19.0s,MS4.5
MOX Moxa 62.38 18 *i*P P **19 28 12.6 -0.7**
comp=Z,logA/T=1.5,mb5.4
MOX L 19 56 28.0
QURS Qurayyt al Mil 62.45 48 P P **19 28 16.6 +2.6**
TATS Tathlith 62.47 63 P P **19 28 15.9 +1.6**
ASF Jabal al Asfar 62.53 47 P P **19 28 16.1 +1.5**
comp=Z,10nm,1.0s,mb4.9,baz=70,slow=1.8,SNR=22
VNA1 Neumayer--Stat 62.64 178 P P **19 28 16.8 +2.1**
VNA1 Neumayer--Stat 62.64 178 P **19 28 22.2 +7.5**
VNA1 Neumayer--Stat 62.64 178 P **19 28 27.7 +13**
VNA1 Neumayer--Stat 62.64 178 P **19 28 33.5 +19**
ESKT Eskisehir 62.66 38 *i*P P **19 28 15.5 +0.2**
PRU Pruhonice 62.75 20 *e*P P **19 28 14.7 -1.0**
PRU AMS AMS 19 55 30.0
comp=Z,500nm,19.1s
VNA2 Neumayer--Watz 62.94 178⇓ *i*P P **19 28 17.6 +0.9**

VNA2 Neumayer--Watz 62.94 178⇑ *i* P **19 28 20.2 +3.5**
VNA2 Neumayer--Watz 62.94 178⇑ *i* P **19 28 24.3 +7.6**
VNA2 Neumayer--Watz 62.94 178⇑ *i* P **19 28 29.4 +13**
VNA2 Neumayer--Watz 62.94 178⇑ *i* P **19 28 35.0 +18**
PSZ Piszkesteto 63.06 25 *e*P P **19 28 17.9 +0.2**
comp=Z,63nm,1.7s,mb5.5
PSZ Piszkesteto 63.06 25⇑ *e*P P **19 28 18.0 +0.2**
CLZ Clausthal 63.08 16 P P **19 28 17.8 -0.1**
CLZ pmax pmax
comp=Z,81nm,2.4s,mb5.4
CLZ Clausthal 63.08 16 *e*P P **19 28 17.8 -0.1**
comp=Z,81nm,2.4s,mb5.4
VYHS Vyhne 63.09 24 *i*P P **19 28 18.0 0.0**
VYHS *es*P sP 19 28 23.2 +1.0
VYHS *e* 19 28 50.9
BBSR BB Station 63.15 312 PFAKE 19 28 30.0 +11
BBSR LR LR
comp=Z,798nm,19.0s,MS4.9
VNA3 Neumayer Olymp 63.19 179 P P **19 28 18.7 +0.4**
VNA3 Neumayer Olymp 63.19 179 P **19 28 23.0 +4.7**
VNA3 Neumayer Olymp 63.19 179 P **19 28 25.2 +6.9**
VNA3 Neumayer Olymp 63.19 179 P **19 28 30.3 +12**
VNA3 Neumayer Olymp 63.19 179 P **19 28 36.6 +18**
PVCC Panska Ves 63.22 20 *e*P P **19 28 17.7 -1.1**
PVCC AMS AMS 19 54 50.0
comp=Z,300nm,20.7s
CLL Collm 63.39 18 *e*P P **19 28 19.0 -0.9**
CLL pmax pmax
comp=Z,32nm,1.7s,mb5.2
CLL MLR MLR
comp=Z,600nm,18.2s,MS4.8
CLL Collm 63.39 18 *e*P P **19 28 19.0 -0.9**
comp=Z,32nm,1.7s,mb5.2
CLL LR LR
comp=Z,600nm,18.2s,MS4.8
CLL Collm 63.39 18 P P **19 28 19.0 -0.9**
comp=Z,logA/T=1.3,mb5.2
CLL *e* 19 28 55.0
DRGR 63.40 27 P P **19 28 20.3 +0.3**
MORC Moravsky Berou 63.64 22 P P **19 28 21.7 +0.1**
MORC Moravsky Berou 63.64 22 *e*P P **19 28 21.3 -0.3**
comp=Z,56nm,1.8s,mb5.3
AFFS 'Afif 63.67 58 P P **19 28 23.5 +1.2**
DPC Dobruska-Polom 63.67 21 *e*P P **19 28 20.4 -1.4**
DPC AMS AMS 19 55 10.0
comp=Z,600nm,21.0s
UPC Upice 63.70 21 *e*P P **19 28 18.5 -3.4**
ESK Eskdalemuir 63.71 7 *e*P P **19 28 19.8 -2.1**
comp=Z,54nm,1.4s,mb5.4
ESK LR LR
comp=Z,78nm,20.0s,MS3.9
KECS Kecovo 63.75 25 *i*P P **19 28 22.5 +0.2**
KECS *es*P sP 19 28 28.9 +2.3
KECS *e* 19 28 39.7
OKC Ostrava-Krasne 63.91 22 *e*P P **19 28 22.4 -1.0**
OKC AMS AMS 19 56 20.0
comp=Z,500nm,19.3s
SNAA Sanae 63.92 176 P **19 28 28.2 +5.1**
SNAA Sanae 63.92 176 P **19 28 33.6 +11**
SNAA Sanae 63.92 176 P **19 28 39.6 +17**
SNAA Sanae 63.92 176 *i*P P **19 28 22.6 -0.5**
SNAA Sanae 63.92 176 P P **19 28 22.3 -0.8**
comp=Z,3.6nm,1.0s,mb4.4,baz=343,slow=7.3,SNR=19
SNAA Sanae 63.92 176 P P **19 28 22.2 -0.9**
SNAA P 19 28 28.2
MLR Muntele Rosu 63.97 30 LR LR 19 57 06.7
comp=Z,700nm,21.2s,MS4.8,baz=211,slow=37
MLR Muntele Rosu 63.97 30⇓ P P **19 28 24.2 +0.4**
MLR Muntele Rosu 63.97 30⇓ P P **19 28 24.2 +0.4**
SGKT Sivrigoynuk 64.04 37 *i*P P **19 28 24.4 0.0**
ANTO Ankara 64.06 38 P P **19 28 26.0 +1.5**
HILS Ha'il 64.07 54 P P **19 28 25.9 +1.1**
KSP Ksiaz 64.07 21 *e*P P **19 28 23.4 -1.0**
KSP MLR MLR
comp=Z,1µm,21.2s,MS5.0
KSP Ksiaz 64.07 21 *e*P P **19 28 24.8 +0.4**
KSP MLR MLR 19 55 03.2
comp=Z,800nm,23.1s,MS4.8
NIE Niedzica 64.42 24 *e*P P **19 28 27.1 +0.4**
CRVS Cervenica-Dubn 64.48 25 *es*P sP 19 28 33.7 +2.4
CRVS *e* 19 29 01.5
BR131 Keskin Array S 64.49 39 *e*P P **19 28 27.6 +0.2**
comp=Z,4.1nm,0.8s,mb4.5
BR131 LR LR
comp=Z,245nm,19.0s,MS4.4
BRTR Keskin Array B 64.49 39 P P **19 28 27.2 -0.2**
comp=Z,7.6nm,1.1s,mb4.7,baz=198,slow=7.8,SNR=30
VRI Vrincioaia 64.62 30 P P **19 28 28.2 +0.1**
VRI Vrincioaia 64.62 30⇑ P P **19 28 26.9 -1.1**
VRI Vrincioaia 64.62 30⇑ P P **19 28 27.0 -1.1**
KOLS Kolonicke sedl 64.84 25 *e*P P **19 28 37.2 +7.7**
KOLS Kolonicke sedl 64.84 25 *e* P **19 28 37.2 +7.7**
OJC Ojcow 64.85 23 *e*P P **19 28 29.5 0.0**
CDAG Cicekdag 64.89 39 *i*P P **19 28 29.4 -0.5**
BSEG Bad Segeberg 64.94 15 P P **19 28 29.7 -0.3**
BSEG pmax pmax
comp=Z,104nm,1.9s,mb5.5
BSEG Bad Segeberg 64.94 15 *e*P P **19 28 29.7 -0.3**
BURAR Bucovina Array 65.16 28⇑ P P **19 28 32.1 +0.6**
BALT Daday 65.42 37 *i*P P **19 28 32.7 -0.6**
KWP Kalwaria 65.56 25 *e*P P **19 28 33.6 -0.5**
KWP MLR MLR 19 58 01.6
comp=Z,600nm,20.5s,MS4.8
GZT Gaziantep 65.70 43 *i*P P **19 28 35.6 +0.5**
GKP Gorka Klasztor 66.42 20 *e*P P **19 28 39.7 +0.2**
GKP LR LR
comp=Z,600nm,16.3s,MS4.9
GKP Gorka Klasztor 66.42 20 *e*P P **19 28 39.7 +0.2**
GKP MLR MLR 19 59 19.1
comp=Z,600nm,16.3s,MS4.9
KIS Kishinev 66.45 30 *e*P P **19 28 36.0 -3.8**
KIS *e* 19 31 06.0
KIS *e*S S 19 37 30.0 +1.4
KIS *e* 19 37 50.0
KIS *e* 19 38 32.0
KIS MLR MLR
comp=Z,300nm,17.0s,MS4.6
KIS MLR MLR
comp=Z,300nm,18.0s
MALT Malatya 66.79 42 P P **19 28 43.2 +1.1**
MALT Malatya 66.79 42 *e*P P **19 28 42.4 +0.3**
comp=Z,13nm,1.2s,mb4.8
MARD Mardin 67.88 44 *i*P P **19 28 48.1 -0.9**
SUW Suwalki 69.12 22 *e*P P **19 28 54.8 -1.6**
SUW MLR MLR
comp=Z,500nm,21.4s,MS4.7
SUW Suwalki 69.12 22 *e*P P **19 28 54.9 -1.6**
SUW MLR MLR 19 59 13.8
comp=Z,500nm,21.4s,MS4.7
AKASG Malin Array Be 69.20 28 P P **19 28 56.0 -0.9**
comp=Z,14nm,1.1s,mb4.8,baz=228,slow=6.9,SNR=55
NAY Al-Naaiem 69.22 55 *e*P P **19 28 58.3 +0.9**
NAY AMb AMB 19 29 00.1
comp=Z,35nm,1.3s,mb5.1
RDF Al-Radifah 69.34 55 *e*P P **19 29 00.2 +2.0**
RDF AMb AMB 19 29 01.8
comp=Z,75nm,1.2s,mb5.5
KBD Kabd 69.55 55 *e*P P **19 29 00.6 +1.1**
QRN Al-Qurain 69.58 55 *e*P P **19 29 01.0 +1.3**
QRN AMb AMB 19 29 04.4
comp=Z,60nm,1.5s,mb5.3
ANN Anapa 69.74 36 *e*P P **19 28 58.3 -2.0**
ANN *i*PPP PPP 19 33 21.8 +5.8
ANN *e*S S 19 38 06.5 -1.3
ANN *e*SS SS 19 42 43.3 +5.5
ANN pmax pmax
comp=Z,50nm,1.6s,mb5.2
SYO Syowa Base 69.90 162⇓ pP pP 19 29 01.0 -3.1
SYO Syowa Base 69.90 162⇑ sP sP 19 29 04.6 -0.6
SOC Sochi 70.43 38 *d*P P **19 29 04.4 -0.2**
SOC *e* 19 31 44.0
SOC *e*S S 19 38 13.4 -2.6
SOC *e*SS SS 19 42 46.7 -1.9
SOC pmax pmax
comp=Z,26nm,1.0s,mb5.1
SOC pmax pmax
comp=N,18nm,1.1s
SOC pmax pmax
comp=E,21nm,1.4s
SOC pmax pmax
comp=Z,149nm,2.4s,mb5.5
SOC MLR MLR
comp=Z,177nm,21.0s,MS4.3
SOC MLR MLR

comp=N,78nm,21.0s,MS4.1
SOC MLR MLR
comp=E,87nm,21.0s,MS4.1
NB2 NORSAR Subarra 71.56 12 P **P** 19 29 10.4 -0.7
comp=E,32nm,1.4s,mb5.1,baz=207,slow=6.5
NB2 NORSAR Subarra 71.56 12 P **P** 19 29 10.4 -0.7
baz=207,slow=6.5
NOA NORSAR Array B 71.56 12 P **P** 19 29 10.4 -0.7
comp=E,2.8nm,1.1s,mb4.1,baz=208,slow=4.8,SNR=3.5
NOA LR LR 20 03 23.2
comp=E,219nm,18.9s,MS4.4,baz=200,slow=38
GNI Garni 71.95 43 *i* P **P** 19 29 13.9 +0.1
GNI pmax pmax
comp=Z,79nm,1.6s
GNI MLR MLR
comp=Z,300nm,21.0s
GNI Garni 71.95 43 P **P** 19 29 14.7 +0.8
comp=Z,1.5nm,0.3s,mb4.4,baz=180,slow=6.9,SNR=17
GNI LR LR 20 01 58.7
comp=Z,276nm,21.6s,MS4.5,baz=252,slow=37
GNI Garni 71.95 43 *eP* **P** 19 29 14.8 +0.9
comp=Z,186nm,1.8s,mb5.7
GNI LR LR
comp=Z,292nm,21.0s,MS4.5
ONI Oni 72.25 41 P **P** 19 29 13.9 -1.7
KIV Kislovodsk 72.45 39 *eP* **P** 19 29 16.2 -0.5
KIV *e* 19 29 35.1
KIV *eS* S 19 38 37.8 -1.6
KIV pmax pmax
comp=Z,21nm,1.0s,mb5.0
KIV Kislovodsk 72.45 39 *eP* **P** 19 29 16.5 -0.3
comp=Z,98nm,1.8s,mb5.4
KIV LR LR
comp=Z,36nm,20.0s
TBLG Delisi 72.69 42 P **P** 19 29 19.1 +0.9
BORG Borgarnes 72.82 357 PFAKE 19 29 30.0 +12
BORG LR LR
comp=Z,65nm,20.0s,MS3.9
HRV Harvard--Oak R 72.88 319 *eP* **P** 19 29 20.1 +0.8
comp=Z,102nm,1.6s,mb5.5
DGRG David-gareji 72.98 42 P **P** 19 29 20.3 +0.4
GOF Gofitskoye 73.23 38⇑ *iP* **P** 19 29 19.9 -1.4
GOF pmax pmax
comp=Z,60nm,1.7s,mb5.2
JTS JuntasAbangare 73.38 283 PFAKE 19 29 30.0 +7.2
JTS LR LR
comp=Z,142nm,19.0s,MS4.3
DWPF Disney 74.68 302 PFAKE 19 29 40.0 +10
DWPF LR LR
comp=Z,599nm,22.0s,MS4.8
MAK Makhachkala 75.07 42 *eP* **P** 19 29 33.0 +1.0
MAK *e* 19 39 38.0
MAK pmax pmax
comp=Z,200nm,1.5s,mb5.8
OBN Obninsk 75.45 27α *iP* **P** 19 29 33.5 -0.4
OBN *e* 19 44 11.9
OBN pmax pmax
comp=Z,31nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.6
FINES FINESS Array B 75.83 18 P **P** 19 29 35.8 -0.2
comp=Z,1.5nm,0.8s,mb4.0,baz=191,slow=7.1,SNR=6.7
MOS Moscow 76.31 27 *eP* **P** 19 29 36.7 -2.1
MOS *e* 19 29 49.2
MOS *e* 19 32 24.8
MOS *eS* S 19 39 12.8 -9.3
MOS pmax pmax
comp=Z,94nm,1.7s,mb5.4
MOS MLR MLR
comp=Z,700nm,23.7s,MS4.9
KAF Kangasniemi 76.42 18 *ep* **P** 19 29 38.2 -1.0
SCHQ Schefferville 76.75 332 P **P** 19 29 42.4 +1.1
comp=Z,2.7nm,0.7s,mb4.3,baz=92,slow=7.5,SNR=4.5
SCHQ LR LR 19 59 17.7
comp=Z,310nm,18.8s,MS4.7,baz=112,slow=32
SCHQ Schefferville 76.75 332 *eP* **P** 19 29 41.9 +0.6
comp=Z,100nm,1.8s,mb5.5
SCHQ LR LR
comp=Z,558nm,19.0s,MS4.9
PAYG Puerto Ayora 76.78 271 PFAKE 19 29 50.0 +7.8
PAYG LR LR
comp=Z,1μm,20.0s,MS5.2
MAW Mawson 77.44 158 *eP* **P** 19 29 44.2 -0.6
comp=Z,7.7nm,0.9s,mb4.6
MAW Mawson 77.44 158 P **P** 19 29 44.5 -0.4
comp=Z,4.1nm,0.7s,mb4.5,baz=266,slow=4.0,SNR=11
MAW LR LR 19 55 53.3
comp=Z,528nm,21.5s,MS4.8,baz=272,slow=30
SADO Sadowa 78.81 319 LR LR 19 57 44.2
comp=Z,848nm,21.5s,MS5.0,baz=83,slow=30
JMIC Jan Mayen 78.93 2 LR LR 20 03 59.0
comp=Z,111nm,18.9s,MS4.2,baz=177,slow=35
ARCES ARCESS Array B 81.93 13 P **P** 19 30 09.7 +0.8
comp=Z,2.1nm,0.6s,mb4.3,baz=214,slow=4.4,SNR=12
ARE0 ARCESS Array S 81.93 13 P **P** 19 30 05.9 -3.0
SUMG Summit 82.06 353 *eP* **P** 19 30 11.3 +1.8
comp=Z,40nm,1.3s,mb5.2
QSPA South Pole Qui 82.08 180 *eP* **P** 19 30 10.6 +1.1
comp=Z,66nm,1.3s,mb5.4
QSPA LR LR
comp=Z,52μm,21.0s
WVT Waverly 82.20 308 *eP* **P** 19 30 11.3 +0.3
comp=Z,27nm,1.4s,mb5.0
WVT LR LR
comp=Z,652nm,21.0s,MS5.0
OXF Oxford 83.03 306 PFAKE 19 30 30.0 +15
OXF LR LR
comp=Z,363nm,20.0s,MS4.7
CCM Cathedral Cave 85.34 309 *eP* **P** 19 30 27.0 +0.1
comp=Z,95nm,1.9s,mb5.6
ARU Arti 86.93 32⇓ *iP* **P** 19 30 34.6 +0.3
ARU *e* 19 33 57.5
ARU *eS* S 19 40 58.2 -13
ARU *eSS* SS 19 46 56.9 +0.3
ARU pmax pmax
comp=Z,12nm,1.2s,mb5.0
ARU MLR MLR
comp=Z,200nm,17.0s,MS4.6
ARU MLR MLR
comp=N,50nm,21.0s,MS4.3
ARU MLR MLR
comp=E,100nm,17.0s,MS4.3
ARU Arti 86.93 32 *eP* **P** 19 30 34.4 0.0
comp=E,20nm,1.5s,mb5.1
KSU1 Kansas State U 89.67 309 P **P** 19 30 48.7 +0.8
ULM Lac du Bonnet 91.24 320 LR LR 20 05 06.4
comp=E,625nm,21.7s,MS5.0,baz=197,slow=31
ZRNK Zerenda 91.89 37 *eP* **P** 19 30 56.7 -1.0
comp=E,25nm,2.0s,mb5.2
BRVK Borovoye 92.67 37 *eP* **P** 19 31 01.7 +0.4
comp=E,26nm,2.3s,mb5.2
BVAR Borovoye Array 92.72 37 P **P** 19 31 01.7 +0.1
comp=E,1.0nm,0.8s,mb4.3,baz=252,slow=4.7,SNR=9.9
AAK Ala-Archa 93.94 48 *i* P **P** 19 31 07.9 +0.4
AAK pmax pmax
comp=Z,8.0nm,1.3s,mb5.0
AAK MLR MLR
comp=Z,100nm,21.0s,MS4.2
LTX Lajitas 93.99 299 P **P** 19 31 07.4 -0.6
comp=Z,27nm,1.7s,mb5.4
LTX LR LR
comp=Z,171nm,20.0s,MS4.5
TXAR Lajitas Array 93.99 299 P **P** 19 31 09.2 +1.2
comp=Z,0.4nm,0.8s,baz=90,slow=3.8,SNR=6.8
FRU Bishkek 94.06 47 P **P** 19 31 09.0 +1.0
SBA Scott Base 94.25 180 *eP* **P** 19 31 09.0 +0.9
comp=Z,290nm,2.7s
VNDA Vanda 94.54 179 P **P** 19 31 09.7 +0.2
comp=Z,1.5nm,1.0s,mb4.4,baz=197,slow=3.2,SNR=6.3
VNDA LR LR 20 07 27.2
comp=Z,359nm,21.6s,MS4.8,baz=182,slow=32
VNDA Vanda 94.54 179 *eP* **P** 19 31 09.7 +0.2
comp=Z,11nm,1.4s,mb5.1
VNDA LR LR
comp=Z,465nm,21.0s,MS4.9
GDL2 Guadalupe Moun 94.91 302 *eP* **P** 19 31 10.4 -1.8
PALK Pallekele 95.18 83 PFAKE 19 31 30.0 +16
PALK LR LR
comp=Z,154nm,19.0s,MS4.5
CASY Casey 95.59 160 PFAKE 19 31 30.0 +16
CASY LR LR
comp=Z,707nm,21.0s,MS5.1
RSSD Black Hills 95.88 314 PFAKE 19 31 30.0 +14
RSSD LR LR
comp=Z,850nm,21.0s,MS5.2
SDCO Great Sand Dun 96.40 307 *eP* **P** 19 31 20.4 +1.5
comp=Z,33nm,2.2s,mb5.4
SDCO LR LR
comp=Z,443nm,21.0s,MS4.9
ANMO Albuquerque 96.92 304 PFAKE 19 31 30.0 +8.7
ANMO LR LR
comp=Z,292nm,20.0s,MS4.8
BNM Barren Site 96.99 303 *eP* **P** 19 31 23.8 +2.2
BNM *e* pP 19 31 28.9 +4.1
MKAR Makanchi Array 99.80 44 LR LR 20 21 57.1
comp=Z,275nm,21.2s,MS4.7,baz=247,slow=39
PDAR Pinedale Array 99.81 312 LR LR 20 13 22.7
comp=Z,318nm,18.2s,MS4.9,baz=112,slow=33
HWUT Hardware Ranch 101.27 311 PFAKE 19 31 50.0 +9.2
HWUT LR LR
comp=Z,1μm,22.0s,MS5.3
NEW Newport 104.99 318 PFAKE 19 36 20.0
NEW LR LR
comp=Z,559nm,21.0s,MS5.1
TPH Tonopah 105.67 307 PFAKE 19 36 30.0
TPH LR LR
comp=Z,191nm,20.0s,MS4.6
ISA Isabella 106.76 305 PFAKE 19 36 30.0
ISA LR LR
comp=Z,47nm,20.0s,MS4.0
CMB Columbia Colle 108.17 307 PFAKE 19 36 30.0
CMB LR LR
comp=Z,301nm,20.0s,MS4.8
ILAR Eielson Array 114.63 340 PKKPbc 19 47 12.5
comp=Z,0.2nm,0.8s,baz=255,slow=4.6,SNR=5.2
COLA College 114.89 340 PFAKE 19 36 40.0 +8.2
COLA LR LR
comp=Z,2.0nm,19.0s
RKT Rikitea 114.91 240 *eS* 19 44 42.2
RKT comp=Z,1μm,37.8s *eSS* SS 19 54 19.6 +54
RKT comp=Z,4μm,41.0s *eLQ* 20 06 32.3
RKT comp=Z,5μm,40.5s *eLR* LR 20 12 36.6
comp=Z,319nm,24.8s,baz=164
SONM Songino Array 115.83 40 PKP PKPdf 19 36 33.0 -1.2
comp=Z,0.6nm,1.1s,baz=270,slow=2.5,SNR=3.7
SONM PP PP 19 37 33.8 -5.7
comp=Z,0.8nm,1.1s,baz=297,slow=2.8,SNR=3.7
SONM PKKPbc 19 47 09.6
comp=Z,0.3nm,0.7s,baz=90,slow=4.3,SNR=3.3
MCK McKinley 115.98 340 PFAKE 19 36 40.0 +6.0
MCK LR LR
comp=Z,149nm,19.0s,MS4.6
ULN Ulaanbaatar 116.24 40 PFAKE 19 36 50.0 +15
ULN LR LR
comp=Z,222nm,19.0s,MS4.8
KMI Kunming 117.14 66 PKP PKPdf 19 36 35.0 -2.2
KMI Kunming 117.14 66 PKP PKPdf 19 36 35.4 -1.8
KMI sPKP 19 36 40.2
KMI PP PP 19 37 50.7 +1.5
KMI PKS PKS 19 40 12.6 +2.8
KMI SKS SKS 19 43 42.2 +11
KMI SKKS 19 44 41.5
KMI PS PS 19 47 29.6 +1.1
KMI SS SS 19 53 54.4 +0.3
KMI SSS SSS 19 58 20.1 +3.7
KMI LR LR
comp=Z,240nm,32.7s,MS4.6
PMR Palmer 117.40 338 PFAKE 19 36 50.0 +13
PMR LR LR
comp=Z,291nm,19.0s,MS4.9
YAK Yakutsk 119.77 19 PFAKE 19 36 50.0 +8.7
YAK LR LR
comp=Z,147nm,20.0s,MS4.6
BILL Bilibino 120.08 0 PFAKE 19 36 50.0 +8.2
BILL LR LR
comp=Z,128nm,20.0s,MS4.6
TAOE Nuku Hiva Isla 124.21 254 *eLQ* 20 10 21.2
comp=Z,4μm,32.4s
TAOE Nuku Hiva Isla 124.21 254 *eP* PKPdf 19 36 46.1 -5.1
comp=Z,2μm,34.8s
TAOE Nuku Hiva Isla 124.21 254 *eS* SKS 19 44 24.0 +29
comp=Z,1μm,33.6s
TAOE *eLR* LR 20 16 18.4
comp=Z,1μm,21.8s
TAOE Nuku Hiva Isla 124.21 254 *eSS* SS 19 56 26.5 +61
comp=Z,7μm,32.0s
MBWA Marble Bar 125.72 123 *ePKPdf* PKPdf 19 36 51.0 -3.0
TBI Tubuai 126.80 233 *eLQ* 20 10 52.8
comp=Z,223nm,30.2s
TBI Tubuai 126.80 233 *eP* PKPdf 19 37 34.9 +39
TBI Tubuai 126.80 233 *ePP* PP 19 39 01.5 +7.4
comp=Z,98nm,37.2s
TBI Tubuai 126.80 233 *eS* SKS 19 44 45.0 +43
comp=Z,71nm,33.8s
TBI *eLR* LR 20 17 12.9
comp=Z,376nm,30.0s,baz=134
TBI Tubuai 126.80 233 *eSS* SS 19 56 09.4 +12
comp=Z,157nm,26.0s
CN2 Changchun 129.56 38 *ePKP* PKPdf 19 36 55.0 -5.8
PPT Papeete 129.66 239 *eP* PKPdf 19 37 41.4 +40
PPT Papeete 129.66 239 *ePP* PP 19 40 04.5 +51
comp=Z,31nm,25.0s
PPT Papeete 129.66 239 *eSS* SS 19 57 14.0 +41
comp=Z,284nm,25.5s
PPT *eLR* LR 20 18 53.0
comp=Z,242nm,22.2s,baz=113
KLR Kul'dur 129.69 29 *ePKIKP* PKPdf 19 36 49.0 -12
NJ2 Nanjing 129.82 55 *ePKP* PKPdf 19 36 55.5 -6.1
NJ2 PP PP 19 39 11.0 -3.0
NJ2 PKS PKS 19 40 30.0 -3.8
NJ2 PPP PPP 19 41 59.0 -2.7
NJ2 PP PP
NJ2 comp=Z,1μm,10.8s LR LR
NJ2 comp=N,900nm,29.5s LR LR
NJ2 comp=E,590nm,21.6s LR LR
NJ2 comp=Z,280nm,22.6s LR LR
MDJ Mudanjiang 131.54 35 PKP PKPdf 19 37 02.0 -2.5
MDJ LR LR
comp=N,120nm,25.3s
MDJ LR LR
comp=Z,180nm,19.9s
SSE Sheshan 132.01 55 *ePKP* PKPdf 19 37 04.0 -1.8
SSE PP PP 19 39 29.8 +1.6
SSE SS SS 19 57 04.8 +2.5
SSE LR LR
comp=N,48nm,23.8s,MS4.5
SSE LR LR
comp=E,106nm,23.9s,MS4.5
SSE LR LR
comp=Z,94nm,28.9s,MS4.3
SSE Sheshan 132.01 55 *ePKP* PKPdf 19 37 04.9 -0.9
SSE PP PP 19 39 29.8 +1.6
SSE SS SS 19 57 04.7 +2.4
SSE LR LR
comp=Z,90nm,28.9s,MS4.3
YSS Yuzh-Sakhalins 136.25 23 PFAKE 19 37 20.0 +6.9
YSS LR LR
comp=Z,210nm,22.0s,MS4.8
WRAB Tennant Creek 137.92 132 PFAKE 19 37 30.0 +13
WRAB LR LR
comp=Z,173nm,22.0s,MS4.8
CTAO Charters Tower 145.70 145 *eP* PKPbc 19 37 28.7 +0.2
CTAO LR LR
comp=Z,736nm,19.0s,MS5.5

IDC 21 19:47:01.8±1.5, 83.55N×107.95E, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.7/4, MS4.4/1, Ms1 4.4/1, ms1mx3.2/22, Error ellipse: s-maj=46.7km s-min=26.6km az=164.0, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ARCES	**ARCESS Array B**	**20.72**	**280**	P		P	P	19 51 43.2	-2.6
	2.0nm,0.6s,baz=20,slow=13,SNR=11								
ILAR	**Eielson Array**	**27.75**	**63**	P		P	P	19 52 51.4	-1.8
	0.2nm,0.4s,baz=354,slow=8.2,SNR=4.7								
FINES	**FINESS Array B**	**28.47**	**274**	P		P	P	19 52 57.9	-1.9
	0.9nm,0.7s,baz=8.1,slow=8.8,SNR=3.2								
MKAR	**Makanchi Array**	**37.63**	**209**	P		P	P	19 54 17.7	-1.8
	0.6nm,0.8s,baz=360,slow=7.3,SNR=4.9								
NEW	**Newport**	**46.70**	**41**	LR		LR	LR	20 13 07.5	
	comp=Z,500nm,21.2s,baz=128,slow=34								

*NNC **21** 20:20:57.1±2.3, 42.15N×72.16E, mpv2.8, Error ellipse: s-maj=37.5km s-min=9.2km az=7.0*

*KNET **21** 20:20:59.5±0.5, 42.02N×72.54E, h6km, 2km, ml2.5, Error ellipse: s-maj=3.7km s-min=2.8km az=154.0*

ISC 21 20:20:58.7±1.3, 42.0N±0.1×72.31E±0.06, h6km, n10, σ1§26/18, 12C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AML	**Almayashu**	**1.04**	**81**	⇑P			**Pb**	**20 21 15.9**	**-2.9**
	18nm,0.2s,SNR=22								
AML				⇑S			**Sb**	**20 21 29.6**	**-2.9**
	27nm,0.2s								
EKS2	**Erkin-Say**	**1.29**	**57**	⇓P			**Pb**	**20 21 21.3**	**-1.7**
	2.8nm,0.1s								
EKS2				⇑S			**Sb**	**20 21 37.8**	**-1.9**
	6.8nm,0.1s								
KK31	**Karatay Array**	**1.75**	**311**	⇓Pn			**Pn**	**20 21 29.0**	**-0.8**
	1.9nm,0.3s,baz=126,slow=16,SNR=64								
KK31				⇑Sn			**Sn**	**20 21 53.2**	**+0.6**
	3.6nm,0.2s,baz=140,slow=30,SNR=12								
AAK	**Ala-Archa**	**1.75**	**67**	⇓P			**Pn**	**20 21 29.6**	**-0.2**
	6.8nm,0.3s								
AAK				⇑S			**Sn**	**20 21 52.5**	**-0.2**
	11nm,0.3s								
AAK	**Ala-Archa**	**1.75**	**67**	⇑Pn			**Pn**	**20 21 29.5**	**-0.4**
	3.3nm,0.2s								
AAK				⇑Lg				20 21 54.2	
	3.8nm,0.2s								
USP	**Ospenovka**	**2.07**	**51**	⇑P			**Pn**	**20 21 34.3**	**-0.1**
	7.2nm,0.3s,SNR=7.5								
USP				⇓S			**Sn**	**20 22 02.4**	**+1.5**
	23nm,0.2s								
KBK	**Karagaybulak**	**2.08**	**70**	⇑P			**Pn**	**20 21 35.3**	**+0.8**
	4.4nm,0.2s,SNR=6.8								
KBK				⇓S			**Sn**	**20 22 02.3**	**+1.3**
	24nm,0.2s								
CHMS	**Chumysh**	**2.08**	**60**	⇓P			**Pn**	**20 21 34.7**	**+0.1**
	3.5nm,0.2s,SNR=5.7								
CHMS				⇑S			**Sn**	**20 22 01.7**	**+0.7**
	28nm,0.4s								
KZA	**Kyzart**	**2.19**	**86**	⇓P			**Pn**	**20 21 36.4**	**+0.2**
	5.9nm,0.2s,SNR=6.4								
KZA				⇑S			**Sn**	**20 22 06.1**	**+2.1**
	48nm,0.4s								
TKM2	**Tokmak 2**	**2.61**	**68**	⇑P			**Pn**	**20 21 42.9**	**+0.7**
	3.6nm,0.2s,SNR=6.8								

*IDC **21** 20:24:25.4±1.2, 42.67S×74.27W, mb4.0/9, mb1 4.2/10, mb1mx4.1/19, mbtmp4.1/10, MS3.9/7, Ms1 3.9/7, ms1mx3.6/20, Error ellipse: s-maj=33.6km s-min=21.6km az=84.0*

*NEIC **21** 20:24:35.9±2.9, 42.42S×73.92W, h76km±23km, mb4.5/8, Error ellipse: s-maj=28.1km s-min=12.4km az=75.0*

ISC 21 20:24:34.8±3.1, 42.4S±0.1×73.9W±0.2, h77km±24km, n31, σ1§08/26, mb4.1/12, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PLCA	**Paso Flores**	**3.00**	**58**	Pn		P	**P**	**20 25 21.7**	**+0.4**
	1.3nm,0.3s,baz=233,slow=12,SNR=54								
PLCA				Lg				20 26 09.9	
	6.8nm,0.3s,baz=344,slow=19,SNR=2.8								
PLCA				LR		LR	LR	20 26 44.7	
	comp=Z,1μm,19.8s,baz=230,slow=41								
TRQA	**Tornquist**	**10.08**	**69**	*eP*			**P**	**20 26 57.9**	**-0.8**
CFAA	**Coronel Fontan**	**11.67**	**25**	LR		LR	LR	20 32 17.8	
	comp=Z,58nm,18.9s,baz=196,slow=39								
LVC	**Limon Verde**	**20.16**	**13**	P			**P**	**20 29 06.0**	**+0.8**
	6.2nm,0.8s,baz=212,slow=12,SNR=4.8								
CPUP	**Villa Florida**	**21.00**	**46**	P			**P**	**20 29 14.8**	**+1.1**
	10.0nm,0.8s,mb4.2,baz=243,slow=13,SNR=21								
CPUP				LR		LR	LR	20 38 14.4	
	comp=Z,257nm,19.8s,baz=340,slow=39								
CPUP	**Villa Florida**	**21.00**	**46**	*eP*			**P**	**20 29 13.6**	**-0.2**
	9.7nm,0.7s,mb4.2								
CPUP				LR		LR	LR	20 38 14.4	
LPAZ	**La Paz**	**26.48**	**12**	P			**P**	**20 30 08.0**	**+1.4**
	1.1nm,0.7s,mb3.4,baz=205,slow=8.6,SNR=4.4								
LPAZ	**La Paz**	**26.48**	**12**	*eP*			**P**	**20 30 06.2**	**-0.4**
	8.6nm,1.3s,mb4.0								
SIV	**San Ignacio**	**28.52**	**27**	P			**P**	**20 30 24.3**	**-0.8**
	0.5nm,0.4s,mb3.5,baz=213,slow=11,SNR=4.3								
SAML	**Samuel**	**34.62**	**19**	*eP*			**P**	**20 31 17.5**	**-0.9**
	4.2nm,1.0s,mb4.2								
SAML				*e*				20 31 27.0	
BDFB	**Brasilia**	**34.70**	**48**	LR		LR	LR	20 46 60.0	
	comp=Z,479nm,18.8s,baz=219,slow=39								
VNA3	**Neumayer Olymp**	**42.29**	**154**				**P**	**20 32 22.4**	**+0.8**
VNA3	**Neumayer Olymp**	**42.29**	**154**				**P**	**20 32 31.2**	**+10**
VNA2	**Neumayer--Watz**	**42.99**	**154**				**P**	**20 32 05.0**	**+1.6**
SNAA	**Sanae**	**44.50**	**155**				**P**	**20 32 38.1**	**-1.5**
SNAA	**Sanae**	**44.50**	**155**	P			**P**	**20 32 37.3**	**-2.3**
	2.2nm,1.0s,mb3.8,baz=266,slow=6.6,SNR=9.8								
SNAA	**Sanae**	**44.50**	**155**	*eP*			**P**	**20 32 37.1**	**-2.5**
	9.2nm,1.1s,mb4.4								
RCBR	**Riachuelo**	**49.56**	**54**	*eP*			**P**	**20 33 20.4**	**+0.4**
	13nm,1.0s,mb4.8								
MAW	**Mawson**	**65.57**	**163**	LR		LR	LR	21 04 29.1	
	comp=Z,64nm,19.0s,baz=75,slow=37								
LTX	**Lajitas**	**76.46**	**334**	*eP*			**P**	**20 36 15.6**	**-2.2**
TXAR	**Lajitas Array**	**76.46**	**334**	P			**P**	**20 36 18.1**	**+0.3**
	0.5nm,0.9s,mb3.3,baz=141,slow=8.0,SNR=5.1								
BOSA	**Boshof**	**77.50**	**117**	P			**P**	**20 36 23.4**	**-0.2**
	2.2nm,0.7s,mb4.0,baz=242,slow=6.2,SNR=5.6								
TZTN	**Tazewell**	**79.05**	**352**	*eP*			**P**	**20 36 32.1**	**+0.2**
DBIC	**Dimbokro**	**79.29**	**71**	P			**P**	**20 36 34.5**	**+0.8**
	2.5nm,0.7s,mb4.2,baz=253,slow=8.0,SNR=3.7								
DBIC	**Dimbokro**	**79.29**	**71**	*eP*			**P**	**20 36 33.9**	**+0.2**
	20nm,1.2s,mb4.8								
LBTB	**Lobatse**	**80.12**	**115**	*eP*			**P**	**20 36 35.2**	**-2.8**
	8.3nm,0.9s,mb4.6								
RAO	**Raoul Island**	**80.23**	**239**	LR		LR	LR	21 02 12.2	
	comp=Z,215nm,21.3s,baz=132,slow=28								
MSU	**Marysvale**	**87.73**	**331**	*eP*			**P**	**20 37 16.1**	**+0.2**
LSZ	**Lusaka**	**88.50**	**109**	P			**P**	**20 37 21.4**	**+1.4**
	4.9nm,1.2s,mb4.4								
PDAR	**Pinedale Array**	**90.64**	**335**	P			**P**	**20 37 30.2**	**+0.7**
	0.6nm,0.8s,mb3.8,baz=127,slow=7.4,SNR=5.7								
DZM	**Mont Dzumac**	**95.11**	**234**	LR		LR	LR	21 12 15.1	
	comp=Z,181nm,20.1s,baz=349,slow=30								

MAN 21 20:26:25.5, 11.35N×124.53E, h5km, mb4.2, ML3.0, MS2.7, 3C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PLP	**Palo**	**0.48**	**113**	*i* P			Pg	20 26 35.1	-0.1
PLP				*i* S			Sg	20 26 42.0	+0.4
BESP	**Borongan**	**0.93**	**74**	*eP*			Pb	20 26 43.2	-0.5
BESP				*eS*			Sb	20 26 55.7	-0.4
CNP	**Catarman**	**1.16**	**6**	*eP*			Pb	20 26 47.9	+0.2
CNP				*eS*			Sb	20 27 04.4	+1.6
LLP	**Lapu-Lapu**	**1.17**	**208**	⇑ *iP*			Pb	20 26 46.5	-1.4
LLP				*eS*			Sb	20 26 59.6	-3.5
MSLP	**Maasin**	**1.25**	**165**	*eP*			Pb	20 26 48.4	-0.9
MSLP				*eS*			Sb	20 27 03.9	-1.7
RCP	**Roxas**	**1.76**	**277**	⇑ *eP*			Pn	20 26 57.3	+0.4
TBP	**Tagbilaran**	**1.78**	**202**	*eP*			Pn	20 26 56.5	-0.7
TBP				*eS*			Sn	20 27 20.9	+0.5
GUIM	**Jordan**	**2.04**	**249**	*eP*			Pn	20 27 00.6	-0.3
GUIM				*eS*			Sn	20 27 27.0	0.0
PVCP	**Virac**	**2.26**	**351**	*eP*			Pn	20 27 03.6	-0.5
PVCP				*eS*			Sn	20 27 34.0	+1.4
SNPH	**Sibulan**	**2.37**	**213**	⇑ *iP*			Pn	20 27 05.6	-0.1
SNPH				*eS*			Sn	20 27 41.3	+5.9
BUTP	**Butuan**	**2.60**	**155**	*eP*			Pn	20 27 09.5	+0.6
BUKP	**Musuan**	**3.49**	**171**	*eP*			Pn	20 27 22.3	+0.7
PAGZ	**Pagadian**	**3.66**	**198**	*eP*			Pn	20 27 24.0	-0.1
PAGZ				*eS*			Sn	20 28 03.3	-4.8
IPIL	**Ipil**	**4.03**	**209**	*eP*			Pn	20 27 29.1	-0.2
IPIL				*eS*			Sn	20 28 14.0	-3.6

JMA 21 20:29:18.4±0.1, 24.61N×125.22E, h58km±1km, M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JMJ	**Miyako jima 2**	**0.21**	**18**	P		P	P	20 29 27.6	-0.1
JMJ				S		S	S	20 29 34.5	0.0
JOGS	**Gusukube**	**0.23**	**49**	P		P	P	20 29 27.8	0.0
JOGS				S		S	S	20 29 34.6	0.0
JTJ	**Tarama**	**0.47**	**274**	P		P	P	20 29 29.9	-0.1
JTJ				S		S	S	20 29 38.1	-0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIJ	**Ishigaki jima**	**1.01**	**256**	P	P	20 29 36.7	-0.1
JIJ				S	S	20 29 50.4	0.0
JKRS	**Kuro-shima**	**1.16**	**252**	P	P	20 29 38.9	+0.1
JKRS				*e*S	S	20 29 54.6	+0.6
IRIF	**Iriomote-Funau**	**1.39**	**259**	P	P	20 29 41.4	-0.6
IRIF				*e*S	S	20 29 58.6	-0.9
HATJ	**Hateruma jima**	**1.40**	**247**	P	P	20 29 41.8	-0.5
HATJ				*e*S	S	20 29 59.5	-0.4
YOJ	**Yonaguni jima**	**2.02**	**266**	P	P	20 29 50.3	-0.4
YOJ				S	S	20 30 13.1	-1.6
JKE	**Kume jima 2**	**2.22**	**39**	P	P	20 29 52.3	-1.3
JAGN	**Aguni-jima**	**2.69**	**42**	P	P	20 29 58.9	-1.4
JJT2	**Tamagusuku 2**	**2.75**	**56**	P	P	20 30 00.5	-0.6
JIH	**Iheya**	**3.46**	**45**	P	P	20 30 09.4	-1.7
JOW	**Kunigami**	**3.53**	**51**	P	P	20 30 10.2	-2.0
JTK	**Tokunoshima**	**4.61**	**46**	P	P	20 30 24.0	-3.3
JAM	**Amami Oshima**	**5.46**	**45**	P	P	20 30 35.1	-3.9
JMZ	**Minamidaito 2**	**5.57**	**76**	P	P	20 30 35.7	-4.9
JMZ				*e*S	S	20 31 33.7	-10

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*IDC **21** 20:33:29.9±0.8, 44.82N×150.28E, mb3.9/4, mb1 4.3/5, mb1mx3.8/20, mbtmp3.9/5, ML4.2/1, Error ellipse: s-maj=33.7km s-min=21.3km az=145.0*
*MOS **21** 20:33:34.0±2.1, 45.26N×149.76E, h42^{km}, mb3.9/1, Error ellipse: s-maj=17.4km s-min=15.7km az=173.8*
*NEIC **21** 20:33:34.4±0.7, 45.00N×149.98E, h30^{km}, Error ellipse: s-maj=20.9km s-min=13.8km az=156.0*
*SKHL **21** 20:33:36.1±2.4, 45.32N×149.75E, h65^{km}±23^{km}, mb4.7/2*
*JMA **21** 20:33:40.4±0.5, 44.73N×149.51E, h97^{km}, M4.5*
ISC 21 20:33:36.4±0.6**, 45.10N**±0.05×**149.55E**±0.07**, h65^{km}, n48,** σ1^{s}**60**/64**, mb3.6**/5**, 1C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.20**	**277**	⇑*i*PN	**P**	**20 33 56.6**	**-0.9**
KUR				*i* S	**S**	**20 34 12.0**	**-1.3**
KUR				pmax	pmax		
	comp=N,630nm,0.3s						
KUR				pmax	pmax		
	comp=E,110nm,0.3s						
KUR				pmax	pmax		
	comp=Z,1μm,0.3s						
KUR				pmax	pmax		
	comp=Z,2μm,1.6s						
KUR				smax			
	comp=N,7μm,0.4s						
KUR				smax			
	comp=E,6μm,0.4s						
KUR	**Kuril'sk**	**1.20**	**277**	*i* P	**P**	**20 33 56.6**	**-0.9**
KUR				AMB	AMB	20 33 57.2	
	comp=E,630nm,0.3s						
KUR				AMB	AMB	20 33 57.2	
	comp=E,110nm,0.3s						
KUR				AMB	AMB	20 33 57.2	
	comp=E,1μm,0.3s						
KUR				AMB	AMB	20 33 58.0	
	comp=E,2μm,1.6s						
KUR				*i* S	**S**	**20 34 12.0**	**-1.3**
KUR				A		20 34 13.0	
	comp=E,7μm,0.4s						
KUR				A		20 34 13.0	
	comp=E,6μm,0.4s						
KUR				A		20 34 14.0	
	comp=E,20μm,2.0s						
KUR				A		20 34 14.0	
	comp=E,22μm,2.0s						
NEM2	**Nemuro 2**	**3.24**	**239**	P	**P**	**20 34 27.0**	**+0.9**
NEM2				*e*S	**S**	**20 35 03.0**	**-0.6**
JRA	**Rausu**	**3.37**	**251**	P	**P**	**20 34 30.4**	**+2.4**
JRA				*e*S	**S**	**20 35 09.7**	**+2.7**
JNK	**Nakash**	**3.78**	**248**	P	**P**	**20 34 35.8**	**+2.1**
JAK	**Akkeshi**	**4.08**	**241**	P	**P**	**20 34 38.5**	**+0.6**
JAK				*e*S	**S**	**20 35 23.7**	**-1.1**
JTKR	**Abashiri--Toko**	**4.19**	**256**	P	**P**	**20 34 41.4**	**+2.0**
JAR	**Ashorobuto**	**4.53**	**249**	P	**P**	**20 34 46.7**	**+2.6**
JMP	**Maruseppu**	**4.56**	**258**	P	**P**	**20 34 46.7**	**+2.2**
JMP				*e*S	**S**	**20 35 38.0**	**+1.3**
JOB	**Onbets**	**4.67**	**244**	P	**P**	**20 34 47.7**	**+1.6**
JOB				*e*S	**S**	**20 35 38.2**	**-1.3**
JSE	**Soyaes**	**4.94**	**271**	P	**P**	**20 34 51.7**	**+1.8**
JKK2	**Kamakawa 2**	**5.02**	**258**	P	**P**	**20 34 53.0**	**+2.1**
ASAJ	**Asahikawa**	**5.06**	**261**	PN	**P**	**20 34 53.8**	**+2.3**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ	**Asahikawa**	**5.06**	**261**	Pn	**P**	**20 34 53.8**	**+2.2**
	comp=Z,5.9nm,0.3s,baz=96,slow=18,SNR=38						
YSS	**Yuzh-Sakhalins**	**5.08**	**294**	⇓*i*PN	**P**	**20 34 52.0**	**+0.2**
YSS				*i*		20 35 50.6	
YSS	**Yuzh-Sakhalins**	**5.08**	**294**	*e*Pn	**P**	**20 34 51.5**	**-0.3**
	comp=Z,25nm,0.6s						
YSS				*e*Sn	**S**	**20 35 43.7**	**-6.1**
YSS	**Yuzh-Sakhalins**	**5.08**	**294**	⇓*i*P	**P**	**20 34 52.0**	**+0.2**
YSS				*e*S	**S**	**20 35 45.0**	**-4.9**
YSS				A		20 35 47.2	
	comp=Z,50nm,0.8s						
JCH	**Churui**	**5.12**	**243**	P	**P**	**20 34 53.0**	**+0.7**
JCH				*e*S	**S**	**20 35 48.6**	**-2.1**
JFR	**Furan**	**5.37**	**251**	P	**P**	**20 34 58.4**	**+2.7**
JAB	**Ashibetsu**	**5.49**	**256**	P	**P**	**20 35 00.3**	**+2.8**
JEM	**Erimo**	**5.57**	**239**	P	**P**	**20 35 00.4**	**+1.8**
JEM				*e*S	**S**	**20 36 00.4**	**-1.6**
JNBK	**Urakawa-nobuka**	**5.67**	**243**	P	**P**	**20 34 59.8**	**-0.2**
JBT2	**Biratori 2**	**5.68**	**248**	P	**P**	**20 35 00.9**	**+0.8**
UGL	**Uglegorsk**	**6.48**	**311**	*e*S	**S**	**20 36 23.8**	**-0.6**
UGL				A		20 36 29.5	
	comp=Z,120nm,0.8s						
UGL				A		20 36 29.5	
	comp=Z,48nm,0.8s						
UGL				A		20 36 29.5	
	comp=Z,160nm,1.0s						
UGL				A		20 36 30.0	
	comp=Z,400nm,1.6s						
UGL				A		20 36 30.0	
	comp=Z,250nm,1.6s						
UGL				A		20 36 30.0	
	comp=Z,350nm,2.0s						
JNB	**Noboribetsu**	**6.70**	**250**	P	**P**	**20 35 14.4**	**+0.1**
JNB				*e*S	**S**	**20 36 27.5**	**-2.4**
JKB	**Kayabe**	**6.97**	**246**	P	**P**	**20 35 17.6**	**-0.6**
JKB				*e*S	**S**	**20 36 30.8**	**-6.0**
JSH	**Shimam**	**7.29**	**254**	P	**P**	**20 35 24.4**	**+1.8**
JYM2	**Yakumo 2**	**7.30**	**249**	P	**P**	**20 35 22.3**	**-0.3**
TYV	**Tymovskoe**	**7.39**	**324**	*e*P	**P**	**20 35 20.4**	**-3.5**
TYV				AMB	AMB	20 35 25.0	
	comp=Z,6.0nm,0.7s						
TYV				*e*S	**S**	**20 36 37.9**	**-9.2**
TYV				A		20 36 53.0	
	comp=Z,28nm,1.0s						
TYV				A		20 36 53.0	
	comp=Z,23nm,1.0s						
JANG	**Nango**	**7.56**	**234**	P	**P**	**20 35 24.2**	**-2.1**
JANG				*e*S	**S**	**20 36 42.3**	**-9.1**
JTM	**Tenmabayashi**	**7.57**	**238**	*e*S	**S**	**20 36 43.1**	**-8.3**
JOSM	**Okushiri--Mats**	**7.91**	**251**	P	**P**	**20 35 30.6**	**-0.4**
OFUJ	**Ofunato**	**8.39**	**227**	P	**P**	**20 35 35.5**	**-2.1**
OFUJ				*e*S	**S**	**20 37 04.1**	**-7.7**
JRG	**Rokugo**	**8.72**	**232**	*e*S	**S**	**20 37 13.3**	**-6.7**
JIO	**Ouri**	**9.03**	**226**	P	**P**	**20 35 44.1**	**-2.3**
JIO				*e*S	**S**	**20 37 17.6**	**-10**
JFK	**Kawauchi**	**10.11**	**223**	*e*S	**S**	**20 37 44.1**	**-10**
MAJO	**Matsushiro**	**12.11**	**229**	PN	**P**	**20 36 27.1**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MAJO	**Matsushiro**	**12.11**	**229**	P	**P**	**20 36 27.1**	**-0.8**
	comp=Z,6.5nm,0.7s						
MJAR	**Matsushiro Arr**	**12.11**	**229**	Pn	**P**	**20 36 31.6**	**+3.6**
	comp=Z,0.3nm,0.3s,baz=31,slow=13,SNR=5.9						
KLR	**Kul'dur**	**12.79**	**295**	*e*P	**P**	**20 36 33.2**	**-3.9**
KLR				AMS	AMS	20 46 31.5	
	comp=Z,500nm,14.0s						
EKMR	**Ekimchan**	**13.47**	**312**	*e*P	**P**	**20 36 41.3**	**-4.6**
ILAR	**Eielson Array**	**39.38**	**37**	P	**P**	**20 40 59.3**	**-1.4**
	comp=Z,0.6nm,0.8s,mb3.5,baz=286,slow=9.5,SNR=6.8						
MKAR	**Makanchi Array**	**45.49**	**297**	P	**P**	**20 41 55.4**	**+4.8**
	comp=Z,0.1nm,0.5s,mb2.8,baz=76,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**66.19**	**196**	P	**P**	**20 44 18.8**	**-0.7**
	comp=Z,0.6nm,0.5s,mb3.7,baz=12,slow=6.8,SNR=10						
WRA				PcP	PcP	20 44 48.0	-1.1
	comp=Z,0.4nm,0.7s,baz=17,slow=5.8,SNR=4.8						
PDAR	**Pinedale Array**	**67.73**	**51**	P	**P**	**20 44 28.2**	**-0.4**
	comp=Z,1.1nm,0.7s,mb3.8,baz=270,slow=1.8,SNR=10.0						
TXAR	**Lajitas Array**	**80.48**	**58**	P	**P**	**20 45 42.5**	**-0.2**
	comp=Z,1.3nm,0.4s,mb4.1,baz=301,slow=4.5,SNR=24						
TXAR	**Lajitas Array**	**80.48**	**58**	P	**P**	**20 45 42.5**	**-0.2**
PLCA	**Paso Flores**	**150.53**	**96**	PKPbc	PKPdf	20 53 21.8	+7.2
	comp=Z,1.7nm,0.8s,baz=245,slow=3.5,SNR=5.2						

MAN 21 20:42:02.2, 16.89N×121.55E, h50^{km}, mb4.2, ML3.0, MS2.8, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.27**	**79**	*e*P	P	20 42 12.7	+1.7
CAUP				*e*S	S	20 42 21.8	+4.4
APYP	**Conner**	**1.01**	**343**	*e*P	P	20 42 21.1	+0.8
APYP				*e*S	S	20 42 36.2	+2.7
BCPH	**Baguio City Da**	**1.06**	**241**	⇑*i*P	P	20 42 20.1	-0.8
BCPH				*i* S	S	20 42 33.5	-1.3
ABRA	**Dolores**	**1.10**	**313**	*e*P	P	20 42 21.8	+0.3
ABRA				*e*S	S	20 42 39.0	+3.2
BALP	**Baler**	**1.15**	**179**	*e*P	P	20 42 22.7	+0.6
BALP				*e*S	S	20 42 38.6	+1.7
PCPH	**Palayan**	**1.39**	**198**	⇓*e*P	P	20 42 25.9	+0.2
PCPH				*i* S	S	20 42 43.6	+0.4
SGCP	**Mt. Cagua**	**1.42**	**19**	*e*P	P	20 42 28.8	+2.6
SGCP				*e*S	S	20 42 47.5	+3.5
BOLP	**Bolinao**	**1.65**	**252**	*e*P	P	20 42 30.2	+0.9
SCZP	**Santa Cruz**	**1.93**	**235**	*e*P	P	20 42 34.0	+0.9
POLP	**Polilio Island**	**2.19**	**170**	*e*P	P	20 42 39.4	+2.5
POLP				*e*S	S	20 43 07.3	+4.5

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*IDC **21** 20:54:32.7±1.2, 5.16S×102.07E, mb4.5/7, mb1 4.7/7, mb1mx4.2/16, mbtmp4.5/7, MS3.9/4, Ms1 3.9/4, ms1mx3.5/15, Error ellipse: s-maj=48.5km s-min=18.5km az=64.0*
*BJI **21** 20:54:35.3, 5.20S×102.20E, h30^{km}, mB5.1, mb4.8, Ms4.0, Msz3.9*
*NEIC **21** 20:54:37.4±0.7, 5.18S×102.15E, h30^{km}, mb4.7/7, Error ellipse: s-maj=25.2km s-min=8.2km az=60.0*
ISC 21 20:54:35.7±0.9**, 5.2S**±0.1×**102.2E**±0.2**, h33^{km}, n31,** σ**0**^{s}**82**/25**, mb4.7**/16**, MS3.9**/5**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**10.48**	**352**	P	**P**	**20 57 07.2**	**+0.4**
QIZ	**Qiongzhong**	**25.20**	**17**	*e*P	**P**	**21 00 02.3**	**+2.2**
QIZ				LR	LR		
	comp=E,202nm,21.4s						
QIZ				LR	LR		
	comp=Z,229nm,17.4s,MS3.8						
QIZ	**Qiongzhong**	**25.20**	**17**	P	**P**	**21 00 01.4**	**+1.3**
	comp=Z,17nm,1.1s,mb4.5						
FITZ	**Fitzroy Crossi**	**26.32**	**121**	*e*P	**P**	**21 00 11.3**	**+0.7**
	comp=Z,25nm,0.9s,mb4.8						
NWAO	**Narrogin (SRO)**	**31.01**	**155**	P	**P**	**21 00 46.6**	**-6.0**
	comp=Z,47nm,1.3s,mb5.2						
WRA	**Warramunga Arr**	**34.59**	**118**	P	**P**	**21 01 24.2**	**+0.3**
	comp=Z,14nm,0.7s,mb5.0,baz=288,slow=12,SNR=67						
WRA	**Warramunga Arr**	**34.59**	**118**	P	**P**	**21 01 24.2**	**+0.3**
WRAB	**Tennant Creek**	**34.60**	**118**	*e*P	**P**	**21 01 24.0**	**+0.1**
	comp=Z,50nm,0.9s,mb5.4						
WB2	**Warramunga Arr**	**34.60**	**118**	*e*P	**P**	**21 01 24.0**	**0.0**
ENH	**Enshi**	**35.92**	**11**	P	**P**	**21 01 34.1**	**-1.0**
	comp=Z,8.5nm,0.7s,mb4.8						
LSA	**Lhasa**	**36.22**	**344**	P	**P**	**21 01 38.8**	**+1.1**
	comp=Z,7.8nm,1.0s,mb4.6						
PMG	**Port Moresby**	**44.83**	**98**	*e*P	**P**	**21 02 47.8**	**-1.0**
STKA	**Stephens Creek**	**45.48**	**131**	*e*P	**P**	**21 02 54.8**	**+0.9**
	comp=Z,6.2nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**45.48**	**131**	P	**P**	**21 02 55.0**	**+1.1**
	comp=Z,11nm,0.9s,mb4.7,baz=306,slow=8.8,SNR=21						
STKA	**Stephens Creek**	**45.48**	**131**	*e*P	**P**	**21 02 54.4**	**+0.5**
STKA				*e*pP	pP	21 03 02.6	-1.1
WMQ	**Urumqi**	**50.46**	**346**	P	**P**	**21 03 33.3**	**+0.8**
SONM	**Songino Array**	**52.89**	**4**	P	**P**	**21 03 51.5**	**+0.8**
	comp=Z,7.6nm,0.8s,mb4.7,baz=186,slow=9.2,SNR=49						
CN2	**Changchun**	**53.07**	**21**	*e*P	**P**	**21 03 51.6**	**-0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
MJAR	**Matsushiro Arr**	**53.45**	**36**	P	**P**	**21 03 53.7**	**-1.3**
	comp=Z,5.0nm,0.9s,mb4.4,baz=216,slow=8.5,SNR=15						
MKAR	**Makanchi Array**	**54.63**	**343**	P	**P**	**21 04 03.2**	**-0.3**
	comp=Z,3.2nm,0.5s,mb4.6,baz=146,slow=8.3,SNR=39						
MKAR	**Makanchi Array**	**54.63**	**343**	P	**P**	**21 04 03.2**	**-0.3**
MDJ	**Mudanjiang**	**55.33**	**24**	P	**P**	**21 04 08.3**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,66nm,5.8s						
ZAL	**Zalesovo**	**60.65**	**348**	P	**P**	**21 04 44.9**	**-0.9**
	comp=Z,3.2nm,0.5s,mb4.7,baz=318,slow=5.2,SNR=19						
ZRNK	**Zerenda**	**64.30**	**338**	*e*P	**P**	**21 05 09.2**	**-0.9**
	comp=Z,1.6nm,0.9s,mb4.0						
MAW	**Mawson**	**67.80**	**195**	LR	LR	21 29 36.9	
	comp=Z,73nm,18.0s,MS4.0,baz=238,slow=31						
GNI	**Garni**	**69.27**	**316**	LR	LR	21 37 16.8	
	comp=Z,43nm,20.2s,MS3.7,baz=264,slow=37						
BOSA	**Boshof**	**76.05**	**242**	LR	LR	21 34 40.7	
	comp=Z,122nm,18.9s,MS4.2,baz=154,slow=32						
VNDA	**Vanda**	**78.68**	**169**	P	**P**	**21 06 35.2**	**-0.5**
	comp=Z,0.9nm,0.9s,mb3.7,baz=283,slow=6.0,SNR=4.9						
ARCES	**ARCESS Array B**	**90.15**	**340**	LR	LR	21 56 50.6	
	comp=Z,66nm,19.1s,MS4.1,baz=100,slow=42						
LTX	**Lajitas**	**145.73**	**42**	*e*PKPdf	PKPdf	21 14 15.0	+3.5
TXAR	**Lajitas Array**	**145.73**	**42**	PKPbc	PKPbc	21 14 15.1	+2.7
	comp=Z,4.5nm,0.9s,baz=305,slow=1.2,SNR=30						

IDC 21 21:33:33.0±3.4**, 1.24N×97.13E, mb3.7**/5**, mb1 3.9**/5**, mb1mx3.6**/19**, mbtmp3.7**/5**, Error ellipse: s-maj=137.0km s-min=28.3km az=54.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.12**	**122**	P	P	21 41 27.1	-1.7
	0.3nm,0.5s,baz=302,slow=9.1,SNR=5.0						
SONM	**Songino Array**	**47.10**	**9**	P	P	21 42 07.1	-1.4
	0.2nm,0.3s,baz=191,slow=8.0,SNR=4.4						
MKAR	**Makanchi Array**	**47.18**	**346**	P	P	21 42 07.7	-1.5
	0.7nm,0.6s,baz=162,slow=8.3,SNR=7.2						
ZAL	**Zalesovo**	**53.50**	**351**	P	P	21 42 54.6	-2.7
	1.4nm,0.4s,baz=285,slow=3.1,SNR=5.1						
BVAR	**Borovoye Array**	**56.19**	**341**	P	P	21 43 14.1	-2.9
	0.7nm,0.6s,baz=129,slow=9.5,SNR=5.8						

MOS 21 22:09:05.4±1.4**, 52.97N×108.11E, h31^{km}, mb4.3**/1**, Error ellipse: s-maj=41.8km s-min=22.9km az=141.1, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRG	**Tyrgan**	**1.09**	**260**	*e*PN	Pn	22 09 24.2	-0.5
TRG				*e*		22 09 39.1	
TRG				pmax	pmax		
	comp=Z,76nm,0.2s						
TRG				smax			
	comp=N,973nm,0.1s						
KAB	**Kabansk**	**1.28**	**225**	*e*PN	Pn	22 09 28.8	+1.3
KAB				*e*		22 09 46.3	
KAB				pmax	pmax		
	comp=Z,113nm,0.4s						
KAB				smax			
	comp=E,852nm,0.2s						
SYVR	**Suvo**	**1.33**	**58**	*e*PN	Pn	22 09 29.1	+1.0
SYVR				*e*		22 09 46.9	
SYVR				pmax	pmax		
	comp=Z,35nm,0.2s						
SYVR				smax			
	comp=E,448nm,0.3s						
KMO	**Kumora**	**3.44**	**30**	*e*PN	Pn	22 10 07.8	+10
CIT	**Chita**	**3.46**	**104**	*e*PN	Pn	22 10 08.2	+10
CIT				*e*S	Sn	22 10 38.9	0.0
CIT				*e*		22 10 51.9	
CIT				pmax	pmax		
	comp=Z,37nm,0.3s						
CIT				smax			
	comp=N,185nm,1.1s						
ARS	**Arshan**	**3.63**	**255**	*e*PN	Pn	22 10 12.0	+11
ARS				*e*		22 10 55.7	
ARS				pmax	pmax		
	comp=Z,26nm,0.3s						
ARS				smax			
	comp=E,231nm,0.3s						
TUP	**Tupik**	**7.18**	**74**	*e*PN	Pn	22 10 49.3	-1.8
TUP				*e*		22 11 13.6	
TUP				*e*		22 12 47.4	
TUP				pmax	pmax		
	comp=Z,30nm,0.4s						
TUP				smax			
	comp=N,29nm,1.0s						

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*NEIC **21** 22:23:58.2±2.1, 51.52N×16.26E, h5^{km}, ML2.7(VIE), Error ellipse: s-maj=24.5km s-min=8.3km az=222.0*
*WAR **21** 22:23:59.1, 51.52N×16.11E, h1^{km}, ML2.5, Mining Induced*
*CSEM **21** 22:23:59.4±0.2, 51.47N×16.07E, h2^{km}, ML2.7/2, Error ellipse: s-maj=3.7km s-min=1.8km az=25.0*
*PRU **21** 22:23:59.6, 51.46N×16.08E*
ISC 21 22:23:57.5±0.9**, 51.45N**±0.04×**16.08E**±0.04**, n18,** σ1^{s}**32**/34**, 1D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**168**	*e*Pg	**Pg**	**22 24 11.7**	**+1.8**
KSP				*e*Sg	**Sg**	**22 24 21.2**	**+3.0**
KSP	**Ksiaz**	**0.62**	**168**	*e*Pg	**Pg**	**22 24 11.7**	**+1.8**
KSP				*e*Sg	**Sg**	**22 24 21.1**	**+2.9**
UPC	**Upice**	**0.94**	**183**	*e*PG	**Pg**	**22 24 17.6**	**+1.2**
DPC	**Dobruska-Polom**	**1.11**	**172**	*e*PG	**Pg**	**22 24 20.3**	**+0.6**
DPC				*e*SG	**Sg**	**22 24 35.4**	**+0.9**
	8.4nm,0.2s						
PVCC	**Panska Ves**	**1.33**	**227**	*e*PG	**Pg**	**22 24 24.7**	**+0.7**
BRG	**Berggiesshubel**	**1.47**	**248**	Pn	**Pn**	**22 24 26.2**	**+0.9**
BRG				Pg	**Pg**	**22 24 27.0**	**+0.2**
BRG				Sg	**Sg**	**22 24 47.2**	**+0.9**
BRG	**Berggiesshubel**	**1.47**	**248**	Pg	**Pg**	**22 24 27.0**	**+0.2**
PRU	**Pruhonice**	**1.76**	**214**	*e*PG	**Pg**	**22 24 32.1**	**-0.6**
PRU				*e*SG	**Sg**	**22 24 55.2**	**-0.9**
MORC	**Moravsky Berou**	**1.92**	**150**	*e*Pn	**Pn**	**22 24 31.4**	**-0.2**
MORC				*e*Sn	**Sn**	**22 24 59.6**	**+2.8**
MORC	**Moravsky Berou**	**1.92**	**150**	*e*Pn	**Pn**	**22 24 31.5**	**-0.2**
MORC				*e*Sg	**Sg**	**22 25 01.0**	**-0.3**
CLL	**Collm**	**1.94**	**267**	*e*PG	**Pg**	**22 24 34.0**	**-2.2**
CLL				*i*		22 24 38.6	
CLL				*i* SG	**Sg**	**22 25 01.4**	**-0.6**
CLL				*i* L		22 25 07.1	
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*PG	**Pg**	**22 24 40.4**	**+1.3**
OKC				*e*SG	**Sg**	**22 25 05.3**	**-1.5**
VRAC	**Vranov**	**2.17**	**171**	*e*Sg	**Sg**	**22 25 08.3**	**-1.4**
NKC	**Novy Kostel**	**2.61**	**244**	*e*PN	**Pn**	**22 24 42.4**	**+0.8**
NKC				*e*SG	**Sg**	**22 25 23.5**	**-0.8**
OJC	**Ojcow**	**2.66**	**116**	*e*PG	**Pg**	**22 24 49.0**	**-1.6**
OJC				*e*SG	**Sg**	**22 25 24.0**	**-2.0**
KHC	**Kasperske Hory**	**2.82**	**216**	*e*PN	**Pn**	**22 24 45.9**	**+1.2**
KHC				*e*PG	**Pg**	**22 24 51.1**	**-2.8**
KHC				*e*SG	**Sg**	**22 25 28.1**	**-3.4**
KHC	**Kasperske Hory**	**2.82**	**216**	*e*Pg	**Pg**	**22 24 51.1**	**-2.8**
KHC				*e*Sg	**Sg**	**22 25 28.1**	**-3.4**
MOA	**Molln**	**3.79**	**199**	⇓*i*PN	**Pn**	**22 24 59.2**	**+0.7**
MOA				*i* SG	**Sg**	**22 26 03.3**	**-0.4**
	1.4nm,0.3s						

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*IDC **21** 22:25:15.0±19.0, 38.27N×69.67E, mb3.9/3, mb1 4.0/4, mb1mx3.5/21, mbtmp4.0/4, ML3.5/2, Error ellipse: s-maj=360.8km s-min=26.6km az=167.0*
*NNC **21** 22:25:23.2±5.4, 36.76N×70.68E, h134^{km}±112^{km}, mpv4.0, Error ellipse: s-maj=51.9km s-min=49.8km az=152.0*
ISC 21 22:25:20.3±1.2**, 36.54N**±0.06×**71.1E**±0.2**, h223^{km}**±15^{km}**, n21,** σ**0**^{s}**65**/25**, mb3.5**/3**, 4C, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.62**	**136**	*e*P	**P**	**22 26 44.0**	**+0.2**
THN				*e*S	**S**	**22 27 47.7**	**-1.1**
AML	**Almayashu**	**5.94**	**19**	P	**P**	**22 26 47.8**	**0.0**
	SNR=75						
KZA	**Kyzart**	**6.41**	**29**	P	**P**	**22 26 54.2**	**+0.4**
	SNR=11						
EKS2	**Erkin-Say**	**6.46**	**18**	P	**P**	**22 26 54.5**	**0.0**
	SNR=8.3						
KK31	**Karatay Array**	**6.56**	**356**	P	**P**	**22 26 54.8**	**-1.1**
	7.7nm,0.6s,baz=181,slow=12,SNR=130						
KK31				⇑S	**S**	**22 28 05.5**	**-4.9**
	6.2nm,0.4s,baz=186,slow=25,SNR=9.0						
AAK	**Ala-Archa**	**6.63**	**22**	P	**P**	**22 26 57.1**	**+0.3**
	SNR=7.5						
AAK	**Ala-Archa**	**6.63**	**22**	⇑P	**P**	**22 26 56.8**	**+0.1**
	4.7nm,0.3s						
AAK				⇑S	**S**	**22 28 11.8**	**-0.2**
	19nm,0.7s						
SDNR	**Sundarnagar**	**7.03**	**134**	*e*P	**P**	**22 27 01.8**	**0.0**
SDNR				*e*S	**S**	**22 28 17.2**	**-3.8**
CHMS	**Chumysh**	**7.04**	**23**	P	**P**	**22 27 02.2**	**+0.2**
	SNR=5.5						
USP	**Ospenovka**	**7.21**	**20**	P	**P**	**22 27 04.1**	**-0.1**
	SNR=10.0						
TKM2	**Tokmak 2**	**7.26**	**27**	P	**P**	**22 27 05.1**	**+0.3**
	SNR=7.5						
MKAR	**Makanchi Array**	**13.23**	**36**	Pn	**P**	**22 28 14.9**	**-5.8**
	0.1nm,0.3s,baz=235,slow=18,SNR=2.8						
KOLN	**Koldanda**	**13.75**	**126**	*e*P	**P**	**22 28 28.4**	**+1.1**
	5.1nm,0.3s						
GKN	**Gorkha**	**14.29**	**123**	*e*P	**P**	**22 28 34.5**	**+0.6**
	19nm,0.4s						
KKN	**Kakani**	**14.86**	**122**	*e*P	**P**	**22 28 41.1**	**+0.1**
	22nm,0.5s						
AB31	**Akbulak array**	**15.07**	**331**	⇑P	**P**	**22 28 44.8**	**+1.5**
	1.1nm,0.4s,baz=144,slow=11,SNR=28						
PKI	**Pulchoki**	**15.09**	**122**	*e*P	**P**	**22 28 43.9**	**+0.1**
	18nm,0.5s						
ZAL	**Zalesovo**	**19.84**	**24**	P	**P**	**22 29 34.8**	**-0.7**
	0.9nm,0.3s,baz=256,slow=6.9,SNR=7.8						
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	**22 32 12.8**	**-0.9**
	0.3nm,0.4s,mb3.2,baz=129,slow=12,SNR=3.4						
ARCES	**ARCESS Array B**	**41.12**	**338**	P	**P**	**22 32 43.8**	**+0.1**
	1.4nm,0.4s,mb3.7,baz=112,slow=7.6,SNR=18						
HFS	**Hagfors**	**43.06**	**322**	P	**P**	**22 32 59.0**	**-0.4**
	1.3nm,0.6s,mb3.5,baz=89,slow=11,SNR=6.3						

IDC 21 22:26:01.0±1.5**, 35.29S×53.91E, mb4.0**/4**, mb1 4.1**/4**, mb1mx3.7**/18**, mbtmp4.0**/4**, MS3.5**/8**, Ms1 3.4**/8**, ms1mx3.3**/29**, Error ellipse: s-maj=69.3km s-min=30.9km az=18.0, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOSA	**Boshof**	**25.15**	**277**	P	P	22 31 28.1	-1.2
	3.3nm,0.9s,baz=103,slow=15,SNR=3.8						
BOSA				LR	LR	22 38 39.8	
	comp=Z,54nm,20.1s,baz=316,slow=30						
LBTB	**Lobatse**	**26.45**	**285**	LR	LR	22 40 06.8	
	comp=Z,71nm,18.6s,baz=312,slow=32						
MATP	**Matopo**	**26.80**	**297**	LR	LR	22 39 32.1	
	comp=Z,86nm,20.4s,baz=137,slow=30						
MAW	**Mawson**	**32.77**	**174**	LR	LR	22 42 23.4	
	comp=Z,88nm,18.0s,baz=215,slow=30						
TSUM	**Tsumeb**	**35.81**	**287**	LR	LR	22 45 55.2	
	comp=Z,87nm,21.3s,baz=134,slow=33						
KMBO	**Kilima Mbogo**	**37.36**	**332**	LR	LR	22 46 12.1	
	comp=Z,48nm,21.0s,baz=100,slow=32						
WRA	**Warramunga Arr**	**71.16**	**101**	P	P	22 37 22.0	-1.8
	1.8nm,0.8s,baz=234,slow=5.3,SNR=8.6						
GNI	**Garni**	**75.54**	**353**	LR	LR	23 09 10.0	
	comp=Z,32nm,19.1s,baz=173,slow=34						
BRTR	**Keskin Array B**	**76.95**	**344**	P	P	22 37 55.5	-1.5
	1.0nm,0.9s,baz=207,slow=2.8,SNR=5.1						
AKASG	**Malin Array Be**	**88.35**	**345**	P	P	22 38 54.0	-1.5
	0.1nm,0.3s,baz=169,slow=4.3,SNR=4.6						
SONM	**Songino Array**	**95.13**	**32**	LR	LR	23 18 18.5	
	comp=Z,34nm,20.6s,baz=83,slow=33						
ILAR	**Eielson Array**	**147.93**	**17**	PKPbc	PKPdf	22 45 46.5	+0.6
	1.5nm,0.9s,baz=314,slow=3.9,SNR=13						

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*NAO **21** 22:26:24.9±1.5, 67.13N×20.70E, ML2.2*
*IDC **21** 22:26:24.1±1.0, 67.24N×20.99E, mb1 3.0/4, mb1mx2.9/22, mbtmp3.0/4, ML2.6/4, Error ellipse: s-maj=15.1km s-min=8.6km az=118.0*
*BER **21** 22:26:27.2±4.4, 67.18N×20.63E, ML2.3, ML2.2(NAO), Suspected explosion*
HEL 21 22:26:25.8±0.1**, 67.22N×20.78E, ML2.2, ML2.3**(BER),

ML2.2(NAO),Explosion,Sweden

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.80	0	eP	Pn	22 26 58.0	-0.2
KIF				eS	Sn	22 27 21.1	-1.0
KTK1	Kautokeino	2.02	26	eP	Pn	22 27 00.5	-1.1
KTK1				eSG	Sg	22 27 29.4	-3.8
KTK1				AML	AML	22 27 31.6	
	comp=Z,33nm,0.5s						
SGF	Sodankyl	2.24	82	ePB	Pb	22 27 04.7	-2.2
SGF				eSG	Sg	22 27 34.1	-6.2
SGF				MSG		22 27 36.7	
	comp=Z,12nm,0.3s						
TRO	Tromso	2.52	345	eP	Pn	22 27 08.0	-0.6
TRO				eS	Sn	22 27 39.7	-0.9
TRO				AML	AML	22 27 47.4	
	comp=Z,10nm,0.7s						
MOR8	Moi Rana	2.73	250	eSB	Sb	22 27 42.7	-6.8
MOR8				AML	AML	22 27 46.9	
	comp=Z,42nm,0.7s						
MELSS	Ber_school_2	2.79	266	eSg	Sg	22 27 52.4	-6.2
MELSS				AML	AML	22 27 54.8	
	comp=Z,210nm,0.5s						
LOF	Lofoten	2.91	292	eSG	Sg	22 27 56.3	-6.4
LOF				AML	AML	22 28 01.4	
	comp=Z,10nm,0.4s						
ARA0	ARCESS Array S	2.91	35	Pn	Pn	22 27 13.1	-1.2
	baz=216,slow=16						
ARA0				Sn	Sn	22 27 51.5	+1.0
	baz=211,slow=28						
ARA0	ARCESS Array S	2.91	35	eP	Pn	22 27 13.1	-1.2
ARA0				eSB	Sb	22 27 51.5	-3.3
ARCES	ARCESS Array B	2.91	35	Pn	Pn	22 27 10.6	-3.7
	comp=Z,0.7nm,0.3s,baz=215,slow=13,SNR=32						
ARCES				Sn	Sn	22 27 49.9	-0.6
	comp=Z,0.7nm,0.3s,baz=213,slow=22,SNR=4.5						
OUL	Oulu	2.98	133	eSB	Sb	22 27 55.6	-1.3
OUL				MSG		22 27 57.3	
	comp=Z,3.9nm,0.3s						
STOK	Stokkvaagen	3.20	257	eSG	Sg	22 28 04.0	-8.4
STOK				AML	AML	22 28 13.0	
	comp=Z,30nm,0.4s						
KEV	Kevo	3.43	39	eS	Sn	22 28 00.3	-3.3
KEV				MSG		22 28 19.6	
	comp=Z,7.3nm,0.3s						
KU4	Liikasenvaara	3.59	100	eP	Pn	22 27 22.8	-1.1
KU4				eS	Sn	22 28 04.9	-2.7
VAF	Ylistaro	4.27	168	eSG	Sg	22 28 36.8	-11
VAF				MSG		22 28 39.7	
	comp=Z,4.2nm,0.4s						
NSS	Namsos	4.51	237	eSG	Sg	22 28 44.7	-11
FIA0	FINESS Array S	6.24	156	Pn	Pn	22 27 58.0	-3.3
	baz=346,slow=14						
FIA0				Sn	Sn	22 29 06.7	-7.6
	baz=344,slow=28						
FIA0				Lg		22 29 37.5	
	baz=342,slow=28						
FIA0	FINESS Array S	6.24	156	eP	Pn	22 27 58.0	-3.3
FIA0				eS	Sn	22 29 06.7	-7.6
FIA0				eSG		22 29 37.5	
FINES	FINESS Array B	6.24	156	Pn	Pn	22 27 58.4	-2.9
	comp=Z,0.2nm,0.3s,baz=342,slow=12,SNR=6.6						
FINES				Sn	Sn	22 29 07.0	-7.3
	comp=Z,0.3nm,0.3s,baz=336,slow=19,SNR=6.6						
FINES				Lg		22 29 39.8	
	comp=Z,0.9nm,0.3s,baz=343,slow=26,SNR=9.0						
NB2	NORSAR Subarra	7.47	218	Sn	Sn	22 29 34.8	-10
	baz=32,slow=28						
NB2				Lg		22 30 18.9	
NB2	NORSAR Subarra	7.47	218	eS	Sn	22 29 34.8	-10
NB2				eSG		22 30 18.9	
NOA	NORSAR Array B	7.47	218	Pn	Pn	22 28 15.3	-3.4
	comp=Z,0.1nm,0.3s,baz=31,slow=12,SNR=2.8						
NOA				Sn	Sn	22 29 35.1	-10
	comp=Z,0.3nm,0.3s,baz=32,slow=23,SNR=3.0						
NOA				Lg		22 30 19.0	
	comp=Z,0.5nm,0.3s,baz=21,slow=13,SNR=4.4						
HFS	Hagfors	7.77	207	Pn	Pn	22 28 16.2	-6.7
	baz=36,slow=11						
HFS				Sn	Sn	22 29 42.8	-10
	baz=36,slow=22						
HFS				Lg		22 30 25.9	
	baz=26,slow=37						
HFS	Hagfors	7.77	207	eP	Pn	22 28 16.2	-6.7
HFS				eS	Sn	22 29 42.8	-10
HFS				eSG		22 30 25.9	
HFS	Hagfors	7.77	207	Pn	Pn	22 28 17.1	-5.8
	comp=Z,0.0nm,0.3s,baz=25,slow=12,SNR=10						
HFS				Sn	Sn	22 29 43.6	-9.1
	comp=Z,0.1nm,0.3s,baz=30,slow=21,SNR=7.1						
HFS				Lg		22 30 27.7	
	comp=Z,0.1nm,0.3s,baz=32,slow=28,SNR=5.3						

*NEIC **21** 22:31:29.4±1.1, 17.28S×178.95W, h522^{km}±17^{km}, mb4.0/3, Error ellipse: s-maj=32.0km s-min=12.7km az=155.0*
*IDC **21** 22:31:29.7±2.1, 17.36S×178.87W, h525^{km}±30^{km}, mb3.3/6, mb1 3.5/7, mb1mx3.3/16, mbtmp4.3/7, Error ellipse: s-maj=88.9km s-min=16.9km az=156.0*
ISC 21 22:31:28.1±1.5**, 17.4S**±0.3×**179.0W**±0.2**, h517**^{km}±22^{km}**, n15,** $\sigma 0^{s}80$/15**, mb3.8**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.75	64	P	P	22 33 23.4	+0.1
	12nm,0.3s,baz=186,slow=19,SNR=11						
ARMA	Armidale	29.74	239	eP	P	22 36 51.1	-2.5
CTA	Charters Tower	33.01	260	P	P	22 37 22.4	+1.0
	3.1nm,0.7s,mb4.0,baz=103,slow=12,SNR=4.1						
CNB	Canberra Magne	33.32	231	eP	P	22 37 23.5	-0.4
	20nm,0.7s,mb4.8						
STKA	Stephens Creek	38.41	240	eP	P	22 38 06.6	+0.7
	5.6nm,0.6s,mb4.3						
STKA	Stephens Creek	38.41	240	P	P	22 38 06.6	+0.7
	6.2nm,0.5s,mb4.4,baz=85,slow=9.6,SNR=11						
STKA	Stephens Creek	38.41	240	eP	P	22 38 06.3	+0.4
WB2	Warramunga Arr	44.19	259	eP	P	22 38 52.1	-0.2
WRA	Warramunga Arr	44.20	259	P	P	22 38 52.3	-0.1
	2.5nm,0.7s,mb3.8,baz=94,slow=7.0,SNR=20						
FITZ	Fitzroy Crossi	52.59	260	P	P	22 39 55.9	+0.6
	7.2nm,0.9s,mb4.0,baz=53,slow=2.1,SNR=5.6						
MBWA	Marble Bar	57.68	256	P	P	22 40 25.0	-5.8
	6.7nm,0.9s,mb3.9						
VNDA	Vanda	60.91	185	P	P	22 40 52.3	+0.6
	0.5nm,0.7s,mb3.0						
TXAR	Lajitas Array	86.17	58	P	P	22 43 15.5	+0.1
	0.2nm,0.6s,mb2.9,baz=244,slow=6.3,SNR=3.6						
TXAR	Lajitas Array	86.17	58	P	P	22 43 15.5	+0.1
PDAR	Pinedale Array	87.35	44	P	P	22 43 20.1	-0.6
	0.3nm,0.6s,mb3.1,baz=180,slow=3.0,SNR=3.8						

IDC 21 23:20:05.1±1.6**, 30.52S**×**178.60W, h141**^{km}±11^{km}**, mb4.1**/3**, mb1 4.1**/4**, mb1mx3.7**/13**, mbtmp4.3**/4**, MS3.5**/1**, Ms1 3.5**/1**, ms1mx2.5**/15**, Error ellipse: s-maj=40.6km s-min=19.5km az=130.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.40	25	P	P	23 20 32.0	-1.2
	102nm,0.3s,baz=70,slow=23,SNR=6.4						
RAO				S	S	23 20 54.2	-0.6
	328nm,0.3s,baz=53,slow=22,SNR=7.0						
URZ	Urewera	8.49	203	P	P	23 22 04.9	-1.2
	0.7nm,0.3s,baz=270,slow=5.1,SNR=6.7						
HNR	Honiara	28.99	312	LR	LR	23 35 10.9	
	comp=Z,92nm,18.6s,baz=280,slow=31						
CTA	Charters Tower	33.30	280	P	P	23 26 30.0	-1.5
	7.0nm,0.8s,baz=91,slow=13,SNR=4.1						
STKA	Stephens Creek	33.94	257	P	P	23 26 35.8	-1.0
	3.3nm,0.6s,baz=95,slow=12,SNR=4.5						
WB2	Warramunga Arr	43.57	273	eP	P	23 27 54.3	-2.5
WRA	Warramunga Arr	43.58	273	P	P	23 27 54.4	-2.5
	2.6nm,0.4s,baz=110,slow=8.1,SNR=18						
KAF	Kangasniemi	144.49	340	ep	PKPbc	23 39 21.8	-1.8
	1.3nm,0.6s						
FINES	FINESS Array B	145.08	339	PKPbc	PKPbc	23 39 23.8	-1.4
	2.3nm,0.4s,baz=76,slow=3.5,SNR=29						
NB2	NORSAR Subarra	148.79	351	PKPabc	PKPdf	23 39 35.0	+4.0
	0.8nm,0.6s,baz=15,slow=2.6						
NOA	NORSAR Array B	148.79	351	PKPbc	PKPdf	23 39 35.0	+4.1
	1.2nm,0.7s,baz=16,slow=4.2,SNR=3.6						
AKASG	Malin Array Be	151.08	322	PKPbc	PKPdf	23 39 40.8	+6.0
	1.6nm,0.6s,baz=45,slow=2.5,SNR=12						

CASC 21 23:37:17.4±2.4**, 11.13N**×**85.93W, h70**^{km}±11^{km}**, MD3.8, ML3.8, 5C-12D, Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CONN	Concepcion	0.52	34	⇓eP	P	23 37 31.1	+0.6
CONN				eS	S	23 37 40.7	+0.5
LIM1	Limonal	0.79	123	⇓iP	P	23 37 33.1	-0.3
LIM1				eS	S	23 37 45.8	+0.4
APON	Apoyo	0.79	350	⇓eP	P	23 37 34.1	+0.5
APON				eS	S	23 37 46.6	+1.1
MASN	Masaya	0.88	345	eP	P	23 37 34.4	-0.1
MASN				eS	S	23 37 49.4	+2.1
CRUN	El Crucero	0.92	337	⇑eP	P	23 37 36.4	+1.2
CRUN				eS	S	23 37 49.8	+1.4
TICN	Ticuantepe	0.95	342	⇓eP	P	23 37 36.1	+0.7
TICN				eS	S	23 37 49.8	+0.9
WILN	Americas 2	1.06	346	⇓iP	P	23 37 37.2	+0.3
WILN				eS	S	23 37 52.2	+0.9
MGAN	Managua	1.06	343	⇓eP	P	23 37 37.3	+0.4
MGAN				eS	S	23 37 51.9	+0.5
MGAN				i		23 37 53.2	
	comp=E,2µm,0.4s						
XAVN	Gruta Xavier	1.09	339	⇑eP	P	23 37 37.7	+0.4
XAVN				eS	S	23 37 52.4	+0.4
APYN	Apoyeque	1.17	339	eP	P	23 37 38.0	-0.4
COPN	Copaltepe	1.23	328	⇑eP	P	23 37 39.5	+0.3
COPN				eS	S	23 37 54.6	-0.8
PYTN	Playitas	1.41	355	⇓eP	P	23 37 41.7	+0.1
PYTN				eS	S	23 37 58.0	-1.5
MOMJ	Momotombo	1.41	335	⇓eP	P	23 37 41.6	0.0
MOMJ				eS	S	23 38 00.3	+0.8
MIRN	Miramar	1.51	329	⇑eP	P	23 37 43.5	+0.5
MIRN				eS	S	23 38 01.9	-0.1
CNGN	Cerro Negro	1.56	331	⇓eP	P	23 37 44.0	+0.4
CNGN				eS	S	23 38 04.6	+1.5
LEON	Leon	1.59	324	⇓eP	P	23 37 44.3	+0.2
LEON				eS	S	23 38 03.1	-0.7
TEL3	Telica 3	1.69	328	⇓eP	P	23 37 45.9	+0.4
TEL3				eS	S	23 38 04.6	-1.6
TELN	Telica	1.71	329	eP	P	23 37 43.9	-1.8
TELN				eS	S	23 38 05.2	-1.5
CRIN	San Cristobal	1.91	325	⇓eP	P	23 37 48.6	+0.2
CNCH	Conchagua	2.83	319	⇑eP	P	23 38 02.4	+1.0
LCBS	La Ceiba	3.90	310	eP	P	23 38 16.7	+0.4
LFRS	El Faro	3.94	309	eP	P	23 38 16.9	0.0
LFRS				eS	S	23 38 59.6	-2.7

*SKO **21** 23:39:00.6, 42.11N×21.31E, h20^{km}, ML3.0*
*BEO **21** 23:39:01.4±0.2, 42.17N×21.35E, h9^{km}±1^{km}*
*THE **21** 23:39:02.0, 42.19N×21.43E, h10^{km}, ML2.7*
*CSEM **21** 23:39:03.4±0.1, 42.11N×21.49E, h2^{km}, MD2.7, Error ellipse: s-maj=4.2km s-min=2.4km az=35.0*
*NEIC **21** 23:39:05.1, 42.30N×21.12E, h4^{km}, MD2.7(PDG), After PDG.*
ISC 21 23:39:01.8±0.4**, 42.18N**±0.03×**21.43E**±0.03**, h10**^{km}**, n35,** $\sigma 1^{s}52$/66**, 3C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKO	Skopje	0.21	177	⇑iPg	Pg	23 39 05.4	-0.9
SKO				i Sg	Sg	23 39 08.7	-0.6
SKO				Smax		23 39 10.5	
	comp=Z,1.4nm,0.3s						
SKO				Smax		23 39 10.5	
	comp=N,6.7nm,0.3s						
SKO				Smax		23 39 10.5	
	comp=E,6.4nm,0.3s						
SKO	Skopje	0.21	177	⇑iPg	Pg	23 39 05.4	-0.9
SKO				i Sg	Sg	23 39 08.7	-0.6
	comp=E,7µm,0.3s						
BCI	Bajram Curri	1.03	281	i Pg	Pg	23 39 19.3	-3.1
BCI				i Sg	Sg	23 39 34.4	-1.7
PUK	Puka	1.15	264	i Pg	Pg	23 39 21.3	-3.5
PUK				i Sg	Sg	23 39 37.1	-3.1
PVY	Plav	1.15	292	ePg	Pg	23 39 21.8	-3.1
PVY				eSg	Sg	23 39 35.8	-4.6
QSH	Qafa e Shtames	1.31	241	i Pg	Pg	23 39 26.4	-1.7
QSH				i Sg	Sg	23 39 49.4	+3.8
IVA	Berane	1.32	302	ePg	Pg	23 39 24.8	-3.5
IVA				eSg	Sg	23 39 41.8	-4.2
FNA	Florina	1.39	182	ePg	Pg	23 39 26.3	-3.4
	comp=E,4.2nm,0.3s						
ZAPS	Zavoj/Pirot	1.42	38	⇑iPg	Pg	23 39 29.2	-1.0
ZAPS				Sg	Sg	23 39 48.6	-0.6
GRG	Griva	1.42	149	ePg	Pg	23 39 28.0	-2.3
GRG				eSg	Sg	23 39 48.6	-0.7
KNT	Kendrikon	1.50	132	ePg	Pg	23 39 29.6	-2.3
KNT				eSg	Sg	23 39 51.0	-0.8
KNT	Kendrikon	1.50	132	ePg	Pg	23 39 29.5	-2.3
KNT				eSg	Sg	23 39 51.0	-0.8
TTG	Podgorica	1.63	280	ePg	Pg	23 39 29.4	-4.9
TTG				eSg	Sg	23 39 52.1	-3.9
ULC	Ulcinj	1.63	263	ePg	Pg	23 39 31.4	-3.1
ULC				eSg	Sg	23 39 53.8	-2.6
BUM	Brajici-Budva	1.88	275	ePn	Pn	23 39 35.6	+1.2
BUM				eSn	Sn	23 40 00.5	+2.1
PLE	Pljevlja	1.89	308	ePn	Pn	23 39 35.5	+1.0
PLE				eSn	Sn	23 40 00.2	+1.6
PLE	Pljevlja	1.89	308	ePn	Pn	23 39 35.5	+1.0
PLE				eSn	Sn	23 40 00.2	+1.7
NKY	Niksic	1.90	290	ePn	Pn	23 39 35.0	+0.3
NKY				eSn	Sn	23 40 00.5	+1.5
NKY	Niksic	1.90	290	ePn	Pn	23 39 35.0	+0.3
NKY				eSn	Sn	23 40 00.4	+1.4
THE	Thessaloniki	1.93	143	ePb	Pb	23 39 36.0	-0.7
THE				eSb	Sb	23 40 01.8	+1.0
SRS	Serrai	1.94	122	ePb	Pb	23 39 36.2	-0.7
SRS				eSb	Sb	23 40 02.0	+1.0
SOH	Sokhos	1.98	132	ePn	Pn	23 39 36.8	+1.0
SOH				eSn	Sn	23 40 02.5	+1.6
UPM	Unac-Piva	2.12	300	ePn	Pn	23 39 38.4	+0.6
UPM				eSn	Sn	23 40 05.2	+0.8
UPM	Unac-Piva	2.12	300	ePn	Pn	23 39 38.4	+0.6
UPM				eSn	Sn	23 40 05.2	+0.8
HCY	Herceg Novi	2.19	278	ePn	Pn	23 39 40.3	+1.5
HCY				eSn	Sn	23 40 07.8	+1.6
HCY	Herceg Novi	2.19	278	ePn	Pn	23 39 40.3	+1.5
HCY				eSn	Sn	23 40 07.8	+1.6
BRY	Bratogost	2.25	290	ePn	Pn	23 39 40.6	+1.0
BRY				eSn	Sn	23 40 08.9	+1.2
BRY	Bratogost	2.25	290	ePn	Pn	23 39 40.7	+1.0
BRY				eSn	Sn	23 40 08.9	+1.2
MEV	Metsovon	2.40	184	ePn	Pn	23 39 41.9	+0.1
MEV				eSn	Sn	23 40 14.0	+2.5
IGT	Igoumenitsa	2.77	198	ePn	Pn	23 39 47.9	+0.7
IGT				eSn	Sn	23 40 23.6	+2.6
IGT	Igoumenitsa	2.77	198	ePn	Pn	23 39 47.8	+0.7
IGT				eSn	Sn	23 40 23.6	+2.6
PAIG	Paliouri	2.82	142	ePn	Pn	23 39 48.0	+0.1
XOR	Xorichti	3.11	154	ePn	Pn	23 39 52.0	+0.1
XOR	Xorichti	3.11	154	ePn	Pn	23 39 52.0	0.0
AGG	Agios Georgios	3.23	167	ePn	Pn	23 39 53.6	0.0
AGG				eSn	Sn	23 40 33.8	+1.2

*IDC **22** 00:01:32.0±1.0, 23.62S×179.89W, h522^{km}±9^{km}, mb4.0/15, mb1 4.2/17, mb1mx4.2/18, mbtmp4.8/17, Error ellipse: s-maj=13.2km s-min=11.1km az=165.0*
*NEIC **22** 00:01:35.0±0.5, 23.74S×179.99W, h560^{km}±6^{km}, mb4.5/30, Error ellipse: s-maj=7.1km s-min=4.6km az=152.0*
*BJI **22** 00:01:35.0, 23.70S×180.00W, h559^{km}, mB4.7, mb4.6*
ISC 22 00:01:34.0±0.7**, 23.77S**±0.06×**179.99E**±0.05**, h556**^{km}±9^{km}**, n134,** $\sigma 0^{s}78$/96**, mb4.4**/43**, 2C-19D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.77	162	P	P	00 03 12.4	+0.9
	16nm,0.3s,baz=78,slow=23,SNR=3.6						
RAO				S	S	00 04 27.3	-1.6
	111nm,0.3s,baz=252,slow=19,SNR=4.5						
AFI	Afiamalu	12.52	40	P	P	00 04 19.3	+1.1
	3.1nm,0.3s,baz=300,slow=8.1,SNR=4.4						
DZM	Mont Dzumac	12.60	275	P	P	00 04 19.9	+1.0
	0.6nm,0.3s,baz=69,slow=17,SNR=5.3						
URZ	Urewera	14.65	189	P	P	00 04 38.4	-1.0
	2.8nm,0.3s,baz=19,slow=4.8,SNR=14						
URZ				S	S	00 07 09.4	+0.5
	3.2nm,0.3s,baz=69,slow=22,SNR=17						
RPZ	Rata Peaks	21.21	198	P	P	00 05 43.4	+1.7
	5.6nm,0.4s,mb4.5,baz=347,slow=7.7,SNR=7.4						
ARMA	Armidale	26.06	249	⇓iP	P	00 06 23.2	-2.1
CNB	Canberra Magne	28.91	240	eP	P	00 06 50.7	+0.7
	24nm,0.7s,mb4.9						
CTA	Charters Tower	31.47	270	⇓iP	P	00 07 12.4	+0.4
	62nm,0.4s,mb5.5						
CTA	Charters Tower	31.47	270	P	P	00 07 12.6	+0.6
	85nm,0.5s,mb5.5,baz=97,slow=11,SNR=124						
CTAO	Charters Tower	31.47	270	eP	P	00 07 12.3	+0.4
	83nm,0.6s,mb5.4						
TOO	Toolangi	32.51	237	⇓iP	P	00 07 21.0	+0.4
	9.3nm,0.5s,mb4.6						
PMG	Port Moresby	34.45	289	P	P	00 07 37.4	+0.4
	92nm,0.8s,mb5.3,baz=85,slow=4.4,SNR=13						
PMG	Port Moresby	34.45	289	eP	P	00 07 36.9	-0.1
	96nm,1.0s,mb5.3						
STKA	Stephens Creek	34.76	248	⇓iP	P	00 07 39.7	+0.2
	8.5nm,0.6s,mb4.5						
STKA	Stephens Creek	34.76	248	P	P	00 07 40.2	+0.7
	14nm,0.8s,mb4.5,baz=93,slow=8.6,SNR=26						
WB2	Warramunga Arr	42.40	266	⇓iP	P	00 08 40.9	-0.6
WRAB	Tennant Creek	42.40	266	⇓eP	P	00 08 40.8	-0.8
	76nm,0.7s,mb5.3						
WRA	Warramunga Arr	42.41	266	P	P	00 08 41.0	-0.6
	59nm,0.7s,mb5.2,baz=103,slow=8.2,SNR=189						
WRA				ScP		00 13 24.3	
	5.3nm,0.9s,baz=101,slow=4.1,SNR=9.3						
WRA				S	S	00 14 23.3	-0.6
	2.7nm,0.7s,baz=99,slow=14,SNR=6.7						
KAKA	Kakadu	46.29	275	⇓iP	P	00 09 11.7	-0.1
	42nm,0.6s,mb5.2						
FITZ	Fitzroy Crossi	50.83	266	eP	P	00 09 45.5	-0.2
	49nm,0.7s,mb5.0						
FITZ	Fitzroy Crossi	50.83	266	P	P	00 09 45.8	+0.1
	68nm,0.8s,mb5.0,baz=146,slow=4.1,SNR=57						
SBA	Scott Base	54.50	183	eP	P	00 10 11.7	+0.6
SBA				ePcP	PcP	00 11 06.0	+0.2
VNDA	Vanda	54.51	185	P	P	00 10 11.3	+0.2
	1.5nm,0.6s,mb3.4,baz=352,slow=6.4,SNR=13						
VNDA				PcP	PcP	00 11 05.7	-0.1
	1.8nm,0.6s,baz=351,slow=5.2,SNR=8.2						
VNDA	Vanda	54.51	185	eP	P	00 10 10.6	-0.5
	1.5nm,0.6s,mb3.4						
VNDA				ePcP	PcP	00 11 05.3	-0.5
KLBR	Kellerberrin	55.03	247	⇓iP	P	00 10 14.3	-1.1
	41nm,0.8s,mb4.7						
MBWA	Marble Bar	55.39	260	eP	P	00 10 16.8	-1.2
MUN	Mundaring	56.27	246	eP	P	00 10 23.6	-0.3
	14nm,0.9s,mb4.2						
QSPA	South Pole Qui	66.31	180	eP	P	00 11 29.1	+0.5
	15nm,0.7s,mb4.6						
KKM	Kota Kinabalu	68.86	287	eP	P	00 11 44.7	-0.4
MJAR	Matsushiro Arr	71.79	326	P	P	00 12 01.4	-0.6
	4.4nm,0.8s,mb3.9,baz=168,slow=6.8,SNR=9.6						
KSM	Kuching	72.08	280	eP	P	00 12 04.0	0.0
MAW	Mawson	77.87	200	eP	P	00 12 35.7	+0.7
	3.6nm,0.6s,mb3.9						
MAW	Mawson	77.87	200	P	P	00 12 35.4	+0.4
	4.4nm,0.7s,mb3.9,baz=116,slow=5.6,SNR=17						
SSE	Sheshan	78.40	311	eP	P	00 12 40.5	+1.9
SSE				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.5						
SSE				AMB	AMB		
	comp=Z,52nm,4.2s						
SSE	Sheshan	78.40	311	eP	P	00 12 40.5	+1.9
	comp=Z,16nm,0.7s,mb4.5						
NJ2	Nanjing	80.57	311	eP	P	00 12 53.5	+3.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
MDJ	Mudanjiang	82.15	326	P	P	00 12 59.3	+1.6
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,71nm,5.5s						
KULM	Kulim	82.41	279	eP	P	00 13 00.2	+0.6
CMB	Columbia Colle	83.11	43	eP	P	00 13 02.3	-0.4
	comp=Z,24nm,1.2s,mb4.6						
SYO	Syowa Base	83.13	193	⇓P	P	00 13 00.3	-1.9
SYO	Syowa Base	83.13	193	⇑PcP	PcP	00 13 04.5	-1.2
CN2	Changchun	83.78	324	eP	P	00 13 06.5	+0.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
MTUM	Tungsten Hills	83.87	45	eP	P	00 13 06.9	+0.4
YBH	Yreka Blue Hor	83.99	39	P	P	00 13 07.8	+0.9
	comp=Z,3.3nm,0.8s,mb3.9,baz=291,slow=0.7,SNR=9.6						
NVAR	Mina Array Bea	84.67	44	P	P	00 13 09.9	-0.4
	comp=Z,2.6nm,0.7s,mb3.9,baz=220,slow=7.0						
SNAA	Sanae	84.79	179	⇓iP	P	00 13 09.9	-0.3
SNAA	Sanae	84.79	179	e	P	00 13 12.0	+1.8
SNAA	Sanae	84.79	179	e	P	00 13 28.8	+19
VNA3	Neumayer Olymp	85.00	177	⇓iP	P	00 13 11.0	-0.2
VNA3	Neumayer Olymp	85.00	177	e	P	00 13 13.1	+1.9
NEN	Nelson	85.36	48	eP	P	00 13 13.1	-0.7
VNA2	Neumayer--Watz	85.42	178	⇓iP	P	00 13 05.2	-8.0
VNA2	Neumayer--Watz	85.42	178	e	P	00 13 07.8	-5.4
VNA2	Neumayer--Watz	85.42	178	e	P	00 13 28.2	+15
VNA1	Neumayer--Stat	85.66	177	⇓iP	P	00 13 14.6	+0.2
VNA1	Neumayer--Stat	85.66	177	e	P	00 13 17.3	+2.9
TUC	Tucson	86.45	52	eP	P	00 13 19.6	+0.6
	comp=Z,12nm,0.9s,mb4.5						
BMN	Battle Mountai	86.51	43	eP	P	00 13 18.7	-0.4
	comp=Z,7.1nm,0.8s,mb4.3						
WVOR	Wild Horse Val	86.82	41	eP	P	00 13 20.2	-0.3
	comp=Z,13nm,1.4s,mb4.4						
ELK	Elko	87.93	43	eP	P	00 13 25.4	-0.4
	comp=Z,11nm,1.5s,mb4.4						
GSM	Grass Mountain	87.95	35	P	P	00 13 26.2	+0.5
RMW	Rattlesnake Mo	88.10	35	P	P	00 13 26.9	+0.5
PLCA	Paso Flores	88.36	134	P	P	00 13 28.3	+0.5
	comp=Z,1.5nm,0.7s,mb3.8,baz=249,slow=4.3,SNR=3.4						
PLCA	Paso Flores	88.36	134	eP	P	00 13 28.9	+1.2
	comp=Z,7.9nm,1.2s,mb4.3						
TBM	Table Mountain	88.56	36	P	P	00 13 29.0	+0.4
MSU	Marysvale	88.70	47	eP	P	00 13 29.6	+0.1
MBW	Mount Baker	88.88	34	P	P	00 13 30.3	+0.2
ETW	Entiat	88.97	36	P	P	00 13 30.8	+0.3
BMO	Blue Mountains	89.02	39	eP	P	00 13 30.2	-0.6
	comp=Z,1.3nm,0.7s,mb3.9						
TMUT	Trail Mountain	89.76	46	eP	P	00 13 34.8	+0.5
SPUT	South Promonto	90.01	44	eP	P	00 13 35.4	-0.1
HVU	Hansel Valley	90.05	44	eP	P	00 13 35.5	-0.1
SRU	San Rafael	90.12	47	eP	P	00 13 35.6	-0.4
LAZ	Ladron	90.13	52	eP	P	00 13 36.2	+0.1
MNTX	Cornudas Mount	90.15	55	eP	P	00 13 36.1	-0.2
	comp=Z,4.4nm,0.8s,mb4.3						
DAU	Daniels Canyon	90.31	45	eP	P	00 13 37.3	+0.4
LTX	Lajitas	90.37	58	eP	P	00 13 37.4	0.0
	comp=Z,7.4nm,0.8s,mb4.6						
TXAR	Lajitas Array	90.37	58	P	P	00 13 37.6	+0.2
	comp=Z,6.3nm,0.7s,mb4.6,baz=214,slow=6.4,SNR=88						
PV10	Paradox Valley	90.75	48	eP	P	00 13 37.9	-1.0
ANMO	Albuquerque	90.89	52	eP	P	00 13 39.2	-0.4
	comp=Z,6.9nm,1.2s,mb4.5						
PV01	Paradox Valley	90.95	48	eP	P	00 13 39.2	-0.7
GDL2	Guadalupe Moun	91.15	55	eP	P	00 13 40.9	0.0
AHID	Auburn Hatcher	91.63	43	eP	P	00 13 43.1	+0.3
	comp=Z,2.5nm,0.5s,mb4.5						
MCMT	McKenzie Canyo	91.64	41	eP	P	00 13 43.0	+0.2
ILAR	Eielson Array	91.91	14	P	P	00 13 42.1	-1.4
	comp=Z,0.7nm,0.7s,mb3.8,baz=229,slow=6.0,SNR=7.1						
SNOW	Snow King Moun	92.20	43	eP	P	00 13 45.7	+0.3
	comp=Z,4.8nm,0.5s,mb4.8						
IMW	Indian Meadow	92.31	43	eP	P	00 13 45.8	-0.1
	comp=Z,1.6nm,0.6s,mb4.2						
MOOW	Moose Ponds	92.36	43	eP	P	00 13 46.1	0.0
	comp=Z,0.9nm,0.6s,mb4.0						
LOHW	Long Hollow	92.37	43	eP	P	00 13 45.8	-0.4
	comp=Z,1.5nm,0.6s,mb4.2						
SMCO	Snowmass	92.55	48	eP	P	00 13 46.5	-0.6
BW06	Boulder Array	92.60	44	eP	P	00 13 47.0	-0.3
	comp=Z,2.6nm,0.8s,mb4.3						
PDAR	Pinedale Array	92.60	44	P	P	00 13 46.5	-0.8
	comp=Z,2.4nm,0.7s,mb4.3,baz=225,slow=3.2,SNR=23						
BOZ	Bozeman (W)	92.80	41	eP	P	00 13 47.0	-1.1
	comp=Z,2.0nm,0.8s,mb4.2						
SDCO	Great Sand Dun	92.89	50	eP	P	00 13 48.4	-0.3
	comp=Z,1.7nm,1.0s,mb4.0						
SONM	Songino Array	97.00	319	PP	PP	00 18 02.9	-11
	comp=Z,0.1nm,0.3s,baz=90,slow=4.3,SNR=2.5						
SONM				PKKPbc		00 30 45.6	
	comp=Z,0.4nm,0.5s,baz=234,slow=2.9,SNR=4.4						
MKAR	Makanchi Array	112.06	313	PKiKP		00 19 06.6	
	comp=Z,0.6nm,0.6s,baz=233,slow=1.9,SNR=8.3						
MKAR				SKP		00 21 53.2	
	comp=Z,1.0nm,0.8s,baz=84,slow=2.5,SNR=7.9						

MKAR PKKPbc 00 30 00.4
comp=Z,0.5nm,0.6s,baz=271,slow=4.8,SNR=4.7
MKAR PKKPab 00 30 10.3
comp=Z,1.0nm,0.7s,baz=272,slow=3.5,SNR=7.8
MKAR Makanchi Array 112.06 313 PKPdf PKPdf 00 19 06.6 +0.8
MKAR SKP 00 21 53.2
MKAR PKKPbc 00 30 00.4
MKAR PKKPab 00 30 10.3
BDFB Brasilia 118.89 125 PKP PKPdf 00 19 20.6 +0.7
comp=Z,3.4nm,0.8s,baz=160,slow=4.6,SNR=3.6
BVAR Borovoye Array 120.34 319 PKP PKPdf 00 19 22.5 +0.7
comp=Z,1.2nm,0.4s,baz=127,slow=0.9,SNR=12
BVAR SKP 00 22 09.8
comp=Z,1.1nm,0.7s,baz=117,slow=3.2,SNR=5.2
SCHQ Schefferville 122.38 39 PKP PKPdf 00 19 25.3 -0.4
comp=Z,2.0nm,0.8s,baz=230,slow=7.9,SNR=2.8
BOSA Boshof 122.51 206 PKP PKPdf 00 19 27.3 +0.6
comp=Z,3.3nm,0.9s,baz=122,slow=0.8,SNR=3.4
ARCES ARCESS Array B 131.76 348 PKP PKPdf 00 19 43.8 +0.5
comp=Z,1.8nm,0.6s,baz=28,slow=1.1,SNR=19
ARCES SKPbc 00 22 21.3
comp=Z,6.4nm,0.8s,baz=34,slow=4.4,SNR=11
FINES FINESS Array B 138.32 341 PKhKP 00 19 49.0
comp=Z,0.6nm,0.7s,baz=135,slow=5.4,SNR=4.9
FINES PKP PKPdf 00 19 55.9 +0.3
comp=Z,0.8nm,0.5s,baz=135,slow=2.7,SNR=5.7
FINES SKPbc 00 22 41.7
comp=Z,8.3nm,0.8s,baz=135,slow=2.7,SNR=22
FINES FINESS Array B 138.32 341 PKP PKPdf 00 19 49.0 -6.6
FINES PKP PKPdf 00 19 55.9 +0.3
FINES SKPbc 00 22 41.7
NB2 NORSAR Subarra 141.96 351 PKPabc PKPdf 00 19 57.1 -4.8
comp=Z,1.0nm,0.6s,baz=11,slow=3.1
NOA NORSAR Array B 141.96 351 PKhKP 00 19 59.3
comp=Z,1.2nm,0.7s,baz=16,slow=4.7,SNR=4.5
NOA SKPbc 00 22 51.8
comp=Z,2.2nm,0.8s,baz=12,slow=4.1,SNR=5.1
HFS Hagfors 142.42 349 PKhKP 00 20 00.4
comp=Z,5.5nm,0.5s,baz=51,slow=3.1,SNR=76
HFS SKPbc 00 22 52.6
comp=Z,4.4nm,0.8s,baz=225,slow=4.2,SNR=5.4
AKASG Malin Array Be 144.86 327 PKP PKPdf 00 20 08.8 +1.6
comp=Z,0.7nm,0.3s,baz=41,slow=5.0,SNR=9.7
AKASG SKPbc 00 22 59.2
comp=Z,4.9nm,0.6s,baz=50,slow=2.5,SNR=19
AKASG Malin Array Be 144.86 327 PKP PKPdf 00 20 08.8 +1.6
AKASG SKPbc 00 22 59.2
BR131 Keskin Array S 147.50 307 *e*PKPbc PKPdf 00 20 21.6 +10
BRTR Keskin Array B 147.50 307 PKPbc PKPdf 00 20 16.6 +4.7
comp=Z,3.2nm,0.6s,baz=137,slow=5.2,SNR=5.3
BRTR SKPbc 00 23 06.2
comp=Z,0.3nm,0.3s,baz=146,slow=4.5,SNR=4.0
EIL Elat 148.31 288 *e*PKPbc PKPdf 00 20 22.5 +8.9
EKA Eskdalemuir Ar 148.39 3 PKPbc PKPdf 00 20 18.1 +5.2
comp=Z,1.8nm,0.4s,baz=344,slow=2.7,SNR=14
KWP Kalwaria 148.65 331 *e*PKPdf PKPdf 00 20 18.0 +4.5
BURAR Bucovina Array 148.86 326 ⇓P PKPdf 00 20 21.8 +8.0
KOLS Kolonicke sedl 149.36 331 *e*PKP PKPdf 00 20 22.3 +7.7
STHS Stebnicka Huta 149.45 332 *i* PKP PKPdf 00 20 22.1 +7.4
MLR Muntele Rosu 149.81 322 PKPbc PKPdf 00 20 21.6 +6.2
comp=Z,1.4nm,0.7s,baz=328,slow=6.3,SNR=5.9
MLR Muntele Rosu 149.81 322 ⇓P PKPdf 00 20 22.3 +6.9
MLR Muntele Rosu 149.81 322 ⇓P PKPdf 00 20 22.3 +6.8
DCN Croghan 149.96 9 *e*P PKPdf 00 20 21.0 +5.6
DLF Lyons Farm 150.11 8 *e*P PKPdf 00 20 22.0 +6.3
KSP Ksiaz 150.17 339 *e*PKP PKPdf 00 20 23.6 +7.8
VOIR 150.34 323 ⇓P PKPdf 00 20 24.4 +8.1
VOIR 150.34 323 ⇓P PKPdf 00 20 24.4 +8.1
OKC Ostrava-Krasne 150.36 336 *e*PKPbc PKPdf 00 20 23.3 +7.1
UPC Upice 150.55 339 *e*PKPbc PKPdf 00 20 24.4 +8.0
DPC Dobruska-Polom 150.58 338 *e*PKPbc PKPdf 00 20 24.5 +8.0
CLL Collm 150.73 343 ⇓*i*PKP1 PKPdf 00 20 24.6 +7.9
BRG Berggiesshubel 150.86 342 ⇑*i*PKP PKPdf 00 20 24.9 +8.0
PVCC Panska Ves 150.98 341 *e*PKPbc PKPdf 00 20 25.3 +8.2
PRU Pruhonice 151.47 340 *e*PKPbc PKPdf 00 20 25.8 +8.0
KHC Kasperske Hory 152.52 340 *e*PKPbc PKPdf 00 20 28.5 +9.2
GERES GERESS Array B 152.73 340 PKPbc PKPdf 00 20 27.4 +7.9
comp=Z,0.8nm,0.7s,baz=27,slow=3.0,SNR=7.1

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*BJI **22** 00:14:39.6, 28.72S×71.08W, h45^{km}, mB4.9, Ms5.4, Msz5.2*
*IDC **22** 00:14:39.2±5.1, 29.32S×71.11W, h31^{km}±36^{km}, mb4.7/13, mb1 4.7/18, mb1mx4.6/22, mbtmp4.7/18, ML4.5/5, MS4.2/14, Ms1 4.2/14, ms1mx4.1/19, Error ellipse: s-maj=20.6km s-min=12.8km az=80.0*
*HRVD **22** 00:14:41.3±0.3, 29.37S×71.41W, h77^{km}±4^{km}, MW5.1/57, Centroid moment Tensor Solution. LP body waves: s42,c56; Mantle waves: s57,c86; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.40±.22; $M_{\theta\theta}$0.44±.17; $M_{\phi\phi}$-0.84±.23; $M_{r\theta}$-0.26±.10; $M_{\theta\phi}$2.29±.15; $M_{\phi r}$4.60±.13; Best double couple: $M_0$5.167×10^{16} NP1:ϕ_s97°,δ26°,λ7°. NP2:ϕ_s360°,δ87°,λ116°. Principal axes: T 4.845, Plg42°, Azm295°; N .644, Plg26°, Azm178°; P -5.488, Plg36°, Azm67°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*GUC **22** 00:14:41.1±0.9, 29.42S×71.23W, h57^{km}±6^{km}, ML5.3*
*NEIC **22** 00:14:41.4±0.1, 29.34S×71.07W, mb5.0/57, Error ellipse: s-maj=5.2km s-min=2.3km az=80.0*
NEIC Felt [V] at La Higuera; [IV] at Copiapo, Coquimbo, Paihuano, La Serena and Vicuna; [III] at Huasco, Ovalle, Tierra Amarilla and Vallenar; [II] at Illapel.
ISC 22 00:14:39.9±0.1, **29.32S**±0.02×**71.03W**±0.05, **h51**^{km}, **h51**^{km}±1.4^{km}**:pP-P, n203, σ0^{s}92**/177, **mb5.0**/64, **MS4.4**/16, **26C-2D, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
LSCH La Serena 0.62 198 ⇑*i*P P 00 14 52.9 +0.3
LSCH *i* S S 00 15 01.7 -0.4
LSCH AMP 00 15 02.8
comp=N,510μm,0.7s
TLL Tololo Astrono 0.87 167 ⇑*i*P P 00 14 57.9 +1.9
TLL *i* S S 00 15 10.6 +2.6
TLL AMP 00 15 11.4
comp=E,129μm,0.3s
OVCH Ovalle 1.29 187 *e*P P 00 15 01.9 -0.1
OVCH *i* S S 00 15 17.3 -1.2
OVCH AMP 00 15 26.1
comp=N,48μm,0.5s
CMCH Combarbala 1.85 179 ⇓*i*P P 00 15 09.8 -0.1
CMCH *i* S S 00 15 31.5 -0.6
CPCH Copiapo 2.04 17 ⇓*i*P P 00 15 12.4 -0.1
CPCH *i* S S 00 15 39.0 +2.3
ILCH Illapel 2.31 183 *e*P P 00 15 16.3 -0.1
ILCH *i* S S 00 15 42.6 -1.1
ILCH AMP 00 15 50.9
comp=N,32μm,0.6s
ZON Zonda 3.01 138 ⇑*i*P P 00 15 29.5 +3.2
ZON *e*S S 00 16 09.5 +8.2
PACH Papudo 3.23 186 *e*P P 00 15 28.5 -0.9
CFAA Coronel Fontan 3.32 134 Pn P 00 15 34.3 +3.7
comp=N,22nm,0.3s,baz=314,slow=12,SNR=585
CFAA Sn S 00 16 14.3 +5.2
comp=N,58nm,0.3s,baz=330,slow=9.4,SNR=4.3
CFAA LR LR 00 17 01.4
comp=N,605nm,21.4s,baz=311,slow=42
CFAA Coronel Fontan 3.32 134 Pn P 00 15 34.3 +3.7
CFAA Sn S 00 16 14.3 +5.2
CFAA LR LR 00 17 01.4
JACH Jahuel 3.38 174 *e*P P 00 15 31.3 -0.2
ROCH El Roble 3.64 180 *e*P P 00 15 34.8 -0.4
FCH Farellones 4.05 171 *e*P P 00 15 41.8 +0.9
CLCH Cerro Calan 4.09 174 *e*P P 00 15 41.9 +0.4
RCDM Rinconada Maip 4.16 177 *e*P P 00 15 42.4 -0.1
RCDM *i* S S 00 16 28.4 -2.1
FSR Penalolen 4.17 174 *e*P P 00 15 43.6 +0.9
TACH Talagante 4.32 179 *e*P P 00 15 43.7 -1.1
SJCH San Jose de Ma 4.35 173 *e*P P 00 15 45.8 +0.6
CHCH Chadas Angostu 4.61 176 *e*P P 00 15 47.8 -1.1
CPN1 Cerro Paranal 4.71 7 *e*P P 00 15 48.4 -1.8
CPN1 *i* S S 00 16 42.0 -2.1
CACH El Canelo 4.80 176 *e*P P 00 15 51.1 -0.4
ANCH Antofagasta 5.64 6 *e*P P 00 16 02.2 -1.0
ANCH *i* S S 00 17 04.8 -2.7
SPCH San Pedro de A 6.87 22 *e*P P 00 16 27.4 +7.0
LVC Limon Verde 6.94 16 *e*P P 00 16 19.8 -1.7
LVC Limon Verde 6.94 16 Pn P 00 16 19.9 -1.5
comp=N,3.6nm,0.3s,baz=190,slow=11,SNR=45
LVC Sn S 00 17 55.6 +16
comp=N,44nm,0.3s,baz=51,slow=21,SNR=4.1
LVC LR LR 00 19 09.5
comp=N,2μm,21.7s,baz=211,slow=39
LVC Limon Verde 6.94 16 *e*Pn P 00 16 19.9 -1.6
comp=N,429nm,1.2s
PLCA Paso Flores 11.40 178 Pn P 00 17 18.9 -3.6
comp=N,0.3nm,0.3s,baz=347,slow=16,SNR=8.4
PLCA Lg 00 20 31.6
comp=N,0.8nm,0.3s,baz=259,slow=12,SNR=3.0
PLCA LR LR 00 22 11.3
comp=N,764nm,19.0s,baz=346,slow=40
PLCA Paso Flores 11.40 178 *e*P P 00 17 19.4 -3.1
comp=N,30nm,0.6s
LPA La Plata 12.42 120 ⇑*e*P P 00 17 39.6 +3.3
comp=N,310nm,0.8s
LPA *e*S S 00 19 53.0 -1.0
CPUP Villa Florida 12.48 79 Pn P 00 17 35.6 -1.6
comp=N,1.2nm,0.3s,baz=271,slow=15,SNR=32
CPUP LR LR 00 22 59.1
comp=N,4μm,18.8s,baz=284,slow=40
CPUP Villa Florida 12.48 79 *e*P P 00 17 37.3 +0.1
comp=N,30nm,0.6s
ARE Arequipa 12.80 358 *e*P P 00 17 43.0 +1.5
LPAZ La Paz 13.24 12 Pn P 00 17 45.5 -1.7
comp=N,0.5nm,0.3s,baz=205,slow=7.7,SNR=10
LPAZ La Paz 13.24 12 *e*P P 00 17 44.5 -2.7
comp=N,30nm,0.6s
SIV San Ignacio 16.12 37 Pn P 00 18 23.6 -0.9
comp=N,1.5nm,0.3s,baz=227,slow=10,SNR=18
NNA Nana 18.07 341 *e*P P 00 18 49.7 +0.7
comp=N,25nm,0.9s
SAML Samuel 21.56 22 *e*P P 00 19 26.8 -0.1
comp=N,38nm,1.1s,mb4.7
BDFB Brasilia 25.18 62 P P 00 20 03.0 +0.7
comp=N,22nm,0.7s,mb4.8,baz=240,slow=8.2,SNR=22
BDFB LR LR 00 31 42.1
comp=N,342nm,20.6s,MS3.9,baz=255,slow=40
BAO Brasilia Array 25.20 62 P P 00 20 03.2 +0.7
USHA Ushuaia 25.57 177 P P 00 20 05.0 -0.5
comp=N,46nm,0.9s,mb5.0,baz=341,slow=6.2,SNR=12
USHA LR LR 00 30 52.5
comp=N,673nm,18.7s,MS4.2,baz=341,slow=38
SDV Santo Domingo 37.98 1 *e*P P 00 21 54.0 -0.6
comp=N,3.3nm,0.4s,mb4.4
RCBR Riachuelo 40.56 62 *e*P P 00 22 16.9 +0.9
comp=N,20nm,1.0s,mb4.7
RCBR *e*pP pP 00 22 29.9 +0.3
VNA3 Neumayer Olymp 53.39 159 ⇑*i*P P 00 23 56.0 -0.1
VNA3 *e* pP 00 24 09.3 -0.8
VNA3 *e* 00 24 15.3
VNA3 *e* 00 25 59.6
VNA3 *e* 00 31 31.2
VNA1 Neumayer--Stat 53.67 158 ⇑*i*P P 00 23 58.3 +0.1
VNA1 *e* pP 00 24 11.4 -0.8
VNA1 *e* 00 24 17.5
VNA1 *e* 00 26 08.8
VNA1 *e* 00 31 15.9
VNA2 Neumayer--Watz 54.02 159 ⇑*i*P P 00 24 00.5 -0.2
VNA2 *e* pP 00 24 14.3 -0.4
VNA2 *e* pP 00 24 19.0 +4.3
VNA2 *e* 00 26 05.6
VNA2 *e* 00 31 26.5
SNAA Sanae 55.61 159 P P 00 24 11.7 -0.7
comp=N,16nm,1.1s,mb5.0,baz=281,slow=5.9,SNR=47
SNAA Sanae 55.61 159 ⇑*i*P P 00 24 11.5 -0.8
SNAA *e* pP 00 24 25.3 -1.1
SNAA *e* 00 24 31.0
SNAA *e* 00 26 13.8
SNAA *e* 00 31 40.8
RKT Rikitea 57.09 260 *e*LQ 00 38 27.1
comp=N,289nm,33.8s
RKT Rikitea 57.09 260 *e*P P 00 24 24.3 +0.8
RKT Rikitea 57.09 260 *e*PP PP 00 26 24.3 -7.9
comp=N,68nm,36.0s
QSPA South Pole Qui 60.91 180 *e*P P 00 24 48.5 -0.7
comp=N,21nm,0.8s,mb5.3
LRAL Lakeview Retre 63.83 345 *e*P P 00 25 07.8 -1.6
comp=N,7.2nm,1.0s,mb4.7
NATX Nacogdoches 64.76 338 *e*P P 00 25 15.0 -0.3
comp=N,58nm,1.1s,mb5.5
SWET Sewanee 65.71 347 *e*P P 00 25 19.9 -1.5
OXF Oxford 65.82 343 *e*P P 00 25 20.7 -1.4
comp=N,58nm,1.0s,mb5.6
OXF *e*pP pP 00 25 37.4 +0.8
PLAL Pickwick Lake 65.95 345 *e*P P 00 25 21.0 -1.9
comp=N,21nm,0.9s,mb5.2
PLAL *e*pP pP 00 25 37.4 +0.1
LTX Lajitas 66.13 329 *e*P P 00 25 23.4 -0.8
comp=N,9.9nm,0.9s,mb4.8
LTX LR LR
comp=Z,162nm,22.0s,MS4.2
TXAR Lajitas Array 66.13 329 P P 00 25 23.8 -0.3
comp=Z,9.3nm,0.8s,mb4.8,baz=150,slow=8.3,SNR=92
TXAR LR LR 00 49 46.7
comp=Z,115nm,21.2s,MS4.1,baz=155,slow=32
TXAR Lajitas Array 66.13 329 P P 00 25 23.8 -0.3
TXAR LR LR 00 49 46.7
ELN Prospectdale 66.82 352 *e*P P 00 25 27.6 -0.8
WVT Waverly 66.99 345 *e*P P 00 25 27.8 -1.7
comp=Z,28nm,0.9s,mb5.3
FWV Forest Hill 67.18 352 *e*P P 00 25 29.3 -1.3
GNAR Gosnell 67.35 343 *e*P P 00 25 31.6 -0.1
TAOE Nuku Hiva Isla 67.54 272 *e*LQ 00 42 48.8
comp=Z,3μm,36.7s
TAOE Nuku Hiva Isla 67.54 272 *e*S S 00 33 23.0 -61
comp=Z,6μm,36.8s
TAOE *e*SS 00 37 34.9
comp=Z,5μm,31.3s
TAOE *e*LR LR 00 45 40.7
comp=Z,1μm,28.8s
SBA Scott Base 67.82 191 *e*P P 00 25 33.6 -0.4
PARMO Parma 67.95 344 *e*P P 00 25 35.3 -0.1
WCI Wyandotte Cave 68.69 347 *e*P P 00 25 38.2 -1.9
comp=Z,8.2nm,0.8s,mb4.7
SIUC Southern Illin 68.82 345 *e*P P 00 25 40.0 -0.9
comp=Z,65nm,0.8s,mb5.6
VNDA Vanda 68.85 191 P P 00 25 40.8 +0.4
comp=Z,4.3nm,0.9s,mb4.4,baz=132,slow=5.3,SNR=18
VNDA Vanda 68.85 191 *e*P P 00 25 40.0 -0.4
comp=Z,5.6nm,1.0s,mb4.5
GDL2 Guadalupe Moun 68.88 330 *e*P P 00 25 41.0 -0.4
GDL2 *e*pP pP 00 25 56.0 +0.1
MNTX Cornudas Mount 68.91 329 *e*P P 00 25 39.9 -1.6
comp=Z,16nm,0.9s,mb4.9
TBI Tubuai 69.33 254 *e*LQ 00 43 28.2
comp=Z,70nm,32.2s
TBI Tubuai 69.33 254 *e*P P 00 25 35.7 -8.6
TBI Tubuai 69.33 254 *e*PP PP 00 28 20.5 +0.4
comp=Z,76nm,34.8s
TBI Tubuai 69.33 254 *e*LR LR 00 46 25.8
comp=Z,572nm,29.5s,baz=104
FVM French Village 69.37 344 *e*P P 00 25 43.2 -1.0
comp=Z,76nm,0.9s,mb5.6
FVM *e*pP pP 00 25 58.2 -0.5
CPRX Cap Rock 69.38 331 *e*P P 00 25 44.1 -0.3
CCM Cathedral Cave 69.64 343 *e*P P 00 25 44.9 -1.0
comp=Z,16nm,0.8s,mb5.0
CCM *e*pP pP 00 25 59.2 -1.3
SYO Syowa Base 69.90 159 ⇑P P 00 25 45.0 -2.0
SLM Saint Louis 69.94 344 *e*P P 00 25 46.9 -0.8
comp=Z,27nm,0.6s,mb5.3
LPM Los Pinos Moun 71.67 329 *e*P P 00 25 58.5 +0.3
PPT Papeete 71.85 260 *e*LQ 00 44 54.5
comp=Z,160nm,25.5s
PPT Papeete 71.85 260 *e*P P 00 25 47.6 -12
PPT Papeete 71.85 260 *e*PP PP 00 28 30.4 -11
comp=Z,75nm,36.0s
PPT Papeete 71.85 260 *e*S S 00 35 15.8 +0.8
comp=Z,162nm,29.0s
PPT *e*SS SS 00 39 50.6 -3.1
comp=Z,415nm,31.8s
PPT *e*LR LR 00 47 46.2
comp=Z,791nm,23.2s,baz=112
PPT Papeete 71.85 260 LR LR 00 49 34.3
comp=Z,311nm,20.1s,MS4.6,baz=114,slow=29
LAZ Ladron 71.98 329 *e*P P 00 26 00.5 +0.5
TUC Tucson 71.98 325 *e*P P 00 25 60.0 -0.1
comp=Z,13nm,1.3s,mb4.7
TUC *e*pP pP 00 26 15.1 +0.4
TUC LR LR
comp=Z,158nm,19.0s,MS4.3
KSU1 Kansas State U 72.12 339 *e*P P 00 25 59.2 -1.6
ANMO Albuquerque 72.14 330 *e*P P 00 26 01.1 +0.1
comp=Z,17nm,1.3s,mb4.8
ANMO LR LR
comp=Z,186nm,19.0s,MS4.4
CBKS Cedar Bluff 72.88 337 *e*P P 00 26 05.4 +0.1
CBKS *e*pP pP 00 26 20.0 +0.1
DBIC Dimbokro 72.89 72 P P 00 26 06.1 +0.3
comp=Z,11nm,0.5s,mb5.0,baz=220,slow=6.2,SNR=43
DBIC LR LR 00 55 27.8
comp=Z,285nm,21.4s,MS4.5,baz=206,slow=34
DBIC Dimbokro 72.89 72 *e*P P 00 26 05.7 -0.1
comp=Z,12nm,0.8s,mb4.9
DBIC *e*pP pP 00 26 19.2 -1.2
MSNY Massena 74.04 357 *e*P P 00 26 11.9 0.0
SDCO Great Sand Dun 74.11 332 *e*P P 00 26 12.9 +0.5
comp=Z,22nm,1.1s,mb5.0
BAR Barrett 75.34 321 *e*P P 00 26 20.0 +0.4
PV01 Paradox Valley 75.73 330 *e*P P 00 26 22.5 +0.7
PFO Pinyon Flat Ob 75.93 322 *e*P P 00 26 23.3 +0.3
comp=Z,23nm,1.1s,mb5.0
SMCO Snowmass 75.93 332 *e*P P 00 26 24.2 +1.3
PV10 Paradox Valley 76.13 330 *e*P P 00 26 24.4 +0.3
SUR Sutherland 76.36 120 *e*P P 00 26 26.7 +1.3
comp=Z,22nm,0.8s,mb5.1
LDFC Landfair 76.36 324 *e*P P 00 26 26.1 +0.7
LDFC *e*pP pP 00 26 38.7 -1.4
NEN Nelson 76.67 325 *e*P P 00 26 27.3 +0.1
PHWY Pilot Hill 77.15 334 *e*P P 00 26 30.1 +0.4
MWC Mount Wilson 77.26 322 *e*P P 00 26 30.8 +0.3
SRU San Rafael 77.39 330 *e*P P 00 26 31.3 +0.2
MAW Mawson 77.41 164 *e*P P 00 26 30.5 -0.2
comp=Z,10nm,0.8s,mb4.8
MAW *e* pP 00 26 45.0 -0.4
MAW Mawson 77.41 164 P P 00 26 31.0 +0.3
comp=Z,13nm,0.9s,mb4.9,baz=210,slow=7.1,SNR=26
MAW LR LR 01 01 07.7
comp=Z,264nm,19.6s,MS4.6,baz=234,slow=36
MSU Marysvale 77.65 328 *e*P P 00 26 33.5 +0.9
MVU Marysvale 77.66 328 ⇑*i*P P 00 26 33.4 +0.8
comp=Z,24nm,1.0s,mb5.1
ARUT Antelope Range 77.67 327 *e*P P 00 26 33.8 +1.1
TMUT Trail Mountain 77.85 329 *e*P P 00 26 34.5 +0.8
RWWY Rawlins 78.16 333 ⇑*i*P P 00 26 36.0 +0.7
comp=Z,57nm,0.9s,mb5.5
DAC Darwin (Calif) 78.57 323 ⇑*i*P P 00 26 38.3 +0.7
comp=Z,23nm,0.9s,mb5.1
MPU Maple Canyon 78.62 329 ⇑*i*P P 00 26 38.3 +0.4
NLU North Lily Min 78.77 329 *e*P P 00 26 39.1 +0.4
DAU Daniels Canyon 78.78 330 *e*P P 00 26 39.5 +0.7
JLU Jordanelle 79.02 330 *e*P P 00 26 40.5 +0.5
RSSD Black Hills 79.08 336 ⇑*e*P P 00 26 40.6 +0.4
comp=Z,13nm,0.9s,mb4.9
TRCR Troy Canyon 79.15 326 *e*P P 00 26 41.6 +0.9
CTU Camp Tracy 79.23 330 *e*P P 00 26 41.0 -0.1
TCUT Toone Canyon 79.42 330 *e*P P 00 26 42.5 +0.2
TSUM Tsumeb 79.67 106 *e*P P 00 26 44.3 +0.3
comp=Z,43nm,1.1s,mb5.3
TSUM *e*pP pP 00 26 58.8 0.0
TPH Tonopah 79.75 325 *e*P P 00 26 44.5 +0.4
comp=Z,34nm,1.5s,mb5.0
BW06 Boulder Array 80.01 332 *e*P P 00 26 45.1 -0.2
comp=Z,15nm,1.1s,mb4.8
BW06 LR LR
comp=Z,149nm,21.0s,MS4.3
PDAR Pinedale Array 80.01 332 P P 00 26 45.4 0.0
comp=Z,4.0nm,0.7s,mb4.5,baz=146,slow=5.3,SNR=40
PDAR LR LR 00 57 23.9
comp=Z,116nm,21.8s,MS4.2,baz=136,slow=32
SPUT South Promonto 80.04 330 ⇑*i*P P 00 26 45.8 +0.3
OMM Old Mammoth Mi 80.31 323 ⇑*i*P P 00 26 47.8 +0.7
LRV Little Rabbit 80.51 321 *e*P P 00 26 49.6 +1.5
HVU Hansel Valley 80.56 330 ⇑*e*P P 00 26 48.4 +0.1
NVAR Mina Array Bea 80.57 324 P P 00 26 48.9 +0.4
comp=Z,5.6nm,0.8s,mb4.5,baz=150,slow=6.6,SNR=23
AHID Auburn Hatcher 80.64 331 *e*P P 00 26 48.8 +0.1
comp=Z,28nm,1.3s,mb5.0
ELK Elko 80.86 328 ⇑*i*P P 00 26 50.1 +0.2
comp=Z,20nm,0.9s,mb5.0
REDW Red Top Meadow 81.03 332 ⇑*i*P P 00 26 50.9 +0.2
comp=Z,19nm,1.1s,mb4.9
SNOW Snow King Moun 81.07 332 *e*P P 00 26 51.5 +0.5
comp=Z,7.9nm,0.8s,mb4.7
LOHW Long Hollow 81.14 332 ⇑*i*P P 00 26 51.3 0.0
comp=Z,18nm,1.3s,mb4.8
TPAW Teton Pass 81.18 332 *e*P P 00 26 51.8 +0.3
comp=Z,9.5nm,0.2s,mb5.4
RRI2 Red Ridge 81.21 331 ⇑*e*P P 00 26 52.3 +0.6
comp=Z,9.9nm,0.9s,mb4.7
MOOW Moose Ponds 81.31 332 *e*P P 00 26 52.2 +0.1
comp=Z,10.0nm,1.4s,mb4.5
CMB Columbia Colle 81.36 323 *e*P P 00 26 52.6 +0.1
comp=Z,6.7nm,1.0s,mb4.5
BOSA Boshof 81.49 118 P P 00 26 54.1 +0.7
comp=Z,5.7nm,0.6s,mb4.7,baz=253,slow=3.8,SNR=34
BOSA LR LR 00 57 30.7
comp=Z,266nm,19.6s,MS4.6,baz=172,slow=32
BOSA Boshof 81.49 118 *e*P P 00 26 53.9 +0.5
comp=Z,22nm,0.8s,mb5.1
BOSA *e*PcP PcP 00 27 01.1 +1.5
BOSA *e*pP pP 00 27 08.0 -0.2
BOSA *e*sP sP 00 27 13.4 -0.5
BMN Battle Mountai 81.56 326 *e*P P 00 26 52.6 -1.0
comp=Z,7.5nm,1.0s,mb4.6
YMR Madison River 82.15 332 ⇑*e*P P 00 26 57.7 +1.1
ULM Lac du Bonnet 82.23 344 P P 00 26 56.6 -0.2
comp=Z,18nm,0.9s,mb5.0,baz=152,slow=5.3,SNR=17
ULM Lac du Bonnet 82.23 344 *e*P P 00 26 56.1 -0.7
comp=Z,32nm,1.0s,mb5.2
ULM *e* pP 00 27 15.1 +3.4
QLMT Earthquake Lak 82.47 332 *e*P P 00 26 59.4 +1.2
BEKR Beckwourth 82.70 324 ⇑*i*P P 00 27 00.1 +0.7
comp=Z,27nm,1.3s,mb5.1
DGMT Dagmar 82.94 338 *e*P P 00 27 00.9 +0.5
comp=Z,90nm,1.2s,mb5.7
MCMT McKenzie Canyo 83.06 331 *e*P P 00 27 02.0 +0.8
BOZ Bozeman (W) 83.23 333 *e*P P 00 27 01.9 -0.1
comp=Z,2.8nm,0.9s,mb4.3
BOZ LR LR
comp=Z,143nm,21.0s,MS4.3
LBTB Lobatse 83.49 115 *e*P P 00 27 04.2 +0.5
comp=Z,51nm,0.9s,mb5.5
LBTB *e*pP pP 00 27 18.2 -0.4
LBTB LR LR
comp=Z,603nm,20.0s,MS5.0
WVOR Wild Horse Val 83.78 327 *e*P P 00 27 04.7 -0.1
comp=Z,9.5nm,1.2s,mb4.8
SCHQ Schefferville 83.88 2 P P 00 27 05.0 0.0
comp=Z,3.6nm,0.8s,mb4.6,baz=125,slow=2.8,SNR=3.9
HRY Holter Researc 84.18 333 *e*P P 00 27 07.4 +0.7
MOD Modoc 84.19 325 ⇑*i*P P 00 27 07.3 +0.4
comp=Z,9.5nm,0.8s,mb5.0
WDC Whiskeytown Da 84.36 323 *e*P P 00 27 06.8 -1.0
comp=Z,3.8nm,0.8s,mb4.6
CASY Casey 84.70 181 *e*P P 00 27 09.2 +0.3
CASY *e* pP 00 27 24.4 +0.6
CHMT Chamberlain Mo 84.91 332 *e*P P 00 27 11.1 +0.7
BMO Blue Mountains 85.01 329 ⇑*e*P P 00 27 10.9 0.0
comp=Z,6.8nm,1.3s,mb4.6
MSO Missoula 85.12 332 *e*P P 00 27 11.9 +0.5
comp=Z,10.0nm,1.6s,mb4.7
YBH Yreka Blue Hor 85.28 324 P P 00 27 11.9 -0.5
comp=Z,5.7nm,0.8s,mb4.7,baz=99,slow=1.6,SNR=10
CROR Criterion Ridg 86.82 327 P P 00 27 21.4 +1.6
WALA Waterton Lakes 86.90 333 ⇑*e*P P 00 27 20.5 +0.4
comp=Z,26nm,1.1s,mb5.4
BROR Big Rock Looko 87.00 326 P P 00 27 21.0 +0.3
NEW Newport 87.58 331 LR LR 01 02 42.3
comp=Z,108nm,20.4s,MS4.2,baz=225,slow=33
NEW Newport 87.58 331 *e*P P 00 27 22.6 -0.8
comp=Z,2.4nm,0.8s,mb4.5
OD2 Odessa Site #2 87.59 330 P P 00 27 24.1 +0.7
FFC Flin Flon 87.84 343 *e*P P 00 27 24.2 -0.3
comp=Z,4.3nm,0.7s,mb4.8
TBM Table Mountain 88.26 329 P P 00 27 27.6 +0.9
ETW Entiat 88.47 329 P P 00 27 28.4 +0.7
EDM Edmonton 90.06 336 *e*P P 00 27 33.6 -1.4
LSZ Lusaka 90.43 108 *e*P P 00 27 39.2 +1.6
comp=Z,13nm,1.2s,mb5.1
LSZ *e*pP pP 00 27 53.2 +0.5
AFI Afiamalu 92.40 253 LR LR 00 59 59.2
comp=Z,190nm,19.7s,MS4.5,slow=30
ILAR Eielson Array 110.41 334 Pdiff Pdif 00 29 06.2 0.0
comp=Z,0.4nm,0.7s,baz=170,slow=5.5,SNR=4.7
BRTR Keskin Array B 118.73 58 PKP PKPdf 00 33 24.6 +2.2
comp=Z,0.7nm,0.8s,baz=180,slow=4.3,SNR=4.5
MALT Malatya 121.98 61 *e*PKPdf PKPdf 00 33 30.4 +1.7
WRA Warramunga Arr 125.25 210 PKP PKPdf 00 33 36.0 +0.5
comp=Z,3.2nm,0.8s,baz=159,slow=1.7,SNR=12
WRAB Tennant Creek 125.26 210 *e*PKPdf PKPdf 00 33 36.2 +0.6
KIV Kislovodsk 126.20 55 *e*PKPdf PKPdf 00 33 37.7 +0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ZRNK	**Zerenda**	**142.45**	**40**	*e*PKPdf	PKPdf	00 34 07.3	+0.8
BVAR	**Borovoye Array**	**143.19**	**39**	PKP	PKPdf	00 34 07.6	-0.2
	comp=Z,0.9nm,0.7s,baz=225,slow=2.0,SNR=7.0						
YAK	**Yakutsk**	**144.56**	**343**	*e*PKPdf	PKPdf	00 34 10.0	+0.1
PALK	**Pallekele**	**145.52**	**124**	*e*PKPbc	PKPbc	00 34 15.0	+1.3
YSS	**Yuzh-Sakhalins**	**148.44**	**313**	*e*PKPbc	PKPdf	00 34 21.3	+4.5
AAK	**Ala-Archa**	**149.32**	**55**	*e*PKPbc	PKPdf	00 34 25.2	+6.7
AAK				*e*PKPab	PKPab	00 34 29.5	-0.3
ASAJ	**Asahikawa**	**149.51**	**308**	PKPbc	PKPdf	00 34 24.7	+6.0
	comp=Z,6.5nm,0.3s,baz=17,slow=19,SNR=6.3						
HYB	**Hyderabad**	**149.76**	**106**	*e*P	PKPdf	00 34 27.0	+7.2
HYB	**Hyderabad**	**149.76**	**106**	*i* PKP	PKPdf	00 34 27.0	+7.2
KSM	**Kuching**	**152.28**	**183**	*e*PKPdf	PKPdf	00 34 25.1	+1.3
KSM				*e*PKPab	PKPab	00 34 42.4	-0.6
MKAR	**Makanchi Array**	**152.88**	**43**	PKP	PKPdf	00 34 25.6	+2.0
	comp=Z,0.3nm,0.4s,baz=270,slow=2.4,SNR=6.2						
MKAR				PKPbc	PKPdf	00 34 33.3	+10
	comp=Z,2.6nm,0.7s,baz=320,slow=2.0,SNR=22						
DDI	**Dehra Dun**	**153.20**	**80**	*e*	PKPdf	00 34 34.0	+9.4
MJAR	**Matsushiro Arr**	**154.49**	**294**	PKPbc	PKPdf	00 34 35.1	+9.0
	comp=Z,1.5nm,0.6s,baz=208,slow=0.2,SNR=4.0						
MJAR				PKPab	PKPab	00 34 51.0	-0.5
	comp=Z,7.5nm,0.8s,baz=124,slow=2.0,SNR=11						
MAT	**Matsushiro**	**154.49**	**294**	*e*PKP	PKPdf	00 34 27.0	+0.9
MAT	**Matsushiro**	**154.49**	**294**	PKP	PKPdf	00 34 27.2	+1.1
MDJ	**Mudanjiang**	**157.63**	**319**	PKP	PKPdf	00 34 31.1	+1.1
CN2	**Changchun**	**160.45**	**322**	*e*PKP	PKPdf	00 34 36.9	+3.6
JNU	**Nakatsue**	**160.89**	**287**	PKPab	PKPab	00 35 18.8	-0.4
	comp=Z,7.9nm,0.9s,baz=153,slow=4.5,SNR=3.7						
SONM	**Songino Array**	**161.40**	**5**	PKP	PKPdf	00 34 37.3	+3.2
	comp=Z,1.4nm,0.9s,baz=34,slow=1.2,SNR=4.0						
SONM				PKPab	PKPab	00 35 21.9	+1.0
	comp=Z,1.1nm,0.8s,baz=37,slow=1.2,SNR=3.7						
SONM	**Songino Array**	**161.40**	**5**	PKP	PKPdf	00 34 37.3	+3.2
SONM				PKPab	PKPab	00 35 21.9	+1.0
NJ2	**Nanjing**	**171.06**	**290**	*e*PKP	PKPdf	00 34 45.4	+3.2
NJ2				APKP		00 34 56.3	
NJ2				XPKP		00 34 59.8	
NJ2				PKP2	PKPab	00 36 06.6	+2.8
NJ2				PKS	PKS	00 38 16.0	+2.1
NJ2				PP	PP		
	comp=Z,110nm,8.3s						
NJ2				LR	LR		
	comp=N,210nm,33.6s						
NJ2				LR	LR		
	comp=E,270nm,28.4s						
NJ2				LR	LR		
	comp=Z,130nm,35.5s						

*IDC **22** 00:21:37.2±3.5, 21.42S×179.08W, h619km±41km, mb3.3/9, mb1 3.5/9, mb1mx3.4/15, mbtmp4.3/9, Error ellipse: s-maj=24.8km s-min=20.7km az=125.0*

*NEIC **22** 00:21:38.0±3.0, 21.42S×179.13W, h630km±34km, mb3.9/2, Error ellipse: s-maj=18.8km s-min=18.1km az=170.0*

ISC 22 00:21:36.9±4.3**, 21.4S**±0.2×**179.2W**±0.2**, h633**km±56km**, n38, σ0§41**/19**, mb3.8**/12**, 2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**23.68**	**198**	P	**P**	**00 26 03.4**	**-0.3**
	6.4nm,0.3s,mb4.7,baz=48,slow=10,SNR=8.0						
STKA	**Stephens Creek**	**36.40**	**245**	P	**P**	**00 27 52.2**	**+0.6**
	1.1nm,0.4s,mb3.7,baz=80,slow=11,SNR=5.0						
WRA	**Warramunga Arr**	**43.39**	**263**	P	**P**	**00 28 47.5**	**-0.2**
	0.9nm,0.4s,mb3.6,baz=96,slow=7.5,SNR=9.9						
MBWA	**Marble Bar**	**56.58**	**258**	*e*P	**P**	**00 30 23.5**	**-0.1**
	2.2nm,0.3s,mb3.9						
QSPA	**South Pole Qui**	**68.66**	**180**	⇓*i*P	**P**	**00 31 39.9**	**+0.1**
	3.5nm,0.7s,mb3.9						
FX1	**Attu Island--F**	**74.28**	**355**	P	**P**	**00 32 12.0**	**-0.5**
	7.6nm,0.7s,mb4.3,baz=179,slow=2.9,SNR=5.8						
MAW	**Mawson**	**80.33**	**200**	P	**P**	**00 32 45.2**	**+0.7**
	4.1nm,1.2s,mb3.6,baz=115,slow=14,SNR=3.2						
NVAR	**Mina Array Bea**	**82.44**	**44**	P	**P**	**00 32 56.0**	**+0.1**
	1.3nm,0.3s,mb3.9,baz=220,slow=7.0,SNR=9.0						
SNAA	**Sanae**	**87.13**	**179**	P	**P**	**00 33 17.1**	**-0.6**
	0.2nm,0.6s,mb3.0,baz=209,slow=10,SNR=3.4						
VNA3	**Neumayer Olymp**	**87.30**	**177**	*e*	**P**	**00 33 18.2**	**-0.3**
VNA3	**Neumayer Olymp**	**87.30**	**177**	*e*	**P**	**00 33 18.2**	**-0.3**
VNA2	**Neumayer--Watz**	**87.73**	**177**	*e*	**P**	**00 33 13.9**	**-6.7**
VNA2	**Neumayer--Watz**	**87.73**	**177**	*e*	**P**	**00 33 13.9**	**-6.7**
VNA1	**Neumayer--Stat**	**87.97**	**177**	*e*	**P**	**00 33 14.4**	**-7.3**
VNA1	**Neumayer--Stat**	**87.97**	**177**	*e*	**P**	**00 33 14.4**	**-7.3**
TXAR	**Lajitas Array**	**88.47**	**58**	P	**P**	**00 33 25.7**	**+0.7**
	1.3nm,0.8s,mb3.7,baz=225,slow=3.5,SNR=12						
TXAR	**Lajitas Array**	**88.47**	**58**	P	**P**	**00 33 25.7**	**+0.7**
ILAR	**Eielson Array**	**89.45**	**13**	P	**P**	**00 33 23.4**	**-5.3**
	0.7nm,0.8s,mb3.5,baz=168,slow=1.1,SNR=5.5						
PDAR	**Pinedale Array**	**90.38**	**44**	P	**P**	**00 33 33.3**	**-0.2**
	1.2nm,0.8s,mb3.8,baz=204,slow=2.2,SNR=10						
BVAR	**Borovoye Array**	**119.06**	**320**	PKP	PKPdf	00 39 15.9	+0.8
	1.0nm,0.4s,baz=113,slow=2.9,SNR=4.4						
ARCES	**ARCESS Array B**	**129.61**	**349**	PKP	PKPdf	00 39 36.0	+1.1
	2.0nm,0.6s,baz=348,slow=1.2,SNR=11						
ARCES	**ARCESS Array B**	**129.61**	**349**	PKP	PKPdf	00 39 36.0	+1.1
FINES	**FINESS Array B**	**136.32**	**343**	PKP	PKPdf	00 39 50.5	+3.0
	0.7nm,0.5s,baz=180,slow=1.9,SNR=3.8						
AKASG	**Malin Array Be**	**143.26**	**330**	PKP	PKPdf	00 39 59.8	-0.3
	7.0nm,0.7s,baz=40,slow=4.4,SNR=16						
EKA	**Eskdalemuir Ar**	**146.00**	**4**	PKPbc	PKPbc	00 40 08.4	+2.1
	4.0nm,0.7s,baz=348,slow=2.6,SNR=8.1						
BRTR	**Keskin Array B**	**146.61**	**311**	PKPbc	PKPbc	00 40 10.7	+2.4
	2.5nm,0.7s,baz=141,slow=4.2,SNR=7.5						
MLR	**Muntele Rosu**	**148.37**	**325**	PKPbc	PKPdf	00 40 16.0	+7.3
	2.7nm,0.8s,baz=79,slow=2.7,SNR=5.3						
OKC	**Ostrava-Krasne**	**148.49**	**338**	*e*PKPbc	PKPdf	00 40 15.9	+7.1
UPC	**Upice**	**148.60**	**341**	*e*PKPbc	PKPdf	00 40 16.3	+7.3
DPC	**Dobruska-Polom**	**148.64**	**341**	*e*PKPbc	PKPdf	00 40 16.7	+7.7
CLL	**Collm**	**148.68**	**345**	⇓*i*PKP1	PKPdf	00 40 16.0	+6.9
CLL				*e*PKP2	PKPab	00 40 22.0	-0.8
PVCC	**Panska Ves**	**148.99**	**343**	*e*PKPbc	PKPdf	00 40 17.1	+7.5
PRU	**Pruhonice**	**149.49**	**342**	*e*PKPbc	PKPdf	00 40 18.0	+7.6
NKC	**Novy Kostel**	**149.81**	**345**	*e*PKPbc	PKPdf	00 40 19.0	+8.2
KHC	**Kasperske Hory**	**150.53**	**343**	*e*PKPbc	PKPdf	00 40 20.5	+8.5
GRA1	**Grafenberg Arr**	**150.60**	**346**	*e*PKP	PKPdf	00 40 20.6	+8.5
GERES	**GERESS Array B**	**150.76**	**342**	PKPbc	PKPdf	00 40 21.3	+8.9
	2.2nm,0.7s,baz=45,slow=1.9,SNR=11						
DAVOX	**Davos**	**153.64**	**346**	PKPbc	PKPdf	00 40 27.6	+11
	2.0nm,0.6s,baz=315,slow=5.7,SNR=3.6						

*NIED **22** 00:27:00, 35.70N×140.70E, h53km, Mw4.6 Best double couple: M₀8.92×10¹⁵ NP1:φs9°, δ76°, λ92°. NP2:φs181°, δ14°, λ83°.*

*JMA **22** 00:27:02.8±0.1, 35.75N×140.70E, h50km±1km, M4.4 Broadband fault plane solution: P waves. NP1:φs184°, δ17°, λ90°. NP2:φs4°, δ73°, λ90°. Principal axes: T Plg62°, Azm274°; N Plg0°, Azm4°; P Plg28°, Azm94°;*

JMA Felt III J1.

*BJI **22** 00:27:02.8, 35.81N×140.75E, h77km, mB4.8, mb4.6, Ms3.9, Msz3.7*

*IDC **22** 00:27:04.4±2.0, 35.62N×140.55E, h55km±19km, mb4.1/21, mb1 4.3/23, mb1mx4.2/27, mbtmp4.4/23, ML4.1/2, MS3.8/8, Ms1 3.8/8, ms1mx3.4/21, Error ellipse: s-maj=17.7km s-min=11.2km az=78.0*

*NEIC **22** 00:27:05.8±0.9, 35.69N×140.57E, h66km±6km, mb4.7/32, MW4.6(NIED), Error ellipse: s-maj=8.5km s-min=7.0km az=140.0*

NEIC Recorded [3 JMA] in Chiba and [1 JMA] in Ibaraki and Kanagawa Prefectures.

*MOS **22** 00:27:07.0±0.8, 36.15N×140.44E, h69km, mb4.9/25, Error ellipse: s-maj=11.6km s-min=6.6km az=118.7*

ISC 22 00:27:03.1±0.2**, 35.69N**±0.03×**140.71E**±0.04**, h58**km**, h58**km±3.9km**:pP-P, n179, σ1§07**/189**, mb4.6**/60**, MS4.0**/13**, 5C-16D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.12**	**85**	⇑P	**P**	**00 27 10.8**	**-1.1**
CHOJ				S	**S**	**00 27 17.2**	**-1.2**
JCN	**Nagara**	**0.49**	**237**	⇓P	**P**	**00 27 15.0**	**+0.1**
JCN				S	**S**	**00 27 24.6**	**+1.1**
JYT	**Yasato**	**0.68**	**322**	⇓P	**P**	**00 27 15.8**	**-1.2**
BSO4	**Boso 4**	**0.76**	**203**	⇓P	**P**	**00 27 18.1**	**0.0**
BSO4				*e*S	**S**	**00 27 30.6**	**+1.4**
JHO	**Hitachi**	**0.93**	**353**	⇓P	**P**	**00 27 19.4**	**-0.8**
BSO1	**Boso 1**	**1.06**	**168**	⇓P	**P**	**00 27 21.7**	**-0.4**
BSO1				*e*S	**S**	**00 27 37.2**	**+1.0**
JAG	**Ashikaga**	**1.25**	**306**	⇓P	**P**	**00 27 23.4**	**-1.4**
JOD2	**Odawara 2**	**1.39**	**253**	⇓P	**P**	**00 27 26.0**	**-0.8**
JOD2				S	**S**	**00 27 46.1**	**+1.8**
JIM2	**Oshima 3**	**1.43**	**227**	P	**P**	**00 27 26.1**	**-1.2**
JIM2				*e*S	**S**	**00 27 45.2**	**0.0**
JRY	**Ryogami san**	**1.50**	**283**	⇓P	**P**	**00 27 27.8**	**-0.5**
MJAR	**Matsushiro Arr**	**2.19**	**294**	P	**P**	**00 27 36.8**	**-1.2**
	62nm,0.3s,baz=115,slow=8.7,SNR=342						
MJAR				LR	LR	00 28 37.3	
	comp=Z,2μm,18.3s,baz=130,slow=45						
MJAR	**Matsushiro Arr**	**2.19**	**294**	P	**P**	**00 27 36.8**	**-1.2**
MJAR				LR	LR	00 28 37.3	
MAJO	**Matsushiro**	**2.19**	**294**	⇓*i*P	**P**	**00 27 38.3**	**+0.3**
MAT	**Matsushiro**	**2.19**	**294**	*e*P	**P**	**00 27 38.0**	**0.0**
MAT				S	**S**	**00 28 05.0**	**+1.0**
MAT	**Matsushiro**	**2.19**	**294**	P	**P**	**00 27 38.1**	**+0.1**
MAT				*e*S	**S**	**00 28 05.3**	**+1.3**
JHJ	**Hachijo jima 2**	**2.68**	**197**	P	**P**	**00 27 43.1**	**-1.8**
	81nm,0.3s,baz=285,slow=1.5,SNR=20						
JHJ				S	**S**	**00 28 14.3**	**-1.9**
	194nm,0.3s,baz=88,slow=22,SNR=4.6						
JNU	**Nakatsue**	**8.52**	**255**	P	**P**	**00 29 05.8**	**-0.5**
	baz=54,slow=12,SNR=3.1						
ASAJ	**Asahikawa**	**8.54**	**9**	P	**P**	**00 29 03.1**	**-3.5**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ	**Asahikawa**	**8.54**	**9**	P	**P**	**00 29 03.1**	**-3.5**
	comp=Z,8.3nm,0.3s,baz=279,slow=31,SNR=10						
CBIJ	**Chichi jima**	**8.66**	**171**	P	**P**	**00 29 03.2**	**-5.0**
	comp=Z,41nm,0.3s,baz=1.0,slow=2.2,SNR=19						
CBIJ				S	**S**	**00 30 32.4**	**-13**
	comp=Z,7.4nm,0.3s,baz=253,slow=19,SNR=5.0						
KS15	**Wonju Array Si**	**10.46**	**283**	*e*Pn	**P**	**00 29 34.3**	**+1.4**
YSS	**Yuzh-Sakhalins**	**11.36**	**7**	*e*P	**P**	**00 29 44.2**	**-0.7**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**11.36**	**7**	*e*Pn	**P**	**00 29 44.2**	**-0.7**
	comp=Z,20nm,0.8s						
MDJ	**Mudanjiang**	**12.31**	**320**	P	**P**	**00 29 56.3**	**-1.4**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,49nm,7.5s						
MDJ				LR	LR		
	comp=N,202nm,18.4s						
MDJ				LR	LR		
	comp=E,154nm,17.6s						
MDJ				LR	LR		
	comp=Z,315nm,21.1s						
JOW	**Kunigami**	**13.81**	**234**	LR	LR	00 35 08.8	
	comp=Z,266nm,21.7s,baz=117,slow=36						
CN2	**Changchun**	**14.25**	**309**	*e*P	**P**	**00 30 23.0**	**-0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CN2				LR	LR		
	comp=N,300nm,19.0s						
CN2				LR	LR		
	comp=E,300nm,19.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
DL2	**Dalian**	**15.52**	**288**	P	**P**	**00 30 41.9**	**+2.3**
DL2				*e*S	**S**	**00 33 32.6**	**+2.6**
DL2				SS	SS	00 33 49.6	-0.1
DL2				AMB	AMB		
	comp=Z,20nm,1.2s						
DL2				LR	LR		
	comp=N,100nm,24.5s						
DL2				LR	LR		
	comp=E,160nm,23.9s						
DL2				LR	LR		
	comp=Z,400nm,22.4s						
SSE	**Sheshan**	**16.93**	**260**	P	**P**	**00 30 57.8**	**+0.4**
SSE				AP		00 31 13.3	
SSE				XP		00 31 22.3	
SSE				S	**S**	**00 34 04.6**	**+2.2**
SSE				PCP	PcP	00 35 41.5	-0.9
SSE				AMB	AMB		
	comp=Z,22nm,0.7s						
SSE				AMB	AMB		
	comp=Z,101nm,3.9s						
SSE				LR	LR		
	comp=N,113nm,23.1s						
SSE				LR	LR		
	comp=E,60nm,23.1s						
SSE				LR	LR		
	comp=Z,151nm,23.8s						
SSE	**Sheshan**	**16.93**	**260**	P	**P**	**00 30 57.7**	**+0.3**
	comp=Z,22nm,0.7s						
SSE				pP		00 31 13.2	
SSE				sP		00 31 22.3	
SSE				S	**S**	**00 34 04.6**	**+2.2**
SSE				sS		00 34 35.2	
SSE				PcP	PcP	00 35 41.5	-0.9
NJ2	**Nanjing**	**18.50**	**265**	*e*P	**P**	**00 31 18.3**	**+1.4**
NJ2				AP		00 31 32.5	
NJ2				PP	PP	00 31 35.0	+1.9
NJ2				XP		00 31 42.1	
NJ2				S	**S**	**00 34 38.0**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,100nm,6.6s						
NJ2				LR	LR		
	comp=N,1μm,21.7s						
NJ2				LR	LR		
	comp=E,1μm,20.3s						
NJ2				LR	LR		
	comp=Z,440nm,16.6s						
WHN	**Wuhan**	**22.63**	**264**	P	**P**	**00 31 59.3**	**-0.7**
CIT	**Chita**	**25.28**	**319**	*e*P	**P**	**00 32 25.4**	**0.0**
YAK	**Yakutsk**	**27.26**	**349**	*e*P	**P**	**00 32 40.0**	**-3.6**
YAK				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.6						
YAK				pmax	pmax		
	comp=Z,36nm,0.9s,mb4.9						
SONM	**Songino Array**	**28.09**	**306**	P	**P**	**00 32 49.6**	**-1.7**
	comp=Z,3.9nm,0.7s,mb4.1,baz=104,slow=8.4,SNR=24						
SONM				LR	LR	00 43 57.6	
	comp=Z,136nm,20.9s,MS3.5,baz=96,slow=36						
BOD	**Bodaibo**	**28.38**	**330**	*e*P	**P**	**00 32 51.3**	**-2.4**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.2						
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.3						
LZH	**Lanzhou**	**29.76**	**282**	*e*P	**P**	**00 33 05.3**	**-0.9**
LZH				AP	pP	00 33 21.8	+1.1
LZH				XP	sP	00 33 32.8	+5.1
LZH				PP	PP	00 34 05.0	+0.2
LZH				PPP	PPP	00 34 21.1	+2.6
LZH				*e*S	**S**	**00 37 55.4**	**-1.7**
LZH				XS		00 38 22.1	
LZH				SS	SS	00 39 35.5	+0.2
LZH				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.2						
LZH				AMB	AMB		
	comp=Z,190nm,4.6s						
LZH				LR	LR		
	comp=E,760nm,19.9s						
LZH				LR	LR		
	comp=Z,520nm,20.8s,MS4.1						
LZH	**Lanzhou**	**29.76**	**282**	*e*P	**P**	**00 33 05.2**	**-1.0**
LZH				*PP	pP	00 33 21.8	+1.1
LZH				*SP	sP	00 33 32.8	+5.1
LZH						00 34 05.0	
LZH				PPP	PPP	00 34 21.1	+2.6
LZH				*e*S	**S**	**00 37 55.4**	**-1.7**
LZH				*SS		00 38 22.1	
LZH				SS	SS	00 39 35.5	+0.2
LZH				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.2						
LZH				MLR	MLR		
	comp=Z,520nm,20.8s,MS4.1						
LZH	**Lanzhou**	**29.76**	**282**	*e*P	**P**	**00 33 05.2**	**-1.0**
	comp=Z,50nm,1.1s,mb5.2						
LZH				pP	pP	00 33 21.8	+1.1
LZH				sP	sP	00 33 32.8	+5.1
LZH				PP	PP	00 34 05.0	+0.2
LZH				PPP	PPP	00 34 21.1	+2.6
LZH				*e*S	**S**	**00 37 55.4**	**-1.7**
LZH				sS		00 38 22.1	
LZH				SS	SS	00 39 35.5	+0.2
LZH				LR	LR		
	comp=Z,520nm,20.8s,MS4.1						
ZAK	**Zakamensk**	**30.68**	**310**	*e*P	**P**	**00 33 12.7**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.9						
TLY	**Talaya**	**30.80**	**313**	*e*P	**P**	**00 33 14.5**	**-0.8**
TLY				*e*		00 34 27.7	
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
TLY				MLR	MLR		
	comp=Z,116nm,20.0s,MS3.5						
GTA	**Gaotai**	**32.44**	**289**	P	**P**	**00 33 29.8**	**0.0**
GTA				AP	pP	00 33 47.5	+3.1
GTA				XP	sP	00 33 56.8	+5.3
GTA				PP	PP	00 34 37.9	-1.3
GTA				PCP	PcP	00 36 16.6	+0.6
GTA				S	**S**	**00 38 36.3**	**-2.8**
GTA				XS		00 39 07.1	
GTA				SCP		00 39 53.5	
GTA				SS	SS	00 40 34.5	-3.3
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,79nm,5.0s						
GTA				LR	LR		
	comp=N,93nm,18.6s,MS3.8						
GTA				LR	LR		
	comp=E,143nm,19.8s,MS3.8						
GTA				LR	LR		
	comp=Z,165nm,24.3s,MS3.6						
KMI	**Kunming**	**34.21**	**263**	P	**P**	**00 33 46.9**	**+1.7**
KMI				PPP	PPP	00 35 17.0	-2.6
KMI				S	**S**	**00 39 05.8**	**-0.9**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
KMI				LR	LR		
	comp=N,170nm,17.1s						
KMI				LR	LR		
	comp=Z,169nm,21.6s,MS3.7						
KMI	**Kunming**	**34.21**	**263**	P	**P**	**00 33 46.9**	**+1.7**
KMI				PPP	PPP	00 35 17.0	-2.6
KMI				S	**S**	**00 39 05.7**	**-1.0**
KMI				SS	SS	00 41 10.5	-8.2
KMI				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
KMI				MLR	MLR		
	comp=Z,170nm,21.6s,MS3.7						
KMI	**Kunming**	**34.21**	**263**	P	**P**	**00 33 46.9**	**+1.7**
	comp=Z,10.0nm,1.0s,mb4.7						
KMI				PPP	PPP	00 35 17.0	-2.6
KMI				S	**S**	**00 39 05.7**	**-1.0**
KMI				sS		00 39 22.1	
KMI				SS	SS	00 41 10.5	-8.2
KMI				SSS	SSS	00 41 35.9	-10
KMI				LR	LR		
	comp=Z,170nm,21.6s,MS3.7						
BILL	**Bilibino**	**35.47**	**16**	*e*P	**P**	**00 34 00.8**	**+5.2**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
WMQ	**Urumqi**	**40.95**	**298**	*e*PKP	**P**	**00 34 31.6**	**-10**
WMQ				LR	LR		
	comp=N,314nm,20.2s,MS4.2						
WMQ				LR	LR		
	comp=E,214nm,20.5s,MS4.2						
WMQ				LR	LR		
	comp=Z,401nm,20.6s,MS4.3						
WMQ	**Urumqi**	**40.95**	**298**	*e*P	**P**	**00 34 39.4**	**-2.1**
WMQ				AP	pP	00 34 57.8	+1.4
WMQ				XP	sP	00 35 06.8	+3.5
WMQ				PP	PP	00 36 17.6	-2.0
WMQ				AMB	AMB		
	comp=Z,13nm,1.8s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,50nm,6.8s						
WMQ				LR	LR		
	comp=N,314nm,20.2s,MS4.2						
WMQ				LR	LR		
	comp=E,214nm,20.5s,MS4.2						
WMQ				LR	LR		
	comp=Z,401nm,20.6s,MS4.3						
LSA	**Lhasa**	**41.78**	**276**	P	**P**	**00 34 49.4**	**+1.0**
SHL	**Shillong**	**42.83**	**270**	*e*P	**P**	**00 34 56.0**	**-1.2**
MKAR	**Makanchi Array**	**44.36**	**303**	P	**P**	**00 35 09.2**	**-0.1**
	comp=Z,8.4nm,0.6s,mb4.6,baz=84,slow=7.5,SNR=19						
MKAR				LR	LR	00 54 13.6	
	comp=Z,90nm,19.0s,MS3.7,baz=158,slow=37						
ILAR	**Eielson Array**	**50.93**	**32**	P	**P**	**00 36 00.2**	**-0.1**
	comp=Z,4.5nm,0.8s,mb4.5,baz=272,slow=6.4,SNR=34						
BVAR	**Borovoye Array**	**51.06**	**313**	P	**P**	**00 36 01.1**	**-0.3**
	comp=Z,7.8nm,0.8s,mb4.7,baz=90,slow=7.4,SNR=9.1						
BRVK	**Borovoye**	**51.12**	**313**	*e*P	**P**	**00 36 00.5**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**51.12**	**313**	*e*P	**P**	**00 36 00.5**	**-1.3**
	comp=Z,6.4nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**51.90**	**313**	*e*P	**P**	**00 36 06.6**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,84nm,0.7s,mb5.8						
ZRNK	**Zerenda**	**51.90**	**313**	*e*P	**P**	**00 36 06.6**	**-1.1**
	comp=Z,84nm,0.7s,mb5.8						
FITZ	**Fitzroy Crossi**	**55.37**	**197**	*e*P	**P**	**00 36 32.5**	**-1.2**
	comp=Z,12nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**55.37**	**197**	P	**P**	**00 36 32.6**	**-1.1**
	comp=Z,16nm,0.6s,mb5.3,baz=11,slow=8.4,SNR=20						
WB2	**Warramunga Arr**	**55.65**	**187**	⇓*i*P	**P**	**00 36 34.0**	**-1.8**
WRA	**Warramunga Arr**	**55.66**	**187**	P	**P**	**00 36 34.1**	**-1.7**
	comp=Z,2.8nm,0.4s,mb4.7,baz=0.9,slow=7.8,SNR=19						
INK	**Inuvik**	**55.84**	**27**	P	**P**	**00 36 36.6**	**+0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	**Inuvik**	**55.84**	**27**	P	**P**	**00 36 36.6**	**+0.1**
	comp=Z,1.9nm,0.4s,mb4.5,baz=301,slow=4.2,SNR=4.2						
INK	**Inuvik**	**55.84**	**27**	*e*P	**P**	**00 36 36.2**	**-0.2**
	comp=Z,3.1nm,0.6s,mb4.5						
ARU	**Arti**	**56.99**	**319**	⇑*i*P	**P**	**00 36 43.6**	**-1.2**
ARU				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.2						
ARU	**Arti**	**56.99**	**319**	*e*P	**P**	**00 36 43.5**	**-1.4**
	comp=Z,25nm,0.9s,mb5.2						
HYB	**Hyderabad**	**57.60**	**269**	*e*P	**P**	**00 36 49.0**	**-0.6**
HYB	**Hyderabad**	**57.60**	**269**	*i* P	**P**	**00 36 49.0**	**-0.6**
DLBC	**Dease Lake**	**60.04**	**37**	P	**P**	**00 37 07.6**	**+1.7**
	comp=Z,0.9nm,0.6s,mb4.0,baz=315,slow=14,SNR=3.2						
KEV	**Kevo**	**64.49**	**339**	*e*p	**P**	**00 37 34.1**	**-1.3**
	comp=Z,9.5nm,1.1s,mb4.7						
ARCES	**ARCESS Array B**	**65.05**	**339**	P	**P**	**00 37 38.2**	**-0.8**
	comp=Z,3.1nm,0.7s,mb4.4,baz=51,slow=7.8,SNR=8.7						
YKA	**Yellowknife Ar**	**65.25**	**30**	P	**P**	**00 37 41.2**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.1,baz=286,slow=6.7,SNR=4.8						
STKA	**Stephens Creek**	**67.22**	**179**	P	**P**	**00 37 51.4**	**-2.0**
	comp=Z,4.6nm,0.9s,mb4.5,baz=14,slow=8.6,SNR=4.6						
STKA	**Stephens Creek**	**67.22**	**179**	P	**P**	**00 37 51.4**	**-2.0**
KAF	**Kangasniemi**	**69.24**	**333**	*e*p	**P**	**00 38 03.9**	**-1.5**
	comp=Z,4.3nm,0.6s,mb4.6,baz=51,slow=5.8						
FINES	**FINESS Array B**	**69.73**	**332**	P	**P**	**00 38 08.0**	**-0.5**
	comp=Z,4.1nm,0.8s,mb4.4,baz=90,slow=3.8,SNR=12						
KIV	**Kislovodsk**	**71.36**	**311**	*e*P	**P**	**00 38 19.4**	**+0.9**
KIV				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
KIV	**Kislovodsk**	**71.36**	**311**	*e*P	**P**	**00 38 19.4**	**+0.9**
	comp=Z,12nm,0.8s,mb4.9						
GNI	**Garni**	**72.05**	**307**	P	**P**	**00 38 23.4**	**+0.7**
GNI				pmax	pmax		
	comp=Z,2.0nm,0.4s						
GNI	**Garni**	**72.05**	**307**	P	**P**	**00 38 23.4**	**+0.7**
	comp=Z,1.9nm,0.4s,mb4.3,baz=34,slow=11,SNR=4.5						
GNI	**Garni**	**72.05**	**307**	*e*P	**P**	**00 38 22.8**	**0.0**
	comp=Z,7.5nm,0.9s,mb4.6						
AKASG	**Malin Array Be**	**75.01**	**322**	P	**P**	**00 38 38.8**	**-0.9**
	comp=Z,4.4nm,0.6s,mb4.6,baz=48,slow=6.1,SNR=25						
FFC	**Flin Flon**	**75.14**	**32**	*e*P	**P**	**00 38 41.1**	**+0.7**
FFC				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
FFC	**Flin Flon**	**75.14**	**32**	*e*P	**P**	**00 38 41.1**	**+0.6**
	comp=Z,5.2nm,0.9s,mb4.5						
NB2	**NORSAR Subarra**	**75.20**	**337**	P	**P**	**00 38 40.3**	**-0.3**
	comp=Z,4.9nm,0.6s,mb4.6,baz=41,slow=5.6						
NB2	**NORSAR Subarra**	**75.20**	**337**	P	**P**	**00 38 40.3**	**-0.3**
NB2				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
NOA	**NORSAR Array B**	**75.20**	**337**	P	**P**	**00 38 40.6**	**-0.1**
	comp=Z,5.6nm,0.7s,mb4.6,baz=39,slow=5.8,SNR=15						
NOA				LR	LR	01 14 26.5	
	comp=Z,59nm,20.1s,MS3.9,baz=270,slow=38						
HRY	**Holter Researc**	**75.32**	**43**	*e*P	**P**	**00 38 43.0**	**+1.3**
KBD	**Kabd**	**75.86**	**296**	*e*P	**P**	**00 38 45.4**	**+0.3**
QRN	**Al-Qurain**	**75.93**	**295**	*e*P	**P**	**00 38 44.5**	**-1.0**
BOZ	**Bozeman (W)**	**76.07**	**44**	*e*P	**P**	**00 38 47.0**	**+1.1**
BOZ				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						

BOZ Bozeman (W) 76.07 44 *e*P P **00 38 47.0 +1.0**
comp=Z,3.6nm,1.0s,mb4.3
RDF Al-Radifah 76.10 296 *e*P P **00 38 46.2 -0.3**
RDF AMb AMB 00 38 48.8
comp=Z,34nm,0.6s,mb5.5
NAY Al-Naaiem 76.15 296 *e*P P **00 38 45.5 -1.2**
NAY AMb AMB 00 38 48.1
comp=Z,18nm,0.8s,mb5.0
RST Umm Al-Ruwaisa 76.19 296 *e*P P **00 38 45.8 -1.2**
RST AMb AMB 00 38 48.9
comp=Z,19nm,1.1s,mb4.9
ELK Elko 76.85 49 *e*P P **00 38 53.6 +3.1**
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 76.85 49 *e*P P **00 38 53.6 +3.1**
comp=Z,1.5nm,0.9s,mb3.9
MALT Malatya 77.15 308 *e*P P **00 38 53.2 +1.0**
MALT pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
MALT Malatya 77.15 308 *e*P P **00 38 53.2 +1.0**
comp=Z,8.6nm,1.3s,mb4.5
IMW Indian Meadow 77.53 45 *e*P P **00 38 56.4 +2.3**
comp=Z,3.3nm,0.8s,mb4.3
KWP Kalwaria 78.89 324 *e*P P **00 39 02.2 +0.7**
KWP pmax pmax
comp=Z,15nm,1.0s,mb4.9
KWP Kalwaria 78.89 324 *e*P P **00 39 02.2 +0.8**
comp=Z,15nm,1.0s,mb4.9
BURAR Bucovina Array 79.01 322 ⇑P P **00 39 02.4 +0.2**
BW06 Boulder Array 79.02 45 *e*P P **00 39 02.9 +0.6**
comp=Z,1.3nm,0.6s,mb4.0
PDAR Pinedale Array 79.02 45 P P **00 39 03.4 +1.0**
comp=Z,1.4nm,0.6s,mb4.1,baz=277,slow=1.6,SNR=16
BR131 Keskin Array 5 79.31 311 *e*P P **00 39 04.4 +0.4**
comp=Z,0.9nm,0.5s,mb4.0
BRTR Keskin Array B 79.31 311 P P **00 39 04.3 +0.3**
comp=Z,4.0nm,1.0s,mb4.3,baz=98,slow=3.6,SNR=16
VRI Vrincioaia 79.38 319 ⇓P P **00 39 05.4 +1.2**
KOLS Kolonicke sedl 79.57 324 *e*P P **00 39 00.3 -4.9**
KOLS *e* pP **00 39 18.6 -2.9**
STHS Stebnicka Huta 79.73 325 *e*P P **00 39 06.9 +0.9**
STHS *e* pP 00 39 20.3 -2.0
MLR Muntele Rosu 80.04 320 P P **00 39 08.8 +1.0**
MLR pmax pmax
comp=Z,1.0nm,0.6s
MLR Muntele Rosu 80.04 320 P P **00 39 08.8 +1.0**
comp=Z,1.1nm,0.6s,mb4.0,baz=151,slow=15,SNR=4.5
MLR Muntele Rosu 80.04 320 ⇑P P **00 39 08.0 +0.2**
MLR Muntele Rosu 80.04 320 ⇑P P **00 39 08.0 +0.2**
KECS Kecovo 80.74 324 *e*P P **00 39 04.6 -6.8**
HILS Ha'il 81.17 297 P P **00 39 14.3 +0.2**
VYHS Vyhne 81.50 325 *e*P P **00 39 15.9 +0.5**
VYHS *e* pP 00 39 29.5 -2.3
BRG Berggiesshubel 81.91 329 *e*P P **00 39 25.1 +7.6**
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
BRG pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
BRG Berggiesshubel 81.91 329 P P **00 39 25.1 +7.6**
comp=Z,5.7nm,1.1s,mb4.4
CLL Collm 81.97 330 ⇓ *i*P P **00 39 18.2 +0.4**
CLL *e**PP pP 00 39 32.0 -2.2
CLL *e**SP sP 00 39 42.0 +1.4
CLL pmax pmax
comp=Z,12nm,1.0s,mb4.8
CLL Collm 81.97 330 ⇓ *i*P P **00 39 18.2 +0.4**
comp=Z,12nm,1.0s,mb4.8
CLL *e*pP pP 00 39 32.0 -2.2
CLL *e*sP sP 00 39 42.0 +1.4
CLL Collm 81.97 330 ⇓P P **00 39 18.2 +0.4**
comp=Z,logA/T=1.1,mb4.8
CLL *e* pP 00 39 32.0 -2.2
CLL *e**SP sP 00 39 42.0 +1.4
MOX Moxa 83.05 330 *e*P P **00 39 22.0 -1.3**
MOX *e**PP pP 00 39 42.0 +2.3
MOX Moxa 83.05 330 *e*P P **00 39 22.0 -1.3**
MOX pP pP 00 39 42.0 +2.3
MOX L 01 19 12.0
KAMS Al Khamasin 83.17 290 P P **00 39 24.7 +0.2**
GERES GERESS Array B 83.55 328 P P **00 39 26.4 +0.5**
comp=Z,0.9nm,0.7s,mb4.0,baz=31,slow=7.8,SNR=6.0
GERES LR LR 01 20 45.2
comp=Z,113nm,19.8s,MS4.2,baz=337,slow=39
GRA1 Grafenberg Arr 83.94 330 *e*P P **00 39 28.8 +1.0**
comp=Z,9.0nm,1.1s,mb4.8
GRA1 *e*pP pP 00 39 42.6 -1.7
GRF Grafenberg Arr 83.94 330 *e*P P **00 39 28.8 +1.0**
GRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
GRF Grafenberg Arr 83.94 330 *e*P P **00 39 28.8 +1.0**
GRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
GRF Grafenberg Arr 83.94 330 *e*P P **00 39 28.8 +1.0**
comp=Z,9.0nm,1.1s,mb4.8
GRF *e*pP pP 00 39 42.6 -1.7
EKA Eskdalemuir Ar 84.20 340 P P **00 39 29.3 +0.3**
comp=Z,1.8nm,0.9s,mb4.2,baz=31,slow=4.9,SNR=4.4
TBKS Tabuk 84.40 301 P P **00 39 31.3 +0.7**
TATS Tathlith 84.46 290 P P **00 39 31.9 +0.8**
PPT Papeete 84.55 116 LR LR 01 13 36.1
comp=Z,90nm,19.3s,MS4.2,baz=333,slow=33
SDCO Great Sand Dun 84.62 47 *e*P P **00 39 33.9 +2.4**
comp=Z,1.1nm,0.6s,mb4.2
EIL Elat 84.62 303 *e*P P **00 39 31.8 +0.1**
comp=Z,16nm,1.3s,mb5.0
HAQS Haql 85.02 302 P P **00 39 34.5 +0.8**
BDAS Al Bad' **85.28 302** P P **00 39 35.8 +0.8**
DJNS Zahran al Janu 85.48 288 P P **00 39 37.6 +1.4**
UMJS Umm Lajj 85.67 298 P P **00 39 37.9 +0.9**
BLJS Baljurashi 85.69 291 P P **00 39 38.4 +1.2**
ANMO Albuquerque 85.89 49 *e*P P **00 39 40.3 +2.5**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 85.89 49 *e*P P **00 39 40.2 +2.4**
comp=Z,1.5nm,0.9s,mb4.2
GIVF Givet 86.10 333 *e*P P **00 39 38.3 -0.2**
BAIF Baives 86.36 334 *e*P P **00 39 39.5 -0.2**
BAIF *e*pP pP 00 39 56.7 +0.4
CDF Champ du Feu 86.55 331 *e*P P **00 39 40.9 +0.2**
comp=Z,13nm,0.9s,mb4.8
CDF Champ du Feu 86.55 331 *e*P P **00 39 40.9 +0.2**
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
HINF Hinteralfeld 87.19 331 *e*P P **00 39 43.7 -0.2**
FLN La Foliniere 89.10 335 *e*P P **00 39 53.1 +0.2**
comp=Z,31nm,1.2s,mb5.2
FLN *e*R
comp=Z,226nm,22.2s
FLN La Foliniere 89.10 335 *e*P P **00 39 53.1 +0.2**
FLN pmax pmax
comp=Z,15nm,1.2s,mb5.2
FLN MLR MLR
comp=Z,230nm,22.3s,MS4.5
LPL La Plagne 89.11 330 *e*P P **00 39 53.4 +0.3**
SSF Saint Saulge 89.11 332 *e*P P **00 39 53.4 +0.4**
LPG La Plagne 89.11 330 *e*P P **00 39 53.5 +0.4**
AVF Avril sur Loir 89.39 332 *e*P P **00 39 54.8 +0.4**
comp=Z,13nm,0.9s,mb4.9
AVF Avril sur Loir 89.39 332 *e*P P **00 39 54.8 +0.4**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
MBDF Montbardon 89.73 329 *e*P P **00 39 55.9 -0.1**
ORIF Oris-en-Rattie 89.94 330 *e*P P **00 39 56.8 -0.2**
ORIF *e*R
comp=Z,277nm,21.5s
TCF Toulx Ste Croi 90.25 333 *e*P P **00 39 57.8 -0.6**
FRF La Foret Royal 90.73 329 *e*P P **00 40 00.2 -0.5**
comp=Z,13nm,0.9s,mb5.0
FRF *e*pP pP 00 40 17.7 +0.3
FRF La Foret Royal 90.73 329 *e*P P **00 40 00.2 -0.5**
FRF *e**PP pP 00 40 17.7 +0.3
FRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
MFF Saint Martin d 90.84 334 *e*P P **00 40 01.6 +0.4**
comp=Z,6.0nm,0.7s,mb4.7
MFF Saint Martin d 90.84 334 *e*P P **00 40 01.6 +0.4**
MFF pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
LMR La Mourre 90.97 328 *e*P P **00 40 01.5 -0.4**
RJF Les Rejaudoux 91.34 333 *e*P P **00 40 04.0 +0.5**
comp=Z,11nm,0.9s,mb4.9
RJF *e*pP pP 00 40 20.2 0.0
RJF *e*R
comp=Z,332nm,21.2s
RJF Les Rejaudoux 91.34 333 *e*P P **00 40 04.0 +0.5**
RJF *e**PP pP 00 40 20.2 0.0
RJF pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
RJF MLR MLR
comp=Z,330nm,21.3s,MS4.7
TXAR Lajitas Array 91.39 52 P P **00 40 06.0 +1.8**
comp=Z,0.7nm,0.6s,mb4.1,baz=289,slow=2.2,SNR=10
TXAR LR LR 01 20 02.4
comp=Z,34nm,20.9s,MS3.8,baz=175,slow=35
TXAR Lajitas Array 91.39 52 P P **00 40 06.0 +1.8**
TXAR LR LR 01 20 02.4
CAF Calviac 91.45 332 *e*P P **00 40 04.5 +0.4**
LASF Ste Croix 91.46 330 *e*P P **00 40 03.7 -0.4**
comp=Z,41nm,1.5s,mb5.2
LFF La Frestale 91.94 333 *e*P P **00 40 06.3 0.0**
comp=Z,8.1nm,0.6s,mb4.9
LFF La Frestale 91.94 333 *e*P P **00 40 06.3 0.0**
LFF pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
RKT Rikitea 98.78 112 eLR LR 00 40 51.2
comp=Z,621nm,25.8s,baz=260
SNAA Sanae 139.30 197 P PKPdf 00 46 24.5 +1.7
VNA2 Neumayer--Watz 140.87 196 ⇓ *i*P PKPdf 00 46 27.7 +2.1
VNA3 Neumayer Olymp 141.12 195 ⇓ *i*P PKPdf 00 46 24.9 -1.1
SAML Samuel 145.60 45 *e*PKPdf PKPdf 00 46 37.2 +1.8
LPAZ La Paz 147.86 61 PKIKP PKPdf 00 46 43.6 +4.6
LPAZ pmax pmax
comp=Z,3.0nm,0.7s
LPAZ La Paz 147.86 61 PKPbc PKPdf 00 46 43.5 +4.5
comp=Z,2.5nm,0.7s,baz=22,slow=16,SNR=9.8
LPAZ La Paz 147.86 61 *e*PKPbc PKPdf 00 46 45.0 +6.0
LVC Limon Verde 151.16 71 *e*PKPbc PKPdf 00 46 53.5 +9.4

CASC 22 00:32:27.6±2.4, 12.61N×88.45W, h39km±479km, MD3.6, 6C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.83**	**12**	*e*P		P	00 32 44.2	+1.4
VSM				*e*S		S	00 32 55.1	+1.1
BLLM	**Bellamira**	**0.85**	**14**	⇑ *e*P		P	00 32 44.1	+0.9
BLLM				*e*S		S	00 32 55.2	+0.6
CNCH	**Conchagua**	**0.89**	**42**	*e*P		P	00 32 45.2	+1.4
CNCH				*e*S		S	00 32 57.8	+2.2
SNVI	**San Vicente**	**1.07**	**339**	*e*P		P	00 32 46.6	+0.3
SNVI				*e*S		S	00 32 59.2	-0.9
LCBS	**La Ceiba**	**1.16**	**334**	⇑ *e*P		P	00 32 47.9	+0.3
LCBS				*e*S		S	00 33 01.0	-1.4
LFRS	**El Faro**	**1.17**	**329**	⇑ *e*P		P	00 32 48.0	+0.3
LFRS				*e*S		S	00 33 01.8	-1.0
LBRS	**Las Brisas**	**1.26**	**333**	*e*P		P	00 32 49.9	+0.8
LBRS				*e*S		S	00 33 04.7	-0.4
LFU	**La Fuente**	**1.30**	**330**	⇑ *e*P		P	00 32 50.1	+0.4
LFU				*e*S		S	00 33 05.7	-0.4
CRIN	**San Cristobal**	**1.36**	**86**	⇓ *e*P		P	00 32 50.7	+0.1
CRIN				*e*S		S	00 33 07.4	-0.3
BOQS	**Boqueron**	**1.38**	**324**	⇑ *e*P		P	00 32 51.4	+0.6
BOQS				*e*S		S	00 33 07.7	-0.4
LEON	**Leon**	**1.53**	**97**	*e*P		P	00 32 51.7	-1.2
LEON				*e*S		S	00 33 09.8	-2.0
TEL3	**Telica 3**	**1.56**	**91**	⇓ *e*P		P	00 32 52.8	-0.6
TEL3				*e*S		S	00 33 12.8	+0.2
TELN	**Telica**	**1.58**	**90**	⇑ *e*P		P	00 32 53.0	-0.6
TELN				*e*S		S	00 33 13.3	+0.4
SBLS	**San Blas**	**1.68**	**317**	*e*P		P	00 32 55.8	+0.8
SBLS				*e*S		S	00 33 17.0	+1.6
MIRN	**Miramar**	**1.70**	**96**	*e*P		P	00 32 54.2	-1.1
MIRN				*e*S		S	00 33 15.9	-0.2
CNGN	**Cerro Negro**	**1.71**	**94**	*e*P		P	00 32 54.2	-1.2
CNGN				*e*S		S	00 33 16.2	-0.1
RTR	**El Retiro**	**1.73**	**318**	*e*P		P	00 32 56.6	+0.8
RTR				*e*S		S	00 33 16.2	-0.6
COPN	**Copaltepe**	**1.86**	**103**	*e*P		P	00 32 56.8	-0.8
COPN				*e*S		S	00 33 19.5	-0.6
MOMJ	**Momotombo**	**1.87**	**96**	*e*P		P	00 32 57.1	-0.7
MOMJ				*e*S		S	00 33 20.7	+0.3
RBDL	**Robledal**	**1.92**	**321**	*e*P		P	00 32 59.2	+0.8
TICN	**Ticuantepe**	**2.24**	**105**	*e*P		P	00 33 03.0	0.0
TICN				*e*S		S	00 33 29.0	-0.6

NIED ***22*** *00:48:00,46.80N×152.90E,h41km,Mw4.3 Best double couple: M₀2.8×10¹⁵ NP1:φ₀313°,δ81°,λ26°. NP2:φ₀219°, δ65°,λ170°.*
IDC ***22*** *00:48:04.7±0.8,46.59N×152.58E,mb4.1/17,mb1 4.3/19, mb1mx4.3/24,mbtmp4.1/19,ML4.0/2,MS3.6/3,Ms1 3.6/3, ms1mx2.9/22,Error ellipse: s-maj=23.1km s-min=14.1km az=170.0*
SKHL ***22*** *00:48:10.0±2.1,46.57N×152.94E,h60km±28km,mb4.7/6, Ms4.1/1*
MOS ***22*** *00:48:12.6±1.0,46.98N×152.67E,h53km,mb4.9/15,Error ellipse: s-maj=11.7km s-min=7.1km az=98.6*
BJI ***22*** *00:48:12.7,46.85N×152.80E,h70km,mB4.5,mb4.3, Ms3.7,Msz3.6*
NEIC ***22*** *00:48:14.4±0.9,46.87N×152.73E,h63km±7km,mb4.6/30, Error ellipse: s-maj=10.6km s-min=5.4km az=153.0*
ISC 22 00:48:11.0±1.1, 46.99N±0.07×152.68E±0.07, h39km±8km, h59km±2.2km: pP-P, n136, σ1§07/135, mb4.5/51, MS3.7/2, 12C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.78**	**244**	⇓ *i*PN		P	**00 49 04.8**	**-3.5**
KUR				pmax	pmax			
comp=Z,150nm,0.5s								
KUR	**Kuril'sk**	**3.78**	**244**	*i* P		P	**00 49 04.8**	**-3.5**
KUR				AMB	AMB		00 49 05.2	
comp=Z,150nm,0.5s								
KUR				*e*S		S	**00 49 47.5**	**-4.7**
KUR				A			00 50 05.4	
comp=Z,260nm,0.6s								
KUR				A			00 50 05.4	
comp=Z,680nm,0.6s								
SKR	**Severo-Kuril's**	**4.33**	**30**	*e*PN		P	**00 49 16.1**	**-0.1**
SKR				*e*S		S	**00 50 04.1**	**-2.1**
SKR				pmax	pmax			
comp=N,60nm,0.5s								
SKR				pmax	pmax			
comp=E,50nm,0.5s								
SKR				pmax	pmax			
comp=Z,80nm,0.5s								
SKR				smax				
comp=N,170nm,0.7s								
SKR				smax				
comp=E,90nm,0.7s								
SKR				MLR	MLR			
comp=E,1μm,14.0s								
SKR				MLR	MLR			
comp=Z,1μm,14.0s								
SKR				MLR	MLR			
comp=N,1μm,12.0s								
SKR	**Severo-Kuril's**	**4.33**	**30**	*e*P		P	**00 49 16.1**	**-0.1**
SKR				AMB	AMB		00 49 19.0	
comp=N,60nm,0.5s								
SKR				AMB	AMB		00 49 19.0	
comp=N,50nm,0.5s								
SKR				AMB	AMB		00 49 19.0	
comp=N,80nm,0.5s								
SKR				*e*S		S	**00 50 04.1**	**-2.1**
SKR				A			00 50 07.8	
comp=N,80nm,0.5s								
SKR				A			00 50 07.8	
comp=N,170nm,0.7s								
SKR				A			00 50 07.8	
comp=N,90nm,0.7s								
SKR				AMS	AMS		00 51 14.0	
comp=N,1μm,13.0s								
SKR				AMS	AMS		00 51 14.0	
comp=N,1μm,13.0s								
YSS	**Yuzh-Sakhalins**	**6.79**	**273**	⇑ *e*PN		P	**00 49 52.3**	**+1.6**
YSS				pmax	pmax			
comp=E,60nm,1.0s								
YSS				pmax	pmax			
comp=Z,60nm,1.0s								
YSS				pmax	pmax			
comp=Z,80nm,1.0s								
YSS				pmax	pmax			
comp=N,50nm,0.9s								
YSS				pmax	pmax			
comp=E,90nm,1.0s								
YSS	**Yuzh-Sakhalins**	**6.79**	**273**	*e*Pn		P	**00 49 52.2**	**+1.4**
comp=E,53nm,0.8s
UGL Uglegorsk 7.42 290 *e*rx rx 00 51 51.0
ASAJ Asahikawa 7.64 252 PN P **00 50 02.6 +0.1**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ MLR MLR
comp=Z,201nm,19.5s
ASAJ Asahikawa 7.64 252 Pn P **00 50 02.5 +0.1**
comp=Z,3.0nm,0.3s,baz=75,slow=17,SNR=21
ASAJ LR LR 00 52 46.3
comp=Z,201nm,19.5s,baz=198,slow=38
TYV Tymovskoe 7.65 304 *e*PN P **00 50 03.5 +0.8**
TYV pmax pmax
comp=Z,28nm,1.0s
TYV MLR MLR
comp=Z,500nm,17.0s
TYV Tymovskoe 7.65 304 *e*P P **00 50 03.5 +0.8**
TYV AMB AMB 00 50 07.0
comp=Z,28nm,1.0s
TYV *e*S S **00 51 27.5 -1.6**
TYV AMS AMS 00 53 06.0
comp=Z,500nm,17.0s
TEY Ternei 11.35 266 *e*P P **00 50 55.0 +1.5**
MA2 Magadan 12.66 356 PN P **00 51 14.2 +3.2**
EKMR Ekimchan 14.04 303 *e*P P **00 51 31.9 +2.8**
EKMR AMB AMB 00 51 37.7
comp=Z,10.0nm,0.6s
KLR Kul'dur 14.16 287 *e*P P **00 51 36.8 +6.2**
FX1 Attu Island--F 14.43 58 P P **00 51 33.3 -0.8**
FX1 00 54 04.5
FX1 pmax pmax
comp=Z,3.0nm,0.3s
FX1 smax
comp=E,1.0nm,0.3s
FX1 Attu Island--F 14.43 58 Pn P **00 51 33.3 -0.8**
comp=E,2.5nm,0.3s,baz=284,slow=2.2,SNR=16
FX1 Sn S **00 54 04.5 -9.0**
comp=E,0.7nm,0.3s,baz=221,slow=20,SNR=4.3
FX1 Attu Island--F 14.43 58 *e*Pn P **00 51 33.0 -1.1**
MJAR Matsushiro Arr 14.99 231 P P **00 51 35.3 -6.4**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR Matsushiro Arr 14.99 231 Pn P **00 51 35.3 -6.4**
comp=Z,0.6nm,0.3s,baz=34,slow=13,SNR=4.7
MAJO Matsushiro 15.00 231 *e*P P **00 51 44.0 +2.3**
MAJO pmax pmax
comp=Z,6.0nm,0.4s
MAJO Matsushiro 15.00 231 *e*Pn P **00 51 44.0 +2.3**
comp=Z,6.4nm,0.4s
KS15 Wonju Array Si 20.62 251 *e*P P **00 52 49.7 +0.3**
JNU Nakatsue 21.59 238 P P **00 52 57.0 -2.2**
comp=Z,7.3nm,0.8s,mb4.2,baz=114,slow=4.3,SNR=6.4
BILL Bilibino 22.22 14 *e*P P **00 52 55.3 -10**
BILL pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
BOD Bodaibo 25.61 309 *e*P P **00 53 32.1 -5.8**
SONM Songino Array 30.97 289 P P **00 54 24.8 -1.6**
comp=Z,0.7nm,0.7s,mb3.6,baz=65,slow=7.8,SNR=7.5
SONM PcP PcP 00 57 20.0 -2.0
comp=Z,0.2nm,0.5s,baz=110,slow=1.6,SNR=4.9
SONM LR LR 01 07 59.4
comp=Z,95nm,18.6s,MS3.5,baz=288,slow=38
ZAK Zakamensk 32.31 295 *e*P P **00 54 35.0 -3.1**
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.7
ILAR Eielson Array 36.55 39 P P **00 55 14.1 -0.2**
comp=Z,1.1nm,0.7s,mb3.8,baz=262,slow=6.7,SNR=13
INK Inuvik 41.61 33 P P **00 55 57.7 +1.6**
INK pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 41.61 33 P P **00 55 57.7 +1.6**
comp=Z,2.4nm,0.8s,mb3.9,baz=337,slow=4.4,SNR=4.8
INK Inuvik 41.61 33 *e*P P **00 55 56.9 +0.8**
comp=Z,4.3nm,0.8s,mb4.1
WMQ Urumqi 44.56 291 *e*P P **00 56 22.8 +2.3**
DLBC Dease Lake 45.64 46 P P **00 56 30.4 +1.5**
comp=Z,1.7nm,0.7s,mb4.1,baz=310,slow=11,SNR=5.2
DLBC Dease Lake 45.64 46 P P **00 56 30.4 +1.5**
MKAR Makanchi Array 46.57 297 P P **00 56 35.0 -1.4**
comp=Z,1.5nm,0.5s,mb4.2,baz=67,slow=7.2,SNR=27
MKAR PcP PcP 00 58 08.8 -1.7
comp=Z,1.4nm,0.6s,baz=51,slow=3.2,SNR=7.1
MKAR LR LR 01 17 23.0
comp=Z,134nm,18.3s,MS3.9,baz=349,slow=38
MKAR Makanchi Array 46.57 297 P P **00 56 35.0 -1.4**
MKAR PcP PcP 00 58 08.8 -1.7
MKAR LR LR 01 17 23.0
LSA Lhasa 49.97 273 P P **00 57 04.0 +1.0**
BVAR Borovoye Array 50.48 309 P P **00 57 04.8 -1.8**
comp=Z,1.0nm,0.4s,mb4.2,baz=48,slow=6.9,SNR=9.8
BVAR PcP PcP 00 58 22.9 -1.6
comp=Z,1.6nm,0.5s,baz=37,slow=1.9,SNR=7.8
BRVK Borovoye 50.52 309 *e*P P **00 57 05.5 -1.4**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BRVK Borovoye 50.52 309 *e*P P **00 57 05.5 -1.4**
comp=Z,1.7nm,0.6s,mb4.2
YKA Yellowknife Ar 50.91 37 P P **00 57 09.0 -0.7**
comp=Z,0.8nm,0.6s,mb3.9,baz=297,slow=7.0,SNR=3.6
ZRNK Zerenda 51.24 310 *e*P P **00 57 10.6 -1.8**
ZRNK *e* 00 58 25.3
ZRNK pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
ZRNK Zerenda 51.24 310 *e*P P **00 57 10.6 -1.9**
comp=Z,1.3nm,0.6s,mb4.0
ZRNK *e*PcP PcP 00 58 25.3 -2.1
SHL Shillong 52.08 268 *e*P P **00 57 18.0 -1.1**
AAK Ala-Archa 53.46 296 P P **00 57 27.3 -1.8**
AAK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
AAK Ala-Archa 53.46 296 P P **00 57 27.3 -1.9**
comp=Z,3.6nm,0.6s,mb4.5
GUN Gumba 54.69 275 *e*P P **00 57 37.5 -0.8**
comp=Z,23nm,0.5s,mb5.5
KKN Kakani 55.17 275 *e*P P **00 57 41.3 -0.5**
comp=Z,46nm,0.6s
KKN Kakani 55.17 275 *e*P P **00 57 41.3 -0.5**
KKN pmax pmax
comp=Z,23nm,0.6s,mb5.4
PKI Pulchoki 55.22 275 *e*P P **00 57 41.4 -0.8**
comp=Z,18nm,0.6s,mb5.3
PKI Pulchoki 55.22 275 *e*P P **00 57 41.4 -0.8**
PKI pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
DMN Daman 55.40 275 *e*P P **00 57 42.9 -0.6**
comp=Z,55nm,0.7s
GKN Gorkha 55.47 275 *e*P P **00 57 43.2 -0.8**
comp=Z,55nm,0.6s
KOLN Koldanda 56.33 276 *e*P P **00 57 49.5 -0.7**
comp=Z,44nm,0.8s,mb5.6
KEV Kevo 57.02 340 *e*p P **00 57 52.8 -1.7**
comp=Z,9.1nm,1.1s,mb4.7
ARCES ARCESS Array B 57.53 341 P P **00 57 57.7 -0.5**
comp=Z,1.0nm,0.5s,mb4.1,baz=37,slow=7.4,SNR=13
ARCES ARCESS Array B 57.53 341 P P **00 57 57.7 -0.5**
SUMG Summit 60.48 4 *e*P P **00 58 18.2 -0.4**
comp=Z,7.1nm,0.6s,mb4.9
FFC Flin Flon 60.74 40 *e*P P **00 58 19.2 -1.4**
FFC pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
FFC Flin Flon 60.74 40 *e*P P **00 58 19.2 -1.3**
comp=Z,3.4nm,0.7s,mb4.6
NVAR Mina Array Bea 62.58 62 P P **00 58 32.5 -0.7**
comp=Z,0.9nm,0.8s,mb4.0,baz=294,slow=5.7,SNR=5.4
NVAR Mina Array Bea 62.58 62 P P **00 58 32.5 -0.7**
KAF Kangasniemi 63.10 335 *e*p P **00 58 34.7 -1.6**
comp=Z,1.6nm,0.5s,mb4.4,baz=36,slow=6.3
FINES FINESS Array B 63.70 335 P P **00 58 39.1 -0.9**
comp=Z,4.1nm,0.4s,mb4.8,baz=41,slow=6.4,SNR=66
PDAR Pinedale Array 64.84 54 P P **00 58 47.6 -0.1**
comp=Z,0.7nm,0.7s,mb3.8,baz=315,slow=2.1,SNR=6.1
NB2 NORSAR Subarra 67.90 341 P P **00 59 06.3 -0.6**
comp=Z,5.9nm,0.6s,mb4.8,baz=28,slow=6.2
NB2 NORSAR Subarra 67.90 341 P P **00 59 06.3 -0.6**
NB2 pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
NOA NORSAR Array B 67.90 341 P P **00 59 06.7 -0.2**
comp=Z,4.6nm,0.5s,mb4.8,baz=28,slow=6.4,SNR=20
WRA Warramunga Arr 68.65 199 P P **00 59 06.2 -6.0**
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 68.65 199 P P **00 59 06.2 -6.0**
comp=Z,1.3nm,1.0s,mb3.8,baz=21,slow=7.0,SNR=4.7
AKASG Malin Array Be 71.18 326 P P **00 59 26.1 -1.0**
comp=Z,4.9nm,0.5s,mb4.7,baz=35,slow=6.1,SNR=26
STHS Stebnicka Huta 75.16 330 *i* P P **00 59 51.0 +0.6**

STHS				*e*			00 59 54.5		
UPC	**Upice**	**75.93**	**333**	*e*P		**P**	**00 59 55.2**	**+0.4**	
DPC	**Dobruska-Polom**	**75.97**	**333**	*e*P		**P**	**00 59 55.6**	**+0.6**	
CLL	**Collm**	**76.12**	**335**	⇓*i*P		**P**	**00 59 54.9**	**-0.9**	
CLL				pmax	pmax				
	comp=Z,11nm,0.8s,mb4.8								
CLL	**Collm**	**76.12**	**335**	⇓*i*P		**P**	**00 59 54.9**	**-0.9**	
	comp=Z,11nm,0.8s,mb4.8								
CLL	**Collm**	**76.12**	**335**	⇓P		**P**	**00 59 54.9**	**-0.9**	
	comp=Z,logA/T=1.1,mb4.8								
KECS	**Kecovo**	**76.22**	**329**	*e*P		**P**	**00 59 56.3**	**-0.1**	
PVCC	**Panska Ves**	**76.35**	**334**	*e*P		**P**	**00 59 57.3**	**+0.1**	
MLR	**Muntele Rosu**	**76.70**	**325**	P		**P**	**00 59 59.7**	**+0.5**	
	baz=45,slow=1.4								
VYHS	**Vyhne**	**76.77**	**330**	*e*P		**P**	**01 00 00.3**	**+0.7**	
PRU	**Pruhonice**	**76.84**	**334**	*e*P		**P**	**01 00 00.2**	**+0.3**	
SRO	**Srobarova**	**77.53**	**330**	*e*P		**P**	**01 00 05.1**	**+1.3**	
TXAR	**Lajitas Array**	**77.63**	**60**	P		**P**	**01 00 04.1**	**-0.7**	
	comp=Z,0.6nm,0.7s,mb3.6,baz=305,slow=4.3,SNR=7.3								
KHC	**Kasperske Hory**	**77.89**	**334**	*e*P		**P**	**01 00 06.2**	**+0.4**	
KHC				*e*pP		pP	01 00 10.4	-7.3	
BR131	**Keskin Array S**	**78.01**	**316**	*e*P		**P**	**01 00 07.0**	**+0.4**	
	comp=Z,2.5nm,0.8s,mb4.2								
BRTR	**Keskin Array B**	**78.01**	**316**	P		**P**	**01 00 07.2**	**+0.6**	
	comp=Z,2.8nm,0.9s,mb4.2,baz=72,slow=3.9,SNR=14								
GRA1	**Grafenberg Arr**	**78.08**	**336**	*e*P		**P**	**01 00 07.1**	**+0.3**	
	comp=Z,8.0nm,0.9s,mb4.7								
GRF	**Grafenberg Arr**	**78.08**	**336**	*e*P		**P**	**01 00 07.1**	**+0.3**	
GRF				pmax	pmax				
	comp=Z,8.0nm,0.9s,mb4.7								
GRF	**Grafenberg Arr**	**78.08**	**336**	*e*P		**P**	**01 00 07.1**	**+0.3**	
GRF				pmax	pmax				
	comp=Z,8.0nm,0.9s,mb4.7								
GRF	**Grafenberg Arr**	**78.08**	**336**	*e*P		**P**	**01 00 07.1**	**+0.3**	
	comp=Z,8.0nm,0.9s,mb4.7								
GERES	**GERESS Array B**	**78.11**	**334**	P		**P**	**01 00 07.1**	**+0.1**	
	comp=Z,1.7nm,0.5s,mb4.2,baz=32,slow=5.5,SNR=15								
KBD	**Kabd**	**78.54**	**300**	*e*P		**P**	**01 00 10.4**	**+0.6**	
RST	**Umm Al-Ruwaisa**	**78.71**	**301**	*e*P		**P**	**01 00 10.8**	**+0.1**	
RST				AMb	AMB		01 00 11.8		
	comp=Z,33nm,0.6s,mb5.4								
QRN	**Al-Qurain**	**78.72**	**300**	*e*P		**P**	**01 00 10.6**	**-0.2**	
QRN				AMb	AMB		01 00 11.4		
	comp=Z,23nm,0.4s,mb5.5								
NAY	**Al-Naaiem**	**78.75**	**301**	*e*P		**P**	**01 00 10.5**	**-0.4**	
NAY				AMb	AMB		01 00 11.6		
	comp=Z,13nm,0.9s,mb4.9								
RDF	**Al-Radifah**	**78.81**	**300**	*e*P		**P**	**01 00 12.0**	**+0.8**	
RDF				AMb	AMB		01 00 14.0		
	comp=Z,37nm,1.0s,mb5.3								
MOA	**Molln**	**78.82**	**333**	⇑*i*P		**P**	**01 00 10.9**	**0.0**	
	comp=Z,2.9nm,0.7s,mb4.3								
ARSA	**Arzberg**	**78.95**	**332**	⇑*i*P		**P**	**01 00 10.7**	**-0.9**	
	comp=Z,2.3nm,0.5s,mb4.4								
BAIF	**Baives**	**79.56**	**340**	*e*P		**P**	**01 00 14.8**	**-0.1**	
KBA	**Koelnbreinsper**	**79.79**	**333**	⇓*i*P		**P**	**01 00 17.3**	**+1.1**	
	comp=Z,7.7nm,0.5s,mb4.9								
KBA	**Koelnbreinsper**	**79.79**	**333**	⇓*i*P		**P**	**01 00 17.3**	**+1.1**	
KBA				pmax	pmax				
	comp=Z,8.0nm,0.5s,mb4.9								
OBKA	**Obir**	**79.92**	**332**	⇑*i*P		**P**	**01 00 16.1**	**-0.8**	
	comp=Z,1.3nm,0.5s,mb4.1								
WATA	**Walderalm**	**80.10**	**334**	⇑*i*P		**P**	**01 00 18.6**	**+0.8**	
	comp=Z,6.0nm,0.6s,mb4.7								
WATA	**Walderalm**	**80.10**	**334**	⇑*i*P		**P**	**01 00 18.6**	**+0.8**	
WATA				pmax	pmax				
	comp=Z,6.0nm,0.6s,mb4.7								
WTTA	**Wattenberg**	**80.14**	**334**	⇓*i*P		**P**	**01 00 19.4**	**+1.3**	
	comp=Z,8.4nm,0.5s,mb4.9								
WTTA	**Wattenberg**	**80.14**	**334**	⇓*i*P		**P**	**01 00 19.4**	**+1.3**	
WTTA				pmax	pmax				
	comp=Z,8.0nm,0.5s,mb4.9								
MOTA	**Moosalm**	**80.23**	**335**	⇑*i*P		**P**	**01 00 19.7**	**+1.2**	
	comp=Z,0.3nm,0.4s,mb3.8								
SQTA	**Sankt Quirin**	**80.31**	**334**	⇑*i*P		**P**	**01 00 19.9**	**+1.0**	
	comp=Z,1.3nm,0.4s,mb4.2								
SQTA	**Sankt Quirin**	**80.31**	**334**	⇑*i*P		**P**	**01 00 19.9**	**+1.0**	
SQTA				pmax	pmax				
	comp=Z,1.0nm,0.4s,mb4.1								
CDF	**Champ du Feu**	**80.32**	**337**	*e*P		**P**	**01 00 19.1**	**+0.1**	
DAVA	**Damuels**	**80.64**	**335**	⇓*i*P		**P**	**01 00 20.9**	**+0.2**	
	comp=Z,5.5nm,0.9s,mb4.5								
MEZF	**Maizieres J'vi**	**80.80**	**339**	*e*P		**P**	**01 00 21.7**	**+0.2**	
LOR	**Lormes**	**82.25**	**339**	*e*P		**P**	**01 00 29.5**	**+0.4**	
	comp=Z,4.4nm,0.7s,mb4.2								
LOR	**Lormes**	**82.25**	**339**	*e*P		**P**	**01 00 29.5**	**+0.4**	
LOR				pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.2								
GRR	**Gorron**	**82.25**	**343**	*e*P		**P**	**01 00 29.4**	**+0.4**	
GRR				*e*pP		pP	01 00 47.7	+6.6	
SSF	**Saint Saulge**	**82.53**	**339**	*e*P		**P**	**01 00 31.2**	**+0.7**	
SSF				*e*pP		pP	01 00 48.1	+5.6	
AVF	**Avril sur Loir**	**82.82**	**339**	*e*P		**P**	**01 00 32.4**	**+0.4**	
	comp=Z,6.7nm,0.8s,mb4.4								
AVF	**Avril sur Loir**	**82.82**	**339**	*e*P		**P**	**01 00 32.4**	**+0.4**	
AVF				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.4								
SMF	**Signal de Mont**	**82.83**	**339**	*e*P		**P**	**01 00 32.3**	**+0.2**	
	comp=Z,23nm,1.1s,mb4.8								
SMF	**Signal de Mont**	**82.83**	**339**	*e*P		**P**	**01 00 32.3**	**+0.2**	
SMF				pmax	pmax				
	comp=Z,11nm,1.1s,mb4.8								
LPL	**La Plagne**	**83.13**	**337**	*e*P		**P**	**01 00 34.7**	**+1.1**	
LPL				*e*pP		pP	01 00 50.3	+4.7	
LPG	**La Plagne**	**83.14**	**337**	*e*P		**P**	**01 00 34.8**	**+1.1**	
ORIF	**Oris-en-Rattie**	**83.92**	**337**	*e*P		**P**	**01 00 38.6**	**+1.1**	
	comp=Z,5.0nm,0.6s,mb4.5								
ORIF				*e*pP		pP	01 00 55.1	+5.5	
ORIF	**Oris-en-Rattie**	**83.92**	**337**	*e*P		**P**	**01 00 38.6**	**+1.1**	
ORIF				*e**PP		pP	01 00 55.1	+5.5	
ORIF				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.6								
SBF	**Sospel**	**84.46**	**336**	*e*P		**P**	**01 00 40.6**	**+0.3**	
	comp=Z,15nm,0.8s,mb4.9								
SBF	**Sospel**	**84.46**	**336**	*e*P		**P**	**01 00 40.6**	**+0.3**	
SBF				pmax	pmax				
	comp=Z,8.0nm,0.8s,mb4.9								
CAF	**Calviac**	**84.88**	**340**	*e*P		**P**	**01 00 43.0**	**+0.7**	
LFF	**La Frestale**	**85.17**	**340**	*e*P		**P**	**01 00 44.7**	**+0.9**	
LMR	**La Mourre**	**85.21**	**336**	*e*P		**P**	**01 00 44.7**	**+0.7**	
PLCA	**Paso Flores**	**148.52**	**95**	PKPbc	PKPdf		01 07 52.8	+3.6	
	comp=Z,2.0nm,0.8s,baz=5.3,slow=2.8,SNR=5.4								
CPUP	**Villa Florida**	**148.60**	**59**	PKPbc	PKPdf		01 07 53.6	+3.8	
	comp=Z,1.8nm,0.8s,baz=317,slow=8.2,SNR=4.8								
SNAA	**Sanae**	**152.70**	**197**	⇑*i*P		PKPdf	01 08 00.4	+5.7	
SNAA				*e*			01 08 11.9		
SNAA				*e*			01 08 15.3		
VNA2	**Neumayer--Watz**	**154.16**	**195**	⇑*i*P		PKPdf	01 08 04.5	+7.8	
VNA2				*e*			01 08 14.7		
VNA2				*e*			01 08 17.8		
VNA2				*e*			01 31 18.9		
VNA3	**Neumayer Olymp**	**154.26**	**193**	⇑*i*P		PKPdf	01 08 04.2	+7.4	
VNA3				*e*			01 08 14.6		
VNA3				*e*			01 08 18.0		
VNA3				*e*			01 31 18.6		

NEIC ***22*** *00:54:47.3, 31.53S×71.73W, h32km, ML2.6(GUC), After GUC.*

GUC 22 00:54:47.3±0.6, 31.53S×71.73W, h32km±2km, MD3.5, ML2.6, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.40**	**151**	⇓*i*P	Pb	00 54 56.1	-0.3
CHNG				*i* S	Sb	00 55 02.6	+0.1
CHNG				AMP		00 55 03.0	
	comp=N,750nm,0.3s						
ILCH	**Illapel**	**0.49**	**103**	⇑*i*P	Pb	00 54 57.6	+0.1
ILCH				*i* S	Sb	00 55 05.1	+0.4
ILCH				AMP		00 55 12.0	
	comp=E,589nm,0.7s						
CMCH	**Combarbala**	**0.71**	**60**	⇑*i*P	Pn	00 55 00.6	-0.6
CMCH				*i* S	Sb	00 55 11.1	+0.3
CMCH				AMP		00 55 16.0	
	comp=E,646nm,0.4s						
JACH	**Jahuel**	**1.50**	**140**	*e*P	Pn	00 55 14.1	+1.7
JACH				*i* S	Sn	00 55 33.9	+3.0
ROCH	**El Roble**	**1.56**	**157**	*e*P	Pn	00 55 14.5	+1.2
ROCH				*e*S	Sn	00 55 35.1	+2.6
TLL	**Tololo Astrono**	**1.57**	**30**	⇓*i*P	Pn	00 55 14.9	+1.5
TLL				*i* S	Sn	00 55 35.7	+2.8
TLL				AMP		00 55 40.4	
	comp=N,190nm,0.6s						

RCDM	**Rinconada Maip**	**2.10**	**159**	*e*P		Pn	00 55 21.1	+0.1	
RCDM				*i* S		Sn	00 55 47.7	+1.4	
RCDM				AMP			00 55 51.7		
	comp=N,112nm,0.7s								
FCH	**Farellones**	**2.16**	**146**	*e*P		Pn	00 55 23.5	+1.5	
FCH				*e*S		Sn	00 55 50.9	+3.0	
FCH				AMP			00 55 58.4		
	comp=E,40nm,0.2s								

CSEM ***22*** *02:40:41.6±0.7, 38.60N×28.54W, ML1.9, Error ellipse: s-maj=3.6km s-min=2.6km az=25.0, After PDA*
PDA ***22*** *02:40:41.6±0.7, 38.60N×28.54W, MD2.9, ML1.9, Error ellipse: s-maj=3.6km s-min=2.6km az=25.0*
SVSA 22 02:40:41.6±0.7, 38.60N×28.54W, MD2.9, ML1.9, Error ellipse: s-maj=3.6km s-min=2.6km az=25.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.10**	**223**	*i* P	Pg	02 40 43.3	-0.3
HOR				*e*S	Sg	02 40 45.3	+0.3
HOR	**Horta**	**0.10**	**223**	*e*S	Sg	02 40 45.3	+0.3
CALA	**Caldeira**	**0.13**	**261**	*e*P	Pg	02 40 44.1	0.0
CALA				*e*S	Sg	02 40 46.2	+0.4
PICO	**Pico**	**0.14**	**138**	*e*P	Pg	02 40 44.3	0.0
PICO				*e*S	Sg	02 40 46.4	+0.3
PMAN	**Manadas**	**0.36**	**85**	*e*S	Sg	02 40 53.4	-0.1
	43nm,0.1s						
PMAN	**Manadas**	**0.36**	**85**	*e*S	Sg	02 40 53.4	-0.1
	43nm,0.1s						

IDC 22 02:56:55.4±1.7, 0.99N×99.99E, mb4.0/3, mb1 4.2/3, mb1mx3.7/16, mbtmp4.0/3, MS3.2/1, Ms1 3.2/1, ms1mx2.8/21, Error ellipse: s-maj=107.4km s-min=26.5km az=44.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.58**	**124**	P	P	03 04 28.7	-1.7
	1.6nm,0.3s,baz=305,slow=8.9,SNR=19						
MKAR	**Makanchi Array**	**48.17**	**344**	P	P	03 05 38.0	-1.4
	0.3nm,0.3s,baz=166,slow=7.3,SNR=5.9						
MJAR	**Matsushiro Arr**	**50.00**	**41**	LR	LR	03 29 07.2	
	comp=Z,26nm,19.2s,baz=200,slow=39						
BRTR	**Keskin Array B**	**71.32**	**312**	P	P	03 08 17.1	-2.1
	1.1nm,0.6s,baz=124,slow=5.2,SNR=7.7						

MOS ***22*** *03:00:30.7±0.8, 5.81S×147.06E, h72km, mb5.0/13, Error ellipse: s-maj=17.2km s-min=7.6km az=86.6*
BJI ***22*** *03:00:31.4, 5.64S×147.39E, h79km, mB5.0, mb4.9, Ms4.5, Msz3.9*
IDC ***22*** *03:00:32.4±2.0, 5.91S×147.16E, h78km±18km, mb4.3/13, mb1 4.5/15, mb1mx4.5/17, mbtmp4.7/15, MS3.7/10, Ms1 3.7/10, ms1mx3.6/18, Error ellipse: s-maj=17.3km s-min=10.1km az=101.0*
HRVD ***22*** *03:00:33.0±0.4, 6.07S×147.32E, h108km±5km, MW4.9/63, Centroid moment Tensor Solution. LP body waves: s23,c25;Mantle waves: s63,c97; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.91±.17; Mθθ -2.29±.14; Mφφ 0.38±.16; Mrθ 1.27±.12; Mθφ -0.03±.21; Mφr -1.10±.12; Best double couple: M◎2.709×10^16 NP1:◎s246°, δ34°, λ48°. NP2:◎s113°, δ65°, λ114°. Principal axes: T 2.749, Plg62°, Azm61°; N -.075, Plg22°, Azm283°; P -2.669, Plg17°, Azm186°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***22*** *03:00:33.0±1.2, 5.87S×147.24E, h86km±10km, mb4.9/17 Error ellipse: s-maj=10.1km s-min=6.9km az=97.0*
ISC 22 03:00:30.2±1.3, 5.85S±0.05×147.26E±0.08, h72km±13km, n95, σ◎85/74, mb4.7/35, 6C-5D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.53**	**182**	P	**P**	**03 01 24.1**	**+0.1**
	294nm,0.3s,baz=16,slow=5.6,SNR=730						
PMG				S	**S**	**03 02 04.2**	**-0.7**
	143nm,0.3s,baz=27,slow=6.9,SNR=4.6						
PMG				LR	LR	03 02 38.0	
	comp=Z,989nm,20.5s,baz=20,slow=36						
HNR	**Honiara**	**13.07**	**107**	LR	LR	03 07 33.1	
	comp=Z,222nm,18.8s,baz=295,slow=32						
CTA	**Charters Tower**	**14.19**	**184**	*e*P	**P**	**03 03 50.0**	**+1.0**
	13nm,0.4s						
CTA				*e*S	**S**	**03 06 36.3**	**+11**
CTA	**Charters Tower**	**14.19**	**184**	*e*P	**P**	**03 03 50.0**	**+1.0**
CTA				pmax	pmax		
	comp=Z,13nm,0.4s						
CTA	**Charters Tower**	**14.19**	**184**	P	**P**	**03 03 49.9**	**+0.9**
	comp=Z,4.1nm,0.3s,baz=360,slow=14,SNR=31						
CTAO	**Charters Tower**	**14.19**	**184**	*e*P	**P**	**03 03 50.1**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,17nm,0.6s						
CTAO	**Charters Tower**	**14.19**	**184**	*e*Pn	**P**	**03 03 50.1**	**+1.1**
	comp=Z,17nm,0.6s						
KAKA	**Kakadu**	**16.13**	**244**	⇓*i*P	**P**	**03 04 15.6**	**+1.7**
	comp=Z,47nm,0.5s						
WRAB	**Tennant Creek**	**18.80**	**221**	*c i*P	**P**	**03 04 45.4**	**-1.2**
WRAB	**Tennant Creek**	**18.80**	**221**	*e*P	**P**	**03 04 45.2**	**-1.4**
	comp=Z,350nm,0.7s						
WB2	**Warramunga Arr**	**18.81**	**221**	⇓*i*P	**P**	**03 04 45.4**	**-1.3**
WB2				*e*SCS	ScS	03 16 22.2	+3.3
WRA	**Warramunga Arr**	**18.81**	**221**	P	**P**	**03 04 45.5**	**-1.3**
	comp=Z,17nm,0.3s,baz=41,slow=12,SNR=182						
WRA				S	**S**	**03 08 12.3**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=39,slow=24,SNR=2.7						
WRA				PcP	PcP	03 09 11.1	+0.1
	comp=Z,0.8nm,0.3s,baz=26,slow=1.5,SNR=8.5						
FITZ	**Fitzroy Crossi**	**24.37**	**238**	⇓*i*P	**P**	**03 05 43.5**	**+0.6**
	comp=Z,375nm,0.5s,mb6.0						
FITZ				*e*S	**S**	**03 09 55.0**	**+0.7**
FITZ	**Fitzroy Crossi**	**24.37**	**238**	P	**P**	**03 05 43.6**	**+0.7**
	comp=Z,460nm,0.5s,mb6.0,baz=45,slow=5.4,SNR=568						
DZM	**Mont Dzumac**	**24.58**	**133**	P	**P**	**03 05 44.9**	**0.0**
	comp=Z,6.9nm,0.6s,mb4.2,baz=216,slow=18,SNR=4.9						
DZM				LR	LR	03 14 09.9	
	comp=Z,248nm,18.5s,baz=21,slow=33						
STKA	**Stephens Creek**	**26.43**	**191**	⇓*i*P	**P**	**03 06 01.5**	**-0.7**
	comp=Z,32nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**26.43**	**191**	P	**P**	**03 06 01.9**	**-0.3**
	comp=Z,39nm,0.7s,mb5.0,baz=360,slow=8.3,SNR=88						
STKA				LR	LR	03 17 24.3	
	comp=Z,162nm,19.9s,baz=27,slow=38						
MBWA	**Marble Bar**	**30.71**	**238**	*e*P	**P**	**03 06 40.4**	**-0.3**
	comp=Z,15nm,0.6s,mb4.9						
CBIJ	**Chichi jima**	**33.12**	**352**	P	**P**	**03 07 01.4**	**-0.3**
	comp=Z,60nm,0.5s,mb5.7,baz=258,slow=18,SNR=9.5						
KLBR	**Kellerberrin**	**37.66**	**223**	*e*P	**P**	**03 07 39.9**	**-0.2**
	comp=Z,51nm,0.9s,mb5.3						
NWAO	**Narrogin (SRO)**	**38.81**	**222**	P	**P**	**03 07 49.5**	**-0.2**
	comp=Z,9.4nm,0.6s,mb4.8,baz=47,slow=16,SNR=6.6						
MUN	**Mundaring**	**38.95**	**224**	*e*P	**P**	**03 07 52.0**	**+1.1**
	comp=Z,15nm,0.7s,mb4.9						
MUN	**Mundaring**	**38.95**	**224**	*e*P	**P**	**03 07 52.0**	**+1.1**
MUN				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.9						
JNU	**Nakatsue**	**41.76**	**339**	P	**P**	**03 08 15.1**	**+1.0**
	comp=Z,4.2nm,0.3s,mb4.6,baz=176,slow=3.3,SNR=7.9						
URZ	**Urewera**	**42.12**	**144**	LR	LR	03 22 26.8	
	comp=Z,171nm,19.2s,baz=30,slow=31						
MJAR	**Matsushiro Arr**	**43.01**	**349**	P	**P**	**03 08 24.9**	**+0.6**
	comp=Z,7.8nm,0.7s,mb4.5,baz=178,slow=8.4,SNR=18						
MAJO	**Matsushiro**	**43.02**	**349**	*e*P	**P**	**03 08 24.6**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.9						
MAJO	**Matsushiro**	**43.02**	**349**	*e*P	**P**	**03 08 24.6**	**+0.2**
	comp=Z,14nm,0.6s,mb4.9						
MAT	**Matsushiro**	**43.02**	**349**	*e*P	**P**	**03 08 24.0**	**-0.4**
MAT				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
MAT	**Matsushiro**	**43.02**	**349**	*e*P	**P**	**03 08 24.0**	**-0.4**
	comp=Z,10nm,0.7s,mb4.7						
MAT	**Matsushiro**	**43.02**	**349**	P	**P**	**03 08 24.3**	**-0.1**
SSE	**Sheshan**	**44.39**	**327**	P	**P**	**03 08 34.9**	**-0.7**
SSE				PCP	PcP	03 10 13.6	-5.2
SSE				PP	PP	03 10 22.4	+1.0
SSE				S	**S**	**03 15 00.6**	**-3.6**
	comp=Z,38nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,91nm,3.9s						

SSE				LR	LR				
	comp=N,43nm,18.2s								
SSE				LR	LR				
	comp=E,30nm,17.7s								
SSE				LR	LR				
	comp=Z,66nm,19.6s								
SSE	**Sheshan**	**44.39**	**327**	P	**P**	**03 08 34.9**		**-0.7**	
	comp=Z,38nm,0.7s,mb5.2								
SSE				sP	sP	03 09 22.4		+20	
SSE				PcP	PcP	03 10 13.6		-5.2	
SSE				PP	PP	03 10 22.4		+1.0	
SSE				ScP		03 13 52.2			
SSE				S	**S**	**03 15 00.6**		**-3.6**	
SSE				sS		03 15 58.2			
SSE				LR	LR				
	comp=Z,70nm,19.6s								
NJ2	**Nanjing**	**46.40**	**326**	*e*P	**P**	**03 08 51.6**		**+0.1**	
NJ2				PP	PP	03 10 42.5		+1.2	
NJ2				S	**S**	**03 15 28.0**		**-4.9**	
NJ2				AMB	AMB				
	comp=Z,20nm,0.7s,mb5.0								
NJ2				AMB	AMB				
	comp=Z,406nm,4.2s								
NJ2				LR	LR				
	comp=N,484nm,17.2s								
NJ2				LR	LR				
	comp=E,330nm,18.5s								
WHN	**Wuhan**	**47.98**	**321**	*e*P	**P**	**03 09 03.5**		**-0.4**	
YSS	**Yuzh-Sakhalins**	**52.73**	**356**	⇑*i*P	**P**	**03 09 40.4**		**+0.6**	
YSS				pmax	pmax				
	comp=Z,30nm,1.0s,mb5.3								
SHL	**Shillong**	**62.15**	**303**	*e*P	**P**	**03 11 02.2**		**+16**	
FX1	**Attu Island--F**	**62.50**	**17**	*e*P	**P**	**03 10 50.1**		**+1.7**	
SONM	**Songino Array**	**64.40**	**331**	P	**P**	**03 11 01.4**		**+0.5**	
	comp=Z,3.8nm,0.7s,mb4.3,baz=151,slow=6.0,SNR=35								
SONM				LR	LR	03 38 21.2			
	comp=Z,45nm,18.0s,baz=247,slow=35								
CIT	**Chita**	**64.42**	**338**	*e*P	**P**	**03 11 01.7**		**+0.7**	
MA2	**Magadan**	**65.28**	**2**	*e*P	**P**	**03 11 07.1**		**+0.6**	
MA2				pmax	pmax				
	comp=Z,19nm,0.8s,mb5.0								
MA2	**Magadan**	**65.28**	**2**	*e*P	**P**	**03 11 07.1**		**+0.6**	
	comp=Z,19nm,0.8s,mb5.0								
CASY	**Casey**	**65.47**	**195**	*e*P	**P**	**03 11 06.9**		**-0.7**	
	comp=Z,4.6nm,0.6s,mb4.5								
ZAK	**Zakamensk**	**67.63**	**331**	*e*P	**P**	**03 11 21.1**		**-0.4**	
ZAK				*e*		03 11 53.1			
ZAK				pmax	pmax				
	comp=Z,7.0nm,0.9s,mb4.5								
ZAK				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.3								
ZAK				pmax	pmax				
	comp=Z,3.0nm,0.9s,mb4.1								
SEY	**Seymchan**	**68.70**	**3**	⇓*i*P	**P**	**03 11 28.9**		**+1.0**	
YAK	**Yakutsk**	**69.03**	**351**	*e*P	**P**	**03 11 30.1**		**+0.1**	
YAK				pmax	pmax				
	comp=Z,20nm,0.6s,mb5.1								
VNDA	**Vanda**	**72.05**	**177**	P	**P**	**03 11 48.4**		**+0.5**	
	comp=Z,3.3nm,0.7s,mb4.3,baz=329,slow=6.8,SNR=24								
VNDA	**Vanda**	**72.05**	**177**	P	**P**	**03 11 48.4**		**+0.5**	
WMQ	**Urumqi**	**72.85**	**319**	*e*P	**P**	**03 11 53.8**		**+0.6**	
BILL	**Bilibino**	**74.93**	**7**	⇑*i*P	**P**	**03 12 05.7**		**+0.9**	
BILL				*e*		03 12 17.6			
BILL				pmax	pmax				
	comp=Z,11nm,1.3s,mb4.4								
MKAR	**Makanchi Array**	**77.55**	**320**	P	**P**	**03 12 19.4**		**-0.6**	
	comp=Z,1.0nm,0.4s,mb3.9,baz=105,slow=7.1,SNR=14								
TIXI	**Tiksi**	**78.29**	**354**	*i* P	**P**	**03 12 23.4**		**-0.2**	
TIXI				pmax	pmax				
	comp=Z,9.0nm,1.0s,mb4.5								
NVS	**Novosibirsk**	**80.24**	**328**	*e*P	**P**	**03 12 32.6**		**-1.9**	
KURK	**Kurchatov**	**81.25**	**323**	*e*P	**P**	**03 12 38.9**		**-1.0**	
KURK				pmax	pmax				
	comp=Z,2.0nm,0.8s,mb4.0								
KURK	**Kurchatov**	**81.25**	**323**	*e*P	**P**	**03 12 38.9**		**-1.0**	
	comp=Z,2.3nm,0.8s,mb4.1								
AAK	**Ala-Archa**	**81.42**	**315**	P	**P**	**03 12 40.8**		**-0.2**	
AAK				pmax	pmax				
	comp=Z,2.0nm,0.4s,mb4.3								
AAK	**Ala-Archa**	**81.42**	**315**	P	**P**	**03 12 40.8**		**-0.2**	
	comp=Z,2.0nm,0.4s,mb4.3								
MAW	**Mawson**	**82.48**	**203**	P	**P**	**03 12 45.9**		**0.0**	
	comp=Z,3.4nm,0.8s,mb4.3,baz=80,slow=3.4,SNR=11								
MAW				LR	LR	03

BAO	**Brasilia Array**	**153.85**	**145**	P	PKPdf	03 20 17.0	+3.1

NEIC ***22*** *03:23:04.1±1.0,20.00S×178.16W,h558km±12km, mb4.3/10, Error ellipse: s-maj=14.0km s-min=10.7km az=158.0*

IDC ***22*** *03:23:04.2±1.7,19.80S×178.21W,h549km±20km, mb3.5/7, mb1 3.8/9, mb1mx3.5/16, mbtmp4.5/9, Error ellipse: s-maj=21.4km s-min=14.0km az=143.0*

ISC 22 03:23:02.8±1.0,20.0S±0.1×178.18W±0.10, h554km±16km, n29,σ0s97/26, mb4.1/13, 4C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.60**	**46**	P	**P**	**03 25 07.8**	**+0.5**
	3.2nm,0.3s,baz=322,slow=19,SNR=4.0						
AFI				S	**S**	**03 26 45.9**	**-0.7**
	3.9nm,0.3s,baz=22,slow=19,SNR=6.2						
DZM	**Mont Dzumac**	**14.51**	**259**	P	**P**	**03 26 09.7**	**+2.7**
	1.3nm,0.3s,baz=88,slow=23,SNR=10						
URZ	**Urewera**	**18.68**	**192**	P	**P**	**03 26 45.5**	**-1.7**
	5.0nm,0.3s,baz=284,slow=1.2,SNR=20						
CTA	**Charters Tower**	**33.37**	**264**	⇓*iP*	**P**	**03 28 58.0**	**+1.0**
	16nm,0.3s,mb5.0						
CTA	**Charters Tower**	**33.37**	**264**	P	**P**	**03 28 57.9**	**+0.9**
	25nm,0.4s,mb5.1,baz=92,slow=10,SNR=61						
CTAO	**Charters Tower**	**33.37**	**264**	*eP*	**P**	**03 28 57.5**	**+0.5**
	24nm,0.4s,mb5.1						
STKA	**Stephens Creek**	**37.87**	**244**	*eP*	**P**	**03 29 35.0**	**+1.0**
	4.0nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**37.87**	**244**	P	**P**	**03 29 35.1**	**+1.2**
	1.9nm,0.4s,mb4.0,baz=100,slow=12,SNR=5.4						
WB2	**Warramunga Arr**	**44.49**	**262**	⇓*iP*	**P**	**03 30 26.3**	**-0.6**
WRAB	**Tennant Creek**	**44.50**	**262**	*eP*	**P**	**03 30 26.2**	**-0.7**
	9.5nm,0.3s,mb4.8						
WRA	**Warramunga Arr**	**44.50**	**262**	P	**P**	**03 30 26.6**	**-0.4**
	5.7nm,0.3s,mb4.6,baz=91,slow=5.9,SNR=202						
KAKA	**Kakadu**	**47.79**	**271**	⇓*iP*	**P**	**03 30 52.4**	**+0.2**
	10nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**52.93**	**262**	*eP*	**P**	**03 31 29.1**	**-0.7**
	3.6nm,0.4s,mb4.0						
MBWA	**Marble Bar**	**57.80**	**257**	*eP*	**P**	**03 32 02.0**	**-1.5**
	3.3nm,0.4s,mb3.9						
VNDA	**Vanda**	**58.42**	**185**	P	**P**	**03 32 07.8**	**+0.8**
	1.4nm,0.6s,mb3.4,baz=353,slow=8.7,SNR=19						
VNDA	**Vanda**	**58.42**	**185**	*eP*	**P**	**03 32 07.6**	**+0.5**
	1.6nm,0.6s,mb3.4						
MJAR	**Matsushiro Arr**	**69.68**	**324**	P	**P**	**03 33 18.2**	**-0.5**
	2.5nm,0.5s,mb4.0,baz=160,slow=6.1,SNR=6.2						
QSPA	**South Pole Qui**	**70.09**	**180**	⇑*iP*	**P**	**03 33 21.3**	**+0.9**
	9.6nm,0.6s,mb4.5						
TXAR	**Lajitas Array**	**86.92**	**57**	P	**P**	**03 34 52.5**	**+2.1**
	0.6nm,0.7s,mb3.4,baz=218,slow=6.9,SNR=8.2						
ILAR	**Eielson Array**	**87.84**	**13**	P	**P**	**03 34 53.6**	**-0.2**
	0.7nm,0.7s,mb3.5,baz=226,slow=6.1,SNR=6.5						
SNAA	**Sanae**	**88.54**	**179**		**P**	**03 34 56.3**	**-0.7**
SNAA	**Sanae**	**88.54**	**179**	*eP*	**P**	**03 34 56.4**	**-0.7**
	1.0nm,0.6s,mb3.8						
VNA3	**Neumayer Olymp**	**88.68**	**176**	⇑*i*	**P**	**03 34 57.4**	**-0.3**
VNA2	**Neumayer--Watz**	**89.12**	**177**	⇑*i*	**P**	**03 34 59.9**	**+0.1**
VNA1	**Neumayer--Stat**	**89.35**	**177**	⇑*i*	**P**	**03 35 01.0**	**+0.2**
AKASG	**Malin Array Be**	**142.47**	**331**	PKhKP		03 41 29.6	
	0.7nm,0.3s,baz=42,slow=4.8,SNR=10.0						
BRTR	**Keskin Array B**	**146.36**	**313**	PKPbc	PKPbc	03 41 42.8	+1.6
	0.6nm,0.5s,baz=108,slow=4.6,SNR=3.8						
BRTR	**Keskin Array B**	**146.36**	**313**	PKPbc	PKPbc	03 41 42.8	+1.6
GERES	**GERESS Array B**	**149.65**	**344**	PKPbc	PKPdf	03 41 50.7	+6.5
	0.4nm,0.4s,slow=2.7,SNR=5.2						

CASC 22 03:28:28.3±1.0,11.01N×86.65W,h27km±5km, MD3.7, ML3.0, 2C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUN	**El Crucero**	**1.03**	**20**	⇑*eP*	Pn	03 28 47.3	+0.2
CRUN				*eS*	Sb	03 29 01.7	+1.2
APON	**Apoyo**	**1.07**	**32**	⇑*eP*	Pn	03 28 47.1	-0.6
TICN	**Ticuantepe**	**1.10**	**22**	*eP*	Pn	03 28 48.1	0.0
CONN	**Concepcion**	**1.15**	**61**	*eP*	Pn	03 28 47.7	-1.1
COPN	**Copaltepe**	**1.17**	**3**	⇓*eP*	Pn	03 28 48.9	-0.2
COPN				*eS*	Sn	03 29 04.7	+0.5
XAVN	**Gruta Xavier**	**1.18**	**16**	*eP*	Pn	03 28 49.4	+0.1
MGAN	**Managua**	**1.20**	**19**	⇓*eP*	Pn	03 28 49.2	-0.3
MGAN				*eS*	Sn	03 29 05.1	+0.1
MGAN				*i*		03 29 06.0	
	comp=N,269nm,0.7s						
WILN	**Americas 2**	**1.23**	**22**	*eP*	Pn	03 28 49.5	-0.5
WILN				*eS*	Sn	03 29 06.0	+0.1
LEON	**Leon**	**1.42**	**351**	*eP*	Pn	03 28 52.5	-0.2
MIRN	**Miramar**	**1.42**	**358**	*eP*	Pn	03 28 51.5	-1.3
TEL3	**Telica 3**	**1.57**	**353**	*eP*	Pn	03 28 54.8	0.0

NEIC ***22*** *03:54:27.5, 16.12N×98.27W, h21km, MD3.8(MEX), After MEX.*

MEX 22 03:54:27.8±0.8,16.14N×98.28W,h21km±40km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.29**	**31**	*iP*	Pb	03 54 33.2	-1.1
PNIG				*iS*	Sb	03 54 37.8	-1.0
ACX	**Acapulco**	**1.73**	**295**	*iP*	Pn	03 54 53.7	-3.4
ACX				*iS*	Sn	03 55 14.3	-4.4
PLIG	**Platanillo**	**2.52**	**333**	*iP*	Pn	03 55 07.6	-0.9
PLIG				*iS*	Sn	03 55 35.6	-3.4
YAIG	**Yautepec**	**2.81**	**345**	*iP*	Pn	03 55 09.0	-3.6
YAIG				*iS*	Sn	03 55 40.1	-6.1
PPM	**Popocatepetl**	**2.93**	**354**	*eP*	Pn	03 55 16.0	+1.7

IDC ***22*** *04:21:48.0±2.1,47.67S×165.36E, mb3.6/1, mb1 4.0/2, mb1mx3.7/10, mbtmp3.7/2, ML3.9/1, MS3.7/2, Ms1 3.6/2, ms1mx3.2/12, Error ellipse: s-maj=72.0km s-min=41.0km az=166.0*

WEL ***22*** *04:21:50.8±0.6,47.91S×165.48E, h33km, ML4.6/8, Error ellipse: s-maj=7.5km s-min=5.3km az=90.0*

NEIC ***22*** *04:21:52.8±0.5,47.74S×165.63E, h35km, Error ellipse: s-maj=17.6km s-min=6.7km az=127.0*

ISC 22 04:21:51.0±1.5,47.77S±0.09×165.6E±0.1, h40km±17km, n31,σ0s89/36, mb3.6/1, MS3.6/2, 4C-2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHZ	**Wether Hill Ro**	**2.46**	**41**	P	**P**	**04 22 29.6**	**+0.1**
WHZ				S	**S**	**04 22 59.3**	**+0.8**
WHZ	**Wether Hill Ro**	**2.46**	**41**	PN	**P**	**04 22 29.6**	**+0.1**
WHZ				SN	**S**	**04 22 59.0**	**+0.5**
MLZ	**Mavora Lakes**	**2.99**	**37**	*eP*	**P**	**04 22 36.8**	**-0.3**
MLZ	**Mavora Lakes**	**2.99**	**37**	⇓PN	**P**	**04 22 36.8**	**-0.2**
MLZ				SN	**S**	**04 23 12.0**	**0.0**
TUZ	**Tuapeka**	**3.29**	**58**	P	**P**	**04 22 41.6**	**+0.3**
TUZ				S	**S**	**04 23 21.9**	**+2.3**
TUZ	**Tuapeka**	**3.29**	**58**	PN	**P**	**04 22 41.7**	**+0.4**
TUZ				SN	**S**	**04 23 20.1**	**+0.6**
MSZ	**Milford Sound**	**3.48**	**28**	*eP*	**P**	**04 22 44.6**	**+0.5**
MSZ	**Milford Sound**	**3.48**	**28**	PN	**P**	**04 22 44.6**	**+0.5**
EAZ	**Earnscleugh**	**3.59**	**46**	*eP*	**P**	**04 22 45.3**	**-0.2**
EAZ	**Earnscleugh**	**3.59**	**46**	PN	**P**	**04 22 45.1**	**-0.5**
EAZ				SN	**S**	**04 23 27.2**	**0.0**
WKZ	**Wanaka**	**3.76**	**40**	*eP*	**P**	**04 22 48.9**	**+0.9**
WKZ	**Wanaka**	**3.76**	**40**	PN	**P**	**04 22 48.9**	**+0.9**
JCZ	**Jackson Bay**	**4.29**	**32**	*eP*	**P**	**04 22 56.4**	**+0.9**
JCZ	**Jackson Bay**	**4.29**	**32**	PN	**P**	**04 22 56.4**	**+0.8**
JCZ				*e*SN	**S**	**04 23 45.7**	**+0.7**
ODZ	**Otahua Downs**	**4.41**	**54**	P	**P**	**04 22 55.3**	**-1.9**
ODZ	**Otahua Downs**	**4.41**	**54**	⇓PN	**P**	**04 22 55.4**	**-1.8**
ODZ				SN	**S**	**04 23 46.3**	**-1.6**
LBZ	**Lake Benmore**	**4.63**	**45**	*eP*	**P**	**04 22 58.2**	**-2.2**
LBZ	**Lake Benmore**	**4.63**	**45**	PN	**P**	**04 22 58.2**	**-2.1**
FOZ	**Fox Glacier**	**5.07**	**35**	*eP*	**P**	**04 23 07.7**	**+1.1**
FOZ	**Fox Glacier**	**5.07**	**35**	*e*PN	**P**	**04 23 07.1**	**+0.5**
FOZ				SN	**S**	**04 24 04.5**	**-0.2**
RPZ	**Rata Peaks**	**5.55**	**45**	Pn	**P**	**04 23 13.0**	**-0.1**
	3.8nm,0.3s,baz=176,slow=4.6,SNR=11						
RPZ				Sn	**S**	**04 24 12.7**	**-3.9**
	9.3nm,0.3s,baz=182,slow=7.6,SNR=3.6						
STKA	**Stephens Creek**	**24.21**	**302**	LR	LR	04 34 20.1	
	comp=Z,145nm,21.2s,MS3.4,baz=299,slow=31						
WRA	**Warramunga Arr**	**37.58**	**307**	P	**P**	**04 29 02.3**	**-1.0**
	0.7nm,0.6s,mb3.6,baz=139,slow=7.6,SNR=8.8						
PPT	**Papeete**	**47.30**	**66**	LR	LR	04 46 48.6	
	comp=Z,98nm,21.7s,MS3.7,baz=153,slow=32						
SNAA	**Sanae**	**60.58**	**184**	⇑*i*	**P**	**04 31 59.1**	**-0.1**
VNA3	**Neumayer Olymp**	**61.25**	**182**	⇑*i*	**P**	**04 32 04.2**	**+0.5**
VNA2	**Neumayer--Watz**	**61.51**	**183**	⇑*i*	**P**	**04 32 05.6**	**+0.1**
VNA1	**Neumayer--Stat**	**61.81**	**182**	⇑*i*	**P**	**04 32 08.1**	**+0.6**
BRTR	**Keskin Array B**	**144.89**	**275**	PKP	PKPdf	04 41 25.9	+2.7
	1.3nm,0.6s,baz=135,slow=2.0,SNR=7.9						
ARCES	**ARCESS Array B**	**150.83**	**332**	PKPbc	PKPdf	04 41 39.8	+7.9
	1.6nm,0.7s,slow=2.7,SNR=5.8						
AKASG	**Malin Array Be**	**151.70**	**292**	PKPbc	PKPdf	04 41 43.0	+9.3
	0.2nm,0.3s,baz=84,slow=2.3,SNR=6.1						

WEL 22 04:59:30.6±0.5,44.78S×166.23E, h33km, ML3.6/4, 1C-2D, Error ellipse: s-maj=5.3km s-min=2.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**1.22**	**86**	SN	Sn	05 00 05.3	-1.7
MLZ	**Mavora Lakes**	**1.49**	**113**	⇓PN	Pn	04 59 54.1	-1.4
MLZ				SN	Sn	05 00 12.1	-1.9
WHZ	**Wether Hill Ro**	**1.65**	**133**	PN	Pn	04 59 56.2	-1.5
WHZ				SN	Sn	05 00 15.8	-2.2
JCZ	**Jackson Bay**	**1.95**	**70**	PN	Pn	05 00 01.1	-0.9
WKZ	**Wanaka**	**1.99**	**92**	PN	Pn	05 00 03.3	+0.7
EAZ	**Earnscleugh**	**2.23**	**103**	PN	Pn	05 00 05.8	-0.3
EAZ				*e*SN	Sn	05 00 31.9	-1.0
TUZ	**Tuapeka**	**2.67**	**117**	⇑PN	Pn	05 00 11.2	-1.3
TUZ				SN	Sn	05 00 41.5	-2.6
FOZ	**Fox Glacier**	**2.77**	**65**	PN	Pn	05 00 13.0	-0.8
FOZ				SN	Sn	05 00 44.7	-1.8
LBZ	**Lake Benmore**	**2.85**	**84**	*e*PN	Pn	05 00 14.4	-0.6
ODZ	**Otahua Downs**	**3.15**	**96**	⇓PN	Pn	05 00 18.1	-1.0
ODZ				SN	Sn	05 00 52.4	-3.7
RPZ	**Rata Peaks**	**3.63**	**75**	PN	Pn	05 00 24.6	-1.4
DSZ	**Denniston Nort**	**5.08**	**55**	PN	Pn	05 00 43.9	-2.6
DSZ				SN	Sn	05 01 38.8	-5.9
THZ	**Tophouse**	**5.73**	**61**	*e*PN	Pn	05 00 53.5	-2.2
QRZ	**Quartz Range**	**6.09**	**52**	*e*PN	Pn	05 00 59.1	-1.7

NEIC ***22*** *05:19:26.1±0.7,19.46S×69.07W, h100km±7km, mb4.4/5, Error ellipse: s-maj=9.6km s-min=7.4km az=66.0*

GUC ***22*** *05:19:26.3±0.3,19.54S×69.36W, h102km±2km, MD4.2, ML4.4*

IDC ***22*** *05:19:27.5±1.0,19.66S×69.04W, h118km±10km, mb3.6/7, mb1 3.9/11, mb1mx3.7/20, mbtmp4.0/11, MS2.7/1, Ms1 2.7/1, ms1mx2.3/15, Error ellipse: s-maj=21.2km s-min=8.0km az=96.0*

ISC 22 05:19:24.5±0.8,19.49S±0.06×69.10W±0.08, h103km±9km, n25,σ1s01/26, mb4.0/10, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**3.11**	**177**	P	**P**	**05 20 13.9**	**+1.1**
	12nm,0.3s,baz=339,slow=9.7,SNR=135						
LVC				S	**S**	**05 20 48.7**	**-0.6**
	50nm,0.3s,baz=359,slow=23,SNR=16						
LPAZ	**La Paz**	**3.31**	**16**	P	**P**	**05 20 21.6**	**+6.0**
	1.7nm,0.3s,baz=188,slow=9.4,SNR=101						
LPAZ				S	**S**	**05 21 01.9**	**+7.6**
	1.8nm,0.3s,baz=305,slow=19,SNR=2.4						
LPAZ	**La Paz**	**3.31**	**16**	*e*Pn	**P**	**05 20 21.6**	**+6.0**
ARE	**Arequipa**	**3.78**	**323**	*eP*	**P**	**05 20 22.0**	**+0.1**
ARE				*eS*	**S**	**05 21 04.0**	**-1.5**
SIV	**San Ignacio**	**8.40**	**67**	P	**P**	**05 21 25.2**	**+0.2**
	3.0nm,0.3s,baz=256,slow=15,SNR=158						
SAML	**Samuel**	**11.94**	**29**	*e*Pn	**P**	**05 22 13.4**	**+0.9**
CPUP	**Villa Florida**	**12.80**	**124**	P	**P**	**05 22 23.4**	**-0.4**
	0.3nm,0.3s,baz=330,slow=13,SNR=7.8						
CPUP				LR	LR	05 26 52.6	
	comp=Z,31nm,18.3s,baz=258,slow=35						
BDFB	**Brasilia**	**20.46**	**83**	P	**P**	**05 23 55.4**	**-0.6**
	6.8nm,0.5s,baz=255,slow=11,SNR=15						
PLCA	**Paso Flores**	**21.21**	**183**	P	**P**	**05 24 01.6**	**-1.7**
	3.1nm,1.1s,mb3.6,baz=355,slow=11,SNR=4.9						
PLCA	**Paso Flores**	**21.21**	**183**	*eP*	**P**	**05 24 05.0**	**+1.7**
	108nm,2.6s,mb4.7						
WVT	**Waverly**	**58.09**	**342**	*eP*	**P**	**05 29 07.7**	**-1.7**
	3.1nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**58.89**	**325**	P	**P**	**05 29 14.6**	**-0.5**
	0.2nm,0.6s,mb3.4,baz=142,slow=8.3,SNR=4.2						
TXAR	**Lajitas Array**	**58.89**	**325**	P	**P**	**05 29 14.6**	**-0.5**
WCI	**Wyandotte Cave**	**59.64**	**344**	*eP*	**P**	**05 29 18.5**	**-1.7**
	5.2nm,0.3s,mb4.8						
SDCO	**Great Sand Dun**	**66.44**	**329**	*eP*	**P**	**05 30 05.2**	**+0.3**
	1.0nm,0.6s,mb3.8						
DBIC	**Dimbokro**	**68.35**	**74**	P	**P**	**05 30 16.6**	**-0.7**
	2.5nm,0.6s,mb4.2,baz=206,slow=7.3,SNR=4.6						
ARUT	**Antelope Range**	**70.60**	**324**	*eP*	**P**	**05 30 32.1**	**+1.5**
RSSD	**Black Hills**	**70.92**	**334**	*eP*	**P**	**05 30 33.0**	**+0.6**
	2.5nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**72.29**	**330**	P	**P**	**05 30 41.4**	**+0.8**
	0.4nm,0.7s,mb3.4,baz=90,slow=4.4,SNR=3.4						
NVAR	**Mina Array Bea**	**73.81**	**322**	P	**P**	**05 30 50.0**	**+0.4**
	3.1nm,1.1s,mb3.5,baz=146,slow=6.5,SNR=5.7						
NVAR	**Mina Array Bea**	**73.81**	**322**	P	**P**	**05 30 50.0**	**+0.4**
YKA	**Yellowknife Ar**	**89.24**	**341**	P	**P**	**05 32 10.2**	**+0.6**
	3.6nm,0.7s,mb4.5,baz=133,slow=4.7,SNR=16						
YKA	**Yellowknife Ar**	**89.24**	**341**	P	**P**	**05 32 10.2**	**+0.6**
WRA	**Warramunga Arr**	**134.58**	**212**	PKP	PKPdf	05 38 33.5	+1.9
	0.3nm,0.8s,baz=150,slow=1.7,SNR=5.2						
SONM	**Songino Array**	**151.49**	**6**	PKPbc	PKPdf	05 39 09.0	+9.1
	1.5nm,0.5s,baz=310,slow=1.4,SNR=13						

BJI ***22*** *06:58:08.7, 31.50N×50.30E, h10km, mB4.9, mb4.5, Ms4.6, Msz4.0*

IDC ***22*** *06:58:08.9±0.9, 31.77N×50.02E, mb4.1/12, mb1 4.2/15, mb1mx4.0/26, mbtmp4.1/15, ML3.9/3, MS3.3/3, Ms1 3.3/3, ms1mx3.0/29, Error ellipse: s-maj=23.0km s-min=16.8km az=106.0*

THR ***22*** *06:58:08.8±1.1, 31.51N×50.31E, h18km±9km, ML4.0*

TEH ***22*** *06:58:10.7, 31.55N×50.27E, h10km, Mn4.3*

NEIC ***22*** *06:58:10.7, 31.55N×50.27E, h10km, mb4.1/5, ML4.3(TEH), After TEH.*

MOS ***22*** *06:58:11.0±1.3, 31.59N×50.00E, h33km, mb4.5/5, Error ellipse: s-maj=16.7km s-min=8.0km az=118.6*

CSEM ***22*** *06:58:11.0±0.1, 31.51N×50.19E, h45km, mb4.6/6, Error ellipse: s-maj=2.3km s-min=1.5km az=44.0*

ISC 22 06:58:08.5±0.9,31.62N±0.03×50.25E±0.03, h8km±6km, n79,σ1s37/87, mb4.2/20, MS3.4/6, 1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGO	**Shushtar**	**1.32**	**292**	*e*PG	**Pg**	**06 58 35.1**	**+0.2**
SHGO				AML	AML	06 59 10.2	
	comp=N,3μm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.32**	**292**	*e*PG	**Pg**	**06 58 35.1**	**+0.2**
IGAR	**Garneh**	**1.77**	**69**	Pn	**Pn**	**06 58 39.4**	**-0.3**
IKLH	**Kalahroud**	**2.04**	**33**	Pn	**Pn**	**06 58 45.4**	**+1.9**
IZEF	**Zefreh**	**2.18**	**54**	Pn	**Pn**	**06 58 45.4**	**-0.1**
NASN	**Na'in**	**2.47**	**61**	*e*PN	**Pn**	**06 58 51.4**	**+1.7**
NASN				*e*SG	**Sg**	**06 59 27.0**	**-3.8**
SHI	**Shiraz**	**2.78**	**135**	Pn	**Pn**	**06 58 53.7**	**-0.4**
IPAR	**Pars**	**2.99**	**126**	Pn	**Pn**	**06 58 56.8**	**-0.4**
KBD	**Kabd**	**3.29**	**223**	*eP*	**Pn**	**06 59 02.5**	**+1.1**
KBD				*eS*	**Sn**	**06 59 43.0**	**+2.0**
KBD				AML	AML	07 00 00.6	
	comp=Z,829nm,0.4s						
ISRV	**Sarvestan**	**3.33**	**131**	Pn	**Pn**	**06 59 01.6**	**-0.4**
IMOK	**Mook**	**3.34**	**140**	Pn	**Pn**	**06 59 01.0**	**-1.0**
IKOM	**Komasi**	**3.43**	**319**	Pn	**Pn**	**06 59 04.9**	**+1.5**
QRN	**Al-Qurain**	**3.50**	**216**	*eP*	**Pn**	**06 59 04.1**	**-0.3**
QRN				*eS*	**Sn**	**06 59 47.5**	**+1.0**
QRN				AML	AML	07 00 06.3	
	comp=Z,166nm,0.4s						
RDF	**Al-Radifah**	**3.56**	**222**	*eP*	**Pn**	**06 59 06.0**	**+0.9**
RDF				*eS*	**Sn**	**06 59 49.2**	**+1.4**
RDF				AML	AML	07 00 07.4	
	comp=Z,131nm,0.3s						
IVRN	**Varamin**	**3.59**	**20**	Pn	**Pn**	**06 59 07.0**	**+1.4**
IVRN				Lg		07 00 04.1	
ICHK	**Chekchek**	**3.59**	**79**	Pn	**Pn**	**06 59 06.4**	**+0.7**
IMEH	**Mehriz**	**3.74**	**92**	Pn	**Pn**	**06 59 07.7**	**0.0**
IRAZ	**Razeghan**	**3.78**	**356**	Pn	**Pn**	**06 59 13.7**	**+5.3**
IVIS	**Veys**	**4.06**	**316**	Pn	**Pn**	**06 59 12.8**	**+0.4**
IMHD	**Mahdasht**	**4.07**	**5**	Pn	**Pn**	**06 59 13.5**	**+1.0**
GHIR	**Ghir-Karzin**	**4.09**	**144**	*e*PN	**Pn**	**06 59 10.6**	**-2.1**
GHIR				AML	AML	07 00 34.6	
	comp=N,145nm,0.6s						
IDMV	**Damavand**	**4.22**	**20**	Pn	**Pn**	**06 59 15.2**	**+0.6**
SNGE	**Sanandaj**	**4.23**	**326**	*e*PN	**Pn**	**06 59 15.8**	**+1.1**
SNGE				AML	AML	07 00 39.2	
	comp=N,204nm,0.7s						
DAMV	**Damavand**	**4.25**	**19**	*e*PN	**Pn**	**06 59 16.0**	**+1.0**
DAMV				*e*SG	**Sg**	**07 00 23.2**	**-6.8**
DAMV				AML	AML	07 00 36.0	
	comp=N,119nm,0.6s						
IDHR	**Dehrash**	**4.46**	**315**	Pn	**Pn**	**06 59 19.1**	**+1.1**
IFIR	**Firoozkooh**	**4.52**	**27**	Pn	**Pn**	**06 59 19.7**	**+0.8**
IBAF	**Bafgh**	**4.54**	**89**	Pn	**Pn**	**06 59 19.4**	**+0.2**
GRMI	**Germi**	**7.43**	**346**	*e*PN	**Pn**	**07 00 00.2**	**+0.3**
ASF	**Jabal al Asfar**	**11.36**	**276**	Pn	**P**	**07 00 49.4**	**-4.7**
	comp=N,2.5nm,0.3s,baz=325,slow=11,SNR=14						
ASF				Sn	**S**	**07 02 52.9**	**-9.4**
	comp=N,0.4nm,0.3s,baz=282,slow=20,SNR=4.7						
ASF				Lg		07 04 10.7	
	comp=N,0.6nm,0.3s,baz=143,slow=23,SNR=3.0						
MALT	**Malatya**	**11.77**	**308**	*eP*	**P**	**07 00 57.6**	**-2.0**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MALT	**Malatya**	**11.77**	**308**	*e*Pn	**P**	**07 00 57.6**	**-2.0**
	comp=Z,4.0nm,0.9s						
MALT	**Malatya**	**11.77**	**308**	*eP*	**P**	**07 00 57.6**	**-2.0**
	comp=Z,4.0nm,0.9s						
ZEI	**Tsey**	**12.22**	**337**	*eP*	**P**	**07 01 03.3**	**-2.5**
EIL	**Elat**	**13.31**	**266**	Pn	**P**	**07 01 16.1**	**-4.2**
	comp=Z,0.4nm,0.3s,baz=41,slow=19,SNR=3.3						
EIL	**Elat**	**13.31**	**266**	*e*Pn	**P**	**07 01 15.1**	**-5.2**
KIV	**Kislovodsk**	**13.68**	**336**	*i* P	**P**	**07 01 28.5**	**+3.4**
KIV				*e*S	**S**	**07 04 03.2**	**+4.9**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KIV				MLR	MLR		
	comp=Z,200nm,17.0s						
SOC	**Sochi**	**14.55**	**328**	*eP*	**P**	**07 01 36.3**	**-0.3**
SOC				*e*		07 04 19.9	
SOC				pmax	pmax		
	comp=Z,15nm,0.9s						
SOC				pmax	pmax		
	comp=N,8.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,14nm,1.0s						
SOC				MLR	MLR		
	comp=N,205nm,13.0s						
SOC				MLR	MLR		
	comp=E,78nm,13.0s						
SOC				MLR	MLR		
	comp=Z,132nm,13.0s						
SOC	**Sochi**	**14.55**	**328**	*eP*	**P**	**07 01 36.3**	**-0.3**
	comp=Z,8.0nm,0.7s						
SOC				*e*S	**S**	**07 04 19.9**	**+0.8**
BR131	**Keskin Array S**	**15.72**	**306**	*eP*	**P**	**07 01 54.1**	**+2.3**
	comp=Z,2.6nm,0.6s						
BRTR	**Keskin Array B**	**15.72**	**306**	Pn	**P**	**07 01 50.2**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=124,slow=13,SNR=12						
ISP	**Isparta**	**17.36**	**296**	*i* P	**P**	**07 02 15.8**	**+3.2**
SANT	**Santorini**	**21.07**	**290**	*eP*	**P**	**07 02 52.8**	**-2.6**
	comp=Z,16nm,0.5s,mb4.6						
SANT	**Santorini**	**21.07**	**290**	*eP*	**P**	**07 02 52.8**	**-2.6**
	comp=Z,16nm,0.5s,mb4.6						
IDI	**Anoyia**	**21.45**	**287**	P	**P**	**07 02 57.4**	**-1.9**
	comp=Z,7.7nm,0.4s,mb4.3,baz=96,slow=12,SNR=5.2						
AAK	**Ala-Archa**	**22.17**	**53**	⇓*eP*	**P**	**07 03 12.4**	**+6.0**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.0						
AAK				MLR	MLR		
	comp=Z,100nm,11.0s,MS3.5						
MLR	**Muntele Rosu**	**23.40**	**313**	P	**P**	**07 03 20.1**	**+1.6**
	comp=Z,4.9nm,0.7s,mb4.0,baz=47,slow=7.7,SNR=8.1						
AKASG	**Malin Array Be**	**24.63**	**327**	P	**P**	**07 03 29.2**	**-1.1**
	comp=Z,1.3nm,0.5s,mb3.7,baz=134,slow=9.3,SNR=17						
AKASG	**Malin Array Be**	**24.63**	**327**

MS4.7/8, Error ellipse: s-maj=12.4km s-min=6.3km az=109.2

HRVD ***22*** *07:02:00.8 0.6, 2.45N 94.52E, h12km, MW4.8/50, Centroid moment Tensor Solution. LP body waves: s23,c27; Mantle waves: s50,c68; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.34±.11; Mθθ -0.86±.08; Mϕϕ -1.48±.15; Mrθ 0.48±.37; Mθϕ 0.73±.08; Mϕr 0.17±.35; Best double couple: M 2.199×10^16 NP1: ϕ 336°, δ 44°, λ 104°. NP2: ϕ 137°, δ 48°, λ 77°. Principal axes: T 2.429, Plg 80°, Azm 336°; N -.456, Plg 10°, Azm 146°; P -1.969, Plg 2°, Azm 236°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***22*** *07:02:00.8 0.3, 2.59N 94.59E, mb4.9/25 Error ellipse: s-maj=7.8km s-min=5.6km az=210.0*

ISC 22 07:01:59.2 0.3, 2.63N 0.05 94.62E 0.04, h25km, h25km ±.7km: pP-P, n162, σ1 9 05/155, mb4.8/72, MS4.5/38, 5C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
KULM	**Kulim**	**6.57**	**66**	*e*Pn	**Pn**	**07 03 37.1**	**+0.3**
IPM	**Ipoh**	**6.68**	**73**	P	**Pn**	**07 03 39.1**	**+0.7**
SNG	**Songkhla**	**7.49**	**53**	P	**Pn**	**07 03 50.0**	**+0.3**
	252nm,0.8s						
KGM	**Kluang**	**8.71**	**94**	P	**P**	**07 04 07.1**	**+0.3**
NST	**Nakhon Sawan**	**14.05**	**22**	P	**P**	**07 05 20.0**	**+0.8**
KSM	**Kuching**	**15.72**	**94**	*e*P	**P**	**07 05 40.5**	**-0.4**
NANT	**Nan**	**17.14**	**20**	P	**P**	**07 05 58.0**	**-0.9**
	312nm,0.4s						
CHRT	**Chiangrai**	**17.86**	**16**	PG	**P**	**07 06 06.0**	**-1.9**
CHRT				SG	PP	07 06 17.0	-5.6
CAL	**Calcutta**	**20.71**	**343**	*e*P	**P**	**07 06 35.8**	**-4.7**
CAL				*e*S	**S**	**07 10 40.1**	**+14**
HYB	**Hyderabad**	**21.56**	**314**	*e*P	**P**	**07 06 50.0**	**+0.9**
HYB				*e*		07 07 41.5	
HYB	**Hyderabad**	**21.56**	**314**	*i* P	**P**	**07 06 50.0**	**+0.9**
KKM	**Kota Kinabalu**	**21.80**	**80**	*e*P	**P**	**07 06 53.3**	**+1.7**
KKM				*e*pP		07 07 01.4	
KKM	**Kota Kinabalu**	**21.80**	**80**	P	**P**	**07 07 01.7**	**+10**
IMP	**Imphal**	**22.03**	**358**	*e*	**P**	**07 06 57.0**	**+3.2**
QIZ	**Qiongzhong**	**22.08**	**41**	P	**P**	**07 06 54.5**	**+0.2**
QIZ				XP		07 07 05.8	
QIZ				LR	LR		
	comp=N,2μm,17.4s,MS4.7						
QIZ				LR	LR		
	comp=E,1μm,18.5s,MS4.7						
QIZ				LR	LR		
	comp=Z,2μm,17.6s,MS4.7						
BOK	**Bokaro**	**22.67**	**339**	*e*P	**P**	**07 07 01.1**	**+0.9**
BOK				AMb	AMB	07 07 04.3	
	comp=Z,93nm,1.1s,mb5.1						
BOK				*e*S	**S**	**07 11 11.4**	**+9.1**
BLSP	**Bilaspur**	**22.87**	**329**	*e*P	**P**	**07 07 04.6**	**+2.4**
BLSP				AMb	AMB	07 07 12.3	
	comp=Z,47nm,0.8s,mb5.0						
BLSP				*e*S	**S**	**07 11 16.5**	**+11**
SHL	**Shillong**	**22.96**	**354**	*e*P	**P**	**07 07 01.2**	**-1.8**
SHL				*e*S	**S**	**07 11 09.0**	**+1.7**
KMI	**Kunming**	**23.69**	**19**	P	**P**	**07 07 12.3**	**+2.1**
KMI				AP		07 07 16.8	
KMI				XP		07 07 18.9	
KMI				PP	PP	07 07 47.0	+3.8
KMI				PPP	PPP	07 07 57.5	+4.3
KMI				S	**S**	**07 11 27.1**	**+6.9**
KMI				XS		07 11 34.9	
KMI				SCP		07 14 30.6	
KMI				PCS		07 14 32.5	
KMI				AMB	AMB		
	comp=Z,28nm,1.3s,mb4.5						
KMI				AMB	AMB		
	comp=Z,387nm,4.5s						
KMI				LR	LR		
	comp=N,2μm,11.8s,MS4.8						
KMI				LR	LR		
	comp=E,1μm,10.5s,MS4.8						
KMI				LR	LR		
	comp=Z,2μm,12.2s,MS4.8						
KMI	**Kunming**	**23.69**	**19**	P	**P**	**07 07 12.3**	**+2.1**
KMI				*SP		07 07 18.9	
KMI						07 07 47.0	
KMI				PPP	PPP	07 07 57.5	+4.3
KMI				S	**S**	**07 11 27.1**	**+6.9**
KMI				SS	SS	07 12 20.1	+10
KMI				pmax	pmax		
	comp=Z,28nm,1.3s,mb4.5						
KMI				MLR	MLR		
	comp=Z,2μm,12.2s,MS4.8						
KMI	**Kunming**	**23.69**	**19**	P	**P**	**07 07 12.3**	**+2.1**
	comp=Z,28nm,1.3s,mb4.5						
KMI				pP		07 07 16.8	
KMI				sP		07 07 18.9	
KMI				PP	PP	07 07 47.0	+3.8
KMI				PPP	PPP	07 07 57.5	+4.3
KMI				S	**S**	**07 11 27.1**	**+6.9**
KMI				sS		07 11 34.9	
KMI				SS	SS	07 12 20.1	+10
KMI				SSS	SSS	07 12 36.1	+10
KMI				ScP		07 14 30.6	
KMI				PcS		07 14 32.5	
KMI				LR	LR		
	comp=Z,2μm,12.2s,MS4.8						
KAD	**Karad**	**24.81**	**307**	*e*P	**P**	**07 07 25.7**	**+4.6**
KAD				AMb	AMB	07 07 36.2	
	comp=Z,60nm,2.0s,mb4.8						
JIRN	**Jiri**	**26.16**	**343**	*e*P	**P**	**07 07 34.4**	**+0.7**
	comp=Z,42nm,0.7s,mb5.0						
PKI	**Pulchoki**	**26.32**	**341**	*e*P	**P**	**07 07 35.5**	**+0.4**
GYA	**Guiyang**	**26.36**	**25**	P	**P**	**07 07 36.3**	**+0.8**
GYA				AP	pP	07 07 45.3	+2.6
GYA				XP	sP	07 07 49.8	+3.9
GYA				PP	PP	07 08 22.4	+3.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
GYA				AMB	AMB		
	comp=Z,290nm,6.3s						
GYA				LR	LR		
	comp=N,2μm,16.7s,MS4.8						
GYA				LR	LR		
	comp=E,1μm,14.3s,MS4.8						
GYA				LR	LR		
	comp=Z,2μm,16.7s,MS4.7						
BHPL	**Bhopal**	**26.41**	**322**	*e*P	**P**	**07 07 39.7**	**+3.8**
BHPL				AMb	AMB	07 07 45.1	
	comp=Z,18nm,1.0s,mb4.6						
DMN	**Daman**	**26.45**	**341**	*e*P	**P**	**07 07 37.6**	**+1.3**
GUN	**Gumba**	**26.49**	**342**	*e*P	**P**	**07 07 37.0**	**+0.3**
	comp=Z,65nm,0.9s,mb5.2						
KKN	**Kakani**	**26.56**	**341**	*e*P	**P**	**07 07 37.0**	**-0.3**
GKN	**Gorkha**	**26.97**	**340**	*e*P	**P**	**07 07 41.1**	**0.0**
	comp=Z,47nm,0.9s,mb5.0						
LSA	**Lhasa**	**27.12**	**353**	*e*P	**P**	**07 07 43.5**	**+1.1**
LSA				pmax	pmax		
	comp=Z,44nm,0.6s,mb5.2						
LSA	**Lhasa**	**27.12**	**353**	*e*P	**P**	**07 07 43.5**	**+1.1**
	comp=Z,44nm,0.6s,mb5.2						
KOLN	**Koldanda**	**27.13**	**338**	*e*P	**P**	**07 07 42.7**	**+0.2**
CD2	**Chengdu**	**29.43**	**16**	P	**P**	**07 08 01.6**	**-1.6**
NDI	**New Delhi**	**30.76**	**329**	*e*P	**P**	**07 08 13.0**	**-2.1**
ENH	**Enshi**	**30.89**	**26**	*e*P	**P**	**07 08 14.4**	**-1.8**
	comp=Z,20nm,1.0s,mb4.9						
WHN	**Wuhan**	**33.46**	**32**	P	**P**	**07 08 37.4**	**-1.3**
WHN				S	**S**	**07 14 01.0**	**+3.4**
WHN				LR	LR		
	comp=Z,4μm,13.0s,MS5.3						
XAN	**Xi'an**	**33.98**	**22**	P	**P**	**07 08 42.4**	**-0.8**
XAN				AP	pP	07 08 49.3	-1.1
XAN				AMB	AMB		
	comp=Z,19nm,0.9s,mb5.0						
LZH	**Lanzhou**	**34.37**	**13**	*e*P	**P**	**07 08 46.5**	**0.0**
LZH				AP	pP	07 08 55.5	+1.8
LZH				XP	sP	07 09 02.0	+5.1
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.0						
LZH	**Lanzhou**	**34.37**	**13**	*e*P	**P**	**07 08 46.5**	**0.0**
	comp=Z,30nm,1.5s,mb5.0						
LZH				pP	pP	07 08 55.5	+1.8
LZH				sP	sP	07 09 02.0	+5.1
FITZ	**Fitzroy Crossi**	**36.85**	**125**	*e*P	**P**	**07 09 07.6**	**-0.1**
	comp=Z,12nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**36.85**	**125**	P	**P**	**07 09 07.8**	**+0.1**
	comp=Z,8.2nm,0.9s,mb4.5						
GTA	**Gaotai**	**36.91**	**7**	P	**P**	**07 09 07.8**	**-0.2**
GTA				AP	pP	07 09 15.6	+0.3
GTA				XP	sP	07 09 18.8	+0.4
GTA				PP	PP	07 10 39.6	+5.4
GTA				S	**S**	**07 15 00.1**	**+9.2**
GTA				XS		07 15 12.6	
GTA				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,126nm,6.1s						
GTA				LR	LR		
	comp=N,466nm,19.8s,MS4.4						
GTA				LR	LR		
	comp=E,362nm,19.0s,MS4.4						
GTA				LR	LR		
	comp=Z,601nm,19.0s,MS4.4						
SSE	**Sheshan**	**37.83**	**39**	P	**P**	**07 09 14.3**	**-1.5**
SSE				XP	sP	07 09 26.9	+0.7
SSE				PP	PP	07 10 40.3	-5.0
SSE				PCP	PcP	07 11 30.1	-2.4
SSE				S	**S**	**07 15 04.1**	**-0.8**
SSE				XS		07 15 19.0	
SSE				AMB	AMB		
	comp=Z,18nm,0.6s,mb5.0						
SSE				AMB	AMB		
	comp=Z,81nm,3.9s						
SSE				LR	LR		
	comp=N,520nm,13.3s,MS4.8						
SSE				LR	LR		
	comp=E,1μm,13.2s,MS4.8						
SSE				LR	LR		
	comp=Z,830nm,14.6s,MS4.7						
SSE	**Sheshan**	**37.83**	**39**	P	**P**	**07 09 14.2**	**-1.6**
	comp=Z,18nm,0.6s,mb5.0						
SSE				sP	sP	07 09 26.9	+0.7
SSE				PP	PP	07 10 40.2	-5.1
SSE				PcP	PcP	07 11 30.1	-2.4
SSE				S	**S**	**07 15 04.1**	**-0.8**
SSE				sS		07 15 19.0	
SSE				SS	SS	07 17 49.9	+9.0
SSE				LR	LR		
	comp=Z,830nm,14.6s,MS4.7						
JOW	**Kunigami**	**40.23**	**50**	P	**P**	**07 09 37.1**	**+1.3**
	comp=Z,8.5nm,0.8s,mb4.5,baz=276,slow=7.7,SNR=4.5						
JOW				LR	LR	07 25 42.4	
	comp=Z,384nm,20.6s,MS4.2,baz=288,slow=35						
WMQ	**Urumqi**	**41.47**	**352**	P	**P**	**07 09 46.8**	**+0.9**
WMQ				AP	pP	07 09 54.1	+0.9
WMQ				XP	sP	07 09 57.5	+1.2
WMQ				PP	PP	07 11 26.3	+1.5
WMQ				S	**S**	**07 16 00.5**	**+1.0**
WMQ				XS		07 16 12.8	
WMQ				LR	LR		
	comp=N,486nm,17.6s,MS4.6						
WMQ				LR	LR		
	comp=E,564nm,17.8s,MS4.6						
WMQ				LR	LR		
	comp=Z,799nm,17.6s,MS4.6						
AAK	**Ala-Archa**	**43.70**	**338**	*i* P	**P**	**07 10 03.4**	**-0.7**
AAK				pmax	pmax		
	comp=Z,16nm,1.9s,mb4.4						
AAK				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.2						
AAK	**Ala-Archa**	**43.70**	**338**	*e*P	**P**	**07 10 04.5**	**+0.4**
	comp=Z,12nm,1.0s,mb4.6						
DL2	**Dalian**	**43.70**	**31**	P	**P**	**07 10 05.8**	**+1.6**
DL2				AP	pP	07 10 12.9	+1.4
DL2				S	**S**	**07 16 33.8**	**+1.5**
DL2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
DL2				LR	LR		
	comp=N,320nm,14.9s,MS4.5						
DL2				LR	LR		
	comp=E,230nm,12.5s,MS4.5						
DL2				LR	LR		
	comp=Z,500nm,18.6s						
WRA	**Warramunga Arr**	**44.98**	**122**	P	**P**	**07 10 14.9**	**+0.2**
	comp=Z,9.2nm,1.1s,mb4.5,baz=301,slow=8.7,SNR=16						
WRAB	**Tennant Creek**	**44.98**	**122**	*e*P	**P**	**07 10 14.8**	**+0.1**
WRAB				*e*PP	pP	07 10 22.5	+0.4
WRAB				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.0						
WRAB	**Tennant Creek**	**44.98**	**122**	*e*P	**P**	**07 10 14.8**	**0.0**
	comp=Z,31nm,1.1s,mb5.0						
WRAB				*e*pP	pP	07 10 22.4	+0.4
WB2	**Warramunga Arr**	**44.98**	**122**	*e*P	**P**	**07 10 13.1**	**-1.7**
MKAR	**Makanchi Array**	**45.28**	**348**	*i* P	**P**	**07 10 16.9**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR	**Makanchi Array**	**45.28**	**348**	P	**P**	**07 10 17.0**	**+0.3**
	comp=Z,9.4nm,0.7s,mb4.8,baz=166,slow=7.9,SNR=64						
MKAR	**Makanchi Array**	**45.28**	**348**	P	**P**	**07 10 17.0**	**+0.3**
JNU	**Nakatsue**	**45.51**	**44**	LR	LR	07 29 18.2	
	comp=Z,557nm,21.6s,MS4.5,baz=349,slow=36						
KKAR	**Karatay Array**	**45.66**	**335**	*i* P	**P**	**07 10 19.8**	**0.0**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
SONM	**Songino Array**	**46.17**	**11**	P	**P**	**07 10 24.1**	**+0.4**
	comp=Z,6.2nm,0.8s,mb4.6,baz=193,slow=7.7,SNR=38						
SONM				LR	LR	07 31 46.6	
	comp=Z,305nm,18.8s,MS4.3,baz=196,slow=39						
SNY	**Shenyang**	**46.88**	**30**	⇑P	**P**	**07 10 29.8**	**+0.4**
SNY				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
SNY				AMB	AMB		
	comp=Z,140nm,6.6s						
SNY				LR	LR		
	comp=N,410nm,16.2s,MS4.8						
SNY				LR	LR		
	comp=E,800nm,15.0s,MS4.8						
SNY				LR	LR		
	comp=Z,760nm,18.0s,MS4.7						
ZAK	**Zakamensk**	**48.14**	**7**	⇓*i* P	**P**	**07 10 39.3**	**0.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
CN2	**Changchun**	**49.27**	**29**	*e*P	**P**	**07 10 47.9**	**-0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,7.0s						
CN2				LR	LR		
	comp=N,500nm,16.0s,MS4.8						
CN2				LR	LR		
	comp=E,700nm,16.0s,MS4.8						
CN2				LR	LR		
	comp=Z,770nm,14.0s,MS4.8						
TLY	**Talaya**	**49.46**	**7**	*e*P	**P**	**07 10 49.5**	**+0.1**
TLY				*e*		07 12 40.9	
TLY				*e*S	**S**	**07 17 49.0**	**-5.1**
TLY				*e*SS	SS	07 21 21.7	-0.4
TLY				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
TLY				MLR	MLR		
	comp=Z,531nm,19.0s,MS4.6						
TLY	**Talaya**	**49.46**	**7**	*e*P	**P**	**07 10 49.9**	**+0.4**
	comp=Z,10nm,0.9s,mb4.9						
KURK	**Kurchatov**	**49.78**	**347**	*e*P	**P**	**07 10 51.3**	**-0.6**
KURK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
KURK	**Kurchatov**	**49.78**	**347**	*e*P	**P**	**07 10 51.2**	**-0.7**
	comp=Z,11nm,0.8s,mb4.9						
HIA	**Hailar**	**51.18**	**21**	*e*P	**P**	**07 11 02.4**	**-0.1**
HIA				pmax	pmax		
	comp=Z,28nm,1.0s						
HIA	**Hailar**	**51.18**	**21**	*e*P	**P**	**07 11 02.4**	**-0.1**
	comp=Z,28nm,1.0s,mb5.1						
OPO	**Ambohidratompo**	**51.20**	**244**	LR	LR	07 30 22.7	
	comp=Z,111nm,18.1s,MS3.9,baz=163,slow=33						
CIT	**Chita**	**51.70**	**15**	*e*P	**P**	**07 11 06.7**	**+0.2**
CIT				*e*		07 11 12.0	
CIT				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.2						
ZAL	**Zalesovo**	**51.77**	**353**	P	**P**	**07 11 07.5**	**+0.5**
	comp=Z,5.4nm,0.4s,mb4.9,baz=295,slow=7.9,SNR=24						
ZAL	**Zalesovo**	**51.77**	**353**	P	**P**	**07 11 07.5**	**+0.5**
MDJ	**Mudanjiang**	**51.94**	**31**	P	**P**	**07 11 08.3**	**-0.1**
MDJ				XP	sP	07 11 17.8	-1.0
MDJ				SCS	ScS	07 20 55.8	+2.2
MDJ				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,109nm,5.3s						
MDJ				LR	LR		
	comp=N,375nm,15.9s,MS4.7						
MDJ				LR	LR		
	comp=E,469nm,16.5s,MS4.7						
MDJ				LR	LR		
	comp=Z,650nm,13.7s,MS4.8						
MDJ	**Mudanjiang**	**51.94**	**31**	*e*P	**P**	**07 11 08.4**	**+0.1**
	comp=Z,18nm,1.1s,mb4.9						
MDJ				*e*pP	pP	07 11 16.5	+0.7
JHJ	**Hachijo jima 2**	**51.98**	**49**	LR	LR	07 32 37.3	
	comp=Z,124nm,18.6s,MS4.0,baz=305,slow=35						
MJAR	**Matsushiro Arr**	**52.43**	**44**	P	**P**	**07 11 11.6**	**-0.6**
	comp=Z,0.5nm,0.3s,mb3.9,baz=270,slow=4.9,SNR=3.6						
MJAR				PcP	PcP	07 12 23.1	+0.3
	comp=Z,0.8nm,0.3s,baz=247,slow=7.6,SNR=3.7						
MJAR				LR	LR	07 35 50.1	
	comp=Z,392nm,18.8s,MS4.5,baz=230,slow=39						
NVS	**Novosibirsk**	**52.87**	**352**	⇑*i* P	**P**	**07 11 13.8**	**-1.4**
NVS				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
NVS				pmax	pmax		
	comp=N,8.0nm,0.9s						
VOSK	**Vostochnaya**	**53.64**	**342**	P	**P**	**07 11 20.0**	**-0.9**
VOSK				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
BVA0	**Borovoye Array**	**54.09**	**342**	P	**P**	**07 11 23.0**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
BVAR	**Borovoye Array**	**54.09**	**342**	P	**P**	**07 11 23.2**	**-0.9**
	comp=Z,11nm,0.9s,mb4.8,baz=149,slow=8.6,SNR=46						
ZRNK	**Zerenda**	**54.45**	**341**	P	**P**	**07 11 25.7**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
CTAO	**Charters Tower**	**55.44**	**117**	P	**P**	**07 11 35.6**	**+1.1**
CTAO				*e**PP	pP	07 11 42.4	+0.3
CTAO				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
CTAO	**Charters Tower**	**55.44**	**117**	P	**P**	**07 11 35.6**	**+1.1**
	comp=Z,20nm,1.0s,mb5.1						
CTAO				*e*pP	pP	07 11 42.4	+0.3
KLR	**Kul'dur**	**56.19**	**28**	*e*P	**P**	**07 11 36.7**	**-2.7**
KLR				*e*S	**S**	**07 19 30.0**	**+4.5**
STKA	**Stephens Creek**	**56.22**	**132**	⇓*i* P	**P**	**07 11 40.3**	**+0.3**
	comp=Z,5.4nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**56.22**	**132**	P	**P**	**07 11 40.0**	**0.0**
	comp=Z,4.6nm,1.0s,mb4.5,baz=306,slow=7.7,SNR=6.4						
STKA				LR	LR	07 34 11.0	
	comp=Z,167nm,21.5s,MS4.1,baz=235,slow=34						
BOD	**Bodaibo**	**57.12**	**12**	*e*P	**P**	**07 11 45.5**	**-0.6**
BOD				*e*	pP	07 11 52.8	-0.8
BOD				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
BOD				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
KMBO	**Kilima Mbogo**	**57.47**	**267**	P	**P**	**07 11 49.6**	**+0.5**
	comp=Z,2.0nm,1.0s,mb4.1,baz=86,slow=11,SNR=3.2						
KMBO				LR	LR	07 32 49.8	
	comp=Z,232nm,18.2s,MS4.3,baz=276,slow=32						
GNI	**Garni**	**58.48**	**317**	*i* P	**P**	**07 11 56.1**	**+0.3**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GNI	**Garni**	**58.48**	**317**	P	**P**	**07 11 54.6**	**-1.2**
	comp=Z,3.8nm,0.4s,mb4.8,baz=336,slow=19,SNR=3.1						
GNI				LR	LR	07 38 22.7	
	comp=Z,95nm,20.0s,MS3.9,baz=351,slow=37						
GNI	**Garni**	**58.48**	**317**	P	**P**	**07 11 54.6**	**-1.2**
GNI				LR	LR	07 38 22.7	
ASAJ	**Asahikawa**	**59.12**	**39**	LR	LR	07 38 42.7	
	comp=Z,410nm,19.4s,MS4.6,baz=347,slow=37						
YSS	**Yuzh-Sakhalins**	**60.67**	**36**	*i* P	**P**	**07 12 10.7**	**-0.1**
YSS				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.2						
YSS				MLR	MLR		
	comp=Z,300nm,13.0s,MS4.6						
ARU	**Arti**	**60.89**	**338**	⇑*i* P	**P**	**07 12 10.6**	**-1.5**
ARU				*e*		07 12 50.0	
ARU				*e*		07 14 26.5	
ARU				*e*S	**S**	**07 20 25.8**	**-0.9**
ARU				*e*SS	SS	07 24 24.7	-2.7
ARU				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.1						
ARU	**Arti**	**60.89**	**338**	*e*P	**P**	**07 12 10.5**	**-1.6**
	comp=Z,19nm,1.0s,mb5.2						
ARU				*e*pP	pP	07 12 17.6	-2.1
ASF	**Jabal al Asfar**	**61.54**	**305**	P	**P**	**07 12 17.7**	**+0.8**
	comp=Z,4.2nm,0.8s,mb4.6,baz=213,slow=3.2,SNR=4.0						
KIV	**Kislovodsk**	**61.55**	**320**	*i* P	**P**	**07 12 16.3**	**-0.5**
KIV				*i*	pP	07 12 22.9	-1.6
KIV				*i*		07 14 30.1	
KIV				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.2						
MALT	**Malatya**	**62.27**	**312**	*e*P	**P**	**07 12 21.5**	**-0.2**
MALT				*e**PP	pP	07 12 29.0	-0.4
MALT				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
MALT	**Malatya**	**62.27**	**312**	*e*P	**P**	**07 12 21.5**	**-0.2**
	comp=Z,12nm,1.0s,mb5.0						
MALT				*e*pP	pP	07 12 28.9	-0.4
YAK	**Yakutsk**	**64.81**	**17**	*i* P	**P**	**07 12 36.5**	**-1.5**
YAK				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.4						
YAK				MLR	MLR		
	comp=Z,500nm,10.0s,MS5.0						
ANN	**Anapa**	**65.33**	**319**	*e*P	**P**	**07 12 44.3**	**+2.6**
ANN				*i*		07 12 56.7	
ANN				*e*S	S	07 21 30.8	+8.4
ANN				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
BR131	**Keskin Array S**	**66.25**	**313**	*e*P	**P**	**07 12 46.1**	**-1.5**
	comp=Z,3.4nm,0.8s,mb4.4						
BR131				*e*pP	pP	07 12 54.1	-1.2
BRTR	**Keskin Array B**	**66.25**	**313**	P	**P**	**07 12 46.3**	**-1.4**
	comp=Z,4.4nm,1.0s,mb4.4,baz=127,slow=6.2,SNR=15						
MATP	**Matopo**	**68.69**	**247**	P	**P**	**07 13 04.3**	**+1.0**
	comp=Z,5.9nm,1.1s,mb4.4,baz=74,slow=2.1,SNR=4.5						
MATP				LR	LR	07 37 22.0	
	comp=Z,169nm,21.1s,MS4.2,baz=66,slow=31						
MOS	**Moscow**	**69.80**	**330**	*e*P	**P**	**07 13 05.0**	**-4.5**
MOS				*e*	pP	07 13 14.0	-3.2
MOS				*e*		07 13 22.1	
OBN	**Obninsk**	**70.06**	**329**	⇑*e*P	**P**	**07 13 09.6**	**-1.5**
OBN				*i*	pP	07 13 17.2	-1.6
OBN				*i*		07 13 32.5	
OBN				*i*		07 15 44.1	
OBN				pmax	pmax		
	comp=Z,12nm,0.5s,mb5.1						
MA2	**Magadan**	**71.19**	**27**	*e*P	**P**	**07 13 21.3**	**+3.4**
MA2				*e*		07 13 44.9	
MA2				*e*		07 15 50.9	
MA2				*e*PPP	PPP	07 17 35.8	-3.3
MA2				*e*S	S	07 22 38.7	+6.7
MA2				*e*PS	PS	07 23 02.7	-1.0
MA2				*e*		07 23 17.7	
MA2				*e*SS	SS	07 27 05.6	-2.4
MA2				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
MA2				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.9						
IDI	**Anoyia**	**71.98**	**306**	P	**P**	**07 13 22.4**	**-0.7**
	comp=Z,5.8nm,0.8s,mb4.6,baz=212,slow=7.5,SNR=3.8						
LBTB	**Lobatse**	**72.22**	**243**	P	**P**	**07 13 23.8**	**-0.9**
	comp=Z,3.8nm,1.0s,mb4.3,baz=88,slow=13,SNR=2.3						
TIXI	**Tiksi**	**72.25**	**11**	⇑*e*P	**P**	**07 13 23.5**	**-0.6**
TIXI				pmax	pmax

STHS	**Stebnicka Huta**	**77.22**	**320**	*e*P	**P**	**07 13 53.9**	**+0.9**
STHS				*ep*P	pP	07 14 00.8	+0.1
STHS				*e*		07 14 12.9	
KECS	**Kecovo**	**77.54**	**319**	*e*P	**P**	**07 13 55.9**	**+1.2**
FINES	**FINESS Array B** comp=Z,2.8nm,0.8s,mb4.2,baz=158,slow=10,SNR=7.6	**77.55**	**333**	P	**P**	**07 13 53.5**	**-1.0**
FINES				LR	LR	07 52 10.4	
KAF	**Kangasniemi** comp=Z,9.4nm,0.9s,mb4.7,baz=108,slow=5.1	**77.66**	**333**	*ep*	**P**	**07 13 54.2**	**-0.9**
OJC	**Ojcow**	**78.29**	**321**	*e*P	**P**	**07 14 00.4**	**+1.6**
VYHS	**Vyhne**	**78.62**	**319**	*e*P	**P**	**07 14 01.3**	**+0.6**
MORC	**Moravsky Berou**	**79.66**	**320**	*e*P	**P**	**07 14 06.5**	**+0.2**
MORC	comp=Z,5.0nm,1.2s,mb4.3			pmax	pmax		
MORC	**Moravsky Berou** comp=Z,5.1nm,1.2s,mb4.3	**79.66**	**320**	*e*P	**P**	**07 14 06.5**	**+0.2**
KEV	**Kevo** comp=Z,8.3nm,1.0s,mb4.6	**79.91**	**341**	*ep*	**P**	**07 14 06.4**	**-0.8**
ARCES	**ARCESS Array B** comp=Z,6.7nm,1.0s,mb4.5,baz=108,slow=3.8,SNR=11	**80.33**	**341**	P	**P**	**07 14 09.9**	**+0.4**
ARCES				LR	LR	07 55 33.3	
ARCES	**ARCESS Array B** comp=Z,180nm,18.3s,MS4.5,baz=240,slow=40	**80.33**	**341**	P	**P**	**07 14 09.9**	**+0.4**
ARCES				LR	LR	07 55 33.3	
BOJS	**Bojanci**	**80.68**	**316**	*e*P	**P**	**07 14 11.7**	**-0.1**
BILL	**Bilibino**	**80.76**	**21**	*e*P	**P**	**07 14 12.8**	**+1.0**
BILL				*e*	pP	07 14 20.4	+0.8
BILL	comp=Z,3.0nm,0.8s,mb4.3			pmax	pmax		
BILL	comp=Z,1μm,21.0s,MS5.2			MLR	MLR		
PERS	**Pernice**	**80.88**	**317**	*e*P	**P**	**07 14 13.2**	**+0.3**
GERES	**GERESS Array B** comp=Z,5.2nm,1.0s,mb4.4,baz=104,slow=5.5,SNR=14	**82.05**	**319**	P	**P**	**07 14 19.2**	**+0.4**
GERES				LR	LR	07 56 51.8	
KHC	**Kasperske Hory**	**82.15**	**319**	*i* P	**P**	**07 14 21.2**	**+1.8**
HFS	**Hagfors** comp=Z,6.2nm,1.0s,mb4.6,baz=90,slow=3.0,SNR=5.6	**83.20**	**330**	P	**P**	**07 14 24.3**	**-0.3**
GRA1	**Grafenberg Arr** comp=Z,4.0nm,0.9s,mb4.5	**83.73**	**320**	*e*P	**P**	**07 14 28.5**	**+1.0**
GRF	**Grafenberg Arr**	**83.73**	**320**	*e*P	**P**	**07 14 28.5**	**+1.0**
GRF	comp=Z,4.0nm,0.9s,mb4.5			pmax	pmax		
GRF	**Grafenberg Arr** comp=Z,4.0nm,0.9s,mb4.5	**83.73**	**320**	*e*P	**P**	**07 14 28.5**	**+1.0**
DAVOX	**Davos** comp=Z,5.5nm,0.7s,mb4.8,baz=237,slow=3.2,SNR=6.1	**84.49**	**317**	P	**P**	**07 14 31.3**	**-0.1**
NB2	**NORSAR Subarra** comp=Z,3.5nm,1.0s,mb4.4,baz=96,slow=5.0	**84.51**	**331**	P	**P**	**07 14 30.8**	**-0.4**
NB2	**NORSAR Subarra** comp=Z,4.0nm,1.0s,mb4.5	**84.51**	**331**	P	**P**	**07 14 30.8**	**-0.4**
NB2				pmax	pmax		
NOA	**NORSAR Array B** comp=Z,2.5nm,0.9s,mb4.3,baz=95,slow=5.8,SNR=4.0	**84.51**	**331**	P	**P**	**07 14 30.9**	**-0.2**
VNDA	**Vanda** comp=Z,162nm,19.3s,MS4.5,baz=299,slow=33	**87.73**	**168**	LR	LR	07 50 07.7	
DBIC	**Dimbokro** comp=Z,90nm,19.2s,MS4.3,baz=86,slow=33	**99.10**	**277**		LR	07 56 07.0	
ILAR	**Eielson Array** comp=Z,89nm,18.4s,MS4.3,baz=164,slow=38	**99.39**	**22**	LR	LR	08 04 28.7	
TBI	**Tubuai** comp=Z,77nm,31.0s	**114.79**	**114**	*e*S	SKS	07 26 23.2	-69
TBI	comp=Z,132nm,30.8s			*e*LQ		07 49 13.4	
TBI	comp=Z,124nm,40.8s			*e*LR	LR	07 53 29.2	
PPT	**Papeete** comp=Z,21nm,28.2s	**115.37**	**108**	*e*PP	PKPdf	07 20 32.3	-12
RKT	**Rikitea** comp=Z,131nm,38.8s	**127.88**	**117**	*e*LQ		07 54 40.5	
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.7s,baz=345,slow=1.0,SNR=4.2	**129.08**	**33**	PKP	PKPdf	07 21 08.6	-1.8
PDAR	**Pinedale Array** comp=Z,0.4nm,0.6s,baz=45,slow=2.1,SNR=5.0	**129.81**	**23**	PKP	PKPdf	07 21 07.5	-4.1
ANMO	**Albuquerque** comp=Z,0.4nm,0.4s,baz=322,slow=12,SNR=2.6	**137.71**	**26**	PKP	PKPdf	07 21 23.4	-3.2
TXAR	**Lajitas Array** comp=Z,1.4nm,0.8s,baz=344,slow=1.2,SNR=10	**143.71**	**28**	PKP	PKPdf	07 21 33.1	-4.2
CPUP	**Villa Florida** comp=Z,2.2nm,0.7s,baz=121,slow=5.3,SNR=7.5	**144.22**	**226**	PKP	PKPdf	07 21 34.0	-4.4
LRAL	**Lakeview Retre**	**144.50**	**2**	*e*PKPdf	PKPdf	07 21 33.9	-4.8
LRAL				*ep*PKPdf		07 21 43.0	
NATX	**Nacogdoches**	**144.68**	**14**	*e*PKPdf	PKPdf	07 21 35.7	-3.4
NATX				*ep*PKPdf		07 21 43.0	
CFAA	**Coronel Fontan** comp=Z,0.6nm,0.9s,baz=224,slow=2.6,SNR=7.2	**146.96**	**207**	PKPbc	PKPbc	07 21 42.0	+2.0
SIV	**San Ignacio** comp=Z,0.7nm,0.7s,baz=45,slow=2.9,SNR=4.7	**152.63**	**239**	PKPbc	PKPdf	07 21 55.5	+3.4
SAML	**Samuel**	**157.05**	**253**	*e*PKPab	PKPab	07 22 26.0	-0.4
LPAZ	**La Paz** comp=Z,1.1nm,0.6s,baz=33,slow=3.1,SNR=7.6	**158.27**	**230**	PKPab	PKPab	07 22 31.9	+0.2

IDC ***22*** *07:44:04.7±4.1,5.40S×154.24E,h122km±36km,mb3.8/9, mb1 4.0/10,mb1mx3.9/16,mbtmp4.3/10,MS3.6/1, Ms1 3.6/1,ms1mx2.9/20,Error ellipse: s-maj=26.3km s-min=18.5km az=68.0*

NEIC ***22*** *07:44:06.2±2.0,5.45S×154.22E,h138km±17km,mb4.3/5, Error ellipse: s-maj=14.4km s-min=11.7km az=222.0*

ISC 22 07:44:05.1±3.3,5.5S±0.1×154.2E±0.1,h141km±28km,n18, σ0s73/18,mb4.1/11,2C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.00**	**240**	P	**P**	**07 46 00.6**	**+1.0**
PMG	11nm,0.3s,baz=61,slow=6.9,SNR=23			S	**S**	**07 47 28.0**	**-0.8**
DZM	**Mont Dzumac** 9.9nm,1.0s,baz=121,slow=19,SNR=6.2	**20.33**	**145**	P	**P**	**07 48 31.1**	**-1.0**
WRAB	**Tennant Creek** 19nm,0.7s,mb4.7	**24.07**	**232**	*e*P	**P**	**07 49 09.5**	**+0.7**
WB2	**Warramunga Arr**	**24.07**	**232**	↑*i*P	**P**	**07 49 09.3**	**+0.5**
WRA	**Warramunga Arr** 8.3nm,0.6s,mb4.4,baz=56,slow=9.7,SNR=90	**24.08**	**232**	P	**P**	**07 49 09.5**	**+0.6**
STKA	**Stephens Creek** 4.7nm,1.2s,mb4.1	**28.80**	**203**	*e*P	**P**	**07 49 51.5**	**-0.7**
STKA	**Stephens Creek** 2.5nm,0.7s,mb4.0,baz=26,slow=12,SNR=6.2	**28.80**	**203**	P	**P**	**07 49 51.6**	**-0.6**
FITZ	**Fitzroy Crossi** 15nm,0.6s,mb4.9	**30.58**	**243**	↑*i*P	**P**	**07 50 06.7**	**-1.4**
AFI	**Afiamalu** comp=Z,91nm,21.0s,baz=133,slow=29	**34.54**	**107**	LR	LR	08 00 39.6	
MBWA	**Marble Bar** 2.3nm,0.6s,mb4.0	**36.86**	**242**	*e*P	**P**	**07 51 01.1**	**-0.6**
RPZ	**Rata Peaks** 6.4nm,0.6s,mb4.5,baz=99,slow=13,SNR=7.2	**40.89**	**161**	P	**P**	**07 51 35.1**	**+0.2**
SONM	**Songino Array** 0.6nm,0.5s,mb3.6,baz=138,slow=4.6,SNR=4.3	**67.62**	**327**	P	**P**	**07 54 48.8**	**-0.1**
VNDA	**Vanda** 1.3nm,0.6s,mb3.8,baz=328,slow=7.1,SNR=13	**72.13**	**178**	P	**P**	**07 55 16.4**	**+0.7**
VNDA	**Vanda** 1.4nm,0.7s,mb3.8	**72.13**	**178**	*e*P	**P**	**07 55 16.2**	**+0.6**
MKAR	**Makanchi Array** 0.4nm,0.4s,mb3.4,baz=89,slow=7.9,SNR=3.9	**81.73**	**319**	P	**P**	**07 56 09.6**	**+0.1**
MKAR	**Makanchi Array**	**81.73**	**319**	P	**P**	**07 56 09.6**	**+0.1**
ILAR	**Eielson Array** 0.5nm,0.6s,mb3.3,baz=247,slow=5.5,SNR=9.2	**82.25**	**22**	P	**P**	**07 56 11.4**	**-0.4**
MAW	**Mawson** 2.1nm,0.5s,mb4.1,baz=97,slow=7.2,SNR=21	**85.49**	**203**	P	**P**	**07 56 28.9**	**+1.0**

MAN 22 07:49:24.0,8.91N×122.46E,h1km,mb4.2,ML3.0,MS2.7, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.88**	**60**	↓*i*P	Pg	07 49 40.9	-0.6
SNPH				*i* S	Sg	07 49 51.6	-1.6
GUIM	**Jordan**	**1.71**	**4**	*e*P	Pn	07 49 55.1	0.0
GUIM				*e*S	Sb	07 49 59.3	-19

MEX 22 07:49:40.8±0.9,16.53N×100.56W,h15km,MD3.7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.58**	**28**	*i* P	Pb	07 49 50.4	-1.8
CAIG				*i* S	Sb	07 49 57.2	-2.7
ACX	**Acapulco**	**0.70**	**61**	*i* P	Pb	07 49 52.0	-2.1
ACX				*i* S	Sb	07 50 01.0	-2.3

NEIC ***22*** *08:08:10.4±1.1,40.54N×126.56W,h10km,mb3.4/2,Error ellipse: s-maj=14.2km s-min=5.4km az=80.0*

IDC ***22*** *08:08:10.8±2.1,40.66N×126.43W,mb3.1/2,mb1 3.5/4, mb1mx3.4/23,mbtmp3.1/4,ML3.6/2,Error ellipse: s-maj=27.9km s-min=21.8km az=19.0*

ISC 22 08:08:08.6±2.6,40.53N±0.05×126.6W±0.1,h7km±20km, n40,σ1s00/41,mb3.2/3,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHMM	**Horse Mountain**	**2.17**	**80**	*e*P	**Pn**	**08 08 45.2**	**-0.4**
KRMB	**Red Mountain**	**2.23**	**63**	*e*P	**Pn**	**08 08 46.5**	**0.0**
KBO	**Bosley Butte**	**2.42**	**45**	*e*P	**Pn**	**08 08 48.4**	**-0.8**
KCPM	**Cahto Peak**	**2.43**	**109**	*e*P	**Pn**	**08 08 49.6**	**+0.3**
KIPM	**Iron Peak**	**2.46**	**106**	*e*P	**Pn**	**08 08 50.0**	**+0.2**
WDC	**Whiskeytown Da**	**3.06**	**88**	*e*P	**Pn**	**08 08 58.4**	**+0.1**
HOPS	**Hopland**	**3.09**	**119**	*e*P	**Pn**	**08 08 58.4**	**-0.4**
YBH	**Yreka Blue Hor** 4.6nm,0.3s,baz=269,slow=8.7,SNR=50	**3.14**	**66**	Pn	**Pn**	**08 09 00.7**	**+1.2**
YBH	3.7nm,0.3s,baz=148,slow=14,SNR=2.9			Sn	**Sn**	**08 09 36.4**	**-1.2**
LAMM	**Antelope Mount**	**3.16**	**69**	P	**Pn**	**08 09 00.2**	**+0.5**
HUMO	**Hull Mountain**	**3.40**	**51**	*e*P	**Pn**	**08 09 02.7**	**-0.5**
LHEM	**Herd Peak**	**3.45**	**70**	P	**Pn**	**08 09 05.8**	**+1.9**
NSHM	**Saint Helena R**	**3.66**	**122**	*e*P	**Pn**	**08 09 07.8**	**+1.0**
BUOR	**Burton Butte**	**3.68**	**60**	P	**Pn**	**08 09 09.2**	**+2.0**
BBOR	**Butler Butte**	**3.73**	**50**	P	**Pn**	**08 09 08.1**	**+0.2**
LASM	**Arnica Sink**	**3.91**	**73**	P	**Pn**	**08 09 11.5**	**+1.1**
HSO	**Harness Mounta**	**3.95**	**40**	P	**Pn**	**08 09 10.1**	**-0.9**
LBCM	**Butte Creek Ri**	**3.97**	**84**	P	**Pn**	**08 09 12.6**	**+1.4**
SAC	**San Andreas**	**4.37**	**131**	*e*P	**Pn**	**08 09 15.8**	**-1.1**
HBO	**Huckleberry Mo**	**4.56**	**42**	P	**Pn**	**08 09 19.8**	**+0.1**
COR	**Corvallis**	**4.71**	**30**	*e*P	**Pn**	**08 09 20.6**	**-1.1**
IRO	**Indian Ridge**	**4.71**	**41**	P	**Pn**	**08 09 21.7**	**-0.1**
BROR	**Big Rock Looko**	**4.81**	**38**	P	**Pn**	**08 09 23.6**	**+0.4**
MOD	**Modoc**	**4.91**	**72**	*e*P	**Pn**	**08 09 23.8**	**-0.7**
FRIS	**Frissel Point**	**4.94**	**40**	P	**Pn**	**08 09 24.8**	**-0.2**
CMB	**Columbia Colle**	**5.40**	**116**	*e*P	**Pn**	**08 09 32.2**	**+0.7**
SAO	**San Andreas Ge**	**5.49**	**132**	*e*P	**Pn**	**08 09 31.1**	**-1.7**
LRV	**Little Rabbit**	**5.97**	**132**	*e*P	**Pn**	**08 09 38.3**	**-1.3**
WVOR	**Wild Horse Val**	**6.24**	**70**	*e*P	**Pn**	**08 09 41.5**	**-1.8**
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=33,slow=18,SNR=5.3	**6.72**	**106**	Pn	**Pn**	**08 09 50.5**	**+0.3**
PTRM	**Twissleman Ran**	**6.98**	**132**	*e*P	**Pn**	**08 09 52.3**	**-1.5**
MTUM	**Tungsten Hills**	**6.99**	**114**	P	**Pn**	**08 09 54.4**	**+0.5**
ISA	**Isabella**	**8.01**	**125**	*e*P	**P**	**08 10 08.1**	**-0.2**
BMO	**Blue Mountains**	**8.06**	**55**	*e*P	**P**	**08 10 08.3**	**-0.6**
MCMT	**McKenzie Canyo**	**10.96**	**62**	P	**P**	**08 10 48.1**	**-0.8**
LAO	**LASA Array**	**15.94**	**61**	P	**P**	**08 11 53.9**	**-0.9**
SDCO	**Great Sand Dun** 0.6nm,0.6s	**16.57**	**93**	P	**P**	**08 12 04.3**	**+1.4**
FFC	**Flin Flon**	**21.66**	**41**	P	**P**	**08 13 00.8**	**-0.6**
TXAR	**Lajitas Array** 0.4nm,0.7s,mb3.0,baz=294,slow=7.8,SNR=6.5	**21.77**	**114**	P	**P**	**08 13 05.2**	**+2.4**
ULM	**Lac du Bonnet** 2.2nm,0.6s,mb3.8	**23.48**	**55**	P	**P**	**08 13 21.0**	**+1.6**
ILAR	**Eielson Array** 0.4nm,0.9s,mb2.9,baz=159,slow=7.7,SNR=4.4	**26.98**	**341**	P	**P**	**08 13 52.6**	**+0.3**

MEX 22 08:24:55.0±0.8,17.04N×94.61W,h146km±10km,MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.26**	**280**	*i* P	P	08 25 13.3	-2.1
CMIG				*i* S	S	08 25 28.1	-2.8
HUIG	**Huatulco**	**1.92**	**229**	*i* P	P	08 25 27.4	-1.8
HUIG				*e*S	S	08 25 53.1	-2.3
OXX	**Oaxaca**	**2.02**	**271**	*i* P	P	08 25 28.3	-2.1
OXX				*i* S	S	08 25 56.5	-1.1
CCIG	**Comitan**	**2.49**	**107**	*i* P	P	08 25 35.3	-1.1
CCIG				*i* S	S	08 26 05.8	-2.2

JMA 22 08:30:52.5±0.2,37.67N×144.43E,h57km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.56**	**289**	P	P	08 31 32.7	+0.2
JIO				*e*S	S	08 32 02.9	+0.4
OFUJ	**Ofunato**	**2.59**	**304**	P	P	08 31 33.0	+0.1
JMK	**Ichinoseki**	**2.83**	**298**	P	P	08 31 36.8	+0.4
JMK				*e*S	S	08 32 10.9	+1.5
JMM	**Marumori**	**2.89**	**275**	P	P	08 31 37.3	+0.1
JMM				*e*S	S	08 32 10.7	-0.2
JOM	**Ohasama**	**3.05**	**307**	P	P	08 31 39.5	0.0
JOM				*e*S	S	08 32 15.4	+0.5
JRY	**Ryogami san**	**4.73**	**251**	P	P	08 32 02.7	-0.4
JRY				*e*S	S	08 32 53.5	-3.8
JOD2	**Odawara 2**	**4.93**	**242**	*e*S	S	08 32 58.1	-4.1
JKB	**Kayabe**	**4.96**	**329**	*e*S	S	08 33 00.1	-2.9
JCH	**Churui**	**5.01**	**351**	*e*S	S	08 32 58.6	-5.6

CSEM ***22*** *08:58:10.4±0.3,76.81N×18.53E,h8km,ML2.2,Error ellipse: s-maj=28.0km s-min=4.7km az=72.0*

NAO ***22*** *08:58:11.2±4.4,76.81N×18.21E,h26km±45km,ML2.2*

BER ***22*** *08:58:11.6±3.9,76.90N×19.71E,h15km±55km,MD2.7, ML2.6,ML2.2(NAO)*

ISC 22 08:58:08.8±1.3,77.04N±0.07×19.7E±0.3,h8km±16km,n11, σ0s92/16,Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.94**	**270**	*e*Pg	**Pg**	**08 58 27.8**	**+0.1**
HSP				*e*Sg	**Sg**	**08 58 40.0**	**-0.2**
HOPEN	**Hopen**	**1.33**	**111**	*e*P	**Pb**	**08 58 34.3**	**+0.8**
HOPEN				*e*S	**Sb**	**08 58 49.7**	**-0.9**
SPA0	**Spitsbergen Ar** baz=148,slow=18	**1.36**	**330**	Pn	**Pn**	**08 58 35.4**	**+1.3**
SPA0	baz=143,slow=22			Pg	**Pg**	**08 58 37.2**	**+1.3**
SPA0	baz=149,slow=37			Lg		08 58 56.8	
SPA0	**Spitsbergen Ar** SNR=416	**1.36**	**330**	Pn	**Pn**	**08 58 35.3**	**+1.2**
SPA0	**Spitsbergen Ar**	**1.36**	**330**	Pg	**Pg**	**08 58 37.2**	**+1.3**
KBS	**Kingsbay**	**2.50**	**323**	Pn	**Pn**	**08 58 50.3**	**-0.1**
KBS				Pg	**Pg**	**08 58 58.0**	**-0.7**
KBS				Lg		08 59 30.1	
KBS	**Kingsbay** comp=Z,47nm,0.5s	**2.50**	**323**	*e*P	**Pn**	**08 58 49.1**	**-1.4**
KBS				*e*Sg	**Sg**	**08 59 31.1**	**-0.9**
KBS				AML	AML	08 59 34.8	
KBS	**Kingsbay**	**2.50**	**323**	Pn	**Pn**	**08 58 50.3**	**-0.1**
KBS	**Kingsbay** SNR=92	**2.50**	**323**	Pg	**Pg**	**08 58 58.0**	**-0.7**
KBS				*e*Sg	**Sg**	**08 59 31.1**	**-0.9**
ARA0	**ARCESS Array S** baz=5.0,slow=9.3	**7.72**	**165**	Pn	**Pn**	**08 59 59.8**	**-4.4**
KTK1	**Kautokeino** comp=Z,9.0nm,0.5s	**8.13**	**171**	AML	AML	09 02 51.1	

BER ***22*** *08:59:57.2±3.9,64.71N×30.74E,ML2.4(NAO), Suspected explosion*

IDC ***22*** *08:59:58.8±2.1,64.67N×30.87E,mb1 3.1/4, mb1mx3.0/21,mbtmp3.1/4,ML2.8/4,Error ellipse: s-maj=29.2km s-min=9.8km az=102.0*

NAO ***22*** *08:59:59.0±2.4,64.77N×29.97E,ML2.4*

HEL 22 08:59:57.0±0.5,64.71N×30.83E,ML2.2,ML2.4(NAO), **Explosion,Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KJN	**Kajaani**	**1.49**	**247**	*e*P	Pn	09 00 23.6	-1.6
KJN				*e*S	Sb	09 00 43.1	-1.6
KU4	**Liikasenvaara**	**1.74**	**343**	*e*P	Pn	09 00 28.8	+0.1
KU4				*e*S	Sn	09 00 50.5	-1.4
OUL	**Oulu**	**2.14**	**282**	*e*P	Pn	09 00 34.7	+0.3
OUL				*e*S	Sn	09 01 00.8	-1.1
OUL	comp=Z,13nm,0.2s			MSG		09 01 02.5	
SUF	**Sumiainen**	**2.89**	**228**	*e*P	Pn	09 00 45.1	0.0
SUF				*e*S	Sn	09 01 19.8	-1.2
SUF				MSG		09 01 27.2	
	comp=Z,4.1nm,0.3s						
KEF	**Keuruu** comp=Z,5.3nm,0.2s	**3.70**	**229**	MSG		09 01 55.4	
FIA0	**FINESS Array S** baz=40,slow=14	**3.93**	**216**	Pn	Pn	09 00 58.6	-1.2
FIA0	baz=36,slow=16			Pg	Pg	09 01 06.7	-8.7
FIA0	baz=38,slow=28			Lg		09 01 56.2	
FIA0	**FINESS Array S**	**3.93**	**216**	*e*P	Pn	09 00 58.6	-1.2
FIA0				*e*PG	Pg	09 01 06.7	-8.7
FIA0				*e*SG	Sg	09 01 56.2	-12
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=35,slow=13,SNR=6.6	**3.93**	**216**	Pn	Pn	09 00 58.6	-1.2
FINES	comp=Z,0.8nm,0.3s,baz=34,slow=14,SNR=15			Pg	Pg	09 01 06.7	-8.7
FINES	comp=Z,1.8nm,0.3s,baz=36,slow=26,SNR=16			Lg		09 01 56.9	
ARA0	**ARCESS Array S** baz=155,slow=14	**5.27**	**339**	Pn	Pn	09 01 16.1	-2.9
ARA0	baz=137,slow=22			Sn	Sn	09 02 13.9	-7.4
ARA0	baz=161,slow=37			Lg		09 02 37.3	
ARA0	**ARCESS Array S**	**5.27**	**339**	*e*P	Pn	09 01 16.1	-2.9
ARA0				*e*S	Sn	09 02 13.9	-7.4
ARA0				*e*SG	Sg	09 02 37.3	-15
ARCES	**ARCESS Array B** comp=Z,0.5nm,0.3s,baz=154,slow=13,SNR=21	**5.27**	**339**	Pn	Pn	09 01 17.2	-1.7
ARCES	comp=Z,0.4nm,0.3s,baz=156,slow=25,SNR=4.1			Sn	Sn	09 02 14.9	-6.4
ARCES	comp=Z,1.1nm,0.3s,baz=152,slow=33,SNR=11			Lg		09 02 37.1	
HFS	**Hagfors** baz=41,slow=14	**9.16**	**248**	Pn	P	09 02 07.7	-5.8
HFS	baz=53,slow=28			Sn	Sn	09 03 46.9	-12
HFS	baz=68,slow=28			Lg		09 04 38.5	
HFS	**Hagfors**	**9.16**	**248**	*e*P	P	09 02 07.7	-5.8
HFS				*e*S	Sn	09 03 46.9	-12
HFS				*e*SG	Sg	09 04 38.5	-24
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=53,slow=13,SNR=7.0	**9.16**	**248**	Pn	P	09 02 09.0	-4.4
HFS	comp=Z,0.0nm,0.3s,baz=66,slow=25,SNR=3.4			Sn	Sn	09 03 46.2	-12
HFS	comp=Z,0.1nm,0.3s,baz=51,slow=28,SNR=4.1			Lg		09 04 38.3	
NOA	**NORSAR Array B** comp=Z,0.2nm,0.3s,baz=64,slow=13,SNR=3.4	**9.67**	**257**	Pn	P	09 02 15.5	-4.7
NOA	comp=Z,0.3nm,0.3s,baz=346,slow=18,SNR=3.9			Lg		09 04 52.9	

MEX ***22*** *09:04:43.9±0.4,14.01N×92.40W,h18km±146km,MD4.3*

CASC 22 09:04:43.4±3.2,14.15N×92.19W,h20km±30km,MD4.0, 4C-3D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**1.34**	**77**	↑*e*P	Pn	09 05 06.4	-0.8
PCG	**Pacaya**	**1.55**	**81**	*e*P	Pn	09 05 10.8	+0.6
PCG				*e*S	Sn	09 05 31.2	+1.3
IXG	**Ixpaco**	**1.68**	**89**	↑*e*P	Pn	09 05 11.3	-0.8
IXG				*e*S	Sn	09 05 34.3	+1.1
CCIG	**Comitan**	**2.12**	**1**	*i* P	Pn	09 05 17.9	-0.5
CCIG				*i* S	Sn	09 05 44.4	+0.1
RBDL	**Robledal**	**2.43**	**91**	↓*e*P	Pn	09 05 28.8	+6.0
RBDL				*e*S	Sn	09 06 01.4	+9.2
RTR	**El Retiro**	**2.48**	**96**	↑*e*P	Pn	09 05 29.0	+5.4
RTR				*e*S	Sn	09 05 58.8	+5.2
SBLS	**San Blas**	**2.51**	**97**	*e*P	Pn	09 05 29.2	+5.2
SBLS				*e*S	Sn	09 06 00.3	+6.0
SNJE	**San Jose**	**2.52**	**96**	↓*e*P	Pn	09 05 29.9	+5.8
SNJE				*e*S	Sn	09 06 01.1	+6.5
MRL	**Marmol**	**2.58**	**69**	*e*P	Pn	09 05 31.5	+6.5
MRL				*e*S	Sn	09 06 01.5	+5.4
SCX	**San Cristobal**	**2.60**	**351**	*i* P	Pn	09 05 25.0	-0.3
BOQS	**Boqueron**	**2.85**	**98**	*e*P	Pn	09 05 34.4	+5.5
BOQS				*e*S	Sn	09 06 08.2	+5.2
LFRS	**El Faro**	**3.08**	**99**	↑*e*P	Pn	09 05 37.7	+5.6
LFRS				*e*S	Sn	09 06 13.8	+5.0
LCBS	**La Ceiba**	**3.15**	**99**	↓*e*P	Pn	09 05 39.3	+6.1
LCBS				*e*S	Sn	09 06 15.6	+5.0
SNVI	**San Vicente**	**3.30**	**99**	*e*P	Pn	09 05 41.9	+6.8
SNVI				*e*S	Sn	09 06 20.2	+5.9
CMIG	**Matias Romero**	**3.91**	**319**	*i* P	Pn	09 05 40.2	-3.7
CMIG				*i* S	Sn	09 06 25.1	-4.6

IDC 22 09:12:15.0±1.6,1.04N×123.68E,mb3.7/3,mb1 3.9/3, mb1mx3.6/16,mbtmp3.7/3,Error ellipse: s-maj=202.5km s-min=24.5km az=61.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=332,slow=11,SNR=26	**23.33**	**154**	P	P	09 17 25.9	0.0
WB2	**Warramunga Arr**	**23.33**	**154**	*e*P	P	09 17 26.8	+0.8
STKA	**Stephens Creek** 1.4nm,0.6s,baz=326,slow=10,SNR=5.8	**36.88**	**154**	P	P	09 19 24.6	-2.7
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=124,slow=5.2,SNR=2.1	**58.10**	**328**	P	P	09 22 10.2	-2.4

NEIC ***22*** *09:13:35.1±0.7,17.44S×70.44W,h49km±8km,mb4.3/6, Error ellipse: s-maj=10.7km s-min=7.2km az=62.0*

NEIC Felt [III] at Tacna and Toquepala; [II] at Arequipa.

IDC ***22*** *09:13:37.7±2.5,17.59S×70.37W,h78km±23km,mb3.5/7, mb1 3.8/10,mb1mx3.6/19,mbtmp3.9/10,MS3.0/3, Ms1 3.0/3,ms1mx2.8/14,Error ellipse: s-maj=26.4km s-min=18.6km az=94.0*

ISC 22 09:13:34.2±0.8,17.43S±0.07×70.37W±0.08,h59km±9km, n23,σ1s35/23,mb4.0/11,MS2.9/1,1C-1D,Near coast of Peru

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

PDAR	**Pinedale Array**	**69.91**	**330**	P		**P**	**09 24 40.1**	**-0.9**
	0.3nm,0.7s,mb3.3,baz=104,slow=6.1,SNR=3.6							
ULM	**Lac du Bonnet**	**71.04**	**343**	*eP*		**P**	**09 24 47.4**	**-0.3**
	3.0nm,0.6s,mb4.4							
YKA	**Yellowknife Ar**	**86.91**	**341**	P		**P**	**09 26 14.8**	**+1.4**
	0.9nm,0.5s,mb4.2,baz=140,slow=5.0,SNR=5.8							
SONM	**Songino Array**	**149.56**	**4**	PKPbc	PKPdf		09 33 19.2	+6.9
	0.8nm,0.6s,baz=321,slow=1.2,SNR=6.5							

MOS ***22*** *09:50:05.5±1.0,2.53N×97.19E,h33km,mb5.3/53, MS4.6/13,Error ellipse: s-maj=9.7km s-min=5.0km az=116.0*

BJI ***22*** *09:50:05.2,2.37N×97.22E,h43km,mB5.1,mb5.2,Ms4.8, Msz4.7*

HRVD ***22*** *09:50:08.1±0.6,2.27N×96.97E,h15km,MW5.2/49, Centroid moment Tensor Solution. LP body waves: s22,c30;Mantle waves: s49,c75; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.25±.14; $M_{\theta\theta}$-0.07±.07; $M_{\phi\phi}$0.32±.13; $M_{r\theta}$5.55±.24; $M_{\theta\phi}$-0.22±.07; $M_{\phi r}$-3.69±.31; Best double couple: M_o6.675×10^{16} NP1: ϕ_s189°,δ3°,λ-25°. NP2:ϕ_s304°,δ89°,λ-92°. Principal axes: T 6.677, Plg44°, Azm36°; N -.004, Plg2°, Azm304°; P -6.673, Plg46°, Azm211°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***22*** *09:50:08.7±2.4,2.41N×97.16E,h50km±20km,mb4.7/19, mb1 4.7/19,mb1mx4.7/20,mbtmp4.9/19,MS4.3/20, Ms1 4.3/20,ms1mx4.2/28 Error ellipse: s-maj=13.3km s-min=12.3km az=55.0*

NEIC ***22*** *09:50:08.1±0.9,2.43N×97.14E,h44km±7km,mb5.1/72, MS4.5/11,Error ellipse: s-maj=5.4km s-min=3.3km az=52.0*

ISC 22 09:50:05.3±0.2,2.43N±0.03×97.16E±0.03,h34km, h34km±2.6km:pP-P,n378,σ0s99/325,mb5.1/112,MS4.5/45, 31C-19D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.41**	**61**	P		**P**	**09 51 15.1**	**+3.5**
KULM	**Kulim**	**4.50**	**51**	⇑iPn		**P**	**09 51 15.8**	**+3.0**
PKT	**Phuket**	**5.71**	**10**	P		**P**	**09 51 30.0**	**+0.1**
SNG	**Songkhla**	**5.84**	**36**	P		**P**	**09 51 32.0**	**+0.3**
KGM	**Kluang**	**6.17**	**94**	P		**P**	**09 51 39.5**	**+3.2**
NNT	**Nongplab**	**10.42**	**14**	P		**P**	**09 52 37.5**	**+2.0**
KSM	**Kuching**	**13.18**	**94**	Pn		**P**	**09 53 12.4**	**-0.2**
KSM				*ep*Pn			09 53 20.9	
NST	**Nakhon Sawan**	**13.49**	**12**	P		**P**	**09 53 18.0**	**+1.3**
	67nm,1.4s							
BDT	**Bhumibol Dam**	**14.84**	**7**	P		**P**	**09 53 38.5**	**+4.0**
	13nm,1.0s							
KKTK	**Khon Kaen**	**14.90**	**22**	P		**P**	**09 53 36.5**	**+1.1**
	1μm,0.7s							
CHG	**Chiang Mai**	**16.38**	**6**	⇑P		**P**	**09 53 54.6**	**+0.3**
	17nm,0.8s							
NANT	**Nan**	**16.64**	**12**	P		**P**	**09 54 00.0**	**+2.4**
	188nm,0.4s							
PALK	**Pallekele**	**17.09**	**287**	*eP*		**P**	**09 53 59.2**	**-4.1**
	56nm,1.2s							
CHRT	**Chiangrai**	**17.53**	**8**	⇑P		**P**	**09 54 09.5**	**+0.8**
	216nm,0.7s							
KKM	**Kota Kinabalu**	**19.34**	**79**	*eP*		**P**	**09 54 31.1**	**+0.4**
KKM	**Kota Kinabalu**	**19.34**	**79**	P		**P**	**09 54 30.7**	**-0.1**
MDRS	**Chennai**	**19.80**	**303**	*e*		**P**	**09 54 30.0**	**-5.7**
MDRS				*e*			10 00 20.0	
QIZ	**Qiongzhong**	**20.65**	**36**	P		**P**	**09 54 43.6**	**-1.1**
QIZ				XP			09 54 57.0	
QIZ				S		**S**	**09 58 25.5**	**-3.1**
QIZ				XS			09 58 42.6	
QIZ				AMB	AMB			
	comp=Z,28nm,0.7s							
QIZ				LR	LR			
	comp=N,1μm,18.4s							
QIZ				LR	LR			
	comp=Z,1μm,19.9s,MS4.3							
QIZ	**Qiongzhong**	**20.65**	**36**	*eP*		**P**	**09 54 44.0**	**-0.7**
	comp=Z,20nm,0.7s							
BWNR	**Bhubaneshwar**	**20.93**	**329**	*eP*		**P**	**09 54 45.0**	**-2.6**
BWNR				AMb	AMB		09 54 58.7	
	comp=Z,46nm,1.0s							
BWNR				*e*			09 55 59.4	
IMP	**Imphal**	**22.44**	**352**	*eP*		**P**	**09 55 05.0**	**+2.3**
IMP				*e*			09 59 09.0	
KMI	**Kunming**	**23.20**	**13**	P		**P**	**09 55 12.5**	**+2.3**
KMI				AP			09 55 23.0	
KMI				XP			09 55 27.6	
KMI				PP	PP		09 55 44.6	+3.3
KMI				PPP	PPP		09 55 55.0	+3.7
KMI				S	**S**		**09 59 18.8**	**+3.1**
KMI				XS			09 59 36.8	
KMI				SS	SS		10 00 07.0	+4.7
KMI				SSS	SSS		10 00 22.8	+4.6
KMI				AMB	AMB			
	comp=Z,48nm,1.0s,mb4.9							
KMI				AMB	AMB			
	comp=Z,135nm,4.0s							
KMI				LR	LR			
	comp=N,2μm,19.4s,MS4.6							
KMI				LR	LR			
	comp=E,776nm,15.6s,MS4.6							
KMI				LR	LR			
	comp=Z,2μm,19.4s,MS4.6							
KMI	**Kunming**	**23.20**	**13**	P		**P**	**09 55 12.5**	**+2.3**
KMI				*PP			09 55 23.0	
KMI				*SP			09 55 27.6	
KMI							09 55 44.6	
KMI				PPP	PPP		09 55 55.0	+3.7
KMI				S	**S**		**09 59 18.7**	**+3.0**
KMI				*SS			09 59 36.7	
KMI				SS	SS		10 00 07.0	+4.7
KMI				SSS	SSS		10 00 22.7	+4.5
KMI				pmax	pmax			
	comp=Z,48nm,1.0s,mb4.9							
KMI				MLR	MLR			
	comp=Z,2μm,19.4s,MS4.6							
KMI	**Kunming**	**23.20**	**13**	P		**P**	**09 55 12.5**	**+2.3**
	comp=Z,48nm,1.0s,mb4.9							
KMI				pP			09 55 23.0	
KMI				sP			09 55 27.6	
KMI				PP	PP		09 55 44.6	+3.3
KMI				PPP	PPP		09 55 55.0	+3.7
KMI				S	**S**		**09 59 18.7**	**+3.0**
KMI				sS			09 59 36.7	
KMI				SS	SS		10 00 07.0	+4.7
KMI				SSS	SSS		10 00 22.7	+4.5
KMI				LR	LR			
	comp=Z,2μm,19.4s,MS4.6							
SHL	**Shillong**	**23.56**	**348**	*i* P		**P**	**09 55 12.0**	**-1.7**
SHL				*eS*		**S**	**09 59 25.0**	**+2.9**
HYB	**Hyderabad**	**23.58**	**310**	*eP*		**P**	**09 55 16.0**	**+2.1**
HYB				*eS*		**S**	**09 59 30.0**	**+7.6**
HYB	**Hyderabad**	**23.58**	**310**	*i* P		**P**	**09 55 16.0**	**+2.1**
HYB				*eS*		**S**	**09 59 30.0**	**+7.6**
BOK	**Bokaro**	**23.88**	**334**	*eP*		**P**	**09 55 16.2**	**-0.6**
GYA	**Guiyang**	**25.58**	**20**	⇑*i*P		**P**	**09 55 32.5**	**-0.6**
GYA				AP		pP	09 55 41.8	-0.9
GYA				XP		sP	09 55 45.8	-0.8
GYA				S		**S**	**10 00 00.9**	**+4.7**
GYA				AMB	AMB			
	comp=Z,20nm,1.2s,mb4.5							
GYA				AMB	AMB			
	comp=Z,120nm,3.0s							
GYA				LR	LR			
	comp=N,1μm,21.0s,MS4.5							
GYA				LR	LR			
	comp=E,910nm,19.2s,MS4.5							
GYA				LR	LR			
	comp=Z,2μm,20.2s,MS4.6							
KAD	**Karad**	**26.98**	**305**	*eP*		**P**	**09 55 46.1**	**-0.1**
KAD				AMb	AMB		09 55 49.7	
	comp=Z,62nm,1.8s,mb4.8							
JIRN	**Jiri**	**27.20**	**338**	*eP*		**P**	**09 55 48.3**	**+0.2**
	comp=Z,179nm,0.7s,mb5.7							
PKI	**Pulchoki**	**27.41**	**337**	*eP*		**P**	**09 55 49.8**	**-0.2**
	comp=Z,39nm,0.5s,mb5.2							
PKI	**Pulchoki**	**27.41**	**337**	*eP*		**P**	**09 55 49.8**	**-0.2**
PKI				pmax	pmax			
	comp=Z,19nm,0.5s,mb4.9							
GUN	**Gumba**	**27.54**	**338**	*eP*		**P**	**09 55 50.9**	**-0.3**
	comp=Z,212nm,0.7s,mb5.9							
DMN	**Daman**	**27.57**	**336**	*eP*		**P**	**09 55 51.3**	**-0.1**
	comp=Z,101nm,0.8s,mb5.5							
KKN	**Kakani**	**27.66**	**337**	*eP*		**P**	**09 55 51.7**	**-0.6**
	comp=Z,111nm,0.8s,mb5.6							
KKN	**Kakani**	**27.66**	**337**	*eP*		**P**	**09 55 51.7**	**-0.6**
KKN				pmax	pmax			
	comp=Z,55nm,0.8s,mb5.2							
LSA	**Lhasa**	**27.72**	**349**	P		**P**	**09 55 51.9**	**-0.9**
LSA				AP	pP		09 56 00.8	-1.7
LSA				XP	sP		09 56 04.6	-2.2
LSA				PCP	PcP		09 59 06.4	-2.9
LSA				S	**S**		**10 00 29.0**	**-2.1**
LSA				XS			10 00 49.3	
LSA				SCP			10 02 45.0	
LSA				PCS			10 02 48.8	
LSA				SCS	ScS		10 06 37.6	+1.0
LSA				AMB	AMB			
	comp=Z,30nm,0.8s,mb5.0							
LSA				LR	LR			
	comp=N,360nm,26.6s,MS4.0							
LSA				LR	LR			
	comp=E,320nm,25.4s,MS4.0							
LSA				LR	LR			
	comp=Z,750nm,25.4s,MS4.2							
LSA	**Lhasa**	**27.72**	**349**	*eP*		**P**	**09 55 52.9**	**+0.1**
LSA				pmax	pmax			
	comp=Z,20nm,0.6s,mb4.9							
LSA				MLR	MLR			
	comp=Z,720nm,22.0s,MS4.2							
LSA	**Lhasa**	**27.72**	**349**	*eP*		**P**	**09 55 52.9**	**+0.1**
	comp=Z,20nm,0.6s,mb4.9							
LSA				LR	LR			
	comp=Z,720nm,22.0s,MS4.2							
GKN	**Gorkha**	**28.11**	**336**	*eP*		**P**	**09 55 55.9**	**-0.4**
BHPL	**Bhopal**	**28.17**	**319**	*eP*		**P**	**09 55 56.1**	**-0.8**
BHPL				AMb	AMB		09 55 59.6	
	comp=Z,27nm,1.1s,mb4.8							
KOLN	**Koldanda**	**28.34**	**334**	*eP*		**P**	**09 55 58.2**	**-0.2**
	comp=Z,125nm,0.7s,mb5.6							
CD2	**Chengdu**	**29.01**	**12**	P		**P**	**09 56 02.5**	**-1.8**
ENH	**Enshi**	**30.06**	**22**	*eP*		**P**	**09 56 11.4**	**-2.2**
	comp=Z,37nm,0.7s,mb5.2							
ENH				LR	LR			
	comp=Z,1μm,21.0s,MS4.5							
MBWA	**Marble Bar**	**32.22**	**138**	*eP*		**P**	**09 56 32.5**	**-0.3**
	comp=Z,19nm,0.9s,mb4.9							
AJM	**Ajmer**	**32.23**	**320**	⇑*i*P		**P**	**09 56 33.0**	**+0.1**
WHN	**Wuhan**	**32.36**	**28**	P		**P**	**09 56 34.0**	**+0.1**
WHN				LR	LR			
	comp=Z,2μm,14.5s,MS5.0							
XAN	**Xi'an**	**33.31**	**18**	P		**P**	**09 56 39.9**	**-2.3**
XAN				AMB	AMB			
	comp=Z,77nm,0.9s,mb5.6							
LZH	**Lanzhou**	**34.06**	**10**	*eP*		**P**	**09 56 46.8**	**-1.8**
LZH				AP	pP		09 57 00.3	+1.8
LZH				XP	sP		09 57 06.0	+3.1
LZH				PP	PP		09 58 05.0	+1.8
LZH				S	**S**		**10 02 13.0**	**+2.1**
LZH				XS			10 02 33.3	
LZH				AMB	AMB			
	comp=Z,60nm,1.2s,mb5.4							
LZH				AMB	AMB			
	comp=Z,160nm,4.7s							
LZH				LR	LR			
	comp=E,2μm,15.2s							
LZH				LR	LR			
	comp=Z,2μm,20.0s,MS4.8							
LZH	**Lanzhou**	**34.06**	**10**	*eP*		**P**	**09 56 46.8**	**-1.8**
LZH				*PP	pP		09 57 00.3	+1.8
LZH							09 58 05.0	
LZH				S	**S**		**10 02 13.0**	**+2.1**
LZH				*SS			10 02 33.2	
LZH				pmax	pmax			
	comp=Z,60nm,1.2s,mb5.4							
LZH				MLR	MLR			
	comp=Z,2μm,20.0s,MS4.8							
LZH	**Lanzhou**	**34.06**	**10**	*eP*		**P**	**09 56 46.8**	**-1.8**
	comp=Z,60nm,1.2s,mb5.4							
LZH				pP	pP		09 57 00.3	+1.8
LZH				sP	sP		09 57 06.0	+3.1
LZH				PP	PP		09 58 05.0	+1.8
LZH				S	**S**		**10 02 13.0**	**+2.1**
LZH				sS			10 02 33.2	
LZH				SS	SS		10 04 28.0	+8.2
LZH				LR	LR			
	comp=Z,2μm,20.0s,MS4.8							
FITZ	**Fitzroy Crossi**	**34.68**	**127**	⇑*i*P		**P**	**09 56 52.5**	**-1.6**
	comp=Z,19nm,0.6s,mb5.2							
NJ2	**Nanjing**	**35.85**	**32**	*eP*		**P**	**09 57 04.3**	**+0.4**
NJ2				AP	pP		09 57 14.0	+0.1
NJ2				XP	sP		09 57 18.1	-0.2
NJ2				PP	PP		09 58 26.5	+0.8
NJ2				S	**S**		**10 02 43.0**	**+4.4**
NJ2				XS			10 03 00.0	
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.5s,mb5.0							
NJ2				AMB	AMB			
	comp=Z,100nm,4.8s							
NJ2				LR	LR			
	comp=N,2μm,19.3s,MS5.0							
NJ2				LR	LR			
	comp=E,2μm,18.7s,MS5.0							
NJ2				LR	LR			
	comp=Z,1μm,15.4s,MS4.8							
SSE	**Sheshan**	**36.45**	**36**	P		**P**	**09 57 10.6**	**+1.7**
SSE				XP	sP		09 57 26.8	+3.5
SSE				PP	PP		09 58 34.8	+1.6
SSE				PCP	PcP		09 59 31.9	-1.0
SSE				S	**S**		**10 02 52.3**	**+4.5**
SSE				XS			10 03 11.6	
SSE				PCS			10 03 19.9	
SSE				AMB	AMB			
	comp=Z,40nm,0.7s,mb5.5							
SSE				AMB	AMB			
	comp=Z,59nm,4.6s							
SSE				LR	LR			
	comp=N,877nm,17.0s,MS4.7							
SSE				LR	LR			
	comp=E,698nm,17.3s,MS4.7							
SSE				LR	LR			
	comp=Z,2μm,16.6s,MS4.9							
SSE	**Sheshan**	**36.45**	**36**	P		**P**	**09 57 10.6**	**+1.7**
	comp=Z,40nm,0.7s,mb5.5							
SSE				sP	sP		09 57 26.7	+3.4
SSE				PP	PP		09 58 34.8	+1.6
SSE				PcP	PcP		09 59 31.9	-1.0
SSE				S	**S**		**10 02 52.3**	**+4.5**
SSE				sS			10 03 11.6	
SSE				PcS			10 03 19.9	
SSE				LR	LR			
	comp=Z,2μm,16.6s,MS4.9							
GTA	**Gaotai**	**36.89**	**3**	P		**P**	**09 57 11.8**	**-0.8**
GTA				AP	pP		09 57 21.5	-1.1
GTA				XP	sP		09 57 25.6	-1.4
GTA				PP	PP		09 58 37.3	-1.6
GTA				PCP	PcP		09 59 34.8	+0.6
GTA				S	**S**		**10 02 52.8**	**-1.8**
GTA				XS			10 03 09.6	
GTA				SCP			10 03 17.1	
GTA				SS	SS		10 05 22.3	-1.6
GTA				SCS	ScS		10 07 22.8	-0.1
GTA				AMB	AMB			
	comp=Z,47nm,0.8s,mb5.4							
GTA				AMB	AMB			
	comp=Z,146nm,4.9s							
GTA				LR	LR			
	comp=N,368nm,20.9s,MS4.3							
GTA				LR	LR			
	comp=E,355nm,18.6s,MS4.3							
GTA				LR	LR			
	comp=Z,508nm,22.8s,MS4.2							
KAKA	**Kakadu**	**38.12**	**114**	*eP*		**P**	**09 57 22.3**	**-0.9**
	comp=Z,38nm,1.2s,mb5.0							
JOW	**Kunigami**	**38.45**	**48**	P		**P**	**09 57 26.1**	**+0.4**
	comp=Z,35nm,0.6s,mb5.3,baz=254,slow=9.3,SNR=30							
JOW				LR	LR		10 12 45.3	
	comp=Z,368nm,21.6s,MS4.2,baz=144,slow=35							
MUN	**Mundaring**	**38.70**	**154**	*eP*		**P**	**09 57 29.6**	**+1.8**
	comp=Z,27nm,0.8s,mb5.0							
MUN	**Mundaring**	**38.70**	**154**	*eP*		**P**	**09 57 29.6**	**+1.8**
MUN				pmax	pmax			
	comp=Z,27nm,0.8s,mb5.0							
KLBR	**Kellerberrin**	**39.09**	**152**	*eP*		**P**	**09 57 31.9**	**+0.9**
	comp=Z,45nm,0.8s,mb5.2							
BTO	**Baotou**	**39.75**	**15**	*eP*		**P**	**09 57 38.3**	**+1.9**
BTO				S		**S**	**10 03 45.8**	**+8.0**
BTO				AMB	AMB			
	comp=Z,13nm,0.5s,mb4.9							
NWAO	**Narrogin (SRO)**	**39.96**	**153**	*eP*		**P**	**09 57 38.8**	**+0.6**
NWAO				pmax	pmax			
	comp=Z,65nm,1.0s							
NWAO	**Narrogin (SRO)**	**39.96**	**153**	*eP*		**P**	**09 57 38.8**	**+0.6**
	comp=Z,65nm,1.0s,mb5.3							
KSH	**Kashi**	**41.65**	**335**	*eP*		**P**	**09 57 54.0**	**+1.8**
KSH				*eAP	pP		09 58 04.3	+2.1
KSH				*eXP	sP		09 58 08.0	+1.5
KSH				*ePCS			10 03 42.0	
KSH				*eS		**S**	**10 04 07.4**	**+1.2**
KSH				*eSS	SS		10 07 08.3	+1.4
KSH				*eSCS	ScS		10 07 53.6	+3.1
KSH				AMB	AMB			
	comp=Z,110nm,1.1s,mb5.4							
KSH				LR	LR			
	comp=N,1μm,10.5s,MS5.0							
KSH				LR	LR			
	comp=E,780nm,14.4s,MS5.0							
WMQ	**Urumqi**	**42.07**	**350**	P		**P**	**09 57 56.0**	**+0.4**
WMQ				AP	pP		09 58 05.8	+0.2
WMQ				XP	sP		09 58 09.8	-0.1
WMQ				PP	PP		09 59 36.9	+0.9
WMQ				S	**S**		**10 04 12.4**	**+0.1**
WMQ				AMB	AMB			
	comp=Z,21nm,0.7s,mb4.9							
WMQ				AMB	AMB			
	comp=Z,229nm,6.2s							
WMQ				LR	LR			
	comp=N,322nm,16.1s							
WMQ				LR	LR			
	comp=E,222nm,21.6s							
WMQ				LR	LR			
	comp=Z,334nm,22.1s							
DL2	**Dalian**	**42.62**	**29**	P		**P**	**09 58 00.8**	**+0.6**
DL2				*eS*		**S**	**10 04 25.6**	**+5.1**
DL2				AMB	AMB			
	comp=Z,30nm,0.7s,mb5.1							
DL2				LR	LR			
	comp=N,240nm,19.9s,MS4.3							
DL2				LR	LR			
	comp=E,260nm,16.8s,MS4.3							
DL2				LR	LR			
	comp=Z,330nm,22.1s							
WRA	**Warramunga Arr**	**42.72**	**123**	P		**P**	**09 58 00.7**	**-0.6**
	comp=Z,19nm,0.7s,mb4.9,baz=301,slow=9.2,SNR=92							
WRA				S		**S**	**10 04 19.7**	**-2.5**
	comp=Z,3.2nm,1.2s,baz=295,slow=16,SNR=5.2							
WRAB	**Tennant Creek**	**42.73**	**123**	*eP*		**P**	**09 58 00.8**	**-0.5**
WRAB				pmax	pmax			
	comp=Z,42nm,0.6s,mb5.3							
WRAB	**Tennant Creek**	**42.73**	**123**	*eP*		**P**	**09 58 00.8**	**-0.5**
	comp=Z,42nm,0.6s,mb5.3							
WB2	**Warramunga Arr**	**42.73**	**123**	‖*i*P		**P**	**09 58 00.5**	**-0.8**
JNU	**Nakatsue**	**43.92**	**42**	P		**P**	**09 58 10.7**	**-0.1**
	comp=Z,12nm,0.8s,mb4.7,baz=146,slow=9.5,SNR=8.2							
JNU				LR	LR		10 17 35.2	
	comp=Z,496nm,19.2s,MS4.4,baz=342,slow=38							
JNU	**Nakatsue**	**43.92**	**42**	P		**P**	**09 58 10.7**	**-0.1**
JNU				LR	LR		10 17 35.2	
KZA	**Kyzart**	**44.10**	**336**	P		**P**	**09 58 13.3**	**+1.2**
	SNR=13							
TKM2	**Tokmak 2**	**44.68**	**337**	P		**P**	**09 58 17.3**	**+0.6**
	SNR=28							
KBK	**Karagaybulak**	**44.70**	**337**	P		**P**	**09 58 18.1**	**+1.2**
	SNR=24							
AML	**Almayashu**	**44.78**	**335**	P		**P**	**09 58 18.6**	**+1.0**
	SNR=24							
KS15	**Wonju Array Si**	**44.84**	**35**	*eP*		**P**	**09 58 17.9**	**-0.3**
AAK	**Ala-Archa**	**44.87**	**336**	P		**P**	**09 58 20.2**	**+1.9**
	SNR=6.5							
AAK	**Ala-Archa**	**44.87**	**336**	*eP*		**P**	**09 58 18.1**	**-0.2**
AAK				pmax	pmax			
	comp=Z,12nm,0.6s,mb4.9							
AAK	**Ala-Archa**	**44.87**	**336**	*eP*		**P**	**09 58 18.1**	**-0.2**
	comp=Z,12nm,0.6s,mb4.9							
FRU	**Bishkek**	**44.98**	**336**	*eP*		**P**	**09 58 19.0**	**-0.2**
FRU				*e*			09 58 26.0	
FRU				pmax	pmax			
	comp=Z,40nm,2.0s,mb4.9							
CHMS	**Chumysh**	**45.07**	**337**	P		**P**	**09 58 20.2**	**+0.3**
	SNR=18							
EKS2	**Erkin-Say**	**45.18**	**336**	P		**P**	**09 58 21.8**	**+1.0**
	SNR=18							
USP	**Ospenovka**	**45.40**	**337**	P		**P**	**09 58 22.6**	**+0.1**
	SNR=94							
SNY	**Shenyang**	**45.84**	**28**	⇑P		**P**	**09 58 24.5**	**-1.6**
SNY				S		**S**	**10 05 08.0**	**+1.0**
SNY				AMB	AMB			
	comp=Z,20nm,0.4s,mb5.4							
SNY				LR	LR			
	comp=N,680nm,20.4s,MS4.7							
SNY				LR	LR			
	comp=E,410nm,17.4s,MS4.7							
SNY				LR	LR			
	comp=Z,740nm,18.6s,MS4.7							
SONM	**Songino Array**	**45.93**	**9**	P		**P**	**09 58 26.5**	**-0.2**
	comp=Z,9.4nm,0.7s,mb4.8,baz=190,slow=9.2,SNR=72							
SONM				PcP	PcP		10 00 03.5	-0.1
	comp=Z,3.6nm,0.4s,baz=193,slow=4.1,SNR=11							
SONM				ScP			10 03 52.8	
	comp=Z,1.0nm,0.9s,baz=207,slow=3.2,SNR=3.6							
SONM				LR	LR		10 20 19.0	
	comp=Z,974nm,19.6s,MS4.8,baz=194,slow=39							
MKAR	**Makanchi Array**	**46.05**	**346**	P		**P**	**09 58 27.1**	**-0.5**
	comp=Z,42nm,0.8s,mb5.4,baz=160,slow=7.9,SNR=345							
MKAR				LR	LR		10 22 24.7	
	comp=Z,165nm,20.0s,MS4.0,baz=170,slow=42							
ZAK	**Zakamensk**	**48.06**	**5**	*eP*		**P**	**09 58 42.6**	**-0.8**
ZAK				*e*			10 00 09.1	
ZAK				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
ZAK				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.2							
CN2	**Changchun**	**48.24**	**27**	*eP*		**P**	**09 58 44.3**	**-0.5**
CN2				*eAP	pP		09 58 56.3	+1.3
CN2				*eS		**S**	**10 05 40.4**	**-0.6**
CN2				AMB	AMB			
	comp=Z,20nm,0.6s,mb5.3							
CN2				LR	LR			
	comp=N,500nm,17.0s,MS4.6							
CN2				LR	LR			
	comp=E,300nm,17.0s,MS4.6							
CN2				LR	LR			
	comp=Z,600nm,16.0s,MS4.7							
TLY	**Talaya**	**49.38**	**5**	*eP*		**P**	**09 58 52.2**	**-1.4**
TLY				*e*			10 05 56.4	
TLY				pmax	pmax			
	comp=Z,11nm,0.8s,mb4.9							
CBIJ	**Chichi jima**	**49.56**	**56**	LR		LR	10 17 28.0	
	comp=Z,281nm,18.9s,MS4.3,baz=216,slow=33							
JHJ	**Hachijo jima 2**	**50.22**	**48**	LR		LR	10 18 38.3	
	comp=Z,141nm,19.1s,MS4.0,baz=311,slow=34							
HIA	**Hailar**	**50.50**	**19**	*eP*		**P**	**09 59 01.9**	**-0.2**
HIA				pmax	pmax			
	comp=Z,14nm,0.7s							
HIA				MLR	MLR			
	comp=Z,1μm,19.0s							
HIA	**Hailar**	**50.50**	**19**	*eP*		**P**	**09 59 01.9**	**-0.2**
	comp=Z,14nm,0.7s,mb5.0							
HIA				LR	LR			
	comp=Z,1μm,19.0s,MS4.9							
KURK	**Kurchatov**	**50.61**	**345**	*eP*		**P**	**09 59 02.0**	**-0.9**
KURK				pmax	pmax			
	comp=Z,38nm,1.0s,mb5.3							
KURK	**Kurchatov**	**50.61**	**345**	*eP*		**P**	**09 59 02.0**	**-0.9**
	comp=Z,38nm,1.0s,mb5.3							
MAJO	**Matsushiro**

MJAR ScP 10 04 14.1
comp=Z,0.4nm,0.5s,baz=233,slow=6.1,SNR=4.1
MJAR LR LR 10 21 48.2
comp=Z,242nm,19.6s,MS4.2,baz=260,slow=37
MJAR Matsushiro Arr 50.82 43 P P **09 59 04.0 -0.8**
MJAR PcP PcP 10 00 20.5 -0.9
MJAR ScP 10 04 14.1
MJAR LR LR 10 21 48.2
MDJ Mudanjiang 50.83 30 P P **09 59 05.1 +0.4**
MDJ AP pP 09 59 14.0 -0.8
MDJ XP sP 09 59 17.9 -1.1
MDJ PCP PcP 10 00 21.8 +0.5
MDJ PP PP 10 01 01.3 -0.4
MDJ S S **10 06 20.4 +3.5**
MDJ XS 10 06 35.3
MDJ AMB AMB
comp=Z,11nm,0.8s,mb4.8
MDJ AMB AMB
comp=Z,87nm,5.6s
MDJ LR LR
comp=N,584nm,16.8s,MS4.7
MDJ LR LR
comp=E,315nm,16.8s,MS4.7
MDJ LR LR
comp=Z,795nm,16.8s,MS4.8
MDJ Mudanjiang 50.83 30 *e*P P **09 59 05.0 +0.3**
comp=Z,14nm,0.9s,mb4.9
MDJ LR LR
comp=Z,475nm,21.0s,MS4.5
CIT Chita 51.29 13 *e*P P **09 59 08.3 +0.2**
CIT *e* 10 00 24.2
CIT pmax pmax
comp=Z,53nm,2.0s,mb5.1
ZAL Zalesovo 52.34 351 LR LR 10 27 17.2
comp=Z,135nm,19.6s,MS4.0,baz=291,slow=43
CTA Charters Tower 53.09 117 *e*P P **09 59 20.8 -1.2**
comp=Z,13nm,0.7s,mb5.0
CTA Charters Tower 53.09 117 *e*P P **09 59 20.8 -1.2**
CTA pmax pmax
comp=Z,13nm,0.7s
CTAO Charters Tower 53.09 117 *e*P P **09 59 21.5 -0.5**
CTAO pmax pmax
comp=Z,19nm,0.8s,mb5.1
CTAO Charters Tower 53.09 117 *e*P P **09 59 21.5 -0.4**
comp=Z,19nm,0.8s,mb5.1
NVS Novosibirsk 53.47 350⇑ *i*P P **09 59 22.4 -1.9**
NVS *e*S S **10 06 51.8 -1.1**
NVS pmax pmax
comp=Z,20nm,0.8s,mb5.1
NVS pmax pmax
comp=N,14nm,0.8s
NVS pmax pmax
comp=E,8.0nm,0.8s
NVS smax
comp=N,32nm,1.8s
QRN Al-Qurain 53.64 304 *e*P P **09 59 25.1 -0.8**
QRN AMb AMB 09 59 26.8
comp=Z,51nm,0.9s,mb5.5
ADE Adelaide 53.84 138⇓ *i*P P **09 59 27.7 +0.4**
KBD Kabd 53.97 305 *e*P P **09 59 28.4 0.0**
KBD AMb AMB 09 59 50.1
comp=Z,241nm,0.7s,mb6.2
RDF Al-Radifah 54.00 304 *e*P P **09 59 28.4 -0.3**
RDF AMb AMB 09 59 50.5
comp=Z,110nm,0.9s,mb5.8
STKA Stephens Creek 54.21 133⇓ *i*P P **09 59 29.5 -0.6**
comp=Z,22nm,0.8s,mb5.1
STKA Stephens Creek 54.21 133 P P **09 59 29.7 -0.4**
comp=Z,32nm,0.8s,mb5.3,baz=307,slow=7.1,SNR=59
KAMS Al Khamasin 54.24 293 P P **09 59 29.2 -1.3**
VOSK Vostochnaya 54.64 341 *i*P P **09 59 31.5 -1.4**
DJNS Zahran al Janu 54.72 290 P P **09 59 34.6 +0.7**
BVA0 Borovoye Array 55.09 341 *i*P P **09 59 34.9 -1.3**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
TATS Tathlith 55.11 292 P P **09 59 36.1 -0.7**
BRVK Borovoye 55.15 341 *e*P P **09 59 35.2 -1.4**
BRVK pmax pmax
comp=Z,15nm,0.6s,mb5.2
BRVK Borovoye 55.15 341 *e*P P **09 59 35.2 -1.5**
comp=Z,15nm,0.6s,mb5.2
ZRNK Zerenda 55.49 340 P P **09 59 37.8 -1.3**
ZRNK pmax pmax
comp=Z,19nm,1.0s,mb5.1
ZRNK Zerenda 55.49 340 *e*P P **09 59 37.6 -1.6**
comp=Z,106nm,0.9s,mb5.9
AB31 Akbulak array 56.42 332 *i*P P **09 59 45.2 -0.7**
ARSS Ar Rass 56.75 299 P P **09 59 47.9 -0.6**
BOD Bodaibo 56.82 11 *e*P P **09 59 47.8 -0.8**
BOD pmax pmax
comp=Z,24nm,0.8s,mb5.3
BLJS Baljurashi 56.91 292 P P **09 59 50.2 +0.4**
ASAJ Asahikawa 57.72 37 P P **09 59 55.3 +0.2**
comp=Z,13nm,0.7s,mb5.1,baz=278,slow=12,SNR=15
ASAJ LR LR 10 24 20.1
comp=Z,314nm,21.7s,MS4.4,baz=185,slow=36
LTHS Al Lith 58.08 292 P P **09 59 58.0 +0.1**
HILS Ha'il 58.39 301 P P **10 00 00.1 0.0**
CLNS Chul'man 58.59 17 *e*P P **10 00 00.4 -0.6**
CLNS pmax pmax
comp=Z,37nm,0.7s,mb5.5
CLNS pmax pmax
comp=N,20nm,0.8s
CLNS pmax pmax
comp=E,12nm,0.8s
CLNS MLR MLR
comp=N,700nm,17.0s,MS4.9
CLNS MLR MLR
comp=Z,1μm,17.0s,MS5.0
CLNS MLR MLR
comp=E,100nm,16.0s,MS4.9
YSS Yuzh-Sakhalins 59.37 35*d i*P P **10 00 06.9 +0.3**
YSS pmax pmax
comp=Z,63nm,0.9s,mb5.7
YSS MLR MLR
comp=Z,200nm,19.0s,MS4.3
YSS Yuzh-Sakhalins 59.37 35 *e*P P **10 00 06.0 -0.5**
comp=Z,61nm,0.9s,mb5.6
TOO Toolangi 59.85 137 *e*P P **10 00 10.5 +0.4**
comp=Z,14nm,0.9s,mb5.0
TOO Toolangi 59.85 137 *e*P P **10 00 10.5 +0.4**
TOO pmax pmax
comp=Z,14nm,0.9s,mb5.0
KMBO Kilima Mbogo 60.00 267 P P **10 00 11.7 +0.3**
comp=Z,9.9nm,0.9s,mb4.8,baz=59,slow=9.8,SNR=21
KMBO LR LR 10 21 56.6
comp=Z,386nm,20.6s,MS4.5,baz=94,slow=32
GNI Garni 60.39 316 *e*P P **10 00 12.7 -1.0**
GNI pmax pmax
comp=Z,9.0nm,0.6s
GNI Garni 60.39 316 *e*P P **10 00 12.7 -1.0**
comp=Z,9.1nm,0.6s,mb5.0
YNBS Yanbu' al Bahr 61.03 296 P P **10 00 18.1 -0.2**
TI2 Plekhanov 61.05 317 *e*P P **10 00 20.0 +1.8**
ARMA Armidale 61.29 127⇓ *i*P P **10 00 17.8 -2.1**
CNB Canberra Magne 61.54 133 *e*P P **10 00 21.4 -0.1**
comp=Z,38nm,1.5s,mb5.3
UMJS Umm Lajj 61.81 297 P P **10 00 24.1 +0.6**
ARU Arti 62.05 337⇓ *i*P P **10 00 23.2 -1.4**
ARU *e* 10 02 36.4
ARU *e*S S **10 08 47.2 +1.9**
ARU *e* 10 10 09.4
ARU *e*SS SS 10 12 47.3 -2.5
ARU pmax pmax
comp=Z,17nm,1.0s,mb5.1
ARU MLR MLR
comp=Z,400nm,18.5s,MS4.6
ARU MLR MLR
comp=N,100nm,18.0s,MS4.4
ARU MLR MLR
comp=E,200nm,19.0s,MS4.4
ARU Arti 62.05 337 *e*P P **10 00 23.5 -1.2**
comp=E,24nm,1.0s,mb5.3
ARU LR LR
comp=Z,107nm,20.0s,MS4.0
ZEI Tsey 62.06 318 *e*P P **10 00 21.3 -3.6**
ZEI *i* *PP pP 10 00 31.1 -4.2
ZEI *i* 10 02 40.3
ZEI pmax pmax
comp=Z,12nm,0.7s,mb5.1
ONI Oni 62.28 318 P P **10 00 26.6 +0.2**
TBKS Tabuk 63.10 300 P P **10 00 32.5 +0.4**
KIV Kislovodsk 63.36 319*c i*P P **10 00 33.0 -0.6**
KIV *e* 10 01 09.4
KIV *e*S S **10 09 06.6 +4.7**
KIV pmax pmax
comp=Z,27nm,0.9s,mb5.4
KIV Kislovodsk 63.36 319 *e*P P **10 00 32.3 -1.2**
comp=Z,19nm,0.8s,mb5.3
YAK Yakutsk 64.26 16*c i*P P **10 00 37.9 -1.2**
YAK *i* *PP pP 10 00 48.8 -0.8
YAK *i* 10 01 12.0
YAK *e* 10 02 59.9
YAK *e*S S **10 09 12.4 -0.5**
YAK *i* *SS 10 09 24.7
YAK *i* 10 10 23.3
YAK pmax pmax
comp=Z,49nm,0.9s,mb5.5
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.0s
YAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
YAK smax
comp=N,4.0nm,1.1s
YAK MLR MLR
comp=N,317nm,17.0s,MS4.7
YAK MLR MLR
comp=Z,498nm,17.0s,MS4.8
YAK MLR MLR
comp=E,356nm,18.0s,MS4.7
YAK Yakutsk 64.26 16 *e*P P **10 00 38.0 -1.2**
comp=E,124nm,0.8s,mb6.0
YAK LR LR
comp=Z,682nm,22.0s,MS4.8
MALT Malatya 64.28 312 *e*P P **10 00 39.1 -0.6**
MALT pmax pmax
comp=Z,159nm,0.6s,mb6.2
MALT Malatya 64.28 312 *e*P P **10 00 39.1 -0.6**
comp=Z,159nm,0.6s,mb6.2
GZT Gaziantep 64.64 310 *i*P P **10 00 42.1 +0.1**
EIL Elat 64.78 302 *e*P P **10 00 42.0 -1.0**
comp=Z,10nm,0.8s,mb4.9
SOC Sochi 65.19 318 *e*P P **10 00 44.0 -1.5**
SOC *e* 10 01 14.2
SOC *e* 10 03 03.7
SOC *e*S S 10 09 26.4 +1.8
SOC *e* 10 10 37.0
SOC *e*SS SS 10 13 34.3 -4.8
SOC pmax pmax
comp=Z,29nm,0.8s,mb5.4
SOC pmax pmax
comp=N,4.0nm,0.5s
SOC pmax pmax
comp=E,10.0nm,0.7s
SOC MLR MLR
comp=Z,163nm,22.0s,MS4.2
SOC MLR MLR
comp=N,170nm,18.0s,MS4.4
SOC MLR MLR
comp=E,147nm,21.0s,MS4.4
KAHT Ahir Dag 65.24 311 *i*P P **10 00 46.0 +0.1**
COBT Iskenderun 65.40 309 *i*P P **10 00 47.1 +0.2**
MBAR Mbarara 66.47 268 *e*P P **10 00 53.4 -0.7**
MBAR pmax pmax
comp=Z,18nm,1.4s,mb4.9
MBAR Mbarara 66.47 268 *e*P P **10 00 53.4 -0.7**
comp=Z,18nm,1.4s,mb4.9
MEST Erdemli 67.06 309 *i*P P **10 00 55.9 -1.5**
CTKT Corum 67.67 313 *i*P P **10 01 03.5 +2.3**
BOYT Boyabat 67.82 314 *i*P P **10 01 01.7 -0.4**
BRTR Keskin Array B 68.26 312 P P **10 01 03.5 -1.4**
comp=Z,5.1nm,0.9s,mb4.6,baz=129,slow=7.9,SNR=27
BALT Daday 68.94 314 *i*P P **10 01 08.1 -1.1**
CASY Casey 69.22 174 *e*P P **10 01 09.5 -0.9**
MA2 Magadan 70.25 26 *e*P P **10 01 17.2 +0.4**
MA2 *e* 10 01 44.9
MA2 *e*PPP PPP 10 05 26.8 -7.8
MA2 *e*S S 10 10 29.7 +4.8
MA2 *e*PS PS 10 10 59.7 +3.3
MA2 *e* 10 11 17.7
MA2 *e*SS SS 10 14 56.6 -0.4
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MA2 MLR MLR
comp=Z,1μm,21.0s,MS5.1
MA2 Magadan 70.25 26 *e*P P **10 01 16.5 -0.3**
comp=Z,17nm,0.8s,mb5.0
TKTP Tekketepe 70.36 310 *i*P P **10 01 16.8 -1.0**
PET Petropavlovsk 71.24 34 *e*P P **10 01 22.7 -0.2**
PET *e*S S 10 10 37.0 +0.5
PET pmax pmax
comp=Z,35nm,0.7s,mb5.4
PET smax
comp=N,100nm,11.8s
PET smax
comp=E,100nm,12.0s
PET MLR MLR
comp=Z,300nm,18.0s,MS4.6
PET Petropavlovsk 71.24 34 *e*P P **10 01 23.0 +0.1**
comp=Z,13nm,0.4s,mb5.2
MOS Moscow 71.27 329 *e*P P **10 01 20.1 -2.9**
MOS *e* 10 01 47.4
MOS pmax pmax
comp=Z,55nm,0.6s,mb5.7
OBN Obninsk 71.56 328⇓ *e*P P **10 01 24.8 0.0**
OBN pmax pmax
comp=Z,51nm,1.3s,mb5.3
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.1
OBN Obninsk 71.56 328⇓ *e*P P **10 01 24.9 +0.1**
OBN LR LR
comp=Z,100nm,20.0s,MS4.1
DZM Mont Dzumac 71.81 114 LR LR 10 33 59.5
comp=Z,256nm,19.2s,MS4.5,baz=229,slow=37
TIXI Tiksi 71.99 10 *i*P P **10 01 25.7 -1.3**
TIRR Tirgusor 73.22 316 P P **10 01 34.7 -0.1**
TIRR Tirgusor 73.22 316⇓ P P **10 01 33.8 -1.1**
TIRR Tirgusor 73.22 316⇓ P P **10 01 33.8 -1.0**
MAW Mawson 73.89 193⇓ *i*P P **10 01 38.4 +0.1**
comp=Z,9.7nm,0.6s,mb4.9
MAW Mawson 73.89 193⇓ *i*P P **10 01 38.4 +0.1**
MAW pmax pmax
comp=Z,10.0nm,0.6s
MAW Mawson 73.89 193 P P **10 01 38.6 +0.4**
comp=Z,11nm,0.6s,mb5.0,baz=24,slow=5.5,SNR=72
MAW LR LR 10 27 37.6
comp=Z,267nm,19.5s,MS4.5,baz=159,slow=30
AKASG Malin Array Be 74.27 322 P P **10 01 39.1 -1.7**
comp=Z,9.5nm,0.6s,mb4.9,baz=89,slow=4.7,SNR=49
LBTB Lobatse 74.39 243 *e*P P **10 01 41.9 -0.1**
LBTB pmax pmax
comp=Z,36nm,0.9s,mb5.3
LBTB Lobatse 74.39 243 *e*P P **10 01 41.9 -0.2**
comp=Z,36nm,0.9s,mb5.3
VRI Vrincioaia 74.70 317⇓P P **10 01 43.7 +0.3**
MLR Muntele Rosu 75.16 316 P P **10 01 46.2 +0.2**
MLR Muntele Rosu 75.16 316⇑P P **10 01 45.8 -0.3**
MLR Muntele Rosu 75.16 316⇑P P **10 01 45.8 -0.2**
BOSA Boshof 75.35 240 *e*P P **10 01 47.1 -0.4**
BOSA pmax pmax
comp=Z,41nm,1.2s,mb5.2
BOSA Boshof 75.35 240 P P **10 01 47.4 -0.2**
comp=Z,19nm,0.8s,mb5.1,baz=82,slow=5.3,SNR=18
BOSA LR LR 10 33 26.8
comp=Z,306nm,18.1s,MS4.6,baz=49,slow=34
BOSA Boshof 75.35 240 *e*P P **10 01 47.1 -0.4**
comp=Z,42nm,1.2s,mb5.2
BURAR Bucovina Array 76.08 318⇓P P **10 01 52.0 +0.7**
DRGR 77.61 317 P P **10 02 00.3 +0.4**
VSU Vasula 77.78 330 *i*P P **10 02 00.9 +0.4**
VSU Vasula 77.78 330 *i*P P **10 02 00.0 -0.5**
APA Apatity 77.97 339 *e*P P **10 02 00.0 -1.4**
APA pmax pmax
comp=Z,18nm,0.8s,mb5.0
KWP Kalwaria 78.11 320 *e*P P **10 02 03.1 +0.6**
KWP Kalwaria 78.11 320 *e*P P **10 02 03.1 +0.6**
KOLS Kolonicke sedl 78.27 319 *i*P P **10 02 04.4 +1.0**
KOLS *e* 10 09 13.9
KOLS Kolonicke sedl 78.27 319 *e*P P **10 02 04.1 +0.7**
KOLS *e*sP sP 10 02 22.7 +4.9
KOLS *e* 10 09 13.8
SUW Suwalki 78.66 325 *e*P P **10 02 04.9 -0.6**
SUW Suwalki 78.66 325 *e*P P **10 02 04.9 -0.5**
CRVS Cervenica-Dubn 78.79 319 *e*P P **10 02 10.2 +3.9**
CRVS Cervenica-Dubn 78.79 319 *e* P **10 02 10.5 +4.2**
FINES FINESS Array B 78.90 332 P P **10 02 06.5 -0.1**
comp=Z,6.1nm,0.6s,mb4.7,baz=116,slow=5.8,SNR=32
FINES LR LR 10 40 28.7
comp=Z,95nm,21.5s,MS4.1,baz=121,slow=38
KAF Kangasniemi 78.98 333 *e*p P **10 02 06.5 -0.6**
comp=Z,11nm,0.6s,mb5.0,baz=118,slow=5.5
STHS Stebnicka Huta 79.01 320 *e*P P **10 02 08.2 +0.7**
DIVS Divcibare 79.10 314⇑ *i*P P **10 02 07.4 -0.7**
KECS Kecovo 79.36 319 *e*P P **10 02 09.6 +0.2**
NIE Niedzica 79.61 320 *e*P P **10 02 11.1 +0.3**
FX1 Attu Island--F 79.64 37 P P **10 02 12.3 +1.5**
comp=Z,18nm,0.5s,mb5.3,baz=179,slow=7.9,SNR=16
FX1 Attu Island--F 79.64 37 *e*P P **10 02 11.8 +0.9**
PSZ Piszkesteto 79.67 318 P P **10 02 11.9 +0.8**
PSZ Piszkesteto 79.67 318 *e*P P **10 02 10.9 -0.2**
comp=Z,13nm,0.9s,mb4.8
SUR Sutherland 79.80 237 *e*P P **10 02 13.0 +0.9**
comp=Z,63nm,1.0s,mb5.5
BILL Bilibino 80.04 21 *i*P P **10 02 13.8 +1.1**
OJC Ojcow 80.06 320 *e*P P **10 02 13.5 +0.4**
RPZ Rata Peaks 80.09 135 LR LR 10 37 15.7
comp=Z,502nm,19.1s,MS4.9,baz=91,slow=35
PKSM Moragy 80.31 316⇓ *e*P P **10 02 14.2 -0.4**
VYHS Vyhne 80.45 319 *e*P P **10 02 15.5 +0.2**
VYHS Vyhne 80.45 319 *e*P P **10 02 15.4 +0.1**
KEV Kevo 80.94 341 *e*P P **10 02 18.3 +0.9**
KEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KEV Kevo 80.94 341 *e*P P **10 02 18.3 +0.8**
comp=Z,9.7nm,0.8s,mb4.8
OKC Ostrava-Krasne 81.06 320 *e*P P **10 02 19.3 +0.8**
SYO Syowa Base 81.15 198⇑P P **10 02 17.7 -0.8**
SYO Syowa Base 81.15 198⇑PcP PcP 10 02 24.0 -1.1
ARCES ARCESS Array B 81.38 340 P P **10 02 20.2 +0.5**
comp=Z,5.6nm,0.5s,mb4.8,baz=96,slow=4.8,SNR=103
ARCES PP PP 10 05 27.1 -0.8
comp=Z,2.7nm,0.8s,baz=90,slow=5.4,SNR=4.6
ARCES LR LR 10 41 15.9
comp=Z,333nm,21.5s,MS4.7,baz=114,slow=38
ARCES ARCESS Array B 81.38 340 P P **10 02 20.2 +0.5**
ARCES PP PP 10 05 27.1 -0.8
ARCES LR LR 10 41 15.9
ARE0 ARCESS Array S 81.38 340 *e*P P **10 02 20.2 +0.5**
MORC Moravsky Berou 81.45 320 P P **10 02 21.2 +0.7**
MORC Moravsky Berou 81.45 320 *e*P P **10 02 20.6 +0.2**
comp=Z,14nm,1.3s,mb4.7
ZST Bratislava 81.57 318 *e*P P **10 02 21.3 +0.2**
ZST Bratislava 81.57 318 *e*P P **10 02 21.4 +0.3**
KOGS Kog 81.98 316 *e*P P **10 02 23.6 +0.3**
DPC Dobruska-Polom 82.29 320 *e*P P **10 02 25.1 +0.3**
GOLS Golise 82.38 316 *e*P P **10 02 25.3 0.0**
UPC Upice 82.50 320 *e*P P **10 02 26.6 +0.7**
ARSA Arzberg 82.54 317⇑ *i*P P **10 02 26.8 +0.6**
comp=Z,8.7nm,0.8s,mb4.8
BOJS Bojanci 82.60 315 *e*P P **10 02 26.7 +0.2**
LJU Ljubljana 83.14 316 *i*P P **10 02 29.9 +0.7**
LJU *e* 10 02 46.8
OBKA Obir 83.16 316⇑ *i*P P **10 02 29.6 +0.3**
comp=Z,8.4nm,0.9s,mb4.8
PRU Pruhonice 83.40 320 *e*P P **10 02 30.9 +0.4**
MOA Molln 83.44 318⇑ *i*P P **10 02 31.0 +0.3**
comp=Z,8.6nm,1.1s,mb4.7
VOY Vojsko 83.58 316 *e*P P **10 02 31.5 0.0**
VOY *e* 10 02 48.7
URZ Urewera 83.61 129 LR LR 10 39 57.1
comp=Z,238nm,19.2s,MS4.6,baz=238,slow=36
CADS Cadrg 83.70 316 *i*P P **10 02 32.2 0.0**
AQU L'Aquila 83.76 312 *e*P P **10 02 31.6 -0.9**
AQU pmax pmax
comp=Z,43nm,1.1s,mb5.5
AQU L'Aquila 83.76 312 *e*P P **10 02 31.6 -0.9**
comp=Z,43nm,1.1s,mb5.5
BRG Berggiesshubel 83.84 321 *e*P P **10 02 33.5 +0.8**
BRG pmax pmax
comp=Z,12nm,1.3s,mb4.9
BRG Berggiesshubel 83.84 321 *e*P P **10 02 33.5 +0.8**
comp=Z,12nm,1.3s,mb4.9
GEC2 GERESS Array S 83.87 319 *e*P P **10 02 33.5 +0.6**
GEC2 pmax pmax
comp=Z,24nm,1.2s,mb5.2
GEC2 GERESS Array S 83.87 319 *e*P P **10 02 33.5 +0.6**
comp=Z,24nm,1.2s,mb5.2
GERES GERESS Array B 83.87 319 P P **10 02 33.3 +0.4**
comp=Z,18nm,1.1s,mb5.1,baz=104,slow=5.5,SNR=28
KHC Kasperske Hory 83.97 319 *e*P P **10 02 33.5 +0.1**
KBA Koelnbreinsper 84.02 317⇑ *i*P P **10 02 33.7 0.0**
comp=Z,9.6nm,1.0s,mb4.9
KBA Koelnbreinsper 84.02 317⇑ *i*P P **10 02 33.7 0.0**
KBA pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
WET Wettzell 84.43 319 *e*P P **10 02 36.3 +0.6**
WET pmax pmax
comp=Z,11nm,1.0s,mb4.9
WET Wettzell 84.43 319 *e*P P **10 02 36.3 +0.6**
comp=Z,11nm,1.0s,mb4.9
CLL Collm 84.46 321 *e*P P **10 02 36.0 +0.2**
CLL pmax pmax
comp=Z,13nm,1.4s,mb4.9
CLL Collm 84.46 321 *e*P P **10 02 36.0 +0.2**
comp=Z,13nm,1.4s,mb4.9
CLL Collm 84.46 321 P P **10 02 36.0 +0.2**
comp=Z,logA/T=1.0,mb4.9
WTTA Wattenberg 85.19 317⇓ *i*P P **10 02 39.4 -0.1**
comp=Z,0.4nm,0.2s,mb4.2
WATA Walderalm 85.23 317⇑ *i*P P **10 02 39.5 -0.3**
comp=Z,0.6nm,0.3s,mb4.2
WATA Walderalm 85.23 317⇑ *i*P P **10 02 39.5 -0.3**
WATA pmax pmax
comp=Z,1.0nm,0.3s,mb4.4
MOX Moxa 85.31 320 *e*P P **10 02 40.0 0.0**
SQTA Sankt Quirin 85.48 317⇑ *i*P P **10 02 41.0 0.0**
comp=Z,7.4nm,0.5s,mb5.1
SQTA Sankt Quirin 85.48 317⇑ *i*P P **10 02 41.0 0.0**
SQTA pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
GRA1 Grafenberg Arr 85.53 319 *e*P P **10 02 41.6 +0.4**
comp=Z,19nm,1.0s,mb5.3
GRF Grafenberg Arr 85.53 319 *e*P P **10 02 41.6 +0.4**
GRF pmax pmax
comp=Z,19nm,1.0s,mb5.3
GRF Grafenberg Arr 85.53 319 *e*P P **10 02 41.6 +0.4**
GRF pmax pmax
comp=Z,19nm,1.0s,mb5.3
GRF Grafenberg Arr 85.53 319 *e*P P **10 02 41.6 +0.4**
comp=Z,19nm,1.0s,mb5.3
MOTA Moosalm 85.55 317⇑ *i*P P **10 02 41.3 0.0**
comp=Z,12nm,0.9s,mb5.1
MOTA Moosalm 85.55 317⇑ *i*P P **10 02 41.3 0.0**
MOTA pmax pmax
comp=Z,12nm,0.9s,mb5.1
NB2 NORSAR Subarra 85.92 331 P P **10 02 43.0 +0.2**
comp=Z,20nm,1.1s,mb5.3,baz=95,slow=4.6
NB2 NORSAR Subarra 85.92 331 P P **10 02 43.0 +0.2**
NB2 pmax pmax
comp=Z,20nm,1.1s,mb5.3
NB2 NORSAR Subarra 85.92 331 P P **10 02 43.0 +0.2**
baz=95,slow=4.8
NOA NORSAR Array B 85.92 331 P P **10 02 43.3 +0.5**
comp=Z,6.9nm,0.8s,mb4.9,baz=93,slow=5.0,SNR=13
NOA LR LR 10 46 50.9
comp=Z,103nm,19.8s,MS4.2,baz=80,slow=40
CLZ Clausthal 86.12 322 *e*P P **10 02 44.8 +0.8**
CLZ pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
CLZ Clausthal 86.12 322 *e*P P **10 02 44.8 +0.8**
comp=Z,10.0nm,1.0s,mb5.0
BSEG Bad Segeberg 86.19 324 *e*P P **10 02 45.5 +1.2**
DAVA Damuels 86.38 317⇑ *i*P P **10 02 46.2 +0.8**
comp=Z,20nm,0.9s,mb5.4
VNDA Vanda 87.03 169 *e*P P **10 02 47.7 -0.2**
VNDA pmax pmax
comp=Z,9.0nm,1.3s
VNDA MLR MLR
comp=Z,279nm,19.0s
VNDA Vanda 87.03 169 P P **10 02 48.1 +0.2**
comp=Z,2.5nm,0.7s,mb4.5,baz=312,slow=5.5,SNR=19
VNDA LR LR 10 39 34.9
comp=Z,205nm,18.6s,MS4.6,baz=277,slow=34
VNDA Vanda 87.03 169 *e*P P **10 02 47.7 -0.2**
comp=Z,9.2nm,1.3s,mb4.8
VNDA LR LR
comp=Z,279nm,19.0s,MS4.7
TNS Taunus Mts 87.33 320 *e*P P **10 02 51.0 +1.1**
TNS pmax pmax
comp=Z,11nm,1.2s,mb5.0
TNS Taunus Mts 87.33 320 *e*P P **10 02 51.0 +1.1**
comp=Z,11nm,1.2s,mb5.0
BFO Black Forest 87.42 318 *e*P P **10 02 51.0 +0.6**

BFO					pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.8									
BFO	**Black Forest**	**87.42**	**318**	*e*P		**P**	**10 02 51.0 +0.6**			
	comp=Z,6.0nm,0.9s,mb4.8									
SBA	**Scott Base**	**88.13**	**169**	*e*P		**P**	**10 02 53.8 +0.6**			
SBA					pmax	pmax				
	comp=Z,9.0nm,1.2s,mb4.9									
SBA	**Scott Base**	**88.13**	**169**	*e*P		**P**	**10 02 53.8 +0.6**			
	comp=Z,9.4nm,1.2s,mb4.9									
NVL	**N'lazarevskaya**	**90.73**	**199**	⇓*i*P		**P**	**10 03 06.8 +1.2**			
NVL				*i* *PP		pP	10 03 16.5	0.0		
NVL				*i* *SP		sP	10 03 19.0	-1.0		
NVL					pmax	pmax				
	comp=Z,3.0nm,1.0s,mb4.6									
MAIT	**Maitri**	**90.76**	**199**	⇓*i*P		**P**	**10 03 07.9 +2.1**			
QSPA	**South Pole Qui**	**92.36**	**180**	⇓*i*P		**P**	**10 03 13.9 +0.9**			
	comp=Z,12nm,1.0s,mb5.2									
SNAA	**Sanae**	**95.44**	**198**	⇑*i*P		**P**	**10 03 28.3 +1.2**			
SNAA	**Sanae**	**95.44**	**198**	*e*		PcP	10 03 30.3	+2.6		
SNAA	**Sanae**	**95.44**	**198**	*e*		pP	10 03 40.5	+2.5		
SNAA	**Sanae**	**95.44**	**198**	*e*		sP	10 03 44.1	+2.6		
VNA2	**Neumayer--Watz**	**97.02**	**199**	⇑*i*P		**P**	**10 03 35.6 +1.2**			
VNA2	**Neumayer--Watz**	**97.02**	**199**	*e*		PcP	10 03 37.6	+2.8		
VNA2	**Neumayer--Watz**	**97.02**	**199**	*e*		pP	10 03 46.2	+0.9		
VNA2	**Neumayer--Watz**	**97.02**	**199**	*e*		sP	10 03 49.5	+0.7		
VNA1	**Neumayer--Stat**	**97.36**	**199**	⇑*i*P		**P**	**10 03 37.3 +1.4**			
VNA1	**Neumayer--Stat**	**97.36**	**199**	*e*		PcP	10 03 39.1	+2.8		
VNA1	**Neumayer--Stat**	**97.36**	**199**	*e*		pP	10 03 51.4	+4.6		
VNA1	**Neumayer--Stat**	**97.36**	**199**	*e*		sP	10 03 55.0	+4.7		
VNA3	**Neumayer Olymp**	**97.66**	**198**	⇑*i*P		PcP	10 03 42.4	+4.8		
VNA3	**Neumayer Olymp**	**97.66**	**198**	*e*		pP	10 03 44.6	-3.5		
VNA3	**Neumayer Olymp**	**97.66**	**198**	*e*		sP	10 03 55.4	+3.7		
ILAR	**Eielson Array**	**98.59**	**23**	PKKPbc			10 20 10.0			
	comp=Z,1.0nm,0.8s,baz=152,slow=2.2,SNR=11									
BORG	**Borgarnes**	**99.58**	**338**	LR	LR		10 50 26.3			
	comp=Z,106nm,19.4s,MS4.3,baz=30,slow=36									
YKA	**Yellowknife Ar**	**110.93**	**15**	PP		PP	10 09 11.6	-5.9		
	comp=Z,1.2nm,0.7s,baz=329,slow=7.3,SNR=4.7									
EDM	**Edmonton**	**118.95**	**20**	*e*PKIKP	PKPdf		10 08 51.6	+1.1		
FFC	**Flin Flon**	**120.89**	**13**	*e*PKIKP	PKPdf		10 08 55.5	+1.3		
NEW	**Newport**	**121.36**	**26**	PKP	PKPdf		10 08 56.5	+1.3		
	comp=Z,4.5nm,1.0s,baz=296,slow=4.9,SNR=7.9									
NEW	**Newport**	**121.36**	**26**	*e*PKPdf	PKPdf		10 08 56.5	+1.3		
NEW				*ep*PKPdf			10 09 07.7			
SCHQ	**Schefferville**	**121.42**	**349**	PKP	PKPdf		10 08 56.2	+1.0		
	comp=Z,2.1nm,0.8s,baz=326,slow=1.1,SNR=5.8									
SCHQ	**Schefferville**	**121.42**	**349**	PKP	PKPdf		10 08 56.2	+1.0		
MSO	**Missoula**	**123.84**	**25**	*e*PKPdf	PKPdf		10 09 01.1	+1.0		
CHMT	**Chamberlain Mo**	**124.06**	**25**	*e*PKPdf	PKPdf		10 09 01.5	+0.9		
WVOR	**Wild Horse Val**	**124.87**	**32**	*e*PKIKP	PKPdf		10 09 04.4	+2.2		
RKT	**Rikitea**	**125.52**	**117**	*e*S			10 17 46.1			
	comp=Z,186nm,34.0s									
RKT				*e*LR	LR		10 51 24.3			
	comp=Z,198nm,32.8s,baz=311									
BOZ	**Bozeman (W)**	**125.75**	**25**	*e*PKIKP	PKPdf		10 09 05.5	+1.7		
MCMT	**McKenzie Canyo**	**125.88**	**26**	*e*PKPdf	PKPdf		10 09 06.2	+2.1		
DGMT	**Dagmar**	**126.01**	**17**	*e*PKPdf	PKPdf		10 09 05.5	+1.3		
ULM	**Lac du Bonnet**	**126.35**	**10**	PKP	PKPdf		10 09 06.0	+1.2		
	comp=Z,5.3nm,0.7s,baz=1.7,slow=1.0,SNR=6.4									
ULM	**Lac du Bonnet**	**126.35**	**10**	*e*PKPdf	PKPdf		10 09 05.2	+0.4		
ULM				*ep*PKPdf			10 09 16.9			
QLMT	**Earthquake Lak**	**126.49**	**25**	*e*PKPdf	PKPdf		10 09 08.1	+2.8		
CMB	**Columbia Colle**	**126.85**	**37**	*e*PKIKP	PKPdf		10 09 08.3	+2.1		
LAO	**LASA Array**	**126.93**	**20**	*e*PKPdf	PKPdf		10 09 08.4	+2.2		
LKWY	**Lake**	**127.14**	**25**	*e*PKIKP	PKPdf		10 09 09.5	+2.9		
MOOW	**Moose Ponds**	**127.66**	**25**	*e*PKPdf	PKPdf		10 09 09.9	+2.3		
TPAW	**Teton Pass**	**127.78**	**26**	*e*PKPdf	PKPdf		10 09 09.2	+1.4		
NVAR	**Mina Array Bea**	**127.82**	**35**	PKP	PKPdf		10 09 10.3	+2.3		
	comp=Z,3.5nm,0.9s,baz=269,slow=0.9,SNR=19									
NVAR	**Mina Array Bea**	**127.82**	**35**	PKP	PKPdf		10 09 10.3	+2.3		
LOHW	**Long Hollow**	**127.83**	**25**	*e*PKPdf	PKPdf		10 09 10.2	+2.3		
LOHW				*ep*PKPdf			10 09 22.0			
ELK	**Elko**	**127.85**	**31**	*e*PKIKP	PKPdf		10 09 10.7	+2.6		
SNOW	**Snow King Moun**	**127.88**	**26**	*e*PKPdf	PKPdf		10 09 10.9	+2.9		
BW06	**Boulder Array**	**128.96**	**25**	*e*PKPdf	PKPdf		10 09 11.1	+1.0		
PDAR	**Pinedale Array**	**128.96**	**25**	PKP	PKPdf		10 09 11.7	+1.6		
	comp=Z,1.5nm,0.5s,baz=118,slow=1.7,SNR=17									
PDAR					PP	PP	10 11 15.8	-6.4		
	comp=Z,0.5nm,0.9s,baz=346,slow=3.7,SNR=2.7									
TRCR	**Troy Canyon**	**129.40**	**33**	*e*PKPdf	PKPdf		10 09 13.8	+2.8		
RSSD	**Black Hills**	**129.92**	**20**	*e*PKIKP	PKPdf		10 09 12.8	+0.9		
NLU	**North Lily Min**	**130.04**	**29**	*e*PKPdf	PKPdf		10 09 15.3	+3.1		
DAU	**Daniels Canyon**	**130.08**	**28**	*e*PKIKP	PKPdf		10 09 15.1	+2.8		
DAU				*e*			10 09 26.6			
TMUT	**Trail Mountain**	**130.97**	**29**	*e*PKPdf	PKPdf		10 09 16.4	+2.3		
MVU	**Marysvale**	**131.08**	**31**	*e*PKPdf	PKPdf		10 09 17.1	+2.9		
MSU	**Marysvale**	**131.09**	**31**	*e*PKIKP	PKPdf		10 09 17.0	+2.7		
SRU	**San Rafael**	**131.45**	**29**	*e*PKIKP	PKPdf		10 09 16.9	+2.0		
NEN	**Nelson**	**131.73**	**35**	*e*PKIKP	PKPdf		10 09 17.9	+2.3		
PV10	**Paradox Valley**	**132.74**	**28**	*e*PKPdf	PKPdf		10 09 19.8	+2.4		
PV01	**Paradox Valley**	**133.15**	**28**	*e*PKPdf	PKPdf		10 09 21.0	+2.8		
SDCO	**Great Sand Dun**	**134.85**	**26**	*e*PKPdf	PKPdf		10 09 23.0	+1.7		
TUC	**Tucson**	**136.47**	**35**	*e*PKIKP	PKPdf		10 09 26.9	+2.4		
ANMO	**Albuquerque**	**136.72**	**29**	*e*PKIKP	PKPdf		10 09 27.0	+2.1		
KSU1	**Kansas State U**	**136.78**	**16**	*e*PKPdf	PKPdf		10 09 26.3	+1.4		
BNM	**Barren Site**	**137.28**	**30**	*e*PKPdf	PKPdf		10 09 29.3	+3.3		
MNTX	**Cornudas Mount**	**139.87**	**30**	*e*PKPdf	PKPdf		10 09 32.5	+1.8		
PLCA	**Paso Flores**	**140.28**	**195**	PKhKP			10 09 23.6			
	comp=Z,1.4nm,0.7s,baz=166,slow=3.3,SNR=6.4									
PLCA	**Paso Flores**	**140.28**	**195**	PKP			10 09 23.6			
PLCA				*e*PKPdf	PKPdf		10 09 32.7	+1.6		
WVT	**Waverly**	**141.36**	**6**	*e*PKIKP	PKPdf		10 09 31.2	-2.0		
PLAL	**Pickwick Lake**	**142.47**	**7**	*e*PKIKP	PKPdf		10 09 34.3	-0.9		
LTX	**Lajitas**	**142.65**	**31**	*e*PKIKP	PKPdf		10 09 37.3	+1.7		
TXAR	**Lajitas Array**	**142.65**	**31**	PKhKP			10 09 33.7			
	comp=Z,1.4nm,0.4s,baz=145,slow=0.5,SNR=31									
TXAR					PP	PP	10 12 45.0	-2.8		
	comp=Z,0.8nm,0.9s,baz=292,slow=4.9,SNR=4.6									
TXAR				SKPbc			10 13 12.3			
	comp=Z,1.6nm,1.0s,baz=270,slow=1.8,SNR=5.9									
TXAR	**Lajitas Array**	**142.65**	**31**	PKP	PKPdf		10 09 33.7	-1.9		
TXAR					PP	PP	10 12 45.0	-2.8		
TXAR				SKPbc			10 13 12.3			
BDFB	**Brasilia**	**143.27**	**247**	PKP	PKPdf		10 09 36.2	-0.8		
	comp=Z,8.8nm,1.0s,baz=201,slow=1.4,SNR=5.9									
LRAL	**Lakeview Retre**	**144.54**	**6**	*e*PKIKP	PKPdf		10 09 38.5	-0.3		
CPUP	**Villa Florida**	**145.87**	**224**	PKPbc	PKPbc		10 09 42.7	+0.5		
	comp=Z,47nm,0.8s,baz=129,slow=3.0,SNR=98									
CPUP	**Villa Florida**	**145.87**	**224**	*e*PKPdf	PKPdf		10 09 42.9	+1.5		
SAML	**Samuel**	**159.40**	**251**	*e*PKPdf	PKPdf		10 10 02.0	+0.9		
LPAZ	**La Paz**	**160.02**	**226**	PKP	PKPdf		10 10 04.2	+2.5		
	comp=Z,4.8nm,1.1s,baz=39,slow=2.7,SNR=8.7									
LPAZ				PKPab	PKPab		10 10 44.1	+0.4		
	comp=Z,5.4nm,0.8s,baz=133,slow=4.7,SNR=9.4									
LPAZ	**La Paz**	**160.02**	**226**	*e*PKPdf	PKPdf		10 10 04.2	+2.5		

*PRU **22** 10:08:03.8, 50.25N×18.92E*
*NEIC **22** 10:08:03.0±0.7, 50.23N×18.99E, h5km, MG2.6(WAR), Error ellipse: s-maj=12.4km s-min=5.7km az=187.0*
WAR 22 10:08:03.2, 50.23N×19.08E, h0km, ML2.6, 2D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
OJC	**Ojcow**	**0.47**	**91**	⇓*i*PG		Pg	10 08 12.2	-0.3
OJC				⇓*e*SG		Sg	10 08 19.2	+0.5
OJC	**Ojcow**	**0.47**	**91**	*i* Pg		Pg	10 08 12.2	-0.3
OJC				*e*Sg		Sg	10 08 19.0	+0.3
OKC	**Ostrava-Krasne**	**0.72**	**237**	*e*PG		Pg	10 08 16.5	-1.0
MORC	**Moravsky Berou**	**1.09**	**246**	*e*Pg		Pg	10 08 22.5	-2.4
MORC				*e*Sg		Sg	10 08 37.1	-2.4
NIE	**Niedzica**	**1.14**	**135**	*e*PG		Pg	10 08 25.0	-1.0
NIE				*e*SG		Sg	10 08 42.0	+0.8
STHS	**Stebnicka Huta**	**1.62**	**119**	*e*Pn		Pn	10 08 34.1	+0.9
STHS				*e*Sn		Sn	10 08 58.2	+3.1
STHS	**Stebnicka Huta**	**1.62**	**119**	*e*PN		Pn	10 08 34.3	+1.1
STHS				*e*SN		Sn	10 08 58.1	+3.0
VYHS	**Vyhne**	**1.75**	**185**	*e*Pn		Pn	10 08 33.5	-1.4
VYHS				*e*Sn		Sn	10 08 56.3	-1.8
VYHS	**Vyhne**	**1.75**	**185**	*e*PN		Pn	10 08 33.4	-1.5
VYHS				*e*SN		Sn	10 08 56.6	-1.5
DPC	**Dobruska-Polom**	**1.77**	**275**	*e*PG		Pg	10 08 33.7	-4.8
DPC				*e*SG		Sg	10 08 56.8	-5.3
	36nm,0.2s							
KSP	**Ksiaz**	**1.88**	**290**	*e*Pg		Pg	10 08 38.1	-2.6
KSP				*e*Sg		Sg	10 09 02.5	-3.2
KSP	**Ksiaz**	**1.88**	**290**	*e*PG		Pg	10 08 38.0	-2.7
KSP				*e*SG		Sg	10 09 02.0	-3.7
KECS	**Kecovo**	**1.98**	**152**	*e*Pn		Pn	10 08 36.9	-1.3
KECS				*e*Sn		Sn	10 09 05.6	+1.6
KECS	**Kecovo**	**1.98**	**152**	*e*PN		Pn	10 08 37.0	-1.2
KECS				*e*SN		Sn	10 09 05.0	+1.0
UPC	**Upice**	**1.98**	**279**	*e*SG		Sg	10 09 03.4	-5.7
UPC	**Upice**	**1.98**	**279**	*e*Sg		Sg	10 09 03.4	-5.7
CRVS	**Cervenica-Dubn**	**2.04**	**130**	*e*Pn		Pn	10 08 39.3	+0.1
CRVS				*e*Sn		Sn	10 09 08.6	+2.8
CRVS	**Cervenica-Dubn**	**2.04**	**130**	*e*PN		Pn	10 08 41.6	+2.4
CRVS				*e*SN		Sn	10 09 08.7	+2.9
PRU	**Pruhonice**	**2.93**	**267**	*e*SG		Sg	10 09 32.5	-8.2
PRU	**Pruhonice**	**2.93**	**267**	*e*Sg		Sg	10 09 32.5	-8.2
KHC	**Kasperske Hory**	**3.74**	**255**	*e*SG		Sg	10 09 59.1	-8.5
KHC	**Kasperske Hory**	**3.74**	**255**	*e*Sg		Sg	10 09 59.1	-8.5
CLL	**Collm**	**4.00**	**288**	*e*SG		Sg	10 10 10.0	-6.5

*NEIC **22** 10:19:03.8±1.3, 20.82S×177.80W, h468km±15km, mb4.3/6, Error ellipse: s-maj=17.1km s-min=10.5km az=141.0*
*IDC **22** 10:19:04.1±2.1, 20.94S×177.79W, h474km±25km, mb3.4/9, mb1 3.7/11, mb1mx3.5/17, mbtmp4.3/11, Error ellipse: s-maj=21.0km s-min=12.5km az=119.0*
ISC 22 10:19:01.0±1.3, 20.76S±0.08×177.9W±0.1, h441km±16km, n26, σ0s93/22, mb3.9/14, 1C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
AFI	**Afiamalu**	**8.95**	**41**	P		**P**	**10 21 09.7**	**+1.5**
	14nm,0.3s,baz=287,slow=20,SNR=14							
AFI				S		**S**	**10 22 47.6**	**-1.3**
	6.5nm,0.3s,baz=214,slow=24,SNR=4.2							
URZ	**Urewera**	**17.97**	**193**	P		**P**	**10 22 44.3**	**+0.6**
	2.3nm,0.3s,baz=330,slow=1.5,SNR=13							
URZ				S		**S**	**10 25 43.6**	**0.0**
	0.2nm,0.3s,baz=204,slow=21,SNR=4.1							
RPZ	**Rata Peaks**	**24.69**	**199**	P		**P**	**10 23 44.5**	**-2.1**
	8.4nm,0.9s,mb4.2,baz=45,slow=14,SNR=8.0							
CTA	**Charters Tower**	**33.59**	**265**	*e*P		**P**	**10 25 05.6**	**+1.4**
	5.5nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**37.79**	**244**	⇑*i*P		**P**	**10 25 40.9**	**+1.8**
	2.4nm,0.6s,mb3.7							
STKA	**Stephens Creek**	**37.79**	**244**	P		**P**	**10 25 39.0**	**-0.1**
	3.1nm,0.6s,mb3.8,baz=94,slow=8.0,SNR=7.0							
WB2	**Warramunga Arr**	**44.68**	**262**	⇓*i*P		**P**	**10 26 34.4**	**-0.3**
WRAB	**Tennant Creek**	**44.68**	**262**	*e*P		**P**	**10 26 34.2**	**-0.5**
	7.1nm,0.4s,mb4.3							
WRA	**Warramunga Arr**	**44.69**	**262**	P		**P**	**10 26 34.5**	**-0.3**
	4.8nm,0.3s,mb4.3,baz=97,slow=6.9,SNR=381							
KAKA	**Kakadu**	**48.11**	**271**	⇓*i*P		**P**	**10 27 01.8**	**+0.7**
	15nm,1.1s,mb4.2							
FITZ	**Fitzroy Crossi**	**53.12**	**263**	*e*P		**P**	**10 27 37.9**	**-0.3**
	6.8nm,0.4s,mb4.2							
MBWA	**Marble Bar**	**57.92**	**257**	*e*P		**P**	**10 28 10.4**	**-1.3**
	4.8nm,0.4s,mb4.2							
MJAR	**Matsushiro Arr**	**70.49**	**324**	P		**P**	**10 29 30.7**	**-0.8**
	2.9nm,0.6s,mb4.0,baz=162,slow=7.4,SNR=8.5							
ASAJ	**Asahikawa**	**74.01**	**332**	P		**P**	**10 29 52.8**	**+1.0**
	7.1nm,0.8s,mb4.4,baz=221,slow=8.9,SNR=6.4							
NVAR	**Mina Array Bea**	**81.12**	**43**	P		**P**	**10 30 30.5**	**+0.2**
	0.2nm,0.5s,mb3.1,baz=225,slow=7.7							
TXAR	**Lajitas Array**	**87.09**	**57**	P		**P**	**10 31 01.1**	**+1.2**
	0.3nm,0.6s,mb3.2,baz=220,slow=6.8,SNR=6.5							
VNA3	**Neumayer Olymp**	**87.88**	**176**	⇓*i*		**P**	**10 31 02.7**	**0.0**
VNA2	**Neumayer--Watz**	**88.32**	**177**	⇓*i*		**P**	**10 31 05.2**	**+0.4**
ILAR	**Eielson Array**	**88.54**	**13**	P		**P**	**10 31 04.8**	**-1.1**
	0.3nm,0.4s,mb3.4,baz=229,slow=5.2,SNR=6.3							
PDAR	**Pinedale Array**	**89.06**	**43**	P		**P**	**10 31 08.9**	**0.0**
	0.5nm,0.7s,mb3.4,baz=174,slow=1.8,SNR=5.8							
MKAR	**Makanchi Array**	**111.47**	**313**	PKiKP			10 36 43.1	
	0.4nm,0.7s,baz=225,slow=1.7,SNR=4.1							
ARCES	**ARCESS Array B**	**129.20**	**350**	PKP	PKPdf		10 37 16.0	-1.4
	0.6nm,0.5s,baz=45,slow=1.3,SNR=5.4							
AKASG	**Malin Array Be**	**143.30**	**331**	PKP	PKPdf		10 37 41.1	-2.5
	1.8nm,0.5s,baz=42,slow=4.1,SNR=17							
BRTR	**Keskin Array B**	**147.11**	**312**	PKPbc	PKPdf		10 37 53.5	+3.1
	0.7nm,0.5s,baz=146,slow=4.5,SNR=4.4							
CLL	**Collm**	**148.34**	**347**	*e*PKP1	PKPdf		10 37 57.0	+5.0
GERES	**GERESS Array B**	**150.48**	**344**	PKPbc	PKPdf		10 38 01.1	+5.7
	0.8nm,0.6s,baz=76,slow=5.5,SNR=4.6							

*NIED **22** 11:44:00, 28.90N×142.40E, h35km, Mw3.8 Best double couple: Mo5.27×10^14 NP1:φs149°, δ69°, λ-85°. NP2: φs315°, δ21°, λ-103°.*
*IDC **22** 11:44:28.8±1.0, 28.89N×143.21E, mb3.8/4, mb1 4.0/7, mb1mx3.8/21, mbtmp3.8/7, ML3.7/3, Error ellipse: s-maj=37.4km s-min=19.8km az=106.0*
*NEIC **22** 11:44:34.0±0.9, 28.99N×142.88E, h35km, mb4.3/1, Error ellipse: s-maj=28.8km s-min=14.0km az=61.0*
ISC 22 11:44:32.7±1.1, 28.96N±0.03×142.8E±0.2, h47km±15km, n24, σ1s28/38, mb3.9/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
CBIJ	**Chichi jima**	**1.93**	**196**	Pn		**P**	**11 45 03.7**	**-0.1**
	32nm,0.3s,baz=83,slow=21,SNR=46							
CBIJ				Sn		**S**	**11 45 25.6**	**-1.4**
	72nm,0.3s,baz=266,slow=22,SNR=10							
CBIJ	**Chichi jima**	**1.93**	**196**	P		**P**	**11 45 03.6**	**-0.2**
CBIJ				*e*S		**S**	**11 45 26.0**	**-0.9**
JHHJ	**Haha-jima-NKT**	**2.38**	**193**	P		**P**	**11 45 10.6**	**+0.3**
JHHJ				*e*S		**S**	**11 45 38.4**	**0.0**
JHJ2	**Mitsune**	**4.86**	**329**	P		**P**	**11 45 46.6**	**+1.3**
JHJ2				*e*S		**S**	**11 46 42.2**	**+1.2**
JHJ	**Hachijo jima 2**	**4.88**	**329**	Pn		**P**	**11 45 46.6**	**+1.0**
	2.9nm,0.3s,baz=268,slow=13,SNR=12							
JHJ				Sn		**S**	**11 46 41.8**	**+0.3**
	15nm,0.3s,baz=81,slow=23,SNR=8.2							
BSO1	**Boso 1**	**5.88**	**345**	P		**P**	**11 45 59.7**	**+0.2**
BSO1				*e*S		**S**	**11 47 04.4**	**-2.1**
BSO2	**Boso 2**	**6.03**	**344**	*e*S		**S**	**11 47 11.0**	**+0.9**
BSO3	**Boso 3**	**6.14**	**342**	P		**S**	**11 46 03.5**	**+0.4**
BSO3				*e*S		**S**	**11 47 13.9**	**+1.0**
JOD2	**Odawara 2**	**7.02**	**334**	P		**P**	**11 46 17.5**	**+1.9**
JOD2				*e*S		**S**	**11 47 36.5**	**+1.6**
JHU	**Hanno**	**7.48**	**338**	P		**P**	**11 46 23.1**	**+1.2**
JHU				*e*S		**S**	**11 47 43.5**	**-2.8**
JRY	**Ryogami san**	**7.76**	**336**	P		**P**	**11 46 26.7**	**+0.9**
JRY				*e*S		**S**	**11 47 53.5**	**+0.2**
JAG	**Ashikaga**	**7.96**	**340**	P		**P**	**11 46 28.5**	**+0.1**
JAG				*e*S		**S**	**11 47 55.1**	**-2.9**
MJAR	**Matsushiro Arr**	**8.48**	**334**	Pn		**P**	**11 46 36.2**	**+0.5**
	0.8nm,0.3s,baz=160,slow=13,SNR=7.5							
MAJO	**Matsushiro**	**8.49**	**334**	*e*Pn		**P**	**11 46 33.4**	**-2.4**
MAT	**Matsushiro**	**8.49**	**334**	P		**P**	**11 46 33.0**	**-2.8**
MAT				*e*S		**S**	**11 48 09.0**	**-2.2**
MAT	**Matsushiro**	**8.49**	**334**	P		**P**	**11 46 32.7**	**-3.1**
MAT				S		**S**	**11 48 09.1**	**-2.1**
JFT	**Otama**	**8.78**	**347**	P		**P**	**11 46 38.8**	**-1.0**
JFT				*e*S		**S**	**11 48 11.4**	**-7.0**
JMM	**Marumori**	**9.04**	**350**	P		**P**	**11 46 41.4**	**-2.0**
JMM				*e*S		**S**	**11 48 16.2**	**-8.7**
WRA	**Warramunga Arr**	**49.30**	**191**	P		**P**	**11 53 19.3**	**+0.1**
	1.0nm,0.4s,mb4.2,baz=15,slow=8.9,SNR=18							
WRA				pP		pP	11 53 31.5	-0.6
	2.8nm,0.5s,baz=13,slow=8.6,SNR=11							
ILAR	**Eielson Array**	**55.83**	**29**	P		**P**	**11 54 06.1**	**-1.2**
	0.8nm,0.7s,mb3.9,baz=263,slow=6.4,SNR=9.8							
NVAR	**Mina Array Bea**	**78.95**	**52**	P		**P**	**11 56 33.5**	**+0.4**
	0.6nm,0.7s,mb3.6,baz=300,slow=4.0,SNR=5.1							
FFC	**Flin Flon**	**79.88**	**32**	P		**P**	**11 56 38.8**	**+1.0**
	2.1nm,0.7s,mb4.2							
PDAR	**Pinedale Array**	**82.52**	**45**	P		**P**	**11 56 52.7**	**+0.8**
	0.3nm,0.5s,mb3.6,baz=270,slow=2.7,SNR=3.1							
LPAZ	**La Paz**	**148.90**	**73**	PKPbc	PKPdf		12 04 19.2	+7.3
	0.4nm,0.4s,baz=333,slow=6.8,SNR=4.1							

*NEIC **22** 11:52:26.8±0.9, 23.11N×121.54E, h35km, Error ellipse: s-maj=23.1km s-min=13.6km az=85.0*
*JMA **22** 11:52:27.1±0.3, 23.05N×121.56E, h82km, M3.4*
*IDC **22** 11:52:28.4±6.8, 23.11N×121.74E, h48km±72km, mb3.5/3, mb1 3.7/4, mb1mx3.4/18, mbtmp3.8/4, ML3.3/1, Error ellipse: s-maj=54.8km s-min=24.7km az=65.0*
ISC 22 11:52:25.8±1.4, 23.06N±0.09×121.48E±0.06, h43km±18km, n15, σ0s83/23, mb3.7/3, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
NACB	**Ninganchiao**	**1.12**	**6**	*e*Pn		**P**	**11 52 43.6**	**-1.6**
NACB				*e*Sn		**S**	**11 52 58.9**	**-0.7**
TATO	**Taipei**	**1.91**	**0**	*e*Pn		**P**	**11 52 56.8**	**+0.3**
YOJ	**Yonaguni jima**	**1.98**	**45**	P		**P**	**11 52 58.6**	**+1.1**
YOJ				*e*S		**S**	**11 53 22.5**	**+1.2**
HATJ	**Hateruma jima**	**2.36**	**65**	P		**P**	**11 53 03.4**	**+0.5**
HATJ				*e*S		**S**	**11 53 30.7**	**-0.1**
IRIF	**Iriomote-Funau**	**2.43**	**58**	P		**P**	**11 53 04.8**	**+0.9**
IRIF				*e*S		**S**	**11 53 33.2**	**+0.7**
JKRS	**Kuro-shima**	**2.60**	**63**	P		**P**	**11 53 07.2**	**+0.8**
JKRS				*e*S		**S**	**11 53 37.0**	**0.0**
JIJ	**Ishigaki jima**	**2.77**	**61**	P		**P**	**11 53 09.0**	**+0.2**
JIJ				S		**S**	**11 53 40.5**	**-0.7**
JTJ	**Tarama**	**3.35**	**61**	P		**P**	**11 53 17.0**	**0.0**
JTJ				*e*S		**S**	**11 53 55.9**	**0.0**
JOGS	**Gusukube**	**3.98**	**64**	P		**P**	**11 53 25.9**	**0.0**
JOGS				*e*S		**S**	**11 54 10.7**	**-1.1**
JOW	**Kunigami**	**7.22**	**57**	P		**P**	**11 54 09.5**	**-2.0**
	1.3nm,0.3s,baz=212,slow=7.0,SNR=15							
JOW				S		**S**	**11 55 26.9**	**-6.2**
	0.1nm,0.3s,baz=245,slow=15,SNR=2.2							
SONM	**Songino Array**	**27.51**	**338**	pP		pP	11 58 30.5	+8.9
	0.3nm,0.3s,baz=162,slow=9.1,SNR=2.4							
MKAR	**Makanchi Array**	**39.34**	**317**	P		**P**	**11 59 53.5**	**+1.0**
	0.2nm,0.4s,mb3.2,baz=106,slow=10,SNR=3.7							
MKAR				PcP		PcP	12 02 01.3	+0.3
	0.2nm,0.4s,baz=90,slow=2.9,SNR=2.7							
MKAR	**Makanchi Array**	**39.34**	**317**	P		**P**	**11 59 53.5**	**+1.0**
MKAR				PcP		PcP	12 02 01.3	+0.3
WRA	**Warramunga Arr**	**44.54**	**163**	P		**

comp=Z,71nm,6.8s
GTA LR LR
comp=N,116nm,16.0s
GTA LR LR
comp=E,115nm,16.4s
GTA LR LR
comp=Z,66nm,17.1s
GUN Gumba 46.22 307 *e*P **P 12 15 11.8 -0.2**
YSS Yuzh-Sakhalins 46.41 15 *e*P pP 12 15 29.9 +0.8
PKI Pulchoki 46.45 306 *e*P **P 12 15 12.8 -1.0**
comp=Z,16nm,0.9s,mb5.0
PKI Pulchoki 46.45 306 *e*P **P 12 15 12.8 -1.0**
PKI pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
KKN Kakani 46.65 307 *e*P **P 12 15 14.9 -0.5**
KLR Kul'dur 46.70 5 *e*P **P 12 15 12.8 -2.7**
DMN Daman 46.71 306 *e*P **P 12 15 15.7 -0.2**
comp=Z,27nm,0.9s,mb5.2
HIA Hailar 46.88 354 P **P 12 15 17.6 +0.7**
HIA pmax pmax
comp=Z,7.0nm,0.6s
HIA Hailar 46.88 354 P **P 12 15 17.6 +0.7**
comp=Z,6.8nm,0.6s,mb4.8
KOLN Koldanda 47.99 306 *e*P **P 12 15 24.9 -1.0**
comp=Z,54nm,0.7s,mb5.7
SONM Songino Array 48.31 342 P **P 12 15 27.4 -0.7**
comp=Z,5.0nm,0.8s,mb4.6,baz=158,slow=6.7,SNR=30
SONM LR LR 12 36 12.6
comp=Z,72nm,21.3s,baz=332,slow=36
CIT Chita 50.45 350 *e*P **P 12 15 45.7 +1.2**
ZAK Zakamensk 51.53 341 *e*P **P 12 15 53.4 +0.7**
ZAK *e* 12 17 07.3
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
TLY Talaya 52.55 342 *e*P **P 12 16 00.5 +0.2**
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TLY Talaya 52.55 342 *e*P **P 12 16 01.0 +0.7**
comp=Z,9.9nm,0.8s,mb4.8
WMQ Urumqi 53.53 326 *e*P **P 12 16 08.8 +1.1**
BOD Bodaibo 55.97 352 *e*P **P 12 16 23.9 -1.3**
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
THN Thein Dam 56.08 308 *e*P **P 12 16 24.5 -1.9**
MKAR Makanchi Array 58.37 326 P **P 12 16 40.9 -1.4**
comp=Z,7.1nm,0.5s,mb4.9,baz=121,slow=8.3,SNR=60
MKAR PcP PcP 12 17 31.7 -0.7
comp=Z,3.0nm,0.8s,baz=117,slow=5.4,SNR=6.5
MKAR LR LR 12 43 54.0
comp=Z,56nm,18.1s,baz=158,slow=38
MKAR Makanchi Array 58.37 326 P **P 12 16 40.9 -1.4**
MKAR PcP PcP 12 17 31.7 -0.7
MKAR LR LR 12 43 54.0
YAK Yakutsk 59.37 2 *i* P **P 12 16 48.9 -0.1**
YAK pmax pmax
comp=Z,11nm,0.5s,mb5.1
AAK Ala-Archa 61.05 318 *i* P **P 12 17 01.2 +0.4**
AAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
URZ Urewera 61.87 136 LR LR 12 42 45.5
comp=Z,206nm,18.6s,baz=155,slow=35
KURK Kurchatov 62.59 328 *e*P **P 12 17 09.2 -1.7**
KURK pmax pmax
comp=Z,18nm,0.6s,mb5.4
KURK Kurchatov 62.59 328 *e*P **P 12 17 09.2 -1.7**
comp=Z,18nm,0.6s,mb5.4
NVS Novosibirsk 62.79 334 *e*P **P 12 17 10.1 -2.2**
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=E,3.0nm,0.9s
NVS pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
FX1 Attu Island--F 63.20 30 P **P 12 17 13.4 -1.6**
KKAR Karatay Array 63.91 317 *i* P **P 12 17 19.2 -0.6**
VOSK Vostochnaya 67.70 327 P **P 12 17 43.4 -0.4**
VOSK pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
BVA0 Borovoye Array 68.16 327 *i* P **P 12 17 46.5 -0.1**
BVA0 pmax pmax
comp=Z,1.0nm,1.1s,mb3.8
BVAR Borovoye Array 68.16 327 P **P 12 17 46.3 -0.3**
comp=Z,2.9nm,0.8s,mb4.4,baz=135,slow=8.4,SNR=15
BRVK Borovoye 68.23 327 *e*P **P 12 17 46.4 -0.7**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BRVK Borovoye 68.23 327 *e*P **P 12 17 46.4 -0.6**
comp=Z,2.0nm,0.6s,mb4.3
ZRNK Zerenda 68.88 327 P **P 12 17 50.1 -1.0**
ZRNK pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
ZRNK Zerenda 68.88 327 *e*P **P 12 17 49.7 -1.4**
comp=Z,4.6nm,0.7s,mb4.5
TIXI Tiksi 69.00 1 *i* P **P 12 17 51.4 -0.1**
TIXI pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BILL Bilibino 70.73 15 *e*P **P 12 18 02.5 +0.4**
BILL *e* pP 12 18 20.2 +1.1
BILL *e* 12 20 38.1
BILL *e*S S 12 27 13.6 +3.2
BILL *e*SS SS 12 31 48.8 +3.4
BILL pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
AB31 Akbulak array 72.89 321 *i* P **P 12 18 14.4 -0.9**
AB31 pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
ARU Arti 75.78 328 ⇑*i*P **P 12 18 31.8 -0.1**
ARU *e* 12 18 41.5
ARU *e* 12 21 21.1
ARU *e*PPP PPP 12 23 07.8 -3.2
ARU *e*S S 12 28 10.9 +3.4
ARU pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ARU Arti 75.78 328 *e*P **P 12 18 30.9 -1.0**
comp=Z,5.2nm,0.6s,mb4.6
VNDA Vanda 82.31 173 *e*P **P 12 19 07.7 +0.8**
VNDA pmax pmax
comp=Z,1.0nm,0.6s
VNDA Vanda 82.31 173 P **P 12 19 07.5 +0.5**
comp=Z,2.3nm,0.8s,mb4.2,baz=320,slow=7.2,SNR=8.0
VNDA Vanda 82.31 173 *e*P **P 12 19 07.7 +0.8**
comp=Z,1.5nm,0.6s,mb4.1
MAW Mawson 82.59 200 P **P 12 19 09.9 +1.5**
comp=Z,2.2nm,1.0s,mb4.2,baz=343,slow=5.9,SNR=4.0
SPU Mount Spurr 83.63 29 *e*P **P 12 19 14.6 +0.7**
KIV Kislovodsk 83.76 314 *e*P **P 12 19 16.4 +1.5**
KIV *e*S S 12 29 34.8 +3.4
KIV pmax pmax
comp=Z,2.0nm,1.5s,mb4.0
SLKM Skilak Lake 84.46 30 *e*P **P 12 19 19.3 +1.3**
ILAR Eielson Array 86.25 25 P **P 12 19 26.9 +0.1**
comp=Z,0.8nm,0.6s,mb4.1,baz=238,slow=5.0,SNR=12
MALT Malatya 86.90 308 *e*P **P 12 19 31.4 +0.8**
MALT pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
MALT Malatya 86.90 308 *e*P **P 12 19 31.4 +0.9**
comp=Z,2.6nm,0.7s,mb4.6
ANN Anapa 87.53 315 *e*P **P 12 19 40.0 +6.5**
ANN *i* *PP pP 12 19 51.2 +0.2
ANN *e*S S 12 30 08.0 0.0
ANN pmax pmax
comp=Z,27nm,1.1s,mb5.4
OBN Obninsk 87.86 325 *i* P **P 12 19 35.9 +1.1**
OBN *e* 12 23 01.1
OBN *e*S S 12 30 00.3 -10
OBN pmax pmax
comp=Z,8.0nm,0.4s,mb5.3
KMBO Kilima Mbogo 89.29 269 P **P 12 19 43.4 +0.8**
comp=Z,1.6nm,0.8s,mb4.4,baz=40,slow=19,SNR=3.9
BR131 Keskin Array S 90.57 310 P **P 12 19 49.0 +1.0**
comp=Z,1.0nm,0.5s,mb4.4
BRTR Keskin Array B 90.57 310 P **P 12 19 47.9 -0.1**
comp=Z,1.4nm,0.7s,mb4.4,baz=142,slow=5.9,SNR=6.5
ARCES ARCESS Array B 91.44 340 P **P 12 19 51.0 -0.3**
comp=Z,5.0nm,0.9s,mb4.8,baz=90,slow=4.5,SNR=5.8
AKASG Malin Array Be 92.63 321 *i* P **P 12 20 00.1 +2.9**
AKASG Malin Array Be 92.63 321 P **P 12 19 56.3 -0.9**
comp=Z,0.2nm,0.3s,mb4.0,baz=40,slow=20,SNR=4.1
FINES FINESS Array B 92.73 332 P **P 12 19 57.5 +0.1**
comp=Z,1.0nm,0.4s,mb4.6,baz=124,slow=6.9,SNR=5.0
MLR Muntele Rosu 95.56 316 P **P 12 20 11.2 +0.5**
comp=Z,2.7nm,0.7s,mb4.8,baz=172,slow=2.7,SNR=7.0
HFS Hagfors 98.92 332 P **P 12 20 27.1 +1.5**
comp=Z,0.5nm,0.4s,mb4.4,baz=72,slow=9.1,SNR=4.7
NOA NORSAR Array B 99.71 333 P **P 12 20 31.0 +1.9**
comp=Z,1.0nm,0.7s,mb4.3,baz=75,slow=4.5,SNR=3.4
NOA LR LR 13 14 13.9
comp=Z,16nm,19.4s,baz=90,slow=40
NOA NORSAR Array B 99.71 333 P **P 12 20 31.0 +1.9**
NOA LR LR 13 14 13.9
EKA Eskdalemuir Ar 109.13 332 Pdiff Pdif 12 21 06.5 -4.4
comp=Z,2.1nm,0.9s,baz=68,slow=9.0,SNR=3.8
TXAR Lajitas Array 122.49 53 PKP PKPdf 12 25 43.0 +2.9
comp=Z,0.3nm,0.6s,baz=180,slow=1.3,SNR=3.7
CFAA Coronel Fontan 147.96 156 PKPbc PKPdf 12 26 32.9 +6.0
comp=Z,1.2nm,0.7s,baz=242,slow=2.1,SNR=5.9

*MOS **22** 12:16:27.0±0.6,55.91S×27.37W,h10km,mb4.4/1,Error ellipse: s-maj=58.3km s-min=18.2km az=107.2*
*HRVD **22** 12:16:39.5±0.3,56.13S×27.31W,h112km±2km,MW5.2/63, Centroid moment Tensor Solution. LP body waves: s44,c60;Mantle waves: s63,c105; Half duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr0.42±.24; Mθθ-2.07±.31; Mφφ1.65±.27; Mrθ-4.23±.18; Mθφ6.16±.24; Mφr1.20±.17; Best double couple: M0 7.635×10^16 NP1: φs175°,δ60°,λ-174° NP2:φs82°,δ85°,λ-31°. Principal axes: T 6.708, Plg17°, Azm132°; N 1.853, Plg59°, Azm253°; P -8.562, Plg25°, Azm34°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 12:16:39.5±0.2,56.05S×27.47W,mb5.2/16 Error ellipse: s-maj=7.7km s-min=4.8km az=53.0*
*BJI **22** 12:16:39.4,56.10S×27.50W,h101km,mB5.4*
*IDC **22** 12:16:39.9±0.5,56.13S×27.49W,h105km±4km,mb4.4/14, mb1 4.5/15,mb1mx4.4/18,mbtmp4.8/15,MS3.7/9, Ms1 3.7/9,ms1mx3.6/16,Error ellipse: s-maj=16.8km s-min=10.2km az=37.0*
ISC 22 12:16:37.5±3.2,56.06S±0.07×27.5W±0.1,h95km±31km, h101km±2.2km:pP-P,n110,σ0s92/52,mb4.8/23,14C-7D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.84**	**158**	⇑*i*P		**P**		**12 20 28.6**	**+0.5**
VNA1	**Neumayer--Stat**	**16.84**	**158**			**P**		**12 20 38.6**	**+10**
VNA3	**Neumayer Olymp**	**17.03**	**160**	⇑*i*P		**P**		**12 20 30.8**	**+0.3**
VNA3	**Neumayer Olymp**	**17.03**	**160**	⇑*i*		**P**		**12 20 32.5**	**+2.0**
VNA3	**Neumayer Olymp**	**17.03**	**160**			**P**		**12 20 47.7**	**+17**
VNA2	**Neumayer--Watz**	**17.24**	**158**	⇑*i*P		**P**		**12 20 33.5**	**+0.4**
VNA2	**Neumayer--Watz**	**17.24**	**158**	⇑*i*		**P**		**12 20 40.9**	**+7.8**
SNAA	**Sanae**	**18.80**	**156**	⇑*i*P		**P**		**12 20 50.1**	**-1.3**
SNAA	**Sanae**	**18.80**	**156**	⇑*i*		**P**		**12 20 52.0**	**+0.6**
SNAA	**Sanae**	**18.80**	**156**			**P**		**12 20 59.4**	**+8.0**
SNAA	**Sanae**	**18.80**	**156**	S		**S**		**12 24 16.0**	**+1.7**
SNAA	**Sanae**	**18.80**	**156**	S		**S**		**12 24 25.9**	**+12**
SNAA	**Sanae**	**18.80**	**156**	*c*P		**P**		**12 20 50.2**	**-1.2**
SNAA	**Sanae**	**18.80**	**156**	*c*P		**P**		**12 20 50.2**	**-1.2**
SNAA	**Sanae**	**18.80**	**156**	P		**P**		**12 20 50.3**	**-1.1**
	8.0nm,0.3s,baz=301,slow=10,SNR=934								
SNAA				S		**S**		**12 24 11.0**	**-3.3**
	0.2nm,0.3s,baz=320,slow=17,SNR=2.5								
SNAA				PcP		PcP		12 25 13.6	-1.1
	0.1nm,0.3s,baz=239,slow=11,SNR=2.3								
SNAA				LR		LR		12 26 48.1	
	comp=Z,27nm,21.2s,baz=359,slow=32								
SNAA				ScP				12 28 36.8	
	0.1nm,0.3s,baz=304,slow=4.0,SNR=9.9								
SNAA	**Sanae**	**18.80**	**156**	⇑*i*P		**P**		**12 20 52.0**	**+0.6**
NVL	**N'lazarevskaya**	**22.34**	**146**	⇓*i*P		**P**		**12 21 27.2**	**-0.5**
NVL				*i* *PP				12 21 33.8	
TRQA	**Tornquist**	**29.18**	**293**	*e*P		**P**		**12 22 31.4**	**-0.3**
	8.4nm,0.6s,mb4.5								
SYO	**Syowa Base**	**31.68**	**141**	⇓P		**P**		**12 22 50.5**	**-2.8**
PLCA	**Paso Flores**	**31.84**	**280**	P		**P**		**12 22 53.5**	**-1.6**
	1.9nm,0.9s,mb3.8,baz=134,slow=8.4,SNR=3.7								
PLCA				PcP		PcP		12 25 42.7	-1.1
	0.7nm,0.5s,baz=117,slow=4.5,SNR=2.6								
PLCA				ScP				12 29 12.8	
	3.1nm,0.8s,baz=116,slow=4.4,SNR=6.2								
PLCA				LR		LR		12 35 50.3	
	comp=Z,170nm,19.9s,baz=305,slow=36								
PLCA	**Paso Flores**	**31.84**	**280**	P		**P**		**12 22 53.5**	**-1.6**
PLCA				PcP		PcP		12 25 42.7	-1.2
PLCA				ScP				12 29 12.8	
PLCA				LR		LR		12 35 50.3	
QSPA	**South Pole Qui**	**34.19**	**180**	⇑*i*P		**P**		**12 23 15.4**	**+0.5**
	39nm,0.7s,mb5.3								
CPUP	**Villa Florida**	**36.70**	**312**	P		**P**		**12 23 36.9**	**+0.2**
	19nm,1.0s,mb5.0,baz=164,slow=10.0,SNR=27								
CPUP				pP		pP		12 23 59.5	+0.5
	26nm,1.0s,baz=173,slow=10,SNR=8.6								
CPUP				PcP		PcP		12 25 55.9	-2.0
	2.2nm,0.5s,baz=244,slow=2.6,SNR=6.6								
CPUP				LR		LR		12 36 06.6	
	comp=Z,159nm,18.5s,baz=125,slow=32								
CPUP	**Villa Florida**	**36.70**	**312**	*e*P		**P**		**12 23 36.7**	**0.0**
	22nm,1.1s,mb5.0								
CPUP				*e*		pP		12 23 59.4	+0.3
CFAA	**Coronel Fontan**	**37.42**	**294**	P		**P**		**12 23 41.6**	**-1.0**
	1.6nm,0.6s,mb4.1,baz=134,slow=8.2,SNR=23								
CFAA				pP		pP		12 24 06.5	+1.4
	1.5nm,0.7s,baz=150,slow=7.3,SNR=4.7								
CFAA				LR		LR		12 36 08.6	
	comp=Z,21nm,21.9s,baz=48,slow=31								
MAW	**Mawson**	**40.24**	**144**	P		**P**		**12 24 05.3**	**-0.3**
	28nm,0.8s,mb5.2,baz=233,slow=10.0,SNR=72								
MAW				ScP				12 29 44.8	
	16nm,1.0s,baz=254,slow=6.6,SNR=17								
MAW				LR		LR		12 37 46.1	
	comp=Z,120nm,19.8s,baz=339,slow=32								
MAW	**Mawson**	**40.24**	**144**	⇑*i*P		**P**		**12 24 05.6**	**-0.1**
	49nm,0.9s,mb5.3								
MAW				*e*ScP				12 29 45.2	
SUR	**Sutherland**	**40.80**	**75**	P		**P**		**12 24 11.8**	**+1.2**
	14nm,0.9s,mb4.8,baz=204,slow=6.8,SNR=6.7								
BDFB	**Brasilia**	**43.29**	**330**	P		**P**		**12 24 32.5**	**+1.3**
	1.8nm,0.4s,mb4.1,baz=117,slow=9.0,SNR=2.9								
BDFB				LR		LR		12 39 04.5	
	comp=Z,141nm,18.6s,baz=18,slow=31								
LVC	**Limon Verde**	**45.16**	**300**	P		**P**		**12 24 47.8**	**+1.6**
	30nm,0.6s,mb5.2,baz=139,slow=3.8,SNR=47								
LVC				pP		pP		12 25 12.2	+3.3
	20nm,0.8s,baz=139,slow=3.5,SNR=3.4								
LVC	**Limon Verde**	**45.16**	**300**	*e*P		**P**		**12 24 47.2**	**+1.1**
	35nm,0.6s,mb5.3								
SBA	**Scott Base**	**46.05**	**184**	*e*P		**P**		**12 24 53.3**	**+0.8**
	110nm,1.6s,mb5.3								
BOSA	**Boshof**	**46.13**	**76**	P		**P**		**12 24 53.5**	**-0.2**
	9.7nm,0.9s,mb4.5,baz=220,slow=5.8,SNR=17								
BOSA	**Boshof**	**46.13**	**76**	*e*P		**P**		**12 24 53.2**	**-0.5**
	8.8nm,0.8s,mb4.5								
VNDA	**Vanda**	**46.55**	**183**	P		**P**		**12 24 56.6**	**+0.2**
	21nm,0.8s,mb4.9,baz=185,slow=6.4,SNR=68								
VNDA				ScP				12 30 08.6	
	1.3nm,0.7s,baz=243,slow=6.1,SNR=4.4								
VNDA				LR		LR		12 41 26.0	
	comp=Z,100nm,21.6s,baz=176,slow=32								
VNDA	**Vanda**	**46.55**	**183**	⇑*i*P		**P**		**12 24 56.8**	**+0.4**
	27nm,0.9s,mb5.0								
SIV	**San Ignacio**	**47.47**	**314**	P		**P**		**12 25 04.3**	**0.0**
	3.8nm,0.6s,mb4.3,baz=158,slow=7.6,SNR=24								
SIV				pP		pP		12 25 27.5	+0.2
	2.5nm,0.8s,baz=195,slow=6.6,SNR=3.3								
SIV				ScP				12 30 15.0	
	6.1nm,1.0s,baz=172,slow=4.0,SNR=8.0								
LBTB	**Lobatse**	**49.17**	**73**	*e*P		**P**		**12 25 16.7**	**-0.7**
	46nm,1.1s,mb5.3								
TSUM	**Tsumeb**	**49.83**	**61**	⇓*i*P		**P**		**12 25 22.0**	**-0.6**
	13nm,0.8s,mb4.9								
LPAZ	**La Paz**	**50.25**	**306**	P		**P**		**12 25 27.2**	**+1.3**
	14nm,0.7s,mb5.0,baz=155,slow=6.7,SNR=72								
LPAZ				pP		pP		12 25 50.8	+1.9
	20nm,0.9s,baz=133,slow=8.5,SNR=5.9								
LPAZ				ScP				12 30 28.2	
	2.5nm,0.9s,baz=132,slow=2.2,SNR=4.5								
LPAZ	**La Paz**	**50.25**	**306**	⇑*i*P		**P**		**12 25 26.9**	**+1.0**
	22nm,0.8s,mb5.1								
LPAZ				*e*ScP				12 30 28.1	
ARE	**Arequipa**	**51.67**	**302**	*e*P		**P**		**12 25 37.0**	**+0.5**
CASY	**Casey**	**53.95**	**160**	*e*P		**P**		**12 25 52.2**	**-0.6**
	62nm,1.4s,mb5.5								
SAML	**Samuel**	**54.70**	**315**	*e*P		**P**		**12 25 58.2**	**-0.7**
	10nm,0.8s,mb4.9								
NNA	**Nana**	**58.11**	**299**	*e*P		**P**		**12 26 22.2**	**-1.0**
	18nm,0.9s,mb5.1								
DBIC	**Dimbokro**	**65.25**	**25**	P		**P**		**12 27 10.5**	**-0.6**
	36nm,0.7s,mb5.3,baz=170,slow=7.6,SNR=49								
DBIC				LR		LR		12 49 46.4	
	comp=Z,74nm,21.9s,baz=159,slow=30								
DBIC	**Dimbokro**	**65.25**	**25**	⇓*i*P		**P**		**12 27 10.2**	**-0.8**
	28nm,0.7s,mb5.2								
MBAR	**Mbarara**	**72.30**	**63**	⇓*i*P		**P**		**12 27 55.2**	**+0.7**
	30nm,1.4s,mb4.9								
KMBO	**Kilima Mbogo**	**75.19**	**69**	*i* P		**P**		**12 28 17.2**	**+6.0**
KMBO				pmax	pmax				
	comp=Z,1.0nm,0.4s								
RKT	**Rikitea**	**80.33**	**243**	*e*LQ				12 49 47.1	
	comp=Z,115nm,28.8s								
RKT	**Rikitea**	**80.33**	**243**	*e*LR		LR		12 53 01.5	
	comp=Z,136nm,37.0s								
TBI	**Tubuai**	**86.95**	**231**	*e*LQ				12 52 24.9	
	comp=Z,98nm,28.8s								
TBI	**Tubuai**	**86.95**	**231**	*e*LR		LR		12 57 04.2	
	comp=Z,178nm,38.5s								
STKA	**Stephens Creek**	**91.92**	**171**	P		**P**		**12 29 35.9**	**0.0**
	comp=Z,3.4nm,0.7s,mb4.7,baz=198,slow=3.8,SNR=6.3								
PPT	**Papeete**	**92.06**	**234**	*e*LQ				12 54 26.2	
	comp=Z,113nm,23.5s								
PPT	**Papeete**	**92.06**	**234**	*e*PP		x		12 32 46.7	
	comp=Z,102nm,25.8s								
PPT	**Papeete**	**92.06**	**234**	*e*LR		LR		12 58 45.1	
	comp=Z,225nm,34.0s								
PPT	**Papeete**	**92.06**	**234**	LR		LR		13 04 57.4	
	comp=Z,143nm,19.5s,baz=152,slow=32								
TAOE	**Nuku Hiva Isla**	**94.99**	**246**	*e*LQ				12 56 06.0	
	comp=Z,2μm,36.8s								
TAOE	**Nuku Hiva Isla**	**94.99**	**246**	*e*S		x		12 39 15.6	
	comp=Z,398nm,31.8s								
TAOE				*e*SS		x		12 45 53.9	
	comp=Z,305nm,31.1s								
TAOE				*e*LR		LR		13 00 26.2	
	comp=Z,892nm,31.8s								
ESDC	**Sonseca Array**	**97.44**	**18**	P		**P**		**12 30 01.8**	**+1.0**
	comp=Z,0.5nm,0.5s,mb4.2,baz=178,slow=4.5,SNR=5.8								
WRA	**Warramunga Arr**	**102.74**	**162**	P		Pdif		12 30 24.1	-1.0
	comp=Z,1.0nm,0.8s,baz=196,slow=4.7,SNR=8.8								
GERES	**GERESS Array B**	**110.04**	**28**	PP		PP		12 35 30.2	-5.8
	comp=Z,0.5nm,0.4s,baz=202,slow=7.2,SNR=3.7								
BW06	**Boulder Array**	**120.21**	**302**	*e*PKPdf		PKPdf		12 35 16.5	-0.2
PDAR	**Pinedale Array**	**120.21**	**302**	PKP		PKPdf		12 35 16.6	0.0
	comp=Z,0.5nm,0.6s,baz=116,slow=5.3,SNR=6.8								
PDAR				pPKP				12 35 46.3	
	comp=Z,0.5nm,0.8s,baz=153,slow=3.3,SNR=2.9								
HFS	**Hagfors**	**120.36**	**22**	PKP		PKPdf		12 35 15.8	-0.7
	comp=Z,1.6nm,0.6s,baz=146,slow=5.3,SNR=5.4								
NB2	**NORSAR Subarra**	**120.68**	**21**	PKPdf		PKPdf		12 35 17.5	+0.4
	comp=Z,1.0nm,0.8s,baz=202,slow=1.9								
NOA	**NORSAR Array B**	**120.68**	**21**	PKP		PKPdf		12 35 17.8	+0.7
	comp=Z,2.0nm,0.7s,baz=203,slow=1.9,SNR=7.2								
NOA	**NORSAR Array B**	**120.68**	**21**	PKP		PKPdf		12 35 17.8	+0.7
LOHW	**Long Hollow**	**121.35**	**302**	*e*PKPdf		PKPdf		12 35 19.3	+0.5
TPAW	**Teton Pass**	**121.42**	**302**	*e*PKPdf		PKPdf		12 35 19.9	+0.9
ELK	**Elko**	**121.44**	**297**	*e*PKPdf		PKPdf		12 35 19.7	+0.6
MOOW	**Moose Ponds**	**121.52**	**302**	*e*PKPdf		PKPdf		12 35 19.8	+0.7
WVOR	**Wild Horse Val**	**124.40**	**296**	*e*PKPdf		PKPdf		12 35 26.0	+1.2
FINES	**FINESS Array B**	**124.47**	**28**	*e*PKIKP		PKPdf		12 35 24.8	+0.4
FINES	**FINESS Array B**	**124.47**	**28**	PKP		PKPdf		12 35 24.8	+0.3
	comp=Z,7.2nm,0.5s,baz=180,slow=3.8,SNR=38								
KAF	**Kangasniemi**	**125.09**	**28**	*e*p		PKPdf		12 35 25.4	0.0
	comp=Z,7.2nm,0.5s								
BMO	**Blue Mountains**	**125.50**	**299**	*e*PKPdf		PKPdf		12 35 27.6	+1.0
AAK	**Ala-Archa**	**130.13**	**71**	⇓*e*PKIKP		PKPdf		12 35 35.6	0.0
AAK	**Ala-Archa**	**130.13**	**71**	*e*PKPdf		PKPdf		12 35 35.4	-0.2
ARCES	**ARCESS Array B**	**131.01**	**22**	PKP		PKPdf		12 35 37.2	+0.6
	comp=Z,5.2nm,0.6s,baz=188,slow=1.9,SNR=38								
ARCES				pPKP				12 36 03.9	
	comp=Z,2.6nm,0.9s,baz=162,slow=3.8,SNR=2.6								
ARCES				PP		PP		12 37 53.5	-5.5
	comp=Z,4.9nm,0.8s,baz=217,slow=6.1,SNR=8.4								
ARCES	**ARCESS Array B**	**131.01**	**22**	PKP		PKPdf		12 35 37.2	+0.6
ARCES				pPKP				12 36 03.9	
ARCES				PP		PP		12 37 53.5	-5.5
KEV	**Kevo**	**131.51**	**22**	*e*p		PKPdf		12 35 37.9	+0.4
	comp=Z,7.1nm,0.9s								
ARU	**Arti**	**131.83**	**48**	*e*PKIKP		PKPdf		12 35 39.3	+0.8
ARU	**Arti**	**131.83**	**48**	*e*PKPdf		PKPdf		12 35 39.3	+0.8
ZRNK	**Zerenda**	**134.22**	**57**	*e*PKIKP		PKPdf		12 35 43.7	+0.7
BRVK	**Borovoye**	**134.90**	**58**	*e*PKIKP		PKPdf		12 35 44.9	+0.6
BVAR	**Borovoye Array**	**134.93**	**58**	PKP		PKPdf		12 35 45.5	+1.2
	comp=Z,3.2nm,0.5s,baz=270,slow=1.5,SNR=16								
YKA	**Yellowknife Ar**	**136.07**	**318**	*e*PKIKP		PKPdf		12 35 46.7	+0.5
YKA	**Yellowknife Ar**	**136.07**	**318**	PKP		PKPdf		12 35 46.7	+0.6
	comp=Z,1.7nm,0.5s,baz=132,slow=1.9,SNR=14								
YKA				pPKP				12 36 15.2	
	comp=Z,1.7nm,0.8s,baz=121,slow=1.8,SNR=3.3								
YKA	**Yellowknife Ar**	**136.07**	**318**	PKP		PKPdf		12 35 46.7	+0.6
YKA				pPKP				12 36 15.2	
MKAR	**Makanchi Array**	**137.04**	**72**	*i* PKHKP				12 35 40.2	
MKAR	**Makanchi Array**	**137.04**	**72**	PKhKP				12 35 40.2	
	comp=Z,0.4nm,0.6s,baz=243,slow=3.3,SNR=4.8								
MKAR				PKP		PKPdf		12 35 48.3	-0.1
	comp=Z,1.3nm,0.6s,baz=216,slow=1.3,SNR=10								
MKAR	**Makanchi Array**	**137.04**	**72**	PKP		PKPdf		12 35 40.2	-8.2
MKAR				PKP		PKPdf		12 35 48.3	-0.1
WMQ	**Urumqi**	**138.07**	**79**	*e*PKP		PKPdf		12 35 51.8	+1.4
NVS	**Novosibirsk**	**142.19**	**62**	*e*PKHKP				12 35 53.7	
NVS				*e*				12 39 05.4	
NVS				pmax	pmax				
	comp=N,4.0nm,1.1s								
NVS				pmax	pmax				
	comp=E,4.0nm,1.1s								
NVS				pmax	pmax				
	comp=Z,13nm,1.1s								
INK	**Inuvik**	**145.71**	**321**	*e*PKPdf		PKPdf		12 36 04.8	+1.8
NJ2	**Nanjing**	**146.47**	**122**	*e*PKP		PKPdf		12 36 09.4	+4.0
NJ2				PKP2		PKPab		12 36 14.4	+4.2
NJ2				APKP				12 36 34.9	

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.50**	**34**	Pn	**Pn**	**12 28 47.7**	**-4.1**
	25nm,0.3s,baz=318,slow=1.3,SNR=52						
AFI				Sn	**Sn**	**12 29 12.5**	**-10**
	112nm,0.3s,baz=42,slow=23,SNR=9.9						
AFI				LR	LR	12 29 46.6	
	comp=Z,885nm,19.9s,baz=225,slow=40						
AFI	**Afiamalu**	**2.50**	**34**	Pn	**Pn**	**12 28 47.7**	**-4.1**
AFI				Sn	**Sn**	**12 29 12.5**	**-10**
AFI				LR	LR	12 29 46.6	
DZM	**Mont Dzumac**	**20.16**	**249**	P	**P**	**12 32 47.7**	**+0.2**
	6.8nm,0.8s,baz=86,slow=19,SNR=3.3						
DZM				LR	LR	12 39 15.8	
	comp=Z,522nm,19.7s,MS3.9,baz=224,slow=33						
PPT	**Papeete**	**22.67**	**97**	*e*P	**P**	**12 32 59.4**	**-14**
PPT				*e*LR	LR	12 38 15.2	
	385nm,25.5s,baz=261						
TBI	**Tubuai**	**23.50**	**112**	*e*LQ		12 37 36.4	
	209nm,26.5s						
TBI	**Tubuai**	**23.50**	**112**	*e*P	**P**	**12 33 16.5**	**-4.6**
TBI				*e*LR	LR	12 38 44.7	
	444nm,25.5s,baz=286						
URZ	**Urewera**	**23.76**	**199**	P	**P**	**12 33 23.4**	**-0.1**
	8.1nm,0.5s,mb4.5,baz=329,slow=6.2,SNR=9.4						
HNR	**Honiara**	**26.97**	**281**	LR	LR	12 43 17.3	
	comp=Z,655nm,18.8s,MS4.2,baz=134,slow=34						
RPZ	**Rata Peaks**	**30.70**	**203**	P	**P**	**12 34 27.9**	**+0.6**
	6.5nm,0.5s,mb4.7,baz=342,slow=9.6,SNR=3.8						
TAOE	**Nuku Hiva Isla**	**33.02**	**82**	*e*LQ		12 42 02.3	
	5µm,35.1s						
TAOE	**Nuku Hiva Isla**	**33.02**	**82**	*e*PP	PP	12 35 50.7	-7.9
	714nm,31.8s						
TAOE				*e*S	Sx	12 39 16.5	
	398nm,31.8s						
TAOE				*e*LR	LR	12 42 56.5	
	779nm,29.0s						
RKT	**Rikitea**	**36.63**	**107**	*e*PP	tx	12 36 22.3	
	57nm,36.8s						
RKT				*e*S	tx	12 40 35.2	
	108nm,41.8s						
RKT				*e*LR	LR	12 44 46.4	
	254nm,25.8s,baz=271						
PMG	**Port Moresby**	**39.17**	**275**	P	**P**	**12 35 39.2**	**-0.9**
	25nm,1.0s,mb4.9,baz=251,slow=7.6,SNR=2.8						
STKA	**Stephens Creek**	**43.90**	**241**	⇓*i*P	**P**	**12 36 18.8**	**0.0**
	6.5nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**43.90**	**241**	P	**P**	**12 36 19.0**	**+0.2**
	7.4nm,0.7s,mb4.6,baz=87,slow=8.4,SNR=14						
WB2	**Warramunga Ar**	**49.88**	**257**	⇓*i*P	**P**	**12 37 05.2**	**-0.8**
WRAB	**Tennant Creek**	**49.88**	**257**	*e*P	**P**	**12 37 05.0**	**-1.0**
	5.8nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**49.89**	**257**	P	**P**	**12 37 05.5**	**-0.5**
	3.8nm,0.6s,mb4.6,baz=91,slow=6.6,SNR=65						
KAKA	**Kakadu**	**52.64**	**266**	⇓*i*P	**P**	**12 37 28.4**	**+1.5**
	12nm,0.4s,mb5.2						
FITZ	**Fitzroy Crossi**	**58.27**	**258**	⇓*i*P	**P**	**12 38 07.8**	**+0.3**
	6.3nm,0.9s,mb4.7						
SBA	**Scott Base**	**62.67**	**185**	*e*P	**P**	**12 38 36.9**	**+0.1**
	3.7nm,0.8s,mb4.6						
VNDA	**Vanda**	**62.80**	**186**	P	**P**	**12 38 37.5**	**-0.1**
	2.3nm,0.9s,mb4.3,baz=20,slow=6.5,SNR=8.2						
VNDA	**Vanda**	**62.80**	**186**	*e*P	**P**	**12 38 37.0**	**-0.6**
	2.8nm,0.9s,mb4.4						
MBWA	**Marble Bar**	**63.38**	**254**	*e*P	**P**	**12 38 41.4**	**-0.8**
	8.9nm,0.7s,mb5.0						
KLBR	**Kellerberrin**	**64.13**	**242**	⇓*i*P	**P**	**12 38 46.6**	**-0.4**
	33nm,0.8s,mb5.4						
MUN	**Mundaring**	**65.42**	**242**	*e*P	**P**	**12 38 55.5**	**+0.1**
	11nm,0.7s,mb5.0						
MJAR	**Matsushiro Arr**	**69.52**	**320**	LR	LR	13 04 03.4	
	comp=Z,115nm,19.7s,MS4.1,baz=270,slow=31						
CMB	**Columbia Colle**	**73.09**	**41**	*e*P	**P**	**12 39 41.9**	**-0.7**
	2.8nm,0.9s,mb4.2						
QSPA	**South Pole Qui**	**74.05**	**180**	⇑*i*P	**P**	**12 39 47.1**	**-0.2**
	10.0nm,1.1s,mb4.7						
NVAR	**Mina Array Bea**	**74.65**	**42**	P	**P**	**12 39 51.3**	**-0.3**
	1.2nm,0.7s,mb3.9,baz=215,slow=7.5,SNR=9.1						
SSE	**Sheshan**	**78.47**	**307**	P	**P**	**12 40 12.8**	**-0.3**
SSE				AMB	AMB		
	comp=Z,32nm,0.6s,mb5.4						
SSE				AMB	AMB		
	comp=Z,77nm,5.4s						
SSE	**Sheshan**	**78.47**	**307**	P	**P**	**12 40 12.7**	**-0.4**
	comp=Z,32nm,0.6s,mb5.4						
MSU	**Marysvale**	**78.72**	**44**	*e*P	**P**	**12 40 14.9**	**+0.6**
MDJ	**Mudanjiang**	**79.61**	**322**	P	**P**	**12 40 19.4**	**+0.3**
MDJ				AP	pP	12 40 24.0	-0.7
MDJ				PP	PP	12 43 19.6	-1.9
MDJ				S	S	12 50 22.5	+3.7
MDJ				SCS	ScS	12 50 42.6	+3.8
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,68nm,5.5s						
MDJ				LR	LR		
	comp=N,65nm,31.7s,MS3.8						
MDJ				LR	LR		
	comp=E,33nm,31.7s,MS3.8						
MDJ				LR	LR		
	comp=Z,52nm,22.4s						
NJ2	**Nanjing**	**80.68**	**307**	*e*P	**P**	**12 40 24.3**	**-0.7**
NJ2				AP	pP	12 40 31.3	+0.6
NJ2				PP	PP	12 43 29.8	-1.2
NJ2				S	S	12 50 29.0	-1.2
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,406nm,4.2s						
NJ2				LR	LR		
	comp=N,330nm,16.9s,MS5.3						
NJ2				LR	LR		
	comp=E,1µm,18.4s,MS5.3						
TXAR	**Lajitas Array**	**80.79**	**56**	P	**P**	**12 40 25.5**	**-0.1**
	comp=E,0.3nm,0.3s,mb3.8,baz=239,slow=7.3,SNR=4.5						
TXAR				LR	LR	13 07 42.2	
	comp=E,59nm,18.9s,MS4.0,baz=190,slow=29						
TXAR	**Lajitas Array**	**80.79**	**56**	P	**P**	**12 40 25.5**	**-0.1**
TXAR				LR	LR	13 07 42.2	
GDL2	**Guadalupe Moun**	**81.43**	**53**	*e*P	**P**	**12 40 29.0**	**0.0**
MCMT	**McKenzie Canyo**	**81.60**	**39**	*e*P	**P**	**12 40 30.5**	**+0.9**
CN2	**Changchun**	**81.67**	**320**	*e*P	**P**	**12 40 32.0**	**+2.1**
CN2				*e*AP	pP	12 40 38.3	+2.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
PDAR	**Pinedale Array**	**82.59**	**42**	P	**P**	**12 40 34.6**	**-0.1**
	comp=Z,2.1nm,0.8s,mb4.2,baz=227,slow=2.5,SNR=20						
SMCO	**Snowmass**	**82.59**	**46**	*e*P	**P**	**12 40 34.0**	**-0.9**
SDCO	**Great Sand Dun**	**82.98**	**48**	*e*P	**P**	**12 40 37.0**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**83.00**	**11**	P	**P**	**12 40 36.3**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=214,slow=5.7,SNR=12						
ILAR				LR	LR	13 14 24.6	
	comp=Z,43nm,18.8s,MS3.8,baz=2.5,slow=33						
MAW	**Mawson**	**87.28**	**199**	⇓*i*P	**P**	**12 40 58.7**	**+1.0**
	comp=Z,2.5nm,0.8s,mb4.5						
MAW	**Mawson**	**87.28**	**199**	P	**P**	**12 40 58.4**	**+0.7**
	comp=Z,2.6nm,0.8s,mb4.5,baz=123,slow=7.4,SNR=8.2						
MAW				LR	LR	13 16 04.6	
	comp=Z,86nm,19.3s,MS4.2,baz=239,slow=33						
HHC	**Hu-ho-hao-te**	**89.57**	**313**	*e*P	**P**	**12 41 12.0**	**+2.8**
HHC				AP	pP	12 41 16.9	+1.9
HHC				XP	sP	12 41 20.5	+3.7
HHC				AMB	AMB		
	comp=Z,15nm,1.1s,mb5.2						
HHC				AMB	AMB		
	comp=Z,111nm,10.7s						
HHC				LR	LR		
	comp=N,97nm,13.1s,MS4.6						
HHC				LR	LR		
	comp=E,121nm,15.5s,MS4.6						
HHC				LR	LR		
	comp=Z,98nm,14.3s,MS4.4						
CFAA	**Coronel Fontan**	**93.96**	**124**	LR	LR	13 13 27.5	
	comp=Z,16nm,20.8s,MS3.5,baz=183,slow=29						
ULM	**Lac du Bonnet**	**94.28**	**39**	LR	LR	13 17 32.4	
	comp=Z,76nm,18.5s,MS4.2,baz=234,slow=31						
LVC	**Limon Verde**	**96.58**	**116**	LR	LR	13 18 22.9	
	comp=Z,43nm,18.9s,MS4.0,baz=34,slow=31						
ARCES	**ARCESS Array B**	**125.23**	**352**	PKP	PKPdf	12 47 12.2	-2.2
	comp=Z,0.8nm,0.6s,baz=45,slow=1.7,SNR=7.5						
MALT	**Malatya**	**144.42**	**315**	*e*PKPdf	PKPdf	12 47 49.7	-1.0
CLL	**Collm**	**144.43**	**353**	*e*PKIKP	PKPdf	12 47 47.0	-3.3
CLL				*e*		12 47 57.0	
STHS	**Stebnicka Huta**	**144.66**	**344**	*e*PKP	PKPdf	12 47 48.7	-2.0
UPC	**Upice**	**144.79**	**350**	*e*PKP	PKPdf	12 47 48.8	-2.1
KOLS	**Kolonicke sedl**	**144.80**	**342**	*e*PKP	PKPdf	12 47 48.6	-2.4
KOLS				*e*		12 48 06.1	
DPC	**Dobruska-Polom**	**144.88**	**349**	*e*PKP	PKPdf	12 47 49.1	-2.0
PVCC	**Panska Ves**	**145.00**	**351**	*e*PKP	PKPdf	12 47 49.5	-1.8
OKC	**Ostrava-Krasne**	**145.02**	**347**	*e*PKP	PKPdf	12 47 49.9	-1.4
CRVS	**Cervenica-Dubn**	**145.06**	**343**	*e*PKP	PKPdf	12 47 52.2	+0.7
MORC	**Moravsky Berou**	**145.20**	**348**	*e*PKPbc	PKPbc	12 47 49.6	+1.5
MOX	**Moxa**	**145.23**	**355**	*e*PKP	PKPdf	12 47 49.5	-2.2
MOX	**Moxa**	**145.23**	**355**	*i* P	PKPbc	12 47 49.5	+1.3
KMBO	**Kilima Mbogo**	**145.44**	**243**	PKPbc	PKPbc	12 47 53.2	+3.3
	comp=Z,4.8nm,1.0s,baz=80,slow=1.7,SNR=7.2						
KMBO	**Kilima Mbogo**	**145.44**	**243**	PKPbc	PKPbc	12 47 53.2	+3.3
PRU	**Pruhonice**	**145.53**	**351**	*e*PKP	PKPdf	12 47 50.8	-1.4
NKC	**Novy Kostel**	**145.55**	**354**	*e*PKP	PKPdf	12 47 50.9	-1.3
KECS	**Kecovo**	**145.71**	**344**	*e*PKP	PKPdf	12 47 51.6	-1.0
KECS				*e*		12 47 58.1	
TNS	**Taunus Mts**	**145.84**	**358**	*e*PKPbc	PKPbc	12 47 52.2	+2.5
BAIF	**Baives**	**145.97**	**3**	*e*PKP1	PKPbc	12 47 51.3	+1.2
	comp=Z,17nm,1.0s						
VYHS	**Vyhne**	**146.12**	**346**	*e*PKP	PKPdf	12 47 53.1	-0.2
VYHS				*e*		12 48 04.9	
GRA1	**Grafenberg Arr**	**146.21**	**355**	*e*PKPbc	PKPbc	12 47 54.0	+3.4
GRF	**Grafenberg Arr**	**146.21**	**355**	*e*PKP	PKPdf	12 47 54.0	+0.6
KHC	**Kasperske Hory**	**146.50**	**352**	*e*PKP	PKPdf	12 47 53.8	-0.1
WET	**Wettzell**	**146.58**	**353**	*e*PKPbc	PKPbc	12 47 54.5	+3.0
BR131	**Keskin Array S**	**146.74**	**321**	*e*PKPbc	PKPbc	12 47 55.2	+3.0
BRTR	**Keskin Array B**	**146.74**	**321**	PKPbc	PKPbc	12 47 55.4	+3.2
	comp=Z,4.7nm,0.8s,baz=90,slow=1.2,SNR=19						
GEC2	**GERESS Array S**	**146.76**	**352**	*e*PKPbc	PKPbc	12 47 54.6	+2.7
GERES	**GERESS Array B**	**146.76**	**352**	PKPbc	PKPbc	12 47 54.6	+2.6
	comp=Z,2.6nm,0.9s,baz=27,slow=3.0,SNR=12						
FLN	**La Foliniere**	**146.79**	**9**	*e*PKP1	PKPbc	12 47 53.6	+1.6
	comp=Z,14nm,0.9s						
GRR	**Gorron**	**147.10**	**9**	*e*PKP1	PKPdf	12 47 54.5	-0.4
CDF	**Champ du Feu**	**147.68**	**359**	*e*PKP1	PKPdf	12 47 56.0	+0.1
	comp=Z,2.4nm,0.6s						
BFO	**Black Forest**	**147.74**	**358**	*e*PKPbc	PKPdf	12 47 57.7	+1.8
HAU	**Haudompre**	**148.09**	**1**	*e*PKP1	PKPdf	12 47 56.9	+0.4
	comp=Z,2.6nm,0.3s						
HINF	**Hinteralfeld**	**148.28**	**360**	*e*PKP1	PKPdf	12 47 57.9	+1.1
LOR	**Lormes**	**148.73**	**4**	*e*PKP1	PKPdf	12 47 59.0	+1.4
	comp=Z,5.5nm,0.6s						
SSF	**Saint Saulge**	**148.91**	**4**	*e*PKP1	PKPdf	12 47 59.7	+1.8
	comp=Z,9.2nm,0.8s						
AVF	**Avril sur Loir**	**149.17**	**5**	*e*PKP1	PKPdf	12 48 00.3	+2.0
SMF	**Signal de Mont**	**149.35**	**4**	*e*PKP1	PKPdf	12 48 00.7	+2.1
CABF	**La Chapelle**	**149.48**	**1**	*e*PKP1	PKPdf	12 48 01.3	+2.5
	comp=Z,30nm,1.2s						
VISS	**Visnje**	**149.53**	**349**	*e*PKP	PKPdf	12 48 01.7	+2.8
BOJS	**Bojanci**	**149.74**	**348**	*e*PKP	PKPdf	12 48 02.6	+3.3
LPL	**La Plagne**	**150.58**	**0**	*e*PKP1	PKPdf	12 48 04.2	+3.7
LPG	**La Plagne**	**150.60**	**0**	*e*PKP1	PKPdf	12 48 04.2	+3.6
EIL	**Elat**	**150.80**	**303**	*e*PKPab	PKPab	12 48 12.7	+0.2
ORIF	**Oris-en-Rattie**	**151.16**	**1**	*e*PKP1	PKPdf	12 48 05.4	+4.0
SBF	**Sospel**	**152.22**	**359**	*e*PKP1	PKPdf	12 48 07.7	+4.7
EVO	**Evora**	**154.05**	**27**	*e*PKIKP	PKPdf	12 48 03.0	-2.8

BJI 22 13:05:13.8,37.60N×122.68E,h15km,mB4.9,mb4.4, ML4.1,1C,Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DL2	**Dalian**	**1.54**	**328**	P	Pn	13 05 42.8	+1.8
DL2				PG	Pg	13 05 44.3	-0.5
DL2				S	Sn	13 06 01.9	+1.1
DL2				SG	Sg	13 06 04.3	-1.1
DL2				Smax			
	comp=N,2µm,0.5s						
DL2				Smax			
	comp=E,2µm,0.6s						
SNY	**Shenyang**	**4.28**	**9**	⇑P	Pn	13 06 21.3	+1.3
SNY				SG	Sg	13 07 27.9	-8.4
SNY				Smax			
	comp=N,400nm,0.6s						
SNY				Smax			
	comp=E,530nm,0.5s						
TIA	**Tai'an**	**4.66**	**254**	PG	Pg	13 06 37.6	-9.3
TIA				S	Sn	13 07 12.3	-7.6
TIA				SG	Sg	13 07 35.5	-14
TIA				Smax			
	comp=N,176nm,0.8s						
TIA				Smax			
	comp=E,120nm,1.0s						
CN2	**Changchun**	**6.54**	**18**	*e*P	Pn	13 06 52.0	+0.1
CN2				*e*SG	Sg	13 08 42.3	-9.3
CN2				Smax			
	comp=N,130nm,0.7s						
CN2				Smax			
	comp=E,110nm,0.7s						

*CSEM **22** 13:30:22.0±0.3,37.60N×25.38W,h11km,ML2.6, Error ellipse: s-maj=10.4km s-min=5.3km az=179.0,After PDA*
*PDA **22** 13:30:22.0±0.6,37.60N×25.38W,h11km±6km, MD2.0, ML2.6, Error ellipse: s-maj=4.0km s-min=3.7km az=83.0*
SVSA 22 13:30:22.0±0.6,37.60N×25.38W,h11km±6km,MD2.0, ML2.6, Error ellipse: s-maj=4.0km s-min=3.7km az=83.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRA1	**Furnas**	**0.14**	**7**	*e*P	Pg	13 30 25.7	+0.2
FRA1				*e*S	Sg	13 30 28.4	+0.6
PRCH	**Ribeira Ch**	**0.15**	**328**	*e*P	Pg	13 30 25.9	+0.3
PRCH				*e*S	Sg	13 30 28.3	+0.3
	855nm,0.3s						
PRCH	**Ribeira Ch**	**0.15**	**328**	*e*P	Pg	13 30 25.9	+0.3
PRCH				*e*S	Sg	13 30 28.3	+0.3
	855nm,0.3s						
VIF	**Vila Franca**	**0.15**	**342**	*e*P	Pg	13 30 26.0	+0.4
VIF				*e*S	Sg	13 30 28.5	+0.5
	536nm,0.3s						
VIF	**Vila Franca**	**0.15**	**342**	*e*P	Pg	13 30 26.0	+0.4
VIF				*e*S	Sg	13 30 28.5	+0.5
	536nm,0.3s						
PCNG	**Congro**	**0.17**	**355**	*i* P	Pg	13 30 26.0	+0.1
PCNG				*e*S	Sg	13 30 29.2	+0.8
	713nm,0.2s						
PCNG	**Congro**	**0.17**	**355**	*e*S	Sg	13 30 29.2	+0.8
	713nm,0.2s						
LFA	**Lagoa do Fogo**	**0.19**	**334**	*i* P	Pg	13 30 26.7	+0.4
MESC	**Monte Escuro**	**0.20**	**345**	*e*P	Pg	13 30 26.6	+0.2
MESC				*e*S	Sg	13 30 29.8	+0.4
MIRA	**Miradouro**	**0.20**	**23**	*e*P	Pg	13 30 26.6	+0.1
CML	**Cha da Macela**	**0.22**	**322**	*e*P	Pg	13 30 27.3	+0.6
CML				*e*S	Sg	13 30 30.5	+0.6
PVER	**Pico Vermelho**	**0.22**	**331**	*e*P	Pg	13 30 27.3	+0.4
PVER				*e*S	Sg	13 30 31.2	+1.1
PMAT	**Coroa da Mata**	**0.23**	**341**	*i* P	Pg	13 30 27.0	+0.1
PMAT				*e*S	Sg	13 30 30.4	+0.2
	244nm,0.2s						
PMAT	**Coroa da Mata**	**0.23**	**341**	*e*S	Sg	13 30 30.4	+0.2
	244nm,0.2s						
PFAD	**Fenais da Ajud**	**0.24**	**11**	*e*P	Pg	13 30 27.3	+0.1
FAC	**Faja de Cima**	**0.28**	**309**	*e*P	Pg	13 30 28.8	+1.0
FAC				*e*S	Sg	13 30 33.1	+1.4
PSMN	**Pico do Norte,**	**0.65**	**157**	*e*P	Pb	13 30 32.9	-1.9
PSMN				*e*S	Sb	13 30 40.9	-2.7

IDC 22 13:35:01.6±2.7,5.20N×94.66E,mb3.7/4,mb1 3.9/4, mb1mx3.6/18,mbtmp3.7/4,Error ellipse: s-maj=109.6km s-min=27.6km az=57.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.79**	**347**	P	P	13 43 01.6	-1.1
	0.5nm,0.4s,baz=169,slow=7.9,SNR=6.4						
SONM	**Songino Array**	**43.65**	**11**	P	P	13 43 07.6	-2.1
	0.5nm,0.5s,baz=195,slow=8.4,SNR=4.6						
WRA	**Warramunga Arr**	**46.32**	**124**	P	P	13 43 29.8	-1.6
	1.5nm,0.7s,baz=300,slow=9.7,SNR=13						
ARCES	**ARCESS Array B**	**77.94**	**340**	P	P	13 47 00.9	-1.9
	1.0nm,0.8s,baz=104,slow=5.0,SNR=4.3						

IDC 22 13:48:38.5±1.2,0.67N×126.49E,mb3.7/4,mb1 3.9/4, mb1mx3.7/14,mbtmp3.7/4,Error ellipse: s-maj=139.0km s-min=21.2km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.88**	**160**	P	P	13 53 34.8	-0.2
	3.9nm,0.6s,baz=338,slow=11,SNR=37						
WB2	**Warramunga Arr**	**21.88**	**160**	*e*P	P	13 53 35.3	+0.3
STKA	**Stephens Creek**	**35.39**	**157**	P	P	13 55 34.7	-3.4
	2.4nm,0.8s,baz=334,slow=13,SNR=2.1						
SONM	**Songino Array**	**50.12**	**342**	P	P	13 57 35.3	-2.1
	0.1nm,0.5s,baz=124,slow=5.2,SNR=2.6						
MKAR	**Makanchi Array**	**59.94**	**326**	P	P	13 58 46.8	-2.1
	0.4nm,0.4s,baz=125,slow=7.5,SNR=6.4						

*SOF **22** 13:55:54.9,41.94N×23.31E,h13km,MD2.8*
*CSEM **22** 13:55:55.2±0.1,41.96N×23.34E,h8km,MD2.8, Error ellipse: s-maj=3.1km s-min=1.6km az=81.0*
*ATH **22** 13:55:57.4,41.90N×23.44E,h9km±4km,MD3.2/3*
*THE **22** 13:55:59.7,41.74N×23.23E,h10km,ML3.0*
ISC 22 13:55:54.8±0.5,41.93N±0.02×23.28E±0.05,h9km,n20, σ1§05/30,1C,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKB	**Krupnik**	**0.16**	**246**	Pg	**Pg**	**13 55 59.0**	**+0.6**
MMB	**Musomiste**	**0.48**	**135**	Pg	**Pg**	**13 56 05.2**	**+0.7**
VTS	**Vitosha**	**0.66**	**355**	Pg	**Pg**	**13 56 09.0**	**+0.9**
NVR	**Nevrokopi**	**0.73**	**143**	*e*PG	**Pg**	**13 56 09.4**	**0.0**
NVR				*e*SB	**Sb**	**13 56 18.3**	**-0.7**
VAY	**Valandovo**	**0.81**	**221**	*i* Pg	**Pg**	**13 56 11.8**	**+0.7**
VAY				*i* Sg	**Sg**	**13 56 23.1**	**+1.2**
KNT	**Kendrikon**	**0.82**	**201**	*e*Pg	**Pg**	**13 56 11.9**	**+0.6**
KNT				*e*Sg	**Sg**	**13 56 21.9**	**-0.4**
SRS	**Serrai**	**0.85**	**164**	*e*Pg	**Pg**	**13 56 11.6**	**-0.2**
SRS				*e*Sg	**Sg**	**13 56 22.3**	**-0.9**
PGB	**Panagyurishte**	**0.90**	**47**	Pg	**Pg**	**13 56 11.5**	**-1.4**
PLD	**Plovdiv**	**1.07**	**80**	Pg	**Pg**	**13 56 17.0**	**+0.6**
SOH	**Sokhos**	**1.11**	**177**	*e*Pg	**Pg**	**13 56 16.5**	**-0.5**
SOH				*e*Sg	**Sg**	**13 56 31.4**	**-0.5**
GRG	**Griva**	**1.18**	**214**	*e*Pg	**Pg**	**13 56 18.2**	**-0.2**
GRG				*e*Sg	**Sg**	**13 56 33.9**	**-0.2**
THE	**Thessaloniki**	**1.32**	**190**	*e*Pg	**Pg**	**13 56 20.9**	**-0.3**
	comp=Z,3.5nm,0.4s						
THE				*e*Sg	**Sg**	**13 56 37.5**	**-1.4**
ZAPS	**Zavoj/Pirot**	**1.45**	**340**	⇑*i*Pg	**Pg**	**13 56 23.2**	**-0.6**
ZAPS				Sg	**Sg**	**13 56 41.4**	**-1.7**
PLG	**Polygyros**	**1.56**	**175**	*e*PB	**Pb**	**13 56 24.9**	**+1.4**
PLG				*e*SB	**Sb**	**13 56 46.3**	**+3.0**
KDZ	**Kurdzhali**	**1.62**	**99**	P	**Pn**	**13 56 24.0**	**+0.2**
OUR	**Ouranopolis**	**1.68**	**161**	*e*Pg	**Pg**	**13 56 26.2**	**-2.3**
	comp=Z,6.5nm,0.3s						
RDO	**Rodhopi**	**1.87**	**114**	*e*PN	**Pn**	**13 56 30.0**	**+2.7**
PVL	**Pavlikeni**	**1.99**	**49**	P	**Pn**	**13 56 30.0**	**+1.0**
ALN	**Alexandroupoli**	**2.32**	**116**	*e*Pn	**Pn**	**13 56 39.5**	**+5.6**
ALN				*e*Sn	**Sn**	**13 57 08.9**	**+6.1**
SZH	**Strazhica**	**2.37**	**55**	*e*P	**Pn**	**13 56 40.5**	**+6.0**

ISC 22 14:24:20.5±0.7,40.06N±0.06×28.89E±0.05,h13km±4km, n7,σ1§12/12,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ORLT	**Orhaneli**	**0.02**	**150**	PG	**Pg**	**14 24 21.6**	**-1.2**
ORLT				SG	**Sg**	**14 24 25.6**	**+1.3**
ULDT	**Uludag**	**0.21**	**67**	*i* P	**Pg**	**14 24 23.9**	**-1.4**
ULDT				*i* S	**Sg**	**14 24 29.4**	**+1.0**
YLV	**Yalova**	**0.63**	**36**	*e*PG	**Pg**	**14 24 33.1**	**-0.1**
BTOK	**Tokmak**	**0.72**	**246**	*i* P	**Pb**	**14 24 35.5**	**+1.1**
BTOK				*i* S	**Sb**	**14 24 44.5**	**+0.6**
GDZ	**Gediz**	**1.07**	**154**	*i* P	**Pb**	**14 24 37.8**	**-2.6**
GDZ				*i* S	**Sb**	**14 24 54.0**	**-0.2**
MRMT	**Marmara Adasi**	**1.12**	**299**	*e*PN	**Pn**	**14 24 41.4**	**-0.5**
ESKT	**Eskisehir**	**1.61**	**109**	*i* P	**Pn**	**14 24 48.5**	**-0.3**
ESKT				*i* S	**Sn**	**14 25 11.1**	**+1.6**

*NIED **22** 14:50:00,45.00N×150.00E,h29km,Mw4.0 Best double couple: M0 1.28×10^15 NP1:φs122°,δ82°,λ136°. NP2: φs220°,δ46°,λ11°.*
*MOS **22** 14:50:13.7±1.2,44.61N×149.64E,h66km,mb4.3/1,Error ellipse: s-maj=22.4km s-min=14.7km az=148.0*
*NEIC **22** 14:50:14.4±1.4,44.64N×149.71E,h51km±15km,Error ellipse: s-maj=17.5km s-min=11.4km az=142.0*
*IDC **22** 14:50:17.1±4.0,44.83N×149.69E,h72km±38km,mb3.4/6, mb1 3.8/8,mb1mx3.6/21,mbtmp3.9/8,ML3.9/2,MS3.1/3, Ms1 3.1/3,ms1mx2.6/19,Error ellipse: s-maj=31.3km s-min=19.0km az=150.0*
**ISC 22 14:50:13.1±1.7,44.6N±0.1×149.8E±0.1,h58km±18km,n18, σ0§99/18,mb3.7/6,M

KSP					*e*Sg	Sg	15 02 30.0	-1.6
UPC	**Upice**	**1.05**	**183**		*e*PG	Pg	15 02 26.7	-1.7
DPC	**Dobruska-Polom**	**1.22**	**173**		*e*PG	Pg	15 02 29.5	-2.2
DPC					*e*SG	Sg	15 02 45.0	-2.9
	14nm,0.2s							
PVCC	**Panska Ves**	**1.41**	**224**		*e*PG	Pg	15 02 33.3	-2.3
PVCC	**Panska Ves**	**1.41**	**224**		*e*Pn	Pn	15 02 33.7	-0.6
PVCC					*e*Sg	Sg	15 02 52.8	-1.6
BRG	**Berggiesshubel**	**1.52**	**244**		Pg	Pg	15 02 35.3	-2.5
BRG					Sg	Sg	15 02 56.0	-2.1
BRG	**Berggiesshubel**	**1.52**	**244**		*e*Pn	Pn	15 02 35.3	-0.5
BRG	**Berggiesshubel**	**1.52**	**244**		Pg	Pg	15 02 35.3	-2.5
BRG					*e*Sg	Sg	15 02 55.5	-2.5
PRU	**Pruhonice**	**1.86**	**213**		*e*PG	Pg	15 02 40.4	-4.1
PRU					*e*SG	Sg	15 03 05.0	-4.2
PRU	**Pruhonice**	**1.86**	**213**		*e*Pn	Pn	15 02 39.8	-0.8
PRU	**Pruhonice**	**1.86**	**213**		Pg	Pg	15 02 40.4	-4.1
PRU					*e*Sg	Sg	15 03 04.9	-4.3
CLL	**Collm**	**1.96**	**264**		*e*Pn	Pn	15 02 40.0	-2.1
CLL					*i* Pg	Pg	15 02 42.8	-3.6
CLL					*e*Sg	Sg	15 03 09.0	-3.5
CLL	**Collm**	**1.96**	**264**		*e*PN	Pn	15 02 40.0	-2.1
CLL					*i* PG	Pg	15 02 42.8	-3.6
CLL					*e*		15 02 48.0	
CLL					*e*SG	Sg	15 03 09.0	-3.5
CLL	**Collm**	**1.96**	**264**		*i* Pg	Pg	15 02 42.8	-3.6
CLL					*e*Sg	Sg	15 03 08.8	-3.7
MORC	**Moravsky Berou**	**2.00**	**152**		*e*Pn	Pn	15 02 40.3	-2.5
MORC					*e*Sg	Sg	15 03 09.9	-4.2
MORC	**Moravsky Berou**	**2.00**	**152**		*e*Pn	Pn	15 02 40.9	-1.9
MORC					*e*Sg	Sg	15 03 09.9	-4.2
OKC	**Ostrava-Krasne**	**2.16**	**142**		*e*SG	Sg	15 03 13.8	-5.4
VRAC	**Vranov**	**2.27**	**172**		*e*Pn	Pn	15 02 45.5	-1.1
VRAC					*e*Sg	Sg	15 03 17.6	-5.5
	11nm,0.4s							
KRUC	**Moravsky**	**2.50**	**176**		*e*Pn	Pn	15 02 48.5	-1.4
KRUC					*e*Sg	Sg	15 03 24.9	-5.9
	4.7nm,0.2s							
NKC	**Novy Kostel**	**2.67**	**242**		*e*PN	Pn	15 02 50.7	-1.5
NKC					*e*PG	Pg	15 02 57.1	-3.5
NKC					*e*SG	Sg	15 03 32.2	-4.0
NKC	**Novy Kostel**	**2.67**	**242**		*e*Pg	Pg	15 02 57.1	-3.5
NKC					*e*Sg	Sg	15 03 31.9	-4.3
OJC	**Ojcow**	**2.70**	**118**		*e*PG	Pg	15 02 58.0	-3.2
OJC					*e*SG	Sg	15 03 34.0	-3.2
KHC	**Kasperske Hory**	**2.92**	**215**		*e*PN	Pn	15 02 53.5	-2.3
KHC					*e*PG	Pg	15 02 59.8	-5.8
KHC					*e*SG	Sg	15 03 38.5	-6.0
KHC	**Kasperske Hory**	**2.92**	**215**		Pg	Pg	15 02 59.8	-5.8
KHC					Sg	Sg	15 03 38.5	-6.0
MOX	**Moxa**	**2.97**	**254**		*e*Pg	Pg	15 03 02.5	-4.2
MOX					*e*Sg	Sg	15 03 42.1	-4.2
GEC2	**GERESS Array S**	**3.12**	**211**		*e*Pn	Pn	15 02 57.6	-1.1
GEC2					*e*Sg	Sg	15 03 44.2	-7.1
KBA	**Koelnbreinsper**	**4.83**	**203**	⇑	*i* PN	Pn	15 03 21.0	-2.0
KBA					*i* SG	Sg	15 04 41.4	-6.8
	6.3nm,0.8s							

*MOS **22** 15:02:38.5±1.2,36.44N×71.19E,h207km,mb3.9/1,Error ellipse: s-maj=23.2km s-min=8.2km az=93.6*
*NEIC **22** 15:02:38.1±3.5,36.33N×71.35E,h193km±28km,mb3.7/3, Error ellipse: s-maj=31.1km s-min=18.0km az=202.0*
*IDC **22** 15:02:41.4±7.0,36.40N×71.35E,h224km±64km,mb3.3/8, mb1 3.4/10,mb1mx3.3/22,mbtmp3.8/10,Error ellipse: s-maj=42.0km s-min=20.4km az=25.0*
*NNC **22** 15:02:43.1±2.2,36.76N×71.04E,h198km±18km,mpv4.8, Error ellipse: s-maj=20.9km s-min=14.4km az=21.0*
ISC 22 15:02:37.6±0.7,36.33N±0.04×71.3E±0.1,h208km±11km, n52,σ1§11/64,mb3.4/9,5C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THN	**Thein Dam**	**5.32**	**136**	*e*P		**P**	**15 04 00.0**	**+3.1**
THN				*e*			15 05 01.0	
DLH	**Dalhousie**	**5.38**	**133**	*e*P		**P**	**15 04 00.0**	**+2.2**
DLH				*e*			15 05 05.0	
AML	**Almayashu**	**6.08**	**17**	P		**P**	**15 04 07.1**	**+0.4**
	SNR=334							
EKS2	**Erkin-Say**	**6.60**	**16**	P		**P**	**15 04 13.7**	**+0.3**
	SNR=34							
SDNR	**Sundarnagar**	**6.72**	**134**	*e*P		**P**	**15 04 17.0**	**+2.0**
SDNR				*e*S		**S**	**15 05 30.4**	**-0.6**
AAK	**Ala-Archa**	**6.75**	**20**	P		**P**	**15 04 16.0**	**+0.6**
	SNR=28							
AAK	**Ala-Archa**	**6.75**	**20**	⇓P		**P**	**15 04 16.1**	**+0.7**
	34nm,0.2s							
AAK				⇓S		**S**	**15 05 30.8**	**-0.9**
	16nm,0.5s							
AAK	**Ala-Archa**	**6.75**	**20**	PN		**P**	**15 04 16.1**	**+0.7**
AAK				S		**S**	**15 05 30.7**	**-1.0**
AAK				pmax	pmax			
	comp=Z,9.0nm,0.3s							
AAK	**Ala-Archa**	**6.75**	**20**	*e*Pn		**P**	**15 04 14.6**	**-0.8**
	comp=Z,49nm,0.6s							
AAK				*e*S		**S**	**15 05 29.8**	**-2.0**
KK31	**Karatay Array**	**6.79**	**355**	⇓P		**P**	**15 04 15.0**	**-0.9**
	comp=Z,17nm,0.3s,baz=180,slow=12,SNR=322							
KK31				⇑S		**S**	**15 05 27.1**	**-5.5**
	comp=Z,12nm,0.6s,baz=188,slow=25,SNR=3.9							
KKAR	**Karatay Array**	**6.79**	**355**	PN		**P**	**15 04 14.9**	**-1.0**
KKAR				pmax	pmax			
	comp=Z,24nm,0.4s							
KBK	**Karagaybulak**	**6.91**	**23**	P		**P**	**15 04 18.6**	**+1.2**
	SNR=28							
ULHL	**Ulahol**	**7.03**	**31**	P		**P**	**15 04 19.6**	**+0.6**
	SNR=18							
SMLA	**Simla**	**7.11**	**135**	*i*		**P**	**15 04 10.4**	**-10**
SMLA				*i* S		**S**	**15 05 39.5**	**-0.5**
CHMS	**Chumysh**	**7.16**	**21**	P		**P**	**15 04 20.8**	**+0.1**
	SNR=22							
USP	**Ospenovka**	**7.34**	**18**	P		**P**	**15 04 22.3**	**-0.8**
	SNR=13							
TKM2	**Tokmak 2**	**7.36**	**25**	P		**P**	**15 04 23.8**	**+0.5**
	SNR=55							
KHET	**Khetri**	**9.06**	**154**	*e*P		**P**	**15 04 46.6**	**+1.1**
KHET				*e*S		**S**	**15 06 24.4**	**-1.0**
KHET				AML	AML		15 06 27.5	
	comp=E,27nm,0.1s							
KHET				AML	AML		15 06 27.8	
	comp=N,16nm,0.2s							
NDI	**New Delhi**	**9.10**	**145**	*e*P		**P**	**15 04 46.5**	**+0.6**
NDI				*e*S		**S**	**15 06 24.5**	**-1.8**
AYAN	**Aya Nagar**	**9.23**	**146**	*e*P		**P**	**15 04 48.9**	**+1.3**
AYAN				*e*S		**S**	**15 06 26.1**	**-1.3**
KUDL	**Kundal**	**9.26**	**150**	*e*P		**P**	**15 04 49.2**	**+1.3**
KUDL				*e*S		**S**	**15 06 27.4**	**-2.5**
KUDL				AML	AML		15 06 32.2	
	comp=Z,14nm,0.5s							
BISR	**Bishrakh**	**9.30**	**145**	*e*S		**S**	**15 06 30.8**	**-0.1**
SONA	**Sohna**	**9.41**	**147**	*e*S		**S**	**15 06 30.5**	**-3.0**
SONA				AML	AML		15 06 34.9	
	comp=N,12nm,0.5s							
SONA				AML	AML		15 06 35.7	
	comp=E,26nm,0.4s							
AGRA	**Agra**	**10.67**	**146**	*e*		**P**	**15 05 06.4**	**+0.2**
MK31	**Makanchi Array**	**13.28**	**35**	⇓P		**P**	**15 05 40.3**	**+1.2**
	comp=E,1.9nm,0.6s,baz=238,slow=13,SNR=24							
MKAR	**Makanchi Array**	**13.28**	**35**	*e*P		**P**	**15 05 40.2**	**+1.2**
MKAR	**Makanchi Array**	**13.28**	**35**	P		**P**	**15 05 40.0**	**+1.0**
	comp=E,0.4nm,0.3s,baz=214,slow=14,SNR=15							
KURK	**Kurchatov**	**15.31**	**18**	*e*P		**P**	**15 06 02.7**	**-1.5**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KURK	**Kurchatov**	**15.31**	**18**	*e*P		**P**	**15 06 02.7**	**-1.5**
	comp=Z,1.3nm,0.6s							
AB31	**Akbulak array**	**15.36**	**331**	⇓P		**P**	**15 06 03.1**	**-1.7**
	comp=Z,2.0nm,0.4s,baz=353,slow=26,SNR=77							
AB31				⇑S		**S**	**15 08 48.6**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=144,slow=24,SNR=7.5							
AB31	**Akbulak array**	**15.36**	**331**	P		**P**	**15 06 03.0**	**-1.8**
AB31				S		**S**	**15 08 48.5**	**-0.6**
AB31				pmax	pmax			
	comp=Z,1.0nm,0.2s							
VOSK	**Vostochnaya**	**16.39**	**359**	⇑P		**P**	**15 06 15.9**	**-1.4**
	comp=Z,1.1nm,0.5s							
VOSK	**Vostochnaya**	**16.39**	**359**	P		**P**	**15 06 15.9**	**-1.4**
VOSK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZRNK	**Zerenda**	**16.70**	**355**	⇑P		**P**	**15 06 20.3**	**-0.6**
	comp=Z,1.5nm,0.6s							
ZRNK	**Zerenda**	**16.70**	**355**	*e*P		**P**	**15 06 19.5**	**-1.4**
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ZRNK	**Zerenda**	**16.70**	**355**	*e*P		**P**	**15 06 19.5**	**-1.4**
	comp=Z,2.1nm,0.5s							
BVA0	**Borovoye Array**	**16.70**	**358**	⇑P		**P**	**15 06 21.0**	**0.0**
	comp=Z,0.4nm,0.6s,baz=157,slow=18,SNR=14							
BVA0	**Borovoye Array**	**16.70**	**358**	*i* P		**P**	**15 06 21.0**	**0.0**
BVAR	**Borovoye Array**	**16.70**	**358**	P		**P**	**15 06 21.5**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=158,slow=16,SNR=12							
BRVK	**Borovoye**	**16.74**	**358**	*e*P		**P**	**15 06 21.2**	**-0.2**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BRVK	**Borovoye**	**16.74**	**358**	*e*P		**P**	**15 06 21.2**	**-0.2**
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**33.26**	**309**	P		**P**	**15 08 56.5**	**-0.4**
	comp=Z,0.2nm,0.3s,mb3.1,baz=101,slow=5.9,SNR=4.6							
MLR	**Muntele Rosu**	**35.09**	**299**	P		**P**	**15 09 14.7**	**+2.2**
	comp=Z,1.1nm,0.6s,mb3.6,baz=72,slow=5.0,SNR=3.5							
FINES	**FINESS Array B**	**37.77**	**326**	P		**P**	**15 09 34.9**	**+0.1**
	comp=Z,1.3nm,0.5s,mb3.7,baz=127,slow=9.5,SNR=11							
FINES	**FINESS Array B**	**37.77**	**326**	P		**P**	**15 09 34.9**	**+0.1**
KAF	**Kangasniemi**	**37.91**	**327**	*e*p		**P**	**15 09 35.8**	**-0.2**
	comp=Z,0.7nm,0.4s,mb3.5,baz=106,slow=8.2							
ARCES	**ARCESS Array B**	**41.40**	**338**	P		**P**	**15 10 05.2**	**+0.6**
	comp=Z,1.2nm,0.4s,mb3.7,baz=115,slow=8.2,SNR=31							
HFS	**Hagfors**	**43.36**	**322**	P		**P**	**15 10 20.3**	**-0.2**
	comp=Z,1.4nm,0.5s,mb3.6,baz=100,slow=9.0,SNR=11							
NB2	**NORSAR Subarra**	**44.67**	**323**	P		**P**	**15 10 30.5**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.3,baz=97,slow=7.4							
NOA	**NORSAR Array B**	**44.67**	**323**	P		**P**	**15 10 30.5**	**-0.4**
	comp=Z,0.6nm,0.4s,mb3.3,baz=100,slow=7.7,SNR=4.1							
ILAR	**Eielson Array**	**74.87**	**16**	P		**P**	**15 13 57.0**	**+0.6**
	comp=Z,0.4nm,0.8s,mb3.1,baz=293,slow=6.9,SNR=4.4							
WRA	**Warramunga Arr**	**81.68**	**122**	P		**P**	**15 14 34.9**	**+0.8**
	comp=Z,0.3nm,0.4s,mb3.3,baz=325,slow=4.9,SNR=9.0							

*IDC **22** 15:39:36.0±0.7,5.22S×29.76E,mb3.8/11,mb1 3.9/12, mb1mx3.9/20,mbtmp3.8/12,ML4.1/1,MS3.9/18,Ms1 3.9/18, ms1mx3.9/23,Error ellipse: s-maj=25.2km s-min=16.0km az=87.0*
*NEIC **22** 15:39:36.9±0.5,5.35S×29.81E,h10km,mb4.5/6,Error ellipse: s-maj=14.8km s-min=8.1km az=103.0*
ISC 22 15:39:34.7±0.5,5.41S±0.05×29.8E±0.1,h10km,n32, σ1§44/33,mb3.9/13,MS4.0/14,Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBAR	**Mbarara**	**4.86**	**11**	*e*Pn		**Pn**	**15 40 48.7**	**-0.9**
MBAR				*e*Pb		**Pb**	**15 41 01.5**	**+1.8**
MBAR				*e*Sg		**Sg**	**15 42 02.2**	**-14**
KMBO	**Kilima Mbogo**	**8.53**	**60**	Pn		**P**	**15 41 39.2**	**-2.1**
	2.1nm,0.3s,baz=228,slow=20,SNR=22							
KMBO				Sn		**Sn**	**15 43 08.4**	**-10**
	8.9nm,0.3s,baz=236,slow=22,SNR=5.6							
KMBO				Lg			15 44 00.4	
	20nm,0.3s,baz=218,slow=19,SNR=14							
KMBO				LR	LR		15 45 18.8	
	comp=Z,654nm,22.0s,baz=263,slow=40							
LSZ	**Lusaka**	**9.94**	**189**	*e*Pn		**P**	**15 42 00.2**	**-0.6**
	23nm,0.4s							
LSZ				*e*Sn		**Sn**	**15 43 45.9**	**-7.6**
MATP	**Matopo**	**14.98**	**185**	Pn		**P**	**15 43 06.1**	**-2.4**
	1.0nm,0.3s,baz=6.3,slow=13,SNR=14							
MATP				Sn		**S**	**15 45 46.8**	**-8.6**
	1.3nm,0.3s,baz=95,slow=22,SNR=3.8							
MATP				Lg			15 47 25.5	
	2.7nm,0.3s,baz=78,slow=21,SNR=4.7							
MATP				LR	LR		15 49 23.3	
	comp=Z,548nm,18.4s,baz=6.8,slow=39							
TSUM	**Tsumeb**	**18.18**	**220**	P		**P**	**15 43 48.1**	**-1.1**
	0.6nm,0.3s,baz=24,slow=13,SNR=7.2							
TSUM				S		**S**	**15 47 02.8**	**-6.5**
	0.8nm,0.3s,baz=114,slow=21,SNR=4.6							
TSUM				Lg			15 49 08.1	
	0.5nm,0.3s,baz=91,slow=14,SNR=4.0							
TSUM				LR	LR		15 50 47.7	
	comp=Z,183nm,21.6s,baz=132,slow=37							
TSUM	**Tsumeb**	**18.18**	**220**	*e*Pn		**P**	**15 43 50.1**	**+0.9**
	14nm,0.7s							
TSUM				*e*Sn		**S**	**15 46 52.4**	**-17**
LBTB	**Lobatse**	**19.91**	**191**	P		**P**	**15 44 11.0**	**+1.4**
	16nm,1.1s,baz=13,slow=13,SNR=8.0							
LBTB				Lg			15 50 00.7	
	34nm,1.0s,baz=290,slow=14,SNR=3.9							
LBTB				LR	LR		15 52 07.2	
	comp=Z,1μm,18.4s,baz=24,slow=37							
LBTB	**Lobatse**	**19.91**	**191**	*e*Pn		**P**	**15 44 10.3**	**+0.7**
	32nm,1.3s							
OPO	**Ambohidratompo**	**21.39**	**129**	P		**P**	**15 44 27.1**	**+2.2**
	0.6nm,0.5s,mb3.2,baz=337,slow=7.7,SNR=1.9							
BOSA	**Boshof**	**23.48**	**190**	P		**P**	**15 44 48.3**	**+2.7**
	4.0nm,0.7s,mb4.0,baz=31,slow=7.9,SNR=9.7							
BOSA				LR	LR		15 53 40.7	
	comp=Z,415nm,18.8s,MS3.9,baz=14,slow=36							
BOSA	**Boshof**	**23.48**	**190**	*e*P		**P**	**15 44 47.7**	**+2.1**
	36nm,1.3s,mb4.6							
SUR	**Sutherland**	**28.13**	**196**	LR	LR		15 57 10.9	
	comp=Z,686nm,19.7s,MS4.2,baz=63,slow=37							
DBIC	**Dimbokro**	**36.65**	**289**	P		**P**	**15 46 43.4**	**-0.3**
	4.7nm,0.9s,mb4.3,baz=116,slow=11,SNR=2.6							
DBIC				LR	LR		16 02 18.3	
	comp=Z,150nm,18.2s,MS3.8,baz=81,slow=37							
BR131	**Keskin Array S**	**45.05**	**4**	*e*P		**P**	**15 47 58.0**	**+5.3**
	5.6nm,1.0s,mb4.3							
BRTR	**Keskin Array B**	**45.05**	**4**	P		**P**	**15 47 52.0**	**-0.6**
	0.4nm,0.4s,mb3.6,baz=202,slow=7.8,SNR=2.7							
TIP	**Timpagrande**	**45.98**	**346**	*e*P		**P**	**15 47 59.3**	**-0.8**
GERES	**GERESS Array B**	**55.84**	**347**	P		**P**	**15 49 14.2**	**-0.5**
	0.2nm,0.3s,mb3.7,baz=159,slow=14,SNR=3.2							
GERES				LR	LR		16 15 33.4	
	comp=Z,80nm,19.2s,MS3.8,baz=141,slow=39							
AKASG	**Malin Array Be**	**55.89**	**360**	P		**P**	**15 49 17.0**	**+2.0**
	0.4nm,0.3s,mb4.0,baz=190,slow=6.5,SNR=7.0							
MORC	**Moravsky Berou**	**55.99**	**350**	*e*P		**P**	**15 49 15.6**	**-0.1**
	1.7nm,0.8s,mb4.1							
GRA1	**Grafenberg Arr**	**57.21**	**346**	*e*P		**P**	**15 49 29.6**	**+5.1**
	6.0nm,1.0s,mb4.6							
MOX	**Moxa**	**58.00**	**346**	*e*P		**P**	**15 49 36.0**	**+6.0**
MAW	**Mawson**	**66.02**	**167**	P		**P**	**15 50 26.5**	**+3.1**
	0.9nm,0.7s,mb3.9,baz=41,slow=11,SNR=3.8							
MAW				LR	LR		16 18 44.3	
	comp=Z,65nm,18.0s,MS3.9,baz=247,slow=36							
FINES	**FINESS Array B**	**66.72**	**358**	LR	LR		16 24 44.9	
	comp=Z,52nm,18.8s,MS3.8,baz=258,slow=41							
NB2	**NORSAR Subarra**	**67.83**	**350**	P		**P**	**15 50 41.4**	**+6.4**
	5.6nm,1.1s,mb4.5,baz=164,slow=6.5							
NOA	**NORSAR Array B**	**67.83**	**350**	P		**P**	**15 50 34.9**	**-0.1**
	0.9nm,0.9s,mb3.6,baz=148,slow=5.3,SNR=2.7							
NOA				LR	LR		16 21 23.2	
	comp=Z,24nm,19.9s,MS3.4,baz=180,slow=37							
MKAR	**Makanchi Array**	**69.58**	**36**	P		**P**	**15 50 46.3**	**+0.2**
	0.4nm,0.7s,mb3.5,baz=236,slow=9.2,SNR=6.4							
MKAR				LR	LR		16 20 17.4	
	comp=Z,91nm,21.1s,MS4.0,baz=122,slow=35							
ARCES	**ARCESS Array B**	**74.84**	**358**	P		**P**	**15 51 15.5**	**-1.4**
	1.8nm,0.9s,mb4.0,baz=350,slow=21,SNR=2.6							
ARCES				LR	LR		16 30 36.1	
	comp=Z,49nm,18.2s,MS3.8,baz=96,slow=41							
BDFB	**Brasilia**	**76.89**	**255**	LR	LR		16 24 13.4	
	comp=Z,62nm,19.5s,MS3.9,baz=299,slow=35							
SONM	**Songino Array**	**85.02**	**41**	P		**P**	**15 52 14.3**	**+2.4**
	0.2nm,0.6s,mb3.4,baz=233,slow=7.2,SNR=3.1							
SONM				LR	LR		16 34 39.7	
	comp=Z,118nm,18.1s,MS4.3,baz=267,slow=39							
CPUP	**Villa Florida**	**85.10**	**244**	LR	LR		16 24 28.3	
	comp=Z,51nm,18.1s,MS4.0,baz=146,slow=32							
VNDA	**Vanda**	**93.07**	**171**	LR	LR		16 35 31.4	
	comp=Z,130nm,18.2s,MS4.4,baz=226,slow=36							
SCHQ	**Schefferville**	**98.24**	**325**	LR	LR		16 33 06.1	
	comp=Z,52nm,21.8s,MS4.0,baz=72,slow=33							

*NEIC **22** 15:46:10.5,22.61S×70.00W,h42km,MD3.5(GUC),After GUC.*
NEIC Felt [III] at Tocopilla.
GUC 22 15:46:10.5±0.5,22.61S×70.00W,h42km±2km,MD3.5, ML3.4,2C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**1.00**	**90**	*i* P		P	15 46 29.3	+1.0
LVC				*i* S		S	15 46 43.3	+1.8
LVC				AMP			15 46 44.4	
	comp=N,1μm,0.3s							
LVC	**Limon Verde**	**1.00**	**90**	⇓*i* Pn		P	15 46 29.2	+0.9
LVC				*e*Sn		S	15 46 42.0	+0.5
ANCH	**Antofagasta**	**1.14**	**199**	*i* P		P	15 46 30.6	+0.5
ANCH				*i* S		S	15 46 46.0	+1.3
SPCH	**San Pedro de A**	**1.69**	**101**	⇑*i* P		P	15 46 42.2	+4.2
SPCH				*i* S		S	15 47 04.5	+5.9
SPCH				AMP			15 47 17.2	
	comp=E,1μm,0.6s							
CPN1	**Cerro Paranal**	**2.04**	**190**	⇑*i* P		P	15 46 44.6	+1.4
CPN1				*i* S		S	15 47 10.4	+2.8
CPN1				AMP			15 47 22.0	
	comp=E,350nm,0.3s							
LPAZ	**La Paz**	**6.53**	**16**	*e*Pn		P	15 47 47.5	+1.0
	comp=E,4.2nm,0.6s							

*THR **22** 16:12:13.6±0.5,34.59N×53.26E,h14km±5km,ML3.0*
*CSEM **22** 16:12:14.6±0.2,34.58N×53.18E,h18km,ML3.2,Error ellipse: s-maj=4.4km s-min=2.2km az=90.0*
*TEH **22** 16:12:15.5,34.61N×53.16E,h10km,Mn3.2*
ISC 22 16:12:14.3±0.7,34.61N±0.04×53.13E±0.06,h10km,n18, σ1§23/21,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ILAS	**Lasjerd**	**0.79**	**350**	Pg		**Pg**	**16 12 31.4**	**+1.3**
IANJ	**Anjilow**	**1.07**	**37**	Pg		**Pg**	**16 12 33.7**	**-2.1**
IFIR	**Firoozkooh**	**1.08**	**343**	Pg		**Pg**	**16 12 35.1**	**-0.8**
IFIR				Sg		**Sg**	**16 12 49.6**	**-0.7**
ISHM	**Shahmirzad**	**1.20**	**6**	Pg		**Pg**	**16 12 37.5**	**-0.9**
IVRN	**Varamin**	**1.22**	**289**	Pg		**Pg**	**16 12 37.7**	**-1.0**
IVRN				Sg		**Sg**	**16 12 54.1**	**-0.9**
QAM	**Qamsar**	**1.31**	**238**	Pn		**Pn**	**16 12 45.0**	**+6.3**
IDMV	**Damavand**	**1.32**	**317**	Pn		**Pn**	**16 12 39.7**	**+0.8**
DAMV	**Damavand**	**1.40**	**317**	*e*PG		**Pg**	**16 12 41.0**	**-1.3**
DAMV				*e*SG		**Sg**	**16 13 00.9**	**0.0**
DAMV				AML	AML		16 13 07.1	
	comp=E,109nm,0.2s							
IKIA	**Kiasar**	**1.66**	**16**	Pn		**Pn**	**16 12 45.2**	**+1.5**
IGLO	**Galoogah**	**1.72**	**10**	Pn		**Pn**	**16 12 51.5**	**+6.9**
IPRN	**Paran-Amol**	**1.79**	**336**	Pn		**Pn**	**16 12 47.2**	**+1.7**
IKLH	**Kalahroud**	**1.82**	**226**	Pn		**Pn**	**16 12 47.0**	**+0.9**
NASN	**Na'in**	**1.82**	**189**	*e*Pg		**Pg**	**16 12 46.9**	**-3.8**
NASN				*e*SG		**Sg**	**16 13 11.7**	**-3.5**
NASN				AML	AML		16 13 20.9	
	comp=N,259nm,0.6s							
IZEF	**Zefreh**	**1.83**	**202**	Pn		**Pn**	**16 12 46.9**	**+0.7**
THKV	**Tehran--Karaj**	**2.26**	**306**	*e*PN		**Pn**	**16 12 54.1**	**+1.8**
IMHD	**Mahdasht**	**2.29**	**299**	Lg			16 13 27.2	
IMHD	**Mahdasht**	**2.29**	**299**	Pn		**Pn**	**16 12 53.7**	**+1.0**
IGAR	**Garneh**	**2.48**	**199**	Pn		**Pn**	**16 12 54.7**	**-0.8**

*NEIC **22** 16:26:03.1,62.94N×143.78W,h1km,ML3.1(AEIC),After AEIC.*
*PGC **22** 16:26:03.7,63.06N×143.60W,h5km,ML3.5/2,Eastern Alaska.*
ISC 22 16:26:01.9±0.4,62.98N±0.03×143.62W±0.07,h1km,n45, σ1§15/52,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BCA3	**Beaver Creek A**	**0.84**	**83**	P		**Pg**	**16 26 19.6**	**+0.9**
PAX	**Paxson**	**0.84**	**270**	P		**Pg**	**16 26 17.8**	**-0.9**
PAX				S		**Sg**	**16 26 28.3**	**-1.7**
SDG	**Sourdough**	**0.99**	**244**	P		**Pb**	**16 26 20.1**	**-1.4**
SDG				S		**Sb**	**16 26 32.5**	**-2.5**
WANC	**Wrangell North**	**1.00**	**192**	P		**Pb**	**16 26 21.6**	**-0.1**
WACK	**Wrangell Chich**	**1.05**	**199**	P		**Pb**	**16 26 21.3**	**-1.2**
WACK				S		**Sb**	**16 26 33.8**	**-2.8**
TZL	**Tazlina**	**1.25**	**223**	P		**Pb**	**16 26 25.3**	**-0.7**
GLB	**Gilahina Butte**	**1.54**	**183**	P		**Pn**	**16 26 29.7**	**-1.0**
KLU	**Klutina**	**1.84**	**217**	P		**Pn**	**16 26 34.3**	**-0.6**
BALM	**Baldy**	**2.04**	**162**	P		**Pn**

TACH	**Talagante**	**1.92**	**7**	⇑*iP*	P		16 44 16.2	-0.2
TACH				*i* S	S		16 44 40.0	-0.4
PCH	**Pirque**	**2.02**	**17**	⇑*iP*	P		16 44 18.1	+0.3
PCH				*i* S	S		16 44 43.8	+1.0
ANTU	**Antumapu**	**2.05**	**14**	*i* S	S		16 44 43.9	+0.6
ANTU				AMP			16 44 46.8	
	comp=N,418nm,0.2s							
SJCH	**San Jose de Ma**	**2.05**	**21**	AMP			16 44 46.8	
	comp=E,336nm,0.4s							
RCDM	**Rinconada Maip**	**2.10**	**10**	⇓*iP*	P		16 44 18.5	-0.2
RCDM				*i* S	S		16 44 44.3	-0.2
RCDM				AMP			16 44 46.7	
	comp=E,1µm,0.2s							
LCCH	**Las Cruces**	**2.10**	**352**	⇓*iP*	P		16 44 18.2	-0.6
SAN	**Santiago**	**2.16**	**13**	*eS*	S		16 44 45.9	0.0
SAN				AMP			16 44 47.4	
	comp=E,363nm,0.4s							
STL	**Santa Lucia**	**2.18**	**13**	*i* S	S		16 44 46.0	-0.4
STL				AMP			16 44 50.5	
	comp=N,136nm,0.1s							
DSCH	**Colegio Aleman**	**2.23**	**14**	*eP*	P		16 44 20.6	+0.1
DSCH				*i* S	S		16 44 47.9	+0.3
DSCH				AMP			16 44 51.8	
	comp=N,677nm,0.3s							
CLCH	**Cerro Calan**	**2.24**	**15**	*i* P	P		16 44 20.6	-0.1
CLCH				*i* S	S		16 44 48.4	+0.6
CLCH				AMP			16 44 49.0	
	comp=N,417nm,0.4s							
CLCH				AMP			16 44 49.7	
	comp=E,703nm,0.6s							
FCH	**Farellones**	**2.36**	**20**	*eP*	P		16 44 22.4	+0.1
FCH				*i* S	S		16 44 51.9	+1.0
FCH				AMP			16 44 52.8	
	comp=N,359nm,0.1s							
PEL	**Peldehue**	**2.46**	**11**	*eP*	P		16 44 23.2	-0.4
PEL				*eS*	S		16 44 53.7	+0.6
PEL				AMP			16 44 58.4	
	comp=Z,337nm,0.2s							
ROCH	**El Roble**	**2.59**	**4**	*eP*	P		16 44 25.4	0.0
JACH	**Jahuel**	**2.92**	**11**	⇑*iP*	P		16 44 29.2	-0.7
JACH				*i* S	S		16 45 04.1	-0.3

IDC 22 16:44:18.7±1.9, 2.79S×118.97E, mb3.5/4, mb1 3.6/4, mb1mx3.5/15, mbtmp3.5/4, Error ellipse: s-maj=179.0km s-min=23.1km az=59.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.71**	**140**	P	P	16 49 22.3	-1.3
	0.8nm,0.8s,baz=313,slow=12,SNR=4.6						
STKA	**Stephens Creek**	**35.92**	**146**	P	P	16 51 20.9	-2.0
	0.8nm,0.5s,baz=290,slow=8.7,SNR=4.1						
SONM	**Songino Array**	**51.60**	**349**	P	P	16 53 26.2	-2.8
	0.3nm,0.6s,baz=173,slow=7.6,SNR=2.8						
MKAR	**Makanchi Array**	**58.99**	**331**	P	P	16 54 20.5	-2.0
	0.5nm,0.9s,baz=143,slow=7.2,SNR=3.4						

CASC 22 17:14:08.0±2.1, 12.72N×88.60W, h37km±999km, MD3.6, 6D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLLM	**Bellamira**	**0.81**	**26**	⇓*iP*	P	17 14 30.8	+7.9
BLLM				*eS*	S	17 14 41.8	+8.0
SNVI	**San Vicente**	**0.92**	**346**	⇓*eP*	P	17 14 31.8	+7.3
SNVI				*eS*	S	17 14 43.9	+7.1
SNVI				*e*		17 14 43.9	
CNCH	**Conchagua**	**0.93**	**53**	*eP*	P	17 14 32.8	+8.1
CNCH				*eS*	S	17 14 46.8	+10
LCBS	**La Ceiba**	**1.00**	**339**	⇓*eP*	P	17 14 32.6	+6.9
LCBS				*eS*	S	17 14 45.5	+6.6
LFRS	**El Faro**	**1.00**	**334**	⇓*iP*	P	17 14 32.6	+6.9
LFRS				*eS*	S	17 14 45.4	+6.5
LBRS	**Las Brisas**	**1.10**	**337**	*eP*	P	17 14 34.2	+7.1
LBRS				*eS*	S	17 14 49.5	+8.2
LFU	**La Fuente**	**1.14**	**334**	*eP*	P	17 14 34.3	+6.7
LFU				*eS*	S	17 14 49.4	+7.0
BOQS	**Boqueron**	**1.21**	**327**	*eP*	P	17 14 35.2	+6.6
BOQS				*eS*	S	17 14 51.6	+7.5
SBLS	**San Blas**	**1.49**	**318**	*eP*	P	17 14 39.5	+6.8
SBLS				*eS*	S	17 14 57.9	+6.7
SNJE	**San Jose**	**1.50**	**320**	*eP*	P	17 14 40.0	+7.0
SNJE				*eS*	S	17 15 00.8	+9.3
CRIN	**San Cristobal**	**1.52**	**90**	⇓*eP*	P	17 14 33.6	+0.5
CRIN				*eS*	S	17 14 52.5	+0.6
TEL3	**Telica 3**	**1.72**	**95**	⇓*eP*	P	17 14 35.9	-0.2
TEL3				*eS*	S	17 14 57.3	+0.2
MIRN	**Miramar**	**1.87**	**98**	*eP*	P	17 14 37.8	-0.3
MIRN				*eS*	S	17 15 00.0	-0.7
CNGN	**Cerro Negro**	**1.87**	**96**	*eP*	P	17 14 38.0	-0.2
CNGN				*eS*	S	17 15 01.6	+0.8
COPN	**Copaltepe**	**2.04**	**105**	*eS*	S	17 15 04.2	-0.7
MOMJ	**Momotombo**	**2.04**	**98**	*eP*	P	17 14 39.3	-1.3
MOMJ				*eS*	S	17 15 04.7	-0.3
TICN	**Ticuantepe**	**2.42**	**106**	*eP*	P	17 14 45.9	-0.1
TICN				*eS*	S	17 15 13.9	-0.7

*BJI **22** 17:18:02.2, 24.28N×122.25E, h33km, mB4.6, mb4.3, ML3.7*
*NEIC **22** 17:18:05.7±0.8, 24.30N×122.21E, h60km±6km, Error ellipse: s-maj=13.7km s-min=10.7km az=185.0*
*JMA **22** 17:18:06.4±0.3, 24.45N×122.22E, h67km, M3.4*
*IDC **22** 17:18:06.7±4.6, 24.38N×122.32E, h68km±43km, mb3.7/7, mb1 3.8/8, mb1mx3.6/20, mbtmp4.0/8, ML4.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/24, Error ellipse: s-maj=30.4km s-min=20.0km az=57.0*
ISC 22 17:18:05.0±0.5, 24.32N±0.07×122.16E±0.03, h70km±5km, n26, σ0°84/40, mb3.8/7, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.54**	**254**	⇓*i*Pn	P	17 18 18.1	-0.3
NACB				*e*Sn	S	17 18 27.1	-1.0
YOJ	**Yonaguni jima**	**0.79**	**80**	P	P	17 18 21.4	+0.3
YOJ				S	S	17 18 32.5	-0.5
TATO	**Taipei**	**0.89**	**317**	⇓*i*Pn	P	17 18 23.4	+1.1
TATO				*e*Sn	S	17 18 36.3	+1.1
IRIF	**Iriomote-Funau**	**1.43**	**89**	P	P	17 19 29.6	**0.0**
IRIF				S	S	17 18 47.4	-0.4
HATJ	**Hateruma jima**	**1.52**	**100**	P	P	17 18 32.0	+1.1
HATJ				*e*S	S	17 18 50.7	+0.8
JKRS	**Kuro-shima**	**1.69**	**93**	P	P	17 18 33.6	+0.5
JKRS				S	S	17 18 54.1	+0.4
JIJ	**Ishigaki jima**	**1.81**	**88**	P	P	17 18 34.6	-0.1
JIJ				S	S	17 18 56.1	-0.4
JTJ	**Tarama**	**2.34**	**82**	P	P	17 18 42.6	+0.5
JTJ				*e*S	S	17 19 09.7	+0.1
JMJ	**Miyako jima 2**	**2.89**	**80**	P	P	17 18 51.2	+1.3
JMJ				*e*S	S	17 19 23.6	**0.0**
JOGS	**Gusukube**	**2.99**	**81**	P	P	17 18 52.3	+1.1
JOGS				*e*S	S	17 19 25.8	-0.2
QZH	**Quanzhou**	**3.31**	**281**	⇓*i*P	P	17 18 54.8	-0.9
QZH				S	S	17 19 29.9	-4.1
QZH				Smax			
	comp=N,260nm,0.6s						
QZH				Smax			
	comp=E,140nm,0.4s						
JKE	**Kume jima 2**	**4.64**	**64**	P	P	17 19 14.4	+0.2
JKE				*e*S	S	17 20 07.8	+0.5
JAGN	**Aguni-jima**	**5.12**	**63**	P	P	17 19 20.8	-0.1
JIH	**Iheya**	**5.89**	**62**	P	P	17 19 30.9	-0.7
JOW	**Kunigami**	**6.06**	**64**	P	P	17 19 32.3	-1.6
	comp=E,8.5nm,0.3s,baz=186,slow=11,SNR=60						
JOW				S	S	17 20 38.1	-4.5
	baz=127,slow=19						
JOW	**Kunigami**	**6.06**	**64**	P	P	17 19 32.2	-1.7
JOW				*e*S	S	17 20 38.6	-4.0
JTK	**Tokunoshima**	**7.01**	**59**	P	P	17 19 45.1	-2.1
JAM	**Amami Oshima**	**7.82**	**57**	P	P	17 19 55.8	-2.5
SONM	**Songino Array**	**26.59**	**336**	P	P	17 23 38.9	+0.4
	comp=E,4.6nm,0.7s,mb4.1,baz=150,slow=9.6,SNR=38						
SONM				LR	LR	17 34 51.2	
	comp=E,41nm,20.4s,baz=76,slow=38						
MKAR	**Makanchi Array**	**38.86**	**315**	P	P	17 25 25.6	+0.7
	comp=E,0.7nm,0.4s,mb3.9,baz=100,slow=9.1,SNR=24						
MKAR				PcP	PcP	17 27 34.8	-0.6
	comp=E,0.5nm,0.7s,baz=76,slow=5.0,SNR=4.7						
WRA	**Warramunga Arr**	**45.57**	**164**	P	P	17 26 20.0	**0.0**
	comp=E,0.6nm,0.4s,mb3.7,baz=347,slow=8.9,SNR=13						
BVAR	**Borovoye Array**	**48.13**	**320**	P	P	17 26 39.9	+0.1
	comp=E,1.0nm,0.6s,mb3.9,baz=96,slow=7.7,SNR=11						
BVAR				PcP	PcP	17 28 05.9	-0.7
	comp=E,0.1nm,0.4s,baz=135,slow=4.1,SNR=3.7						
ILAR	**Eielson Array**	**68.68**	**27**	P	P	17 29 02.5	-0.2
	comp=E,0.5nm,0.6s,mb3.5,baz=292,slow=7.4,SNR=5.9						
ARCES	**ARCESS Array B**	**69.74**	**338**	P	P	17 29 08.5	-0.6
	comp=E,1.0nm,0.8s,mb3.7,baz=79,slow=6.2,SNR=4.3						
ARCES	**ARCESS Array B**	**69.74**	**338**	P	P	17 29 08.5	-0.6
BRTR	**Keskin Array B**	**73.81**	**307**	P	P	17 29 34.6	+0.8
	comp=E,1.8nm,1.0s,mb3.8,baz=90,slow=6.2,SNR=7.2						

*BJI **22** 17:25:15.0, 3.58N×95.81E, h54km, mB5.0, mb5.1, Ms4.2, Msz4.0*
*MOS **22** 17:25:16.3±1.0, 4.18N×96.07E, h33km, mb5.0/29, Error ellipse: s-maj=12.4km s-min=6.1km az=109.4*
*NEIC **22** 17:25:17.0±0.2, 3.98N×95.88E, h30km, mb4.8/42, Error ellipse: s-maj=6.4km s-min=4.4km az=213.0*
*IDC **22** 17:25:18.7±3.6, 4.07N×95.91E, h40km±31km, mb4.4/20, mb1 4.4/20, mb1mx4.3/22, mbtmp4.6/20, MS3.7/11, Ms1 3.7/11, ms1mx3.7/14, Error ellipse: s-maj=18.6km s-min=13.0km az=57.0*
ISC 22 17:25:16.9±0.3, 3.94N±0.04×95.89E±0.03, h46km, h46km±2.7km: pP-P, n200, σ1°15/204, mb4.8/81, MS3.9/25, 17C-5D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKT	**Phuket**	**4.70**	**29**	P	P	17 26 31.5	+4.2
KULM	**Kulim**	**4.93**	**74**	*e*Pn	P	17 26 31.3	+0.9
KULM				*e*Sn	S	17 27 25.3	-1.6
IPM	**Ipoh**	**5.16**	**83**	P	P	17 26 34.5	+0.9
SNG	**Songkhla**	**5.70**	**55**	P	P	17 26 42.0	+0.9
	378nm,0.9s						
KGM	**Kluang**	**7.66**	**104**	P	P	17 27 10.9	+2.3
NNT	**Nongplab**	**9.39**	**24**	P	P	17 27 35.0	+2.5
NST	**Nakhon Sawan**	**12.38**	**19**	P	P	17 28 17.0	+3.8
BDT	**Bhumibol Dam**	**13.57**	**13**	P	P	17 28 32.0	+3.0
KKTK	**Khon Kaen**	**14.07**	**28**	P	P	17 28 39.0	+3.4
	1µm,0.6s						
KSM	**Kuching**	**14.61**	**99**	*e*P	P	17 28 47.0	+4.4
CHG	**Chiang Mai**	**15.08**	**11**	⇓P	P	17 28 51.4	+2.7
	22nm,0.8s						
PALK	**Pallekele**	**15.47**	**283**	*e*Pn	P	17 28 52.5	-1.3
CHRT	**Chiangrai**	**16.28**	**13**	PG	P	17 29 05.0	+1.0
CHRT				SG	x	17 29 17.5	
QIZ	**Qiongzhong**	**20.26**	**41**	⇑P	P	17 29 51.6	+0.3
QIZ				*eS*	S	17 33 33.0	+2.0
QIZ				LR	LR		
	comp=E,286nm,18.0s						
QIZ				LR	LR		
	comp=Z,349nm,23.1s						
QIZ	**Qiongzhong**	**20.26**	**41**	*eP*	P	17 29 51.1	-0.2
	comp=Z,50nm,1.3s						
QIZ				*e*		17 30 04.4	
KKM	**Kota Kinabalu**	**20.35**	**83**	*eP*	P	17 29 52.0	-0.2
KKM	**Kota Kinabalu**	**20.35**	**83**	P	P	17 29 53.0	+0.7
HYB	**Hyderabad**	**21.64**	**310**	*eP*	P	17 30 10.0	+4.7
HYB	**Hyderabad**	**21.64**	**310**	*i* P	P	17 30 10.0	+4.7
SHL	**Shillong**	**21.84**	**350**	⇓*iP*	P	17 30 05.8	-1.5
SHL				*eS*	S	17 34 02.0	+1.1
TSM	**Tawau**	**21.93**	**88**	P	P	17 30 07.7	-0.5
KMI	**Kunming**	**22.07**	**17**	P	P	17 30 12.1	+2.6
KMI				AP		17 30 21.8	
KMI				XP		17 30 26.3	
KMI				PP	PP	17 30 38.5	+2.1
KMI				PPP	PPP	17 30 48.1	+1.3
KMI				S	S	17 34 06.4	+1.5
KMI				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.6						
KMI				AMB	AMB		
	comp=Z,115nm,4.7s						
KMI				LR	LR		
	comp=N,269nm,16.7s,MS3.8						
KMI				LR	LR		
	comp=E,143nm,16.2s,MS3.8						
KMI				LR	LR		
	comp=Z,253nm,16.9s,MS3.7						
KMI	**Kunming**	**22.07**	**17**	P	P	17 30 12.1	+2.6
KMI				*PP		17 30 21.8	
KMI				*SP		17 30 26.3	
KMI						17 30 38.5	
KMI				S	S	17 34 06.4	+1.5
KMI				*SS		17 34 22.6	
KMI				SS	SS	17 34 44.5	-1.5
KMI				SSS	SSS	17 34 59.3	-2.0
KMI				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.6						
KMI				MLR	MLR		
	comp=Z,250nm,16.9s,MS3.7						
KMI	**Kunming**	**22.07**	**17**	P	P	17 30 12.1	+2.6
	comp=Z,19nm,0.8s,mb4.6						
KMI				pP		17 30 21.8	
KMI				sP		17 30 26.3	
KMI				PP	PP	17 30 38.5	+2.1
KMI				PPP	PPP	17 34 48.1	+1.3
KMI				S	S	17 34 06.4	+1.5
KMI				sS		17 34 22.6	
KMI				SS	SS	17 34 44.5	-1.5
KMI				SSS	SSS	17 34 59.3	-2.0
KMI				LR	LR		
	comp=Z,250nm,16.9s,MS3.7						
GYA	**Guiyang**	**24.65**	**24**	⇑*iP*	P	17 30 36.1	+1.3
GYA				AP		17 30 45.3	
GYA				PP	PP	17 31 13.4	+1.3
GYA				S	S	17 34 53.8	+3.4
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
GYA				AMB	AMB		
	comp=Z,90nm,2.8s,mb4.8						
GYA				LR	LR		
	comp=N,280nm,15.9s,MS4.0						
GYA				LR	LR		
	comp=E,310nm,16.4s,MS4.0						
GYA				LR	LR		
	comp=Z,320nm,16.0s,MS3.9						
PKI	**Pulchoki**	**25.54**	**338**	*eP*	P	17 30 43.1	-0.1
	comp=Z,15nm,0.5s,mb4.8						
PKI	**Pulchoki**	**25.54**	**338**	*eP*	P	17 30 43.1	-0.1
PKI				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.5						
GUN	**Gumba**	**25.68**	**339**	*eP*	P	17 30 44.7	+0.2
	comp=Z,61nm,0.6s,mb5.3						
DMN	**Daman**	**25.69**	**337**	*eP*	P	17 30 44.2	-0.4
KKN	**Kakani**	**25.79**	**338**	*eP*	P	17 30 45.3	-0.2
	comp=Z,34nm,0.7s,mb5.0						
KKN	**Kakani**	**25.79**	**338**	*eP*	P	17 30 45.3	-0.2
KKN				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.7						
LSA	**Lhasa**	**26.01**	**351**	P	P	17 30 48.0	+0.4
LSA	**Lhasa**	**26.01**	**351**	*eP*	P	17 30 47.7	+0.1
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**26.01**	**351**	*eP*	P	17 30 47.7	+0.1
	comp=Z,9.9nm,0.6s,mb4.5						
GKN	**Gorkha**	**26.22**	**337**	*eP*	P	17 30 49.4	-0.2
	comp=Z,33nm,0.5s,mb5.2						
KOLN	**Koldanda**	**26.44**	**335**	*eP*	P	17 30 50.0	-1.6
	comp=Z,60nm,0.7s,mb5.2						
CD2	**Chengdu**	**27.83**	**15**	⇑*iP*	P	17 31 03.3	-1.0
ENH	**Enshi**	**29.17**	**25**	*eP*	P	17 31 14.8	-1.5
	comp=Z,8.2nm,0.6s,mb4.6						
WHN	**Wuhan**	**31.68**	**31**	P	P	17 31 38.0	-0.5
XAN	**Xi'an**	**32.31**	**21**	P	P	17 31 42.8	-1.1
XAN				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.3						
LZH	**Lanzhou**	**32.82**	**12**	⇑P	P	17 31 47.8	-0.5
LZH				AP	pP	17 32 00.8	+0.2
LZH				PP	PP	17 32 57.0	-2.0
LZH				*eS*	S	17 36 59.0	-2.2
LZH				AMB	AMB		
	comp=Z,50nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,140nm,5.0s						
LZH				LR	LR		
	comp=E,500nm,18.2s						
LZH				LR	LR		
	comp=Z,410nm,19.0s,MS4.2						
LZH	**Lanzhou**	**32.82**	**12**	⇑P	P	17 31 47.7	-0.6
LZH				*PP	pP	17 31 57.2	-3.4
LZH				*SP	sP	17 32 00.8	-5.7
LZH						17 32 57.0	
LZH				*eS	S	17 36 59.0	-2.2
LZH				*SS		17 37 15.0	
LZH				SS	SS	17 38 58.0	-3.7
LZH				pmax	pmax		
	comp=Z,50nm,1.4s,mb5.2						
LZH				MLR	MLR		
	comp=Z,410nm,19.0s,MS4.2						
LZH	**Lanzhou**	**32.82**	**12**	⇑P	P	17 31 47.7	-0.6
	comp=Z,50nm,1.4s,mb5.2						
LZH				pP	pP	17 31 57.2	-3.4
LZH				sP	sP	17 32 00.8	-5.7
LZH				PP	PP	17 32 57.0	-2.0
LZH				*eS*	S	17 36 59.0	-2.2
LZH				sS		17 37 15.0	
LZH				SS	SS	17 38 58.0	-3.7
LZH				LR	LR		
	comp=Z,410nm,19.0s,MS4.2						
THN	**Thein Dam**	**34.07**	**329**	*eP*	P	17 31 57.6	-1.6
NJ2	**Nanjing**	**35.30**	**35**	*eP*	P	17 32 10.0	+0.3
NJ2				AP	pP	17 32 19.6	-2.5
NJ2				PP	PP	17 33 29.3	-0.7
NJ2				S	S	17 37 40.0	+0.4
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,100nm,8.9s						
NJ2				LR	LR		
	comp=N,130nm,19.7s,MS4.1						
NJ2				LR	LR		
	comp=E,310nm,16.7s,MS4.1						
NJ2				LR	LR		
	comp=Z,140nm,20.6s,MS3.7						
GTA	**Gaotai**	**35.48**	**5**	P	P	17 32 10.3	-0.9
GTA				AP	pP	17 32 23.4	-0.2
GTA				PP	PP	17 33 30.3	-1.8
GTA				S	S	17 37 41.8	-0.6
GTA				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,80nm,5.7s						
GTA				LR	LR		
	comp=N,100nm,17.9s,MS3.8						
GTA				LR	LR		
	comp=E,100nm,16.0s,MS3.8						
GTA				LR	LR		
	comp=Z,159nm,16.4s,MS3.9						
SSE	**Sheshan**	**36.01**	**39**	P	P	17 32 15.5	-0.3
SSE				AP	pP	17 32 28.1	-0.1
SSE				PP	PP	17 33 37.3	-1.2
SSE				PCP	PcP	17 34 41.0	-0.8
SSE				S	S	17 37 53.5	+2.9
SSE				PCS		17 38 28.8	
SSE				AMB	AMB		
	comp=Z,24nm,0.6s,mb5.3						
SSE				AMB	AMB		
	comp=Z,54nm,6.0s						
SSE				LR	LR		
	comp=N,73nm,22.2s,MS3.5						
SSE				LR	LR		
	comp=E,60nm,22.5s,MS3.5						
SSE				LR	LR		
	comp=Z,112nm,22.5s,MS3.6						
SSE	**Sheshan**	**36.01**	**39**	P	P	17 32 15.5	-0.3
	comp=Z,24nm,0.6s,mb5.3						
SSE				sP	sP	17 32 28.1	-5.9
SSE				PP	PP	17 33 37.2	-1.3
SSE				PcP	PcP	17 34 41.0	-0.8
SSE				S	S	17 37 53.5	+2.9
SSE				sS		17 38 08.3	
SSE				PcS		17 38 28.7	
SSE				LR	LR		
	comp=Z,110nm,22.5s,MS3.6						
FITZ	**Fitzroy Crossi**	**36.60**	**128**	⇑*iP*	P	17 32 19.8	-1.0
	comp=Z,11nm,0.6s,mb4.9						
JOW	**Kunigami**	**38.42**	**50**	P	P	17 32 36.6	+0.7
	comp=Z,20nm,0.6s,mb5.0,baz=246,slow=6.9,SNR=14						
HHC	**Hu-ho-hao-te**	**39.36**	**19**	*eP*	P	17 32 44.3	+0.7
HHC				XP	sP	17 33 01.0	-0.7
HHC				S	S	17 38 50.0	+8.6
HHC				AMB	AMB		
	comp=Z,101nm,10.7s						
HHC				LR	LR		
	comp=N,178nm,17.8s,MS4.1						
HHC				LR	LR		
	comp=E,142nm,16.7s,MS4.1						
HHC				LR	LR		
	comp=Z,164nm,19.0s,MS3.9						
KSH	**Kashi**	**39.75**	**336**	*eP*	P	17 32 49.1	+2.2
KSH				*eAP	pP	17 32 59.3	-0.1
KSH				*eXP	sP	17 33 03.8	-1.2
KSH				*ePP	PP	17 34 25.0	+2.6
KSH				*ePCS		17 38 44.0	
KSH				*eS	S	17 38 51.5	+4.2
KSH				*eXS		17 39 07.4	
KSH				*eSS	SS	17 41 41.4	+3.4
KSH				AMB	AMB		
	comp=Z,110nm,1.1s,mb5.5						
KSH				AMB	AMB		
	comp=Z,140nm,4.1s						
KSH				LR	LR		
	comp=N,280nm,4.8s						
KSH				LR	LR		
	comp=E,290nm,4.9s						
KAKA	**Kakadu**	**39.90**	**115**	*eP*	P	17 32 48.3	**0.0**
	comp=E,12nm,0.7s,mb4.7						
WMQ	**Urumqi**	**40.37**	**351**	*eP*	P	17 32 52.1	+0.1
WMQ				AP	pP	17 33 01.9	-2.6
WMQ				PP	PP	17 34 29.3	+0.6
WMQ				S	S	17 38 57.3	+0.8
WMQ				AMB	AMB		
	comp=Z,31nm,1.8s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,106nm,6.2s						
WMQ				LR	LR		
	comp=N,614nm,18.2s,MS4.6						
WMQ				LR	LR		
	comp=E,514nm,18.5s,MS4.6						
WMQ				LR	LR		
	comp=Z,866nm,18.6s,MS4.6						
DL2	**Dalian**	**41.93**	**30**	P	P	17 33 05.3	+0.4
DL2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
KZA	**Kyzart**	**42.22**	**337**	P	P	17 33 05.7	-1.5
	SNR=5.7						
TKM2	**Tokmak 2**	**42.80**	**338**	P	P	17 33 12.3	+0.3
	SNR=6.1						
KBK	**Karagaybulak**	**42.82**	**337**	P	P	17 33 13.3	+1.1
	SNR=10						
AML	**Almayashu**	**42.88**	**336**	P	P	17 33 13.3	+0.6
	SNR=10						
AAK	**Ala-Archa**	**42.98**	**337**	⇑*eP*	P	17 33 14.3	+0.8
AAK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
EKS2	**Erkin-Say**	**43.29**	**336**	P	P	17 33 16.8	+0.8
	SNR=8.4						
USP	**Ospenovka**	**43.52**	**337**	P	P	17 33 18.1	+0.3
	SNR=8.2						
JNU	**Nakatsue**	**43.69**	**44**	P	P	17 33 18.9	-0.5
	comp=Z,3.3nm,0.4s,mb4.4,baz=239,slow=13,SNR=4.9						
MKAR	**Makanchi Array**	**44.29**	**347**	P	P	17 33 23.1	-0.8
	comp=Z,9.6nm,0.6s,mb4.7,baz=165,slow=8.0,SNR=141						
MKAR				LR	LR	17 54 55.7	
	comp=Z,40nm,19.5s,MS3.3,baz=15,slow=40						
KS15	**Wonju Array Si**	**44.37**	**37**	*eP*	P	17 33 24.0	-0.8
WRA	**Warramunga Arr**	**44.61**	**124**	P	P	17 33 26.9	**0.0**
	comp=Z,15nm,0.5s,mb5.1,baz=302,slow=9.2,SNR=115						
WRAB	**Tennant Creek**	**44.61**	**124**	⇑*eP*	P	17 33 27.0	+0.1
WRAB	**Tennant Creek**	**44.61**	**124**	*eP*	P	17 33

SNY	**Shenyang**	**45.12**	**29**	⇑P		**P**	**17 33 30.3**	**-0.4**
SNY				S		**S**	**17 40 06.6**	**+0.5**
SNY				AMB	AMB			
	comp=Z,220nm,0.7s,mb5.1							
SNY				LR	LR			
	comp=N,220nm,20.3s							
SNY				LR	LR			
	comp=Z,140nm,25.2s,MS3.8							
ZAK	**Zakamensk**	**46.70**	**6**	*e*P		**P**	**17 33 42.1**	**-0.9**
ZAK				*e*			17 35 16.6	
ZAK				*e*			17 35 32.2	
ZAK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
ZAK				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2							
ZAK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.0s,mb3.7							
CN2	**Changchun**	**47.51**	**29**	*e*P		**P**	**17 33 48.9**	**-0.6**
CN2				*e*AP	pP		17 34 02.9	+0.7
CN2				*e*S		**S**	**17 40 41.1**	**+1.1**
CN2				AMB	AMB			
	comp=Z,20nm,0.7s,mb5.3							
CN2				LR	LR			
	comp=N,100nm,19.0s,MS4.0							
CN2				LR	LR			
	comp=E,100nm,19.0s,MS4.0							
CN2				LR	LR			
	comp=Z,130nm,19.0s,MS3.9							
TLY	**Talaya**	**48.02**	**6**	*e*P		**P**	**17 33 51.4**	**-2.0**
TLY				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
TLY				MLR	MLR			
	comp=Z,157nm,22.0s,MS3.9							
KURK	**Kurchatov**	**48.83**	**345**	*e*P		**P**	**17 33 58.8**	**-0.9**
KURK				*e*			17 35 23.8	
KURK				pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.9							
KURK	**Kurchatov**	**48.83**	**345**	*e*P		**P**	**17 33 58.8**	**-0.9**
	comp=Z,8.2nm,0.6s,mb4.9							
KURK				*e*PcP	PcP		17 35 23.8	-0.4
HIA	**Hailar**	**49.51**	**20**	*e*P		**P**	**17 34 04.3**	**-0.7**
HIA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
HIA	**Hailar**	**49.51**	**20**	*e*P		**P**	**17 34 04.3**	**-0.6**
	comp=Z,6.3nm,0.8s,mb4.7							
CIT	**Chita**	**50.12**	**14**	*e*P		**P**	**17 34 09.6**	**0.0**
MDJ	**Mudanjiang**	**50.16**	**31**	P		**P**	**17 34 09.4**	**-0.6**
MDJ				AP	pP		17 34 22.1	-0.7
MDJ				PP	PP		17 36 04.8	-1.5
MDJ				PCS			17 39 25.0	
MDJ				S		**S**	**17 41 20.5**	**+3.4**
MDJ				AMB	AMB			
	comp=Z,8.0nm,1.1s,mb4.7							
MDJ				AMB	AMB			
	comp=Z,65nm,4.9s							
MDJ				LR	LR			
	comp=N,57nm,18.8s,MS3.7							
MDJ				LR	LR			
	comp=E,58nm,21.9s,MS3.7							
MDJ				LR	LR			
	comp=Z,79nm,20.1s,MS3.7							
MDJ	**Mudanjiang**	**50.16**	**31**	*e*P		**P**	**17 34 10.1**	**0.0**
	comp=Z,4.9nm,0.6s,mb4.7							
MJAR	**Matsushiro Arr**	**50.61**	**45**	P		**P**	**17 34 14.2**	**+0.6**
	comp=Z,1.2nm,0.4s,mb4.1,baz=194,slow=8.3,SNR=5.3							
MJAR				PcP	PcP		17 35 30.5	-0.3
	comp=Z,0.8nm,0.4s,baz=239,slow=9.1,SNR=4.2							
MJAR				LR	LR		17 56 51.4	
	comp=Z,90nm,21.4s,MS3.8,baz=270,slow=38							
MJAR	**Matsushiro Arr**	**50.61**	**45**	P		**P**	**17 34 14.2**	**+0.6**
MJAR				PcP	PcP		17 35 30.5	-0.3
MJAR				LR	LR		17 56 51.4	
NVS	**Novosibirsk**	**51.77**	**351**	*e*P		**P**	**17 34 19.2**	**-2.9**
NVS				*e*S		**S**	**17 41 39.0**	**-0.2**
NVS				pmax	pmax			
	comp=N,6.0nm,0.4s							
NVS				pmax	pmax			
	comp=E,7.0nm,0.4s							
NVS				pmax	pmax			
	comp=Z,8.0nm,0.4s,mb5.0							
NVS				smax				
	comp=N,8.0nm,1.7s							
NVS				smax				
	comp=E,6.0nm,1.7s							
KBD	**Kabd**	**52.07**	**304**	*e*P		**P**	**17 34 26.2**	**+1.5**
RDF	**Al-Radifah**	**52.11**	**304**	*e*P		**P**	**17 34 26.8**	**+1.8**
RDF				AMb	AMB		17 34 27.8	
	comp=Z,37nm,0.6s,mb5.5							
NAY	**Al-Naaiem**	**52.47**	**304**	*e*P		**P**	**17 34 28.5**	**+0.8**
NAY				AMb	AMB		17 34 29.4	
	comp=Z,26nm,0.6s,mb5.4							
PMG	**Port Moresby**	**52.78**	**105**	*e*P		**P**	**17 34 29.3**	**-0.8**
PMG				pmax	pmax			
	comp=Z,23nm,0.6s							
PMG	**Port Moresby**	**52.78**	**105**	P		**P**	**17 34 29.5**	**-0.7**
	comp=Z,33nm,0.7s,mb5.3,baz=353,slow=6.3,SNR=9.7							
PMG	**Port Moresby**	**52.78**	**105**	*e*P		**P**	**17 34 29.3**	**-0.8**
	comp=Z,23nm,0.6s,mb5.3							
VOSK	**Vostochnaya**	**52.80**	**341**	P		**P**	**17 34 27.8**	**-2.0**
VOSK				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.6							
BVA0	**Borovoye Array**	**53.25**	**341**	P		**P**	**17 34 31.2**	**-1.9**
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.8							
BVAR	**Borovoye Array**	**53.25**	**341**	P		**P**	**17 34 31.8**	**-1.3**
	comp=Z,8.2nm,0.7s,mb4.8,baz=141,slow=9.0,SNR=68							
BVAR				PcP	PcP		17 35 40.5	+0.1
	comp=Z,2.6nm,0.6s,baz=151,slow=3.8,SNR=4.7							
BRVK	**Borovoye**	**53.31**	**341**	P		**P**	**17 34 32.3**	**-1.3**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2							
BRVK	**Borovoye**	**53.31**	**341**	*e*P		**P**	**17 34 32.0**	**-1.6**
	comp=Z,7.5nm,0.9s,mb4.6							
ZRNK	**Zerenda**	**53.65**	**340**	P		**P**	**17 34 34.7**	**-1.4**
ZRNK	**Zerenda**	**53.65**	**340**	*e*P		**P**	**17 34 34.5**	**-1.5**
	comp=Z,9.7nm,0.8s,mb4.8							
KLR	**Kul'dur**	**54.44**	**28**	*e*P		**P**	**17 34 38.8**	**-3.1**
AB31	**Akbulak array**	**54.50**	**332**	*i* P		**P**	**17 34 41.9**	**-0.4**
AB31				pmax	pmax			
	comp=Z,1.0nm,0.3s,mb4.2							
CTA	**Charters Tower**	**54.91**	**118**	⇑*i*P		**P**	**17 34 45.4**	**-0.3**
	comp=Z,10nm,0.7s,mb5.0							
CTA	**Charters Tower**	**54.91**	**118**	⇑*i*P		**P**	**17 34 45.4**	**-0.3**
CTA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
CTAO	**Charters Tower**	**54.91**	**118**	*e*P		**P**	**17 34 45.1**	**-0.6**
CTAO				pmax	pmax			
	comp=Z,11nm,0.6s,mb5.1							
CTAO	**Charters Tower**	**54.91**	**118**	*e*P		**P**	**17 34 45.1**	**-0.6**
	comp=Z,11nm,0.6s,mb5.1							
BOD	**Bodaibo**	**55.59**	**12**	⇓*i*P		**P**	**17 34 48.6**	**-1.5**
BOD				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.7							
STKA	**Stephens Creek**	**56.16**	**133**	⇑*i*P		**P**	**17 34 54.4**	**-0.2**
	comp=Z,7.1nm,0.7s,mb4.8							
STKA	**Stephens Creek**	**56.16**	**133**	P		**P**	**17 34 54.5**	**-0.1**
	comp=Z,7.2nm,0.7s,mb4.8,baz=309,slow=8.5,SNR=24							
STKA				LR	LR		17 59 39.2	
	comp=Z,151nm,20.2s,MS4.1,baz=206,slow=37							
ASAJ	**Asahikawa**	**57.31**	**39**	P		**P**	**17 35 01.8**	**-0.8**
	comp=Z,6.2nm,0.5s,mb4.9,baz=264,slow=4.6,SNR=13							
GNI	**Garni**	**58.43**	**316**	LR	LR		18 02 33.7	
	comp=Z,26nm,21.2s,MS3.3,baz=350,slow=38							
KMBO	**Kilima Mbogo**	**58.82**	**266**	LR	LR		17 55 28.6	
	comp=Z,108nm,20.1s,MS4.0,baz=95,slow=31							
YSS	**Yuzh-Sakhalins**	**58.87**	**36**	*e*P		**P**	**17 35 12.1**	**-1.3**
YSS				pmax	pmax			
	comp=Z,7.0nm,0.5s,mb5.0							
YSS	**Yuzh-Sakhalins**	**58.87**	**36**	*e*P		**P**	**17 35 12.1**	**-1.3**
	comp=Z,7.0nm,0.5s,mb5.0							
ARU	**Arti**	**60.17**	**337**	⇑*i*P		**P**	**17 35 21.0**	**-1.3**
ARU				*e*			17 36 05.1	
ARU				*e*S		**S**	**17 43 32.0**	**+1.3**
ARU				*e*SS		SS	17 47 28.6	-0.7
ARU				pmax	pmax			
	comp=Z,12nm,1.0s,mb4.9							
ARU	**Arti**	**60.17**	**337**	*e*P		**P**	**17 35 20.1**	**-2.1**
	comp=Z,5.6nm,0.7s,mb4.7							
KIV	**Kislovodsk**	**61.40**	**319**	⇓*e*P		**P**	**17 35 30.9**	**+0.1**
KIV				*i*		pP	17 35 47.5	+3.6
KIV				*i* S		**S**	**17 43 51.4**	**+4.9**
KIV				*e*SS		SS	17 47 53.0	+3.9
KIV				pmax	pmax			
	comp=Z,12nm,0.8s,mb5.1							
KIV	**Kislovodsk**	**61.40**	**319**	*e*P		**P**	**17 35 30.0**	**-0.8**
	comp=Z,9.6nm,0.8s,mb5.0							
EIL	**Elat**	**62.91**	**301**	*e*P		**P**	**17 35 41.6**	**+0.5**
	comp=Z,4.4nm,0.7s,mb4.7							
YAK	**Yakutsk**	**63.18**	**17***c*	*i*P		**P**	**17 35 40.8**	**-1.7**
YAK				pmax	pmax			
	comp=Z,36nm,0.9s,mb5.5							
YAK				pmax	pmax			
	comp=N,12nm,1.2s							
YAK				pmax	pmax			
	comp=E,8.0nm,1.1s							
YAK	**Yakutsk**	**63.18**	**17**	*e*P		**P**	**17 35 40.7**	**-1.8**
	comp=E,57nm,0.6s,mb5.9							
SOC	**Sochi**	**63.23**	**317**	*e*P		**P**	**17 35 42.8**	**-0.2**
SOC				*e*S		**S**	**17 44 10.7**	**+1.1**
SOC				pmax	pmax			
	comp=N,13nm,0.7s							
SOC				pmax	pmax			
	comp=E,5.0nm,0.7s							
SOC				pmax	pmax			
	comp=Z,22nm,0.7s,mb5.4							
ANN	**Anapa**	**65.20**	**318**	*e*P		**P**	**17 36 03.9**	**+8.1**
ANN				*i* *PP	pP		17 36 13.6	+4.5
ANN				*e*			17 36 35.0	
ANN				*e*S		S	17 44 54.7	+21
ANN				pmax	pmax			
	comp=Z,35nm,1.1s,mb5.3							
BR131	**Keskin Array S**	**66.32**	**312**	*e*P		**P**	**17 36 02.2**	**-0.8**
	comp=Z,2.8nm,0.6s,mb4.5							
BRTR	**Keskin Array B**	**66.32**	**312**	P		**P**	**17 36 02.9**	**-0.2**
	comp=Z,3.8nm,0.7s,mb4.5,baz=127,slow=7.3,SNR=19							
MOS	**Moscow**	**69.33**	**329**	*e*P		**P**	**17 36 17.9**	**-3.6**
MA2	**Magadan**	**69.46**	**26***c*	*e*P		**P**	**17 36 21.8**	**-0.5**
MA2				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb4.8							
MA2	**Magadan**	**69.46**	**26**	*e*P		**P**	**17 36 21.7**	**-0.6**
	comp=Z,15nm,0.9s,mb4.9							
OBN	**Obninsk**	**69.62**	**328**	⇓*e*P		**P**	**17 36 23.1**	**-0.2**
OBN				*i*		pP	17 36 35.9	-0.8
OBN				*i*			17 36 45.8	
OBN				*e*S		S	17 45 29.0	+2.2
OBN				pmax	pmax			
	comp=Z,13nm,1.1s,mb4.8							
PET	**Petropavlovsk**	**70.72**	**35**	*e*P		**P**	**17 36 29.1**	**-0.9**
PET				pmax	pmax			
	comp=Z,44nm,0.5s,mb5.6							
PET				MLR	MLR			
	comp=Z,100nm,19.0s,MS4.1							
PET	**Petropavlovsk**	**70.72**	**35**	*e*P		**P**	**17 36 28.8**	**-1.2**
	comp=Z,23nm,0.5s,mb5.4							
TIXI	**Tiksi**	**70.74**	**11**	*e*P		**P**	**17 36 26.1**	**-3.8**
TIXI				pmax	pmax			
	comp=Z,27nm,0.9s,mb5.2							
SEY	**Seymchan**	**71.78**	**24**	*e*P		**P**	**17 36 36.1**	**-0.1**
SEY				*e*			17 46 20.3	
SEY				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.8							
AKASG	**Malin Array Be**	**72.31**	**322**	P		**P**	**17 36 38.2**	**-1.4**
	comp=Z,0.5nm,0.3s,mb3.9,baz=83,slow=5.7,SNR=12							
BOSA	**Boshof**	**75.03**	**239**	LR	LR		18 05 10.2	
	comp=Z,70nm,19.8s,MS4.0,baz=259,slow=32							
MAW	**Mawson**	**75.08**	**192**	P		**P**	**17 36 58.1**	**+2.7**
	comp=Z,1.6nm,0.7s,mb4.0,baz=299,slow=5.7,SNR=6.3							
LVZ	**Lovozero**	**75.83**	**340**	*i* P		**P**	**17 36 53.7**	**-6.0**
VSU	**Vasula**	**75.84**	**330**	*i* P		**P**	**17 36 59.6**	**-0.3**
KWP	**Kalwaria**	**76.14**	**320**	P		**P**	**17 37 01.6**	**-0.2**
KWP				pmax	pmax			
	comp=Z,4.0nm,0.4s,mb4.7							
KWP	**Kalwaria**	**76.14**	**320**	P		**P**	**17 37 01.6**	**-0.3**
	comp=Z,4.4nm,0.4s,mb4.7							
KOLS	**Kolonicke sedl**	**76.30**	**319**	*e*P		**P**	**17 37 04.7**	**+2.0**
KOLS				*e*		pP	17 37 20.6	+4.4
SUW	**Suwalki**	**76.70**	**325**	*e*P		**P**	**17 37 04.2**	**-0.7**
SUW				pmax	pmax			
	comp=Z,26nm,0.9s,mb5.2							
SUW	**Suwalki**	**76.70**	**325**	*e*P		**P**	**17 37 04.2**	**-0.7**
	comp=Z,26nm,0.9s,mb5.2							
FINES	**FINESS Array B**	**76.98**	**332**	P		**P**	**17 37 05.8**	**-0.5**
	comp=Z,3.6nm,0.7s,mb4.4,baz=124,slow=6.9,SNR=15							
FINES				LR	LR		18 14 37.2	
	comp=Z,39nm,19.0s,MS3.7,baz=180,slow=38							
STHS	**Stebnicka Huta**	**77.05**	**320**	*e*P		**P**	**17 37 07.9**	**+0.9**
STHS				*e*			17 37 33.3	
KAF	**Kangasniemi**	**77.06**	**333**	*e*p		**P**	**17 37 05.8**	**-1.0**
	comp=Z,2.7nm,0.7s,mb4.3,baz=103,slow=5.3							
KECS	**Kecovo**	**77.40**	**319**	*e*P		**P**	**17 37 07.9**	**-1.0**
KECS				*e*		pP	17 37 25.2	+2.8
OJC	**Ojcow**	**78.09**	**320**	*e*P		**P**	**17 37 13.4**	**+0.7**
VYHS	**Vyhne**	**78.49**	**319**	*e*P		**P**	**17 37 14.6**	**-0.3**
VYHS				*e*		pP	17 37 31.0	+2.6
BILL	**Bilibino**	**79.09**	**21**	*i* P		**P**	**17 37 16.6**	**-1.2**
BILL				*e*S		S	17 47 12.2	0.0
BILL				pmax	pmax			
	comp=Z,5μm,0.5s							
BILL				MLR	MLR			
	comp=Z,100nm,16.0s,MS4.2							
BILL	**Bilibino**	**79.09**	**21**	*e*P		**P**	**17 37 17.1**	**-0.7**
	comp=Z,5.7nm,0.4s,mb4.8							
TIP	**Timpagrande**	**79.10**	**309**	*e*P		**P**	**17 37 19.1**	**+0.7**
KEV	**Kevo**	**79.10**	**341**	*e*p		**P**	**17 37 15.7**	**-2.2**
	comp=Z,4.2nm,0.7s,mb4.5							
FX1	**Attu Island--F**	**79.19**	**37**	*e*P		**P**	**17 37 18.8**	**+0.2**
MORC	**Moravsky Berou**	**79.48**	**320**	*e*P		**P**	**17 37 21.3**	**+1.0**
MORC				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
MORC	**Moravsky Berou**	**79.48**	**320**	*e*P		**P**	**17 37 21.3**	**+1.0**
	comp=Z,4.9nm,0.7s,mb4.5							
ARCES	**ARCESS Array B**	**79.53**	**340**	P		**P**	**17 37 20.3**	**+0.1**
	comp=Z,2.8nm,0.5s,mb4.5,baz=94,slow=5.7,SNR=29							
ARCES				LR	LR		18 15 03.8	
	comp=Z,31nm,19.9s,MS3.6,baz=98,slow=38							
ARE0	**ARCESS Array S**	**79.53**	**340**	*e*P		**P**	**17 37 20.3**	**+0.1**
GOLS	**Golise**	**80.42**	**316**	*e*P		**P**	**17 37 26.6**	**+1.2**
BOJS	**Bojanci**	**80.64**	**315**	*i* P		**P**	**17 37 27.7**	**+1.1**
PERS	**Pernice**	**80.81**	**316**	*e*P		**P**	**17 37 28.6**	**+1.1**
GEC2	**GERESS Array S**	**81.91**	**319**	*e*P		**P**	**17 37 34.2**	**+1.1**
GEC2				pmax	pmax			
	comp=Z,12nm,1.4s,mb4.6							
GEC2	**GERESS Array S**	**81.91**	**319**	*e*P		**P**	**17 37 34.2**	**+1.1**
	comp=Z,12nm,1.4s,mb4.6							
GERES	**GERESS Array B**	**81.91**	**319**	P		**P**	**17 37 34.5**	**+1.4**
	comp=Z,4.4nm,1.1s,mb4.3,baz=90,slow=5.3,SNR=15							
MOX	**Moxa**	**83.34**	**320**	*e*P		**P**	**17 37 42.0**	**+1.6**
GRA1	**Grafenberg Arr**	**83.56**	**319**	*e*P		**P**	**17 37 42.7**	**+1.1**
	comp=Z,7.0nm,0.8s,mb4.8							
GRA1				*e*pP	pP		17 37 55.9	+0.7
GRF	**Grafenberg Arr**	**83.56**	**319**	*e*P		**P**	**17 37 42.7**	**+1.1**
GRF				*e**PP	pP		17 37 55.9	+0.7
GRF				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.8							
GRF	**Grafenberg Arr**	**83.56**	**319**	*e*P		**P**	**17 37 42.7**	**+1.1**
GRF				*e**PP	pP		17 37 55.9	+0.7
GRF				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.8							
GRF	**Grafenberg Arr**	**83.56**	**319**	*e*P		**P**	**17 37 42.7**	**+1.1**
	comp=Z,7.0nm,0.8s,mb4.8							
GRF				*e*pP	pP		17 37 55.9	+0.7
NB2	**NORSAR Subarra**	**83.99**	**331**	P		**P**	**17 37 43.5**	**0.0**
	comp=Z,1.1nm,0.7s,mb4.1,baz=96,slow=5.0							
NB2	**NORSAR Subarra**	**83.99**	**331**	P		**P**	**17 37 43.5**	**0.0**
NB2				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb4.0							
NOA	**NORSAR Array B**	**83.99**	**331**	P		**P**	**17 37 43.6**	**+0.1**
	comp=Z,2.0nm,0.8s,mb4.3,baz=93,slow=5.3,SNR=5.3							
NOA				LR	LR		18 18 38.9	
	comp=Z,31nm,18.8s,MS3.7,baz=355,slow=38							
CLZ	**Clausthal**	**84.15**	**322**	*e*P		**P**	**17 37 45.7**	**+1.2**
CLZ				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.6							
CLZ	**Clausthal**	**84.15**	**322**	*e*P		**P**	**17 37 45.7**	**+1.2**
	comp=Z,5.0nm,0.9s,mb4.6							
BSEG	**Bad Segeberg**	**84.23**	**324**	*e*P		**P**	**17 37 45.9**	**+1.1**
TNS	**Taunus Mts**	**85.36**	**320**	*e*P		**P**	**17 37 52.0**	**+1.4**
TNS				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.8							
TNS	**Taunus Mts**	**85.36**	**320**	*e*P		**P**	**17 37 52.0**	**+1.4**
	comp=Z,5.0nm,0.7s,mb4.8							
BFO	**Black Forest**	**85.46**	**318**	*e*P		**P**	**17 37 51.8**	**+0.7**
BFO				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.5							
BFO	**Black Forest**	**85.46**	**318**	*e*P		**P**	**17 37 51.8**	**+0.7**
	comp=Z,3.0nm,0.7s,mb4.5							
VNDA	**Vanda**	**88.75**	**169**	*e*P		**P**	**17 38 07.8**	**+1.4**
VNDA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
VNDA	**Vanda**	**88.75**	**169**	P		**P**	**17 38 08.4**	**+1.9**
	comp=Z,1.0nm,0.7s,mb4.3,baz=295,slow=5.4,SNR=6.6							
VNDA				LR	LR		18 14 54.4	
	comp=Z,44nm,20.8s,MS3.9,baz=158,slow=34							
VNDA	**Vanda**	**88.75**	**169**	*e*P		**P**	**17 38 07.8**	**+1.4**
	comp=Z,0.7nm,0.6s,mb4.2							
ESDC	**Sonseca Array**	**95.07**	**310**	P		**P**	**17 38 38.0**	**+1.6**
	comp=Z,1.0nm,0.5s,mb4.5,baz=69,slow=4.1,SNR=4.9							
ILAR	**Eielson Array**	**97.69**	**23**	P		**P**	**17 38 47.7**	**-0.1**
	comp=Z,0.3nm,0.7s,mb4.0,baz=303,slow=4.6,SNR=4.5							
BOZ	**Bozeman (W)**	**124.89**	**23**	*e*PKIKP		PKPdf	17 44 14.1	+1.8
ULM	**Lac du Bonnet**	**125.08**	**9**	PKP		PKPdf	17 44 12.9	+0.4
	comp=Z,4.0nm,0.7s,baz=101,slow=2.5,SNR=4.7							
ULM	**Lac du Bonnet**	**125.08**	**9**	*e*PKPdf		PKPdf	17 44 13.5	+1.0
ELK	**Elko**	**127.19**	**30**	*e*PKIKP		PKPdf	17 44 19.2	+2.3
NVAR	**Mina Array Bea**	**127.29**	**34**	PKP		PKPdf	17 44 19.7	+2.5
	comp=Z,2.6nm,0.8s,baz=286,slow=1.1,SNR=14							
BW06	**Boulder Array**	**128.11**	**24**	*e*PKPdf		PKPdf	17 44 20.4	+1.8
PDAR	**Pinedale Array**	**128.11**	**24**	PKP		PKPdf	17 44 20.7	+2.1
	comp=Z,0.7nm,0.5s,baz=120,slow=2.9,SNR=12							
RSSD	**Black Hills**	**128.91**	**18**	*e*PKIKP		PKPdf	17 44 21.9	+1.8
MSU	**Marysvale**	**130.41**	**29**	*e*PKIKP		PKPdf	17 44 26.4	+3.3
NEN	**Nelson**	**131.21**	**34**	*e*PKPdf		PKPdf	17 44 27.8	+3.1
PV10	**Paradox Valley**	**131.98**	**26**	*e*PKPdf		PKPdf	17 44 29.0	+2.9
MNTX	**Cornudas Mount**	**139.18**	**28**	*e*PKPdf		PKPdf	17 44 42.0	+2.4
WVT	**Waverly**	**139.99**	**5**	*e*PKIKP		PKPdf	17 44 42.7	+1.8
TXAR	**Lajitas Array**	**141.96**	**28**	PKhKP			17 44 40.9	
	comp=Z,0.9nm,0.5s,baz=254,slow=1.3,SNR=3.9							
TXAR				PKP		PKPdf	17 44 46.9	+2.3
	comp=Z,1.6nm,0.7s,baz=261,slow=1.5,SNR=6.5							
CPUP	**Villa Florida**	**146.04**	**226**	PKPbc		PKPbc	17 44 55.0	+2.2
	comp=Z,3.0nm,0.6s,baz=135,slow=2.4,SNR=12							
CFAA	**Coronel Fontan**	**148.70**	**207**	PKPbc		PKPdf	17 45 02.1	+6.2
	comp=Z,0.9nm,0.6s,baz=151,slow=3.0,SNR=12							
SIV	**San Ignacio**	**154.39**	**241**	PKPbc		PKPdf	17 45 15.2	+11
	comp=Z,0.7nm,0.5s,baz=147,slow=6.0,SNR=3.6							

ATH ***22*** *17:57:24.1, 40.14N×24.00E, h18km±1km, MD2.9/3*
THE ***22*** *17:57:24.2, 40.13N×23.96E, h3km, ML2.6*
NEIC ***22*** *17:57:24.1, 40.14N×24.00E, h18km, MD3.0(ATH), After ATH.*
CSEM ***22*** *17:57:24.5±0.1, 40.13N×23.98E, ML2.6, Error ellipse: s-maj=1.1km s-min=1.0km az=42.0*

ISC 22 17:57:23.5±0.4**, 40.13N**±0.02×**23.95E**±0.03**, h8**km±4km**, n19**, σ0**973**/37**, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OUR	**Ouranopolis**	**0.20**	**6**	*e*Pg		**Pg**	**17 57 28.7**	**+0.8**
OUR				*e*Sg		**Sg**	**17 57 31.5**	**+0.8**
PAIG	**Paliouri**	**0.29**	**226**	*e*Pg		**Pg**	**17 57 30.4**	**+0.9**
PAIG				*e*Sg		**Sg**	**17 57 34.8**	**+1.2**
PLG	**Polygyros**	**0.46**	**302**	*e*PB		**Pb**	**17 57 33.6**	**+0.2**
PLG				*e*SB		**Sb**	**17 57 40.1**	**0.0**
SOH	**Sokhos**	**0.83**	**327**	*e*Pg		**Pg**	**17 57 40.5**	**+0.4**
SOH				*e*Sg		**Sg**	**17 57 51.1**	**-0.1**
SOH	**Sokhos**	**0.83**	**327**	*e*Pg		**Pg**	**17 57 40.5**	**+0.4**
SOH				*e*Sg		**Sg**	**17 57 51.1**	**-0.1**
LOS	**Limnos**	**0.89**	**102**	*e*Pg		**Pg**	**17 57 40.5**	**-0.8**
LOS				*e*Sg		**Sg**	**17 57 51.9**	**-1.3**
THE	**Thessaloniki**	**0.91**	**304**	*e*Pg		**Pg**	**17 57 41.9**	**+0.2**
THE				*e*Sg		**Sg**	**17 57 54.0**	**+0.2**
AOS	**Alonnisos**	**0.96**	**183**	*e*Pg		**Pg**	**17 57 42.1**	**-0.6**
AOS				*e*Sg		**Sg**	**17 57 56.5**	**+0.9**
XOR	**Xorichti**	**0.96**	**218**	*e*Pg		**Pg**	**17 57 42.9**	**+0.1**
XOR				*e*Sg		**Sg**	**17 57 55.7**	**0.0**
LIA	**Limnos Island**	**0.97**	**103**	*e*PN		**Pn**	**17 57 42.1**	**-1.2**
NEO	**Neokhori**	**1.00**	**215**	*e*PN		**Pn**	**17 57 43.7**	**0.0**
NEO				*e*SN		**Sn**	**17 57 57.4**	**-0.6**
SRS	**Serrai**	**1.02**	**345**	*e*Pg		**Pg**	**17 57 43.9**	**-0.1**
SRS				*e*Sg		**Sg**	**17 57 57.9**	**+0.2**
LIT	**Litokhoron**	**1.12**

0.2nm,0.3s,baz=202,slow=23,SNR=3.5
RPZ Rata Peaks 23.04 198 P P 19 13 13.8 +7.6
7.0nm,0.7s,mb4.4,baz=8.1,slow=7.1,SNR=3.3
CNB Canberra Magne 30.22 237 *eP* **P 19 14 10.5 +1.8**
21nm,0.6s,mb4.9
CTA Charters Tower 31.96 267 ǁ *iP* **P 19 14 23.9 +0.4**
17nm,0.6s,mb4.8
CTAO Charters Tower 31.96 267 *eP* **P 19 14 23.7 +0.2**
24nm,0.7s,mb4.9
TOO Toolangi 33.88 235 *eP* **P 19 14 41.1 +1.7**
11nm,0.7s,mb4.6
PMG Port Moresby 34.34 286 P **P 19 14 43.0 -0.4**
31nm,0.8s,mb5.0,baz=81,slow=7.5,SNR=6.7
PMG Port Moresby 34.34 286 *eP* **P 19 14 42.7 -0.7**
41nm,0.9s,mb5.1
STKA Stephens Creek 35.87 246 ǁ *iP* **P 19 14 57.2 +1.3**
9.6nm,0.6s,mb4.5
STKA Stephens Creek 35.87 246 P **P 19 14 57.3 +1.4**
9.4nm,0.4s,mb4.7,baz=84,slow=8.8,SNR=39
WB2 Warramunga Arr 43.00 264 ǁ *iP* **P 19 15 52.6 -0.7**
WRAB Tennant Creek 43.00 264 *eP* **P 19 15 52.5 -0.9**
46nm,0.9s,mb5.0
WRA Warramunga Arr 43.01 264 P **P 19 15 52.6 -0.7**
12nm,0.5s,mb4.7,baz=96,slow=7.7,SNR=359
KAKA Kakadu 46.61 273 ǁ *iP* **P 19 16 21.3 +0.2**
19nm,0.7s,mb4.7
FITZ Fitzroy Crossi 51.44 264 ǁ *iP* **P 19 16 56.3 -0.4**
14nm,1.0s,mb4.3
MBWA Marble Bar 56.15 259 *eP* **P 19 17 28.7 -1.0**
22nm,0.8s,mb4.5
MJAR Matsushiro Arr 70.58 325 P **P 19 18 59.5 -1.4**
3.7nm,0.8s,mb4.0,baz=167,slow=6.8,SNR=8.6
KSM Kuching 72.22 279 *eP* **P 19 19 10.4 -0.4**
YBH Yreka Blue Hor 82.33 39 P **P 19 20 05.0 +0.4**
2.9nm,0.8s,mb3.8,baz=186,slow=2.9,SNR=7.3
CN2 Changchun 82.62 323 *eP* **P 19 20 06.0 +0.1**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.5
NVAR Mina Array Bea 83.08 44 P **P 19 20 08.1 -0.2**
comp=Z,2.0nm,0.8s,mb3.7,baz=213,slow=6.3,SNR=11
TUC Tucson 85.01 52 *eP* **P 19 20 18.2 +0.3**
comp=Z,2.9nm,0.9s,mb3.9
ENH Enshi 85.70 305 *eP* **P 19 20 21.8 +0.4**
comp=Z,13nm,1.0s,mb4.5
ELK Elko 86.33 43 *eP* **P 19 20 23.9 -0.1**
comp=Z,1.7nm,1.0s,mb3.6
TXAR Lajitas Array 89.05 58 P **P 19 20 37.5 +0.4**
comp=Z,2.5nm,0.9s,mb4.0,baz=217,slow=6.3,SNR=18
TXAR Lajitas Array 89.05 58 P **P 19 20 37.5 +0.4**
PLCA Paso Flores 89.28 134 P **P 19 20 39.0 +1.2**
comp=Z,1.4nm,0.8s,mb3.8,baz=225,slow=4.3,SNR=3.0
HHC Hu-ho-hao-te 89.38 315 *eP* **P 19 20 39.4 +1.0**
HHC AMB AMB
comp=Z,8.0nm,0.8s,mb4.6
HHC AMB AMB
comp=Z,140nm,9.6s
ANMO Albuquerque 89.44 52 P **P 19 20 38.2 -0.5**
comp=Z,0.9nm,0.4s,mb3.9,baz=203,slow=4.6,SNR=3.4
GDL2 Guadalupe Moun 89.76 55 *eP* **P 19 20 40.2 -0.1**
PDAR Pinedale Array 91.01 44 P **P 19 20 45.3 -0.5**
comp=Z,1.0nm,0.9s,mb3.7,baz=207,slow=3.3,SNR=4.9
AKASG Malin Array Be 143.58 329 PKP PKPdf 19 27 08.9 -1.3
comp=Z,1.0nm,0.3s,baz=41,slow=4.4,SNR=35
BRTR Keskin Array B 146.74 310 PKPbc PKPbc 19 27 19.7 +1.6
comp=Z,0.9nm,0.5s,baz=124,slow=4.5,SNR=6.3
CLL Collm 149.15 345 *e*PKP1 PKPdf 19 27 26.0 +6.6
MORC Moravsky Berou 149.16 338 *e*PKPbc PKPdf 19 27 25.6 +6.1
BRG Berggiesshubel 149.30 343 P PKPdf 19 27 25.8 +6.2
GERES GERESS Array B 151.20 342 PKPbc PKPdf 19 27 29.5 +6.8
comp=Z,0.4nm,0.5s,slow=1.3,SNR=5.5

NEIC ***22*** *19:12:59.4±1.1,21.69S×179.42W,h580km±13km, mb4.4/21,Error ellipse: s-maj=11.5km s-min=8.4km az=179.0*
IDC ***22*** *19:12:59.4±1.9,21.63S×179.43W,h574km±22km, mb3.5/11,mb1 3.8/11,mb1mx3.7/15,mbtmp4.4/11,Error ellipse: s-maj=16.1km s-min=15.3km az=4.0*
ISC 22 19:12:58.5±1.5,21.7S±0.1×179.48W±0.08,h580km±19km, **n46,σ0ᵒ66/42,mb4.2**/27**,6D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**7.65**	**170**	P	**P**	**19 14 54.1**	**-0.2**
	150nm,0.3s,baz=275,slow=23,SNR=4.7						
URZ	**Urewera**	**16.77**	**189**	P	**P**	**19 16 23.1**	**-0.8**
	1.1nm,0.3s,baz=259,slow=6.2,SNR=6.7						
URZ				S	**S**	**19 19 02.7**	**-6.7**
	1.1nm,0.3s,baz=71,slow=22,SNR=9.0						
CNB	**Canberra Magne**	**30.42**	**237**	ǁ *iP*	**P**	**19 18 27.6**	**+1.4**
	9.1nm,0.6s,mb4.6						
CTA	**Charters Tower**	**32.02**	**267**	ǁ *iP*	**P**	**19 18 40.9**	**+1.0**
	18nm,0.5s,mb5.0						
CTAO	**Charters Tower**	**32.02**	**267**	*eP*	**P**	**19 18 40.4**	**+0.6**
	20nm,0.4s,mb5.1						
PMG	**Port Moresby**	**34.30**	**286**	P	**P**	**19 18 59.5**	**+0.5**
	36nm,0.8s,mb5.0,baz=97,slow=7.1,SNR=8.4						
PMG	**Port Moresby**	**34.30**	**286**	*eP*	**P**	**19 18 59.3**	**+0.3**
	44nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**36.03**	**245**	ǁ *iP*	**P**	**19 19 14.3**	**+1.2**
	5.8nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**36.03**	**245**	P	**P**	**19 19 14.3**	**+1.2**
	5.8nm,0.4s,mb4.5,baz=84,slow=9.5,SNR=31						
WB2	**Warramunga Arr**	**43.07**	**264**	ǁ *iP*	**P**	**19 20 09.5**	**-0.4**
WB2				*eS*	**S**	**19 25 48.1**	**-7.1**
WRAB	**Tennant Creek**	**43.08**	**264**	*eP*	**P**	**19 20 09.1**	**-0.8**
	36nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**43.08**	**264**	P	**P**	**19 20 09.6**	**-0.4**
	7.7nm,0.3s,mb4.7,baz=96,slow=7.7,SNR=113						
WRA				ScP		19 24 44.1	
	0.7nm,0.8s,baz=94,slow=4.3,SNR=4.7						
WRA				S	**S**	**19 25 51.0**	**-4.3**
	0.7nm,0.8s,baz=96,slow=11,SNR=3.5						
KAKA	**Kakadu**	**46.64**	**273**	ǁ *iP*	**P**	**19 20 38.2**	**+0.8**
	21nm,0.4s,mb5.0						
FITZ	**Fitzroy Crossi**	**51.51**	**264**	ǁ *iP*	**P**	**19 21 13.3**	**-0.2**
	9.7nm,0.3s,mb4.6						
MBWA	**Marble Bar**	**56.26**	**258**	*eP*	**P**	**19 21 45.5**	**-1.2**
	11nm,0.3s,mb4.6						
SBA	**Scott Base**	**56.60**	**183**	*eP*	**P**	**19 21 49.0**	**+0.6**
	4.1nm,0.8s,mb3.7						
VNDA	**Vanda**	**56.60**	**185**	P	**P**	**19 21 48.7**	**+0.2**
	1.0nm,0.4s,mb3.4,baz=360,slow=7.7,SNR=21						
VNDA	**Vanda**	**56.60**	**185**	*eP*	**P**	**19 21 48.4**	**0.0**
	1.2nm,0.6s,mb3.3						
MUN	**Mundaring**	**57.57**	**245**	*eP*	**P**	**19 21 55.5**	**-0.1**
	16nm,1.1s,mb4.1						
KKM	**Kota Kinabalu**	**68.75**	**286**	*eP*	**P**	**19 23 06.8**	**-0.2**
MJAR	**Matsushiro Arr**	**70.37**	**325**	P	**P**	**19 23 16.0**	**-0.3**
	4.8nm,0.6s,mb4.1,baz=157,slow=6.5,SNR=14						
MJAR	**Matsushiro Arr**	**70.37**	**325**	P	**P**	**19 23 16.0**	**-0.3**
MAJO	**Matsushiro**	**70.37**	**325**	*eP*	**P**	**19 23 15.7**	**-0.6**
	3.9nm,0.5s,mb4.1						
KSM	**Kuching**	**72.22**	**279**	*eP*	**P**	**19 23 27.4**	**0.0**
FX1	**Attu Island--F**	**74.54**	**355**	*eP*	**P**	**19 23 38.6**	**-1.2**
MAW	**Mawson**	**79.97**	**200**	P	**P**	**19 24 08.8**	**+0.1**
	1.0nm,0.5s,mb3.4,baz=109,slow=7.9,SNR=2.4						
YBH	**Yreka Blue Hor**	**82.08**	**39**	P	**P**	**19 24 21.1**	**+1.2**
	1.1nm,0.6s,mb3.5,baz=207,slow=6.8,SNR=4.1						
NVAR	**Mina Array Bea**	**82.84**	**44**	P	**P**	**19 24 24.1**	**+0.3**
	1.6nm,0.8s,mb3.6,baz=213,slow=6.0,SNR=7.3						
ENH	**Enshi**	**85.58**	**305**	*eP*	**P**	**19 24 38.0**	**+0.5**
	5.7nm,0.7s,mb4.3						
SNAA	**Sanae**	**86.85**	**179**	*eP*	**P**	**19 24 41.3**	**-1.2**
	1.2nm,0.5s,mb3.9						
MNTX	**Cornudas Mount**	**88.56**	**55**	*eP*	**P**	**19 24 51.4**	**-0.1**
	2.3nm,0.7s,mb4.1						
LTX	**Lajitas**	**88.86**	**58**	*eP*	**P**	**19 24 53.2**	**+0.2**
	4.0nm,0.9s,mb4.2						
TXAR	**Lajitas Array**	**88.86**	**58**	P	**P**	**19 24 53.6**	**+0.7**
	2.1nm,0.9s,mb4.0,baz=209,slow=5.7,SNR=16						
HWUT	**Hardware Ranch**	**88.90**	**44**	*eP*	**P**	**19 24 52.5**	**-0.4**
	1.4nm,0.4s,mb4.1						
PLCA	**Paso Flores**	**89.45**	**134**	P	**P**	**19 24 55.9**	**+0.5**
	2.8nm,0.8s,mb4.1,baz=250,slow=3.3,SNR=7.8						
PLCA	**Paso Flores**	**89.45**	**134**	*eP*	**P**	**19 24 55.2**	**-0.2**
	2.3nm,0.7s,mb4.1						
RRI2	**Red Ridge**	**89.94**	**43**	*eP*	**P**	**19 24 57.9**	**+0.2**
	3.4nm,0.7s,mb4.3						
PDAR	**Pinedale Array**	**90.77**	**44**	P	**P**	**19 25 01.1**	**-0.4**
	0.5nm,0.6s,mb3.6,baz=225,slow=2.1,SNR=5.5						
SDCO	**Great Sand Dun**	**91.18**	**50**	*eP*	**P**	**19 25 03.6**	**+0.1**
	0.9nm,0.7s,mb3.8						
FINES	**FINESS Array B**	**136.51**	**342**	PKP	PKPdf	19 31 17.6	+3.1
	0.6nm,0.7s,baz=34,slow=6.9,SNR=4.5						
AKASG	**Malin Array Be**	**143.36**	**329**	PKhKP		19 31 25.6	
	2.2nm,0.3s,baz=42,slow=4.4,SNR=47						
AKASG				SKPbc		19 34 11.4	
	0.1nm,0.2s,baz=69,slow=2.4,SNR=4.8						
BR131	**Keskin Array S**	**146.59**	**310**	*e*PKPbc	PKPbc	19 31 35.8	+1.0
BRTR	**Keskin Array B**	**146.59**	**310**	PKPbc	PKPbc	19 31 36.1	+1.3
	1.4nm,0.6s,baz=142,slow=3.3,SNR=6.8						
EIL	**Elat**	**148.06**	**292**	*e*PKPab	PKPab	19 31 46.1	-0.9
CLL	**Collm**	**148.88**	**345**	*e*PKP1	PKPdf	19 31 42.0	+6.0
CLL				*i* PKP2	PKPab	19 31 48.3	-1.4
GERES	**GERESS Array B**	**150.94**	**342**	PKPbc	PKPdf	19 31 46.3	+7.0
	0.4nm,0.6s,baz=63,slow=6.0,SNR=4.5						

IDC 22 20:03:12.2±1.5,11.39N×144.33E,mb3.5/4,mb1 3.8/4, mb1mx3.7/18,mbtmp3.5/4,Error ellipse: s-maj=53.6km s-min=28.8km az=95.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.65**	**198**	P	P	20 09 46.2	-2.1
	0.6nm,0.8s,baz=19,slow=9.5,SNR=3.3						
SONM	**Songino Array**	**48.24**	**326**	P	P	20 11 55.2	-1.6
	0.3nm,0.5s,baz=135,slow=8.2,SNR=2.9						
MKAR	**Makanchi Array**	**62.72**	**317**	P	P	20 13 39.0	-2.4
	0.3nm,0.7s,baz=104,slow=5.9,SNR=3.6						
ILAR	**Eielson Array**	**70.77**	**25**	P	P	20 14 30.1	-2.0
	0.6nm,0.6s,baz=250,slow=5.2,SNR=7.7						

IDC ***22*** *20:12:15.5±0.8,1.16N×97.08E,mb4.1/10,mb1 4.2/10, mb1mx4.0/19,mbtmp4.1/10,MS3.7/3,Ms1 3.7/3, ms1mx3.2/19,Error ellipse: s-maj=28.2km s-min=20.3km az=48.0*
BJI ***22*** *20:12:17.8,0.73N×97.41E,h53km,mB5.0,mb4.7,Ms4.5, Msz4.3*
MOS ***22*** *20:12:18.1±1.4,1.21N×97.10E,h33km,mb4.6/10,Error ellipse: s-maj=28.2km s-min=9.6km az=106.0*
NEIC ***22*** *20:12:19.7±0.6,1.18N×97.13E,h30km,mb4.5/9,Error ellipse: s-maj=14.6km s-min=12.0km az=54.0*
ISC 22 20:12:19.3±2.7,1.22N±0.10×97.2E±0.1,h42km±23km, **h40**km±3.7km**:pP-P,n52,σ1ᵒ23/49,mb4.3**/32**,MS4.0**/6**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.33**	**41**	*e*Pn	**P**	**20 13 38.1**	**-0.2**
KMI	**Kunming**	**24.36**	**12**	P	**P**	**20 17 37.0**	**+2.2**
KMI				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.5						
KMI	**Kunming**	**24.36**	**12**	P	**P**	**20 17 37.0**	**+2.2**
	comp=Z,25nm,1.2s,mb4.5						
KMI				pP		20 20 13.3	
SHL	**Shillong**	**24.74**	**349**	*e*P	**P**	**20 17 38.2**	**-0.2**
GYA	**Guiyang**	**26.70**	**19**	P	**P**	**20 17 56.9**	**+0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
PKI	**Pulchoki**	**28.52**	**338**	*e*P	**P**	**20 18 13.9**	**+0.6**
GUN	**Gumba**	**28.66**	**339**	*e*P	**P**	**20 18 15.8**	**+1.3**
DMN	**Daman**	**28.68**	**337**	*e*P	**P**	**20 18 17.2**	**+2.6**
	comp=Z,21nm,1.0s,mb4.8						
KKN	**Kakani**	**28.77**	**338**	*e*P	**P**	**20 18 15.7**	**+0.2**
LSA	**Lhasa**	**28.90**	**349**	P	**P**	**20 18 19.3**	**+2.7**
LSA	**Lhasa**	**28.90**	**349**	*e*P	**P**	**20 18 18.1**	**+1.5**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
LSA	**Lhasa**	**28.90**	**349**	*e*P	**P**	**20 18 18.1**	**+1.5**
	comp=Z,6.9nm,0.8s,mb4.4						
GKN	**Gorkha**	**29.21**	**337**	*e*P	**P**	**20 18 19.4**	**0.0**
KOLN	**Koldanda**	**29.43**	**335**	*e*P	**P**	**20 18 22.2**	**+0.9**
	comp=Z,18nm,0.9s,mb4.8						
ENH	**Enshi**	**31.17**	**21**	*e*P	**P**	**20 18 35.4**	**-1.4**
	comp=Z,20nm,0.9s,mb5.0						
XAN	**Xi'an**	**34.45**	**17**	P	**P**	**20 19 04.0**	**-1.2**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
GTA	**Gaotai**	**38.09**	**3**	P	**P**	**20 19 36.3**	**+0.5**
GTA				AP	pP	20 19 49.8	+2.4
GTA				PP	PP	20 21 07.9	+1.3
GTA				S	**S**	**20 25 29.1**	**+3.8**
GTA				SS	SS	20 28 08.5	+4.2
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5						
GTA				AMB	AMB		
	comp=Z,63nm,7.2s						
GTA				LR	LR		
	comp=N,152nm,14.4s,MS4.1						
GTA				LR	LR		
	comp=E,149nm,12.2s,MS4.1						
GTA				LR	LR		
	comp=Z,222nm,17.5s						
WRA	**Warramunga Arr**	**42.07**	**122**	P	**P**	**20 20 09.6**	**+0.5**
	comp=Z,1.6nm,0.6s,mb3.8,baz=303,slow=9.0,SNR=16						
WMQ	**Urumqi**	**43.25**	**350**	*e*P	**P**	**20 20 19.6**	**+1.2**
WMQ				AP	pP	20 20 29.5	-0.6
WMQ				LR	LR		
	comp=N,187nm,14.1s,MS4.2						
WMQ				LR	LR		
	comp=E,164nm,15.2s,MS4.2						
WMQ				LR	LR		
	comp=Z,289nm,15.7s,MS4.3						
JNU	**Nakatsue**	**44.80**	**41**	P	**P**	**20 20 31.8**	**+0.6**
	comp=Z,6.3nm,1.0s,mb4.4,baz=198,slow=9.6,SNR=3.9						
AAK	**Ala-Archa**	**45.97**	**337**	*i* P	**P**	**20 20 45.5**	**+5.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
SONM	**Songino Array**	**47.11**	**8**	P	**P**	**20 20 49.9**	**+0.7**
	comp=Z,4.7nm,0.8s,mb4.5,baz=189,slow=8.9,SNR=38						
SONM				PcP	PcP	20 22 21.2	+0.2
	comp=Z,0.9nm,0.7s,baz=198,slow=4.6,SNR=3.3						
MKAR	**Makanchi Array**	**47.22**	**346**	P	**P**	**20 20 50.4**	**+0.4**
	comp=Z,3.2nm,0.6s,mb4.4,baz=161,slow=9.2,SNR=38						
ZAK	**Zakamensk**	**49.25**	**5**	*e*P	**P**	**20 21 05.9**	**+0.1**
ZAK				*e*	pP	20 21 18.0	+0.5
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
CN2	**Changchun**	**49.30**	**27**	*e*P	**P**	**20 21 05.9**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2				LR	LR		
	comp=N,200nm,16.0s,MS4.4						
CN2				LR	LR		
	comp=E,200nm,16.0s,MS4.4						
CN2				LR	LR		
	comp=Z,230nm,17.0s,MS4.2						
MJAR	**Matsushiro Arr**	**51.69**	**42**	LR	LR	20 44 29.6	
	comp=Z,78nm,20.0s,MS3.7,baz=220,slow=37						
KURK	**Kurchatov**	**51.77**	**345**	*e*P	**P**	**20 21 24.4**	**-0.5**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
KURK	**Kurchatov**	**51.77**	**345**	*e*P	**P**	**20 21 24.4**	**-0.5**
	comp=Z,6.3nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**53.39**	**132**	P	**P**	**20 21 38.1**	**+0.9**
	comp=Z,1.6nm,0.7s,mb4.0,baz=325,slow=14,SNR=3.4						
NVS	**Novosibirsk**	**54.65**	**350**	*e*P	**P**	**20 21 44.4**	**-1.8**
NVS				*e*		20 29 29.2	
NVS				pmax	pmax		
	comp=N,5.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
BVA0	**Borovoye Array**	**56.22**	**341**	*i* P	**P**	**20 21 56.6**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
BRVK	**Borovoye**	**56.28**	**341**	*e*P	**P**	**20 21 55.9**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
BRVK	**Borovoye**	**56.28**	**341**	*e*P	**P**	**20 21 55.9**	**-2.1**
	comp=Z,3.9nm,1.0s,mb4.4						
ZRNK	**Zerenda**	**56.62**	**340**	*e*P	**P**	**20 21 58.6**	**-1.9**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**56.62**	**340**	*e*P	**P**	**20 21 58.6**	**-1.9**
	comp=Z,3.1nm,0.8s,mb4.4						
AB31	**Akbulak array**	**57.48**	**332**	P	**P**	**20 22 05.7**	**-0.9**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
BOD	**Bodaibo**	**57.99**	**11**	*e*P	**P**	**20 22 07.6**	**-2.4**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
ARU	**Arti**	**63.16**	**337**	*i* P	**P**	**20 22 44.0**	**-1.2**
KIV	**Kislovodsk**	**64.28**	**319**	*i* P	**P**	**20 22 52.3**	**-0.4**
KIV				*e*		20 23 19.8	
KIV				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
YAK	**Yakutsk**	**65.41**	**16**	*e*P	**P**	**20 22 58.5**	**-1.2**
YAK				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
YAK	**Yakutsk**	**65.41**	**16**	*e*P	**P**	**20 22 57.7**	**-2.0**
	comp=Z,20nm,1.1s,mb5.0						
BRTR	**Keskin Array B**	**69.08**	**312**	P	**P**	**20 23 22.7**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.8,baz=108,slow=9.1,SNR=2.9						
MATP	**Matopo**	**70.51**	**248**	P	**P**	**20 23 32.0**	**-0.2**
	comp=Z,2.0nm,1.0s,mb4.0,baz=96,slow=10,SNR=2.9						
OBN	**Obninsk**	**72.59**	**328**	*e*P	**P**	**20 23 41.1**	**-2.9**
OBN				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
BOSA	**Boshof**	**74.77**	**240**	LR	LR	20 51 11.3	
	comp=Z,100nm,20.8s,MS4.1,baz=345,slow=31						
AKASG	**Malin Array Be**	**75.23**	**322**	P	**P**	**20 24 01.9**	**+2.5**
	comp=Z,0.2nm,0.4s,mb3.4,baz=89,slow=4.5,SNR=3.5						
AKASG	**Malin Array Be**	**75.23**	**322**	P	**P**	**20 24 01.9**	**+2.5**
BILL	**Bilibino**	**81.15**	**21**	*e*P	**P**	**20 24 24.8**	**-6.9**
BILL				*i*	pP	20 24 35.8	-8.4
BILL				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ARCES	**ARCESS Array B**	**82.51**	**340**	P	**P**	**20 24 39.6**	**+0.9**
	comp=Z,1.4nm,0.8s,mb4.0,baz=104,slow=5.0,SNR=7.2						
GERES	**GERESS Array B**	**84.78**	**319**	P	**P**	**20 24 51.8**	**+1.2**
	comp=Z,0.6nm,0.8s,mb3.8,baz=34,slow=4.8,SNR=5.2						
VNDA	**Vanda**	**85.85**	**169**	LR	LR	20 57 08.4	
	comp=Z,19nm,21.5s,MS3.5,baz=56,slow=31						
TXAR	**Lajitas Array**	**143.66**	**32**	PKP	PKPdf	20 31 51.0	+0.6
	comp=Z,0.4nm,0.9s,slow=3.6,SNR=4.1						

MAN 22 20:16:38.4,11.51N×125.42E,h14km**,mb4.2,ML3.0, MS2.8,Samar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.09**	**11**	*i* P	Pb	20 16 42.3	+0.9
PLP	**Palo**	**0.55**	**231**	*e*P	Pb	20 16 49.5	+0.2
PLP				*e*S	Sb	20 16 59.2	+2.5
CNP	**Catarman**	**1.24**	**323**	*e*P	Pb	20 17 00.2	-0.8
MSLP	**Maasin**	**1.48**	**202**	*e*P	Pn	20 17 04.3	-0.4

CSEM ***22*** *20:19:42.5±0.1,36.46N×31.21E,h80km,MD3.3,Error ellipse: s-maj=3.4km s-min=2.2km az=94.0*
ISK ***22*** *20:19:46.3,36.63N×31.12E,h77km,MD3.3*
HLW ***22*** *20:19:48.9,36.03N×31.09E,h21km,Mb3.5*
ISC 22 20:19:44.6±0.4,36.33N±0.04×31.18E±0.05,h77km**,n23,** σ1ᵒ23/32**,2C-3D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTB	**Antalya**	**0.71**	**323**	*e*PG	**P**	**20 19 59.4**	**-0.9**
ANTB				*e*SG	**S**	**20 20 09.3**	**-2.7**
ELL	**Elmali**	**1.11**	**293**	PG	**P**	**20 20 05.7**	**+0.7**
ELL				SG	**S**	**20 20 20.0**	**-0.3**
BCK	**Bucak**	**1.22**	**337**	PG	**P**	**20 20 05.2**	**-1.4**
HDMB	**Hadim**	**1.23**	**59**	PN	**P**	**20 20 07.3**	**+0.7**
HDMB				SN	**S**	**20 20 24.0**	**+0.9**
AKAS	**Kas**	**1.28**	**266**	*i* P	**P**	**20 20 08.0**	**+0.7**
AKAS				*i* S	**S**	**20 20 25.4**	**+1.1**
ERMK	**Ermenek**	**1.43**	**77**	*i* P	**P**	**20 20 11.4**	**+2.0**
ERMK				*i* S	**S**	**20 20 31.8**	**+4.1**
GOLH	**Golhisar**	**1.58**	**305**	*i* P	**P**	**20 20 13.3**	**+1.9**
GOLH				*i* S	**S**	**20 20 33.5**	**+2.3**
ISP	**Isparta**	**1.60**	**341**	PN	**P**	**20 20 10.5**	**-1.2**
TKTP	**Tekketepe**	**1.84**	**338**	*i* P	**P**	**20 20 15.7**	**+0.8**
TKTP				*i* S	**S**	**20 20 37.5**	**+0.4**
KONT	**Konya--Tatoy**	**1.87**	**30**	PN	**P**	**20 20 13.8**	**-1.4**
IKL	**Isikli**	**2.03**	**92**	PN	**P**	**20 20 21.0**	**+3.7**
DALT	**Dalyan (Mudla)**	**2.09**	**283**	*e*PN	**P**	**20 20 18.8**	**+0.5**
YER	**Yerkesik**	**2.46**	**290**	PN	**P**	**20 20 24.2**	**+0.7**
KIZT	**Kizilcal**	**2.61**	**12**	PN	**P**	**20 20 23.6**	**-1.9**
BODT	**Bodrum**	**3.19**	**284**	*e*PN	**P**	**20 20 33.9**	**+0.2**
ESKT	**Eskisehir**	**3.20**	**355**	PN	**P**	**20 20 32.1**	**-1.6**
AMAG	**Maghara**	**5.92**	**163**	ǁ *e*P	**P**	**20 21 11.2**	**-0.2**
HMAT	**Matruh**	**6.23**	**214**	ǁ *e*P	**P**	**20 21 15.2**	**-0.5**
HMAT				S	**S**	**20 22 18.1**	**-8.2**
HMAT	**Matruh**	**6.23**	**214**	P	**P**	**20 21 15.2**	**-0.6**
GLL	**Jalalah**	**6.75**	**176**	ǁ *e*P	**P**	**20 21 23.1**	**+0.1**
SLUM		**6.92**	**227**	ǁ *e*P	**P**	**20 21 24.1**	**-1.3**
SLUM				S	**S**	**20 22 35.3**	**-7.9**
AWBH		**8.21**	**194**	P	**P**	**20 21 42.6**	**-0.5**
HFRF	**Wahat Farafira**	**9.47**	**196**	ǁ *e*P	**P**	**20 21 59.2**	**-1.1**

NIED ***22*** *20:29:00,35.40N×140.50E,h32km,Mw3.7 Best double couple: M0 3.4×10¹⁴ NP1:φ161°,δ78°,λ77°. NP2:φ290°, δ18°,λ137°.*
IDC ***22*** *20:29:29.6±9.4,35.67N×140.95E,h45km±63km,mb3.2/2, mb1 3.4/3,mb1mx3.1/20,mbtmp3.3/3,Error ellipse: s-maj=141.3km s-min=35.7km az=67.0*
JMA ***22*** *20:29:30.2±0.1,35.37N×140.48E,h28km±2km,M3.1*
JMA Felt I J1.
**ISC 22 20:29:29.8±0.6,35.35N±0.04×140.49E±0

ZUR	**Zurich**	**0.42**	**312**	⇑*i*P	**Pg**	**20**	**53**	**56.4**	**+1.3**
WEIN	**Weingarten**	**0.44**	**355**	⇑*i*P	**Pg**	**20**	**53**	**56.3**	**+0.7**
WEIN				*i* S	**Sg**	**20**	**54**	**02.6**	**+1.1**
BNALP	**Bannalp**	**0.47**	**243**	*e*S	**Sg**	**20**	**54**	**05.2**	**+2.6**
BNALP	**Bannalp**	**0.47**	**243**	*e*P	**Pg**	**20**	**53**	**57.9**	**+1.7**
FLACH	**Flaach**	**0.58**	**327**	⇓*i*P	**Pg**	**20**	**53**	**59.2**	**+0.9**
STEIN	**Stein am Rhein**	**0.59**	**349**	*i* S	**Sg**	**20**	**54**	**07.7**	**+1.2**
STEIN	**Stein am Rhein**	**0.59**	**349**	⇑*i*P	**Pg**	**20**	**53**	**59.3**	**+0.7**
DAVA	**Damuels**	**0.61**	**71**	⇑*i*PG	**Pg**	**20**	**53**	**58.7**	**-0.2**
DAVA				*i* SG	**Sg**	**20**	**54**	**07.6**	**+0.6**
	5.5nm,0.1s								
TRULL	**Truellikon**	**0.61**	**337**	⇑*i*P	**Pg**	**20**	**53**	**58.6**	**-0.3**
TRULL				*i* S	**Sg**	**20**	**54**	**06.9**	**-0.2**
DAVOX	**Davos**	**0.65**	**118**	⇑Pn	**Pg**	**20**	**53**	**59.6**	**-0.2**
DAVOX				Sn	**Sn**	**20**	**54**	**08.5**	**-4.2**
DAVOX	**Davos**	**0.65**	**118**	⇑*i*P	**Pg**	**20**	**53**	**59.6**	**-0.2**
DAVOX				*e*S	**Sg**	**20**	**54**	**08.4**	**-0.1**
VDL	**Val di Lei**	**0.67**	**154**	⇑*i*P	**Pg**	**20**	**54**	**00.4**	**+0.3**
VDL				*i* S	**Sg**	**20**	**54**	**09.1**	**0.0**
FUSIO	**Fusio**	**0.69**	**202**	*e*P	**Pg**	**20**	**54**	**01.2**	**+0.8**
SULZ	**Sulz-Cheisache**	**0.77**	**305**	*e*Pg	**Pg**	**20**	**54**	**02.9**	**+0.9**
SULZ				*e*Sg	**Sg**	**20**	**54**	**13.7**	**+1.4**
SULZ	**Sulz-Cheisache**	**0.77**	**305**	*i* S	**Sb**	**20**	**54**	**13.6**	**+1.2**
SULZ	**Sulz-Cheisache**	**0.77**	**305**	⇑*i*P	**Pb**	**20**	**54**	**02.9**	**+0.9**
SLE	**Schleitheim**	**0.77**	**332**	*e*Pg	**Pg**	**20**	**54**	**02.4**	**+0.3**
SLE				*e*Sg	**Sg**	**20**	**54**	**12.7**	**+0.2**
SLE	**Schleitheim**	**0.77**	**332**	⇑*i*P	**Pb**	**20**	**54**	**02.3**	**+0.2**
SLE				*e*S	**Sb**	**20**	**54**	**12.7**	**+0.2**
FUORN	**Ofenpass**	**0.96**	**119**	⇑*i*P	**Pb**	**20**	**54**	**05.3**	**0.0**
FELD	**Feldberg**	**1.05**	**319**	Pg	**Pg**	**20**	**54**	**08.3**	**+0.5**
FELD				Sg	**Sg**	**20**	**54**	**22.9**	**+1.0**
BRMO	**Bormio**	**1.10**	**123**	Pn	**Pn**	**20**	**54**	**08.4**	**-0.1**
BBS	**Basel-Blauen**	**1.11**	**290**	*e*Pn	**Pn**	**20**	**54**	**09.3**	**+0.8**
	SNR=3.6								
BBS				*e*Sg	**Sg**	**20**	**54**	**24.2**	**+0.6**
BBS	**Basel-Blauen**	**1.11**	**290**	Pg	**Pg**	**20**	**54**	**09.5**	**+0.7**
BBS				Sg	**Sg**	**20**	**54**	**24.8**	**+1.2**
MUGIO	**Muggio**	**1.17**	**180**	*e*P	**Pb**	**20**	**54**	**10.0**	**+1.2**
MUGIO				Sn	**Sn**	**20**	**54**	**25.5**	**-0.2**
BOURR	**Bourrignon**	**1.27**	**285**	*e*Pg	**Pg**	**20**	**54**	**12.7**	**+0.7**
BOURR				*e*Sg	**Sg**	**20**	**54**	**29.9**	**+0.9**
MMK	**Mattmark**	**1.27**	**216**	Pn	**Pn**	**20**	**54**	**14.6**	**+3.6**
BFO	**Black Forest**	**1.33**	**339**	*e*Pn	**Pn**	**20**	**54**	**12.0**	**+0.2**
	SNR=1.1								
BFO				*e*Pg	**Pg**	**20**	**54**	**12.8**	**-0.5**
BFO				*e*Sn	**Sn**	**20**	**54**	**28.9**	**-1.0**
BFO				*e*Sg	**Sg**	**20**	**54**	**30.3**	**-0.8**
MOTA	**Moosalm**	**1.43**	**79**	⇓*i*PN	**Pn**	**20**	**54**	**14.0**	**+0.8**
MOTA				*i* SG	**Sg**	**20**	**54**	**33.7**	**-0.7**
	4.9nm,0.1s								
LIBD	**Limburg**	**1.44**	**318**	*e*Sg	**Sg**	**20**	**54**	**34.3**	**-0.4**
SQTA	**Sankt Quirin**	**1.49**	**84**	⇑*i*PN	**Pn**	**20**	**54**	**15.1**	**+1.1**
SQTA				*i* SG	**Sg**	**20**	**54**	**36.0**	**-0.2**
	8.5nm,0.2s								
MOF	**Molkenrain**	**1.50**	**301**	*e*Sg	**Sg**	**20**	**54**	**36.3**	**-0.4**
LOMF	**Lomont**	**1.53**	**281**	Pn	**Pn**	**20**	**54**	**17.3**	**+2.7**
LOMF				Sg	**Sg**	**20**	**54**	**38.7**	**+1.0**
APPI	**Appiano**	**1.62**	**111**	Pn	**Pn**	**20**	**54**	**18.9**	**+2.9**
	11nm,0.3s								
HINF	**Hinteralfeld**	**1.65**	**297**	*e*Pn	**Pn**	**20**	**54**	**16.4**	**0.0**
HINF				*e*Pg	**Pg**	**20**	**54**	**18.7**	**-1.0**
HINF				*e*Sg	**Sg**	**20**	**54**	**40.3**	**-1.4**
	10nm,0.3s								
STU	**Stuttgart**	**1.69**	**4**	*e*Sg	**Sg**	**20**	**54**	**40.6**	**-2.3**
ECH	**Echery**	**1.70**	**312**	Pn	**Pn**	**20**	**54**	**19.4**	**+2.4**
ECH				Sg	**Sg**	**20**	**54**	**42.3**	**-1.0**
ECH	**Echery**	**1.70**	**312**	*e*Sg	**Sg**	**20**	**54**	**42.0**	**-1.3**
WLS	**Welschbruch**	**1.75**	**320**	*e*Sg	**Sg**	**20**	**54**	**43.4**	**-1.4**
WATA	**Walderalm**	**1.75**	**81**	⇑*i*PN	**Pn**	**20**	**54**	**17.8**	**+0.1**
WATA				*i* SG	**Sg**	**20**	**54**	**44.1**	**-0.8**
	3.6nm,0.1s								
CDF	**Champ du Feu**	**1.78**	**319**	*e*Pn	**Pn**	**20**	**54**	**17.8**	**-0.4**
CDF				*e*Pg	**Pg**	**20**	**54**	**21.2**	**-1.0**
CDF				*e*Sg	**Sg**	**20**	**54**	**44.2**	**-1.8**
	17nm,0.5s								
WTTA	**Wattenberg**	**1.78**	**83**	⇓*i*PG	**Pg**	**20**	**54**	**20.6**	**-1.7**
WTTA				*i* SG	**Sg**	**20**	**54**	**44.7**	**-1.3**
	1.4nm,0.1s								
HAU	**Haudompre**	**2.04**	**298**	*e*Pn	**Pn**	**20**	**54**	**21.9**	**0.0**
HAU				*e*Pg	**Pg**	**20**	**54**	**26.0**	**-1.4**
HAU				*e*Sg	**Sg**	**20**	**54**	**52.8**	**-1.8**
	16nm,0.3s								
CABF	**La Chapelle**	**2.08**	**258**	*e*Sg	**Sg**	**20**	**54**	**53.9**	**-2.1**
	9.2nm,0.6s								
LPL	**La Plagne**	**2.24**	**226**	*e*Pn	**Pn**	**20**	**54**	**24.7**	**-0.1**
LPL				*e*Pg	**Pg**	**20**	**54**	**31.1**	**-0.4**
LPL				*e*Sg	**Sg**	**20**	**55**	**00.3**	**-1.1**
	5.0nm,0.7s								
LPG	**La Plagne**	**2.25**	**226**	*e*Pg	**Pg**	**20**	**54**	**30.7**	**-0.9**
LPG				*e*Sg	**Sg**	**20**	**55**	**01.8**	**+0.3**
	5.5nm,0.5s								
MBDF	**Montbardon**	**2.84**	**215**	*e*Pg	**Pg**	**20**	**54**	**41.0**	**-2.5**
MBDF				*e*Sg	**Sg**	**20**	**55**	**18.6**	**-2.8**
	4.5nm,0.6s								
RFYF	**Reffroy**	**2.85**	**304**	*e*Sg	**Sg**	**20**	**55**	**18.4**	**-3.3**
	4.0nm,0.3s								
SFTF	**Sexfontaines**	**2.93**	**294**	*e*Pn	**Pn**	**20**	**54**	**32.7**	**-1.9**
SFTF				*e*Sg	**Sg**	**20**	**55**	**21.1**	**-3.0**
	3.8nm,0.3s								
MEZF	**Maizieres J'vi**	**3.04**	**299**	*e*Sg	**Sg**	**20**	**55**	**24.6**	**-3.2**
	4.2nm,0.4s								
ORIF	**Oris-en-Rattie**	**3.09**	**227**	*e*Pg	**Pg**	**20**	**54**	**45.8**	**-2.6**
ORIF				*e*Sg	**Sg**	**20**	**55**	**26.6**	**-3.0**
	0.8nm,0.2s								
WET	**Wettzell**	**3.29**	**50**	*e*Sg	**Sg**	**20**	**55**	**31.0**	**-5.3**
LOR	**Lormes**	**3.54**	**275**	*e*Pn	**Pn**	**20**	**54**	**41.1**	**-2.2**
	baz=95								
LOR				*e*Sg	**Sg**	**20**	**55**	**39.4**	**-5.1**
	2.0nm,0.2s,baz=104								
SMF	**Signal de Mont**	**3.59**	**265**	*e*Sg	**Sg**	**20**	**55**	**42.5**	**-3.8**
	2.8nm,0.5s								
KHC	**Kasperske Hory**	**3.66**	**54**	*e*SN	**Sn**	**20**	**55**	**23.9**	**-5.2**
KHC				*e*SG	**Sg**	**20**	**55**	**40.3**	**-8.4**
SSF	**Saint Saulge**	**3.78**	**272**	*e*Sg	**Sg**	**20**	**55**	**48.1**	**-4.5**
	1.3nm,0.6s								

CSEM ***22*** *20:54:46.3±0.4, 37.77N×25.47W, h2km, ML2.5, Error ellipse: s-maj=11.6km s-min=9.7km az=16.0, After PDA*
PDA ***22*** *20:54:46.3±0.7, 37.77N×25.47W, h2km±1km, MD2.1, ML2.5, Error ellipse: s-maj=1.8km s-min=0.8km az=92.0*

SVSA 22 20:54:46.3±0.7, 37.77N×25.47W, h2km±1km, MD2.1, ML2.5, Error ellipse: s-maj=1.8km s-min=0.8km az=92.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFA	**Lagoa do Fogo**	**0.01**	**281**	*e*P	Pg	20 54 46.8	+0.1
MESC	**Monte Escuro**	**0.03**	**45**	*e*P	Pg	20 54 47.7	+0.7
MESC				*e*S	Sg	20 54 48.4	+0.9
VIF	**Vila Franca**	**0.04**	**135**	*i* P	Pg	20 54 47.8	+0.7
VIF				*e*S	Sg	20 54 49.0	+1.3
	2µm,0.1s						
VIF	**Vila Franca**	**0.04**	**135**	*e*S	Sg	20 54 49.0	+1.3
	2µm,0.1s						
PVER	**Pico Vermelho**	**0.04**	**309**	*e*P	Pg	20 54 46.4	-0.8
PVER				*e*S	Sg	20 54 47.3	-0.5
PRCH	**Ribeira Ch**	**0.04**	**187**	*e*P	Pg	20 54 47.7	+0.5
PRCH				*e*S	Sg	20 54 49.0	+1.2
PMAT	**Coroa da Mata**	**0.04**	**2**	*e*P	Pg	20 54 47.9	+0.6
PMAT				*e*S	Sg	20 54 49.3	+1.4
CML	**Cha da Macela**	**0.06**	**270**	*e*P	Pg	20 54 46.8	-0.7
CML				*i* S	Sg	20 54 47.9	-0.4
PCNG	**Congro**	**0.06**	**94**	*i* P	Pg	20 54 48.2	+0.6
PCNG				*i* S	Sg	20 54 49.9	+1.5
	3µm,0.2s						
PCNG	**Congro**	**0.06**	**94**	*i* S	Sg	20 54 49.9	+1.5
	3µm,0.2s						
FRA1	**Furnas**	**0.10**	**107**	*e*P	Pg	20 54 49.1	+0.8
FRA1				*i* S	Sg	20 54 50.8	+1.2
FAC	**Faja de Cima**	**0.14**	**271**	*e*P	Pg	20 54 48.7	-0.4
FAC				*e*S	Sg	20 54 51.6	+0.6
MIRA	**Miradouro**	**0.15**	**85**	*e*P	Pg	20 54 50.3	+0.9
PSAN	**Santo Antonio**	**0.22**	**292**	*e*P	Pg	20 54 50.0	-0.6
SET2	**Ginetes**	**0.27**	**285**	*i* P	Pg	20 54 51.0	-0.8

IDC ***22*** *20:57:14.4±0.7, 6.09N×93.39E, h15km±4km, mb4.2/15, mb1 4.3/15, mb1mx4.3/18, mbtmp4.3/15, MS3.8/6, Ms1 3.8/6, ms1mx3.5/16, Error ellipse: s-maj=24.6km s-min=14.2km az=58.0*

MOS ***22*** *20:57:15.2±0.9, 6.07N×93.48E, h33km, mb4.7/14, Error ellipse: s-maj=16.7km s-min=7.2km az=115.4*
NEIC ***22*** *20:57:15.0±0.3, 6.04N×93.39E, mb4.6/20, Error ellipse: s-maj=9.9km s-min=5.8km az=224.0*
BJI ***22*** *20:57:15.0, 6.00N×93.40E, h19km, mB4.6, mb4.4, Ms4.2, Ms2.4.0*

ISC 22 20:57:13.3±0.3, 6.05N±0.06×93.49E±0.05, h21km, h21km±1.3km: pP-P, n96, σ1°10/100, mb4.5/42, MS3.9/13, 2C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.16**	**96**	Pn	**Pn**	**20 58 59.1**	**-0.6**
KSM	**Kuching**	**17.38**	**104**	*e*P	**P**	**21 01 19.9**	**+3.4**
HYB	**Hyderabad**	**18.46**	**309**	*e*P	**P**	**21 01 37.0**	**+7.0**
SHL	**Shillong**	**19.47**	**356**	*e*P	**P**	**21 01 39.2**	**-2.6**
QIZ	**Qiongzhong**	**20.49**	**50**	⇓P	**P**	**21 01 55.4**	**+2.5**
QIZ				AMB	AMB		
	comp=Z,22nm,1.4s						
QIZ				LR	LR		
	comp=E,354nm,11.1s						
QIZ				LR	LR		
	comp=Z,325nm,10.3s,MS4.0						
QIZ	**Qiongzhong**	**20.49**	**50**	*e*P	**P**	**21 01 54.6**	**+1.8**
	comp=Z,30nm,1.1s						
KMI	**Kunming**	**20.93**	**24**	P	**P**	**21 02 03.0**	**+5.7**
KMI				AP		21 02 08.3	
KMI				XP		21 02 10.6	
KMI				AMB	AMB		
	comp=Z,15nm,0.9s						
KMI				AMB	AMB		
	comp=Z,161nm,4.5s						
KMI				LR	LR		
	comp=N,226nm,10.9s,MS3.9						
KMI				LR	LR		
	comp=E,190nm,13.2s,MS3.9						
KMI				LR	LR		
	comp=Z,214nm,11.4s,MS3.8						
KMI	**Kunming**	**20.93**	**24**	P	**P**	**21 02 03.0**	**+5.7**
KMI						21 02 30.5	
KMI				S	**S**	**21 06 02.5**	**+18**
KMI				*SS		21 06 11.4	
KMI				pmax	pmax		
	comp=Z,15nm,0.9s						
KMI				MLR	MLR		
	comp=Z,210nm,11.4s,MS3.8						
KMI	**Kunming**	**20.93**	**24**	P	**P**	**21 02 03.0**	**+5.7**
	comp=Z,15nm,0.9s						
KMI				pP		21 02 08.3	
KMI				sP		21 02 10.6	
KMI				PP	PP	21 02 30.5	+10
KMI				PPP	PPP	21 02 40.3	+11
KMI				PcP	PcP	21 05 59.5	-5.4
KMI				S	**S**	**21 06 02.5**	**+18**
KMI				sS		21 06 11.4	
KMI				SS	SS	21 06 42.5	+25
KMI				SSS	SSS	21 06 57.4	+26
KMI				ScP		21 09 34.7	
KMI				PcS		21 09 36.9	
KMI				LR	LR		
	comp=Z,210nm,11.4s,MS3.8						
PKI	**Pulchoki**	**22.74**	**341**	*e*P	**P**	**21 02 17.3**	**+1.8**
KKN	**Kakani**	**22.99**	**341**	*e*P	**P**	**21 02 18.6**	**+0.7**
GKN	**Gorkha**	**23.40**	**340**	*e*P	**P**	**21 02 23.1**	**+1.2**
	comp=Z,98nm,1.4s,mb5.0						
KOLN	**Koldanda**	**23.56**	**338**	*e*P	**P**	**21 02 25.7**	**+2.2**
	comp=Z,128nm,1.7s,mb5.1						
LSA	**Lhasa**	**23.63**	**355**	P	**P**	**21 02 27.0**	**+2.9**
LSA	**Lhasa**	**23.63**	**355**	*e*P	**P**	**21 02 25.5**	**+1.4**
LSA				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.5						
LSA	**Lhasa**	**23.63**	**355**	*e*P	**P**	**21 02 25.5**	**+1.3**
	comp=Z,18nm,1.0s,mb4.5						
GYA	**Guiyang**	**23.87**	**30**	⇑*i*P	**P**	**21 02 29.0**	**+2.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.1						
GYA				AMB	AMB		
	comp=Z,80nm,4.6s						
GYA				LR	LR		
	comp=N,370nm,15.5s,MS4.1						
GYA				LR	LR		
	comp=E,320nm,15.3s,MS4.1						
GYA				LR	LR		
	comp=Z,390nm,12.9s,MS4.1						
CD2	**Chengdu**	**26.54**	**20**	*e*P	**P**	**21 02 51.3**	**-0.5**
ENH	**Enshi**	**28.41**	**30**	*e*P	**P**	**21 03 07.5**	**-1.2**
	comp=Z,5.6nm,0.6s,mb4.4						
WHN	**Wuhan**	**31.27**	**36**	*e*P	**P**	**21 03 34.3**	**+0.1**
NJ2	**Nanjing**	**35.07**	**39**	*e*P	**P**	**21 04 06.5**	**-0.7**
NJ2				AP	pP	21 04 16.3	+2.9
NJ2				XP	sP	21 04 20.1	+4.1
NJ2				PP	PP	21 05 24.1	-1.8
NJ2				S	**S**	**21 09 36.0**	**-1.6**
NJ2				XS		21 09 52.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				LR	LR		
	comp=N,410nm,17.0s,MS4.4						
NJ2				LR	LR		
	comp=E,420nm,14.4s,MS4.4						
NJ2				LR	LR		
	comp=Z,230nm,18.0s,MS4.0						
SSE	**Sheshan**	**35.98**	**43**	P	**P**	**21 04 13.4**	**-1.5**
SSE				XP	sP	21 04 25.0	+1.3
SSE				PP	PP	21 05 35.1	-1.7
SSE				S	**S**	**21 09 50.6**	**-1.1**
SSE				XS		21 10 07.1	
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,69nm,4.1s						
SSE				LR	LR		
	comp=N,50nm,21.7s,MS3.5						
SSE				LR	LR		
	comp=E,70nm,22.0s,MS3.5						
SSE				LR	LR		
	comp=Z,60nm,19.0s,MS3.4						
SSE	**Sheshan**	**35.98**	**43**	P	**P**	**21 04 12.4**	**-2.5**
	comp=Z,38nm,0.7s,mb5.4						
SSE				sP	sP	21 04 25.0	+1.3
SSE				PP	PP	21 05 35.1	-1.7
SSE				PcP	PcP	21 06 36.3	-5.4
SSE				S	**S**	**21 09 50.6**	**-1.1**
SSE				sS		21 10 07.1	
SSE				PcS		21 10 24.3	
SSE				LR	LR		
	comp=Z,60nm,19.0s,MS3.4						
WMQ	**Urumqi**	**37.96**	**353**	*e*P	**P**	**21 04 32.6**	**+1.2**
WMQ				AP	pP	21 04 38.5	+0.9
WMQ				XP	sP	21 04 41.5	+1.3
WMQ				LR	LR		
	comp=N,245nm,16.4s,MS4.2						
WMQ				LR	LR		
	comp=E,246nm,16.6s,MS4.2						
WMQ				LR	LR		
	comp=Z,380nm,16.7s,MS4.3						
HHC	**Hu-ho-hao-te**	**38.24**	**22**	*e*P	**P**	**21 04 35.8**	**+2.0**
HHC				AP	pP	21 04 41.3	+1.3
HHC				XP	sP	21 04 44.5	+1.9
HHC				PP	PP	21 06 10.0	+5.3
HHC				PCP	PcP	21 06 48.4	-0.1
HHC				S	**S**	**21 10 32.5**	**+6.4**
HHC				XS		21 10 42.1	
HHC				SS	SS	21 13 09.6	+4.7
HHC				SCS	ScS	21 14 43.1	+1.0
HHC				AMB	AMB		
	comp=Z,97nm,12.0s						
HHC				LR	LR		
	comp=N,149nm,14.4s,MS4.1						
HHC				LR	LR		
	comp=E,197nm,16.8s,MS4.1						
HHC				LR	LR		
	comp=Z,158nm,20.4s,MS3.8						
FITZ	**Fitzroy Crossi**	**39.77**	**128**	*e*P	**P**	**21 04 47.4**	**+0.6**
	comp=Z,9.2nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**40.13**	**338**	⇓*e*P	**P**	**21 04 50.2**	**+0.7**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
MKAR	**Makanchi Array**	**41.73**	**348**	P	**P**	**21 05 02.9**	**+0.4**
	comp=Z,3.4nm,0.7s,mb4.1,baz=168,slow=8.1,SNR=32						
MKAR	**Makanchi Array**	**41.73**	**348**	P	**P**	**21 05 02.9**	**+0.4**
KKAR	**Karatay Array**	**42.11**	**335**	*i* P	**P**	**21 05 05.8**	**0.0**
SONM	**Songino Array**	**43.07**	**13**	P	**P**	**21 05 14.4**	**+0.8**
	comp=Z,0.5nm,0.6s,mb3.4,baz=188,slow=8.7,SNR=4.4						
SONM				LR	LR	21 26 36.1	
	comp=Z,71nm,18.4s,MS3.6,baz=98,slow=41						
KURK	**Kurchatov**	**46.22**	**347**	*e*P	**P**	**21 05 38.0**	**-0.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
KURK	**Kurchatov**	**46.22**	**347**	*e*P	**P**	**21 05 38.0**	**-0.8**
	comp=Z,2.2nm,0.3s,mb4.6						
WRA	**Warramunga Arr**	**47.76**	**124**	P	**P**	**21 05 51.1**	**-0.3**
	comp=Z,12nm,0.9s,mb4.9,baz=301,slow=9.0,SNR=39						
WRA				pP	pP	21 05 57.0	-0.6
	comp=Z,22nm,0.9s,baz=302,slow=8.6,SNR=34						
WRAB	**Tennant Creek**	**47.76**	**124**	*e*P	**P**	**21 05 51.1**	**-0.3**
WRAB				*e**PP	pP	21 05 56.9	-0.8
WRAB				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.5						
WRAB	**Tennant Creek**	**47.76**	**124**	*e*P	**P**	**21 05 51.1**	**-0.3**
	comp=Z,40nm,0.9s,mb5.5						
WRAB				*e*pP	pP	21 05 56.9	-0.8
WB2	**Warramunga Arr**	**47.77**	**124**	*e*P	**P**	**21 05 51.0**	**-0.4**
WB2				*e*	pP	21 05 56.8	-0.9
CIT	**Chita**	**48.73**	**16**	*e*P	**P**	**21 05 59.3**	**+0.9**
CIT				*e*		21 07 19.9	
CIT				pmax	pmax		
	comp=Z,22nm,2.4s,mb4.8						
NVS	**Novosibirsk**	**49.35**	**352**	*e*P	**P**	**21 05 58.7**	**-4.4**
NVS				*e*S	**S**	**21 13 11.6**	**+4.2**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
NVS				pmax	pmax		
	comp=N,10.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.2s						
NVS				smax			
	comp=N,7.0nm,1.4s						
NVS				smax			
	comp=E,11nm,1.9s						
BVAR	**Borovoye Array**	**50.51**	**342**	P	**P**	**21 06 11.1**	**-1.0**
	comp=E,1.3nm,0.7s,mb4.0,baz=149,slow=8.6,SNR=7.0						
BRVK	**Borovoye**	**50.57**	**342**	*e*P	**P**	**21 06 11.3**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
BRVK	**Borovoye**	**50.57**	**342**	*e*P	**P**	**21 06 11.3**	**-1.2**
	comp=Z,0.8nm,0.5s,mb3.9						
MJAR	**Matsushiro Arr**	**50.86**	**47**	pP	pP	21 06 21.0	-0.3
	comp=Z,0.7nm,0.5s,baz=243,slow=8.2,SNR=2.3						
MJAR				LR	LR	21 26 48.8	
	comp=Z,125nm,21.2s,MS3.9,baz=65,slow=35						
ZRNK	**Zerenda**	**50.88**	**341**	*e*P	**P**	**21 06 13.9**	**-0.9**
ZRNK				*e**PP	pP	21 06 19.9	-1.3
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**50.88**	**341**	*e*P	**P**	**21 06 13.9**	**-0.9**
	comp=Z,1.2nm,0.5s,mb4.1						
ZRNK				*e*pP	pP	21 06 19.9	-1.3
AB31	**Akbulak array**	**51.53**	**332**	*i* P	**P**	**21 06 19.4**	**-0.4**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BOD	**Bodaibo**	**54.06**	**13**	*e*P	**P**	**21 06 32.1**	**-6.4**
BOD				*e*	pP	21 06 38.0	-6.9
BOD				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
PMG	**Port Moresby**	**55.84**	**106**	P	**P**	**21 06 52.0**	**+1.3**
	comp=Z,31nm,1.0s,mb5.3,baz=282,slow=14,SNR=3.1						
KMBO	**Kilima Mbogo**	**56.60**	**265**	P	**P**	**21 06 57.6**	**0.0**
	comp=Z,1.8nm,0.9s,mb4.1,baz=50,slow=13,SNR=3.7						
KMBO				LR	LR	21 30 45.3	
	comp=Z,95nm,19.0s,MS3.9,baz=97,slow=36						
ARU	**Arti**	**57.32**	**338**	⇑*i*P	**P**	**21 07 01.0**	**-1.1**
ARU				*e*		21 07 54.2	
ARU				*e*		21 09 04.3	
ARU				*e*PPP	PPP	21 10 26.5	-5.1
ARU				*e*S	**S**	**21 14 57.6**	**+2.2**
ARU				*e*		21 16 47.7	
ARU				*e*SS	SS	21 18 47.8	+1.5
ARU				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
ARU	**Arti**	**57.32**	**338**	*e*P	**P**	**21 07 00.7**	**-1.4**
	comp=Z,15nm,1.5s,mb4.8						
ARU				*e*pP	pP	21 07 06.5	-2.0
KIV	**Kislovodsk**	**58.24**	**319**	⇓*e*P	**P**	**21 07 07.9**	**-0.9**
KIV				*e*SS	SS	21 19 03.4	+2.1
KIV				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
KIV	**Kislovodsk**	**58.24**	**319**	*e*P	**P**	**21 07 07.4**	**-1.4**
	comp=Z,11nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**59.34**	**133**	*e*P	**P**	**21 07 15.9**	**-0.6**
	comp=Z,2.8nm,0.8s,mb4.3						
STKA				*i*	pP	21 07 21.5	-1.5
STKA	**Stephens Creek**	**59.34**	**133**	P	**P**	**21 07 16.3**	**-0.3**
	comp=Z,3.8nm,0.9s,mb4.4,baz=313,slow=3.6,SNR=5.5						
STKA				pP	pP	21 07 21.7	-1.3
	comp=Z,8.4nm,0.9s,baz=312,slow=6.8,SNR=9.5						
YAK	**Yakutsk**	**61.92**	**18**	*i* P	**P**	**21 07 33.1**	**-0.6**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb5.0						
ANN	**Anapa**	**62.04**	**318**	*e*P	**P**	**21 07 39.3**	**+4.5**
ANN				*i* *PP	pP	21 07 49.1	+7.8
ANN				*i*		21 08 09.2	
ANN				*e*S	**S**	**21 16 09.5**

comp=Z,7.0nm,1.2s,mb4.5
GRF Grafenberg Arr 80.42 319 *e*P **P 21 09 25.3 +0.3**
comp=Z,7.0nm,1.2s,mb4.5
NOA NORSAR Array B 81.00 331 P **P 21 09 24.8 -3.0**
comp=Z,1.0nm,0.9s,mb3.7,baz=134,slow=11,SNR=2.5
VNDA Vanda 91.28 168 P **P 21 10 18.7 +0.6**
comp=Z,0.7nm,0.8s,mb4.0,baz=330,slow=4.2,SNR=3.5
PDAR Pinedale Array 127.09 21 PKP PKPdf 21 16 18.9 -1.9
comp=Z,0.8nm,0.8s,slow=1.5,SNR=6.6
PDAR pPKP 21 16 24.4
comp=Z,1.5nm,1.0s,slow=1.5,SNR=8.0
TXAR Lajitas Array 141.14 24 PKP PKPdf 21 16 43.7 -3.7
comp=Z,0.4nm,0.8s,baz=304,slow=3.3,SNR=2.9
TXAR pPKP 21 16 48.2
comp=Z,0.4nm,0.7s,baz=55,slow=1.0,SNR=4.5
TXAR Lajitas Array 141.14 24 PKP PKPdf 21 16 43.7 -3.7
TXAR pPKP 21 16 48.2
CPUP Villa Florida 145.63 231 PKPbc PKPbc 21 16 52.5 +0.7
comp=Z,3.0nm,0.7s,baz=119,slow=7.1,SNR=5.6

*ISK **22** 20:59:57.1, 38.53N×40.91E, h33km, MD3.5*
*CSEM **22** 20:59:57.1, 38.53N×40.91E, h33km, MD3.5, After ISK*
ISC 22 20:59:56.0±0.4, 38.58N±0.02×40.89E±0.04, h10km, n18, σ0s92/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNGL	**BINGOL**	**0.42**	**29**	*i* P	**Pg**	**21 00 03.8**	**-0.8**
BNGL				*i* S	**Sg**	**21 00 09.5**	**-0.8**
BTMT	**Batman**	**0.61**	**130**	*i* PG	**Pg**	**21 00 08.4**	**+0.1**
BTMT				*i* SG	**Sg**	**21 00 16.2**	**-0.3**
BEST	**Besiri**	**0.75**	**157**	*i* P	**Pb**	**21 00 10.7**	**-0.1**
BEST				*i* S	**Sb**	**21 00 21.9**	**+1.1**
DIY	**Diyarbakir**	**0.86**	**218**	*i* PG	**Pg**	**21 00 13.1**	**-0.2**
DIY				*i* SG	**Sg**	**21 00 24.8**	**-0.1**
PTK	**Pertek**	**1.21**	**285**	*i* PN	**Pn**	**21 00 17.9**	**-1.1**
MARD	**Mardin**	**1.27**	**184**	*i* P	**Pb**	**21 00 19.2**	**-0.4**
MARD				*i* S	**Sb**	**21 00 36.5**	**+0.7**
EZM	**Erzurum**	**1.37**	**15**	*e*PN	**Pn**	**21 00 21.7**	**+0.4**
ERZM	**Erzurum**	**1.37**	**15**	*i* P	**Pn**	**21 00 21.0**	**-0.3**
ERZM				*i* S	**Sb**	**21 00 40.5**	**+1.8**
ELZG	**Elazig**	**1.50**	**267**	*i* P	**Pn**	**21 00 23.0**	**-0.1**
ELZG				*i* S	**Sb**	**21 00 44.4**	**+1.9**
MALT	**Malatya**	**1.95**	**263**	*e*PN	**Pn**	**21 00 29.0**	**-0.6**
MYA	**Malatya**	**1.95**	**263**	*e*PN	**Pn**	**21 00 29.7**	**+0.1**
TVAN	**Van**	**1.97**	**91**	*i* P	**Pn**	**21 00 31.3**	**+1.5**
TVAN				*i* S	**Sn**	**21 01 00.7**	**+5.9**
URFA	**Urfa**	**1.99**	**236**	PN	**Pn**	**21 00 28.3**	**-1.9**
GUMT	**Gumushane**	**2.17**	**330**	*e*PN	**Pn**	**21 00 33.2**	**+0.5**
CLDR	**Caldiran**	**2.43**	**76**	*e*PN	**Pn**	**21 00 35.5**	**-0.9**
HAKT	**HAKKARI**	**2.45**	**114**	*i* P	**Pn**	**21 00 37.8**	**+1.1**
HAKT				*i* S	**Sn**	**21 01 13.2**	**+6.3**
HKR	**Hakkari**	**2.46**	**113**	*e*PN	**Pn**	**21 00 35.4**	**-1.5**
BCA	**Borcka**	**2.91**	**11**	*e*PN	**Pn**	**21 00 43.5**	**+0.2**

GUC 22 21:10:20.4±0.9, 33.12S×70.25W, h4km±4km, MD3.6, ML2.2, 6C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.21**	**189**	⇑*i* P	Pg	21 10 24.8	+0.2
FCH				*i* S	Sg	21 10 27.8	+0.3
FCH				AMP		21 10 28.7	
	comp=N,595nm,0.2s						
CLCH	**Cerro Calan**	**0.36**	**221**	⇑*i* P	Pg	21 10 27.9	+0.1
CLCH				*i* S	Sg	21 10 33.3	+0.8
CLCH				AMP		21 10 34.5	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**0.36**	**266**	*e*P	Pg	21 10 27.1	-0.6
PEL				*i* S	Sg	21 10 32.4	-0.1
DSCH	**Colegio Aleman**	**0.38**	**224**	⇓*i* P	Pg	21 10 28.4	+0.3
DSCH				*i* S	Sg	21 10 33.8	+0.6
DSCH				AMP		21 10 35.1	
	comp=E,780nm,0.6s						
JACH	**Jahuel**	**0.52**	**327**	*e*P	Pg	21 10 30.2	-0.6
JACH				*i* S	Sg	21 10 38.2	+0.3
PCH	**Pirque**	**0.55**	**204**	⇓*i* P	Pg	21 10 31.0	-0.3
PCH				*i* S	Sg	21 10 38.9	+0.3
ROCH	**El Roble**	**0.65**	**283**	⇓*i* P	Pg	21 10 33.0	-0.5
ROCH				*i* S	Sg	21 10 42.3	+0.1
LMEL	**Las Melosas**	**0.73**	**177**	⇑*i* P	Pg	21 10 34.2	-0.8
LMEL				*i* S	Sg	21 10 44.8	+0.1
LMEL				AMP		21 10 48.1	
	comp=N,93nm,0.2s						
TACH	**Talagante**	**0.78**	**227**	⇑*i* P	Pg	21 10 35.1	-0.9
TACH				*i* S	Sg	21 10 45.8	-0.7
CHCH	**Chadas Angostu**	**0.88**	**202**	⇓*i* P	Pb	21 10 36.6	-1.2
CHCH				*i* S	Sg	21 10 49.0	-0.6
CACH	**El Canelo**	**1.04**	**196**	⇑*i* P	Pb	21 10 40.1	-0.4
CACH				*i* S	Sb	21 10 54.6	+0.3
CICH	**Cipreses**	**1.21**	**187**	⇑*i* P	Pb	21 10 42.9	-0.5
CICH				*i* S	Sb	21 10 59.5	+0.3
LNV	**Longovilo**	**1.28**	**229**	*i* P	Pb	21 10 43.2	-1.4
LNV				*i* S	Sb	21 10 59.1	-2.1
SFDO	**San Fernando**	**1.62**	**203**	⇓*i* P	Pn	21 10 49.4	-0.5
SFDO				*e*S	Sb	21 11 10.0	-1.2

NNC 22 21:14:31.8±4.9, 39.80N×71.84E, mpv3.3, 4C-2D, Error ellipse: s-maj=50.3km s-min=27.3km az=161.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**3.45**	**344**	⇑Pn	Pn	21 15 29.4	+1.5
	1.8nm,0.3s,baz=144,slow=12,SNR=83						
KK31				⇑Sn	Sn	21 16 16.5	+6.5
	5.2nm,0.3s,baz=151,slow=24,SNR=4.5						
AAK	**Ala-Archa**	**3.47**	**34**	⇓Pn	Pn	21 15 25.9	-2.2
	7.9nm,0.5s						
AAK				⇓Sn	Sn	21 16 11.1	+0.5
	20nm,0.7s						
AB31	**Akbulak array**	**12.69**	**322**	⇑Pn	P	21 17 33.5	-2.8
	0.5nm,0.5s,baz=133,slow=13,SNR=15						
AB31				⇑Sn	S	21 19 54.5	-5.0
	0.4nm,0.5s						

*ATH **22** 21:32:51.2, 38.87N×21.14E, h26km±3km, MD3.1/5*
*THE **22** 21:32:51.6, 38.86N×21.16E, h15km, ML2.7*
*NEIC **22** 21:32:51.2, 38.87N×21.14E, h26km, MD3.1(ATH), After ATH.*
*CSEM **22** 21:32:51.5±0.1, 38.89N×21.16E, h8km, ML2.7, Error ellipse: s-maj=3.3km s-min=2.6km az=178.0*
ISC 22 21:32:50.5±0.6, 38.89N±0.03×21.21E±0.04, h9km±5km, n20, σ1s00/33, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.47**	**87**	*e*PN	**Pn**	**21 33 02.0**	**-1.0**
EVR				*e*SN	**Sn**	**21 33 09.8**	**-1.5**
LKD	**Levkas**	**0.47**	**247**	*e*Pg	**Pg**	**21 32 59.8**	**-0.3**
LKD				*e*Sg	**Sg**	**21 33 06.8**	**+0.3**
JAN	**Janina**	**0.81**	**340**	*e*PN	**Pn**	**21 33 07.4**	**-0.4**
RLS	**Riolos of Patr**	**0.86**	**166**	*e*PN	**Pn**	**21 33 08.7**	**+0.1**
VLS	**Valsamata**	**0.86**	**214**	*e*PB	**Pb**	**21 33 06.8**	**-0.4**
AGG	**Agios Georgios**	**0.88**	**81**	*e*Pg	**Pg**	**21 33 08.6**	**+0.4**
	comp=Z,8.1nm,0.4s						
AGG				*e*Sg	**Sg**	**21 33 22.3**	**+2.2**
MEV	**Metsovon**	**0.89**	**1**	*e*Pg	**Pg**	**21 33 07.9**	**-0.4**
	comp=Z,5.0nm,0.2s						
MEV				*e*Sg	**Sg**	**21 33 22.4**	**+2.2**
IGT	**Igoumenitsa**	**0.93**	**313**	*e*Pg	**Pg**	**21 33 08.4**	**-0.8**
IGT				*e*Sg	**Sg**	**21 33 22.1**	**+0.5**
LSK	**Leskovik**	**1.34**	**340**	*e*Pn	**Pn**	**21 33 18.2**	**+2.8**
LSK				*i* Sn	**Sn**	**21 33 38.7**	**+5.3**
KEK	**Kerkira**	**1.36**	**307**	*e*PN	**Pn**	**21 33 16.1**	**+0.3**
LKR	**Lokris**	**1.42**	**99**	*e*PN	**Pn**	**21 33 18.0**	**+1.4**
LIT	**Litokhoron**	**1.56**	**39**	*e*Pg	**Pg**	**21 33 19.0**	**-2.7**
LIT				*e*Sg	**Sg**	**21 33 40.5**	**-2.0**
XOR	**Xorichti**	**1.61**	**72**	*e*Pb	**Pb**	**21 33 20.0**	**0.0**
XOR				*e*Sb	**Sb**	**21 33 41.0**	**+0.7**
FNA	**Florina**	**1.89**	**4**	*e*Pb	**Pb**	**21 33 23.8**	**-1.0**
FNA				*e*Sb	**Sb**	**21 33 48.3**	**-0.2**
AOS	**Alonnisos**	**2.10**	**82**	*e*Pn	**Pn**	**21 33 26.1**	**-0.2**
AOS				*e*Sn	**Sn**	**21 33 53.3**	**+0.6**
PAIG	**Paliouri**	**2.17**	**61**	*e*Pn	**Pn**	**21 33 27.0**	**-0.4**
PAIG				*e*Sn	**Sn**	**21 33 55.3**	**+0.6**
GRG	**Griva**	**2.25**	**24**	*e*Pn	**Pn**	**21 33 29.0**	**+0.5**
SOH	**Sokhos**	**2.54**	**40**	*e*Pn	**Pn**	**21 33 32.9**	**+0.3**
SOH				*e*Sn	**Sn**	**21 34 04.3**	**+0.5**
OUR	**Ouranopolis**	**2.58**	**55**	*e*Pn	**Pn**	**21 33 33.3**	**+0.2**
OUR				*e*Sn	**Sn**	**21 34 04.2**	**-0.8**
SRS	**Serrai**	**2.88**	**39**	*e*Pn	**Pn**	**21 33 37.0**	**-0.5**

*CSEM **22** 21:33:16.6±0.1, 37.77N×25.49W, h4km, ML2.4, Error ellipse: s-maj=6.5km s-min=1.9km az=4.0, After PDA*
*PDA **22** 21:33:16.6±0.9, 37.77N×25.49W, h4km±2km, MD2.7, ML2.4, Error ellipse: s-maj=2.4km s-min=1.7km az=89.0*
SVSA 22 21:33:16.6±0.9, 37.77N±25.49W, h4km±2km, MD2.7, ML2.4, Error ellipse: s-maj=2.4km s-min=1.7km az=89.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFA	**Lagoa do Fogo**	**0.00**	**42**	*i* P	Pg	21 33 18.0	+0.7
PVER	**Pico Vermelho**	**0.04**	**321**	*i* P	Pg	21 33 16.9	-0.7
PVER				*i* S	Sg	21 33 18.1	-0.2
MESC	**Monte Escuro**	**0.04**	**54**	*i* P	Pg	21 33 18.2	+0.5
PRCH	**Ribeira Ch**	**0.04**	**174**	*i* P	Pg	21 33 18.2	+0.5
PRCH				*i* S	Sg	21 33 19.1	+0.6
PRCH	**Ribeira Ch**	**0.04**	**174**	*i* S	Sg	21 33 19.1	+0.6
VIF	**Vila Franca**	**0.04**	**124**	*i* P	Pg	21 33 18.3	+0.5
VIF				*i* S	Sg	21 33 19.6	+1.1
VIF	**Vila Franca**	**0.04**	**124**	*i* S	Sg	21 33 19.6	+1.1
CML	**Cha da Macela**	**0.05**	**271**	*e*P	Pg	21 33 17.3	-0.5
PMAT	**Coroa da Mata**	**0.05**	**15**	*e*P	Pg	21 33 18.4	+0.6
PMAT				*i* S	Sg	21 33 19.2	+0.6
PCNG	**Congro**	**0.07**	**92**	*i* P	Pg	21 33 18.7	+0.5
PCNG				*i* S	Sg	21 33 20.4	+1.1
PCNG	**Congro**	**0.07**	**92**	*i* S	Sg	21 33 20.4	+1.1
FRA1	**Furnas**	**0.11**	**105**	*e*P	Pg	21 33 19.6	+0.8
FAC	**Faja de Cima**	**0.13**	**271**	*e*P	Pg	21 33 19.1	-0.2
PFAD	**Fenais da Ajud**	**0.15**	**62**	*e*P	Pg	21 33 20.4	+0.8
MIRA	**Miradouro**	**0.17**	**85**	*e*P	Pg	21 33 20.9	+0.9
MIRA				*e*S	Sg	21 33 23.9	+1.7
PSAN	**Santo Antonio**	**0.21**	**293**	*e*P	Pg	21 33 20.6	-0.2
PFET	**Feteiras**	**0.24**	**281**	*e*P	Pg	21 33 21.2	-0.3
SET2	**Ginetes**	**0.26**	**286**	*e*P	Pg	21 33 21.4	-0.5
SET4	**Mosteiros**	**0.27**	**293**	*e*P	Pg	21 33 21.4	-0.6
PFAV	**Pico das Favas**	**1.57**	**307**	*e*S	Sb	21 34 02.2	-3.8
RIB2	**Ribeirinha**	**1.60**	**305**	*e*S	Sb	21 34 00.0	-7.0
	20nm,0.3s						
RIB2	**Ribeirinha**	**1.60**	**305**	*e*S	Sb	21 34 00.0	-7.0
	20nm,0.3s						
PICO	**Pico**	**2.43**	**288**	*i* P	Pn	21 33 54.2	-3.5
PICO				*e*S	Sn	21 34 21.4	-6.8

*HEL **22** 21:55:54.7±0.6, 67.07N×12.66E, h10km, ML1.9, MD2.6(BER), ML1.9(BER)*
*NAO **22** 21:55:57.7±4.7, 66.85N×13.42E, h4km±32km, ML2.1*
BER 22 21:55:57.8±3.7, 66.95N×12.93E, MD2.6, ML1.9, ML2.1(NAO), 1C, Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MELSS	**Ber_school_2**	**0.32**	**105**	⇑*i* P	Pg	21 56 03.9	-0.4
MELSS				*e*S	Sg	21 56 09.1	+0.6
STOK	**Stokkvaagen**	**0.62**	**177**	*i* P	Pg	21 56 09.4	-0.7
STOK				*i* S	Sg	21 56 17.3	-1.0
STOK				AML	AML	21 56 18.8	
	comp=Z,49nm,0.2s						
STOK	**Stokkvaagen**	**0.62**	**177**	*e*P	Pg	21 56 09.4	-0.7
STOK				*e*S	Sg	21 56 17.3	-1.0
STOK				AML	AML	21 56 18.8	
	comp=Z,49nm,0.2s						
MOR8	**Moi Rana**	**0.99**	**142**	*e*P	Pb	21 56 15.2	-2.3
MOR8				*e*S	Sg	21 56 29.0	-1.7
MOR8				AML	AML	21 56 29.6	
	comp=Z,52nm,0.3s						
LOF	**Lofoten**	**1.21**	**11**	*e*P	Pb	21 56 19.9	-1.4
LOF				*e*S	Sb	21 56 34.4	-3.0
LOF				AML	AML	21 56 39.3	
	comp=Z,24nm,0.3s						
RORSS	**Ber_school_1**	**2.20**	**199**	*e*Sg	Sg	21 57 04.6	-6.4
NSS	**Namsos**	**2.46**	**190**	*e*P	Pn	21 56 37.9	-1.9
NSS				*e*SG	Sg	21 57 14.1	-5.6
KIF	**Kilpisjarvi**	**3.61**	**52**	*e*PG	Pn	21 56 59.4	+3.2
KIF				*e*S	Sn	21 57 32.2	-8.0
KIF				*e*SG	Sg	21 57 48.2	-10
KTK1	**Kautokeino**	**4.40**	**57**	*e*P	Pn	21 57 04.1	-3.2
KTK1				*e*S	Sn	21 57 53.9	-6.2
KTK1				AML	AML	21 58 20.1	
	comp=Z,5.0nm,0.7s						
SGF	**Sodankyl**	**5.31**	**78**	*e*P	Pn	21 57 13.7	-6.6
SGF				*e*S	Sn	21 58 15.4	-7.8
SGF				MSG		21 58 52.6	
	comp=Z,1.0nm,0.3s						
ARA0	**ARCESS Array S**	**5.35**	**55**	Pn	Pn	21 57 15.9	-4.9
	baz=237,slow=12						
ARA0				Pg	Pg	21 57 33.4	-11
	baz=234,slow=16						
ARA0				Sn	Sn	21 58 16.3	-7.8
	baz=241,slow=28						
ARA0				Lg		21 58 41.6	
	baz=239,slow=28						
ARA0	**ARCESS Array S**	**5.35**	**55**	*e*P	Pn	21 57 12.9	-7.9
ARA0				*e*S	Sn	21 58 14.8	-9.3
ARA0				*e*SG	Sg	21 58 41.4	-14
OUL	**Oulu**	**5.61**	**103**	*e*P	Pn	21 57 18.2	-6.2
OUL				*e*S	Sn	21 58 24.2	-6.3
OUL				*e*SG	Sg	21 58 54.1	-10
OUL				MSG		21 58 59.6	
	comp=Z,0.9nm,0.2s						
VAF	**Ylistaro**	**5.69**	**129**	*e*P	Pn	21 57 18.2	-7.5
VAF				*e*S	Sn	21 58 25.4	-7.3
VAF				MSG		21 59 08.5	
	comp=Z,1.3nm,0.2s						
KEV	**Kevo**	**5.92**	**55**	*e*P	Pn	21 57 20.3	-8.6
KEV				*e*S	Sn	21 58 28.6	-10
KEV				MSG		21 59 14.7	
	comp=Z,0.8nm,0.3s						
NB2	**NORSAR Subarra**	**5.98**	**188**	Lg		21 59 04.7	
NB2	**NORSAR Subarra**	**5.98**	**188**	*e*SG		21 59 04.7	
KU4	**Liikasenvaara**	**6.64**	**87**	*e*P	Pn	21 57 32.0	-7.0
KU4				*e*S	Sn	21 58 46.8	-10
KJN	**Kajaani**	**6.78**	**108**	*e*P	Pn	21 57 33.8	-7.2
KJN				*e*S	Sn	21 58 51.7	-8.1
KJN				MSG		21 59 42.9	
	comp=Z,0.8nm,0.2s						
HFS	**Hagfors**	**6.85**	**177**	Lg		21 59 27.4	
	baz=7.8,slow=37						
HFS	**Hagfors**	**6.85**	**177**	*e*SG		21 59 27.4	
HFS	**Hagfors**	**6.85**	**177**	Lg		21 59 27.4	
	baz=7.8,slow=37						
SUF	**Sumiainen**	**7.05**	**121**	*e*S	Sn	21 58 57.8	-8.8
SUF				*e*SG	Sg	21 59 37.2	-15
SUF				MSG		21 59 42.8	
	comp=Z,0.4nm,0.2s						
KAF	**Kangasniemi**	**7.52**	**124**	*e*S	Sn	21 59 08.3	-10
FIA0	**FINESS Array S**	**7.95**	**128**	Sn	Sn	21 59 16.7	-12
FIA0				Lg		22 00 01.8	
	baz=320,slow=28						
FIA0	**FINESS Array S**	**7.95**	**128**	*e*S	Sn	21 59 18.1	-11
FIA0				*e*SG		22 00 03.8	
FIA0				MSG		22 00 10.0	
	comp=Z,0.6nm,0.3s						

*MOS **22** 22:45:36.6±0.8, 13.00N×93.27E, h33km, mb4.8/33, Error ellipse: s-maj=13.7km s-min=5.3km az=121.1*
*BJI **22** 22:45:36.8, 12.84N×93.30E, h43km, mB4.6, mb4.8, Ms4.0, Msz3.7*
*NEIC **22** 22:45:38.5±1.7, 13.03N×93.31E, h34km±12km, mb4.6/36, Error ellipse: s-maj=8.4km s-min=4.4km az=50.0*
*IDC **22** 22:45:39.0±2.9, 13.05N×93.33E, h35km±22km, mb4.2/17, mb1 4.3/17, mb1mx4.3/20, mbtmp4.4/17, MS3.8/10, Ms1 3.8/10, ms1mx3.8/14, Error ellipse: s-maj=21.9km s-min=12.4km az=62.0*
ISC 22 22:45:37.3±0.3, 12.98N±0.04×93.29E±0.03, h40km, h40km±2.5km: pP-P, n186, σ0s89/193, mb4.5/64, MS3.9/17, 12C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.42**	**202**	*e*P	**P**	**22 46 06.3**	**+5.2**
PBA				*e*S	**S**	**22 46 28.0**	**+9.1**
NNT	**Nongplab**	**6.29**	**93**	P	**P**	**22 47 13.0**	**+3.0**
BDT	**Bhumibol Dam**	**6.95**	**52**	P	**P**	**22 47 21.0**	**+1.7**
	27nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NST	**Nakhon Sawan**	**7.15**	**67**	P	**P**	**22 47 20.0**	**-2.0**
	50nm,0.5s						
CHG	**Chiang Mai**	**7.95**	**42**	⇑P	**P**	**22 47 33.5**	**+0.5**
	40nm,0.9s						
CHRT	**Chiangrai**	**9.25**	**41**	PG	**P**	**22 47 52.0**	**+0.8**
CHRT				SG	S	22 50 02.0	+27
KKTK	**Khon Kaen**	**9.81**	**69**	P	**P**	**22 48 02.0**	**+3.1**
	370nm,0.9s						
BWNR	**Bhubaneshwar**	**10.21**	**316**	*e*	**P**	**22 48 09.2**	**+4.7**
BWNR				*e*		22 49 10.0	
KULM	**Kulim**	**10.54**	**136**	*e*Pn	**P**	**22 48 07.4**	**-1.6**
KULM				*e*pPn		22 48 13.4	
IMP	**Imphal**	**11.75**	**3**	*e*P	**P**	**22 48 24.0**	**-1.4**
SHL	**Shillong**	**12.59**	**354**	*e*P	**P**	**22 48 31.5**	**-5.1**
SHL				*e*		22 50 48.0	
BOK	**Bokaro**	**12.84**	**328**	*e*P	**P**	**22 48 38.6**	**-1.4**
BLSP	**Bilaspur**	**13.99**	**312**	*e*P	**P**	**22 48 53.6**	**-1.5**
BLSP				AMb	AMB	22 48 57.0	
	comp=Z,43nm,1.0s						
BLSP				*e*		22 51 09.4	
HYB	**Hyderabad**	**14.89**	**289**	*e*P	**P**	**22 49 12.0**	**+5.1**
HYB				*e*S	**S**	**22 51 45.0**	**-6.3**
HYB	**Hyderabad**	**14.89**	**289**	*i* P	**P**	**22 49 05.0**	**-1.9**
HYB				*e*S	**S**	**22 51 51.0**	**-0.3**
KMI	**Kunming**	**15.01**	**35**	P	**P**	**22 49 12.3**	**+3.9**
KMI				AP		22 49 16.5	
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s						
KMI	**Kunming**	**15.01**	**35**	P	**P**	**22 49 12.2**	**+3.8**
	comp=Z,9.0nm,1.0s						
KMI				pP		22 49 16.5	
NGP	**Nagpur**	**15.85**	**303**	*e*P	**P**	**22 49 20.4**	**+1.1**
NGP				AMb	AMB	22 49 22.3	
	comp=Z,55nm,1.1s						
PKI	**Pulchoki**	**16.28**	**334**	*e*P	**P**	**22 49 24.5**	**-0.2**
	comp=Z,163nm,1.0s						
PKI	**Pulchoki**	**16.28**	**334**	*e*P	**P**	**22 49 24.5**	**-0.2**
PKI				pmax	pmax		
	comp=Z,81nm,1.0s						
GUN	**Gumba**	**16.39**	**336**	*e*P	**P**	**22 49 25.1**	**-0.9**
DMN	**Daman**	**16.44**	**333**	*e*P	**P**	**22 49 26.1**	**-0.6**
	comp=Z,85nm,0.8s						
KKN	**Kakani**	**16.53**	**334**	*e*P	**P**	**22 49 27.6**	**-0.2**
LSA	**Lhasa**	**16.75**	**354**	P	**P**	**22 49 29.0**	**-1.6**
LSA	**Lhasa**	**16.75**	**354**	*e*P	**P**	**22 49 31.2**	**+0.6**
LSA				pmax	pmax		
	comp=Z,29nm,0.9s						
LSA	**Lhasa**	**16.75**	**354**	*e*P	**P**	**22 49 31.1**	**+0.5**
	comp=Z,29nm,0.9s						
GKN	**Gorkha**	**16.99**	**333**	*e*P	**P**	**22 49 33.0**	**-0.6**
KOLN	**Koldanda**	**17.28**	**330**	*e*P	**P**	**22 49 37.1**	**-0.1**
	comp=Z,73nm,0.7s						
AKL	**Akola**	**17.36**	**298**	*e*P	**P**	**22 49 45.3**	**+7.0**
AKL				AMb	AMB	22 49 47.9	
	comp=Z,38nm,0.6s						
BHPL	**Bhopal**	**18.19**	**306**	*e*P	**P**	**22 49 50.0**	**+1.3**
BHPL				AMb	AMB	22 49 51.7	
	comp=Z,32nm,1.2s						
BHPL				*e*		22 50 02.5	
BHPL				*e*		22 52 56.7	
CD2	**Chengdu**	**20.29**	**27**	P	**P**	**22 50 11.8**	**-0.6**
NDI	**New Delhi**	**21.63**	**319**	*e*P	**P**	**22 50 27.6**	**+1.5**
NDI				AMb	AMB	22 50 29.5	
	comp=Z,29nm,0.8s,mb4.8						
AJM	**Ajmer**	**22.06**	**310**	*i* P	**P**	**22 50 32.0**	**+1.6**
DDI	**Dehra Dun**	**22.28**	**323**	*e*P	**P**	**22 50 33.5**	**+1.0**
ENH	**Enshi**	**22.81**	**38**	*e*P	**P**	**22 50 37.7**	**-0.1**
	comp=Z,56nm,0.8s,mb5.0						
ENH				*e*pP		22 50 43.5	
LZH	**Lanzhou**	**24.89**	**21**	⇑P	**P**	**22 50 59.6**	**+1.6**
LZH				AP		22 51 11.9	
LZH				XP		22 51 16.8	
LZH				PP	PP	22 51 38.0	+2.3
LZH				*e*S	**S**	**22 55 16.8**	**+1.1**
LZH				XS		22 55 31.0	
LZH				SS	SS	22 56 15.1	-0.2
LZH				AMB	AMB		
	comp=Z,90nm,1.1s,mb5.2						
LZH				AMB	AMB		
	comp=Z,290nm,5.2s						
LZH				LR	LR		
	comp=E,340nm,14.0s						
LZH				LR	LR		
	comp=Z,640nm,21.0s						
LZH	**Lanzhou**	**24.89**	**21**	⇑P	**P**	**22 50 59.6**	**+1.6**
LZH				*PP		22 51 11.9	
LZH						22 51 38.0	
LZH				*e*S	**S**	**22 55 16.8**	**+1.1**
LZH				*SS		22 55 31.0	
LZH				SS	SS	22 56 15.1	-0.2
LZH				pmax	pmax		
	comp=Z,90nm,1.1s,mb5.2						
LZH				MLR	MLR		
	comp=Z,640nm,21.0s,MS4.1						
LZH	**Lanzhou**	**24.89**	**21**	⇑P	**P**	**22 50 59.6**	**+1.6**
	comp=Z,90nm,1.1s,mb5.2						
LZH				pP		22 51 11.9	
LZH				sP		22 51 16.7	
LZH				PP	PP	22 51 38.0	+2.3
LZH				*e*S	**S**	**22 55 16.8**	**+1.1**
LZH				sS		22 55 31.0	
LZH				SS	SS	22 56 15.1	-0.2
LZH				LR	LR		
	comp=Z,640nm,21.0s,MS4.1						
XAN	**Xi'an**	**25.32**	**32**	P	**P**	**22 51 00.5**	**-1.6**
XAN				AP	pP	22 51 14.0	+1.3
XAN				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
WHN	**Wuhan**	**26.14**	**45**	*e*P	**P**	**22 51 10.3**	**+0.5**
GTA	**Gaotai**	**26.95**	**11**	*e*P	**P**	**22 51 17.9**	**+0.8**
GTA				AP

SSE LR LR
comp=N,112nm,22.0s,MS3.6
SSE LR LR
comp=E,88nm,21.7s,MS3.6
SSE LR LR
comp=Z,80nm,29.3s
SSE Sheshan 31.38 50 P **P** **22 51 54.6 -2.2**
comp=Z,21nm,0.7s,mb5.1
SSE sP sP 22 52 07.1 -5.7
SSE PP PP 22 53 06.0 +5.0
SSE PcP PcP 22 54 46.2 -3.7
SSE S **S** **22 57 01.8 +1.6**
SSE sS 22 57 16.7
SSE PcS 22 58 27.1
SSE LR LR
comp=Z,80nm,29.3s,MS3.2
HHC Hu-ho-hao-te 32.05 27 ⇑P **P** **22 52 02.8 +0.3**
HHC AMB AMB
comp=Z,15nm,1.2s,mb4.7
HHC AMB AMB
comp=Z,78nm,8.4s
HHC LR LR
comp=N,165nm,16.8s,MS3.9
HHC LR LR
comp=E,136nm,19.2s,MS3.9
HHC LR LR
comp=Z,116nm,18.0s,MS3.6
TKM2 Tokmak 2 33.53 336 P **P** **22 52 17.3 +1.9**
SNR=5.6
AML Almayashu 33.67 333 P **P** **22 52 18.2 +1.6**
SNR=11
AAK Ala-Archa 33.73 335 *eP* **P** **22 52 17.2 +0.1**
AAK pmax pmax
comp=Z,11nm,1.2s,mb4.7
AAK Ala-Archa 33.73 335 *eP* **P** **22 52 17.2 +0.1**
comp=Z,11nm,1.2s,mb4.7
CHMS Chumysh 33.93 335 P **P** **22 52 19.5 +0.7**
SNR=6.3
EKS2 Erkin-Say 34.06 334 P **P** **22 52 21.3 +1.3**
SNR=8.9
USP Ospenovka 34.26 335 P **P** **22 52 22.2 +0.6**
SNR=12
MKAR Makanchi Array 34.95 347 P **P** **22 52 27.6 0.0**
comp=Z,14nm,0.8s,mb5.0,baz=162,slow=8.7,SNR=128
MKAR ScP 22 58 41.2
comp=Z,1.8nm,0.9s,baz=143,slow=6.1,SNR=9.2
KKAR Karatay Array 35.88 331 *i* P **P** **22 52 35.6 +0.1**
SONM Songino Array 36.43 15 P **P** **22 52 40.9 +0.9**
comp=Z,6.8nm,0.9s,mb4.6,baz=196,slow=9.0,SNR=37
SONM PcP PcP 22 55 04.0 0.0
comp=Z,0.7nm,0.7s,baz=191,slow=4.0,SNR=3.6
SONM ScP 22 58 47.7
comp=Z,0.6nm,0.6s,baz=198,slow=3.9,SNR=5.6
SONM LR LR 23 09 35.4
comp=Z,199nm,21.4s,MS3.9,baz=201,slow=40
ZAK Zakamensk 38.18 10 *eP* **P** **22 52 55.3 +0.6**
ZAK *e* 22 55 06.6
ZAK *e* 22 58 53.7
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
ZAK pmax pmax
comp=Z,1.0nm,1.4s,mb3.4
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.5
KS15 Wonju Array Si 39.30 46 *eP* **P** **22 53 04.5 +0.4**
CN2 Changchun 41.28 36 *eP* **P** **22 53 20.3 -0.2**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb4.7
NVS Novosibirsk 42.50 351 *eP* **P** **22 53 28.0 -2.3**
NVS pmax pmax
comp=N,16nm,1.9s
NVS pmax pmax
comp=Z,19nm,1.9s,mb4.4
NVS pmax pmax
comp=E,5.0nm,1.6s
BVA0 Borovoye Array 43.92 340 *i* P **P** **22 53 41.8 -0.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.5
BRVK Borovoye 43.98 340 *eP* **P** **22 53 42.1 -0.3**
BRVK pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
BRVK Borovoye 43.98 340 *eP* **P** **22 53 42.1 -0.3**
comp=Z,9.3nm,1.0s,mb4.5
ZRNK Zerenda 44.33 339 *eP* **P** **22 53 44.9 -0.3**
ZRNK pmax pmax
comp=Z,69nm,0.6s,mb5.6
ZRNK Zerenda 44.33 339 *eP* **P** **22 53 44.9 -0.3**
comp=Z,69nm,0.6s,mb5.6
FITZ Fitzroy Crossi 44.41 133 P **P** **22 53 45.8 -0.6**
comp=Z,3.2nm,0.4s,mb4.4,baz=234,slow=5.2,SNR=12
AB31 Akbulak array 45.40 330 *i* P **P** **22 53 54.2 +0.4**
AB31 pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
MJAR Matsushiro Arr 46.51 52 LR LR 23 16 12.9
comp=Z,63nm,18.0s,MS3.6,baz=280,slow=40
BOD Bodaibo 47.43 15 *eP* **P** **22 54 05.5 -4.2**
GNI Garni 50.36 312 *eP* **P** **22 54 32.4 -0.2**
GNI pmax pmax
comp=Z,8.0nm,0.9s
GNI Garni 50.36 312 *eP* **P** **22 54 32.4 -0.2**
comp=Z,8.3nm,0.9s,mb4.8
ARU Arti 50.90 336 *ci* P **P** **22 54 36.0 -0.5**
ARU pmax pmax
comp=Z,20nm,1.1s,mb5.0
ARU Arti 50.90 336 *eP* **P** **22 54 35.4 -1.1**
comp=Z,21nm,1.1s,mb5.0
NWAO Narrogin (SRO) 51.06 154 P **P** **22 54 39.0 +1.0**
comp=Z,10nm,1.0s,mb4.7,baz=321,slow=7.9,SNR=4.5
NWAO Narrogin (SRO) 51.06 154 P **P** **22 54 39.0 +1.0**
WRA Warramunga Arr 51.98 128 P **P** **22 54 44.3 -0.8**
comp=Z,1.3nm,0.6s,mb4.0,baz=307,slow=8.3,SNR=24
WRAB Tennant Creek 51.98 128 *eP* **P** **22 54 44.2 -0.9**
WRAB pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
WRAB Tennant Creek 51.98 128 *eP* **P** **22 54 44.2 -0.9**
comp=Z,3.3nm,0.5s,mb4.5
KIV Kislovodsk 53.05 316 *eP* **P** **22 54 53.2 +0.5**
KIV pmax pmax
comp=Z,14nm,1.1s,mb4.8
KIV Kislovodsk 53.05 316 *eP* **P** **22 54 53.2 +0.5**
comp=Z,14nm,1.1s,mb4.8
YSS Yuzh-Sakhalins 53.37 40 *i* P **P** **22 54 55.8 +0.7**
MALT Malatya 54.61 308 *eP* **P** **22 55 04.5 +0.2**
MALT pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
MALT Malatya 54.61 308 *eP* **P** **22 55 04.5 +0.2**
comp=Z,2.6nm,1.0s,mb4.2
SOC Sochi 54.98 314 *eP* **P** **22 55 04.6 -2.3**
SOC *e* 22 56 09.2
SOC *e* 22 57 09.8
SOC *e*PPP PPP 22 58 20.1 -4.5
SOC *e*S **S** **23 02 43.9 -0.4**
SOC *e* 23 04 50.4
SOC *e*SS SS 23 06 28.1 +0.2
SOC *e*SSS SSS 23 08 34.6 +4.4
SOC pmax pmax
comp=Z,12nm,0.9s,mb4.9
SOC pmax pmax
comp=N,14nm,0.8s
SOC pmax pmax
comp=E,12nm,0.9s
ANN Anapa 56.89 315 *eP* **P** **22 55 26.8 +6.1**
ANN *i* *PP pP 22 55 37.2 +4.9
ANN *i* 22 56 16.0
ANN *e*S **S** **23 03 26.6 +17**
ANN pmax pmax
comp=Z,19nm,0.9s,mb5.1
KMBO Kilima Mbogo 57.31 260 P **P** **22 55 24.4 +0.3**
comp=Z,1.0nm,0.8s,mb3.9,baz=90,slow=8.1,SNR=3.5
KMBO LR LR 23 17 23.4
comp=Z,134nm,18.9s,MS4.1,baz=98,slow=33
BR131 Keskin Array S 58.54 309 *eP* **P** **22 55 31.4 -0.9**
comp=Z,1.5nm,0.6s,mb4.2
BRTR Keskin Array B 58.54 309 P **P** **22 55 31.9 -0.4**
comp=Z,2.7nm,0.8s,mb4.3,baz=123,slow=7.6,SNR=16
MOS Moscow 60.33 327 *eP* **P** **22 55 52.3 +7.9**
MOS pmax pmax
comp=Z,24nm,0.7s,mb5.3
OBN Obninsk 60.66 327⇑ *eP* **P** **22 55 46.0 -0.7**
OBN *i* pP 22 55 58.2 -0.1
OBN *e* 22 57 58.1
OBN *e*SS SS 23 08 01.9 +3.2
OBN pmax pmax
comp=Z,16nm,1.3s,mb5.0
TIRR Tirgusor 63.12 313 ⇓P **P** **22 56 02.7 -0.6**
AKASG Malin Array Be 63.68 320 P **P** **22 56 05.5 -1.4**
comp=Z,1.0nm,0.5s,mb4.1,baz=87,slow=5.0,SNR=12
STKA Stephens Creek 64.26 135 P **P** **22 56 10.3 -0.7**
comp=Z,1.5nm,0.8s,mb4.1,baz=0.7,slow=2.0,SNR=4.0
STKA LR LR 23 24 43.7
comp=Z,209nm,21.4s,MS4.3,baz=257,slow=36
STKA Stephens Creek 64.26 135 P **P** **22 56 10.3 -0.7**
STKA LR LR 23 24 43.7
VRI Vrincioaia 64.50 315⇑P **P** **22 56 12.7 +0.4**
SEY Seymchan 64.69 26⇑ *eP* **P** **22 56 12.5 -0.7**
MLR Muntele Rosu 64.99 314⇑P **P** **22 56 15.7 +0.2**
BURAR Bucovina Array 65.76 316⇓P **P** **22 56 20.6 +0.2**
KWP Kalwaria 67.65 318 *eP* **P** **22 56 32.5 +0.2**
KWP Kalwaria 67.65 318 *eP* **P** **22 56 32.5 +0.2**
FINES FINESS Array B 67.84 331 P **P** **22 56 32.9 -0.4**
comp=Z,8.6nm,0.7s,mb4.9,baz=124,slow=6.9,SNR=26
FINES LR LR 23 30 56.2
comp=Z,39nm,18.6s,MS3.7,baz=143,slow=40
FINES FINESS Array B 67.84 331 P **P** **22 56 32.9 -0.4**
FINES LR LR 23 30 56.2
KAF Kangasniemi 67.90 332 *ep* **P** **22 56 32.9 -0.7**
comp=Z,0.4nm,0.4s,mb3.8,baz=104,slow=6.2
SUW Suwalki 67.92 323 *eP* **P** **22 56 33.6 -0.3**
SUW Suwalki 67.92 323 *eP* **P** **22 56 33.6 -0.3**
CRVS Cervenica-Dubn 68.39 318 *eP* **P** **22 56 39.3 +2.4**
CRVS *es*P sP 22 56 53.0 -0.1
STHS Stebnicka Huta 68.58 318 *eP* **P** **22 56 38.2 +0.1**
STHS *e* 22 56 43.7
KECS Kecovo 69.00 317 *eP* **P** **22 56 40.3 -0.4**
KECS *ep*P pP 22 56 52.1 -0.5
KECS *e*PP PP 22 59 13.3 -2.4
OJC Ojcow 69.58 319 *eP* **P** **22 56 44.3 +0.1**
KEV Kevo 69.77 340 *ep* **P** **22 56 44.6 -0.5**
comp=Z,5.0nm,0.7s,mb4.5
VYHS Vyhne 70.10 317 *eP* **P** **22 56 47.4 0.0**
ARCES ARCESS Array B 70.21 340 P **P** **22 56 48.1 +0.4**
comp=Z,5.2nm,0.7s,mb4.6,baz=97,slow=6.4,SNR=48
ARCES LR LR 23 32 42.7
comp=Z,50nm,19.5s,MS3.8,baz=4.5,slow=40
ZST Bratislava 71.24 317 *eP* **P** **22 56 55.2 +0.9**
BILL Bilibino 71.69 22 *i* P **P** **22 56 56.5 -0.2**
BILL *i* 22 57 12.6
BILL pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BILL MLR MLR
comp=Z,100nm,20.0s,MS4.1
KSP Ksiaz 71.84 319 *eP* **P** **22 56 58.1 +0.3**
KSP Ksiaz 71.84 319 *eP* **P** **22 56 58.5 +0.6**
BRG Berggiesshubel 73.33 319 *i* P **P** **22 57 07.1 +0.4**
BRG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BRG Berggiesshubel 73.33 319 *i* P **P** **22 57 07.1 +0.4**
comp=Z,7.7nm,0.9s,mb4.6
GERES GERESS Array B 73.51 317 P **P** **22 57 08.2 +0.5**
comp=Z,6.5nm,0.8s,mb4.6,baz=87,slow=5.5,SNR=47
KHC Kasperske Hory 73.58 318 *eP* **P** **22 57 08.4 +0.2**
KHC Kasperske Hory 73.58 318 *e* **P** **22 57 08.5 +0.3**
KHC Kasperske Hory 73.58 318 *eP* **P** **22 57 08.5 +0.3**
CLL Collm 73.92 320 P **P** **22 57 10.0 -0.1**
MOX Moxa 74.81 319 *eP* **P** **22 57 16.0 +0.7**
NB2 NORSAR Subarra 74.91 330 P **P** **22 57 15.0 -0.6**
comp=Z,6.2nm,0.8s,mb4.6,baz=89,slow=5.6
NB2 NORSAR Subarra 74.91 330 P **P** **22 57 15.0 -0.6**
NB2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
NOA NORSAR Array B 74.91 330 P **P** **22 57 14.9 -0.7**
comp=Z,3.8nm,0.7s,mb4.5,baz=90,slow=5.8,SNR=14
NOA LR LR 23 36 15.3
comp=Z,41nm,20.2s,MS3.7,baz=65,slow=41
GRA1 Grafenberg Arr 75.10 318 *eP* **P** **22 57 17.6 +0.6**
comp=Z,6.0nm,1.1s,mb4.4
GRF Grafenberg Arr 75.10 318 *eP* **P** **22 57 17.6 +0.6**
GRF pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
GRF Grafenberg Arr 75.10 318 *eP* **P** **22 57 17.6 +0.6**
GRF pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
GRF Grafenberg Arr 75.10 318 *eP* **P** **22 57 17.6 +0.6**
comp=Z,6.0nm,1.1s,mb4.4
PGF Pioggiola 77.17 311 *eP* **P** **22 57 28.5 -0.4**
BOSA Boshof 77.63 237 P **P** **22 57 32.8 +1.1**
comp=Z,6.8nm,0.7s,mb4.7,baz=76,slow=5.8,SNR=23
BOSA LR LR 23 26 14.4
comp=Z,129nm,21.5s,MS4.2,baz=220,slow=31
CDF Champ du Feu 77.78 317 *eP* **P** **22 57 31.8 -0.3**
comp=Z,5.2nm,0.8s,mb4.2
CDF Champ du Feu 77.78 317 *eP* **P** **22 57 31.8 -0.3**
CDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SBF Sospel 78.17 313 *eP* **P** **22 57 34.1 -0.2**
HAU Haudompre 78.45 317 *eP* **P** **22 57 35.3 -0.4**
comp=Z,2.6nm,0.5s,mb4.1
HAU Haudompre 78.45 317 *eP* **P** **22 57 35.3 -0.4**
HAU pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
MBDF Montbardon 78.54 313 *eP* **P** **22 57 37.2 +0.9**
comp=Z,7.0nm,0.8s,mb4.4
MBDF Montbardon 78.54 313 *eP* **P** **22 57 37.2 +0.9**
MBDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
FRF La Foret Royal 78.77 312 *eP* **P** **22 57 37.2 -0.4**
comp=Z,17nm,0.9s,mb4.7
FRF La Foret Royal 78.77 312 *eP* **P** **22 57 37.2 -0.4**
FRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CABF La Chapelle 78.79 315 *eP* **P** **22 57 37.4 -0.2**
LMR La Mourre 78.90 312 *eP* **P** **22 57 37.9 -0.4**
ORIF Oris-en-Rattie 79.14 314 *eP* **P** **22 57 39.4 -0.2**
comp=Z,4.5nm,0.8s,mb4.2
ORIF Oris-en-Rattie 79.14 314 *eP* **P** **22 57 39.4 -0.2**
ORIF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
SMRF Simiane la Rot 79.49 313 *eP* **P** **22 57 41.1 -0.4**
BAIF Baives 79.59 319 *eP* **P** **22 57 42.1 +0.2**
comp=Z,46nm,1.4s,mb4.9
BAIF Baives 79.59 319 *eP* **P** **22 57 42.1 +0.2**
BAIF pmax pmax
comp=Z,23nm,1.4s,mb4.9
VIVF Saint-Julien-l 80.00 314 *eP* **P** **22 57 44.3 0.0**
comp=Z,10nm,0.9s,mb4.5
VIVF Saint-Julien-l 80.00 314 *eP* **P** **22 57 44.3 0.0**
VIVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
LOR Lormes 80.21 316 *eP* **P** **22 57 45.0 -0.3**
comp=Z,4.6nm,0.7s,mb4.2
LOR Lormes 80.21 316 *eP* **P** **22 57 45.0 -0.3**
LOR pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SMF Signal de Mont 80.32 316 *eP* **P** **22 57 45.4 -0.5**
comp=Z,7.6nm,0.8s,mb4.4
SMF Signal de Mont 80.32 316 *eP* **P** **22 57 45.4 -0.5**
SMF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SSF Saint Saulge 80.48 316 *eP* **P** **22 57 46.6 -0.2**
SSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
SSF Saint Saulge 80.48 316 *eP* **P** **22 57 46.6 -0.2**
comp=Z,6.3nm,1.0s,mb4.5
AVF Avril sur Loir 80.63 316 *eP* **P** **22 57 47.1 -0.4**
comp=Z,9.3nm,1.0s,mb4.4
AVF Avril sur Loir 80.63 316 *eP* **P** **22 57 47.1 -0.4**
AVF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
LASF Ste Croix 80.70 313 *eP* **P** **22 57 48.1 +0.1**
BGF Bois d'Agland 81.01 316 *eP* **P** **22 57 49.3 -0.3**
TCF Toulx Ste Croi 81.49 315 *eP* **P** **22 57 52.0 -0.1**
comp=Z,12nm,1.1s,mb4.5
TCF Toulx Ste Croi 81.49 315 *eP* **P** **22 57 52.0 -0.1**
TCF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CAF Calviac 81.82 314 *eP* **P** **22 57 53.8 0.0**
comp=Z,5.8nm,0.8s,mb4.2
CAF Calviac 81.82 314 *eP* **P** **22 57 53.8 0.0**
CAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MTLF Montolieu 81.99 313 *eP* **P** **22 57 54.3 -0.5**
comp=Z,20nm,1.3s,mb4.6
MTLF Montolieu 81.99 313 *eP* **P** **22 57 54.3 -0.5**
MTLF pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
RJF Les Rejaudoux 82.14 315 *eP* **P** **22 57 55.8 +0.3**
FLN La Foliniere 82.83 318 *eP* **P** **22 57 58.2 -0.7**
comp=Z,20nm,1.0s,mb4.8
FLN La Foliniere 82.83 318 *eP* **P** **22 57 58.2 -0.7**
FLN pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MFF Saint Martin d 83.03 316 *eP* **P** **22 58 00.1 +0.1**
comp=Z,7.4nm,0.9s,mb4.4
MFF Saint Martin d 83.03 316 *eP* **P** **22 58 00.1 +0.1**
MFF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
GRR Gorron 83.14 318 *eP* **P** **22 58 00.1 -0.4**
MAW Mawson 83.34 191⇑ *iP* **P** **22 58 03.2 +2.1**
comp=Z,3.4nm,0.7s,mb4.5
MAW Mawson 83.34 191⇑ *iP* **P** **22 58 03.2 +2.1**
MAW pmax pmax
comp=Z,3.0nm,0.7s
MAW Mawson 83.34 191 P **P** **22 58 03.3 +2.2**
comp=Z,4.1nm,0.7s,mb4.6,baz=7.9,slow=6.2,SNR=14
MAW LR LR 23 27 06.2
comp=Z,59nm,21.1s,MS3.9,baz=249,slow=30
EPF Esparros 83.40 313 *eP* **P** **22 58 01.6 -0.3**
ETSF Etsaut 84.07 313 *eP* **P** **22 58 05.4 0.0**
SGMF Saint Gilles 84.28 318 *eP* **P** **22 58 06.5 +0.2**
ROSF Rostrenen 84.73 318 *eP* **P** **22 58 08.8 +0.3**
ESDC Sonseca Array 87.31 310 P **P** **22 58 22.1 +0.6**
comp=Z,0.2nm,0.4s,mb3.7,baz=56,slow=4.6,SNR=5.3
ILAR Eielson Array 90.35 22 P **P** **22 58 35.5 +0.3**
comp=Z,1.2nm,0.7s,mb4.4,baz=299,slow=4.5,SNR=14
INK Inuvik 92.34 16 LR LR 23 39 55.2
comp=Z,44nm,21.2s,MS3.9,baz=303,slow=35
TXAR Lajitas Array 134.86 21 PKP PKPdf 23 04 56.0 +3.1
comp=Z,0.3nm,0.6s,baz=106,slow=1.3,SNR=5.0
TXAR Lajitas Array 134.86 21 PKP PKPdf 23 04 56.0 +3.1
PLCA Paso Flores 148.94 204 PKPbc PKPdf 23 05 24.3 +7.2
comp=Z,4.1nm,0.7s,baz=153,slow=1.0,SNR=13

IDC 22 23:54:50.8±1.9, 2.81N×126.94E, mb3.6/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=112.8km s-min=25.5km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.82**	**183**	P		P	P	23 59 34.6	-2.0
	2.4nm,0.6s,baz=18,slow=13,SNR=6.4								
WRA	**Warramunga Arr**	**23.75**	**162**	P		P	P	00 00 05.0	-0.8
	0.4nm,0.3s,baz=340,slow=10,SNR=9.1								
STKA	**Stephens Creek**	**37.20**	**159**	P		P	P	00 02 03.6	-2.1
	1.9nm,0.8s,baz=349,slow=12,SNR=3.0								
MKAR	**Makanchi Array**	**58.42**	**325**	P		P	P	00 04 48.3	-2.4
	0.2nm,0.5s,baz=121,slow=8.4,SNR=4.4								

MOS ***23*** *00:44:55.6±0.8, 5.53N×94.51E, h33km, mb5.3/39, Error ellipse: s-maj=9.9km s-min=4.7km az=119.5*
BJI ***23*** *00:44:55.5, 5.21N×94.32E, h46km, mB4.9, mb5.3, Ms4.6, Msz4.4*
HRVD ***23*** *00:44:56.8±0.9, 5.45N×94.37E, h32km, MW5.0/26, Centroid moment Tensor Solution. LP body waves: s15,c18;Mantle waves: s26,c37; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.73±.32; Mθθ 0.15±.19; Mϕϕ -1.88±.21; Mrθ 0.89±.26; Mrϕ 0.97±.14; Mθϕ -2.39±.27; Best double couple: M0 3.24×10^16 NP1: ϕs 336°, δ 19°, λ 87°. NP2: ϕs 160°, δ 71°, λ 91°. Principal axes: T 2.97, Plg 64°, Azm 71°; N .536, Plg 1°, Azm 339°; P -3.509, Plg 26°, Azm 249°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***23*** *00:44:56.8±0.1, 5.46N×94.42E, h30km, mb5.1/51, MS4.8/72 Error ellipse: s-maj=5.4km s-min=3.4km az=202.0*
IDC ***23*** *00:44:58.5±0.6, 5.48N×94.42E, h42km±4km, mb4.6/26, mb1 4.6/26, mb1mx4.6/27, mbtmp4.8/26, MS4.1/10, Ms1 4.1/10, ms1mx3.8/37, Error ellipse: s-maj=14.1km s-min=8.8km az=53.0*
ISC 23 00:44:56.6±0.2, 5.38N±0.04×94.40E±0.03, h43km, h43km±1.7km: pP-P, n362, σ0 96/298, mb5.0/105, MS4.6/95, 56C-13D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.22**	**90**	*eP*		**P**	**P**	**00 46 28.7**	**+0.5**
SNG	**Songkhla**	**6.43**	**74**	P		P	**P**	**00 46 33.0**	**+1.8**
	810nm,1.0s								
NNT	**Nongplab**	**8.89**	**36**	P		P	**P**	**00 47 07.5**	**+2.1**
NST	**Nakhon Sawan**	**11.68**	**28**	P		P	**P**	**00 47 44.8**	**+1.3**
	72nm,0.5s								
BDT	**Bhumibol Dam**	**12.63**	**21**	P		P	**P**	**00 47 59.5**	**+3.2**
	31nm,0.9s								
KKTK	**Khon Kaen**	**13.67**	**37**	P		P	**P**	**00 48 14.0**	**+3.9**
PALK	**Pallekele**	**13.75**	**279**	*eP*		P	**P**	**00 48 10.2**	**-0.9**
	69nm,0.8s								
CHG	**Chiang Mai**	**14.07**	**18**	⇓P		P	**P**	**00 48 19.7**	**+4.3**
	38nm,0.8s								
UBT	**Ubonrachathani**	**14.32**	**46**	P		P	**P**	**00 48 23.5**	**+4.9**
CHRT	**Chiangrai**	**15.33**	**20**	⇓P		P	**P**	**00 48 34.0**	**+2.2**
	368nm,0.9s								
MDRS	**Chennai**	**15.92**	**300**	*eP*		P	**P**	**00 48 42.8**	**+3.5**
MDRS				*e*				00 52 54.0	
KSM	**Kuching**	**16.34**	**103**	*eP*		P	**P**	**00 48 44.7**	**+0.1**
TRD	**Trivandrum**	**17.59**	**281**		AMb	AMB	AMB	00 51 38.6	
	comp=Z,64nm,0.8s								
HYB	**Hyderabad**	**19.59**	**309**	*eP*		P	**P**	**00 49 25.0**	**+1.0**
HYB				*eS*		S	**S**	**00 52 46.0**	**-11**
HYB	**Hyderabad**	**19.59**	**309**	*i* P		P	**P**	**00 49 25.0**	**+1.0**
HYB				*e*				00 52 46.0	
HYB				*eS*		S	**S**	**00 52 59.0**	**+1.7**
BOK	**Bokaro**	**20.07**	**337**	*eP*		P	**P**	**00 49 28.6**	**-0.5**
BOK					AMb	AMB	AMB	00 49 32.0	
	comp=Z,133nm,0.8s								
BOK				*e*				00 53 03.2	
SHL	**Shillong**	**20.22**	**353**	*eP*		P	**P**	**00 49 27.0**	**-3.8**
SHL				*e*				00 53 09.0	
QIZ	**Qiongzhong**	**20.27**	**47**	P		P	**P**	**00 49 33.0**	**+1.7**
QIZ				PP		PP	PP	00 49 49.3	-2.8
QIZ				S		S	**S**	**00 53 13.6**	**+2.4**
QIZ				XS				00 53 28.0	
QIZ				SS		SS	SS	00 53 41.3	-0.5
QIZ				AMB		AMB	AMB		
	comp=Z,67nm,1.2s								
QIZ				LR		LR	LR		
	comp=N,886nm,16.5s,MS4.2								
QIZ				LR		LR	LR		
	comp=E,554nm,20.3s,MS4.2								
QIZ				LR		LR	LR		
	comp=Z,892nm,20.2s,MS4.1								
QIZ	**Qiongzhong**	**20.27**	**47**	*eP*		**P**	**P**	**00 49 30.3**	**-0.9**
	comp=Z,80nm,1.2s								
QIZ				LR		LR	LR		
	comp=N,930nm,20.0s,MS4.1								
BLSP	**Bilaspur**	**20.45**	**326**	*eP*		**P**	**P**	**00 49 33.1**	**-0.1**
BLSP				*eP*				00 49 33.4	
BLSP				*e*				00 49 37.6	
BLSP				AMb		AMB	AMB	00 49 37.9	
	comp=Z,91nm,1.2s								
BLSP				*e*				00 53 12.0	
KMI	**Kunming**	**21.20**	**21**	⇑P		**P**	**P**	**00 49 42.5**	**+1.7**
KMI				AP				00 49 48.3	
KMI				PP		PP	PP	00 50 06.5	+1.5
KMI				S		**S**	**S**	**00 53 33.5**	**+4.4**
KMI				SS		SS	SS	00 54 07.8	+3.4
KMI				AMB		AMB	AMB		
	comp=Z,87nm,1.0s,mb5.0								
KMI				AMB		AMB	AMB		
	comp=Z,289nm,3.1s								
KMI				LR		LR	LR		
	comp=N,467nm,18.8s,MS4.0								
KMI				LR		LR	LR		
	comp=E,512nm,20.0s,MS4.0								
KMI				LR		LR	LR		
	comp=Z,459nm,25.0s,MS3.8								
KMI	**Kunming**	**21.20**	**21**	⇑P		**P**	**P**	**00 49 42.5**	**+1.7**
KMI								00 50 06.5	
KMI				S		**S**	**S**	**00 53 33.5**	**+4.4**
KMI				*SS				00 53 42.4	
KMI				SS		SS	SS	00 54 07.7	+3.3
KMI				pmax		pmax	pmax		
	comp=Z,87nm,1.0s,mb5.0								
KMI				MLR		MLR	MLR		
	comp=Z,460nm,25.0s,MS3.8								
KMI	**Kunming**	**21.20**	**21**	⇑P		**P**	**P**	**00 49 42.5**	**+1.7**
	comp=Z,87nm,1.0s,mb5.0								
KMI				pP				00 49 48.3	
KMI				sP				00 49 50.5	
KMI				PP		PP	PP	00 50 06.5	+1.5
KMI				PPP		PPP	PPP	00 50 15.9	+1.4
KMI				S		S	**S**	**00 53 33.5**	**+4.4**

KMI sS 00 53 42.4
KMI SS SS 00 54 07.7 +3.3
KMI SSS SSS 00 54 22.0 +2.4
KMI LR LR
comp=Z,460nm,25.0s,MS3.8
KAD Karad 23.07 303 *eP* **P 00 49 59.6 +0.1**
KAD AMb AMB 00 50 04.8
comp=Z,33nm,1.1s,mb4.7
PKI Pulchoki 23.68 340 *eP* **P 00 50 04.7 -0.5**
comp=Z,92nm,1.1s,mb5.1
DMN Daman 23.82 339 *eP* **P 00 50 06.3 -0.3**
GUN Gumba 23.83 341 *eP* **P 00 50 06.3 -0.4**
comp=Z,204nm,1.0s,mb5.5
KKN Kakani 23.92 340 *eP* **P 00 50 07.1 -0.5**
comp=Z,115nm,0.9s,mb5.3
POO Poona 23.94 305⇓ *i* **P 00 50 23.0 +15**
comp=Z,35nm,1.0s,mb4.7
POO *i* 00 54 27.0
GYA Guiyang 24.02 28⇑ *iP* **P 00 50 09.5 +1.0**
GYA AP 00 50 18.6
GYA XP 00 50 24.8
GYA PP PP 00 50 45.0 +1.4
GYA S **S 00 54 22.1 +2.4**
GYA AMB AMB
comp=Z,30nm,0.9s,mb4.7
GYA AMB AMB
comp=Z,230nm,5.7s
GYA LR LR
comp=N,1µm,21.0s,MS4.4
GYA LR LR
comp=E,780nm,20.1s,MS4.4
GYA LR LR
comp=Z,850nm,21.9s,MS4.2
BHPL Bhopal 24.16 319 *eP* **P 00 50 10.8 +0.8**
BHPL AMb AMB 00 50 13.8
comp=Z,30nm,0.9s,mb4.7
BHPL *e* 00 54 30.8
GKN Gorkha 24.34 339 *eP* **P 00 50 11.9 +0.2**
comp=Z,234nm,1.1s,mb5.5
LSA Lhasa 24.39 353 P **P 00 50 11.3 -0.9**
LSA Lhasa 24.39 353 *eP* **P 00 50 12.5 +0.3**
LSA pmax pmax
comp=Z,65nm,0.6s,mb5.2
LSA MLR MLR
comp=Z,224nm,20.0s,MS3.6
LSA Lhasa 24.39 353 *eP* **P 00 50 12.5 +0.3**
comp=Z,65nm,0.6s,mb5.2
LSA LR LR
comp=Z,224nm,20.0s,MS3.6
KOLN Koldanda 24.53 336 *eP* **P 00 50 14.0 +0.5**
comp=Z,252nm,1.2s,mb5.6
DGAR Diego Garcia 25.32 240 PFAKE
DGAR LR LR 00 50 30.0 +8.8
comp=Z,412nm,19.0s,MS4.0
CD2 Chengdu 26.88 18⇑ *iP* **P 00 50 34.3 -1.3**
CD2 AMB AMB
comp=Z,30nm,0.7s,mb4.9
OTRP Odiongan 28.14 74 *eP* **P 00 50 47.5 +0.4**
AJM Ajmer 28.22 320 *eP* **P 00 50 47.9 +0.1**
AJM AMb AMB 00 51 02.4
comp=Z,18nm,1.4s,mb4.5
ENH Enshi 28.56 28⇑ *eP* **P 00 50 49.4 -1.4**
comp=Z,26nm,0.6s,mb5.1
ENH LR LR
comp=Z,910nm,21.0s,MS4.3
DDI Dehra Dun 29.21 330 *e* **P 00 51 07.0 +10**
QZH Quanzhou 30.29 48⇓ *iP* **P 00 51 07.1 +1.0**
QZH *eS* **S 00 56 03.0 +1.2**
QZH AMB AMB
comp=Z,50nm,1.0s,mb5.2
QZH LR LR
comp=N,970nm,13.6s,MS4.7
QZH LR LR
comp=E,800nm,13.9s,MS4.7
QZH LR LR
comp=Z,1µm,21.7s
BUKP Musuan 30.55 84 *eP* **P 00 51 09.7 +1.1**
WHN Wuhan 31.30 35 *eP* **P 00 51 15.0 0.0**
XAN Xi'an 31.55 23 P **P 00 51 15.6 -1.6**
XAN AP pP 00 51 28.6 -0.3
XAN AMB AMB
comp=Z,113nm,0.7s,mb5.8
LZH Lanzhou 31.77 15⇑ P **P 00 51 17.8 -1.4**
LZH AP pP 00 51 27.4 -3.5
LZH PP PP 00 52 24.0 -1.2
LZH *eS* **S 00 56 24.0 -1.0**
LZH SS SS 00 58 15.0 -2.4
LZH AMB AMB
comp=Z,70nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,190nm,4.0s
LZH LR LR
comp=E,680nm,18.0s
LZH LR LR
comp=Z,890nm,21.0s,MS4.4
LZH Lanzhou 31.77 15⇑ P **P 00 51 17.7 -1.5**
LZH *PP pP 00 51 27.4 -3.5
LZH *SP sP 00 51 31.0 -5.4
LZH 00 52 24.0
LZH *eS* **S 00 56 24.0 -1.0**
LZH *SS 00 56 40.0
LZH SS SS 00 58 15.0 -2.4
LZH pmax pmax
comp=Z,70nm,1.2s,mb5.4
LZH MLR MLR
comp=Z,890nm,21.0s,MS4.4
LZH Lanzhou 31.77 15⇑ P **P 00 51 17.7 -1.5**
comp=Z,70nm,1.2s,mb5.4
LZH pP pP 00 51 27.4 -3.5
LZH sP sP 00 51 31.0 -5.4
LZH PP PP 00 52 24.0 -1.2
LZH *eS* **S 00 56 24.0 -1.0**
LZH sS 00 56 40.0
LZH SS SS 00 58 15.0 -2.4
LZH LR LR
comp=Z,890nm,21.0s,MS4.4
TATO Taipei 32.48 50 PFAKE 00 51 40.0 +15
TATO LR LR
comp=Z,529nm,21.0s,MS4.2
GTA Gaotai 34.23 7⇑ P **P 00 51 39.9 -0.5**
GTA PP PP 00 52 54.1 -2.1
GTA PCP PcP 00 54 17.3 +0.7
GTA S **S 00 57 03.1 -0.1**
GTA SS SS 00 59 12.4 -1.8
GTA AMB AMB
comp=Z,46nm,1.0s,mb5.4
GTA AMB AMB
comp=Z,77nm,4.6s
GTA LR LR
comp=N,277nm,21.7s,MS4.0
GTA LR LR
comp=E,193nm,21.3s,MS4.0
GTA LR LR
comp=Z,285nm,22.4s,MS4.0
NJ2 Nanjing 35.03 38 *eP* **P 00 51 47.9 +0.5**
NJ2 AP pP 00 51 57.8 -1.4
NJ2 XP sP 00 52 01.3 -3.4
NJ2 PP PP 00 53 06.9 +0.3
NJ2 S **S 00 57 17.0 +1.3**
NJ2 XS 00 57 33.0
NJ2 AMB AMB
comp=Z,80nm,0.8s,mb5.7
NJ2 AMB AMB
comp=Z,1µm,5.2s
SSE Sheshan 35.88 41 P **P 00 51 54.9 +0.4**
SSE PP PP 00 53 17.8 +1.1
SSE PCP PcP 00 54 18.8 -2.6
SSE S **S 00 57 32.8 +4.1**
SSE XS 00 57 47.9
SSE PCS 00 58 07.9
SSE AMB AMB
comp=Z,46nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,66nm,5.3s
SSE LR LR
comp=N,269nm,22.5s,MS4.0
SSE LR LR
comp=E,115nm,22.5s,MS4.0
SSE LR LR
comp=Z,333nm,21.0s,MS4.1
SSE Sheshan 35.88 41 P **P 00 51 54.9 +0.4**
comp=Z,46nm,0.7s,mb5.5
SSE PP PP 00 53 17.7 +1.0
SSE PcP PcP 00 54 18.8 -2.6
SSE S **S 00 57 32.7 +4.0**
SSE sS 00 57 47.9
SSE PcS 00 58 07.9
SSE SS SS 01 00 10.6 +19
SSE LR LR
comp=Z,330nm,21.0s,MS4.1
BTO Baotou 37.78 20 *eP* **P 00 52 10.0 -0.4**
BTO AMB AMB
comp=Z,31nm,0.6s,mb5.2
KSH Kashi 37.85 337 *eP* **P 00 52 11.0 0.0**
KSH *eAP pP 00 52 21.0 -1.9
KSH *eXP sP 00 52 25.8 -2.5
KSH *ePCP PcP 00 54 21.5 -5.8
KSH AMB AMB
comp=Z,130nm,2.1s,mb5.3
HHC Hu-ho-hao-te 38.53 21 *eP* **P 00 52 17.3 +0.7**
HHC AP pP 00 52 24.4 -4.2
HHC XP sP 00 52 30.3 -3.6
HHC PP PP 00 53 50.6 +1.7
HHC PCP PcP 00 54 26.6 -2.8
HHC SCP 00 58 10.8
HHC S **S 00 58 16.8 +7.7**
HHC XS 00 58 34.8
HHC SCS ScS 01 02 22.5 +1.1
HHC AMB AMB
comp=Z,45nm,1.0s,mb5.2
HHC AMB AMB
comp=Z,83nm,8.4s
HHC LR LR
comp=N,392nm,16.8s,MS4.5
HHC LR LR
comp=E,414nm,18.0s,MS4.5
HHC LR LR
comp=Z,430nm,20.4s,MS4.3
FITZ Fitzroy Crossi 38.65 128⇑ *iP* **P 00 52 17.3 -0.6**
comp=Z,31nm,0.6s,mb5.2
FITZ Fitzroy Crossi 38.65 128 P **P 00 52 17.3 -0.6**
comp=Z,38nm,0.7s,mb5.3,baz=325,slow=3.9,SNR=33
JOW Kunigami 38.70 53 P **P 00 52 18.9 +0.7**
comp=Z,22nm,0.5s,mb5.2,baz=247,slow=8.6,SNR=15
WMQ Urumqi 38.74 352 *eP* **P 00 52 19.5 +1.1**
WMQ AP pP 00 52 26.9 -3.4
WMQ PP PP 00 53 51.9 +0.6
WMQ S **S 00 58 14.0 +1.7**
WMQ AMB AMB
comp=Z,35nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,167nm,4.8s
WMQ LR LR
comp=N,178nm,9.0s
WMQ LR LR
comp=E,264nm,12.1s
WMQ LR LR
comp=Z,176nm,11.0s,MS4.1
TKM2 Tokmak 2 40.93 339 P **P 00 52 37.1 +0.5**
SNR=15
KBK Karagaybulak 40.94 338 P **P 00 52 37.9 +1.2**
SNR=15
AML Almayashu 40.98 336 P **P 00 52 38.0 +1.1**
SNR=24
AAK Ala-Archa 41.09 338*d iP* **P 00 52 38.3 +0.4**
AAK pmax pmax
comp=Z,13nm,0.9s,mb4.6
AAK Ala-Archa 41.09 338 *eP* **P 00 52 38.1 +0.2**
comp=Z,36nm,0.9s,mb5.0
AAK LR LR
comp=Z,67nm,19.0s,MS3.5
FRU Bishkek 41.22 338 *eP* **P 00 52 40.0 +1.1**
FRU *e* 00 52 55.0
FRU pmax pmax
comp=Z,40nm,2.0s,mb4.7
CHMS Chumysh 41.31 338 P **P 00 52 41.9 +2.2**
SNR=7.4
EKS2 Erkin-Say 41.39 337 P **P 00 52 41.3 +1.0**
SNR=7.4
DL2 Dalian 41.50 33 P **P 00 52 42.1 +0.8**
DL2 XP sP 00 52 55.3 -3.2
DL2 S **S 00 59 00.0 +6.5**
DL2 AMB AMB
comp=Z,50nm,0.9s,mb5.1
DL2 LR LR
comp=N,170nm,19.6s,MS4.0
DL2 LR LR
comp=E,140nm,18.2s,MS4.0
DL2 LR LR
comp=Z,450nm,19.9s,MS4.3
USP Ospenovka 41.63 338 P **P 00 52 42.8 +0.4**
SNR=20
MKAR Makanchi Array 42.57 348 P **P 00 52 50.1 +0.1**
comp=Z,68nm,0.7s,mb5.5,baz=168,slow=8.0,SNR=552
MKAR pP pP 00 53 03.0 +1.0
comp=Z,15nm,0.7s,baz=156,slow=8.0,SNR=4.9
MKAR S **S 00 59 09.1 0.0**
comp=Z,0.5nm,0.8s,baz=17,slow=33,SNR=2.6
MKAR LR LR 01 13 45.9
comp=Z,124nm,20.4s,MS3.8,baz=359,slow=41
MKAR Makanchi Array 42.57 348 P **P 00 52 50.1 +0.1**
MKAR pP pP 00 53 03.0 +1.0
MKAR S **S 00 59 09.1 0.0**
MKAR LR LR 01 13 45.9
KKAR Karatay Array 43.10 334 *i* P **P 00 52 54.0 -0.4**
KKAR pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
KKAR Karatay Array 43.10 334 *i* P **P 00 52 54.1 -0.3**
INCN Inchon 43.42 38 PFAKE 00 53 10.0 +13
INCN LR LR
comp=Z,547nm,20.0s,MS4.5
SONM Songino Array 43.53 12 P **P 00 52 57.4 -0.5**
comp=Z,27nm,0.9s,mb5.0,baz=195,slow=7.3,SNR=140
SONM pP pP 00 53 09.4 -0.5
comp=Z,9.0nm,0.7s,baz=189,slow=7.5,SNR=5.5
SONM PcP PcP 00 54 45.5 -0.1
comp=Z,5.5nm,0.6s,baz=194,slow=3.9,SNR=10
SONM ScP 00 58 33.3
comp=Z,3.1nm,0.8s,baz=196,slow=4.6,SNR=9.6
SONM LR LR 01 13 22.9
comp=Z,218nm,21.1s,MS4.0,baz=199,slow=39
JNU Nakatsue 43.74 46 P **P 00 52 59.9 +0.1**
comp=Z,20nm,0.9s,mb4.9,baz=254,slow=5.8,SNR=9.8
KS15 Wonju Array Si 44.17 39 *eP* **P 00 53 02.2 -0.9**
SNY Shenyang 44.64 31⇑ P **P 00 53 06.3 -0.5**
SNY AP pP 00 53 16.3 -2.6
SNY XP sP 00 53 19.3 -4.8
SNY AMB AMB
comp=Z,30nm,0.8s,mb5.2
SNY LR LR
comp=N,250nm,19.2s,MS4.3
SNY LR LR
comp=E,230nm,16.7s,MS4.3
SNY LR LR
comp=Z,270nm,19.2s,MS4.2
MOY Mondy 46.46 6 *eP* **P 00 53 21.2 0.0**
WRA Warramunga Arr 46.63 124 P **P 00 53 22.8 -0.1**
comp=Z,31nm,0.8s,mb5.3,baz=302,slow=9.3,SNR=146
WRA S **S 01 00 12.4 +4.3**
comp=Z,3.2nm,1.0s,baz=297,slow=16,SNR=5.9
WRAB Tennant Creek 46.64 124 *eP* **P 00 53 23.1 +0.1**
WRAB pmax pmax
comp=Z,90nm,0.8s,mb5.8
WRAB Tennant Creek 46.64 124 *eP* **P 00 53 23.1 +0.1**
comp=Z,90nm,0.8s,mb5.8
WB2 Warramunga Arr 46.64 124⇑ *iP* **P 00 53 22.9 -0.1**
TLY Talaya 46.79 8 *eP* **P 00 53 23.2 -0.5**
comp=Z,12nm,0.8s,mb4.9
TLY LR LR
comp=Z,70nm,20.0s,MS3.6
CN2 Changchun 47.01 31⇑ P **P 00 53 25.3 -0.3**
CN2 *eAP pP 00 53 36.3 -1.3
CN2 PCP PcP 00 54 56.8 -0.9
CN2 *eS **S 01 00 14.3 +1.1**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CN2 LR LR
comp=N,300nm,19.0s,MS4.4
CN2 LR LR
comp=E,300nm,19.0s,MS4.4
CN2 LR LR
comp=Z,340nm,19.0s,MS4.3
IRK Irkutsk 47.43 8 *eP* **P 00 53 27.2 -1.5**
IRK *e* 00 55 23.4
IRK pmax pmax
comp=Z,50nm,2.6s,mb5.0
HIA Hailar 48.72 22 *eP* **P 00 53 37.7 -1.1**
HIA pmax pmax
comp=Z,22nm,0.8s
HIA MLR MLR
comp=Z,716nm,21.0s
HIA Hailar 48.72 22 *eP* **P 00 53 37.7 -1.1**
comp=Z,22nm,0.8s,mb5.2
HIA LR LR
comp=Z,716nm,21.0s,MS4.6
CIT Chita 49.13 16 *eP* **P 00 53 40.9 -1.0**
CIT *e* 00 55 05.8
CIT pmax pmax
comp=Z,77nm,1.6s,mb5.5
MDJ Mudanjiang 49.74 33 P **P 00 53 46.9 +0.1**
MDJ AP pP 00 53 56.1 -2.8
MDJ XP sP 00 54 00.0 -4.0
MDJ PCP PcP 00 55 01.8 -5.7
MDJ PP PP 00 55 45.1 +2.9
MDJ SCP 00 58 55.8
MDJ PCS 00 58 59.4
MDJ S **S 01 00 59.3 +7.9**
MDJ SCS ScS 01 03 35.3 +3.9
MDJ AMB AMB
comp=Z,28nm,1.2s,mb5.2
MDJ AMB AMB
comp=Z,113nm,7.2s
MDJ LR LR
comp=N,94nm,21.6s,MS4.0
MDJ LR LR
comp=E,151nm,22.4s,MS4.0
MDJ LR LR
comp=Z,170nm,27.4s,MS3.9
MDJ Mudanjiang 49.74 33 *eP* **P 00 53 46.4 -0.4**
comp=Z,29nm,1.0s,mb5.3
MDJ *e* pP 00 53 59.3 +0.4
RDF Al-Radifah 50.08 303 *eP* **P 00 53 51.0 +1.4**
NVS Novosibirsk 50.14 352 *eP* **P 00 53 48.2 -1.5**
NVS *eS* **S 01 00 47.3 -10**
NVS pmax pmax
comp=N,38nm,1.1s
NVS pmax pmax
comp=E,32nm,1.1s
NVS pmax pmax
comp=Z,57nm,1.1s,mb5.5
NVS smax
comp=N,43nm,2.0s
NVS smax
comp=E,42nm,2.0s
CBIJ Chichi jima 50.31 59 P **P 00 53 49.8 -1.6**
comp=E,69nm,0.5s,mb5.9,baz=291,slow=20,SNR=6.6
MIB Mutribah 50.54 304 *eP* **P 00 53 53.5 +0.4**
MAJO Matsushiro 50.67 46 PFAKE 00 54 10.0 +16
MAJO LR LR
comp=Z,392nm,20.0s,MS4.4
MAT Matsushiro 50.67 46 *eP* **P 00 53 53.0 -0.9**
MAT pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
MAT Matsushiro 50.67 46 *eP* **P 00 53 53.0 -0.9**
comp=Z,8.9nm,1.1s,mb4.6
MAT Matsushiro 50.67 46 P **P 00 53 53.4 -0.5**
MJAR Matsushiro Arr 50.67 46 P **P 00 53 53.2 -0.7**
comp=Z,1.2nm,0.3s,mb4.2,baz=238,slow=6.5,SNR=9.0
MJAR PcP PcP 00 55 10.6 -0.5
comp=Z,3.5nm,0.8s,baz=242,slow=4.8,SNR=6.1
MJAR LR LR 01 18 14.7
comp=Z,227nm,18.2s,MS4.2,baz=240,slow=40
BVA0 Borovoye Array 51.42 342 P **P 00 53 58.4 -1.0**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BVAR Borovoye Array 51.42 342 P **P 00 53 58.6 -0.8**
comp=Z,15nm,0.7s,mb5.0,baz=144,slow=8.7,SNR=111
BVAR pP pP 00 54 11.1 -0.5
comp=Z,29nm,0.9s,baz=138,slow=7.7,SNR=13
BVAR S **S 01 01 15.1 +0.5**
comp=Z,1.1nm,0.8s,baz=153,slow=17,SNR=5.4
BRVK Borovoye 51.49 342 P **P 00 53 59.0 -0.9**
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BRVK Borovoye 51.49 342 *eP* **P 00 53 58.5 -1.4**
comp=Z,27nm,0.9s,mb5.2
ZRNK Zerenda 51.81 341 *eP* **P 00 54 01.5 -0.8**
ZRNK pmax pmax
comp=Z,73nm,0.7s,mb5.7
ZRNK Zerenda 51.81 341 *eP* **P 00 54 01.5 -0.7**
comp=Z,73nm,0.7s,mb5.7
AB31 Akbulak array 52.54 332 *i P* **P 00 54 07.2 -0.6**
KLR Kul'dur 53.90 29 *eP* **P 00 54 14.5 -3.5**
KLR pmax pmax
comp=E,45nm,2.0s
KLR pmax pmax
comp=Z,54nm,2.0s,mb5.1
BOD Bodaibo 54.51 13⇓ *iP* **P 00 54 20.8 -1.5**
BOD pmax pmax
comp=Z,45nm,1.1s,mb5.4
PMG Port Moresby 54.59 105 P **P 00 54 22.9 -0.5**
comp=Z,16nm,0.6s,mb5.2,baz=308,slow=7.3,SNR=6.1
PMG Port Moresby 54.59 105 P **P 00 54 22.9 -0.5**
PMG LR LR
comp=Z,4µm,19.0s,MS5.5
GNI Garni 56.37 315⇓ *eP* **P 00 54 35.0 -1.0**
GNI pmax pmax
comp=Z,19nm,1.3s
GNI Garni 56.37 315 *eP* **P 00 54 34.4 -1.6**
comp=Z,27nm,1.3s,mb5.1
GNI LR LR
comp=Z,97nm,19.0s,MS3.9
CTAO Charters Tower 56.89 118 PFAKE 00 54 50.0 +10
CTAO LR LR
comp=Z,3µm,22.0s,MS5.3
TBLG Delisi 57.04 317 P **P 00 54 40.2 -0.5**
ASAJ Asahikawa 57.14 40 LR LR 01 19 43.6
comp=Z,194nm,18.4s,MS4.2,baz=141,slow=37
KMBO Kilima Mbogo 57.44 265 P **P 00 54 45.3 +1.3**
comp=Z,0.9nm,0.6s,mb4.0,baz=57,slow=13,SNR=5.5
KMBO LR LR 01 14 47.1
comp=Z,395nm,21.5s,MS4.5,baz=277,slow=31
ADE Adelaide 57.85 137 *eP* **P 00 54 46.6 +0.1**
UMJS Umm Lajj 58.04 296 P **P 00 54 49.8 +1.8**
ZEI Tsey 58.04 318 *eP* **P 00 54 45.3 -2.4**
ZEI *i* *PP pP 00 55 00.7 +0.5
ZEI pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
STKA Stephens Creek 58.22 133⇑ *iP* **P 00 54 48.5 -0.6**
comp=Z,9.1nm,0.8s,mb4.9
STKA Stephens Creek 58.22 133 P **P 00 54 48.6 -0.5**
comp=Z,7.7nm,0.8s,mb4.8,baz=304,slow=8.6,SNR=14
STKA pP pP 00 55 01.4 -0.1
comp=Z,15nm,0.9s,baz=332,slow=6.0,SNR=7.3
ONI Oni 58.26 318 P **P 00 54 48.9 -0.4**
ARU Arti 58.28 338⇑ *iP* **P 00 54 47.9 -1.3**
ARU *e* 00 56 57.0
ARU *eS* **S 01 02 47.3 +0.9**
ARU *eSS SS 01 06 36.7 -3.6
ARU pmax pmax
comp=Z,18nm,1.0s,mb5.1
ARU MLR MLR
comp=N,100nm,19.0s,MS4.1
ARU MLR MLR
comp=Z,200nm,19.0s,MS4.2
ARU MLR MLR
comp=E,100nm,18.0s,MS4.1
ARU Arti 58.28 338 *eP* **P 00 54 47.3 -1.9**
comp=E,20nm,0.8s,mb5.2
ARU LR LR
comp=Z,50nm,20.0s,MS3.6
YSS Yuzh-Sakhalins 58.60 37⇑ *eP* **P 00 54 51.0 -0.5**
YSS pmax pmax
comp=Z,52nm,1.5s,mb5.3
YSS Yuzh-Sakhalins 58.60 37 *eP* **P 00 54 50.5 -1.1**
comp=Z,28nm,0.8s,mb5.3
YSS LR LR
comp=Z,205nm,20.0s,MS4.2
TBKS Tabuk 59.25 300 P **P 00 54 57.9 +1.5**
QURS Qurayyt al Mil 59.27 303 P **P 00 54 57.9 +1.4**
KIV Kislovodsk 59.34 319⇑ *eP* **P 00 54 55.4 -1.4**
KIV *e* pP 00 55 09.0 -0.2
KIV pmax pmax
comp=Z,24nm,1.0s,mb5.2
KIV Kislovodsk 59.34 319⇑ *eP* **P 00 54 55.4 -1.4**
comp=Z,24nm,1.0s,mb5.2
KIV *e* pP 00 55 09.0 -0.2
GOF Gofitskoye 59.59 320 *eP* **P 00 54 57.0 -1.4**
MALT Malatya 60.28 311 *eP* **P 00 55 02.2 -1.1**
MALT pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
MALT Malatya 60.28 311 *eP* **P 00 55 02.2 -1.1**
comp=Z,8.9nm,1.3s,mb4.6
EIL Elat 60.90 301 *eP* **P 00 55 07.7 0.0**
comp=Z,21nm,1.3s,mb5.1
SOC Sochi 61.17 317 *eP* **P 00 55 06.4 -2.9**
SOC *e* 00 55 49.7

SOC e 00 57 21.0
SOC eS S 01 03 24.7 +0.8
SOC eSS SS 01 07 17.7 -8.0
SOC pmax pmax
comp=N,6.0nm,1.0s
SOC pmax pmax
comp=Z,15nm,1.0s,mb5.1
SOC pmax pmax
comp=E,5.0nm,0.8s
YAK Yakutsk 62.27 18 *i* P P **00 55 13.8 -2.6**
MBAR Mbarara 63.85 267 PFAKE 00 55 40.0 +12
MBAR LR LR
comp=Z,125nm,19.0s,MS4.1
BR131 Keskin Array S 64.26 312⇑ eP P **00 55 28.2 -1.6**
comp=Z,9.6nm,0.8s,mb4.9
BRTR Keskin Array B 64.26 312 P P **00 55 28.6 -1.3**
comp=Z,5.6nm,0.8s,mb4.6,baz=121,slow=7.2,SNR=37
BRTR pP pP 00 55 42.1 -0.3
comp=Z,5.9nm,0.8s,baz=127,slow=7.4,SNR=11
SIM Simferopol' 65.42 317⇓ eP P **00 55 36.5 -0.7**
SIM e*PP pP 00 55 49.8 -0.1
SIM pmax pmax
comp=Z,20nm,0.8s,mb5.2
ISP Isparta 66.19 309 eP P **00 55 42.2 -0.1**
ISP pmax pmax
comp=Z,16nm,0.9s,mb5.0
ISP Isparta 66.19 309 eP P **00 55 42.2 -0.1**
comp=Z,16nm,0.9s,mb5.0
MOS Moscow 67.34 329 eP P **00 55 47.1 -2.1**
MOS e pP 00 55 59.6 -2.3
MOS pmax pmax
comp=Z,60nm,0.9s,mb5.6
OBN Obninsk 67.62 328*c* iP P **00 55 49.2 -1.8**
OBN e 00 58 16.4
OBN eS S 01 04 38.4 -4.9
OBN pmax pmax
comp=Z,43nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.0
OBN Obninsk 67.62 328 eP P **00 55 48.9 -2.0**
comp=Z,101nm,1.6s,mb5.6
TAU Tasmania Unive 67.79 141 PFAKE 00 56 00.0 +7.8
TAU LR LR
comp=Z,337nm,22.0s,MS4.5
LSZ Lusaka 68.70 251 PFAKE 00 56 10.0 +12
LSZ LR LR
comp=Z,271nm,20.0s,MS4.5
MA2 Magadan 68.85 27⇑ eP P **00 55 57.7 -0.8**
TIRR Tirgusor 69.20 316 ⇓P P **00 56 00.2 -0.8**
KIS Kishinev 69.54 318 eP P **00 56 13.0 +10**
KIS e 01 05 13.0
CFR Carcaliu 69.56 316 ⇓P P **00 56 02.6 -0.5**
HARR Harsova 69.59 316 ⇑P P **00 56 02.8 -0.5**
TIXI Tiksi 69.62 11 iP P **00 56 01.4 -1.7**
AKASG Malin Array Be 70.27 322 P P **00 56 05.5 -1.8**
comp=Z,7.4nm,0.6s,mb4.8,baz=86,slow=5.0,SNR=32
PET Petropavlovsk 70.40 35 *i* P P **00 56 06.8 -1.3**
PET LR LR
comp=Z,156nm,19.0s,MS4.3
VRI Vrincioaia 70.68 317 ⇑P P **00 56 10.2 +0.3**
SEY Seymchan 71.08 24⇑ iP P **00 56 10.7 -1.4**
MLR Muntele Rosu 71.14 316 P P **00 56 13.3 +0.6**
MLR Muntele Rosu 71.14 316 ⇓P P **00 56 13.2 +0.5**
MLR Muntele Rosu 71.14 316 ⇓P P **00 56 13.2 +0.5**
WAKE Wake Island 71.50 72 PFAKE 00 56 30.0 +15
WAKE LR LR
comp=Z,1μm,19.0s,MS5.1
VOIR 71.74 316 ⇑P P **00 56 15.5 -0.8**
BURAR Bucovina Array 72.07 318 ⇑P P **00 56 18.8 +0.6**
BURAR Bucovina Array 72.07 318 ⇑P P **00 56 18.8 +0.6**
CASY Casey 72.43 173 PFAKE 00 56 30.0 +10
CASY LR LR
comp=Z,627nm,21.0s,MS4.9
PUL Pulkovo 72.52 331 *i* P P **00 56 21.5 +0.9**
VTS Vitosha 72.56 313 P P **00 56 20.9 -0.3**
DRGR 73.59 317 ⇓P P **00 56 27.8 +0.6**
VSU Vasula 73.86 330 *i* P P **00 56 26.6 -1.9**
KWP Kalwaria 74.09 320 eP P **00 56 30.0 -0.1**
KWP e pP 00 56 43.7 +0.9
KWP Kalwaria 74.09 320 eP P **00 56 30.0 -0.1**
KWP e pP 00 56 43.7 +0.8
KOLS Kolonicke sedl 74.25 319 eP P **00 56 31.0 0.0**
KOLS epP pP 00 56 41.2 -2.6
BOSA Boshof 74.50 239 P P **00 56 34.0 +1.1**
comp=Z,10nm,1.2s,mb4.6,baz=74,slow=6.3,SNR=4.7
BOSA LR LR 01 23 34.1
comp=Z,231nm,20.8s,MS4.5,baz=95,slow=31
SUW Suwalki 74.67 325 eP P **00 56 32.4 -0.9**
SUW e pP 00 56 46.1 0.0
SUW Suwalki 74.67 325 eP P **00 56 32.4 -0.9**
SUW e pP 00 56 46.1 0.0
CRVS Cervenica-Dubn 74.77 319 eP P **00 56 37.5 +3.5**
CRVS esP sP 00 56 47.2 -4.4
STHS Stebnicka Huta 75.00 320 eP P **00 56 35.4 +0.1**
STHS esP sP 00 56 48.8 -4.0
FINES FINESS Array B 75.03 332 P P **00 56 34.6 -0.7**
comp=Z,4.9nm,0.8s,mb4.5,baz=124,slow=6.9,SNR=12
KAF Kangasniemi 75.12 333 *ep* P **00 56 31.0 -4.7**
comp=Z,5.3nm,1.0s,mb4.4,baz=104,slow=5.4
KECS Kecovo 75.34 319 eP P **00 56 37.4 +0.1**
NIE Niedzica 75.60 320 eP P **00 56 39.2 +0.5**
PSZ Piszkesteto 75.66 318 P P **00 56 39.8 +0.7**
PSZ Piszkesteto 75.66 318 eP P **00 56 38.9 -0.2**
comp=Z,11nm,1.1s,mb4.7
OJC Ojcow 76.05 320⇑ iP P **00 56 41.3 0.0**
MAW Mawson 76.16 192 P P **00 56 43.6 +2.0**
comp=Z,1.3nm,0.6s,mb4.1,baz=12,slow=3.8,SNR=10
VYHS Vyhne 76.43 318 eP P **00 56 43.6 +0.1**
VYHS esP sP 00 56 56.7 -4.4
OKC Ostrava-Krasne 77.05 320⇑ iP P **00 56 47.2 +0.2**
OKC epP pP 00 57 01.1 +1.3
RAC Raciborz 77.05 320 eP P **00 56 47.9 +0.9**
KEV Kevo 77.27 341 *ep* P **00 56 47.7 -0.1**
comp=Z,0.7nm,0.5s
SMOL Smolenice 77.37 318 eP P **00 56 49.6 +0.9**
MORC Moravsky Berou 77.43 320 eP P **00 56 48.6 -0.5**
MORC pmax pmax
comp=Z,28nm,1.3s,mb5.0
MORC Moravsky Berou 77.43 320 eP P **00 56 48.6 -0.5**
comp=Z,28nm,1.3s,mb5.0
ZST Bratislava 77.55 318 eP P **00 56 50.2 +0.4**
ZST esP sP 00 57 02.4 -5.0
ARCES ARCESS Array B 77.69 340 P P **00 56 49.9 -0.3**
comp=Z,2.5nm,0.5s,mb4.4,baz=89,slow=5.4,SNR=50
ARE0 ARCESS Array S 77.69 340 eP P **00 56 49.6 -0.5**
KOGS Kog 77.96 316 eP P **00 56 52.2 +0.2**
GKP Gorka Klasztor 78.04 323 eP P **00 56 52.1 -0.2**
GKP Gorka Klasztor 78.04 323 eP P **00 56 52.1 -0.2**
DPC Dobruska-Polom 78.28 320⇑ iP P **00 56 54.6 +0.9**
DPC epP pP 00 57 04.0 -2.5
BILL Bilibino 78.30 21 eP P **00 56 53.0 -0.5**
BILL pmax pmax
comp=Z,8.0nm,0.4s,mb5.0
BILL Bilibino 78.30 21 eP P **00 56 53.0 -0.5**
comp=Z,7.7nm,0.4s,mb5.0
KSP Ksiaz 78.34 321 eP P **00 56 54.7 +0.6**
KSP e*PP pP 00 57 07.7 +0.8
UPC Upice 78.49 320⇑ eP P **00 56 55.4 +0.5**
UPC epP pP 00 57 09.3 +1.6
ARSA Arzberg 78.52 317⇑ iP P **00 56 55.6 +0.5**
comp=Z,26nm,1.3s,mb5.0
BOJS Bojanci 78.58 315 eP P **00 56 55.1 -0.4**
FX1 Attu Island--F 78.95 37 eP P **00 56 56.5 -0.9**
LJU Ljubljana 79.12 316 eP P **00 56 59.0 +0.5**
LJU e pP 00 57 12.9 +1.6
OBKA Obir 79.14 316⇑ iP P **00 56 59.3 +0.8**
comp=Z,24nm,1.3s,mb5.0
PRU Pruhonice 79.39 320⇑ iP P **00 57 00.1 +0.3**
PRU epP pP 00 57 09.4 -3.2
PVCC Panska Ves 79.41 320⇑ iP P **00 57 00.5 +0.6**
PVCC epP pP 00 57 13.9 +1.1
MOA Molln 79.42 318⇑ iP P **00 57 00.1 +0.1**
comp=Z,11nm,1.1s,mb4.7
VOY Vojsko 79.56 316 eP P **00 57 00.7 -0.1**
VOY e 00 57 09.8
BRG Berggiesshubel 79.83 321⇑ iP P **00 57 02.5 +0.3**
BRG *i* pP 00 57 16.5 +1.5
BRG pmax pmax
comp=Z,14nm,0.9s,mb4.9
BRG Berggiesshubel 79.83 321⇑ iP P **00 57 02.5 +0.3**
comp=Z,14nm,0.9s,mb4.9
BRG *i* pP 00 57 16.5 +1.5
GEC2 GERESS Array S 79.86 319 eP P **00 57 02.8 +0.5**
GEC2 pmax pmax
comp=Z,38nm,1.1s,mb5.2
GEC2 GERESS Array S 79.86 319 eP P **00 57 02.8 +0.5**
comp=Z,38nm,1.1s,mb5.2
GERES GERESS Array B 79.86 319 P P **00 57 02.9 +0.5**
comp=Z,20nm,0.9s,mb5.0,baz=90,slow=5.3,SNR=139
KHC Kasperske Hory 79.95 319⇑ iP P **00 57 03.0 +0.1**
KHC e 00 57 31.0
KHC Kasperske Hory 79.95 319⇑ iP P **00 57 03.0 +0.1**
KHC x 00 57 31.0
KBA Koelnbreinsper 80.00 317⇑ iP P **00 57 03.2 +0.1**
comp=Z,14nm,1.0s,mb4.8
KBA Koelnbreinsper 80.00 317⇑ iP P **00 57 03.2 +0.1**
KBA pmax pmax
comp=Z,14nm,1.0s,mb4.8
RUE Ruedersdorf 80.05 322 eP P **00 57 02.9 -0.4**
comp=Z,23nm,0.6s,mb5.3
WET Wettzell 80.41 319 eP P **00 57 05.6 +0.3**
WET pmax pmax
comp=Z,22nm,1.1s,mb5.0
WET Wettzell 80.41 319 eP P **00 57 05.6 +0.3**
comp=Z,22nm,1.1s,mb5.0
CLL Collm 80.45 321 *i* P P **00 57 05.1 -0.4**
CLL *i* *SP sP 00 57 19.2 -3.9
CLL pmax pmax
comp=Z,12nm,1.0s,mb4.8
CLL Collm 80.45 321 *i* P P **00 57 05.1 -0.4**
comp=Z,12nm,1.0s,mb4.8
CLL *i* sP sP 00 57 19.2 -3.9
CLL Collm 80.45 321 P P **00 57 05.1 -0.4**
comp=Z,logA/T=1.1,mb4.8
CLL *i* *SP sP 00 57 19.2 -3.9
HFS Hagfors 80.73 330 P P **00 57 06.5 -0.3**
comp=Z,3.7nm,0.7s,mb4.4,baz=117,slow=6.6,SNR=16
NKC Novy Kostel 80.75 320⇑ iP P **00 57 07.4 +0.4**
WTTA Wattenberg 81.17 317⇑ iP P **00 57 09.3 0.0**
comp=Z,29nm,1.1s,mb5.1
WTTA Wattenberg 81.17 317⇑ iP P **00 57 09.3 0.0**
WTTA pmax pmax
comp=Z,29nm,1.1s,mb5.1
WATA Walderalm 81.21 317⇑ iP P **00 57 09.5 -0.1**
comp=Z,6.1nm,0.5s,mb4.8
WATA Walderalm 81.21 317⇑ iP P **00 57 09.5 -0.1**
WATA pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
MOX Moxa 81.30 320 eP P **00 57 10.1 +0.2**
MOX e*PP pP 00 57 25.2 +2.4
MOX pmax pmax
comp=Z,27nm,1.8s,mb4.9
MOX Moxa 81.30 320 eP P **00 57 10.1 +0.2**
comp=Z,27nm,1.8s,mb4.9
MOX epP pP 00 57 25.2 +2.4
MOX eLR LR 01 26 40.0
MOX Moxa 81.30 320 *i* P P **00 57 10.1 +0.2**
comp=Z,logA/T=1.2,mb4.9
MOX pP pP 00 57 25.0 +2.2
MOX LR LR 01 26 40.0
MOX L 01 46 15.0
FUR Furstenfeldbru 81.44 318 eP P **00 57 10.6 -0.1**
FUR pmax pmax
comp=Z,14nm,0.8s,mb4.9
FUR Furstenfeldbru 81.44 318 eP P **00 57 10.6 -0.1**
comp=Z,14nm,0.8s,mb4.9
SQTA Sankt Quirin 81.46 317⇑ iP P **00 57 10.8 0.0**
comp=Z,10nm,0.6s,mb4.9
SQTA Sankt Quirin 81.46 317⇑ iP P **00 57 10.8 0.0**
SQTA pmax pmax
comp=Z,11nm,0.6s,mb5.0
GRA1 Grafenberg Arr 81.52 319 eP P **00 57 11.8 +0.7**
comp=Z,35nm,1.1s,mb5.2
GRA1 epP pP 00 57 25.8 +1.8
GRA1 LR LR
comp=Z,700nm,20.8s,MS5.0
GRF Grafenberg Arr 81.52 319 eP P **00 57 11.8 +0.7**
GRF e*PP pP 00 57 25.8 +1.8
GRF pmax pmax
comp=Z,35nm,1.1s,mb5.2
GRF MLR MLR
comp=Z,700nm,20.8s,MS5.0
GRF Grafenberg Arr 81.52 319 eP P **00 57 11.8 +0.7**
GRF e*PP pP 00 57 25.8 +1.8
GRF pmax pmax
comp=Z,35nm,1.1s,mb5.2
GRF MLR MLR
comp=Z,700nm,20.8s,MS5.0
GRF Grafenberg Arr 81.52 319 eP P **00 57 11.8 +0.7**
comp=Z,35nm,1.1s,mb5.2
GRF epP pP 00 57 25.8 +1.8
GRF LR LR
comp=Z,700nm,20.8s,MS5.0
GRFO Grafenberg 81.52 319 eP P **00 57 11.8 +0.7**
GRFO pmax pmax
comp=Z,353nm,1.1s
GRFO Grafenberg 81.52 319 eP P **00 57 11.8 +0.7**
comp=Z,353nm,1.1s
MOTA Moosalm 81.53 317⇑ iP P **00 57 11.3 +0.1**
comp=Z,18nm,0.9s,mb5.0
MOTA Moosalm 81.53 317⇑ iP P **00 57 11.3 +0.1**
MOTA pmax pmax
comp=Z,19nm,0.9s,mb5.0
NB2 NORSAR Subarra 82.02 331 P P **00 57 12.5 -1.0**
comp=Z,5.0nm,0.9s,mb4.4,baz=97,slow=5.0
NB2 NORSAR Subarra 82.02 331 P P **00 57 12.5 -1.0**
NB2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
NOA NORSAR Array B 82.02 331 P P **00 57 12.0 -1.5**
comp=Z,4.2nm,1.0s,mb4.3,baz=93,slow=5.8,SNR=5.2
NOA LR LR 01 36 40.9
comp=Z,88nm,21.7s,MS4.1,baz=170,slow=38
CLZ Clausthal 82.11 321 eP P **00 57 14.4 +0.3**
CLZ pmax pmax
comp=Z,23nm,1.1s,mb5.0
CLZ Clausthal 82.11 321 eP P **00 57 14.4 +0.3**
comp=Z,23nm,1.1s,mb5.0
BSEG Bad Segeberg 82.20 324 eP P **00 57 15.0 +0.5**
DAVA Damuels 82.36 317⇑ iP P **00 57 16.0 +0.5**
comp=Z,29nm,1.3s,mb5.0
KONO Kongsberg 82.76 329 *i* P P **00 57 16.1 -1.2**
TOD Tromm 83.09 319 eP P **00 57 19.6 +0.5**
SYO Syowa Base 83.11 197 ⇑P P **00 57 22.7 +3.8**
SYO Syowa Base 83.11 197 ⇑PcP PcP 00 57 26.8 +3.0
KBS Kingsbay 83.31 349 PFAKE 00 57 30.0 +10
KBS LR LR
comp=Z,147nm,19.0s,MS4.4
TNS Taunus Mts 83.31 320 eP P **00 57 20.8 +0.5**
TNS pmax pmax
comp=Z,12nm,0.9s,mb4.9
TNS Taunus Mts 83.31 320 eP P **00 57 20.8 +0.5**
comp=Z,12nm,0.9s,mb4.9
BFO Black Forest 83.41 318 eP P **00 57 20.7 -0.1**
BFO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BFO Black Forest 83.41 318 eP P **00 57 20.7 -0.1**
comp=Z,10.0nm,0.9s,mb4.8
FELD Feldberg 83.63 317 eP P **00 57 22.8 +0.8**
LANF Langenberg 83.75 319 eP P **00 57 22.9 +0.4**
WLS Welschbruch 84.06 318 eP P **00 57 23.8 -0.3**
ECH Echery 84.19 318 eP P **00 57 24.8 0.0**
LOMF Lomont 84.44 317 eP P **00 57 25.6 -0.5**
BNI Bardonecchia 84.62 315 eP P **00 57 26.9 -0.1**
BNI pmax pmax
comp=Z,13nm,0.9s,mb5.1
BNI Bardonecchia 84.62 315 eP P **00 57 26.9 -0.2**
comp=Z,13nm,0.9s,mb5.1
THEF They Montfort 84.97 318 eP P **00 57 27.8 -0.9**
MIDW Midway 85.93 62 PFAKE 00 57 50.0 +16
MIDW LR LR
comp=Z,808nm,22.0s,MS5.1
PLDF La Plantade 86.72 316 eP P **00 57 39.0 +1.7**
LBL Lubilhac 87.04 315 eP P **00 57 40.8 +1.9**
AGO Saint Agoulin 87.05 316 eP P **00 57 40.6 +1.6**
URZ Urewera 87.59 129 P P **00 57 41.4 -0.3**
comp=Z,4.3nm,0.4s,mb5.0,baz=129,slow=19,SNR=6.0
JMIC Jan Mayen 89.14 341 LR LR 01 40 22.8
comp=Z,52nm,20.4s,MS3.9,baz=237,slow=37
EKA Eskdalemuir Ar 89.91 325 P P **00 57 53.0 +0.6**
comp=Z,4.4nm,0.8s,mb4.9,baz=97,slow=5.5,SNR=12
VNDA Vanda 90.44 168 P P **00 57 55.7 +1.3**
comp=Z,0.8nm,0.7s,mb4.1,baz=290,slow=3.3,SNR=3.9
VNDA Vanda 90.44 168 P P **00 57 55.7 +1.3**
RAO Raoul Island 90.57 119 PFAKE 00 58 10.0 +14
RAO LR LR
comp=Z,1μm,21.0s,MS5.4
SBA Scott Base 91.55 168 PFAKE 00 58 10.0 +10
SBA LR LR
comp=Z,252nm,19.0s,MS4.7
ESDC Sonseca Array 93.02 310 P P **00 58 07.7 +0.6**
comp=Z,0.7nm,0.6s,mb4.3,baz=63,slow=4.1,SNR=6.0
ESLA Sonseca Array 93.02 310 PFAKE 00 58 20.0 +13
ESLA LR LR
comp=Z,989nm,20.0s,MS5.3
BORG Borgarnes 95.82 337 LR LR 01 44 32.9
comp=Z,85nm,21.5s,MS4.2,baz=15,slow=37
ILAR Eielson Array 96.95 22 P P **00 58 23.5 -0.9**
comp=Z,1.7nm,0.5s,mb4.7,baz=308,slow=4.3,SNR=23
SNAA Sanae 97.35 198 LR LR 01 37 23.9
comp=Z,40nm,20.0s,MS3.9,baz=125,slow=32
PMR Palmer 97.50 26 PFAKE 00 58 40.0 +13
PMR LR LR
comp=Z,320nm,22.0s,MS4.8
INK Inuvik 99.31 16 *e*P P **00 58 34.7 -0.3**
SIT Sitka 105.89 26 PFAKE 01 03 30.0
SIT LR LR
comp=Z,336nm,19.0s,MS4.9
SCHQ Schefferville 118.00 348 PKP PKPdf 01 03 39.2 +0.5
comp=Z,1.1nm,0.5s,baz=45,slow=10.0,SNR=6.3
SCHQ Schefferville 118.00 348 PKP PKPdf 01 03 39.2 +0.5
SCHQ LR LR
comp=Z,347nm,19.0s,MS5.0
FFC Flin Flon 118.58 11 PFAKE 01 03 50.0 +10
FFC LR LR
comp=Z,81nm,21.0s,MS4.3
NEW Newport 119.86 24 PFAKE 01 04 00.0 +17
NEW LR LR
comp=Z,202nm,19.0s,MS4.8
HUMO Hull Mountain 121.43 32 PFAKE 01 04 00.0 +14
HUMO LR LR
comp=Z,218nm,20.0s,MS4.8
YBH Yreka Blue Hor 122.18 32 PFAKE 01 04 00.0 +13
YBH LR LR
comp=Z,167nm,19.0s,MS4.7
MSO Missoula 122.28 23 *e*PKP PKPdf 01 03 48.1 +0.9
MSO LR LR
comp=Z,135nm,19.0s,MS4.6
BMO Blue Mountains 122.49 26 PFAKE 01 04 00.0 +12
BMO LR LR
comp=Z,267nm,20.0s,MS4.9
WDC Whiskeytown Da 123.08 33 PFAKE 01 04 00.0 +11
WDC LR LR
comp=Z,204nm,19.0s,MS4.8
HOPS Hopland 123.88 35 PFAKE 01 04 00.0 +9.4
HOPS LR LR
comp=Z,276nm,20.0s,MS4.9
ULM Lac du Bonnet 123.89 8 PKP PKPdf 01 03 51.3 +1.0
comp=Z,3.4nm,0.6s,baz=285,slow=1.8,SNR=4.4
ULM Lac du Bonnet 123.89 8 PKP PKPdf 01 03 51.3 +1.0
ULM LR LR
comp=Z,206nm,19.0s,MS4.8
DGMT Dagmar 123.96 15 PFAKE 01 04 00.0 +10
DGMT LR LR
comp=Z,363nm,22.0s,MS5.0
BOZ Bozeman (W) 124.14 22 PFAKE 01 04 00.0 +9.1
BOZ LR LR
comp=Z,176nm,19.0s,MS4.7
LAO LASA Array 125.03 17 PFAKE 01 04 10.0 +17
LAO LR LR
comp=Z,243nm,20.0s,MS4.9
LKWY Lake 125.52 22 PFAKE 01 04 10.0 +16
LKWY LR LR
comp=Z,335nm,19.0s,MS5.0
PQI Presque Isle 125.88 345 PFAKE 01 04 10.0 +16
PQI LR LR
comp=Z,2μm,22.0s,MS5.6
BMN Battle Mountai 125.95 30 PFAKE 01 04 10.0 +16
BMN LR LR
comp=Z,200nm,20.0s,MS4.8
CMB Columbia Colle 126.06 34 PKP PKPdf 01 03 55.9 +1.1
CMB LR LR
comp=Z,298nm,20.0s,MS5.0
MOOW Moose Ponds 126.09 22 *e*PKP PKPdf 01 03 56.2 +1.5
TPAW Teton Pass 126.23 23 *e*PKP PKPdf 01 03 56.9 +1.9
LOHW Long Hollow 126.26 22 *e*PKP PKPdf 01 03 56.8 +1.7
SNOW Snow King Moun 126.33 23 *e*PKP PKPdf 01 03 57.5 +2.3
SAO San Andreas Ge 126.34 36 PFAKE 01 04 10.0 +15
SAO LR LR
comp=Z,301nm,19.0s,MS5.0
REDW Red Top Meadow 126.38 23 *e*PKP PKPdf 01 03 57.0 +1.7
ELK Elko 126.66 28 *e*PKP PKPdf 01 03 58.1 +2.2
ELK LR LR
comp=Z,235nm,20.0s,MS4.9
AHID Auburn Hatcher 126.79 23 PFAKE 01 04 10.0 +14
AHID LR LR
comp=Z,217nm,22.0s,MS4.8
NVAR Mina Array Bea 126.90 32 PKP PKPdf 01 03 59.4 +3.0
comp=Z,4.2nm,0.8s,baz=297,slow=1.5,SNR=20
NVAR pPKP 01 04 09.4
comp=Z,1.8nm,0.7s,baz=304,slow=1.4,SNR=5.7
NVAR Mina Array Bea 126.90 32 PKP PKPdf 01 03 59.4 +3.0
NVAR pPKP 01 04 09.4
BW06 Boulder Array 127.38 22 PFAKE 01 04 10.0 +13
BW06 LR LR
comp=Z,193nm,20.0s,MS4.8
PDAR Pinedale Array 127.38 22 PKP PKPdf 01 03 59.1 +1.9
comp=Z,4.4nm,0.9s,slow=1.5,SNR=31
PDAR pPKP 01 04 10.3
comp=Z,2.9nm,1.0s,baz=90,slow=1.5,SNR=7.1
EMMW East Machias 127.55 344 PFAKE 01 04 10.0 +12
EMMW LR LR
comp=Z,2μm,20.0s
HWUT Hardware Ranch 127.57 24 *e*PKP PKPdf 01 03 59.0 +1.4
HWUT LR LR
comp=Z,192nm,19.0s,MS4.8
TPH Tonopah 127.73 32 PFAKE 01 04 10.0 +12
TPH LR LR
comp=Z,298nm,21.0s,MS5.0
RSSD Black Hills 128.00 17 *e*PKP PKPdf 01 03 59.5 +1.1
WVL Waterville 128.26 346 PFAKE 01 04 10.0 +11
WVL LR LR
comp=Z,4μm,19.0s
DAC Darwin (Calif) 128.87 33 PFAKE 01 04 10.0 +10
DAC LR LR
comp=Z,294nm,19.0s,MS5.0
MSU Marysvale 129.86 27 *e*PKP PKPdf 01 04 04.5 +2.4
RCBR Riachuelo 130.55 267 PFAKE 01 04 20.0 +16
RCBR LR LR
comp=Z,212nm,21.0s,MS4.8
PV10 Paradox Valley 131.34 25 PKP PKPdf 01 04 08.1 +3.2
SMCO Snowmass 131.46 22 *e*PKP PKPdf 01 04 06.9 +1.8
SDCO Great Sand Dun 133.27 22 PFAKE 01 04 20.0 +11
SDCO LR LR
comp=Z,278nm,19.0s,MS5.0
CBKS Cedar Bluff 134.12 15 PFAKE 01 04 20.0 +10
CBKS LR LR
comp=Z,228nm,19.0s,MS4.9
ANMO Albuquerque 135.33 25 *e*PKP PKPdf 01 04 14.3 +1.8
TUC Tucson 135.52 31 PFAKE 01 04 30.0 +17
TUC LR LR
comp=Z,111nm,19.0s,MS4.6
BNM Barren Site 135.95 25 *e*PKP PKPdf 01 04 15.7 +2.1
CCM Cathedral Cave 136.47 6 PFAKE 01 04 30.0 +16
CCM LR LR
comp=Z,132nm,20.0s,MS4.7
WCI Wyandotte Cave 136.62 1 PFAKE 01 04 30.0 +15
WCI LR LR
comp=Z,145nm,19.0s,MS4.7
BLA Blacksburg 137.36 354 PFAKE 01 04 30.0 +14
BLA LR LR
comp=Z,172nm,20.0s,MS4.8
GDL2 Guadalupe Moun 138.58 24 *e*PKP PKPdf 01 04 20.1 +1.6
MNTX Cornudas Mount 138.59 26 *e*PKP PKPdf 01 04 20.2 +1.7
MNTX LR LR
comp=Z,166nm,19.0s,MS4.8
WVT Waverly 138.66 3 PFAKE 01 04 30.0 +11
WVT LR LR
comp=Z,138nm,20.0s,MS4.7
PLAL Pickwick Lake 139.79 3 PFAKE 01 04 30.0 +9.4
PLAL LR LR
comp=Z,161nm,19.0s,MS4.8
OXF Oxford 140.17 5 PFAKE 01 04 30.0 +8.7
OXF LR LR
comp=Z,131nm,20.0s,MS4.7
LTX Lajitas 141.37 26 *e*PKP PKPdf 01 04 25.6 +1.9
LTX LR LR
comp=Z,187nm,22.0s,MS4.8
TXAR Lajitas Array 141.37 26 PKhKP 01 04 19.2
comp=Z,1.2nm,0.5s,baz=196,slow=0.8,SNR=16
PKP PKPdf 01 04 26.3 +2.7
TXAR comp=Z,1.5nm,0.5s,baz=346,slow=3.7,SNR=14
PP PP 01 07 28.0 -2.3
comp=Z,0.6nm,0.7s,baz=18,slow=4.0,SNR=5.4

TXAR	**Lajitas Array**	**141.37**	**26**	PKP	PKPdf	01 04 19.2	-4.5
TXAR				PKP	PKPdf	01 04 26.3	+2.7
TXAR				PP	PP	01 07 28.0	-2.3
NHSC	**New Hope**	**141.39**	**353**	PFAKE		01 04 40.0	+16
NHSC				LR	LR		
	comp=Z,194nm,20.0s,MS4.9						
LRAL	**Lakeview Retre**	**141.78**	**2**	PFAKE		01 04 40.0	+16
LRAL				LR	LR		
	comp=Z,161nm,19.0s,MS4.8						
NATX	**Nacogdoches**	**142.08**	**13**	PFAKE		01 04 40.0	+15
NATX				LR	LR		
	comp=Z,231nm,19.0s,MS5.0						
CPUP	**Villa Florida**	**145.90**	**229**	PKPbc	PKPbc	01 04 34.1	+1.7
	comp=Z,5.2nm,0.8s,baz=115,slow=2.6,SNR=10						
CPUP	**Villa Florida**	**145.90**	**229**	*e*PKP	PKPdf	01 04 33.6	+2.1
DWPF	**Disney**	**146.47**	**353**	*e*PKP	PKPdf	01 04 35.3	+2.9
DWPF				LR	LR		
	comp=Z,235nm,20.0s,MS5.0						
SJG	**San Juan**	**149.79**	**321**	PFAKE		01 04 50.0	+12
SJG				LR	LR		
	comp=Z,119nm,19.0s,MS4.7						
LVC	**Limon Verde**	**156.47**	**222**	PFAKE		01 05 00.0	+13
LVC				LR	LR		
	comp=Z,970nm,20.0s,MS5.6						
SAML	**Samuel**	**157.48**	**260**	PFAKE		01 05 00.0	+11
SAML				LR	LR		
	comp=Z,206nm,19.0s,MS5.0						
LPAZ	**La Paz**	**159.73**	**236**	PKP	PKPdf	01 04 54.9	+3.4
	comp=Z,0.9nm,0.7s,baz=357,slow=5.0,SNR=4.3						
LPAZ	**La Paz**	**159.73**	**236**	*e*PKPdf	PKPdf	01 04 54.7	+3.2

MAN 23 00:50:54.4,13.68N×120.53E,h74km,mb4.3,ML3.2, MS3.0,2C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.28**	**282**	*e*P	P	00 51 07.4	+1.4
LUBP				*e*S	S	00 51 17.1	+2.5
PGP	**Puerto Galera**	**0.44**	**113**	*e*P	P	00 51 08.6	+1.5
PGP				*e*S	S	00 51 13.1	-3.5
TGY	**Tagaytay City**	**0.58**	**43**	⇓*i*P	P	00 51 10.3	+1.9
TGY				*i* S	S	00 51 21.9	+3.1
LBPH	**Los Banos**	**0.79**	**53**	⇑*e*P	P	00 51 12.1	+1.4
LBPH				*e*S	S	00 51 29.6	+6.7
ARP	**Angono**	**1.05**	**35**	⇑*e*P	P	00 51 13.9	0.0
NBP	**Mount Natib**	**1.06**	**354**	*e*P	P	00 51 15.1	+1.0
NBP				*e*S	S	00 51 29.6	+0.8
SJMP	**San Jose**	**1.34**	**155**	*e*P	P	00 51 19.1	+1.3
SJMP				*e*S	S	00 51 36.0	+0.8
BUSP	**Coron**	**1.69**	**191**	*e*P	P	00 51 23.1	+0.5
ENPP	**El Nido**	**2.68**	**204**	*e*P	P	00 51 36.4	+0.1
CUYO	**Cuyo Island**	**2.85**	**170**	*e*P	P	00 51 38.3	-0.4

*CSEM **23** 01:04:13.9,15.64S×167.67E,h33km,mb5.8*
*CRAAG **23** 01:04:14.8,15.18S×167.45E,Mb5.5*
*BJI **23** 01:04:23.5,14.73S×167.55E,h103km,mB5.5,mb5.4*
*MOS **23** 01:04:24.9±0.9,15.15S×167.59E,h121km,mb5.3/30, Error ellipse: s-maj=8.7km s-min=7.7km az=95.9*
*HRVD **23** 01:04:25.9±0.2,15.25S×167.37E,h134km±1km, MW5.5/56,Centroid moment Tensor Solution. LP body waves: s48,c81;Mantle waves: s56,c129; Half duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}2.18±.04; $M_{\theta\theta}$0.23±.04; $M_{\phi\phi}$-2.40±.04; $M_{r\theta}$-0.82±.03; $M_{\theta\phi}$0.22±.04; $M_{\phi r}$0.21±.04; Best double couple: M_o2.459×10^{17} NP1: ϕ_s194°,δ45°,λ118°. NP2:ϕ_n337°,δ52°,λ65°. Principal axes: T 2.482, Plg70°, Azm184°; N -.038, Plg20°, Azm353°; P -2.436, Plg4°, Azm84°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **23** 01:04:25.4±0.9,15.24S×167.59E,h119km±7km,mb4.9/24, mb1 5.0/26,mb1mx5.0/26,mbtmp5.2/26,MS4.4/12, Ms1 4.4/12,ms1mx4.2/22 Error ellipse: s-maj=8.5km s-min=8.2km az=40.0*
*NEIC **23** 01:04:25.9±0.1,15.22S×167.56E,mb5.3/46,MW5.5, Error ellipse: s-maj=4.9km s-min=3.9km az=137.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^{17} Nm; M_{rr}2.33; $M_{\theta\theta}$-0.19; $M_{\phi\phi}$-2.14; $M_{r\theta}$-0.61; $M_{\theta\phi}$-0.98; $M_{\phi r}$0.00; Best double couple: M_o2.5×10^{17} NP1:ϕ_s9°,δ44°, λ70°. NP2:ϕ_s216°,δ49°,λ108°. Principal axes: T 2.48, Plg76°, Azm192°; N .08, Plg14°, Azm24°; P -2.56, Plg3°, Azm293°;*
*LDG **23** 01:04:26.7±0.1,15.16S×167.25E,h130km,Mb5.5/4, Ms4.4/8 Error ellipse: s-maj=14.4km s-min=3.5km az=89.0*
*BGS **23** 01:04:26.7±1.9,15.22S×167.56E,h126km*
ISC 23 01:04:24.9±1.1,15.20S±0.03×167.47E±0.04,h127km±9km, h128km±4.0km:pP-P,n629,σ1s02/247,mb5.3/92,113C-21D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.91**	**188**	*e*P	**P**	**01 06 05.0**	**+0.2**
DZM				*e*S	**S**	**01 07 21.7**	**-0.7**
DZM	**Mont Dzumac**	**6.91**	**188**	P	**P**	**01 06 05.0**	**+0.2**
	46nm,0.3s,baz=31,slow=15,SNR=122						
DZM				S	**S**	**01 07 18.9**	**-3.5**
	31nm,0.3s,baz=318,slow=23,SNR=6.6						
DZM	**Mont Dzumac**	**6.91**	**188**	*e*P	**P**	**01 06 05.0**	**+0.2**
DZM				*e*S	**S**	**01 07 21.6**	**-0.7**
HNR	**Honiara**	**9.32**	**307**	P	**P**	**01 06 37.7**	**+0.5**
HNR				S	**S**	**01 08 25.1**	**+4.5**
HNR				pmax	pmax		
	comp=Z,12nm,0.3s						
HNR				smax			
	comp=E,17nm,0.3s						
HNR	**Honiara**	**9.32**	**307**	P	**P**	**01 06 37.7**	**+0.6**
	comp=E,12nm,0.3s,baz=82,slow=4.4,SNR=12						
HNR				S	**S**	**01 08 25.1**	**+4.6**
	comp=E,17nm,0.3s,baz=90,slow=20,SNR=2.6						
HNR	**Honiara**	**9.32**	**307**	*e*P	**P**	**01 06 37.9**	**+0.7**
	comp=E,1μm,1.4s						
AFI	**Afiamalu**	**20.13**	**89**	P	**P**	**01 08 48.5**	**-2.5**
AFI				pmax	pmax		
	comp=Z,355nm,0.9s						
AFI	**Afiamalu**	**20.13**	**89**	P	**P**	**01 08 50.3**	**-0.7**
	comp=Z,75nm,0.9s,baz=117,slow=16,SNR=4.1						
AFI	**Afiamalu**	**20.13**	**89**	P	**P**	**01 08 48.5**	**-2.5**
	comp=Z,355nm,0.9s						
AFI				*i*		01 08 57.3	
PMG	**Port Moresby**	**20.65**	**284**	*i* P	**P**	**01 08 59.3**	**+3.0**
PMG				*i* *SP		01 09 23.1	
PMG				*i*		01 13 00.5	
PMG	**Port Moresby**	**20.65**	**284**	P	**P**	**01 08 58.3**	**+2.0**
	comp=Z,62nm,1.1s,baz=37,slow=8.6,SNR=5.9						
PMG				S	**S**	**01 12 44.5**	**+10**
	comp=Z,22nm,1.0s,baz=304,slow=18,SNR=1.8						
OUZ	**Omahuta**	**20.68**	**166**	PN	**P**	**01 08 57.6**	**+1.1**
	comp=Z,260nm,0.7s						
CTA	**Charters Tower**	**20.79**	**253**	*e*P	**P**	**01 08 59.6**	**+2.0**
	comp=Z,42nm,1.1s						
CTA				*e*S	**S**	**01 12 45.4**	**+8.2**
CTA				*e*PCP	PcP	01 13 02.8	+0.4
CTA				*e*SCP		01 16 28.1	
CTA	**Charters Tower**	**20.79**	**253**	P	**P**	**01 08 59.5**	**+1.9**
CTA				S	**S**	**01 12 44.1**	**+6.9**
CTA						01 13 01.7	
CTA				pmax	pmax		
	comp=Z,36nm,0.9s						
CTA				smax			
	comp=E,5.0nm,0.9s						
CTA				pmax	pmax		
	comp=Z,14nm,0.9s						
CTA				pmax	pmax		
	comp=E,5.0nm,0.7s						
CTA	**Charters Tower**	**20.79**	**253**	P	**P**	**01 08 59.5**	**+1.8**
	comp=E,36nm,0.9s,baz=79,slow=11,SNR=17						
CTA				S	**S**	**01 12 44.1**	**+6.9**
	comp=E,5.4nm,0.9s,baz=212,slow=19,SNR=2.4						
CTA				PcP	PcP	01 13 01.7	-0.7
	comp=E,14nm,0.9s,baz=53,slow=0.5,SNR=5.5						
CTA				ScP		01 16 28.0	
	comp=E,5.0nm,0.7s,baz=17,slow=2.1,SNR=4.2						
CTAO	**Charters Tower**	**20.79**	**253**	*e*P	**P**	**01 08 58.8**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,84nm,1.1s						
CTAO	**Charters Tower**	**20.79**	**253**	*e*P	**P**	**01 08 58.8**	**+1.1**
	comp=Z,84nm,1.1s						
WCZ	**Waipu Caves**	**21.55**	**165**	PN	**P**	**01 09 06.9**	**+1.8**
	comp=Z,126nm,0.5s,mb5.5						
MTAZ	**Motutapu**	**22.50**	**164**	PN	**P**	**01 09 16.0**	**+1.6**
WTAZ	**Waiatarua**	**22.55**	**165**	PN	**P**	**01 09 17.0**	**+2.1**
OTAZ	**Otara**	**22.66**	**164**	PN	**P**	**01 09 17.1**	**+1.2**
MKAZ	**Moumakai**	**22.87**	**164**	PN	**P**	**01 09 19.7**	**+1.7**
RIV	**Riverview**	**23.70**	**216**	⇑*i*P	**P**	**01 09 27.7**	**+1.7**
HIZ	**Hauiti**	**24.12**	**166**	PN	**P**	**01 09 31.2**	**+1.2**
	comp=Z,702nm,0.6s,mb6.2						
URZ	**Urewera**	**24.50**	**161**	P	**P**	**01 09 33.6**	**-0.1**
	comp=Z,244nm,0.9s,mb5.7,baz=359,slow=4.4,SNR=50						
URZ				S	**S**	**01 13 43.8**	**+1.8**
	comp=Z,31nm,0.7s,baz=127,slow=16,SNR=14						
URZ				LR	LR	01 17 50.8	
	comp=Z,669nm,18.7s,baz=180,slow=33						
URZ	**Urewera**	**24.50**	**161**	P	**P**	**01 09 33.6**	**-0.1**
URZ				S	**S**	**01 13 43.8**	**+1.8**
URZ				LR	LR	01 17 50.8	
PUZ	**Puketiti**	**24.70**	**159**	PN	**P**	**01 09 34.8**	**-0.8**
TUVZ	**Tukino**	**25.04**	**165**	*e*PN	**P**	**01 09 39.8**	**+1.1**
CNB	**Canberra Magne**	**25.79**	**216**	⇑*i*P	**P**	**01 09 46.5**	**+0.7**
	comp=Z,191nm,1.2s,mb5.4						
CNB				*e*PCP	PcP	01 13 12.1	-0.6
TSZ	**Takapari Road**	**25.86**	**165**	PN	**P**	**01 09 44.7**	**-1.7**
QRZ	**Quartz Range**	**25.91**	**171**	PN	**P**	**01 09 46.5**	**-0.4**
SNZO	**South Karori**	**26.77**	**168**	*e*P	**P**	**01 09 52.5**	**-2.2**
	comp=Z,92nm,0.7s,mb5.4						
THZ	**Tophouse**	**26.89**	**171**	PN	**P**	**01 09 55.0**	**-0.7**
LTZ	**Lake Taylor**	**27.80**	**172**	PN	**P**	**01 10 03.0**	**-1.1**
RPZ	**Rata Peaks**	**28.59**	**175**	P	**P**	**01 10 10.1**	**-1.0**
	comp=Z,106nm,0.7s,mb5.6,baz=333,slow=2.6,SNR=42						
RPZ				LR	LR	01 19 18.0	
	comp=Z,916nm,19.0s,baz=29,slow=31						
STKA	**Stephens Creek**	**28.84**	**230**	⇑*i*P	**P**	**01 10 14.0**	**+0.5**
	comp=Z,96nm,1.1s,mb5.3						
STKA				*e*PCP	PcP	01 13 19.3	-0.8
STKA				*e*S	**S**	**01 14 54.7**	**+2.0**
STKA				*e*SCP		01 16 50.0	
STKA				*e*PCS		01 17 00.1	
STKA				*e*SCS	ScS	01 20 42.3	+1.6
STKA	**Stephens Creek**	**28.84**	**230**	P	**P**	**01 10 14.1**	**+0.5**
	comp=Z,102nm,0.9s,mb5.5,baz=52,slow=7.7,SNR=109						
STKA				PcP	PcP	01 13 19.5	-0.6
	comp=Z,58nm,0.8s,baz=30,slow=2.8,SNR=21						
STKA				ScP		01 16 50.2	
	comp=Z,19nm,0.9s,baz=61,slow=2.4,SNR=14						
STKA				LR	LR	01 20 02.7	
	comp=Z,1μm,19.5s,baz=313,slow=32						
LBZ	**Lake Benmore**	**29.19**	**176**	PN	**P**	**01 10 14.1**	**-2.4**
TOO	**Toolangi**	**29.59**	**217**	⇑*i*P	**P**	**01 10 20.3**	**+0.1**
	comp=Z,79nm,1.2s,mb5.2						
TOO				*e*PCP	PcP	01 13 21.5	-0.4
TOO	**Toolangi**	**29.59**	**217**	*i*P	**P**	**01 10 20.3**	**+0.1**
TOO				*e*		01 13 21.5	
TOO				pmax	pmax		
	comp=Z,79nm,1.2s,mb5.2						
TUZ	**Tuapeka**	**30.72**	**177**	PN	**P**	**01 10 29.4**	**-0.6**
	comp=Z,233nm,0.7s,mb6.0						
WB2	**Warramunga Arr**	**31.89**	**257**	⇑*i*P	**P**	**01 10 39.0**	**-1.5**
WB2				*e*PCP	PcP	01 13 27.9	-0.2
WB2				*e*S	**S**	**01 15 35.8**	**-4.9**
WB2				*e*SCP		01 17 01.0	
WB2				*e*PCS		01 17 11.0	
WB2				*e*SCS	ScS	01 20 56.0	+0.5
WRAB	**Tennant Creek**	**31.89**	**257**	*e*P	**P**	**01 10 38.1**	**-2.4**
WRAB				pmax	pmax		
	comp=Z,135nm,1.4s,mb5.5						
WRAB	**Tennant Creek**	**31.89**	**257**	*e*P	**P**	**01 10 38.1**	**-2.4**
	comp=Z,135nm,1.4s,mb5.5						
WRA	**Warramunga Arr**	**31.90**	**257**	P	**P**	**01 10 39.1**	**-1.5**
	comp=Z,21nm,1.1s,mb4.8,baz=83,slow=7.7,SNR=76						
WRA				PcP	PcP	01 13 27.3	-0.8
	comp=Z,24nm,1.0s,baz=84,slow=2.1,SNR=17						
WRA				S	**S**	**01 15 37.7**	**-3.2**
	comp=Z,5.6nm,1.1s,baz=85,slow=15,SNR=11						
WRA				ScP		01 17 00.4	
	comp=Z,17nm,1.0s,baz=85,slow=3.7,SNR=20						
ADE	**Adelaide**	**32.46**	**227**	⇑*i*P	**P**	**01 10 45.9**	**+0.6**
KAKA	**Kakadu**	**34.06**	**270**	*e*P	**P**	**01 11 00.2**	**+1.0**
	comp=Z,38nm,1.4s,mb5.0						
FITZ	**Fitzroy Crossi**	**40.12**	**260**	⇑*i*P	**P**	**01 11 50.0**	**+0.1**
	comp=Z,135nm,1.5s,mb5.6						
FITZ				*e*PCP	PcP	01 13 53.8	+1.2
FITZ				*e*SCP		01 17 30.9	
FITZ				*e*S	**S**	**01 17 43.7**	**-2.7**
PPT	**Papeete**	**41.22**	**99**	*e*LQ		01 21 15.9	
	comp=Z,1μm,22.2s						
PPT	**Papeete**	**41.22**	**99**	*e*S	**S**	**01 17 43.8**	**-19**
	comp=Z,615nm,27.0s						
PPT				*e*LR	LR	01 23 46.9	
	comp=Z,2μm,31.0s,baz=263						
PPT	**Papeete**	**41.22**	**99**	P	**P**	**01 11 59.7**	**+0.8**
	comp=Z,254nm,0.9s,mb6.1,baz=261,slow=1.9,SNR=24						
TBI	**Tubuai**	**41.33**	**108**	*e*LQ		01 22 11.8	
	comp=Z,1μm,29.0s						
TBI	**Tubuai**	**41.33**	**108**	*e*P	tx	01 11 32.6	
TBI	**Tubuai**	**41.33**	**108**	*e*S	tx	01 17 34.6	
	comp=Z,263nm,27.8s						
TBI				*e*LR	LR	01 23 42.5	
	comp=Z,2μm,35.5s,baz=270						
MBWA	**Marble Bar**	**45.61**	**255**	*e*P	**P**	**01 12 33.4**	**-1.0**
	comp=Z,124nm,1.2s,mb5.5						
KLBR	**Kellerberrin**	**48.05**	**241**	⇑*i*P	**P**	**01 12 52.4**	**-1.0**
	comp=Z,65nm,1.1s,mb5.4						
NWAO	**Narrogin (SRO)**	**48.68**	**239**	LR	LR	01 34 02.5	
	comp=Z,769nm,19.5s,baz=285,slow=36						
MUN	**Mundaring**	**49.40**	**241**	⇑*i*P	**P**	**01 13 03.2**	**-0.6**
	comp=Z,44nm,1.0s,mb5.3						
MUN	**Mundaring**	**49.40**	**241**	⇑*i*P	**P**	**01 13 03.2**	**-0.6**
MUN				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.3						
TAOE	**Nuku Hiva Isla**	**51.52**	**89**	*e*S	tx	01 20 04.4	
	comp=Z,2μm,26.9s						
TAOE				*e*SS	SS	01 23 59.4	-5.4
	comp=Z,786nm,35.5s						
TAOE				*e*LQ		01 25 35.2	
	comp=Z,5μm,31.5s						
TAOE				*e*LR	LR	01 27 53.5	
	comp=Z,3μm,35.2s						
TSM	**Tawau**	**52.79**	**288**	P	**P**	**01 13 30.5**	**+0.9**
DRV	**Dumont d'Urvil**	**54.53**	**193**	P	**P**	**01 13 43.0**	**+1.4**
DRV				S	**S**	**01 21 25.0**	**+16**
RKT	**Rikitea**	**54.65**	**108**	*e*S	**S**	**01 20 53.4**	**-18**
	comp=Z,585nm,28.0s						
RKT				*e*SS	SS	01 24 34.1	-22
	comp=Z,224nm,31.5s						
RKT				*e*LQ		01 27 45.5	
	comp=Z,1μm,29.8s						
RKT				*e*LR	LR	01 29 51.7	
	comp=Z,1μm,34.5s,baz=266						
KKM	**Kota Kinabalu**	**54.99**	**289**	*e*P	**P**	**01 13 45.4**	**-0.3**
KKM	**Kota Kinabalu**	**54.99**	**289**	P	**P**	**01 13 46.8**	**+1.1**
JOW	**Kunigami**	**56.52**	**317**	LR	LR	01 35 51.6	
	comp=Z,194nm,18.8s,baz=118,slow=33						
MJAR	**Matsushiro Arr**	**58.41**	**332**	P	**P**	**01 14 08.2**	**-1.3**
	comp=Z,18nm,1.0s,mb5.1,baz=167,slow=6.9,SNR=34						
MJAR				PcP	PcP	01 14 58.2	-0.4
	comp=Z,16nm,0.9s,baz=171,slow=4.5,SNR=9.0						
MAJO	**Matsushiro**	**58.41**	**332**	*e*P	**P**	**01 14 07.5**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,63nm,1.4s,mb5.5						
MAJO	**Matsushiro**	**58.41**	**332**	*e*P	**P**	**01 14 07.5**	**-2.1**
	comp=Z,63nm,1.4s,mb5.5						
MAT	**Matsushiro**	**58.41**	**332**	*e*P	**P**	**01 14 08.0**	**-1.5**
MAT				pmax	pmax		
	comp=Z,52nm,1.3s,mb5.4						
MAT	**Matsushiro**	**58.41**	**332**	*e*P	**P**	**01 14 08.0**	**-1.5**
	comp=Z,52nm,1.3s,mb5.4						
MAT	**Matsushiro**	**58.41**	**332**	P	**P**	**01 14 07.9**	**-1.6**
NACB	**Ninganchiao**	**59.48**	**310**	*e*P	**P**	**01 14 16.1**	**-1.1**
QZH	**Quanzhou**	**62.15**	**309**	⇑*i*P	**P**	**01 14 36.3**	**+1.1**
QZH				S	**S**	**01 22 49.5**	**+1.1**
QZH				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.5						
VNDA	**Vanda**	**62.40**	**181**	P	**P**	**01 14 35.3**	**-0.9**
VNDA	**Vanda**	**62.40**	**181**	P	**P**	**01 14 35.4**	**-0.8**
	comp=Z,35nm,0.8s,mb5.5,baz=360,slow=6.9,SNR=82						
VNDA				LR	LR	01 36 21.3	
	comp=Z,231nm,18.2s,baz=17,slow=31						
VNDA	**Vanda**	**62.40**	**181**	*e*P	**P**	**01 14 34.8**	**-1.4**
	comp=Z,71nm,1.0s,mb5.7						
SBA	**Scott Base**	**62.67**	**180**	*e*P	**P**	**01 14 37.8**	**-0.2**
SBA				pmax	pmax		
	comp=Z,201nm,0.9s,mb6.0						
SBA	**Scott Base**	**62.67**	**180**	*e*P	**P**	**01 14 37.8**	**-0.1**
	comp=Z,201nm,0.9s,mb6.0						
CASY	**Casey**	**63.17**	**202**	⇑*i*P	**P**	**01 14 40.4**	**-1.0**
ASAJ	**Asahikawa**	**63.24**	**340**	P	**P**	**01 14 42.3**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,68nm,1.0s						
ASAJ	**Asahikawa**	**63.24**	**340**	P	**P**	**01 14 42.3**	**+0.1**
	comp=Z,68nm,1.0s,mb5.5,baz=152,slow=18						
SSE	**Sheshan**	**63.99**	**316**	P	**P**	**01 14 46.4**	**-0.9**
SSE				PP	PP	01 17 09.3	-1.8
SSE				S	**S**	**01 23 13.9**	**+2.5**
SSE				SCS	ScS	01 24 27.4	+2.6
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,107nm,5.5s						
SSE				LR	LR		
	comp=N,136nm,31.0s						
SSE				LR	LR		
	comp=E,183nm,31.3s						
SSE				LR	LR		
	comp=Z,250nm,29.7s						
SSE	**Sheshan**	**63.99**	**316**	P	**P**	**01 14 46.4**	**-0.9**
	comp=Z,30nm,0.7s,mb5.2						
SSE				sP	sP	01 15 35.4	+3.3
SSE				PP	PP	01 17 09.3	-1.8
SSE				S	**S**	**01 23 13.9**	**+2.5**
SSE				sS		01 24 12.7	
SSE				ScS	ScS	01 24 27.4	+2.6
SSE				SS	SS	01 27 27.7	+3.9
SSE				LR	LR		
	comp=Z,250nm,29.7s						
KS15	**Wonju Array Si**	**64.24**	**326**	*e*P	**P**	**01 14 48.0**	**-0.8**
GZH	**Guangzhou**	**65.20**	**305**	P	**P**	**01 14 52.6**	**-2.6**
KGM	**Kluang**	**65.69**	**279**	P	**P**	**01 14 59.3**	**+0.7**
YSS	**Yuzh-Sakhalins**	**65.73**	**342**	*de*P	**P**	**01 14 58.0**	**-0.2**
YSS				*e*	pP	01 15 28.9	-0.4
YSS				*e*		01 15 46.1	
YSS				*e*S	S	01 23 34.0	+1.6
YSS				pmax	pmax		
	comp=Z,90nm,1.1s,mb5.5						
YSS	**Yuzh-Sakhalins**	**65.73**	**342**	*e*P	**P**	**01 14 58.1**	**-0.1**
	comp=Z,156nm,1.4s,mb5.7						
QIZ	**Qiongzhong**	**66.13**	**299**	⇓P	**P**	**01 15 02.0**	**+0.8**
QIZ				S	S	01 23 37.5	-0.3
QIZ				AMB	AMB		
	comp=Z,64nm,1.2s,mb5.3						
QIZ	**Qiongzhong**	**66.13**	**299**	*e*P	**P**	**01 15 01.3**	**0.0**
	comp=Z,98nm,1.3s,mb5.5						
NJ2	**Nanjing**	**66.14**	**316**	*e*P	**P**	**01 15 00.0**	**-1.1**
NJ2				AP	pP	01 15 29.0	-3.2
NJ2				PP	PP	01 17 28.3	-1.9
NJ2				S	S	01 23 42.0	+4.2
NJ2				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,1μm,6.4s						
NJ2				LR	LR		
	comp=N,480nm,17.9s						
NJ2				LR	LR		
	comp=E,230nm,18.5s						
NJ2				LR	LR		
	comp=Z,12μm,19.1s						
FX1	**Attu Island--F**	**67.97**	**4**	P	**P**	**01 15 11.6**	**-0.6**
FX1				pmax	pmax		
	comp=Z,7.0nm,0.5s						
FX1	**Attu Island--F**	**67.97**	**4**	P	**P**	**01 15 11.6**	**-0.6**
	comp=Z,7.0nm,0.5s,mb4.8,baz=129,slow=9.8,SNR=6.6						
FX1	**Attu Island--F**	**67.97**	**4**	*e*P	**P**	**01 15 10.9**	**-1.3**
PET	**Petropavlovsk**	**68.36**	**354**	⇓*e*P	**P**	**01 15 14.4**	**-0.2**
PET				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.2						
PET	**Petropavlovsk**	**68.36**	**354**	⇓*e*P	**P**	**01 15 14.5**	**-0.1**
WHN	**Wuhan**	**68.40**	**312**	P	**P**	**01 15 15.0**	**-0.2**
IPM	**Ipoh**	**68.66**	**281**	P	**P**	**01 15 17.3**	**+0.2**
MDJ	**Mudanjiang**	**68.78**	**332**	P	**P**	**01 15 17.8**	**+0.5**
MDJ				AP	pP	01 15 47.3	-1.3
MDJ				PP	PP	01 17 55.3	+2.6
MDJ				S	S	01 24 11.5	+2.5
MDJ				SCS	ScS	01 25 07.8	+6.2
MDJ				AMB	AMB		
	comp=Z,93nm,0.9s,mb5.6						
MDJ				AMB	AMB		
	comp=Z,109nm,5.7s						
MDJ	**Mudanjiang**	**68.78**	**332**	*e*P	**P**	**01 15 17.2**	**0.0**
	comp=Z,111nm,1.1s,mb5.6						
DL2	**Dalian**	**68.79**	**323**	P	**P**	**01 15 17.3**	**-0.1**
DL2				S	S	01 24 08.8	-0.4
DL2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.2						
DL2				AMB	AMB		
	comp=Z,160nm,2.6s,mb5.4						
KULM	**Kulim**	**69.23**	**282**	*e*P	**P**	**01 15 19.7**	**-0.9**
MIR	**Mirnyy**	**69.98**	**204**	*c i*P	**P**	**01 15 23.8**	**-0.4**
MIR				*i*		01 15 45.0	
MIR				pmax	pmax		
	comp=Z,312nm,1.4s,mb6.0						
CN2	**Changchun**	**70.14**	**329**	⇑P	**P**	**01 15 25.8**	**+0.2**
CN2				PCP	PcP	01 15 46.8	0.0
CN2				*e*S	S	01 24 25.3	+0.3
CN2				*e*SS	SS	01 29 00.8	+1.8
CN2				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.3						
CN2				AMB	AMB		
	comp=Z,400nm,4.0s						
KLR	**Kul'dur**	**71.51**	**336**	⇓*i*P	**P**	**01 15 31.0**	**-2.7**
KLR				pmax	pmax		
	comp=N,34nm,1.6s						
KLR				pmax	pmax		
	comp=E,28nm,1.6s						
KLR				pmax	pmax		
	comp=Z,100nm,1.6s,mb5.4						
ENH	**Enshi**	**71.81**	**309**	⇑*i*P	**P**	**01 15 35.3**	**-0.5**
	comp=Z,85nm,1.0s,mb5.5						
GYA	**Guiyang**	**72.14**	**305**	⇑*i*P	**P**	**01 15 38.6**	**+0.8**
GYA				XP

comp=Z,190nm,16.1s
KMI Kunming 74.72 302 ⇑P **P 01 15 54.6 +1.7**
comp=Z,108nm,1.3s,mb5.4
KMI PcP PcP 01 16 07.0 +0.3
KMI pP pP 01 16 27.4 +2.6
KMI sP sP 01 16 41.8 +3.2
KMI PP PP 01 18 44.3 +1.1
KMI PPP PPP 01 20 30.3 +1.3
KMI S S 01 25 17.4 +0.3
KMI SKS SKS 01 25 45.4 +1.0
KMI ScS ScS 01 25 50.4 +1.3
KMI PS PS 01 26 11.1 +0.1
KMI sS 01 26 14.3
KMI SS SS 01 30 08.8 -0.6
KMI SSS SSS 01 33 22.6 -1.7
KMI LR LR
comp=Z,190nm,16.1s
QSPA South Pole Qui 74.83 180 P **P 01 15 52.5 +0.1**
QSPA PKKPdf 01 33 19.5
QSPA South Pole Qui 74.83 180 ⇑*i*P **P 01 15 52.7 +0.2**
comp=Z,281nm,0.9s,mb6.0
CHRT Chiangrai 75.11 296 ⇑P **P 01 15 56.5 +1.3**
comp=Z,505nm,0.8s,mb6.3
CHG Chiang Mai 75.45 294 ⇑P **P 01 15 58.1 +1.0**
comp=Z,52nm,0.9s,mb5.3
MA2 Magadan 75.73 351 *c i*P **P 01 15 57.4 -0.5**
MA2 pmax pmax
comp=Z,47nm,1.1s,mb5.1
MA2 Magadan 75.73 351 *e*P **P 01 15 56.8 -1.1**
comp=Z,17nm,0.8s,mb4.8
HHC Hu-ho-hao-te 76.06 320 *e*P **P 01 16 01.4 +1.2**
HHC PCP PcP 01 16 12.5 +0.3
HHC PP PP 01 18 55.8 +1.9
HHC S S 01 25 36.1 +4.5
HHC SKS SKS 01 25 54.1 +0.2
HHC ScS ScS 01 26 01.3 +1.6
HHC AMB AMB
comp=Z,61nm,1.2s,mb5.2
HHC AMB AMB
comp=Z,201nm,9.6s
HHC LR LR
comp=N,200nm,20.4s
HHC LR LR
comp=E,247nm,18.0s
HHC LR LR
comp=Z,216nm,21.6s
CD2 Chengdu 76.45 308 P **P 01 16 03.3 +0.8**
HIA Hailar 76.79 330 *e*P **P 01 16 04.1 +0.1**
HIA pmax pmax
comp=Z,78nm,1.3s
HIA Hailar 76.79 330 *e*P **P 01 16 04.1 +0.1**
comp=Z,78nm,1.3s,mb5.3
BTO Baotou 76.90 319 *e*P **P 01 16 05.8 +0.9**
BTO AMB AMB
comp=Z,34nm,0.8s,mb5.1
SEY Seymchan 78.77 353 *e*P **P 01 16 14.2 -0.4**
SEY *e* pP 01 16 48.8 +2.0
SEY *e* 01 21 03.5
SEY *e* 01 26 55.2
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=Z,20nm,0.9s,mb5.0
SEY Seymchan 78.77 353 ⇓*e*P **P 01 16 15.1 +0.5**
LZH Lanzhou 78.78 312 P **P 01 16 17.0 +1.8**
LZH XP sP 01 16 55.1 -6.3
LZH PP PP 01 19 20.0 +3.4
LZH S S 01 26 03.0 +2.2
LZH SKS SKS 01 26 15.1 +1.6
LZH AMB AMB
comp=Z,220nm,1.1s,mb5.9
LZH AMB AMB
comp=Z,480nm,4.8s
LZH LR LR
comp=E,780nm,20.6s
LZH LR LR
comp=Z,640nm,21.2s
LZH Lanzhou 78.78 312 P **P 01 16 17.0 +1.8**
LZH *SP sP 01 17 04.4 +3.0
LZH 01 19 20.0
LZH S S 01 26 03.0 +2.2
LZH 01 26 15.1
LZH *SS 01 27 04.0
LZH SS SS 01 31 14.4 +3.7
LZH pmax pmax
comp=Z,220nm,1.1s,mb5.9
LZH MLR MLR
comp=Z,640nm,21.2s
LZH Lanzhou 78.78 312 P **P 01 16 17.0 +1.8**
comp=Z,220nm,1.1s,mb5.9
LZH pP pP 01 16 55.1 +7.7
LZH sP sP 01 17 04.4 +3.0
LZH PP PP 01 19 20.0 +3.4
LZH S S 01 26 03.0 +2.2
LZH SKS SKS 01 26 15.1 +1.6
LZH sS 01 27 04.0
LZH PS PS 01 27 10.5 +8.5
LZH SS SS 01 31 14.4 +3.7
LZH LR LR
comp=Z,640nm,21.2s
CLNS Chul'man 80.03 338 *e*P **P 01 16 28.6 +7.0**
CLNS pmax pmax
comp=Z,16nm,0.9s,mb4.8
CLNS pmax pmax
comp=N,28nm,1.0s
CLNS pmax pmax
comp=E,13nm,1.4s
MAW Mawson 81.53 202 ⇑*i*P **P 01 16 29.5 +0.2**
comp=E,53nm,0.9s,mb5.4
MAW Mawson 81.53 202 ⇑*i*P **P 01 16 29.5 +0.2**
MAW pmax pmax
comp=Z,53nm,0.9s
MAW Mawson 81.53 202 P **P 01 16 29.6 +0.4**
comp=Z,62nm,0.9s,mb5.4,baz=104,slow=6.7,SNR=84
SVW2 Sparrevohn 81.54 17 *e*P **P 01 16 29.8 +0.4**
CIT Chita 81.57 330 ⇑*i*P **P 01 16 30.8 +1.0**
CIT *e* 01 26 31.5
CIT pmax pmax
comp=Z,311nm,1.4s,mb6.0
RSO Redoubt South 81.87 19 *e*P **P 01 16 30.7 -0.4**
IMP Imphal 81.94 298 *e*P **P 01 16 32.0 -0.3**
YAK Yakutsk 82.53 343 *e*P **P 01 16 34.2 -0.3**
YAK *e*S S 01 26 39.3 +0.2
YAK pmax pmax
comp=Z,91nm,1.0s,mb5.6
YAK pmax pmax
comp=N,31nm,1.2s
YAK pmax pmax
comp=E,24nm,1.5s
YAK Yakutsk 82.53 343 *e*P **P 01 16 34.5 0.0**
comp=E,491nm,1.4s,mb6.1
SPU Mount Spurr 82.65 18 *e*P **P 01 16 34.4 -0.8**
SLKM Skilak Lake 82.71 20 *e*P **P 01 16 34.5 -1.0**
TTA Tatalina 82.91 16 *e*P **P 01 16 36.3 -0.2**
SONM Songino Array 82.98 324 P **P 01 16 38.0 +0.9**
comp=E,62nm,1.1s,mb5.4,baz=135,slow=5.2,SNR=188
SONM LR LR 01 49 26.6
comp=E,156nm,18.9s,baz=219,slow=32
BILL Bilibino 83.01 360 *e*P **P 01 16 36.4 -0.4**
BILL pmax pmax
comp=Z,30nm,1.0s,mb5.1
BILL Bilibino 83.01 360 *e*P **P 01 16 36.4 -0.5**
comp=Z,30nm,1.0s,mb5.1
GTA Gaotai 83.13 314 *i*P **P 01 16 39.8 +1.8**
GTA XP sP 01 17 15.4 -9.1
GTA PP PP 01 19 54.6 +2.3
GTA SKS SKS 01 26 44.5 +0.6
GTA S S 01 26 46.4 +0.8
GTA SS SS 01 32 16.8 +1.2
GTA AMB AMB
comp=Z,114nm,1.2s,mb5.6
GTA AMB AMB
comp=Z,545nm,7.6s
GTA LR LR
comp=N,103nm,19.8s
GTA LR LR
comp=E,163nm,21.7s
GTA LR LR
comp=Z,171nm,23.6s
PMR Palmer 83.88 19 *e*P **P 01 16 43.8 +2.5**
comp=Z,7.5nm,0.5s,mb4.8
SHL Shillong 83.96 298 *e*P **P 01 16 43.5 +0.9**
SHL *e*S S 01 26 54.0 -0.2
KCPM Cahto Peak 84.15 46 *e*P **P 01 16 43.3 +0.1**

KIPM Iron Peak 84.27 46 *e*P **P 01 16 44.1 +0.3**
KHMM Horse Mountain 84.55 45 *e*P **P 01 16 45.8 +0.7**
BOD Bodaibo 84.98 334 ⇓*i*P **P 01 16 46.6 -0.3**
BOD pmax pmax
comp=Z,62nm,1.5s,mb5.3
KTRM Thompson Ridge 85.23 44 P **P 01 16 49.7 +1.2**
WDC Whiskeytown Da 85.25 46 *e*P **P 01 16 48.6 0.0**
WDC *e**PP pP 01 17 24.7 +3.4
WDC pmax pmax
comp=Z,29nm,1.3s,mb5.0
WDC Whiskeytown Da 85.25 46 *e*P **P 01 16 48.5 -0.1**
comp=Z,29nm,1.3s,mb5.0
WDC *e*pP pP 01 17 24.7 +3.4
YBH Yreka Blue Hor 85.61 45 *e*P **P 01 16 50.6 +0.2**
YBH pmax pmax
comp=Z,13nm,0.9s
YBH Yreka Blue Hor 85.61 45 P **P 01 16 51.0 +0.6**
comp=Z,15nm,1.0s,mb4.9,baz=193,slow=2.6,SNR=19
YBH Yreka Blue Hor 85.61 45 *e*P **P**
comp=Z,13nm,0.9s,mb4.9 **01 16 50.6 +0.3**
CMB Columbia Colle 85.76 49 *e*P **P 01 16 50.6 -0.6**
CMB pmax pmax
comp=Z,15nm,1.1s,mb4.8
CMB Columbia Colle 85.76 49 *e*P **P 01 16 50.6 -0.6**
comp=Z,15nm,1.1s,mb4.8
LSA Lhasa 85.97 302 P **P 01 16 54.0 +1.6**
LSA Lhasa 85.97 302 *e*P **P 01 16 53.5 +1.1**
LSA pmax pmax
comp=Z,42nm,1.1s,mb5.3
LSA Lhasa 85.97 302 *e*P **P 01 16 53.5 +1.1**
comp=Z,42nm,1.1s,mb5.3
IMA Indian Mountai 86.05 15 *e*P **P 01 16 50.3 -1.6**
MWC Mount Wilson 86.08 53 *e*P **P 01 16 52.8 -0.1**
BUOR Burton Butte 86.15 44 P **P 01 16 53.9 +0.9**
LBCM Butte Creek Ri 86.18 46 P **P 01 16 53.5 +0.3**
IRK Irkutsk 86.43 327 *e*P **P 01 16 53.6 -0.5**
IRK pmax pmax
comp=Z,85nm,2.4s,mb5.2
TLY Talaya 86.48 326 *e*P **P 01 16 54.5 +0.1**
TLY pmax pmax
comp=Z,133nm,1.5s,mb5.7
TLY Talaya 86.48 326 *e*P **P 01 16 54.5 +0.1**
comp=Z,133nm,1.5s,mb5.7
BEKR Beckwourth 86.49 47 *e*P **P 01 16 54.4 -0.3**
comp=Z,8.9nm,1.0s,mb4.7
OMM Old Mammoth Mi 86.62 50 *e*P **P 01 16 54.8 -0.6**
MTUM Tungsten Hills 86.84 50 *e*P **P 01 16 57.0 +0.5**
ILAR Eielson Array 86.91 18 P **P 01 16 54.7 -1.4**
comp=Z,7.8nm,0.9s,mb4.6,baz=235,slow=5.6,SNR=53
ILAR PKKPbc 01 34 47.0
comp=Z,2.8nm,1.0s,baz=357,slow=2.6,SNR=13
PFO Pinyon Flat Ob 87.11 54 *e*P **P 01 16 58.0 +0.1**
PFO pmax pmax
comp=Z,39nm,1.7s,mb5.1
PFO Pinyon Flat Ob 87.11 54 *e*P **P 01 16 58.0 +0.2**
comp=Z,39nm,1.7s,mb5.1
DAC Darwin (Calif) 87.17 51 *e*P **P 01 16 58.1 0.0**
DAC pmax pmax
comp=Z,142nm,2.3s,mb5.5
DAC Darwin (Calif) 87.17 51 *e*P **P 01 16 58.0 0.0**
comp=Z,142nm,2.3s,mb5.5
OCWA Octopus Mounta 87.24 39 *e*P **P 01 16 58.5 +0.4**
comp=Z,23nm,0.8s,mb5.2
NVAR Mina Array Bea 87.43 49 P **P 01 16 59.9 +0.6**
comp=Z,7.6nm,0.8s,mb4.7,baz=222,slow=6.9,SNR=43
NVAR PKKPbc 01 34 50.8
comp=Z,1.5nm,0.7s,baz=94,slow=3.5,SNR=11
NVAR PKPPKP 01 42 56.1
comp=Z,3.9nm,1.1s,baz=86,slow=4.1,SNR=9.9
BWNR Bhubaneshwar 87.62 292 *e*P **P 01 17 02.3 +1.7**
BWNR AMb AMB 01 17 09.9
comp=Z,28nm,0.7s,mb5.4
MOY Mondy 87.93 325 *e*P **P 01 17 01.8 +0.5**
MOY pmax pmax
comp=Z,106nm,2.9s,mb5.4
TPH Tonopah 88.09 50 *e*P **P 01 17 02.6 +0.1**
TPH pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
TPH Tonopah 88.09 50 *e*P **P 01 17 02.6 +0.2**
comp=Z,5.0nm,0.7s,mb4.7
SYO Syowa Base 88.31 197 ⇓P **P 01 17 01.2 -1.6**
WPW White Pass 88.42 41 P **P 01 17 04.4 +0.6**
FMW Mount Fremont 88.44 40 P **P 01 17 04.7 +0.8**
BOK Bokaro 88.57 295 *e*P **P 01 17 05.3 +0.3**
BOK AMb AMB 01 17 05.9
comp=Z,22nm,1.3s,mb5.0
BMN Battle Mountai 88.93 48 *e*P **P 01 17 06.7 +0.4**
BMN pmax pmax
comp=Z,30nm,1.2s,mb5.2
BMN Battle Mountai 88.93 48 *e*P **P 01 17 06.7 +0.4**
comp=Z,30nm,1.2s,mb5.2
NEN Nelson 89.05 53 *e*P **P 01 17 06.9 -0.1**
EBG Ellensburg 89.12 41 P **P 01 17 07.9 +0.8**
DLBC Dease Lake 89.26 28 P **P 01 17 06.8 -0.6**
comp=Z,3.2nm,0.8s,mb4.4,baz=127,slow=12,SNR=5.4
DLBC LR LR 01 48 07.2
comp=Z,212nm,21.8s,baz=89,slow=29
RSW Rattlesnake Hi 89.54 41 P **P 01 17 10.1 +1.0**
GUN Gumba 89.79 299 *e*P **P 01 17 10.9 +0.2**
comp=Z,61nm,0.9s,mb5.7
PKI Pulchoki 90.09 298 *e*P **P 01 17 12.1 0.0**
comp=Z,108nm,1.2s,mb5.8
KKN Kakani 90.26 299 *e*P **P 01 17 13.1 +0.2**
comp=Z,56nm,1.1s,mb5.6
DMN Daman 90.36 298 *e*P **P 01 17 13.7 +0.3**
comp=Z,120nm,1.1s,mb5.9
ELK Elko 90.46 48 *e*P **P 01 17 13.5 0.0**
ELK *e**PP pP 01 17 45.8 -0.7
ELK pmax pmax
comp=Z,15nm,1.0s
ELK Elko 90.46 48 P **P 01 17 13.8 +0.3**
comp=Z,8.8nm,0.9s,mb4.9,baz=247,slow=4.9,SNR=36
ELK PP PP 01 20 49.7 -2.2
comp=Z,0.5nm,0.5s,baz=222,slow=6.6,SNR=4.8
ELK PKKPbc 01 34 40.2
comp=Z,0.6nm,0.6s,baz=32,slow=1.5,SNR=8.4
ELK Elko 90.46 48 *e*P **P 01 17 13.5 0.0**
comp=Z,16nm,1.0s,mb5.1
ELK *e*pP pP 01 17 45.8 -0.7
TIXI Tiksi 90.46 349 ⇑*e*P **P 01 17 12.5 -0.3**
ARUT Antelope Range 90.81 51 *e*P **P 01 17 15.4 +0.1**
GKN Gorkha 90.87 299 *e*P **P 01 17 15.3 -0.5**
TUC Tucson 91.22 57 *e*P **P 01 17 17.6 +0.3**
TUC *e**PP pP 01 17 49.4 -0.9
TUC pmax pmax
comp=Z,13nm,1.4s,mb4.9
TUC Tucson 91.22 57 *e*P **P 01 17 17.6 +0.3**
comp=Z,13nm,1.4s,mb4.8
TUC *e*pP pP 01 17 49.4 -0.9
KOLN Koldanda 91.68 298 *e*P **P 01 17 18.7 -0.8**
comp=Z,31nm,1.2s,mb5.4
NEW Newport 91.79 40 P **P 01 17 18.8 -0.7**
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 91.79 40 P **P 01 17 18.8 -0.8**
comp=Z,5.5nm,0.9s,mb4.8,baz=245,slow=3.8,SNR=7.2
NEW Newport 91.79 40 *e*P **P 01 17 18.4 -1.1**
comp=Z,5.6nm,0.9s,mb4.8
MSU Marysvale 91.98 51 *e*P **P 01 17 21.5 +0.9**
NLU North Lily Min 92.50 49 *e*P **P 01 17 22.9 0.0**
NVL N'lazarevskaya 92.62 188 ⇓*i*P **P 01 17 20.1 -2.7**
NVL pmax pmax
comp=Z,15nm,1.3s,mb5.2
MAIT Maitri 92.62 188 ⇑*i*P **P 01 17 22.8 0.0**
MAIT *e*PP PP 01 21 17.8 +9.4
TMUT Trail Mountain 92.94 50 *e*P **P 01 17 25.2 +0.2**
CTU Camp Tracy 92.95 49 *e*P **P 01 17 25.1 +0.1**
SNAA Sanae 93.09 183 ⇑*i*P **P 01 17 24.2 -0.8**
SNAA *e* 01 23 12.7
SNAA *e*S S 01 28 18.4 +0.9
SNAA Sanae 93.09 183 ⇑*i*P **P 01 17 24.2 -0.8**
SNAA *e* 01 18 15.7
SNAA *e* 01 18 26.8
SNAA *e* 01 22 14.5
SNAA *e* 01 22 51.0
SNAA *e* 01 23 12.7
SNAA *e*S S 01 28 18.4 +0.9
WMQ Urumqi 93.19 314 P **P 01 17 24.5 -1.5**
WMQ XP sP 01 18 00.5 -12
WMQ AMB AMB
comp=Z,76nm,1.2s,mb5.9
WMQ AMB AMB
comp=Z,589nm,4.0s
WMQ LR LR
comp=N,521nm,21.2s
WMQ LR LR
comp=E,435nm,21.5s
WMQ LR LR
comp=Z,612nm,21.6s
INK Inuvik 93.27 19 LR LR 01 52 59.4
comp=Z,138nm,20.4s,baz=251,slow=31
VNA3 Neumayer Olymp 93.75 181 ⇑*i*P **P 01 17 27.2 -0.7**
VNA3 *e* 01 18 08.9
VNA3 *e* 01 18 20.5
VNA3 *e* 01 22 15.7
VNA3 *e* 01 22 58.0
VNA3 *e* 01 23 20.3
NGP Nagpur 93.93 291 *e*P **P 01 17 29.5 -0.4**
NGP AMb AMB 01 17 30.8
comp=Z,40nm,1.4s,mb5.5
VNA2 Neumayer--Watz 94.02 182 ⇑*i*P **P 01 17 28.7 -0.4**
VNA2 *e* 01 18 11.0
VNA2 *e* 01 18 24.3
VNA2 *e* 01 22 12.0
VNA2 *e* 01 22 56.9
VNA2 *e* 01 23 18.4
VNA1 Neumayer--Stat 94.32 181 ⇑*i*P **P 01 17 30.3 -0.2**
VNA1 *e* 01 18 12.8
VNA1 *e* 01 18 24.2
VNA1 *e* 01 22 19.3
VNA1 *e* 01 23 00.8
VNA1 *e* 01 23 24.3
HRY Holter Researc 94.68 43 P **P 01 17 33.8 +1.0**
PDAR Pinedale Array 95.12 47 P **P 01 17 33.6 -1.2**
comp=Z,0.8nm,0.5s,mb4.4,baz=180,slow=3.0,SNR=6.7
PDAR PP PP 01 21 21.8 -6.1
comp=Z,0.6nm,0.8s,baz=243,slow=3.3,SNR=3.7
PDAR PKKPbc 01 34 28.7
comp=Z,2.6nm,0.8s,baz=87,slow=5.6,SNR=20
PDAR PKPPKP 01 42 40.6
comp=Z,0.7nm,1.0s,baz=30,slow=7.3,SNR=5.8
PDAR LR LR 02 00 30.5
comp=Z,82nm,18.2s,baz=93,slow=35
USHA Ushuaia 95.78 151 LR LR 01 52 50.8
comp=Z,500nm,22.0s,baz=230,slow=30
TXAR Lajitas Array 96.33 61 P **P 01 17 40.9 +0.3**
comp=Z,0.7nm,0.8s,baz=230,slow=5.1,SNR=8.9
TXAR PP PP 01 21 36.1 -1.7
comp=Z,3.4nm,1.1s,baz=239,slow=7.3,SNR=14
TXAR PKPPKP 01 42 40.9
comp=Z,0.8nm,1.0s,baz=90,slow=2.5,SNR=5.1
TXAR LR LR 01 51 43.6
comp=Z,113nm,19.6s,baz=5.0,slow=30
AYAN Aya Nagar 97.39 297 *e*P **P 01 17 43.8 -1.8**
MKAR Makanchi Array 97.67 316 *i* P **P 01 17 46.8 +0.5**
MKAR pmax pmax
comp=Z,63nm,1.2s
MKAR Makanchi Array 97.67 316 P **P 01 17 46.5 +0.1**
comp=Z,19nm,0.9s,mb5.6,baz=100,slow=5.9,SNR=87
MKAR PKKP 01 22 20.7
comp=Z,1.3nm,0.8s,baz=90,slow=1.4,SNR=5.0
MKAR Makanchi Array 97.67 316 P **P 01 17 46.5 +0.1**
YKA Yellowknife Ar 97.87 27 P **P 01 17 45.9 -0.9**
comp=Z,10nm,0.8s,mb5.4,baz=256,slow=4.7,SNR=27
YKA PKKPbc 01 34 19.1
comp=Z,0.3nm,0.4s,baz=44,slow=3.0,SNR=4.9
YKA Yellowknife Ar 97.87 27 P **P 01 17 45.9 -0.9**
YKA PKKPbc 01 34 19.1
KKR Kurukshetra 97.99 299 *e* **P 01 17 39.7 -8.4**
KKR AMb AMB 01 17 43.6
comp=Z,107nm,0.4s
KHET Khetri 98.44 297 *e*P **P 01 17 49.3 -1.0**
KHET AMb AMB 01 17 50.9
comp=Z,6.6nm,0.6s,mb5.3
NVS Novosibirsk 99.00 324 *e*P **P 01 17 49.5 -2.7**
NVS *e* 01 28 15.7
NVS pmax pmax
comp=N,16nm,1.5s
NVS pmax pmax
comp=E,32nm,1.5s
NVS pmax pmax
comp=Z,54nm,1.5s,mb5.9
AAK Ala-Archa 102.28 311 *i* P Pdif 01 18 08.7 +1.5
AAK pmax pmax
comp=Z,2.0nm,0.7s
AAK Ala-Archa 102.28 311 *i* P Pdif 01 18 08.8 +1.6
BVAR Borovoye Array 106.23 321 Pdiff Pdif 01 18 23.8 -0.5
comp=Z,3.8nm,1.0s,baz=117,slow=3.3,SNR=15
BVAR PKiKP 01 22 35.3
comp=Z,3.0nm,0.8s,baz=90,slow=3.0,SNR=14
BRVK Borovoye 106.30 321 *e*Pdif Pdif 01 18 24.2 -0.4
comp=Z,9.9nm,1.6s
OPO Ambohidratompo 112.29 242 PKiKP 01 22 48.2
comp=Z,8.8nm,0.8s,baz=92,slow=18,SNR=11
ARU Arti 112.98 325 *i* PKIKP PKPdf 01 22 47.0 +0.4
ARU *e* 01 23 35.4
ARU *e* 01 29 52.7
ARU *e*SP SP 01 33 05.2 +5.9
ARU *e*PS PS 01 33 15.9 +1.9
ARU *e*SS SS 01 39 14.0 +1.6
ARU Arti 112.98 325 *e*PKP PKPdf 01 22 47.4 +0.8
BLA Blacksburg 116.55 56 *e*PKIKP PKPdf 01 22 53.9 -0.2
LPAZ La Paz 116.82 117 PKP PKPdf 01 22 56.0 +1.0
comp=Z,1.4nm,0.8s,baz=308,slow=5.2,SNR=3.9
LPAZ PKKPbc 01 33 22.1
comp=Z,1.2nm,0.7s,baz=48,slow=5.6,SNR=4.9
ROSC El Rosal 118.46 93 PKP PKPdf 01 22 59.0 +0.7
comp=Z,4.8nm,0.8s,baz=87,slow=20,SNR=4.0
LVZ Lovozero 119.31 341 ⇓*i*PKIKP PKPdf 01 22 59.4 +0.7
LVZ Lovozero 119.31 341 ⇓*e*PKP PKPdf 01 22 59.5 +0.8
CPUP Villa Florida 119.99 133 PKP PKPdf 01 23 00.5 -0.5
comp=Z,2.8nm,0.8s,baz=344,slow=7.4,SNR=5.7
CPUP PKKPbc 01 33 10.6
comp=Z,2.3nm,0.9s,baz=61,slow=16,SNR=3.2
KEV Kevo 120.22 345 *e*pkp PKPdf 01 23 01.1 +0.7
comp=Z,0.9nm,0.4s
SUMG Summit 120.66 9 *e*PKP PKPdf 01 23 02.5 +1.3
ARCES ARCESS Array B 120.75 345 PKP PKPdf 01 23 02.0 +0.6
comp=Z,24nm,0.7s,baz=77,slow=1.3,SNR=112
ARCES PKKPbc 01 33 06.3
comp=Z,2.6nm,0.8s,baz=225,slow=5.1,SNR=8.5
ARCES ARCESS Array B 120.75 345 PKP PKPdf 01 23 02.0 +0.6
ARCES PKKPbc 01 33 06.3
ARE0 ARCESS Array S 120.75 345 *e*PKP PKPdf 01 23 01.8 +0.3
SCHQ Schefferville 122.58 34 PKP PKPdf 01 23 05.5 +0.2
comp=Z,6.0nm,0.9s,baz=331,slow=4.2,SNR=7.9
SCHQ PKKPbc 01 33 01.1
comp=Z,6.9nm,0.8s,baz=111,slow=4.7,SNR=8.8
QRN Al-Qurain 122.87 295 *e*P PKPdf 01 23 07.8 +1.3
QRN AMb AMB 01 23 10.4
comp=Z,133nm,0.8s
SDV Santo Domingo 122.96 89 *e*PKP PKPdf 01 23 06.9 0.0
KBD Kabd 123.07 295 *e*P PKPdf 01 23 08.4 +1.5
KBD AMb AMB 01 23 11.2
comp=Z,151nm,1.1s
BOSA Boshof 123.14 220 PKPdf PKPdf 01 23 08.5 +1.5
BOSA Boshof 123.14 220 PKP PKPdf 01 23 08.7 +1.6
comp=Z,35nm,1.0s,baz=124,slow=2.5,SNR=26
BOSA Boshof 123.14 220 *e*PKP PKPdf 01 23 08.3 +1.2
RDF Al-Radifah 123.20 295 *e*P PKPdf 01 23 09.3 +2.2
RDF AMb AMB 01 23 12.0
comp=Z,112nm,0.9s
MIB Mutribah 123.37 296 *e*P PKPdf 01 23 09.1 +1.6
MIB AMb AMB 01 23 11.8
comp=Z,78nm,0.9s
DGRG David-gareji 123.88 310 P PKPdf 01 23 09.7 +1.5
RYDS Riyadh 123.92 289 P PKPdf 01 23 11.2 +2.5
TI2 Plekhanov 124.29 310 *e*PKIKP PKPdf 01 23 12.0 +3.0
TBLG Delisi 124.30 310 P PKPdf 01 23 11.2 +2.2
SAML Samuel 124.37 112 *e*PKP PKPdf 01 23 09.1 -0.6
MOS Moscow 124.38 328 *e*PKIKP PKPdf 01 23 08.9 +0.1
MOS pmax pmax
comp=Z,60nm,1.0s
GNI Garni 124.57 308 *e*PKIKP PKPdf 01 23 10.4 +0.8
GNI Garni 124.57 308 PKP PKPdf 01 23 12.0 +2.4
comp=Z,7.7nm,0.7s,baz=47,slow=4.3,SNR=11
ZEI Tsey 124.71 312 *e*PKIKP PKPdf 01 23 10.4 +0.6
GOF Gofitskoye 124.80 315 *e*PKIKP PKPdf 01 23 11.5 +1.6
GOF pmax pmax
comp=Z,38nm,1.3s
ONI Oni 125.07 312 P PKPdf 01 23 15.3 +4.8
OBN Obninsk 125.20 328 *c i*PKIKP PKPdf 01 23 11.4 +1.1
OBN *e* 01 25 05.3
OBN *e* 01 30 16.2
OBN *e*SS SS 01 42 26.9 +38
OBN pmax pmax
comp=Z,88nm,1.5s
OBN Obninsk 125.20 328 *e*PKP PKPdf 01 23 10.2 -0.1
KIV Kislovodsk 125.31 313 *e*PKIKP PKPdf 01 23 11.9 +1.0

KIV **Kislovodsk** 125.31 313 *e*PKP PKPdf 01 23 11.8 +1.0
LBTB **Lobatse** 125.42 223 PKPdf PKPdf 01 23 12.7 +1.1
LBTB **Lobatse** 125.42 223 *e*PKP PKPdf 01 23 12.2 +0.6
PUL **Pulkovo** 125.65 335 *i* PKIKP PKPdf 01 23 11.8 +0.7
KAF **Kangasniemi** 125.70 339 *e*pkp PKPdf 01 23 11.0 -0.1
baz=48,slow=2.0
ATD **Arta Tunnel** 126.11 273 PKP PKPdf 01 23 15.7 +2.5
comp=Z,19nm,0.9s,baz=86,slow=0.2,SNR=17
FINES **FINESS Array B** 126.23 338 PKP PKPdf 01 23 13.1 +0.9
comp=Z,22nm,1.0s,baz=117,slow=4.3,SNR=28
FINES **FINESS Array B** 126.23 338 PKP PKPdf 01 23 13.1 +0.9
DJNS **Zahran al Janu** 126.33 281 P PKPdf 01 23 16.3 +2.8
TATS **Tathlith** 126.56 283 P PKPdf 01 23 16.7 +2.8
AFFS **'Afif** 127.23 289 P PKPdf 01 23 17.5 +2.3
SOC **Sochi** 127.48 314 *i* PKIKP PKPdf 01 23 16.4 +1.3
SOC *e* 01 25 17.9
SOC *e*PPP PPP 01 28 00.4 -6.0
SOC *e* 01 30 14.0
SOC *e*PS PS 01 35 24.6 +0.5
SOC *e* 01 36 50.0
SOC *e*SS SS 01 42 37.1 +19
SOC pmax pmax
comp=N,13nm,1.0s
SOC pmax pmax
comp=Z,18nm,1.0s
SOC pmax pmax
comp=E,9.0nm,0.9s
VSU **Vasula** 127.92 335 *i* PKIKP PKPdf 01 23 16.8 +1.3
KMBO **Kilima Mbogo** 128.18 256 *i* PKIKP PKPdf 01 23 20.0 +2.7
KMBO pmax pmax
comp=Z,31nm,1.0s
KMBO **Kilima Mbogo** 128.18 256 PKP PKPdf 01 23 19.8 +2.5
comp=Z,31nm,1.0s,baz=64,slow=2.8,SNR=53
HILS **Ha'il** 128.31 293 P PKPdf 01 23 19.4 +2.2
BLJS **Baljurashi** 128.35 283 P PKPdf 01 23 19.9 +2.5
ANN **Anapa** 128.69 316 *i* PKIKP PKPdf 01 23 18.1 +0.7
ANN pmax pmax
comp=Z,39nm,1.2s
SJG **San Juan** 128.69 79 *e*PKIKP PKPdf 01 23 17.0 -1.1
LTHS **Al Lith** 129.49 284 P PKPdf 01 23 21.9 +2.4
LSZ **Lusaka** 129.64 235 *e*PKIKP PKPdf 01 23 20.5 +0.6
MALT **Malatya** 129.74 307 *e*PKIKP PKPdf 01 23 20.2 +0.6
BORG **Borgarnes** 130.13 5 PKP PKPdf 01 23 21.3 +1.7
comp=Z,8.9nm,0.8s,baz=229,slow=1.5,SNR=5.5
BORG SKPbc 01 26 32.2
comp=Z,24nm,1.1s,baz=1.0,slow=2.2,SNR=7.0
BORG **Borgarnes** 130.13 5 PKP PKPdf 01 23 21.3 +1.8
BORG SKPbc 01 26 32.2
KBRS **Khaybar** 130.62 291 P PKPdf 01 23 24.5 +2.9
SIM **Simferopol'** 130.85 317⇑ *i* PKIKP PKPdf 01 23 22.9 +1.4
SIM pmax pmax
comp=Z,13nm,0.7s
NB2 **NORSAR Subarra** 131.12 345 PKPdf 01 23 10.5
comp=Z,5.5nm,1.1s,baz=31,slow=1.9
NOA **NORSAR Array B** 131.12 345 PKHKP 01 23 11.1
NOA 01 23 22.7
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA pmax pmax
comp=Z,13nm,0.9s
NOA pmax pmax
comp=E,5.0nm,0.8s
NOA **NORSAR Array B** 131.12 345 PKhKP 01 23 11.1
comp=E,2.8nm,0.9s,baz=56,slow=1.7,SNR=5.4
NOA PKP PKPdf 01 23 22.7 +1.1
comp=E,13nm,0.9s,baz=34,slow=2.0,SNR=21
NOA SKPbc 01 26 36.5
comp=E,4.8nm,0.8s,baz=33,slow=2.9,SNR=11
NOA **NORSAR Array B** 131.12 345 PKP 01 23 11.1
NOA PKP PKPdf 01 23 22.7 +1.1
NOA SKPbc 01 26 36.5
HFS **Hagfors** 131.22 343 PKP PKPdf 01 23 22.8 +1.0
comp=E,13nm,0.9s,baz=225,slow=2.1,SNR=11
HFS SKPbc 01 26 37.5
comp=E,5.9nm,0.8s,baz=56,slow=5.3,SNR=6.6
AKASG **Malin Array Be** 131.23 326 PKP PKPdf 01 23 22.7 +0.7
comp=E,8.9nm,1.0s,baz=48,slow=1.8,SNR=49
AKASG SKPbc 01 26 36.3
comp=E,5.1nm,0.9s,baz=45,slow=4.7,SNR=8.3
QURS **Qurayyt al Mil** 131.86 299 P PKPdf 01 23 26.4 +2.6
ASF **Jabal al Asfar** 132.11 300 PKP PKPdf 01 23 26.0 +1.7
comp=E,4.3nm,0.9s,baz=10,slow=3.7,SNR=8.5
ASF SKPbc 01 26 42.1
comp=E,3.4nm,0.8s,baz=244,slow=3.5,SNR=5.0
SUW **Suwalki** 132.30 332 *e*PKP PKPdf 01 23 25.4 +1.4
SUW **Suwalki** 132.30 332 *e*PKP PKPdf 01 23 25.4 +1.5
TBKS **Tabuk** 132.89 294 P PKPdf 01 23 28.8 +3.0
BR131 **Keskin Array S** 132.96 311 *e*PKP PKPdf 01 23 26.9 +1.2
BRTR **Keskin Array B** 132.96 311 PKP PKPdf 01 23 26.9 +1.3
comp=E,4.0nm,0.9s,baz=90,slow=2.5,SNR=13
BRTR SKPbc 01 26 44.6
comp=E,1.5nm,0.7s,baz=90,slow=3.1,SNR=5.0
BDFB **Brasilia** 133.44 130 PKP PKPdf 01 23 27.1 0.0
comp=E,4.7nm,0.8s,baz=275,slow=5.0,SNR=5.7
BDFB SKPbc 01 26 44.1
comp=E,8.5nm,1.0s,baz=242,slow=2.7,SNR=6.9
ANTO **Ankara** 133.53 311 PKIKP PKPdf 01 23 28.2 +1.5
EIL **Elat** 134.12 297 *e*PKP PKPdf 01 23 29.3 +1.3
MBAR **Mbarara** 134.45 254 *c i* PKIKP PKPdf 01 23 29.7 +0.6
MBAR **Mbarara** 134.45 254 *e*PKP PKPdf 01 23 29.4 +0.3
CFR **Carcaliu** 134.60 320 ⇑PKIKP PKPdf 01 23 30.2 +1.7
CFR **Carcaliu** 134.60 320 ⇑P PKPdf 01 23 30.1 +1.6
TIRR **Tirgusor** 134.75 319 ⇑P PKPdf 01 23 28.4 -0.4
HARR **Harsova** 134.95 319 ⇑P PKPdf 01 23 32.1 +2.9
BURAR **Bucovina Array** 135.10 324 ⇓P PKPdf 01 23 33.2 +3.8
BURAR **Bucovina Array** 135.10 324 ⇓P PKPdf 01 23 33.2 +3.8
VRI **Vrincioaia** 135.13 321 PKIKP PKPdf 01 23 30.9 +1.4
VRI **Vrincioaia** 135.13 321 ⇓P PKPdf 01 23 27.9 -1.6
VRI **Vrincioaia** 135.13 321 ⇓P PKPdf 01 23 27.9 -1.6
KWP **Kalwaria** 135.29 328 *e*PKP PKPdf 01 23 31.1 +1.4
KWP **Kalwaria** 135.29 328 *e*PKP PKPdf 01 23 31.1 +1.4
GKP **Gorka Klasztor** 135.37 335 *e*PKP PKPdf 01 23 31.1 +1.4
GKP **Gorka Klasztor** 135.37 335 *e*PKP PKPdf 01 23 31.1 +1.4
MLR **Muntele Rosu** 135.79 321 PKHKP 01 23 21.0
MLR 01 23 31.9
MLR pmax pmax
comp=Z,2.0nm,0.7s
MLR pmax pmax
comp=Z,14nm,1.1s
MLR **Muntele Rosu** 135.79 321 PKhKP 01 23 21.0
comp=Z,1.8nm,0.7s,baz=184,slow=2.4,SNR=4.0
MLR PKP PKPdf 01 23 31.9 +1.2
comp=Z,14nm,1.1s,baz=162,slow=9.6,SNR=11
MLR **Muntele Rosu** 135.79 321 PKP PKPdf 01 23 21.0 -10
MLR ⇑P 01 23 28.8
MLR PKP PKPdf 01 23 31.9 +1.2
MLR P 01 23 32.4
MLR **Muntele Rosu** 135.79 321 ⇑P 01 23 28.8 -1.9
KOLS **Kolonicke sedl** 135.94 327 *e*PKP PKPdf 01 23 33.0 +2.2
KOLS *e*PP PP 01 26 11.6 -3.0
STHS **Stebnicka Huta** 136.17 328 *e*PKP PKPdf 01 23 32.9 +1.7
OJC **Ojcow** 136.36 330 *e*PKP PKPdf 01 23 33.1 +1.5
CRVS **Cervenica-Dubn** 136.38 328 *e*PKP PKPdf 01 23 35.0 +3.4
NIE **Niedzica** 136.63 329 *e*PKP PKPdf 01 23 34.5 +2.4
DRGR 136.98 324 PKIKP PKPdf 01 23 34.9 +2.1
DRGR 136.98 324 ⇓P PKPdf 01 23 30.9 -1.9
DRGR P 01 23 34.9
DRGR 136.98 324 ⇓P PKPdf 01 23 30.9 -1.9
KECS **Kecovo** 137.15 328 *e*PKIKP PKPdf 01 23 34.8 +1.7
OKC **Ostrava-Krasne** 137.41 331 *e*PKPpre 01 23 27.9
OKC *e*PKPdf PKPdf 01 23 34.6 +1.1
KSP **Ksiaz** 137.54 333 *e*PKP PKPdf 01 23 35.3 +1.6
KSP **Ksiaz** 137.54 333 *e*PKP PKPdf 01 23 35.4 +1.7
MORC **Moravsky Berou** 137.73 331 PKIKP PKPdf 01 23 36.1 +2.0
MORC **Moravsky Berou** 137.73 331 *e*PKP PKPdf 01 23 24.8 -9.4
MORC P 01 23 36.1
PSZ **Piszkesteto** 137.81 328⇓PKIKP PKPdf 01 23 36.3 +2.0
PSZ **Piszkesteto** 137.81 328⇓*e*PKP/D 01 23 36.3
DPC **Dobruska-Polom** 137.88 333 *e*PKPpre 01 23 24.7
DPC *e*PKPdf PKPdf 01 23 34.9 +0.5
UPC **Upice** 137.91 333 *e*PKPpre 01 23 24.7
UPC *e*PKPdf PKPdf 01 23 36.4 +2.0
VYHS **Vyhne** 137.98 329 *e*PKIKP PKPdf 01 23 35.8 +1.2
VRAC **Vranov** 138.50 331 PKHKP 01 23 26.1
VRAC 01 23 36.3
VRAC pmax pmax
comp=Z,3.0nm,0.3s
VRAC pmax pmax
comp=Z,3.0nm,0.3s
VRAC **Vranov** 138.50 331 PKhKP 01 23 26.1
comp=Z,3.3nm,0.3s,baz=101,slow=23,SNR=3.4
VRAC PKP PKPdf 01 23 36.3 +0.7
comp=Z,3.0nm,0.3s,baz=84,slow=5.1,SNR=6.9

PVCC **Panska Ves** 138.51 334 *e*PKPpre 01 23 29.6
PVCC *e*PKPdf PKPdf 01 23 36.9 +1.4
BRG **Berggiesshubel** 138.51 335 *i* PKHKP 01 23 26.6
BRG *i* 01 23 37.4
BRG pmax pmax
comp=Z,11nm,1.2s
BRG pmax pmax
comp=Z,11nm,0.9s
BRG pmax pmax
comp=Z,34nm,1.4s
BRG pmax pmax
comp=N,5.0nm,0.9s
BRG **Berggiesshubel** 138.51 335 *i* PKP PKPdf 01 23 26.6 -9.0
BRG *i* 01 23 31.3
BRG *i* 01 23 37.4
BRG SKP 01 27 01.4
CLL **Collm** 138.56 336 *i* PKHKP 01 23 29.2
CLL *i* 01 23 36.7
CLL *e* 01 24 09.0
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL pmax pmax
comp=Z,27nm,1.1s
CLL **Collm** 138.56 336 *i* PKP PKPdf 01 23 29.2 -6.4
CLL *i* PKP PKPdf 01 23 36.7 +1.1
CLL *e*PKP 01 24 09.0
CLL *e*SKP 01 27 03.0
CLL **Collm** 138.56 336 *i* PKPdf 01 23 29.2 -6.4
CLL *i* PKIKP PKPdf 01 23 36.7 +1.1
CLL *i* 01 23 50.5
CLL *e**PPKP 01 24 09.0
CLL *e* 01 24 31.0
CLL *e* 01 26 12.0
CLL *e*PP PP 01 26 29.0 -2.0
CLL *e* 01 27 03.0
CLL *e*PKS PKS 01 27 13.0 +2.4
SMOL **Smolenice** 138.66 330 *e*PKIKP PKPdf 01 23 37.3 +1.4
PRU **Pruhonice** 138.93 333 *e*PKPpre 01 23 29.9
PRU *e*PKPdf PKPdf 01 23 36.6 +0.3
VTS **Vitosha** 138.97 319 PKIKP PKPdf 01 23 38.1 +1.5
ZST **Bratislava** 139.03 330 *e*PKP PKPdf 01 23 38.5 +2.0
EKA **Eskdalemuir Ar** 139.30 352 PKHKP 01 23 29.0
EKA 01 23 37.4
EKA pmax pmax
comp=Z,2.0nm,0.6s
EKA pmax pmax
comp=Z,4.0nm,0.8s
EKA **Eskdalemuir Ar** 139.30 352 PKhKP 01 23 28.9
comp=Z,2.4nm,0.6s,baz=354,slow=1.8,SNR=12
EKA PKP PKPdf 01 23 37.4 +0.6
comp=Z,3.5nm,0.8s,baz=45,slow=3.5,SNR=6.5
NKC **Novy Kostel** 139.62 335 *e*PKPpre 01 23 31.0
MOX **Moxa** 139.62 336 *e*PKHKP 01 23 31.6
MOX *e* 01 23 39.1
MOX pmax pmax
comp=Z,28nm,1.6s
KHC **Kasperske Hory** 139.99 333 *e*PKPpre 01 23 32.5
KHC *e*PKPdf PKPdf 01 23 39.2 +1.0
DIVS **Divcibare** 140.10 323⇓*i* PKP PKPdf 01 23 39.6 +1.1
GERES **GERESS Array B** 140.15 333 PKHKP 01 23 30.9
GERES 01 23 40.2
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES pmax pmax
comp=Z,5.0nm,0.7s
GERES pmax pmax
comp=E,3.0nm,0.8s
GERES **GERESS Array B** 140.15 333 PKhKP 01 23 30.9
comp=E,2.1nm,0.6s,baz=34,slow=4.8,SNR=16
GERES PKP PKPdf 01 23 40.2 +1.6
comp=E,5.0nm,0.7s,baz=45,slow=1.9,SNR=18
GERES SKPbc 01 27 05.1
comp=E,2.8nm,0.8s,baz=45,slow=1.9,SNR=9.8
SKO **Skopje** 140.41 319 *i* PKP PKPdf 01 23 33.3 -5.9
SKO *i* 01 23 40.7
ARSA **Arzberg** 140.46 330⇑*i*P PKPdf 01 23 36.3 -2.8
comp=E,15nm,1.1s
GRA1 **Grafenberg Arr** 140.53 336 *e*PKP PKPdf 01 23 34.0 -5.2
GRF **Grafenberg Arr** 140.53 336 PKHKP 01 23 34.0
MOA **Molln** 140.63 331⇑*i*P PKPdf 01 23 34.7 -4.7
comp=E,16nm,1.2s
IDI **Anoyia** 141.00 308 PKhKP 01 23 36.7
comp=E,8.4nm,0.8s,baz=316,slow=21,SNR=6.3
SIND **Sindeldorf** 141.44 337 *e*P PKPdf 01 23 36.6 -4.2
OBKA **Obir** 141.45 330⇑*i*P PKPdf 01 23 37.4 -3.5
comp=E,18nm,1.1s
TOD **Tromm** 141.53 338 PKP PKPdf 01 23 36.4 -4.5
TOD **Tromm** 141.53 338 *e*P PKPdf 01 23 36.2 -4.7
KBA **Koelnbreinsper** 141.62 331⇑*i*P PKPdf 01 23 37.6 -3.6
comp=E,34nm,1.1s
DLF **Lyons Farm** 141.69 354 *e*P PKPdf 01 23 35.5 -5.6
DLF **Lyons Farm** 141.69 354⇑*i*P PKPdf 01 23 42.1 +1.0
DLF **Lyons Farm** 141.69 354⇑*i*P PKPdf 01 23 42.1 +1.0
DCN **Croghan** 141.72 355 *e*P PKPdf 01 23 35.6 -5.5
DCN **Croghan** 141.72 355⇑*i*P PKPdf 01 23 42.3 +1.2
DCN **Croghan** 141.72 355⇑*i*P PKPdf 01 23 42.3 +1.2
ABH **Alteburg** 141.75 339 *e*P PKPdf 01 23 36.8 -4.5
LJU **Ljubljana** 141.79 329 *e*PKP PKPdf 01 23 37.9 -3.7
LJU *e* 01 24 42.8
HDH **Heidenheim** 141.82 335 *e*P PKPdf 01 23 37.7 -3.8
CADS **Cadrg** 142.05 330 *e*PKP PKPdf 01 23 37.8 -4.1
CADS *e* 01 24 42.6
STU **Stuttgart** 142.06 337 *e*PKP PKPdf 01 23 39.6 -2.3
RUP **Ruppelstein** 142.06 339 *e*P PKPdf 01 23 38.1 -3.8
VOY **Vojsko** 142.11 330 *e*PKP PKPdf 01 23 38.8 -3.3
VOY *e* 01 23 45.5
WATA **Walderalm** 142.22 333⇑*i*P PKPdf 01 23 40.5 -1.7
comp=E,43nm,1.3s
WTTA **Wattenberg** 142.25 333⇑*i*P PKPdf 01 23 40.2 -2.1
comp=E,82nm,1.4s
BUCH **Bad Urach** 142.26 336 *e*P PKPdf 01 23 39.8 -2.4
LBG **Lerchenberg** 142.30 337 *e*P PKPdf 01 23 39.7 -2.6
WLF **Walferdange** 142.40 340 *e*PKP PKPdf 01 23 39.7 -2.7
LANF **Langenberg** 142.41 338 PKP PKPdf 01 23 40.3 -2.2
MOTA **Moosalm** 142.42 333⇑*i*P PKPdf 01 23 40.6 -1.9
comp=E,84nm,1.1s
SQTA **Sankt Quirin** 142.47 333⇑*i*P PKPdf 01 23 40.8 -1.8
comp=E,47nm,0.9s
UBR **Uberruh** 142.58 335 *e*P PKPdf 01 23 41.0 -1.8
GUT **Gutenstein** 142.66 336 *e*P PKPdf 01 23 41.4 -1.5
SPAK **Spaichingen** 142.77 336 *e*P PKPdf 01 23 41.3 -1.8
DAVA **Damuels** 142.98 334⇑*i*P PKPdf 01 23 42.6 -0.9
comp=E,78nm,0.9s
WLS **Welschbruch** 143.05 338 PKP PKPdf 01 23 41.9 -1.7
LIENZ **Alp Oberkamor** 143.13 335⇑*i*P PKPbc 01 23 32.0 -10
SLE **Schleitheim** 143.16 336⇑*i*P PKPbc 01 23 31.8 -10
LIBD **Limburg** 143.18 337 *e*P PKPbc 01 23 42.5 +0.5
KIZ **Kirchzarten** 143.22 337 *e*P PKPbc 01 23 41.8 -0.4
FELD **Feldberg** 143.25 337 *e*P PKPbc 01 23 42.7 +0.4
WILA **Wila** 143.28 335⇑*i*P PKPbc 01 23 32.6 -10
WILA ⇓*i*P 01 23 42.9
WILA **Wila** 143.28 335⇓*i* PdiffP PKPdf 01 23 42.9 -1.1
FLACH **Flaach** 143.28 336⇑*i*P PKPbc 01 23 32.9 -9.5
ECH **Echery** 143.29 338 PKP PKPdf 01 23 40.3 -3.7
FUORN **Ofenpass** 143.34 333⇑*i*P PKPbc 01 23 33.7 -8.9
FUORN ⇑*i*P 01 23 44.3
FUORN **Ofenpass** 143.34 333⇑*i* PdiffP PKPdf 01 23 44.3 +0.2
PLONS **Plons** 143.38 335⇑*i*P PKPbc 01 23 33.3 -9.4
DAVOX **Davos** 143.38 334 PKP PKPdf 01 23 44.3 +0.1
comp=E,80nm,0.8s,baz=46,slow=2.1,SNR=99
DAVOX SKPbc 01 27 12.9
comp=E,5.1nm,0.9s,baz=264,slow=4.4,SNR=4.0
DAVOX **Davos** 143.38 334⇑*i*P PKPbc 01 23 33.6 -9.1
DAVOX ⇑*e*P 01 23 43.6
DAVOX **Davos** 143.38 334⇑*e* PdiffP PKPdf 01 23 43.6 -0.6
SULZ **Sulz-Cheisache** 143.50 336⇑*i*P PKPbc 01 23 33.7 -9.3
SULZ ⇑*i*P 01 23 42.9
SULZ **Sulz-Cheisache** 143.50 336⇑*i* PdiffP PKPdf 01 23 42.9 -1.4
MOF **Molkenrain** 143.60 338 PKP PKPdf 01 23 43.8 -0.7
BERNI **Berninapass** 143.61 333⇑*i*P PKPbc 01 23 34.8 -8.6
BERNI ⇑*i*P 01 23 44.6
BERNI **Berninapass** 143.61 333⇑*i* PdiffP PKPdf 01 23 44.6 0.0
LLS **Linth-Limmern** 143.69 335⇑*i*P PKPbc 01 23 34.8 -8.8
LLS ⇑*e*P 01 23 43.9
LLS **Linth-Limmern** 143.69 335⇑*e* PdiffP PKPdf 01 23 43.9 -0.8
THEF **They Montfort** 143.69 339 PKP PKPdf 01 23 38.8 -5.9
MUO **Muotathal** 143.75 335⇑*e* PdiffP PKPdf 01 23 43.9 -0.9
BBS **Basel-Blauen** 143.78 337 PKP PKPdf 01 23 42.5 -2.3
BBS **Basel-Blauen** 143.78 337 *e*P PKPbc 01 23 44.8 +0.9
VDL **Val di Lei** 143.79 334⇑*i* PdiffP PKPdf 01 23 44.8 -0.1
BALST **Balsthal** 143.82 337⇑*i* PdiffP PKPdf 01 23 44.1 -0.8
BNALP **Bannalp** 143.91 335⇑*i* PdiffP PKPdf 01 23 45.1 0.0

BOURR **Bourrignon** 143.95 337⇑*i* PdiffP PKPdf 01 23 44.7 -0.4
HASLI **Hasliberg** 144.11 336⇑*i* PdiffP PKPdf 01 23 45.6 +0.2
LOMF **Lomont** 144.13 337 PKP PKPdf 01 23 43.2 -2.3
FUSIO **Fusio** 144.15 335⇑*i* PdiffP PKPdf 01 23 46.0 +0.5
CSA1 **St Austell** 144.39 352⇑*e*P PKPbc 01 23 45.8 +0.3
CSA1 AMb AMB 01 23 47.9
comp=Z,300nm,1.3s
WIMIS **Wimmis** 144.40 336⇑*i* PdiffP PKPdf 01 23 46.4 +0.4
MUGIO **Muggio** 144.42 334⇑*i* PdiffP PKPdf 01 23 46.0 0.0
TORNY **Torny** 144.57 337⇑*i* PdiffP PKPdf 01 23 47.4 +1.1
CCA1 **Carnmenellis** 144.60 352⇑*e*P PKPbc 01 23 46.7 +0.6
BRANT **Les Verrieres** 144.61 337⇑*i* PdiffP PKPdf 01 23 47.6 +1.2
CRQ2 **Rosemanowes 2** 144.61 352⇑*e*P PKPbc 01 23 46.8 +0.6
CRQ2 AMb AMB 01 23 48.2
comp=Z,325nm,1.2s
LKBD **Leukerbad** 144.62 336⇑*i* PdiffP PKPdf 01 23 47.5 +1.1
CPZ **Penzance** 144.68 352⇑*e*P PKPbc 01 23 46.8 +0.4
CPZ AMb AMB 01 23 49.1
comp=Z,218nm,1.5s
CGW **Gweek** 144.69 352⇑*e*P PKPbc 01 23 47.2 +0.8
CMA1 **Manaccan** 144.69 352⇑*e*P PKPdf 01 23 47.0 +0.6
CGH1 **Goonhilly** 144.73 352⇑*e*P PKPdf 01 23 47.3 +0.8
MMK **Mattmark** 144.76 335⇑*i* PdiffP PKPdf 01 23 48.4 +1.8
SENIN **Lac Senin** 144.77 336⇑*i* PdiffP PKPdf 01 23 48.0 +1.3
CII **Carovilli** 144.85 324 *e*PKP PKPdf 01 23 47.9 +0.9
TIP **Timpagrande** 144.92 319 *e*PKP PKPdf 01 23 48.6 +1.4
AIGLE **Aigle** 144.93 336⇑*i* PdiffP PKPdf 01 23 48.3 +1.4
AQU **L'Aquila** 144.93 326 *e*PKIKP PKPdf 01 23 47.8 +0.7
GRYON **Gryon** 144.94 336⇑*i* PdiffP PKPdf 01 23 48.6 +1.6
DIX **Grande Dixence** 144.96 336⇑*i* PdiffP PKPdf 01 23 49.0 +2.0
JLP **Les Platons** 144.99 348⇑*e*P PKPdf 01 23 48.1 +1.1
JLP AMb AMB 01 23 50.2
comp=Z,404nm,1.4s
JQE **Queens East** 145.02 348⇑*e*P PKPdf 01 23 48.1 +1.1
GIMEL **Gimel** 145.03 337⇑*i* PdiffP PKPdf 01 23 49.0 +1.9
JRS **Jersey** 145.04 348⇑*e*P PKPdf 01 23 48.1 +1.1
JRS AMb AMB 01 23 50.3
comp=Z,262nm,1.5s
JVM **Valle D.L. Mar** 145.04 348⇑*e*P PKPdf 01 23 48.2 +1.2
JSA **Saint Aubin** 145.06 348⇑*e*P PKPdf 01 23 48.4 +1.4
GRAM 145.07 331 P PKPdf 01 23 48.0 +0.8
SALAN **Lac Salanfe** 145.08 336⇑*i* PdiffP PKPdf 01 23 49.3 +2.1
ORX **Oropa** 145.09 335 PKIKP PKPdf 01 23 48.4 +1.2
VALM 145.10 331 P PKPdf 01 23 48.1 +0.8
VLC **Villacollemand** 145.18 331 *e*PKP PKPdf 01 23 48.0 +0.6
EMV **Vieux Emosson** 145.18 336⇑*e*P PKPdf 01 23 41.3 -6.1
EMV ⇑*i*P 01 23 49.5
EMV **Vieux Emosson** 145.18 336⇑*i* PdiffP PKPdf 01 23 49.5 +2.1
BACM 145.23 331 P PKPdf 01 23 47.9 +0.4
CODM 145.25 331 P PKPdf 01 23 48.7 +1.1
VINC **Vinca** 145.30 331 P PKPdf 01 23 47.7 +0.1
MAIM 145.31 330 P PKPdf 01 23 47.9 +0.3
LSD **Ceresole Reale** 145.57 335 PKP2 PKPab 01 23 50.1 -1.0
GENL **Genova Univers** 145.64 332 P PKPdf 01 23 48.9 +0.7
LPL **La Plagne** 145.70 336 *e*PKIKP PKPdf 01 23 49.8 +1.5
LPG **La Plagne** 145.70 336 *e*PKIKP PKPdf 01 23 49.8 +1.5
PCP **Pian Castagno** 145.72 333 PKIKP PKPdf 01 23 49.5 +1.1
RSP **Reno Superiore** 145.78 335 PKIKP PKPdf 01 23 49.7 +1.3
FENE **Fenestrelle** 145.96 335 P PKPdf 01 23 49.6 +0.9
BHB **Bricherasio** 146.03 334 P PKPdf 01 23 49.6 +0.8
BNI **Bardonecchia** 146.10 335 *e*PKIKP PKPdf 01 23 50.6 +1.6
FIN **Finale Ligure** 146.13 333 PKIKP PKPdf 01 23 49.2 +0.2
GDM **Grand'Maison** 146.20 336 PKP PKPdf 01 23 51.1 +2.0
ROB **Roburent** 146.21 333 PKIKP PKPdf 01 23 50.0 +0.8
GRN **Grenoble** 146.31 336 PKP PKPdf 01 23 51.7 +2.4
MBDF **Montbardon** 146.33 335 *e*PKIKP PKPdf 01 23 50.7 +1.4
MONE **Monesi** 146.44 333 P PKPdf 01 23 50.6 +1.1
ENR **Entracque** 146.46 334 PKIKP PKPdf 01 23 50.1 +0.5
QUIF **Quistinic** 146.47 349 *e*PKIKP PKPdf 01 23 50.6 +1.1
STV2 **Anna di Valdie** 146.49 334 P PKPdf 01 23 50.1 +0.4
STV **Sta Anna Valdi** 146.49 334 PKIKP PKPdf 01 23 49.8 +0.2
IMI **Imperia** 146.51 333 P PKPdf 01 23 51.1 +1.5
SURF **Saint Ours** 146.51 335 PKP PKPdf 01 23 51.7 +2.0
ORIF **Oris-en-Rattie** 146.53 336 *e*PKIKP PKPdf 01 23 51.0 +1.3
comp=Z,40nm,1.2s
ORIF *e*R
comp=Z,125nm,22.3s
SAOF **Saorge** 146.60 333 PKP PKPdf 01 23 51.3 +1.5
TCF **Toulx Ste Croi** 146.63 341 *e*PKIKP PKPdf 01 23 51.1 +1.3
comp=Z,62nm,1.2s
NEGI **Negi** 146.64 333 P PKPdf 01 23 50.7 +0.8
AUTN **L'Aution** 146.64 333 PKP PKPdf 01 23 52.8 +2.9
AUTN **L'Aution** 146.64 333 PKP PKPdf 01 23 52.2 +2.3
AUTN **L'Aution** 146.64 333 PKP PKPdf 01 23 52.2 +2.3
AUTN PKP PKPdf 01 23 52.8 +2.9
TOUF **Mont Tournerai** 146.71 334 PKP PKPdf 01 23 51.6 +1.6
SBF **Sospel** 146.75 333 *e*PKIKP PKPdf 01 23 50.9 +0.8
comp=Z,118nm,1.3s
COLF **Collangettes** 146.83 339 PKP PKPdf 01 23 51.9 +1.8
MVIF **Mont Vial** 146.84 334 PKP PKPdf 01 23 52.7 +2.5
REVF **Revere** 146.88 333 PKP PKPdf 01 23 52.1 +1.8
MFF **Saint Martin d** 147.02 344 *e*PKIKP PKPdf 01 23 51.8 +1.4
comp=Z,53nm,1.2s
VERF **Verneugheol** 147.03 341 PKP PKPdf 01 23 52.2 +1.7
VIVF **Saint-Julien-l** 147.04 337 *e*PKIKP PKPdf 01 23 51.8 +1.3
PGF **Pioggiola** 147.05 330 *e*PKIKP PKPdf 01 23 51.9 +1.3
comp=Z,106nm,1.2s
CALN **Calern** 147.07 334 PKP PKPdf 01 23 52.1 +1.5
LCHF **La Chataignera** 147.11 345 PKP PKPdf 01 23 52.3 +1.7
STCP **St-Etienne Org** 147.28 335 PKP PKPdf 01 23 52.8 +1.9
FRNF **Fournols** 147.32 340 PKP PKPdf 01 23 53.4 +2.4
FRF **La Foret Royal** 147.33 334 *e*PKIKP PKPdf 01 23 52.1 +1.1
comp=Z,98nm,1.3s
LRYF **La Roche-sur-Y** 147.39 346 PKP PKPdf 01 23 52.8 +1.8
VAE **Valguarnera** 147.41 318 PKPbc PKPdf 01 23 55.7 +4.4
comp=Z,31nm,1.1s,baz=53,slow=5.1,SNR=5.4
SMRF **Simiane la Rot** 147.43 335 *e*PKIKP PKPdf 01 23 52.4 +1.2
comp=Z,74nm,1.3s
VILF **Villemus** 147.48 335 PKP PKPdf 01 23 53.0 +1.7
TAVF **Tavernes** 147.53 334 PKP PKPdf 01 23 53.0 +1.6
LMR **La Mourre** 147.57 334 *e*PKIKP PKPdf 01 23 52.3 +0.8
comp=Z,90nm,1.4s
RJF **Les Rejaudoux** 147.73 341 *e*PKIKP PKPdf 01 23 52.9 +1.2
comp=Z,82nm,1.6s
RJF *e*R
comp=Z,124nm,22.2s
PRAF **Pradon** 147.74 336 PKP PKPdf 01 23 53.7 +2.0
PUYF **Puyloubier** 147.75 335 PKP PKPdf 01 23 54.4 +2.7
CAF **Calviac** 147.90 340 *e*PKIKP PKPdf 01 23 53.3 +1.4
comp=Z,36nm,1.2s
BERF **Bertagne** 147.93 335 PKP PKPdf 01 23 54.6 +2.5
GELF **Grande-Etoile** 147.99 335 PKP PKPdf 01 23 55.0 +2.9
LASF **Ste Croix** 148.01 337 *e*PKIKP PKPdf 01 23 53.4 +1.2
LFF **La Frestale** 148.30 342 *e*PKIKP PKPdf 01 23 53.9 +1.3
comp=Z,86nm,1.5s
VSL **Villasalto** 149.11 326 *e*PKPdf PKPdf 01 23 54.5 +0.5
MTLF **Montolieu** 149.24 339 *e*PKIKP PKPdf 01 23 55.4 +1.3
comp=Z,60nm,1.5s
LRDF **Laroque-de-Fa** 149.48 338 PKP PKPdf 01 23 56.1 +1.6
SJAF **Saint Jean de** 149.75 337 PKP PKPdf 01 23 56.5 +1.6
EJON **La Jonquera** 149.77 337 PKP PKPdf 01 23 56.3 +1.3
FILF **Fillols** 149.80 338 PKP PKPdf 01 23 56.7 +1.7
MLS **Moulis** 149.97 340 PKP PKPdf 01 23 57.8 +2.6
SALF **Salau** 150.11 339 PKP PKPdf 01 23 58.1 +2.6
VALF **Valcebollere** 150.14 338 PKP PKPdf 01 23 58.1 +2.6
EPF **Esparros** 150.15 341 *e*PKIKP PKPdf 01 23 57.0 +1.5
comp=Z,81nm,1.4s
MELF **Melles** 150.15 340 PKP PKPdf 01 23 58.4 +2.9
LABF **Labassere** 150.21 341 PKP PKPdf 01 23 58.0 +2.4
REYF **Montagne du Re** 150.34 342 PKP PKPdf 01 23 58.1 +2.3
RESF **Ens** 150.35 341 PKP PKPdf 01 23 58.8 +3.0
ORDF **Ordiarp** 150.36 343 PKP PKPdf 01 23 57.0 +1.2
VIEF **Viey** 150.38 341 PKP PKPdf 01 23 58.0 +2.1
OSSF **Osses** 150.42 343 PKP PKPdf 01 23 57.3 +1.4
EALK **Alkurruntz** 150.52 343 PKP PKPdf 01 23 58.3 +2.2
SJPF **Ste Jean** 150.54 343 *e*PKIKP PKPdf 01 23 57.4 +1.3
comp=Z,19nm,1.1s
LARF **Larrau** 150.54 343 PKP PKPdf 01 23 58.4 +2.3
ETSF **Etsaut** 150.54 342 *e*PKIKP PKPdf 01 23 57.6 +1.5
EMIR **Miracle** 150.74 338 PKP PKPdf 01 23 58.7 +2.3
EGRA **Graus** 150.91 340 PKP PKPdf 01 23 59.3 +2.6
ELAN **Lanestosa** 150.99 346 PKP PKPdf 01 23 58.5 +1.7
EARI **Arriondas** 151.30 349 PKP PKPdf 01 23 59.4 +2.1
ECRI **Cripan** 151.35 344 PKIKP PKPdf 01 23 59.6 +2.3
EPOB **Poblet** 151.39 338 PKP PKPdf 01 23 59.4 +2.0
ESAC **San Caprasio** 151.59 341 PKP PKPdf 01 23 59.8 +2.1
EPON **Pontenova** 151.59 352 PKP PKPdf 01 23 59.9 +2.3
EBR **Ebro Roquetas** 152.07 339 *e*P PKPdf 01 24 01.0 +2.5
ETOS **Mallorca** 152.08 334 PKP PKPdf 01 24 03.2 +4.7
EMAZ **Mazaricos** 152.18 354 PKP PKPdf 01 24 00

CKFL	**Kef-Lekhel**	**152.78**	**324**	P	PKPdf	01 24 02.0	+2.4
EMOS	**Mosqueruela**	**152.81**	**340**	PKP	PKPdf	01 24 02.7	+3.2
ECAL	**Calabor**	**152.88**	**350**	PKP	PKPdf	01 24 03.7	+4.1
CASM	**Ain Smara**	**153.01**	**325**	P	PKPdf	01 24 02.5	+2.6
PBRG	**Braganca**	**153.02**	**350**	*e*PKPbc	PKPdf	01 24 09.1	+9.3
PBRG	**Braganca**	**153.02**	**350**	*e*PKPab	PKPab	01 24 21.3	-0.2
ELOB	**Lobios**	**153.15**	**353**	PKP	PKPdf	01 24 02.0	+2.1
DFRA	**Djebel Bou Aff**	**153.15**	**326**	P	PKPdf	01 24 03.5	+3.4
CTEI	**Djebel Teioual**	**153.20**	**324**	P	PKPdf	01 24 03.0	+2.8
EIBI	**Ibiza**	**153.31**	**335**	PKP	PKPdf	01 24 02.6	+2.3
SET	**Setif**	**153.66**	**326**	P	PKPdf	01 24 05.0	+4.2
ECHE	**Chera**	**153.67**	**340**	PKIKP	PKPdf	01 24 03.4	+2.7
PVRL	**Vila Real**	**153.68**	**352**	*e*PKPdf	PKPdf	01 24 03.1	+2.4
PVRL	**Vila Real**	**153.68**	**352**	*e*PKPbc	PKPdf	01 24 11.0	+10
PVRL	**Vila Real**	**153.68**	**352**	*e*PKPab	PKPab	01 24 24.5	+0.1
CMER	**Merouana**	**153.81**	**324**	P	PKPdf	01 24 05.0	+3.9
EBEN	**Beniarda**	**154.20**	**337**	PKP	PKPdf	01 24 05.1	+3.6
PVIS	**Viseu**	**154.26**	**352**	*e*PKPdf	PKPdf	01 24 03.8	+2.3
PVIS	**Viseu**	**154.26**	**352**	*e*PKPbc	PKPdf	01 24 12.0	+11
PVIS	**Viseu**	**154.26**	**352**	*e*PKPab	PKPab	01 24 26.8	0.0
ESDC	**Sonseca Array**	**154.49**	**345**	PKP	PKPdf	01 24 03.6	+1.8
	comp=Z,6.6nm,1.0s,baz=358,slow=3.1,SNR=18						
ESDC				PKPbc	PKPdf	01 24 11.1	+9.3
	comp=Z,6.4nm,1.0s,baz=18,slow=2.5,SNR=11						
ESDC				PKPab	PKPab	01 24 27.3	-0.4
	comp=Z,16nm,0.9s,baz=19,slow=4.4,SNR=14						
ESDC				PP	PP	01 27 57.3	-7.0
	comp=Z,6.8nm,1.1s,baz=22,slow=7.2,SNR=7.5						
ESDC	**Sonseca Array**	**154.49**	**345**	PKP	PKPdf	01 24 04.1	+2.3
ESLA	**Sonseca Array**	**154.49**	**345**	*e*PKPdf	PKPdf	01 24 03.2	+1.4
ESLA				*e*PKPbc	PKPdf	01 24 11.4	+10
MTE	**Manteigas**	**154.52**	**351**	*e*PKPdf	PKPdf	01 24 03.4	+1.6
MTE				*e*PKPbc	PKPdf	01 24 11.8	+10
MTE				*e*PKPab	PKPab	01 24 27.5	-0.4
MTE	**Manteigas**	**154.52**	**351**	*e*PKPdf	PKPdf	01 24 03.6	+1.7
MTE	**Manteigas**	**154.52**	**351**	*e*PKPbc	PKPdf	01 24 12.5	+11
MTE	**Manteigas**	**154.52**	**351**	*e*PKPab	PKPab	01 24 28.1	+0.2
ETOB	**Tobarra**	**154.72**	**340**	PKP	PKPdf	01 24 04.9	+2.7
EMHD	**Djebel Mahouad**	**154.93**	**329**	P	PKPdf	01 24 05.9	+3.4
EVIA	**Vianos**	**155.03**	**341**	PKIKP	PKPdf	01 24 05.3	+2.7
PCBR	**Castelo Branco**	**155.05**	**351**	*e*PKPdf	PKPdf	01 24 04.5	+1.9
PCBR	**Castelo Branco**	**155.05**	**351**	*e*PKPab	PKPab	01 24 29.9	-0.3
EMUR	**La Murta**	**155.33**	**338**	PKP	PKPdf	01 24 04.3	+1.3
PTOM	**Tomar**	**155.41**	**352**	*e*PKPdf	PKPdf	01 24 05.3	+2.2
PTOM	**Tomar**	**155.41**	**352**	*e*PKPab	PKPab	01 24 31.6	-0.1
EBNR	**Beni Rached**	**155.53**	**332**	P	PKPdf	01 24 06.0	+2.7
ECHA	**Ech Chlef**	**155.72**	**332**	P	PKPdf	01 24 06.2	+2.6
EHUE	**Huescar**	**155.81**	**341**	PKIKP	PKPdf	01 24 05.7	+2.1
EBAN	**Banos Encina**	**155.85**	**343**	PKIKP	PKPdf	01 24 06.1	+2.4
EQES	**Quesada**	**155.98**	**341**	PKP	PKPdf	01 24 06.0	+2.2
EANR	**'Ain N'Sour**	**156.00**	**332**	P	PKPdf	01 24 06.8	+2.9
EBAD	**Badajoz**	**156.03**	**349**	PKP	PKPdf	01 24 05.9	+2.0
EADA	**Adamuz**	**156.06**	**344**	PKP	PKPdf	01 24 06.5	+2.5
ETRT	**Tiaret**	**156.37**	**331**	P	PKPdf	01 24 08.0	+3.5
EVO	**Evora**	**156.42**	**351**	*e*PKIKP	PKPdf	01 24 05.4	+1.0
	comp=Z,125nm,1.4s						
PBEJ	**Beja**	**156.89**	**351**	*e*PKPdf	PKPdf	01 24 06.9	+1.8
PBEJ	**Beja**	**156.89**	**351**	*e*PKPab	PKPab	01 24 38.5	+0.4
EMIN	**Mina Concepcio**	**156.93**	**348**	PKP	PKPdf	01 24 07.6	+2.4
PTEO	**Sao Teotonio**	**157.49**	**352**	*e*PKPab	PKPab	01 24 41.3	+0.6
ESPR	**Espera**	**157.61**	**346**	PKP	PKPdf	01 24 08.9	+2.8
DBIC	**Dimbokro**	**168.66**	**222**	PKPdf	PKPdf	01 24 18.4	+1.2
DBIC	**Dimbokro**	**168.66**	**222**	PKIKP	PKPdf	01 24 17.9	+0.7
DBIC						01 25 29.0	
DBIC				pmax	pmax		
	comp=Z,31nm,1.0s						
DBIC				pmax	pmax		
	comp=Z,19nm,1.0s						
DBIC	**Dimbokro**	**168.66**	**222**	PKP	PKPdf	01 24 17.9	+0.8
	comp=Z,30nm,1.0s,baz=360,slow=2.8,SNR=13						
DBIC				PKPab	PKPab	01 25 29.0	-0.9
	comp=Z,19nm,1.0s,baz=114,slow=3.3,SNR=5.9						
DBIC	**Dimbokro**	**168.66**	**222**	*e*PKP	PKPdf	01 24 17.4	+0.2

*IDC **23** 01:09:25.1±0.9,33.57N×82.23E,mb4.0/13,mb1 4.1/14, mb1mx4.0/22,mbtmp4.0/14,ML4.1/1,Error ellipse: s-maj=23.9km s-min=19.0km az=35.0*
*NDI **23** 01:09:28.1±2.7,33.92N×82.86E,h33km,mb4.7, mb4.4(NEIC)*
*NEIC **23** 01:09:30.2±3.3,33.67N×82.23E,h33km±25km,mb4.4/5, Error ellipse: s-maj=12.9km s-min=8.5km az=57.0*
*BJI **23** 01:09:30.5,33.86N×82.30E,h33km,mB4.5,mb4.5,ML4.3, Ms3.7*

ISC 23 01:09:29.9±1.1,**33.73N**±0.05×**82.38E**±0.06,**h47**km±11km, **n37**,σ1§**32**/40,**mb4.1**/17,**Xizang**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**5.00**	**228**		*e*P	**P**	**01 10 48.0**	**+3.6**
DLH	**Dalhousie**	**5.51**	**259**		*e*S	**S**	**01 11 57.0**	**+2.7**
BHK	**Bhakra**	**5.53**	**247**		*e*S	**S**	**01 11 56.9**	**+1.9**
THN	**Thein Dam**	**5.74**	**259**		*e*P	**P**	**01 10 54.6**	**0.0**
NDI	**New Delhi**	**6.69**	**223**		*i* P	**P**	**01 11 10.8**	**+2.8**
NDI					*e*S	**S**	**01 12 22.7**	**-1.1**
AYAN	**Aya Nagar**	**6.90**	**222**		*e*S	**S**	**01 12 27.7**	**-1.2**
SONA	**Sohna**	**7.10**	**221**		*e*P	**P**	**01 11 16.2**	**+2.4**
SONA				AMb	AMB	AMB	01 11 17.2	
	comp=Z,15nm,0.3s							
SONA					*e*S	**S**	**01 12 32.7**	**-1.3**
SONA					*e*S	**S**	**01 12 32.9**	**-1.1**
KSH	**Kashi**	**7.74**	**320**		*e*P	**P**	**01 11 22.1**	**-0.5**
KSH				LR	LR			
	comp=N,300nm,5.4s							
KSH				LR	LR			
	comp=E,430nm,5.0s							
KHET	**Khetri**	**7.97**	**227**		*e*P	**P**	**01 11 25.7**	**-0.1**
KHET				AMb	AMB	AMB	01 11 29.0	
	comp=Z,8.6nm,1.1s							
LSA	**Lhasa**	**8.48**	**116**		P	**P**	**01 11 34.0**	**+1.1**
WMQ	**Urumqi**	**10.90**	**21**		*e*P	**P**	**01 12 05.3**	**-0.7**
BHPL	**Bhopal**	**11.32**	**204**		*e*P	**P**	**01 12 10.2**	**-1.5**
MKAR	**Makanchi Array**	**13.05**	**360**		Pn	**P**	**01 12 32.6**	**-2.3**
	comp=Z,1.0nm,0.3s,baz=184,slow=10,SNR=44							
HYB	**Hyderabad**	**16.60**	**193**		*e*P	**P**	**01 13 19.0**	**-1.8**
HYB	**Hyderabad**	**16.60**	**193**		*i* P	**P**	**01 13 19.0**	**-1.8**
BVAR	**Borovoye Array**	**21.11**	**340**		P	**P**	**01 14 12.0**	**-0.6**
	comp=Z,4.0nm,0.8s,mb3.8,baz=146,slow=11,SNR=27							
BRVK	**Borovoye**	**21.17**	**340**		*e*P	**P**	**01 14 12.4**	**-0.8**
	comp=Z,19nm,1.4s,mb4.2							
ZRNK	**Zerenda**	**21.47**	**338**		*e*P	**P**	**01 14 15.1**	**-1.0**
SONM	**Songino Array**	**22.89**	**45**		P	**P**	**01 14 34.0**	**+3.9**
	comp=Z,2.6nm,0.9s,mb3.7,baz=235,slow=7.3,SNR=12							
ENH	**Enshi**	**23.22**	**91**		P	**P**	**01 14 35.2**	**+1.7**
	comp=Z,6.4nm,0.4s,mb4.4							
BRTR	**Keskin Array B**	**39.13**	**293**		P	**P**	**01 16 54.6**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.4,baz=90,slow=9.9,SNR=4.6							
AKASG	**Malin Array Be**	**41.90**	**310**		P	**P**	**01 17 16.5**	**-0.5**
	comp=Z,0.4nm,0.2s,mb3.6,baz=76,slow=8.1,SNR=6.2							
AKASG	**Malin Array Be**	**41.90**	**310**		P	**P**	**01 17 16.5**	**-0.5**
FINES	**FINESS Array B**	**45.02**	**326**		P	**P**	**01 17 41.1**	**-1.1**
	comp=Z,2.9nm,1.0s,mb4.0,baz=117,slow=9.3,SNR=3.2							
ARCES	**ARCESS Array B**	**47.35**	**336**		P	**P**	**01 18 00.7**	**+0.2**
	comp=Z,2.7nm,0.9s,mb4.2,baz=112,slow=6.5,SNR=6.2							
HFS	**Hagfors**	**50.94**	**323**		P	**P**	**01 18 28.2**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=76,slow=6.1,SNR=4.8							
GERES	**GERESS Array B**	**52.04**	**309**		P	**P**	**01 18 37.4**	**+0.7**
	comp=Z,0.2nm,0.4s,mb3.4,baz=72,slow=8.4,SNR=3.7							
NB2	**NORSAR Subarra**	**52.14**	**324**		P	**P**	**01 18 36.7**	**-0.6**
	comp=Z,1.2nm,0.7s,mb3.9,baz=90,slow=7.4							
NOA	**NORSAR Array B**	**52.14**	**324**		P	**P**	**01 18 37.0**	**-0.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=88,slow=7.3,SNR=4.9							
NOA	**NORSAR Array B**	**52.14**	**324**		P	**P**	**01 18 37.0**	**-0.3**
BILL	**Bilibino**	**56.95**	**27**		*e*P	**P**	**01 19 12.4**	**0.0**
FX1	**Attu Island--F**	**64.36**	**42**		P	**P**	**01 20 04.9**	**+2.2**
	comp=Z,6.0nm,0.6s,mb4.8,baz=340,slow=5.7,SNR=6.4							
SUMG	**Summit**	**66.53**	**344**		*e*P	**P**	**01 20 17.4**	**+1.0**
	comp=Z,4.5nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**72.80**	**129**		P	**P**	**01 20 54.3**	**-1.2**
	comp=Z,6.1nm,0.9s,mb4.5,baz=350,slow=0.5,SNR=16							
WRAB	**Tennant Creek**	**72.80**	**129**		*e*P	**P**	**01 20 54.0**	**-1.6**
	comp=Z,8.5nm,0.7s,mb4.8							
ILAR	**Eielson Array**	**74.56**	**20**		P	**P**	**01 21 06.7**	**+1.7**
	comp=Z,1.2nm,0.8s,mb3.9,baz=306,slow=5.6,SNR=7.5							
BOSA	**Boshof**	**82.27**	**228**		P	**P**	**01 21 49.3**	**+1.4**
	comp=Z,2.7nm,0.7s,mb4.3,baz=293,slow=13,SNR=5.9							

*IDC **23** 01:22:45.1±0.8,26.15S×71.11E,mb4.0/7,mb1 4.1/7, mb1mx3.9/18,mbtmp4.0/7,MS3.9/6,Ms1 3.9/6, ms1mx3.7/24,Error ellipse: s-maj=28.7km s-min=23.0km az=95.0*

ISC 23 01:22:44.8±0.7,**26.2S**±0.1×**71.1E**±0.2,**h10**km,**n19**, σ0§**51**/11,**mb3.8**/7,**MS3.9**/6,**4C**,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**39.44**	**269**		P	**P**	**01 30 16.8**	**-0.1**
	0.7nm,0.7s,mb3.5,baz=89,slow=15,SNR=4.6							
MATP				LR	LR		01 44 53.7	
	comp=Z,100nm,19.9s,MS3.6,baz=293,slow=34							
BOSA	**Boshof**	**40.60**	**256**	LR	LR		01 44 57.9	
	comp=Z,152nm,19.6s,MS3.9,baz=115,slow=33							
LBTB	**Lobatse**	**40.91**	**261**	LR	LR		01 44 38.3	
	comp=Z,123nm,18.3s,MS3.8,baz=5.4,slow=32							
MAW	**Mawson**	**41.70**	**185**	LR	LR		01 44 40.7	
	comp=Z,374nm,18.6s,MS4.3,baz=72,slow=32							
TSUM	**Tsumeb**	**49.60**	**266**	LR	LR		01 50 07.1	
	comp=Z,107nm,19.5s,MS3.9,baz=352,slow=33							
WRA	**Warramunga Arr**	**58.00**	**98**	P	P	**P**	**01 32 40.3**	**0.0**
	0.8nm,0.8s,mb3.8,baz=251,slow=7.8,SNR=3.0							
SNAA	**Sanae**	**60.30**	**200**	*i*	P	**P**	**01 32 55.2**	**-0.3**
SNAA	**Sanae**	**60.30**	**200**	*e*	pP		01 33 03.0	+4.3
SNAA	**Sanae**	**60.30**	**200**	P	P	**P**	**01 32 55.7**	**+0.1**
	0.6nm,0.7s,mb3.7,baz=120,slow=3.0,SNR=9.7							
VNA2	**Neumayer--Watz**	**61.71**	**201**	*i*	P	**P**	**01 33 05.0**	**-0.1**
VNA2	**Neumayer--Watz**	**61.71**	**201**	*e*	pP		01 33 12.9	+4.6
VNA1	**Neumayer--Stat**	**61.99**	**202**	*i*	P	**P**	**01 33 03.2**	**-3.9**
VNA3	**Neumayer Olymp**	**62.46**	**201**	*i*	P	**P**	**01 33 10.2**	**+0.1**
VNA3	**Neumayer Olymp**	**62.46**	**201**	*e*	pP		01 33 18.2	+4.9
VNDA	**Vanda**	**64.75**	**166**	P	P	**P**	**01 33 25.4**	**+0.4**
	4.4nm,0.9s,mb4.5,baz=270,slow=7.3,SNR=8.0							
CTA	**Charters Tower**	**68.48**	**102**	LR	LR		02 01 08.0	
	comp=Z,97nm,21.5s,MS4.0,baz=230,slow=34							
MKAR	**Makanchi Array**	**73.38**	**8**	P	P	**P**	**01 34 17.9**	**-0.7**
	1.3nm,0.7s,mb4.0,baz=194,slow=5.9,SNR=12							
BRTR	**Keskin Array B**	**74.38**	**331**	P	P	**P**	**01 34 25.1**	**+0.7**
	0.4nm,0.8s,mb3.4,baz=135,slow=7.0,SNR=3.5							
SONM	**Songino Array**	**80.25**	**23**	P	P	**P**	**01 34 57.1**	**+0.1**
	1.9nm,1.0s,mb4.0,baz=198,slow=3.9,SNR=8.2							

*MOS **23** 01:33:11.1±0.9,34.46N×22.03E,h10km,mb4.3/10,Error ellipse: s-maj=6.2km s-min=3.4km az=104.2*
*IDC **23** 01:33:11.0±0.6,34.42N×22.07E,mb4.1/14,mb1 4.1/22, mb1mx4.0/35,mbtmp4.0/22,ML3.7/7,MS4.2/4,Ms1 4.1/4, ms1mx3.6/28,Error ellipse: s-maj=15.2km s-min=13.2km az=97.0*
*ATH **23** 01:33:14.0,34.45N×22.12E,h24km±9km,MD4.2/14, ML4.4*
*HLW **23** 01:33:14.5,34.40N×22.07E,h23km,Mb4.0*
*NEIC **23** 01:33:15.4±1.9,34.44N×22.04E,h30km±14km,mb3.9/27, MS3.7/1,ML4.4(ATH),ML4.3(THE),Error ellipse: s-maj=7.9km s-min=3.8km az=187.0*
*CSEM **23** 01:33:16.8±0.1,34.59N×22.09E,h60km,mb4.3/7,Ms3.7, Error ellipse: s-maj=2.3km s-min=1.4km az=5.0*
*THE **23** 01:33:21.5,34.91N×22.18E,h31km,ML4.2*

ISC 23 01:33:10.0±0.9,**34.31N**±0.02×**22.07E**±0.02,**h12**km±6km, **n247**,σ1§**38**/293,**mb4.2**/26,**MS4.0**/8,**29C-5D**,**Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**2.07**	**57**		*e*PN	**Pn**	**01 33 48.4**	**+3.4**
VAM					*e*SN	**Sn**	**01 34 12.9**	**+2.0**
KYTH	**Kithira**	**2.12**	**22**		*e*PN	**Pn**	**01 33 49.0**	**+3.2**
KYTH					*e*SN	**Sn**	**01 34 13.0**	**+0.7**
VLI	**Veliai**	**2.51**	**16**		*e*PB	**Pb**	**01 33 54.2**	**-0.4**
IDI	**Anoyia**	**2.52**	**66**		Pn	**Pn**	**01 33 54.8**	**+3.3**
	23nm,0.3s,baz=237,slow=11,SNR=25.1							
IDI					Sn	**Sn**	**01 34 22.3**	**-0.1**
	14nm,0.3s,baz=300,slow=16,SNR=6.8							
ITM	**Ithomi**	**2.87**	**358**		*e*PN	**Pn**	**01 33 58.8**	**+2.3**
XRY	**Khrisi**	**3.04**	**78**		*e*PN	**Pn**	**01 34 01.5**	**+2.6**
NPS	**Neapolis**	**3.07**	**71**		*e*PN	**Pn**	**01 34 02.3**	**+3.0**
SANT	**Santorini**	**3.45**	**52**		*e*P	**Pn**	**01 34 05.8**	**+1.0**
SANT	**Santorini**	**3.45**	**52**		*e*P	**Pn**	**01 34 05.8**	**+1.0**
THR1	**Thera Island**	**3.45**	**52**		*e*Pn	**Pn**	**01 34 06.8**	**+2.0**
NAIG	**Nisos Aigina**	**3.63**	**18**		*e*PN	**Pn**	**01 34 09.0**	**+1.7**
NSAL	**Nisos Salamina**	**3.77**	**17**		*e*PN	**Pn**	**01 34 11.0**	**+1.8**
RLS	**Riolos of Patr**	**3.78**	**353**		*e*PN	**Pn**	**01 34 12.2**	**+2.8**
RLS					*e*SN	**Sn**	**01 34 53.2**	**-1.0**
MGER	**Gerania Oros**	**3.80**	**14**		*e*PN	**Pn**	**01 34 11.0**	**+1.3**
SLUM		**3.85**	**136**		*e*P	**Pn**	**01 34 12.8**	**+2.3**
SLUM					S	**Sn**	**01 34 54.9**	**-1.3**
ATH	**Athens Observa**	**3.90**	**20**		*e*PN	**Pn**	**01 34 12.6**	**+1.6**
APE	**Apeiranthos**	**3.94**	**45**		*e*PN	**Pn**	**01 34 13.5**	**+1.8**
VLS	**Valsamata**	**4.04**	**343**		*e*PN	**Pn**	**01 34 15.5**	**+2.3**
VLS	**Valsamata**	**4.04**	**343**		*e*Pn	**Pn**	**01 34 15.5**	**+2.3**
MPAR	**Parnis Oros**	**4.07**	**19**		*e*PN	**Pn**	**01 34 15.0**	**+1.5**
LKR	**Lokris**	**4.40**	**10**		*e*PN	**Pn**	**01 34 19.5**	**+1.3**
LKD	**Levkas**	**4.54**	**346**		*e*Pn	**Pn**	**01 34 20.9**	**+0.7**
	comp=Z,8.8nm,0.9s							
LKD					*e*Sn	**Sn**	**01 35 06.0**	**-7.5**
EVR	**Evrytania**	**4.61**	**357**		*e*PN	**Pn**	**01 34 24.0**	**+2.8**
AGG	**Agios Georgios**	**4.71**	**2**		*e*Pn	**Pn**	**01 34 23.6**	**+0.9**
	comp=Z,7.8nm,0.5s							
AGG					*e*Sn	**Sn**	**01 35 09.8**	**-8.1**
AOS	**Alonnisos**	**5.07**	**16**		*e*Pn	**Pn**	**01 34 27.7**	**0.0**
AOS					*e*Sn	**Sn**	**01 35 18.1**	**-8.8**
BODT	**Bodrum**	**5.08**	**56**		*e*P	**Pn**	**01 34 29.4**	**+1.7**
XOR	**Xorichti**	**5.13**	**10**		*e*Pn	**Pn**	**01 34 28.4**	**-0.1**
XOR					*e*Sn	**Sn**	**01 35 19.9**	**-8.6**
HMAT	**Matruh**	**5.31**	**126**		*e*P	**Pn**	**01 34 32.7**	**+1.6**
HMAT					S	**Sn**	**01 35 29.6**	**-3.4**
IGT	**Igoumenitsa**	**5.40**	**346**		*e*Pn	**Pn**	**01 34 31.9**	**-0.4**
IGT					*e*Sn	**Sn**	**01 35 27.1**	**-8.1**
MEV	**Metsovon**	**5.51**	**353**		*e*Pn	**Pn**	**01 34 34.9**	**+1.0**
	comp=Z,8.2nm,0.7s							
MEV					*e*Sn	**Sn**	**01 35 30.1**	**-7.9**
PAIG	**Paliouri**	**5.76**	**12**		*e*Pn	**Pn**	**01 34 36.8**	**-0.6**
PAIG					*e*Sn	**Sn**	**01 35 35.4**	**-8.7**
YER	**Yerkesik**	**5.79**	**59**		*i* P	**Pn**	**01 34 40.2**	**+2.4**
LIT	**Litokhoron**	**5.79**	**3**		*e*Pn	**Pn**	**01 34 38.2**	**+0.3**
	comp=Z,3.3nm,0.6s							
LIT					*e*Sn	**Sn**	**01 35 37.9**	**-7.2**
SRN	**Sarande**	**5.80**	**344**		*i* Pn	**Pn**	**01 34 38.2**	**+0.1**
SRN					*i* Sn	**Sn**	**01 35 37.6**	**-7.7**
SWA2		**5.81**	**149**		*e*P	**Pn**	**01 34 39.8**	**+1.6**
DALT	**Dalyan (Mudla)**	**5.89**	**63**		*e*P	**Pn**	**01 34 39.2**	**0.0**
SWA1		**5.90**	**147**		P	**Pn**	**01 34 41.2**	**+1.7**
SWA1					S	**Sn**	**01 35 44.5**	**-3.3**
LOS	**Limnos**	**6.11**	**22**		*e*Pn	**Pn**	**01 34 41.8**	**-0.6**
DABA	**Dabaa**	**6.18**	**120**		*e*P	**Pn**	**01 34 44.5**	**+1.0**
OUR	**Ouranopolis**	**6.21**	**14**		*e*Pn	**Pn**	**01 34 42.5**	**-1.3**
THE	**Thessaloniki**	**6.36**	**6**		*e*Pn	**Pn**	**01 34 44.9**	**-0.9**
THE					*e*Sn	**Sn**	**01 35 51.2**	**-7.9**
TIP	**Timpagrande**	**6.47**	**320**		*e*P	**Pn**	**01 34 45.5**	**-1.9**
FNA	**Florina**	**6.49**	**355**		*e*Pn	**Pn**	**01 34 46.9**	**-0.8**
FNA					*e*Sn	**Sn**	**01 35 53.1**	**-9.4**
SOH	**Sokhos**	**6.58**	**9**		*e*Pn	**Pn**	**01 34 49.6**	**+0.6**
SOH					*e*Sn	**Sn**	**01 35 55.5**	**-9.3**
DENT	**Denizli**	**6.61**	**57**		*e*P	**Pn**	**01 34 51.0**	**+1.6**
GRG	**Griva**	**6.64**	**2**		*e*Pn	**Pn**	**01 34 48.7**	**-1.2**
GRG					*e*Sn	**Sn**	**01 35 58.7**	**-7.7**
ELL	**Elmali**	**6.84**	**67**		P	**Pn**	**01 34 53.9**	**+1.2**
KNT	**Kendrikon**	**6.88**	**5**		*e*Pn	**Pn**	**01 34 52.8**	**-0.3**
	comp=Z,2.5nm,0.8s							
KNT					*e*Sn	**Sn**	**01 36 04.2**	**-8.0**
SRS	**Serrai**	**6.91**	**10**		*e*Pn	**Pn**	**01 34 51.8**	**-1.8**
SRS					*e*Sn	**Sn**	**01 36 04.7**	**-8.2**
VAE	**Valguarnera**	**6.97**	**299**		Pn	**Pn**	**01 34 55.2**	**+0.6**
	6.6nm,0.3s,baz=266,slow=2.2,SNR=29							
VAE					Sn	**Sn**	**01 36 11.5**	**-3.0**
	3.0nm,0.3s,baz=23,slow=14,SNR=2.4							
VAE	**Valguarnera**	**6.97**	**299**		Pn	**Pn**	**01 34 55.2**	**+0.6**
VAE					Sn	**Sn**	**01 36 11.6**	**-3.0**
VAY	**Valandovo**	**7.02**	**3**		*i* Pn	**Pn**	**01 34 55.3**	**+0.2**
TIR	**Tirane**	**7.24**	**347**		*i* Pn	**Pn**	**01 34 58.0**	**-0.3**
ALN	**Alexandroupoli**	**7.30**	**24**		*e*Pn	**Pn**	**01 34 58.7**	**-0.4**
MMB	**Musomiste**	**7.39**	**10**		P	**Pn**	**01 34 59.8**	**-0.6**
QSH	**Qafa e Shtames**	**7.41**	**347**		*i* Pn	**Pn**	**01 35 02.5**	**+1.9**
QSH					*i* Sn	**Sn**	**01 36 19.5**	**-5.9**
KKB	**Krupnik**	**7.59**	**6**		*e*P	**Pn**	**01 35 05.0**	**+1.8**
BCK	**Bucak**	**7.60**	**63**		*e*P	**Pn**	**01 35 04.0**	**+0.8**
SKO	**Skopje**	**7.67**	**356**		*i* Pn	**Pn**	**01 35 02.5**	**-1.8**
SKO					*i*		01 36 23.0	
SG1	**Sgolgore (BA)**	**7.80**	**328**		*e*Pn	**Pn**	**01 35 04.3**	**-1.8**
BAI	**Bari**	**7.94**	**330**		*e*Pn	**Pn**	**01 35 06.2**	**-1.8**
ULC	**Ulcinj**	**7.96**	**345**		*i* Pn	**Pn**	**01 35 05.2**	**-3.1**
ULC					*e*Sn	**Sn**	**01 36 27.3**	**-12**
ULC	**Ulcinj**	**7.96**	**345**		*i* Pn	**Pn**	**01 35 05.2**	**-3.2**
ULC					*e*Sn	**Sn**	**01 36 27.3**	**-12**

CDT	**Castel del Mon**	**8.18**	**328**		*e*Pn	**P**	**01 35 10.0**	**-1.3**
VTS	**Vitosha**	**8.32**	**6**		*e*P	**P**	**01 35 15.0**	**+1.6**
AWBH		**8.35**	**134**		*e*P	**P**	**01 35 13.4**	**-0.4**
BUM	**Brajici-Budva**	**8.36**	**344**		*i* Pn	**P**	**01 35 10.2**	**-3.8**
BUM					*e*Sn	**Sn**	**01 36 36.1**	**-13**
BUM	**Brajici-Budva**	**8.36**	**344**		*i* Pn	**P**	**01 35 10.2**	**-3.7**
BUM					*e*Sn	**Sn**	**01 36 36.1**	**-13**
TTG	**Podgorica**	**8.41**	**346**		*i* Pn	**P**	**01 35 11.7**	**-2.8**
TTG					*e*Sn	**Sn**	**01 36 38.6**	**-12**
TTG	**Podgorica**	**8.41**	**346**		*i* Pn	**P**	**01 35 11.7**	**-2.8**
TTG					*e*Sn	**Sn**	**01 36 38.6**	**-12**
PVY	**Plav**	**8.44**	**349**		*i* Pn	**P**	**01 35 13.8**	**-1.2**
PVY					*e*Sn	**Sn**	**01 36 42.1**	**-9.0**
PVY	**Plav**	**8.44**	**349**		*i* Pn	**P**	**01 35 13.8**	**-1.2**
HCY	**Herceg Novi**	**8.60**	**342**		*i* Pn	**P**	**01 35 12.9**	**-4.3**
HCY					*e*Sn	**Sn**	**01 36 40.5**	**-15**
HCY	**Herceg Novi**	**8.60**	**342**		*i* Pn	**P**	**01 35 12.9**	**-4.3**
HCY					*e*Sn	**Sn**	**01 36 40.5**	**-15**
IVA	**Berane**	**8.72**	**349**		*e*Pn	**P**	**01 35 17.4**	**-1.5**
IVA					*e*Sn	**Sn**	**01 36 48.9**	**-9.3**
IVA	**Berane**	**8.72**	**349**		*e*Pn	**P**	**01 35 17.4**	**-1.5**
NKY	**Niksic**	**8.83**	**345**		*i* Pn	**P**	**01 35 17.1**	**-3.3**
NKY					*e*Sn	**Sn**	**01 36 48.2**	**-13**
NKY	**Niksic**	**8.83**	**345**		*i* Pn	**P**	**01 35 17.1**	**-3.3**
NKY

AKASG **Malin Array Be** 17.20 16 P P 01 37 08.4 -3.2
comp=Z,1.3nm,0.3s,baz=205,slow=11,SNR=12
AKASG S S 01 40 19.8 -1.6
baz=199,slow=23,SNR=4.2
CABF La Chapelle 17.25 320 *e*P P 01 37 10.8 -1.4
GRA1 Grafenberg Arr 17.33 336 *e*P P 01 37 15.6 +2.4
comp=Z,6.0nm,1.0s
GRF Grafenberg Arr 17.33 336 *e*P P 01 37 15.6 +2.4
GRF pmax pmax
comp=Z,6.0nm,1.0s
GRF Grafenberg Arr 17.33 336 *e*P P 01 37 15.6 +2.4
GRF pmax pmax
comp=Z,6.0nm,1.0s
GRF Grafenberg Arr 17.33 336 *e*P P 01 37 15.6 +2.4
comp=Z,6.0nm,1.0s
NKC Novy Kostel 17.41 339 *e*P P 01 37 17.7 +3.5
NKC AMS AMS 01 45 30.0
comp=Z,700nm,13.9s
BRG Berggiesshubel 17.59 343 *i* P 01 37 24.6
BRG pmax pmax
comp=Z,5.0nm,0.8s
BRG Berggiesshubel 17.59 343 *i* P 01 37 24.6
comp=Z,5.0nm,0.8s
HINF Hinteralfeld 17.67 324 *e*P P 01 37 17.7 +0.2
MTLF Montolieu 17.87 306 *e*P P 01 37 21.1 +1.1
comp=Z,3.8nm,0.8s
MTLF Montolieu 17.87 306 *e*P P 01 37 21.1 +1.1
MTLF pmax pmax
comp=Z,2.0nm,0.8s
CDF Champ du Feu 17.90 326 *e*P P 01 37 20.6 +0.3
comp=Z,2.9nm,0.5s
CDF Champ du Feu 17.90 326 *e*P P 01 37 20.6 +0.3
CDF pmax pmax
comp=Z,1.0nm,0.5s
MOX Moxa 18.03 338 *e*P P 01 37 26.0 +4.1
HAU Haudompre 18.05 324 *e*P P 01 37 22.4 +0.2
HAU *e*R
comp=Z,409nm,19.0s
CLL Collm 18.22 342 *i* P P 01 37 26.6 +2.2
CLL pmax pmax
comp=Z,11nm,1.3s
CLL Collm 18.22 342 *i* P P 01 37 26.6 +2.2
comp=Z,11nm,1.3s
CLL *e* 01 37 36.0
CLL *i* 01 37 46.1
CLL Collm 18.22 342 P P 01 37 26.6 +2.2
comp=Z,logA/T=0.9
CLL *e*PP PP 01 37 36.0 -3.6
CLL *i* *SPP 01 37 46.1
CLL *e* 01 38 08.0
SMF Signal de Mont 18.50 317 *e*P P 01 37 27.4 -0.4
KIV Kislovodsk 18.63 53 *i* P P 01 37 29.9 +0.5
KIV MLR MLR
comp=Z,200nm,12.0s
KIV Kislovodsk 18.63 53 *e*P P 01 37 29.5 +0.1
comp=Z,7.2nm,0.9s
KIV Kislovodsk 18.63 53 *i* P P 01 37 29.9 +0.5
comp=Z,200nm,12.0s
CAF Calviac 18.66 311 *e*P P 01 37 29.8 0.0
LOR Lormes 18.86 319 *e*P P 01 37 32.5 +0.4
LOR *e*R
comp=Z,344nm,22.2s
AVF Avril sur Loir 18.86 317 *e*P P 01 37 32.2 +0.1
SSF Saint Saulge 18.93 318 *e*P P 01 37 33.3 +0.3
GNI Garni 18.95 65 *i* P P 01 37 34.0 +0.7
GNI pmax pmax
comp=Z,11nm,1.1s
GNI MLR MLR
comp=Z,1μm,18.0s
GNI Garni 18.95 65 P P 01 37 33.7 +0.4
comp=Z,0.4nm,0.3s,baz=6.3,slow=18,SNR=2.3
GNI Garni 18.95 65 *i* P P 01 37 34.0 +0.7
comp=Z,1μm,18.0s
ZEI Tsey 19.02 57 *e*P P 01 37 34.4 +0.4
BGF Bois d'Agland 19.02 316 *e*P P 01 37 34.0 0.0
MEZF Maizieres J'vi 19.02 323 *e*P P 01 37 33.5 -0.6
comp=Z,11nm,0.6s
EPF Esparros 19.03 304 *e*P P 01 37 34.3 0.0
RJF Les Rejaudoux 19.18 311 *e*P P 01 37 36.0 0.0
comp=Z,6.8nm,0.7s
RJF *e*R
comp=Z,434nm,18.8s
TCF Toulx Ste Croi 19.25 314 *e*P P 01 37 36.8 +0.1
TI2 Plekhanov 19.31 61 *e*P P 01 37 41.0 +3.4
WLF Walferdange 19.32 327 P P 01 37 35.3 -2.2
WLF pmax pmax
comp=Z,19nm,1.0s
WLF Walferdange 19.32 327 P P 01 37 35.3 -2.3
comp=Z,19nm,1.0s
WLF Walferdange 19.32 327 P P 01 37 35.3 -2.2
comp=Z,19nm,1.0s
GOF Gofitskoye 19.33 50 *i* P 01 37 50.8
GOF pmax pmax
comp=Z,17nm,0.8s
LFF La Frestale 19.51 309 *e*P P 01 37 39.9 +0.1
comp=Z,11nm,0.8s
LFF La Frestale 19.51 309 *e*P P 01 37 39.9 +0.1
LFF pmax pmax
comp=Z,6.0nm,0.8s
ETSF Etsaut 19.61 303 *e*P P 01 37 41.1 +0.1
comp=Z,7.0nm,0.7s
ETSF Etsaut 19.61 303 *e*P P 01 37 41.1 +0.1
ETSF pmax pmax
comp=Z,4.0nm,0.7s
SUW Suwalki 19.72 2 *e*P P 01 37 39.6 -2.5
SUW pmax pmax
comp=Z,39nm,0.8s
SUW Suwalki 19.72 2 *e*P P 01 37 39.6 -2.5
comp=Z,39nm,0.8s
SUW Suwalki 19.72 2 *e*P P 01 37 39.6 -2.5
comp=Z,39nm,0.8s
SJPF Ste Jean 20.14 303 *e*P P 01 37 47.3 +0.5
comp=Z,29nm,0.7s
SJPF Ste Jean 20.14 303 *e*P P 01 37 47.3 +0.5
SJPF pmax pmax
comp=Z,14nm,0.7s
GIVF Givet 20.23 326 *e*P P 01 37 47.5 -0.1
BAIF Baives 20.48 326 *e*P P 01 37 49.9 -0.4
comp=Z,5.7nm,0.6s
BAIF Baives 20.48 326 *e*P P 01 37 49.9 -0.4
BAIF pmax pmax
comp=Z,3.0nm,0.6s
MFF Saint Martin d 20.82 313 *e*P P 01 37 53.9 +0.2
comp=Z,9.0nm,0.8s
MFF Saint Martin d 20.82 313 *e*P P 01 37 53.9 +0.2
MFF pmax pmax
comp=Z,5.0nm,0.8s
ESDC Sonseca Array 21.44 292 P P 01 38 01.2 +1.1
comp=Z,1.7nm,0.6s,mb3.6,baz=91,slow=11,SNR=13
FLN La Foliniere 22.10 318 *e*P P 01 38 06.8 +0.1
comp=Z,9.6nm,0.5s,mb4.2
FLN *e*R
comp=Z,304nm,22.0s
FLN La Foliniere 22.10 318 *e*P P 01 38 06.8 +0.1
FLN pmax pmax
comp=Z,5.0nm,0.5s,mb4.2
FLN MLR MLR
comp=Z,300nm,22.0s,MS3.7
GRR Gorron 22.12 316 *e*P P 01 38 06.9 0.0
comp=Z,10nm,0.8s,mb4.0
GRR Gorron 22.12 316 *e*P P 01 38 06.9 0.0
GRR pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
SGMF Saint Gilles 23.04 315 *e*P P 01 38 15.8 -0.1
comp=Z,9.1nm,0.5s,mb4.1
SGMF Saint Gilles 23.04 315 *e*P P 01 38 15.8 -0.1
SGMF pmax pmax
comp=Z,5.0nm,0.5s,mb4.2
OBN Obninsk 23.13 21 *de*P P 01 38 16.7 0.0
OBN pmax pmax
comp=Z,17nm,0.9s,mb4.5
OBN MLR MLR
comp=Z,200nm,11.0s,MS3.8
OBN Obninsk 23.13 21 *e*P P 01 38 15.5 -1.2
comp=Z,33nm,1.0s,mb4.7
QUIF Quistinic 23.25 313 *e*P P 01 38 17.3 -0.6
ROSF Rostrenen 23.50 314 *e*P P 01 38 20.4 0.0
MOS Moscow 23.98 22 *e*P P 01 38 24.3 -0.6
MOS *e*S S 01 42 38.7 +0.4
MOS *e* 01 43 47.2
MOS pmax pmax
comp=Z,26nm,0.8s,mb4.7
MOS Moscow 23.98 22 *e*P P 01 38 24.3 -0.6
comp=Z,26nm,0.8s,mb4.7
HFS Hagfors 26.42 351 P P 01 38 47.5 -0.5
comp=Z,2.5nm,0.7s,mb3.9,baz=146,slow=11,SNR=10.0

FINES FINESS Array B 27.28 4 *e*P P 01 38 59.6 +3.7
FINES FINESS Array B 27.28 4 P P 01 38 55.8 -0.1
comp=Z,2.9nm,0.7s,mb3.9,baz=153,slow=13,SNR=6.8
EKA Eskdalemuir Ar 27.34 328 P P 01 38 58.1 +1.6
comp=Z,2.9nm,0.8s,mb3.9,baz=125,slow=9.6,SNR=6.0
NB2 NORSAR Subarra 27.65 349 P P 01 39 01.0 +1.7
comp=Z,2.0nm,1.0s,mb3.7,baz=156,slow=10
NB2 NORSAR Subarra 27.65 349 P P 01 39 01.0 +1.7
NB2 pmax pmax
comp=Z,2.0nm,1.0s,mb3.7
NOA NORSAR Array B 27.65 349 P P 01 38 59.0 -0.3
comp=Z,1.0nm,0.7s,mb3.6,baz=157,slow=9.1,SNR=4.1
KAF Kangasniemi 27.96 4 *e*p P 01 38 59.0 -3.0
comp=Z,0.5nm,0.4s,mb3.5
ARU Arti 33.26 37 *e*P P 01 39 49.6 +0.6
ARU *e* 01 41 00.8
ARU *e* 01 42 31.5
ARU *e*S S 01 45 07.4 -0.4
ARU *e*SS SS 01 47 14.4 +4.8
ARU *e* 01 50 12.1
ARU MLR MLR
comp=N,40nm,18.0s,MS3.6
ARU MLR MLR
comp=Z,200nm,18.0s,MS3.9
ARU MLR MLR
comp=E,100nm,17.0s,MS3.6
ARCES ARCESS Array B 35.34 2 P P 01 40 06.5 -0.3
comp=E,2.0nm,0.5s,mb4.3,baz=188,slow=8.9,SNR=31
ARE0 ARCESS Array S 35.34 2 *e*P P 01 40 06.2 -0.6
KEV Kevo 35.61 3 *e*p P 01 40 07.8 -1.3
comp=E,0.4nm,0.4s,mb3.7
DBIC Dimbokro 37.07 228 P P 01 40 22.4 +0.4
comp=E,4.0nm,0.7s,mb4.4,baz=54,slow=8.7,SNR=4.6
DBIC LR LR 01 57 49.5
comp=E,146nm,19.7s,MS3.8,baz=268,slow=40
ZRNK Zerenda 37.94 46 *e*P P 01 40 28.6 -0.2
ZRNK pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
ZRNK Zerenda 37.94 46 *e*P P 01 40 28.6 -0.2
comp=Z,6.0nm,1.0s,mb4.3
BVAR Borovoye Array 38.77 46 P P 01 40 36.2 +0.3
comp=Z,0.9nm,0.6s,mb3.7,baz=256,slow=6.1,SNR=5.3
AAK Ala-Archa 41.31 62 *i* P P 01 40 59.7 +2.8
AAK pmax pmax
comp=Z,200nm,20.0s,MS4.0
MKAR Makanchi Array 46.36 55 P P 01 41 38.2 +0.6
comp=Z,7.0nm,0.6s,mb4.8,baz=280,slow=6.9,SNR=103
NVS Novosibirsk 46.48 44 *e*P P 01 41 40.1 +1.6
KOLN Koldanda 52.43 79 *e*P P 01 42 25.3 +0.6
GKN Gorkha 53.18 79 *e*P P 01 42 30.3 0.0
comp=Z,7.6nm,0.4s,mb4.9
TSUM Tsumeb 53.38 185 P P 01 42 33.4 +1.6
comp=Z,2.3nm,0.8s,mb4.2,baz=360,slow=12,SNR=5.4
DMN Daman 53.72 79 *e*P P 01 42 34.0 -0.2
comp=Z,10nm,0.5s,mb5.0
KKN Kakani 53.79 79 *e*P P 01 42 35.1 +0.4
comp=Z,3.3nm,0.2s,mb4.9
PKI Pulchoki 53.98 79 *e*P P 01 42 36.8 +0.7
MATP Matopo 54.77 173 P P 01 42 43.8 +1.8
comp=Z,1.2nm,0.5s,mb4.2,baz=107,slow=6.2,SNR=4.6
LBTB Lobatse 59.09 176 P P 01 43 14.3 +1.7
comp=Z,1.9nm,0.7s,mb4.2,baz=14,slow=4.2,SNR=3.2
ZAK Zakamensk 59.21 47 *e*P P 01 43 14.3 +1.2
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
ZAK Zakamensk 59.21 47 *e*P P 01 43 14.3 +1.2
comp=Z,2.0nm,1.0s,mb4.1
SONM Songino Array 61.98 49 P P 01 43 32.9 +0.8
comp=Z,1.8nm,0.7s,mb4.3,baz=285,slow=7.4,SNR=13
SCHQ Schefferville 62.18 319 P P 01 43 34.0 +0.7
comp=Z,3.0nm,0.7s,mb4.5,baz=26,slow=2.8,SNR=5.8
SCHQ LR LR 02 09 01.3
comp=Z,201nm,21.6s,MS4.2,baz=121,slow=35
BOD Bodaibo 62.68 37 *e*P P 01 43 31.8 -4.8
PDAR Pinedale Array 91.46 327 LR LR 02 29 30.9
comp=Z,117nm,20.9s,MS4.3,baz=159,slow=37
CPUP Villa Florida 96.36 243 LR LR 02 31 46.5
comp=Z,194nm,20.9s,MS4.6,baz=227,slow=36
WRA Warramunga Arr 119.03 95 PKP PKPdf 01 52 00.3 -2.1
comp=Z,0.4nm,0.4s,baz=322,slow=1.7,SNR=3.7

*BJI **23** 01:42:15.8,30.72N×137.49E,h485km,mB4.7,mb4.6*
*JMA **23** 01:42:16.9±0.4,30.82N×137.61E,h508km±4km,M3.9*
*IDC **23** 01:42:16.6±0.6,30.85N×137.71E,h486km±7km,mb3.4/12,*
mb1 3.5/17,mb1mx3.3/27,mbtmp4.3/17,Error ellipse:
s-maj=16.6km s-min=8.9km az=71.0
*NEIC **23** 01:42:17.4±0.5,30.81N×137.60E,h495km±5km,mb4.2/4,*
Error ellipse: s-maj=12.6km s-min=6.8km az=90.0
ISC 23 01:42:16.1±0.4,30.77N±0.04×137.70E±0.06,h499km±3km,
n48,σ0°89/61,mb3.9/19,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.94**	**37**	P	**P**	**01 43 27.4**	**+0.2**
	17nm,0.3s,baz=50,slow=22,SNR=12						
JHJ				S	**S**	**01 44 21.9**	**-1.5**
	44nm,0.3s,baz=82,slow=22,SNR=6.5						
JHJ2	**Mitsune**	**2.95**	**37**	P	**P**	**01 43 28.1**	**+0.9**
TK01	**Tokai 1**	**2.99**	**358**	P	**P**	**01 43 29.1**	**+1.6**
TK02	**Tokai 2**	**3.17**	**1**	P	**P**	**01 43 30.4**	**+1.7**
JWZ	**Kozaga**	**3.23**	**329**	P	**P**	**01 43 30.0**	**+0.9**
JWZ				*e*S	**S**	**01 44 27.7**	**+0.7**
JIE	**Ise**	**3.71**	**347**	P	**P**	**01 43 34.2**	**+1.5**
JIE				*e*S	**S**	**01 44 34.4**	**+1.0**
JAI	**Aioi**	**4.08**	**319**	P	**P**	**01 43 36.6**	**+0.9**
JAI				*e*S	**S**	**01 44 38.6**	**-0.2**
JOD2	**Odawara 2**	**4.64**	**14**	P	**P**	**01 43 40.3**	**-0.1**
JTO	**Tosashimizu**	**4.66**	**298**	P	**P**	**01 43 41.1**	**+0.4**
JTO				*e*S	**S**	**01 44 46.9**	**-0.8**
BSO1	**Boso 1**	**4.76**	**35**	*e*S	**S**	**01 44 47.8**	**-1.5**
JRY	**Ryogami san**	**5.33**	**11**	P	**P**	**01 43 47.2**	**+0.4**
JRY				*e*S	**S**	**01 44 58.5**	**-0.2**
CBIJ	**Chichi jima**	**5.37**	**132**	P	**P**	**01 43 47.2**	**0.0**
	9.5nm,0.3s,baz=131,slow=23,SNR=13						
CBIJ				S	**S**	**01 44 58.6**	**-0.7**
	41nm,0.3s,baz=253,slow=24,SNR=12						
CBIJ	**Chichi jima**	**5.37**	**132**	P	**P**	**01 43 45.7**	**-1.5**
JHS	**Saijyo**	**5.72**	**319**	P	**P**	**01 43 50.8**	**+0.3**
MJAR	**Matsushiro Arr**	**5.78**	**4**	P	**P**	**01 43 50.7**	**-0.4**
	4.5nm,0.3s,baz=184,slow=11,SNR=38						
MJAR				S	**S**	**01 45 04.2**	**-2.1**
	baz=154,slow=13,SNR=4.1						
MAJO	**Matsushiro**	**5.78**	**4**	*e*P	**P**	**01 43 50.6**	**-0.5**
	32nm,0.6s						
MAT	**Matsushiro**	**5.78**	**4**	*e*P	**P**	**01 43 51.0**	**-0.1**
	21nm,0.6s						
MAT				*i* S	**S**	**01 45 04.5**	**-1.8**
MAT	**Matsushiro**	**5.78**	**4**	P	**P**	**01 43 50.8**	**-0.3**
MAT				*i* S	**S**	**01 45 04.5**	**-1.8**
JNU	**Nakatsue**	**6.25**	**294**	P	**P**	**01 43 55.8**	**+0.1**
	4.6nm,0.3s,baz=95,slow=6.6,SNR=13						
JNU				S	**S**	**01 45 14.6**	**-0.1**
	0.3nm,0.3s,baz=216,slow=19,SNR=3.9						
JSJ	**Shimokoshiki**	**6.90**	**280**	P	**P**	**01 44 01.8**	**-0.3**
JMK	**Ichinoseki**	**8.66**	**19**	P	**P**	**01 44 21.4**	**+0.8**
JMK				*e*S	**S**	**01 45 58.5**	**-1.0**
JOW	**Kunigami**	**9.15**	**247**	P	**P**	**01 44 24.6**	**-1.0**
	1.1nm,0.3s,baz=126,slow=18,SNR=3.8						
JOT	**Ohata**	**10.94**	**13**	P	**P**	**01 44 45.4**	**+0.9**
JOSM	**Okushiri--Mats**	**11.38**	**7**	P	**P**	**01 44 50.0**	**+0.9**
JKB	**Kayabe**	**11.42**	**13**	P	**P**	**01 44 50.3**	**+0.8**
JKB				*e*S	**S**	**01 46 54.3**	**+1.7**
NJ2	**Nanjing**	**16.14**	**279**	*e*P	**P**	**01 45 36.9**	**-1.0**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
SONM	**Songino Array**	**29.35**	**314**	P	**P**	**01 47 38.6**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.3,baz=127,slow=8.0,SNR=8.6						
SONM				PcP	PcP	01 50 30.7	+0.4
	comp=Z,0.1nm,0.3s,baz=117,slow=2.8,SNR=3.5						
GTA	**Gaotai**	**31.99**	**296**	*e*P	**P**	**01 48 01.3**	**-0.4**
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**45.12**	**307**	P	**P**	**01 49 48.0**	**-0.4**
	comp=Z,3.5nm,0.8s,mb3.9,baz=92,slow=9.8,SNR=32						
FITZ	**Fitzroy Crossi**	**49.95**	**195**	P	**P**	**01 50 26.1**	**+0.7**
	comp=Z,4.2nm,1.0s,mb3.7,baz=3.6,slow=4.3,SNR=3.2						
WRAB	**Tennant Creek**	**50.51**	**184**	*e*P	**P**	**01 50 29.4**	**0.0**
	comp=Z,3.1nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**50.52**	**184**	P	**P**	**01 50 29.8**	**+0.2**
	comp=Z,1.7nm,0.3s,mb3.8,baz=0.9,slow=7.8,SNR=64						
BVAR	**Borovoye Array**	**52.69**	**316**	P	**P**	**01 50 44.2**	**-0.7**
	comp=Z,1.9nm,0.6s,mb3.6,baz=90,slow=7.8,SNR=13						
BRVK	**Borovoye**	**52.75**	**316**	*e*P	**P**	**01 50 44.5**	**-0.8**
	comp=Z,1.3nm,0.5s,mb3.5						

MBWA Marble Bar 54.43 201 P P 01 50 56.9 -0.8
STKA Stephens Creek 62.41 176 P P 01 51 52.4 +1.0
comp=Z,1.7nm,0.5s,mb3.7,baz=327,slow=6.0,SNR=5.9
KEV Kevo 68.21 339 *e*p P 01 52 25.2 -1.9
comp=Z,0.5nm,0.3s,mb3.6
ARCES ARCESS Array B 68.77 340 P P 01 52 31.2 +0.8
comp=Z,2.2nm,0.5s,mb4.0,baz=62,slow=8.4,SNR=49
ARE0 ARCESS Array S 68.77 340 *e*P P 01 52 30.7 +0.3
KAF Kangasniemi 72.45 333 *e*p P 01 52 50.4 -1.8
comp=Z,1.0nm,0.3s,mb3.8
FINES FINESS Array B 72.91 332 P P 01 52 55.0 +0.3
comp=Z,1.6nm,0.4s,mb3.9,baz=90,slow=5.7,SNR=27
MIB Mutribah 75.70 296 *e*P P 01 53 11.1 0.0
MIB AMb AMB 01 53 12.3
comp=Z,19nm,0.8s,mb4.7
RDF Al-Radifah 75.94 295 *e*P P 01 53 12.9 +0.6
RDF AMb AMB 01 53 14.1
comp=Z,16nm,0.8s,mb4.6
AKASG Malin Array Be 77.33 322 P P 01 53 19.3 -0.2
comp=Z,1.6nm,0.5s,mb3.8,baz=51,slow=6.1,SNR=14
HFS Hagfors 78.48 335 P P 01 53 25.7 +0.3
comp=Z,3.2nm,0.4s,mb4.1,baz=90,slow=3.0,SNR=38
NB2 NORSAR Subarra 78.72 336 P P 01 53 27.2 +0.5
comp=Z,3.4nm,0.7s,mb4.0,baz=44,slow=5.0
NOA NORSAR Array B 78.72 336 P P 01 53 27.4 +0.6
comp=Z,2.9nm,0.7s,mb3.9,baz=46,slow=5.2,SNR=10
BRTR Keskin Array B 80.64 311 P P 01 53 37.6 +0.4
comp=Z,1.0nm,0.7s,mb3.5,baz=90,slow=4.9,SNR=6.0

CASC 23 01:51:18.8±1.9,6.36N×82.69W,h35km±999km,MD4.0,
5C-2D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTP1	**Petroterminal**	**1.85**	**8**	*e*P	P	01 51 47.5	-1.2
PTP1				*e*S	S	01 52 11.1	0.0
DVD	**David**	**2.08**	**7**	↑*e*P	P	01 51 50.8	-1.1
BRU2	**Volcan**	**2.42**	**360**	↑*i*P	P	01 51 56.1	-0.6
BRU2				*e*S	S	01 52 25.0	-0.5
BRU	**Baru**	**2.43**	**3**	↑*i*P	P	01 51 57.0	0.0
AZU	**Azuero**	**2.79**	**59**	↑*i*P	P	01 52 00.8	-1.2
AZU				*e*S	S	01 52 34.2	-0.7
CNI	**Changuinola**	**3.04**	**3**	↑*e*P	P	01 52 05.8	+0.2
BUS	**Buena Vista**	**3.35**	**342**	↓*e*P	P	01 52 09.8	-0.2
BUS				*e*S	S	01 52 49.9	+0.9
LCR2	**La Lucha 2**	**3.60**	**339**	*e*P	P	01 52 12.9	-0.8
LCR2				*e*S	S	01 52 54.0	-1.6
URSC	**Urasca**	**3.62**	**343**	*e*P	P	01 52 13.8	0.0
PRS1	**Puriscal**	**3.94**	**336**	*e*P	P	01 52 16.3	-2.1
UPA	**Univ. de Panam**	**4.07**	**50**	↓*e*P	P	01 52 18.5	-1.8
UPA				*e*S	S	01 53 06.4	-1.0
TRTC	**Tortuguero**	**4.31**	**346**	*e*P	P	01 52 23.7	0.0
TRTC				*e*S	S	01 53 11.9	-1.6
VCR	**Vista de Mar**	**4.74**	**322**	*e*P	P	01 52 28.3	-1.5

*NNC **23** 02:05:31.3±2.3,36.80N×70.60E,h180km±22km,mpv4.2,*
Error ellipse: s-maj=20.0km s-min=12.8km az=25.0
ISC 23 02:05:26.4±1.5,36.45N±0.07×70.7E±0.2,h179km±31km,
n16,σ0°96/20,5C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.75**	**133**	*e*P	**P**	**02 06 51.7**	**+0.9**
THN				*e*S	**S**	**02 07 55.3**	**-1.1**
AML	**Almayashu**	**6.12**	**21**	P	**P**	**02 06 56.5**	**+0.7**
	SNR=264						
KZA	**Kyzart**	**6.62**	**31**	P	**P**	**02 07 02.8**	**+0.3**
	SNR=9.4						
KK31	**Karatay Array**	**6.65**	**359**	↓P	**P**	**02 07 02.5**	**-0.2**
	7.5nm,0.3s,baz=178,slow=11,SNR=266						
KK31				↑S	**S**	**02 08 14.0**	**-3.8**
	12nm,0.5s,baz=188,slow=23,SNR=14						
AAK	**Ala-Archa**	**6.83**	**24**	↑P	**P**	**02 07 05.9**	**+0.8**
	SNR=12						
AAK	**Ala-Archa**	**6.83**	**24**	↑P	**P**	**02 07 05.7**	**+0.6**
	8.3nm,0.4s						
AAK				↑S	**S**	**02 08 20.7**	**-1.2**
	19nm,0.5s						
KBK	**Karagaybulak**	**7.00**	**26**	P	**P**	**02 07 08.4**	**+0.9**
	SNR=13						
ULHL	**Ulahol**	**7.19**	**35**	P	**P**	**02 07 10.5**	**+0.5**
	SNR=6.8						
CHMS	**Chumnysh**	**7.24**	**24**	P	**P**	**02 07 10.9**	**+0.4**
	SNR=11						
USP	**Ospenovka**	**7.40**	**22**	P	**P**	**02 07 12.5**	**-0.2**
	SNR=9.5						
TKM2	**Tokmak 2**	**7.47**	**29**	P	**P**	**02 07 14.1**	**+0.5**
	SNR=44						
MK31	**Makanchi Array**	**13.46**	**36**	↓P	**P**	**02 08 31.6**	**+0.5**
	2.1nm,0.7s,baz=218,slow=10.0,SNR=15						
AB31	**Akbulak array**	**15.03**	**332**	↓P	**P**	**02 08 49.0**	**-1.7**
	0.4nm,0.3s						
AB31				↑S	**S**	**02 11 34.0**	**+1.7**
	0.6nm,0.6s						
VOSK	**Vostochnaya**	**16.27**	**1**	↑P	**P**	**02 09 06.0**	**-0.1**
	4.0nm,1.4s						
ZRNK	**Zerenda**	**16.55**	**356**	↓P	**P**	**02 09 08.8**	**-0.6**
	1.3nm,0.5s						
BVA0	**Borovoye Array**	**16.58**	**359**	P	**P**	**02 09 09.1**	**-0.7**
	0.1nm,0.3s,baz=153,slow=8.7,SNR=9.9						

*SOF **23** 02:20:18.4,40.77N×28.06E,h2km,MD2.6*
*CSEM **23** 02:20:20.9±0.1,40.82N×28.13E,h15km,MD3.3,Error*
ellipse: s-maj=2.5km s-min=1.2km az=169.0
*ATH **23** 02:20:21.4,40.81N×28.00E,h20km,MD3.6/4*
*ISK **23** 02:20:21.0,40.84N×28.13E,h19km,MD3.3*
ISC 23 02:20:20.6±0.5,40.89N±0.03×28.12E±0.03,h11km±4km,
n44,σ0°87/55,1C-1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTT	**Catalca**	**0.35**	**43**	*i* PG	**Pg**	**02 20 29.6**	**+1.8**
MRMT	**Marmara Adasi**	**0.49**	**234**	*e*PG	**Pg**	**02 20 30.6**	**0.0**
MRMT				*e*SG	**Sg**	**02 20 37.8**	**+0.5**
BNT	**Bandirma**	**0.56**	**196**	*i* PG	**Pg**	**02 20 32.1**	**+0.2**
BNT				*i* SG	**Sg**	**02 20 39.7**	**+0.2**
MFT	**Murefte**	**0.64**	**261**	*e*PG	**Pg**	**02 20 33.8**	**+0.2**
MFT				*e*SG	**Sg**	**02 20 42.8**	**+0.5**
ISK	**Istanbul-Kandi**	**0.73**	**76**	*i* PG	**Pg**	**02 20 35.7**	**+0.3**
BADT	**Buyukada**	**0.76**	**93**	*i* PG	**Pg**	**02 20 36.0**	**+0.1**
YLV	**Yalova**	**1.01**	**108**	PG	**Pg**	**02 20 39.6**	**-1.3**
YLV				SG	**Sg**	**02 20 53.7**	**-0.7**
ORLT	**Orhaneli**	**1.03**	**145**	*i* PG	**Pg**	**02 20 40.7**	**-0.7**
ULDT	**Uludag**	**1.08**	**134**	*i* P	**Pb**	**02 20 41.4**	**+0.5**
ULDT				*i* S	**Sb**	**02 20 55.5**	**+0.7**
BTOK	**Tokmak**	**1.13**	**183**	*i* P	**Pb**	**02 20 42.7**	**+0.9**
BTOK				*i* S	**Sb**	**02 20 57.0**	**+0.6**
LPK	**Lapseki**	**1.16**	**244**	*e*PN	**Pn**	**02 20 42.3**	**-0.5**
HRT	**Hereke**	**1.18**	**93**	*i* PN	**Pn**	**02 20 43.2**	**+0.1**
CANB	**Canakkale**	**1.19**	**223**	PN	**Pn**	**02 20 43.5**	**+0.3**
DST	**Dursunbey**	**1.34**	**163**	*e*PN	**Pn**	**02 20 45.5**	**+0.1**
ALN	**Alexandroupoli**	**1.57**	**271**	*e*P	**Pn**	**02 20 48.8**	**+0.1**
EYL	**Eskiyayla**	**1.58**	**101**	*e*PN	**Pn**	**02 20 48.8**	**-0.1**
EZN	**Ezine**	**1.74**	**233**	*i* PN	**Pn**	**02 20 50.8**	**-0.2**
GPA	**Golpazari**	**1.77**	**109**	*e*PN	**Pn**	**02 20 50.8**	**-0.8**
AYVA	**Ayvalik**	**1.93**	**215**	*i* P	**Pn**	**02 20 56.7**	**+3.0**
AYVA				*i* S	**Sn**	**02 21 21.4**	**+3.3**
JMB	**Yambol**	**1.95**	**324**	P	**Pn**	**02 20 55.5**	**+1.4**
JMB				Pg	**Pg**	**02 21 00.0**	**+0.4**
RDO	**Rodhopi**	**1.97**	**278**	*e*PN	**Pn**	**02 20 54.8**	**+0.4**
AKS	**Akhisar**	**2.03**	**187**	*e*PN	**Pn**	**02 20 54.2**	**-1.0**
HENT	**Hendek**	**2.11**	**91**	*i* P	**Pn**	**02 20 57.2**	**+0.8**
HENT				*i* S	**Sn**	**02 21 27.6**	**+4.7**
KDZ	**Kurdzhali**	**2.17**	**291**	P	**Pn**	**02 20 58.0**	**+0.7**
KDZ				Pg	**Pg**	**02 21 03.0**	**-1.0**
PRK	**Paraskevi**	**2.17**	**221**	*e*PN	**Pn**	**02 20 57.0**	**-0.3**
DIM	**Dimitrovgrad**	**2.26**	**302**	P	**Pn**	**02 21 03.2**	**+4.7**
PRD	**Provadia**	**2.37**	**347**	P	**Pn**	**02 21 06.5**	**+6.4**
LIA	**Limnos Island**	**2.45**	**247**	*e*PN	**Pn**	**02 21 01.1**	**-0.2**
ESKT	**Eskisehir**	**2.50**	**122**	*e*PN	**Pn**	**02 21 01.8**	**-0.2**
LOS	**Limnos**	**2.51**	**249**	*e*P	**Pn**	**02 21 02.0**	**-0.1**
IZM	**

TIRR	Tirgusor	3.57	3	⇓P	Pn	02 21 33.9	+17
SOH	Sokhos	3.61	270	*e*P	Pn	02 21 16.3	-1.5
KKB	Krupnik	3.91	286	P	Pn	02 21 34.0	+12
VTS	Vitosha	4.05	296	P	Pn	02 21 24.0	0.0
GRG	Griva	4.33	273	*e*P	Pn	02 21 26.0	-2.0
MLR	Muntele Rosu	4.86	342	⇑P	Pn	02 21 40.1	+4.6

MOS ***23*** *02:24:48.7±0.9,38.58S×47.60E,h10km,mb5.0/13,Error ellipse: s-maj=22.1km s-min=11.2km az=102.9*

BJI ***23*** *02:24:48.4,38.77S×47.75E,h15km,mb5.4,Ms5.0,Msz4.6*

IDC ***23*** *02:24:48.2±0.5,38.53S×47.74E,mb4.5/14,mb1 4.6/15, mb1mx4.4/22,mbtmp4.5/15,MS4.2/16,Ms1 4.2/16, ms1mx4.1/20,Error ellipse: s-maj=19.8km s-min=14.5km az=49.0*

HRVD ***23*** *02:24:49.8±0.5,38.81S×47.21E,h12km,MW5.0/38, Centroid moment Tensor Solution. LP body waves: s10,c12;Mantle waves: s38,c53; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.59±.17; Mθθ2.14±.16; Mφφ0.45±.17; Mrθ-0.13±.54; Mθφ0.55±.13; Mφr2.53±.86; Best double couple: M0 3.25×10^16 NP1:φs88°,δ38°,λ-45°. NP2:φs216°,δ64°,λ-119°. Principal axes: T 2.456, Plg14°, Azm327°; N 1.589, Plg26°, Azm230°; P -4.045, Plg60°, Azm83°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***23*** *02:24:49.8±0.2,38.56S×47.65E,h10km,mb5.0/11, MS4.5/2 Error ellipse: s-maj=9.7km s-min=7.7km az=62.0*

ISC 23 02:24:48.7±0.3,38.56S±0.06×47.67E±0.09,h10km, (h13km±2.0km:pP-P),n108,σ0s81/74,mb4.7/30,MS4.2/19, 13C-7D,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**19.93**	**359**	P	**P**	**02 29 22.1**	**-1.4**
	0.4nm,0.3s,baz=172,slow=7.7,SNR=8.1						
BOSA	**Boshof**	**21.09**	**291**	*e*P	**P**	**02 29 35.4**	**-0.2**
BOSA				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.4						
BOSA	**Boshof**	**21.09**	**291**	P	**P**	**02 29 35.8**	**+0.2**
	comp=Z,9.4nm,0.8s,mb4.2,baz=124,slow=12,SNR=19						
BOSA				LR	LR	02 36 03.2	
	comp=Z,703nm,21.0s,MS4.0,baz=132,slow=32						
BOSA	**Boshof**	**21.09**	**291**	*e*P	**P**	**02 29 35.4**	**-0.3**
	comp=Z,23nm,1.1s,mb4.4						
SUR	**Sutherland**	**22.68**	**278**	P	**P**	**02 29 53.1**	**+1.6**
	comp=Z,16nm,0.9s,mb4.5,baz=105,slow=14,SNR=7.3						
SUR				LR	LR	02 36 44.5	
	comp=Z,538nm,21.6s,MS4.0,baz=92,slow=32						
LBTB	**Lobatse**	**23.04**	**299**	*e*P	**P**	**02 29 55.0**	**-0.1**
LBTB				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.5						
LBTB	**Lobatse**	**23.04**	**299**	P	**P**	**02 29 55.6**	**+0.6**
	comp=Z,12nm,0.8s,mb4.4,baz=144,slow=9.6,SNR=16						
LBTB				LR	LR	02 37 11.3	
	comp=Z,593nm,21.9s,MS4.0,baz=142,slow=32						
LBTB	**Lobatse**	**23.04**	**299**	*e*P	**P**	**02 29 55.0**	**-0.1**
	comp=Z,22nm,1.0s,mb4.5						
MATP	**Matopo**	**24.51**	**312**	P	**P**	**02 30 09.0**	**-0.4**
	comp=Z,9.2nm,0.8s,mb4.3,baz=124,slow=8.4,SNR=16						
MATP				LR	LR	02 38 09.2	
	comp=Z,915nm,21.9s,MS4.2,baz=132,slow=33						
LSZ	**Lusaka**	**28.85**	**318**	*e*P	**P**	**02 30 47.9**	**-1.6**
LSZ				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.6						
LSZ	**Lusaka**	**28.85**	**318**	*e*P	**P**	**02 30 47.9**	**-1.6**
	comp=Z,17nm,1.3s,mb4.6						
MAW	**Mawson**	**30.31**	**169**	P	**P**	**02 31 01.8**	**-0.3**
	comp=Z,3.2nm,0.8s,mb4.1,baz=312,slow=10,SNR=10						
MAW				LR	LR	02 40 07.6	
	comp=Z,701nm,21.4s,MS4.3,baz=250,slow=30						
SYO	**Syowa Base**	**30.82**	**186**	⇑pP	pP	02 31 06.4	-3.0
SYO	**Syowa Base**	**30.82**	**186**	⇑PP	PP	02 32 14.2	+6.5
TSUM	**Tsumeb**	**32.43**	**298**	LR	LR	02 44 11.7	
	comp=Z,514nm,19.1s,MS4.2,baz=141,slow=36						
TSUM	**Tsumeb**	**32.43**	**298**	*e*P	**P**	**02 31 20.1**	**-1.0**
TSUM				LR	LR		
	comp=Z,671nm,19.0s,MS4.4						
MIR	**Mirnyy**	**37.87**	**152**	*e*P	**P**	**02 32 08.0**	**+0.9**
MIR				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.0						
KMBO	**Kilima Mbogo**	**38.46**	**343**	LR	LR	02 46 31.8	
	comp=Z,236nm,18.8s,MS4.0,baz=98,slow=34						
SNAA	**Sanae**	**41.70**	**202**	*e*	**P**	**02 32 42.5**	**+3.9**
SNAA	**Sanae**	**41.70**	**202**	*e*	**P**	**02 32 44.3**	**+5.7**
SNAA	**Sanae**	**41.70**	**202**	*e*	PcP	02 34 34.7	-1.2
SNAA	**Sanae**	**41.70**	**202**	⇑*i*P	**P**	**02 32 38.7**	**+0.1**
SNAA				*e*	pP	02 32 42.5	+0.9
SNAA				*e*		02 32 44.3	
SNAA				*e*		02 34 34.7	
SNAA	**Sanae**	**41.70**	**202**	P	**P**	**02 32 38.6**	**0.0**
	comp=Z,2.3nm,0.7s,mb3.9,baz=89,slow=7.3,SNR=43						
SNAA				LR	LR	02 47 41.9	
	comp=Z,84nm,18.0s,MS3.7,baz=92,slow=33						
SNAA	**Sanae**	**41.70**	**202**	⇑*i*P	**P**	**02 32 38.7**	**+0.1**
SNAA				*e*	pP	02 32 42.5	+0.9
SNAA				*e*		02 32 44.3	
SNAA				*e*		02 33 34.7	
SNAA				*e*		02 33 38.2	
SNAA				*e*		02 34 34.7	
VNA2	**Neumayer--Watz**	**42.78**	**203**	*e*	**P**	**02 32 51.8**	**+4.2**
VNA2	**Neumayer--Watz**	**42.78**	**203**	*e*	**P**	**02 32 53.6**	**+6.0**
VNA2	**Neumayer--Watz**	**42.78**	**203**	*e*	PcP	02 34 38.5	-1.0
VNA2	**Neumayer--Watz**	**42.78**	**203**	⇑*i*P	**P**	**02 32 47.9**	**+0.3**
VNA2				*e*	pP	02 32 51.8	+1.2
VNA2				*e*		02 32 53.6	
VNA2				*e*		02 33 43.9	
VNA2				*e*		02 33 47.4	
VNA2				*e*		02 34 38.5	
VNA1	**Neumayer--Stat**	**42.97**	**204**	*e*	**P**	**02 32 53.4**	**+4.3**
VNA1	**Neumayer--Stat**	**42.97**	**204**	*e*	**P**	**02 32 55.4**	**+6.3**
VNA1	**Neumayer--Stat**	**42.97**	**204**	⇑*i*P	**P**	**02 32 49.5**	**+0.4**
VNA1				*e*	pP	02 32 53.4	+1.3
VNA1				*e*		02 32 55.4	
VNA1				*e*		02 33 45.6	
VNA1				*e*		02 33 48.9	
VNA3	**Neumayer Olymp**	**43.59**	**203**	*e*	**P**	**02 32 59.5**	**+5.4**
VNA3	**Neumayer Olymp**	**43.59**	**203**	*e*	PcP	02 34 41.3	-1.0
VNA3	**Neumayer Olymp**	**43.59**	**203**	⇑*i*P	**P**	**02 32 53.9**	**-0.2**
VNA3				*e*		02 32 59.5	
VNA3				*e*		02 33 49.8	
VNA3				*e*		02 33 53.8	
VNA3				*e*		02 34 41.3	
VNDA	**Vanda**	**57.58**	**166**	P	**P**	**02 34 38.9**	**-1.6**
	comp=Z,1.7nm,0.7s,mb4.2,baz=250,slow=7.6,SNR=8.7						
VNDA				LR	LR	02 57 28.6	
	comp=Z,437nm,19.0s,MS4.6,baz=221,slow=34						
SBA	**Scott Base**	**58.27**	**167**	*e*P	**P**	**02 34 45.0**	**-0.2**
SBA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
SBA				MLR	MLR		
	comp=Z,498nm,21.0s,MS4.6						
SBA	**Scott Base**	**58.27**	**167**	*e*P	**P**	**02 34 45.0**	**-0.2**
	comp=Z,8.9nm,1.0s,mb4.8						
SBA				LR	LR		
	comp=Z,498nm,21.0s,MS4.6						
DBIC	**Dimbokro**	**66.28**	**301**	LR	LR	03 05 44.7	
	comp=Z,117nm,18.6s,MS4.1,baz=114,slow=37						
FITZ	**Fitzroy Crossi**	**69.69**	**97**	*e*P	**P**	**02 36 00.8**	**0.0**
	comp=Z,15nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**73.71**	**118**	P	**P**	**02 36 23.7**	**-0.8**
	comp=Z,7.7nm,0.9s,mb4.6,baz=212,slow=2.8,SNR=9.0						
STKA				LR	LR	03 01 23.8	
	comp=Z,278nm,20.7s,MS4.5,baz=27,slow=30						
STKA	**Stephens Creek**	**73.71**	**118**	P	**P**	**02 36 23.7**	**-0.9**
KOLN	**Koldanda**	**74.05**	**33**	*e*P	**P**	**02 36 26.4**	**-0.2**
	comp=Z,50nm,1.2s,mb5.3						
DMN	**Daman**	**74.56**	**34**	*e*P	**P**	**02 36 29.7**	**+0.1**
PKI	**Pulchoki**	**74.66**	**34**	*e*P	**P**	**02 36 30.1**	**-0.1**
GKN	**Gorkha**	**74.70**	**33**	*e*P	**P**	**02 36 29.9**	**-0.5**
	comp=Z,53nm,1.1s,mb5.4						
KKN	**Kakani**	**74.80**	**34**	*e*P	**P**	**02 36 30.7**	**-0.3**
GUN	**Gumba**	**75.16**	**34**	*e*P	**P**	**02 36 33.4**	**+0.3**
	comp=Z,71nm,1.0s,mb5.5						
WRA	**Warramunga Arr**	**75.33**	**104**	P	**P**	**02 36 34.0**	**-0.2**
	comp=Z,14nm,0.8s,mb4.9,baz=228,slow=4.9,SNR=72						
WB2	**Warramunga Arr**	**75.34**	**104**	⇓*i*P	**P**	**02 36 34.0**	**-0.2**
WRAB	**Tennant Creek**	**75.34**	**104**	*d*P	**P**	**02 36 34.1**	**-0.1**
WRAB	**Tennant Creek**	**75.34**	**104**	*e*P	**P**	**02 36 33.7**	**-0.5**
	comp=Z,18nm,0.6s,mb5.2						
MALT	**Malatya**	**76.97**	**353**	*e*P	**P**	**02 36 42.6**	**-0.5**
MALT				pmax	pmax		
	comp=Z,43nm,2.3s,mb5.0						
MALT	**Malatya**	**76.97**	**353**	*e*P	**P**	**02 36 42.6**	**-0.5**
	comp=Z,43nm,2.3s,mb5.0						
BRTR	**Keskin Array B**	**78.96**	**349**	P	**P**	**02 36 53.5**	**-0.4**
	comp=Z,1.5nm,0.8s,mb4.0,baz=170,slow=7.5,SNR=10.0						
LSA	**Lhasa**	**79.11**	**38**	P	**P**	**02 36 55.8**	**+0.8**
LSA	**Lhasa**	**79.11**	**38**	*e*P	**P**	**02 36 55.9**	**+0.9**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
LSA	**Lhasa**	**79.11**	**38**	*e*P	**P**	**02 36 55.9**	**+0.9**
	comp=Z,9.4nm,0.9s,mb4.7						
SOC	**Sochi**	**82.08**	**354**	*c* i P	**P**	**02 37 09.4**	**-1.0**
SOC				*e*S	S	02 47 25.0	+1.4
SOC				*e*SS	SS	02 52 44.5	-1.7
SOC				*e*SSS	SSS	02 56 09.7	+0.3
SOC				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
SOC				pmax	pmax		
	comp=N,5.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.5s						
KIV	**Kislovodsk**	**82.26**	**356**	*d* i P	**P**	**02 37 12.0**	**+0.7**
KIV				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.8						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
PLCA	**Paso Flores**	**83.00**	**222**	P	**P**	**02 37 15.1**	**-0.2**
	comp=Z,3.5nm,0.8s,mb4.5,baz=137,slow=8.6,SNR=9.9						
PLCA				LR	LR	03 08 08.2	
	comp=Z,214nm,21.6s,MS4.5,baz=183,slow=31						
RPZ	**Rata Peaks**	**83.41**	**142**	LR	LR	03 04 50.2	
	comp=Z,78nm,21.5s,MS4.0,baz=213,slow=29						
ANN	**Anapa**	**83.49**	**353**	*e*P	**P**	**02 37 17.5**	**-0.2**
ANN				pmax	pmax		
	comp=Z,108nm,6.3s						
CTA	**Charters Tower**	**84.15**	**111**	*e*P	**P**	**02 37 22.0**	**+0.5**
	comp=Z,11nm,0.8s,mb5.0						
CTA	**Charters Tower**	**84.15**	**111**	*e*P	**P**	**02 37 22.0**	**+0.5**
CTA				pmax	pmax		
	comp=Z,11nm,0.8s						
CTA	**Charters Tower**	**84.15**	**111**	P	**P**	**02 37 21.5**	**-0.1**
	comp=Z,15nm,0.8s,mb5.2,baz=229,slow=7.8,SNR=7.1						
AAK	**Ala-Archa**	**84.41**	**20**	*d* i P	**P**	**02 37 23.1**	**+0.7**
AAK				pmax	pmax		
	comp=Z,23nm,1.9s,mb5.0						
AAK	**Ala-Archa**	**84.41**	**20**	*e*P	**P**	**02 37 22.4**	**0.0**
	comp=Z,28nm,1.6s,mb5.2						
TIRR	**Tirgusor**	**84.45**	**346**	⇑P	**P**	**02 37 22.6**	**+0.1**
FRU	**Bishkek**	**84.63**	**20**	*e*P	**P**	**02 37 25.0**	**+1.6**
CPUP	**Villa Florida**	**84.73**	**241**	P	**P**	**02 37 24.3**	**0.0**
	comp=Z,3.6nm,0.9s,mb4.5,baz=126,slow=6.0,SNR=7.4						
BDFB	**Brasília**	**84.75**	**254**	LR	LR	03 09 32.1	
	comp=Z,199nm,21.0s,MS4.5,baz=114,slow=32						
CFR	**Carcaliu**	**85.20**	**346**	⇑P	**P**	**02 37 27.9**	**+1.7**
MLR	**Muntele Rosu**	**85.92**	**345**	⇓P	**P**	**02 37 31.3**	**+1.5**
VRI	**Vrincioaia**	**86.13**	**346**	⇑P	**P**	**02 37 31.8**	**+1.0**
BURAR	**Bucovina Array**	**88.10**	**345**	⇑P	**P**	**02 37 41.6**	**+1.3**
BURAR	**Bucovina Array**	**88.10**	**345**	⇑P	**P**	**02 37 41.6**	**+1.3**
WMQ	**Urumqi**	**89.65**	**28**	*e*P	**P**	**02 37 48.6**	**+0.8**
MKAR	**Makanchi Array**	**90.45**	**23**	*i* P	**P**	**02 37 51.7**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**90.45**	**23**	P	**P**	**02 37 51.4**	**0.0**
	comp=Z,1.4nm,0.7s,mb4.4,baz=203,slow=4.7,SNR=14						
MKAR				LR	LR	03 14 53.9	
	comp=Z,46nm,19.3s,MS3.9,baz=179,slow=33						
OBN	**Obninsk**	**93.79**	**354**	⇓*e*P	**P**	**02 38 04.9**	**-1.7**
OBN				*e*		02 41 54.4	
OBN				*e*SS	SS	02 55 50.1	+14
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.3						
ARU	**Arti**	**95.08**	**6**	⇓*i*P	**P**	**02 38 11.9**	**-0.6**
ARU				*e*		02 42 02.4	
ARU				*e*S		02 48 44.9	
ARU				*e*SS	SS	02 55 48.1	-5.6
ARU				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.6						
NJ2	**Nanjing**	**96.50**	**54**	*e*P	**P**	**02 38 19.5**	**-0.1**
NJ2				AP	pP	02 38 30.3	+7.5
NJ2				PP	PP	02 42 17.1	+0.9
SSE	**Sheshan**	**97.37**	**56**	P	**P**	**02 38 23.8**	**+0.3**
SSE				AMB	AMB		
	comp=Z,19nm,0.7s,mb5.6						
SSE	**Sheshan**	**97.37**	**56**	P	**P**	**02 38 23.8**	**+0.3**
	comp=Z,19nm,0.7s,mb5.6						
LPAZ	**La Paz**	**98.89**	**241**	LR	LR	03 21 41.6	
	comp=Z,61nm,18.1s,MS4.1,baz=277,slow=34						
RKT	**Rikitea**	**118.59**	**177**	*e*S	SKS	02 51 03.0	+27
	comp=Z,150nm,33.5s						
RKT				*e*LR	LR	03 21 25.4	
	comp=Z,222nm,28.5s,baz=187						
PPT	**Papeete**	**121.87**	**161**	*e*P	PKPdf	02 44 15.6	+29
TAOE	**Nuku Hiva Isla**	**132.27**	**170**	*e*S	SKS	02 51 14.0	-2.7
	comp=Z,1μm,33.8s						
TAOE				*e*LR	LR	03 25 48.5	
	comp=Z,372nm,25.8s						
WCI	**Wyandotte Cave**	**144.21**	**284**	*e*PKP	PKPdf	02 44 23.4	-4.2
BLO	**Bloomington**	**144.62**	**286**	*e*PKP	PKPdf	02 44 24.6	-3.8
PLAL	**Pickwick Lake**	**144.62**	**278**	*e*PKP	PKPdf	02 44 24.1	-4.3
WVT	**Waverly**	**144.79**	**280**	*e*PKP	PKPdf	02 44 24.9	-3.8
OXF	**Oxford**	**145.50**	**277**	*e*PKP	PKPdf	02 44 27.3	-2.7
FVM	**French Village**	**147.30**	**282**	*e*PKPbc	PKPdf	02 44 33.2	+0.3
SLM	**Saint Louis**	**147.31**	**284**	*e*PKPdf	PKPdf	02 44 30.7	-2.2
SLM				*e*PKPbc	PKPdf	02 44 33.3	+0.4
CCM	**Cathedral Cave**	**147.94**	**282**	*e*PKPdf	PKPdf	02 44 32.0	-1.9
CCM				*e*PKPbc	PKPdf	02 44 35.0	+1.1
INK	**Inuvik**	**150.19**	**1**	*e*PKPbc	PKPdf	02 44 39.8	+3.2
ULM	**Lac du Bonnet**	**151.74**	**306**	PKPbc	PKPdf	02 44 43.8	+4.4
	comp=Z,15nm,0.7s,baz=86,slow=2.4,SNR=17						
ULM	**Lac du Bonnet**	**151.74**	**306**	*e*PKPbc	PKPdf	02 44 43.6	+4.2
KSU1	**Kansas State U**	**152.27**	**282**	*e*PKPbc	PKPdf	02 44 45.7	+5.2
ILAR	**Eielson Array**	**152.39**	**13**	PKPbc	PKPdf	02 44 44.5	+4.6
	comp=Z,3.1nm,0.8s,baz=318,slow=3.1,SNR=32						
YKA	**Yellowknife Ar**	**153.71**	**341**	PKPbc	PKPdf	02 44 46.3	+4.5
	comp=Z,2.0nm,0.7s,baz=40,slow=2.2,SNR=4.6						
LTX	**Lajitas**	**154.58**	**257**	*e*PKIKP	PKPdf	02 44 51.4	+7.4
TXAR	**Lajitas Array**	**154.58**	**257**	PKP	PKPdf	02 44 43.5	-0.6
	comp=Z,1.0nm,0.8s,baz=135,slow=1.8,SNR=11						
TXAR				PKPbc	PKPdf	02 44 52.0	+8.0
	comp=Z,4.6nm,0.9s,baz=141,slow=4.4,SNR=30						
TXAR	**Lajitas Array**	**154.58**	**257**	PKP	PKPdf	02 44 43.5	-0.6
TXAR				PKPbc	PKPdf	02 44 52.0	+8.0
MNTX	**Cornudas Mount**	**156.97**	**261**	*e*PKP	PKPdf	02 44 45.4	-1.8
ANMO	**Albuquerque**	**158.98**	**268**	PKP	PKPdf	02 44 48.8	-0.7
	comp=Z,0.7nm,0.8s,baz=181,slow=4.4,SNR=4.1						
PDAR	**Pinedale Array**	**162.23**	**291**	PKP	PKPdf	02 44 49.1	-3.6
	comp=Z,0.4nm,0.8s,baz=270,slow=3.0,SNR=5.3						

IDC 23 02:25:51.3±9.2,20.18S×177.69W,h479km±110km, mb2.9/5,mb1 3.4/6,mb1mx3.2/14,mbtmp3.9/6,Error ellipse: s-maj=63.7km s-min=29.4km az=171.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.57**	**193**	P	P	02 29 37.1	-0.8
	2.2nm,0.3s,baz=286,slow=2.2,SNR=6.8						
WRA	**Warramunga Arr**	**44.94**	**262**	P	P	02 33 23.3	-0.8
	0.5nm,1.0s,baz=96,slow=7.6,SNR=5.6						
NVAR	**Mina Array Bea**	**80.59**	**43**	P	P	02 37 14.3	+0.1
	0.5nm,0.6s,baz=221,slow=6.7,SNR=3.6						
TXAR	**Lajitas Array**	**86.64**	**57**	P	P	02 37 44.6	+0.2
	0.6nm,0.8s,baz=218,slow=6.5,SNR=6.5						
ILAR	**Eielson Array**	**87.94**	**13**	P	P	02 37 46.9	-2.8
	0.5nm,0.7s,baz=219,slow=6.3,SNR=5.2						
PDAR	**Pinedale Array**	**88.53**	**43**	P	P	02 37 52.3	-0.7
	0.4nm,0.6s,baz=194,slow=3.7,SNR=3.1						
BRTR	**Keskin Array B**	**146.84**	**313**	PKPbc	PKPbc	02 44 38.7	+0.4
	0.6nm,0.6s,baz=90,slow=2.9,SNR=4.4						
GERES	**GERESS Array B**	**149.97**	**345**	PKPbc	PKPdf	02 44 46.7	+5.8
	0.7nm,0.7s,baz=45,slow=1.9,SNR=7.0						

MEX ***23*** *02:29:06.9±1.2, 17.29N×94.63W,h147km±8km, MD4.4*

NEIC ***23*** *02:29:07.0, 17.27N×94.69W,h144km, mb3.9/3, MD4.3(MEX),After MEX.*

IDC ***23*** *02:29:07.9±1.2, 17.59N×94.27W,h140km±8km, mb3.4/4, mb1 3.7/6,mb1mx3.4/21,mbtmp3.9/6,Error ellipse: s-maj=68.0km s-min=15.9km az=49.0*

ISC 23 02:29:05.3±0.3,17.29N±0.04×94.67W±0.03,h141km±4km, n33,σ1s28/46,mb3.7/5,Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.28**	**226**	*i* P	**P**	**02 29 25.8**	**+0.6**
CMIG				*i* S	**S**	**02 29 40.1**	**-0.2**
TUIG	**Tuzandepetl**	**0.78**	**18**	*i* P	**P**	**02 29 28.2**	**+0.5**
TUIG				*i* S	**S**	**02 29 44.8**	**-0.2**
EVV	**El Vigia**	**1.33**	**331**	*i* P	**P**	**02 29 32.5**	**-0.2**
EVV				*i* S	**S**	**02 29 50.0**	**-3.8**
OXX	**Oaxaca**	**1.97**	**264**	*i* P	**P**	**02 29 41.7**	**+1.8**
OXX				*i* S	**S**	**02 30 09.5**	**+3.1**
OXX	**Oaxaca**	**1.97**	**264**	*i* P	**P**	**02 29 41.7**	**+1.8**
OXX				*i* S	**S**	**02 30 08.0**	**+1.6**
SCX	**San Cristobal**	**2.02**	**105**	*i* P	**P**	**02 29 41.3**	**+0.8**
SCX	**San Cristobal**	**2.02**	**105**	*i* P	**P**	**02 29 40.5**	**0.0**
SCX				*i* P		02 29 41.3	
SCX				*i* S	**S**	**02 30 06.5**	**-0.9**
HUIG	**Huatulco**	**2.05**	**223**	*e*P	**P**	**02 29 39.8**	**-1.0**
HUIG				*e*S	**S**	**02 30 08.0**	**0.0**
CCIG	**Comitan**	**2.62**	**112**	*e*P	**P**	**02 29 48.8**	**+0.6**
CCIG				*e*S	**S**	**02 30 20.2**	**-0.6**
LVIG	**Laguna Verde**	**2.94**	**326**	*e*P	**P**	**02 29 51.5**	**-0.7**
LVIG				*e*S	**S**	**02 30 27.0**	**-1.0**
IISM	**Ciudad Serdan**	**3.08**	**304**	*i* P	**P**	**02 29 55.7**	**+1.6**
PNIG	**Pinotepa**	**3.43**	**255**	*e*P	**P**	**02 29 57.1**	**-1.6**
PNIG				*e*S	**S**	**02 30 37.3**	**-2.2**
PNIG	**Pinotepa**	**3.43**	**255**	*e*P	**P**	**02 29 57.1**	**-1.6**
PNIG				*i* S	**S**	**02 30 38.3**	**-1.2**
PPM	**Popocatepetl**	**4.16**	**296**	*i* P	**P**	**02 30 10.6**	**+2.3**
YAIG	**Yautepec**	**4.47**	**291**	*i* P	**P**	**02 30 13.2**	**+0.8**
YAIG				*e*S	**S**	**02 31 02.3**	**-1.8**
PLIG	**Platanillo**	**4.73**	**284**	*e*P	**P**	**02 30 16.7**	**+0.8**
PLIG				*e*S	**S**	**02 31 09.1**	**-1.3**
UNM	**Universidad Na**	**4.74**	**296**	*e*P	**P**	**02 30 19.5**	**+3.5**
ACX	**Acapulco**	**5.04**	**266**	*i* P	**P**	**02 30 18.0**	**-2.0**
MOIG	**Morelia**	**6.63**	**292**	*i* P	**P**	**02 30 42.8**	**+1.5**
SFJM	**Santa Fe**	**8.54**	**293**	*e*P	**P**	**02 31 08.0**	**+1.1**
JTS	**JuntasAbangare**	**11.72**	**125**	P	**P**	**02 31 49.1**	**0.0**
	2.7nm,0.3s,baz=309,slow=20,SNR=7.2						
JTS				S	**S**	**02 33 58.3**	**+0.8**
	0.4nm,0.3s,baz=260,slow=21,SNR=2.4						
TXAR	**Lajitas Array**	**14.55**	**327**	P	**P**	**02 32 27.1**	**+1.5**
	0.0nm,0.3s,baz=147,slow=13,SNR=8.0						
GDL2	**Guadalupe Moun**	**17.25**	**331**	*e*P	**P**	**02 33 00.1**	**+1.2**
MNTX	**Cornudas Mount**	**17.33**	**328**	P	**P**	**02 32 59.7**	**-0.3**
	0.4nm,0.5s						
MYNC	**Murphy**	**20.05**	**26**	*e*P	**P**	**02 33 25.8**	**-3.6**
	16nm,1.1s						
ANMO	**Albuquerque**	**20.50**	**331**	pP		02 34 01.7	
	0.7nm,0.6s,baz=137,slow=15,SNR=2.2						
ANMO	**Albuquerque**	**20.50**	**331**	P	**P**	**02 33 33.3**	**-0.6**
WCI	**Wyandotte Cave**	**22.12**	**18**	*e*P	**P**	**02 33 46.9**	**-3.0**
	4.6nm,0.7s,mb4.0						
NVAR	**Mina Array Bea**	**29.51**	**320**	P	**P**	**02 34 59.6**	**+1.0**
	1.2nm,0.8s,mb3.7,baz=127,slow=9.0,SNR=6.7						
NVAR				pP	pP	02 35 31.1	+2.6
	0.7nm,0.7s,baz=128,slow=9.5,SNR=3.6						
SAML	**Samuel**	**40.60**	**128**	P	**P**	**02 36 30.7**	**-2.2**
LPAZ	**La Paz**	**42.39**	**140**	P	**P**	**02 36 49.2**	**+1.5**
	1.6nm,0.6s,mb3.9,baz=305,slow=5.0,SNR=6.5						
ILAR	**Eielson Array**	**58.82**	**337**	P	**P**	**02 38 49.2**	**-1.7**
	0.2nm,0.5s,mb3.2,baz=146,slow=4.9,SNR=4.5						
ILAR				pP	pP	02 39 24.1	-0.2
	0.4nm,0.6s,baz=151,slow=4.9,SNR=5.3						
ILAR				sP		02 39 37.4	-2.4
	0.7nm,1.0s,baz=149,slow=4.2,SNR=3.4						
NOA	**NORSAR Array B**	**82.49**	**28**	P	**P**	**02 41 13.0**	**-0.1**
	1.4nm,0.9s,mb3.6,baz=300,slow=5.8,SNR=3.9						

**IGQ 23 02:32:05.2,2.69S×77.93W,h12km±4km,mb4.2,3C-10D, Error ellipse: s-maj=

PWZ				SN	S	02 33 13.4	-0.1
MRZ	**Mangatainoka R**	**2.55**	**187**	P	P	02 32 48.2	-2.2
MRZ	**Mangatainoka R**	**2.55**	**187**	PN	P	02 32 48.2	-2.2
MRZ				SN	S	02 33 20.1	-4.3
KIW	**Kapiti Island**	**2.86**	**197**	P	P	02 32 51.2	-2.9
KIW	**Kapiti Island**	**2.86**	**197**	PN	P	02 32 51.1	-2.9
MTW	**Mount Morrison**	**3.05**	**187**	P	P	02 32 53.3	-3.1
MTW	**Mount Morrison**	**3.05**	**187**	PN	P	02 32 53.3	-3.2
CAW	**Cannon Point**	**3.06**	**193**	P	P	02 32 53.6	-3.0
CAW	**Cannon Point**	**3.06**	**193**	PN	P	02 32 53.5	-3.0
DUWZ	**D'Urville Isla**	**3.11**	**210**	PN	P	02 32 53.9	-3.3
MRW	**Makara Radio**	**3.25**	**197**	P	P	02 32 55.6	-3.3
MRW	**Makara Radio**	**3.25**	**197**	PN	P	02 32 55.6	-3.4
TRWZ	**Traveller**	**3.28**	**184**	PN	P	02 32 56.2	-3.0
PAWZ	**Paruwai Farm**	**3.28**	**187**	PN	P	02 32 56.0	-3.3
SNZO	**South Karori**	**3.33**	**197**	PN	P	02 32 56.2	-3.7
MSWZ	**Moikau Station**	**3.33**	**190**	P	P	02 32 56.4	-3.5
MSWZ	**Moikau Station**	**3.33**	**190**	PN	P	02 32 56.3	-3.6
TCW	**Tory Channel**	**3.35**	**203**	P	P	02 32 56.7	-3.5
TCW	**Tory Channel**	**3.35**	**203**	PN	P	02 32 56.7	-3.4
BHW	**Baring Head**	**3.39**	**194**	P	P	02 32 57.0	-3.6
BHW	**Baring Head**	**3.39**	**194**	PN	P	02 32 56.9	-3.7
TUWZ	**Tuamarina**	**3.66**	**205**	PN	P	02 33 00.0	-4.0
NNZ	**Nelson**	**3.69**	**212**	P	P	02 33 00.5	-3.8
NNZ	**Nelson**	**3.69**	**212**	PN	P	02 33 00.5	-3.9
QRZ	**Quartz Range**	**3.80**	**224**	*eP*	P	02 33 01.4	-4.4
QRZ	**Quartz Range**	**3.80**	**224**	PN	P	02 33 01.6	-4.2
BSWZ	**Blackbirch Sta**	**3.93**	**204**	P	P	02 33 04.2	-3.3
BSWZ	**Blackbirch Sta**	**3.93**	**204**	PN	P	02 33 03.9	-3.6
THZ	**Tophouse**	**4.34**	**212**	*eP*	P	02 33 08.4	-4.2
THZ	**Tophouse**	**4.34**	**212**	PN	P	02 33 08.4	-4.2
KHZ	**Kahutara**	**4.68**	**203**	*eP*	P	02 33 12.8	-4.2
KHZ	**Kahutara**	**4.68**	**203**	PN	P	02 33 12.6	-4.4
DSZ	**Denniston Nort**	**4.84**	**220**	*eP*	P	02 33 13.9	-5.2
DSZ	**Denniston Nort**	**4.84**	**220**	PN	P	02 33 14.1	-5.0
LTZ	**Lake Taylor**	**5.45**	**210**	*eP*	P	02 33 21.7	-5.3
LTZ	**Lake Taylor**	**5.45**	**210**	PN	P	02 33 21.7	-5.2
ODZ	**Otahua Downs**	**7.99**	**208**	*eP*	P	02 33 55.1	-5.2
ODZ	**Otahua Downs**	**7.99**	**208**	PN	P	02 33 55.1	-5.2

IDC ***23*** *02:35:14.7±5.0, 15.51S×167.74E, h88km±43km, mb3.6/5, mb1 3.9/6, mb1mx3.7/14, mbtmp4.0/6, Error ellipse: s-maj=39.9km s-min=29.0km az=80.0*
NEIC ***23*** *02:35:17.6±2.0, 15.67S×167.56E, h106km±16km, mb4.1/2, Error ellipse: s-maj=27.6km s-min=15.8km az=83.0*

ISC 23 02:35:16.8±2.9, 15.7S±0.1×167.5E±0.2, h118km±23km, n42, σ0≥92/18, mb3.8/7, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.41**	**189**	*eP*	**P**	**02 36 49.9**	**-0.2**
DZM				*eS*	**S**	**02 37 59.8**	**-2.6**
DZM	**Mont Dzumac**	**6.41**	**189**	P	**P**	**02 36 50.8**	**+0.7**
	31nm,0.3s,baz=182,slow=21,SNR=162						
DZM				S	**S**	**02 38 03.6**	**+1.3**
	21nm,0.3s,baz=92,slow=21,SNR=8.5						
NOUC	**Port Laguerre**	**6.46**	**190**	*eP*	**P**	**02 36 51.6**	**+0.9**
NOUC				*eS*	**S**	**02 38 02.6**	**-1.0**
NOUC	**Port Laguerre**	**6.46**	**190**	*eP*	**P**	**02 36 51.6**	**+0.9**
NOUC				*eS*	**S**	**02 38 02.6**	**-1.0**
WRA	**Warramunga Arr**	**31.85**	**257**	P	**P**	**02 41 33.3**	**+0.3**
	0.6nm,0.8s,mb3.4,baz=90,slow=6.7,SNR=4.3						
WRA				PcP	PcP	02 44 21.2	+0.1
	0.3nm,0.8s,baz=89,slow=3.3,SNR=4.7						
VNDA	**Vanda**	**61.89**	**181**	P	**P**	**02 45 26.0**	**+0.2**
	0.4nm,0.6s,mb3.7,baz=21,slow=7.2,SNR=5.0						
SBA	**Scott Base**	**62.16**	**180**	P	**P**	**02 45 28.5**	**+1.0**
	1.5nm,0.7s,mb4.1						
CASY	**Casey**	**62.72**	**202**	P	**P**	**02 45 30.2**	**-1.2**
	1.6nm,0.7s,mb4.1						
SONM	**Songino Array**	**83.44**	**324**	P	**P**	**02 47 33.0**	**+0.5**
	0.9nm,0.3s,mb4.0,baz=147,slow=5.3,SNR=18						
ILAR	**Eielson Array**	**87.38**	**18**	P	**P**	**02 47 49.5**	**-1.9**
	0.4nm,0.5s,mb3.6,baz=235,slow=5.0,SNR=8.2						
SNAA	**Sanae**	**92.59**	**183**		**P**	**02 48 15.9**	**+0.2**
VNA3	**Neumayer Olymp**	**93.24**	**181**	⇑*i*	**P**	**02 48 19.0**	**+0.3**
VNA2	**Neumayer--Watz**	**93.51**	**182**	⇑*i*	**P**	**02 48 20.6**	**+0.7**
MKAR	**Makanchi Array**	**98.09**	**316**	P	**P**	**02 48 40.9**	**-0.4**
	0.2nm,0.5s,mb3.9,baz=104,slow=5.0,SNR=4.0						
KEV	**Kevo**	**120.74**	**345**	*e*pkp	PKPdf	02 53 51.6	-3.0
	0.2nm,0.3s						
ARCES	**ARCESS Array B**	**121.27**	**345**	PKP	PKPdf	02 53 56.5	+0.9
	1.5nm,0.3s,baz=60,slow=2.0,SNR=50						
KAF	**Kangasniemi**	**126.20**	**339**	*e*pkp	PKPdf	02 54 05.1	-0.1
	0.3nm,0.3s						
FINES	**FINESS Array B**	**126.73**	**338**	PKP	PKPdf	02 54 06.7	+0.5
	1.0nm,0.5s,baz=45,slow=2.7,SNR=9.5						
NOA	**NORSAR Array B**	**131.64**	**345**	PKP	PKPdf	02 54 17.4	+1.7
	0.6nm,0.8s,baz=10,slow=1.5,SNR=3.0						
AKASG	**Malin Array Be**	**131.69**	**326**	PKP	PKPdf	02 54 17.0	+1.0
	0.8nm,0.5s,baz=47,slow=2.3,SNR=4.4						
BRTR	**Keskin Array B**	**133.34**	**310**	PKP	PKPdf	02 54 20.7	+1.3
	0.6nm,0.6s,baz=153,slow=2.8,SNR=4.4						
GERES	**GERESS Array B**	**140.63**	**333**	PKP	PKPdf	02 54 34.7	+2.2
	0.5nm,0.7s,SNR=4.7						
CABF	**La Chapelle**	**145.53**	**337**	*e*PKIKP	PKPdf	02 54 43.7	+2.6
FLN	**La Foliniere**	**145.61**	**346**	*e*PKIKP	PKPdf	02 54 43.0	+1.9
	23nm,0.7s						
LOR	**Lormes**	**145.75**	**340**	*e*PKIKP	PKPdf	02 54 44.0	+2.6
	17nm,0.9s						
SSF	**Saint Saulge**	**146.04**	**340**	*e*PKIKP	PKPdf	02 54 45.0	+3.1
	17nm,0.6s						
GRR	**Gorron**	**146.05**	**346**	*e*PKIKP	PKPdf	02 54 44.5	+2.6
	16nm,0.7s						
HYF	**Humbligny**	**146.13**	**341**	*e*PKIKP	PKPdf	02 54 45.0	+3.0
LPL	**La Plagne**	**146.19**	**335**	*e*PKIKP	PKPdf	02 54 45.9	+3.7
	6.3nm,0.7s						
LPG	**La Plagne**	**146.20**	**335**	*e*PKIKP	PKPdf	02 54 46.1	+3.9
	11nm,0.9s						
SMF	**Signal de Mont**	**146.30**	**340**	*e*PKIKP	PKPdf	02 54 45.5	+3.2
	14nm,0.9s						
AVF	**Avril sur Loir**	**146.33**	**340**	*e*PKIKP	PKPdf	02 54 45.3	+2.9
	4.9nm,0.5s						
SGMF	**Saint Gilles**	**146.54**	**348**	*e*PKIKP	PKPdf	02 54 45.6	+2.9
	24nm,0.7s						
ROSF	**Rostrenen**	**146.60**	**349**	*e*PKIKP	PKPdf	02 54 46.0	+3.2
	22nm,1.1s						
BGF	**Bois d'Agland**	**146.70**	**341**	*e*PKIKP	PKPdf	02 54 46.1	+3.1
	16nm,0.5s						
QUIF	**Quistinic**	**146.98**	**348**	*e*PKIKP	PKPdf	02 54 46.2	+2.8
	6.7nm,0.6s						
ORIF	**Oris-en-Rattie**	**147.03**	**336**	*e*PKIKP	PKPdf	02 54 46.2	+2.6
	8.5nm,0.7s						
TCF	**Toulx Ste Croi**	**147.14**	**341**	*e*PKIKP	PKPdf	02 54 47.4	+3.7
	7.5nm,0.7s						
SBF	**Sospel**	**147.24**	**333**	*e*PKIKP	PKPdf	02 54 47.0	+3.0
PGF	**Pioggiola**	**147.53**	**330**	*e*PKIKP	PKPdf	02 54 47.8	+3.3
SMRF	**Simiane la Rot**	**147.93**	**335**	*e*PKIKP	PKPdf	02 54 48.1	+3.0
	11nm,1.0s						
CAF	**Calviac**	**148.40**	**340**	*e*PKIKP	PKPdf	02 54 48.9	+3.0

IDC ***23*** *02:44:26.9±2.9, 31.62S×67.09W, h111km±27km, mb1 3.4/1, mb1mx3.1/13, mbtmp3.6/1, Error ellipse: s-maj=153.2km s-min=28.8km az=159.0*
NEIC ***23*** *02:44:27.2±0.7, 31.50S×67.09W, h115km±8km, MD4.2(GUC), Error ellipse: s-maj=15.3km s-min=8.8km az=139.0*
GUC ***23*** *02:44:27.8±0.9, 31.47S×67.36W, h150km, MD3.9, ML4.2*

ISC 23 02:44:26.7±0.9, 31.48S±0.06×67.20W±0.08, h123km±13km, n17, σ0≥79/24, 5C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.90**	**262**	P	**P**	**02 44 48.6**	**+0.3**
	6.3nm,0.3s,baz=77,slow=9.4,SNR=872						
CFAA				S	**S**	**02 45 04.2**	**-0.3**
	35nm,0.3s,baz=298,slow=19,SNR=217						
JACH	**Jahuel**	**3.12**	**246**	*eP*	**P**	**02 45 16.1**	**+0.5**
JACH				*i* S	**S**	**02 45 52.8**	**+0.1**
FCH	**Farellones**	**3.20**	**234**	⇑*i*P	**P**	**02 45 17.5**	**+0.8**
FCH				*i* S	**S**	**02 45 55.7**	**+1.1**
FCH				AMP		02 46 01.9	
	comp=N,126nm,0.2s						
CMCH	**Combarbala**	**3.27**	**274**	⇓*i*P	**P**	**02 45 17.7**	**+0.2**
CMCH				*i* S	**S**	**02 45 55.1**	**-1.2**
CMCH				AMP		02 45 58.0	
	comp=E,906nm,0.5s						
TLL	**Tololo Astrono**	**3.37**	**292**	⇑*i*P	**P**	**02 45 20.1**	**+1.2**
TLL				*i* S	**S**	**02 45 58.5**	**-0.1**
TLL				AMP		02 46 03.6	
	comp=E,448nm,0.5s						
CLCH	**Cerro Calan**	**3.41**	**235**	⇓*i*P	**P**	**02 45 20.3**	**+0.8**
CLCH				*i* S	**S**	**02 45 59.3**	**-0.3**
CLCH				AMP		02 46 03.0	
	comp=N,288nm,0.5s						
PCH	**Pirque**	**3.52**	**232**	⇓*i*P	**P**	**02 45 21.3**	**+0.3**
ROCH	**El Roble**	**3.56**	**244**	⇑*i*P	**P**	**02 45 21.4**	**0.0**
RCDM	**Rinconada Maip**	**3.65**	**236**	⇑*i*P	**P**	**02 45 22.6**	**-0.1**
RCDM				*i* S	**S**	**02 46 05.3**	**-0.1**
RCDM				AMP		02 46 07.3	
	comp=N,239nm,0.1s						
CHCH	**Chadas Angostu**	**3.81**	**229**	*e*P	**P**	**02 45 25.1**	**+0.4**
TACH	**Talagante**	**3.83**	**235**	*e*P	**P**	**02 45 24.7**	**-0.4**
TACH				*i* S	**S**	**02 46 08.2**	**-1.6**
CACH	**El Canelo**	**3.89**	**227**	⇑*i*P	**P**	**02 45 27.2**	**+1.3**
CICH	**Cipreses**	**3.92**	**223**	*e*P	**P**	**02 45 27.0**	**+0.6**
SFDO	**San Fernando**	**4.48**	**225**	*e*P	**P**	**02 45 33.0**	**-0.8**
SFDO				*i* S	**S**	**02 46 24.1**	**-1.3**
CPUP	**Villa Florida**	**10.05**	**62**	P	**P**	**02 46 47.4**	**-1.5**
	comp=N,0.3nm,0.3s,baz=254,slow=11,SNR=7.0						
WRA	**Warramunga Arr**	**124.86**	**205**	PKP	PKPdf	03 03 13.5	+0.9
	comp=N,0.3nm,0.5s,baz=163,slow=1.7,SNR=8.6						
MKAR	**Makanchi Array**	**152.04**	**48**	PKPbc	PKPdf	03 04 09.1	+9.0
	comp=N,1.0nm,0.6s,baz=286,slow=2.6,SNR=11						

OTT 23 02:48:16.8±0.0, 47.05N×75.79W, h18km, MN3.5/49, 3D, Southern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRQ	**Grand Remous**	**0.44**	**186**	⇓PG	Pb	02 48 25.5	-0.2
GRQ				SG	Sb	02 48 31.4	-0.5
GRQ				Trac		02 48 31.8	
	comp=Z,2μm,0.1s						
TRQ	**Mont Tremblant**	**1.18**	**134**	PG	Pb	02 48 38.2	-0.2
TRQ				SG	Sb	02 48 54.2	+1.0
TRQ				Trac		02 48 56.2	
	comp=Z,154nm,0.1s						
GAC	**Glen Almond**	**1.36**	**171**	⇓PG	Pn	02 48 41.1	0.0
GAC				⇓PG	Pn	02 48 41.1	0.0
GAC				SG	Sb	02 48 58.5	+0.2
GAC				SG	Sb	02 48 58.7	+0.4
GAC				Trac		02 48 60.0	
	comp=Z,184nm,0.3s						
GAC				Trac		02 49 00.7	
	comp=Z,107nm,0.1s						
CRLO	**Chalk River**	**1.49**	**228**	PN	Pn	02 48 42.2	-0.7
CRLO				SN	Sn	02 49 01.9	-0.2
CRLO				Trac		02 49 03.4	
	comp=Z,246nm,0.1s						
ALFO	**Alfred**	**1.55**	**156**	PN	Pn	02 48 43.8	+0.1
ALFO				SN	Sn	02 49 03.4	-0.1
ALFO				Trac		02 49 06.0	
	comp=Z,135nm,0.1s						
VLDQ	**Val d'Or**	**1.55**	**314**	PN	Pn	02 48 46.3	+2.4
VLDQ				SN	Sn	02 49 08.2	+4.5
VLDQ				Trac		02 49 15.4	
	comp=Z,58nm,0.2s						
MRHQ	**Morin Heights**	**1.59**	**136**	PN	Pn	02 48 44.2	-0.2
MRHQ				SN	Sn	02 49 04.7	+0.2
MRHQ				Trac		02 49 13.5	
	comp=Z,37nm,0.1s						
OTT	**Ottawa**	**1.65**	**178**	PN	Pn	02 48 45.5	+0.3
OTT				PN	Pn	02 48 45.7	+0.4
OTT				SN	Sn	02 49 04.6	-1.5
OTT				SN	Sn	02 49 05.8	-0.3
OTT				Trac		02 49 09.6	
	comp=Z,175nm,0.2s						
OTT				Trac		02 49 09.6	
	comp=Z,70nm,0.1s						
PEMO	**Pembroke**	**1.70**	**217**	PN	Pn	02 48 45.4	-0.5
PEMO				SN	Sn	02 49 06.9	-0.5
PEMO				Trac		02 49 13.9	
	comp=Z,52nm,0.0s						
ALGO	**Algonquin Park**	**1.91**	**236**	PN	Pn	02 48 48.3	-0.6
ALGO				SN	Sn	02 49 11.2	-1.3
ALGO				Trac		02 49 18.6	
	comp=Z,470nm,0.1s						
WBO	**Williamsburg**	**2.08**	**170**	PN	Pn	02 48 51.2	-0.1
WBO				SN	Sn	02 49 16.3	-0.7
WBO				Trac		02 49 27.1	
	comp=Z,47nm,0.1s						
DPQ	**Saint Jean**	**2.10**	**99**	PN	Pn	02 48 51.0	-0.6
DPQ				SN	Sn	02 49 16.5	-1.0
DPQ				Trac		02 49 22.4	
	comp=Z,76nm,0.1s						
MNT	**Montreal**	**2.15**	**135**	PN	Pn	02 48 51.8	-0.7
MNT				SN	Sn	02 49 18.3	-0.6
MNT				Trac		02 49 27.6	
	comp=Z,40nm,0.1s						
PLVO	**Plevna**	**2.20**	**205**	PN	Pn	02 48 52.4	-0.7
PLVO				SN	Sn	02 49 20.4	+0.5
PLVO				Trac		02 49 27.4	
	comp=Z,87nm,0.1s						
EEO	**Eldee**	**2.29**	**261**	PN	Pn	02 48 53.5	-0.9
EEO				SN	Sn	02 49 21.2	-1.2
EEO				Trac		02 49 30.9	
	comp=Z,111nm,0.2s						
MPPO	**Murphy's Point**	**2.30**	**188**	PN	Pn	02 48 53.7	-0.8
MPPO				SN	Sn	02 49 20.7	-1.9
MPPO				Trac		02 49 27.8	
	comp=Z,66nm,0.1s						
BANO	**Bancroft**	**2.52**	**217**	PN	Pn	02 48 56.5	-1.1
BANO				SN	Sn	02 49 26.0	-2.1
BANO				Trac		02 49 45.4	
	comp=Z,70nm,0.0s						
HSMO	**Haileybury Sch**	**2.66**	**278**	PN	Pn	02 48 58.2	-1.6
HSMO				SN	Sn	02 49 29.1	-2.8
DELO	**Deloro Mine**	**2.83**	**208**	PN	Pn	02 49 01.2	-1.0
DELO				SN	Sn	02 49 33.9	-2.3
DELO				Trac		02 49 53.9	
	comp=Z,71nm,0.2s						
KGNO	**Kingston**	**2.86**	**190**	PN	Pn	02 49 02.7	+0.2
KGNO				SN	Sn	02 49 34.4	-2.5
KGNO				Trac		02 49 49.8	
	comp=Z,27nm,0.1s						
RSPO	**Restoule Provi**	**2.91**	**252**	PN	Pn	02 49 02.0	-1.2
RSPO				SN	Sn	02 49 35.6	-2.5
RSPO				Trac		02 49 54.0	
	comp=Z,30nm,0.1s						
BUKO	**Buck Lake**	**2.97**	**239**	PN	Pn	02 49 02.7	-1.4
BUKO				SN	Sn	02 49 36.7	-3.0
BUKO				Trac		02 49 50.7	
	comp=Z,27nm,0.1s						
MOQ	**Mont Orford**	**3.00**	**124**	PN	Pn	02 49 03.2	-1.4
MOQ				SN	Sn	02 49 37.7	-2.8
MOQ				Trac		02 49 50.0	
	comp=Z,8.2nm,0.1s						
KILO	**Kirkland Lake**	**3.03**	**300**	PN	Pn	02 49 03.3	-1.5
KILO				SN	Sn	02 49 41.1	+0.1
KILO				Trac		02 49 58.0	
	comp=Z,51nm,0.2s						
QCQ	**Quebec**	**3.10**	**93**	PN	Pn	02 49 05.1	-0.9
QCQ				SN	Sn	02 49 39.8	-3.2
QCQ				Trac		02 49 59.0	
	comp=Z,43nm,0.2s						
PECO	**Prince Edward**	**3.22**	**196**	PN	Pn	02 49 06.3	-1.4
PECO				SN	Sn	02 49 42.9	-3.1
PECO				Trac		02 49 59.9	
	comp=Z,42nm,0.1s						
SADO	**Sadowa**	**3.27**	**227**	PN	Pn	02 49 06.7	-1.6
SADO				SN	Sn	02 49 43.8	-3.3
SADO				Trac		02 50 02.6	
	comp=Z,26nm,0.1s						
LINO	**Lindsay**	**3.41**	**219**	PN	Pn	02 49 08.7	-1.7
LINO				SN	Sn	02 49 47.3	-3.5
LINO				Trac		02 50 04.3	
	comp=Z,77nm,0.2s						
KLBO	**Killbear Provi**	**3.51**	**243**	PN	Pn	02 49 09.8	-1.9
KLBO				SN	Sn	02 49 49.2	-4.0
KLBO				Trac		02 50 16.8	
	comp=Z,16nm,0.1s						
WLVO	**Wesleyville**	**3.62**	**211**	PN	Pn	02 49 11.7	-1.6
WLVO				SN	Sn	02 49 52.2	-3.8
WLVO				Trac		02 50 18.4	
	comp=Z,46nm,0.2s						
A54	**Misere**	**3.69**	**82**	PN	Pn	02 49 14.0	-0.3
A54				SN	Sn	02 49 54.0	-3.7
A54				Trac		02 50 16.6	
	comp=Z,34nm,0.2s						
LMQ	**La Malbaie**	**3.75**	**80**	PN	Pn	02 49 13.1	-2.1
LMQ				SN	Sn	02 49 56.1	-3.3
LMQ				Trac		02 50 15.6	
	comp=Z,33nm,0.1s						
A11	**Saint Roch-des**	**3.82**	**85**	PN	Pn	02 49 14.2	-2.0
A11				SN	Sn	02 49 57.3	-3.9
A11				Trac		02 50 18.3	
	comp=Z,17nm,0.2s						
SUNO	**Sudbury Onapin**	**3.83**	**266**	PN	Pn	02 49 13.9	-2.4
SUNO				SN	Sn	02 49 57.7	-3.7
SUNO				Trac		02 50 16.2	
	comp=Z,30nm,0.2s						
PKRO	**Pickering**	**3.85**	**218**	PN	Pn	02 49 14.9	-1.7
PKRO				SN	Sn	02 49 57.5	-4.3
PKRO				Trac		02 50 20.9	
	comp=Z,159nm,0.2s						
A61	**Sainte Mathild**	**3.93**	**78**	PN	Pn	02 49 15.5	-2.2
A61				SN	Sn	02 49 59.8	-4.0
A61				Trac		02 50 18.8	
	comp=Z,31nm,0.2s						
A16	**Riviere Ouelle**	**3.96**	**82**	PN	Pn	02 49 15.9	-2.2
A16				SN	Sn	02 50 00.1	-4.6
A16				Trac		02 50 23.1	
	comp=Z,8.6nm,0.1s						
MALO	**McAlpine Lake**	**3.98**	**320**	PN	Pn	02 49 16.3	-2.2
MALO				SN	Sn	02 50 00.2	-5.1
MALO				Trac		02 50 03.8	
	comp=Z,18nm,0.1s						
A64	**Saint Simeon**	**4.08**	**77**	PN	Pn	02 49 18.5	-1.3
A64				SN	Sn	02 50 03.1	-4.5
A64				Trac		02 50 30.6	
	comp=Z,13nm,0.2s						
CLWO	**Collingwood**	**4.09**	**232**	PN	Pn	02 49 17.7	-2.3
CLWO				SN	Sn	02 50 04.8	-3.2
CLWO				Trac		02 50 33.1	
	comp=Z,32nm,0.2s						
A21	**Saint Andre**	**4.20**	**79**	PN	Pn	02 49 19.3	-2.2
A21				SN	Sn	02 50 06.7	-4.0
A21				Trac		02 50 30.2	
	comp=Z,30nm,0.2s						
TORO	**Toronto--Lesli**	**4.25**	**217**	PN	Pn	02 49 23.0	+0.7
TORO				SN	Sn	02 50 06.6	-5.4
TORO				Trac		02 50 35.7	
	comp=Z,50nm,0.1s						
MEDO	**Medina**	**4.32**	**207**	PN	Pn	02 49 21.2	-2.0
MEDO				SN	Sn	02 50 07.8	-5.9
MEDO				Trac		02 50 36.3	
	comp=Z,21nm,0.1s						
TOBO	**Tobermory, Bru**	**4.38**	**248**	PN	Pn	02 49 22.7	-1.4
TOBO				SN	Sn	02 50 12.6	-2.7
TOBO				Trac		02 50 37.6	
	comp=Z,28nm,0.3s						
ACTO	**Acton**	**4.57**	**223**	PN	Pn	02 49 24.4	-2.5
ACTO				SN	Sn	02 50 14.5	-5.6
ACTO				Trac		02 50 47.5	
	comp=Z,30nm,0.2s						
ELGO	**Elora Gorge**	**4.70**	**226**	PN	Pn	02 49 16.4	-12
ELGO				SN	Sn	02 50 18.1	-5.2
BRCO	**Bruce Peninsul**	**4.85**	**237**	PN	Pn	02 49 29.4	-1.4
BRCO				SN	Sn	02 50 21.6	-5.7
BRCO				Trac		02 50 49.7	
	comp=Z,58nm,0.2s						
OTRO	**Otter Rapids**	**4.99**	**311**	PN	Pn	02 49 30.1	-2.6
OTRO				SN	Sn	02 50 23.2	-7.4
OTRO				Trac		02 50 28.9	
	comp=Z,56nm,0.1s						
KAPO	**Kapuskasing**	**5.09**	**301**	PN	Pn	02 49 31.8	-2.4
KAPO				SN	Sn	02 50 27.0	-6.3
KAPO				Trac		02 50 39.4	
	comp=Z,4.2nm,0.1s						
ELFO	**Elginfield**	**5.49**	**227**	PN	Pn	02 49 36.2	-3.5
ELFO				SN	Sn	02 50 36.1	-7.1
ELFO				Trac		02 51 16.7	
	comp=Z,45nm,0.3s						
CNQ	**Baie Comeau**	**5.63**	**64**	PN	Pn	02 49 39.0	-2.8
CNQ				SN	Sn	02 50 39.8	-7.0
CNQ				Trac		02 51 23.9	
	comp=Z,21nm,0.3s						
GSQ	**Grosses Roches**	**6.12**	**69**	PN	Pn	02 49 44.8	-3.9
GSQ				SN	Sn	02 50 51.0	-8.0
GSQ				Trac		02 51 33.8	
	comp=Z,7.1nm,0.3s						
WEMQ	**Wemindji, Queb**	**6.18**	**348**	PN	Pn	02 49 45.6	-3.9
WEMQ				SN	Sn	02 50 51.9	-8.6
WEMQ				Trac		02 51 30.1	
	comp=Z,16nm,0.3s						
ICQ	**Pointe Anglais**	**6.20**	**63**	PN	Pn	02 49 45.6	-4.2
ICQ				SN	Sn	02 50 52.6	-8.4
ICQ				Trac		02 51 46.2	
	comp=Z,16nm,0.4s						
YOSQ	**Ashton Mining**	**6.27**	**20**	PN	Pn	02 49 44.8	-6.0
YOSQ				SN	Sn	02 50 54.3	-8.5
YOSQ				Trac		02 51 33.8	
	comp=Z,22nm,0.4s						
GGN	**Saint George**	**6.51**	**104**	PN	Pn	02 49 48.6	-5.7
GGN				Trac		02 51 46.0	
	comp=Z,4.7nm,0.3s						
LG4Q	**La Grande 4**	**6.68**	**9**	PN	Pn	02 49 52.3	-4.3
LG4Q				SN	Sn	02 51 02.0	-11
LG4Q				Trac		02 51 44.0	
	comp=Z,11nm,0.3s						
SMQ	**Clarke City**	**6.81**	**59**	PN	Pn	02 49 55.3	-3.1
SMQ				SN	Sn	02 51 09.5	-6.7
SMQ				Trac		02 51 54.4	
	comp=Z,13nm,0.3s						
PLIO	**Pelee Island,**	**7.21**	**225**	PN	Pn	02 50 01.2	-2.8
PLIO				SN	Sn	02 51 15.1	-11
PLIO				Trac		02 52 13.9	
	comp=Z,8.9nm,0.2s						
LMN	**Caledonia Moun**	**7.68**	**95**	PN

MJAR	**Matsushiro Arr**	**2.21**	**28**	P		**P**	**03 22 29.3**	**+0.2**
	4.2nm,0.3s,baz=182,slow=10.0,SNR=67							
MJAR				S		**S**	**03 23 09.4**	**-0.8**
	0.6nm,0.3s,baz=320,slow=33,SNR=5.4							
MJAR	**Matsushiro Arr**	**2.21**	**28**	P		**P**	**03 22 29.3**	**+0.2**
MJAR				S		**S**	**03 23 09.4**	**-0.8**
JHJ	**Hachijo jima 2**	**2.81**	**121**	P		**P**	**03 22 35.1**	**+1.0**
	4.0nm,0.3s,baz=58,slow=18,SNR=3.6							
JHJ				S		**S**	**03 23 20.0**	**+1.0**
	8.9nm,0.3s,baz=61,slow=19,SNR=3.0							
JHS	**Saijyo**	**3.14**	**278**	P		**P**	**03 22 37.3**	**+0.1**
BSO1	**Boso 1**	**3.36**	**88**	P		**P**	**03 22 37.9**	**-1.3**
BSO1				*e*S		**S**	**03 23 26.4**	**-1.8**
JNU	**Nakatsue**	**5.22**	**255**	P		**P**	**03 22 59.1**	**+0.1**
	baz=75,slow=14							
SONM	**Songino Array**	**26.30**	**309**	P		**P**	**03 26 45.3**	**+1.5**
	0.4nm,0.4s,mb3.0,baz=124,slow=9.9,SNR=5.2							
MKAR	**Makanchi Array**	**42.37**	**304**	P		**P**	**03 28 59.6**	**-0.1**
	0.2nm,0.5s,mb2.5,baz=90,slow=8.6,SNR=3.0							
ILAR	**Eielson Array**	**53.49**	**31**	P		**P**	**03 30 24.6**	**+0.2**
	0.3nm,0.5s,mb2.9,baz=266,slow=5.7,SNR=5.2							
WRAB	**Tennant Creek**	**54.28**	**183**	P		**P**	**03 30 29.1**	**-1.5**
	1.9nm,0.5s,mb3.7							
WRA	**Warramunga Arr**	**54.29**	**183**	P		**P**	**03 30 29.3**	**-1.4**
	0.7nm,0.3s,mb3.4,baz=359,slow=7.7,SNR=19							
ARCES	**ARCESS Array B**	**64.96**	**339**	P		**P**	**03 31 41.9**	**0.0**
	1.7nm,1.0s,mb3.6,baz=60,slow=9.8,SNR=6.0							
FINES	**FINESS Array B**	**69.22**	**331**	P		**P**	**03 32 07.7**	**-0.7**
	2.5nm,1.1s,mb3.9,baz=72,slow=6.0,SNR=3.4							
TXAR	**Lajitas Array**	**94.50**	**50**	P		**P**	**03 34 21.6**	**+1.7**
	0.1nm,0.6s,mb3.0,baz=90,slow=1.3,SNR=3.4							

*TRN **23** 03:26:02.7, 10.16N×62.47W, h9km, MD3.2*
*FUNV **23** 03:26:02.7, 9.76N×61.95W, h16km, MW2.8*
ISC 23 03:26:05.3±0.5, 9.71N±0.04×62.24W±0.03, h33km, n14, σ1℘33/26, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUNV	**Guanoco**	**0.82**	**303**	⇓*i*P	**P**	**03 26 21.2**	**+0.8**
GUNV				*e*S	**S**	**03 26 36.1**	**+4.5**
GUIV	**Guiria**	**0.93**	**1**	⇑*i*P	**P**	**03 26 20.1**	**-1.9**
GUIV				*e*S	**S**	**03 26 32.1**	**-2.2**
TPP	**Pointe-a-Pierr**	**0.98**	**52**	*e*P	**P**	**03 26 21.8**	**-0.9**
TPP				*e*S	**S**	**03 26 37.5**	**+1.8**
TRN	**Trinidad (W)**	**1.24**	**41**	*e*P	**P**	**03 26 25.2**	**-1.2**
TRN				*e*S	**S**	**03 26 41.9**	**-0.4**
CRUV	**Carupano**	**1.37**	**314**	*e*P	**P**	**03 26 28.6**	**+0.3**
CRUV				*e*S	**S**	**03 26 47.5**	**+2.1**
TBH	**Brigand Hill**	**1.39**	**56**	*e*P	**P**	**03 26 29.7**	**+1.2**
TBH				*e*S	**S**	**03 26 47.7**	**+1.7**
ITEV	**Isla Los Testi**	**1.85**	**332**	*e*P	**P**	**03 26 34.5**	**-0.8**
ITEV				*e*S	**S**	**03 26 58.2**	**+0.5**
GURV	**El Guri**	**2.11**	**203**	*e*P	**P**	**03 26 39.4**	**+0.5**
GURV				*e*S	**S**	**03 27 06.2**	**+2.0**
PCRV	**Puerto La Cruz**	**2.40**	**281**	*e*P	**P**	**03 26 43.8**	**+0.7**
LUEV	**Luepa**	**3.92**	**169**	*e*P	**P**	**03 27 01.4**	**-3.2**
LUEV				*e*S	**S**	**03 27 44.0**	**-6.2**
MERV	**Las Mercedes**	**4.03**	**264**	*e*S	**S**	**03 27 54.0**	**+1.1**
BIRV	**Birongo**	**4.04**	**281**	*e*P	**P**	**03 27 06.7**	**+0.3**
BIRV				*e*S	**S**	**03 27 53.6**	**+0.4**
CAOV	**Caicara del Or**	**4.68**	**240**	*e*P	**P**	**03 27 15.1**	**-0.4**
CAOV				*e*S	**S**	**03 28 08.6**	**-0.8**
BAUV	**El Baul**	**5.78**	**263**	*e*P	**P**	**03 27 29.5**	**-1.4**
BAUV				*e*S	**S**	**03 28 34.5**	**-2.4**

*NIED **23** 03:41:00, 39.50N×143.60E, h26km, Mw3.5 Best double couple: M0 2.34×10^14 NP1:℘s 11°, δ55°, λ82°. NP2:℘s 204°, δ36°, λ101°.*
*JMA **23** 03:41:40.7±0.1, 39.50N×143.64E, h34km, M3.7*
ISC 23 03:41:41.2±2.3, 39.5N±0.1×143.7E±0.2, h34km, n10, σ0℘27/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.42**	**274**	P	**P**	**03 42 04.9**	**0.0**
MIYJ				*e*S	**S**	**03 42 22.3**	**-0.2**
JTH	**Tanohata**	**1.45**	**288**	P	**P**	**03 42 05.3**	**0.0**
OFUJ	**Ofunato**	**1.59**	**255**	P	**P**	**03 42 07.4**	**0.0**
JOM	**Ohasama**	**1.82**	**270**	P	**P**	**03 42 11.2**	**+0.5**
JANG	**Nango**	**1.86**	**299**	P	**P**	**03 42 10.9**	**-0.3**
JMK	**Ichinoseki**	**1.96**	**255**	P	**P**	**03 42 13.0**	**+0.3**
JIO	**Ouri**	**2.07**	**241**	P	**P**	**03 42 14.2**	**-0.1**
JYK	**Kaneyama**	**2.62**	**258**	P	**P**	**03 42 22.3**	**+0.2**
JMM	**Marumori**	**2.77**	**235**	P	**P**	**03 42 23.6**	**-0.6**
MAT	**Matsushiro**	**5.21**	**237**	P	**P**	**03 42 58.8**	**0.0**
MAT				*e*S	**S**	**03 43 58.7**	**+0.1**

*ATH **23** 03:50:08.2, 38.63N×23.54E, h26km±1km, MD3.4/13, ML3.6*
*NEIC **23** 03:50:08.2, 38.64N×23.55E, h25km, ML3.6(ATH), After ATH.*
*CSEM **23** 03:50:08.5±0.1, 38.64N×23.51E, h8km, ML3.2, Error ellipse: s-maj=2.3km s-min=1.1km az=80.0*
*THE **23** 03:50:10.5, 38.78N×23.45E, h10km, ML3.2*
ISC 23 03:50:08.4±0.4, 38.63N±0.02×23.54E±0.04, h22km±4km, n33, σ1℘06/56, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	**0.50**	**162**	*e*PB	**Pb**	**03 50 18.5**	**0.0**
MPAR				*e*SB	**Sb**	**03 50 26.5**	**+1.1**
AOS	**Alonnisos**	**0.60**	**26**	*e*Pg	**Pb**	**03 50 20.8**	**+0.6**
AOS				*e*Sg	**Sb**	**03 50 29.5**	**+1.2**
PTL	**Penteli**	**0.63**	**156**	*e*PN	**Pn**	**03 50 21.0**	**-1.0**
PTL				*e*SN	**Sn**	**03 50 29.5**	**-1.9**
ATH	**Athens Observa**	**0.67**	**168**	*e*PN	**Pn**	**03 50 21.6**	**-0.9**
ATH				*e*SN	**Sn**	**03 50 31.4**	**-0.9**
MGER	**Gerania Oros**	**0.68**	**199**	*e*PB	**Pb**	**03 50 21.0**	**-0.4**
MGER				*e*SN	**Sn**	**03 50 32.0**	**-0.5**
NEO	**Neokhori**	**0.72**	**340**	*e*PN	**Pn**	**03 50 22.1**	**-1.1**
NEO				*e*SN	**Sn**	**03 50 33.1**	**-0.4**
NSAL	**Nisos Salamina**	**0.72**	**184**	*e*PN	**Pn**	**03 50 22.0**	**-1.2**
XOR	**Xorichti**	**0.78**	**340**	*e*Pg	**Pb**	**03 50 22.9**	**-0.3**
XOR				*e*Sg	**Sb**	**03 50 33.1**	**-0.3**
NAIG	**Nisos Aigina**	**0.87**	**182**	*e*PB	**Pb**	**03 50 24.6**	**-0.1**
NAIG				*e*SN	**Sn**	**03 50 37.5**	**+0.1**
NAIG	**Nisos Aigina**	**0.87**	**182**	*e*Pb	**Pb**	**03 50 24.6**	**-0.1**
NAIG				*e*Sn	**Sn**	**03 50 38.0**	**+0.6**
AGG	**Agios Georgios**	**1.02**	**293**	*e*Pg	**Pb**	**03 50 26.5**	**-0.8**
	comp=Z,12nm,0.4s						
AGG				*e*Sg	**Sb**	**03 50 39.9**	**-0.3**
PAIG	**Paliouri**	**1.30**	**5**	*e*Pg	**Pn**	**03 50 32.2**	**+0.7**
PAIG				*e*Sg	**Sb**	**03 50 49.2**	**+0.9**
EVR	**Evrytania**	**1.38**	**283**	*e*PN	**Pn**	**03 50 34.0**	**+1.4**
LIT	**Litokhoron**	**1.68**	**331**	*e*Pg	**Pn**	**03 50 37.0**	**+0.2**
	comp=Z,9.5nm,0.5s						
LIT				*e*Sg	**Sn**	**03 50 57.1**	**-0.8**
LIT	**Litokhoron**	**1.68**	**331**	*e*Pg	**Pn**	**03 50 37.0**	**+0.1**
	9.5nm,0.5s						
RLS	**Riolos of Patr**	**1.72**	**251**	*e*PN	**Pn**	**03 50 39.5**	**+2.0**
OUR	**Ouranopolis**	**1.74**	**11**	*e*Pg	**Pn**	**03 50 38.8**	**+1.0**
PLG	**Polygyros**	**1.74**	**358**	*e*PB	**Pb**	**03 50 38.4**	**-1.2**
PLG				*e*SN	**Sn**	**03 51 00.0**	**+0.4**
LOS	**Limnos**	**1.77**	**42**	*e*Pb	**Pb**	**03 50 39.2**	**-0.9**
LOS				*e*Sb	**Sb**	**03 51 02.2**	**+0.3**
LIA	**Limnos Island**	**1.80**	**45**	*e*PN	**Pn**	**03 50 39.7**	**+1.1**
ITM	**Ithomi**	**1.93**	**222**	*e*PN	**Pn**	**03 50 42.1**	**+1.7**
VLI	**Veliai**	**1.96**	**194**	*e*PB	**Pb**	**03 50 41.4**	**-2.0**
THE	**Thessaloniki**	**2.05**	**348**	*e*Pb	**Pb**	**03 50 42.4**	**-2.3**
THE				*e*Sb	**Sb**	**03 51 05.9**	**-4.1**
MEV	**Metsovon**	**2.13**	**304**	*e*Pn	**Pn**	**03 50 43.6**	**+0.2**
	comp=Z,3.0nm,0.5s						
MEV				*e*Sn	**Sn**	**03 51 08.5**	**-0.9**
SOH	**Sokhos**	**2.19**	**356**	*e*Pn	**Pn**	**03 50 45.2**	**+1.0**
SOH				*e*Sn	**Sn**	**03 51 09.8**	**-1.3**
SOH	**Sokhos**	**2.19**	**356**	*e*Pn	**Pn**	**03 50 45.2**	**+0.9**
SOH				*e*Sn	**Sn**	**03 51 09.8**	**-1.2**
APE	**Apeiranthos**	**2.22**	**134**	*e*PN	**Pn**	**03 50 45.8**	**+1.2**
LKD	**Levkas**	**2.26**	**273**	*e*Pn	**Pn**	**03 50 47.5**	**+2.2**
LKD				*e*Sn	**Sn**	**03 51 14.7**	**+2.0**
VLS	**Valsamata**	**2.36**	**260**	*e*PN	**Pn**	**03 50 48.1**	**+1.5**
GRG	**Griva**	**2.48**	**340**	*e*Pn	**Pn**	**03 50 48.4**	**0.0**
GRG				*e*Sn	**Sn**	**03 51 17.6**	**-0.8**
SRS	**Serrai**	**2.49**	**1**	*e*Pn	**Pn**	**03 50 48.9**	**+0.4**
SRS				*e*Sn	**Sn**	**03 51 17.9**	**-0.5**
FNA	**Florina**	**2.72**	**323**	*e*Pn	**Pn**	**03 50 52.6**	**+0.8**
FNA				*e*Sn	**Sn**	**03 51 22.4**	**-1.9**
ALN	**Alexandroupoli**	**2.98**	**40**	*e*Pn	**Pn**	**03 50 55.8**	**+0.3**
ALN				*e*Sn	**Sn**	**03 51 31.4**	**+0.5**

*NEIC **23** 03:52:44.6±4.1, 20.24S×169.60E, h133km±26km, mb3.9/1, Error ellipse: s-maj=53.6km s-min=19.5km az=214.0*
*IDC **23** 03:52:46.2±5.0, 20.43S×169.51E, h135km±35km, mb3.5/4, mb1 3.6/6, mb1mx3.4/15, mbtmp4.0/6, Error ellipse: s-maj=47.9km s-min=24.7km az=32.0*
ISC 23 03:52:44.4±3.8, 20.3S±0.3×169.5E±0.2, h144km±24km, n15, σ0℘80/18, mb3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.34**	**237**	*e*P	**P**	**03 53 37.1**	**+0.3**
DZM				*e*S	**S**	**03 54 15.7**	**-1.1**
DZM	**Mont Dzumac**	**3.34**	**237**	P	**P**	**03 53 37.0**	**+0.3**
	6.7nm,0.3s,baz=48,slow=18,SNR=131						
DZM				S	**S**	**03 54 15.9**	**-1.0**
	25nm,0.3s,baz=135,slow=22,SNR=26						
DZM	**Mont Dzumac**	**3.34**	**237**	*e*P	**P**	**03 53 37.1**	**+0.3**
DZM				*e*S	**S**	**03 54 15.7**	**-1.1**
NOUC	**Port Laguerre**	**3.47**	**238**	*e*P	**P**	**03 53 38.7**	**+0.3**
NOUC				*e*S	**S**	**03 54 20.4**	**+0.7**
URZ	**Urewera**	**19.13**	**161**	P	**P**	**03 56 58.1**	**-0.5**
	1.2nm,0.3s,baz=307,slow=6.8,SNR=6.9						
CTA	**Charters Tower**	**21.78**	**266**	P	**P**	**03 57 29.7**	**+4.2**
	3.9nm,0.6s,mb4.0,baz=92,slow=14,SNR=5.3						
STKA	**Stephens Creek**	**27.50**	**239**	P	**P**	**03 58 20.6**	**+1.2**
	1.8nm,0.6s,mb3.9,baz=82,slow=9.3,SNR=6.1						
WRAB	**Tennant Creek**	**32.94**	**264**	P	**P**	**03 59 05.8**	**-1.6**
	1.5nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**32.95**	**264**	P	**P**	**03 59 07.6**	**+0.1**
	0.3nm,0.3s,mb3.5,baz=96,slow=8.2,SNR=20						
SNAA	**Sanae**	**88.16**	**182**		**P**	**04 05 19.4**	**0.0**
SNAA	**Sanae**	**88.16**	**182**	P	**P**	**04 05 19.6**	**+0.1**
	0.2nm,0.4s,mb3.3,baz=219,slow=5.0,SNR=15						
SNAA	**Sanae**	**88.16**	**182**	P	**P**	**04 05 19.4**	**0.0**
VNA3	**Neumayer Olymp**	**88.74**	**180**		**P**	**04 05 22.1**	**-0.1**
VNA2	**Neumayer--Watz**	**89.03**	**181**		**P**	**04 05 23.9**	**+0.3**
GERES	**GERESS Array B**	**145.48**	**331**	PKPbc	PKPbc	04 12 07.9	+2.1
	0.5nm,0.5s,baz=38,slow=4.4,SNR=7.1						

*NEIC **23** 03:56:52.5, 37.10N×10.98W, h12km, MG2.6(MDD), After MDD.*
*LDG **23** 03:56:53.4±0.2, 37.09N×10.96W, h10km, Md3.4/1, Ml3.2/4, Error ellipse: s-maj=4.1km s-min=2.5km az=46.0*
*INMG **23** 03:56:54.1±0.9, 36.98N×11.03W, h31km, ML2.4, Error ellipse: s-maj=5.2km s-min=3.2km az=69.0*
*CSEM **23** 03:56:54.7±0.6, 37.29N×10.75W, h30km, ML2.4, Error ellipse: s-maj=12.0km s-min=6.8km az=48.0*
*MDD **23** 03:56:57.3±3.6, 37.29N×10.68W, h80km±142km, mb3.6/6, Error ellipse: s-maj=34.2km s-min=18.1km az=52.0, PRXIMO*
ISC 23 03:56:53.0±0.9, 37.32N±0.04×10.70W±0.05, h10km, n69, σ1℘37/129, 6C-5D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.59**	**81**	*e*P	**Pn**	**03 57 23.2**	**+1.7**
PTEO				*e*S	**Sb**	**03 57 44.5**	**+2.3**
	37nm,0.3s						
PTEO	**Sao Teotonio**	**1.59**	**81**	*e*P	**Pn**	**03 57 23.2**	**+1.7**
PTEO				*e*S	**Sb**	**03 57 44.5**	**+2.3**
	37nm,0.3s						
PLOU	**Loures**	**1.99**	**38**	*e*P	**Pn**	**03 57 29.9**	**+2.8**
PLOU				*e*S	**Sn**	**03 57 57.2**	**+5.0**
	16nm,0.1s						
PLOU	**Loures**	**1.99**	**38**	*e*P	**Pn**	**03 57 29.9**	**+2.8**
PLOU				*e*S	**Sn**	**03 57 57.2**	**+5.0**
	16nm,0.1s						
PBEJ	**Beja**	**2.36**	**72**	*e*P	**Pn**	**03 57 33.9**	**+1.4**
PBEJ				*e*S	**Sn**	**03 58 03.8**	**+2.1**
	11nm,0.1s						
PBEJ	**Beja**	**2.36**	**72**	*e*P	**Pn**	**03 57 33.9**	**+1.4**
PBEJ				*e*S	**Sn**	**03 58 03.8**	**+2.1**
	11nm,0.1s						
EVO	**Evora**	**2.45**	**59**	*e*Pn	**Pn**	**03 57 34.4**	**+0.7**
EVO				*e*Sn	**Sn**	**03 58 05.3**	**+1.3**
	14nm,0.2s						
EGRO	**El Granado**	**2.57**	**84**	⇑P	**Pn**	**03 57 36.2**	**+0.8**
EGRO				S	**Sn**	**03 58 07.7**	**+0.5**
EGRO	**El Granado**	**2.57**	**84**	⇑Pn	**Pn**	**03 57 36.2**	**+0.8**
	0.5nm,0.1s,SNR=18						
EGRO				Sn	**Sn**	**03 58 07.6**	**+0.5**
	8.3nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.57**	**84**	P	**Pn**	**03 57 36.2**	**+0.7**
	0.5nm,0.1s,SNR=18						
EGRO				S	**Sn**	**03 58 07.7**	**+0.6**
	SNR=7.9						
PTOM	**Tomar**	**2.92**	**37**	*e*P	**Pn**	**03 57 42.4**	**+2.0**
PTOM				*e*S	**Sn**	**03 58 20.4**	**+4.5**
	7.8nm,0.1s						
PTOM	**Tomar**	**2.92**	**37**	*e*P	**Pn**	**03 57 42.4**	**+2.0**
PTOM				*e*S	**Sn**	**03 58 20.4**	**+4.5**
	7.8nm,0.1s						
EMIN	**Mina Concepcio**	**3.23**	**81**	⇑P	**Pn**	**03 57 45.5**	**+0.6**
EMIN				S	**Sn**	**03 58 23.4**	**-0.5**
EMIN	**Mina Concepcio**	**3.23**	**81**	⇑Pn	**Pn**	**03 57 45.4**	**+0.5**
	0.3nm,0.1s,SNR=18						
EMIN				Sn	**Sn**	**03 58 23.4**	**-0.5**
	5.9nm,0.3s,SNR=15						
EMIN	**Mina Concepcio**	**3.23**	**81**	P	**Pn**	**03 57 45.5**	**+0.6**
	0.3nm,0.1s,SNR=18						
EMIN				S	**Sn**	**03 58 23.4**	**-0.5**
	5.9nm,0.3s,SNR=15						
EBAD	**Badajoz**	**3.25**	**63**	⇓P	**Pn**	**03 57 46.2**	**+1.1**
EBAD				S	**Sn**	**03 58 26.5**	**+2.2**
EBAD	**Badajoz**	**3.25**	**63**	⇓Pn	**Pn**	**03 57 46.2**	**+1.1**
	0.4nm,0.1s,SNR=18						
EBAD				Sn	**Sn**	**03 58 25.8**	**+1.6**
	2.9nm,0.3s,SNR=12						
EBAD	**Badajoz**	**3.25**	**63**	P	**Pn**	**03 57 46.2**	**+1.1**
	0.4nm,0.1s,SNR=18						
EBAD				S	**Sn**	**03 58 26.5**	**+2.3**
	2.9nm,0.3s,SNR=12						
PCBR	**Castelo Branco**	**3.57**	**44**	*e*P	**Pn**	**03 57 51.2**	**+1.5**
PCBR				*e*S	**Sn**	**03 58 34.2**	**+1.8**
	2.2nm,0.2s						
PCBR	**Castelo Branco**	**3.57**	**44**	*e*P	**Pn**	**03 57 51.2**	**+1.5**
PCBR				*e*S	**Sn**	**03 58 34.2**	**+1.8**
	2.2nm,0.2s						
ESPR	**Espera**	**3.90**	**95**	⇑P	**Pn**	**03 57 54.2**	**-0.2**
ESPR				S	**Sn**	**03 58 39.1**	**-1.6**
ESPR	**Espera**	**3.90**	**95**	⇑Pn	**Pn**	**03 57 54.2**	**-0.1**
	3.1nm,0.1s,SNR=18						
ESPR				Sn	**Sn**	**03 58 38.5**	**-2.3**
	26nm,0.3s,SNR=7.9						
ESPR	**Espera**	**3.90**	**95**	P	**Pn**	**03 57 54.2**	**-0.2**
	3.1nm,0.1s,SNR=18						
ESPR				S	**Sn**	**03 58 39.1**	**-1.7**
	SNR=7.9						
MTE	**Manteigas**	**3.94**	**38**	*e*P	**Pn**	**03 57 56.6**	**+1.6**
MTE				*e*S	**Sn**	**03 58 43.7**	**+1.9**
	3.9nm,0.5s						
MTE	**Manteigas**	**3.94**	**38**	*e*P	**Pn**	**03 57 56.6**	**+1.6**
MTE				*e*S	**Sn**	**03 58 43.7**	**+1.9**
	3.9nm,0.5s						
PVIS	**Viseu**	**4.04**	**32**	*e*P	**Pn**	**03 57 57.6**	**+1.3**
PVIS				*e*S	**Sn**	**03 58 45.9**	**+1.7**
	8.3nm,0.1s						
PVIS	**Viseu**	**4.04**	**32**	*e*P	**Pn**	**03 57 57.6**	**+1.3**
PVIS				*e*S	**Sn**	**03 58 45.9**	**+1.7**
	8.3nm,0.1s						
PVRL	**Vila Real**	**4.58**	**29**	*e*P	**Pn**	**03 58 05.0**	**+0.9**
PVRL				*e*S	**Sn**	**03 58 58.5**	**+0.5**
	8.6nm,0.1s						
EMIJ	**Mijas**	**4.81**	**97**	Sn	**Sn**	**03 59 00.9**	**-2.8**
	2.5nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**4.81**	**97**	S	**Sn**	**03 59 01.3**	**-2.5**
	SNR=7.9						
EADA	**Adamuz**	**4.93**	**78**	⇓P	**Pn**	**03 58 09.2**	**+0.2**
EADA				S	**Sn**	**03 59 04.1**	**-2.6**
EADA	**Adamuz**	**4.93**	**78**	⇓Pn	**Pn**	**03 58 09.1**	**+0.1**
	0.5nm,0.1s,SNR=18						
EADA				Sn	**Sn**	**03 59 04.1**	**-2.6**
	4.8nm,0.4s,SNR=11						
EADA	**Adamuz**	**4.93**	**78**	P	**Pn**	**03 58 09.1**	**+0.1**
	0.5nm,0.1s,SNR=18						
EADA				S	**Sn**	**03 59 04.1**	**-2.7**
	4.8nm,0.4s,SNR=11						
ELOB	**Lobios**	**4.98**	**23**	Pn	**Pn**	**03 58 10.4**	**+0.7**
	1.1nm,0.1s,SNR=21						
ELOB				Sn	**Sn**	**03 59 05.9**	**-2.1**
	4.4nm,0.3s,SNR=11						
ELOB	**Lobios**	**4.98**	**23**	P	**Pn**	**03 58 10.4**	**+0.7**
	1.1nm,0.1s,SNR=21						
ELOB				S	**Sn**	**03 59 05.9**	**-2.2**
	4.4nm,0.3s,SNR=11						
EZAM	**Zamans**	**5.07**	**17**	P	**Pn**	**03 58 11.0**	**+0.1**
EZAM				S	**Sn**	**03 59 08.8**	**-1.4**
EZAM	**Zamans**	**5.07**	**17**	Pn	**Pn**	**03 58 11.0**	**+0.1**
	0.6nm,0.1s,SNR=7.9						
EZAM				Sn	**Sn**	**03 59 08.9**	**-1.4**
	6.5nm,0.4s,SNR=6.5						
PBRG	**Braganca**	**5.43**	**33**	*e*P	**Pn**	**03 58 16.4**	**+0.4**
PBRG				*e*S	**Sn**	**03 59 18.8**	**-0.5**
	3.2nm,0.1s						
ECAL	**Calabor**	**5.54**	**32**	P	**Pn**	**03 58 18.2**	**+0.6**
ECAL				S	**Sn**	**03 59 21.0**	**-1.1**
ECAL	**Calabor**	**5.54**	**32**	Pn	**Pn**	**03 58 18.1**	**+0.5**
	1.4nm,0.2s,SNR=13						
ECAL				Sn	**Sn**	**03 59 21.0**	**-1.1**
	1.6nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.54**	**32**	P	**Pn**	**03 58 18.1**	**+0.5**
	1.4nm,0.2s,SNR=13						
ECAL				S	**Sn**	**03 59 21.0**	**-1.1**
	SNR=7.9						
EBAN	**Banos Encina**	**5.55**	**79**	P	**Pn**	**03 58 17.9**	**+0.2**
EBAN				S	**Sn**	**03 59 20.7**	**-1.6**
EBAN	**Banos Encina**	**5.55**	**79**	Pn	**Pn**	**03 58 16.9**	**-0.8**
	0.9nm,0.1s,SNR=7.9						
EBAN				Sn	**Sn**	**03 59 20.7**	**-1.6**
	3.2nm,0.4s,SNR=6.2						
EBAN	**Banos Encina**	**5.55**	**79**	P	**Pn**	**03 58 17.2**	**-0.5**
	0.9nm,0.1s,SNR=7.9						
EBAN				S	**Sn**	**03 59 20.7**	**-1.6**
	3.2nm,0.4s,SNR=6.2						
EMAZ	**Mazaricos**	**5.78**	**13**	P	**Pn**	**03 58 20.7**	**-0.3**
EMAZ				S	**Sn**	**03 59 24.5**	**-3.6**
EMAZ	**Mazaricos**	**5.78**	**13**	Pn	**Pn**	**03 58 20.3**	**-0.7**
	0.5nm,0.1s,SNR=4.0						
EMAZ				Sn	**Sn**	**03 59 24.5**	**-3.6**
	5.4nm,0.1s,SNR=7.5						
EMAZ	**Mazaricos**	**5.78**	**13**	P	**Pn**	**03 58 20.7**	**-0.3**
	0.6nm,0.1s,SNR=4.0						
ESDC	**Sonseca Array**	**5.79**	**64**	⇓Pn	**Pn**	**03 58 20.8**	**-0.3**
	1.5nm,0.2s,baz=248,slow=14,SNR=18						
ESDC				Sn	**Sn**	**03 59 26.9**	**-1.4**
	1.6nm,0.3s,baz=248,slow=24,SNR=11						
ESDC	**Sonseca Array**	**5.79**	**64**	P	**Pn**	**03 58 20.8**	**-0.3**
	1.5nm,0.2s,SNR=18						
ESDC				S	**Sn**	**03 59 26.9**	**-1.4**
	1.6nm,0.3s,SNR=11						
STS	**Santiago**	**5.80**	**16**	Pn	**Pn**	**03 58 20.3**	**-1.0**
	1.2nm,0.1s,SNR=7.9						
STS				Sn	**Sn**	**03 59 26.0**	**-2.6**
	2.7nm,0.1s,SNR=7.9						
EQES	**Quesada**	**6.08**	**83**	P	**Pn**	**03 58 24.4**	**-0.8**
EQES				S	**Sn**	**03 59 33.8**	**-1.9**
EQES	**Quesada**	**6.08**	**83**	Pn	**Pn**	**03 58 24.4**	**-0.9**
	0.5nm,0.1s,SNR=6.7						
EQES				Sn	**Sn**	**03 59 33.8**	**-1.9**
	1.7nm,0.3s,SNR=9.3						
EQES	**Quesada**	**6.08**	**83**	P	**Pn**	**03 58 24.4**	**-0.9**
	2.5nm,0.8s,SNR=6.7						
EQES				S	**Sn**	**03 59 33.8**	**-1.9**
	1.7nm,0.3s,SNR=9.3						
PMPS	**Porto Santo**	**6.27**	**229**	*e*P	**Pn**	**03 58 13.8**	**-14**
PMPS				*e*S	**Sn**	03 59 13.9	-26
EPON	**Pontenova**	**6.59**	**23**	P	**Pn**	**03 58 32.1**	**-0.2**
EPON				S	**Sn**	**03 59 45.0**	**-3.3**
EPON	**Pontenova**	**6.59**	**23**	Pn	**Pn**	**03 58 32.1**	**-0.3**
	2.9nm,0.1s,SNR=25						
EPON				Sn	**Sn**	**03 59 45.0**	**-3.3**
	2.0nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**6.59**	**23**	P	**Pn**	**03 58 32.1**	**-0.3**
	2.9nm,0.1s,SNR=25						
EPON				S	**Sn**	**03 59 45.0**	**-3.3**
	SNR=7.9						
EARI	**Arriondas**	**7.30**	**33**	Pn	**Pn**	**03 58 42.6**	**+0.2**
	3.4nm,1.0s,SNR=9.0						
EARI

PALK eSn S 05 08 53.8 -16
BDT Bhumibol Dam 13.30 25 P P **05 06 59.5 +0.7**
13nm,0.8s
KKTK Khon Kaen 14.59 40 P P **05 07 17.0 +1.0**
KSM Kuching 17.49 101 eP P **05 07 54.6 +1.7**
HYB Hyderabad 18.80 312 eP P **05 08 07.0 -2.1**
HYB eS S **05 11 31.0 -3.5**
HYB Hyderabad 18.80 312 i P P **05 08 07.0 -2.1**
HYB eS S **05 11 31.0 -3.5**
IMP Imphal 19.53 2 eP P **05 08 17.0 -0.6**
BLSP Bilaspur 19.97 329 eP P **05 08 22.0 -0.5**
BLSP eS S **05 11 53.0 -7.4**
SHL Shillong 20.33 357 ⇓P P **05 08 23.7 -2.5**
SHL eS S **05 12 02.5 -5.2**
QIZ Qiongzhong 21.32 48 ⇑P P **05 08 37.0 +0.7**
QIZ XP 05 08 48.5
QIZ S S **05 12 27.4 +0.6**
QIZ AMB AMB
comp=Z,83nm,1.0s,mb5.0
QIZ LR LR
comp=N,704nm,18.0s,MS4.2
QIZ LR LR
comp=E,620nm,19.4s,MS4.2
QIZ LR LR
comp=Z,722nm,12.5s
QIZ Qiongzhong 21.32 48 eP P **05 08 36.8 +0.5**
comp=Z,68nm,0.9s,mb5.0
KMI Kunming 21.87 24 P P **05 08 43.3 +1.4**
KMI AP 05 08 52.3
KMI XP 05 08 56.1
KMI PPP PPP 05 09 20.3 +3.0
KMI S S **05 12 40.3 +3.2**
KMI SSS SSS 05 13 34.8 +4.9
KMI AMB AMB
comp=Z,70nm,0.9s,mb5.1
KMI AMB AMB
comp=Z,181nm,3.7s
KMI LR LR
comp=N,491nm,15.8s,MS4.3
KMI LR LR
comp=E,735nm,16.9s,MS4.3
KMI LR LR
comp=Z,370nm,17.3s,MS3.9
KMI Kunming 21.87 24 P P **05 08 43.3 +1.4**
KMI *SP 05 08 56.1
KMI 05 09 10.6
KMI PPP PPP 05 09 20.3 +3.0
KMI S S **05 12 40.3 +3.2**
KMI *SS 05 12 55.0
KMI SS SS 05 13 19.9 +4.6
KMI SSS SSS 05 13 34.7 +4.8
KMI pmax pmax
comp=Z,70nm,0.9s,mb5.1
KMI MLR MLR
comp=Z,370nm,17.3s,MS3.9
KMI Kunming 21.87 24 P P **05 08 43.3 +1.4**
comp=Z,70nm,0.9s,mb5.1
KMI pP 05 08 52.3
KMI sP 05 08 56.1
KMI PP PP 05 09 10.6 +3.2
KMI PPP PPP 05 09 20.3 +3.0
KMI S S **05 12 40.3 +3.2**
KMI sS 05 12 55.0
KMI SS SS 05 13 19.9 +4.6
KMI SSS SSS 05 13 34.7 +4.8
KMI LR LR
comp=Z,370nm,17.3s,MS3.9
KAD Karad 22.17 305 eP P **05 08 45.0 +0.1**
POO Poona 23.08 307 ⇑i P **05 09 01.0 +7.1**
comp=Z,50nm,1.0s,mb4.9
POO eS S **05 13 05.0 +5.8**
JIRN Jiri 23.35 344 eP P **05 08 58.4 +2.0**
comp=Z,83nm,0.4s,mb5.5
PKI Pulchoki 23.49 342 eP P **05 08 59.4 +1.6**
DMN Daman 23.61 342 eP P **05 09 01.0 +2.0**
GUN Gumba 23.67 344 eP P **05 09 00.8 +1.2**
comp=Z,127nm,0.7s,mb5.5
KKN Kakani 23.73 342 eP P **05 09 01.0 +0.8**
comp=Z,78nm,0.7s,mb5.2
GKN Gorkha 24.13 341 eP P **05 09 05.2 +1.1**
comp=Z,280nm,0.8s,mb5.7
KOLN Koldanda 24.27 339 eP P **05 09 06.4 +1.0**
comp=Z,166nm,1.0s,mb5.4
LSA Lhasa 24.49 356 P P **05 09 09.6 +2.1**
LSA Lhasa 24.49 356 eP P **05 09 10.2 +2.7**
LSA eS S **05 13 27.8 +4.5**
LSA pmax pmax
comp=Z,79nm,0.7s,mb5.2
LSA Lhasa 24.49 356 eP P **05 09 10.2 +2.6**
comp=Z,79nm,0.7s,mb5.2
LSA eS S **05 13 27.8 +4.4**
GYA Guiyang 24.80 30 ⇓i P P **05 09 11.3 +0.8**
GYA AP 05 09 18.0
GYA XP 05 09 21.3
GYA PP PP 05 09 47.8 +0.3
GYA S S **05 13 30.5 +1.9**
GYA AMB AMB
comp=Z,30nm,1.1s,mb4.7
GYA AMB AMB
comp=Z,100nm,5.4s
GYA LR LR
comp=N,520nm,16.2s,MS4.2
GYA LR LR
comp=E,380nm,13.8s,MS4.2
GYA LR LR
comp=Z,740nm,13.8s,MS4.3
CD2 Chengdu 27.48 20 P P **05 09 34.4 -1.0**
DDI Dehra Dun 28.81 332 e P **05 09 47.0 -0.3**
ENH Enshi 29.34 30 eP P **05 09 50.1 -2.0**
comp=Z,36nm,0.9s,mb5.1
QZH Quanzhou 31.34 49 eP P **05 10 10.8 +0.9**
QZH eS S **05 15 13.0 -1.2**
QZH LR LR
comp=N,2μm,17.5s
QZH LR LR
comp=E,990nm,9.4s
QZH LR LR
comp=Z,2μm,12.6s,MS5.0
WHN Wuhan 32.17 36 eP P **05 10 16.5 -0.6**
XAN Xi'an 32.24 25 P P **05 10 16.1 -1.6**
XAN AP pP 05 10 21.3 -3.8
XAN AMB AMB
comp=Z,27nm,0.7s,mb5.2
LZH Lanzhou 32.31 16 P P **05 10 17.6 -0.6**
LZH AP pP 05 10 27.0 +1.3
LZH XP sP 05 10 31.6 +2.7
LZH PP PP 05 11 25.0 -1.1
LZH eS S **05 15 29.0 -0.3**
LZH XS 05 15 44.0
LZH AMB AMB
comp=Z,60nm,1.2s,mb5.3
LZH AMB AMB
comp=Z,150nm,5.4s
LZH LR LR
comp=N,790nm,14.8s
LZH LR LR
comp=Z,1μm,19.5s,MS4.6
LZH Lanzhou 32.31 16 P P **05 10 17.6 -0.6**
comp=Z,60nm,1.2s,mb5.3
LZH pP pP 05 10 27.0 +1.3
LZH sP sP 05 10 31.6 +2.7
LZH PP PP 05 11 25.0 -1.1
LZH eS S **05 15 29.0 -0.3**
LZH sS 05 15 44.0
LZH SS SS 05 17 25.0 +0.4
LZH LR LR
comp=Z,1μm,19.5s,MS4.6
GTA Gaotai 34.62 9 ⇑P P **05 10 38.4 +0.1**
GTA AP pP 05 10 46.9 +1.1
GTA XP sP 05 10 51.3 +2.3
GTA PCP PcP 05 13 13.5 +1.0
GTA S S **05 16 04.3 -0.9**
GTA XS 05 16 16.8
GTA SCP 05 16 56.9
GTA SS SS 05 18 14.3 -3.5
GTA AMB AMB
comp=Z,24nm,0.7s,mb5.2
GTA AMB AMB
comp=Z,116nm,4.9s
GTA LR LR
comp=N,179nm,16.0s,MS4.1
GTA LR LR
comp=E,274nm,19.4s,MS4.1
GTA LR LR

comp=Z,262nm,19.0s,MS4.0
NJ2 Nanjing 35.96 39 eP P **05 10 47.3 -2.5**
NJ2 AP pP 05 10 57.5 +0.3
NJ2 XP sP 05 11 01.5 +1.1
NJ2 PP PP 05 12 06.3 -5.3
NJ2 S S **05 16 17.0 -9.0**
NJ2 XS 05 16 34.0
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
NJ2 AMB AMB
comp=Z,748nm,6.4s
NJ2 LR LR
comp=N,840nm,17.1s,MS4.7
NJ2 LR LR
comp=E,520nm,13.9s,MS4.7
SSE Sheshan 36.85 42 P P **05 10 58.9 +1.7**
SSE XP sP 05 11 11.6 +3.7
SSE PP PP 05 12 23.6 +0.5
SSE PCP PcP 05 13 18.8 -0.4
SSE S S **05 16 43.4 +3.8**
SSE PCS 05 17 07.1
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,47nm,4.6s
SSE LR LR
comp=N,287nm,13.8s,MS4.4
SSE LR LR
comp=E,318nm,13.9s,MS4.4
SSE LR LR
comp=Z,596nm,13.5s,MS4.5
SSE Sheshan 36.85 42 P P **05 10 58.9 +1.7**
comp=Z,28nm,0.7s,mb5.2
SSE sP sP 05 11 11.6 +3.7
SSE PP PP 05 12 23.6 +0.5
SSE PcP PcP 05 13 18.8 -0.4
SSE S S **05 16 43.4 +3.8**
SSE sS 05 16 58.6
SSE PcS 05 17 07.1
SSE SS SS 05 19 26.5 +18
SSE LR LR
comp=Z,600nm,13.5s,MS4.5
MBWA Marble Bar 36.91 136 eP P **05 10 57.2 -0.7**
KSH Kashi 37.57 338 eP P **05 11 10.0 +6.8**
KSH ePCP PcP 05 13 26.0 +4.7
KSH ePCS 05 17 13.8
KSH AMB AMB
comp=Z,110nm,1.1s,mb5.5
KSH AMB AMB
comp=Z,180nm,2.9s,mb5.3
KSH LR LR
comp=N,620nm,4.5s
KSH LR LR
comp=E,840nm,13.2s
BTO Baotou 38.40 21 eP P **05 11 10.1 -0.1**
BTO AMB AMB
comp=Z,12nm,0.6s,mb4.8
WMQ Urumqi 38.81 354 eP P **05 11 13.8 +0.3**
WMQ AP pP 05 11 21.3 +0.2
WMQ XP sP 05 11 24.6 +0.4
WMQ PP PP 05 12 46.9 +0.5
WMQ S S **05 17 09.8 +0.6**
WMQ AMB AMB
comp=Z,47nm,0.8s,mb5.3
WMQ AMB AMB
comp=Z,174nm,5.4s
WMQ LR LR
comp=N,195nm,16.6s,MS4.2
WMQ LR LR
comp=E,265nm,21.0s,MS4.2
WMQ LR LR
comp=Z,414nm,10.8s
HHC Hu-ho-hao-te 39.18 22 ⇑P P **05 11 16.8 +0.1**
HHC AP pP 05 11 25.9 +1.7
HHC XP sP 05 11 30.3 +3.0
HHC PP PP 05 12 49.8 -0.7
HHC PCP PcP 05 13 29.4 +3.1
HHC SCP 05 17 10.0
HHC S S **05 17 14.8 -0.1**
HHC SCS ScS 05 21 19.3 -2.7
HHC AMB AMB
comp=Z,28nm,1.6s,mb4.7
HHC AMB AMB
comp=Z,89nm,7.2s
HHC LR LR
comp=N,308nm,15.6s,MS4.5
HHC LR LR
comp=E,389nm,15.6s,MS4.5
HHC LR LR
comp=Z,301nm,16.8s,MS4.2
FITZ Fitzroy Crossi 39.49 127 ⇓i P P **05 11 18.4 -1.1**
comp=Z,14nm,0.6s,mb4.9
FITZ Fitzroy Crossi 39.49 127 P P **05 11 18.5 -1.0**
comp=Z,23nm,0.6s,mb5.1,baz=318,slow=4.3,SNR=35
FITZ pP pP 05 11 25.9 -1.1
comp=Z,15nm,0.7s,baz=339,slow=7.7,SNR=5.2
JOW Kunigami 39.80 53 P P **05 11 23.0 +1.0**
baz=73,slow=20
JOW LR LR 05 28 32.3
comp=Z,196nm,20.1s,MS4.0,baz=358,slow=37
AAK Ala-Archa 40.84 339 eP P **05 11 30.2 -0.1**
AAK pmax pmax
comp=Z,13nm,0.8s,mb4.6
AAK Ala-Archa 40.84 339 eP P **05 11 30.2 -0.1**
comp=Z,13nm,0.8s,mb4.6
FRU Bishkek 40.97 339 eP P **05 11 39.0 +7.6**
FRU pmax pmax
comp=Z,44nm,2.0s,mb4.7
MKAR Makanchi Array 42.53 349 P P **05 11 44.3 +0.1**
comp=Z,4.9nm,0.5s,mb4.5,baz=167,slow=8.7,SNR=49
MKAR pP pP 05 11 52.3 +0.5
comp=Z,9.6nm,0.5s,baz=168,slow=8.4,SNR=18
MKAR LR LR 05 32 57.4
comp=Z,167nm,20.3s,MS3.9,baz=180,slow=41
KKAR Karatay Array 42.78 335 i P P **05 11 46.5 +0.2**
KKAR pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
MUN Mundaring 42.95 151 eP P **05 11 48.0 +0.2**
comp=Z,26nm,1.0s,mb4.9
MUN Mundaring 42.95 151 eP P **05 11 48.0 +0.2**
MUN pmax pmax
comp=Z,27nm,1.0s,mb4.9
SONM Songino Array 44.01 13 P P **05 11 56.1 0.0**
comp=Z,7.4nm,0.7s,mb4.5,baz=193,slow=8.3,SNR=57
SONM pP pP 05 12 04.7 +1.0
comp=Z,15nm,0.7s,baz=193,slow=8.3,SNR=26
SONM PcP PcP 05 13 43.5 +1.4
comp=Z,2.4nm,0.6s,baz=186,slow=4.6,SNR=3.3
SONM pPcP 05 13 51.5
comp=Z,2.8nm,0.5s,baz=202,slow=3.6,SNR=8.4
SONM LR LR 05 33 55.0
comp=Z,199nm,18.1s,MS4.1,baz=15,slow=41
NWAO Narrogin (SRO) 44.23 151 eP P **05 11 58.3 +0.2**
NWAO pmax pmax
comp=Z,14nm,0.7s
NWAO Narrogin (SRO) 44.23 151 P P **05 11 58.0 -0.1**
comp=Z,19nm,0.6s,mb5.0,baz=312,slow=7.6,SNR=15
NWAO Narrogin (SRO) 44.23 151 eP P **05 11 58.3 +0.1**
comp=Z,14nm,0.7s,mb4.8
JNU Nakatsue 44.77 47 P P **05 12 02.9 +0.3**
comp=Z,7.3nm,0.8s,mb4.5,baz=151,slow=3.7,SNR=4.6
JNU pP pP 05 12 11.7 +1.5
comp=Z,12nm,0.8s,baz=111,slow=5.9,SNR=5.0
ZAK Zakamensk 45.87 9 eP P **05 12 11.0 0.0**
ZAK e 05 13 57.0
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
TLY Talaya 47.18 9 eP P **05 12 31.6 +10**
TLY pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
WRA Warramunga Arr 47.53 123 P P **05 12 24.4 -0.2**
comp=Z,25nm,0.8s,mb5.3,baz=301,slow=9.0,SNR=68
WRA pP pP 05 12 32.9 +0.7
comp=Z,23nm,0.7s,baz=301,slow=8.9,SNR=17
WRAB Tennant Creek 47.54 123 eP P **05 12 24.5 -0.1**
WRAB e*PP pP 05 12 33.6 +1.4
WRAB pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
WRAB Tennant Creek 47.54 123 eP P **05 12 24.4 -0.2**
comp=Z,8.4nm,0.6s,mb5.0
WRAB epP pP 05 12 33.6 +1.4
WB2 Warramunga Arr 47.54 123 ⇓i P P **05 12 24.4 -0.3**
CN2 Changchun 47.83 31 eP P **05 12 31.6 +5.0**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 LR LR
comp=N,200nm,17.0s,MS4.4
CN2 LR LR
comp=E,300nm,17.0s,MS4.4
CN2 LR LR
comp=Z,310nm,16.0s,MS4.4
ZAL Zalesovo 49.11 353 P P **05 12 37.1 +0.9**
comp=Z,8.4nm,0.4s,mb5.1,baz=318,slow=4.1,SNR=17
ZAL pP pP 05 12 45.7 +1.7
comp=Z,13nm,0.6s,baz=299,slow=8.2,SNR=12
ZAL LR LR 05 37 19.3
comp=Z,271nm,20.0s,MS4.2,baz=292,slow=41
ZAL Zalesovo 49.11 353 P P **05 12 37.1 +0.9**
ZAL pP pP 05 12 45.7 +1.7
ZAL LR LR 05 37 19.3
HIA Hailar 49.38 23 eP P **05 12 38.6 +0.1**
HIA e*PP pP 05 12 48.0 +1.9
HIA pmax pmax
comp=Z,16nm,0.8s
HIA Hailar 49.38 23 eP P **05 12 38.6 +0.1**
comp=Z,16nm,0.8s,mb5.1
HIA epP pP 05 12 48.0 +1.9
CIT Chita 49.67 16 eP P **05 12 40.8 +0.1**
CIT e pP 05 12 46.8 -1.5
CIT e 05 12 58.2
CIT pmax pmax
comp=Z,28nm,2.5s,mb4.8
NVS Novosibirsk 50.18 353 eP P **05 12 43.5 -1.0**
NVS eS S **05 20 01.6 +8.0**
NVS pmax pmax
comp=N,14nm,0.8s
NVS pmax pmax
comp=E,6.0nm,0.8s
NVS pmax pmax
comp=Z,20nm,0.8s,mb5.2
NVS smax
comp=N,7.0nm,1.0s
NVS smax
comp=E,10.0nm,1.0s
MDJ Mudanjiang 50.59 33 P P **05 12 48.6 +0.9**
MDJ AP pP 05 12 54.9 -0.5
MDJ XP sP 05 12 57.5 -0.9
MDJ PCP PcP 05 14 04.8 -0.7
MDJ SCP 05 17 59.4
MDJ PCS 05 18 03.3
MDJ S S **05 20 02.8 +3.5**
MDJ SCS ScS 05 22 39.6 +5.7
MDJ AMB AMB
comp=Z,5.0nm,0.6s,mb4.6
MDJ AMB AMB
comp=Z,54nm,7.7s
MDJ LR LR
comp=N,91nm,35.0s,MS3.7
MDJ LR LR
comp=E,73nm,34.1s,MS3.7
MDJ LR LR
comp=Z,100nm,22.4s
OPO Ambohidratompo 51.08 241 P P **05 12 53.1 +1.3**
comp=Z,1.5nm,0.4s,mb4.2,baz=111,slow=7.9,SNR=5.7
BVA0 Borovoye Array 51.26 343 i P P **05 12 51.9 -0.8**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
BRVK Borovoye 51.32 342 eP P **05 12 51.7 -1.5**
BRVK e*PP pP 05 12 59.6 -1.3
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BRVK Borovoye 51.32 342 eP P **05 12 51.7 -1.4**
comp=Z,5.7nm,0.8s,mb4.5
BRVK epP pP 05 12 59.6 -1.3
ZRNK Zerenda 51.62 342 eP P **05 12 54.7 -0.7**
ZRNK pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
ZRNK Zerenda 51.62 342 eP P **05 12 54.7 -0.7**
comp=Z,9.4nm,0.7s,mb4.8
MAT Matsushiro 51.70 47 eP P **05 12 56.0 -0.3**
MAT Matsushiro 51.70 47 P P **05 12 55.9 -0.4**
MAT eS S **05 20 15.0 +0.2**
MJAR Matsushiro Arr 51.70 47 P P **05 12 56.2 -0.1**
comp=Z,2.6nm,0.6s,mb4.3,baz=251,slow=7.3,SNR=8.2
MJAR PcP PcP 05 14 10.5 +0.8
comp=Z,0.9nm,0.3s,baz=242,slow=5.5,SNR=3.4
MJAR LR LR 05 37 54.0
comp=Z,158nm,18.5s,MS4.1,baz=240,slow=40
AB31 Akbulak array 52.17 333 i P P **05 12 59.0 -0.7**
AB31 pmax pmax
comp=Z,15nm,1.0s,mb4.9
KLR Kul'dur 54.70 30 eP P **05 13 14.8 -3.5**
BOD Bodaibo 55.00 13 eP P **05 13 18.5 -1.9**
BOD e pP 05 13 25.9 -2.2
BOD pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BOD pmax pmax
comp=Z,18nm,0.9s,mb5.1
GNI Garni 55.67 316 i P P **05 13 37.8 +12**
GNI pmax pmax
comp=Z,17nm,1.3s
KMBO Kilima Mbogo 56.21 265 P P **05 13 31.2 +1.5**
comp=Z,0.8nm,0.5s,mb4.0,baz=49,slow=9.3,SNR=3.0
KMBO pP pP 05 13 37.7 +0.2
comp=Z,3.1nm,0.8s,baz=58,slow=12,SNR=4.5
KMBO LR LR 05 36 22.5
comp=Z,122nm,18.8s,MS4.0,baz=94,slow=35
CTA Charters Tower 57.87 117 LR LR 05 41 53.1
comp=Z,194nm,21.4s,MS4.2,baz=87,slow=39
CTAO Charters Tower 57.87 117 eP P **05 13 40.9 -0.5**
CTAO pmax pmax
comp=Z,21nm,1.2s,mb5.0
CTAO Charters Tower 57.87 117 eP P **05 13 40.9 -0.5**
comp=Z,21nm,1.2s,mb5.0
ARU Arti 58.02 338 P P **05 13 42.9 +0.9**
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ARU Arti 58.02 338 P P **05 13 42.9 +0.9**
comp=Z,9.2nm,0.8s,mb4.9
KIV Kislovodsk 58.71 319 d iP P **05 13 55.4 +8.4**
KIV pmax pmax
comp=Z,22nm,1.7s,mb4.9
KIV MLR MLR
comp=Z,100nm,21.0s,MS3.9
STKA Stephens Creek 58.97 132 ⇓i P P **05 13 48.6 -0.4**
comp=Z,7.2nm,0.9s,mb4.7
STKA Stephens Creek 58.97 132 P P **05 13 48.6 -0.4**
comp=Z,8.0nm,0.7s,mb4.8,baz=304,slow=7.2,SNR=14
STKA pP pP 05 13 56.4 -0.4
comp=Z,5.0nm,0.7s,baz=305,slow=7.4,SNR=5.4
STKA LR LR 05 40 40.7
comp=Z,248nm,19.4s,MS4.3,baz=268,slow=37
YSS Yuzh-Sakhalins 59.51 37 eP P **05 13 49.2 -3.3**
YSS e 05 14 05.5
MALT Malatya 59.51 312 eP P **05 13 52.7 0.0**
MALT pmax pmax
comp=Z,11nm,1.3s,mb4.7
MALT Malatya 59.51 312 eP P **05 13 52.7 +0.1**
comp=Z,11nm,1.3s,mb4.7
EIL Eilat 59.97 301 eP P **05 13 55.4 -0.6**
comp=Z,14nm,1.0s,mb4.9
SOC Sochi 60.51 318 eP P **05 14 07.3 +7.9**
SOC eS S **05 22 23.1 +11**
SOC pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
SOC pmax pmax
comp=N,14nm,0.9s
SOC pmax pmax
comp=E,13nm,0.9s
SOC MLR MLR
comp=Z,93nm,19.0s,MS4.0
SOC MLR MLR
comp=N,67nm,18.0s,MS4.0
SOC MLR MLR
comp=E,86nm,18.0s,MS4.0
YAK Yakutsk 62.86 18 c iP P **05 14 13.8 -1.1**
YAK pmax pmax
comp=Z,24nm,1.0s,mb5.3
BRTR Keskin Array B 63.49 312 P P **05 14 18.4 -1.1**
comp=Z,2.4nm,0.8s,mb4.4,baz=127,slow=6.6,SNR=8.3
BRTR pP pP 05 14 25.6 -1.7
comp=Z,6.9nm,0.8s,baz=126,slow=7.5,SNR=12
BR131 Keskin Array S 63.50 312 eP P **05 14 18.6 -0.8**
comp=Z,4.7nm,0.7s,mb4.7
MOS Moscow 66.90 330 eP P **05 14 34.9 -6.3**
OBN Obninsk 67.17 329 d iP P **05 14 48.7 +5.8**
OBN e 05 17 08.2
OBN eS S 05 23 23.0 -11
OBN eSS SS 05 27 54.7 -0.6
OBN pmax pmax

comp=Z,39nm,1.7s,mb5.2
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.3
MA2 Magadan 69.60 27 *e*P **P** **05 14 57.3 -0.6**
MA2 *e* pP 05 15 04.0 -1.7
MA2 pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
AKASG Malin Array Be 69.69 322 P **P** **05 14 57.1 -1.5**
comp=Z,0.3nm,0.4s,mb3.5,baz=96,slow=4.4,SNR=5.2
AKASG pP pP 05 15 04.5 -2.0
comp=Z,3.2nm,0.7s,baz=91,slow=4.6,SNR=7.3
VRI Vrincioaia 70.00 317 ⇑P **P** **05 15 00.9 +0.3**
TIXI Tiksi 70.07 11 *i* P **P** **05 14 49.9 -11**
TIXI pmax pmax
comp=Z,23nm,1.3s,mb5.0
MLR Muntele Rosu 70.45 317 ⇓P **P** **05 15 04.0 +0.7**
BURAR Bucovina Array 71.42 319 ⇓P **P** **05 15 09.5 +0.4**
BURAR Bucovina Array 71.42 319 ⇓P **P** **05 15 09.5 +0.4**
SEY Seymchan 71.78 24 *i* P **P** **05 14 58.4 -13**
DRGR 72.92 317 ⇑P **P** **05 15 17.2 -0.9**
BOSA Boshof 73.34 238 P **P** **05 15 20.6 -0.4**
comp=Z,3.0nm,0.7s,mb4.3,baz=64,slow=8.8,SNR=5.1
BOSA pP pP 05 15 28.2 -0.6
comp=Z,1.8nm,0.5s,baz=32,slow=16,SNR=3.0
BOSA LR LR 05 41 14.9
comp=Z,167nm,20.9s,MS4.3,baz=290,slow=31
KOLS Kolonicke sedl 73.62 319 *e*P **P** **05 15 14.4 -7.7**
KOLS *e* 05 15 31.1
KOLS Kolonicke sedl 73.62 319 *e* P **P** **05 15 14.4 -7.7**
KOLS *e*pP pP 05 15 31.1 +1.1
APA Apatity 74.05 340 *e*P **P** **05 15 25.5 +1.3**
APA pmax pmax
comp=Z,16nm,0.8s,mb5.0
APA MLR MLR
comp=Z,500nm,20.0s,MS4.8
CRVS Cervenica-Dubn 74.14 319 *e*P **P** **05 15 29.9 +4.8**
CRVS *e* pP 05 15 38.6 +5.6
CRVS Cervenica-Dubn 74.14 319 *e* P **P** **05 15 29.9 +4.8**
CRVS *e*sP sP 05 15 38.6 +2.8
STHS Stebnicka Huta 74.38 320 *e*P **P** **05 15 25.9 -0.6**
STHS *e*pP pP 05 15 35.3 +0.9
FINES FINESS Array B 74.66 333 P **P** **05 15 27.1 -0.7**
comp=Z,2.6nm,0.6s,mb4.4,baz=108,slow=6.0,SNR=14
FINES pP pP 05 15 34.7 -1.1
comp=Z,9.7nm,0.7s,baz=121,slow=8.1,SNR=11
FINES LR LR 05 52 50.7
comp=Z,109nm,20.5s,MS4.1,baz=152,slow=39
FINES FINESS Array B 74.66 333 P **P** **05 15 27.1 -0.7**
FINES pP pP 05 15 34.7 -1.1
FINES LR LR 05 52 50.7
KECS Kecovo 74.70 319 *e*P **P** **05 15 35.3 +6.9**
KECS Kecovo 74.70 319 *e*pP pP 05 15 35.3 -1.0
KAF Kangasniemi 74.77 333 *e*p **P** **05 15 27.5 -1.0**
comp=Z,2.1nm,0.4s,mb4.4,baz=102,slow=5.4
OJC Ojcow 75.44 321 *e*P **P** **05 15 39.7 +7.1**
MAW Mawson 75.70 192 *e*P **P** **05 15 35.2 +1.5**
comp=Z,6.2nm,0.6s,mb4.7
MAW Mawson 75.70 192 *e*P **P** **05 15 35.2 +1.5**
MAW pmax pmax
comp=Z,6.0nm,0.6s
MAW Mawson 75.70 192 P **P** **05 15 35.6 +1.9**
comp=Z,6.9nm,0.7s,mb4.7,baz=19,slow=6.3,SNR=17
VYHS Vyhne 75.79 319 *e*P **P** **05 15 37.8 +3.2**
VYHS *e* 05 15 42.4
VYHS Vyhne 75.79 319 *e* P **P** **05 15 37.8 +3.2**
VYHS *e*pP pP 05 15 42.4 -0.1
OKC Ostrava-Krasne 76.43 320 *e*P **P** **05 15 36.9 -1.3**
MORC Moravsky Berou 76.81 320 P **P** **05 15 40.8 +0.5**
MORC *e**PP pP 05 15 48.3 +0.1
MORC pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MORC Moravsky Berou 76.81 320 P **P** **05 15 40.8 +0.5**
comp=Z,9.7nm,1.1s,mb4.7
MORC *e*pP pP 05 15 48.3 0.0
ZST Bratislava 76.89 318 *e*P **P** **05 15 48.8 +8.0**
ZST Bratislava 76.89 318 *e*pP pP 05 15 48.8 0.0
KEV Kevo 77.07 341 *e*p **P** **05 15 41.0 -0.4**
comp=Z,4.3nm,0.5s,mb4.6
KEV Kevo 77.07 341 *e*P **P** **05 15 40.4 -1.0**
KEV pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KEV Kevo 77.07 341 *e*P **P** **05 15 40.4 -1.0**
comp=Z,7.3nm,0.6s,mb4.8
ARCES ARCESS Array B 77.49 341 P **P** **05 15 43.9 +0.2**
comp=Z,2.2nm,0.6s,mb4.3,baz=100,slow=5.8,SNR=29
ARCES pP pP 05 15 51.4 -0.3
comp=Z,11nm,0.7s,baz=90,slow=5.4,SNR=12
ARCES LR LR 05 54 04.7
comp=Z,195nm,19.2s,MS4.4,baz=259,slow=39
ARE0 ARCESS Array S 77.49 341 *e*P **P** **05 15 41.7 -2.0**
ARE0 *e*pP pP 05 15 51.4 -0.2
DPC Dobruska-Polom 77.66 320 *e*P **P** **05 15 45.1 +0.1**
DPC *e*pP pP 05 15 53.1 +0.1
ARSA Arzberg 77.85 317 ⇓*i*P **P** **05 15 54.1 +8.0**
comp=Z,7.3nm,0.8s,mb4.7
UPC Upice 77.88 320 *e*P **P** **05 15 47.6 +1.4**
UPC *e*pP pP 05 15 54.3 +0.2
MOA Molln 78.75 318 ⇓*i*P **P** **05 15 59.6 +8.6**
comp=Z,6.7nm,1.1s,mb4.5
PVCC Panska Ves 78.80 320 *e*P **P** **05 15 50.1 -1.1**
BILL Bilibino 78.95 22 *i* P **P** **05 15 41.9 -10**
BILL pmax pmax
comp=Z,4.0nm,1.7s,mb4.1
BILL MLR MLR
comp=Z,400nm,20.0s,MS4.8
GERES GERESS Array B 79.21 319 P **P** **05 15 54.2 +0.7**
comp=Z,2.4nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=23
GERES pP pP 05 16 01.4 -0.1
comp=Z,5.1nm,0.7s,baz=90,slow=5.3,SNR=17
BRG Berggiesshubel 79.22 321 *e*P **P** **05 15 56.0 +2.5**
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BRG Berggiesshubel 79.22 321 *e*P **P** **05 15 56.0 +2.5**
comp=Z,6.0nm,0.9s,mb4.5
KHC Kasperske Hory 79.31 319 *e*P **P** **05 15 54.7 +0.6**
KHC *e*pP pP 05 16 01.7 -0.4
KBA Koelnbreinsper 79.32 317 ⇑*i*P **P** **05 16 00.7 +6.6**
comp=Z,8.6nm,0.9s,mb4.7
CLL Collm 79.85 321 *e*P **P** **05 15 58.0 +1.1**
CLL *e**PP pP 05 16 05.0 +0.1
CLL Collm 79.85 321 P **P** **05 15 58.0 +1.1**
CLL *e**PP pP 05 16 05.0 +0.1
FX1 Attu Island--F 79.87 37 *e*P **P** **05 15 57.1 +0.1**
FX1 *e*pP pP 05 16 04.8 -0.1
WTTA Wattenberg 80.49 317 ⇓*i*P **P** **05 16 01.9 +1.5**
comp=Z,17nm,1.5s,mb4.7
WTTA Wattenberg 80.49 317 ⇓*i*P **P** **05 16 01.9 +1.5**
WTTA pmax pmax
comp=Z,17nm,1.5s,mb4.8
WATA Walderalm 80.54 317 ⇑*i*P **P** **05 16 08.1 +7.5**
comp=Z,7.7nm,0.9s,mb4.6
MOX Moxa 80.68 320 *e*P **P** **05 16 09.6 +8.3**
MOX MLR MLR
comp=Z,200nm,20.0s,MS4.5
MOX Moxa 80.68 320 *i* P **P** **05 16 09.6 +8.3**
MOX L 05 18 23.0
SQTA Sankt Quirin 80.78 317 ⇓*i*P **P** **05 16 02.3 +0.4**
comp=Z,10nm,0.7s,mb4.9
SQTA Sankt Quirin 80.78 317 ⇓*i*P **P** **05 16 02.3 +0.4**
SQTA pmax pmax
comp=Z,11nm,0.7s,mb4.9
MOTA Moosalm 80.86 317 ⇑*i*P **P** **05 16 00.5 -1.8**
comp=Z,6.8nm,0.6s,mb4.8
MOTA Moosalm 80.86 317 ⇑*i*P **P** **05 16 00.5 -1.8**
MOTA pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
GRA1 Grafenberg Arr 80.89 319 *e*P **P** **05 16 02.3 -0.1**
comp=Z,12nm,1.4s,mb4.6
GRF Grafenberg Arr 80.89 319 *e*P **P** **05 16 02.3 -0.1**
GRF pmax pmax
comp=Z,12nm,1.4s,mb4.6
GRF Grafenberg Arr 80.89 319 *e*P **P** **05 16 02.3 -0.1**
GRF pmax pmax
comp=Z,12nm,1.4s,mb4.6
GRF Grafenberg Arr 80.89 319 *e*P **P** **05 16 02.3 -0.1**
comp=Z,12nm,1.4s,mb4.6
NB2 NORSAR Subarra 81.62 331 P **P** **05 16 05.7 -0.3**
comp=Z,2.9nm,0.8s,mb4.3,baz=98,slow=4.8
NB2 NORSAR Subarra 81.62 331 P **P** **05 16 05.7 -0.3**
NB2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
NOA NORSAR Array B 81.62 331 P **P** **05 16 05.5 -0.5**
comp=Z,0.6nm,0.8s,mb3.6,baz=139,slow=18,SNR=2.9
NOA pP pP 05 16 12.9 -1.1
comp=Z,2.9nm,0.7s,baz=95,slow=5.5,SNR=5.7
NOA LR LR 05 54 58.7
comp=Z,111nm,21.2s,MS4.2,baz=320,slow=38
DAVA Damuels 81.69 317 ⇑*i*P **P** **05 16 14.3 +7.6**
comp=Z,13nm,1.0s,mb4.8
SYO Syowa Base 82.54 197 ⇓P **P** **05 16 11.2 +0.5**
SYO Syowa Base 82.54 197 ⇑PcP PcP 05 16 16.0 -0.2
BNI Bardonecchia 83.91 315 *e*P **P** **05 16 17.1 -1.1**
BNI pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
BNI Bardonecchia 83.91 315 *e*P **P** **05 16 17.1 -1.1**
comp=Z,10nm,1.0s,mb4.9
JMIC Jan Mayen 88.96 341 LR LR 05 59 38.6
comp=Z,46nm,19.6s,MS3.9,baz=83,slow=38
VNDA Vanda 90.48 168 P **P** **05 16 50.8 +1.4**
comp=Z,1.3nm,0.6s,mb4.4,baz=298,slow=5.2,SNR=18
VNDA LR LR 05 53 37.6
comp=Z,161nm,18.1s,MS4.5,baz=54,slow=33
ESDC Sonseca Array 92.22 310 pP pP 05 17 06.7 +0.5
comp=Z,1.2nm,0.6s,baz=59,slow=4.5,SNR=4.5
ILAR Eielson Array 97.61 22 P **P** **05 17 21.6 -0.6**
comp=Z,0.5nm,0.6s,mb4.2,baz=281,slow=5.3,SNR=6.5
ILAR PP PP 05 21 12.9 -10
comp=Z,0.2nm,0.6s,baz=300,slow=7.3,SNR=2.7
TBI Tubuai 117.12 113 *e*LR LR 05 56 23.6
TBI *e*LR LR 05 58 29.3
comp=Z,150nm,40.5s
PPT Papeete 117.50 107 *e*PP PP 05 23 36.3 -14
comp=Z,55nm,23.0s
MSO Missoula 122.94 22 *e*P PKPdf 05 22 45.1 -2.8
ULM Lac du Bonnet 124.26 7 pPKP 05 22 56.4
comp=Z,4.2nm,0.6s,baz=320,slow=0.8,SNR=4.2
BOZ Bozeman (W) 124.79 21 *e*PKIKP PKPdf 05 22 48.8 -2.8
BOZ *e* 05 22 58.8
TAOE Nuku Hiva Isla 126.98 97 *e*LQ 05 56 01.1
comp=Z,5μm,32.4s
TAOE Nuku Hiva Isla 126.98 97 *e*S SKS 05 29 36.2 -26
comp=Z,600nm,34.3s
TAOE *e*LR LR 06 01 47.9
comp=Z,366nm,25.5s
TAOE Nuku Hiva Isla 126.98 97 *e*SS SS 05 41 56.3 -1.3
comp=Z,315nm,33.6s
SNOW Snow King Moun 126.99 22 PKPdf PKPdf 05 22 54.3 -1.6
SNOW *e*pPKPdf 05 23 02.9
NVAR Mina Array Bea 127.72 31 PKP PKPdf 05 22 56.0 -1.5
comp=Z,0.3nm,0.3s,baz=270,slow=1.8,SNR=2.6
NVAR pPKP 05 23 04.6
comp=Z,1.3nm,0.6s,baz=4.0,slow=2.4,SNR=5.0
PDAR Pinedale Array 128.03 21 PKP PKPdf 05 22 56.4 -1.6
comp=Z,0.6nm,0.7s,baz=135,slow=4.2,SNR=7.0
PDAR pPKP 05 23 04.5
comp=Z,2.0nm,0.8s,baz=25,slow=1.1,SNR=13
RKT Rikitea 130.29 116 *e*LQ 05 58 45.9
comp=Z,100nm,31.0s
RKT *e*LR LR 06 04 14.9
comp=Z,112nm,28.5s
ANMO Albuquerque 136.03 23 *e*PKIKP PKPdf 05 23 11.5 -1.7
WVT Waverly 138.92 1 *e*PKPpre 05 23 10.8
BDFB Brasilia 140.50 252 PKP PKPdf 05 23 18.8 -3.1
comp=Z,1.7nm,0.7s,baz=14,slow=23,SNR=3.2
PLCA Paso Flores 141.68 200 PKhKP 05 23 15.0
comp=Z,1.1nm,0.9s,baz=222,slow=11,SNR=3.7
TXAR Lajitas Array 142.08 24 PKhKP 05 23 17.1
comp=Z,0.3nm,0.7s,baz=270,slow=1.3,SNR=4.5
CPUP Villa Florida 144.82 230 PKP PKPdf 05 23 25.9 -3.2
comp=Z,15nm,0.7s,baz=126,slow=4.7,SNR=46
CPUP pPKP 05 23 35.8
comp=Z,15nm,0.8s,baz=119,slow=4.6,SNR=12
CPUP Villa Florida 144.82 230 *e*PKPdf PKPdf 05 23 25.3 -3.9
CPUP *e*pPKPdf 05 23 35.5
CFAA Coronel Fontan 148.44 211 PKPbc PKPdf 05 23 36.2 +1.2
comp=Z,2.1nm,0.7s,baz=166,slow=2.4,SNR=44
LPAZ La Paz 158.59 237 PKP PKPdf 05 23 47.6 -2.1
comp=Z,0.6nm,0.7s,baz=52,slow=21,SNR=4.3
LPAZ pPKP 05 23 56.6
comp=Z,1.5nm,0.7s,baz=32,slow=4.1,SNR=5.4
LPAZ PKPab PKPab 05 24 22.8 +0.2
comp=Z,3.0nm,0.8s,baz=67,slow=7.7,SNR=8.6
LPAZ La Paz 158.59 237 PKPdf PKPdf 05 23 47.0 -2.7
LPAZ *e* 05 23 57.8
LPAZ *e*PKPab PKPab 05 24 23.2 +0.6

IDC ***23*** *05:39:50.2±0.5, 19.91N×70.83W, mb4.1/23, mb1 4.3/24, mb1mx4.2/27, mbtmp4.1/24, ML5.9/1, MS4.1/16, Ms1 4.1/16, ms1mx4.1/20, Error ellipse: s-maj=16.7km s-min=10.9km az=63.0*
NEIC ***23*** *05:39:52.0±2.9, 19.90N×70.82W, h11km±18km, mb4.6/37, MS4.4/2, Error ellipse: s-maj=5.1km s-min=3.7km az=46.0*
BJI ***23*** *05:39:51.9, 19.90N×70.80W, h11km, mB5.0, Msz4.7*
LDG ***23*** *05:40:02.4±0.2, 19.65N×70.22W, h100km, Mb4.6/16, Ms4.1/8, Error ellipse: s-maj=7.4km s-min=4.5km az=74.0*
SSNC ***23*** *05:40:18.9±22.0, 21.65N×73.52W, MD4.0, ML4.0*
ISC 23 05:39:49.4±1.4, 19.89N±0.04×70.84W±0.03, h7km±9km, n117, σ0°90/110, mb4.4/56, MS4.2/15, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MOAC	**Moa**	**3.94**	**282**	*e*PG		**Pn**	**05 40 56.1**	**+4.3**
	baz=65							
MOAC				*e*			05 41 00.0	
	comp=E,20μm,0.6s							
MOAC				*e*SG		**Sn**	**05 41 37.7**	**-1.2**
	comp=N,18μm,0.5s							
RCC	**Rio Carpintero**	**4.57**	**272**	*e*		**Pn**	**05 41 00.0**	**-0.7**
	comp=E,1μm,0.8s							
RCC				*e*PG		**Pg**	**05 41 19.7**	**-1.0**
	baz=74							
RCC				*e*SG		**Sn**	**05 41 52.2**	**-2.6**
	comp=N,1μm,0.5s							
SJG	**San Juan**	**4.78**	**111**	Pn		**Pn**	**05 41 04.4**	**+0.9**
	comp=N,10nm,0.3s,baz=297,slow=9.7,SNR=10							
SJG				Sn		**Sn**	**05 41 58.4**	**-1.5**
	comp=N,55nm,0.3s,baz=255,slow=21,SNR=3.1							
SJG	**San Juan**	**4.78**	**111**	*e*Pn		**Pn**	**05 41 03.8**	**+0.2**
HLGC	**Holguin**	**5.00**	**282**	*e*PG		**Pn**	**05 41 06.3**	**-0.4**
	baz=80							
HLGC				*e*			05 42 00.0	
	comp=E,14μm,0.2s							
HLGC				*e*SG		**Sn**	**05 42 05.5**	**0.0**
	comp=N,13μm,0.2s							
CCCC	**Ccco**	**6.62**	**283**	*e*P		**Pn**	**05 41 23.0**	**-6.6**
LZG	**Guadaloupe-1**	**9.39**	**112**	*e*P		**P**	**05 42 08.1**	**-0.1**
SCG	**Saint Claude**	**9.52**	**112**	*e*P		**P**	**05 42 10.5**	**+0.4**
SDV	**Santo Domingo**	**10.94**	**179**	Pn		**P**	**05 42 33.5**	**+3.9**
	comp=N,2.3nm,0.3s,baz=14,slow=14,SNR=6.8							
SDV				Sn		**S**	**05 44 34.1**	**+0.6**
	comp=N,1.0nm,0.3s,baz=5.5,slow=18,SNR=5.7							
BBSR	**BB Station**	**13.59**	**23**	*e*Pn		**P**	**05 43 01.0**	**-4.2**
ROSC	**El Rosal**	**15.33**	**193**	Pn		**P**	**05 43 33.2**	**+5.1**
	comp=N,0.5nm,0.3s,baz=90,slow=20,SNR=5.9							
JTS	**JuntasAbangare**	**16.63**	**237**	Pn		**P**	**05 43 50.6**	**+5.9**
	comp=N,0.5nm,0.3s,baz=54,slow=6.1,SNR=17							
JTS				LR		LR	05 49 57.5	
	comp=N,395nm,21.6s,baz=56,slow=36							
JTS	**JuntasAbangare**	**16.63**	**237**	*e*P		**P**	**05 43 50.8**	**+6.0**
	comp=N,72nm,1.2s							
JSC	**Jenkinsville**	**17.06**	**329**	*e*Pn		**P**	**05 43 45.8**	**-4.3**
MYNC	**Murphy**	**19.14**	**325**	*e*P		**P**	**05 44 14.9**	**-0.9**
	comp=N,21nm,1.1s							
BLA	**Blacksburg**	**19.18**	**336**	*e*P		**P**	**05 44 16.1**	**-0.2**
	comp=N,21nm,0.7s							
ELN	**Prospectdale**	**19.32**	**335**	*e*P		**P**	**05 44 17.8**	**-0.1**
LRAL	**Lakeview Retre**	**19.48**	**315**	*e*P		**P**	**05 44 18.3**	**-1.4**
	comp=N,11nm,0.8s							
FWV	**Forest Hill**	**19.65**	**336**	*e*P		**P**	**05 44 22.5**	**+0.8**
TZTN	**Tazewell**	**19.98**	**329**	*e*P		**P**	**05 44 24.2**	**-1.2**
SWET	**Sewanee**	**20.26**	**322**	*e*P		**P**	**05 44 27.8**	**-0.4**
PAL	**Palisades**	**21.21**	**354**	P		**P**	**05 44 38.4**	**+0.4**
	comp=N,13nm,0.6s,mb4.5							
PLAL	**Pickwick Lake**	**21.40**	**318**	*e*P		**P**	**05 44 39.5**	**-0.4**
	comp=N,20nm,1.1s,mb4.4							
OXF	**Oxford**	**21.97**	**315**	*e*P		**P**	**05 44 46.0**	**+0.3**
	comp=N,43nm,0.9s,mb4.9							
WVT	**Waverly**	**22.01**	**321**	*e*P		**P**	**05 44 45.4**	**-0.7**
	comp=N,12nm,0.8s,mb4.4							
QUA2	**Belchertown**	**22.36**	**357**	*e*P		**P**	**05 44 56.2**	**+6.7**
	comp=N,41nm,1.1s,mb4.8							
WES	**Weston**	**22.43**	**359**	*e*P		**P**	**05 44 50.0**	**-0.2**
	comp=N,103nm,0.9s,mb5.3							
HRV	**Harvard--Oak R**	**22.55**	**359**	*e*P		**P**	**05 44 52.0**	**+0.5**
	comp=N,50nm,0.9s,mb5.0							
WCI	**Wyandotte Cave**	**22.67**	**327**	*e*P		**P**	**05 44 54.2**	**+1.5**
	comp=N,13nm,1.0s,mb4.3							
ACCN	**Adirondack Com**	**23.54**	**355**	P		**P**	**05 45 01.2**	**+0.1**
ACCN				*e*			05 45 15.0	
HNH	**Hanover**	**23.77**	**357**	P		**P**	**05 45 05.3**	**+1.9**
	comp=N,1.1nm,0.7s,mb3.4							
NCB	**Newcomb**	**24.18**	**354**	*e*P		**P**	**05 45 08.5**	**+1.2**
	comp=N,68nm,1.8s,mb4.8							
MIV	**Mineville/With**	**24.22**	**355**	P		**P**	**05 45 07.4**	**-0.3**
MIV				*e*			05 45 26.4	
NATX	**Nacogdoches**	**24.43**	**304**	*e*P		**P**	**05 45 11.5**	**+1.6**
	comp=N,25nm,0.6s,mb4.8							
CCM	**Cathedral Cave**	**25.33**	**320**	*e*P		**P**	**05 45 18.3**	**-0.1**
	comp=N,16nm,1.1s,mb4.5							
SADO	**Sadowa**	**25.75**	**346**	LR		LR	05 54 45.4	
	comp=N,627nm,21.0s,MS4.1,baz=167,slow=35							
SAML	**Samuel**	**29.63**	**165**	*e*P		**P**	**05 45 57.0**	**-1.0**
	comp=N,6.4nm,1.0s,mb4.3							
TXAR	**Lajitas Array**	**31.20**	**294**	P		**P**	**05 46 12.4**	**+0.7**
	comp=N,1.8nm,0.7s,mb4.0,baz=110,slow=9.9,SNR=22							
TXAR				PcP		PcP	05 49 06.9	+0.3
	comp=N,0.3nm,0.7s,baz=143,slow=4.5,SNR=2.4							
TXAR				LR		LR	06 02 21.3	
	comp=N,159nm,20.4s,MS3.7,baz=45,slow=43							
MNTX	**Cornudas Mount**	**33.12**	**298**	*e*P		**P**	**05 46 29.0**	**+0.6**
	comp=N,23nm,1.2s,mb5.0							
MNTX				*e*			05 46 35.7	
BNM	**Barren Site**	**34.71**	**302**	*e*P		**P**	**05 46 43.2**	**+1.1**
LPM	**Los Pinos Moun**	**34.75**	**302**	P		**P**	**05 46 43.5**	**+1.0**
ANMO	**Albuquerque**	**34.79**	**303**	P		**P**	**05 46 43.2**	**+0.4**
	comp=N,1.2nm,0.8s,mb3.9,baz=125,slow=9.4,SNR=4.3							
SDCO	**Great Sand Dun**	**34.94**	**308**	*e*P		**P**	**05 46 44.5**	**+0.4**
	comp=N,2.2nm,0.6s,mb4.3							
SCHQ	**Schefferville**	**35.01**	**4**	P		**P**	**05 46 43.1**	**-1.4**
	comp=N,2.2nm,0.7s,mb4.2,baz=29,slow=11,SNR=3.9							
SCHQ				LR		LR	05 59 29.8	
	comp=N,296nm,20.8s,MS4.0,baz=199,slow=34							
LPAZ	**La Paz**	**36.05**	**176**	P		**P**	**05 46 56.0**	**+2.3**
	comp=N,1.3nm,0.5s,mb4.2,baz=340,slow=5.3,SNR=9.8							
LPAZ				LR		LR	06 03 17.1	
	comp=N,366nm,19.1s,MS4.2,baz=35,slow=39							
LPAZ	**La Paz**	**36.05**	**176**	*e*P		**P**	**05 46 54.9**	**+1.2**
	comp=N,7.4nm,1.3s,mb4.5							
ULM	**Lac du Bonnet**	**36.23**	**333**	LR		LR	06 01 25.8	
	comp=N,309nm,20.6s,MS4.1,baz=130,slow=36							
SIV	**San Ignacio**	**36.93**	**164**	P		**P**	**05 47 00.5**	**-0.6**
	comp=N,1.8nm,0.9s,mb3.9,baz=25,slow=12,SNR=9.2							
PDAR	**Pinedale Array**	**39.69**	**314**	P		**P**	**05 47 24.0**	**0.0**
	comp=N,1.0nm,0.6s,mb3.7,baz=109,slow=9.2,SNR=8.2							
PDAR				LR		LR	06 05 04.6	
	comp=N,244nm,19.1s,MS4.1,baz=318,slow=38							
HWUT	**Hardware Ranch**	**40.66**	**311**	*e*P		**P**	**05 47 32.2**	**+0.2**
	comp=N,8.4nm,1.2s,mb4.2							
LOHW	**Long Hollow**	**40.72**	**315**	*e*P		**P**	**05 47 33.0**	**+0.6**
	comp=N,5.6nm,0.6s,mb4.4							
REDW	**Red Top Meadow**	**40.80**	**314**	*e*P		**P**	**05 47 33.7**	**+0.6**
	comp=N,25nm,1.4s,mb4.7							
MOOW	**Moose Ponds**	**40.87**	**315**	*e*P		**P**	**05 47 34.1**	**+0.5**
	comp=N,5.3nm,0.9s,mb4.2							
TPAW	**Teton Pass**	**40.91**	**314**	*e*P		**P**	**05 47 33.8**	**-0.2**
	comp=N,12nm,1.0s,mb4.5							
NEN	**Nelson**	**41.62**	**302**	*e*P		**P**	**05 47 41.9**	**+1.9**
NEN				*e*			05 47 48.2	
BDFB	**Brasilia**	**41.84**	**146**	P		**P**	**05 47 42.6**	**+0.7**
	comp=N,12nm,0.8s,mb4.5,baz=337,slow=9.0,SNR=16							
BDFB				LR		LR	06 04 33.6	
	comp=N,279nm,21.8s,MS4.1,baz=317,slow=35							
BAO	**Brasilia Array**	**41.84**	**146**	P		**P**	**05 47 43.0**	**+1.0**
LVC	**Limon Verde**	**42.29**	**177**	P		**P**	**05 47 45.9**	**+0.3**
	comp=N,5.2nm,0.8s,mb4.2,baz=336,slow=8.8,SNR=5.0							
LVC				LR		LR	06 06 52.2	
	comp=N,194nm,20.7s,MS4.0,baz=162,slow=38							
MCMT	**McKenzie Canyo**	**42.68**	**315**	*e*P		**P**	**05 47 49.5**	**+1.1**
NVAR	**Mina Array Bea**	**44.84**	**305**	P		**P**	**05 48 07.5**	**+1.4**
	comp=N,2.3nm,0.7s,mb4.1,baz=92,slow=8.7,SNR=10.0							
OMM	**Old Mammoth Mi**	**45.24**	**304**	*e*P		**P**	**05 48 10.8**	**+1.5**
OMM				*e*			05 48 17.2	
NEW	**Newport**	**46.67**	**318**	P		**P**	**05 48 20.4**	**0.0**
	comp=N,3.8nm,0.6s,mb4.5,baz=119,slow=9.2,SNR=7.0							
NEW	**Newport**	**46.67**	**318**	*e*P		**P**	**05 48 20.3**	**-0.1**
	comp=N,7.4nm,1.0s,mb4.6							
CPUP	**Villa Florida**	**47.78**	**164**	P		**P**	**05 48 28.1**	**-1.5**
	comp=N,2.1nm,0.9s,mb4.2,baz=55,slow=18,SNR=2.5							
CPUP				LR		LR	06 09 57.3	
	comp=N,210nm,21.9s,MS4.1,baz=262,slow=38							
CFAA	**Coronel Fontan**	**51.26**	**177**	P		**P**	**05 48 56.0**	**-0.1**
	comp=N,0.6nm,0.8s,mb3.6,baz=352,slow=6.5,SNR=11							
YKA	**Yellowknife Ar**	**52.04**	**336**	P		**P**	**05 49 00.4**	**-1.2**
	comp=N,1.1nm,0.7s,mb3.9,baz=114,slow=7.1,SNR=3.5							
YKA				LR		LR	06 10 38.7	
	comp=N,589nm,21.1s,MS4.6,baz=90,slow=36							
YKA	**Yellowknife Ar**	**52.04**	**336**	P		**P**	**05 49 00.4**	**-1.2**
YKA				LR		LR	06 10 38.7	
SUMG	**Summit**	**55.81**	**11**	*e*P		**P**	**05 49 28.2**	**-1.0**
	comp=N,99nm,1.9s,mb5.5							
EVO	**Evora**	**56.84**	**56**	*e*P		**P**	**05 49 35.5**	**-1.6**
	comp=N,14nm,0.9s,mb4.7							
EVO				*e*pP		Px	05 49 56.9	
EVO				*e*R				
	comp=N,219nm,20.5s							
DLBC	**Dease Lake**	**57.24**	**328**	P		**P**	**05 49 37.8**	**-1.8**
	comp=N,1.3nm,0.6s,mb4.1,baz=301,slow=4.5,SNR=3.5							
ESDC	**Sonseca Array**	**59.98**	**55**	P		**P**	**05 49 59.0**	**0.0**
	comp=N,0.5nm,0.3s,mb4.0,baz=277,slow=7.1,SNR=8.2							
PLCA	**Paso Flores**	**60.31**	**180**	P		**P**	**05 50 00.3**	**-0.9**
	comp=N,3.0nm,1.0s,mb4.3,baz=26,slow=11,SNR=4.2							
PLCA	**Paso Flores**	**60.31**	**180**	P		**P**	**05 50 00.3**	**-0.9**
ROSF	**Rostrenen**	**60.56**	**45**	*e*P		**P**	**05 50 02.7**	**-0.1**
QUIF	**Quistinic**	**60.61**	**46**	*e*P		**P**	**05 50 03.3**	**+0.1**
	comp=N,11nm,1.0s,mb4.7							
SGMF	**Saint Gilles**	**61.03**	**45**	*e*P		**P**	**05 50 06.2**	**+0.2**
	comp=N,58nm,1.4s,mb5.2							
SGMF				*e*pP		Px	05 50 30.4	
SJPF	**Ste Jean**	**61.94**	**51**	*e*P		**P**	**05 50 12.4**	**+0.1**
	comp=N,16nm,1.0s,mb4.8							
GRR	**Gorron**	**62.17**	**45**	*e*P		**P**	**05 50 13.5**	**-0.2**
	comp=N,18nm,1.1s,mb4.8							
ETSF	**Etsaut**	**62.43**	**51**	*e*P		**P**	**05 50 15.4**	**-0.2**
MFF	**Saint Martin d**	**62.64**	**47**	*e*P		**P**	**05 50 16.2**	**-0.7**
	comp=N,11nm,1.1s,mb4.6							
RJF	**Les Rejaudoux**	**63.84**	**49**	*e*P		**P**	**05 50 24.7**	**-0.1**
RJF				*e*R				
	comp=N,191nm,21.0s							
CAF	**Calviac**	**64.24**	**49**	*e*P		**P**	**05 50 27.2**	**-0.2**
CAF		

GERES				LR	LR	06 20 46.1		
	comp=N,268nm,18.3s,MS4.5,baz=72,slow=34							
PVCC	**Panska Ves**	**72.03**	**42**	AMS	AMS	06 18 20.0		
	comp=N,200nm,20.6s							
PRU	**Pruhonice**	**72.11**	**43**	AMS	AMS	06 17 00.0		
	comp=N,400nm,22.3s							
DPC	**Dobruska-Polom**	**73.17**	**42**	AMS	AMS	06 19 40.0		
	comp=N,300nm,18.6s							
ARCES	**ARCESS Array B**	**73.74**	**21**	P	**P**	**05 51 24.5**	**-1.0**	
	comp=N,1.5nm,0.9s,mb3.9,baz=288,slow=3.8,SNR=5.1							
ARCES				LR	LR	06 16 59.3		
	comp=N,91nm,21.3s,MS4.0,baz=262,slow=30							
ARCES	**ARCESS Array B**	**73.74**	**21**	P	**P**	**05 51 24.5**	**-1.0**	
ARCES				LR	LR	06 16 59.3		
OKC	**Ostrava-Krasne**	**74.42**	**42**	AMS	AMS	06 20 10.0		
	comp=N,400nm,21.7s							
FINES	**FINESS Array B**	**75.98**	**29**	P	**P**	**05 51 40.9**	**+2.2**	
	comp=N,3.1nm,1.0s,mb4.2,baz=194,slow=7.9,SNR=3.7							
FINES				LR	LR	06 20 02.4		
	comp=N,131nm,21.6s,MS4.2,baz=314,slow=32							
BRTR	**Keskin Array B**	**88.06**	**48**	P	**P**	**05 52 43.1**	**+1.2**	
	comp=N,1.9nm,0.9s,mb4.3,baz=270,slow=4.9,SNR=8.6							
SONM	**Songino Array**	**112.54**	**2**	PKKP	PKKP	06 09 30.6	-1.9	
	comp=N,0.2nm,0.6s,baz=180,slow=2.9,SNR=3.8							
CN2	**Changchun**	**114.88**	**347**	*e*PKP	PKPdf	05 58 32.6	-1.1	
NJ2	**Nanjing**	**127.53**	**350**	*e*PKP	PKPdf	05 58 57.6	-1.0	
NJ2				PKS	PKS	06 02 32.0	+0.7	
NJ2				SKS	SKS	06 06 04.0	-1.5	
STKA	**Stephens Creek**	**148.59**	**241**	PKPbc	PKPdf	05 59 37.5	+0.9	
	comp=N,3.7nm,1.1s,baz=145,slow=12,SNR=2.5							
WRA	**Warramunga Arr**	**156.33**	**266**	PKP	PKPdf	05 59 48.0	0.0	
	comp=N,1.8nm,0.9s,baz=79,slow=1.5,SNR=8.1							

*IDC **23** 05:58:03.8±1.0,41.66N×139.70E,mb3.6/6,mb1 4.0/6, mb1mx3.8/19,mbtmp3.7/6,Error ellipse: s-maj=30.0km s-min=26.3km az=139.0*

*JMA **23** 05:58:25.8±0.2,41.86N×139.50E,h187km±2km,M3.0*

ISC 23 05:58:24.8±0.5,41.82N±0.05×139.57E±0.10,h194km±4km, n19,σ0s57/28,mb3.3/6,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**0.28**	**346**	P	**P**	**05 58 50.5**	**-0.3**
JYM2	**Yakumo 2**	**0.67**	**63**	P	**P**	**05 58 52.6**	**+0.4**
JYM2				*e*S	**S**	**05 59 13.1**	**-0.3**
JSR	**Shiriuchi**	**0.70**	**114**	P	**P**	**05 58 52.8**	**+0.5**
JSR				*e*S	**S**	**05 59 13.2**	**-0.4**
JSH	**Shimam**	**0.90**	**23**	P	**P**	**05 58 53.6**	**+0.2**
JKB	**Kayabe**	**1.10**	**86**	P	**P**	**05 58 55.3**	**+0.5**
JKB				*e*S	**S**	**05 59 18.1**	**+0.1**
JOT	**Ohata**	**1.19**	**111**	P	**P**	**05 58 56.2**	**+0.6**
JOT				*e*S	**S**	**05 59 19.4**	**0.0**
JIW	**Iwasaki**	**1.27**	**165**	P	**P**	**05 58 56.9**	**+0.7**
JIW				*e*S	**S**	**05 59 20.9**	**+0.4**
JNB	**Noboribetsu**	**1.27**	**59**	P	**P**	**05 58 56.3**	**0.0**
JSK	**Shakotan**	**1.68**	**23**	P	**P**	**05 59 00.1**	**+0.1**
JSK				*e*S	**S**	**05 59 26.8**	**-0.3**
JANG	**Nango**	**2.06**	**134**	P	**P**	**05 59 03.9**	**+0.1**
JANG				*e*S	**S**	**05 59 33.4**	**-0.5**
JNBK	**Urakawa-nobuka**	**2.42**	**78**	P	**P**	**05 59 08.1**	**+0.3**
JNBK				*e*S	**S**	**05 59 40.1**	**-0.9**
JFR	**Furan**	**2.61**	**58**	P	**P**	**05 59 10.7**	**+0.6**
JFR				*e*S	**S**	**05 59 44.3**	**-0.7**
JOM	**Ohasama**	**2.68**	**150**	*e*S	**S**	**05 59 46.3**	**-0.2**
SONM	**Songino Array**	**24.16**	**296**	P	**P**	**06 03 23.8**	**-0.4**
	0.6nm,0.6s,mb3.4,baz=74,slow=9.0,SNR=4.9						
MKAR	**Makanchi Array**	**40.51**	**297**	P	**P**	**06 05 45.0**	**-1.1**
	0.7nm,0.7s,mb3.2,baz=81,slow=11,SNR=5.5						
ILAR	**Eielson Array**	**46.30**	**35**	P	**P**	**06 06 32.8**	**+0.7**
	0.8nm,0.9s,mb3.1,baz=284,slow=7.1,SNR=10						
WRA	**Warramunga Arr**	**61.63**	**186**	P	**P**	**06 08 22.6**	**-1.5**
	1.6nm,0.8s,mb3.7,baz=3.6,slow=7.3,SNR=13						
PDAR	**Pinedale Array**	**75.33**	**45**	P	**P**	**06 09 48.7**	**+0.6**
	0.6nm,0.8s,mb3.3,baz=333,slow=3.3,SNR=5.9						
TXAR	**Lajitas Array**	**88.29**	**51**	P	**P**	**06 10 56.1**	**+0.8**
	0.3nm,0.8s,mb3.2,baz=225,slow=1.8,SNR=3.8						

IDC 23 05:58:59.6±8.8,4.10N×97.02E,mb3.9/3,mb1 3.9/3, mb1mx3.6/17,mbtmp3.9/3,Error ellipse: s-maj=192.9km s-min=110.5km az=146.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**44.31**	**9**	P	P	06 07 11.2	-1.8
	1.8nm,0.8s,baz=190,slow=9.2,SNR=11						
MKAR	**Makanchi Array**	**44.40**	**346**	P	P	06 07 11.9	-1.8
	1.9nm,0.7s,baz=163,slow=8.6,SNR=16						
ARCES	**ARCESS Array B**	**79.76**	**340**	P	P	06 11 09.2	-1.5
	0.8nm,0.8s,baz=106,slow=6.6,SNR=3.9						

*BER **23** 06:04:16.2±2.7,81.96N×25.17E,MD3.2,ML2.5(NAO) NAO **23** 06:04:18.4±6.3,81.81N×22.91E,ML2.5*

ISC 23 06:04:16.7±2.8,81.7N±0.2×25.3E±0.8,h10km,n4,σ0s99/8, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**3.57**	**226**	Pn	**Pn**	**06 05 13.2**	**-0.1**
KBS				Sn	**Sn**	**06 05 55.1**	**-0.9**
SPA0	**Spitsbergen Ar**	**3.85**	**208**	Pn	**Pn**	**06 05 18.0**	**+0.6**
	baz=20,slow=14						
SPA0				Sn	**Sn**	**06 06 04.3**	**+1.0**
	baz=30,slow=28						
HOPEN	**Hopen**	**5.21**	**181**	*e*P	**Pn**	**06 05 38.0**	**+1.4**
HOPEN				*e*S	**Sn**	**06 06 37.0**	**-0.5**
ARA0	**ARCESS Array S**	**12.22**	**180**	Pn	**P**	**06 07 11.9**	**-1.6**
	baz=0.6,slow=12						
ARA0				Sn	**S**	**06 09 24.2**	**-6.7**
	baz=2.5,slow=22						

*NEIC **23** 06:12:09.4, 16.02N×97.49W,h3km,MD3.8(MEX),After MEX.*

MEX 23 06:12:09.5±0.6,16.02N×97.49W,h5km±8km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.72**	**301**	*i* P		06 12 22.2	-1.6
PNIG				*e*S		06 12 39.2	-1.3
OXX	**Oaxaca**	**1.29**	**35**	*e*P		06 12 30.0	-3.8
OXX				*e*S		06 12 47.2	-3.3
HUIG	**Huatulco**	**1.35**	**100**	*e*P		06 12 31.5	-3.4
HUIG				*i* S		06 12 48.7	-3.7
ACX	**Acapulco**	**2.48**	**290**	*e*P		06 12 47.5	-3.7
ACX				*e*S		06 13 16.5	-5.7
CMIG	**Matias Romero**	**2.71**	**66**	*e*P		06 12 50.8	-3.8
CMIG				*i* S		06 13 22.0	-6.2
CAIG	**El Cayaco**	**2.86**	**291**	*e*P		06 12 54.0	-2.6
IISM	**Ciudad Serdan**	**2.96**	**2**	*e*P		06 12 55.5	-2.5
YAIG	**Yautepec**	**3.21**	**332**	*e*P		06 12 58.4	-3.1
YAIG				*e*S		06 13 34.5	-6.2
PPM	**Popocatepetl**	**3.22**	**340**	*e*P		06 13 01.5	-0.3

*ATH **23** 06:41:24.7,38.26N×26.57E,h31km±11km,MD3.1/3 ISK **23** 06:41:25.3,38.28N×26.71E,h16km,MD2.9 CSEM **23** 06:41:25.8±0.3,38.30N×26.78E,h25km,MD2.9,Error ellipse: s-maj=9.8km s-min=3.2km az=129.0*

ISC 23 06:41:23.9±1.1,38.25N±0.03×26.60E±0.06,h6km±7km, n13,σ0s87/23,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.38**	**69**	*i* PG	**Pg**	**06 41 31.6**	**+0.2**
BLCB				*i* SG	**Sg**	**06 41 36.2**	**-0.3**
IZM	**Izmir**	**0.54**	**74**	*i* PG	**Pg**	**06 41 35.0**	**+0.2**
IZM				*i* SG	**Sg**	**06 41 42.0**	**-0.1**
KDAG	**Bornova**	**0.55**	**73**	*i* P	**Pg**	**06 41 35.0**	**+0.1**
KDAG				*i* S	**Sg**	**06 41 42.6**	**+0.4**
SMG	**Samos**	**0.57**	**161**	*e*PN	**Pn**	**06 41 36.8**	**-1.3**
SMG				*e*SN	**Sn**	**06 41 46.3**	**-1.6**
PRK	**Paraskevi**	**1.03**	**346**	*e*PN	**Pn**	**06 41 43.9**	**-0.8**
PRK				*e*SN	**Sn**	**06 41 58.3**	**-1.2**
AYVA	**Ayvalik**	**1.06**	**4**	*i* P	**Pb**	**06 41 44.2**	**0.0**
AYVA				*i* S	**Sb**	**06 41 60.0**	**+1.8**
AKS	**Akhisar**	**1.14**	**56**	PG	**Pg**	**06 41 45.9**	**-0.8**
AKS				SG	**Sg**	**06 42 00.9**	**-1.0**
AYDN	**Tasoluk**	**1.17**	**120**	*i* P	**Pb**	**06 41 46.7**	**+0.6**
AYDN				*i* S	**Sb**	**06 42 01.7**	**+0.3**
BODT	**Bodrum**	**1.31**	**154**	PN	**Pn**	**06 41 49.2**	**+0.5**
BDRM	**Kayabasi**	**1.36**	**150**	*i* P	**Pb**	**06 41 50.0**	**+0.7**
BDRM				*i* S	**Sb**	**06 42 12.6**	**+5.8**
APE	**Apeiranthos**	**1.45**	**216**	*e*PN	**Pn**	**06 41 52.9**	**+2.2**
APE	**Apeiranthos**	**1.45**	**216**	*e*PN	**Pn**	**06 41 50.8**	**+0.1**
MANT	**Manisa**	**1.56**	**80**	*i* P	**Pn**	**06 41 53.6**	**+1.3**
MANT				*i* S	**Sb**	**06 42 12.7**	**0.0**

CASC 23 06:57:21.0±1.6,14.39N×90.44W,h7km±11km,MD3.5, 1C-2D,Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**0.16**	**270**	*i* P	Pg	06 57 25.4	+0.9
PCG				*e*S	Sg	06 57 27.8	+1.0
IXG	**Ixpaco**	**0.22**	**184**	*e*P	Pg	06 57 25.9	+0.3
IXG				*e*S	Sg	06 57 29.9	+1.3
FUG	**Fuego 3**	**0.39**	**278**	*e*P	Pg	06 57 29.5	+0.6
RBDL	**Robledal**	**0.78**	**111**	*e*P	Pb	06 57 36.6	+0.1
RBDL				*e*S	Sb	06 57 47.2	+0.2
RTR	**El Retiro**	**0.92**	**123**	*e*P	Pb	06 57 39.2	+0.4
RTR				*e*S	Sb	06 57 51.7	+0.8
SNJE	**San Jose**	**0.96**	**123**	*e*P	Pb	06 57 39.6	0.0
SNJE				*e*S	Sb	06 57 53.3	+1.0
SBLS	**San Blas**	**0.96**	**125**	*e*P	Pb	06 57 40.3	+0.7
SBLS				*e*S	Sb	06 57 52.8	+0.5
MRL	**Marmol**	**0.99**	**47**	*e*P	Pb	06 57 39.9	-0.1
MRL				*e*S	Sb	06 57 52.6	-0.4

*BJI **23** 07:29:01.6, 6.29N×93.80E,h26km,mb4.5,Ms4.4,Msz4.1 NEIC **23** 07:29:02.9±0.4,6.16N×93.91E,h30km,mb4.5/5,Error ellipse: s-maj=12.6km s-min=7.5km az=223.0 IDC **23** 07:29:13.8±11.0,6.32N×94.20E,h127km±111km, mb3.9/11,mb1 4.0/11,mb1mx3.9/18,mbtmp4.3/11,MS4.7/1, Ms1 4.7/1,ms1mx3.7/31,Error ellipse: s-maj=22.0km s-min=16.5km az=60.0*

ISC 23 07:29:01.2±0.4,6.16N±0.07×94.05E±0.06,h30km,n44, σ1s01/42,mb4.3/20,MS5.1/3,3C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.62**	**97**	Pn	**Pn**	**07 30 41.5**	**+2.4**
KULM				Sn	**Sn**	**07 31 54.0**	**-0.4**
KSM	**Kuching**	**16.87**	**105**	*e*P	**P**	**07 33 01.2**	**+4.1**
QIZ	**Qiongzhong**	**20.01**	**49**	P	**P**	**07 33 35.1**	**+0.6**
KMI	**Kunming**	**20.61**	**23**	P	**P**	**07 33 40.8**	**0.0**
KMI				AMB	AMB		
	comp=Z,15nm,1.1s						
KMI	**Kunming**	**20.61**	**23**	P	**P**	**07 33 40.8**	**0.0**
	comp=Z,15nm,1.1s						
JIRN	**Jiri**	**22.65**	**342**	*e*P	**P**	**07 34 01.3**	**0.0**
PKI	**Pulchoki**	**22.82**	**340**	*e*P	**P**	**07 34 03.6**	**+0.6**
	comp=Z,12nm,0.6s,mb4.5						
DMN	**Daman**	**22.96**	**339**	*e*P	**P**	**07 34 04.7**	**+0.3**
	comp=Z,11nm,0.6s,mb4.4						
GUN	**Gumba**	**22.98**	**341**	*e*P	**P**	**07 34 04.2**	**-0.4**
	comp=Z,29nm,0.7s,mb4.8						
KKN	**Kakani**	**23.07**	**340**	*e*P	**P**	**07 34 06.3**	**+0.9**
GYA	**Guiyang**	**23.50**	**29**	*i* P	**P**	**07 34 11.4**	**+1.8**
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.5						
LSA	**Lhasa**	**23.58**	**354**	P	**P**	**07 34 10.4**	**+0.1**
KOLN	**Koldanda**	**23.67**	**336**	*e*P	**P**	**07 34 12.5**	**+1.2**
	comp=Z,24nm,0.7s,mb4.7						
TATO	**Taipei**	**32.26**	**52**	P	**P**	**07 35 23.1**	**-6.5**
WMQ	**Urumqi**	**37.93**	**353**	*e*P	**P**	**07 36 17.8**	**+0.1**
WMQ				AP	pP	07 36 27.5	+0.8
WMQ				XP	sP	07 36 31.4	+0.9
WMQ				LR	LR		
	comp=N,311nm,13.1s,MS4.4						
WMQ				LR	LR		
	comp=E,221nm,14.2s,MS4.4						
WMQ				LR	LR		
	comp=Z,451nm,14.7s,MS4.4						
FITZ	**Fitzroy Crossi**	**39.41**	**128**	*e*P	**P**	**07 36 30.3**	**-0.1**
	comp=Z,15nm,0.9s,mb4.7						
MKAR	**Makanchi Array**	**41.73**	**348**	P	**P**	**07 36 49.5**	**+0.2**
	comp=Z,8.0nm,0.6s,mb4.5,baz=168,slow=8.2,SNR=69						
MKAR	**Makanchi Array**	**41.73**	**348**	P	**P**	**07 36 49.5**	**+0.2**
SONM	**Songino Array**	**42.85**	**12**	P	**P**	**07 36 58.1**	**-0.2**
	comp=Z,0.7nm,0.3s,mb3.8,baz=198,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**47.36**	**124**	P	**P**	**07 37 34.9**	**+0.1**
	comp=Z,7.1nm,0.6s,mb4.8,baz=304,slow=8.9,SNR=36						
WRAB	**Tennant Creek**	**47.37**	**124**	*e*P	**P**	**07 37 35.1**	**+0.2**
	comp=Z,11nm,0.9s,mb4.8						
WRAB				*e*		07 37 48.7	
WB2	**Warramunga Arr**	**47.37**	**124**	*e*P	**P**	**07 37 35.0**	**+0.1**
MDJ	**Mudanjiang**	**49.28**	**33**	P	**P**	**07 37 48.1**	**-1.2**
MDJ				S	x	07 40 01.3	
MDJ				PCP	x	07 43 26.9	
MDJ				PCS		07 47 01.0	
MDJ				AMB	AMB		
	comp=Z,645nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,2μm,5.8s						
MDJ				LR	LR		
	comp=N,19μm,25.0s,MS6.1						
MDJ				LR	LR		
	comp=E,10μm,23.4s,MS6.1						
MDJ				LR	LR		
	comp=Z,17μm,31.2s						
MAJO	**Matsushiro**	**50.38**	**47**	P	**P**	**07 37 55.7**	**-2.2**
MAJO				*e*		07 42 52.8	
PMG	**Port Moresby**	**55.14**	**106**	LR	LR	08 00 47.1	
	comp=Z,733nm,21.2s,MS4.7,baz=172,slow=34						
ASAJ	**Asahikawa**	**56.77**	**40**	P	**P**	**07 38 42.5**	**-2.4**
	comp=Z,1μm,0.8s,baz=90,slow=20,SNR=7.3						
KMBO	**Kilima Mbogo**	**57.16**	**265**	P	**P**	**07 38 50.1**	**+2.0**
	comp=Z,4.8nm,0.9s,mb4.5,baz=52,slow=7.9,SNR=12						
CTAO	**Charters Tower**	**57.56**	**118**	P	**P**	**07 38 51.4**	**+0.5**
STKA	**Stephens Creek**	**59.00**	**133**	P	**P**	**07 39 00.5**	**-0.3**
	comp=Z,2.4nm,0.8s,mb4.3,baz=5.6,slow=6.0,SNR=3.2						
STKA	**Stephens Creek**	**59.00**	**133**	P	**P**	**07 39 00.5**	**-0.3**
BRTR	**Keskin Array B**	**63.48**	**311**	P	**P**	**07 39 29.1**	**-1.8**
	comp=Z,2.1nm,0.7s,mb4.4,baz=128,slow=7.2,SNR=9.7						
AKASG	**Malin Array Be**	**69.44**	**322**	P	**P**	**07 40 06.6**	**-2.0**
	comp=Z,0.2nm,0.3s,mb3.6,baz=91,slow=4.7,SNR=6.8						
FINES	**FINESS Array B**	**74.18**	**332**	P	**P**	**07 40 35.9**	**-0.7**
	comp=Z,2.2nm,0.6s,mb4.2,baz=135,slow=8.1,SNR=6.7						
KAF	**Kangasniemi**	**74.27**	**333**	*e*p	**P**	**07 40 36.9**	**-0.2**
BOSA	**Boshof**	**74.60**	**238**	P	**P**	**07 40 40.5**	**+0.7**
	comp=Z,2.2nm,1.0s,mb4.0,baz=90,slow=13,SNR=4.2						
BOSA	**Boshof**	**74.60**	**238**	P	**P**	**07 40 40.5**	**+0.7**
KEV	**Kevo**	**76.42**	**341**	*e*p	sP	07 41 04.3	+2.3
	comp=Z,2.6nm,0.6s						
ARCES	**ARCESS Array B**	**76.84**	**340**	P	**P**	**07 40 51.6**	**0.0**
	comp=Z,1.5nm,0.5s,mb4.2,baz=94,slow=5.2,SNR=15						
GERES	**GERESS Array B**	**79.04**	**318**	P	**P**	**07 41 04.5**	**+0.4**
	comp=Z,2.9nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=22						
GRA1	**Grafenberg Arr**	**80.70**	**319**	*e*P	**P**	**07 41 13.6**	**+0.6**
	comp=Z,4.0nm,0.9s,mb4.3						
GRF	**Grafenberg Arr**	**80.70**	**319**	*e*P	**P**	**07 41 13.6**	**+0.6**
	comp=Z,4.0nm,0.9s,mb4.3						
NOA	**NORSAR Array B**	**81.17**	**331**	P	**P**	**07 41 15.3**	**0.0**
	comp=Z,0.6nm,0.9s,mb3.5,baz=16,slow=15,SNR=3.1						
SYO	**Syowa Base**	**83.75**	**197**	P	**P**	**07 41 26.8**	**-1.6**
SYO	**Syowa Base**	**83.75**	**197**	pP	pP	07 41 38.2	+0.2

*BJI **23** 07:34:54.9, 35.52N×140.24E,h87km,mB6.0,mb5.8, Ms5.6,Msz5.4*

*CRAAG **23** 07:34:55.7, 35.52N×139.97E,Mb6.1*

*JMA **23** 07:34:56.3±0.2, 35.58N×140.14E,h73km±2km,M6.0 Broadband fault plane solution: P waves. NP1:φs185°, δ15°,λ87°. NP2:φs9°,δ75°,λ91°. Principal axes: T Plg60°, Azm280°; N Plg1°, Azm188°; P Plg30°, Azm98°;*

*NEIC **23** 07:34:56.8±0.1, 35.50N×139.98E,h61km,mb6.1/219, ME5.7,MW5.9,MW5.9(NIED) Error ellipse: s-maj=3.0km s-min=2.4km az=171.0 Broadband fault plane solution: P waves. NP1:φs5°,δ60°,λ110°. NP2:φs149°,δ36°,λ59°. Principal axes: T Plg68°, Azm316°; N Plg0°, Azm0°; P Plg13°, Azm81°; Moment Tensor Solution. s57 Moment tensor: Scale 10^17 Nm; Mrr8.86; Mθθ-0.78; Mφφ-8.08; Mrθ 1.44; Mθφ0.51; Mφr4.05; Best double couple: Mo9.5×10^17 NP1:φs168°,δ33°,λ75°. NP2:φs6°,δ58°, λ100°. Principal axes: T 9.99, Plg75°, Azm302°; N -.99, Plg8°, Azm181°; P -9, Plg13°, Azm89°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Twenty-seven people injured and one building damaged in the Tokyo area. Felt [V] at Togane, Tokyo, Yokohama, Yokosuka, Zama and Zushi; [IV] at Chigasaki. Recorded [5U JMA] in Saitama and Tokyo; [5L JMA] in Chiba and Kanagawa; [4 JMA] in Ibaraki, Shizuoka and Tochigi; [3 JMA] in Fukushima, Gumma, Miyagi, Nagano, Niigata and Yamanashi; [2 JMA] in Iwate and Yamagata; [1 JMA] in Aichi, Akita, Aomori and Gifu Prefectures. Also recorded [3 JMA] on O-shima; [2 JMA] on Kozu-jima, Mikura-jima, Miyake-jima and Nii-jima; [1 JMA] on Aoga-shima and Hachijo-jima.

*HRVD **23** 07:34:56.8±0.1, 35.57N×140.29E,h62km,MW6.0/58, Centroid moment Tensor Solution. LP body waves: s56,c138;Mantle waves: s58,c184; Half duration: 2s3 Moment tensor: Scale 10^18Nm; Mrr0.91±.01; Mθθ0.10±.01; Mφφ-1.00±.01; Mrθ0.05±.01; Mθφ-0.06±.01; Mφr0.40±.01; Best double couple: Mo1.036×10^18 NP1:φs182°,δ34°,λ87°. NP2:φs5°,δ56°,λ92°. Principal axes: T .989, Plg79°, Azm282°; N .099, Plg2°, Azm184°; P -1.083, Plg11°, Azm94°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*IDC **23** 07:34:57.9±0.4,35.52N×140.01E,h67km±3km,mb5.5/26, mb1 5.6/29,mb1mx5.5/30,mbtmp5.8/29,MS5.1/19, Ms1 5.1/19,ms1mx4.9/28 Error ellipse: s-maj=8.7km s-min=6.3km az=96.0*

*MOS **23** 07:34:59.0±0.7,35.91N×139.96E,h75km,mb6.3/85, MS5.4/30,Error ellipse: s-maj=7.9km s-min=4.4km az=111.1*

*NIED **23** 07:35:00,35.50N×140.20E,h68km,Mw5.9 Best double couple: Mo9.11×10^17 NP1:φs8°,δ64°,λ101°. NP2:φs165°, δ28°,λ69°.*

*BGS **23** 07:35:06.8,35.83N×134.49E,h60km,mb6.0*

ISC 23 07:34:56.7±0.1,35.53N±0.01×140.04E±0.02,h69km, h69km±1.0km:pP-P,n1264,σ0s87/1222,mb5.9/313, 296C-78D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.17**	**130**	↑P	**P**	**07 35 07.5**	**+0.4**
JCN				*e*S	**S**	**07 35 16.9**	**+2.1**
TOK	**Tokyo**	**0.28**	**305**	↓P	**P**	**07 35 08.5**	**+0.8**
TOK				*e*S	**S**	**07 35 17.9**	**+2.1**
BSO4	**Boso 4**	**0.59**	**155**	↑P	**P**	**07 35 10.7**	**+0.2**
JOD2	**Odawara 2**	**0.82**	**251**	↓P	**P**	**07 35 13.6**	**+0.5**
JOD2				*e*S	**S**	**07 35 26.8**	**+1.5**
BSO3	**Boso 3**	**0.82**	**152**	↑P	**P**	**07 35 12.8**	**-0.3**
JIM2	**Oshima 3**	**0.95**	**212**	↓P	**P**	**07 35 14.7**	**-0.1**
JIM2				*e*S	**S**	**07 35 29.3**	**+1.1**
JAG	**Ashikaga**	**1.01**	**332**	↓P	**P**	**07 35 15.5**	**-0.1**
JAG				*e*S	**S**	**07 35 28.8**	**-0.8**
JRY	**Ryogami san**	**1.04**	**298**	↓P	**P**	**07 35 17.0**	**+1.0**
JRY				*e*S	**S**	**07 35 32.7**	**+2.4**
JHO	**Hitachi**	**1.16**	**22**	P	**P**	**07 35 16.4**	**-1.1**
BSO1	**Boso 1**	**1.17**	**138**	↑P	**P**	**07 35 16.2**	**-1.4**
JYN	**Shimob**	**1.22**	**269**	↓P	**P**	**07 35 19.2**	**+0.9**
JIZS	**Izushimoda**	**1.25**	**230**	↓P	**P**	**07 35 19.2**	**+0.5**
NJJJ	**Nii jima 2**	**1.28**	**209**	↓P	**P**	**07 35 19.6**	**+0.4**
NJJJ				S	**S**	**07 35 38.1**	**+2.2**
JKT	**Katashina**	**1.39**	**333**	↓P	**P**	**07 35 20.5**	**-0.2**
JSB	**Shiboa**	**1.44**	**356**	↓P	**P**	**07 35 20.7**	**-0.7**
JSB				*e*S	**S**	**07 35 38.8**	**-0.8**
JKQ	**Kozu shima**	**1.53**	**209**	↓P	**P**	**07 35 23.2**	**+0.6**
SHZ3	**Shizuoka 3**	**1.57**	**253**	↓P	**P**	**07 35 24.3**	**+1.2**
JNT	**Takato**	**1.58**	**283**	↓P	**P**	**07 35 24.9**	**+1.6**
JNY	**Yasuok**	**1.79**	**265**	↓P	**P**	**07 35 27.9**	**+1.9**
MJAR	**Matsushiro Arr**	**1.79**	**305**	P	**P**	**07 35 26.1**	**0.0**
	3μm,0.3s,baz=164,slow=12,SNR=3691						
MAJO	**Matsushiro**	**1.80**	**305**	*i* P	**P**	**07 35 26.8**	**+0.6**
MAJO	**Matsushiro**	**1.80**	**305**	*i* Pn	**P**	**07 35 27.3**	**+1.2**
MAT	**Matsushiro**	**1.80**	**305**	*e*P	**P**	**07 35 27.0**	**+0.8**
MAT				*e*S	**S**	**07 35 50.0**	**+2.1**
MAT	**Matsushiro**	**1.80**	**305**	P	**P**	**07 35 26.9**	**+0.7**
MAT				S	**S**	**07 35 50.0**	**+2.1**
MAT	**Matsushiro**	**1.80**	**305**	P	**P**	**07 35 27.0**	**+0.8**
JNG	**Nsakai**	**1.80**	**300**	↓P	**P**	**07 35 27.4**	**+1.2**
JHK	**Hiroka**	**1.90**	**335**	↓P	**P**	**07 35 27.7**	**+0.1**
JYZW	**Yoshizawa**	**1.96**	**255**	P	**P**	**07 35 29.9**	**+1.5**
JFT	**Otama**	**2.00**	**7**	↓P	**P**	**07 35 28.2**	**-0.7**
HMMJ	**Hamamatsu 2**	**2.01**	**251**	↓P	**P**	**07 35 30.3**	**+1.2**
TK04	**Tokai 4**	**2.11**	**238**	↓P	**P**	**07 35 31.7**	**+1.2**
JJN	**Nakama**	**2.18**	**317**	↓P	**P**	**07 35 32.6**	**+1.1**
JGF	**Kuroka**	**2.19**	**273**	↓P	**P**	**07 35 33.4**	**+1.8**
JIZZ	**Izumozaki**	**2.27**	**332**	P	**P**	**07 35 33.6**	**+0.9**
JAO	**Obara**	**2.29**	**264**	↓P	**P**	**07 35 34.4**	**+1.4**
JGN	**Niukaw**	**2.32**	**288**	↓P	**P**	**07 35 35.0**	**+1.5**
JNS	**Sasagawa**	**2.36**	**346**	↓P	**P**	**07 35 33.7**	**-0.3**
JMM	**Marumori**	**2.41**	**14**	↓P	**P**	**07 35 33.9**	**-0.9**

YUK pmax pmax
comp=Z,310nm,0.5s
YUK pmax pmax
comp=Z,3μm,2.0s
YUK pmax pmax
comp=N,6μm,3.0s
YUK pmax pmax
comp=E,2μm,1.0s
JKC Kuchinoerabu 9.69 241 P **P** **07 37 17.5 +2.0**
KS15 Wonju Array Si 9.97 285⇓ *e*P **P** **07 37 20.6 +1.2**
INCN Inchon 10.97 284⇓ *e*P **P** **07 37 35.3 +2.5**
comp=E,1μm,1.4s
KUR Kuril'sk 11.38 29κ *i*P **P** **07 37 31.5 -6.8**
KUR pmax pmax
comp=N,230nm,1.0s
KUR pmax pmax
comp=E,170nm,1.0s
KUR pmax pmax
comp=Z,1μm,1.0s
KUR pmax pmax
comp=Z,8μm,4.0s
KUR MLR MLR
comp=N,4μm,14.0s
KUR MLR MLR
comp=E,11μm,14.0s
KUR MLR MLR
comp=Z,7μm,14.0s
YSS Yuzh-Sakhalins 11.60 9⇑ *e*P **P** **07 37 35.7 -5.5**
YSS *i* S **S** **07 39 38.0 -12**
YSS pmax pmax
comp=N,300nm,0.9s
YSS pmax pmax
comp=E,110nm,0.9s
YSS pmax pmax
comp=Z,310nm,0.9s
YSS smax
comp=N,510nm,1.0s
YSS smax
comp=E,860nm,1.8s
YSS MLR MLR
comp=N,8μm,14.0s
YSS MLR MLR
comp=Z,7μm,14.0s
YSS Yuzh-Sakhalins 11.60 9⇑ *e*P **P** **07 37 35.9 -5.3**
comp=Z,224nm,0.6s
JMZ Minamidaito 2 12.29 220 P **P** **07 37 53.2 +2.5**
JOW Kunigami 13.28 232 P **P** **07 38 03.3 -0.4**
comp=Z,5.9nm,0.3s,baz=63,slow=11,SNR=38
JOW S **S** **07 40 30.6 +0.5**
comp=Z,0.6nm,0.3s,baz=196,slow=20,SNR=1.6
JOW LR LR 07 42 45.7
comp=Z,9μm,20.8s,baz=230,slow=35
JOW Kunigami 13.28 232 P **P** **07 38 04.7 +1.0**
JIH Iheya 13.34 234 P **P** **07 38 06.3 +1.8**
UGL Uglegorsk 13.62 6 *e*P **P** **07 38 04.0 -4.0**
UGL S **S** **07 40 41.0 +3.0**
UGL pmax pmax
comp=Z,50nm,0.5s
UGL pmax pmax
comp=N,700nm,3.0s
UGL pmax pmax
comp=E,500nm,3.0s
UGL pmax pmax
comp=Z,1μm,3.0s
UGL smax
comp=N,3μm,6.0s
UGL smax
comp=E,5μm,9.0s
UGL MLR MLR
comp=Z,6μm,16.0s
UGL MLR MLR
comp=N,6μm,14.0s
UGL MLR MLR
comp=E,3μm,14.0s
CN2 Changchun 13.93 311 *e*P **P** **07 38 11.5 -0.6**
CN2 *e*XP 07 38 35.3
CN2 *e*S **S** **07 40 45.3 -0.1**
CN2 AMB AMB
comp=Z,390nm,1.0s
CN2 AMB AMB
comp=Z,3μm,5.0s
CN2 LR LR
comp=N,13μm,17.0s
CN2 LR LR
comp=E,11μm,17.0s
CN2 LR LR
comp=Z,11μm,18.0s
JAGN Aguni-jima 14.12 234 P **P** **07 38 14.4 -0.2**
SNY Shenyang 14.30 301 ⇓P **P** **07 38 17.3 +0.4**
SNY AP 07 38 26.5
SNY S **S** **07 40 45.9 -8.4**
SNY AMB AMB
comp=Z,560nm,1.1s
SNY AMB AMB
comp=Z,6μm,10.6s
SNY LR LR
comp=N,11μm,14.3s
SNY LR LR
comp=E,15μm,17.4s
SNY LR LR
comp=Z,20μm,18.8s
JKE Kume jima 2 14.60 235 P **P** **07 38 21.3 +0.4**
KLR Kul'dur 14.98 339 *e*P **P** **07 38 18.5 -7.2**
KLR *e* 07 41 08.5
KLR MLR MLR
comp=Z,6μm,17.0s
DL2 Dalian 15.05 288 PR 07 38 29.9
DL2 AP 07 38 41.8
DL2 XP 07 38 52.9
DL2 S **S** **07 41 19.3 +7.5**
DL2 XS 07 41 37.9
DL2 AMB AMB
comp=Z,500nm,1.7s
DL2 AMB AMB
comp=Z,2μm,2.8s
DL2 LR LR
comp=N,2μm,12.3s
DL2 LR LR
comp=E,9μm,16.8s
DL2 LR LR
comp=Z,12μm,19.5s
TYV Tymovskoe 15.44 6 *e*P **P** **07 38 22.8 -8.7**
TYV *e*S **S** **07 41 08.0 -13**
TYV pmax pmax
comp=N,2μm,3.0s
TYV pmax pmax
comp=E,2μm,3.0s
TYV pmax pmax
comp=Z,3μm,3.0s
TYV pmax pmax
comp=N,135nm,0.9s
TYV pmax pmax
comp=E,310nm,0.9s
TYV pmax pmax
comp=Z,429nm,0.9s
TYV smax
comp=E,2μm,2.0s
TYV smax
comp=N,4μm,4.0s
TYV smax
comp=E,6μm,4.0s
TYV MLR MLR
comp=Z,7μm,15.0s
TYV MLR MLR
comp=N,7μm,14.0s
SSE Sheshan 16.36 260 P **P** **07 38 44.5 +1.2**
SSE AP 07 39 00.1
SSE XP 07 39 09.3
SSE S **S** **07 41 51.3 +9.2**
SSE PCP PCP 07 43 28.6 -5.1
SSE AMB AMB
comp=Z,394nm,1.2s
SSE AMB AMB
comp=Z,2μm,4.6s
SSE LR LR
comp=N,9μm,19.2s
SSE LR LR
comp=E,2μm,19.6s
SSE LR LR
comp=Z,10μm,14.1s
SSE Sheshan 16.36 260 P **P** **07 38 44.5 +1.2**
comp=Z,394nm,1.2s
SSE pP 07 39 00.1
SSE sP 07 39 09.3
SSE S **S** **07 41 51.3 +9.2**
SSE sS 07 42 21.8
SSE PcP PcP 07 43 28.6 -5.1
JOGS Gusukube 16.57 234 P **P** **07 38 48.3 +2.4**
JMJ Miyako jima 2 16.61 234 P **P** **07 38 49.1 +2.7**
JTJ Tarama 17.12 235 P **P** **07 38 53.6 +0.8**
JIJ Ishigaki jima 17.68 235 P **P** **07 38 59.0 -0.8**
JKRS Kuro-shima 17.86 235 P **P** **07 39 02.0 0.0**
NJ2 Nanjing 17.94 265 *e*P **P** **07 39 02.9 -0.1**
NJ2 AP 07 39 13.5
NJ2 PP PP 07 39 18.9 +0.4
NJ2 S **S** **07 42 20.0 +2.4**
NJ2 AMB AMB
comp=Z,60nm,0.6s
NJ2 AMB AMB
comp=Z,2μm,5.4s
NJ2 LR LR
comp=N,19μm,20.6s
NJ2 LR LR
comp=E,22μm,23.5s
NJ2 LR LR
comp=Z,55μm,21.7s
IRIF Iriomote-Funau 17.98 236 P **P** **07 39 02.0 -1.5**
HATJ Hateruma jima 18.12 235 P **P** **07 39 05.9 +0.8**
OKH Okha 18.13 6 *i* P **P** **07 39 01.8 -3.3**
OKH *i* S **S** **07 42 13.4 -8.4**
OKH pmax pmax
comp=Z,3μm,6.0s
OKH smax
comp=E,6μm,10.0s
YOJ Yonaguni jima 18.39 238 P **P** **07 39 06.9 -1.5**
TIA Tai'an 18.58 279 P **P** **07 39 09.3 -1.3**
TIA AMB AMB
comp=Z,258nm,1.6s
TIA LR LR
comp=N,6μm,12.0s
TIA LR LR
comp=E,3μm,15.0s
SKR Severo-Kuril's 19.10 33⇓ *e*P **P** **07 39 11.5 -4.8**
SKR *i* S **S** **07 42 46.0 +2.8**
SKR pmax pmax
comp=N,4μm,3.0s
SKR pmax pmax
comp=E,5μm,3.0s
SKR pmax pmax
comp=Z,8μm,3.0s
SKR pmax pmax
comp=N,2μm,1.5s
SKR pmax pmax
comp=E,960nm,1.5s
SKR pmax pmax
comp=Z,2μm,1.5s
SKR smax
comp=N,19μm,12.0s
SKR smax
comp=E,30μm,12.0s
SKR MLR MLR
comp=N,12μm,14.0s
SKR MLR MLR
comp=E,12μm,14.0s
SKR MLR MLR
comp=Z,14μm,14.0s
TATO Taipei 19.14 242 *e*P **P** **07 39 13.7 -3.3**
comp=Z,2μm,1.8s
SARN Sarigan 19.44 163 *e*P **P** **07 39 19.7 -0.5**
NACB Ninganchiao 19.56 240 *e*P **P** **07 39 19.1 -2.5**
QZH Quanzhou 21.28 246⇑ *i*P **P** **07 39 35.8 -3.5**
QZH S **S** **07 43 20.5 -6.0**
QZH AMB AMB
comp=Z,840nm,1.2s,mb6.0
QZH LR LR
comp=N,7μm,17.6s
QZH LR LR
comp=E,8μm,10.6s
QZH LR LR
comp=Z,18μm,19.4s
PET Petropavlovsk 21.88 31α *i*P **P** **07 39 44.6 -0.4**
PET *e* 07 40 08.5
PET *i* S **S** **07 43 38.9 +1.6**
PET *e**SS 07 44 07.6
PET *e*SSS SSS 07 44 30.7 -4.9
PET *e* 07 50 55.7
PET pmax pmax
comp=N,800nm,1.8s
PET pmax pmax
comp=E,500nm,1.8s
PET pmax pmax
comp=Z,1μm,1.8s,mb6.0
PET pmax pmax
comp=E,181nm,1.3s
PET pmax pmax
comp=Z,579nm,1.1s,mb5.8
PET pmax pmax
comp=N,323nm,1.4s
PET pmax pmax
comp=N,3μm,18.4s
PET pmax pmax
comp=E,2μm,13.7s
PET pmax pmax
comp=Z,4μm,13.7s
PET smax
comp=E,6μm,9.5s
PET smax
comp=E,6μm,11.0s
PET smax
comp=N,14μm,10.5s
PET smax
comp=N,14μm,12.6s
PET MLR MLR
comp=Z,2μm,12.0s
PET MLR MLR
comp=E,4μm,14.0s
PET MLR MLR
comp=Z,2μm,16.0s
PET Petropavlovsk 21.88 31 *e*P **P** **07 39 43.8 -1.2**
comp=Z,934nm,1.4s,mb5.9
WHN Wuhan 22.08 264 P **P** **07 39 45.8 -1.3**
WHN S **S** **07 43 44.0 +2.9**
WHN LR LR
comp=E,6μm,19.0s
WHN LR LR
comp=N,23μm,15.0s
WHN LR LR
comp=Z,26μm,15.2s
GUMO Guam 22.27 168 P **P** **07 39 48.7 -0.5**
GUMO pmax pmax
comp=Z,2μm,1.0s,mb6.3
GUMO Guam 22.27 168 *e*P **P** **07 39 47.7 -1.5**
comp=Z,2μm,1.0s,mb6.3
HHC Hu-ho-hao-te 22.95 292 *e*P **P** **07 39 52.3 -3.2**
HHC AP 07 40 09.9
HHC PP PP 07 40 29.1 +1.9
HHC S **S** **07 44 01.3 +4.8**
HHC XS 07 44 30.0
HHC AMB AMB
comp=Z,85nm,1.4s,mb4.9
HHC AMB AMB
comp=Z,1μm,12.0s
HHC LR LR
comp=N,5μm,16.8s
HHC LR LR
comp=E,6μm,20.4s
HHC LR LR
comp=Z,10μm,27.6s
CLNS Chul'man 23.65 339c *i*P **P** **07 40 03.1 +1.0**
CLNS *e* 07 40 25.7
CLNS *e*PPP PPP 07 40 43.1 -4.4
CLNS *e* 07 43 54.0
CLNS *e*S **S** **07 44 07.8 -0.7**
CLNS *e*SS SS 07 44 56.4 -5.5
CLNS *e*SSS SSS 07 45 05.3 -14
CLNS pmax pmax
comp=Z,1μm,1.2s,mb6.2
CLNS pmax pmax
comp=N,759nm,1.0s
CLNS pmax pmax
comp=E,258nm,0.9s
CLNS smax
comp=E,53nm,1.0s
CLNS smax
comp=Z,49nm,0.8s
CLNS smax
comp=N,147nm,1.2s
CLNS MLR MLR
comp=Z,6μm,17.0s
CLNS MLR MLR
comp=N,4μm,18.0s
CLNS MLR MLR
comp=E,1μm,13.0s
CVP Callao Caves 24.02 227 *e*P **P** **07 40 03.5 -2.6**
BTO Baotou 24.11 291 *e*P **P** **07 40 03.8 -2.9**
BTO S **S** **07 44 06.8 -10**
CIT Chita 25.05 319 *e*P **P** **07 40 13.0 -2.7**
CIT *e* 07 41 08.7
CIT *e* 07 43 48.5
CIT *e* 07 51 09.0
CIT pmax pmax
comp=Z,304nm,1.9s,mb5.4
MA2 Magadan 25.06 13c *i*P **P** **07 40 15.0 -0.8**
MA2 pmax pmax
comp=Z,375nm,0.8s,mb5.9
MA2 Magadan 25.06 13 *e*P **P** **07 40 14.9 -0.8**
comp=Z,480nm,0.8s,mb6.0
XAN Xi'an 25.55 276 P **P** **07 40 18.1 -2.5**
XAN S **S** **07 44 32.4 -8.4**
XAN SS SS 07 45 44.3 -4.3
XAN AMB AMB
comp=Z,130nm,2.0s,mb5.0
XAN AMB AMB
comp=Z,1μm,10.6s
XAN LR LR
comp=N,3μm,24.2s
XAN LR LR
comp=E,5μm,23.5s
XAN LR LR
comp=Z,9μm,26.9s
HKC Hong Kong 26.11 247⇑ *i*P **P** **07 40 24.0 -1.9**
HKC *i* S **S** **07 44 50.0 -0.1**
GZH Guangzhou 26.28 249 P **P** **07 40 21.0 -6.5**
GZH S **S** **07 44 44.6 -8.4**
GZH AMB AMB
comp=Z,163nm,1.2s,mb5.3
GZH LR LR
comp=N,5μm,16.2s
GZH LR LR
comp=E,7μm,18.3s
GZH LR LR
comp=Z,11μm,20.2s
YAK Yakutsk 27.32 349c *i*P **P** **07 40 35.2 -1.4**
YAK *e*PPP PPP 07 41 22.2 -16
YAK *e* 07 44 02.9
YAK *e*S **S** **07 45 04.6 -4.9**
YAK *e*SSS SS 07 46 18.9 -12
YAK pmax pmax
comp=Z,419nm,1.0s,mb5.9
YAK pmax pmax
comp=N,321nm,1.2s
YAK pmax pmax
comp=E,105nm,1.3s
YAK smax
comp=E,65nm,1.2s
YAK smax
comp=Z,50nm,1.1s
YAK smax
comp=N,106nm,1.0s
YAK MLR MLR
comp=Z,1μm,13.0s
YAK MLR MLR
comp=N,1μm,14.0s
YAK MLR MLR
comp=E,774nm,12.0s
YAK Yakutsk 27.32 349 *e*P **P** **07 40 34.8 -1.8**
comp=E,876nm,1.0s,mb6.2
SONM Songino Array 27.75 307 P **P** **07 40 38.9 -1.8**
comp=E,48nm,0.8s,mb5.1,baz=108,slow=7.8,SNR=151
SONM PcP PcP 07 43 55.8 -0.2
comp=E,17nm,0.9s,baz=146,slow=4.5,SNR=3.5
SONM LR LR 07 52 06.0
comp=E,15μm,19.2s,baz=106,slow=37
SONM P3KPbc 08 13 08.6
comp=E,1.3nm,0.8s,baz=270,slow=3.7,SNR=6.5
SONM Songino Array 27.75 307 P **P** **07 40 38.9 -1.8**
SONM PcP PcP 07 43 55.8 -0.2
SONM LR LR 07 52 06.0
SONM *e* 08 13 08.6
BOD Bodaibo 28.25 330⇓ *i*P **P** **07 40 43.4 -1.6**
BOD pmax pmax
comp=Z,309nm,1.6s,mb5.6
SEY Seymchan 28.48 12 *i* P **P** **07 40 46.5 -0.6**
SEY *e* 07 41 31.8
SEY *e*PPP PPP 07 41 56.9 +3.3
SEY *e*S **S** **07 45 28.7 +0.5**
SEY pmax pmax
comp=Z,110nm,0.9s,mb5.4
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY smax
comp=N,3μm,7.8s
SEY smax
comp=E,900nm,4.5s
SEY MLR MLR
comp=Z,2μm,15.0s
SEY MLR MLR
comp=N,4μm,17.0s
SEY MLR MLR
comp=E,6μm,17.0s
SEY Seymchan 28.48 12⇑ *i*P **P** **07 40 46.8 -0.3**
FX1 Attu Island--F 29.05 43 P **P** **07 40 53.2 +0.9**
comp=E,86nm,0.7s,mb5.5,baz=11,slow=5.2,SNR=53
FX1 LR LR 07 50 14.8
comp=E,123nm,19.7s,baz=44,slow=32
FX1 Attu Island--F 29.05 43 *e*P **P** **07 40 52.4 +0.1**
LZH Lanzhou 29.26 282⇑ P **P** **07 40 53.3 -1.0**
LZH AP pP 07 41 12.3 +1.5
LZH XP sP 07 41 19.8 +0.8
LZH PP PP 07 41 54.0 +2.7
LZH S **S** **07 45 38.1 -2.7**
LZH AMB AMB
comp=Z,1μm,1.5s,mb6.3
LZH AMB AMB
comp=Z,2μm,4.0s
LZH LR LR
comp=E,12μm,13.3s
LZH LR LR
comp=Z,20μm,20.7s
LZH Lanzhou 29.26 282⇑ P **P** **07 40 53.2 -1.1**
comp=Z,1μm,1.5s,mb6.3
LZH pP pP 07 41 12.2 +1.4
LZH sP sP 07 41 19.8 +0.8
LZH PP PP 07 41 54.0 +2.7
LZH S **S** **07 45 38.1 -2.7**
LZH sS 07 46 07.4
LZH SS SS 07 47 06.3 -10
LZH LR LR
comp=Z,20μm,20.7s
GYA Guiyang 29.89 262⇑ *i*P **P** **07 40 56.4 -3.6**
GYA AP pP 07 41 14.8 -1.8
GYA PCP PcP 07 44 02.8 +1.2
GYA S **S** **07 45 45.6 -5.3**
GYA AMB AMB
comp=Z,130nm,1.7s,mb5.3
GYA AMB AMB
comp=Z,790nm,7.8s
GYA LR LR
comp=N,4μm,14.4s
GYA LR LR
comp=E,4μm,15.9s
GYA LR LR
comp=Z,6μm,15.9s
IRK Irkutsk 30.32 315 *e*P **P** **07 41 02.0 -1.6**
IRK *e* 07 42 13.6
IRK *e* 07 44 01.5
IRK pmax pmax
comp=Z,140nm,2.0s,mb5.2
ZAK Zakamensk 30.37 311⇑ *i*P **P** **07 41 02.3 -1.7**
ZAK *e* 07 44 02.4
ZAK pmax pmax
comp=Z,31nm,0.9s,mb4.9
TLY Talaya 30.52 313c *i*P **P** **07 41 03.2 -2.1**
TLY *e* 07 42 22.6
TLY *e*S **S** **07 45 56.3 -4.1**
TLY *e*SS SS 07 47 47.6 +2.2
TLY pmax pmax
comp=Z,64nm,0.9s,mb5.3
TLY MLR MLR
comp=Z,6μm,18.0s
CD2 Chengdu 30.59 272 P **P** **07 41 04.3 -1.9**
CD2 S **S** **07 45 56.9 -4.9**
CD2 LR LR
comp=E,15μm,17.0s
QIZ Qiongzhong 31.30 246 P **P** **07 41 11.4 -1.1**
QIZ XP sP 07 41 37.8 +0.2
QIZ S **S** **07 46 12.0 -1.2**

QIZ AMB AMB
comp=Z,44nm,1.5s,mb5.0
QIZ AMB AMB
comp=Z,544nm,9.7s
QIZ LR LR
comp=N,4µm,20.2s
QIZ LR LR
comp=Z,4µm,21.0s
GTA Gaotai 31.98 289 ⇑P **P** **07 41 16.6 -1.6**
GTA AP pP 07 41 34.1 -0.9
GTA XP sP 07 41 43.6 +0.2
GTA PP PP 07 42 24.3 -1.8
GTA PCP PcP 07 44 06.8 -0.2
GTA S **S** **07 46 18.8 -4.7**
GTA PCS 07 47 51.3
GTA SCS ScS 07 51 39.5 -0.7
GTA AMB AMB
comp=Z,78nm,0.8s,mb5.5
GTA AMB AMB
comp=Z,1µm,10.6s
GTA LR LR
comp=N,6µm,21.7s
GTA LR LR
comp=E,6µm,19.8s
GTA LR LR
comp=Z,10µm,27.4s
MOY Mondy 32.10 312 *e*P **P** **07 41 17.8 -1.3**
MOY pmax pmax
comp=Z,107nm,4.0s
KMI Kunming 33.65 262 P **P** **07 41 30.8 -2.1**
KMI AP pP 07 41 48.8 -1.0
KMI XP sP 07 41 57.4 -0.9
KMI AMB AMB
comp=Z,156nm,1.1s,mb5.8
KMI AMB AMB
comp=Z,901nm,3.9s
KMI LR LR
comp=N,5µm,14.6s
KMI LR LR
comp=E,6µm,14.4s
KMI LR LR
comp=Z,7µm,14.6s
BILL Bilibino 35.78 17*ce*P **P** **07 41 49.3 -1.4**
BILL pmax pmax
comp=Z,283nm,1.3s,mb6.0
BILL MLR MLR
comp=Z,5µm,23.0s
BILL Bilibino 35.78 17 *e*P **P** **07 41 49.4 -1.3**
comp=Z,264nm,1.1s,mb6.1
KKM Kota Kinabalu 36.62 222 *e*P **P** **07 41 55.5 -2.8**
KKM Kota Kinabalu 36.62 222 P **P** **07 41 56.4 -1.9**
TIXI Tiksi 36.66 354 *e*P **P** **07 41 53.5 -4.5**
TIXI *e*S **S** **07 47 27.9 -7.6**
TIXI pmax pmax
comp=E,52nm,0.9s
TIXI pmax pmax
comp=Z,174nm,0.9s,mb6.0
TIXI pmax pmax
comp=N,81nm,1.0s
TIXI pmax pmax
comp=Z,937nm,2.0s,mb6.4
TIXI Tiksi 36.66 354 ⇑*i*P **P** **07 41 56.7 -1.3**
TSM Tawau 37.22 218 P **P** **07 42 01.2 -2.1**
UBT Ubonrachathani 37.26 246 P **P** **07 42 03.0 -0.5**
KKTK Khon Kaen 38.24 250 P **P** **07 42 11.0 -0.7**
CHG Chiang Mai 39.85 256 ⇑P **P** **07 42 24.1 -1.0**
comp=Z,81nm,1.0s,mb5.5
CHTO Chiang Mai 39.85 256 P **P** **07 42 23.6 -1.5**
CHTO PcP PcP 07 44 30.8 +0.3
WMQ Urumqi 40.55 298 P **P** **07 42 31.0 +0.4**
WMQ AP pP 07 42 49.4 +1.6
WMQ XP sP 07 42 58.4 +2.4
WMQ PP PP 07 44 08.8 +0.5
WMQ S **S** **07 48 34.1 -0.4**
WMQ XS 07 49 05.8
WMQ AMB AMB
comp=Z,296nm,1.5s,mb5.9
WMQ AMB AMB
comp=Z,7µm,4.8s
WMQ LR LR
comp=N,5µm,23.0s
WMQ LR LR
comp=E,3µm,24.0s
WMQ LR LR
comp=Z,4µm,18.2s
BDT Bhumibol Dam 40.68 254 P **P** **07 42 31.0 -0.9**
comp=Z,38nm,1.0s,mb5.2
NST Nakhon Sawan 40.71 251 P **P** **07 42 31.2 -1.0**
comp=Z,178nm,1.2s,mb5.8
IMP Imphal 40.96 268 *e*P **P** **07 42 34.0 -0.1**
LSA Lhasa 41.25 276 P **P** **07 42 36.4 -0.1**
LSA AMB AMB
comp=Z,130nm,1.3s,mb5.6
LSA LR LR
comp=N,2µm,31.8s
LSA LR LR
comp=E,5µm,31.8s
LSA LR LR
comp=Z,6µm,38.5s
SHL Shillong 42.29 270 *e*P **P** **07 42 44.0 -1.1**
comp=Z,200nm,1.0s,mb5.8
SHL *e* 07 48 48.0
NNT Nongplab 42.90 248 P **P** **07 42 51.0 +0.8**
NVS Novosibirsk 43.09 315 ⇑*i*P **P** **07 42 50.3 -1.0**
NVS *e*PPP PP 07 44 38.5 +4.0
NVS pmax pmax
comp=N,163nm,1.3s
NVS pmax pmax
comp=Z,700nm,1.3s,mb6.2
NVS pmax pmax
comp=E,739nm,1.4s
AGT Agartala 43.55 268 ⇓*i* **P** **07 43 03.0 +7.6**
AGT *i* 07 43 26.0
KSM Kuching 43.71 226 *e*P **P** **07 42 55.2 -1.7**
MKAR Makanchi Array 43.99 303 P **P** **07 42 58.5 -0.2**
MKAR 07 44 43.7
MKAR S **S** **07 49 26.5 +1.5**
MKAR Makanchi Array 43.99 303 P **P** **07 42 58.5 -0.2**
comp=E,258nm,1.0s,mb5.9,baz=88,slow=9.0,SNR=832
MKAR PcP PcP 07 44 43.7 -0.1
comp=E,24nm,0.8s,baz=90,slow=5.8,SNR=2.2
MKAR ScP 07 48 29.5
comp=E,5.6nm,0.8s,baz=60,slow=5.8,SNR=2.5
MKAR S **S** **07 49 26.5 +1.6**
comp=E,4.0nm,0.9s,baz=76,slow=5.9,SNR=1.9
MKAR LR LR 08 01 49.3
comp=E,8µm,20.1s,baz=88,slow=37
MKAR PKPPKP 08 14 16.4
comp=E,0.8nm,1.0s,baz=180,slow=1.4,SNR=3.9
MKAR Makanchi Array 43.99 303 P **P** **07 42 58.5 -0.2**
MKAR PcP PcP 07 44 43.7 -0.2
MKAR ScP 07 48 29.5
MKAR S **S** **07 49 26.5 +1.6**
MKAR LR LR 08 01 49.3
MKAR P'P' 08 14 16.4
GTK Gangtok 44.22 274 *e*P **P** **07 43 00.0 -0.8**
SDPT Sand Point 44.65 44 *e*P **P** **07 43 02.7 -1.1**
PMG Port Moresby 45.19 170*c i*P **P** **07 43 07.9 -0.8**
PMG Port Moresby 45.19 170 P **P** **07 43 08.2 -0.5**
comp=E,70nm,0.9s,mb5.4,baz=359,slow=9.1,SNR=8.8
PMG Port Moresby 45.19 170 *e*P **P** **07 43 07.8 -0.9**
comp=E,259nm,1.2s,mb5.8
CHGN Chignik 45.82 43 *e*P **P** **07 43 13.9 +0.8**
GUN Gumba 46.21 276 *e*P **P** **07 43 16.6 0.0**
comp=E,792nm,1.0s,mb6.4
PKI Pulchoki 46.73 276 *e*P **P** **07 43 20.5 -0.2**
comp=E,592nm,1.3s,mb6.2
KKN Kakani 46.74 277 *e*P **P** **07 43 20.5 -0.3**
comp=E,394nm,1.0s,mb6.1
DMN Daman 46.96 276 *e*P **P** **07 43 22.1 -0.4**
comp=E,319nm,1.2s,mb5.9
KULM Kulim 47.10 240 *e*P **P** **07 43 21.4 -2.4**
GKN Gorkha 47.18 277 *e*P **P** **07 43 23.7 -0.5**
comp=E,678nm,0.9s,mb6.4
TTA Tatalina 47.29 34 *e*P **P** **07 43 25.1 +0.5**
IPM Ipoh 47.34 239 P **P** **07 43 25.0 -0.7**
SVW2 Šparrevohn 47.39 37 *e*P **P** **07 43 25.8 +0.4**
KGM Kluang 47.65 234 P **P** **07 43 27.4 -0.8**
KOLN Koldanda 48.11 277 *e*P **P** **07 43 31.3 -0.2**
comp=E,353nm,0.9s,mb6.2
AAA Alma-Ata 48.34 299 *i* P **P** **07 43 33.0 0.0**
AAA *e*S **S** **07 50 27.0 +0.2**
AAA MLR MLR
comp=Z,2µm,12.0s
HNR Honiara 48.51 153 LR LR 08 02 16.1
comp=Z,2µm,21.0s,baz=330,slow=34
KAKA Kakadu 48.51 190 ⇓*i*P **P** **07 43 34.8 0.0**
comp=Z,2µm,1.1s,mb6.8
IMA Indian Mountai 48.55 30 P **P** **07 43 34.3 0.0**
IMA pmax pmax
comp=Z,320nm,1.1s,mb6.2
IMA Indian Mountai 48.55 30 *e*P **P** **07 43 34.2 -0.1**
RSO Redoubt South 48.77 37 *e*P **P** **07 43 36.2 +0.1**
ULHL Ulahol 49.09 298 P **P** **07 43 39.5 +0.7**
SNR=7.7
SPU Mount Spurr 49.10 36 *e*P **P** **07 43 38.8 +0.1**
TKM2 Tokmak 2 49.38 299 P **P** **07 43 41.5 +0.4**
SNR=303
BWNR Bhubaneshwar 49.69 267 *e* **P** **07 43 51.9 +8.1**
BWNR AMb AMB 07 43 54.3
comp=Z,424nm,1.5s,mb6.2
KZA Kyzart 49.84 298 P **P** **07 43 45.9 +1.2**
SNR=53
KBK Karagaybulak 49.91 299 P **P** **07 43 45.5 +0.3**
SNR=104
CHMS Chumysh 49.96 299 P **P** **07 43 45.4 -0.2**
SNR=67
KSH Kashi 50.02 295 ⇑*i*P **P** **07 43 47.3 +1.3**
KSH *e*AP pP 07 44 05.6 +2.0
KSH *e*XP sP 07 44 16.0 +4.6
KSH *e*PCP PcP 07 45 06.3 +1.0
KSH *e*PP PP 07 45 44.1 +1.7
KSH *e*PPP PPP 07 46 41.8 +2.2
KSH *e*PCS 07 49 02.3
KSH *e*S **S** **07 50 50.4 +0.1**
KSH *e*PS PS 07 50 59.0 -11
KSH *e*XS 07 51 23.4
KSH *e*SS SS 07 54 21.4 +0.7
KSH AMB AMB
comp=Z,360nm,0.9s,mb6.3
KSH LR LR
comp=N,7µm,16.6s
KSH LR LR
comp=E,6µm,13.6s
SLKM Skilak Lake 50.02 37 *e*P **P** **07 43 44.5 -1.3**
USP Ospenovka 50.07 300 P **P** **07 43 46.1 -0.3**
SNR=113
FRU Bishkek 50.10 299*α i*P **P** **07 43 46.5 -0.1**
FRU *e* pP 07 44 08.0 +3.8
FRU *e*S **S** **07 50 53.0 +1.6**
FRU pmax pmax
comp=Z,900nm,1.8s,mb6.4
FRU pmax pmax
comp=Z,3µm,4.0s
FRU smax
comp=E,3µm,12.0s
FRU MLR MLR
comp=E,5µm,22.0s
FRU MLR MLR
comp=Z,7µm,22.0s
PTH Pithoragarh 50.12 281 *e*P **P** **07 43 47.0 0.0**
PTH *e* 07 45 04.0
LGTI Lohaghat 50.14 281 ⇓*i*P **P** **07 43 48.3 +1.2**
LGTI *e* 07 45 06.0
AAK Ala-Archa 50.24 299 P **P** **07 43 47.8 +0.1**
SNR=55
AAK Ala-Archa 50.24 299*c i*P **P** **07 43 46.4 -1.3**
AAK pmax pmax
comp=Z,309nm,1.7s,mb6.0
AAK Ala-Archa 50.24 299 *e*P **P** **07 43 46.3 -1.4**
comp=Z,194nm,1.1s,mb6.0
VOSK Vostochnaya 50.47 313 P **P** **07 43 47.9 -1.4**
VOSK pmax pmax
comp=Z,345nm,1.3s,mb6.1
VOSK Vostochnaya 50.47 313 *i* P **P** **07 43 47.0 -2.3**
PMR Palmer 50.49 36 *e*P **P** **07 43 48.2 -1.2**
EKS2 Erkin-Say 50.74 299 P **P** **07 43 51.0 -0.5**
SNR=80
BVA0 Borovoye Array 50.77 313 *i* P **P** **07 43 50.6 -1.0**
BVA0 pmax pmax
comp=Z,92nm,1.7s,mb5.5
BVAR Borovoye Array 50.77 313 S **S** **07 51 03.2 +2.6**
comp=Z,2.9nm,0.7s,baz=90,slow=12,SNR=3.6
BVAR PKPPKP 08 14 11.7
comp=Z,0.5nm,0.7s,baz=207,slow=3.2,SNR=4.2
BVAR P4KPbc 08 21 21.9
comp=Z,1.5nm,0.7s,baz=76,slow=5.9,SNR=9.7
BRVK Borovoye 50.83 313 P **P** **07 43 51.3 -0.7**
BRVK pmax pmax
comp=Z,98nm,0.9s,mb5.8
BRVK Borovoye 50.83 313 ⇑*i*P **P** **07 43 50.9 -1.2**
comp=Z,98nm,0.9s,mb5.8
AML Almayashu 50.94 299 P **P** **07 43 53.7 +0.7**
SNR=503
ILAR Eielson Array 51.36 32 P **P** **07 43 54.6 -1.3**
comp=Z,92nm,0.7s,mb5.9,baz=270,slow=5.9,SNR=641
ILAR S **S** **07 51 08.3 -0.1**
comp=Z,0.8nm,0.8s,baz=312,slow=5.4,SNR=2.7
ILAR LR LR 08 07 11.6
comp=Z,1µm,19.9s,baz=282,slow=38
ILAR PKPPKP 08 14 09.9
comp=Z,1.3nm,1.0s,baz=201,slow=1.8,SNR=6.8
ILAR P4KPbc 08 21 22.8
comp=Z,0.5nm,0.7s,baz=264,slow=4.8,SNR=6.9
DDI Dehra Dun 51.55 283 *e*P **P** **07 43 54.6 -3.1**
DDI *e*S **S** **07 51 15.0 +3.5**
ZRNK Zerenda 51.61 313 P **P** **07 43 57.0 -0.9**
ZRNK pmax pmax
comp=Z,950nm,1.9s,mb6.5
ZRNK Zerenda 51.61 313 *i* P **P** **07 43 57.1 -0.8**
BLSP Bilaspur 51.79 271 *e*P **P** **07 43 58.2 -1.5**
SDNR Sundarnagar 51.95 285 *e*P **P** **07 43 59.0 -1.8**
MID Middleton Isla 52.06 38 *e*P **P** **07 44 01.4 +0.2**
DLH Dalhousie 52.34 286 *e*P **P** **07 44 02.0 -1.7**
DLH *e* 07 44 11.0
PONG Pong 52.58 286 *e*P **P** **07 44 05.0 -0.5**
THN Thein Dam 52.58 286 *e*P **P** **07 44 03.8 -1.7**
THN *e*S **S** **07 51 27.1 +1.5**
NDI New Delhi 52.87 281 *e*P **P** **07 44 07.1 -0.6**
NDI AMb AMB 07 44 12.1
comp=Z,500nm,1.0s,mb6.5
NDI *e* 07 51 27.0
AGRA Agra 52.90 279 *e*P **P** **07 44 06.5 -1.4**
AGRA AMb AMB 07 44 08.0
comp=Z,386nm,0.5s,mb6.7
KKAR Karatay Array 52.93 301 *i* P **P** **07 44 07.1 -0.8**
AYAN Aya Nagar 53.03 281 *e*P **P** **07 44 07.9 -1.0**
AYAN AMb AMB 07 44 10.9
comp=Z,35nm,0.8s,mb5.4
SONA Sohna 53.16 281 *e*P **P** **07 44 08.9 -1.0**
SONA AMb AMB 07 44 10.5
comp=Z,370nm,0.5s,mb6.6
KHET Khetri 54.26 281 *e*P **P** **07 44 17.2 -0.7**
KHET AMb AMB 07 44 18.3
comp=Z,300nm,0.5s,mb6.5
NGP Nagpur 54.78 272 *e*P **P** **07 44 21.1 -0.7**
NGP AMb AMB 07 44 23.8
comp=Z,630nm,1.8s,mb6.3
FITZ Fitzroy Crossi 55.06 197 ⇑*i*P **P** **07 44 22.1 -1.7**
comp=Z,817nm,0.8s,mb6.8
FITZ *e*S **S** **07 52 03.8 +4.6**
BHPL Bhopal 55.10 275 *i* P **P** **07 44 22.3 -1.8**
BHPL AMb AMB 07 44 26.7
comp=Z,391nm,1.6s,mb6.2
WRAB Tennant Creek 55.42 187 P **P** **07 44 23.8 -2.6**
WRAB pmax pmax
comp=Z,1µm,1.3s,mb6.8
WRAB Tennant Creek 55.42 187 *e*P **P** **07 44 24.0 -2.5**
comp=Z,1µm,1.4s,mb6.7
KIP Kipapa 55.42 87 P **P** **07 44 35.7 +9.2**
KIP pmax pmax
comp=Z,380nm,1.4s,mb6.2
KIP Kipapa 55.42 87 *e*P **P** **07 44 26.5 +0.1**
comp=Z,383nm,1.4s,mb6.2
WB2 Warramunga Arr 55.43 187 ⇑*i*P **P** **07 44 24.1 -2.4**
WB2 *e*pP pP 07 44 44.2 -0.2
WB2 *e*S **S** **07 52 01.8 -2.3**
WRA Warramunga Arr 55.43 187 P **P** **07 44 24.1 -2.4**
comp=Z,335nm,1.0s,mb6.3,baz=3.3,slow=7.6,SNR=583
WRA S **S** **07 52 01.1 -3.1**
comp=Z,19nm,1.0s,baz=7.1,slow=13,SNR=9.3
WRA PKPPKP 08 14 27.5
comp=Z,5.0nm,1.2s,baz=164,slow=2.2,SNR=5.8
WRA P4KPbc 08 21 43.1
comp=Z,1.8nm,0.8s,baz=0.5,slow=4.4,SNR=10.0
CTA Charters Tower 55.62 173 ⇑*i*P **P** **07 44 26.4 -1.5**
comp=Z,46nm,1.0s,mb5.5
CTAO Charters Tower 55.62 173 P **P** **07 44 26.1 -1.8**
CTAO pmax pmax
comp=Z,360nm,1.7s,mb6.1
CTAO Charters Tower 55.62 173 *e*P **P** **07 44 25.7 -2.2**
comp=Z,358nm,1.8s,mb6.1
AJM Ajmer 55.88 280 *e*P **P** **07 44 28.8 -0.9**
AJM AMb AMB 07 44 31.6
comp=Z,511nm,1.3s,mb6.4
AJM *e*S **S** **07 52 09.8 -0.3**
INK Inuvik 56.23 27 P **P** **07 44 30.6 -1.1**
comp=Z,71nm,0.7s,mb5.8,baz=287,slow=6.0,SNR=7.7
INK S **S** **07 52 15.4 +1.3**
comp=Z,2.4nm,0.7s,baz=265,slow=4.5,SNR=5.6
INK LR LR 08 07 55.6
comp=Z,1µm,21.9s,baz=268,slow=35
INK Inuvik 56.23 27 *e*P **P** **07 44 30.5 -1.1**
comp=Z,109nm,0.8s,mb5.9
AKL Akola 56.65 273 *e* **P** **07 44 39.6 +4.3**
AKL AMb AMB 07 44 44.1
comp=Z,608nm,1.8s,mb6.3
ARU Arti 56.76 319 ⇑*i*P **P** **07 44 34.3 -1.2**
ARU *e* 07 45 29.6
ARU *i* 07 46 38.1
ARU *e*PPP PPP 07 47 55.5 -7.7
ARU *i*S **S** **07 52 25.2 +4.0**
ARU *e* 07 54 20.6
ARU *e*SS SS 07 56 12.3 +1.3
ARU pmax pmax
comp=Z,244nm,0.7s,mb6.3
ARU MLR MLR
comp=Z,2µm,18.5s
ARU MLR MLR
comp=N,500nm,11.0s
ARU MLR MLR
comp=E,1µm,18.0s
ARU Arti 56.76 319 *e*P **P** **07 44 34.0 -1.5**
comp=E,304nm,0.7s,mb6.4
HYB Hyderabad 57.05 269 *e*P **P** **07 44 37.0 -1.2**
comp=E,515nm,1.2s,mb6.4
HYB *e*S **S** **07 52 25.0 -0.7**
HYB Hyderabad 57.05 269 ⇑*i*P **P** **07 44 37.0 -1.2**
comp=E,515nm,1.2s,mb6.4
HYB *e*pP pP 07 44 55.0 -1.2
HYB *e*PcP PcP 07 45 31.5 -0.7
HYB *e*S **S** **07 52 25.0 -0.7**
HYB *e*SS SS 07 56 12.0 -4.5
HKL Haleakala 57.20 87 P **P** **07 44 40.9 +1.8**
MDRS Chennai 58.00 263 *e* **P** **07 44 42.0 -2.8**
MDRS *e* 07 52 32.0
AB31 Akbulak array 58.06 310 *i* P **P** **07 44 43.5 -1.3**
LATR Latur 58.17 271 *e*P **P** **07 44 44.4 -1.5**
SIT Sitka 58.25 40 P **P** **07 44 45.8 -0.2**
SIT pmax pmax
comp=Z,320nm,1.5s,mb6.1
SIT Sitka 58.25 40 *e*P **P** **07 44 45.2 -0.8**
POHA Pohakuloa 58.27 87 *e*P **P** **07 44 47.6 +1.1**
comp=Z,491nm,1.4s,mb6.3
POHA *e* pP 07 45 06.5 +1.8
MBWA Marble Bar 59.57 202 *e*P **P** **07 44 53.3 -2.4**
comp=Z,764nm,0.9s,mb6.7
CRAG Craig 59.92 41 *e*P **P** **07 44 58.1 +0.5**
BHV Bhavnagar 60.10 276 *e*P **P** **07 44 59.0 -0.3**
POO Poona 60.32 272 *e*P **P** **07 44 59.7 -1.1**
POO AMb AMB 07 45 03.0
comp=Z,412nm,1.6s,mb6.2
DLBC Dease Lake 60.49 37 P **P** **07 45 01.9 +0.5**
comp=Z,64nm,1.0s,mb5.6,baz=291,slow=4.9,SNR=84
DLBC S **S** **07 53 14.1 +4.3**
comp=Z,2.4nm,1.0s,baz=87,slow=17,SNR=3.2
DLBC LR LR 08 13 38.2
comp=Z,576nm,19.2s,baz=293,slow=38
DLBC PKPPKP 08 14 18.1
comp=Z,1.8nm,0.9s,baz=113,slow=7.7,SNR=2.7
DLBC Dease Lake 60.49 37 *e*P **P** **07 45 01.7 +0.3**
KAD Karad 60.67 271 *e*P **P** **07 45 01.2 -2.0**
KAD AMb AMB 07 45 06.1
comp=Z,488nm,1.6s,mb6.3
KAD *e*S **S** **07 53 13.2 +0.6**
PALK Pallekele 60.96 257 *e*P **P** **07 45 04.1 -1.1**
comp=Z,44nm,0.9s,mb5.5
BOM Bombay 60.98 273 *e* **P** **07 44 57.8 -7.4**
BOM *e* 07 45 09.1
comp=Z,775nm,1.9s
BOM *e* 07 53 12.8
KBS Kingsbay 61.95 350 P **P** **07 45 11.3 +0.3**
KBS pmax pmax
comp=Z,810nm,1.4s,mb6.6
KBS Kingsbay 61.95 350 *e*P **P** **07 45 10.2 -0.7**
comp=Z,811nm,1.4s,mb6.6
KBS Kingsbay 61.95 350 *e*S **S** **07 53 29.7 +1.7**
KBS *e*SS SS 07 57 36.6 +3.5
KBS AMS AMS 08 12 06.9
comp=Z,716nm,24.7s
MNGI Mangalore 62.48 266 *i* **P** **07 45 09.0 -6.4**
MNGI *i* 07 53 31.8
NOUC Port Laguerre 62.49 152 *e*P **P** **07 45 14.9 -0.4**
DZM Mont Dzumac 62.51 152 ⇑*e*P **P** **07 45 15.8 +0.3**
DZM Mont Dzumac 62.51 152 LR LR 08 06 55.8
comp=Z,2µm,19.8s,baz=354,slow=31
HSP Hornsund 62.68 348 *e*P **P** **07 45 15.1 -0.8**
LVZ Lovozero 63.03 336 *i* P **P** **07 45 16.5 -1.8**
LVZ *i*S **S** **07 53 40.5 -1.2**
LVZ pmax pmax
comp=E,43nm,1.1s
LVZ pmax pmax
comp=Z,182nm,1.1s,mb5.9
LVZ pmax pmax
comp=N,40nm,1.3s
LVZ pmax pmax
comp=Z,812nm,2.1s,mb6.3
LVZ pmax pmax
comp=N,254nm,2.4s
LVZ pmax pmax
comp=E,306nm,2.2s
LVZ smax
comp=N,460nm,4.4s
LVZ smax
comp=Z,118nm,3.3s
LVZ smax
comp=E,331nm,4.8s
LVZ MLR MLR
comp=Z,3µm,19.0s
LVZ MLR MLR
comp=N,346nm,16.0s
LVZ MLR MLR
comp=E,951nm,18.0s
LVZ Lovozero 63.03 336 ⇑*e*P **P** **07 45 16.1 -2.2**
APA Apatity 63.60 336 ⇓*i*P **P** **07 45 20.5 -1.5**
APA *i* 07 47 38.0
APA *i*S **S** **07 53 44.0 -4.8**
APA *i* 07 55 00.0
APA pmax pmax
comp=Z,180nm,0.7s,mb6.0
APA MLR MLR
comp=Z,2µm,17.0s
BBB Bella Bella 63.92 43 P **P** **07 45 23.8 -0.5**
comp=Z,37nm,1.0s,mb5.2,baz=271,slow=5.9,SNR=6.7
BBB LR LR 08 08 51.5
comp=Z,1µm,21.9s,baz=294,slow=32
BBB Bella Bella 63.92 43 P **P** **07 45 23.8 -0.5**
BBB LR LR 08 08 51.5
PECR Pechory 64.33 322 ⇓*i*P **P** **07 45 26.0 -0.8**
PECR *i* pP 07 45 48.4 +3.2
PECR *e* 07 45 58.0
PECR *e* 07 47 46.0
PECR *i*S **S** **07 53 58.0 +0.1**
PECR *e* 07 54 24.0
PECR *e* 07 54 38.0
PECR *e* 07 55 11.0
PECR *e*SS SS 07 58 05.4 -4.9
PECR pmax pmax
comp=N,500nm,4.0s
PECR pmax pmax
comp=E,900nm,4.0s
PECR pmax pmax
comp=Z,3µm,4.0s
PECR smax
comp=N,1µm,6.6s
PECR smax
comp=E,700nm,3.4s
PECR MLR MLR
comp=N,2µm,17.0s
PECR MLR MLR
comp=Z,11µm,17.0s
PECR MLR MLR
comp=E,4µm,16.0s
KEV Kevo 64.45 339 *ep* **P** **07 45 25.6 -1.9**
comp=E,58nm,0.8s,mb5.5

KEV	**Kevo**	**64.45**	**339**	P		**P**	**07 45 25.7**	**-1.8**	
KEV				pmax	pmax				
	comp=Z,400nm,1.2s,mb6.1								
KEV	**Kevo**	**64.45**	**339**	*e*P		**P**	**07 45 26.0**	**-1.5**	
	comp=Z,403nm,1.3s,mb6.1								
ARCES	**ARCESS Array B**	**65.01**	**339**	P		**P**	**07 45 30.1**	**-1.0**	
	comp=Z,128nm,0.8s,mb5.8,baz=59,slow=7.1,SNR=254								
ARCES				PKPPKP			08 14 15.3		
	comp=Z,12nm,1.1s,baz=225,slow=2.6,SNR=9.0								
ARCES	**ARCESS Array B**	**65.01**	**339**	P		**P**	**07 45 30.1**	**-1.0**	
ARCES				P'P'			08 14 15.3		
ARE0	**ARCESS Array S**	**65.01**	**339**	⇑*i*P		**P**	**07 45 30.0**	**-1.1**	
YKW3	**Yellowknife Ar**	**65.62**	**29**	*e*P		**P**	**07 45 33.3**	**-1.9**	
YKA	**Yellowknife Ar**	**65.66**	**29**	P		**P**	**07 45 34.2**	**-1.2**	
	comp=Z,50nm,0.8s,mb5.4,baz=301,slow=6.6,SNR=182								
YKA				PKPPKP			08 14 09.6		
	comp=Z,5.6nm,1.0s,baz=132,slow=3.5,SNR=6.5								
YKA	**Yellowknife Ar**	**65.66**	**29**	P		**P**	**07 45 34.2**	**-1.2**	
YKA				P'P'			08 14 09.6		
KTK1	**Kautokeino**	**65.97**	**339**	⇑*i*P		**P**	**07 45 36.0**	**-1.2**	
	comp=Z,398nm,1.6s,mb6.0								
KTK1				*e*			07 47 58.0		
KTK1	**Kautokeino**	**65.97**	**339**	⇑*i*P		**P**	**07 45 36.0**	**-1.2**	
KTK1				AMb		AMB	07 45 38.9		
	comp=Z,398nm,1.6s,mb6.0								
KTK1				*e*PP		PP	07 47 57.7	-7.8	
TRO	**Tromso**	**66.77**	**341**	⇑*i*P		**P**	**07 45 40.0**	**-2.3**	
TRO				AMb		AMB	07 45 43.1		
	comp=Z,245nm,1.9s,mb5.7								
TRO				*e*S		S	07 54 29.5	+1.9	
TRO				AMS		AMS	08 20 24.7		
	comp=Z,2μm,19.4s								
AFI	**Afiamalu**	**67.05**	**128**	LR		LR	08 13 00.5		
	comp=Z,1μm,19.1s,baz=317,slow=34								
STKA	**Stephens Creek**	**67.07**	**179**	*e*P		**P**	**07 45 42.9**	**-1.9**	
	comp=Z,77nm,0.9s,mb5.5								
STKA				*e*pP		pP	07 46 06.8	+3.5	
STKA				*e*S		S	07 54 35.2	+3.5	
STKA	**Stephens Creek**	**67.07**	**179**	P		**P**	**07 45 43.8**	**-1.0**	
	comp=Z,84nm,0.8s,mb5.6,baz=345,slow=7.2,SNR=117								
STKA				PKPPKP			08 14 09.6		
	comp=Z,11nm,1.2s,baz=25,slow=1.6,SNR=3.4								
STKA				LR		LR	08 14 39.6		
	comp=Z,1μm,20.5s,baz=11,slow=36								
STKA	**Stephens Creek**	**67.07**	**179**	*e*P		**P**	**07 45 42.9**	**-1.9**	
	comp=Z,77nm,0.9s,mb5.5								
STKA				*e*			07 45 43.8		
STKA				*e*pP		pP	07 46 06.8	+3.5	
STKA				*e*S		S	07 54 35.2	+3.5	
DAG	**Danmarks Havn**	**67.17**	**355**	⇓*i*P		**P**	**07 45 43.9**	**-0.8**	
DAG				pmax	pmax				
	comp=Z,221nm,0.9s,mb6.0								
DAG	**Danmarks Havn**	**67.17**	**355**	*i* Pdu			07 45 43.9		
	comp=Z,221nm,0.9s								
DAG	**Danmarks Havn**	**67.17**	**355***j*	*i*P		**P**	**07 45 43.9**	**-0.8**	
	comp=Z,221nm,0.9s,mb6.0								
MOS	**Moscow**	**67.79**	**323***α*	*i*P		**P**	**07 45 48.1**	**-0.8**	
MOS				*e*			07 46 12.2		
MOS				*e*			07 46 17.9		
MOS				*e*			07 48 15.6		
MOS				*e*S		S	07 54 40.0	0.0	
MOS				*i*			07 55 06.5		
MOS				*e*SS		SS	07 58 57.2	-6.8	
MOS				pmax	pmax				
	comp=Z,2μm,2.3s,mb6.6								
MOS				pmax	pmax				
	comp=Z,992nm,1.7s,mb6.4								
MOS				smax					
	comp=N,2μm,3.8s								
MOS				smax					
	comp=E,700nm,3.4s								
MOS				MLR	MLR				
	comp=Z,3μm,15.6s								
MOS				MLR	MLR				
	comp=E,3μm,14.7s								
PGC	**Sidney**	**68.18**	**45**	*e*P		**P**	**07 45 51.1**	**-0.3**	
	comp=E,192nm,0.9s,mb5.9								
OCWA	**Octopus Mounta**	**68.19**	**46**	*e*P		**P**	**07 45 52.7**	**+1.1**	
	comp=E,383nm,1.3s,mb6.1								
OSR	**Olympics--Salm**	**68.44**	**46**	P		**P**	**07 45 54.5**	**+1.4**	
MAK	**Makhachkala**	**68.51**	**308***c*	*i*P		**P**	**07 45 53.0**	**-0.6**	
MAK				*i*			07 46 17.0		
MAK				*e*S		S	07 54 49.0	+0.2	
MAK				*i* PS		PS	07 55 18.0	-5.7	
MAK				*i*			07 55 44.5		
MAK				pmax	pmax				
	comp=Z,2μm,4.0s								
MAK				smax					
	comp=E,1μm,8.0s								
MAK				MLR	MLR				
	comp=N,5μm,14.0s								
MAK				MLR	MLR				
	comp=E,7μm,14.0s								
MAK				MLR	MLR				
	comp=Z,4μm,14.0s								
OBN	**Obninsk**	**68.63**	**323***c*	*i*P		**P**	**07 45 53.2**	**-0.9**	
OBN				*i*			07 46 17.1		
OBN				*i*			07 48 24.2		
OBN				*i* S		S	07 54 43.6	-6.5	
OBN				*i* SS		SS	07 59 07.7	-10	
OBN				pmax	pmax				
	comp=Z,711nm,1.7s,mb6.2								
OBN				MLR	MLR				
	comp=Z,4μm,17.0s								
OBN	**Obninsk**	**68.63**	**323**	⇑*i*P		**P**	**07 45 52.7**	**-1.4**	
	comp=Z,2μm,1.9s,mb6.6								
PUL	**Pulkovo**	**68.92**	**329**	*i*P		**P**	**07 45 55.3**	**-0.5**	
PUL				*i* S		S	07 54 45.8	-7.6	
PUL				pmax	pmax				
	comp=Z,566nm,0.8s,mb6.5								
PUL				pmax	pmax				
	comp=N,340nm,0.9s								
PUL				pmax	pmax				
	comp=E,487nm,0.9s								
PUL				MLR	MLR				
	comp=Z,2μm,18.0s								
PUL				MLR	MLR				
	comp=N,934nm,15.0s								
PUL	**Pulkovo**	**68.92**	**329**	⇑*i*P		**P**	**07 45 55.5**	**-0.3**	
VOR	**Voronezh**	**69.05**	**319**	*e*P		**P**	**07 45 56.0**	**-0.7**	
VOR				pmax	pmax				
	comp=Z,600nm,2.2s,mb6.0								
KAF	**Kangasniemi**	**69.13**	**333**	*e*p		**P**	**07 45 55.1**	**-2.0**	
	comp=Z,82nm,0.7s,mb5.7,baz=51,slow=5.8								
LOF	**Lofoten**	**69.23**	**341**	⇑*i*P		**P**	**07 45 58.3**	**+0.7**	
JCW	**Jim Creek**	**69.29**	**45**	P		**P**	**07 45 58.6**	**+0.3**	
FINES	**FINESS Array B**	**69.62**	**332**	P		**P**	**07 45 59.4**	**-0.7**	
	comp=Z,205nm,0.8s,mb6.0,baz=108,slow=6.0,SNR=353								
FINES				PP		PP	07 48 32.5	-4.3	
	comp=Z,24nm,1.0s,baz=90,slow=12,SNR=2.8								
RIV	**Riverview**	**69.78**	**170**	*e*P		**P**	**07 46 01.7**	**+0.2**	
KLBR	**Kellerberrin**	**69.97**	**200**	*e*P		**P**	**07 46 01.3**	**-1.4**	
	comp=Z,169nm,0.7s,mb6.0								
PNT	**Penticton**	**70.03**	**43**	P		**P**	**07 46 02.4**	**-0.4**	
LON	**Longmire**	**70.09**	**46**	P		**P**	**07 46 03.1**	**-0.1**	
ADE	**Adelaide**	**70.14**	**181**	⇓*i*P		**P**	**07 46 03.8**	**+0.1**	
GOF	**Gofitskoye**	**70.27**	**312**	⇓*i*P		**P**	**07 46 04.0**	**-0.3**	
GOF				pmax	pmax				
	comp=Z,413nm,1.3s,mb6.1								
MOR8	**Moi Rana**	**70.38**	**339**	⇑*i*P		**P**	**07 46 02.4**	**-2.2**	
	comp=Z,454nm,1.4s,mb6.1								
MOR8	**Moi Rana**	**70.38**	**339**	⇑*i*P		**P**	**07 46 02.4**	**-2.2**	
MOR8				AMb		AMB	07 46 05.1		
	comp=Z,454nm,1.4s,mb6.1								
KEBM	**Edson Butte**	**70.53**	**51**	*e*P		**P**	**07 46 07.2**	**+1.3**	
DGRG	**David-gareji**	**70.63**	**307**	P		**P**	**07 46 04.5**	**-2.1**	
DGRG				S			07 55 43.5		
MUN	**Mundaring**	**70.78**	**201**	⇓*i*P		**P**	**07 46 06.9**	**-0.7**	
	comp=Z,43nm,0.6s,mb5.5								
MTA	**Mtatsminda**	**70.88**	**308**	P		**P**	**07 46 07.2**	**-0.9**	
TI2	**Plekhanov**	**70.89**	**308**	*i* P		**P**	**07 46 08.0**	**-0.1**	
TI2				*i* S		S	07 55 19.0	+2.3	
TI2				MLR	MLR				
	comp=E,2μm,19.0s								
TBLG	**Delisi**	**70.90**	**308**	P		**P**	**07 46 08.0**	**-0.2**	
ZEI	**Tsey**	**70.90**	**309**	*e*P		**P**	**07 46 05.7**	**-2.5**	
ZEI				pmax	pmax				
	comp=Z,109nm,1.3s,mb5.5								
KBO	**Bosley Butte**	**70.93**	**51**	*e*P		**P**	**07 46 09.3**	**+1.0**	
CNB	**Canberra Magne**	**71.01**	**172**	*e*P		**P**	**07 46 08.7**	**-0.3**	
	comp=Z,41nm,1.0s,mb5.2								
KIV	**Kislovodsk**	**71.05**	**311***c*	*i*P		**P**	**07 46 09.0**	**0.0**	
KIV				pmax	pmax				
	comp=Z,528nm,1.0s,mb6.3								
KIV				MLR	MLR				
	comp=Z,2μm,21.0s								
KIV	**Kislovodsk**	**71.05**	**311**	*e*P		**P**	**07 46 08.8**	**-0.2**	
	comp=Z,751nm,1.3s,mb6.4								
VSU	**Vasula**	**71.18**	**329**	⇑*i*P		**P**	**07 46 08.7**	**-0.9**	
EDM	**Edmonton**	**71.21**	**37**	P		**P**	**07 46 09.2**	**-0.6**	
EDM	**Edmonton**	**71.21**	**37**	*e*P		**P**	**07 46 09.0**	**-0.8**	
ONI	**Oni**	**71.28**	**309**	P		**P**	**07 46 10.2**	**-0.2**	
NWAO	**Narrogin (SRO)**	**71.37**	**200**	*e*P		**P**	**07 46 10.2**	**-1.0**	
NWAO				pmax	pmax				
	comp=Z,162nm,0.8s								
NWAO	**Narrogin (SRO)**	**71.37**	**200**	*e*P		**P**	**07 46 10.2**	**-0.9**	
	comp=Z,162nm,0.8s,mb5.9								
JMIC	**Jan Mayen**	**71.43**	**350**	⇑*i*P		**P**	**07 46 11.7**	**+0.8**	
JMIC				AMb	AMB	AMB	07 46 14.2		
	comp=Z,438nm,1.8s,mb6.0								
JMIC				*e*S		S	07 55 24.9	+2.5	
JMIC				AMS	AMS	AMS	08 15 18.3		
	comp=Z,271nm,22.2s								
KRMB	**Red Mountain**	**71.49**	**52**	*e*P		**P**	**07 46 12.4**	**+0.7**	
WRD	**Warden**	**71.62**	**45**	P		**P**	**07 46 12.3**	**-0.1**	
GNI	**Garni**	**71.71**	**307***c*	*i*P		**P**	**07 46 13.8**	**+0.8**	
GNI				pmax	pmax				
	comp=Z,210nm,1.7s								
GNI	**Garni**	**71.71**	**307**	LR		LR	08 20 16.1		
	comp=Z,5μm,19.6s,baz=75,slow=38								
GNI	**Garni**	**71.71**	**307**	*e*P		**P**	**07 46 13.7**	**+0.6**	
	comp=Z,730nm,1.6s,mb6.3								
KHMM	**Horse Mountain**	**71.94**	**52**	*e*P		**P**	**07 46 15.3**	**+0.9**	
NEW	**Newport**	**71.98**	**43**	P		**P**	**07 46 14.4**	**-0.1**	
NEW				S		S	07 55 28.1	-1.1	
NEW				pmax	pmax				
	comp=Z,172nm,1.1s								
NEW				MLR	MLR				
	comp=Z,436nm,20.2s								
NEW	**Newport**	**71.98**	**43**	P		**P**	**07 46 14.4**	**-0.1**	
	comp=Z,172nm,1.1s,mb5.8,baz=306,slow=4.9,SNR=177								
NEW				S		S	07 55 28.1	-1.0	
	comp=Z,0.6nm,0.3s,baz=216,slow=8.7,SNR=4.2								
NEW				LR		LR	08 18 08.9		
	comp=Z,436nm,20.2s,baz=304,slow=36								
NEW	**Newport**	**71.98**	**43**	*e*P		**P**	**07 46 14.0**	**-0.5**	
	comp=Z,332nm,1.3s,mb6.0								
YPT	**Yellepit**	**72.14**	**46**	P		**P**	**07 46 16.3**	**+0.8**	
YBH	**Yreka Blue Hor**	**72.15**	**51**	P		**P**	**07 46 16.8**	**+1.2**	
YBH				pmax	pmax				
	comp=Z,150nm,1.1s								
YBH	**Yreka Blue Hor**	**72.15**	**51**	S		S	07 55 34.2	+3.0	
	comp=Z,0.7nm,0.6s,baz=253,slow=19,SNR=2.8								
YBH	**Yreka Blue Hor**	**72.15**	**51**	*e*P		**P**	**07 46 16.1**	**+0.5**	
	comp=Z,148nm,1.1s,mb5.7								
SUMG	**Summit**	**72.18**	**360**	*e*P		**P**	**07 46 15.9**	**+0.5**	
	comp=Z,159nm,0.9s,mb5.8								
NSS	**Namsos**	**72.29**	**339**	⇑*i*P		**P**	**07 46 14.2**	**-1.8**	
NSS				AMb	AMB	AMB	07 46 16.9		
	comp=Z,225nm,1.9s,mb5.7								
NSS				*e*S		S	07 55 34.4	+2.0	
NSS				AMS	AMS	AMS	08 21 34.0		
	comp=Z,2μm,16.3s								
KCPM	**Cahto Peak**	**72.66**	**53**	*e*P		**P**	**07 46 19.3**	**+0.7**	
KIPM	**Iron Peak**	**72.66**	**53**	*e*P		**P**	**07 46 19.3**	**+0.7**	
CLDR	**Caldiran**	**72.78**	**306**	P		**P**	**07 46 20.8**	**+1.5**	
WDC	**Whiskeytown Da**	**72.86**	**52**	P		**P**	**07 46 20.5**	**+0.7**	
WDC				pmax	pmax				
	comp=Z,140nm,1.0s,mb5.8								
WDC	**Whiskeytown Da**	**72.86**	**52**	*e*P		**P**	**07 46 20.1**	**+0.2**	
	comp=Z,140nm,1.1s,mb5.7								
TOO	**Toolangi**	**72.91**	**175**	*e*P		**P**	**07 46 20.2**	**+0.1**	
	comp=Z,57nm,0.9s,mb5.4								
BCA	**Borcka**	**73.04**	**309**	P		**P**	**07 46 20.7**	**-0.1**	
SOC	**Sochi**	**73.07**	**312***c*	*i*P		**P**	**07 46 19.9**	**-1.0**	
SOC				*e*	pP		07 46 34.0	-5.7	
SOC				*e*			07 48 59.1		
SOC				*i* S		S	07 55 41.9	+0.4	
SOC				*e*			07 56 15.4		
SOC				*e*SSS		SSS	08 03 36.6	-0.2	
SOC				pmax	pmax				
	comp=N,43nm,1.2s								
SOC				pmax	pmax				
	comp=Z,260nm,1.2s,mb5.9								
SOC				pmax	pmax				
	comp=E,78nm,1.3s								
SOC				MLR	MLR				
	comp=N,3μm,18.0s								
SOC				MLR	MLR				
	comp=E,1μm,18.0s								
SOC				MLR	MLR				
	comp=Z,2μm,18.0s								
IZAR	**Zarasai**	**73.08**	**327**	*e*P		**P**	**07 46 20.3**	**-0.4**	
IDID	**Didziasalis**	**73.13**	**327**	*e*P		**P**	**07 46 21.0**	**0.0**	
IDID				AMb	AMB	AMB	07 46 23.0		
	comp=Z,118nm,1.0s,mb5.7								
IDID				*e*pP		pP	07 46 36.1	-3.7	
MNK	**Minsk**	**73.14**	**326**	⇑*i*P		**P**	**07 46 16.0**	**-5.1**	
ISAL	**Salakas**	**73.24**	**327**	*e*P		**P**	**07 46 21.6**	**-0.1**	
ISAL				AMb	AMB	AMB	07 46 23.7		
	comp=Z,186nm,1.0s,mb5.9								
ISAL				*e*pP		pP	07 46 37.6	-2.9	
WALA	**Waterton Lakes**	**73.30**	**41**	⇑*i*P		**P**	**07 46 22.3**	**+0.2**	
	comp=Z,359nm,1.4s,mb6.0								
IIGN	**Ignalina**	**73.34**	**327**	*e*P		**P**	**07 46 22.1**	**-0.1**	
TVAN	**Van**	**73.44**	**306**	*i* P		**P**	**07 46 23.7**	**+0.4**	
SCO	**Scoresbysund**	**73.49**	**354**	*i* P		**P**	**07 46 23.3**	**+0.4**	
SCO				*i* S		S	07 55 48.6	+2.9	
SCO				pmax	pmax				
	comp=Z,82nm,0.8s,mb5.6								
SCO	**Scoresbysund**	**73.49**	**354**	*i* P		**P**	**07 46 23.3**	**+0.4**	
	comp=Z,82nm,0.8s,mb5.6								
SCO				*i* S		S	07 55 48.6	+2.9	
HAKT	**HAKKARI**	**73.76**	**305**	*i* P		**P**	**07 46 25.0**	**-0.1**	
ANN	**Anapa**	**73.77**	**314***c*	*i*P		**P**	**07 46 24.3**	**-0.7**	
ANN				*e*	pP		07 46 43.7	-0.1	
ANN				*e*			07 49 05.8		
ANN				*e*S		S	07 55 49.3	0.0	
ANN				pmax	pmax				
	comp=Z,525nm,1.4s,mb6.1								
ANN				MLR	MLR				
	comp=N,2μm,23.0s								
ANN				MLR	MLR				
	comp=E,2μm,23.0s								
ANN				MLR	MLR				
	comp=Z,2μm,23.0s								
BMO	**Blue Mountains**	**73.77**	**46**	*e*P		**P**	**07 46 25.3**	**+0.3**	
	comp=Z,186nm,1.0s,mb5.8								
ERZM	**Erzurum**	**74.03**	**308**	*i* P		**P**	**07 46 27.7**	**+1.0**	
EZM	**Erzurum**	**74.04**	**308**	P		**P**	**07 46 28.3**	**+1.6**	
MSO	**Missoula**	**74.57**	**43**	⇑*i*P		**P**	**07 46 29.0**	**-0.6**	
	comp=Z,166nm,1.3s,mb5.6								
BEKR	**Beckwourth**	**74.66**	**52**	⇑*i*P		**P**	**07 46 30.4**	**+0.2**	
	comp=Z,154nm,0.9s,mb5.7								
AKASG	**Malin Array Be**	**74.80**	**322**	P		**P**	**07 46 29.9**	**-1.0**	
	comp=Z,260nm,0.9s,mb6.0,baz=47,slow=6.4,SNR=769								
AKASG				pP		pP	07 46 48.9	-0.8	
	comp=Z,114nm,0.8s,baz=47,slow=6.1,SNR=9.2								
AKASG				S		S	07 56 01.1	+0.4	
	comp=Z,0.3nm,0.4s,baz=41,slow=9.9,SNR=4.7								
KIEV	**Kiev**	**74.81**	**322**	P		**P**	**07 46 29.9**	**-1.0**	
KIEV				S		S	07 56 00.1	-0.6	
BTMT	**Batman**	**74.89**	**306**	*e*P		**P**	**07 46 31.8**	**+0.1**	
CHMT	**Chamberlain Mo**	**74.91**	**43**	*e*P		**P**	**07 46 31.3**	**-0.2**	
GUMT	**Gumushane**	**74.94**	**309**	P		**P**	**07 46 32.4**	**+0.6**	
DOMB	**Dombas**	**75.04**	**338**	*e*P		**P**	**07 46 32.1**	**+0.2**	
	comp=Z,369nm,1.5s,mb5.9								
DOMB	**Dombas**	**75.04**	**338**	*e*P		**P**	**07 46 32.1**	**+0.2**	
DOMB				AMb	AMB	AMB	07 46 34.5		
	comp=Z,369nm,1.5s,mb5.9								
DOMB				*e*pP		pP	07 46 48.5	-2.3	
MOL	**Molde**	**75.07**	**339**	⇑*i*P		**P**	**07 46 33.1**	**+1.0**	
	comp=Z,361nm,1.6s,mb5.8								
MOL	**Molde**	**75.07**	**339**	⇑*i*P		**P**	**07 46 33.1**	**+1.0**	
MOL				AMb	AMB	AMB	07 46 35.5		
	comp=Z,361nm,1.6s,mb5.8								
NB2	**NORSAR Subarra**	**75.14**	**337**	P		**P**	**07 46 32.4**	**-0.2**	
	comp=Z,335nm,1.0s,mb6.0,baz=40,slow=5.8								
NB2	**NORSAR Subarra**	**75.14**	**337**	P		**P**	**07 46 32.4**	**-0.2**	
	baz=40,slow=5.9								
NOA	**NORSAR Array B**	**75.14**	**337**	P		**P**	**07 46 32.0**	**-0.6**	
	comp=Z,169nm,0.9s,mb5.8,baz=40,slow=5.8,SNR=303								
NOA				PP		PP	07 49 20.6	-2.9	
	comp=Z,16nm,0.8s,baz=39,slow=8.1,SNR=4.4								
BEST	**Besiri**	**75.20**	**306**	*i* P		**P**	**07 46 33.5**	**+0.1**	
PAHR	**Pah Rah Range**	**75.37**	**52**	*e*P		**P**	**07 46 34.3**	**0.0**	
	comp=Z,144nm,1.6s,mb5.5								
NAO01	**NORSAR Array S**	**75.39**	**337**	*e*P		**P**	**07 46 32.6**	**-1.4**	
	comp=Z,194nm,1.1s,mb5.8								
KBD	**Kabd**	**75.44**	**295**	*i* P		**P**	**07 46 34.7**	**-0.3**	
KBD				AMb	AMB	AMB	07 46 36.3		
	comp=Z,976nm,1.0s,mb6.5								
SUW	**Suwalki**	**75.55**	**327**	⇑*e*P		**P**	**07 46 34.6**	**-0.5**	
SUW				*e*pP		pP	07 46 54.2	+0.3	
SUW				*e*PP		PP	07 49 24.7	-2.3	
SUW				*e*S		S	07 56 08.2	-0.6	
SUW				*e*SKS		SKS	07 56 36.3	+2.6	
SUW	**Suwalki**	**75.55**	**327**	⇑*e*P		**P**	**07 46 34.6**	**-0.5**	
	comp=Z,1μm,1.5s,mb6.4								
SUW				*e*pP		pP	07 46 54.2	+0.3	
SUW				*e*PP		PP	07 49 24.7	-2.3	
SUW				*e*S		S	07 56 08.2	-0.7	
SUW				*e*SKS		SKS	07 56 36.3	+2.6	
SUW				MLR		MLR	08 18 42.2		
	comp=Z,3μm,24.3s								
FFC	**Flin Flon**	**75.57**	**32**	P		**P**	**07 46 34.7**	**-0.4**	
FFC				pmax	pmax				
	comp=Z,210nm,0.9s,mb5.9								
FFC	**Flin Flon**	**75.57**	**32**	⇑*i*P		**P**	**07 46 34.6**	**-0.6**	
	comp=Z,206nm,0.9s,mb5.9								
SIM	**Simferopol'**	**75.62**	**315**	⇑*e*P		**P**	**07 46 35.4**	**-0.2**	
SIM				*e*S		S	07 56 10.0	+0.2	
SIM				pmax	pmax				
	comp=Z,188nm,0.9s,mb5.8								
SIM				MLR	MLR				
	comp=Z,2μm,22.0s								
CMB	**Columbia Colle**	**75.65**	**53**	P		**P**	**07 46 36.4**	**+0.4**	
CMB				pmax	pmax				
	comp=Z,200nm,1.1s,mb5.8								
CMB	**Columbia Colle**	**75.65**	**53**	*e*P		**P**	**07 46 35.9**	**-0.1**	
	comp=Z,196nm,1.2s,mb5.7								
SAO	**San Andreas Ge**	**75.65**	**55**	P		**P**	**07 46 36.7**	**+0.7**	
SAO				pmax	pmax				
	comp=Z,100nm,1.3s,mb5.4								
SAO	**San Andreas Ge**	**75.65**	**55**	*e*P		**P**	**07 46 36.2**	**+0.2**	
	comp=Z,103nm,1.4s,mb5.4								
RDF	**Al-Radifah**	**75.68**	**295**	*e*P		**P**	**07 46 36.4**	**0.0**	
RDF				AMb	AMB	AMB	07 47 00.2		
	comp=Z,1μm,1.0s,mb6.6								
HRY	**Holter Researc**	**75.81**	**42**	*e*P		**P**	**07 46 36.8**	**+0.1**	
HRY				*e*			07 49 03.7		
PTK	**Pertek**	**75.87**	**308**	*i* P		**P**	**07 46 38.4**	**+1.1**	
HASS	**Wahat al Ahsa'**	**76.09**	**291**	P		**P**	**07 46 37.8**	**-0.9**	
OSL	**Oslo**	**76.14**	**336**	*e*P		**P**	**07 46 37.8**	**-0.5**	
	comp=Z,288nm,1.8s,mb5.7								
OSL	**Oslo**	**76.14**	**336**	*e*P		**P**	**07 46 37.8**	**-0.5**	
OSL				AMb	AMB	AMB	07 46 40.2		
	comp=Z,288nm,1.8s,mb5.7								
BMN	**Battle Mountai**	**76.32**	**50**	*e*P		**P**	**07 46 40.5**	**+0.7**	
	comp=Z,346nm,1.3s,mb5.9								
BMN				*e*pP		pP	07 46 57.9	-0.7	
ELZG	**Elazig**	**76.36**	**308**	*i* P		**P**	**07 46 40.5**	**+0.5**	
MCMT	**McKenzie Canyo**	**76.37**	**44**	*e*P		**P**	**07 46 39.8**	**-0.1**	
FOO	**Floro**	**76.56**	**340**	⇑*i*P		**P**	**07 46 54.4**	**-5.1**	
FOO				AMb	AMB	AMB	07 46 56.8		
	comp=Z,304nm,1.4s,mb5.8								
BOZ	**Bozeman (W)**	**76.56**	**43**	P		**P**	**07 46 41.6**	**+0.6**	
BOZ				pmax	pmax				
	comp=Z,210nm,1.0s,mb5.8								
BOZ	**Bozeman (W)**	**76.56**	**43**	*e*P		**P**	**07 46 41.5**	**+0.5**	
	comp=Z,206nm,1.0s,mb5.8								
KONO	**Kongsberg**	**76.72**	**337**	PP		PP	07 49 34.3	-1.8	
KONO	**Kongsberg**	**76.72**	**337**	P		**P**	**07 46 41.8**	**+0.2**	
KONO				pmax	pmax				
	comp=Z,790nm,2.0s,mb6.1								
KONO	**Kongsberg**	**76.72**	**337**	*e*P		**P**	**07 46 40.5**	**-1.0**	
	comp=Z,789nm,2.0s,mb6.1								
KONO				*e*PP		PP	07 49 33.9	-2.3	
KONO	**Kongsberg**	**76.72**	**337**	⇑*i*P		**P**	**07 46 41.6**	**0.0**	
KONO				*e*PP		PP	07 49 35.5	-0.6	
KONO				*e*S		S	07 56 25.2	+3.6	
KVT	**Kavak**	**76.73**	**311**	P		**P**	**07 46 43.1**	**+1.1**	
NVAR	**Mina Array Bea**	**76.78**	**52**	P		**P**	**07 46 43.2**	**+0.8**	
	comp=Z,77nm,0.8s,mb5.5,baz=287,slow=5.3,SNR=432								
NVAR				pP		pP	07 47 00.9	-0.4	
	comp=Z,52nm,0.8s,baz=281,slow=6.3,SNR=12								
NVAR				PKKPbc			08 05 48.8

EGD Espegrend 77.58 339 *e*P P **07 46 46.8 +0.5**
EGD AMb AMB 07 46 49.5
comp=Z,512nm,1.9s,mb5.9
YNR Norris Junctio 77.67 44 *e*P P **07 46 48.7 +1.6**
TPH Tonopah 77.68 52 P P **07 46 48.5 +1.1**
TPH pmax pmax
comp=Z,360nm,1.3s,mb5.9
TPH Tonopah 77.68 52 *e*P P **07 46 48.0 +0.6**
comp=Z,357nm,1.3s,mb5.9
TPH *e*pP pP 07 47 05.9 -0.4
WAR Warsaw 77.70 327 *e*P P **07 46 47.6 +0.4**
WAR *e*S S 07 56 33.6 +1.3
WAR MLR MLR
comp=Z,2µm,29.3s
WAR Warsaw 77.70 327 *e*P P **07 46 47.6 +0.4**
comp=Z,1.2nm,1.2s
WAR *e*P 07 46 49.2
WAR *e*S S 07 56 33.6 +1.3
WAR LR LR
comp=Z,2µm,29.3s
WAR Warsaw 77.70 327 *e*P P **07 46 47.6 +0.5**
comp=Z,1µm,1.2s,mb6.5
WAR *e*S S 07 56 33.6 +1.3
WAR MLR MLR 08 20 07.0
comp=Z,2µm,29.3s
YFT Old Faithful 77.74 44 *e*P P **07 46 49.8 +2.2**
CTKT Corum 77.77 311 *i* P P **07 46 48.8 +1.0**
BLS5 Blasjo 77.89 338 *e*P P **07 46 49.1 +1.0**
comp=Z,347nm,1.6s,mb5.8
BLS5 Blasjo 77.89 338 *e*P P **07 46 49.1 +1.0**
BLS5 AMb AMB 07 46 51.3
comp=Z,347nm,1.6s,mb5.8
LKWY Lake 77.92 44 P P **07 46 51.9 +3.4**
LKWY pmax pmax
comp=Z,300nm,1.2s,mb5.9
LKWY Lake 77.92 44 *e*P P **07 46 51.0 +2.5**
comp=Z,304nm,1.2s,mb5.9
GZT Gaziantep 77.93 307 *i* P P **07 46 49.5 +0.8**
LVV L'vov 77.93 323 *i* P P **07 46 47.0 -1.5**
LVV *e*S S 07 56 36.0 +1.2
TOS Tosya 77.99 312 P P **07 46 50.0 +1.0**
IMW Indian Meadow 78.02 44⇑*i*P P **07 46 50.3 +1.2**
comp=Z,209nm,0.8s,mb5.9
BALT Daday 78.07 313 *i* P P **07 46 49.6 +0.1**
CORM Corum 78.13 311 P P **07 46 51.2 +1.4**
RRI2 Red Ridge 78.14 45⇑*i*P P **07 46 50.9 +1.1**
comp=Z,190nm,1.0s,mb5.8
BNN Bunyan 78.16 309 P P **07 46 50.2 +0.3**
KAHT Ahir Dag 78.22 308 *i* P P **07 46 50.6 +0.3**
MOOW Moose Ponds 78.22 44 *e*P P **07 46 51.0 +0.8**
comp=Z,285nm,1.4s,mb5.8
BSD Bornholm Skovb 78.24 331⇓*i*P P **07 46 50.0 0.0**
BSD pmax pmax
comp=Z,416nm,0.8s,mb6.2
BSD Bornholm Skovb 78.24 331⇓*i*P P **07 46 50.0 0.0**
comp=Z,416nm,0.8s,mb6.2
HVU Hansel Valley 78.24 47 P P **07 46 51.1 +0.7**
HVU Hansel Valley 78.24 47 *e*P P **07 46 51.2 +0.9**
ISA Isabella 78.26 55⇑*e*P P **07 46 50.0 -0.6**
ISA pmax pmax
comp=Z,42nm,1.6s,mb4.9
ISA Isabella 78.26 55⇑*e*P P **07 46 50.0 -0.6**
comp=Z,42nm,1.6s,mb4.9
GAZ Gaziantep 78.26 307 P P **07 46 51.9 +1.3**
TPAW Teton Pass 78.27 45 *e*P P **07 46 51.7 +1.2**
comp=Z,169nm,0.8s,mb5.8
LOHW Long Hollow 78.39 44⇑*i*P P **07 46 52.0 +0.9**
comp=Z,96nm,1.0s,mb5.5
LOHW *e*pP pP 07 47 08.8 -1.3
SNOW Snow King Moun 78.39 45 *e*P P **07 46 52.3 +1.2**
comp=Z,142nm,0.9s,mb5.7
REDW Red Top Meadow 78.40 45⇑*i*P P **07 46 52.0 +0.8**
comp=Z,251nm,1.4s,mb5.8
TLCR 78.45 318⇓P P **07 46 52.0 +0.6**
TLCR 78.45 318⇓P P **07 46 52.0 +0.6**
DAC Darwin (Calif) 78.48 54 P P **07 46 52.1 +0.3**
DAC pmax pmax
comp=Z,100nm,1.1s,mb5.5
DAC Darwin (Calif) 78.48 54 *e*P P **07 46 52.0 +0.2**
comp=Z,103nm,1.2s,mb5.4
CANT Cankiri 78.49 312 P P **07 46 52.6 +0.8**
STAV Stavanger 78.52 338 *e*P P **07 46 51.9 +0.4**
comp=Z,244nm,1.5s,mb5.8
STAV Stavanger 78.52 338 *e*P P **07 46 51.9 +0.4**
STAV AMb AMB 07 46 54.0
comp=Z,244nm,1.5s,mb5.8
BGU Big Grassy Mou 78.61 48 *e*P P **07 46 52.8 +0.4**
CDAG Cicekdag 78.62 311 *i* P P **07 46 52.6 +0.1**
GKP Gorka Klasztor 78.63 329⇑*e*P P **07 46 52.3 +0.1**
comp=Z,1.2nm,2.2s
GKP *e*pP pP 07 47 11.8 +0.6
GKP LR LR
comp=Z,2µm,26.8s
GKP Gorka Klasztor 78.63 329⇑*e*P P **07 46 52.2 0.0**
comp=Z,1µm,2.2s,mb6.3
GKP *e*pP pP 07 47 11.8 +0.6
GKP MLR MLR 08 23 15.2
comp=Z,2µm,26.8s
SAFT Safranbolu 78.67 313 P P **07 46 52.9 +0.1**
ELDT Eldivan 78.68 312 *i* P P **07 46 53.0 +0.2**
KWP Kalwaria 78.70 324⇑*e*P P **07 46 53.2 +0.5**
KWP *e*pP pP 07 47 12.2 +0.6
KWP *e*PP PP 07 49 52.6 -0.5
KWP *e*S S 07 56 44.4 +1.4
KWP Kalwaria 78.70 324⇑*e*P P **07 46 53.2 +0.5**
comp=Z,2µm,1.3s,mb6.8
KWP *e*pP pP 07 47 12.2 +0.6
KWP *e*PP PP 07 49 52.6 -0.5
KWP *e*S S 07 56 44.4 +1.5
KWP MLR MLR 08 24 51.8
comp=Z,4µm,18.6s
DGMT Dagmar 78.71 38 *e*P P **07 46 52.5 -0.3**
comp=Z,323nm,1.2s,mb6.0
DGMT *e*pP pP 07 47 09.4 -2.3
SPUT South Promonto 78.72 47 *e*P P **07 46 53.9 +0.9**
SPUT *e*pP pP 07 47 11.0 -1.0
COP Copenhagen 78.76 333⇑*i*P P **07 46 52.9 0.0**
COP *i* pP 07 47 13.2 +1.4
COP *i* S S 07 56 42.2 -1.3
comp=Z,950nm,18.0s
BURAR Bucovina Array 78.80 321⇑P P **07 46 54.0 +0.7**
BURAR Bucovina Array 78.80 321⇑P P **07 46 54.0 +0.7**
AVNT Avonos 78.82 310 *i* P P **07 46 53.4 -0.3**
CFR Carcaliu 78.83 318⇑P P **07 46 54.1 +0.6**
CFR Carcaliu 78.83 318⇑P P **07 46 54.1 +0.6**
LAO LASA Array 78.84 40 *e*P P **07 46 53.8 +0.3**
comp=Z,293nm,1.1s,mb6.0
SNCC San Nicolas Is 78.94 57 PKPdf P **07 46 54.9 +0.6**
RYDS Riyadh 78.96 292 P P **07 46 52.8 -1.9**
BORG Borgarnes 78.99 352 *e*P P **07 46 55.6 +1.6**
comp=Z,639nm,1.4s,mb6.3
BR131 Keskin Array S 79.01 311 *e*P P **07 46 54.5 -0.1**
comp=Z,85nm,1.0s,mb5.5
BRTR Keskin Array B 79.01 311 P P **07 46 54.8 +0.1**
comp=Z,72nm,1.0s,mb5.5,baz=90,slow=2.5,SNR=214
BRTR pP pP 07 47 14.7 +1.1
comp=Z,72nm,0.9s,baz=105,slow=3.1,SNR=8.5
BRTR PP PP 07 49 51.9 -3.9
comp=Z,10.0nm,1.0s,baz=79,slow=6.3,SNR=3.8
BRTR PKKPbc 08 05 46.4
comp=Z,1.8nm,0.7s,baz=213,slow=4.3,SNR=8.3
BRTR PKPPKP 08 14 12.5
comp=Z,0.5nm,0.5s,baz=153,slow=2.8,SNR=4.4
HWUT Hardware Ranch 79.07 46 *e*P P **07 46 55.6 +0.7**
comp=Z,596nm,1.4s,mb6.2
TIRR Tirgusor 79.13 317 P P **07 46 55.2 0.0**
TIRR Tirgusor 79.13 317⇓P P **07 46 55.7 +0.5**
TIRR Tirgusor 79.13 317⇓P P **07 46 55.7 +0.5**
VRI Vrincioaia 79.15 319 P P **07 46 55.6 +0.4**
VRI Vrincioaia 79.15 319⇑P P **07 46 56.6 +1.4**
VRI Vrincioaia 79.15 319⇑P P **07 46 56.6 +1.4**
KAMT Kaman 79.18 311 P P **07 46 55.5 -0.1**
HARR Harsova 79.25 318⇓P P **07 46 57.0 +1.2**
HARR Harsova 79.25 318⇓P P **07 46 57.0 +1.2**
COBT Iskenderun 79.27 307 *i* P P **07 46 56.1 0.0**
RGN Rugen 79.28 332 *e*P P **07 46 55.8 0.0**
comp=Z,92nm,0.8s,mb5.7
CEYT Ceyhan 79.31 308 P P **07 46 57.4 +1.1**
NOQ North Oquirrh 79.32 47 *e*P P **07 46 57.1 +0.8**
MUD Monsted U'grnd 79.35 335⇑*i*P P **07 46 56.1 0.0**
MUD *i* 07 49 56.5
comp=Z,187nm,1.0s,mb5.9
MUD Monsted U'grnd 79.35 335⇑*i*P P **07 46 56.1 0.0**
MUD *i* 07 49 56.5
MUD *i* 07 51 43.2
MUD *e*S S 07 56 38.2 -11
comp=Z,2µm,20.0s
MWC Mount Wilson 79.37 56 P P **07 46 56.8 +0.1**
MWC Mount Wilson 79.37 56 *e*P P **07 46 56.7 0.0**
NIG Nigde 79.38 309 *e*P P **07 46 55.6 -1.1**
ANTO Ankara 79.44 312 P P **07 46 56.4 -0.6**
LOD Lodumlu 79.45 312 P P **07 46 57.3 +0.3**
SGKT Sivrigoynuk 79.46 313 *i* P P **07 46 57.0 -0.1**
TCUT Toone Canyon 79.46 47 *e*P P **07 46 57.8 +0.8**
LRW Lerwick 79.48 341 *e*P P **07 46 56.6 -0.1**
WAL1 Walls 79.49 342 *e*P P **07 46 56.8 0.0**
BW06 Boulder Array 79.51 45 *e*P P **07 46 57.2 -0.1**
comp=Z,232nm,1.4s,mb5.8
PDAR Pinedale Array 79.51 45 P P **07 46 57.4 0.0**
comp=Z,64nm,0.7s,mb5.6,baz=268,slow=2.2,SNR=593
PDAR PKKPbc 08 05 44.8
comp=Z,1.9nm,0.8s,baz=90,slow=1.8,SNR=12
PDAR PKPPKP 08 13 45.2
comp=Z,0.2nm,0.6s,baz=153,slow=6.0,SNR=3.6
PDAR LR LR 08 17 04.2
comp=Z,738nm,21.5s,baz=314,slow=32
CTU Camp Tracy 79.52 47 *e*P P **07 46 57.8 +0.4**
STHS Stebnicka Huta 79.54 324 *i* P P **07 46 57.5 +0.2**
STHS *e* pP 07 47 17.7 +1.4
GSC Goldstone 79.57 54 PKPdf P **07 46 58.1 +0.3**
UZH Uzhgorod 79.57 323 *e*P P **07 46 56.0 -1.5**
UZH *e*S S 07 56 48.0 -4.3
HTY Hatay 79.58 307 P P **07 46 58.7 +0.9**
OJC Ojcow 79.66 326⇑*i*P P **07 46 58.1 +0.2**
OJC *e*pP pP 07 47 17.0 +0.1
OJC *e*PP PP 07 49 58.7 -2.0
OJC *e*S S 07 56 53.3 +0.2
OJC MLR MLR 08 25 57.3
comp=Z,2µm,17.5s
ISR Istrita 79.73 319⇑P P **07 47 00.3 +1.9**
ISR Istrita 79.73 319⇑P P **07 47 00.3 +1.9**
JLU Jordanelle 79.75 47 *e*P P **07 46 59.2 +0.6**
JLU *e*pP pP 07 47 16.2 -1.4
PSN Preselentsi 79.75 317 *i* P P **07 46 59.5 +0.9**
NLU North Lily Min 79.78 48 *e*P P **07 46 59.4 +0.6**
MLR Muntele Rosu 79.81 319 P P **07 46 59.2 +0.4**
MLR Muntele Rosu 79.81 319⇓P P **07 46 59.3 +0.4**
MLR Muntele Rosu 79.81 319⇓P P **07 46 59.3 +0.5**
NIE Niedzica 79.98 325⇑*i*P P **07 47 00.2 +0.5**
DAU Daniels Canyon 79.99 47 P P **07 47 00.9 +1.0**
DAU Daniels Canyon 79.99 47 *e*P P **07 47 00.7 +0.8**
HENT Hendek 79.99 313 *i* P P **07 46 59.1 -0.9**
MPU Maple Canyon 80.01 48 *e*P P **07 47 00.7 +0.6**
ARUT Antelope Range 80.26 50 *e*P P **07 47 01.5 +0.1**
ARUT Antelope Range 80.26 50 *e*P P **07 47 02.3 +0.9**
VOIR 80.32 320⇓P P **07 47 01.9 +0.4**
VOIR 80.32 320⇓P P **07 47 01.9 +0.4**
HIZ Hauiti 80.41 153 PN P **07 47 02.6 +0.4**
RAC Raciborz 80.49 326⇑*e*P P **07 47 03.0 +0.6**
RAC *e*S S 07 57 03.3 +1.5
RAC LMN 08 19 51.4
comp=Z,2µm,20.0s
RAC MLR MLR 08 22 42.7
comp=Z,2µm,32.5s
RAC LME 08 24 30.0
comp=Z,3µm,22.4s
PRD Provadia 80.50 317 *i* P P **07 47 03.0 +0.4**
BUC1 Bucharest 80.51 318 P P **07 47 03.4 +0.8**
MEST Erdemli 80.59 308 *i* P P **07 47 02.5 -0.6**
MSU Marysvale 80.60 49 P P **07 47 04.5 +1.3**
MSU Marysvale 80.60 49 *e*P P **07 47 04.4 +1.2**
KIZT Kizilcal 80.61 311 P P **07 47 02.8 -0.4**
DRGR 80.62 322 P P **07 47 03.5 +0.4**
DRGR 80.62 322⇑P P **07 47 03.7 +0.6**
DRGR 80.62 322⇑P P **07 47 03.7 +0.6**
RUE Ruedersdorf 80.64 330⇑*i*P P **07 47 02.9 -0.2**
comp=Z,584nm,1.4s,mb6.2
NEN Nelson 80.65 53 *e*P P **07 47 04.0 +0.4**
OWE Westray 80.66 342⇑*e*P P **07 47 03.3 +0.2**
OKC Ostrava-Krasne 80.69 326⇑*i*P P **07 47 03.3 -0.1**
OKC *e*pP pP 07 47 23.1 +0.7
OKC *e*PP PP 07 50 03.2 -6.4
OKC *e*S S 07 57 03.3 -0.5
OKC *ex* x 07 57 31.6
OKC AMS AMS 08 26 00.0
comp=Z,2µm,15.1s
TMUT Trail Mountain 80.71 48 *e*P P **07 47 04.7 +0.9**
HRT Hereke 80.72 314 *e*P P **07 47 03.0 -0.7**
OST Stronsay 80.74 341⇑*e*P P **07 47 03.7 +0.2**
HILS Ha'il 80.76 297 P P **07 47 04.2 0.0**
KSP Ksiaz 80.79 328⇑*e*P P **07 47 04.1 +0.2**
KSP *e**PP pP 07 47 22.5 -0.4
KSP *e* 07 50 05.0
KSP *e*S S 07 57 03.0 -1.9
KSP MLR MLR
comp=Z,6µm,18.0s
KSP Ksiaz 80.79 328⇑*e*P P **07 47 04.1 +0.2**
KSP *e*PcP PcP 07 47 10.7 0.0
KSP *e*pP pP 07 47 22.5 -0.4
KSP *e*PP PP 07 50 05.0 -5.5
KSP *e*S S 07 57 03.0 -1.9
KSP *e*SS SS 08 02 00.0 -22
KSP LR LR
comp=Z,6µm,18.0s
KSP Ksiaz 80.79 328⇑*e*P P **07 47 04.2 +0.3**
comp=Z,1µm,1.4s,mb6.5
KSP *e*PP PP 07 50 08.3 -2.1
KSP *e*S S 07 57 03.7 -1.1
KSP MLR MLR 08 21 26.9
comp=Z,4µm,26.0s
PFO Pinyon Flat Ob 80.81 55 P P **07 47 04.6 +0.2**
PFO pmax pmax
comp=Z,220nm,1.0s,mb5.9
PFO Pinyon Flat Ob 80.81 55 *e*P P **07 47 04.4 0.0**
comp=Z,225nm,1.0s,mb6.0
PFO *e*pP pP 07 47 22.5 -0.9
LDFC Landfair 80.82 53 *e*P P **07 47 04.7 +0.2**
ESKT Eskisehir 80.83 312 P P **07 47 05.0 +0.6**
ESKT Eskisehir 80.83 312 *i* P P **07 47 03.4 -1.0**
KONT Konya--Tatoy 80.89 310 P P **07 47 04.7 0.0**
BSEG Bad Segeberg 80.89 333 *e*P P **07 47 04.1 -0.3**
BSEG *e* 07 50 06.1
ISK Istanbul-Kandi 80.92 314 *e*P P **07 47 03.2 -1.6**
MORC Moravsky Berou 81.00 326 P P **07 47 05.2 +0.1**
MORC pmax pmax
comp=Z,230nm,1.1s,mb5.9
MORC Moravsky Berou 81.00 326⇑*i*P P **07 47 04.8 -0.2**
comp=Z,228nm,1.1s,mb5.9
URZ Urewera 81.05 151 PN P **07 47 03.4 -2.2**
YLV Yalova 81.06 314 P P **07 47 04.6 -1.0**
IKL Isikli 81.09 308 P P **07 47 05.5 -0.4**
DPC Dobruska-Polom 81.13 327⇑*i*P P **07 47 06.2 +0.5**
DPC *e**PP pP 07 47 26.9 +2.2
DPC *e* 07 50 09.7
DPC MLR MLR
comp=Z,3µm,15.4s
DPC Dobruska-Polom 81.13 327⇑*i*P P **07 47 06.2 +0.5**
DPC *e*pP pP 07 47 26.9 +2.2
DPC *e*PP PP 07 50 09.7 -3.7
DPC *e* 07 57 35.0
DPC LR LR
comp=Z,3µm,15.4s
DPC Dobruska-Polom 81.13 327⇑*i*P P **07 47 06.2 +0.5**
DPC *e*pP pP 07 47 26.9 +2.2
DPC *e*PP PP 07 50 09.7 -3.7
DPC *ex* x 07 57 35.0
DPC AMS AMS 08 26 40.0
comp=Z,3µm,15.4s
OHO Hoy 81.14 342⇑*e*P P **07 47 06.0 +0.5**
UPC Upice 81.15 328⇑*i*P P **07 47 06.0 +0.1**
UPC *e*pP pP 07 47 26.6 +1.7
BAR Barrett 81.21 56 *e*P P **07 47 06.5 -0.1**
BAR *e*pP pP 07 47 23.8 -1.7
BHL Bhannes 81.22 305 *e*P P **07 47 06.7 +0.1**
PSZ Piszkesteto 81.23 324⇑*i*P P **07 47 06.6 +0.3**
PSZ pmax pmax
comp=Z,337nm,1.2s,mb6.0
PSZ Piszkesteto 81.23 324⇑*i*P P **07 47 06.6 +0.3**
comp=Z,337nm,1.2s,mb6.0
CTT Catalca 81.24 315 P P **07 47 06.3 -0.2**
SRU San Rafael 81.24 48 *e*P P **07 47 07.3 +0.7**
SRU San Rafael 81.24 48 *e*P P **07 47 07.0 +0.4**
SZH Strazhica 81.27 318 *i* P P **07 47 06.5 -0.1**
OBR Brabster 81.31 342⇑*e*P P **07 47 06.7 +0.2**
PUZ Puketiti 81.34 150 PN P **07 47 05.4 -1.8**
ULM Lac du Bonnet 81.37 33 P P **07 47 06.2 -0.8**
comp=Z,68nm,0.8s,mb5.5,baz=315,slow=6.0,SNR=76
ULM pP pP 07 47 23.8 -2.2
comp=Z,47nm,1.1s,baz=305,slow=10.0,SNR=6.4
ULM PKKPbc 08 05 37.2
comp=Z,5.0nm,0.8s,baz=105,slow=3.4,SNR=4.3
ULM PKPPKP 08 13 44.0
comp=Z,0.9nm,0.3s,baz=32,slow=5.5,SNR=3.8
ULM LR LR 08 21 19.4
comp=Z,878nm,20.7s,baz=317,slow=34
ULM Lac du Bonnet 81.37 33⇑*i*P P **07 47 05.9 -1.1**
comp=Z,147nm,1.0s,mb5.8
ULM *e*pP pP 07 47 22.9 -3.1
HDMB Hadim 81.41 309 P P **07 47 06.2 -1.3**
JMB Yambol 81.44 317 *i* P P **07 47 08.0 +0.5**
ULDT Uludag 81.47 314 *i* P P **07 47 07.5 -0.2**
ORE Reay 81.52 342⇑*e*P P **07 47 08.3 +0.7**
RWWY Rawlins 81.54 44 *e*P P **07 47 08.3 +0.2**
comp=Z,235nm,0.9s,mb6.0
HRI Mount Hermon 81.55 305 P P **07 47 08.5 +0.2**
ALT Altintas 81.57 312 P P **07 47 08.2 -0.1**
QURS Qurayyt al Mil 81.59 303 P P **07 47 09.3 +0.8**
PHNC Paralimni 81.62 307 P P **07 47 08.8 +0.2**
PVL Pavlikeni 81.63 318 *i* P P **07 47 10.0 +1.5**
KSDI Kefar Szold 81.64 305 P P **07 47 09.0 +0.2**
KSHT Keshet 81.67 305 P P **07 47 09.3 +0.4**
KSHT Keshet 81.67 305⇑P P **07 47 09.3 +0.4**
RSSD Black Hills 81.69 41 P P **07 47 08.7 -0.1**
RSSD pmax pmax
comp=Z,180nm,1.3s,mb5.7
RSSD Black Hills 81.69 41 *e*P P **07 47 08.4 -0.4**
comp=Z,184nm,1.4s,mb5.7
RSSD *e*pP pP 07 47 25.7 -2.1
CRAR CRAIOVA 81.72 319 P P **07 47 10.0 +1.1**
OTO Tongue 81.73 342⇑*e*P P **07 47 09.4 +0.7**
EDRB Edirne 81.75 316 *e*P P **07 47 09.7 +0.6**
PVCC Panska Ves 81.76 328⇑*i*P P **07 47 09.1 +0.1**
PVCC *e**PP pP 07 47 28.8 +0.8
PVCC *e* 07 57 15.7
PVCC MLR MLR
comp=Z,2µm,16.5s
PVCC Panska Ves 81.76 328⇑*i*P P **07 47 09.1 +0.1**
PVCC *e*pP pP 07 47 28.8 +0.8
PVCC *e*S S 07 57 15.7 +0.8
PVCC *ex* x 07 57 43.8
PVCC AMS AMS 08 31 00.0
comp=Z,2µm,16.5s
VRAC Vranov 81.77 327 P P **07 47 09.6 +0.5**
BRG Berggiesshubel 81.77 329 *i* P P **07 47 08.9 -0.2**
BRG *e* pP 07 47 27.1 -1.0
BRG 07 50 12.4
BRG S S 07 57 12.0 -3.0
BRG SS SS 08 02 37.0 -0.1
BRG pmax pmax
comp=Z,180nm,1.1s,mb5.8
BRG MLR MLR
comp=Z,2µm,16.2s
BRG Berggiesshubel 81.77 329 *i* P P **07 47 08.9 -0.2**
comp=Z,180nm,1.1s,mb5.8
BRG *e* pP 07 47 27.1 -1.0
BRG *i* pP 07 47 32.0 +3.9
BRG PP PP 07 50 12.4 -6.2
BRG S S 07 57 12.0 -3.0
BRG PS PS 07 57 46.0 -27
BRG SS SS 08 02 37.0 -0.1
BRG LR LR
comp=Z,2µm,16.2s
CLL Collm 81.84 330⇑*i*P P **07 47 09.1 -0.3**
CLL *e**PP pP 07 47 28.0 -0.4
CLL *e*S S 07 57 15.0 -0.7
CLL pmax pmax
comp=Z,359nm,1.0s,mb6.2
CLL MLR MLR
comp=Z,2µm,15.8s
CLL Collm 81.84 330⇑*i*P P **07 47 09.1 -0.3**
comp=Z,359nm,1.0s,mb6.2
CLL *e*pP pP 07 47 28.0 -0.4
CLL *e*S S 07 57 15.0 -0.7
CLL *e*sS 07 57 42.0
CLL *i* P'P' 08 13 41.5
CLL LR LR
comp=Z,2µm,15.8s
CLL Collm 81.84 330⇑P P **07 47 09.1 -0.3**
comp=Z,logA/T=2.6,mb6.2
CLL *e**PP pP 07 47 28.0 -0.4
CLL *i **SP sP 07 47 37.3 +1.2
CLL *e* 07 47 49.0
CLL *e*PP PP 07 50 15.0 -4.1
CLL *e**PPP 07 50 35.0
CLL *e*PPP PPP 07 52 08.0 -3.5
CLL *e*S S 07 57 15.0 -0.7
CLL *e**SS 07 57 42.0
CLL *e*SP SP 07 58 03.0 -1.9
CLL *e*SS SS 08 02 40.0 +1.9
CLL *e* 08 06 31.0
CLL *i* 08 13 41.5
CLL *i* 08 14 00.9
BUD Budapest 81.95 324⇓*e*P P **07 47 11.1 +1.0**
HNTI Hanita 82.03 305 P P **07 47 11.0 +0.2**
HNTI Hanita 82.03 305⇑P P **07 47 11.0 +0.2**
BNT Bandirma 82.04 314 *e*P P **07 47 11.8 +1.2**
MRMT Marmara Adasi 82.07 315 *e*P P **07 47 10.8 -0.1**
TKTP Tekketepe 82.09 311 *i* P P **07 47 09.8 -1.2**
ISP Isparta 82.09 311 *e*P P **07 47 10.4 -0.6**
ISP Isparta 82.09 311*c* *i*P P **07 47 10.4 -0.6**
ISP Isparta 82.09 311 *e*P P **07 47 10.2 -0.8**
comp=Z,35nm,0.8s,mb5.2
CSS Prodhromos 82.10 307 P P **07 47 11.9 +0.8**
MFT Murefte 82.13 315 *e*P P **07 47 11.1 -0.1**
PRA Prague 82.16 328⇑P P **07 47 10.0 -1.1**
PRA pP pP 07 47 31.0 +0.9
PRA PP PP 07 50 21.0 -0.7
MVH1 Achvaich 82.17 342⇑*e*P P **07 47 11.3 +0.4**
PRU Pruhonice 82.18 328⇑*i*P P **07 47 11.3 +0.1**
PRU *e**PP pP 07 47 29.3 -0.9
PRU *e* 07 50 19.8
PRU *e* 07 57 19.7
PRU MLR MLR
comp=Z,3µm,15.6s
PRU Pruhonice 82.18 328⇑*i*P P **07 47 11.3 +0.1**
PRU *e*pP pP 07 47 29.3 -0.9
PRU *e*PP PP 07 50 19.8 -2.0
PRU *e*S S 07 57 19.7 +0.6
PRU *ex* x 07 57 44.4
PRU AMS AMS 08 27 10.0
comp=Z,3µm,15.6s
GLA Glamis 82.23 55 PKPdif 07 47 12.5
MCD Coleburn Disti 82.23 341 *e*P P **07 47 11.1 -0.2**
MMLI Mount Malkishu 82.25 304 P P **07 47 12.7 +0.7**
MMLI Mount Malkishu 82.25 304⇑P P **07 47 12.7 +0.7**
RTO Tolsta 82.28 343 *e*P P **07 47 12.0 +0.5**
REB Eisghbrachaidh 82.28 342⇑*e*P P **07 47 12.1 +0.6**
LEF Lefka 82.29 308 P P **07 47 11.8 -0.3**
DIM Dimitrovgrad 82.30 317 *e*P P **07 47 13.0 +1.0**
HAF Haifa 82.32 305 P P **07 47 12.4 +0.1**
ZST Bratislava 82.34 325 *e*P P **07 47 12.3 +0.2**
ZST *e*pP pP 07 47 31.0 -0.1
ZST *e*PP PP 07 50 23.9 +0.7
ZST *e* 07 57 04.7
ZST *e*SS SS 08 02 30.9 -15
ZST *e*L 08 30 00.4
MME1 Meikle Cairn 82.39 341 *e*P P **07 47 11.2 -0.9**
OFRI 'Ofer 82.44 305 P P **07 47 13.1 +0.2**
OFRI 'Ofer 82.44 305⇑P P **07 47 13.1 +0.2**
ALFC Alevga 82.45 308 P P **07 47 12.9 0.0**
comp=Z,5.1nm,1.4s
CLZ Clausthal 82.49 331 *e*P P **07 47 12.7 0.0**
CLZ *e**PP pP 07 47 33.4 +1.6
CLZ *e* 07 50 21.2
CLZ pmax pmax
comp=Z,450nm,1.4s,mb6.1
CLZ Clausthal 82.49 331 *e*P P **07 47 12.7 0.0**
comp=Z,450nm,1.4s,mb6.1
CLZ *e*pP pP 07 47 33.4 +1.6
CLZ *e*PP PP 07 50 21.2 -3.1
SZAC Souni-Zanaja 82.52 307 P P **07 47 13.9 +0.6**
PKS8 Sarbogard 82.55 324⇓*e*P P **07 47 13.5 +0.4**
MRZ Mangatainoka R 82.56 154 PN P **07 47 12.8 -0.6**
ANTB Antalya 82.60 310 *i* P P **07 47 14.9 +1.3**
THZ Tophouse 82.61 156 PN P **07 47 11.8 -1.7**
KDZ Kurdzhali 82.63 317 *e*P P **07 47 14.5 +0.9**

KDZ Kurdzhali 82.63 317 P P 07 47 14.2 +0.6
SLTI Sal'it 82.63 304 P P 07 47 14.3 +0.4
SLTI Sal'it 82.63 304 ⇑P P 07 47 14.3 +0.4
MKRJ Makawir 82.64 304 P P 07 47 14.5 +0.6
RRR Rubha Reidh 82.64 342⇑ eP P 07 47 14.0 +0.6
MDO Dochfour 82.65 341⇑ eP P 07 47 13.2 -0.2
VKA Vienna 82.65 326⇑ iP P 07 47 14.2 +0.6
comp=Z,2µm,3.0s
KAMS Al Khamasin 82.72 290 P P 07 47 14.1 -0.4
PGB Panagyurishte 82.72 318 i P P 07 47 14.5 +0.4
PGB Panagyurishte 82.72 318 P P 07 47 14.0 -0.1
PLD Plovdiv 82.72 317 eP P 07 47 14.5 +0.4
CANB Canakkale 82.76 315 P P 07 47 14.7 +0.3
PPCY Paphos 82.79 308 ⇓P P 07 47 15.0 +0.4
PHWY Pilot Hill 82.79 44 eP P 07 47 14.8 +0.3
PHWY ePP pP 07 47 31.9 -1.7
RRH Rhenigidale 82.80 343⇑ eP P 07 47 14.9 +0.7
SNZO South Karori 82.82 154⇑ eP P 07 47 13.9 -0.7
comp=Z,380nm,1.4s,mb6.0
NKC Novy Kostel 82.88 329⇑ iP P 07 47 14.7 -0.1
NKC epP pP 07 47 34.8 +1.0
NKC eS S 07 57 26.2 0.0
NKC AMS AMS 08 27 40.0
comp=Z,2µm,17.4s
RDO Rodhopi 82.89 316 eP P 07 47 15.0 0.0
MOX Moxa 82.91 330⇑ iP P 07 47 15.4 +0.5
MOX e*PP pP 07 47 35.9 +1.9
MOX e 07 50 30.0
MOX eS S 07 57 33.0 +6.5
MOX eSS SS 08 02 57.0 +2.8
MOX pmax pmax
comp=Z,280nm,1.6s,mb5.8
MOX MLR MLR
comp=Z,2µm,17.0s
MOX Moxa 82.91 330⇑ iP P 07 47 15.4 +0.5
comp=Z,280nm,1.6s,mb5.8
MOX epP pP 07 47 35.9 +1.9
MOX ePP pP 07 50 30.0 +2.3
MOX eS S 07 57 33.0 +6.5
MOX eSS SS 08 02 57.0 +2.8
MOX L 08 31 12.0
comp=Z,2µm,17.0s
MOX Moxa 82.91 330⇑ iP P 07 47 15.4 +0.5
comp=Z,logA/T=2.2,mb5.8
MOX pP pP 07 47 36.0 +2.0
MOX PP PP 07 50 30.0 +2.3
MOX S S 07 57 33.0 +6.5
MOX SS SS 08 02 57.0 +2.8
MOX L 08 31 12.0
PKS9 Tamasi 82.95 324⇓ eP P 07 47 15.7 +0.5
SOP Sopron 82.97 325⇑ iP P 07 47 16.1 +0.9
MZDA Masada 82.98 303 P P 07 47 16.0 +0.4
PKSM Moragy 83.04 323⇑ iP P 07 47 16.4 -0.2
PKSM e 07 50 28.6
PV01 Paradox Valley 83.04 48 eP P 07 47 16.4 +0.6
ZAPS Zavoj/Pirot 83.05 319⇑ iP P 07 47 16.0 +0.2
AKS Akhisar 83.06 313 eP P 07 47 15.3 -0.6
SVIS Svilajnac 83.09 321⇓ iP P 07 47 16.2 +0.3
ELL Elmali 83.16 311 P P 07 47 16.3 -0.2
VTS Vitosha 83.21 318 i P P 07 47 16.5 -0.1
VTS Vitosha 83.21 318 P P 07 47 17.5 +0.9
KHC Kasperske Hory 83.23 328⇑ iP P 07 47 16.6 0.0
KHC e*PP pP 07 47 37.0 +1.4
KHC e 07 50 27.3
KHC e 07 57 30.4
KHC MLR MLR
comp=Z,3µm,15.1s
KHC Kasperske Hory 83.23 328⇑ iP P 07 47 16.6 0.0
KHC epP pP 07 47 37.0 +1.4
KHC ePP PP 07 50 27.3 -3.0
KHC eS S 07 57 30.4 +0.6
KHC ex x 07 57 58.3
KHC AMS AMS 08 27 40.0
comp=Z,3µm,15.1s
SMCO Snowmass 83.32 46 eP P 07 47 18.1 +1.0
GEC2 GERESS Array S 83.39 328 eP P 07 47 17.2 -0.2
GEC2 pmax pmax
comp=Z,137nm,1.2s,mb5.7
GEC2 GERESS Array S 83.39 328 eP P 07 47 17.2 -0.2
comp=Z,137nm,1.2s,mb5.7
GERES GERESS Array B 83.39 328 P P 07 47 17.2 -0.1
comp=Z,39nm,0.8s,mb5.3,baz=34,slow=4.8,SNR=215
GERES pP pP 07 47 35.3 -1.2
comp=Z,30nm,1.0s,baz=56,slow=4.8,SNR=13
GERES PP PP 07 50 25.5 -6.0
comp=Z,10nm,1.0s,baz=42,slow=12,SNR=4.5
GERES PKKPbc 08 05 35.2
comp=Z,0.9nm,0.7s,baz=180,slow=2.0,SNR=5.1
AYVA Ayvalik 83.44 314 i P P 07 47 17.1 -0.7
KBRS Khaybar 83.52 297 P P 07 47 19.1 +0.6
WET Wettzell 83.53 328 eP P 07 47 18.2 +0.2
WET pmax pmax
comp=Z,317nm,1.6s,mb5.9
WET Wettzell 83.53 328 eP P 07 47 18.2 +0.2
comp=Z,317nm,1.6s,mb5.9
MASH Mash'abbe Sade 83.56 304 P P 07 47 18.7 +0.1
ZFRI Zfri 83.56 303 P P 07 47 18.9 +0.3
ZFRI Zfri 83.56 303 ⇑P P 07 47 18.9 +0.3
MMB Musomiste 83.61 317 i P P 07 47 19.0 +0.4
MMB Musomiste 83.61 317 P P 07 47 18.8 +0.2
GRUS Gruza 83.64 321⇑ iP P 07 47 18.9 +0.3
KDAG Bornova 83.69 313 i P P 07 47 18.7 -0.4
IZM Izmir 83.70 313 P P 07 47 20.1 +0.9
PRK Paraskevi 83.73 314 eP P 07 47 19.9 +0.7
KSL Kastellorizon 83.74 310 eP P 07 47 19.0 -0.4
ARSA Arzberg 83.76 326⇑ iP P 07 47 20.3 +1.1
comp=Z,238nm,1.8s,mb5.7
KKB Krupnik 83.77 318 i P P 07 47 19.5 +0.1
KKB Krupnik 83.77 318 P P 07 47 19.8 +0.4
RPZ Rata Peaks 83.77 158 LR LR 08 18 45.3
comp=Z,1µm,20.0s,baz=332,slow=31
EAU Auchinoon 83.80 340⇑ eP P 07 47 19.0 -0.2
EAU AMb AMB 07 47 21.3
comp=Z,288nm,2.0s,mb5.8
PRNI Paran 83.80 303 P P 07 47 20.3 +0.5
PRNI Paran 83.80 303 ⇑P P 07 47 20.3 +0.5
GRA1 Grafenberg Arr 83.81 329 eP P 07 47 19.8 +0.4
comp=Z,953nm,1.5s,mb6.4
GRF Grafenberg Arr 83.81 329 eP P 07 47 19.8 +0.4
GRF pmax pmax
comp=Z,953nm,1.5s,mb6.4
GRF Grafenberg Arr 83.81 329 eP P 07 47 19.8 +0.4
comp=Z,953nm,1.5s,mb6.4
BLCB Balcova 83.84 313 P P 07 47 19.4 -0.4
DIVS Divcibare 83.86 321⇓ iP P 07 47 19.6 -0.2
KZIT Kziot 83.88 304 P P 07 47 20.3 +0.1
KZIT Kziot 83.88 304 ⇑P P 07 47 20.3 +0.1
MOA Molln 83.89 327⇑ iP P 07 47 20.5 +0.7
comp=Z,206nm,1.2s,mb5.8
YER Yerkesik 83.91 312 eP P 07 47 22.0 +1.8
DALT Dalyan (Mudla) 83.93 311 eP P 07 47 21.2 +0.9
LOS Limnos 83.96 315 eP P 07 47 19.8 -0.6
SRS Serrai 84.00 317 eP P 07 47 20.1 -0.5
TATS Tathlith 84.00 290 P P 07 47 21.5 +0.5
TBKS Tabuk 84.02 300 P P 07 47 21.5 +0.6
JMQS Jabal Moqyreh 84.09 301 P P 07 47 21.7 +0.4
MLSB Milas 84.11 312 eP P 07 47 22.2 +0.9
URLA Izmir 84.12 314 i P P 07 47 20.4 -0.9
KMTI Karmit 84.14 303 P P 07 47 21.6 0.0
KMTI Karmit 84.14 303 ⇑P P 07 47 21.6 0.0
GVA Apache Junctio 84.15 53 P P 07 47 22.7 +1.2
AQBJ Aqaba 84.15 302 P P 07 47 21.8 +0.2
ESK Eskdalemuir 84.20 340 P P 07 47 21.3 +0.1
ESK pmax pmax
comp=Z,290nm,1.6s,mb5.9
ESK Eskdalemuir 84.20 340 eP P 07 47 21.4 +0.2
comp=Z,286nm,1.6s,mb5.8
ESK Eskdalemuir 84.20 340 eP P 07 47 21.2 0.0
ESK AMb AMB 07 47 24.2
comp=Z,168nm,1.8s,mb5.6
MBH Mount Berech 84.20 302 P P 07 47 22.1 +0.2
EIL Elat 84.25 302 P P 07 47 22.3 +0.2
EIL Elat 84.25 302 ⇑P P 07 47 22.3 +0.2
BBH Bruntsheil 84.28 340⇑ eP P 07 47 21.5 -0.1
ECK Cauldkaine Hil 84.29 340⇑ eP P 07 47 21.8 +0.1
ECK AMb AMB 07 47 23.8
comp=Z,223nm,1.7s,mb5.7
OUR Ouranopolis 84.31 316 eP P 07 47 21.7 -0.5
BBLS Bajina Basta - 84.32 321⇓ iP P 07 47 21.9 -0.2
ALWS Ilw as Safayha 84.39 302 P P 07 47 23.2 +0.4
BHH Howats Hill 84.40 340⇑ eP P 07 47 22.3 +0.1
SMG Samos 84.41 313 eP P 07 47 23.0 +0.3

BTA Talkin 84.41 339⇑ eP P 07 47 22.3 +0.1
VAY Valandovo 84.43 318⇑ iP P 07 47 22.9 +0.2
VAY i pP 07 47 43.5 +1.7
BWH Wardlaw 84.45 340⇑ eP P 07 47 22.4 -0.1
JMOS Jabal al Moall 84.45 302 P P 07 47 23.4 +0.3
BDRM Kayabasi 84.46 312 i P P 07 47 23.0 0.0
TNS Taunus Mts 84.52 331 eP P 07 47 22.9 0.0
TNS pmax pmax
comp=Z,277nm,1.4s,mb6.0
TNS Taunus Mts 84.52 331 eP P 07 47 22.9 0.0
comp=Z,277nm,1.4s,mb6.0
BODT Bodrum 84.55 312 P P 07 47 23.7 +0.3
BDL Dobcross Hall 84.57 340⇑ eP P 07 47 23.4 +0.4
PLG Polygyros 84.59 317 eP P 07 47 23.5 0.0
SKO Skopje 84.59 319⇑ iP P 07 47 24.3 +0.8
comp=Z,0.4nm,1.1s
SKO i 07 47 36.8
SKO i pP 07 47 45.2 +2.6
comp=Z,0.4nm,1.1s
ARG Arkhangelos 84.60 311 eP P 07 47 24.5 +0.8
HAQS Haql 84.64 302 P P 07 47 24.0 0.0
THE Thessaloniki 84.68 317 eP P 07 47 22.7 -1.3
PLE Pljevlja 84.71 321⇑ iP P 07 47 25.5 +1.5
BBO1 Bothel 84.72 340⇑ eP P 07 47 24.0 +0.2
SIND Sindeldorf 84.74 330⇑ eP P 07 47 24.2 +0.2
OBKA Obir 84.76 326⇑ iP P 07 47 24.8 +0.6
comp=Z,67nm,0.9s,mb5.6
GRG Griva 84.77 318 eP P 07 47 23.5 -0.9
IVA Berane 84.78 320⇑ iP P 07 47 25.5 +1.1
TOD Tromm 84.86 331⇑ eP P 07 47 25.3 +0.7
TOD Tromm 84.86 331⇑ eP P 07 47 24.9 +0.2
KBA Koelnbreinsper 84.88 327⇑ iP P 07 47 25.6 +0.8
comp=Z,105nm,0.9s,mb5.8
BDAS Al Bad' 84.90 301 P P 07 47 25.7 +0.3
PVY Plav 84.93 320⇑ iP P 07 47 25.1 -0.1
FUR Furstenfeldbru 84.96 328 eP P 07 47 25.3 +0.1
FUR pmax pmax
comp=Z,285nm,0.9s,mb6.2
FUR Furstenfeldbru 84.96 328 eP P 07 47 25.3 +0.1
comp=Z,285nm,0.9s,mb6.2
PPT Papeete 84.97 116 P P 07 47 28.0 +2.1
comp=Z,42nm,0.9s,mb5.4,baz=295,slow=4.5,SNR=5.1
PPT pP pP 07 47 45.4 +0.3
comp=Z,245nm,1.2s,baz=329,slow=2.3,SNR=9.9
PPT LR LR 08 18 24.8
comp=Z,2µm,19.8s,baz=316,slow=31
TAYS Tayyib Ism 84.99 302 P P 07 47 25.9 +0.1
SWS Schriesheim 85.00 331⇑ eP P 07 47 25.4 +0.1
DJNS Zahran al Janu 85.01 288 P P 07 47 27.2 +1.0
UPM Unac-Piva 85.05 321⇑ iP P 07 47 25.7 0.0
HDH Heidenheim 85.09 329⇑ eP P 07 47 25.7 -0.1
LJU Ljubljana 85.12 325⇑ eP P 07 47 25.9 -0.2
LJU e pP 07 47 48.1 +2.9
LJU ePP PP 07 50 45.1 -0.3
LJU e 07 51 19.9
LJU eS S 07 57 41.2 -7.3
LJU e 07 58 20.5
SDCO Great Sand Dun 85.13 46 eP P 07 47 27.4 +1.1
comp=Z,347nm,1.4s,mb6.1
ABH Alteburg 85.14 331⇑ eP P 07 47 26.4 +0.4
ABH Alteburg 85.14 331⇑ eP P 07 47 26.2 +0.2
AOS Alonnisos 85.16 316 eP P 07 47 24.7 -1.7
BOJS Bojanci 85.18 325⇑ eP P 07 47 26.3 0.0
BOJS ePP PP 07 50 45.5 -0.4
BLJS Baljurashi 85.25 291 P P 07 47 28.1 +0.9
UMJS Umm Lajj 85.27 298 P P 07 47 28.1 +0.8
NKY Niksic 85.28 321⇑ iP P 07 47 26.4 -0.5
YNBS Yanbu' al Bahr 85.31 296 P P 07 47 27.9 +0.4
LIT Litokhoron 85.31 317 eP P 07 47 26.2 -0.9
LHO Holmfirth 85.34 338⇑ eP P 07 47 26.7 -0.3
CADS Cadrg 85.34 326⇑ eP P 07 47 26.1 -1.1
comp=Z,605nm,2.7s,mb6.0
STU Stuttgart 85.36 330 P P 07 47 28.0 +0.9
STU pmax pmax
comp=Z,400nm,1.3s,mb6.2
STU Stuttgart 85.36 330 eP P 07 47 27.1 -0.1
comp=Z,398nm,1.3s,mb6.2
TUC Tucson 85.36 53 P P 07 47 28.2 +0.7
TUC SKSac 07 57 49.2
TUC Tucson 85.36 53 P P 07 47 28.0 +0.4
TUC pmax pmax
comp=Z,110nm,1.1s,mb5.7
TUC Tucson 85.36 53 eP P 07 47 27.6 0.0
comp=Z,113nm,1.1s,mb5.7
TUC epP pP 07 47 46.7 -0.1
KTD Kalmit 85.38 331⇑ eP P 07 47 27.5 +0.3
KTD Kalmit 85.38 331 eP P 07 47 27.6 +0.4
CEY Cerknica 85.39 325⇑ eP P 07 47 27.1 -0.2
comp=Z,904nm,1.7s,mb6.4
CEY e 08 03 34.9
TUZ Tuapeka 85.39 160 PN P 07 47 27.4 +0.1
XOR Xorichti 85.42 316 eP P 07 47 26.6 -1.1
TTG Podgorica 85.42 320⇑ iP P 07 47 27.5 -0.1
VOY Vojsko 85.42 326⇑ eP P 07 47 26.9 -0.6
VOY e pP 07 47 48.8 +2.1
VOY e 07 48 06.9
FNA Florina 85.45 318 eP P 07 47 26.6 -1.2
BRY Bratogost 85.45 321⇑ iP P 07 47 27.8 0.0
WATA Walderalm 85.47 328⇑ iP P 07 47 28.4 +0.7
comp=Z,38nm,1.0s,mb5.3
RUP Ruppelstein 85.47 332⇑ eP P 07 47 28.2 +0.5
RUP Ruppelstein 85.47 332⇑ eP P 07 47 28.1 +0.4
KBI1 Birley Grange 85.50 336⇑ eP P 07 47 27.1 -0.6
WTTA Wattenberg 85.50 328⇑ iP P 07 47 28.5 +0.6
comp=Z,92nm,1.4s,mb5.5
OHR Ohrid 85.53 319⇑ iP P 07 47 27.9 -0.3
OHR i pP 07 47 48.9 +1.5
BUCH Bad Urach 85.55 330⇑ eP P 07 47 28.4 +0.3
LBG Lerchenberg 85.61 330⇑ eP P 07 47 28.5 +0.2
APE Apeiranthos 85.61 313 eP P 07 47 28.0 -0.7
WIM Isle of Man 85.63 340⇑ eP P 07 47 28.6 +0.2
WIM AMb AMB 07 47 31.1
comp=Z,495nm,1.9s,mb6.1
MOTA Moosalm 85.67 328⇑ iP P 07 47 29.2 +0.5
comp=Z,48nm,0.9s,mb5.4
BUM Brajici-Budva 85.70 320⇑ iP P 07 47 29.2 +0.2
SQTA Sankt Quirin 85.72 328⇑ iP P 07 47 29.8 +0.9
comp=Z,59nm,1.1s,mb5.4
QSH Qafa e Shtames 85.72 319 i Pn P 07 47 29.5 +0.4
LANF Langenberg 85.76 331⇑ eP P 07 47 29.5 +0.4
ULC Ulcinj 85.76 320⇑ iP P 07 47 29.5 +0.2
KWE Weaver Farm 85.80 338⇑ eP P 07 47 29.0 -0.1
HCY Herceg Novi 85.80 321⇑ iP P 07 47 29.2 -0.2
UBR Uberruh 85.83 329⇑ eP P 07 47 29.2 -0.3
WLF Walferdange 85.85 332 P P 07 47 30.2 +0.7
WLF pmax pmax
comp=Z,560nm,1.6s,mb6.2
WLF Walferdange 85.85 332 eP P 07 47 29.7 +0.2
comp=Z,565nm,1.6s,mb6.2
TIR Tirane 85.87 319 i Pn P 07 47 27.5 -2.3
LTHS Al Lith 85.92 292 P P 07 47 31.3 +0.8
GUT Gutenstein 85.94 329⇑ eP P 07 47 29.8 -0.2
GIVF Givet 86.00 333 eP P 07 47 29.7 -0.5
SPAK Spaichingen 86.06 330 eP P 07 47 30.7 +0.1
SPAK Spaichingen 86.06 330 eP P 07 47 30.6 0.0
NVLJ Novalja 86.06 324 i P P 07 47 29.4 -1.3
BFO Black Forest 86.06 330 eP P 07 47 30.3 -0.3
BFO eS S 07 57 57.7 +0.1
BFO pmax pmax
comp=Z,378nm,1.3s,mb6.2
BFO Black Forest 86.06 330 eP P 07 47 30.3 -0.3
comp=Z,378nm,1.3s,mb6.2
BFO eS S 07 57 57.7 +0.1
STR Strasbourg 86.09 330 eP P 07 47 31.5 +0.8
SANT Santorini 86.12 313 eP P 07 47 28.8 -2.4
comp=Z,125nm,1.2s,mb5.7
THR1 Thera Island 86.12 313 eP P 07 47 29.3 -1.9
WME Myndd Eilian 86.19 340⇑ eP P 07 47 31.8 +0.7
WME AMb AMB 07 47 33.9
comp=Z,374nm,1.7s,mb6.0
WPM1 Penmaenmawr 86.20 339⇑ eP P 07 47 31.2 +0.1
WPM1 AMb AMB 07 47 34.1
comp=Z,619nm,1.6s,mb6.3
MEV Metsovon 86.22 317 eP P 07 47 31.0 -0.6
DAVA Damuels 86.24 329⇑ iP P 07 47 32.0 +0.5
comp=Z,263nm,1.5s,mb5.9
BAIF Baives 86.26 333 eP P 07 47 31.2 -0.3
comp=Z,642nm,1.7s,mb6.0
WCB1 Church Bay 86.28 340⇑ eP P 07 47 31.4 -0.1
WCB1 AMb AMB 07 47 34.2
comp=Z,338nm,1.7s,mb6.0
WLF1 Llynfaes 86.31 340⇑ eP P 07 47 31.7 0.0
WLF1 AMb AMB 07 47 34.5

comp=Z,480nm,1.6s,mb6.2
SBD1 Bryn Du 86.32 339⇑ eP P 07 47 32.1 +0.4
SBD1 AMb AMB 07 47 34.1
comp=Z,620nm,1.3s,mb6.4
YLL Llanberis 86.38 339⇑ eP P 07 47 32.8 +0.8
WLS Welschbruch 86.39 331⇑ eP P 07 47 32.5 +0.3
LIENZ Alp Oberkamor 86.39 329⇑ iP P 07 47 32.0 -0.2
YRC Rhoscolyn 86.40 340⇑ eP P 07 47 32.1 0.0
YRC AMb AMB 07 47 34.1
comp=Z,318nm,1.2s,mb6.1
ANMO Albuquerque 86.40 49 P P 07 47 33.4 +0.8
ANMO pmax pmax
comp=Z,150nm,1.0s
ANMO Albuquerque 86.40 49 PKPdf P 07 47 33.5 +0.9
CDF Champ du Feu 86.42 331 eP P 07 47 32.0 -0.3
comp=Z,567nm,1.2s,mb6.1
SLE Schleitheim 86.44 330⇑ iP P 07 47 31.8 -0.7
LIBD Limburg 86.50 330 eP P 07 47 33.4 +0.7
LIBD Limburg 86.50 330⇑ eP P 07 47 32.8 +0.1
EVR Evrytania 86.51 316 eP P 07 47 32.5 -0.5
JAN Janina 86.52 318 eP P 07 47 33.3 +0.2
KIZ Kirchzarten 86.53 330⇑ eP P 07 47 32.4 -0.5
HLM1 Long Mynd 86.54 338⇑ eP P 07 47 32.8 0.0
HLM1 AMb AMB 07 47 35.6
comp=Z,215nm,2.2s,mb5.7
WILA Wila 86.55 329⇑ iP P 07 47 32.6 -0.4
FELD Feldberg 86.56 330⇑ eP P 07 47 32.7 -0.3
MENF Mencas 86.58 335⇑ eP P 07 47 33.0 -0.1
FUORN Ofenpass 86.59 328⇑ iP P 07 47 33.7 +0.5
YRE Yr Eifl 86.59 339⇑ eP P 07 47 33.4 +0.3
YRE AMb AMB 07 47 36.9
comp=Z,562nm,1.8s,mb6.2
LENM Lemitar 86.60 50 eP P 07 47 34.9 +1.3
LENM epP pP 07 47 53.3 +0.5
ECH Echery 86.62 331⇑ eP P 07 47 33.6 +0.2
DAVOX Davos 86.63 328⇑ iP P 07 47 33.6 +0.2
PLONS Plons 86.64 329⇑ iP P 07 47 33.3 -0.1
SSP1 Stoney Pound 86.70 338⇑ eP P 07 47 33.8 +0.2
SSP1 AMb AMB 07 47 35.7
comp=Z,197nm,1.4s,mb5.9
LPM Los Pinos Moun 86.72 50 eP P 07 47 35.4 +1.3
LPM epP pP 07 47 53.6 +0.2
ZUR Zurich 86.72 329⇑ eP P 07 47 33.2 -0.6
NPS Neapolis 86.76 312 eP P 07 47 34.0 -0.4
SULZ Sulz-Cheisache 86.79 330⇑ iP P 07 47 33.7 -0.5
BNM Barren Site 86.83 50 eP P 07 47 35.9 +1.2
BNM epP pP 07 47 53.5 -0.5
BERNI Berninapass 86.86 328⇑ iP P 07 47 34.8 +0.3
TAOE Nuku Hiva Isla 86.90 103 ePP 07 52 33.0
comp=Z,720nm,27.9s
TAOE Nuku Hiva Isla 86.90 103 eS S 07 58 47.7 +41
comp=Z,3µm,26.2s
TAOE eSS SS 08 04 43.5 +51
comp=Z,1µm,29.0s
TAOE eLR LR 08 14 05.5
comp=Z,24µm,31.4s
DLF Lyons Farm 86.90 341 eP P 07 47 35.3 +0.7
DLF Lyons Farm 86.90 341 eP P 07 47 33.2 -1.4
DLF eP 07 47 35.3
MOF Molkenrain 86.93 330⇑ eP P 07 47 34.9 +0.1
LLS Linth-Limmern 86.95 329⇑ iP P 07 47 34.8 -0.2
XRY Khrisi 86.97 311 eP P 07 47 34.1 -1.3
MUO Muotathal 87.01 329⇑ iP P 07 47 35.2 -0.1
MCH1 Michaelchurch 87.03 338⇑ eP P 07 47 35.2 0.0
VDL Val di Lei 87.04 328⇑ iP P 07 47 35.4 0.0
HTR Trewern Hill 87.05 338⇑ eP P 07 47 35.5 +0.2
HTR AMb AMB 07 47 38.2
comp=Z,589nm,1.5s,mb6.3
DCN Croghan 87.06 341 eP P 07 47 36.1 +0.8
DCN Croghan 87.06 341 eP P 07 47 33.9 -1.4
DCN eP 07 47 36.1
KEK Kerkira 87.06 318 eP P 07 47 35.4 -0.3
HINF Hinteralfeld 87.07 331 eP P 07 47 34.8 -0.7
comp=Z,442nm,1.7s,mb5.8
THEF They Montfort 87.08 331⇑ eP P 07 47 35.8 +0.2
SCHQ Schefferville 87.08 15 P P 07 47 36.1 +0.7
comp=Z,74nm,0.7s,mb5.7,baz=356,slow=5.3,SNR=126
SCHQ PKKPbc 08 05 25.9
comp=Z,4.9nm,0.8s,baz=93,slow=3.7,SNR=8.4
SCHQ LR LR 08 31 25.6
comp=Z,597nm,19.1s,baz=334,slow=39
SCHQ Schefferville 87.08 15 eP P 07 47 35.6 +0.2
comp=Z,144nm,0.9s,mb5.9
BBS Basel-Blauen 87.08 330⇑ eP P 07 47 35.6 0.0
BBS Basel-Blauen 87.08 330⇑ eP P 07 47 35.5 -0.1
BALST Balsthal 87.11 330⇑ iP P 07 47 35.3 -0.5
HAU Haudompre 87.12 331 eP P 07 47 35.1 -0.7
comp=Z,468nm,1.6s,mb5.9
HAU eR
comp=Z,2µm,21.5s
BNALP Bannalp 87.18 329⇑ eP P 07 47 35.7 -0.4
MEZF Maizieres J'vi 87.22 332 eP P 07 47 36.2 -0.1
comp=Z,1µm,1.8s,mb6.2
BOURR Bourrignon 87.25 330⇑ iP P 07 47 36.1 -0.3
HGH Gray Hill 87.29 338⇑ eP P 07 47 36.4 -0.1
HGH AMb AMB 07 47 38.3
comp=Z,420nm,1.1s,mb6.3
LKD Levkas 87.30 317 eP P 07 47 35.6 -1.2
VLI Veliai 87.38 314 eP P 07 47 35.5 -1.8
HASLI Hasliberg 87.38 329⇑ eP P 07 47 36.6 -0.5
FUSIO Fusio 87.41 329⇑ iP P 07 47 37.1 -0.1
LOMF Lomont 87.45 330⇑ eP P 07 47 37.1 -0.3
VAM Vamos 87.52 313 eP P 07 47 38.0 0.0
HSA Swansea 87.60 339⇑ eP P 07 47 37.9 -0.1
KYTH Kithira 87.62 314 eP P 07 47 37.5 -1.0
ITM Ithomi 87.64 315 eP P 07 47 37.9 -0.7
MUGIO Muggio 87.67 328⇑ iP P 07 47 37.3 -1.2
WIMIS Wimmis 87.68 329⇑ iP P 07 47 38.0 -0.5
CBKS Cedar Bluff 87.69 43 P P 07 47 39.2 +0.5
CBKS pmax pmax
comp=Z,170nm,1.1s,mb6.0
CBKS Cedar Bluff 87.69 43 eP P 07 47 38.1 -0.6
comp=Z,174nm,1.2s,mb6.0
CBKS epP pP 07 47 56.3 -1.7
VLS Valsamata 87.71 317 eP P 07 47 38.5 -0.4
TORNY Torny 87.86 330⇑ iP P 07 47 39.0 -0.4
LKBD Leukerbad 87.90 329⇑ iP P 07 47 39.2 -0.3
BRANT Les Verrieres 87.93 330⇑ iP P 07 47 39.5 -0.2
MMK Mattmark 88.02 329⇑ eP P 07 47 39.9 -0.3
SENIN Lac Senin 88.05 329⇑ iP P 07 47 40.0 -0.3
HEX Exmoor 88.09 338⇑ eP P 07 47 40.5 +0.1
AIGLE Aigle 88.21 330⇑ iP P 07 47 40.6 -0.5
GRYON Gryon 88.22 329⇑ eP P 07 47 40.3 -0.8
DIX Grande Dixence 88.23 329⇑ iP P 07 47 41.3 +0.1
GRAM 88.34 327 P P 07 47 41.5 -0.2
GIMEL Gimel 88.34 330⇑ eP P 07 47 41.0 -0.7
ORX Oropa 88.35 329 P P 07 47 40.5 -1.2
CABF La Chapelle 88.35 330 eP P 07 47 41.2 -0.5
SALAN Lac Salanfe 88.36 329⇑ iP P 07 47 41.5 -0.3
VALM 88.37 327 P P 07 47 41.9 0.0
AQU L'Aquila 88.42 323 eP P 07 47 42.1 -0.1
comp=Z,222nm,0.9s,mb6.2
SARO Sassorosso 88.43 326 P P 07 47 41.5 -0.6
VLC Villacollemand 88.45 326 eP P 07 47 41.6 -0.7
comp=Z,102nm,1.1s,mb5.8
CII Carovilli 88.45 323 eP P 07 47 42.4 +0.1
comp=Z,262nm,1.1s,mb6.2
EMV Vieux Emosson 88.46 329⇑ eP P 07 47 41.3 -0.9
CODM 88.51 327 P P 07 47 41.7 -0.8
VINC Vinca 88.57 326 P P 07 47 41.2 -1.7
MAIM 88.60 326 P P 07 47 41.6 -1.3
LOR Lormes 88.69 332 eP P 07 47 42.8 -0.5
comp=Z,711nm,1.7s,mb6.1
LOR eR
comp=Z,2µm,22.8s
LSD Ceresole Reale 88.84 329 P P 07 47 44.1 +0.1
LPL La Plagne 88.97 329 eP P 07 47 44.6 0.0
comp=Z,115nm,1.0s,mb5.6
PCP Pian Castagno 88.97 328 P P 07 47 43.4 -1.3
LPG La Plagne 88.97 329 eP P 07 47 44.6 -0.1
comp=Z,54nm,0.5s,mb5.5
SSF Saint Saulge 89.00 332 eP P 07 47 44.3 -0.4
FLN La Foliniere 89.02 335 eP P 07 47 44.3 -0.5
FLN eR
comp=Z,3µm,21.0s
RSP Reno Superiore 89.04 329 P P 07 47 44.3 -0.7
CSA1 St Austell 89.05 338⇑ eP P 07 47 45.4 +0.5
TIP Timpagrande 89.08 319 eP P 07 47 44.9 -0.4
VAL Valentia 89.10 342 eP P 07 47 44.1 -1.0
ATD Arta Tunnel 89.15 283 P P 07 47 47.3 +1.1
comp=Z,23nm,1.1s,mb5.1,baz=96,slow=5.3,SNR=4.6
HYF Humbligny 89.16 333 eP P 07 47 45.6 +0.1
KSU1 Kansas State U 89.17 41 eP P 07 47 45.4 -0.4

SMF **Signal de Mont** 89.21 332 *e*P P 07 47 45.3 -0.5
comp=Z,753nm,1.7s,mb6.1
FENE **Fenestrelle** 89.22 329 P P 07 47 45.3 -0.5
MNTX **Cornudas Mount** 89.24 51 *e*P P 07 47 46.3 0.0
comp=Z,32nm,1.0s,mb5.3
AVF **Avril sur Loir** 89.28 332 *e*P P 07 47 45.7 -0.4
comp=Z,386nm,1.1s,mb6.1
BHB **Bricherasio** 89.29 329 P P 07 47 43.8 -2.3
CPRX **Cap Rock** 89.29 49 *e*P P 07 47 46.4 0.0
CRQ2 **Rosemanowes 2** 89.30 338⇑ *e*P P 07 47 46.5 +0.5
CCA1 **Carnmenellis** 89.30 339⇑ *e*P P 07 47 46.6 +0.5
CMA1 **Manaccan** 89.36 338⇑ *e*P P 07 47 46.9 +0.6
BNI **Bardonecchia** 89.36 329 P P 07 47 46.6 +0.1
BNI pmax pmax
comp=Z,55nm,1.1s,mb5.5
BNI **Bardonecchia** 89.36 329 *e*P P 07 47 46.3 -0.2
comp=Z,55nm,1.1s,mb5.5
CGW **Gweek** 89.37 338⇑ *e*P P 07 47 46.9 +0.5
FIN **Finale Ligure** 89.38 328 P P 07 47 45.1 -1.5
CGH1 **Goonhilly** 89.40 338⇑ *e*P P 07 47 47.1 +0.6
CPZ **Penzance** 89.43 339⇑ *e*P P 07 47 47.3 +0.6
CPZ AMb AMB 07 47 48.5
comp=Z,254nm,1.3s,mb6.1
ROB **Roburent** 89.46 328 P P 07 47 45.6 -1.4
GRR **Gorron** 89.47 335 *e*P P 07 47 46.6 -0.3
comp=Z,214nm,0.9s,mb5.9
GDM **Grand'Maison** 89.48 329 *e*P P 07 47 47.4 +0.4
GDM **Grand'Maison** 89.48 329⇑ *e*P P 07 47 47.4 +0.4
GDL2 **Guadalupe Moun** 89.54 50 *e*P P 07 47 47.9 +0.2
MBDF **Montbardon** 89.59 329 *e*P P 07 47 46.8 -0.8
comp=Z,98nm,1.0s,mb5.6
GRN **Grenoble** 89.60 330⇑ *e*P P 07 47 48.2 +0.6
BGF **Bois d'Agland** 89.67 332 *e*P P 07 47 47.5 -0.4
comp=Z,280nm,1.4s,mb5.9
ENR **Entracque** 89.71 328 P P 07 47 45.6 -2.5
STV2 **Anna di Valdie** 89.74 328 P P 07 47 45.9 -2.4
STV **Sta Anna Valdi** 89.74 328 P P 07 47 45.7 -2.6
IMI **Imperia** 89.76 328 P P 07 47 46.4 -2.0
CLNB **Carlsbad** 89.80 50 *e*P P 07 47 49.6 +0.7
CLNB *ep*P pP 07 48 06.8 -1.5
ORIF **Oris-en-Rattie** 89.81 329 *e*P P 07 47 48.1 -0.5
comp=Z,299nm,1.6s,mb5.9
ORIF *e*R
comp=Z,2μm,18.8s
SAOF **Saorge** 89.84 328⇑ *e*P P 07 47 48.2 -0.6
PLDF **La Plantade** 89.86 331⇑ *e*P P 07 47 50.4 +1.6
NEGI **Negi** 89.89 328 P P 07 47 46.2 -2.8
AUTN **L'Aution** 89.89 328⇑ *e*P P 07 47 48.6 -0.4
TOUF **Mont Tournerai** 89.95 328⇑ *e*P P 07 47 48.9 -0.4
AGO **Saint Agoulin** 89.98 332⇑ *e*P P 07 47 50.8 +1.4
SBF **Sospel** 90.00 328 *e*P P 07 47 48.4 -1.1
comp=Z,827nm,1.4s,mb6.4
MVIF **Mont Vial** 90.09 328 *e*P P 07 47 49.2 -0.8
REVF **Revere** 90.12 328 *e*P P 07 47 49.5 -0.6
TCF **Toulx Ste Croi** 90.14 332 *e*P P 07 47 49.9 -0.2
comp=Z,529nm,1.6s,mb6.1
SGMF **Saint Gilles** 90.15 336 *e*P P 07 47 50.0 -0.1
comp=Z,639nm,1.3s,mb6.3
COLF **Collangettes** 90.28 331⇑ *e*P P 07 47 51.0 +0.6
PYM **Petit Puy Mans** 90.28 331⇑ *e*P P 07 47 52.4 +1.6
ROSF **Rostrenen** 90.32 337 *e*P P 07 47 50.8 -0.1
comp=Z,621nm,1.1s,mb6.3
CALN **Calern** 90.32 328 *e*P P 07 47 50.6 -0.4
PGF **Pioggiola** 90.34 326 *e*P P 07 47 50.4 -0.8
comp=Z,364nm,1.5s,mb6.0
VIVF **Saint-Julien-l** 90.35 330 *e*P P 07 47 50.7 -0.5
comp=Z,536nm,1.6s,mb6.1
VERF **Verneugheol** 90.48 332 *e*P P 07 47 51.9 +0.1
STOF **St-Etienne Org** 90.54 329 *e*P P 07 47 52.6 +0.5
FRF **La Foret Royal** 90.58 328 *e*P P 07 47 51.3 -1.0
comp=Z,378nm,1.3s,mb6.1
LBL **Lubilhac** 90.62 331⇑ *e*P P 07 47 54.1 +1.7
QUIF **Quistinic** 90.65 336 *e*P P 07 47 52.2 -0.3
comp=Z,239nm,1.1s,mb6.0
SMRF **Simiane la Rot** 90.70 329 *e*P P 07 47 52.5 -0.3
comp=Z,364nm,1.5s,mb6.0
VILF **Villemus** 90.74 329 *e*P P 07 47 53.4 +0.4
MFF **Saint Martin d** 90.74 334 *e*P P 07 47 52.8 -0.2
comp=Z,545nm,1.1s,mb6.3
FRNF **Fournols** 90.75 332⇑ *e*P P 07 47 53.6 +0.6
TAVF **Tavernes** 90.78 328 *e*P P 07 47 53.6 +0.4
LMR **La Mourre** 90.82 328 *e*P P 07 47 52.6 -0.8
comp=Z,631nm,1.3s,mb6.3
LCHF **La Chataignera** 90.90 334 *e*P P 07 47 55.0 +1.3
PUYF **Puyloubier** 91.01 329⇑ *e*P P 07 47 54.4 +0.1
PRAF **Pradon** 91.01 329⇑ *e*P P 07 47 54.8 +0.5
BERF **Bertagne** 91.19 329 *e*P P 07 47 55.3 +0.2
RJF **Les Rejaudoux** 91.23 332 *e*P P 07 47 55.3 +0.1
comp=Z,528nm,1.2s,mb6.2
RJF *e*R
comp=Z,1μm,20.0s
GELF **Grande-Etoile** 91.24 329 *e*P P 07 47 55.7 +0.3
LRYF **La Roche-sur-Y** 91.26 335 *e*P P 07 47 56.1 +0.7
LASF **Ste Croix** 91.33 330 *e*P P 07 47 55.6 -0.1
comp=Z,557nm,1.4s,mb6.2
CAF **Calviac** 91.33 332 *e*P P 07 47 55.9 +0.1
comp=Z,515nm,1.3s,mb6.2
LFF **La Frestale** 91.83 332 *e*P P 07 47 58.1 +0.1
comp=Z,452nm,1.0s,mb6.3
LTX **Lajitas** 91.92 52 P P 07 47 59.7 +0.9
LTX pmax pmax
comp=Z,150nm,1.1s,mb6.1
LTX **Lajitas** 91.92 52 *e*P P 07 47 59.3 +0.5
comp=Z,149nm,1.1s,mb6.1
LTX *ep*P pP 07 48 16.6 -1.7
TXAR **Lajitas Array** 91.92 52 P P 07 47 59.6 +0.7
comp=Z,48nm,1.0s,mb5.7,baz=293,slow=3.3,SNR=278
TXAR pP pP 07 48 18.2 -0.1
comp=Z,66nm,0.9s,baz=286,slow=3.6,SNR=20
TXAR PKKPbc 08 05 17.7
comp=Z,0.4nm,0.5s,baz=155,slow=5.2,SNR=11
TXAR PKPPKP 08 13 19.5
comp=Z,0.6nm,1.0s,baz=135,slow=5.1,SNR=4.6
TXAR P4KPbc 08 23 46.5
comp=Z,0.3nm,0.9s,baz=146,slow=3.3,SNR=3.4
TXAR **Lajitas Array** 91.92 52 P P 07 47 59.6 +0.7
TXAR pP pP 07 48 18.2 -0.1
TXAR PKKPbc 08 05 17.7
TXAR P'P' 08 13 19.5
MTLF **Montolieu** 92.60 331 *e*P P 07 48 01.5 -0.1
comp=Z,414nm,1.3s,mb6.3
CCM **Cathedral Cave** 92.73 38 P P 07 48 01.8 -0.5
CCM pmax pmax
comp=Z,91nm,1.1s,mb6.0
CCM **Cathedral Cave** 92.73 38 *e*P P 07 48 01.9 -0.5
comp=Z,91nm,1.1s,mb6.0
SLM **Saint Louis** 92.78 37 P P 07 48 02.7 +0.1
SLM *e* pP 07 48 23.9 +1.9
SLM pmax pmax
comp=Z,110nm,1.1s,mb6.1
SLM **Saint Louis** 92.78 37 *e*P P 07 48 02.4 -0.1
comp=Z,111nm,1.1s,mb6.1
LRDF **Laroque-de-Fa** 92.81 330 *e*P P 07 48 02.8 +0.2
SJAF **Saint Jean de** 93.04 330 *e*P P 07 48 03.3 -0.4
LPEF **Le Peyrat** 93.05 331 *e*P P 07 48 04.2 +0.5
EJON **La Jonquera** 93.07 330 P P 07 48 03.4 -0.4
comp=Z,208nm,1.4s,mb6.3
FILF **Fillols** 93.11 330 *e*P P 07 48 04.4 +0.4
FVM **French Village** 93.19 38⇑ *i*P P 07 48 04.2 -0.3
FVM *e**PP pP 07 48 21.3 -2.6
FVM pmax pmax
comp=Z,60nm,1.0s,mb5.9
FVM **French Village** 93.19 38⇑ *i*P P 07 48 04.2 -0.2
comp=Z,60nm,1.0s,mb5.9
FVM *ep*P pP 07 48 21.3 -2.6
MLS **Moulis** 93.37 331 *e*P P 07 48 05.4 +0.3
VALF **Valcebollere** 93.47 330 *e*P P 07 48 06.6 +1.0
SALF **Salau** 93.50 331 *e*P P 07 48 05.7 0.0
MELF **Melles** 93.57 331 *e*P P 07 48 06.0 0.0
EPF **Esparros** 93.60 332 *e*P P 07 48 05.8 -0.4
comp=Z,115nm,1.1s,mb5.8
LABF **Labassere** 93.69 332⇑ *e*P P 07 48 06.7 +0.1
RESF **Ens** 93.79 332 *e*P P 07 48 08.5 +1.5
MSNY **Massena** 93.84 24 *e*P P 07 48 07.4 +0.2
VIEF **Viey** 93.85 332 *e*P P 07 48 08.5 +1.2
REYF **Montagne du Re** 93.85 332 *e*P P 07 48 07.4 +0.1
SIUC **Southern Illin** 94.00 37 PKPdf P 07 48 08.2 +0.1
FURI **Furi** 94.01 284 P P 07 48 11.0 +2.4
FURI pP pP 07 48 30.6 +2.5
ETSF **Etsaut** 94.06 332 *e*P P 07 48 08.8 +0.6
comp=Z,112nm,1.1s,mb5.8
EMIR **Miracle** 94.07 330 P P 07 48 08.8 +0.5
comp=Z,80nm,2.0s,mb5.7
SJPF **Ste Jean** 94.13 333 *e*P P 07 48 08.8 +0.3
comp=Z,69nm,1.1s,mb5.6
BLO **Bloomington** 94.13 34 P P 07 48 09.0 +0.3
BLO pmax pmax
comp=Z,53nm,1.0s,mb5.8
BLO **Bloomington** 94.13 34 *e*P P 07 48 08.6 -0.1
comp=Z,53nm,1.0s,mb5.8
EALK **Alkurruntz** 94.14 333 P P 07 48 08.6 0.0
comp=Z,159nm,1.6s,mb6.1
ELIZ **Elizondo** 94.20 333 P P 07 48 09.1 +0.3
comp=Z,0.5nm,0.7s
EGRA **Graus** 94.32 331 P P 07 48 10.9 +1.5
comp=Z,102nm,0.9s,mb6.2
PQI **Presque Isle** 94.37 19 *e*P P 07 48 09.1 -0.5
comp=Z,635nm,1.5s,mb6.7
UALR **University of** 94.67 41 *e*P P 07 48 11.2 0.0
comp=Z,60nm,1.5s,mb5.8
EPOB **Poblet** 94.73 330 P P 07 48 10.8 -0.5
comp=Z,208nm,1.6s,mb6.3
ALLY **Alegheny Colle** 94.82 29 *e*P P 07 48 12.4 +0.7
ELAN **Lanestosa** 94.83 334 P P 07 48 11.6 -0.1
comp=Z,348nm,2.4s,mb6.4
NCB **Newcomb** 94.96 24 *e*P P 07 48 12.4 0.0
comp=Z,56nm,1.4s,mb5.8
GNAR **Gosnell** 94.97 39 *e*P P 07 48 12.8 +0.2
WCI **Wyandotte Cave** 94.99 35 P P 07 48 12.7 0.0
WCI pmax pmax
comp=Z,62nm,0.8s,mb6.1
WCI **Wyandotte Cave** 94.99 35 *e*P P 07 48 12.8 +0.1
comp=Z,62nm,0.8s,mb6.1
ESAC **San Caprasio** 95.03 331 P P 07 48 13.6 +0.9
comp=Z,613nm,2.0s,mb6.7
ECRI **Cripan** 95.04 333 P P 07 48 13.7 +1.0
comp=Z,42nm,0.9s,mb5.9
MIV **Mineville/With** 95.10 24 *e*P P 07 48 13.3 +0.3
GLAT **Glass** 95.10 38 *e*P P 07 48 14.0 +0.8
UTMT **University of** 95.25 38 *e*P P 07 48 14.6 +0.7
comp=Z,82nm,0.9s,mb6.2
ETOS **Mallorca** 95.33 328 P P 07 48 14.5 +0.4
comp=Z,174nm,1.5s,mb6.3
EARI **Arriondas** 95.39 335 P P 07 48 15.0 +0.7
comp=Z,234nm,1.6s,mb6.4
EBR **Ebro Roquetas** 95.41 330 *e*P P 07 48 14.5 0.0
NATX **Nacogdoches** 95.65 44 *e*P P 07 48 16.4 +0.6
comp=Z,72nm,1.4s,mb5.9
ACCN **Adirondack Com** 95.67 24 *e*P P 07 48 16.2 +0.7
CMAH **Djebel Manchou** 95.78 323 P P 07 48 16.0 -0.2
WVL **Waterville** 95.85 21 *e*P P 07 48 17.4 +1.0
comp=Z,166nm,1.3s,mb6.3
CAEH **'Ain El Ouahch** 95.93 324 P P 07 48 17.5 +0.6
WVT **Waverly** 95.93 37 P P 07 48 16.9 0.0
WVT pmax pmax
comp=Z,31nm,1.1s,mb5.7
WVT **Waverly** 95.93 37 *e*P P 07 48 17.0 +0.1
comp=Z,31nm,1.1s,mb5.7
EPON **Pontenova** 96.01 337 P P 07 48 16.7 -0.4
comp=Z,56nm,0.7s,mb6.1
ABSA **Djebel Ababsia** 96.03 323 P P 07 48 17.5 +0.1
EMOS **Mosqueruela** 96.19 331 P P 07 48 18.9 +1.0
comp=Z,217nm,1.9s,mb6.3
FFD **Franklin Falls** 96.24 23 *e*P P 07 48 19.5 +1.4
comp=Z,128nm,1.7s,mb6.1
FFD *ep*P pP 07 48 38.9 +1.3
EMMW **East Machias** 96.33 19 *e*P P 07 48 19.2 +0.7
comp=Z,418nm,1.5s,mb6.7
OXF **Oxford** 96.41 39 P P 07 48 19.5 +0.4
OXF pmax pmax
comp=Z,88nm,1.3s,mb6.0
OXF **Oxford** 96.41 39 *e*P P 07 48 18.9 -0.2
comp=Z,88nm,1.3s,mb6.0
CASM **Ain Smara** 96.52 324 P P 07 48 20.0 +0.4
EIBI **Ibiza** 96.57 329 P P 07 48 20.3 +0.5
comp=Z,100nm,1.8s,mb5.9
DFRA **Djebel Bou Aff** 96.58 324 P P 07 48 20.0 +0.1
MCWV **Mont Chateau** 96.63 30 *e*P P 07 48 20.8 +0.8
comp=Z,53nm,1.1s,mb5.9
CTEI **Djebel Teioual** 96.72 324 P P 07 48 20.0 -0.5
PLAL **Pickwick Lake** 96.72 38 *e*P P 07 48 19.7 -0.8
comp=Z,39nm,1.6s,mb5.6
ERUA **La Rua** 96.85 336 P P 07 48 21.8 +0.9
comp=Z,30nm,0.8s,mb5.8
STS **Santiago** 96.86 337 P P 07 48 21.3 +0.3
comp=Z,34nm,1.0s,mb5.7
EMAZ **Mazaricos** 96.93 338 P P 07 48 21.5 +0.2
comp=Z,178nm,1.4s,mb6.3
ECHE **Chera** 97.05 331 P P 07 48 22.7 +0.7
comp=Z,63nm,2.0s,mb5.7
SET **Setif** 97.09 325 P P 07 48 23.0 +0.8
ECAL **Calabor** 97.11 336 P P 07 48 22.8 +0.6
comp=Z,134nm,1.5s,mb6.2
CKHR **Kel Ahmar** 97.18 324 P P 07 48 23.0 +0.3
PBRG **Braganca** 97.24 336 *e*P P 07 48 22.8 0.0
PBRG **Braganca** 97.24 336 *e*PP PP 07 52 22.1 -0.4
EBEN **Beniarda** 97.50 330 P P 07 48 24.1 0.0
comp=Z,245nm,3.2s
EZAM **Zamans** 97.57 337 P P 07 48 24.3 +0.1
comp=Z,32nm,1.0s,mb5.8
SWET **Sewanee** 97.59 36 *e*P P 07 48 24.0 -0.6
ELOB **Lobios** 97.62 337 P P 07 48 24.2 -0.2
comp=Z,194nm,2.0s,mb6.3
TZTN **Tazewell** 97.63 34 *e*P P 07 48 24.8 +0.1
FWV **Forest Hill** 97.98 32 *e*P P 07 48 25.9 -0.3
PVRL **Vila Real** 98.04 336 *e*P P 07 48 26.6 +0.2
PVRL **Vila Real** 98.04 336 *e*PP PP 07 52 27.8 -1.0
ETOB **Tobarra** 98.09 331 P P 07 48 26.5 -0.1
comp=Z,133nm,2.3s,mb6.1
ESDC **Sonseca Array** 98.13 333 P P 07 48 26.6 -0.3
comp=Z,4.9nm,0.9s,mb5.0,baz=21,slow=3.8,SNR=25
ESDC PP PP 07 52 26.2 -3.4
comp=Z,16nm,1.0s,baz=26,slow=7.5,SNR=9.1
ESDC PKKP PKKP 08 04 59.4 +8.4
comp=Z,0.2nm,0.4s,baz=180,slow=2.6,SNR=4.7
ESDC **Sonseca Array** 98.13 333 P P 07 48 26.5 -0.4
comp=Z,31nm,1.8s,mb5.5
ESLA **Sonseca Array** 98.13 333 *e*P P 07 48 26.2 -0.6
comp=Z,2.2nm,1.0s
ELN **Prospectdale** 98.30 32 *e*P P 07 48 27.7 0.0
BLA **Blacksburg** 98.46 32 P P 07 48 28.9 +0.5
BLA pmax pmax
comp=Z,23nm,0.9s,mb5.7
BLA **Blacksburg** 98.46 32 *e*P P 07 48 28.0 -0.4
comp=Z,23nm,0.8s,mb5.8
EVIA **Vinos** 98.47 331 P P 07 48 29.2 +0.8
comp=Z,35nm,0.9s,mb5.9
MYNC **Murphy** 98.57 35 *e*P P 07 48 29.5 +0.6
MYNC pmax pmax
comp=Z,26nm,1.2s,mb5.6
MYNC **Murphy** 98.57 35 *e*P P 07 48 28.6 -0.3
comp=Z,26nm,1.2s,mb5.6
PVIS **Viseu** 98.60 336 *e*P P 07 48 29.1 +0.2
PVIS **Viseu** 98.60 336 *e*PP PP 07 52 32.4 -0.4
EMUR **La Murta** 98.65 330 P P 07 48 28.9 -0.3
comp=Z,123nm,2.9s,mb5.9
MTE **Manteigas** 98.76 336 *e*P P 07 48 29.6 -0.1
MTE **Manteigas** 98.76 336 *e*PP PP 07 52 32.2 -1.7
MTE *e*SKS SKS 07 59 22.7 +22
MTE **Manteigas** 98.76 336 *e*LQ 08 13 29.9
MTE *e*LR LR 08 23 11.4
comp=Z,1μm,21.9s
RKT **Rikitea** 99.22 112 *e*S SP 08 01 11.8 -14
comp=Z,920nm,39.2s
RKT *e*SS SS 08 06 47.5 -0.7
comp=Z,850nm,33.5s
RKT *e*LQ 08 15 56.6
comp=Z,921nm,42.2s
RKT *e*LR LR 08 19 44.5
comp=Z,7μm,27.8s,baz=308
PCBR **Castelo Branco** 99.24 335 *e*P P 07 48 31.9 0.0
PCBR **Castelo Branco** 99.24 335 *e*PP PP 07 52 37.2 -0.3
EBAN **Banos Encina** 99.38 332 P P 07 48 32.9 +0.4
comp=Z,41nm,1.3s,mb5.8
EQES **Quesada** 99.42 331 P P 07 48 32.5 -0.3
comp=Z,69nm,1.4s,mb6.0
EADA **Adamuz** 99.68 332 P P 07 48 33.9 0.0
comp=Z,114nm,1.8s,mb6.2
PTOM **Tomar** 99.76 336 *e*PP PP 07 52 40.9 -0.8
ENIJ **Nijar** 99.79 330 P P 07 48 33.8 -0.7
comp=Z,5.3nm,1.2s,mb5.0
EBAD **Badajoz** 100.05 334 P P 07 48 35.5 -0.1
comp=Z,62nm,1.7s
ECAB **El Cabril** 100.08 333 P P 07 48 35.1 -0.6
comp=Z,101nm,2.0s
ELUQ **Luque** 100.09 332 P P 07 48 36.2 +0.4
comp=Z,109nm,1.8s
JSC **Jenkinsville** 100.55 34 P P 07 48 38.4 +0.5
JSC **Jenkinsville** 100.55 34 *e*P P 07 48 38.0 0.0
EVO **Evora** 100.60 335 *e*P P 07 48 37.0 -1.1
comp=Z,30nm,0.9s
EVO *e*R
comp=Z,2μm,21.8s
EMIN **Mina Concepcio** 100.81 334 P P 07 48 38.5 -0.5
comp=Z,102nm,1.8s
PBEJ **Beja** 101.00 335 *e*P P 07 48 40.4 +0.5
PBEJ **Beja** 101.00 335 *e*PP PP 07 52 50.1 -1.6
EALB **Alboran** 101.02 330 P P 07 48 40.6 +0.6
comp=Z,421nm,1.8s
KMBO **Kilima Mbogo** 101.06 277 *i* P P 07 48 40.7 0.0
KMBO pmax pmax
comp=Z,5.0nm,1.1s
KMBO **Kilima Mbogo** 101.06 277 P P 07 48 40.6 -0.1
comp=Z,5.1nm,1.1s,baz=39,slow=4.6,SNR=6.8
KMBO pP 07 49 00.2
comp=Z,5.7nm,0.9s,baz=27,slow=6.8,SNR=6.7
KMBO PP PP 07 52 48.2 -4.4
comp=Z,6.5nm,1.1s,baz=48,slow=9.0,SNR=5.9
KMBO **Kilima Mbogo** 101.06 277 P P 07 48 40.6 -0.1
KMBO pP 07 49 00.2
KMBO PP PP 07 52 48.2 -4.4
ESPR **Espera** 101.30 333 P P 07 48 40.6 -0.6
comp=Z,104nm,1.9s
EGRO **El Granado** 101.31 334 P P 07 48 40.8 -0.5
comp=Z,73nm,2.8s
DRV **Dumont d'Urvil** 101.87 180 SP SP 08 01 58.0 +5.8
CASY **Casey** 104.00 192 *e*P 07 53 07.8
VNDA **Vanda** 113.57 175 PKiKP 07 53 27.3
comp=Z,8.3nm,0.9s,baz=303,slow=4.3,SNR=25
VNDA PP PP 07 54 16.8 -7.1
comp=Z,5.7nm,0.9s,baz=317,slow=11,SNR=3.1
VNDA PKKPbc 08 04 11.5
comp=Z,3.5nm,1.1s,baz=176,slow=1.5,SNR=6.3
VNDA PKKP PKKP 08 04 33.5 +12
comp=Z,2.6nm,0.9s,baz=141,slow=6.5,SNR=4.8
VNDA **Vanda** 113.57 175 *e*P PKPdf 07 53 27.0 +0.9
SBA **Scott Base** 114.27 174 *e*P PKPdf 07 53 29.6 +2.2
LSZ **Lusaka** 116.39 270 *e*P PKPdf 07 53 34.7 +1.8
MAW **Mawson** 117.71 205 *e*PKP PKPdf 07 53 35.8 +1.6
comp=Z,12nm,0.9s
MAW *ep*PKP 07 53 57.1
MAW *e*PP PP 07 54 48.7 -4.2
MAW **Mawson** 117.71 205 PKP PKPdf 07 53 35.9 +1.7
comp=Z,13nm,0.9s,baz=4.7,slow=1.1,SNR=23
MAW pPKP 07 53 56.6
comp=Z,9.7nm,0.8s,baz=12,slow=3.9,SNR=8.2
MAW PP PP 07 54 49.3 -3.6
comp=Z,26nm,1.0s,baz=61,slow=9.7,SNR=10
MAW PKKPab 08 03 57.2
comp=Z,5.6nm,0.8s,baz=262,slow=8.1,SNR=10
MAW PKKP PKKP 08 04 22.8 +8.7
comp=Z,4.0nm,0.9s,baz=270,slow=7.1,SNR=4.5
MATP **Matopo** 118.79 265 PKKPab 08 03 57.8
comp=Z,4.5nm,0.7s,baz=257,slow=3.0,SNR=10
MATP PKKP PKKP 08 04 17.6 +4.4
comp=Z,5.4nm,0.9s,baz=202,slow=5.7,SNR=5.2
LBTB **Lobatse** 123.33 261 *e*P PKPdf 07 53 47.3 +1.2
BOSA **Boshof** 125.19 258 PKPdf PKPdf 07 53 51.0 +1.4
BOSA pPKPdf 07 54 12.4
BOSA **Boshof** 125.19 258 PKIKP PKPdf 07 53 45.5 -4.2
BOSA 07 54 12.5
BOSA pmax pmax
comp=Z,8.0nm,1.0s
BOSA **Boshof** 125.19 258 PKhKP 07 53 45.5
comp=Z,8.4nm,1.0s,baz=92,slow=4.7,SNR=3.1
BOSA PKP PKPdf 07 53 51.3 +1.7
comp=Z,20nm,0.8s,baz=49,slow=1.8,SNR=18
BOSA pPKP 07 54 12.5
comp=Z,21nm,0.8s,baz=68,slow=0.6,SNR=8.9
BOSA **Boshof** 125.19 258 PKP PKPdf 07 53 45.5 -4.2
BOSA *e*P 07 53 51.1
QSPA **South Pole Qui** 125.27 180 PKPdf PKPdf 07 53 48.8 +1.3
QSPA **South Pole Qui** 125.27 180 *e*P PKPdf 07 53 49.7 +1.2
SYO **Syowa Base** 126.37 206 ||PKPdf PKPdf 07 53 50.0 -0.8
DBIC **Dimbokro** 126.59 315 PKP PKPdf 07 53 53.3 +0.6
comp=Z,34nm,0.8s,baz=16,slow=1.9,SNR=41
DBIC pPKP 07 54 13.3
comp=Z,12nm,0.6s,baz=34,slow=2.7,SNR=7.5
DBIC PP PP 07 55 44.2 -10
comp=Z,8.8nm,0.8s,baz=2.7,slow=13,SNR=2.4
DBIC **Dimbokro** 126.59 315 PKP PKPdf 07 53 53.3 +0.6
DBIC pPKP 07 54 13.3
DBIC PP PP 07 55 44.2 -10
TSUM **Tsumeb** 127.07 272 *e*P PKPdf 07 53 55.3 +1.8
SDV **Santo Domingo** 127.19 39 PKPdf PKPdf 07 53 54.7 +0.8
SDV **Santo Domingo** 127.19 39 *e*P PKPdf 07 53 54.7 +0.9
ROSC **El Rosal** 128.48 46 PKP PKPdf 07 53 58.9 +2.5
comp=Z,74nm,1.1s,baz=91,slow=2.6,SNR=45
NVL **N'lazarevskaya** 135.48 202 ||*i*PKIKP PKPdf 07 54 08.1 +0.1
NVL pmax pmax
comp=Z,6.0nm,1.0s
SNAA **Sanae** 138.99 197 *e* PKPdf 07 54 08.1 -6.3
SNAA **Sanae** 138.99 197 *e* PKPdf 07 54 15.6 +1.2
SNAA **Sanae** 138.99 197 *e* PKPdf 07 54 25.4 +11
SNAA **Sanae** 138.99 197 *e* PKPdf 07 54 29.1 +15
SNAA **Sanae** 138.99 197 *e* PKPdf 07 54 36.1 +22
SNAA **Sanae** 138.99 197 *e* PKPdf 07 54 39.6 +25
SNAA **Sanae** 138.99 197 *e* PP 07 57 05.1 -6.1
SNAA **Sanae** 138.99 197 PKhKP 07 54 04.9
baz=95,slow=4.2
SNAA PKP PKPdf 07 54 15.5 +1.1
comp=Z,12nm,1.0s,baz=178,slow=2.2
SNAA PP PP 07 57 04.7 -6.5
comp=Z,9.9nm,0.9s,baz=123,slow=6.9,SNR=5.2
SNAA **Sanae** 138.99 197⇑ *i*PKPdf PKPdf 07 54 04.6 -10
SNAA *e* 07 54 08.1
SNAA PKP PKPdf 07 54 15.5 +1.1
SNAA *e* 07 54 25.4
SNAA *e* 07 54 29.1
SNAA *e* 07 54 36.1
SNAA *e* 07 54 39.6
SNAA PP PP 07 57 04.7 -6.5
SNAA *e* 07 57 05.1
SNAA *e* 08 03 45.0
NNA **Nana** 139.27 64 *e*P PKPdf 07 54 09.1 -7.3
VNA2 **Neumayer--Watz** 140.57 196⇑ *i*P PKPdf 07 54 10.9 -6.3
VNA2 **Neumayer--Watz** 140.57 196 *e* PKPdf 07 54 14.7 -2.5
VNA2 **Neumayer--Watz** 140.57 196 *e* PKPdf 07 54 19.3 +2.1
VNA2 **Neumayer--Watz** 140.57 196 *e* PKPdf 07 54 27.1 +10
VNA2 **Neumayer--Watz** 140.57 196 *e* PKPdf 07 54 30.7 +14
VNA2 **Neumayer--Watz** 140.57 196 *e* PKPdf 07 54 38.8 +22
VNA2 **Neumayer--Watz** 140.57 196 *e* PP 07 57 16.6 -3.9
VNA3 **Neumayer Olymp** 140.83 195⇑ *i*P PKPdf 07 54 11.3 -6.3
VNA3 **Neumayer Olymp** 140.83 195 *e* PKPdf 07 54 15.7 -1.9
VNA3 **Neumayer Olymp** 140.83 195 *e* PKPdf 07 54 21.5 +3.9
VNA3 **Neumayer Olymp** 140.83 195 *e* PKPdf 07 54 28.7 +11
VNA3 **Neumayer Olymp** 140.83 195 *e* PKPdf 07 54 32.7 +15
VNA3 **Neumayer Olymp** 140.83 195 *e* PKPdf 07 54 41.3 +24
VNA3 **Neumayer Olymp** 140.83 195 *e* PP 07 57 16.8 -5.2
VNA1 **Neumayer--Stat** 140.97 196 *e* PKPdf 07 54 16.7 -1.2
VNA1 **Neumayer--Stat** 140.97 196 *e* PKPdf 07 54 23.1 +5.2
VNA1 **Neumayer--Stat** 140.97 196 *e* PKPdf 07 54 31.2 +13
VNA1 **Neumayer--Stat** 140.97 196 *e* PKPdf 07 54 34.8 +17
VNA1 **Neumayer--Stat** 140.97 196 *e* PKPdf 07 54 42.4 +25
VNA1 **Neumayer--Stat** 140.97 196 *e* PP 07 57 17.7 -5.2
VNA1 **Neumayer--Stat** 140.97 196⇑ *i*PKPdf PKPdf 07 54 12.5 -5.4
VNA1 *e* 07 54 16.7
VNA1 *e* 07 54 23.1
VNA1 *e* 07 54 31.2
VNA1 *e* 07 54 34.8
VNA1 *e* 07 54 42.4
VNA1 *e* 07 57 17.7
VNA1 *e* 08 03 48.3
SAML **Samuel** 146.10 44 PKPdf PKPdf 07 54 29.6 +1.2
SAML **Samuel** 146.10 44 *e*P PKPdf 07 54 29.7 +1.3
SAML *ep*P 07 54 47.8
ARE **Arequipa** 146.10 64 *e*P PKPdf 07 54 31.0 +2.7
ARE *e* 07 54 50.0
LPAZ **La Paz** 148.41 60 PKIKP PKPdf 07 54 35.0 +2.9
LPAZ 07 54 38.1
LPAZ pmax pmax
comp=Z,74nm,0.8s
LPAZ pmax pmax
comp=Z,74nm,0.8s
LPAZ **La Paz** 148.41 60 PKP PKPdf 07 54 35.0 +2.9
comp=Z,74nm,0.8s,baz=356,slow=3.6,SNR=97
LPAZ PKPbc PKPdf 07 54 38.1 +6.0
comp=Z,74nm,0.8s,baz=3.4,slow=7.3,SNR=101
LPAZ **La Paz** 148.41 60 *e*P PKPdf 07 54 34.7 +2.7
RCBR **Riachuelo** 150.21 352 PKPdf PKPdf 07 54 36.9 +1.9
RCBR *e*PKPbc PKPdf 07 54 41.2 +6.1
LVC **Limon Verde** 151.73 71 *e*PKPdf PKPdf 07 54 39.2 +2.1
LVC *e*PKPbc PKPdf 07 54 46.5 +9.4

USHA	**Ushuaia**	**152.46**	**143**	PKPbc	PKPdf	07 54 46.8	+10	
	comp=Z,46nm,0.9s,baz=202,slow=2.5,SNR=5.1							
PLCA	**Paso Flores**	**155.45**	**111**	PKPdf	PKPdf	07 54 43.3	+1.7	
PLCA				sPKPdf		07 55 10.9		
PLCA	**Paso Flores**	**155.45**	**111**	PKIKP	PKPdf	07 54 43.4	+1.7	
PLCA						07 55 11.4		
PLCA				pmax	pmax			
	comp=Z,16nm,1.1s							
PLCA				pmax	pmax			
	comp=Z,27nm,0.9s							
PLCA	**Paso Flores**	**155.45**	**111**	PKP	PKPdf	07 54 43.4	+1.7	
	comp=Z,16nm,1.1s,baz=214,slow=3.0,SNR=14							
PLCA				PKPab	PKPab	07 55 11.4	+1.4	
	comp=Z,27nm,0.9s,baz=238,slow=4.5,SNR=10.0							
PLCA	**Paso Flores**	**155.45**	**111**	*e*PKPdf	PKPdf	07 54 43.3	+1.6	
BDFB	**Brasilia**	**158.92**	**22**	PKIKP	PKPdf	07 54 48.6	+1.8	
BDFB						07 59 02.2		
BDFB	**Brasilia**	**158.92**	**22**	PKP	PKPdf	07 54 48.6	+1.9	
	comp=Z,24nm,1.2s,baz=23,slow=3.5,SNR=15							
BDFB				PKPab	PKPab	07 55 25.9	+0.3	
	comp=Z,23nm,0.8s,baz=344,slow=5.7,SNR=11							
BDFB				PP	PP	07 59 02.2	-5.1	
	comp=Z,12nm,0.9s,baz=354,slow=8.9,SNR=3.7							
BAO	**Brasilia Array**	**158.92**	**22**	PKPdf	PKPdf	07 54 50.0	+3.2	
CPUP	**Villa Florida**	**162.53**	**63**	PKPdf	PKPdf	07 54 52.4	+2.2	
CPUP	**Villa Florida**	**162.53**	**63**	PKIKP	PKPdf	07 54 52.3	+2.1	
CPUP						07 55 40.2		
CPUP				pmax	pmax			
	comp=Z,23nm,1.1s							
CPUP				pmax	pmax			
	comp=Z,12nm,1.0s							
CPUP	**Villa Florida**	**162.53**	**63**	PKP	PKPdf	07 54 52.3	+2.0	
	comp=Z,23nm,1.1s,baz=1.2,slow=2.4,SNR=21							
CPUP				PKPab	PKPab	07 55 40.2	-0.8	
	comp=Z,12nm,1.0s,baz=315,slow=5.2,SNR=3.1							
CPUP	**Villa Florida**	**162.53**	**63**	*e*PKPdf	PKPdf	07 54 52.0	+1.8	

JMA 23 07:37:23.7±0.2, 35.61N×140.13E, h68km±2km, M4.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.20**	**163**	P	P	07 37 34.4	+0.4
JCN				S	S	07 37 43.0	+1.2
TOK	**Tokyo**	**0.31**	**284**	P	P	07 37 35.3	+0.5
JOD2	**Odawara 2**	**0.92**	**248**	P	P	07 37 40.8	-0.5
JOD2				*e*S	S	07 37 53.1	-1.2
JAG	**Ashikaga**	**0.98**	**326**	P	P	07 37 42.2	+0.1
JIM2	**Oshima 3**	**1.06**	**213**	P	P	07 37 41.8	-1.3
JIM2				*e*S	S	07 37 55.4	-2.1
JRY	**Ryogami san**	**1.08**	**292**	P	P	07 37 43.8	+0.4
JRY				*e*S	S	07 37 58.9	+1.0
JYN	**Shimob**	**1.30**	**266**	P	P	07 37 46.2	-0.2
JYN				*e*S	S	07 38 02.8	-0.3
JKT	**Katashina**	**1.36**	**329**	P	P	07 37 47.4	+0.2
JIZS	**Izushimoda**	**1.36**	**229**	P	P	07 37 46.4	-0.9
JIZS				*e*S	S	07 38 03.0	-1.7

IDC ***23*** *07:41:22.0±2.6,51.97N×157.89E, mb4.5/9, mb1 4.9/10, mb1mx4.5/24, mbtmp4.6/10, ML4.8/1, MS4.5/1, Ms1 4.5/1, ms1mx3.2/29, Error ellipse: s-maj=76.3km s-min=16.8km az=8.0*

MOS ***23*** *07:41:27.9±0.6,51.73N×158.46E, h57km, mb4.8/5, Error ellipse: s-maj=31.9km s-min=8.7km az=73.1*

KRSC ***23*** *07:41:30.5±1.4,51.87N×158.52E, h45km±7km, ML4.9*

ISC 23 07:41:29.6±0.5, 51.84N±0.04×158.55E±0.07, h64km±6km, n51, σ1§11/85, mb4.5/9, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.59**	**358**	*i* P	**P**	**07 41 42.9**	**-0.1**
RUS				*e*S	**S**	**07 41 51.9**	**-1.0**
GRL	**Gorelyy**	**0.77**	**338**	*i* P	**P**	**07 41 45.7**	**+0.6**
GRL				*i* S	**S**	**07 41 56.9**	**+0.3**
KRMR	**Karymshinskiy**	**1.02**	**346**	*i* P	**P**	**07 41 47.9**	**-0.5**
KRMR				*i* S	**S**	**07 42 02.0**	**-0.3**
PAU	**Pauzhetka**	**1.15**	**251**	*i* P	**P**	**07 41 50.4**	**+0.4**
PAU				*i* S	**S**	**07 42 04.8**	**-0.4**
PAU				Smax			
	11μm,0.5s						
PET	**Petropavlovsk**	**1.18**	**3⇑**	*i* PN	**P**	**07 41 50.7**	**+0.2**
PET				*i* S	**S**	**07 42 04.8**	**-1.3**
PET				pmax	pmax		
	comp=N,1μm,0.6s						
PET				pmax	pmax		
	comp=Z,3μm,2.0s						
PET				pmax	pmax		
	comp=Z,2μm,0.5s						
PET				smax			
	comp=N,7μm,1.3s						
PET				smax			
	comp=N,6μm,0.5s						
PET				smax			
	comp=E,4μm,0.5s						
PET	**Petropavlovsk**	**1.18**	**3**	*i* P	**P**	**07 41 50.8**	**+0.3**
PET				*e*S	**S**	**07 42 05.2**	**-0.9**
MIPR	**Malaya Ipel'ka**	**1.19**	**292**	*i* P	**P**	**07 41 51.0**	**+0.4**
MIPR				*i* S	**S**	**07 42 06.2**	**0.0**
UGLR	**Uglovaya**	**1.38**	**7**	*i* P	**P**	**07 41 54.0**	**+0.7**
UGLR				*e*S	**S**	**07 42 12.3**	**+1.4**
APC	**Apacha**	**1.38**	**322**	*i* P	**P**	**07 41 53.7**	**+0.4**
APC				*i* S	**S**	**07 42 07.8**	**-3.1**
APC				Smax			
	comp=E,1μm,0.9s						
NLC	**Nalytchevo**	**1.42**	**20**	*i* P	**P**	**07 41 52.8**	**-1.0**
NLC				*i* S	**S**	**07 42 09.3**	**-2.4**
AVH	**Avacha**	**1.43**	**5**	*i* P	**P**	**07 41 54.9**	**+0.9**
AVH				*e*S	**S**	**07 42 12.4**	**+0.4**
SMAR	**Somma**	**1.43**	**6**	*i* P	**P**	**07 41 54.4**	**+0.4**
SMAR				*e*S	**S**	**07 42 11.6**	**-0.5**
SDLR	**Sedlovina**	**1.45**	**8**	*i* P	**P**	**07 41 54.4**	**+0.1**
SDLR				*e*S	**S**	**07 42 11.6**	**-1.0**
KOK	**Koryaka**	**1.45**	**2**	*i* P	**P**	**07 41 55.5**	**+1.2**
KOK				*e*S	**S**	**07 42 13.1**	**+0.5**
SPN	**Mys Shipunski**	**1.55**	**35**	P	**P**	**07 41 55.9**	**+0.3**
SPN				S	**S**	**07 42 14.4**	**-0.4**
SPN	**Mys Shipunski**	**1.55**	**35**	*e*P	**P**	**07 41 56.0**	**+0.4**
SPN				*i* S	**S**	**07 42 14.6**	**-0.2**
GNL	**Ganaly**	**1.89**	**349**	*i* P	**P**	**07 42 00.8**	**+0.5**
GNL				*e*S	**S**	**07 42 23.4**	**+0.4**
SKR	**Severo-Kuril's**	**1.92**	**234**	*i* PN	**P**	**07 41 58.2**	**-2.5**
SKR				*i* S	**S**	**07 42 18.9**	**-4.7**
SKR				pmax	pmax		
	comp=N,260nm,0.4s						
SKR				pmax	pmax		
	comp=E,980nm,0.4s						
SKR				pmax	pmax		
	comp=Z,2μm,0.4s						
SKR				smax			
	comp=N,2μm,0.3s						
ALID	**Alaid**	**2.12**	**244**	*e*P	**P**	**07 42 03.6**	**+0.1**
ALID				*e*S	**S**	**07 42 28.2**	**-0.4**
KII	**Karymskiy**	**2.26**	**14**	P	**P**	**07 42 07.0**	**+1.5**
KII				S	**S**	**07 42 34.3**	**+2.1**
KII	**Karymskiy**	**2.26**	**14**	*e*P	**P**	**07 42 06.9**	**+1.4**
KII				*e*S	**S**	**07 42 34.3**	**+2.1**
MKZ	**Mys Kozlova**	**3.32**	**34**	P	**P**	**07 42 20.3**	**-0.2**
MKZ				S	**S**	**07 42 57.5**	**-1.5**
MKZ	**Mys Kozlova**	**3.32**	**34**	*i* P	**P**	**07 42 20.3**	**-0.2**
MKZ				*i* S	**S**	**07 42 57.8**	**-1.2**
TUMR	**Tumrok**	**3.58**	**15**	*e*P	**P**	**07 42 24.3**	**+0.3**
TUMR				*e*S	**S**	**07 43 02.7**	**-2.6**
KMNR	**Kamenistaya**	**4.05**	**14**	*e*P	**P**	**07 42 32.0**	**+1.4**
KMNR				*e*S	**S**	**07 43 17.6**	**+0.5**
KPT	**Kopyto**	**4.25**	**13**	*e*P	**P**	**07 42 36.4**	**+3.0**
KPT				*e*S	**S**	**07 43 23.8**	**+1.6**
KOZ	**Kozyrevsk**	**4.29**	**10**	*e*P	**P**	**07 42 35.4**	**+1.3**
KOZ				*e*S	**S**	**07 43 23.3**	**-0.1**
SRDR	**Sredinnyy**	**4.54**	**8**	*e*P	**P**	**07 42 38.7**	**+1.3**
SRDR				*e*S	**S**	**07 43 27.4**	**-2.0**
KRSR	**Krestovskiy**	**4.54**	**14**	*e*P	**P**	**07 42 38.5**	**+1.0**
KRSR				*e*S	**S**	**07 43 28.1**	**-1.4**
KLY	**Klyuchi**	**4.65**	**15**	P	**P**	**07 42 40.5**	**+1.5**
KLY	**Klyuchi**	**4.65**	**15**	*e*P	**P**	**07 42 40.4**	**+1.4**
KLY				*e*S	**S**	**07 43 31.8**	**-0.4**
KBTR	**Krutoberegovo**	**5.04**	**28**	P	**P**	**07 42 44.5**	**0.0**
KBTR				S	**S**	**07 43 40.2**	**-1.9**
KBTR	**Krutoberegovo**	**5.04**	**28**	*e*P	**P**	**07 42 44.3**	**-0.2**
KBTR				*e*S	**S**	**07 43 40.3**	**-1.8**
BKI	**Bering**	**5.56**	**50**	*e*P	**P**	**07 42 49.9**	**-1.7**
BKI				*e*S	**S**	**07 43 47.4**	**-7.6**
BKI				Smax			
	comp=N,160nm,1.0s						
FX1	**Attu Island--F**	**9.01**	**78**	Pn	**P**	**07 43 38.9**	**-0.4**
	comp=N,34nm,0.3s,baz=297,slow=3.7,SNR=136						
FX1				Sn	**S**	**07 45 12.7**	**-7.4**
	comp=N,54nm,0.3s,baz=180,slow=18,SNR=18						
KAMR	**Kamenskoye**	**11.41**	**18**	*e*P	**P**	**07 44 13.7**	**+1.9**
KAMR				*e*S	**S**	**07 46 12.3**	**-6.2**
ILAR	**Eielson Array**	**30.37**	**44**	P	**P**	**07 47 36.2**	**-0.9**
ILAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ILAR	**Eielson Array**	**30.37**	**44**	P	**P**	**07 47 36.1**	**-0.9**
	comp=Z,9.5nm,0.8s,mb4.6,baz=262,slow=7.5,SNR=4.2						
INK	**Inuvik**	**35.44**	**36**	P	**P**	**07 48 20.9**	**-0.1**
INK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
INK	**Inuvik**	**35.44**	**36**	P	**P**	**07 48 20.9**	**-0.1**
	comp=Z,8.2nm,0.7s,mb4.8,baz=285,slow=5.4,SNR=5.2						
BVAR	**Borovoye Array**	**50.43**	**308**	P	**P**	**07 50 18.9**	**-3.3**
	comp=Z,1.6nm,0.4s,mb4.4,baz=54,slow=7.8,SNR=7.6						
YBH	**Yreka Blue Hor**	**52.35**	**68**	LR	LR	08 12 23.3	
	comp=Z,466nm,18.8s,baz=297,slow=35						
NVAR	**Mina Array Bea**	**57.07**	**68**	P	**P**	**07 51 12.0**	**+0.8**
	comp=Z,0.9nm,0.4s,mb4.1,baz=293,slow=6.9,SNR=4.3						
PDAR	**Pinedale Array**	**58.97**	**59**	P	**P**	**07 51 25.2**	**+0.8**
	comp=Z,7.0nm,0.8s,mb4.7,baz=314,slow=2.7,SNR=9.8						
SCHQ	**Schefferville**	**67.19**	**27**	P	**P**	**07 52 17.2**	**-1.1**
	comp=Z,5.6nm,0.7s,mb4.7,baz=286,slow=7.4,SNR=5.1						
AKASG	**Malin Array Be**	**69.19**	**328**	P	**P**	**07 52 27.0**	**-3.8**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG	**Malin Array Be**	**69.19**	**328**	P	**P**	**07 52 27.0**	**-3.8**
	comp=Z,2.6nm,0.5s,mb4.5,baz=29,slow=6.3,SNR=5.7						
TXAR	**Lajitas Array**	**72.01**	**65**	P	**P**	**07 52 48.8**	**+0.6**
TXAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TXAR	**Lajitas Array**	**72.01**	**65**	P	**P**	**07 52 48.8**	**+0.7**
	comp=Z,4.7nm,0.6s,mb4.6,baz=296,slow=4.9,SNR=29						
GERES	**GERESS Array B**	**75.30**	**337**	P	**P**	**07 53 06.1**	**-0.8**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**75.30**	**337**	P	**P**	**07 53 06.1**	**-0.7**
	comp=Z,1.4nm,0.5s,mb4.1,baz=22,slow=5.3,SNR=5.6						

JMA ***23*** *07:42:21.9±0.2, 35.62N×140.13E, h69km±2km, M4.2 Broadband fault plane solution: P waves. NP1:φ±28°, δ17°, λ-66°. NP2:φ±183°, δ74°, λ-97°. Principal axes: T Plg29°, Azm279°; N Plg7°, Azm185°; P Plg60°, Azm83°;*

JMA Felt II J1.

NEIC ***23*** *07:42:22.0, 35.62N×140.13E, h69km, mb4.4/4, After JMA.*

NEIC Recorded [2 JMA] in Chiba, Ibaraki, Kanagawa, Saitama, Shizuoka, Tochigi and Tokyo; [1 JMA] in Gumma, Nagano and Yamanashi Prefectures.

IDC ***23*** *07:42:24.9±1.2, 35.44N×139.96E, h88km±12km, mb4.0/11, mb1 4.2/13, mb1mx4.0/23, mbtmp4.3/13, Error ellipse: s-maj=21.0km s-min=6.8km az=68.0*

ISC 23 07:42:21.9±0.4, 35.50N±0.04×140.11E±0.06, h76km±3km, n36, σ0§93/45, mb4.2/18, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.11**	**138**	P	**P**	**07 42 32.9**	**0.0**
JCN				S	**S**	**07 42 41.4**	**+0.3**
TOK	**Tokyo**	**0.34**	**303**	⇓P	**P**	**07 42 33.6**	**-0.5**
TOK				S	**S**	**07 42 42.8**	**-0.4**
BSO3	**Boso 3**	**0.77**	**155**	P	**P**	**07 42 38.4**	**+0.1**
JOD2	**Odawara 2**	**0.87**	**254**	⇓P	**P**	**07 42 39.3**	**-0.1**
JOD2				*e*S	**S**	**07 42 51.6**	**-0.8**
JIM2	**Oshima 3**	**0.96**	**216**	P	**P**	**07 42 40.6**	**+0.1**
JAG	**Ashikaga**	**1.06**	**330**	⇓P	**P**	**07 42 40.4**	**-1.4**
JRY	**Ryogami san**	**1.11**	**298**	⇓P	**P**	**07 42 42.3**	**-0.1**
JIZS	**Izushimoda**	**1.28**	**233**	P	**P**	**07 42 44.7**	**+0.1**
JIZS				*e*S	**S**	**07 43 01.5**	**0.0**
JYN	**Shimob**	**1.28**	**270**	⇓P	**P**	**07 42 44.6**	**0.0**
JKT	**Katashina**	**1.44**	**331**	P	**P**	**07 42 45.7**	**-1.2**
MJAR	**Matsushiro Arr**	**1.86**	**305**	P	**P**	**07 42 52.4**	**0.0**
MJAR	159nm,0.3s,baz=138,slow=15,SNR=138			S	**S**	**07 43 16.6**	**+1.8**
	257nm,0.3s,baz=128,slow=17,SNR=16						
MAT	**Matsushiro**	**1.86**	**304**	*e*P	**P**	**07 42 53.0**	**+0.6**
MAT				*e*S	**S**	**07 43 16.0**	**+1.1**
MAT	**Matsushiro**	**1.86**	**304**	P	**P**	**07 42 52.5**	**+0.1**
MAT				S	**S**	**07 43 16.1**	**+1.2**
JHJ	**Hachijo jima 2**	**2.39**	**187**	P	**P**	**07 43 00.3**	**+0.5**
	334nm,0.3s,baz=52,slow=3.1,SNR=22						
JHJ				S	**S**	**07 43 29.9**	**+1.8**
	717nm,0.3s,baz=273,slow=22,SNR=8.0						
JNU	**Nakatsue**	**8.00**	**255**	P	**P**	**07 44 17.4**	**-0.1**
	3.4nm,0.3s,baz=45,slow=19,SNR=6.9						
CBIJ	**Chichi jima**	**8.56**	**167**	P	**P**	**07 44 21.8**	**-3.5**
	35nm,0.3s,baz=300,slow=19,SNR=9.4						
CBIJ				S	**S**	**07 45 51.5**	**-10**
	17nm,0.3s,baz=287,slow=19,SNR=3.3						
SONM	**Songino Array**	**27.81**	**307**	P	**P**	**07 48 09.4**	**+3.5**
	8.6nm,1.1s,mb4.2,baz=125,slow=9.5,SNR=5.0						
MKAR	**Makanchi Array**	**44.06**	**303**	P	**P**	**07 50 23.2**	**-0.6**
	3.5nm,0.5s,mb4.3,baz=83,slow=9.2,SNR=10.0						
ILAR	**Eielson Array**	**51.35**	**32**	P	**P**	**07 51 20.7**	**+0.4**
	3.1nm,0.8s,mb4.4,baz=267,slow=5.7,SNR=7.7						
WRAB	**Tennent Creek**	**55.40**	**187**	*e*P	**P**	**07 51 48.4**	**-2.4**
	13nm,0.7s,mb5.1						
WRA	**Warramunga Arr**	**55.41**	**187**	P	**P**	**07 51 49.8**	**-1.1**
	1.9nm,0.3s,mb4.6,baz=0.8,slow=7.9,SNR=36						
INK	**Inuvik**	**56.23**	**27**	P	**P**	**07 51 55.9**	**-0.3**
	2.3nm,0.7s,mb4.3,baz=299,slow=9.8,SNR=2.5						
KEV	**Kevo**	**64.50**	**339**	*ep*	**P**	**07 53 01.2**	**+8.9**
	2.8nm,0.7s,mb4.2						
ARCES	**ARCESS Array B**	**65.06**	**339**	P	**P**	**07 52 55.6**	**-0.3**
	1.9nm,0.7s,mb4.0,baz=51,slow=6.9,SNR=5.1						
KAF	**Kangasniemi**	**69.18**	**333**	*ep*	**P**	**07 53 20.6**	**-1.3**
	0.5nm,0.4s,mb3.7						
FINES	**FINESS Array B**	**69.68**	**332**	P	**P**	**07 53 24.7**	**-0.2**
	1.6nm,0.4s,mb4.2,baz=96,slow=5.4,SNR=8.1						
NEW	**Newport**	**71.96**	**43**	P	**P**	**07 53 39.9**	**+1.0**
	3.3nm,0.9s,mb4.2,baz=18,slow=4.6,SNR=3.5						
AKASG	**Malin Array Be**	**74.86**	**322**	P	**P**	**07 53 55.2**	**-0.5**
	1.1nm,0.3s,mb4.0,baz=50,slow=6.2,SNR=6.2						
NOA	**NORSAR Array B**	**75.19**	**337**	P	**P**	**07 53 57.5**	**+0.2**
	1.4nm,0.8s,mb3.7,baz=39,slow=3.4,SNR=2.3						
NVAR	**Mina Array Bea**	**76.75**	**52**	P	**P**	**07 54 08.7**	**+2.1**
	2.5nm,0.8s,mb4.0,baz=292,slow=4.9						
ELK	**Elko**	**77.34**	**49**	P	**P**	**07 54 10.3**	**+0.4**
	2.2nm,0.7s,mb4.0						
BW06	**Boulder Array**	**79.49**	**45**	P	**P**	**07 54 21.2**	**-0.4**
PDAR	**Pinedale Array**	**79.49**	**45**	P	**P**	**07 54 23.2**	**+1.5**
	1.4nm,0.7s,mb3.9,baz=277,slow=1.6,SNR=5.4						
SDCO	**Great Sand Dun**	**85.11**	**46**	*e*P	**P**	**07 54 51.4**	**+0.8**
	2.8nm,0.8s,mb4.2						
ANMO	**Albuquerque**	**86.38**	**49**	P	**P**	**07 54 57.1**	**+0.1**
	3.2nm,1.0s,mb4.2						
MNTX	**Cornudas Mount**	**89.21**	**51**	P	**P**	**07 55 09.7**	**-0.9**

MDD ***23*** *07:43:01.9±1.1, 35.28N×1.37W, mb3.6/4, Error ellipse: s-maj=18.9km s-min=5.8km az=12.0, PRXIMO*

CRAAG ***23*** *07:43:01.7, 35.29N×1.30W, Ml3.3*

NEIC ***23*** *07:43:04.2, 35.37N×1.43W, MG3.5(MDD), After MDD.*

CSEM ***23*** *07:43:04.7±0.3, 35.22N×1.35W, h35km, ML2.8/10, Error ellipse: s-maj=7.2km s-min=3.2km az=154.0*

ISC 23 07:43:01.8±0.6, 35.36N±0.07×1.38W±0.05, h4km±9km, n49, σ1§12/77, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLHC	**Oulhaca**	**0.11**	**197**	P	**Pg**	**07 43 04.0**	**-0.1**
ODZI	**Dzioua**	**0.14**	**119**	P	**Pg**	**07 43 03.5**	**-1.2**
OTSS	**Djebel Tessala**	**0.48**	**99**	P	**Pg**	**07 43 11.0**	**-0.5**
USTO	**Oran**	**0.77**	**61**	P	**Pg**	**07 43 19.0**	**+1.8**
EMLI	**Melilla**	**1.28**	**268**	Pn	**Pn**	**07 43 27.4**	**+0.9**
	33nm,0.1s,SNR=4.0						
EMLI				Sn	**Sn**	**07 43 44.4**	**+0.1**
	35nm,0.2s,SNR=7.9						
EMEL	**Melilla**	**1.29**	**268**	Pg	**Pg**	**07 43 27.4**	**-0.1**
	33nm,0.1s,SNR=4.0						
EMEL				Lg		07 43 44.4	
	35nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.47**	**294**	Pn	**Pn**	**07 43 28.8**	**-0.3**
EALB				Sn	**Sn**	**07 43 49.1**	**+0.1**
EALB	**Alboran**	**1.47**	**294**	Pg	**Pg**	**07 43 28.8**	**-2.3**
	1.7nm,0.1s,SNR=7.9						
EALB				Lg		07 43 49.1	
	6.7nm,0.1s,SNR=7.9						
EALB	**Alboran**	**1.47**	**294**	Pn	**Pn**	**07 43 28.8**	**-0.3**
	1.7nm,0.1s,SNR=7.9						
EALB				Sn	**Sn**	**07 43 49.1**	**+0.1**
	6.7nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	**1.74**	**338**	Pn	**Pn**	**07 43 33.0**	**0.0**
ENIJ				Sn	**Sn**	**07 43 55.6**	**-0.3**
ENIJ	**Nijar**	**1.74**	**338**	Pn	**Pn**	**07 43 33.4**	**+0.4**
	0.5nm,0.2s,SNR=7.9						
ENIJ				Sn	**Sn**	**07 43 55.6**	**-0.3**
	1.7nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**1.74**	**338**	Pn	**Pn**	**07 43 34.5**	**+1.5**
	0.5nm,0.2s,SNR=7.9						
ENIJ				Sn	**Sn**	**07 43 55.6**	**-0.4**
	1.7nm,0.4s,SNR=7.9						
EBER	**Berja**	**1.96**	**322**	Pn	**Pn**	**07 43 37.0**	**+0.9**
EBER				Sn	**Sn**	**07 44 02.0**	**+0.4**
EBER	**Berja**	**1.96**	**322**	Pn	**Pn**	**07 43 37.0**	**+0.9**
	1.8nm,0.1s,SNR=7.9						
EBER				Sn	**Sn**	**07 44 03.6**	**+2.1**
	12nm,0.6s,SNR=4.0						
EBER	**Berja**	**1.96**	**322**	Pn	**Pn**	**07 43 37.0**	**+0.8**
	1.8nm,0.1s,SNR=7.9						
EBER				Sn	**Sn**	**07 44 02.0**	**+0.5**
	12nm,0.6s,SNR=4.0						
EMUR	**La Murta**	**2.48**	**3**	Pn	**Pn**	**07 43 43.6**	**0.0**
	1.3nm,0.1s,SNR=7.9						
EMUR				Sn	**Sn**	**07 44 13.0**	**-1.7**
	1.7nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.48**	**3**	Pn	**Pn**	**07 43 43.6**	**0.0**
	1.3nm,0.1s,SNR=7.9						
EMUR				Sn	**Sn**	**07 44 13.0**	**-1.7**
	1.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.79**	**331**	Pn	**Pn**	**07 43 50.4**	**+2.3**
EQES				Sn	**Sn**	**07 44 21.0**	**-1.7**
EQES	**Quesada**	**2.79**	**331**	Pn	**Pn**	**07 43 50.4**	**+2.3**
	2.9nm,0.2s,SNR=14						
EQES				Sn	**Sn**	**07 44 25.3**	**+2.7**
	3.7nm,0.3s,SNR=5.1						
EQES	**Quesada**	**2.79**	**331**	Pn	**Pn**	**07 43 50.4**	**+2.3**
	2.9nm,0.2s,SNR=14						
EQES				Sn	**Sn**	**07 44 21.6**	**-1.0**
	5.9nm,0.3s,SNR=5.1						
EMIJ	**Mijas**	**3.00**	**295**	Pn	**Pn**	**07 43 50.6**	**-0.5**
EMIJ				Sn	**Sn**	**07 44 25.3**	**-2.7**
EMIJ	**Mijas**	**3.00**	**295**	Pn	**Pn**	**07 43 50.6**	**-0.5**
	0.8nm,0.1s,SNR=7.9						
EMIJ				Sn	**Sn**	**07 44 30.2**	**+2.2**
	3.4nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**3.00**	**295**	Pn	**Pn**	**07 43 50.6**	**-0.5**
	0.8nm,0.1s,SNR=7.9						
EMIJ				Sn	**Sn**	**07 44 25.3**	**-2.7**
	2.8nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**3.28**	**358**	Pn	**Pn**	**07 43 56.1**	**+1.0**
ETOB				Sn	**Sn**	**07 44 31.1**	**-4.0**
ETOB	**Tobarra**	**3.28**	**358**	Pn	**Pn**	**07 43 56.0**	**+1.0**
	2.5nm,0.3s,SNR=14						
ETOB				Sn	**Sn**	**07 44 35.1**	**0.0**
	3.1nm,0.3s,SNR=4.5						
ETOB	**Tobarra**	**3.28**	**358**	Pn	**Pn**	**07 43 56.1**	**+1.1**
	2.5nm,0.3s,SNR=14						
ETOB				Sn	**Sn**	**07 44 33.6**	**-1.4**
	8.9nm,1.0s,SNR=4.5						
EVIA	**Vianos**	**3.39**	**345**	Pn	**Pn**	**07 43 57.6**	**+1.0**
EVIA				Sn	**Sn**	**07 44 35.1**	**-2.8**
EVIA	**Vianos**	**3.39**	**345**	Pn	**Pn**	**07 43 57.6**	**+1.0**
	8.6nm,0.6s,SNR=4.7						
EVIA				Sn	**Sn**	**07 44 38.7**	**+0.8**
	3.5nm,0.3s,SNR=6.6						
EVIA	**Vianos**	**3.39**	**345**	Pn	**Pn**	**07 43 57.6**	**+1.0**
	8.6nm,0.6s,SNR=4.7						
EVIA				Sn	**Sn**	**07 44 35.1**	**-2.8**
	14nm,0.8s,SNR=6.6						
EBAN	**Banos Encina**	**3.40**	**326**	Pn	**Pn**	**07 43 58.0**	**+1.3**
	0.9nm,0.2s,SNR=4.0						
EBEN	**Beniarda**	**3.46**	**15**	Pn	**Pn**	**07 43 58.4**	**+0.8**
EBEN	**Beniarda**	**3.46**	**15**	Pn	**Pn**	**07 43 58.4**	**+0.8**
EADA	**Adamuz**	**3.80**	**318**	Pn	**Pn**	**07 44 04.0**	**+1.7**
EADA	**Adamuz**	**3.80**	**318**	Pn	**Pn**	**07 44 02.7**	**+0.4**
	0.4nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**3.80**	**318**	Pn	**Pn**	**07 44 02.7**	**+0.3**
	0.4nm,0.1s,SNR=4.0						
ECAB	**El Cabril**	**4.23**	**311**	Pn	**Pn**	**07 44 08.2**	**-0.3**
ECAB	**El Cabril**	**4.23**	**311**	Pn

24nm,0.3s,baz=292,slow=17,SNR=12
CBIJ S **S** **07 55 13.9 -9.3**
17nm,0.3s,baz=261,slow=21,SNR=6.4
ASAJ Asahikawa 8.82 12 P **P** **07 53 40.8 -10**
0.5nm,0.3s,baz=251,slow=18,SNR=2.4
ASAJ S **S** **07 55 18.6 -11**
0.7nm,0.3s,baz=72,slow=19,SNR=2.1
KS15 Wonju Array Si 10.04 285 P **P** **07 54 08.2 +0.8**
MDJ Mudanjiang 12.15 322 P **P** **07 54 33.2 -2.6**
7.8nm,0.8s
SONM Songino Array 27.82 307 P **P** **07 57 26.7 -1.5**
0.5nm,0.6s,mb3.2,baz=116,slow=11,SNR=4.3
MKAR Makanchi Array 44.06 303 P **P** **07 59 46.4 +0.3**
0.9nm,0.5s,mb3.7,baz=88,slow=9.4,SNR=7.5
BVAR Borovoye Array 50.84 313 P **P** **08 00 39.7 +0.8**
0.5nm,0.5s,mb3.9,baz=59,slow=8.4,SNR=3.2
ILAR Eielson Array 51.36 32 P **P** **08 00 42.1 -0.5**
0.9nm,0.8s,mb3.9,baz=270,slow=6.4,SNR=10
WRAB Tennant Creek 55.39 187 P **P** **08 01 11.8 -1.3**
WRA Warramunga Arr 55.40 187 P **P** **08 01 11.9 -1.3**
1.8nm,0.4s,mb4.4,baz=0.7,slow=7.6,SNR=69
ARCES ARCESS Array B 65.06 339 P **P** **08 02 18.4 +0.1**
0.7nm,0.7s,mb3.6,baz=56,slow=6.5,SNR=4.2
FINES FINESS Array B 69.68 332 P **P** **08 02 46.5 -0.7**
0.8nm,0.7s,mb3.7,baz=108,slow=6.0,SNR=3.7
NVAR Mina Array Bea 76.76 52 P **P** **08 03 30.4 +1.3**
0.8nm,0.8s,mb3.5,baz=299,slow=5.8,SNR=5.7
ELK Elko 77.35 49 P **P** **08 03 33.2 +0.9**
0.5nm,0.4s,mb3.6
BW06 Boulder Array 79.50 45 *eP* **P** **08 03 44.6 +0.6**
0.6nm,0.6s,mb3.6
PDAR Pinedale Array 79.50 45 P **P** **08 03 45.4 +1.4**
0.7nm,0.6s,mb3.7,baz=270,slow=1.4,SNR=8.1
TXAR Lajitas Array 91.90 52 P **P** **08 04 46.2 +0.7**
0.6nm,1.0s,mb3.8,baz=297,slow=4.0,SNR=3.0

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*NEIC **23** 08:38:31.4±2.3,35.87N×141.15E,h10km,Error ellipse: s-maj=58.0km s-min=17.0km az=42.0*
NEIC Felt at Chofu and Kawasaki.
*IDC **23** 08:38:40.7±1.3,34.78N×138.05E,mb3.7/2,mb1 3.9/3, mb1mx3.5/22,mbtmp3.8/3,ML3.3/1,Error ellipse: s-maj=36.5km s-min=17.6km az=73.0*
*JMA **23** 08:38:41.7±0.2,35.61N×140.12E,h69km±2km,M3.2 Broadband fault plane solution: P waves. NP1:φs134°, δ14°,λ47°. NP2:φs358°,δ80°,λ100°. Principal axes: T Plg54°, Azm280°; N Plg10°, Azm177°; P Plg34°, Azm80°; JMA Felt I J1.*

ISC 23 08:38:41.0±0.7,35.53N±0.05×140.14E±0.07,h80km±5km, n20,σ0°73/28,mb3.7/2,2C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.12**	**155**	⇑P		**P**	**08 38 52.8**	**+0.3**
JCN				*e*S		**S**	**08 39 01.3**	**+0.2**
TOK	**Tokyo**	**0.35**	**297**	⇓P		**P**	**08 38 53.5**	**-0.2**
TOK				S		**S**	**08 39 02.6**	**-0.5**
KTR	**Katsuura**	**0.41**	**159**	P		**P**	**08 38 54.3**	**+0.2**
BSO3	**Boso 3**	**0.79**	**157**	⇑P		**P**	**08 38 58.2**	**+0.3**
JOD2	**Odawara 2**	**0.90**	**253**	⇓P		**P**	**08 38 59.1**	**0.0**
JOD2				*e*S		**S**	**08 39 11.2**	**-1.4**
JIM2	**Oshima 3**	**0.99**	**216**	P		**P**	**08 39 00.4**	**+0.2**
JAG	**Ashikaga**	**1.05**	**328**	⇓P		**P**	**08 39 00.2**	**-0.8**
BSO1	**Boso 1**	**1.11**	**142**	P		**P**	**08 39 01.7**	**0.0**
JRY	**Ryogami san**	**1.12**	**296**	⇓P		**P**	**08 39 01.9**	**+0.1**
JYN	**Shimob**	**1.30**	**269**	⇓P		**P**	**08 39 04.4**	**-0.1**
JIZS	**Izushimoda**	**1.31**	**232**	⇓P		**P**	**08 39 04.5**	**+0.1**
JIZS				*e*S		**S**	**08 39 21.1**	**-0.7**
JKT	**Katashina**	**1.43**	**330**	P		**P**	**08 39 05.1**	**-0.9**
MJAR	**Matsushiro Arr**	**1.86**	**303**	Pn		**P**	**08 39 11.5**	**-0.2**
MJAR	18nm,0.3s,baz=137,slow=15,SNR=80			Sn		**S**	**08 39 35.8**	**+1.6**
MAJO	**Matsushiro**	**1.87**	**303**	*e*P		**P**	**08 39 11.8**	**+0.1**
MAT	**Matsushiro**	**1.87**	**303**	*e*P		**P**	**08 39 12.0**	**+0.3**
MAT				*e*S		**S**	**08 39 35.0**	**+0.7**
MAT	**Matsushiro**	**1.87**	**303**	P		**P**	**08 39 11.9**	**+0.2**
MAT				S		**S**	**08 39 35.4**	**+1.1**
JHJ	**Hachijo jima 2**	**2.42**	**187**	Pn		**P**	**08 39 20.2**	**+0.8**
JHJ	22nm,0.3s,baz=280,slow=18,SNR=19			Sn		**S**	**08 39 48.4**	**+0.4**
MKAR	50nm,0.3s,baz=247,slow=23,SNR=6.9 **Makanchi Array**	**44.06**	**303**	P		**P**	**08 46 43.5**	**+0.9**
WRA	0.4nm,0.4s,mb3.5,baz=101,slow=7.3,SNR=5.5 **Warramunga Arr**	**55.44**	**187**	P		**P**	**08 48 09.3**	**-0.4**
CLL	0.6nm,0.5s,mb3.9,baz=1.0,slow=7.5,SNR=22 **Collm**	**81.88**	**330**	P		**P**	**08 50 50.0**	**-2.7**

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*JMA **23** 08:43:05.3±0.2,35.60N×140.15E,h69km±2km,M3.5*
*NEIC **23** 08:43:05.4,35.60N×140.15E,h68km,MG3.5(JMA),After JMA.*
NEIC Felt in Ayase.
*IDC **23** 08:43:06.3±1.9,35.42N×140.09E,h72km±18km,mb3.4/3, mb1 3.8/5,mb1mx3.5/21,mbtmp4.1/5,Error ellipse: s-maj=30.5km s-min=6.3km az=67.0*

ISC 23 08:43:04.8±0.6,35.51N±0.04×140.12E±0.06,h78km±4km, n20,σ0°75/32,mb3.8/3,1C-8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.11**	**143**	⇓P		**P**	**08 43 16.1**	**0.0**
JCN				S		**S**	**08 43 24.6**	**+0.1**
TOK	**Tokyo**	**0.34**	**301**	⇓P		**P**	**08 43 17.1**	**-0.1**
TOK				S		**S**	**08 43 26.3**	**-0.2**
BSO3	**Boso 3**	**0.78**	**155**	⇓P		**P**	**08 43 21.5**	**+0.1**
BSO3				*e*S		**S**	**08 43 35.3**	**+1.6**
JOD2	**Odawara 2**	**0.88**	**254**	⇓P		**P**	**08 43 22.7**	**+0.2**
JOD2				S		**S**	**08 43 35.1**	**-0.6**
JIM2	**Oshima 3**	**0.97**	**216**	⇑P		**P**	**08 43 23.7**	**+0.1**
JIM2				*e*S		**S**	**08 43 37.3**	**-0.4**
JAG	**Ashikaga**	**1.06**	**330**	⇓P		**P**	**08 43 24.0**	**-0.7**
JAG				*e*S		**S**	**08 43 37.7**	**-2.0**
BSO1	**Boso 1**	**1.11**	**140**	P		**P**	**08 43 25.0**	**-0.3**
BSO1				*e*S		**S**	**08 43 41.1**	**+0.4**
JRY	**Ryogami san**	**1.11**	**297**	⇓P		**P**	**08 43 25.8**	**+0.5**
JYN	**Shimob**	**1.28**	**270**	⇓P		**P**	**08 43 28.0**	**+0.4**
JIZS	**Izushimoda**	**1.29**	**233**	⇓P		**P**	**08 43 28.1**	**+0.4**
JIZS				*e*S		**S**	**08 43 44.6**	**-0.2**
JKT	**Katashina**	**1.44**	**331**	P		**P**	**08 43 29.0**	**-0.8**
MJAR	**Matsushiro Arr**	**1.86**	**304**	P		**P**	**08 43 35.5**	**+0.2**
MJAR	25nm,0.3s,baz=139,slow=15,SNR=90			S		**S**	**08 43 59.2**	**+1.4**
MJAR	41nm,0.3s,baz=210,slow=11,SNR=13			LR		LR	08 44 04.9	
MAJO	comp=Z,425nm,19.6s,baz=355,slow=32 **Matsushiro**	**1.86**	**304**	*e*P		**P**	**08 43 35.7**	**+0.4**
MAT	**Matsushiro**	**1.86**	**304**	*e*P		**P**	**08 43 36.0**	**+0.7**
MAT				*e*S		**S**	**08 43 58.0**	**+0.2**
MAT	**Matsushiro**	**1.86**	**304**	P		**P**	**08 43 35.8**	**+0.5**
MAT				S		**S**	**08 43 58.3**	**+0.5**
JHJ	**Hachijo jima 2**	**2.40**	**187**	P		**P**	**08 43 43.1**	**+0.3**
JHJ	58nm,0.3s,baz=53,slow=21,SNR=16			S		**S**	**08 44 10.1**	**-1.1**
CBIJ	138nm,0.3s,baz=258,slow=22,SNR=11 **Chichi jima**	**8.57**	**168**	P		**P**	**08 45 04.8**	**-3.3**
MKAR	14nm,0.3s,baz=288,slow=19,SNR=7.0 **Makanchi Array**	**44.06**	**303**	P		**P**	**08 51 07.3**	**+0.9**
ILAR	1.6nm,0.7s,mb3.9,baz=91,slow=9.2,SNR=14 **Eielson Array**	**51.34**	**32**	P		**P**	**08 52 02.6**	**-0.2**
WRA	0.3nm,0.8s,mb3.4,baz=276,slow=7.5,SNR=4.7 **Warramunga Arr**	**55.42**	**187**	P		**P**	**08 52 33.0**	**-0.6**
	0.5nm,0.3s,mb4.0,baz=0.4,slow=7.8,SNR=39							

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*BJI **23** 08:51:41.9,29.78S×177.51W,h10km,mB6.0,mb5.7, Ms5.8,Msz5.6*
*HRVD **23** 08:51:43.6±0.1,30.04S×177.67W,h61km,MW6.0/55, Centroid moment Tensor Solution. LP body waves: s53,c139;Mantle waves: s55,c207; Half duration: 2s4 Moment tensor: Scale 10^18Nm; Mrr1.03±.01; Mθθ0.08±.01; Mφφ-1.10±.01; Mrθ-0.08±.01; Mθφ-0.24±.01; Mφr0.51±.01; Best double couple: Mo1.205×10^18 NP1:φs201°,δ34°, λ106°. NP2:φs2°,δ58°,λ80°. Principal axes: T 1.16, Plg75°, Azm243°; N .098, Plg9°, Azm8°; P -1.251, Plg12°, Azm100°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **23** 08:51:43.6±0.1,30.25S×178.07W,h10km,mb5.7/56, MS5.6/112,MW6.0 Error ellipse: s-maj=7.4km s-min=3.0km az=120.0,Moment Tensor Solution. s23 Moment tensor: Scale 10^18Nm; Mrr1.26; Mθθ0.02; Mφφ-1.29; Mrθ-0.08; Mθφ-0.08; Mφr0.42; Best double couple: Mo1.3×10^18 NP1:φs188°,δ36°,λ97°. NP2:φs359°, δ54°,λ85°. Principal axes: T 1.34, Plg80°, Azm248°; N .02, Plg4°, Azm2°; P -1.36, Plg9°, Azm93°;*
*MOS **23** 08:51:47.2±1.0,29.97S×178.18W,h33km,mb5.9/40, MS5.6/34 Error ellipse: s-maj=12.0km s-min=8.6km az=77.9*
*IDC **23** 08:51:50.3±1.2,29.98S×178.02W,h54km±9km,mb5.1/15, mb1 5.2/15,mb1mx5.2/15,mbtmp5.3/15,MS5.4/20, Ms1 5.4/20,ms1mx5.4/21,Error ellipse: s-maj=14.0km s-min=12.9km az=178.0*
*BGS **23** 08:52:14.5,30.255S×178.07W,h10km*

ISC 23 08:51:48.9±0.1,30.36S±0.02×178.10W±0.04,h58km, h58km±2.4km:pP-P,n810,σ1§18/337,mb5.7/79,MS5.5/152, 42C-17D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.11**	**8**	Pn		**P**	**08 52 03.8**	**-4.8**
RAO	**Raoul Island**	**1.11**	**8**	P		**P**	**08 52 04.0**	**-4.6**
RAO	16µm,0.3s,baz=224,slow=2.0,SNR=591			LR		LR	08 52 16.3	
RAO	comp=Z,253µm,20.4s,slow=35 **Raoul Island**	**1.11**	**8**	⇓*e*P		**P**	**08 52 03.8**	**-4.8**
MXZ	**Matakaoa Point**	**7.78**	**202**	P		**P**	**08 53 39.8**	**-2.1**
MXZ				S		**S**	**08 55 12.6**	**+3.1**
MXZ	**Matakaoa Point**	**7.78**	**202**	PN		**P**	**08 53 39.8**	**-2.1**
MXZ				SN		**S**	**08 55 10.4**	**+1.0**
KUZ	**Kuaotunu**	**8.20**	**217**	*e*P		**P**	**08 53 51.7**	**+4.1**
KUZ	**Kuaotunu**	**8.20**	**217**	PN		**P**	**08 53 51.7**	**+4.0**
PUZ	**Puketiti**	**8.27**	**200**	*e*P		**P**	**08 53 45.7**	**-2.9**
PUZ	**Puketiti**	**8.27**	**200**	PN		**P**	**08 53 45.4**	**-3.2**
PUZ				SN		**S**	**08 55 21.9**	**+0.4**
WCZ	**Waipu Caves**	**8.43**	**227**	*e*P		**P**	**08 53 55.5**	**+4.6**
WCZ	**Waipu Caves**	**8.43**	**227**	PN		**P**	**08 53 57.5**	**+6.7**
OUZ	**Omahuta**	**8.51**	**233**	*e*P		**P**	**08 54 00.9**	**+9.0**
OUZ	**Omahuta**	**8.51**	**233**	PN		**P**	**08 53 59.6**	**+7.7**
MWZ	**Matawai**	**8.74**	**203**	*e*P		**P**	**08 53 52.3**	**-2.8**
MWZ	**Matawai**	**8.74**	**203**	PN		**P**	**08 53 51.9**	**-3.1**
MWZ				SN		**S**	**08 55 33.6**	**+0.4**
URZ	**Urewera**	**8.82**	**205**	P		**P**	**08 53 53.6**	**-2.6**
URZ	9.4nm,0.3s,baz=9.4,slow=3.4,SNR=71 141nm,0.3s,baz=164,slow=23,SNR=19			S		**S**	**08 55 36.6**	**+1.4**
URZ	**Urewera**	**8.82**	**205**	*e*P		**P**	**08 53 53.6**	**-2.6**
URZ	**Urewera**	**8.82**	**205**	PN		**P**	**08 53 53.6**	**-2.6**
URZ				SN		**S**	**08 55 34.5**	**-0.7**
KNZ	**Kokohu**	**9.32**	**201**	*e*P		**P**	**08 53 58.7**	**-4.3**
KNZ	**Kokohu**	**9.32**	**201**	PN		**P**	**08 53 58.7**	**-4.3**
KNZ				SN		**S**	**08 55 47.6**	**+0.3**
BKZ	**Black Stump Fm**	**9.85**	**205**	*e*P		**P**	**08 54 06.8**	**-3.5**
BKZ	**Black Stump Fm**	**9.85**	**205**	PN		**P**	**08 54 06.8**	**-3.5**
BKZ				SN		**S**	**08 56 00.4**	**0.0**
HIZ	**Hauiti**	**10.00**	**214**	*e*P		**P**	**08 54 14.6**	**+2.3**
HIZ	**Hauiti**	**10.00**	**214**	PN		**P**	**08 54 13.6**	**+1.2**
NGZ	**Ngauruhoe**	**10.21**	**209**	P		**P**	**08 54 15.3**	**+1.1**
NGZ	**Ngauruhoe**	**10.21**	**209**	PN		**P**	**08 54 15.3**	**+0.2**
TUVZ	**Tukino**	**10.26**	**208**	SN		**S**	**08 56 10.1**	**-0.3**
FWVZ	**Far West T-bar**	**10.30**	**209**	PN		**P**	**08 54 17.2**	**+0.8**
FWVZ				SN		**S**	**08 56 12.9**	**+1.8**
MOVZ	**Moawhango**	**10.34**	**208**	P		**P**	**08 54 14.0**	**-3.0**
MOVZ	**Moawhango**	**10.34**	**208**	PN		**P**	**08 54 14.0**	**-3.0**
PKVZ	**Pokaka**	**10.41**	**209**	PN		**P**	**08 54 17.2**	**-0.7**
MTVZ	**Mangateitei**	**10.44**	**209**	PN		**P**	**08 54 17.3**	**-1.0**
PWZ	**Pawanui**	**10.49**	**202**	*e*P		**P**	**08 54 14.3**	**-4.7**
PWZ	**Pawanui**	**10.49**	**202**	PN		**P**	**08 54 14.3**	**-4.7**
PWZ				SN		**S**	**08 56 10.4**	**-5.6**
TSZ	**Takapari Road**	**10.83**	**205**	P		**P**	**08 54 18.4**	**-5.2**
TSZ	**Takapari Road**	**10.83**	**205**	PN		**P**	**08 54 18.4**	**-5.2**
TSZ				SN		**S**	**08 56 20.3**	**-3.8**
WAZ	**Wanganui**	**10.95**	**209**	PN		**P**	**08 54 21.0**	**-4.3**
BFZ	**Birch Farm**	**11.28**	**203**	P		**P**	**08 54 28.3**	**-1.4**
BFZ	**Birch Farm**	**11.28**	**203**	PN		**P**	**08 54 26.8**	**-2.9**
BFZ				SN		**S**	**08 56 29.7**	**-5.4**
MRZ	**Mangatainoka R**	**11.50**	**205**	*e*P		**P**	**08 54 26.6**	**-6.0**
MRZ	**Mangatainoka R**	**11.50**	**205**	PN		**P**	**08 54 26.1**	**-6.5**
MRZ				SN		**S**	**08 56 33.2**	**-7.1**
KIW	**Kapiti Island**	**11.92**	**207**	P		**P**	**08 54 33.3**	**-5.0**
KIW	**Kapiti Island**	**11.92**	**207**	PN		**P**	**08 54 33.3**	**-5.0**
KIW				SN		**S**	**08 56 45.6**	**-4.9**
MTW	**Mount Morrison**	**11.96**	**204**	P		**P**	**08 54 32.6**	**-6.2**
MTW	**Mount Morrison**	**11.96**	**204**	PN		**P**	**08 54 32.6**	**-6.2**
MTW				SN		**S**	**08 56 43.8**	**-7.7**
CAW	**Cannon Point**	**12.07**	**205**	P		**P**	**08 54 34.6**	**-5.7**
CAW	**Cannon Point**	**12.07**	**205**	PN		**P**	**08 54 34.6**	**-5.7**
TRWZ	**Traveller**	**12.11**	**203**	PN		**P**	**08 54 35.2**	**-5.7**
MSWZ	**Moikau Station**	**12.28**	**204**	P		**P**	**08 54 38.1**	**-5.0**
MRW	**Makara Radio**	**12.32**	**206**	P		**P**	**08 54 39.3**	**-4.3**
SNZO	**South Karori**	**12.38**	**206**	*e*P		**P**	**08 54 37.2**	**-7.3**
TCW	**Tory Channel**	**12.47**	**208**	P		**P**	**08 54 40.1**	**-5.5**
BSWZ	**Blackbirch Sta**	**13.05**	**208**	P		**P**	**08 54 51.0**	**-2.4**
THZ	**Tophouse**	**13.50**	**210**	*e*P		**P**	**08 54 56.2**	**-3.0**
KHZ	**Kahutara**	**13.78**	**207**	*e*P		**P**	**08 54 56.7**	**-6.1**
LTZ	**Lake Taylor**	**14.60**	**209**	*e*P		**P**	**08 55 11.8**	**-1.8**
WVZ	**Waitaha Valley**	**15.52**	**212**	*e*P		**P**	**08 55 24.9**	**-0.4**
RPZ	**Rata Peaks**	**15.88**	**210**	P		**P**	**08 55 30.2**	**+0.3**
RPZ	7.7nm,0.3s,baz=50,slow=3.2,SNR=18 21nm,0.3s,baz=355,slow=21,SNR=9.9			S		**S**	**08 58 17.2**	**-6.8**
RPZ	**Rata Peaks**	**15.88**	**210**	*e*P		**P**	**08 55 28.1**	**-1.9**
DZM	**Mont Dzumac**	**16.13**	**297**	*e*P		**P**	**08 55 37.6**	**+4.3**
DZM				*e*S		S	08 58 52.9	+23
DZM	**Mont Dzumac**	**16.13**	**297**	P		**P**	**08 55 39.3**	**+6.1**
DZM	1.7nm,0.3s,baz=90,slow=16,SNR=26 comp=Z,56µm,21.3s,baz=121,slow=32			LR		LR	09 00 29.6	
DZM	**Mont Dzumac**	**16.13**	**297**	*e*P		**P**	**08 55 37.6**	**+4.3**
DZM				*e*S		S	08 58 52.9	+23
FOZ	**Fox Glacier**	**16.38**	**213**	*e*P		**P**	**08 55 36.4**	**+0.2**
LBZ	**Lake Benmore**	**16.79**	**210**	*e*P		**P**	**08 55 38.6**	**-2.8**
ODZ	**Otahua Downs**	**17.13**	**208**	*e*P		**P**	**08 55 47.6**	**+2.0**
JCZ	**Jackson Bay**	**17.20**	**214**	*e*P		**P**	**08 55 43.5**	**-3.1**
AFI	**Afiamalu**	**17.38**	**21**	P		**P**	**08 55 36.9**	**-12**
AFI	7.7nm,0.3s,baz=338,slow=20,SNR=7.9 19nm,0.3s,baz=32,slow=19,SNR=4.6			S		S	08 58 35.1	-23
WKZ	**Wanaka**	**17.66**	**212**	*e*P		**P**	**08 55 48.4**	**-3.8**
TUZ	**Tuapeka**	**18.29**	**208**	*e*P		**P**	**08 56 00.7**	**+0.7**
MLZ	**Mavora Lakes**	**18.44**	**212**	*e*P		**P**	**08 56 01.8**	**0.0**
RIV	**Riverview**	**26.23**	**254**	⇑*i*P		**P**	**08 57 25.2**	**+5.0**
TBI	**Tubuai**	**26.44**	**82**	*e*P		**P**	**08 57 22.6**	**+0.4**
TBI	39µm,31.0s			*e*LR		LR	09 03 14.8	
TBI	21µm,25.9s			*e*LR		LR	09 03 30.9	
CNB	**Canberra Magne** 201nm,1.0s,mb5.7	**27.71**	**251**	⇑*i*P		**P**	**08 57 37.8**	**+4.0**
CNB				*e*PCP		PcP	09 00 50.5	+0.9
CNB				*e*S			09 02 47.4	
PAE	**Paea** 366nm,1.4s,mb5.9	**28.86**	**71**	*e*P		**P**	**08 57 41.3**	**-2.9**
PPT	**Papeete**	**28.91**	**70**	*e*P		**P**	**08 57 42.0**	**-2.7**
PPT				*e*pP		pP	08 57 46.9	-12
PPT				*e*LR		LR	09 04 40.3	
PPT	9µm,25.2s **Papeete** 43nm,0.9s,mb5.2,baz=210,slow=2.1,SNR=6.6	**28.91**	**70**	P		**P**	**08 57 41.4**	**-3.3**
PPT	comp=Z,83nm,21.0s,MS5.3,baz=236,slow=30			LR		LR	09 06 09.8	
TVO	**Taravao**	**29.07**	**71**	*e*P		**P**	**08 57 43.3**	**-2.7**
TVO	18µm,25.0s			*e*LR		LR	09 04 41.8	
HNR	**Honiara**	**29.21**	**311**	P		**P**	**08 57 38.5**	**-8.8**
HNR	comp=Z,439nm,1.0s,mb6.1			pmax		pmax		
HNR	comp=Z,9µm,21.4s,MS5.4			MLR		MLR		
HNR	**Honiara** comp=Z,439nm,1.0s,mb6.1,baz=62,slow=1.2,SNR=3.5	**29.21**	**311**	P		**P**	**08 57 38.5**	**-8.8**
HNR				LR		LR	09 07 36.5	
TAU	**Tasmania Unive**	**30.23**	**236**	PFAKE			08 58 10.0	+14
TAU	comp=Z,5µm,22.0s,MS5.1			LR		LR		
TOO	**Toolangi** comp=Z,142nm,0.8s,mb5.8	**30.90**	**247**	⇑*i*P		**P**	**08 58 06.0**	**+3.8**
TOO				*e*PCP		PcP	09 00 58.2	+0.5
PMOR	**Pomariorio Ree**	**31.65**	**68**	*e*P		**P**	**08 58 06.4**	**-2.5**
PMOR	comp=Z,20µm,25.2s			*e*LR		LR	09 05 58.9	
CTA	**Charters Tower** comp=Z,209nm,0.5s,mb6.3	**33.71**	**279**	*e*P		**P**	**08 58 29.2**	**+2.5**
CTA				*e*SCP			09 04 55.6	
CTAO	**Charters Tower** comp=Z,338nm,0.9s,mb6.3	**33.71**	**279**	*e*P		**P**	**08 58 28.4**	**+1.6**
CTAO	comp=Z,27µm,22.0s,MS5.9			LR		LR		
STKA	**Stephens Creek** comp=Z,374nm,1.0s,mb6.3	**34.41**	**257**	⇑*i*P		**P**	**08 58 35.7**	**+3.1**
STKA				*e*SCP			09 04 56.6	
STKA	**Stephens Creek** comp=Z,301nm,0.8s,mb6.3,baz=98,slow=9.5,SNR=301	**34.41**	**257**	P		**P**	**08 58 35.3**	**+2.7**
STKA	comp=Z,22µm,19.6s,MS5.9,baz=90,slow=34			LR		LR	09 11 26.7	
ADE	**Adelaide**	**36.45**	**251**	⇓*i*P		**P**	**08 58 53.8**	**+3.9**
PMG	**Port Moresby** comp=Z,22nm,0.8s,mb5.0,baz=121,slow=5.5,SNR=2.9	**38.51**	**295**	P		**P**	**08 59 07.9**	**+0.6**
PMG	comp=Z,15µm,20.9s,MS5.8,baz=322,slow=32			LR		LR	09 12 20.9	
KWAJ	**Kwajalein Atol**	**41.28**	**338**	PFAKE			08 59 40.0	+10
KWAJ	comp=Z,2µm,22.0s,MS5.0			LR		LR		
TAOE	**Nuku Hiva Isla** comp=Z,61µm,29.4s	**41.37**	**67**	*e*LR		LR	09 09 56.7	
PTCN	**Pitcairn Islan**	**42.57**	**95**	PFAKE			08 59 50.0	+9.2
PTCN	comp=Z,8µm,19.0s,MS5.6			LR		LR		
WB2	**Warramunga Arr**	**44.00**	**272**	⇑*i*P		**P**	**08 59 53.3**	**+0.8**
WB2				*e*SCP			09 05 28.7	
WB2				*e*S		**S**	**09 06 21.8**	**+2.1**
WRAB	**Tennant Creek**	**44.01**	**272**	*c* *i*P		**P**	**08 59 53.6**	**+1.1**
WRAB	**Tennant Creek** comp=Z,399nm,0.7s,mb6.3	**44.01**	**272**	*e*P		**P**	**08 59 53.2**	**+0.6**
WRAB	comp=Z,6µm,22.0s,MS5.5			LR		LR		
WRA	**Warramunga Arr**	**44.01**	**272**	P		**P**	**08 59 53.3**	**+0.7**
WRA				S		**S**	**09 06 20.5**	**+0.6**
WRA	**Warramunga Arr** comp=Z,264nm,0.7s,mb6.1,baz=110,slow=8.1,SNR=499	**44.01**	**272**	P		**P**	**08 59 53.3**	**+0.8**
WRA				ScP			09 05 24.6	
WRA	comp=Z,5.8nm,0.8s,baz=113,slow=3.4,SNR=3.6			S		**S**	**09 06 20.5**	**+0.7**
WRA	comp=Z,6.8nm,0.8s,baz=110,slow=13,SNR=5.1			PKiKP			09 08 37.7	
DRV	comp=Z,2.0nm,0.8s,baz=109,slow=0.4,SNR=6.7 **Dumont d'Urvil**	**44.15**	**202**	P		**P**	**09 00 05.0**	**+12**
DRV				S		**S**	**09 06 31.0**	**+10**
DRV				L			09 10 00.0	
DRV				R			09 13 00.0	
SBA	**Scott Base**	**48.07**	**184**	P		**P**	**09 00 29.4**	**+5.4**
SBA	comp=Z,430nm,1.5s,mb6.3			pmax		pmax		
SBA	**Scott Base** comp=Z,432nm,1.5s,mb6.3	**48.07**	**184**	*e*P		**P**	**09 00 29.0**	**+5.0**
SBA	comp=Z,3µm,22.0s,MS5.2			LR		LR		
VNDA	**Vanda**	**48.13**	**186**	P		**P**	**09 00 28.6**	**+4.2**
VNDA	**Vanda** comp=Z,28nm,1.1s,mb5.2,baz=11,slow=7.7,SNR=45	**48.13**	**186**	P		**P**	**09 00 27.3**	**+2.9**
VNDA	comp=Z,3µm,20.9s,MS5.2,baz=36,slow=31			LR			09 17 13.1	
VNDA	**Vanda** comp=Z,92nm,1.4s,mb5.6	**48.13**	**186**	⇑*e*P		**P**	**09 00 28.4**	**+4.0**
VNDA	comp=Z,3µm,21.0s,MS5.2			LR		LR		
KAKA	**Kakadu**	**48.84**	**280**	*e*P		**P**	**09 00 30.9**	**+0.2**
WAKE	comp=Z,86nm,0.6s,mb6.0 **Wake Island**	**51.49**	**341**	*e*P		**P**	**09 00 45.9**	**-4.9**
WAKE	comp=Z,157nm,0.7s,mb6.0 comp=Z,8µm,22.0s,MS5.7			LR		LR		
FITZ	**Fitzroy Crossi** comp=Z,154nm,0.7s,mb6.0	**52.27**	**270**	⇑*i*P		**P**	**09 00 57.5**	**+0.8**
KLBR	**Kellerberrin** comp=Z,115nm,1.1s,mb5.7	**54.28**	**251**	*e*P		**P**	**09 01 11.2**	**-0.3**
KLBR				*e*pP		pP	09 01 29.1	+2.1
KLBR				*e*SCP			09 06 12.6	
NWAO	**Narrogin (SRO)**	**54.33**	**249**	*e*P		**P**	**09 01 11.6**	**-0.2**
NWAO	comp=Z,6µm,20.0s			MLR		MLR		
POHA	**Pohakuloa** comp=Z,572nm,1.1s,mb6.4	**54.35**	**26**	*e*P		**P**	**09 01 09.9**	**-2.2**
POHA	comp=Z,19µm,21.0s,MS6.1			LR		LR		
KIP	**Kipapa**	**54.98**	**23**	PFAKE			09 01 30.0	+13
KIP	comp=Z,2µm,20.0s,MS5.1			LR		LR		
CASY	**Casey**	**55.14**	**208**	⇑*i*P		**P**	**09 01 17.9**	**+0.7**
MUN	**Mundaring** comp=Z,32nm,0.8s,mb5.4	**55.43**	**250**	*e*P		**P**	**09 01 19.9**	**+0.1**
MUN				*e*PCP		PcP	09 02 19.5	+0.2
MUN				*e*SCP			09 06 20.8	
MUN	**Mundaring**	**55.43**	**250**	*e*P		**P**	**09 01 19.9**	**+0.1**
MUN				*e*			09 02 19.5	
MUN	comp=Z,32nm,0.8s,mb5.4			pmax		pmax		
MBWA	**Marble Bar** comp=Z,79nm,0.9s,mb5.7	**56.15**	**264**	*e*P		**P**	**09 01 24.3**	**-0.7**
MBWA	comp=Z,19µm,19.0s,MS6.2			LR		LR		
GUMO	**Guam**	**56.39**	**315**	PFAKE			09 01 40.0	+13
GUMO	comp=Z,8µm,

MJAR	**Matsushiro Arr**	**78.16**	**325**	P	**P**	**09 03 41.7**	**-1.9**		
	comp=Z,52nm,1.0s,mb5.4,baz=168,slow=5.7,SNR=43								
MJAR				LR	LR	09 35 05.8			
	comp=Z,1μm,20.9s,MS5.3,baz=125,slow=33								
MAJO	**Matsushiro**	**78.16**	**325**	P	**P**	**09 03 42.6**	**-1.0**		
MAJO				pmax	pmax				
	comp=Z,81nm,1.1s,mb5.6								
MAJO	**Matsushiro**	**78.16**	**325**	*e*P	**P**	**09 03 42.3**	**-1.3**		
	comp=Z,63nm,1.0s,mb5.5								
MAJO				LR	LR				
	comp=Z,2μm,22.0s,MS5.4								
MAT	**Matsushiro**	**78.16**	**325**	*e*P	**P**	**09 03 42.0**	**-1.6**		
MAT				*e*S	S	09 13 37.0	+4.9		
MAT				pmax	pmax				
	comp=Z,54nm,1.0s,mb5.4								
MAT				MLR	MLR				
	comp=Z,2μm,22.0s,MS5.5								
MAT	**Matsushiro**	**78.16**	**325**	*e*P	**P**	**09 03 42.0**	**-1.6**		
	comp=Z,54nm,1.0s,mb5.4								
MAT				*e*S	S	09 13 37.0	+4.9		
MAT				LR	LR				
	comp=Z,2μm,22.0s,MS5.5								
MAT	**Matsushiro**	**78.16**	**325**	P	**P**	**09 03 42.3**	**-1.3**		
MAT				S	S	09 13 36.0	+3.9		
SNAA	**Sanae**	**78.20**	**178**	*e*S	S	09 13 33.6	+1.8		
SNAA	**Sanae**	**78.20**	**178**	P	**P**	**09 03 45.2**	**+2.1**		
SNAA				*e*		09 03 55.8			
SNAA				*e*	pP	09 04 00.2	+0.8		
SNAA				*e*S	S	09 13 33.6	+1.8		
SNAA				*e*		09 13 53.9			
SNAA				*e*		09 14 01.4			
SNAA	**Sanae**	**78.20**	**178**	S	S	09 13 36.0	+4.2		
	comp=Z,1.7nm,1.3s,baz=301,slow=4.0,SNR=3.1								
SNAA				PKKPbc		09 22 38.4			
	comp=Z,0.7nm,0.8s,baz=358,slow=2.9,SNR=3.7								
SNAA	**Sanae**	**78.20**	**178**	P	**P**	**09 03 45.2**	**+2.1**		
SNAA				*e*		09 03 55.8			
SNAA				*e*	pP	09 04 00.2	+0.8		
SNAA				*e*	pP	09 04 03.0	+3.6		
SNAA				*e*S	S	09 13 33.6	+1.8		
SNAA				*e*		09 13 53.9			
SNAA				*e*		09 14 01.4			
SNAA				*e*		09 22 42.2			
SNAA				*e*		09 30 42.3			
VNA3	**Neumayer Olymp**	**78.35**	**176**	*e*	PcP	09 03 53.9	+0.5		
VNA3	**Neumayer Olymp**	**78.35**	**176**	*e*	pP	09 04 01.0	+0.7		
VNA3	**Neumayer Olymp**	**78.35**	**176**	*e*	sP	09 04 04.0	-2.7		
VNA3	**Neumayer Olymp**	**78.35**	**176**	*e*S	S	09 13 46.2	+13		
VNA3	**Neumayer Olymp**	**78.35**	**176**	⇓ *i* P	**P**	**09 03 45.6**	**+1.7**		
VNA3				*e*		09 03 53.9			
VNA3				*e*	pP	09 04 01.0	+0.7		
VNA3				*e*	pP	09 04 04.0	+3.7		
VNA3				*e*S	S	09 13 46.2	+13		
VNA3				*e*		09 14 02.9			
VNA3				*e*		09 22 43.2			
VNA3				*e*		09 30 41.7			
VNA2	**Neumayer--Watz**	**78.79**	**177**	*e*	PcP	09 03 57.1	+1.8		
VNA2	**Neumayer--Watz**	**78.79**	**177**	*e*	pP	09 04 03.5	+0.8		
VNA2	**Neumayer--Watz**	**78.79**	**177**	*e*	sP	09 04 06.7	-2.4		
VNA2	**Neumayer--Watz**	**78.79**	**177**	*e*S	S	09 13 48.1	+10		
VNA2	**Neumayer--Watz**	**78.79**	**177**	⇓ *i* P	**P**	**09 03 48.5**	**+2.2**		
VNA2				*e*		09 03 57.1			
VNA2				*e*	pP	09 04 03.5	+0.8		
VNA2				*e*	pP	09 04 06.7	+4.0		
VNA2				*e*S	S	09 13 48.1	+10		
VNA2				*e*		09 14 07.3			
VNA2				*e*		09 22 42.4			
VNA2				*e*		09 30 43.6			
MAIT	**Maitri**	**78.91**	**183**	*e*P	**P**	**09 03 49.8**	**+2.8**		
NVL	**N'lazarevskaya**	**78.92**	**183**	⇑ *i* P	**P**	**09 03 47.2**	**+0.2**		
NVL				*i* *PP	pP	09 03 57.5	-5.9		
NVL				*i* *SP	sP	09 04 01.2	-8.6		
NVL				*i*	pP	09 04 03.4	0.0		
NVL				pmax	pmax				
	comp=Z,13nm,1.0s,mb4.8								
NVL				MLR	MLR				
	comp=Z,110nm,17.8s,MS4.2								
VNA1	**Neumayer--Stat**	**79.02**	**177**	*e*	PcP	09 03 58.8	+2.5		
VNA1	**Neumayer--Stat**	**79.02**	**177**	*e*	pP	09 04 03.4	-0.6		
VNA1	**Neumayer--Stat**	**79.02**	**177**	*e*	pP	09 04 06.9	+2.9		
VNA1	**Neumayer--Stat**	**79.02**	**177**	P	**P**	**09 03 50.0**	**+2.4**		
VNA1				*e*		09 03 58.8			
VNA1				*e*	pP	09 04 03.4	-0.6		
VNA1				*e*	pP	09 04 06.9	+2.9		
VNA1				*e*		09 22 44.1			
VNA1				*e*		09 30 45.0			
NACB	**Ninganchiao**	**79.26**	**306**	*e*P	**P**	**09 03 47.9**	**-2.0**		
JNU	**Nakatsue**	**79.47**	**318**	LR	LR	09 35 59.7			
	comp=Z,911nm,21.6s,MS5.1,baz=133,slow=33								
TATO	**Taipei**	**79.85**	**307**	PFAKE		09 04 00.0	+7.0		
TATO				LR	LR				
	comp=Z,2μm,22.0s,MS5.5								
KGM	**Kluang**	**81.17**	**278**	P	**P**	**09 04 01.7**	**+1.4**		
QZH	**Quanzhou**	**81.86**	**305**	⇑ *i* P	**P**	**09 04 02.8**	**-0.8**		
QZH				S	S	09 14 08.0	-3.0		
QZH				XS		09 14 25.5			
QZH				AMB	AMB				
	comp=Z,700nm,2.5s,mb6.2								
QZH				AMB	AMB				
	comp=Z,1μm,8.6s								
QZH				LR	LR				
	comp=N,2μm,21.9s,MS5.7								
QZH				LR	LR				
	comp=E,3μm,23.6s,MS5.7								
QZH				LR	LR				
	comp=Z,3μm,27.8s,MS5.6								
ASAJ	**Asahikawa**	**82.36**	**333**	LR	LR	09 36 23.4			
	comp=Z,5μm,21.6s,MS5.8,baz=186,slow=33								
PLCA	**Paso Flores**	**82.60**	**133**	P	**P**	**09 04 08.9**	**+1.8**		
PLCA	**Paso Flores**	**82.60**	**133**	*e*P	**P**	**09 04 09.0**	**+1.9**		
PLCA				pmax	pmax				
	comp=Z,38nm,0.9s								
PLCA				MLR	MLR				
	comp=Z,4μm,19.0s								
PLCA	**Paso Flores**	**82.60**	**133**	P	**P**	**09 04 09.2**	**+2.1**		
PLCA				pmax	pmax				
	comp=Z,110nm,1.1s								
PLCA	**Paso Flores**	**82.60**	**133**	P	**P**	**09 04 09.0**	**+1.9**		
	comp=Z,40nm,0.9s,mb5.5,baz=228,slow=5.3,SNR=68								
PLCA				PKPPKP		09 30 37.6			
	comp=Z,2.9nm,1.0s,baz=30,slow=4.4,SNR=4.1								
PLCA				LR	LR	09 32 06.9			
	comp=Z,3μm,21.2s,MS5.6,baz=271,slow=29								
PLCA	**Paso Flores**	**82.60**	**133**	*e*P	**P**	**09 04 09.0**	**+1.9**		
	comp=Z,38nm,0.9s,mb5.4								
PLCA				*e*	pP	09 04 28.1	+4.6		
PLCA				LR	LR				
	comp=Z,4μm,19.0s,MS5.8								
FX1	**Attu Island--F**	**83.23**	**355**	P	**P**	**09 04 08.7**	**-1.3**		
FX1				pmax	pmax				
	comp=Z,66nm,0.8s								
FX1	**Attu Island--F**	**83.23**	**355**	P	**P**	**09 04 08.7**	**-1.3**		
	comp=Z,66nm,0.8s,mb5.7,baz=155,slow=3.4,SNR=26								
FX1	**Attu Island--F**	**83.23**	**355**	*e*P	**P**	**09 04 09.0**	**-1.0**		
SKR	**Severo-Kuril's**	**83.85**	**344**	*e*P	**P**	**09 04 09.0**	**-4.1**		
SKR				*e*	pP	09 04 22.0	-7.6		
SKR				S	S	09 14 21.0	-9.4		
SKR				*e*PS	PS	09 15 18.0	-14		
SKR				pmax	pmax				
	comp=Z,90nm,0.7s,mb6.0								
SKR				pmax	pmax				
	comp=Z,2μm,4.0s								
SKR				smax					
	comp=N,3μm,14.0s								
SKR				smax					
	comp=E,5μm,14.0s								
SKR				MLR	MLR				
	comp=N,6μm,20.0s,MS6.1								
SKR				MLR	MLR				
	comp=E,4μm,20.0s,MS6.1								
SKR				MLR	MLR				
	comp=Z,6μm,20.0s,MS6.0								
SSE	**Sheshan**	**84.02**	**311**	P	**P**	**09 04 13.9**	**-0.6**		
SSE				PP	PP	09 07 29.3	-1.1		
SSE				S	S	09 14 38.1	+5.5		
SSE				SS	SS	09 20 08.3	+3.7		
SSE				AMB	AMB				
	comp=Z,38nm,0.7s,mb5.6								
SSE				AMB	AMB				
	comp=Z,738nm,11.4s								
SSE				LR	LR				
	comp=N,1μm,23.5s,MS5.4								
SSE				LR	LR				
	comp=E,1μm,23.5s,MS5.4								
SSE				LR	LR				
	comp=Z,3μm,24.6s,MS5.5								
SSE	**Sheshan**	**84.02**	**311**	P	**P**	**09 04 13.9**	**-0.6**		
	comp=Z,38nm,0.7s,mb5.6								
SSE				pP	pP	09 04 28.4	-2.6		
SSE				sP	sP	09 04 34.3	-3.0		
SSE				PP	PP	09 07 29.2	-1.2		
SSE				S	S	09 14 38.1	+5.5		
SSE				sS		09 15 01.7			
SSE				SS	SS	09 20 08.2	+3.6		
SSE				LR	LR				
	comp=Z,3μm,24.6s,MS5.5								
SNCC	**San Nicolas Is**	**84.07**	**46**	PFAKE		09 04 30.0	+15		
SNCC				LR	LR				
	comp=Z,3μm,19.0s,MS5.6								
KS15	**Wonju Array Si**	**84.27**	**320**	*e*P	**P**	**09 04 15.1**	**-0.5**		
IPM	**Ipoh**	**84.45**	**279**	P	**P**	**09 04 17.9**	**+0.8**		
GZH	**Guangzhou**	**84.55**	**301**	P	**P**	**09 04 18.8**	**+1.5**		
GZH				S	S	09 14 37.4	-0.7		
GZH				LR	LR				
	comp=N,466nm,17.4s,MS5.3								
GZH				LR	LR				
	comp=E,970nm,18.3s,MS5.3								
GZH				LR	LR				
	comp=Z,2μm,25.2s								
YSS	**Yuzh-Sakhalins**	**84.67**	**334**	*e*eP	**P**	**09 04 17.1**	**-0.3**		
YSS				*e**PP	pP	09 04 35.0	+1.1		
YSS				*e*PPS	PS	09 15 42.0	-0.2		
YSS				*e*SSS	SSS	09 23 40.0	-2.1		
YSS				pmax	pmax				
	comp=N,30nm,0.9s								
YSS				pmax	pmax				
	comp=Z,140nm,0.9s,mb6.1								
YSS				MLR	MLR				
	comp=N,2μm,19.0s								
YSS				MLR	MLR				
	comp=Z,2μm,19.0s,MS5.6								
YSS	**Yuzh-Sakhalins**	**84.67**	**334**	*e*P	**P**	**09 04 17.4**	**+0.1**		
	comp=Z,120nm,0.8s,mb6.1								
YSS				LR	LR				
	comp=Z,5μm,22.0s,MS5.9								
AKUT	**Akutan**	**84.81**	**7**	*e*P	**P**	**09 04 17.1**	**-0.8**		
QIZ	**Qiongzhong**	**84.90**	**295**	P	**P**	**09 04 19.5**	**+0.4**		
QIZ				PP	PP	09 07 34.4	-3.4		
QIZ				S	S	09 14 37.5	-4.0		
QIZ				SS	SS	09 20 18.5	+0.4		
QIZ				LR	LR				
	comp=N,727nm,32.6s,MS5.1								
QIZ				LR	LR				
	comp=E,919nm,32.6s,MS5.1								
QIZ				LR	LR				
	comp=Z,4μm,39.4s								
INCN	**Inchon**	**85.01**	**319**	PFAKE		09 04 30.0	+11		
INCN				LR	LR				
	comp=Z,842nm,19.0s,MS5.2								
KULM	**Kulim**	**85.13**	**279**	*e*P	**P**	**09 04 19.2**	**-1.2**		
PTRM	**Twissleman Ran**	**85.27**	**44**	*e*P	**P**	**09 04 21.2**	**+0.5**		
SAO	**San Andreas Ge**	**85.30**	**42**	P	**P**	**09 04 21.5**	**+0.8**		
SAO				pmax	pmax				
	comp=Z,110nm,1.5s,mb5.8								
SAO	**San Andreas Ge**	**85.30**	**42**	*e*P	**P**	**09 04 20.8**	**0.0**		
	comp=Z,86nm,1.4s,mb5.7								
SAO				LR	LR				
	comp=Z,3μm,19.0s,MS5.8								
LRV	**Little Rabbit**	**85.32**	**43**	*e*P	**P**	**09 04 21.2**	**+0.4**		
PET	**Petropavlovsk**	**85.47**	**346**	*c* *i* P	**P**	**09 04 19.4**	**-1.7**		
PET				*i* S		09 14 35.1			
PET				*e*PPS	PS	09 15 44.5	-7.5		
PET				pmax	pmax				
	comp=Z,1μm,7.8s								
PET				pmax	pmax				
	comp=Z,1μm,19.4s								
PET				pmax	pmax				
	comp=Z,72nm,0.6s,mb6.0								
PET				smax					
	comp=E,900nm,24.5s								
PET				smax					
	comp=N,2μm,22.6s								
PET				MLR	MLR				
	comp=Z,2μm,20.0s,MS5.5								
PET				MLR	MLR				
	comp=Z,2μm,20.0s								
PET	**Petropavlovsk**	**85.47**	**346**	*e*P	**P**	**09 04 20.3**	**-0.8**		
	comp=Z,43nm,0.6s,mb5.8								
PET				LR	LR				
	comp=Z,3μm,20.0s,MS5.7								
BAR	**Barrett**	**85.50**	**48**	*e*P	**P**	**09 04 20.2**	**-1.7**		
BAR				*e*PP	PP	09 07 53.5	+11		
MWC	**Mount Wilson**	**85.63**	**46**	*e*P	**P**	**09 04 22.5**	**0.0**		
MWC				*e*	pP	09 04 40.6	+1.6		
MWC				*e*PP	PP	09 07 52.8	+10		
HOPS	**Hopland**	**85.93**	**40**	*e*P	**P**	**09 04 24.0**	**+0.3**		
	comp=Z,158nm,1.4s,mb6.0								
HOPS				LR	LR				
	comp=Z,2μm,19.0s,MS5.6								
CJM	**Chamela**	**85.94**	**65**	*i* P	**P**	**09 04 22.9**	**-1.3**		
SNG	**Songkhla**	**86.13**	**281**	P	**P**	**09 04 26.0**	**+0.7**		
KCPM	**Cahto Peak**	**86.14**	**39**	*e*P	**P**	**09 04 22.7**	**-2.0**		
NJ2	**Nanjing**	**86.15**	**311**	*e*P	**P**	**09 04 24.4**	**-0.6**		
NJ2				AP	pP	09 04 34.4	-7.2		
NJ2				XP	sP	09 04 39.3	-8.5		
NJ2				PP	PP	09 07 44.9	-2.8		
NJ2				SKS	SKS	09 14 44.0	+1.0		
NJ2				S	S	09 14 54.0	+0.6		
NJ2				XS		09 15 12.0			
NJ2				AMB	AMB				
	comp=Z,30nm,0.6s,mb5.7								
NJ2				AMB	AMB				
	comp=Z,662nm,6.8s								
NJ2				LR	LR				
	comp=N,4μm,24.1s,MS5.9								
NJ2				LR	LR				
	comp=E,3μm,23.0s,MS5.9								
NJ2				LR	LR				
	comp=Z,8μm,22.5s,MS6.0								
PFO	**Pinyon Flat Ob**	**86.24**	**47**	*e*P	**P**	**09 04 26.0**	**+0.6**		
PFO				pmax	pmax				
	comp=Z,180nm,1.5s,mb6.1								
PFO	**Pinyon Flat Ob**	**86.24**	**47**	*e*P	**P**	**09 04 25.6**	**+0.1**		
	comp=Z,122nm,1.3s,mb6.0								
PFO				*e*PP	PP	09 07 58.4	+10		
PFO				LR	LR				
	comp=Z,629nm,19.0s,MS5.0								
KIPM	**Iron Peak**	**86.28**	**39**	*e*P	**P**	**09 04 26.2**	**+0.8**		
ISA	**Isabella**	**86.33**	**45**	P	**P**	**09 04 27.7**	**+1.9**		
ISA				pmax	pmax				
	comp=Z,14nm,1.1s,mb5.1								
ISA	**Isabella**	**86.33**	**45**	*e*P	**P**	**09 04 26.2**	**+0.5**		
	comp=Z,28nm,0.9s,mb5.5								
ISA				LR	LR				
	comp=Z,558nm,20.0s,MS5.0								
UBT	**Ubonrachathani**	**86.68**	**290**	⇑ P	**P**	**09 04 29.5**	**+1.6**		
SDPT	**Sand Point**	**86.69**	**10**	*e*P	**P**	**09 04 26.9**	**-0.2**		
CLCH	**Cerro Calan**	**86.72**	**127**	*i* P	**P**	**09 04 29.1**	**+1.4**		
CMB	**Columbia Colle**	**86.78**	**42**	P	**P**	**09 04 27.8**	**-0.2**		
CMB				pmax	pmax				
	comp=Z,110nm,1.3s,mb5.9								
CMB	**Columbia Colle**	**86.78**	**42**	*e*P	**P**	**09 04 27.4**	**-0.6**		
	comp=Z,21nm,0.8s,mb5.4								
CMB				LR	LR				
	comp=Z,3μm,22.0s,MS5.7								
KHMM	**Horse Mountain**	**86.90**	**38**	*e*P	**P**	**09 04 28.0**	**-0.5**		
FCH	**Farellones**	**86.92**	**127**	*e*P	**P**	**09 04 30.8**	**+2.0**		
GSC	**Goldstone**	**87.11**	**46**	*e*P	**P**	**09 04 30.1**	**+0.4**		
DAC	**Darwin (Calif)**	**87.27**	**45**	*e*P	**P**	**09 04 30.7**	**+0.3**		
DAC				pmax	pmax				
	comp=Z,64nm,1.4s,mb5.7								
DAC				MLR	MLR				
	comp=Z,3μm,20.0s,MS5.6								
DAC	**Darwin (Calif)**	**87.27**	**45**	*e*P	**P**	**09 04 30.6**	**+0.3**		
	comp=Z,64nm,1.4s,mb5.7								
DAC				*e*PP	PP	09 08 05.9	+8.6		
DAC				LR	LR				
	comp=Z,3μm,20.0s,MS5.6								
OMM	**Old Mammoth Mi**	**87.32**	**43**	*e*P	**P**	**09 04 30.7**	**+0.1**		
WDC	**Whiskeytown Da**	**87.33**	**39**	P	**P**	**09 04 30.5**	**-0.1**		
WDC				pmax	pmax				
	comp=Z,110nm,1.3s,mb5.9								
WDC	**Whiskeytown Da**	**87.33**	**39**	*e*P	**P**	**09 04 30.4**	**-0.2**		
	comp=Z,92nm,1.2s,mb5.9								
WDC				LR	LR				
	comp=Z,2μm,22.0s,MS5.5								
MTUM	**Tungsten Hills**	**87.39**	**43**	*e*P	**P**	**09 04 31.6**	**+0.6**		
PAYG	**Puerto Ayora**	**87.77**	**89**	PFAKE		09 04 40.0	+6.7		
PAYG				LR	LR				
	comp=Z,2μm,20.0s,MS5.6								
KTRM	**Thompson Ridge**	**87.82**	**38**	P	**P**	**09 04 33.5**	**+0.6**		
CHGN	**Chignik**	**87.93**	**11**	*e*P	**P**	**09 04 33.2**	**+0.2**		
KEBM	**Edson Butte**	**88.01**	**36**	P	**P**	**09 04 33.8**	**+0.1**		
LDFC	**Landfair**	**88.03**	**47**	*e*P	**P**	**09 04 34.8**	**+0.8**		
BEKR	**Beckwourth**	**88.05**	**41**	*e*P	**P**	**09 04 33.3**	**-0.7**		
	comp=Z,37nm,1.3s,mb5.5								
YBH	**Yreka Blue Hor**	**88.05**	**38**	P	**P**	**09 04 34.8**	**+0.8**		
YBH				pmax	pmax				
	comp=Z,20nm,1.0s								
YBH	**Yreka Blue Hor**	**88.05**	**38**	P	**P**	**09 04 34.3**	**+0.3**		
	comp=Z,9.7nm,0.8s,mb5.1,baz=240,slow=1.7,SNR=20								
YBH	**Yreka Blue Hor**	**88.05**	**38**	*e*P	**P**	**09 04 33.8**	**-0.2**		
	comp=Z,20nm,0.9s,mb5.3								
YBH				*e*PP	PP	09 08 14.9	+11		
YBH				LR	LR				
	comp=Z,2μm,22.0s,MS5.4								
LBCM	**Butte Creek Ri**	**88.16**	**39**	P	**P**	**09 04 34.4**	**-0.1**		
WHN	**Wuhan**	**88.25**	**307**	*e*P	**P**	**09 04 35.5**	**+0.3**		
NVAR	**Mina Array Bea**	**88.26**	**43**	P	**P**	**09 04 34.8**	**-0.3**		
	comp=Z,22nm,0.8s,mb5.5,baz=218,slow=6.4,SNR=160								
NVAR				PKPPKP		09 30 27.5			
	comp=Z,0.8nm,0.7s,baz=81,slow=4.2,SNR=7.0								
MDJ	**Mudanjiang**	**88.54**	**326**	P	**P**	**09 04 36.5**	**+0.3**		
MDJ				XP	pP	09 04 49.1	-3.8		
MDJ				PP	PP	09 08 02.3	-5.0		
MDJ				S	S	09 15 21.4	+5.7		
MDJ				SS	SS	09 21 15.5	+4.9		
MDJ				AMB	AMB				
	comp=Z,16nm,1.4s,mb5.2								
MDJ				AMB	AMB				
	comp=Z,816nm,8.9s								
MDJ				LR	LR				
	comp=N,2μm,20.8s,MS5.5								
MDJ				LR	LR				
	comp=E,786nm,23.2s,MS5.5								
MDJ				LR	LR				
	comp=Z,3μm,23.1s,MS5.6								
NEN	**Nelson**	**88.56**	**47**	*e*P	**P**	**09 04 36.7**	**+0.1**		
NEN				*e*	pP	09 04 54.5	+1.2		
TPH	**Tonopah**	**88.67**	**44**	P	**P**	**09 04 37.8**	**+0.8**		
TPH				pmax	pmax				
	comp=Z,120nm,1.3s,mb6.1								
TPH	**Tonopah**	**88.67**	**44**	*e*P	**P**	**09 04 37.2**	**+0.1**		
	comp=Z,123nm,1.4s,mb6.0								
TPH				LR	LR				
	comp=Z,2μm,19.0s,MS5.5								
BUOR	**Burton Butte**	**88.68**	**38**	P	**P**	**09 04 37.5**	**+0.5**		
DL2	**Dalian**	**88.86**	**317**	P	**P**	**09 04 38.4**	**+0.5**		
DL2				XP	sP	09 04 52.5	-8.1		
DL2				SKS	SKS	09 15 08.4	+8.3		
DL2				S	S	09 15 16.8	-2.0		
DL2				AMB	AMB				
	comp=Z,20nm,0.8s,mb5.5								
DL2				AMB	AMB				
	comp=Z,410nm,6.8s								
DL2				LR	LR				
	comp=N,510nm,25.1s,MS5.2								
DL2				LR	LR				
	comp=E,970nm,24.7s,MS5.2								
DL2				LR	LR				
	comp=Z,2μm,24.3s,MS5.4								
KKTK	**Khon Kaen**	**89.05**	**289**	P	**P**	**09 04 41.0**	**+1.7**		
TUC	**Tucson**	**89.15**	**51**	P	**P**	**09 04 40.1**	**+0.6**		
GVA	**Apache Junctio**	**89.29**	**50**	P	**P**	**09 04 41.4**	**+1.3**		
GVA				*e*	pP	09 04 59.6	+2.8		
TRQA	**Tornquist**	**89.53**	**135**	PFAKE		09 04 50.0	+8.9		
TRQA				LR	LR				
	comp=Z,2μm,19.0s,MS5.5								
MPOR	**Mary's Peak**	**89.57**	**36**	P	**P**	**09 04 42.5**	**+1.4**		
TIA	**Tai'an**	**89.88**	**313**	*e*P	**P**	**09 04 43.0**	**+0.2**		
CN2	**Changchun**	**90.06**	**323**	*e*P	**P**	**09 04 43.5**	**+0.1**		
CN2				*e*XP	sP	09 04 57.4	-8.7		
CN2				PP	PP	09 08 19.8	+0.4		
CN2				*e*S	S	09 15 30.5	+0.9		
CN2				AMB	AMB				
	comp=Z,70nm,0.9s,mb6.0								
CN2				AMB	AMB				
	comp=Z,1μm,6.0s								
CN2				LR	LR				
	comp=N,2μm,19.0s,MS5.5								
CN2				LR	LR				
	comp=E,700nm,19.0s,MS5.5								
CN2				LR	LR				
	comp=Z,2μm,25.0s								
BMN	**Battle Mountai**	**90.21**	**42**	P	**P**	**09 04 44.2**	**0.0**		
BMN				pmax	pmax				
	comp=Z,91nm,1.3s,mb6.0								
BMN	**Battle Mountai**	**90.21**	**42**	*e*P	**P**	**09 04 43.9**	**-0.3**		
	comp=Z,91nm,1.4s,mb5.9								
BMN				LR	LR				
	comp=Z,3μm,22.0s,MS5.6								
PINOR	**Pine Mountain**	**90.47**	**37**	P	**P**	**09 04 45.7**	**+0.4**		
ARUT	**Antelope Range**	**90.78**	**46**	*e*P	**P**	**09 04 47.5**	**+0.5**		
ARUT				*e*		09 08 26.9			
NST	**Nakhon Sawan**	**90.91**	**288**	P	**P**	**09 04 50.0**	**+2.0**		
	comp=Z,79nm,0.7s,mb6.2								
KLR	**Kul'dur**	**90.95**	**330**	*e*P	**P**	**09 04 44.8**	**-2.7**		
KLR				*e*S	S	09 15 31.5	-5.9		
KLR				smax					
	comp=N,500nm,13.0s								
KLR				smax					
	comp=E,1μm,13.0s								
CROR	**Criterion Ridg**	**91.21**	**37**	P	**P**	**09 04 48.6**	**-0.2**		
GYA	**Guiyang**	**91.46**	**300**	⇑ *i* P	**P**	**09 04 51.1**	**+0.7**		
GYA				AP	pP	09 05 01.6	-5.5		
GYA				PP	PP	09 08 31.8	+0.7		
GYA				SKS	SKS	09 15 22.8	+6.9		
GYA				S	S	09 15 43.4	+1.0		
GYA				XS		09 16 01.4			
GYA				AMB	AMB				
	comp=Z,20nm,1.1s,mb5.4								
GYA				AMB	AMB				
	comp=Z,230nm,6.2s								
GYA				LR	LR				
	comp=N,610nm,21.8s,MS5.2								
GYA

comp=Z,2µm,22.0s,MS5.5
TMUT Trail Mountain 93.09 46 *e*P **P 09 04 58.0 +0.5**
LPM Los Pinos Moun 93.14 52 *e*P **P 09 04 57.6 -0.3**
MA2 Magadan 93.23 345 *e*P **P 09 04 59.0 +1.3**
MA2 pmax pmax
comp=Z,24nm,0.8s,mb5.7
MA2 MLR MLR
comp=Z,4µm,22.0s,MS5.8
MA2 Magadan 93.23 345 *e*P **P 09 04 59.0 +1.4**
comp=Z,24nm,0.8s,mb5.7
MA2 LR LR
comp=Z,4µm,22.0s,MS5.8
MID Middleton Isla 93.24 16 *e*P **P 09 05 01.4 +3.7**
MPU Maple Canyon 93.27 45 *e*P **P 09 04 56.6 -1.7**
MPU *e*PP PP 09 08 56.9 +12
CHRT Chiangrai 93.35 291 ⇑P **P 09 04 57.0 -2.2**
comp=Z,105nm,0.9s,mb6.3
SLKM Skilak Lake 93.38 13 P **P 09 04 58.1 -0.2**
SLKM Skilak Lake 93.38 13 *e*P **P 09 04 57.5 -0.8**
SRU San Rafael 93.40 46 P **P 09 04 59.1 +0.1**
SRU San Rafael 93.40 46 *e*P **P 09 04 58.8 -0.2**
CHG Chiang Mai 93.49 290 ⇓P **P 09 05 02.6 +2.8**
comp=Z,23nm,0.9s,mb5.6
NNA Nana 93.52 106 PFAKE 09 05 10.0 +10
NNA LR LR
comp=Z,553nm,22.0s,MS5.0
GDL2 Guadalupe Moun 93.52 55 *e*P **P 09 05 00.2 +0.5**
GDL2 *e* pP 09 05 18.0 +1.5
GDL2 *e*PP PP 09 08 59.2 +12
SPUT South Promonto 93.56 43 *e*P **P 09 04 59.7 0.0**
SPUT *e*pP pP 09 05 11.2 -5.2
SPUT *e*sP sP 09 05 17.9 -4.5
CTU Camp Tracy 93.61 44 *e*P **P 09 04 59.8 -0.1**
ANMO Albuquerque 93.62 51 *i* P **P 09 05 00.4 +0.4**
ANMO Albuquerque 93.62 51 *e*P **P 09 05 00.1 0.0**
comp=Z,37nm,1.3s,mb5.7
ANMO *e* pP 09 05 17.7 +0.9
ANMO LR LR
comp=Z,2µm,20.0s,MS5.5
SPU Mount Spurr 93.65 12 *e*P **P 09 04 58.3 -1.2**
HVU Hansel Valley 93.66 43 P **P 09 05 00.2 +0.1**
HVU Hansel Valley 93.66 43 *e*P **P 09 05 00.1 0.0**
HVU *e*PP PP 09 08 56.0 +7.7
KMI Kunming 93.73 297 P **P 09 05 02.6 +1.8**
KMI XP sP 09 05 16.0 -7.5
KMI PP PP 09 08 49.8 +0.5
KMI PPP PPP 09 10 52.8 +0.4
KMI SKS SKS 09 15 31.8 +3.1
KMI S S 09 16 04.3 +2.1
KMI XS 09 16 26.3
KMI AMB AMB
comp=Z,22nm,0.8s,mb5.6
KMI LR LR
comp=N,2µm,20.0s,MS5.6
KMI LR LR
comp=E,903nm,20.0s,MS5.6
KMI LR LR
comp=Z,2µm,20.0s,MS5.5
KMI Kunming 93.73 297 P **P 09 05 02.6 +1.8**
KMI *PP pP 09 05 16.0 -1.6
KMI 09 08 49.7
KMI PPP PPP 09 10 52.7 +0.3
KMI 09 15 31.7
KMI S S 09 16 04.2 +2.0
KMI PS PS 09 17 27.9 -1.3
KMI SS SS 09 22 25.5 -0.1
KMI SSS SSS 09 26 05.6 -0.9
KMI pmax pmax
comp=Z,22nm,0.8s,mb5.6
KMI MLR MLR
comp=Z,2µm,20.0s,MS5.5
KMI Kunming 93.73 297 P **P 09 05 02.6 +1.8**
comp=Z,22nm,0.8s,mb5.6
KMI pP pP 09 05 16.0 -1.6
KMI sP sP 09 05 21.0 -2.5
KMI PP PP 09 08 49.7 +0.4
KMI PPP PPP 09 10 52.7 +0.3
KMI SKS SKS 09 15 31.7 +3.0
KMI S S 09 16 04.2 +2.0
KMI sS 09 16 26.3
KMI PS PS 09 17 27.9 -1.3
KMI SS SS 09 22 25.5 -0.1
KMI SSS SSS 09 26 05.6 -0.9
KMI LR LR
comp=Z,2µm,20.0s,MS5.5
JLU Jordanelle 93.73 44 *e*P **P 09 05 01.1 +0.7**
JLU *e*PP PP 09 08 56.4 +7.4
DAU Daniels Canyon 93.73 45 P **P 09 05 01.8 +1.4**
DAU Daniels Canyon 93.73 45 *e*P **P 09 05 01.2 +0.8**
DAU *e*PP PP 09 08 57.0 +8.0
CLNB Carlsbad 93.90 55 *e*P **P 09 05 00.9 -0.5**
CLNB *e*PP PP 09 09 02.5 +12
PV10 Paradox Valley 93.90 47 *e*P **P 09 05 01.4 +0.1**
PV10 *e*PP PP 09 09 01.2 +11
PV10 *e* 09 10 17.5
LVC Limon Verde 94.03 119 P **P 09 05 04.5 +2.4**
comp=Z,6.1nm,0.8s,mb5.1,baz=281,slow=3.9,SNR=8.1
LVC Limon Verde 94.03 119 *e*P **P 09 05 04.4 +2.2**
comp=Z,87nm,1.4s,mb6.0
LVC LR LR
comp=Z,2µm,22.0s,MS5.6
PV01 Paradox Valley 94.06 48 *e*P **P 09 05 01.8 -0.2**
PV01 *e*PP PP 09 09 03.5 +12
PV01 *e* 09 09 11.7
TCUT Toone Canyon 94.07 44 *e*P **P 09 05 02.3 +0.4**
SIT Sitka 94.27 22 PFAKE 09 05 10.0 +7.6
SIT LR LR
comp=Z,3µm,20.0s,MS5.7
HWUT Hardware Ranch 94.27 44 *e*P **P 09 05 02.0 -0.8**
comp=Z,22nm,1.1s,mb5.5
HWUT *e*PP PP 09 09 04.5 +12
HWUT LR LR
comp=Z,3µm,22.0s,MS5.8
CPRX Cap Rock 94.33 54 *e*P **P 09 05 03.5 +0.2**
CPRX *e*PP PP 09 09 06.2 +13
PMR Palmer 94.59 13 *e*P **P 09 05 03.4 -0.4**
PMR MLR MLR
comp=Z,1µm,20.0s,MS5.4
PMR Palmer 94.59 13 *e*P **P 09 05 03.4 -0.4**
PMR *e*P 09 05 09.0
PMR LR LR
comp=Z,1µm,20.0s,MS5.4
TTA Tatalina 94.63 10 *e*P **P 09 05 04.1 +0.2**
NEW Newport 95.39 36 *e*PP PP 09 09 13.0 +12
NEW LR LR
comp=Z,2µm,20.0s,MS5.6
RRI2 Red Ridge 95.47 42 *e*P **P 09 05 08.2 -0.1**
comp=Z,31nm,1.0s,mb5.7
MCMT McKenzie Canyo 95.50 40 *e*P **P 09 05 08.7 +0.3**
MCMT *e*PP PP 09 09 13.4 +11
SMCO Snowmass 95.68 48 *e*P **P 09 05 09.4 +0.1**
SMCO *e*PP PP 09 09 14.0 +10
REDW Red Top Meadow 95.75 43 *e*P **P 09 05 09.6 +0.1**
comp=Z,63nm,1.3s,mb5.9
TPAW Teton Pass 95.77 42 *e*P **P 09 05 09.7 +0.1**
comp=Z,7.2nm,0.7s,mb5.2
SDCO Great Sand Dun 95.83 49 *e*P **P 09 05 10.1 0.0**
comp=Z,31nm,1.6s,mb5.5
SDCO *e* 09 22 00.2
SDCO LR LR
comp=Z,2µm,21.0s,MS5.5
SNOW Snow King Moun 95.87 42 *e*P **P 09 05 10.2 +0.2**
comp=Z,22nm,0.8s,mb5.7
SEY Seymchan 95.92 347 *e*P **P 09 05 09.3 -0.5**
SEY 09 08 58.9
SEY *e*PPP PPP 09 11 12.5 +2.3
SEY *e*S S 09 16 20.4 +0.5
SEY SS SS 09 22 46.8 -8.6
SEY SSS SSS 09 26 35.8 -3.8
SEY pmax pmax
comp=Z,20nm,0.7s,mb5.7
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY smax
comp=N,2µm,16.8s
SEY Seymchan 95.92 347 *i* P **P 09 05 09.6 -0.2**
IMW Indian Meadow 96.02 42 *e*P **P 09 05 11.0 +0.2**
comp=N,8.5nm,0.8s,mb5.2
IMW *e* 09 22 01.5
MOOW Moose Ponds 96.04 42 *e*P **P 09 05 08.7 -2.1**
comp=N,3.1nm,0.7s,mb4.8
LOHW Long Hollow 96.04 42 *e*P **P 09 05 10.7 -0.2**
comp=N,5.5nm,0.8s,mb5.0

MSO Missoula 96.13 38 PFAKE 09 05 20.0 +8.8
MSO LR LR
comp=Z,974nm,19.0s,MS5.3
HHC Hu-ho-hao-te 96.14 314 *e*P **P 09 05 11.0 -0.4**
HHC XP sP 09 05 24.5 -10
HHC PP PP 09 09 01.5 -5.7
HHC SKS SKS 09 15 43.1 +1.7
HHC S S 09 16 28.6 +6.2
HHC XS 09 16 43.0
HHC AMB AMB
comp=Z,14nm,1.6s,mb5.1
HHC AMB AMB
comp=Z,347nm,12.0s
HHC LR LR
comp=N,1µm,27.6s,MS5.5
HHC LR LR
comp=E,2µm,28.8s,MS5.5
HHC LR LR
comp=Z,4µm,27.6s,MS5.7
BW06 Boulder Array 96.16 44 PFAKE 09 05 20.0 +8.6
BW06 LR LR
comp=Z,3µm,22.0s,MS5.7
PDAR Pinedale Array 96.16 44 P **P 09 05 11.2 -0.1**
comp=Z,3.6nm,0.8s,mb4.9,baz=213,slow=2.4,SNR=39
PDAR PP PP 09 09 09.9 +2.6
comp=Z,1.1nm,0.8s,baz=198,slow=4.7,SNR=4.0
PDAR PKKPbc 09 21 59.7
comp=Z,2.4nm,0.7s,baz=72,slow=5.1,SNR=16
PDAR PKPPKP 09 30 09.8
comp=Z,0.8nm,1.0s,baz=79,slow=7.6,SNR=3.6
PDAR LR LR 09 41 06.4
comp=Z,2µm,21.8s,MS5.5,baz=233,slow=31
QLMT Earthquake Lak 96.30 41 *e*P **P 09 05 13.3 +1.3**
YFT Old Faithful 96.41 42 *e*P **P 09 05 12.7 +0.2**
YFT *e* 09 09 21.9
YMR Madison River 96.47 41 *e*P **P 09 05 13.7 +0.9**
YMR *e* 09 09 17.9
CHMT Chamberlain Mo 96.56 39 P **P 09 05 11.4 -1.7**
CHMT *e*PP PP 09 09 17.5 +7.1
BOZ Bozeman (W) 96.68 40 P **P 09 05 14.2 +0.5**
BOZ pmax pmax
comp=Z,35nm,1.3s,mb5.6
BOZ Bozeman (W) 96.68 40 *e*P **P 09 05 13.7 0.0**
comp=Z,7.0nm,0.8s,mb5.1
BOZ *e*PP PP 09 09 19.1 +7.7
BOZ LR LR
comp=Z,2µm,19.0s,MS5.6
LKWY Lake 96.73 42 PFAKE 09 05 30.0 +16
LKWY LR LR
comp=Z,4µm,19.0s,MS5.9
RWWY Rawlins 96.96 45 *e*P **P 09 05 15.0 -0.2**
comp=Z,8.7nm,0.9s,mb5.2
RWWY *e* 09 09 17.4
DLBC Dease Lake 97.11 23 *e*P **P 09 05 15.5 +0.1**
HRY Holter Researc 97.21 39 *e*P **P 09 05 16.3 +0.2**
JTS JuntasAbangare 97.81 83 PFAKE 09 05 30.0 +10
JTS LR LR
comp=Z,99nm,19.0s,MS4.3
ILAR Eielson Array 97.90 13 P **P 09 05 17.4 -1.4**
comp=Z,8.1nm,0.9s,mb5.2,baz=222,slow=5.6,SNR=64
ILAR PKiKP 09 09 53.5
comp=Z,2.8nm,0.8s,baz=288,slow=1.8,SNR=7.8
ILAR PKKPbc 09 21 51.2
comp=Z,1.3nm,0.8s,baz=335,slow=3.8,SNR=6.5
ILAR PKKP PKKP 09 22 00.0 +15
comp=Z,2.1nm,0.6s,baz=17,slow=3.2,SNR=13
ILAR LR LR 09 50 03.2
comp=Z,890nm,18.8s,MS5.3,baz=241,slow=36
IMA Indian Mountai 97.93 10 P **P 09 05 18.8 -0.1**
IMA pmax pmax
comp=Z,77nm,1.3s,mb6.1
IMA Indian Mountai 97.93 10 *e*P **P 09 05 22.4 +3.5**
LPAZ La Paz 98.24 114 P **P 09 05 24.7 +3.3**
LPAZ pmax pmax
comp=Z,12nm,1.2s
LPAZ La Paz 98.24 114 P **P 09 05 24.2 +2.8**
comp=Z,2.1nm,0.6s,mb4.8,baz=301,slow=5.5,SNR=12
LPAZ LR LR 09 41 13.3
comp=Z,801nm,21.4s,MS5.2,baz=44,slow=30
LPAZ La Paz 98.24 114 *e*P **P 09 05 24.1 +2.7**
comp=Z,2.0nm,0.6s,mb4.8
LPAZ LR LR
comp=Z,1µm,22.0s,MS5.3
LZH Lanzhou 98.63 307 P **P 09 05 26.3 +3.5**
LZH PP PP 09 09 24.5 -2.1
LZH SKS SKS 09 15 56.0 +1.5
LZH S S 09 16 52.0 +8.5
LZH AMB AMB
comp=Z,20nm,1.2s,mb5.5
LZH LR LR
comp=E,3µm,20.0s
LZH LR LR
comp=Z,5µm,21.8s,MS6.0
LZH Lanzhou 98.63 307 P **P 09 05 26.3 +3.5**
comp=Z,20nm,1.2s,mb5.5
LZH pP pP 09 05 42.0 +2.4
LZH sP sP 09 05 47.2 +1.7
LZH PP PP 09 09 24.5 -2.1
LZH SKS SKS 09 15 56.0 +1.5
LZH S S 09 16 52.0 +8.5
LZH sS 09 17 15.0
LZH PS PS 09 18 31.1 +10
LZH SS SS 09 23 51.2 +17
LZH LR LR
comp=Z,5µm,21.8s,MS6.0
BILL Bilibino 98.79 354 *i* P **P 09 05 21.7 -1.1**
BILL pmax pmax
comp=Z,10.0nm,0.8s,mb5.4
BILL MLR MLR
comp=Z,2µm,21.0s,MS5.5
BILL Bilibino 98.79 354 *e*P **P 09 05 21.3 -1.5**
comp=Z,6.1nm,0.5s,mb5.4
BILL LR LR
comp=Z,2µm,20.0s,MS5.5
CPUP Villa Florida 100.08 128 P P 09 05 31.9 +2.3
comp=Z,4.3nm,1.0s,baz=237,slow=4.7,SNR=6.7
CPUP Villa Florida 100.08 128 P P 09 05 31.9 +2.3
CPUP LR LR
comp=Z,2µm,22.0s,MS5.6
CBKS Cedar Bluff 100.23 51 *e*PP PP 09 09 48.1 +9.1
CBKS LR LR
comp=Z,2µm,20.0s,MS5.6
RSSD Black Hills 100.25 45 P P 09 05 29.5 -0.4
RSSD pmax pmax
comp=Z,27nm,1.1s
RSSD Black Hills 100.25 45 *e*Pdif P 09 05 29.3 -0.6
comp=Z,11nm,0.8s
RSSD LR LR
comp=Z,929nm,19.0s,MS5.3
NATX Nacogdoches 100.32 59 PFAKE 09 05 40.0 +9.4
NATX LR LR
comp=Z,1µm,19.0s,MS5.5
LAO LASA Array 100.35 42 PFAKE 09 05 40.0 +10
LAO LR LR
comp=Z,2µm,19.0s,MS5.6
EDM Edmonton 100.37 34 *e*PP PP 09 09 49.8 +10
YAK Yakutsk 101.17 338 *e*P P 09 05 31.4 -2.3
YAK *e*S SKS 09 16 03.1 -3.2
YAK pmax pmax
comp=Z,11nm,0.8s
YAK smax
comp=E,109nm,12.1s
YAK smax
comp=N,127nm,11.7s
YAK Yakutsk 101.17 338 ⇑ *i* P P 09 05 32.3 -1.4
YAK LR LR
comp=Z,3µm,22.0s,MS5.8
DGMT Dagmar 102.46 41 PFAKE 09 05 50.0 +10
DGMT LR LR
comp=Z,2µm,21.0s,MS5.6
ULN Ulaanbaatar 102.69 318 P Pdif 09 05 32.2 -8.5
ULN pmax pmax
comp=Z,4.0nm,0.9s
DGAR Diego Garcia 102.77 254 PFAKE 09 05 50.0 +8.1
DGAR LR LR
comp=Z,927nm,20.0s,MS5.3
SONM Songino Array 103.05 318 P Pdif 09 05 43.3 +1.0
comp=Z,1.4nm,0.7s,baz=90,slow=2.9,SNR=4.3
SONM PKiKP 09 10 01.7
comp=Z,2.5nm,1.0s,baz=114,slow=4.4,SNR=3.9
SONM PKKPbc 09 21 40.6
comp=Z,1.5nm,0.9s,baz=276,slow=4.0,SNR=6.7
SONM PKPPKP 09 29 58.9
comp=Z,0.2nm,0.3s,baz=211,slow=7.2,SNR=3.8
PALK Pallekele 103.29 271 PFAKE 09 06 00.0 +16
PALK LR LR
comp=Z,927nm,19.0s,MS5.3
YKA Yellowknife Ar 105.44 26 P Pdif 09 05 56.2 +3.7
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 105.44 26 Pdiff Pdif 09 05 56.2 +3.7
comp=Z,0.5nm,0.5s,baz=235,slow=4.4,SNR=3.9
YKA PKiKP 09 10 05.2
comp=Z,1.3nm,0.6s,baz=258,slow=1.5,SNR=7.3
YKA PKKPbc 09 21 32.1
comp=Z,3.9nm,0.7s,baz=41,slow=3.1,SNR=16
YKA PKKP PKKP 09 21 48.8 +17
comp=Z,4.2nm,0.9s,baz=47,slow=4.7,SNR=11
YKA Yellowknife Ar 105.44 26 Pdif Pdif 09 05 56.2 +3.7
YKA PKPdf 09 10 05.2
YKA PKKPbc 09 21 32.1
YKA PKKP PKKP 09 21 48.8 +17
OXF Oxford 105.50 59 PFAKE 09 10 20.0
OXF LR LR
comp=Z,1µm,22.0s,MS5.5
CCM Cathedral Cave 105.74 55 *e*PP PP 09 10 31.0 +11
ZAK Zakamensk 106.09 319 *e*P Pdif 09 05 53.6 -2.0
ZAK pmax pmax
comp=Z,2.0nm,1.0s
FVM French Village 106.28 55 *e*PP PP 09 10 35.1 +11
SAML Samuel 106.38 111 PFAKE 09 10 20.0
SAML LR LR
comp=Z,2µm,20.0s,MS5.6
MDRS Chennai 106.45 276 *e* PP 09 10 27.0 +0.8
MDRS *e* 09 19 53.0
LRAL Lakeview Retre 106.66 61 PFAKE 09 10 20.0
LRAL LR LR
comp=Z,1µm,22.0s,MS5.4
PLAL Pickwick Lake 106.69 59 PFAKE 09 10 20.0
PLAL LR LR
comp=Z,1µm,19.0s,MS5.5
FFC Flin Flon 106.82 36 PFAKE 09 10 20.0
FFC LR LR
comp=Z,451nm,22.0s,MS5.0
WVT Waverly 107.36 58 *e*PP PP 09 10 43.8 +11
WVT LR LR
comp=Z,949nm,21.0s,MS5.3
ULM Lac du Bonnet 108.09 42 Pdiff Pdif 09 06 03.8 -0.7
comp=Z,2.4nm,0.6s,baz=156,slow=5.2,SNR=3.1
ULM PKiKP 09 10 09.1
comp=Z,3.7nm,0.7s,baz=268,slow=2.9,SNR=3.4
ULM PKKPbc 09 21 24.9
comp=Z,1.0nm,0.3s,baz=324,slow=5.2,SNR=3.3
ULM PKKP PKKP 09 21 38.8 +11
comp=Z,9.8nm,0.8s,baz=61,slow=5.3,SNR=9.2
ULM Lac du Bonnet 108.09 42 Pdif Pdif 09 06 03.8 -0.7
ULM PKPdf 09 10 09.1
ULM *e*PKKPbc 09 21 24.6
ULM PKKPbc 09 21 24.9
ULM *e*PKKPab 09 21 36.3
ULM PKKP PKKP 09 21 38.8 +11
ULM *e*PKKPdf 09 21 39.0
ULM LR LR
comp=Z,3µm,19.0s,MS5.8
TIXI Tiksi 108.20 345 PFAKE 09 10 20.0
TIXI LR LR
comp=Z,938nm,20.0s,MS5.3
GUN Gumba 108.33 292 *e*P 09 10 13.7
comp=Z,27nm,0.6s
SWET Sewanee 108.39 60 *e*PP PP 09 10 51.2 +11
PKI Pulchoki 108.56 292 *e*P 09 10 12.5
comp=Z,17nm,0.6s
KKN Kakani 108.75 292 *e*P 09 10 13.3
comp=Z,35nm,0.7s
DMN Daman 108.82 291 *e*P 09 10 13.3
comp=Z,18nm,0.7s
DWPF Disney 108.92 68 PFAKE 09 10 30.0
DWPF LR LR
comp=Z,139nm,21.0s,MS4.5
WCI Wyandotte Cave 109.35 57 PFAKE 09 10 30.0
WCI LR LR
comp=Z,439nm,19.0s,MS5.0
GKN Gorkha 109.36 292 *e*P 09 10 15.5
SDV Santo Domingo 109.48 91 PFAKE 09 10 30.0
SDV LR LR
comp=Z,1µm,20.0s,MS5.4
MYNC Murphy 109.68 60 PFAKE 09 10 30.0
MYNC LR LR
comp=Z,2µm,19.0s,MS5.7
KOLN Koldanda 110.10 291 *e*P PKPdf 09 10 15.5 +1.5
comp=Z,34nm,0.8s
NGP Nagpur 111.09 283 *e*P PKPdf 09 10 20.8 +4.7
NGP AMS AMS 09 28 18.7
comp=Z,342nm,13.5s,MS5.1
NHSC New Hope 111.92 64 PFAKE 09 10 30.0 +13
NHSC LR LR
comp=Z,1µm,22.0s,MS5.4
WMQ Urumqi 113.13 308 PDIF Pdif 09 06 27.8 +1.0
WMQ *e*PKP PKPdf 09 10 20.5 +1.0
WMQ PP PP 09 11 14.9 0.0
WMQ SKS 09 17 28.4
WMQ S 09 18 46.4
WMQ SS SS 09 26 52.3 +0.7
WMQ PP PP
comp=Z,333nm,6.4s
WMQ LR LR
comp=N,845nm,22.0s
WMQ LR LR
comp=E,1µm,28.0s
WMQ LR LR
comp=Z,1µm,26.0s,MS5.4
BLA Blacksburg 113.27 59 PFAKE 09 10 30.0 +10
BLA LR LR
comp=Z,1µm,19.0s,MS5.5
BDFB Brasilia 113.67 126 PKiKP 09 10 23.4
comp=Z,2.0nm,0.6s,baz=197,slow=2.8,SNR=8.2
BDFB PKPPbc 09 21 05.0
comp=Z,0.9nm,0.4s,baz=131,slow=11,SNR=2.3
MCWV Mont Chateau 114.55 57 PFAKE 09 10 40.0 +18
MCWV LR LR
comp=Z,2µm,22.0s,MS5.7
SUR Sutherland 115.08 198 PKP PKPdf 09 10 26.8 +3.1
comp=Z,11nm,0.6s,baz=150,slow=4.0,SNR=7.3
SUR Sutherland 115.08 198 PKP PKPdf 09 10 26.8 +3.1
SUR LR LR
comp=Z,595nm,20.0s,MS5.2
SONA Sohna 115.58 289 *e*P PKPdf 09 10 25.6 +0.9
SONA AMb AMB 09 10 30.1
comp=Z,24nm,0.6s
AYAN Aya Nagar 115.63 289 *e*P PKPdf 09 10 25.8 +0.9
AYAN AMb AMB 09 10 29.7
comp=Z,3.7nm,0.8s
NDI New Delhi 115.64 289 *e*P PKPdf 09 10 24.1 -0.7
NDI AMS AMS 09 19 57.6
comp=Z,2µm,15.4s,MS5.9
BHGR Bahadurgarh 115.86 289 *e*P PKPdf 09 10 26.4 +1.1
CBN Corbin 115.88 59 PFAKE 09 10 40.0 +15
CBN LR LR
comp=Z,2µm,19.0s,MS5.7
KHET Khetri 116.56 288 *e*P PKPdf 09 10 27.4 +0.8
KHET AMb AMB 09 10 29.0
comp=Z,24nm,0.8s
BOSA Boshof 117.27 203 PKIKP PKPdf 09 10 30.0 +2.0
BOSA pmax pmax
comp=Z,11nm,0.7s
BOSA Boshof 117.27 203 PKP PKPdf 09 10 30.0 +2.0
comp=Z,11nm,0.7s,baz=176,slow=2.5,SNR=13
BOSA Boshof 117.27 203 *e*PKPdf PKPdf 09 10 29.5 +1.6
BOSA LR LR
comp=Z,2µm,22.0s,MS5.6
SJG San Juan 117.56 84 PFAKE 09 10 40.0 +11
SJG LR LR
comp=Z,782nm,20.0s,MS5.3
MKAR Makanchi Array 117.68 310 PKP PKPdf 09 10 28.6 +0.3
comp=Z,17nm,0.6s,baz=73,slow=2.0,SNR=58
MKAR PKKPbc 09 20 52.8
comp=Z,1.6nm,0.6s,baz=278,slow=3.9,SNR=10
THN Thein Dam 118.17 293 *e*P PKPdf 09 10 30.1 +0.5
NVS Novosibirsk 119.05 319 *e*PKIKP PKPdf 09 10 30.3 -0.5
NVS *e*S SKS 09 17 22.2 +1.9
NVS pmax pmax
comp=N,9.0nm,0.7s
NVS pmax pmax
comp=E,10.0nm,0.7s

NVS pmax pmax
comp=Z,17nm,0.7s
NVS smax
comp=N,13nm,1.4s
NVS smax
comp=E,50nm,2.2s
NCB Newcomb 119.84 54 *e*PKPdf PKPdf 09 10 33.3 +0.7
NCB LR LR
comp=Z,2μm,20.0s,MS5.7
KSH Kashi 120.14 301 *e*PKP PKPdf 09 10 36.0 +2.7
KSH *e*PKS PKS 09 14 11.3 +2.2
KSH PP PP
comp=Z,150nm,5.0s
KSH LR LR
comp=N,550nm,13.8s
KSH LR LR
comp=E,620nm,6.0s
JASL Jaisalmer 120.20 285 *e*P PKPdf 09 10 34.6 +0.8
LBTB Lobatse 120.44 205 PKIKP PKPdf 09 10 37.1 +2.9
LBTB pmax pmax
comp=Z,6.0nm,0.6s
LBTB Lobatse 120.44 205 PKP PKPdf 09 10 37.1 +2.9
comp=Z,5.9nm,0.6s,baz=226,slow=3.2,SNR=8.4
LBTB Lobatse 120.44 205 PKPdf PKPdf 09 10 36.7 +2.5
LBTB LR LR
comp=Z,2μm,21.0s,MS5.7
ULHL Ulahol 120.67 304 P PKPdf 09 10 36.4 +2.1
SNR=18
QUA2 Belchertown 120.74 56 *e*PKPdf PKPdf 09 10 34.6 +0.2
TKM2 Tokmak 2 121.30 304 P PKPdf 09 10 36.3 +0.8
SNR=19
KZA Kyzart 121.34 303 P PKPdf 09 10 37.9 +2.3
SNR=38
HRV Harvard--Oak R 121.36 56 PFAKE 09 10 50.0 +14
HRV LR LR
comp=Z,2μm,19.0s,MS5.8
WES Weston 121.50 56 PFAKE 09 10 50.0 +14
WES LR LR
comp=Z,2μm,20.0s,MS5.8
KBK Karagaybulak 121.70 304 P PKPdf 09 10 38.1 +1.9
SNR=8.3
CHMS Chumysh 121.92 304 P PKPdf 09 10 37.7 +1.0
SNR=17
FRU Bishkek 121.98 304 *e*PKIKP PKPdf 09 10 38.0 +1.2
FRU pmax pmax
comp=Z,70nm,1.3s
AAK Ala-Archa 122.02 304 P PKPdf 09 10 38.7 +1.8
SNR=12
AAK Ala-Archa 122.02 304 *e*PKPdf PKPdf 09 10 36.8 -0.1
AAK LR LR
comp=Z,326nm,21.0s,MS5.0
USP Ospenovka 122.16 305 P PKPdf 09 10 37.8 +0.7
SNR=28
AML Almayashu 122.48 303 P PKPdf 09 10 40.0 +2.2
SNR=33
EKS2 Erkin-Say 122.54 304 P PKPdf 09 10 39.1 +1.2
SNR=26
WVL Waterville 123.17 54 PFAKE 09 10 50.0 +11
WVL LR LR
comp=Z,6μm,19.0s,MS6.3
MATP Matopo 123.40 210 PKP PKPdf 09 10 42.5 +2.4
comp=Z,27nm,0.8s,baz=182,slow=1.9,SNR=51
MATP Matopo 123.40 210 PKP PKPdf 09 10 42.5 +2.4
BBSR BB Station 123.95 69 PFAKE 09 10 50.0 +9.1
BBSR LR LR
comp=Z,1μm,22.0s,MS5.4
PQI Presque Isle 124.68 52 PFAKE 09 10 50.0 +8.1
PQI LR LR
comp=Z,6μm,19.0s,MS6.3
EMMW East Machias 124.74 54 PFAKE 09 10 50.0 +8.0
EMMW LR LR
comp=Z,6μm,22.0s,MS6.2
KKAR Karatay Array 124.98 304 *i* PKIKP PKPdf 09 10 43.7 +1.2
VOSK Vostochnaya 125.94 315 *i* PKIKP PKPdf 09 10 44.9 +0.8
SCHQ Schefferville 126.26 42 PKP PKPdf 09 10 44.9 +0.2
comp=Z,15nm,0.9s,baz=208,slow=14,SNR=3.6
SCHQ Schefferville 126.26 42 *e*PKPdf PKPdf 09 10 43.5 -1.2
SCHQ LR LR
comp=Z,3μm,22.0s,MS5.9
BVA0 Borovoye Array 126.31 316 *i* PKIKP PKPdf 09 10 45.3 +0.5
BVA0 pmax pmax
comp=Z,8.0nm,0.8s
BVAR Borovoye Array 126.31 316 PKP PKPdf 09 10 45.9 +1.1
comp=Z,42nm,0.6s,baz=90,slow=1.5,SNR=108
BRVK Borovoye 126.38 316 *e*PKIKP PKPdf 09 10 46.0 +1.1
BRVK MLR MLR
comp=Z,215nm,20.0s,MS4.8
ZRNK Zerenda 127.15 316 *i* PKIKP PKPdf 09 10 47.4 +1.0
LSZ Lusaka 128.05 213 *e*PKIKP PKPdf 09 10 52.0 +2.8
LSZ MLR MLR
comp=Z,2μm,20.0s,MS5.8
LSZ Lusaka 128.05 213 *e*PKPdf PKPdf 09 10 52.0 +2.9
LSZ *e* 09 14 06.4
LSZ LR LR
comp=Z,2μm,20.0s,MS5.8
RCBR Riachuelo 128.96 128 PFAKE 09 11 00.0 +9.0
RCBR LR LR
comp=Z,1μm,20.0s,MS5.5
KBS Kingsbay 131.14 357 PFAKE 09 11 10.0 +16
KBS LR LR
comp=Z,1μm,22.0s,MS5.5
KBS Kingsbay 131.14 357 *e*PP PP 09 13 12.3 -3.6
KBS *e*SS SS 09 30 37.1 -2.4
KBS AMS AMS 09 59 28.9
comp=Z,1μm,30.5s,MS5.4
SFJD Kangerlussuaq 132.00 25 *e*PKIKP PKPdf 09 10 53.8 -1.5
SFJD *i* S SS 09 30 50.8 0.0
SFJD MLR MLR
comp=Z,890nm,22.0s,MS5.4
SFJD Kangerlussuaq 132.00 25 *e*P PKPdf 09 10 53.8 -1.5
SFJD *e* 09 13 12.5
SFJD *i* 09 14 21.8
SFJD *i* S SS 09 30 50.8 0.0
SFJD LR LR
comp=Z,890nm,22.0s,MS5.4
SFJD Kangerlussuaq 132.00 25 *i* P PKPdf 09 10 53.8 -1.5
comp=Z,18nm,1.0s
SFJD *e* 09 13 12.5
SFJD *i* 09 14 21.8
DAG Danmarks Havn 132.51 6⇑ *e*PKIKP PKPdf 09 10 56.0 -0.1
DAG Danmarks Havn 132.51 6⇑ *i*P PKPdf 09 10 56.0 -0.1
comp=Z,3.3nm,0.6s
SUMG Summit 132.68 15 *e*PKPdf PKPdf 09 10 58.6 +2.1
SUMG *e* 09 13 19.9
AB31 Akbulak array 132.82 311 *i* PKIKP PKPdf 09 10 58.8 +1.4
AB31 pmax pmax
comp=Z,11nm,0.9s
ARU Arti 133.00 321 *i* PKIKP PKPdf 09 10 58.2 +0.7
ARU *e* 09 13 19.9
ARU *e*SS SS 09 30 55.4 -7.7
ARU Arti 133.00 321 *e*PKPdf PKPdf 09 10 57.9 +0.4
ARU LR LR
comp=Z,657nm,21.0s,MS5.3
KMBO Kilima Mbogo 134.03 234 PKhKP 09 10 54.5
comp=Z,1.4nm,0.6s,baz=61,slow=18,SNR=5.2
KMBO PKP PKPdf 09 11 04.5 +3.9
comp=Z,11nm,0.9s,baz=42,slow=2.9,SNR=11
KMBO SKPbc 09 14 27.6
comp=Z,18nm,1.0s,baz=84,slow=3.4,SNR=12
KMBO Kilima Mbogo 134.03 234 PKP PKPdf 09 11 04.5 +3.9
KMBO SKPbc 09 14 27.6
KEV Kevo 138.06 347 *e*pkp PKPdf 09 11 00.1 -6.4
KEV Kevo 138.06 347 *e*PKPpre 09 10 58.6
KEV LR LR
comp=Z,2μm,21.0s,MS5.9
ARCES ARCESS Array B 138.53 348 PKHKP 09 10 59.3
ARCES 09 11 06.5
ARCES pmax pmax
comp=Z,15nm,0.8s
ARCES pmax pmax
comp=Z,14nm,0.6s
ARCES pmax pmax
comp=E,6.0nm,0.9s
ARCES ARCESS Array B 138.53 348 PKhKP 09 10 59.2
comp=E,15nm,0.8s,baz=55,slow=2.8,SNR=27
ARCES PKP PKPdf 09 11 06.5 -0.9
comp=E,14nm,0.6s,baz=45,slow=1.3,SNR=26
ARCES SKP 09 14 38.1
comp=E,5.6nm,0.9s,baz=203,slow=6.9,SNR=3.4
ARCES ARCESS Array B 138.53 348 PKP PKPdf 09 11 06.5 -0.9
ARCES SKP 09 14 38.1
ARE0 ARCESS Array S 138.53 348 *e*PKPpre 09 10 59.5
ARE0 *e* 09 14 46.0
MBAR Mbarara 138.76 227 *e*PKIKP PKPdf 09 11 11.3 +2.1
MBAR MLR MLR
comp=Z,441nm,20.0s,MS5.2
JMIC Jan Mayen 138.91 5 *e*P PKPdf 09 11 03.2 -4.8
JMIC *e*PP PP 09 14 01.1 -3.3
JMIC *e*SS SS 09 32 12.3 -0.1
KTK1 Kautokeino 139.39 348 *e*P PKPdf 09 11 03.0 -5.9
TRO Tromso 139.50 351 *e*P PKPdf 09 11 03.5 -5.6
TRO *e*PP PP 09 14 02.4 -5.6
TRO *e*SS SS 09 32 20.6 +1.3
RYDS Riyadh 139.96 272 P PKPdf 09 11 13.2 +2.0
DJNS Zahran al Janu 140.15 261 P PKPdf 09 11 14.8 +3.2
TATS Tathlith 140.99 264 P PKPdf 09 11 14.2 +1.1
LOF Lofoten 141.57 353 *e*P PKPdf 09 11 16.2 +3.5
MAK Makhachkala 141.76 302 *e*PKIKP PKPdf 09 11 12.0 -1.8
MAK pmax pmax
comp=Z,1μm,7.0s
BORG Borgarnes 142.65 16 PKP PKPdf 09 11 13.4 -1.2
comp=Z,8.8nm,0.7s,baz=280,slow=0.5,SNR=6.5
BORG Borgarnes 142.65 16 PKP PKPdf 09 11 13.4 -1.2
BORG LR LR
comp=Z,375nm,20.0s,MS5.2
BLJS Baljurashi 142.74 263 P PKPdf 09 11 19.8 +3.6
MELSS Ber_school_2 142.77 352 *e*P PKPdf 09 11 12.8 -1.9
MOR8 Moi Rana 143.35 352 *e*P PKPbc 09 11 13.7 -0.5
STOK Stokkvaagen 143.37 353 *e*P PKPbc 09 11 13.0 -1.2
STOK AMb AMB 09 11 21.4
comp=Z,77nm,1.3s
DGRG David-gareji 143.44 300 P PKPbc 09 11 12.9 -2.3
TI2 Plekhanov 143.88 300 *e*PKIKP PKPdf 09 11 20.0 +2.6
LTHS Al Lith 143.92 263 P PKPbc 09 11 20.0 +2.7
GNI Garni 143.97 298*c* *i*PKIKP PKPdf 09 11 17.2 -0.4
GNI MLR MLR
comp=Z,1μm,21.0s
GNI Garni 143.97 298 PKP PKPdf 09 11 18.2 +0.6
comp=Z,16nm,0.7s,baz=316,slow=6.1,SNR=9.5
GNI Garni 143.97 298 *e*PKPdf PKPdf 09 11 18.1 +0.5
GNI LR LR
comp=Z,2μm,21.0s,MS5.9
MOS Moscow 144.25 326 *e*PKHKP 09 11 14.7
MOS *e* 09 14 30.9
MOS pmax pmax
comp=Z,90nm,0.7s
MOS pmax pmax
comp=Z,77nm,0.7s
MOS MLR MLR
comp=Z,2μm,25.2s,MS5.9
ZEI Tsey 144.42 302 *e*PKIKP PKPdf 09 11 17.8 -0.5
ZEI *i* 09 14 33.5
KAF Kangasniemi 144.48 340 *e*pkp PKPdf 09 11 14.8 -3.0
baz=37,slow=3.4
CLDR Caldiran 144.64 296 P PKPbc 09 11 20.4 +1.7
GOF Gofitskoye 144.70 306⇓ *i*PKIKP PKPdf 09 11 20.0 +1.2
GOF pmax pmax
comp=Z,108nm,1.0s
ONI Oni 144.76 302 P PKPdf 09 11 19.1 +0.1
HKR Hakkari 144.79 293 *i* P PKPdf 09 11 21.3 +2.1
PUL Pulkovo 144.93 335 *i* PKHKP 09 11 12.2
PUL MLR MLR
comp=Z,3μm,23.0s,MS6.0
PUL MLR MLR
comp=N,2μm,24.0s
PUL Pulkovo 144.93 335 *i* PKPr 09 11 19.1
HILS Ha'il 145.06 275 P PKPdf 09 11 22.0 +2.0
FINES FINESS Array B 145.08 340 *i* PKIKP PKPdf 09 11 18.6 -0.3
FINES pmax pmax
comp=Z,181nm,0.7s
FINES FINESS Array B 145.08 340 PKP PKPdf 09 11 18.6 -0.4
comp=Z,181nm,0.7s,baz=117,slow=4.3,SNR=315
OBN Obninsk 145.09 325*c* *i*PKIKP PKPdf 09 11 18.8 -0.3
OBN *e* 09 14 39.0
OBN *e* 09 18 18.3
OBN pmax pmax
comp=Z,144nm,0.9s
OBN MLR MLR
comp=Z,1μm,21.0s,MS5.7
OBN Obninsk 145.09 325 *e*PKPdf PKPdf 09 11 19.9 +0.8
OBN LR LR
comp=Z,366nm,21.0s,MS5.1
KIV Kislovodsk 145.13 304*c* *i*PKIKP PKPdf 09 11 20.3 +0.7
KIV MLR MLR
comp=Z,1μm,23.0s,MS5.7
KIV Kislovodsk 145.13 304 *e*PKPdf PKPdf 09 11 20.5 +0.9
KIV LR LR
comp=Z,285nm,21.0s,MS5.0
KARS Kars 145.21 299 P PKPdf 09 11 17.7 -2.1
VOR Voronezh 145.23 319 *e*PKIKP PKPdf 09 11 20.5 +1.0
VOR pmax pmax
comp=Z,200nm,2.5s
NSS Namsos 145.23 352 *e*P PKPdf 09 11 17.9 -1.2
BCA Borcka 146.25 300 *i* P PKPdf 09 11 25.2 +3.6
BTMT Batman 146.56 294 *e*P PKPdf 09 11 28.5 +6.2
EZM Erzurum 146.58 297 *i* P PKPdf 09 11 27.3 +5.1
KBRS Khaybar 146.82 271 P PKPdf 09 11 26.0 +3.0
SOC Sochi 147.32 304*c* *i*PKP2 PKPab 09 11 26.2 -3.6
SOC *e*PPP PPP 09 18 12.8 -1.7
SOC *e* 09 27 28.0
SOC pmax pmax
comp=N,34nm,0.7s
SOC pmax pmax
comp=Z,119nm,0.7s
SOC pmax pmax
comp=E,13nm,0.8s
SOC MLR MLR
comp=N,1μm,18.0s,MS5.7
SOC MLR MLR
comp=Z,1μm,18.0s,MS5.7
SOC MLR MLR
comp=E,118nm,17.0s,MS5.7
SOC Sochi 147.32 304⇑ *i*P PKPdf 09 11 26.4 +3.1
DOMB Dombas 147.96 354 *e*P PKPdf 09 11 27.6 +3.8
DOMB AMb AMB 09 11 35.9
comp=Z,162nm,1.0s
GUMT Gumushane 147.97 299 *i* P PKPdf 09 11 31.1 +6.6
PTK Pertek 148.18 296 *i* P PKPdf 09 11 27.7 +2.9
ANN Anapa 148.64 307*c* *i*PKP2 PKPab 09 11 30.2 -4.8
ANN pmax pmax
comp=Z,263nm,1.0s
ANN MLR MLR
comp=N,1μm,22.0s,MS5.7
ANN MLR MLR
comp=E,732nm,22.0s,MS5.7
ANN MLR MLR
comp=Z,1μm,22.0s,MS5.6
ANN Anapa 148.64 307⇑ *i*P PKPdf 09 11 28.9 +3.6
FOO Floro 148.68 357 *e*P PKPdf 09 11 44.4 +20
FOO AMb AMB 09 11 49.1
comp=Z,225nm,0.8s
NB2 NORSAR Subarra1 148.70 351 PKPabc PKPdf 09 11 29.8 +4.9
comp=Z,64nm,0.7s,baz=10.0,slow=2.6
NB2 NORSAR Subarra1 148.70 351 PKPa 09 11 29.8
baz=10,slow=2.6
NOA NORSAR Array B 148.70 351 PKIKP PKPdf 09 11 29.4 +4.5
NOA pmax pmax
comp=Z,81nm,0.8s
NOA NORSAR Array B 148.70 351 PKPbc PKPdf 09 11 29.4 +4.5
comp=Z,81nm,0.8s,baz=14,slow=4.4,SNR=135
URFA Urfa 148.70 293 *e*P PKPdf 09 11 32.5 +6.8
NAO01 NORSAR Array S 148.93 351 *e*PKPdf PKPdf 09 11 26.3 +1.0
NAO01 *e*PKPbc PKPdf 09 11 30.5 +5.2
NAO01 LR LR
comp=Z,2μm,21.0s,MS5.8
MYA Malataya 148.97 295 *e*P PKPdf 09 11 32.6 +6.5
HFS Hagfors 149.19 348 PKP PKPdf 09 11 27.0 +1.3
comp=Z,127nm,0.8s,baz=146,slow=5.2,SNR=22
HFS PKPbc PKPdf 09 11 30.3 +4.5
comp=Z,128nm,0.8s,SNR=103
SUE Sulen 149.24 357 *e*P PKPdf 09 11 31.6 +5.8
SUE AMb AMB 09 11 36.1
comp=Z,253nm,1.0s
IZAR Zarasai 149.32 333 *i* P PKPdf 09 11 31.8 +5.7
IZAR AMb AMB 09 11 37.6
comp=Z,61nm,1.0s
IDID Didziasalis 149.43 332 *i* P PKPdf 09 11 31.9 +5.6
IDID AMb AMB 09 11 37.8
comp=Z,57nm,0.9s
ISAL Salakas 149.50 333 *e*P PKPdf 09 11 32.1 +5.7
ISAL AMb AMB 09 11 38.0
comp=Z,62nm,1.0s
MNK Minsk 149.53 330⇓ *e*PKHKP 09 11 27.0
QURS Qurayyt al Mil 149.66 281 P PKPdf 09 11 30.4 +3.0
TBKS Tabuk 149.78 275 P PKPdf 09 11 30.1 +2.4
ASK Askoy 149.79 357 *e*P PKPdf 09 11 33.0 +6.3
ASK AMb AMB 09 11 37.7
comp=Z,258nm,1.4s
OSL Oslo 149.83 351 *e*P PKPdf 09 11 32.6 +5.8
OSL AMb AMB 09 11 34.4
comp=Z,106nm,1.1s
BER Bergen 149.88 357 *e*P PKPdf 09 11 33.3 +6.5
BER AMb AMB 09 11 37.7
comp=Z,164nm,1.1s
BER *e*SS SS 09 34 21.3 +3.1
GAZ Gaziantep 149.99 293 P PKPdf 09 11 36.0 +8.2
EGD Espegrend 150.00 357 *e*P PKPdf 09 11 33.6 +6.5
EGD AMb AMB 09 11 38.4
comp=Z,213nm,2.2s
KONO Kongsberg 150.25 352 PKPdf PKPdf 09 11 33.5 +6.0
KONO Kongsberg 150.25 352 *i* PKHKP 09 11 33.2
KONO Kongsberg 150.25 352⇑ *i*P PKPdf 09 11 33.4 +6.0
KONO *e*SS SS 09 34 24.8 +2.6
KVT Kavak 150.46 301 *e*P PKPdf 09 11 40.4 +12
JMQS Jabal Moqyreh 150.49 276 P PKPdf 09 11 30.9 +2.1
BLS5 Blasjo 150.77 355 *e*P PKPdf 09 11 36.5 +8.2
BLS5 AMb AMB 09 11 41.6
comp=Z,156nm,1.3s
SIM Simferopol' 150.85 309*c* *i*PKIKP PKPdf 09 11 36.7 +7.9
SIM pmax pmax
comp=Z,870nm,18.0s
HTY Hatay 150.89 291 *e*P PKPdf 09 11 38.3 +9.2
BNN Bunyan 150.94 296 *i* P PKPdf 09 11 37.8 +8.7
BDAS Al Bad' 151.07 275 P PKPdf 09 11 31.1 +1.4
KSHT Keshet 151.09 284 P PKPdf 09 11 31.9 +2.3
MKRJ Makawir 151.10 281 P PKPdf 09 11 31.7 +2.1
CEYT Ceyhan 151.17 292 *e*P PKPdf 09 11 37.2 +7.7
JMOS Jabal al Moall 151.20 276 P PKPdf 09 11 32.6 +2.8
AKASG Malin Array Be 151.22 323 PKP PKPdf 09 11 29.1 0.0
comp=Z,1.0nm,0.4s,baz=57,slow=1.7,SNR=16
AKASG PKPbc PKPdf 09 11 35.7 +6.5
comp=Z,103nm,0.7s,baz=53,slow=1.8,SNR=47
AKASG Malin Array Be 151.22 323 PKP PKPdf 09 11 29.1 0.0
AKASG PKPbc PKPdf 09 11 35.7 +6.5
KIEV Kiev 151.23 323 PKPdf PKPdf 09 11 29.6 +0.4
KIEV PKPdf PKPdf 09 11 36.0 +6.8
KSDI Kefar Szold 151.23 284 P PKPdf 09 11 32.1 +2.3
ALWS Ilw as Safayha 151.27 276 P PKPdf 09 11 31.9 +1.9
BHL Bhannes 151.28 286 *e*P PKPdf 09 11 38.2 +8.4
TAYS Tayyib Ism 151.29 275 P PKPdf 09 11 32.5 +2.5
STAV Stavanger 151.31 356 *e*P PKPdf 09 11 36.7 +7.7
STAV AMb AMB 09 11 42.8
comp=Z,132nm,0.9s
BYBT Boyabat 151.33 302 *e*P PKPdf 09 11 38.5 +8.9
HAQS Haql 151.34 276 P PKPdf 09 11 32.3 +2.2
AQBJ Aqaba 151.35 277 P PKPdf 09 11 32.2 +2.2
ZFRI Zfri 151.37 279 P PKPdf 09 11 32.2 +2.2
MMLI Mount Malkishu 151.38 283 P PKPdf 09 11 32.6 +2.6
EIL Elat 151.43 277 P PKPdf 09 11 32.3 +2.1
MBH Mount Berech 151.48 277 P PKPdf 09 11 32.6 +2.4
PRNI Paran 151.49 278 P PKPdf 09 11 32.5 +2.3
HNTI Hanita 151.63 284 P PKPdf 09 11 32.1 +2.1
CORM Corum 151.68 299 *e*P PKPdf 09 11 39.7 +9.5
SLTI Sal'it 151.68 282 P PKPdf 09 11 32.8 +2.3
KMTI Karmit 151.69 278 P PKPdf 09 11 32.6 +2.1
HAF Haifa 151.74 284 P PKPdf 09 11 32.6 +2.1
OFRI 'Ofer 151.76 283 P PKPdf 09 11 33.4 +2.8
BZK Bozkurt 151.77 303 *e*P PKPdf 09 11 39.5 +9.2
SNART Snartemo 151.78 354 *e*P PKPdf 09 11 37.8 +8.1
SNART AMb AMB 09 11 42.6
comp=Z,116nm,0.7s
SUW Suwalki 151.80 333 *e*PKP PKPdf 09 11 31.9 +2.0
SUW *e* 09 11 37.9
SUW Suwalki 151.80 333 *e*PKP PKPdf 09 11 31.9 +2.0
SUW *e* 09 11 37.9
TOS Tosya 151.97 301 *i* P PKPdf 09 11 38.8 +8.2
NIG Nigde 151.98 295 *e*P PKPdf 09 11 40.3 +10
KZIT Kziot 152.09 279 P PKPdf 09 11 33.6 +2.5
BRTR Keskin Array B 152.50 299 PKP PKPdf 09 11 31.8 +0.4
comp=Z,5.5nm,1.0s,baz=90,slow=2.5,SNR=11
BRTR PKPbc PKPdf 09 11 40.0 +8.6
comp=Z,36nm,0.7s,baz=109,slow=2.2,SNR=44
KAMT Kaman 152.51 298 *i* P PKPdf 09 11 40.8 +9.3
PHNC Paralimni 152.63 288 P PKPdf 09 11 41.1 +9.4
IKL Isikli 152.87 291 *e*P PKPdf 09 11 39.2 +7.2
SAFT Safranbolu 152.90 302 *i* P PKPdf 09 11 41.7 +10
ANTO Ankara 153.12 299 *e*P PKPdf 09 11 41.4 +9.1
LOD Lodumlu 153.14 299 *e*P PKPdf 09 11 40.6 +8.3
CSS Prodhromos 153.21 288 P PKPdf 09 11 42.2 +10
comp=Z,1.9nm,0.6s
KIS Kishinev 153.40 316 *i* PKIKP PKPdf 09 11 35.0 +2.6
KIS *e* 09 11 50.0
KIS *e* 09 15 25.0
MUD Monsted U'grnd 153.41 351 *e*PKIKP PKPdf 09 11 34.6 +2.5
MUD *i* 09 15 25.5
MUD Monsted U'grnd 153.41 351 *i* P PKPdf 09 11 34.6 +2.5
comp=Z,57nm,1.1s
MUD *i* 09 15 25.5
comp=Z,1μm,22.0s
BSD Bornholm Skovb 153.56 343⇓ *i*PKIKP PKPdf 09 11 41.7 +9.3
BSD pmax pmax
comp=Z,180nm,0.6s
BSD Bornholm Skovb 153.56 343⇓ *i*P PKPdf 09 11 41.7 +9.3
comp=Z,176nm,0.6s
LEF Lefka 153.56 289 *e*P PKPdf 09 11 43.1 +10
SZAC Souni-Zanaja 153.58 288 P PKPdf 09 11 44.0 +11
COP Copenhagen 153.60 347 *e*PKIKP PKPdf 09 11 41.9 +10
COP *i* 09 15 26.5
COP pmax pmax
comp=Z,61nm,0.7s
COP MLR MLR
comp=Z,980nm,23.0s,MS5.6
COP Copenhagen 153.60 347 *i* P PKPdf 09 11 41.9 +10
comp=Z,61nm,0.7s
COP *i* 09 15 26.5
comp=Z,970nm,23.0s
KONT Konya--Tatoy 153.76 295 *i* P PKPdf 09 11 46.7 +14
HDMB Hadim 153.78 293 *e*P PKPdf 09 11 42.8 +10
ALFC Alevga 153.80 289 P PKPdf 09 11 42.9 +10
comp=Z,3.2nm,0.6s
KIZT Kizilcal 154.00 297 *i* P PKPdf 09 11 44.0 +11
PPCY Paphos 154.02 288 P PKPdf 09 11 46.4 +13
GKP Gorka Klasztor 154.52 338 *e*PKP PKPdf 09 11 35.0 +1.3
GKP Gorka Klasztor 154.52 338 *e*PKP PKPdf 09 11 35.0 +1.3
ESKT Eskisehir 154.66 299 *e*P PKPdf 09 11 34.4 +0.1
CFR Carcaliu 154.67 313⇓ P PKPdf 09 11 45.0 +11
EKA Eskdalemuir Ar 154.78 7 PKP PKPdf 09 11 36.5 +2.5
comp=Z,1.9nm,0.8s,baz=333,slow=1.9,SNR=6.7
EKA PKPab PKPab 09 11 58.4 -1.9
comp=Z,54nm,0.8s,baz=338,slow=3.0,SNR=40
ESK Eskdalemuir 154.79 7 PKIKP PKPdf 09 11 37.4 +3.4
ESK MLR MLR
comp=Z,3μm,20.0s,MS6.1
TIRR Tirgusor 154.81 311⇓ P PKPdf 09 11 44.7 +10
HARR Harsova 155.02 312⇑ P PKPdf 09 11 45.6 +11
BURAR Bucovina Array 155.14 320⇑ P PKPdf 09 11 46.7 +12
KWP Kalwaria 155.15 327 *e*PKP PKPdf 09 11 45.6 +11
KWP *e* 09 12 01.4
VRI Vrincioaia 155.22 316⇑ P PKPdf 09 11 46.1 +11
ISP Isparta 155.23 295 PKPdf PKPdf 09 11 34.8 -0.4
ISP *e*PKPab PKPab 09 12 02.3 -0.5
ISP *e* 09 12 19.8
PSN Preselentsi 155.28 310 *e*P PKPdf 09 11 34.0 -1.0
DBIC Dimbokro 155.60 164 PKP PKPdf 09 11 39.3 +3.0
comp=Z,5.8nm,0.8s,baz=216,slow=1.8,SNR=5.5
BSEG Bad Segeberg 155.66 348 PKP2 PKPab 09 12 02.5 -1.6
BSEG Bad Segeberg 155.66 348 *e*PKPdf PKPdf 09 11 36.0 +0.8
BSEG *e*PKPab PKPab 09 12 02.5 -1.6
ELL Elmali 155.86 293 *e*P PKPdf 09 11 44.0 +8.0
MLR Muntele Rosu 155.88 315 PKIKP PKPdf 09 11 37.3 +1.5
MLR pmax pmax
comp=Z,3.0nm,0.8s
MLR Muntele Rosu 155.88 315 PKP PKPdf 09 11 37.3 +1.6
comp=Z,3.1nm,0.8s,baz=27,slow=0.7,SNR=6.3
MLR Muntele Rosu 155.88 315⇑ P PKPdf 09 11 37.0 +1.2
MLR Muntele Rosu 155.88 315⇑ P PKPdf 09 11 37.0 +1.2
STHS Stebnicka Huta 155.99 328 *e* PKPdf 09 11 45.4 +10
STHS Stebnicka Huta 155.99 328 *e*PKP PKPab 09 12 02.4 -3.3
PRD Provadia 156.00 309 *e*P PKPdf 09 11 36.0 0.0
OJC Ojcow 156.03 331 *e*PKP PKPdf 09 11 36.7 +0.9
OJC *e*PP PP 09 15 22.9 -22
NIE Niedzica 156.41 329 *e*PKP PKPdf 09 11 38.9 +2.6
LHO Holmfirth 156.67 6 *e*P PKPab 09 12 05.7 -2.8
KSP Ksiaz 156.88 336 *e*PKIKP PKPdf 09 11 38.3 +1.4
KSP *e* 09 11 49.3
KSP MLR MLR
comp=Z,6μm,21.9s,MS6.4
KSP Ksiaz 156.88 336 *e*PKPdf PKPdf 09 11 38.3 +1.4
KSP *e*pPKPdf 09 11 49.3
KSP *e*PKPab PKPab 09 12 07.8 -1.7
KSP *e*PP PP 09 15 40.0 -8.7

KSP				*e*			09 25 57.0	
KSP				LR	LR			
	comp=Z,6µm,21.9s,MS6.4							
KSP	**Ksiaz**	**156.88**	**336**	*e*PKP		PKPdf	09 11 38.6	+1.7
KSP				*e*			09 11 50.0	
KSP				*e*			09 12 07.9	
SZH	**Strazhica**	**156.94**	**311**	*e*P		PKPdf	09 11 42.0	+4.8
SZH	**Strazhica**	**156.94**	**311**	*i* P		PKPab	09 12 10.0	0.0
KBI1	**Birley Grange**	**156.98**	**5**	*e*P		PKPab	09 12 07.7	-2.2
DRGR		**157.00**	**321**	⇑P		PKPdf	09 11 49.0	+12
OKC	**Ostrava-Krasne**	**157.00**	**332**	*e*PKP		PKPdf	09 11 40.2	+3.1
OKC				*e*			09 12 09.0	
OKC	**Ostrava-Krasne**	**157.00**	**332**	*e*PKPDF		PKPdf	09 11 40.2	+3.1
OKC				*e*PKPAB		PKPab	09 12 09.0	-1.1
OKC				AMS		AMS	10 22 50.0	
	comp=Z,2µm,21.9s							
SBD1	**Bryn Du**	**157.15**	**8**	*e*P		PKPab	09 12 09.0	-1.6
KWE	**Weaver Farm**	**157.19**	**6**	*e*P		PKPab	09 12 07.4	-3.3
UPC	**Upice**	**157.26**	**336**	*e*PKPDF		PKPdf	09 11 37.9	+0.5
UPC				*e*PKPAB		PKPab	09 12 10.4	-0.7
DPC	**Dobruska-Polom**	**157.28**	**336**	*e*PKIKP		PKPdf	09 11 38.5	+1.0
DPC				MLR	MLR			
	comp=Z,3µm,22.3s,MS6.1							
DPC	**Dobruska-Polom**	**157.28**	**336**	*e*PKPDF		PKPdf	09 11 38.5	+1.0
DPC				*e*PKPAB		PKPab	09 12 13.0	+1.8
DPC				AMS	AMS		10 23 00.0	
	comp=Z,3µm,22.3s							
MORC	**Moravsky Berou**	**157.29**	**333**	*e*PKIKP		PKPdf	09 11 37.9	+0.4
CLL	**Collm**	**157.50**	**342**	*e*PKIKP		PKPdf	09 11 38.0	+0.3
CLL				*i*			09 11 50.5	
CLL				*e*			09 11 55.0	
CLL				*i* PKP2		PKPab	09 12 10.0	-2.1
CLL				*i* PKP2		PKPab	09 12 14.2	+2.1
CLL				*e**PPKP2			09 12 24.0	
CLL				*e*			09 12 29.0	
CLL				*e*PP		PP	09 15 47.0	-5.3
CLL				*e*PPP		PPP	09 19 23.0	-8.7
CLL				*e*			09 22 08.0	
CLL				*e*			09 24 47.0	
CLL				*e*SKSP			09 26 05.0	
CLL				*e*			09 28 02.0	
CLL				*e*PPS		PPS	09 29 00.0	-6.6
CLL				*e*			09 30 31.0	
CLL				*e*SS		SS	09 35 37.0	-3.9
CLL				*e*			09 36 42.0	
CLL				*e*SSS		SSS	09 41 48.0	+3.3
HLM1	**Long Mynd**	**157.58**	**8**	*e*P		PKPab	09 12 10.4	-2.1
HLM1				AMb		AMB	09 12 15.1	
	comp=Z,132nm,1.1s							
BRG	**Berggiesshubel**	**157.62**	**340**	*e*PKIKP		PKPdf	09 11 39.4	+1.5
BRG				*e*			09 11 53.9	
BRG							09 15 47.0	
BRG				*e*			09 19 27.0	
BRG				MLR	MLR			
	comp=Z,2µm,24.7s,MS5.9							
BRG	**Berggiesshubel**	**157.62**	**340**	*e*PKP		PKPdf	09 11 39.4	+1.6
BRG				*e*			09 11 53.9	
BRG				*i*			09 12 11.5	
BRG				PP	PP		09 15 47.0	-6.0
BRG				*e*			09 19 27.0	
BRG				*e*			09 26 15.0	
BRG				LR	LR			
	comp=Z,2µm,24.7s,MS5.9							
SSP1	**Stoney Pound**	**157.65**	**8**	*e*P		PKPab	09 12 10.6	-2.1
SSP1				AMb		AMB	09 12 16.0	
	comp=Z,222nm,1.0s							
PSZ	**Piszkesteto**	**157.68**	**327**	PKIKP		PKPdf	09 11 39.2	+1.1
PVCC	**Panska Ves**	**157.72**	**338**	*e*PKPDF		PKPdf	09 11 39.5	+1.5
PVCC				AMS		AMS	10 24 00.0	
	comp=Z,2µm,22.3s							
HTR	**Trewern Hill**	**157.96**	**9**	*e*P		PKPab	09 12 11.7	-2.4
HTR				AMb		AMB	09 12 16.0	
	comp=Z,114nm,2.6s							
VRAC	**Vranov**	**158.04**	**334**	PKP		PKPdf	09 11 39.7	+1.3
	comp=Z,3.3nm,0.8s,baz=103,slow=5.3,SNR=6.0							
VRAC				PKPab		PKPab	09 12 13.7	-0.8
	comp=Z,20nm,0.9s,baz=20,slow=5.5,SNR=7.3							
RDO	**Rodhopi**	**158.07**	**306**	*e*P		PKPdf	09 11 43.0	+4.2
MCH1	**Michaelchurch**	**158.08**	**8**	*e*P		PKPab	09 12 12.7	-1.9
HAE	**Alders End**	**158.09**	**7**	*e*P		PKPab	09 12 12.6	-2.1
HAE				AMb		AMB	09 12 18.2	
	comp=Z,467nm,1.1s							
PRU	**Pruhonice**	**158.20**	**338**	*e*PKP		PKPdf	09 11 39.5	+0.9
PRU				*e*			09 12 13.2	
PRU				LR	LR			
	comp=Z,2µm,24.1s,MS5.7							
PRU	**Pruhonice**	**158.20**	**338**	*e*PKPDF		PKPdf	09 11 39.5	+0.9
PRU				*e*PKPAB		PKPab	09 12 13.2	-2.0
PRU				AMS		AMS	10 22 20.0	
	comp=Z,2µm,24.1s							
HGH	**Gray Hill**	**158.45**	**8**	*e*P		PKPab	09 12 14.4	-1.8
HGH				AMb		AMB	09 12 19.4	
	comp=Z,284nm,1.1s							
MOX	**Moxa**	**158.47**	**343**	⇑*e*PKIKP		PKPdf	09 11 40.2	+1.3
MOX	**Moxa**	**158.47**	**343**	*i* P		PKPdf	09 11 40.2	+1.3
MOX				PP2			09 11 54.0	
MOX				PKP2		PKPab	09 12 16.0	-0.3
MOX				PP		PP	09 15 57.0	-0.7
MOX				*e*			09 26 15.0	
MOX				SS		SS	09 36 36.0	+44
MOX				L			10 34 16.0	
NKC	**Novy Kostel**	**158.62**	**341**	*e*PKP		PKPdf	09 11 39.3	+0.2
NKC	**Novy Kostel**	**158.62**	**341**	*e*PKPDF		PKPdf	09 11 39.3	+0.2
NKC				AMS		AMS	10 19 00.0	
	comp=Z,2µm,23.5s							
ZST	**Bratislava**	**158.72**	**331**	*e*PKP		PKPdf	09 11 41.1	+1.8
ZST				*e*L			09 29 00.5	
VTS	**Vitosha**	**159.03**	**311**	*e*P		PKPdf	09 11 36.5	-3.4
VTS	**Vitosha**	**159.03**	**311**	*i* P		PKPab	09 12 19.0	0.0
MMB	**Musomiste**	**159.14**	**308**	*e*P		PKPdf	09 11 45.5	+5.5
KHC	**Kasperske Hory**	**159.26**	**338**	*e*PKP		PKPdf	09 11 40.7	+0.8
KHC				*e*			09 12 18.3	
KHC				LR	LR			
	comp=Z,2µm,21.5s,MS6.0							
KHC	**Kasperske Hory**	**159.26**	**338**	*e*PKPDF		PKPdf	09 11 40.7	+0.8
KHC				*e*PKPAB		PKPab	09 12 18.3	-1.5
KHC				AMS		AMS	10 24 20.0	
	comp=Z,2µm,21.5s							
GRA1	**Grafenberg Arr**	**159.44**	**343**	*e*PKPdf		PKPdf	09 11 40.1	0.0
GRA1				*e*PKPab		PKPab	09 12 19.0	-1.5
GRA1				LR	LR			
	comp=Z,2µm,21.7s,MS5.8							
GRF	**Grafenberg Arr**	**159.44**	**343**	*e*PKIKP		PKPdf	09 11 40.1	0.0
GRF				*e*			09 12 19.0	
GRF				MLR	MLR			
	comp=Z,2µm,21.7s,MS5.8							
GRFO	**Grafenberg**	**159.44**	**343**	*e*PKIKP		PKPdf	09 11 39.5	-0.6
KKB	**Krupnik**	**159.45**	**310**	*e*P		PKPdf	09 11 36.5	-3.9
KKB	**Krupnik**	**159.45**	**310**	*i* P		PKPab	09 12 20.0	-0.8
GEC2	**GERESS Array S**	**159.46**	**337**	*e*PKIKP		PKPdf	09 11 40.2	0.0
GERES	**GERESS Array B**	**159.46**	**337**	PKP		PKPdf	09 11 41.6	+1.5
	comp=Z,4.0nm,0.8s,baz=90,slow=1.3,SNR=22							
GERES				PKPab		PKPab	09 12 19.6	-1.1
	comp=Z,11nm,0.7s,baz=30,slow=4.0,SNR=12							
WET	**Wettzell**	**159.47**	**339**	PKP2		PKPab	09 12 19.8	-0.9
XRY	**Khrisi**	**159.47**	**289**	*e*P		PKPdf	09 11 42.5	+1.9
PKSM	**Moragy**	**159.50**	**325**	⇑*e*PKIKP		PKPdf	09 11 41.2	+0.9
NPS	**Neapolis**	**159.50**	**290**	*e*P		PKPdf	09 11 50.5	+10
TNS	**Taunus Mts**	**159.55**	**348**	PKP2		PKPab	09 12 19.2	-1.8
MENF	**Mencas**	**159.82**	**360**	PKP		PKPdf	09 11 42.4	+1.9
ABH	**Alteburg**	**160.04**	**349**	PKP		PKPdf	09 11 42.6	+1.9
TOD	**Tromm**	**160.08**	**347**	PKIKP		PKPdf	09 11 41.4	+0.6
MOA	**Molln**	**160.12**	**335**	⇓*i*P		PKPdf	09 11 42.0	+1.1
	comp=Z,5.2nm,1.0s							
MOA				*i*			09 12 05.7	
	comp=Z,8.0nm,0.8s							
MOA				*i*			09 12 23.4	
	comp=Z,21nm,0.8s							
ARSA	**Arzberg**	**160.12**	**332**	⇑*i*P		PKPdf	09 11 42.7	+1.8
	comp=Z,6.3nm,0.9s							
ARSA				*i*			09 12 27.4	
	comp=Z,14nm,0.8s							
GIVF	**Givet**	**160.15**	**354**	*e*PKIKP		PKPdf	09 11 42.1	+1.2
BAIF	**Baives**	**160.24**	**356**	*e*PKIKP		PKPdf	09 11 42.6	+1.7
WLF	**Walferdange**	**160.45**	**352**	*e*PKIKP		PKPdf	09 11 41.2	0.0
SKO	**Skopje**	**160.47**	**312**	*i* PKIKP		PKPdf	09 11 47.3	+5.5
SKO				*i* PKP2		PKPab	09 12 25.5	+0.3
VAM	**Vamos**	**160.62**	**291**	*e*P		PKPdf	09 11 44.0	+2.2
STU	**Stuttgart**	**160.79**	**345**	*e*PKIKP		PKPdf	09 11 43.1	+1.6
STU				*e*			09 12 25.1	
FUR	**Furstenfeldbru**	**160.82**	**341**	PKP2		PKPab	09 12 25.2	-1.3
LANF	**Langenberg**	**160.87**	**348**	PKP		PKPdf	09 11 42.9	+1.3
KBA	**Koelnbreinsper**	**161.10**	**335**	⇓*i*P		PKPdf	09 11 43.0	+1.1
	comp=Z,8.5nm,0.9s							
KBA				*i*			09 12 30.6	
	comp=Z,22nm,0.7s							
OBKA	**Obir**	**161.11**	**332**	⇑*i*P		PKPdf	09 11 47.0	+5.1
OBKA				*i*			09 12 28.9	
	comp=Z,15nm,0.9s							
VLI	**Veliai**	**161.37**	**295**	*e*P		PKPdf	09 11 51.0	+8.5
BFO	**Black Forest**	**161.39**	**346**	PKP2		PKPab	09 12 27.2	-1.8
WATA	**Walderalm**	**161.47**	**339**	⇓*i*P		PKPdf	09 11 48.0	+5.7
WATA				*i*			09 12 31.2	
WLS	**Welschbruch**	**161.49**	**349**	PKP		PKPdf	09 11 43.6	+1.4
LJU	**Ljubljana**	**161.50**	**331**	*e*PKIKP		PKPdf	09 11 43.4	+1.1
LJU				*e*			09 16 11.0	
LJU	**Ljubljana**	**161.50**	**331**	*e*PKPdf		PKPdf	09 11 43.4	+1.1
LJU				*e*PKPab		PKPab	09 12 31.6	+2.1
LJU				*e*PP		PP	09 16 11.0	-3.0
WTTA	**Wattenberg**	**161.52**	**339**	⇓*i*P		PKPdf	09 11 46.4	+4.1
WTTA				*i*			09 12 29.6	
	comp=Z,57nm,0.8s							
FLN	**La Foliniere**	**161.53**	**5**	*e*PKIKP		PKPdf	09 11 43.7	+1.4
	comp=Z,35nm,0.8s							
FLN				*e*R				
	comp=Z,1µm,21.2s							
EVR	**Evrytania**	**161.56**	**303**	*e*P		PKPdf	09 11 45.0	+2.4
MOTA	**Moosalm**	**161.61**	**340**	⇑*i*P		PKPdf	09 11 44.1	+1.7
	comp=Z,12nm,0.9s							
MOTA				*i*			09 12 29.7	
	comp=Z,46nm,0.8s							
ROSF	**Rostrenen**	**161.61**	**11**	*e*PKIKP		PKPdf	09 11 44.4	+2.0
BOJS	**Bojanci**	**161.61**	**329**	*e*PKPdf		PKPdf	09 11 43.6	+1.2
BOJS				*e*PP		PP	09 16 12.3	-2.3
SQTA	**Sankt Quirin**	**161.69**	**339**	⇑*i*P		PKPdf	09 11 47.1	+4.6
	comp=Z,12nm,0.8s							
SQTA				*i*			09 12 29.9	
	comp=Z,50nm,0.8s							
ECH	**Echery**	**161.72**	**349**	PKP		PKPdf	09 11 45.9	+3.4
MEZF	**Maizieres J'vi**	**161.72**	**353**	*e*PKIKP		PKPdf	09 11 44.1	+1.6
	comp=Z,30nm,0.9s							
SGMF	**Saint Gilles**	**161.80**	**10**	*e*PKIKP		PKPdf	09 11 43.7	+1.1
	comp=Z,64nm,1.5s							
GRR	**Gorron**	**161.87**	**6**	*e*PKIKP		PKPdf	09 11 43.9	+1.3
	comp=Z,14nm,0.7s							
THEF	**They-Montfort**	**161.88**	**351**	PKP		PKPdf	09 11 44.5	+1.9
FELD	**Feldberg**	**161.89**	**347**	PKP		PKPdf	09 11 43.8	+1.1
JAN	**Janina**	**161.94**	**306**	*e*P		PKPdf	09 11 45.0	+2.0
QUIF	**Quistinic**	**162.04**	**11**	*e*PKIKP		PKPdf	09 11 44.5	+1.7
	comp=Z,20nm,0.9s							
HAU	**Haudompre**	**162.05**	**350**	*e*PKIKP		PKPdf	09 11 44.0	+1.2
HAU				*e*R				
	comp=Z,2µm,22.2s							
MOF	**Molkenrain**	**162.07**	**348**	PKP		PKPdf	09 11 43.8	+1.0
HINF	**Hinteralfeld**	**162.15**	**349**	*e*PKIKP		PKPdf	09 11 43.9	+1.0
BBS	**Basel-Blauen**	**162.38**	**347**	PKIKP		PKPdf	09 11 44.2	+1.0
DAVOX	**Davos**	**162.47**	**342**	PKP		PKPdf	09 11 44.3	+1.0
	comp=Z,7.3nm,0.8s,baz=32,slow=2.1,SNR=5.9							
DAVOX				PKPab		PKPab	09 12 33.3	-0.5
	comp=Z,101nm,0.7s,baz=17,slow=5.1,SNR=29							
LOMF	**Lomont**	**162.61**	**349**	PKP		PKPdf	09 11 45.7	+2.3
VLS	**Valsamata**	**162.71**	**302**	*e*P		PKPdf	09 11 45.5	+1.7
LOR	**Lormes**	**163.04**	**355**	*e*PKIKP		PKPdf	09 11 45.3	+1.5
	comp=Z,17nm,0.8s							
LOR				*e*R				
	comp=Z,2µm,21.8s							
SSF	**Saint Saulge**	**163.27**	**356**	*e*PKIKP		PKPdf	09 11 45.9	+1.8
	comp=Z,13nm,0.9s							
CABF	**La Chapelle**	**163.45**	**350**	*e*PKIKP		PKPdf	09 11 46.0	+1.7
	comp=Z,50nm,1.1s							
AVF	**Avril sur Loir**	**163.55**	**356**	*e*PKIKP		PKPdf	09 11 45.6	+1.2
SMF	**Signal de Mont**	**163.67**	**355**	*e*PKIKP		PKPdf	09 11 45.9	+1.4
MFF	**Saint Martin d**	**163.70**	**5**	*e*PKIKP		PKPdf	09 11 46.2	+1.7
	comp=Z,25nm,1.1s							
BGF	**Bois d'Agland**	**163.81**	**358**	*e*PKIKP		PKPdf	09 11 46.0	+1.4
TCF	**Toulx Ste Croi**	**164.09**	**359**	*e*PKIKP		PKPdf	09 11 46.3	+1.4
	comp=Z,12nm,0.8s							
PLDF	**La Plantade**	**164.35**	**356**	PKIKP		PKPdf	09 11 48.7	+3.5
LPL	**La Plagne**	**164.40**	**347**	*e*PKIKP		PKPdf	09 11 47.3	+2.1
	comp=Z,22nm,0.8s							
LPG	**La Plagne**	**164.41**	**347**	*e*PKIKP		PKPdf	09 11 47.4	+2.1
	comp=Z,17nm,0.8s							
PYM	**Petit Puy Mans**	**164.61**	**357**	PKIKP		PKPdf	09 11 49.4	+4.0
EMAZ	**Mazaricos**	**164.72**	**32**	PKP		PKPdf	09 11 44.8	-0.9
BNI	**Bardonecchia**	**164.86**	**347**	*e*PKIKP		PKPdf	09 11 46.8	+1.1
BNI							09 12 42.6	
STS	**Santiago**	**164.96**	**31**	PKIKP		PKPdf	09 11 47.3	+1.4
TIP	**Timpagrande**	**164.97**	**310**	PKPdf		PKPdf	09 11 47.8	+1.8
TIP				*e*P			09 12 45.2	
TIP				*e*pP			09 13 02.6	
RJF	**Les Rejaudoux**	**165.07**	**1**	*e*PKIKP		PKPdf	09 11 47.4	+1.5
LBL	**Lubilhac**	**165.11**	**356**	PKIKP		PKPdf	09 11 49.1	+3.1
ORIF	**Oris-en-Rattie**	**165.13**	**349**	*e*PKIKP		PKPdf	09 11 47.7	+1.7
	comp=Z,33nm,0.8s							
ORIF				*e*R				
	comp=Z,2µm,21.8s							
MBDF	**Montbardon**	**165.15**	**346**	*e*PKIKP		PKPdf	09 11 48.3	+2.3
	comp=Z,24nm,0.9s							
EPON	**Pontenova**	**165.18**	**27**	PKP		PKPdf	09 11 46.6	+0.5
VIVF	**Saint-Julien-l**	**165.36**	**352**	*e*PKIKP		PKPdf	09 11 47.8	+1.6
	comp=Z,18nm,0.9s							
LFF	**La Frestale**	**165.41**	**3**	*e*PKIKP		PKPdf	09 11 47.9	+1.6
CAF	**Calviac**	**165.46**	**360**	*e*PKIKP		PKPdf	09 11 48.3	+2.0
	comp=Z,31nm,1.1s							
EZAM	**Zamans**	**165.47**	**33**	PKIKP		PKPdf	09 11 47.7	+1.3
SBF	**Sospel**	**165.82**	**343**	*e*PKIKP		PKPdf	09 11 47.7	+1.0
	comp=Z,23nm,0.7s							
EARI	**Arriondas**	**165.89**	**22**	PKP		PKPdf	09 11 46.4	-0.4
ERUA	**La Rua**	**165.96**	**29**	PKIKP		PKPdf	09 11 46.7	-0.1
ELOB	**Lobios**	**165.99**	**32**	PKP		PKPdf	09 11 48.2	+1.3
SMRF	**Simiane la Rot**	**166.10**	**349**	*e*PKIKP		PKPdf	09 11 48.7	+1.8
LASF	**Ste Croix**	**166.22**	**354**	*e*PKIKP		PKPdf	09 11 48.8	+1.8
	comp=Z,26nm,1.1s							
FRF	**La Foret Royal**	**166.29**	**345**	*e*PKIKP		PKPdf	09 11 47.8	+0.8
	comp=Z,25nm,0.8s							
ELAN	**Lanestosa**	**166.46**	**17**	PKP		PKPdf	09 11 48.2	+1.0
ECAL	**Calabor**	**166.51**	**29**	PKP		PKPdf	09 11 49.5	+2.3
LMR	**La Mourre**	**166.54**	**345**	*e*PKIKP		PKPdf	09 11 48.3	+1.1
PGF	**Pioggiola**	**166.57**	**337**	*e*PKIKP		PKPdf	09 11 49.2	+1.9
	comp=Z,51nm,1.1s							
PVRL	**Vila Real**	**166.61**	**33**	*e*PKPdf		PKPdf	09 11 50.7	+3.3
PBRG	**Braganca**	**166.62**	**29**	*e*PKPdf		PKPdf	09 11 52.3	+5.0
EALK	**Alkurruntz**	**166.88**	**11**	PKP		PKPdf	09 11 49.1	+1.6
PVIS	**Viseu**	**166.95**	**35**	*e*PKPdf		PKPdf	09 11 50.7	+3.1
SJPF	**Ste Jean**	**167.03**	**10**	*e*PKIKP		PKPdf	09 11 49.7	+2.1
MTLF	**Montolieu**	**167.04**	**359**	*e*PKIKP		PKPdf	09 11 49.1	+1.5
	comp=Z,16nm,1.1s							
EPF	**Esparros**	**167.29**	**5**	*e*PKIKP		PKPdf	09 11 49.8	+2.1
	comp=Z,16nm,0.7s							
ETSF	**Etsaut**	**167.33**	**8**	*e*PKIKP		PKPdf	09 11 50.1	+2.4
	comp=Z,25nm,0.9s							
MTE	**Manteigas**	**167.37**	**35**	*e*PKPdf		PKPdf	09 11 50.2	+2.4
MTE	**Manteigas**	**167.37**	**35**	*e*PKPdf		PKPdf	09 11 51.2	+3.3
MTE	**Manteigas**	**167.37**	**35**	*i* -			09 37 33.0	
MTE	**Manteigas**	**167.37**	**35**	*e*LR		LR	10 10 45.4	
	comp=Z,1µm,20.3s							
PCBR	**Castelo Branco**	**167.82**	**37**	*e*PKPdf		PKPdf	09 11 51.6	+3.5
PCBR				*i* -			09 12 09.3	
EJON	**La Jonquera**	**167.91**	**357**	PKP		PKPdf	09 11 50.2	+2.1
EGRA	**Graus**	**168.12**	**6**	PKP		PKPdf	09 11 49.5	+1.3
EVO	**Evora**	**168.45**	**42**	*e*PKIKP		PKPdf	09 11 50.7	+2.2
	comp=Z,24nm,0.7s							
EVO				*e*R				
	comp=Z,2µm,22.8s							
EMIR	**Miracle**	**168.46**	**1**	PKP		PKPdf	09 11 50.4	+1.9
ESAC	**San Caprasio**	**168.50**	**9**	PKP		PKPdf	09 11 51.5	+3.0
EBAD	**Badajoz**	**168.86**	**39**	PKP		PKPdf	09 11 53.3	+4.5
PBEJ	**Beja**	**168.87**	**44**	*e*PKPdf		PKPdf	09 11 52.7	+3.9
PBEJ				*i* -			09 12 09.6	
EPOB	**Poblet**	**169.01**	**3**	PKP		PKPdf	09 11 50.4	+1.6
ESDC	**Sonseca Array**	**169.54**	**26**	PKP		PKPdf	09 11 51.5	+2.4
	comp=Z,4.0nm,0.8s,baz=339,slow=2.2,SNR=18							
ESDC				PKPab		PKPab	09 13 03.8	-1.1
	comp=Z,4.1nm,0.9s,baz=328,slow=4.0,SNR=4.3							
ESDC	**Sonseca Array**	**169.54**	**26**	PKP		PKPdf	09 11 52.1	+2.9
ESLA	**Sonseca Array**	**169.54**	**26**	PKPdf		PKPdf	09 11 51.9	+2.7
ESLA				LR		LR		
	comp=Z,10µm,21.0s							
EMIN	**Mina Concepcio**	**169.75**	**42**	PKP		PKPdf	09 11 52.5	+3.1
EMOS	**Mosqueruela**	**169.83**	**10**	PKP		PKPdf	09 11 52.5	+3.2
ECAB	**El Cabril**	**170.21**	**36**	PKP		PKPdf	09 11 53.0	+3.4
ECHE	**Chera**	**170.49**	**14**	PKIKP		PKPdf	09 11 53.3	+3.6
EADA	**Adamuz**	**170.54**	**33**	PKP		PKPdf	09 11 53.1	+3.3
ESPR	**Espera**	**170.84**	**43**	PKP		PKPdf	09 11 54.1	+4.1
EBAN	**Banos Encina**	**170.90**	**30**	PKIKP		PKPdf	09 11 53.4	+3.4
EVIA	**Vianos**	**170.98**	**23**	PKIKP		PKPdf	09 11 53.7	+3.6
ELUQ	**Luque**	**171.18**	**34**	PKIKP		PKPdf	09 11 53.3	+3.1
ETOB	**Tobarra**	**171.26**	**18**	PKP		PKPdf	09 11 53.2	+3.0
EBEN	**Beniarda**	**171.49**	**11**	PKP		PKPdf	09 11 54.8	+4.4
EQES	**Quesada**	**171.51**	**28**	PKP		PKPdf	09 11 53.2	+2.8
EMUR	**La Murta**	**172.09**	**18**	PKP		PKPdf	09 11 53.5	+2.7

NNC 23 09:03:20.4±12.0, 39.96N×73.89E, h19km±43km, mpv2.9, 4C-2D, Error ellipse: s-maj=78.9km s-min=49.7km az=158.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**2.71**	**9**	⇓Pn	Pn	09 04 07.6	+3.7
	7.1nm,0.5s						
AAK				⇑Lg		09 04 46.0	
	43nm,0.6s						
KK31	**Karatay Array**	**4.04**	**322**	⇑Pn	Pn	09 04 22.8	+0.1
	0.2nm,0.2s,baz=133,slow=14,SNR=15						
KK31				⇑Pg	Pn	09 04 33.1	+10
	1.1nm,0.3s,baz=137,slow=15,SNR=6.6						
KK31				⇑Sn	Sn	09 05 12.5	+2.5
	2.9nm,0.5s						
KK31				⇓Lg		09 05 30.5	
	3.7nm,0.3s,baz=136,slow=28,SNR=4.8						
AB31	**Akbulak array**	**13.59**	**318**	Pn	P	09 06 31.1	-3.3
	0.2nm,0.5s,baz=126,slow=14,SNR=6.6						

IDC 23 09:07:36.8±4.2, 1.19N×97.86E, mb3.8/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.8/3, Error ellipse: s-maj=157.8km s-min=28.9km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.47**	**122**	P	P	09 15 25.6	-1.7
	0.3nm,0.3s,baz=303,slow=9.2,SNR=7.3						
SONM	**Songino Array**	**47.05**	**8**	P	P	09 16 10.9	-1.1
	0.4nm,0.3s,baz=180,slow=7.2,SNR=3.3						
MKAR	**Makanchi Array**	**47.41**	**345**	P	P	09 16 12.4	-2.5
	1.5nm,0.5s,baz=162,slow=8.6,SNR=15						

*NEIC **23** 09:12:00.7±2.3, 23.89S×179.99E, h516km±25km, mb4.5/7, Error ellipse: s-maj=18.9km s-min=11.9km az=220.0*
*IDC **23** 09:12:00.1±2.2, 23.90S×179.98E, h508km±22km, mb3.4/9, mb1 3.6/10, mb1mx3.5/16, mbtmp4.3/10, Error ellipse: s-maj=19.3km s-min=16.0km az=34.0*

ISC 23 09:12:00.3±2.5, 23.95S±0.1×179.9E±0.1, h522km±29km, n25, σ0.966/24, mb4.2/15, 3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.49**	**189**	P	**P**	**09 15 04.3**	**-0.6**
	2.5nm,0.3s,baz=337,slow=1.1,SNR=14						
RPZ	**Rata Peaks**	**21.04**	**198**	P	**P**	**09 16 08.2**	**+0.1**
	8.4nm,0.6s,mb4.5,baz=71,slow=19,SNR=5.8						
CTA	**Charters Tower**	**31.41**	**270**	⇓*i*P	**P**	**09 17 40.7**	**+0.9**
	12nm,0.4s,mb4.8						
CTAO	**Charters Tower**	**31.41**	**270**	*e*P	**P**	**09 17 40.9**	**+1.1**
PMG	**Port Moresby**	**34.44**	**289**	P	**P**	**09 18 05.7**	**+0.4**
	15nm,0.8

43nm,0.4s,SNR=11
EVIA Vianos 1.61 66 Pn Pn 09 14 32.2 0.0
EVIA Pg Pg 09 14 34.1 -1.6
EVIA Sn Sn 09 14 51.0 -2.2
EVIA Lg 09 14 53.8
EVIA Vianos 1.61 66 Pn Pn 09 14 32.3 +0.1
2.9nm,0.2s,SNR=14
EVIA Pg Pg 09 14 34.0 -1.7
16nm,0.3s,SNR=7.9
EVIA Sn Sn 09 14 52.3 -0.9
3.6nm,0.1s,SNR=7.9
EVIA Lg 09 14 53.8
76nm,0.4s,SNR=22
EVIA Vianos 1.61 66 Pn Pn 09 14 32.2 -0.1
EVIA Vianos 1.61 66 Pg Pg 09 14 34.1 -1.6
16nm,0.3s,SNR=7.9
EVIA Sn Sn 09 14 51.0 -2.3
3.6nm,0.1s,SNR=7.9
EBER Berja 1.62 132 Pg Pg 09 14 33.6 -2.3
11nm,0.6s,SNR=7.9
EBER Lg 09 14 55.9
16nm,0.2s,SNR=4.6
EBER Berja 1.62 132 Pg Pg 09 14 33.6 -2.3
11nm,0.6s,SNR=7.9
ESPR Espera 1.63 227 Pg Pg 09 14 33.4 -2.7
1.8nm,0.1s,SNR=7.9
ESPR Lg 09 14 56.7
20nm,0.2s,SNR=5.5
ESPR Espera 1.63 227 Pg Pg 09 14 33.5 -2.7
ESDC Sonseca Array 1.70 11 Pn Pn 09 14 33.7 +0.1
0.6nm,0.2s,baz=191,slow=17,SNR=4.0
ESDC Pg Pg 09 14 35.5 -2.1
12nm,0.2s,baz=191,slow=18,SNR=22
ESDC Sn Sn 09 14 54.5 -1.2
3.6nm,0.1s,baz=193,slow=28,SNR=7.9
ESDC Lg 09 14 57.6
10nm,0.2s,baz=192,slow=28,SNR=31
ESDC Sonseca Array 1.70 11 Pn Pn 09 14 33.7 +0.1
0.6nm,0.2s,SNR=4.0
ESDC Sonseca Array 1.70 11 Pg Pg 09 14 35.5 -2.1
12nm,0.2s,SNR=22
ESDC Sn Sn 09 14 54.5 -1.2
3.6nm,0.1s,SNR=7.9
EMIN Mina Concepcio 1.83 263 Pn Pn 09 14 34.5 -0.9
EMIN Pg Pg 09 14 37.5 -2.6
EMIN Sn Sn 09 14 57.9 -1.0
EMIN Lg 09 15 01.1
EMIN Mina Concepcio 1.83 263 Pn Pn 09 14 34.6 -0.9
0.7nm,0.1s,SNR=16
EMIN Pg Pg 09 14 37.5 -2.6
1.5nm,0.1s,SNR=7.1
EMIN Sn Sn 09 14 57.9 -1.0
2.7nm,0.1s,SNR=7.9
EMIN Lg 09 15 00.9
31nm,0.2s,SNR=7.9
EMIN Mina Concepcio 1.83 263 Pn Pn 09 14 34.5 -1.0
4.3nm,0.5s,SNR=16
EMIN Mina Concepcio 1.83 263 Pg Pg 09 14 37.5 -2.6
5.0nm,0.6s,SNR=7.1
EMIN Sn Sn 09 14 57.9 -1.0
30nm,0.2s,SNR=7.9
ENIJ Nijar 2.01 120 Pn Pn 09 14 37.1 -1.0
0.3nm,0.3s,SNR=7.9
ENIJ Pg Pg 09 14 40.9 -2.9
0.7nm,0.3s,SNR=7.9
ENIJ Lg 09 15 08.0
1.1nm,0.3s,SNR=7.9
EBAD Badajoz 2.20 291 Pn Pn 09 14 39.8 -1.0
EBAD Pg Pg 09 14 44.5 -3.1
EBAD Sn Sn 09 15 06.1 -2.3
EBAD Lg 09 15 13.5
EBAD Badajoz 2.20 291 ⇑Pn Pn 09 14 39.8 -1.0
1.7nm,0.1s,SNR=18
EBAD Pg Pg 09 14 44.5 -3.1
5.4nm,0.3s,SNR=13
EBAD Sn Sn 09 15 06.1 -2.3
20nm,0.2s,SNR=7.9
EBAD Lg 09 15 13.5
71nm,0.2s,SNR=5.0
EBAD Badajoz 2.20 291 Pn Pn 09 14 39.8 -1.0
3.3nm,0.3s,SNR=16
EBAD Badajoz 2.20 291 Pg Pg 09 14 44.5 -3.1
5.4nm,0.3s,SNR=13
EBAD Sn Sn 09 15 06.1 -2.3
20nm,0.2s,SNR=7.9
ETOB Tobarra 2.32 73 Pn Pn 09 14 41.6 -0.9
0.3nm,0.1s,SNR=5.8
ETOB Pg Pg 09 14 46.4 -3.4
3.1nm,0.4s,SNR=10.0
ETOB Sn Sn 09 15 08.2 -3.1
2.3nm,0.2s,SNR=4.0
ETOB Lg 09 15 17.7
21nm,0.3s,SNR=7.9
ETOB Tobarra 2.32 73 Pn Pn 09 14 41.6 -0.9
2.5nm,0.6s,SNR=5.8
ETOB Tobarra 2.32 73 Pg Pg 09 14 46.4 -3.5
3.1nm,0.4s,SNR=10.0
ETOB Sn Sn 09 15 08.2 -3.1
2.3nm,0.2s,SNR=7.9
EMUR La Murta 2.49 93 Pn Pn 09 14 44.0 -0.8
EMUR Sn Sn 09 15 13.4 -2.2
EMUR Lg 09 15 22.7
EMUR La Murta 2.49 93 Pn Pn 09 14 44.0 -0.8
0.6nm,0.1s,SNR=7.9
EMUR Sn Sn 09 15 14.5 -1.1
4.4nm,0.4s,SNR=7.9
EMUR Lg 09 15 22.7
18nm,0.3s,SNR=5.8
EMUR La Murta 2.49 93 Pn Pn 09 14 44.0 -0.9
0.6nm,0.1s,SNR=7.9
EMUR Sn Sn 09 15 13.4 -2.2
4.4nm,0.4s,SNR=7.9
EGRO El Granado 2.50 260 Pn Pn 09 14 43.7 -1.4
EGRO Pg Pg 09 14 49.9 -3.7
EGRO Sn Sn 09 15 13.1 -3.0
EGRO Lg 09 15 24.5
EGRO El Granado 2.50 260 Pn Pn 09 14 43.7 -1.4
2.5nm,0.4s,SNR=22
EGRO Pg Pg 09 14 49.8 -3.7
2.4nm,0.3s,SNR=7.1
EGRO Sn Sn 09 15 13.8 -2.2
2.0nm,0.1s,SNR=7.9
EGRO Lg 09 15 22.0
19nm,0.3s,SNR=5.2
EGRO El Granado 2.50 260 Pn Pn 09 14 43.7 -1.4
2.5nm,0.4s,SNR=22
EGRO El Granado 2.50 260 Pg Pg 09 14 49.9 -3.7
2.4nm,0.3s,SNR=7.1
EGRO Sn Sn 09 15 13.1 -2.9
2.8nm,0.1s,SNR=7.9
PBEJ Beja 2.75 272 *e*Pn Pn 09 14 47.3 -1.4
PBEJ *e*Sg Sg 09 15 32.1 -3.2
12nm,0.4s
PBEJ Beja 2.75 272 *e*Pn Pn 09 14 47.3 -1.4
PBEJ *e*Sg Sg 09 15 32.1 -3.2
12nm,0.4s
EVO Évora 2.91 282 *e*Pn Pn 09 14 50.4 -0.5
EVO *e*Pg Pg 09 14 58.9 -2.8
EVO *e*Sn Sn 09 15 21.9 -4.4
EVO *e*Sg Sg 09 15 35.8 -4.6
49nm,0.4s
EMEL Melilla 2.93 157 Pn Pn 09 14 50.2 -1.0
6.1nm,0.0s,SNR=7.9
PCBR Castelo Branco 3.04 308 *e*Pn Pn 09 14 52.6 -0.1
PCBR *e*Sn Sn 09 15 27.2 -2.3
PCBR *e*Sg Sg 09 15 41.5 -3.1
9.7nm,0.3s
PCBR Castelo Branco 3.04 308 *e*Pn Pn 09 14 52.6 -0.1
PCBR *e*Sn Sn 09 15 27.2 -2.3
PCBR *e*Sg Sg 09 15 41.5 -3.1
9.7nm,0.3s
ECHE Chera 3.10 58 Pg Pg 09 15 00.4 -5.1
2.8nm,0.3s,SNR=14
ECHE Lg 09 15 43.5
6.9nm,0.5s,SNR=5.3
EBEN Beniarda 3.34 77 Pn Pn 09 14 55.6 -1.5
EBEN Pg Pg 09 15 05.3 -4.9
EBEN Sn Sn 09 15 34.1 -3.1
EBEN Lg 09 15 50.5
EBEN Beniarda 3.34 77 Pn Pn 09 14 55.6 -1.4
0.2nm,0.2s,SNR=7.9
EBEN Pg Pg 09 15 05.3 -4.9
1.9nm,0.3s,SNR=7.9
EBEN Sn Sn 09 15 35.3 -1.9
3.0nm,0.3s,SNR=7.9
EBEN Lg 09 15 50.5
4.8nm,0.3s,SNR=7.9
EBEN Beniarda 3.34 77 Pg Pg 09 14 55.6 -1.4
0.2nm,0.2s,SNR=7.9
EBEN Beniarda 3.34 77 Pg Pg 09 15 05.3 -5.0
1.9nm,0.3s,SNR=7.9
EBEN Sn Sn 09 15 34.1 -3.1
3.0nm,0.3s,SNR=7.9
MTE Manteigas 3.43 315 *e*Pg Pg 09 15 07.5 -4.6
MTE *e*Sg Sg 09 15 51.8 -6.1
16nm,0.6s
MTE Manteigas 3.43 315 *e*Pg Pg 09 15 07.5 -4.6
MTE *e*Sg Sg 09 15 51.8 -6.1
16nm,0.6s
PTEO Sao Teotonio 3.47 264 *e*Sn Sn 09 15 37.5 -3.1
PTEO *e*Sg Sg 09 15 52.6 -6.6
12nm,0.5s
PTEO Sao Teotonio 3.47 264 *e*Sn Sn 09 15 37.5 -3.1
PTEO *e*Sg Sg 09 15 52.6 -6.6
12nm,0.5s
PTOM Tomar 3.54 298 *e*Sg Sg 09 15 57.3 -4.1
20nm,0.4s
PVIS Viseu 3.84 316 *e*Sg Sg 09 16 06.6 -4.9
5.1nm,0.1s
EMOS Mosqueruela 3.84 51 Pn Pn 09 15 03.8 -0.4
EMOS Pg Pg 09 15 14.6 -5.7
EMOS Sn Sn 09 15 46.3 -3.7
EMOS Lg 09 16 06.0
EMOS Mosqueruela 3.84 51 Pn Pn 09 15 03.8 -0.4
0.3nm,0.3s,SNR=7.9
EMOS Pg Pg 09 15 14.6 -5.7
0.5nm,0.2s,SNR=7.9
EMOS Sn Sn 09 15 49.1 -0.9
3.3nm,0.6s,SNR=4.0
EMOS Lg 09 16 05.9
10nm,0.6s,SNR=7.9
EMOS Mosqueruela 3.84 51 Pn Pn 09 15 03.8 -0.4
0.3nm,0.3s,SNR=7.9
EMOS Mosqueruela 3.84 51 Pg Pg 09 15 14.6 -5.7
0.5nm,0.2s,SNR=7.9
EMOS Sn Sn 09 15 46.3 -3.7
3.3nm,0.6s,SNR=4.0
PVRL Vila Real 4.16 323 *e*Sg Sg 09 16 16.9 -5.3
7.2nm,0.1s
PBRG Braganca 4.21 335 *e*Sg Sg 09 16 18.2 -5.6
ECAL Calabor 4.33 336 Pg Pg 09 15 24.4 -5.7
0.8nm,0.2s,SNR=7.9
ECAL Sn Sn 09 16 02.8 +0.4
2.3nm,0.4s,SNR=7.9
ECAL Lg 09 16 21.4
20nm,0.8s,SNR=7.9
ECAL Calabor 4.33 336 Sn Sn 09 15 58.6 -3.7
2.3nm,0.4s,SNR=7.9
EBR Ebro Roquetas 4.71 52 *e*Ts 09 13 00.0
ESAC San Caprasio 4.78 38 Lg 09 16 36.4
21nm,0.4s,SNR=7.9
ELOB Lobios 4.79 325 Pn Pn 09 15 17.0 -0.6
ELOB Sn Sn 09 16 09.1 -4.7
ELOB Lg 09 16 36.0
ELOB Lobios 4.79 325 Pn Pn 09 15 17.0 -0.6
0.6nm,0.1s,SNR=4.0
ELOB Sn Sn 09 16 10.4 -3.4
1.0nm,0.6s,SNR=7.9
ELOB Lg 09 16 36.0
5.2nm,0.3s,SNR=7.9
ELOB Lobios 4.79 325 Pn Pn 09 15 17.0 -0.6
0.6nm,0.1s,SNR=4.0
ELOB Sn Sn 09 16 09.1 -4.7
1.0nm,0.6s,SNR=7.9
ELOB Lg 09 16 36.0
5.2nm,0.3s,SNR=7.9
EARI Arriondas 5.33 353 Lg 09 16 54.2
135nm,2.6s,SNR=7.9
EARI Arriondas 5.33 353 Lg 09 16 54.2
135nm,2.6s,SNR=7.9
SJPF Ste Jean 5.64 24 *e*Pn Pn 09 15 28.3 -1.3
SJPF *e*Sn Sn 09 16 31.0 -4.3
SJPF *e*Sg Sg 09 17 03.9 -7.5
2.1nm,0.6s
ETSF Etsaut 5.69 30 *e*Pn Pn 09 15 29.0 -1.4
ETSF *e*Sg Sg 09 17 05.9 -7.2
1.3nm,0.4s
EPON Pontenova 5.72 339 Lg 09 17 06.6
1.9nm,0.3s,SNR=7.9
EPF Esparros 6.18 34 *e*Pn Pn 09 15 36.1 -1.1
LMR La Mourre 9.84 54 *e*Pn P 09 16 25.8 -2.3
FRF La Foret Royal 10.03 53 *e*Pn P 09 16 28.3 -2.6
SBF Sospel 10.68 53 *e*Pn P 09 16 37.2 -2.5

*IDC **23** 09:56:43.4±2.6,34.95N×139.61E,mb3.2/2,mb1 3.5/2, mb1mx3.2/18,mbtmp3.2/2,Error ellipse: s-maj=79.4km s-min=23.8km az=67.0*
*JMA **23** 09:56:47.2±0.2,35.58N×140.12E,h68km±2km,M2.7*
ISC 23 09:56:47.0±0.7,35.51N±0.04×140.11E±0.06,h76km±6km, n15,σ0s70/25,mb3.3/2,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCN	**Nagara**		**0.12 142**	P		**P**	**09 56 58.0**	**0.0**
JCN				S		**S**	**09 57 06.3**	**+0.2**
TOK	**Tokyo**		**0.33 301**	S		**S**	**09 57 07.1**	**-1.0**
BSO3	**Boso 3**		**0.78 155**	P		**P**	**09 57 03.3**	**-0.2**
BSO3				S		**S**	**09 57 16.7**	**+1.0**
JOD2	**Odawara 2**		**0.87 254**	P		**P**	**09 57 04.5**	**+0.1**
JOD2				S		**S**	**09 57 16.9**	**-0.6**
JIM2	**Oshima 3**		**0.97 215**	P		**P**	**09 57 05.7**	**+0.1**
JIM2				S		**S**	**09 57 19.1**	**-0.5**
JAG	**Ashikaga**		**1.05 330**	P		**P**	**09 57 06.1**	**-0.6**
JRY	**Ryogami san**		**1.10 297**	P		**P**	**09 57 07.7**	**+0.4**
BSO1	**Boso 1**		**1.12 140**	P		**P**	**09 57 07.0**	**-0.5**
BSO1				eS		**S**	**09 57 23.6**	**+0.8**
JYN	**Shimob**		**1.28 270**	P		**P**	**09 57 09.9**	**+0.3**
JYN				S		**S**	**09 57 26.8**	**+0.3**
JIZS	**Izushimoda**		**1.28 232**	P		**P**	**09 57 09.9**	**+0.2**
JIZS				S		**S**	**09 57 26.2**	**-0.5**
JKT	**Katashina**		**1.43 331**	P		**P**	**09 57 11.0**	**-0.8**
JKT				eS		**S**	**09 57 29.3**	**-0.8**
MJAR	**Matsushiro Arr**		**1.85 304**	Pn		**P**	**09 57 17.6**	**+0.3**
	7.3nm,0.3s,baz=142,slow=15,SNR=60							
MJAR				Sn		**S**	**09 57 41.7**	**+2.0**
	3.9nm,0.3s,baz=168,slow=14,SNR=4.9							
MAT	**Matsushiro**		**1.85 304**	P		**P**	**09 57 17.6**	**+0.2**
MAT				eS		**S**	**09 57 40.3**	**+0.6**
MKAR	**Makanchi Array**		**44.05 303**	P		**P**	**10 04 52.8**	**+4.1**
	0.1nm,0.3s,baz=80,slow=8.8,SNR=2.0							
WRA	**Warramunga Arr**		**55.42 187**	P		**P**	**10 06 14.9**	**-1.1**
	0.2nm,0.3s,mb3.6,baz=1.1,slow=7.4,SNR=5.4							

*IDC **23** 10:16:24.4±0.9,12.71N×93.23E,mb3.9/10,mb1 4.1/10, mb1mx3.9/19,mbtmp3.9/10,Error ellipse: s-maj=29.4km s-min=22.7km az=85.0*
*NEIC **23** 10:16:30.7±6.5,12.74N×93.29E,h44km±60km,mb4.5/1, Error ellipse: s-maj=20.1km s-min=14.9km az=67.0*
ISC 23 10:16:27.6±0.8,12.6N±0.1×93.3E±0.1,h33km,n17, σ0s96/17,mb3.9/11,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PKI	**Pulchoki**		**16.60 335**	*e*P		**P**	**10 20 21.6**	**+2.2**
	18nm,0.8s							
DMN	**Daman**		**16.76 334**	*e*P		**P**	**10 20 23.0**	**+1.5**
	7.2nm,0.4s							
KKN	**Kakani**		**16.85 335**	*e*P		**P**	**10 20 23.2**	**+0.7**
GKN	**Gorkha**		**17.31 333**	*e*P		**P**	**10 20 26.5**	**-1.8**
KOLN	**Koldanda**		**17.59 330**	*e*P		**P**	**10 20 31.9**	**+0.1**
	8.8nm,0.6s							
ENH	**Enshi**		**23.07 38**	*e*P		**P**	**10 21 31.5**	**+0.2**
	14nm,0.7s,mb4.5							
MKAR	**Makanchi Array**		**35.30 347**	P		**P**	**10 23 20.9**	**-0.6**
	1.1nm,0.7s,mb3.9,baz=170,slow=8.0,SNR=12							
SONM	**Songino Array**		**36.76 15**	P		**P**	**10 23 33.6**	**-0.2**
	0.2nm,0.3s,mb3.4,baz=180,slow=5.8,SNR=2.2							
WRA	**Warramunga Arr**		**51.75 128**	P		**P**	**10 25 34.8**	**+0.5**
	0.3nm,0.3s,mb3.7,baz=300,slow=6.7,SNR=3.0							
BRTR	**Keskin Array B**		**58.77 309**	P		**P**	**10 26 23.4**	**-1.6**
	1.0nm,0.8s,mb3.9,baz=135,slow=8.7,SNR=5.0							
FINES	**FINESS Array B**		**68.16 331**	P		**P**	**10 27 25.1**	**-1.2**
	1.1nm,0.8s,mb3.9,baz=90,slow=3.8,SNR=6.1							
ARCES	**ARCESS Array B**		**70.54 340**	P		**P**	**10 27 40.4**	**-0.4**
	0.6nm,0.4s,mb3.9,baz=100,slow=7.4,SNR=7.2							
ARCES	**ARCESS Array B**		**70.54 340**	P		**P**	**10 27 40.4**	**-0.4**
MATP	**Matopo**		**71.69 243**	P		**P**	**10 27 49.0**	**+0.5**
	1.3nm,0.9s,mb3.9,baz=217,slow=9.5,SNR=4.6							
GERES	**GERESS Array B**		**73.78 317**	P		**P**	**10 28 00.2**	**-0.2**
	0.7nm,0.5s,mb3.9,baz=90,slow=4.0,SNR=6.8							
BOSA	**Boshof**		**77.45 237**	P		**P**	**10 28 22.4**	**+0.5**
	2.0nm,0.6s,mb4.2,baz=91,slow=18,SNR=6.3							
ILAR	**Eielson Array**		**90.67 22**	P		**P**	**10 29 27.7**	**-0.1**
	0.5nm,0.7s,mb4.0,baz=287,slow=4.8,SNR=4.7							

*JMA **23** 10:36:53.8±0.2,35.59N×140.12E,h66km±2km,M2.6*
*IDC **23** 10:36:53.1±5.2,35.59N×140.43E,h78km±34km,mb2.9/2, mb1 3.2/3,mb1mx3.0/21,mbtmp3.3/3,Error ellipse: s-maj=67.3km s-min=8.5km az=65.0*
ISC 23 10:36:52.9±0.7,35.56N±0.04×140.12E±0.06,h79km±6km, n16,σ0s76/26,mb3.2/2,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCN	**Nagara**		**0.15 155**	P		**P**	**10 37 04.5**	**+0.1**
TOK	**Tokyo**		**0.33 294**	S		**S**	**10 37 14.5**	**-0.1**
KTR	**Katsuura**		**0.44 159**	P		**P**	**10 37 05.9**	**-0.2**
BSO3	**Boso 3**		**0.82 157**	P		**P**	**10 37 09.9**	**-0.1**
BSO3				S		**S**	**10 37 23.3**	**+0.6**
JOD2	**Odawara 2**		**0.90 251**	P		**P**	**10 37 11.2**	**+0.4**
JOD2				S		**S**	**10 37 23.4**	**-0.9**
JIM2	**Oshima 3**		**1.01 214**	P		**P**	**10 37 12.3**	**+0.1**
JIM2				S		**S**	**10 37 25.8**	**-1.0**
JAG	**Ashikaga**		**1.02 328**	P		**P**	**10 37 12.7**	**+0.3**
JAG				S		**S**	**10 37 26.0**	**-1.1**
JRY	**Ryogami san**		**1.09 295**	P		**P**	**10 37 14.3**	**+1.0**
BSO1	**Boso 1**		**1.14 142**	P		**P**	**10 37 13.5**	**-0.4**
BSO1				S		**S**	**10 37 29.1**	**-0.5**
JYN	**Shimob**		**1.29 268**	P		**P**	**10 37 16.6**	**+0.8**
JYN				S		**S**	**10 37 33.4**	**+0.4**
JIZS	**Izushimoda**		**1.32 231**	P		**P**	**10 37 16.5**	**+0.1**
JIZS				S		**S**	**10 37 33.0**	**-0.7**
MJAR	**Matsushiro Arr**		**1.84 303**	P		**P**	**10 37 24.3**	**+1.2**
	7.1nm,0.3s,baz=141,slow=15,SNR=61							
MJAR				S		**S**	**10 37 50.0**	**+4.5**
	3.6nm,0.3s,baz=35,slow=36,SNR=5.1							
MAT	**Matsushiro**		**1.84 303**	P		**P**	**10 37 24.3**	**+1.1**
MAT				eS		**S**	**10 37 44.5**	**-1.0**
JHJ	**Hachijo jima 2**		**2.45 187**	P		**P**	**10 37 31.3**	**-0.3**
	15nm,0.3s,baz=6.7,slow=19,SNR=8.2							
JHJ				S		**S**	**10 38 02.1**	**+1.7**
	36nm,0.3s,baz=277,slow=22,SNR=6.2							
MKAR	**Makanchi Array**		**44.04 303**	P		**P**	**10 44 54.1**	**-0.2**
	0.1nm,0.4s,mb2.9,baz=101,slow=7.3,SNR=3.1							
WRA	**Warramunga Arr**		**55.46 187**	P		**P**	**10 46 20.6**	**-1.4**
	0.2nm,0.3s,mb3.6,baz=1.0,slow=7.6,SNR=6.0							

*IDC **23** 10:38:56.6±0.6,38.61S×47.64E,mb4.0/10,mb1 4.1/11, mb1mx4.0/21,mbtmp4.0/11,ML3.6/1,MS4.1/1,Ms1 4.0/1, ms1mx3.5/19,Error ellipse: s-maj=24.3km s-min=16.7km az=58.0*
*NEIC **23** 10:38:58.0±0.4,38.64S×47.51E,h10km,mb4.5/2,Error ellipse: s-maj=14.9km s-min=9.2km az=48.0*
ISC 23 10:38:56.7±0.6,38.58S±0.08×47.7E±0.1,h10km,n29, σ0s76/17,mb4.0/11,MS4.0/1,4D,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OPO	**Ambohidratompo**		**19.94 359**	P		**P**	**10 43 30.9**	**-0.8**
	0.2nm,0.3s,baz=114,slow=10.0,SNR=2.8							
BOSA	**Boshof**		**21.13 291**	P		**P**	**10 43 43.7**	**-0.2**
	3.9nm,0.9s,mb3.7,baz=94,slow=13,SNR=4.3							
BOSA	**Boshof**		**21.13 291**	*e*P		**P**	**10 43 40.4**	**-3.6**
	11nm,1.2s,mb4.1							
LBTB	**Lobatse**		**23.08 299**	P		**P**	**10 44 04.0**	**+0.6**
	3.3nm,0.8s,mb3.8,baz=171,slow=10,SNR=5.5							
MATP	**Matopo**		**24.54 312**	P		**P**	**10 44 17.5**	**-0.2**
	1.7nm,0.6s,mb3.8,baz=139,slow=10.0,SNR=9.1							
MAW	**Mawson**		**30.29 169**	P		**P**	**10 45 09.3**	**-0.5**
	0.8nm,0.7s,mb3.5,baz=332,slow=6.7,SNR=2.8							
MAW				LR		LR	10 53 53.3	
	comp=Z,378nm,21.6s,MS4.0,baz=65,slow=30							
SNAA	**Sanae**		**41.70 202**	‖*i*		**P**	**10 46 46.5**	**-0.1**
SNAA	**Sanae**		**41.70 202**	*e*		pP	10 46 50.5	+0.9
SNAA	**Sanae**		**41.70 202**	*e*		Px	10 47 01.2	
SNAA	**Sanae**		**41.70 202**	P		**P**	**10 46 46.4**	**-0.2**
	0.9nm,0.9s,mb3.4,baz=74,slow=6.7,SNR=11							
VNA2	**Neumayer--Watz**		**42.79 203**	‖*i*		**P**	**10 46 55.8**	**+0.3**
VNA2	**Neumayer--Watz**		**42.79 203**	*e*		pP	10 46 59.5	+1.0
VNA2	**Neumayer--Watz**		**42.79 203**	*e*		Px	10 47 10.7	
VNA1	**Neumayer--Stat**		**42.97 204**	‖*i*		**P**	**10 46 58.6**	**+1.5**
VNA1	**Neumayer--Stat**		**42.97 204**	*e*		pP	10 47 03.2	+3.1
VNA3	**Neumayer Olymp**		**43.59 203**	‖*i*		**P**	**10 47 01.9**	**-0.2**
VNA3	**Neumayer Olymp**		**43.59 203**	*e*		pP	10 47 05.8	+0.7
VNA3	**Neumayer Olymp**		**43.59 203**	*e*		Px	10 47 15.8	
VNDA	**Vanda**		**57.56 166**	P		**P**	**10 48 46.6**	**-1.6**
	0.6nm,0.8s,mb3.7,baz=270,slow=6.1,SNR=3.2							
STKA	**Stephens Creek**		**73.67 118**	P		**P**	**10 50 32.3**	**0.0**
	5.1nm,0.9s,mb4.4,baz=206,slow=3.7,SNR=5.2							
WRA	**Warramunga Arr**		**75.29 104**	P		**P**	**10 50 42.3**	**+0.4**
	6.1nm,0.9s,mb4.5,baz=227,slow=5.0,SNR=27							
WRAB	**Tennant Creek**		**75.31 104**	*e*P		**P**	**10 50 42.4**	**+0.4**
	12nm,0.9s,mb4.8							
PLCA	**Paso Flores**		**83.02 222**	P		**P**	**10 51 22.9**	**-0.4**
	1.6nm,0.8s,mb4.1,baz=188,slow=6.1,SNR=3.6							
MKAR	**Makanchi Array**		**90.45 23**	P		**P**	**10 52 00.4**	**+1.0**
	0.1nm,0.3s,mb3.6,baz=187,slow=2.8,SNR=3.5							
INK	**Inuvik**		**150.21 1**	PKPbc		PKPdf	10 58 48.2	+3.7
	4.8nm,1.0s,baz=117,slow=2.3,SNR=4.6							
INK	**Inuvik**		**150.21 1**	PKPbc		PKPdf	10 58 48.2	+3.7
ULM	**Lac du Bonnet**		**151.77 306**	PKPbc		PKPdf	10 58 51.4	+3.9
	5.3nm,0.6s,baz=42,slow=1.0,SNR=5.7							
ILAR	**Eielson Array**		**152.39 13**	PKPbc		PKPdf	10 58 52.9	+5.0
	1.2nm,0.8s,baz=319,slow=3.3,SNR=1.1							
TXAR	**Lajitas Array**		**154.61 257**	PKP		PKPdf	10 58 51.2	-0.8
	0.2nm,0.7s,baz=108,slow=2.9,SNR=4.7							
TXAR				PKPbc		PKPdf	10 58 59.9	+7.8
	1.9nm,0.9s,baz=140,slow=4.5,SNR=15							

*IDC **23** 10:49:59.5±1.0,2.02S×100.70E,mb4.2/11,mb1 4.3/11, mb1mx4.1/18,mbtmp4.2/11,Error ellipse: s-maj=43.0km s-min=19.2km az=48.0*
*NEIC **23** 10:50:03.4±0.7,2.27S×100.54E,h30km,mb4.5/2,Error ellipse: s-maj=28.2km s-min=12.9km az=55.0*
NEIC Felt [II] at Padang, Sumatra.
ISC 23 10:50:03.2±0.8,2.1S±0.2×100.8E±0.2,h33km,n24, σ1s00/22,mb4.4/16,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**		**7.29 359**	*e*P		**P**	**10 51 53.6**	**+3.6**
PKI	**Pulchoki**		**32.97 334**	*e*P		**P**	**10 56 39.0**	**+1.7**
GUN	**Gumba**		**33.07 335**	*e*P		**P**	**10 56 38.7**	**+0.5**
	27nm,0.4s							
DMN	**Daman**		**33.14 334**	*e*P		**P**	**10 56 40.7**	**+2.0**
KKN	**Kakani**		**33.22 334**	*e*P		**P**	**10 56 39.7**	**+0.3**
	8.9nm,0.4s,mb5.0							
GKN	**Gorkha**		**33.68 334**	*e*P		**P**	**10 56 43.2**	**-0.2**
	12nm,0.4s,mb5.2							
KOLN	**Koldanda**		**33.96 332**	*e*P		**P**	**10 56 46.3**	**+0.5**
	20nm,0.8s,mb5.1							
WRA	**Warramunga Arr**		**37.27 121**	P		**P**	**10 57 14.1**	**+0.1**
	1.1nm,0.3s,mb4.1,baz=307,slow=9.0,SNR=34							
WRAB	**Tennant Creek**		**37.27 121**	*e*P		**P**	**10 57 14.5**	**+0.5**
	3.3nm,0.5s,mb4.4							
STKA	**Stephens Creek**		**48.51 132**	P		**P**	**10 58 45.8**	**+0.6**
	1.4nm,0.4s,mb4.3,baz=296,slow=6.8,SNR=5.5							
STKA	**Stephens Creek**		**48.51 132**	*e*P		**P**	**10 58 45.4**	**+0.2**
SONM	**Songino Array**		**49.92 5**	P		**P**	**10 58 55.3**	**-0.4**
	1.5nm,0.4s,mb4.4,baz=187,slow=9.9,SNR=18							
SONM				PcP		PcP	11 00 14.4	-1.6
	0.6nm,0.5s,baz=193,slow=4.7,SNR=3.8							
MKAR	**Makanchi Array**		**51.30 344**	P		**P**	**10 59 05.3**	**-1.0**
	4.2nm,0.4s,mb4.7,baz=160,slow=8.9,SNR=77							
MJAR	**Matsushiro Arr**		**51.80 38**	P		**P**	**10 59 09.6**	**-0.5**
	1.5nm,0.8s,mb4.0,baz=231,slow=8.6,SNR=4.6							
BVAR	**Borovoye Array**		**60.51 339**	P		**P**	**11 00 10.3**	**-2.1**
	1.3nm,0.3s,mb4.5,baz=132,slow=9.1,SNR=11							
BRVK	**Borovoye**		**60.57 339**	*e*P		**P**	**11 00 10.9**	**-1.9**
	2.0nm,0.4s,mb4.6							
BRTR	**Keskin Array B**		**73.95 312**	P		**P**	**11 01 36.2**	**-1.0**
	0.8nm,0.6s,mb3.8,baz=149,slow=7.2,SNR=4.5							
MLR	**Muntele Rosu**		**80.89 317**	P		**P**	**11 02 15.7**	**0.0**
	0.6nm,0.3s,mb4.0,baz=146,slow=4.5,SNR=3.2							
FINES	**FINESS Array B**		**84.53 332**	P	

ARCES	ARCESS Array B	86.79	340	P		P		11 02 45.0	0.0
GERES	GERESS Array B	89.62	319	P		P		11 02 59.5	+0.6
	0.3nm,0.6s,mb3.8,baz=90,slow=2.0,SNR=3.4								
TXAR	Lajitas Array	144.24	38	PKP		PKPdf		11 09 36.9	+0.5
	1.1nm,0.3s,baz=302,slow=0.6,SNR=36								
TXAR	Lajitas Array	144.24	38	PKP		PKPdf		11 09 36.9	+0.5

NEIC ***23*** *10:51:07.9, 15.97N×99.24W, h20km, MD4.2(MEX), After MEX.*

MEX 23 10:51:08.8±0.8, 16.06N×99.22W, h20km±23km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACX	Acapulco	1.05	320	*i* P		Pb	10 51 24.6	-3.5
ACX				*i* S		Sb	10 51 37.5	-3.9
PNIG	Pinotepa	1.10	72	*i* P		Pb	10 51 25.9	-3.1
PNIG				*i* S		Sb	10 51 38.6	-4.4
CAIG	El Cayaco	1.41	315	*i* P		Pn	10 51 31.1	-2.5
CAIG				*i* S		Sn	10 51 46.2	-5.5
CAIG				*i* S		Sn	10 51 48.5	-3.2
PLIG	Platanillo	2.34	353	*i* P		Pn	10 51 44.5	-2.4
PLIG				*i* S		Sn	10 52 14.2	-1.2
PLIG	Platanillo	2.34	353	*i* P		Pn	10 51 44.5	-2.4
PLIG				*i* S		Sn	10 52 11.7	-3.7
OXX	Oaxaca	2.60	67	*i* P		Pn	10 51 48.0	-2.7
OXX				*i* S		Sn	10 52 23.0	+0.9
OXX	Oaxaca	2.60	67	*i* P		Pn	10 51 48.0	-2.7
OXX				*i* S		Sn	10 52 17.0	-5.1
YAIG	Yautepec	2.79	3	*i* P		Pn	10 51 51.6	-1.8
YAIG				*i* S		Sn	10 52 22.7	-4.3
HUIG	Huatulco	3.01	95	*i* S		Sn	10 52 26.8	-5.5
PPM	Popocatepetl	3.05	11	*e*P		Pn	10 51 53.5	-3.5
IISM	Ciudad Serdan	3.41	31	*e*P		Pn	10 52 03.0	+0.9
MOIG	Morelia	4.06	333	*i* S		Sn	10 52 53.3	-5.7
CMIG	Matias Romero	4.28	75	*e*P		Pn	10 52 09.5	-5.1
CMIG				*i* S		Sn	10 52 58.6	-6.0

IDC ***23*** *11:14:33.0±2.0, 46.83N×144.57E, h358km±44km, mb2.6/4, mb1 2.9/5, mb1mx2.8/20, mbtmp3.4/5, Error ellipse: s-maj=81.0km s-min=21.2km az=172.0*

JMA ***23*** *11:14:33.8±0.3, 46.26N×144.64E, h387km, M3.4*

ISC 23 11:14:32.9±0.7, 46.2N±0.1×144.8E±0.1, h399km±10km, n19, σ0§85/27, mb2.8/4, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JSE	Soyaes	1.94	232	P		P	11 15 28.1	-0.7
JWK2	Keihoku	2.17	248	P		P	11 15 29.6	-0.7
JRA	Rausu	2.24	173	P		P	11 15 31.9	+1.1
JTKR	Abashiri--Toko	2.27	196	P		P	11 15 31.9	+0.9
ASAJ	Asahikawa	2.55	217	P		P	11 15 33.2	+0.3
	3.1nm,0.3s,baz=63,slow=4.5,SNR=28							
JKK2	Kamakawa 2	2.69	213	P		P	11 15 34.7	+0.7
NEM2	Nemuro 2	2.88	165	P		P	11 15 35.4	-0.1
NEM2				*e*S		S	11 16 23.7	-1.0
JAR	Ashorobuto	2.95	194	P		P	11 15 37.1	+1.1
JAK	Akkeshi	3.17	181	P		P	11 15 38.0	+0.2
JAK				*e*S		S	11 16 28.4	-0.5
JCH	Churui	3.68	196	P		P	11 15 42.5	+0.1
JCH				*e*S		S	11 16 36.4	-0.7
JNBK	Urakawa-nobuka	4.14	201	P		P	11 15 46.8	0.0
JNBK				*e*S		S	11 16 44.6	-0.2
JKB	Kayabe	5.04	213	P		P	11 15 55.8	-0.1
JKB				*e*S		S	11 17 00.9	-0.1
JOT	Ohata	5.48	211	P		P	11 16 00.7	+0.2
JOT				*e*S		S	11 17 08.6	-0.6
JOSM	Okushiri--Mats	5.57	225	P		P	11 16 01.7	+0.3
JOSM				*e*S		S	11 17 12.4	+1.5
JANG	Nango	6.25	203	P		P	11 16 09.4	+0.6
JANG				*e*S		S	11 17 23.5	-0.8
SONM	Songino Array	26.04	288	P		P	11 19 33.2	+0.2
	0.3nm,0.7s,mb2.8,baz=90,slow=10,SNR=4.1							
ILAR	Eielson Array	40.59	38	P		P	11 21 34.9	-1.6
	0.7nm,0.8s,mb3.0,baz=277,slow=7.2,SNR=7.7							
MKAR	Makanchi Array	41.99	294	P		P	11 21 46.2	-1.7
	0.1nm,0.4s,mb2.5,baz=79,slow=7.3,SNR=3.2							
TXAR	Lajitas Array	82.69	55	P		P	11 26 16.2	+2.3
	0.1nm,0.4s,mb2.9,baz=288,slow=2.9,SNR=3.8							

CSEM ***23*** *11:17:31.7±0.2, 36.08N×7.51W, h40km, mb3.6/6, Error ellipse: s-maj=4.9km s-min=2.7km az=21.0*

NEIC ***23*** *11:17:32.0, 35.99N×7.54W, h60km, MG3.6(MDD), After MDD.*

INMG ***23*** *11:17:32.7±0.6, 36.01N×7.53W, h25km±12km, ML1.9, Error ellipse: s-maj=8.0km s-min=2.6km az=23.0*

MDD ***23*** *11:17:33.4±2.1, 36.20N×7.38W, h97km±13km, mb2.7/4, Error ellipse: s-maj=16.0km s-min=8.1km az=26.0, PRXIMO*

ISC 23 11:17:30.0±1.2, 36.16N±0.07×7.42W±0.05, h10km, n37, σ1§18/72, 1C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EGRO	El Granado	1.38	358	P		Pn	11 17 56.7	+1.3
EGRO				S		Sb	11 18 14.7	+1.8
EGRO	El Granado	1.38	358	⇓P		Pn	11 17 56.7	+1.3
	5.7nm,0.1s,SNR=18							
EGRO				S		Sb	11 18 15.4	+2.5
	3.7nm,0.3s,SNR=4.7							
EGRO	El Granado	1.38	358	P		Pn	11 17 56.7	+1.3
	5.7nm,0.1s,SNR=18							
EGRO				S		Sb	11 18 14.7	+1.8
	3.7nm,0.3s,SNR=4.7							
ESPR	Espera	1.45	60	P		Pn	11 17 57.6	+1.2
ESPR				S		Sb	11 18 16.9	+1.9
ESPR	Espera	1.45	60	P		Pn	11 17 57.6	+1.2
	0.8nm,0.1s,SNR=7.9							
ESPR				S		Sb	11 18 17.4	+2.4
	7.3nm,0.2s,SNR=7.9							
ESPR	Espera	1.45	60	P		Pn	11 17 57.6	+1.2
	0.8nm,0.1s,SNR=7.9							
ESPR				S		Sb	11 18 16.9	+1.9
	7.3nm,0.2s,SNR=7.9							
EMIN	Mina Concepcio	1.71	20	P		Pn	11 18 01.5	+1.3
EMIN				S		Sn	11 18 23.2	+0.9
EMIN	Mina Concepcio	1.71	20	P		Pn	11 18 01.5	+1.3
	0.5nm,0.1s,SNR=11							
EMIN				S		Sn	11 18 23.4	+1.1
	2.3nm,0.3s,SNR=7.1							
EMIN	Mina Concepcio	1.71	20	P		Pn	11 18 01.5	+1.3
	0.5nm,0.1s,SNR=11							
EMIN				S		Sn	11 18 23.2	+0.9
	2.3nm,0.3s,SNR=7.1							
PTEO	Sao Teotonio	1.73	323	*e*P		Pn	11 18 00.3	-0.2
PTEO				*e*S		Sn	11 18 21.7	-1.2
PBEJ	Beja	1.90	349	*e*P		Pn	11 18 03.5	+0.7
PBEJ				*e*S		Sn	11 18 27.1	+0.1
	3.4nm,0.2s							
PBEJ	Beja	1.90	349	*e*P		Pn	11 18 03.5	+0.7
PBEJ				*e*S		Sn	11 18 27.1	+0.1
	3.4nm,0.2s							
ECAB	El Cabril	2.50	39	P		Pn	11 18 12.6	+1.2
	0.2nm,0.1s,SNR=5.6							
ECAB				S		Sn	11 18 42.0	-0.2
	2.6nm,0.5s,SNR=12							
ECAB	El Cabril	2.50	39	P		Pn	11 18 12.6	+1.2
	0.2nm,0.1s,SNR=5.6							
ECAB				S		Sn	11 18 42.0	-0.2
	2.6nm,0.5s,SNR=12							
EBAD	Badajoz	2.61	7	P		Pn	11 18 13.7	+0.6
EBAD				S		Sn	11 18 45.2	0.0
EBAD	Badajoz	2.61	7	⇑P		Pn	11 18 13.7	+0.6
	1.0nm,0.1s,SNR=18							
EBAD				S		Sn	11 18 45.5	+0.3
	1.9nm,0.2s,SNR=7.9							
EBAD	Badajoz	2.61	7	P		Pn	11 18 13.7	+0.6
	1.0nm,0.1s,SNR=7.8							
EBAD				S		Sn	11 18 45.2	0.0
	1.9nm,0.2s,SNR=7.9							
EADA	Adamuz	3.03	48	P		Pn	11 18 19.7	+0.7
EADA				S		Sn	11 18 54.7	-1.1
EADA	Adamuz	3.03	48	⇓P		Pn	11 18 19.8	+0.7
	0.4nm,0.1s,SNR=18							
EADA				S		Sn	11 18 54.6	-1.1
	1.1nm,0.3s,SNR=10							
EADA	Adamuz	3.03	48	P		Pn	11 18 19.7	+0.7
	0.4nm,0.1s,SNR=8.4							
EADA				S		Sn	11 18 54.7	-1.0
	1.1nm,0.3s,SNR=10							
EBAN	Banos Encina	3.53	54	P		Pn	11 18 26.0	-0.1
EBAN				S		Sn	11 19 05.3	-3.0
EBAN	Banos Encina	3.53	54	P		Pn	11 18 26.0	-0.1
	1.0nm,0.1s,SNR=7.9							
EBAN				S		Sn	11 19 05.5	-2.8
	1.2nm,0.1s,SNR=7.9							
EBAN	Banos Encina	3.53	54	P		Pn	11 18 26.0	-0.1
	1.0nm,0.1s,SNR=7.9							
EBAN				S		Sn	11 19 05.3	-3.0
	1.2nm,0.1s,SNR=7.9							
PTOM	Tomar	3.54	348	*e*P		Pn	11 18 26.0	-0.3
PCBR	Castelo Branco	3.68	359	*e*S		Sn	11 19 11.0	-1.1
	2.2nm,0.2s							
EQES	Quesada	3.85	63	P		Pn	11 18 30.7	+0.1
EQES				S		Sn	11 19 13.9	-2.6
EQES	Quesada	3.85	63	P		Pn	11 18 30.8	+0.2
	0.4nm,0.1s,SNR=7.9							
EQES				S		Sn	11 19 15.2	-1.3
	0.7nm,0.1s,SNR=7.9							
EQES	Quesada	3.85	63	P		Pn	11 18 30.7	0.0
	0.4nm,0.1s,SNR=7.9							
EQES				S		Sn	11 19 13.9	-2.6
	0.3nm,0.1s,SNR=7.9							
ETOB	Tobarra	5.29	60	P		Pn	11 18 49.9	-1.2
ETOB				S		Sn	11 19 47.5	-5.5
ETOB	Tobarra	5.29	60	⇓P		Pn	11 18 49.9	-1.2
	2.6nm,0.1s,SNR=18							
ETOB				S		Sn	11 19 48.5	-4.4
	1.2nm,0.1s,SNR=7.9							
ETOB	Tobarra	5.29	60	P		Pn	11 18 49.9	-1.2
	2.6nm,0.1s,SNR=18							
ETOB				S		Sn	11 19 47.5	-5.4
	0.5nm,0.1s,SNR=7.9							
ELOB	Lobios	5.72	355	P		Pn	11 18 55.8	-1.4
ELOB				S		Sn	11 19 58.0	-5.7
ELOB	Lobios	5.72	355	P		Pn	11 18 55.8	-1.4
	0.2nm,0.1s,SNR=7.9							
ELOB				S		Sn	11 20 00.7	-3.0
	1.0nm,0.1s,SNR=7.1							
ELOB	Lobios	5.72	355	P		Pn	11 18 55.8	-1.4
	0.2nm,0.1s,SNR=7.9							
ELOB				S		Sn	11 19 58.0	-5.7
	1.5nm,0.3s,SNR=7.1							
ECAL	Calabor	5.80	5	P		Pn	11 18 57.5	-0.8
ECAL				S		Sn	11 19 59.5	-6.1
ECAL	Calabor	5.80	5	P		Pn	11 18 57.5	-0.8
	0.3nm,0.1s,SNR=7.9							
ECAL				S		Sn	11 20 02.4	-3.3
	1.2nm,0.3s,SNR=7.9							
ECAL	Calabor	5.80	5	P		Pn	11 18 57.5	-0.8
	0.3nm,0.1s,SNR=7.9							
ECAL				S		Sn	11 19 59.5	-6.1
	0.3nm,0.2s,SNR=7.9							

LDG ***23*** *11:35:02.7, 22.70S×66.43W, h241km*

IDC ***23*** *11:35:02.9±0.8, 22.82S×66.19W, h232km±7km, mb4.1/13, mb1 4.4/17, mb1mx4.3/19, mbtmp4.8/17, Error ellipse: s-maj=11.6km s-min=9.1km az=87.0*

GUC ***23*** *11:35:03.4±0.9, 23.14S×66.68W, h262km±24km, ML5.0*

NEIC ***23*** *11:35:08.0±0.2, 22.75S×66.15W, mb4.7/79, Error ellipse: s-maj=7.0km s-min=4.7km az=215.0*

BJI ***23*** *11:35:10.0, 22.70S×66.20W, h277km, mB5.6*

ISC 23 11:35:01.3±0.4, 22.94S±0.03×66.24W±0.04, h233km±4km, h268km±3.1km; pP-P, n181, σ0§98/175, mb4.5/84, 12C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	Limon Verde	2.49	277	⇑*i*P		P	11 35 50.6	+3.1
LVC				*i* S		S	11 36 25.7	+2.3
LVC				AMP			11 36 28.3	
	comp=E,3µm,0.4s							
LVC	Limon Verde	2.49	277	P		P	11 35 50.4	+2.8
	comp=E,1µm,0.3s,baz=107,slow=4.7							
LVC				S		S	11 36 24.9	+1.5
	comp=E,121nm,0.3s,baz=69,slow=22,SNR=3.1							
LVC	Limon Verde	2.49	277	*e*P		P	11 35 49.8	+2.3
ANCH	Antofagasta	3.90	258	⇑*i*P		P	11 36 07.2	+3.5
CPN1	Cerro Paranal	4.17	245	⇑*i*P		P	11 36 08.3	+1.4
CPN1				*i* S		S	11 36 57.3	-0.5
CRCH	Chaqaral	5.23	229	⇑*i*P		P	11 36 20.3	+0.3
CRCH				*i* S		S	11 37 19.7	-1.7
CPCH	Copiapo	5.76	219	*i* P		P	11 36 27.1	+0.3
CPCH				*i* S		S	11 37 32.9	-0.5
LPAZ	La Paz	6.85	345	P		P	11 36 42.5	+2.0
	comp=E,41nm,0.3s,baz=157,slow=8.0,SNR=445							
LPAZ				S		S	11 37 58.6	+0.5
	comp=E,2.0nm,0.3s,baz=269,slow=22,SNR=12							
LPAZ	La Paz	6.85	345	⇑*i*P		P	11 36 42.6	+2.1
	comp=E,82nm,0.5s							
VACH	Vallenar	6.93	215	*e*P		P	11 36 41.8	+0.2
VACH				*i* S		S	11 37 58.3	-1.8
ARE	Arequipa	8.12	322	⇑*i*P		P	11 36 55.7	-1.1
ARE				*i* S		S	11 38 23.4	-3.9
SIV	San Ignacio	8.46	36	P		P	11 37 01.6	+0.5
	comp=E,32nm,0.3s,baz=224,slow=8.6,SNR=727							
SIV				S		S	11 38 33.3	-1.6
	baz=197,slow=20,SNR=3.1							
CPUP	Villa Florida	8.78	114	*e*P		P	11 37 05.2	-0.1
	comp=E,36nm,1.0s							
CFAA	Coronel Fontan	8.81	191	P		P	11 37 05.6	-0.1
	comp=E,0.8nm,0.3s,baz=2.1,slow=14,SNR=22							
CFAA				S		S	11 38 39.1	-4.1
	comp=E,4.3nm,0.3s,baz=250,slow=20,SNR=20							
ZON	Zonda	8.84	194	*e*P		P	11 37 05.0	-1.1
ZON				*e*S		S	11 38 41.0	-2.8
SAML	Samuel	14.22	12	*e*P		P	11 38 13.8	-0.1
	comp=E,30nm,0.8s							
NNA	Nana	14.85	315	⇑*i*P		P	11 38 22.4	+0.6
	comp=E,50nm,0.8s							
TRQA	Tornquist	15.51	167	*e*P		P	11 38 28.6	-0.8
	comp=E,55nm,0.6s							
PLCA	Paso Flores	18.11	191	P		P	11 38 58.2	-0.1
	comp=E,0.6nm,0.3s,baz=9.0,slow=13,SNR=41							
PLCA	Paso Flores	18.11	191	*e*P		P	11 38 57.9	-0.4
	comp=E,28nm,0.9s							
BDFB	Brasilia	18.66	70	P		P	11 39 04.3	+0.3
	comp=E,5.8nm,0.3s,baz=250,slow=11,SNR=167							
BAO	Brasilia Array	18.68	70	P		P	11 39 05.0	+0.7
USHA	Ushuaia	31.89	182	P		P	11 41 08.9	+2.2
	comp=E,5.5nm,0.4s,mb4.4,baz=338,slow=7.5,SNR=9.7							
SDV	Santo Domingo	31.92	352	*e*P		P	11 41 04.7	-2.7
	comp=E,14nm,1.1s,mb4.4							
NHSC	New Hope	57.30	346	*e*P		P	11 44 26.3	-0.6
	comp=E,63nm,1.0s,mb5.2							
VNA3	Neumayer Olymp	57.93	161	⇑*i*P		P	11 44 31.6	+0.7
VNA1	Neumayer--Stat	58.11	161	⇑*i*P		P	11 44 33.3	+1.2
VNA2	Neumayer--Watz	58.48	161	⇑*i*P		P	11 44 35.4	+0.7
JSC	Jenkinsville	58.67	345	*e*P		P	11 44 35.3	-1.2
LRAL	Lakeview Retre	59.08	340	*e*P		P	11 44 37.1	-2.2
	comp=E,9.9nm,0.3s,mb4.9							
SNAA	Sanae	60.12	161	⇑*i*P		P	11 44 46.2	+0.3
SNAA	Sanae	60.12	161	P		P	11 44 46.3	+0.4
	comp=E,5.8nm,0.6s,mb4.4,baz=290,slow=5.9,SNR=136							
MYNC	Murphy	60.14	343	*e*P		P	11 44 44.9	-1.5
	comp=E,33nm,0.8s,mb5.0							
PLAL	Pickwick Lake	61.22	340	*e*P		P	11 44 51.2	-2.4
	comp=E,29nm,1.1s,mb4.8							
OXF	Oxford	61.23	338	*e*P		P	11 44 51.8	-2.0
	comp=E,68nm,1.1s,mb5.2							
ELN	Prospectdale	61.39	347	*e*P		P	11 44 54.0	-0.9
FWV	Forest Hill	61.74	347	*e*P		P	11 44 55.6	-1.6
WVT	Waverly	62.20	340	*e*P		P	11 44 58.0	-2.2
	comp=E,36nm,0.8s,mb5.1							
WVT				*e*PP		pP	11 45 56.3	+2.8
UTMT	University of	62.72	340	*e*P		P	11 45 01.9	-1.7
	comp=E,141nm,1.3s,mb5.4							
GLAT	Glass	62.79	339	*e*P		P	11 45 02.8	-1.3
TXAR	Lajitas Array	63.23	324	P		P	11 45 06.3	-0.8
	comp=E,2.4nm,0.7s,mb4.0,baz=151,slow=8.5,SNR=40							
WCI	Wyandotte Cave	63.69	342	*e*P		P	11 45 07.4	-2.6
	comp=E,14nm,0.6s,mb4.8							
MAIT	Maitri	64.58	159	*e*P		P	11 45 16.4	+1.2
FVM	French Village	64.72	339	*e*P		P	11 45 14.1	-2.6
	comp=E,26nm,1.1s,mb4.8							
CCM	Cathedral Cave	65.06	338	*e*P		P	11 45 16.7	-2.0
	comp=E,27nm,0.7s,mb5.0							
CCM				*e*PP		pP	11 46 12.1	-0.5
CLNB	Carlsbad	65.63	325	*e*P		P	11 45 21.9	-0.6
GDL2	Guadalupe Moun	65.84	325	*e*P		P	11 45 23.7	-0.1
MNTX	Cornudas Mount	65.99	324	*e*P		P	11 45 23.0	-1.8
	comp=E,18nm,1.1s,mb4.6							
CPRX	Cap Rock	66.23	326	*e*P		P	11 45 25.7	-0.6
CPRX				*e*PcP		PcP	11 45 54.8	+0.2
DBIC	Dimbokro	66.81	72	P		P	11 45 28.6	-1.7
	comp=E,14nm,0.4s,mb4.9,baz=213,slow=9.1,SNR=20							
DBIC	Dimbokro	66.81	72	*e*P		P	11 45 28.6	-1.7
	comp=E,23nm,0.8s,mb4.9							
KSU1	Kansas State U	67.95	335	*e*P		P	11 45 35.4	-1.5
BNM	Barren Site	68.54	325	*e*P		P	11 45 40.9	+0.2
LPM	Los Pinos Moun	68.67	325	*e*P		P	11 45 41.7	+0.2
CBKS	Cedar Bluff	68.98	332	*e*P		P	11 45 42.0	-1.2
	comp=E,46nm,1.1s,mb5.0							
ANMO	Albuquerque	69.07	325	*e*P		P	11 45 43.8	0.0
	comp=E,18nm,1.0s,mb4.7							
TUC	Tucson	69.50	321	*e*P		P	11 45 46.6	+0.1
	comp=E,17nm,1.2s,mb4.6							
TUC				*e*			11 46 50.9	
SDCO	Great Sand Dun	70.75	328	*e*P		P	11 45 54.3	+0.2
	comp=E,27nm,1.2s,mb4.8							
SDCO				*e*pP		pP	11 46 51.8	+3.2
PV01	Paradox Valley	72.59	326	*e*P		P	11 46 06.0	+0.9
PV01				*e*pP		pP	11 47 04.0	+4.2
SMCO	Snowmass	72.59	328	*e*P		P	11 46 05.6	+0.6
SMCO				*e*pP		pP	11 47 06.7	+6.8
PHWY	Pilot Hill	73.54	330	*e*P		P	11 46 10.5	0.0
PHWY				*e*pP		pP	11 47 15.1	+10
NEN	Nelson	74.24	321	*e*P		P	11 46 14.8	+0.2
SYO	Syowa Base	74.28	159	⇑P		P	11 46 13.0	-1.2
SRU	San Rafael	74.34	326	*e*P		P	11 46 15.3	+0.2
SRU				pP		pP	11 47 11.4	+1.3
RWWY	Rawlins	74.66	329	*e*P		P	11 46 16.9	0.0
	comp=E,14nm,1.0s,mb4.5							
MSU	Marysvale	74.77	324	*e*P		P	11 46 18.2	+0.6
TMUT	Trail Mountain	74.83	325	*e*P		P	11 46 18.6	+0.7
ARUT	Antelope Range	74.94	323	*e*P		P	11 46 16.5	-2.1
RSSD	Black Hills	75.18	333	*e*P		P	11 46 20.2	+0.4
	comp=E,5.0nm,0.9s,mb4.1							
MPU	Maple Canyon	75.58	326	*e*P		P	11 46 23.1	+1.0
DAU	Daniels Canyo	75.68	326	*e*P		P	11 46 23.6	+1.0
NLU	North Lily Min	75.77	325	*e*P		P	11 46 24.0	+0.8
VNDA	Vanda	75.86	190	P		P	11 46 24.8	+1.8
	comp=E,3.0nm,0.9s,mb3.9,baz=145,slow=3.7,SNR=16							
VNDA	Vanda	75.86	190	P		P	11 46 24.8	+1.8
JLU	Jordanelle	75.92	326	*e*P		P	11 46 24.6	+0.6
JLU				*e*pP		pP	11 47 28.6	+9.4
TCUT	Toone Canyon	76.28	327	*e*P		P	11 46 27.0	+1.0
DAC	Darwin (Calif)	76.29	319	*e*P		P	11 46 26.6	+0.4
	comp=E,20nm,1.0s,mb4.7							
DAC				*e*pP		pP	11 47 32.8	+11
ISA	Isabella	76.42	319	*e*P		P	11 46 27.5	+0.6
	comp=E,20nm,1.0s,mb4.7							
PDAR	Pinedale Array	76.60	329	P		P	11 46 27.8	+0.1
	comp=E,1.3nm,0.5s,mb3.8,baz=125,slow=7.6,SNR=16							
HWUT	Hardware Ranch	76.72	327	*e*P		P	11 46 28.4	0.0
	comp=E,37nm,1.5s,mb4.8							
HWUT				*e*pP		pP	11 47 33.1	+9.4
SPUT	South Promonto	76.95	326	*e*P		P	11 46 30.8	+1.1
BGU	Big Grassy Mou	76.97	325	*e*P		P	11 46 29.5	-0.3
TPH	Tonopah	77.29	321	*e*P		P	11 46 32.9	+1.3
	comp=E,8.8nm,1.0s,mb4.3							
AHID	Auburn Hatcher	77.35	328	*e*P		P	11 46 32.1	+0.3
	comp=E,57nm,1.4s,mb5.0							
ULM	Lac du Bonnet	77.45	341	P		P	11 46 31.1	-1.1
	comp=E,6.3nm,0.7s,mb4.3,baz=148,slow=6.4,SNR=7.5							
ULM	Lac du Bonnet	77.45	341	*e*P		P	11 46 31.4	-0.9
	comp=E,47nm,1.7s,mb4.8							
SCHQ	Schefferville	77.45	360	P		P	11 46 31.5	-0.6
	comp=E,2.9nm,0.9s,mb3.9,baz=138,slow=3.3,SNR=6.7							
SCHQ	Schefferville	77.45	360	P		P	11 46 31.5	-0.6
HVU	Hansel Valley	77.46	326	*e*P		P	11 46 33.0	+0.5
PTRM	Twissleman Ran	77.48	318	*e*P		P	11 46 32.0	-0.7
MTUM	Tungsten Hills	77.59	320	*e*P		P	11 46 34.2	+1.0
REDW	Red Top Meadow	77.67	328	*e*P		P	11 46 34.2	+0.6
	comp=E,18nm,1.2s,mb4.6							
REDW				*e*pP		pP	11 47 39.9	+11
SNOW	Snow King Moun	77.70	329	*e*P		P	11 46 34.5	+0.8
	comp=E,16nm,1.2s,mb4.5							
LOHW	Long Hollow	77.74	329	*e*P		P	11 46 34.5	+0.6
	comp=E,32nm,1.4s,mb4.8							
LOHW				*e*pP		pP	11 47 36.0	+6.5
TPAW	Teton Pass	77.81	328	*e*P		P	11 46 35.1	+0.7
	comp=E,21nm,1.2s,mb4.7							
TPAW				*e*pP		pP	11 47 34.6	+4.7
RRI2	Red Ridge	77.89	328	*e*P		P	11 46 35.0	+0.2
	comp=E,48nm,1.4s,mb4.9							
RRI2				*e*pP		pP	11 47 41.0	+11
MOOW	Moose Ponds	77.91	329	*e*P		P	11 46 35.1	+0.2
	comp=E,24nm,1.6s,mb4.6							
MOOW				*e*pP		pP	11 47 39.5	+9.1

EDM	**Edmonton**	**86.12**	**334**	*e*P		**P**	**11 47 16.2**	**-0.8**
ETOB	**Tobarra**	**86.12**	**45**	P		**P**	**11 47 17.1**	**-0.3**
	comp=E,14nm,1.0s,mb4.7							
ECHE	**Chera**	**87.02**	**45**	P		**P**	**11 47 22.3**	**+0.7**
	comp=E,5.5nm,0.7s,mb4.4							
EBEN	**Beniarda**	**87.03**	**46**	P		**P**	**11 47 21.1**	**-0.5**
	comp=E,7.9nm,0.9s,mb4.4							
ELAN	**Lanestosa**	**87.51**	**41**	P		**P**	**11 47 24.9**	**+1.1**
	comp=E,5.7nm,1.0s,mb4.4							
ECRI	**Cripan**	**87.72**	**41**	P		**P**	**11 47 25.8**	**+1.0**
	comp=E,2.7nm,0.5s,mb4.3							
EMOS	**Mosqueruela**	**87.76**	**44**	P		**P**	**11 47 26.0**	**+0.9**
	comp=E,3.9nm,0.9s,mb4.2							
LSZ	**Lusaka**	**88.12**	**106**	*e*P		**P**	**11 47 28.6**	**+1.3**
	comp=E,40nm,1.6s,mb5.0							
SJPF	**Ste Jean**	**88.78**	**42**	*e*P		**P**	**11 47 30.0**	**+0.2**
	comp=E,13nm,1.1s,mb4.4							
ETSF	**Etsaut**	**89.08**	**42**	*e*P		**P**	**11 47 31.6**	**+0.4**
	comp=E,7.8nm,0.8s,mb4.3							
EPF	**Esparros**	**89.70**	**42**	*e*P		**P**	**11 47 34.2**	**+0.1**
	comp=E,7.6nm,0.8s,mb4.3							
ROSF	**Rostrenen**	**90.52**	**36**	*e*P		**P**	**11 47 38.1**	**+0.3**
SGMF	**Saint Gilles**	**90.87**	**37**	*e*P		**P**	**11 47 39.8**	**+0.4**
MTLF	**Montolieu**	**91.03**	**43**	*e*P		**P**	**11 47 39.8**	**-0.5**
MFF	**Saint Martin d**	**91.32**	**39**	*e*P		**P**	**11 47 41.6**	**+0.1**
	comp=E,6.7nm,0.8s,mb4.3							
FLN	**La Foliniere**	**92.30**	**37**	*e*P		**P**	**11 47 46.4**	**+0.4**
YKA	**Yellowknife Ar**	**93.37**	**340**	P		**P**	**11 47 50.4**	**-0.2**
	comp=E,5.1nm,0.8s,mb4.6,baz=128,slow=4.6,SNR=22							
YKA	**Yellowknife Ar**	**93.37**	**340**	P		**P**	**11 47 50.4**	**-0.2**
SSF	**Saint Saulge**	**93.71**	**40**	*e*P		**P**	**11 47 52.6**	**+0.1**
	comp=E,2.7nm,0.6s,mb4.2							
LOR	**Lormes**	**94.02**	**40**	*e*P		**P**	**11 47 54.3**	**+0.4**
	comp=E,3.1nm,0.6s,mb4.2							
ORIF	**Oris-en-Rattie**	**94.11**	**43**	*e*P		**P**	**11 47 54.9**	**+0.6**
	comp=E,5.0nm,0.7s,mb4.3							
MBDF	**Montbardon**	**94.58**	**43**	*e*P		**P**	**11 47 56.8**	**+0.3**
	comp=E,4.6nm,0.9s,mb4.3							
LPL	**La Plagne**	**94.92**	**42**	*e*P		**P**	**11 47 58.6**	**+0.5**
LPG	**La Plagne**	**94.92**	**42**	*e*P		**P**	**11 47 58.8**	**+0.7**
WB2	**Warramunga Arr**	**132.88**	**207**	*e*PKPdf		PKPdf	11 53 51.2	+1.7
WRA	**Warramunga Arr**	**132.88**	**207**	PKhKP			11 53 42.9	
	comp=E,0.4nm,0.7s,baz=210,slow=1.6,SNR=6.0							
WRA				PKP		PKPdf	11 53 50.6	+1.1
	comp=E,2.0nm,0.6s,baz=164,slow=1.6,SNR=29							
WRA				SKPbc			11 56 54.8	
	comp=E,13nm,1.0s,baz=156,slow=3.0,SNR=28							
PMG	**Port Moresby**	**134.15**	**229**	*e*P		PKPdf	11 53 52.8	+0.8
ZRNK	**Zerenda**	**134.80**	**37**	*e*PKPdf		PKPdf	11 53 54.5	+2.4
MKAR	**Makanchi Array**	**145.26**	**39**	PKPbc		PKPbc	11 54 13.1	+1.5
	comp=E,3.4nm,0.6s,baz=354,slow=2.4,SNR=25							
MKAR				SKPbc			11 57 29.5	
	comp=E,3.2nm,0.9s,baz=315,slow=1.7,SNR=6.5							
MKAR	**Makanchi Array**	**145.26**	**39**	PKPbc		PKPbc	11 54 13.1	+1.5
MKAR				SKPbc			11 57 29.5	
HYB	**Hyderabad**	**146.56**	**93**	*e*P		PKPdf	11 54 18.0	+4.0
HYB	**Hyderabad**	**146.56**	**93**	*i* PKP		PKPdf	11 54 18.0	+4.0
YSS	**Yuzh-Sakhalins**	**146.58**	**323**	*e*P		PKPdf	11 54 16.9	+3.7
DDI	**Dehra Dun**	**147.35**	**69**	*e*		PKPdf	11 54 13.0	-2.0
DDI				*e*			11 55 22.8	
WMQ	**Urumqi**	**150.09**	**40**	*e*PKP		PKPdf	11 54 26.5	+7.6
SONM	**Songino Array**	**154.47**	**12**	PKP		PKPdf	11 54 28.1	+3.1
	comp=E,1.8nm,0.9s,SNR=7.9							
SONM				PKPbc		PKPdf	11 54 36.1	+11
	comp=E,1.2nm,0.5s,baz=305,slow=1.6,SNR=6.7							
SONM				PKPab		PKPab	11 54 51.1	-0.3
	comp=E,0.8nm,0.6s,baz=324,slow=3.5,SNR=2.9							
MDJ	**Mudanjiang**	**154.78**	**333**	PKP		PKPdf	11 54 27.4	+2.0
MJAR	**Matsushiro Arr**	**154.90**	**308**	PKPbc		PKPdf	11 54 36.1	+10
	comp=E,1.3nm,0.5s,baz=94,slow=2.1,SNR=6.3							
MJAR				PKPab		PKPab	11 54 52.8	-0.8
	comp=E,3.4nm,0.9s,baz=76,slow=2.1,SNR=9.9							
MAT	**Matsushiro**	**154.90**	**308**	PKP		PKPdf	11 54 36.0	+10
MAT	**Matsushiro**	**154.90**	**308**	*e*PKP		PKPdf	11 54 35.0	+9.1
NJ2	**Nanjing**	**169.86**	**335**	*e*PKP		PKPdf	11 54 43.1	+2.5
NJ2				PKP2		PKPab	11 56 01.0	+2.3
NJ2				PP		PP	11 59 52.0	+3.0
NJ2				PP		PP		
	comp=Z,1μm,8.8s							
NJ2				LR		LR		
	comp=N,1μm,22.1s							
NJ2				LR		LR		
	comp=E,1μm,23.0s							
NJ2				LR		LR		
	comp=Z,3μm,23.2s							

IDC ***23*** *11:41:27.2±4.8,5.14S×152.99E,h41km±41km,mb3.9/8, mb1 4.1/9,mb1mx4.0/14,mbtmp4.2/9,ML3.5/1,MS3.4/3, Ms1 3.4/3,ms1mx3.1/18,Error ellipse: s-maj=28.7km s-min=21.8km az=71.0*

NEIC ***23*** *11:41:29.3±2.6,5.16S×152.93E,h64km±22km,mb4.5/3, Error ellipse: s-maj=17.4km s-min=15.5km az=54.0*

ISC 23 11:41:26.4±3.6,5.2S±0.1×153.0E±0.1,h53km,σ30km,n20, σ0s88/17,mb4.2/11,MS3.4/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.15**	**233**	P	**P**	**11 43 10.7**	**-0.1**
	5.1nm,0.3s,baz=49,slow=6.4,SNR=12						
PMG				S	**S**	**11 44 30.7**	**-0.7**
	8.4nm,0.3s,baz=99,slow=11,SNR=8.6						
DZM	**Mont Dzumac**	**21.29**	**143**	P	**P**	**11 46 11.3**	**+0.7**
	11nm,0.8s,mb4.2,baz=3.3,slow=17,SNR=8.8						
KAKA	**Kakadu**	**21.61**	**248**	*e*P	**P**	**11 46 15.7**	**+1.8**
	16nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**23.33**	**229**	*e*P	**P**	**11 46 31.4**	**+0.5**
	12nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**23.34**	**229**	*e*P	**P**	**11 46 31.5**	**+0.7**
WRA	**Warramunga Arr**	**23.34**	**229**	P	**P**	**11 46 31.5**	**+0.6**
	5.1nm,0.7s,mb4.1,baz=55,slow=9.9,SNR=50						
WRA				PcP	PcP	11 50 20.5	+2.1
	0.4nm,0.4s,baz=52,slow=2.8,SNR=5.2						
STKA	**Stephens Creek**	**28.65**	**200**	P	**P**	**11 47 18.8**	**-1.6**
	1.3nm,0.4s,mb4.0,baz=45,slow=7.1,SNR=3.6						
STKA				LR	LR	11 59 28.4	
	comp=Z,293nm,19.9s,MS3.9,baz=24,slow=38						
FITZ	**Fitzroy Crossi**	**29.64**	**242**	*e*P	**P**	**11 47 28.7**	**-0.6**
	6.8nm,0.6s,mb4.5						
MBWA	**Marble Bar**	**35.95**	**241**	*e*P	**P**	**11 48 23.7**	**-0.3**
FX1	**Attu Island--F**	**60.29**	**14**	LR	LR	12 17 00.7	
	comp=Z,4.3nm,18.1s,MS2.6,baz=152,slow=35						
SONM	**Songino Array**	**66.71**	**328**	P	**P**	**11 52 15.2**	**+1.2**
	0.4nm,0.4s,mb3.8,baz=135,slow=1.7,SNR=4.1						
VNDA	**Vanda**	**72.48**	**178**	P	**P**	**11 52 48.6**	**-0.2**
	1.0nm,0.6s,mb3.9,baz=309,slow=8.2,SNR=8.0						
MKAR	**Makanchi Array**	**80.70**	**319**	P	**P**	**11 53 36.0**	**+0.5**
	1.3nm,0.7s,mb4.0,baz=102,slow=5.5,SNR=13						
ILAR	**Eielson Array**	**82.42**	**22**	P	**P**	**11 53 43.1**	**-0.9**
	0.9nm,0.8s,mb3.8,baz=259,slow=4.6,SNR=8.9						
MAW	**Mawson**	**85.32**	**203**	P	**P**	**11 53 59.2**	**+0.6**
	3.2nm,0.9s,mb4.4,baz=82,slow=3.9,SNR=6.8						
BBB	**Bella Bella**	**87.27**	**37**	LR	LR	12 27 38.1	
	comp=Z,30nm,21.9s,MS3.7,baz=44,slow=32						
BRVK	**Borovoye**	**89.69**	**323**	*e*P	**P**	**11 54 18.5**	**-1.4**
ZRNK	**Zerenda**	**90.44**	**323**	*e*P	**P**	**11 54 22.8**	**-0.6**
GERES	**GERESS Array B**	**124.44**	**328**	PKP	PKPdf	12 00 21.9	+2.0
	0.6nm,0.6s,baz=135,slow=1.9,SNR=6.2						
BDFB	**Brasilia**	**150.70**	**135**	PKPbc	PKPdf	12 01 17.6	+10
	1.6nm,0.4s,baz=328,slow=4.5,SNR=3.7						

IDC ***23*** *12:18:09.4±0.6,32.68S×178.32W,mb4.0/9,mb1 4.3/10, mb1mx4.2/14,mbtmp4.1/10,MS4.6/11,Ms1 4.6/11, ms1mx4.4/18,Error ellipse: s-maj=23.5km s-min=17.6km az=90.0*

MOS ***23*** *12:18:15.7±1.9,32.67S×178.47W,h45km,mb5.0/4,Error ellipse: s-maj=25.1km s-min=17.8km az=93.9*

BJI ***23*** *12:18:20.8,32.70S×178.40W,h93km,mB5.6,mb5.1*

HRVD ***23*** *12:18:21.9±0.5,33.05S×177.55W,h86km±7km,MW5.1/40, Centroid moment Tensor Solution. LP body waves: s4,c4; Mantle waves: s40,c67; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.70±.45; Mθθ4.02±.33; Mϕϕ-1.33±.34; Mrθ0.70±.24; Mrϕ-1.91±.24; Mθϕ2.42±.15; Best double couple: M☆4.75×10^16 NP1:ϕs255°,δ57°,λ-141°. NP2: ϕs141°,δ58°,λ-40°. Principal axes: T 4.633, Plg1°, Azm198°; N .224, Plg41°, Azm289°; P -4.867, Plg49°, Azm107°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***23*** *12:18:21.9±2.3,32.73S×178.39W,h93km±20km,mb5.2/13 Error ellipse: s-maj=11.2km s-min=9.4km az=89.0*

ISC 23 12:18:08.7±1.9,32.94S±0.04×178.50W±0.09,h2km±12km,

n142,σ1s25/75,mb4.9/22,MS4.6/19,10C-6D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.71**	**8**	Pn	**Pn**	**12 19 03.8**	**-4.4**
	110nm,0.3s,baz=255,slow=23,SNR=7.8						
RAO				Sn	**Sn**	**12 19 45.7**	**-7.4**
	328nm,0.3s,baz=271,slow=22,SNR=4.3						
RAO	**Raoul Island**	**3.71**	**8**	*e*P	**Pn**	**12 19 00.2**	**-8.0**
RAO				Pn	**Pn**	**12 19 03.8**	**-4.4**
RAO				Sn	**Sn**	**12 19 45.7**	**-7.4**
MXZ	**Matakaoa Point**	**5.31**	**209**	PN	**Pn**	**12 19 30.6**	**-0.3**
MXZ				SN	**Sn**	**12 20 34.0**	**+0.5**
PUZ	**Puketiti**	**5.77**	**206**	PN	**Pn**	**12 19 36.3**	**-1.1**
MWZ	**Matawai**	**6.29**	**210**	PN	**Pn**	**12 19 42.8**	**-1.9**
MWZ				SN	**Sn**	**12 20 58.8**	**+0.8**
URZ	**Urewera**	**6.41**	**213**	Pn	**Pn**	**12 19 46.5**	**+0.1**
	13nm,0.3s,baz=26,slow=5.9,SNR=58						
URZ				Sn	**Sn**	**12 21 01.4**	**+0.3**
	14nm,0.3s,baz=155,slow=20,SNR=11						
URZ	**Urewera**	**6.41**	**213**	PN	**Pn**	**12 19 46.0**	**-0.4**
URZ				SN	**Sn**	**12 21 01.2**	**+0.2**
KNZ	**Kokohu**	**6.82**	**206**	PN	**Pn**	**12 19 49.9**	**-2.4**
KNZ				SN	**Sn**	**12 21 09.6**	**-1.8**
OUZ	**Omahuta**	**6.95**	**249**	PN	**Pn**	**12 19 59.0**	**+5.0**
RPZ	**Rata Peaks**	**13.52**	**214**	Pn	**P**	**12 21 22.9**	**-1.1**
	1.7nm,0.3s,baz=356,slow=2.0,SNR=5.2						
RPZ				Sn	**S**	**12 23 41.4**	**-15**
	1.0nm,0.3s,baz=350,slow=19,SNR=4.8						
DZM	**Mont Dzumac**	**17.17**	**305**	*e*P	**P**	**12 22 15.5**	**+4.1**
DZM	**Mont Dzumac**	**17.17**	**305**	P	**P**	**12 22 17.0**	**+5.6**
	2.2nm,0.3s,baz=117,slow=14,SNR=17						
DZM				LR	LR	12 27 39.2	
	comp=Z,4μm,18.3s,baz=139,slow=33						
NOUC	**Port Laguerre**	**17.25**	**305**	*e*P	**P**	**12 22 18.0**	**+5.6**
NOUC	**Port Laguerre**	**17.25**	**305**	*e*P	**P**	**12 22 18.0**	**+5.6**
AFI	**Afiamalu**	**19.91**	**19**	P	**P**	**12 22 42.1**	**-2.4**
	2.5nm,0.3s,baz=63,slow=9.0,SNR=3.7						
CNB	**Canberra Magne**	**26.65**	**256**	*e*P	**P**	**12 23 54.6**	**+4.0**
	11nm,0.7s,mb4.5						
TBI	**Tubuai**	**27.25**	**77**	*e*LQ		12 28 43.6	
	1μm,24.0s						
PPT	**Papeete**	**30.17**	**67**	*e*LQ		12 30 01.3	
	1μm,21.5s						
PPT	**Papeete**	**30.17**	**67**	*e*P	**P**	**12 24 15.8**	**-6.8**
PPT				*e*S	S	12 28 36.6	-45
	267nm,27.2s						
PPT				*e*LR	LR	12 31 36.1	
	504nm,20.8s,baz=235						
PPT	**Papeete**	**30.17**	**67**	LR	LR	12 33 33.5	
	comp=Z,433nm,18.7s,MS4.1,baz=244,slow=31						
STKA	**Stephens Creek**	**33.57**	**261**	*e*P	**P**	**12 24 54.3**	**+2.0**
	4.7nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**33.57**	**261**	P	**P**	**12 24 53.9**	**+1.7**
	3.9nm,0.6s,mb4.5,baz=79,slow=8.3,SNR=7.5						
STKA				LR	LR	12 38 15.7	
	comp=Z,2μm,18.3s,MS4.9,baz=289,slow=36						
CTA	**Charters Tower**	**33.88**	**283**	*e*P	**P**	**12 24 57.2**	**+2.2**
	37nm,0.6s,mb5.5						
CTAO	**Charters Tower**	**33.88**	**283**	*e*P	**P**	**12 24 56.4**	**+1.4**
	40nm,0.6s,mb5.5						
CTAO				LR	LR		
	comp=Z,908nm,19.0s,MS4.5						
RKT	**Rikitea**	**39.41**	**87**	*e*LQ		12 34 15.9	
	comp=Z,2μm,42.0s						
RKT	**Rikitea**	**39.41**	**87**	*e*PP	PP	12 26 59.5	-17
	comp=Z,82nm,30.2s						
RKT				*e*S	**S**	**12 31 33.0**	**-11**
	comp=Z,192nm,28.5s						
RKT				*e*LR	LR	12 35 39.5	
	comp=Z,880nm,30.2s,baz=247						
WB2	**Warramunga Arr**	**43.82**	**275**	⇑*i* P	**P**	**12 26 18.0**	**0.0**
WB2				*e*S	**S**	**12 32 46.8**	**-2.4**
WRAB	**Tennant Creek**	**43.83**	**275**	*c i* P	**P**	**12 26 18.4**	**+0.4**
WRAB	**Tennant Creek**	**43.83**	**275**	*e*P	**P**	**12 26 18.0**	**0.0**
	comp=Z,48nm,0.6s,mb5.4						
WRAB				LR	LR		
	comp=Z,319nm,19.0s,MS4.2						
WRA	**Warramunga Arr**	**43.83**	**275**	P	**P**	**12 26 18.0**	**-0.1**
WRA				S	**S**	**12 32 46.7**	**-2.7**
WRA	**Warramunga Arr**	**43.83**	**275**	P	**P**	**12 26 18.0**	**-0.1**
	comp=Z,28nm,0.5s,mb5.2,baz=116,slow=7.6,SNR=337						
WRA				ScP		12 31 56.5	
	comp=Z,1.2nm,0.8s,baz=120,slow=4.2,SNR=5.3						
WRA				S	**S**	**12 32 46.7**	**-2.7**
	comp=Z,1.6nm,0.9s,baz=120,slow=13,SNR=3.6						
SBA	**Scott Base**	**45.48**	**184**	*e*P	**P**	**12 26 34.1**	**+3.5**
SBA				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
SBA	**Scott Base**	**45.48**	**184**	*e*P	**P**	**12 26 34.1**	**+3.5**
	comp=Z,11nm,0.9s,mb4.7						
VNDA	**Vanda**	**45.54**	**186**	P	**P**	**12 26 33.9**	**+2.8**
	comp=Z,1.1nm,0.5s,mb4.0,baz=22,slow=6.8,SNR=14						
VNDA				LR	LR	12 43 36.6	
	comp=Z,424nm,19.7s,MS4.4,baz=8.1,slow=33						
KAKA	**Kakadu**	**49.01**	**282**	*e*P	**P**	**12 27 00.3**	**+1.3**
	comp=Z,21nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**51.98**	**272**	⇑*i* P	**P**	**12 27 21.5**	**-0.2**
	comp=Z,34nm,0.7s,mb5.4						
CASY	**Casey**	**52.71**	**209**	⇑*i* P	**P**	**12 27 27.2**	**+0.6**
KLBR	**Kellerberrin**	**53.17**	**253**	*e*P	**P**	**12 27 29.3**	**-1.1**
	comp=Z,30nm,0.8s,mb5.3						
QSPA	**South Pole Qui**	**57.18**	**180**	*e*P	**P**	**12 28 00.6**	**+1.7**
	comp=Z,42nm,0.6s,mb5.7						
MIR	**Mirnyy**	**59.68**	**208**	*e*P	**P**	**12 28 17.0**	**+0.5**
MIR				pmax	pmax		
	comp=Z,34nm,1.6s,mb5.1						
MAW	**Mawson**	**69.80**	**201**	⇑*i* P	**P**	**12 29 23.0**	**+1.0**
	comp=Z,4.0nm,0.6s,mb4.5						
MAW	**Mawson**	**69.80**	**201**	⇑*i* P	**P**	**12 29 23.0**	**+1.0**
MAW				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAW	**Mawson**	**69.80**	**201**	P	**P**	**12 29 23.1**	**+1.1**
	comp=Z,3.8nm,0.8s,mb4.4,baz=126,slow=8.6,SNR=11						
MAW				LR	LR	12 58 36.9	
	comp=Z,711nm,20.0s,MS4.9,baz=113,slow=35						
SNAA	**Sanae**	**75.64**	**179**	P	**P**	**12 29 57.6**	**+1.2**
SNAA	**Sanae**	**75.64**	**179**	⇓*i*	**P**	**12 30 07.1**	**+11**
SNAA	**Sanae**	**75.64**	**179**	*i* P	**P**	**12 30 01.0**	**+4.6**
SNAA	**Sanae**	**75.64**	**179**	P	**P**	**12 29 56.0**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=163,slow=9.2,SNR=7.6						
VNA3	**Neumayer Olymp**	**75.81**	**176**	P	**P**	**12 29 58.4**	**+1.1**
VNA3	**Neumayer Olymp**	**75.81**	**176**	⇓*i*	**P**	**12 30 09.9**	**+13**
VNA2	**Neumayer--Watz**	**76.24**	**177**	P	**P**	**12 30 01.3**	**+1.5**
VNA2	**Neumayer--Watz**	**76.24**	**177**	⇓*i*	**P**	**12 30 12.4**	**+13**
VNA1	**Neumayer--Stat**	**76.47**	**177**	P	**P**	**12 30 02.3**	**+1.2**
VNA1	**Neumayer--Stat**	**76.47**	**177**	⇓*i*	**P**	**12 30 14.0**	**+13**
MJAR	**Matsushiro Arr**	**80.09**	**326**	P	**P**	**12 30 19.7**	**-1.8**
	comp=Z,1.2nm,0.7s,mb3.9,baz=170,slow=4.9,SNR=4.5						
MJAR				LR	LR	13 03 55.2	
	comp=Z,149nm,18.5s,MS4.4,baz=120,slow=34						
PLCA	**Paso Flores**	**81.09**	**133**	P	**P**	**12 30 26.6**	**-0.2**
	comp=Z,2.2nm,0.8s,mb4.1,baz=209,slow=3.2,SNR=4.9						
PLCA				LR	LR	13 00 13.7	
	comp=Z,346nm,19.4s,MS4.7,baz=208,slow=31						
SSE	**Sheshan**	**85.46**	**312**	P	**P**	**12 30 49.8**	**+0.5**
SSE				PP	PP	12 34 10.9	+1.7
SSE				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,85nm,6.0s						
SSE				LR	LR		
	comp=N,48nm,20.4s,MS4.0						
SSE				LR	LR		
	comp=E,34nm,20.8s,MS4.0						
SSE				LR	LR		
	comp=Z,95nm,20.4s,MS4.2						
FX1	**Attu Island--F**	**85.77**	**355**	*e*P	**P**	**12 30 49.5**	**-0.8**
KS15	**Wonju Array Si**	**86.02**	**320**	*e*P	**P**	**12 30 52.6**	**+0.6**
YSS	**Yuzh-Sakhalins**	**86.84**	**335**	*e*P	**P**	**12 30 55.9**	**+0.1**
YSS				*e*		12 31 04.3	
YSS				S	S	12 41 31.0	-2.0
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.5						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.9						
NJ2	**Nanjing**	**87.58**	**311**	*e*P	**P**	**12 31 00.8**	**+1.1**
NJ2				PP	PP	12 34 31.8	+4.7
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,452nm,6.8s						
NJ2				LR	LR		
	comp=N,1μm,19.1s,MS5.6						
NJ2				LR	LR		
	comp=E,2μm,19.0s,MS5.6						
NJ2				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
CFAA	**Coronel Fontan**	**88.07**	**127**	P	**P**	**12 31 01.2**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=185,slow=2.7,SNR=6.4						
CMB	**Columbia Colle**	**88.92**	**42**	*e*P	**P**	**12 31 03.7**	**-2.3**
CMB				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.9						
CMB	**Columbia Colle**	**88.92**	**42**	*e*P	**P**	**12 31 03.7**	**-2.3**
	comp=Z,7.8nm,1.4s,mb4.8						
LDFC	**Landfair**	**90.03**	**47**	*e*P	**P**	**12 31 11.5**	**+0.2**
NVAR	**Mina Array Bea**	**90.38**	**43**	P	**P**	**12 31 12.9**	**+0.1**
	comp=Z,1.4nm,0.9s,mb4.3,baz=203,slow=6.3,SNR=7.8						
CN2	**Changchun**	**91.90**	**323**	*e*P	**P**	**12 31 19.4**	**-0.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.5						
CN2				LR	LR		
	comp=N,200nm,15.0s,MS4.8						
CN2				LR	LR		
	comp=E,200nm,15.0s,MS4.8						
CN2				LR	LR		
	comp=Z,220nm,16.0s,MS4.7						
TXAR	**Lajitas Array**	**94.10**	**58**	P	**P**	**12 31 30.2**	**+0.1**
	comp=Z,0.1nm,0.3s,mb3.7,baz=191,slow=4.6,SNR=2.1						
TXAR				LR	LR	13 09 31.9	
	comp=Z,390nm,18.0s,baz=160,slow=33						
LPAZ	**La Paz**	**97.48**	**115**	LR	LR	13 07 30.5	
	comp=Z,92nm,20.5s,MS4.2,baz=22,slow=30						
PDAR	**Pinedale Array**	**98.25**	**44**	LR	LR	13 12 39.1	
	comp=Z,151nm,18.4s,MS4.5,baz=246,slow=33						
CPUP	**Villa Florida**	**98.73**	**129**	LR	LR	13 11 01.6	
	comp=Z,335nm,18.1s,MS4.9,baz=48,slow=32						
MCK	**McKinley**	**99.15**	**13**	PFAKE		12 32 00.0	+7.8
MCK				LR	LR		
	comp=Z,165nm,19.0s,MS4.5						
LBTB	**Lobatse**	**117.97**	**205**	PFAKE		12 37 10.0	+11
LBTB				LR	LR		
	comp=Z,362nm,19.0s,MS5.0						
MKAR	**Makanchi Array**	**119.06**	**309**	PKP	PKPdf	12 36 59.0	-2.0
	comp=Z,1.2nm,0.6s,baz=192,slow=1.0,SNR=16						
NVS	**Novosibirsk**	**120.75**	**318**	*e*PKIKP	PKPdf	12 37 01.3	-2.8
AAK	**Ala-Archa**	**123.14**	**303**	*i* PKIKP	PKPdf	12 37 07.6	-1.3
BRVK	**Borovoye**	**127.96**	**314**	*e*PKIKP	PKPdf	12 37 16.0	-2.1
ZRNK	**Zerenda**	**128.72**	**314**	*e*PKIKP	PKPdf	12 37 18.5	-1.0
KMBO	**Kilima Mbogo**	**132.21**	**232**	SKPbc		12 40 55.0	
	comp=Z,3.1nm,1.0s,baz=194,slow=5.6,SNR=4.5						
ARU	**Arti**	**134.75**	**319**	*i* PKIKP	PKPdf	12 37 29.6	-1.1
ARU				*e*		12 40 01.9	
KEV	**Kevo**	**140.49**	**346**	*e*pkp	PKPdf	12 37 37.6	-3.3
ARCES	**ARCESS Array B**	**140.96**	**347**	PKhKP		12 37 35.8	
	comp=Z,3.2nm,0.8s,baz=45,slow=1.7,SNR=7.9						
HAKT	**HAKKARI**	**145.44**	**290**	*i* P	PKPbc	12 37 49.2	+0.4
GOF	**Gofitskoye**	**145.89**	**303**	*e*PKIKP	PKPdf	12 37 48.5	-2.3
GOF				pmax	pmax		
	comp=Z,62nm,1.0s						
MOS	**Moscow**	**146.14**	**323**	*e*PKP2	PKPab	12 37 50.0	-2.5
MOS				pmax	pmax		
	comp=Z,138nm,0.9s						
KIV	**Kislovodsk**	**146.24**	**301**	*c i* PKP2	PKPab	12 37 51.2	-2.1
KIV	**Kislovodsk**	**146.24**	**301**	*e*PKPdf	PKPdf	12 37 51.1	-0.4
KAF	**Kangasniemi**	**146.77**	**339**	*e*pkp	PKPdf	12 37 50.5	-1.3
	baz=40,slow=2.6						
OBN	**Obninsk**	**146.97**	**323**	*c i* PKP2	PKPab	12 37 52.8	-3.0
OBN				*e*SS	SS	13 00 07.4	-12
OBN				pmax	pmax		
	comp=Z,58nm,1.2s						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.6						
OBN	**Obninsk**	**146.97**	**323**	*e*PKPdf	PKPdf	12 37 52.2	-0.1

n13,σ0ᵍ77/15, mb3.5/6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.36**	**216**	P	**P**	**12 32 26.5**	**-0.1**
	77nm,0.3s,baz=339,slow=2.8,SNR=109						
ROSC				S	**S**	**12 32 58.2**	**-0.4**
	96nm,0.3s,baz=90,slow=20,SNR=7.2						
SDV	**Santo Domingo**	**3.10**	**47**	P	**P**	**12 32 36.5**	**+1.0**
	17nm,0.3s,baz=258,slow=3.6,SNR=47						
SDV				S	**S**	**12 33 14.4**	**0.0**
	50nm,0.3s,baz=246,slow=24,SNR=33						
SDV	**Santo Domingo**	**3.10**	**47**	*eP*	**P**	**12 32 35.4**	**-0.2**
SDV				S	**S**	**12 33 14.4**	**0.0**
SAML	**Samuel**	**18.39**	**148**	*eP*	**P**	**12 35 49.1**	**-0.1**
	2.4nm,0.4s						
LPAZ	**La Paz**	**23.40**	**168**	P	**P**	**12 36 41.4**	**+2.2**
	0.5nm,0.3s,mb3.4,baz=350,slow=8.6,SNR=5.1						
LPAZ	**La Paz**	**23.40**	**168**	*eP*	**P**	**12 36 40.8**	**+1.7**
SIV	**San Ignacio**	**25.48**	**153**	P	**P**	**12 36 58.4**	**-0.4**
	0.6nm,0.4s,mb3.4,baz=333,slow=9.6,SNR=5.1						
TXAR	**Lajitas Array**	**36.64**	**312**	P	**P**	**12 38 36.6**	**+0.5**
	0.3nm,0.4s,mb3.3,baz=125,slow=8.9,SNR=6.2						
TXAR				PcP	PcP	12 40 56.6	+1.0
	0.2nm,0.7s,baz=108,slow=4.0,SNR=3.5						
PDAR	**Pinedale Array**	**48.23**	**324**	P	**P**	**12 40 09.9**	**+0.2**
	0.2nm,0.4s,mb3.1,baz=122,slow=8.5,SNR=3.6						
YKA	**Yellowknife Ar**	**63.38**	**340**	P	**P**	**12 41 56.9**	**-0.5**
	0.4nm,0.4s,mb3.6,baz=135,slow=6.5,SNR=5.3						
YKA	**Yellowknife Ar**	**63.38**	**340**	P	**P**	**12 41 56.9**	**-0.5**
DBIC	**Dimbokro**	**67.55**	**86**	P	**P**	**12 42 23.4**	**-1.4**
	3.4nm,1.0s,mb4.0,baz=282,slow=6.8,SNR=4.1						
WRA	**Warramunga Arr**	**150.48**	**241**	PKPbc	PKPdf	12 51 18.0	+7.3
	1.3nm,0.5s,baz=109,slow=2.5,SNR=40						

*BJI **23** 13:09:21.6,34.85N×23.94E,h24km,mB5.0,mb4.9,Ms5.1,Msz4.6*
*CSEM **23** 13:09:23.9,34.81N×24.69E,h10km,mb4.5*
*HLW **23** 13:09:23.3,35.38N×24.76E,h23km,Mb4.2*
*ATH **23** 13:09:27.1,35.01N×24.68E,h24km±1km,MD4.3/23,ML4.3*
*IDC **23** 13:09:27.4±1.5,35.05N×24.71E,h19km±7km,mb4.3/16,mb1 4.5/22,mb1mx4.4/28,mbtmp4.5/22,ML4.6/5,MS3.7/8,Ms1 3.7/8,ms1mx3.4/38,Error ellipse: s-maj=17.1km s-min=15.5km azr=178.0*
*ZUR_RM **23** 13:09:27,35.01N×24.68E,h27km,Mw4.7/17,Moment Tensor Solution. s17 Moment tensor: Scale 10¹⁶Nm; Mrr=0.65; Mθθ0.91; Mϕϕ=0.26; Mrθ=0.04; Mθϕ0.75; Mϕr=0.23; Best double couple: M₀1.06×10¹⁶ NP1:ϕs31°,δ62°,λ-140°. NP2:ϕs279°,δ55°,λ-35°. Principal axes: T 1.2901, Plg4°, Azm154°; N -.4524, Plg42°, Azm60°; P -.8377, Plg48°, Azm248°;*
*NEIC **23** 13:09:27.1,35.01N×24.68E,h24km,mb4.6/101,ML4.6(THE),ML4.3(ATH),After ATH.*
*MOS **23** 13:09:27.5±1.0,34.95N×24.66E,h29km,mb4.7/36,Error ellipse: s-maj=4.6km s-min=2.2km az=109.7*

ISC 23 13:09:24.8±0.5, 34.84N±0.02×24.70E±0.02, h16km±4km, h21km±1.5km; pP-P, n587, σ1ˢ27/645, mb4.6/91, MS3.9/14, 30C-22D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**0.48**	**19**	Pg	**Pb**	**13 09 34.0**	**-0.3**
	1μm,0.3s,baz=209,slow=16,SNR=3929						
IDI				Lg		13 09 39.0	
	6μm,0.3s,baz=134,slow=20,SNR=277						
IDI	**Anoyia**	**0.48**	**19**	Pg	**Pb**	**13 09 34.0**	**-0.3**
IDI				Lg		13 09 39.0	
VAM	**Vamos**	**0.70**	**325**	*i*PN	**Pn**	**13 09 38.0**	**-1.9**
XRY	**Khrisi**	**0.82**	**87**	*i*PB	**Pb**	**13 09 43.1**	**+2.9**
NPS	**Neapolis**	**0.86**	**60**	*e*PN	**Pn**	**13 09 42.9**	**+0.7**
NPS				*e*SN	**Sn**	**13 09 53.8**	**-0.6**
SANT	**Santorini**	**1.65**	**22**	*e*Pn	**Pn**	**13 09 52.5**	**0.0**
SANT	**Santorini**	**1.65**	**22**	*e*Pn	**Pn**	**13 09 53.5**	**0.0**
THR1	**Thera Island**	**1.65**	**22**	*e*P	**Pn**	**13 09 53.9**	**+0.4**
KYTH	**Kithira**	**1.98**	**317**	*e*PN	**Pn**	**13 10 00.0**	**+1.9**
APE	**Apeiranthos**	**2.33**	**17**	*e*PN	**Pn**	**13 10 03.2**	**0.0**
APE				*e*SN	**Sn**	**13 10 30.7**	**-0.9**
VLI	**Veliai**	**2.36**	**323**	⇑*i*PB	**Pb**	**13 10 04.8**	**-1.7**
NISR	**Nisiros**	**2.66**	**47**	*e*PB	**Pb**	**13 10 10.0**	**-1.5**
BODT	**Bodrum**	**3.07**	**43**	PN	**Pn**	**13 10 15.9**	**+2.2**
NAIG	**Nisos Aigina**	**3.08**	**342**	*e*PN	**Pn**	**13 10 14.5**	**+0.7**
ARG	**Arkhangelos**	**3.12**	**63**	*e*PN	**Pn**	**13 10 17.1**	**+2.7**
ARG				*e*SN	**Sn**	**13 10 52.5**	**+0.8**
BDRM	**Kayabasi**	**3.15**	**44**	*i* P	**Pn**	**13 10 16.9**	**+2.0**
NSAL	**Nisos Salamina**	**3.22**	**342**	*e*PN	**Pn**	**13 10 16.0**	**+0.1**
ATH	**Athens Observa**	**3.23**	**346**	*e*PN	**Pn**	**13 10 16.6**	**+0.6**
ITM	**Ithomi**	**3.24**	**317**	*e*PN	**Pn**	**13 10 18.0**	**+1.8**
PTL	**Penteli**	**3.28**	**348**	*e*PN	**Pn**	**13 10 16.8**	**+0.2**
SMG	**Samos**	**3.35**	**3**	*e*PN	**Pn**	**13 10 18.4**	**+0.7**
MGER	**Gerania Oros**	**3.35**	**340**	*e*PN	**Pn**	**13 10 18.1**	**+0.4**
SLUM		**3.36**	**172**	⇑*e*P	**Pn**	**13 10 21.0**	**+3.1**
SLUM				S	**Sn**	**13 11 03.0**	**+5.2**
MPAR	**Parnis Oros**	**3.40**	**347**	*e*PN	**Pn**	**13 10 18.5**	**+0.1**
MLSB	**Milas**	**3.50**	**45**	*e*PN	**Pn**	**13 10 22.4**	**+2.6**
YER	**Yerkesik**	**3.70**	**51**	*e*PN	**Pn**	**13 10 25.9**	**+3.2**
DALT	**Dalyan (Mudla)**	**3.74**	**58**	*e*PN	**Pn**	**13 10 26.7**	**+3.5**
DALT	**Dalyan (Mudla)**	**3.74**	**58**	P	**Pn**	**13 10 26.8**	**+3.6**
AYDN	**Tasoluk**	**3.82**	**41**	*i* P	**Pn**	**13 10 26.7**	**+2.4**
URLA	**Izmir**	**3.83**	**23**	*i* P	**Pn**	**13 10 23.5**	**-1.1**
BLCB	**Balcova**	**4.01**	**27**	*e*PN	**Pn**	**13 10 27.4**	**+0.3**
LKR	**Lokris**	**4.04**	**341**	*e*PN	**Pn**	**13 10 27.9**	**+0.3**
IZM	**Izmir**	**4.11**	**29**	*e*PN	**Pn**	**13 10 29.1**	**+0.6**
KDAG	**Bornova**	**4.12**	**29**	*e*P	**Pn**	**13 10 29.8**	**+1.2**
KSL	**Kastellorizon**	**4.20**	**70**	*e*PN	**Pn**	**13 10 31.8**	**+2.1**
AKAS	**Kas**	**4.24**	**69**	*i* P	**Pn**	**13 10 32.2**	**+1.9**
HMAT	**Matruh**	**4.24**	**151**	⇓*e*P	**Pn**	**13 10 32.2**	**+1.9**
AOS	**Alonnisos**	**4.38**	**352**	*e*P	**Pn**	**13 10 31.6**	**-0.7**
DNZL	**Cakiroluk**	**4.52**	**50**	*i* P	**Pn**	**13 10 37.1**	**+2.8**
DENT	**Denizli**	**4.55**	**49**	*e*PN	**Pn**	**13 10 37.1**	**+2.3**
AGG	**Agios Georgios**	**4.59**	**336**	*e*P	**Pn**	**13 10 35.9**	**+0.6**
AGG	**Agios Georgios**	**4.59**	**336**	P	**Pn**	**13 10 35.9**	**+0.6**
AGG				S	**Sn**	**13 11 27.2**	**-1.7**
AGG	**Agios Georgios**	**4.59**	**336**	P	**Pn**	**13 10 35.9**	**+0.6**
AGG				S	**Sn**	**13 11 27.2**	**-1.7**
GOLH	**Golhisar**	**4.61**	**57**	*i* P	**Pn**	**13 10 38.1**	**+2.5**
NEO	**Neokhori**	**4.62**	**346**	*e*PN	**Pn**	**13 10 35.8**	**+0.1**
ELL	**Elmali**	**4.65**	**64**	*e*PN	**Pn**	**13 10 39.0**	**+2.9**
XOR	**Xorichti**	**4.68**	**346**	*e*P	**Pn**	**13 10 36.3**	**-0.3**
EVR	**Evrytania**	**4.68**	**331**	*e*PN	**Pn**	**13 10 38.0**	**+1.4**
VLS	**Valsamata**	**4.70**	**316**	*e*PN	**Pn**	**13 10 38.0**	**+1.2**
AKS	**Akhisar**	**4.75**	**31**	*e*PN	**Pn**	**13 10 38.8**	**+1.3**
MANT	**Manisa**	**4.79**	**39**	*i* P	**Pn**	**13 10 40.5**	**+2.4**
DABA	**Dabaa**	**4.86**	**141**	⇑*e*P	**Pn**	**13 10 40.3**	**+1.2**
LKD	**Levkas**	**5.05**	**321**	*e*P	**Pn**	**13 10 43.8**	**+2.0**
LIA	**Limnos Island**	**5.07**	**4**	*e*PN	**Pn**	**13 10 42.3**	**+0.2**
LOS	**Limnos**	**5.10**	**3**	*e*P	**Pn**	**13 10 41.2**	**-1.3**
PAIG	**Paliouri**	**5.15**	**351**	*e*P	**Pn**	**13 10 42.3**	**-0.8**
KHL	**Karahalli**	**5.21**	**47**	*e*PN	**Pn**	**13 10 45.8**	**+1.7**
BCK	**Bucak**	**5.44**	**60**	*e*PN	**Pn**	**13 10 49.3**	**+2.0**
OUR	**Ouranopolis**	**5.52**	**354**	*e*P	**Pn**	**13 10 47.4**	**-1.0**
LIT	**Litokhoron**	**5.54**	**342**	*e*P	**Pn**	**13 10 48.5**	**-0.2**
LIT	**Litokhoron**	**5.54**	**342**	P	**Pn**	**13 10 48.5**	**-0.2**
LIT				S	**Sn**	**13 11 50.6**	**-2.2**
LIT	**Litokhoron**	**5.54**	**342**	P	**Pn**	**13 10 48.5**	**-0.2**
LIT				S	**Sn**	**13 11 50.6**	**-2.2**
TKTP	**Tekketepe**	**5.55**	**53**	*i* P	**Pn**	**13 10 50.3**	**+1.4**
ISP	**Isparta**	**5.57**	**56**	*e*PN	**Pn**	**13 10 51.2**	**+2.1**
ISP	**Isparta**	**5.57**	**56**	*e*P	**Pn**	**13 10 50.6**	**+1.5**
ISP				pmax	pmax		
	comp=Z,47nm,0.6s						
ISP	**Isparta**	**5.57**	**56**	*e*P	**Pn**	**13 10 50.6**	**+1.5**
	comp=Z,47nm,0.6s						
ISP	**Isparta**	**5.57**	**56**	*e*P	**Pn**	**13 10 50.6**	**+1.5**
	comp=Z,47nm,0.6s						
PLG	**Polygyros**	**5.62**	**350**	*e*PN	**Pn**	**13 10 49.9**	**+0.1**
SWA1		**5.62**	**171**	⇑*e*P	**Pn**	**13 10 51.7**	**+1.8**
MEV	**Metsovon**	**5.66**	**332**	*e*P	**Pn**	**13 10 51.9**	**+1.5**
MEV	**Metsovon**	**5.66**	**332**	P	**Pn**	**13 10 51.7**	**+1.3**
MEV				S	**Sn**	**13 11 53.4**	**-2.4**
MEV	**Metsovon**	**5.66**	**332**	P	**Pn**	**13 10 51.7**	**+1.3**
MEV				S	**Sn**	**13 11 53.4**	**-2.4**
DST	**Dursunbey**	**5.70**	**32**	*e*PN	**Pn**	**13 10 50.7**	**-0.3**
JAN	**Janina**	**5.71**	**329**	*e*PN	**Pn**	**13 10 52.1**	**+1.0**
GDZ	**Gediz**	**5.72**	**41**	*i* P	**Pn**	**13 10 53.5**	**+2.3**
IGT	**Igoumenitsa**	**5.84**	**325**	*e*P	**Pn**	**13 10 52.7**	**-0.2**
IGT	**Igoumenitsa**	**5.84**	**325**	P	**Pn**	**13 10 53.2**	**+0.2**
IGT	**Igoumenitsa**	**5.84**	**325**	P	**Pn**	**13 10 53.2**	**+0.3**
THE	**Thessaloniki**	**5.95**	**347**	*e*P	**Pn**	**13 10 52.4**	**-2.1**
THE	**Thessaloniki**	**5.95**	**347**	P	**Pn**	**13 10 54.2**	**-0.3**
THE	**Thessaloniki**	**5.95**	**347**	P	**Pn**	**13 10 54.2**	**-0.3**
HBRG	**Burj al 'Arab**	**6.07**	**133**	⇑*e*P	**Pn**	**13 10 56.1**	**-0.1**
BNT	**Bandirma**	**6.08**	**24**	*e*PN	**Pn**	**13 10 55.2**	**-1.1**
ALN	**Alexandroupoli**	**6.14**	**10**	*e*P	**Pn**	**13 10 54.8**	**-2.4**
MRMT	**Marmara Adasi**	**6.20**	**21**	*e*PN	**Pn**	**13 10 56.9**	**-1.1**
KEK	**Kerkira**	**6.24**	**323**	*e*PN	**Pn**	**13 10 58.5**	**-0.1**
MFT	**Murefte**	**6.28**	**18**	*e*PN	**Pn**	**13 10 58.1**	**-1.1**
ULDT	**Uludag**	**6.36**	**32**	*i* P	**Pn**	**13 11 00.8**	**+0.4**
GRG	**Griva**	**6.37**	**344**	*e*P	**Pn**	**13 11 00.9**	**+0.4**
FNA	**Florina**	**6.49**	**337**	*e*P	**Pn**	**13 11 02.1**	**0.0**
FNA	**Florina**	**6.49**	**337**	P	**Pn**	**13 11 02.1**	**0.0**
FNA				S	**Sn**	**13 12 14.7**	**-1.9**
FNA	**Florina**	**6.49**	**337**	P	**Pn**	**13 11 02.1**	**-0.1**
FNA				S	**Sn**	**13 12 14.7**	**-1.9**
HDMB	**Hadim**	**6.67**	**69**	*e*PN	**Pn**	**13 11 05.1**	**+0.4**
VAY	**Valandovo**	**6.69**	**346**	⇓*i*Pn	**Pn**	**13 11 06.4**	**+1.5**
VAY				*i*		13 11 08.8	
LEF	**Lefka**	**6.73**	**85**	*e*PN	**Pn**	**13 11 05.9**	**+0.4**
ESKT	**Eskisehir**	**6.78**	**45**	*e*PN	**Pn**	**13 11 06.1**	**-0.1**
ESKT	**Eskisehir**	**6.78**	**45**	*i* P	**Pn**	**13 11 08.6**	**+2.4**
MMB	**Musomiste**	**6.79**	**354**	*i* P	**Pn**	**13 11 05.5**	**-0.8**
YLV	**Yalova**	**6.82**	**32**	*e*PN	**Pn**	**13 11 06.1**	**-0.6**
KDZ	**Kurdzhali**	**6.83**	**5**	*e*P	**Pn**	**13 11 05.0**	**-1.9**
MANS	**Anshas**	**6.92**	**122**	P	**Pn**	**13 11 11.7**	**+3.5**
MANS				S	**Sn**	**13 12 31.2**	**+3.9**
ERMK	**Ermenek**	**6.92**	**73**	*i* P	**Pn**	**13 11 09.7**	**+1.6**
KDHN	**Kadinhani**	**7.00**	**56**	*i* P	**Pn**	**13 11 09.9**	**+0.6**
KIZT	**Kizilcal**	**7.03**	**53**	*e*PN	**Pn**	**13 11 10.1**	**+0.4**
CSS	**Prodhromos**	**7.10**	**87**	*e*Pn	**Pn**	**13 11 10.8**	**+0.2**
	comp=Z,47nm,0.8s						
CSS	**Prodhromos**	**7.10**	**87**	*e*Pn	**Pn**	**13 11 10.8**	**+0.2**
	comp=Z,47nm,0.8s						
KKB	**Krupnik**	**7.13**	**350**	*i* P	**Pn**	**13 11 10.5**	**-0.7**
EDRB	**Edirne**	**7.18**	**12**	*e*PN	**Pn**	**13 11 09.1**	**-2.8**
DIM	**Dimitrovgrad**	**7.23**	**5**	*e*P	**Pn**	**13 11 09.5**	**-3.1**
AANS		**7.25**	**127**	⇓*e*P	**Pn**	**13 11 11.7**	**-1.1**
AANS				S	**Sn**	**13 12 31.2**	**-4.4**
PLD	**Plovdiv**	**7.26**	**0**	*e*P	**Pn**	**13 11 14.3**	**+1.4**
FYM	**Al Fayyum**	**7.43**	**132**	⇑*e*P	**Pn**	**13 11 14.7**	**-0.6**
FYM				S	**Sn**	**13 12 36.1**	**-3.9**
IKL	**Isikli**	**7.46**	**77**	*e*PN	**Pn**	**13 11 16.0**	**+0.2**
TIR	**Tirane**	**7.53**	**331**	*i* Pn	**Pn**	**13 11 33.0**	**+16**
TIR				*i* Sn	**Sn**	**13 12 36.2**	**-6.5**
SKO	**Skopje**	**7.57**	**341**	*i* Pn	**Pn**	**13 11 18.0**	**+0.7**
LCI	**Lecce**	**7.58**	**318**	P	**Pn**	**13 11 16.3**	**-0.6**
GSH	**Qafa e Shtames**	**7.67**	**332**	*i* Pn	**Pn**	**13 11 16.2**	**-0.4**
TIP	**Timpagrande**	**7.69**	**307**	*e*PN	**Pn**	**13 11 16.6**	**-2.3**
TIP	**Timpagrande**	**7.69**	**307**	*e*Pn	**Pn**	**13 11 16.6**	**-2.3**
PGB	**Panagyurishte**	**7.71**	**357**	*i* P	**Pn**	**13 11 19.5**	**+0.2**
GRI	**Girifalco**	**7.74**	**303**	P	**Pn**	**13 11 20.4**	**+0.8**
JMB	**Yambol**	**7.76**	**10**	*e*P	**Pn**	**13 11 21.5**	**+1.6**
KOT	**Kottamia**	**7.77**	**127**	⇑*e*P	**Pn**	**13 11 19.1**	**-0.9**
KOT				S	**Sn**	**13 12 43.5**	**-4.9**
KOT	**Kottamia**	**7.77**	**127**	P	**Pn**	**13 11 19.1**	**-0.9**
KOT				S	**Sn**	**13 12 43.5**	**-5.0**
HSAF	**As Saff**	**7.80**	**130**	⇓*e*P	**Pn**	**13 11 19.8**	**-0.6**
VTS	**Vitosha**	**7.83**	**352**	*e*P	**Pn**	**13 11 21.0**	**+0.1**
VTS	**Vitosha**	**7.83**	**352**	P	**Pn**	**13 11 20.7**	**-0.2**
VTS				Pn	**Pn**	**13 11 21.4**	**+0.5**
VTS	**Vitosha**	**7.83**	**352**	Pn	**Pn**	**13 11 21.4**	**+0.5**
CEL	**Celeste**	**7.86**	**298**	P	**Pn**	**13 11 21.3**	**-0.1**
MEST	**Erdemli**	**7.88**	**74**	*i* P	**Pn**	**13 11 22.3**	**+0.6**
MTTG	**Motta San Giov**	**7.91**	**296**	P	**Pn**	**13 11 22.6**	**+0.5**
GLL	**Jalalah**	**7.92**	**130**	⇓*e*P	**Pn**	**13 11 21.7**	**-0.5**
ANTO	**Ankara**	**8.17**	**50**	*e*PN	**P**	**13 11 25.0**	**-0.7**
SGKT	**Sivrigoynuk**	**8.17**	**43**	*i* P	**P**	**13 11 27.7**	**+2.0**
PZI	**Palazzolo**	**8.21**	**288**	P	**P**	**13 11 25.7**	**-0.5**
HFRF	**Wahat Farafira**	**8.27**	**157**	P	**P**	**13 11 26.6**	**-0.4**
PE1	**Pezze di Greco**	**8.28**	**318**	*e*Pn	**P**	**13 11 25.3**	**-1.9**
AMAG	**Maghara**	**8.30**	**118**	⇓*e*P	**P**	**13 11 25.1**	**-2.3**
ULC	**Ulcinj**	**8.30**	**331**	*e*Pn	**P**	**13 11 25.9**	**-1.6**
ULC				*e*Sn	**Sn**	**13 12 53.7**	**-8.1**
ULC	**Ulcinj**	**8.30**	**331**	*e*Pn	**P**	**13 11 25.9**	**-1.6**
ULC				*e*Sn	**Sn**	**13 12 53.7**	**-8.1**
ORI	**Oriolo Calabro**	**8.38**	**311**	P	**P**	**13 11 29.7**	**+1.1**
PVL	**Pavlikeni**	**8.38**	**3**	*e*P	**P**	**13 11 28.0**	**-0.6**
SZH	**Strazhica**	**8.47**	**6**	*e*P	**P**	**13 11 30.0**	**+0.1**
LTRZ	**Laterza**	**8.49**	**315**	P	**P**	**13 11 28.7**	**-1.4**
HRSH	**Kfar Ka'horesh**	**8.52**	**114**	⇓*e*P	**P**	**13 11 28.1**	**-2.4**
RSH		**8.52**	**114**	P	**P**	**13 11 28.1**	**-2.4**
PVY	**Plav**	**8.58**	**336**	*e*Pn	**P**	**13 11 30.4**	**-1.0**
PVY				*e*Sn	**Sn**	**13 12 59.9**	**-8.8**
PVY	**Plav**	**8.58**	**336**	*e*Pn	**P**	**13 11 30.4**	**-0.9**
PVY				*e*Sn	**Sn**	**13 12 59.9**	**-8.8**
ZAPS	**Zavoj/Pirot**	**8.60**	**350**	⇑*i*Pn	**P**	**13 11 30.9**	**-0.8**
PRD	**Provadia**	**8.61**	**13**	*e*P	**P**	**13 11 30.5**	**-1.3**
BR131	**Keskin Array S**	**8.64**	**53**	*e*Pn	**P**	**13 11 32.3**	**+0.1**
BR131	**Keskin Array S**	**8.64**	**53**	*e*Pn	**P**	**13 11 32.3**	**+0.2**
BRTR	**Keskin Array B**	**8.64**	**53**	Pn	**P**	**13 11 32.6**	**+0.4**
	comp=Z,1.7nm,0.3s,baz=236,slow=13,SNR=36						
TTG	**Podgorica**	**8.69**	**332**	*e*Pn	**P**	**13 11 31.6**	**-1.3**
TTG				*e*Sn	**Sn**	**13 13 03.1**	**-8.4**
TTG	**Podgorica**	**8.69**	**332**	*e*Pn	**P**	**13 11 31.6**	**-1.3**
TTG				*e*Sn	**Sn**	**13 13 03.1**	**-8.4**
SG1	**Sgolgore (BA)**	**8.72**	**316**	*e*Pn	**P**	**13 11 31.5**	**-1.8**
BUM	**Brajici-Budva**	**8.72**	**330**	*e*Pn	**P**	**13 11 30.6**	**-1.7**
BUM				*e*Sn	**Sn**	**13 13 04.3**	**-8.1**
BUM	**Brajici-Budva**	**8.72**	**330**	*e*Pn	**P**	**13 11 31.6**	**-1.8**
BUM				*e*Sn	**Sn**	**13 13 04.3**	**-8.0**
VAE	**Valguarnera**	**8.72**	**291**	Pn	**P**	**13 11 33.0**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=236,slow=12,SNR=4.6						
VAE				Sn	**Sn**	**13 13 12.4**	**+0.1**
	comp=Z,4.7nm,0.3s,baz=351,slow=12,SNR=11						
CUC	**Castrocucco**	**8.74**	**309**	P	**P**	**13 11 32.8**	**-0.8**
BAI	**Bari**	**8.79**	**318**	*e*Pn	**P**	**13 11 33.0**	**-1.2**
HAF	**Haifa**	**8.84**	**101**	Pn	**P**	**13 11 31.9**	**-3.0**
IVA	**Berane**	**8.85**	**336**	*e*Pn	**P**	**13 11 33.6**	**-1.5**
IVA				*e*Sn	**Sn**	**13 13 06.6**	**-8.9**
IVA	**Berane**	**8.85**	**336**	*e*Pn	**P**	**13 11 33.7**	**-1.4**
IVA				*e*Sn	**Sn**	**13 13 06.6**	**-8.9**
HNTI	**Hanita**	**8.88**	**98**	Pn	**P**	**13 11 33.3**	**-2.2**
HNTI				Sn	**Sn**	**13 13 07.3**	**-8.9**
ELDT	**Eldivan**	**8.93**	**48**	*i* P	**P**	**13 11 37.4**	**+1.2**
MGR	**Morigerati**	**8.99**	**309**	P	**P**	**13 11 35.5**	**-1.5**
HCY	**Herceg Novi**	**9.01**	**329**	*e*Pn	**P**	**13 11 37.1**	**-0.2**
HCY				*e*Sn	**Sn**	**13 13 10.6**	**-8.9**
HCY	**Herceg Novi**	**9.01**	**329**	*e*Pn	**P**	**13 11 37.1**	**-0.2**
HCY				*e*Sn	**Sn**	**13 13 10.6**	**-8.9**
SLTI	**Sal'it**	**9.01**	**104**	Pn	**P**	**13 11 35.0**	**-2.4**
SLTI				Sn	**Sn**	**13 13 08.7**	**-11**
KZIT	**Kziot**	**9.05**	**113**	Pn	**P**	**13 11 36.7**	**-1.2**
KZIT				Sn	**Sn**	**13 13 12.6**	**-7.8**
SLCN	**Sala Consilina**	**9.08**	**310**	P	**P**	**13 11 37.4**	**-0.8**
NKY	**Niksic**	**9.12**	**333**	*e*Pn	**P**	**13 11 37.7**	**-1.2**
NKY				*e*Sn	**Sn**	**13 13 13.8**	**-8.4**
NKY	**Niksic**	**9.12**	**333**	*e*Pn	**P**	**13 11 37.7**	**-1.1**
NKY				*e*Sn	**Sn**	**13 13 13.8**	**-8.3**
RTMM	**Retamin**	**9.20**	**111**	Pn	**P**	**13 11 39.0**	**-1.0**
KSDI	**Kefar Szold**	**9.25**	**97**	Pn	**P**	**13 11 37.9**	**-2.7**
MMLI	**Mount Malkishu**	**9.26**	**102**	Pn	**P**	**13 11 38.4**	**-2.3**
MASH	**Mash'abbe Sade**	**9.30**	**111**	Pn	**P**	**13 11 40.4**	**-1.0**
BRY	**Bratogost**	**9.37**	**331**	*e*Pn	**P**	**13 11 41.4**	**-0.9**
BRY				*e*Sn	**Sn**	**13 13 19.2**	**-9.1**
BRY	**Bratogost**	**9.37**	**331**	*e*Pn	**P**	**13 11 41.4**	**-0.9**
BRY				*e*Sn	**Sn**	**13 13 19.2**	**-9.1**
SGO	**Sicignano**	**9.38**	**310**	P	**P**	**13 11 41.4**	**-1.0**
MRLC	**Muro Lucano**	**9.38**	**312**	P	**P**	**13 11 41.3**	**-1.1**
HTY	**Hatay**	**9.42**	**79**	*e*PN	**P**	**13 11 42.2**	**-0.8**
KSHT	**Keshet**	**9.42**	**98**	Pn	**P**	**13 11 40.8**	**-2.2**
PLE	**Pljevlja**	**9.43**	**336**	⇑*i*Pn	**P**	**13 11 41.2**	**-1.9**
PLE				*e*Sn	**Sn**	**13 13 19.8**	**-10**
PLE	**Pljevlja**	**9.43**	**336**	⇑*i*Pn	**P**	**13 11 41.2**	**-1.9**
PLE				*e*Sn	**Sn**	**13 13 19.8**	**-10**
UPM	**Unac-Piva**	**9.49**	**333**	*e*Pn	**P**	**13 11 42.8**	**-1.1**
UPM				*e*Sn	**Sn**	**13 13 22.6**	**-8.7**
UPM	**Unac-Piva**	**9.49**	**333**	*e*Pn	**P**	**13 11 42.8**	**-1.1**
UPM				*e*Sn	**Sn**	**13 13 22.6**	**-8.6**
CORM	**Corum**	**9.52**	**53**	*e*P	**P**	**13 11 43.6**	**-0.8**
BALT	**Daday**	**9.56**	**43**	*i* P	**P**	**13 11 46.0**	**+1.1**
MZDA	**Masada**	**9.62**	**108**	Pn	**P**	**13 11 43.1**	**-2.6**
MZDA				Sn	**Sn**	**13 13 25.5**	**-8.9**
KMTI	**Karmit**	**9.70**	**116**	Pn	**P**	**13 11 45.5**	**-1.3**
KMTI				Sn	**Sn**	**13 13 28.2**	**-8.2**
CSSN	**Cassano Irpino**	**9.73**	**311**	P	**P**	**13 11 45.8**	**-1.4**
MKRJ	**Makawir**	**9.74**	**107**	Pn	**P**	**13 11 45.6**	**-1.8**
PRNI	**Paran**	**9.78**	**114**	Pn	**P**	**13 11 46.7**	**-1.2**
PRNI				Sn	**Sn**	**13 13 29.7**	**-8.7**
ZFRI	**Zfri**	**9.81**	**113**	Pn	**P**	**13 11 46.7**	**-1.6**
FG5	**Orsara di Pugl**	**9.83**	**314**	P	**P**	**13 11 49.6**	**+1.0**
MBH	**Mount Berech**	**10.00**	**117**	Pn	**P**	**13 11 50.0**	**-1.0**
TIRR	**Tirgusor**	**10.03**	**15**	P	**P**	**13 11 49.9**	**-1.4**
PSB1	**Pescosannita**	**10.07**	**312**	P	**P**	**13 11 52.4**	**+0.5**
EIL	**Elat**	**10.09**	**118**	Pn	**P**	**13 11 51.1**	**-1.2**
EIL	**Elat**	**10.09**	**118**	*e*Pn	**P**	**13 11 50.1**	**-2.2**
HKAT	**Jabal Katrina**	**10.11**	**126**	⇑*e*P	**P**	**13 11 51.0**	**-1.6**
AQBJ	**Aqaba**	**10.13**	**117**	Pn	**P**	**13 11 52.0**	**-0.8**
ALWS	**Ilw as Safayha**	**10.38**	**119**	P	**P**	**13 11 54.9**	**-1.3**
ALWS				S	**S**	**13 13 47.1**	**-6.0**
BOYT	**Boyabat**	**10.38**	**48**	*i* P	**P**	**13 11 58.2**	**+2.1**
HAQS	**Haql**	**10.43**	**121**	P	**P**	**13 11 55.5**	**-1.3**
JMOS	**Jabal al Moall**	**10.49**	**120**	P	**P**	**13 11 56.6**	**-1.1**
ASF	**Jabal al Asfar**	**10.53**	**101**	Pn	**P**	**13 11 56.5**	**-1.7**
	comp=Z,1.1nm,0.3s,baz=146,slow=6.2,SNR=8.1						
ASF				Sn	**S**	**13 13 49.3**	**-7.4**
	comp=Z,0.6nm,0.3s,baz=133,slow=8.2,SNR=3.3						
CII	**Carovilli**	**10.67**

comp=Z,30nm,0.9s
GNI Garni 16.76 66 *e*P **P** **13 13 22.7 +2.3**
comp=Z,30nm,0.9s
LLS Linth-Limmern 16.84 320 ⇓P **P** **13 13 23.6 +2.2**
TAVF Tavernes 16.87 307 *e*P **P** **13 13 24.6 +2.8**
PRU Pruhonice 16.87 337 *e*P **P** **13 13 22.7 +0.9**
PRU AMS AMS 13 21 30.0
comp=Z,300nm,11.0s
UPC Upice 16.89 341 *e*P **P** **13 13 21.0 -1.0**
ZEI Tsey 16.91 56 *e*P **P** **13 13 19.7 -2.6**
MBDF Montbardon 16.92 311 *e*P **P** **13 13 22.7 +0.3**
comp=Z,24nm,0.7s
MBDF Montbardon 16.92 311 *e*P **P** **13 13 22.7 +0.3**
MBDF pmax pmax
comp=Z,12nm,0.7s
BERF Bertagne 16.99 306 *e*P **P** **13 13 26.3 +3.0**
PUYF Puyloubier 17.07 306 *e*P **P** **13 13 27.1 +2.8**
MUO Muotathal 17.11 320 ⇓P **P** **13 13 26.9 +2.1**
KSP Ksiaz 17.12 342 *e*P **P** **13 13 27.2 +2.3**
KSP Ksiaz 17.12 342 *e*P **P** **13 13 27.1 +2.2**
BNI Bardonecchia 17.14 312 P **P** **13 13 25.6 +0.4**
BNI pmax pmax
comp=Z,19nm,1.2s
BNI Bardonecchia 17.14 312 P **P** **13 13 25.6 +0.4**
comp=Z,19nm,1.2s
BNI *e* 13 13 31.5
BNI Bardonecchia 17.14 312 P **P** **13 13 25.6 +0.4**
TI2 Plekhanov 17.16 60 ⇑*i*P **P** **13 13 29.0 +3.5**
TI2 pmax pmax
comp=E,40nm,1.0s
LKBD Leukerbad 17.31 317 ⇑P **P** **13 13 27.8 +0.5**
LPG La Plagne 17.32 313 *e*P **P** **13 13 27.5 0.0**
comp=E,21nm,0.7s
LPG La Plagne 17.32 313 *e*P **P** **13 13 27.5 0.0**
LPG pmax pmax
comp=Z,10.0nm,0.7s
PVCC Panska Ves 17.33 338 *e*P **P** **13 13 27.4 -0.2**
PVCC AMS AMS 13 21 40.0
comp=Z,200nm,16.3s
SMRF Simiane la Rot 17.34 307 *e*P **P** **13 13 27.6 -0.1**
comp=Z,50nm,1.0s
GOF Gofitskoye 17.34 48 *e*P **P** **13 13 30.0 +2.3**
GOF *e*S **S** **13 16 43.0 +4.4**
LPL La Plagne 17.35 313 *e*P **P** **13 13 27.3 -0.5**
comp=Z,20nm,0.8s
LPL *e*pP 13 13 44.0
LPL La Plagne 17.35 313 *e*P **P** **13 13 27.3 -0.5**
LPL pmax pmax
comp=Z,10.0nm,0.8s
HDH Heidenheim 17.44 326 P **P** **13 13 30.8 +1.9**
ORIF Oris-en-Rattie 17.57 311 *e*P **P** **13 13 29.7 -0.8**
comp=Z,14nm,0.8s
ORIF *e*R
comp=Z,441nm,22.8s
NOTT Nottersdorf 17.58 332 *e*P **P** **13 13 30.8 +0.2**
comp=Z,52nm,2.1s
GUT Gutenstein 17.60 323 P **P** **13 13 32.7 +1.8**
SULZ Sulz-Cheisache 17.74 321 ⇑P **P** **13 13 34.6 +1.9**
NKC Novy Kostel 17.80 334 *e*P **P** **13 13 33.8 +0.4**
NKC AMS AMS 13 21 20.0
comp=Z,400nm,16.2s
BRG Berggiesshubel 17.83 337 *i* P **P** **13 13 34.5 +0.8**
BRG pmax pmax
comp=Z,12nm,0.9s
BRG Berggiesshubel 17.83 337 *i* P **P** **13 13 34.5 +0.7**
comp=Z,12nm,0.9s
BRG Berggiesshubel 17.83 337 *i* P **P** **13 13 34.5 +0.8**
comp=Z,12nm,0.9s
GRA1 Grafenberg Arr 17.84 330 *e*P **P** **13 13 33.3 -0.6**
comp=Z,81nm,1.1s
GRF Grafenberg Arr 17.84 330 *e*P **P** **13 13 33.3 -0.6**
GRF pmax pmax
comp=Z,81nm,1.1s
GRF Grafenberg Arr 17.84 330 *e*P **P** **13 13 33.3 -0.6**
GRF pmax pmax
comp=Z,81nm,1.1s
GRF Grafenberg Arr 17.84 330 *e*P **P** **13 13 33.3 -0.6**
comp=Z,81nm,1.1s
BBS Basel-Blauen 18.02 320 *e*P **P** **13 13 37.7 +1.5**
FELD Feldberg 18.02 321 *e*P **P** **13 13 37.4 +1.2**
WERD Werda 18.03 334 *e*P **P** **13 13 36.6 +0.3**
comp=Z,60nm,1.9s
KIZ Kirchzarten 18.12 321 P **P** **13 13 38.6 +1.2**
SIND Sindeldorf 18.27 327 P **P** **13 13 41.0 +1.7**
VIVF Saint-Julien-l 18.30 309 *e*P **P** **13 13 39.0 -0.7**
comp=Z,11nm,0.7s
VIVF Saint-Julien-l 18.30 309 *e*P **P** **13 13 39.0 -0.7**
VIVF pmax pmax
comp=Z,6.0nm,0.7s
CABF La Chapelle 18.31 316 *e*P **P** **13 13 37.1 -2.7**
comp=Z,28nm,0.7s
CABF La Chapelle 18.31 316 *e*P **P** **13 13 37.1 -2.7**
CABF pmax pmax
comp=Z,14nm,0.7s
LOMF Lomont 18.32 318 P **P** **13 13 40.5 +0.6**
MOX Moxa 18.45 333 *e*P **P** **13 13 42.1 +0.7**
MOX *e*SS SS 13 17 13.0 -15
MOX *e* 13 20 04.0
MOX *e*PcS 13 21 52.0
MOX Moxa 18.45 333 *i* P **P** **13 13 42.1 +0.7**
MOX SS SS 13 17 13.0 -15
MOX *e* 13 20 04.0
MOX PcS 13 21 52.0
MOX Moxa 18.45 333 *e*P **P** **13 13 41.0 -0.4**
comp=Z,16nm,1.4s
MOF Molkenrain 18.46 320 P **P** **13 13 42.5 +0.8**
CLL Collm 18.51 336 ⇓*i*P **P** **13 13 43.0 +0.8**
CLL pmax pmax
comp=Z,40nm,1.6s
CLL Collm 18.51 336 ⇓*i*P **P** **13 13 43.0 +0.8**
comp=Z,40nm,1.6s
CLL *i* pP 13 13 45.2
CLL *e*S **S** **13 17 14.0 +8.9**
CLL Collm 18.51 336 ⇓P **P** **13 13 43.0 +0.8**
comp=Z,logA/T=1.4
CLL *i* *PP 13 13 45.2
CLL *e*PP PP 13 13 52.0 -5.9
CLL *e*PPP 13 13 58.0
CLL *e*S **S** **13 17 14.0 +8.9**
CLL Collm 18.51 336 *e*P **P** **13 13 42.1 -0.1**
comp=Z,15nm,0.8s
CLL *i* pP 13 13 45.2
LASF Ste Croix 18.51 306 *e*P **P** **13 13 41.8 -0.5**
comp=Z,28nm,1.0s
HINF Hinteralfeld 18.59 320 *e*P **P** **13 13 42.3 -0.9**
comp=Z,24nm,0.9s
HINF Hinteralfeld 18.59 320 *e*P **P** **13 13 42.3 -0.9**
HINF pmax pmax
comp=Z,12nm,0.9s
EJON La Jonquera 18.62 301 P **P** **13 13 43.0 -0.6**
comp=Z,20nm,0.9s
EJON La Jonquera 18.62 301 P **P** **13 13 43.0 -0.6**
comp=Z,20nm,0.9s,SNR=6.9
ECH Echery 18.68 321 *e*P **P** **13 13 45.0 +0.7**
WLS Welschbruch 18.70 322 *e*P **P** **13 13 45.0 +0.4**
CDF Champ du Feu 18.74 322 *e*P **P** **13 13 44.3 -0.8**
comp=Z,12nm,0.7s
CDF Champ du Feu 18.74 322 *e*P **P** **13 13 44.3 -0.8**
CDF pmax pmax
comp=Z,6.0nm,0.7s
TOD Tromm 18.82 326 *e*P **P** **13 13 46.8 +0.9**
FILF Fillols 18.89 301 *e*P **P** **13 13 47.9 +1.1**
HAU Haudompre 18.98 319 *e*P **P** **13 13 47.0 -0.8**
HAU *e*R
comp=Z,229nm,21.8s
LRDF Laroque-de-Fa 19.02 302 *e*P **P** **13 13 48.2 -0.1**
SUW Suwalki 19.20 357 *e*P **P** **13 13 46.9 -3.6**
VALF Valcebollere 19.23 300 *e*P **P** **13 13 51.1 +0.2**
RUE Ruedersdorf 19.29 339 *e*P **P** **13 13 52.1 +0.6**
comp=Z,18nm,0.7s
THEF They Montfort 19.30 320 P **P** **13 13 51.9 +0.2**
MTLF Montolieu 19.36 303 *e*P **P** **13 13 51.8 -0.6**
comp=Z,39nm,0.9s
MTLF Montolieu 19.36 303 *e*P **P** **13 13 51.8 -0.6**
MTLF pmax pmax
comp=Z,19nm,0.9s
LBL Lubilhac 19.38 309 *e*P **P** **13 13 54.1 +1.5**
TNS Taunus Mts 19.42 327 *e*P **P** **13 13 53.7 +0.6**
TNS pmax pmax
comp=Z,20nm,0.6s
TNS Taunus Mts 19.42 327 *e*P **P** **13 13 53.7 +0.6**
comp=Z,20nm,0.6s
EMIR Miracle 19.46 298 P **P** **13 13 53.3 -0.2**
comp=Z,48nm,0.9s
EMIR Miracle 19.46 298 P **P** **13 13 53.3 -0.2**
comp=Z,48nm,0.9s,SNR=12
PLDF La Plantade 19.46 311 *e*P **P** **13 13 53.5 -0.1**
ABH Alteburg 19.59 325 *e*P **P** **13 13 55.7 +0.7**
SMF Signal de Mont 19.65 313 *e*P **P** **13 13 54.2 -1.5**
EPOB Poblet 19.66 296 P **P** **13 13 55.2 -0.6**
comp=Z,28nm,0.8s
EPOB Poblet 19.66 296 P **P** **13 13 55.2 -0.6**
comp=Z,28nm,0.8s,SNR=7.9
PYM Petit Puy Mans 19.75 310 *e*P **P** **13 13 58.3 +1.5**
CLZ Clausthal 19.87 333 *e*P **P** **13 13 56.7 -1.4**
CLZ pmax pmax
comp=Z,15nm,1.1s
CLZ Clausthal 19.87 333 *e*P **P** **13 13 56.7 -1.4**
comp=Z,15nm,1.1s
SALF Salau 19.91 300 *e*P **P** **13 14 00.1 +1.5**
LOR Lormes 19.96 315 *e*P **P** **13 13 57.6 -1.4**
comp=Z,16nm,0.6s
LOR *e*pP 13 14 12.8
LOR *e*R
comp=Z,155nm,19.2s
LOR Lormes 19.96 315 *e*P **P** **13 13 57.6 -1.4**
LOR pmax pmax
comp=Z,8.0nm,0.6s
MEZF Maizieres J'vi 19.97 319 *e*P **P** **13 13 58.2 -0.9**
comp=Z,67nm,0.8s
AVF Avril sur Loir 20.02 313 *e*P **P** **13 13 58.2 -1.5**
comp=Z,18nm,0.8s
AVF Avril sur Loir 20.02 313 *e*P **P** **13 13 58.2 -1.5**
AVF pmax pmax
comp=Z,9.0nm,0.8s
CAF Calviac 20.02 307 *e*P **P** **13 13 59.2 -0.5**
comp=Z,36nm,1.0s
CAF Calviac 20.02 307 *e*P **P** **13 13 59.2 -0.5**
CAF pmax pmax
comp=Z,18nm,1.0s
MLS Moulis 20.04 301 *e*P **P** **13 13 59.2 -0.7**
SSF Saint Saulge 20.06 314 *e*P **P** **13 13 58.7 -1.4**
SSF pmax pmax
comp=Z,13nm,0.7s
SSF Saint Saulge 20.06 314 *e*P **P** **13 13 58.7 -1.4**
comp=Z,13nm,0.7s
WLF Walferdange 20.12 323 *e*P **P** **13 14 00.6 -0.1**
WLF pmax pmax
comp=Z,28nm,0.9s
WLF Walferdange 20.12 323 *e*P **P** **13 14 00.6 -0.1**
comp=Z,28nm,0.9s
WLF Walferdange 20.12 323 *e*P **P** **13 14 00.6 -0.1**
comp=Z,28nm,0.9s
BGF Bois d'Agland 20.21 312 *e*P **P** **13 14 00.6 -1.1**
comp=Z,22nm,0.7s
BGF Bois d'Agland 20.21 312 *e*P **P** **13 14 00.6 -1.1**
BGF pmax pmax
comp=Z,11nm,0.7s
MELF Melles 20.25 300 *e*P **P** **13 14 02.5 +0.4**
RDF Al-Radifah 20.26 101 *e*P **P** **13 14 03.6 +1.3**
RDF AMb AMB 13 14 12.0
comp=Z,68nm,1.3s
KBD Kabd 20.29 100 *e*P **P** **13 14 03.9 +1.3**
KBD AMb AMB 13 14 13.0
comp=Z,95nm,0.9s
EBEN Beniarda 20.31 288 P **P** **13 14 02.0 -0.8**
comp=Z,35nm,0.8s
EBEN Beniarda 20.31 288 P **P** **13 14 02.0 -0.8**
comp=Z,35nm,0.8s,SNR=9.1
EGRA Graus 20.40 298 P **P** **13 14 03.6 -0.1**
comp=Z,17nm,0.7s,SNR=13
TCF Toulx Ste Croi 20.48 311 *e*P **P** **13 14 03.1 -1.5**
NRDL Niedersach Rie 20.50 334 *e*P **P** **13 14 02.6 -2.0**
comp=Z,18nm,1.4s
RJF Les Rejaudoux 20.52 308 *e*P **P** **13 14 04.5 -0.5**
comp=Z,27nm,0.7s
RJF *e*R
comp=Z,190nm,17.8s
RJF Les Rejaudoux 20.52 308 *e*P **P** **13 14 04.5 -0.5**
RJF pmax pmax
comp=Z,13nm,0.7s
RJF MLR MLR
comp=Z,190nm,17.8s,MS3.5
RESF Ens 20.53 300 *e*P **P** **13 14 05.8 +0.7**
EPF Esparros 20.59 301 *e*P **P** **13 14 04.5 -1.1**
comp=Z,20nm,0.8s
EPF Esparros 20.59 301 *e*P **P** **13 14 04.5 -1.1**
EPF pmax pmax
comp=Z,10.0nm,0.8s
QRN Al-Qurain 20.63 101 *e*P **P** **13 14 06.5 +0.3**
QRN AMb AMB 13 14 16.2
comp=Z,52nm,0.7s
EMOS Mosqueruela 20.66 293 P **P** **13 14 05.3 -1.1**
comp=Z,37nm,1.5s
EMOS Mosqueruela 20.66 293 P **P** **13 14 05.3 -1.1**
comp=Z,37nm,1.5s,SNR=5.9
VIEF Viey 20.77 300 *e*P **P** **13 14 08.0 +0.4**
LABF Labassere 20.78 301 *e*P **P** **13 14 08.2 +0.6**
BUG Bochum--Univer 20.82 328 P **P** **13 14 09.4 +1.4**
ESAC San Caprasio 20.88 297 P **P** **13 14 08.2 -0.4**
comp=Z,37nm,0.7s,SNR=8.0
LFF La Frestale 20.90 306 *e*P **P** **13 14 08.6 -0.2**
comp=Z,61nm,1.0s
LFF La Frestale 20.90 306 *e*P **P** **13 14 08.6 -0.2**
LFF pmax pmax
comp=Z,30nm,1.0s
ECHE Chera 20.95 291 P **P** **13 14 10.4 +1.0**
ECHE pmax pmax
comp=Z,12nm,0.8s
ECHE Chera 20.95 291 P **P** **13 14 10.4 +1.0**
comp=Z,12nm,0.8s
ECHE Chera 20.95 291 P **P** **13 14 10.4 +1.0**
comp=Z,12nm,0.8s,SNR=13
GIVF Givet 21.06 322 *e*P **P** **13 14 09.2 -1.2**
comp=Z,40nm,0.7s,mb4.5
GIVF Givet 21.06 322 *e*P **P** **13 14 09.2 -1.2**
GIVF pmax pmax
comp=Z,20nm,0.7s,mb4.6
EMUR La Murta 21.09 286 P **P** **13 14 09.8 -1.0**
comp=Z,17nm,1.5s,mb4.2
EMUR La Murta 21.09 286 P **P** **13 14 09.8 -1.0**
comp=Z,17nm,1.5s,mb4.2,SNR=7.9
ETSF Etsaut 21.19 300 *e*P **P** **13 14 12.4 +0.6**
comp=Z,37nm,0.7s,mb4.5
ETSF *e*pP 13 14 26.2
ETSF Etsaut 21.19 300 *e*P **P** **13 14 12.4 +0.6**
ETSF *e**PP 13 14 26.2
ETSF pmax pmax
comp=Z,19nm,0.7s,mb4.5
BAIF Baives 21.34 322 *e*P **P** **13 14 11.7 -1.6**
comp=Z,46nm,0.6s,mb4.7
BAIF Baives 21.34 322 *e*P **P** **13 14 11.7 -1.6**
BAIF pmax pmax
comp=Z,23nm,0.6s,mb4.7
ETOB Tobarra 21.35 288 P **P** **13 14 13.1 -0.3**
comp=Z,22nm,1.0s,mb4.4
ETOB Tobarra 21.35 288 P **P** **13 14 13.1 -0.3**
comp=Z,22nm,1.0s,mb4.4,SNR=4.6
BSEG Bad Segeberg 21.61 336 *e*P **P** **13 14 11.8 -4.1**
SJPF Ste Jean 21.72 300 *e*P **P** **13 14 17.9 +0.8**
comp=Z,22nm,0.7s,mb4.4
SJPF Ste Jean 21.72 300 *e*P **P** **13 14 17.9 +0.8**
SJPF pmax pmax
comp=Z,11nm,0.7s,mb4.4
ENIJ Nijar 21.87 283 P **P** **13 14 20.1 +1.4**
ENIJ pmax pmax
comp=Z,1.0nm,0.6s,mb3.4
ENIJ Nijar 21.87 283 P **P** **13 14 20.1 +1.4**
comp=Z,1.2nm,0.6s,mb3.5
OBN Obninsk 21.89 18 *d*/*i*P **P** **13 14 18.7 0.0**
OBN *e* 13 14 39.2
OBN *i* S **S** **13 18 17.1 +2.2**
OBN pmax pmax
comp=Z,18nm,0.7s,mb4.6
OBN MLR MLR
comp=Z,200nm,16.0s,MS3.6
OBN Obninsk 21.89 18 *e*P **P** **13 14 19.1 +0.3**
comp=Z,20nm,0.6s,mb4.7
OBN Obninsk 21.89 18 *e*P **P** **13 14 19.1 +0.4**
comp=Z,20nm,0.6s,mb4.7
EARA Aranguren 21.90 299 P **P** **13 14 19.9 +1.0**
comp=Z,39nm,1.0s,mb4.8,SNR=7.9
EALK Alkurruntz 21.95 300 P **P** **13 14 20.5 +1.1**
comp=Z,28nm,1.0s,mb4.7
EALK Alkurruntz 21.95 300 P **P** **13 14 20.5 +1.1**
comp=Z,28nm,1.0s,mb4.7,SNR=5.8
EVIA Vianos 22.09 288 P **P** **13 14 21.4 +0.5**
EVIA pmax pmax
comp=Z,16nm,0.5s,mb4.7
EVIA Vianos 22.09 288 P **P** **13 14 21.4 +0.5**
comp=Z,16nm,0.5s,mb4.7
EVIA Vianos 22.09 288 P **P** **13 14 21.4 +0.5**
comp=Z,16nm,0.5s,mb4.7,SNR=7.9
MFF Saint Martin d 22.10 310 *e*P **P** **13 14 20.7 -0.2**
comp=Z,93nm,1.2s,mb4.8
MFF Saint Martin d 22.10 310 *e*P **P** **13 14 20.7 -0.2**
MFF pmax pmax
comp=Z,46nm,1.2s,mb4.8
EHUE Huescar 22.16 286 P **P** **13 14 23.7 +2.1**
EHUE pmax pmax
comp=Z,19nm,1.1s,mb4.4
EHUE Huescar 22.16 286 P **P** **13 14 23.7 +2.1**
comp=Z,19nm,1.1s,mb4.5,SNR=14
EBER Berja 22.42 283 P **P** **13 14 25.7 +1.5**
comp=Z,42nm,0.8s,mb4.9
EBER Berja 22.42 283 P **P** **13 14 25.7 +1.5**
comp=Z,42nm,0.8s,mb4.9,SNR=8.8
ECRI Cripan 22.53 298 P **P** **13 14 26.1 +0.9**
ECRI pmax pmax
comp=Z,17nm,0.8s,mb4.5
ECRI Cripan 22.53 298 P **P** **13 14 26.1 +0.9**
comp=Z,17nm,0.8s,mb4.5
ECRI Cripan 22.53 298 P **P** **13 14 26.1 +0.9**
comp=Z,17nm,0.8s,mb4.5,SNR=7.9
EQES Quesada 22.54 286 P **P** **13 14 26.0 +0.7**
comp=Z,24nm,1.1s,mb4.5
EQES Quesada 22.54 286 P **P** **13 14 26.0 +0.7**
comp=Z,24nm,1.1s,mb4.6,SNR=11
MOS Moscow 22.72 19 *e*P **P** **13 14 22.8 -4.1**
MOS *e*S **S** **13 18 27.3 -2.7**
MOS pmax pmax
comp=Z,31nm,0.7s,mb4.8
MOS Moscow 22.72 19 *e*P **P** **13 14 22.8 -4.1**
comp=Z,31nm,0.7s,mb4.8
EBAN Banos Encina 23.10 287 P **P** **13 14 32.2 +1.4**
EBAN pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
EBAN Banos Encina 23.10 287 P **P** **13 14 32.2 +1.4**
comp=Z,5.7nm,0.6s,mb4.2
EBAN Banos Encina 23.10 287 P **P** **13 14 32.2 +1.4**
comp=Z,5.7nm,0.6s,mb4.2,SNR=7.9
FLN La Foliniere 23.23 314 *e*P **P** **13 14 31.2 -0.8**
comp=Z,45nm,0.6s,mb4.8
FLN *e*R
comp=Z,156nm,22.2s
FLN La Foliniere 23.23 314 *e*P **P** **13 14 31.2 -0.8**
FLN pmax pmax
comp=Z,22nm,0.6s,mb4.8
FLN MLR MLR
comp=Z,160nm,22.3s,MS3.4
ESDC Sonseca Array 23.27 290 P **P** **13 14 32.8 +0.4**
comp=Z,7.4nm,0.7s,mb4.2,baz=83,slow=9.6,SNR=35
ESDC Sonseca Array 23.27 290 P **P** **13 14 32.9 +0.5**
comp=Z,12nm,0.8s,mb4.4
ESDC Sonseca Array 23.27 290 P **P** **13 14 32.9 +0.5**
comp=Z,12nm,0.8s,mb4.4,SNR=33
ESLA Sonseca Array 23.27 290 *e*P **P** **13 14 33.2 +0.8**
comp=Z,8.1nm,1.0s,mb4.1
ESLA Sonseca Array 23.27 290 *e*P **P** **13 14 33.2 +0.8**
comp=Z,8.1nm,1.0s,mb4.1
GRR Gorron 23.28 313 *e*P **P** **13 14 32.1 -0.4**
comp=Z,29nm,0.7s,mb4.5
GRR Gorron 23.28 313 *e*P **P** **13 14 32.1 -0.4**
GRR pmax pmax
comp=Z,15nm,0.7s,mb4.5
ELAN Lanestosa 23.32 299 P **P** **13 14 32.5 -0.4**
comp=Z,36nm,1.3s,mb4.7
ELAN Lanestosa 23.32 299 P **P** **13 14 32.5 -0.4**
comp=Z,36nm,1.3s,mb4.7,SNR=11
ELUQ Luque 23.49 285 P **P** **13 14 37.1 +2.5**
ELUQ pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
ELUQ Luque 23.49 285 P **P** **13 14 37.1 +2.5**
comp=Z,10nm,0.8s,mb4.3,SNR=10
EADA Adamuz 23.72 287 P **P** **13 14 37.2 +0.4**
comp=Z,17nm,0.8s,mb4.5
EADA Adamuz 23.72 287 P **P** **13 14 37.2 +0.3**
comp=Z,17nm,0.8s,mb4.5,SNR=8.2
EMIJ Mijas 23.95 283 P **P** **13 14 40.2 +1.1**
comp=Z,36nm,1.4s,mb4.6
EMIJ Mijas 23.95 283 P **P** **13 14 40.2 +1.1**
comp=Z,36nm,1.4s,mb4.6,SNR=7.9
MUD Monsted U'grnd 24.08 339 *e*P **P** **13 14 43.2 +3.0**
MUD *i* 13 18 57.8
MUD pmax pmax
comp=Z,43nm,1.2s,mb4.8
MUD Monsted U'grnd 24.08 339 *e*P **P** **13 14 43.2 +3.0**
comp=Z,43nm,1.2s,mb4.8
MUD *i* 13 18 57.8
MUD Monsted U'grnd 24.08 339 *i* P **P** **13 14 43.2 +3.0**
comp=Z,43nm,1.2s,mb4.8
MUD *i* 13 18 57.8
SGMF Saint Gilles 24.26 312 *e*P **P** **13 14 41.5 -0.5**
comp=Z,64nm,0.9s,mb4.7
SGMF Saint Gilles 24.26 312 *e*P **P** **13 14 41.5 -0.5**
SGMF pmax pmax
comp=Z,32nm,0.9s,mb4.8
ECAB El Cabril 24.39 286 P **P** **13 14 43.8 +0.5**
comp=Z,12nm,0.9s,mb4.3
ECAB El Cabril 24.39 286 P **P** **13 14 43.8 +0.5**
comp=Z,12nm,0.9s,mb4.3,SNR=7.9
QUIF Quistinic 24.50 311 *e*P **P** **13 14 44.3 -0.1**
comp=Z,44nm,0.7s,mb4.8
QUIF Quistinic 24.50 311 *e*P **P** **13 14 44.3 -0.1**
QUIF pmax pmax
comp=Z,22nm,0.7s,mb4.8
EARI Arriondas 24.61 299 P **P** **13 14 46.1 +0.7**
comp=Z,15nm,0.9s,mb4.5
EARI Arriondas 24.61 299 P **P** **13 14 46.2 +0.8**
comp=Z,15nm,0.9s,mb4.5,SNR=5.2
ROSF Rostrenen 24.73 312 *e*P **P** **13 14 46.2 -0.3**
comp=Z,15nm,0.6s,mb4.4
ROSF Rostrenen 24.73 312 *e*P **P** **13 14 46.2 -0.3**
ROSF pmax pmax
comp=Z,8.0nm,0.6s,mb4.4
ESPR Espera 24.80 284 P **P** **13 14 47.5 +0.2**
comp=Z,13nm,0.7s,mb4.6
ESPR Espera 24.80 284 P **P** **13 14 47.5 +0.2**
comp=Z,13nm,0.7s,mb4.5,SNR=7.2
EMIN Mina Concepcio 25.39 286 P **P** **13 14 53.9 +1.0**
comp=Z,25nm,1.0s,mb4.7
EMIN Mina Concepcio 25.39 286 P **P** **13 14 53.9 +1.0**
comp=Z,25nm,1.0s,mb4.7,SNR=8.4
PBRG Braganca 25.53 295 *e*P **P** **13 14 54.8 +0.6**
comp=Z,13nm,0.8s,mb4.5
ECAL Calabor 25.54 296 P **P** **13 14 54.0 -0.3**
comp=Z,23nm,1.1s,mb4.6
ECAL Calabor 25.54 296 P **P** **13 14 54.0 -0.3**
comp=Z,23nm,1.1s,mb4.6,SNR=8.2
EBAD Badajoz 25.62 288 P **P** **13 14 54.1 -1.0**
comp=Z,14nm,0.7s,mb4.6
EBAD Badajoz 25.62 288 P **P** **13 14 54.2 -0.9**
comp=Z,14nm,0.7s,mb4.6,SNR=11
PCBR Castelo Branco 25.98 291 *e*P **P** **13 14 58.2 -0.2**
EPON Pontenova 26.01 299 P **P** **13 14 59.1 +0.5**
comp=Z,30nm,1.2s,mb4.7
EPON Pontenova 26.01 299 P **P** **13 14 59.1 +0.4**
comp=Z,30nm,1.2s,mb4.7,SNR=7.9
MTE Manteigas 26.05 292 *e*P **P** **13 15 00.9 +1.9**
EGRO El Granado 26.05 285 P **P** **13 14 59.3 +0.3**
comp=Z,38nm,1.3s,mb4.8
EGRO El Granado 26.05 285 P **P** **13 14 59.3 +0.2**
comp=Z,38nm,1.3s,mb4.8,SNR=7.9
PVRL Vila Real 26.22 294 *e*P **P** **13 15 00.9 +0.3**
HFS Hagfors 26.31 348 P **P** **13 14 59.5 -1.7**
comp=Z,2.6nm,0.4s,mb4.1,baz=162,slow=9.4,SNR=17
HFS LR LR 13 26 13.3
comp=Z,152nm,20.0s,MS3.5,baz=3.7,slow=38
PBEJ Beja 26.32 287 *e*P **P** **13 15 04.1 +2.5**
comp=Z,32nm,0.9s,mb4.8
PVIS Viseu 26.32 293 *e*P **P** **13 15 02.0 +0.4**
EVO Evora 26.41 288 *e*P **P** **13 15 02.2 -0.2**
comp=Z,18nm,0.9s,mb4.3
EVO *e*pP pP 13 15 21.3 +14
EVO *e*R
comp=Z,111nm,21.8s
ELOB Lobios 26.52 295 P **P** **13 15 02.8 -0.5**
comp=Z,30nm,1.2s,mb4.7
ELOB Lobios 26.52 295 P **P** **13 15 02.8 -0.6**
comp=Z,30nm,1.2s,mb4.7,SNR=7.9
FINES FINESS Array B 26.64 1 P **P** **13 15 01.7 -2.6**
comp=Z,3.9nm,0.6s,mb4.1,baz=162,slow=12,SNR=12
FINES LR LR 13 27 00.1
comp=Z,151nm,18.7s,MS3.6,baz=352,slow=40
KAF Kangasniemi 27.32 2 *ep* **P** **13 15 05.7 -4.7**
comp=Z,1.1nm,0.4s,mb3.7
NB2 NORSAR Subarra 27.62 346 P **P** **13 15 10.2 -3.0**
comp=Z,1.1nm,0.6s,mb3.7,baz=148,slow=10

NB2	**NORSAR Subarra**	**27.62**	**346**	P	**P**	**13 15 10.2**	**-3.0**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
NOA	**NORSAR Array B**	**27.62**	**346**	P	**P**	**13 15 10.9**	**-2.3**
	comp=Z,1.2nm,0.5s,mb3.8,baz=149,slow=9.6,SNR=6.3						
NOA				LR	LR	13 27 31.9	
	comp=Z,114nm,18.2s,MS3.5,baz=150,slow=40						
EKA	**Eskdalemuir Ar**	**28.09**	**325**	P	**P**	**13 15 16.1**	**-1.4**
	comp=Z,19nm,0.7s,mb4.7,baz=120,slow=9.7,SNR=19						
ESK	**Eskdalemuir**	**28.10**	**325**	*e*P	**P**	**13 15 16.4**	**-1.2**
ESK				pmax	pmax		
	comp=Z,25nm,0.8s,mb4.9						
ESK	**Eskdalemuir**	**28.10**	**325**	*e*P	**P**	**13 15 16.4**	**-1.3**
	comp=Z,24nm,0.8s,mb4.9						
ESK	**Eskdalemuir**	**28.10**	**325**	*e*P	**P**	**13 15 16.4**	**-1.2**
	comp=Z,24nm,0.8s,mb4.9						
ARU	**Arti**	**31.54**	**36**	↑*i*P	**P**	**13 15 46.3**	**-2.0**
ARU				*e*		13 16 45.8	
ARU				*e*		13 18 37.1	
ARU				*e*S	**S**	**13 20 50.4**	**-4.4**
ARU				*e*SS	SS	13 22 35.7	-8.0
ARU				*e*		13 26 15.7	
ARU				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
ARU	**Arti**	**31.54**	**36**	*e*P	**P**	**13 15 46.1**	**-2.2**
	comp=Z,11nm,0.8s,mb4.7						
ARU	**Arti**	**31.54**	**36**	*e*P	**P**	**13 15 46.1**	**-2.2**
	comp=Z,11nm,0.8s,mb4.7						
APA	**Apatity**	**33.16**	**6**	*e*P	**P**	**13 16 00.0**	**-2.3**
ARCES	**ARCESS Array B**	**34.76**	**0**	P	**P**	**13 16 12.8**	**-3.2**
	comp=Z,4.1nm,0.6s,mb4.5,baz=180,slow=6.1,SNR=24						
ARCES				LR	LR	13 30 57.6	
	comp=Z,156nm,21.4s,MS3.7,baz=240,slow=37						
ARE0	**ARCESS Array S**	**34.76**	**0**	*e*P	**P**	**13 16 12.9**	**-3.2**
ARE0	**ARCESS Array S**	**34.76**	**0**	*e*P	**P**	**13 16 12.9**	**-3.2**
KEV	**Kevo**	**35.00**	**1**	*e*p	**P**	**13 16 15.4**	**-2.7**
	comp=Z,0.7nm,0.4s,mb3.9						
ZRNK	**Zerenda**	**36.01**	**46**	⇓*e*P	**P**	**13 16 25.8**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ZRNK	**Zerenda**	**36.01**	**46**	⇓*e*P	**P**	**13 16 25.8**	**-1.1**
	comp=Z,10nm,0.9s,mb4.8						
ZRNK	**Zerenda**	**36.01**	**46**	⇓*e*P	**P**	**13 16 25.8**	**-1.1**
	comp=Z,10nm,0.9s,mb4.8						
BRVK	**Borovoye**	**36.79**	**46**	*e*P	**P**	**13 16 32.7**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
BRVK	**Borovoye**	**36.79**	**46**	*e*P	**P**	**13 16 32.7**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.0						
DBIC	**Dimbokro**	**39.07**	**231**	P	**P**	**13 16 54.1**	**+1.2**
	comp=Z,4.2nm,0.5s,mb4.4,baz=36,slow=11,SNR=7.2						
AAK	**Ala-Archa**	**39.14**	**63**	*i* P	**P**	**13 16 53.6**	**+0.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.2						
AAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.7						
MKAR	**Makanchi Array**	**44.27**	**56**	P	**P**	**13 17 35.0**	**-0.2**
	comp=Z,7.4nm,0.8s,mb4.5,baz=281,slow=5.8,SNR=59						
NVS	**Novosibirsk**	**44.59**	**45**	*e*P	**P**	**13 17 36.5**	**-1.2**
NVS				*e*S	**S**	**13 24 11.4**	**-0.8**
NVS				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.9						
NVS				pmax	pmax		
	comp=N,3.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.0s						
NVS				smax			
	comp=N,24nm,2.0s						
WMQ	**Urumqi**	**48.50**	**59**	*e*P	**P**	**13 18 12.8**	**+4.2**
WMQ				AP	pP	13 18 19.3	+5.8
WMQ				PP	PP	13 20 05.4	+4.2
WMQ				S	**S**	**13 25 13.0**	**+5.0**
WMQ				AMB	AMB		
	comp=Z,12nm,0.7s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,151nm,5.0s						
WMQ				LR	LR		
	comp=N,141nm,4.2s						
WMQ				LR	LR		
	comp=E,908nm,5.6s						
WMQ				LR	LR		
	comp=Z,185nm,5.4s						
SUMG	**Summit**	**49.15**	**339**	*e*P	**P**	**13 18 15.7**	**+2.4**
	comp=Z,15nm,0.9s,mb5.0						
SUMG	**Summit**	**49.15**	**339**	*e*P	**P**	**13 18 15.6**	**+2.3**
	comp=Z,15nm,0.9s,mb5.0						
KOLN	**Koldanda**	**50.21**	**81**	*e*P	**P**	**13 18 25.0**	**+3.0**
	comp=Z,12nm,0.8s,mb5.0						
GKN	**Gorkha**	**50.96**	**80**	*e*P	**P**	**13 18 27.2**	**-0.5**
	comp=Z,12nm,0.6s,mb5.0						
DMN	**Daman**	**51.49**	**80**	*e*P	**P**	**13 18 32.1**	**+0.3**
	comp=Z,20nm,0.6s,mb5.2						
KKN	**Kakani**	**51.56**	**80**	*e*P	**P**	**13 18 31.5**	**-0.8**
	comp=Z,15nm,0.7s,mb5.0						
PKI	**Pulchoki**	**51.76**	**80**	*e*P	**P**	**13 18 33.5**	**-0.3**
	comp=Z,19nm,1.0s,mb5.0						
GUN	**Gumba**	**52.00**	**80**	*e*P	**P**	**13 18 33.3**	**-2.3**
ZAK	**Zakamensk**	**57.24**	**48**	*e*P	**P**	**13 19 13.1**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
GTA	**Gaotai**	**58.45**	**61**	*e*P	**P**	**13 19 22.3**	**+0.1**
GTA				AP	pP	13 19 27.9	+0.8
GTA				PCP	PcP	13 20 13.5	+0.8
GTA				PP	PP	13 21 31.1	-2.3
GTA				S	**S**	**13 27 18.8**	**-4.1**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
GTA				AMB	AMB		
	comp=Z,53nm,4.6s						
GTA				LR	LR		
	comp=N,119nm,17.1s,MS4.3						
GTA				LR	LR		
	comp=E,157nm,16.7s,MS4.3						
GTA				LR	LR		
	comp=Z,107nm,16.7s,MS4.0						
SONM	**Songino Array**	**59.99**	**50**	P	**P**	**13 19 32.2**	**-0.5**
	comp=Z,2.9nm,0.7s,mb4.4,baz=288,slow=7.8,SNR=20						
BOD	**Bodaibo**	**60.94**	**38**	*e*P	**P**	**13 19 35.8**	**-3.3**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
BOSA	**Boshof**	**63.11**	**179**	P	**P**	**13 19 55.2**	**+1.3**
	comp=Z,2.3nm,0.9s,mb4.3,baz=13,slow=14,SNR=3.1						
BOSA	**Boshof**	**63.11**	**179**	P	**P**	**13 19 55.2**	**+1.2**
SCHQ	**Schefferville**	**63.19**	**320**	P	**P**	**13 19 53.8**	**-0.3**
	comp=Z,17nm,0.6s,mb5.3,baz=59,slow=5.4,SNR=39						
SCHQ	**Schefferville**	**63.19**	**320**	*e*P	**P**	**13 19 53.5**	**-0.7**
	comp=Z,16nm,0.6s,mb5.3						
SCHQ	**Schefferville**	**63.19**	**320**	*e*P	**P**	**13 19 53.5**	**-0.6**
	comp=Z,16nm,0.6s,mb5.3						
HHC	**Hu-ho-hao-te**	**66.14**	**56**	*e*P	**P**	**13 20 13.4**	**0.0**
HHC				AP	pP	13 20 20.9	+2.5
HHC				PCP	PcP	13 20 42.5	-1.2
HHC				PP	PP	13 22 38.8	-2.6
HHC				S	S	13 29 04.8	+5.0
HHC				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.8						
HHC				AMB	AMB		
	comp=Z,142nm,10.8s						
HHC				LR	LR		
	comp=N,170nm,14.4s,MS4.5						
HHC				LR	LR		
	comp=E,170nm,15.6s,MS4.5						
HHC				LR	LR		
	comp=Z,123nm,18.0s,MS4.2						
KMI	**Kunming**	**66.76**	**75**	P	**P**	**13 20 17.9**	**+0.2**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.4						
KMI	**Kunming**	**66.76**	**75**	P	**P**	**13 20 17.9**	**+0.2**
	comp=Z,4.0nm,1.0s,mb4.4						
BILL	**Bilibino**	**73.47**	**14**	*e*P	**P**	**13 20 57.4**	**-0.3**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
CN2	**Changchun**	**73.67**	**48**	*e*P	**P**	**13 20 59.1**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
KLR	**Kul'dur**	**74.26**	**41**	*e*P	**P**	**13 21 00.0**	**-2.6**
NJ2	**Nanjing**	**75.54**	**61**	*e*P	**P**	**13 21 11.3**	**+0.9**
NJ2				PP	PP	13 24 02.3	+0.5
NJ2				S	S	13 30 47.0	-2.0
NJ2				XS		13 31 09.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,260nm,4.8s						
NJ2				LR	LR		
	comp=N,410nm,20.1s,MS5.2						
NJ2				LR	LR		
	comp=E,1μm,20.0s,MS5.2						
NJ2				LR	LR		
	comp=Z,3μm,20.2s,MS5.6						
MDJ	**Mudanjiang**	**75.70**	**45**	P	**P**	**13 21 11.8**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,51nm,6.5s						
YKA	**Yellowknife Ar**	**77.64**	**342**	P	**P**	**13 21 21.5**	**0.0**
	comp=Z,2.0nm,0.6s,mb4.2,baz=37,slow=5.5,SNR=9.7						
SSE	**Sheshan**	**77.73**	**61**	P	**P**	**13 21 21.8**	**-0.9**
SSE				AMB	AMB		
	comp=Z,19nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,68nm,4.3s						
SSE	**Sheshan**	**77.73**	**61**	P	**P**	**13 21 21.7**	**-1.0**
	comp=Z,19nm,0.6s,mb5.2						
IMA	**Indian Mountai**	**79.41**	**359**	*e*P	**P**	**13 21 32.1**	**+1.0**
IMA				pmax	pmax		
	comp=Z,64nm,1.3s,mb5.4						
IMA	**Indian Mountai**	**79.41**	**359**	*e*P	**P**	**13 21 32.1**	**+1.0**
	comp=Z,64nm,1.3s,mb5.4						
IMA	**Indian Mountai**	**79.41**	**359**	*e*P	**P**	**13 21 32.1**	**+1.0**
	comp=Z,64nm,1.3s,mb5.4						
ULM	**Lac du Bonnet**	**80.36**	**326**	P	**P**	**13 21 36.6**	**+0.1**
	comp=Z,3.5nm,0.7s,mb4.4,baz=94,slow=3.7,SNR=3.6						
ILAR	**Eielson Array**	**80.50**	**356**	P	**P**	**13 21 37.0**	**0.0**
	comp=Z,2.2nm,0.7s,mb4.2,baz=355,slow=4.3,SNR=23						
YSS	**Yuzh-Sakhalins**	**81.42**	**38**	*e*P	**P**	**13 21 42.6**	**+0.4**
YSS	**Yuzh-Sakhalins**	**81.42**	**38**	*e*P	**P**	**13 21 42.8**	**+0.7**
	comp=Z,32nm,1.4s,mb5.1						
YSS	**Yuzh-Sakhalins**	**81.42**	**38**	*e*P	**P**	**13 21 42.8**	**+0.6**
	comp=Z,32nm,1.4s,mb5.1						
MCK	**McKinley**	**81.64**	**357**	*e*P	**P**	**13 21 43.2**	**+0.3**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MCK	**McKinley**	**81.64**	**357**	*e*P	**P**	**13 21 43.2**	**+0.2**
	comp=Z,7.5nm,1.0s,mb4.6						
MCK	**McKinley**	**81.64**	**357**	*e*P	**P**	**13 21 43.2**	**+0.3**
	comp=Z,7.5nm,1.0s,mb4.6						
SML	**Sawmill**	**83.53**	**357**	*e*P	**P**	**13 21 52.5**	**-0.2**
SPU	**Mount Spurr**	**84.29**	**358**	*e*P	**P**	**13 21 56.8**	**+0.3**
SPU	**Mount Spurr**	**84.29**	**358**	*e*P	**P**	**13 21 56.8**	**+0.3**
EYAK	**Cordova Ski Ar**	**84.64**	**355**	*e*P	**P**	**13 21 59.8**	**+1.5**
EYAK	**Cordova Ski Ar**	**84.64**	**355**	*e*P	**P**	**13 21 59.8**	**+1.5**
DLBC	**Dease Lake**	**84.70**	**347**	*e*P	**P**	**13 22 00.6**	**+1.9**
DLBC	**Dease Lake**	**84.70**	**347**	*e*P	**P**	**13 22 00.6**	**+2.0**
EDM	**Edmonton**	**85.04**	**336**	*e*P	**P**	**13 22 01.4**	**+1.0**
MJAR	**Matsushiro Arr**	**85.83**	**48**	P	**P**	**13 22 05.4**	**+0.6**
	comp=Z,2.3nm,0.8s,mb4.5,baz=296,slow=4.8,SNR=7.2						
CCM	**Cathedral Cave**	**86.27**	**315**	*e*P	**P**	**13 22 08.0**	**+1.0**
CCM				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.9						
CCM	**Cathedral Cave**	**86.27**	**315**	*e*P	**P**	**13 22 08.0**	**+1.0**
	comp=Z,6.6nm,0.9s,mb4.9						
CCM	**Cathedral Cave**	**86.27**	**315**	*e*P	**P**	**13 22 08.0**	**+1.0**
	comp=Z,6.6nm,0.9s,mb4.9						
PLAL	**Pickwick Lake**	**86.38**	**311**	*e*P	**P**	**13 22 07.8**	**+0.2**
	comp=Z,5.3nm,0.8s,mb4.8						
LRAL	**Lakeview Retre**	**86.96**	**309**	*e*P	**P**	**13 22 11.6**	**+1.2**
	comp=Z,10nm,0.9s,mb5.0						
LRAL	**Lakeview Retre**	**86.96**	**309**	*e*P	**P**	**13 22 11.6**	**+1.2**
	comp=Z,10nm,0.9s,mb5.0						
LAO	**LASA Array**	**87.62**	**329**	*e*P	**P**	**13 22 15.2**	**+1.9**
	comp=Z,9.4nm,0.9s,mb5.0						
LAO	**LASA Array**	**87.62**	**329**	*e*P	**P**	**13 22 15.2**	**+1.9**
	comp=Z,9.4nm,0.9s,mb5.0						
BBB	**Bella Bella**	**90.14**	**344**	LR	LR	14 05 51.3	
	comp=Z,58nm,19.3s,MS4.0,baz=235,slow=38						
NEW	**Newport**	**90.52**	**336**	*e*P	**P**	**13 22 27.7**	**+0.8**
NEW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NEW	**Newport**	**90.52**	**336**	*e*P	**P**	**13 22 27.7**	**+0.7**
	comp=Z,4.3nm,0.8s,mb4.8						
NEW	**Newport**	**90.52**	**336**	*e*P	**P**	**13 22 27.7**	**+0.8**
	comp=Z,4.3nm,0.8s,mb4.8						
PDAR	**Pinedale Array**	**92.18**	**328**	P	**P**	**13 22 35.0**	**+0.3**
	comp=Z,0.8nm,0.7s,mb4.2,baz=56,slow=5.3,SNR=7.8						
PDAR				LR	LR	14 05 17.8	
	comp=Z,91nm,18.3s,MS4.3,baz=161,slow=36						
HWUT	**Hardware Ranch**	**93.99**	**329**	*e*P	**P**	**13 22 43.2**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.7						

OTT 23 13:15:20.6±3.2, 74.04N×95.98W, h18km, MN2.9/3, 82km southwest from Resolute, Nu Boothia Ungava Seismic Zone., Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PINU	**Pond Inlet**	**5.34**	**96**	PN	Pn	13 16 22.4	-19
PINU				SN	Sn	13 17 19.0	-24
PINU				LG		13 17 45.0	
QILN	**Qililugaq Expl**	**8.08**	**152**	PN	P	13 17 15.3	-4.7
QILN				SN	Sn	13 18 40.9	-11
QILN				Trac		13 19 41.0	
	comp=Z,3.6nm,0.3s						
LUPN	**Lupin Mine**	**9.81**	**220**	SN	Sn	13 19 28.1	-6.3
LUPN				LG		13 20 28.2	
ACKN	**Achilles Lake**	**10.43**	**217**	PN	P	13 17 44.5	-7.7
ACKN				SN	S	13 19 39.6	-10
YMBN	**Yamba Lake**	**10.65**	**218**	SN	S	13 19 43.8	-11
GALN	**Gameti Lake**	**12.43**	**228**	PN	P	13 18 16.4	-2.9
GALN				SN	S	13 20 22.7	-16
YKW3	**Yellowknife Ar**	**13.32**	**220**	PN	P	13 18 29.4	-1.8
YKW3				SN	S	13 20 47.1	-13
YKW3				Trac		13 22 32.5	
	comp=Z,1.5nm,0.4s						
FRB	**Frobisher Bay**	**14.09**	**123**	SN	S	13 21 06.4	-12
FRB				Trac		13 23 03.9	
	comp=Z,1.2nm,0.1s						

*GRAL **23** 13:29:14.2±0.4, 34.69N×36.58E, h14km±24km, MD3.2*
CSEM 23 13:29:01.1±0.2, 35.45N×36.76E, h2km, ML1.8, Error ellipse: s-maj=5.6km s-min=2.7km az=78.0, Mining explosion., Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABH	**Abou Rabah**	**1.08**	**160**	↑*i*P	Pb	13 29 23.1	+1.0
HWQ	**Hawqa**	**1.34**	**210**	*i* Pg	Pg	13 29 26.5	-1.4
	baz=52,slow=5.3						
HWQ				*i* Sg	Sg	13 29 35.2	-11
ROOS	**tl_alroos**	**1.35**	**161**	↑*i*P	Pb	13 29 25.7	-1.1
BHL	**Bhannes**	**1.79**	**211**	*i* Pg	Pg	13 29 33.8	-3.0
BHL				*i* Sg	Sg	13 29 48.7	-12
QASN	**Qassioun**	**1.95**	**192**	↑*i*P	Pn	13 29 32.0	-3.6
BRBR	**Barbar**	**2.14**	**198**	↑*i*P	Pn	13 29 36.5	-1.8
KSDI	**Kefar Szold**	**2.43**	**202**	Pn	Pn	13 29 41.4	-1.0
KSDI				Sn	Sn	13 30 05.8	-7.3
KSHT	**Keshet**	**2.58**	**198**	Pn	Pn	13 29 43.7	-0.9
HNTI	**Hanita**	**2.70**	**209**	Pn	Pn	13 29 46.6	+0.3
HNTI				Sn	Sn	13 30 14.1	-5.9
SALA	**Sala**	**2.73**	**180**	↑*i*P	Pn	13 29 44.9	-1.8
SLTI	**Sal'it**	**3.50**	**205**	Sn	Sn	13 30 36.2	-4.2

*OTT **23** 13:39:28.3±0.2, 67.07N×54.07W, h18km, ML3.9/6, West coast of Greenland 433km east from Qikiqtarjuaq, Nu*
*NEIC **23** 13:39:29.4±0.6, 66.75N×53.86W, h10km, ML3.9(OTT), Error ellipse: s-maj=23.0km s-min=8.9km az=149.0*
*IDC **23** 13:39:29.1±1.1, 67.03N×54.00W, mb3.7/7, mb1 4.0/9, mb1mx3.7/24, mbtmp3.8/9, ML3.0/2, MS4.1/1, Ms1 4.1/1, ms1mx2.8/32, Error ellipse: s-maj=39.2km s-min=16.4km az=154.0*
ISC 23 13:39:25.9±0.5, 66.92N±0.08×54.2W±0.1, h10km, n25, σ1§56/37, mb3.7/7, 2C, Davis Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	**1.41**	**85**	↑*i*P	**Pn**	**13 39 52.4**	**+0.7**
SFJD				*i* S	**Sb**	**13 40 08.8**	**-0.9**
SFJD				*e*LG		13 40 11.4	
SFJD	**Kangerlussuaq**	**1.41**	**85**	⇑PN	**Pn**	**13 39 52.5**	**+0.8**
SFJD				SN	**Sn**	**13 40 09.2**	**-1.3**
FRB	**Frobisher Bay**	**6.79**	**249**	Pn	**Pn**	**13 41 08.9**	**+0.9**
	1.7nm,0.3s,baz=50,slow=10,SNR=7.9						
FRB				Sn	**Sn**	**13 42 22.6**	**-3.7**
	7.8nm,0.3s,baz=134,slow=7.7,SNR=11						
FRB				LR	LR	13 43 16.5	
	comp=Z,2μm,20.6s,baz=182,slow=33						
FRB	**Frobisher Bay**	**6.79**	**249**	PN	**Pn**	**13 41 08.9**	**+0.8**
FRB				SN	**Sn**	**13 42 22.0**	**-4.2**
FRB				Trac		13 42 25.6	
	comp=Z,15nm,0.2s						
SUMG	**Summit**	**7.86**	**37**	*e*Pn	**Pn**	**13 41 20.2**	**-2.8**
	14nm,0.3s						
SUMG				*e*Sn	**Sn**	**13 42 43.0**	**-10**
PINU	**Pond Inlet**	**9.99**	**316**	PN	Px	13 41 37.3	
PINU				SN	Sx	13 43 23.1	
TULEG	**Thule**	**10.65**	**341**	SN	**S**	**13 43 43.8**	**-18**
KUQ	**Kuujjuuaa**	**10.97**	**223**	PN	**P**	**13 42 03.3**	**-2.5**
QILN	**Qililugaq Expl**	**12.62**	**284**	Pn	**P**	**13 42 26.4**	**-1.6**
QILN				Sn	**S**	**13 44 36.5**	**-13**
QILN	**Qililugaq Expl**	**12.62**	**284**	PN	**P**	**13 42 26.4**	**-1.6**
QILN				SN	**S**	**13 44 36.4**	**-13**
QILN				Trac		13 44 41.5	
	comp=Z,2.4nm,0.3s						
SCHQ	**Schefferville**	**13.55**	**213**	Pn	**P**	**13 42 41.4**	**+1.1**
	0.3nm,0.3s,baz=24,slow=14,SNR=5.4						
SCHQ	**Schefferville**	**13.55**	**213**	*e*Pn	**P**	**13 42 40.9**	**+0.7**
SCHQ				*e*Sn	**S**	**13 45 13.2**	**+1.3**
SCHQ	**Schefferville**	**13.55**	**213**	PN	**P**	**13 42 40.4**	**+0.1**
SCHQ				SN	**S**	**13 45 09.4**	**-2.4**
LG4Q	**La Grande 4**	**16.46**	**226**	PN	**P**	**13 43 19.3**	**+1.2**
LG4Q				SN	**S**	**13 46 10.2**	**-10**
LG4Q				Trac		13 46 20.1	
	comp=Z,1.0nm,0.3s						
WEMQ	**Wemindji, Queb**	**18.11**	**232**	PN	**P**	**13 43 39.7**	**+1.0**
WEMQ				SN	**S**	**13 46 49.2**	**-8.8**
WEMQ				Trac		13 46 53.0	
	comp=Z,1.4nm,0.4s						
SILO	**Sutton Inlier**	**19.25**	**245**	PN	**P**	**13 43 51.6**	**-1.0**
SILO				SN	**S**	**13 47 14.3**	**-10**
SILO				Trac		13 47 18.0	
	comp=Z,0.7nm,0.4s						
VIMO	**Victor Mine**	**20.19**	**240**	PN	**P**	**13 44 02.8**	**-0.3**
VIMO				SN	**S**	**13 47 37.3**	**-6.9**
VIMO				Trac		13 47 40.5	
	comp=Z,1.1nm,0.4s						
YKA	**Yellowknife Ar**	**25.27**	**289**	P	**P**	**13 44 57.7**	**+4.6**
	0.4nm,0.5s,mb3.2,baz=46,slow=9.2,SNR=4.0						
YKA	**Yellowknife Ar**	**25.27**	**289**	P	**P**	**13 44 57.7**	**+4.6**
ARCES	**ARCESS Array B**	**27.74**	**48**	P	**P**	**13 45 18.1**	**+2.3**
	1.8nm,0.8s,mb3.8,baz=315,slow=8.9,SNR=3.4						
FINES	**FINESS Array B**	**33.08**	**60**	P	**P**	**13 46 05.2**	**+2.0**
	2.7nm,1.0s,mb4.1,baz=326,slow=14,SNR=4.8						
GERES	**GERESS Array B**	**38.01**	**84**	P	**P**	**13 46 48.2**	**+2.9**
	0.9nm,0.9s,mb3.5,baz=344,slow=9.7,SNR=3.9						
PDAR	**Pinedale Array**	**38.11**	**259**	P	**P**	**13 46 51.2**	**+5.0**
	0.9nm,0.7s,mb3.6,baz=43,slow=9.3,SNR=10						
MKAR	**Makanchi Array**	**61.89**	**32**	P	**P**	**13 49 47.4**	**+0.2**
	0.3nm,0.6s,mb3.6,baz=342,slow=3.8,SNR=3.8						
SONM	**Songino Array**	**64.63**	**14**	P	**P**	**13 50 06.8**	**+1.7**
	0.9nm,0.7s,mb3.9,baz=338,slow=6.7,SNR=8.2						

*NIED **23** 13:57:00, 35.60N×140.10E, h80km, Mw3.6 Best double couple: M0 2.47×10^14 NP1:φs12°, δ79°, λ104°. NP2:φs142°, δ18°, λ41°.*
*IDC **23** 13:57:38.9±1.2, 34.81N×138.15E, mb3.5/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=30.3km s-min=12.6km az=83.0*
*JMA **23** 13:57:40.2±0.2, 35.61N×140.09E, h67km±2km, M3.1 JMA Felt I J1.*
*NEIC **23** 13:57:42.4±1.9, 35.18N×139.44E, h67km±15km, MG3.1(JMA), Error ellipse: s-maj=25.9km s-min=22.0km az=76.0*
ISC 23 13:57:39.6±0.6, 35.53N±0.04×140.06E±0.07, h79km±5km, n19, σ0§59/27, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.16**	**134**	P	**P**	**13 57 51.2**	**+0.1**
JCN				S	**S**	**13 57 59.9**	**+0.2**
BSO3	**Boso 3**	**0.81**	**153**	P	**P**	**13 57 56.5**	**-0.1**
BSO3				S	**S**	**13 58 09.6**	**+0.3**
JOD2	**Odawara 2**	**0.84**	**252**	P	**P**	**13 57 57.3**	**+0.4**
JOD2				S	**S**	**13 58 09.4**	**-0.5**
JIM2	**Oshima 3**	**0.96**	**213**	P	**P**	**13 57 58.4**	**+0.1**
JIM2				S	**S**	**13 58 12.1**	**-0.3**
JAG	**Ashikaga**	**1.02**	**331**	P	**P**	**13 57 58.6**	**-0.5**
JRY	**Ryogami san**	**1.06**	**298**	P	**P**	**13 58 00.2**	**+0.6**
BSO1	**Boso 1**	**1.15**	**139**	P	**P**	**13 58 00.0**	**-0.7**
JYN	**Shimob**	**1.24**	**269**	P	**P**	**13 58 02.5**	**+0.6**
JIZS	**Izushimoda**	**1.26**	**231**	P	**P**	**13 58 02.8**	**+0.6**
JIZS				S	**S**	**13 58 19.0**	**-0.1**
JKT	**Katashina**	**1.40**	**332**	P	**P**	**13 58 03.6**	**-0.5**
MJAR	**Matsushiro Arr**	**1.81**	**305**	Pg	**P**	**13 58 09.7**	**+0.2**
	23nm,0.3s,baz=142,slow=15,SNR=140						
MJAR				Lg		13 58 32.7	
	9.4nm,0.3s,baz=87,slow=25,SNR=8.6						
MAJO	**Matsushiro**	**1.81**	**305**	*e*P	**P**	**13 58 09.9**	**+0.4**
MAT	**Matsushiro**	**1.81**	**305**	*e*P	**P**	**13 58 10.0**	**+0.5**
MAT				*e*S	**S**	**13 58 30.0**	**-1.6**
MAT	**Matsushiro**	**1.81**	**305**	P	**P**	**13 58 10.1**	**+0.6**
MAT				S	**S**	**13 58 30.2**	**-1.4**
JHJ	**Hachijo jima 2**	**2.41**	**186**	Pn	**P**

KK31 Lg 14 01 47.3
4.0nm,0.4s,baz=113,slow=28,SNR=15

*IDC **23** 14:11:07.4±1.9,26.24N×99.84E,mb3.5/3,mb1 3.8/3, mb1mx3.5/18,mbtmp3.5/3,Error ellipse: s-maj=82.8km s-min=26.6km az=67.0*
*BJI **23** 14:11:10.1,26.28N×100.03E,h7km,ML3.4*
ISC 23 14:11:06.9±1.5,**26.2N**±0.2×**99.7E**±0.2,**h10**km,**n5,σ0**§**82**/8, **mb3.5**/3,**Yunnan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.93**	**111**	P		**Pn**		**14 11 54.5**	**0.0**
KMI				PG		**Pg**		**14 11 58.8**	**-6.6**
KMI				S		**Sn**		**14 12 31.1**	**+1.0**
KMI				SG		**Sg**		**14 12 35.9**	**-8.6**
KMI				Smax					
	comp=N,207nm,1.0s								
KMI				Smax					
	comp=E,147nm,0.8s								
KMI				LR		LR			
	comp=N,774nm,6.5s								
KMI				LR		LR			
	comp=E,593nm,5.1s								
KMI				LR		LR			
	comp=Z,341nm,4.9s								
GYA	**Guiyang**	**6.24**	**86**	P		**Pn**		**14 12 40.3**	**-1.1**
SONM	**Songino Array**	**22.24**	**12**	P		**P**		**14 16 05.2**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.1,baz=198,slow=11,SNR=4.8								
MKAR	**Makanchi Array**	**24.78**	**331**	P		**P**		**14 16 30.8**	**+0.8**
	comp=Z,0.9nm,0.7s,mb3.4,baz=124,slow=11,SNR=4.0								
WRA	**Warramunga Arr**	**56.86**	**140**	P		**P**		**14 20 53.8**	**-0.6**
	comp=Z,1.4nm,0.7s,mb4.1,baz=329,slow=7.6,SNR=17								

*ATH **23** 14:39:44.1,40.05N×24.51E,h39km±1km,MD2.9/4*
*NEIC **23** 14:39:44.0,40.07N×24.49E,h36km,MD2.9(ATH),After ATH.*
*CSEM **23** 14:39:44.8±0.2,40.08N×24.50E,h20km,ML2.2,Error ellipse: s-maj=4.4km s-min=3.3km az=2.0*
*THE **23** 14:39:45.1,40.06N×24.50E,h18km,ML2.2*
ISC 23 14:39:44.5±0.6,**40.09N**±0.03×**24.51E**±0.04,**h24**km±6km, **n17,σ0§88**/31,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.47**	**109**	*e*Pg		**Pb**		**14 39 54.3**	**+0.2**
OUR	**Ouranopolis**	**0.47**	**302**	*e*Pg		**Pb**		**14 39 54.1**	**0.0**
OUR				*e*Sg		**Sb**		**14 40 02.0**	**+1.2**
LIA	**Limnos Island**	**0.55**	**110**	*e*PN		**Pn**		**14 39 56.0**	**-0.7**
LIA				*e*SN		**Sn**		**14 40 04.4**	**-0.8**
PAIG	**Paliouri**	**0.66**	**256**	*e*Pg		**Pb**		**14 39 56.8**	**-0.4**
PAIG				*e*Sg		**Sb**		**14 40 06.5**	**+0.6**
PLG	**Polygyros**	**0.86**	**290**	*e*PN		**Pn**		**14 40 01.1**	**-0.1**
PLG				*e*SN		**Sn**		**14 40 12.7**	**-0.4**
PLG	**Polygyros**	**0.86**	**290**	*e*Pn		**Pn**		**14 40 01.1**	**-0.1**
PLG				*e*Sn		**Sn**		**14 40 11.9**	**-1.2**
AOS	**Alonnisos**	**1.04**	**208**	*e*Pg		**Pb**		**14 40 03.9**	**+0.3**
AOS				*e*Sg		**Sb**		**14 40 17.7**	**+0.9**
SRS	**Serrai**	**1.24**	**326**	*e*Pg		**Pn**		**14 40 06.9**	**+0.2**
SRS				*e*Sg		**Sb**		**14 40 23.2**	**+0.4**
XOR	**Xorichti**	**1.24**	**235**	*e*Pg		**Pn**		**14 40 06.3**	**-0.4**
XOR				*e*Sg		**Sb**		**14 40 22.2**	**-0.7**
NEO	**Neokhori**	**1.26**	**232**	*e*PN		**Pn**		**14 40 06.5**	**-0.4**
THE	**Thessaloniki**	**1.30**	**295**	*e*Pg		**Pn**		**14 40 09.0**	**+1.6**
THE				*e*Sg		**Sb**		**14 40 26.2**	**+1.7**
RDO	**Rodhopi**	**1.32**	**36**	*e*PN		**Pn**		**14 40 08.0**	**+0.3**
ALN	**Alexandroupoli**	**1.43**	**55**	*e*Pg		**Pn**		**14 40 09.9**	**+0.7**
ALN				*e*Sg		**Sn**		**14 40 28.0**	**+0.6**
LIT	**Litokhoron**	**1.55**	**271**	*e*Pg		**Pn**		**14 40 10.9**	**-0.1**
LIT				*e*Sg		**Sn**		**14 40 31.3**	**+0.8**
KNT	**Kendrikon**	**1.63**	**312**	*e*Pb		**Pb**		**14 40 12.3**	**-1.4**
KNT				*e*Sb		**Sb**		**14 40 33.2**	**-0.8**
GRG	**Griva**	**1.83**	**299**	*e*Pb		**Pb**		**14 40 15.8**	**-1.2**
GRG				*e*Sb		**Sb**		**14 40 37.5**	**-2.1**
GRG	**Griva**	**1.83**	**299**	*e*Pb		**Pb**		**14 40 15.8**	**-1.3**
GRG				*e*Sb		**Sb**		**14 40 37.5**	**-2.1**

*DHMR **23** 14:40:06.1±3.0,36.30N×70.81E,h10km,mb5.4*
*BGS **23** 14:40:22.6±1.3,36.05N×70.54E,h200km,mb5.2*
*CRAAG **23** 14:40:22.4,36.45N×70.71E,Mb5.3*
*MOS **23** 14:40:23.7±0.9,36.43N×70.72E,h208km,mb5.3/68,Error ellipse: s-maj=5.5km s-min=3.0km az=130.0*
*BJI **23** 14:40:23.2,36.59N×70.65E,h206km,mB5.5,mb5.8*
*HRVD **23** 14:40:25.0±0.2,36.40N×70.65E,h213km±1km,MW5.5/56, Centroid moment Tensor Solution. LP body waves: s45,c75;Mantle waves: s56,c121; Half duration: 1§4 Moment tensor: Scale 10¹⁷Nm; Mrr=1.54±.04; Mθθ-1.25±.05; Mφφ-0.28±.05; Mrθ1.00±.04; Mrφ0.69±.04; Mθφ-1.29±.04; Best double couple: M₀2.269×10¹⁷ NP1: φs282°,δ25°,λ60°. NP2:φs135°,δ69°,λ103°. Principal axes: T 2.308, Plg64°, Azm66°; N -.076, Plg12°, Azm310°; P -2.231, Plg22°, Azm215°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 14:40:25.0±0.1,36.39N×70.72E,mb5.3/189,MW5.5 Error ellipse: s-maj=3.8km s-min=2.3km az=15.0,Moment Tensor Solution. s19 Moment tensor: Scale 10¹⁷Nm; Mrr2.04; Mθθ-1.57; Mφφ-0.47; Mrθ0.80; Mθφ0.48; Mrφ-0.97; Best double couple: M₀2.3×10¹⁷ NP1:φs281°,δ31°,λ69°. NP2:φs125°,δ61°,λ102°. Principal axes: T 2.46, Plg71°, Azm62°; N -.41, Plg10°, Azm299°; P -2.05, Plg16°, Azm206°;*
NEIC Felt [III] at Kabul.
*IDC **23** 14:40:27.1±0.8,36.45N×70.82E,h228km±6km,mb5.2/23, mb1 5.3/24,mb1mx5.3/24,mbtmp5.8/24 Error ellipse: s-maj=7.9km s-min=6.7km az=14.0*
*NNC **23** 14:40:30.0±2.3,36.96N×70.54E,h213km±15km,mpv6.0, Error ellipse: s-maj=18.5km s-min=16.8km az=11.0*
ISC 23 14:40:23.0±0.2,**36.41N**±0.01×**70.73E**±0.01,**h203**km±2km, **h208**km±1.7km:**pP-P,n978,**σ0§**97**/1018,**mb5.3**/258, **255C-44D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.76**	**159**	⇑P		**P**		**14 41 12.0**	**+1.5**
CHCP	**Chirah Chowk**	**3.45**	**142**	⇑P		**P**		**14 41 20.3**	**+1.6**
THW	**Thamme Wali**	**3.71**	**167**	⇑P		**P**		**14 41 23.0**	**+1.1**
SRNI	**Srinagar**	**4.09**	**123**	*e*		**S**		**14 42 18.0**	**+2.1**
SBDP	**Sheikh Budin**	**4.10**	**179**	⇑P		**P**		**14 41 27.3**	**+0.5**
DRP	**Derazinda**	**4.68**	**185**	P		**P**		**14 41 34.5**	**+0.4**
SARP	**Sargodha**	**4.76**	**160**	⇓P		**P**		**14 41 35.4**	**+0.3**
JMU	**Jammu**	**5.04**	**136**	*e*P		**P**		**14 41 40.0**	**+1.3**
JMU				*e*S		**S**		**14 42 36.5**	**-1.0**
	75nm,0.3s								
KSH	**Kashi**	**5.18**	**52**	*i* PR				14 41 42.3	
KSH				*e*XP				14 42 24.0	
KSH				S		**S**		**14 42 40.8**	**+0.2**
KSH				*e*PCP		PcP		14 48 33.3	+1.4
KSH				AMB		AMB			
	comp=Z,560nm,1.4s								
THN	**Thein Dam**	**5.72**	**132**	*e*P		**P**		**14 41 47.2**	**-0.3**
THN				*e*S		**S**		**14 42 52.8**	**-0.3**
DLH	**Dalhousie**	**5.80**	**130**	*e*P		**P**		**14 41 49.0**	**+0.5**
DLH				*e*S		**S**		**14 42 52.0**	**-2.9**
AML	**Almayashu**	**6.16**	**21**	P		**P**		**14 41 53.2**	**+0.1**
	SNR=3801								
PONG	**Pong**	**6.21**	**134**	*e*P		**P**		**14 41 53.0**	**-0.7**
PONG				*e*S		**S**		**14 43 04.0**	**-0.3**
UCH	**Uchtor**	**6.51**	**26**	P		**P**		**14 41 58.1**	**+0.5**
	SNR=215								
KZA	**Kyzart**	**6.66**	**30**	P		**P**		**14 41 59.1**	**-0.4**
	SNR=606								
EKS2	**Erkin-Say**	**6.67**	**20**	P		**P**		**14 41 60.0**	**+0.2**
	SNR=296								
KK31	**Karatay Array**	**6.69**	**359**	⇓P		**P**		**14 41 59.6**	**-0.4**
	comp=Z,458nm,0.6s,baz=190,slow=15,SNR=5136								
KK31				⇑S		**S**		**14 43 10.2**	**-5.3**
	comp=Z,666nm,0.5s,baz=186,slow=22,SNR=10								
KKAR	**Karatay Array**	**6.69**	**359**	*i* PN		**P**		**14 41 59.5**	**-0.4**
KKAR				pmax		pmax			
	comp=Z,253nm,0.2s								
KKAR	**Karatay Array**	**6.69**	**359**	*i* P		**P**		**14 41 59.6**	**-0.3**
AAK	**Ala-Archa**	**6.86**	**24**	P		**P**		**14 42 02.6**	**+0.4**
	SNR=609								
AAK	**Ala-Archa**	**6.86**	**24**	⇓P		**P**		**14 42 02.5**	**+0.3**
	comp=Z,2μm,1.0s								
AAK				⇓S		**S**		**14 43 18.2**	**-1.4**
	comp=Z,3μm,1.1s								
AAK	**Ala-Archa**	**6.86**	**24**	⇓*i*P		**P**		**14 42 01.6**	**-0.7**
	comp=Z,1μm,0.8s								
AAK				*e*S		**S**		**14 43 17.6**	**-2.0**
BHK	**Bhakra**	**6.87**	**135**	*e*PN		**P**		**14 42 01.8**	**-0.5**
KBK	**Karagaybulak**	**7.04**	**26**	P		**P**		**14 42 05.1**	**+0.6**
	SNR=172								
FRU	**Bishkek**	**7.08**	**24**	*i* PN		**P**		**14 42 05.5**	**+0.4**
FRU				pmax		pmax			
	comp=Z,4μm,1.9s								
FRU				pmax		pmax			
	comp=Z,10μm,4.0s								
SDNR	**Sundarnagar**	**7.13**	**132**	*e*P		**P**		**14 42 05.0**	**-0.8**
SDNR				*e*				14 43 10.0	
ULHL	**Ulahol**	**7.22**	**35**	P		**P**		**14 42 06.6**	**-0.3**
	SNR=338								
CHMS	**Chumysh**	**7.27**	**24**	P		**P**		**14 42 07.2**	**-0.4**
	SNR=83								
USP	**Ospenovka**	**7.44**	**22**	P		**P**		**14 42 08.8**	**-0.9**
	SNR=189								
TKM2	**Tokmak 2**	**7.51**	**29**	P		**P**		**14 42 10.8**	**+0.2**
	SNR=5552								
SMLA	**Simla**	**7.52**	**133**	⇓*i*		**P**		**14 42 08.2**	**-2.6**
SMLA				*i* S		**S**		**14 43 30.8**	**-4.1**
AAA	**Alma-Ata**	**8.35**	**33**	*i* PN		**P**		**14 42 21.0**	**-0.7**
AAA				pmax		pmax			
	comp=Z,21μm,2.0s								
AAA				MLR		MLR			
	comp=Z,4μm,4.0s								
DDI	**Dehra Dun**	**8.63**	**133**	*e*P		**P**		**14 42 23.1**	**-2.1**
DDI				*e*S		**S**		**14 43 55.0**	**-5.8**
KHET	**Khetri**	**9.36**	**151**	*e*S		**S**		**14 44 11.5**	**-6.2**
KHET				*e*S		**S**		**14 44 11.7**	**-6.0**
KHET				AMP				14 44 14.9	
KHET				AMP				14 44 15.2	
NDI	**New Delhi**	**9.45**	**143**	*e*P		**P**		**14 42 35.0**	**-0.9**
NDI				*e*				14 45 18.0	
JASL	**Jaisalmer**	**9.46**	**179**	*e*P		**P**		**14 42 34.5**	**-1.5**
AYAN	**Aya Nagar**	**9.58**	**144**	*e*P		**P**		**14 42 36.2**	**-1.3**
AYAN				*e*S		**S**		**14 44 17.9**	**-4.9**
BISR	**Bishrakh**	**9.65**	**142**	*e*P		**P**		**14 42 38.2**	**-0.3**
BISR				*e*S		**S**		**14 44 20.3**	**-4.3**
SONA	**Sohna**	**9.75**	**145**	*e*P		**P**		**14 42 38.6**	**-1.2**
SONA				*e*S		**S**		**14 44 21.9**	**-4.9**
SONA				AML		AML		14 44 22.5	
	comp=E,1μm,0.6s								
SONA				AML		AML		14 44 22.9	
	comp=N,992nm,0.4s								
VAN	**Vannovskaya**	**10.19**	**282**	⇑*i*P		**P**		**14 42 43.5**	**-1.9**
PTH	**Pithoragarh**	**10.50**	**128**	*e*P		**P**		**14 42 48.0**	**-1.5**
PTH				*e*S		**S**		**14 44 41.0**	**-3.3**
LGTI	**Lohaghat**	**10.59**	**128**	*e*P		**P**		**14 42 49.3**	**-1.3**
LGTI				*e*S		**S**		**14 44 42.0**	**-4.3**
AGRA	**Agra**	**11.02**	**144**	*e*		**P**		**14 42 54.7**	**-1.5**
JHNI	**Jhansi**	**12.80**	**146**	⇑*i*P		**P**		**14 43 19.0**	**+0.3**
JHNI				*e*S		**S**		**14 45 35.0**	**-2.3**
MK31	**Makanchi Array**	**13.49**	**36**	⇓P		**P**		**14 43 26.4**	**-1.0**
	comp=N,577nm,0.9s,baz=203,slow=10.0,SNR=1980								
MK31				⇓S		**S**		**14 45 55.1**	**+2.2**
	comp=N,2μm,1.8s								
MKAR	**Makanchi Array**	**13.49**	**36**	*i* P		**P**		**14 43 26.3**	**-1.0**
MKAR				pmax		pmax			
	comp=Z,205nm,0.6s								
MKAR	**Makanchi Array**	**13.49**	**36**	P		**P**		**14 43 26.2**	**-1.1**
	comp=Z,10.0nm,0.3s,baz=225,slow=8.6,SNR=230								
MKAR				S		**S**		**14 45 54.0**	**+1.1**
	baz=240,slow=12,SNR=2.2								
MKAR				ScP				14 51 49.5	
	baz=252,slow=2.6,SNR=6.6								
MKAR				ScS		ScS		14 55 27.1	-0.7
	comp=Z,0.1nm,0.3s,baz=270,slow=13,SNR=3.4								
MKAR				PKiKP				14 56 32.4	
	comp=Z,0.8nm,0.3s,baz=233,slow=2.0,SNR=12								
MKAR				P3KPbc				15 19 04.2	
	comp=Z,0.1nm,0.3s,baz=52,slow=4.8,SNR=4.1								
KOLN	**Koldanda**	**13.89**	**125**	*e*P		**P**		**14 43 31.5**	**-0.9**
	comp=Z,562nm,0.5s								
KOLN				*e*S		**S**		**14 45 58.9**	**-3.2**
BHPL	**Bhopal**	**14.35**	**154**	*e*P		**P**		**14 43 38.0**	**-0.1**
BHPL				*e*S		**S**		**14 46 20.7**	**+8.3**
BHPL				AML		AML		14 46 43.6	
	comp=E,709nm,0.4s								
BHPL				AML		AML		14 46 44.1	
	comp=N,352nm,0.4s								
GKN	**Gorkha**	**14.44**	**122**	*e*P		**P**		**14 43 38.1**	**-1.2**
	comp=N,3μm,0.4s								
GKN				*e*S		**S**		**14 46 10.1**	**-4.3**
ALBI	**Allahabad**	**14.58**	**136**	*e*P		**P**		**14 43 38.5**	**-2.5**
BHV	**Bhavnagar**	**14.66**	**175**	*e*P		**P**		**14 43 43.0**	**+1.0**
WMQ	**Urumqi**	**14.93**	**55**	P		**P**		**14 43 46.4**	**+1.2**
WMQ				XP				14 44 43.1	
WMQ				S		**S**		**14 46 25.8**	**+0.6**
WMQ				PCP		PcP		14 48 41.3	0.0
WMQ				SCS		ScS		14 55 29.3	-2.1
WMQ				AMB		AMB			
	comp=Z,5μm,5.2s								
WMQ				LR		LR			
	comp=N,20μm,8.4s								
WMQ				LR		LR			
	comp=E,14μm,8.2s								
WMQ				LR		LR			
	comp=Z,8μm,9.2s								
DMN	**Daman**	**15.01**	**122**	*e*P		**P**		**14 43 46.4**	**+0.1**
	comp=Z,924nm,0.5s								
DMN				*e*S		**S**		**14 46 24.0**	**-3.2**
KKN	**Kakani**	**15.02**	**121**	*e*P		**P**		**14 43 46.2**	**-0.2**
	comp=Z,4μm,0.5s								
KKN	**Kakani**	**15.02**	**121**	*e*S		**S**		**14 46 24.5**	**-2.9**
AB31	**Akbulak array**	**15.06**	**332**	P		**P**		**14 43 45.6**	**-1.1**
	comp=Z,119nm,0.6s,baz=142,slow=10,SNR=2004								
AB31				⇑S		**S**		**14 46 25.0**	**-3.0**
	comp=Z,70nm,0.7s								
AB31	**Akbulak array**	**15.06**	**332**	*i* P		**P**		**14 43 45.6**	**-1.1**
PKI	**Pulchoki**	**15.25**	**121**	*e*P		**P**		**14 43 49.3**	**+0.1**
	comp=Z,4μm,0.7s								
PKI	**Pulchoki**	**15.25**	**121**	*e*S		**S**		**14 46 29.3**	**-3.2**
GUN	**Gumba**	**15.37**	**119**	*e*P		**P**		**14 43 50.6**	**-0.1**
	comp=Z,2μm,0.5s								
GUN	**Gumba**	**15.37**	**119**	*e*P		**P**		**14 43 50.7**	**0.0**
VOSK	**Vostochnaya**	**16.31**	**1**	⇓P		**P**		**14 44 01.3**	**-0.7**
	comp=Z,545nm,0.8s								
VOSK				⇑S		**S**		**14 46 55.7**	**-0.4**
	comp=Z,1μm,2.2s								
ZRNK	**Zerenda**	**16.58**	**356**	⇓P		**P**		**14 44 04.4**	**-0.8**
	comp=Z,243nm,1.1s								
ZRNK				⇓S		**S**		**14 47 00.8**	**-1.3**
	comp=Z,490nm,1.5s								
ZRNK	**Zerenda**	**16.58**	**356**	*e*P		**P**		**14 44 04.3**	**-1.0**
AKL	**Akola**	**16.59**	**159**	⇑*i*		**P**		**14 44 11.3**	**+5.7**
AKL				*i* S		**S**		**14 47 07.2**	**+4.7**
BVA0	**Borovoye Array**	**16.61**	**359**	⇓P		**P**		**14 44 05.1**	**-0.5**
	comp=Z,42nm,0.7s,baz=170,slow=14,SNR=1224								
BVA0				⇑S		**S**		**14 47 01.2**	**-1.5**
	comp=Z,163nm,1.5s								
BVA0	**Borovoye Array**	**16.61**	**359**	*i* P		**P**		**14 44 04.5**	**-1.1**
BVA0				pmax		pmax			
	comp=Z,28nm,0.7s								
BVAR	**Borovoye Array**	**16.61**	**359**	P		**P**		**14 44 05.0**	**-0.6**
	comp=Z,63nm,0.3s,baz=166,slow=12,SNR=448								
BVAR				S		**S**		**14 47 02.4**	**-0.3**
	baz=149,slow=8.4,SNR=3.3								
BVAR				PcP		PcP		14 48 42.3	-1.5
	comp=Z,3.0nm,0.3s,baz=210,slow=2.5,SNR=5.9								
BVAR				PKiKP				14 56 34.0	
	comp=Z,1.4nm,0.3s,baz=264,slow=2.8,SNR=14								
BRVK	**Borovoye**	**16.65**	**359**	⇓*e*P		**P**		**14 44 05.5**	**-0.5**
BRVK				*e*S		**S**		**14 47 06.3**	**+2.8**
BRVK				pmax		pmax			
	comp=Z,307nm,0.8s								
BRVK	**Borovoye**	**16.65**	**359**	⇓*e*P		**P**		**14 44 05.5**	**-0.5**
	comp=Z,307nm,0.8s								
BRVK				*e*S		**S**		**14 47 06.3**	**+2.8**
BLSP	**Bilaspur**	**17.34**	**142**	*e*P		**P**		**14 44 13.6**	**-0.4**
BLSP				*e*				14 47 17.7	
BOM	**Bombay**	**17.55**	**173**	*e*		**P**		**14 44 17.4**	**+1.2**
BOM				*e*				14 47 31.9	
SLGI	**Shiliguri**	**17.89**	**118**	*e*		**P**		**14 44 21.3**	**+1.4**
BOK	**Bokaro**	**18.14**	**130**	⇑*i*P		**P**		**14 44 22.0**	**-0.4**
BOK				*i*				14 47 36.0	
SHBG	**Sahibganj**	**18.31**	**123**	*e*P		**P**		**14 44 25.0**	**+0.8**
LSA	**Lhasa**	**18.37**	**106**	P		**P**		**14 44 27.0**	**+2.3**
LSA				S		**S**		**14 47 45.3**	**+6.1**
LSA				AMB		AMB			
	comp=Z,950nm,0.9s								
LSA	**Lhasa**	**18.37**	**106**	⇑*i*P		**P**		**14 44 27.1**	**+2.4**
LSA				*e*S		**S**		**14 47 46.6**	**+7.4**
LSA				pmax		pmax			
	comp=Z,659nm,0.7s								
LSA	**Lhasa**	**18.37**	**106**	⇑*i*P		**P**		**14 44 27.1**	**+2.3**
	comp=Z,659nm,0.7s								
LSA				*e*S		**S**		**14 47 46.6**	**+7.4**
LATR	**Latur**	**18.65**	**162**	*e*P		**P**		**14 44 27.5**	**-0.2**
LATR				*e*				14 44 37.5	
MAK	**Makhachkala**	**19.00**	**297**	*e*P		**P**		**14 44 35.5**	**+4.3**
MAK				*i* S		**S**		**14 47 56.0**	**+4.7**
MAK				pmax		pmax			
	comp=Z,500nm,2.0s								
MAK				smax					
	comp=N,5μm,8.0s								
MAK				smax					
	comp=E,2μm,8.0s								
MAK				MLR		MLR			
	comp=Z,3μm,10.0s								
MAK				MLR		MLR			
	comp=N,2μm,12.0s								
MAK				MLR		MLR			
	comp=E,3μm,12.0s								
KAD	**Karad**	**19.27**	**170**	*e*P		**P**		**14 44 35.2**	**+1.0**
KAD				⇓*i*P				14 44 35.3	
KAD				*i*				14 48 08.1	
HYB	**Hyderabad**	**20.15**	**158**	⇓*e*P		**P**		**14 44 44.0**	**+0.9**
HYB				*e*				14 45 44.0	
HYB				*e*S		**S**		**14 48 18.0**	**+5.2**
HYB				pmax		pmax			
	comp=Z,300nm,1.0s								
HYB	**Hyderabad**	**20.15**	**158**	⇓*e*P		**P**		**14 44 44.0**	**+0.9**
	comp=Z,300nm,1.0s								
HYB				*e*				14 45 44.0	
HYB				*e*S		**S**		**14 48 18.0**	**+5.2**
HYB	**Hyderabad**	**20.15**	**158**	⇓*i*P		**P**		**14 44 44.0**	**+0.9**
	comp=Z,300nm,1.0s								
HYB				*e*				14 44 48.0	
HYB				*e*				14 45 02.0	
HYB				*e*sP				14 45 41.0	
HYB				*e*S		**S**		**14 48 18.0**	**+5.2**
DGRG	**David-gareji**	**20.32**	**292**	P		**P**		**14 44 46.5**	**+1.9**
DGRG				S		**S**		**14 48 25.1**	**+9.2**
NVS	**Novosibirsk**	**20.34**	**21**	⇑*i*P		**P**		**14 44 44.6**	**-0.1**
NVS				*i* S		**S**		**14 48 19.7**	**+3.6**
NVS				pmax		pmax			
	comp=Z,1μm,0.8s								
NVS				pmax		pmax			
	comp=N,1μm,0.9s								
NVS				pmax		pmax			
	comp=E,225nm,0.6s								
NVS				smax					
	comp=N,1μm,1.0s								
NVS				smax					
	comp=E,1μm,1.2s								
CAL	**Calcutta**	**20.59**	**127**	*e*		**P**		**14 44 54.8**	**+7.4**
CAL				*e*				14 46 56.5	
KBD	**Kabd**	**20.64**	**256**	*e*P		**P**		**14 44 48.9**	**+1.1**
KBD				AMb		AMB		14 44 52.8	
	comp=Z,7μm,0.5s								
GNI	**Garni**	**20.71**	**288**	P		**P**		**14 44 51.7**	**+3.2**
GNI				pmax		pmax			
	comp=Z,24nm,0.4s								
GNI				pmax		pmax			
	comp=E,11nm,0.6s								
GNI	**Garni**	**20.71**	**288**	P		**P**		**14 44 51.7**	**+3.2**
	comp=E,24nm,0.4s,baz=62,slow=0.6,SNR=24								
GNI				ScP				14 52 06.8	
	comp=E,11nm,0.6s,baz=268,slow=3.8,SNR=3.6								
GNI	**Garni**	**20.71**	**288**	*e*P		**P**		**14 44 51.5**	**+3.0**
	comp=E,147nm,0.8s								
MTA	**Mtatsminda**	**20.78**	**293**	P		**P**		**14 44 51.9**	**+2.7**
TI2	**Plekhanov**	**20.82**	**293**	⇑*i*P		**P**		**14 44 53.0**	**+3.4**
TI2				*i*				14 45 26.0	
TI2				*i* S		**S**		**14 48 33.0**	**+8.2**
TBLG	**Delisi**	**20.83**	**293**	P		**P**		**14 44 52.5**	**+2.9**
RDF	**Al-Radifah**	**20.86**	**256**	*e*P		**P**		**14 44 51.8**	**+1.8**
RDF				AMb		AMB		14 44 55.5	
	comp=Z,2μm,0.9s								
SHL	**Shillong**	**21.07**	**115**	*e*P		**P**		**14 44 54.0**	**+1.9**
SHL				*e*S		**S**		**14 48 33.5**	**+4.1**
ZEI	**Tsey**	**21.58**	**295**	*e*P		**P**		**14 44 57.7**	**+0.8**
ZEI				*i* *PP				14 45 31.5	
ZEI				pmax		pmax			
	comp=Z,35nm,0.8s,mb4.9								
ARU	**Arti**	**21.64**	**341**	⇑*i*P		**P**		**14 44 59.0**	**+1.5**
ARU				*e*PPP		PPP		14 45 35.3	-13
ARU				*i* S		**S**		**14 48 46.4**	**+7.0**
ARU				*e*SSS		SSS		14 49 37.8	-24
ARU				pmax		pmax			
	comp=Z,1μm,0.8s								
ARU	**Arti**	**21.64**	**341**	*e*P		**P**		**14 44 58.8**	**+1.2**
	comp=Z,1μm,0.7s								
AGT	**Agartala**	**21.65**	**120**	⇓*i*		**P**		**14 45 07.0**	**+9.2**
AGT				*i*				14 45 19.0	
ONI	**Oni**	**21.88**	**295**	P		**P**		**14 45 02.9**	**+3.0**
GOF	**Gofitskoye**	**22.61**	**301**	⇓*i*P		**P**		**14 45 07.6**	**+0.7**
GOF				pmax		pmax			
	comp=Z,92nm,0.8s,mb5.4								
KIV	**Kislovodsk**	**22.63**	**298**	*e*P		**P**		**14 45 08.5**	**+1.3**
KIV				pmax		pmax			
	comp=Z,113nm,0.7s,mb5.5								
KIV	**Kislovodsk**	**22.63**	**298**

ANN eS S 14 50 01.7 +1.5
ANN pmax pmax
comp=Z,52nm,0.7s,mb5.3
LZH Lanzhou 26.64 81 ⇑P P **14 45 46.3 +1.6**
LZH AP pP 14 46 28.3 +3.2
LZH PP PP 14 46 37.4 +0.2
LZH XP sP 14 46 52.0 +2.8
LZH PCP PcP 14 49 03.5 +0.1
LZH S S **14 50 04.0 +1.1**
LZH XS 14 51 20.0
LZH SS SS 14 51 39.1 +4.4
LZH SCP 14 52 21.9
LZH PCS 14 52 43.6
LZH SCS ScS 14 56 11.5 -0.7
LZH AMB AMB
comp=Z,270nm,1.0s,mb5.8
LZH AMB AMB
comp=Z,2µm,4.1s
LZH LR LR
comp=E,1µm,6.6s
LZH LR LR
comp=Z,2µm,8.4s
LZH Lanzhou 26.64 81 ⇑P P **14 45 46.2 +1.5**
LZH *PP pP 14 46 28.2 +3.1
LZH 14 46 37.4
LZH *SP sP 14 46 52.0 +2.8
LZH 14 49 03.5
LZH S S **14 50 04.0 +1.1**
LZH *SS 14 51 20.0
LZH SS SS 14 51 39.1 +4.4
LZH 14 56 11.5
LZH pmax pmax
comp=Z,270nm,1.0s,mb5.8
LZH Lanzhou 26.64 81 ⇑P P **14 45 46.2 +1.5**
comp=Z,270nm,1.0s,mb5.8
LZH pP pP 14 46 28.2 +3.1
LZH PP PP 14 46 37.4 +0.2
LZH sP sP 14 46 52.0 +2.8
LZH PcP PcP 14 49 03.5 +0.1
LZH S S **14 50 04.0 +1.1**
LZH sS 14 51 20.0
LZH SS SS 14 51 39.1 +4.4
LZH ScP 14 52 21.9
LZH PcS 14 52 43.6
LZH ScS ScS 14 56 11.5 -0.7
PECR Pechory 26.81 326 *i* P P **14 45 46.0 0.0**
PECR *e* pP 14 46 30.0 +3.5
PECR *e* 14 46 50.0
PECR *eS* S **14 50 05.6 +0.2**
PECR pmax pmax
comp=Z,1µm,5.0s
PECR smax
comp=N,800nm,5.0s
PECR smax
comp=E,600nm,7.0s
AFFS 'Afif 26.91 250 P P **14 45 47.4 +0.2**
VOR Voronezh 27.07 314 *eP* P **14 45 48.0 -0.4**
VOR pmax pmax
comp=Z,300nm,1.2s,mb5.8
ZAK Zakamensk 27.21 49⇓*iP* P **14 45 49.9 +0.2**
ZAK *e* 14 46 35.8
ZAK *e* 14 49 03.7
ZAK pmax pmax
comp=Z,81nm,1.0s,mb5.3
ZAK pmax pmax
comp=Z,40nm,1.0s,mb5.0
ZAK pmax pmax
comp=Z,36nm,1.1s,mb4.9
COBT Iskenderun 27.64 281 *i* P P **14 45 54.7 +1.0**
TLY Talaya 27.86 46⇑*iP* P **14 45 56.4 +0.8**
TLY *e* pP 14 46 41.5 +5.1
TLY *eS* S **14 50 17.3 -5.0**
TLY *eSS* SS 14 51 57.5 -5.5
TLY pmax pmax
comp=Z,63nm,0.8s,mb5.3
TLY Talaya 27.86 46⇑*iP* P **14 45 56.5 +1.0**
TLY *ePcP* PcP 14 49 05.1 -1.1
KAMS Al Khamasin 27.92 242 P P **14 45 55.3 -1.1**
CD2 Chengdu 27.95 92⇑*iP* P **14 45 57.6 +1.0**
CD2 AMB AMB
comp=Z,300nm,0.9s,mb5.9
QURS Qurayyt al Mil 28.09 270 P P **14 45 59.2 +1.4**
ASF Jabal al Asfar 28.18 271 P P **14 46 00.1 +1.4**
comp=Z,5.1nm,0.5s,mb4.4,baz=313,slow=10,SNR=10
ASF ScP 14 52 27.3
comp=Z,16nm,0.8s,baz=315,slow=2.9,SNR=4.9
BOYT Boyabat 28.18 291 *i* P P **14 45 59.6 +1.1**
CTKT Corum 28.30 290 *i* P P **14 46 00.2 +0.6**
AVNT Avonos 28.41 286 *i* P P **14 46 01.2 +0.6**
IRK Irkutsk 28.42 46 *eP* P **14 46 00.9 +0.3**
IRK *e* pP 14 46 45.8 +4.2
IRK *e* 14 52 15.8
IRK pmax pmax
comp=Z,295nm,1.4s,mb5.7
SONM Songino Array 28.57 55 P P **14 46 02.7 +0.8**
comp=Z,67nm,0.6s,mb5.5,baz=266,slow=8.8,SNR=605
SONM PcP PcP 14 49 06.9 -1.1
comp=Z,20nm,0.8s,baz=240,slow=2.8,SNR=7.8
SONM ScP 14 52 27.2
comp=Z,8.6nm,1.1s,baz=315,slow=1.7,SNR=3.9
SONM PKiKP 14 56 39.6
comp=Z,1.1nm,0.6s,baz=225,slow=1.7,SNR=4.1
SONM P3KPbc 15 18 13.5
comp=Z,2.2nm,0.7s,baz=96,slow=3.7,SNR=14
NIG Nigde 28.68 284 *eP* P **14 46 04.5 +1.4**
KBRS Khaybar 28.83 257 P P **14 46 06.0 +1.5**
SIM Simferopol' 28.84 299 *eP* P **14 46 05.8 +1.4**
SIM *e**PP pP 14 46 45.3 -0.2
SIM *eS* S **14 50 39.2 +1.2**
SIM *e**SS 14 51 53.5
SIM pmax pmax
comp=Z,110nm,9.9s
MUKL Al Mukalla 29.21 227⇓*eP* P **14 46 07.7 -0.2**
MUKL AMb AMB 14 46 08.6
comp=Z,30nm,0.5s,mb5.2
TATS Tathlith 29.21 242 P P **14 46 07.6 -0.3**
BR131 Keskin Array S 29.25 288 *eP* P **14 46 08.2 +0.1**
comp=Z,19nm,0.6s,mb4.9
BR131 *eScP 14 52 29.1
BRTR Keskin Array B 29.25 288 P P **14 46 08.4 +0.4**
comp=Z,14nm,0.6s,mb4.8,baz=100,slow=8.1,SNR=63
BRTR PcP PcP 14 49 08.9 -0.8
comp=Z,10nm,0.7s,baz=147,slow=4.8,SNR=7.6
BRTR ScP 14 52 28.9
comp=Z,10nm,0.8s,baz=130,slow=5.0,SNR=10.0
BRTR ScS ScS 14 56 23.6 -0.4
comp=Z,0.7nm,0.5s,baz=127,slow=7.2,SNR=4.8
BRTR P3KPbc 15 18 10.8
comp=Z,2.4nm,0.9s,baz=236,slow=4.5,SNR=9.9
BRTR Keskin Array B 29.25 288 P P **14 46 08.4 +0.4**
BRTR PcP PcP 14 49 08.9 -0.8
BRTR ScP 14 52 28.9
BRTR ScS ScS 14 56 23.6 -0.4
BRTR *e* 15 18 10.8
MMLI Mount Malkishu 29.29 273 P P **14 46 10.0 +1.5**
MEST Erdemli 29.30 281 *i* P P **14 46 08.9 +0.4**
BALT Daday 29.32 292 *i* P P **14 46 09.3 +0.6**
ELDT Eldivan 29.35 289 *i* P P **14 46 09.5 +0.6**
MKRJ Makawir 29.39 271 P P **14 46 10.6 +1.2**
MOS Moscow 29.59 321α*iP* P **14 46 11.0 +0.1**
MOS *e* pP 14 46 50.6 -1.6
MOS *eS* S **14 50 48.9 -0.8**
MOS *eSS* 14 52 00.5
MOS *e* 14 56 25.4
MOS pmax pmax
comp=Z,1µm,1.3s,mb6.3
MOS pmax pmax
comp=Z,653nm,1.1s,mb6.2
MOS smax
comp=N,900nm,2.9s
KMI Kunming 29.59 103 ⇑P P **14 46 11.3 +0.1**
KMI AP pP 14 46 52.9 +0.3
KMI XP sP 14 47 16.6 +0.3
KMI PPP PPP 14 47 37.5 +4.8
KMI PCP PcP 14 49 09.9 -0.9
KMI S S **14 50 50.6 +0.6**
KMI XS 14 52 04.4
KMI SCP 14 52 30.6
KMI SS SS 14 52 43.3 +0.7
KMI PCS 14 52 52.3
KMI SSS SSS 14 53 15.3 -1.9
KMI SCS ScS 14 56 25.3 -0.5
KMI AMB AMB
comp=Z,117nm,0.9s,mb5.5
KMI AMB AMB
comp=Z,775nm,5.1s
KMI LR LR
comp=N,410nm,12.8s
KMI LR LR
comp=E,581nm,12.1s
KMI LR LR
comp=Z,424nm,14.2s
KMI Kunming 29.59 103 P P **14 46 11.6 +0.3**
KMI Kunming 29.59 103 ⇑P P **14 46 11.2 0.0**
KMI *PP pP 14 46 52.9 +0.3
KMI *SP sP 14 47 16.6 +0.3
KMI 14 47 17.1
KMI 14 49 09.9
KMI S S **14 50 50.6 +0.6**
KMI *SS 14 52 04.4
KMI SS SS 14 52 43.3 +0.7
KMI 14 56 25.3
KMI pmax pmax
comp=Z,117nm,0.9s,mb5.5
KMI MLR MLR
comp=Z,420nm,14.2s
KMI Kunming 29.59 103 ⇑P P **14 46 11.2 0.0**
comp=Z,117nm,0.9s,mb5.5
KMI pP pP 14 46 52.9 +0.3
KMI sP sP 14 47 16.6 +0.3
KMI PP PP 14 47 17.1 +1.3
KMI PPP PPP 14 47 37.5 +4.8
KMI PcP PcP 14 49 09.9 -0.9
KMI S S **14 50 50.6 +0.6**
KMI sS 14 52 04.4
KMI ScP 14 52 30.6
KMI SS SS 14 52 43.3 +0.7
KMI PcS 14 52 52.3
KMI SSS SSS 14 53 15.3 -1.9
KMI ScS ScS 14 56 25.3 -0.5
KMI LR LR
comp=Z,420nm,14.2s
SLTI Sal'it 29.66 272 P P **14 46 13.1 +1.4**
SAFT Safranbolu 29.86 291 *eP* P **14 46 14.1 +0.7**
OBN Obninsk 29.86 320*c iP* P **14 46 12.9 -0.4**
OBN *e* 14 47 22.7
OBN *i S* S **14 50 55.0 +1.1**
OBN pmax pmax
comp=Z,726nm,1.2s,mb6.2
OBN MLR MLR
comp=Z,400nm,16.0s
OBN Obninsk 29.86 320 *eP* P **14 46 13.0 -0.3**
comp=Z,370nm,0.4s
OBN *eScP 14 52 30.3
TBKS Tabuk 29.89 264 P P **14 46 15.5 +1.6**
ZFRI Zfri 30.10 269 P P **14 46 17.0 +1.3**
JMQS Jabal Moqyreh 30.17 266 P P **14 46 17.5 +1.3**
CHRT Chiangrai 30.30 115⇑P P **14 46 17.5 0.0**
comp=Z,724nm,0.7s
PRNI Paran 30.32 269 P P **14 46 19.0 +1.5**
BLJS Baljurashi 30.35 245 P P **14 46 18.4 +0.6**
CHG Chiang Mai 30.37 118⇑P P **14 46 17.6 -0.5**
comp=Z,87nm,0.8s,mb5.4
CHTO Chiang Mai 30.37 118 P P **14 46 17.6 -0.6**
DJNS Zahran al Janu 30.38 239 P P **14 46 18.4 +0.2**
SGKT Sivrigoynuk 30.38 290 *i* P P **14 46 19.1 +1.1**
PALK Pallekele 30.40 160 *eP* P **14 46 19.1 +0.7**
comp=Z,33nm,0.8s,mb5.0
YNBS Yanbu' al Bahr 30.55 256 P P **14 46 20.8 +1.2**
KDHN Kadinhani 30.57 286 *i* P P **14 46 19.9 +0.3**
MBH Mount Berech 30.59 268 P P **14 46 21.1 +1.2**
LEF Lefka 30.60 279 *eP* P **14 46 19.2 -0.7**
EIL Elat 30.61 268 P P **14 46 21.1 +1.0**
EIL Elat 30.61 268 *eP* P **14 46 20.8 +0.7**
comp=Z,126nm,1.4s,mb5.3
KZIT Kziot 30.61 270 P P **14 46 21.3 +1.2**
KMTI Karmit 30.63 269 P P **14 46 21.4 +1.1**
UMJS Umm Lajj 30.64 258 P P **14 46 22.1 +1.7**
ALWS Ilw as Safayha 30.65 267 P P **14 46 21.4 +0.9**
ALWS Ilw as Safayha 30.65 267 P PcP 14 49 13.2 -0.3
JMOS Jabal al Moall 30.67 267 P P **14 46 21.3 +0.7**
KIZT Kizilcal 30.70 286 *eP* P **14 46 21.2 +0.4**
BTO Baotou 30.86 70 *eP* P **14 46 23.0 +0.9**
BTO AMB AMB
comp=Z,167nm,1.0s,mb5.6
BTO LR LR
comp=N,741nm,5.4s
BTO LR LR
comp=E,742nm,9.3s
HAQS Haql 30.86 267 P P **14 46 23.1 +0.8**
HAQS Haql 30.86 267 P PcP 14 49 13.4 -0.6
BDAS Al Bad' **30.97 265** P P **14 46 24.1 +0.8**
LTHS Al Lith 30.98 247 *eP* P **14 46 24.1 +0.7**
TAYS Tayyib Ism 31.11 266 P P **14 46 25.1 +0.6**
XAN Xi'an 31.16 83 P P **14 46 24.9 +0.1**
XAN S S **14 51 15.9 +1.4**
XAN AMB AMB
comp=Z,397nm,1.1s,mb6.0
XAN AMB AMB
comp=Z,429nm,9.5s
XAN LR LR
comp=N,446nm,12.1s
XAN LR LR
comp=E,297nm,13.0s
XAN LR LR
comp=Z,630nm,15.5s
HENT Hendek 31.24 290 *i* P P **14 46 25.2 -0.3**
ESKT Eskisehir 31.41 288 *i* P P **14 46 26.9 -0.1**
BDHA Al Bayda' 31.72 232‖*eP* P **14 46 30.3 +0.4**
HAJJ Hajjah 31.74 237 *eP* P **14 46 30.6 +0.5**
HHC Hu-ho-hao-te 32.00 69⇑*iP* P **14 46 33.0 +0.9**
HHC XP sP 14 47 37.5 -0.1
HHC PP PP 14 47 47.1 +1.2
HHC PCP PcP 14 49 14.6 -2.4
HHC S S **14 51 28.8 +1.3**
HHC SCP 14 52 42.0
HHC XS 14 52 44.4
HHC AMB AMB
comp=Z,89nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,847nm,8.4s
HHC LR LR
comp=N,930nm,12.0s
HHC LR LR
comp=E,1µm,12.0s
HHC LR LR
comp=Z,927nm,13.2s
TKTP Tekketepe 32.04 285 *i* P P **14 46 32.5 0.0**
GYA Guiyang 32.07 98⇑*iP* P **14 46 33.6 +0.8**
GYA XP sP 14 47 40.0 +1.6
GYA PCP PcP 14 49 16.5 -0.8
GYA S S **14 51 30.8 +2.1**
GYA SCP 14 52 38.6
GYA PCS 14 53 00.5
GYA SCS ScS 14 56 35.9 -2.0
GYA AMB AMB
comp=Z,540nm,1.3s,mb5.9
GYA AMB AMB
comp=Z,510nm,3.3s
YLV Yalova 32.42 290 *eP* P **14 46 35.3 -0.4**
GDZ Gediz 32.52 287 *i* P P **14 46 36.9 +0.3**
ELL Elmali 32.60 283 P P **14 46 38.5 +1.2**
KHL Karahalli 32.61 286 *eP* P **14 46 37.9 +0.5**
ULDT Uludag 32.65 289 *i* P P **14 46 37.6 0.0**
KIS Kishinev 32.67 302 *eP* P **14 46 36.0 -1.8**
KIS *e**PP pP 14 47 20.0 +0.1
KIS *e* 14 48 02.0
KIS *eS* S **14 51 36.0 -1.8**
KIS *e**SS 14 52 50.0
KIS *i* 14 56 38.0
KIS MLR MLR
comp=Z,500nm,13.0s
KIS MLR MLR
comp=Z,500nm,14.0s
ENH Enshi 32.80 89⇑*iP* P **14 46 39.6 +0.5**
comp=Z,483nm,0.9s,mb6.0
ENH *ePcP PcP 14 49 17.9 -1.3
AKASG Malin Array Be 32.83 309 P P **14 46 38.5 -0.6**
AKASG 14 49 17.4
AKASG S S **14 51 41.2 +1.0**
AKASG 14 56 40.3
AKASG Malin Array Be 32.83 309 P P **14 46 38.5 -0.6**
comp=Z,41nm,0.4s,mb5.3,baz=79,slow=7.3,SNR=271
AKASG PcP PcP 14 49 17.3 -1.8
comp=Z,2.4nm,0.4s,baz=68,slow=4.6,SNR=4.1
AKASG S S **14 51 41.1 +0.9**
comp=Z,6.7nm,0.8s,baz=97,slow=14,SNR=4.4
AKASG ScP 14 52 40.5
comp=Z,37nm,0.8s,baz=77,slow=3.4,SNR=32
AKASG ScS ScS 14 56 40.2 -1.3
comp=Z,3.3nm,0.8s,baz=109,slow=4.8,SNR=10
AKASG P3KPbc 15 17 52.3
comp=Z,0.2nm,0.3s,baz=277,slow=3.3,SNR=4.7
AKASG Malin Array Be 32.83 309 P P **14 46 38.5 -0.6**
AKASG PcP PcP 14 49 17.4 -1.8
AKASG S S **14 51 41.1 +0.9**
AKASG ScP 14 52 40.5
AKASG ScS ScS 14 56 40.2 -1.3
AKASG *e 15 17 52.3
TIRR Tirgusor 32.89 297⇑*iP* P **14 46 39.4 -0.3**
PSN Preselentsi 33.08 296 *eP* P **14 46 39.0 -2.3**
CFR Carcaliu 33.09 299⇓*iP* P **14 46 41.6 +0.2**
NST Nakhon Sawan 33.32 121⇓*iP* P **14 46 44.8 +1.2**
comp=Z,261nm,0.7s,mb5.9
BNT Bandirma 33.55 290 *eP* P **14 46 45.0 -0.3**
PRD Provadia 33.67 295 *eP* P **14 46 47.0 +0.6**
AKS Akhisar 33.84 287 *eP* P **14 46 48.2 +0.4**
CIT Chita 33.88 49⇑*iP* P **14 46 48.6 +0.6**
CIT *e* 14 49 21.8
CIT *e* 14 51 55.4
CIT *e* 14 56 45.3
CIT pmax pmax
comp=Z,853nm,1.4s,mb6.1
VRI Vrincioaia 34.08 300 P P **14 46 51.0 +1.2**
VRI Vrincioaia 34.08 300⇓*iP* P **14 46 51.5 +1.7**
VRI Vrincioaia 34.08 300⇓*iP* P **14 46 51.5 +1.7**
ARG Arkhangelos 34.12 283 *eP* P **14 46 50.0 -0.3**
ISR Istrita 34.22 299⇓*iP* P **14 46 53.5 +2.5**
MNK Minsk 34.44 315⇑*iP* P **14 46 47.0 -5.7**
MLR Muntele Rosu 34.63 299 P P **14 46 56.5 +2.0**
MLR 14 56 49.2
MLR pmax pmax
comp=Z,118nm,0.8s
MLR pmax pmax
comp=E,38nm,1.2s
MLR pmax pmax
comp=Z,2.0nm,0.6s
MLR Muntele Rosu 34.63 299 P P **14 46 56.5 +2.0**
comp=Z,118nm,0.8s,mb5.5,baz=122,slow=3.8,SNR=5.9
MLR ScS ScS 14 56 49.2 -1.9
comp=Z,38nm,1.2s,baz=252,slow=22,SNR=14
MLR P3KPbc 15 17 47.0
comp=Z,2.2nm,0.6s,baz=181,slow=18,SNR=3.8
MLR Muntele Rosu 34.63 299⇓*iP* P **14 46 56.7 +2.2**
MLR Muntele Rosu 34.63 299⇓*iP* P **14 46 56.7 +2.2**
SZH Strazhica 34.74 295 *eP* P **14 46 56.0 +0.6**
KKTK Khon Kaen 34.78 117⇑*iP* P **14 46 56.5 +0.4**
comp=Z,4µm,0.4s
SMG Samos 34.81 286 *eP* P **14 46 56.7 +0.6**
PUL Pulkovo 34.86 325 *i* P P **14 46 56.7 +0.4**
PUL pmax pmax
comp=Z,425nm,0.6s,mb6.2
PUL Pulkovo 34.86 325⇑*iP* P **14 46 56.4 +0.1**
ALN Alexandroupoli 34.89 291 *eP* P **14 46 56.8 0.0**
PRK Paraskevi 34.96 288 *eP* P **14 46 58.1 +0.7**
BURAR Bucovina Array 35.15 303⇓*iP* P **14 46 59.7 +0.9**
BURAR Bucovina Array 35.15 303⇓*iP* P **14 46 59.7 +0.8**
NNT Nongplab 35.24 125 P P **14 47 01.5 +1.5**
IDID Didziasalis 35.24 317 *i* P P **14 46 59.8 +0.2**
IDID AMb AMB 14 47 02.5
comp=Z,49nm,1.2s,mb4.9
IDID *ePP PP 14 48 24.7 -0.5
VOIR 35.26 299⇑P P **14 47 00.6 +0.8**
KDZ Kurdzhali 35.27 293 *eP* P **14 47 00.5 +0.6**
ATD Arta Tunnel 35.29 232 P P **14 47 02.0 +1.6**
comp=Z,33nm,0.6s,mb5.0,baz=26,slow=8.1,SNR=14
IIGN Ignalina 35.54 316 *eP* P **14 47 03.2 +1.1**
BOD Bodaibo 35.56 39⇓*iP* P **14 47 01.8 -0.4**
BOD pmax pmax
comp=Z,214nm,1.1s,mb5.6
IZAR Zarasai 35.62 317 *eP* P **14 47 03.2 +0.5**
IZAR AMb AMB 14 47 05.1
comp=Z,54nm,0.8s,mb5.1
ISAL Salakas 35.65 317 *i* P P **14 47 03.4 +0.5**
ISAL AMb AMB 14 47 05.4
comp=Z,42nm,1.1s,mb4.9
LOS Limnos 35.76 290 *eP* P **14 47 03.6 -0.5**
APE Apeiranthos 35.96 285 P P **14 47 06.4 +0.6**
APE Apeiranthos 35.96 285 *eP* P **14 47 06.1 +0.3**
PGB Panagyurishte 36.09 294 *i* P P **14 47 08.0 +1.1**
VSU Vasula 36.12 322⇑*iP* P **14 47 06.8 -0.1**
SANT Santorini 36.18 284 *eP* P **14 47 07.1 -0.6**
comp=Z,24nm,0.4s,mb5.1
NPS Neapolis 36.34 282 *eP* P **14 47 21.0 +12**
XRY Khrisi 36.38 281 *eP* P **14 47 09.5 +0.2**
MMB Musomiste 36.53 293 *i* P P **14 47 11.0 +0.4**
WHN Wuhan 36.62 86⇑*iP* P **14 47 12.5 +1.1**
WHN XP sP 14 48 19.0 +1.1
WHN PCP PcP 14 49 29.5 -0.8
WHN S S **14 52 40.0 +1.3**
WHN AMB AMB
comp=Z,288nm,1.0s,mb5.8
WHN LR LR
comp=Z,3µm,18.5s
VTS Vitosha 36.79 295 *i* P P **14 47 13.5 +0.8**
VTS Vitosha 36.79 295 P P **14 47 13.8 +1.1**
PAIG Paliouri 36.82 290 *eP* P **14 47 10.6 -2.5**
DRGR 36.85 302 P P **14 47 14.4 +1.2**
DRGR 36.85 302⇑P P **14 47 14.1 +0.9**
DRGR 36.85 302⇑P P **14 47 14.1 +0.9**
KWP Kalwaria 36.88 306 *eP* P **14 47 14.1 +0.7**
KWP *epP pP 14 47 57.9 +1.6
KWP *ePP PP 14 48 43.8 +0.2
KWP *eS* S **14 52 42.5 0.0**
KWP Kalwaria 36.88 306 *eP* P **14 47 14.1 +0.7**
KWP *epP pP 14 47 57.9 +1.5
KWP *ePP PP 14 48 43.8 +0.2
KWP *eS* S **14 52 42.5 0.0**
KWP MLR MLR 15 07 10.1
comp=Z,300nm,23.3s
IDI Anoyia 36.90 282 PcP PcP 14 49 31.0 -0.1
comp=Z,12nm,0.3s,baz=14,slow=7.4,SNR=3.6
IDI S S **14 52 43.0 0.0**
comp=Z,16nm,0.9s,baz=10,slow=20,SNR=3.7
PLG Polygyros 36.92 291 *eP* P **14 47 14.5 +0.6**
KKB Krupnik 36.97 293 *i* P P **14 47 14.5 +0.2**
SUW Suwalki 37.02 314 *eP* P **14 47 14.2 -0.3**
SUW *ePP PP 14 48 42.4 -2.7
SUW *ePcP PcP 14 49 29.5 -1.8
SUW *eS* S **14 52 41.6 -2.8**
SUW Suwalki 37.02 314 *eP* P **14 47 14.2 -0.3**
SUW *ePP PP 14 48 42.4 -2.7
SUW *ePcP PcP 14 49 29.5 -1.8
SUW *eS* S **14 52 41.6 -2.8**
SUW MLR MLR 15 05 16.2
comp=Z,400nm,17.7s
UBT Ubonrachathani 37.09 116⇑P P **14 47 16.0 +0.6**
comp=Z,389nm,0.6s,mb6.1
KOLS Kolonicke sedl 37.15 305 *i* P P **14 47 16.3 +0.7**
KOLS *e* 14 48 43.2
KOLS *e* 14 57 05.1
KOLS Kolonicke sedl 37.15 305 *i* P P **14 47 16.3 +0.7**
KOLS *ePP PP 14 48 43.2 -3.3
KOLS *e* 14 52 57.9
KOLS *e* 14 57 05.1
ZAPS Zavoj/Pirot 37.15 296⇑*iP* P **14 47 16.2 +0.6**
FINES FINESS Array B 37.43 326 P P **14 47 18.2 +0.3**
comp=Z,160nm,0.7s,mb5.7,baz=123,slow=8.5,SNR=607
FINES S S **14 52 49.5 -1.1**
comp=Z,14nm,0.8s,baz=114,slow=19,SNR=4.7
LVZ Lovozero 37.46 339⇑*iP* P **14 47 18.3 +0.3**
HIA Hailar 37.52 54⇑*iP* P **14 47 19.7 +0.9**
HIA *e* 14 49 32.4
HIA *e* 14 52 58.2
HIA pmax pmax
comp=Z,124nm,1.1s
HIA Hailar 37.52 54⇑*iP* P **14 47 19.7 +1.0**
comp=Z,124nm,1.1s,mb5.3
HIA *ePcP PcP 14 49 32.4 -0.6
HIA *eScP 14 52 58.2
KAF Kangasniemi 37.58 327 *ep* P **14 47 18.1 -1.0**
comp=Z,73nm,0.7s,mb5.3,baz=112,slow=8.4
APA Apatity 37.63 338⇓*iP* P **14 47 19.5 0.0**
APA *i *PP sP 14 48 27.0 +0.8
APA *i S S **14 52 54.0 +0.4**
APA *i SS SS 14 55 42.0 +0.6
APA pmax pmax
comp=Z,260nm,1.0s,mb5.7
CRVS Cervenica-Dubn 37.68 305 *eP* P **14 47 20.2 +0.1**

CRVS eS S 14 52 55.0 +0.5
CRVS e 14 53 00.5
CRVS eSS SS 14 56 01.5 +19
LIT Litokhoron 37.69 291 eP **P 14 47 19.2 -1.1**
STHS Stebnicka Huta 37.83 306 i P **P 14 47 21.6 +0.3**
STHS e 14 53 00.5
VLI Veliai 38.07 285 eP **P 14 47 22.0 -1.4**
KYTH Kithira 38.10 284 eP **P 14 47 22.7 -1.0**
WAR Warsaw 38.11 311 eP **P 14 47 24.1 +0.5**
WAR epP pP 14 48 08.2 +1.5
WAR eS **S 14 53 01.0 +0.2**
WAR Warsaw 38.11 311 eP **P 14 47 24.1 +0.5**
WAR epP pP 14 48 08.2 +1.5
WAR eS **S 14 53 01.1 +0.2**
SKO Skopje 38.17 294 i P **P 14 47 24.0 -0.3**
KECS Kecovo 38.33 304 i P **P 14 47 26.1 +0.6**
KECS e 14 53 01.8
QIZ Qiongzhong 38.41 106 ⇑P **P 14 47 26.6 +0.2**
QIZ XP sP 14 48 32.5 -0.8
QIZ S **S 14 53 02.3 -3.4**
QIZ XS 14 54 23.8
QIZ AMB AMB
comp=Z,107nm,1.8s,mb5.1
QIZ AMB AMB
comp=Z,409nm,8.4s
QIZ Qiongzhong 38.41 106 eP **P 14 47 26.3 -0.2**
comp=Z,339nm,1.5s,mb5.7
QIZ ePcP PcP 14 49 35.5 -0.4
EVR Evrytania 38.44 289 eP **P 14 47 26.7 +0.2**
NIE Niedzica 38.44 306⇑iP **P 14 47 27.8 +1.4**
GRUS Gruza 38.45 297 i P **P 14 47 26.6 0.0**
PSZ Piszkesteto 38.74 304 eP **P 14 47 30.0 +1.1**
PSZ pmax pmax
comp=Z,25nm,0.8s,mb4.8
PSZ Piszkesteto 38.74 304⇑iP **P 14 47 29.9 +1.0**
PSZ i 14 53 03.1
PSZ Piszkesteto 38.74 304⇑ipP **P 14 47 29.9 +1.0**
PSZ iS **S 14 53 03.1 -7.3**
ITM Ithomi 38.74 286 eP **P 14 47 28.0 -1.0**
OJC Ojcow 38.78 307⇑iP **P 14 47 29.5 +0.3**
OJC ePP PP 14 49 04.2 -0.2
OJC iS **S 14 53 10.2 -0.8**
DIVS Divcibare 38.95 297⇑iP **P 14 47 30.9 +0.3**
GZH Guangzhou 39.01 98 P **P 14 47 32.0 +0.6**
GZH S **S 14 53 13.1 -1.6**
GZH AMB AMB
comp=Z,501nm,0.8s,mb6.1
GZH LR LR
comp=N,352nm,10.3s
GZH LR LR
comp=E,297nm,10.3s
GZH LR LR
comp=Z,349nm,12.8s
JAN Janina 39.01 290 eP **P 14 47 32.0 +0.7**
VYHS Vyhne 39.42 304 i P **P 14 47 35.2 +0.7**
VYHS e pP 14 48 19.7 +1.9
VYHS e 14 49 36.6
VYHS eS **S 14 53 14.6 -6.0**
VYHS eSS SS 14 56 20.1 +2.8
VYHS Vyhne 39.42 304 i P **P 14 47 35.2 +0.7**
VYHS e 14 47 57.0
VYHS epP pP 14 48 19.7 +1.9
VYHS ePCP PcP 14 49 36.6 -2.3
VYHS e 14 53 05.3
VYHS eS **S 14 53 14.6 -6.0**
VYHS eSS SS 14 56 20.1 +2.8
VLS Valsamata 39.53 288 eP **P 14 47 34.1 -1.4**
PKSM Moragy 39.69 301⇑iP **P 14 47 37.2 +0.5**
NJ2 Nanjing 39.71 82 eP **P 14 47 38.0 +1.0**
NJ2 PP PP 14 49 17.6 +3.1
NJ2 PCP PcP 14 49 39.0 -1.0
NJ2 SCP 14 53 05.9
NJ2 S **S 14 53 28.0 +3.0**
NJ2 XS 14 54 45.0
NJ2 AMB AMB
comp=Z,110nm,0.7s,mb5.4
NJ2 AMB AMB
comp=Z,450nm,7.0s
NJ2 LR LR
comp=N,620nm,17.7s
NJ2 LR LR
comp=E,370nm,18.9s
NJ2 LR LR
comp=Z,1μm,19.8s
PKSG 39.78 303⇑eP **P 14 47 38.2 +0.8**
KEK Kerkira 39.80 291 eP **P 14 47 36.5 -1.2**
SRO Srobarova 39.80 303 eP **P 14 47 39.2 +1.6**
SRO e 14 53 07.7
OKC Ostrava-Krasne 39.84 307⇑iP **P 14 47 38.6 +0.6**
OKC e*PP pP 14 48 18.3 -3.0
OKC e 14 57 18.8
OKC Ostrava-Krasne 39.84 307⇑iP **P 14 47 38.6 +0.6**
OKC epP pP 14 48 18.3 -3.0
OKC eSCP 14 53 06.9
OKC eSCS ScS 14 57 18.8 -1.8
SRO1 Iza 39.86 303 eP **P 14 47 39.3 +1.2**
SRO1 e 14 53 07.4
SNG Songkhla 39.89 130 P **P 14 47 38.0 -0.7**
comp=Z,372nm,0.8s,mb5.9
PKS9 Tamasi 39.91 302⇑eP **P 14 47 39.4 +0.9**
DL2 Dalian 39.95 71 ⇑P **P 14 47 39.5 +0.5**
DL2 AP pP 14 48 20.0 -2.3
DL2 XP sP 14 48 45.3 -0.8
DL2 PCP PcP 14 49 39.4 -1.3
DL2 SCP 14 53 07.0
DL2 S **S 14 53 26.8 -1.8**
DL2 XS 14 54 43.8
DL2 AMB AMB
comp=Z,120nm,0.6s,mb5.5
DL2 AMB AMB
comp=Z,270nm,4.9s
MORC Moravsky Berou 40.24 307 eP **P 14 47 42.0 +0.8**
MORC pmax pmax
comp=Z,52nm,0.6s,mb5.1
MORC Moravsky Berou 40.24 307 eP **P 14 47 42.0 +0.8**
comp=Z,52nm,0.6s,mb5.1
MORC eScP 14 53 09.5
SMOL Smolenice 40.36 305 eP **P 14 47 42.9 +0.7**
GKP Gorka Klasztor 40.47 312 eP **P 14 47 43.4 +0.4**
GKP epP pP 14 48 27.1 +0.6
GKP eS **S 14 53 35.7 -0.3**
GKP Gorka Klasztor 40.47 312 eP **P 14 47 43.4 +0.4**
GKP epP pP 14 48 27.1 +0.6
GKP eS **S 14 53 35.6 -0.4**
ZST Bratislava 40.59 304 eP **P 14 47 44.8 +0.7**
ZST e 14 49 24.5
ZST eSS SS 14 56 46.9 +6.1
ZST Bratislava 40.59 304 eP **P 14 47 44.8 +0.7**
ZST ePP PP 14 49 24.5 +1.2
ZST e 14 53 10.3
ZST eSS SS 14 56 46.9 +6.1
KEV Kevo 40.80 338 ep **P 14 47 45.8 +0.2**
comp=Z,145nm,0.5s,mb5.7
KEV Kevo 40.80 338 eP **P 14 47 46.2 +0.6**
KEV pmax pmax
comp=Z,370nm,0.8s,mb5.9
KEV Kevo 40.80 338 eP **P 14 47 46.2 +0.6**
comp=Z,370nm,0.8s,mb5.9
SNY Shenyang 40.82 66 ⇑P **P 14 47 46.0 -0.1**
SNY AP pP 14 48 30.8 +1.2
SNY XP sP 14 48 48.3 -5.0
SNY PP PP 14 49 23.8 -1.8
SNY AMB AMB
comp=Z,150nm,0.5s,mb5.7
SNY AMB AMB
comp=Z,780nm,6.2s
SNY LR LR
comp=N,570nm,16.5s
SNY LR LR
comp=Z,440nm,14.2s
VRAC Vranov 40.87 306 P **P 14 47 47.5 +1.1**
comp=Z,48nm,0.7s,mb5.0,baz=83,slow=12
VRAC ScP 14 53 11.3
comp=Z,18nm,1.0s,baz=60,slow=4.2,SNR=7.6
VRAC Vranov 40.87 306 P **P 14 47 47.5 +1.1**
SOP Sopron 41.00 303⇑eP **P 14 47 48.2 +0.8**
SOP Sopron 41.00 303⇑e **P 14 47 48.2 +0.8**
DPC Dobruska-Polom 41.01 307⇑iP **P 14 47 48.5 +1.0**
DPC e*PP pP 14 48 32.9 +1.9
DPC e 14 53 38.3
DPC Dobruska-Polom 41.01 307⇑iP **P 14 47 48.5 +1.0**
DPC epP pP 14 48 32.9 +1.9
DPC eSCP 14 53 11.0
DPC eS **S 14 53 38.3 -5.7**
KSP Ksiaz 41.02 308⇑eP **P 14 47 48.0 +0.4**
KSP e*PP pP 14 48 30.5 -0.6
KSP e 14 49 25.5
KSP eS **S 14 53 40.5 -3.6**
KSP eSS SS 14 56 48.0 -1.5
KSP Ksiaz 41.02 308⇑eP **P 14 47 48.0 +0.4**
KSP epP pP 14 48 30.5 -0.6
KSP ePP PP 14 49 25.5 -2.0
KSP eS **S 14 53 40.5 -3.6**
KSP eSS 14 54 51.0
KSP eSS SS 14 56 48.0 -1.5
KSP Ksiaz 41.02 308 eP **P 14 47 48.0 +0.5**
KSP epP pP 14 48 32.0 +0.9
KSP ePP PP 14 49 27.5 +0.1
KSP ePcP PcP 14 49 43.0 -1.0
KSP eS **S 14 53 41.1 -3.0**
KSP eSS SS 14 56 48.9 -0.6
KSP MLR MLR 15 07 49.2
comp=Z,300nm,23.4s
CLNS Chul'man 41.12 43*c* iP **P 14 47 49.4 +1.0**
CLNS ePPP PcP 14 49 40.9 -3.4
CLNS eS **S 14 53 39.5 -6.2**
CLNS pmax pmax
comp=Z,251nm,0.9s,mb5.7
CLNS pmax pmax
comp=N,61nm,1.0s
CLNS pmax pmax
comp=E,141nm,1.0s
CLNS pmax pmax
comp=N,32nm,1.0s
CLNS pmax pmax
comp=Z,28nm,1.0s,mb4.7
CLNS pmax pmax
comp=E,13nm,0.5s
CLNS smax
comp=N,25nm,0.9s
CLNS smax
comp=E,21nm,1.0s
ARCES ARCESS Array B 41.14 338 P **P 14 47 49.2 +0.8**
comp=E,547nm,0.8s,mb6.0,baz=114,slow=7.6,SNR=1738
ARCES ScP 14 53 12.3
comp=E,16nm,1.0s,baz=124,slow=4.4,SNR=5.4
ARCES PKiKP 14 56 48.9
comp=E,3.2nm,0.9s,baz=158,slow=1.8,SNR=6.6
ARCES ARCESS Array B 41.14 338 P **P 14 47 49.2 +0.8**
ARCES ScP 14 53 12.3
ARE0 ARCESS Array S 41.14 338 eP **P 14 47 49.2 +0.8**
UPC Upice 41.20 308⇑iP **P 14 47 49.9 +0.8**
UPC epP pP 14 48 31.8 -0.8
UPC eSCP 14 53 11.1
KULM Kulim 41.38 131⇑iP **P 14 47 51.4 +0.5**
KULM ePcP PcP 14 49 44.6 -1.0
KULM eScP 14 53 13.3
KTK1 Kautokeino 41.61 336⇑iP **P 14 47 52.6 +0.5**
comp=E,548nm,0.5s,mb6.2
KTK1 Kautokeino 41.61 336⇑iP **P 14 47 52.6 +0.5**
KTK1 AMb AMB 14 47 53.3
comp=Z,548nm,0.5s,mb6.2
ARSA Arzberg 41.73 303⇑iP **P 14 47 53.9 +0.5**
comp=Z,1.9nm,0.0s
CN2 Changchun 41.84 62 eP **P 14 47 54.8 +0.5**
CN2 XP sP 14 49 02.4 +0.8
CN2 PCP PcP 14 49 45.5 -1.3
CN2 SCP 14 53 14.5
CN2 eS **S 14 53 56.5 +0.2**
CN2 XS 14 55 15.0
CN2 SS SS 14 57 07.1 +2.9
CN2 SCS ScS 14 57 30.8 -1.8
CN2 AMB AMB
comp=Z,40nm,1.2s,mb4.7
CN2 AMB AMB
comp=Z,500nm,4.0s
CN2 LR LR
comp=N,900nm,14.0s
CN2 LR LR
comp=E,700nm,14.0s
CN2 LR LR
comp=Z,600nm,15.0s
SSE Sheshan 41.91 82 P **P 14 47 56.0 +1.0**
SSE XP sP 14 49 01.4 -0.9
SSE PP PP 14 49 36.1 -1.2
SSE SCP 14 53 20.1
SSE S **S 14 53 56.8 -0.5**
SSE XS 14 55 12.0
SSE SS SS 14 57 10.5 +5.0
SSE AMB AMB
comp=Z,141nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,495nm,3.9s
SSE LR LR
comp=N,166nm,9.3s
SSE LR LR
comp=E,169nm,9.3s
SSE LR LR
comp=Z,211nm,9.3s
SSE Sheshan 41.91 82 P **P 14 47 56.0 +1.0**
comp=Z,141nm,0.7s,mb5.5
SSE sP sP 14 49 01.4 -0.9
SSE PP PP 14 49 36.1 -1.2
SSE ScP 14 53 20.1
SSE S **S 14 53 56.8 -0.5**
SSE sS 14 55 12.0
SSE SS SS 14 57 10.5 +5.0
BSD Bornholm Skovb 41.91 315⇓iP **P 14 47 54.1 -0.6**
BSD pmax pmax
comp=Z,132nm,0.7s,mb5.5
BSD Bornholm Skovb 41.91 315⇓iP **P 14 47 54.1 -0.6**
comp=Z,132nm,0.7s,mb5.5
PERS Pernice 42.08 302 i P **P 14 47 56.9 +0.7**
PERS epP pP 14 48 42.7 +2.9
BOJS Bojanci 42.12 300 i P **P 14 47 57.1 +0.6**
BOJS epP pP 14 48 43.1 +2.9
BOJS ePcP PcP 14 49 46.5 -1.2
BOJS eScP 14 53 16.5
PVCC Panska Ves 42.12 308⇑iP **P 14 47 57.3 +0.8**
PVCC eSCP 14 53 15.7
IPM Ipoh 42.17 131 P **P 14 47 58.7 +1.3**
PRU Pruhonice 42.17 307⇑iP **P 14 47 57.6 +0.7**
PRU e*PP pP 14 48 40.9 +0.4
PRU eS **S 14 54 01.8 +0.9**
PRU 14 57 28.2
PRU Pruhonice 42.17 307⇑iP **P 14 47 57.6 +0.7**
PRU epP pP 14 48 40.9 +0.4
PRU e 14 53 59.6
PRU eS **S 14 54 01.8 +0.9**
PRU e 14 57 28.2
PRU Pruhonice 42.17 307⇑iP **P 14 47 57.6 +0.7**
PRU epP pP 14 48 40.9 +0.4
PRU eS **S 14 53 59.6 -1.3**
PRU eSS SS 14 57 28.2 +18
TIP Timpagrande 42.21 291 eP **P 14 47 56.8 -0.5**
TIP eScP 14 53 16.5
QZH Quanzhou 42.34 92⇑iP **P 14 47 58.9 +0.3**
QZH XP sP 14 49 06.6 +0.7
QZH PCP PcP 14 49 47.5 -1.2
QZH S **S 14 54 02.8 -1.0**
QZH XS 14 55 21.8
QZH SCS ScS 14 57 35.3 -0.6
QZH AMB AMB
comp=Z,400nm,0.8s,mb5.9
QZH AMB AMB
comp=Z,1μm,3.8s
OBKA Obir 42.48 302⇑iP **P 14 48 00.4 +1.0**
comp=Z,12nm,0.4s,mb4.7
BRG Berggiesshubel 42.51 308⇑iP **P 14 48 00.3 +0.7**
BRG *PP pP 14 48 45.1 +1.8
BRG S **S 14 54 03.0 -2.8**
BRG *SS 14 55 20.0
BRG SS SS 14 57 23.0 +7.1
BRG 14 57 35.3
BRG pmax pmax
comp=Z,69nm,0.6s,mb5.3
BRG Berggiesshubel 42.51 308⇑iP **P 14 48 00.3 +0.7**
comp=Z,69nm,0.6s,mb5.3
BRG e 14 48 09.8
BRG pP pP 14 48 45.1 +1.8
BRG i 14 50 48.0
BRG ScP 14 53 18.2
BRG S **S 14 54 03.0 -2.8**
BRG sS 14 55 20.0
BRG SS SS 14 57 23.0 +7.1
BRG ScS ScS 14 57 35.3 -1.1
MOA Molln 42.52 304⇑iP **P 14 48 00.1 +0.3**
comp=Z,40nm,0.7s,mb5.0
RUE Ruedersdorf 42.55 311 eP **P 14 47 59.9 -0.1**
comp=Z,69nm,0.8s,mb5.1
LJU Ljubljana 42.55 301 i P **P 14 48 00.9 +0.8**
LJU i *PP pP 14 48 46.9 +3.1
LJU e 14 49 48.0
LJU eS **S 14 54 06.8 +0.2**
LJU e 14 57 35.8
LJU Ljubljana 42.55 301 i P **P 14 48 00.9 +0.8**
LJU i pP pP 14 48 46.9 +3.1
LJU ePcP PcP 14 49 48.0 -1.1
LJU eScP 14 53 18.2
LJU eS **S 14 54 06.8 +0.2**
LJU eScS ScS 14 57 35.8 -1.0
GEC2 GERESS Array S 42.80 305 eP **P 14 48 02.5 +0.5**
GEC2 pmax pmax
comp=Z,17nm,0.9s,mb4.5
GEC2 GERESS Array S 42.80 305 eP **P 14 48 02.5 +0.5**
comp=Z,17nm,0.9s,mb4.5
GERES GERESS Array B 42.80 305 P **P 14 48 02.4 +0.4**
comp=Z,6.9nm,0.5s,mb4.4,baz=90,slow=8.0,SNR=72
GERES PcP PcP 14 49 47.8 -2.1
comp=Z,9.2nm,0.6s,baz=113,slow=2.4,SNR=9.8
GERES ScP 14 53 19.5
comp=Z,16nm,1.0s,baz=90,slow=4.0,SNR=18
KHC Kasperske Hory 42.86 306⇑iP **P 14 48 02.7 +0.2**
KHC e*PP pP 14 48 43.9 -2.3
KHC e 14 57 38.4
KHC Kasperske Hory 42.86 306⇑iP **P 14 48 02.7 +0.2**
KHC e 14 48 08.5
KHC epP pP 14 48 43.9 -2.3
KHC eS 14 53 17.8
KHC e 14 53 47.9
KHC e 14 57 38.4
KHC Kasperske Hory 42.86 306⇑iP **P 14 48 02.7 +0.2**
KHC x x 14 48 08.5
KHC epP pP 14 48 43.9 -2.3
KHC eSCP 14 53 17.8
KHC ex x 14 53 47.9
KHC eSS SS 14 57 38.4 +16
VOY Vojsko 42.99 301⇑eP **P 14 48 03.8 +0.2**
VOY e 14 48 23.2
HFS Hagfors 43.00 322 P **P 14 48 04.0 +0.5**
baz=98,slow=10
CADS Cadrg 43.07 302 i P **P 14 48 04.5 +0.3**
CADS eS **S 14 54 14.1 0.0**
CADS e 14 55 34.5
CADS e 14 57 37.5
CLL Collm 43.08 309⇑iP **P 14 48 04.2 0.0**
CLL e*PP pP 14 48 49.0 +1.0
CLL eS **S 14 54 12.0 -2.0**
CLL pmax pmax
comp=Z,37nm,0.8s,mb4.9
CLL Collm 43.08 309⇑iP **P 14 48 04.2 0.0**
comp=Z,37nm,0.8s,mb4.9
CLL epP pP 14 48 49.0 +1.0
CLL i ScP 14 53 19.4
CLL eS **S 14 54 12.0 -2.0**
CLL Collm 43.08 309 ⇑P **P 14 48 04.2 0.0**
comp=Z,logA/T=1.7,mb4.9
CLL e*PP pP 14 48 49.0 +1.0
CLL e*SP sP 14 49 15.0 +3.5
CLL i PP PP 14 49 49.2 +0.5
CLL e*PPP 14 50 26.0
CLL e*SPP 14 50 53.0
CLL i SCP 14 53 19.4
CLL eS **S 14 54 12.0 -2.0**
CLL e*SS 14 55 27.0
CLL eSS SS 14 57 37.0 +11
CLL eSSS SSS 14 59 11.0 +40
KBA Koelnbreinsper 43.23 303⇑iP **P 14 48 05.9 +0.4**
comp=Z,27nm,0.6s,mb4.9
KBA Koelnbreinsper 43.23 303⇑iP **P 14 48 05.9 +0.4**
KBA pmax pmax
comp=Z,27nm,0.6s,mb4.8
TRO Tromso 43.26 336 eP **P 14 48 04.7 -0.8**
TRO eS **S 14 54 17.0 +0.5**
TRO eSS SS 14 57 39.1 +10
WET Wettzell 43.31 306 eP **P 14 48 05.8 -0.3**
WET pmax pmax
comp=Z,18nm,1.3s,mb4.3
WET Wettzell 43.31 306 eP **P 14 48 05.8 -0.3**
comp=Z,18nm,1.3s,mb4.3
COP Copenhagen 43.35 315⇑iP **P 14 48 07.0 +0.7**
COP i S **S 14 54 20.2 +2.3**
COP i 14 55 36.8
COP pmax pmax
comp=Z,78nm,0.7s,mb5.2
COP Copenhagen 43.35 315⇑iP **P 14 48 07.0 +0.7**
comp=Z,78nm,0.7s,mb5.2
COP i 14 50 52.4
COP i S **S 14 54 20.2 +2.3**
COP i 14 55 36.8
CII Carovilli 43.46 295 eP **P 14 48 08.1 +0.6**
comp=Z,118nm,1.5s,mb5.1
NKC Novy Kostel 43.50 307⇑iP **P 14 48 08.3 +0.7**
NKC epP pP 14 48 51.0 -0.4
MOR8 Moi Rana 43.79 331⇑iP **P 14 48 09.2 -0.4**
comp=Z,637nm,1.3s,mb5.8
MOR8 Moi Rana 43.79 331⇑iP **P 14 48 09.2 -0.4**
MOR8 AMb AMB 14 48 11.3
comp=Z,637nm,1.3s,mb5.8
AQU L'Aquila 43.98 296 P **P 14 48 12.5 +0.9**
AQU pmax pmax
comp=Z,49nm,1.0s,mb4.8
AQU L'Aquila 43.98 296 eP **P 14 48 12.0 +0.4**
comp=Z,49nm,0.9s,mb4.8
MOX Moxa 43.99 308 eP **P 14 48 12.1 +0.6**
MOX eS **S 14 54 28.0 +0.7**
MOX pmax pmax
comp=Z,64nm,0.9s,mb5.0
MOX Moxa 43.99 308 eP **P 14 48 12.1 +0.6**
comp=Z,64nm,0.9s,mb5.0
MOX e 14 51 10.0
MOX eS **S 14 54 28.0 +0.7**
MOX e 14 55 52.0
MOX eSS SS 14 57 55.0 +12
MOX Moxa 43.99 308⇑iP **P 14 48 12.1 +0.6**
comp=Z,logA/T=1.9,mb5.0
MOX PP PP 14 50 00.0 +2.2
MOX e 14 51 10.0
MOX S **S 14 54 28.0 +0.7**
MOX e 14 55 52.0
MOX SS SS 14 57 55.0 +12
INCN Inchon 44.13 71 P **P 14 48 12.8 0.0**
INCN PcP PcP 14 49 53.1 -1.4
INCN ScP 14 53 23.0
INCN Inchon 44.13 71 eP **P 14 48 12.8 +0.1**
comp=Z,33nm,0.4s,mb5.0
INCN eScP 14 53 23.1
YAK Yakutsk 44.17 35*c* iP **P 14 48 12.7 0.0**
YAK e 14 49 47.7
YAK e 14 50 02.7
YAK i S **S 14 54 28.5 -1.1**
YAK eSS SS 14 57 41.5 -4.4
YAK pmax pmax
comp=Z,516nm,0.8s,mb5.9
YAK pmax pmax
comp=N,85nm,1.0s
YAK pmax pmax
comp=E,93nm,1.5s
YAK pmax pmax
comp=N,14nm,0.7s
YAK pmax pmax
comp=Z,54nm,0.7s,mb5.0
YAK pmax pmax
comp=E,39nm,1.3s
YAK smax
comp=N,110nm,1.1s
YAK smax
comp=Z,28nm,1.0s
YAK smax
comp=E,82nm,1.2s
YAK Yakutsk 44.17 35⇑iP **P 14 48 12.5 -0.2**
comp=E,676nm,0.7s,mb6.1
YAK eScP 14 53 23.5
YAK eS **S 14 54 29.1 -0.5**
MELSS Ber_school_2 44.23 332⇑iP **P 14 48 13.5 +0.2**
NB2 NORSAR Subarra 44.32 323 P **P 14 48 13.8 -0.2**
comp=E,159nm,0.4s,mb5.7,baz=98,slow=7.4
NB2 NORSAR Subarra 44.32 323 P **P 14 48 13.8 -0.2**

baz=98,slow=7.9
NOA NORSAR Array B 44.32 323 P **P** **14 48 13.6 -0.4**
comp=E,157nm,0.4s,mb5.7,baz=97,slow=7.7,SNR=1003
NOA PP PP 14 49 59.0 -1.8
comp=E,50nm,0.8s,baz=95,slow=9.5,SNR=6.7
NOA NORSAR Array B 44.32 323 P **P** **14 48 13.6 -0.4**
NOA PP PP 14 49 59.0 -1.8
GRA1 Grafenberg Arr 44.34 307 *e*P **P** **14 48 15.3 +1.0**
comp=E,48nm,0.7s,mb4.9
GRF Grafenberg Arr 44.34 307 *e*P **P** **14 48 15.3 +1.0**
GRF pmax pmax
comp=Z,48nm,0.7s,mb4.9
GRF Grafenberg Arr 44.34 307 *e*P **P** **14 48 15.3 +1.0**
GRF pmax pmax
comp=Z,48nm,0.7s,mb4.9
GRF Grafenberg Arr 44.34 307 *e*P **P** **14 48 15.3 +1.0**
comp=Z,48nm,0.7s,mb4.9
WTTA Wattenberg 44.36 303⇑ *i*P **P** **14 48 14.3 -0.2**
comp=Z,22nm,0.4s,mb4.8
STOK Stokkvaagen 44.38 331⇑ *i*P **P** **14 48 14.4 0.0**
comp=Z,245nm,1.3s,mb5.4
STOK Stokkvaagen 44.38 331⇑ *i*P **P** **14 48 14.4 0.0**
STOK AMb AMB 14 48 16.9
comp=Z,245nm,1.3s,mb5.4
STOK *e*PP PP 14 50 02.2 +0.8
WATA Walderalm 44.39 303⇑ *i*P **P** **14 48 14.2 -0.5**
comp=Z,15nm,0.4s,mb4.7
NSS Namsos 44.46 328 *e*P **P** **14 48 13.6 -1.4**
NAO01 NORSAR Array S 44.46 323 *e*P **P** **14 48 14.3 -0.8**
comp=Z,104nm,0.7s,mb5.3
NAO01 *e*PcP PcP 14 49 54.6 -0.8
OSL Oslo 44.47 322 *e*P **P** **14 48 15.3 +0.1**
FUR Furstenfeldbru 44.48 305 *e*P **P** **14 48 15.8 +0.4**
FUR pmax pmax
comp=Z,59nm,0.6s,mb5.1
FUR Furstenfeldbru 44.48 305 *e*P **P** **14 48 15.8 +0.4**
comp=Z,59nm,0.6s,mb5.1
BSEG Bad Segeberg 44.59 313 *e*P **P** **14 48 16.9 +0.7**
LOF Lofoten 44.62 333⇑ *i*P **P** **14 48 17.9 +1.6**
MDJ Mudanjiang 44.64 60 P **P** **14 48 15.8 -0.9**
MDJ AP pP 14 48 59.5 -1.3
MDJ XP sP 14 48 22.5 -1.7
MDJ PCP PcP 14 49 55.1 -1.1
MDJ PP PP 14 50 03.6 -0.6
MDJ SCP 14 53 26.9
MDJ S **S** **14 54 33.6 -3.0**
MDJ XS 14 55 52.8
MDJ SCS ScS 14 57 50.6 +0.7
MDJ AMB AMB
comp=Z,386nm,6.8s
MDJ Mudanjiang 44.64 60 *e*P **P** **14 48 16.7 0.0**
comp=Z,79nm,1.3s,mb4.9
MDJ *e*PcP PcP 14 49 54.8 -1.4
SQTA Sankt Quirin 44.66 303⇑ *i*P **P** **14 48 16.5 -0.3**
comp=Z,52nm,0.6s,mb5.0
SQTA Sankt Quirin 44.66 303⇑ *i*P **P** **14 48 16.5 -0.3**
SQTA pmax pmax
comp=Z,52nm,0.6s,mb5.0
TATO Taipei 44.66 90 *e*P **P** **14 48 17.3 +0.1**
comp=Z,150nm,1.0s,mb5.3
CLZ Clausthal 44.68 310 *e*P **P** **14 48 17.4 +0.5**
CLZ pmax pmax
comp=Z,68nm,0.9s,mb5.0
CLZ Clausthal 44.68 310 *e*P **P** **14 48 17.4 +0.5**
comp=Z,68nm,0.9s,mb5.0
MOTA Moosalm 44.71 303⇑ *i*P **P** **14 48 16.7 -0.5**
comp=Z,20nm,0.3s,mb4.9
KONO Kongsberg 45.02 321 P **P** **14 48 19.3 -0.2**
KONO Kongsberg 45.02 321 P **P** **14 48 19.4 -0.1**
KONO pmax pmax
comp=Z,78nm,0.5s,mb5.3
KONO Kongsberg 45.02 321 *e*P **P** **14 48 19.1 -0.4**
KS15 Wonju Array Si 45.09 71 *e*P **P** **14 48 20.2 -0.2**
KS15 *e*PcP PcP 14 49 56.4 -1.5
NACB Ninganchiao 45.12 91 *e*P **P** **14 48 22.0 +1.1**
NACB *e*PcP PcP 14 49 56.2 -2.0
NACB *e*PP PP 14 50 11.9 +2.7
HDH Heidenheim 45.13 305 *e*P **P** **14 48 21.4 +0.8**
MUD Monsted U'grnd 45.18 317⇑ *i*P **P** **14 48 21.3 +0.4**
MUD *i*S **S** **14 54 46.6 +2.4**
MUD *e* 14 56 02.3
MUD pmax pmax
comp=Z,90nm,1.0s,mb5.0
MUD Monsted U'grnd 45.18 317 *i*P **P** **14 48 21.3 +0.4**
comp=Z,90nm,1.0s,mb5.1
MUD *i* 14 51 19.3
MUD *i*S **S** **14 54 46.6 +2.4**
MUD *e* 14 56 02.3
comp=Z,260nm,18.0s
UBR Uberruh 45.32 304⇑ *e*P **P** **14 48 22.1 0.0**
KLR Kul'dur 45.38 54⇓ *i*P **P** **14 48 20.0 -2.5**
KLR *e* pP 14 49 07.0 +0.3
KLR *e* 14 50 06.5
KLR *e*S **S** **14 54 40.5 -6.5**
KLR *e* 14 58 11.5
KLR pmax pmax
comp=N,100nm,1.6s
KLR pmax pmax
comp=E,160nm,1.6s
KLR pmax pmax
comp=Z,180nm,1.6s,mb5.2
SIND Sindeldorf 45.42 306⇑ *e*P **P** **14 48 23.3 +0.4**
DOMB Dombas 45.44 324⇑ *i*P **P** **14 48 22.6 -0.2**
comp=Z,236nm,1.3s,mb5.4
DOMB Dombas 45.44 324⇑ *i*P **P** **14 48 22.6 -0.2**
DOMB AMb AMB 14 48 25.0
comp=Z,236nm,1.3s,mb5.4
DAVA Damuels 45.54 304⇑ *i*P **P** **14 48 23.6 -0.2**
comp=Z,139nm,0.4s,mb5.6
KGM Kluang 45.58 131 P **P** **14 48 25.5 +0.8**
DAVOX Davos 45.62 303 PcP PcP 14 49 58.8 -0.8
comp=Z,30nm,0.6s,baz=133,slow=0.5,SNR=6.5
DAVOX ScP 14 53 31.3
comp=Z,38nm,1.1s,baz=96,slow=3.3,SNR=14
DAVOX ScS ScS 14 57 53.7 -2.5
comp=Z,13nm,1.1s,baz=18,slow=14,SNR=9.7
BUCH Bad Urach 45.71 305⇑ *e*P **P** **14 48 25.6 +0.4**
MAIM 45.74 299 P **P** **14 48 24.8 -0.7**
SARO Sassorosso 45.75 299 P **P** **14 48 25.6 +0.1**
VLC Villacollemand 45.77 299 *e*P **P** **14 48 25.6 -0.1**
comp=Z,43nm,0.9s,mb4.8
STU Stuttgart 45.77 306 P **P** **14 48 26.1 +0.5**
STU pmax pmax
comp=Z,31nm,0.7s,mb4.8
STU Stuttgart 45.77 306 *e*P **P** **14 48 26.0 +0.4**
comp=Z,31nm,0.6s,mb4.8
STU *e*ScP 14 53 31.0
VALM 45.82 299 P **P** **14 48 26.9 +0.7**
TOD Tromm 45.91 307⇑ *e*P **P** **14 48 27.1 +0.4**
GRAM 45.92 300 P **P** **14 48 27.4 +0.5**
GUT Gutenstein 45.92 305⇑ *e*P **P** **14 48 26.7 -0.2**
VINC Vinca 45.93 299 P **P** **14 48 27.1 +0.1**
TIXI Tiksi 45.94 22 *e*P **P** **14 48 22.5 -4.2**
TIXI *e**PP pP 14 49 10.6 -0.4
TIXI *e* 14 50 11.2
TIXI *e*S **S** **14 54 46.1 -8.7**
TIXI *e**SS 14 56 06.4
TIXI *e*SS SS 14 58 14.9 -2.7
TIXI pmax pmax
comp=Z,999nm,0.8s,mb6.2
TIXI pmax pmax
comp=N,22nm,0.5s
TIXI pmax pmax
comp=E,305nm,0.8s
TIXI pmax pmax
comp=Z,1μm,0.9s,mb6.2
TIXI MLR MLR
comp=Z,152nm,13.0s
TIXI Tiksi 45.94 22⇑ *i*P **P** **14 48 27.1 +0.4**
BACM 45.96 299 P **P** **14 48 27.4 +0.1**
SWS Schriesheim 45.99 307⇑ *e*P **P** **14 48 27.6 +0.3**
LBG Lerchenberg 46.05 306⇑ *e*P **P** **14 48 28.1 +0.3**
TNS Taunus Mts 46.05 308 *e*P **P** **14 48 28.0 +0.2**
TNS pmax pmax
comp=Z,31nm,1.1s,mb4.5
TNS Taunus Mts 46.05 308 *e*P **P** **14 48 28.0 +0.2**
comp=Z,31nm,1.1s,mb4.5
CODM 46.09 300 P **P** **14 48 28.5 +0.3**
SPAK Spaichingen 46.14 305 *e*P **P** **14 48 28.6 +0.1**
MOL Molde 46.18 325⇑ *i*P **P** **14 48 31.4 +2.7**
comp=Z,139nm,1.3s,mb5.1
MOL Molde 46.18 325⇑ *i*P **P** **14 48 31.4 +2.7**
MOL AMb AMB 14 48 34.2
comp=Z,139nm,1.3s,mb5.1

SNART Snartemo 46.22 319⇑ *i*P **P** **14 48 29.3 +0.3**
comp=Z,153nm,1.2s,mb5.2
SNART Snartemo 46.22 319⇑ *i*P **P** **14 48 29.3 +0.3**
SNART AMb AMB 14 48 31.6
comp=Z,153nm,1.2s,mb5.2
BFO Black Forest 46.40 305 *e*P **P** **14 48 30.2 -0.3**
BFO pmax pmax
comp=Z,13nm,0.7s,mb4.4
BFO Black Forest 46.40 305 *e*P **P** **14 48 30.2 -0.3**
comp=Z,13nm,0.7s,mb4.4
KTD Kalmit 46.41 307 *e*P **P** **14 48 31.1 +0.5**
BLS5 Blasjo 46.61 321⇑ *i*P **P** **14 48 33.2 +1.2**
comp=Z,258nm,1.3s,mb5.4
BLS5 Blasjo 46.61 321⇑ *i*P **P** **14 48 33.2 +1.2**
BLS5 AMb AMB 14 48 35.5
comp=Z,258nm,1.3s,mb5.4
LANF Langenberg 46.64 306⇑ *e*P **P** **14 48 33.0 +0.6**
ABH Alteburg 46.67 307⇑ *e*P **P** **14 48 33.0 +0.4**
FELD Feldberg 46.69 305⇑ *e*P **P** **14 48 32.5 -0.3**
KIZ Kirchzarten 46.74 305⇑ *e*P **P** **14 48 32.7 -0.4**
HYA Hoyanger 46.76 323 *e*P **P** **14 48 34.1 +1.0**
comp=Z,136nm,1.4s,mb5.1
HYA Hoyanger 46.76 323 *e*P **P** **14 48 34.1 +1.0**
HYA AMb AMB 14 48 37.0
comp=Z,136nm,1.4s,mb5.1
LIBD Limburg 46.91 305 *e*P **P** **14 48 34.4 -0.1**
PCP Pian Castagno 46.97 300 P **P** **14 48 34.0 -1.0**
WLS Welschbruch 47.03 306 *e*P **P** **14 48 35.0 -0.4**
CDF Champ du Feu 47.08 306 *e*P **P** **14 48 35.2 -0.6**
comp=Z,26nm,0.8s,mb4.3
CDF Champ du Feu 47.08 306 *e*P **P** **14 48 35.2 -0.6**
CDF pmax pmax
comp=Z,13nm,0.8s,mb4.3
BBS Basel-Blauen 47.10 304⇑ *e*P **P** **14 48 35.3 -0.6**
PGF Pioggiola 47.11 297 *e*P **P** **14 48 35.7 -0.4**
comp=Z,102nm,0.6s,mb5.0
PGF *e*pP pP 14 49 22.7 +2.0
PGF Pioggiola 47.11 297 *e*P **P** **14 48 35.7 -0.4**
PGF *e**PP pP 14 49 22.7 +2.0
PGF pmax pmax
comp=Z,51nm,0.6s,mb5.0
ORX Oropa 47.13 302 P **P** **14 48 34.1 -2.1**
HSP Hornsund 47.16 345 *e*P **P** **14 48 37.6 +1.4**
BER Bergen 47.17 322⇑ *i*P **P** **14 48 36.4 +0.1**
comp=Z,207nm,1.0s,mb5.4
BER Bergen 47.17 322⇑ *i*P **P** **14 48 36.4 +0.1**
BER AMb AMB 14 48 38.7
comp=Z,207nm,1.0s,mb5.4
ECH Echery 47.19 305 *e*P **P** **14 48 36.2 -0.5**
EGD Espegrend 47.23 322⇑ *i*P **P** **14 48 36.9 +0.1**
comp=Z,236nm,1.3s,mb5.4
EGD Espegrend 47.23 322⇑ *i*P **P** **14 48 36.9 +0.1**
EGD AMb AMB 14 48 39.3
comp=Z,236nm,1.3s,mb5.4
KMY Karmoy 47.23 320⇑ *i*P **P** **14 48 37.0 +0.1**
comp=Z,142nm,1.0s,mb5.2
KMY Karmoy 47.23 320⇑ *i*P **P** **14 48 37.0 +0.1**
KMY AMb AMB 14 48 39.2
comp=Z,142nm,1.0s,mb5.2
ASK Askoy 47.24 322⇑ *i*P **P** **14 48 37.0 +0.1**
comp=Z,275nm,1.3s,mb5.4
ASK Askoy 47.24 322⇑ *i*P **P** **14 48 37.0 +0.1**
ASK AMb AMB 14 48 39.2
comp=Z,275nm,1.3s,mb5.4
BBP Basco 47.25 95 *e*P **P** **14 48 36.6 -0.9**
MOF Molkenrain 47.27 305⇑ *e*P **P** **14 48 37.2 -0.1**
FIN Finale Ligure 47.28 300 P **P** **14 48 35.8 -1.7**
FOO Floro 47.32 324⇑ *i*P **P** **14 48 55.8 +18**
FOO AMb AMB 14 48 58.0
comp=Z,136nm,1.4s,mb5.1
SUE Sulen 47.45 323 *e*P **P** **14 48 38.8 +0.2**
comp=Z,164nm,1.3s,mb5.2
SUE Sulen 47.45 323 *e*P **P** **14 48 38.8 +0.2**
SUE AMb AMB 14 48 40.6
comp=Z,164nm,1.2s,mb5.2
HINF Hinteralfeld 47.47 305 *e*P **P** **14 48 38.3 -0.5**
comp=Z,46nm,0.6s,mb4.7
HINF Hinteralfeld 47.47 305 *e*P **P** **14 48 38.3 -0.5**
HINF pmax pmax
comp=Z,23nm,0.6s,mb4.7
ROB Roburent 47.50 300 P **P** **14 48 38.4 -0.8**
LOMF Lomont 47.57 304 *e*P **P** **14 48 39.0 -0.7**
IMI Imperia 47.58 299 P **P** **14 48 39.4 -0.4**
WLF Walferdange 47.60 307 P **P** **14 48 40.6 +0.7**
WLF pmax pmax
comp=Z,37nm,0.8s,mb4.8
WLF Walferdange 47.60 307 *e*P **P** **14 48 40.5 +0.6**
comp=Z,37nm,0.8s,mb4.8
NEGI Negi 47.72 299 P **P** **14 48 39.6 -1.3**
ABRA Dolores 47.73 99 *e*P **P** **14 48 42.6 +1.3**
RSP Reno Superiore 47.73 301 P **P** **14 48 38.6 -2.4**
LSD Ceresole Reale 47.74 302 P **P** **14 48 41.1 +0.1**
HAU Haudompre 47.77 305 *e*P **P** **14 48 40.7 -0.5**
comp=Z,57nm,0.5s,mb4.9
HAU *e*R
comp=Z,221nm,20.2s
HAU Haudompre 47.77 305 *e*P **P** **14 48 40.7 -0.5**
HAU pmax pmax
comp=Z,29nm,0.5s,mb4.9
HAU MLR MLR
comp=Z,220nm,20.3s
SAOF Saorge 47.79 300⇑ *e*P **P** **14 48 41.6 +0.2**
BOLP Bolinao 47.80 101 *e*P **P** **14 48 42.8 +1.0**
BHB Bricherasio 47.80 301 P **P** **14 48 39.1 -2.3**
ENR Entracque 47.83 300 P **P** **14 48 40.6 -1.1**
AUTN L'Aution 47.88 300 *e*P **P** **14 48 42.8 +0.7**
STV2 Anna di Valdie 47.89 300 P **P** **14 48 40.7 -1.5**
STV Sta Anna Valdi 47.89 300 P **P** **14 48 40.7 -1.5**
FENE Fenestrelle 47.90 301 P **P** **14 48 40.9 -1.3**
SBF Sospel 47.91 299 *e*P **P** **14 48 42.3 0.0**
comp=Z,169nm,0.8s,mb5.2
SBF Sospel 47.91 299 *e*P **P** **14 48 42.3 0.0**
SBF pmax pmax
comp=Z,84nm,0.8s,mb5.1
REVF Revere 47.98 299 *e*P **P** **14 48 42.7 -0.2**
TOUF Mont Tournerai 48.00 300⇑ *e*P **P** **14 48 43.4 +0.4**
LPG La Plagne 48.01 302 *e*P **P** **14 48 43.2 +0.1**
comp=Z,136nm,0.6s,mb5.1
LPG La Plagne 48.01 302 *e*P **P** **14 48 43.2 +0.1**
LPG pmax pmax
comp=Z,68nm,0.6s,mb5.2
LPL La Plagne 48.02 302 *e*P **P** **14 48 43.4 +0.3**
comp=Z,59nm,0.4s,mb5.0
APYP Conner 48.03 99 *e*P **P** **14 48 44.2 +0.6**
MVIF Mont Vial 48.10 300⇑ *e*P **P** **14 48 44.0 +0.2**
SCZP Santa Cruz 48.14 102 *e*P **P** **14 48 45.2 +0.7**
BNI Bardonecchia 48.16 301 *e*P **P** **14 48 43.8 -0.4**
BNI pmax pmax
comp=Z,25nm,0.6s,mb4.7
BNI Bardonecchia 48.16 301 *e*P **P** **14 48 43.8 -0.4**
comp=Z,25nm,0.6s,mb4.7
BNI *e*ScP 14 53 41.0
MBDF Montbardon 48.17 301 *e*P **P** **14 48 43.8 -0.5**
comp=Z,138nm,0.5s,mb5.2
MBDF Montbardon 48.17 301 *e*P **P** **14 48 43.8 -0.5**
MBDF pmax pmax
comp=Z,69nm,0.5s,mb5.2
CABF La Chapelle 48.22 303 *e*P **P** **14 48 44.6 -0.1**
comp=Z,71nm,0.5s,mb4.9
CABF La Chapelle 48.22 303 *e*P **P** **14 48 44.6 -0.1**
CABF pmax pmax
comp=Z,35nm,0.5s,mb5.0
CALN Calern 48.32 299 *e*P **P** **14 48 44.4 -1.1**
GIVF Givet 48.38 308 *e*P **P** **14 48 46.1 +0.3**
GDM Grand'Maison 48.51 301 *e*P **P** **14 48 46.6 -0.3**
MEZF Maizieres J'vi 48.52 306 *e*P **P** **14 48 46.9 0.0**
comp=Z,48nm,0.4s,mb4.8
FRF La Foret Royal 48.53 299 *e*P **P** **14 48 46.6 -0.5**
comp=Z,51nm,0.6s,mb4.8
FRF La Foret Royal 48.53 299 *e*P **P** **14 48 46.6 -0.5**
FRF pmax pmax
comp=Z,25nm,0.6s,mb4.7
KMBO Kilima Mbogo 48.61 227 P **P** **14 48 49.5 +1.4**
comp=Z,77nm,0.6s,mb5.2,baz=35,slow=12,SNR=221
KMBO PP PP 14 50 39.3 -3.2
comp=Z,24nm,1.1s,baz=24,slow=9.2,SNR=4.5
KBS Kingsbay 48.65 347⇑ *i*P **P** **14 48 48.4 +0.8**
comp=Z,598nm,1.3s,mb5.8
KBS Kingsbay 48.65 347⇑ *i*P **P** **14 48 48.4 +0.8**
KBS AMb AMB 14 48 50.8
comp=Z,598nm,1.3s,mb5.8
LMR La Mourre 48.69 299 *e*P **P** **14 48 47.7 -0.6**
comp=Z,13nm,0.5s,mb4.2
LMR La Mourre 48.69 299 *e*P **P** **14 48 47.7 -0.6**
LMR pmax pmax
comp=Z,7.0nm,0.5s,mb4.2
ORIF Oris-en-Rattie 48.74 301 *e*P **P** **14 48 47.7 -0.9**
comp=Z,28nm,0.5s,mb4.5
ORIF *e*R
comp=Z,353nm,22.5s
GRN Grenoble 48.76 302⇑ *e*P **P** **14 48 44.9 -3.9**
BAIF Baives 48.77 308 *e*P **P** **14 48 49.0 +0.2**
comp=Z,100nm,0.9s,mb4.8
BAIF Baives 48.77 308 *e*P **P** **14 48 49.0 +0.2**
BAIF pmax pmax
comp=Z,50nm,0.9s,mb4.8
JNU Nakatsue 48.83 75 P **P** **14 48 50.0 +0.5**
baz=320,slow=2.9
JNU PcP PcP 14 50 09.7 -1.7
comp=Z,44nm,0.8s,baz=56,slow=4.1,SNR=5.2
TAVF Tavernes 48.94 299⇑ *e*P **P** **14 48 50.4 +0.2**
CAUP Cauayan 49.00 99 *e*P **P** **14 48 52.1 +1.1**
VILF Villemus 49.12 300 *e*P **P** **14 48 51.8 +0.3**
NBP Mount Natib 49.13 103⇓ *e*P **P** **14 48 53.1 +1.1**
SMRF Simiane la Rot 49.18 300 *e*P **P** **14 48 51.8 -0.2**
comp=Z,27nm,0.6s,mb4.5
SMRF *e*pP pP 14 49 36.1 -0.9
PCPH Palayan 49.20 101⇑ *e*P **P** **14 48 52.4 -0.1**
PUYF Puyloubier 49.21 299⇑ *e*P **P** **14 48 52.7 +0.5**
BERF Bertagne 49.27 299 *e*P **P** **14 48 53.1 +0.4**
JOW Kunigami 49.30 84 P **P** **14 48 52.9 -0.3**
baz=297,slow=8.9
JOW PcP PcP 14 50 12.3 -0.8
comp=Z,28nm,0.4s,baz=212,slow=6.8,SNR=4.9
GELF Grande-Etoile 49.44 299⇑ *e*P **P** **14 48 54.3 +0.3**
BALP Baler 49.48 101 *e*P **P** **14 48 55.5 +0.8**
PRAF Pradon 49.51 300 *e*P **P** **14 48 55.1 +0.6**
LOR Lormes 49.56 305 *e*P **P** **14 48 54.0 -0.9**
comp=Z,14nm,0.5s,mb4.2
LOR *e*R
comp=Z,182nm,21.2s
LOR Lormes 49.56 305 *e*P **P** **14 48 54.0 -0.9**
LOR pmax pmax
comp=Z,7.0nm,0.5s,mb4.2
LOR MLR MLR
comp=Z,180nm,21.3s
LUBP Lubang 49.59 104 *e*P **P** **14 48 56.4 +0.9**
VIVF Saint-Julien-l 49.59 301 *e*P **P** **14 48 55.0 -0.1**
comp=Z,132nm,0.6s,mb5.1
VIVF Saint-Julien-l 49.59 301 *e*P **P** **14 48 55.0 -0.1**
VIVF pmax pmax
comp=Z,66nm,0.6s,mb5.1
NZB Bigte 49.60 102⇑ *e*P **P** **14 48 55.8 +0.2**
SMF Signal de Mont 49.72 304 *e*P **P** **14 48 55.5 -0.6**
comp=Z,73nm,0.5s,mb4.9
SMF Signal de Mont 49.72 304 *e*P **P** **14 48 55.5 -0.6**
SMF pmax pmax
comp=Z,36nm,0.5s,mb5.0
ARP Angono 49.83 102 *e*P **P** **14 48 57.2 -0.1**
SSF Saint Saulge 49.85 304 *e*P **P** **14 48 56.4 -0.7**
SSF *e**PP pP 14 49 43.0 +0.9
SSF pmax pmax
comp=Z,14nm,0.7s,mb4.4
SSF Saint Saulge 49.85 304 *e*P **P** **14 48 56.4 -0.7**
comp=Z,14nm,0.7s,mb4.4
SSF *e*pP pP 14 49 43.0 +0.9
AVF Avril sur Loir 50.01 304 *e*P **P** **14 48 57.6 -0.7**
comp=Z,80nm,0.7s,mb4.9
AVF *e*pP pP 14 49 44.5 +1.1
AVF Avril sur Loir 50.01 304 *e*P **P** **14 48 57.6 -0.7**
AVF *e**PP pP 14 49 44.5 +1.1
AVF pmax pmax
comp=Z,40nm,0.7s,mb4.9
CMAH Djebel Manchou 50.02 290 P **P** **14 48 59.0 +0.5**
PLDF La Plantade 50.03 303⇑ *e*P **P** **14 48 59.2 +0.7**
LBPH Los Banos 50.07 103⇑ *e*P **P** **14 49 00.1 +0.9**
CGMA Guelma 50.08 290 P **P** **14 49 00.0 +1.0**
COLF Collangettes 50.09 302⇑ *e*P **P** **14 48 59.0 +0.1**
ABSA Djebel Ababsia 50.09 290 P **P** **14 48 59.0 -0.1**
AGO Saint Agoulin 50.34 303⇑ *e*P **P** **14 49 01.8 +1.0**
POLP Polilio Island 50.34 102 *e*P **P** **14 49 02.2 +1.0**
LASF Ste Croix 50.35 301 *e*P **P** **14 49 00.9 0.0**
LASF *e*pP pP 14 49 47.6 +1.5
HYF Humbligny 50.37 305 *e*P **P** **14 49 01.0 0.0**
BGF Bois d'Agland 50.41 304 *e*P **P** **14 49 00.4 -0.9**
comp=Z,30nm,0.6s,mb4.5
BGF Bois d'Agland 50.41 304 *e*P **P** **14 49 00.4 -0.9**
BGF pmax pmax
comp=Z,15nm,0.6s,mb4.5
KSM Kuching 50.46 124 *e*P **P** **14 49 02.5 +0.3**
KSM *i* PcP PcP 14 50 16.8 -0.7
ENPP El Nido 50.47 107 *e*P **P** **14 49 03.1 +0.9**
LBL Lubilhac 50.47 302⇑ *e*P **P** **14 49 02.9 +1.1**
PYM Petit Puy Mans 50.50 303⇑ *e*P **P** **14 49 02.9 +0.9**
BUSP Coron 50.58 106 *e*P **P** **14 49 03.6 +0.6**
CKFL Kef-Lekhel 50.62 290 P **P** **14 49 02.0 -1.1**
BATP Bataraza 50.74 111 *e*P **P** **14 49 04.8 +0.5**
TCF Toulx Ste Croi 50.90 304 *e*P **P** **14 49 04.8 -0.2**
comp=Z,50nm,0.6s,mb4.8
TCF Toulx Ste Croi 50.90 304 *e*P **P** **14 49 04.8 -0.2**
TCF pmax pmax
comp=Z,25nm,0.6s,mb4.8
BOAC Boac 51.00 103 *e*P **P** **14 49 05.7 -0.5**
SJMP San Jose 51.02 105 *e*P **P** **14 49 07.0 +0.6**
DFRA Djebel Bou Aff 51.21 291 P **P** **14 49 06.0 -1.5**
GQP Guinayangan 51.22 102⇑ *i*P **P** **14 49 07.9 +0.1**
CAF Calviac 51.36 302 *e*P **P** **14 49 08.5 +0.1**
comp=Z,47nm,0.6s,mb4.8
CAF *e*pP pP 14 49 55.1 +1.4
CAF Calviac 51.36 302 *e*P **P** **14 49 08.5 +0.1**
CAF *e**PP pP 14 49 55.1 +1.4
CAF pmax pmax
comp=Z,24nm,0.6s,mb4.8
KKM Kota Kinabalu 51.37 115 *e*P **P** **14 49 10.1 +1.1**
KKM Kota Kinabalu 51.37 115 P **P** **14 49 10.2 +1.2**
OWE Westray 51.46 321⇑ *e*P **P** **14 49 08.3 -0.7**
SJAF Saint Jean de 51.48 299⇑ *e*P **P** **14 49 08.6 -0.8**
EJON La Jonquera 51.49 299 P **P** **14 49 08.0 -1.4**
comp=Z,26nm,0.6s,mb4.8
CMER Merouana 51.52 290 P **P** **14 49 10.0 +0.2**
LRDF Laroque-de-Fa 51.59 300 *e*P **P** **14 49 08.9 -1.3**
RJF Les Rejaudoux 51.63 303 *e*P **P** **14 49 10.3 -0.1**
comp=Z,56nm,0.8s,mb4.7
RJF *e*R
comp=Z,212nm,20.5s
RJF Les Rejaudoux 51.63 303 *e*P **P** **14 49 10.3 -0.1**
RJF pmax pmax
comp=Z,28nm,0.8s,mb4.7
RJF MLR MLR
comp=Z,210nm,20.5s
OBR Brabster 51.63 320⇑ *e*P **P** **14 49 09.6 -0.6**
OHO Hoy 51.64 320⇑ *e*P **P** **14 49 09.6 -0.8**
CKHR Kef el Ahmar 51.67 290 P **P** **14 49 07.0 -3.9**
FILF Illois 51.69 299⇑ *e*P **P** **14 49 11.0 +0.1**
SET Setif 51.69 290 P **P** **14 49 12.0 +0.9**
MTLF Montolieu 51.70 300 *e*P **P** **14 49 10.7 -0.3**
comp=Z,45nm,0.5s,mb4.8
MTLF Montolieu 51.70 300 *e*P **P** **14 49 10.7 -0.3**
MTLF pmax pmax
comp=Z,23nm,0.5s,mb4.9
MME1 Meikle Cairn 51.73 318⇑ *e*P **P** **14 49 10.2 -0.9**
AUQP San Andres 51.73 102 *e*P **P** **14 49 13.1 +1.4**
MLA1 Latheron 51.78 320⇑ *e*P **P** **14 49 10.5 -0.9**
OTRP Odiongan 51.79 104 *e*P **P** **14 49 11.2 -0.9**
MCD Coleburn Disti 51.84 319⇑ *e*P **P** **14 49 11.3 -0.6**
CUYO Cuyo Island 51.92 106 *e*P **P** **14 49 13.6 +0.6**
ORE Reay 51.95 320⇑ *e*P **P** **14 49 12.3 -0.3**
BTA Talkin 52.01 315⇑ *e*P **P** **14 49 12.4 -0.7**
LPEF Le Peyrat 52.03 300⇑ *e*P **P** **14 49 13.3 -0.2**
FLN La Foliniere 52.04 307 *e*P **P** **14 49 12.5 -1.0**
comp=Z,92nm,0.8s,mb5.0
FLN *e*R
comp=Z,284nm,19.2s
FLN La Foliniere 52.04 307 *e*P **P** **14 49 12.5 -1.0**
FLN pmax pmax
comp=Z,46nm,0.8s,mb5.0
FLN MLR MLR
comp=Z,280nm,19.3s
BBH Bruntsheil 52.11 316⇑ *e*P **P** **14 49 12.5 -1.3**
VALF Valcebollere 52.12 299⇑ *e*P **P** **14 49 14.1 0.0**
BDL Dobcross Hall 52.18 315⇑ *e*P **P** **14 49 13.8 -0.6**
EKA Eskdalemuir Ar 52.20 316 P **P** **14 49 13.9 -0.6**
baz=92,slow=7.1
EKA PP PP 14 51 14.8 -0.8
comp=Z,6.4nm,0.6s,baz=63,slow=8.6,SNR=4.9
EKA ScP 14 53 58.6
comp=Z,10nm,1.0s,baz=100,slow=5.1,SNR=7.1
ESK Eskdalemuir 52.23 316 *e*P **P** **14 49 13.8 -0.9**
ESK pmax pmax

comp=Z,84nm,1.1s,mb5.1
ESK Eskdalemuir 52.23 316 *e*P **P 14 49 13.8 -1.0**
comp=Z,84nm,1.1s,mb5.1
ESK *e*ScP 14 53 59.5
LFF La Frestale 52.26 302 *e*P **P 14 49 15.0 -0.1**
comp=Z,73nm,0.5s,mb5.0
LFF La Frestale 52.26 302 *e*P **P 14 49 15.0 -0.1**
LFF pmax pmax
comp=Z,36nm,0.5s,mb5.1
MVH1 Achvaich 52.27 319⇑*e*P **P 14 49 13.9 -1.1**
MBAR Mbarara 52.27 234 P **P 14 49 14.3 -1.4**
MBAR pmax pmax
comp=Z,140nm,0.8s,mb5.4
MBAR Mbarara 52.27 234⇓*i*P **P 14 49 15.0 -0.7**
comp=Z,145nm,0.8s,mb5.5
BHH Howats Hill 52.28 316⇑*e*P **P 14 49 13.7 -1.5**
OTO Tongue 52.28 320⇑*e*P **P 14 49 14.7 -0.4**
BBO1 Bothel 52.37 315⇑*e*P **P 14 49 14.3 -1.5**
GRR Gorron 52.38 307 *e*P **P 14 49 15.0 -1.0**
comp=Z,57nm,0.7s,mb4.8
GRR Gorron 52.38 307 *e*P **P 14 49 15.0 -1.0**
GRR pmax pmax
comp=Z,29nm,0.7s,mb4.8
ETOS Mallorca 52.39 296 P **P 14 49 16.0 -0.1**
comp=Z,40nm,0.5s,mb5.1
MFF Saint Martin d 52.39 305 *e*P **P 14 49 14.9 -1.2**
MDO Dochfour 52.45 319⇑*e*P **P 14 49 15.3 -1.1**
BWH Wardlaw 52.51 316⇑*e*P **P 14 49 15.8 -1.0**
HAE Alders End 52.54 312⇑*e*P **P 14 49 16.5 -0.6**
HAE AMb AMB 14 49 18.5
comp=Z,260nm,1.1s,mb5.6
JMIC Jan Mayen 52.58 336 *e*P **P 14 49 18.0 +0.9**
SALF Salau 52.59 300 *e*P **P 14 49 16.2 -1.4**
MLS Moulis 52.60 300⇑*e*P **P 14 49 16.8 -0.9**
HLM1 Long Mynd 52.63 312⇑*e*P **P 14 49 16.8 -1.0**
HLM1 AMb AMB 14 49 19.2
comp=Z,97nm,1.4s,mb5.0
PVCP Virac 52.74 101 *e*P **P 14 49 18.9 -0.1**
LCHF La Chataignera 52.77 305⇑*e*P **P 14 49 18.2 -0.6**
SBD1 Bryn Du 52.77 313⇑*e*P **P 14 49 17.9 -0.9**
HGH Gray Hill 52.79 311⇑*e*P **P 14 49 17.8 -1.2**
HGH AMb AMB 14 49 20.1
comp=Z,190nm,1.3s,mb5.3
SSP1 Stoney Pound 52.79 312⇑*e*P **P 14 49 18.2 -0.7**
SSP1 AMb AMB 14 49 20.6
comp=Z,122nm,1.2s,mb5.2
REB Eisghbrachaidh 52.81 320⇑*e*P **P 14 49 18.3 -0.8**
MCH1 Michaelchurch 52.82 312⇑*e*P **P 14 49 18.0 -1.2**
MELF Melles 52.86 300⇑*e*P **P 14 49 19.1 -0.5**
HTR Trewern Hill 52.97 312⇑*e*P **P 14 49 19.3 -1.0**
HTR AMb AMB 14 49 21.5
comp=Z,194nm,1.1s,mb5.5
YSS Yuzh-Sakhalins 53.06 55*c i*P **P 14 49 20.2 -0.8**
YSS pmax pmax
comp=Z,364nm,1.3s,mb5.7
YSS Yuzh-Sakhalins 53.06 55 *e*P **P 14 49 20.3 -0.7**
comp=Z,178nm,0.4s,mb5.8
EPF Esparros 53.10 300 *e*P **P 14 49 20.0 -1.4**
comp=Z,46nm,0.6s,mb4.8
EPOB Poblet 53.12 298 P **P 14 49 20.8 -0.8**
comp=Z,40nm,0.6s,mb5.0
RRR Rubha Reidh 53.14 319⇑*e*P **P 14 49 20.6 -0.8**
RESF Ens 53.17 300 *e*P **P 14 49 21.9 0.0**
MAJO Matsushiro 53.19 68 *e*P **P 14 49 21.0 -1.1**
MAJO *e* 14 50 25.6
MAJO pmax pmax
comp=Z,78nm,0.7s,mb5.2
MAJO Matsushiro 53.19 68 *e*P **P 14 49 21.0 -1.2**
comp=Z,78nm,0.7s,mb5.2
MAJO *e*PcP PcP 14 50 25.6 -1.8
MAT Matsushiro 53.19 68 *e*P **P 14 49 21.0 -1.1**
comp=Z,72nm,0.8s,mb5.2
MAT Matsushiro 53.19 68 P **P 14 49 20.8 -1.3**
MAT *e*S **S 14 56 33.6 -1.9**
MJAR Matsushiro Arr 53.19 68 P **P 14 49 21.3 -0.9**
comp=Z,55nm,0.8s,mb5.0,baz=286,slow=10.0,SNR=133
MJAR PcP PcP 14 50 26.2 -1.2
comp=Z,30nm,0.8s,baz=273,slow=4.5,SNR=8.8
MJAR ScP 14 54 02.0
comp=Z,9.2nm,0.9s,baz=275,slow=5.2,SNR=7.7
MJAR P4KPbc 15 26 43.8
comp=Z,1.2nm,0.6s,baz=286,slow=5.2,SNR=6.3
MJAR Matsushiro Arr 53.19 68 P **P 14 49 21.3 -0.9**
MJAR PcP PcP 14 50 26.2 -1.2
MJAR ScP 14 54 02.0
RTO Tolsta 53.25 320⇑*e*P **P 14 49 21.5 -0.7**
GUIM Jordan 53.27 105 *e*P **P 14 49 23.1 +0.1**
LABF Labassere 53.28 300⇑*e*P **P 14 49 22.6 -0.1**
VIEF Viey 53.37 300⇑*e*P **P 14 49 23.2 -0.2**
EGRA Graus 53.38 299 P **P 14 49 23.1 -0.4**
comp=Z,18nm,0.5s,mb4.7
SGMF Saint Gilles 53.51 307 *e*P **P 14 49 23.3 -1.0**
comp=Z,52nm,0.7s,mb4.8
SGMF Saint Gilles 53.51 307 *e*P **P 14 49 23.3 -1.0**
SGMF pmax pmax
comp=Z,26nm,0.7s,mb4.9
RRH Rhenigidale 53.59 320⇑*e*P **P 14 49 23.9 -0.8**
REYF Montagne du Re 53.60 301 *e*P **P 14 49 24.9 -0.1**
EBR Ebro Roquetas 53.71 298 *e*P **P 14 49 25.5 -0.4**
EIBI Ibiza 53.71 295 P **P 14 49 25.3 -0.6**
comp=Z,141nm,1.2s,mb5.4
TSM Tawau 53.77 115 P **P 14 49 26.5 -0.1**
ETSF Etsaut 53.77 300 *e*P **P 14 49 26.2 -0.1**
comp=Z,182nm,0.5s,mb5.6
ETSF Etsaut 53.77 300 *e*P **P 14 49 26.2 -0.1**
ETSF pmax pmax
comp=Z,91nm,0.5s,mb5.6
CNP Catarman 53.78 102 *e*P **P 14 49 26.7 0.0**
ROSF Rostrenen 53.95 307 *e*P **P 14 49 26.5 -1.0**
comp=Z,81nm,0.8s,mb5.0
ROSF Rostrenen 53.95 307 *e*P **P 14 49 26.5 -1.0**
ROSF pmax pmax
comp=Z,40nm,0.8s,mb5.0
QUIF Quistinic 53.99 307 *e*P **P 14 49 26.7 -1.1**
LARF Larrau 54.02 301⇑*e*P **P 14 49 27.8 -0.3**
ESAC San Caprasio 54.09 299 P **P 14 49 27.7 -0.9**
comp=Z,111nm,0.8s,mb5.4
OSSF Osses 54.14 301⇑*e*P **P 14 49 27.7 -1.3**
SJPF Ste Jean 54.16 301 *e*P **P 14 49 28.2 -0.9**
comp=Z,26nm,0.5s,mb4.7
SJPF Ste Jean 54.16 301 *e*P **P 14 49 28.2 -0.9**
SJPF pmax pmax
comp=Z,13nm,0.5s,mb4.7
EALK Alkurruntz 54.32 301 P **P 14 49 30.0 -0.3**
comp=Z,18nm,0.5s,mb4.8
CSA1 St Austell 54.40 310 *e*P **P 14 49 29.4 -1.3**
LLP Lapu-Lapu 54.53 105⇑*i*P **P 14 49 32.5 +0.3**
EMOS Mosqueruela 54.56 297 P **P 14 49 31.6 -0.4**
comp=Z,61nm,0.8s,mb5.2
MA2 Magadan 54.57 38⇑*i*P **P 14 49 31.3 -0.5**
MA2 *e* 14 50 31.0
MA2 pmax pmax
comp=Z,392nm,1.3s,mb5.8
MA2 Magadan 54.57 38⇑*i*P **P 14 49 31.3 -0.5**
comp=Z,392nm,1.3s,mb5.8
MA2 *e*PcP PcP 14 50 31.0 -1.4
DLF Lyons Farm 54.59 314⇑*i*P **P 14 49 29.5 -2.5**
SEY Seymchan 54.62 34 *i*P **P 14 49 32.5 +0.4**
SEY 14 50 31.7
SEY *SP sP 14 50 40.1 -0.3
SEY 14 51 37.8
SEY *e*S **S 14 56 55.3 +1.2**
SEY *SS 14 58 18.2
SEY SS SS 15 00 47.7 +7.6
SEY pmax pmax
comp=N,30nm,0.9s
SEY pmax pmax
comp=Z,90nm,0.9s,mb5.3
SEY smax
comp=N,130nm,7.3s
SEY smax
comp=E,200nm,9.7s
SEY Seymchan 54.62 34⇑*i*P **P 14 49 32.3 +0.2**
CMA1 Manaccan 54.62 310⇑*e*P **P 14 49 30.9 -1.4**
CRQ2 Rosemanowes 2 54.62 310⇑*e*P **P 14 49 31.0 -1.3**
CRQ2 AMb AMB 14 49 33.2
comp=Z,76nm,1.3s,mb5.1
CGH1 Goonhilly 54.65 310⇑*e*P **P 14 49 31.4 -1.1**
CCA1 Carnmenellis 54.65 310 *e*P **P 14 49 31.3 -1.2**
CGW Gweek 54.67 310⇑*e*P **P 14 49 31.4 -1.3**
DAG Danmarks Havn 54.75 344⇓*i*P **P 14 49 33.1 +0.1**
DAG pmax pmax
comp=Z,368nm,0.9s,mb5.9
DAG Danmarks Havn 54.75 344⇓*i*P **P 14 49 33.1 +0.1**
comp=Z,368nm,0.9s,mb5.9
CPZ Penzance 54.88 310 *e*P **P 14 49 32.6 -1.6**
CPZ AMb AMB 14 49 35.6
comp=Z,67nm,1.5s,mb4.9
BESP Borongan 54.92 102 *e*P **P 14 49 33.3 -1.7**
EBEN Beniarda 54.97 295 P **P 14 49 34.4 -0.6**
comp=Z,49nm,0.7s,mb5.1
DCN Croghan 55.00 314⇑*i*P **P 14 49 33.2 -1.9**
IPIL Ipil 55.01 108 *e*P **P 14 49 36.1 +0.4**
DCPH Dipolog City 55.12 107⇑*e*P **P 14 49 36.2 -0.2**
ECHE Chera 55.19 297 P **P 14 49 36.2 -0.4**
ECHE pmax pmax
comp=Z,28nm,0.5s,mb5.0
ECHE Chera 55.19 297 P **P 14 49 36.2 -0.3**
comp=Z,28nm,0.5s,mb5.0
MSLP Maasin 55.34 104 *e*P **P 14 49 37.8 -0.2**
PAGZ Pagadian 55.60 107 *e*P **P 14 49 40.0 +0.2**
ELAN Lanestosa 55.65 302 P **P 14 49 38.8 -1.0**
comp=Z,73nm,0.7s,mb5.3
CART Cartagena 55.95 294 *e*P **P 14 49 40.9 -1.2**
comp=Z,134nm,0.8s,mb5.5
ETOB Tobarra 55.95 296 P **P 14 49 40.9 -1.1**
comp=Z,52nm,0.7s,mb5.2
EMUR La Murta 56.03 295 P **P 14 49 40.9 -1.7**
comp=Z,62nm,0.9s,mb5.1
SCPH Surigao 56.05 104 *e*P **P 14 49 42.0 -1.0**
BUTP Butuan 56.65 105 *e*P **P 14 49 48.0 +0.8**
EVIA Vianos 56.65 296 P **P 14 49 46.7 -0.3**
EVIA pmax pmax
comp=Z,46nm,0.6s,mb5.3
EVIA Vianos 56.65 296 P **P 14 49 46.7 -0.3**
comp=Z,46nm,0.6s,mb5.3
CTBH Cotabato--PC H 56.66 107⇑*i*P **P 14 49 47.6 +0.2**
EARI Arriondas 56.84 302 P **P 14 49 47.0 -1.3**
comp=Z,45nm,0.8s,mb5.2
BUKP Musuan 56.88 106 *e*P **P 14 49 49.3 +0.4**
SCO Scoresbysund 57.05 336 *i*P **P 14 49 49.8 +0.4**
SCO pmax pmax
comp=Z,24nm,0.9s,mb4.8
SCO Scoresbysund 57.05 336 *i*P **P 14 49 49.8 +0.4**
comp=Z,24nm,0.9s,mb4.8
VAL Valentia 57.15 313 *e*P **P 14 49 48.5 -1.8**
VAL Valentia 57.15 313 *e*P PcP 14 50 41.1 -1.4
ESDC Sonseca Array 57.30 298 P **P 14 49 50.7 -0.9**
comp=Z,26nm,0.5s,mb5.1,baz=55,slow=7.6,SNR=187
ESDC ScP 14 54 20.9
comp=Z,2.7nm,0.8s,baz=74,slow=4.0,SNR=4.9
ESDC PKPPKP 15 19 40.6
comp=Z,1.6nm,0.8s,baz=294,slow=2.0,SNR=7.0
ESDC Sonseca Array 57.30 298 P **P 14 49 49.9 -1.6**
comp=Z,52nm,0.6s,mb5.3
ESLA Sonseca Array 57.30 298 *e*P **P 14 49 50.6 -1.0**
comp=Z,7.8nm,0.7s,mb4.5
EQES Quesada 57.38 295 P **P 14 49 50.8 -1.4**
comp=Z,88nm,0.5s,mb5.7
EBER Berja 57.61 294 P **P 14 49 52.6 -1.1**
comp=Z,124nm,0.6s,mb5.7
EBAN Banos Encina 57.76 296 P **P 14 49 54.1 -0.7**
EBAN pmax pmax
comp=Z,63nm,0.5s,mb5.5
EBAN Banos Encina 57.76 296 P **P 14 49 54.1 -0.7**
comp=Z,63nm,0.5s,mb5.5
GSPH General Santos 57.91 108⇑*i*P **P 14 49 58.0 +1.8**
EALB Alboran 58.10 293 P **P 14 49 55.3 -1.9**
comp=Z,167nm,0.8s,mb5.7
EPON Pontenova 58.15 303 P **P 14 49 56.4 -1.1**
comp=Z,33nm,0.4s,mb5.3
EADA Adamuz 58.33 296 P **P 14 49 57.0 -1.7**
comp=Z,52nm,0.5s,mb5.4
MATI Mati 58.38 106 *e*P **P 14 49 57.6 -1.8**
ECAL Calabor 58.39 301 P **P 14 49 57.8 -1.3**
comp=Z,32nm,0.6s,mb5.1
PBRG Braganca 58.44 301 *e*P **P 14 49 59.2 -0.3**
comp=Z,34nm,1.4s,mb4.8
PBRG *e*pP pP 14 50 46.4 +0.5
ERUA La Rua 58.49 302 P **P 14 49 59.0 -0.8**
ERUA pmax pmax
comp=Z,22nm,0.5s,mb5.0
ERUA La Rua 58.49 302 P **P 14 49 59.0 -0.8**
comp=Z,22nm,0.5s,mb5.0
BORG Borgarnes 58.57 330 *e*P **P 14 50 01.2 +1.2**
comp=Z,84nm,0.8s,mb5.4
BORG *e*PP PP 14 52 09.8 -3.8
BILL Bilibino 58.78 26*c i*P **P 14 50 01.4 -0.1**
BILL pmax pmax
comp=Z,682nm,1.3s,mb6.1
BILL MLR MLR
comp=Z,400nm,21.0s
BILL Bilibino 58.78 26⇑*i*P **P 14 50 01.6 +0.1**
comp=Z,586nm,0.8s,mb6.3
BILL *e*PP PP 14 52 12.3 -3.2
BILL Bilibino 58.78 26 P **P 14 50 01.9 +0.5**
BILL PP PP 14 52 12.9 -2.6
ECAB El Cabril 58.98 297 P **P 14 50 02.2 -1.0**
comp=Z,43nm,0.5s,mb5.3
OPO Ambohidratompo 59.04 206 P **P 14 50 04.7 +0.8**
comp=Z,28nm,0.9s,mb4.9,baz=9.1,slow=5.6,SNR=23
EMIJ Mijas 59.12 295 P **P 14 50 01.6 -2.6**
comp=Z,40nm,0.5s,mb5.3
STS Santiago 59.27 303 P **P 14 50 04.0 -1.1**
STS pmax pmax
comp=Z,11nm,0.4s,mb4.8
STS Santiago 59.27 303 P **P 14 50 04.0 -1.2**
comp=Z,11nm,0.4s,mb4.8
PVRL Vila Real 59.32 301 *e*P **P 14 50 05.2 -0.3**
comp=Z,50nm,1.2s,mb5.0
PVRL *e*pP pP 14 50 53.3 +1.1
ELOB Lobios 59.33 302 P **P 14 50 04.4 -1.2**
comp=Z,57nm,0.5s,mb5.5
EMAZ Mazaricos 59.53 303 P **P 14 50 05.3 -1.6**
comp=Z,28nm,0.4s,mb5.2
MTE Manteigas 59.55 300 *e*P **P 14 50 06.8 -0.3**
comp=Z,59nm,0.9s,mb5.2
MTE *e* pP 14 50 53.9 +0.1
MTE Manteigas 59.55 300 *e*P **P 14 50 07.0 -0.1**
comp=Z,103nm,1.5s,mb5.2
MTE *e*pP pP 14 50 54.7 +0.9
MTE *e*S **S 14 57 59.5 +0.4**
MTE *i* - 14 59 25.5
EZAM Zamans 59.65 302 P **P 14 50 07.2 -0.6**
EZAM pmax pmax
comp=Z,12nm,0.4s,mb4.9
EZAM Zamans 59.65 302 P **P 14 50 07.2 -0.6**
comp=Z,12nm,0.4s,mb4.9
PVIS Visu 59.67 300 *e*P **P 14 50 07.6 -0.3**
comp=Z,88nm,0.8s,mb5.4
PVIS *e*pP pP 14 50 55.8 +1.2
PCBR Castelo Branco 59.73 299 *e*P **P 14 50 07.3 -1.0**
comp=Z,29nm,0.8s,mb5.0
PCBR *e*pP pP 14 50 56.0 +1.0
EBAD Badajoz 59.84 298 P **P 14 50 08.3 -0.8**
comp=Z,113nm,0.5s,mb5.8
EMIN Mina Concepcio 60.01 297 P **P 14 50 09.2 -1.0**
comp=Z,45nm,0.5s,mb5.3
SKR Severo-Kuril's 60.18 47 *e*P **P 14 50 05.7 -5.5**
SKR pmax pmax
comp=Z,220nm,1.0s,mb5.7
SKR pmax pmax
comp=N,30nm,0.5s
SKR pmax pmax
comp=E,40nm,0.5s
PTOM Tomar 60.48 299 *e*P **P 14 50 13.0 -0.4**
comp=E,106nm,0.5s,mb5.7
PTOM *e*pP pP 14 51 01.2 +1.0
EVO Evora 60.65 298 *e*P **P 14 50 13.7 -0.8**
comp=E,58nm,0.8s,mb5.0
EVO *e*pP pP 14 51 01.8 +0.4
EVO *e*R
comp=E,178nm,21.8s
EGRO El Granado 60.69 297 P **P 14 50 13.9 -1.0**
comp=E,74nm,0.6s,mb5.5
PET Petropavlovsk 60.75 44α*i*P **P 14 50 12.6 -2.4**
PET *e*PP pP 14 50 55.3 -6.6
PET *e*SP sP 14 51 19.9 -3.9
PET *e* 14 52 33.6
PET *e*S **S 14 58 28.4 +14**
PET pmax pmax
comp=Z,121nm,1.2s,mb5.4
PET pmax pmax
comp=Z,400nm,7.0s
PET pmax pmax
comp=Z,200nm,16.6s
PET pmax pmax
comp=Z,200nm,17.5s
PET pmax pmax
comp=Z,100nm,13.7s
PET Petropavlovsk 60.75 44 *e*P **P 14 50 12.4 -2.6**
comp=Z,157nm,1.1s,mb5.5
PBEJ Beja 60.76 297 *e*P **P 14 50 14.2 -1.1**
comp=Z,70nm,1.4s,mb5.1
PBEJ *e*pP pP 14 51 03.3 +1.2
SUMG Summit 61.07 341⇑*i*P **P 14 50 17.6 +0.7**
comp=Z,351nm,0.9s,mb6.0
SUMG *e*PP PP 14 52 34.1 -1.8
PLOU Loures 61.31 299 *e*P **P 14 50 19.1 +0.2**
comp=Z,147nm,0.8s,mb5.7
PLOU *e*pP pP 14 51 06.8 +0.9
PTEO Sao Teotonio 61.57 297 *e*P **P 14 50 20.0 -0.8**
comp=Z,89nm,0.6s,mb5.6
PTEO *e*pP pP 14 51 08.7 +0.9
LSZ Lusaka 65.23 226 *e*P **P 14 50 44.8 -0.2**
LSZ pmax pmax
comp=Z,42nm,0.8s,mb5.1
LSZ Lusaka 65.23 226 *e*P **P 14 50 44.8 -0.2**
comp=Z,42nm,0.8s,mb5.1
SFJD Kangerlussuaq 67.76 339⇑*i*P **P 14 50 59.5 -0.6**
SFJD *i* S S 14 59 36.5 -3.4
SFJD pmax pmax
comp=Z,84nm,0.6s,mb5.5
SFJD Kangerlussuaq 67.76 339⇑*i*P **P 14 50 59.5 -0.6**
comp=Z,84nm,0.6s,mb5.5
SFJD *i* S S 14 59 36.5 -3.4
SFJD *i* 15 00 49.9
SFJD *i* 15 08 17.2
FX1 Attu Island--F 68.61 39 *e*P **P 14 51 04.9 -0.6**
TNA Tin City 68.73 22⇑*i*P **P 14 51 06.1 +0.1**
comp=Z,118nm,0.9s,mb5.5
TNA *e*PP PP 14 53 35.7 -6.3
EFAM Famara 69.09 291 P **P 14 51 08.3 -0.5**
comp=Z,62nm,0.7s,mb5.3
CFTV Fuerteventura 69.88 291 P **P 14 51 12.8 -0.9**
comp=Z,17nm,0.6s,mb4.8
MSNA Messina 69.95 220 *e*P **P 14 51 14.2 0.0**
EOSO Osorio 71.16 291 P **P 14 51 18.9 -2.4**
comp=Z,149nm,1.3s,mb5.5
CCAN Las Canadas 71.87 292 P **P 14 51 23.8 -1.8**
comp=Z,74nm,1.2s,mb5.2
IMA Indian Mountai 72.27 17 P **P 14 51 27.7 +0.3**
IMA pmax pmax
comp=Z,1μm,1.0s
IMA Indian Mountai 72.27 17 *e*P **P 14 51 27.2 -0.1**
POGA Pongola 73.36 216 *e*P **P 14 51 33.4 -1.0**
MBWA Marble Bar 73.63 133 *e*P **P 14 51 35.2 -0.9**
comp=Z,86nm,0.8s,mb5.4
SLR Silverton 73.64 219 *e*P **P 14 51 34.9 -1.1**
INK Inuvik 74.03 9⇑*i*P **P 14 51 38.0 +0.6**
INK pmax pmax
comp=Z,692nm,0.9s
INK Inuvik 74.03 9 S S 15 00 53.2 +1.6
comp=Z,9.9nm,1.0s,baz=232,slow=31,SNR=19
INK Inuvik 74.03 9⇑*i*P **P 14 51 38.0 +0.5**
comp=Z,692nm,0.9s,mb6.3
TTA Tatalina 74.18 20 *e*P **P 14 51 38.9 +0.5**
NWL Newcastle 74.45 217 *e*P **P 14 51 40.7 0.0**
KSR Koster 74.45 220 *e*P **P 14 51 40.0 -0.8**
LBTB Lobatse 74.46 222 P **P 14 51 41.5 +0.7**
LBTB S S 15 00 58.6 +1.3
LBTB Lobatse 74.46 222 *e*P **P 14 51 41.4 +0.6**
LBTB pmax pmax
comp=Z,107nm,0.6s,mb5.7
LBTB Lobatse 74.46 222 *e*P **P 14 51 41.4 +0.6**
comp=Z,107nm,0.6s,mb5.7
DBIC Dimbokro 74.47 267 P **P 14 51 39.6 -1.5**
comp=Z,34nm,0.6s,mb5.2,baz=36,slow=7.2,SNR=75
DBIC S S 15 00 53.9 -3.8
comp=Z,8.1nm,1.1s,baz=287,slow=20,SNR=5.1
ILAR Eielson Array 74.92 16 P **P 14 51 42.0 -0.6**
comp=Z,170nm,0.8s,mb5.7,baz=320,slow=4.4,SNR=813
ILAR PP PP 14 54 28.4 -6.2
comp=Z,8.4nm,0.7s,baz=318,slow=6.6,SNR=4.3
ILAR S S 15 00 59.6 -1.9
comp=Z,0.3nm,0.8s,baz=9.5,slow=5.5,SNR=2.7
FITZ Fitzroy Crossi 75.02 126⇓*i*P **P 14 51 43.5 -0.6**
comp=Z,224nm,0.8s,mb5.8
FITZ *e*S S 15 01 03.5 0.0
MCK McKinley 75.35 17 *e*P **P 14 51 44.1 -0.9**
MCK pmax pmax
comp=Z,85nm,0.6s,mb5.5
MCK McKinley 75.35 17 *e*P **P 14 51 44.1 -0.9**
comp=Z,85nm,0.6s,mb5.5
SVW2 Sparrevohn 75.77 21 *e*P **P 14 51 47.9 +0.5**
KAKA Kakadu 75.89 118⇑*i*P **P 14 51 49.6 +0.6**
comp=Z,269nm,0.4s,mb6.2
SWZ Schweizer 76.34 221 *e*P **P 14 51 51.3 0.0**
SPU Mount Spurr 76.70 20 *e*P **P 14 51 52.1 -0.5**
RSO Redoubt South 77.10 20 *e*P **P 14 51 54.9 +0.1**
PMR Palmer 77.12 18 *e*P **P 14 51 54.6 -0.3**
SML Sawmill 77.14 18⇑*i*P **P 14 51 54.9 -0.1**
FIB Fire Island 77.21 19 *e*P **P 14 51 56.3 +0.9**
UNV Unalaska Valle 77.45 31 *e*P **P 14 51 55.5 -1.4**
comp=Z,186nm,0.9s,mb5.7
UNV *e*PP PP 14 54 52.3 -3.2
BOSA Boshof 77.54 220 P **P 14 51 58.1 +0.2**
BOSA S S 15 01 30.9 +0.3
BOSA Boshof 77.54 220 P **P 14 51 58.2 +0.3**
BOSA S S 15 01 31.1 +0.5
BOSA pmax pmax
comp=Z,118nm,0.7s,mb5.6
BOSA smax
comp=E,10.0nm,1.2s
BOSA Boshof 77.54 220 P **P 14 51 58.1 +0.3**
comp=E,118nm,0.7s,mb5.6,baz=28,slow=4.6,SNR=208
BOSA S S 15 01 31.1 +0.5
comp=E,10nm,1.2s,baz=170,slow=19,SNR=21
BOSA Boshof 77.54 220 *e*P **P 14 51 58.0 +0.1**
comp=E,122nm,0.8s,mb5.6
AKUT Akutan 77.54 30 *e*P **P 14 51 56.1 -1.2**
SLKM Skilak Lake 77.76 19 *e*P **P 14 51 57.8 -0.6**
DIV Divide 78.35 17⇑*i*P **P 14 52 02.0 +0.4**
comp=E,964nm,0.7s
CHGN Chignik 78.67 25 *e*P **P 14 52 02.2 -1.3**
SDPT Sand Point 78.67 27 *e*P **P 14 52 04.3 +0.8**
EYAK Cordova Ski Ar 78.86 17⇑*i*P **P 14 52 05.1 +0.7**
MID Middleton Isla 79.69 18 *e*P **P 14 52 09.4 +0.5**
MUN Mundaring 80.26 142⇑*i*P **P 14 52 11.0 -1.5**
comp=E,27nm,0.5s,mb5.1
MUN Mundaring 80.26 142⇑*i*P **P 14 52 11.0 -1.5**
MUN pmax pmax
comp=Z,27nm,0.5s,mb5.1
KLBR Kellerberrin 80.73 141⇑*i*P **P 14 52 13.2 -1.8**
comp=Z,60nm,0.7s,mb5.3
YKW3 Yellowknife Ar 81.28 3⇑*i*P **P 14 52 17.3 +0.1**
YKA Yellowknife Ar 81.34 3 P **P 14 52 17.8 +0.3**
comp=Z,188nm,0.6s,mb5.9,baz=350,slow=5.4,SNR=667
YKA PP PP 14 55 25.8 -2.2
comp=Z,26nm,0.9s,baz=354,slow=8.1,SNR=11
YKA S S 15 02 07.0 -2.6
comp=Z,0.8nm,0.5s,baz=1.5,slow=12,SNR=4.5
YKA PKKPbc 15 10 48.1
comp=Z,3.3nm,0.5s,baz=170,slow=2.3,SNR=17
YKA PKPPKP 15 18 57.0
comp=Z,0.3nm,0.4s,baz=155,slow=2.1,SNR=3.7
YKA Yellowknife Ar 81.34 3 P **P 14 52 17.8 +0.3**
YKA PP PP 14 55 25.8 -2.2
YKA S S 15 02 07.0 -2.6
YKA PKKPbc 15 10 48.1
YKA P'P' 15 18 57.0
NWAO Narrogin (SRO) 81.53 142 *e*P **P 14 52 17.7 -1.4**
NWAO pmax pmax
comp=Z,32nm,0.6s
NWAO Narrogin (SRO) 81.53 142 *e*P **P 14 52 17.6 -1.5**
comp=Z,32nm,0.6s,mb5.1
SCHQ Schefferville 82.09 337 P **P 14 52 21.7 +0.2**
comp=Z,25nm,0.5s,mb5.1,baz=34,slow=5.2,SNR=83
SCHQ PKKPbc 15 10 47.8
comp=Z,2.8nm,0.9s,baz=232,slow=3.9,SNR=6.5
SCHQ Schefferville 82.09 337⇑*i*P **P 14 52 21.3 -0.2**
comp=Z,45nm,0.7s,mb5.2
WRA Warramunga Arr 82.13 122 P **P 14 52 21.5 -0.9**
comp=Z,168nm,0.5s,mb5.9,baz=324,slow=5.0,SNR=2907
WRA S S 15 02 14.6 -3.8
comp=Z,2.1nm,1.0s,baz=304,slow=6.7,SNR=5.5
WRA PKKPbc 15 10 49.8
comp=Z,2.1nm,0.3s,baz=119,slow=2.3,SNR=57
WRA PKPPKP 15 18 55.3
comp=Z,1.6nm,0.9s,baz=126,slow=1.9,SNR=6.5
WRAB Tennant Creek 82.13 122⇑*i*P **P 14 52 21.3 -1.1**
WRAB pmax pmax
comp=Z,514nm,0.8s,mb6.2
WRAB Tennant Creek 82.13 122⇑*i*P **P 14 52 21.3 -1.1**
comp=Z,514nm,0.8s,mb6.2

WB2 Warramunga Arr 82.14 122 ⇑*iP* **P** 14 52 21.6 -0.8
WB2 *eS* S 15 02 15.2 -3.3
SUR Sutherland 82.84 221 *eP* **P** 14 52 26.8 +0.9
comp=Z,63nm,0.8s,mb5.4
WAKE Wake Island 83.38 71 *eP* **P** 14 52 28.5 -0.4
comp=Z,157nm,0.8s,mb5.8
DLBC Dease Lake 83.92 11 ⇑*iP* **P** 14 52 31.8 +1.1
SIT Sitka 84.32 14 P **P** 14 52 34.1 +1.4
SIT *e* 14 55 52.9
SIT pmax pmax
comp=Z,210nm,0.8s,mb5.9
SIT Sitka 84.32 14 *eP* **P** 14 52 33.6 +0.9
CER Ceres 84.41 221 *eP* **P** 14 52 33.1 -0.6
PMG Port Moresby 84.79 106 ⇑*iP* **P** 14 52 35.5 -0.6
PMG pmax pmax
comp=Z,215nm,0.9s
PMG Port Moresby 84.79 106 P **P** 14 52 35.6 -0.5
comp=Z,194nm,0.9s,mb5.8,baz=312,slow=3.9,SNR=22
PMG Port Moresby 84.79 106 ⇑*iP* **P** 14 52 35.5 -0.6
comp=Z,215nm,0.9s,mb5.9
FFC Flin Flon 89.01 356 P **P** 14 52 55.3 0.0
FFC pmax pmax
comp=Z,130nm,1.0s,mb5.7
FFC Flin Flon 89.01 356 ⇑*iP* **P** 14 52 55.7 +0.4
comp=Z,127nm,1.0s,mb5.7
EDM Edmonton 90.67 2 ⇑*iP* **P** 14 53 04.1 +1.0
CTA Charters Tower 90.70 114 ⇑*iP* **P** 14 53 03.4 -0.6
comp=Z,110nm,0.6s,mb6.0
CTA Charters Tower 90.70 114 ⇑*iP* **P** 14 53 03.4 -0.6
CTA pmax pmax
comp=Z,110nm,0.6s
CTAO Charters Tower 90.70 114 ⇑*iP* **P** 14 53 03.3 -0.7
CTAO pmax pmax
comp=Z,191nm,0.8s,mb6.1
CTAO Charters Tower 90.70 114 ⇑*iP* **P** 14 53 03.3 -0.8
comp=Z,191nm,0.8s,mb6.1
ULM Lac du Bonnet 92.90 351 P **P** 14 53 13.3 -0.2
comp=Z,57nm,1.1s,mb5.5,baz=7.1,slow=4.6,SNR=27
ULM PP PP 14 57 00.4 -0.6
comp=Z,11nm,0.8s,baz=9.7,slow=6.1,SNR=6.5
ULM Lac du Bonnet 92.90 351 *eP* **P** 14 53 12.7 -0.9
comp=Z,80nm,1.1s,mb5.7
ULM *e*PP PP 14 56 58.5 -2.5
MIV Mineville/With 93.57 335 *eP* **P** 14 53 16.9 +0.1
PNT Penticton 94.15 7 P **P** 14 53 20.0 +0.8
ACCN Adirondack Com 94.22 335 *eP* **P** 14 53 19.9 +0.2
PGC Sidney 94.38 9 *eP* **P** 14 53 21.4 +1.2
comp=Z,74nm,0.9s,mb5.7
MBW Mount Baker 94.44 8 P **P** 14 53 21.0 +0.5
WALA Waterton Lakes 94.81 3 ⇑*iP* **P** 14 53 22.6 +0.4
comp=Z,104nm,1.0s,mb5.9
STKA Stephens Creek 94.91 126 ⇑*iP* **P** 14 53 21.5 -1.6
comp=Z,13nm,0.4s,mb5.4
STKA Stephens Creek 94.91 126 P **P** 14 53 21.4 -1.7
comp=Z,16nm,0.4s,mb5.5,baz=318,slow=6.2,SNR=81
STKA PP PP 14 57 16.4 -0.2
comp=Z,5.5nm,0.7s,baz=286,slow=9.9,SNR=2.9
ADE Adelaide 95.09 130 ⇑*iP* **P** 14 53 23.0 -0.9
OCWA Octopus Mounta 95.16 10 *eP* **P** 14 53 25.7 +1.8
comp=Z,103nm,0.9s,mb6.0
OOW Octopus West 95.17 10 P **P** 14 53 25.9 +2.0
DGMT Dagmar 95.37 357 *eP* **P** 14 53 26.0 +1.2
comp=Z,98nm,1.2s,mb5.8
NEW Newport 95.41 5 P **P** 14 53 25.9 +0.9
NEW *e* 14 57 15.1
NEW pmax pmax
comp=Z,57nm,0.9s
NEW Newport 95.41 5 PKKPbc 15 10 15.9
comp=Z,1.1nm,0.3s,baz=262,slow=4.1,SNR=4.3
NEW Newport 95.41 5 ⇑*iP* **P** 14 53 25.7 +0.7
comp=Z,57nm,0.9s,mb5.7
TBM Table Mountain 96.18 8 P **P** 14 53 29.0 +0.5
EBG Ellensburg 96.44 8 P **P** 14 53 30.4 +0.8
LON Longmire 96.45 9 P **P** 14 53 30.4 +0.7
BMW Boistfort Moun 96.54 10 P **P** 14 53 31.5 +1.4
CHMT Chamberlain Mo 96.97 3 *eP* **P** 14 53 32.6 +0.5
MSO Missoula 97.03 3 *eP* **P** 14 53 32.7 +0.3
comp=Z,26nm,1.3s,mb5.3
HRY Holter Researc 97.22 2 *eP* **P** 14 53 34.2 +1.0
LAO LASA Array 97.23 358 *eP* **P** 14 53 34.8 +1.5
comp=Z,56nm,0.9s,mb5.8
BOZ Bozeman (W) 98.29 2 P **P** 14 53 39.3 +1.2
BOZ pmax pmax
comp=Z,23nm,1.2s,mb5.4
BOZ Bozeman (W) 98.29 2 *eP* **P** 14 53 39.2 +1.0
comp=Z,23nm,1.2s,mb5.4
BMO Blue Mountains 98.79 6 *eP* **P** 14 53 39.7 -0.7
comp=Z,3.7nm,0.7s,mb4.8
MCMT McKenzie Canyo 99.07 3 *e*Pdif **P** 14 53 42.5 +0.7
QLMT Earthquake Lak 99.11 2 *e*Pdif **P** 14 53 43.1 +1.2
MCWV Mont Chateau 99.60 337 *e*Pdif **P** 14 53 43.6 -0.7
comp=Z,8.4nm,0.6s,mb5.3
RSSD Black Hills 99.70 356 *eP* **P** 14 53 45.4 +0.8
RSSD pmax pmax
comp=Z,17nm,0.8s,mb5.5
RSSD Black Hills 99.70 356 *e*Pdif **P** 14 53 45.4 +0.8
comp=Z,17nm,0.8s,mb5.5
IMW Indian Meadow 100.06 1 *e*Pdif P 14 53 48.2 +2.0
comp=Z,14nm,1.0s
MOOW Moose Ponds 100.21 1 *e*Pdif P 14 53 48.2 +1.3
comp=Z,8.5nm,1.3s
LOHW Long Hollow 100.34 1 *e*Pdif P 14 53 48.2 +0.8
comp=Z,7.6nm,1.0s
TPAW Teton Pass 100.46 1 *e*Pdif P 14 53 49.7 +1.7
comp=Z,7.5nm,1.1s
WVOR Wild Horse Val 101.07 7 *eP* P 14 53 58.5 +7.7
WVOR pmax pmax
comp=Z,7µm,0.8s
PDAR Pinedale Array 101.20 0 P P 14 53 52.0 +0.7
comp=Z,3.5nm,0.8s,baz=30,slow=3.5,SNR=28
PDAR PP PP 14 57 53.0 -12
comp=Z,2.7nm,0.7s,baz=33,slow=4.0,SNR=4.6
PDAR PKIKP 14 58 14.7
comp=Z,2.4nm,0.5s,baz=76,slow=2.5,SNR=7.2
PDAR SP SP 15 06 43.8 -2.0
comp=Z,0.8nm,1.0s,baz=11,slow=7.6,SNR=6.6
PDAR PKKPbc 15 09 59.1
comp=Z,1.4nm,0.4s,baz=127,slow=4.8,SNR=13
PDAR SKKP 15 13 19.1
comp=Z,0.9nm,0.8s,baz=180,slow=3.0,SNR=4.6
PDAR PKPPKP 15 18 15.7
comp=Z,0.5nm,0.8s,baz=135,slow=2.1,SNR=4.9
YBH Yreka Blue Hor 101.27 10 P P 14 53 53.3 +1.6
YBH pmax pmax
comp=Z,5.0nm,0.9s
YBH Yreka Blue Hor 101.27 10 Pdif P 14 53 50.8 -0.9
comp=Z,5.0nm,0.9s
HVU Hansel Valley 102.12 3 *eP* Pdif 14 53 56.5 +1.1
HWUT Hardware Ranch 102.33 2 *e*Pdif Pdif 14 53 57.5 +1.2
comp=Z,10.0nm,0.7s
WDC Whiskeytown Da 102.42 10 *eP* Pdif 14 53 56.5 -0.3
WDC pmax pmax
comp=Z,4.0nm,0.8s
WDC Whiskeytown Da 102.42 10 *e*Pdif Pdif 14 53 56.5 -0.3
comp=Z,3.8nm,0.8s
TCUT Toone Canyon 102.82 2 *e*Pdif Pdif 14 53 59.7 +1.2
ELK Elko 103.02 5 *eP* Pdif 14 54 01.0 +1.6
ELK pmax pmax
comp=Z,4.0nm,0.6s
ELK Elko 103.02 5 PKKPbc 15 09 55.1
comp=Z,1.0nm,0.5s,baz=163,slow=2.4,SNR=4.4
ELK Elko 103.02 5 *e*Pdif Pdif 14 54 01.0 +1.5
comp=Z,3.8nm,0.6s
BMN Battle Mountai 103.18 6 P Pdif 14 54 00.1 0.0
BMN pmax pmax
comp=Z,5.0nm,0.6s
BMN Battle Mountai 103.18 6 Pdif Pdif 14 54 00.1 0.0
comp=Z,4.9nm,0.6s
CTU Camp Tracy 103.24 2 *e*Pdif Pdif 14 54 03.0 +2.6
BEKR Beckwourth 103.41 9 *e*Pdif Pdif 14 54 02.7 +1.5
comp=Z,8.9nm,0.9s
DAU Daniels Canyon 103.53 2 *eP* Pdif 14 54 03.7 +2.0
MAW Mawson 103.87 183 Pdiff Pdif 14 54 03.2 +0.7
comp=Z,5.6nm,0.7s,baz=333,slow=7.4,SNR=16
MAW PKIKP 14 58 18.9
comp=Z,1.3nm,0.3s,baz=287,slow=3.4,SNR=11
MAW PKKPbc 15 09 53.4
comp=Z,3.1nm,0.6s,baz=208,slow=5.8,SNR=11
SMCO Snowmass 104.75 358 *e*Pdif Pdif 14 54 08.7 +1.6
NVAR Mina Array Bea 105.06 7 Pdiff Pdif 14 54 10.1 +1.6
comp=Z,5.3nm,0.8s,baz=356,slow=3.0,SNR=26
NVAR Mina Array Bea 105.06 7 Pdif Pdif 14 54 10.1 +1.6
MSU Marysvale 105.40 2 P Pdif 14 54 12.4 +2.4
MSU Marysvale 105.40 2 *e*Pdif Pdif 14 54 11.6 +1.6
PV01 Paradox Valley 105.82 359 *e*Pdif Pdif 14 54 12.9 +1.1
SDCO Great Sand Dun 106.13 357 *e*Pdif Pdif 14 54 15.1 +1.9
comp=Z,2.8nm,0.9s
DZM Mont Dzumac 107.18 105 PKiKP 14 58 27.0
comp=Z,5.5nm,0.4s,baz=261,slow=12,SNR=8.7
SYO Syowa Base 107.61 191 ⇑Pdiff Pdif 14 54 23.8 +4.9
ANMO Albuquerque 108.95 358 P Pdif 14 54 28.5 +2.8
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 108.95 358 Pdif Pdif 14 54 28.5 +2.8
comp=Z,2.0nm,0.8s
MNTX Cornudas Mount 112.15 356 *e*PKiKP 14 58 35.2
TXAR Lajitas Array 114.39 355 P Pdif 14 54 55.2 +5.5
TXAR 14 58 39.7
TXAR 15 09 18.8
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR pmax pmax
comp=Z,3.0nm,0.7s
TXAR Lajitas Array 114.39 355 Pdiff Pdif 14 54 55.1 +5.4
comp=Z,1.0nm,0.7s,baz=11,slow=2.4,SNR=9.8
TXAR PKP PKPdf 14 58 39.7 +1.1
comp=Z,1.4nm,0.5s,baz=62,slow=2.1,SNR=16
TXAR PKKPbc 15 09 18.8
comp=Z,3.2nm,0.7s,baz=188,slow=6.2,SNR=22
TXAR PKPPKP 15 17 51.3
comp=Z,0.2nm,0.7s,baz=182,slow=6.1,SNR=4.4
NVL N'lazarevskaya 114.80 198 ⇑*i*PKIKP PKPdf 14 58 37.8 -0.6
NVL *i* 15 09 03.0
NVL pmax pmax
comp=Z,2.0nm,0.9s
SNAA Sanae 119.24 200 ⇑*i* PKPdf 14 58 49.3 +2.3
SNAA Sanae 119.24 200 PKIKP PKPdf 14 58 46.9 -0.1
SNAA pmax pmax
comp=Z,8.0nm,0.7s
SNAA pmax pmax
comp=E,3.0nm,1.0s
SNAA pmax pmax
comp=Z,4.0nm,0.5s
SNAA Sanae 119.24 200 PKP PKPdf 14 58 46.9 0.0
comp=Z,7.6nm,0.7s,baz=84,slow=4.8
SNAA SKP 15 02 02.2
comp=Z,3.3nm,1.0s,baz=53,slow=3.8,SNR=4.8
SNAA PKKPbc 15 09 01.6
comp=Z,3.6nm,0.5s,baz=238,slow=5.3,SNR=85
AFI Afiamalu 120.19 85 *e*PKIKP PKPdf 14 58 51.3 +1.2
VNA2 Neumayer--Watz 120.23 202 ⇑*i* PKPdf 14 58 52.6 +3.7
VNA1 Neumayer--Stat 120.39 202 ⇑*i* PKPdf 14 58 53.1 +3.9
VNA3 Neumayer Olymp 121.04 202 ⇑*i* PKPdf 14 58 54.4 +3.9
SDV Santo Domingo 122.14 313 SKP 15 02 07.4
comp=Z,15nm,0.9s,baz=27,slow=3.0,SNR=6.7
SDV Santo Domingo 122.14 313 *e*PKPdf PKPdf 14 58 53.4 -0.5
SDV *e*SKPdf 15 02 07.5
BDFB Brasilia 122.14 274 PKP PKPdf 14 58 54.8 +0.9
comp=Z,3.8nm,0.4s,baz=1.9,slow=1.2,SNR=7.7
BDFB PP PP 15 00 35.3 -0.3
comp=Z,4.2nm,0.7s,baz=65,slow=9.1,SNR=4.4
BDFB PKKPbc 15 08 52.6
comp=Z,21nm,0.9s,baz=234,slow=4.3,SNR=20
VNDA Vanda 125.47 165 PKP PKPdf 14 58 59.0 +0.2
comp=Z,13nm,0.7s,baz=293,slow=4.6,SNR=57
VNDA PKKPbc 15 08 40.3
comp=Z,1.1nm,0.8s,baz=295,slow=3.1,SNR=3.8
VNDA SKKPbc 15 12 07.6
comp=Z,2.0nm,0.9s,baz=150,slow=0.7,SNR=7.9
VNDA Vanda 125.47 165 *e*PKPdf PKPdf 14 58 58.4 -0.4
QSPA South Pole Qui 126.21 180 *eP* PKPdf 14 59 00.3 +0.2
SBA Scott Base 126.55 165 PKIKP PKPdf 14 58 59.6 -1.2
SBA Scott Base 126.55 165 *e*PKPdf PKPdf 14 59 01.8 +1.0
ROSC El Rosal 127.53 314 PKP PKPdf 14 59 06.2 +1.8
comp=Z,54nm,0.8s,baz=275,slow=23,SNR=13
ROSC SKPbc 15 02 05.4
comp=Z,27nm,0.8s,baz=90,slow=14,SNR=7.7
SAML Samuel 130.09 291 *e*PKPpre 14 58 55.1
SAML *e*PKPdf PKPdf 14 59 09.9 +0.6
SIV San Ignacio 132.76 282 PKP PKPdf 14 59 15.1 +0.8
comp=Z,6.2nm,0.6s,baz=75,slow=1.1,SNR=16
SIV SKPbc 15 02 21.6
comp=Z,21nm,0.9s,baz=79,slow=5.4,SNR=17
SIV SKKPbc 15 11 32.3
comp=Z,3.2nm,1.1s,baz=272,slow=4.1,SNR=4.9
CPUP Villa Florida 134.99 268 PKIKP PKPdf 14 59 18.5 +0.4
CPUP pmax pmax
comp=Z,20nm,0.6s
CPUP pmax pmax
comp=E,18nm,0.9s
CPUP Villa Florida 134.99 268 PKP PKPdf 14 59 18.5 +0.4
comp=E,20nm,0.6s,baz=96,slow=2.9,SNR=53
CPUP SKPbc 15 02 28.3
comp=E,18nm,0.9s,baz=82,slow=5.4,SNR=13
CPUP Villa Florida 134.99 268 *e*PKPdf PKPdf 14 59 17.9 -0.2
CPUP *e*SKPbc 15 02 28.2
LPAZ La Paz 138.43 288 PKHKP 14 59 20.5
comp=E,1.1nm,0.4s,baz=77,slow=4.1,SNR=3.7
LPAZ PKP PKPdf 14 59 26.3 +1.6
comp=E,5.6nm,0.6s,baz=21,slow=4.4,SNR=12
LPAZ SKPbc 15 02 39.0
comp=E,8.4nm,0.9s,baz=58,slow=4.6,SNR=8.2
LPAZ SKKPbc 15 11 11.4
comp=E,2.5nm,0.8s,baz=194,slow=7.5,SNR=5.6
LPAZ La Paz 138.43 288 *e*PKPdf PKPdf 14 59 26.4 +1.8
PPT Papeete 139.83 73 PKP PKPdf 14 59 28.6 +1.4
comp=E,38nm,0.7s,baz=33,slow=3.6,SNR=7.0
PPT SKPbc 15 02 44.7
comp=E,35nm,0.9s,baz=109,slow=4.8,SNR=3.9
LVC Limon Verde 142.55 280 PKhKP 14 59 28.8
comp=E,15nm,0.7s,baz=23,slow=2.4,SNR=16
LVC SKPbc 15 02 51.5
comp=E,18nm,0.8s,baz=314,slow=1.5,SNR=7.5
LVC Limon Verde 142.55 280 *e*PKPdf PKPdf 14 59 28.5 -3.3
LVC *e*PKPpre 15 02 46.9
TRQA Tornquist 142.62 253 *e*PKPpre 14 59 28.7
CFAA Coronel Fontan 145.83 266 PKPbc PKPbc 14 59 38.9 +0.6
comp=E,11nm,0.5s,baz=53,slow=2.2,SNR=157
CFAA SKPbc 15 02 58.0
comp=E,1.7nm,0.9s,baz=77,slow=2.8,SNR=3.3
ZON Zonda 146.16 266 *e*PKIKP PKPdf 14 59 39.0 +1.2
USHA Ushuaia 146.63 223 PKPbc PKPbc 14 59 41.5 +2.0
comp=E,42nm,0.4s,baz=102,slow=5.3,SNR=29
TLL Tololo Astrono 147.40 270 *eP* PKPdf 14 59 41.4 +1.5
CMCH Combarbala 147.91 268 *eP* PKPdf 14 59 42.0 +1.3
FCH Farellones 148.01 264 *eP* PKPdf 14 59 43.0 +2.2
LMEL Las Melosas 148.09 263 *eP* PKPdf 14 59 43.5 +2.6
PLCA Paso Flores 149.59 250 PKPdf PKPdf 14 59 44.5 +1.4
PLCA PKPbc PKPdf 14 59 49.5 +6.4
PLCA Paso Flores 149.59 250 PKHKP 14 59 45.0
PLCA pmax pmax
comp=Z,42nm,0.7s
PLCA pmax pmax
comp=Z,60nm,0.9s
PLCA Paso Flores 149.59 250 PKP PKPdf 14 59 45.0 +1.9
comp=Z,42nm,0.7s,baz=129,slow=2.3,SNR=17
PLCA PKPbc PKPdf 14 59 49.7 +6.6
comp=Z,60nm,0.8s,baz=105,slow=3.6,SNR=76
PLCA Paso Flores 149.59 250 *e*PKPdf PKPdf 14 59 44.4 +1.3
PLCA *e*PKPbc PKPdf 14 59 49.6 +6.5

*GII **23** 14:56:11.7±0.7,27.54N×34.79E,h6km±30km,mb4.1/4, ML3.9/5,Mw3.6/4*
*CSEM **23** 14:56:17.1±0.1,27.98N×34.51E,h10km,Mw3.6,Error ellipse: s-maj=2.8km s-min=1.5km az=122.0*
*SNSN **23** 14:56:18.9,28.10N×34.46E,h19km, MI3.5*
*HLW **23** 14:56:18.5,28.03N×34.53E,h14km,Mb3.0*

ISC 23 14:56:18.5±0.7,28.00N±0.04×34.54E±0.05,h24km±6km, n35,σ0°50/42,3C-6D,Egypt

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHRM		**0.38**	**253**	⇓*eP*		**Pb**	**14 56 26.5**	**-0.1**
SHRM				S		**Sb**	**14 56 32.3**	**+0.1**
TR1		**0.52**	**271**	⇑*eP*		**Pb**	**14 56 28.6**	**-0.3**
TR1		**0.52**	**271**	P		**Pb**	**14 56 28.6**	**-0.3**
TAYS	**Tayyib Ism**	**0.62**	**28**	P		**Pb**	**14 56 30.5**	**-0.1**
TAYS				S		**Sb**	**14 56 38.8**	**-0.1**
BDAS	**Al Bad'**	**0.66**	**49**	P		**Pb**	**14 56 31.6**	**+0.5**
HKAT	**Jabal Katrina**	**0.71**	**317**	⇓*iP*		**Pb**	**14 56 31.4**	**-0.7**
HDHB	**Dhahab**	**0.72**	**5**	⇑*iP*		**Pb**	**14 56 32.4**	**+0.1**
TR2		**0.82**	**298**	⇓*eP*		**Pb**	**14 56 33.5**	**-0.4**
ZEIT		**0.90**	**262**	⇑*iP*		**Pb**	**14 56 35.6**	**+0.4**
ZEIT				S		**Sb**	**14 56 47.9**	**+1.1**
NUB		**1.03**	**5**	⇓P		**Pb**	**14 56 36.8**	**-0.7**
NUB				S		**Sb**	**14 56 50.7**	**+0.2**
HAQS	**Haql**	**1.10**	**18**	P		**Pn**	**14 56 38.2**	**-0.4**
HHRG	**Al Ghardaqah**	**1.16**	**228**	⇓*eP*		**Pn**	**14 56 39.3**	**-0.1**
HBST	**Basata**	**1.22**	**8**	⇓*eP*		**Pn**	**14 56 40.1**	**-0.2**
JMOS	**Jabal al Moall**	**1.27**	**23**	P		**Pn**	**14 56 41.0**	**+0.1**
HRDS	**Abu Rudays**	**1.30**	**303**	*eP*		**Pn**	**14 56 40.6**	**-0.8**
ALWS	**Ilw as Safayha**	**1.38**	**19**	P		**Pn**	**14 56 42.2**	**-0.4**
JMQS	**Jabal Moqyreh**	**1.47**	**53**	P		**Pn**	**14 56 44.5**	**+0.6**
HSFG		**1.53**	**201**	P		**Pn**	**14 56 44.5**	**-0.1**
GRB	**Gharib**	**1.57**	**280**	P		**Pn**	**14 56 45.2**	**-0.1**
EIL	**Elat**	**1.70**	**12**	Pn		**Pn**	**14 56 46.6**	**-0.5**
AQBJ	**Aqaba**	**1.78**	**14**	Pn		**Pn**	**14 56 48.1**	**-0.1**
MBH	**Mount Berech**	**1.81**	**10**	Pn		**Pn**	**14 56 49.5**	**+0.7**
KMTI	**Karmit**	**2.10**	**4**	Pn		**Pn**	**14 56 53.2**	**+0.3**
KMTI				Sn		**Sn**	**14 57 24.2**	**+5.7**
HQSR		**2.24**	**184**	P		**Pn**	**14 56 54.4**	**-0.4**
PRNI	**Paran**	**2.38**	**10**	Pn		**Pn**	**14 56 57.1**	**+0.3**
PRNI				Sn		**Sn**	**14 57 32.3**	**+6.9**
PRNI	**Paran**	**2.38**	**10**	Pn		**Pn**	**14 56 57.5**	**+0.7**
ZFRI	**Zfri**	**2.60**	**12**	Pn		**Pn**	**14 57 00.5**	**+0.5**
ZFRI	**Zfri**	**2.60**	**12**	Pn		**Pn**	**14 57 00.8**	**+0.8**
AMAG	**Maghara**	**2.88**	**336**	P		**Pn**	**14 57 03.6**	**-0.3**
KZIT	**Kziot**	**2.90**	**358**	Pn		**Pn**	**14 57 04.8**	**+0.6**
KZIT				Sn		**Sn**	**14 57 46.7**	**+8.1**
MASH	**Mash'abbe Sade**	**2.99**	**4**	Pn		**Pn**	**14 57 05.6**	**+0.1**
RTMM	**Retamin**	**3.04**	**2**	Pn		**Pn**	**14 57 07.4**	**+1.2**
MZDA	**Masada**	**3.37**	**12**	Pn		**Pn**	**14 57 10.6**	**-0.4**
MZDA	**Masada**	**3.37**	**12**	Pn		**Pn**	**14 57 10.0**	**-1.0**
MKRJ	**Makawir**	**3.67**	**15**	Pn		**Pn**	**14 57 14.6**	**-0.5**

WEL 23 15:10:07.2±0.4,38.42S×175.58E,h259km±3km,ML3.7/13, Error ellipse: s-maj=5.0km s-min=4.6km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NGZ	**Ngauruhoe**	**0.75**	**179**	PN		P	15 10 42.4	+0.1
CNZ	**Chateau**	**0.78**	**182**	PN		P	15 10 42.4	0.0
FWVZ	**Far West T-bar**	**0.83**	**181**	PN		P	15 10 42.7	+0.1
TUVZ	**Tukino**	**0.85**	**176**	PN		P	15 10 42.5	-0.1
TUVZ				SN		S	15 11 10.8	+0.5
PKVZ	**Pokaka**	**0.89**	**192**	PN		P	15 10 42.6	-0.3
PKVZ				SN		S	15 11 10.0	-0.7
VRZ	**Vera Road**	**0.95**	**222**	PN		P	15 10 42.5	-0.7
VRZ				SN		S	15 11 11.4	+0.2
MOVZ	**Moawhango**	**0.99**	**172**	PN		P	15 10 43.0	-0.4
MOVZ				SN		S	15 11 09.9	-1.7
BKZ	**Black Stump Fm**	**1.03**	**136**	PN		P	15 10 43.8	+0.2
BKZ				SN		S	15 11 11.5	-0.5
URZ	**Urewera**	**1.22**	**83**	PN		P	15 10 44.3	-0.5
URZ				SN		S	15 11 12.9	-1.1
WAZ	**Wanganui**	**1.41**	**199**	PN		P	15 10 45.1	-1.0
WAZ				SN		S	15 11 15.5	-0.8
MWZ	**Matawai**	**1.54**	**87**	PN		P	15 10 47.0	0.0
MWZ				SN		S	15 11 17.1	-0.8
TSZ	**Takapari Road**	**1.66**	**170**	PN		P	15 10 47.1	-0.9
TSZ				SN		S	15 11 18.4	-1.2
KNZ	**Kokohu**	**1.75**	**111**	PN		P	15 10 48.8	+0.2
PUZ	**Puketiti**	**2.14**	**81**	PN		P	15 10 51.9	-0.1
MRZ	**Mangatainoka R**	**2.24**	**180**	PN		P	15 10 51.1	-1.9
MRZ				SN		S	15 11 25.7	-2.8
MXZ	**Matakaoa Point**	**2.32**	**69**	PN		P	15 10 53.6	-0.2
KIW	**Kapiti Island**	**2.49**	**192**	PN		P	15 10 52.9	-2.5
DUWZ	**D'Urville Isla**	**2.70**	**208**	PN		P	15 10 54.8	-2.7
CAW	**Cannon Point**	**2.71**	**188**	PN		P	15 10 55.0	-2.6
MTW	**Mount Morrison**	**2.73**	**181**	PN		P	15 10 55.2	-2.7
MRW	**Makara Radio**	**2.88**	**193**	PN		P	15 10 56.5	-2.9
SNZO	**South Karori**	**2.96**	**193**	PN		P	15 10 57.2	-3.1
TCW	**Tory Channel**	**2.96**	**199**	PN		P	15 10 57.5	-2.8
TUWZ	**Tuamarina**	**3.26**	**202**	PN		P	15 11 00.5	-3.0
NNZ	**Nelson**	**3.27**	**211**	PN		P	15 11 00.0	-3.6
QRZ	**Quartz Range**	**3.36**	**223**	PN		P	15 11 00.4	-4.3
THZ	**Tophouse**	**3.92**	**211**	PN		P	15 11 06.9	-4.0
KHZ	**Kahutara**	**4.28**	**201**	PN		P	15 11 11.5	-3.7
DSZ	**Denniston Nort**	**4.40**	**220**	PN		P	15 11 11.6	-5.1
LTZ	**Lake Taylor**	**5.03**	**209**	PN		P	15 11 19.6	-4.6
MQZ	**McQueen's Vall**	**5.72**	**202**	PN		P	15 11 27.1	-5.5

*NEIC **23** 15:47:20.3,32.21S×70.95W,h70km,MD3.6(GUC),After GUC.*

GUC 23 15:47:20.3±0.8,32.21S×70.95W,h70km±4km,MD3.6, ML3.7,8C-5D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.53**	**231**	*eP*		P	15 47 33.7	+0.2
PACH				*i* S		S	15 47 44.3	+1.0
JACH	**Jahuel**	**0.56**	**147**	⇑*iP*		P	15 47 34.0	0.0
JACH				*i* S		S	15 47 44.5	+0.6
ILCH	**Illapel**	**0.60**	**342**	⇑*iP*		P	15 47 34.8	+0.5
ILCH				*i* S		S	15 47 45.6	+1.1
ILCH				AMP			15 47 46.7	
	comp=N,2µm,0.2s							
ROCH	**El Roble**	**0.77**	**184**	⇑*iP*		P	15 47 36.1	0.0
PEL	**Peldehue**	**0.96**	**167**	⇑*iP*		P	15 47 38.7	+0.1
IHA	**Instituto Hidr**	**1.00**	**215**	⇓*iP*		P	15 47 39.0	-0.1
IHA				*i* S		S	15 47 52.9	-0.3
CMCH	**Combarbala**	**1.03**	**358**	⇓*iP*		P	15 47 39.4	0.0
CMCH				*i* S		S	15 47 54.0	+0.3
CMCH				AMP			15 47 55.9	
	comp=E,4µm,0.7s							
DSCH	**Colegio Aleman**	**1.23**	**165**	⇓*iP*		P	15 47 42.3	+0.2
DSCH				*i* S		S	15 47 58.9	+0.5
DSCH				AMP			15 47 59.6	
	comp=N,7µm,0.5s							
CLCH	**Cerro Calan**	**1.24**	**164**	⇑*iP*		P	15 47 42.4	+0.2
CLCH				*i* S		S	15 47 59.0	+0.6
CLCH				AMP			15 48 04.6	
	comp=E,2µm,0.7s							
CLCH				AMP			15 48 05.2	
	comp=E,2µm,0.7s							
FCH	**Farellones**	**1.25**	**154**	*eP*		P	15 47 42.8	+0.5
FCH				*i* S		S	15 48 00.1	+1.3
FCH				AMP			15 48 01.6	
	comp=E,1µm,0.3s							
STL	**Santa Lucia**	**1.25**	**168**	*eP*		P	15 47 41.7	-0.8
STL				*i* S		S	15 47 58.3	-0.5
STL				AMP			15 47 59.3	
	comp=N,699nm,0.3s							
RCDM	**Rinconada Maip**	**1.28**	**175**	*eP*		P	15 47 42.4	-0.4
RCDM				*i* S		S	15 47 59.5	-0.1
RCDM				AMP			15 48 02.9	
	comp=E,3µm,0.1s							
FSR	**Penalolen**	**1.32**	**164**	*eP*		P	15 47 43.6	+0.2
FSR				*i* S		S	15 48 01.1	+0.5
FSR				AMP			15 48 02.7	
	comp=N,1µm,0.4s							
LCCH	**Las Cruces**	**1.37**	**202**	*eP*		P	15 47 43.7	-0.4
LCCH				*i* S		S	15 48 01.8	+0.1
ANTU	**Antumapu**	**1.39**	**169**	*eP*		P	15 47 44.2	-0.1
ANTU				*i* S		S	15 48 02.4	+0.3
ANTU				AMP			15 48 05.2	
	comp=E,2µm,0.2s							
TACH	**Talagante**	**1.44**	**180**	*eP*		P	15 47 44.6	-0.5
PCH	**Pirque**	**1.46**	**165**	⇓*iP*		P	15 47 45.4	+0.1
PCH				*i* S		S	15 48 04.7	+1.1
SJCH	**San Jose de Ma**	**1.52**	**161**	⇑*iP*		P	15 47 46.2	+0.1
SJCH				*i* S		S	15 48 05.8	+0.8
SJCH				AMP			15 48 09.6	
	comp=E,928nm,0.3s							
CHCH	**Chadas Angostu**	**1.74**	**172**	*i* P		P	15 47 48.7	-0.3
CHCH				*e*S		S	15 48 10.6	+0.4
LMEL	**Las Melosas**	**1.75**	**159**	*eP*		P	15 47 49.7	+0.5
LMEL				*i* S		S	15 48 12.0	+1.5
LMEL				AMP			15 48 16.1	
	comp=N,2µm,0.2s							
LNV	**Longovilo**	**1.79**	**192**	*eP*		P	15 47 49.5	-0.2

IDC ***23*** *15:48:15.9±2.8,8.80N×126.22E,mb4.0/4,mb1 4.2/4, mb1mx3.7/17,mbtmp4.0/4,Error ellipse: s-maj=312.6km s-min=24.8km az=64.0*

ISC 23 15:48:21.5±1.4,8.92N±0.04×126.54E±0.05,h31km±11km**, n22,σ1§13/30,mb3.9**/4,**2C-2D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.91**	**273**	*eP*	**Pn**	**15 48 37.2**	**-1.0**
BUTP				*eS*	**Sb**	**15 48 49.2**	**-1.2**
SCPH	**Surigao**	**1.34**	**310**	*eP*	**Pn**	**15 48 44.3**	**-0.2**
SCPH				*eS*	**Sn**	**15 48 57.7**	**-3.7**
BUKP	**Musuan**	**1.79**	**235**	*eP*	**Pn**	**15 48 50.8**	**-0.1**
BUKP				*eS*	**Sn**	**15 49 13.3**	**+0.5**
CGP	**Cagayan de Oro**	**1.88**	**256**‖	*eP*	**Sn**	**15 49 14.0**	**-1.1**
MATI	**Mati**	**1.98**	**188**	*eP*	**Pn**	**15 48 54.1**	**+0.5**
MSLP	**Maasin**	**2.05**	**306**	*eP*	**Pn**	**15 48 55.9**	**+1.3**
KCP	**Kidapawan**	**2.38**	**217**‖	*eP*	**Pn**	**15 49 02.9**	**+3.6**
KCP				*i* S	**Sn**	**15 49 30.0**	**+2.3**
PLP	**Palo**	**2.71**	**326**	*eP*	**Pn**	**15 49 05.1**	**+1.1**
PLP				*eS*	**Sn**	**15 49 36.8**	**+0.7**
BESP	**Borongan**	**2.88**	**338**	*eP*	**Pn**	**15 49 06.4**	**+0.1**
LLP	**Lapu-Lapu**	**2.89**	**299**	*eP*	**Pn**	**15 49 08.0**	**+1.4**
LLP				*eS*	**Sn**	**15 49 41.2**	**+0.5**
DCPH	**Dipolog City**	**3.17**	**264**‖	*eP*	**Pn**	**15 49 06.6**	**-3.9**
DCPH				*eS*	**Sn**	**15 49 45.9**	**-1.8**
GSPH	**General Santos**	**3.23**	**209**	*eP*	**Pn**	**15 49 12.0**	**+0.7**
SNPH	**Sibulan**	**3.29**	**278**↑	*iP*	**Pn**	**15 49 12.8**	**+0.5**
SNPH				*eS*	**Sn**	**15 49 51.0**	**+0.3**
PAGZ	**Pagadian**	**3.30**	**251**	*eP*	**Pn**	**15 49 12.8**	**+0.4**
CNP	**Catarman**	**4.01**	**333**	*eP*	**Pn**	**15 49 23.2**	**+0.6**
GUIM	**Jordan**	**4.25**	**294**	*eP*	**Pn**	**15 49 25.8**	**0.0**
PVCP	**Virac**	**5.20**	**333**	*eP*	**Pn**	**15 49 38.1**	**-1.2**
POLP	**Polilio Island**	**7.32**	**322**	*eP*	**Pn**	**15 50 08.7**	**-0.4**
WRA	**Warramunga Arr**	**29.69**	**165**	P	**P**	**15 54 22.7**	**-4.5**
	0.3nm,0.5s,mb3.2,baz=345,slow=8.0,SNR=14						
WRA				PcP	PcP	15 57 27.4	-3.6
	0.4nm,0.6s,baz=333,slow=2.6,SNR=4.2						
STKA	**Stephens Creek**	**43.05**	**161**	P	**P**	**15 56 17.8**	**-2.6**
	1.9nm,0.4s,mb4.2,baz=336,slow=9.6,SNR=13						
MKAR	**Makanchi Array**	**53.26**	**323**	P	**P**	**15 57 35.6**	**-3.9**
	0.6nm,0.6s,mb3.7,baz=120,slow=8.6,SNR=10						
VNDA	**Vanda**	**88.57**	**173**	P	**P**	**16 01 10.2**	**-1.9**
	1.3nm,0.7s,mb4.4,baz=311,slow=6.4,SNR=11						

IDC ***23*** *15:55:20.8±0.5,19.03N×121.16E,mb4.4/17,mb1 4.5/17, mb1mx4.5/18,mbtmp4.4/17,MS3.9/8,Ms1 3.9/8, ms1mx3.7/26,Error ellipse: s-maj=25.7km s-min=14.2km az=69.0*

MOS ***23*** *15:55:23.6±1.1,19.03N×121.23E,h33km,mb4.9/24,Error ellipse: s-maj=12.4km s-min=6.6km az=108.6*

BJI ***23*** *15:55:24.0,19.14N×121.02E,h17km,mB4.8,mb4.4, ML4.4,Ms4.1,Msz4.0*

NEIC ***23*** *15:55:25.5±2.1,19.03N×121.17E,h33km±14km,mb4.7/35, Error ellipse: s-maj=7.9km s-min=5.8km az=97.0*

MAN ***23*** *15:55:26.0,19.14N×121.03E,h18km,mb5.1,ML4.0, MS4.2*

ISC 23 15:55:27.4±0.4,19.14N±0.03×121.17E±0.05,h59km±5km**, n180,σ1§12/176,mb4.6/61,MS4.0/10,13C-7D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**1.22**	**137**	*eP*	**P**	**15 55 48.5**	**-0.2**
APYP	**Conner**	**1.27**	**177**	*eP*	**P**	**15 55 48.9**	**-0.5**
APYP				*eS*	**S**	**15 56 06.3**	**+0.5**
BBP	**Basco**	**1.50**	**30**	*eP*	**P**	**15 55 52.8**	**+0.2**
ABRA	**Dolores**	**1.54**	**196**	*eP*	**P**	**15 55 51.7**	**-1.5**
CVP	**Callao Caves**	**1.56**	**156**‖	*eP*	**P**	**15 55 54.0**	**+0.5**
CAUP	**Cauayan**	**2.27**	**164**	*eP*	**P**	**15 56 05.7**	**+2.3**
BCPH	**Baguio City Da**	**2.80**	**192**↑	*iP*	**P**	**15 56 11.2**	**+0.2**
BCPH				*i* S	**S**	**15 56 43.1**	**-0.5**
BOLP	**Bolinao**	**2.99**	**204**	*eP*	**P**	**15 56 12.3**	**-1.3**
BOLP				*eS*	**S**	**15 56 54.5**	**+6.0**
BALP	**Baler**	**3.40**	**173**	*eP*	**P**	**15 56 20.2**	**+0.9**
SCZP	**Santa Cruz**	**3.55**	**200**	*eP*	**P**	**15 56 20.2**	**-1.3**
NZB	**Bigte**	**4.25**	**181**‖	*eP*	**P**	**15 56 31.2**	**-0.2**
POLP	**Polilio Island**	**4.45**	**170**	*eP*	**P**	**15 56 34.8**	**+0.7**
QVPH	**Quezon City--P**	**4.46**	**181**↑	*iP*	**P**	**15 56 35.0**	**+0.7**
ARP	**Angono**	**4.58**	**180**‖	*eP*	**P**	**15 56 35.9**	**0.0**
NACB	**Ninganchiao**	**5.02**	**4**	*eP*	**P**	**15 56 40.2**	**-1.9**
GQP	**Guinayangan**	**5.35**	**167**‖	*eP*	**P**	**15 56 46.7**	**+0.1**
LUBP	**Lubang**	**5.45**	**189**	*eP*	**P**	**15 56 49.4**	**+1.5**
BOAC	**Boac**	**5.69**	**173**	*eP*	**P**	**15 56 51.2**	**-0.1**
TATO	**Taipei**	**5.81**	**3**	*eP*	**P**	**15 56 51.9**	**-1.1**
	39nm,0.6s						
AUQP	**San Andres**	**5.96**	**166**	*eP*	**P**	**15 56 56.5**	**+1.4**
PVCP	**Virac**	**6.21**	**152**	*eP*	**P**	**15 56 58.1**	**-0.5**
QZH	**Quanzhou**	**6.25**	**338**	P	**P**	**15 56 54.8**	**-4.3**
QZH				S	**S**	**15 58 00.8**	**-9.1**
QZH				Smax			
	comp=N,110nm,1.0s						
QZH				Smax			
	comp=E,310nm,1.4s						
QZH				LR	LR		
	comp=N,1μm,15.8s						
QZH				LR	LR		
	comp=E,770nm,9.4s						
QZH				LR	LR		
	comp=Z,2μm,19.1s						
SJMP	**San Jose**	**6.64**	**180**	*eP*	**P**	**15 57 05.7**	**+1.1**
OTRP	**Odiongan**	**6.79**	**173**	*eP*	**P**	**15 57 08.2**	**+1.5**
BUSP	**Coron**	**7.16**	**188**	*eP*	**P**	**15 57 09.4**	**-2.4**
CNP	**Catarman**	**7.40**	**152**	*eP*	**P**	**15 57 16.0**	**+0.8**
ENPP	**El Nido**	**8.07**	**192**	*eP*	**P**	**15 57 20.8**	**-3.5**
CUYO	**Cuyo Island**	**8.24**	**181**	*eP*	**P**	**15 57 29.4**	**+2.6**
GZH	**Guangzhou**	**8.29**	**300**	P	**P**	**15 57 21.8**	**-5.6**
GZH				Smax			
	comp=N,101nm,0.8s						
GZH				Smax			
	comp=E,141nm,0.8s						
JOW	**Kunigami**	**10.07**	**39**	Pn	**P**	**15 57 51.5**	**-0.4**
	baz=208,slow=8.4						
JOW				LR	LR	16 01 57.2	
	comp=E,556nm,19.9s,baz=295,slow=39						
JOW	**Kunigami**	**10.07**	**39**	Pn	**P**	**15 57 51.5**	**-0.4**
JOW				LR	LR	16 01 57.2	
QIZ	**Qiongzhong**	**10.71**	**271**	*eP*	**P**	**15 57 54.0**	**-6.5**
QIZ				LR	LR		
	comp=E,641nm,15.1s						
QIZ				LR	LR		
	comp=Z,864nm,16.5s						
QIZ	**Qiongzhong**	**10.71**	**271**↑	*eP*	**P**	**15 57 54.5**	**-6.1**
	comp=Z,19nm,0.5s						
QIZ				*e*		15 59 48.5	
SSE	**Sheshan**	**11.90**	**0**	P	**P**	**15 58 17.6**	**+1.0**
SSE				S	**S**	**16 00 23.5**	**-5.1**
SSE				AMB	AMB		
	comp=Z,13nm,0.8s						
SSE				AMB	AMB		
	comp=Z,112nm,4.5s						
SSE				LR	LR		
	comp=N,155nm,13.0s						
SSE				LR	LR		
	comp=E,328nm,12.8s						
SSE				LR	LR		
	comp=Z,380nm,15.6s						
SSE	**Sheshan**	**11.90**	**0**	P	**P**	**15 58 17.6**	**+1.0**
	comp=Z,13nm,0.8s						
SSE				S	**S**	**16 00 23.5**	**-5.1**
NJ2	**Nanjing**	**13.02**	**351**	*eP*	**P**	**15 58 33.4**	**+1.9**
NJ2				S	**S**	**16 00 51.0**	**-4.4**
NJ2				PCS		16 07 33.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,360nm,3.8s						
NJ2				LR	LR		
	comp=N,2μm,13.0s						
NJ2				LR	LR		
	comp=E,3μm,10.0s						
NJ2				LR	LR		
	comp=Z,4μm,10.2s						
GYA	**Guiyang**	**15.22**	**301**	P	**P**	**15 58 58.3**	**-1.9**
GYA				S	**S**	**16 01 42.1**	**-5.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				LR	LR		
	comp=N,430nm,13.8s						
GYA				LR	LR		
	comp=E,530nm,14.1s						
GYA				LR	LR		
	comp=Z,700nm,13.4s						
ENH	**Enshi**	**15.33**	**319**	P	**P**	**15 58 57.3**	**-4.2**
	comp=Z,118nm,2.2s						
JNU	**Nakatsue**	**16.41**	**30**	LR	LR	16 05 39.0	
	comp=Z,242nm,20.1s,baz=44,slow=37						
KMI	**Kunming**	**18.07**	**293**	P	**P**	**15 59 36.9**	**+0.9**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s						
KMI				LR	LR		
	comp=N,325nm,13.0s						
KMI				LR	LR		
	comp=E,588nm,14.6s						
KMI				LR	LR		
	comp=Z,798nm,15.9s						
KMI	**Kunming**	**18.07**	**293**	P	**P**	**15 59 36.9**	**+0.9**
	comp=Z,9.0nm,1.1s						
KMI				pP		15 59 50.7	
KMI				PP	PP	15 59 56.3	+4.8
KMI				sP		16 00 01.3	
KMI				PPP	PPP	16 00 05.7	+4.5
KMI				S	**S**	**16 03 04.3**	**+12**
KMI				sS		16 03 26.0	
KMI				SS	SS	16 03 33.3	+16
KMI				SSS	SSS	16 03 48.1	+16
KMI				PcP	PcP	16 03 57.3	-11
XAN	**Xi'an**	**18.41**	**326**	P	**P**	**15 59 40.3**	**+0.2**
XAN				AP		15 59 48.0	
XAN				AMB	AMB		
	comp=Z,11nm,1.5s						
KS15	**Wonju Array Si**	**19.16**	**16**	*eP*	**P**	**15 59 47.2**	**-1.5**
CD2	**Chengdu**	**19.62**	**310**	P	**P**	**15 59 54.0**	**+0.3**
KSM	**Kuching**	**20.53**	**212**	*eP*	**P**	**16 00 01.8**	**-1.7**
JHJ	**Hachijo jima 2**	**21.70**	**46**	LR	LR	16 06 56.8	
	comp=Z,301nm,18.9s,MS3.7,baz=125,slow=32						
LZH	**Lanzhou**	**22.75**	**321**	P	**P**	**16 00 27.8**	**+2.3**
LZH				XP		16 00 40.8	
LZH				S	**S**	**16 04 33.0**	**+7.4**
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.6						
LZH				AMB	AMB		
	comp=Z,90nm,6.0s						
LZH				LR	LR		
	comp=N,850nm,15.4s						
LZH				LR	LR		
	comp=Z,710nm,16.9s,MS4.2						
LZH	**Lanzhou**	**22.75**	**321**	P	**P**	**16 00 27.7**	**+2.2**
LZH				*PP		16 00 40.8	
LZH				*SP		16 00 49.1	
LZH						16 01 03.0	
LZH				S	**S**	**16 04 33.0**	**+7.4**
LZH				SS	SS	16 05 25.0	+13
LZH				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.6						
LZH				MLR	MLR		
	comp=Z,710nm,16.9s,MS4.2						
LZH	**Lanzhou**	**22.75**	**321**	P	**P**	**16 00 27.7**	**+2.2**
	comp=Z,30nm,1.2s,mb4.6						
LZH				pP		16 00 40.8	
LZH				sP		16 00 49.1	
LZH				PP	PP	16 01 03.0	+7.1
LZH				S	**S**	**16 04 33.0**	**+7.4**
LZH				sS		16 04 57.3	
LZH				SS	SS	16 05 25.0	+13
LZH				LR	LR		
	comp=Z,710nm,16.9s,MS4.2						
MAJO	**Matsushiro**	**22.91**	**37**	P	**P**	**16 00 22.6**	**-4.3**
	comp=Z,8.2nm,0.9s,mb4.2						
MAT	**Matsushiro**	**22.91**	**37**	*eP*	**P**	**16 00 27.0**	**0.0**
MAT				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
MAT	**Matsushiro**	**22.91**	**37**	*eP*	**P**	**16 00 27.0**	**0.0**
	comp=Z,4.0nm,0.6s,mb4.0						
MAT	**Matsushiro**	**22.91**	**37**	P	**P**	**16 00 26.6**	**-0.4**
MJAR	**Matsushiro Arr**	**22.91**	**37**	P	**P**	**16 00 27.1**	**+0.1**
	comp=Z,3.5nm,0.8s,mb3.8,baz=221,slow=9.6,SNR=12						
HHC	**Hu-ho-hao-te**	**23.15**	**341**↑	*iP*	**P**	**16 00 33.1**	**+3.9**
HHC				AP		16 00 39.9	
HHC				XP		16 00 44.8	
HHC				PP	PP	16 01 05.1	+3.8
HHC				PCP	PcP	16 04 20.5	+2.6
HHC				S	**S**	**16 04 40.9**	**+8.4**
HHC				SCP		16 07 55.1	
HHC				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.2						
HHC				AMB	AMB		
	comp=Z,147nm,12.0s						
HHC				LR	LR		
	comp=N,417nm,15.6s,MS4.1						
HHC				LR	LR		
	comp=E,278nm,14.4s,MS4.1						
HHC				LR	LR		
	comp=Z,447nm,18.0s,MS4.0						
KULM	**Kulim**	**24.28**	**238**	*eP*	**P**	**16 00 40.4**	**-0.1**
CN2	**Changchun**	**24.85**	**7**	*eP*	**P**	**16 00 46.9**	**+1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
MDJ	**Mudanjiang**	**26.36**	**14**	P	**P**	**16 00 59.9**	**+0.1**
GTA	**Gaotai**	**27.35**	**322**	*eP*	**P**	**16 01 09.8**	**+0.8**
GTA				AP	pP	16 01 17.6	-5.8
GTA				XP	sP	16 01 20.8	-10
GTA				PP	PP	16 01 57.5	-0.3
GTA				S	**S**	**16 05 44.5**	**+1.7**
GTA				XS		16 06 00.8	
GTA				SS	SS	16 07 00.9	-2.1
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb3.9						
GTA				AMB	AMB		
	comp=Z,111nm,5.3s						
GTA				LR	LR		
	comp=N,166nm,15.6s,MS3.9						
GTA				LR	LR		
	comp=E,164nm,15.2s,MS3.9						
GTA				LR	LR		
	comp=Z,276nm,15.6s,MS3.9						
SHL	**Shillong**	**27.79**	**289**	*eP*	**P**	**16 01 13.2**	**+0.1**
LSA	**Lhasa**	**29.20**	**297**	P	**P**	**16 01 26.4**	**+0.7**
LSA	**Lhasa**	**29.20**	**297**	P	**P**	**16 01 24.3**	**-1.4**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
LSA	**Lhasa**	**29.20**	**297**	P	**P**	**16 01 24.3**	**-1.4**
	comp=Z,6.6nm,0.9s,mb4.4						
HIA	**Hailar**	**30.07**	**358**	*eP*	**P**	**16 01 31.3**	**-1.9**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HIA	**Hailar**	**30.07**	**358**	*eP*	**P**	**16 01 31.3**	**-1.9**
	comp=Z,7.7nm,0.8s,mb4.5						
SONM	**Songino Array**	**31.05**	**341**	P	**P**	**16 01 42.2**	**+0.4**
	comp=Z,3.5nm,1.0s,mb4.2,baz=163,slow=8.2,SNR=14						
SONM				PcP	PcP	16 04 36.3	-0.2
	comp=Z,0.8nm,0.7s,baz=180,slow=1.2,SNR=3.5						
SONM				LR	LR	16 15 28.5	
	comp=Z,308nm,18.1s,MS4.0,baz=29,slow=39						
KLR	**Kul'dur**	**31.20**	**13**	*eP*	**P**	**16 01 42.2**	**-1.0**
YSS	**Yuzh-Sakhalins**	**32.90**	**28**	*eP*	**P**	**16 01 57.9**	**-0.1**
YSS	**Yuzh-Sakhalins**	**32.90**	**28**	P	**P**	**16 01 56.4**	**-1.6**
	comp=Z,14nm,0.9s,mb4.9						
GUN	**Gumba**	**33.41**	**292**	*eP*	**P**	**16 02 03.2**	**+0.5**
PKI	**Pulchoki**	**33.79**	**291**	*eP*	**P**	**16 02 05.8**	**-0.1**
	comp=Z,44nm,1.5s,mb5.2						
KKN	**Kakani**	**33.93**	**291**	*eP*	**P**	**16 02 06.9**	**-0.2**
	comp=Z,20nm,0.9s,mb5.0						
DMN	**Daman**	**34.06**	**291**	*eP*	**P**	**16 02 08.3**	**+0.1**
	comp=Z,43nm,1.3s,mb5.2						
ZAK	**Zakamensk**	**34.27**	**340**	*eP*	**P**	**16 02 09.5**	**-0.3**
ZAK				*e*		16 04 45.0	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
GKN	**Gorkha**	**34.52**	**292**	*eP*	**P**	**16 02 11.6**	**-0.5**
TLY	**Talaya**	**35.28**	**341**	*eP*	pP	16 02 29.8	-3.6
TLY				*e*		16 07 49.1	
TLY				pmax	S		
	comp=Z,7.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,166nm,17.0s,MS3.9						
TLY	**Talaya**	**35.28**	**341**	P	**P**	**16 02 19.4**	**+1.0**
	comp=Z,6.1nm,0.9s,mb4.5						
KOLN	**Koldanda**	**35.40**	**291**	*eP*	**P**	**16 02 19.5**	**-0.2**
	comp=Z,31nm,0.8s,mb5.3						
FITZ	**Fitzroy Crossi**	**37.27**	**173**	*eP*	**P**	**16 02 33.1**	**-2.4**
	comp=Z,4.8nm,0.5s,mb4.6						
WMQ	**Urumqi**	**37.28**	**319**	*eP*	**P**	**16 02 38.3**	**+3.0**
BOD	**Bodaibo**	**38.98**	**354**	*eP*	**P**	**16 02 43.8**	**-5.5**
MBWA	**Marble Bar**	**40.08**	**182**	*eP*	**P**	**16 02 55.9**	**-2.9**
	comp=Z,1.6nm,0.5s,mb4.0						
WRAB	**Tennant Creek**	**40.93**	**161**	*eP*	**P**	**16 03 02.4**	**-3.4**
WRAB				*e*		16 05 06.3	
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.3						
WRAB	**Tennant Creek**	**40.93**	**161**	*eP*	**P**	**16 03 02.4**	**-3.5**
	comp=Z,3.5nm,0.4s,mb4.3						
WRAB				*e*PcP	PcP	16 05 06.3	+0.3
WRA	**Warramunga Arr**	**40.93**	**161**	P	**P**	**16 03 02.9**	**-3.0**
	comp=Z,2.9nm,0.5s,mb4.1,baz=342,slow=9.1,SNR=27						
WRA				PcP	PcP	16 05 06.0	0.0
	comp=Z,3.7nm,0.6s,baz=344,slow=3.2,SNR=15						
WB2	**Warramunga Arr**	**40.94**	**161**	*eP*	**P**	**16 03 02.8**	**-3.1**
MKAR	**Makanchi Array**	**42.05**	**320**	P	**P**	**16 03 16.1**	**+1.3**
	comp=Z,5.5nm,0.8s,mb4.2,baz=112,slow=10,SNR=58						
MKAR				PcP	PcP	16 05 09.6	+0.1
	comp=Z,3.6nm,0.8s,baz=104,slow=5.0,SNR=6.7						
MKAR				LR	LR	16 21 35.8	
	comp=Z,114nm,20.3s,MS3.7,baz=164,slow=37						
YAK	**Yakutsk**	**43.26**	**6**	*eP*	**P**	**16 03 22.0**	**-2.5**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
YAK	**Yakutsk**	**43.26**	**6**	*eP*	**P**	**16 03 22.0**	**-2.5**
	comp=Z,5.2nm,0.5s,mb4.5						
MA2	**Magadan**	**45.66**	**21**	P	**P**	**16 03 40.9**	**-2.9**
MA2				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.9						
MA2	**Magadan**	**45.66**	**21**	P	**P**	**16 03 40.9**	**-2.8**
	comp=Z,24nm,1.5s,mb4.9						
AAK	**Ala-Archa**	**45.68**	**311**	*i* P	**P**	**16 03 44.6**	**+0.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
NVS	**Novosibirsk**	**45.80**	**320**	*eP*	**P**	**16 03 44.6**	**-0.3**
KKAR	**Karatay Array**	**48.63**	**311**	*i* P	**P**	**16 04 08.0**	**+0.7**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
SEY	**Seymchan**	**48.72**	**18**	*d iP*	**P**	**16 04 08.4**	**+0.7**
KLBR	**Kellerberrin**	**50.55**	**184**	*eP*	**P**	**16 04 20.1**	**-2.1**
	comp=Z,122nm,1.6s,mb5.6						
VOSK	**Vostochnaya**	**51.18**	**323**	P	**P**	**16 04 26.7**	**+0.1**
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BVAR	**Borovoye Array**	**51.62**	**323**	P	**P**	**16 04 30.8**	**+0.8**
	comp=Z,3.0nm,0.6s,mb4.4,baz=117,slow=9.9,SNR=15						
BVAR				PcP	PcP	16 05 42.8	-0.4
	comp=Z,3.0nm,0.7s,baz=135,slow=4.2,SNR=6.6						
BRVK	**Borovoye**	**51.69**	**323**	*eP*	**P**	**16 04 28.8**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
BRVK	**Borovoye**	**51.69**	**323**	*eP*	**P**	**16 04 28.8**	**-1.6**
	comp=Z,7.6nm,0.8s,mb4.7						
NWAO	**Narrogin (SRO)**	**51.91**	**184**	*eP*	**P**	**16 04 29.3**	**-3.1**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**51.91**	**184**	*eP*	**P**	**16 04 29.3**	**-3.1**
	comp=Z,7.2nm,0.6s,mb4.8						
ZRNK	**Zerenda**	**52.38**	**323**	P	**P**	**16 04 36.1**	**+0.5**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**54.38**	**159**	*eP*	**P**	**16 04 49.3**	**-1.4**
	comp=Z,2.2nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**54.38**	**159**	P	**P**	**16 04 48.4**	**-2.3**
	comp=Z,3.2nm,0.8s,mb4.3,baz=335,slow=9.0,SNR=7.8						
STKA				PcP	PcP	16 05 52.3	-1.4
	comp=Z,2.2nm,0.7s,baz=306,slow=6.5,SNR=3.6						
BILL	**Bilibino**	**56.43**	**19**	*eP*	**P**	**16 05 04.8**	**-0.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
BILL	**Bilibino**	**56.43**	**19**	*eP*	**P**	**16 05 04.8**	**-0.2**
	comp=Z,3.2nm,0.4s,mb4.7						
AB31	**Akbulak array**	**57.01**	**317**	P	**P**	**16 05 09.6**	**+0.2**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
ARU	**Arti**	**59.16**	**325**↑	*iP*	**P**	**16 05 23.8**	**-0.5**
ARU				*e*		16 07 35.4	
ARU				*e*S	**S**	**16 13 18.7**	**-6.8**
ARU				*e*SS	SS	16 17 19.1	-3.0
ARU				*e*SSS	SSS	16 19 57.0	+7.0
ARU				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
ARU	**Arti**	**59.16**	**325**↑	*iP*	**P**	**16 05 23.6**	**-0.6**
	comp=Z,22nm,1.0s,mb5.2						
TAU	**Tasmania Unive**	**66.27**	**159**	P	**P**	**16 06 10.0**	**-1.7**
TAU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
TAU	**Tasmania Unive**	**66.27**	**159**	P	**P**	**16 06 10.0**	**-1.6**
	comp=Z,4.2nm,0.6s,mb4.7						
KIV	**Kislovodsk**	**68.79**	**311**	*i* P	**P**	**16 06 26.8**	**-0.6**
KIV				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
KIV	**Kislovodsk**	**68.79**	**311**	*eP*	**P**	**16 06 26.1**	**-1.2**
	comp=Z,17nm,0.8s,mb5.0						
TTA	**Tatalina**	**69.89**	**29**	*eP*	pP	16 06 47.9	-2.2
IMA	**Indian Mountai**	**70.72**	**26**	*eP*	**P**	**16 06 39.4**	**+0.6**
IMA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
IMA	**Indian Mountai**	**70.72**	**26**	*eP*	**P**	**16 06 39.4**	**+0.6**
	comp=Z,3.5nm,0.9s,mb4.3						
OBN	**Obninsk**	**71.46**	**323**	*d iP*	**P**	**16 06 41.3**	**-2.1**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
MALT	**Malatya**	**72.83**	**305**	*eP*	**P**	**16 06 50.2**	**-1.6**
MALT				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MALT	**Malatya**	**72.83**	**305**	*eP*	**P**	**16 06 50.2**	**-1.6**
	comp=Z,8.3nm,1.0s,mb4.6						
MCK	**McKinley**	**72.98**	**28**	*eP*	**P**	**16 06 51.9**	**-0.3**
MCK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
MCK	**McKinley**	**72.98**	**28**	*eP*	**P**	**16 06 51.9**	**-0.2**
	comp=Z,5.5nm,0.9s,mb4.5						
ILAR	**Eielson Array**	**73.70**	**27**	P	**P**	**16 06 56.9**	**+0.6**
	comp=Z,1.0nm,0.7s,mb3.8,baz=281,slow=5.6,SNR=12						
ARCES	**ARCESS Array B**	**74.20**	**339**	P	**P**	**16 06 59.6**	**+

comp=Z,4.5nm,0.9s,mb4.7
PRU Pruhonice 85.73 322 *e*P **P 16 08 01.5 +0.3**
CLL Collm 86.06 323 *e*P **P 16 08 01.0 -1.7**
CLL Collm 86.06 323 P **P 16 08 03.0 +0.3**
GERES GERESS Array B 86.72 321 P **P 16 08 07.1 +1.1**
comp=Z,1.1nm,0.8s,mb4.2,baz=56,slow=4.8,SNR=8.4
GERES LR LR 16 51 24.2
comp=Z,50nm,20.0s,MS3.9,baz=140,slow=39
YKW3 Yellowknife Ar 87.56 23 *e*P **P 16 08 11.0 +1.2**
YKA Yellowknife Ar 87.61 23 P **P 16 08 11.3 +1.3**
comp=Z,6.6nm,0.7s,mb5.0,baz=314,slow=4.7,SNR=30
MIR Mirnyy 88.00 191 *d*P **P 16 08 12.4 +0.6**
MIR pmax pmax
comp=Z,16nm,1.0s,mb5.2
NEW Newport 95.14 35 *e*P **P 16 08 46.3 +1.0**
NEW pmax pmax
comp=Z,2.0nm,0.9s
NEW Newport 95.14 35 *e*P **P 16 08 46.3 +1.0**
comp=Z,2.2nm,0.9s,mb4.6
MAW Mawson 96.35 199 P **P 16 08 50.8 +0.5**
comp=Z,0.9nm,0.5s,mb4.5,baz=72,slow=6.4,SNR=3.8
LSZ Lusaka 97.63 257 P **P 16 08 57.5 +0.2**
LSZ pmax pmax
comp=Z,43nm,2.4s,mb5.5
LSZ Lusaka 97.63 257 P **P 16 08 57.5 +0.2**
comp=Z,43nm,2.4s,mb5.5
VNDA Vanda 99.33 172 P **P 16 09 05.1 +1.4**
comp=Z,1.9nm,0.9s,mb4.6,baz=306,slow=5.4,SNR=11
VNDA Vanda 99.33 172 *e*P **P 16 09 04.6 +0.9**
comp=Z,2.3nm,1.0s,mb4.7
VNDA *e* pP 16 09 22.6 +1.8
ISA Isabella 101.53 46 *e*P P 16 09 06.1 -8.4
comp=Z,3.7nm,0.6s
TXAR Lajitas Array 115.25 43 PKP PKPdf 16 14 05.4 +2.7
comp=Z,1.2nm,0.7s,baz=307,slow=0.6,SNR=20
SNAA Sanae 118.45 197 PKPdf 16 14 09.0 +1.1
WVT Waverly 118.56 27 *e*PKPdf PKPdf 16 14 10.3 +1.4
VNA2 Neumayer--Watz 120.10 197 ⇑*i* PKPdf 16 14 13.2 +2.1
VNA1 Neumayer--Stat 120.49 197 ⇑*i* PKPdf 16 14 14.8 +2.9
VNA3 Neumayer Olymp 120.56 197 ⇑*i* PKPdf 16 14 14.0 +2.0
PMSA Palmer Station 134.26 177 *e*PKPpre 16 14 32.8
SDV Santo Domingo 149.82 24 *e*PKPdf PKPdf 16 15 10.0 +3.2
SDV *e*PKPbc PKPdf 16 15 17.8 +11
ROSC El Rosal 151.69 34 PKPbc PKPdf 16 15 19.4 +10
comp=Z,11nm,0.6s,baz=101,slow=22,SNR=4.5
PLCA Paso Flores 156.25 157 PKPbc PKPdf 16 15 28.3 +13
comp=Z,1.5nm,0.8s,baz=272,slow=5.9,SNR=4.4
PLCA PKPab PKPab 16 15 46.9 +1.0
comp=Z,3.2nm,1.0s,baz=242,slow=7.3,SNR=4.7
PLCA Paso Flores 156.25 157 PKPbc PKPdf 16 15 28.3 +13
PLCA PKPab PKPab 16 15 46.9 +1.0
LPAZ La Paz 170.70 74 PKP PKPdf 16 15 32.6 +3.4
CPUP Villa Florida 172.71 191 PKP PKPdf 16 15 32.7 +2.6
SIV San Ignacio 176.21 35 PKPab PKPab 16 17 12.8 -1.0
comp=Z,1.1nm,0.8s,baz=197,slow=19,SNR=3.4

*SOF **23** 16:10:47.9,41.82N×22.62E,h8km,MD2.7*
*CSEM **23** 16:10:47.8±0.2,41.80N×22.59E,h14km±2km,MD2.7,*
Error ellipse: s-maj=5.4km s-min=3.6km az=82.0
*ATH **23** 16:10:48.2,41.30N×25.24E,h26km,MD2.8/3*
ISC 23 16:10:48.9±0.8,41.80N±0.04×22.71E±0.06,h9km±6km,
n15,σ0'50"/18,2C,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KKB	**Krupnik**	**0.29**	**77**	*i* Pg		**Pg**	**16 10 56.0**	**+1.1**
VAY	**Valandovo**	**0.49**	**192**	⇑*i* Pg		**Pg**	**16 10 58.8**	**-0.1**
VAY				*i* Sg		**Sg**	**16 11 05.3**	**-0.2**
MMB	**Musomiste**	**0.79**	**105**	*i* Pg		**Pg**	**16 11 05.0**	**+0.2**
VTS	**Vitosha**	**0.87**	**25**	*i* Pg		**Pg**	**16 11 06.5**	**+0.1**
GRG	**Griva**	**0.88**	**196**	*e*P		**Pb**	**16 11 05.3**	**-0.5**
SRS	**Serrai**	**0.95**	**136**	*e*P		**Pb**	**16 11 07.6**	**+0.5**
SKO	**Skopje**	**0.96**	**281**	*i* Pn		**Pn**	**16 11 08.9**	**+0.4**
NVR	**Nevrokopi**	**0.97**	**117**	*e*PN		**Pn**	**16 11 08.1**	**-0.5**
NVR				*e*SN		**Sn**	**16 11 22.8**	**+0.2**
THE	**Thessaloniki**	**1.18**	**171**	*e*P		**Pb**	**16 11 11.2**	**+0.1**
PGB	**Panagyurishte**	**1.32**	**55**	*i* P		**Pb**	**16 11 13.5**	**+0.2**
ZAPS	**Zavoj/Pirot**	**1.50**	**357**	⇑*i* Pg		**Pn**	**16 11 16.3**	**+0.2**
ZAPS				Sg		**Sn**	**16 11 35.4**	**-0.4**
PLD	**Plovdiv**	**1.52**	**78**	*i* P		**Pg**	**16 11 19.0**	**-0.3**
PLG	**Polygyros**	**1.53**	**158**	*e*PN		**Pn**	**16 11 17.0**	**+0.4**
KDZ	**Kurdzhali**	**2.03**	**93**	*e*P		**Pn**	**16 11 23.5**	**-0.2**
DIM	**Dimitrovgrad**	**2.12**	**82**	*e*P		**Pg**	**16 11 30.0**	**-1.3**

*MOS **23** 16:15:05.9±2.1,55.25N×111.16E,h14km,mb4.3/1,Error*
ellipse: s-maj=19.0km s-min=14.3km az=65.7
BYKL 23 16:15:05.8±0.2,55.26N×111.12E,h10km±12km,5C-1D,
Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMO	**Kumora**	**0.63**	**4**	⇑*i* PG		Pg	16 15 17.3	-1.2
KMO				*e*			16 15 25.5	
KMO				pmax	pmax			
	comp=Z,256nm,0.3s							
KMO				smax				
	comp=N,2μm,1.1s							
KMO	**Kumora**	**0.63**	**4**	⇑*i* Pg		Pg	16 15 17.3	-1.2
KMO				*i* Sg		Sg	16 15 25.5	-1.5
KMO				Pmax				
	comp=N,253nm,0.3s							
KMO				Smax				
	comp=N,2μm,0.6s							
YOA	**Uoyan**	**0.94**	**21**	*e*Pg		Pg	16 15 22.4	-2.2
YOA				*e*			16 15 27.6	
YOA				*e*Sg		Sg	16 15 35.2	-2.0
YOA				*e*			16 15 37.0	
YOA				max				
	comp=N,292nm,0.4s							
YOA				max				
	comp=N,2μm,0.1s							
NIZ	**Nizh Angarsk**	**1.04**	**301**	*e*PG		Pg	16 15 24.7	-1.9
NIZ				*e*			16 15 38.9	
NIZ				pmax	pmax			
	comp=Z,268nm,0.4s							
NIZ				smax				
	comp=E,310nm,0.3s							
NIZ	**Nizh Angarsk**	**1.04**	**301**	⇑*i* Pg		Pg	16 15 24.7	-1.9
NIZ				*e*Sg		Sg	16 15 38.7	-1.7
NIZ				Pmax				
	comp=E,277nm,0.3s							
NIZ				Smax				
	comp=E,326nm,0.2s							
UKT	**Uakit**	**1.45**	**80**	⇑*i* PG		Pg	16 15 31.7	-3.1
UKT				*e*			16 15 50.9	
UKT				pmax	pmax			
	comp=Z,110nm,0.3s							
UKT				smax				
	comp=N,509nm,0.2s							
UKT	**Uakit**	**1.45**	**80**	⇑*i* Pg		Pg	16 15 31.8	-3.0
UKT				*i* Sg		Sg	16 15 51.2	-2.9
UKT				Pmax				
	comp=N,123nm,0.3s							
UKT				Smax				
	comp=N,727nm,0.8s							
SVKR	**Severomuysk**	**1.63**	**57**	*e*PN		Pn	16 15 35.5	+0.8
SVKR				*e*			16 15 57.7	
SVKR				pmax	pmax			
	comp=Z,221nm,0.5s							
SVKR				smax				
	comp=N,1μm,0.4s							
SVKR	**Severomuysk**	**1.63**	**57**	*e*Pg		Pg	16 15 35.5	-2.8
SVKR				*e*			16 15 41.5	
SVKR				*i* Sg		Sg	16 15 57.5	-2.5
SVKR				max				
	comp=N,221nm,0.4s							
SVKR				Smax				
	comp=N,1μm,0.5s							
MXMB	**Maximikha**	**2.44**	**216**	*e*Pg		Pg	16 15 50.0	-4.5
MXMB				*e*Sg		Sg	16 16 22.5	-4.5
MXMB				Pmax				
	comp=N,33nm,0.7s							
MXMB				Smax				
	comp=N,313nm,0.8s							
NLYR	**Nelyaty**	**2.86**	**63**	*e*PN		Pn	16 15 56.3	+3.9
NLYR				*e*			16 16 34.2	
NLYR				pmax	pmax			
	comp=Z,10.0nm,0.3s							
NLYR				smax				
	comp=N,183nm,0.8s							
NLYR	**Nelyaty**	**2.86**	**63**	⇓*i* Pn		Pn	16 15 51.7	-0.7
NLYR				*e*Pg		Pg	16 15 57.0	-6.0
NLYR				*e*Sn		Sn	16 16 25.5	-1.8
NLYR				*e*Sg		Sg	16 16 34.4	-6.7
NLYR				Pmax				
	comp=N,28nm,0.3s							
NLYR				Smax				
	comp=N,217nm,1.2s							
BOD	**Bodaibo**	**3.02**	**31**	*e*Pn		Pn	16 15 53.6	-1.1
BOD				*e*Pg		Pg	16 15 58.8	-7.3
BOD				*e*Sn		Sn	16 16 29.0	-2.3
BOD				*e*Sg		Sg	16 16 37.5	-8.9
BOD				Pmax				
	comp=N,15nm,0.3s							
BOD				Smax				
	comp=N,101nm,0.4s							
CIT	**Chita**	**3.55**	**155**	*e*PN		Pn	16 16 10.1	+7.9
CIT				*e*			16 16 54.9	
CIT				pmax	pmax			
	comp=Z,36nm,0.5s							
CIT				smax				
	comp=E,210nm,1.0s							
CIT	**Chita**	**3.55**	**155**	*e*		Pn	16 16 06.7	+4.5
CIT				*e*Pg		Pg	16 16 09.2	-7.6
CIT				*e*Sg		Sg	16 16 55.2	-8.9
CIT				Pmax				
	comp=E,38nm,1.0s							
CIT				Smax				
	comp=E,211nm,1.1s							
TRTB	**Turuntaevo**	**3.67**	**216**	*e*Pg		Pg	16 16 12.2	-7.0
TRTB				*e*Sg		Sg	16 17 00.5	-7.7
TRTB				Pmax				
	comp=E,8.0nm,0.6s							
TRTB				Smax				
	comp=E,52nm,1.4s							
TRG	**Tyrgan**	**3.77**	**230**	*e*Pg		Pg	16 16 12.7	-8.3
TRG				*e*Sg		Sg	16 17 01.6	-10
TRG				Pmax				
	comp=E,12nm,0.7s							
TRG				Smax				
	comp=E,55nm,0.9s							
FFNB	**Fofonovo**	**4.13**	**221**	*e*Sg		Sg	16 17 13.4	-10
FFNB				Smax				
	comp=E,93nm,1.0s							
CRS	**Chara**	**4.33**	**65**	*e*		Pn	16 16 28.3	+15
CRS				*e*Sg		Sg	16 17 18.6	-11
CRS				Smax				
	comp=E,154nm,1.4s							
HRMR	**Khuramsha**	**4.41**	**216**	*e*Pg		Pg	16 16 25.0	-8.8
HRMR				*e*Sg		Sg	16 17 22.1	-10
HRMR				Pmax				
	comp=E,18nm,0.7s							
HRMR				Smax				
	comp=E,169nm,0.8s							
LSTR	**Listvyanka**	**5.06**	**230**	*e*		Pn	16 16 22.7	-0.9
LSTR				*e*Pg		Pg	16 16 35.9	-11
LSTR				*e*Sn		Sn	16 17 20.2	-2.6
LSTR				*e*Sg		Sg	16 17 41.3	-13
LSTR				Pmax				
	comp=E,4.0nm,0.6s							
LSTR				Smax				
	comp=E,28nm,1.6s							
IRK	**Irkutsk**	**5.06**	**236**	*e*Sg		Sg	16 17 44.4	-10
IRK				Smax				
	comp=E,110nm,0.8s							
TUP	**Tupik**	**5.17**	**96**	*e*PN		Pn	16 16 23.0	-2.2
TUP				*e*			16 16 37.9	
TUP				*e*S		Sn	16 17 21.8	-3.9
TUP				*e*			16 17 44.9	
TUP				pmax	pmax			
	comp=Z,11nm,0.4s							
TUP				smax				
	comp=N,115nm,0.9s							
TUP	**Tupik**	**5.17**	**96**	*e*Pn		Pn	16 16 24.3	-0.9
TUP				*e*Pg		Pg	16 16 39.2	-10
TUP				*e*Sg		Sg	16 17 46.7	-11
TUP				Pmax				
	comp=N,14nm,0.6s							
TUP				Smax				
	comp=N,116nm,0.8s							
TLY	**Talaya**	**5.72**	**234**	*e*PN		Pn	16 16 32.7	-0.3
TLY				*e*			16 16 49.1	
TLY	**Talaya**	**5.72**	**234**	*e*		Pn	16 16 49.0	+16
TLY				*e*Sg		Sg	16 18 01.4	-15
TLY				max				
TLY				Smax				
	comp=N,28nm,0.9s							
ARS	**Arshan**	**6.16**	**241**	*e*		Pn	16 16 57.4	+18
ARS				*e*			16 17 44.6	
ARS				*e*Sg		Sg	16 18 15.5	-16
ARS				max				
ARS				Smax				
	comp=N,135nm,0.6s							
MOY	**Mondy**	**7.04**	**243**	*e*Pn		Pn	16 16 49.4	-2.0
MOY				*e*Sn		Sn	16 18 07.2	-5.1
MOY				*e*Sg		Sg	16 18 43.8	-16
MOY				Smax				
	comp=N,55nm,1.3s							
ORL	**Orlik**	**7.22**	**252**	*e*PN		Pn	16 16 51.2	-2.8
ORL				*e*			16 17 15.3	
ORL				*e*S		Sn	16 18 12.5	-4.4
ORL				*e*			16 18 50.7	
ORL				pmax	pmax			
	comp=Z,3.0nm,1.1s							
ORL				smax				
	comp=N,16nm,1.1s							
ORL	**Orlik**	**7.22**	**252**	*e*Pn		Pn	16 16 52.1	-1.9
ORL				*e*Sn		Sn	16 18 10.4	-6.5
ORL				*e*Sg		Sg	16 18 50.0	-16
ORL				max				
	comp=N,6.0nm,0.5s							
ORL				Smax				
	comp=N,37nm,2.0s							

*MOS **23** 16:22:17.7±1.5,31.08S×179.48W,h199km,mb4.8/5,*
Error ellipse: s-maj=17.6km s-min=11.9km az=79.7
*BJI **23** 16:22:17.1,31.05S×179.10W,h207km,mB4.9,mb4.7*
*NEIC **23** 16:22:19.0±0.8,31.03S×179.49W,h198km±7km,mb4.7/20,*
Error ellipse: s-maj=12.1km s-min=7.6km az=117.0
*IDC **23** 16:22:22.2±0.9,30.84S×179.41W,h227km±7km,mb3.9/13,*
mb1 4.2/15,mb1mx4.2/17,mbtmp4.5/15,Error ellipse:
s-maj=14.7km s-min=12.9km az=126.0
ISC 23 16:22:18.4±0.5,31.14S±0.04×179.66W±0.08,
h201km±5km,n239,σ1'49/160,mb4.4/31,4C-11D,
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**2.41**	**39**	*e*P		**P**	**16 23 01.3**	**-0.5**
RAO	**Raoul Island**	**2.41**	**39**	P		**P**	**16 23 03.0**	**+1.2**
	208nm,0.3s,baz=43,slow=23,SNR=18							
RAO				S		**S**	**16 23 35.4**	**+0.1**
	1μm,0.3s,baz=80,slow=21,SNR=13							
MXZ	**Matakaoa Point**	**6.63**	**194**	P		**P**	**16 23 56.5**	**+2.0**
MXZ	**Matakaoa Point**	**6.63**	**194**	PN		**P**	**16 23 55.9**	**+1.3**
MXZ				SN		**S**	**16 25 12.7**	**+3.2**
MXZ				T			16 29 56.6	
KUZ	**Kuaotunu**	**6.79**	**213**	*e*P		**P**	**16 24 05.0**	**+8.4**
KUZ	**Kuaotunu**	**6.79**	**213**	*e*PN		**P**	**16 24 04.4**	**+7.8**
WCZ	**Waipu Caves**	**6.93**	**225**	*e*P		**P**	**16 24 08.3**	**+10**
WCZ	**Waipu Caves**	**6.93**	**225**	PN		**P**	**16 24 08.4**	**+10**
PUZ	**Puketiti**	**7.13**	**193**	*e*P		**P**	**16 24 02.5**	**+1.4**
PUZ				S		**S**	**16 25 23.7**	**+2.5**
PUZ	**Puketiti**	**7.13**	**193**	PN		**P**	**16 24 02.2**	**+1.1**
PUZ				SN		**S**	**16 25 22.1**	**+0.9**
MWZ	**Matawai**	**7.54**	**197**	*e*P		**P**	**16 24 07.9**	**+1.4**
MWZ	**Matawai**	**7.54**	**197**	PN		**P**	**16 24 07.7**	**+1.2**
MWZ				SN		**S**	**16 25 32.9**	**+1.9**
URZ	**Urewera**	**7.59**	**200**	P		**P**	**16 24 08.5**	**+1.4**
	5.9nm,0.3s,baz=28,slow=4.3,SNR=28							
URZ				S		**S**	**16 25 34.8**	**+2.8**
	125nm,0.3s,baz=84,slow=21,SNR=11							
URZ	**Urewera**	**7.59**	**200**	*e*P		**P**	**16 24 08.4**	**+1.3**
URZ	**Urewera**	**7.59**	**200**	PN		**P**	**16 24 08.2**	**+1.1**
URZ				SN		**S**	**16 25 34.1**	**+2.1**
KNZ	**Kokohu**	**8.16**	**195**	PN		**P**	**16 24 13.7**	**-0.9**
KNZ				SN		**S**	**16 25 46.8**	**+1.5**
BKZ	**Black Stump Fm**	**8.61**	**200**	*e*P		**P**	**16 24 20.7**	**+0.3**
BKZ	**Black Stump Fm**	**8.61**	**200**	PN		**P**	**16 24 20.7**	**+0.3**
BKZ				SN		**S**	**16 25 57.4**	**+1.7**
HIZ	**Hauiti**	**8.63**	**210**	*e*P		**P**	**16 24 25.8**	**+5.1**
HIZ	**Hauiti**	**8.63**	**210**	*e*PN		**P**	**16 24 25.3**	**+4.6**
NGZ	**Ngauruhoe**	**8.91**	**205**	P		**P**	**16 24 25.6**	**+1.3**
NGZ	**Ngauruhoe**	**8.91**	**205**	PN		**P**	**16 24 25.6**	**+1.3**
CNZ	**Chateau**	**8.95**	**205**	PN		**P**	**16 24 26.6**	**+1.8**
TUVZ	**Tukino**	**8.97**	**204**	P		**P**	**16 24 31.0**	**+5.9**
TUVZ	**Tukino**	**8.97**	**204**	PN		**P**	**16 24 26.4**	**+1.2**
FWVZ	**Far West T-bar**	**9.00**	**204**	*e*P		**P**	**16 24 27.1**	**+1.7**
FWVZ	**Far West T-bar**	**9.00**	**204**	PN		**P**	**16 24 27.1**	**+1.7**
MOVZ	**Moawhango**	**9.06**	**203**	P		**P**	**16 24 26.0**	**-0.3**
MOVZ	**Moawhango**	**9.06**	**203**	PN		**P**	**16 24 26.0**	**-0.3**
MOVZ				SN		**S**	**16 26 07.5**	**+1.2**
PKVZ	**Pokaka**	**9.10**	**205**	PN		**P**	**16 24 28.7**	**+1.9**
PKVZ				SN		**S**	**16 26 13.8**	**+6.6**
TSZ	**Takapari Road**	**9.59**	**201**	*e*P		**P**	**16 24 30.4**	**-2.7**
TSZ	**Takapari Road**	**9.59**	**201**	PN		**P**	**16 24 31.4**	**-1.7**
TSZ				SN		**S**	**16 26 18.2**	**-0.3**
WAZ	**Wanganui**	**9.64**	**205**	PN		**P**	**16 24 36.8**	**+3.0**
MRZ	**Mangatainoka R**	**10.26**	**201**	*e*P		**P**	**16 24 39.7**	**-2.0**
MRZ	**Mangatainoka R**	**10.26**	**201**	PN		**P**	**16 24 39.2**	**-2.5**
MRZ				SN		**S**	**16 26 30.4**	**-3.6**
KIW	**Kapiti Island**	**10.65**	**203**	P		**P**	**16 24 45.2**	**-1.6**
KIW	**Kapiti Island**	**10.65**	**203**	PN		**P**	**16 24 45.1**	**-1.7**
KIW				SN		**S**	**16 26 40.7**	**-2.5**
MTW	**Mount Morrison**	**10.74**	**200**	P		**P**	**16 24 47.8**	**-0.1**
MTW	**Mount Morrison**	**10.74**	**200**	PN		**P**	**16 24 45.8**	**-2.1**
CAW	**Cannon Point**	**10.82**	**202**	P		**P**	**16 24 46.3**	**-2.7**
CAW	**Cannon Point**	**10.82**	**202**	PN		**P**	**16 24 45.8**	**-3.2**
TRWZ	**Traveller**	**10.90**	**199**	PN		**P**	**16 24 47.1**	**-2.9**
PAWZ	**Paruwai Farm**	**10.96**	**200**	PN		**P**	**16 24 50.8**	**0.0**
PAWZ				SN		**S**	**16 26 46.1**	**-4.4**
MSWZ	**Moikau Station**	**11.05**	**200**	P		**P**	**16 24 50.4**	**-1.5**
MSWZ	**Moikau Station**	**11.05**	**200**	PN		**P**	**16 24 50.4**	**-1.5**
MSWZ				SN		**S**	**16 26 47.8**	**-4.6**
MRW	**Makara Radio**	**11.05**	**203**	*e*P		**P**	**16 24 49.7**	**-2.2**
MRW	**Makara Radio**	**11.05**	**203**	SN		**S**	**16 26 49.4**	**-3.1**
WEL	**Wellington**	**11.08**	**202**	PN		**P**	**16 24 50.2**	**-2.1**
WEL				SN		**S**	**16 26 51.8**	**-1.3**
SNZO	**South Karori**	**11.12**	**203**	*e*P		**P**	**16 24 49.4**	**-3.4**
SNZO	**South Karori**	**11.12**	**203**	*e*PN		**P**	**16 24 50.1**	**-2.7**
SNZO				*e*SN		**S**	**16 26 50.2**	**-3.9**
BHW	**Baring Head**	**11.16**	**202**	PN		**P**	**16 24 52.2**	**-1.1**
TCW	**Tory Channel**	**11.18**	**204**	P		**P**	**16 24 51.3**	**-2.3**
TCW	**Tory Channel**	**11.18**	**204**	PN		**P**	**16 24 51.3**	**-2.3**
NNZ	**Nelson**	**11.52**	**207**	*e*P		**P**	**16 24 57.6**	**-0.3**
NNZ	**Nelson**	**11.52**	**207**	PN		**P**	**16 24 56.6**	**-1.3**
QRZ	**Quartz Range**	**11.55**	**211**	*e*P		**P**	**16 24 59.3**	**+1.0**
QRZ	**Quartz Range**	**11.55**	**211**	PN		**P**	**16 24 59.8**	**+1.5**
BSWZ	**Blackbirch Sta**	**11.77**	**204**	P		**P**	**16 25 03.3**	**+2.3**
THZ	**Tophouse**	**12.17**	**207**	*e*P		**P**	**16 25 05.1**	**-1.1**
KHZ	**Kahutara**	**12.50**	**204**	*e*P		**P**	**16 25 07.6**	**-2.8**
KHZ	**Kahutara**	**12.50**	**204**	*e*PN		**P**	**16 25 07.1**	**-3.3**
KHZ				*e*SN		**S**	**16 27 20.1**	**-5.8**
DSZ	**Denniston Nort**	**12.61**	**211**	*e*P		**P**	**16 25 12.8**	**+1.0**
DSZ	**Denniston Nort**	**12.61**	**211**	*e*PN		**P**	**16 25 11.7**	**-0.1**
DSZ				SN		**S**	**16 27 27.0**	**-1.5**
LTZ	**Lake Taylor**	**13.29**	**207**	*e*P		**P**	**16 25 18.5**	**-1.7**
LTZ	**Lake Taylor**	**13.29**	**207**	*e*SN		**S**	**16 27 39.0**	**-4.8**
CRLZ	**Canterbury Las**	**13.84**	**204**	*e*PN		**P**	**16 25 24.5**	**-2.7**
CRLZ				SN		**S**	**16 27 52.8**	**-3.5**
MQZ	**McQueen's Vall**	**13.95**	**204**	*e*P		**P**	**16 25 26.5**	**-1.9**
MQZ	**McQueen's Vall**	**13.95**	**204**	*e*PN		**P**	**16 25 27.7**	**-0.8**
MQZ				*e*SN		**S**	**16 27 53.4**	**-5.2**
WVZ	**Waitaha Valley**	**14.15**	**210**	*e*P		**P**	**16 25 31.3**	**+0.3**
RPZ	**Rata Peaks**	**14.55**	**208**	P		**P**	**16 25 35.0**	**-0.9**
	2.2nm,0.3s,baz=58,slow=3.1,SNR=9.1							
RPZ				S		**S**	**16 28 09.3**	**-3.0**
	7.2nm,0.3s,baz=89,slow=17,SNR=14							
FOZ	**Fox Glacier**	**15.00**	**211**	*e*P		**P**	**16 25 41.7**	**+0.1**
DZM	**Mont Dzumac**	**15.35**	**303**	P		**P**	**16 25 51.0**	**+5.0**
	3.7nm,0.3s,baz=105,slow=14,SNR=24							
JCZ	**Jackson Bay**	**15.82**	**212**	*e*P		**P**	**16 25 52.0**	**+0.4**
JCZ	**Jackson Bay**	**15.82**	**212**	*e*PN		**P**	**16 25 50.8**	**-0.8**
ODZ	**Otahua Downs**	**15.83**	**206**	*e*P		**P**	**16 25 52.0**	**+0.3**
ODZ	**Otahua Downs**	**15.83**	**206**	*e*PN		**P**	**16 25 51.0**	**-0.7**
AFI	**Afiamalu**	**18.61**	**25**	*e*P		**P**	**16 26 19.0**	**-3.9**
AFI				pmax	pmax			
	comp=Z,24nm,0.4s							
AFI	**Afiamalu**	**18.61**	**25**	P		**P**	**16 26 20.3**	**-2.7**
	comp=Z,8.5nm,0.3s,baz=291,slow=19,SNR=12							
AFI				S		**S**	**16 29 29.9**	**-10**
	comp=Z,4.7nm,0.3s,baz=276,slow=14,SNR=4.7							
AFI	**Afiamalu**	**18.61**	**25**	*e*P		**P**	**16 26 18.9**	**-4.0**
	comp=Z,24nm,0.4s							
CTA	**Charters Tower**	**32.52**	**282**	*e*P		**P**	**16 28 34.8**	**+2.4**
	comp=Z,14nm,1.0s,mb4.5							
CTA	**Charters Tower**	**32.52**	**282**	*e*P		**P**	**16 28 34.8**	**+2.4**
CTA				pmax	pmax			
	comp=Z,14nm,1.0s							
CTAO	**Charters Tower**	**32.52**	**282**	*e*P		**P**	**16 28 34.8**	**+2.4**
CTAO				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.2							
CTAO	**Charters Tower**	**32.52**	**282**	*e*P		**P**	**16 28 34.8**	**+2.4**
	comp=Z,5.2nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**32.93**	**258**	⇑*i* P		**P**	**16 28 39.2**	**+3.4**
	comp=Z,35nm,0.9s,mb4.9							
STKA	**Stephens Creek**	**32.93**	**258**	P		**P**	**16 28 39.3**	**+3.5**
	comp=Z,29nm,0.6s,mb5.0,baz=97,slow=9.1,SNR=102							
WB2	**Warramunga Arr**	**42.70**	**274**	⇑*i* P		**P**	**16 29 58.5**	**+1.3**
WRAB	**Tennant Creek**	**42.70**	**274**	*i* P		**P**	**16 29 58.9**	**+1.7**
WRAB	**Tennant Creek**	**42.70**	**274**	*e*P		**P**	**16 29 58.5**	**+1.3**
	comp=Z,24nm,1.0s,mb4.6							
WRA	**Warramunga Arr**	**42.71**	**274**	P		**P**	**16 29 58.7**	**+1.4**
	comp=Z,6.1nm,0.3s,mb4.5,baz=111,slow=8.0,SNR=160							
WRA				ScP			16 35 12.9	
	comp=Z,1.2nm,1.0s,baz=113,slow=3.7,SNR=5.4							
SBA	**Scott Base**	**47.20**	**184**	*e*P		**P**	**16 30 34.7**	**+2.6**
SBA				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb3.8							
SBA	**Scott Base**	**47.20**	**184**	*e*P		**P**	**16 30 34.7**	**+2.6**
	comp=Z,5.6nm,1.1s,mb3.8							
VNDA	**Vanda**	**47.23**	**185**	P		**P**	**16 30 34.6**	**+2.4**
	comp=Z,0.6nm,0.8s,baz=9.4,slow=8.8,SNR=3.6					

comp=Z,30nm,0.8s,mb5.1
NJ2 Nanjing 85.65 312 *e*P **P** **16 34 35.4 -0.2**
NJ2 AP pP 16 35 22.3 -2.8
NJ2 PP PP 16 37 57.0 -1.5
NJ2 S S 16 44 49.0 +0.2
NJ2 XS 16 46 16.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
NJ2 AMB AMB
comp=Z,1µm,6.6s
NJ2 LR LR
comp=N,1µm,22.4s
NJ2 LR LR
comp=E,1µm,23.0s
NJ2 LR LR
comp=Z,5µm,21.2s
ISA Isabella 87.83 46 *e*P **P** **16 34 45.3 -0.7**
comp=Z,18nm,1.1s,mb4.8
CMB Columbia Colle 88.27 43 *e*P **P** **16 34 47.1 -0.9**
comp=Z,22nm,1.6s,mb4.7
MDJ Mudanjiang 88.43 326 P **P** **16 34 49.3 +0.7**
MDJ AMB AMB
comp=Z,9.0nm,1.1s,mb4.5
MDJ AMB AMB
comp=Z,60nm,4.5s
MDJ Mudanjiang 88.43 326 *e*P **P** **16 34 48.7 +0.1**
comp=Z,6.3nm,1.0s,mb4.4
MTUM Tungsten Hills 88.89 44 *e*P **P** **16 34 50.8 -0.1**
LDFC Landfair 89.55 48⇓ *e*P **P** **16 34 54.4 +0.3**
NVAR Mina Array Bea 89.75 44 P **P** **16 34 53.9 -1.1**
comp=Z,5.8nm,1.0s,mb4.4,baz=206,slow=6.6,SNR=30
CN2 Changchun 89.88 324 *e*P **P** **16 34 55.9 +0.5**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.0
CFAA Coronel Fontan 89.94 127 P **P** **16 34 56.8 +0.8**
comp=Z,1.0nm,1.0s,mb3.6,baz=238,slow=2.8,SNR=12
TPH Tonopah 90.16 44 *e*P **P** **16 34 56.2 -0.7**
comp=Z,10nm,1.0s,mb4.6
TUC Tucson 90.69 52 *e*P **P** **16 35 00.1 +0.6**
comp=Z,37nm,1.7s,mb5.0
KLR Kul'dur 90.96 331 *e*P **P** **16 34 58.3 -2.0**
MSU Marysvale 93.52 47 *e*P **P** **16 35 10.6 -1.8**
TXAR Lajitas Array 93.99 58 P **P** **16 35 13.7 -1.0**
comp=Z,1.7nm,1.0s,mb4.0,baz=233,slow=6.3,SNR=12
LVC Limon Verde 94.82 120 P **P** **16 35 19.8 +1.2**
comp=Z,1.9nm,0.8s,mb4.3,baz=236,slow=15,SNR=2.3
MCMT McKenzie Canyo 96.96 41 *e*P **P** **16 35 28.1 +0.3**
MCK McKinley 97.63 13 P **P** **16 35 37.1 +6.7**
comp=Z,1.9nm,0.3s,mb4.9
PDAR Pinedale Array 97.65 44 P **P** **16 35 29.1 -1.9**
comp=Z,0.6nm,0.8s,mb4.0,baz=225,slow=2.1,SNR=4.5
ILAR Eielson Array 98.97 14 P **P** **16 35 35.8 -0.8**
comp=Z,0.4nm,0.6s,mb3.9,baz=217,slow=4.5,SNR=5.7
BILL Bilibino 99.43 355 *i* P **P** **16 35 39.1 +0.6**
BILL pmax pmax
comp=Z,8.0nm,1.7s,mb4.8
YAK Yakutsk 101.39 338 *i* P P 16 35 46.1 -1.3
SUR Sutherland 113.92 199 PKP PKPdf 16 40 34.6 +1.2
comp=Z,4.4nm,0.9s,baz=157,slow=7.7,SNR=3.4
SUR Sutherland 113.92 199 PKP PKPdf 16 40 34.6 +1.2
BOSA Boshof 116.02 204 PKP PKPdf 16 40 38.5 +1.0
comp=Z,1.7nm,0.7s,baz=133,slow=17,SNR=4.0
MKAR Makanchi Array 117.15 310 PKP PKPdf 16 40 38.6 -0.6
comp=Z,2.0nm,0.5s,baz=212,slow=1.3,SNR=34
NVS Novosibirsk 118.75 319 *e*PKIKP PKPdf 16 40 40.3 -1.8
ULHL Ulahol 119.98 304 P PKPdf 16 40 45.5 +0.7
SNR=5.4
TKM2 Tokmak 2 120.62 304 P PKPdf 16 40 46.3 +0.2
SNR=6.4
KZA Kyzart 120.64 303 P PKPdf 16 40 47.5 +1.3
SNR=7.1
CHMS Chumysh 121.25 304 P PKPdf 16 40 47.5 +0.2
SNR=6.4
USP Ospenovka 121.49 305 P PKPdf 16 40 48.0 +0.2
SNR=6.0
AML Almayashu 121.78 303 P PKPdf 16 40 49.5 +1.2
SNR=9.5
EKS2 Erkin-Say 121.85 304 P PKPdf 16 40 48.9 +0.4
SNR=5.9
ZRNK Zerenda 126.76 315 *e*PKIKP PKPdf 16 40 57.3 -0.2
ARU Arti 132.74 320 *i* PKIKP PKPdf 16 41 08.4 -0.5
ARU Arti 132.74 320 *e*PKPdf PKPdf 16 41 08.9 -0.1
KEV Kevo 138.51 346 *e*pkp PKPdf 16 41 15.3 -3.9
ARCES ARCESS Array B 138.99 347 PKhKP 16 41 13.2
comp=Z,3.1nm,0.7s,baz=61,slow=2.4,SNR=12
GOF Gofitskoye 144.06 305 *e*PKHKP 16 41 25.5
MOS Moscow 144.11 324 *e*PKIKP PKPdf 16 41 26.9 -2.4
MOS pmax pmax
comp=Z,58nm,0.7s
KIV Kislovodsk 144.45 303*c* *i*PKIKP PKPdf 16 41 30.3 +0.1
KIV Kislovodsk 144.45 303 *e*PKPdf PKPdf 16 41 30.6 +0.3
KAF Kangasniemi 144.75 339 *e*pkp PKPdf 16 41 27.9 -2.3
baz=42,slow=3.1
OBN Obninsk 144.94 324*d* *i*PKIKP PKPdf 16 41 30.7 0.0
OBN *e**PP 16 42 44.6
OBN *e* 16 44 50.7
OBN *e* 16 48 15.9
OBN pmax pmax
comp=Z,90nm,0.7s
OBN Obninsk 144.94 324⇓ *i*PKPdf PKPdf 16 41 30.9 +0.1
FINES FINESS Array B 145.32 338 PKPbc PKPbc 16 41 31.4 -0.6
comp=Z,65nm,0.7s,baz=98,slow=3.4,SNR=255
SOC Sochi 146.63 303 *i* PKP2 PKPab 16 41 39.4 -0.4
SOC *e* 16 45 02.7
SOC *e*PPP PPP 16 48 18.1 -5.3
SOC *e* 16 57 25.6
SOC *e*SSS SSS 17 09 20.8 +2.9
SOC pmax pmax
comp=Z,12nm,0.8s
SOC pmax pmax
comp=N,11nm,1.0s
SOC pmax pmax
comp=E,2.0nm,0.3s
VSU Vasula 147.29 334*d* *i*PKP2 PKPab 16 41 37.6 -4.3
ANN Anapa 148.02 306 *i* PKP2 PKPab 16 41 40.1 -5.1
ANN pmax pmax
comp=Z,49nm,0.9s
MALT Malatya 148.06 293 *e*PKP2 PKPab 16 41 41.3 -4.2
NB2 NORSAR Subarra 149.24 350 PKPbc PKPdf 16 41 41.9 +4.3
comp=Z,4.6nm,0.7s,baz=20,slow=2.5
NOA NORSAR Array B 149.24 350 PKP PKPdf 16 41 37.1 -0.6
comp=Z,1.7nm,0.9s,baz=164,slow=18,SNR=9.9
NOA PKPbc PKPdf 16 41 41.8 +4.2
comp=Z,14nm,0.8s,baz=17,slow=4.1,SNR=32
NOA PKPab PKPab 16 41 46.9 -2.7
comp=Z,18nm,0.8s,baz=19,slow=3.0,SNR=30
AKASG Malin Array Be 150.99 321 PKPbc PKPdf 16 41 46.7 +6.1
comp=Z,27nm,0.8s,baz=54,slow=2.5,SNR=55
AKASG PKPab PKPab 16 41 55.7 -1.5
comp=Z,3.5nm,0.7s,baz=44,slow=4.7,SNR=5.5
BR131 Keskin Array S 151.67 297 *e*PKPbc PKPdf 16 41 49.2 +7.2
BRTR Keskin Array B 151.67 297 PKPbc PKPdf 16 41 49.2 +7.2
comp=Z,6.9nm,0.6s,baz=135,slow=3.5,SNR=34
SUW Suwalki 151.85 331 *e*PKPbc PKPdf 16 41 48.6 +6.8
SUW *e*PKPab PKPab 16 41 58.5 -2.3
SUW Suwalki 151.85 331 *e*PKP PKPdf 16 41 48.8 +7.0
KWP Kalwaria 155.03 324 *e*PKP PKPdf 16 41 56.4 +10
KOLS Kolonicke sedl 155.69 323 *e*PKP PKPab 16 42 15.9 -1.2
STHS Stebnicka Huta 155.89 325 *e*PKP2 PKPab 16 42 18.0 +0.1
STHS *e* 17 41 57.8
STHS Stebnicka Huta 155.89 325 *e*P PKPdf 16 41 57.8 +10
STHS Stebnicka Huta 155.89 325 *e* PKPdf 16 41 57.8 +10
BSEG Bad Segeberg 156.11 345 *e*PKP PKPab 16 42 16.5 -2.2
KECS Kecovo 156.89 324 *e*PKP PKPab 16 42 20.1 -2.1
KSP Ksiaz 157.01 333 *e*PKP PKPab 16 42 21.5 -1.2
KSP Ksiaz 157.01 333 *e*PKP PKPab 16 42 21.6 -1.2
OKC Ostrava-Krasne 157.03 330 *e*PKPab PKPab 16 42 21.5 -1.3
UPC Upice 157.39 333 *e*PKPab PKPab 16 42 23.2 -1.1
DPC Dobruska-Polom 157.40 333 *e*PKPab PKPab 16 42 23.4 -1.0
VYHS Vyhne 157.69 326 *e*PKP PKPab 16 42 24.9 -0.8
CLL Collm 157.77 339 *i* P PKPdf 16 41 57.4 +7.6
CLL *i* PKP PKPdf 16 42 01.3 +11
CLL ⇓*i*PKP PKPab 16 42 23.8 -2.2
CLL Collm 157.77 339 *i* PKPdf 16 42 01.3 +11
CLL *i* PKP2 PKPab 16 42 23.8 -2.2
BRG Berggiesshubel 157.84 337⇑ *i*P PKPab 16 42 24.8 -1.4
PVCC Panska Ves 157.91 335 *e*PKPab PKPab 16 42 25.2 -1.4
CLZ Clausthal 158.03 343 *e*PKP PKPab 16 42 25.3 -1.8
PRU Pruhonice 158.37 335 *e*PKP PKPab 16 42 27.1 -1.5
MOX Moxa 158.78 340 *e*PKP PKPab 16 42 28.6 -1.7
NKC Novy Kostel 158.88 338 *e*PKPab PKPab 16 42 29.1 -1.7
KHC Kasperske Hory 159.43 335 *e*PKP PKPab 16 42 31.6 -1.6
GEC2 GERESS Array S 159.62 334 *e*PKP PKPab 16 42 32.7 -1.3
GERES GERESS Array B 159.62 334 PKP PKPdf 16 41 51.9 -0.2
comp=Z,0.2nm,0.6s,baz=166,slow=5.5,SNR=3.7
GERES PKPab PKPab 16 42 32.6 -1.4
comp=Z,3.1nm,0.8s,baz=45,slow=3.8,SNR=17
WET Wettzell 159.67 336 *e*PKP PKPab 16 42 32.7 -1.5
GRA1 Grafenberg Arr 159.74 339 *e*PKP PKPab 16 42 33.6 -0.9
GRF Grafenberg Arr 159.74 339 *e*PKP PKPab 16 42 33.6 -0.9
TNS Taunus Mts 159.99 345 *e*PKP PKPab 16 42 33.6 -1.9
BAIF Baives 160.88 352 *e*PKP2 PKPab 16 42 37.0 -2.3
comp=Z,39nm,1.4s
CDF Champ du Feu 161.96 345 *e*PKP2 PKPab 16 42 41.9 -2.2
comp=Z,16nm,1.0s
MEZF Maizieres J'vi 162.29 350 *e*PKP2 PKPab 16 42 43.6 -2.0
FLN La Foliniere 162.38 2 *e*PKP2 PKPab 16 42 42.7 -3.3
HAU Haudompre 162.54 346 *e*PKP2 PKPab 16 42 44.5 -2.2
comp=Z,16nm,0.7s
ROSF Rostrenen 162.60 8 *e*PKP2 PKPab 16 42 44.6 -2.3
comp=Z,25nm,1.1s
HINF Hinteralfeld 162.61 345 *e*PKP2 PKPab 16 42 44.7 -2.3
DAVOX Davos 162.73 337 PKPab PKPab 16 42 45.8 -1.7
comp=Z,11nm,0.9s,baz=51,slow=3.4,SNR=9.2
GRR Gorron 162.75 3 *e*PKP2 PKPab 16 42 45.5 -2.0
SGMF Saint Gilles 162.76 7 *e*PKP2 PKPab 16 42 45.0 -2.6
comp=Z,35nm,1.0s
QUIF Quistinic 163.03 8 *e*PKP2 PKPab 16 42 45.6 -3.2
LOR Lormes 163.66 351 *e*PKP2 PKPab 16 42 49.2 -2.4
comp=Z,7.1nm,0.7s
SSF Saint Saulge 163.91 352 *e*PKP2 PKPab 16 42 50.6 -2.1
comp=Z,30nm,0.9s
CABF La Chapelle 163.92 346 *e*PKP2 PKPab 16 42 50.5 -2.3
comp=Z,15nm,0.9s
AVF Avril sur Loir 164.20 352 *e*PKP2 PKPab 16 42 51.6 -2.3
comp=Z,12nm,0.7s
SMF Signal de Mont 164.28 351 *e*PKP2 PKPab 16 42 52.1 -2.2
comp=Z,62nm,1.1s
BGF Bois d'Agland 164.48 354 *e*PKP2 PKPab 16 42 52.2 -3.0
MFF Saint Martin d 164.55 1 *e*PKP2 PKPab 16 42 52.9 -2.6
comp=Z,11nm,1.0s
LPL La Plagne 164.80 343 *e*PKP2 PKPab 16 42 55.5 -1.1
comp=Z,26nm,1.1s
TCF Toulx Ste Croi 164.80 355 *e*PKP2 PKPab 16 42 54.0 -2.6
LPG La Plagne 164.81 343 *e*PKP2 PKPab 16 42 55.7 -0.9
comp=Z,42nm,1.2s
MBDF Montbardon 165.52 341 *e*PKP2 PKPab 16 42 58.4 -1.4
comp=Z,11nm,0.8s
ORIF Oris-en-Rattie 165.57 344 *e*PKP2 PKPab 16 42 58.9 -1.1
comp=Z,14nm,0.8s
VIVF Saint-Julien-l 165.89 347 *e*PKP2 PKPab 16 42 59.6 -1.8
SBF Sospel 166.11 338 *e*PKP2 PKPab 16 43 00.7 -1.7
CAF Calviac 166.17 355 *e*PKP2 PKPab 16 43 00.6 -2.0
SMRF Simiane la Rot 166.53 344 *e*PKP2 PKPab 16 43 02.3 -1.9
FRF La Foret Royal 166.63 340 *e*PKP2 PKPab 16 43 03.1 -1.5
comp=Z,40nm,1.2s
LMR La Mourre 166.88 340 *e*PKP2 PKPab 16 43 04.2 -1.5
comp=Z,63nm,1.1s
MTLF Montolieu 167.73 354 *e*PKP2 PKPab 16 43 07.6 -1.8
EVO Evora 169.93 41 *e*PKIKP PKPdf 16 42 00.9 -0.3
comp=Z,15nm,0.9s
ESDC Sonseca Array 170.79 21 PKP PKPdf 16 42 02.2 +0.6
comp=Z,0.3nm,0.3s,baz=356,slow=1.9,SNR=6.5
ESDC PKPab PKPab 16 43 21.2 -1.9
comp=Z,0.2nm,0.4s,baz=348,slow=5.4,SNR=4.4

MAN 23 16:33:12.5, 6.28N×126.16E, h44km, mb4.0, ML2.8, MS2.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.67**	**8**	*e*P	P	16 33 26.9	+1.3
GSPH	**General Santos**	**1.22**	**261**	*e*P	P	16 33 30.0	-3.4
KCP	**Kidapawan**	**1.29**	**304**	*e*P	P	16 33 34.9	+0.5
KCP				*i* S	S	16 33 51.4	+0.5
PAGZ	**Pagadian**	**3.17**	**300**	*e*P	P	16 33 55.4	-5.8

*ISK **23** 16:47:52.6, 38.52N×40.55E, h24km, MD3.5*
*CSEM **23** 16:47:52.6, 38.52N×40.55E, h24km, MD3.5, After ISK*
ISC 23 16:47:51.3±0.7, 38.56N±0.04×40.61E±0.04, h6km±7km, n14, σ0§73/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNGL	**BINGOL**	**0.57**	**47**	*i* P	**Pg**	**16 48 02.7**	**-0.1**
BNGL				*i* S	**Sg**	**16 48 10.3**	**-0.1**
DIY	**Diyarbakir**	**0.73**	**205**	*i* PG	**Pg**	**16 48 06.4**	**+0.4**
BTMT	**Batman**	**0.78**	**118**	*i* PG	**Pg**	**16 48 07.0**	**0.0**
BTMT				*i* SG	**Sg**	**16 48 18.1**	**+0.7**
BEST	**Besiri**	**0.85**	**142**	*i* P	**Pb**	**16 48 08.1**	**0.0**
BEST				*i* S	**Sb**	**16 48 19.8**	**+0.4**
PTK	**Pertek**	**1.01**	**289**	PG	**Pg**	**16 48 11.1**	**-0.5**
PTK				SG	**Sg**	**16 48 25.2**	**+0.1**
MARD	**Mardin**	**1.25**	**174**	*i* P	**Pb**	**16 48 14.6**	**-0.4**
MARD				*i* S	**Sb**	**16 48 31.3**	**+0.1**
ELZG	**Elazig**	**1.28**	**268**	*i* P	**Pb**	**16 48 15.7**	**+0.2**
ELZG				*i* S	**Sb**	**16 48 34.4**	**+2.4**
EZM	**Erzurum**	**1.46**	**23**	PN	**Pn**	**16 48 18.7**	**+0.4**
ERZM	**Erzurum**	**1.46**	**23**	*i* P	**Pn**	**16 48 18.6**	**+0.2**
ERZM				*i* S	**Sb**	**16 48 42.7**	**+5.4**
MYA	**Malataya**	**1.73**	**263**	PN	**Pn**	**16 48 21.9**	**-0.4**
URFA	**Urfa**	**1.81**	**232**	PN	**Pn**	**16 48 21.9**	**-1.4**
HAKT	**HAKKARI**	**2.64**	**111**	*e*P	**Pn**	**16 48 34.8**	**-0.4**
HAKT				*i* S	**Sn**	**16 49 15.0**	**+7.1**
GZT	**Gaziantep**	**2.69**	**244**	*e*P	**Pn**	**16 48 36.3**	**+0.3**
GZT				*i* S	**Sn**	**16 49 15.3**	**+5.9**
GAZ	**Gaziantep**	**3.03**	**244**	*e*PN	**Pn**	**16 48 39.1**	**-1.7**

*CSEM **23** 17:05:34.4±0.1, 57.08N×6.79E, h2km, ML2.2, Error ellipse: s-maj=2.5km s-min=1.2km az=163.0, Suspected Mining explosion.*
*BER **23** 17:05:39.2±2.1, 57.14N×6.91E, h15km, MD2.7, ML2.2, ML2.2(NAO)*
*UPP **23** 17:05:39.8, 57.19N×7.14E, h0km, ML2.2, Suspected Mining explosion.*
*BGS **23** 17:05:41.6±0.4, 57.11N×6.46E, h15km, ML2.9*
*NAO **23** 17:05:43.1±3.4, 57.61N×7.21E, ML2.2*
ISC 23 17:05:34.5±0.4, 57.20N±0.03×6.74E±0.05, n42, σ1§13/62, 1C, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNART	**Snartemo**	**1.18**	**12**	*e*P	**Pn**	**17 06 00.7**	**+2.6**
SNART				*e*S	**Sn**	**17 06 15.6**	**+0.6**
SNART				AML	AML	17 06 16.2	
	comp=Z,199nm,0.2s						
STAV	**Stavanger**	**1.83**	**343**	*e*P	**Pg**	**17 06 10.0**	**-1.0**
STAV				*e*S	**Sn**	**17 06 31.6**	**0.0**
STAV				AML	AML	17 06 33.3	
	comp=Z,34nm,0.1s						
STAV	**Stavanger**	**1.83**	**343**	*e*P	**Pg**	**17 06 10.0**	**-1.0**
	SNR=55						
STAV				*e*S	**Sn**	**17 06 31.6**	**0.0**
	comp=Z,34nm,0.1s,SNR=55						
KMY	**Karmoy**	**2.17**	**339**	*e*P	**Pn**	**17 06 14.6**	**+2.3**
KMY				*e*S	**Sn**	**17 06 39.2**	**-1.1**
KMY				AML	AML	17 06 40.7	
	comp=Z,19nm,0.1s						
KMY	**Karmoy**	**2.17**	**339**	*e*P	**Pn**	**17 06 14.6**	**+2.3**
	SNR=55						
KMY				*e*S	**Sn**	**17 06 39.2**	**-1.1**
	comp=Z,19nm,0.1s,SNR=55						
BLS5	**Blasjo**	**2.24**	**356**	*e*P	**Pn**	**17 06 17.0**	**+3.7**
BLS5				*e*S	**Sn**	**17 06 42.5**	**+0.4**
ODD1	**Odda**	**2.73**	**359**	*e*P	**Pn**	**17 06 21.9**	**+1.6**
ODD1				*e*S	**Sn**	**17 06 51.8**	**-2.6**
KONO	**Kongsberg**	**2.89**	**30**	*e*P	**Pn**	**17 06 23.8**	**+1.3**
KONO				*e*S	**Sn**	**17 06 55.8**	**-2.6**
EGD	**Espegrend**	**3.18**	**346**⇑	*i*P	**Pn**	**17 06 28.5**	**+1.8**
EGD				*e*S	**Sn**	**17 07 04.3**	**-1.7**
BER	**Bergen**	**3.28**	**348**	*e*P	**Pn**	**17 06 29.8**	**+1.6**
ASK	**Askoy**	**3.39**	**347**	*e*P	**Pn**	**17 06 31.3**	**+1.5**
ASK				*e*S	**Sn**	**17 07 08.2**	**-3.1**
FINU	**Finntorp**	**3.75**	**51**	P	**Pn**	**17 06 35.2**	**+0.3**
NB2	**NORSAR Subarra**	**4.49**	**29**	Pn	**Pn**	**17 06 45.7**	**+0.3**
	baz=210,slow=14						
NB2				Sn	**Sn**	**17 07 33.6**	**-5.6**
	baz=208,slow=28						
ASKU	**Askersund**	**4.63**	**65**	P	**Pn**	**17 06 48.2**	**+0.9**
EKSU	**Eksjoe**	**4.65**	**82**	P	**Pn**	**17 06 47.6**	**0.0**
HFS	**Hagfors**	**4.68**	**48**	Pn	**Pn**	**17 06 47.6**	**-0.4**
	baz=238,slow=16						
HFS				Sn	**Sn**	**17 07 36.6**	**-7.2**
	baz=234,slow=28						
LNKU	**Linkoeping**	**4.82**	**74**	P	**Pn**	**17 06 49.8**	**-0.2**
NRAU	**Nora**	**4.98**	**58**	P	**Pn**	**17 06 52.4**	**+0.2**
LRW	**Lerwick**	**5.07**	**309**	*e*P	**Pn**	**17 06 54.4**	**+0.8**
LRW				*e*S	**Sn**	**17 07 47.6**	**-6.3**
LRW				AML	AML	17 07 50.4	
	comp=E,3.2nm,0.2s						
LRW				AML	AML	17 07 54.1	
	comp=N,3.1nm,0.6s						
OSKU	**Oskarshamn**	**5.09**	**86**	P	**Pn**	**17 06 53.5**	**-0.4**
LCP	**Cassop**	**5.23**	**245**	*e*P	**Pn**	**17 06 55.4**	**-0.4**
LCP	**Cassop**	**5.23**	**245**	*e*P	**Pn**	**17 06 55.3**	**-0.5**
	SNR=53						
WAL1	**Walls**	**5.32**	**309**	*e*P	**Pn**	**17 06 58.1**	**+1.0**
WAL1				*e*S	**Sn**	**17 07 54.3**	**-5.8**
MCD	**Coleburn Disti**	**5.42**	**278**	*e*P	**Pn**	**17 06 59.3**	**+0.8**
MCD				*e*S	**Sn**	**17 07 54.8**	**-7.7**
ESKU	**Eskilstuna**	**5.50**	**64**	P	**Pn**	**17 06 59.7**	**+0.1**
OHO	**Hoy**	**5.55**	**291**	*e*P	**Pn**	**17 07 01.4**	**+1.0**
BTA	**Talkin**	**5.75**	**250**	*e*P	**Pn**	**17 07 02.9**	**-0.3**
FALU	**Falun**	**5.76**	**51**	P	**Pn**	**17 07 03.2**	**-0.1**
ORE	**Reay**	**5.76**	**288**	*e*P	**Pn**	**17 07 03.3**	**-0.1**
ORE				*e*S	**Sn**	**17 08 02.7**	**-8.5**
ORE				AML	AML	17 08 06.5	
	comp=N,5.5nm,0.2s						
ORE				AML	AML	17 08 07.6	
	comp=E,5.5nm,0.2s						
BBH	**Bruntsheil**	**5.78**	**253**	*e*P	**Pn**	**17 07 03.2**	**-0.4**
BBH				*e*S	**Sn**	**17 08 03.5**	**-8.1**
EAU	**Auchinoon**	**5.80**	**261**	*e*P	**Pn**	**17 07 04.2**	**+0.4**
MVH1	**Achvaich**	**5.92**	**282**	*e*S	**Sn**	**17 08 07.1**	**-8.1**
BDL	**Dobcross Hall**	**5.93**	**250**	*e*P	**Pn**	**17 07 05.3**	**-0.4**
BHH	**Howats Hill**	**5.95**	**253**	*e*P	**Pn**	**17 07 05.4**	**-0.6**
BHH				*e*S	**Sn**	**17 08 07.0**	**-8.8**
BHH				AML	AML	17 08 10.5	
	comp=N,7.9nm,0.4s						
BHH				AML	AML	17 08 14.6	
	comp=E,7.1nm,0.1s						
BACU	**Backbrunna**	**6.05**	**60**	P	**Pn**	**17 07 07.0**	**-0.4**
LHO	**Holmfirth**	**6.11**	**237**	*e*P	**Pn**	**17 07 07.1**	**-1.1**
BBO1	**Bothel**	**6.12**	**250**	*e*P	**Pn**	**17 07 07.6**	**-0.8**
BBO1				*e*S	**Sn**	**17 08 10.5**	**-10**
BBO1				AML	AML	17 08 15.8	
	comp=N,4.2nm,0.3s						
BBO1				AML	AML	17 08 17.5	
	comp=E,3.8nm,0.3s						
BWH	**Wardlaw**	**6.14**	**255**	*e*P	**Pn**	**17 07 07.8**	**-0.9**
OSTU	**Oestervaala**	**6.21**	**56**	P	**Pn**	**17 07 09.7**	**0.0**
NYNU	**Nynaeshamn**	**6.25**	**68**	P	**Pn**	**17 07 09.9**	**-0.2**
RRR	**Rubha Reidh**	**6.79**	**281**	*e*S	**Sn**	**17 08 26.4**	**-10**
RRR				AML	AML	17 08 31.2	
	comp=N,4.8nm,0.3s						
FIA0	**FINESS Array S**	**10.74**	**59**	Pn	**P**	**17 08 10.1**	**-2.4**
	baz=248,slow=12						
FIA0				Sn	**S**	**17 10 00.5**	**-14**
	baz=241,slow=22						

*CSEM **23** 17:16:51.7±0.1, 36.22N×22.24E, h2km, ML3.5, Error ellipse: s-maj=3.6km s-min=2.5km az=85.0*
*ATH **23** 17:16:55.6, 36.41N×22.34E, h13km±2km, MD3.6/15, ML3.5*
*NEIC **23** 17:16:55.6, 36.41N×22.34E, h13km, ML3.5(ATH), After ATH.*
*HLW **23** 17:16:58.4, 36.25N×22.48E, h25km, Mb3.3*
ISC 23 17:16:52.0±0.6, 36.29N±0.04×22.26E±0.05, h13km, n29, σ1§39/34, 3C-1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**0.63**	**90**	*e*PB	**Pb**	**17 17 07.0**	**+2.6**
VLI	**Veliai**	**0.70**	**51**	*e*PG	**Pg**	**17 17 06.4**	**+0.2**
VLI				*e*SB	**Sb**	**17 17 15.1**	**+0.3**
ITM	**Ithomi**	**0.93**	**343**	*e*PG	**Pg**	**17 17 11.0**	**+0.2**
ITM				*e*SB	**Sb**	**17 17 23.8**	**+2.2**
NAIG	**Nisos Aigina**	**1.77**	**33**	*e*PG	**Pg**	**17 17 25.5**	**-2.0**
VAM	**Vamos**	**1.80**	**119**	*e*PN	**Pn**	**17 17 28.0**	**+4.8**
MGER	**Gerania Oros**	**1.88**	**25**	*e*PG	**Pg**	**17 17 28.3**	**-1.3**
RLS	**Riolos of Patr**	**1.88**	**341**	*e*PN	**Pn**	**17 17 28.6**	**+4.3**
NSAL	**Nisos Salamina**	**1.88**	**30**	*e*PG	**Pg**	**17 17 28.0**	**-1.7**
ATH	**Athens Observa**	**2.05**	**34**	*e*PG	**Pg**	**17 17 30.5**	**-2.5**
PTL	**Penteli**	**2.18**	**36**	*e*PB	**Pb**	**17 17 30.5**	**-0.4**
MPAR	**Parnis Oros**	**2.20**	**32**	*e*PN	**Pn**	**17 17 31.5**	**+2.6**
LKR	**Lokris**	**2.43**	**14**	*e*PN	**Pn**	**17 17 35.5**	**+3.3**
EVR	**Evrytania**	**2.65**	**352**	*e*Pn	**Pn**	**17 17 40.0**	**+4.7**
EVR	**Evrytania**	**2.65**	**352**	*e*PN	**Pn**	**17 17 39.8**	**+4.5**
APE	**Apeiranthos**	**2.74**	**72**	*e*PB	**Pb**	**17 17 40.0**	**-0.6**
NPS	**Neapolis**	**2.91**	**110**	*e*PB	**Pb**	**17 17 44.0**	**+0.6**
XRY	**Khrisi**	**3.13**	**116**	*e*PB	**Pb**	**17 17 48.0**	**+0.8**
JAN	**Janina**	**3.54**	**342**	*e*PN	**Pn**	**17 17 51.0**	**+3.0**
TIP	**Timpagrande**	**5.23**	**305**	*e*P	**Pn**	**17 18 12.0**	**+0.1**
TIP	**Timpagrande**	**5.23**	**305**	*e*P	**Pn**	**17 18 12.0**	**+0.1**
SLUM		**5.38**	**152**⇑	*e*P	**Pn**	**17 18 14.5**	**+0.5**
SLUM				S	**Sn**	**17 19 11.6**	**-4.9**
PE1	**Pezze di Greco**	**5.89**	**321**	*e*Pn	**Pn**	**17 18 19.7**	**-1.5**
SG1	**Sgolgore (BA)**	**6.31**	**318**	*e*Pn	**Pn**	**17 18 25.7**	**-1.4**
HMAT	**Matruh**	**6.56**	**141**⇑	*e*P	**Pn**	**17 18 30.6**	**-0.1**
HMAT				S	**Sn**	**17 19 39.3**	**-6.8**
HMAT	**Matruh**	**6.56**	**141**	P	**Pn**	**17 18 30.5**	**-0.2**
SWA1		**7.58**	**157**⇓	*e*P	**Pn**	**17 18 45.0**	**0.0**
SWA1				S	**Sn**	**17 20 04.1**	**-7.5**
CII	**Carovilli**	**8.23**	**314**	*e*P	**P**	**17 18 54.2**	**+0.2**
	14nm,0.3s						
CII	**Carovilli**	**8.23**	**314**	*e*P	**P**	**17 18 54.2**	**+0.1**
HFRF	**Wahat Farafira**	**10.46**	**149**⇑	*e*P	**P**	**17 19 23.7**	**-1.2**

*IDC **23** 18:03:23.6±2.6, 22.79N×93.08E, mb3.5/3, mb1 3.6/3, mb1mx3.3/18, mbtmp3.5/3, Error ellipse: s-maj=101.5km s-min=28.7km az=67.0*
ISC 23 18:03:26.0±1.8, 22.8N±0.1×92.9E±0.3, h33km, n5, σ0§85/6, mb3.4/3, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**2.20**	**25**	*e*	**P**	**18 04 01.0**	**+0.1**
SHL	**Shillong**	**2.92**	**342**	*e*P	**P**	**18 04 16.0**	**+4.8**
SHL				*e*SN	**Sn**	**18 04 45.0**	**-0.6**
MKAR	**Makanchi Array**	**25.43**	**343**	P	**P**	**18 08 53.3**	**+1.0**
	0.5nm,0.7s,mb3.2,baz=151,slow=9.0,SNR=5.9						
SONM	**Songino Array**	**27.23**	**20**	P	**P**	**18 09 09.1**	**+0.2**
	0.4nm,0.7s,mb3.1,baz=210,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**58.65**	**133**	P	**P**	**18 13 22.1**	**-0.6**
	0.4nm,0.4s,mb3.8,baz=322,slow=7.5,SNR=12						

*IDC **23** 18:35:32.5±0.9, 41.73S×84.81E, mb4.1/7, mb1 4.2/7, mb1mx4.0/13, mbtmp4.1/7, MS4.1/7, Ms1 4.1/7, ms1mx3.9/14, Error ellipse: s-maj=

SONM	**Songino Array**	**91.25**	**14**	P		**P**	**18 48 38.7**	**+0.2**
	1.0nm,1.0s,mb4.1,baz=194,slow=5.1,SNR=5.4							
SONM				LR		LR	19 25 16.6	
	comp=Z,73nm,18.3s,MS4.2,baz=77,slow=33							
DBIC	**Dimbokro**	**94.19**	**275**	LR		LR	19 26 58.6	
	comp=Z,110nm,18.9s,MS4.3,baz=120,slow=33							
PLCA	**Paso Flores**	**94.90**	**198**	LR		LR	19 26 40.9	
	comp=Z,186nm,19.6s,MS4.6,baz=176,slow=32							
PDAR	**Pinedale Array**	**169.26**	**80**	PKP		PKPdf	18 55 43.5	+1.8
	0.3nm,0.6s,baz=135,slow=2.1,SNR=4.1							
PDAR				PKPab		PKPab	18 56 54.6	+1.5
	0.2nm,0.3s,baz=307,slow=4.5,SNR=3.4							

MOS ***23*** *18:46:58.8±1.3, 0.67S×133.56E, h33km, mb4.8/12, Error ellipse: s-maj=28.9km s-min=10.0km az=105.7*
NEIC ***23*** *18:46:59.8±0.3, 0.65S×133.73E, mb4.7/12, Error ellipse: s-maj=14.3km s-min=6.5km az=82.0*
BJI ***23*** *18:46:59.7, 0.60S×133.70E, h26km, mB4.8, mb4.6*
IDC ***23*** *18:46:59.6±0.7, 0.63S×133.90E, h25km±4km, mb4.0/7, mb1 4.3/8, mb1mx4.1/15, mbtmp4.2/8, ML4.7/1, MS3.9/4, Ms1 3.9/4, ms1mx3.5/20, Error ellipse: s-maj=41.8km s-min=15.8km az=75.0*

ISC 23 18:46:57.4±0.4, 0.75S±0.04×133.8E±0.1, h26km, h26km±.6km: pP-P, n64, σ1§04/62, mb4.7/30, MS3.9/4, 2D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAKA	**Kakadu**	**11.96**	**186**	*eP*		**P**	**18 49 50.7**	**+1.3**
KAKA	53nm,0.6s							
				eS		**S**	**18 51 58.8**	**-4.1**
FITZ	**Fitzroy Crossi**	**19.00**	**204**	*eP*		**P**	**18 51 19.7**	**-0.2**
FITZ	20nm,0.5s							
				eS		**S**	**18 54 42.5**	**-5.1**
WRAB	**Tennant Creek**	**19.07**	**178**	*eP*		**P**	**18 51 20.8**	**0.0**
WRAB				pmax		pmax		
	comp=Z,33nm,0.6s							
WRAB	**Tennant Creek**	**19.07**	**178**	*eP*		**P**	**18 51 20.8**	**0.0**
	comp=Z,33nm,0.6s							
WB2	**Warramunga Arr**	**19.08**	**178**	*eP*		**P**	**18 51 20.2**	**-0.7**
WB2				*eS*		**S**	**18 54 49.8**	**+0.4**
WRA	**Warramunga Arr**	**19.08**	**178**	P		**P**	**18 51 20.7**	**-0.1**
	comp=Z,2.6nm,0.3s,baz=355,slow=12,SNR=70							
WRA				S		**S**	**18 54 47.5**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=351,slow=24,SNR=4.6							
CTA	**Charters Tower**	**22.78**	**148**	*eP*		**P**	**18 52 02.9**	**+3.6**
	comp=Z,7.3nm,0.8s,mb4.2							
CTA	**Charters Tower**	**22.78**	**148**	*eP*		**P**	**18 52 02.9**	**+3.6**
CTA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
CTAO	**Charters Tower**	**22.78**	**148**	*eP*		**P**	**18 52 02.6**	**+3.3**
CTAO				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.0							
CTAO	**Charters Tower**	**22.78**	**148**	*eP*		**P**	**18 52 02.6**	**+3.3**
	comp=Z,4.0nm,0.6s,mb4.0							
KSM	**Kuching**	**23.55**	**275**	*eP*		**P**	**18 52 08.5**	**+1.5**
JOW	**Kunigami**	**27.93**	**349**	LR		LR	19 02 18.7	
	comp=Z,111nm,18.1s,MS3.5,baz=57,slow=33							
STKA	**Stephens Creek**	**31.83**	**167**	*eP*		**P**	**18 53 21.8**	**-0.7**
	comp=Z,2.1nm,0.4s,mb4.3							
STKA	**Stephens Creek**	**31.83**	**167**	P		**P**	**18 53 21.6**	**-0.9**
	comp=Z,3.0nm,0.5s,mb4.4,baz=352,slow=7.2,SNR=18							
STKA	**Stephens Creek**	**31.83**	**167**	*eP*		**P**	**18 53 21.7**	**-0.8**
KLBR	**Kellerberrin**	**34.21**	**205**	*eP*		**P**	**18 53 44.3**	**+1.1**
	comp=Z,136nm,1.6s,mb5.6							
NJ2	**Nanjing**	**35.54**	**338**	*eP*		**P**	**18 54 00.4**	**+5.8**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
MJAR	**Matsushiro Arr**	**37.33**	**6**	P		**P**	**18 54 07.7**	**-1.8**
	comp=Z,1.8nm,0.8s,mb3.9,baz=187,slow=9.2,SNR=4.7							
LZH	**Lanzhou**	**46.02**	**326**	*eP*		**P**	**18 55 29.0**	**+8.3**
LZH				*PP		pP	18 55 37.5	+8.9
LZH				*SP		sP	18 55 40.5	+8.7
LZH				pmax		pmax		
	comp=Z,20nm,1.2s,mb4.9							
LZH	**Lanzhou**	**46.02**	**326**	*eP*		**P**	**18 55 29.0**	**+8.3**
	comp=Z,20nm,1.2s,mb4.9							
LZH				pP		pP	18 55 37.5	+8.9
LZH				sP		sP	18 55 40.5	+8.7
HHC	**Hu-ho-hao-te**	**46.06**	**337**	*eP*		**P**	**18 55 27.3**	**+6.3**
HHC				AMB		AMB		
	comp=Z,21nm,1.3s,mb4.9							
HHC				AMB		AMB		
	comp=Z,60nm,4.0s							
YSS	**Yuzh-Sakhalins**	**48.16**	**8**	*i P*		**P**	**18 55 37.0**	**-0.4**
YSS				pmax		pmax		
	comp=Z,11nm,1.3s,mb4.7							
YSS	**Yuzh-Sakhalins**	**48.16**	**8**	P		**P**	**18 55 40.4**	**+3.0**
	comp=Z,11nm,0.7s,mb5.0							
SHL	**Shillong**	**48.17**	**306**	*eP*		**P**	**18 55 37.5**	**-0.3**
GTA	**Gaotai**	**50.62**	**326**	*eP*		**P**	**18 56 01.9**	**+5.5**
GTA				AP		pP	18 56 09.4	+5.0
GTA				XP		sP	18 56 12.8	+5.3
GTA				AMB		AMB		
	comp=Z,5.0nm,1.2s,mb4.3							
LSA	**Lhasa**	**50.66**	**310**	P		**P**	**18 56 03.0**	**+6.1**
LSA	**Lhasa**	**50.66**	**310**	P		**P**	**18 55 58.0**	**+1.1**
LSA				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.7							
LSA	**Lhasa**	**50.66**	**310**	P		**P**	**18 55 58.0**	**+1.1**
	comp=Z,12nm,1.1s,mb4.7							
SONM	**Songino Array**	**53.93**	**337**	P		**P**	**18 56 20.8**	**-0.2**
	comp=Z,1.0nm,0.9s,mb3.8,baz=140,slow=7.1,SNR=5.8							
SONM				pP		pP	18 56 29.0	0.0
	comp=Z,2.6nm,1.0s,baz=153,slow=8.3,SNR=9.7							
SONM				PcP		PcP	18 57 25.7	-0.5
	comp=Z,0.9nm,0.7s,baz=161,slow=3.7,SNR=2.7							
GUN	**Gumba**	**54.03**	**306**	*eP*		**P**	**18 56 22.3**	**+0.3**
RAO	**Raoul Island**	**54.03**	**126**	LR		LR	19 17 32.9	
	comp=Z,170nm,20.1s,MS4.1,baz=77,slow=34							
PKI	**Pulchoki**	**54.27**	**305**	*eP*		**P**	**18 56 23.5**	**-0.4**
	comp=Z,11nm,0.6s,mb5.0							
KKN	**Kakani**	**54.47**	**305**	*eP*		**P**	**18 56 25.0**	**-0.3**
	comp=Z,36nm,0.9s,mb5.3							
DMN	**Daman**	**54.54**	**305**	*eP*		**P**	**18 56 25.7**	**-0.1**
	comp=Z,27nm,0.8s,mb5.3							
GKN	**Gorkha**	**55.07**	**305**	*eP*		**P**	**18 56 29.4**	**-0.3**
	comp=Z,30nm,0.9s,mb5.3							
KOLN	**Koldanda**	**55.83**	**305**	*eP*		**P**	**18 56 35.4**	**+0.2**
	comp=Z,66nm,0.9s,mb5.7							
ZAK	**Zakamensk**	**57.20**	**337**	*eP*		**P**	**18 56 44.6**	**-0.1**
ZAK				*e*			18 57 45.6	
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb4.2							
ZAK				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.2							
WMQ	**Urumqi**	**60.45**	**323**	*eP*		**P**	**18 57 08.0**	**+0.7**
BOD	**Bodaibo**	**60.48**	**348**	*eP*		**P**	**18 57 04.7**	**-2.6**
YAK	**Yakutsk**	**62.69**	**358**	*eP*		**P**	**18 57 24.4**	**+2.2**
YAK				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb5.0							
YAK				pmax		pmax		
	comp=N,5.0nm,1.1s							
YAK	**Yakutsk**	**62.69**	**358**	*eP*		**P**	**18 57 20.8**	**-1.4**
	comp=N,18nm,0.8s,mb5.3							
SEY	**Seymchan**	**65.04**	**9**	*i P*		**P**	**18 57 33.2**	**-4.3**
MKAR	**Makanchi Array**	**65.26**	**324**	P		**P**	**18 57 39.2**	**+0.1**
	comp=N,3.7nm,0.7s,mb4.5,baz=115,slow=7.9,SNR=51							
MKAR				pP		pP	18 57 47.2	-0.1
	comp=N,4.1nm,0.6s,baz=111,slow=8.4,SNR=21							
MKAR	**Makanchi Array**	**65.26**	**324**	P		**P**	**18 57 39.2**	**+0.1**
MKAR				pP		pP	18 57 47.2	-0.1
NVS	**Novosibirsk**	**69.08**	**331**	*eP*		**P**	**18 58 01.4**	**-1.7**
NVS				pmax		pmax		
	comp=Z,11nm,1.4s,mb4.6							
NVS				pmax		pmax		
	comp=N,9.0nm,1.6s							
NVS				pmax		pmax		
	comp=E,8.0nm,1.3s							
BVAR	**Borovoye Array**	**74.91**	**326**	P		**P**	**18 58 37.7**	**-0.1**
	comp=E,1.3nm,0.7s,mb4.0,baz=121,slow=8.7,SNR=11							
BVAR				pP		pP	18 58 46.0	0.0
	comp=E,3.6nm,0.8s,baz=112,slow=6.4,SNR=13							
BRVK	**Borovoye**	**74.98**	**326**	*eP*		**P**	**18 58 38.0**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.3							
BRVK	**Borovoye**	**74.98**	**326**	*eP*		**P**	**18 58 38.0**	**-0.3**
	comp=Z,3.9nm,0.9s,mb4.3							
ZRNK	**Zerenda**	**75.66**	**326**	*eP*		**P**	**18 58 41.8**	**-0.3**
ZRNK				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.6							
ZRNK	**Zerenda**	**75.66**	**326**	*eP*		**P**	**18 58 41.8**	**-0.3**
	comp=Z,8.0nm,1.1s,mb4.6							
PPT	**Papeete**	**77.06**	**108**	LR		LR	19 27 17.3	
	comp=Z,56nm,20.1s,MS3.9,baz=300,slow=31							
VNDA	**Vanda**	**78.20**	**174**	P		**P**	**18 58 57.7**	**+1.9**
	comp=Z,2.8nm,0.8s,mb4.2,baz=323,slow=6.7,SNR=16							
VNDA				LR		LR	19 31 52.7	
	comp=Z,97nm,21.1s,MS4.1,baz=357,slow=34							
VNDA	**Vanda**	**78.20**	**174**	P		**P**	**18 58 57.7**	**+1.9**
VNDA				LR		LR	19 31 52.7	
ARU	**Arti**	**82.47**	**327**	*i*	*P*	**P**	**18 59 19.0**	**+0.2**
ARU				*e*	SS	SS	19 14 51.3	-5.7
ARU				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.3							
IMA	**Indian Mountai**	**83.66**	**23**	P		**P**	**18 59 25.3**	**+0.5**
IMA				pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.6							
IMA	**Indian Mountai**	**83.66**	**23**	P		**P**	**18 59 25.3**	**+0.6**
	comp=Z,5.3nm,1.1s,mb4.6							
MCK	**McKinley**	**85.06**	**26**	*eP*		**P**	**18 59 32.1**	**+0.3**
MCK				pmax		pmax		
	comp=Z,7.0nm,1.2s,mb4.7							
MCK	**McKinley**	**85.06**	**26**	*eP*		**P**	**18 59 32.1**	**+0.2**
	comp=Z,7.1nm,1.2s,mb4.7							
DIV	**Divide**	**86.04**	**29**	*eP*		**P**	**18 59 38.3**	**+1.5**
	comp=Z,20nm,0.6s,mb5.5							
ILAR	**Eielson Array**	**86.13**	**25**	P		**P**	**18 59 37.2**	**+0.1**
	comp=Z,1.2nm,0.8s,mb4.2,baz=261,slow=5.1,SNR=6.8							
ILAR				pP		pP	18 59 45.3	-0.2
	comp=Z,1.9nm,0.6s,baz=259,slow=4.3,SNR=10							
OBN	**Obninsk**	**94.73**	**325**	*eP*		**P**	**19 00 16.6**	**-1.1**
OBN				*e*			19 04 12.0	
OBN				*e*	PS	PS	19 12 43.3	-8.0
OBN				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb5.1							
CPUP	**Villa Florida**	**151.03**	**159**	PKPbc		PKPdf	19 06 52.5	+4.9
	comp=Z,7.5nm,0.8s,baz=181,slow=1.6,SNR=17							
LPAZ	**La Paz**	**152.55**	**129**	PKPbc		PKPdf	19 06 56.7	+6.6
	comp=Z,1.6nm,0.8s,baz=15,slow=5.7,SNR=5.5							
LPAZ	**La Paz**	**152.55**	**129**	PKPbc		PKPdf	19 06 56.7	+6.6

MAN 23 18:59:22.0, 9.94N×123.72E, h26km, mb4.4, ML3.3, MS3.1, 2C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TBP	**Tagbilaran**	**0.29**	**150**	*eP*		Pb	18 58 53.7	-35
TBP				*eS*		Sb	18 58 59.4	-34
TBP	**Tagbilaran**	**0.29**	**150**	*eP*		Pb	18 59 30.2	+1.2
TBP				*eS*		Sb	18 59 36.0	+2.4
LLP	**Lapu-Lapu**	**0.45**	**33**	*i*	*eP*	Pb	18 58 56.2	-35
LLP				*eS*		Sb	18 59 04.1	-34
LLP	**Lapu-Lapu**	**0.45**	**33**	*i*	*eP*	Pb	18 59 32.8	+1.4
LLP				*eS*		Sb	18 59 41.0	+3.2
SNPH	**Sibulan**	**0.76**	**218**	*eP*		Pb	18 58 59.5	-37
SNPH	**Sibulan**	**0.76**	**218**	*i*	*P*	Pb	18 59 36.3	-0.2
SNPH				*i*	S	Sb	18 59 48.7	+2.2
GUIM	**Jordan**	**1.30**	**302**	*eP*		Pn	18 59 08.2	-37
GUIM				*eS*		Sn	18 59 25.0	-36
GUIM	**Jordan**	**1.30**	**302**	*eP*		Pn	18 59 44.6	-0.2
GUIM				*eS*		Sn	19 00 01.7	+0.3
BUKP	**Musuan**	**2.44**	**147**	*eP*		Pn	18 59 28.2	-33
BUKP	**Musuan**	**2.44**	**147**	*eP*		Pn	18 59 28.2	-33

CASC 23 20:04:04.5±2.1, 9.11N×77.92W, h20km±12km, MD4.5, mb4.5(NEIC), Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UPA	**Univ. de Panam**	**1.60**	**266**	*eP*		Pn	20 04 31.0	-1.1
UPA				*eS*		Sn	20 04 52.1	-0.3
ZANG	**Zanguenga, Cho**	**1.93**	**266**	*eP*		Pn	20 04 36.0	-0.8
ZANG				*eS*		Sn	20 05 01.7	+0.9
AZU	**Azuero**	**2.67**	**241**	*eP*		Pn	20 04 46.0	-1.4
AZU				*eS*		Sn	20 05 18.0	-1.7
BRU	**Baru**	**4.60**	**267**	*eP*		Pn	20 05 13.1	-1.8

IDC ***23*** *20:08:11.2±1.1, 11.34S×74.04W, mb4.1/7, mb1 4.3/9, mb1mx4.2/21, mbtmp4.1/9, ML3.5/1, Error ellipse: s-maj=28.9km s-min=20.4km az=41.0*
NEIC ***23*** *20:08:15.3±0.7, 11.25S×73.93W, h25km, mb4.5/1, Error ellipse: s-maj=17.9km s-min=11.4km az=187.0*

ISC 23 20:08:15.2±0.5, 11.26S±0.08×73.80W±0.06, h33km, n23, σ1§42/24, mb4.2/6, 5C, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**3.06**	**256**	*eP*	n	**Pn**	**20 08 59.7**	**-2.8**
NNA				*eS*	n	**Sn**	**20 09 39.5**	**+1.0**
LPAZ	**La Paz**	**7.44**	**133**	Pn		**Pn**	**20 10 05.5**	**+1.2**
	0.4nm,0.3s,baz=330,slow=12,SNR=10							
LPAZ				Lg			20 12 07.8	
	1.6nm,0.3s,baz=37,slow=24,SNR=5.6							
LPAZ	**La Paz**	**7.44**	**133**	*eP*	n	**Pn**	**20 10 05.3**	**+1.0**
LPAZ				*eS*			20 12 05.4	
SAML	**Samuel**	**10.71**	**79**	*eP*	n	**P**	**20 10 48.2**	**-1.2**
SAML				*eS*	n	**S**	**20 12 44.0**	**-5.1**
SIV	**San Ignacio**	**13.24**	**112**	Pn		**P**	**20 11 21.3**	**-2.1**
	0.3nm,0.3s,baz=310,slow=17,SNR=4.8							
SIV				Sn		**S**	**20 13 54.6**	**+4.2**
	0.6nm,0.3s,baz=253,slow=22,SNR=4.0							
SIV				Lg			20 15 16.5	
	2.2nm,0.3s,baz=218,slow=22,SNR=4.1							
CFAA	**Coronel Fontan**	**20.89**	**167**	P		**P**	**20 12 55.2**	**-1.9**
	1.2nm,0.8s,baz=347,slow=10.0,SNR=8.9							
CFAA	**Coronel Fontan**	**20.89**	**167**	P		**P**	**20 12 55.2**	**-1.9**
CPUP	**Villa Florida**	**21.59**	**136**	P		**P**	**20 13 03.8**	**-0.4**
	4.1nm,0.6s,mb4.0,baz=322,slow=8.2,SNR=8.6							
CPUP	**Villa Florida**	**21.59**	**136**	*eP*		**P**	**20 13 03.4**	**-0.8**
	27nm,1.5s,mb4.5							
BDFB	**Brasilia**	**25.45**	**103**	P		**P**	**20 13 44.3**	**+2.4**
	5.2nm,0.8s,mb4.1,baz=287,slow=13,SNR=6.8							
MVM	**Montagne Vaucl**	**28.66**	**27**	*eP*		**P**	**20 14 14.0**	**+2.6**
FDF	**Fort de France**	**28.71**	**26**	*i*	*eP*	**P**	**20 14 11.0**	**-0.7**
CRM	**Caravelle**	**28.83**	**27**	*eP*		**P**	**20 14 13.2**	**+0.4**
PLCA	**Paso Flores**	**29.50**	**175**	P		**P**	**20 14 15.2**	**-3.3**
	0.8nm,0.7s,mb3.5,baz=326,slow=10,SNR=2.5							
TXAR	**Lajitas Array**	**49.59**	**325**	P		**P**	**20 17 04.2**	**-1.3**
	2.0nm,0.6s,mb4.3,baz=144,slow=7.8,SNR=5.2							
DBIC	**Dimbokro**	**70.87**	**79**	P		**P**	**20 19 31.8**	**+0.4**
	4.5nm,0.6s,mb4.6,baz=243,slow=7.0,SNR=14							
VNA3	**Neumayer Olymp**	**71.22**	**162**	*i*		**P**	**20 19 33.1**	**+0.6**
VNA1	**Neumayer--Stat**	**71.44**	**161**	*i*		**P**	**20 19 35.9**	**+2.1**
VNA2	**Neumayer--Watz**	**71.80**	**162**	*i*		**P**	**20 19 36.7**	**+0.7**
SNAA	**Sanae**	**73.43**	**162**	*i*		**P**	**20 19 45.3**	**-0.2**
VNDA	**Vanda**	**86.05**	**190**	P		**P**	**20 20 53.5**	**+0.4**
	2.1nm,0.8s,mb4.4,baz=127,slow=3.5,SNR=12							
WRA	**Warramunga Arr**	**138.42**	**222**	PKP		PKPdf	20 27 38.8	+0.5
	1.6nm,0.8s,baz=141,slow=1.8,SNR=11							
SONM	**Songino Array**	**143.54**	**360**	PKP		PKPdf	20 27 46.5	-0.1
	1.1nm,0.6s,baz=336,slow=1.0,SNR=5.6							

MOS ***23*** *20:09:05.1±0.9, 12.00N×85.97W, h181km, mb5.2/31, Error ellipse: s-maj=11.7km s-min=5.8km az=107.6*
HRVD ***23*** *20:09:05.4±0.2, 11.94N×86.31W, h166km±1km, MW5.6/58, Centroid moment Tensor Solution. LP body waves: s50,c93;Mantle waves: s58,c140; Half duration: 1§5 Moment tensor: Scale 10^17 Nm; Mrr 1.84±.05; Mθθ -1.01±.05; Mϕϕ -0.83±.06; Mrθ 1.04±.04; Mrϕ 0.74±.05; Mθϕ -2.25±.04; Best double couple: M0 3.025×10^17 NP1: ϕs301°, δ19°, λ62°. NP2: ϕs150°, δ73°, λ99°. Principal axes: T 3.194, Plg61°, Azm74°; N -.342, Plg9°, Azm327°; P -2.857, Plg27°, Azm233°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***23*** *20:09:05.4±0.1, 12.08N×85.97W, mb5.1/155, MW5.6, MD5.7(SNET), MD4.9(CASC) Error ellipse: s-maj=4.1km s-min=2.3km az=39.0, Moment Tensor Solution. s24 Moment tensor: Scale 10^17 Nm; Mrr 2.32; Mθθ -0.17; Mϕϕ -2.15; Mrθ 0.77; Mrϕ 1.90; Mθϕ -1.41; Best double couple: M0 3.2×10^17 NP1: ϕs326°, δ30°, λ86°. NP2: ϕs151°, δ60°, λ92°. Principal axes: T 2.75, Plg75°, Azm68°; N .97, Plg2°, Azm330°; P -3.72, Plg15°, Azm239°;*
NEIC Felt at Filadelfia, Managua, San Juan del Sur and much of southern Nicaragua. Also felt at Cobano, Paquera and Sardinal, Costa Rica and [II] at San Salvador, El Salvador.
CASC ***23*** *20:09:05.2±3.0, 11.13N×87.04W, h11km±6km, MD4.7, ML5.2, mb5.1(NEIC)*
IDC ***23*** *20:09:05.2±0.4, 12.05N×86.08W, h167km±2km, mb4.6/27, mb1 4.8/30, mb1mx4.8/31, mbtmp5.1/30, MS4.3/8,*
Ms1 4.3/8, ms1mx3.8/32, Error ellipse: s-maj=13.0km s-min=6.4km az=66.0
BJI ***23*** *20:09:05.4, 12.10N×86.00W, h167km, mB5.1*
CRAAG ***23*** *20:09:14.9, 12.04N×84.14W, Mb5.4*
ORF ***23*** *20:09:40.4, 13.96N×86.12W, h30km, mb5.6*

ISC 23 20:09:04.2±0.1, 12.02N±0.03×86.06W±0.02, h169km, h169km±.5km: pP-P, n681, σ1§12/586, mb5.0/178, 196C-20D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MASN	**Masaya**	**0.10**	**252**	*i*	*eP*	**P**	**20 09 27.1**	**+0.3**
APON	**Apoyo**	**0.10**	**185**	*i*	*P*	**P**	**20 09 27.2**	**+0.3**
TICN	**Ticuantepe**	**0.17**	**276**	*i*	*P*	**P**	**20 09 27.3**	**+0.3**
WILN	**Americas 2**	**0.19**	**319**	*i*	*P*	**P**	**20 09 27.4**	**+0.4**
MGAN	**Managua**	**0.23**	**305**	*i*	*P*	**P**	**20 09 27.3**	**+0.1**
MGAN					*eS*	**S**	**20 09 45.1**	**+0.3**
	comp=E,63μm,0.8s							
CRUN	**El Crucero**	**0.24**	**262**	*i*	*eP*	**P**	**20 09 27.3**	**+0.1**
XAVN	**Gruta Xavier**	**0.29**	**297**	*i*	*P*	**P**	**20 09 27.3**	**-0.1**
APYN	**Apoyeque**	**0.36**	**307**	*i*	*P*	**P**	**20 09 27.2**	**-0.4**
COPN	**Copaltepe**	**0.55**	**287**	*i*	*eP*	**P**	**20 09 27.4**	**-0.9**
MOMJ	**Momotombo**	**0.61**	**310**	*i*	*eP*	**P**	**20 09 28.1**	**-0.5**
CONN	**Concepcion**	**0.62**	**137**	*i*	*P*	**P**	**20 09 29.4**	**+0.7**
MIRN	**Miramar**	**0.77**	**303**	*i*	*P*	**P**	**20 09 28.9**	**-0.5**
CNGN	**Cerro Negro**	**0.79**	**308**	*eP*		**P**	**20 09 29.0**	**-0.5**
CNGN				*i*	*P*		20 09 29.0	
LEON	**Leon**	**0.91**	**296**	*i*	*P*	**P**	**20 09 29.1**	**-1.2**
TEL3	**Telica 3**	**0.95**	**306**	*i*	*P*	**P**	**20 09 30.2**	**-0.3**
TELN	**Telica**	**0.95**	**308**	*eP*		**P**	**20 09 30.2**	**-0.4**
CRIN	**San Cristobal**	**1.18**	**305**	*i*	*P*	**P**	**20 09 31.9**	**-0.6**
LIM1	**Limonal**	**1.53**	**149**	*eP*		**P**	**20 09 36.9**	**+1.0**
LIM1				*eS*		**S**	**20 10 00.2**	**-0.1**
VCR	**Vista de Mar**	**1.92**	**167**	*eP*		**P**	**20 09 39.9**	**-0.1**
VCR				*eS*		**S**	**20 10 04.5**	**-3.2**
JTS	**JuntasAbangare**	**2.03**	**148**	*i*	*P*	**P**	**20 09 42.0**	**+0.9**
JTS	**JuntasAbangare**	**2.03**	**148**	P		**P**	**20 09 42.0**	**+0.9**
	comp=E,388nm,0.3s,baz=317,slow=7.6,SNR=378							
JTS				S		**S**	**20 10 08.2**	**-1.5**
	comp=E,1μm,0.3s,baz=342,slow=22,SNR=18							
JTS				LR		LR	20 10 36.1	
	comp=E,5μm,22.0s,baz=190,slow=44							
JTS	**JuntasAbangare**	**2.03**	**148**	*i*	*ePn*	**P**	**20 09 41.8**	**+0.7**
JTS				*eSn*		**S**	**20 09 59.0**	**-11**
FORC	**Fortuna**	**2.05**	**138**	*eP*		**P**	**20 09 44.0**	**+2.5**
FORC	**Fortuna**	**2.05**	**138**	*eP*		**P**	**20 09 44.1**	**+2.7**
BLLM	**Bellamira**	**2.56**	**304**	*i*	*eP*	**P**	**20 09 52.9**	**+5.5**
BLLM				*eS*		**S**	**20 10 25.9**	**+5.2**
VSM	**San Miguel**	**2.58**	**303**	*i*	*eP*	**P**	**20 09 53.1**	**+5.4**
VSM				*eS*		**S**	**20 10 27.3**	**+6.1**
PRS1	**Puriscal**	**2.65**	**139**	*eP*		**P**	**20 09 51.5**	**+2.9**
PRS1	**Puriscal**	**2.65**	**139**	*i*	*eP*	**P**	**20 09 51.4**	**+2.8**
TRTC	**Tortuguero**	**2.71**	**122**	*eP*		**P**	**20 09 51.6**	**+2.3**
TRTC	**Tortuguero**	**2.71**	**122**	*i*	*eP*	**P**	**20 09 51.5**	**+2.2**
CAHU	**Cacacuatique**	**2.73**	**310**	*i*	*eP*	**P**	**20 09 55.6**	**+6.0**
CAHU				*eS*		**S**	**20 10 30.8**	**+6.3**
SJS	**Escuela Geolog**	**2.85**	**136**	*i*	*eP*	**P**	**20 09 53.4**	**+2.3**
SJS				*eS*		**S**	**20 10 30.4**	**+3.5**
SJS	**Escuela Geolog**	**2.85**	**136**	*i*	*eP*	**P**	**20 09 53.4**	**+2.3**
SJS				*eS*		**S**	**20 10 33.5**	**+6.3**
LCR2	**La Lucha 2**	**3.03**	**138**	*eP*		**P**	**20 09 55.1**	**+1.8**
LCR2	**La Lucha 2**	**3.03**	**138**	*i*	*eP*	**P**	**20 09 55.0**	**+1.7**
SNVI	**San Vicente**	**3.14**	**301**	*i*	*eP*	**P**	**20 10 00.2**	**+5.5**
SNVI				*eS*		**S**	**20 10 36.8**	**+3.2**
LCBS	**La Ceiba**	**3.28**	**300**	*i*	*eP*	**P**	**20 10 01.2**	**+4.8**
LCBS				*eS*		**S**	**20 10 41.2**	**+4.4**
BUS	**Buena Vista**	**3.33**	**137**	*i*	*eP*	**P**	**20 09 59.8**	**+2.6**
BUS	**Buena Vista**	**3.33**	**137**	*i*	*eP*	**P**	**20 09 59.7**	**+2.6**
BUS

LRAL epP 20 14 08.7
LRAL esP 20 14 29.5
LRAL eS S 20 17 23.1 +10
NATX Nacogdoches 21.19 339⇑ eP P **20 13 38.1 +0.8**
comp=E,405nm,0.8s,mb5.8
NATX ⇓epP 20 14 08.1
NATX eS S 20 17 27.4 +10
HBF Harts Bluff 21.46 13 P P **20 13 44.4 +4.5**
HBF Harts Bluff 21.46 13 eP P **20 13 43.7 +3.8**
HBF epP 20 14 14.8
HBF esP 20 14 32.9
RGRS Roger Stewart 21.48 14 eP P **20 13 43.4 +3.3**
RGRS epP 20 14 15.7
CSU Charleston Sou 21.58 14 eP P **20 13 44.9 +3.7**
CSU epP 20 14 14.8
NHSC New Hope 21.67 13⇑ iP P **20 13 45.6 +3.6**
comp=E,1μm,1.1s
NHSC epP 20 14 17.0
TWB Tillmans-White 21.70 14 eP P **20 13 45.9 +3.6**
TWB epP 20 14 13.7
COW Cow Castle Cre 21.82 12 eP P **20 13 47.0 +3.6**
JSC Jenkinsville 22.59 10 P P **20 13 55.0 +4.0**
JSC Jenkinsville 22.59 10 eP P **20 13 54.7 +3.7**
JSC epP 20 14 26.3
OXF Oxford 22.60 353 P P **20 13 52.4 +1.3**
OXF pmax pmax
comp=Z,1μm,1.0s
OXF Oxford 22.60 353 eP P **20 13 52.6 +1.5**
comp=Z,1μm,0.9s
PLAL Pickwick Lake 22.94 356⇑ eP P **20 13 55.7 +1.4**
comp=Z,372nm,0.8s,mb5.9
PLAL epP 20 14 27.9
PLAL esP 20 14 49.5
PLAL ePcP PcP 20 17 39.4 -1.3
PLAL eS S **20 17 53.1 +5.0**
PLAL eScP 20 21 00.9
UALR University of 23.37 347⇑ iP P **20 13 59.4 +1.0**
comp=Z,300nm,0.8s,mb5.8
UALR epP 20 14 32.6
LTX Lajitas 23.78 319⇑ iP P **20 14 02.9 +0.4**
LTX e 20 17 41.6
LTX pmax pmax
comp=Z,130nm,0.7s,mb5.6
LTX Lajitas 23.78 319⇑ iP P **20 14 02.9 +0.4**
comp=Z,125nm,0.7s,mb5.5
LTX epP 20 14 35.6
LTX ePcP PcP 20 17 41.6 -1.0
LTX eS S **20 18 15.9 +13**
LTX i ScP 20 21 06.3
TXAR Lajitas Array 23.78 319 P P **20 14 03.0 +0.5**
comp=Z,134nm,0.8s,mb5.5,baz=141,slow=9.5,SNR=382
TXAR PcP PcP 20 17 43.1 +0.5
comp=Z,11nm,0.8s,baz=162,slow=4.0,SNR=6.2
TXAR ScP 20 21 06.0
comp=Z,10nm,0.9s,baz=145,slow=5.1,SNR=18
TXAR PKiKP 20 25 23.4
comp=Z,0.2nm,0.4s,baz=18,slow=2.9,SNR=4.0
TXAR P3KPbc 20 47 21.6
comp=Z,1.2nm,0.9s,baz=273,slow=2.8,SNR=11
TXAR Lajitas Array 23.78 319 P P **20 14 03.0 +0.5**
TXAR PcP PcP 20 17 43.1 +0.5
TXAR ScP 20 21 06.0
HBAR Harrisburg 23.80 351⇑ iP P **20 14 03.7 +1.0**
HBAR epP 20 14 38.4
HALT Halls 23.97 353⇑ eP P **20 14 04.4 +0.2**
HALT epP 20 14 39.0
WVT Waverly 24.06 356 P P **20 14 05.2 +0.1**
WVT pmax pmax
comp=Z,440nm,1.6s,mb5.7
WVT Waverly 24.06 356⇑ eP P **20 14 05.6 +0.5**
comp=Z,437nm,1.6s,mb5.7
WVT ePcP PcP 20 17 40.7 -2.4
WVT eScP 20 21 03.5
GNAR Gosnell 24.11 352⇑ iP P **20 14 06.7 +1.2**
GNAR epP 20 14 41.5
MDN Morne-Daniel 24.19 79 eP P **20 14 11.7 +5.2**
MDN Morne-Daniel 24.19 79 e P **20 14 11.7 +5.2**
TPP Pointe-a-Pierr 24.20 92 eP P **20 14 07.4 +0.8**
TPP Pointe-a-Pierr 24.20 92 e P **20 14 07.4 +0.8**
TRN Trinidad (W) 24.21 91 eP P **20 14 08.0 +1.3**
TRN Trinidad (W) 24.21 91 e P **20 14 08.0 +1.3**
SVB Belmont 24.23 84 eP P **20 14 11.2 +4.3**
SVV Soufriere Volc 24.27 84 eP P **20 14 11.9 +4.6**
DWS Wesley 24.29 79 eP P **20 14 11.8 +4.4**
DWS Wesley 24.29 79 e P **20 14 11.8 +4.4**
GLAT Glass 24.32 354 eP P **20 14 07.8 +0.3**
GLAT epP 20 14 43.9
UTMT University of 24.35 354 eP P **20 14 08.8 +1.0**
comp=Z,796nm,1.0s
UTMT epP 20 14 43.5
SLB Belfond 24.45 83 eP P **20 14 12.9 +4.0**
TZTN Tazewell 24.53 5⇑ iP P **20 14 11.7 +2.2**
TZTN esP 20 15 06.7
TBH Brigand Hill 24.56 91 eP P **20 14 11.8 +1.9**
TBH Brigand Hill 24.56 91 e P **20 14 11.8 +1.9**
TPR Prospect 24.78 89 eP P **20 14 12.0 0.0**
TPR Prospect 24.78 89 e P **20 14 12.0 0.0**
BOT Bacolet 24.84 89 eP P **20 14 13.6 +1.1**
BOT Bacolet 24.84 89 e P **20 14 13.6 +1.1**
NNA Nana 25.54 159⇑ eP P **20 14 20.0 +0.8**
NNA epP pP 20 14 51.0 -2.4
ELN Prospectdale 25.55 10 eP P **20 14 21.6 +2.6**
BLA Blacksburg 25.59 10 P P **20 14 22.1 +2.7**
BLA pmax pmax
comp=Z,480nm,1.2s,mb6.0
BLA Blacksburg 25.59 10⇑ iP P **20 14 22.0 +2.5**
comp=Z,485nm,1.2s,mb6.0
BLA epP pP 20 14 56.1 +2.4
SIUC Southern Illin 25.75 354⇑ iP P **20 14 21.7 +0.8**
comp=Z,228nm,0.8s,mb5.9
SIUC ⇓epP pP 20 14 55.6 +0.5
FWV Forest Hill 25.89 10 eP P **20 14 24.6 +2.4**
CLNB Carlsbad 25.97 324 eP P **20 14 22.6 -0.4**
CLNB epP pP 20 14 59.1 +1.8
CLNB eScP 20 21 11.4
WCI Wyandotte Cave 26.10 360 P P **20 14 25.0 +0.9**
WCI pmax pmax
comp=Z,380nm,1.0s,mb6.0
WCI Wyandotte Cave 26.10 360⇑ iP P **20 14 24.9 +0.8**
comp=Z,378nm,1.0s,mb6.0
WCI epP pP 20 14 58.9 +0.4
WCI ePcP PcP 20 17 48.0 +0.4
WCI eScP 20 21 09.9
FVM French Village 26.15 352 P P **20 14 24.4 -0.2**
FVM pmax pmax
comp=Z,81nm,1.2s,mb5.2
FVM French Village 26.15 352⇑ eP P **20 14 23.5 -1.0**
comp=Z,81nm,1.3s,mb5.2
FVM epP pP 20 14 59.7 +0.8
FVM esP sP 20 15 18.0 -0.7
GDL2 Guadalupe Moun 26.21 323 eP P **20 14 24.5 -0.6**
GDL2 epP pP 20 14 59.5 0.0
GDL2 eScP 20 21 12.6
CCM Cathedral Cave 26.34 351 P P **20 14 26.2 -0.1**
CCM pmax pmax
comp=Z,220nm,1.0s,mb5.7
CCM Cathedral Cave 26.34 351⇑ iP P **20 14 26.0 -0.3**
comp=Z,215nm,1.0s,mb5.7
CCM epP pP 20 15 00.5 -0.2
CCM ePcP PcP 20 17 47.1 -1.0
CCM eScP 20 21 11.5
MNTX Cornudas Mount 26.47 321⇑ iP P **20 14 26.5 -1.0**
comp=Z,38nm,0.8s,mb5.1
MNTX ⇓iP pP 20 14 59.1 -2.8
MNTX ePcP PcP 20 17 48.0 -0.5
MNTX eScP 20 21 12.4
CPRX Cap Rock 26.53 325 eP P **20 14 27.2 -0.8**
CPRX eScP 20 21 13.9
SLM Saint Louis 26.77 353 P P **20 14 30.1 -0.1**
SLM pmax pmax
comp=Z,52nm,0.7s,mb5.3
SLM Saint Louis 26.77 353⇑ eP P **20 14 29.9 -0.3**
comp=Z,52nm,0.6s,mb5.3
BLO Bloomington 27.05 359 P P **20 14 33.4 +0.7**
BLO pmax pmax
comp=Z,260nm,0.8s,mb5.9
BLO Bloomington 27.05 359⇑ iP P **20 14 33.1 +0.4**
comp=Z,258nm,0.8s,mb5.9
BLO epP pP 20 15 08.7 +1.5
CBN Corbin 27.21 15⇑ iP P **20 14 36.6 +2.4**
comp=Z,571nm,0.9s
BBSR BB Station 28.21 41⇑ iP P **20 14 46.3 +3.1**
comp=Z,131nm,0.8s,mb5.7
BBSR ⇑epP pP 20 15 21.1 +3.1
BBSR esP sP 20 15 38.9 +1.2
KSU1 Kansas State U 28.56 343⇑ iP P **20 14 45.3 -1.0**
KSU1 epP pP 20 15 20.9 -0.3
BNM Barren Site 28.93 323 eP P **20 14 49.6 -0.1**
BNM epP pP 20 15 25.1 +0.4
BNM ePcP PcP 20 17 54.3 -0.1
BNM eScP 20 21 21.5
LPM Los Pinos Moun 29.04 323 eP P **20 14 50.5 -0.2**
LENM Lemitar 29.14 323 eP P **20 14 51.6 0.0**
LENM epP pP 20 15 26.1 -0.5
LENM ePcP PcP 20 17 55.5 +0.6
ANMO Albuquerque 29.40 324⇑ iP P **20 14 53.8 0.0**
ANMO Albuquerque 29.40 324 P P **20 14 53.2 -0.6**
comp=Z,31nm,1.0s,mb5.0,baz=146,slow=8.4,SNR=48
ANMO pP pP 20 15 27.5 -1.5
comp=Z,5.6nm,0.9s,baz=143,slow=16,SNR=1.0
ANMO ScP 20 21 22.0
comp=Z,3.4nm,0.9s,baz=157,slow=5.7,SNR=4.1
ANMO Albuquerque 29.40 324⇑ iP P **20 14 53.5 -0.4**
comp=Z,42nm,1.1s,mb5.1
ANMO epP pP 20 15 28.1 -0.9
ANMO eScP 20 21 22.6
LAZ Ladron 29.41 323 eP P **20 14 54.1 +0.2**
ALLY Alegheny Colle 29.97 9⇑ iP P **20 14 59.9 +1.0**
BRNJ Basking Ridge 30.29 17⇑ iP P **20 15 04.2 +2.5**
TUC Tucson 30.39 316 P P **20 15 02.7 0.0**
TUC pmax pmax
comp=Z,21nm,1.0s,mb4.8
TUC Tucson 30.39 316⇑ iP P **20 15 02.4 -0.2**
comp=Z,21nm,0.9s,mb4.9
TUC epP pP 20 15 36.9 -1.1
TUC ePcP PcP 20 17 57.8 -0.3
PAL Palisades 30.79 18 P P **20 15 08.1 +2.1**
PAL pmax pmax
comp=Z,180nm,1.0s,mb5.8
PAL Palisades 30.79 18⇑ iP P **20 15 07.8 +1.8**
comp=Z,181nm,1.0s,mb5.8
PAL epP pP 20 15 43.4 +1.9
PAL ePP PP 20 16 22.1 +8.4
SDCO Great Sand Dun 30.97 329 eP P **20 15 07.7 0.0**
comp=Z,38nm,0.9s,mb5.1
SDCO epP pP 20 15 42.0 -1.1
SDCO eScP 20 21 28.1
ARE Arequipa 31.75 153 eP P **20 15 17.0 +2.3**
QUA2 Belchertown 32.43 19⇑ iP P **20 15 21.8 +1.5**
comp=Z,223nm,1.0s,mb5.8
SMCO Snowmass 32.81 329⇑ iP P **20 15 23.7 +0.2**
SMCO epP pP 20 15 58.9 -0.5
WES Weston 32.87 20 P P **20 15 26.7 +2.7**
WES pmax pmax
comp=Z,340nm,1.5s,mb5.9
WES Weston 32.87 20⇑ iP P **20 15 25.9 +1.9**
comp=Z,340nm,1.5s,mb5.9
PV01 Paradox Valley 32.87 326 eP P **20 15 24.1 0.0**
PV01 epP pP 20 16 03.9 +4.0
PV01 eScP 20 21 33.6
HRV Harvard--Oak R 32.89 20 P P **20 15 25.7 +1.4**
HRV pmax pmax
comp=Z,250nm,1.5s,mb5.7
HRV Harvard--Oak R 32.89 20⇑ iP P **20 15 25.7 +1.4**
comp=Z,251nm,1.5s,mb5.7
ACCN Adirondack Com 33.04 17⇑ iP P **20 15 26.9 +1.4**
SADO Sadowa 33.17 9 P P **20 15 27.4 +0.7**
comp=Z,338nm,0.7s,baz=208,slow=8.8,SNR=207
LPAZ La Paz 33.25 147 P P **20 15 28.6 +1.1**
comp=Z,9.2nm,0.5s,mb4.7,baz=345,slow=11,SNR=3.7
LPAZ LR LR 20 29 56.6
comp=Z,317nm,21.7s,baz=303,slow=38
LPAZ La Paz 33.25 147⇑ eP P **20 15 27.7 +0.2**
comp=Z,41nm,1.2s,mb5.0
PV10 Paradox Valley 33.30 326 eP P **20 15 27.3 -0.4**
PV10 eScP 20 21 34.7
NCB Newcomb 33.44 16⇑ iP P **20 15 30.1 +1.3**
comp=Z,123nm,0.9s,mb5.6
NCB epP pP 20 16 09.5 +4.6
NCB ePP PP 20 16 52.8 +5.8
MIV Mineville/With 33.72 16 eP P **20 15 32.6 +1.3**
FFD Franklin Falls 33.73 19⇑ iP P **20 15 33.7 +2.4**
comp=Z,218nm,1.0s,mb5.8
HNH Hanover 33.74 18⇑ iP P **20 15 33.6 +2.1**
comp=Z,12nm,0.8s,mb4.7
PHWY Pilot Hill 33.77 333⇑ eP P **20 15 31.7 0.0**
PHWY epP pP 20 16 07.2 -0.5
MSNY Massena 34.24 14⇑ eP P **20 15 37.0 +1.3**
MSNY epP pP 20 16 12.1 +0.3
MSNY esP sP 20 16 27.7 -3.7
SRU San Rafael 34.63 325 P P **20 15 39.7 +0.6**
SRU San Rafael 34.63 325⇑ iP P **20 15 39.2 +0.1**
SRU epP pP 20 16 13.4 -1.9
SRU eScP 20 21 40.4
RWWY Rawlins 34.87 332⇑ iP P **20 15 41.4 +0.3**
comp=Z,48nm,1.0s,mb5.1
RWWY epP pP 20 16 16.8 -0.5
LDFC Landfair 34.93 316⇑ iP P **20 15 42.7 +1.0**
LDFC ePcP PcP 20 18 11.3 +0.6
NEN Nelson 35.08 317 eP P **20 15 40.2 +0.4**
NEN pP pP 20 16 19.2 0.0
NEN ePcP PcP 20 18 11.2 +0.1
NEN eScP 20 21 40.5
PFO Pinyon Flat Ob 35.09 313 P P **20 15 43.9 +0.9**
PFO pmax pmax
comp=Z,39nm,1.1s,mb5.0
PFO Pinyon Flat Ob 35.09 313⇑ iP P **20 15 43.5 +0.5**
comp=Z,39nm,1.1s,mb5.0
PFO ePcP PcP 20 18 11.7 +0.5
TMUT Trail Mountain 35.15 325⇑ iP P **20 15 43.8 +0.4**
TMUT epP pP 20 16 18.5 -1.2
TMUT eScP 20 21 41.3
MSU Marysvale 35.17 323 P P **20 15 44.6 +0.9**
MSU Marysvale 35.17 323 eP P **20 15 44.3 +0.6**
MSU epP pP 20 16 19.8 -0.2
MSU eScP 20 21 42.2
WVL Waterville 35.36 20⇑ iP P **20 15 47.9 +2.7**
comp=Z,2μm,1.6s
WVL epP pP 20 16 22.0 +0.5
ARUT Antelope Range 35.46 321 P P **20 15 47.3 +1.2**
ARUT Antelope Range 35.46 321 eP P **20 15 47.0 +0.9**
ARUT epP pP 20 16 22.5 0.0
RSSD Black Hills 35.54 338⇑ iP P **20 15 47.2 +0.6**
RSSD epP pP 20 16 23.3 +0.3
MPU Maple Canyon 35.88 326⇑ iP P **20 15 49.9 +0.3**
MPU epP pP 20 16 25.1 -0.9
DAU Daniels Canyon 35.95 326 P P **20 15 51.5 +1.3**
DAU Daniels Canyon 35.95 326 eP P **20 15 51.0 +0.8**
DAU pP pP 20 16 25.4 -1.2
DAU eScP 20 21 46.3
NLU North Lily Min 36.08 325⇑ iP P **20 15 51.6 +0.3**
NLU epP pP 20 16 27.1 -0.6
JLU Jordanelle 36.19 326⇑ iP P **20 15 52.7 +0.5**
JLU epP pP 20 16 27.7 -0.9
JLU eScP 20 21 45.4
EMMW East Machias 36.27 23⇑ iP P **20 15 55.1 +2.3**
comp=Z,667nm,1.3s,mb6.1
CTU Camp Tracy 36.41 326⇑ eP P **20 15 54.3 +0.2**
CTU epP pP 20 16 29.5 -1.1
TCUT Toone Canyon 36.53 327⇑ eP P **20 15 55.7 +0.6**
TCUT epP pP 20 16 30.8 -0.8
TCUT ePcP PcP 20 18 15.7 +0.3
MWC Mount Wilson 36.55 313 P P **20 15 56.3 +1.0**
MWC Mount Wilson 36.55 313⇑ iP P **20 15 56.1 +0.8**
MWC ePcP PcP 20 18 15.5 +0.1
NOQ North Oquirrh 36.59 326⇑ iP P **20 15 56.2 +0.6**
NOQ epP pP 20 16 31.4 -0.6
PDAR Pinedale Array 36.81 331 P P **20 15 57.3 0.0**
comp=Z,10nm,0.8s,mb4.5,baz=135,slow=10,SNR=16
PDAR pP pP 20 16 32.8 -1.0
comp=Z,5.0nm,0.8s,baz=154,slow=11,SNR=2.8
PDAR PcP PcP 20 18 16.0 -0.1
comp=Z,1.7nm,0.5s,baz=132,slow=5.4,SNR=4.8
PDAR ScP 20 21 45.7
comp=Z,1.4nm,0.5s,baz=130,slow=6.0,SNR=8.3
PDAR PKiKP 20 25 31.8
comp=Z,0.4nm,0.4s,baz=135,slow=2.6,SNR=6.2
PDAR P3KPbc 20 46 24.6
comp=Z,0.6nm,0.9s,baz=90,slow=1.5,SNR=5.3
HWUT Hardware Ranch 36.96 328⇑ iP P **20 15 58.8 +0.1**
comp=Z,49nm,0.9s,mb5.1
HWUT epP pP 20 16 34.0 -1.2
HWUT eScP 20 21 47.5
SIV San Ignacio 37.22 138 P P **20 16 01.2 +0.1**
comp=Z,42nm,0.5s,mb5.4,baz=32,slow=21,SNR=8.8
SPUT South Promonto 37.22 326⇑ iP P **20 16 01.2 +0.4**
SPUT epP pP 20 16 36.3 -1.1
SPUT eScP 20 21 48.5
DAC Darwin (Calif) 37.28 316 eP P **20 16 01.9 +0.5**
comp=Z,24nm,1.1s,mb4.8
DAC epP pP 20 16 35.7 -2.3
DAC ePcP PcP 20 18 17.9 +0.3
DAC eScP 20 21 49.4
AHID Auburn Hatcher 37.56 329 eP P **20 16 03.4 -0.3**
comp=Z,16nm,0.5s,mb4.9
AHID epP pP 20 16 40.4 +0.1
AHID eScP 20 21 49.7
ISA Isabella 37.57 314⇑ eP P **20 16 04.0 +0.2**
ISA pP pP 20 16 40.8 +0.4
ISA ePcP PcP 20 18 19.0 +0.4
HVU Hansel Valley 37.73 327 P P **20 16 05.7 +0.6**
HVU Hansel Valley 37.73 327⇑ iP P **20 16 04.9 -0.2**
HVU epP pP 20 16 40.5 -1.2
PQI Presque Isle 37.76 20⇑ iP P **20 16 06.5 +1.2**
comp=Z,606nm,0.9s
PQI epP pP 20 16 44.5 +2.6
PQI epP PP 20 17 39.6 +2.6
REDW Red Top Meadow 37.88 330⇑ iP P **20 16 06.7 +0.4**
comp=Z,98nm,1.0s,mb5.4
REDW epP pP 20 16 42.5 -0.5
REDW ePcP PcP 20 18 31.3 +12
SNOW Snow King Moun 37.91 330⇑ eP P **20 16 06.9 +0.3**
comp=Z,80nm,1.0s,mb5.3
SNOW epP pP 20 16 42.9 -0.3
LOHW Long Hollow 37.95 331⇑ iP P **20 16 07.1 +0.2**
LOHW epP pP 20 16 42.1 -1.4
TPAW Teton Pass 38.02 330⇑ eP P **20 16 07.8 +0.2**
comp=Z,105nm,1.4s,mb5.3
TPAW epP pP 20 16 43.9 -0.3
TPH Tonopah 38.02 318 P P **20 16 08.7 +1.1**
TPH pmax pmax
comp=Z,140nm,1.6s,mb5.3
TPH Tonopah 38.02 318⇑ iP P **20 16 08.3 +0.7**
comp=Z,138nm,1.7s,mb5.3
RRI2 Red Ridge 38.10 330⇑ iP P **20 16 08.4 +0.2**
comp=Z,98nm,1.4s,mb5.2
RRI2 ⇑epP pP 20 16 44.2 -0.7
MOOW Moose Ponds 38.12 331⇑ iP P **20 16 08.2 -0.1**
comp=Z,22nm,0.9s,mb4.8
MOOW epP pP 20 16 44.1 -0.9
LVC Limon Verde 38.30 154 P P **20 16 11.2 +1.1**
comp=Z,6.5nm,0.3s,mb4.7,baz=276,slow=23,SNR=3.1
LVC PcP PcP 20 18 22.5 +1.5
comp=Z,17nm,0.6s,baz=307,slow=2.4,SNR=12
LVC ScP 20 21 53.2
comp=Z,7.1nm,0.9s,baz=297,slow=6.5,SNR=6.3
LVC Limon Verde 38.30 154⇑ iP P **20 16 11.9 +1.8**
comp=Z,259nm,1.4s,mb5.7
LVC ePcP PcP 20 18 22.5 +1.5
LVC eScP 20 21 54.4
IMW Indian Meadow 38.32 331⇑ eP P **20 16 10.1 +0.1**
comp=Z,24nm,0.8s,mb4.9
IMW epP pP 20 16 45.9 -0.8
IMW eS S **20 21 47.9 -3.3**
ELK Elko 38.42 323 P P **20 16 11.7 +0.9**
ELK pmax pmax
comp=Z,51nm,0.9s
ELK Elko 38.42 323⇑ iP P **20 16 11.6 +0.8**
comp=Z,52nm,0.9s,mb5.2
ELK epP pP 20 16 46.8 -0.8
ELK eScP 20 21 53.5
MTUM Tungsten Hills 38.51 317⇑ eP P **20 16 12.4 +0.8**
MTUM ePcP PcP 20 18 21.4 0.0
YFT Old Faithful 38.69 331⇑ eP P **20 16 14.6 +1.5**
YFT epP pP 20 16 50.5 +0.7
YMR Madison River 38.91 331⇑ eP P **20 16 15.8 +0.9**
YMR ⇑epP pP 20 16 51.8 +0.1
NVAR Mina Array Bea 38.93 318 ScP 20 21 55.6
comp=Z,3.0nm,0.7s,baz=133,slow=5.3,SNR=5.7
OMM Old Mammoth Mi 38.94 317⇑ eP P **20 16 16.2 +1.0**
OMM epP pP 20 16 53.8 +1.7
OMM ePcP PcP 20 18 22.3 -0.5
OMM epPcP 20 18 50.6
OMM eScP 20 21 56.2
ULM Lac du Bonnet 38.97 350 P P **20 16 13.8 -1.5**
comp=Z,42nm,0.8s,mb5.1,baz=166,slow=8.3,SNR=38
ULM pP pP 20 16 49.9 -2.2
comp=Z,12nm,0.7s,baz=168,slow=12,SNR=2.0
ULM ScP 20 21 54.2
comp=Z,4.4nm,0.6s,baz=319,slow=1.9,SNR=5.4
ULM Lac du Bonnet 38.97 350⇑ iP P **20 16 14.0 -1.3**
ULM epP pP 20 16 49.8 -2.3
ULM ePP PP 20 17 43.0 -7.6
ULM eScP 20 21 52.2
QLMT Earthquake Lak 39.25 331⇑ eP P **20 16 18.9 +1.2**
QLMT epP pP 20 16 55.0 +0.5
DGMT Dagmar 39.36 341⇑ iP P **20 16 18.8 +0.2**
comp=Z,143nm,0.8s,mb5.7
DGMT epP pP 20 16 54.8 -0.6
BMN Battle Mountai 39.41 322 P P **20 16 20.1 +1.1**
BMN pmax pmax
comp=Z,130nm,1.1s,mb5.5
BMN Battle Mountai 39.41 322⇑ iP P **20 16 19.8 +0.8**
comp=Z,132nm,1.1s,mb5.5
BMN epP pP 20 16 54.6 -1.2
MCMT McKenzie Canyo 39.93 330 eP P **20 16 24.5 +1.2**
MCMT epP pP 20 17 01.4 +1.2
BOZ Bozeman (W) 39.96 332 P P **20 16 23.8 +0.3**
BOZ pmax pmax
comp=Z,41nm,1.0s,mb5.0
BOZ Bozeman (W) 39.96 332⇑ iP P **20 16 23.6 +0.1**
comp=Z,41nm,1.1s,mb5.0
BOZ epP pP 20 16 60.0 -0.4
CMB Columbia Colle 40.10 316 P P **20 16 25.1 +0.4**
CMB pmax pmax
comp=Z,39nm,1.1s,mb5.0
CMB Columbia Colle 40.10 316⇑ iP P **20 16 24.9 +0.2**
comp=Z,39nm,1.2s,mb4.9
CMB epP pP 20 16 59.8 -1.8
CMB ePcP PcP 20 18 25.0 -1.5
SAO San Andreas Ge 40.20 314 P P **20 16 27.6 +2.0**
SAO pmax pmax
comp=Z,14nm,0.8s,mb4.6
SAO San Andreas Ge 40.20 314 eP P **20 16 26.3 +0.7**
comp=Z,14nm,0.8s,mb4.6
HRY Holter Researc 40.86 333 eP P **20 16 31.0 +0.1**
HRY epP pP 20 17 06.1 -1.8
BEKR Beckwourth 41.05 319⇑ iP P **20 16 33.0 +0.5**
comp=Z,64nm,0.9s,mb5.2
BEKR epP pP 20 17 08.4 -1.1
CHMT Chamberlain Mo 41.65 332 eP P **20 16 36.9 -0.5**
CHMT epP pP 20 17 14.2 -0.3
MSO Missoula 41.91 331⇑ iP P **20 16 38.9 -0.6**
comp=Z,34nm,1.3s,mb4.8
MSO epP pP 20 17 14.8 -1.8
MSO ePcP PcP 20 18 32.9 +0.5
MSO eScP 20 22 08.3
BMO Blue Mountains 42.24 327⇑ iP P **20 16 40.7 -1.5**
comp=Z,28nm,1.1s,mb4.8
BMO epP pP 20 17 16.9 -2.4
BMO eScP 20 22 09.4
WDC Whiskeytown Da 42.84 318⇑ eP P **20 16 44.7 -2.5**
WDC e 20 17 05.6
WDC epP pP 20 17 21.6 -2.8
KIPM Iron Peak 43.08 317 eP P **20 16 49.6 +0.6**
KCPM Cahto Peak 43.09 317⇑ iP P **20 16 50.0 +0.9**
KCPM epP pP 20 17 27.5 +1.1
HOG Hogback Mounta 43.20 321 P P **20 16 50.6 +0.6**
WALA Waterton Lakes 43.55 334⇑ iP P **20 16 52.4 -0.2**
comp=Z,17nm,0.9s,mb4.7
WALA epP pP 20 17 29.6 -0.3
WALA eScP 20 22 13.1
YBH Yreka Blue Hor 43.56 320 P P **20 16 51.5 -1.4**
YBH pmax pmax
comp=Z,11nm,0.9s
YBH Yreka Blue Hor 43.56 320 LR LR 20 38 29.2
comp=Z,175nm,19.3s,baz=136,slow=40
YBH Yreka Blue Hor 43.56 320⇑ eP P **20 16 51.0 -1.8**
comp=Z,12nm,0.8s,mb4.6
YBH epP pP 20 17 28.4 -1.7
YBH ePP PP 20 18 37.1 -1.0
KHMM Horse Mountain 43.77 318⇑ iP P **20 16 54.7 +0.1**
KHMM epP pP 20 17 33.4 +1.5
KRMB Red Mountain 44.22 319 eP P **20 16 58.3 +0.2**
REDWA Red Mountain 44.32 327 P P **20 16 58.4 -0.4**
H2OWA Water 44.37 327 P P **20 16 58.9 -0.4**
FFC Flin Flon 44.42 347 P P **20 16 59.4 -0.1**
FFC pmax pmax
comp=Z,43nm,0.8s,mb5.1

FFC Flin Flon 44.42 347⇑ *iP* **P 20 16 59.0 -0.5**
comp=Z,43nm,0.8s,mb5.1
FFC *epP pP* 20 17 35.8 -1.1
NEW Newport 44.45 331 P **P 20 16 59.4 -0.5**
NEW *pmax pmax*
comp=Z,30nm,1.4s
NEW Newport 44.45 331⇓ *iP* **P 20 16 58.9 -1.0**
comp=Z,30nm,1.4s,mb4.7
NEW *epP pP* 20 17 34.8 -2.5
IRO Indian Ridge 44.52 323 P **P 20 17 00.3 -0.3**
KBO Bosley Butte 44.77 319 *eP* **P 20 17 02.7 +0.2**
HOOD Mount Hood Mea 44.94 324 P **P 20 17 04.3 +0.5**
KEBM Edson Butte 45.18 320⇑ *iP* **P 20 17 06.0 +0.2**
SCHQ Schefferville 45.31 16 P **P 20 17 07.0 +0.3**
comp=Z,112nm,0.4s,mb5.8,baz=215,slow=6.2,SNR=504
SCHQ *pP pP* 20 17 44.1 -0.1
comp=Z,72nm,1.0s,baz=211,slow=6.5,SNR=4.2
SCHQ Schefferville 45.31 16⇑ *iP* **P 20 17 06.8 +0.1**
comp=Z,155nm,0.5s,mb5.9
SCHQ *epP pP* 20 17 45.6 +1.4
SCHQ *eS S* **20 23 32.6 -0.8**
RNO Roman Nose 45.37 322 P **P 20 17 07.0 -0.2**
COR Corvallis 45.47 323 P **P 20 17 07.2 -0.9**
COR *pmax pmax*
comp=Z,150nm,1.4s,mb5.4
COR Corvallis 45.47 323⇑ *eP* **P 20 17 05.8 -2.3**
comp=Z,148nm,1.4s,mb5.4
LON Longmire 45.88 326 P **P 20 17 10.7 -0.6**
EDM Edmonton 46.52 338 P **P 20 17 15.3 -0.8**
EDM Edmonton 46.52 338⇑ *iP* **P 20 17 15.0 -1.2**
EDM *epP pP* 20 17 52.6 -1.2
BDFB Brasilia 46.61 125 P **P 20 17 16.5 -0.9**
comp=Z,59nm,0.7s,mb5.3,baz=298,slow=8.9,SNR=52
BDFB *pP pP* 20 17 55.5 +0.4
comp=Z,22nm,0.9s,baz=289,slow=7.7,SNR=2.1
BDFB *LR LR* 20 36 30.9
comp=Z,549nm,19.9s,baz=186,slow=35
CFAA Coronel Fontan 46.62 159 P **P 20 17 17.8 +0.5**
comp=Z,2.5nm,0.4s,mb4.2,baz=331,slow=6.3,SNR=57
CFAA *PcP PcP* 20 18 48.2 -0.5
comp=Z,2.6nm,0.6s,baz=318,slow=3.0,SNR=7.2
BAO Brasilia Array 46.63 125 P **P 20 17 16.5 -1.0**
CPUP Villa Florida 47.26 144 P **P 20 17 20.7 -1.6**
CPUP Villa Florida 47.26 144 P **P 20 17 21.0 -1.3**
CPUP *pmax pmax*
comp=Z,17nm,0.8s
CPUP Villa Florida 47.26 144 P **P 20 17 20.6 -1.7**
comp=Z,14nm,0.7s,mb4.7,baz=347,slow=11,SNR=25
CPUP *pP pP* 20 17 59.8 -0.4
comp=Z,17nm,1.1s,baz=343,slow=12,SNR=3.7
CPUP *LR LR* 20 38 58.8
comp=Z,208nm,21.1s,baz=336,slow=38
CPUP Villa Florida 47.26 144 *eP* **P 20 17 20.8 -1.5**
comp=Z,17nm,0.8s,mb4.7
CPUP *ePcP PcP* 20 18 50.2 -0.8
FCH Farellones 47.53 162 *eP* **P 20 17 25.7 +1.4**
RCBR Riachuelo 52.93 107⇑ *iP* **P 20 18 05.1 -0.4**
comp=Z,145nm,0.9s,mb5.7
FRB Frobisher Bay 53.11 10 P **P 20 18 04.3 -1.9**
comp=Z,18nm,0.3s,mb5.2,baz=211,slow=7.8,SNR=25
FRB *pP pP* 20 18 43.9 -0.9
comp=Z,78nm,1.2s,baz=210,slow=9.2,SNR=4.7
YKA Yellowknife Ar 54.39 344 P **P 20 18 13.8 -1.7**
comp=Z,19nm,0.8s,mb4.9,baz=138,slow=7.3,SNR=99
YKA *pP pP* 20 18 52.6 -1.7
comp=Z,23nm,0.9s,baz=138,slow=7.6,SNR=6.0
YKA *PcP PcP* 20 19 15.8 -1.1
comp=Z,4.6nm,0.6s,baz=143,slow=4.0,SNR=10
YKA *ScP* 20 22 58.3
comp=Z,2.4nm,0.7s,baz=143,slow=4.3,SNR=6.4
YKA *LR LR* 20 43 30.3
comp=Z,352nm,19.7s,baz=110,slow=38
PLCA Paso Flores 54.41 166 P **P 20 18 15.5 -0.4**
PLCA *pmax pmax*
comp=Z,160nm,1.2s
PLCA Paso Flores 54.41 166 P **P 20 18 15.8 -0.1**
comp=Z,44nm,0.8s,mb5.2,baz=342,slow=7.9,SNR=120
PLCA *pP pP* 20 18 52.9 -1.8
comp=Z,16nm,0.8s,baz=349,slow=9.3,SNR=3.1
PLCA Paso Flores 54.41 166⇑ *eP* **P 20 18 15.3 -0.6**
comp=Z,162nm,1.2s,mb5.6
PLCA *epP pP* 20 18 51.5 -3.2
PLCA *ePcP PcP* 20 19 17.4 +0.1
YKW3 Yellowknife Ar 54.45 344⇑ *iP* **P 20 18 13.8 -2.1**
YKW3 *epP pP* 20 18 53.0 -1.7
TRQA Tornquist 54.68 157⇑ *iP* **P 20 18 16.6 -1.4**
comp=Z,254nm,1.5s,mb5.7
TRQA *ePcP PcP* 20 19 18.2 -0.2
DLBC Dease Lake 56.89 334 P **P 20 18 32.9 -0.5**
comp=Z,29nm,0.9s,mb5.1,baz=132,slow=5.7,SNR=62
DLBC *pP pP* 20 19 10.6 -1.9
comp=Z,15nm,0.9s,baz=108,slow=8.1,SNR=3.9
DLBC Dease Lake 56.89 334⇑ *iP* **P 20 18 33.0 -0.4**
DLBC *epP pP* 20 19 10.8 -1.7
TAOE Nuku Hiva Isla 57.63 251 *eP* x 20 18 26.1
comp=Z,430nm,25.4s
TAOE Nuku Hiva Isla 57.63 251 *ePP* x 20 20 00.6
comp=Z,186nm,24.1s
TAOE Nuku Hiva Isla 57.63 251 *eS* **S 20 26 05.4 -17**
comp=Z,836nm,26.2s
TAOE *eSS SS* 20 29 54.6 -22
comp=Z,735nm,30.7s
TAOE *eLR LR* 20 34 45.5
comp=Z,2µm,46.7s
RKT Rikitea 59.26 234 *eLQ* 20 33 40.7
comp=Z,296nm,22.2s
RKT Rikitea 59.26 234 *eP* **P 20 18 51.3 +0.9**
RKT Rikitea 59.26 234 *ePP* x 20 20 45.7
comp=Z,110nm,26.0s
SFJD Kangerlussuaq 59.77 15⇑ *iP* **P 20 18 51.5 -1.8**
SFJD *i pP* 20 19 32.2 -0.6
SFJD *pmax pmax*
comp=Z,24nm,0.8s,mb5.1
SFJD *MLR MLR*
comp=Z,460nm,19.0s
SFJD Kangerlussuaq 59.77 15⇑ *iP* **P 20 18 51.5 -1.8**
comp=Z,24nm,0.8s,mb5.1
SFJD *i pP* 20 19 32.2 -0.6
SFJD *i S* x 20 27 52.4
SFJD *i* 20 33 47.2
comp=Z,450nm,19.0s
INK Inuvik 64.03 342 P **P 20 19 20.5 -1.0**
INK *pmax pmax*
comp=Z,45nm,1.0s
INK Inuvik 64.03 342 *pP pP* 20 19 59.9 -1.7
baz=131,slow=7.1
INK *PKPPKP* 20 48 12.5
comp=Z,1.6nm,0.7s,baz=255,slow=4.6,SNR=6.8
INK *LR LR* 20 49 27.0
comp=Z,492nm,19.6s,baz=130,slow=38
INK Inuvik 64.03 342⇑ *iP* **P 20 19 20.2 -1.3**
comp=Z,45nm,1.0s,mb5.2
INK *epP pP* 20 19 60.0 -1.6
EYAK Cordova Ski Ar 64.92 332⇑ *iP* **P 20 19 26.7 -0.7**
EYAK *epP pP* 20 20 06.0 -1.6
DIV Divide 65.14 332⇑ *iP* **P 20 19 27.6 -1.3**
comp=Z,53nm,0.9s,mb5.4
DIV *epP pP* 20 20 07.0 -2.0
SML Sawmill 66.53 333 P **P 20 19 36.6 -1.1**
SML Sawmill 66.53 333⇑ *iP* **P 20 19 35.8 -1.9**
SML *epP pP* 20 20 15.5 -2.5
SUMG Summit 66.67 14⇑ *eP* **P 20 19 37.3 -1.1**
comp=Z,181nm,1.3s,mb5.7
SUMG *epP pP* 20 20 19.1 +0.4
PMR Palmer 66.82 332 P **P 20 19 43.1 +3.6**
PMR *pmax pmax*
comp=Z,4.0nm,0.5s,mb4.5
PMR Palmer 66.82 332⇑ *eP* **P 20 19 42.4 +2.8**
comp=Z,7.1nm,0.8s,mb4.5
ILAR Eielson Array 66.97 336 P **P 20 19 38.8 -1.6**
comp=Z,14nm,0.8s,mb4.8,baz=119,slow=4.6,SNR=113
ILAR *pP pP* 20 20 18.4 -2.4
comp=Z,18nm,1.2s,baz=106,slow=4.3,SNR=3.0
ILAR *PP PP* 20 22 08.1 -3.0
comp=Z,4.3nm,0.8s,baz=106,slow=7.0,SNR=5.2
ILAR *PKPPKP* 20 48 04.7
comp=Z,0.5nm,0.8s,baz=277,slow=2.9,SNR=5.9
COLA College 67.39 336 *iP* **P 20 19 43.2 +0.2**
MCK McKinley 67.44 335 *eP* **P 20 19 42.2 -1.1**
MCK *pmax pmax*
comp=Z,25nm,1.0s,mb5.0
MCK McKinley 67.44 335⇑ *eP* **P 20 19 41.6 -1.7**
comp=Z,25nm,1.0s,mb5.0
MCK *epP pP* 20 20 21.6 -2.2
SPU Mount Spurr 68.05 331⇑ *eP* **P 20 19 45.5 -1.6**
RSO Redoubt South 68.19 331⇑ *eP* **P 20 19 46.5 -1.5**

USHA Ushuaia 68.24 169 P **P 20 19 47.2 -1.2**
comp=Z,47nm,1.0s,mb5.2,baz=340,slow=3.2,SNR=10
BORG Borgarnes 68.53 25 P **P 20 19 49.1 -0.9**
comp=Z,12nm,0.8s,mb4.7,baz=127,slow=1.2,SNR=5.2
BORG *pP pP* 20 20 29.3 -1.3
comp=Z,24nm,0.9s,baz=253,slow=2.3,SNR=5.6
BORG Borgarnes 68.53 25⇑ *eP* **P 20 19 49.4 -0.6**
PPT Papeete 69.26 246 *eLQ* 20 38 11.9
comp=Z,466nm,24.2s
PPT Papeete 69.26 246 *ePP* x 20 21 54.5
comp=Z,51nm,23.2s
PPT Papeete 69.26 246 *eS* S 20 28 28.1 -18
comp=Z,529nm,26.0s
PPT *eSS SS* 20 32 58.5 -20
comp=Z,284nm,30.2s
PPT *eLR LR* 20 40 40.5
comp=Z,642nm,28.0s,baz=61
PPT Papeete 69.26 246 LR LR 20 41 33.7
comp=Z,228nm,19.1s,baz=91,slow=28
SVW2 Sparrevohn 69.69 331 *eP* **P 20 19 55.1 -2.1**
IMA Indian Mountai 70.07 336 P **P 20 19 58.4 -1.0**
IMA *pmax pmax*
comp=Z,32nm,0.9s,mb5.0
IMA Indian Mountai 70.07 336 *eP* **P 20 19 58.1 -1.3**
TTA Tatalina 70.28 333 *eP* **P 20 19 59.2 -1.5**
CHGN Chignik 70.30 326 *eP* **P 20 20 00.1 -0.9**
TBI Tubuai 71.27 240 *eP* **P 20 20 12.9 +5.6**
TBI Tubuai 71.27 240 *ePP* PP 20 23 00.2 +11
comp=Z,119nm,35.0s
TBI Tubuai 71.27 240 *eS* S 20 28 55.0 -14
comp=Z,361nm,32.0s
TBI *eSS SS* 20 33 06.2 -43
comp=Z,158nm,38.5s
TBI *eLR LR* 20 41 02.2
comp=Z,356nm,27.2s,baz=58
PLOU Loures 72.40 53 *e-* 20 20 56.3
EMAZ Mazaricos 72.48 49 P **P 20 20 12.5 -1.7**
comp=Z,162nm,1.4s,mb5.6
EZAM Zamans 72.69 49 P **P 20 20 14.7 -0.7**
comp=Z,9.0nm,0.6s,mb4.7
PTEO Sao Teotonio 72.78 54 *eP* **P 20 20 17.7 +1.6**
PTEO *e- pP* 20 20 58.6 +1.5
STS Santiago 72.79 49 P **P 20 20 15.8 -0.2**
comp=Z,3.0nm,0.3s,mb4.5
PTOM Tomar 72.96 52 *eP* **P 20 20 17.4 +0.3**
comp=Z,23nm,1.1s,mb4.8
PTOM *e- pP* 20 20 59.5 +1.4
ELOB Lobios 73.17 50 P **P 20 20 17.1 -1.2**
comp=Z,96nm,1.8s,mb5.2
DAG Danmarks Havn 73.27 13⇓ *eP* **P 20 20 16.9 -1.3**
DAG *i pP* 20 20 58.6 -0.6
DAG *pmax pmax*
comp=Z,9.0nm,0.7s,mb4.6
DAG Danmarks Havn 73.27 13⇓ *eP* **P 20 20 16.9 -1.3**
comp=Z,8.9nm,0.7s,mb4.6
DAG *i pP* 20 20 58.6 -0.6
DAG Danmarks Havn 73.27 13⇓ *iP* **P 20 20 16.9 -1.3**
comp=Z,8.9nm,0.7s,mb4.6
DAG *i pP* 20 20 58.6 -0.6
EVO Evora 73.31 53 *eP* **P 20 20 17.9 -1.2**
comp=Z,70nm,1.1s,mb5.0
EVO *epP pP* 20 20 59.0 -1.2
EVO *eR*
comp=Z,246nm,20.0s
PVIS Viseu 73.33 51 *eP* **P 20 20 19.3 +0.1**
comp=Z,42nm,1.9s,mb4.8
PVIS *e- pP* 20 21 01.5 +1.3
PBEJ Beja 73.44 54 *eP* **P 20 20 20.6 +0.7**
comp=Z,17nm,1.5s,mb4.5
PBEJ *e- pP* 20 21 02.3 +1.3
PVRL Vila Real 73.44 50 *eP* **P 20 20 20.2 +0.3**
comp=Z,27nm,1.7s,mb4.7
PVRL *e- pP* 20 21 02.2 +1.3
MTE Manteigas 73.60 51⇑ *eP* **P 20 20 20.2 -0.6**
comp=Z,48nm,1.4s,mb5.0
MTE *epP pP* 20 21 03.0 +1.1
MTE Manteigas 73.60 51 *eP* **P 20 20 20.2 -0.6**
comp=Z,24nm,1.8s,mb4.6
MTE *e- pP* 20 21 03.3 +1.4
PCBR Castelo Branco 73.67 52 *eP* **P 20 20 21.6 +0.4**
comp=Z,36nm,1.7s,mb4.8
PCBR *e- pP* 20 21 03.6 +1.3
DCN Croghan 73.76 38 *eP* **P 20 20 19.3 -2.1**
DCN Croghan 73.76 38 *eP* *pP* 20 21 00.4 -2.1
EGRO El Granado 73.77 54 P **P 20 20 21.3 -0.5**
comp=Z,174nm,2.5s,mb5.3
EPON Pontenova 73.81 48 P **P 20 20 21.6 -0.4**
comp=Z,202nm,2.3s,mb5.4
EBAD Badajoz 74.08 53 P **P 20 20 21.6 -2.0**
comp=Z,114nm,2.3s,mb5.2
ECAL Calabor 74.16 50 P **P 20 20 24.1 +0.2**
comp=Z,176nm,2.2s,mb5.4
PBRG Braganca 74.16 50 *eP* **P 20 20 24.5 +0.5**
comp=Z,37nm,1.7s,mb4.8
PBRG *e- pP* 20 21 06.6 +1.5
DLF Lyons Farm 74.20 38 *eP* **P 20 20 22.1 -1.9**
DLF Lyons Farm 74.20 38 *eP* *pP* 20 21 00.0 -5.2
EMIN Mina Concepcio 74.40 54 P **P 20 20 24.0 -1.4**
comp=Z,45nm,1.4s,mb5.0
JMIC Jan Mayen 74.66 19 *eP* **P 20 20 26.5 +0.3**
JMIC *epP pP* 20 21 06.3 -1.1
JMIC *eS S* 20 29 48.9 +2.3
UNV Unalaska Valle 74.76 323⇑ *eP* **P 20 20 26.8 -0.4**
comp=Z,157nm,0.7s,mb5.8
ESPR Espera 75.10 55 P **P 20 20 28.9 -0.6**
comp=Z,164nm,2.1s,mb5.3
EARI Arriondas 75.23 48 P **P 20 20 28.7 -1.3**
comp=Z,218nm,2.5s,mb5.3
EMIJ Mijas 75.99 55 P **P 20 20 33.9 -0.5**
comp=Z,89nm,1.4s,mb5.2
EADA Adamuz 76.02 53 P **P 20 20 34.4 -0.2**
comp=Z,130nm,2.2s,mb5.2
ESK Eskdalemuir 76.16 36 P **P 20 20 33.5 -1.4**
ESK *pmax pmax*
comp=Z,31nm,1.0s,mb4.9
ESK Eskdalemuir 76.16 36⇑ *eP* **P 20 20 33.2 -1.7**
comp=Z,31nm,0.9s,mb4.9
ESK *epP pP* 20 21 15.5 -0.8
EKA Eskdalemuir Ar 76.18 36 P **P 20 20 33.6 -1.4**
comp=Z,12nm,0.7s,mb4.6,baz=262,slow=6.3,SNR=45
EKA *pP pP* 20 21 15.6 -0.9
comp=Z,16nm,0.7s,baz=267,slow=6.0,SNR=8.8
ELUQ Luque 76.32 54 P **P 20 20 36.8 +0.6**
comp=Z,3.2nm,0.5s,mb4.2
ROSF Rostenen 76.35 43 *eP* **P 20 20 35.2 -0.9**
comp=Z,24nm,0.8s,mb4.6
ESDC Sonseca Array 76.39 52 P **P 20 20 36.5 0.0**
comp=Z,8.5nm,0.6s,mb4.5,baz=282,slow=5.2,SNR=34
ESDC *pP pP* 20 21 18.7 +0.7
comp=Z,60nm,1.0s,baz=283,slow=5.2,SNR=16
ESDC Sonseca Array 76.39 52 P **P 20 20 36.6 0.0**
comp=Z,32nm,1.3s,mb4.8
ESLA Sonseca Array 76.39 52⇑ *eP* **P 20 20 36.2 -0.4**
comp=Z,7.6nm,1.0s,mb4.3
ESLA *epP pP* 20 21 18.8 +0.8
QUIF Quistinic 76.44 43 *eP* **P 20 20 36.0 -0.7**
comp=Z,42nm,0.8s,mb4.8
ELAN Lanestosa 76.53 48 P **P 20 20 37.3 +0.1**
comp=Z,116nm,2.6s,mb5.0
EBAN Banos Encina 76.64 53 P **P 20 20 38.6 +0.6**
comp=Z,9.5nm,1.0s,mb4.4
SGMF Saint Gilles 76.83 43 *eP* **P 20 20 37.8 -1.0**
comp=Z,18nm,0.7s,mb4.5
EQES Quesada 77.24 54 P **P 20 20 41.2 -0.2**
comp=Z,200nm,1.9s,mb5.4
ECRI Cripan 77.25 49 P **P 20 20 41.6 +0.3**
EBER Berja 77.47 55 P **P 20 20 42.4 -0.2**
comp=Z,277nm,1.7s,mb5.6
EVIA Vianos 77.61 53 P **P 20 20 44.1 +0.8**
comp=Z,14nm,1.0s,mb4.6
EHUE Huescar 77.62 54 P **P 20 20 44.7 +1.2**
comp=Z,3.0nm,0.4s,mb4.3
EALK Alkurruntz 77.93 48 P **P 20 20 45.0 -0.1**
comp=Z,67nm,1.8s,mb5.0
GRR Gorron 77.95 43 *eP* **P 20 20 44.2 -0.8**
comp=Z,62nm,0.8s,mb5.0
SJPF Ste Jean 78.15 48 *eP* **P 20 20 46.2 0.0**
comp=Z,31nm,0.8s,mb4.7
SJPF *epP pP* 20 21 28.8 +1.0
FLN La Foliniere 78.17 42 *eP* **P 20 20 45.4 -0.8**
comp=Z,50nm,1.0s,mb4.8
FLN *eR*
comp=Z,435nm,21.0s
LCHF La Chataignera 78.17 45⇑ *eP* **P 20 20 46.7 +0.4**
LARF Larrau 78.33 48 *eP* **P 20 20 47.4 +0.2**
ETOB Tobarra 78.35 53 P **P 20 20 47.4 0.0**

comp=Z,192nm,2.3s,mb5.3
PMSA Palmer Station 78.36 171⇑ *eP* **P 20 20 48.0 +1.1**
comp=Z,79nm,1.3s,mb5.2
MFF Saint Martin d 78.59 45 *eP* **P 20 20 47.9 -0.6**
comp=Z,36nm,0.7s,mb4.8
ETSF Etsaut 78.66 48 *eP* **P 20 20 48.8 -0.2**
comp=Z,11nm,0.7s,mb4.3
EMUR La Murta 78.68 54 P **P 20 20 49.0 -0.2**
comp=Z,108nm,2.4s,mb5.0
ECHE Chera 78.70 52 P **P 20 20 49.1 -0.1**
comp=Z,20nm,1.2s,mb4.6
ESAC San Caprasio 78.84 50 P **P 20 20 49.2 -0.8**
comp=Z,57nm,1.1s,mb5.1
EMOS Mosqueruela 78.99 51 P **P 20 20 50.4 -0.4**
comp=Z,88nm,2.3s,mb5.0
EPF Esparros 79.30 48 *eP* **P 20 20 51.7 -0.7**
EBEN Beniarda 79.37 53 P **P 20 20 54.4 +1.4**
comp=Z,226nm,2.6s,mb5.3
LFF La Frestale 79.37 46 *eP* **P 20 20 52.1 -0.7**
comp=Z,27nm,0.7s,mb4.7
EGRA Graus 79.37 49 P **P 20 20 52.0 -0.9**
comp=Z,29nm,1.0s,mb4.9
EBR Ebro Roquetas 79.67 50 *eP* **P 20 20 55.0 +0.5**
EBR *eTs pP* 20 21 38.5 +2.3
KBS Kingsbay 79.83 11 *eP* **P 20 20 55.9 +1.2**
KBS *eS S* 20 30 40.8 -1.2
RJF Les Rejaudoux 79.88 46 *eP* **P 20 20 54.8 -0.7**
RJF *eR*
comp=Z,254nm,18.5s
EPOB Poblet 80.04 50 P **P 20 20 54.9 -1.5**
comp=Z,52nm,1.4s,mb5.0
DBIC Dimbokro 80.07 85 P **P 20 20 56.1 -1.1**
comp=Z,27nm,1.1s,mb4.8,baz=281,slow=4.6,SNR=9.2
DBIC *pP pP* 20 21 38.9 0.0
comp=Z,17nm,1.0s,baz=260,slow=7.9,SNR=5.0
DBIC Dimbokro 80.07 85 P **P 20 20 56.1 -1.0**
DBIC *pP pP* 20 21 38.9 0.0
TCF Toulx Ste Croi 80.24 45 *eP* **P 20 20 56.3 -1.1**
comp=Z,23nm,0.8s,mb4.6
EMIR Miracle 80.30 49 P **P 20 20 57.1 -0.7**
comp=Z,131nm,2.0s,mb5.2
CAF Calviac 80.31 46 *eP* **P 20 20 57.1 -0.7**
comp=Z,7.5nm,0.7s,mb4.1
BER Bergen 80.34 30 *eP* **P 20 20 58.4 +0.7**
BER *eS S* 20 30 48.2 +0.7
VERF Verneugheol 80.50 45⇑ *eP* **P 20 20 58.0 -0.8**
EIBI Ibiza 80.55 52 P **P 20 20 58.8 -0.4**
comp=Z,79nm,1.5s,mb5.1
MTLF Montolieu 80.62 48 *eP* **P 20 20 58.9 -0.6**
comp=Z,45nm,1.1s,mb4.7
BGF Bois d'Agland 80.64 44 *eP* **P 20 20 58.6 -0.9**
comp=Z,36nm,0.8s,mb4.8
EANR 'Ain N'Sour 80.78 55 P **P 20 21 03.0 +2.5**
PYM Petit Puy Mans 80.86 45 *eP* **P 20 21 01.1 +0.4**
AVF Avril sur Loir 80.96 44 *eP* **P 20 20 59.8 -1.4**
comp=Z,9.9nm,0.5s,mb4.4
AVF *epP pP* 20 21 41.4 -1.6
ECHA Ech Chlef 80.96 55 P **P 20 21 06.0 +4.5**
ETRT Tiaret 81.02 56 P **P 20 21 04.0 +2.2**
SSF Saint Saulge 81.02 44 *eP* **P 20 21 00.1 -1.4**
comp=Z,18nm,0.9s,mb4.4
BAIF Baives 81.07 41 *eP* **P 20 21 00.7 -1.0**
comp=Z,7.1nm,0.8s,mb4.1
BAIF *epP pP* 20 21 41.9 -1.7
LBL Lubilhac 81.10 46 *eP* **P 20 21 02.6 +0.6**
LOR Lormes 81.23 44 *eP* **P 20 21 01.6 -1.0**
comp=Z,21nm,0.8s,mb4.5
LOR *epP pP* 20 21 43.0 -1.5
LOR *eR*
comp=Z,261nm,20.0s
EJON La Jonquera 81.23 48 P **P 20 21 01.5 -1.2**
comp=Z,71nm,1.7s,mb5.0
PLDF La Plantade 81.25 45 *eP* **P 20 21 02.4 -0.4**
SMF Signal de Mont 81.31 44 *eP* **P 20 21 01.7 -1.3**
comp=Z,19nm,0.8s,mb4.5
COLF Collangettes 81.37 45⇑ *eP* **P 20 21 03.0 -0.4**
GIVF Givet 81.46 41 *eP* **P 20 21 02.7 -1.0**
ETOS Mallorca 81.57 51 P **P 20 21 04.6 0.0**
comp=Z,54nm,1.7s,mb4.9
LASF Ste Croix 81.70 47 *eP* **P 20 21 03.6 -1.5**
MEZF Maizieres J'vi 81.84 42 *eP* **P 20 21 04.5 -1.3**
comp=Z,15nm,0.5s,mb4.6
VIVF Saint-Julien-l 82.15 46 *eP* **P 20 21 06.1 -1.3**
comp=Z,90nm,1.4s,mb4.9
VIVF *epP pP* 20 21 50.4 +1.0
ABA Alger-Bouzarea 82.19 54 P **P 20 21 16.6 +8.8**
EMHD Djebel Mahouad 82.22 55 P **P 20 21 08.0 0.0**
WLF Walferdange 82.37 41 P **P 20 21 07.7 -0.7**
WLF *pmax pmax*
comp=Z,23nm,1.1s,mb4.7
WLF Walferdange 82.37 41⇑ *eP* **P 20 21 07.8 -0.7**
comp=Z,23nm,1.1s,mb4.7
WLF *epP pP* 20 21 50.4 -0.1
THEF They Montfort 82.50 42 *eP* **P 20 21 08.5 -0.6**
KONO Kongsberg 82.58 31 *eP* **P 20 21 09.1 -0.2**
KONO *epP pP* 20 21 50.9 -0.4
KONO *eS S* 20 31 12.2 +1.8
KONO *e* 20 31 17.6
HAU Haudompre 82.78 43 *eP* **P 20 21 09.6 -1.0**
comp=Z,18nm,0.8s,mb4.6
HAU *eR*
comp=Z,253nm,22.5s
CABF La Chapelle 82.84 44 *eP* **P 20 21 10.3 -0.6**
comp=Z,102nm,1.5s,mb5.0
GELF Grande-Etoile 82.93 47 *eP* **P 20 21 10.1 -1.3**
SMRF Simiane la Rot 82.94 47 *eP* **P 20 21 09.5 -1.9**
RUP Ruppelstein 82.95 41 *eP* **P 20 21 11.3 -0.1**
RUP Ruppelstein 82.95 41⇑ *eP* *pP* 20 21 54.0 +0.6
ORIF Oris-en-Rattie 82.99 46 *eP* **P 20 21 10.4 -1.3**
comp=Z,15nm,1.1s,mb4.3
ORIF *eR*
comp=Z,227nm,22.0s
NB2 NORSAR Subarra 83.08 29 P **P 20 21 10.3 -1.5**
comp=Z,0.6nm,0.7s,baz=286,slow=5.0
NB2 NORSAR Subarra 83.08 29 P **P 20 21 10.3 -1.5**
baz=286,slow=5.3
NOA NORSAR Array B 83.08 29 P **P 20 21 11.6 -0.2**
comp=Z,8.7nm,0.9s,mb4.5,baz=284,slow=5.1,SNR=13
NOA *pP pP* 20 21 53.8 -0.1
comp=Z,22nm,1.0s,baz=283,slow=5.2,SNR=12
NOA *PKKPbc* 20 39 31.6
comp=Z,0.8nm,0.6s,baz=244,slow=3.0,SNR=3.6
HINF Hinteralfeld 83.15 43 *eP* **P 20 21 11.4 -1.0**
comp=Z,16nm,0.8s,mb4.5
LOMF Lomont 83.21 43 *eP* **P 20 21 12.1 -0.7**
ABH Alteburg 83.23 41 *eP* **P 20 21 12.3 -0.5**
ABH Alteburg 83.23 41⇑ *eP* *pP* 20 21 55.3 +0.4
ECH Echery 83.28 42 *eP* **P 20 21 12.0 -1.1**
MOR8 Moi Rana 83.31 24 *eP* **P 20 21 13.7 +0.9**
comp=Z,37nm,2.0s,mb4.8
MOR8 Moi Rana 83.31 24 *eP* **P 20 21 13.7 +0.9**
MOR8 *AMb AMB* 20 21 18.6
comp=Z,37nm,2.0s,mb4.8
MOR8 *epP pP* 20 21 55.5 +0.5
CDF Champ du Feu 83.32 42 *eP* **P 20 21 12.5 -0.8**
comp=Z,8.6nm,0.8s,mb4.2
MOF Molkenrain 83.33 43 *eP* **P 20 21 12.4 -0.9**
WLS Welschbruch 83.37 42 *eP* **P 20 21 12.6 -0.9**
LPL La Plagne 83.48 45 *eP* **P 20 21 13.1 -1.0**
comp=Z,5.2nm,0.6s,mb4.1
LPG La Plagne 83.49 45 *eP* **P 20 21 13.4 -0.8**
comp=Z,6.6nm,0.6s,mb4.2
BNI Bardonecchia 83.52 45⇑ *eP* *pP* 20 21 57.5 +1.0
LANF Langenberg 83.56 41 *eP* **P 20 21 14.0 -0.5**
LIBD Limburg 83.58 42 *eP* **P 20 21 14.6 0.0**
LIBD Limburg 83.58 42⇑ *eP* *pP* 20 21 57.1 +0.4
BBS Basel-Blauen 83.65 43 *eP* **P 20 21 14.0 -1.0**
BBS Basel-Blauen 83.65 43⇑ *eP* *pP* 20 21 57.1 0.0
MBDF Montbardon 83.65 46 *eP* **P 20 21 14.7 -0.3**
KTD Kalmit 83.67 41 *eP* *pP* 20 21 57.0 -0.2
LMR La Mourre 83.72 47 *eP* **P 20 21 13.5 -1.9**
comp=Z,87nm,1.6s,mb4.9
LMR *epP pP* 20 21 56.5 -1.0
TNS Taunus Mts 83.73 40 P **P 20 21 14.4 -0.9**
TNS *pmax pmax*
comp=Z,36nm,1.7s,mb4.8
TNS Taunus Mts 83.73 40 *eP* **P 20 21 14.4 -0.9**
comp=Z,36nm,1.7s,mb4.8
TNS *epP pP* 20 21 57.7 +0.3
FRF La Foret Royal 83.77 47 *eP* **P 20 21 13.8 -1.9**
LSD Ceresole Reale 83.78 45 P *pP* 20 21 59.0 +1.2
FENE Fenestrelle 83.80 45 P *pP* 20 21 59.1 +1.2
KIZ Kirchzarten 83.83 42⇑ *eP* *pP* 20 21 58.1 +0.1
FELD Feldberg 83.90 42 *eP* **P 20 21 15.4 -0.8**
FELD Feldberg 83.90 42⇑ *eP* *pP* 20 21 58.8 +0.5

RSP	**Reno Superiore**	**83.91**	**45**	P		pP	20 21 59.2	+0.8
CALN	**Calern**	**83.91**	**47**	*e*P		**P**	**20 21 17.7**	**+1.3**
TRO	**Tromso**	**83.96**	**20**	*e*P		**P**	**20 21 15.8**	**-0.2**
TRO				*e*SKSa			20 31 19.2	
BHB	**Bricherasio**	**83.97**	**46**	P		pP	20 21 59.3	+0.5
BFO	**Black Forest**	**84.03**	**42**	P		**P**	**20 21 15.5**	**-1.3**
BFO				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.4							
BFO	**Black Forest**	**84.03**	**42**	*e*P		**P**	**20 21 15.5**	**-1.3**
	comp=Z,8.0nm,1.0s,mb4.4							
BFO				*e*pP		pP	20 21 58.6	-0.4
SWS	**Schriesheim**	**84.04**	**41**	*e*P		pP	20 21 59.1	+0.1
MVIF	**Mont Vial**	**84.07**	**47**	*e*P		**P**	**20 21 18.2**	**+1.0**
TOD	**Tromm**	**84.08**	**41**	*e*P		**P**	**20 21 16.0**	**-1.1**
TOD	**Tromm**	**84.08**	**41⇑**	*e*P		pP	20 21 59.2	0.0
TOUF	**Mont Tournerai**	**84.12**	**46**	*e*P		**P**	**20 21 16.6**	**-0.8**
STV	**Sta Anna Valdi**	**84.13**	**46**	P		pP	20 22 00.2	+0.6
STV2	**Anna di Valdie**	**84.13**	**46**	P		pP	20 21 60.0	+0.4
SET	**Setif**	**84.17**	**54**	P		**P**	**20 21 17.0**	**-0.9**
ENR	**Entracque**	**84.20**	**46**	P		pP	20 21 59.8	-0.1
LBG	**Lerchenberg**	**84.26**	**42⇑**	*e*P		pP	20 22 00.2	0.0
SBF	**Sospel**	**84.28**	**47**	*e*P		**P**	**20 21 16.5**	**-1.7**
	comp=Z,27nm,1.0s,mb4.6							
CKHR	**Kef el Ahmar**	**84.30**	**55**	P		**P**	**20 21 22.0**	**+3.5**
ORX	**Oropa**	**84.32**	**45**	P		pP	20 22 01.1	+0.5
SAOF	**Saorge**	**84.34**	**46**	*e*P		**P**	**20 21 17.9**	**-0.6**
MONE	**Monesi**	**84.46**	**46**	P		pP	20 22 01.6	+0.3
NEGI	**Negi**	**84.47**	**46**	P		pP	20 22 01.5	+0.1
ROB	**Roburent**	**84.50**	**46**	P		pP	20 22 01.4	-0.1
IMI	**Imperia**	**84.59**	**46**	P		pP	20 22 01.3	-0.6
CLZ	**Clausthal**	**84.59**	**38**	P		**P**	**20 21 18.7**	**-0.9**
CLZ				pmax	pmax			
	comp=Z,19nm,1.1s,mb4.7							
CLZ	**Clausthal**	**84.59**	**38**	*e*P		**P**	**20 21 18.7**	**-0.9**
	comp=Z,19nm,1.1s,mb4.7							
CLZ				*e*pP		pP	20 22 01.7	-0.1
GUT	**Gutenstein**	**84.59**	**42⇑**	*e*P		pP	20 22 01.7	-0.2
SIND	**Sindeldorf**	**84.64**	**41⇑**	*e*P		pP	20 22 02.2	+0.1
BUCH	**Bad Urach**	**84.67**	**42⇑**	*e*P		pP	20 22 02.6	+0.4
CMER	**Merouana**	**84.68**	**55**	P		**P**	**20 21 22.0**	**+1.6**
FIN	**Finale Ligure**	**84.76**	**46**	P		pP	20 22 02.5	-0.3
PCP	**Pian Castagno**	**84.93**	**46**	P		pP	20 22 03.1	-0.5
CTEI	**Djebel Teioual**	**85.00**	**54**	P		**P**	**20 21 23.0**	**+1.0**
CASM	**Ain Smara**	**85.03**	**54**	P		**P**	**20 21 23.0**	**+0.8**
CKFL	**Kef-Lekhel**	**85.18**	**54**	P		**P**	**20 21 24.0**	**+1.1**
HDH	**Heidenheim**	**85.19**	**41⇑**	*e*P		pP	20 22 05.3	+0.4
CAEH	**'Ain El Ouahch**	**85.21**	**54**	P		**P**	**20 21 24.0**	**+1.0**
DAVA	**Damuels**	**85.26**	**43⇑**	*i*P		pP	20 22 06.4	+1.1
	comp=Z,86nm,1.4s							
UBR	**Uberruh**	**85.33**	**42⇑**	*e*P		pP	20 22 05.9	+0.3
DAVOX	**Davos**	**85.37**	**43**	P		**P**	**20 21 23.8**	**+0.3**
	comp=Z,5.9nm,0.6s,mb4.5,baz=299,slow=7.2,SNR=9.1							
DAVOX				pP		pP	20 22 06.6	+0.8
	comp=Z,22nm,1.1s,baz=291,slow=8.3,SNR=6.9							
BILL	**Bilibino**	**85.41**	**339**	P		**P**	**20 21 23.6**	**+0.3**
BILL				pmax	pmax			
	comp=Z,9.0nm,0.4s,mb4.8							
BILL	**Bilibino**	**85.41**	**339⇑**	*i*P		**P**	**20 21 23.0**	**-0.3**
	comp=Z,19nm,0.8s,mb4.9							
GRA1	**Grafenberg Arr**	**85.60**	**40**	*e*P		**P**	**20 21 24.4**	**-0.2**
	comp=Z,32nm,1.4s,mb4.9							
GRF	**Grafenberg Arr**	**85.60**	**40**	P		**P**	**20 21 24.4**	**-0.2**
GRF				pmax	pmax			
	comp=Z,32nm,1.4s,mb4.9							
GRF	**Grafenberg Arr**	**85.60**	**40**	*e*P		**P**	**20 21 24.4**	**-0.2**
	comp=Z,32nm,1.4s,mb4.9							
KTK1	**Kautokeino**	**85.61**	**20**	*e*P		**P**	**20 21 24.7**	**+0.5**
	comp=Z,34nm,1.6s,mb4.8							
KTK1	**Kautokeino**	**85.61**	**20**	*e*P		**P**	**20 21 24.7**	**+0.5**
KTK1				AMb		AMB	20 21 27.4	
	comp=Z,34nm,1.6s,mb4.8							
KTK1				*e*pP		pP	20 22 06.2	-0.3
MOX	**Moxa**	**85.62**	**39**	*e*P		**P**	**20 21 24.5**	**-0.2**
MOX				*e*		pP	20 22 07.4	+0.4
MOX				pmax	pmax			
	comp=Z,23nm,1.5s,mb4.7							
MOX				MLR	MLR			
	comp=Z,200nm,19.0s							
MOX	**Moxa**	**85.62**	**39**	*e*P		**P**	**20 21 24.5**	**-0.2**
	comp=Z,23nm,1.5s,mb4.7							
MOX				*e*pP		pP	20 22 07.4	+0.4
MOX				*e*PS		SP	20 32 40.0	-0.4
MOX				*e*LQ			20 45 28.0	
MOX				*e*LR		LR	20 49 19.0	
MOX	**Moxa**	**85.62**	**39**	*i*P		**P**	**20 21 24.5**	**-0.2**
	comp=Z,logA/T=1.2,mb4.7							
MOX				pP		pP	20 22 07.0	0.0
MOX				PS		SP	20 32 40.0	-0.4
MOX				LQ			20 45 28.0	
MOX				LR		LR	20 49 19.0	
MOX				L			21 00 03.0	
PGF	**Pioggiola**	**85.66**	**48**	*e*P		**P**	**20 21 23.8**	**-1.3**
	comp=Z,15nm,0.7s,mb4.5							
CMAH	**Djebel Manchou**	**85.69**	**54**	P		**P**	**20 21 25.0**	**-0.4**
CGMA	**Guelma**	**85.72**	**54**	P		**P**	**20 21 25.0**	**-0.5**
ABSA	**Djebel Ababsia**	**85.81**	**54**	P		**P**	**20 21 26.0**	**0.0**
CODM		**85.87**	**46**	P		pP	20 22 07.4	-1.0
GRAM		**86.00**	**46**	P		pP	20 22 08.8	-0.2
BACM		**86.05**	**46**	P		pP	20 22 08.6	-0.6
MOTA	**Moosalm**	**86.06**	**43⇑**	*i*P		pP	20 22 09.6	+0.4
	comp=Z,17nm,1.1s							
ARCES	**ARCESS Array B**	**86.15**	**19**	P		**P**	**20 21 26.9**	**+0.1**
	comp=Z,2.6nm,0.3s,mb4.4,baz=285,slow=4.4,SNR=50							
ARCES				pP		pP	20 22 08.5	-0.7
	comp=Z,5.1nm,0.8s,baz=284,slow=5.0,SNR=2.9							
ARCES				PP		PP	20 24 48.1	-3.0
	comp=Z,3.7nm,0.8s,baz=270,slow=6.1,SNR=3.8							
ARCES				PKKPbc			20 39 24.4	
	comp=Z,7.4nm,1.1s,baz=90,slow=1.2,SNR=6.7							
VALM		**86.16**	**46**	P		pP	20 22 09.7	-0.1
SQTA	**Sankt Quirin**	**86.16**	**43⇑**	*i*P		pP	20 22 10.3	+0.6
	comp=Z,23nm,1.4s							
NKC	**Novy Kostel**	**86.24**	**40**	*e*P		**P**	**20 21 27.6**	**-0.1**
NKC				*e*pP		pP	20 22 10.6	+0.6
SARO	**Sassorosso**	**86.30**	**46**	P		pP	20 22 09.8	-0.7
CLL	**Collm**	**86.31**	**38⇑**	*i*P		**P**	**20 21 27.1**	**-0.9**
CLL				*i* *PP		pP	20 22 10.8	+0.4
CLL				*e*S		S	20 31 46.0	-1.1
CLL				*e*SS			20 32 52.0	
CLL				pmax	pmax			
	comp=Z,21nm,1.3s,mb4.7							
CLL				MLR	MLR			
	comp=Z,300nm,14.5s							
CLL	**Collm**	**86.31**	**38⇑**	*i*P		**P**	**20 21 27.1**	**-0.9**
	comp=Z,21nm,1.3s,mb4.7							
CLL				*i* pP		pP	20 22 10.8	+0.4
CLL				*e*S		S	20 31 46.0	-1.1
CLL				*e*sS			20 32 52.0	
CLL				LR	LR			
	comp=Z,300nm,14.5s							
CLL	**Collm**	**86.31**	**38**	⇑P		**P**	**20 21 27.1**	**-0.9**
	comp=Z,logA/T=1.2,mb4.7							
CLL				*e*			20 21 32.0	
CLL				*i* *PP		pP	20 22 10.8	+0.4
CLL				*e*SP		sP	20 22 26.0	-2.6
CLL				*i* PP		PP	20 24 57.9	+4.9
CLL				*e*SPP			20 25 52.0	
CLL				*e*			20 31 36.0	
CLL				*e*S		S	20 31 46.0	-1.1
CLL				*e*			20 32 34.0	
CLL				*e*			20 32 52.0	
CLL				*e*SS			20 33 03.0	
CLL				*e*PPS		PPS	20 33 34.0	-5.2
CLL				*e*			20 34 57.0	
CLL				*e*			20 35 52.0	
WATA	**Walderalm**	**86.38**	**42⇑**	*i*P		pP	20 22 09.8	-1.0
	comp=Z,2.6nm,0.4s							
MAIM		**86.43**	**46**	P		pP	20 22 09.9	-1.2
WTTA	**Wattenberg**	**86.43**	**43⇑**	*i*P		pP	20 22 11.8	+0.7
	comp=Z,42nm,2.3s							
KEV	**Kevo**	**86.53**	**19**	*e*p		**P**	**20 21 28.2**	**-0.5**
	comp=Z,0.7nm,0.4s							
VSL	**Villasalto**	**86.60**	**51**	*e*P		**P**	**20 21 31.3**	**+1.6**
	comp=Z,39nm,1.3s,mb5.1							
VSL				*e*pP		pP	20 22 12.6	+0.6
WET	**Wettzell**	**86.78**	**41**	P		**P**	**20 21 29.9**	**-0.4**
WET				pmax	pmax			
	comp=Z,27nm,1.4s,mb4.9							
WET	**Wettzell**	**86.78**	**41**	*e*P		**P**	**20 21 29.9**	**-0.4**
	comp=Z,27nm,1.4s,mb4.9							
WET				*e*pP		pP	20 22 13.4	+0.7
BRG	**Berggiesshubel**	**87.00**	**39**	*i*P		**P**	**20 21 30.8**	**-0.5**
BRG				*i* *PP		pP	20 22 14.2	+0.5
BRG				S			20 25 01.2	
BRG				S			20 31 41.0	
BRG				PS	SP		20 32 56.0	-1.0
BRG				*e*			20 33 56.0	
BRG				pmax	pmax			
	comp=Z,18nm,1.6s,mb4.7							
BRG				pmax	pmax			
	comp=Z,83nm,1.6s,mb5.3							
BRG				pmax	pmax			
	comp=Z,67nm,1.8s,mb5.2							
BRG				MLR	MLR			
	comp=N,217nm,22.9s							
BRG				MLR	MLR			
	comp=E,285nm,22.9s							
BRG				MLR	MLR			
	comp=Z,158nm,21.9s							
BRG	**Berggiesshubel**	**87.00**	**39**	*i*P		**P**	**20 21 30.8**	**-0.5**
	comp=Z,18nm,1.6s,mb4.7							
BRG				*i* pP		pP	20 22 14.2	+0.5
BRG				sP		sP	20 22 30.0	-2.0
BRG				PP		PP	20 25 01.2	+2.0
BRG				S			20 31 41.0	
BRG				PS	SP		20 32 56.0	-1.0
BRG				*e*			20 33 56.0	
BRG				LR	LR			
	comp=Z,160nm,21.9s							
KHC	**Kasperske Hory**	**87.23**	**40**	*e*P		**P**	**20 21 32.3**	**-0.2**
KHC				*e*pP		pP	20 22 15.2	+0.3
KHC				*e*SKS			20 33 02.9	
KHC				*e*			20 33 44.8	
GEC2	**GERESS Array S**	**87.38**	**41**	P		**P**	**20 21 32.8**	**-0.4**
GEC2				pmax	pmax			
	comp=Z,13nm,1.4s,mb4.6							
GEC2	**GERESS Array S**	**87.38**	**41**	*e*P		**P**	**20 21 32.8**	**-0.4**
	comp=Z,13nm,1.4s,mb4.6							
GEC2				*e*pP		pP	20 22 15.8	+0.2
GERES	**GERESS Array B**	**87.38**	**41**	P		**P**	**20 21 32.5**	**-0.7**
	comp=Z,1.9nm,0.7s,mb4.1,baz=270,slow=4.0,SNR=18							
GERES				pP		pP	20 22 15.2	-0.4
	comp=Z,12nm,1.1s,baz=270,slow=2.7,SNR=10.0							
GERES				PKKPbc			20 39 22.5	
	comp=Z,0.8nm,0.7s,baz=135,slow=1.9,SNR=9.3							
GERES				PKPPKP			20 47 31.0	
	comp=Z,1.2nm,1.1s,baz=90,slow=1.3,SNR=5.0							
PVCC	**Panska Ves**	**87.47**	**39**	*e*P		**P**	**20 21 28.8**	**-4.8**
PVCC				*e*pP		pP	20 22 16.5	+0.5
PVCC				*e*PP		PP	20 25 01.0	-2.0
PRU	**Pruhonice**	**87.60**	**39**	*e*P		**P**	**20 21 33.4**	**-0.8**
PRU				*e*pP		pP	20 22 16.9	+0.2
PRU				*e*PP		PP	20 25 04.1	+0.1
PRU				*e*SP		SP	20 33 02.7	-1.4
KBA	**Koelnbreinsper**	**87.61**	**42⇑**	*i*P		pP	20 22 17.3	+0.5
	comp=Z,41nm,1.4s							
MOA	**Molln**	**88.01**	**42⇑**	*i*P		pP	20 22 18.8	+0.1
	comp=Z,23nm,1.4s							
CADS	**Cadrg**	**88.09**	**43**	*e*P		**P**	**20 21 36.1**	**-0.5**
CADS				*e*pP		pP	20 22 19.5	+0.3
CADS				*e*S			20 33 21.7	
GKP	**Gorka Klasztor**	**88.27**	**36**	*e*P		pP	20 22 20.5	+0.7
UPC	**Upice**	**88.36**	**39**	*e*P		**P**	**20 21 37.3**	**-0.5**
UPC				*e*pP		pP	20 22 20.6	+0.2
UPC				*e*PP		PP	20 25 10.7	+0.6
JAVS	**Javornik**	**88.40**	**43**	*e*P		**P**	**20 21 37.9**	**-0.2**
JAVS				*e*pP		pP	20 22 21.3	+0.7
KSP	**Ksiaz**	**88.44**	**38**	*e*P		**P**	**20 21 37.8**	**-0.4**
KSP				*e**PP		pP	20 22 20.4	-0.3
KSP				*e*			20 25 11.0	
KSP				*e*			20 31 48.0	
KSP				*e*SP		SP	20 33 08.0	-6.0
KSP	**Ksiaz**	**88.44**	**38**	*e*P		pP	20 22 21.0	+0.3
OBKA	**Obir**	**88.56**	**43⇑**	*i*P		pP	20 22 21.6	+0.2
	comp=Z,24nm,1.4s							
DPC	**Dobruska-Polom**	**88.60**	**39**	*e*P		**P**	**20 21 36.9**	**-2.0**
DPC				*e*pP		pP	20 22 21.8	+0.3
DPC				*e*SP		SP	20 33 10.9	-5.0
LJU	**Ljubljana**	**88.67**	**43**	*e*P		**P**	**20 21 39.0**	**-0.4**
LJU				*e*pP		pP	20 22 22.6	+0.7
LJU				*e*PP		PP	20 25 16.7	+4.0
LJU				*e*			20 33 27.1	
ARSA	**Arzberg**	**88.99**	**42⇑**	*i*P		pP	20 22 23.4	0.0
	comp=Z,14nm,1.2s							
KAF	**Kangasniemi**	**89.57**	**26**	*e*p		**P**	**20 21 43.2**	**0.0**
	comp=Z,0.4nm,0.4s							
ZST	**Bratislava**	**89.73**	**41**	*e*pP		pP	20 22 27.5	+0.6
ZST				*e*PP		PP	20 25 15.6	-5.5
ZST				*e*pS			20 33 13.1	
FINES	**FINESS Array B**	**89.76**	**26**	*e*P		**P**	**20 21 46.8**	**+2.7**
FINES	**FINESS Array B**	**89.76**	**26**	P		**P**	**20 21 43.3**	**-0.8**
	comp=Z,1.6nm,0.5s,mb4.2,baz=270,slow=1.9,SNR=7.7							
FINES				pP		pP	20 22 25.1	-1.6
	comp=Z,2.7nm,0.8s,baz=162,slow=6.0,SNR=3.9							
FINES				PP		PP	20 25 18.9	-2.1
	comp=Z,3.5nm,0.9s,baz=288,slow=6.0,SNR=3.8							
FINES				PKKPbc			20 39 15.9	
	comp=Z,3.2nm,0.7s,baz=135,slow=5.4,SNR=9.1							
SMOL	**Smolenice**	**89.84**	**40**	*e*pP		pP	20 22 28.3	+0.8
OKC	**Ostrava-Krasne**	**89.88**	**39**	*e*P		**P**	**20 21 40.8**	**-4.1**
OKC				*e*pP		pP	20 22 28.1	+0.5
OKC				*e*PP		PP	20 25 20.7	-1.5
OKC				*e*SP		SP	20 33 19.5	-11
SRO1	**Iza**	**90.59**	**41**	*e*pP		pP	20 22 31.3	+0.3
VYHS	**Vyhne**	**90.73**	**40**	*e*P		**P**	**20 21 49.0**	**0.0**
VYHS				*e*pP		pP	20 22 32.0	+0.3
VYHS				*e*PP		PP	20 25 32.9	+3.9
VYHS				*e*sS			20 33 46.8	
OJC	**Ojcow**	**90.76**	**38**	*e*P		**P**	**20 21 47.9**	**-1.2**
OJC				*e*pP		pP	20 22 31.8	+0.1
OJC				*e*PP		PP	20 25 31.5	+2.3
SUW	**Suwalki**	**91.33**	**34**	*e*P		pP	20 22 34.1	-0.3
PSZ	**Piszkesteto**	**91.59**	**40**	P		**P**	**20 21 53.3**	**+0.3**
PSZ				pmax	pmax			
	comp=Z,32nm,1.7s,mb5.1							
PSZ	**Piszkesteto**	**91.59**	**40**	*e*P		**P**	**20 21 52.3**	**-0.7**
	comp=Z,32nm,1.7s,mb5.1							
PSZ				*e*pP		pP	20 22 36.4	+0.6
PSZ				*e*PP		PP	20 25 35.5	-0.3
KECS	**Kecovo**	**91.77**	**40**	*e*P		**P**	**20 21 50.0**	**-3.8**
KECS				*e*pP		pP	20 22 36.5	0.0
STHS	**Stebnicka Huta**	**91.91**	**39**	*e*P		**P**	**20 21 54.6**	**+0.2**
STHS				*e*PP		PP	20 25 36.1	-2.2
STHS	**Stebnicka Huta**	**91.91**	**39**	*e*P		**P**	**20 21 54.6**	**+0.2**
STHS				*e*pP		pP	20 22 37.6	+0.4
STHS				*e*PP		PP	20 25 36.1	-2.2
CRVS	**Cervenica-Dubn**	**92.23**	**39**	*e*		pP	20 22 42.9	+4.3
CRVS				*e*PP		PP	20 25 43.0	+2.1
CRVS				*e*SP		SP	20 33 55.2	-2.7
KOLS	**Kolonicke sedl**	**92.72**	**39**	*e*P		**P**	**20 21 55.5**	**-2.7**
KOLS				*e*PP		PP	20 25 42.1	-2.6
KOLS	**Kolonicke sedl**	**92.72**	**39**	*e*P		**P**	**20 21 55.5**	**-2.7**
KOLS				*e*pP		pP	20 22 41.5	+0.6
KOLS				*e*PP		PP	20 25 42.1	-2.6
KWP	**Kalwaria**	**92.72**	**38**	*e*P		pP	20 22 42.0	+1.1
SEY	**Seymchan**	**92.88**	**337**	*i* P		**P**	**20 21 58.4**	**-0.2**
DIVS	**Divcibare**	**92.95**	**44⇓**	*i*P		pP	20 22 42.3	+0.2
TIXI	**Tiksi**	**93.32**	**350**	*e*P		**P**	**20 21 58.4**	**-2.0**
TIXI				*e*S			20 32 10.8	
TIXI				*e*PS		PS	20 34 26.7	-4.5
TIXI				pmax	pmax			
	comp=Z,15nm,0.9s,mb5.1							
GRUS	**Gruza**	**93.51**	**44**	*i* P		pP	20 22 44.5	-0.2
SKO	**Skopje**	**94.68**	**46**	*i* P		pP	20 22 50.0	0.0
PET	**Petropavlovsk**	**95.03**	**327**	*e*P		**P**	**20 22 00.3**	**-8.3**
PET				*e*			20 26 10.1	
PET				*e*S		S	20 33 00.8	-4.1
PET				*e*PS		SP	20 34 26.6	-1.9
PET				pmax	pmax			
	comp=Z,100nm,17.9s							
PET				pmax	pmax			
	comp=Z,100nm,19.9s							
PET				smax				
	comp=N,200nm,20.2s							
PET				MLR	MLR			
	comp=Z,100nm,23.0s							
AKASG	**Malin Array Be**	**96.09**	**35**	P		**P**	**20 22 13.8**	**+0.4**
	comp=Z,0.4nm,0.3s,mb4.2,baz=272,slow=4.0,SNR=5.9							
AKASG				pP		pP	20 22 54.3	-1.8
	comp=Z,0.3nm,0.4s,baz=289,slow=3.9,SNR=2.0							
AKASG				PP		PP	20 26 07.5	-2.9
	comp=Z,3.1nm,0.8s,baz=296,slow=7.2,SNR=5.7							
AKASG				PKKPbc			20 38 59.7	
	comp=Z,1.0nm,0.5s,baz=93,slow=2.7,SNR=9.2							
AKASG	**Malin Array Be**	**96.09**	**35**	P		**P**	**20 22 13.8**	**+0.4**
AKASG				pP		pP	20 22 54.3	-1.8
AKASG				PP		PP	20 26 07.5	-2.9
AKASG				PKKPbc			20 38 59.7	
VNA3	**Neumayer Olymp**	**96.96**	**162⇑**	*i*P		**P**	**20 22 18.4**	**+1.4**
VNA3	**Neumayer Olymp**	**96.96**	**162⇑**	*i*		**P**	**20 22 20.3**	**+3.3**
VNA1	**Neumayer--Stat**	**97.24**	**161**	P		**P**	**20 22 20.4**	**+2.1**
VNA2	**Neumayer--Watz**	**97.59**	**161⇑**	*i*P		**P**	**20 22 21.4**	**+1.6**
VNA2	**Neumayer--Watz**	**97.59**	**161⇑**	*i*		**P**	**20 22 23.0**	**+3.2**
VNA2	**Neumayer--Watz**	**97.59**	**161**			pP	20 23 02.6	0.0
VNA2	**Neumayer--Watz**	**97.59**	**161**			sP	20 23 21.1	+0.3
OBN	**Obninsk**	**97.69**	**29**	*e*P		**P**	**20 22 20.8**	**+0.2**
OBN				*i*			20 26 26.5	
OBN				*e*PS		x	20 36 07.5	
OBN				pmax	pmax			
	comp=Z,12nm,1.4s,mb5.1							
OBN				MLR	MLR			
	comp=Z,100nm,20.0s							
SNAA	**Sanae**	**99.19**	**161⇑**	*i*P		**P**	**20 22 27.6**	**+0.5**
SNAA	**Sanae**	**99.19**	**161**			**P**	**20 22 30.9**	**+3.8**
SNAA	**Sanae**	**99.19**	**161**	*e*P		**P**	**20 22 27.0**	**-0.1**
SNAA				pmax	pmax			
	comp=Z,40nm,1.3s							
QSPA	**South Pole Qui**	**101.98**	**180**	*e*P		P	20 22 41.0	+1.6
	comp=Z,12nm,0.7s							
BRTR	**Keskin Array B**	**104.01**	**44**	PP		PP	20 27 05.5	-5.1
	comp=Z,2.1nm,1.0s,baz=284,slow=5.1,SNR=5.2							
BRTR				PKKPbc			20 38 38.4	
	comp=Z,1.3nm,0.6s,baz=141,slow=5.2,SNR=7.8							
KIV	**Kislovodsk**	**107.41**	**36**	*e*P		Pdif	20 23 04.8	+0.7
KIV				*e*			20 33 23.0	
KIV				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KIV				MLR	MLR			
	comp=Z,100nm,18.0s							
ZRNK	**Zerenda**	**111.85**	**16**	PKIKP		PKPdf	20 27 20.0	+1.4
ZRNK	**Zerenda**	**111.85**	**16**	*e*PKPdf		PKPdf	20 27 18.9	+0.3
BVAR	**Borovoye Array**	**112.14**	**15**	PKKPbc			20 38 10.0	
	comp=Z,2.8nm,0.7s,baz=169,slow=4.6,SNR=15							
BOSA	**Boshof**	**114.28**	**116**	PKP		PKPdf	20 27 25.2	+1.1
	comp=Z,5.2nm,0.6s,baz=239,slow=3.7,SNR=14							
BOSA				PKKPbc			20 38 06.3	
	comp=Z,4.3nm,0.8s,baz=112,slow=1.2,SNR=10							
LBTB	**Lobatse**	**114.49**	**112**	*e*PKPdf		PKPdf	20 27 25.7	+1.2
MDJ	**Mudanjiang**	**115.02**	**333**	PDIF		Pdif	20 23 37.1	-0.5
MDJ				PKS		PKS	20 31 01.3	+0.7
MDJ				SKS		SKS	20 34 19.3	+22
MDJ				PS		PS	20 38 11.6	+2.3
MDJ				SS		SS	20 44 13.3	+2.8
MDJ				PP		PP		
	comp=Z,111nm,9.4s							
MJAR	**Matsushiro Arr**	**116.21**	**321**	PKP		PKPdf	20 27 28.3	+0.7
	comp=Z,1.5nm,0.5s,baz=142,slow=0.9,SNR=12							
MJAR				PKKPbc			20 38 00.3	
	comp=Z,1.8nm,0.8s,baz=223,slow=5.8,SNR=7.7							
MJAR	**Matsushiro Arr**	**116.21**	**321**	PKP		PKPdf	20 27 28.3	+0.7
MJAR				PKKPbc			20 38 00.3	
MAT	**Matsushiro**	**116.21**	**321**	*e*PKP		PKPdf	20 27 28.0	+0.4
MAT	**Matsushiro**	**116.21**	**321**	PKP		PKPdf	20 27 28.2	+0.6
LSZ	**Lusaka**	**116.23**	**101**	*e*PKPdf		PKPdf	20 27 29.4	+1.3
MBAR	**Mbarara**	**116.31**	**85**	*e*PKP		PKPdf	20 27 31.1	+2.8
CN2	**Changchun**	**117.47**	**335**	*e*PKP		PKPdf	20 27 31.3	+1.5
SONM	**Songino Array**	**119.39**	**350**	PKP		PKPdf	20 27 34.1	+0.7
	comp=Z,3.4nm,0.3s,baz=294,slow=0.8,SNR=75							
SONM				pPKP			20 28 17.5	
	comp=Z,0.6nm,0.7s,baz=334,slow=3.3,SNR=1.4							
SONM				PP		PP	20 28 52.2	-9.4
	comp=Z,1.8nm,1.0s,baz=349,slow=6.3,SNR=3.8							
SONM				PKKPbc			20 37 46.8	
	comp=Z,2.6nm,0.6s,baz=194,slow=3.6,SNR=17							
SONM				PKP		PKKP	20 38 27.1	+31
	comp=Z,1.6nm,0.9s,baz=214,slow=5.2,SNR=4.9							
SONM	**Songino Array**	**119.39**	**350**	PKP		PKPdf	20 27 34.1	+0.7
SONM				pPKP			20 28 17.5	
SONM				PP		PP	20 28 52.2	-9.4
SONM				PKKPbc			20 37 46.8	
SONM				PKKP		PKKP	20 38 27.1	+31

	comp=Z,14nm,0.6s								
DMN	**Daman**	**139.69**	**12**	*e*P		PKPdf	20 28 04.7	-7.8	
	comp=Z,13nm,0.6s								
PKI	**Pulchoki**	**139.79**	**12**	*e*P		PKPdf	20 28 06.3	-6.3	
	comp=Z,11nm,0.6s								
GYA	**Guiyang**	**139.81**	**342**	PKP		PKPdf	20 28 11.0	-1.7	
GYA				XPKP			20 29 10.3		
GYA				PKS	PKS		20 31 45.8	-1.6	
GYA				PP	PP				
	comp=Z,120nm,7.8s								
GYA				LR	LR				
	comp=N,280nm,20.8s								
GYA				LR	LR				
	comp=E,200nm,20.4s								
GYA				LR	LR				
	comp=Z,240nm,21.8s								
WB2	**Warramunga Arr**	**140.44**	**253**	*e*PKP		PKPdf	20 28 08.2	-5.8	
WB2				*e*pPKP			20 28 53.0		
WRAB	**Tennant Creek**	**140.44**	**253**	PKHKP			20 28 08.5		
WRAB	**Tennant Creek**	**140.44**	**253**	*e*PKPdf		PKPdf	20 28 08.2	-5.8	
WRAB				*ep*PKPdf			20 28 48.5		
WRAB				*e*SKP			20 31 35.4		
WRA	**Warramunga Arr**	**140.45**	**253**	PKhKP			20 28 07.0		
	comp=Z,9.6nm,0.5s,baz=92,slow=3.2,SNR=108								
WRA				PKP		PKPdf	20 28 15.8	+1.8	
	comp=Z,30nm,0.6s,baz=91,slow=2.2,SNR=44								
WRA				pPKP			20 28 57.3		
	comp=Z,24nm,1.0s,baz=91,slow=1.4,SNR=4.9								
WRA				SKPbc			20 31 35.2		
	comp=Z,3.7nm,0.8s,baz=91,slow=3.0,SNR=7.0								
KMI	**Kunming**	**142.10**	**347**	PKP		PKPdf	20 28 16.0	-0.8	
KMI	**Kunming**	**142.10**	**347**	PKP		PKPdf	20 28 16.4	-0.4	
KMI				pPKP			20 28 59.1		
KMI				sPKP			20 29 15.5		
KMI				PP		PP	20 31 27.9	+0.3	
KMI				PKS		PKS	20 31 50.8	-0.5	
KMI				PPP		PPP	20 34 38.7	0.0	
KMI				SKS		SKS	20 35 08.3	+0.4	
KMI				SKKS			20 38 00.3		
KMI				SS		SS	20 49 45.8	+0.5	
KMI				SSS		SSS	20 55 07.7	+0.9	
KMI				LR		LR			
	comp=Z,180nm,15.1s								
KAKA	**Kakadu**	**142.41**	**265**	*e*PKP		PKPdf	20 28 16.4	-1.2	
	comp=Z,78nm,1.3s								
SHL	**Shillong**	**142.59**	**3**	*e*P		PKPdf	20 28 16.0	-1.6	
QIZ	**Qiongzhong**	**145.40**	**333**	PKP		PKPdf	20 28 24.4	+1.7	
QIZ				APKP			20 29 04.3		
QIZ				PP		PP	20 31 47.3	-0.2	
QIZ				PPP		PPP	20 35 04.3	-0.3	
QIZ				SS		SS	20 50 20.0	-2.7	
QIZ				PP		PP			
	comp=Z,148nm,8.6s								
HYB	**Hyderabad**	**147.04**	**28**	*e*P		PKPdf	20 28 28.0	+2.6	
HYB				*e*			20 29 10.0		
HYB	**Hyderabad**	**147.04**	**28**	*i* PKP		PKPdf	20 28 28.0	+2.6	
HYB				*ep*PKP			20 29 10.0		
FITZ	**Fitzroy Crossi**	**148.83**	**255**	⇑*i* PKP		PKPdf	20 28 29.9	+1.6	
	comp=Z,86nm,0.8s								
FITZ				*ep*PKP			20 29 11.9		
NWAO	**Narrogin (SRO)**	**150.19**	**222**	PKIKP		PKPdf	20 28 32.1	+2.1	
NWAO	**Narrogin (SRO)**	**150.19**	**222**	*e*PKPdf		PKPdf	20 28 31.8	+1.7	
NWAO				*e*PKPbc		PKPdf	20 28 36.9	+6.9	
NWAO				*ep*PKPdf			20 29 17.6		
KKTK	**Khon Kaen**	**150.49**	**342**	⇑P		PKPdf	20 28 38.5	+7.6	
	comp=Z,1μm,0.4s								
BDT	**Bhumibol Dam**	**150.50**	**350**	P		PKPdf	20 28 32.0	+1.1	
	comp=Z,20nm,0.6s								
KLBR	**Kellerberrin**	**150.65**	**225**	*e*PKP		PKPdf	20 28 33.6	+2.8	
	comp=Z,79nm,0.7s								
KLBR				*ep*PKP			20 29 19.1		
MUN	**Mundaring**	**151.46**	**222**	*e*PKP		PKPdf	20 28 35.2	+3.2	
	comp=Z,134nm,0.6s								
MUN				*ep*PKP			20 29 20.6		
MBWA	**Marble Bar**	**153.70**	**246**	*e*PKPdf		PKPdf	20 28 36.9	+1.5	
MBWA				*e*PKPbc		PKPdf	20 28 44.9	+9.5	
KSM	**Kuching**	**158.93**	**308**	*e*PKPdf		PKPdf	20 28 44.0	+1.5	
KSM				*e*PKPab		PKPab	20 29 21.3	-0.7	
KSM				*e*SKP			20 32 04.9		

IDC ***23*** *20:31:30.0±1.7, 9.24S×124.80E, mb3.7/3, mb1 3.9/4, mb1mx3.8/12, mbtmp3.8/4, ML4.3/1, MS3.2/1, Ms1 3.2/1, ms1mx3.1/12, Error ellipse: s-maj=200.1km s-min=23.3km az=61.0*

ISC 23 20:31:50.6±2.1, 7.30S±0.10×129.6E±0.1, h176km±22km, n8, σ1§06/11, mb3.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KAKA	**Kakadu**	**6.05**	**153**	*e*P		**P**	**20 33 19.7**	**+0.6**
	40nm,0.2s							
KAKA				*e*S		**S**	**20 34 28.8**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.42**	**199**	*e*P		**P**	**20 34 29.7**	**+0.2**
	3.8nm,0.3s							
FITZ				*e*S		**S**	**20 36 34.4**	**+0.2**
WRA	**Warramunga Arr**	**13.38**	**160**	Pn		**P**	**20 34 52.1**	**-2.5**
	1.4nm,0.3s,baz=338,slow=12,SNR=24							
WRA				Sn		**S**	**20 37 19.8**	**+0.3**
	2.5nm,0.3s,baz=342,slow=21,SNR=9.9							
WB2	**Warramunga Arr**	**13.38**	**160**	*e*P		**P**	**20 34 52.6**	**-2.0**
WB2				*e*S		**S**	**20 37 20.0**	**+0.4**
STKA	**Stephens Creek**	**26.88**	**157**	P		**P**	**20 37 17.1**	**-0.1**
	1.1nm,0.3s,mb4.0,baz=332,slow=10,SNR=15							
JOW	**Kunigami**	**33.95**	**358**	LR		LR	20 52 58.8	
	comp=Z,37nm,18.7s,baz=256,slow=36							
SONM	**Songino Array**	**58.60**	**342**	P		**P**	**20 41 32.3**	**+1.0**
	0.3nm,0.7s,mb3.2,baz=146,slow=5.2,SNR=2.9							
MKAR	**Makanchi Array**	**68.27**	**327**	P		**P**	**20 42 27.6**	**-6.9**
	0.4nm,0.6s,mb3.3,baz=127,slow=7.2,SNR=7.6							

IDC ***23*** *20:50:14.9±10.0, 7.71S×127.00E, h88km±105km, mb3.6/5, mb1 3.8/6, mb1mx3.6/14, mbtmp4.0/6, Error ellipse: s-maj=57.0km s-min=30.8km az=71.0*

NEIC ***23*** *20:50:24.0±2.0, 7.80S×127.30E, h182km±23km, mb4.7/6, Error ellipse: s-maj=17.2km s-min=14.8km az=197.0*

ISC 23 20:50:26.2±1.7, 7.99S±0.08×127.40E±0.09, h229km±19km, n16, σ1§12/21, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KAKA	**Kakadu**	**6.82**	**134**	*e*P		**P**	**20 52 05.0**	**-0.1**
	45nm,0.5s							
KAKA				*e*S		**S**	**20 53 17.3**	**-5.1**
FITZ	**Fitzroy Crossi**	**10.19**	**190**	*e*P		**P**	**20 52 49.5**	**+1.1**
	6.5nm,0.3s							
FITZ				*e*S		**S**	**20 54 40.3**	**+0.4**
WRAB	**Tennant Creek**	**13.65**	**151**	*e*P		**P**	**20 53 32.0**	**+0.2**
	14nm,0.6s							
WRAB				*e*S		**S**	**20 55 55.7**	**-2.8**
WRA	**Warramunga Arr**	**13.65**	**151**	P		**P**	**20 53 31.0**	**-0.9**
	1.4nm,0.3s,baz=320,slow=14,SNR=39							
WRA				S		**S**	**20 55 57.7**	**-0.8**
	3.1nm,0.3s,baz=324,slow=24,SNR=12							
WB2	**Warramunga Arr**	**13.65**	**151**	*e*P		**P**	**20 53 33.1**	**+1.1**
WB2				*e*S		**S**	**20 55 58.2**	**-0.5**
MBWA	**Marble Bar**	**15.04**	**209**	*e*P		**P**	**20 53 48.3**	**-0.7**
	119nm,2.0s							
PMG	**Port Moresby**	**19.58**	**96**	P		**P**	**20 54 40.5**	**+1.7**
	16nm,0.5s,baz=318,slow=12,SNR=7.2							
PMG	**Port Moresby**	**19.58**	**96**	*e*P		**P**	**20 54 40.3**	**+1.6**
	42nm,1.0s							
STKA	**Stephens Creek**	**27.19**	**153**	P		**P**	**20 55 54.3**	**+3.4**
	2.0nm,0.4s,mb4.1,baz=325,slow=10,SNR=16							
KULM	**Kulim**	**29.77**	**295**	*e*P		**P**	**20 56 13.1**	**-0.9**
SONM	**Songino Array**	**58.61**	**344**	P		**P**	**21 00 00.0**	**-1.3**
	0.2nm,0.4s,mb3.1,baz=171,slow=5.3,SNR=4.6							
CASY	**Casey**	**59.35**	**188**	*e*P		**P**	**21 00 08.2**	**+2.1**
	3.5nm,0.7s,mb4.1							
MKAR	**Makanchi Array**	**67.67**	**328**	P		**P**	**21 00 60.0**	**-0.6**
	1.2nm,0.7s,mb3.7,baz=123,slow=7.4,SNR=13							
MKAR	**Makanchi Array**	**67.67**	**328**	P		**P**	**21 00 60.0**	**-0.6**
BVAR	**Borovoye Array**	**77.55**	**329**	P		**P**	**21 01 58.7**	**+0.5**
	0.1nm,0.3s,mb2.9,baz=108,slow=4.6,SNR=3.4							
ZRNK	**Zerenda**	**78.22**	**328**	*e*P		**P**	**21 02 01.6**	**-0.3**

IDC ***23*** *21:14:26.0±6.7, 18.28N×107.82W, mb3.6/5, mb1 3.9/7, mb1mx3.7/22, mbtmp3.6/7, ML3.8/1, MS3.5/5, Ms1 3.5/5, ms1mx3.1/21, Error ellipse: s-maj=120.9km s-min=67.9km az=137.0*

ISC 23 21:14:20.5±5.8, 17.9N±0.6×107.6W±0.5, n12, σ0§75/7, mb3.7/5, MS3.4/5, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TXAR	**Lajitas Array**	**11.94**	**17**	Pn		**P**	**21 17 14.8**	**-0.3**
	0.2nm,0.3s,baz=203,slow=14,SNR=13							
ANMO	**Albuquerque**	**17.02**	**3**	Pn		**P**	**21 18 21.9**	**+0.3**
	baz=193,slow=9.7,SNR=3.8							
NVAR	**Mina Array Bea**	**22.52**	**338**	P		**P**	**21 19 22.1**	**-1.2**
	0.5nm,0.3s,mb3.5,baz=163,slow=12,SNR=5.2							
ELK	**Elko**	**23.72**	**345**	P		**P**	**21 19 36.2**	**+1.2**
	1.5nm,0.8s,mb3.6,baz=156,slow=10,SNR=6.2							
PDAR	**Pinedale Array**	**24.86**	**356**	P		**P**	**21 19 46.1**	**+0.1**
	0.5nm,0.7s,mb3.4,baz=166,slow=7.4,SNR=4.6							
YBH	**Yreka Blue Hor**	**27.07**	**335**	LR		LR	21 29 17.2	
	comp=Z,62nm,19.0s,MS3.2,baz=160,slow=34							
NEW	**Newport**	**31.29**	**348**	LR		LR	21 33 36.0	
	comp=Z,42nm,18.5s,MS3.1,baz=176,slow=37							
ULM	**Lac du Bonnet**	**33.62**	**14**	LR		LR	21 34 17.4	
	comp=Z,60nm,19.3s,MS3.3,baz=32,slow=36							
BBB	**Bella Bella**	**37.86**	**339**	LR		LR	21 34 57.4	
	comp=Z,75nm,21.8s,MS3.5,baz=266,slow=33							
INK	**Inuvik**	**53.01**	**348**	P		**P**	**21 23 40.3**	**-0.7**
	1.5nm,0.6s,mb4.1,baz=167,slow=7.8,SNR=2.2							
ILAR	**Eielson Array**	**53.74**	**340**	P		**P**	**21 23 47.0**	**+0.6**
	0.6nm,0.6s,mb3.8,baz=152,slow=6.9,SNR=9.7							
PPT	**Papeete**	**54.31**	**232**	LR		LR	21 42 25.2	
	comp=Z,165nm,19.7s,MS4.1,baz=188,slow=31							

BEO ***23*** *21:15:09.2±0.4, 42.41N×19.80E, h13km±1km*
TIR ***23*** *21:15:09.0, 42.43N×19.76E, h5km*
NEIC ***23*** *21:15:09.6, 42.39N×19.81E, h10km, ML2.9(PDG), After PDG.*
CSEM ***23*** *21:15:09.1±0.1, 42.38N×19.86E, h10km, ML2.9, Error ellipse: s-maj=1.8km s-min=1.3km az=103.0*

ISC 23 21:15:09.5±0.4, 42.40N±0.02×19.82E±0.03, h3km±4km, n29, σ0§98/57, 19C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BCI	**Bajram Curri**	**0.19**	**101**	*i* Pg		**Pg**	**21 15 12.9**	**-0.4**
BCI				*i* Sg		**Sg**	**21 15 15.8**	**0.0**
PVY	**Plav**	**0.22**	**31**	⇑*i* Pg		**Pg**	**21 15 13.7**	**-0.3**
PVY				*e*Sg		**Sg**	**21 15 17.8**	**+0.8**
PVY	**Plav**	**0.22**	**31**	⇑*i* Pg		**Pg**	**21 15 13.7**	**-0.3**
PVY				*e*Sg		**Sg**	**21 15 17.8**	**+0.8**
PUK	**Puka**	**0.36**	**171**	*i* Pg		**Pg**	**21 15 16.2**	**-0.6**
PUK				*i* Sg		**Sg**	**21 15 21.8**	**+0.1**
TTG	**Podgorica**	**0.41**	**274**	⇑*i* Pg		**Pg**	**21 15 16.8**	**-1.1**
TTG				*e*Sg		**Sg**	**21 15 23.3**	**-0.1**
TTG	**Podgorica**	**0.41**	**274**	⇑*i* Pg		**Pg**	**21 15 16.8**	**-1.0**
TTG				*e*Sg		**Sg**	**21 15 23.3**	**-0.1**
SDA	**Shkodra**	**0.42**	**214**	*i* Pg		**Pg**	**21 15 17.1**	**-0.9**
SDA				*i* Sg		**Sg**	**21 15 24.9**	**+1.2**
IVA	**Berane**	**0.47**	**7**	⇑*i* Pg		**Pg**	**21 15 18.7**	**-0.3**
IVA				*e*Sg		**Sg**	**21 15 26.4**	**+1.1**
IVA	**Berane**	**0.47**	**7**	⇑*i* Pg		**Pg**	**21 15 18.7**	**-0.3**
IVA				*e*Sg		**Sg**	**21 15 26.4**	**+1.1**
ULC	**Ulcinj**	**0.61**	**224**	⇑*i* Pg		**Pg**	**21 15 21.0**	**-0.8**
ULC				*e*Sg		**Sg**	**21 15 30.3**	**+0.4**
ULC	**Ulcinj**	**0.61**	**224**	⇑*i* Pg		**Pg**	**21 15 21.0**	**-0.7**
ULC				*e*Sg		**Sg**	**21 15 30.3**	**+0.4**
BUM	**Brajici-Budva**	**0.69**	**262**	⇑*i* Pg		**Pg**	**21 15 21.9**	**-1.5**
BUM				*e*Sg		**Sg**	**21 15 33.0**	**+0.4**
BUM	**Brajici-Budva**	**0.69**	**262**	⇑*i* Pg		**Pg**	**21 15 21.9**	**-1.4**
BUM				*e*Sg		**Sg**	**21 15 33.0**	**+0.5**
NKY	**Niksic**	**0.73**	**304**	⇑*i* Pg		**Pg**	**21 15 22.6**	**-1.5**
NKY				*e*Sg		**Sg**	**21 15 34.5**	**+0.6**
NKY	**Niksic**	**0.73**	**304**	⇑*i* Pg		**Pg**	**21 15 22.6**	**-1.6**
NKY				*e*Sg		**Sg**	**21 15 34.5**	**+0.6**
QSH	**Qafa e Shtames**	**0.88**	**176**	*i* Pg		**Pg**	**21 15 26.8**	**-0.4**
QSH				*i* Sg		**Sg**	**21 15 40.8**	**+1.8**
PLE	**Pljevlja**	**0.98**	**341**	⇑*i* Pg		**Pg**	**21 15 28.0**	**-1.0**
PLE				*e*Sg		**Sg**	**21 15 43.2**	**+1.1**
PLE	**Pljevlja**	**0.98**	**341**	⇑*i* Pg		**Pg**	**21 15 28.0**	**-1.1**
PLE				*e*Sg		**Sg**	**21 15 43.2**	**+1.1**
HCY	**Herceg Novi**	**0.98**	**273**	⇓*i* Pg		**Pg**	**21 15 27.4**	**-1.7**
HCY				*e*Sg		**Sg**	**21 15 43.2**	**+1.0**
HCY	**Herceg Novi**	**0.98**	**273**	⇓*i* Pg		**Pg**	**21 15 27.4**	**-1.7**
HCY				*e*Sg		**Sg**	**21 15 43.2**	**+1.0**
UPM	**Unac-Piva**	**1.04**	**320**	⇑*i* Pg		**Pg**	**21 15 29.8**	**-0.6**
UPM				*e*Sg		**Sg**	**21 15 45.5**	**+1.2**
UPM	**Unac-Piva**	**1.04**	**320**	⇑*i* Pg		**Pg**	**21 15 29.8**	**-0.6**
UPM				*e*Sg		**Sg**	**21 15 45.5**	**+1.2**
TIR	**Tirane**	**1.05**	**178**	*i* Pg		**Pg**	**21 15 32.5**	**+1.9**
BRY	**Bratogost**	**1.06**	**298**	⇑*i* Pg		**Pg**	**21 15 28.4**	**-2.4**
BRY				*e*Sg		**Sg**	**21 15 46.3**	**+1.3**
BRY	**Bratogost**	**1.06**	**298**	⇑*i* Pg		**Pg**	**21 15 28.4**	**-2.4**
BRY				*e*Sg		**Sg**	**21 15 46.3**	**+1.3**
SKO	**Skopje**	**1.28**	**109**	*i* Pn		**Pn**	**21 15 33.0**	**-1.3**
SKO				*i* Sn		**Sn**	**21 15 53.0**	**+0.9**
BBLS	**Bajina Basta -**	**1.50**	**349**	⇑*i* Pn		**Pn**	**21 15 37.4**	**+0.1**
BBLS				Sn		**Sn**	**21 15 57.6**	**+0.1**
GRUS	**Gruza**	**1.62**	**24**	*i* Pn		**Pn**	**21 15 39.6**	**+0.4**
GRUS				Sn		**Sn**	**21 16 00.8**	**0.0**
DIVS	**Divcibare**	**1.70**	**4**	⇓*i* Pn		**Pn**	**21 15 40.8**	**+0.5**
DIVS				Sn		**Sn**	**21 16 02.2**	**-0.6**

JMA 23 21:32:31.0±0.5, 31.87N×142.92E, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSO1	**Boso 1**	**3.22**	**330**	P		Pn	21 33 24.4	+0.6
BSO3	**Boso 3**	**3.55**	**326**	P		Pn	21 33 28.8	+0.3
JHU	**Hanno**	**4.99**	**324**	P		Pn	21 33 49.9	+0.9
JHO	**Hitachi**	**5.11**	**338**	*e*S		Sn	21 34 51.7	+0.3
JRY	**Ryogami san**	**5.32**	**322**	P		Pn	21 33 53.6	+0.1
JAG	**Ashikaga**	**5.38**	**329**	P		Pn	21 33 54.5	+0.1

IDC ***23*** *21:43:30.4±1.3, 5.71N×124.69E, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=160.1km s-min=22.4km az=66.0*

MAN ***23*** *21:43:38.6, 6.01N×125.86E, h82km, mb4.8, ML3.7, MS3.7*

ISC 23 21:43:38.6±1.3, 5.97N±0.08×125.7E±0.2, h87km±14km, n9, σ1§19/12, mb3.5/4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GSPH	**General Santos**	**0.79**	**279**	⇓*i* P		**P**	**21 43 56.0**	**0.0**
GSPH				*i* S		**S**	**21 44 08.0**	**-0.8**
BUKP	**Musuan**	**2.01**	**341**	*e*P		**P**	**21 44 11.0**	**-0.4**
BUKP				*e*S		**S**	**21 44 36.5**	**+1.0**
BUTP	**Butuan**	**2.98**	**358**	*e*P		**P**	**21 44 23.9**	**-1.0**
IPIL	**Ipil**	**3.62**	**300**	*e*P		**P**	**21 44 35.4**	**+1.7**
SCPH	**Surigao**	**3.79**	**356**	*e*P		**P**	**21 44 36.4**	**+0.3**
SCPH				*e*S		**S**	**21 45 12.8**	**-7.1**
WRA	**Warramunga Arr**	**27.11**	**162**	P		**P**	**21 49 14.9**	**-0.7**
	0.6nm,0.5s,mb3.4,baz=339,slow=11,SNR=5.0							
STKA	**Stephens Creek**	**40.56**	**159**	P		**P**	**21 51 13.7**	**+2.5**
	2.4nm,0.8s,mb4.1,baz=332,slow=9.0,SNR=4.9							
SONM	**Songino Array**	**44.87**	**342**	P		**P**	**21 51 46.1**	**0.0**
	0.3nm,0.5s,mb3.3,baz=153,slow=6.4,SNR=2.9							
MKAR	**Makanchi Array**	**55.16**	**325**	P		**P**	**21 53 01.8**	**-2.7**
	0.1nm,0.3s,mb3.3,baz=116,slow=7.1,SNR=6.5							

NEIC ***23*** *22:02:00.9, 37.39S×177.44E, h126km, MG3.9(WEL), After WEL.*

WEL 23 22:02:01.2±0.2, 37.39S×177.46E, h125km±1km, ML3.8/15, Error ellipse: s-maj=2.4km s-min=1.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**0.69**	**105**	P		P	22 02 20.9	-0.2
MXZ				S		S	22 02 36.0	-0.3
MXZ	**Matakaoa Point**	**0.69**	**105**	PN		P	22 02 20.9	-0.2
MXZ				SN		S	22 02 36.0	-0.2
URZ	**Urewera**	**0.92**	**198**	P		P	22 02 22.9	-0.1
URZ	**Urewera**	**0.92**	**198**	PN		P	22 02 22.9	-0.1
URZ				SN		S	22 02 39.2	-0.3
PUZ	**Puketiti**	**0.93**	**138**	P		P	22 02 23.0	-0.2
PUZ				S		S	22 02 38.8	-1.0
PUZ	**Puketiti**	**0.93**	**138**	PN		P	22 02 23.0	-0.2
PUZ				SN		S	22 02 38.8	-1.0
MWZ	**Matawai**	**0.95**	**177**	P		P	22 02 23.3	-0.1
MWZ	**Matawai**	**0.95**	**177**	PN		P	22 02 23.3	-0.1
MWZ				SN		S	22 02 40.1	0.0
KNZ	**Kokohu**	**1.64**	**174**	P		P	22 02 30.3	-0.7
KNZ	**Kokohu**	**1.64**	**174**	PN		P	22 02 30.3	-0.7
BKZ	**Black Stump Fm**	**1.93**	**203**	P		P	22 02 34.0	-0.5
BKZ	**Black Stump Fm**	**1.93**	**203**	PN		P	22 02 34.0	-0.5
BKZ				SN		S	22 02 58.6	-1.2
NGZ	**Ngauruhoe**	**2.31**	**219**	PN		P	22 02 39.2	-0.2
CNZ	**Chateau**	**2.35**	**219**	PN		P	22 02 39.7	-0.3
FWVZ	**Far West T-bar**	**2.40**	**218**	PN		P	22 02 40.1	-0.4
MOVZ	**Moawhango**	**2.42**	**213**	P		P	22 02 39.3	-1.6
MOVZ	**Moawhango**	**2.42**	**213**	PN		P	22 02 39.3	-1.6
MOVZ				SN		S	22 03 09.2	-1.7
PWZ	**Pawanui**	**2.68**	**190**	P		P	22 02 42.0	-2.3
PWZ	**Pawanui**	**2.68**	**190**	PN		P	22 02 42.0	-2.2
TSZ	**Takapari Road**	**2.92**	**203**	P		P	22 02 44.5	-2.9
TSZ	**Takapari Road**	**2.92**	**203**	PN		P	22 02 44.5	-2.8
WAZ	**Wanganui**	**3.06**	**219**	*e*P		P	22 02 48.0	-1.3
WAZ	**Wanganui**	**3.06**	**219**	PN		P	22 02 48.0	-1.3
MRZ	**Mangatainoka R**	**3.58**	**204**	*e*P		P	22 02 52.7	-3.6
MRZ	**Mangatainoka R**	**3.58**	**204**	PN		P	22 02 52.7	-3.6
KIW	**Kapiti Island**	**4.00**	**209**	P		P	22 02 57.8	-4.0
KIW	**Kapiti Island**	**4.00**	**209**	PN		P	22 02 57.8	-4.1
MTW	**Mount Morrison**	**4.06**	**201**	P		P	22 02 58.2	-4.5
MTW	**Mount Morrison**	**4.06**	**201**	PN		P	22 02 58.2	-4.5

CASC 23 22:11:23.7±1.7, 10.92N×86.61W, h25km±22km, MD3.9, 7C-5D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CRUN	**El Crucero**	**1.10**	**16**	⇑*e*P		Pn	22 11 44.1	+0.5
APON	**Apoyo**	**1.13**	**28**	⇓*e*P		Pn	22 11 43.7	-0.4
MASN	**Masaya**	**1.16**	**23**	⇓*e*P		Pn	22 11 46.3	+1.8
CONN	**Concepcion**	**1.16**	**56**	⇓*e*P		Pn	22 11 43.6	-0.9
TICN	**Ticuantepe**	**1.17**	**19**	⇑*e*P		Pn	22 11 44.9	+0.2
COPN	**Copaltepe**	**1.25**	**1**	⇓*e*P		Pn	22 11 45.4	-0.5
XAVN	**Gruta Xavier**	**1.25**	**13**	⇓*e*P		Pn	22 11 45.7	-0.2
XAVN				*e*S		Sn	22 12 03.0	+0.9
MGAN	**Managua**	**1.27**	**16**	⇑*e*P		Pn	22 11 45.5	-0.6
MGAN				*e*S		Sn	22 12 03.4	+0.9
WILN	**Americas 2**	**1.30**	**19**	⇑*e*P		Pn	22 11 46.3	-0.3
WILN				*e*S		Sn	22 12 02.7	-0.6
LIM1	**Limonal**	**1.35**	**99**	⇑*e*P		Pn	22 11 46.5	-0.8
LIM1				*e*S		Sn	22 12 04.8	+0.2
MOMJ	**Momotombo**	**1.48**	**3**	*e*P		Pn	22 11 48.4	-0.7
MOMJ				*e*S		Sn	22 12 06.6	-1.3
LEON	**Leon**	**1.51**	**350**	⇑*e*P		Pn	22 11 49.1	-0.5
MIRN	**Miramar**	**1.52**	**356**	⇑*e*P		Pn	22 11 49.4	-0.2
CNGN	**Cerro Negro**	**1.57**	**357**	*e*P		Pn	22 11 50.2	-0.3
TEL3	**Telica 3**	**1.66**	**352**	*e*P		Pn	22 11 51.1	-0.5
PYTN	**Playitas**	**1.70**	**19**	*e*P		Pn	22 11 51.7	-0.5
CRIN	**San Cristobal**	**1.82**	**346**	*e*P		Pn	22 11 54.0	+0.1

NEIC ***23*** *22:43:50.8, 35.57S×178.82E, h221km, MG4.5(WEL), After WEL.*

WEL 23 22:43:51.6±0.6, 35.62S×178.82E, h217km±10km, ML4.2/13, Error ellipse: s-maj=18.0km s-min=12.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**1.98**	**192**	P		P	22 44 31.2	-0.4
MXZ				S		S	22 45 02.0	-0.4
MXZ	**Matakaoa Point**	**1.98**	**192**	PN		P	22 44 31.2	-0.4
MXZ				SN		S	22 45 01.5	-0.9
PUZ	**Puketiti**	**2.49**	**190**	*e*P		P	22 44 36.7	-0.2
PUZ	**Puketiti**	**2.49**	**190**	PN		P	22 44 36.7	-0.2
PUZ				SN		S	22 45 11.1	-0.9
MWZ	**Matawai**	**2.90**	**201**	P		P	22 44 41.4	-0.1
MWZ				*e*S		S	22 45 20.0	-0.1

1μm,1.0s
IPM Ipoh 6.22 95 P **P** **22 55 06.0 +1.0**
PBA Port Blair 6.80 343 *e* x 22 54 40.8
PBA *eS* **S** **22 56 24.2 -6.0**
NNT Nongplab 8.87 33 P **P** **22 55 46.0 +4.1**
KGM Kluang 9.04 110 P **P** **22 55 43.8 -0.5**
NST Nakhon Sawan 11.71 26 P **P** **22 56 24.3 +3.5**
164nm,0.7s
BDT Bhumibol Dam 12.73 19 P **P** **22 56 39.0 +4.6**
36nm,0.9s
KKTK Khon Kaen 13.64 35 P **P** **22 56 51.0 +4.5**
PALK Pallekele 14.18 279 *e*Pn **P** **22 56 51.2 -2.4**
50nm,0.6s
PALK *eS*n **S** **22 59 14.1 -16**
CHG Chiang Mai 14.19 16 ⇑P **P** **22 56 56.2 +2.5**
24nm,0.8s
CHTO Chiang Mai 14.19 16 Pn **P** **22 56 56.1 +2.4**
CHTO Pn **P** **22 57 01.5 +7.8**
UBT Ubonrachathani 14.21 44 ⇑P **P** **22 57 04.5 +11**
42nm,0.5s
CHRT Chiangrai 15.44 18 ⇑P **P** **22 57 12.0 +2.1**
1μm,0.7s
KSM Kuching 15.89 103 *e*Pn **P** **22 57 16.9 +1.2**
TRD Trivandrum 18.04 282 *e*P **P** **22 57 41.5 -1.1**
TRD AMb AMB 22 57 44.5
comp=Z,72nm,1.6s
HYB Hyderabad 20.06 309 *e*P **P** **22 58 05.5 -0.2**
HYB *e*S **S** **23 01 36.0 -7.5**
HYB pmax pmax
comp=Z,140nm,1.0s
HYB Hyderabad 20.06 309 *e*P **P** **22 58 05.5 -0.2**
comp=Z,140nm,1.0s
HYB *e*S **S** **23 01 36.0 -7.5**
HYB Hyderabad 20.06 309 *i* P **P** **22 58 05.5 -0.2**
comp=Z,140nm,1.0s
HYB *e* 22 58 20.0
HYB *e*PP PP 22 58 31.0 +5.1
HYB *e* 23 01 37.0
HYB *e*S **S** **23 01 46.0 +2.5**
QIZ Qiongzhong 20.15 45 ⇑P **P** **22 58 07.4 +0.7**
QIZ XP 22 58 23.3
QIZ S **S** **23 01 49.3 +3.9**
QIZ SS SS 23 02 20.6 +4.8
QIZ AMB AMB
comp=Z,70nm,0.8s
QIZ LR LR
comp=N,2μm,18.0s,MS4.7
QIZ LR LR
comp=E,2μm,17.8s,MS4.7
QIZ LR LR
comp=Z,3μm,19.1s,MS4.7
QIZ Qiongzhong 20.15 45 ⇑*e*P **P** **22 58 06.5 -0.1**
comp=Z,320nm,1.5s
BOK Bokaro 20.45 336 ⇑*i*P **P** **22 58 09.3 -0.5**
BOK *i* S **S** **23 01 57.8 +6.5**
SHL Shillong 20.52 352 *e*P **P** **22 58 08.8 -3.6**
SHL *e* 23 01 50.0
BLSP Bilaspur 20.89 325 *e*P **P** **22 58 14.2 -0.1**
BLSP *e*P 22 58 15.0
BLSP AMb AMB 22 58 16.6
comp=Z,412nm,0.9s
BLSP *e*S **S** **23 02 03.2 +3.7**
SHBG Sahibganj 21.12 342 *e*P **P** **22 58 15.8 -0.8**
KMI Kunming 21.29 20 ⇑P **P** **22 58 20.8 +2.5**
KMI AP 22 58 29.9
KMI PP PP 22 58 46.3 +3.4
KMI S **S** **23 02 13.3 +6.2**
KMI XS 23 02 28.6
KMI SS SS 23 02 50.5 +7.2
KMI SSS SSS 23 03 05.1 +6.4
KMI AMB AMB
comp=Z,128nm,1.1s,mb5.2
KMI AMB AMB
comp=Z,920nm,5.2s
KMI LR LR
comp=N,2μm,15.5s,MS4.8
KMI LR LR
comp=E,2μm,15.1s,MS4.8
KMI LR LR
comp=Z,3μm,22.9s
KMI Kunming 21.29 20 ⇑P **P** **22 58 20.7 +2.4**
KMI *SP 22 58 33.9
KMI 22 58 46.3
KMI PPP PPP 22 58 55.9 +3.3
KMI S **S** **23 02 13.3 +6.2**
KMI *SS 23 02 28.6
KMI SS SS 23 02 50.5 +7.2
KMI pmax pmax
comp=Z,128nm,1.1s,mb5.2
KMI MLR MLR
comp=Z,3μm,22.9s,MS4.6
KMI Kunming 21.29 20 ⇑P **P** **22 58 20.7 +2.4**
comp=Z,128nm,1.1s,mb5.2
KMI pP 22 58 29.9
KMI sP 22 58 33.9
KMI PP PP 22 58 46.3 +3.4
KMI PPP PPP 22 58 55.9 +3.3
KMI S **S** **23 02 13.3 +6.2**
KMI sS 23 02 28.6
KMI SS SS 23 02 50.5 +7.2
KMI SSS SSS 23 03 05.1 +6.4
KMI LR LR
comp=Z,3μm,22.9s,MS4.6
KKM Kota Kinabalu 21.33 87 *e*P **P** **22 58 19.3 +0.6**
LATR Latur 22.18 308 *e*P **P** **22 58 28.2 +1.0**
GTK Gangtok 22.86 346 *e* **P** **22 58 38.0 +4.1**
TSM Tawau 23.00 91 P **P** **22 58 36.9 +1.4**
KAD Karad 23.54 303 *e*P **P** **22 58 42.7 +2.1**
GYA Guiyang 24.05 27 ⇑*i*P **P** **22 58 46.0 +0.5**
GYA AP 22 58 57.6
GYA XP 22 59 03.3
GYA PP PP 22 59 22.8 +2.0
GYA S **S** **23 03 06.0 +9.4**
GYA XS 23 03 19.1
GYA SS SS 23 03 56.4 +6.1
GYA AMB AMB
comp=Z,70nm,1.1s,mb5.0
GYA AMB AMB
comp=Z,390nm,4.2s
GYA LR LR
comp=N,2μm,22.4s,MS4.8
GYA LR LR
comp=E,2μm,17.6s,MS4.8
GYA LR LR
comp=Z,3μm,21.8s,MS4.7
POO Poona 24.41 305 ⇓*i*P **P** **22 58 50.0 +0.9**
POO *i* 23 03 17.0
BHPL Bhopal 24.61 319 *e*P **P** **22 58 52.6 +1.6**
BHPL AMb AMB 22 58 56.9
comp=Z,224nm,1.2s,mb5.6
LSA Lhasa 24.69 352 P **P** **22 58 52.0 +0.3**
LSA Lhasa 24.69 352 *e*P **P** **22 58 51.7 0.0**
LSA *eS* **S** **23 03 10.9 +3.5**
LSA pmax pmax
comp=Z,274nm,0.6s,mb6.0
LSA Lhasa 24.69 352 *e*P **P** **22 58 51.7 +0.1**
comp=Z,274nm,0.6s,mb6.0
LSA *eS* **S** **23 03 10.9 +3.6**
DGAR Diego Garcia 25.55 241 PFAKE 22 59 10.0 +10
DGAR LR LR
comp=Z,553nm,22.0s,MS4.0
CD2 Chengdu 27.00 17 ⇑*i*P **P** **22 59 12.5 -0.7**
CD2 AMB AMB
comp=Z,60nm,0.9s,mb5.1
AGRA Agra 27.23 326 *e*P **P** **22 59 14.8 -0.6**
AGRA AMb AMB 22 59 16.9
comp=Z,60nm,0.3s,mb5.6
PCPH Palayan 27.83 66 *e*P **P** **22 59 20.5 -0.4**
LGTI Lohaghat 27.84 332 *e*P **P** **22 59 21.0 +0.1**
LGTI *e* 23 00 32.5
PTH Pithoragarh 27.94 332 *e*P **P** **22 59 22.1 +0.3**
SONA Sohna 28.50 326 *e*P **P** **22 59 26.0 -0.8**
SONA AMb AMB 22 59 27.8
comp=Z,79nm,0.8s,mb5.5
ENH Enshi 28.59 27 ⇑*i*P **P** **22 59 26.6 -1.0**
comp=Z,104nm,0.6s,mb5.7
ENH *eS* **S** **23 04 11.2 +0.1**
AYAN Aya Nagar 28.66 326 *e*P **P** **22 59 26.6 -1.5**
AJM Ajmer 28.67 320 *e*P **P** **22 59 28.2 -0.2**
AJM AMb AMB 22 59 29.7
comp=Z,72nm,1.1s,mb5.3
KUDL Kundal 28.76 325 *e*P **P** **22 59 27.8 -1.3**
KUDL AMb AMB 22 59 29.6
comp=Z,34nm,1.2s,mb5.0

NDI New Delhi 28.76 327 *e*P **P** **22 59 27.0 -2.1**
KHET Khetri 29.10 324 *e*P **P** **22 59 31.6 -0.5**
KHET AMb AMB 22 59 34.0
comp=Z,84nm,1.1s,mb5.4
RTK Rohtak 29.48 326 AMb AMB 22 59 36.0
comp=Z,34nm,0.4s,mb5.4
DDI Dehra Dun 29.62 330 *e*P **P** **22 59 35.0 -1.8**
KKR Kurukshetra 29.98 328 *e*P **P** **22 59 39.7 -0.2**
QZH Quanzhou 30.16 47 ⇑*i*P **P** **22 59 42.4 +0.8**
QZH S **S** **23 04 45.0 +8.9**
QZH AMB AMB
comp=Z,140nm,0.8s,mb5.7
QZH LR LR
comp=N,1μm,10.5s,MS5.2
QZH LR LR
comp=E,3μm,14.2s,MS5.2
QZH LR LR
comp=Z,4μm,21.4s
WHN Wuhan 31.27 34 ⇑P **P** **22 59 51.5 +0.1**
WHN LR LR
comp=N,4μm,14.0s,MS5.4
WHN LR LR
comp=E,4μm,14.0s,MS5.4
WHN LR LR
comp=Z,9μm,14.7s,MS5.6
XAN Xi'an 31.61 23 P **P** **22 59 53.6 -0.8**
XAN PP PP 23 01 04.6 +4.7
XAN AMB AMB
comp=Z,399nm,0.9s,mb6.2
XAN AMB AMB
comp=Z,239nm,7.2s
XAN LR LR
comp=N,1μm,15.9s,MS4.8
XAN LR LR
comp=E,1μm,15.6s,MS4.8
XAN LR LR
comp=Z,3μm,17.3s,MS5.0
LZH Lanzhou 31.91 14 ⇑P **P** **22 59 56.3 -0.7**
LZH AP pP 23 00 08.0 -1.4
LZH PPP PPP 23 01 25.0 +6.1
LZH PCP PcP 23 02 46.9 +0.2
LZH eS **S** **23 05 04.1 +0.6**
LZH *e*XS 23 05 25.0
LZH SS SS 23 07 01.0 +3.6
LZH SCS ScS 23 10 23.3 +1.4
LZH AMB AMB
comp=Z,220nm,1.2s,mb5.9
LZH AMB AMB
comp=Z,800nm,4.0s
LZH LR LR
comp=N,2μm,15.4s
LZH LR LR
comp=Z,3μm,19.7s,MS5.0
LZH Lanzhou 31.91 14 ⇑P **P** **22 59 56.3 -0.7**
LZH *PP pP 23 00 08.0 -1.4
LZH *SP sP 23 00 13.0 -2.3
LZH PPP PPP 23 01 25.0 +6.1
LZH 23 02 46.9
LZH *e*S **S** **23 05 04.1 +0.6**
LZH *e*SS 23 05 25.0
LZH SS SS 23 07 01.0 +3.6
LZH 23 10 23.3
LZH pmax pmax
comp=Z,220nm,1.2s,mb5.9
LZH MLR MLR
comp=Z,3μm,19.7s,MS5.0
LZH Lanzhou 31.91 14 ⇑P **P** **22 59 56.3 -0.7**
comp=Z,220nm,1.2s,mb5.9
LZH pP pP 23 00 08.0 -1.4
LZH sP sP 23 00 13.0 -2.3
LZH PPP PPP 23 01 25.0 +6.1
LZH PcP PcP 23 02 46.9 +0.2
LZH *e*S **S** **23 05 04.1 +0.6**
LZH *e*sS 23 05 25.0
LZH ScP 23 06 27.5
LZH SS SS 23 07 01.0 +3.6
LZH ScS ScS 23 10 23.3 +1.4
LZH LR LR
comp=Z,3μm,19.7s,MS5.0
NACB Ninganchiao 31.98 51 ⇑*e*P **P** **22 59 58.4 +0.7**
TATO Taipei 32.33 50 PFAKE 23 00 10.0 +9.3
TATO LR LR
comp=Z,1μm,21.0s,MS4.6
DLH Dalhousie 32.46 329 *e*P **P** **23 00 00.0 -1.8**
THN Thein Dam 32.50 329 *e*P **P** **23 00 00.0 -2.2**
THN *e* 23 02 47.2
GTA Gaotai 34.43 7 ⇑*i*P **P** **23 00 18.6 -0.1**
GTA AP pP 23 00 31.3 +0.1
GTA XP sP 23 00 36.3 -0.9
GTA PCP PcP 23 02 53.8 +0.2
GTA S **S** **23 05 41.8 -0.8**
GTA SCP 23 06 34.5
GTA SS SS 23 07 54.9 -0.3
GTA SCS ScS 23 10 36.1 +1.2
GTA AMB AMB
comp=Z,197nm,1.0s,mb6.0
GTA AMB AMB
comp=Z,428nm,6.5s
GTA LR LR
comp=N,769nm,20.2s,MS4.6
GTA LR LR
comp=E,806nm,21.7s,MS4.6
GTA LR LR
comp=Z,869nm,20.9s,MS4.5
NJ2 Nanjing 34.99 37 *e*P **P** **23 00 24.3 +0.7**
NJ2 AP pP 23 00 36.1 0.0
NJ2 XP sP 23 00 41.4 -0.6
NJ2 PP PP 23 01 42.4 -0.4
NJ2 S **S** **23 05 51.0 -0.3**
NJ2 AMB AMB
comp=Z,220nm,0.8s,mb6.1
NJ2 AMB AMB
comp=Z,270nm,4.7s
NJ2 LR LR
comp=N,3μm,12.4s,MS5.5
NJ2 LR LR
comp=E,5μm,14.1s,MS5.5
NJ2 LR LR
comp=Z,11μm,13.1s,MS5.8
MBWA Marble Bar 35.78 138 *e*P **P** **23 00 28.0 -2.3**
comp=Z,47nm,1.2s,mb5.3
SSE Sheshan 35.80 41 P **P** **23 00 31.4 +0.9**
SSE XP sP 23 00 47.4 -1.5
SSE PP PP 23 01 52.0 -0.5
SSE PCP PcP 23 02 59.3 +1.6
SSE S **S** **23 06 05.1 +1.3**
SSE PCS 23 06 46.8
SSE AMB AMB
comp=Z,52nm,0.9s,mb5.5
SSE AMB AMB
comp=Z,151nm,6.4s
SSE LR LR
comp=N,767nm,16.7s,MS4.7
SSE LR LR
comp=E,630nm,16.7s,MS4.7
SSE LR LR
comp=Z,1μm,19.9s,MS4.7
SSE Sheshan 35.80 41 P **P** **23 00 31.4 +0.9**
comp=Z,52nm,0.9s,mb5.5
SSE sP sP 23 00 47.4 -1.5
SSE PP PP 23 01 52.0 -0.5
SSE PcP PcP 23 02 59.3 +1.6
SSE S **S** **23 06 05.1 +1.3**
SSE sS 23 06 24.1
SSE PcS 23 06 46.8
SSE LR LR
comp=Z,1μm,19.9s,MS4.7
TIA Tai'an 37.12 31 *e*P **P** **23 00 41.5 0.0**
BTO Baotou 37.88 19 *e*P **P** **23 00 47.3 -0.5**
BTO AMB AMB
comp=Z,54nm,0.6s,mb5.5
FITZ Fitzroy Crossi 38.18 128 ⇑*i*P **P** **23 00 48.9 -1.6**
comp=Z,48nm,0.7s,mb5.3
FITZ Fitzroy Crossi 38.18 128 P **P** **23 00 49.1 -1.5**
comp=Z,78nm,0.8s,mb5.5,baz=324,slow=3.5,SNR=33
FITZ LR LR 23 17 05.8
comp=Z,666nm,21.7s,MS4.4,baz=286,slow=37
KSH Kashi 38.23 336 ⇑*i*P **P** **23 00 50.6 -0.2**
KSH *e*AP pP 23 01 02.1 -1.3
KSH *e*XP sP 23 01 08.4 -0.8
KSH *e*PP PP 23 02 21.0 -1.1
KSH *e*PCP PcP 23 03 06.3 +1.3
KSH *e*S **S** **23 06 40.4 -0.5**
KSH *e*PCS 23 06 49.1

KSH *e*SS SS 23 09 20.0 -1.3
KSH *e*SCS ScS 23 10 55.1 -0.8
KSH AMB AMB
comp=Z,110nm,1.1s,mb5.5
KSH LR LR
comp=N,2μm,21.5s
KSH LR LR
comp=E,860nm,15.0s
JOW Kunigami 38.53 52 P **P** **23 00 54.1 +0.7**
comp=E,106nm,0.7s,mb5.7,baz=253,slow=7.4,SNR=24
JOW LR LR 23 16 49.8
comp=E,1μm,21.6s,MS4.7,baz=321,slow=36
HHC Hu-ho-hao-te 38.62 21 ⇑*i*P **P** **23 00 55.0 +1.1**
HHC AP pP 23 01 07.1 +0.5
HHC XP sP 23 01 11.9 -0.5
HHC PP PP 23 02 29.8 +3.3
HHC PCP PcP 23 03 01.0 -5.2
HHC PCS 23 06 47.6
HHC S **S** **23 06 52.4 +5.7**
HHC XS 23 07 11.6
HHC SCS ScS 23 11 00.5 +2.4
HHC AMB AMB
comp=Z,131nm,1.2s,mb5.5
HHC AMB AMB
comp=Z,271nm,9.6s
HHC LR LR
comp=N,2μm,20.4s,MS5.0
HHC LR LR
comp=E,1μm,16.8s,MS5.0
HHC LR LR
comp=Z,2μm,22.8s
WMQ Urumqi 39.04 352 P **P** **23 00 58.3 +0.8**
WMQ AP pP 23 01 10.4 +0.3
WMQ XP sP 23 01 15.8 -0.1
WMQ PP PP 23 02 32.6 +1.2
WMQ S **S** **23 06 53.8 +0.7**
WMQ AMB AMB
comp=Z,115nm,0.8s,mb5.7
WMQ LR LR
comp=N,464nm,24.4s,MS4.4
WMQ LR LR
comp=E,632nm,27.6s,MS4.4
WMQ LR LR
comp=Z,418nm,26.0s,MS4.2
ULHL Ulahol 40.49 339 P **P** **23 01 10.6 +1.1**
SNR=57
KZA Kyzart 40.71 338 P **P** **23 01 12.9 +1.6**
SNR=21
UCH Uchtor 41.12 337 P **P** **23 01 16.4 +1.7**
SNR=37
TKM2 Tokmak 2 41.31 339 P **P** **23 01 17.4 +1.2**
SNR=30
KBK Karagaybulak 41.32 338 P **P** **23 01 18.1 +1.7**
SNR=157
AML Almayashu 41.37 336 P **P** **23 01 18.3 +1.6**
SNR=28
KAKA Kakadu 41.38 116 *e*P **P** **23 01 16.9 -0.2**
comp=Z,31nm,0.9s,mb4.9
AAK Ala-Archa 41.48 337 P **P** **23 01 19.1 +1.5**
SNR=56
AAK Ala-Archa 41.48 337 ⇑*i*P **P** **23 01 17.9 +0.3**
comp=Z,102nm,0.9s,mb5.5
AAK *e*PP PP 23 02 52.6 -4.2
AAK LR LR
comp=Z,161nm,19.0s,MS3.9
DL2 Dalian 41.49 32 P **P** **23 01 18.0 +0.2**
DL2 PP PP 23 02 57.6 +0.6
DL2 S **S** **23 07 32.0 +2.3**
DL2 XS 23 08 00.1
DL2 AMB AMB
comp=Z,160nm,0.8s,mb5.7
DL2 AMB AMB
comp=Z,160nm,4.5s
DL2 LR LR
comp=N,600nm,15.5s,MS4.7
DL2 LR LR
comp=E,410nm,16.1s,MS4.7
DL2 LR LR
comp=Z,920nm,16.4s,MS4.7
FRU Bishkek 41.60 338 ⇑*e*P **P** **23 01 19.8 +1.2**
FRU *e* pP 23 01 33.0 +1.6
FRU pmax pmax
comp=Z,300nm,2.1s,mb5.5
FRU MLR MLR
comp=Z,600nm,16.0s,MS4.6
FRU MLR MLR
comp=E,700nm,17.0s
CHMS Chumysh 41.69 338 P **P** **23 01 20.0 +0.6**
SNR=34
EKS2 Erkin-Say 41.78 337 P **P** **23 01 21.7 +1.6**
SNR=62
USP Ospenovka 42.02 338 P **P** **23 01 23.0 +0.9**
SNR=229
MUN Mundaring 42.15 152 *e*P **P** **23 01 23.4 +0.1**
comp=E,32nm,1.4s,mb4.8
MUN Mundaring 42.15 152 *e*P **P** **23 01 23.4 +0.1**
MUN pmax pmax
comp=Z,32nm,1.4s,mb4.8
MKAR Makanchi Array 42.90 347 P **P** **23 01 29.5 +0.2**
comp=Z,214nm,0.7s,mb6.0,baz=167,slow=8.1,SNR=1560
MKAR pP pP 23 01 42.7 +0.7
comp=Z,42nm,0.7s,baz=172,slow=8.6,SNR=5.6
MKAR LR LR 23 25 03.8
comp=Z,249nm,18.6s,MS4.1,baz=170,slow=44
INCN Inchon 43.37 38 ⇑*e*P **P** **23 01 32.7 -0.5**
comp=Z,122nm,0.9s,mb5.6
INCN LR LR
comp=Z,2μm,19.0s,MS5.0
NWAO Narrogin (SRO) 43.42 152 P **P** **23 01 33.5 -0.2**
comp=Z,22nm,1.0s,mb4.8,baz=319,slow=11,SNR=4.4
NWAO LR LR 23 20 02.5
comp=Z,599nm,20.6s,MS4.5,baz=326,slow=37
NWAO Narrogin (SRO) 43.42 152 *e*P **P** **23 01 33.9 +0.2**
KKAR Karatay Array 43.50 334 *i* P **P** **23 01 34.3 +0.1**
JNU Nakatsue 43.62 46 P **P** **23 01 35.9 +0.5**
comp=Z,107nm,0.9s,mb5.6,baz=251,slow=4.4,SNR=52
JNU LR LR 23 22 19.9
comp=Z,1μm,18.6s,MS4.8,baz=53,slow=40
SONM Songino Array 43.70 11 P **P** **23 01 35.3 -0.4**
comp=Z,80nm,0.7s,mb5.5,baz=190,slow=8.6,SNR=587
SONM pP pP 23 01 48.6 +0.1
comp=Z,46nm,0.9s,baz=195,slow=8.7,SNR=9.1
SONM PcP PcP 23 03 22.0 -0.7
comp=Z,38nm,0.8s,baz=192,slow=3.8,SNR=14
SONM pPcP 23 03 36.3
comp=Z,24nm,0.8s,baz=192,slow=4.0,SNR=5.6
SONM ScP 23 07 08.2
comp=Z,9.1nm,1.1s,baz=207,slow=3.7,SNR=7.3
SONM LR LR 23 22 06.2
comp=Z,1μm,18.1s,MS4.8,baz=195,slow=39
KS15 Wonju Array Si 44.11 39 ⇑*e*P **P** **23 01 39.2 0.0**
SNY Shenyang 44.65 31 ⇑*i*P **P** **23 01 43.6 +0.2**
SNY AP pP 23 01 53.9 -2.3
SNY S **S** **23 08 12.9 -2.8**
SNY AMB AMB
comp=Z,80nm,1.3s,mb5.4
SNY LR LR
comp=N,1μm,17.6s
SNY LR LR
comp=Z,2μm,17.8s,MS5.0
ZAK Zakamensk 45.66 8 ⇓*i*P **P** **23 01 51.1 -0.3**
ZAK *e* 23 03 28.6
ZAK *e* 23 03 44.5
ZAK pmax pmax
comp=Z,30nm,0.9s,mb5.2
ZAK pmax pmax
comp=Z,21nm,0.9s,mb5.1
ZAK pmax pmax
comp=Z,17nm,1.0s,mb4.9
WRA Warramunga Arr 46.16 124 P **P** **23 01 55.1 -0.6**
comp=Z,188nm,0.9s,mb6.0,baz=302,slow=9.1,SNR=517
WRA ScP 23 07 17.9
comp=Z,3.4nm,0.8s,baz=311,slow=3.4,SNR=5.4
WRAB Tennant Creek 46.17 124 *c*P **P** **23 01 55.3 -0.5**
WRAB Tennant Creek 46.17 124 ⇑*i*P **P** **23 01 55.1 -0.7**
comp=Z,310nm,0.8s,mb6.3
WRAB LR LR
comp=Z,524nm,22.0s,MS4.4
WB2 Warramunga Arr 46.17 124 ⇑*i*P **P** **23 01 55.2 -0.7**
MOY Mondy 46.67 5 *e*P **P** **23 01 59.2 -0.2**
MOY pmax pmax
comp=Z,58nm,2.4s,mb5.1
TLY Talaya 46.98 8 *e*P **P** **23 02 02.0 +0.2**
TLY *e* 23 03 53.3
TLY *e*S **S** **23 08 59.3 +10**
TLY pmax pmax

	comp=Z,69nm,0.8s,mb5.6									
TLY					MLR	MLR				
	comp=Z,829nm,19.0s,MS4.7									
TLY	**Talaya**	**46.98**		**8**⇑	*i*P		**P**	**23 02 01.9**	**+0.1**	
	comp=Z,63nm,0.8s,mb5.6									
TLY					*e*PcP	PcP		23 03 33.0	-1.0	
CN2	**Changchun**	**47.02**		**30**	*e*P		**P**	**23 02 02.3**	**+0.1**	
CN2					*e*AP	pP		23 02 16.8	+1.8	
CN2					SCP			23 07 23.3		
CN2					AMB	AMB				
	comp=Z,60nm,1.0s,mb5.5									
CN2					AMB	AMB				
	comp=Z,340nm,3.0s									
CN2					LR	LR				
	comp=N,900nm,15.0s,MS5.1									
CN2					LR	LR				
	comp=E,1μm,15.0s,MS5.1									
CN2					LR	LR				
	comp=Z,1μm,18.0s,MS4.8									
HIA	**Hailar**	**48.80**		**22**⇑	*i*P		**P**	**23 02 15.6**	**-0.4**	
HIA					*e**PP	pP		23 02 28.5	-0.3	
HIA					pmax	pmax				
	comp=Z,85nm,0.7s									
HIA	**Hailar**	**48.80**		**22**⇑	*i*P		**P**	**23 02 15.6**	**-0.4**	
	comp=Z,85nm,0.7s,mb5.9									
HIA					*e*pP	pP		23 02 28.5	-0.4	
MDJ	**Mudanjiang**	**49.73**		**32**	P	P		**23 02 23.6**	**+0.3**	
MDJ					AP	pP		23 02 34.8	-1.3	
MDJ					PP	PP		23 04 18.8	+0.1	
MDJ					SCP			23 07 35.9		
MDJ					PCS			23 07 40.5		
MDJ					SCS	ScS		23 12 07.5	0.0	
MDJ					AMB	AMB				
	comp=Z,97nm,1.2s,mb5.7									
MDJ					AMB	AMB				
	comp=Z,204nm,10.4s									
MDJ					LR	LR				
	comp=N,412nm,19.4s,MS4.8									
MDJ					LR	LR				
	comp=E,811nm,20.2s,MS4.8									
MDJ					LR	LR				
	comp=Z,1μm,22.4s,MS4.8									
MDJ	**Mudanjiang**	**49.73**		**32**⇑	*i*P		**P**	**23 02 23.6**	**+0.3**	
	comp=Z,161nm,1.2s,mb5.9									
RYDS	**Riyadh**	**49.99**		**297**	P	P		**23 02 26.9**	**+1.3**	
GUMO	**Guam**	**50.02**		**77**	PFAKE			23 02 40.0	+14	
GUMO					LR	LR				
	comp=Z,2μm,19.0s,MS5.1									
CBIJ	**Chichi jima**	**50.10**		**59**	LR	LR		23 23 52.5		
	comp=Z,903nm,18.2s,MS4.8,baz=141,slow=36									
QRN	**Al-Qurain**	**50.19**		**303**	*e*P		**P**	**23 02 27.8**	**+0.8**	
QRN					AMb	AMB		23 02 44.4		
	comp=Z,162nm,1.0s,mb6.0									
JHJ	**Hachijo jima 2**	**50.24**		**51**	LR	LR		23 22 43.3		
	comp=Z,490nm,21.6s,MS4.5,baz=122,slow=35									
NVS	**Novosibirsk**	**50.44**		**351**⇑	*i*P		**P**	**23 02 27.3**	**-1.2**	
NVS					*i* *PP	pP		23 02 40.9	-0.5	
NVS					*e*S	**S**		**23 09 33.2**	**-4.1**	
NVS					pmax	pmax				
	comp=N,105nm,1.1s									
NVS					pmax	pmax				
	comp=Z,132nm,1.1s,mb5.9									
NVS					pmax	pmax				
	comp=E,59nm,1.0s									
NVS					smax					
	comp=N,62nm,1.7s									
NVS					smax					
	comp=E,37nm,1.8s									
KBD	**Kabd**	**50.52**		**304**	*e*P		**P**	**23 02 29.5**	**0.0**	
MAJO	**Matsushiro**	**50.55**		**46**⇑	*e*P		**P**	**23 02 28.9**	**-0.7**	
MAJO					*e*			23 03 46.2		
MAJO					pmax	pmax				
	comp=Z,41nm,0.8s,mb5.4									
MAJO					MLR	MLR				
	comp=Z,1μm,19.0s,MS4.9									
MAJO	**Matsushiro**	**50.55**		**46**⇑	*e*P		**P**	**23 02 28.9**	**-0.7**	
	comp=Z,41nm,0.8s,mb5.4									
MAJO					*e*PcP	PcP		23 03 46.2	-0.9	
MAJO					LR	LR				
	comp=Z,1μm,19.0s,MS4.9									
MAT	**Matsushiro**	**50.55**		**46**	*e*P		**P**	**23 02 29.0**	**-0.6**	
MAT					pmax	pmax				
	comp=Z,45nm,0.9s,mb5.4									
MAT					MLR	MLR				
	comp=Z,1μm,20.0s,MS5.0									
MAT	**Matsushiro**	**50.55**		**46**	*e*P		**P**	**23 02 29.0**	**-0.6**	
	comp=Z,45nm,0.9s,mb5.4									
MAT					LR	LR				
	comp=Z,1μm,20.0s,MS5.0									
MAT	**Matsushiro**	**50.55**		**46**	P	P		**23 02 28.7**	**-0.9**	
MAT					*e*S	**S**		**23 09 46.8**	**+7.8**	
MJAR	**Matsushiro Arr**	**50.55**		**46**	P	P		**23 02 29.2**	**-0.4**	
	comp=Z,28nm,0.8s,mb5.3,baz=248,slow=8.8,SNR=80									
MJAR					PcP	PcP		23 03 46.5	-0.6	
	comp=Z,13nm,0.9s,baz=239,slow=6.1,SNR=5.8									
MJAR					pPcP			23 04 00.4		
	comp=Z,24nm,1.1s,baz=241,slow=5.3,SNR=5.9									
MJAR					ScP			23 07 36.6		
	comp=Z,1.7nm,0.9s,baz=225,slow=3.4,SNR=4.6									
MJAR					LR	LR		23 25 38.2		
	comp=Z,1μm,20.2s,MS4.8,baz=270,slow=38									
RDF	**Al-Radifah**	**50.55**		**304**	*e*P		**P**	**23 02 30.6**	**+0.8**	
RDF					AMb	AMB		23 02 32.0		
	comp=Z,182nm,1.0s,mb6.0									
NAY	**Al-Naaiem**	**50.91**		**304**	*e*P		**P**	**23 02 32.3**	**-0.2**	
NAY					AMb	AMB		23 02 48.9		
	comp=Z,128nm,1.2s,mb5.7									
MIB	**Mutribah**	**51.01**		**305**	*e*P		**P**	**23 02 33.3**	**+0.1**	
MIB					AMb	AMB		23 02 36.0		
	comp=Z,260nm,1.2s,mb6.0									
KAMS	**Al Khamasin**	**51.04**		**292**	P	P		**23 02 34.6**	**+1.0**	
VOSK	**Vostochnaya**	**51.34**		**342**	*i* P	P		**23 02 35.1**	**-0.3**	
DJNS	**Zahran al Janu**	**51.61**		**288**	P	P		**23 02 38.8**	**+0.9**	
BVA0	**Borovoye Array**	**51.79**		**341**	*i* P	P		**23 02 38.2**	**-0.5**	
BVA0					pmax	pmax				
	comp=Z,24nm,0.9s,mb5.1									
BRVK	**Borovoye**	**51.85**		**341**⇑	*i*P		**P**	**23 02 38.4**	**-0.8**	
	comp=Z,105nm,0.9s,mb5.8									
BRVK					*e*S	**S**		**23 09 57.9**	**+1.2**	
BRVK					LR	LR				
	comp=Z,50nm,21.0s									
TATS	**Tathlith**	**51.94**		**291**	P	P		**23 02 41.0**	**+0.7**	
ZRNK	**Zerenda**	**52.17**		**341**⇑	*i*P		**P**	**23 02 41.0**	**-0.6**	
ZRNK					*e**PP	pP		23 02 52.9	-1.7	
ZRNK					*e*			23 03 51.3		
AB31	**Akbulak array**	**52.95**		**332**	*i* P	P		**23 02 47.2**	**-0.3**	
AFFS	**'Afif**	**53.17**		**296**	P	P		**23 02 50.1**	**+0.6**	
BLJS	**Baljurashi**	**53.74**		**291**	P	P		**23 02 54.8**	**+1.1**	
KLR	**Kul'dur**	**53.92**		**29**⇓	*e*P		**P**	**23 02 51.5**	**-3.1**	
KLR					*e*			23 03 55.0		
KLR					*e*			23 04 51.2		
KLR					pmax	pmax				
	comp=N,50nm,2.0s									
KLR					pmax	pmax				
	comp=E,130nm,2.0s									
KLR					pmax	pmax				
	comp=Z,150nm,2.0s,mb5.6									
KLR					MLR	MLR				
	comp=N,600nm,14.0s,MS4.9									
KLR					MLR	MLR				
	comp=E,500nm,14.0s,MS4.9									
KLR					MLR	MLR				
	comp=Z,900nm,14.0s,MS5.0									
PMG	**Port Moresby**	**54.13**		**105**	P	P		**23 02 55.8**	**-0.9**	
PMG					pmax	pmax				
	comp=Z,41nm,0.8s									
PMG	**Port Moresby**	**54.13**		**105**	P	P		**23 02 55.3**	**-1.3**	
	comp=Z,41nm,0.8s,mb5.4,baz=299,slow=2.6,SNR=5.7									
PMG	**Port Moresby**	**54.13**		**105**	*e*P		**P**	**23 02 54.0**	**-2.7**	
	comp=Z,41nm,0.8s,mb5.4									
PMG					LR	LR				
	comp=Z,275nm,19.0s,MS4.3									
BOD	**Bodaibo**	**54.66**		**12**⇓	*i*P		**P**	**23 02 58.3**	**-1.6**	
BOD					pmax	pmax				
	comp=Z,61nm,1.2s,mb5.5									
HILS	**Ha'il**	**55.01**		**300**	P	P		**23 03 03.7**	**+0.8**	
CTA	**Charters Tower**	**56.42**		**118**	*e*P		**P**	**23 03 11.9**	**-1.2**	
	comp=Z,41nm,1.0s,mb5.4									
CTA	**Charters Tower**	**56.42**		**118**	P	P		**23 03 11.7**	**-1.4**	
CTA								23 04 09.2		
CTA					pmax	pmax				
	comp=Z,50nm,1.0s									
CTA					pmax	pmax				
	comp=Z,16nm,0.9s									
CTA	**Charters Tower**	**56.42**		**118**	P	P		**23 03 11.7**	**-1.4**	
	comp=Z,50nm,1.0s,mb5.5,baz=289,slow=8.2,SNR=16									
CTA					PcP	PcP		23 04 09.2	-0.3	
	comp=Z,16nm,0.9s,baz=260,slow=4.4,SNR=3.0									
CTAO	**Charters Tower**	**56.42**		**118**	PFAKE			23 03 20.0	+6.9	
CTAO					LR	LR				
	comp=Z,859nm,20.0s,MS4.8									
HAKT	**HAKKARI**	**56.57**		**312**	*i* P	P		**23 03 12.4**	**-1.6**	
CLNS	**Chul'man**	**56.78**		**19**	*e*P	P		**23 03 14.8**	**-0.4**	
CLNS					*e*			23 04 08.7		
CLNS					*e*			23 05 17.8		
CLNS					*e*S	**S**		**23 11 05.2**	**+2.2**	
CLNS					*e*SS	SS		23 14 53.8	+1.4	
CLNS					pmax	pmax				
	comp=N,21nm,1.0s									
CLNS					pmax	pmax				
	comp=Z,40nm,1.0s,mb5.4									
CLNS					pmax	pmax				
	comp=E,16nm,0.8s									
CLNS					pmax	pmax				
	comp=E,16nm,0.8s									
CLNS					pmax	pmax				
	comp=Z,9.0nm,0.8s,mb4.8									
CLNS					pmax	pmax				
	comp=N,9.0nm,0.9s									
CLNS					pmax	pmax				
	comp=E,8.0nm,0.9s									
CLNS					smax					
	comp=N,8.0nm,0.8s									
CLNS					smax					
	comp=E,5.0nm,0.9s									
CLNS					smax					
	comp=Z,5.0nm,0.9s									
CLNS					MLR	MLR				
	comp=N,700nm,16.0s,MS5.0									
CLNS					MLR	MLR				
	comp=Z,1μm,16.0s,MS5.1									
CLNS					MLR	MLR				
	comp=E,700nm,14.0s,MS5.0									
GNI	**Garni**	**56.83**		**315**	LR	LR		23 30 27.7		
	comp=E,90nm,19.9s,MS3.9,baz=305,slow=39									
GNI	**Garni**	**56.83**		**315**⇑	*i*P		**P**	**23 03 15.1**	**-0.8**	
	comp=E,74nm,0.9s,mb5.7									
GNI					LR	LR				
	comp=Z,177nm,22.0s,MS4.1									
KBRS	**Khaybar**	**56.88**		**297**	P	P		**23 03 17.1**	**+0.8**	
DGRG	**Davíd-gareji**	**56.94**		**317**	P	P		**23 03 16.4**	**-0.1**	
ASAJ	**Asahikawa**	**57.08**		**39**	LR	LR		23 29 42.8		
	comp=Z,518nm,19.1s,MS4.7,baz=224,slow=38									
TVAN	**Van**	**57.15**		**313**	*i* P	P		**23 03 23.6**	**+5.5**	
ADE	**Adelaide**	**57.40**		**137**⇓	*i*P	P		**23 03 19.6**	**-0.3**	
MTA	**Mtatsminda**	**57.44**		**317**	P	P		**23 03 19.1**	**-1.0**	
TI2	**Plekhanov**	**57.49**		**317**⇓	*i*P	P		**23 03 19.0**	**-1.4**	
TI2					pmax	pmax				
	comp=E,20nm,0.8s									
TBLG	**Delisi**	**57.49**		**317**	P	P		**23 03 19.7**	**-0.8**	
STKA	**Stephens Creek**	**57.75**		**133**⇑	*i*P	P		**23 03 21.0**	**-1.4**	
	comp=E,24nm,1.0s,mb5.2									
STKA	**Stephens Creek**	**57.75**		**133**	P	P		**23 03 21.1**	**-1.4**	
	comp=E,38nm,1.1s,mb5.3,baz=308,slow=7.1,SNR=22									
STKA					LR	LR		23 30 48.7		
	comp=E,308nm,18.9s,MS4.4,baz=223,slow=39									
KMBO	**Kilima Mbogo**	**57.82**		**265**	P	P		**23 03 23.4**	**+0.2**	
	comp=E,8.4nm,0.9s,mb4.8,baz=52,slow=7.1,SNR=9.5									
KMBO					LR	LR		23 23 54.8		
	comp=E,737nm,21.9s,MS4.8,baz=98,slow=32									
KMBO	**Kilima Mbogo**	**57.82**		**265**	P	P		**23 03 23.4**	**+0.2**	
KMBO					LR	LR		23 23 54.8		
ZEI	**Tsey**	**58.50**		**318**	*e*P	P		**23 03 22.9**	**-4.5**	
ZEI					*i* *PP	pP		23 03 33.9	-6.8	
ZEI					*i*			23 05 33.5		
ZEI					pmax	pmax				
	comp=Z,50nm,0.9s,mb5.5									
UMJS	**Umm Lajj**	**58.51**		**296**	P	P		**23 03 28.9**	**+1.2**	
YSS	**Yuzh-Sakhalins**	**58.56**		**37**⇑	*i*P	P		**23 03 27.4**	**-0.4**	
YSS					*e*	pP		23 03 40.4	-0.6	
YSS					pmax	pmax				
	comp=N,30nm,1.0s									
YSS					pmax	pmax				
	comp=Z,140nm,1.0s,mb6.0									
YSS					pmax	pmax				
	comp=E,30nm,0.8s									
YSS	**Yuzh-Sakhalins**	**58.56**		**37**⇑	*i*P		**P**	**23 03 27.3**	**-0.5**	
	comp=E,246nm,1.4s,mb6.0									
YSS					*e*pP	pP		23 03 38.8	-2.2	
YSS					LR	LR				
	comp=Z,766nm,19.0s,MS4.8									
ARU	**Arti**	**58.66**		**337**⇑	*i*P	P		**23 03 26.9**	**-1.5**	
ARU					*e**PP	pP		23 03 39.6	-2.0	
ARU					*e*S	**S**		**23 11 27.1**	**-0.5**	
ARU					pmax	pmax				
	comp=Z,160nm,1.2s,mb5.9									
ARU	**Arti**	**58.66**		**337**⇑	*i*P	P		**23 03 26.9**	**-1.5**	
	comp=Z,160nm,1.2s,mb5.9									
ARU					*e*pP	pP		23 03 39.6	-2.0	
ARU					*e*S	**S**		**23 11 27.1**	**-0.5**	
ARU					LR	LR				
	comp=Z,115nm,20.0s,MS4.0									
MARD	**Mardin**	**58.66**		**311**	*i* P	P		**23 03 27.5**	**-1.2**	
ONI	**Oni**	**58.72**		**318**	P	P		**23 03 28.1**	**-0.9**	
ERZM	**Erzurum**	**59.13**		**314**	*i* P	P		**23 03 31.6**	**-0.3**	
TBKS	**Tabuk**	**59.72**		**300**	P	P		**23 03 37.1**	**+0.9**	
QURS	**Qurayyt al Mil**	**59.74**		**303**	P	P		**23 03 36.6**	**+0.4**	
KIV	**Kislovodsk**	**59.80**		**319**⇑	*i*P	P		**23 03 35.1**	**-1.3**	
KIV					*e**PP	pP		23 03 48.7	-1.0	
KIV					pmax	pmax				
	comp=Z,99nm,0.9s,mb5.8									
KIV	**Kislovodsk**	**59.80**		**319**⇑	*i*P	P		**23 03 35.1**	**-1.3**	
	comp=Z,99nm,0.9s,mb5.8									
KIV					*e*pP	pP		23 03 48.6	-1.0	
KIV					LR	LR				
	comp=Z,47nm,20.0s									
GOF	**Gofitskoye**	**60.04**		**320**⇓	*i*P	P		**23 03 36.4**	**-1.7**	
GOF					pmax	pmax				
	comp=Z,119nm,1.3s,mb5.8									
ASF	**Jabal al Asfar**	**60.28**		**304**	LR	LR		23 32 14.0		
	comp=Z,613nm,18.2s,MS4.8,baz=140,slow=38									
ELZG	**Elazig**	**60.39**		**312**	*i* P	P		**23 03 40.0**	**-0.5**	
MALT	**Malatya**	**60.75**		**311**⇑	*e*P	P		**23 03 41.5**	**-1.5**	
MALT					*e**PP	pP		23 03 55.5	-0.8	
MALT					pmax	pmax				
	comp=Z,46nm,1.1s,mb5.5									
MALT	**Malatya**	**60.75**		**311**⇑	*e*P	P		**23 03 41.5**	**-1.5**	
	comp=Z,46nm,1.1s,mb5.5									
MALT					pP	pP		23 03 55.5	-0.8	
BDAS	**Al Bad'**	**61.02**		**300**	P	P		**23 03 45.2**	**+0.2**	
GZT	**Gaziantep**	**61.11**		**310**	*i* P	P		**23 03 45.4**	**-0.1**	
JMOS	**Jabal al Moall**	**61.15**		**300**	P	P		**23 03 46.1**	**+0.2**	
MKRJ	**Makawir**	**61.18**		**303**	P	P		**23 03 47.4**	**+1.4**	
ALWS	**Ilw as Safayha**	**61.21**		**301**	P	P		**23 03 46.5**	**+0.2**	
HAQS	**Haql**	**61.28**		**300**	P	P		**23 03 46.9**	**+0.2**	
KSHT	**Keshet**	**61.36**		**305**	P	P		**23 03 47.9**	**+0.7**	
ZFRI	**Zfri**	**61.36**		**302**	P	P		**23 03 47.4**	**+0.2**	
EIL	**Elat**	**61.38**		**301**	P	P		**23 03 47.5**	**+0.1**	
EIL	**Elat**	**61.38**		**301**⇑	*i*P	P		**23 03 47.0**	**-0.4**	
	comp=Z,59nm,1.1s,mb5.6									
EIL					*e*pP	pP		23 04 00.5	-0.2	
MBH	**Mount Berech**	**61.43**		**301**	P	P		**23 03 48.1**	**+0.4**	
PRNI	**Paran**	**61.46**		**302**	P	P		**23 03 48.3**	**+0.3**	
KSDI	**Kefar Szold**	**61.53**		**305**	P	P		**23 03 48.4**	**0.0**	
MMLI	**Mount Malkishu**	**61.55**		**304**	P	P		**23 03 49.2**	**+0.7**	
SOC	**Sochi**	**61.63**		**317***c*	*i*P	P		**23 03 46.2**	**-2.7**	
SOC					*e*			23 06 09.2		
SOC					*e*PPP	PPP		23 07 35.7	-0.1	
SOC					*e*S	**S**		**23 12 05.0**	**-0.9**	
SOC					*e*			23 13 31.6		
SOC					pmax	pmax				
	comp=N,50nm,1.2s									
SOC					pmax	pmax				
	comp=E,17nm,1.2s									
SOC					pmax	pmax				
	comp=Z,134nm,1.2s,mb6.0									
SOC					MLR	MLR				
	comp=Z,88nm,17.0s,MS4.0									
SOC					MLR	MLR				
	comp=N,104nm,18.0s,MS4.2									
SOC					MLR	MLR				
	comp=E,112nm,17.0s,MS4.2									
KMTI	**Karmit**	**61.65**		**301**	P	P		**23 03 49.4**	**+0.2**	
BHL	**Bhannes**	**61.70**		**306**	*e*P	P		**23 03 50.1**	**+0.6**	
KAHT	**Ahir Dag**	**61.72**		**310**	*i* P	P		**23 03 49.5**	**-0.1**	
SLTI	**Sal'it**	**61.83**		**304**	P	P		**23 03 50.8**	**+0.5**	
COBT	**Iskenderun**	**61.89**		**309**	*i* P	P		**23 03 50.8**	**+0.1**	
HNTI	**Hanita**	**61.90**		**305**	P	P		**23 03 51.8**	**+1.0**	
OFRI	**'Ofer**	**61.95**		**304**	P	P		**23 03 51.6**	**+0.4**	
HAF	**Haifa**	**61.96**		**304**	P	P		**23 03 50.1**	**-1.1**	
KZIT	**Kziot**	**62.09**		**302**	P	P		**23 03 52.2**	**+0.1**	
YAK	**Yakutsk**	**62.39**		**18***c*	*i*P	P		**23 03 51.9**	**-1.8**	
YAK					pmax	pmax				
	comp=Z,331nm,1.3s,mb6.3									
YAK	**Yakutsk**	**62.39**		**18**⇑	*i*P	P		**23 03 51.7**	**-1.9**	
	comp=Z,175nm,0.8s,mb6.2									
YAK					LR	LR				
	comp=Z,1μm,22.0s,MS5.0									
TOO	**Toolangi**	**63.41**		**137**	*e*P	P		**23 04 01.1**	**+0.3**	
	comp=Z,29nm,1.0s,mb5.4									
TOO	**Toolangi**	**63.41**		**137**	*e*P	P		**23 04 01.1**	**+0.3**	
TOO					pmax	pmax				
	comp=Z,29nm,1.0s,mb5.4									
MEST	**Erdemli**	**63.55**		**308**	*i* P	P		**23 04 00.7**	**-1.1**	
AVNT	**Avonos**	**63.56**		**311**	*i* P	P		**23 04 00.9**	**-1.0**	
ANN	**Anapa**	**63.60**		**318**	*e*P	P		**23 03 58.1**	**-3.9**	
ANN					*e*S	**S**		**23 12 29.1**	**-1.5**	
ANN					pmax	pmax				
	comp=Z,52nm,1.2s,mb5.4									
ANN					MLR	MLR				
	comp=N,142nm,18.0s,MS4.5									
ANN					MLR	MLR				
	comp=E,216nm,18.0s,MS4.5									
ANN					MLR	MLR				
	comp=Z,207nm,18.0s,MS4.3									
CSS	**Prodhromos**	**63.81**		**306**	⇑P	P		**23 04 03.4**	**-0.2**	
	comp=Z,2.2nm,0.9s									
MAMC	**Mammari**	**63.95**		**307**	P	P		**23 04 04.9**	**+0.5**	
CTKT	**Corum**	**64.12**		**313**	*i* P	P		**23 04 04.4**	**-1.0**	
SZAC	**Souni-Zanaja**	**64.13**		**306**	⇓P	P		**23 04 05.8**	**+0.2**	
CDAG	**Cicekdag**	**64.15**		**312**	*i* P	P		**23 04 04.5**	**-1.2**	
MBAR	**Mbarara**	**64.24**		**267**	*i* P	P		**23 04 07.0**	**+0.4**	
MBAR	**Mbarara**	**64.24**		**267**	*e*P	P		**23 04 06.2**	**-0.4**	
	comp=Z,53nm,1.3s,mb5.4									
MBAR					LR	LR				
	comp=Z,207nm,20.0s,MS4.3									
BOYT	**Boyabat**	**64.27**		**314**	*i* P	P		**23 04 05.7**	**-0.7**	
ERMK	**Ermenek**	**64.52**		**308**	*i* P	P		**23 04 08.1**	**-0.1**	
BR131	**Keskin Array S**	**64.72**		**312**⇑	*i*P	P		**23 04 08.0**	**-1.4**	
	comp=Z,32nm,0.7s,mb5.5									
BR131					LR	LR				
	comp=Z,225nm,21.0s,MS4.3									
BRTR	**Keskin Array B**	**64.72**		**312**	P	P		**23 04 08.1**	**-1.3**	
	comp=Z,40nm,0.7s,mb5.6,baz=126,slow=6.8,SNR=242									
BRTR					pP	pP		23 04 21.6	-1.1	
	comp=Z,25nm,0.9s,baz=138,slow=7.6,SNR=6.2									
ARMA	**Armidale**	**64.78**		**127**⇑	*i*P	P		**23 04 06.4**	**-3.5**	
CNB	**Canberra Magne**	**65.08**		**133**	*e*P	P		**23 04 10.8**	**-1.0**	
	comp=Z,61nm,1.2s,mb5.5									
ELDT	**Eldivan**	**65.08**		**312**	*i* P	P		**23 04 10.7**	**-1.0**	
VOR	**Voronezh**	**65.20**		**326**	*e*P	P		**23 04 10.5**	**-1.7**	
VOR					pmax	pmax				
	comp=Z,200nm,1.5s,mb5.9									
BALT	**Daday**	**65.39**		**314**	*i* P	P		**23 04 12.9**	**-0.7**	
KDHN	**Kadinhani**	**65.57**		**310**	*i* P	P		**23 04 13.4**	**-1.4**	
SIM	**Simferopol'**	**65.88**		**317**⇑	*e*P	P		**23 04 15.7**	**-1.0**	
SIM					*e*S	S		23 12 55.9	-2.7	
SIM					pmax	pmax				
	comp=Z,71nm,0.9s,mb5.7									
SIM					MLR	MLR				
	comp=Z,160nm,22.0s,MS4.2									
SGKT	**Sivrigoynuk**	**66.11**		**312**	*i* P	P		**23 04 17.4**	**-0.8**	
HNR	**Honiara**	**66.50**		**103**	P	P		**23 04 20.5**	**-0.7**	
HNR					pmax	pmax				
	comp=Z,150nm,0.9s,mb6.0									
HNR	**Honiara**	**66.50**		**103**	*e*P	P		**23 04 19.3**	**-1.9**	
	comp=Z,150nm,0.9s,mb6.0									
ISP	**Isparta**	**66.66**		**309**	P	P		**23 04 21.3**	**-0.5**	
ISP					pmax	pmax				
	comp=Z,110nm,1.0s,mb5.8									
ISP	**Isparta**	**66.66**		**309**	*e*P	P		**23 04 19.8**	**-1.9**	
	comp=Z,179nm,1.2s,mb6.0									
ESKT	**Eskisehir**	**66.76**		**311**	*i* P	P		**23 04 21.1**	**-1.3**	
TKTP	**Tekketepe**	**66.84**		**309**	*i* P	P		**23 04 21.8**	**-1.1**	
HENT	**Hendek**	**67.03**		**312**	*i* P	P		**23 04 22.0**	**-2.0**	
GOLH	**Golhisar**	**67.27**		**308**	*i* P	P		**23 04 24.6**	**-1.0**	
MOS	**Moscow**	**67.76**		**329**α	*i*P	P		**23 04 27.3**	**-1.0**	
MOS					*e*	pP		23 04 39.8	-2.0	
MOS					*e*			23 04 53.4		
MOS					*e*S	S		23 13 17.9	-3.3	
MOS					pmax	pmax				
	comp=Z,400nm,1.5s,mb6.2									
MOS					pmax	pmax				
	comp=Z,282nm,1.5s,mb6.1									
MOS					smax					
	comp=N,400nm,3.5s									
OBN	**Obninsk**	**68.05**		**328***c*	*i*P	P		**23 04 28.9**	**-1.2**	
OBN					*e*			23 07 00.7		
OBN					*i* S	S	

SEY eS S 23 13 58.7 -2.1
SEY e 23 14 36.7
SEY eSSS SSS 23 21 44.9 +1.2
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY pmax pmax
comp=E,10.0nm,0.8s
SEY pmax pmax
comp=Z,30nm,0.8s,mb5.3
SEY Seymchan 71.14 24 *i* P **P 23 04 48.3 -0.6**
SZH Strazhica 71.16 314 *e*P **P 23 04 48.5 -0.9**
DIM Dimitrovgrad 71.23 313 *i* P **P 23 04 49.0 -0.8**
KDZ Kurdzhali 71.25 312 *i* P **P 23 04 49.5 -0.4**
PVL Pavlikeni 71.58 314 *i* P **P 23 04 52.0 +0.1**
MLR Muntele Rosu 71.59 316 ⇑P **P 23 04 52.1 +0.2**
MLR Muntele Rosu 71.59 316 ⇑P **P 23 04 52.0 +0.1**
PLD Plovdiv 71.85 313 P **P 23 04 53.0 -0.5**
OUR Ouranopolis 72.10 311 *e*P **P 23 04 55.4 +0.4**
CASY Casey 72.14 173⇑*i*P **P 23 04 55.2 +0.4**
KYTH Kithira 72.30 306 *e*P **P 23 04 55.4 -0.9**
PGB Panagyurishte 72.31 313 *i* P **P 23 04 55.5 -0.8**
VLI Veliai 72.43 307 *e*P **P 23 04 56.5 -0.5**
MMB Musomiste 72.48 312 *i* P **P 23 04 56.0 -1.3**
SRS Serrai 72.51 311 *e*P **P 23 04 56.0 -1.6**
PLG Polygyros 72.51 311 *e*P **P 23 04 56.6 -0.9**
BURAR Bucovina Array 72.52 318 ⇑P **P 23 04 57.8 +0.4**
MNK Minsk 72.58 326⇑*e*P **P 23 04 51.0 -6.6**
THE Thessaloniki 72.91 311 *e*P **P 23 04 57.8 -2.1**
KKB Krupnik 73.00 312 *i* P **P 23 04 58.5 -1.9**
VTS Vitosha 73.02 313 *i* P **P 23 04 59.5 -1.0**
LIT Litokhoron 73.20 310 *e*P **P 23 04 60.0 -1.6**
ITM Ithomi 73.29 307 *e*P **P 23 05 01.0 -1.2**
VAY Valandovo 73.31 312⇑*i*P **P 23 05 01.0 -1.2**
VAY *i* pP 23 05 15.5 -0.3
GRG Griva 73.38 311 *e*P **P 23 05 01.2 -1.5**
IDID Didziasalis 73.41 326 *i* P **P 23 05 01.8 -0.7**
IDID AMb AMB 23 05 20.6
comp=Z,30nm,1.1s,mb5.1
LBTB Lobatse 73.53 242 *e*P **P 23 05 04.3 +0.5**
LBTB *e**PP pP 23 05 14.3 -3.1
LBTB pmax pmax
comp=Z,42nm,0.9s,mb5.4
LBTB MLR MLR
comp=Z,1µm,21.0s,MS5.2
LBTB Lobatse 73.53 242 P **P 23 05 04.4 +0.6**
LBTB pmax pmax
comp=Z,42nm,0.9s,mb5.4
LBTB Lobatse 73.53 242 *e*P **P 23 05 04.3 +0.4**
comp=Z,42nm,0.9s,mb5.4
LBTB *e*pP pP 23 05 14.3 -3.2
LBTB LR LR
comp=Z,1µm,21.0s,MS5.2
ZAPS Zavoj/Pirot 73.56 314⇑*i*P **P 23 05 02.6 -1.0**
IIGN Ignalina 73.71 326 *e*P **P 23 05 04.0 -0.2**
IZAR Zarasai 73.80 327 *i* P **P 23 05 04.0 -0.7**
IZAR AMb AMB 23 05 22.9
comp=Z,22nm,1.3s,mb4.9
ISAL Salakas 73.82 327 *i* P **P 23 05 04.2 -0.6**
ISAL AMb AMB 23 05 23.0
comp=Z,14nm,1.0s,mb4.9
FNA Florina 74.13 311 *e*P **P 23 05 06.2 -0.8**
SKO Skopje 74.23 312 *i* P **P 23 05 06.3 -1.3**
LVZ Lovozero 74.35 340 *i* P **P 23 05 07.2 -0.5**
LVZ Lovozero 74.35 340 *i* P **P 23 05 07.2 -0.5**
VLS Valsamata 74.45 308 *e*P **P 23 05 07.9 -1.0**
KWP Kalwaria 74.54 320⇑*e*P **P 23 05 09.2 0.0**
KWP Kalwaria 74.54 320⇑*e*P **P 23 05 09.2 0.0**
APA Apatity 74.64 340⇑*i*P **P 23 05 09.0 -0.4**
APA pmax pmax
comp=Z,70nm,0.8s,mb5.6
KOLS Kolonicke sedl 74.70 319 *i* P **P 23 05 10.6 +0.5**
BOSA Boshof 74.71 239 P **P 23 05 11.0 +0.4**
BOSA pmax pmax
comp=Z,72nm,1.1s,mb5.5
BOSA Boshof 74.71 239 P **P 23 05 10.9 +0.3**
comp=Z,18nm,0.9s,mb5.0,baz=84,slow=5.8,SNR=34
BOSA LR LR 23 32 12.0
comp=Z,576nm,20.8s,MS4.8,baz=73,slow=31
BOSA Boshof 74.71 239 *e*P **P 23 05 10.6 0.0**
comp=Z,72nm,1.1s,mb5.5
BOSA LR LR
comp=Z,680nm,19.0s,MS5.0
IGT Igoumenitsa 74.78 309 *e*P **P 23 05 09.4 -1.4**
GRUS Gruza 75.01 314 *i* P **P 23 05 11.0 -1.0**
DZM Mont Dzumac 75.05 114 P **P 23 05 12.7 0.0**
comp=Z,53nm,1.1s,mb5.4,baz=126,slow=0.7,SNR=9.0
SUW Suwalki 75.11 325⇑*e*P **P 23 05 11.4 -1.0**
SUW Suwalki 75.11 325⇑*e*P **P 23 05 11.4 -1.0**
CRVS Cervenica-Dubn 75.22 319 *e*P **P 23 05 13.5 +0.4**
PVY Plav 75.39 313⇑*i*P **P 23 05 13.0 -1.2**
FINES FINESS Array B 75.44 332 P **P 23 05 13.3 -0.7**
comp=Z,15nm,0.7s,mb5.0,baz=108,slow=6.0,SNR=75
FINES pP pP 23 05 27.5 -0.2
comp=Z,20nm,0.6s,baz=108,slow=6.0,SNR=12
FINES LR LR 23 42 42.4
comp=Z,224nm,20.9s,MS4.5,baz=122,slow=39
FINES FINESS Array B 75.44 332 P **P 23 05 13.3 -0.8**
FINES pP pP 23 05 27.5 -0.2
FINES LR LR 23 42 42.4
STHS Stebnicka Huta 75.45 320 *i* P **P 23 05 14.8 +0.4**
STHS *e*pP pP 23 05 28.7 +0.7
IVA Berane 75.47 313⇑*i*P **P 23 05 14.1 -0.6**
KAF Kangasniemi 75.52 333 *ep* **P 23 05 13.2 -1.4**
comp=Z,135nm,1.1s,mb5.8,baz=106,slow=5.2
DIVS Divcibare 75.55 314⇓*i*P **P 23 05 14.5 -0.6**
KECS Kecovo 75.80 319 *i* P **P 23 05 16.5 +0.1**
ULC Ulcinj 75.85 312⇑*i*P **P 23 05 16.2 -0.7**
PLE Pljevlja 75.89 313⇑*i*P **P 23 05 16.9 -0.2**
TTG Podgorica 75.89 312⇑*i*P **P 23 05 15.6 -1.5**
BBLS Bajina Basta - 75.94 314⇓*i*P **P 23 05 17.1 -0.2**
PKSN Nyarlorinc 75.99 317⇑*e*P **P 23 05 17.7 +0.2**
MAW Mawson 76.00 192 *e*P **P 23 05 17.2 0.0**
comp=Z,2.9nm,0.6s
MAW Mawson 76.00 192 P **P 23 05 17.3 +0.1**
MAW pmax pmax
comp=Z,4.0nm,0.7s
MAW MLR MLR
comp=Z,343nm,18.0s
MAW Mawson 76.00 192 P **P 23 05 17.3 +0.1**
comp=Z,4.0nm,0.7s,mb4.5,baz=16,slow=6.1,SNR=15
MAW LR LR 23 35 10.8
comp=Z,342nm,18.0s,MS4.7,baz=48,slow=33
NIE Niedzica 76.05 320⇑*i*P **P 23 05 18.3 +0.5**
PSZ Piszkesteto 76.11 318⇑*i*P **P 23 05 18.2 0.0**
PSZ Piszkesteto 76.11 318⇑*i* **P 23 05 18.2 0.0**
NKY Niksic 76.13 313⇑*i*P **P 23 05 17.6 -0.8**
BUM Brajici-Budva 76.15 312⇑*i*P **P 23 05 17.6 -0.9**
UPM Unac-Piva 76.23 313⇑*i*P **P 23 05 18.1 -0.9**
HCY Herceg Novi 76.46 312⇑*i*P **P 23 05 19.1 -1.2**
BRY Bratogost 76.47 313⇑*i*P **P 23 05 19.4 -0.9**
PKS7 Kunszentmiklos 76.49 317⇑*e*P **P 23 05 20.3 -0.1**
OJC Ojcow 76.50 320⇑*i*P **P 23 05 20.3 0.0**
OJC *i* S S 23 14 58.7 -2.4
OJC MLR MLR 23 42 40.8
comp=Z,100nm,23.2s,MS4.1
PKSM Moragy 76.75 316⇑*i*P **P 23 05 21.4 -0.4**
PKSM *e* pP 23 05 35.6 +0.1
LIKS Likavka 76.78 319 *e*P **P 23 05 22.0 0.0**
VYHS Vyhne 76.89 318 *i* P **P 23 05 22.7 +0.1**
SRO2 Moca 77.09 318 *e*P **P 23 05 24.1 +0.3**
SRO Srobarova 77.15 318 *i* P **P 23 05 25.2 +1.1**
KOLL Kolacno 77.18 319 *i* P **P 23 05 24.3 +0.1**
SRO1 Iza 77.20 318 *e*P **P 23 05 25.0 +0.6**
RAC Raciborz 77.50 320 *e*P **P 23 05 26.8 +0.8**
RAC MLR MLR 23 41 49.6
comp=Z,2µm,22.9s,MS5.4
OKC Ostrava-Krasne 77.50 320⇑*i*P **P 23 05 26.3 +0.3**
OKC *e*S S 23 15 12.1 +0.1
OKC AMS AMS 23 45 40.0
comp=Z,100nm,15.3s
TIP Timpagrande 77.52 309⇑*e*P **P 23 05 26.2 -0.1**
TIP *e*pP pP 23 05 40.5 +0.6
KEV Kevo 77.63 341 *ep* **P 23 05 25.7 -0.6**
comp=Z,37nm,0.6s,mb5.5
KEV Kevo 77.63 341⇑*e*P **P 23 05 25.1 -1.2**
KEV *e**PP pP 23 05 39.6 -0.4
KEV pmax pmax
comp=Z,115nm,1.1s,mb5.7
KEV Kevo 77.63 341 P **P 23 05 26.2 -0.1**
KEV pmax pmax
comp=Z,120nm,1.1s,mb5.7
KEV Kevo 77.63 341⇑*e*P **P 23 05 25.1 -1.2**
comp=Z,115nm,1.1s,mb5.7
KEV *e*pP pP 23 05 39.6 -0.4
SMOL Smolenice 77.82 318 *e*P **P 23 05 27.5 -0.2**
MORC Moravsky Berou 77.88 320 P **P 23 05 28.5 +0.4**
MORC pmax pmax
comp=Z,110nm,1.0s,mb5.7
MORC Moravsky Berou 77.88 320⇑*i*P **P 23 05 28.2 +0.2**
comp=Z,108nm,1.0s,mb5.7
ZST Bratislava 78.00 318 *i* P **P 23 05 29.1 +0.4**
ZST *e*pP pP 23 05 42.1 -0.3
ARCES ARCESS Array B 78.06 340 P **P 23 05 28.6 0.0**
comp=Z,31nm,0.7s,mb5.4,baz=89,slow=5.7,SNR=93
ARCES pP pP 23 05 42.8 +0.5
comp=Z,37nm,0.7s,baz=90,slow=3.6,SNR=12
ARCES PP PP 23 08 24.6 -2.7
comp=Z,21nm,0.9s,baz=106,slow=8.8,SNR=6.7
ARCES LR LR 23 43 08.7
comp=Z,353nm,21.6s,MS4.7,baz=241,slow=38
ARE0 ARCESS Array S 78.06 340⇑*i*P **P 23 05 28.6 -0.1**
ARE0 *e*pP pP 23 05 42.5 +0.1
ARE0 *e*pP pP 23 08 24.4 -2.8
SOP Sopron 78.32 318⇑*e*P **P 23 05 30.7 +0.2**
SOP Sopron 78.32 318⇑*e* **P 23 05 30.7 +0.2**
BILL Bilibino 78.39 21*c i*P **P 23 05 29.2 -1.3**
BILL pmax pmax
comp=Z,51nm,1.3s,mb5.3
BILL MLR MLR
comp=Z,1µm,23.0s,MS5.1
BILL Bilibino 78.39 21⇑*e*P **P 23 05 29.1 -1.4**
comp=Z,66nm,1.2s,mb5.4
KOGS Kog 78.42 316⇑*i*P **P 23 05 31.2 +0.1**
comp=Z,371nm,1.0s,mb6.3
GKP Gorka Klasztor 78.48 323⇑*e*P **P 23 05 30.9 -0.4**
GKP Gorka Klasztor 78.48 323⇑*e*P **P 23 05 30.9 -0.3**
VKA Vienna 78.53 318⇑*i*P **P 23 05 31.1 -0.5**
KTK1 Kautokeino 78.68 340⇑*i*P **P 23 05 31.6 -0.4**
comp=Z,166nm,1.6s,mb5.7
KTK1 Kautokeino 78.68 340⇑*i*P **P 23 05 31.6 -0.4**
KTK1 *e*pP pP 23 05 46.1 +0.4
KTK1 AMb AMB 23 05 48.2
comp=Z,166nm,1.6s,mb5.7
DPC Dobruska-Polom 78.72 320⇑*i*P **P 23 05 33.5 +0.8**
DPC *e*S S 23 15 24.6 -0.5
KSP Ksiaz 78.79 321⇑*i*P **P 23 05 33.4 +0.4**
KSP *e*pP pP 23 05 46.8 +0.1
KSP *e*S S 23 15 24.0 -1.8
KSP Ksiaz 78.79 321⇑*e*P **P 23 05 33.6 +0.6**
FX1 Attu Island--F 78.91 37 LR LR 23 42 34.0
comp=Z,9.4nm,19.2s,baz=285,slow=37
FX1 Attu Island--F 78.91 37⇑*i*P **P 23 05 33.5 -0.2**
UPC Upice 78.94 320⇑*i*P **P 23 05 34.3 +0.5**
ARSA Arzberg 78.98 317⇓*i*P **P 23 05 34.5 +0.3**
comp=Z,114nm,1.4s,mb5.6
BOJS Bojanci 79.04 315⇑*e*P **P 23 05 34.6 +0.1**
SUR Sutherland 79.33 236 *e*P **P 23 05 37.9 +1.5**
comp=Z,148nm,1.8s,mb5.6
CII Carovilli 79.52 311 *e*P **P 23 05 36.3 -0.9**
comp=Z,38nm,1.1s,mb5.2
LJU Ljubljana 79.58 316⇑*i*P **P 23 05 37.9 +0.5**
LJU pmax pmax
comp=Z,458nm,1.2s,mb6.3
LJU Ljubljana 79.58 316⇑*i*P **P 23 05 37.9 +0.4**
comp=Z,458nm,1.2s,mb6.3
OBKA Obir 79.60 316⇑*i*P **P 23 05 37.9 +0.4**
comp=Z,106nm,1.8s,mb5.5
CEY Cerknica 79.63 315⇑*i*P **P 23 05 37.5 -0.2**
PRU Pruhonice 79.83 320⇑*i*P **P 23 05 39.0 +0.3**
PRU *e*pP pP 23 05 53.5 +1.1
PRU *e*S S 23 15 38.0 -0.8
PRU AMS AMS 23 47 20.0
comp=Z,100nm,20.1s
PVCC Panska Ves 79.86 320⇑*i*P **P 23 05 39.3 +0.5**
PVCC AMS AMS 23 47 00.0
comp=Z,200nm,18.6s
MOA Molln 79.87 318⇑*i*P **P 23 05 38.8 -0.2**
comp=Z,111nm,1.2s,mb5.7
VOY Vojsko 80.02 316⇑*e*P **P 23 05 39.8 0.0**
VOY *e* pP 23 05 53.9 +0.4
BSD Bornholm Skovb 80.03 325⇓*i*P **P 23 05 39.2 -0.5**
BSD pmax pmax
comp=Z,103nm,0.7s,mb5.9
BSD Bornholm Skovb 80.03 325⇓*i*P **P 23 05 39.2 -0.5**
comp=Z,103nm,0.7s,mb5.9
AQU L'Aquila 80.22 312⇑*i*P **P 23 05 40.7 -0.2**
AQU pmax pmax
comp=Z,103nm,1.0s,mb5.7
AQU L'Aquila 80.22 312⇑*i*P **P 23 05 40.7 -0.2**
comp=Z,103nm,1.0s,mb5.7
BRG Berggiesshubel 80.28 321⇑*i*P **P 23 05 41.4 +0.3**
BRG *i* pP 23 05 52.4 -2.4
BRG S S 23 15 42.0 +0.6
BRG pmax pmax
comp=Z,67nm,0.9s,mb5.6
BRG MLR MLR
comp=Z,230nm,19.1s,MS4.5
BRG Berggiesshubel 80.28 321⇑*i*P **P 23 05 41.4 +0.4**
comp=Z,67nm,0.9s,mb5.6
BRG *i* pP 23 05 52.4 -2.4
BRG S S 23 15 42.0 +0.6
BRG LR LR
comp=Z,230nm,19.1s,MS4.5
GEC2 GERESS Array S 80.31 319 *e*P **P 23 05 41.7 +0.4**
GEC2 pmax pmax
comp=Z,196nm,0.9s,mb6.0
GEC2 GERESS Array S 80.31 319 *e*P **P 23 05 41.7 +0.4**
comp=Z,196nm,0.9s,mb6.0
GERES GERESS Array B 80.31 319 P **P 23 05 41.7 +0.4**
comp=Z,127nm,0.9s,mb5.9,baz=90,slow=5.3,SNR=812
GERES pP pP 23 05 55.6 +0.6
comp=Z,32nm,0.8s,baz=101,slow=5.8,SNR=6.2
GERES LR LR 23 44 19.8
comp=Z,79nm,19.2s,MS4.1,baz=271,slow=38
TRO Tromso 80.32 340 *e*P **P 23 05 39.2 -1.7**
TRO *i* pP 23 05 53.6 -1.0
TRO LR LR
comp=Z,273µm,22.2s
TRO Tromso 80.32 340 *e*P **P 23 05 39.2 -1.7**
TRO *e*S S 23 15 42.2 +0.8
TRO AMS AMS 23 44 52.8
comp=Z,273nm,22.2s,MS4.5
KHC Kasperske Hory 80.40 319⇑*i*P **P 23 05 41.9 +0.1**
KHC *e* pP 23 05 55.0 -0.5
KHC *e* 23 06 03.4
KHC *e*S S 23 15 43.3 +0.5
KHC MLR MLR
comp=Z,200nm,22.9s,MS4.4
KHC Kasperske Hory 80.40 319⇑*i*P **P 23 05 41.9 +0.1**
KHC pP pP 23 05 55.0 -0.5
KHC sP sP 23 06 03.4 +2.7
KHC *e*S S 23 15 43.3 +0.5
KHC AMS AMS 23 44 40.0
comp=Z,200nm,22.9s
KBA Koelnbreinsper 80.45 317⇑*i*P **P 23 05 41.9 -0.2**
comp=Z,81nm,1.1s,mb5.6
KBA Koelnbreinsper 80.45 317⇑*i*P **P 23 05 41.9 -0.2**
KBA pmax pmax
comp=Z,81nm,1.1s,mb5.6
RUE Ruedersdorf 80.49 322⇑*i*P **P 23 05 42.2 +0.1**
comp=Z,182nm,0.8s,mb6.1
WET Wettzell 80.86 319 *e*P **P 23 05 44.5 +0.3**
WET pmax pmax
comp=Z,109nm,1.1s,mb5.7
WET Wettzell 80.86 319 *e*P **P 23 05 44.5 +0.3**
comp=Z,109nm,1.1s,mb5.7
CLL Collm 80.90 321⇑*i*P **P 23 05 44.1 -0.2**
CLL *e**PP pP 23 05 57.0 -1.1
CLL *i* *SP sP 23 06 00.4 -2.9
CLL *e*S S 23 15 46.0 -1.8
CLL pmax pmax
comp=Z,70nm,1.0s,mb5.5
CLL Collm 80.90 321⇑*i*P **P 23 05 44.1 -0.2**
comp=Z,70nm,1.0s,mb5.5
CLL *e*pP pP 23 05 57.0 -1.1
CLL *i* sP sP 23 06 00.4 -2.9
CLL *e*S S 23 15 46.0 -1.8
CLL Collm 80.90 321 ⇑P **P 23 05 44.1 -0.2**
comp=Z,logA/T=1.8,mb5.5
CLL *e**PP pP 23 05 57.0 -1.1
CLL *i* *SP sP 23 06 00.4 -2.9
CLL *e*PP PP 23 08 55.0 +3.9
CLL *e*S S 23 15 46.0 -1.8
CLL *e**SS 23 16 04.0
CLL *e*SP SP 23 16 27.0 -8.3
NKC Novy Kostel 81.19 320⇑*i*P **P 23 05 46.3 +0.4**
NKC *e*S S 23 15 51.7 +0.8
NKC AMS AMS 23 48 00.0
comp=Z,200nm,15.7s
MOR8 Moi Rana 81.44 336⇑*i*P **P 23 05 45.9 -1.0**
comp=Z,90nm,1.5s,mb5.5
MOR8 Moi Rana 81.44 336⇑*i*P **P 23 05 45.9 -1.0**
MOR8 *e*pP pP 23 06 00.5 -0.1
MOR8 AMb AMB 23 06 02.7
comp=Z,90nm,1.6s,mb5.5
WTTA Wattenberg 81.62 317⇑*i*P **P 23 05 48.0 -0.2**
comp=Z,188nm,0.9s,mb6.0
WTTA Wattenberg 81.62 317⇑*i*P **P 23 05 48.0 -0.2**
WTTA pmax pmax
comp=Z,188nm,0.9s,mb6.0
WATA Walderalm 81.67 317⇑*i*P **P 23 05 47.9 -0.5**
comp=Z,150nm,1.2s,mb5.8
WATA Walderalm 81.67 317⇑*i*P **P 23 05 47.9 -0.5**
WATA pmax pmax
comp=Z,150nm,1.2s,mb5.8
MOX Moxa 81.74 320⇑*i*P **P 23 05 48.9 +0.1**
MOX *e*S S 23 15 53.0 -3.6
MOX pmax pmax
comp=Z,84nm,1.3s,mb5.5
MOX Moxa 81.74 320⇑*i*P **P 23 05 48.9 +0.1**
comp=Z,84nm,1.3s,mb5.5
MOX *e*S S 23 15 53.0 -3.6
MOX *e* 23 36 32.0
MOX Moxa 81.74 320⇑*i*P **P 23 05 48.9 +0.1**
comp=Z,logA/T=1.8,mb5.5
MOX S S 23 15 53.0 -3.6
MOX *e* 23 36 32.0
MELSS Ber_school_2 81.81 337 *e*P **P 23 05 48.7 0.0**
FUR Furstenfeldbru 81.89 318 *e*P **P 23 05 49.4 -0.2**
FUR pmax pmax
comp=Z,81nm,0.9s,mb5.7
FUR Furstenfeldbru 81.89 318 *e*P **P 23 05 49.4 -0.2**
comp=Z,81nm,0.9s,mb5.7
SQTA Sankt Quirin 81.92 317⇑*i*P **P 23 05 49.6 -0.1**
comp=Z,92nm,0.6s,mb5.9
SQTA Sankt Quirin 81.92 317⇑*i*P **P 23 05 49.6 -0.1**
SQTA pmax pmax
comp=Z,92nm,0.6s,mb5.9
GRA1 Grafenberg Arr 81.97 319 *e*P **P 23 05 50.6 +0.7**
comp=Z,161nm,1.1s,mb5.9
GRA1 LR LR
comp=Z,200nm,20.0s,MS4.5
GRF Grafenberg Arr 81.97 319 *e*P **P 23 05 50.6 +0.7**
GRF pmax pmax
comp=Z,161nm,1.1s,mb5.9
GRF MLR MLR
comp=Z,200nm,20.0s,MS4.5
GRF Grafenberg Arr 81.97 319 *e*P **P 23 05 50.6 +0.7**
GRF pmax pmax
comp=Z,161nm,1.1s,mb5.9
GRF MLR MLR
comp=Z,200nm,20.0s,MS4.5
GRF Grafenberg Arr 81.97 319 *e*P **P 23 05 50.6 +0.7**
comp=Z,161nm,1.1s,mb5.9
GRF LR LR
comp=Z,200nm,20.0s,MS4.5
GRFO Grafenberg 81.97 319 *e*P **P 23 05 50.6 +0.7**
GRFO pmax pmax
comp=Z,2µm,1.1s
GRFO Grafenberg 81.97 319 *e*P **P 23 05 50.6 +0.7**
comp=Z,2µm,1.1s
MOTA Moosalm 81.99 317⇑*i*P **P 23 05 49.7 -0.4**
comp=Z,90nm,0.8s,mb5.8
MOTA Moosalm 81.99 317⇑*i*P **P 23 05 49.7 -0.4**
MOTA pmax pmax
comp=Z,90nm,0.8s,mb5.8
MAIM 82.38 313 P **P 23 05 51.0 -1.2**
NB2 NORSAR Subarra 82.44 331 P **P 23 05 51.2 -0.9**
comp=Z,29nm,0.9s,mb5.2,baz=97,slow=5.3
NB2 NORSAR Subarra 82.44 331 P **P 23 05 51.2 -0.9**
NB2 pmax pmax
comp=Z,29nm,0.9s,mb5.2
NB2 NORSAR Subarra 82.44 331 P **P 23 05 51.2 -0.9**
baz=97,slow=5.3
NOA NORSAR Array B 82.44 331 P **P 23 05 51.4 -0.7**
comp=Z,14nm,0.8s,mb5.0,baz=94,slow=5.4,SNR=30
NOA pP pP 23 06 06.7 +0.8
comp=Z,14nm,0.9s,baz=95,slow=5.0,SNR=7.7
NOA PP PP 23 09 04.5 +1.1
comp=Z,2.8nm,0.7s,baz=89,slow=8.0,SNR=4.5
NOA LR LR 23 48 14.8
comp=Z,194nm,19.5s,MS4.5,baz=90,slow=40
SARO Sassorosso 82.44 314 P **P 23 05 52.0 -0.5**
VLC Villacollemand 82.45 314 *e*P **P 23 05 51.8 -0.7**
comp=Z,75nm,1.3s,mb5.5
FUORN Ofenpass 82.55 316⇑*i*P **P 23 05 53.6 +0.6**
VALM 82.56 314 P **P 23 05 53.4 +0.3**
CLZ Clausthal 82.56 321 *e*P **P 23 05 53.2 +0.3**
CLZ pmax pmax
comp=Z,128nm,1.2s,mb5.8
CLZ Clausthal 82.56 321 *e*P **P 23 05 53.2 +0.3**
comp=Z,128nm,1.2s,mb5.8
NAO01 NORSAR Array S 82.59 331⇑*e*P **P 23 05 52.0 -0.9**
comp=Z,14nm,0.8s,mb5.0
HDH Heidenheim 82.61 318⇑*e*P **P 23 05 52.9 -0.4**
VINC Vinca 82.62 314 P **P 23 05 52.4 -1.1**
BSEG Bad Segeberg 82.64 324 *e*P **P 23 05 53.7 +0.4**
UBR Uberruh 82.67 317⇑*e*P **P 23 05 53.5 -0.1**
BACM 82.68 314 P **P 23 05 53.0 -0.7**
GRAM 82.69 314 P **P 23 05 54.0 +0.3**
BERNI Berninapass 82.72 316⇑*i*P **P 23 05 54.8 +0.9**
DAVOX Davos 82.82 316⇑*i*P **P 23 05 55.1 +0.7**
DAVA Damuels 82.82 317⇑*i*P **P 23 05 54.6 +0.2**
comp=Z,217nm,1.2s,mb6.1
CODM 82.84 314 P **P 23 05 54.3 -0.2**
SYO Syowa Base 82.99 197 ⇓P **P 23 05 56.0 +1.2**
SIND Sindeldorf 83.01 319⇑*e*P **P 23 05 55.6 +0.3**
LIENZ Alp Oberkamor 83.08 317⇑*i*P **P 23 05 56.1 +0.4**
LIENZ Alp Oberkamor 83.08 317⇑*i*P **P 23 05 56.0 +0.3**
PLONS Plons 83.16 317⇑*i*P **P 23 05 56.4 +0.3**
PLONS Plons 83.16 317⇑*i*P **P 23 05 56.5 +0.4**
BUCH Bad Urach 83.18 318⇑*e*P **P 23 05 56.3 +0.2**
KONO Kongsberg 83.18 329 P **P 23 05 56.2 +0.3**
KONO *e* 23 06 15.6
KONO pmax pmax
comp=Z,67nm,1.3s,mb5.5
KONO Kongsberg 83.18 329⇑*e*P **P 23 05 55.3 -0.6**
comp=Z,58nm,1.2s,mb5.5
VSL Villasalto 83.24 309⇑*i*P **P 23 05 56.4 -0.2**
comp=Z,121nm,1.1s,mb5.8
VSL *e*pP pP 23 06 10.3 -0.2
VSL *e*PP PP 23 09 05.8 -4.4
STU Stuttgart 83.28 318 P **P 23 05 56.8 +0.1**
STU pmax pmax
comp=Z,20nm,0.7s,mb5.3
STU Stuttgart 83.28 318⇑*i*P **P 23 05 56.5 -0.2**
comp=Z,20nm,0.6s,mb5.3
GUT Gutenstein 83.34 318⇑*e*P **P 23 05 57.0 0.0**
MUD Monsted U'grnd 83.34 326⇑*i*P **P 23 06 02.8 +6.0**
MUGIO Muggio 83.40 316⇑*i*P **P 23 05 56.7 -0.6**
LLS Linth-Limmern 83.42 316⇑*i*P **P 23 05 57.7 +0.3**
WEIN Weingarten 83.43 317⇑*i*P **P 23 05 57.6 +0.2**
PGF Pioggiola 83.48 312 *e*P **P 23 05 58.0 +0.2**
comp=Z,132nm,1.2s,mb5.6
PGF Pioggiola 83.48 312 *e*P **P 23 05 58.0 +0.2**
PGF pmax pmax
comp=Z,66nm,1.2s,mb5.5
WILA Wila 83.48 317⇑*i*P **P 23 05 57.9 +0.2**
DOMB Dombas 83.50 332 *e*P **P 23 05 57.6 +0.1**
comp=Z,55nm,1.6s,mb5.4
DOMB Dombas 83.50 332 *e*P **P 23 05 57.6 +0.1**
DOMB *e*pP pP 23 06 12.2 +0.8
DOMB AMb AMB 23 06 15.9
comp=Z,55nm,1.6s,mb5.4
STEIN Stein am Rhein 83.51 317⇑*i*P **P 23 05 57.9 +0.1**
TOD Tromm 83.54 319⇑*e*P **P 23 05 58.2 +0.3**
TOD Tromm 83.54 319 *e*P **P 23 05 58.0 +0.1**
LBG Lerchenberg 83.55 318⇑*e*P **P 23 05 58.0 0.0**
SPAK Spaichingen 83.56 318 *e*P **P 23 05 58.4 +0.3**
SPAK Spaichingen 83.56 318 *e*P **P 23 05 58.3 +0.2**
SWS Schriesheim 83.60 319⇑*e*P **P 23 05 58.4 +0.1**
KBS Kingsbay 83.63 349 *e*P **P 23 05 57.2 -0.6**
KBS pmax pmax
comp=Z,88nm,1.2s,mb5.8
KBS MLR MLR
comp=Z,286µm,17.3s
KBS Kingsbay 83.63 349 *e*P **P 23 05 57.2 -0.6**
comp=Z,88nm,1.2s,mb5.8
KBS LR LR
comp=Z,286µm,17.3s
KBS Kingsbay 83.63 349⇑*i*P **P 23 05 57.1 -0.8**
KBS *e*pP pP 23 06 12.1 +0.5

KBS AMb AMB 23 06 13.6
comp=Z,88nm,1.2s,mb5.8
KBS AMS AMS 23 50 09.7
comp=Z,286nm,17.3s,MS4.7
TRULL Truellikon 83.63 317⇑ *iP* **P 23 05 57.6 -0.9**
RPZ Rata Peaks 83.65 135 P **P 23 05 57.7 -1.0**
comp=Z,12nm,0.9s,mb5.0,baz=116,slow=6.5,SNR=4.0
MUO Muotathal 83.67 317⇑ *iP* **P 23 05 59.2 +0.5**
ZUR Zurich 83.70 317⇑ *iP* **P 23 05 58.9 0.0**
FLACH Flaach 83.71 317⇑ *iP* **P 23 05 59.0 +0.1**
SLE Schleitheim 83.76 317⇑ *iP* **P 23 05 58.8 -0.3**
TNS Taunus Mts 83.76 320 *eP* **P 23 05 59.5 +0.4**
TNS pmax pmax
comp=Z,89nm,1.1s,mb5.8
TNS Taunus Mts 83.76 320 *eP* **P 23 05 59.5 +0.4**
comp=Z,89nm,1.1s,mb5.8
PCP Pian Castagno 83.77 314 P **P 23 05 58.6 -0.7**
BNALP Bannalp 83.82 316⇑ *iP* **P 23 05 59.8 +0.4**
BFO Black Forest 83.86 318 *eP* **P 23 05 59.4 -0.2**
BFO pmax pmax
comp=Z,64nm,0.9s,mb5.8
BFO Black Forest 83.86 318 *eP* **P 23 05 59.4 -0.2**
comp=Z,64nm,0.9s,mb5.8
HASLI Hasliberg 84.01 316⇑ *iP* **P 23 06 00.6 +0.2**
SULZ Sulz-Cheisache 84.02 317⇑ *iP* **P 23 06 00.3 -0.1**
FIN Finale Ligure 84.02 314 P **P 23 06 00.2 -0.3**
FELD Feldberg 84.09 317⇑ *eP* **P 23 06 00.8 0.0**
KIZ Kirchzarten 84.14 318⇑ *eP* **P 23 06 00.9 -0.2**
ORX Oropa 84.15 315 P **P 23 05 59.3 -1.8**
MMK Mattmark 84.15 316⇑ *iP* **P 23 06 01.2 +0.1**
LANF Langenberg 84.20 319⇑ *eP* **P 23 06 01.8 +0.5**
MOL Molde 84.22 332⇑ *iP* **P 23 06 05.7 +4.6**
comp=Z,83nm,1.4s,mb5.7
MOL *i* pP 23 06 20.5 +5.6
MOL Molde 84.22 332⇑ *iP* **P 23 06 05.7 +4.6**
MOL AMb AMB 23 06 07.9
comp=Z,83nm,1.4s,mb5.7
MOL *ep*P pP 23 06 20.5 +5.5
IMI Imperia 84.26 314 P **P 23 06 01.6 -0.2**
ROB Roburent 84.26 314 P **P 23 06 01.3 -0.4**
BALST Balsthal 84.31 317⇑ *iP* **P 23 06 01.9 0.0**
ABH Alteburg 84.35 320⇑ *eP* **P 23 06 02.7 +0.7**
ABH Alteburg 84.35 320⇑ *eP* **P 23 06 02.5 +0.5**
LIBD Limburg 84.35 318⇑ *eP* **P 23 06 02.5 +0.4**
LIBD Limburg 84.35 318 *eP* **P 23 06 02.5 +0.4**
MONE Monesi 84.35 314 P **P 23 06 02.2 0.0**
WIMIS Wimmis 84.37 316⇑ *iP* **P 23 06 02.5 +0.3**
LKBD Leukerbad 84.38 316⇑ *iP* **P 23 06 02.9 +0.6**
NEGI Negi 84.39 313 P **P 23 06 02.3 -0.1**
BBS Basel-Blauen 84.43 317 *eP* **P 23 06 00.7 -1.8**
BBS Basel-Blauen 84.43 317⇑ *eP* **P 23 06 02.4 -0.1**
SAOF Saorge 84.50 314⇑ *eP* **P 23 06 03.3 +0.4**
WLS Welschbruch 84.51 318⇑ *eP* **P 23 06 02.8 -0.1**
DIX Grande Dixence 84.54 316⇑ *iP* **P 23 06 04.2 +1.1**
CDF Champ du Feu 84.56 318 *eP* **P 23 06 02.8 -0.3**
comp=Z,80nm,1.0s,mb5.5
CDF Champ du Feu 84.56 318 *eP* **P 23 06 02.8 -0.3**
CDF pmax pmax
comp=Z,40nm,1.0s,mb5.5
ENR Entracque 84.59 314 P **P 23 06 02.2 -1.2**
SBF Sospel 84.59 313 *eP* **P 23 06 03.5 +0.1**
comp=Z,280nm,1.0s,mb6.0
SBF *ep*P pP 23 06 17.8 +0.6
SBF Sospel 84.59 313 *eP* **P 23 06 03.5 +0.1**
SBF *e**PP pP 23 06 17.8 +0.6
SBF pmax pmax
comp=Z,140nm,1.0s,mb6.0
AUTN L'Aution 84.59 314 *eP* **P 23 06 03.9 +0.5**
SENIN Lac Senin 84.61 316⇑ *iP* **P 23 06 03.9 +0.5**
BOURR Bourrignon 84.62 317⇑ *iP* **P 23 06 03.3 -0.2**
REVF Revere 84.64 313⇑ *eP* **P 23 06 04.0 +0.3**
ECH Echery 84.65 318⇑ *eP* **P 23 06 03.6 0.0**
ECH Echery 84.65 318 *eP* **P 23 06 03.1 -0.5**
ECH Echery 84.65 318 *eP* **P 23 06 03.1 -0.5**
RUP Ruppelstein 84.67 319⇑ *eP* **P 23 06 04.1 +0.5**
RUP Ruppelstein 84.67 319 *eP* **P 23 06 04.1 +0.5**
RSP Reno Superiore 84.67 315 P **P 23 06 02.2 -1.6**
MOF Molkenrain 84.67 317⇑ *eP* **P 23 06 03.6 -0.1**
BHB Bricherasio 84.68 314 P **P 23 06 02.0 -1.8**
TOUF Mont Tournerai 84.72 314⇑ *eP* **P 23 06 04.7 +0.7**
LSD Ceresole Reale 84.73 315 P **P 23 06 04.3 +0.2**
GRYON Gryon 84.74 316⇑ *iP* **P 23 06 04.6 +0.5**
MVIF Mont Vial 84.79 314 *eP* **P 23 06 04.9 +0.5**
FENE Fenestrelle 84.81 315 P **P 23 06 03.7 -0.8**
SALAN Lac Salanfe 84.84 316⇓ *iP* **P 23 06 05.2 +0.6**
AIGLE Aigle 84.84 316⇑ *iP* **P 23 06 04.8 +0.2**
ABSA Djebel Ababsia 84.85 306 P **P 23 06 06.0 +1.1**
CMAH Djebel Manchou 84.88 306 P **P 23 06 06.0 +1.0**
CGMA Guelma 84.89 306 P **P 23 06 06.0 +0.9**
LOMF Lomont 84.90 317⇑ *eP* **P 23 06 04.9 +0.1**
OG22 Abries 84.91 314⇑ *eP* **P 23 06 04.9 0.0**
CALN Calern 84.99 313⇑ *eP* **P 23 06 06.2 +0.8**
LPG La Plagne 85.02 315 *eP* **P 23 06 06.0 +0.5**
comp=Z,175nm,1.0s,mb5.9
LPG *ep*P pP 23 06 20.8 +1.4
LPG La Plagne 85.02 315 *eP* **P 23 06 06.0 +0.5**
LPG *e**PP pP 23 06 20.8 +1.4
LPG pmax pmax
comp=Z,87nm,1.0s,mb5.8
MBDF Montbardon 85.03 314 *eP* **P 23 06 05.2 -0.4**
comp=Z,67nm,1.1s,mb5.4
MBDF Montbardon 85.03 314 *eP* **P 23 06 05.2 -0.4**
MBDF pmax pmax
comp=Z,33nm,1.1s,mb5.4
OG01 Vacheresse 85.03 316⇑ *eP* **P 23 06 06.2 +0.7**
BNI Bardonecchia 85.09 315 P **P 23 06 05.9 +0.1**
BNI pmax pmax
comp=Z,69nm,1.1s,mb5.7
BNI Bardonecchia 85.09 315⇑ *iP* **P 23 06 05.5 -0.4**
comp=Z,68nm,1.1s,mb5.7
RSL Roselend 85.10 315⇑ *eP* **P 23 06 06.2 +0.3**
BRANT Les Verrieres 85.15 317⇑ *iP* **P 23 06 06.4 +0.3**
HAU Haudompre 85.20 318 *eP* **P 23 06 06.1 -0.2**
comp=Z,226nm,1.0s,mb6.0
HAU *eR*
comp=Z,137nm,22.0s
HAU Haudompre 85.20 318 *eP* **P 23 06 06.1 -0.2**
HAU pmax pmax
comp=Z,113nm,1.0s,mb6.0
HAU MLR MLR
comp=Z,140nm,22.0s,MS4.3
WLF Walferdange 85.26 319⇑ *iP* **P 23 06 07.2 +0.6**
WLF pmax pmax
comp=Z,85nm,1.2s,mb5.8
WLF Walferdange 85.26 319⇑ *iP* **P 23 06 07.2 +0.6**
comp=Z,85nm,1.2s,mb5.8
GIMEL Gimel 85.31 316⇑ *iP* **P 23 06 07.4 +0.5**
BER Bergen 85.32 330 AMS AMS 23 50 10.5
comp=Z,154nm,22.3s,MS4.3
CAEH 'Ain El Ouahch 85.33 306 P **P 23 06 08.0 +0.7**
THEF They Montfort 85.43 318⇑ *eP* **P 23 06 07.5 +0.1**
CKFL Kef-Lekhel 85.45 306 P **P 23 06 09.0 +1.1**
TAVF Tavernes 85.59 313⇑ *eP* **P 23 06 10.5 +2.1**
CASM Ain Smara 85.65 306 P **P 23 06 10.0 +1.2**
STOF St-Etienne Org 85.68 314⇑ *eP* **P 23 06 11.2 +2.4**
CTEI Djebel Teioual 85.72 306 P **P 23 06 11.0 +1.8**
VILF Villemus 85.83 314⇑ *eP* **P 23 06 11.6 +2.1**
PUYF Puyloubier 85.86 313⇑ *eP* **P 23 06 11.5 +1.8**
BERF Bertagne 85.88 313⇑ *eP* **P 23 06 11.7 +1.9**
OG05 Jujurieux 85.90 316 *eP* **P 23 06 10.4 +0.6**
GELF Grande-Etoile 86.06 313⇑ *eP* **P 23 06 12.6 +1.9**
DFRA Djebel Bou Aff 86.12 306 P **P 23 06 12.0 +0.9**
CMER Merouana 86.16 306 P **P 23 06 13.0 +1.7**
PRAF Pradon 86.23 313⇑ *eP* **P 23 06 13.4 +1.9**
CKHR Kef el Ahmar 86.45 306 P **P 23 06 15.0 +2.2**
BAIF Baives 86.49 320 *eP* **P 23 06 13.1 +0.5**
comp=Z,156nm,1.0s,mb5.9
BAIF *ep*P pP 23 06 27.9 +1.4
BAIF Baives 86.49 320 *eP* **P 23 06 13.1 +0.5**
BAIF *e**PP pP 23 06 27.9 +1.4
BAIF pmax pmax
comp=Z,78nm,1.0s,mb5.9
SET Setif 86.53 306 P **P 23 06 15.0 +1.9**
URZ Urewera 87.12 129 P **P 23 06 14.2 -1.7**
comp=Z,25nm,1.0s,mb5.4,baz=342,slow=5.4,SNR=8.3
COLF Collangettes 87.16 315 *eP* **P 23 06 16.6 +0.6**
SSF Saint Saulge 87.17 317 *eP* **P 23 06 16.1 +0.1**
SSF *e**PP pP 23 06 31.3 +1.4
SSF pmax pmax
comp=Z,39nm,1.1s,mb5.5
SSF Saint Saulge 87.17 317 *eP* **P 23 06 16.1 +0.1**
comp=Z,39nm,1.1s,mb5.5
SSF *ep*P pP 23 06 31.3 +1.4

PLDF La Plantade 87.18 316⇑ *eP* **P 23 06 17.7 +1.6**
ATAF Djebel Tarf 87.46 306 P **P 23 06 30.0 +12**
LBL Lubilhac 87.50 315⇑ *eP* **P 23 06 19.6 +2.0**
AGO Saint Agoulin 87.51 316⇑ *eP* **P 23 06 19.3 +1.6**
PYM Petit Puy Mans 87.62 316⇑ *eP* **P 23 06 19.9 +1.7**
BGF Bois d'Agland 87.67 316 *eP* **P 23 06 18.8 +0.4**
comp=Z,210nm,1.2s,mb5.9
BGF *ep*P pP 23 06 33.8 +1.5
BGF Bois d'Agland 87.67 316 *eP* **P 23 06 18.8 +0.4**
BGF *e**PP pP 23 06 33.8 +1.5
BGF pmax pmax
comp=Z,105nm,1.2s,mb5.9
MENF Mencas 87.77 320 *eP* **P 23 06 19.4 +0.6**
EJON La Jonquera 87.99 312 P **P 23 06 20.1 +0.1**
comp=Z,36nm,1.3s,mb5.4
LRDF Laroque-de-Fa 88.21 313⇑ *eP* **P 23 06 21.8 +0.7**
FILF Fillols 88.22 312⇑ *eP* **P 23 06 22.2 +1.0**
ETOS Mallorca 88.29 310 P **P 23 06 22.8 +1.3**
comp=Z,143nm,1.7s,mb5.9
TNA Tin City 88.38 24⇑ *iP* **P 23 06 21.3 0.0**
comp=Z,46nm,1.3s,mb5.5
VALF Valcebollere 88.64 312⇑ *eP* **P 23 06 24.4 +1.3**
LPEF Le Peyrat 88.67 313⇑ *eP* **P 23 06 23.8 +0.5**
RJF Les Rejaudoux 88.71 315 *eP* **P 23 06 24.1 +0.7**
comp=Z,149nm,1.3s,mb5.8
RJF *ep*P pP 23 06 38.8 +1.4
RJF *eR*
comp=Z,95nm,22.0s
RJF Les Rejaudoux 88.71 315 *eP* **P 23 06 24.1 +0.7**
RJF *e**PP pP 23 06 38.8 +1.4
RJF pmax pmax
comp=Z,74nm,1.3s,mb5.9
RJF MLR MLR
comp=Z,90nm,22.0s,MS4.2
LMK Market Rasen 88.98 323 *eP* **P 23 06 24.9 +0.4**
EMIR Miracle 89.05 312 P **P 23 06 25.9 +0.8**
comp=Z,80nm,1.1s,mb6.0
MLS Moulis 89.26 313⇑ *eP* **P 23 06 26.0 -0.1**
EPOB Poblet 89.45 311 P **P 23 06 27.5 +0.5**
comp=Z,100nm,1.4s,mb6.0
LCP Cassop 89.48 325⇑ *eP* **P 23 06 27.7 +0.9**
EIBI Ibiza 89.50 309 P **P 23 06 28.6 +1.3**
comp=Z,101nm,1.5s,mb5.9
JMIC Jan Mayen 89.51 341 P **P 23 06 27.6 +1.0**
comp=Z,45nm,0.8s,mb5.9,baz=96,slow=2.9,SNR=14
JMIC Jan Mayen 89.51 341 AMS AMS 23 53 21.9
comp=Z,180nm,21.4s,MS4.5
EBNR Beni Rached 89.64 306 P **P 23 06 30.5 +2.5**
FLN La Foliniere 89.67 319 *eP* **P 23 06 28.1 +0.3**
comp=Z,219nm,1.0s,mb6.1
FLN *eR*
comp=Z,172nm,22.2s
FLN La Foliniere 89.67 319 *eP* **P 23 06 28.1 +0.3**
FLN pmax pmax
comp=Z,110nm,1.0s,mb6.1
FLN MLR MLR
comp=Z,170nm,22.3s,MS4.4
KBI1 Birley Grange 89.72 323⇑ *eP* **P 23 06 28.3 +0.3**
RESF Ens 89.83 313⇑ *eP* **P 23 06 29.8 +1.1**
LHO Holmfirth 89.87 324⇑ *eP* **P 23 06 29.2 +0.5**
EGRA Graus 89.92 312 P **P 23 06 30.0 +0.8**
comp=Z,14nm,0.7s,mb5.4
ETRT Tiaret 89.92 305 P **P 23 06 31.0 +1.6**
KWE Weaver Farm 89.94 323⇑ *eP* **P 23 06 29.4 +0.4**
EBR Ebro Roquetas 89.95 311 *eP* **P 23 06 30.6 +1.3**
LABF Labassere 89.99 313 *eP* **P 23 06 29.9 +0.4**
EANR 'Ain N'Sour 90.02 306 P **P 23 06 32.0 +2.2**
VIEF Viey 90.05 313 *eP* **P 23 06 30.8 +1.0**
LCHF La Chataignera 90.11 317⇑ *eP* **P 23 06 31.4 +1.4**
VNDA Vanda 90.12 168 *eP* **P 23 06 30.0 +0.6**
VNDA pmax pmax
comp=Z,17nm,1.3s
VNDA Vanda 90.12 168 P **P 23 06 29.5 +0.1**
comp=Z,4.5nm,0.9s,mb4.8,baz=305,slow=5.9,SNR=6.1
VNDA LR LR 23 42 05.0
comp=Z,314nm,18.1s,MS4.8,baz=299,slow=32
VNDA Vanda 90.12 168 *eP* **P 23 06 28.9 -0.5**
comp=Z,17nm,1.4s,mb5.2
DAG Danmarks Havn 90.28 348⇓ *iP* **P 23 06 29.8 -0.4**
DAG pmax pmax
comp=Z,10.0nm,0.6s,mb5.3
DAG Danmarks Havn 90.28 348⇓ *iP* **P 23 06 29.8 -0.4**
comp=Z,10.0nm,0.6s,mb5.3
ECK Cauldkaine Hil 90.35 325 *eP* **P 23 06 31.3 +0.4**
ECK AMb AMB 23 06 32.6
comp=Z,54nm,1.2s,mb5.8
ESK Eskdalemuir 90.38 326⇑ *iP* **P 23 06 31.6 +0.6**
ESK *e**PP pP 23 06 45.0 0.0
ESK pmax pmax
comp=Z,47nm,1.0s,mb5.8
ESK Eskdalemuir 90.38 326⇑ *iP* **P 23 06 31.6 +0.6**
comp=Z,47nm,1.0s,mb5.8
ESK *ep*P pP 23 06 45.0 -0.1
ESK Eskdalemuir 90.38 326 *eP* **P 23 06 31.0 0.0**
ESK AMb AMB 23 06 32.9
comp=Z,70nm,1.2s,mb5.9
EAU Auchinoon 90.42 326 *eP* **P 23 06 31.8 +0.6**
EAU AMb AMB 23 06 33.5
comp=Z,63nm,1.2s,mb5.8
ETSF Etsaut 90.47 313 *eP* **P 23 06 32.7 +0.9**
comp=Z,48nm,0.9s,mb5.5
ETSF Etsaut 90.47 313 *eP* **P 23 06 32.7 +0.9**
ETSF pmax pmax
comp=Z,24nm,0.9s,mb5.5
ESAC San Caprasio 90.56 312 P **P 23 06 32.9 +0.7**
comp=Z,163nm,1.5s,mb6.1
LRYF La Roche-sur-Y 90.67 317⇑ *eP* **P 23 06 33.0 +0.4**
EMOS Mosqueruela 90.73 310 P **P 23 06 34.9 +1.8**
comp=Z,205nm,1.4s,mb6.3
LARF Larrau 90.77 313⇑ *eP* **P 23 06 34.4 +1.3**
REB Eisgbrachaidh 91.00 328 *eP* **P 23 06 34.5 +0.6**
EALK Alkurruntz 91.12 313 P **P 23 06 35.5 +0.8**
comp=Z,45nm,1.1s,mb5.7
ECHE Chera 91.21 310 P **P 23 06 37.1 +1.8**
ECHE pmax pmax
comp=Z,59nm,1.5s,mb5.7
ECHE Chera 91.21 310 P **P 23 06 37.1 +1.8**
comp=Z,59nm,1.5s,mb5.7
RRR Rubha Reidh 91.32 328 *eP* **P 23 06 35.5 +0.1**
EMUR La Murta 91.65 308 P **P 23 06 38.2 +0.8**
comp=Z,17nm,0.8s,mb5.4
RRH Rhinigidale 91.77 328 *eP* **P 23 06 37.4 -0.1**
ETOB Tobarra 91.78 309 P **P 23 06 39.4 +1.4**
comp=Z,81nm,1.8s,mb5.8
ECRI Cripan 91.94 313 P **P 23 06 39.9 +1.3**
ECRI pmax pmax
comp=Z,24nm,1.2s,mb5.4
ECRI Cripan 91.94 313 P **P 23 06 39.9 +1.3**
comp=Z,24nm,1.2s,mb5.4
ELAN Lanestosa 92.51 314 P **P 23 06 42.5 +1.3**
comp=Z,16nm,0.9s,mb5.4
EVIA Vianos 92.53 309 P **P 23 06 43.0 +1.6**
EVIA pmax pmax
comp=Z,29nm,1.2s,mb5.6
EVIA Vianos 92.53 309 P **P 23 06 43.0 +1.7**
comp=Z,29nm,1.2s,mb5.6
EHUE Huescar 92.72 308 P **P 23 06 43.5 +1.2**
EHUE pmax pmax
comp=Z,12nm,0.9s,mb5.3
EHUE Huescar 92.72 308 P **P 23 06 43.5 +1.2**
comp=Z,12nm,0.9s,mb5.3
EBER Berja 93.09 307 P **P 23 06 44.6 +0.6**
comp=Z,14nm,0.7s,mb5.5
EQES Quesada 93.09 308 P **P 23 06 44.1 +0.1**
comp=Z,143nm,2.5s,mb6.0
ESDC Sonseca Array 93.48 310 P **P 23 06 46.4 +0.7**
comp=Z,2.7nm,0.6s,mb4.9,baz=62,slow=4.2,SNR=42
ESDC *ep*P pP 23 06 59.9 +0.1
comp=Z,6.1nm,0.6s,baz=62,slow=4.0,SNR=12
ESDC PP PP 23 10 28.4 -4.8
comp=Z,0.9nm,0.8s,baz=68,slow=9.0,SNR=4.4
ESLA Sonseca Array 93.48 310⇓ *eP* **P 23 06 46.3 +0.6**
comp=Z,5.4nm,1.1s,mb4.9
EBAN Banos Encina 93.59 309 P **P 23 06 47.2 +0.9**
EBAN pmax pmax
comp=Z,12nm,0.9s,mb5.3
EBAN Banos Encina 93.59 309 P **P 23 06 47.2 +0.9**
comp=Z,12nm,0.9s,mb5.3
EGUA Guajares 93.63 307 P **P 23 06 47.1 +0.6**
EGUA pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
EGUA Guajares 93.63 307 P **P 23 06 47.1 +0.7**
comp=Z,2.8nm,0.8s,mb4.7
EARI Arriondas 93.77 314 P **P 23 06 48.5 +1.5**
comp=Z,19nm,1.0s,mb5.5

SCO Scoresbysund 93.85 342 *i* P **P 23 06 48.1 +1.5**
SCO pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
SCO Scoresbysund 93.85 342 *i* P **P 23 06 48.1 +1.5**
comp=Z,8.5nm,0.9s,mb5.2
IMA Indian Mountai 93.90 22 P **P 23 06 48.3 +1.4**
IMA pmax pmax
comp=Z,140nm,0.8s,mb6.4
IMA Indian Mountai 93.90 22 *eP* **P 23 06 47.9 +1.0**
IMA pP pP 23 07 01.2 +0.2
TTA Tatalina 94.06 26 *eP* **P 23 06 48.6 +0.9**
TTA *e* pP 23 07 02.9 +1.1
ELUQ Luque 94.07 308 P **P 23 06 46.5 -1.9**
ELUQ pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
ELUQ Luque 94.07 308 P **P 23 06 46.5 -1.9**
comp=Z,1.7nm,0.9s,mb4.5
EADA Adamuz 94.21 309 P **P 23 06 49.5 +0.5**
comp=Z,22nm,1.1s,mb5.5
EMIJ Mijas 94.64 307 P **P 23 06 50.2 -0.9**
comp=Z,115nm,2.7s,mb5.8
SVW2 Sparrevohn 94.87 27 *eP* **P 23 06 52.3 +0.8**
ECAL Calabor 95.14 313 P **P 23 06 54.5 +1.3**
comp=Z,12nm,1.2s,mb5.2
SPU Mount Spurr 96.43 27 *eP* **P 23 06 58.1 -0.5**
MCK McKinley 96.70 24 P **P 23 06 59.4 -0.3**
MCK pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
MCK McKinley 96.70 24⇑ *eP* **P 23 06 59.1 -0.7**
comp=Z,6.7nm,0.8s,mb5.1
EVO Evora 96.79 310 *eP* **P 23 07 01.3 +0.5**
comp=Z,10nm,0.9s,mb4.9
EVO *eR*
comp=Z,216nm,22.2s
SUMG Summit 96.95 347⇑ *eP* **P 23 07 01.5 +0.7**
comp=Z,26nm,1.1s,mb5.6
SUMG *ep*P PP 23 10 55.0 -4.3
ILAR Eielson Array 97.02 22 P **P 23 07 00.1 -1.1**
comp=Z,3.2nm,0.7s,mb4.8,baz=288,slow=4.3,SNR=29
ILAR PP PP 23 10 53.9 -6.1
comp=Z,6.8nm,1.2s,baz=293,slow=6.2,SNR=6.8
ILAR LR LR 23 57 44.3
comp=Z,258nm,18.2s,MS4.8,baz=336,slow=40
SNAA Sanae 97.24 198 *iP* **P 23 07 11.6 +10**
SML Sawmill 97.80 25 P **P 23 07 05.3 +0.5**
SML Sawmill 97.80 25⇑ *iP* **P 23 07 04.7 -0.1**
DBIC Dimbokro 98.96 278 LR LR 23 49 15.4
comp=Z,191nm,21.5s,MS4.6,baz=65,slow=34
INK Inuvik 99.43 16 P **P 23 07 12.4 +0.4**
INK pmax pmax
comp=Z,17nm,1.1s
INK Inuvik 99.43 16 P **P 23 07 11.7 -0.4**
comp=Z,5.6nm,0.6s,mb5.3,baz=313,slow=6.1,SNR=11
INK LR LR 23 58 04.1
comp=Z,463nm,20.8s,MS5.0,baz=91,slow=39
INK Inuvik 99.43 16⇑ *iP* **P 23 07 11.7 -0.4**
comp=Z,17nm,1.1s,mb5.5
DLBC Dease Lake 107.22 23 PP PP 23 12 12.5 -4.9
comp=Z,1.9nm,0.8s,baz=289,slow=5.8,SNR=5.5
YKA Yellowknife Ar 108.92 14 PP PP 23 12 21.6 -8.6
comp=Z,1.4nm,0.7s,baz=335,slow=7.7,SNR=4.2
OCWA Octopus Mounta 117.20 29 *e*PKPdf PKPdf 23 12 14.8 +1.0
HTW Haystack Looko 118.28 27 P PKPdf 23 12 17.2 +1.3
SCHQ Schefferville 118.33 348 PKP PKPdf 23 12 16.5 +0.7
comp=Z,4.7nm,0.6s,baz=41,slow=3.3,SNR=19
SCHQ PP PP 23 13 26.1 -11
comp=Z,3.4nm,0.7s,baz=24,slow=7.1,SNR=5.7
SCHQ Schefferville 118.33 348⇓ *e*PKPdf PKPdf 23 12 16.4 +0.6
EBG Ellensburg 119.49 27 P PKPd 23 12 20.0 +1.7
NEW Newport 119.92 24 PKIKP PKPd 23 12 20.5 +1.4
NEW Newport 119.92 24 PKP PKPd 23 12 19.1 -0.1
comp=Z,6.0nm,0.8s,baz=322,slow=2.1,SNR=8.3
NEW Newport 119.92 24 *e*PKPdf PKPdf 23 12 19.0 -0.2
BROR Big Rock Looko 120.52 30 P PKPd 23 12 21.8 +1.4
YBH Yreka Blue Hor 122.17 33 PKP PKPd 23 12 24.5 +0.8
comp=Z,2.1nm,1.0s,baz=142,slow=2.6,SNR=4.0
MSO Missoula 122.35 23 *e*PKPdf PKPdf 23 12 24.4 +0.5
BMO Blue Mountains 122.53 27 *e*PKPdf PKPdf 23 12 23.9 -0.3
CHMT Chamberlain Mo 122.55 22 *e*PKPdf PKPdf 23 12 24.3 +0.1
CHMT *ep*P PP 23 13 54.5 -12
LASM Arnica Sink 122.87 32 P PKPdf 23 12 26.6 +1.6
LBCM Butte Creek Ri 123.53 32 P PKPdf 23 12 28.0 +1.7
ULM Lac du Bonnet 124.08 8 PKP PKPdf 23 12 27.3 +0.2
comp=Z,12nm,0.7s,baz=352,slow=3.7,SNR=9.2
ULM Lac du Bonnet 124.08 8 *e*PKPdf PKPdf 23 12 26.8 -0.3
BOZ Bozeman (W) 124.22 22 PKIKP PKPdf 23 12 29.1 +1.6
BOZ Bozeman (W) 124.22 22 *e*PKPdf PKPdf 23 12 28.3 +0.8
MCMT McKenzie Canyo 124.44 24 *e*PKPdf PKPdf 23 12 29.6 +1.7
MCMT *ep*P PP 23 14 06.5 -12
MCMT *e*SKP 23 15 51.5
BEKR Beckwourth 124.75 33⇑ *i*PKPdf PKPdf 23 12 29.7 +0.9
QLMT Earthquake Lak 124.99 23 *e*PKPdf PKPdf 23 12 31.2 +2.2
LAO LASA Array 125.15 18⇑ *e*PKPdf PKPdf 23 12 31.3 +2.1
YMR Madison River 125.30 22 *e*PKPdf PKPdf 23 12 32.2 +2.6
TAOE Nuku Hiva Isla 125.37 97 *e*PP x 23 12 12.3
comp=Z,486nm,28.5s
YFT Old Faithful 125.53 22 *e*PKPdf PKPdf 23 12 33.7 +3.6
IMW Indian Meadow 125.97 23 *e*PKPdf PKPdf 23 12 32.5 +1.6
MOOW Moose Ponds 126.17 23 *e*PKPdf PKPdf 23 12 32.6 +1.3
MOOW *ep*PKPdf 23 12 46.4
RRI2 Red Ridge 126.28 23 *e*PKPdf PKPdf 23 12 32.8 +1.3
TPAW Teton Pass 126.30 23⇑ *e*PKPdf PKPdf 23 12 32.4 +0.9
TPAW *e*PP PP 23 14 23.1 -8.1
LOHW Long Hollow 126.33 23 *e*PKPdf PKPdf 23 12 33.0 +1.4
SNOW Snow King Moun 126.40 23 *e*PKPdf PKPdf 23 12 33.5 +1.7
REDW Red Top Meadow 126.45 23 *e*PKPdf PKPdf 23 12 33.5 +1.6
ELK Elko 126.69 28 PKIKP PKPd 23 12 34.8 +2.4
ELK Elko 126.69 28 PKP PKPd 23 12 34.2 +1.8
comp=Z,9.2nm,0.9s,baz=334,slow=1.5,SNR=34
ELK Elko 126.69 28 *e*PKPdf PKPd 23 12 34.1 +1.7
NVAR Mina Array Bea 126.90 32 PKP PKPd 23 12 35.4 +2.4
comp=Z,10nm,0.8s,baz=20,slow=0.4,SNR=52
HVU Hansel Valley 126.97 26 PKIKP PKPd 23 12 35.3 +2.3
HVU Hansel Valley 126.97 26 *e*PKPdf PKPd 23 12 34.5 +1.5
PDAR Pinedale Array 127.46 22 PKP PKPd 23 12 34.5 +0.7
comp=Z,111nm,0.9s,slow=1.5,SNR=54
MTUM Tungsten Hills 127.54 34 *e*PKPdf PKPd 23 12 36.4 +2.2
HWUT Hardware Ranch 127.63 25 *e*PKPdf PKPd 23 12 35.5 +1.3
PTRM Twissleman Ran 127.80 36 *e*PKPdf PKPd 23 12 37.4 +2.6
RSSD Black Hills 128.12 17 *e*PKIKP PKPd 23 12 36.6 +1.5
RSSD Black Hills 128.12 17 *e*PKPdf PKPd 23 12 36.0 +0.9
CTU Camp Tracy 128.31 26 *e*PKPdf PKPd 23 12 36.6 +1.1
NLU North Lily Min 128.77 26 *e*PKPdf PKPd 23 12 37.9 +1.4
DAC Darwin (Calif) 128.85 34 *e*PKIKP PKPd 23 12 39.0 +2.3
DAC Darwin (Calif) 128.85 34 *e*PKPdf PKPd 23 12 38.5 +1.8
MPU Maple Canyon 128.91 26 *e*PKPdf PKPd 23 12 39.1 +2.4
TMUT Trail Mountain 129.69 26 *e*PKPdf PKPd 23 12 41.1 +2.9
MSU Marysvale 129.89 28 *e*PKPdf PKPd 23 12 40.9 +2.3
MSU *ep*PP PP 23 14 51.5 -3.3
MSU *e*SKP 23 15 58.5
SADO Sadowa 130.04 354 PKP PKPdf 23 12 39.1 +0.4
comp=Z,7.8nm,0.6s,baz=348,slow=3.3,SNR=12
SADO SKPbc 23 15 57.8
comp=Z,20nm,1.0s,baz=14,slow=6.0,SNR=7.0
NCB Newcomb 130.14 350 *e*PKPdf PKPdf 23 12 39.4 +0.4
SRU San Rafael 130.14 26 P Pdif 23 09 34.4 +6.2
SRU *e* 23 12 41.6
SRU San Rafael 130.14 26 *e*PKPdf PKPd 23 12 40.9 +1.8
NEN Nelson 130.81 32 *e*PKPdf PKPd 23 12 43.3 +2.9
NEN *e*SKP 23 16 00.6
PV10 Paradox Valley 131.39 25 *e*PKPdf PKPd 23 12 43.8 +2.3
PV10 *e*SKP 23 16 03.9
KSU1 Kansas State U 134.75 13 *e*PKPdf PKPd 23 12 48.5 +0.7
ANMO Albuquerque 135.39 25 PKIKP PKPd 23 12 51.3 +2.3
ANMO Albuquerque 135.39 25 PKP PKPd 23 12 50.8 +1.8
comp=Z,14nm,0.9s,baz=222,slow=1.5,SNR=25
ANMO SKPbc 23 16 17.4
comp=Z,6.3nm,0.8s,baz=340,slow=4.4,SNR=12
ANMO Albuquerque 135.39 25 *e*PKPdf PKPd 23 12 51.0 +2.0
ANMO *e*SKP 23 16 17.4
TUC Tucson 135.52 31 PKIKP PKPd 23 12 52.0 +2.7
TUC *e* 23 13 08.3
TUC Tucson 135.52 31 *e*PKPdf PKPd 23 12 51.2 +1.9
TUC *ep*PKPdf 23 13 08.0
TUC *e*SKP 23 16 14.9
LAZ Ladron 135.56 26 *e*PKPdf PKPd 23 12 51.3 +1.9
LAZ *ep*PKPdf 23 13 04.8
LAZ *e*SKP 23 16 18.3
LENM Lemitar 135.84 26 *e*PKPdf PKPd 23 12 52.0 +2.1
LENM *e*SKP 23 16 13.9
BNM Barren Site 136.00 26 *e*PKPdf PKPd 23 12 52.0 +1.8
BNM *e*SKP 23 16 19.4
CCM Cathedral Cave 136.67 7 PKIKP PKPd 23 12 52.3 +1.0

CCM	**Cathedral Cave**	**136.67**	**7**	*e*PKPdf	PKPdf			23 12 51.0	-0.3
CCM				*e*SKP				23 16 19.8	
FVM	**French Village**	**136.84**	**6**	*e*PKPdf	PKPdf			23 12 50.9	-0.7
FVM				*e*SKP				23 16 20.7	
WCI	**Wyandotte Cave**	**136.86**	**1**	PKIKP	PKPdf			23 12 52.5	+0.9
WCI	**Wyandotte Cave**	**136.86**	**1**	*e*PKPdf	PKPdf			23 12 52.1	+0.4
WCI				*ep*PKPdf				23 13 08.9	
WCI				*e*SKP				23 16 20.8	
FWV	**Forest Hill**	**137.32**	**355**	*e*PKPdf	PKPdf			23 12 53.7	+1.2
ELN	**Prospectdale**	**137.66**	**355**	*e*PKPdf	PKPdf			23 12 55.3	+2.1
ELN				*e*SKP				23 16 23.4	
CPRX	**Cap Rock**	**138.12**	**24**	*e*PKPpre				23 12 46.3	
CPRX				*e*PKPdf	PKPdf			23 12 57.2	+3.1
CPRX				*e*SKP				23 16 24.7	
TZTN	**Tazewell**	**138.52**	**358**	*e*PKPpre				23 12 46.4	
TZTN				*e*SKP				23 16 25.8	
MNTX	**Cornudas Mount**	**138.63**	**26**	*e*PKPpre				23 12 50.8	
MNTX				*e*PKPdf	PKPdf			23 12 56.5	+1.5
MNTX				*e*PP	PP			23 15 42.8	-7.5
MNTX				*e*SKP				23 16 26.4	
GDL2	**Guadalupe Moun**	**138.64**	**25**	*e*PKPpre				23 12 48.3	
GDL2				*e*PKPdf	PKPdf			23 12 56.9	+1.8
GDL2				*e*SKP				23 16 26.7	
CLNB	**Carlsbad**	**138.79**	**24**	*e*PKPpre				23 12 50.4	
CLNB				*e*PKPdf	PKPdf			23 12 58.2	+2.9
WVT	**Waverly**	**138.89**	**3**	PKHKP				23 12 46.6	
WVT	**Waverly**	**138.89**	**3**	*e*PKPpre				23 12 45.8	
WVT				*e*PKPdf	PKPdf			23 12 56.2	+0.8
WVT				*e*PP	PP			23 15 44.3	-7.4
WVT				*e*SKP				23 16 26.2	
PLAL	**Pickwick Lake**	**140.02**	**4**	*e*PKPdf	PKPdf			23 12 49.3	-8.1
PLAL				*e*PP	PP			23 15 42.6	-16
PLAL				*e*SKP				23 16 29.6	
OXF	**Oxford**	**140.38**	**5**	PKHKP				23 12 53.5	
OXF	**Oxford**	**140.38**	**5**	*e*PKPdf	PKPdf			23 12 48.9	-9.2
OXF				*e*PP	PP			23 15 50.9	-10
OXF				*e*SKP				23 16 30.6	
LTX	**Lajitas**	**141.41**	**26**	PKIKP	PKPdf			23 12 56.5	-3.7
LTX	**Lajitas**	**141.41**	**26**	*e*PKPpre				23 12 56.2	
TXAR	**Lajitas Array**	**141.41**	**26**	PKHKP				23 12 54.9	
TXAR								23 16 02.4	
TXAR				pmax	pmax				
	comp=Z,4.0nm,0.6s								
TXAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
TXAR				pmax	pmax				
	comp=E,7.0nm,1.0s								
TXAR	**Lajitas Array**	**141.41**	**26**	PKHKP				23 12 54.9	
	comp=E,3.8nm,0.6s,baz=245,slow=0.6,SNR=19								
TXAR				PP	PP			23 16 02.4	-4.7
	comp=E,1.9nm,0.9s,baz=333,slow=5.6,SNR=3.8								
TXAR				SKPbc				23 16 34.0	
	comp=E,6.9nm,0.9s,baz=256,slow=1.1,SNR=7.7								
TXAR	**Lajitas Array**	**141.41**	**26**	PKP	PKPdf			23 12 54.9	-5.3
TXAR				PP	PP			23 16 02.4	-4.7
TXAR				SKPbc				23 16 34.0	
BAO	**Brasilia Array**	**142.01**	**251**	PKPdf	PKPdf			23 12 58.0	-3.5
LRAL	**Lakeview Retre**	**142.01**	**2**	*e*PKPpre				23 12 55.4	
LRAL				*e*SKP				23 16 34.5	
BDFB	**Brasilia**	**142.03**	**251**	PKHKP				23 12 56.6	
BDFB				pmax	pmax				
	comp=Z,3.0nm,0.7s								
BDFB	**Brasilia**	**142.03**	**251**	PKhKP				23 12 56.6	
	comp=Z,2.7nm,0.7s,baz=46,slow=26,SNR=3.5								
PLCA	**Paso Flores**	**142.19**	**198**	PKHKP				23 12 57.4	
PLCA				pmax	pmax				
	comp=Z,3.0nm,0.9s								
PLCA	**Paso Flores**	**142.19**	**198**	PKhKP				23 12 57.4	
	comp=Z,3.2nm,0.9s,baz=172,slow=1.2,SNR=6.5								
CPUP	**Villa Florida**	**146.04**	**229**	PKPdf	PKPdf			23 13 09.9	+1.7
CPUP	**Villa Florida**	**146.04**	**229**	PKPbc	PKPbc			23 13 09.6	+0.3
	comp=Z,28nm,1.1s,baz=142,slow=4.2,SNR=32								
CPUP	**Villa Florida**	**146.04**	**229**	*e*PKPdf	PKPdf			23 13 09.9	+1.7
DWPF	**Disney**	**146.76**	**354**	*e*PKPdf	PKPdf			23 13 12.8	+3.3
DWPF				*ep*PKPdf				23 13 25.4	
SJG	**San Juan**	**150.23**	**321**	PKPbc	PKPdf			23 13 19.6	+4.4
	comp=Z,45nm,0.7s,baz=320,slow=20,SNR=16								
SJG	**San Juan**	**150.23**	**321**	PKPdf	PKPdf			23 13 16.2	+1.0
SJG				PKPbc	PKPdf			23 13 19.6	+4.4
SJG				*e*PKPbc	PKPdf			23 13 21.6	+6.4
CCCC	**Cccc**	**152.84**	**345**	*e*P	PKPdf			23 13 16.0	-3.0
SAML	**Samuel**	**157.83**	**259**	*e*PKPdf	PKPdf			23 13 27.5	+1.7
SAML				*e*PKPab	PKPab			23 13 57.5	-3.6
LPAZ	**La Paz**	**159.92**	**235**	PKP	PKPdf			23 13 30.0	+1.8
	comp=Z,6.8nm,1.0s,baz=44,slow=2.4,SNR=19								
LPAZ	**La Paz**	**159.92**	**235**	*e*PKPdf	PKPdf			23 13 30.5	+2.3
ROSC	**El Rosal**	**165.30**	**312**	PKP	PKPdf			23 13 35.2	+1.5
	comp=Z,20nm,1.0s,baz=95,slow=19,SNR=11								

*IDC **23** 23:02:55.0±1.5, 11.45N×144.37E, mb3.7/5, mb1 3.9/5, mb1mx3.8/19, mbtmp3.7/5, MS3.5/1, Ms1 3.5/1, ms1mx2.9/27, Error ellipse: s-maj=51.8km s-min=28.5km az=92.0*

*NEIC **23** 23:03:00.1±2.8, 11.46N×144.32E, h36km±28km, mb4.2/1, Error ellipse: s-maj=48.1km s-min=21.7km az=94.0*

ISC 23 23:02:58.6±3.1, 11.4N±0.1×144.3E±0.3, h40km±30km, n8, σ1§07/8, mb3.9/6, MS3.5/1, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**2.26**	**15**	*e*Pn		**P**	**23 03 34.0**	**-0.4**
GUMO				*e*Sn		**S**	**23 04 01.7**	**+0.4**
WRA	**Warramunga Arr**	**32.63**	**198**	P		**P**	**23 09 29.5**	**+0.4**
	0.6nm,0.6s,mb3.7,baz=17,slow=9.9,SNR=3.6							
DZM	**Mont Dzumac**	**39.74**	**147**	LR		LR	23 24 15.1	
	comp=Z,64nm,18.6s,MS3.5,baz=175,slow=32							
SONM	**Songino Array**	**48.20**	**326**	P		**P**	**23 11 37.1**	**-0.1**
	0.7nm,0.5s,mb4.0,baz=134,slow=7.8,SNR=4.9							
MKAR	**Makanchi Array**	**62.67**	**317**	P		**P**	**23 13 22.3**	**+0.8**
	0.6nm,0.7s,mb3.9,baz=89,slow=6.7,SNR=3.8							
ILAR	**Eielson Array**	**70.80**	**25**	P		**P**	**23 14 12.4**	**-0.2**
	0.6nm,0.6s,mb3.7,baz=241,slow=6.4,SNR=6.4							
BVAR	**Borovoye Array**	**71.28**	**322**	P		**P**	**23 14 16.5**	**+0.7**
	0.5nm,0.3s,mb3.9,baz=105,slow=8.0,SNR=8.1							
ZRNK	**Zerenda**	**72.11**	**322**	P		**P**	**23 14 18.8**	**-1.8**
	3.6nm,1.2s,mb4.2							

*BJI **23** 23:11:17.0, 10.91N×144.87E, h3km, mB4.9, mb4.9, Ms4.7, Msz4.4*

*NEIC **23** 23:11:24.5±6.3, 11.43N×144.16E, h3km±38km, mb4.6/19, Error ellipse: s-maj=14.2km s-min=11.9km az=110.0*

*IDC **23** 23:11:24.4±0.8, 11.47N×144.13E, mb4.4/15, mb1 4.6/15, mb1mx4.4/25, mbtmp4.4/15, Error ellipse: s-maj=24.2km s-min=22.1km az=86.0*

ISC 23 23:11:25.0±3.1, 11.51N±0.07×144.17E±0.09, h13km±19km, h33km±4.7km:pP-P, n47, σ1§18/46, mb4.6/35, MS4.0/1, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**2.17**	**18**	*e*Pn		**Pn**	**23 12 03.6**	**+2.2**
GUMO				*e*Sn		**Sn**	**23 12 27.1**	**-1.2**
JNU	**Nakatsue**	**24.73**	**333**	P		**P**	**23 16 46.8**	**-0.6**
	12nm,1.0s,mb4.4,baz=90,slow=4.1,SNR=4.4							
MJAR	**Matsushiro Arr**	**25.49**	**349**	P		**P**	**23 16 53.0**	**-1.7**
	5.1nm,0.9s,mb4.0,baz=170,slow=9.6,SNR=12							
MAJO	**Matsushiro**	**25.50**	**349**	*e*P		**P**	**23 16 52.8**	**-1.9**
	7.6nm,0.8s,mb4.3							
MAT	**Matsushiro**	**25.50**	**349**	*e*P		**P**	**23 16 55.0**	**+0.3**
	4.8nm,0.7s,mb4.1							
MAT	**Matsushiro**	**25.50**	**349**	P		**P**	**23 16 54.4**	**-0.3**
WRAB	**Tennant Creek**	**32.71**	**197**	*e*P		**P**	**23 17 57.7**	**-1.9**
	12nm,1.1s,mb4.8							
WRA	**Warramunga Arr**	**32.72**	**197**	P		**P**	**23 17 57.2**	**-2.5**
	1.4nm,0.5s,mb4.2,baz=20,slow=9.5,SNR=12							
YSS	**Yuzh-Sakhalins**	**35.34**	**358**	*e*P		**P**	**23 18 21.1**	**-1.0**
	15nm,1.5s,mb4.7							
ENH	**Enshi**	**37.18**	**305**	*e*P		**P**	**23 18 38.9**	**+1.1**
	7.9nm,0.8s,mb4.6							
HHC	**Hu-ho-hao-te**	**40.93**	**321**	*e*P		**P**	**23 19 09.3**	**+0.5**
HHC				AP		pP	23 19 12.9	+0.2
HHC				XP		sP	23 19 16.5	+2.2
HHC				PP		PP	23 20 48.8	+2.4
HHC				PCP		PcP	23 21 04.4	-5.5
HHC				SCP			23 24 57.0	
HHC				S		**S**	**23 25 20.3**	**+0.4**
HHC				SCS		ScS	23 29 09.9	-1.7
HHC				AMB		AMB		
	comp=Z,13nm,1.2s,mb4.4							
HHC				AMB		AMB		
	comp=Z,73nm,10.8s							
HHC				LR		LR		
	comp=N,145nm,13.2s,MS4.2							
HHC				LR		LR		
	comp=E,151nm,13.2s,MS4.2							
HHC				LR		LR		
	comp=Z,121nm,18.0s,MS3.8							
LZH	**Lanzhou**	**43.82**	**311**	*e*P		**P**	**23 19 34.0**	**+1.5**
LZH				XP		sP	23 19 45.0	+7.0
LZH				AMB		AMB		
	comp=Z,26nm,1.2s,mb4.8							
LZH	**Lanzhou**	**43.82**	**311**	*e*P		**P**	**23 19 34.0**	**+1.5**
	comp=Z,26nm,1.2s,mb4.8							
LZH				pP		pP	23 19 45.0	+8.6
LZH				sP		sP	23 19 50.0	+12
FX1	**Attu Island--F**	**47.37**	**24**	P		**P**	**23 19 59.4**	**-1.1**
	comp=Z,11nm,0.8s,mb4.9,baz=252,slow=20							
SONM	**Songino Array**	**48.05**	**326**	P		**P**	**23 20 06.5**	**+0.5**
	comp=Z,3.0nm,0.6s,mb4.5,baz=148,slow=8.1,SNR=32							
SONM				PcP		PcP	23 21 33.8	-0.4
	comp=Z,1.1nm,1.0s,baz=135,slow=7.0,SNR=3.6							
GTA	**Gaotai**	**48.07**	**313**	P		**P**	**23 20 07.6**	**+1.4**
GTA				AP		pP	23 20 17.8	+7.6
GTA				AMB		AMB		
	comp=Z,12nm,0.8s,mb5.0							
MA2	**Magadan**	**48.22**	**4**	P		**P**	**23 20 05.6**	**-1.6**
	comp=Z,5.4nm,0.6s,mb4.8							
YAK	**Yakutsk**	**51.52**	**351**	P		**P**	**23 20 31.4**	**-0.9**
	comp=Z,27nm,0.6s,mb5.3							
TLY	**Talaya**	**51.76**	**329**	P		**P**	**23 20 34.0**	**-0.3**
	comp=Z,5.1nm,0.7s,mb4.6							
TLY				*e*			23 20 42.7	
LSA	**Lhasa**	**52.36**	**299**	P		**P**	**23 20 38.4**	**-0.8**
	comp=Z,3.9nm,0.7s,mb4.5							
WMQ	**Urumqi**	**58.09**	**315**	*e*P		**P**	**23 21 20.8**	**+0.4**
BILL	**Bilibino**	**58.31**	**10**	P		**P**	**23 21 22.0**	**+0.3**
	comp=Z,12nm,0.9s,mb4.9							
MKAR	**Makanchi Array**	**62.52**	**317**	P		**P**	**23 21 51.0**	**+0.3**
	comp=Z,2.2nm,0.6s,mb4.4,baz=94,slow=8.8,SNR=27							
MKAR				PcP		PcP	23 22 29.2	-0.5
	comp=Z,1.1nm,0.7s,baz=101,slow=6.2,SNR=3.9							
MKAR	**Makanchi Array**	**62.52**	**317**	P		**P**	**23 21 51.0**	**+0.3**
MKAR				PcP		PcP	23 22 29.2	-0.5
ILAR	**Eielson Array**	**70.72**	**25**	P		**P**	**23 22 41.5**	**-1.0**
	comp=Z,1.9nm,0.6s,mb4.2,baz=258,slow=4.9,SNR=20							
BVAR	**Borovoye Array**	**71.13**	**322**	P		**P**	**23 22 45.5**	**+0.3**
	comp=Z,2.9nm,0.5s,mb4.4,baz=104,slow=7.4,SNR=24							
BRVK	**Borovoye**	**71.20**	**322**	*e*P		**P**	**23 22 46.0**	**+0.5**
	comp=Z,6.9nm,1.1s,mb4.5							
ZRNK	**Zerenda**	**71.96**	**322**	*e*P		**P**	**23 22 50.3**	**+0.2**
	comp=Z,66nm,0.6s,mb5.7							
INK	**Inuvik**	**76.53**	**22**	P		**P**	**23 23 16.5**	**+0.3**
	comp=Z,3.9nm,0.8s,mb4.4,baz=301,slow=3.8,SNR=6.8							
INK	**Inuvik**	**76.53**	**22**	*e*P		**P**	**23 23 15.9**	**-0.3**
	comp=Z,5.4nm,0.8s,mb4.5							
ARU	**Arti**	**78.08**	**326**	*e*P		**P**	**23 23 24.8**	**-0.2**
	comp=Z,3.6nm,0.7s,mb4.4							
DLBC	**Dease Lake**	**78.09**	**32**	P		**P**	**23 23 26.1**	**+1.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=246,slow=21,SNR=4.9							
DLBC	**Dease Lake**	**78.09**	**32**	*e*P		**P**	**23 23 26.4**	**+1.4**
YBH	**Yreka Blue Hor**	**84.74**	**49**	P		**P**	**23 24 01.2**	**+0.9**
	comp=Z,4.3nm,0.8s,mb4.6,baz=274,slow=3.4,SNR=7.4							
YKA	**Yellowknife Ar**	**85.00**	**27**	P		**P**	**23 24 02.2**	**+1.1**
	comp=Z,1.5nm,0.7s,mb4.3,baz=283,slow=5.6,SNR=7.0							
YKA	**Yellowknife Ar**	**85.00**	**27**	P		**P**	**23 24 02.2**	**+1.1**
NEW	**Newport**	**87.22**	**41**	P		**P**	**23 24 13.8**	**+1.3**
	comp=Z,1.9nm,0.5s,mb4.5,baz=331,slow=3.5,SNR=4.4							
NEW	**Newport**	**87.22**	**41**	P		**P**	**23 24 12.5**	**+0.1**
	comp=Z,3.5nm,0.8s,mb4.6							
CMB	**Columbia Colle**	**87.23**	**52**	*e*P		**P**	**23 24 12.5**	**-0.2**
	comp=Z,3.1nm,0.9s,mb4.5							
BMO	**Blue Mountains**	**87.93**	**45**	*e*P		**P**	**23 24 15.1**	**-0.8**
	comp=Z,4.1nm,1.0s,mb4.6							
NVAR	**Mina Array Bea**	**88.74**	**51**	P		**P**	**23 24 22.4**	**+2.4**
	comp=Z,2.4nm,0.8s,mb4.6,baz=270,slow=4.5,SNR=5.9							
KIV	**Kislovodsk**	**90.22**	**315**	P		**P**	**23 24 30.0**	**+3.2**
	comp=Z,3.0nm,0.8s,mb4.7							
ELK	**Elko**	**90.45**	**48**	*e*P		**P**	**23 24 30.3**	**+2.4**
	comp=Z,3.7nm,1.0s,mb4.7							
FINES	**FINESS Array B**	**92.75**	**335**	P		**P**	**23 24 36.9**	**-1.0**
	comp=Z,2.6nm,0.8s,mb4.7,baz=117,slow=6.2,SNR=3.8							
DBIC	**Dimbokro**	**144.28**	**299**	PKP		PKPdf	23 31 01.8	-3.5
	comp=Z,8.0nm,1.0s,baz=9.4,slow=6.5,SNR=5.6							
LPAZ	**La Paz**	**148.31**	**102**	PKPbc		PKPdf	23 31 14.8	+3.0
	comp=Z,1.1nm,0.8s,baz=263,slow=2.7,SNR=4.5							
LPAZ	**La Paz**	**148.31**	**102**	*e*PKPdf		PKPdf	23 31 10.2	-1.7
LPAZ				PKPbc		PKPdf	23 31 14.8	+3.0

*MOS **23** 23:23:46.9±1.5, 53.26N×159.97E, h61km, mb4.4/6, Error ellipse: s-maj=14.7km s-min=7.5km az=74.5*

*IDC **23** 23:23:47.4±2.9, 53.35N×159.82E, h46km±30km, mb3.7/19, mb1 4.0/21, mb1mx3.9/27, mbtmp4.0/21, ML3.6/2, Error ellipse: s-maj=20.4km s-min=12.4km az=166.0*

*KRSC **23** 23:23:48.4±0.7, 53.25N×160.12E, h45km±2km, ML4.5*

*NEIC **23** 23:23:49.3±1.0, 53.37N×159.86E, h66km±10km, mb4.4/10, Error ellipse: s-maj=12.1km s-min=7.4km az=157.0*

ISC 23 23:23:47.3±0.4, 53.22N±0.03×160.15E±0.05, h68km±3km, n82, σ1§18/117, mb4.0/29, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SPN	**Mys Shipunski**	**0.14**	**213**	*i* P		**P**	**23 23 56.3**	**-1.0**
SPN				*e*S		**S**	**23 24 02.2**	**-2.6**
NLC	**Nalytchevo**	**0.49**	**265**	*i* P		**P**	**23 23 59.6**	**-0.2**
NLC				*e*S		**S**	**23 24 07.4**	**-1.7**
SDLR	**Sedlovina**	**0.76**	**275**	*i* P		**P**	**23 24 03.3**	**+0.4**
SDLR				*i* S		**S**	**23 24 14.4**	**-0.1**
UGLR	**Uglovaya**	**0.80**	**270**	*i* P		**P**	**23 24 04.0**	**+0.7**
UGLR				*i* S		**S**	**23 24 15.4**	**+0.2**
SMAR	**Somma**	**0.81**	**274**	*i* P		**P**	**23 24 03.8**	**+0.3**
SMAR				*e*S		**S**	**23 24 14.5**	**-1.0**
AVH	**Avacha**	**0.85**	**274**	*i* P		**P**	**23 24 04.6**	**+0.6**
AVH				*i* S		**S**	**23 24 16.4**	**+0.1**
KOK	**Koryaka**	**0.91**	**275**	*i* P		**P**	**23 24 05.2**	**+0.4**
KOK				*i* S		**S**	**23 24 17.9**	**+0.2**
KII	**Karymskiy**	**0.92**	**333**	P		**P**	**23 24 05.4**	**+0.5**
KII	**Karymskiy**	**0.92**	**333**	*i* P		**P**	**23 24 05.3**	**+0.4**
KII				*e*S		**S**	**23 24 17.8**	**-0.1**
PET	**Petropavlovsk**	**0.92**	**258**	P		**P**	**23 24 05.1**	**+0.2**
PET				S		**S**	**23 24 17.1**	**-0.9**
PET	**Petropavlovsk**	**0.92**	**258**	*i* PN		**P**	**23 24 05.1**	**+0.2**
PET				*e*S		**S**	**23 24 17.3**	**-0.7**
PET				pmax	pmax			
	comp=Z,200nm,0.3s							
PET				pmax	pmax			
	comp=Z,308nm,0.4s							
PET				smax				
	comp=N,1μm,0.3s							
PET				smax				
	comp=N,2μm,0.2s							
PET				smax				
	comp=E,4μm,0.5s							
PET	**Petropavlovsk**	**0.92**	**258**	*e*Pg		**P**	**23 24 04.9**	**0.0**
PET				*e*S		**S**	**23 24 11.5**	**-6.4**
PET	**Petropavlovsk**	**0.92**	**258**	*i* P		**P**	**23 24 05.0**	**+0.1**
PET				*i* S		**S**	**23 24 17.1**	**-0.9**
RUS	**Russkaya**	**1.27**	**232**	*i* P		**P**	**23 24 09.5**	**0.0**
RUS				*i* S		**S**	**23 24 25.0**	**-1.0**
KRMR	**Karymshinskiy**	**1.28**	**253**	*i* P		**P**	**23 24 09.3**	**-0.4**
KRMR				*i* S		**S**	**23 24 25.3**	**-1.0**
GNL	**Ganaly**	**1.40**	**291**	*i* P		**P**	**23 24 12.2**	**+0.7**
GNL				*e*S		**S**	**23 24 29.3**	**0.0**
GRL	**Gorelyy**	**1.42**	**243**	*i* P		**P**	**23 24 12.7**	**+1.0**
GRL				*e*S		**S**	**23 24 29.3**	**-0.5**
MKZ	**Mys Kozlova**	**1.64**	**34**	P		**P**	**23 24 13.9**	**-0.6**
MKZ				S		**S**	**23 24 32.9**	**-1.7**
MKZ	**Mys Kozlova**	**1.64**	**34**	*i* P		**P**	**23 24 14.0**	**-0.5**
MKZ				*i* S		**S**	**23 24 33.3**	**-1.3**
APC	**Apacha**	**1.83**	**262**	*i* P		**P**	**23 24 18.5**	**+1.3**
APC				*i* S		**S**	**23 24 41.4**	**+2.2**
APC				Smax				
	comp=E,850nm,1.1s							
TUMR	**Tumrok**	**2.07**	**360**	*i* P		**P**	**23 24 22.2**	**+1.7**
TUMR				*i* S		**S**	**23 24 46.4**	**+1.3**
MIPR	**Malaya Ipel'ka**	**2.27**	**247**	*i* P		**P**	**23 24 24.9**	**+1.6**
MIPR				*e*S		**S**	**23 24 51.5**	**+1.4**
KMNR	**Kamenistaya**	**2.54**	**1**	*e*P		**P**	**23 24 29.0**	**+1.8**
KMNR				*e*S		**S**	**23 24 58.3**	**+1.2**
PAU	**Pauzhetka**	**2.70**	**231**	*e*P		**P**	**23 24 30.9**	**+1.5**
PAU				*e*S		**S**	**23 25 01.6**	**+0.7**
PAU				Smax				
	comp=E,640nm,1.0s							
KPT	**Kopyto**	**2.75**	**1**	P		**P**	**23 24 31.1**	**+0.9**
KPT				*e*S		**S**	**23 25 01.6**	**-0.8**
ESO	**Esso**	**2.84**	**343**	*i* P		**P**	**23 24 32.1**	**+0.7**
ESO				*e*S		**S**	**23 25 03.2**	**-1.3**
ESO				Smax				
	comp=E,160nm,0.9s							
KOZ	**Kozyrevsk**	**2.85**	**357**	P		**P**	**23 24 32.4**	**+0.8**
KOZ	**Kozyrevsk**	**2.85**	**357**	*i* P		**P**	**23 24 33.0**	**+1.4**
KOZ				*e*S		**S**	**23 25 05.0**	**+0.2**
KOZR	**Kozyr**	**2.86**	**357**	PN		**P**	**23 24 32.4**	**+0.7**
KRSR	**Krestovskiy**	**3.02**	**4**	*e*P		**P**	**23 24 34.9**	**+1.0**
KRSR				*e*S		**S**	**23 25 08.3**	**-0.6**
KLY	**Klyuchi**	**3.12**	**5**	*e*P		**P**	**23 24 36.9**	**+1.6**
KLY				*e*S		**S**	**23 25 11.7**	**+0.3**
SRDR	**Sredinnyy**	**3.12**	**356**	*i* P		**P**	**23 24 36.2**	**+0.9**
SRDR				*e*S		**S**	**23 25 10.2**	**-1.3**
KBTR	**Krutoberegovo**	**3.37**	**26**	P		**P**	**23 24 39.7**	**+0.8**
KBTR				S		**S**	**23 25 16.4**	**-1.5**
KBTR	**Krutoberegovo**	**3.37**	**26**	*e*P		**P**	**23 24 39.6**	**+0.7**
KBTR				*e*S		**S**	**23 25 16.6**	**-1.3**
SKR	**Severo-Kuril's**	**3.56**	**226**	*e*PN		**P**	**23 24 39.4**	**-2.1**
SKR				*e*S		**S**	**23 25 18.0**	**-4.6**
SKR				pmax	pmax			
	comp=E,40nm,0.4s							
SKR				pmax	pmax			
	comp=Z,70nm,0.4s							
SKR				smax				
	comp=N,260nm,0.5s							
SKR				smax				
	comp=E,320nm,0.5s							
ALID	**Alaid**	**3.69**	**232**	*e*P		**P**	**23 24 44.3**	**+1.0**
ALID				*e*S		**S**	**23 25 24.5**	**-1.3**
BKI	**Bering**	**3.96**	**57**	*e*P		**P**	**23 24 46.0**	**-1.0**
BKI				*i* S		**S**	**23 25 27.5**	**-5.0**
BKI				Smax				
	comp=E,110nm,0.8s							
FX1	**Attu Island--F**	**7.85**	**87**	P		**P**	**23 25 40.2**	**-0.9**
	comp=E,4.4nm,0.3s,baz=263,slow=12,SNR=28							
FX1				S		**S**	**23 27 01.3**	**-8.0**
	comp=E,21nm,0.3s,baz=96,slow=14,SNR=13							
ASAJ	**Asahikawa**	**14.71**	**239**	P		**P**	**23 27 11.9**	**-0.8**
	comp=E,0.3nm,0.3s,baz=70,slow=8.8,SNR=3.3							
MAJO	**Matsushiro**	**22.65**	**231**	*e*P		**P**	**23 28 44.7**	**+1.5**
MAJO				pmax	pmax			
	comp=Z,11nm,0.6s,mb4.4							
MAJO	**Matsushiro**	**22.65**	**231**	*e*P		**P**	**23 28 44.7**	**+1.5**
	comp=Z,11nm,0.6s,mb4.3							
MAT	**Matsushiro**	**22.65**	**231**	*e*P		**P**	**23 28 45.0**	**+1.8**
MAT				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.2							
MAT	**Matsushiro**	**22.65**	**231**	*e*P		**P**	**23 28 45.0**	**+1.8**
	comp=Z,8.2nm,0.7s,mb4.2							
MAT	**Matsushiro**	**22.65**	**231**	P		**P**	**23 28 44.7**	**+1.5**
MJAR	**Matsushiro Arr**	**22.65**	**231**	P		**P**	**23 28 44.6**	**+1.3**
	comp=Z,5.9nm,0.6s,mb4.1,baz=14,slow=9.7,SNR=27							
HIA	**Hailar**	**25.36**	**277**	P		**P**	**23 29 07.0**	**-2.2**
HIA				pmax	pmax			
	comp=Z,5.0nm,1.1s							
HIA	**Hailar**	**25.36**	**277**	P		**P**	**23 29 07.0**	**-2.2**
	comp=Z,5.4nm,1.1s,mb3.9							
ILAR	**Eielson Array**	**28.70**	**45**	P		**P**	**23 29 40.1**	**+0.5**
	comp=Z,1.2nm,0.7s,mb3.6,baz=266,slow=8.0,SNR=12							
INK	**Inuvik**	**33.75**	**38**	P		**P**	**23 30 24.8**	**+0.9**
	comp=Z,1.0nm,0.4s,mb4.0,baz=244,slow=6.3,SNR=4.6							
INK	**Inuvik**	**33.75**	**38**	P		**P**	**23 30 24.8**	**+0.9**
SONM	**Songino Array**	**33.91**	**283**	P		**P**	**23 30 24.7**	**-0.7**
	comp=Z,0.2nm,0.4

Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.10**	**71**	PG	**P**	**00 48 52.0**	**-0.7**
KSH				SG	**S**	**00 49 08.3**	**+1.4**
KSH				Smax			
	comp=N,8μm,0.8s						
KSH				Smax			
	comp=E,8μm,1.0s						
KZA	**Kyzart**	**2.94**	**9**	P	**P**	**00 49 21.0**	**+1.9**
	SNR=9.2						
AML	**Almayashu**	**3.04**	**347**	P	**P**	**00 49 20.3**	**-0.2**
	SNR=70						
UCH	**Uchtor**	**3.05**	**358**	P	**P**	**00 49 20.8**	**+0.1**
	SNR=22						
ULHL	**Ulahol**	**3.31**	**21**	P	**P**	**00 49 28.2**	**+3.9**
	SNR=88						
AAK	**Ala-Archa**	**3.46**	**358**	P	**P**	**00 49 27.0**	**+0.6**
	SNR=29						
AAK	**Ala-Archa**	**3.46**	**358**	⇑Pn	**P**	**00 49 26.7**	**+0.3**
	comp=E,71nm,0.7s						
AAK				⇑Lg		00 50 11.2	
	comp=E,484nm,0.9s						
AAK	**Ala-Archa**	**3.46**	**358**	*e*P	**P**	**00 49 25.1**	**-1.3**
AAK				*e*S	**S**	**00 50 05.6**	**-1.2**
KBK	**Karagaybulak**	**3.49**	**4**	P	**P**	**00 49 28.0**	**+1.2**
	SNR=23						
EKS2	**Erkin-Say**	**3.54**	**350**	P	**P**	**00 49 27.6**	**0.0**
	SNR=16						
FRU	**Bishkek**	**3.66**	**360**	*e*PN	**P**	**00 49 32.8**	**+3.6**
FRU				*e*S	**S**	**00 50 18.0**	**+6.2**
FRU				pmax	pmax		
	comp=Z,210nm,1.5s						
FRU				smax			
	comp=E,2μm,1.7s						
TKM2	**Tokmak 2**	**3.81**	**11**	P	**P**	**00 49 33.2**	**+1.8**
	SNR=12						
USP	**Ospenovka**	**4.09**	**359**	P	**P**	**00 49 42.0**	**+6.6**
	SNR=15						
KK31	**Karatay Array**	**5.01**	**323**	⇓Pn	**P**	**00 49 45.9**	**-2.5**
	comp=E,20nm,0.8s,baz=128,slow=13,SNR=64						
KK31				⇓Lg		00 50 58.8	
	comp=E,78nm,1.0s,baz=136,slow=30,SNR=5.5						
KKAR	**Karatay Array**	**5.01**	**323**	*i* PN	**P**	**00 49 46.5**	**-1.9**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
CHCP	**Chirak Chowk**	**5.61**	**192**	P	**P**	**00 50 03.5**	**+6.7**
CEP	**Cherat**	**5.77**	**203**	P	**P**	**00 50 05.8**	**+6.7**
DLH	**Dalhousie**	**6.71**	**170**	*e*P	**P**	**00 50 17.0**	**+4.7**
DLH				*e*SG	**S**	**00 51 48.0**	**+20**
THW	**Thamme Wali**	**6.78**	**201**	P	**P**	**00 50 20.1**	**+6.8**
THN	**Thein Dam**	**6.78**	**172**	*e*P	**P**	**00 50 12.1**	**-1.2**
THN				*e*SG	**S**	**00 51 48.1**	**+18**
SBDP	**Sheikh Budin**	**7.53**	**206**	P	**P**	**00 50 24.6**	**+0.9**
SDNR	**Sundarnagar**	**7.89**	**165**	*e*P	**P**	**00 50 31.4**	**+2.6**
SDNR				*e*SG	**S**	**00 52 14.0**	**+16**
DRP	**Derazinda**	**8.24**	**207**	P	**P**	**00 50 37.4**	**+3.7**
DDI	**Dehra Dun**	**9.27**	**161**	*e*P	**P**	**00 50 40.0**	**-7.9**
MK31	**Makanchi Array**	**9.46**	**34**	⇑Pn	**P**	**00 50 48.2**	**-2.3**
	comp=Z,1.9nm,0.7s,baz=214,slow=11,SNR=8.4						
MK31				⇑Lg		00 53 20.9	
	comp=Z,17nm,1.1s						
MKAR	**Makanchi Array**	**9.46**	**34**	Pn	**P**	**00 50 48.9**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=221,slow=13,SNR=8.9						
MKAR				Lg		00 53 28.1	
	comp=Z,0.2nm,0.3s,baz=216,slow=32,SNR=6.1						
WMQ	**Urumqi**	**10.84**	**60**	*e*P	**P**	**00 51 09.8**	**+0.3**
WMQ				S	**S**	**00 53 03.3**	**-7.3**
KOLN	**Koldanda**	**13.61**	**144**	*e*P	**P**	**00 51 45.4**	**-1.1**
	comp=Z,31nm,1.2s						
KOLN				*e*S	**S**	**00 54 17.3**	**-0.1**
VOSK	**Vostochnaya**	**13.79**	**351**	⇑Pn	**P**	**00 51 43.0**	**-5.7**
	comp=Z,5.5nm,1.9s						
VOSK				⇑Lg		00 55 40.4	
	comp=Z,15nm,1.2s						
GKN	**Gorkha**	**13.90**	**140**	*e*P	**P**	**00 51 49.2**	**-1.2**
	comp=Z,9.5nm,0.5s						
BVA0	**Borovoye Array**	**14.16**	**349**	⇑Pn	**P**	**00 51 48.4**	**-5.1**
	comp=Z,0.9nm,1.4s,baz=164,slow=15,SNR=13						
BVA0				⇑Lg		00 55 52.1	
	comp=Z,6.3nm,2.5s,baz=168,slow=27,SNR=4.0						
BVA0	**Borovoye Array**	**14.16**	**349**	*i* P	**P**	**00 51 48.4**	**-5.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.4s						
BVAR	**Borovoye Array**	**14.16**	**349**	Pn	**P**	**00 51 48.1**	**-5.5**
	comp=Z,0.2nm,0.3s,baz=168,slow=14,SNR=9.1						
BVAR				Lg		00 55 47.0	
	comp=Z,0.1nm,0.3s,baz=158,slow=34,SNR=4.0						
BRVK	**Borovoye**	**14.21**	**349**	⇓Pn	**P**	**00 51 46.7**	**-7.5**
	comp=Z,0.7nm,0.6s						
BRVK				⇓Lg		00 55 53.1	
	comp=Z,4.2nm,1.0s						
BRVK	**Borovoye**	**14.21**	**349**	*e*P	**P**	**00 51 47.2**	**-7.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**14.21**	**349**	*e*P	**P**	**00 51 47.2**	**-7.0**
	comp=Z,2.5nm,0.8s						
ZRNK	**Zerenda**	**14.32**	**346**	⇓Pn	**P**	**00 51 50.8**	**-4.8**
	comp=Z,2.8nm,1.0s						
ZRNK				⇑Lg		00 55 54.3	
	comp=Z,29nm,1.6s						
ZRNK	**Zerenda**	**14.32**	**346**	*e*P	**P**	**00 51 50.1**	**-5.5**
	comp=Z,71nm,0.6s						
KKN	**Kakani**	**14.40**	**139**	*e*P	**P**	**00 51 56.3**	**-0.7**
DMN	**Daman**	**14.46**	**140**	*e*P	**P**	**00 51 56.9**	**-0.9**
AB31	**Akbulak array**	**14.55**	**319**	⇓Pn	**P**	**00 51 53.1**	**-5.6**
	comp=Z,9.6nm,0.8s,baz=292,slow=4.2,SNR=57						
AB31	**Akbulak array**	**14.55**	**319**	*i* P	**P**	**00 51 53.6**	**-5.2**
AB31				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GTA	**Gaotai**	**19.48**	**81**	*e*P	**P**	**00 53 04.1**	**+3.8**
GTA				AP		00 53 12.5	
GTA				XP		00 53 16.5	
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s						
GTA				AMB	AMB		
	comp=Z,120nm,5.7s						
GTA				LR	LR		
	comp=N,103nm,13.3s						
GTA				LR	LR		
	comp=E,134nm,12.9s						
GTA				LR	LR		
	comp=Z,157nm,15.2s						
ARU	**Arti**	**20.27**	**334**	*e*P	**P**	**00 53 08.8**	**+0.1**
ARU				pmax	pmax		
	comp=Z,12nm,1.3s						
ARU	**Arti**	**20.27**	**334**	*e*P	**P**	**00 53 08.8**	**+0.2**
	comp=Z,12nm,1.3s						
ZAK	**Zakamensk**	**23.08**	**52**	*e*P	**P**	**00 53 39.4**	**+2.6**
ZAK				*e*		00 53 44.3	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.5						
SONM	**Songino Array**	**24.47**	**59**	P	**P**	**00 53 50.8**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.1,baz=229,slow=11,SNR=4.5						
SONM				LR	LR	01 05 33.5	
	comp=Z,42nm,20.3s,MS2.9,baz=64,slow=42						
BRTR	**Keskin Array B**	**31.46**	**284**	P	**P**	**00 54 53.5**	**-0.6**
	comp=Z,0.6nm,0.8s,mb3.5,baz=95,slow=12,SNR=3.1						
FINES	**FINESS Array B**	**36.97**	**323**	P	**P**	**00 55 40.2**	**-0.9**
	comp=Z,1.7nm,0.8s,mb4.0,baz=143,slow=9.5,SNR=4.3						
IDI	**Anoyia**	**39.40**	**280**	LR	LR	01 13 41.3	
	comp=Z,30nm,21.0s,MS3.1,baz=73,slow=38						
ARCES	**ARCESS Array B**	**39.84**	**335**	P	**P**	**00 56 05.4**	**+0.4**
	comp=Z,2.9nm,0.9s,mb4.0,baz=106,slow=8.8,SNR=5.7						
HFS	**Hagfors**	**42.81**	**320**	P	**P**	**00 56 30.9**	**+1.5**
	comp=Z,8.1nm,1.1s,mb4.4,baz=104,slow=12,SNR=4.5						
GERES	**GERESS Array B**	**43.80**	**303**	P	**P**	**00 56 40.0**	**+2.5**
	comp=Z,0.8nm,0.8s,mb3.5,baz=72,slow=8.4,SNR=7.8						
NOA	**NORSAR Array B**	**44.04**	**321**	P	**P**	**00 56 39.4**	**+0.1**
	comp=Z,1.3nm,0.9s,mb3.6,baz=118,slow=4.4,SNR=2.9						
NOA				LR	LR	01 15 28.7	
	comp=Z,25nm,19.8s,MS3.1,baz=245,slow=37						
MJAR	**Matsushiro Arr**	**49.35**	**72**	P	**P**	**00 57 20.3**	**-1.2**
	comp=Z,1.4nm,0.6s,mb4.2,baz=288,slow=10,SNR=4.7						
YKA	**Yellowknife Ar**	**78.41**	**4**	P	**P**	**01 00 30.9**	**-0.8**
	comp=Z,0.4nm,0.6s,mb3.5,baz=346,slow=5.7,SNR=3.0						
YKA	**Yellowknife Ar**	**78.41**	**4**	P	**P**	**01 00 30.9**	**-0.8**
WRA	**Warramunga Arr**	**81.05**	**125**	P	**P**	**01 00 47.1**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=326,slow=5.4,SNR=5.9						

JMA 24 01:37:21.9±0.3, 44.07N×148.17E, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.90**	**249**	P	Pn	01 37 55.7	-0.1
NEM2				*e*S	Sn	01 38 20.9	+0.2
JRA	**Rausu**	**2.20**	**268**	P	Pn	01 38 00.5	+0.3
JRA				*e*S	Sn	01 38 28.6	0.0
JNK	**Nakash**	**2.54**	**260**	P	Pn	01 38 05.2	+0.1
JNK				*e*S	Sn	01 38 36.9	-0.3
JAK	**Akkeshi**	**2.75**	**248**	P	Pn	01 38 07.8	-0.2
JAK				*e*S	Sn	01 38 42.2	-0.1
JAR	**Ashorobuto**	**3.28**	**258**	P	Pn	01 38 16.3	+0.7
JAR				*e*S	Sn	01 38 56.6	+0.6
JCH	**Churui**	**3.80**	**249**	P	Pn	01 38 23.4	+0.5
JCH				*e*S	Sn	01 39 08.9	-0.1
JKK2	**Kamakawa 2**	**3.92**	**269**	P	Pn	01 38 25.6	+0.9
JNBK	**Urakawa-nobuka**	**4.35**	**248**	P	Pn	01 38 30.6	-0.1
JNBK				*e*S	Sn	01 39 21.0	-1.9
JKB	**Kayabe**	**5.67**	**250**	P	Pn	01 38 49.0	-0.5
JKB				*e*S	Sn	01 39 53.7	-2.6
JANG	**Nango**	**6.17**	**235**	P	Pn	01 38 55.9	-0.6
JANG				*e*S	Sn	01 40 03.3	-5.4

IGQ 24 01:44:03.0, 0.42N×78.15W, h4km±2km, mb4.1, 10C-6D, Error ellipse: s-maj=0.9km s-min=0.8km az=27.4, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAYA	**Cayambe**	**0.38**	**155**	⇑P	Pg	01 44 11.2	+0.6
CAYR	**Refugio Cayamb**	**0.42**	**161**	⇑P	Pg	01 44 12.2	+0.7
ECEN	**Cerro Negro**	**0.44**	**24**	⇓P	Pg	01 44 11.8	0.0
JOR1	**San Jorge 1**	**0.64**	**230**	⇓P	Pg	01 44 18.5	+2.6
YANA	**Yana**	**0.68**	**219**	⇓P	Pg	01 44 16.4	-0.2
YANA				S	Sg	01 44 26.8	+1.1
CONE	**Cono NE Rev Vo**	**0.70**	**134**	⇓P	Pg	01 44 16.9	-0.1
LAV3	**Lava3-Reventad**	**0.73**	**135**	⇑P	Pg	01 44 17.2	-0.3
PINO	**Pino**	**0.73**	**219**	P	Pg	01 44 17.6	-0.1
GGP	**Refugio Guagua**	**0.74**	**217**	⇑P	Pg	01 44 17.7	0.0
ECOPE	**Copete-Rev Vol**	**0.74**	**135**	⇑P	Pg	01 44 17.6	-0.3
TERV	**Terraza Guagua**	**0.74**	**218**	⇓P	Pg	01 44 18.1	+0.2
JUA2	**San Juan 2**	**0.78**	**216**	⇓P	Pg	01 44 18.3	-0.3
VC1	**Cotopaxi 1**	**1.08**	**194**	⇑P	Pb	01 44 24.3	+0.3
VC1				S	Sb	01 44 38.6	+0.4
NAS1	**Nasa**	**1.09**	**198**	⇑P	Pb	01 44 24.8	+0.7
NAS1				S	Sb	01 44 41.2	+2.6
LORE	**San Lorenzo**	**1.12**	**321**	⇑P	Pb	01 44 24.6	0.0
TAMB	**Tambo**	**1.13**	**191**	P	Pb	01 44 25.0	+0.3
CAMI	**Rancho Maria**	**1.14**	**198**	⇑P	Pb	01 44 25.7	+0.7
QIL1	**Quilotoa**	**1.48**	**212**	P	Pn	01 44 31.4	+0.9
PISA	**Pisayambo**	**1.48**	**189**	P	Pn	01 44 31.8	+1.2
RUN5	**Runtun**	**1.84**	**189**	P	Pn	01 44 39.7	+4.0
ULBA	**Ulba**	**1.87**	**188**	⇑P	Pn	01 44 38.6	+2.5
ARRY	**Arrayan**	**1.94**	**189**	P	Pn	01 44 39.4	+2.3
IGUA	**Igualata**	**1.96**	**195**	P	Pn	01 44 39.9	+2.6

*CSEM **24** 02:02:39.9±0.1, 46.62N×2.00W, h5km, ML2.7/25, Error ellipse: s-maj=1.6km s-min=0.7km az=44.0*
*NEIC **24** 02:02:40.2, 46.63N×1.99W, h5km, ML2.7(LDG), ML2.5(STR), After LDG.*
*STR **24** 02:02:41.0±0.6, 46.58N×1.94W, h2km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 24 02:02:40.2±0.1, 46.63N×1.99W, h5km, Md2.7/3, Ml2.7/26, Error ellipse: s-maj=1.9km s-min=1.2km az=55.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRYF	**La Roche-sur-Y**	**0.31**	**99**	Pg	Pg	02 02 45.8	-0.6
LRYF				Sg	Sg	02 02 50.2	-0.3
LCHF	**La Chataignera**	**0.86**	**87**	Pg	Pg	02 02 57.1	-0.2
LCHF				Sg	Sg	02 03 08.1	-0.7
CHIF	**Chize**	**1.20**	**114**	Pg	Pg	02 03 02.8	-1.4
CHIF				Sg	Sg	02 03 18.7	-1.4
MFF	**Saint Martin d**	**1.27**	**90**	*e*Pn	Pn	02 03 03.6	-1.0
MFF				*e*Pg	Pg	02 03 04.3	-1.2
MFF				*e*Sg	Sg	02 03 19.9	-2.5
	21nm,0.2s						
QUIF	**Quistinic**	**1.52**	**328**	*e*Pn	Pn	02 03 06.2	-2.0
QUIF				*e*Pg	Pg	02 03 08.4	-2.1
QUIF				*e*Sn	Sn	02 03 25.2	-3.3
QUIF				*e*Sg	Sg	02 03 27.8	-3.0
	38nm,0.2s						
SGMF	**Saint Gilles**	**1.67**	**347**	*e*Pn	Pn	02 03 08.5	-1.9
SGMF				*e*Pg	Pg	02 03 11.3	-2.3
SGMF				*e*Sg	Sg	02 03 32.8	-3.1
	34nm,0.3s						
GRR	**Gorron**	**1.92**	**23**	*e*Pn	Pn	02 03 11.5	-2.4
GRR				*e*Pg	Pg	02 03 15.7	-2.8
GRR				*e*Sn	Sn	02 03 34.8	-3.9
	10nm,0.2s						
GRR				*e*Sg	Sg	02 03 40.2	-3.9
	10nm,0.2s						
ROSF	**Rostrenen**	**1.92**	**333**	*e*Pn	Pn	02 03 11.8	-2.1
ROSF				*e*Pg	Pg	02 03 15.3	-3.2
ROSF				*e*Sn	Sn	02 03 34.7	-4.0
ROSF				*e*Sg	Sg	02 03 40.1	-4.0
	7.4nm,0.2s						
FLN	**La Foliniere**	**2.37**	**25**	*e*Pn	Pn	02 03 18.1	-2.2
	baz=207						
FLN				*e*Pg	Pg	02 03 23.3	-4.1
	baz=204						
FLN				*e*Sg	Sg	02 03 53.6	-5.3
	6.6nm,0.3s						
FLN	**La Foliniere**	**2.37**	**25**	*e*Pg	Pg	02 03 23.3	-4.1
FLN				*e*Sg	Sg	02 03 53.6	-5.3
	3.3nm,0.3s						
LFF	**La Frestale**	**2.55**	**131**	*e*Pn	Pn	02 03 21.6	-1.3
LFF				*e*Pg	Pg	02 03 26.7	-4.4
LFF				*e*Sg	Sg	02 04 00.0	-5.0
	11nm,0.3s						
RJF	**Les Rejaudoux**	**2.78**	**117**	*e*Pg	Pg	02 03 30.9	-4.8
RJF				*e*Sn	Sn	02 03 55.8	-4.7
RJF				*e*Sg	Sg	02 04 06.0	-6.7
	7.7nm,0.2s						
TCF	**Toulx Ste Croi**	**2.92**	**95**	*e*Pn	Pn	02 03 26.2	-2.0
TCF				*e*Pg	Pg	02 03 34.3	-4.2
TCF				*e*Sn	Sn	02 03 58.5	-5.6
TCF				*e*Sg	Sg	02 04 11.6	-5.8
	12nm,0.4s						
HYF	**Humbligny**	**3.23**	**77**	*e*Pn	Pn	02 03 30.3	-2.3
HYF				*e*Pg	Pg	02 03 40.1	-4.6
HYF				*e*Sg	Sg	02 04 20.7	-7.1
CAF	**Calviac**	**3.31**	**120**	*e*Pn	Pn	02 03 31.2	-2.5
CAF				*e*Pg	Pg	02 03 41.1	-5.1
CAF				*e*Sn	Sn	02 04 08.2	-5.7
CAF				*e*Sg	Sg	02 04 24.2	-6.1
	3.9nm,0.2s						
BGF	**Bois d'Agland**	**3.33**	**89**	*e*Pn	Pn	02 03 32.0	-2.0
BGF				*e*Sn	Sn	02 04 08.9	-5.6
BGF				*e*Sg	Sg	02 04 22.9	-8.2
	15nm,0.3s						
SJPF	**Ste Jean**	**3.56**	**171**	*e*Pn	Pn	02 03 34.9	-2.3
SJPF				*e*Pg	Pg	02 03 45.4	-5.8
SJPF				*e*Sg	Sg	02 04 31.8	-6.8
	3.1nm,0.3s						
AVF	**Avril sur Loir**	**3.68**	**86**	*e*Pn	Pn	02 03 35.7	-3.2
AVF				*e*Sn	Sn	02 04 16.6	-6.6
AVF				*e*Sg	Sg	02 04 35.5	-7.1
	2.3nm,0.3s						
SSF	**Saint Saulge**	**3.79**	**81**	*e*Pn	Pn	02 03 37.9	-2.7
SSF				*e*Pg	Pg	02 03 49.6	-6.3
SSF				*e*Sn	Sn	02 04 19.7	-6.5
SSF				*e*Sg	Sg	02 04 37.5	-9.0
	6.5nm,0.5s						
ETSF	**Etsaut**	**3.87**	**164**	*e*Pn	Pn	02 03 37.9	-3.7
ETSF				*e*Sg	Sg	02 04 41.0	-7.9
	2.1nm,0.5s						
EPF	**Esparros**	**3.96**	**154**	*e*Pn	Pn	02 03 39.4	-3.5
EPF				*e*Pg	Pg	02 03 53.8	-5.4
EPF				*e*Sn	Sn	02 04 22.3	-8.1
EPF				*e*Sg	Sg	02 04 43.6	-8.4
	2.3nm,0.2s						
SMF	**Signal de Mont**	**4.01**	**88**	*e*Pn	Pn	02 03 40.3	-3.4
SMF				*e*Pg	Pg	02 03 54.9	-5.4
SMF				*e*Sn	Sn	02 04 23.6	-8.2
SMF				*e*Sg	Sg	02 04 45.7	-8.1
	2.2nm,0.3s						
LOR	**Lormes**	**4.05**	**79**	*e*Pn	Pn	02 03 41.5	-2.8
LOR				*e*Pg	Pg	02 03 55.4	-5.7
	baz=261						
LOR				*e*Sn	Sn	02 04 25.6	-7.2
LOR				*e*Sg	Sg	02 04 45.2	-10
	3.1nm,0.3s						
LOR	**Lormes**	**4.05**	**79**	*e*Pg	Pg	02 03 55.4	-5.7
LOR				*e*Sn	Sn	02 04 25.6	-7.2
LOR				*e*Sg	Sg	02 04 45.2	-10
	1.5nm,0.3s						
MTLF	**Montolieu**	**4.44**	**136**	*e*Pn	Pn	02 03 46.6	-3.1
MTLF				*e*Pg	Pg	02 04 01.0	-7.8
MTLF				*e*Sn	Sn	02 04 33.9	-8.6
	1.0nm,0.3s						
MTLF				*e*Sg	Sg	02 04 59.1	-8.8
	2.4nm,0.4s						
LASF	**Ste Croix**	**4.84**	**120**	*e*Pn	Pn	02 03 51.5	-4.0
LASF				*e*Pg	Pg	02 04 09.6	-7.3
LASF				*e*Sn	Sn	02 04 44.7	-8.1
	1.5nm,0.4s						
LASF				*e*Sg	Sg	02 05 11.8	-10
	1.2nm,0.2s						
VIVF	**Saint-Julien-l**	**4.99**	**108**	*e*Pg	Pg	02 04 11.9	-7.8
VIVF				*e*Sg	Sg	02 05 16.5	-10
	2.1nm,0.5s						
MEZF	**Maizieres J'vi**	**5.12**	**66**	*e*Pg	Pg	02 04 14.8	-7.6
MEZF				*e*Sn	Sn	02 04 51.2	-8.5
	1.2nm,0.4s						
BAIF	**Baives**	**5.37**	**48**	*e*Pn	Pn	02 03 59.4	-3.5

*THR **24** 02:13:25.3±0.4, 30.32N×57.57E, h14km±3km, ML3.9*
*CSEM **24** 02:13:25.1±0.1, 30.06N×57.63E, h2km, ML3.8, Error ellipse: s-maj=3.7km s-min=2.4km az=157.0*
*TEH **24** 02:13:32.1, 30.32N×57.51E, h10km, Mn3.8*
ISC 24 02:13:26.9±0.8, 30.14N±0.06×57.61E±0.07, h10km, n19, σ1§06/19, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.75**	**258**	*e*PG	**Pg**	**02 13 40.3**	**-1.7**
KRBR				AML	AML	02 13 54.5	
	comp=N,5μm,0.2s						
IBAF	**Bafgh**	**2.27**	**310**	Pn	**Pn**	**02 14 06.9**	**+1.8**
ZHSF	**Zahedan**	**2.80**	**100**	*e*Pn	**Pn**	**02 14 12.7**	**0.0**
ZHSF				*e*SG	**Sg**	**02 14 55.0**	**-5.3**
ZHSF				AML	AML	02 14 55.5	
	comp=N,324nm,0.5s						
IMEH	**Mehriz**	**2.86**	**297**	Pn	**Pn**	**02 14 15.1**	**+1.5**
BNDS	**Bandar-Abbas**	**3.01**	**205**	*e*PN	**Pn**	**02 14 16.8**	**+1.2**
BNDS				AML	AML	02 15 06.1	
	comp=N,284nm,0.5s						
ICHK	**Chekchek**	**3.45**	**308**	Pn	**Pn**	**02 14 22.9**	**+1.0**
ISAD	**Sadrabad**	**3.80**	**299**	Pn	**Pn**	**02 14 27.8**	**+0.9**
IPAR	**Pars**	**3.96**	**267**	Pn	**Pn**	**02 14 35.3**	**+6.1**
ISRV	**Sarvestan**	**3.98**	**260**	Pn	**Pn**	**02 14 29.0**	**-0.4**
GHIR	**Ghir-Karzin**	**4.44**	**247**	*e*PN	**Pn**	**02 14 35.3**	**-0.7**
IZEF	**Zefreh**	**5.28**	**303**	Pn	**Pn**	**02 14 45.5**	**-2.3**
IKLH	**Kalahroud**	**6.04**	**303**	Pn	**Pn**	**02 14 52.1**	**-6.4**
IMOG	**Moghan**	**6.13**	**13**	Pn	**Pn**	**02 14 59.4**	**-0.4**
IPAY	**Payeh**	**6.40**	**10**	Pn	**Pn**	**02 15 03.4**	**-0.3**
IMYA	**Miamay**	**6.53**	**18**	Pn	**Pn**	**02 15 05.0**	**-0.5**
IKRD	**Kardeh**	**6.66**	**6**	Pn	**Pn**	**02 15 07.7**	**+0.4**
IFIR	**Firoozkooh**	**6.84**	**325**	Pn	**Pn**	**02 15 09.2**	**-0.6**
IFIR	**Firoozkooh**	**6.84**	**325**	Lg		02 16 58.8	
IDMV	**Damavand**	**7.17**	**321**	Pn	**Pn**	**02 15 14.1**	**-0.4**

CASC 24 03:22:49.6±2.7, 13.25N×89.79W, h35km±999km, MD4.0, ML3.6, 3C-10D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.60**	**16**	⇓*i* P	P	03 23 10.9	+9.3
SBLS				*e*S	S	03 23 19.6	+9.2
RTR	**El Retiro**	**0.66**	**13**	⇓*i* P	S	03 23 11.7	+9.3
RTR				*e*S	S	03 23 23.1	+12
BOQS	**Boqueron**	**0.69**	**46**	⇓*e*P	P	03 23 11.9	+9.0
BOQS				*e*S	S	03 23 25.5	+13
SNET	**Serv Nac Est T**	**0.69**	**52**	⇑*e*P	P	03 23 02.2	-0.8
SNET				*i*		03 23 28.5	
	comp=Z,3μm,0.4s						
LFRS	**El Faro**	**0.80**	**63**	⇓*i* P	P	03 23 13.2	+8.8
LFRS				*e*S	S	03 23 24.5	+9.2
RBDL	**Robledal**	**0.86**	**7**	⇑*e*P	P	03 23 14.6	+9.3
RBDL				*e*S	S	03 23 27.3	+11
LBRS	**Las Brisas**	**0.87**	**56**	⇓*e*P	P	03 23 14.5	+9.1
LBRS				*e*S	S	03 23 26.9	+10
LCBS	**La Ceiba**	**0.89**	**63**	⇓*i* P	P	03 23 14.5	+8.8
LCBS				*e*S	S	03 23 26.5	+9.0
SNVI	**San Vicente**	**0.99**	**69**	⇓*e*P	P	03 23 15.7	+8.5
SNVI				*e*S	S	03 23 30.0	+10
IXG	**Ixpaco**	**1.12**	**325**	⇓*e*P	P	03 23 08.2	-0.7
IXG				*e*S	S	03 23 23.2	-0.2
VSM	**San Miguel**	**1.49**	**83**	*e*P	P	03 23 23.2	+8.9
VSM				*e*S	S	03 23 43.0	+10
BLLM	**Bellamira**	**1.52**	**83**	*e*P	P	03 23 23.4	+8.6
BLLM				*e*S	S	03 23 42.9	+9.2
FUG	**Fuego 3**	**1.56**	**319**	⇓*e*P	P	03 23 15.2	-0.2
FUG				*e*S	S	03 23 34.9	+0.2
MRL	**Marmol**	**1.80**	**3**	⇓*e*P	P	03 23 18.9	+0.1
TP2	**Tecpan 2**	**1.93**	**322**	⇑*e*P	P	03 23 21.2	+0.6
TP2				*e*S	S	03 23 46.5	+2.6
CRIN

OUL	**Oulu**	**4.18**	**234**	P	**Pn**	**03 27 47.7**	**+1.4**
KJN	**Kajaani**	**4.46**	**218**	*e*P	**Pn**	**03 27 50.9**	**+0.5**
KJN				*e*SG	**Sg**	**03 28 56.6**	**-12**
KJN				MSG		03 28 58.0	
	comp=Z,9.9nm,0.4s						
KJN	**Kajaani**	**4.46**	**218**	P	**Pn**	**03 27 50.8**	**+0.5**
FIA0	**FINESS Array S**	**7.16**	**212**	Pn	**Pn**	**03 28 26.7**	**-1.6**
	baz=21,slow=16						
FIA0				Sn	**Sn**	**03 29 45.7**	**-5.7**
	baz=14,slow=28						
FIA0				Lg		03 30 17.4	
	baz=11,slow=37						
FIA0	**FINESS Array S**	**7.16**	**212**	*e*P	**Pn**	**03 28 26.7**	**-1.6**
FIA0				*e*S	**Sn**	**03 29 45.7**	**-5.7**
FIA0				*e*SG		03 30 17.4	
FINES	**FINESS Array B**	**7.16**	**212**	Pn	**Pn**	**03 28 26.7**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=30,slow=11,SNR=4.7						
FINES				Sn	**Sn**	**03 29 46.7**	**-4.7**
	comp=Z,0.2nm,0.3s,baz=24,slow=23,SNR=4.5						
FINES				Lg		03 30 19.9	
	comp=Z,0.7nm,0.3s,baz=35,slow=23,SNR=6.5						
SPA0	**Spitsbergen Ar**	**11.59**	**342**	Pn	**P**	**03 29 27.9**	**-1.5**
	baz=140,slow=16						
SPA0	**Spitsbergen Ar**	**11.59**	**342**	*e*P	**P**	**03 29 27.9**	**-1.5**
HFS	**Hagfors**	**11.65**	**239**	Pn	**P**	**03 29 27.1**	**-3.2**
	baz=77,slow=12						
HFS				Lg		03 32 41.4	
	baz=58,slow=28						
HFS	**Hagfors**	**11.65**	**239**	*e*P	**P**	**03 29 27.1**	**-3.2**
HFS				*e*SG	x	03 32 41.4	
HFS	**Hagfors**	**11.65**	**239**	Pn	**P**	**03 29 27.3**	**-3.0**
	comp=Z,0.0nm,0.3s,baz=45,slow=12,SNR=4.7						
HFS				Sn	**S**	**03 31 31.9**	**-10**
	comp=Z,0.0nm,0.3s,baz=41,slow=27,SNR=3.0						
HFS				Lg		03 32 44.3	
	comp=Z,0.1nm,0.3s,baz=59,slow=34,SNR=5.2						
NOA	**NORSAR Array B**	**11.83**	**246**	Pn	**P**	**03 29 29.8**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=175,slow=19,SNR=2.7						
NOA				Lg		03 32 52.7	
	comp=Z,0.2nm,0.3s,baz=225,slow=32,SNR=3.4						

*IDC **24** 03:35:34.0±13.0, 29.66N×50.42E, mb3.8/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.8/4, Error ellipse: s-maj=258.5km s-min=37.7km az=4.0*
*THR **24** 03:35:35.3±0.7, 29.75N×50.40E, h15km, ML3.2*
*CSEM **24** 03:35:37.5±0.1, 29.86N×50.55E, h14km, ML3.8, Error ellipse: s-maj=2.9km s-min=1.5km az=161.0*
*TEH **24** 03:35:38.5, 29.79N×50.48E, h10km, Mn3.8*
*KISR **24** 03:35:38.5±0.7, 29.98N×50.46E, h36km±209km, MD3.5, ML3.4*

ISC 24 03:35:40.2±0.4, 29.89N±0.04×50.55E±0.03, h52km±11km, n36, σ0^{s}93/41, mb3.5/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMOK	**Mook**	**2.07**	**114**	Pn	**P**	**03 36 13.1**	**-0.1**
IPAR	**Pars**	**2.17**	**91**	Pn	**P**	**03 36 15.8**	**+1.2**
ISRV	**Sarvestan**	**2.29**	**102**	Pn	**P**	**03 36 16.5**	**+0.2**
QRN	**Al-Qurain**	**2.57**	**244**	*e*P	**P**	**03 36 20.1**	**-0.3**
QRN				*e*S	**S**	**03 36 51.6**	**+1.1**
QRN				AML	AML	03 36 57.1	
	comp=Z,122nm,0.3s						
KBD	**Kabd**	**2.59**	**255**	*e*P	**P**	**03 36 20.6**	**0.0**
KBD				*e*S	**S**	**03 36 51.8**	**+0.7**
KBD				AML	AML	03 36 57.3	
	comp=Z,389nm,0.3s						
GHIR	**Ghir-Karzin**	**2.67**	**126**	*e*Pn	**P**	**03 36 20.5**	**-1.3**
GHIR				AML	AML	03 37 09.7	
	comp=N,153nm,0.5s						
IGAR	**Garneh**	**2.73**	**31**	Pn	**P**	**03 36 24.3**	**+1.6**
RDF	**Al-Radifah**	**2.79**	**251**	*e*P	**P**	**03 36 23.3**	**-0.2**
RDF				*e*S	**S**	**03 36 56.6**	**+0.4**
RDF				AML	AML	03 37 10.6	
	comp=Z,203nm,0.4s						
MIB	**Mutribah**	**2.79**	**269**	*e*P	**P**	**03 36 22.8**	**-0.7**
MIB				*e*S	**S**	**03 36 56.0**	**-0.2**
MIB				AML	AML	03 37 03.7	
	comp=Z,144nm,0.4s						
NAY	**Al-Naaiem**	**2.95**	**258**	*e*P	**P**	**03 36 24.9**	**-0.9**
NAY				*e*S	**S**	**03 37 00.4**	**+0.1**
NAY				AML	AML	03 37 09.4	
	comp=Z,47nm,0.5s						
IZEF	**Zefreh**	**3.36**	**26**	Pn	**P**	**03 36 31.8**	**+0.3**
ISAD	**Sadrabad**	**3.36**	**52**	Pn	**P**	**03 36 32.5**	**+0.9**
NASN	**Na'in**	**3.48**	**33**	*e*Pn	**P**	**03 36 34.0**	**+0.8**
NASN				AML	AML	03 37 40.6	
	comp=E,28nm,0.5s						
IKLH	**Kalahroud**	**3.52**	**14**	Pn	**P**	**03 36 35.3**	**+1.4**
IMEH	**Mehriz**	**3.80**	**66**	Pn	**P**	**03 36 37.8**	**0.0**
ICHK	**Chekchek**	**4.05**	**54**	Pn	**P**	**03 36 41.7**	**+0.4**
IBAF	**Bafgh**	**4.64**	**67**	Pn	**P**	**03 36 49.3**	**-0.2**
IKOM	**Komasi**	**4.99**	**330**	Pn	**P**	**03 36 54.1**	**-0.3**
IVRN	**Varamin**	**5.18**	**11**	Pn	**P**	**03 36 57.2**	**+0.1**
IVRN	**Varamin**	**5.18**	**11**	Pn	**P**	**03 36 57.0**	**-0.1**
IVRN	**Varamin**	**5.18**	**11**	Sn	**S**	**03 37 54.6**	**-1.8**
KRBR	**Kerman**	**5.39**	**88**	*e*Pn	**P**	**03 36 59.7**	**-0.3**
IRAZ	**Razeghan**	**5.52**	**355**	Pn	**P**	**03 37 04.3**	**+2.5**
BNDS	**Bandar-Abbas**	**5.53**	**115**	*e*Pn	**P**	**03 36 59.4**	**-2.5**
IVIS	**Veys**	**5.58**	**327**	Pn	**P**	**03 37 02.8**	**+0.2**
IDMV	**Damavand**	**5.80**	**12**	Pn	**P**	**03 37 05.6**	**-0.1**
IDMV	**Damavand**	**5.80**	**12**	Pn	**P**	**03 37 05.3**	**-0.4**
DAMV	**Damavand**	**5.84**	**11**	*e*Pn	**P**	**03 37 06.2**	**-0.2**
SNGE	**Sanandaj**	**5.85**	**333**	*e*Pn	**P**	**03 37 04.9**	**-1.5**
IDHR	**Dehrash**	**5.95**	**325**	Pn	**P**	**03 37 06.5**	**-1.3**
IFIR	**Firoozkooh**	**6.02**	**17**	Pn	**P**	**03 37 07.5**	**-1.3**
BRTR	**Keskin Array B**	**16.98**	**310**	P	**P**	**03 39 39.7**	**+4.3**
	comp=E,0.1nm,0.3s,baz=134,slow=13,SNR=9.2						
AKASG	**Malin Array Be**	**26.22**	**328**	P	**P**	**03 41 12.7**	**+0.9**
	comp=E,0.4nm,0.3s,mb3.4,baz=138,slow=9.8,SNR=4.9						
BVAR	**Borovoye Array**	**27.30**	**27**	P	**P**	**03 41 22.4**	**+0.6**
	comp=E,1.5nm,0.4s,mb3.9,baz=222,slow=7.6,SNR=14						
MKAR	**Makanchi Array**	**29.80**	**47**	P	**P**	**03 41 44.9**	**+0.6**
	comp=E,0.6nm,0.3s,mb3.7,baz=246,slow=8.9,SNR=14						
NOA	**NORSAR Array B**	**40.53**	**332**	P	**P**	**03 43 14.6**	**-1.0**
	comp=E,0.2nm,0.5s,mb3.0,baz=123,slow=9.3,SNR=2.4						

MEX 24 03:44:44.6±0.7, 15.74N×95.98W, h5km±11km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.13**	**281**	*i* P	Pg	03 44 46.7	-0.7
HUIG				*i* S	Sg	03 44 48.8	-0.3
OXX	**Oaxaca**	**1.51**	**332**	*i* P	Pn	03 45 08.0	-4.4
OXX				*i* S	Sb	03 45 29.0	-3.1
CMIG	**Matias Romero**	**1.70**	**38**	*e*P	Pn	03 45 12.1	-3.1
CMIG				*i* S	Sn	03 45 32.0	-5.5
PNIG	**Pinotepa**	**2.17**	**288**	*e*P	Pn	03 45 18.3	-3.5
PNIG				*i* S	Sn	03 45 44.2	-5.1

*THR **24** 03:50:45.6±0.5, 35.72N×48.75E, h14km±8km, ML3.9*
*KISR **24** 03:50:45.4±1.4, 35.21N×50.00E, h6km±999km, ML3.6*
*MOS **24** 03:50:46.0±1.9, 35.43N×48.76E, h33km, mb3.9/6, Error ellipse: s-maj=20.5km s-min=11.7km az=113.4*
*CSEM **24** 03:50:46.9±0.1, 35.71N×48.92E, h30km, mb3.9/3, Error ellipse: s-maj=2.9km s-min=1.6km az=38.0*
*TEH **24** 03:50:47.3, 35.76N×48.96E, h10km, Mn3.8*
*IDC **24** 03:50:55.5±6.8, 35.83N×48.80E, h97km±67km, mb3.5/8, mb1 3.5/11, mb1mx3.4/24, mbtmp3.8/11, ML4.0/3, MS3.1/2, Ms1 3.1/2, ms1mx2.5/21, Error ellipse: s-maj=27.3km s-min=21.0km az=141.0*

ISC 24 03:50:44.9±0.7, 35.66N±0.03×48.76E±0.03, h8km±5km, n60, σ1^{s}24/66, mb3.8/8, MS3.0/2, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRAZ	**Razeghan**	**0.99**	**105**	Pg	**Pg**	**03 51 04.3**	**-0.3**
SNGE	**Sanandaj**	**1.29**	**244**	*e*Pg	**Pg**	**03 51 10.1**	**-0.5**
SNGE				*e*Sg	**Sg**	**03 51 27.3**	**-0.4**
IMHD	**Mahdasht**	**1.55**	**88**	Pn	**Pn**	**03 51 11.8**	**-1.2**
IKOM	**Komasi**	**1.80**	**215**	Pn	**Pg**	**03 51 20.6**	**-0.2**
IVIS	**Veys**	**1.93**	**235**	Pn	**Pg**	**03 51 23.1**	**-0.3**
IDHR	**Dehrash**	**2.17**	**244**	Pn	**Pg**	**03 51 28.2**	**+0.1**
IGHG	**Ghaleghazi**	**2.23**	**234**	Pn	**Pg**	**03 51 29.2**	**-0.3**
IVRN	**Varamin**	**2.52**	**104**	Pn	**Pn**	**03 51 26.2**	**-0.6**
IVRN	**Varamin**	**2.52**	**104**	Lg		03 52 01.6	
DAMV	**Damavand**	**2.62**	**90**	*e*Pn	**Pn**	**03 51 29.7**	**+1.5**
DAMV				AML	AML	03 52 06.6	
	comp=N,642nm,0.6s						
IDMV	**Damavand**	**2.67**	**91**	Pn	**Pn**	**03 51 28.2**	**-0.8**
IPRN	**Paran-Amol**	**2.88**	**77**	Pn	**Pn**	**03 51 36.4**	**+4.3**
IAZR	**Azarshahr**	**3.01**	**313**	Pn	**Pn**	**03 51 35.3**	**+1.5**
GRMI	**Germi**	**3.22**	**348**	*e*Pn	**Pn**	**03 51 37.0**	**+0.2**
GRMI				*e*Pg	**Pg**	**03 51 42.3**	**-6.9**
GRMI				AML	AML	03 52 36.6	
	comp=N,297nm,0.6s						
IFIR	**Firoozkooh**	**3.25**	**89**	Pn	**Pn**	**03 51 36.3**	**-1.0**
IFIR	**Firoozkooh**	**3.25**	**89**	Lg		03 52 24.0	
IKLH	**Kalahroud**	**3.30**	**134**	Pn	**Pn**	**03 51 37.8**	**-0.1**
ITBZ	**Tabriz**	**3.31**	**322**	Pn	**Pn**	**03 51 39.1**	**+0.9**
ILAS	**Lasjerd**	**3.44**	**93**	Pn	**Pn**	**03 51 44.0**	**+4.1**
ISHB	**Shabestar**	**3.63**	**317**	Pn	**Pn**	**03 51 43.2**	**+0.5**
ISHM	**Shahmirzad**	**3.69**	**86**	Pn	**Pn**	**03 51 43.8**	**+0.3**
IGLO	**Galoogah**	**3.89**	**79**	Pn	**Pn**	**03 51 54.1**	**+7.7**
IMRD	**Marand**	**3.91**	**322**	Pn	**Pn**	**03 51 47.4**	**+0.9**
IKIA	**Kiasar**	**4.03**	**81**	Pn	**Pn**	**03 51 48.9**	**+0.5**
IZEF	**Zefreh**	**4.04**	**132**	Pn	**Pn**	**03 51 46.7**	**-1.8**
IANJ	**Anjiloo**	**4.21**	**91**	Pn	**Pn**	**03 51 52.0**	**+1.2**
NASN	**Na'in**	**4.40**	**129**	*e*Pn	**Pn**	**03 51 55.1**	**+1.5**
IGAR	**Garneh**	**4.45**	**139**	Pn	**Pn**	**03 51 56.2**	**+2.0**
MIB	**Mutribah**	**5.96**	**192**	*e*P	**Pn**	**03 52 17.5**	**+1.9**
MIB				*e*S	**Sn**	**03 53 25.9**	**+1.0**
MIB				AML	AML	03 53 27.4	
	comp=Z,22nm,0.5s						
MIB	**Mutribah**	**5.96**	**192**	*e*P	**Pn**	**03 52 17.3**	**+1.7**
MIB				*e*S	**Sn**	**03 53 25.9**	**+0.9**
DGRG	**David-gareji**	**6.36**	**336**	P	**Pb**	**03 52 33.5**	**-2.3**
DGRG				S	x	03 54 04.3	
NAY	**Al-Naaiem**	**6.52**	**192**	*e*P	**Pn**	**03 52 24.4**	**+0.9**
NAY				*e*S	**Sn**	**03 53 38.5**	**-0.4**
NAY				AML	AML	03 53 41.5	
	comp=Z,10.0nm,0.4s						
NAY	**Al-Naaiem**	**6.52**	**192**	*e*P	**Pn**	**03 52 24.1**	**+0.6**
NAY				*e*S	**Sn**	**03 53 38.5**	**-0.4**
KBD	**Kabd**	**6.53**	**188**	*e*P	**Pn**	**03 52 23.9**	**+0.3**
RDF	**Al-Radifah**	**6.79**	**189**	*e*P	**Pn**	**03 52 27.9**	**+0.6**
RDF				*e*S	**Sn**	**03 53 45.1**	**-0.6**
RDF				AML	AML	03 53 49.3	
	comp=Z,20nm,0.3s						
RDF	**Al-Radifah**	**6.79**	**189**	*e*P	**Pn**	**03 52 27.3**	**0.0**
RDF				*e*S	**Sn**	**03 53 45.1**	**-0.6**
QRN	**Al-Qurain**	**6.93**	**186**	*e*P	**Pn**	**03 52 28.5**	**-0.8**
ZEI	**Tsey**	**8.04**	**333**	*e*P	**P**	**03 52 46.7**	**+1.9**
ZEI				pmax	pmax		
	comp=Z,20nm,0.1s						
ZEI	**Tsey**	**8.04**	**333**	*e*P	**P**	**03 52 46.7**	**+1.9**
	comp=Z,20nm,0.1s						
BRTR	**Keskin Array B**	**12.64**	**293**	P	**P**	**03 53 51.0**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=270,slow=21,SNR=3.0						
IDI	**Anoyia**	**19.44**	**276**	P	**P**	**03 55 15.2**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=74,slow=9.8,SNR=3.9						
MLR	**Muntele Rosu**	**19.86**	**307**	P	**P**	**03 55 19.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=92,slow=2.2,SNR=5.3						
AKASG	**Malin Array Be**	**20.62**	**323**	P	**P**	**03 55 24.1**	**-3.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**20.62**	**323**	P	**P**	**03 55 24.1**	**-3.0**
	comp=Z,1.7nm,0.5s,baz=132,slow=9.7,SNR=9.5						
AAK	**Ala-Archa**	**21.09**	**63**	*i* P	**P**	**03 55 30.8**	**-1.2**
OBN	**Obninsk**	**21.20**	**340**	*e*P	**P**	**03 55 33.9**	**+0.9**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
OBN	**Obninsk**	**21.20**	**340**	*e*P	**P**	**03 55 33.9**	**+0.9**
	comp=Z,7.0nm,1.0s,mb4.0						
ARU	**Arti**	**21.82**	**15**	*i* P	**P**	**03 55 41.1**	**+1.8**
BVAR	**Borovoye Array**	**23.10**	**35**	P	**P**	**03 55 52.8**	**+0.9**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**23.10**	**35**	P	**P**	**03 55 52.8**	**+0.8**
	comp=Z,1.7nm,0.7s,mb3.6,baz=236,slow=40,SNR=12						
MKAR	**Makanchi Array**	**27.36**	**56**	P	**P**	**03 56 29.3**	**-3.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**27.36**	**56**	P	**P**	**03 56 29.3**	**-3.0**
	comp=Z,0.5nm,0.7s,mb3.1,baz=248,slow=6.5,SNR=4.1						
GERES	**GERESS Array B**	**28.83**	**308**	P	**P**	**03 56 43.4**	**-2.1**
	comp=Z,0.3nm,0.7s,mb3.1,baz=100,slow=8.1,SNR=4.0						
GERES				LR	LR	04 08 29.0	
	comp=Z,30nm,18.6s,MS2.9,baz=330,slow=37						
FINES	**FINESS Array B**	**29.54**	**338**	P	**P**	**03 56 49.0**	**-2.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**29.54**	**338**	P	**P**	**03 56 49.0**	**-2.8**
	comp=Z,0.8nm,0.6s,mb3.6,baz=191,slow=9.7,SNR=3.4						
HFS	**Hagfors**	**33.27**	**328**	P	**P**	**03 57 22.6**	**-2.0**
HFS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HFS				MLR	MLR		
	comp=Z,37nm,20.4s						
HFS	**Hagfors**	**33.27**	**328**	P	**P**	**03 57 22.6**	**-2.0**
	comp=Z,7.7nm,1.0s,mb4.6,baz=108,slow=9.4,SNR=7.5						
HFS				LR	LR	04 12 02.7	
	comp=Z,37nm,20.4s,MS3.1,baz=29,slow=38						
NOA	**NORSAR Array B**	**34.79**	**329**	P	**P**	**03 57 34.9**	**-2.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**34.79**	**329**	P	**P**	**03 57 34.9**	**-2.8**
	comp=Z,1.1nm,0.7s,mb3.9,baz=122,slow=8.5,SNR=4.1						
MATP	**Matopo**	**58.99**	**202**	P	**P**	**04 00 46.2**	**-1.3**
	comp=Z,3.7nm,0.9s,mb4.4,baz=5.1,slow=3.7,SNR=5.5						

*NIED **24** 03:53:00, 25.10N×128.10E, h35km, Mw3.8 Best double couple: M0 6.43×10^{14} NP1:φ$_s$19°, δ57°, λ-135°. NP2: φ$_s$260°, δ53°, λ-42°.*
*JMA **24** 03:53:09.9±0.2, 25.09N×128.14E, h70km±4km, M3.9*
*IDC **24** 03:53:13.5±1.4, 25.72N×127.59E, mb3.8/3, mb1 3.9/4, mb1mx3.7/19, mbtmp3.8/4, ML3.3/1, Error ellipse: s-maj=32.7km s-min=19.9km az=108.0*
*NEIC **24** 03:53:16.6±1.1, 25.71N×127.46E, h25km, mb4.1/1, Error ellipse: s-maj=23.4km s-min=13.7km az=132.0*

ISC 24 03:53:08.4±0.9, 24.99N±0.05×128.15E±0.05, h34km±12km, n23, σ1^{s}06/36, mb3.8/3, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**1.20**	**343**	P	**P**	**03 53 30.0**	**+1.1**
NAH1	**Naha**	**1.28**	**341**	P	**P**	**03 53 31.0**	**+1.0**
NAH1				*e*S	**S**	**03 53 46.7**	**+0.5**
JAGN	**Aguni-jima**	**1.79**	**333**	P	**P**	**03 53 38.3**	**+0.9**
JAGN				*e*S	**S**	**03 53 58.9**	**-0.2**
JKE	**Kume jima 2**	**1.81**	**318**	P	**P**	**03 53 38.4**	**+0.7**
JKE				*e*S	**S**	**03 53 59.5**	**-0.2**
JOW	**Kunigami**	**1.84**	**4**	Pn	**P**	**03 53 38.3**	**+0.2**
	26nm,0.3s,baz=186,slow=14,SNR=73						
JOW				Sn	**S**	**03 53 57.6**	**-2.8**
	48nm,0.3s,baz=100,slow=25,SNR=16						
JOW	**Kunigami**	**1.84**	**4**	P	**P**	**03 53 38.3**	**+0.2**
JOW				*e*S	**S**	**03 53 57.6**	**-2.8**
JIH	**Iheya**	**2.05**	**356**	P	**P**	**03 53 41.6**	**+0.6**
JIH				*e*S	**S**	**03 54 04.7**	**-0.9**
JOGS	**Gusukube**	**2.50**	**265**	P	**P**	**03 53 49.3**	**+1.8**
JOGS				*e*S	**S**	**03 54 17.6**	**+0.5**
JMJ	**Miyako jima 2**	**2.59**	**267**	*e*S	**S**	**03 54 20.1**	**+0.6**
JTK	**Tokunoshima**	**2.88**	**14**	P	**P**	**03 53 52.5**	**-0.4**
JTK				*e*S	**S**	**03 54 22.6**	**-4.2**
JMZ	**Minamidaito 2**	**2.90**	**73**	P	**P**	**03 53 51.7**	**-1.6**
JMZ				S	**S**	**03 54 21.7**	**-5.7**
JTJ	**Tarama**	**3.15**	**264**	P	**P**	**03 53 57.7**	**+1.0**
JTJ				*e*S	**S**	**03 54 32.1**	**-1.5**
JAM	**Amami Oshima**	**3.65**	**21**	P	**P**	**03 54 04.1**	**+0.2**
JAM				*e*S	**S**	**03 54 41.3**	**-5.1**
JIJ	**Ishigaki jima**	**3.69**	**261**	P	**P**	**03 54 04.5**	**0.0**
JIJ				*e*S	**S**	**03 54 44.5**	**-2.9**
JKRS	**Kuro-shima**	**3.84**	**260**	P	**P**	**03 54 06.9**	**+0.4**
JKRS				*e*S	**S**	**03 54 49.6**	**-1.5**
HATJ	**Hateruma jima**	**4.06**	**258**	*e*S	**S**	**03 54 53.3**	**-3.4**
IRIF	**Iriomote-Funau**	**4.07**	**262**	P	**P**	**03 54 10.0**	**+0.2**
IRIF				*e*S	**S**	**03 54 57.2**	**+0.2**
NACB	**Ninganchiao**	**6.02**	**264**	P	**P**	**03 54 35.7**	**-1.6**
JNU	**Nakatsue**	**8.45**	**16**	Pn	**P**	**03 55 10.8**	**-0.4**
	0.4nm,0.3s,baz=3.9,slow=19,SNR=4.9						
SONM	**Songino Array**	**28.56**	**329**	P	**P**	**03 59 03.0**	**-0.1**
	0.4nm,0.4s,mb3.5,baz=130,slow=9.6,SNR=3.6						
MKAR	**Makanchi Array**	**42.31**	**313**	P	**P**	**04 01 01.8**	**+1.4**
	0.9nm,0.4s,mb3.7,baz=98,slow=9.8,SNR=11						
WRA	**Warramunga Arr**	**45.06**	**172**	P	sP	04 01 37.6	+0.1
	0.8nm,0.7s,baz=354,slow=8.6,SNR=4.5						
ZRNK	**Zerenda**	**51.97**	**319**	*e*P	**P**	**04 02 16.7**	**+0.7**
	1.4nm,0.6s,mb4.1						

*NEIC **24** 04:09:17.6, 15.63N×95.95W, h27km, MD4.1(MEX), After MEX.*

MEX 24 04:09:19.6±0.6, 15.67N×96.06W, h21km±4km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.11**	**333**	*i* P	Pb	04 09 23.0	-0.8
HUIG				*i* S	Sb	04 09 25.2	-1.4
HUIG	**Huatulco**	**0.11**	**333**	*i* P	Pb	04 09 23.0	-0.8
HUIG				*i* S	Sb	04 09 25.2	-1.4
OXX	**Oaxaca**	**1.54**	**336**	*i* P	Pn	04 09 40.5	-5.8
OXX				*i* S	Sn	04 10 03.5	-2.3
OXX	**Oaxaca**	**1.54**	**336**	*i* P	Pn	04 09 42.0	-4.3
OXX				*i* S	Sn	04 10 02.5	-3.4
CMIG	**Matias Romero**	**1.81**	**38**	*i* P	Pn	04 09 47.0	-3.0
CMIG				*i* S	Sn	04 10 07.8	-4.7
PNIG	**Pinotepa**	**2.12**	**290**	*e*P	Pn	04 09 51.3	-3.2
PNIG				*i* S	Sn	04 10 15.8	-4.7
CCIG	**Comitan**	**3.82**	**80**	*e*P	Pn	04 10 11.1	-7.7
CCIG				*i* S	Sn	04 10 53.6	-10
CCIG	**Comitan**	**3.82**	**80**	*i* S	Sn	04 10 58.5	-5.0
PLIG	**Platanillo**	**4.27**	**310**	*i* P	Pn	04 10 20.2	-4.9
PLIG				*i* S	Sn	04 11 10.9	-4.0

MEX 24 04:31:57.8±0.3, 15.66N×96.05W, h12km±1km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.12**	**332**	*i* P	Pg	04 32 00.3	-0.7
HUIG				*i* S	Sg	04 32 02.5	-0.7
OXX	**Oaxaca**	**1.55**	**335**	*i* P	Pn	04 32 22.0	-3.5
OXX				*i* S	Sb	04 32 40.5	-5.1
CMIG	**Matias Romero**	**1.81**	**38**	*i* P	Pn	04 32 25.3	-3.9
CMIG				*i* S	Sn	04 32 47.2	-5.0

CASC 24 04:42:21.8±4.2, 13.98N×91.62W, h20km±21km, MD4.1, 2C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.89**	**59**	↓*i* P	Pb	04 42 37.8	-0.5
PCG	**Pacaya**	**1.07**	**67**	↑*e*P	Pb	04 42 40.9	-0.5
PCG				*e*S	Sb	04 42 57.9	+2.9
IXG	**Ixpaco**	**1.15**	**80**	↓*e*P	Pb	04 42 41.1	-1.7
IXG				*e*S	Sb	04 42 58.0	+0.7
RBDL	**Robledal**	**1.88**	**86**	↑*e*P	Pn	04 43 01.6	+8.2
RBDL				*e*S	Sn	04 43 24.4	+7.6
RTR	**El Retiro**	**1.92**	**92**	*e*P	Pn	04 43 02.0	+8.0
RTR				*e*S	Sn	04 43 25.0	+7.2
SBLS	**San Blas**	**1.95**	**94**	*e*P	Pn	04 43 02.3	+8.0
SBLS				*e*S	Sn	04 43 25.1	+6.7
MRL	**Marmol**	**2.16**	**60**	↓*e*P	Pn	04 42 56.0	-1.3
MRL				*e*S	Sn	04 43 26.0	+2.2
BOQS	**Boqueron**	**2.29**	**96**	*e*P	Pn	04 43 07.1	+7.8
BOQS				*e*S	Sn	04 43 33.3	+6.2
LBRS	**Las Brisas**	**2.52**	**95**	*e*P	Pn	04 43 10.3	+7.8
LBRS				*e*S	Sn	04 43 42.7	+10
LCBS	**La Ceiba**	**2.59**	**97**	*e*P	Pn	04 43 11.2	+7.7
LCBS				*e*S	Sn	04 43 42.5	+7.7
SNVI	**San Vicente**	**2.73**	**97**	*e*P	Pn	04 43 13.6	+8.0
SNVI				*e*S	Sn	04 43 46.8	+8.5

*NEIC **24** 04:49:16.3, 32.53S×71.64W, h9km, ML2.7(GUC), After GUC.*

GUC 24 04:49:16.3±0.9, 32.53S×71.64W, h9km±5km, MD3.6, ML2.7, 6C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.69**	**130**	↓*i* P	Pb	04 49 29.9	-0.1
ROCH				*i* S	Sg	04 49 39.0	-0.4
JACH	**Jahuel**	**0.90**	**100**	↑*i* P	Pb	04 49 33.5	-0.1
JACH				*i* S	Sb	04 49 46.0	+0.5
LCCH	**Las Cruces**	**0.94**	**176**	↑*i* P	Pb	04 49 33.3	-1.1
ILCH	**Illapel**	**0.98**	**24**	↑*i* P	Pb	04 49

MRZ	**Mangatainoka R**	**1.35**	**52**	P*	Pb	04 51 04.2	-0.1
QRZ	**Quartz Range**	**1.42**	**298**	PN	Pn	04 51 05.5	+0.3
BFZ	**Birch Farm**	**1.76**	**63**	PN	Pn	04 51 09.2	-1.0
DSZ	**Denniston Nort**	**1.80**	**261**	PN	Pn	04 51 11.6	+0.9
WAZ	**Wanganui**	**1.85**	**20**	PN	Pn	04 51 13.6	+2.2
LTZ	**Lake Taylor**	**1.92**	**227**	PN	Pn	04 51 12.4	0.0

*NEIC **24** 05:04:51.5, 37.38S×177.64E, h118km, MG3.8(WEL), After WEL.*

WEL 24 05:04:50.9±0.2, 37.34S×177.56E, h120km±1km, ML3.7/12, 1C, Error ellipse: s-maj=1.6km s-min=1.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.63**	**111**	PN	P	05 05 09.6	-0.2
MXZ				SN	S	05 05 24.3	0.0
PUZ	**Puketiti**	**0.92**	**143**	P	P	05 05 12.1	-0.3
PUZ	**Puketiti**	**0.92**	**143**	PN	P	05 05 12.1	-0.3
PUZ				SN	S	05 05 27.6	-0.9
MARZ	**Manawahe**	**0.96**	**227**	P	P	05 05 12.5	-0.3
MARZ	**Manawahe**	**0.96**	**227**	PN	P	05 05 12.6	-0.3
URZ	**Urewera**	**0.99**	**201**	P	P	05 05 12.9	-0.2
URZ	**Urewera**	**0.99**	**201**	⇑PN	P	05 05 12.9	-0.3
URZ				SN	S	05 05 29.4	-0.3
MWZ	**Matawai**	**0.99**	**182**	P	P	05 05 13.0	-0.2
MWZ				S	S	05 05 29.7	-0.2
MWZ	**Matawai**	**0.99**	**182**	PN	P	05 05 13.0	-0.2
MWZ				SN	S	05 05 29.7	-0.2
TAZ	**Tarawera**	**1.22**	**223**	P	P	05 05 16.5	+0.9
KNZ	**Kokohu**	**1.68**	**177**	P	P	05 05 20.2	-0.7
KNZ	**Kokohu**	**1.68**	**177**	PN	P	05 05 20.2	-0.7
BKZ	**Black Stump Fm**	**2.01**	**204**	P	P	05 05 23.3	-1.6
BKZ				S	S	05 05 49.9	-0.7
BKZ	**Black Stump Fm**	**2.01**	**204**	PN	P	05 05 24.3	-0.6
KRVZ	**Karewarewa**	**2.32**	**220**	PN	P	05 05 28.1	-0.9
FWVZ	**Far West T-bar**	**2.48**	**219**	*eP*	P	05 05 32.0	+0.8
FWVZ	**Far West T-bar**	**2.48**	**219**	PN	P	05 05 30.8	-0.4
MOVZ	**Moawhango**	**2.51**	**214**	P	P	05 05 30.2	-1.3
MOVZ	**Moawhango**	**2.51**	**214**	PN	P	05 05 31.0	-0.5
WAZ	**Wanganui**	**3.15**	**219**	*eP*	P	05 05 38.9	-1.1
WAZ	**Wanganui**	**3.15**	**219**	PN	P	05 05 38.9	-1.2
MRZ	**Mangatainoka R**	**3.66**	**204**	P	P	05 05 43.5	-3.4
KIW	**Kapiti Island**	**4.08**	**210**	P	P	05 05 48.5	-4.0
MTW	**Mount Morrison**	**4.13**	**202**	P	P	05 05 48.8	-4.5
CAW	**Cannon Point**	**4.23**	**206**	P	P	05 05 50.3	-4.3
QRZ	**Quartz Range**	**5.24**	**227**	*eP*	P	05 06 03.6	-4.6
KHZ	**Kahutara**	**5.94**	**210**	*eP*	P	05 06 12.8	-4.8

NIED 24 05:29:00.44.60N×149.30E, h26km, Mw3.5 Best double couple: M₀2.2×10¹⁴ **NP1:**φs33°, δ69°, λ113°. **NP2:**φs163°, δ31°, λ45°., **Kuril Islands**

*NEIC **24** 06:11:27.0, 41.50S×174.19E, h6km, ML4.1(WEL), After WEL.*

WEL 24 06:11:27.1±0.1, 41.51S×174.20E, h5km, ML4.2/38, 3C-1D, Error ellipse: s-maj=0.5km s-min=0.4km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUWZ	**Tuamarina**	**0.21**	**291**	⇓PG	Pg	06 11 31.4	+0.1
TUWZ				SG	Sg	06 11 34.1	-0.1
CMWZ	**Cape Campbell**	**0.24**	**178**	P	Pg	06 11 32.5	+0.5
CMWZ				S	Sg	06 11 36.9	+1.6
CMWZ	**Cape Campbell**	**0.24**	**178**	P*	Pb	06 11 32.5	-1.0
CMWZ				SG	Sg	06 11 37.1	+1.8
TCW	**Tory Channel**	**0.30**	**11**	P	Pg	06 11 32.9	-0.2
TCW	**Tory Channel**	**0.30**	**11**	PG	Pg	06 11 32.9	-0.2
TCW				SG	Sg	06 11 36.4	-0.7
BSWZ	**Blackbirch Sta**	**0.32**	**229**	P	Pg	06 11 33.4	-0.1
BSWZ	**Blackbirch Sta**	**0.32**	**229**	⇑PG	Pg	06 11 33.4	-0.2
BSWZ				SG	Sg	06 11 37.9	+0.1
SNZO	**South Karori**	**0.43**	**63**	P	Pg	06 11 35.5	-0.2
SNZO	**South Karori**	**0.43**	**63**	⇑PG	Pg	06 11 35.5	-0.1
SNZO				SG	Sg	06 11 42.0	+0.6
MRW	**Makara Radio**	**0.47**	**54**	P	Pg	06 11 36.1	-0.3
MRW	**Makara Radio**	**0.47**	**54**	⇑PG	Pg	06 11 36.1	-0.3
MRW				SG	Sg	06 11 42.9	+0.2
WEL	**Wellington**	**0.48**	**63**	P	Pg	06 11 36.5	-0.2
WEL	**Wellington**	**0.48**	**63**	PG	Pg	06 11 36.5	-0.2
WEL				SG	Sg	06 11 43.4	+0.2
BHW	**Baring Head**	**0.51**	**79**	P	Pg	06 11 37.4	0.0
BHW	**Baring Head**	**0.51**	**79**	PG	Pg	06 11 37.3	-0.1
BHW				SG	Sg	06 11 44.0	+0.2
NNZ	**Nelson**	**0.68**	**295**	P	Pg	06 11 39.8	-0.9
NNZ	**Nelson**	**0.68**	**295**	P*	Pb	06 11 39.8	-1.3
NNZ				SG	Sg	06 11 49.8	0.0
DUWZ	**D'Urville Isla**	**0.73**	**343**	PG	Pg	06 11 40.7	-1.0
DUWZ				SG	Sg	06 11 51.8	+0.3
DUWZ				SG	Sg	06 11 52.7	+1.1
CAW	**Cannon Point**	**0.77**	**59**	P	Pg	06 11 29.9	-12
CAW	**Cannon Point**	**0.77**	**59**	PG	Pg	06 11 41.2	-1.1
CAW				SG	Sg	06 11 52.7	+0.1
MSWZ	**Moikau Station**	**0.79**	**84**	P	Pg	06 11 42.7	-0.3
MSWZ	**Moikau Station**	**0.79**	**84**	PG	Pg	06 11 42.7	-0.3
MSWZ				SG	Sg	06 11 53.7	+0.2
KIW	**Kapiti Island**	**0.84**	**40**	P	Pb	06 11 42.5	-1.2
KIW	**Kapiti Island**	**0.84**	**40**	PG	Pg	06 11 42.5	-1.3
KIW				SG	Sg	06 11 55.2	+0.2
PAWZ	**Paruwai Farm**	**0.93**	**83**	P*	Pb	06 11 45.1	-0.2
PAWZ				SG	Sg	06 11 58.2	+0.1
THZ	**Tophouse**	**1.00**	**255**	*eP*	Pb	06 11 45.7	-0.9
THZ	**Tophouse**	**1.00**	**255**	P*	Pb	06 11 45.6	-1.0
KHZ	**Kahutara**	**1.03**	**208**	P	Pb	06 11 47.4	+0.3
KHZ	**Kahutara**	**1.03**	**208**	P*	Pb	06 11 47.4	+0.3
MTW	**Mount Morrison**	**1.04**	**71**	P	Pb	06 11 47.0	-0.2
MTW	**Mount Morrison**	**1.04**	**71**	P*	Pb	06 11 47.0	-0.1
TRWZ	**Traveller**	**1.12**	**85**	P*	Pb	06 11 48.2	-0.5
MRZ	**Mangatainoka R**	**1.34**	**51**	P	Pb	06 11 51.6	-0.7
MRZ	**Mangatainoka R**	**1.34**	**51**	P*	Pb	06 11 51.6	-0.8
QRZ	**Quartz Range**	**1.43**	**298**	P	Pn	06 11 53.0	-0.8
QRZ	**Quartz Range**	**1.43**	**298**	PN	Pn	06 11 53.0	-0.8
BFZ	**Birch Farm**	**1.75**	**63**	PN	Pn	06 11 57.3	-1.1
DSZ	**Denniston Nort**	**1.81**	**262**	P	Pn	06 11 59.3	+0.1
DSZ	**Denniston Nort**	**1.81**	**262**	PN	Pn	06 11 59.0	-0.2
WAZ	**Wanganui**	**1.85**	**19**	P	Pn	06 12 01.0	+1.3
WAZ	**Wanganui**	**1.85**	**19**	PN	Pn	06 12 01.0	+1.3
LTZ	**Lake Taylor**	**1.92**	**228**	P	Pn	06 12 00.0	-0.8
LTZ	**Lake Taylor**	**1.92**	**228**	PN	Pn	06 11 60.0	-0.8
TSZ	**Takapari Road**	**1.97**	**43**	*eP*	Pn	06 12 00.4	-1.1
TSZ	**Takapari Road**	**1.97**	**43**	PN	Pn	06 12 00.4	-1.1
NRZ	**Ngariki Road**	**2.18**	**355**	P	Pn	06 12 07.1	+2.7
NEZ	**North Egmont**	**2.23**	**358**	P	Pn	06 12 09.5	+4.2
NWEZ	**Newall Road**	**2.24**	**353**	P	Pn	06 12 08.0	+2.6
PKE	**Pukeiti**	**2.31**	**356**	P	Pn	06 12 09.9	+3.5
MOVZ	**Moawhango**	**2.41**	**30**	P	Pn	06 12 09.5	+1.7
VRZ	**Vera Road**	**2.42**	**10**	*eP*	Pn	06 12 09.3	+1.4
WNVZ	**Wahianoa**	**2.42**	**27**	P	Pn	06 12 09.9	+1.9
DRZ	**Dome Shelter**	**2.46**	**25**	P	Pn	06 12 11.6	+3.1
FWVZ	**Far West T-bar**	**2.47**	**25**	P	Pn	06 12 11.2	+2.5
MQZ	**McQueen's Vall**	**2.48**	**207**	*eP*	Pn	06 12 06.0	-2.8
TUVZ	**Tukino**	**2.50**	**27**	P	Pn	06 12 11.2	+2.2
PWZ	**Pawanui**	**2.50**	**55**	P	Pn	06 12 06.2	-2.9
WPVZ	**Whakapapa**	**2.52**	**25**	P	Pn	06 12 12.3	+3.0
CNZ	**Chateau**	**2.52**	**25**	P	Pn	06 12 12.2	+2.8
NGZ	**Ngauruhoe**	**2.56**	**25**	P	Pn	06 12 11.7	+1.7
TWVZ	**Taurewa**	**2.61**	**22**	P	Pn	06 12 13.5	+2.9
WTVZ	**West Tongariro**	**2.61**	**24**	P	Pn	06 12 13.2	+2.5
KATZ	**Kakaramea**	**2.77**	**25**	P	Pn	06 12 16.5	+3.5
RITZ	**Rihia Road**	**2.83**	**27**	P	Pn	06 12 18.7	+5.0
RATZ	**Rangitukua**	**2.90**	**25**	P	Pn	06 12 18.9	+4.2
BKZ	**Black Stump Fm**	**2.92**	**38**	*eP*	Pn	06 12 13.1	-2.0
HIZ	**Hauiti**	**3.03**	**10**	*eP*	Pn	06 12 18.8	+2.2
WATZ	**Wairara**	**3.03**	**23**	P	Pn	06 12 21.5	+4.9
RPZ	**Rata Peaks**	**3.21**	**225**	*eP*	Pn	06 12 22.7	+3.6

*MOS **24** 06:15:48.3±1.5, 1.42S×99.65E, h33km, mb5.1/27, Error ellipse: s-maj=13.2km s-min=6.6km az=119.0*

*HRVD **24** 06:15:49.8±1.2, 1.69S×99.54E, h18km±2km, MW4.8/34, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s34,c45; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.74±.23; Mθθ-0.40±.12; Mφφ-1.33±.19; Mrθ0.65±.34; Mθφ0.50±.09; Mφr1.16±.42; Best double couple: M₀2.063×10¹⁶ NP1:*φs142°, δ34°, λ54°. *NP2:*φs3°, δ63°, λ111°. *Principal axes: T 2.348, Plg65°, Azm310°; N -.563, Plg19°, Azm173°; P -1.777, Plg16°, Azm77°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **24** 06:15:49.8±0.2, 1.49S×99.63E, h30km, mb4.9/30 Error ellipse: s-maj=8.7km s-min=5.3km az=50.0*

NEIC Felt [II] at Padang, Sumatra.

*BJI **24** 06:15:49.8, 1.50S×99.60E, h30km, mB4.9, mb4.7, Ms4.7, Msz4.4*

*IDC **24** 06:15:50.0±0.5, 1.51S×99.57E, h28km±3km, mb4.5/18, mb1 4.6/18, mb1mx4.6/19, mbtmp4.7/18, MS3.8/3, Ms1 3.8/3, ms1mx3.3/22, Error ellipse: s-maj=18.1km s-min=10.7km az=56.0*

ISC 24 06:15:47.7±0.3, 1.48S±0.05×99.68E±0.05, h27km, h27km±1.2km: pP-P, n173, σ1§12/152, mb4.8/70, MS4.0/9, 15C-4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.79**	**8**	*e*Pn	**Pn**	**06 17 29.2**	**+0.9**
KKM	**Kota Kinabalu**	**18.13**	**66**	*e*P	**P**	**06 20 04.2**	**+4.6**
KMI	**Kunming**	**26.61**	**6**	P	**P**	**06 21 30.1**	**+4.1**
KMI				AP	pP	06 21 35.4	+1.5
KMI				XP	sP	06 21 37.4	-0.1
KMI				PP	PP	06 22 16.8	+6.5
KMI				S	**S**	**06 26 02.4**	**+5.2**
KMI				XS		06 26 15.3	
KMI				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
KMI				AMB	AMB		
	comp=Z,92nm,4.1s						
KMI				LR	LR		
	comp=N,329nm,13.1s,MS4.2						
KMI				LR	LR		
	comp=E,322nm,10.6s,MS4.2						
KMI				LR	LR		
	comp=Z,348nm,13.5s,MS4.1						
KMI	**Kunming**	**26.61**	**6**	P	**P**	**06 21 30.1**	**+4.1**
KMI				*SP	sP	06 21 37.4	-0.1
KMI						06 22 16.8	
KMI				S	**S**	**06 26 02.4**	**+5.2**
KMI				*SS		06 26 15.3	
KMI				SS	SS	06 27 19.2	+10
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.5						
KMI				MLR	MLR		
	comp=Z,350nm,13.5s,MS4.1						
KMI	**Kunming**	**26.61**	**6**	P	**P**	**06 21 30.1**	**+4.1**
	comp=Z,10.0nm,0.6s,mb4.5						
KMI				pP	pP	06 21 35.4	+1.5
KMI				sP	sP	06 21 37.4	-0.1
KMI				PP	PP	06 22 16.8	+6.5
KMI				S	**S**	**06 26 02.4**	**+5.2**
KMI				sS		06 26 15.3	
KMI				SS	SS	06 27 19.2	+10
KMI				LR	LR		
	comp=Z,350nm,13.5s,MS4.1						
MBWA	**Marble Bar**	**27.66**	**136**	*e*P	**P**	**06 21 35.5**	**-0.1**
	comp=Z,19nm,1.1s,mb4.6						
SHL	**Shillong**	**27.92**	**345**	*e*P	**P**	**06 21 38.0**	**0.0**
BOK	**Bokaro**	**28.47**	**333**	*e*P	**P**	**06 21 41.5**	**-1.4**
BOK				AMb	AMB	06 21 46.6	
	comp=Z,41nm,1.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**30.37**	**125**	*e*P	**P**	**06 21 59.4**	**-0.6**
	comp=Z,26nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**30.37**	**125**	P	**P**	**06 21 59.5**	**-0.5**
	comp=Z,34nm,0.8s,mb5.1,baz=324,slow=3.7,SNR=22						
JIRN	**Jiri**	**31.74**	**337**	⇑*i*P	**P**	**06 22 12.7**	**+0.7**
	comp=Z,53nm,0.7s,mb5.5						
PKI	**Pulchoki**	**31.98**	**336**	⇑*i*P	**P**	**06 22 14.7**	**+0.7**
LSA	**Lhasa**	**32.05**	**346**	P	**P**	**06 22 15.8**	**+1.1**
LSA	**Lhasa**	**32.05**	**346**	*e*P	**P**	**06 22 15.3**	**+0.6**
LSA				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.0						
LSA	**Lhasa**	**32.05**	**346**	*e*P	**P**	**06 22 15.3**	**+0.6**
	comp=Z,15nm,0.6s,mb5.0						
GUN	**Gumba**	**32.09**	**337**	⇑*i*P	**P**	**06 22 15.7**	**+0.7**
	comp=Z,74nm,0.6s,mb5.7						
DMN	**Daman**	**32.14**	**335**	⇑*i*P	**P**	**06 22 15.9**	**+0.5**
KKN	**Kakani**	**32.22**	**336**	⇑*i*P	**P**	**06 22 16.2**	**0.0**
	comp=Z,37nm,0.8s,mb5.2						
GKN	**Gorkha**	**32.68**	**335**	⇑*i*P	**P**	**06 22 20.4**	**+0.3**
	comp=Z,23nm,0.7s,mb5.2						
BHPL	**Bhopal**	**32.76**	**320**	*e*P	**P**	**06 22 22.3**	**+1.5**
BHPL				AMb	AMB	06 23 04.7	
	comp=Z,20nm,1.5s,mb4.8						
ENH	**Enshi**	**32.93**	**16**	P	**P**	**06 22 21.5**	**-0.8**
	comp=Z,9.5nm,0.6s,mb4.9						
KOLN	**Koldanda**	**32.93**	**333**	*e*P	**P**	**06 22 22.8**	**+0.5**
	comp=Z,45nm,0.8s,mb5.5						
KAKA	**Kakadu**	**34.32**	**111**	*e*P	**P**	**06 22 33.5**	**-1.0**
	comp=Z,8.2nm,0.6s,mb4.8						
LGTI	**Lohaghat**	**35.93**	**330**	⇓*e*P	**P**	**06 22 48.5**	**+0.4**
XAN	**Xi'an**	**36.38**	**13**	P	**P**	**06 22 50.9**	**-0.9**
XAN				AP	pP	06 22 59.3	-0.6
XAN				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.8						
SONA	**Sohna**	**36.66**	**325**	*e*P	**P**	**06 22 53.0**	**-1.3**
SONA				AMb	AMB	06 22 54.9	
	comp=Z,6.5nm,0.3s,mb4.9						
AYAN	**Aya Nagar**	**36.81**	**326**	*e*P	**P**	**06 22 58.8**	**+3.3**
KUDL	**Kundal**	**36.92**	**325**	*e*P	**P**	**06 22 55.0**	**-1.4**
KUDL				AMb	AMB	06 22 55.6	
	comp=Z,2.3nm,0.8s,mb4.0						
KHET	**Khetri**	**37.27**	**324**	*e*P	**P**	**06 22 57.8**	**-1.5**
NJ2	**Nanjing**	**37.98**	**27**	*e*P	**P**	**06 23 04.5**	**-0.8**
NJ2				AP	pP	06 23 13.4	+0.1
NJ2				XP	sP	06 23 17.9	+1.2
NJ2				S	**S**	**06 28 53.0**	**-2.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,140nm,5.2s						
NJ2				LR	LR		
	comp=N,400nm,6.4s						
NJ2				LR	LR		
	comp=E,510nm,16.4s						
NJ2				LR	LR		
	comp=Z,270nm,11.3s						
KKR	**Kurukshetra**	**38.12**	**327**	*e*P	**P**	**06 23 09.4**	**+2.9**
KKR				AMb	AMB	06 23 10.1	
	comp=Z,410nm,0.4s						
SSE	**Sheshan**	**38.31**	**30**	P	**P**	**06 23 06.5**	**-1.6**
SSE				AP	pP	06 23 15.4	-0.7
SSE				XP	sP	06 23 19.3	-0.2
SSE				S	**S**	**06 29 00.4**	**+0.1**
SSE				XS		06 29 15.1	
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,118nm,5.5s						
SSE				LR	LR		
	comp=N,86nm,20.8s,MS3.7						
SSE				LR	LR		
	comp=E,89nm,20.8s,MS3.7						
SSE				LR	LR		
	comp=Z,90nm,17.4s,MS3.6						
SSE	**Sheshan**	**38.31**	**30**	P	**P**	**06 23 06.5**	**-1.6**
	comp=Z,32nm,0.7s,mb5.2						
SSE				pP	pP	06 23 15.4	-0.7
SSE				sP	sP	06 23 19.2	-0.3
SSE				S	**S**	**06 29 00.4**	**+0.1**
SSE				sS		06 29 15.1	
SSE				SS	SS	06 31 49.4	+10
SSE				LR	LR		
	comp=Z,90nm,17.4s,MS3.6						
WRA	**Warramunga Arr**	**38.54**	**121**	P	**P**	**06 23 09.8**	**-0.3**
	comp=Z,19nm,0.5s,mb5.1,baz=302,slow=9.1,SNR=158						
WRA				pP	pP	06 23 18.6	+0.4
	comp=Z,12nm,0.7s,baz=303,slow=9.0,SNR=12						
WRA				PcP	PcP	06 25 23.7	+0.7
	comp=Z,2.0nm,0.6s,baz=314,slow=2.5,SNR=5.9						
WRA				S	**S**	**06 29 01.5**	**-2.3**
	comp=Z,2.2nm,1.0s,baz=295,slow=16,SNR=3.6						
WRAB	**Tennant Creek**	**38.54**	**121**	⇓*i*P	**P**	**06 23 10.4**	**+0.3**
WRAB	**Tennant Creek**	**38.54**	**121**	*e*P	**P**	**06 23 09.8**	**-0.3**
	comp=Z,35nm,0.6s,mb5.3						
WB2	**Warramunga Arr**	**38.55**	**121**	*e*P	**P**	**06 23 09.7**	**-0.5**
GTA	**Gaotai**	**40.69**	**0**	*e*P	**P**	**06 23 31.4**	**+3.7**
GTA				AP	pP	06 23 37.8	+2.0
GTA				XP	sP	06 23 40.8	+1.7
GTA				PP	PP	06 25 10.1	+5.4
GTA				PCP	PcP	06 25 30.5	+0.8
GTA				S	**S**	**06 29 44.6**	**+8.7**
GTA				XS		06 29 55.3	
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.0						
GTA				AMB	AMB		
	comp=Z,46nm,5.3s						
GTA				LR	LR		
	comp=N,123nm,14.5s,MS4.0						
GTA				LR	LR		
	comp=E,130nm,15.2s,MS4.0						
GTA				LR	LR		
	comp=Z,182nm,14.1s,MS4.1						
JNU	**Nakatsue**	**45.28**	**38**	P	**P**	**06 24 06.2**	**+1.0**
	comp=Z,10nm,0.7s,mb4.8,baz=150,slow=4.5,SNR=8.2						
JNU				pP	pP	06 24 14.8	+1.6
	comp=Z,27nm,0.8s,baz=114,slow=5.3,SNR=8.5						
WMQ	**Urumqi**	**46.36**	**348**	P	**P**	**06 24 14.1**	**+0.6**
WMQ				AP	pP	06 24 23.9	+2.2
WMQ				XP	sP	06 24 27.9	+2.9
WMQ				PP	PP	06 26 02.5	+0.1
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.9s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,10.0nm,5.4s						
WMQ				LR	LR		
	comp=N,487nm,14.3s,MS4.7						
WMQ				LR	LR		
	comp=E,364nm,15.3s,MS4.7						
WMQ				LR	LR		
	comp=Z,699nm,15.8s,MS4.7						
KS15	**Wonju Array Si**	**46.71**	**31**	*e*P	**P**	**06 24 17.0**	**+0.6**
PMG	**Port Moresby**	**47.87**	**101**	*i*P	**P**	**06 24 28.3**	**+2.4**
CTA	**Charters Tower**	**49.11**	**115**	*e*P	**P**	**06 24 35.6**	**+0.2**
	comp=Z,12nm,1.0s,mb4.9						
CTA	**Charters Tower**	**49.11**	**115**	*e*P	**P**	**06 24 35.6**	**+0.2**
CTA				pmax	pmax		
	comp=Z,12nm,1.0s						
CTA	**Charters Tower**	**49.11**	**115**	P	**P**	**06 24 35.6**	**+0.2**
	comp=Z,13nm,0.8s,mb5.0,baz=275,slow=11,SNR=7.4						
CTA				pP	pP	06 24 44.5	+0.9
	comp=Z,18nm,1.0s,baz=291,slow=7.4,SNR=5.1						
CTAO	**Charters Tower**	**49.11**	**115**	*e*P	**P**	**06 24 34.8**	**-0.6**
CTAO				*e*	pP	06 24 42.4	-1.2
CTAO				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.2						
CTAO	**Charters Tower**	**49.11**	**115**	*e*P	**P**	**06 24 34.8**	**-0.6**
	comp=Z,30nm,1.2s,mb5.2						
CTAO				*e*	pP	06 24 42.4	-1.2
AAK	**Ala-Archa**	**49.43**	**336**	⇑*i*P	**P**	**06 24 37.1**	**-0.4**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.6						
SONM	**Songino Array**	**49.46**	**6**	P	**P**	**06 24 38.4**	**+0.7**
	comp=Z,3.9nm,0.7s,mb4.6,baz=190,slow=9.7,SNR=28						
SONM				pP	pP	06 24 47.7	+1.8
	comp=Z,9.0nm,0.8s,baz=191,slow=9.4,SNR=18						
SONM				PcP	PcP	06 25 60.0	+0.1
	comp=Z,7.1nm,0.7s,baz=189,slow=4.5,SNR=12						
STKA	**Stephens Creek**	**49.74**	**132**	⇑*i*P	**P**	**06 24 40.9**	**+0.9**
	comp=Z,13nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**49.74**	**132**	P	**P**	**06 24 40.8**	**+0.8**
	comp=Z,16nm,0.8s,mb5.1,baz=307,slow=8.0,SNR=22						
MKAR	**Makanchi Array**	**50.44**	**345**	P	**P**	**06 24 45.3**	**+0.1**
	comp=Z,11nm,0.8s,mb5.0,baz=150,slow=7.8,SNR=97						
MKAR				pP	pP	06 24 53.8	+0.4
	comp=Z,12nm,0.7s,baz=147,slow=7.5,SNR=16						
CN2	**Changchun**	**50.64**	**24**	*e*P	**P**	**06 24 49.8**	**+3.1**
CN2				*e*AP	pP	06 24 55.8	+0.8
CN2				*e*S	**S**	**06 32 03.9**	**+5.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,14.0s,MS4.5						
CN2				LR	LR		
	comp=E,200nm,14.0s,MS4.5						
CN2				LR	LR		
	comp=Z,320nm,14.0s,MS4.5						
KKAR	**Karatay Array**	**51.54**	**333**	P	**P**	**06 24 52.7**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZAK	**Zakamensk**	**51.75**	**3**	*e*P	**P**	**06 24 55.2**	**+0.1**
ZAK				*e*		06 26 07.6	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
MDJ	**Mudanjiang**	**53.06**	**26**	P	**P**	**06 25 08.1**	**+3.1**
MDJ				AP	pP	06 25 12.8	-0.5
MDJ				PCP	PcP	06 26 14.9	+1.7
MDJ				PP	PP	06 27 08.8	+2.4
MDJ				PCS		06 30 13.6	
MDJ				S	**S**	**06 32 40.8**	**+9.1**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,87nm,7.2s						
MDJ				LR	LR		
	comp=N,66nm,25.9s,MS3.7						
MDJ				LR	LR		
	comp=E,64nm,25.9s,MS3.7						
MDJ				LR	LR		
	comp=Z,64nm,14.2s						
ARMA	**Armidale**	**56.97**	**126**	*e*P	**P**	**06 25 31.1**	**-2.5**
KLR	**Kul'dur**	**57.59**	**24**	*e*P	**P**	**06 25 34.0**	**-3.7**
NVS	**Novosibirsk**	**57.74**	**349**	*e*P	**P**	**06 25 36.7**	**-1.9**
NVS				pmax	pmax		
	comp=N,11nm,1.4s						
NVS				pmax	pmax		

MALT	**Malatya**	**68.75**	**312**	*e*P		**P**	**06 26 50.2**	**-1.4**
EIL	**Elat**	**68.97**	**303**	*e*P		**P**	**06 26 52.6**	**-0.6**
	comp=Z,18nm,1.5s,mb4.8							
SOC	**Sochi**	**69.75**	**318**	*e*P		**P**	**06 26 59.4**	**+1.7**
SOC				*e*S		S	06 36 10.7	+7.2
SOC				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.8							
SOC				pmax	pmax			
	comp=N,17nm,1.0s							
SOC				pmax	pmax			
	comp=E,11nm,0.9s							
MAW	**Mawson**	**70.71**	**194**	*e*P		**P**	**06 27 03.5**	**+0.4**
	comp=E,4.1nm,0.9s,mb4.4							
MAW	**Mawson**	**70.71**	**194**	*e*P		**P**	**06 27 03.5**	**+0.4**
MAW				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MAW	**Mawson**	**70.71**	**194**	P		**P**	**06 27 03.6**	**+0.5**
	comp=Z,6.4nm,0.9s,mb4.5,baz=20,slow=6.2,SNR=14							
ANN	**Anapa**	**71.73**	**318**	*e*P		**P**	**06 27 03.8**	**-5.8**
ANN				pmax	pmax			
	comp=Z,40nm,1.0s,mb5.3							
MA2	**Magadan**	**72.69**	**25**	*e*P		**P**	**06 27 15.7**	**+0.7**
MA2				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.7							
BR131	**Keskin Array S**	**72.73**	**312**	*e*P		**P**	**06 27 13.7**	**-2.0**
	comp=Z,1.3nm,0.6s,mb4.0							
BRTR	**Keskin Array B**	**72.73**	**312**	P		**P**	**06 27 14.1**	**-1.6**
	comp=Z,3.1nm,0.7s,mb4.3,baz=136,slow=6.4,SNR=16							
LBTB	**Lobatse**	**74.95**	**245**	P		**P**	**06 27 27.9**	**-1.0**
LBTB				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.6							
LBTB	**Lobatse**	**74.95**	**245**	P		**P**	**06 27 27.9**	**-1.0**
	comp=Z,7.7nm,1.1s,mb4.5							
SEY	**Seymchan**	**75.27**	**22**	*d i*P		**P**	**06 27 30.8**	**+0.9**
TIXI	**Tiksi**	**75.39**	**9**	*e*P		**P**	**06 27 33.4**	**+2.9**
TIXI				pmax	pmax			
	comp=Z,35nm,1.7s,mb5.0							
RPZ	**Rata Peaks**	**75.58**	**135**	P		**P**	**06 27 33.3**	**+1.3**
	comp=Z,13nm,0.7s,mb5.0,baz=343,slow=2.2,SNR=12							
RPZ				pP			06 27 42.0	+1.4
	comp=Z,21nm,0.8s,baz=165,slow=6.3,SNR=5.3							
BOSA	**Boshof**	**75.62**	**241**	P		**P**	**06 27 32.0**	**-0.7**
	comp=Z,2.8nm,0.7s,mb4.3,baz=79,slow=8.3,SNR=7.7							
SYO	**Syowa Base**	**78.26**	**199**	⇑*i*P		**P**	**06 27 45.1**	**-1.4**
AKASG	**Malin Array Be**	**78.88**	**322**	P		**P**	**06 27 49.1**	**-1.1**
	comp=Z,2.6nm,0.7s,mb4.3,baz=89,slow=4.6,SNR=14							
VRI	**Vrincioaia**	**79.25**	**317**	⇑P		**P**	**06 27 52.8**	**+0.4**
MLR	**Muntele Rosu**	**79.70**	**317**	⇓P		**P**	**06 27 55.2**	**+0.4**
BURAR	**Bucovina Array**	**80.66**	**319**	⇑P		**P**	**06 28 00.9**	**+1.1**
VSU	**Vasula**	**82.39**	**330**	*e*P		**P**	**06 28 08.6**	**-0.1**
VNDA	**Vanda**	**82.73**	**169**	P		**P**	**06 28 10.9**	**+0.8**
	comp=Z,1.7nm,0.7s,mb4.2,baz=301,slow=6.5,SNR=10							
KOLS	**Kolonicke sedl**	**82.85**	**320**	*e*P		**P**	**06 28 12.1**	**+0.9**
KOLS				*e*pP		pP	06 28 21.8	+2.0
SUW	**Suwalki**	**83.27**	**325**	*e*P		**P**	**06 28 11.5**	**-1.8**
SUW	**Suwalki**	**83.27**	**325**	*e*P		**P**	**06 28 11.5**	**-1.8**
FINES	**FINESS Array B**	**83.50**	**332**	P		**P**	**06 28 14.9**	**+0.6**
	comp=Z,4.0nm,0.5s,mb4.8,baz=116,slow=5.7,SNR=25							
KAF	**Kangasniemi**	**83.57**	**333**	*e*p		**P**	**06 28 14.2**	**-0.4**
	comp=Z,10nm,0.8s,mb5.0							
STHS	**Stebnicka Huta**	**83.60**	**320**	*e*P		**P**	**06 28 15.6**	**+0.5**
STHS				*e*			06 28 22.0	
KECS	**Kecovo**	**83.94**	**319**	*e*P		**P**	**06 28 16.7**	**-0.1**
OJC	**Ojcow**	**84.65**	**321**	*e*P		**P**	**06 28 20.3**	**0.0**
VYHS	**Vyhne**	**85.02**	**319**	*e*P		**P**	**06 28 22.7**	**+0.5**
OKC	**Ostrava-Krasne**	**85.65**	**320**	*e*P		**P**	**06 28 25.9**	**+0.6**
ARCES	**ARCESS Array B**	**85.87**	**340**	P		**P**	**06 28 27.1**	**+1.1**
	comp=Z,8.7nm,0.9s,mb5.0,baz=90,slow=4.9,SNR=9.9							
ARCES				LR		LR	07 13 40.2	
	comp=Z,44nm,18.5s,MS3.9,baz=68,slow=40							
ARE0	**ARCESS Array S**	**85.87**	**340**	P		**P**	**06 28 27.1**	**+1.1**
MORC	**Moravsky Berou**	**86.03**	**320**	*e*P		**P**	**06 28 27.7**	**+0.5**
MORC				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.3							
MORC	**Moravsky Berou**	**86.03**	**320**	*e*P		**P**	**06 28 27.7**	**+0.5**
	comp=Z,2.4nm,1.0s,mb4.4							
DPC	**Dobruska-Polom**	**86.88**	**320**	*e*P		**P**	**06 28 32.1**	**+0.7**
UPC	**Upice**	**87.09**	**321**	*e*P		**P**	**06 28 33.4**	**+1.0**
PRU	**Pruhonice**	**87.98**	**320**	*e*P		**P**	**06 28 37.1**	**+0.4**
BRG	**Berggiesshubel**	**88.43**	**321**	*i* P		**P**	**06 28 39.7**	**+0.9**
BRG				pmax	pmax			
	comp=Z,10.0nm,1.3s,mb4.9							
BRG	**Berggiesshubel**	**88.43**	**321**	*i* P		**P**	**06 28 39.6**	**+0.8**
	comp=Z,10.0nm,1.3s,mb4.9							
GEC2	**GERESS Array S**	**88.44**	**319**	*e*P		**P**	**06 28 39.7**	**+0.8**
GEC2				pmax	pmax			
	comp=Z,12nm,1.4s,mb4.9							
GEC2	**GERESS Array S**	**88.44**	**319**	*e*P		**P**	**06 28 39.7**	**+0.8**
	comp=Z,12nm,1.4s,mb4.9							
GERES	**GERESS Array B**	**88.44**	**319**	P		**P**	**06 28 39.6**	**+0.7**
	comp=Z,4.4nm,1.1s,mb4.6,baz=108,slow=4.2,SNR=21							
QSPA	**South Pole Qui**	**88.48**	**180**	⇑*i*P		**P**	**06 28 40.0**	**+1.5**
	comp=Z,6.6nm,0.9s,mb4.9							
KHC	**Kasperske Hory**	**88.55**	**319**	*e*P		**P**	**06 28 39.3**	**-0.1**
WET	**Wettzell**	**89.00**	**319**	*e*P		**P**	**06 28 42.0**	**+0.4**
WET				pmax	pmax			
	comp=Z,11nm,1.4s,mb5.0							
WET	**Wettzell**	**89.00**	**319**	*e*P		**P**	**06 28 42.0**	**+0.4**
	comp=Z,11nm,1.4s,mb5.0							
CLL	**Collm**	**89.06**	**321**	*i* P		**P**	**06 28 41.8**	**0.0**
CLL				*e**PP		pP	06 28 51.0	+0.5
CLL				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb5.0							
CLL	**Collm**	**89.06**	**321**	*i* P		**P**	**06 28 41.8**	**0.0**
	comp=Z,8.0nm,1.1s,mb5.0							
CLL				*e*pP		pP	06 28 51.0	+0.5
CLL	**Collm**	**89.06**	**321**	P		**P**	**06 28 41.8**	**0.0**
	comp=Z,logA/T=0.9,mb5.0							
CLL				*e**PP		pP	06 28 51.0	+0.5
MOX	**Moxa**	**89.90**	**320**	*e*P		**P**	**06 28 46.7**	**+0.9**
MOX	**Moxa**	**89.90**	**320**	*i* P		**P**	**06 28 46.7**	**+0.9**
GRA1	**Grafenberg Arr**	**90.11**	**320**	*e*P		**P**	**06 28 47.6**	**+0.8**
	comp=Z,14nm,1.3s,mb5.1							
GRF	**Grafenberg Arr**	**90.11**	**320**	*e*P		**P**	**06 28 47.6**	**+0.8**
GRF				pmax	pmax			
	comp=Z,14nm,1.3s,mb5.1							
GRF	**Grafenberg Arr**	**90.11**	**320**	*e*P		**P**	**06 28 47.6**	**+0.8**
GRF				pmax	pmax			
	comp=Z,14nm,1.3s,mb5.1							
GRF	**Grafenberg Arr**	**90.11**	**320**	*e*P		**P**	**06 28 47.6**	**+0.8**
	comp=Z,14nm,1.3s,mb5.1							
NOA	**NORSAR Array B**	**90.53**	**331**	P		**P**	**06 28 48.7**	**+0.3**
	comp=Z,1.2nm,0.8s,mb4.3,baz=342,slow=2.8,SNR=2.7							
NOA				LR		LR	07 10 51.6	
	comp=Z,23nm,20.8s,MS3.6,baz=260,slow=36							
NOA	**NORSAR Array B**	**90.53**	**331**	P		**P**	**06 28 48.7**	**+0.3**
NOA				LR		LR	07 10 51.6	
CLZ	**Clausthal**	**90.72**	**322**	*e*P		**P**	**06 28 50.2**	**+0.7**
CLZ				pmax	pmax			
	comp=Z,15nm,1.4s,mb5.1							
CLZ	**Clausthal**	**90.72**	**322**	*e*P		**P**	**06 28 50.2**	**+0.7**
	comp=Z,15nm,1.4s,mb5.1							
TNS	**Taunus Mts**	**91.91**	**320**	*e*P		**P**	**06 28 56.0**	**+0.9**
TNS				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb5.0							
TNS	**Taunus Mts**	**91.91**	**320**	*e*P		**P**	**06 28 56.0**	**+0.9**
	comp=Z,8.0nm,1.1s,mb5.0							
BFO	**Black Forest**	**91.99**	**318**	*e*P		**P**	**06 28 56.0**	**+0.5**
BFO				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.8							
BFO	**Black Forest**	**91.99**	**318**	*e*P		**P**	**06 28 56.0**	**+0.5**
	comp=Z,5.0nm,1.0s,mb4.8							
ILAR	**Eielson Array**	**101.16**	**24**	PKKPbc			06 45 47.1	
	comp=Z,0.6nm,0.6s,baz=116,slow=1.9,SNR=6.7							
EDM	**Edmonton**	**121.63**	**23**	*e*PKPdf		PKPdf	06 34 40.6	-3.5
NEW	**Newport**	**123.64**	**29**	PKP		PKPdf	06 34 46.2	-1.8
	comp=Z,0.9nm,0.5s,baz=275,slow=4.4,SNR=4.3							
SCHQ	**Schefferville**	**125.68**	**350**	PKP		PKPdf	06 34 48.5	-3.3
	comp=Z,1.5nm,0.6s,baz=163,slow=5.5,SNR=4.2							
SCHQ				pPKP			06 34 58.3	
	comp=Z,1.4nm,0.6s,baz=311,slow=9.7,SNR=2.6							
ULM	**Lac du Bonnet**	**129.64**	**13**	PKP		PKPdf	06 34 56.4	-3.2
	comp=Z,1.8nm,0.6s,baz=143,slow=2.2,SNR=3.2							
PDAR	**Pinedale Array**	**131.28**	**29**	PKP		PKPdf	06 35 00.5	-2.4
	comp=Z,1.0nm,0.6s,baz=248,slow=1.0,SNR=9.9							
DAU	**Daniels Canyon**	**132.17**	**32**	*e*PKPdf		PKPdf	06 35 02.8	-1.9
MSU	**Marysvale**	**133.00**	**34**	*e*PKPdf		PKPdf	06 35 04.8	-1.5
NEN	**Nelson**	**133.29**	**39**	*e*PKPdf		PKPdf	06 35 05.2	-1.7
PV10	**Paradox Valley**	**134.82**	**32**	*e*PKPdf		PKPdf	06 35 05.9	-3.8
BNM	**Barren Site**	**139.25**	**34**	*e*PKPpre			06 35 07.9	
MNTX	**Cornudas Mount**	**141.75**	**36**	*e*PKPpre			06 35 16.4	
GDL2	**Guadalupe Moun**	**141.96**	**34**	PKPpre			06 35 17.0	
WCI	**Wyandotte Cave**	**143.02**	**8**	*e*PKPpre			06 35 17.4	
ELN	**Prospectdale**	**144.42**	**1**	*e*PKP		PKPdf	06 35 21.9	-5.0
LTX	**Lajitas**	**144.48**	**37**	*e*PKP		PKPdf	06 35 23.9	-3.3
LTX				*e*			06 35 32.6	
TXAR	**Lajitas Array**	**144.48**	**37**	PKP		PKPdf	06 35 24.1	-3.2
	comp=Z,19nm,0.6s,baz=255,slow=1.0,SNR=288							
TXAR				pPKP			06 35 33.0	
	comp=Z,17nm,0.5s,baz=218,slow=0.7,SNR=24							
CPUP	**Villa Florida**	**144.54**	**217**	PKP		PKPdf	06 35 22.9	-4.4
	comp=Z,21nm,0.8s,baz=132,slow=3.2,SNR=40							
CPUP	**Villa Florida**	**144.54**	**217**	*e*PKP		PKPdf	06 35 22.7	-4.7
WVT	**Waverly**	**144.82**	**11**	*e*PKP		PKPdf	06 35 23.2	-4.4
WVT				*e*			06 35 31.9	
TZTN	**Tazewell**	**144.98**	**5**	*e*PKP		PKPdf	06 35 23.9	-3.9
TZTN				*e*			06 35 32.1	
UALR	**University of**	**145.03**	**17**	*e*PKP		PKPdf	06 35 24.3	-3.7
UALR				*e*			06 35 32.9	
CFAA	**Coronel Fontan**	**145.16**	**198**	PKPbc		PKPbc	06 35 25.0	+1.2
	comp=Z,5.1nm,0.7s,baz=168,slow=3.1,SNR=94							
CFAA	**Coronel Fontan**	**145.16**	**198**	PKPbc		PKPbc	06 35 25.0	+1.2
PLAL	**Pickwick Lake**	**145.89**	**11**	*e*PKPdf		PKPdf	06 35 26.3	-3.2
OXF	**Oxford**	**146.06**	**14**	*e*PKPdf		PKPdf	06 35 27.1	-2.6
OXF				*e*			06 35 36.2	
NATX	**Nacogdoches**	**146.98**	**23**	*e*PKPbc		PKPbc	06 35 31.1	+2.9
NATX				*e*			06 35 39.4	
JSC	**Jenkinsville**	**147.35**	**1**	*e*PKPbc		PKPdf	06 35 31.4	-0.5
LRAL	**Lakeview Retre**	**147.99**	**11**	*e*PKPbc		PKPdf	06 35 32.6	-0.4
SIV	**San Ignacio**	**154.25**	**227**	PKPbc		PKPdf	06 35 47.6	+4.9
	comp=Z,3.2nm,0.8s,baz=23,slow=1.8,SNR=5.4							
LPAZ	**La Paz**	**158.63**	**214**	PKP		PKPdf	06 35 47.0	-1.4
	comp=Z,1.2nm,0.8s,baz=218,slow=1.6,SNR=3.7							

BJI ***24*** *06:19:15.3, 13.08S×76.68W, h47km, mB5.3*
NEIC ***24*** *06:19:16.5±0.2, 13.25S×76.33W, mb4.6/20, Error ellipse: s-maj=8.4km s-min=3.9km az=58.0*
NEIC Felt [III] at Chincha Alta and San Vicente de Canete.
IDC ***24*** *06:19:16.9±0.6, 13.26S×76.38W, h52km±4km, mb4.2/18, mb1 4.3/23, mb1mx4.2/29, mbtmp4.4/23, MS3.9/7, Ms1 3.9/7, ms1mx3.5/24, Error ellipse: s-maj=21.2km s-min=10.4km az=62.0*

ISC 24 06:19:14.6±0.3, 13.29S±0.05×76.42W±0.06, h49km, h49km±1.5km:pP-P, n92, σ0=87/84, mb4.5/34, MS3.9/7, 7C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.36**	**342**	⇑*i*	Pn	**P**	**06 19 38.8**	**+1.1**
ARE	**Arequipa**	**5.71**	**124**	*e*	P	**P**	**06 20 45.2**	**+3.0**
ARE				*i*			06 20 45.3	
LPAZ	**La Paz**	**8.55**	**111**	P		**P**	**06 21 20.3**	**+1.8**
	1.3nm,0.3s,baz=298,slow=12,SNR=43							
LPAZ					S	**S**	06 22 54.3	-0.4
	baz=218,slow=25,SNR=1.7							
LPAZ	**La Paz**	**8.55**	**111**	*e*P		**P**	**06 21 19.2**	**+0.7**
	16nm,0.6s							
LVC	**Limon Verde**	**11.70**	**143**	P		**P**	**06 22 01.2**	**-0.3**
	1.5nm,0.3s,baz=308,slow=11,SNR=18							
LVC					S	**S**	**06 24 03.6**	**-8.0**
	1.3nm,0.3s,baz=344,slow=18,SNR=2.6							
LVC	**Limon Verde**	**11.70**	**143**	*e*P		**P**	**06 22 00.7**	**-0.9**
	10nm,0.4s							
LVC				*e*S		**S**	**06 24 06.6**	**-5.0**
SAML	**Samuel**	**13.69**	**73**	*e*P		**P**	**06 22 24.5**	**-3.5**
	0.4nm,1.1s							
SIV	**San Ignacio**	**15.09**	**102**	P		**P**	**06 22 47.1**	**+0.7**
	1.0nm,0.3s,baz=288,slow=14,SNR=32							
ROSC	**El Rosal**	**18.15**	**7**	P		**P**	**06 23 25.7**	**+0.8**
	0.2nm,0.3s,baz=92,slow=21,SNR=2.6							
ROSC					S	**S**	**06 26 50.0**	**+7.5**
	0.3nm,0.3s,baz=82,slow=23,SNR=2.0							
CFAA	**Coronel Fontan**	**19.72**	**159**	P		**P**	**06 23 42.9**	**0.0**
	0.1nm,0.3s,baz=340,slow=9.5,SNR=8.3							
CFAA					LR	LR	06 30 11.5	
	comp=Z,18nm,20.8s,baz=306,slow=33							
CPUP	**Villa Florida**	**22.12**	**129**	P		**P**	**06 24 07.1**	**-0.3**
	2.4nm,0.9s,mb3.6,baz=309,slow=10,SNR=4.1							
CPUP	**Villa Florida**	**22.12**	**129**	*e*P		**P**	**06 24 07.0**	**-0.4**
CPUP				*e*pP			06 24 18.8	
SDV	**Santo Domingo**	**22.77**	**15**	P		**P**	**06 24 15.1**	**+1.1**
	15nm,0.7s,mb4.5,baz=240,slow=6.9,SNR=7.5							
SDV					LR	LR	06 34 03.9	
	comp=Z,91nm,18.9s,MS3.2,baz=30,slow=39							
SDV	**Santo Domingo**	**22.77**	**15**	*e*P		**P**	**06 24 15.2**	**+1.2**
	27nm,1.0s,mb4.6							
JTS	**JuntasAbangare**	**24.91**	**340**	P		**P**	**06 24 37.9**	**+3.1**
	9.9nm,1.0s,mb4.3,baz=204,slow=8.6,SNR=5.9							
JTS	**JuntasAbangare**	**24.91**	**340**	*e*P		**P**	**06 24 35.5**	**+0.7**
	2.2nm,1.3s,mb4.5							
BDFB	**Brasilia**	**27.60**	**98**	LR		LR	06 36 50.6	
	comp=Z,167nm,18.7s,MS3.6,baz=285,slow=38							
TRQA	**Tornquist**	**27.81**	**155**	*e*P		**P**	**06 24 59.2**	**-2.2**
PLCA	**Paso Flores**	**27.82**	**170**	P		**P**	**06 25 00.9**	**-0.5**
	8.0nm,0.7s,mb4.5,baz=343,slow=10,SNR=28							
PLCA					LR	LR	06 33 31.9	
	comp=Z,159nm,21.7s,MS3.6,baz=340,slow=31							
PLCA	**Paso Flores**	**27.82**	**170**	*e*P		**P**	**06 25 00.9**	**-0.5**
	23nm,1.2s,mb4.7							
SJG	**San Juan**	**32.81**	**18**	P		**P**	**06 25 44.9**	**-0.9**
	5.6nm,0.6s,mb4.7,baz=307,slow=11,SNR=3.2							
SJG	**San Juan**	**32.81**	**18**	*e*P		**P**	**06 25 45.3**	**-0.4**
USHA	**Ushuaia**	**41.92**	**173**	P		**P**	**06 27 02.2**	**+0.3**
	14nm,0.8s,mb4.6,baz=312,slow=6.8,SNR=4.3							
LTX	**Lajitas**	**49.88**	**328**	*e*P		**P**	**06 28 05.6**	**+0.3**
TXAR	**Lajitas Array**	**49.88**	**328**	P		**P**	**06 28 05.9**	**+0.5**
	3.5nm,0.7s,mb4.5,baz=148,slow=8.9,SNR=48							
WVT	**Waverly**	**50.32**	**348**	*e*P		**P**	**06 28 06.1**	**-2.5**
GDL2	**Guadalupe Moun**	**52.55**	**330**	*e*P		**P**	**06 28 26.1**	**+0.6**
MNTX	**Cornudas Mount**	**52.65**	**329**	*e*P		**P**	**06 28 25.5**	**-0.8**
CPRX	**Cap Rock**	**52.99**	**331**	*e*P		**P**	**06 28 29.3**	**+0.4**
CPRX				*e*pP		pP	06 28 42.4	+0.1
BLO	**Bloomington**	**53.03**	**350**	*e*P		**P**	**06 28 27.0**	**-2.0**
	14nm,0.6s,mb5.1							
LAZ	**Ladron**	**55.70**	**329**	*e*P		**P**	**06 28 48.6**	**0.0**
ANMO	**Albuquerque**	**55.80**	**330**	*e*P		**P**	**06 28 49.3**	**0.0**
	8.1nm,1.2s,mb4.6							
TUC	**Tucson**	**56.01**	**325**	*e*P		**P**	**06 28 50.4**	**-0.5**
	10nm,1.4s,mb4.7							
SDCO	**Great Sand Dun**	**57.64**	**333**	*e*P		**P**	**06 29 01.6**	**-0.7**
	8.2nm,1.2s,mb4.6							
PV01	**Paradox Valley**	**59.37**	**331**	*e*P		**P**	**06 29 14.4**	**0.0**
SMCO	**Snowmass**	**59.47**	**333**	*e*P		**P**	**06 29 15.2**	**+0.2**
NEN	**Nelson**	**60.75**	**325**	*e*P		**P**	**06 29 23.7**	**-0.2**
SRU	**San Rafael**	**61.07**	**330**	*e*P		**P**	**06 29 25.3**	**-0.7**
ARUT	**Antelope Range**	**61.54**	**327**	*e*P		**P**	**06 29 29.7**	**+0.5**
JLU	**Jordanelle**	**62.68**	**331**	*e*P		**P**	**06 29 37.3**	**+0.6**
TCUT	**Toone Canyon**	**63.06**	**331**	*e*P		**P**	**06 29 39.1**	**-0.2**
HWUT	**Hardware Ranch**	**63.52**	**331**	*e*P		**P**	**06 29 41.6**	**-0.7**
	8.4nm,0.8s,mb4.8							
PDAR	**Pinedale Array**	**63.52**	**333**	P		**P**	**06 29 41.9**	**-0.5**
	2.1nm,0.9s,mb4.2,baz=130,slow=7.2,SNR=14							
MTUM	**Tungsten Hills**	**64.07**	**324**	*e*P		**P**	**06 29 46.9**	**+1.0**
OMM	**Old Mammoth Mi**	**64.50**	**323**	*e*P		**P**	**06 29 49.9**	**+1.1**
LOHW	**Long Hollow**	**64.66**	**333**	*e*P		**P**	**06 29 49.2**	**-0.5**
	1.6nm,0.6s,mb4.2							
NVAR	**Mina Array Bea**	**64.67**	**325**	P		**P**	**06 29 50.3**	**+0.5**
	4.1nm,0.7s,mb4.5,baz=133,slow=7.8,SNR=27							
ELK	**Elko**	**64.67**	**328**	*e*P		**P**	**06 29 50.0**	**+0.2**
	3.9nm,1.0s,mb4.4							
ELK				*e*pP		pP	06 30 03.5	-0.2
RRI2	**Red Ridge**	**64.77**	**333**	*e*P		**P**	**06 29 50.4**	**0.0**
	11nm,0.6s,mb5.1							
MOOW	**Moose Ponds**	**64.83**	**333**	*e*P		**P**	**06 29 49.5**	**-1.3**
	3.7nm,1.2s,mb4.3							
IMW	**Indian Meadow**	**65.03**	**333**	*e*P		**P**	**06 29 51.8**	**-0.3**
	6.2nm,1.0s,mb4.6							
ULM	**Lac du Bonnet**	**65.53**	**346**	P		**P**	**06 29 53.5**	**-1.6**
	1.8nm,0.4s,mb4.5,baz=160,slow=4.5,SNR=3.0							
ULM					pP	pP	06 30 08.0	-1.2
	6.1nm,0.8s,baz=147,slow=9.0,SNR=5.2							
ULM	**Lac du Bonnet**	**65.53**	**346**	P		**P**	**06 29 53.5**	**-1.6**
ULM					pP	pP	06 30 08.0	-1.2
MCMT	**McKenzie Canyo**	**66.61**	**333**	*e*P		**P**	**06 30 02.3**	**+0.2**
BOZ	**Bozeman (W)**	**66.72**	**334**	*e*P		**P**	**06 30 02.4**	**-0.4**
	10nm,1.3s,mb4.7							
BEKR	**Beckwourth**	**66.81**	**324**	*e*P		**P**	**06 30 04.3**	**+0.9**
	5.9nm,0.9s,mb4.6							
HRY	**Holter Researc**	**67.65**	**334**	*e*P		**P**	**06 30 09.0**	**+0.4**
MSO	**Missoula**	**68.64**	**333**	*e*P		**P**	**06 30 15.0**	**+0.2**
	6.7nm,1.3s,mb4.4							
MSO				*e*pP		pP	06 30 28.8	0.0
YBH	**Yreka Blue Hor**	**69.39**	**325**	P		**P**	**06 30 19.1**	**-0.3**
	4.9nm,0.8s,mb4.5,baz=83,slow=2.8,SNR=7.6							
VNA3	**Neumayer Olymp**	**70.10**	**162**	⇑P		**P**	**06 30 23.5**	**+0.2**
VNA3				*e*		pP	06 30 35.7	-1.7
VNA3				*e*		pP	06 30 39.1	+1.7
WALA	**Waterton Lakes**	**70.36**	**335**	*e*P		**P**	**06 30 25.4**	**+0.2**
	3.4nm,0.9s,mb4.3							
WALA				*e*pP		pP	06 30 39.2	-0.2
VNA1	**Neumayer--Stat**	**70.36**	**161**	⇑*i*P		**P**	**06 30 25.4**	**+0.5**
VNA1				*e*		pP	06 30 37.7	-1.3
VNA1				*e*		pP	06 30 41.1	+2.1
VNA2	**Neumayer--Watz**	**70.71**	**161**	⇑*i*P		**P**	**06 30 27.1**	**+0.1**
VNA2				*e*		pP	06 30 38.4	-2.8
VNA2				*e*		pP	06 30 42.6	+1.4
NEW	**Newport**	**71.14**	**333**	P		**P**	**06 30 30.1**	**+0.1**
	4.6nm,0.9s,mb4.4,baz=145,slow=6.2,SNR=8.5							
NEW	**Newport**	**71.14**	**333**	*e*P		**P**	**06 30 30.0**	**+0.1**
	5.4nm,0.9s,mb4.5							
NEW				pP		pP	06 30 44.1	+0.1
SNAA	**Sanae**	**72.32**	**161**	⇑*i*P		**P**	**06 30 36.6**	**0.0**
SNAA				*e*		pP	06 30 48.8	-1.9
SNAA				*e*		pP	06 30 52.1	+1.4
EDM	**Edmonton**	**73.41**	**338**	*e*P		**P**	**06 30 42.4**	**-0.9**
EDM				*e*pP		pP	06 30 56.7	-0.8
DBIC	**Dimbokro**	**73.77**	**79**	P		**P**	**06 30 46.1**	**-0.1**
	3.7nm,1.0s,mb4.3,baz=234,slow=8.1,SNR=3.8							
DBIC					LR	LR	07 01 48.2	
	comp=Z,88nm,18.4s,MS4.1,baz=326,slow=35							
QSPA	**South Pole Qui**	**76.85**	**180**	⇑*i*P		**P**	**06 31 03.8**	**+1.2**
	6.6nm,0.7s,mb4.7							
YKA	**Yellowknife Ar**	**81.20**	**343**	P		**P**	**06 31 26.3**	**-0.1**
	3.3nm,0.8s,mb4.3,baz=137,slow=5.6,SNR=24							
YKA					pP	pP	06 31 40.7	-0.1
	5.2nm,1.0s,baz=137,slow=5.6,SNR=7.9							
YKA	**Yellowknife Ar**	**81.20**	**343**	P		**P**	**06 31 26.3**	**-0.1**
YKA					pP	pP	06 31 40.7	-0.1
YKW3	**Yellowknife Ar**	**81.25**	**343**	*e*P		**P**	**06 31 26.3**	**-0.5**
YKW3				*e*pP		pP	06 31 40.7	-0.4
VNDA	**Vanda**	**83.59**	**191**	P		**P**	**06 31 40.4**	**+1.9**
	1.6nm,0.7s,mb4.2,baz=122,slow=3.5,SNR=8.0							
DLBC	**Dease Lake**	**83.71**	**335**	P		**P**	**06 31 40.7**	**+1.3**
	4.3nm,0.9s,mb4.6,baz=121,slow=4.6,SNR=12							
DLBC					pP	pP	06 31

SONM	**Songino Array**	**27.54**	**308**	P		**P**	**06 29 24.3**	**-0.4**
	comp=Z,2.6nm,0.8s,mb4.0,baz=107,slow=8.0,SNR=11							
SONM				ScP			06 36 03.9	
	comp=Z,1.3nm,1.0s,baz=144,slow=2.5,SNR=4.9							
YAK	**Yakutsk**	**27.61**	**350**	*c iP*		**P**	**06 29 25.3**	**+0.1**
YAK				pmax		pmax		
	comp=Z,11nm,0.6s,mb4.8							
SEY	**Seymchan**	**28.99**	**12**	⇓ *iP*		**P**	**06 29 34.9**	**-2.7**
ZAK	**Zakamensk**	**30.21**	**311**	*eP*		**P**	**06 29 47.1**	**-1.4**
ZAK				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.6							
NVS	**Novosibirsk**	**42.98**	**315**	⇑ *iP*		**P**	**06 31 35.9**	**+0.2**
NVS				pmax		pmax		
	comp=Z,9.0nm,0.7s,mb4.5							
NVS				pmax		pmax		
	comp=N,3.0nm,0.6s							
NVS				pmax		pmax		
	comp=E,8.0nm,0.8s							
MKAR	**Makanchi Array**	**43.74**	**303**	P		**P**	**06 31 42.8**	**+0.9**
	comp=E,5.2nm,0.6s,mb4.4,baz=84,slow=9.3,SNR=58							
MKAR				PcP		PcP	06 33 26.8	+0.4
	comp=E,0.3nm,0.4s,baz=87,slow=4.9,SNR=2.9							
MKAR				ScP			06 37 03.6	
	comp=E,0.3nm,0.5s,baz=77,slow=8.6,SNR=5.0							
JIRN	**Jiri**	**45.54**	**276**	*eP*		**P**	**06 31 56.8**	**+0.3**
	comp=E,52nm,0.5s,mb5.5							
GUN	**Gumba**	**45.69**	**276**	*eP*		**P**	**06 31 58.1**	**+0.4**
	comp=E,32nm,0.8s,mb5.0							
PKI	**Pulchoki**	**46.21**	**276**	*eP*		**P**	**06 32 01.4**	**-0.3**
	comp=E,23nm,0.6s,mb5.0							
KKN	**Kakani**	**46.23**	**277**	*eP*		**P**	**06 32 01.8**	**-0.1**
	comp=E,21nm,0.7s,mb4.9							
DMN	**Daman**	**46.44**	**276**	*eP*		**P**	**06 32 03.2**	**-0.4**
GKN	**Gorkha**	**46.67**	**277**	*eP*		**P**	**06 32 05.3**	**0.0**
	comp=E,32nm,0.8s,mb5.0							
KOLN	**Koldanda**	**47.60**	**277**	*eP*		**P**	**06 32 12.3**	**-0.3**
AAK	**Ala-Archa**	**49.94**	**299**	*eP*		**P**	**06 32 29.3**	**-1.1**
AAK				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.1							
AAK	**Ala-Archa**	**49.94**	**299**	P		**P**	**06 32 29.0**	**-1.4**
	comp=Z,4.3nm,0.5s,mb4.3							
VOSK	**Vostochnaya**	**50.32**	**313**	P		**P**	**06 32 33.2**	**+0.1**
VOSK				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.2							
BVA0	**Borovoye Array**	**50.64**	**313**	P		**P**	**06 32 35.7**	**+0.2**
BVA0				pmax		pmax		
	comp=Z,1.0nm,0.9s,mb3.5							
ZRNK	**Zerenda**	**51.47**	**313**	P		**P**	**06 32 42.1**	**+0.3**
ZRNK				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.1							
KKAR	**Karatay Array**	**52.65**	**301**	P		**P**	**06 32 50.9**	**+0.2**
KKAR				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb3.9							
WRAB	**Tennant Creek**	**54.96**	**186**	*eP*		**P**	**06 33 06.7**	**-1.2**
WRAB				pmax		pmax		
	comp=Z,8.0nm,0.5s,mb4.7							
WRAB	**Tennant Creek**	**54.96**	**186**	*eP*		**P**	**06 33 06.7**	**-1.3**
	comp=Z,8.3nm,0.5s,mb4.7							
WB2	**Warramunga Arr**	**54.97**	**186**	⇑ *iP*		**P**	**06 33 07.0**	**-1.0**
WRA	**Warramunga Arr**	**54.97**	**186**	P		**P**	**06 33 07.0**	**-1.0**
	comp=Z,4.9nm,0.4s,mb4.6,baz=0.5,slow=7.6,SNR=108							
ARU	**Arti**	**56.69**	**319**	⇓ *iP*		**P**	**06 33 19.7**	**-0.1**
ARU				*e*			06 34 07.3	
ARU				*e*			06 35 27.2	
ARU				*eS*		S	06 41 23.4	+26
ARU				pmax		pmax		
	comp=Z,6.0nm,1.2s,mb4.3							
AB31	**Akbulak array**	**57.90**	**311**	P		**P**	**06 33 28.1**	**-0.2**
AB31				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.2							
ARCES	**ARCESS Array B**	**65.19**	**339**	P		**P**	**06 34 17.3**	**+0.5**
	comp=Z,1.0nm,0.4s,mb4.0,baz=53,slow=7.1,SNR=7.2							
ARCES	**ARCESS Array B**	**65.19**	**339**	P		**P**	**06 34 17.3**	**+0.5**
OBN	**Obninsk**	**68.61**	**323**	*eP*		**P**	**06 34 36.9**	**-1.5**
OBN				pmax		pmax		
	comp=Z,4.0nm,0.4s,mb4.5							
KAF	**Kangasniemi**	**69.23**	**332**	*ep*		**P**	**06 34 41.8**	**-0.2**
	comp=Z,2.1nm,0.5s,mb4.1,baz=52,slow=5.8							
FINES	**FINESS Array B**	**69.71**	**332**	P		**P**	**06 34 45.7**	**+0.7**
	comp=Z,2.4nm,0.7s,mb4.1,baz=72,slow=6.0,SNR=14							
FINES	**FINESS Array B**	**69.71**	**332**	P		**P**	**06 34 45.7**	**+0.7**
KIV	**Kislovodsk**	**70.88**	**311**	*eP*		**P**	**06 34 50.6**	**-1.8**
KIV				pmax		pmax		
	comp=N,5.0nm,1.2s							
KIV				pmax		pmax		
	comp=E,4.0nm,1.2s							
KIV				pmax		pmax		
	comp=Z,6.0nm,1.2s,mb4.2							
AKASG	**Malin Array Be**	**74.77**	**322**	P		**P**	**06 35 15.3**	**+0.4**
	comp=Z,2.3nm,0.4s,mb4.2,baz=49,slow=6.4,SNR=30							
AKASG	**Malin Array Be**	**74.77**	**322**	P		**P**	**06 35 15.3**	**+0.4**
NB2	**NORSAR Subarra**	**75.28**	**337**	P		**P**	**06 35 18.3**	**+0.7**
	comp=Z,1.3nm,0.7s,mb3.7,baz=43,slow=5.6							
NB2	**NORSAR Subarra**	**75.28**	**337**	P		**P**	**06 35 18.3**	**+0.7**
NB2				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb3.5							
NOA	**NORSAR Array B**	**75.28**	**337**	P		**P**	**06 35 18.7**	**+1.1**
	comp=Z,1.9nm,0.7s,mb3.8,baz=42,slow=5.8,SNR=7.3							
NOA	**NORSAR Array B**	**75.28**	**337**	P		**P**	**06 35 18.7**	**+1.1**
BRTR	**Keskin Array B**	**78.85**	**311**	P		**P**	**06 35 39.7**	**+2.0**
	comp=Z,1.1nm,0.5s,mb3.8,baz=108,slow=3.9,SNR=9.0							
OJC	**Ojcow**	**79.67**	**325**	*eP*		**P**	**06 35 43.7**	**+1.8**
CLL	**Collm**	**81.90**	**329**	P		**P**	**06 35 55.4**	**+1.8**
	comp=Z,logA/T=0.7,mb4.1							
KHC	**Kasperske Hory**	**83.27**	**328**	*eP*		**P**	**06 36 02.0**	**+1.3**
GERES	**GERESS Array B**	**83.43**	**327**	P		**P**	**06 36 02.8**	**+1.3**
	comp=Z,1.1nm,0.7s,mb3.7,baz=34,slow=4.8,SNR=11							
LPAZ	**La Paz**	**149.10**	**60**	PKPbc		PKPdf	06 43 24.1	+7.8
	comp=Z,0.4nm,0.3s,baz=315,slow=7.1,SNR=3.2							

*LDG **24** 06:31:57.5±0.0, 43.00N×0.16E, h10km, Md2.6/3, Ml2.7/13, Error ellipse: s-maj=0.8km s-min=0.7km az=22.0*
*STR **24** 06:31:57.6±0.1, 42.98N×0.17E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **24** 06:31:57.5, 43.00N×0.16E, h10km, ML2.7(LDG), ML2.4(STR), MN2.1(MDD), After LDG.*
*CSEM **24** 06:31:57.7±0.0, 43.01N×0.18E, h10km, ML2.6/17, Error ellipse: s-maj=0.9km s-min=0.7km az=160.0*
*MDD **24** 06:31:58.3±1.2, 42.97N×0.17E, h17km±10km, mbLg1.9/8, Error ellipse: s-maj=10.9km s-min=5.8km az=28.0, PRXIMO*

ISC 24 06:31:57.2±0.3, 43.05N±0.03×0.16E±0.02, h16km±3km, n59, σ1s22/105, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.06**	**265**	Pg	**Pb**	**06 32 00.6**	**+0.3**
LABF				Sg	**Sb**	**06 32 02.7**	**+0.3**
EPF	**Esparros**	**0.14**	**99**	*e*Pg	**Pb**	**06 32 01.1**	**-0.1**
EPF				*e*Sg	**Sb**	**06 32 03.7**	**-0.1**
	342nm,0.2s						
VIEF	**Viey**	**0.19**	**210**	Pg	**Pb**	**06 32 01.1**	**-0.9**
VIEF				Sg	**Sb**	**06 32 03.6**	**-1.6**
RESF	**Ens**	**0.28**	**151**	Pg	**Pb**	**06 32 02.5**	**-0.9**
RESF				Sg	**Sb**	**06 32 05.8**	**-1.7**
REYF	**Montagne du Re**	**0.40**	**273**	Pg	**Pb**	**06 32 05.4**	**0.0**
REYF				Sg	**Sb**	**06 32 11.8**	**+0.7**
MELF	**Melles**	**0.48**	**112**	Pg	**Pb**	**06 32 06.2**	**-0.6**
MELF				Sg	**Sb**	**06 32 12.5**	**-0.8**
ETSF	**Etsaut**	**0.55**	**254**	*e*Pg	**Pb**	**06 32 07.7**	**-0.2**
ETSF				*e*Sg	**Sb**	**06 32 14.7**	**-0.5**
	54nm,0.2s						
MLS	**Moulis**	**0.70**	**97**	Pg	**Pb**	**06 32 09.6**	**-0.9**
MLS				Sg	**Sb**	**06 32 20.6**	**+1.0**
SALF	**Salau**	**0.81**	**111**	Pg	**Pb**	**06 32 12.4**	**-0.1**
SALF				Sg	**Sb**	**06 32 22.5**	**-0.5**
LARF	**Larrau**	**0.84**	**269**	Pg	**Pb**	**06 32 13.5**	**+0.6**
LARF				Sg	**Sb**	**06 32 25.0**	**+1.3**
EGRA	**Graus**	**0.86**	**172**	Pg	**Pb**	**06 32 13.0**	**-0.3**
EGRA				Lg		06 32 23.7	
EGRA	**Graus**	**0.86**	**172**	Pg	**Pb**	**06 32 13.0**	**-0.3**
	2.3nm,0.2s,SNR=12						
EGRA				Lg		06 32 24.6	
	4.5nm,0.2s,SNR=9.2						
SJPF	**Ste Jean**	**1.01**	**274**	*e*Pg	**Pb**	**06 32 16.6**	**+0.7**
SJPF				*e*Sg	**Sb**	**06 32 29.8**	**+1.0**
	6.5nm,0.2s						
EALK	**Alkurruntz**	**1.23**	**278**	Pg	**Pb**	**06 32 20.8**	**+1.3**
EALK				Lg		06 32 37.1	
EALK	**Alkurruntz**	**1.23**	**278**	Pg	**Pb**	**06 32 20.8**	**+1.3**
	1.4nm,0.1s,SNR=15						
EALK				Lg		06 32 37.1	
	18nm,0.3s,SNR=9.0						
EARA	**Aranguren**	**1.30**	**258**	Pg	**Pb**	**06 32 22.6**	**+1.8**
	4.7nm,0.2s,SNR=7.9						
EARA				Lg		06 32 41.9	
	7.1nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.41**	**199**	Pn	**Pn**	**06 32 22.1**	**-0.3**
ESAC				Pg	**Pn**	**06 32 23.7**	**+1.4**
ESAC				Lg		06 32 41.4	
ESAC	**San Caprasio**	**1.41**	**199**	Pg	**Pn**	**06 32 23.5**	**+1.2**
	4.5nm,0.1s,SNR=7.9						
ESAC				Lg		06 32 41.4	
	77nm,0.2s,SNR=28						
ESAC	**San Caprasio**	**1.41**	**199**	Pn	**Pn**	**06 32 22.0**	**-0.3**
ESAC	**San Caprasio**	**1.41**	**199**	Pg	**Pn**	**06 32 23.7**	**+1.4**
	12nm,0.1s,SNR=16						
CARF	**Carcanieres**	**1.47**	**103**	Pg	**Pn**	**06 32 25.2**	**+2.0**
CARF				Sg	**Sb**	**06 32 44.0**	**+1.9**
VALF	**Valcebollere**	**1.52**	**115**	Pg	**Pn**	**06 32 25.6**	**+1.7**
EMIR	**Miracle**	**1.52**	**138**	Pg	**Pn**	**06 32 25.0**	**+1.0**
EMIR				Lg		06 32 44.6	
EMIR	**Miracle**	**1.52**	**138**	Lg		06 32 44.6	
	11nm,0.1s,SNR=9.2						
EMIR	**Miracle**	**1.52**	**138**	Pg	**Pn**	**06 32 25.0**	**+1.0**
	2.0nm,0.1s,SNR=10.0						
MTLF	**Montolieu**	**1.54**	**78**	*e*Pg	**Pn**	**06 32 26.2**	**+2.1**
MTLF				*e*Sg	**Sn**	**06 32 46.2**	**+2.4**
	12nm,0.2s						
EPOB	**Poblet**	**1.83**	**158**	Pg	**Pn**	**06 32 30.4**	**+2.1**
EPOB				Lg		06 32 53.2	
EPOB	**Poblet**	**1.83**	**158**	Pg	**Pn**	**06 32 30.2**	**+1.8**
	1.4nm,0.2s,SNR=9.0						
EPOB				Lg		06 32 53.2	
	16nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**1.83**	**158**	Pg	**Pn**	**06 32 30.4**	**+2.0**
	1.4nm,0.2s,SNR=9.0						
LFF	**La Frestale**	**1.93**	**12**	*e*Pn	**Pn**	**06 32 29.4**	**-0.4**
LFF				*e*Pg	**Pn**	**06 32 34.6**	**+4.8**
LFF				*e*Sg	**Sn**	**06 33 00.2**	**+6.3**
	10nm,0.3s						
ECRI	**Cripan**	**2.01**	**258**	Pn	**Pn**	**06 32 31.0**	**+0.1**
ECRI				Pg	**Pn**	**06 32 35.0**	**+4.1**
ECRI				Sn	**Sn**	**06 32 57.3**	**+1.4**
ECRI				Lg		06 33 01.9	
ECRI	**Cripan**	**2.01**	**258**	Pn	**Pn**	**06 32 31.0**	**+0.1**
	0.1nm,0.2s,SNR=4.0						
ECRI				Pg	**Pn**	**06 32 35.5**	**+4.6**
	1.9nm,0.2s,SNR=7.9						
ECRI				Sn	**Sn**	**06 32 57.3**	**+1.4**
	0.8nm,0.3s,SNR=7.9						
ECRI				Lg		06 33 01.9	
	2.2nm,0.2s,SNR=7.9						
ECRI	**Cripan**	**2.01**	**258**	Pg	**Pn**	**06 32 35.0**	**+4.1**
	1.9nm,0.2s,SNR=7.9						
ECRI				Sn	**Sn**	**06 32 57.3**	**+1.4**
	0.8nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**2.10**	**106**	Pn	**Pn**	**06 32 32.7**	**+0.5**
	0.3nm,0.2s,SNR=7.9						
EJON				Pg	**Pn**	**06 32 36.8**	**+4.5**
	0.4nm,0.1s,SNR=7.9						
EJON				Sn	**Sn**	**06 32 58.1**	**-0.1**
	0.4nm,0.1s,SNR=4.0						
EJON				Lg		06 33 05.2	
	3.8nm,0.2s,SNR=5.2						
EJON	**La Jonquera**	**2.10**	**106**	Pn	**Pn**	**06 32 32.7**	**+0.5**
	0.1nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.10**	**106**	Pg	**Pn**	**06 32 36.8**	**+4.6**
	0.4nm,0.1s,SNR=7.9						
EJON				Sn	**Sn**	**06 32 58.1**	**-0.1**
	0.4nm,0.1s,SNR=4.0						
CAF	**Calviac**	**2.33**	**36**	*e*Pn	**Pn**	**06 32 34.8**	**-0.6**
CAF				*e*Pg	**Pn**	**06 32 41.3**	**+5.9**
CAF				*e*Sn	**Sn**	**06 33 01.9**	**-2.0**
	8.6nm,0.2s						
CAF				*e*Sg	**Sn**	**06 33 11.8**	**+7.9**
	8.8nm,0.2s						
RJF	**Les Rejaudoux**	**2.46**	**23**	*e*Pn	**Pn**	**06 32 36.3**	**-1.0**
RJF				*e*Pg	**Pn**	**06 32 43.6**	**+6.3**
RJF				*e*Sg	**Sn**	**06 33 16.0**	**+8.8**
	6.1nm,0.2s						
ELAN	**Lanestosa**	**2.63**	**275**	Pg	**Pn**	**06 32 46.3**	**+6.5**
	0.2nm,0.2s,SNR=4.0						
ELAN	**Lanestosa**	**2.63**	**275**	Pg	**Pn**	**06 32 46.3**	**+6.5**
	0.2nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**2.73**	**190**	Pn	**Pn**	**06 32 41.4**	**+0.3**
EMOS				Pg	**Pn**	**06 32 47.5**	**+6.3**
EMOS				Sn	**Sn**	**06 33 12.9**	**-1.1**
EMOS				Lg		06 33 23.2	
EMOS	**Mosqueruela**	**2.73**	**190**	Pn	**Pn**	**06 32 41.4**	**+0.2**
	0.3nm,0.3s,SNR=4.0						
EMOS				Pg	**Pn**	**06 32 47.5**	**+6.3**
	0.2nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**06 33 12.9**	**-1.1**
	2.2nm,0.7s,SNR=4.0						
EMOS				Lg		06 33 21.3	
	1.8nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**2.73**	**190**	Pn	**Pn**	**06 32 41.4**	**+0.2**
	0.3nm,0.3s,SNR=4.0						
EMOS	**Mosqueruela**	**2.73**	**190**	Pg	**Pn**	**06 32 47.5**	**+6.3**
	0.2nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**06 33 12.9**	**-1.2**
	2.2nm,0.7s,SNR=4.0						
LASF	**Ste Croix**	**2.88**	**68**	*e*Pn	**Pn**	**06 32 41.7**	**-1.6**
LASF				*e*Pg	**Pn**	**06 32 50.8**	**+7.5**
LASF				*e*Sg	**Sn**	**06 33 28.4**	**+10**
	6.6nm,0.3s						
TCF	**Toulx Ste Croi**	**3.55**	**24**	*e*Pn	**Pn**	**06 32 51.2**	**-1.7**
TCF				*e*Sn	**Sn**	**06 33 30.9**	**-4.0**
TCF				*e*Sg	**Sn**	**06 33 50.1**	**+15**
	2.0nm,0.3s						
MFF	**Saint Martin d**	**3.56**	**357**	*e*Pn	**Pn**	**06 32 51.7**	**-1.3**
MFF				*e*Pg	**Pn**	**06 33 04.5**	**+12**
VIVF	**Saint-Julien-l**	**3.73**	**60**	*e*Pn	**Pn**	**06 32 53.8**	**-1.6**
VIVF				*e*Pg	**Pn**	**06 33 06.4**	**+11**
VIVF				*e*Sg	**Sn**	**06 33 54.2**	**+15**
	4.0nm,0.3s						
EARI	**Arriondas**	**3.93**	**275**	Pn	**Pn**	**06 32 58.3**	**0.0**
	0.2nm,0.1s,SNR=7.9						
EARI				Sn	**Sn**	**06 33 43.1**	**-1.4**
	1.4nm,0.5s,SNR=7.9						
EARI	**Arriondas**	**3.93**	**275**	Pn	**Pn**	**06 32 58.3**	**0.0**
	0.2nm,0.1s,SNR=7.9						
EARI				Sn	**Sn**	**06 33 43.1**	**-1.4**
	1.4nm,0.5s,SNR=7.9						
BGF	**Bois d'Agland**	**3.99**	**28**	*e*Sg	**Sn**	**06 34 04.3**	**+18**
	5.9nm,0.4s						
AVF	**Avril sur Loir**	**4.37**	**30**	*e*Sg	**Sn**	**06 34 16.0**	**+20**
	1.2nm,0.3s						
ESDC	**Sonseca Array**	**4.58**	**224**	Pn	**Pn**	**06 33 06.4**	**-1.2**
ESDC	**Sonseca Array**	**4.58**	**224**	Pn	**Pn**	**06 33 06.4**	**-1.1**
	0.2nm,0.2s,SNR=3.6						
ECAL	**Calabor**	**5.21**	**260**	Pn	**Pn**	**06 33 15.3**	**-1.2**
ECAL				Sn	**Sn**	**06 34 13.4**	**-3.6**
ECAL	**Calabor**	**5.21**	**260**	Pn	**Pn**	**06 33 15.3**	**-1.2**
	1.0nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**06 34 15.3**	**-1.6**
	1.0nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**5.21**	**260**	Pn	**Pn**	**06 33 15.3**	**-1.2**
	1.0nm,0.2s,SNR=7.9						
ECAL				Sn	**Sn**	**06 34 13.4**	**-3.6**
	2.1nm,0.5s,SNR=7.9						
GRR	**Gorron**	**5.38**	**353**	*e*Pn	**Pn**	**06 33 15.4**	**-3.5**
GRR				*e*Sn	**Sn**	**06 34 15.5**	**-5.7**
	6.3nm,0.6s						
FLN	**La Foliniere**	**5.73**	**356**	*e*Pn	**Pn**	**06 33 20.8**	**-2.9**

*CNRM **24** 06:34:28.7, 34.95N×3.95W, h1km, MD3.3*
*CSEM **24** 06:34:31.6±0.1, 34.88N×4.10W, h35km, MD3.3, Error ellipse: s-maj=3.2km s-min=2.2km az=106.0*
*NEIC **24** 06:34:32.4, 35.03N×4.06W, MG3.4(MDD), After MDD.*
*INMG **24** 06:34:34.3±1.0, 34.92N×4.04W, h31km, ML2.2, Error ellipse: s-maj=6.5km s-min=2.9km az=7.0*

MDD 24 06:34:28.3±0.3, 34.94N×3.97W, h11km±3km, mb3.7/2, Error ellipse: s-maj=3.2km s-min=2.5km az=98.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOU	**Touzarine**	**0.18**	**82**	P	Pg	06 34 31.5	-0.9
TOU				S	Sg	06 34 34.0	-1.1
MPAL	**Palemas**	**0.29**	**4**	P	Pg	06 34 34.0	-0.4
MPAL				S	Sg	06 34 38.0	-0.4
TZK	**Tazeka**	**0.87**	**192**	P	Pb	06 34 44.0	-0.9
TZK				S	Sb	06 34 57.5	+1.2
EMEL	**Melilla**	**0.90**	**66**	P	Pb	06 34 49.3	+3.7
	102nm,0.1s,SNR=7.6						
EMEL				S	Sb	06 35 03.2	+5.8
	220nm,0.2s,SNR=4.0						
EMLI	**Melilla**	**0.91**	**66**	P	Pb	06 34 49.3	+3.7
	102nm,0.1s,SNR=7.6						
EMLI				S	Sb	06 35 03.2	+5.7
	220nm,0.2s,SNR=4.0						
ZAI	**Zaio**	**1.00**	**88**	P	Pb	06 34 46.0	-1.3
ZAI				S	Sb	06 35 00.5	+0.2
EALB	**Alboran**	**1.26**	**37**	P	Pb	06 34 55.0	+3.4
EALB				S	Sb	06 35 11.4	+3.8
EALB	**Alboran**	**1.26**	**37**	P	Pb	06 34 53.9	+2.3
	12nm,0.2s,SNR=4.0						
EALB				S	Sb	06 35 08.8	+1.2
	16nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.26**	**37**	P	Pb	06 34 55.0	+3.4
	12nm,0.2s,SNR=4.0						
EALB				S	Sb	06 35 11.4	+3.8
	16nm,0.2s,SNR=7.9						
DKH	**Dar Kharkhour**	**1.27**	**296**	*i* P	Pb	06 34 52.0	+0.3
DKH				*i* S	Sb	06 35 08.0	+0.1
EMIJ	**Mijas**	**1.75**	**338**	P	Pn	06 34 59.6	+0.6
EMIJ				S	Sn	06 35 21.1	-0.2
EMIJ	**Mijas**	**1.75**	**338**	P	Pn	06 34 59.6	+0.6
	4.3nm,0.3s,SNR=10						
EMIJ				S	Sn	06 35 21.1	-0.2
	6.2nm,0.2s,SNR=6.0						
EGUA	**Guajares**	**1.92**	**10**	P	Pn	06 35 04.1	+2.7
	0.8nm,0.1s,SNR=4.0						
EGUA				S	Sn	06 35 27.9	+2.3
	1.5nm,0.2s,SNR=7.9						
CZD	**Col de Zad**	**2.10**	**205**	*i* P	Pn	06 35 03.0	-0.9
CZD				*i* S	Sn	06 35 29.0	-1.3
EBER	**Berja**	**2.14**	**24**	P	Pn	06 35 07.4	+2.9
EBER				S	Sn	06 35 33.3	+2.0
EBER	**Berja**	**2.14**	**24**	P	Pn	06 35 07.1	+2.5
	0.7nm,0.2s,SNR=4.0						
EBER				S	Sn	06 35 31.9	+0.6
	18nm,0.4s,SNR=4.8						
EBER	**Berja**	**2.14**	**24**	P	Pn	06 35 07.4	+2.9
	0.7nm,0.2s,SNR=7.9						
EBER				S	Sn	06 35 33.3	+2.0
	18nm,0.4s,SNR=4.8						
ZFT	**Errachidia**	**2.91**	**186**	*eP*	Pn	06 35 16.0	+0.4
ZFT				*eS*	Sn	06 35 50.0	-0.9
KIB	**El Ksiba**	**2.92**	**217**	*eP*	Pn	06 35 15.0	-0.7
KIB				*eS*	Sn	06 35 49.0	-2.1
EQES	**Quesada**	**2.95**	**14**	P	Pn	06 35 19.6	+3.5
	1.8nm,0.1s,SNR=8.3						
EQES				S	Sn	06 35 55.3	+3.5
	3.5nm,0.5s,SNR=7.9						
EQES	**Quesada**	**2.95**	**14**	P	Pn	06 35 19.6	+3.5
	1.8nm,0.1s,SNR=8.3						
EQES				S	Sn	06 35 55.3	+3.5
	3.5nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**3.26**	**352**	P	Pn	06 35 22.5	+2.0
	0.6nm,0.2s,SNR=7.7						
EADA				S	Sn	06 36 00.3	+0.6
	1.6nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.26**	**352**	P	Pn	06 35 22.5	+2.0
	0.6nm,0.2s,SNR=7.7						
EADA				S	Sn	06 36 00.3	+0.6
	1.6nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**3.34**	**340**	P	Pn	06 35 24.0	+2.4
	0.3nm,0.2s,SNR=4.7						
ECAB				S	Sn	06 36 00.5	-1.2
	1.5nm,0.2s,SNR=6.7						
ECAB	**El Cabril**	**3.34**	**340**	P	Pn	06 35 24.0	+2.4
	0.3nm,0.2s,SNR=4.7						
ECAB				S	Sn	06 36 00.5	-1.2
	1.5nm,0.2s,SNR=6.7						
EMIN	**Mina Concepcio**	**3.57**	**323**	P	Pn	06 35 25.9	+1.1
EMIN				S	Sn	06 36 06.2	-1.2
EMIN	**Mina Concepcio**	**3.57**	**323**	P	Pn	06 35 25.4	+0.5
	0.5nm,0.2s,SNR=7.8						
EMIN				S	Sn	06 36 06.2	-1.2
	0.7nm,0.2s,SNR=5.8						
EMIN	**Mina Concepcio**	**3.57**	**323**	P	Pn	06 35 25.9	+1.0
	0.5nm,0.2s,SNR=7.8						
EMIN				S	Sn	06 36 06.2	-1.3
	0.7nm,0.2s,SNR=5.8						
EMUR	**La Murta**	**3.64**	**36**	S	Sn	06 36 07.9	-1.4
	0.8nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.64**	**36**	S	Sn	06 36 07.9	-1.4
	0.8nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.84**	**313**	P	Pn	06 35 29.9	+1.1
EGRO				S	Sn	06 36 12.0	-2.5
EGRO	**El Granado**	**3.84**	**313**	P	Pn	06 35 29.2	+0.5
	0.9nm,0.2s,SNR=4.0						
EGRO				S	Sn	06 36 12.0	-2.5

0.9nm,0.9s,mb3.5,baz=225,slow=5.3,SNR=7.9
ILAR Eielson Array 88.92 13 P **P 06 48 32.8 -0.9**
0.8nm,0.7s,mb3.6,baz=225,slow=5.6,SNR=6.2
BW06 Boulder Array 89.82 44 P **P 06 48 38.2 -0.2**
0.8nm,0.6s,mb3.7
PDAR Pinedale Array 89.82 44 P **P 06 48 38.5 +0.1**
1.0nm,0.6s,mb3.8,baz=201,slow=2.2,SNR=12
ARCES ARCESS Array B 129.20 349 PKP PKPdf 06 54 42.7 +0.8
1.7nm,0.7s,slow=3.6,SNR=6.0
AKASG Malin Array Be 143.00 330 PKP PKPdf 06 55 07.0 -0.5
3.8nm,0.5s,baz=44,slow=4.4,SNR=21
BRTR Keskin Array B 146.54 311 PKPbc PKPbc 06 55 18.8 +2.9
1.4nm,0.5s,baz=133,slow=4.3,SNR=7.2
CLL Collm 148.30 346 *i* PKP1 PKPdf 06 55 22.8 +6.5
CLL *i* PKP2 PKPab 06 55 28.2 -0.5
KHC Kasperske Hory 150.17 343 *e*P PKPdf 06 55 27.5 +8.2
KHC Kasperske Hory 150.17 343⇑ *e*PKPB PKPdf 06 55 27.5 +8.2
GERES GERESS Array B 150.40 343 PKPbc PKPdf 06 55 27.7 +8.0
1.3nm,0.8s,baz=45,slow=1.9,SNR=8.8

*BGR **24** 07:24:34.0±1.6,51.12N×6.06E,h10km,ML2.0/3, Error ellipse: s-maj=16.7km s-min=8.9km az=98.0*
*BNS **24** 07:24:34.7±0.6,51.17N×6.04E,h8km±3km,ML1.8*
LDG 24 07:24:33.7±0.2,51.05N×6.04E,h2km,Md2.5/2,Ml2.3/9, Error ellipse: s-maj=3.4km s-min=2.7km az=39.0, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KLL	**Kalltalsperre**	**0.43**	**157**	*e*Pg		Pg	07 24 44.3	+1.9
KLL				*e*Sg		Sg	07 24 52.6	+4.4
	24nm,0.1s							
STB	**Steinbach**	**0.68**	**131**	*e*Pg		Pg	07 24 49.2	+1.9
STB				*i* Sg		Sg	07 24 59.1	+2.8
	19nm,0.5s							
BNS	**Bensberg**	**0.72**	**96**	*e*Pg		Pg	07 24 49.0	+0.9
BNS				*i* Sg		Sg	07 24 59.2	+1.5
	61nm,0.2s							
BUG	**Bochum--Univer**	**0.87**	**62**	*e*Pg		Pg	07 24 50.0	-1.0
	SNR=5.4							
BUG				*e*Sg		Sg	07 25 00.8	-1.7
	SNR=8.5							
BGG	**Burgeitz**	**1.18**	**135**	*e*Pg		Pg	07 24 57.0	-0.2
BGG				*e*Sg		Sg	07 25 13.3	+0.4
	16nm,0.1s							
GIVF	**Givet**	**1.22**	**220**	*e*Pg		Pg	07 24 56.6	-1.5
GIVF				*e*Sg		Sg	07 25 12.4	-2.0
	13nm,0.3s							
BAIF	**Baives**	**1.53**	**231**	*e*Pn		Pn	07 25 00.1	-2.1
BAIF				*e*Pg		Pg	07 25 01.8	-2.5
BAIF				*e*Sg		Sg	07 25 21.5	-3.2
	4.5nm,0.3s							
TNS	**Taunus Mts**	**1.74**	**117**	*e*Pg		Pg	07 25 07.3	-1.2
	SNR=1.6							
TNS				*e*Sg		Sg	07 25 30.2	-1.4
	SNR=3.0							
RFYF	**Reffroy**	**2.45**	**189**	*e*Pn		Pn	07 25 12.7	-2.6
MEZF	**Maizieres J'vi**	**2.63**	**195**	*e*Sg		Sg	07 25 56.6	-4.5
	2.7nm,0.3s							
CDF	**Champ du Feu**	**2.76**	**163**	*e*Sg		Sg	07 26 00.5	-4.9
	0.5nm,0.2s							
CLZ	**Clausthal**	**2.82**	**72**	*e*Pg		Pg	07 25 26.1	-4.0
	SNR=1.5							
CLZ				*e*Sg		Sg	07 26 02.2	-5.6
	SNR=2.7							
SFTF	**Sexfontaines**	**2.92**	**193**	*e*Pn		Pn	07 25 19.3	-2.7
SFTF				*e*Sg		Sg	07 26 05.9	-4.9
	6.8nm,0.4s							
HAU	**Haudompre**	**3.05**	**176**	*e*Pn		Pn	07 25 20.7	-3.2
HAU				*e*Sg		Sg	07 26 10.3	-5.0
	3.2nm,0.3s							
HINF	**Hinteralfeld**	**3.28**	**170**	*e*Pn		Pn	07 25 24.2	-2.9
HINF				*e*Sg		Sg	07 26 16.6	-6.2
	1.0nm,0.3s							
LOR	**Lormes**	**4.04**	**202**	*e*Pn		Pn	07 25 35.8	-2.2
LOR				*e*Sg		Sg	07 26 39.7	-8.6
	2.0nm,0.4s							
SSF	**Saint Saulge**	**4.32**	**204**	*e*Pn		Pn	07 25 39.3	-2.7
FLN	**La Foliniere**	**4.80**	**244**	*e*Pn		Pn	07 25 44.8	-3.9
BGF	**Bois d'Agland**	**4.96**	**206**	*e*Pn		Pn	07 25 47.1	-4.0
GRR	**Gorron**	**5.21**	**242**	*e*Pn		Pn	07 25 50.7	-3.8
GRR				*e*Sn		Sn	07 26 47.2	-8.8

*NEIC **24** 07:44:07.3±1.9,25.31S×179.50E,h526km±22km, mb4.5/6, Error ellipse: s-maj=25.1km s-min=15.7km az=192.0*
*IDC **24** 07:44:07.2±4.0,25.16S×179.52E,h522km±48km, mb3.4/4, mb1 3.7/6,mb1mx3.3/14, mbtmp4.4/6, Error ellipse: s-maj=49.5km s-min=25.2km az=170.0*
ISC 24 07:44:07.0±2.7,25.2S±0.1×179.4E±0.2,h528km±34km, n18,σ0°84/16,mb4.2/8,1C-4D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.29**	**282**	P		**P**	**07 46 49.8**	**+0.8**
	0.9nm,0.3s,baz=107,slow=18,SNR=9.3							
URZ	**Urewera**	**13.16**	**188**	P		**P**	**07 46 56.9**	**-1.0**
	2.9nm,0.3s,baz=25,slow=2.4,SNR=14							
URZ				S		**S**	**07 49 16.4**	**+0.8**
	0.6nm,0.3s,baz=81,slow=21,SNR=6.6							
HNR	**Honiara**	**24.26**	**307**	S		**S**	**07 52 21.4**	**-4.4**
	75nm,0.7s,baz=350,slow=20,SNR=2.2							
ARMA	**Armidale**	**25.08**	**252**⇑	*i*P		**P**	**07 48 48.9**	**-2.2**
CTA	**Charters Tower**	**30.97**	**273**⇓	*i*P		**P**	**07 49 43.0**	**+0.6**
	12nm,0.4s,mb4.8							
CTAO	**Charters Tower**	**30.97**	**273**	*e*P		**P**	**07 49 43.0**	**+0.7**
	15nm,0.5s,mb4.8							
STKA	**Stephens Creek**	**33.75**	**250**⇓	*i*P		**P**	**07 50 06.9**	**+1.1**
	3.2nm,0.4s,mb4.2							
STKA	**Stephens Creek**	**33.75**	**250**	P		**P**	**07 50 06.9**	**+1.1**
	3.1nm,0.4s,mb4.2,baz=98,slow=13,SNR=18							
WB2	**Warramunga Arr**	**41.79**	**268**⇓	*i*P		**P**	**07 51 11.2**	**-0.3**
WRAB	**Tennant Creek**	**41.79**	**268**	*e*P		**P**	**07 51 10.9**	**-0.7**
	8.0nm,0.5s,mb4.5							
WRA	**Warramunga Arr**	**41.80**	**268**	P		**P**	**07 51 11.4**	**-0.2**
	3.6nm,0.3s,mb4.4,baz=99,slow=6.8,SNR=71							
KAKA	**Kakadu**	**45.91**	**277**⇓	*i*P		**P**	**07 51 44.3**	**+0.5**
	11nm,1.1s,mb4.3							
FITZ	**Fitzroy Crossi**	**50.21**	**267**	*e*P		**P**	**07 52 16.1**	**0.0**
	3.7nm,0.5s,mb4.1							
NVAR	**Mina Array Bea**	**86.06**	**44**	P		**P**	**07 55 52.3**	**-0.2**
	0.5nm,0.6s,mb3.3,baz=225,slow=7.7,SNR=2.3							
TXAR	**Lajitas Array**	**91.57**	**58**	P		**P**	**07 56 18.9**	**+0.5**
	0.6nm,0.8s,mb3.7,baz=225,slow=6.4,SNR=6.9							
ARCES	**ARCESS Array B 133.05 348**			PKP		PKPdf	08 02 21.5	0.0
	1.6nm,0.7s,baz=72,slow=2.9,SNR=3.9							
NB2	**NORSAR Subarra 143.28 350**			PKPabc		PKPdf	08 02 38.6	-1.3
	0.5nm,0.5s,baz=15,slow=3.1							
NOA	**NORSAR Array B 143.28 350**			PKP		PKPdf	08 02 38.8	-1.1
	1.1nm,0.7s,baz=48,slow=2.9,SNR=3.8							

*IDC **24** 07:50:36.1±0.5,15.85S×173.57W,mb4.4/14,mb1 4.6/15, mb1mx4.5/21,mbtmp4.4/15,MS3.9/12,Ms1 3.9/12, ms1mx3.8/19, Error ellipse: s-maj=30.0km s-min=14.0km az=125.0*
*NEIC **24** 07:50:37.5±0.2,15.82S×173.66W,h10km,mb4.7/18, MS4.2/4, Error ellipse: s-maj=10.1km s-min=4.8km az=130.0*
*BJI **24** 07:50:37.5,15.80S×173.70W,h10km,mB5.2,mb4.9, Ms4.9,Ms2.4*
*MOS **24** 07:50:40.2±1.2,15.96S×173.20W,h33km,mb4.9/9, Error ellipse: s-maj=17.2km s-min=11.2km az=72.7*
ISC 24 07:50:39.7±0.3,15.90S±0.07×173.58W±0.07,h33km, n162,σ0°78/89,mb4.5/36,MS4.0/14,8C-4D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**2.64**	**42**	Pn		**Pn**	**07 51 18.8**	**-2.2**
	284nm,0.3s,baz=54,slow=2.1,SNR=129							
AFI				Sn		**Sn**	**07 51 44.7**	**-7.5**
	1μm,0.3s,baz=83,slow=19,SNR=16							
AFI				LR		LR	07 52 18.8	
	comp=Z,1μm,20.6s,baz=213,slow=40							
AFI	**Afiamalu**	**2.64**	**42**⇑	*e*Pn		**Pn**	**07 51 18.4**	**-2.6**
AFI				*e*Sn		**Sn**	**07 51 45.4**	**-6.8**
RAR	**Rarotonga**	**14.12**	**114**	*e*P		**P**	**07 53 52.8**	**-6.8**
DZM	**Mont Dzumac**	**19.85**	**249**	LR		LR	08 00 11.2	
	comp=Z,127nm,18.9s,baz=43,slow=29							
PPT	**Papeete**	**23.05**	**98**	*e*LQ			07 59 54.9	
	293nm,25.2s							
PPT	**Papeete**	**23.05**	**98**	LR		LR	08 02 17.0	
	comp=Z,187nm,19.7s,MS3.5,baz=309,slow=30							
URZ	**Urewera**	**23.74**	**198**	P		**P**	**07 55 51.3**	**+1.5**
	4.2nm,0.4s,mb4.2,baz=287,slow=4.9,SNR=5.6							
URZ				S		**S**	**08 00 03.7**	**+4.2**
	5.3nm,0.9s,baz=35,slow=19,SNR=1.7							
URZ				LR		LR	08 04 21.8	
	comp=Z,162nm,18.7s,MS3.5,baz=353,slow=35							
TBI	**Tubuai**	**23.88**	**112**	*e*LQ			08 00 19.4	
	346nm,26.8s							
TBI	**Tubuai**	**23.88**	**112**	*e*P		**P**	**07 55 46.0**	**-5.3**
TBI				*e*LR		LR	08 01 03.7	
	642nm,29.8s,baz=285							
RPZ	**Rata Peaks**	**30.66**	**202**	P		**P**	**07 56 52.7**	**-0.6**
	16nm,1.1s,mb4.8,baz=0.3,slow=14,SNR=3.5							
TAOE	**Nuku Hiva Isla**	**33.37**	**82**	*e*LR		LR	08 05 26.1	
	940nm,28.7s							
RKT	**Rikitea**	**37.01**	**107**	*e*LQ			08 06 11.9	
	464nm,40.5s							
RKT	**Rikitea**	**37.01**	**107**	*e*S		**S**	**08 03 28.6**	**-2.6**
	136nm,25.2s							
RKT				*e*LR		LR	08 07 11.1	
	379nm,27.8s,baz=287							
STKA	**Stephens Creek**	**43.64**	**240**	P		**P**	**07 58 42.0**	**-1.1**
	3.7nm,0.8s,mb4.2,baz=86,slow=10,SNR=6.6							
STKA				LR		LR	08 15 17.5	
	comp=Z,180nm,21.9s,MS3.9,baz=24,slow=34							
STKA	**Stephens Creek**	**43.64**	**240**	*e*P		**P**	**07 58 42.1**	**-0.9**
WB2	**Warramunga Arr**	**49.55**	**257**	*e*P		**P**	**07 59 28.4**	**-1.3**
WRAB	**Tennant Creek**	**49.55**	**257**	*e*P		**P**	**07 59 28.2**	**-1.5**
WRA	**Warramunga Arr**	**49.56**	**257**	P		**P**	**07 59 28.7**	**-1.2**
	1.6nm,0.4s,mb4.4,baz=92,slow=7.1,SNR=31							
SBA	**Scott Base**	**62.74**	**185**	*e*P		**P**	**08 01 03.2**	**-0.3**
SBA				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.8							
SBA	**Scott Base**	**62.74**	**185**	*e*P		**P**	**08 01 03.2**	**-0.3**
	comp=Z,7.9nm,1.1s,mb4.8							
VNDA	**Vanda**	**62.87**	**186**	*e*P		**P**	**08 01 04.0**	**-0.4**
VNDA				pmax		pmax		
	comp=Z,18nm,1.8s							
VNDA	**Vanda**	**62.87**	**186**	P		**P**	**08 01 04.1**	**-0.2**
	comp=Z,2.4nm,0.9s,mb4.3,baz=4.0,slow=6.4,SNR=12							
VNDA	**Vanda**	**62.87**	**186**	*e*P		**P**	**08 01 04.0**	**-0.4**
	comp=Z,18nm,1.8s,mb4.9							
MJAR	**Matsushiro Arr**	**69.20**	**320**	LR		LR	08 26 27.4	
	comp=Z,124nm,21.4s,MS4.1,baz=155,slow=31							
CASY	**Casey**	**69.88**	**205**	*e*P		**P**	**08 01 48.0**	**-0.9**
	comp=Z,3.1nm,1.0s,mb4.2							
ASAJ	**Asahikawa**	**71.87**	**328**	P		**P**	**08 02 02.2**	**+1.0**
	comp=Z,3.7nm,0.7s,mb4.4,baz=88,slow=17,SNR=5.0							
PTRM	**Twissleman Ran**	**71.97**	**43**	*e*P		**P**	**08 02 02.2**	**+0.3**
YSS	**Yuzh-Sakhalins**	**73.83**	**330**	*e*P		**P**	**08 02 12.5**	**-0.3**
MTUM	**Tungsten Hills**	**74.03**	**43**	*e*P		**P**	**08 02 14.4**	**+0.2**
YBH	**Yreka Blue Hor**	**74.10**	**37**	P		**P**	**08 02 14.8**	**+0.3**
	comp=Z,10nm,0.9s,mb4.8,baz=186,slow=2.7,SNR=9.3							
NVAR	**Mina Array Bea**	**74.81**	**42**	P		**P**	**08 02 18.8**	**+0.1**
	comp=Z,3.8nm,0.8s,mb4.4,baz=211,slow=7.5,SNR=18							
LDFC	**Landfair**	**75.11**	**46**	*e*P		**P**	**08 02 20.8**	**+0.3**
NEN	**Nelson**	**75.60**	**46**	*e*P		**P**	**08 02 23.0**	**-0.2**
NEN				*e*			08 02 36.5	
ARUT	**Antelope Range**	**77.68**	**45**	*e*P		**P**	**08 02 35.3**	**+0.4**
ELK	**Elko**	**78.07**	**41**	*e*P		**P**	**08 02 36.8**	**-0.2**
	comp=Z,7.2nm,1.3s,mb4.4							
SSE	**Sheshan**	**78.11**	**307**	*e*P		**P**	**08 02 37.5**	**+0.1**
SSE				AMB		AMB		
	comp=Z,13nm,0.8s,mb4.9							
SSE				AMB		AMB		
	comp=Z,77nm,5.7s							
SSE	**Sheshan**	**78.11**	**307**	*e*P		**P**	**08 02 37.5**	**+0.1**
	comp=Z,13nm,0.8s,mb4.9							
SSE				LR		LR		
	comp=Z,50nm,29.4s,MS3.7							
MSU	**Marysvale**	**78.90**	**45**	*e*P		**P**	**08 02 42.7**	**+1.1**
BMO	**Blue Mountains**	**79.13**	**37**	*e*P		**P**	**08 02 41.8**	**-0.9**
	comp=Z,6.6nm,1.4s,mb4.4							
MDJ	**Mudanjiang**	**79.31**	**323**	P		**P**	**08 02 44.8**	**+1.1**
MDJ				AMB		AMB		
	comp=Z,4.0nm,1.3s,mb4.2							
MDJ				AMB		AMB		
	comp=Z,46nm,5.0s							
DIV	**Divide**	**79.92**	**13**	*e*P		**P**	**08 02 46.2**	**-0.4**
	comp=Z,23nm,0.8s,mb5.2							
TMUT	**Trail Mountain**	**79.95**	**44**	*e*P		**P**	**08 02 48.0**	**+0.7**
SRU	**San Rafael**	**80.32**	**45**	*e*P		**P**	**08 02 49.4**	**+0.2**
NJ2	**Nanjing**	**80.32**	**307**	*e*P		**P**	**08 02 50.3**	**+0.9**
NJ2				SKS		SKS	08 12 58.0	-1.7
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,350nm,10.1s							
NJ2				LR		LR		
	comp=Z,320nm,30.6s,MS4.5							
MA2	**Magadan**	**80.58**	**343**	*e*P		**P**	**08 02 50.0**	**-0.2**
MA2				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.2							
PV10	**Paradox Valley**	**80.98**	**46**	*e*P		**P**	**08 02 52.7**	**-0.1**
TXAR	**Lajitas Array**	**81.03**	**56**	P		**P**	**08 02 53.2**	**0.0**
	comp=Z,1.7nm,1.0s,mb3.9,baz=219,slow=8.0,SNR=12							
TXAR				LR		LR	08 32 44.5	
	comp=Z,59nm,18.5s,MS4.0,baz=245,slow=31							
TXAR	**Lajitas Array**	**81.03**	**56**	P		**P**	**08 02 53.2**	**0.0**
TXAR				LR		LR	08 32 44.5	
PV01	**Paradox Valley**	**81.19**	**46**	*e*P		**P**	**08 02 53.8**	**0.0**
ANMO	**Albuquerque**	**81.25**	**50**	*e*P		**P**	**08 02 53.6**	**-0.7**
ANMO				pmax		pmax		
	comp=Z,7.0nm,1.3s							
ANMO	**Albuquerque**	**81.25**	**50**	*e*P		**P**	**08 02 53.6**	**-0.7**
	comp=Z,6.9nm,1.3s,mb4.4							
CN2	**Changchun**	**81.35**	**320**	*e*P		**P**	**08 02 56.3**	**+1.7**
MCK	**McKinley**	**81.64**	**11**	*e*P		**P**	**08 02 54.8**	**-0.9**
MCK				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
MCK	**McKinley**	**81.64**	**11**	*e*P		**P**	**08 02 54.8**	**-0.9**
	comp=Z,6.6nm,0.8s,mb4.6							
GDL2	**Guadalupe Moun**	**81.66**	**53**	*e*P		**P**	**08 02 56.7**	**+0.3**
MCMT	**McKenzie Canyo**	**81.75**	**39**	*e*P		**P**	**08 02 57.1**	**+0.5**
TPAW	**Teton Pass**	**82.23**	**41**	*e*P		**P**	**08 02 59.6**	**+0.5**
	comp=Z,8.5nm,1.1s,mb4.6							
SNOW	**Snow King Moun**	**82.34**	**41**	*e*P		**P**	**08 03 00.0**	**+0.3**
	comp=Z,8.0nm,0.9s,mb4.7							
IMW	**Indian Meadow**	**82.44**	**40**	*e*P		**P**	**08 03 00.6**	**+0.4**
	comp=Z,11nm,1.1s,mb4.7							
MOOW	**Moose Ponds**	**82.49**	**41**	*e*P		**P**	**08 03 00.3**	**-0.1**
	comp=Z,4.1nm,1.1s,mb4.3							
LOHW	**Long Hollow**	**82.51**	**41**	*e*P		**P**	**08 02 60.0**	**-0.6**
	comp=Z,7.6nm,1.2s,mb4.6							
QLMT	**Earthquake Lak**	**82.61**	**39**	*e*P		**P**	**08 03 02.0**	**+0.9**
PDAR	**Pinedale Array**	**82.75**	**42**	P		**P**	**08 03 01.8**	**0.0**
	comp=Z,4.6nm,0.8s,mb4.5,baz=224,slow=2.7,SNR=42							
PDAR				LR		LR	08 33 27.0	
	comp=Z,68nm,18.4s,MS4.0,baz=253,slow=31							
SMCO	**Snowmass**	**82.78**	**46**	*e*P		**P**	**08 03 02.3**	**+0.2**
BOZ	**Bozeman (W)**	**82.91**	**39**	*e*P		**P**	**08 03 02.7**	**+0.1**
BOZ				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.5							
BOZ	**Bozeman (W)**	**82.91**	**39**	*e*P		**P**	**08 03 02.7**	**+0.2**
	comp=Z,6.4nm,1.1s,mb4.6							
SEY	**Seymchan**	**82.95**	**345**⇓	*i*P		**P**	**08 03 02.3**	**-0.1**
ILAR	**Eielson Array**	**82.97**	**11**	P		**P**	**08 03 01.9**	**-0.5**
	comp=Z,2.6nm,0.7s,mb4.3,baz=221,slow=6.2,SNR=32							
SDCO	**Great Sand Dun**	**83.18**	**48**	*e*P		**P**	**08 03 04.2**	**+0.1**
	comp=Z,6.8nm,1.1s,mb4.6							
GCMT	**Greycliff**	**84.17**	**39**	*e*P		**P**	**08 03 09.4**	**+0.4**
BILL	**Bilibino**	**84.98**	**353**⇓	*i*P		**P**	**08 03 12.4**	**-0.1**
BILL				pmax		pmax		
	comp=Z,2.0nm,0.3s,mb4.7							
RSSD	**Black Hills**	**86.94**	**43**	*e*P		**P**	**08 03 22.0**	**-0.7**
RSSD				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.5							
RSSD	**Black Hills**	**86.94**	**43**	*e*P		**P**	**08 03 22.0**	**-0.6**
	comp=Z,1.6nm,0.6s,mb4.4							
MAW	**Mawson**	**87.27**	**199**	P		**P**	**08 03 23.8**	**+0.1**
	comp=Z,1.1nm,0.4s,mb4.5,baz=141,slow=3.8,SNR=5.9							
INK	**Inuvik**	**88.79**	**14**	P		**P**	**08 03 29.8**	**-1.2**
	comp=Z,0.8nm,0.6s,mb4.2,baz=229,slow=3.0,SNR=3.2							
HHC	**Hu-ho-hao-te**	**89.23**	**313**	*e*P		**P**	**08 03 38.5**	**+4.8**
HHC				AP		pP	08 03 43.1	-1.2
HHC				XP		sP	08 03 45.9	-1.8
HHC				AMB		AMB		
	comp=Z,13nm,1.3s,mb5.1							
HHC				AMB		AMB		
	comp=Z,102nm,9.6s							
HHC				LR		LR		
	comp=N,143nm,15.6s,MS4.7							
HHC				LR		LR		
	comp=E,138nm,14.4s,MS4.7							
HHC				LR		LR		
	comp=Z,116nm,16.8s,MS4.4							
PLCA	**Paso Flores**	**89.31**	**132**	LR		LR	08 33 30.0	
	comp=Z,138nm,20.9s,MS4.2,baz=71,slow=29							
YKA	**Yellowknife Ar**	**90.62**	**23**	P		**P**	**08 03 39.7**	**0.0**
	comp=Z,1.3nm,0.9s,mb4.2,baz=234,slow=4.2,SNR=6.3							
YKA				LR		LR	08 38 29.2	
	comp=Z,50nm,18.2s,MS4.0,baz=205,slow=32							
YKA	**Yellowknife Ar**	**90.62**	**23**	P		**P**	**08 03 39.7**	**0.0**
YKA				LR		LR	08 38 29.2	
KMI	**Kunming**	**91.08**	**296**	P		**P**	**08 03 43.1**	**+0.3**
KMI				AP		pP	08 03 46.8	-6.6
KMI				XP		sP	08 03 48.8	-8.0
KMI				AMB		AMB		
	comp=Z,6.0nm,0.8s,mb5.0							
KMI				LR		LR		
	comp=Z,65nm,18.1s,MS4.1							
KMI	**Kunming**	**91.08**	**296**	P		**P**	**08 03 43.1**	**+0.3**
KMI				*SP		sP	08 03 48.7	-8.1
KMI				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb5.0							
KMI				MLR		MLR		
	comp=Z,70nm,18.1s,MS4.1							
KMI	**Kunming**	**91.08**	**296**	P		**P**	**08 03 43.1**	**+0.3**
	comp=Z,6.0nm,0.8s,mb5.0							
KMI				pP		pP	08 03 46.7	-6.7
KMI				sP		sP	08 03 48.7	-8.1
KMI				LR		LR		
	comp=Z,70nm,18.1s,MS4.1							
VNA3	**Neumayer Olymp**	**92.38**	**175**	*e*		**P**	**08 03 49.0**	**+1.3**
VNA3	**Neumayer Olymp**	**92.38**	**175**	*e*		**P**	**08 04 03.1**	**+15**
VNA3	**Neumayer Olymp**	**92.38**	**175**⇑	*i*P		**P**	**08 03 48.1**	**+0.4**
VNA3				*e*			08 03 49.0	
VNA3				*e*			08 04 03.1	
SNAA	**Sanae**	**92.42**	**177**	*e*		**P**	**08 03 48.9**	**+1.0**
SNAA	**Sanae**	**92.42**	**177**⇑	*i*P		**P**	**08 03 48.0**	**+0.1**
SNAA				*e*			08 04 02.9	
SNAA	**Sanae**	**92.42**	**177**⇑	*i*P		**P**	**08 03 48.0**	**+0.1**
SNAA				*e*			08 03 48.9	
SNAA				*e*			08 04 02.9	
VNA2	**Neumayer--Watz**	**92.87**	**175**	*e*		**P**	**08 03 51.8**	**+1.9**
VNA2	**Neumayer--Watz**	**92.87**	**175**	*e*		**P**	**08 04 05.9**	**+16**
VNA2	**Neumayer--Watz**	**92.87**	**175**	P		**P**	**08 03 50.6**	**+0.7**
VNA2				*e*			08 03 51.8	
VNA2				*e*			08 04 05.9	
VNA1	**Neumayer--Stat**	**93.07**	**175**	*e*		**P**	**08 03 52.8**	**+1.9**
VNA1	**Neumayer--Stat**	**93.07**	**175**	*e*		**P**	**08 04 08.2**	**+17**
VNA1	**Neumayer--Stat**	**93.07**	**175**⇑	*i*P		**P**	**08 03 51.9**	**+1.0**
VNA1				*e*			08 03 52.8	
VNA1				*e*			08 04 08.2	
ULM	**Lac du Bonnet**	**94.43**	**39**	LR		LR	08 39 01.3	
	comp=Z,74nm,18.6s,MS4.2,baz=312,slow=31							
SONM	**Songino Array**	**95.10**	**318**	LR		LR	08 41 10.6	
	comp=Z,56nm,20.2s,MS4.0,baz=252,slow=32							
MKAR	**Makanchi Array**	**111.05**	**314**	*i* PKIKP		PKPdf	08 09 10.5	+0.8
ARU	**Arti**	**123.67**	**328**	*i* PKIKP		PKPdf	08 09 34.1	+0.1
ARU				*e*			08 11 17.5	
ARU				*e*			08 16 36.2	
ARCES	**ARCESS Array B 125.08 352**			PKP		PKPdf	08 09 37.1	+0.7
	comp=Z,5.2nm,0.8s,baz=31,slow=1.5,SNR=10							
FINES	**FINESS Array B 132.39 347**			PKP		PKPdf	08 09 51.5	+1.0
	comp=Z,4.4nm,1.0s,baz=90,slow=3.8,SNR=5.2							
OBN	**Obninsk**	**134.50**	**336**	*i* PKIKP		PKPdf	08 09 56.8	+2.2
OBN				pmax		pmax		
	comp=Z,5.0nm,0.9s							
KIV	**Kislovodsk**	**138.47**	**320**	*i* PKIKP		PKPdf	08 10 04.9	+2.7
AKASG	**Malin Array Be**	**140.73**	**337**	*i* PKIKP		PKPdf	08 10 10.1	+4.0
MALT	**Malatya**	**144.09**	**315**	*e*PKIKP		PKPdf	08 10 12.9	+0.6
OJC	**Ojcow**	**144.09**	**345**	*e*PKP		PKPdf	08 10 11.0	-0.9
CLL	**Collm**	**144.28**	**353**	*e*PKIKP		PKPdf	08 10 12.0	-0.2
STHS	**Stebnicka Huta**	**144.45**	**343**	*e*PKP		PKPdf	08 10 13.4	+0.9
KOLS	**Kolonicke sedl**	**144.59**	**342**	*e*PKP		PKPdf	08 10 13.3	+0.5
KOLS				*e*			08 10 19.0	
UPC	**Upice**	**144.62**	**349**	*e*PKP		PKPdf	08 10 13.4	+0.6
NIE	**Ni

comp=Z,85nm,22.5s

IDC ***24*** *09:07:47.5±4.2,15.71N×92.72E,mb3.7/6,mb1 3.9/6, mb1mx3.7/18,mbtmp3.7/6,Error ellipse: s-maj=97.3km s-min=47.0km az=161.0*

ISC 24 09:07:55.5±1.3,16.5N±0.1×92.6E±0.2,h33km,n13, σ0:64/15,mb3.8/6,Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BDT	**Bhumibol Dam**	**6.21**	**82**	P	**P**		**09 09 22.0**	**-5.2**
	18nm,0.6s							
SHL	**Shillong**	**9.06**	**356**	*e*P	**P**		**09 10 07.0**	**+0.1**
SHL				*e*S	**S**		**09 11 48.0**	**-0.8**
PKI	**Pulchoki**	**12.87**	**330**	*e*P	**P**		**09 10 59.1**	**+0.3**
PKI				*e*S	**S**		**09 13 17.1**	**-4.7**
DMN	**Daman**	**13.04**	**329**	*e*P	**P**		**09 11 01.1**	**-0.1**
	34nm,0.8s							
KKN	**Kakani**	**13.11**	**330**	*e*P	**P**		**09 11 02.5**	**+0.5**
GKN	**Gorkha**	**13.60**	**329**	*e*P	**P**		**09 11 08.9**	**+0.4**
	17nm,0.5s							
KOLN	**Koldanda**	**13.96**	**325**	*e*P	**P**		**09 11 13.4**	**+0.2**
	15nm,0.5s							
MKAR	**Makanchi Array**	**31.40**	**346**	P	**P**		**09 14 16.2**	**+0.5**
	0.5nm,0.7s,mb3.5,baz=135,slow=8.2,SNR=3.7							
SONM	**Songino Array**	**33.27**	**17**	P	**P**		**09 14 33.1**	**+1.2**
	1.2nm,0.7s,mb4.0,baz=203,slow=9.4,SNR=7.6							
BRTR	**Keskin Array B**	**55.84**	**307**	P	**P**		**09 17 31.4**	**-0.7**
	0.5nm,0.5s,mb3.8,baz=90,slow=7.2,SNR=2.8							
FINES	**FINESS Array B**	**64.45**	**331**	P	**P**		**09 18 31.1**	**+0.4**
	3.7nm,1.1s,mb4.3,baz=140,slow=11,SNR=3.8							
GERES	**GERESS Array B**	**70.48**	**317**	P	**P**		**09 19 07.7**	**-0.9**
	0.3nm,0.6s,mb3.4,baz=90,slow=5.3,SNR=4.3							
ILAR	**Eielson Array**	**87.37**	**22**	P	**P**		**09 20 39.1**	**-1.0**
	0.5nm,0.7s,mb3.8,baz=304,slow=5.0,SNR=5.8							

IDC ***24*** *09:10:32.7±0.4,2.66N×126.48E,mb5.0/21,mb1 5.0/21, mb1mx5.0/23,mbtmp4.9/21,MS4.2/11,Ms1 4.2/11, ms1mx4.0/20,Error ellipse: s-maj=22.4km s-min=12.8km az=83.0*

BJI ***24*** *09:10:34.1,2.64N×126.48E,h23km,mB5.1,mb5.1,Ms4.5, Msz4.2*

MOS ***24*** *09:10:36.2±1.2,2.74N×126.48E,h33km,mb5.3/30,Error ellipse: s-maj=16.9km s-min=7.5km az=104.1*

HRVD ***24*** *09:10:36.2±0.4,2.73N×126.68E,h29km±1km,MW5.0/50, Centroid moment Tensor Solution. LP body waves: s33,c38;Mantle waves: s50,c74; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.26±.29; Mθθ1.27±.18; Mφφ-4.53±.19; Mrθ-0.44±.32; Mθφ-0.54±.14; Mφr1.71±.30; Best double couple: M04.329×10^16^ NP1:φs201°,δ35°, λ113°. NP2:φs353°,δ58°,λ75°. Principal axes: T 3.739, Plg72°, Azm224°; N 1.181, Plg13°, Azm1°; P -4.92, Plg12°, Azm94°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***24*** *09:10:36.2±2.6,2.69N×126.58E,h22km±18km,mb5.2/38, MS4.2/7 Error ellipse: s-maj=8.5km s-min=4.7km az=79.0*

ISC 24 09:10:37.0±0.2,2.66N±0.03×126.60E±0.04,h41km, h41km±5.6km:pP-P,n256,σ1s27/243,mb5.2/95,MS4.2/28, 15C-17D,Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GSPH	**General Santos**	**3.79**	**334**	*e*P	**P**		**09 11 36.6**	**+2.2**
GSPH				*i* S	**S**		**09 12 19.9**	**+1.6**
DAV	**Davao City (W)**	**4.50**	**347**	*e*P	**P**		**09 11 47.0**	**+2.4**
KCP	**Kidapawan**	**4.58**	**341**	*e*P	**P**		**09 11 48.3**	**+2.6**
CTBH	**Cotabato--PC H**	**5.11**	**333**	*e*P	**P**		**09 11 54.5**	**+1.5**
CTBH				*i* S	**S**		**09 12 54.0**	**+2.5**
BUKP	**Musuan**	**5.41**	**344**	*e*P	**P**		**09 11 59.2**	**+1.9**
BUTP	**Butuan**	**6.35**	**351**	*e*P	**P**		**09 12 12.8**	**+2.4**
IPIL	**Ipil**	**6.49**	**322**	*e*P	**P**		**09 12 12.1**	**-0.3**
IPIL				*e*S	**S**		**09 13 24.4**	**-1.6**
SCPH	**Surigao**	**7.17**	**351**	*e*P	**P**		**09 12 26.6**	**+4.7**
TSM	**Tawau**	**8.86**	**281**	P	**P**		**09 12 48.4**	**+3.0**
KKM	**Kota Kinabalu**	**10.89**	**288**	*e*P	**P**		**09 13 16.3**	**+2.9**
KKM	**Kota Kinabalu**	**10.89**	**288**	P	**P**		**09 13 17.8**	**+4.5**
KSM	**Kuching**	**16.32**	**266**	*e*P	**P**		**09 14 26.3**	**+1.3**
KAKA	**Kakadu**	**16.33**	**159**	*e*P	**P**		**09 14 25.4**	**+0.3**
	239nm,1.2s							
FITZ	**Fitzroy Crossi**	**20.65**	**183**	*i*P	**P**		**09 15 13.9**	**-1.9**
	79nm,0.8s							
FITZ				*e*S	**S**		**09 19 00.5**	**+1.2**
QIZ	**Qiongzhong**	**23.10**	**316**	P	**P**		**09 15 40.8**	**+0.4**
QIZ				S	**S**		**09 19 47.1**	**+2.5**
QIZ				SS	SS		09 20 33.4	+2.0
QIZ				AMB	AMB			
	comp=Z,46nm,1.4s,mb4.7							
QIZ				LR	LR			
	comp=N,515nm,14.5s,MS4.2							
QIZ				LR	LR			
	comp=E,265nm,12.9s,MS4.2							
QIZ				LR	LR			
	comp=Z,653nm,23.8s							
QIZ	**Qiongzhong**	**23.10**	**316**	*e*P	**P**		**09 15 40.5**	**+0.2**
	comp=Z,108nm,1.6s,mb5.0							
KGM	**Kluang**	**23.27**	**269**	P	**P**		**09 15 43.1**	**+1.1**
WRAB	**Tennant Creek**	**23.70**	**162**	*c i*P	**P**		**09 15 45.3**	**-0.9**
WRAB	**Tennant Creek**	**23.70**	**162**	*e*P	**P**		**09 15 45.1**	**-1.0**
	comp=Z,335nm,1.4s,mb5.6							
WRAB				LR	LR			
	comp=Z,98nm,22.0s,MS3.2							
WRA	**Warramunga Arr**	**23.71**	**162**	P	**P**		**09 15 45.3**	**-0.9**
WRA				S	**S**		**09 19 57.0**	**+1.8**
WRA				pmax	pmax			
	comp=Z,23nm,0.4s							
WRA				smax				
	comp=N,8.0nm,1.1s							
WRA	**Warramunga Arr**	**23.71**	**162**	P	**P**		**09 15 45.3**	**-0.9**
	comp=N,23nm,0.4s,mb5.0,baz=337,slow=11,SNR=58							
WRA				S	**S**		**09 19 57.0**	**+1.9**
	comp=N,8.0nm,1.1s,baz=343,slow=17,SNR=6.4							
WB2	**Warramunga Arr**	**23.71**	**162**	*i*P	**P**		**09 15 45.5**	**-0.8**
WB2				*e*S	**S**		**09 19 57.0**	**+1.8**
GZH	**Guangzhou**	**24.03**	**329**	P	**P**		**09 15 52.0**	**+2.6**
GZH				AMB	AMB			
	comp=Z,87nm,1.2s,mb5.1							
GZH				LR	LR			
	comp=N,366nm,20.2s,MS4.0							
GZH				LR	LR			
	comp=E,411nm,21.1s,MS4.0							
GZH				LR	LR			
	comp=Z,800nm,19.6s,MS4.2							
MBWA	**Marble Bar**	**24.61**	**196**	*e*P	**P**		**09 15 54.9**	**0.0**
	comp=Z,121nm,1.4s,mb5.2							
IPM	**Ipoh**	**25.59**	**275**	P	**P**		**09 16 06.2**	**+1.8**
KKTK	**Khon Kaen**	**27.05**	**302**	P	**P**		**09 16 17.0**	**-0.9**
	comp=Z,432nm,0.7s,mb6.1							
SSE	**Sheshan**	**28.75**	**350**	P	**P**		**09 16 30.3**	**-2.7**
SSE				XP	sP		09 16 42.8	-6.6
SSE				S	**S**		**09 21 19.1**	**+1.1**
SSE				XS			09 21 33.8	
SSE				AMB	AMB			
	comp=Z,34nm,0.7s,mb5.2							
SSE				AMB	AMB			
	comp=Z,138nm,5.2s							
SSE				LR	LR			
	comp=N,197nm,25.1s,MS3.9							
SSE				LR	LR			
	comp=E,303nm,25.1s,MS3.9							
SSE				LR	LR			
	comp=Z,383nm,25.0s,MS3.9							
SSE	**Sheshan**	**28.75**	**350**	P	**P**		**09 16 30.2**	**-2.8**
	comp=Z,34nm,0.7s,mb5.2							
SSE				sP	sP		09 16 42.8	-6.6
SSE				PP	PP		09 17 35.6	+9.0
SSE				S	**S**		**09 21 19.1**	**+1.1**
SSE				sS			09 21 33.8	
SSE				LR	LR			
	comp=Z,380nm,25.0s,MS3.9							
NJ2	**Nanjing**	**30.14**	**347**	*e*P	**P**		**09 16 44.8**	**-0.6**
NJ2				AP	pP		09 16 53.6	-3.0
NJ2				XP	sP		09 16 57.3	-4.6
NJ2				PPP	PPP		09 17 55.9	-2.9
NJ2				S	**S**		**09 21 37.0**	**-3.1**
NJ2				XS			09 21 54.0	
NJ2				AMB	AMB			
	comp=Z,20nm,0.9s,mb4.8							
NJ2				AMB	AMB			
	comp=Z,130nm,6.7s							
NJ2				LR	LR			
	comp=N,1μm,29.1s							
NJ2				LR	LR			
	comp=E,840nm,19.0s							
NJ2				LR	LR			
	comp=Z,520nm,21.7s							
GYA	**Guiyang**	**30.43**	**323**	*i*P	**P**		**09 16 47.3**	**-0.8**
GYA				XP	sP		09 17 02.0	-2.6
GYA				PP	PP		09 17 47.9	-0.6
GYA				SS	SS		09 23 20.3	-6.3
GYA				AMB	AMB			
	comp=Z,20nm,1.2s,mb4.7							
GYA				AMB	AMB			
	comp=Z,130nm,3.4s							
GYA				LR	LR			
	comp=N,380nm,17.2s,MS4.3							
GYA				LR	LR			
	comp=E,410nm,17.4s,MS4.3							
GYA				LR	LR			
	comp=Z,390nm,17.0s,MS4.1							
JNU	**Nakatsue**	**30.57**	**7**	P	**P**		**09 16 47.2**	**-2.0**
	comp=Z,40nm,0.9s,mb5.2,baz=18,slow=13,SNR=7.2							
JNU				LR	LR		09 29 18.4	
	comp=Z,192nm,19.2s,MS3.8,baz=341,slow=37							
BDT	**Bhumibol Dam**	**30.73**	**300**	P	**P**		**09 16 50.0**	**-0.8**
ENH	**Enshi**	**31.89**	**331**	*e*P	**P**		**09 16 58.8**	**-2.1**
	comp=Z,54nm,1.1s,mb5.3							
ENH				LR	LR			
	comp=Z,674nm,22.0s,MS4.3							
KMI	**Kunming**	**32.05**	**316**	P	**P**		**09 17 01.9**	**-0.4**
KMI				S	**S**		**09 22 10.8**	**+0.5**
KMI				SS	SS		09 24 04.3	-0.4
KMI				AMB	AMB			
	comp=Z,15nm,1.3s,mb4.7							
KMI				AMB	AMB			
	comp=Z,59nm,3.4s							
KMI				LR	LR			
	comp=N,289nm,16.9s							
KMI				LR	LR			
	comp=E,374nm,22.5s							
KMI				LR	LR			
	comp=Z,604nm,22.0s							
KS15	**Wonju Array Si**	**34.64**	**2**	*e*P	**P**		**09 17 24.5**	**-0.1**
KLBR	**Kellerberrin**	**35.08**	**193**	*e*P	**P**		**09 17 28.1**	**-0.3**
	comp=Z,118nm,1.5s,mb5.6							
XAN	**Xi'an**	**35.31**	**334**	P	**P**		**09 17 27.9**	**-2.5**
XAN				AP	pP		09 17 33.5	-8.3
XAN				AMB	AMB			
	comp=Z,15nm,0.7s,mb5.0							
MJAR	**Matsushiro Arr**	**35.38**	**16**	P	**P**		**09 17 30.1**	**-0.8**
MJAR							09 20 00.7	
MJAR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
MJAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MJAR				MLR	MLR			
	comp=Z,556nm,21.9s							
MJAR	**Matsushiro Arr**	**35.38**	**16**	P	**P**		**09 17 30.1**	**-0.8**
	comp=Z,4.2nm,0.7s,mb4.5,baz=196,slow=8.9,SNR=5.4							
MJAR				PcP	PcP		09 20 00.7	+0.2
	comp=Z,2.9nm,0.8s,baz=160,slow=2.0,SNR=5.9							
MJAR				LR	LR		09 30 33.6	
	comp=Z,556nm,21.9s,MS4.3,baz=195,slow=34							
CD2	**Chengdu**	**35.44**	**325**	P	**P**		**09 17 30.3**	**-1.1**
MUN	**Mundaring**	**35.83**	**195**	*e*P	**P**		**09 17 34.8**	**0.0**
	comp=Z,30nm,1.3s,mb5.1							
DL2	**Dalian**	**36.36**	**353**	P	**P**		**09 17 39.8**	**+0.6**
DL2				AMB	AMB			
	comp=Z,50nm,0.9s,mb5.4							
NWAO	**Narrogin (SRO)**	**36.48**	**193**	*e*P	**P**		**09 17 40.9**	**+0.6**
	comp=Z,10nm,0.5s,mb5.0							
STKA	**Stephens Creek**	**37.18**	**159**	*e*P	**P**		**09 17 45.5**	**-0.6**
	comp=Z,27nm,0.6s,mb5.3							
STKA	**Stephens Creek**	**37.18**	**159**	P	**P**		**09 17 45.2**	**-0.9**
	comp=Z,28nm,0.6s,mb5.3,baz=338,slow=8.6,SNR=44							
LZH	**Lanzhou**	**39.36**	**330**	P	**P**		**09 18 04.3**	**0.0**
LZH				XP	sP		09 18 19.8	-1.1
LZH				AMB	AMB			
	comp=Z,140nm,1.2s,mb5.6							
LZH				AMB	AMB			
	comp=Z,270nm,4.0s							
LZH				LR	LR			
	comp=N,1μm,19.5s							
LZH				LR	LR			
	comp=Z,2μm,21.0s,MS5.0							
LZH	**Lanzhou**	**39.36**	**330**	P	**P**		**09 18 04.3**	**0.0**
	comp=Z,140nm,1.2s,mb5.6							
LZH				pP	pP		09 18 19.8	+4.0
LZH				sP	sP		09 18 27.1	+6.2
LZH				PP	PP		09 19 46.0	+7.2
LZH				S	S		09 24 22.4	+20
LZH				sS			09 24 50.6	
LZH				SS	SS		09 27 27.7	+38
LZH				LR	LR			
	comp=Z,2μm,21.0s,MS5.0							
HHC	**Hu-ho-hao-te**	**40.37**	**342**	P	**P**		**09 18 12.3**	**-0.3**
HHC				AP	pP		09 18 24.8	+0.7
HHC				PP	PP		09 19 52.3	+3.1
HHC				PCP	PcP		09 20 19.8	+3.9
HHC				SCP			09 24 00.4	
HHC				PCS			09 24 06.4	
HHC				S	**S**		**09 24 17.3**	**-0.3**
HHC				XS			09 24 37.3	
HHC				SS	SS		09 27 07.4	-4.7
HHC				SCS	ScS		09 28 16.9	+3.9
HHC				AMB	AMB			
	comp=Z,18nm,1.4s,mb4.6							
HHC				AMB	AMB			
	comp=Z,189nm,13.2s							
HHC				LR	LR			
	comp=N,316nm,22.8s,MS4.2							
HHC				LR	LR			
	comp=E,228nm,20.4s,MS4.2							
HHC				LR	LR			
	comp=Z,510nm,30.0s							
SHL	**Shillong**	**40.41**	**307**	*e*P	**P**		**09 18 13.0**	**-0.1**
ARMA	**Armidale**	**40.65**	**146**	*e*P	**P**		**09 18 11.0**	**-4.0**
CN2	**Changchun**	**40.98**	**359**	*e*P	**P**		**09 18 20.3**	**+2.7**
CN2				*e*S	**S**		**09 24 29.1**	**+2.5**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.5							
CN2				AMB	AMB			
	comp=Z,200nm,7.0s							
MDJ	**Mudanjiang**	**41.87**	**3**	P	**P**		**09 18 25.5**	**+0.6**
MDJ				XP	sP		09 18 40.8	-0.7
MDJ				PP	PP		09 20 04.4	-0.7
MDJ				PCP	PcP		09 20 20.8	0.0
MDJ				SCP			09 24 03.9	
MDJ				PCS			09 24 12.4	
MDJ				S	**S**		**09 24 41.3**	**+1.5**
MDJ				SCS	ScS		09 28 21.9	0.0
MDJ				AMB	AMB			
	comp=Z,49nm,1.0s,mb5.1							
MDJ				AMB	AMB			
	comp=Z,70nm,8.3s							
MDJ				LR	LR			
	comp=N,215nm,23.6s							
MDJ				LR	LR			
	comp=E,193nm,29.5s							
MDJ				LR	LR			
	comp=Z,349nm,30.1s							
MDJ	**Mudanjiang**	**41.87**	**3**	*e*P	**P**		**09 18 25.3**	**+0.4**
	comp=Z,64nm,1.1s,mb5.2							
LSA	**Lhasa**	**43.05**	**312**	P	**P**		**09 18 35.6**	**+0.8**
LSA	**Lhasa**	**43.05**	**312**	*e*P	**P**		**09 18 35.1**	**+0.2**
	comp=Z,29nm,0.8s,mb5.1							
LSA				LR	LR			
	comp=Z,198nm,19.0s,MS4.0							
CNB	**Canberra Magne**	**43.38**	**153**	*e*P	**P**		**09 18 37.9**	**+0.5**
	comp=Z,24nm,1.1s,mb4.8							
ASAJ	**Asahikawa**	**43.65**	**17**	P	**P**		**09 18 41.1**	**+1.6**
ASAJ				pmax	pmax			
	comp=Z,16nm,0.7s							
ASAJ				MLR	MLR			
	comp=Z,367nm,21.4s							
ASAJ	**Asahikawa**	**43.65**	**17**	P	**P**		**09 18 41.1**	**+1.6**
	comp=Z,16nm,0.7s,mb4.8,baz=236,slow=11,SNR=8.6							
ASAJ				LR	LR		09 35 57.2	
	comp=Z,367nm,21.4s,MS4.3,baz=60,slow=35							
GTA	**Gaotai**	**43.95**	**330**	P	**P**		**09 18 41.0**	**-1.0**
GTA				XP	sP		09 18 56.4	-2.2
GTA				PP	PP		09 20 24.8	-1.3
GTA				PCP	PcP		09 20 29.3	+1.5
GTA				S	**S**		**09 25 02.4**	**-7.8**
GTA				XS			09 25 29.3	
GTA				AMB	AMB			
	comp=Z,16nm,1.1s,mb4.7							
GTA				AMB	AMB			
	comp=Z,85nm,6.1s							
GTA				LR	LR			
	comp=N,399nm,21.7s,MS4.5							
GTA				LR	LR			
	comp=E,533nm,23.6s,MS4.5							
GTA				LR	LR			
	comp=Z,916nm,24.7s,MS4.6							
BOK	**Bokaro**	**44.60**	**302**	*e*P	**P**		**09 18 48.2**	**+0.8**
BOK				AMb	AMB		09 18 49.5	
	comp=Z,47nm,1.3s,mb5.2							
GUN	**Gumba**	**46.26**	**307**	*e*P	**P**		**09 19 00.1**	**-0.4**
	comp=Z,134nm,0.7s,mb6.0							
YSS	**Yuzh-Sakhalins**	**46.30**	**15**	*e*P	**P**		**09 19 01.1**	**+0.5**
YSS				*e*			09 20 36.8	
YSS	**Yuzh-Sakhalins**	**46.30**	**15**	*e*P	**P**		**09 19 00.6**	**0.0**
	comp=Z,12nm,0.6s,mb5.0							
PKI	**Pulchoki**	**46.49**	**306**	*e*P	**P**		**09 19 01.5**	**-0.8**
KLR	**Kul'dur**	**46.61**	**5**	*e*P	**P**		**09 19 00.0**	**-3.0**
KLR				*e*S	**S**		**09 25 45.4**	**-2.8**
KLR				pmax	pmax			
	comp=Z,26nm,1.2s,mb5.0							
KKN	**Kakani**	**46.68**	**306**	*e*P	**P**		**09 19 02.7**	**-1.2**
	comp=Z,113nm,1.1s,mb5.7							
DMN	**Daman**	**46.75**	**306**	*e*P	**P**		**09 19 03.6**	**-0.8**
	comp=Z,116nm,1.0s,mb5.8							
HIA	**Hailar**	**46.81**	**354**	*e*P	**P**		**09 19 03.1**	**-1.4**
	comp=Z,33nm,1.1s,mb5.2							
HIA				LR	LR			
	comp=Z,268nm,19.0s,MS4.2							
GKN	**Gorkha**	**47.29**	**306**	*e*P	**P**		**09 19 07.3**	**-1.3**
	comp=Z,148nm,1.2s,mb5.8							
KOLN	**Koldanda**	**48.03**	**306**	*e*P	**P**		**09 19 13.3**	**-1.2**
	comp=Z,240nm,1.2s,mb6.1							
SONM	**Songino Array**	**48.27**	**342**	P	**P**		**09 19 14.2**	**-1.8**
	comp=Z,7.5nm,0.8s,mb4.8,baz=151,slow=7.9,SNR=27							
SONM				PcP	PcP		09 20 42.2	-0.7
	comp=Z,6.2nm,1.0s,baz=173,slow=2.6,SNR=4.5							
SONM				LR	LR		09 42 31.3	
	comp=Z,164nm,21.9s,MS4.0,baz=143,slow=40							
HYB	**Hyderabad**	**49.36**	**291**	*e*P	**P**		**09 19 23.5**	**-1.3**
	comp=Z,160nm,1.0s,mb6.0							
HYB	**Hyderabad**	**49.36**	**291**	*i*P	**P**		**09 19 23.5**	**-1.3**
	comp=Z,160nm,1.0s,mb6.0							
CIT	**Chita**	**50.39**	**350**	*e*P	**P**		**09 19 32.4**	**+0.1**
CIT				*e*	pP		09 19 45.7	+1.7
CIT				pmax	pmax			
	comp=Z,96nm,1.2s,mb5.7							
BHPL	**Bhopal**	**51.78**	**298**	*e*P	**P**		**09 19 41.9**	**-1.2**
BHPL				AMb	AMB		09 19 44.0	
	comp=Z,154nm,1.5s,mb5.7							
TLY	**Talaya**	**52.50**	**342**	*e*P	**P**		**09 19 47.6**	**-0.6**
TLY				*e*S	**S**		**09 27 06.5**	**-3.7**
TLY				pmax	pmax			
	comp=Z,27nm,0.9s,mb5.2							
TLY	**Talaya**	**52.50**	**342**	P	**P**		**09 19 46.9**	**-1.3**
	comp=Z,27nm,0.9s,mb5.2							
IRK	**Irkutsk**	**52.81**	**343**	*e*P	**P**		**09 19 50.0**	**-0.4**
IRK				*e*			09 27 30.3	
IRK				pmax	pmax			
	comp=Z,51nm,1.6s,mb5.2							
MOY	**Mondy**	**53.34**	**340**	*e*P	**P**		**09 19 54.2**	**-0.2**
MOY				pmax	pmax			
	comp=Z,78nm,2.4s,mb5.2							
KAD	**Karad**	**53.44**	**290**	*e*P	**P**		**09 19 53.8**	**-1.8**
KAD				AMb	AMB		09 19 57.1	
	comp=Z,86nm,1.2s,mb5.6							
DDI	**Dehra Dun**	**53.49**	**306**	*e*	**P**		**09 19 52.8**	**-3.0**
WMQ	**Urumqi**	**53.53**	**326**	P	**P**		**09 19 57.1**	**+1.2**
WMQ				XP	sP		09 20 09.8	-2.8
WMQ				PP	PP		09 21 59.5	+1.4
WMQ				S	**S**		**09 27 25.0**	**+0.8**
WMQ				AMB	AMB			
	comp=Z,35nm,1.1s,mb5.2							
WMQ				AMB	AMB			
	comp=Z,194nm,4.0s							
WMQ				LR	LR			
	comp=N,385nm,16.4s,MS4.6							
WMQ				LR	LR			
	comp=E,279nm,19.6s,MS4.6							
WMQ				LR	LR			
	comp=Z,395nm,24.0s,MS4.4							
SONA	**Sohna**	**53.57**	**303**	*e*P	**P**		**09 19 52.9**	**-3.5**
SONA				AMb	AMB		09 19 55.7	
	comp=Z,92nm,0.8s,mb5.8							
AYAN	**Aya Nagar**	**53.61**	**304**	*e*P	**P**		**09 19 53.0**	**-3.8**
KUDL	**Kundal**	**54.03**	**303**	*e*P	**P**		**09 19 57.4**	**-2.4**
KUDL				AMb	AMB		09 19 59.0	
	comp=Z,86nm,1.3s,mb5.5							
CLNS	**Chul'man**	**54.04**	**359**	*e*P	**P**		**09 19 59.1**	**-0.4**
CLNS				pmax	pmax			
	comp=Z,32nm,0.9s,mb5.2							
CLNS				pmax	pmax			
	comp=N,17nm,0.8s							
CLNS				pmax	pmax			
	comp=E,15nm,0.9s							
KHET	**Khetri**	**54.58**	**303**	*e*P	**P**		**09 20 00.4**	**-3.5**
KHET				AMb	AMB		09 20 04.2	
	comp=Z,102nm,1.4s,mb5.7							
BOD	**Bodaibo**	**55.90**	**352**	*e*P	**P**		**09 20 11.9**	**-1.1**
BOD				pmax	pmax			
	comp=Z,14nm,1.6s,mb4.7							
THN	**Thein Dam**	**56.12**	**308**	*e*P	**P**		**09 20 12.1**	**-2.8**
MKAR	**Makanchi Array**	**58.36**	**326**	P	**P**		**09 20 29.2**	**-1.3**
MKAR				pmax	pmax			
	comp=Z,6.0nm,0.4s							
MKAR	**Makanchi Array**	**58.36**	**326**	P	**P**		**09 20 29.1**	**-1.4**
	comp=Z,6.1nm,0.4s,mb5.0,baz=122,slow=8.4,SNR=38							
JASL	**Jaisalmer**	**58.44**	**300**	*e*P	**P**		**09 20 29.6**	**-1.8**
JASL				AMb	AMB		09 20 32.3	
	comp=Z,143nm,1.3s,mb5.8							
KSH	**Kashi**	**58.71**	**316**	*i* PR			09 20 34.0	
KSH				*e*XP	sP		09 20 49.8	-0.1
KSH				*e*PCP	PcP		09 21 23.5	+1.1
KSH				*e*PP	PP		09 22 45.5	+0.6
KSH				*e*PCS			09 25 23.0	
KSH				*e*S	**S**		**09 28 29.3**	**-3.8**
KSH				*e*SCS	ScS		09 30 14.3	-1.4
KSH				*e*SS	SS		09 32 27.0	-1.2
KSH				AMB	AMB			
	comp=Z,50nm,0.4s,mb5.9							
KSH				AMB	AMB			
	comp=Z,50nm,8.5s							
YAK	**Yakutsk**	**59.28**	**2**	*e*P	**P**		**09 20 35.0**	**-1.7**
YAK				*e*			09 21 24.0	
YAK				*e*			09 22 50.4	
YAK				*e*S	**S**		**09 28 46.1**	**+5.9**
YAK				*e*			09 30 20.8	
YAK				*e*SS	SS		09 32 40.0	+3.4
YAK				pmax	pmax			
	comp=Z,38nm,0.9s,mb5.4							
YAK				pmax	pmax			
	comp=N,16nm,1.0s							
YAK				pmax	pmax			
	comp=N,4.0nm,0.8s							
YAK				pmax	pmax			
	comp=E,2.0nm,0.9s							
YAK				smax				
	comp=E,3.0nm,1

SNR=15
AML Almayashu 61.38 317 P **P** 09 20 51.3 -0.1
SNR=22
EKS2 Erkin-Say 61.55 318 P **P** 09 20 52.0 -0.5
SNR=14
NVS Novosibirsk 62.77 333 *e*S **S** 09 29 21.4 -3.3
NVS smax
comp=N,10.0nm,1.5s
NVS smax
comp=E,18nm,1.4s
FX1 Attu Island--F 63.07 30 P **P** 09 21 03.3 +0.8
FX1 pmax pmax
comp=Z,39nm,0.8s
FX1 Attu Island--F 63.07 30 P **P** 09 21 03.3 +0.8
comp=Z,39nm,0.8s,mb5.6,baz=76,slow=6.6,SNR=11
SEY Seymchan 63.10 13 *e*P **P** 09 21 02.7 +0.2
SEY *e* 09 29 39.7
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=E,7.0nm,0.9s
SEY pmax pmax
comp=Z,20nm,0.9s,mb5.2
SEY Seymchan 63.10 13⇑*i*P **P** 09 21 03.6 +1.1
KKAR Karatay Array 63.93 317 *i*P **P** 09 21 07.7 -0.5
KKAR pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
KKAR Karatay Array 63.93 317 *i*P **P** 09 21 07.8 -0.4
VOSK Vostochnaya 67.69 327 P **P** 09 21 29.8 -2.3
VOSK pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
VOSK Vostochnaya 67.69 327 *i*P **P** 09 21 29.8 -2.3
BVA0 Borovoye Array 68.14 327 *i*P **P** 09 21 33.5 -1.4
BVA0 pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
BVAR Borovoye Array 68.14 327 P **P** 09 21 33.9 -1.0
comp=Z,5.0nm,0.6s,mb4.7,baz=133,slow=9.4,SNR=29
BRVK Borovoye 68.22 327 *e*P **P** 09 21 34.5 -0.9
comp=Z,9.2nm,0.8s,mb4.9
ZRNK Zerenda 68.87 327 P **P** 09 21 37.5 -1.9
ZRNK pmax pmax
comp=Z,13nm,0.8s,mb4.9
ZRNK Zerenda 68.87 327 *e*P **P** 09 21 38.3 -1.1
comp=Z,16nm,0.7s,mb5.1
TIXI Tiksi 68.91 1*d i*P **P** 09 21 38.2 -1.2
TIXI pmax pmax
comp=Z,33nm,1.3s,mb5.1
TIXI MLR MLR
comp=Z,300nm,21.0s,MS4.5
TIXI Tiksi 68.91 1 *i*P **P** 09 21 38.2 -1.2
CASY Casey 69.74 187⇑*i*P **P** 09 21 44.7 +0.2
BILL Bilibino 70.62 15⇓*i*P **P** 09 21 49.5 -0.3
BILL pmax pmax
comp=Z,11nm,1.3s,mb4.6
BILL Bilibino 70.62 15⇓*i*P **P** 09 21 49.6 -0.2
AB31 Akbulak array 72.90 321 *i*P **P** 09 22 02.4 -1.3
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
MIR Mirnyy 73.09 193*d i*P **P** 09 22 05.2 +0.6
MIR pmax pmax
comp=Z,53nm,1.4s,mb5.3
ARU Arti 75.77 328*c i*P **P** 09 22 18.9 -1.3
ARU pmax pmax
comp=Z,60nm,1.3s,mb5.4
ARU Arti 75.77 328 *e*P **P** 09 22 18.6 -1.6
comp=Z,49nm,1.1s,mb5.3
HASS Wahat al Ahsa' 77.03 295 P **P** 09 22 27.0 -1.0
QRN Al-Qurain 78.80 299 *e*P **P** 09 22 37.2 -0.5
KBD Kabd 79.02 299 *e*P **P** 09 22 38.6 -0.3
RDF Al-Radifah 79.14 299 *e*P **P** 09 22 38.9 -0.6
RDF AMb AMB 09 22 43.4
comp=Z,56nm,1.2s,mb5.4
OPO Ambohidratompo 80.82 251 P **P** 09 22 48.9 +0.2
comp=Z,20nm,1.1s,mb5.0,baz=91,slow=8.0,SNR=9.3
SVW2 Sparrevohn 81.80 29 *e*P **P** 09 22 54.2 +1.2
TTA Tatalina 81.91 27 *e*P **P** 09 22 55.4 +1.9
GNI Garni 82.07 310*d i*P **P** 09 22 55.6 +0.8
GNI Garni 82.07 310 *e*P **P** 09 22 56.6 +1.8
comp=Z,35nm,1.4s,mb5.1
VNDA Vanda 82.38 173 P **P** 09 22 56.2 +0.5
VNDA pmax pmax
comp=Z,10.0nm,1.1s
VNDA Vanda 82.38 173 P **P** 09 22 56.2 +0.5
comp=Z,9.6nm,1.1s,mb4.7,baz=316,slow=5.8,SNR=27
VNDA Vanda 82.38 173 *e*P **P** 09 22 55.9 +0.2
comp=Z,16nm,1.2s,mb4.8
DJNS Zahran al Janu 82.59 287 P **P** 09 22 59.5 +1.6
TATS Tathlith 82.64 289 P **P** 09 22 59.1 +1.0
MAW Mawson 82.71 200⇑*i*P **P** 09 22 58.3 +0.8
comp=Z,3.2nm,0.9s,mb4.3
MAW Mawson 82.71 200 P **P** 09 22 58.3 +0.8
MAW pmax pmax
comp=Z,3.0nm,0.9s
MAW MLR MLR
comp=Z,72nm,18.6s
MAW Mawson 82.71 200 P **P** 09 22 58.3 +0.8
comp=Z,2.9nm,0.9s,mb4.3,baz=63,slow=7.7,SNR=6.7
MAW LR LR 09 58 59.0
comp=Z,72nm,18.6s,MS4.1,baz=163,slow=35
ZEI Tsey 82.84 313 *e*P **P** 09 22 56.3 -2.4
ZEI *i* *PP pP 09 23 06.7 -4.5
ZEI *i* 09 26 05.0
ZEI pmax pmax
comp=Z,12nm,0.8s,mb5.0
AFFS 'Afif 83.08 294 P **P** 09 23 00.9 +0.6
RSO Redoubt South 83.08 30 *e*P **P** 09 22 59.9 +0.3
ONI Oni 83.16 312 P **P** 09 23 01.7 +1.3
SBA Scott Base 83.30 172 *e*P **P** 09 23 01.8 +1.4
comp=Z,12nm,1.1s,mb4.8
SPU Mount Spurr 83.51 29 *e*P **P** 09 23 02.7 +1.0
KIV Kislovodsk 83.78 314⇓*i*P **P** 09 23 03.8 +0.3
KIV pmax pmax
comp=Z,43nm,2.5s,mb5.1
KIV Kislovodsk 83.78 314⇓*i*P **P** 09 23 03.9 +0.4
HILS Ha'il 84.18 297 P **P** 09 23 07.3 +1.4
SLKM Skilak Lake 84.33 30 *e*P **P** 09 23 06.8 +0.9
BLJS Baljurashi 84.41 290 P **P** 09 23 08.9 +1.7
BEST Besiri 84.69 308 *i*P **P** 09 23 06.9 -1.3
PPT Papeete 84.91 108 *e*P **P** 09 23 05.4 -4.3
PPT Papeete 84.91 108 *e*S S 09 34 05.0 +31
PPT eLR LR 09 49 41.3
comp=Z,246nm,26.2s
PPT Papeete 84.91 108 LR LR 09 54 18.3
comp=Z,242nm,19.1s,MS4.6,baz=298,slow=31
PMR Palmer 84.94 29 *e*P **P** 09 23 09.2 +0.3
comp=Z,35nm,1.1s,mb5.4
MCK McKinley 85.18 26 *e*P **P** 09 23 09.0 -1.0
comp=Z,7.8nm,1.0s,mb4.8
SML Sawmill 85.34 28 *e*P **P** 09 23 11.7 +0.9
TBI Tubuai 85.48 114 *e*S S 09 34 02.6 +23
comp=Z,127nm,39.2s
TBI eLR LR 09 51 31.2
comp=Z,250nm,30.8s,baz=290
SOC Sochi 85.92 313*c i*P **P** 09 23 13.8 -0.3
SOC *e* 09 26 30.2
SOC *e*PPP PPP 09 28 34.1 +1.3
SOC *e*S S 09 33 33.8 -9.2
SOC pmax pmax
comp=Z,63nm,1.0s,mb5.8
SOC pmax pmax
comp=N,10.0nm,0.9s
SOC pmax pmax
comp=E,20nm,0.7s
SOC pmax pmax
comp=Z,127nm,1.5s,mb5.9
ILAR Eielson Array 86.12 25 P **P** 09 23 14.3 -0.3
ILAR pmax pmax
comp=Z,4.0nm,1.2s
ILAR MLR MLR
comp=Z,93nm,20.6s
ILAR Eielson Array 86.12 25 P **P** 09 23 14.3 -0.3
comp=Z,3.8nm,1.2s,mb4.5,baz=252,slow=5.0,SNR=8.0
ILAR LR LR 10 01 03.9
comp=Z,93nm,20.6s,MS4.2,baz=98,slow=35
KBRS Khaybar 86.46 296 P **P** 09 23 18.5 +1.3
ELZG Elazig 86.50 308 *i*P **P** 09 23 16.5 -0.6
DIV Divide 86.54 29 *e*P **P** 09 23 18.2 +1.5
comp=Z,91nm,1.2s,mb5.9
MALT Malatya 86.94 308 *e*P **P** 09 23 19.6 +0.4
comp=Z,54nm,1.3s,mb5.6
MOS Moscow 87.25 326 *e*P **P** 09 23 20.6 +0.3
MOS *e* 09 23 39.4
MOS pmax pmax
comp=Z,200nm,1.8s,mb6.0
MOS pmax pmax
comp=Z,99nm,1.3s,mb5.9
ANN Anapa 87.56 315 *e*P **P** 09 23 20.9 -1.2
ANN *e* 09 33 44.4
ANN pmax pmax
comp=Z,90nm,1.2s,mb5.9
YNBS Yanbu' al Bahr 87.65 294 P **P** 09 23 24.8 +1.7
OBN Obninsk 87.86 325⇓*i*P **P** 09 23 22.9 -0.4
OBN *e* 09 26 51.6
OBN pmax pmax
comp=Z,74nm,1.2s,mb5.8
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.3
OBN Obninsk 87.86 325 *e*P **P** 09 23 22.7 -0.6
comp=Z,27nm,0.6s,mb5.7
QURS Qurayyt al Mil 88.02 301 P **P** 09 23 26.2 +1.7
KAHT Ahir Dag 88.18 307 *i*P **P** 09 23 24.1 -1.1
ASF Jabal al Asfar 88.35 302 P **P** 09 23 27.7 +1.6
comp=Z,77nm,1.2s,mb5.8,baz=287,slow=1.1,SNR=30
TBKS Tabuk 88.81 298 P **P** 09 23 30.0 +1.5
JMQS Jabal Moqyreh 89.37 299 P **P** 09 23 32.3 +1.2
KMBO Kilima Mbogo 89.40 269 *i*P **P** 09 23 33.8 +2.2
KMBO pmax pmax
comp=Z,23nm,1.2s
KMBO Kilima Mbogo 89.40 269 P **P** 09 23 32.7 +1.1
comp=Z,23nm,1.2s,mb5.4,baz=45,slow=6.4,SNR=18
BOYT Boyabat 89.54 311 *i*P **P** 09 23 24.1 -7.4
MMLI Mount Malkishu 89.59 302 P **P** 09 23 33.3 +1.2
CTKT Corum 89.67 310 *i*P **P** 09 23 28.0 -4.2
AVNT Avonos 89.72 309 *i*P **P** 09 23 30.9 -1.6
ZFRI Zfri 89.89 300 P **P** 09 23 34.2 +0.7
JMOS Jabal al Moall 90.02 299 P **P** 09 23 35.3 +1.1
HRFI Mount Harif 90.04 300 P **P** 09 23 35.7 +1.5
PRNI Paran 90.05 300 P **P** 09 23 35.1 +0.8
ALWS Ilw as Safayha 90.06 299 P **P** 09 23 35.3 +1.0
BDAS Al Bad' 90.07 298 P **P** 09 23 35.3 +0.9
EIL Elat 90.14 300 P **P** 09 23 35.3 +0.6
EIL Elat 90.14 300 *e*P **P** 09 23 35.6 +0.9
comp=Z,43nm,1.3s,mb5.6
MBH Mount Berech 90.16 300 P **P** 09 23 35.4 +0.6
HAQS Haql 90.19 299 P **P** 09 23 35.8 +0.8
TAYS Tayyib Ism 90.27 298 P **P** 09 23 36.3 +1.0
KMTI Karmit 90.31 300 P **P** 09 23 36.0 +0.5
BR131 Keskin Array S 90.60 310 *e*P **P** 09 23 36.5 -0.1
comp=Z,6.3nm,0.9s,mb5.0
BRTR Keskin Array B 90.60 310 P **P** 09 23 35.8 -0.8
BRTR pmax pmax
comp=Z,7.0nm,1.0s
BRTR Keskin Array B 90.60 310 P **P** 09 23 35.8 -0.8
comp=Z,7.3nm,1.0s,mb5.0,baz=124,slow=4.5,SNR=28
INK Inuvik 91.20 21 P **P** 09 23 38.8 0.0
INK pmax pmax
comp=Z,11nm,1.2s
INK Inuvik 91.20 21 P **P** 09 23 38.8 0.0
comp=Z,11nm,1.2s,mb5.1,baz=258,slow=1.7,SNR=7.7
INK Inuvik 91.20 21 *e*P **P** 09 23 38.4 -0.4
comp=Z,12nm,1.3s,mb5.1
ARCES ARCESS Array B 91.41 340 LR LR 10 09 53.6
comp=Z,122nm,19.4s,MS4.4,baz=80,slow=39
SGKT Sivrigoynuk 91.75 311 *i*P **P** 09 23 39.5 -2.4
KAF Kangasniemi 92.48 332 *e*p **P** 09 23 45.7 +0.9
AKASG Malin Array Be 92.64 321 P **P** 09 23 44.5 -1.2
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 92.64 321 P **P** 09 23 44.5 -1.2
comp=Z,2.3nm,0.7s,mb4.7,baz=68,slow=4.3,SNR=21
FINES FINESS Array B 92.71 332 P **P** 09 23 47.4 +1.6
comp=Z,2.0nm,0.7s,mb4.6,baz=104,slow=7.9,SNR=5.6
FINES LR LR 10 10 37.9
comp=Z,104nm,19.1s,MS4.3,baz=165,slow=39
ISP Isparta 93.20 308*d i*P **P** 09 23 47.7 -0.9
ISP Isparta 93.20 308 *i*P **P** 09 23 47.8 -0.8
KIS Kishinev 93.38 317 *e*P **P** 09 23 48.0 -1.3
KIS *e* 09 34 54.0
KIS MLR MLR
comp=Z,300nm,21.0s,MS4.7
KIS MLR MLR
comp=Z,300nm,22.0s
TAOE Nuku Hiva Isla 93.61 99 *e*SS SS 09 41 24.3 +8.3
comp=Z,268nm,30.5s
TAOE *e*LQ 09 50 57.5
comp=Z,541nm,39.1s
TAOE *e*LR LR 09 52 50.1
comp=Z,894nm,23.9s
ULDT Uludag 94.01 310 *i*P **P** 09 23 49.1 -3.2
DLBC Dease Lake 94.72 31 *e*P **P** 09 23 56.4 +1.4
VRI Vrincioaia 94.98 316⇓*i*P **P** 09 23 56.7 +0.2
VRI Vrincioaia 94.98 316⇓*i*P **P** 09 23 56.7 +0.2
MLR Muntele Rosu 95.58 316 P **P** 09 23 59.2 -0.1
MLR pmax pmax
comp=Z,11nm,1.1s
MLR Muntele Rosu 95.58 316 P **P** 09 23 59.2 0.0
comp=Z,11nm,1.1s,mb5.2,baz=72,slow=1.5,SNR=11
MLR Muntele Rosu 95.58 316⇑P **P** 09 23 59.6 +0.3
BURAR Bucovina Array 95.71 318⇑P **P** 09 24 00.2 +0.4
BURAR Bucovina Array 95.71 318⇑P **P** 09 24 00.2 +0.4
RKT Rikitea 98.78 113 *e*LR LR 09 56 50.6
comp=Z,192nm,34.5s,baz=302
HFS Hagfors 98.90 332 LR LR 10 14 18.5
comp=Z,169nm,21.2s,MS4.5,baz=66,slow=39
NB2 NORSAR Subarra 99.69 334 P **P** 09 24 19.5 +2.0
comp=Z,0.3nm,0.6s,mb3.9,baz=41,slow=5.8
NOA NORSAR Array B 99.69 334 P **P** 09 24 17.0 -0.5
comp=Z,2.3nm,0.9s,mb4.6,baz=66,slow=4.6,SNR=4.8
NOA LR LR 10 15 57.2
comp=Z,88nm,20.8s,MS4.2,baz=40,slow=39
NOA NORSAR Array B 99.69 334 P **P** 09 24 17.0 -0.5
NOA LR LR 10 15 57.1
YKA Yellowknife Ar 100.52 24 P P 09 24 21.7 +0.4
comp=Z,0.4nm,0.4s,baz=305,slow=5.1,SNR=4.3
BRG Berggiesshubel 102.02 323 *e*P Pdif 09 24 29.1 +0.8
BRG pmax pmax
comp=Z,8.0nm,1.4s
BRG Berggiesshubel 102.02 323 P Pdif 09 24 29.1 +0.8
comp=Z,8.2nm,1.4s
GERES GERESS Array B 102.84 321 P Pdif 09 24 33.1 +1.1
GERES 09 28 48.8
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 102.84 321 P Pdif 09 24 33.1 +1.1
comp=Z,0.7nm,0.9s,baz=63,slow=6.0,SNR=5.3
GERES PP PP 09 28 48.8 -0.2
comp=Z,0.7nm,0.8s,baz=68,slow=7.2,SNR=4.9
SNAA Sanae 104.15 195⇑*i*P 09 28 50.0
VNA2 Neumayer--Watz 105.76 194⇑*i*P 09 28 53.8
VNA3 Neumayer Olymp 106.08 193⇑*i*P 09 28 59.5
PDAR Pinedale Array 112.24 41 PKiKP 09 29 11.0
comp=Z,0.3nm,0.6s,slow=1.5,SNR=3.6
PDAR PKKPab 09 40 09.7
comp=Z,0.7nm,1.0s,baz=127,slow=7.4,SNR=3.7
LAO LASA Array 112.47 36 *e*PKiKP 09 29 12.4
ANMO Albuquerque 117.83 48 *i* PKiKP PKPdf 09 29 21.6 +2.1
MNTX Cornudas Mount 120.03 51 *e*PKPdf PKPdf 09 29 26.3 +2.3
TXAR Lajitas Array 122.35 53 PKiKP PKPdf 09 29 30.8 +2.3
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 122.35 53 PKP PKPdf 09 29 30.8 +2.3
comp=Z,0.9nm,0.8s,baz=322,slow=0.8,SNR=10
WVT Waverly 129.79 37 *e*PKPdf PKPdf 09 29 44.9 +2.2
PLAL Pickwick Lake 130.41 38 *e*PKPdf PKPdf 09 29 45.6 +1.6
DBIC Dimbokro 130.66 281 PKiKP PKPdf 09 29 47.8 +2.9
DBIC pmax pmax
comp=Z,2.0nm,0.6s
DBIC Dimbokro 130.66 281 PKP PKPdf 09 29 47.8 +2.8
comp=Z,1.8nm,0.6s,baz=114,slow=8.8,SNR=4.3
CFAA Coronel Fontan 147.99 156 PKPbc PKPdf 09 30 20.7 +5.2
comp=Z,1.5nm,0.9s,baz=234,slow=2.4,SNR=22
CFAA Coronel Fontan 147.99 156 PKPbc PKPdf 09 30 20.7 +5.2
CPUP Villa Florida 156.16 171 PKP2 PKPab 09 30 57.3 -0.5
CPUP pmax pmax
comp=Z,6.0nm,1.1s
CPUP Villa Florida 156.16 171 PKPab PKPab 09 30 57.3 -0.5
comp=Z,5.5nm,1.1s,baz=234,slow=6.9,SNR=4.4
LPAZ La Paz 160.16 134 PKiKP PKPdf 09 30 36.1 +3.5
LPAZ pmax pmax
comp=Z,2.0nm,1.0s
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 160.16 134 PKP PKPdf 09 30 36.1 +3.5
comp=Z,1.9nm,1.0s,baz=301,slow=3.6,SNR=5.1
LPAZ PKPab PKPab 09 31 16.9 +1.6
comp=Z,2.3nm,0.9s,baz=212,slow=2.4,SNR=4.7
BDFB Brasilia 166.05 202 PKP2 PKPab 09 31 39.8 -1.1
BDFB pmax pmax
comp=Z,4.0nm,1.1s
BDFB Brasilia 166.05 202 PKPab PKPab 09 31 39.8 -1.1
comp=Z,4.2nm,1.1s,baz=160,slow=4.4,SNR=3.5

ISC 24 09:12:21.8±0.7, 39.68N±0.04×29.42E±0.06, h10km, n6, σ0°92/10, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ULDT	**Uludag**	**0.51**	**335**	*i* P		**Pg**	**09 12 31.5**	**-0.6**
ULDT				*i* S		**Sg**	**09 12 39.5**	**+0.4**
YLV	**Yalova**	**0.89**	**358**	PG		**Pg**	**09 12 39.4**	**-0.2**
YLV				SG		**Sg**	**09 12 53.0**	**+1.5**
ESKT	**Eskisehir**	**1.12**	**98**	PN		**Pn**	**09 12 43.1**	**-0.3**
ESKT	**Eskisehir**	**1.12**	**98**	*i* P		**Pb**	**09 12 42.2**	**-0.6**
ESKT				*i* S		**Sb**	**09 12 58.3**	**+1.1**
HRT	**Hereke**	**1.16**	**9**	PN		**Pn**	**09 12 42.2**	**-1.8**
MANT	**Manisa**	**1.36**	**210**	*i* P		**Pb**	**09 12 46.5**	**-0.4**
MANT				*i* S		**Sb**	**09 13 05.2**	**+1.0**

*MOS **24** 09:12:52.3±1.4, 35.16N×140.20E, h58km, mb4.6/5, Error ellipse: s-maj=16.6km s-min=8.0km az=108.0*
*JMA **24** 09:12:54.0±0.2, 35.21N×140.19E, h66km±2km, M4.5 Broadband fault plane solution: P waves. NP1:φs308°, δ72°, λ2°. NP2:φs217°, δ88°, λ162°. Principal axes: T Plg14°, Azm171°; N Plg72°, Azm31°; P Plg11°, Azm264°; JMA Felt II J1.*
*IDC **24** 09:12:55.2±0.6, 35.12N×140.04E, h62km±5km, mb3.9/14, mb1 4.1/15, mb1mx4.0/20, mbtmp4.2/15, MS2.9/1, Ms1 2.9/1, ms1mx2.4/28 Error ellipse: s-maj=11.4km s-min=5.3km az=74.0*
*NEIC **24** 09:12:56.2±1.1, 35.15N×140.04E, h72km±10km, mb4.7/10, MW4.5(NIED), Error ellipse: s-maj=12.1km s-min=7.2km az=99.0*
NEIC Felt at Chiba, Kawasaki and Yokosuka. Recorded [2 JMA] in Chiba, Kanagawa and Tokyo; [1 JMA] in Ibaraki, Saitama and Shizuoka Prefectures.
*BJI **24** 09:12:56.2, 35.20N×140.00E, h71km, mB5.0, mb4.7, Ms4.0, Msz3.8*
*NIED **24** 09:13:00, 35.20N×140.20E, h53km, Mw4.5 Best double couple: M0 6.35×10^15 NP1:φs198°, δ71°, λ123°. NP2: φs314°, δ37°, λ32°.*

ISC 24 09:12:54.0±0.3, 35.15N±0.03×140.11E±0.04, h68km±2km, h61km±.8km·pP-P, n72, σ0°96/88, mb4.3/25, 5C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.17**	**89**	⇓P		**P**	**09 13 03.8**	**-0.3**
KTR				S		S	**09 13 10.4**	**-1.2**
TATJ	**Tateyama 2**	**0.21**	**238**	⇓P		**P**	**09 13 05.3**	**+0.9**
TATJ				*e*S		**S**	**09 13 13.1**	**+1.0**
BSO4	**Boso 4**	**0.24**	**130**	⇓P		**P**	**09 13 04.7**	**+0.1**
BSO4				S		**S**	**09 13 12.8**	**+0.4**
JCN	**Nagara**	**0.28**	**15**	⇑P		**P**	**09 13 04.9**	**0.0**
JCN				S		**S**	**09 13 13.0**	**+0.2**
BSO3	**Boso 3**	**0.47**	**136**	⇑P		**P**	**09 13 06.3**	**-0.1**
JIM2	**Oshima 3**	**0.70**	**233**	⇓P		**P**	**09 13 09.2**	**+0.3**
JIM2				*e*S		**S**	**09 13 20.2**	**+0.2**
JOD2	**Odawara 2**	**0.85**	**278**	⇓P		**P**	**09 13 10.8**	**+0.2**
JOD2				*e*S		**S**	**09 13 22.7**	**-0.2**
BSO1	**Boso 1**	**0.86**	**124**	⇓P		**P**	**09 13 09.9**	**-0.9**
JIZS	**Izushimoda**	**1.10**	**248**	⇓P		**P**	**09 13 14.5**	**+0.6**
JIZS				*e*S		**S**	**09 13 29.5**	**+0.8**
JMY	**Miyakejima3**	**1.18**	**205**	P		**P**	**09 13 15.2**	**+0.2**
JMY				*e*S		**S**	**09 13 29.8**	**-0.8**
JRY	**Ryogami san**	**1.31**	**312**	⇑P		**P**	**09 13 16.8**	**-0.1**
JRY				*e*S		**S**	**09 13 31.9**	**+2.0**
JYN	**Shimob**	**1.33**	**286**	⇓P		**P**	**09 13 17.3**	**+0.2**
JYN				*e*S		**S**	**09 13 34.0**	**-0.3**
JAG	**Ashikaga**	**1.38**	**337**	⇑P		**P**	**09 13 16.8**	**-1.1**
JAG				*e*S		**S**	**09 13 32.6**	**-2.9**
JHJ	**Hachijo jima 2**	**2.04**	**188**	P		**P**	**09 13 27.2**	**+0.5**
	316nm,0.3s,baz=33,slow=4.0,SNR=72							
JHJ				S		**S**	**09 13 51.0**	**0.0**
	507nm,0.3s,baz=199,slow=19,SNR=19							
JHJ				LR		LR	09 13 57.1	
	comp=Z,1μm,21.4s,baz=303,slow=31							
MJAR	**Matsushiro Arr**	**2.08**	**313**	P		**P**	**09 13 27.5**	**+0.2**
	68nm,0.3s,baz=121,slow=9.3,SNR=432							
MJAR				S		**S**	**09 13 51.9**	**-0.1**
	149nm,0.3s,baz=144,slow=27,SNR=31							
MJAR	**Matsushiro Arr**	**2.08**	**313**	P		**P**	**09 13 27.5**	**+0.2**
MJAR				S		**S**	**09 13 51.9**	**-0.1**
MAJO	**Matsushiro**	**2.08**	**313**	*e*P		**P**	**09 13 27.4**	**0.0**
MAT	**Matsushiro**	**2.08**	**313**	*e*P		**P**	**09 13 28.0**	**+0.6**
MAT				*e*S		**S**	**09 13 53.0**	**+0.9**
MAT	**Matsushiro**	**2.08**	**313**	P		**P**	**09 13 27.5**	**+0.1**
MAT				S		**S**	**09 13 53.2**	**+1.1**
JNU	**Nakatsue**	**7.92**	**258**	P		**P**	**09 14 50.0**	**+1.3**
	baz=106,slow=7.4							
CBIJ	**Chichi jima**	**8.22**	**167**	P		**P**	**09 14 48.3**	**-4.5**
	66nm,0.3s,baz=266,slow=20,SNR=6.8							
ASAJ	**Asahikawa**	**9.16**	**11**	P		**P**	**09 15 00.8**	**-4.9**
ASAJ				S		**S**	**09 16 41.2**	**-7.0**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAJ				smax				
	comp=E,1.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,70nm,18.8s							
ASAJ	**Asahikawa**	**9.16**	**11**	P		**P**	**09 15 00.8**	**-4.9**
	comp=Z,1.1nm,0.3s,baz=221,slow=13,SNR=6.0							
ASAJ				S		**S**	**09 16 41.2**	**-7.0**
	comp=Z,1.1nm,0.3s,baz=131,slow=19,SNR=3.3							
ASAJ				LR		LR	09 19 52.9	
	comp=Z,70nm,18.8s,baz=263,slow=45							
KS15	**Wonju Array Si**	**10.13**	**287**	*e*P		**P**	**09 15 19.3**	**+0.4**
YSS	**Yuzh-Sakhalins**	**11.96**	**9**	*e*P		**P**	**09 15 39.8**	**-3.7**
YSS	**Yuzh-Sakhalins**	**11.96**	**9**	*e*P		**P**	**09 15 38.9**	**-4.6**
MDJ	**Mudanjiang**	**12.43**	**323**	P		**P**	**09 15 55.3**	**+5.5**
MDJ				AMB	AMB			
	comp=Z,20nm,1.0s							
MDJ				AMB	AMB			
	comp=Z,98nm,5.6s							
MDJ	**Mudanjiang**	**12.43**	**323**	*e*P		**P**	**09 15 52.3**	**+2.6**
	comp=Z,5.6nm,0.5s							
JOW	**Kunigami**	**13.10**	**234**	P		**P**	**09 15 51.5**	**-7.2**
	comp=Z,1.4nm,0.3s,baz=178,slow=9.3,SNR=6.1							
CN2	**Changchun**	**14.23**	**312**	*e*P		**P**	**09 16 16.0**	**+2.7**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.9s							
SNY	**Shenyang**	**14.56**	**302**	⇑P		**P**	**09 16 22.1**	**+4.5**
SNY				AMB	AMB			
	comp=Z,10.0nm,0.6s							
SNY				LR	LR			
	comp=E,300nm,22.0s							
SNY				LR	LR			
	comp=Z,320nm,24.3s							
HIA	**Hailar**	**20.57**	**320**	P		**P**	**09 17 27.1**	**-2.2**
HIA				pmax	pmax			
	comp=Z,5.0nm,0.7s							
HIA	**Hailar**	**20.57**	**320**	P		**P**	**09 17 27.1**	**-2.2**
	comp=Z,5.2nm,0.7s							
MA2	**Magadan**	**25.42**	**13**	*e*P		**P**	**09 18 17.4**	**+0.8**
MA2				pmax	pmax			
	comp=Z,10.0nm,1.3s,mb4.1							
MA2	**Magadan**	**25.42**	**13**	*e*P		**P**	**09 18 16.6**	**0.0**
	comp=Z,18nm,1.1s,mb4.4							
ENH	**Enshi**	**26.17**	**268**	*e*P		**P**	**09 18 22.4**	**-1.4**
	comp=Z,38nm,1.1s,mb4.7							
SONM	**Songino Array**	**28.02**	**307**	P		**P**	**09 18 40.5**	**-0.1**
	comp=Z,1.5nm,0.6s,mb3.7,baz=110,slow=8.8,SNR=12							
BOD	**Bodaibo**	**28.61**	**331**	*e*P		**P**	**09 18 44.6**	**-1.1**
BOD				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.3							
ZAK	**Zakamensk**	**30.66**	**311**	*e*P		**P**	**09 19 02.7**	**-1.4**
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.0s,mb3.5							
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.0							
NVS	**Novosibirsk**	**43.41**	**315**	*e*P		**P**	**09 20 51.1**	**-0.2**
NVS				pmax	pmax			
	comp=Z,18nm,0.8s,mb4.8							
MKAR	**Makanchi Array**	**44.26**	**304**	P		**P**	**09 20 58.8**	**+0.6**
	comp=Z,8.5nm,0.7s,mb4.6,baz=96,slow=9.4,SNR=8.0							
KAKA	**Kakadu**	**48.15**	**190**	*e*P		**P**	**09 21 30.0**	**+0.6**
	comp=Z,17nm,0.6s,mb5.1							
ILAR	**Eielson Array**	**51.65**	**32**	P		**P**	**09 21 55.6**	**+0.1**
	comp=Z,1.8nm,0.8s,mb4.2,baz=273,slow=6.6,SNR=20							

ILAR pP pP 09 22 11.2 -1.7
comp=Z,2.6nm,0.8s,baz=270,slow=6.2,SNR=10
FITZ Fitzroy Crossi 54.71 197 *e*P **P** **09 22 17.5 -1.2**
comp=Z,10nm,0.5s,mb5.1
WRAB Tennant Creek 55.05 187 *e*P **P** **09 22 19.9 -1.3**
WRAB pmax pmax
comp=Z,44nm,0.8s,mb5.5
WRAB Tennant Creek 55.05 187 *e*P **P** **09 22 19.9 -1.3**
comp=Z,44nm,0.8s,mb5.5
WB2 Warramunga Arr 55.06 187 *e*P **P** **09 22 20.0 -1.3**
WRA Warramunga Arr 55.06 187 P **P** **09 22 20.0 -1.2**
comp=Z,22nm,0.6s,mb5.3,slow=6.7,SNR=133
CTA Charters Tower 55.24 173 *e*P **P** **09 22 21.8 -0.8**
comp=Z,3.9nm,0.6s,mb4.6
CTA Charters Tower 55.24 173 *e*P **P** **09 22 21.8 -0.8**
CTA pmax pmax
comp=Z,4.0nm,0.6s
CTAO Charters Tower 55.24 173 *e*P **P** **09 22 21.8 -0.8**
CTAO pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
CTAO Charters Tower 55.24 173 *e*P **P** **09 22 21.8 -0.8**
comp=Z,4.1nm,0.6s,mb4.6
INK Inuvik 56.55 26 P **P** **09 22 32.0 +0.7**
comp=Z,1.0nm,0.7s,mb4.0,baz=292,slow=7.5,SNR=3.3
INK pP pP 09 22 48.2 -0.7
comp=Z,1.0nm,0.6s,baz=64,slow=4.6,SNR=3.3
ARCES ARCESS Array B 65.39 339 P **P** **09 23 30.7 -0.3**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 65.39 339 P **P** **09 23 30.7 -0.3**
comp=Z,2.5nm,0.7s,mb4.2,baz=51,slow=7.8,SNR=5.8
YKA Yellowknife Ar 65.97 29 P **P** **09 23 34.8 +0.1**
comp=Z,0.3nm,0.4s,mb3.5,baz=297,slow=6.1,SNR=3.6
STKA Stephens Creek 66.68 179 *e*P **P** **09 23 38.8 -1.0**
comp=Z,3.1nm,0.6s,mb4.3
STKA Stephens Creek 66.68 179 P **P** **09 23 39.3 -0.6**
comp=Z,4.8nm,0.7s,mb4.4,baz=36,slow=9.1,SNR=6.9
FINES FINESS Array B 69.99 332 P **P** **09 23 59.3 -0.5**
comp=Z,2.4nm,0.6s,mb4.2,baz=90,slow=5.7,SNR=7.5
AKASG Malin Array Be 75.14 322 P **P** **09 24 29.9 -0.3**
comp=Z,2.0nm,0.5s,mb4.1,baz=47,slow=6.1,SNR=10
AKASG pP pP 09 24 46.6 -2.1
comp=Z,2.2nm,0.8s,baz=50,slow=5.7,SNR=2.7
NOA NORSAR Array B 75.51 337 P **P** **09 24 31.9 -0.2**
comp=Z,2.3nm,0.7s,mb4.0,baz=40,slow=5.8,SNR=6.5
NOA pP pP 09 24 49.4 -1.2
comp=Z,1.7nm,0.8s,baz=40,slow=5.8,SNR=3.1
NOA NORSAR Array B 75.51 337 pP pP 09 24 49.4 -1.2
BOZ Bozeman (W) 76.80 43 *e*P **P** **09 24 39.9 +0.1**
BOZ pmax pmax
comp=Z,1.0nm,0.8s,mb3.6
BOZ Bozeman (W) 76.80 43 *e*P **P** **09 24 39.9 +0.1**
comp=Z,1.1nm,0.8s,mb3.6
NVAR Mina Array Bea 76.97 52 P **P** **09 24 42.1 +1.2**
comp=Z,2.2nm,0.6s,mb4.0,baz=292,slow=4.9,SNR=24
PDAR Pinedale Array 79.75 45 P **P** **09 24 57.2 +1.2**
comp=Z,0.9nm,0.7s,mb3.7,baz=282,slow=1.3,SNR=11
CLL Collm 82.20 330 *e*PP pP 09 25 26.0 -1.4
PV10 Paradox Valley 82.82 48 *e*P **P** **09 25 14.3 +2.1**
PV01 Paradox Valley 83.25 48 *e*P **P** **09 25 16.1 +1.8**
GERES GERESS Array B 83.75 328 P **P** **09 25 17.8 +1.2**
comp=Z,0.4nm,0.5s,mb3.5,baz=27,slow=3.0,SNR=4.4
TXAR Lajitas Array 92.11 52 P **P** **09 25 58.4 +1.2**
comp=Z,0.5nm,0.7s,mb3.9,baz=296,slow=2.7,SNR=9.2
TXAR Lajitas Array 92.11 52 P **P** **09 25 58.4 +1.2**

IDC 24 09:54:34.6±1.2, 2.53N×126.38E, mb3.9/4, mb1 4.1/4, mb1mx3.8/15, mbtmp3.9/4, MS3.6/1, Ms1 3.6/1, ms1mx2.6/27, Error ellipse: s-maj=142.6km s-min=20.4km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.29**	**158**	*e*P		P	09 58 31.6	+5.0
	6.8nm,0.6s							
WRA	**Warramunga Arr**	**23.66**	**161**	P		P	09 59 47.6	-1.1
	3.2nm,0.6s,baz=340,slow=11,SNR=28							
WB2	**Warramunga Arr**	**23.66**	**161**	*e*P		P	09 59 47.2	-1.5
STKA	**Stephens Creek**	**37.14**	**158**	P		P	10 01 47.4	-1.6
	2.5nm,0.6s,baz=344,slow=10,SNR=7.9							
SONM	**Songino Array**	**48.32**	**342**	P		P	10 03 17.6	-2.2
	0.4nm,0.3s,baz=135,slow=8.2,SNR=3.5							
SONM				LR		LR	10 25 01.5	
	comp=Z,57nm,18.0s,baz=218,slow=38							
MKAR	**Makanchi Array**	**58.34**	**326**	P		P	10 04 31.7	-2.2
	0.4nm,0.5s,baz=125,slow=6.1,SNR=7.7							

IDC 24 10:04:28.6±1.9, 2.43N×126.14E, mb3.8/3, mb1 4.0/3, mb1mx3.7/15, mbtmp3.9/3, Error ellipse: s-maj=195.3km s-min=25.5km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.65**	**160**	P		P	10 09 41.9	-0.8
	0.9nm,0.4s,baz=339,slow=10,SNR=13							
STKA	**Stephens Creek**	**37.14**	**158**	P		P	10 11 41.3	-1.8
	1.0nm,0.4s,baz=321,slow=6.5,SNR=2.9							
MKAR	**Makanchi Array**	**58.29**	**326**	P		P	10 14 25.2	-2.4
	0.3nm,0.4s,baz=119,slow=7.9,SNR=7.1							

IDC 24 10:06:36.0±3.8, 8.74S×118.66E, mb3.7/2, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=204.4km s-min=33.6km az=50.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.81**	**128**	P		P	10 10 57.5	-2.0
	0.3nm,0.3s,baz=304,slow=12,SNR=7.8							
WRA				S		S	10 14 18.2	-8.8
	0.3nm,0.3s,baz=307,slow=24,SNR=6.9							
SONM	**Songino Array**	**57.37**	**350**	P		P	10 16 26.2	-2.3
	0.4nm,0.4s,baz=170,slow=9.7,SNR=4.4							
MKAR	**Makanchi Array**	**64.07**	**333**	P		P	10 17 11.8	-2.3
	0.6nm,0.6s,baz=146,slow=7.6,SNR=6.9							

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*CSEM **24** 10:25:33.9±0.1, 39.18N×28.21E, h15km, MD3.3, Error ellipse: s-maj=1.9km s-min=1.2km az=116.0*
*ISK **24** 10:25:34.0, 39.18N×28.19E, h15km, MD3.3*
*ATH **24** 10:25:35.0, 39.37N×28.24E, h32km±24km, MD3.4/3*

ISC 24 10:25:34.1±0.6, 39.17N±0.02×28.22E±0.03, h11km±5km, n35, σ0°59/45, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.43**	**227**	*i* PG		**Pg**	**10 25 43.3**	**+0.4**
AKS				*i* SG		**Sg**	**10 25 48.9**	**+0.1**
DST	**Dursunbey**	**0.54**	**36**	*i* PG		**Pg**	**10 25 45.1**	**+0.1**
DST				*i* SG		**Sg**	**10 25 52.7**	**+0.4**
MANT	**Manisa**	**0.73**	**158**	*i* P		**Pb**	**10 25 48.5**	**+0.1**
MANT				*i* S		**Sb**	**10 25 57.3**	**-0.8**
GDZ	**Gediz**	**0.99**	**94**	*i* P		**Pb**	**10 25 53.3**	**+0.5**
GDZ				*i* S		**Sb**	**10 26 05.7**	**+0.1**
ORLT	**Orhaneli**	**1.02**	**31**	*i* PG		**Pg**	**10 25 54.3**	**-0.2**
KDAG	**Bornova**	**1.07**	**224**	*i* P		**Pb**	**10 25 53.9**	**-0.3**
KDAG				*i* S		**Sb**	**10 26 08.9**	**+1.0**
IZM	**Izmir**	**1.07**	**224**	PG		**Pg**	**10 25 54.8**	**-0.8**
ULDT	**Uludag**	**1.20**	**36**	*i* P		**Pb**	**10 25 56.7**	**+0.3**
ULDT				*i* S		**Sb**	**10 26 11.9**	**+0.1**
BNT	**Bandirma**	**1.20**	**349**	PN		**Pn**	**10 25 57.4**	**+0.5**
CANB	**Canakkale**	**1.23**	**314**	PN		**Pn**	**10 25 56.9**	**-0.3**
KHL	**Karahalli**	**1.33**	**129**	PN		**Pn**	**10 25 58.8**	**+0.1**
ALT	**Altintas**	**1.48**	**94**	PN		**Pn**	**10 26 01.5**	**+0.7**
URLA	**Izmir**	**1.50**	**238**	*i* P		**Pn**	**10 26 01.6**	**+0.4**
URLA				*i* S		**Sb**	**10 26 19.4**	**-1.1**
MRMT	**Marmara Adasi**	**1.51**	**342**	PN		**Pn**	**10 26 00.8**	**-0.4**
PRK	**Paraskevi**	**1.51**	**273**	⇓*i* PN		**Pn**	**10 26 01.9**	**+0.6**
PRK				*e*SN		**Sn**	**10 26 22.0**	**+0.9**
AYDN	**Tasoluk**	**1.53**	**190**	*i* P		**Pn**	**10 26 02.5**	**+0.9**
AYDN				*i* S		**Sb**	**10 26 20.3**	**-1.1**
DENT	**Denizli**	**1.56**	**155**	PN		**Pn**	**10 26 02.1**	**+0.2**
EZN	**Ezine**	**1.60**	**295**	PN		**Pn**	**10 26 02.4**	**-0.2**
LPK	**Lapseki**	**1.64**	**317**	PN		**Pn**	**10 26 02.7**	**-0.4**
YLV	**Yalova**	**1.65**	**32**	PN		**Pn**	**10 26 02.8**	**-0.5**
MFT	**Murefte**	**1.76**	**336**	*e*PN		**Pn**	**10 26 04.5**	**-0.4**
BADT	**Buyukada**	**1.81**	**22**	*e*PN		**Pn**	**10 26 05.5**	**-0.1**
SMG	**Samos**	**1.82**	**217**	⇓*i* PN		**Pn**	**10 26 08.7**	**+3.0**
SMG				*e*SN		**Sn**	**10 26 32.9**	**+4.0**
MLSB	**Milas**	**1.91**	**191**	*e*PN		**Pn**	**10 26 06.6**	**-0.3**
GPA	**Golpazari**	**1.96**	**55**	*e*PN		**Pn**	**10 26 07.3**	**-0.4**
CTT	**Catalca**	**1.98**	**5**	*e*PN		**Pn**	**10 26 08.2**	**+0.2**
HRT	**Hereke**	**1.99**	**34**	*e*PN		**Pn**	**10 26 08.0**	**-0.1**
ISK	**Istanbul-Kandi**	**2.00**	**19**	*e*PN		**Pn**	**10 26 08.0**	**-0.3**
YER	**Yerkesik**	**2.04**	**178**	*e*PN		**Pn**	**10 26 08.8**	**0.0**
EYL	**Eskiyayla**	**2.04**	**46**	*e*PN		**Pn**	**10 26 08.3**	**-0.6**
ESKT	**Eskisehir**	**2.07**	**80**	*e*PN		**Pn**	**10 26 09.3**	**0.0**
BODT	**Bodrum**	**2.23**	**199**	*e*PN		**Pn**	**10 26 11.6**	**+0.1**
LIA	**Limnos Island**	**2.45**	**288**	*e*PN		**Pn**	**10 26 14.3**	**-0.5**
KIZT	**Kizilcal**	**2.87**	**95**	*e*PN		**Pn**	**10 26 21.1**	**+0.4**
EDRB	**Edirne**	**2.90**	**338**	*e*PN		**Pn**	**10 26 20.9**	**-0.2**

NNC 24 10:28:02.2±3.2, 37.62N×71.62E, h217km±48km, mpv3.5, 4C-1D, Error ellipse: s-maj=36.5km s-min=21.7km az=30.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.47**	**23**	⇑P		P	10 29 22.5	-1.2
	2.1nm,0.5s							
AAK				⇓S		S	10 30 28.1	+1.0
	12nm,0.8s							
KK31	**Karatay Array**	**5.54**	**352**	⇑P		P	10 29 24.4	-0.2
	3.1nm,0.4s,baz=166,slow=11,SNR=65							
KK31				⇑S		S	10 30 28.8	+0.1
	2.8nm,0.4s,baz=165,slow=18,SNR=13							
AB31	**Akbulak array**	**14.38**	**328**	P		P	10 31 15.8	-1.1
	0.4nm,0.5s,baz=136,slow=6.6,SNR=12							
AB31				⇑S		S	10 33 56.1	+5.0
	0.4nm,0.6s							

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*PNSN **24** 10:35:49.0, 46.20N×122.19W, h0km, MD3.3, Fault plane solution: NP1:φ≈55°, δ40°, NP2:φ≈222°, δ51°, Principal axes: T Plg82°, Azm88°; P Plg5°, Azm318°;*
*NEIC **24** 10:35:49.0, 46.20N×122.19W, h0km, MD3.3(SEA), After SEA.*
*IDC **24** 10:35:52.6±1.5, 46.13N×122.30W, mb3.0/2, mb1 3.5/5, mb1mx3.3/22, mbtmp3.0/5, ML2.8/3, Error ellipse: s-maj=20.9km s-min=14.3km az=108.0*

ISC 24 10:35:49.1±0.3, 46.21N±0.02×122.20W±0.04, h2km±3km, n50, σ0°74/50, mb3.1/2, 8C-10D, Washington

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YEL	**Yellow Rock**	**0.01**	**77**	⇓P		**Pg**	**10 35 49.4**	**-0.1**
SHW	**Mount Saint He**	**0.03**	**239**	⇓P		**Pg**	**10 35 50.0**	**+0.2**
STD	**Studebaker Rid**	**0.03**	**334**	⇑P		**Pg**	**10 35 50.2**	**+0.4**
ESD	**East Dome**	**0.04**	**106**	⇓P		**Pg**	**10 35 49.9**	**0.0**
HSR	**South Ridge**	**0.04**	**160**	⇓P		**Pg**	**10 35 49.9**	**0.0**
SOSW	**Source of Smit**	**0.06**	**51**	⇓P		**Pg**	**10 35 50.5**	**+0.2**
JLK	**June Lake**	**0.07**	**151**	⇓P		**Pg**	**10 35 50.4**	**-0.1**
FL2	**Flat Top 2**	**0.10**	**264**	⇑P		**Pg**	**10 35 51.7**	**+0.5**
ERK	**Elk Rock**	**0.14**	**315**	⇑P		**Pg**	**10 35 52.2**	**+0.4**
CDFW	**Cedar Flats**	**0.14**	**130**	⇑P		**Pg**	**10 35 52.1**	**+0.2**
TDL	**Tradedollar La**	**0.14**	**356**	⇓P		**Pg**	**10 35 52.4**	**+0.4**
MTMW	**Mount Mitchell**	**0.18**	**182**	⇑P		**Pg**	**10 35 53.1**	**+0.3**
LVP	**Lakeview Peak**	**0.20**	**226**	⇓P		**Pg**	**10 35 53.2**	**+0.1**
RVW	**Rose Valley**	**0.38**	**261**	⇑P		**Pg**	**10 35 57.1**	**+0.3**
ASR	**Mount Adams--S**	**0.43**	**97**	P		**Pg**	**10 35 57.3**	**-0.3**
LMW	**Ladd Mountain**	**0.47**	**352**	P		**Pg**	**10 35 59.3**	**+1.0**
GLK	**Glacier Lake**	**0.54**	**49**	P		**Pg**	**10 36 00.1**	**+0.2**
LON	**Longmire**	**0.61**	**26**	P		**Pg**	**10 36 00.9**	**-0.3**
WPW	**White Pass**	**0.67**	**42**	P		**Pg**	**10 36 01.8**	**-0.6**
RCM	**Mount Rainier-**	**0.71**	**27**	P		**Pg**	**10 36 03.2**	**0.0**
RCS	**Mount Rainier-**	**0.74**	**26**	P		**Pg**	**10 36 03.5**	**-0.4**
BMW	**Boistfort Moun**	**0.76**	**291**	⇓P		**Pg**	**10 36 03.5**	**-0.7**
FMW	**Mount Fremont**	**0.81**	**27**	⇑P		**Pg**	**10 36 04.9**	**-0.3**
VLL	**Laurance Lake**	**0.83**	**154**	P		**Pg**	**10 36 05.7**	**0.0**
GHW	**Garrison Hill**	**0.84**	**357**	P		**Pg**	**10 36 05.7**	**-0.1**
NLO	**Nicolai Mounta**	**0.88**	**263**	P		**Pg**	**10 36 06.5**	**-0.1**
TDH	**Tom, Dick, Har**	**0.96**	**162**	P		**Pb**	**10 36 07.5**	**-0.7**
CPW	**Capitol Peak**	**1.00**	**320**	P		**Pb**	**10 36 08.0**	**-0.8**
VFP	**Flag Point**	**1.03**	**150**	P		**Pb**	**10 36 08.1**	**-1.2**
GSM	**Grass Mountain**	**1.03**	**16**	P		**Pb**	**10 36 08.6**	**-0.8**
KMOR	**Kings Mountain**	**1.07**	**238**	P		**Pb**	**10 36 08.7**	**-1.2**
EBG	**Ellensburg**	**1.33**	**57**	P		**Pb**	**10 36 15.0**	**+0.5**
CROR	**Criterion Ridg**	**1.49**	**145**	⇑P		**Pn**	**10 36 17.0**	**0.0**
VTHM	**Trough**	**1.54**	**131**	P		**Pn**	**10 36 18.2**	**+0.4**
PRW	**Prosser**	**1.75**	**89**	P		**Pn**	**10 36 21.4**	**+0.7**
COR	**Corvallis**	**1.80**	**206**	*e*P		**Pn**	**10 36 20.8**	**-0.6**
RSW	**Rattlesnake Hi**	**1.82**	**83**	P		**Pn**	**10 36 22.4**	**+0.7**
FRIS	**Frissel Point**	**2.00**	**178**	⇑P		**Pn**	**10 36 24.9**	**+0.6**
OCWA	**Octopus Mounta**	**2.05**	**319**	*e*P		**Pn**	**10 36 24.3**	**-0.7**
PGC	**Sidney**	**2.59**	**341**	*e*P		**Pn**	**10 36 32.4**	**-0.3**
BMO	**Blue Mountains**	**3.70**	**110**	*e*P		**Pn**	**10 36 48.0**	**-0.5**
NEW	**Newport**	**4.03**	**57**	Pn		**Pn**	**10 36 59.5**	**+6.4**
	0.1nm,0.3s,baz=232,slow=12,SNR=2.2							
NEW				Lg			10 38 00.8	
	0.1nm,0.3s,baz=144,slow=18,SNR=5.2							
NEW	**Newport**	**4.03**	**57**	Pn		**Pn**	**10 36 59.5**	**+6.4**
NEW				Lg			10 38 00.8	
MCMT	**McKenzie Canyo**	**6.71**	**98**	P		**Pn**	**10 37 28.8**	**-2.4**
NVAR	**Mina Array Bea**	**8.29**	**158**	Pn		**P**	**10 37 56.5**	**+3.3**
	0.1nm,0.3s,baz=332,slow=9.2,SNR=5.1							
YKA	**Yellowknife Ar**	**16.89**	**12**	Pn		**P**	**10 39 48.0**	**+0.1**
	0.0nm,0.3s,baz=197,slow=11,SNR=3.6							
YKA	**Yellowknife Ar**	**16.89**	**12**	Pn		**P**	**10 39 48.0**	**+0.1**
TXAR	**Lajitas Array**	**22.23**	**133**	P		**P**	**10 40 50.5**	**+1.8**
	0.3nm,0.9s,mb2.7,baz=284,slow=5.2,SNR=3.4							
TXAR	**Lajitas Array**	**22.23**	**133**	P		**P**	**10 40 50.5**	**+1.8**
ILAR	**Eielson Array**	**23.00**	**333**	P		**P**	**10 40 57.8**	**+2.0**
	1.8nm,1.1s,mb3.4,baz=142,slow=7.9,SNR=14							

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*IDC **24** 10:41:04.6±5.9, 15.27N×120.68E, h120km±54km, mb3.9/12, mb1 4.0/12, mb1mx3.9/19, mbtmp4.3/12, Error ellipse: s-maj=29.6km s-min=15.0km az=73.0*
*BJI **24** 10:41:06.3, 15.26N×120.78E, h154km, mB4.9, mb4.6*
*MAN **24** 10:41:07.1, 15.33N×120.30E, h133km, mb4.6, ML3.5, MS3.4*
*MOS **24** 10:41:07.2±1.3, 15.27N×120.68E, h160km, mb4.3/10, Error ellipse: s-maj=21.0km s-min=10.6km az=107.4*
*NEIC **24** 10:41:07.3±1.1, 15.28N×120.69E, h145km±11km, mb4.5/10, Error ellipse: s-maj=12.0km s-min=6.7km az=89.0*

ISC 24 10:41:07.0±0.3, 15.32N±0.03×120.59E±0.05, h156km±3km, n78, σ1°18/84, mb4.2/27, 6C-7D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NBP	**Mount Natib**	**0.60**	**196**	⇓*e*P		**P**	**10 41 28.6**	**-1.2**
NBP	**Mount Natib**	**0.60**	**196**	⇓*e*P		**P**	**10 41 31.9**	**+2.0**
NZB	**Bigte**	**0.67**	**132**	⇑*e*P		**P**	**10 41 30.0**	**-0.3**
SCZP	**Santa Cruz**	**0.80**	**305**	*e*P		**P**	**10 41 28.7**	**-2.3**
SCZP				*e*S		**S**	**10 41 44.9**	**-4.6**
BCPH	**Baguio City Da**	**1.06**	**360**	⇑*e*P		**P**	**10 41 31.5**	**-1.4**
BCPH				*i* S		**S**	**10 41 51.2**	**-1.7**
BOLP	**Bolinao**	**1.24**	**329**	*e*P		**P**	**10 41 33.2**	**-1.5**
TGY	**Tagaytay City**	**1.26**	**164**	⇓*i* P		**P**	**10 41 36.7**	**+1.8**
TGY				*i* S		**S**	**10 41 56.6**	**+0.2**
LBPH	**Los Banos**	**1.29**	**154**	⇑*e*P		**P**	**10 41 36.1**	**+0.9**
POLP	**Polilio Island**	**1.43**	**114**	*e*P		**P**	**10 41 38.1**	**+1.5**
LUBP	**Lubang**	**1.61**	**192**	*e*P		**P**	**10 41 37.2**	**-1.3**
PGP	**Puerto Galera**	**1.84**	**169**	⇑*e*P		**P**	**10 41 41.1**	**+0.1**
CAUP	**Cauayan**	**2.00**	**36**	*e*P		**P**	**10 41 44.4**	**+1.6**
BOAC	**Boac**	**2.21**	**146**	*e*P		**P**	**10 41 47.4**	**+2.0**
GQP	**Guinayangan**	**2.28**	**128**	⇓*e*P		**P**	**10 41 48.1**	**+1.9**
ABRA	**Dolores**	**2.32**	**3**	*e*P		**P**	**10 41 45.7**	**-1.0**
APYP	**Conner**	**2.61**	**14**	*e*P		**P**	**10 41 50.4**	**+0.2**
CVP	**Callao Caves**	**2.65**	**26**	⇑*e*P		**P**	**10 41 51.0**	**+0.2**
AUQP	**San Andres**	**2.83**	**134**	*e*P		**P**	**10 41 56.5**	**+3.4**
BUSP	**Coron**	**3.32**	**187**	*e*P		**P**	**10 41 57.9**	**-1.5**
NACB	**Ninganchiao**	**8.86**	**6**	*e*P		**P**	**10 43 12.3**	**-0.4**
KKM	**Kota Kinabalu**	**10.17**	**205**	*e*P		**P**	**10 43 31.0**	**+1.1**
GZH	**Guangzhou**	**10.32**	**320**	P		**P**	**10 43 35.1**	**+3.2**
GZH				S		**S**	**10 45 28.3**	**+2.8**
QIZ	**Qiongzhong**	**10.91**	**291**	⇓P		**P**	**10 43 39.8**	**+0.1**
QIZ				*e*S		**S**	**10 45 40.3**	**+0.9**
QIZ	**Qiongzhong**	**10.91**	**291**	*e*P		**P**	**10 43 39.9**	**+0.2**
	28nm,0.9s							
SSE	**Sheshan**	**15.71**	**2**	P		**P**	**10 44 40.5**	**-0.6**
SSE				AMB		AMB		
	comp=Z,33nm,0.7s							
SSE				AMB		AMB		
	comp=Z,85nm,4.7s							
SSE				LR		LR		
	comp=N,19nm,16.1s							
SSE				LR		LR		
	comp=E,31nm,16.1s							
SSE				LR		LR		
	comp=Z,27nm,15.1s							
SSE	**Sheshan**	**15.71**	**2**	P		**P**	**10 44 40.5**	**-0.6**
	comp=Z,33nm,0.7s							
SSE				S		**S**	**10 47 41.5**	**+11**
NJ2	**Nanjing**	**16.73**	**355**	*e*P		**P**	**10 44 54.1**	**+0.5**
NJ2				PP		PP	10 45 11.6	+1.8
NJ2				S		**S**	**10 48 03.0**	**+10**
NJ2				AMB		AMB		
	comp=Z,20nm,0.6s							
NJ2				LR		LR		
	comp=N,320nm,9.0s							
NJ2				LR		LR		
	comp=E,270nm,8.0s							
NJ2				LR		LR		
	comp=Z,150nm,7.8s							
KSM	**Kuching**	**17.09**	**217**	*e*P		**P**	**10 44 57.8**	**-0.2**
KMI	**Kunming**	**19.36**	**303**	P		**P**	**10 45 25.0**	**+2.2**
KMI				AMB		AMB		
	comp=Z,12nm,1.0s							
KMI	**Kunming**	**19.36**	**303**	P		**P**	**10 45 25.0**	**+2.2**
	comp=Z,12nm,1.0s							
JNU	**Nakatsue**	**20.03**	**26**	P		**P**	**10 45 28.6**	**-1.0**
	comp=Z,12nm,0.9s,baz=173,slow=4.1,SNR=5.4							
MJAR	**Matsushiro Arr**	**26.33**	**33**	P		**P**	**10 46 28.5**	**-1.6**
	comp=Z,1.5nm,0.6s,mb3.8,baz=209,slow=8.0,SNR=6.8							
SNY	**Shenyang**	**26.54**	**5**	⇓P		**P**	**10 46 31.6**	**-0.4**
SNY				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.5							
MDJ	**Mudanjiang**	**30.18**	**13**	P		**P**	**10 47 04.9**	**+0.2**
MDJ				AMB		AMB		
	comp=Z,11nm,1.4s,mb4.4							
MDJ				AMB		AMB		
	comp=Z,134nm,5.5s							
MDJ	**Mudanjiang**	**30.18**	**13**	*e*P		**P**	**10 47 05.9**	**+1.2**
	comp=Z,6.7nm,0.6s,mb4.5							
KAKA	**Kakadu**	**30.22**	**157**	*e*P		**P**	**10 47 05.5**	**+0.2**
	comp=Z,7.5nm,0.6s,mb4.6							
SONM	**Songino Array**	**34.48**	**343**	P		**P**	**10 47 42.0**	**+0.3**
	comp=Z,0.7nm,0.5s,mb3.7,baz=164,slow=8.9,SNR=6.1							
GUN	**Gumba**	**34.49**	**297**	*e*P		**P**	**10 47 42.2**	**+0.2**
PKI	**Pulchoki**	**34.81**	**296**	*e*P		**P**	**10 47 44.9**	**+0.1**
	comp=Z,8.1nm,0.6s,mb4.5							
KKN	**Kakani**	**34.98**	**297**	*e*P		**P**	**10 47 46.1**	**-0.1**
	comp=Z,22nm,0.9s,mb4.8							
KLR	**Kul'dur**	**35.03**	**13**	*e*P		**P**	**10 47 44.2**	**-2.2**
GKN	**Gorkha**	**35.58**	**297**	*e*P		**P**	**10 47 49.4**	**-1.8**
	comp=Z,23nm,0.8s,mb4.9							
MBWA	**Marble Bar**	**36.26**	**181**	*e*P		**P**	**10 47 54.4**	**-2.6**
KOLN	**Koldanda**	**36.42**	**296**	*e*P		**P**	**10 47 57.1**	**-1.2**
YSS	**Yuzh-Sakhalins**	**36.54**	**26**	*e*P		**P**	**10 48 00.6**	**+1.5**
YSS				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.4							
YSS	**Yuzh-Sakhalins**	**36.54**	**26**	*e*P		**P**	**10 48 00.6**	**+1.5**
	comp=Z,6.5nm,0.6s,mb4.4							
WRAB	**Tennant Creek**	**37.55**	**158**	*e*P		**P**	**10 48 06.6**	**-1.3**
WRAB				pmax		pmax		
	comp=Z,9.0nm,0.7s,mb4.5							
WRAB	**Tennant Creek**	**37.55**	**158**	*e*P		**P**	**10 48 06.6**	**-1.3**
	comp=Z,9.2nm,0.7s,mb4.5							
WRA	**Warramunga Arr**	**37.56**	**158**	P		**P**	**10 48 06.3**	**-1.6**
	comp=Z,4.7nm,0.6s,mb4.3,baz=341,slow=9.0,SNR=78							
WB2	**Warramunga Arr**	**37.56**	**158**	*e*P		**P**	**10 48 06.8**	**-1.2**
ZAK	**Zakamensk**	**37.68**	**342**	*e*P		**P**	**10 48 03.1**	**-5.5**
ZAK				pmax		pmax		
	comp=Z,1.0nm,1.1s,mb3.4							
MKAR	**Makanchi Array**	**44.68**	**323**	*i* P		**P**	**10 49 06.7**	**+0.9**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**44.68**	**323**	P		**P**	**10 49 06.4**	**+0.6**
	comp=Z,0.9nm,0.3s,mb3.9,baz=127,slow=8.9,SNR=21							
YAK	**Yakutsk**	**47.10**	**6**	*e*P		**P**	**10 49 25.1**	**+0.4**
YAK				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.3							
YAK				pmax		pmax		
	comp=N,3.0nm,0.8s							
AAK	**Ala-Archa**	**47.86**	**314**	⇓*i* P		**P**	**10 49 31.9**	**+1.1**
AAK				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb3.9							
STKA	**Stephens Creek**	**51.07**	**157**	P		**P**	**10 49

comp=E,235nm,0.6s
PCH Pirque 2.90 215 ⇑*i*P **P 11 22 37.5 +0.5**
PCH *i* S **S 11 23 12.9 +1.5**
ANTU Antumapu 2.92 217 *e*P **P 11 22 37.6 +0.3**
ANTU *i* S **S 11 23 11.8 -0.1**
ANTU AMP 11 23 15.7
comp=E,132nm,0.2s
LMEL Las Melosas 2.95 209 ⇓*i*P **P 11 22 38.2 +0.5**
LMEL AMP 11 23 24.1
comp=N,99nm,0.2s
RCDM Rinconada Maip 2.95 221 ⇑*i*P **P 11 22 37.5 -0.3**
RCDM *i* S **S 11 23 12.6 -0.1**
RCDM AMP 11 23 13.0
comp=E,296nm,0.1s
TACH Talagante 3.15 220 ⇓*i*P **P 11 22 39.5 -0.9**
TACH *i* S **S 11 23 16.8 -0.6**
CHCH Chadas Angostu 3.22 214 ⇑*i*P **P 11 22 41.0 -0.4**
CHCH *i* S **S 11 23 19.4 +0.2**
CACH El Canelo 3.35 211 *e*P **P 11 22 43.7 +0.5**
LCCH Las Cruces 3.40 229 *e*P **P 11 22 42.4 -1.5**
LCCH *e*S **S 11 23 20.9 -2.7**
CICH Cipreses 3.45 207 ⇑*i*P **P 11 22 44.7 +0.2**
LNV Longovilo 3.64 222 ⇑*i*P **P 11 22 44.5 -2.5**
LNV *i* S **S 11 23 24.9 -4.4**
SFDO San Fernando 3.95 212 *i* S **S 11 23 35.5 -1.5**

*IDC **24** 11:36:09.2±1.1,36.98N×35.81E,mb4.0/6,mb1 4.0/11, mb1mx3.8/22,mbtmp3.9/11,ML3.6/4,MS3.3/3,Ms1 3.3/3, ms1mx2.8/28,Error ellipse: s-maj=25.9km s-min=16.9km az=73.0*
*GRAL **24** 11:36:10.6±7.4,37.25N×35.95E,MD4.2*
*NEIC **24** 11:36:10.5±0.6,37.01N×35.94E,h10km,ML4.1(ISK), Error ellipse: s-maj=10.0km s-min=8.0km az=114.0*
*CSEM **24** 11:36:10.1±0.1,37.02N×36.02E,h20km,Mc3.5,Error ellipse: s-maj=1.6km s-min=1.4km az=40.0*
*ISK **24** 11:36:10.1,36.96N×36.03E,h22km,ML4.1*
ISC 24 11:36:10.7±0.4,**37.00N**±0.02×**36.01E**±0.03,**h22**km±4km, **n75**,σ0**86**/97,**mb3.9**/6,**MS3.5**/2**,2D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.21**	**272**	*i*	PG	**Pb**	**11 36 15.8**	**-0.4**
COBT	**Iskenderun**	**0.52**	**158**	*i*	P	**Pb**	**11 36 20.4**	**-0.8**
COBT				*i*	S	**Sb**	**11 36 27.6**	**-0.6**
COBT	**Iskenderun**	**0.52**	**158**	*i*	P	**Pb**	**11 36 20.4**	**-0.8**
COBT				*i*	S	**Sb**	**11 36 27.6**	**-0.6**
DRWC	**Darouich**	**0.65**	**126**	⇓*i*	P	**Pb**	**11 36 22.7**	**-0.6**
DRWC				⇓*i*	S	**Sb**	**11 36 31.5**	**-0.4**
HTY	**Hatay**	**0.89**	**173**		PG	**Pb**	**11 36 27.5**	**+0.2**
KAHT	**Ahir Dag**	**0.93**	**47**	*i*	P	**Pb**	**11 36 27.5**	**-0.5**
KAHT				*i*	S	**Sb**	**11 36 41.2**	**+1.3**
GAZ	**Gaziantep**	**0.97**	**80**		PG	**Pb**	**11 36 28.6**	**-0.2**
GAZ					SG	**Sb**	**11 36 41.7**	**+0.5**
BTCH	**Batrach**	**1.03**	**159**	⇑*i*	P	**Pb**	**11 36 29.9**	**+0.2**
BTCH				⇑*i*	S	**Sb**	**11 36 43.7**	**+0.9**
GZT	**Gaziantep**	**1.29**	**74**	*i*	P	**Pn**	**11 36 33.2**	**-0.5**
GZT				*i*	S	**Sb**	**11 36 49.7**	**-0.6**
SLNF	**Slenfeh**	**1.42**	**173**	⇑*i*	P	**Pn**	**11 36 36.2**	**+0.7**
SLNF				⇑*i*	S	**Sn**	**11 36 53.7**	**+0.1**
WRDH	**Warideh**	**1.53**	**168**	⇑*i*	P	**Pn**	**11 36 37.7**	**+0.6**
WRDH				⇑*i*	S	**Sn**	**11 36 56.4**	**0.0**
NIG	**Nigde**	**1.57**	**315**		PN	**Pn**	**11 36 38.1**	**+0.4**
SLMH	**Al Salmeh**	**1.74**	**116**	⇑*i*	P	**Pn**	**11 36 40.5**	**+0.4**
SLMH				⇑*i*	S	**Sn**	**11 37 01.9**	**+0.1**
BNN	**Bunyan**	**1.85**	**356**		PN	**Pn**	**11 36 42.6**	**+0.9**
ATAB	**Bozova**	**1.88**	**75**	*i*	P	**Pn**	**11 36 41.5**	**-0.6**
ATAB				*i*	S	**Sn**	**11 37 10.0**	**+4.6**
AVNT	**Avonos**	**1.99**	**333**	*i*	P	**Pn**	**11 36 43.1**	**-0.6**
AVNT				*i*	S	**Sn**	**11 37 08.6**	**-0.3**
BIDA	**Albida**	**2.00**	**173**	⇑*i*	P	**Pn**	**11 36 44.3**	**+0.4**
BIDA				⇑*i*	S	**Sn**	**11 37 07.1**	**-1.4**
IKL	**Isikli**	**2.02**	**248**		PN	**Pn**	**11 36 43.9**	**-0.3**
URFA	**Urfa**	**2.28**	**78**		PN	**Pn**	**11 36 47.4**	**-0.5**
URFA					SN	**Sn**	**11 37 15.0**	**-0.7**
MALT	**Malatya**	**2.32**	**55**	*e*	Pn	**Pn**	**11 36 47.8**	**-0.6**
MALT				*e*	Pg	**Pn**	**11 36 53.1**	**+4.7**
MALT				*e*	Sn	**Sn**	**11 37 17.2**	**+0.7**
MALT				*e*	Sg	**Sn**	**11 37 26.0**	**+9.4**
MALT	**Malatya**	**2.32**	**55**	*e*	Pn	**Pn**	**11 36 47.8**	**-0.6**
MALT	**Malatya**	**2.32**	**55**	*e*	Pg	**Pn**	**11 36 53.1**	**+4.7**
MYA	**Malatya**	**2.33**	**55**		PN	**Pn**	**11 36 48.6**	**+0.1**
MYA	**Malatya**	**2.33**	**55**	*e*	PN	**Pn**	**11 36 48.7**	**+0.2**
JHLN	**Al Jahlan**	**2.37**	**123**	⇑*i*	P	**Pn**	**11 36 49.9**	**+0.8**
JHLN				⇑*i*	S	**Sn**	**11 37 17.5**	**-0.3**
ERMK	**Ermenek**	**2.51**	**263**	*i*	P	**Pn**	**11 36 52.6**	**+1.4**
ERMK				*i*	S	**Sn**	**11 37 25.1**	**+3.7**
PHNC	**Paralimni**	**2.56**	**219**		P	**Pn**	**11 36 54.0**	**+2.1**
YOZ	**Yozgat**	**2.69**	**349**	*e*	PN	**Pn**	**11 36 54.6**	**+0.9**
HWQ	**Hawqa**	**2.72**	**181**	*e*	Pn	**Pn**	**11 36 55.3**	**+1.2**
HWQ					Sn	**Sn**	**11 37 34.6**	**+7.9**
HDMB	**Hadim**	**2.82**	**270**	*e*	PN	**Pn**	**11 36 55.6**	**0.0**
MAMC	**Mammari**	**2.91**	**232**		P	**Pn**	**11 36 55.8**	**-1.1**
KAMT	**Kaman**	**2.98**	**323**	*e*	PN	**Pn**	**11 36 57.9**	**+0.1**
CSS	**Prodhromos**	**2.98**	**228**		P	**Pn**	**11 36 55.7**	**-2.2**
	2.3nm,0.5s							
KONT	**Konya--Tatoy**	**3.05**	**289**	*e*	PN	**Pn**	**11 36 58.8**	**-0.1**
BHL	**Bhannes**	**3.11**	**186**	*e*	Pn	**Pn**	**11 37 02.8**	**+3.1**
BHL					Sn	**Sn**	**11 37 48.1**	**+12**
LEF	**Lefka**	**3.15**	**234**	*e*	PN	**Pn**	**11 36 59.1**	**-1.2**
PTK	**Pertek**	**3.27**	**54**	*e*	PN	**Pn**	**11 37 02.2**	**+0.2**
BR131	**Keskin Array S**	**3.29**	**326**	*e*	P	**Pn**	**11 37 02.2**	**-0.1**
BR131	**Keskin Array S**	**3.29**	**326**	*e*	P	**Pn**	**11 37 02.2**	**-0.1**
BRTR	**Keskin Array B**	**3.29**	**326**		Pn	**Pn**	**11 37 02.6**	**+0.3**
	2.2nm,0.3s,baz=154,slow=14,SNR=36							
BRTR					Lg		**11 37 57.1**	
	0.2nm,0.3s,baz=160,slow=25,SNR=3.2							
ALFC	**Alevga**	**3.32**	**237**		P	**Pn**	**11 36 57.1**	**-5.6**
CORM	**Corum**	**3.35**	**342**	*e*	PN	**Pn**	**11 37 03.3**	**+0.2**
DIY	**Diyarbakir**	**3.47**	**74**	*e*	PN	**Pn**	**11 37 04.3**	**-0.5**
QASN	**Qassioun**	**3.47**	**176**	⇑*i*	P	**Pn**	**11 37 05.1**	**+0.3**
QASN				⇑*i*	S	**Sn**	**11 37 44.0**	**-1.7**
MATL	**Matirih**	**3.55**	**189**	*e*	Pn	**Pn**	**11 37 05.2**	**-0.8**
KIZT	**Kizilcal**	**3.77**	**301**	*e*	PN	**Pn**	**11 37 09.4**	**+0.4**
KSDI	**Kefar Szold**	**3.81**	**184**		Pn	**Pn**	**11 37 11.1**	**+1.4**
ANTO	**Ankara**	**3.82**	**326**	*e*	PN	**Pn**	**11 37 10.5**	**+0.8**
LOD	**Lodumlu**	**3.85**	**319**	*e*	PN	**Pn**	**11 37 09.8**	**-0.3**
HNTI	**Hanita**	**3.97**	**190**		Pn	**Pn**	**11 37 12.6**	**+0.7**
KSHT	**Keshet**	**4.02**	**182**		Pn	**Pn**	**11 37 12.9**	**+0.3**
OFRI	**'Ofer**	**4.45**	**191**		Pn	**Pn**	**11 37 18.8**	**0.0**
ISP	**Isparta**	**4.46**	**282**	*e*	PN	**Pn**	**11 37 18.1**	**-0.8**
ISP	**Isparta**	**4.46**	**282**	*e*	PN	**Pn**	**11 37 18.2**	**-0.7**
ISP	**Isparta**	**4.46**	**282**	*e*	Pn	**Pn**	**11 37 18.7**	**-0.2**
MMLI	**Mount Malkishu**	**4.58**	**186**		Pn	**Pn**	**11 37 21.3**	**+0.7**
SLTI	**Sal'it**	**4.82**	**190**		Pn	**Pn**	**11 37 24.5**	**+0.5**
ASF	**Jabal al Asfar**	**4.88**	**171**		Pn	**Pn**	**11 37 25.3**	**+0.5**
	0.9nm,0.3s,baz=250,slow=15,SNR=4.2							
ASF					Lg		**11 38 42.6**	
	4.4nm,0.3s,baz=14,slow=23,SNR=4.3							
ASF					LR	LR	**11 39 53.5**	
	comp=Z,114nm,20.2s,baz=103,slow=46							
ASF	**Jabal al Asfar**	**4.88**	**171**		Pn	**Pn**	**11 37 25.3**	**+0.5**
ASF					Lg		**11 38 42.6**	
ASF					LR	LR	**11 39 53.5**	
MKRJ	**Makawir**	**5.45**	**183**		Pn	**Pn**	**11 37 33.0**	**+0.2**
PRNI	**Paran**	**6.69**	**187**		Pn	**Pn**	**11 37 50.0**	**-0.3**
IDI	**Anoyia**	**9.16**	**263**		Pn	**P**	**11 38 21.4**	**-3.3**
	4.2nm,0.3s,baz=86,slow=15,SNR=21							
IDI					Sn	**Sn**	**11 40 01.6**	**-6.6**
	1.1nm,0.3s,baz=287,slow=17,SNR=3.7							
AKASG	**Malin Array Be**	**14.53**	**343**		Pn	**P**	**11 39 34.6**	**-2.4**
	0.4nm,0.3s,baz=169,slow=12,SNR=3.5							
GERES	**GERESS Array B**	**20.09**	**313**		P	**P**	**11 40 44.3**	**-1.3**
	0.1nm,0.3s,baz=117,slow=9.0,SNR=6.6							
GERES					LR	LR	**11 49 21.6**	
	comp=Z,41nm,18.9s,MS2.8,baz=136,slow=40							
CLL	**Collm**	**21.71**	**318**		P	**P**	**11 41 03.0**	**+0.8**
FINES	**FINESS Array B**	**25.25**	**349**		P	**P**	**11 41 36.4**	**0.0**
	2.5nm,0.6s,mb3.9,baz=157,slow=14,SNR=15							
FINES	**FINESS Array B**	**25.25**	**349**		P	**P**	**11 41 36.4**	**0.0**
KAF	**Kangasniemi**	**25.85**	**350**	*e*	p	**P**	**11 41 42.7**	**+0.6**
HFS	**Hagfors**	**27.19**	**335**		P	**P**	**11 41 53.5**	**-1.0**
	3.2nm,0.7s,mb3.9,baz=158,slow=8.0,SNR=4.7							
NOA	**NORSAR Array B**	**28.69**	**335**		P	**P**	**11 42 06.5**	**-1.5**
	1.0nm,0.7s,mb3.7,baz=129,slow=9.6,SNR=3.3							
ARCES	**ARCESS Array B**	**33.09**	**353**		P	**P**	**11 42 46.1**	**-0.6**
	2.6nm,0.6s,mb4.4,baz=162,slow=7.7,SNR=19							
MKAR	**Makanchi Array**	**35.35**	**59**		P	**P**	**11 43 08.0**	**+1.5**
	0.5nm,0.6s,mb3.6,baz=281,slow=6.2,SNR=5.3							
JNU	**Nakatsue**	**74.40**	**60**		LR	LR	**12 26 34.2**	
	comp=Z,104nm,18.3s,MS4.2,baz=46,slow=41							
YKA	**Yellowknife Ar**	**78.06**	**347**		P	**P**	**11 48 09.0**	**+0.2**
	0.5nm,0.4s,mb3.8,baz=22,slow=5.6,SNR=12							
YKA	**Yellowknife Ar**	**78.06**	**347**		P	**P**	**11 48 09.0**	**+0.2**

SKHL 24 11:42:28.1±0.4,**52.61N**×**139.72E,h9**km±1km,**mb3.9**/3,**1D, Primorye**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NKL	**Nikolayevsk**	**0.79**	**47**	*i*	Pg	Pg	**11 42 41.8**	**-2.2**
NKL					AMB	AMB	**11 42 42.3**	
	180nm,0.4s							
NKL				*e*	Sg	Sg	**11 42 52.2**	**-2.5**
NKL					A		**11 42 56.2**	
	480nm,0.4s							
NKL					A		**11 42 56.2**	
	330nm,0.4s							
OKH	**Okha**	**2.15**	**63**	*e*	rx	rx	**11 43 18.9**	
OKH				*e*	Sg	Sg	**11 43 36.5**	**-3.4**
TYV	**Tymovskoe**	**2.53**	**133**	*e*	Pg	Pg	**11 43 13.8**	**-4.8**
TYV					pPg		**11 43 17.0**	
TYV				*e*	Sg	Sg	**11 43 47.5**	**-4.8**
GRNR	**Gornyy**	**2.76**	**229**	*e*	Pg	Pg	**11 43 17.9**	**-5.3**
GRNR					AMB	AMB	**11 43 19.5**	
	24nm,0.5s							
GRNR				*e*	Sg	Sg	**11 43 54.0**	**-6.0**
GRNR					A		**11 43 58.5**	
	57nm,0.5s							
UGL	**Uglegorsk**	**3.84**	**156**	*e*	Sg	Sg	**11 44 28.0**	**-7.8**
EKMR	**Ekimchan**	**4.13**	**279**	*e*	Pn	Pn	**11 43 31.0**	**-1.8**
EKMR					pPn		**11 43 35.0**	
EKMR				*e*	Pg	Pg	**11 43 42.5**	**-8.1**
EKMR					AMB	AMB	**11 43 44.8**	
	5.0nm,0.5s							
EKMR				*e*	S	Sn	**11 44 20.0**	**-1.9**
EKMR				*e*	Sg	Sg	**11 44 36.4**	**-9.3**
EKMR					A		**11 44 41.3**	
	39nm,0.6s							
EKMR					A		**11 44 41.3**	
	23nm,0.6s							
EKMR					A		**11 44 41.3**	
	28nm,0.6s							
KLR	**Kul'dur**	**6.07**	**239**	*e*	Sg	Sg	**11 45 37.7**	**-12**
BMKR	**Bomnak**	**6.80**	**292**	*e*	rx	rx	**11 44 41.8**	
BMKR				*e*	Sg	Sg	**11 45 59.4**	**-15**
BMKR					A		**11 46 03.7**	
	5.0nm,0.5s							
YASR	**Yasnyy**	**7.13**	**280**	*e*	Pg	Pg	**11 44 36.3**	**-14**
YASR				*e*	Sg	Sg	**11 46 10.5**	**-15**
YASR					A		**11 46 18.3**	
	8.0nm,0.7s							
YASR					A		**11 46 18.3**	
	5.0nm,0.7s							
ZEA	**Zeya**	**7.58**	**284**	*e*	Sg	Sg	**11 46 24.0**	**-17**
KROS	**Kirovskiy**	**7.82**	**289**	*e*	Sg	Sg	**11 46 31.5**	**-17**
KROS					A		**11 46 44.0**	
	4.0nm,0.5s							

*BJI **24** 12:05:54.0,6.46S×102.44E,h38km,mB5.2,mb4.7*
*IDC **24** 12:05:56.1±0.6,5.65S×101.93E,mb4.4/13,mb1 4.5/13, mb1mx4.3/19,mbtmp4.4/13,Error ellipse: s-maj=24.1km s-min=14.9km az=63.0*
*NEIC **24** 12:06:01.6±1.6,5.62S×102.00E,h39km±14km,mb4.7/7, Error ellipse: s-maj=14.0km s-min=7.3km az=58.0*
ISC 24 12:05:59.4±0.5,**5.61S**±0.08×**102.1E**±0.1,**h33**km,**n34,** σ0**98**/29,**mb4.5**/24**,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**10.92**	**352**	*e*	P	**P**	**12 08 35.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**26.14**	**120**	*e*	P	**P**	**12 11 32.9**	**+0.3**
	12nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**34.43**	**117**		P	**P**	**12 12 46.2**	**0.0**
	5.1nm,0.9s,mb4.4,baz=298,slow=8.5,SNR=18							
WRA					PcP	PcP	**12 15 21.4**	**0.0**
	0.9nm,0.4s,baz=295,slow=2.3,SNR=6.6							
WRAB	**Tennant Creek**	**34.44**	**117**	*e*	P	**P**	**12 12 46.0**	**-0.2**
	13nm,0.9s,mb4.9							
ENH	**Enshi**	**36.37**	**11**	*e*	P	**P**	**12 13 02.8**	**+0.2**
	10nm,0.6s,mb4.9							
GUN	**Gumba**	**36.81**	**336**	*e*	P	**P**	**12 13 07.5**	**+1.2**
DMN	**Daman**	**36.87**	**334**	*e*	P	**P**	**12 13 07.9**	**+1.1**
KKN	**Kakani**	**36.96**	**335**	*e*	P	**P**	**12 13 08.0**	**+0.5**
	26nm,1.0s,mb5.0							
GKN	**Gorkha**	**37.42**	**334**	*e*	P	**P**	**12 13 12.2**	**+0.8**
	44nm,1.1s,mb5.2							
KOLN	**Koldanda**	**37.68**	**333**	*e*	P	**P**	**12 13 14.6**	**+1.0**
	22nm,0.9s,mb4.9							
GTA	**Gaotai**	**44.84**	**358**	*e*	P	**P**	**12 14 14.3**	**+2.0**
GTA					AP	pP	**12 14 21.8**	**-0.4**
GTA					XP	sP	**12 14 24.6**	**-1.7**
GTA					AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.2							
STKA	**Stephens Creek**	**45.23**	**130**	*e*	P	**P**	**12 14 16.3**	**+0.8**
	comp=Z,7.3nm,0.7s,mb4.6							
STKA	**Stephens Creek**	**45.23**	**130**		P	**P**	**12 14 16.4**	**+0.9**
	comp=Z,10nm,0.8s,mb4.7,baz=317,slow=7.5,SNR=17							
STKA					PcP	PcP	**12 15 55.5**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=303,slow=23,SNR=3.5							
SONM	**Songino Array**	**53.35**	**4**		P	**P**	**12 15 18.6**	**+0.8**
	comp=Z,7.0nm,0.9s,mb4.6,baz=180,slow=8.6,SNR=22							
SONM					PcP	PcP	**12 16 25.6**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=186,slow=3.3,SNR=2.8							
CN2	**Changchun**	**53.51**	**21**	*e*	P	**P**	**12 15 17.4**	**-1.6**
CN2					AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7							
MJAR	**Matsushiro Arr**	**53.85**	**36**		P	**P**	**12 15 20.4**	**-1.2**
	comp=Z,1.0nm,0.5s,mb4.0,baz=266,slow=5.9,SNR=7.5							
MKAR	**Makanchi Array**	**55.05**	**344**		P	**P**	**12 15 29.6**	**-0.6**
	comp=Z,3.5nm,0.7s,mb4.5,baz=148,slow=7.9,SNR=22							
YSS	**Yuzh-Sakhalins**	**63.48**	**30**	*e*	P	**P**	**12 16 28.3**	**-0.2**
	comp=Z,13nm,1.0s,mb5.0							
BVAR	**Borovoye Array**	**64.27**	**339**		P	**P**	**12 16 32.5**	**-1.0**
	comp=Z,3.3nm,0.6s,mb4.6,baz=146,slow=8.1,SNR=17							
BRVK	**Borovoye**	**64.33**	**339**	*e*	P	**P**	**12 16 32.4**	**-1.6**
	comp=Z,2.5nm,0.7s,mb4.3							
ZRNK	**Zerenda**	**64.70**	**339**	*e*	P	**P**	**12 16 35.0**	**-1.3**
	comp=Z,3.8nm,0.8s,mb4.5							
MAW	**Mawson**	**67.35**	**195**		P	**P**	**12 16 51.7**	**-1.2**
	comp=Z,2.2nm,0.8s,mb4.2,baz=32,slow=7.6,SNR=5.5							
RPZ	**Rata Peaks**	**70.98**	**134**		P	**P**	**12 17 16.5**	**+0.8**
	comp=Z,8.5nm,1.0s,mb4.6,baz=46,slow=9.6,SNR=5.5							
MATP	**Matopo**	**72.70**	**250**		P	**P**	**12 17 25.7**	**-0.7**
	comp=Z,3.2nm,0.7s,mb4.4,baz=102,slow=7.1,SNR=9.3							
BRTR	**Keskin Array B**	**77.28**	**313**		P	**P**	**12 17 51.6**	**-0.8**
	comp=Z,1.2nm,0.8s,mb3.9,baz=135,slow=5.2,SNR=7.6							
VNDA	**Vanda**	**78.24**	**169**		P	**P**	**12 17 57.4**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=304,slow=6.9,SNR=11							
MLR	**Muntele Rosu**	**84.34**	**317**		P	**P**	**12 18 30.7**	**+1.1**
	comp=Z,2.7nm,0.8s,mb4.4,baz=118,slow=3.7,SNR=5.2							
FINES	**FINESS Array B**	**88.25**	**332**		P	**P**	**12 18 49.4**	**+1.1**
	comp=Z,1.8nm,0.6s,mb4.5,baz=143,slow=9.5,SNR=8.4							
KAF	**Kangasniemi**	**88.32**	**333**	*e*	p	**P**	**12 18 47.7**	**-0.9**
GDL2	**Guadalupe Moun**	**143.80**	**40**	*e*	PKPdf	PKPdf	**12 25 32.4**	**+0.6**
TXAR	**Lajitas Array**	**146.10**	**43**		PKPbc	PKPbc	**12 25 39.8**	**+2.9**
	comp=Z,3.1nm,0.7s,baz=303,slow=1.2,SNR=46							
WCI	**Wyandotte Cave**	**146.65**	**12**	*e*	PKPbc	PKPbc	**12 25 39.3**	**+1.4**
WVT	**Waverly**	**148.28**	**15**	*e*	PKPbc	PKPdf	**12 25 44.3**	**+5.1**
TZTN	**Tazewell**	**148.78**	**9**	*e*	PKPbc	PKPdf	**12 25 45.5**	**+5.5**
TZTN				*e*	PKPab	PKPab	**12 25 49.4**	**-0.4**

*IDC **24** 12:40:20.1±1.0,32.84S×178.24W,mb4.5/4,mb1 4.7/6, mb1mx4.3/15,mbtmp4.6/6,MS4.1/4,Ms1 4.1/4, ms1mx3.7/14,Error ellipse: s-maj=35.8km s-min=25.2km az=127.0*
*NEIC **24** 12:40:21.8±0.5,32.74S×178.33W,h10km,mb4.9/7,Error ellipse: s-maj=17.0km s-min=11.8km az=99.0*
ISC 24 12:40:19.7±2.3,**32.94S**±0.06×**178.5W**±0.1,**h2**km±15km, **n53**,σ0**91**/46,**mb4.7**/9,**MS4.2**/3**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.72**	**8**		Pn	**Pn**	**12 41 14.9**	**-4.5**
	35nm,0.3s,baz=90,slow=18,SNR=3.6							
RAO					Sn	**Sn**	**12 41 56.1**	**-8.3**
	91nm,0.3s,baz=109,slow=22,SNR=4.6							
MXZ	**Matakaoa Point**	**5.29**	**208**		PN	**Pn**	**12 41 41.3**	**-0.3**
MXZ					SN	**Sn**	**12 42 45.4**	**+1.4**
PUZ	**Puketiti**	**5.75**	**206**		PN	**Pn**	**12 41 47.5**	**-0.7**
PUZ					SN	**Sn**	**12 42 55.4**	**-0.3**
MWZ	**Matawai**	**6.27**	**210**		PN	**Pn**	**12 41 54.9**	**-0.5**
MWZ					SN	**Sn**	**12 43 09.1**	**+0.6**
URZ	**Urewera**	**6.38**	**213**		Pn	**Pn**	**12 41 57.5**	**+0.4**
	6.3nm,0.3s,baz=26,slow=7.1,SNR=34							
URZ					Sn	**Sn**	**12 43 11.2**	**-0.3**
	23nm,0.3s,baz=178,slow=18,SNR=6.3							
URZ	**Urewera**	**6.38**	**213**		PN	**Pn**	**12 41 57.3**	**+0.1**
URZ					SN	**Sn**	**12 43 10.5**	**-1.0**
WCZ	**Waipu Caves**	**6.61**	**241**		PN	**Pn**	**12 42 05.0**	**+4.8**
OUZ	**Omahuta**	**6.92**	**249**		PN	**Pn**	**12 42 10.4**	**+5.7**
MRZ	**Mangatainoka R**	**9.04**	**210**		SN	**Sn**	**12 44 08.3**	**-9.4**
SNZO	**South Karori**	**9.94**	**211**		eSn	**Sn**	**12 44 29.9**	**-10**
TCW	**Tory Channel**	**10.05**	**213**		SN	**S**	**12 44 32.6**	**-10**
THZ	**Tophouse**	**11.13**	**215**		SN	**S**	**12 44 58.5**	**-11**
LTZ	**Lake Taylor**	**12.21**	**214**		SN	**S**	**12 45 23.4**	**-12**
MQZ	**McQueen's Vall**	**12.78**	**210**		SN	**S**	**12 45 34.7**	**-14**
RPZ	**Rata Peaks**	**13.50**	**214**		Pn	**P**	**12 43 31.0**	**-3.8**
	1.3nm,0.3s,baz=30,slow=20,SNR=9.0							
RPZ					Sn	**S**	**12 45 53.0**	**-14**
	0.9nm,0.3s,baz=344,slow=22,SNR=7.2							
DZM	**Mont Dzumac**	**17.16**	**305**		Pn	**P**	**12 44 28.3**	**+6.1**
	0.9nm,0.3s,baz=99,slow=16,SNR=7.1							
DZM					LR	LR	**12 49 30.6**	
	comp=Z,369nm,19.5s,baz=31,slow=32							
STKA	**Stephens Creek**	**33.55**	**261**		LR	LR	**13 00 34.0**	
	comp=Z,391nm,18.6s,MS4.2,baz=142,slow=36							
CTA	**Charters Tower**	**33.85**	**283**	*e*	P	**P**	**12 47 07.7**	**+1.9**
	10nm,0.6s,mb4.9							
CTA	**Charters Tower**	**33.85**	**283**		P	**P**	**12 47 07.7**	**+1.8**
	11nm,0.5s,mb5.0,baz=119,slow=10,SNR=20							
CTAO	**Charters Tower**	**33.85**	**283**	*e*	P	**P**	**12 47 07.4**	**+1.6**
	11nm,0.6s,mb5.0							
WB2	**Warramunga Arr**	**43.80**	**275**	*e*	P	**P**	**12 48 29.0**	**+0.2**
WRAB	**Tennant Creek**	**43.80**	**275**	*e*	P	**P**	**12 48 28.9**	**+0.1**
	13nm,0.5s,mb4.9							
WRA	**Warramunga Arr**	**43.81**	**275**		P	**P**	**12 48 29.1**	**+0.2**
	13nm,0.5s,mb4.9,baz=115,slow=7.7,SNR=255							
WRA					S	**S**	**12 54 57.4**	**-2.6**
	0.6nm,1.0s,baz=113,slow=14,SNR=3.3							
SBA	**Scott Base**	**45.48**	**184**		P	**P**	**12 48 41.2**	**-0.3**
	2.9nm,0.7s,mb4.2							
VNDA	**Vanda**	**45.53**	**186**	*e*	P	**P**	**12 48 38.2**	**-3.8**
FITZ	**Fitzroy Crossi**	**51.95**	**272**	*e*	P	**P**	**12 49 32.1**	**-0.4**
	14nm,0.7s,mb5.0							
CASY	**Casey**	**52.70**	**209**	*e*	P	**P**	**12 49 37.1**	**-0.3**
	4.0nm,0.6s,mb4.5							
QSPA	**South Pole Qui**	**57.17**	**180**	*e*	P	**P**	**12 50 15.5**	**+5.6**
	20nm,0.7s,mb5.3							
MAW	**Mawson**	**69.78**	**201**		P	**P**	**12 51 32.8**	**-0.2**
	4.6nm,1.1s,mb4.3,baz=135,slow=9.2,SNR=4.5							
SNAA	**Sanae**	**75.63**	**179**			**P**	**12 52 08.0**	**+0.7**
SNAA	**Sanae**	**75.63**	**179**			**P**	**12 52 17.4**	**+10**
VNA3	**Neumayer Olymp**	**75.81**	**176**			**P**	**12 52 10.8**	**+2.5**
VNA3	**Neumayer Olymp**	**75.81**	**176**			**P**	**12 52 14.0**	**+5.7**
VNA3	**Neumayer Olymp**	**75.81**	**176**			**P**	**12 52 20.4**	**+12**
VNA2	**Neumayer--Watz**	**76.23**	**177**			**P**	**12 52 13.5**	**+2.8**
VNA2	**Neumayer--Watz**	**76.23**	**177**			**P**	**12 52 17.0**	**+6.3**
**VNA

ELK				Lg			13 03 48.5		
ELK				LR	LR		13 04 52.8		
YBH	**Yreka Blue Hor**	**8.37**	**344**	Pn	**P**		**13 01 49.6**	**+5.0**	
	0.2nm,0.3s,baz=106,slow=15,SNR=7.0								
SRU	**San Rafael**	**9.15**	**51**	Pn	**P**		**13 01 54.2**	**-1.2**	
PV10	**Paradox Valley**	**9.81**	**59**	*e*Pn	**P**		**13 02 02.5**	**-1.9**	
PV01	**Paradox Valley**	**10.05**	**61**	*e*Pn	**P**		**13 02 06.1**	**-1.6**	
ANMO	**Albuquerque**	**11.02**	**80**	LR	LR		13 06 48.0		
	comp=Z,59nm,19.0s,baz=41,slow=39								
PDAR	**Pinedale Array**	**12.05**	**38**	Pn	**P**		**13 02 39.5**	**+4.4**	
	0.1nm,0.3s,baz=231,slow=12,SNR=4.9								
GDL2	**Guadalupe Moun**	**12.96**	**92**	Pn	**P**		**13 02 46.9**	**-0.3**	
LTX	**Lajitas**	**14.34**	**103**	Pn	**P**		**13 03 06.8**	**+1.3**	
TXAR	**Lajitas Array**	**14.34**	**103**	Pn	**P**		**13 03 09.8**	**+4.3**	
	0.1nm,0.3s,baz=276,slow=11,SNR=14								
TXAR				LR	LR		13 09 22.2		
	comp=Z,76nm,19.7s,baz=350,slow=41								
NEW	**Newport**	**14.68**	**7**	Pn	**P**		**13 03 14.0**	**+4.2**	
	0.2nm,0.3s,baz=179,slow=12,SNR=4.6								
NEW				LR	LR		13 09 16.0		
	comp=Z,70nm,18.8s,baz=9.6,slow=39								
NEW	**Newport**	**14.68**	**7**	Pn	**P**		**13 03 10.2**	**+0.5**	
NEW				Pn	**P**		**13 03 14.0**	**+4.2**	
NEW				LR	LR		13 09 16.0		
EDM	**Edmonton**	**20.04**	**11**	P	**P**		**13 04 16.9**	**+0.7**	
DLBC	**Dease Lake**	**25.70**	**347**	P	**P**		**13 05 18.0**	**+5.9**	
	0.6nm,0.5s,mb3.4,baz=138,slow=12,SNR=2.2								
YKA	**Yellowknife Ar**	**29.00**	**5**	LR	LR		13 18 08.2		
	comp=Z,49nm,20.4s,MS3.1,slow=38								
ILAR	**Eielson Array**	**35.24**	**340**	P	**P**		**13 06 39.8**	**+3.1**	
	0.5nm,0.6s,mb3.6,baz=152,slow=7.8,SNR=9.0								
SCHQ	**Schefferville**	**42.13**	**43**	LR	LR		13 25 43.2		
	comp=Z,50nm,18.1s,MS3.4,baz=28,slow=37								
MDJ	**Mudanjiang**	**79.87**	**317**	P	**P**		**13 11 51.0**	**+0.4**	
MDJ				AMB	AMB				
	comp=Z,3.0nm,0.6s,mb4.4								
MDJ				AMB	AMB				
	comp=Z,112nm,6.6s								
CN2	**Changchun**	**82.70**	**319**	*e*P	**P**		**13 12 04.0**	**-1.5**	
NJ2	**Nanjing**	**94.46**	**313**	*e*P	**P**		**13 13 03.3**	**+1.2**	
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.5s,mb5.5								

NNC 24 13:14:17.4±15.0, 37.87N×71.51E, h202km±246km, mpv3.8,2C-1D, Error ellipse: s-maj=185.8km s-min=80.6km az=5.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.28**	**25**	⇑S	S	13 16 37.5	+0.2
	3.1nm,0.5s						
KK31	**Karatay Array**	**5.29**	**352**	P	P	13 15 35.7	-0.6
	3.1nm,0.2s,baz=178,slow=13,SNR=132						
KK31				⇑S	S	13 16 37.9	+0.4
	0.8nm,0.2s,baz=181,slow=26,SNR=9.1						
AB31	**Akbulak array**	**14.12**	**327**	⇓P	P	13 17 28.4	-1.2
	0.2nm,0.3s						

*CSEM **24** 13:25:27.2±0.1, 37.05N×35.92E, h20km, MD3.5, Error ellipse: s-maj=2.9km s-min=2.1km az=81.0*
*ISK **24** 13:25:28.0, 37.07N×35.90E, h26km, MD3.5*
ISC 24 13:25:28.3±0.6, 37.03N±0.03×35.98E±0.04, h24km±5km, n27,σ1§14/43, 6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEYT	**Ceyhan**	**0.18**	**265**	*i* PG	**Pb**	**13 25 33.6**	**0.0**
COBT	**Iskenderun**	**0.55**	**156**	*i* P	**Pb**	**13 25 38.4**	**-0.9**
COBT				*i* S	**Sb**	**13 25 45.5**	**-1.3**
DRWC	**Darouich**	**0.69**	**126**	⇑*i* P	**Pb**	**13 25 40.9**	**-0.6**
HTY	**Hatay**	**0.91**	**172**	*i* PG	**Pb**	**13 25 46.0**	**+0.7**
HTY				*i* SG	**Sb**	**13 25 59.8**	**+2.7**
GAZ	**Gaziantep**	**1.00**	**81**	*e*PG	**Pb**	**13 25 46.7**	**-0.1**
BTCH	**Batrach**	**1.06**	**158**	⇑*i* P	**Pb**	**13 25 48.3**	**+0.5**
BTCH				⇑*i* S	**Sb**	**13 26 01.8**	**+0.5**
GZT	**Gaziantep**	**1.31**	**75**	*i* P	**Pn**	**13 25 51.4**	**0.0**
GZT				*i* S	**Sn**	**13 26 07.5**	**-0.7**
SLNF	**Slenfeh**	**1.44**	**172**	⇓*i* P	**Pn**	**13 25 54.6**	**+1.3**
SLNF				⇓*i* S	**Sn**	**13 26 12.3**	**+0.7**
NIG	**Nigde**	**1.53**	**315**	*e*PN	**Pn**	**13 25 53.9**	**-0.6**
WRDH	**Warideh**	**1.56**	**167**	⇓*i* P	**Pn**	**13 25 55.6**	**+0.7**
WRDH				⇓*i* S	**Sn**	**13 26 14.5**	**0.0**
SLMH	**Al Salmeh**	**1.77**	**117**	⇑*i* P	**Pn**	**13 25 57.8**	**-0.2**
SLMH				⇑*i* S	**Sn**	**13 26 18.4**	**-1.6**
BNN	**Bunyan**	**1.83**	**357**	*e*PN	**Pn**	**13 25 58.6**	**-0.2**
ATAB	**Bozova**	**1.90**	**76**	*i* P	**Pn**	**13 26 03.4**	**+3.6**
ATAB				*i* S	**Sn**	**13 26 28.4**	**+5.1**
AVNT	**Avonos**	**1.96**	**333**	*i* P	**Pn**	**13 26 00.9**	**+0.2**
AVNT				*i* S	**Sn**	**13 26 27.3**	**+2.5**
IKL	**Isikli**	**2.00**	**248**	*e*PN	**Pn**	**13 25 59.8**	**-1.5**
BIDA	**Albida**	**2.03**	**172**	⇓*i* P	**Pn**	**13 26 02.8**	**+1.2**
BIDA				⇓*i* S	**Sn**	**13 26 25.9**	**-0.6**
URFA	**Urfa**	**2.31**	**79**	*e*PN	**Pn**	**13 26 06.4**	**+0.7**
MYA	**Malataya**	**2.34**	**56**	*e*PN	**Pn**	**13 26 05.9**	**-0.1**
MYA				*e*SN	**Sn**	**13 26 34.5**	**+0.1**
JHLN	**Al Jahlan**	**2.41**	**123**	⇑*i* P	**Pn**	**13 26 07.1**	**+0.1**
JHLN				⇑*i* S	**Sn**	**13 26 34.3**	**-1.7**
ERMK	**Ermenek**	**2.49**	**262**	*i* P	**Pn**	**13 26 07.5**	**-0.7**
ERMK				*i* S	**Sn**	**13 26 43.7**	**+5.6**
HWQ	**Hawqa**	**2.74**	**181**	*e*Pn	**Pn**	**13 26 16.8**	**+5.0**
HWQ				Sn	**Sn**	**13 26 53.4**	**+8.8**
HDMB	**Hadim**	**2.79**	**270**	*e*PN	**Pn**	**13 26 11.6**	**-1.1**
ELZG	**Elazig**	**2.80**	**57**	*i* P	**Pn**	**13 26 13.6**	**+0.9**
ELZG				*i* S	**Sn**	**13 26 48.8**	**+2.7**
KAMT	**Kaman**	**2.94**	**323**	*e*PN	**Pn**	**13 26 13.0**	**-1.7**
BHL	**Bhannes**	**3.13**	**185**	*e*Pn	**Pn**	**13 26 20.9**	**+3.5**
BHL				Sn	**Sn**	**13 27 03.9**	**+10**
PTK	**Pertek**	**3.28**	**54**	*e*PN	**Pn**	**13 26 19.6**	**+0.2**
BTMT	**Batman**	**4.53**	**73**	*e*PN	**Pn**	**13 26 34.5**	**-2.8**

*CSEM **24** 13:45:00.5±0.5, 38.88N×29.03W, h6km±4km, ML2.3, Error ellipse: s-maj=8.3km s-min=3.8km az=64.0, After PDA*
*PDA **24** 13:45:00.5±0.5, 38.88N×29.03W, h6km±4km, MD3.3, ML2.3, Error ellipse: s-maj=8.3km s-min=3.8km az=64.0*
SVSA 24 13:45:00.5±0.5, 38.88N×29.03W, h6km±4km, MD3.3, ML2.3, Error ellipse: s-maj=8.3km s-min=3.8km az=64.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CALA	**Caldeira**	**0.39**	**139**	*e*P	Pg	13 45 07.6	-0.8
CALA				*e*S	Sg	13 45 12.7	-1.0
HOR	**Horta**	**0.47**	**138**	*e*P	Pg	13 45 08.6	-1.3
HOR				*i* S	Sg	13 45 14.6	-1.6
PICO	**Pico**	**0.60**	**128**	*i* P	Pg	13 45 10.7	-1.9
PICO				*e*S	Sg	13 45 18.7	-2.0
PICO	**Pico**	**0.60**	**128**	*e*S	Sg	13 45 18.7	-2.0
PMAN	**Manadas**	**0.78**	**108**	*e*S	Sg	13 45 22.5	-3.9
	51nm,0.2s						
PMAN	**Manadas**	**0.78**	**108**	*e*S	Sg	13 45 22.5	-3.9
	51nm,0.2s						

*NEIC **24** 14:10:10.2±1.7, 17.71S×178.47W, h427km±19km, mb3.6/1, Error ellipse: s-maj=22.1km s-min=15.0km az=141.0*
*IDC **24** 14:10:11.1±2.4, 17.75S×178.43W, h437km±27km, mb3.1/8, mb1 3.4/9, mb1mx3.3/16, mbtmp4.0/9, Error ellipse: s-maj=25.0km s-min=15.1km az=146.0*
ISC 24 14:10:09.2±1.7, 17.7S±0.1×178.5W±0.1, h430km±20km, n21,σ0§88/16, mb3.4/9, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.51**	**61**	P	**P**	**14 12 00.5**	**+0.4**
	4.5nm,0.3s,baz=202,slow=22,SNR=4.7						
AFI	**Afiamalu**	**7.51**	**61**	*e*P	**P**	14 11 59.7	-0.4
STKA	**Stephens Creek**	**38.63**	**241**	P	**P**	**14 16 55.9**	**+0.8**
	1.0nm,0.3s,mb3.6,baz=93,slow=12,SNR=4.5						
WRAB	**Tennant Creek**	**44.55**	**259**	*e*P	**P**	**14 17 42.1**	**-0.7**
WRA	**Warramunga Arr**	**44.56**	**259**	P	**P**	**14 17 42.8**	**-0.1**
	0.7nm,0.4s,mb3.3,baz=97,slow=7.2,SNR=31						
FITZ	**Fitzroy Crossi**	**52.96**	**260**	P	**P**	**14 18 46.8**	**+0.6**
	1.6nm,0.4s,mb3.6,baz=124,slow=3.5,SNR=7.5						
SBA	**Scott Base**	**60.59**	**184**	*e*P	**P**	**14 19 37.7**	**-0.4**
	2.3nm,1.0s,mb3.6						
VNDA	**Vanda**	**60.62**	**185**	P	**P**	**14 19 37.4**	**-0.8**
	0.3nm,0.5s,mb2.9,baz=352,slow=6.4,SNR=6.8						
VNDA	**Vanda**	**60.62**	**185**	*e*P	**P**	**14 19 37.1**	**-1.1**
MJAR	**Matsushiro Arr**	**67.70**	**323**	P	**P**	**14 20 24.0**	**+0.1**
	1.8nm,0.7s,mb3.8,baz=167,slow=7.5,SNR=9.8						
NVAR	**Mina Array Bea**	**79.36**	**44**	P	**P**	**14 21 32.4**	**+2.0**
	0.3nm,0.5s,mb3.2,baz=210,slow=5.3,SNR=4.5						
NVAR	**Mina Array Bea**	**79.36**	**44**	P	**P**	**14 21 32.4**	**+2.0**
ILAR	**Eielson Array**	**85.73**	**13**	P	**P**	**14 22 00.3**	**-1.6**
	0.4nm,0.7s,mb3.3,baz=229,slow=4.9,SNR=4.4						
TXAR	**Lajitas Array**	**85.98**	**58**	P	**P**	**14 22 03.5**	**-0.5**
	0.7nm,0.7s,mb3.5,baz=221,slow=6.0,SNR=9.0						
VNA3	**Neumayer Olymp**	**90.93**	**176**	⇑*i*	**P**	**14 22 26.3**	**+0.1**
VNA2	**Neumayer--Watz**	**91.37**	**177**	⇑*i*	**P**	**14 22 29.1**	**+0.9**
ARCES	**ARCESS Array B**	**126.12**	**350**	PKP	PKPdf	14 28 20.4	-0.6
	2.2nm,0.8s,slow=2.4,SNR=4.0						
BRTR	**Keskin Array B**	**144.58**	**315**	PKP	PKPdf	14 28 57.1	+1.6
	1.5nm,0.7s,baz=135,slow=2.0,SNR=6.9						
CLL	**Collm**	**145.26**	**347**	*e*PKP1	PKPbc	14 28 58.0	+0.7
KHC	**Kasperske Hory**	**147.17**	**345**	*e*PKP	PKPdf	14 29 04.0	+4.4
GERES	**GERESS Array B**	**147.41**	**345**	PKPbc	PKPdf	14 29 04.9	+4.9
	1.4nm,0.5s,baz=23,slow=2.7,SNR=21						

*CSEM **24** 14:14:36.0±0.6, 45.75N×26.75E, h126km±4km, MD3.7/5, Error ellipse: s-maj=6.1km s-min=3.6km az=8.0, After BUC*
BUC 24 14:14:36.0±0.6, 45.75N×26.75E, h126km±4km, MD3.7/5, 4C-3D, Error ellipse: s-maj=6.1km s-min=3.6km az=8.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRI	**Vrincioaia**	**0.11**	**352**	⇑*i* P	P	14 14 53.3	0.0
VRI				*i* S	S	14 15 06.2	-0.1
BRD	**Bordesti**	**0.28**	**136**	⇑*i* P	P	14 14 54.9	+1.3
BRD				*i* S	S	14 15 09.1	+2.0
ISR	**Istrita**	**0.65**	**193**	⇑*i* P	P	14 14 56.7	+1.0
ISR				*i* S	S	14 15 12.0	+1.3
CFR	**Carcaliu**	**1.13**	**120**	⇓*i* P	P	14 15 00.2	+0.1
CFR				S	S	14 15 17.1	-1.2
VOIR		**1.24**	**256**	⇓*i* P	P	14 15 01.4	+0.1
MTUR	**Matau**	**1.30**	**247**	S	S	14 15 24.3	+2.7
HARR	**Harsova**	**1.35**	**141**	⇓*i* P	P	14 15 02.5	-0.1
HARR				S	S	14 15 21.3	-1.5
BUC1	**Bucharest**	**1.50**	**200**	*i* S	S	14 15 25.1	-0.5
TLCR		**1.56**	**111**	⇑*i* P	P	14 15 05.2	+0.3

*IDC **24** 14:36:14.1±1.2, 33.26N×142.52E, mb3.8/6, mb1 3.9/9, mb1mx3.7/22, mbtmp3.8/9, ML3.7/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/28, Error ellipse: s-maj=30.7km s-min=22.4km az=66.0*
*JMA **24** 14:36:17.0±0.5, 33.30N×142.46E, h58km, M3.6*
*NEIC **24** 14:36:19.4±0.7, 33.20N×142.39E, h40km, mb4.3/1, Error ellipse: s-maj=24.4km s-min=12.2km az=53.0*
ISC 24 14:36:16.6±1.9, 33.32N±0.06×142.43E±0.06, h26km±14km, n29,σ0§98/39, mb3.8/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.79**	**318**	P	**Pn**	**14 36 46.6**	**+0.2**
BSO3	**Boso 3**	**2.17**	**313**	P	**Pn**	**14 36 52.7**	**+0.9**
JHJ2	**Mitsune**	**2.20**	**265**	P	**Pn**	**14 36 52.6**	**+0.4**
JHJ2				*e*S	**Sn**	**14 37 19.6**	**+0.8**
JHJ	**Hachijo jima 2**	**2.23**	**266**	Pn	**Pn**	**14 36 52.6**	**0.0**
	77nm,0.3s,baz=106,slow=10,SNR=13						
JHJ				Sn	**Sn**	**14 37 18.6**	**-0.9**
	53nm,0.3s,baz=237,slow=23,SNR=3.7						
BSO4	**Boso 4**	**2.40**	**314**	P	**Pn**	**14 36 56.2**	**+1.1**
JIM2	**Oshima 3**	**2.85**	**300**	P	**Pn**	**14 37 01.1**	**-0.4**
JIM2				*e*S	**Sn**	**14 37 34.5**	**-0.9**
JOD2	**Odawara 2**	**3.38**	**306**	P	**Pn**	**14 37 08.5**	**-0.4**
JYN	**Shimob**	**3.88**	**305**	P	**Pn**	**14 37 16.5**	**+0.5**
JYN				S	**Sn**	**14 38 00.3**	**-1.0**
JAG	**Ashikaga**	**3.94**	**323**	P	**Pn**	**14 37 16.8**	**-0.2**
JRY	**Ryogami san**	**3.96**	**314**	P	**Pn**	**14 37 17.5**	**+0.3**
JRY				*e*S	**Sn**	**14 38 04.1**	**+0.7**
JMM	**Marumori**	**4.72**	**344**	P	**Pn**	**14 37 25.6**	**-2.5**
JMM				*e*S	**Sn**	**14 38 18.1**	**-4.7**
MJAR	**Matsushiro Arr**	**4.72**	**314**	Pn	**Pn**	**14 37 28.4**	**+0.3**
	2.5nm,0.3s,baz=160,slow=13,SNR=32						
MJAR				Sn	**Sn**	**14 38 23.3**	**+0.5**
	1.7nm,0.3s,baz=42,slow=7.0,SNR=5.3						
MAJO	**Matsushiro**	**4.73**	**314**	*e*P	**Pn**	**14 37 28.1**	**0.0**
MAT	**Matsushiro**	**4.73**	**314**	P	**Pn**	**14 37 29.0**	**+0.9**
MAT				*e*S	**Sn**	**14 38 22.0**	**-0.6**
MAT	**Matsushiro**	**4.73**	**314**	P	**Pn**	**14 37 28.7**	**+0.6**
MAT				S	**Sn**	**14 38 22.4**	**-0.4**
MAT	**Matsushiro**	**4.73**	**314**	P	**Pn**	**14 37 28.9**	**+0.8**
MAT				*e*S	**Sn**	**14 38 21.5**	**-1.3**
ASAJ	**Asahikawa**	**10.78**	**1**	Pn	**P**	**14 38 48.4**	**-4.0**
	0.6nm,0.3s,baz=248,slow=15,SNR=5.0						
ASAJ				Sn	**S**	**14 40 41.4**	**-12**
	0.2nm,0.3s,baz=31,slow=29,SNR=2.3						
YSS	**Yuzh-Sakhalins**	**13.62**	**1**	P	**P**	**14 39 26.5**	**-4.0**
	3.5nm,0.6s						
JOW	**Kunigami**	**13.85**	**246**	LR	LR	14 43 30.9	
	comp=Z,247nm,21.2s,baz=51,slow=32						
SONM	**Songino Array**	**30.66**	**309**	P	**P**	**14 42 31.8**	**+0.7**
	0.8nm,0.7s,mb3.7,baz=119,slow=8.9,SNR=5.8						
MKAR	**Makanchi Array**	**46.87**	**305**	P	**P**	**14 44 46.9**	**+0.7**
	0.7nm,0.6s,mb3.8,baz=90,slow=9.7,SNR=7.8						
MKAR	**Makanchi Array**	**46.87**	**305**	P	**P**	**14 44 46.9**	**+0.7**
WRAB	**Tennant Creek**	**53.51**	**189**	*e*P	**P**	**14 45 34.0**	**-3.4**
	2.0nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**53.52**	**189**	P	**P**	**14 45 35.7**	**-1.7**
	0.6nm,0.5s,mb3.8,baz=6.0,slow=7.7,SNR=17						
HFS	**Hagfors**	**77.81**	**336**	P	**P**	**14 48 13.1**	**+0.3**
	0.9nm,0.7s,mb3.8,baz=135,slow=2.1,SNR=4.7						
NOA	**NORSAR Array B**	**77.93**	**338**	P	**P**	**14 48 14.0**	**+0.6**
	0.8nm,0.7s,mb3.8,baz=40,slow=5.6,SNR=3.6						
PV10	**Paradox Valley**	**82.60**	**49**	P	**P**	**14 48 37.7**	**-1.0**
CLL	**Collm**	**84.73**	**331**	P	**P**	**14 48 50.0**	**+0.7**
TXAR	**Lajitas Array**	**91.71**	**53**	P	**P**	**14 49 24.8**	**+1.6**
	0.2nm,0.6s,mb3.6,baz=325,slow=3.9,SNR=3.6						

*IDC **24** 14:50:50.0±1.6, 0.01N×98.47E, mb4.0/7, mb1 4.0/7, mb1mx3.8/17, mbtmp4.0/7, Error ellipse: s-maj=59.3km s-min=21.7km az=55.0*
*NEIC **24** 14:50:54.5±0.8, 0.05N×98.54E, h30km, mb4.6/4, Error ellipse: s-maj=24.6km s-min=11.9km az=66.0*
ISC 24 14:50:55.2±4.9, 0.2N±0.2×98.7E±0.3, h47km±37km, n18, σ0§81/14, mb4.2/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.47**	**21**	*e*P	**P**	**14 52 16.3**	**0.0**
LSA	**Lhasa**	**30.24**	**347**	*e*P	**P**	**14 57 03.8**	**-0.1**
	2.7nm,0.4s,mb4.3						
ENH	**Enshi**	**31.67**	**18**	*e*P	**P**	**14 57 16.0**	**-0.6**
	8.3nm,0.5s,mb4.8						
WRA	**Warramunga Arr**	**40.25**	**122**	P	**P**	**14 58 28.7**	**-0.6**
	0.4nm,0.5s,mb3.4,baz=303,slow=9.1,SNR=8.3						
WRAB	**Tennant Creek**	**40.26**	**122**	*e*P	**P**	**14 58 28.7**	**-0.6**
	1.4nm,0.5s,mb4.0						
SONM	**Songino Array**	**47.96**	**7**	P	**P**	**14 59 32.5**	**+1.4**
	2.1nm,0.6s,mb4.3,baz=191,slow=9.6,SNR=10						
SONM				PcP	PcP	15 00 59.0	-0.2
	0.5nm,0.7s,baz=178,slow=4.4,SNR=3.7						
MKAR	**Makanchi Array**	**48.61**	**345**	P	**P**	**14 59 36.4**	**+0.3**
	2.1nm,0.6s,mb4.4,baz=152,slow=7.6,SNR=32						
MKAR	**Makanchi Array**	**48.61**	**345**	P	**P**	**14 59 36.4**	**+0.3**
MJAR	**Matsushiro Arr**	**51.50**	**41**	P	**P**	**14 59 59.2**	**+0.8**
	0.6nm,0.5s,mb3.8,baz=226,slow=6.8,SNR=4.3						
STKA	**Stephens Creek**	**51.58**	**132**	P	**P**	**15 00 00.2**	**+1.1**
	2.5nm,0.8s,mb4.2,baz=316,slow=15,SNR=2.9						
STKA	**Stephens Creek**	**51.58**	**132**	P	**P**	**15 00 00.2**	**+1.1**
BVAR	**Borovoye Array**	**57.71**	**340**	P	**P**	**15 00 42.4**	**-1.1**
	1.3nm,0.5s,mb4.2,baz=141,slow=8.5,SNR=9.9						
YAK	**Yakutsk**	**66.02**	**15**	*e*P	**P**	**15 01 37.6**	**-1.3**
	6.0nm,0.6s,mb4.8						
FINES	**FINESS Array B**	**81.59**	**332**	P	**P**	**15 03 10.0**	**+0.6**
	1.0nm,0.8s,mb3.8,baz=214,slow=14,SNR=3.4						
TZTN	**Tazewell**	**143.43**	**3**	*e*PKPpre		15 10 23.8	
TXAR	**Lajitas Array**	**143.75**	**34**	PKP	PKPdf	15 10 26.4	+0.7
	0.2nm,0.6s,baz=243,slow=2.0,SNR=3.0						
TXAR	**Lajitas Array**	**143.75**	**34**	PKP	PKPdf	15 10 26.4	+0.7
LRAL	**Lakeview Retre**	**146.56**	**9**	*e*PKPdf	PKPdf	15 10 32.7	+2.2

*MOS **24** 15:04:31.2±1.7, 52.80N×121.50E, h15km, mb4.2/1, Error ellipse: s-maj=58.5km s-min=20.3km az=111.9*
BYKL 24 15:04:31.1±0.9, 52.87N×121.72E, h10km±15km, 2C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUP	**Tupik**	**1.88**	**327**	*e*P	Pn	15 05 03.6	-0.1
TUP				*e*S	Sn	15 05 28.4	+0.8
TUP				pmax	pmax		
	comp=Z,135nm,0.2s						
TUP				smax			
	comp=E,431nm,0.2s						
TUP	**Tupik**	**1.88**	**327**	⇑*i* Pn	Pn	15 05 03.7	0.0
TUP				⇑*i* Pg	Pg	15 05 05.2	-3.5
TUP				*e*Sg	Sg	15 05 29.2	-4.5
TUP				Pmax			
	comp=E,132nm,0.2s						
TUP				Smax			
	comp=E,689nm,0.4s						
ZEA	**Zeya**	**3.43**	**73**	*e*	Pn	15 05 23.1	-2.7
ZEA				*e*Pg	Pg	15 05 32.3	-7.3
ZEA				*e*Sg	Sg	15 06 19.3	-6.0
CLNS	**Chul'man**	**4.38**	**23**	*e*P	Pn	15 05 38.8	-0.4
CLNS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CLNS				pmax	pmax		
	comp=N,1.0nm,0.2s						
CLNS				pmax	pmax		
	comp=E,1.0nm,0.2s						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,6.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.2s						
CLNS				MLR	MLR		
	comp=Z,100nm,14.0s						
CLNS	**Chul'man**	**4.38**	**23**	*e*	Pn	15 05 46.0	+6.8
CLNS				*e*Sg	Sg	15 06 47.3	-10
CRS	**Chara**	**4.50**	**335**	*e*Pn	Pn	15 05 40.0	-1.0
CRS				*e*Pg	Pg	15 05 52.0	-9.0
CRS				*e*Sg	Sg	15 06 49.3	-12
CRS				Pmax			
	comp=Z,26nm,1.0s						
CRS				Smax			
	comp=Z,74nm,1.3s						
NLYR	**Nelyaty**	**5.03**	**319**	*e*P	Pn	15 05 47.6	-0.9
NLYR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NLYR	**Nelyaty**	**5.03**	**319**	*e*Pn	Pn	15 05 47.6	-0.9
NLYR				*e*Pg	Pg	15 06 01.9	-10
NLYR				*e*Sg	Sg	15 07 06.7	-12
NLYR				Pmax			
	comp=Z,7.0nm,0.9s						
NLYR				Smax			
	comp=Z,268nm,0.7s						
CIT	**Chita**	**5.07**	**264**	*e*Pg	Pg	15 06 00.4	-12
CIT				*e*Sn	Sn	15 06 43.3	-5.1
CIT				*e*Sg	Sg	15 07 05.7	-14
CIT				Pmax			
	comp=Z,10.0nm,0.4s						
CIT				Smax			
	comp=Z,56nm,1.0s						
UKT	**Uakit**	**5.43**	**302**	*e*P	Pn	15 06 08.2	+14
UKT				pmax	pmax		
	comp=Z,4.0nm,0.5s						
UKT	**Uakit**	**5.43**	**302**	*e*Pn	Pn	15 05 52.1	-2.0
UKT				*e*Pg	Pg	15 06 08.2	-11
UKT				*e*Sg	Sg	15 07 17.8	-14
UKT				Pmax			
	comp=Z,3.0nm,0.3s						
UKT				Smax			
	comp=Z,76nm,1.3s						
SVKR	**Severomuysk**	**5.76**	**308**	*e*Sg	Sg	15 07 30.7	-12
SVKR				Smax			
	comp=Z,328nm,0.6s						
YLYR	**Ulyunkhan**	**6.56**	**292**	*e*Pg	Pg	15 06 29.0	-13
YLYR				*e*		15 07 34.6	
YLYR				*e*Sg	Sg	15 07 53.6	-16
YLYR				Pmax			
	comp=Z,4.0nm,0.5s						
YLYR				Smax			
	comp=Z,122nm,1.1s						
BOD	**Bodaibo**	**6.63**	**321**	*e*P	Pn	15 06 07.9	-3.1
BOD				pmax	pmax		
	comp=Z,4.0nm,0.2s						
BOD	**Bodaibo**	**6.63**	**321**	*e*	Sn	15 07 28.3	+0.9
BOD				*e*Sg	Sg	15 07 55.3	-16
BOD				Smax			
	comp=Z,64nm,0.9s						
YOA	**Uoyan**	**6.68**	**303**	*e*Sg	Sg	15 07 59.5	-14
YOA				Smax			
	comp=Z,266nm,1.4s						
KMO	**Kumora**	**6.85**	**300**	*e*P	Pn	15 06 10.2	-3.9
KMO				*e*S	Sn	15 07 25.7	-7.2
KMO	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**0.18**	**305**	⇑P	**Pg**	**15 31 57.9**	**-0.1**
JWM	**Minabe**	**0.61**	**314**	⇓P	**Pb**	**15 32 05.8**	**+0.1**
JWM				S	**Sb**	**15 32 13.6**	**-0.2**
JWY	**Kouya**	**0.83**	**343**	⇓P	**Pb**	**15 32 09.5**	**+0.2**
JWY				S	**Sb**	**15 32 19.9**	**-0.1**
JKN2	**Miekihoku**	**0.87**	**22**	⇑P	**Pb**	**15 32 10.2**	**+0.1**
JKN2				S	**Sb**	**15 32 21.2**	**-0.1**
MAT	**Matsushiro**	**3.64**	**31**	P	**Pn**	**15 32 50.6**	**-0.4**
MAT				S	**Sn**	**15 33 39.4**	**+5.2**
MJAR	**Matsushiro Arr**	**3.64**	**31**	Pn	**Pn**	**15 32 51.3**	**+0.4**
	0.3nm,0.3s,baz=197,slow=12,SNR=7.1						
MJAR				Pg	**Pg**	**15 33 00.2**	**-6.3**
	1.9nm,0.3s,baz=214,slow=15,SNR=17						
MJAR				Lg		15 33 48.4	
	1.4nm,0.3s,baz=217,slow=27,SNR=7.8						
MKAR	**Makanchi Array**	**42.32**	**305**	P	**P**	**15 39 49.1**	**+0.6**
	0.5nm,0.6s,mb3.3,baz=90,slow=11,SNR=6.4						
WRA	**Warramunga Arr**	**53.09**	**182**	P	**P**	**15 41 12.7**	**-0.4**
	0.4nm,0.7s,mb3.5,baz=359,slow=7.5,SNR=5.3						

IDC ***24*** *15:42:03.8±0.3, 7.99N×92.19E, mb5.7/24, mb1 5.8/24, mb1mx5.8/24, mbtmp5.7/24, MS7.3/34, Ms1 7.3/34, ms1mx7.3/44, Error ellipse: s-maj=14.8km s-min=11.5km az=56.0*

BJI ***24*** *15:42:04.1, 7.83N×92.19E, h19^{km}, mB7.0, mb6.2, Ms7.6, Msz7.4*

HRVD ***24*** *15:42:06.2±0.1, 7.92N×91.88E, h12^{km}, MW7.2/78, Centroid moment Tensor Solution.Mantle waves: s78,c190; Half duration: 10s1 Moment tensor: Scale 10^{20} Nm; M_{rr}0.02±.00; $M_{\theta\theta}$-0.72±.00; $M_{\phi\phi}$0.70±.00; $M_{r\theta}$-0.31±.05; $M_{\theta\phi}$-0.41±.00; $M_{\phi r}$0.13±.05; Best double couple: M_0.888×10^{20} NP1:ϕ_s29°,δ68°,λ-2°. NP2:ϕ_s120°, δ89°,λ-158°. Principal axes: T .866, Plg14°, Azm253°; N .045, Plg68°, Azm124°; P -.91, Plg16°, Azm347°; nsta1 refers to body waves. nsta2 refers to mantle waves, cutoff=150s.*

NEIC ***24*** *15:42:06.2±0.1, 7.92N×92.19E, h16^{km}, mb6.6/153, ME8.1, MS7.5/125, MW7.1, MW7.0(MOS) Error ellipse: s-maj=4.5km s-min=2.6km az=29.0 Broadband fault plane solution: P waves. NP1:ϕ_s210°,δ85°,λ2°. NP2:ϕ_s120°, δ88°,λ175°. Principal axes: T Plg5°, Azm75°; N Plg0°, Azm0°; P Plg2°, Azm165°; Moment Tensor Solution. s35 Moment tensor: Scale 10^{19} Nm; M_{rr}0.40; $M_{\theta\theta}$-5.91; $M_{\phi\phi}$5.51; $M_{r\theta}$-0.07; $M_{\theta\phi}$-2.67; $M_{\phi r}$-1.71; Best double couple: $M_0$6.5×10^{19} NP1:ϕ_s122°,δ77°,λ172°. NP2:ϕ_s213°, δ82°,λ13°. Principal axes: T 6.55, Plg15°, Azm78°; N -.02, Plg74°, Azm243°; P -6.53, Plg4°, Azm347°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Some buildings damaged in the Andaman and Nicobar Islands. Felt [V] on Car Nicobar, Katchal and Nancowry. Also felt [V] at Campbell Bay, Great Nicobar and Port Blair, South Andaman Island; [IV] at Rangat, Middle Andaman Island. Felt throughout the Andaman and Nicobar Islands. Felt [IV] at Chennai and at Machilipatnam, Srikakulam, Visakhapatnam, Vizianagaram and other coastal areas of Andhra Pradesh; [III] at Dum Dum and Garia, West Bengal and at Ramanniguda, Orissa; [II] by people in high-rise buildings at Bangalore, Karnataka, India. Felt at Mamallapuram, India. Felt [III] at Banda Aceh, Indonesia. Felt [III] at Colombo, Matale and Kandy, Sri Lanka. Felt at Peraliya and Sri Jayawardenepura Kotte, Sri Lanka. Also felt at Male, Maldives; Georgetown, Malaysia; and at Phuket, Thailand.

CRAAG ***24*** *15:42:07.2, 7.99N×92.16E, Mb7.2*

MOS ***24*** *15:42:07.1±0.9, 7.94N×92.18E, h33^{km}, mb6.8/88, MS7.4/53, Error ellipse: s-maj=7.0km s-min=3.2km az=126.2 Broadband fault plane solution: P waves. $M_0$3.5×10^{19} NP1:ϕ_s200°,δ79°,λ4°. NP2:ϕ_s109°,δ86°, λ169°. Principal axes: T Plg10°, Azm64°; N Plg78°, Azm270°; P Plg5°, Azm155°;*

DHMR ***24*** *15:42:09.3±2.9, 7.98N×92.18E, h22^{km}±484^{km}, mb6.7*

BGS ***24*** *15:42:10.9, 9.32N×92.38E, h16^{km}, MS7.3*

ISC 24 15:42:05.0±0.1**, 7.91N**±0.02×**92.15E**±0.02**, h17**^{km}**, h17**^{km}±1.4^{km}**:pP-P, n1442,** σ1s**07**/1209**, mb6.4**/227**, MS7.5**/194**, 85C-239D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.77**	**9**	*e*P	**Pn**	**15 43 05.1**	**+1.4**
PBA				*e*S	**Sn**	**15 43 43.0**	**-5.2**
PKT	**Phuket**	**5.99**	**88**	P	**Pn**	**15 43 39.0**	**+3.9**
SNG	**Songkhla**	**8.43**	**94**	P	**P**	**15 44 08.0**	**-1.3**
NNT	**Nongplab**	**8.80**	**57**	P	**P**	**15 44 14.0**	**-0.4**
KULM	**Kulim**	**8.84**	**107**	⇑*e*P	**P**	**15 44 12.9**	**-2.0**
IPM	**Ipoh**	**9.42**	**110**	P	**P**	**15 44 21.9**	**-1.2**
PALK	**Pallekele**	**11.36**	**268**	*e*P	**P**	**15 44 46.2**	**-3.5**
	7μm,0.8s						
BDT	**Bhumibol Dam**	**11.44**	**35**	P	**P**	**15 44 50.0**	**-0.8**
	229nm,0.9s						
KGM	**Kluang**	**12.57**	**117**	P	**P**	**15 45 03.7**	**-2.3**
MDRS	**Chennai**	**12.77**	**295**	*e*P	**P**	**15 45 07.7**	**-1.1**
MDRS				AMb	AMB	15 45 12.1	
	comp=Z,3μm,0.3s						
MDRS				*e*S	**S**	**15 47 17.0**	**-15**
BWNR	**Bhubaneshwar**	**13.76**	**334**	*e*	**P**	**15 45 25.7**	**+3.8**
BWNR				AMb	AMB	15 45 32.6	
	comp=Z,17μm,0.6s						
BWNR				*e*		15 47 47.5	
BWNR				AMS	AMS	15 52 35.3	
	comp=Z,1668μm,21.0s						
CHRT	**Chiangrai**	**14.01**	**31**	⇑P	**P**	**15 45 24.0**	**-1.1**
	comp=Z,3μm,0.6s						
UBT	**Ubonrachathani**	**14.56**	**59**	⇑P	**P**	**15 45 33.0**	**+0.6**
CAL	**Calcutta**	**15.00**	**346**	*e*P	**P**	**15 45 40.6**	**+2.5**
CAL				*e*		15 48 44.3	
TRD	**Trivandrum**	**15.04**	**273**	*e*P	**P**	**15 45 37.1**	**-1.7**
TRD				AMb	AMB	15 45 45.4	
	comp=Z,5μm,0.8s						
TRD				*e*		15 48 10.7	
AGT	**Agartala**	**15.91**	**357**	⇑*i*	**P**	**15 45 55.0**	**+5.1**
AGT				*i*		15 47 15.0	
HYB	**Hyderabad**	**16.27**	**307**	*e*P	**P**	**15 45 53.5**	**-1.1**
HYB				*e*		15 46 00.0	
HYB				*e*S	**S**	**15 48 38.0**	**-16**
HYB	**Hyderabad**	**16.27**	**307**	⇓*i*P	**P**	**15 45 53.5**	**-1.1**
	comp=Z,3μm,1.0s						
HYB				*e*sP		15 46 00.0	
HYB				*e*S	**S**	**15 48 38.0**	**-16**
IMP	**Imphal**	**16.87**	**6**	*e*P	**P**	**15 46 01.0**	**-1.1**
IMP				*e*		15 48 52.0	
IMP				*i* SS	SS	15 49 23.0	-5.9
BOK	**Bokaro**	**16.90**	**340**	⇓*i*P	**P**	**15 46 00.5**	**-2.0**
BOK				*i*		15 49 01.5	
BLSP	**Bilaspur**	**17.12**	**327**	*e*P	**P**	**15 46 02.3**	**-2.9**
BLSP				AMb	AMB	15 46 10.3	
	comp=Z,6μm,2.3s						
BLSP				*e*		15 49 06.9	
BLSP				AML	AML	15 49 37.3	
	comp=N,3μm,0.3s						
BLSP				AML	AML	15 49 37.9	
	comp=E,3μm,0.7s						
SHL	**Shillong**	**17.56**	**359**	*e*	**P**	**15 46 07.0**	**-3.8**
	comp=E,633nm,0.6s						
SHL				*e*		15 49 18.0	
SHBG	**Sahibganj**	**17.74**	**347**	*e*P	**P**	**15 46 13.2**	**+0.3**
SHBG				*e*		15 49 20.0	
MNGI	**Mangalore**	**17.75**	**288**	*i*	**P**	**15 46 07.9**	**-5.3**
MNGI				*e*		15 49 11.6	
	comp=E,7μm,1.4s						
LATR	**Latur**	**18.41**	**306**	*e*P	**P**	**15 46 20.2**	**-1.1**
LATR				*e*		15 49 34.0	
MNCY	**Minicoy**	**18.93**	**272**	⇓*i*	**P**	**15 46 31.0**	**+3.4**
MNCY				*i*		15 56 51.0	
SLGI	**Shiliguri**	**19.02**	**350**	⇓*i*P	**P**	**15 46 29.5**	**+0.8**
SLGI				*i*		15 46 32.0	
KSM	**Kuching**	**19.19**	**109**	*e*P	**P**	**15 46 29.1**	**-1.6**
AKL	**Akola**	**19.39**	**313**	*e*	**P**	**15 46 39.1**	**+6.1**
	comp=E,8μm,1.9s						
AKL				*e*		15 50 06.4	
GTK	**Gangtok**	**19.61**	**351**	*e*	**P**	**15 46 38.0**	**+2.5**
LKP	**Lekhapani**	**19.68**	**10**	*e*P	**P**	**15 46 34.0**	**-2.2**
LKP				*e*S	**S**	**15 50 18.0**	**+6.5**
KAD	**Karad**	**19.85**	**300**	*e*P	**P**	**15 46 38.2**	**+0.1**
KAD				AMb	AMB	15 46 51.0	
	comp=Z,5μm,3.6s						
KAD				*e*		15 50 00.6	
KAD				AML	AML	15 50 59.8	
	comp=E,1μm,0.6s						
KAD				AML	AML	15 51 00.0	
	comp=N,2μm,0.6s						
KAD				AMS	AMS	15 53 30.3	
	comp=N,2453μm,20.1s						
KMI	**Kunming**	**19.89**	**29**	P	**P**	**15 46 38.9**	**+0.3**
KMI				AP		15 46 45.8	
KMI				XP		15 46 48.5	
KMI				PP	PP	15 47 00.5	+3.0
KMI				PPP	PPP	15 47 11.4	+4.9
KMI				S	**S**	**15 50 23.9**	**+7.9**
KMI				AMB	AMB		
	comp=Z,515nm,1.1s						
KMI				AMB	AMB		
	comp=Z,7μm,4.6s						
KMI				LR	LR		
	comp=N,1470μm,20.1s						
KMI				LR	LR		
	comp=E,1130μm,21.3s						
KMI				LR	LR		
	comp=Z,1530μm,21.3s						
KMI	**Kunming**	**19.89**	**29**	P	**P**	**15 46 38.9**	**+0.3**
KMI				S	**S**	**15 50 24.1**	**+8.1**
KMI	**Kunming**	**19.89**	**29**	P	**P**	**15 46 38.9**	**+0.3**
KMI				S	**S**	**15 50 23.9**	**+7.9**
KMI				pmax	pmax		
	comp=Z,515nm,1.1s						
KMI	**Kunming**	**19.89**	**29**	P	**P**	**15 46 38.9**	**+0.3**
	comp=Z,515nm,1.1s						
KMI				pP		15 46 45.7	
KMI				sP		15 46 48.5	
KMI				PP	PP	15 47 00.5	+3.0
KMI				PPP	PPP	15 47 11.4	+4.9
KMI				S	**S**	**15 50 23.9**	**+7.9**
KMI				sS		15 50 34.0	
KMI				PS		15 50 39.7	
KMI				SS	SS	15 50 55.3	+11
KMI				SSS	SSS	15 51 09.4	+12
ALBI	**Allahabad**	**19.92**	**332**	*e*P	**P**	**15 46 38.5**	**-0.4**
QIZ	**Qiongzhong**	**20.43**	**55**	⇑*i*P	**P**	**15 46 44.3**	**0.0**
QIZ				XP		15 46 51.5	
QIZ				S	**S**	**15 50 29.8**	**+2.5**
QIZ				AMB	AMB		
	comp=Z,6μm,1.4s						
QIZ				LR	LR		
	comp=N,1240μm,14.5s,MS7.5						
QIZ				LR	LR		
	comp=E,1010μm,17.5s,MS7.5						
QIZ				LR	LR		
	comp=Z,793μm,19.4s,MS7.1						
QIZ	**Qiongzhong**	**20.43**	**55**	⇑*i*P	**P**	**15 46 44.3**	**0.0**
	comp=Z,6μm,1.0s						
QIZ				*e*S	**S**	**15 50 38.1**	**+11**
PKI	**Pulchoki**	**20.57**	**343**	*e*P	**P**	**15 46 46.7**	**+1.0**
	comp=Z,20μm,0.6s						
POO	**Poona**	**20.68**	**303**	⇓*i*P	**P**	**15 46 47.0**	**+0.1**
	comp=Z,5μm,2.0s						
POO				*i*		15 50 32.0	
DMN	**Daman**	**20.70**	**342**	*e*P	**P**	**15 46 47.3**	**+0.3**
GUN	**Gumba**	**20.76**	**344**	*e*P	**P**	**15 46 48.5**	**+0.8**
	comp=Z,15μm,0.9s						
BHPL	**Bhopal**	**20.79**	**319**	*e*P	**P**	**15 46 47.9**	**-0.1**
BHPL				AMb	AMB	15 46 57.1	
	comp=Z,8μm,0.9s						
BHPL				*e*		15 46 58.3	
BHPL				*e*		15 50 33.7	
BHPL				AMS	AMS	15 55 41.7	
	comp=Z,1259μm,19.9s,MS7.3						
KKN	**Kakani**	**20.82**	**343**	*e*P	**P**	**15 46 48.8**	**+0.6**
	comp=Z,12μm,0.9s						
KKN				*e*S	**S**	**15 50 39.6**	**+4.7**
GKN	**Gorkha**	**21.21**	**341**	*e*P	**P**	**15 46 52.9**	**+0.6**
	comp=Z,20μm,0.5s						
KOLN	**Koldanda**	**21.35**	**339**	*e*P	**P**	**15 46 54.7**	**+1.1**
	comp=Z,20μm,1.0s,mb7.4						
LSA	**Lhasa**	**21.70**	**358**	P	**P**	**15 46 57.4**	**+0.2**
LSA				AP		15 47 05.6	
LSA				XP		15 47 10.3	
LSA				S	**S**	**15 50 55.9**	**+4.3**
LSA				PCS		15 54 29.8	
LSA				LR	LR		
	comp=N,2200μm,28.1s						
LSA				LR	LR		
	comp=E,1300μm,22.3s						
LSA				LR	LR		
	comp=Z,2200μm,28.1s,MS7.4						
LSA	**Lhasa**	**21.70**	**358**	⇓*i*P	**P**	**15 46 57.9**	**+0.7**
	comp=Z,55nm,1.4s						
BOM	**Bombay**	**21.72**	**302**	*e*	**P**	**15 47 05.2**	**+7.7**
BOM				*e*		15 47 14.7	
	comp=Z,9μm,1.7s						
BOM				*e*		15 51 04.0	
JHNI	**Jhansi**	**21.75**	**325**	⇓*i*P	**P**	**15 47 00.0**	**+2.3**
JHNI				*e*S	**S**	**15 50 58.0**	**+5.4**
GYA	**Guiyang**	**23.04**	**35**	⇑*i*P	**P**	**15 47 10.0**	**-0.5**
GYA				AP		15 47 14.6	
GYA				XP		15 47 17.8	
GYA				PP	PP	15 47 39.4	-1.3
GYA				S	**S**	**15 51 19.8**	**+3.7**
GYA				SS	SS	15 51 57.1	-3.9
GYA				AMB	AMB		
	comp=Z,8μm,5.4s						
GYA				LR	LR		
	comp=N,965μm,16.2s,MS7.4						
GYA				LR	LR		
	comp=E,549μm,15.6s,MS7.4						
GYA				LR	LR		
	comp=Z,839μm,17.4s,MS7.2						
BHV	**Bhavnagar**	**23.69**	**308**	*e*P	**P**	**15 47 21.0**	**+4.1**
KKM	**Kota Kinabalu**	**23.96**	**93**	*e*P	**P**	**15 47 20.8**	**+1.1**
KKM	**Kota Kinabalu**	**23.96**	**93**	P	**P**	**15 47 21.8**	**+2.1**
LGTI	**Lohaghat**	**24.18**	**334**	*e*P	**P**	**15 47 23.7**	**+2.1**
LGTI				*e*		15 51 50.7	
PTH	**Pithoragarh**	**24.27**	**334**	*e*P	**P**	**15 47 25.3**	**+2.8**
PTH				*e*		15 51 55.9	
DGAR	**Diego Garcia**	**24.84**	**233**	*e*P	**P**	**15 47 28.1**	**-0.1**
DGAR				pmax	pmax		
	comp=Z,9μm,1.6s,mb7.0						
DGAR				MLR	MLR		
	comp=Z,171μm,20.0s,MS6.5						
DGAR	**Diego Garcia**	**24.84**	**233**	*e*P	**P**	**15 47 28.1**	**-0.1**
	comp=Z,9μm,1.6s,mb7.0						
DGAR				LR	LR		
	comp=Z,171μm,20.0s,MS6.5						
AJM	**Ajmer**	**24.86**	**320**	*e*P	**P**	**15 47 28.5**	**+0.3**
AJM				AMb	AMB	15 47 37.8	
	comp=Z,3μm,1.4s,mb6.6						
AJM				*e*		15 47 50.0	
AJM				*e*		15 51 47.8	
AJM				AMS	AMS	15 56 56.2	
	comp=Z,1352μm,21.2s,MS7.4						
NDI	**New Delhi**	**25.00**	**328**	*e*P	**P**	**15 47 29.0**	**-0.6**
CD2	**Chengdu**	**25.33**	**24**	P	**P**	**15 47 32.0**	**-0.6**
CD2				XP	sP	15 47 38.0	-2.0
CD2				S	**S**	**15 51 55.0**	**-0.3**
BATP	**Bataraza**	**25.40**	**86**	*e*P	**P**	**15 47 34.2**	**+0.7**
HKC	**Hong Kong**	**25.58**	**54**	⇑*i*P	**P**	**15 47 36.0**	**+1.0**
TSM	**Tawau**	**25.83**	**96**	P	**P**	**15 47 38.0**	**+0.5**
DDI	**Dehra Dun**	**25.92**	**331**	*e*P	**P**	**15 47 37.8**	**-0.3**
DDI				*e*		15 52 38.0	
PPR	**Puerto Princes**	**26.33**	**84**	⇓*e*P	**P**	**15 47 42.8**	**+0.7**
BHUJ	**Bhuj**	**26.43**	**308**	*e*P	**P**	**15 47 44.7**	**+1.7**
BHUJ				AMb	AMB	15 48 10.4	
	comp=Z,2μm,1.4s,mb6.5						
BHUJ				*e*S	**S**	**15 52 16.0**	**+2.3**
SDNR	**Sundarnagar**	**27.41**	**331**	*e*P	**P**	**15 47 52.0**	**+0.2**
ENH	**Enshi**	**27.55**	**34**	⇑*i*P	**P**	**15 47 51.7**	**-1.4**
	comp=Z,1.9nm,0.3s						
BHK	**Bhakra**	**27.61**	**330**	*e*P	**P**	**15 47 55.4**	**+1.7**
BHK				*e*		15 52 58.8	
BUSP	**Coron**	**27.92**	**79**	*e*P	**P**	**15 47 56.6**	**0.0**
LUBP	**Lubang**	**28.18**	**76**	*e*P	**P**	**15 47 59.0**	**0.0**
SCZP	**Santa Cruz**	**28.25**	**71**	*e*P	**P**	**15 47 59.4**	**-0.1**
PONG	**Pong**	**28.28**	**330**	*e*P	**P**	**15 48 00.0**	**+0.3**
BOLP	**Bolinao**	**28.39**	**70**	*e*P	**P**	**15 48 01.3**	**+0.5**
THN	**Thein Dam**	**28.78**	**330**	*e*P	**P**	**15 48 03.0**	**-1.2**
THN				*e*		15 55 21.2	
PGP	**Puerto Galera**	**28.83**	**76**	*e*P	**P**	**15 48 00.1**	**-4.7**
TGY	**Tagaytay City**	**28.91**	**75**	⇓*e*P	**P**	**15 48 10.1**	**+4.6**
BCPH	**Baguio City Da**	**29.02**	**70**	⇓*i*P	**P**	**15 48 00.7**	**-5.7**
PCPH	**Palayan**	**29.32**	**72**	⇑*e*P	**P**	**15 48 08.1**	**-1.1**
JMU	**Jammu**	**29.42**	**329**	*e*	**P**	**15 48 15.0**	**+5.1**
ABRA	**Dolores**	**29.45**	**68**	*e*P	**P**	**15 48 10.6**	**+0.2**
AAP	**Anini-y**	**29.52**	**83**	⇓*e*P	**P**	**15 48 12.5**	**+1.5**
	comp=Z,3164μm,98.0s						
BOAC	**Boac**	**29.68**	**77**	*e*P	**P**	**15 48 12.6**	**+0.1**
BALP	**Baler**	**29.81**	**72**	*e*P	**P**	**15 48 13.5**	**-0.1**
POLP	**Polilio Island**	**29.97**	**74**	*e*P	**P**	**15 48 15.2**	**+0.3**
KALP	**Kalibo**	**29.98**	**80**	*e*P	**P**	**15 48 17.0**	**+1.9**
	comp=Z,6μm,1.0s,mb7.0						
APYP	**Conner**	**30.00**	**68**	*e*P	**P**	**15 48 15.1**	**-0.1**
LZH	**Lanzhou**	**30.02**	**19**	⇑P	**P**	**15 48 14.6**	**-0.6**
LZH				AP	pP	15 48 19.8	-0.6
LZH				XP	sP	15 48 23.0	+0.4
LZH				PP	PP	15 49 15.0	+1.7
LZH				S	**S**	**15 53 13.0**	**+1.8**
LZH				XS		15 53 23.0	
LZH				AMB	AMB		
	comp=Z,190nm,1.0s,mb5.8						
LZH				AMB	AMB		
	comp=Z,2μm,5.5s						
LZH				LR	LR		
	comp=N,1838μm,17.3s						
LZH				LR	LR		
	comp=Z,3477μm,20.8s,MS8.0						
LZH	**Lanzhou**	**30.02**	**19**	⇑P	**P**	**15 48 14.6**	**-0.6**
LZH				*SP	sP	15 48 23.0	+0.4
LZH						15 49 15.0	
LZH				PPP	PPP	15 49 32.0	+4.7
LZH				S	**S**	**15 53 13.0**	**+1.8**
LZH				SS	SS	15 55 01.3	+13
LZH				pmax	pmax		
	comp=Z,190nm,1.0s,mb5.8						
LZH				MLR	MLR		
	comp=Z,3477μm,20.8s,MS8.0						
LZH	**Lanzhou**	**30.02**	**19**	⇑P	**P**	**15 48 14.6**	**-0.6**
	comp=Z,190nm,1.0s,mb5.8						
LZH				pP	pP	15 48 19.8	-0.6
LZH				sP	sP	15 48 23.0	+0.4
LZH				PP	PP	15 49 15.0	+1.7
LZH				PPP	PPP	15 49 32.0	+4.7
LZH				S	**S**	**15 53 13.0**	**+1.8**
LZH				sS		15 53 23.0	
LZH				SS	SS	15 55 01.3	+13
LZH				LR	LR		
	comp=Z,3477μm,20.8s,MS8.0						
IPIL	**Ipil**	**30.14**	**88**	*e*P	**P**	**15 48 17.2**	**+0.7**
GUIM	**Jordan**	**30.16**	**82**	*e*P	**P**	**15 48 18.7**	**+2.0**
XAN	**Xi'an**	**30.26**	**28**	P	**P**	**15 48 14.9**	**-2.5**
XAN				AP	pP	15 48 22.6	+0.1
XAN				S	**S**	**15 53 13.3**	**-1.8**
XAN				AMB	AMB		
	comp=Z,18μm,14.1s						
XAN				LR	LR		
	comp=N,337μm,35.8s,MS7.1						
XAN				LR	LR		
	comp=E,729μm,35.8s,MS7.1						
XAN				LR	LR		
	comp=Z,1360μm,25.3s						
CAUP	**Cauayan**	**30.30**	**70**	*e*P	**P**	**15 48 18.7**	**+0.7**
GQP	**Guinayangan**	**30.32**	**76**	⇓*e*P	**P**	**15 48 17.8**	**-0.4**
RCP	**Roxas**	**30.37**	**81**	⇑*e*P	**P**	**15 48 19.1**	**+0.6**
QZH	**Quanzhou**	**30.40**	**53**	⇑*i*P	**P**	**15 48 18.6**	**-0.1**
QZH				S	**S**	**15 53 19.0**	**+1.6**
QZH				AMB	AMB		
	comp=Z,3μm,0.7s,mb7.1						
QZH				AMB	AMB		
	comp=Z,52μm,6.8s						
QZH				LR	LR		
	comp=N,822μm,18.0s,MS7.8						
QZH				LR	LR		
	comp=E,1409μm,15.6s,MS7.8						
QZH				LR	LR		
	comp=Z,1905μm,16.7s,MS7.8						
AUQP	**San Andres**	**30.47**	**77**	*e*P	**P**	**15 48 20.4**	**+1.0**
CVP	**Callao Caves**	**30.49**	**68**	⇑*e*P	**P**	**15 48 20.0**	**+0.5**
WHN	**Wuhan**	**30.64**	**40**	⇑P	**P**	**15 48 20.3**	**-0.5**
WHN				S	**S**	**15 53 23.4**	**+2.3**
WHN				LR	LR		
	comp=N,870μm,17.0s,MS7.7						
WHN				LR	LR		
	comp=E,918μm,15.2s,MS7.7						
WHN				LR	LR		
	comp=Z,1806μm,18.3s,MS7.8						
SNPH	**Sibulan**	**30.77**	**85**	⇑*i*P	**P**	**15 48 22.8**	**+0.7**
SGCP	**Mt. Cagua**	**30.83**	**68**	*e*P	**P**	**15 48 28.5**	**+5.9**
DCPH	**Dipolog City**	**30.89**	**87**	⇓*e*P	**P**	**15 48 24.5**	**+1.4**
TBP	**Tagbilaran**	**31.39**	**84**	*e*P	**P**	**15 48 27.8**	**+0.3**
LLP	**Lapu-Lapu**	**31.50**	**83**	⇑*e*P	**P**	**15 48 28.6**	**+0.1**
CTBH	**Cotabato--PC H**	**31.82**	**89**	*e*P	**P**	**15 48 31.9**	**+0.5**
GTA	**Gaotai**	**32.12**	**11**	⇑*i*P	**P**	**15 48 33.9**	**+0.3**
GTA				AP	pP	15 48 38.1	-0.7
GTA				XP	sP	15 48 40.8	-0.3
GTA				PP	PP	15 49 42.3	+1.8
GTA				PCP	PcP	15 51 21.1	-1.8
GTA				S	**S**	**15 53 47.5**	**+3.5**
GTA				XS		15 53 55.5	
GTA				SCS	ScS	15 59 02.0	+0.3
GTA				AMB	AMB		
	comp=Z,337nm,1.2s,mb6.0						
GTA				AMB	AMB		
	comp=Z,15μm,7.6s						
GTA				LR	LR		
	comp=N,312μm,25.1s,MS7.2						
GTA				LR	LR		
	comp=E,503μm,24.3s,MS7.2						
GTA				LR	LR		
	comp=Z,574μm,27.7s,MS7.1						
NACB	**Ninganchiao**	**32.49**	**57**	⇑*e*P	**P**	**15 48 37.4**	**+0.3**
BUKP	**Musuan**	**32.60**	**88**	*e*P	**P**	**15 48 39.2**	**+1.1**
GSPH	**General Santos**	**32.60**	**91**	*e*P	**P**	**15 48 47.2**	**+9.0**
KCP	**Kidapawan**	**32.67**	**89**	⇑*e*P	**P**	**15 48 40.1**	**+1.3**
TATO	**Taipei**	**32.74**	**55**	P	**P**	**15 48 40.2**	**+0.9**
TATO	**Taipei**	**32.74**	**55**	⇑*e*P	**P**	**15 48 39.8**	**+0.6**
	comp=Z,924nm,0.8s,mb6.8						
TATO				LR	LR		
	comp=Z,667μm,20.0s,MS7.3						
SCPH	**Surigao**	**32.99**	**84**	⇑*e*P	**P**	**15 48 42.1**	**+0.6**
BESP	**Borongan**	**33.00**	**81**	*e*P	**P**	**15 48 42.9**	**+1.3**
DMPH	**Davao City--Mi**	**33.08**	**89**	⇓*e*P	**P**	**15 48 44.3**	**+2.0**
BUTP	**Butuan**	**33.12**	**86**	*e*P	**P**	**15 48 43.2**	**+0.5**
DAV	**Davao City (W)**	**33.15**	**89**	P	**P**	**15 48 44.3**	**+1.4**
DAV	**Davao City (W)**	**33.15**	**89**	⇓*e*P	**P**	**15 48 45.0**	**+2.1**
NJ2	**Nanjing**	**34.55**	**42**	*e*P	**P**	**15 48 55.0**	**+0.1**
NJ2				AP	pP	15 48 59.3	-0.7
NJ2				XP	sP	15 49 02.3	0.0
NJ2				PP	PP	15 50 10.3	-1.0
NJ2				PPP	PPP	15 50 27.1	-2.2
NJ2				S	**S**	**15 54 28.0**	**+6.1**
NJ2				XS		15 54 38.0	
NJ2				AMB	AMB		
	comp=Z,450nm,0.8s,mb6.5						
NJ2				AMB	AMB		
	comp=Z,6μm,11.2s						
NJ2				LR	LR		
	comp=N,2142μm,38.3s						
NJ2				LR	LR		
	comp=E,1777μm,31.0s						
NJ2				LR	LR		
	comp=Z,2258μm,36.9s,MS7.6						
KSH	**Kashi**	**34.66**	**338**	*i* PR	**P**	**15 48 56.3**	**+0.6**
KSH				*e*AP	pP	15 49 06.0	+5.1
KSH				*e*XP	sP	15 49 10.5	+7.4
KSH				*e*PP	PP	15 50 13.0	+0.4
KSH				*e*PPP	PPP	15 50 31.5	+0.9
KSH				*e*PCP	PcP	15 51 31.5	+1.5
KSH				S	**S**	**15 54 24.1**	**+0.6**
KSH				*e*PCS		15 55 14.0	
KSH				*e*SS	SS	15 56 36.0	-0.1
KSH				*e*SCS	ScS	15 59 16.0	+1.1
KSH				AMB	AMB		
	comp=Z,780nm,1.1s,mb6.5						
KSH				AMB	AMB		
	comp=Z,38μm,7.4s						
KSH				LR	LR		
	comp=N,1260μm,16.8s,MS7.9						
KSH				LR	LR		
	comp=E,1340μm,14.8s,MS7.9						
SSE	**Sheshan**	**35.59**	**46**	P	**P**	**15 49 03.0**	**-0.8**
SSE				AP	pP	15 49 06.1	-2.9
SSE				S	**S**	**15 54 40.0**	**+1.9**
SSE				XS		15 54 45.3	

SSE AMB AMB
comp=Z,830nm,1.0s,mb6.6
SSE LR LR
comp=N,456µm,26.7s,MS7.2
SSE LR LR
comp=E,244µm,26.6s,MS7.2
SSE LR LR
comp=Z,278µm,18.8s
SSE Sheshan 35.59 46 P **P** **15 49 03.0 -0.8**
comp=Z,830nm,1.0s,mb6.6
SSE pP pP 15 49 06.1 -2.9
SSE sP sP 15 49 07.4 -3.8
SSE S **S** **15 54 40.0 +1.9**
SSE sS 15 54 45.2
SSE SS SS 15 57 15.8 +18
SSE LR LR
comp=Z,278µm,18.8s,MS7.0
WMQ Urumqi 35.98 355 P **P** **15 49 08.1 +1.1**
WMQ AP pP 15 49 12.5 +0.3
WMQ XP sP 15 49 15.1 +0.7
WMQ PP PP 15 50 29.9 +1.1
WMQ PCP PcP 15 51 34.8 +1.0
WMQ S **S** **15 54 46.4 +2.4**
WMQ XS 15 54 53.1
WMQ SCP 15 55 19.3
WMQ SS SS 15 57 08.0 +1.4
WMQ SCS ScS 15 59 23.3 +1.3
WMQ AMB AMB
comp=Z,921nm,0.9s,mb6.7
WMQ AMB AMB
comp=Z,51µm,8.8s
WMQ LR LR
comp=N,453µm,23.4s,MS7.6
WMQ LR LR
comp=E,1006µm,23.3s,MS7.6
WMQ LR LR
comp=Z,442µm,24.1s,MS7.2
TIA Tai'an 36.24 35 *e*P **P** **15 49 08.6 -0.5**
TIA AP pP 15 49 15.0 +0.7
TIA S **S** **15 54 50.0 +2.0**
TIA AMB AMB
comp=Z,3µm,5.0s
BTO Baotou 36.25 23 *e*P **P** **15 49 08.0 -1.2**
BTO S **S** **15 54 47.3 -0.9**
BTO LR LR
comp=N,295µm,12.3s
BTO LR LR
comp=E,460µm,21.1s
ULHL Ulahol 36.97 340 P **P** **15 49 16.8 +1.6**
SNR=91
HHC Hu-ho-hao-te 37.08 25 *e*P **P** **15 49 15.8 -0.4**
HHC AP pP 15 49 20.5 -0.9
HHC XP sP 15 49 22.9 -0.7
HHC PP PP 15 50 42.0 -1.0
HHC PCP PcP 15 51 39.6 +2.5
HHC S **S** **15 54 59.8 -1.1**
HHC SCP 15 55 22.6
HHC PCS 15 55 23.8
HHC SCS ScS 15 59 27.1 -1.1
HHC AMB AMB
comp=Z,23µm,14.4s
HHC LR LR
comp=N,481µm,20.4s,MS7.5
HHC LR LR
comp=E,559µm,18.0s,MS7.5
HHC LR LR
comp=Z,578µm,19.2s,MS7.4
KZA Kyzart 37.16 339 P **P** **15 49 19.1 +2.2**
SNR=87
UCH Uchtor 37.56 338 P **P** **15 49 21.9 +1.7**
SNR=85
AAA Alma-Ata 37.67 342 *i* P **P** **15 49 22.0 +0.9**
KBK Karagaybulak 37.78 339 P **P** **15 49 23.9 +1.9**
SNR=376
AML Almayashu 37.78 337 P **P** **15 49 24.1 +2.0**
SNR=68
TKM2 Tokmak 2 37.79 340 P **P** **15 49 23.2 +1.1**
SNR=232
AAK Ala-Archa 37.92 339 P **P** **15 49 24.9 +1.7**
SNR=214
AAK Ala-Archa 37.92 339 P **P** **15 49 25.2 +2.0**
AAK S **S** **15 55 05.9 -7.8**
AAK pmax pmax
comp=Z,6µm,1.6s,mb7.1
AAK smax
comp=N,16µm,6.0s
AAK Ala-Archa 37.92 339⇓ *e*P **P** **15 49 23.1 -0.2**
comp=N,4µm,1.4s,mb6.9
AAK LR LR
comp=Z,261µm,22.0s,MS7.0
FRU Bishkek 38.05 339⇓ *i*P **P** **15 49 25.0 +0.7**
FRU *i* 15 51 00.0
FRU *i* S **S** **15 55 18.0 +2.3**
FRU pmax pmax
comp=Z,30µm,3.0s
FRU smax
comp=Z,50µm,12.0s
FRU MLR MLR
comp=Z,708µm,20.0s,MS7.5
CHMS Chumysh 38.15 339 P **P** **15 49 26.1 +0.9**
SNR=187
TAS Tashkent 38.97 332 *e*P **P** **15 49 33.0 +0.9**
TAS *e*S **S** **15 55 25.0 -4.6**
TAS Tashkent 38.97 332 *e*P **P** **15 49 30.5 -1.6**
JOW Kunigami 39.08 57 S **S** **15 55 38.0 +6.6**
comp=Z,133nm,1.2s,baz=131,slow=25,SNR=11
JOW LR LR 16 09 10.8
comp=Z,527µm,18.2s,MS7.4,baz=249,slow=42
MBWA Marble Bar 39.60 137⇓ *e*P **P** **15 49 36.4 -1.1**
comp=Z,0.5nm,1.0s
MBWA LR LR
comp=Z,539µm,20.0s,MS7.4
MKAR Makanchi Array 39.66 349 *i* P **P** **15 49 37.7 0.0**
MKAR pmax pmax
comp=Z,849nm,0.9s
MKAR Makanchi Array 39.66 349 P **P** **15 49 37.5 -0.1**
comp=Z,152nm,0.6s,mb5.9,baz=168,slow=8.1,SNR=1034
MKAR LR LR 16 09 56.4
comp=Z,546µm,21.3s,MS7.4,baz=173,slow=42
KKAR Karatay Array 39.87 335 *i* P **P** **15 49 40.2 +0.7**
KKAR S **S** **15 55 42.4 -0.7**
KKAR pmax pmax
comp=Z,3µm,1.2s,mb6.8
KKAR smax
comp=Z,134µm,6.0s
KKAR Karatay Array 39.87 335 *i* P **P** **15 49 40.3 +0.8**
DL2 Dalian 40.69 36⇑ *i*P **P** **15 49 46.9 +0.7**
DL2 XP sP 15 49 55.0 +1.4
DL2 S **S** **15 55 59.1 +3.8**
DL2 SCS ScS 15 59 47.3 -1.7
DL2 AMB AMB
comp=Z,490nm,0.8s,mb6.2
DL2 AMB AMB
comp=Z,17µm,6.0s
DL2 LR LR
comp=N,269µm,17.7s,MS7.2
DL2 LR LR
comp=E,89µm,16.1s,MS7.2
DL2 LR LR
comp=Z,198µm,17.7s,MS7.0
SONM Songino Array 41.59 14 P **P** **15 49 53.7 +0.1**
comp=Z,80nm,0.7s,mb5.5,baz=196,slow=8.0,SNR=364
SONM ScS ScS 15 59 58.6 +4.3
comp=Z,6.7nm,0.7s,baz=186,slow=7.8,SNR=3.5
SONM LR LR 16 10 04.4
comp=Z,1100µm,21.6s,MS7.7,baz=192,slow=40
SONM Songino Array 41.59 14 P **P** **15 49 53.7 +0.1**
SONM ScS ScS 15 59 58.6 +4.3
SONM LR LR 16 10 04.4
ULN Ulaanbaatar 41.79 15 PFAKE 15 50 10.0 +15
ULN LR LR
comp=Z,908µm,21.0s,MS7.6
FITZ Fitzroy Crossi 41.97 128⇓ *i*P **P** **15 49 55.6 -1.4**
comp=Z,1µm,0.8s,mb6.5
FITZ *e*S **S** **15 56 14.8 +0.2**
FITZ Fitzroy Crossi 41.97 128 P **P** **15 49 55.7 -1.3**
comp=Z,253nm,0.9s,mb5.8,baz=332,slow=4.6,SNR=135
FITZ LR LR 16 07 22.4
comp=Z,419µm,21.0s,MS7.3,baz=290,slow=36
ASH Ashkhabad 42.74 320 *e*P **P** **15 50 04.0 +0.9**
MUKL Al Mukalla 42.74 283⇑ *e*P **P** **15 50 05.1 +1.7**
VAN Vannovskaya 42.89 319 *e*P **P** **15 50 06.2 +1.8**
INCN Inchon 42.92 41⇑ *e*P **P** **15 50 03.8 -0.9**
comp=Z,3µm,1.6s,mb6.8
INCN LR LR
comp=Z,735µm,20.0s,MS7.6
ZAK Zakamensk 43.34 10 *e*P **P** **15 50 08.5 +0.6**
ZAK *e* 15 51 51.5
ZAK pmax pmax
comp=Z,450nm,1.3s,mb6.0
JNU Nakatsue 43.71 49 P **P** **15 50 10.9 -0.2**
comp=Z,93nm,0.8s,mb5.6,baz=263,slow=6.7,SNR=21
JNU LR LR 16 10 27.1
comp=Z,368µm,18.9s,MS7.3,baz=239,slow=39
KS15 Wonju Array Si 43.72 42⇑ *e*P **P** **15 50 10.2 -0.9**
SNY Shenyang 43.74 34⇑ P **P** **15 50 10.6 -0.6**
SNY AP pP 15 50 18.3 +1.9
SNY XP sP 15 50 22.5 +3.9
SNY S **S** **15 56 42.8 +2.6**
SNY AMB AMB
comp=Z,30µm,12.3s
SNY LR LR
comp=N,530µm,20.2s,MS7.4
SNY LR LR
comp=E,145µm,24.7s,MS7.4
SNY LR LR
comp=Z,298µm,15.9s
HASS Wahat al Ahsa' 43.94 298 P **P** **15 50 14.9 +1.9**
HASS Wahat al Ahsa' 43.94 298 P **P** **15 50 14.9 +1.9**
MOY Mondy 44.23 8 *e*P **P** **15 50 16.2 +1.1**
MOY pmax pmax
comp=Z,2µm,2.5s,mb6.3
TLY Talaya 44.66 10 *e*P **P** **15 50 18.8 +0.3**
TLY *e*SS SS 16 00 11.1 +5.8
TLY *e*SSS SSS 16 00 55.9 -6.7
TLY pmax pmax
comp=Z,1µm,1.3s,mb6.5
TLY MLR MLR
comp=Z,337µm,20.0s,MS7.3
TLY Talaya 44.66 10⇑ *e*P **P** **15 50 19.4 +0.9**
comp=Z,1µm,1.3s,mb6.6
KAKA Kakadu 44.97 117 *e*P **P** **15 50 21.1 -0.4**
comp=Z,409nm,1.1s,mb6.2
IRK Irkutsk 45.31 10⇑ *i*P **P** **15 50 24.2 +0.5**
IRK *e* 15 57 03.6
IRK pmax pmax
comp=Z,3µm,1.7s,mb6.8
MUN Mundaring 45.84 151⇓ *i*P **P** **15 50 28.1 -0.1**
comp=Z,403nm,0.8s,mb6.4
MUN *i* S **S** **15 57 17.0 +6.4**
MUN Mundaring 45.84 151⇓ *i*P **P** **15 50 28.1 -0.1**
MUN *i* S **S** **15 57 17.0 +6.4**
MUN pmax pmax
comp=Z,403nm,0.8s,mb6.4
BDHA Al Bayda' 46.07 282⇑ *e*P **P** **15 50 32.2 +2.0**
CN2 Changchun 46.07 34⇑ P **P** **15 50 29.5 -0.3**
CN2 *e*XP sP 15 50 36.6 -0.7
CN2 PP PP 15 52 18.0 -0.2
CN2 *e*S **S** **15 57 14.6 +0.8**
CN2 SS SS 16 00 32.0 +0.8
CN2 LR LR
comp=N,187µm,19.0s,MS7.4
CN2 LR LR
comp=E,380µm,19.0s,MS7.4
CN2 LR LR
comp=Z,325µm,21.0s,MS7.2
KLBR Kellerberrin 46.28 149 *e*P **P** **15 50 30.4 -1.3**
comp=Z,348nm,0.7s,mb6.4
KLBR *e*S **S** **15 57 20.8 +3.8**
RYDS Riyadh 46.39 296 P **P** **15 50 34.8 +2.2**
RYDS Riyadh 46.39 296 P **P** **15 50 34.8 +2.2**
QRN Al-Qurain 46.47 302 *e*P **P** **15 50 34.4 +1.2**
QRN AMb AMB 15 50 42.0
comp=Z,2µm,1.4s,mb6.9
KBD Kabd 46.79 303 *e*P **P** **15 50 37.0 +1.3**
KBD AMb AMB 15 50 57.3
comp=Z,9µm,1.5s
RDF Al-Radifah 46.83 302 *e*P **P** **15 50 37.5 +1.4**
RDF AMb AMB 15 50 57.5
comp=Z,3µm,1.4s,mb7.0
NWAO Narrogin (SRO) 47.11 151 P **P** **15 50 38.0 -0.3**
comp=Z,67nm,0.9s,mb5.6,baz=309,slow=9.2,SNR=29
NWAO LR LR 16 07 38.1
comp=Z,434µm,21.9s,MS7.4,baz=309,slow=32
NWAO Narrogin (SRO) 47.11 151⇓ *e*P **P** **15 50 37.8 -0.4**
comp=Z,2µm,1.5s,mb6.8
NWAO LR LR
comp=Z,456µm,22.0s,MS7.4
DHBB Dhamar BB 47.23 282⇓ *e*P **P** **15 50 41.1 +1.7**
DHBB AMb AMB 15 50 44.4
comp=Z,3µm,2.0s,mb6.8
DHBB *i* S **S** **15 57 34.4 +3.8**
HIA Hailar 47.29 24⇑ *e*P **P** **15 50 38.6 -0.8**
HIA pmax pmax
comp=Z,640nm,1.0s
HIA Hailar 47.29 24⇑ *e*P **P** **15 50 38.6 -0.8**
comp=Z,640nm,1.0s,mb6.5
NVS Novosibirsk 47.34 353⇓ *i*P **P** **15 50 39.1 -0.7**
NVS *i* S **S** **15 57 26.4 -5.3**
NVS *e* 16 00 26.6
NVS pmax pmax
comp=Z,1µm,1.4s,mb6.7
NVS pmax pmax
comp=N,2µm,1.5s
NVS pmax pmax
comp=E,1µm,1.6s
NVS smax
comp=N,7µm,3.8s
CIT Chita 47.36 18⇑ *i*P **P** **15 50 39.4 -0.5**
CIT *e* 15 50 56.2
CIT *e*S **S** **15 57 35.2 +3.2**
CIT pmax pmax
comp=Z,2µm,2.9s,mb6.5
TRBA At Turbah 47.45 281⇓ *e*P **P** **15 50 42.9 +1.8**
KAMS Al Khamasin 47.58 290 P **P** **15 50 43.4 +1.3**
VOSK Vostochnaya 47.91 343 *i* P **P** **15 50 43.8 -0.4**
HAJJ Hajjah 48.06 284⇑ *e*P **P** **15 50 47.6 +1.7**
HAJJ AMb AMB 15 50 49.5
comp=Z,3µm,1.8s,mb7.0
DJNS Zahran al Janu 48.26 287 P **P** **15 50 49.1 +1.7**
DJNS Zahran al Janu 48.26 287 P **P** **15 50 49.1 +1.7**
BVA0 Borovoye Array 48.34 343 *i* P **P** **15 50 47.1 -0.5**
BVA0 S **S** **15 57 35.7 -10**
BVA0 pmax pmax
comp=Z,230nm,1.4s,mb6.0
BVA0 smax
comp=Z,2µm,5.0s
BRVK Borovoye 48.40 343⇓ *e*P **P** **15 50 47.6 -0.4**
comp=Z,684nm,1.3s,mb6.5
BRVK LR LR
comp=Z,107µm,21.0s,MS6.8
TATS Tathlith 48.51 289 P **P** **15 50 50.5 +1.1**
TATS Tathlith 48.51 289 P **P** **15 50 50.5 +1.1**
ATD Arta Tunnel 48.68 278 LR LR 16 09 12.7
comp=Z,211µm,21.4s,MS7.1,baz=88,slow=33
ZRNK Zerenda 48.70 342 P **P** **15 50 50.1 -0.2**
ZRNK pmax pmax
comp=Z,2µm,1.9s,mb6.8
ZRNK Zerenda 48.70 342 *i* P **P** **15 50 50.2 -0.1**
MDJ Mudanjiang 48.90 35 P **P** **15 50 52.0 0.0**
MDJ PCP PcP 15 52 17.5 +0.8
MDJ SCP 15 56 11.9
MDJ S **S** **15 57 58.0 +4.2**
MDJ AMB AMB
comp=Z,29µm,14.0s
MDJ LR LR
comp=N,334µm,50.9s
MDJ LR LR
comp=E,247µm,42.0s
MDJ LR LR
comp=Z,339µm,20.4s
MDJ Mudanjiang 48.90 35 P **P** **15 50 51.8 -0.2**
MDJ P 15 50 51.9
MDJ S **S** **15 57 58.9 +5.1**
MDJ S **S** **15 57 59.0 +5.2**
MDJ Mudanjiang 48.90 35⇑ *e*P **P** **15 50 51.7 -0.3**
comp=Z,1µm,1.5s,mb6.7
AB31 Akbulak array 49.27 333 *i* P **P** **15 50 54.9 +0.1**
AB31 S **S** **15 57 58.0 -0.9**
AB31 pmax pmax
comp=Z,527nm,0.8s,mb6.6
AB31 smax
comp=Z,272µm,8.0s
AB31 Akbulak array 49.27 333 *i* P **P** **15 50 54.0 -0.8**
WRA Warramunga Arr 49.90 124 P **P** **15 50 58.3 -1.7**
comp=Z,135nm,0.7s,mb6.1,baz=303,slow=8.8,SNR=634
WRA S **S** **15 58 10.3 +2.3**
comp=Z,62nm,1.1s,baz=302,slow=12,SNR=9.0
WRA ScS ScS 16 00 56.7 +8.9
comp=Z,5.3nm,0.9s,baz=302,slow=9.5,SNR=4.6
WRAB Tennant Creek 49.90 124⇓ *e*P **P** **15 50 58.3 -1.7**
WRAB pmax pmax
comp=Z,2µm,1.0s,mb7.1
WRAB MLR MLR
comp=Z,188µm,20.0s,MS7.1
WRAB Tennant Creek 49.90 124⇓ *e*P **P** **15 50 58.3 -1.7**
comp=Z,2µm,1.0s,mb7.1
WRAB LR LR
comp=Z,188µm,20.0s,MS7.1
WB2 Warramunga Arr 49.91 124⇓ *i*P **P** **15 50 58.4 -1.7**
WB2 *e*S **S** **15 58 04.6 -3.5**
BLJS Baljurashi 50.31 289 P **P** **15 51 05.0 +1.8**
BLJS Baljurashi 50.31 289 P **P** **15 51 05.0 +1.8**
MAJO Matsushiro 50.61 49 P **P** **15 51 04.4 -0.8**
MAJO *S* **S** **15 58 21.4 +3.7**
MAJO Matsushiro 50.61 49 *e*P **P** **15 51 04.3 -0.9**
MAJO pmax pmax
comp=Z,2µm,1.5s,mb6.7
MAJO MLR MLR
comp=Z,348µm,22.0s,MS7.3
MAJO Matsushiro 50.61 49 *e*P **P** **15 51 04.3 -0.9**
comp=Z,2µm,1.5s,mb6.7
MAJO LR LR
comp=Z,348µm,22.0s,MS7.3
MAT Matsushiro 50.61 49 *e*P **P** **15 51 04.0 -1.2**
comp=Z,40nm,1.0s,mb5.3
MAT *e*S **S** **15 58 21.0 +3.4**
MAT Matsushiro 50.61 49 P **P** **15 51 04.2 -1.0**
MAT S **S** **15 58 21.4 +3.8**
MJAR Matsushiro Arr 50.61 49 P **P** **15 51 04.6 -0.6**
comp=Z,30nm,0.7s,mb5.3,baz=240,slow=7.0,SNR=73
MJAR S **S** **15 58 26.9 +9.3**
comp=Z,3.7nm,1.2s,baz=232,slow=20,SNR=2.3
MJAR LR LR 16 13 47.7
comp=Z,268µm,21.2s,MS7.2,baz=235,slow=38
JHJ Hachijo jima 2 50.62 53 LR LR 16 12 56.1
comp=Z,168µm,20.4s,MS7.0,baz=253,slow=37
CBIJ Chichi jima 51.02 62 LR LR 16 11 14.9
comp=Z,195µm,21.6s,MS7.1,baz=235,slow=34
HILS Ha'il 51.35 299 P **P** **15 51 12.6 +1.6**
HILS Ha'il 51.35 299 P **P** **15 51 12.6 +1.6**
OPO Ambohidratompo 51.56 239 P **P** **15 51 13.9 +1.2**
comp=Z,41nm,0.9s,mb5.4,baz=38,slow=6.9,SNR=19
GUMO Guam 52.02 79 PFAKE 15 51 30.0 +14
GUMO LR LR
comp=Z,309µm,22.0s,MS7.3
BOD Bodaibo 52.59 15 *e*P **P** **15 51 19.1 -0.8**
BOD pmax pmax
comp=Z,100nm,1.4s,mb5.5
BOD pmax pmax
comp=Z,526nm,1.5s,mb6.2
HKR Hakkari 52.74 312 *e*P **P** **15 51 20.8 -0.5**
HKR Hakkari 52.74 312 Pn **P** **15 51 22.2 +0.9**
HAKT HAKKARI 52.76 312 *i* P **P** **15 51 18.6 -2.8**
FURI Furi 52.87 275 P **P** **15 51 25.4 +2.9**
FURI pS 15 58 59.0
KLR Kul'dur 52.88 32⇓ *e*P **P** **15 51 18.4 -3.7**
KLR *e* 15 53 27.5
KLR *e*S **S** **15 58 47.7 -0.8**
KLR *e* 16 01 08.8
KLR *e* 16 02 27.0
KLR pmax pmax
comp=N,570nm,2.6s
KLR pmax pmax
comp=E,900nm,2.6s
KLR pmax pmax
comp=Z,1µm,2.6s,mb6.3
KLR pmax pmax
comp=N,9µm,15.0s
KLR pmax pmax
comp=E,12µm,15.0s
KLR pmax pmax
comp=Z,33µm,15.0s
KLR smax
comp=N,27µm,7.4s
KLR smax
comp=E,25µm,7.4s
GNI Garni 53.01 315*d* *i*P **P** **15 51 23.3 0.0**
GNI pmax pmax
comp=Z,2µm,1.1s
GNI MLR MLR
comp=Z,277µm,19.0s
GNI Garni 53.01 315⇓ *e*P **P** **15 51 23.2 0.0**
comp=Z,3µm,1.4s,mb7.0
GNI LR LR
comp=Z,299µm,20.0s,MS7.3
CLDR Caldiran 53.20 314 *e*P **P** **15 51 25.1 +0.5**
TVAN Van 53.33 313 *i* P **P** **15 51 24.4 -1.3**
MTA Mtatsminda 53.62 317 P **P** **15 51 29.0 +1.3**
MTA *S* **S** **15 59 01.5 +2.8**
TI2 Plekhanov 53.66 317κ *i*P **P** **15 51 27.8 -0.2**
TI2 *e*S **S** **15 59 02.0 +2.7**
TI2 pmax pmax
comp=Z,340nm,0.6s,mb6.5
TI2 pmax pmax
comp=Z,18µm,3.0s
TBLG Delisi 53.67 317 P **P** **15 51 27.7 -0.4**
TBLG S **S** **15 58 59.5 +0.1**
TBLG Delisi 53.67 317 P **P** **15 51 27.9 -0.2**
TBLG S **S** **15 59 00.8 +1.4**
DUS Dusheti 53.85 317 P **P** **15 51 32.2 +2.8**
YNBS Yanbu' al Bahr 54.19 294 P **P** **15 51 33.4 +1.4**
YNBS Yanbu' al Bahr 54.19 294 P **P** **15 51 33.4 +1.4**
BTMT Batman 54.62 312 *e*P **P** **15 51 34.3 -0.8**
ZEI Tsey 54.67 318 *e*P **P** **15 51 31.8 -3.6**
ZEI *i* *PP pP 15 51 42.1 +1.3
ZEI *i* 15 53 34.0
ZEI *e*S **S** **15 59 11.5 -1.4**
ZEI pmax pmax
comp=Z,61nm,0.7s,mb5.7
MARD Mardin 54.86 310 *i* P **P** **15 51 34.9 -2.0**
ONI Oni 54.90 317 P **P** **15 51 37.0 0.0**
ARU Arti 55.10 338⇓ *i*P **P** **15 51 37.9 -0.5**
ARU *e* 15 52 34.1
ARU *i* 15 53 40.1
ARU *e*PPP PPP 15 54 52.1 -4.0
ARU *i* S **S** **15 59 21.0 +2.5**
ARU *e* 16 01 23.4
ARU pmax pmax
comp=Z,2µm,1.4s,mb6.9
ARU MLR MLR
comp=N,438µm,21.0s,MS7.6
ARU MLR MLR
comp=E,417µm,23.0s,MS7.6
ARU MLR MLR
comp=Z,575µm,23.0s,MS7.6
ARU Arti 55.10 338⇓ *e*P **P** **15 51 37.5 -0.9**
comp=Z,1µm,0.9s,mb6.9
ARU LR LR
comp=Z,155µm,22.0s,MS7.0
CLNS Chul'man 55.10 21 *e*P **P** **15 51 38.1 -0.3**
CLNS *e* 15 52 38.3
CLNS *e* 15 53 38.4
CLNS *e*S **S** **15 59 22.1 +3.6**
CLNS *e*SS SS 16 02 56.2 -6.2
CLNS pmax pmax
comp=Z,786nm,0.9s,mb6.7
CLNS pmax pmax
comp=N,520nm,1.1s
CLNS pmax pmax
comp=E,361nm,1.0s
CLNS pmax pmax
comp=Z,130nm,1.2s,mb5.8
CLNS pmax pmax
comp=N,168nm,1.0s
CLNS pmax pmax
comp=E,181nm,1.1s
CLNS smax
comp=N,58µm,13.8s
CLNS smax
comp=Z,18µm,12.3s
CLNS smax
comp=E,28µm,12.9s
CLNS MLR MLR
comp=Z,619µm,19.0s,MS7.7
CLNS MLR MLR
comp=N,525µm,20.0s,MS7.7
CLNS MLR MLR
comp=E,188µm,18.0s,MS7.7
BNGL BINGOL 55.13 312 *i* P **P** **15 51 35.9 -3.0**
ERZM Erzurum 55.31 314 *i* P **P** **15 51 37.8 -2.4**
EZM Erzurum 55.31 314 *e*P **P** **15 51 41.4 +1.2**
EZM Erzurum 55.31 314 Pn **P** **15 51 41.3 +1.1**
DIY Diyarbakir 55.46 311 *e*P **P** **15 51 40.0 -1.2**
KMBO Kilima Mbogo 55.46 263 P **P** **15 51 42.5 +0.9**

comp=E,97nm,1.2s,mb5.7,baz=62,slow=9.5,SNR=47
KMBO S **S** **15 59 31.2 +7.3**
comp=E,3.2nm,0.8s,baz=333,slow=18,SNR=3.3
KMBO LR LR 16 11 06.8
comp=E,403μm,21.5s,MS7.5,baz=74,slow=31
BCA Borcka 55.70 315 *e*P **P** **15 51 43.0 +0.2**
BCA Borcka 55.70 315 Pn **P** **15 51 43.0 +0.1**
KIV Kislovodsk 55.98 319*d* *i*P **P** **15 51 44.1 -0.7**
KIV *e* 15 52 41.6
KIV *i*S **S** **15 59 30.1 -0.2**
KIV pmax pmax
comp=Z,3μm,2.3s,mb7.0
KIV pmax pmax
comp=N,677nm,1.2s
KIV pmax pmax
comp=E,653nm,1.2s
KIV pmax pmax
comp=Z,1μm,1.2s,mb6.8
KIV smax
comp=E,16μm,5.5s
KIV MLR MLR
comp=N,146μm,22.0s,MS7.3
KIV MLR MLR
comp=E,250μm,19.0s,MS7.3
KIV MLR MLR
comp=Z,255μm,19.0s,MS7.3
KIV Kislovodsk 55.98 319⇓ *e*P **P** **15 51 44.0 -0.9**
comp=Z,2μm,1.3s,mb6.9
KIV LR LR
comp=Z,74μm,21.0s,MS6.8
QURS Qurayyt al Mil 56.02 303 P **P** **15 51 46.5 +1.1**
QURS Qurayyt al Mil 56.02 303 P **P** **15 51 46.5 +1.1**
TBKS Tabuk 56.07 299 P **P** **15 51 47.4 +1.7**
TBKS Tabuk 56.07 299 P **P** **15 51 47.4 +1.7**
URFA Urfa 56.38 310 *i*P **P** **15 51 48.0 +0.1**
URFA Urfa 56.38 310 Pn **P** **15 51 47.9 0.0**
PTK Pertek 56.40 312 *i*P **P** **15 51 47.6 -0.4**
PTK Pertek 56.40 312 Pn **P** **15 51 47.6 -0.4**
ASF Jabal al Asfar 56.55 303 P **P** **15 51 50.3 +1.2**
comp=Z,258nm,1.1s,mb6.2,baz=337,slow=3.2,SNR=34
ASF S **S** **15 59 41.1 +3.1**
comp=Z,6.1nm,0.8s,baz=72,slow=7.7,SNR=1.9
ELZG Elazig 56.58 311 *i*P **P** **15 51 48.3 -1.0**
ASAJ Asahikawa 56.69 42 LR LR 16 19 42.0
comp=Z,345μm,18.9s,MS7.5,baz=254,slow=40
JMQS Jabal Moqyreh 56.76 299 P **P** **15 51 51.6 +0.8**
JMQS Jabal Moqyreh 56.76 299 P **P** **15 51 51.6 +0.8**
ATAB Bozova 56.79 310 *i*P **P** **15 51 49.3 -1.5**
GUMT Gumushane 56.86 314 *i*P **P** **15 51 51.9 +0.6**
GUMT Gumushane 56.86 314 Pn **P** **15 51 51.8 +0.6**
MALT Malatya 56.94 311⇓ *e*P **P** **15 51 51.3 -0.6**
MALT pmax pmax
comp=Z,690nm,1.2s,mb6.6
MALT Malatya 56.94 311⇓ *e*P **P** **15 51 51.3 -0.6**
comp=Z,690nm,1.2s,mb6.6
MYA Malatya 56.95 311 *e*P **P** **15 51 51.6 -0.3**
MYA Malatya 56.95 311 Pn **P** **15 51 51.8 -0.1**
BDAS Al Bad' **57.36 299** P **P** **15 51 55.7 +0.7**
BDAS Al Bad' **57.36 299** P **P** **15 51 55.7 +0.7**
PMG Port Moresby 57.43 106 *e*P **P** **15 51 54.5 -1.2**
PMG pmax pmax
comp=Z,977nm,0.9s
PMG MLR MLR
comp=Z,225μm,21.0s
PMG Port Moresby 57.43 106 *e*P **P** **15 51 54.5 -1.1**
comp=Z,977nm,0.9s,mb6.8
PMG LR LR
comp=Z,225μm,21.0s,MS7.2
MKRJ Makawir 57.46 302 P **P** **15 51 56.4 +0.8**
JMOS Jabal al Moall 57.48 300 P **P** **15 51 56.7 +1.0**
JMOS Jabal al Moall 57.48 300 P **P** **15 51 56.7 +1.0**
GAZ Gaziantep 57.53 309 *i*P **P** **15 51 57.0 +0.9**
GAZ Gaziantep 57.53 309 Pn **P** **15 51 56.9 +0.8**
ALWS Ilw as Safayha 57.54 300 P **P** **15 51 57.0 +0.8**
ALWS Ilw as Safayha 57.54 300 P **P** **15 51 57.0 +0.8**
TAYS Tayyib Ism 57.58 299 P **P** **15 51 57.2 +0.7**
TAYS Tayyib Ism 57.58 299 P **P** **15 51 57.2 +0.7**
HAQS Haql 57.61 299 P **P** **15 51 57.5 +0.7**
HAQS Haql 57.61 299 P **P** **15 51 57.5 +0.7**
KSHT Keshet 57.62 304 P **P** **15 51 57.5 +0.8**
MZDA Masada 57.65 302 P **P** **15 51 57.4 +0.5**
ZFRI Zfri 57.66 301 P **P** **15 51 57.5 +0.5**
HRFI Mount Harif 57.69 301 P **P** **15 51 58.1 +0.9**
EIL Elat 57.70 300⇓ *e*P **P** **15 51 57.8 +0.5**
comp=Z,637nm,1.0s,mb6.6
KSDI Kefar Szold 57.79 304 P **P** **15 51 58.5 +0.6**
SOC Sochi 57.80 317*d* *i*P **P** **15 51 56.3 -1.6**
SOC *e* 15 52 54.2
SOC *e*PPP PPP 15 55 31.7 +2.0
SOC *i*S **S** **15 59 50.3 -4.2**
SOC *e* 16 01 43.1
SOC *e*SS SS 16 03 41.3 -5.5
SOC pmax pmax
comp=Z,3μm,2.8s,mb6.8
SOC pmax pmax
comp=Z,795nm,1.4s,mb6.5
SOC pmax pmax
comp=N,331nm,1.8s
SOC pmax pmax
comp=E,288nm,2.0s
SOC MLR MLR
comp=Z,282μm,22.0s,MS7.3
SOC MLR MLR
comp=N,364μm,27.0s
SOC MLR MLR
comp=E,267μm,20.0s
SOC Sochi 57.80 317⇓ *i*P **P** **15 51 56.1 -1.8**
MMLI Mount Malkishu 57.82 303 P **P** **15 51 59.0 +0.9**
MMLI Mount Malkishu 57.82 303 P **P** **15 51 58.8 +0.7**
BHL Bhannes 57.95 305 *e*P **P** **15 51 59.9 +0.9**
YSS Yuzh-Sakhalins 57.98 39α *i*P **P** **15 51 59.1 +0.1**
YSS *i* 15 52 16.0
YSS *i* 15 52 43.0
YSS *e* 15 54 06.0
YSS *e*S **S** **15 59 57.0 +0.3**
YSS *e*PS PS 16 00 15.0 +2.8
YSS pmax pmax
comp=Z,420nm,0.8s,mb6.5
YSS pmax pmax
comp=N,90nm,0.7s
YSS pmax pmax
comp=E,270nm,0.9s
YSS pmax pmax
comp=N,8μm,13.0s
YSS pmax pmax
comp=E,11μm,13.0s
YSS pmax pmax
comp=Z,26μm,13.0s
YSS pmax pmax
comp=E,7μm,12.0s
YSS pmax pmax
comp=Z,11μm,12.0s
YSS pmax pmax
comp=N,5μm,9.0s
YSS smax
comp=N,97μm,12.0s
YSS smax
comp=E,37μm,12.0s
YSS Yuzh-Sakhalins 57.98 39⇑ *e*P **P** **15 51 58.1 -0.9**
comp=E,971nm,1.0s,mb6.8
YSS LR LR
comp=Z,253μm,19.0s,MS7.3
AMZI Amatzia 58.05 302 P **P** **15 52 00.5 +0.7**
MASH Mash'abbe Sade 58.07 302 P **P** **15 52 00.3 +0.4**
MASH Mash'abbe Sade 58.07 302 P **P** **15 52 00.1 +0.2**
HTY Hatay 58.09 308 *e*P **P** **15 51 57.4 -2.6**
HTY Hatay 58.09 308 Pn **P** **15 51 58.4 -1.5**
COBT Iskenderun 58.10 308 *i*P **P** **15 51 55.0 -5.0**
SLTI Sal'it 58.10 303 P **P** **15 52 00.2 +0.1**
HNTI Hanita 58.16 304 P **P** **15 52 00.9 +0.4**
HAF Haifa 58.22 304 P **P** **15 52 02.6 +1.7**
HAF Haifa 58.22 304 P **P** **15 52 01.2 +0.3**
OFRI 'Ofer 58.22 303 P **P** **15 52 01.6 +0.7**
OFRI 'Ofer 58.22 303 P **P** **15 52 01.2 +0.3**
KZIT Kziot 58.38 301 P **P** **15 52 02.5 +0.4**
CEYT Ceyhan 58.62 309 *e*P **P** **15 52 05.1 +1.4**
CEYT Ceyhan 58.62 309 Pn **P** **15 52 04.3 +0.7**
YUK Yuzh-Kuril'sk 58.84 43 *e*P **P** **15 52 03.0 -2.1**
YUK *i* 15 53 01.0
YUK *i*S **S** **16 00 08.0 0.0**
YUK *e*PS PS 16 00 34.0 +10
YUK pmax pmax
comp=Z,40μm,11.0s
YUK pmax pmax
comp=N,21μm,9.0s
YUK pmax pmax
comp=E,21μm,9.0s
YUK pmax pmax
comp=Z,750nm,0.8s,mb6.8
YUK smax
comp=E,48μm,12.0s
YUK smax
comp=N,114μm,14.0s
YUK MLR MLR
comp=N,52μm,17.0s,MS7.5
YUK MLR MLR
comp=E,310μm,17.0s,MS7.5
YUK MLR MLR
comp=Z,247μm,17.0s,MS7.4
TOKT Tokat 58.94 313 *e*P **P** **15 52 03.1 -2.7**
TOKT Tokat 58.94 313 Pn **P** **15 52 05.6 -0.2**
BNN Bunyan 59.03 311 *e*P **P** **15 52 05.1 -1.4**
BNN Bunyan 59.03 311 Pn **P** **15 52 05.6 -0.9**
PHNC Paralimni 59.50 306 P **P** **15 52 07.3 -2.5**
KVT Kavak 59.53 313 *i*P **P** **15 52 07.0 -2.9**
KVT Kavak 59.53 313 Pn **P** **15 52 10.9 +1.0**
NIG Nigde 59.77 310 *e*P **P** **15 52 13.3 +1.7**
NIG Nigde 59.77 310 Pn **P** **15 52 13.3 +1.7**
ANN Anapa 59.78 318*d* *i*P **P** **15 52 08.5 -3.1**
ANN *e* 15 54 24.8
ANN *e*PPP PPP 15 55 49.9 -1.2
ANN *i*S **S** **16 00 16.6 -3.5**
ANN pmax pmax
comp=Z,6μm,6.9s
ANN pmax pmax
comp=N,2μm,7.0s
ANN pmax pmax
comp=E,2μm,7.0s
ANN MLR MLR
comp=N,216μm,21.0s,MS7.4
ANN MLR MLR
comp=E,160μm,21.0s,MS7.4
ANN MLR MLR
comp=Z,239μm,21.0s,MS7.3
ANN Anapa 59.78 318 *i*P **P** **15 52 08.7 -2.9**
CSS Prodhromos 60.05 306 P **P** **15 52 13.4 -0.2**
comp=Z,22nm,1.5s
CTA Charters Tower 60.05 119⇓ *i*P **P** **15 52 12.5 -1.3**
comp=Z,352nm,1.1s,mb6.3
CTA Charters Tower 60.05 119⇓ *i*P **P** **15 52 12.5 -1.3**
CTA pmax pmax
comp=Z,352nm,1.1s
CTA Charters Tower 60.05 119 LR LR 16 20 17.7
comp=Z,375μm,21.1s,MS7.5,baz=290,slow=38
CTAO Charters Tower 60.05 119 *e*P **P** **15 52 12.4 -1.4**
CTAO pmax pmax
comp=Z,857nm,1.2s,mb6.7
CTAO MLR MLR
comp=Z,331μm,20.0s,MS7.5
CTAO Charters Tower 60.05 119 *e*P **P** **15 52 12.4 -1.4**
comp=Z,857nm,1.2s,mb6.7
CTAO LR LR
comp=Z,331μm,20.0s,MS7.5
BSTP Nigde 60.12 309 *i*P **P** **15 52 11.3 -2.7**
MAMC Mammari 60.18 306 P **P** **15 52 14.9 +0.4**
CORM Corum 60.30 312 *i*P **P** **15 52 14.9 -0.3**
CTKT Corum 60.31 312 *i*P **P** **15 52 10.3 -4.9**
CDAG Cicekdag 60.34 311 *i*P **P** **15 52 12.3 -3.2**
SZAC Souni-Zanaja 60.37 305 P **P** **15 52 15.9 +0.2**
LEF Lefka 60.44 306 *e*P **P** **15 52 12.8 -3.5**
LEF Lefka 60.44 306 Pn **P** **15 52 14.2 -2.0**
BOYT Boyabat 60.45 313 *i*P **P** **15 52 13.2 -3.0**
BYBT Boyabat 60.56 313 *e*P **P** **15 52 14.7 -2.3**
BYBT Boyabat 60.56 313 Pn **P** **15 52 14.8 -2.2**
YAK Yakutsk 60.60 19⇑ *e*P **P** **15 52 15.2 -1.8**
YAK pmax pmax
comp=Z,230nm,0.8s,mb6.4
YAK Yakutsk 60.60 19⇑ *e*P **P** **15 52 15.3 -1.7**
comp=Z,4μm,1.4s,mb7.4
YAK LR LR
comp=Z,344μm,19.0s,MS7.5
ALFC Alevga 60.68 306 P **P** **15 52 17.4 -0.4**
ERMK Ermenek 60.74 308 *i*P **P** **15 52 14.2 -4.1**
KAMT Kaman 60.77 311 *e*P **P** **15 52 18.0 -0.4**
KAMT Kaman 60.77 311 Pn **P** **15 52 17.9 -0.5**
PPCY Paphos 60.83 306 P **P** **15 52 19.3 +0.4**
BR131 Keskin Array S 60.92 311⇓ *e*P **P** **15 52 17.5 -1.9**
comp=Z,193nm,0.8s,mb6.3
BR131 LR LR
comp=Z,126μm,19.0s,MS7.1
BRTR Keskin Array B 60.92 311 P **P** **15 52 17.6 -1.7**
comp=Z,204nm,1.1s,mb6.2,baz=121,slow=7.2,SNR=77
TOS Tosya 60.98 313 *e*P **P** **15 52 16.6 -3.2**
TOS Tosya 60.98 313 Pn **P** **15 52 20.1 +0.3**
HDMB Hadim 61.14 308 *e*P **P** **15 52 20.8 -0.2**
HDMB Hadim 61.14 308 Pn **P** **15 52 20.7 -0.3**
CANT Cankiri 61.16 312 *e*P **P** **15 52 18.5 -2.5**
CANT Cankiri 61.16 312 Pn **P** **15 52 21.4 +0.4**
PECR Pechory 61.16 332α *i*P **P** **15 52 19.6 -1.2**
PECR *e* 15 53 04.4
PECR pmax pmax
comp=Z,670nm,2.0s,mb6.4
PECR pmax pmax
comp=Z,11μm,12.0s
PECR MLR MLR
comp=Z,153μm,21.0s,MS7.1
ADE Adelaide 61.22 137⇓ *i*P **P** **15 52 21.5 0.0**
BZK Bozkurt 61.25 314 *e*P **P** **15 52 21.7 0.0**
BZK Bozkurt 61.25 314 Pn **P** **15 52 21.6 0.0**
ELDT Eldivan 61.27 312 *i*P **P** **15 52 19.9 -1.8**
VOR Voronezh 61.43 326 *e*P **P** **15 52 21.2 -1.5**
VOR *e* 15 52 31.0
VOR pmax pmax
comp=Z,2μm,1.6s,mb6.9
VOR pmax pmax
comp=N,2μm,1.5s
VOR pmax pmax
comp=E,2μm,1.4s
KONT Konya--Tatoy 61.46 309 *e*P **P** **15 52 24.3 +1.2**
KONT Konya--Tatoy 61.46 309 Pn **P** **15 52 23.4 +0.3**
STKA Stephens Creek 61.57 133⇓ *i*P **P** **15 52 22.8 -1.1**
comp=E,290nm,0.9s,mb6.4
STKA *i*S **S** **16 00 48.2 +5.0**
STKA Stephens Creek 61.57 133 P **P** **15 52 23.0 -0.9**
comp=E,58nm,0.7s,mb5.8,baz=306,slow=7.1,SNR=94
STKA S **S** **16 00 43.4 +0.2**
comp=E,15nm,1.0s,baz=201,slow=13,SNR=1.9
STKA LR LR 16 24 30.3
comp=E,190μm,18.2s,MS7.3,baz=73,slow=41
STKA Stephens Creek 61.57 133 *e*PKPPKP 16 21 36.6
BALT Daday 61.58 313 *i*P **P** **15 52 20.9 -3.0**
ANTO Ankara 61.58 311 *i*P **P** **15 52 22.6 -1.4**
ANTO Ankara 61.58 311 P **P** **15 52 22.1 -1.8**
ANTO Pn **P** **15 52 22.5 -1.4**
LOD Lodumlu 61.61 311 *e*P **P** **15 52 20.4 -3.7**
LOD Lodumlu 61.61 311 Pn **P** **15 52 22.7 -1.4**
KDHN Kadinhani 61.77 310 *i*P **P** **15 52 22.8 -2.4**
MBAR Mbarara 61.80 265⇓ *e*P **P** **15 52 25.4 -0.3**
MBAR pmax pmax
comp=Z,461nm,1.3s,mb6.5
MBAR MLR MLR
comp=Z,106μm,21.0s,MS7.0
MBAR Mbarara 61.80 265⇓ *e*P **P** **15 52 25.4 -0.3**
comp=Z,461nm,1.3s,mb6.5
MBAR LR LR
comp=Z,106μm,21.0s,MS7.0
SAFT Safranbolu 62.01 313 P **P** **15 52 24.3 -2.5**
SAFT Safranbolu 62.01 313 Pn **P** **15 52 26.0 -0.8**
KIZT Kizilcal 62.04 310 *e*P **P** **15 52 24.3 -2.7**
SIM Simferopol' 62.05 317 *i*P **P** **15 52 25.9 -1.1**
SIM Simferopol' 62.05 317 *i*P **P** **15 52 25.9 -1.1**
SGNT Sivrigoynuk 62.30 312 *i*P **P** **15 52 25.7 -3.1**
ANTB Antalya 62.57 307 *e*P **P** **15 52 33.9 +3.4**
BCK Bucak 62.73 308 *e*P **P** **15 52 30.1 -1.5**
BCK Bucak 62.73 308 Pn **P** **15 52 31.3 -0.3**
ISP Isparta 62.87 308 *i*P **P** **15 52 30.6 -1.9**
ISP Isparta 62.87 308⇓ *e*P **P** **15 52 30.9 -1.6**
ISP pmax pmax
comp=Z,2μm,1.4s,mb7.0
ISP Isparta 62.87 308⇓ *e*P **P** **15 52 30.9 -1.6**
comp=Z,2μm,1.4s,mb7.0
ESKT Eskisehir 62.96 310 *i*P **P** **15 52 32.7 -0.3**
ESKT Eskisehir 62.96 310 Pn **P** **15 52 32.7 -0.4**
ESKT Eskisehir 62.96 310 *i*P **P** **15 52 31.4 -1.6**
TKTP Tekketepe 63.05 309 *i*P **P** **15 52 30.5 -3.2**
ELL Elmali 63.13 307 *i*P **P** **15 52 34.7 +0.5**
ELL Elmali 63.13 307 Pn **P** **15 52 34.7 +0.5**
HENT Hendek 63.22 312 *i*P **P** **15 52 31.4 -3.3**
AKAS Kas 63.27 307 *i*P **P** **15 52 31.4 -3.8**
KSL Kastellorizon 63.28 306 *e*P **P** **15 52 35.1 -0.1**
ALT Altintas 63.42 310 *e*P **P** **15 52 32.0 -4.1**
GOLH Golhisar 63.49 308 *i*P **P** **15 52 33.4 -3.3**
EYL Eskiyayla 63.71 311 *e*P **P** **15 52 41.6 +3.6**
KHL Karahalli 63.72 309 P **P** **15 52 35.8 -2.4**
DENT Denizli 64.00 308 *e*P **P** **15 52 44.3 +4.2**
DENT Denizli 64.00 308 Pn **P** **15 52 38.5 -1.5**
MOS Moscow 64.03 329κ *i*P **P** **15 52 38.4 -1.5**
MOS *e* 15 53 11.0
MOS *e* 15 54 57.3
MOS *e*PPP PPP 15 56 28.4 -6.3
MOS *e*S S **16 01 12.1 -1.7**
MOS *e*SS SS 16 05 21.0 -3.2
MOS *e*SSS SSS 16 08 10.3 -2.6
MOS pmax pmax
comp=Z,4μm,1.9s,mb7.1
MOS pmax pmax
comp=Z,2μm,1.4s,mb7.0
MOS smax
comp=N,54μm,8.7s
MOS smax
comp=E,42μm,8.9s
MOS MLR MLR
comp=Z,638μm,19.6s,MS7.8
MOS MLR MLR
comp=N,287μm,18.1s,MS7.8
MOS MLR MLR
comp=E,566μm,21.8s,MS7.8
HRT Hereke 64.13 312 P **P** **15 52 35.8 -5.0**
HRT Hereke 64.13 312 Pn **P** **15 52 39.2 -1.6**
DALT Dalyan (Mudla) 64.13 307 *i*P **P** **15 52 40.9 0.0**
YLV Yalova 64.29 311 *i*P **P** **15 52 40.3 -1.6**
YLV Yalova 64.29 311 Pn **P** **15 52 40.3 -1.6**
OBN Obninsk 64.31 328*d* *i*P **P** **15 52 40.0 -1.7**
OBN *e* 15 55 09.3
OBN *i*S **S** **16 01 14.9 -2.3**
OBN pmax pmax
comp=Z,1μm,1.0s,mb6.9
OBN MLR MLR
comp=Z,534μm,19.0s,MS7.8
OBN Obninsk 64.31 328⇓ *e*P **P** **15 52 39.8 -1.9**
comp=Z,3μm,1.5s,mb7.0
OBN LR LR
comp=Z,144μm,20.0s,MS7.2
ULDT Uludag 64.38 311 *i*P **P** **15 52 40.1 -2.4**
ARG Arkhangelos 64.45 306 P **P** **15 52 42.1 -0.9**
YER Yerkesik 64.48 307 *e*P **P** **15 52 43.5 +0.4**
YER Yerkesik 64.48 307 Pn **P** **15 52 42.4 -0.7**
ISK Istanbul-Kandi 64.63 312 *e*P **P** **15 52 43.0 -1.1**
ISK Istanbul-Kandi 64.63 312 Pn **P** **15 52 42.9 -1.2**
DST Dursunbey 64.66 310 *e*P **P** **15 52 41.6 -2.7**
DST Dursunbey 64.66 310 Pn **P** **15 52 44.4 +0.1**
MLSB Milas 64.90 307 *e*P **P** **15 52 45.4 -0.5**
MLSB Milas 64.90 307 Pn **P** **15 52 45.3 -0.6**
CTT Catalca 65.11 312 *e*P **P** **15 52 45.5 -1.7**
CTT Catalca 65.11 312 Pn **P** **15 52 45.7 -1.5**
AKS Akhisar 65.14 309 *e*P **P** **15 52 47.4 0.0**
AKS Akhisar 65.14 309 Pn **P** **15 52 47.7 +0.3**
BODT Bodrum 65.23 307 *e*P **P** **15 52 47.4 -0.6**
BNT Bandirma 65.33 311 *i*P **P** **15 52 48.6 0.0**
KDAG Bornova 65.48 309 *i*P **P** **15 52 47.7 -1.9**
IZM Izmir 65.49 309 *e*P **P** **15 52 50.3 +0.6**
IZM Izmir 65.49 309 Pn **P** **15 52 50.2 +0.6**
MRMT Marmara Adasi 65.62 311 *e*P **P** **15 52 48.7 -1.8**
MRMT Marmara Adasi 65.62 311 Pn **P** **15 52 48.6 -1.9**
SMG Samos 65.70 308 *e*P **P** **15 52 50.5 -0.5**
TLCR 65.73 316 ⇓P **P** **15 52 51.5 +0.4**
MFT Murefte 65.89 311 *e*P **P** **15 52 50.1 -2.1**
MFT Murefte 65.89 311 Pn **P** **15 52 50.1 -2.1**
CANB Canakkale 65.92 310 *e*P **P** **15 52 51.8 -0.6**
URLA Izmir 66.00 308 *i*P **P** **15 52 50.6 -2.3**
KIS Kishinev 66.17 318κ *i*P **P** **15 52 50.0 -3.9**
KIS *i* 15 53 18.0
KIS *i* 15 55 16.0
KIS *i*S S 16 01 36.0 -4.2
KIS pmax pmax
comp=N,400nm,1.0s
KIS pmax pmax
comp=Z,400nm,1.0s,mb6.4
KIS pmax pmax
comp=E,700nm,2.0s
KIS pmax pmax
comp=Z,9μm,13.0s
KIS pmax pmax
comp=N,600nm,3.0s
KIS pmax pmax
comp=E,6μm,13.5s
KIS pmax pmax
comp=N,4μm,8.0s
KIS pmax pmax
comp=Z,11μm,8.0s
KIS pmax pmax
comp=E,6μm,10.0s
KIS pmax pmax
comp=Z,11μm,10.0s
KIS MLR MLR
comp=E,135μm,20.0s
KIS MLR MLR
comp=Z,213μm,20.0s,MS7.3
KIS MLR MLR
comp=Z,257μm,20.0s
KIS Kishinev 66.17 318 *e*P **P** **15 52 52.0 -1.9**
CFR Carcaliu 66.19 316 ⇓P **P** **15 52 53.9 -0.1**
HARR Harsova 66.22 315 ⇓P **P** **15 52 54.2 0.0**
PRD Provadia 66.28 314 *i*P **P** **15 52 54.0 -0.6**
NPS Neapolis 66.34 305 *e*P **P** **15 52 54.5 -0.6**
EDRB Edirne 66.49 312 *i*P **P** **15 52 55.0 -1.0**
EDRB Edirne 66.49 312 Pn **P** **15 52 55.0 -1.0**
SANT Santorini 66.60 306⇓ *e*P **P** **15 52 55.1 -1.7**
comp=Z,1μm,1.2s,mb6.8
APE Apeiranthos 66.64 307 *i*P **P** **15 52 55.7 -1.3**
APE Apeiranthos 66.64 307 *i*P **P** **15 52 55.7 -1.3**
JMB Yambol 66.72 313 *i*P **P** **15 52 57.5 0.0**
JMB Yambol 66.72 313 P **P** **15 52 57.4 -0.1**
ALN Alexandroupoli 66.84 311 *e*P **P** **15 52 58.7 +0.5**
AKASG Malin Array Be 66.91 322 P **P** **15 52 56.2 -2.2**
comp=Z,97nm,1.0s,mb5.8,baz=87,slow=4.7,SNR=111
AKASG PP PP 15 55 25.9 -1.8
comp=Z,146nm,1.1s,baz=96,slow=7.2,SNR=4.0
IDI Anoyia 66.93 305 P **P** **15 52 57.7 -1.2**
BRD Bordesti 67.04 316 ⇓P **P** **15 53 02.3 +2.9**
BRD Bordesti 67.04 316 ⇓P **P** **15 53 02.3 +2.9**
TOO Toolangi 67.24 136⇓ *i*P **P** **15 53 01.2 +0.4**
comp=Z,476nm,0.8s,mb6.6
TOO *e*S S 16 02 01.0 +7.7
TOO Toolangi 67.24 136⇓ *i*P **P** **15 53 01.2 +0.4**
TOO *e*S S 16 02 01.0 +7.7
TOO pmax pmax
comp=Z,476nm,0.8s,mb6.6
RDO Rodhopi 67.26 311 P **P** **15 52 59.3 -1.6**
VRI Vrincioaia 67.31 316 ⇑P **P** **15 53 01.6 +0.4**
VRI Vrincioaia 67.31 316 ⇑P **P** **15 53 01.6 +0.5**
SZH Strazhica 67.34 314 *i*P **P** **15 53 01.0 -0.4**
LOS Limnos 67.41 310 *e*P **P** **15 53 02.1 +0.3**
DIM Dimitrovgrad 67.42 312 *i*P **P** **15 53 01.3 -0.6**
LSZ Lusaka 67.42 250 P **P** **15 53 02.0 -0.3**
LSZ S S 16 02 00.8 +5.0
LSZ Lusaka 67.42 250 *e*P **P** **15 53 02.1 -0.2**
LSZ pmax pmax
comp=Z,461nm,1.4s,mb6.3
LSZ MLR MLR
comp=Z,285μm,22.0s,MS7.5
LSZ Lusaka 67.42 250 *e*P **P** **15 53 02.1 -0.2**
comp=Z,461nm,1.4s,mb6.3
LSZ LR LR
comp=Z,285μm,22.0s,MS7.5
KDZ Kurdzhali 67.43 312 *i*P **P** **15 53 01.3 -0.7**
BUC1 Bucharest 67.48 315 ⇓P **P** **15 53 04.3 +2.0**
VAM Vamos 67.50 305 *e*P **P** **15 53 02.5 0.0**
GVD Gavdhos 67.53 304 *e*P **P** **15 53 05.0 +2.3**
SKR Severo-Kuril's 67.54 38 *e*P **P** **15 52 58.0 -4.5**
SKR *e*PPP PPP 15 57 12.0 +1.7
SKR *i*S S 16 01 54.0 -2.7
SKR *i* 16 02 38.0
SKR pmax pmax
comp=N,260nm,1.4s
SKR pmax pmax
comp=E,160nm,1.4s
SKR pmax pmax
comp=Z,480nm,1.4s,mb6.3
SKR pmax pmax
comp=N,10μm,12.0s

SKR pmax pmax
comp=E,16µm,12.0s
SKR pmax pmax
comp=Z,27µm,12.0s
SKR smax
comp=N,50µm,12.0s
SKR smax
comp=E,12µm,10.0s
SKR MLR MLR
comp=N,131µm,20.0s
SKR MLR MLR
comp=Z,171µm,20.0s,MS7.3
MA2 Magadan 67.66 28*c* *i*P **P** 15 53 02.1 -1.0
MA2 *e* 15 53 23.9
MA2 *e* 15 55 26.7
MA2 *i*S S 16 01 55.9 -2.0
MA2 *e*PS PS 16 02 20.8 -3.3
MA2 *e* 16 02 40.3
MA2 pmax pmax
comp=Z,1µm,1.6s,mb6.6
MA2 pmax pmax
comp=N,400nm,1.7s
MA2 pmax pmax
comp=E,300nm,1.4s
MA2 MLR MLR
comp=Z,543µm,28.0s,MS7.6
MA2 Magadan 67.66 28⇑*e*P **P** 15 53 01.9 -1.1
comp=Z,3µm,1.6s,mb7.1
MA2 LR LR
comp=Z,215µm,19.0s,MS7.4
PVL Pavlikeni 67.77 313 *i*P **P** 15 53 04.5 +0.4
MLR Muntele Rosu 67.77 316 P **P** 15 53 01.8 -2.2
MLR pmax pmax
comp=Z,246nm,1.2s
MLR MLR MLR
comp=Z,215µm,21.0s
MLR Muntele Rosu 67.77 316 P **P** 15 53 01.8 -2.3
comp=Z,246nm,1.2s,mb6.1,baz=58,slow=2.5,SNR=133
MLR LR LR 16 25 11.8
comp=Z,215µm,21.0s,MS7.3,baz=298,slow=38
MLR Muntele Rosu 67.77 316 ⇓P **P** 15 53 05.1 +1.1
MLR LR LR 16 25 11.8
MLR Muntele Rosu 67.77 316 ⇓P **P** 15 53 05.1 +1.1
RZN Rozhen 67.96 312 *i*P **P** 15 53 03.7 -1.6
PLD Plovdiv 68.03 312 *i*P **P** 15 53 05.0 -0.7
PTL Penteli 68.08 308 *e*P **P** 15 53 06.0 -0.1
ATH Athens Observa 68.19 308 *e*P **P** 15 53 05.7 -1.1
MPAR Parnis Oros 68.19 308 *e*P **P** 15 53 05.5 -1.3
OUR Ouranopolis 68.30 310 *e*P **P** 15 53 10.7 +3.3
NAIG Nisos Aigina 68.34 307 *e*P **P** 15 53 06.5 -1.2
VOIR 68.38 316 ⇑P **P** 15 53 07.9 +0.1
NSAL Nisos Salamina 68.38 308 *e*P **P** 15 53 07.5 -0.5
PAIG Paliouri 68.47 310 *e*P **P** 15 53 07.4 -1.1
PGB Panagyurishte 68.50 313 *i*P **P** 15 53 08.0 -0.6
KYTH Kithira 68.53 306 *e*P **P** 15 53 07.5 -1.5
MGER Gerania Oros 68.55 308 *e*P **P** 15 53 07.5 -1.5
ARMA Armidale 68.55 127 ⇓*i*P **P** 15 53 05.8 -3.4
ARMA *e*S S 16 02 15.8 +6.7
VLI Veliai 68.66 306 *e*P **P** 15 53 07.0 -2.7
MMB Musomiste 68.67 312 *i*P **P** 15 53 08.5 -1.2
BURAR Bucovina Array 68.70 318 ⇑P **P** 15 53 10.9 +1.1
BURAR Bucovina Array 68.70 318 ⇑P **P** 15 53 10.9 +1.1
SRS Serrai 68.70 311 *e*P **P** 15 53 08.3 -1.6
PLG Polygyros 68.71 310 *e*P **P** 15 53 10.0 0.0
NEO Neokhori 68.74 309 *e*P **P** 15 53 09.5 -0.7
MNK Minsk 68.81 326⇑*i*P **P** 15 53 04.0 -6.3
MNK *e*S S 16 02 00.0 -12
CNB Canberra Magne 68.90 133 ⇓*i*P **P** 15 53 10.7 -0.5
comp=Z,934nm,1.2s,mb6.6
THE Thessaloniki 69.11 310 *e*P **P** 15 53 10.6 -1.9
KKB Krupnik 69.19 312 *i*P **P** 15 53 12.0 -0.9
VTS Vitosha 69.20 313 *i*P **P** 15 53 12.3 -0.7
KNT Kendrikon 69.23 311 *e*P **P** 15 53 15.8 +2.7
PUL Pulkovo 69.23 332 *i*P **P** 15 53 11.9 -1.0
PUL *i*S S 16 02 14.9 -1.8
PUL pmax pmax
comp=Z,3µm,2.5s,mb6.8
PUL pmax pmax
comp=N,717nm,2.3s
PUL pmax pmax
comp=E,2µm,1.9s
PUL pmax pmax
comp=E,1µm,1.3s
PUL pmax pmax
comp=Z,852nm,1.3s,mb6.5
PUL pmax pmax
comp=N,247nm,1.1s
PUL smax
comp=N,44µm,10.1s
PUL smax
comp=Z,12µm,10.4s
PUL smax
comp=E,39µm,10.2s
PUL MLR MLR
comp=N,405µm,18.0s,MS7.7
PUL MLR MLR
comp=E,135µm,18.0s,MS7.7
PUL MLR MLR
comp=Z,387µm,18.0s,MS7.7
PUL Pulkovo 69.23 332⇑*i*P **P** 15 53 12.3 -0.6
AGG Agios Georgios 69.39 309 *e*P **P** 15 53 11.8 -2.4
LIT Litokhoron 69.40 310 *e*P **P** 15 53 12.6 -1.7
VAY Valandovo 69.50 311 ⇓*i*P **P** 15 53 13.5 -1.3
ITM Ithomi 69.51 307 P **P** 15 53 13.4 -1.6
ITM Ithomi 69.51 307 *e*P **P** 15 53 14.0 -1.0
GRG Griva 69.58 311 *e*P **P** 15 53 13.9 -1.4
RIV Riverview 69.58 130 *e*P **P** 15 53 15.7 +0.2
IDID Didziasalis 69.65 326 *e*P **P** 15 53 15.0 -0.4
IDID AMb AMB 15 53 27.3
comp=Z,322nm,1.0s,mb6.2
PET Petropavlovsk 69.67 36 *e*P **P** 15 53 14.5 -1.1
PET *e*S S 16 02 18.5 -3.4
PET *e*SS SS 16 06 46.0 -5.8
PET *e*SSS SSS 16 09 56.2 +0.4
PET pmax pmax
comp=Z,73nm,0.8s,mb5.7
PET pmax pmax
comp=Z,11µm,9.3s
PET pmax pmax
comp=Z,19µm,16.3s
PET smax
comp=N,18µm,21.2s
PET smax
comp=E,19µm,22.0s
PET smax
comp=N,57µm,22.4s
PET MLR MLR
comp=Z,269µm,20.0s,MS7.5
PET MLR MLR
comp=Z,215µm,20.0s
PET Petropavlovsk 69.67 36 *e*P **P** 15 53 12.9 -2.7
comp=Z,383nm,1.0s,mb6.3
PET LR LR
comp=Z,248µm,21.0s,MS7.4
HNR Honiara 69.69 103 *e*P **P** 15 53 14.0 -2.4
HNR pmax pmax
comp=Z,1µm,0.9s,mb6.9
HNR MLR MLR
comp=Z,128µm,21.0s,MS7.1
HNR Honiara 69.69 103 *e*P **P** 15 53 14.0 -2.4
comp=Z,1µm,0.9s,mb6.9
HNR LR LR
comp=Z,128µm,21.0s,MS7.1
SEY Seymchan 69.73 25 *i*P **P** 15 53 14.7 -1.1
SEY *e* 15 53 32.9
SEY 15 55 51.7
SEY *e*PPP PPP 15 57 35.2 +3.7
SEY *e*S S 16 02 18.7 -3.7
SEY 16 03 12.3
SEY SSS SSS 16 09 48.7 -8.0
SEY pmax pmax
comp=Z,500nm,1.5s,mb6.2
SEY pmax pmax
comp=E,300nm,1.8s
SEY smax
comp=N,220µm,17.1s
SEY smax
comp=E,55µm,13.0s
SEY MLR MLR
comp=N,658µm,18.0s,MS8.0
SEY MLR MLR
comp=Z,629µm,18.0s,MS7.9
SEY MLR MLR
comp=E,470µm,22.0s,MS8.0
SEY Seymchan 69.73 25⇑*i*P **P** 15 53 14.5 -1.3

ZAPS Zavoj/Pirot 69.74 313⇓*i*P **P** 15 53 14.9 -1.3
EVR Evrytania 69.79 308 *e*P **P** 15 53 15.6 -1.0
LVV L'vov 69.92 320 *i*P **P** 15 53 16.1 -1.1
LVV L'vov 69.92 320 *i*P **P** 15 53 16.1 -1.1
IIGN Ignalina 69.94 326 *e*P **P** 15 53 16.5 -0.7
DJES Djerdap 70.00 315 *i*P **P** 15 53 16.7 -1.1
IZAR Zarasai 70.04 327 *e*P **P** 15 53 17.3 -0.5
IZAR AMb AMB 15 53 25.3
comp=Z,287nm,1.6s,mb6.0
ISAL Salakas 70.05 326 *e*P **P** 15 53 17.4 -0.5
ISAL AMb AMB 15 53 25.3
comp=Z,237nm,1.3s,mb6.0
ISAL *e*PP PP 15 55 52.2 -2.6
FNA Florina 70.33 310 *e*P **P** 15 53 20.4 +0.6
SKO Skopje 70.42 312⇓*i*P **P** 15 53 18.7 -1.7
SKO *i* pP 15 53 23.3 -2.5
SKO *i* 15 53 30.0
SKO *i* 15 53 45.0
comp=Z,0.4nm,1.2s
SKO Lm 16 30 55.0
comp=E,94nm,17.0s
SKO Lm 16 30 55.0
comp=N,112nm,18.0s
VSU Vasula 70.55 330 *i*P **P** 15 53 19.6 -1.3
VSU Vasula 70.55 330 *i*P **P** 15 53 19.6 -1.3
JAN Janina 70.60 309 *e*P **P** 15 53 21.0 -0.6
VLS Valsamata 70.66 308 *e*P **P** 15 53 30.1 +8.2
KWP Kalwaria 70.73 320 *e*P **P** 15 53 21.3 -0.9
comp=N,1µm,2.2s,mb6.4
KWP *e*S S 16 02 34.6 +0.3
KWP *e*sS 16 02 50.9
KWP *e*SKS SKS 16 03 26.7 +1.3
KWP MLR MLR 16 28 00.7
comp=N,377µm,23.0s,MS7.6
OHR Ohrid 70.80 311⇓*i*P **P** 15 53 20.8 -1.9
UZH Uzhgorod 70.82 319 *i*P **P** 15 53 22.8 +0.1
LVZ Lovozero 70.86 340 *i*P **P** 15 53 21.6 -1.0
LVZ *i*S S 16 02 36.2 +0.6
LVZ pmax pmax
comp=Z,3µm,3.6s
LVZ pmax pmax
comp=N,545nm,3.5s
LVZ pmax pmax
comp=E,906nm,3.0s
LVZ pmax pmax
comp=Z,91nm,0.6s,mb5.9
LVZ pmax pmax
comp=N,29nm,1.3s
LVZ pmax pmax
comp=E,97nm,1.5s
LVZ smax
comp=N,43µm,13.8s
LVZ smax
comp=Z,11µm,12.2s
LVZ smax
comp=E,27µm,11.0s
SVIS Svilajnac 70.88 314⇑*i*P **P** 15 53 21.7 -1.4
KOLS Kolonicke sedl 70.88 319 *i*P **P** 15 53 22.7 -0.4
IGT Igoumenitsa 70.99 309 *e*P **P** 15 53 22.4 -1.5
APA Apatity 71.13 340⇓*i*P **P** 15 53 24.5 +0.2
APA *i* PPP PPP 15 57 50.0 +4.7
APA *e*S S 16 02 42.0 +3.3
APA *e* 16 03 06.0
APA pmax pmax
comp=Z,296nm,0.8s,mb6.3
APA MLR MLR
comp=Z,848µm,22.0s,MS8.0
TAU Tasmania Unive 71.16 140 *e*P **P** 15 53 25.6 +0.7
TAU pmax pmax
comp=Z,2µm,1.4s,mb6.8
TAU MLR MLR
comp=Z,65µm,20.0s,MS6.9
TAU Tasmania Unive 71.16 140 *e*P **P** 15 53 25.6 +0.7
comp=Z,2µm,1.4s,mb6.8
TAU LR LR
comp=Z,65µm,20.0s,MS6.9
GRUS Gruza 71.19 314⇑*i*P **P** 15 53 24.1 -0.9
SUW Suwalki 71.33 324 *e*P **P** 15 53 24.0 -1.7
SUW *e*S S 16 02 39.6 -1.7
SUW *e* 16 03 25.6
SUW MLR MLR
comp=Z,334µm,23.2s,MS7.5
SUW Suwalki 71.33 324 *e*P **P** 15 53 24.0 -1.7
comp=Z,1µm,2.0s,mb6.4
SUW *e*S S 16 02 39.6 -1.7
SUW *e*sS 16 02 53.8
SUW *e*SKS SKS 16 03 25.6 -4.1
SUW MLR MLR 16 27 49.7
comp=Z,334µm,23.2s,MS7.5
CRVS Cervenica-Dubn 71.40 319 *e*P **P** 15 53 27.1 +0.9
CRVS *e*pP pP 15 53 32.1 +0.4
CRVS *e*S S 16 02 40.5 -1.7
CRVS *e* 16 21 28.4
KEK Kerkira 71.42 309 P **P** 15 53 24.9 -1.6
BEO Belgrade 71.49 315⇑*i*P **P** 15 53 25.7 -1.1
QSH Qafa e Shtames 71.51 311 *i*p **P** 15 53 24.4 -2.6
TIR Tirane 71.52 311 P **P** 15 53 25.6 -1.5
PVY Plav 71.57 312⇓*i*P **P** 15 53 26.2 -1.2
STHS Stebnicka Huta 71.63 319 *e*P **P** 15 53 26.7 -0.9
STHS *e*pP pP 15 53 32.2 -0.8
IVA Berane 71.66 312⇓*i*P **P** 15 53 27.1 -0.8
DIVS Divcibare 71.73 314⇑*i*P **P** 15 53 27.0 -1.3
FINES FINESS Array B 71.76 332 P **P** 15 53 27.1 -1.1
comp=Z,43nm,0.7s,mb5.5,baz=115,slow=5.4,SNR=53
FINES LR LR 16 30 38.1
comp=Z,340µm,19.3s,MS7.6,baz=291,slow=41
KAF Kangasniemi 71.87 333 *e*p **P** 15 53 27.5 -1.3
comp=Z,199nm,1.2s,mb5.9,baz=102,slow=5.1
KECS Kecovo 71.98 318 *i*P **P** 15 53 28.9 -0.8
ULC Ulcinj 72.04 311⇓*i*P **P** 15 53 29.0 -1.2
PLE Pljevlja 72.08 313⇓*i*P **P** 15 53 29.8 -0.5
TTG Podgorica 72.08 312⇓*i*P **P** 15 53 28.7 -1.7
PKSN Nyarlorinc 72.17 317 *e*P **P** 15 53 32.8 +2.0
NIE Niedzica 72.23 319⇓*e*P **P** 15 53 30.8 -0.3
WAR Warsaw 72.25 322 *e*P **P** 15 53 30.8 -0.4
WAR *e*S S 16 02 51.8 -0.1
WAR *e* 16 03 29.1
WAR MLR MLR
comp=Z,242µm,23.4s,MS7.4
WAR Warsaw 72.25 322 *e*P **P** 15 53 30.8 -0.4
WAR *e*S S 16 02 51.9 0.0
WAR *e*sS 16 03 06.4
WAR *e*SKS SKS 16 03 29.1 -7.4
WAR MLR MLR 16 28 06.1
comp=Z,242µm,23.4s,MS7.4
PSZ Piszkesteto 72.29 318 P **P** 15 53 30.8 -0.7
PSZ pmax pmax
comp=Z,1µm,1.5s,mb6.6
PSZ Piszkesteto 72.29 318⇓*e*P **P** 15 53 30.9 -0.6
NKY Niksic 72.31 312⇓*i*P **P** 15 53 30.4 -1.3
BUM Brajici-Budva 72.33 312⇓*i*P **P** 15 53 31.0 -0.9
UPM Unac-Piva 72.41 313⇓*i*P **P** 15 53 31.4 -0.9
LBTB Lobatse 72.53 241 P **P** 15 53 33.7 +0.2
LBTB S S 16 03 00.5 +4.8
LBTB Lobatse 72.53 241 *e*P **P** 15 53 33.3 -0.1
LBTB pmax pmax
comp=Z,569nm,1.3s,mb6.3
LBTB MLR MLR
comp=Z,233µm,20.0s,MS7.5
LBTB Lobatse 72.53 241 *e*P **P** 15 53 33.3 -0.1
comp=Z,569nm,1.3s,mb6.3
LBTB LR LR
comp=Z,233µm,20.0s,MS7.5
HCY Herceg Novi 72.64 312⇓*i*P **P** 15 53 32.4 -1.4
BRY Bratogost 72.65 312⇓*i*P **P** 15 53 32.1 -1.7
PENC Penc 72.68 318⇓*e*P **P** 15 53 34.1 +0.3
OJC Ojcow 72.68 320⇓*i*P **P** 15 53 33.0 -0.8
OJC *e*S S 16 02 56.5 -0.3
OJC *e*SS SS 16 07 32.2 -6.5
OJC MLR MLR 16 28 52.7
comp=Z,168µm,23.2s,MS7.2
BUD Budapest 72.81 317 *e*P **P** 15 53 35.8 +1.2
BUD Budapest 72.81 317 *e*P **P** 15 53 35.9 +1.3
WAKE Wake Island 72.86 72 *e*P **P** 15 53 37.6 +2.2
comp=Z,2µm,1.4s,mb6.8
WAKE LR LR
comp=Z,170µm,21.0s,MS7.3
PKSM Moragy 72.92 316⇓*e*P **P** 15 53 34.4 -0.9
LIKS Likavka 72.96 319⇓*e*P **P** 15 53 36.7 +1.2
PKS8 Sarbogard 72.97 317⇑*e*P **P** 15 53 35.5 -0.1
VYHS Vyhne 73.06 318 *i*P **P** 15 53 35.2 -0.9
VYHS *e*S S 16 02 58.8 -2.4
PKS9 Tamasi 73.21 316⇑*e*P **P** 15 53 36.7 -0.3

PKSG 73.23 317 *e*P **P** 15 53 36.1 -1.0
SRO Srobarova 73.33 317 *i*P **P** 15 53 37.5 -0.1
KOLL Kolacno 73.36 318 *e*P **P** 15 53 37.9 +0.1
SRO1 Iza 73.38 317 *e*P **P** 15 53 38.2 +0.3
OKC Ostrava-Krasne 73.68 320⇓*i*P **P** 15 53 39.3 -0.4
OKC *e*S S 16 03 03.5 -4.6
OKC Ostrava-Krasne 73.68 320⇓*i*P **P** 15 53 39.3 -0.4
OKC *e*S S 16 03 03.5 -4.6
OKC *e*PKPPKP 16 21 16.2
OKC AMS AMS 16 30 40.0
comp=Z,122µm,21.7s
RAC Raciborz 73.68 320⇓*e*P **P** 15 53 39.9 +0.2
RAC *e*S S 16 03 09.2 +1.1
RAC MLR MLR 16 30 36.7
comp=Z,190µm,22.0s,MS7.3
TIP Timpagrande 73.73 308⇓*e*P **P** 15 53 39.8 -0.3
JAVC Velka Javorina 73.88 319 P **P** 15 53 41.5 +0.7
BOSA Boshof 73.93 237 P **P** 15 53 41.5 -0.1
comp=Z,69nm,1.0s,mb5.5,baz=84,slow=5.1,SNR=88
BOSA S S 16 03 16.8 +5.4
comp=Z,4.3nm,1.1s,baz=334,slow=20,SNR=2.4
BOSA LR LR 16 20 08.6
comp=Z,190µm,20.9s,MS7.4,baz=75,slow=31
BOSA Boshof 73.93 237 *e*P **P** 15 53 41.6 0.0
comp=Z,811nm,1.3s,mb6.5
BOSA LR LR
comp=Z,197µm,21.0s,MS7.4
SMOL Smolenice 74.00 318 *i*P **P** 15 53 41.8 +0.3
MORC Moravsky Berou 74.06 319⇓*e*P **P** 15 53 41.4 -0.5
MORC pmax pmax
comp=Z,1µm,1.5s,mb6.6
MORC Moravsky Berou 74.06 319⇓*e*P **P** 15 53 41.4 -0.5
comp=Z,1µm,1.5s,mb6.6
KEV Kevo 74.15 341 *ep* **P** 15 53 41.3 -0.7
comp=Z,96nm,0.9s,mb5.7
KEV Kevo 74.15 341⇓*e*P **P** 15 53 41.2 -0.8
KEV pmax pmax
comp=Z,291nm,0.8s,mb6.3
KEV MLR MLR
comp=Z,678µm,22.0s,MS7.9
KEV Kevo 74.15 341⇓*e*P **P** 15 53 41.2 -0.8
comp=Z,291nm,0.8s,mb6.3
KEV LR LR
comp=Z,678µm,22.0s,MS7.9
ZST Bratislava 74.18 318 *i*P **P** 15 53 42.0 -0.6
ZST *e*S S 16 03 14.2 +0.5
ZST *e*L 16 29 09.9
MIR Mirnyy 74.27 180*d* *i*P **P** 15 53 43.0 +0.3
MIR *e* 15 56 36.0
MIR pmax pmax
comp=Z,3µm,3.2s
MIR pmax pmax
comp=Z,13µm,11.0s
MIR pmax pmax
comp=N,4µm,12.0s
MIR pmax pmax
comp=E,1µm,6.8s
MIR MLR MLR
comp=Z,284µm,16.0s,MS7.7
SOP Sopron 74.49 317⇓*e*P **P** 15 53 44.0 -0.4
KWAJ Kwajalein Atol 74.55 83 P **P** 15 53 44.2 -1.1
comp=Z,1µm,1.3s,mb6.7
KWAJ LR LR
comp=Z,25µm,22.0s,MS6.5
ARCES ARCESS Array B 74.57 340 P **P** 15 53 44.2 -0.2
comp=Z,60nm,0.7s,mb5.6,baz=87,slow=6.6,SNR=42
ARCES LR LR 16 28 43.4
comp=Z,502µm,20.9s,MS7.8,baz=117,slow=38
ARCES ARCESS Array B 74.57 340 P **P** 15 53 44.2 -0.2
ARCES LR LR 16 28 43.4
ARE0 ARCESS Array S 74.57 340 *e*P **P** 15 53 44.2 -0.2
KOGS Kog 74.59 316 P **P** 15 53 44.8 -0.2
KOGS Kog 74.59 316 *e*P **P** 15 53 44.3 -0.7
VRAC Vranov 74.63 319 P **P** 15 53 45.5 +0.4
GKP Gorka Klasztor 74.68 323 *e*P **P** 15 53 44.6 -0.8
GKP *e*S S 16 03 18.2 -1.0
GKP *e* 16 03 54.0
GKP MLR MLR
comp=Z,396µm,26.5s,MS7.6
GKP Gorka Klasztor 74.68 323 *e*P **P** 15 53 44.6 -0.8
comp=Z,800nm,2.3s,mb6.2
GKP *e*S S 16 03 18.2 -1.0
GKP *e*sS 16 03 34.1
GKP *e*SKS SKS 16 03 54.0 -0.4
GKP MLR MLR 16 26 15.0
comp=Z,396µm,26.5s,MS7.6
VKA Vienna 74.71 318⇓*i*P **P** 15 53 44.9 -0.7
comp=Z,5µm,2.5s,mb7.0
VKA MLRZ 16 32 00.0
comp=Z,88nm,19.0s
VKA Vienna 74.71 318⇓*i*P **P** 15 53 44.9 -0.7
VKA pmax pmax
comp=Z,5µm,2.5s,mb7.0
VKA MLR MLR
comp=Z,88µm,19.0s,MS7.1
KRUC Moravsky 74.73 319 P **P** 15 53 45.5 -0.3
DPC Dobruska-Polom 74.91 320⇓*i*P **P** 15 53 46.8 +0.1
DPC *e*S S 16 03 21.6 -0.2
DPC MLR MLR
comp=Z,161µm,20.4s,MS7.3
DPC Dobruska-Polom 74.91 320⇓*i*P **P** 15 53 46.8 +0.1
DPC *e*S S 16 03 21.6 -0.2
DPC *e* 16 24 49.0
DPC LR LR
comp=Z,161µm,20.4s,MS7.3
DPC Dobruska-Polom 74.91 320⇓*i*P **P** 15 53 46.8 +0.1
DPC *e*S S 16 03 21.6 -0.2
DPC *e*PKPPKP 16 21 07.4
DPC *ex* x 16 24 49.0
DPC AMS AMS 16 30 50.0
comp=Z,161µm,20.4s
KSP Ksiaz 74.98 320⇓*e*P **P** 15 53 47.0 -0.1
KSP *e* 15 53 57.7
KSP *e*S S 16 03 19.0 -3.6
KSP MLR MLR
comp=Z,497µm,24.1s,MS7.7
KSP Ksiaz 74.98 320⇓*e*P **P** 15 53 47.0 -0.1
KSP *e*pP pP 15 53 51.3 -1.3
KSP *e* 15 53 57.7
KSP *e*S S 16 03 19.0 -3.6
KSP *e*SS SS 16 08 00.0 -14
KSP LR LR
comp=Z,497µm,24.1s,MS7.7
KSP Ksiaz 74.98 320 *e*P **P** 15 53 47.0 -0.2
comp=Z,1µm,2.2s,mb6.5
KSP *e*S S 16 03 22.5 -0.1
KSP MLR MLR 16 26 58.0
comp=Z,431µm,24.1s,MS7.7
UPC Upice 75.12 320⇓*i*P **P** 15 53 47.9 -0.1
UPC *e*S S 16 03 22.4 -1.8
UPC *e* 16 24 49.1
UPC Upice 75.12 320⇓*i*P **P** 15 53 47.9 -0.1
UPC *e*S S 16 03 22.4 -1.8
UPC *e*PKPPKP 16 21 20.1
UPC *ex* x 16 24 49.1
ARSA Arzberg 75.16 317⇓*i*P **P** 15 53 48.1 -0.1
comp=Z,8µm,3.8s
KTK1 Kautokeino 75.17 340 *e*P **P** 15 53 46.9 -1.0
comp=Z,769nm,1.4s,mb6.4
KTK1 Kautokeino 75.17 340 *e*P **P** 15 53 47.8 -0.1
KTK1 AMb AMB 15 54 00.1
comp=Z,769nm,1.4s,mb6.4
CASY Casey 75.21 172⇓*i*P **P** 15 53 48.1 0.0
CASY *e*S S 16 03 30.8 +6.0
BOJS Bojanci 75.22 315 *e*P **P** 15 53 47.8 -0.9
PERS Pernice 75.39 316 *e*P **P** 15 53 49.1 -0.4
NVLJ Novalja 75.43 314⇓*i*P **P** 15 53 47.5 -2.3
CII Carovilli 75.71 311 *e*P **P** 15 53 50.6 -0.9
comp=Z,484nm,1.4s,mb6.2
LJU Ljubljana 75.76 315 *e*P **P** 15 53 51.4 -0.3
LJU *e*PPP PPP 15 58 35.7 +5.6
LJU *e*S S 16 03 30.4 -0.9
LJU Ljubljana 75.76 315 *e*P **P** 15 53 51.4 -0.3
LJU *e* 15 55 15.6
LJU *e* 15 56 29.3
LJU *e* 15 57 40.5
LJU *e*PPP PPP 15 58 35.7 +5.6
LJU *e* 15 59 58.0
LJU *e*S S 16 03 30.4 -0.9
LJU *e* 16 03 45.4
LJU *e*SS SS 16 08 35.5 +9.4
LJU *e* 16 10 51.4
OBKA Obir 75.77 316⇑*i*P **P** 15 53 51.6 -0.2
comp=Z,8µm,4.0s

PRU Pruhonice 76.02 319 ⇓ iP P 15 53 52.9 -0.2
PRU eS S 16 03 34.0 0.0
PRU e 16 04 13.1
PRU MLR MLR
comp=Z,144µm,18.5s,MS7.3
PRU Pruhonice 76.02 319 ⇓ iP P 15 53 52.9 -0.2
PRU eS S 16 03 34.0 0.0
PRU e 16 04 13.1
PRU e 16 24 46.6
PRU LR LR
comp=Z,144µm,18.5s,MS7.3
PRU Pruhonice 76.02 319 ⇓ iP P 15 53 52.9 -0.2
PRU eS S 16 03 34.0 0.0
PRU ex x 16 04 13.1
PRU ePKPPKP 16 21 21.0
PRU ex x 16 24 46.6
PRU AMS AMS 16 33 10.0
comp=Z,144µm,18.5s
PVCC Panska Ves 76.04 320 ⇓ iP P 15 53 53.3 +0.1
PVCC eS S 16 03 34.8 +0.5
PVCC MLR MLR
comp=Z,178µm,20.5s,MS7.4
PVCC Panska Ves 76.04 320 ⇓ iP P 15 53 53.3 +0.1
PVCC eS S 16 03 34.8 +0.5
PVCC e 16 24 48.3
PVCC LR LR
comp=Z,178µm,20.5s,MS7.4
PVCC Panska Ves 76.04 320 ⇓ iP P 15 53 53.3 +0.1
PVCC eS S 16 03 34.8 +0.5
PVCC ePKPPKP 16 21 02.8
PVCC ex x 16 24 48.3
PVCC AMS AMS 16 34 20.0
comp=Z,178µm,20.5s
MOA Molln 76.05 317 ⇓ iP P 15 53 52.7 -0.6
comp=Z,2µm,2.0s,mb6.6
PRA Prague 76.09 320 ⇓ P P 15 53 54.0 +0.5
PRA ex x 15 55 20.0
PRA ex x 16 04 40.0
PRA AMS AMS 16 32 40.0
VOY Vojsko 76.20 315 ⇓ eP P 15 53 53.6 -0.6
BSD Bornholm Skovb 76.25 325 eP P 15 53 53.5 -0.8
BSD i 15 56 46.2
BSD pmax pmax
comp=Z,414nm,0.9s,mb6.4
BSD Bornholm Skovb 76.25 325 eP P 15 53 53.5 -0.8
comp=Z,414nm,0.9s,mb6.4
BSD i 15 56 46.2
BSD Bornholm Skovb 76.25 325 iP P 15 53 53.5 -0.8
comp=Z,414nm,0.9s,mb6.4
BSD i 15 56 46.2
CADS Cadrg 76.32 316 iP P 15 53 54.0 -0.9
DRE Drenchia 76.38 316 ⇓ ePn P 15 53 55.0 -0.2
DRE Drenchia 76.38 316 ⇓ iP P 15 53 55.0 -0.2
AQU L'Aquila 76.41 312 ⇓ eP P 15 53 54.5 -0.9
AQU pmax pmax
comp=Z,1µm,1.4s,mb6.6
AQU L'Aquila 76.41 312 ⇓ eP P 15 53 54.5 -0.9
comp=Z,1µm,1.4s,mb6.6
BRG Berggiesshubel 76.47 320 ⇓ iP P 15 53 55.3 -0.3
BRG e 15 54 06.9
BRG S S 16 03 42.0 +3.1
BRG pmax pmax
comp=Z,403nm,1.7s,mb6.1
BRG Berggiesshubel 76.47 320 ⇓ iP P 15 53 55.4 -0.2
comp=Z,403nm,1.7s,mb6.1
BRG i pP 15 54 00.1 -1.0
BRG e 15 54 06.9
BRG i 15 58 47.0
BRG S S 16 03 42.0 +3.1
BRG Berggiesshubel 76.47 320 SS SS 16 08 49.0 +12
BRG PKKP PKKP 16 12 08.2 -40
LSR Lussari 76.47 316 ⇓ ePn P 15 53 55.7 0.0
LSR Lussari 76.47 316 ⇓ iP P 15 53 55.5 -0.7
GERES GERESS Array B 76.49 318 P P 15 53 55.5 -0.2
comp=Z,261nm,1.1s,mb6.1,baz=90,slow=5.3,SNR=142
GERES S S 16 03 40.0 +0.8
comp=Z,1.7nm,0.9s,baz=56,slow=4.8,SNR=2.9
GERES LR LR 16 31 22.5
comp=Z,263µm,21.4s,MS7.5,baz=95,slow=39
COLI Coloredo 76.56 315 ⇑ ePn P 15 53 56.0 -0.2
COLI Coloredo 76.56 315 ⇓ eP P 15 53 55.0 -1.2
KHC Kasperske Hory 76.58 319 ⇓ iP P 15 53 56.0 -0.3
KHC e 15 54 11.0
KHC eS S 16 03 40.2 0.0
KHC MLR MLR
comp=Z,201µm,22.7s,MS7.4
KHC Kasperske Hory 76.58 319 ⇓ iP P 15 53 56.0 -0.3
KHC e 15 54 11.0
KHC eS S 16 03 40.2 0.0
KHC e 16 23 29.5
KHC LR LR
comp=Z,201µm,22.7s,MS7.4
KHC Kasperske Hory 76.58 319 ⇓ iP P 15 53 56.0 -0.3
KHC ex x 15 54 11.0
KHC eS S 16 03 40.2 0.0
KHC ePKPPKP 16 21 16.1
KHC ex x 16 23 29.5
KHC AMS AMS 16 31 30.0
comp=Z,201µm,22.7s
KBA Koelnbreinsper 76.63 316 ⇓ iP P 15 53 56.1 -0.5
comp=Z,5µm,4.0s
KBA Koelnbreinsper 76.63 316 ⇓ iP P 15 53 56.1 -0.5
KBA pmax pmax
comp=Z,5µm,4.0s
BAD Bernadia 76.66 316 ⇓ ePn P 15 53 56.0 -0.8
BAD Bernadia 76.66 316 ⇓ eP P 15 53 56.0 -0.8
RUE Ruedersdorf 76.69 322 ⇓ eP P 15 53 55.9 -0.9
comp=Z,661nm,0.7s,mb6.7
PLRO Paularo 76.74 316 ⇓ ePn P 15 53 56.9 -0.3
PLRO Paularo 76.74 316 ⇑ eP P 15 53 57.0 -0.2
BUA Buia 76.74 316 ⇑ ePn P 15 53 57.2 0.0
BUA Buia 76.74 316 ⇑ eP P 15 53 57.0 -0.2
TLI Talmassons 76.75 315 ⇑ ePn P 15 53 57.2 0.0
TLI Talmassons 76.75 315 ⇑ eP P 15 53 59.0 +1.8
BOO Bordano 76.76 316 ⇑ ePn P 15 53 57.2 -0.1
BOO Bordano 76.76 316 ⇑ eP P 15 53 57.0 -0.3
BILL Bilibino 76.79 22 c iP P 15 53 56.4 -0.6
BILL pmax pmax
comp=Z,272nm,1.1s,mb6.1
BILL MLR MLR
comp=Z,527µm,22.0s,MS7.8
BILL Bilibino 76.79 22 eP P 15 53 56.5 -0.5
comp=Z,2µm,1.8s,mb6.7
BILL LR LR
comp=Z,488µm,21.0s,MS7.8
TRO Tromso 76.81 340 eP P 15 53 55.5 -1.6
TRO AMb AMB 15 54 08.0
comp=Z,591nm,1.4s,mb6.3
TRO eS S 16 03 43.7 +1.4
TRO AMS AMS 16 30 36.2
comp=Z,270µm,19.0s,MS7.6
MPRI Monte Prat 76.84 316 ⇓ ePn P 15 53 57.2 -0.5
MPRI Monte Prat 76.84 316 ⇓ iP P 15 53 57.0 -0.7
ZOU Zoufplan 76.86 316 ⇓ ePn P 15 53 57.5 -0.3
ZOU Zoufplan 76.86 316 ⇓ iP P 15 53 57.0 -0.9
WET Wettzell 77.04 319 eP P 15 53 58.8 0.0
WET eS S 16 03 43.7 -1.5
WET pmax pmax
comp=Z,2µm,1.9s,mb6.6
WET Wettzell 77.04 319 eP P 15 53 58.8 0.0
comp=Z,2µm,1.9s,mb6.6
WET eS S 16 03 43.7 -1.5
CLL Collm 77.08 321 ⇓ iP P 15 53 58.5 -0.5
CLL i *PP pP 15 54 09.4 +4.9
CLL eS S 16 03 41.0 -4.6
CLL e 16 03 57.0
CLL pmax pmax
comp=Z,343nm,1.8s,mb6.0
CLL Collm 77.08 321 ⇓ iP P 15 53 58.5 -0.5
comp=Z,343nm,1.8s,mb6.0
CLL i Pn P 15 54 03.3 +4.3
CLL i pP pP 15 54 09.4 +4.9
CLL eS S 16 03 41.0 -4.6
CLL eSKS SKS 16 03 57.0 -15
CLL eP'P' 16 21 17.0
CLL Collm 77.08 321 ⇓ P P 15 53 58.5 -0.5
comp=Z,logA/T=2.3,mb6.0
CLL i *PP pP 15 54 03.3 -1.2
CLL i PCP PcP 15 54 09.4 -0.9
CLL i 15 54 12.1
CLL i 15 54 20.0
CLL ePP PP 15 56 58.0 +3.8
CLL ePPP PPP 15 58 48.0 +5.7
CLL eS S 16 03 41.0 -4.6
CLL e*SS 16 03 57.0
CLL eSP SP 16 04 19.0 -5.9
CLL eSS SS 16 08 53.0 +6.9
CLL eSSS SSS 16 12 30.0 +28
CLL e 16 21 17.0
CLL e 16 24 45.0
MLNI Malnisio 77.10 315 ⇓ ePn P 15 53 58.9 -0.3
RGN Rugen 77.12 324 eP P 15 53 59.3 +0.1
comp=Z,1µm,1.4s,mb6.7
CAE Caneva 77.21 315 ⇑ ePn P 15 54 00.1 +0.2
CSO Casso 77.30 316 ⇓ ePn P 15 53 59.9 -0.4
BERN Bernov 77.34 320 ⇓ P P 15 54 09.4 +9.0
NKC Novy Kostel 77.38 320 ⇓ iP P 15 54 01.1 +0.5
NKC eS S 16 03 48.8 0.0
NKC ex x 16 04 31.6
NKC AMS AMS 16 32 50.0
comp=Z,214µm,18.5s
AFL Alpe Faloria 77.41 316 ⇓ ePn P 15 54 00.9 0.0
FAU Forcella Aurin 77.54 316 ⇓ ePn P 15 54 01.6 0.0
CGRP Cima Grappa 77.65 315 ⇓ ePn P 15 54 02.2 -0.1
COP Copenhagen 77.71 325 eP P 15 54 00.6 -1.8
COP i S S 16 03 52.5 +0.2
COP pmax pmax
comp=Z,303nm,1.0s,mb6.2
COP MLR MLR
comp=Z,158µm,22.0s,MS7.3
COP Copenhagen 77.71 325 eP P 15 54 00.6 -1.8
comp=Z,303nm,1.0s,mb6.2
COP i S S 16 03 52.5 +0.2
COP LR LR
comp=Z,158µm,22.0s,MS7.3
COP Copenhagen 77.71 325 iP P 15 54 00.6 -1.8
comp=Z,303nm,1.0s,mb6.2
COP i S S 16 03 52.5 +0.2
comp=Z,158µm,22.0s
TEOL Teolo 77.73 315 ⇑ ePn P 15 54 02.9 +0.2
WTTA Wattenberg 77.80 317 ⇓ iP P 15 54 02.4 -0.6
comp=Z,3µm,2.2s,mb6.8
WTTA Wattenberg 77.80 317 ⇓ iP P 15 54 02.4 -0.6
WTTA pmax pmax
comp=Z,3µm,2.2s,mb6.8
MOR8 Moi Rana 77.84 336 eP P 15 54 02.1 -0.8
comp=Z,889nm,0.8s,mb6.8
MOR8 Moi Rana 77.84 336 eP P 15 54 02.1 -0.8
MOR8 AMb AMB 15 54 35.1
comp=Z,889nm,0.8s,mb6.8
MOR8 ePP PP 15 56 57.5 -3.2
WATA Walderalm 77.84 317 ⇓ iP P 15 54 02.4 -0.9
comp=Z,1µm,1.8s,mb6.6
WATA Walderalm 77.84 317 ⇓ iP P 15 54 02.4 -0.9
WATA pmax pmax
comp=Z,1µm,1.8s,mb6.6
MOX Moxa 77.93 320 ⇓ eP P 15 54 04.2 +0.5
MOX eS S 16 03 57.0 +2.3
MOX e 16 12 16.0
MOX Moxa 77.93 320 ⇓ eP P 15 54 04.2 +0.5
MOX eS S 16 03 57.0 +2.3
MOX eSS x 16 09 15.0
MOX ePKKP x 16 12 16.0
MOX eSSSS 16 13 00.0
MOX Moxa 77.93 320 ⇓ iP P 15 54 04.2 +0.5
MOX S S 16 03 57.0 +2.3
MOX SS x 16 09 15.0
MOX PKKP x 16 12 16.0
MOX e 16 13 00.0
MOX PKPPKP 16 21 20.0
MOX PKPPKS 16 24 40.0
MOX L 16 36 16.0
FUR Furstenfeldbru 78.07 318 eP P 15 54 04.1 -0.4
FUR pmax pmax
comp=Z,2µm,1.8s,mb6.7
FUR Furstenfeldbru 78.07 318 eP P 15 54 04.1 -0.4
comp=Z,2µm,1.8s,mb6.7
SQTA Sankt Quirin 78.09 317 ⇓ iP P 15 54 04.0 -0.6
comp=Z,1µm,1.7s,mb6.6
SQTA Sankt Quirin 78.09 317 ⇓ iP P 15 54 04.0 -0.6
SQTA pmax pmax
comp=Z,1µm,1.7s,mb6.6
GRA1 Grafenberg Arr 78.15 319 eP P 15 54 05.4 +0.5
comp=Z,1µm,1.1s,mb6.7
GRA1 eP'P' 16 21 01.0
GRA1 LR LR
comp=Z,216µm,19.1s,MS7.5
GRF Grafenberg Arr 78.15 319 eP P 15 54 05.4 +0.5
GRF pmax pmax
comp=Z,1µm,1.1s,mb6.7
GRF MLR MLR
comp=Z,216µm,19.1s,MS7.5
GRF Grafenberg Arr 78.15 319 eP P 15 54 05.4 +0.5
GRF pmax pmax
comp=Z,1µm,1.1s,mb6.7
GRF Grafenberg Arr 78.15 319 eP P 15 54 05.4 +0.5
comp=Z,1µm,1.1s,mb6.7
GRFO Grafenberg 78.15 319 eP P 15 54 05.4 +0.5
comp=Z,10µm,1.1s
GRFO eS S 16 03 56.0 -1.1
MOTA Moosalm 78.17 317 ⇓ iP P 15 54 04.3 -0.7
comp=Z,955nm,1.3s,mb6.6
MOTA Moosalm 78.17 317 ⇓ iP P 15 54 04.3 -0.7
MOTA pmax pmax
comp=Z,955nm,1.3s,mb6.6
MAW Mawson 78.18 191 ⇓ iP P 15 54 05.5 +0.8
comp=Z,195nm,1.1s,mb6.0
MAW i S S 16 04 05.8 +8.7
MAW Mawson 78.18 191 P P 15 54 05.7 +1.1
comp=Z,87nm,1.0s,mb5.6,baz=24,slow=6.7,SNR=127
MAW S S 16 04 04.4 +7.4
comp=Z,2.4nm,1.0s,baz=198,slow=20,SNR=2.5
MAW LR LR 16 20 21.0
comp=Z,116µm,20.8s,MS7.2,baz=23,slow=29
MELSS Ber_school_2 78.22 337 eP P 15 54 04.3 -0.6
FX1 Attu Island--F 78.32 38 eP P 15 54 05.3 -0.4
STOK Stokkvaagen 78.44 336 eP P 15 54 05.6 -0.5
STOK epP pP 15 54 11.0 -0.6
LOF Lofoten 78.46 338 eP P 15 54 08.0 +1.7
comp=Z,762nm,1.5s,mb6.4
LOF Lofoten 78.46 338 eP P 15 54 08.0 +1.7
LOF AMb AMB 15 54 34.8
comp=Z,762nm,1.5s,mb6.4
MAIM 78.56 313 P P 15 54 06.8 -0.5
DZM Mont Dzumac 78.60 114 eP P 15 54 09.3 +1.4
SARO Sassorosso 78.62 313 P P 15 54 07.1 -0.5
VLC Villacollemand 78.64 313 ⇓ eP P 15 54 06.6 -1.1
comp=Z,366nm,0.8s,mb6.4
NSS Namsos 78.68 334 eP P 15 54 05.4 -2.1
NSS AMb AMB 15 54 18.4
comp=Z,961nm,1.2s,mb6.6
NSS AMS AMS 16 35 17.6
comp=Z,414µm,24.6s,MS7.7
SUR Sutherland 78.73 235 LR LR 16 27 57.4
comp=Z,224µm,18.1s,MS7.5,baz=78,slow=35
SUR Sutherland 78.73 235 eP P 15 54 09.8 +1.3
comp=Z,1µm,1.3s,mb6.7
SUR LR LR
comp=Z,42µm,19.0s,MS6.8
FUORN Ofenpass 78.73 316 ⇓ iP P 15 54 08.3 +0.1
NB2 NORSAR Subarra 78.73 331 P P 15 54 06.9 -1.0
comp=Z,509nm,1.7s,mb6.2,baz=93,slow=5.8
NB2 NORSAR Subarra 78.73 331 P P 15 54 06.9 -1.0
NB2 pmax pmax
comp=Z,509nm,1.7s,mb6.2
NB2 NORSAR Subarra 78.73 331 P P 15 54 06.9 -1.0
baz=93,slow=5.9
NOA NORSAR Array B 78.73 331 P P 15 54 06.9 -0.9
comp=Z,28nm,0.7s,mb5.3,baz=94,slow=5.7,SNR=43
NOA PKKPbc 16 13 10.4
comp=Z,3.6nm,0.8s,baz=282,slow=2.1,SNR=6.6
NOA LR LR 16 32 36.7
comp=Z,539µm,22.0s,MS7.8,baz=75,slow=38
VALM 78.73 314 P P 15 54 09.3 +1.1
HDH Heidenheim 78.79 318 P P 15 54 08.5 +0.1
HDH Heidenheim 78.79 318 ⇓ eP P 15 54 07.9 -0.5
VINC Vinca 78.80 313 P P 15 54 09.7 +1.1
UBR Uberruh 78.84 317 P P 15 54 08.7 -0.1
UBR Uberruh 78.84 317 ⇓ eP P 15 54 08.4 -0.4
BSEG Bad Segeberg 78.85 323 eP P 15 54 08.8 +0.2
GRAM 78.86 314 P P 15 54 10.4 +1.4
NAO01 NORSAR Array S 78.88 330 eP P 15 54 07.9 -0.8
comp=Z,226nm,0.9s,mb6.1
NAO01 LR LR
comp=Z,525µm,22.0s,MS7.8
BERNI Berninapass 78.90 316 ⇓ iP P 15 54 09.5 +0.4
OSL Oslo 78.90 330 eP P 15 54 08.6 -0.2
comp=Z,842nm,1.5s,mb6.5
OSL Oslo 78.90 330 eP P 15 54 08.6 -0.2
OSL AMb AMB 15 54 28.9
comp=Z,842nm,1.5s,mb6.5
DAVOX Davos 79.00 316 LR LR 16 32 36.3
comp=Z,187µm,21.5s,MS7.4,baz=181,slow=38
DAVOX Davos 79.00 316 ⇓ iP P 15 54 09.8 +0.2
DAVA Damuels 79.00 317 ⇑ iP P 15 54 09.7 +0.1
comp=Z,3µm,2.2s,mb6.9
CODM 79.02 314 P P 15 54 10.4 +0.6
RORSS Ber_school_1 79.03 335 eP P 15 54 09.3 -0.1
SIND Sindeldorf 79.19 319 P P 15 54 10.8 +0.2
SIND Sindeldorf 79.19 319 eP P 15 54 10.7 +0.1
LIENZ Alp Oberkamor 79.26 317 ⇓ iP P 15 54 10.9 -0.1
VDL Val di Lei 79.28 316 ⇓ eP P 15 54 11.1 -0.1
HSP Hornsund 79.33 347 eP P 15 54 11.1 +0.2
PLONS Plons 79.34 316 ⇓ iP P 15 54 11.3 -0.2
BUCH Bad Urach 79.36 318 P P 15 54 12.1 +0.6
BUCH Bad Urach 79.36 318 eP P 15 54 11.4 -0.1
VSL Villasalto 79.45 309 ⇓ eP P 15 54 11.5 -0.7
comp=Z,334nm,1.0s,mb6.2
KONO Kongsberg 79.46 329 i P P 15 54 11.3 -0.5
KONO pmax pmax
comp=Z,317nm,1.5s,mb6.0
KONO MLR MLR
comp=Z,428µm,21.0s,MS7.8
KONO Kongsberg 79.46 329 i P P 15 54 11.3 -0.5
comp=Z,317nm,1.5s,mb6.0
KONO LR LR
comp=Z,428µm,21.0s,MS7.8
KONO Kongsberg 79.46 329 eP P 15 54 11.2 -0.6
STU Stuttgart 79.46 318 ⇓ eP P 15 54 11.5 -0.6
STU pmax pmax
comp=Z,438nm,0.9s,mb6.4
STU Stuttgart 79.46 318 ⇓ eP P 15 54 11.5 -0.6
comp=Z,438nm,0.9s,mb6.4
GUT Gutenstein 79.52 317 P P 15 54 12.4 0.0
GUT Gutenstein 79.52 317 ⇓ eP P 15 54 12.1 -0.3
MUD Monsted U'grnd 79.58 326 ⇓ iP P 15 54 12.9 +0.4
MUD i S S 16 04 13.7 +1.6
MUD pmax pmax
comp=Z,401nm,0.9s,mb6.3
MUD Monsted U'grnd 79.58 326 ⇓ iP P 15 54 12.9 +0.4
comp=Z,401nm,0.9s,mb6.3
MUD i S S 16 04 13.7 +1.6
MUD Monsted U'grnd 79.58 326 ⇓ iP P 15 54 12.9 +0.4
comp=Z,401nm,0.9s,mb6.3
MUD Monsted U'grnd 79.58 326 i S S 16 04 13.7 +1.6
comp=Z,258µm,22.0s
MUGIO Muggio 79.58 315 ⇓ iP P 15 54 11.7 -1.1
MUGIO Muggio 79.58 315 ⇓ iP P 15 54 11.8 -1.0
LLS Linth-Limmern 79.59 316 ⇓ iP P 15 54 13.0 +0.2
SISB Singen-Sch Ber 79.62 317 P P 15 54 13.4 +0.4
WILA Wila 79.66 317 ⇓ eP P 15 54 12.6 -0.6
PGF Pioggiola 79.66 312 eP P 15 54 13.1 -0.2
comp=Z,972nm,1.2s,mb6.3
PGF Pioggiola 79.66 312 eP P 15 54 13.1 -0.2
PGF pmax pmax
comp=Z,486nm,1.2s,mb6.3
STEIN Stein am Rhein 79.68 317 ⇓ iP P 15 54 13.1 -0.2
TOD Tromm 79.72 319 eP P 15 54 13.5 0.0
TOD Tromm 79.72 319 eP P 15 54 13.6 +0.1
LBG Lerchenberg 79.73 318 P P 15 54 14.0 +0.5
LBG Lerchenberg 79.73 318 ⇓ eP P 15 54 13.2 -0.3
SPAK Spaichingen 79.74 317 eP P 15 54 13.8 +0.2
SPAK Spaichingen 79.74 317 eP P 15 54 13.7 +0.1
SWS Schriesheim 79.78 319 P P 15 54 15.0 +1.2
SWS Schriesheim 79.78 319 eP P 15 54 13.8 0.0
TRULL Truellikon 79.81 317 ⇓ iP P 15 54 12.9 -1.1
DOMB Dombas 79.82 332 eP P 15 54 13.0 -0.7
comp=Z,536nm,1.4s,mb6.3
DOMB Dombas 79.82 332 eP P 15 54 13.0 -0.7
DOMB AMb AMB 15 54 45.0
comp=Z,536nm,1.4s,mb6.3
FUSIO Fusio 79.84 316 ⇓ iP P 15 54 13.7 -0.5
MUO Muotathal 79.85 316 ⇓ iP P 15 54 14.5 +0.3
ZUR Zurich 79.88 317 ⇓ iP P 15 54 14.1 -0.3
SLE Schleitheim 79.94 317 ⇓ iP P 15 54 14.2 -0.5
TNS Taunus Mts 79.95 320 eP P 15 54 15.0 +0.3
TNS eS S 16 04 15.6 -0.5
TNS pmax pmax
comp=Z,466nm,1.1s,mb6.3
TNS Taunus Mts 79.95 320 eP P 15 54 15.0 +0.3
comp=Z,466nm,1.1s,mb6.3
TNS eS S 16 04 15.6 -0.5
PCP Pian Castagno 79.95 314 P P 15 54 15.2 +0.4
BNALP Bannalp 79.99 316 ⇓ eP P 15 54 15.1 +0.1
BFO Black Forest 80.04 318 eP P 15 54 14.9 -0.3
BFO eS S 16 04 13.3 -3.8
BFO pmax pmax
comp=Z,732nm,1.4s,mb6.4
BFO Black Forest 80.04 318 eP P 15 54 14.9 -0.3
comp=Z,732nm,1.4s,mb6.4
BFO eS S 16 04 13.3 -3.8
HASLI Hasliberg 80.18 316 ⇓ iP P 15 54 16.0 0.0
KTD Kalmit 80.19 319 eP P 15 54 16.6 +0.6
KTD Kalmit 80.19 319 eP P 15 54 16.1 +0.1
SULZ Sulz-Cheisache 80.19 317 ⇓ iP P 15 54 15.8 -0.2
FIN Finale Ligure 80.20 313 P P 15 54 16.3 +0.1
FELD Feldberg 80.26 317 eP P 15 54 16.4 0.0
KIZ Kirchzarten 80.32 317 P P 15 54 16.9 +0.2
KIZ Kirchzarten 80.32 317 ⇓ eP P 15 54 16.5 -0.2
ORX Oropa 80.33 315 P P 15 54 15.9 -0.9
MMK Mattmark 80.33 315 ⇓ eP P 15 54 16.2 -0.6
LANF Langenberg 80.38 318 eP P 15 54 17.2 +0.2
KBS Kingsbay 80.41 349 P P 15 54 16.2 -0.4
KBS S S 16 04 19.6 -0.9
KBS Kingsbay 80.41 349 P P 15 54 16.3 -0.3
KBS pmax pmax
comp=Z,360nm,1.0s,mb6.3
KBS Kingsbay 80.41 349 eP P 15 54 14.6 -2.1
comp=Z,566nm,1.5s,mb6.3
KBS LR LR
comp=Z,39µm,17.2s,MS6.8
KBS Kingsbay 80.41 349 eP P 15 54 16.6 0.0
KBS AMb AMB 15 54 29.3
comp=Z,566nm,1.6s,mb6.3
KBS AMS AMS 16 35 03.9
comp=Z,393µm,17.2s,MS7.8
STR Strasbourg 80.41 318 eP P 15 54 17.6 +0.4
IMI Imperia 80.44 313 P P 15 54 17.7 +0.3
ROB Roburent 80.44 314 P P 15 54 17.4 0.0
BALST Balsthal 80.48 317 ⇓ iP P 15 54 17.3 -0.3
TRAV 80.49 315 P P 15 54 18.3 +0.6
LIBD Limburg 80.53 317 eP P 15 54 18.6 +0.8
LIBD Limburg 80.53 317 eP P 15 54 18.1 +0.3
ABH Alteburg 80.53 319 eP P 15 54 17.7 -0.1
ABH Alteburg 80.53 319 eP P 15 54 17.9 +0.1
MONE Monesi 80.53 313 P P 15 54 18.1 +0.2
MOL Molde 80.54 332 eP P 15 54 20.2 +2.6
comp=Z,629nm,1.8s,mb6.2
MOL Molde 80.54 332 eP P 15 54 20.2 +2.6
MOL AMb AMB 15 54 31.1
comp=Z,629nm,1.8s,mb6.3
WIMMS Wimmis 80.55 316 ⇓ iP P 15 54 18.1 +0.2
LKBD Leukerbad 80.55 316 ⇓ iP P 15 54 18.4 +0.4
NEGI Negi 80.58 313 P P 15 54 19.0 +0.9
BBS Basel-Blauen 80.61 317 eP P 15 54 18.6 +0.4
BBS Basel-Blauen 80.61 317 eP P 15 54 17.9 -0.3
SNART Snartemo 80.66 328 eP P 15 54 19.7 +1.4
comp=Z,299nm,1.7s,mb6.0
SNART Snartemo 80.66 328 eP P 15 54 19.7 +1.4
SNART AMb AMB 15 54 37.4
comp=Z,299nm,1.7s,mb6.0
SAOF Saorge 80.68 313 eP P 15 54 18.7 0.0
WLS Welschbruch 80.69 318 eP P 15 54 18.5 -0.1
DIX Grande Dixence 80.71 315 ⇓ iP P 15 54 19.6 +0.8
CDF Champ du Feu 80.74 318 eP P 15 54 18.8 -0.1
comp=Z,603nm,1.1s,mb6.1
CDF Champ du Feu 80.74 318 eP P 15 54 18.8 -0.1
CDF pmax pmax
comp=Z,301nm,1.1s,mb6.1
ENR Entracque 80.77 314 P P 15 54 18.9 -0.3
SBF Sospel 80.77 313 eP P 15 54 19.3 +0.1
comp=Z,1µm,0.9s,mb6.6
SBF Sospel 80.77 313 eP P 15 54 19.3 +0.1
SBF pmax pmax
comp=Z,685nm,0.9s,mb6.6
AUTN L'Aution 80.77 313 eP P 15 54 17.5 -1.7
SENIN Lac Senin 80.78 316 ⇓ iP P 15 54 19.6 +0.4
BOURR Bourrignon 80.80 317 ⇓ iP P 15 54 18.9 -0.3
ECH Echery 80.82 318 eP P 15 54 18.1 -1.3
REVF Revere 80.82 313 eP P 15 54 19.5 0.0

STV2 **Anna di Valdie** 80.83 314 P P 15 54 20.7 +1.2
STV **Sta Anna Valdi** 80.83 314 P P 15 54 19.0 -0.5
RUP **Ruppelstein** 80.85 319 eP P 15 54 19.8 +0.3
RUP **Ruppelstein** 80.85 319 eP P 15 54 19.6 +0.1
MOF **Molkenrain** 80.85 317 eP P 15 54 19.5 0.0
RSP **Reno Superiore** 80.85 314 P P 15 54 20.0 +0.4
BHB **Bricherasio** 80.86 314 P P 15 54 18.3 -1.3
TOUF **Mont Tournerai** 80.90 313 eP P 15 54 20.3 +0.4
LSD **Ceresole Reale** 80.91 315 P P 15 54 20.6 +0.7
GRYON **Gryon** 80.92 316 ⇓iP P 15 54 20.2 +0.3
WTSB **Winterswijk** 80.96 321 ⇓eP P 15 54 20.1 +0.1
comp=Z,558nm,1.5s,mb6.3
WTSB ePP PP 15 57 31.8 +4.7
WTSB eS S 16 04 26.6 0.0
WTSB eSS SS 16 10 06.1 +22
MVIF **Mont Vial** 80.97 313 eP P 15 54 21.2 +1.0
FENE **Fenestrelle** 80.99 314 P P 15 54 20.5 +0.2
TORNY **Torny** 81.00 316 ⇓iP P 15 54 20.5 +0.2
SALAN **Lac Salanfe** 81.02 315 ⇓eP P 15 54 20.8 +0.4
AIGLE **Aigle** 81.02 316 ⇓iP P 15 54 20.5 +0.1
WIT **Witteveen** 81.03 322 eP P 15 54 18.9 -1.4
BLS5 **Blasjo** 81.05 329 eP P 15 54 21.7 +1.4
comp=Z,724nm,1.6s,mb6.4
BLS5 **Blasjo** 81.05 329 eP P 15 54 21.7 +1.4
BLS5 epP pP 15 54 25.7 -0.2
BLS5 AMb AMB 15 54 42.1
comp=Z,724nm,1.6s,mb6.4
EMV **Vieux Emosson** 81.07 315 ⇓iP P 15 54 21.1 +0.4
LOMF **Lomont** 81.07 317 eP P 15 54 20.4 -0.3
OG22 **Abries** 81.08 314 eP P 15 54 24.7 +3.9
ABSA **Djebel Ababsia** 81.09 305 P P 15 54 22.0 +1.0
CMAH **Djebel Manchou** 81.12 306 P P 15 54 21.5 +0.3
CALN **Calern** 81.17 313 eP P 15 54 21.8 +0.5
SURF **Saint Ours** 81.19 314 eP P 15 54 22.1 +0.7
LPG **La Plagne** 81.19 315 eP P 15 54 22.0 +0.6
comp=Z,790nm,0.8s,mb6.4
MBDF **Montbardon** 81.21 314 eP P 15 54 21.2 -0.3
comp=Z,926nm,1.1s,mb6.3
BNI **Bardonecchia** 81.26 314 ⇓eP P 15 54 21.2 -0.5
BNI pmax pmax
comp=Z,730nm,0.9s,mb6.6
BNI **Bardonecchia** 81.26 314 ⇓eP P 15 54 21.2 -0.6
comp=Z,730nm,0.9s,mb6.6
BRANT **Les Verrieres** 81.33 316 ⇓iP P 15 54 22.3 +0.3
HAU **Haudompre** 81.37 317 eP P 15 54 22.1 -0.1
comp=Z,858nm,1.0s,mb6.3
HAU eR
comp=Z,141µm,20.5s
HAU **Haudompre** 81.37 317 eP P 15 54 22.1 -0.1
HAU pmax pmax
comp=Z,429nm,1.0s,mb6.3
HAU MLR MLR
comp=Z,141µm,20.5s,MS7.3
WLF **Walferdange** 81.44 319 ⇓eP P 15 54 22.4 -0.2
WLF pmax pmax
comp=Z,992nm,1.4s,mb6.5
WLF **Walferdange** 81.44 319 ⇓eP P 15 54 22.4 -0.1
comp=Z,992nm,1.4s,mb6.5
STAV **Stavanger** 81.45 328 eP P 15 54 21.6 -0.8
comp=Z,452nm,1.6s,mb6.2
STAV **Stavanger** 81.45 328 eP P 15 54 21.6 -0.8
STAV AMb AMB 15 54 41.3
comp=Z,452nm,1.6s,mb6.1
GIMEL **Gimel** 81.49 316 ⇓iP P 15 54 23.3 +0.4
HGN **Heimansgroeve** 81.54 320 ⇓eP P 15 54 22.4 -0.6
comp=Z,248nm,1.6s,mb5.9
HGN ePP PP 15 57 32.8 +1.1
HGN eS S 16 04 29.3 -3.3
HGN eSS SS 16 10 01.6 +8.6
CAEH **'Ain El Ouahch** 81.56 306 P P 15 54 24.0 +0.5
THEF **They Montfort** 81.61 318 eP P 15 54 23.2 -0.3
BER **Bergen** 81.61 330 eP P 15 54 23.1 -0.1
BER pmax pmax
comp=Z,569nm,1.6s,mb6.2
BER MLR MLR
comp=Z,34µm,22.6s,MS6.7
BER **Bergen** 81.61 330 eP P 15 54 23.1 -0.1
comp=Z,569nm,1.6s,mb6.2
BER LR LR
comp=Z,34µm,22.6s,MS6.7
BER **Bergen** 81.61 330 eP P 15 54 22.6 -0.6
BER eP 15 54 23.1
BER epP pP 15 54 28.2 -0.6
BER esP sP 15 54 30.1 -0.5
BER AMb AMB 15 54 42.3
comp=Z,569nm,1.6s,mb6.2
BER AMb AMB 15 54 42.6
comp=Z,510nm,1.8s,mb6.2
BER eS S 16 04 35.5 +2.3
BER AMS AMS 16 34 34.9
comp=Z,338µm,22.6s,MS7.7
GDM **Grand'Maison** 81.66 315 eP P 15 54 24.1 +0.3
GDM **Grand'Maison** 81.66 315 eP P 15 54 24.2 +0.4
EGD **Espegrend** 81.66 330 eP P 15 54 23.5 0.0
ASK **Askoy** 81.67 330 eP P 15 54 23.8 +0.3
comp=Z,575nm,1.8s,mb6.2
ASK **Askoy** 81.67 330 eP P 15 54 23.8 +0.3
ASK AMb AMB 15 54 43.0
comp=Z,575nm,1.8s,mb6.2
CKFL **Kef-Lekhel** 81.69 306 P P 15 54 25.0 +0.8
TAVF **Tavernes** 81.78 313 eP P 15 54 25.5 +1.1
STOF **St-Etienne Org** 81.86 313 eP P 15 54 26.7 +1.8
SUE **Sulen** 81.87 331 eP P 15 54 26.2 +1.7
comp=Z,351nm,1.5s,mb6.1
SUE **Sulen** 81.87 331 eP P 15 54 26.2 +1.7
SUE AMb AMB 15 54 35.8
comp=Z,351nm,1.5s,mb6.1
CASM **Ain Smara** 81.89 306 P P 15 54 26.0 +0.8
GRN **Grenoble** 81.92 315 eP P 15 54 26.2 +1.1
CTEI **Djebel Teioual** 81.97 305 P P 15 54 27.0 +1.4
DRV **Dumont d'Urvil** 81.99 163 P P 15 54 36.0 +11
DRV **Dumont d'Urvil** 81.99 163 S S 16 04 45.0 +8.1
DRV SS SS 16 10 00.0 +0.7
DRV L 16 16 00.0
VILF **Villemus** 82.01 313 eP P 15 54 27.1 +1.4
PUYF **Puyloubier** 82.04 313 eP P 15 54 26.9 +1.1
BERF **Bertagne** 82.06 313 eP P 15 54 27.1 +1.2
GELF **Grande-Etoile** 82.25 313 eP P 15 54 27.9 +1.0
DFRA **Djebel Bou Aff** 82.36 306 P P 15 54 31.0 +3.4
CMER **Merouana** 82.41 305 P P 15 54 29.5 +1.6
PRAF **Pradon** 82.41 313 eP P 15 54 29.0 +1.3
BAIF **Baives** 82.68 320 eP P 15 54 29.3 +0.3
comp=Z,1µm,1.2s,mb6.5
BAIF **Baives** 82.68 320 eP P 15 54 29.3 +0.3
BAIF pmax pmax
comp=Z,564nm,1.2s,mb6.5
CKHR **Kef el Ahmar** 82.69 305 P P 15 54 32.0 +2.6
MCQ **Macquarie Isla** 83.31 147 eP P 15 54 37.6 +5.5
MCQ eS S 16 04 56.9 +6.3
MCQ e 16 10 23.6
COLF **Collangettes** 83.34 315 eP P 15 54 33.1 +0.6
SSF **Saint Saulge** 83.35 317 eP P 15 54 32.7 +0.2
SSF pmax pmax
comp=Z,704nm,1.6s,mb6.4
SSF **Saint Saulge** 83.35 317 eP P 15 54 32.7 +0.2
comp=Z,704nm,1.6s,mb6.4
PLDF **La Plantade** 83.36 315 eP P 15 54 34.1 +1.5
LBL **Lubilhac** 83.68 315 eP P 15 54 35.7 +1.5
AGO **Saint Agoulin** 83.69 316 eP P 15 54 35.3 +1.0
PYM **Petit Puy Mans** 83.80 315 eP P 15 54 37.9 +3.0
BGF **Bois d'Agland** 83.84 316 eP P 15 54 35.3 +0.2
comp=Z,1µm,1.5s,mb6.6
BGF **Bois d'Agland** 83.84 316 eP P 15 54 35.3 +0.2
BGF pmax pmax
comp=Z,735nm,1.5s,mb6.6
FRNF **Fournols** 84.14 315 eP P 15 54 37.3 +0.7
EJON **La Jonquera** 84.18 312 ⇓P P 15 54 36.1 -0.7
comp=Z,608nm,1.6s,mb6.5
SJAF **Saint Jean de** 84.18 312 eP P 15 54 36.6 -0.3
AEU **East Anglia Un** 84.33 322 eP P 15 54 37.2 -0.1
ABA1 **Baconsthorpe** 84.36 322 eP P 15 54 38.3 +0.8
LRDF **Laroque-de-Fa** 84.39 312 eP P 15 54 38.6 +0.7
ETOS **Mallorca** 84.49 309 ⇓P P 15 54 39.3 +0.8
comp=Z,1µm,1.8s,mb6.8
ABA **Alger-Bouzarea** 84.61 306 P P 15 54 41.0 +1.8
CARF **Carcanieres** 84.73 312 eP P 15 54 41.8 +2.2
EMHD **Djebel Mahouad** 84.74 306 P P 15 54 41.5 +1.7
VALF **Valcebollere** 84.83 312 eP P 15 54 41.4 +1.3
LPEF **Le Peyrat** 84.85 313 eP P 15 54 40.6 +0.4
LRW **Lerwick** 84.86 330 eP P 15 54 39.0 -0.9
LRW eS S 16 05 00.3 -5.5
LRW AMS AMS 16 34 55.7
comp=E,100µm,19.7s,MS7.5
LRW AMS AMS 16 37 30.0
comp=N,170µm,20.3s,MS7.5
SYO **Syowa Base** 84.86 197 ⇑P P 15 54 39.2 -0.4
SYO **Syowa Base** 84.86 197 ⇓pP pP 15 54 46.6 +1.4
RJF **Les Rejaudoux** 84.89 315 eP P 15 54 41.2 +0.9
comp=N,1µm,1.5s,mb6.6
RJF eR
comp=N,146µm,20.0s
RJF **Les Rejaudoux** 84.89 315 eP P 15 54 41.2 +0.9
RJF pmax pmax
comp=Z,735nm,1.5s,mb6.6
RJF MLR MLR
comp=Z,146µm,20.0s,MS7.4
GSTR **Great Sitkin T** 84.93 38 eP P 15 54 40.0 -0.3
EMIR **Miracle** 85.24 312 P P 15 54 41.6 -0.6
comp=Z,636nm,0.9s,mb6.8
SALF **Salau** 85.40 312 eP P 15 54 45.0 +2.1
MLS **Moulis** 85.44 313 eP P 15 54 43.0 -0.2
MSZ **Milford Sound** 85.53 136 PN P 15 54 43.4 -0.2
EPOB **Poblet** 85.64 311 ⇓P P 15 54 44.6 +0.4
comp=Z,1µm,1.5s,mb6.9
LCP **Cassop** 85.70 325 eP P 15 54 44.3 +0.2
EIBI **Ibiza** 85.70 309 P P 15 54 44.8 +0.2
comp=Z,805nm,2.2s,mb6.6
FLN **La Foliniere** 85.85 318 eP P 15 54 45.1 +0.1
comp=Z,638nm,1.2s,mb6.4
FLN eR
comp=Z,213µm,20.5s
FLN **La Foliniere** 85.85 318 eP P 15 54 45.1 +0.1
FLN pmax pmax
comp=Z,319nm,1.3s,mb6.4
FLN MLR MLR
comp=Z,213µm,20.5s,MS7.5
EBNR **Beni Rached** 85.88 306 P P 15 54 48.0 +2.5
MLZ **Mavora Lakes** 85.88 137 PN P 15 54 44.9 -0.4
KBI1 **Birley Grange** 85.92 323 eP P 15 54 45.6 +0.3
JNW **Jan Mayen West** 86.00 341 eP P 15 54 45.5 +0.2
RESF **Ens** 86.01 312 eP P 15 54 47.2 +1.2
ECHA **Ech Chlef** 86.02 306 P P 15 54 48.8 +2.6
JMIC **Jan Mayen** 86.04 341 LR LR 16 34 58.4
comp=Z,188µm,21.4s,MS7.5,baz=93,slow=37
JMIC **Jan Mayen** 86.04 341 eP P 15 54 44.6 -0.9
JMIC AMb AMB 15 54 58.2
comp=Z,579nm,1.6s,mb6.6
JMIC AMS AMS 16 35 26.6
comp=Z,145µm,25.9s,MS7.3
OBR **Brabster** 86.07 329 eP P 15 54 46.1 +0.2
LHO **Holmfirth** 86.08 323 eP P 15 54 46.0 -0.1
OHO **Hoy** 86.08 329 eP P 15 54 46.1 +0.2
EGRA **Graus** 86.10 312 P P 15 54 47.9 +1.4
comp=Z,196nm,0.9s,mb6.3
EBR **Ebro Roquetas** 86.14 311 eP P 15 54 47.7 +1.0
KWE **Weaver Farm** 86.14 323 eP P 15 54 46.7 +0.4
MME1 **Meikle Cairn** 86.16 327 eP P 15 54 46.9 +0.5
ETRT **Tiaret** 86.17 305 P P 15 54 49.0 +2.0
LABF **Lanassere** 86.18 313 eP P 15 54 47.0 +0.2
VIEF **Viey** 86.23 313 eP P 15 54 48.0 +0.9
MCD **Coleburn Disti** 86.28 327 eP P 15 54 47.9 +0.9
LCHF **La Chataignera** 86.29 316 eP P 15 54 47.7 +0.4
WKZ **Wanaka** 86.33 136 PN P 15 54 46.4 -1.1
BTA **Talkin** 86.37 325 eP P 15 54 46.9 -0.5
ORE **Reay** 86.39 328 eP P 15 54 47.0 -0.5
FOZ **Fox Glacier** 86.47 135 PN P 15 54 48.5 +0.3
REYF **Montagne du Re** 86.51 313 eP P 15 54 49.4 +0.9
BDL **Dobcross Hall** 86.53 325 eP P 15 54 48.2 0.0
ECK **Cauldkaine Hil** 86.58 325 eP P 15 54 49.1 +0.7
ESK **Eskdalemuir** 86.60 325 eP P 15 54 46.5 -2.1
ESK pmax pmax
comp=Z,239nm,0.8s,mb6.5
ESK MLR MLR
comp=Z,58µm,21.0s,MS7.0
ESK **Eskdalemuir** 86.60 325 eP P 15 54 46.5 -2.1
comp=Z,239nm,0.8s,mb6.5
ESK LR LR
comp=Z,58µm,21.0s,MS7.0
ESK **Eskdalemuir** 86.60 325 eP P 15 54 49.1 +0.6
OJGS **Djebel Guires** 86.60 305 P P 15 54 51.0 +1.9
OKGL **Djebel Kef Gue** 86.62 306 P P 15 54 52.0 +2.8
EAZ **Earnscleugh** 86.63 136 PN P 15 54 49.0 +0.1
BHH **Howats Hill** 86.64 325 eP P 15 54 49.0 +0.2
EAU **Auchinoon** 86.65 326 eP P 15 54 49.7 +0.9
ETSF **Etsaut** 86.66 313 eP P 15 54 50.0 +0.8
comp=Z,508nm,1.1s,mb6.3
ETSF **Etsaut** 86.66 313 eP P 15 54 50.0 +0.8
ETSF pmax pmax
comp=Z,254nm,1.1s,mb6.4
BBO1 **Bothel** 86.71 325 eP P 15 54 48.5 -0.6
MVH1 **Achvaich** 86.72 328 eP P 15 54 48.7 -0.4
OTO **Tongue** 86.73 328 eP P 15 54 49.4 +0.3
MIDW **Midway** 86.74 62 PFAKE 15 55 00.0 +10
MIDW LR LR
comp=Z,84µm,21.0s,MS7.1
ESAC **San Caprasio** 86.75 311 ⇓P P 15 54 49.7 +0.1
comp=Z,µm,3.7s
HLM1 **Loch Mynd** 86.84 322 eP P 15 54 50.4 +0.6
LRYF **La Roche-sur-Y** 86.85 316 eP P 15 54 50.5 +0.5
BWH **Wardlaw** 86.88 325 eP P 15 54 49.4 -0.5
ORDF **Ordiarp** 86.89 313 eP P 15 54 50.4 +0.1
MDO **Dochfour** 86.89 327 eP P 15 54 49.3 -0.7
OJBR **Djebel Berber** 86.92 305 P P 15 54 52.0 +1.4
EMOS **Mosqueruela** 86.93 310 ⇓P P 15 54 52.3 +1.8
comp=Z,2µm,1.6s,mb7.1
HGH **Gray Hill** 86.93 322 eP P 15 54 49.9 -0.4
LARF **Larrau** 86.95 313 eP P 15 54 51.6 +1.0
EBEN **Beniarda** 86.96 308 P P 15 54 51.2 +0.4
comp=Z,3µm,4.1s
MCH1 **Michaelchurch** 86.99 322 eP P 15 54 50.5 0.0
SSP1 **Stoney Pound** 87.00 322 eP P 15 54 50.9 +0.3
SBD1 **Bryn Du** 87.01 323 eP P 15 54 51.5 +0.9
DAG **Danmarks Havn** 87.02 348 ⇑iP P 15 54 49.9 -0.3
DAG pmax pmax
comp=Z,69nm,0.8s,mb5.9
DAG **Danmarks Havn** 87.02 348 *b* iP P 15 54 49.9 -0.3
comp=Z,69nm,0.8s,mb5.9
DAG *i* 15 55 10.3
TUZ **Tuapeka** 87.03 137 PN P 15 54 50.2 -0.7
HTR **Trewern Hill** 87.14 322 eP P 15 54 51.9 +0.6
EALK **Alkurruntz** 87.30 313 P P 15 54 49.9 -2.4
comp=Z,2µm,3.6s
WPM1 **Pennaenmawr** 87.33 323 eP P 15 54 52.8 +0.6
ODJA **Bouhanifia** 87.35 305 P P 15 54 53.0 +0.3
ECHE **Chera** 87.41 309 P P 15 54 50.4 -2.6
comp=Z,146nm,1.2s,mb6.1
RPZ **Rata Peaks** 87.47 135 LR LR 16 35 11.5
comp=Z,232µm,21.1s,MS7.6,baz=282,slow=36
RPZ **Rata Peaks** 87.47 135 PN P 15 54 52.8 -0.3
ODZ **Otahua Downs** 87.50 136 PN P 15 54 53.2 +0.1
YLL **Llanberis** 87.51 323 eP P 15 54 53.2 +0.2
WME **Myndd Eilian** 87.55 323 eP P 15 54 54.2 +1.0
DSZ **Denniston Nort** 87.57 133 PN P 15 54 53.3 -0.3
OUZ **Omahuta** 87.59 126 PN P 15 54 55.3 +1.5
USTO **Oran** 87.62 306 P P 15 55 02.0 +8.0
WLF1 **Llynfaes** 87.62 323 eP P 15 54 53.5 0.0
WIM **Isle of Man** 87.63 324 eP P 15 54 54.0 +0.4
HEX **Exmoor** 87.64 321 eP P 15 54 54.3 +0.6
WCB1 **Church Bay** 87.69 323 eP P 15 54 53.3 -0.6
CART **Cartagena** 87.72 307 eP P 15 54 55.4 +0.9
comp=Z,726nm,1.4s,mb6.7
YRC **Rhoscolyn** 87.73 323 eP P 15 54 53.5 -0.6
HSA **Swansea** 87.74 322 eP P 15 54 55.2 +1.0
EMUR **La Murta** 87.87 308 P P 15 54 55.0 -0.2
comp=Z,2µm,3.8s
OTSS **Djebel Tessala** 87.88 305 P P 15 54 56.0 +0.8
QRZ **Quartz Range** 87.90 132 PN P 15 54 55.1 -0.2
ETOB **Tobarra** 87.99 309 ⇓P P 15 54 57.1 +1.4
comp=Z,3µm,4.5s
HTL **Hartland** 88.07 321 eP P 15 54 56.0 +0.2
HTL eS S 16 05 22.0 -15
HTL AMS AMS 16 40 59.5
comp=N,126µm,19.8s,MS7.4
HTL AMS AMS 16 41 48.8
comp=E,71µm,19.9s,MS7.4
ECRI **Cripan** 88.12 313 P P 15 54 57.2 +0.9
comp=E,231nm,1.4s,mb6.2
LTZ **Lake Taylor** 88.13 133 PN P 15 54 56.0 -0.3
ODZI **Dziouia** 88.23 305 P P 15 54 59.0 +2.1
THZ **Tophouse** 88.38 132 PN P 15 54 56.8 -0.6
OLHC **Oulhaca** 88.39 305 P P 15 54 52.0 -5.7
CRLZ **Canterbury Las** 88.55 134 PN P 15 54 58.1 -0.2
NNZ **Nelson** 88.61 132 PN P 15 54 57.9 -0.7
ELAN **Lanestosa** 88.69 313 P P 15 54 58.1 -0.8
comp=E,567nm,2.2s,mb6.5
EVIA **Vianos** 88.73 309 P P 15 54 59.9 +0.6
EVIA pmax pmax
comp=Z,316nm,1.3s,mb6.5
EVIA **Vianos** 88.73 309 P P 15 54 59.9 +0.6
comp=Z,316nm,1.3s,mb6.5
ENIJ **Nijar** 88.76 307 P P 15 55 01.8 +2.3
comp=Z,16nm,1.1s,mb5.3
DSB **Dublin** 88.80 324 eP P 15 55 01.2 +2.1
comp=Z,132nm,1.1s,mb6.2
EHUE **Huescar** 88.93 308 P P 15 55 01.7 +1.5
comp=Z,524nm,1.4s,mb6.7
KHZ **Kahutara** 88.97 133 PN P 15 54 59.5 -0.8
VRZ **Vera Road** 89.24 130 PN P 15 55 02.3 +0.6
TCW **Tory Channel** 89.28 132 PN P 15 55 00.7 -1.1
DCN **Croghan** 89.31 324 ⇑iP P 15 55 03.1 +1.5
EQES **Quesada** 89.31 308 P P 15 55 02.5 +0.5
comp=Z,2µm,2.4s,mb6.9
EBER **Berja** 89.31 307 ⇓P P 15 55 03.3 +1.3
comp=Z,2µm,1.5s,mb7.1
WAZ **Wanganui** 89.53 130 PN P 15 55 03.9 +0.9
EALB **Alboran** 89.58 306 P P 15 55 02.6 -0.8
comp=Z,718nm,1.3s,mb6.8
SNZO **South Karori** 89.61 132 eP P 15 55 02.8 -0.6
comp=Z,1µm,1.3s,mb7.0
SNZO LR LR
comp=Z,283µm,21.0s,MS7.7
ESDC **Sonseca Array** 89.68 310 P P 15 55 04.3 +0.6
comp=Z,48nm,0.9s,mb5.8,baz=62,slow=4.3,SNR=48
ESDC PP PP 15 58 31.7 -6.5
comp=Z,7.9nm,0.9s,baz=67,slow=8.0,SNR=3.6
ESDC PKKP PKKP 16 12 28.8 +2.6
comp=Z,1.6nm,1.0s,baz=260,slow=4.2,SNR=4.3
ESDC PKKPbc 16 12 39.0
comp=Z,2.3nm,0.8s,baz=285,slow=3.1,SNR=4.7
ESDC **Sonseca Array** 89.68 310 P P 15 55 04.2 +0.5
comp=Z,323nm,1.4s,mb6.5
ESLA **Sonseca Array** 89.68 310 ⇓eP P 15 55 04.0 +0.3
comp=Z,89nm,1.2s,mb6.0
ESLA LR LR
comp=Z,540µm,21.0s,MS8.0
EBAN **Banos Encina** 89.81 308 P P 15 55 04.9 +0.6
EBAN pmax pmax
comp=Z,970nm,1.8s,mb6.8
EBAN **Banos Encina** 89.81 308 P P 15 55 04.9 +0.6
comp=Z,970nm,1.8s,mb6.8
EGUA **Guajares** 89.86 307 P P 15 55 05.0 +0.4
EGUA pmax pmax
comp=Z,38nm,0.9s,mb5.7
EGUA **Guajares** 89.86 307 P P 15 55 05.0 +0.3
comp=Z,38nm,0.9s,mb5.7
KRVZ **Karewarewa** 89.91 129 ePN P 15 55 04.5 +0.6
EARI **Arriondas** 89.95 314 P P 15 55 03.7 -1.2
comp=Z,385nm,2.3s,mb6.3
PAB **San Pablo** 90.00 310 P P 15 55 05.8 +0.6
PAB SKSac 16 05 35.4
MSWZ **Moikau Station** 90.03 132 PN P 15 55 05.6 +0.3
ELUQ **Luque** 90.28 308 P P 15 55 05.1 -1.5
ELUQ pmax pmax
comp=Z,70nm,0.8s,mb6.0
ELUQ **Luque** 90.28 308 P P 15 55 05.1 -1.4
comp=Z,70nm,0.8s,mb6.0
SCO **Scoresbysund** 90.41 342 *i* P P 15 55 07.5 +1.1
SCO *i* S S 16 06 03.8 +5.9
SCO pmax pmax
comp=Z,44nm,1.0s,mb5.7
SCO **Scoresbysund** 90.41 342 *i* P P 15 55 07.5 +1.1
comp=Z,44nm,1.0s,mb5.7
SCO *i* S S 16 06 03.8 +5.9
SCO **Scoresbysund** 90.41 342 *i* P P 15 55 07.5 +1.1
comp=Z,44nm,1.0s,mb5.7
SCO **Scoresbysund** 90.41 342 *i* S S 16 06 03.8 +5.9
EADA **Adamuz** 90.42 308 ⇓P P 15 55 07.9 +0.7
comp=Z,1µm,1.5s,mb6.9
AKUT **Akutan** 90.66 35 eP P 15 55 11.1 +3.2
EMIJ **Mijas** 90.86 307 P P 15 55 07.7 -1.6
comp=Z,457nm,3.0s
URZ **Urewera** 90.91 128 LR LR 16 36 56.5
comp=Z,264µm,19.2s,MS7.7,baz=303,slow=36
URZ **Urewera** 90.91 128 PN P 15 55 08.3 -1.1
ECAB **El Cabril** 91.09 309 ⇓P P 15 55 11.1 +0.8
comp=Z,639nm,2.2s,mb6.6
MWZ **Matawai** 91.24 128 PN P 15 55 09.9 -1.0
ECAL **Calabor** 91.33 312 ⇓P P 15 55 11.9 +0.7
comp=Z,795nm,1.7s,mb6.8
EPON **Pontenova** 91.34 314 P P 15 55 16.7 +5.4
comp=Z,789nm,1.7s,mb6.8
PBRG **Braganca** 91.36 312 eP P 15 55 11.2 -0.2
comp=Z,95nm,1.6s,mb5.9
VAL **Valentia** 91.39 323 eP P 15 55 14.5 +3.2
ERUA **La Rua** 91.53 313 P P 15 55 13.8 +1.6
ERUA pmax pmax
comp=Z,67nm,0.9s,mb6.0
ERUA **La Rua** 91.53 313 P P 15 55 13.8 +1.6
comp=Z,67nm,0.9s,mb6.0
ESPR **Espera** 91.66 307 ⇓P P 15 55 13.5 +0.6
comp=Z,638nm,1.2s,mb6.8
SFS **San Fernando** 92.01 307 eP P 15 55 16.2 +1.7
SFS pmax pmax
comp=Z,1µm,1.1s,mb7.2
SFS **San Fernando** 92.01 307 eP P 15 55 16.2 +1.6
comp=Z,1µm,1.1s,mb7.2
EMIN **Mina Concepcio** 92.12 308 P P 15 55 15.8 +0.7
comp=Z,687nm,3.5s
EBAD **Badajoz** 92.18 309 ⇓P P 15 55 16.2 +0.9
comp=Z,158nm,1.4s,mb6.2
PVRL **Vila Real** 92.18 312 eP P 15 55 15.9 +0.7
comp=Z,99nm,1.6s,mb5.9
MTE **Manteigas** 92.24 311 eP P 15 55 16.5 +1.0
comp=Z,117nm,0.9s,mb6.2
MTE **Manteigas** 92.24 311 eP P 15 55 16.9 +1.4
comp=Z,322nm,2.0s,mb6.3
MTE **Manteigas** 92.24 311 ePP PP 15 59 01.6 +3.0
MTE eSKSac 16 05 49.3
MTE eS S 16 06 18.7 +3.9
MTE *i* - 16 12 43.7
MTE eLQ 16 19 36.2
MTE eLR LR 16 27 11.1
ELOB **Lobios** 92.31 313 P P 15 55 16.8 +1.1
comp=Z,97nm,1.1s,mb6.0
PCBR **Castelo Branco** 92.31 311 eP P 15 55 16.7 +0.9
comp=Z,104nm,1.7s,mb5.9
PCBR **Castelo Branco** 92.31 311 ePP PP 15 59 04.2 +5.0
IMA **Indian Mountai** 92.33 22 eP P 15 55 16.4 +1.1
PVIS **Viseu** 92.44 311 eP P 15 55 17.2 +0.8
comp=Z,103nm,1.7s,mb5.9
PVIS **Viseu** 92.44 311 ePP PP 15 59 04.5 +4.3
STS **Santiago** 92.44 314 P P 15 55 17.8 +1.5
comp=Z,81nm,1.0s,mb6.0
BORG **Borgarnes** 92.63 337 LR LR 16 44 14.6
comp=Z,164µm,18.9s,MS7.5,baz=74,slow=40
BORG **Borgarnes** 92.63 337 eP P 15 55 18.0 +1.3
comp=Z,213nm,1.5s,mb6.3
BORG LR LR
comp=Z,45µm,20.0s,MS6.9
TTA **Tatalina** 92.70 25 eP P 15 55 19.5 +2.5
EZAM **Zamans** 92.70 313 P P 15 55 23.2 +5.7
comp=Z,131nm,1.3s,mb6.2
EMAZ **Mazaricos** 92.72 314 P P 15 55 18.0 +0.3
comp=Z,141nm,1.1s,mb6.3
EGRO **El Granado** 92.80 308 P P 15 55 19.0 +0.9
comp=Z,81nm,1.2s,mb6.0
PBEJ **Beja** 92.99 309 eP P 15 55 20.1 +1.1
comp=Z,53nm,2.0s,mb5.6
PBEJ **Beja** 92.99 309 ePP PP 15 58 54.7 -10
EVO **Evora** 93.00 309 eP P 15 55 19.3 +0.3
comp=Z,332nm,1.2s,mb6.3
EVO eR
comp=Z,137µm,21.8s
PTOM **Tomar** 93.06 310 eP P 15 55 20.4 +1.1
comp=Z,147nm,1.7s,mb6.1
PTOM **Tomar** 93.06 310 ePP PP 15 59 09.1 +3.9
VNDA **Vanda** 93.36 168 P P 15 55 20.2 +0.3
VNDA SKSac 16 05 21.8
VNDA **Vanda** 93.36 168 P P 15 55 20.3 +0.4
comp=Z,13nm,0.7s,mb5.5,baz=292,slow=4.8,SNR=78
VNDA PP PP 15 58 59.4 -7.4
comp=Z,8.4nm,0.8s,baz=256,slow=16,SNR=2.2
VNDA PKKPbc 16 12 33.5
comp=Z,5.2nm,1.0s,baz=27,slow=2.3,SNR=5.1
VNDA LR LR 16 33 05.4
comp=Z,220µm,19.9s,MS7.6,baz=299,slow=33
VNDA **Vanda** 93.36 168 ⇓eP P 15 55 20.1 +0.3
comp=Z,6.6nm,1.2s
VNDA LR LR
comp=Z,221µm,20.0s,MS7.6
SVW2 **Sparrevohn** 93.61 27 eP P 15 55 22.5 +1.2
SUMG **Summit** 93.67 347 eP P 15 55 22.2 +0.9

comp=Z,516nm,1.3s,mb6.8
RAO Raoul Island 93.75 119 P **P** 15 55 23.9 +1.2
RAO pmax pmax
comp=Z,4μm,1.8s
RAO MLR MLR
comp=Z,152μm,20.0s,MS7.5
RAO Raoul Island 93.75 119 LR LR 16 39 46.2
comp=Z,151μm,20.1s,MS7.5,baz=82,slow=37
RAO Raoul Island 93.75 119 P **P** 15 55 23.9 +1.2
comp=Z,4μm,1.8s
RAO LR LR
comp=Z,152μm,20.0s,MS7.5
PTEO Sao Teotonio 93.76 309 *e*P **P** 15 55 23.7 +1.1
comp=Z,95nm,1.7s,mb6.0
PTEO Sao Teotonio 93.76 309 *e*PP PP 15 59 04.7 -6.1
PLOU Loures 93.79 310 *e*P **P** 15 55 23.9 +1.3
comp=Z,81nm,1.8s,mb5.8
PLOU Loures 93.79 310 *e*PP PP 15 59 10.1 -0.9
NVL N'lazarevskaya 94.23 199 ⇓*i*P **P** 15 55 23.9 0.0
NVL *i* *SP sP 15 55 35.2 +3.9
NVL pmax pmax
comp=Z,19nm,1.1s,mb5.4
MAIT Maitri 94.26 199 *e*P **P** 15 55 25.1 +1.1
MAIT *e* 15 55 46.5
MAIT *e* 15 57 44.7
MAIT *e* 15 59 29.5
MAIT Maitri 94.26 199 ⇓*i*P **P** 15 55 24.5 +0.4
MAIT *e*S S 16 06 36.8 +5.2
SBA Scott Base 94.47 168 ⇓*e*P **P** 15 55 26.1 +1.1
comp=Z,3.3nm,0.4s
SBA LR LR
comp=Z,132μm,20.0s,MS7.4
SPU Mount Spurr 95.13 26 *e*P **P** 15 55 28.5 +0.3
RSO Redoubt South 95.14 27 *e*P **P** 15 55 29.4 +1.1
ILAR Eielson Array 95.45 22 P **P** 15 55 29.1 -0.5
comp=Z,4.7nm,0.7s,baz=296,slow=4.3,SNR=58
ILAR PP PP 15 59 20.6 -2.1
comp=Z,14nm,0.9s,baz=297,slow=7.0,SNR=4.2
ILAR PKKPbc 16 12 21.6
comp=Z,3.4nm,1.0s,baz=155,slow=1.4,SNR=6.1
ILAR LR LR 16 44 11.4
comp=Z,157μm,21.4s,MS7.5,baz=313,slow=39
DBIC Dimbokro 95.98 278 P **P** 15 55 34.2 +0.9
comp=Z,64nm,1.0s,mb6.0,baz=69,slow=5.2,SNR=30
DBIC LR LR 16 38 04.7
comp=Z,105μm,20.6s,MS7.3,baz=170,slow=35
PMR Palmer 96.18 25 *e*P **P** 15 55 33.8 +0.7
PMR MLR MLR
comp=Z,188μm,20.0s,MS7.6
SLKM Skilak Lake 96.23 26 *e*P **P** 15 55 33.4 +0.1
INK Inuvik 97.50 16 *e*P **P** 15 55 38.1 -0.8
INK pmax pmax
comp=Z,428nm,1.3s
INK Inuvik 97.50 16 PKKPbc 16 12 21.6
comp=Z,5.3nm,0.9s,baz=246,slow=1.4,SNR=4.4
INK LR LR 16 46 55.3
comp=Z,205μm,20.9s,MS7.6,baz=147,slow=40
INK Inuvik 97.50 16 *e*P **P** 15 55 38.1 -0.8
comp=Z,428nm,1.3s,mb6.8
AFI Afiamalu 97.73 103 LR LR 16 40 12.8
comp=Z,43μm,21.3s,MS6.9,baz=261,slow=36
AFI Afiamalu 97.73 103 PFAKE 15 55 50.0 +8.9
AFI LR LR
comp=Z,87μm,22.0s,MS7.2
QSPA South Pole Qui 97.81 180 *e*P **P** 15 55 43.7 +3.6
comp=Z,68nm,1.1s,mb6.1
SNAA Sanae 99.03 199 P **P** 15 55 47.4 +1.7
SNAA Sanae 99.03 199 P **P** 15 55 47.0 +1.3
SNAA pmax pmax
comp=Z,80nm,1.3s
SNAA Sanae 99.03 199 PKKPbc 16 12 15.2
comp=Z,2.0nm,0.8s,baz=235,slow=3.8,SNR=4.6
SNAA LR LR 16 36 25.8
comp=Z,47μm,19.8s,MS7.0,baz=93,slow=33
VNA2 Neumayer--Watz 100.55 199 P P 15 55 55.8 +3.2
SFJD Kangerlussuaq 100.62 346 *e*P P 15 55 52.2 -0.9
SFJD *i* S S 16 07 17.3 -8.1
SFJD *i* 16 09 04.6
SFJD MLR MLR
comp=Z,167μm,22.0s,MS7.5
SFJD Kangerlussuaq 100.62 346 *e*Pdif P 15 55 52.2 -0.8
SFJD *i* S S 16 07 17.3 -8.1
SFJD *i* 16 09 04.6
SFJD *i* 16 13 56.4
SFJD LR LR
comp=Z,167μm,22.0s,MS7.5
SFJD Kangerlussuaq 100.62 346 *i* P P 15 55 55.5 +2.4
comp=Z,49nm,1.2s
SFJD Kangerlussuaq 100.62 346 *i* S S 16 07 17.3 -8.1
SFJD *i* 16 09 04.6
SFJD *i* 16 13 56.4
comp=Z,167μm,22.0s
VNA1 Neumayer--Stat 100.86 200 P P 15 55 59.3 +5.2
PMPS Porto Santo 100.92 306 *e*PP PP 16 00 04.5 -1.8
VNA3 Neumayer Olymp 101.24 199 P P 15 55 58.8 +3.1
SIT Sitka 104.56 25 *e*P Pdif 15 56 18.0 +7.2
SIT LR LR
comp=Z,222μm,19.0s,MS7.7
KIP Kipapa 105.29 65 PFAKE 16 00 40.0
KIP LR LR
comp=Z,64μm,21.0s,MS7.1
DLBC Dease Lake 105.66 22 PKKPbc 16 11 56.8
comp=Z,5.9nm,0.7s,baz=137,slow=4.1,SNR=6.1
DLBC Dease Lake 105.66 22 *e*Pdif Pdif 15 56 15.4 -0.2
TRIS Tristan da Cun 106.25 234 PFAKE 16 00 40.0
TRIS LR LR
comp=Z,88μm,19.0s,MS7.3
YKW3 Yellowknife Ar 106.78 13 Pdif Pdif 15 56 19.7 -0.7
YKW3 *e*PP PP 16 00 46.7 -2.7
YKA Yellowknife Ar 106.84 13 Pdiff Pdif 15 56 21.3 +0.7
comp=Z,0.2nm,0.3s,baz=326,slow=6.3,SNR=3.7
YKA PP PP 16 00 44.4 -5.5
comp=Z,27nm,1.0s,baz=337,slow=7.4,SNR=3.7
YKA PKKPbc 16 11 48.5
comp=Z,2.0nm,0.7s,baz=155,slow=3.0,SNR=6.1
YKA Yellowknife Ar 106.84 13 Pdif Pdif 15 56 21.3 +0.7
YKA PP PP 16 00 44.4 -5.5
YKA PKKPbc 16 11 48.5
POHA Pohakuloa 107.97 66 PFAKE 16 00 50.0
POHA LR LR
comp=Z,549μm,22.0s,MS8.1
RAR Rarotonga 109.64 110 PFAKE 16 00 50.0
RAR LR LR
comp=Z,72μm,21.0s,MS7.2
SCHQ Schefferville 115.06 347 Pdiff Pdif 15 57 01.5 +4.4
comp=Z,2.0nm,0.9s,baz=359,slow=18,SNR=2.5
SCHQ PKP PKPdf 16 00 46.1 -2.9
comp=Z,5.3nm,0.8s,baz=64,slow=6.1,SNR=2.9
SCHQ PP PP 16 01 47.7 -2.0
comp=Z,44nm,1.0s,baz=34,slow=4.6,SNR=4.7
SCHQ PKKPbc 16 11 21.4
comp=Z,5.9nm,0.7s,baz=270,slow=1.2,SNR=8.7
SCHQ Schefferville 115.06 347 Pdif Pdif 15 57 01.5 +4.5
SCHQ PKiKP 16 00 45.8
SCHQ LR LR
comp=Z,341μm,21.0s,MS7.9
OCWA Octopus Mounta 115.96 26 *e*PKPdf PKPdf 16 00 48.1 -2.9
OCWA LR LR
comp=Z,115μm,22.0s,MS7.4
FFC Flin Flon 116.49 9 PKPdf PKPdf 16 00 49.9 -1.9
FFC LR LR
comp=Z,39μm,21.0s,MS7.0
NEW Newport 118.41 22 PKP PKPdf 16 00 53.5 -2.2
comp=Z,4.8nm,0.6s
NEW Newport 118.41 22 *e*PKPdf PKPdf 16 00 52.7 -3.0
NEW LR LR
comp=Z,179μm,20.0s,MS7.7
OD2 Odessa Site #2 118.53 23 P PKPdf 16 00 59.0 +3.0
COR Corvallis 118.75 28 PKPdf PKPdf 16 00 54.9 -1.6
COR LR LR
comp=Z,29μm,22.0s,MS6.9
WALA Waterton Lakes 118.85 19 *e*PKPdf PKPdf 16 00 54.6 -2.0
REDWA Red Mountain 119.12 25 P PKPdf 16 00 55.8 -1.4
TBI Tubuai 119.13 112 *e*LQ 16 31 06.1
comp=Z,34μm,33.0s
TBI Tubuai 119.13 112 *e*PP PP 16 01 52.6 -26
comp=Z,8μm,26.8s
TBI Tubuai 119.13 112 *e*S SKS 16 07 31.9 -22
comp=Z,8μm,30.2s
TBI *e*SS 16 17 00.0
comp=Z,14μm,29.5s
TBI *e*LR LR 16 36 25.0
comp=Z,156μm,23.8s
TBI Tubuai 119.13 112 *e*P PKPdf 16 01 00.8 +3.1
comp=Z,254nm,1.1s

PPT Papeete 119.25 106 *e*LQ 16 31 39.3
comp=Z,132μm,33.2s
PPT Papeete 119.25 106 *e*PP PP 16 01 53.0 -27
comp=Z,9μm,25.2s
PPT Papeete 119.25 106 *e*S SKS 16 07 27.4 -27
comp=Z,5μm,22.8s
PPT *e*LR LR 16 36 31.3
comp=Z,126μm,24.0s,baz=286
PPT Papeete 119.25 106 *e*SS SS 16 18 20.7 -16
comp=Z,97μm,29.8s
PPT Papeete 119.25 106 *e*P PKPdf 16 00 54.5 -3.5
comp=Z,73nm,1.2s
BROR Big Rock Looko 119.39 28 P PKPdf 16 00 55.8 -1.9
KEBM Edson Butte 119.53 30 *e*PKPdf PKPdf 16 00 55.2 -2.8
IRO Indian Ridge 119.69 28 P PKPdf 16 00 56.3 -1.9
VIPM Ingram Point 120.04 27 P PKPdf 16 00 57.6 -1.3
KRMB Red Mountain 120.74 31 *e*PKPdf PKPdf 16 00 58.9 -1.6
MSO Missoula 120.77 21 *e*PKPdf PKPdf 16 00 57.8 -2.6
MSO LR LR
comp=Z,113μm,20.0s,MS7.5
PMSA Palmer Station 120.79 192 PFAKE 16 01 10.0 +10
PMSA LR LR
comp=Z,145μm,20.0s,MS7.6
PMOR Pomariorio Ree 120.88 103 *e*P PKPdf 16 00 57.9 -3.4
comp=Z,171nm,1.0s
CHMT Chamberlain Mo 120.93 20 *e*PKPdf PKPdf 16 00 58.2 -2.5
BUOR Burton Butte 121.00 29 P PKPdf 16 00 59.0 -1.9
VAH Vaihoa 121.14 103 *e*P PKPdf 16 01 06.3 +4.5
comp=Z,161nm,1.0s
BMO Blue Mountains 121.17 24 *e*PKPdf PKPdf 16 00 57.6 -3.6
BMO LR LR
comp=Z,146μm,21.0s,MS7.6
YBH Yreka Blue Hor 121.19 30 PKP PKPdf 16 00 59.6 -1.7
comp=Z,3.2nm,0.6s
YBH PP PP 16 02 32.0 0.0
comp=Z,14nm,1.1s,baz=121,slow=5.4,SNR=1.7
YBH PKKPbc 16 11 00.8
comp=Z,3.5nm,0.8s,baz=76,slow=4.1,SNR=4.2
YBH Yreka Blue Hor 121.19 30 *e*PKPdf PKPdf 16 00 58.6 -2.7
YBH LR LR
comp=Z,82μm,22.0s,MS7.3
KHMM Horse Mountain 121.31 31 *e*PKPdf PKPdf 16 00 59.9 -1.6
HRY Holter Researc 121.58 19 *e*PKPdf PKPdf 16 00 59.6 -2.3
ULM Lac du Bonnet 121.67 6 Pdiff Pdif 15 57 32.7 +6.5
comp=Z,1.0nm,0.4s,baz=165,slow=2.6,SNR=1.9
ULM PKP PKPdf 16 00 58.6 -3.3
comp=Z,6.2nm,0.6s,baz=22,slow=2.8,SNR=5.9
ULM PP PP 16 02 30.1 -5.0
comp=Z,53nm,1.1s,baz=288,slow=7.3,SNR=2.1
ULM PKKPbc 16 10 58.1
comp=Z,9.1nm,0.8s,baz=255,slow=2.0,SNR=5.2
ULM SKKPbc 16 14 48.4
comp=Z,11nm,1.1s,baz=140,slow=7.5,SNR=2.3
ULM Lac du Bonnet 121.67 6 Pdif Pdif 15 57 32.7 +6.5
ULM *e*PKPdf PKPdf 16 00 58.3 -3.6
ULM LR LR
comp=Z,441μm,22.0s,MS8.1
DGMT Dagmar 122.05 13 *e*PKPdf PKPdf 16 01 00.0 -2.7
DGMT LR LR
comp=Z,263μm,22.0s,MS7.8
WDC Whiskeytown Da 122.13 31 *e*PKPdf PKPdf 16 01 00.5 -2.6
WDC LR LR
comp=Z,119μm,22.0s,MS7.5
LTIM Timbered Crate 122.21 30 P PKPdf 16 01 01.8 -1.4
KIPM Iron Peak 122.22 32 *e*PKPdf PKPdf 16 01 01.6 -1.6
KCPM Cahto Peak 122.25 32 *e*PKPdf PKPdf 16 01 01.4 -2.0
BOZ Bozeman (W) 122.58 20 *e*PKPdf PKPdf 16 01 02.0 -1.8
BOZ LR LR
comp=Z,149μm,19.0s,MS7.7
PQI Presque Isle 122.86 344 *e*PKPdf PKPdf 16 00 59.8 -4.5
PQI LR LR
comp=Z,749μm,22.0s,MS8.3
MCMT McKenzie Canyo 122.88 21 *e*PKPdf PKPdf 16 01 02.5 -1.8
HOPS Hopland 123.03 32 *e*PKPdf PKPdf 16 01 02.5 -2.3
HOPS LR LR
comp=Z,91μm,20.0s,MS7.4
GCMT Greycliff 123.08 18 *e*PKPdf PKPdf 16 01 02.8 -2.0
LAO LASA Array 123.24 15 *e*PKPdf PKPdf 16 01 03.6 -1.5
LAO LR LR
comp=Z,169μm,21.0s,MS7.7
QLMT Earthquake Lak 123.37 20 *e*PKPdf PKPdf 16 01 03.5 -1.9
NSHM Saint Helena R 123.62 32 *e*PKPdf PKPdf 16 01 04.3 -1.8
YMR Madison River 123.67 20 *e*PKPdf PKPdf 16 01 03.1 -2.9
YNR Norris Junctio 123.72 19 *e*PKPdf PKPdf 16 01 05.5 -0.6
BEKR Beckwourth 123.76 30 *e*PKPdf PKPdf 16 01 03.4 -3.0
YFT Old Faithful 123.90 20 *e*PKPdf PKPdf 16 01 06.2 -0.3
LKWY Lake 123.95 19 *e*PKPdf PKPdf 16 01 06.4 -0.2
LKWY LR LR
comp=Z,330μm,21.0s,MS8.0
IMW Indian Meadow 124.36 20 *e*PKPdf PKPdf 16 01 05.8 -1.6
PAHR Pah Rah Range 124.36 29 *e*PKPdf PKPdf 16 01 04.5 -3.0
EMMW East Machias 124.49 342 *e*PKPdf PKPdf 16 01 04.2 -3.4
EMMW LR LR
comp=Z,668μm,22.0s,MS8.3
MOOW Moose Ponds 124.56 20 *e*PKPdf PKPdf 16 01 05.9 -1.9
RRI2 Red Ridge 124.71 21 *e*PKPdf PKPdf 16 01 06.7 -1.4
TPAW Teton Pass 124.71 20 *e*PKPdf PKPdf 16 01 06.0 -2.1
LOHW Long Hollow 124.72 20 *e*PKPdf PKPdf 16 01 06.2 -2.0
SNOW Snow King Moun 124.81 20 *e*PKPdf PKPdf 16 01 06.7 -1.5
REDW Red Top Meadow 124.86 20 *e*PKPdf PKPdf 16 01 07.0 -1.4
CMB Columbia Colle 125.15 31 *e*PKPdf PKPdf 16 01 07.0 -2.0
CMB LR LR
comp=Z,101μm,21.0s,MS7.5
WVL Waterville 125.25 344 *e*PKPdf PKPdf 16 01 06.0 -3.1
WVL LR LR
comp=Z,483μm,21.0s,MS8.1
AHID Auburn Hatcher 125.30 21 *e*PKPdf PKPdf 16 01 07.0 -2.2
AHID LR LR
comp=Z,202μm,21.0s,MS7.8
ELK Elko 125.41 25 PKP PKPdf 16 01 08.2 -1.4
comp=Z,5.3nm,0.5s,baz=330,slow=2.9,SNR=13
ELK PP PP 16 03 01.5 +0.9
comp=Z,15nm,1.1s,baz=343,slow=4.5,SNR=2.2
ELK PKKPbc 16 10 50.3
comp=Z,5.3nm,0.9s,baz=144,slow=4.9,SNR=6.0
ELK Elko 125.41 25 *e*PKPdf PKPdf 16 01 08.4 -1.1
ELK LR LR
comp=Z,100μm,20.0s,MS7.5
SAO San Andreas Ge 125.54 33 PKPdf PKPdf 16 01 07.4 -2.5
SAO LR LR
comp=Z,94μm,22.0s,MS7.4
HVU Hansel Valley 125.54 23 *e*PKPdf PKPdf 16 01 07.4 -2.3
BW06 Boulder Array 125.83 20 *e*PKPdf PKPdf 16 01 07.8 -2.4
BW06 LR LR
comp=Z,159μm,20.0s,MS7.7
PDAR Pinedale Array 125.83 20 PKP PKPdf 16 01 08.1 -2.1
comp=Z,11nm,0.8s,baz=70,slow=0.4,SNR=28
PDAR PKKPbc 16 10 46.5
comp=Z,2.7nm,0.7s,baz=207,slow=3.3,SNR=4.0
NVAR Mina Array Bea 125.88 29 PKP PKPdf 16 01 08.7 -1.8
comp=Z,9.3nm,0.6s,baz=305,slow=1.6,SNR=35
NVAR PP PP 16 03 05.5 +1.5
comp=Z,15nm,1.0s,baz=333,slow=2.0,SNR=1.8
NVAR Mina Array Bea 125.88 29 PKP PKPdf 16 01 08.7 -1.8
NVAR PP PP 16 03 05.5 +1.5
LRV Little Rabbit 126.02 33 *e*PKPdf PKPdf 16 01 08.9 -1.9
MSNY Massena 126.06 349 *e*PKPdf PKPdf 16 01 08.2 -2.4
SPUT South Promonto 126.07 23 *e*PKPdf PKPdf 16 01 08.9 -1.8
HWUT Hardware Ranch 126.14 22 *e*PKPdf PKPdf 16 01 08.2 -2.6
HWUT LR LR
comp=Z,210μm,20.0s,MS7.8
BGU Big Grassy Mou 126.17 24 *e*PKPdf PKPdf 16 01 09.1 -1.8
OMM Old Mammoth Mi 126.17 31 *e*PKPdf PKPdf 16 01 09.1 -1.9
RSSD Black Hills 126.19 14 *e*PKPdf PKPdf 16 01 07.4 -3.4
RSSD LR LR
comp=Z,44μm,22.0s,MS7.1
MTUM Tungsten Hills 126.59 30 *e*PKPdf PKPdf 16 01 10.5 -1.3
TCUT Toone Canyon 126.63 22 *e*PKPdf PKPdf 16 01 10.6 -1.2
MIV Mineville/With 126.66 347 *e*PKPdf PKPdf 16 01 10.2 -1.5
TPH Tonopah 126.69 29 *e*PKPdf PKPdf 16 01 09.0 -2.9
TPH LR LR
comp=Z,135μm,22.0s,MS7.6
HNH Hanover 126.72 346 *e*PKPdf PKPdf 16 01 05.9 -5.9
NOQ North Oquirrh 126.76 23 *e*PKPdf PKPdf 16 01 08.7 -3.3
FFD Franklin Falls 126.79 345 *e*PKPdf PKPdf 16 01 09.6 -2.4
CTU Camp Tracy 126.86 23 *e*PKPdf PKPdf 16 01 09.3 -2.9
NCB Newcomb 126.91 348 *e*PKPdf PKPdf 16 01 08.5 -3.6
SADO Sadowa 126.98 352 PKP PKPdf 16 01 09.4 -2.9
comp=Z,9.6nm,0.8s,baz=273,slow=1.8,SNR=6.9
SADO PP PP 16 03 07.3 -3.2
comp=Z,49nm,1.1s,baz=347,slow=9.5,SNR=2.4
PTRM Twissleman Ran 127.03 33 *e*PKPdf PKPdf 16 01 09.2 -3.4
JLU Jordanelle 127.06 22 *e*PKPdf PKPdf 16 01 10.2 -2.4
DAU Daniels Canyon 127.30 22 *e*PKPdf PKPdf 16 01 11.4 -1.7

ACCN Adirondack Com 127.35 347 *e*PKPdf PKPdf 16 01 07.9 -5.2
NLU North Lily Min 127.38 23 *e*PKPdf PKPdf 16 01 11.3 -2.0
MPU Maple Canyon 127.50 23 *e*PKPdf PKPdf 16 01 10.7 -2.8
RWWY Rawlins 127.55 18 *e*PKPdf PKPdf 16 01 09.2 -4.4
HRV Harvard--Oak R 127.67 345 *e*PKPdf PKPdf 16 01 09.9 -3.8
HRV LR LR
comp=Z,128μm,21.0s,MS7.6
WES Weston 127.72 345 *e*PKPdf PKPdf 16 01 12.3 -1.6
WES LR LR
comp=Z,125μm,21.0s,MS7.6
ISA Isabella 127.94 32 PFAKE 16 01 20.0 +5.5
ISA LR LR
comp=Z,25μm,22.0s,MS6.9
QUA2 Belchertown 128.09 345 PKPdf PKPdf 16 01 11.9 -2.8
TMUT Trail Mountain 128.28 23 *e*PKPdf PKPdf 16 01 13.3 -1.8
TAOE Nuku Hiva Isla 128.29 95 *e*PP PP 16 02 54.6 -26
comp=Z,30μm,26.2s
TAOE Nuku Hiva Isla 128.29 95 *e*S SKS 16 08 15.3 -7.6
comp=Z,32μm,26.9s
TAOE *e*LR LR 16 41 13.5
comp=Z,393μm,24.7s
TAOE Nuku Hiva Isla 128.29 95 *e*SS SS 16 20 53.6 +22
comp=Z,340μm,30.4s
RCBR Riachuelo 128.40 269 *e*PKPdf PKPdf 16 01 13.9 -2.1
RCBR LR LR
comp=Z,99μm,20.0s,MS7.5
PHWY Pilot Hill 128.43 17 *e*PKPdf PKPdf 16 01 11.5 -3.9
MSU Marysvale 128.57 24 *e*PKPdf PKPdf 16 01 12.8 -2.9
ARUT Antelope Range 128.65 26 *e*PKPdf PKPdf 16 01 12.2 -3.6
SRU San Rafael 128.71 23 *e*PKPdf PKPdf 16 01 11.5 -4.4
SNCC San Nicolas Is 129.19 35 PFAKE 16 01 30.0 +13
SNCC LR LR
comp=Z,71μm,19.0s,MS7.4
MWC Mount Wilson 129.26 33 *e*PKPdf PKPdf 16 01 14.4 -2.7
PAL Palisades 129.67 346 *e*PKPdf PKPdf 16 01 15.2 -2.5
NEN Nelson 129.77 29 *e*PKPdf PKPdf 16 01 16.1 -2.0
PV10 Paradox Valley 129.90 22 *e*PKPdf PKPdf 16 01 13.4 -4.8
SMCO Snowmass 129.91 19 *e*PKPdf PKPdf 16 01 11.7 -6.5
LDFC Landfair 130.10 29 PKPdf PKPdf 16 01 13.8 -4.9
ALLY Alegheny Colle 130.18 352 *e*PKPdf PKPdf 16 01 15.8 -2.9
PV01 Paradox Valley 130.29 21 PKPpre 16 00 59.1
PFO Pinyon Flat Ob 130.58 32 *e*PKPdf PKPdf 16 01 14.5 -5.2
PFO LR LR
comp=Z,18μm,20.0s,MS6.8
BAR Barrett 131.19 33 *e*PKPdf PKPdf 16 01 16.7 -4.1
SDCO Great Sand Dun 131.69 19 *e*PKPpre 16 01 10.2
SDCO LR LR
comp=Z,216μm,20.0s,MS7.8
MCWV Mont Chateau 132.10 352 *e*PKPdf PKPdf 16 01 19.0 -3.4
CBKS Cedar Bluff 132.22 13 *e*PKPdf PKPdf 16 01 16.7 -5.9
CBKS LR LR
comp=Z,204μm,21.0s,MS7.8
RKT Rikitea 132.37 114 *e*LQ 16 36 49.3
comp=Z,39μm,32.0s
RKT Rikitea 132.37 114 *e*PP PP 16 03 21.5 -25
comp=Z,24μm,28.2s
RKT Rikitea 132.37 114 *e*S SKS 16 07 48.4 -45
comp=Z,5μm,30.0s
RKT *e*LR LR 16 41 44.6
comp=Z,183μm,25.5s
RKT Rikitea 132.37 114 *e*SS SS 16 20 47.3 -35
comp=Z,74μm,32.2s
KSU1 Kansas State U 132.53 9 *e*PKPdf PKPdf 16 01 20.1 -3.1
CBN Corbin 133.10 349 PKPdf PKPdf 16 01 22.2 -2.0
CBN LR LR
comp=Z,200μm,22.0s,MS7.8
BLO Bloomington 133.15 359 *e*PKPpre 16 01 11.8
SLM Saint Louis 133.65 3 PKPdf PKPdf 16 01 21.3 -3.9
ANMO Albuquerque 133.89 21 PKHKP 16 01 18.4
comp=Z,4.0nm,0.8s,baz=283,slow=1.2,SNR=9.4
ANMO PKP PKPdf 16 01 24.5 -1.2
comp=Z,17nm,1.0s,baz=272,slow=1.2,SNR=16
ANMO PP PP 16 03 55.0 -1.2
comp=Z,27nm,1.1s,baz=8.7,slow=5.2,SNR=3.5
ANMO Albuquerque 133.89 21 *e*PKPpre 16 01 17.4
ANMO PKP PKPdf 16 01 24.5 -1.2
ANMO PP PP 16 03 55.0 -1.2
ANMO LR LR
comp=Z,225μm,22.0s,MS7.8
WCI Wyandotte Cave 134.08 358 *e*PKPdf PKPdf 16 01 22.7 -3.3
WCI LR LR
comp=Z,59nm,20.0s,MS7.3
LAZ Ladron 134.13 22 *e*PKPdf PKPdf 16 01 22.6 -3.6
CCM Cathedral Cave 134.17 4 *e*PKPpre 16 01 16.8
CCM PKPdf PKPdf 16 01 24.2 -2.0
CCM LR LR
comp=Z,57μm,22.0s,MS7.2
BBSR BB Station 134.26 332 PFAKE 16 01 40.0 +13
BBSR LR LR
comp=Z,66μm,21.0s,MS7.3
FWV Forest Hill 134.27 352 *e*PKPdf PKPdf 16 01 22.7 -3.7
FWV *e* 16 01 29.5
FVM French Village 134.29 3 *e*PKPpre 16 01 11.6
FVM *e*PKPdf PKPdf 16 01 22.9 -3.5
LPM Los Pinos Moun 134.40 22 *e*PKPdf PKPdf 16 01 23.8 -2.9
LENM Lemitar 134.40 22 *e*PKPdf PKPdf 16 01 22.8 -3.9
LENM *e* 16 01 30.8
TUC Tucson 134.42 28 *e*PKPdf PKPdf 16 01 22.9 -4.0
TUC LR LR
comp=Z,95μm,20.0s,MS7.5
BNM Barren Site 134.55 22 *e*PKPdf PKPdf 16 01 21.6 -5.4
BLA Blacksburg 134.58 352 PKPdf PKPdf 16 01 24.6 -2.4
BLA LR LR
comp=Z,178μm,21.0s,MS7.8
ELN Prospectdale 134.61 352 *e*PKPdf PKPdf 16 01 23.5 -3.5
TZTN Tazewell 135.60 355 *e*PKPdf PKPdf 16 01 26.3 -2.6
PARMO Parma 135.63 2 *e*PKPdf PKPdf 16 01 26.1 -2.9
UTMT University of 135.98 1 PKPdf PKPdf 16 01 28.7 -0.9
GLAT Glass 136.04 2 *e*PKPdf PKPdf 16 01 25.2 -4.5
WVT Waverly 136.20 360 *e*PKPpre 16 01 14.2
WVT LR LR
comp=Z,196μm,22.0s,MS7.8
PTCN Pitcairn Islan 136.28 118 PFAKE 16 01 40.0 +10
PTCN LR LR
comp=Z,93μm,22.0s,MS7.5
GNAR Gosnell 136.32 3 *e*PKPdf PKPdf 16 01 28.1 -2.0
HALT Halls 136.40 2 *e*PKPdf PKPdf 16 01 27.2 -3.1
CPRX Cap Rock 136.53 20 *e*PKPpre 16 01 20.1
HBAR Harrisburg 136.69 3 *e*PKPpre 16 01 21.6
MYNC Murphy 137.11 356 *e*PKPpre 16 01 18.1
MYNC *e*PKPdf PKPdf 16 01 29.8 -1.8
MYNC LR LR
comp=Z,235μm,22.0s,MS7.9
GDL2 Guadalupe Moun 137.12 21 *e*PKPpre 16 01 22.6
MNTX Cornudas Mount 137.20 22 *e*PKPpre 16 01 21.4
MNTX LR LR
comp=Z,149μm,21.0s,MS7.7
CLNB Carlsbad 137.23 20 *e*PKPdf PKPdf 16 01 29.5 -2.5
UALR University of 137.34 5 *e*PKPdf PKPdf 16 01 29.0 -3.1
PLAL Pickwick Lake 137.34 0 *e*PKPpre 16 01 19.4
PLAL LR LR
comp=Z,263μm,22.0s,MS7.9
JSC Jenkinsville 137.58 352 *e*PKPdf PKPdf 16 01 29.6 -3.0
OXF Oxford 137.79 2 *e*PKPpre 16 01 16.3
OXF LR LR
comp=Z,244μm,21.0s,MS7.9
COW Cow Castle Cre 138.38 351 *e*PKP PKPdf 16 01 27.8 -6.4
TWB Tillmans-White 138.55 350 PKPdf PKPdf 16 01 30.7 -3.7
NHSC New Hope 138.57 350 *e*PKPdf PKPdf 16 01 31.8 -2.7
NHSC LR LR
comp=Z,185μm,19.0s,MS7.8
RGRS Roger Stewart 138.76 350 *e*PKPdf PKPdf 16 01 30.9 -3.9
HBF Harts Bluff 138.77 350 *e*PKPdf PKPdf 16 01 31.0 -3.9
LRAL Lakeview Retre 139.28 359 *e*PKPdf PKPdf 16 01 33.2 -2.5
LRAL LR LR
comp=Z,267μm,22.0s,MS7.9
LTX Lajitas 139.97 22 *e*PKPpre 16 01 31.3
LTX LR LR
comp=Z,163μm,22.0s,MS7.7
TXAR Lajitas Array 139.97 22 PKhKP 16 01 27.9
comp=Z,0.7nm,0.4s,baz=26,slow=3.1,SNR=15
TXAR PKP PKPdf 16 01 33.3 -3.7
comp=Z,8.4nm,0.7s,baz=323,slow=0.9,SNR=21
TXAR PP PP 16 04 29.1 -4.7
comp=Z,12nm,0.8s,slow=3.6,SNR=3.9
NATX Nacogdoches 140.03 9 *e*PKPpre 16 01 29.9
NATX LR LR
comp=Z,222μm,21.0s,MS7.9
BDFB Brasilia 140.30 255 PKhKP 16 01 29.2
comp=Z,2.5nm,0.5s,baz=110,slow=5.6,SNR=5.0
BDFB PKP PKPdf 16 01 35.5 -2.5
comp=Z,13nm,0.8s,baz=128,slow=3.7,SNR=14
BDFB PP PP 16 04 39.6 +3.4
comp=Z,11nm,0.8s,baz=253,slow=26,SNR=1.9

TRQA	**Tornquist**	**141.95**	**214**	*e*PKPpre			16 01 31.0		
TRQA				LR	LR				
	comp=Z,111μm,21.0s,MS7.6								
JATB	**Jatai**	**143.26**	**251**	*e*P		PKPbc	16 01 39.4	+1.8	
JATB				*i*			16 01 44.7		
JATB				*i*			16 01 50.0		
JATB				*i*			16 02 01.8		
DWPF	**Disney**	**143.66**	**350**	*e*PKPdf		PKPdf	16 01 40.7	-2.9	
DWPF				LR	LR				
	comp=Z,40μm,20.0s,MS7.2								
PLCA	**Paso Flores**	**143.86**	**203**	PKhKP			16 01 38.4		
	comp=Z,9.3nm,0.7s,baz=158,slow=4.2,SNR=40								
PLCA	**Paso Flores**	**143.86**	**203**	*e*PKPpre			16 01 38.7		
PLCA				LR	LR				
	comp=Z,116μm,20.0s,MS7.7								
STMA	**St. Maarten, A**	**144.48**	**317**	*e*P		PKPbc	16 01 40.9	-0.2	
DWS	**Wesley**	**144.85**	**312**	*e*P		PKPbc	16 01 39.0	-3.2	
CRM	**Caravelle**	**145.06**	**310**	*e*P		PKPbc	16 01 43.2	+0.5	
MDN	**Morne-Daniel**	**145.07**	**311**	*e*P		PKPbc	16 01 43.4	+0.6	
DSHT	**Scott's Head**	**145.12**	**311**	*e*P		PKPbc	16 01 45.9	+3.0	
MVM	**Montagne Vaucl**	**145.17**	**310**	*e*P		PKPbc	16 01 43.9	+0.8	
FDF	**Fort de France**	**145.25**	**310**	*e*P		PKPbc	16 01 44.5	+1.2	
CPUP	**Villa Florida**	**145.70**	**234**	PKPbc		PKPbc	16 01 44.5	+0.3	
CPUP	**Villa Florida**	**145.70**	**234**	PKP		PKPdf	16 01 44.5	-2.7	
	comp=Z,37nm,0.8s,baz=118,slow=4.7,SNR=64								
CPUP	**Villa Florida**	**145.70**	**234**	*e*PKPdf		PKPdf	16 01 44.4	-2.8	
CPUP				LR	LR				
	comp=Z,118μm,20.0s,MS7.7								
SVB	**Belmont**	**146.22**	**308**	*e*P		PKPbc	16 01 45.2	-0.5	
SJG	**San Juan**	**146.42**	**321**	PKPbc		PKPbc	16 01 47.0	+1.0	
	comp=Z,121nm,0.8s,baz=53,slow=4.1,SNR=12								
SJG	**San Juan**	**146.42**	**321**	*e*PKPdf		PKPdf	16 01 46.7	-1.9	
SJG				LR	LR				
	comp=Z,93μm,22.0s,MS7.5								
BOT	**Bacolet**	**147.01**	**305**	*e*P		PKPdf	16 01 52.0	+2.2	
TPR	**Prospect**	**147.05**	**305**	*e*P		PKPdf	16 01 50.8	+1.0	
GRSS	**Sisters**	**147.09**	**307**	*e*P		PKPdf	16 01 43.9	-5.9	
GRHS	**Sauteurs**	**147.15**	**307**	*e*P		PKPdf	16 01 45.8	-4.1	
TBH	**Brigand Hill**	**147.68**	**304**	*e*P		PKPdf	16 01 51.7	+0.9	
TRN	**Trinidad (W)**	**147.86**	**305**	*e*P		PKPdf	16 01 53.7	+2.6	
CJM	**Chamela**	**147.93**	**32**	*i* P		PKPdf	16 01 47.7	-3.4	
CCHI	**Chillan**	**148.02**	**204**	⇑*i*P		PKPdf	16 01 49.5	-1.3	
SFJM	**Santa Fe**	**148.08**	**28**	*i* P		PKPdf	16 01 51.5	+0.2	
SFJM				*i* S		PKPab	16 01 58.5	+3.0	
TPP	**Pointe-a-Pierr**	**148.08**	**304**	*e*P		PKPdf	16 01 55.3	+3.8	
MOAC	**Moa**	**148.91**	**336**	*e*P		PKPdf	16 01 50.9	-1.7	
NICH	**Los Niches**	**149.01**	**207**	⇓*i*P		PKPdf	16 01 53.5	+1.2	
SOR	**Soroa**	**149.12**	**351**	*e*P		PKPdf	16 01 50.8	-2.1	
HLGC	**Holguin**	**149.13**	**338**	*e*P		PKPdf	16 01 53.9	+1.0	
MGV	**Manicaragua**	**149.19**	**346**	*e*P		PKPdf	16 01 51.1	-1.9	
CCCC	**Cccc**	**149.43**	**341**	*e*P		PKPdf	16 01 48.7	-4.7	
MOIG	**Morelia**	**149.61**	**25**	*i* P		PKPdf	16 01 52.5	-1.3	
RCC	**Rio Carpintero**	**149.80**	**337**	*e*P		PKPdf	16 01 46.1	-7.9	
FCH	**Farellones**	**149.93**	**210**	⇓*i*P		PKPdf	16 01 55.0	+1.1	
CLCH	**Cerro Calan**	**150.00**	**210**	⇓*i*P		PKPdf	16 01 56.8	+2.8	
CFAA	**Coronel Fontan**	**150.16**	**215**	PKP		PKPdf	16 01 52.0	-2.3	
	comp=Z,13nm,1.2s,baz=145,slow=0.9,SNR=16								
CFAA				PKPbc		PKPdf	16 01 57.5	+3.2	
	comp=Z,13nm,0.8s,baz=160,slow=2.3,SNR=137								
CFAA	**Coronel Fontan**	**150.16**	**215**	PKP		PKPdf	16 01 52.0	-2.3	
CFAA				PKPbc		PKPdf	16 01 57.5	+3.2	
LMGC	**Las Mercedes**	**150.22**	**339**	*e*P		PKPdf	16 01 58.5	+3.8	
ZON	**Zonda**	**150.46**	**215**	*e*P		PKPdf	16 01 55.0	+0.2	
PTVM	**Pico Tres Padr**	**150.51**	**22**	*i* P		PKPdf	16 01 45.4	-10	
MDVM	**Presa Madin**	**150.51**	**22**	*i* P		PKPdf	16 01 47.8	-7.4	
IIZ	**Mezontepec**	**150.83**	**23**	*i* P		PKPdf	16 01 50.9	-4.7	
PPM	**Popocatepetl**	**151.17**	**22**	*i* P		PKPdf	16 01 55.0	-1.2	
YAIG	**Yautepec**	**151.19**	**22**	*i* P		PKPdf	16 01 59.6	+3.4	
LVIG	**Laguna Verde**	**151.28**	**17**	*i* P		PKPdf	16 02 00.7	+4.4	
PLIG	**Platanillo**	**151.45**	**24**	*i* P		PKPdf	16 01 48.5	-8.1	
BNJ	**Bonny Gate**	**151.81**	**338**	⇑*e*P		PKPdf	16 02 06.9	+10	
GWJ	**Greenwich**	**151.94**	**337**	⇑*e*P		PKPdf	16 02 02.2	+4.9	
STH	**Stony Hill**	**151.97**	**337**	⇑*e*P		PKPdf	16 02 02.3	+5.0	
CMCH	**Combarbala**	**152.01**	**212**	⇓*i*P		PKPdf	16 02 01.5	+4.4	
TEIG	**Tepich**	**152.04**	**1**	PKPdf		PKPdf	16 02 01.8	+4.4	
MBJ	**Montego Bay**	**152.06**	**339**	⇑*e*P		PKPdf	16 02 08.5	+11	
RPN	**Rapa Nui**	**152.07**	**136**	PKPbc		PKPdf	16 02 02.9	+5.6	
RPN				LR	LR				
	comp=Z,14μm,19.0s,MS6.8								
CVJ	**Coleyville**	**152.11**	**339**	⇑*e*P		PKPdf	16 02 02.5	+5.0	
CAIG	**El Cayaco**	**152.33**	**26**	*i* P		PKPdf	16 01 53.9	-4.0	
SIV	**San Ignacio**	**152.62**	**250**	PKP		PKPdf	16 01 56.0	-2.3	
	comp=Z,4.5nm,1.0s,baz=83,slow=0.3,SNR=11								
SIV				PKPbc		PKPdf	16 02 02.4	+4.1	
	comp=Z,21nm,0.9s,baz=105,slow=4.3,SNR=23								
ACX	**Acapulco**	**152.65**	**26**	*i* P		PKPdf	16 01 53.9	-4.5	
TUIG	**Tuzandepetl**	**153.42**	**14**	*i* P		PKPdf	16 02 04.5	+5.1	
PNIG	**Pinotepa**	**153.80**	**23**	*i* P		PKPdf	16 01 58.5	-1.5	
SAML	**Samuel**	**155.57**	**266**	PKPdf		PKPdf	16 02 00.2	-2.2	
SAML	**Samuel**	**155.57**	**266**	*e*PKPdf		PKPdf	16 02 00.1	-2.3	
SAML				LR	LR				
	comp=Z,201μm,21.0s,MS7.9								
CCIG	**Comitan**	**155.60**	**10**	*i* P		PKPdf	16 01 57.3	-5.0	
SDV	**Santo Domingo**	**156.07**	**314**	PKPdf		PKPdf	16 02 00.6	-2.4	
SDV	**Santo Domingo**	**156.07**	**314**	PKP		PKPdf	16 02 00.9	-2.1	
	comp=Z,6.7nm,0.9s,baz=2.4,slow=6.3,SNR=8.9								
SDV	**Santo Domingo**	**156.07**	**314**	*e*PKPdf		PKPdf	16 02 00.4	-2.6	
SDV				LR	LR				
	comp=Z,67μm,20.0s,MS7.5								
LVC	**Limon Verde**	**156.64**	**229**	PKP		PKPdf	16 02 02.5	-1.1	
	comp=Z,10nm,1.1s,baz=254,slow=1.0,SNR=7.1								
LVC	**Limon Verde**	**156.64**	**229**	*e*PKPdf		PKPdf	16 02 02.6	-0.9	
LVC				LR	LR				
	comp=Z,84μm,20.0s,MS7.6								
LPAZ	**La Paz**	**159.01**	**245**	PKP		PKPdf	16 02 05.5	-1.2	
	comp=Z,10nm,0.9s,baz=36,slow=2.3,SNR=35								
LPAZ	**La Paz**	**159.01**	**245**	*e*PKPdf		PKPdf	16 02 05.5	-1.3	
LPAZ				LR	LR				
	comp=Z,99μm,21.0s,MS7.6								
TRTC	**Tortuguero**	**161.18**	**347**	*e*P		PKPdf	16 02 08.3	-0.8	
UPA	**Univ. de Panam**	**161.29**	**334**	⇑*e*P		PKPdf	16 02 08.0	-1.2	
ROSC	**El Rosal**	**161.49**	**313**	PKP		PKPdf	16 02 07.5	-1.9	
	comp=Z,7.4nm,0.6s,baz=118,slow=23,SNR=11								
JTS	**JuntasAbangare**	**161.69**	**351**	PKP		PKPdf	16 02 07.1	-2.5	
	comp=Z,1.9nm,0.6s,baz=253,slow=17,SNR=2.4								
JTS	**JuntasAbangare**	**161.69**	**351**	*e*PKPdf		PKPdf	16 02 07.3	-2.3	
JTS				LR	LR				
	comp=Z,35μm,22.0s								
SJS	**Escuela Geolog**	**161.87**	**348**	*e*P		PKPdf	16 02 07.7	-2.1	
ARE	**Arequipa**	**161.90**	**240**	*e*P		PKPdf	16 02 15.0	+5.3	
LCR2	**La Lucha 2**	**162.05**	**348**	*e*P		PKPdf	16 02 08.4	-1.6	
BUS	**Buena Vista**	**162.18**	**347**	*e*P		PKPdf	16 02 09.3	-0.7	
DVD	**David**	**162.90**	**342**	*e*P		PKPdf	16 02 09.5	-1.3	
PTP1	**Petroterminal**	**163.11**	**341**	*e*P		PKPdf	16 02 10.3	-0.7	
NNA	**Nana**	**168.42**	**249**	*e*PKPdf		PKPdf	16 02 13.0	-2.3	
NNA				*e*PKPab		PKPab	16 03 20.9	-1.9	
NNA				LR	LR				
	comp=Z,30μm,22.0s								
PAYG	**Puerto Ayora**	**172.42**	**19**	PFAKE			16 02 30.0	+12	
PAYG				LR	LR				
	comp=Z,93μm,19.0s								

*NEIC **24** 15:48:46.2±0.6, 19.08S×67.50W, h212km±8km, mb4.0/7, Error ellipse: s-maj=10.9km s-min=8.4km az=68.0*
*IDC **24** 15:48:46.1±0.7, 19.11S×67.49W, h203km±7km, mb3.3/4, mb1 3.7/10, mb1mx3.6/22, mbtmp4.0/10, Error ellipse: s-maj=13.9km s-min=7.9km az=93.0*

ISC 24 15:48:45.4±0.5, **19.08S**±0.05×**67.46W**±0.05, **h220**km±6km, **n22**, σ1**s14**/31, **mb3.8**/8, **2C**, **Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**2.85**	**347**	P		**P**	**15 49 37.0**	**+2.1**
	20nm,0.3s,baz=160,slow=6.3,SNR=504							
LPAZ				S		**S**	**15 50 13.8**	**+0.5**
	22nm,0.3s,baz=51,slow=23,SNR=13							
LPAZ	**La Paz**	**2.85**	**347**	⇑*i*P		**P**	**15 49 37.2**	**+2.3**
LPAZ				S		**S**	**15 50 13.8**	**+0.5**
LPAZ				*e*S		**S**	**15 50 14.5**	**+1.2**
LVC	**Limon Verde**	**3.77**	**201**	P		**P**	**15 49 46.2**	**+0.5**
	11nm,0.3s,baz=31,slow=11,SNR=90							
LVC				S		**S**	**15 50 30.5**	**-1.9**
	15nm,0.3s,baz=100,slow=23,SNR=18							
LVC	**Limon Verde**	**3.77**	**201**	*e*P		**P**	**15 49 46.0**	**+0.3**
LVC				*e*S		**S**	**15 50 26.5**	**-5.8**
LVC				S		**S**	**15 50 30.5**	**-1.9**
ARE	**Arequipa**	**4.64**	**304**	⇑*i*P		**P**	**15 49 55.5**	**-1.0**
ARE				*e*S		**S**	**15 50 52.0**	**+0.3**
SIV	**San Ignacio**	**6.82**	**64**	P		**P**	**15 50 23.8**	**-0.4**
	18nm,0.3s,baz=261,slow=11,SNR=164							
SIV				S		**S**	**15 51 40.4**	**-0.9**
	baz=323,slow=23,SNR=6.7							
SAML	**Samuel**	**10.89**	**23**	*e*P		**P**	**15 51 15.9**	**-0.8**
	2.9nm,0.7s							
NNA	**Nana**	**11.47**	**307**	*e*P		**P**	**15 51 23.0**	**-0.9**
	23nm,0.4s							
CPUP	**Villa Florida**	**11.80**	**130**	P		**P**	**15 51 27.9**	**-0.2**
	0.3nm,0.3s,baz=324,slow=16,SNR=7.9							
CPUP	**Villa Florida**	**11.80**	**130**	*e*P		**P**	**15 51 27.3**	**-0.8**
CFAA	**Coronel Fontan**	**12.49**	**183**	P		**P**	**15 51 37.6**	**+0.8**
	0.1nm,0.3s,baz=10,slow=13,SNR=12							
CFAA				S		**S**	**15 53 47.0**	**-4.9**
	0.1nm,0.3s,baz=166,slow=16,SNR=8.1							
BDFB	**Brasilia**	**18.87**	**83**	P		**P**	**15 52 53.6**	**+2.4**
	2.2nm,0.3s,baz=263,slow=9.3,SNR=17							
TRQA	**Tornquist**	**19.50**	**167**	*e*P		**P**	**15 52 56.9**	**-0.6**
PLCA	**Paso Flores**	**21.74**	**186**	P		**P**	**15 53 21.5**	**+1.8**
	2.4nm,0.7s,mb3.9,baz=14,slow=11,SNR=8.4							
PLCA	**Paso Flores**	**21.74**	**186**	*e*P		**P**	**15 53 21.2**	**+1.6**
	2.7nm,0.8s,mb3.8							
RCBR	**Riachuelo**	**33.43**	**71**	*e*P		**P**	**15 55 05.7**	**+0.1**
	14nm,0.8s,mb4.6							
WVT	**Waverly**	**58.20**	**341**	*e*P		**P**	**15 58 16.4**	**-2.3**
	1.2nm,0.5s,mb3.8							
TXAR	**Lajitas Array**	**59.48**	**323**	P		**P**	**15 58 27.4**	**-0.1**
	0.5nm,0.6s,mb3.3,baz=148,slow=8.3,SNR=8.3							
MNTX	**Cornudas Mount**	**62.23**	**324**	*e*P		**P**	**15 58 44.3**	**-1.6**
	1.0nm,0.9s,mb3.5							
ANMO	**Albuquerque**	**65.27**	**325**	P		**P**	**15 59 06.4**	**+0.7**
	1.1nm,0.7s,mb3.6							
SDCO	**Great Sand Dun**	**66.90**	**328**	*e*P		**P**	**15 59 16.6**	**+0.6**
	2.2nm,0.6s,mb4.0							
PDAR	**Pinedale Array**	**72.73**	**329**	P		**P**	**15 59 52.0**	**+0.7**
	0.6nm,0.6s,mb3.4,baz=124,slow=10.0,SNR=5.4							

*IDC **24** 15:54:30.7±0.4, 8.16N×91.79E, mb4.9/24, mb1 5.0/24, mb1mx5.0/26, mbtmp4.9/24, Error ellipse: s-maj=15.5km s-min=12.7km az=47.0*
*BJI **24** 15:54:32.5, 7.84N×91.95E, h28km, mb5.4, Ms5.7, Msz5.5*
*NEIC **24** 15:54:34.0±0.2, 8.06N×91.82E, mb5.1/38, Error ellipse: s-maj=7.9km s-min=5.8km az=219.0*
*MOS **24** 15:54:34.4±1.2, 8.10N×91.85E, h33km, mb5.2/26, Error ellipse: s-maj=12.9km s-min=7.7km az=116.3*

ISC 24 15:54:32.2±0.2, **8.06N**±0.05×**91.82E**±0.04, **h18**km, **h18**km±1.9km:**pP-P, n194,** σ1**s08**/179, **mb5.1**/75, **11C-14D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MDRS	**Chennai**	**12.42**	**295**	*e*P		**P**	**15 57 27.0**	**-4.1**
MNGI	**Mangalore**	**17.40**	**288**	*e*P		**P**	**15 58 34.2**	**-1.6**
MNGI				AMb		AMB	15 58 44.5	
	comp=Z,344nm,2.1s							
SHL	**Shillong**	**17.41**	**0**	*e*P		**P**	**15 58 35.7**	**-0.2**
NGP	**Nagpur**	**17.93**	**318**	*e*P		**P**	**15 58 42.9**	**+0.5**
NGP				AMb		AMB	15 58 56.0	
	comp=Z,396nm,1.6s							
KAD	**Karad**	**19.49**	**300**	AMb		AMB	15 58 55.4	
	comp=Z,233nm,1.7s							
KAD				*e*P			15 58 58.8	
KAD				*e*P			15 59 03.6	
KAD				AMb		AMB	15 59 08.9	
	comp=Z,408nm,1.6s							
KSM	**Kuching**	**19.54**	**109**	*e*P		**P**	**15 58 57.2**	**-4.6**
BHPL	**Bhopal**	**20.46**	**319**	*e*P		**P**	**15 59 07.9**	**-3.7**
BHPL				AML		AML	16 03 05.1	
	comp=N,63nm,0.8s							
BHPL				AML		AML	16 03 05.2	
	comp=E,382nm,0.5s							
QIZ	**Qiongzhong**	**20.61**	**56**	*e*P		**P**	**15 59 13.1**	**-0.1**
	comp=E,45nm,1.0s							
GYA	**Guiyang**	**23.10**	**36**	P		**P**	**15 59 43.0**	**+4.8**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.4							
PTH	**Pithoragarh**	**24.00**	**334**	*e*P		**P**	**15 59 50.0**	**+3.2**
KKM	**Kota Kinabalu**	**24.29**	**93**	*e*P		**P**	**15 59 52.1**	**+2.2**
DGAR	**Diego Garcia**	**24.68**	**232**	⇑*i*P		**P**	**15 59 56.0**	**+2.3**
DGAR	**Diego Garcia**	**24.68**	**232**	⇑*i*P		**P**	**15 59 56.1**	**+2.4**
NDI	**New Delhi**	**24.70**	**328**	*e*P		**P**	**15 59 53.9**	**+0.1**
NDI				AMb		AMB	16 00 05.6	
	comp=Z,212nm,0.9s,mb5.7							
ENH	**Enshi**	**27.60**	**35**	*e*P		**P**	**16 00 19.2**	**-1.5**
	comp=Z,27nm,0.7s,mb5.0							
QZH	**Quanzhou**	**30.57**	**54**	P		**P**	**16 00 44.6**	**-2.6**
QZH				AMB		AMB		
	comp=Z,150nm,1.0s,mb5.8							
RCP	**Roxas**	**30.66**	**81**	⇓*e*P		**P**	**16 00 50.0**	**+1.9**
GTA	**Gaotai**	**32.03**	**12**	*e*P		**P**	**16 01 00.3**	**+0.4**
GTA				AP		pP	16 01 05.8	+0.4
GTA				XP		sP	16 01 08.5	+0.8
GTA				AMB		AMB		
	comp=Z,81nm,1.1s,mb5.5							
NJ2	**Nanjing**	**34.65**	**43**	*e*P		**P**	**16 01 25.8**	**+3.0**
NJ2				AP		pP	16 01 29.6	+1.3
NJ2				XP		sP	16 01 32.8	+2.2
NJ2				PP		PP	16 02 40.5	+0.8
NJ2				PPP		PPP	16 02 58.4	+0.7
NJ2				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.7							
SSE	**Sheshan**	**35.71**	**46**	P		**P**	**16 01 29.4**	**-2.4**
SSE				AMB		AMB		
	comp=Z,69nm,1.0s,mb5.5							
SSE	**Sheshan**	**35.71**	**46**	P		**P**	**16 01 29.4**	**-2.4**
	comp=Z,69nm,1.0s,mb5.5							
WMQ	**Urumqi**	**35.80**	**355**	P		**P**	**16 01 34.0**	**+1.6**
WMQ				AP		pP	16 01 39.9	+2.0
WMQ				XP		sP	16 01 42.8	+2.5
WMQ				PP		PP	16 02 55.3	+1.6
WMQ				LR		LR		
	comp=N,1μm,17.4s							
WMQ				LR		LR		
	comp=E,946nm,17.6s							
WMQ				LR		LR		
	comp=Z,2μm,17.7s							
HHC	**Hu-ho-hao-te**	**37.08**	**25**	*e*P		**P**	**16 01 44.8**	**+1.6**
HHC				AP		pP	16 01 50.9	+2.2
HHC				XP		sP	16 01 55.8	+4.8
HHC				PP		PP	16 03 12.5	+2.5
HHC				PCP		PcP	16 04 05.3	+1.2
HHC				AMB		AMB		
	comp=Z,89nm,1.4s,mb5.4							
HHC				LR		LR		
	comp=E,50μm,21.6s							
HHC				LR		LR		
	comp=Z,36μm,18.0s							
AAK	**Ala-Archa**	**37.66**	**339**	*e*P		**P**	**16 01 49.7**	**+1.6**
AAK				pmax		pmax		
	comp=Z,46nm,0.9s,mb5.2							
AAK	**Ala-Archa**	**37.66**	**339**	*e*P		**P**	**16 01 49.6**	**+1.6**
MKAR	**Makanchi Array**	**39.45**	**350**	P		**P**	**16 02 02.4**	**-0.6**
MKAR				pmax		pmax		
	comp=Z,20nm,0.8s							
MKAR	**Makanchi Array**	**39.45**	**350**	P		**P**	**16 02 02.4**	**-0.6**
	comp=Z,20nm,0.8s,mb4.9,baz=172,slow=8.6,SNR=9.0							
KKAR	**Karatay Array**	**39.60**	**335**	*i* P		**P**	**16 02 04.3**	**0.0**
KKAR				pmax		pmax		
	comp=Z,2μm,2.4s							
MBWA	**Marble Bar**	**39.93**	**137**	*e*P		**P**	**16 02 08.2**	**+0.9**
SONM	**Songino Array**	**41.52**	**15**	P		**P**	**16 02 19.0**	**-1.1**
	comp=Z,24nm,0.7s,mb4.9,baz=195,slow=6.4,SNR=16							
FITZ	**Fitzroy Crossi**	**42.31**	**128**	*e*P		**P**	**16 02 25.6**	**-1.3**
	comp=Z,44nm,1.5s,mb4.9							
FITZ	**Fitzroy Crossi**	**42.31**	**128**	P		**P**	**16 02 25.6**	**-1.4**
	comp=Z,22nm,0.7s,mb4.9,baz=259,slow=1.9,SNR=8.5							
ZAK	**Zakamensk**	**43.25**	**11**	*e*P		**P**	**16 02 36.8**	**+2.7**
ZAK				pmax		pmax		
	comp=Z,15nm,1.1s,mb4.6							
JNU	**Nakatsue**	**43.86**	**50**	P		**P**	**16 02 39.4**	**+0.1**
	comp=Z,10.0nm,0.7s,mb4.6,baz=248,slow=5.8,SNR=5.9							
TLY	**Talaya**	**44.56**	**10**	*e*P		**P**	**16 02 44.8**	**0.0**
HIA	**Hailar**	**47.28**	**25**	*e*P		**P**	**16 03 07.4**	**+1.0**
NWAO	**Narrogin (SRO)**	**47.40**	**151**	*e*P		**P**	**16 03 06.5**	**-1.1**
BVA0	**Borovoye Array**	**48.10**	**343**	*i* P		**P**	**16 03 12.4**	**-0.3**
BVA0				pmax		pmax		
	comp=Z,200nm,4.0s							
BVAR	**Borovoye Array**	**48.10**	**343**	P		**P**	**16 03 12.5**	**-0.3**
	comp=Z,18nm,0.8s,mb5.1,baz=143,slow=7.4,SNR=9.9							
BRVK	**Borovoye**	**48.16**	**343**	*e*P		**P**	**16 03 12.4**	**-0.8**
ZRNK	**Zerenda**	**48.45**	**342**	*e*P		**P**	**16 03 15.0**	**-0.5**
	comp=Z,24nm,0.8s,mb5.3							
AB31	**Akbulak array**	**48.99**	**333**	*i* P		**P**	**16 03 18.9**	**-0.7**
AB31				pmax		pmax		
	comp=Z,40nm,0.8s,mb5.5							
WRA	**Warramunga Arr**	**50.25**	**124**	P		**P**	**16 03 29.3**	**-0.4**
WRA				pmax		pmax		
	comp=Z,14nm,0.7s							
WRA	**Warramunga Arr**	**50.25**	**124**	P		**P**	**16 03 29.3**	**-0.5**
	comp=Z,14nm,0.7s,mb5.1,baz=305,slow=8.5,SNR=11							
WRAB	**Tennant Creek**	**50.26**	**124**	*i* P		**P**	**16 03 29.9**	**+0.1**
WRAB	**Tennant Creek**	**50.26**	**124**	*e*P		**P**	**16 03 28.9**	**-0.8**
WB2	**Warramunga Arr**	**50.26**	**124**	*e*P		**P**	**16 03 28.8**	**-1.0**
MJAR	**Matsushiro Arr**	**50.75**	**49**	P		**P**	**16 03 32.8**	**-0.5**
MJAR							16 04 49.4	
MJAR				pmax		pmax		
	comp=Z,3.0nm,0.5s							
MJAR				pmax		pmax		
	comp=Z,6.0nm,0.7s							
MJAR	**Matsushiro Arr**	**50.75**	**49**	P		**P**	**16 03 32.8**	**-0.5**
	comp=Z,2.6nm,0.5s,mb4.4,baz=199,slow=4.8,SNR=10.0							
MJAR				PcP		PcP	16 04 49.4	-1.1
	comp=Z,6.2nm,0.7s,baz=242,slow=2.9,SNR=5.8							
OPO	**Ambohidratompo**	**51.37**	**239**	P		**P**	**16 03 38.8**	**+0.6**
	comp=Z,6.8nm,0.9s,mb4.6,baz=89,slow=6.4,SNR=7.2							
BOD	**Bodaibo**	**52.52**	**15**	*e*P		**P**	**16 03 44.9**	**-1.5**
BOD				pmax		pmax		
	comp=Z,54nm,1.0s,mb5.4							
GNI	**Garni**	**52.67**	**315**	P		**P**	**16 03 47.5**	**-0.3**
GNI				pmax		pmax		
	comp=Z,13nm,0.5s							
GNI	**Garni**	**52.67**	**315**	P		**P**	**16 03 47.5**	**-0.3**
	comp=Z,13nm,0.5s,mb5.1,baz=35,slow=2.8,SNR=6.0							
GNI	**Garni**	**52.67**	**315**	*e*P		**P**	**16 03 50.3**	**+2.5**
ARU	**Arti**	**54.84**	**338**	⇓*i*P		**P**	**16 04 03.3**	**-0.2**
ARU				pmax		pmax		
	comp=Z,136nm,2.5s,mb5.5							
ARU	**Arti**	**54.84**	**338**	*e*P		**P**	**16 04 02.4**	**-1.1**
KMBO	**Kilima Mbogo**	**55.16**	**263**	*i* P		**P**	**16 04 07.9**	**+1.4**
KMBO				pmax		pmax		
	comp=Z,11nm,0.6s							
KMBO	**Kilima Mbogo**	**55.16**	**263**	P		**P**	**16 04 06.7**	**+0.2**
	comp=Z,11nm,0.6s,mb5.1,baz=57,slow=12,SNR=18							
KIV	**Kislovodsk**	**55.65**	**319**	⇓*i*P		**P**	**16 04 11.1**	**+1.6**
KIV				pmax		pmax		
	comp=Z,44nm,1.0s,mb5.4							
KIV	**Kislovodsk**	**55.65**	**319**	*e*P		**P**	**16 04 10.7**	**+1.1**
EIL	**Elat**	**57.34**	**300**	*e*P		**P**	**16 04 21.2**	**-0.7**
	comp=Z,38nm,1.0s,mb5.4							
PMG	**Port Moresby**	**57.78**	**106**	*e*P		**P**	**16 04 23.7**	**-1.4**
PMG	**Port Moresby**	**57.78**	**106**	P		**P**	**16 04 24.8**	**-0.3**
	comp=Z,21nm,0.7s,mb5.3,baz=8.1,slow=6.4,SNR=8.4							
YSS	**Yuzh-Sakhalins**	**58.06**	**39**	*e*P		**P**	**16 04 26.5**	**-0.1**
YSS				pmax		pmax		
	comp=Z,57nm,2.5s,mb5.2							
YSS	**Yuzh-Sakhalins**	**58.06**	**39**	*e*P		**P**	**16 04 26.6**	**0.0**
ANN	**Anapa**	**59.45**	**318**	*e*P		**P**	**16 04 25.2**	**-11**
CTAO

GERES pmax pmax
comp=Z,12nm,0.7s
GERES GERESS Array B 76.16 318 P **P** **16 06 19.9 -1.0**
comp=Z,12nm,0.7s,mb4.9,baz=92,slow=5.5,SNR=19
RUE Ruedersdorf 76.37 322 *eP* **P** **16 06 21.1 -0.9**
CLL Collm 76.76 321 *i* P **P** **16 06 25.9 +1.7**
CLL *i* *SP sP 16 06 32.2 +0.1
CLL pmax pmax
comp=Z,21nm,1.2s,mb4.9
CLL Collm 76.76 321 *i* P **P** **16 06 25.9 +1.7**
CLL *ep*P pP 16 06 30.0 -0.1
CLL *i* sP sP 16 06 32.2 +0.1
CLL Collm 76.76 321 P **P** **16 06 25.9 +1.7**
comp=Z,logA/T=1.2,mb4.9
CLL *e*PP pP 16 06 30.0 -0.1
CLL *i* *SP sP 16 06 32.2 +0.1
BILL Bilibino 76.76 22 ⇓*i*P **P** **16 06 25.0 +1.1**
BILL pmax pmax
comp=Z,25nm,1.3s,mb5.0
MOX Moxa 77.60 320 *eP* **P** **16 06 30.0 +1.1**
GRA1 Grafenberg Arr 77.82 319 *eP* **P** **16 06 30.3 +0.2**
comp=Z,40nm,1.3s,mb5.2
GRF Grafenberg Arr 77.82 319 P **P** **16 06 30.3 +0.2**
GRF pmax pmax
comp=Z,40nm,1.3s,mb5.2
GRF Grafenberg Arr 77.82 319 *eP* **P** **16 06 30.3 +0.2**
comp=Z,40nm,1.3s,mb5.2
MAW Mawson 78.27 191 *eP* **P** **16 06 32.6 +0.4**
comp=Z,11nm,1.8s,mb4.5
MAW Mawson 78.27 191 P **P** **16 06 32.8 +0.6**
MAW pmax pmax
comp=Z,5.0nm,0.8s
MAW Mawson 78.27 191 P **P** **16 06 32.8 +0.6**
comp=Z,5.3nm,0.8s,mb4.5,baz=324,slow=8.8,SNR=6.8
NB2 NORSAR Subarra 78.44 331 P **P** **16 06 31.8 -1.5**
comp=Z,16nm,1.1s,mb4.9,baz=94,slow=5.6
NOA NORSAR Array B 78.44 331 P **P** **16 06 32.2 -1.1**
NOA pmax pmax
comp=Z,7.0nm,0.9s
NOA NORSAR Array B 78.44 331 P **P** **16 06 32.2 -1.1**
comp=Z,6.8nm,0.9s,mb4.6,baz=94,slow=5.6,SNR=6.8
NOA NORSAR Array B 78.44 331 P **P** **16 06 32.2 -1.1**
DAVOX Davos 78.66 316 P **P** **16 06 34.3 -0.5**
comp=Z,25nm,0.5s,mb5.4,baz=154,slow=7.5,SNR=26
KONO Kongsberg 79.16 329 *eP* **P** **16 06 40.1 +2.9**
KONO Kongsberg 79.16 329 *eP* **P** **16 06 40.2 +3.0**
LPG La Plagne 80.86 315 *eP* **P** **16 06 46.0 -0.6**
comp=Z,45nm,0.6s,mb5.3
BNI Bardonecchia 80.93 314 *eP* **P** **16 06 46.3 -0.7**
comp=Z,53nm,1.2s,mb5.3
EJON La Jonquera 83.84 312 P **P** **16 07 01.5 -0.7**
comp=Z,1.6nm,0.4s,mb4.5
ETOS Mallorca 84.15 309 P **P** **16 07 05.0 +1.2**
comp=Z,18nm,0.9s,mb5.2
EMIR Miracle 84.90 311 P **P** **16 07 07.3 -0.2**
comp=Z,18nm,0.7s,mb5.3
SYO Syowa Base 84.92 197 ⇓pP pP 16 07 17.5 +4.6
EPOB Poblet 85.30 311 P **P** **16 07 08.9 -0.6**
comp=Z,16nm,0.7s,mb5.2
EIBI Ibiza 85.36 309 P **P** **16 07 09.7 -0.1**
comp=Z,8.3nm,0.6s,mb5.0
EGRA Graus 85.76 312 P **P** **16 07 12.4 +0.6**
comp=Z,7.6nm,0.6s,mb5.1
EBR Ebro Roquetas 85.80 310 *eP* **P** **16 07 12.0 0.0**
ESAC San Caprasio 86.40 311 P **P** **16 07 14.5 -0.5**
comp=Z,9.8nm,0.4s,mb5.4
EMOS Mosqueruela 86.58 310 P **P** **16 07 17.2 +1.3**
comp=Z,17nm,0.8s,mb5.3
ECHE Chera 87.06 309 P **P** **16 07 19.1 +0.8**
comp=Z,6.4nm,0.8s,mb4.9
ETOB Tobarra 87.65 309 P **P** **16 07 22.1 +1.1**
comp=Z,7.8nm,0.8s,mb5.0
EVIA Vianos 88.39 309 P **P** **16 07 23.5 -1.1**
comp=Z,4.5nm,0.5s,mb5.0
EHUE Huescar 88.58 308 P **P** **16 07 26.7 +1.1**
comp=Z,1.6nm,0.2s,mb5.0
EQES Quesada 88.96 308 P **P** **16 07 26.5 -0.9**
comp=Z,4.7nm,0.6s,mb5.0
EBER Berja 88.96 307 P **P** **16 07 28.9 +1.4**
comp=Z,17nm,0.7s,mb5.5
ESDC Sonseca Array 89.34 310 P **P** **16 07 28.7 -0.5**
comp=Z,3.1nm,0.5s,mb4.9,baz=62,slow=4.4,SNR=24
ESDC Sonseca Array 89.34 310 P **P** **16 07 29.2 +0.1**
comp=Z,3.9nm,0.3s,mb5.2
EBAN Banos Encina 89.46 308 P **P** **16 07 29.1 -0.6**
comp=Z,5.1nm,0.6s,mb5.0
EGUA Guajares 89.51 307 P **P** **16 07 29.4 -0.6**
comp=Z,0.8nm,0.3s,mb4.5
EADA Adamuz 90.07 308 P **P** **16 07 31.8 -0.8**
comp=Z,14nm,1.2s,mb5.2
ECAB El Cabril 90.74 308 P **P** **16 07 34.6 -1.1**
comp=Z,8.7nm,0.7s,mb5.2
PBRG Braganca 91.02 312 *eP* **P** **16 07 38.0 +1.2**
ESPR Espera 91.31 307 P **P** **16 07 38.0 -0.3**
comp=Z,6.1nm,0.8s,mb5.0
EMIN Mina Concepcio 91.77 308 P **P** **16 07 40.1 -0.4**
comp=Z,6.0nm,0.7s,mb5.0
EBAD Badajoz 91.84 309 P **P** **16 07 39.2 -1.5**
comp=Z,2.0nm,0.4s,mb4.8
PVRL Vila Real 91.84 312 *eP* **P** **16 07 41.8 +1.1**
MTE Manteigas 91.90 311 *eP* **P** **16 07 41.8 +0.9**
comp=Z,18nm,1.0s,mb5.4
MTE Manteigas 91.90 311 *eP* **P** **16 07 42.2 +1.3**
PCBR Castelo Branco 91.97 311 *eP* **P** **16 07 41.0 -0.3**
PVIS Viseu 92.09 311 *eP* **P** **16 07 42.0 +0.2**
PBEJ Beja 92.64 309 *eP* **P** **16 07 46.3 +1.9**
PTOM Tomar 92.72 310 *eP* **P** **16 07 46.6 +1.9**
ILAR Eielson Array 95.42 22 P **P** **16 07 57.3 +0.7**
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR Eielson Array 95.42 22 P **P** **16 07 57.2 +0.7**
comp=Z,2.2nm,0.7s,mb4.7,baz=300,slow=5.1,SNR=7.7
PDAR Pinedale Array 125.79 19 PKP PKPdf 16 13 35.4 -1.9
comp=Z,2.6nm,0.8s,baz=90,slow=1.8,SNR=3.8
NVAR Mina Array Bea 125.91 29 PKP PKPdf 16 13 34.2 -3.4
comp=Z,1.8nm,0.9s,baz=120,slow=37,SNR=2.8
ANMO Albuquerque 133.86 21 PKIKP PKPdf 16 13 49.8 -3.0
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO Albuquerque 133.86 21 PKP PKPdf 16 13 49.8 -3.0
comp=Z,4.5nm,1.0s,baz=198,slow=1.5,SNR=2.8
TXAR Lajitas Array 139.94 21 *i* PKIKP PKPdf 16 14 03.5 -0.6
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 139.94 21 PKiKP 16 14 03.5
comp=Z,1.0nm,0.5s,baz=65,slow=0.7,SNR=7.2
CPUP Villa Florida 145.53 234 PKP2 PKPab 16 14 11.1 -1.4
CPUP pmax pmax
comp=Z,14nm,0.8s
CPUP Villa Florida 145.53 234 PKPbc PKPbc 16 14 11.1 +0.4
comp=Z,14nm,0.8s,baz=150,slow=4.9,SNR=7.8
CPUP Villa Florida 145.53 234 *eP* PKPbc 16 14 12.5 +1.8
CFAA Coronel Fontan 150.10 216 PKPbc PKPdf 16 14 24.3 +2.9
comp=Z,2.3nm,0.8s,baz=281,slow=1.4,SNR=7.4
CFAA Coronel Fontan 150.10 216 PKPbc PKPdf 16 14 24.3 +2.9
SIV San Ignacio 152.37 251 PKPbc PKPdf 16 14 29.8 +4.7
comp=Z,5.5nm,0.8s,baz=90,slow=6.2,SNR=6.5
LVC Limon Verde 156.50 230 PKPab PKPab 16 14 57.0 -0.8
comp=Z,8.2nm,0.4s,baz=352,slow=7.4,SNR=12

*BJI **24** 16:00:11.5,8.13N×92.25E,h25km,mB5.0,mb5.1,Ms5.0*
*NEIC **24** 16:00:12.3±0.3,8.09N×92.11E,mb5.1/17,Error ellipse:*
s-maj=9.7km s-min=7.2km az=65.0
*IDC **24** 16:00:12.2±0.5,8.13N×92.10E,h31km±3km,mb4.3/21,*
mb1 4.4/21,mb1mx4.4/25,mbtmp4.5/21,Error ellipse:
s-maj=14.2km s-min=11.9km az=64.0
*MOS **24** 16:00:29.7±1.4,10.89N×92.87E,h33km,mb5.3/12,Error*
ellipse: s-maj=22.7km s-min=11.0km az=113.5
ISC 24 16:00:10.3±0.3,**8.05N**±0.05×**92.09E**±0.06,**h29**km,
h29km±1.2km**:pP-P,n103,**σ1§**12**/80,**mb4.8**/46,**MS4.9**/1,**
5C-3D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**8.93**	**107**	P		**P**	**16 02 14.7**	**-5.8**
KSM	**Kuching**	**19.28**	**109**	P		**P**	**16 04 29.0**	**-6.8**
KMI	**Kunming**	**19.79**	**30**	P		**P**	**16 04 40.8**	**-0.7**
KMI				AMB		AMB		
	comp=Z,93nm,1.7s							
KMI	**Kunming**	**19.79**	**30**	P		**P**	**16 04 40.7**	**-0.8**
	comp=Z,93nm,1.7s							
QIZ	**Qiongzhong**	**20.40**	**56**	P		**P**	**16 04 39.4**	**-8.5**
	comp=Z,248nm,1.4s							
LSA	**Lhasa**	**21.56**	**358**	*eP*		**P**	**16 05 01.1**	**+1.5**
GYA	**Guiyang**	**22.96**	**35**	P		**P**	**16 05 15.3**	**+1.7**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.3							
KKM	**Kota Kinabalu**	**24.02**	**93**	*eP*		**P**	**16 05 18.0**	**-6.0**
CD2	**Chengdu**	**25.23**	**24**	P		**P**	**16 05 36.4**	**+1.0**
ENH	**Enshi**	**27.47**	**34**	*eP*		**P**	**16 05 54.8**	**-1.4**
QZH	**Quanzhou**	**30.36**	**53**	⇓*i*P		**P**	**16 06 24.1**	**+2.0**
QZH				AMB		AMB		
	comp=Z,110nm,0.9s,mb5.6							
GTA	**Gaotai**	**31.99**	**11**	*eP*		**P**	**16 06 37.4**	**+1.1**
GTA				AP		pP	16 06 44.4	-0.5
GTA				AMB		AMB		
	comp=Z,121nm,1.2s,mb5.6							
NJ2	**Nanjing**	**34.48**	**42**	*eP*		**P**	**16 06 54.3**	**-3.7**
NJ2				AP		pP	16 07 03.4	-3.3
NJ2				XP		sP	16 07 07.6	-2.8
NJ2				AMB		AMB		
	comp=Z,40nm,1.2s,mb5.2							
NJ2				AMB		AMB		
	comp=Z,2μm,10.4s							
WMQ	**Urumqi**	**35.84**	**355**	P		**P**	**16 07 10.4**	**+0.9**
WMQ				AP		pP	16 07 17.4	-0.8
WMQ				PP		PP	16 08 31.5	+0.5
WMQ				S		**S**	**16 12 46.6**	**+2.1**
WMQ				AMB		AMB		
	comp=Z,14nm,4.5s							
WMQ				LR		LR		
	comp=N,1μm,16.2s,MS4.9							
WMQ				LR		LR		
	comp=E,1μm,16.5s,MS4.9							
HHC	**Hu-ho-hao-te**	**36.98**	**25**	*eP*		**P**	**16 07 20.9**	**+1.8**
HHC				AP		pP	16 07 24.9	-2.8
HHC				XP		sP	16 07 28.5	-2.9
HHC				PP		PP	16 08 47.6	+2.0
HHC				PCP		PcP	16 09 41.6	+1.4
HHC				S		**S**	**16 13 05.4**	**+3.4**
HHC				SCP			16 13 27.0	
HHC				SCS		ScS	16 17 32.8	+3.1
AAK	**Ala-Archa**	**37.77**	**339**	*eP*		**P**	**16 07 23.5**	**-2.2**
AAK				pmax		pmax		
	comp=Z,15nm,1.4s,mb4.5							
MKAR	**Makanchi Array**	**39.51**	**349**	*eP*		**P**	**16 07 40.5**	**+0.3**
MKAR				pmax		pmax		
	comp=Z,12nm,0.8s							
MKAR	**Makanchi Array**	**39.51**	**349**	P		**P**	**16 07 40.2**	**0.0**
	comp=Z,4.5nm,0.8s,mb4.2,baz=170,slow=7.6,SNR=9.3							
MKAR	**Makanchi Array**	**39.51**	**349**	P		**P**	**16 07 40.2**	**0.0**
KKAR	**Karatay Array**	**39.72**	**335**	*i* P		**P**	**16 07 42.3**	**+0.3**
KKAR				pmax		pmax		
	comp=Z,111nm,1.7s,mb5.3							
SONM	**Songino Array**	**41.47**	**15**	P		**P**	**16 07 56.5**	**+0.2**
	comp=Z,17nm,0.9s,mb4.7,baz=193,slow=7.8,SNR=15							
FITZ	**Fitzroy Crossi**	**42.09**	**128**	*eP*		**P**	**16 08 01.5**	**-0.3**
	comp=Z,22nm,0.9s,mb4.8							
FITZ	**Fitzroy Crossi**	**42.09**	**128**	P		**P**	**16 08 02.0**	**+0.1**
	comp=Z,25nm,0.9s,mb4.8,baz=298,slow=5.0,SNR=7.1							
ZAK	**Zakamensk**	**43.22**	**10**	*eP*		**P**	**16 08 10.3**	**-0.3**
ZAK				pmax		pmax		
	comp=Z,9.0nm,1.2s,mb4.4							
NWAO	**Narrogin (SRO)**	**47.26**	**151**	P		**P**	**16 08 44.0**	**+0.9**
	comp=Z,6.2nm,0.5s,mb4.8,baz=50,slow=8.1,SNR=6.8							
NWAO	**Narrogin (SRO)**	**47.26**	**151**	*eP*		**P**	**16 08 43.5**	**+0.4**
BVAR	**Borovoye Array**	**48.19**	**343**	P		**P**	**16 08 49.1**	**-1.0**
	comp=Z,2.3nm,0.7s,mb4.3,baz=150,slow=7.9,SNR=4.5							
BVAR				pP		pP	16 08 58.7	-0.3
	comp=Z,7.2nm,0.9s,baz=166,slow=6.1,SNR=7.2							
BRVK	**Borovoye**	**48.25**	**343**	*eP*		**P**	**16 08 50.6**	**+0.1**
ZRNK	**Zerenda**	**48.55**	**342**	*eP*		**P**	**16 08 52.7**	**-0.2**
	comp=Z,13nm,0.9s,mb5.0							
AB31	**Akbulak array**	**49.12**	**333**	P		**P**	**16 08 48.5**	**-8.8**
AB31				pmax		pmax		
	comp=Z,21nm,1.1s,mb5.1							
WRA	**Warramunga Arr**	**50.02**	**124**	P		**P**	**16 09 04.2**	**-0.5**
	comp=Z,8.7nm,0.8s,mb4.8,baz=306,slow=8.6,SNR=10.0							
WRA				pP		pP	16 09 14.0	+0.5
	comp=Z,14nm,0.8s,baz=304,slow=8.6,SNR=4.3							
WRAB	**Tennant Creek**	**50.03**	**124**	*eP*		**P**	**16 09 02.5**	**-2.1**
WB2	**Warramunga Arr**	**50.03**	**124**	*eP*		**P**	**16 08 57.8**	**-6.9**
MJAR	**Matsushiro Arr**	**50.56**	**49**	P		**P**	**16 09 08.3**	**-0.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=247,slow=9.0,SNR=4.4							
MJAR				PcP		PcP	16 10 25.8	-0.5
	comp=Z,1.8nm,0.6s,baz=238,slow=3.1,SNR=4.1							
MJAR				pPcP			16 10 36.6	
	comp=Z,3.5nm,0.7s,baz=243,slow=4.5,SNR=6.2							
JHJ	**Hachijo jima 2**	**50.58**	**53**	P		**P**	**16 09 06.2**	**-2.5**
	comp=Z,65nm,0.3s,mb6.0,baz=242,slow=23,SNR=6.0							
OPO	**Ambohidratompo**	**51.59**	**239**	P		**P**	**16 09 16.7**	**+0.2**
	comp=Z,2.5nm,0.8s,mb4.2,baz=88,slow=14,SNR=3.2							
OPO				pP		pP	16 09 26.2	+0.8
	comp=Z,1.1nm,0.4s,baz=103,slow=4.4,SNR=2.6							
BOD	**Bodaibo**	**52.47**	**15**	*eP*		**P**	**16 09 22.1**	**-0.6**
BOD				*e*			16 09 28.3	
BOD				pmax		pmax		
	comp=Z,34nm,1.4s,mb5.1							
BOD				pmax		pmax		
	comp=Z,36nm,1.1s,mb5.2							
GNI	**Garni**	**52.87**	**315**	⇑*i*P		pP	16 09 36.2	+1.3
GNI				pmax		pmax		
	comp=Z,38nm,1.3s							
ARU	**Arti**	**54.95**	**338**	⇓*i*P		**P**	**16 09 41.1**	**+0.1**
ARU				*e*S		**S**	**16 17 04.8**	**-14**
ARU				*e*SS		SS	16 20 42.7	-20
ARU				pmax		pmax		
	comp=Z,38nm,1.2s,mb5.3							
ARU	**Arti**	**54.95**	**338**	P		**P**	**16 09 40.4**	**-0.6**
	comp=Z,84nm,1.5s,mb5.5							
KMBO	**Kilima Mbogo**	**55.43**	**263**	P		**P**	**16 09 45.3**	**+0.3**
	comp=Z,5.1nm,0.8s,mb4.6,baz=58,slow=12,SNR=7.0							
KMBO				pP		pP	16 09 54.3	+0.4
	comp=Z,8.2nm,0.8s,baz=60,slow=12,SNR=9.6							
KIV	**Kislovodsk**	**55.84**	**318**	*eP*		pP	16 09 56.8	+0.3
KIV				pmax		pmax		
	comp=Z,37nm,1.3s,mb5.2							
ASAJ	**Asahikawa**	**56.62**	**42**	P		**P**	**16 09 52.6**	**-0.5**
	comp=Z,5.4nm,0.8s,mb4.6,baz=178,slow=11,SNR=4.1							
YSS	**Yuzh-Sakhalins**	**57.91**	**39**	*eP*		**P**	**16 10 02.5**	**+0.3**
YSS				pmax		pmax		
	comp=Z,17nm,1.0s,mb5.0							
ANN	**Anapa**	**59.64**	**318**	*eP*		pP	16 10 23.2	-0.1
YAK	**Yakutsk**	**60.49**	**19**	⇑*i*P		**P**	**16 10 19.5**	**-0.3**
YAK				pmax		pmax		
	comp=Z,59nm,1.3s,mb5.5							
YAK	**Yakutsk**	**60.49**	**19**	*eP*		**P**	**16 10 18.3**	**-1.5**
	comp=Z,27nm,0.9s,mb5.3							
BRTR	**Keskin Array B**	**60.78**	**311**	P		**P**	**16 10 19.9**	**-2.3**
	comp=Z,2.0nm,0.7s,mb4.3,baz=135,slow=8.7,SNR=3.6							
STKA	**Stephens Creek**	**61.70**	**133**	*eP*		**P**	**16 10 28.5**	**0.0**
	comp=Z,9.1nm,0.9s,mb4.9							
STKA	**Stephens Creek**	**61.70**	**133**	P		**P**	**16 10 26.2**	**-2.3**
	comp=Z,8.5nm,0.9s,mb4.9,baz=245,slow=16,SNR=3.8							
MBAR	**Mbarara**	**61.75**	**265**	*eP*		**P**	**16 10 29.8**	**+0.7**
	comp=Z,7.4nm,1.1s,mb4.7							
ISP	**Isparta**	**62.74**	**308**	*eP*		pP	16 10 43.7	-0.7
OBN	**Obninsk**	**64.16**	**328**	*eP*		pP	16 10 51.5	-2.0
OBN				pmax		pmax		
	comp=Z,47nm,1.6s,mb5.3							
KIS	**Kishinev**	**66.03**	**318**	*eP*		pP	16 11 05.0	-0.7
AKASG	**Malin Array Be**	**66.76**	**322**	*i* P		**P**	**16 11 00.9**	**-0.3**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**66.76**	**322**	P		**P**	**16 10 58.4**	**-2.8**
	comp=Z,0.7nm,0.5s,mb3.9,baz=89,slow=5.1,SNR=4.5							
AKASG				pP		pP	16 11 09.3	-1.0
	comp=Z,2.0nm,0.7s,baz=90,slow=4.6,SNR=3.8							
AKASG	**Malin Array Be**	**66.76**	**322**	P		**P**	**16 10 58.4**	**-2.8**
AKASG				pP		pP	16 11 09.3	-1.0
TOO	**Toolangi**	**67.37**	**136**	*eP*		**P**	**16 11 06.9**	**+1.6**
	comp=Z,13nm,0.7s,mb5.1							
MA2	**Magadan**	**67.56**	**28**	*eP*		**P**	**16 11 06.6**	**+0.5**
MA2				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
MA2	**Magadan**	**67.56**	**28**	*eP*		**P**	**16 11 04.5**	**-1.6**
	comp=Z,15nm,0.9s,mb5.0							
MLR	**Muntele Rosu**	**67.63**	**316**	P		**P**	**16 11 07.5**	**+0.7**
	comp=Z,4.5nm,0.8s,mb4.5,baz=155,slow=6.8,SNR=3.6							
MLR				pP		pP	16 11 15.9	0.0
	comp=Z,11nm,0.9s,baz=166,slow=8.3,SNR=6.0							
CNB	**Canberra Magne**	**69.03**	**133**	*eP*		**P**	**16 11 16.4**	**+0.7**
	comp=Z,37nm,1.2s,mb5.2							
SEY	**Seymchan**	**69.62**	**25**	⇑*i*P		**P**	**16 11 18.7**	**-0.1**
FINES	**FINESS Array B**	**71.62**	**332**	*i* P		pP	16 11 39.5	-0.5
FINES				pmax		pmax		
	comp=Z,4.0nm,0.8s							
FINES	**FINESS Array B**	**71.62**	**332**	P		**P**	**16 11 29.0**	**-1.9**
	comp=Z,2.3nm,0.8s,mb4.1,baz=108,slow=8.8,SNR=2.9							
FINES				pP		pP	16 11 39.5	-0.6
	comp=Z,4.3nm,0.8s,baz=108,slow=8.8,SNR=4.5							
KAF	**Kangasniemi**	**71.72**	**333**	*ep*		**P**	**16 11 30.3**	**-1.2**
OKC	**Ostrava-Krasne**	**73.54**	**320**	*eP*		pP	16 11 51.3	-0.3
OKC	**Ostrava-Krasne**	**73.54**	**320**	*epP*		pP	16 11 51.3	-0.3
BOSA	**Boshof**	**73.96**	**237**	P		**P**	**16 11 45.0**	**-0.4**
	comp=Z,3.6nm,0.9s,mb4.3,baz=82,slow=9.8,SNR=3.9							
ARCES	**ARCESS Array B**	**74.42**	**340**	P		**P**	**16 11 47.2**	**0.0**
	comp=Z,3.5nm,0.9s,mb4.3,baz=90,slow=9.0,SNR=3.4							
DPC	**Dobruska-Polom**	**74.77**	**320**	*eP*		**P**	**16 11 50.4**	**+0.9**
KSP	**Ksiaz**	**74.84**	**320**	*eP*		**P**	**16 11 50.2**	**+0.3**
KSP				*e**PP		pP	16 11 57.8	-1.3
UPC	**Upice**	**74.98**	**320**	*eP*		pP	16 11 58.8	-1.2
UPC	**Upice**	**74.98**	**320**	*epP*		pP	16 11 58.8	-1.2
PRU	**Pruhonice**	**75.88**	**319**	*eP*		pP	16 12 05.0	-0.1
PRU	**Pruhonice**	**75.88**	**319**	*epP*		pP	16 12 05.0	-0.1
PVCC	**Panska Ves**	**75.90**	**320**	*eP*		**P**	**16 11 56.2**	**+0.2**
GERES	**GERESS Array B**	**76.35**	**318**	P		**P**	**16 11 58.5**	**-0.1**
	comp=Z,2.7nm,0.7s,mb4.3,baz=99,slow=5.4,SNR=7.7							
GERES				pP		pP	16 12 08.3	+0.5
	comp=Z,5.0nm,0.8s,baz=90,slow=5.3,SNR=8.1							
KHC	**Kasperske Hory**	**76.44**	**319**	*eP*		pP	16 12 08.9	+0.6
KHC	**Kasperske Hory**	**76.44**	**319**	*epP*		pP	16 12 08.9	+0.6
RUE	**Ruedersdorf**	**76.54**	**322**	P		**P**	**16 11 59.5**	**0.0**
	comp=Z,37nm,1.2s,mb5.2							
BILL	**Bilibino**	**76.68**	**22**	⇑*i*P		**P**	**16 12 01.3**	**+1.3**
BILL				pmax		pmax		
	comp=Z,16nm,1.7s,mb4.7							
CLL	**Collm**	**76.94**	**321**	*eP*		pP	16 12 10.0	-1.0
CLL				pmax		pmax		
	comp=Z,12nm,1.0s,mb4.8							
CLL	**Collm**	**76.94**	**321**	*eP*		pP	16 12 10.0	-1.0
	comp=Z,12nm,1.0s							
CLL	**Collm**	**76.94**	**321**	*e**PP		pP	16 12 10.0	-1.0
MOX	**Moxa**	**77.79**	**320**	*eP*		pP	16 12 18.0	+2.3
GRA1	**Grafenberg Arr**	**78.01**	**319**	*eP*		**P**	**16 12 09.0**	**+1.3**
	comp=Z,33nm,1.3s,mb5.1							
GRA1				*ep*P		pP	16 12 18.3	+1.3
GRF	**Grafenberg Arr**	**78.01**	**319**	P		**P**	**16 12 09.0**	**+1.3**
GRF				pmax		pmax		
	comp=Z,33nm,1.3s,mb5.1							
GRF	**Grafenberg Arr**	**78.01**	**319**	*eP*		**P**	**16 12 09.0**	**+1.3**
	comp=Z,33nm,1.3s,mb5.1							
GRF				*ep*P		pP	16 12 18.3	+1.3
FX1	**Attu Island--F**	**78.24**	**38**	P		**P**	**16 12 08.4**	**-0.5**
	comp=Z,7.2nm,0.5s,mb4.9,baz=100,slow=9.5,SNR=6.1							
MAW	**Mawson**	**78.30**	**191**	⇑*i*P		**P**	**16 12 10.2**	**+1.2**
	comp=Z,3.6nm,0.6s,mb4.5							
MAW	**Mawson**	**78.30**	**191**	P		**P**	**16 12 09.6**	**+0.6**
	comp=Z,3.7nm,0.6s,mb4.5,baz=0.3,slow=6.0,SNR=12							
NB2	**NORSAR Subarra**	**78.59**	**331**	P		**P**	**16 12 09.6**	**-1.1**
	comp=Z,3.6nm,0.9s,mb4.3,baz=94,slow=5.8							
NOA	**NORSAR Array B**	**78.59**	**331**	P		**P**	**16 12 09.4**	**-1.3**
	comp=Z,1.7nm,0.9s,mb4.0,baz=93,slow=5.7,SNR=3.3							
NOA				pP		pP	16 12 19.5	-0.4
	comp=Z,3.2nm,0.8s,baz=94,slow=5.5,SNR=4.8							
DAVOX	**Davos**	**78.86**	**316**	P		**P**	**16 12 12.8**	**+0.4**
	comp=Z,3.0nm,0.5s,mb4.5,baz=100,slow=6.6,SNR=5.9							
KONO	**Kongsberg**	**79.31**	**329**	*eP*		pP	16 12 22.9	-1.0
SYO	**Syowa Base**	**84.98**	**197**	⇓pP		**P**	**16 12 47.0**	**+3.2**
YKA	**Yellowknife Ar**	**106.72**	**13**	PP		PP	16 18 54.3	+1.9
	comp=Z,0.6nm,0.4s,baz=321,slow=6.8,SNR=5.2							
PDAR	**Pinedale Array**	**125.71**	**20**	PKP		PKPdf	16 19 11.0	-3.7
	comp=Z,0.5nm,0.7s,slow=0.9,SNR=2.6							
NVAR	**Mina Array Bea**	**125.79**	**29**	PKP		PKPdf	16 19 12.0	-2.9
	comp=Z,0.9nm,0.7s,baz=38,slow=1.4,SNR=4.6							
CPUP	**Villa Florida**	**145.74**	**234**	PKPbc		PKPbc	16 19 48.8	+1.1
	comp=Z,3.9nm,0.7s,baz=120,slow=3.4,SNR=6.8							
CFAA	**Coronel Fontan**	**150.25**	**215**	PKPbc		PKPdf	16 20 01.3	+2.3
	comp=Z,0.7nm,0.8s,baz=326,slow=1.5,SNR=5.8							
SIV	**San Ignacio**	**152.62**	**251**	PKPbc		PKPdf	16 20 06.0	+3.0
	comp=Z,2.2nm,0.6s,baz=99,slow=3.4,SNR=5.9							
SIV				PKPab		PKPab	16 20 16.3	-1.6
	comp=Z,3.1nm,1.0s,baz=49,slow=5.5,SNR=3.3							

*PRU **24** 16:05:32.5,51.39N×16.15E*
WAR 24 16:05:32.0,51.45N×16.17E,h1km,ML3.0,Mining
Induced,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.61**	**173**	*e*PG		Pg	16 05 43.0	-1.2
KSP				*e*SG		Sg	16 05 51.0	-1.4
UPC	**Upice**	**0.95**	**186**	*e*PG		Pg	16 05 49.4	-1.5
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*PG		Pg	16 05 52.2	-1.9
DPC				*e*SG		Sg	16 06 06.3	-2.5
PVCC	**Panska Ves**	**1.37**	**228**	*e*PG		Pg	16 05 57.7	-1.6
PRU	**Pruhonice**	**1.79**	**216**	*e*PG		Pg	16 06 04.5	-3.3
PRU				*e*SG		Sg	16 06 28.2	-3.5
CLL	**Collm**	**1.99**	**267**	*e*PG		Pg

QZH				AMB	AMB			
	comp=Z,50nm,0.7s,mb5.3							
WHN	**Wuhan**	**30.69**	**40**	P	**P**	**16 18 01.8**	**+5.1**
GTA	**Gaotai**	**32.06**	**12**	*e*P	**P**	**16 18 09.3**	**+0.6**
GTA				AP	pP	16 18 16.4	-1.6
GTA				XP	sP	16 18 19.3	-2.8
GTA				AMB	AMB			
	comp=Z,25nm,0.9s,mb5.0							
MKAR	**Makanchi Array**	**39.53**	**350**	P	**P**	**16 19 12.8**	**+0.6**
	comp=Z,3.4nm,0.7s,mb4.2,baz=169,slow=8.5,SNR=14							
MKAR				pP	pP	16 19 22.3	+0.6
	comp=Z,5.9nm,0.7s,baz=167,slow=7.9,SNR=12							
MKAR	**Makanchi Array**	**39.53**	**350**	P	**P**	**16 19 12.8**	**+0.6**
MKAR				pP	pP	16 19 22.3	+0.6
KKAR	**Karatay Array**	**39.71**	**335**	*i* P	**P**	**16 19 13.3**	**-0.4**
KKAR				pmax	pmax			
	comp=Z,32nm,1.3s,mb4.9							
SONM	**Songino Array**	**41.55**	**15**	P	**P**	**16 19 29.0**	**+0.3**
	comp=Z,9.6nm,0.7s,mb4.5,baz=195,slow=8.6,SNR=34							
SONM				pP	pP	16 19 38.9	+0.7
	comp=Z,14nm,0.9s,baz=193,slow=6.7,SNR=12							
FITZ	**Fitzroy Crossi**	**42.16**	**128**	*e*P	**P**	**16 19 34.0**	**-0.2**
	comp=Z,10nm,0.8s,mb4.5							
FITZ	**Fitzroy Crossi**	**42.16**	**128**	P	**P**	**16 19 34.6**	**+0.4**
	comp=Z,15nm,0.8s,mb4.7,baz=328,slow=3.7,SNR=12							
ZAK	**Zakamensk**	**43.29**	**11**	*e*P	**P**	**16 19 43.4**	**+0.5**
ZAK				*e*		16 21 29.4		
ZAK				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.2							
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.3s,mb4.0							
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.6s,mb3.9							
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.5s,mb3.8							
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.2s,mb3.7							
BVAR	**Borovoye Array**	**48.20**	**343**	P	**P**	**16 20 21.1**	**-0.8**
	comp=Z,1.6nm,0.7s,mb4.2,baz=141,slow=9.5,SNR=7.7							
BRVK	**Borovoye**	**48.26**	**343**	*e*P	**P**	**16 20 20.0**	**-2.4**
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
BRVK	**Borovoye**	**48.26**	**343**	*e*P	**P**	**16 20 20.0**	**-2.4**
	comp=Z,1.0nm,0.5s,mb4.1							
ZRNK	**Zerenda**	**48.56**	**342**	*e*P	**P**	**16 20 24.3**	**-0.3**
ZRNK				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
ZRNK	**Zerenda**	**48.56**	**342**	*e*P	**P**	**16 20 24.3**	**-0.3**
	comp=Z,5.2nm,0.8s,mb4.6							
AB31	**Akbulak array**	**49.11**	**333**	P	**P**	**16 20 28.3**	**-0.7**
AB31				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.4							
WRA	**Warramunga Arr**	**50.10**	**124**	P	**P**	**16 20 36.8**	**-0.2**
	comp=Z,8.0nm,0.8s,mb4.8,baz=305,slow=8.6,SNR=29							
WRAB	**Tennant Creek**	**50.11**	**124**	*e*P	**P**	**16 20 37.0**	**0.0**
WB2	**Warramunga Arr**	**50.11**	**124**	*e*P	**P**	**16 20 36.5**	**-0.5**
MJAR	**Matsushiro Arr**	**50.69**	**49**	P	**P**	**16 20 41.7**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=227,slow=6.0,SNR=5.0							
BOD	**Bodaibo**	**52.55**	**15**	*e*P	**P**	**16 20 54.1**	**-0.9**
BOD				pmax	pmax			
	comp=Z,20nm,1.0s,mb5.0							
GNI	**Garni**	**52.81**	**315**	P	**P**	**16 20 57.1**	**-0.1**
	comp=Z,2.1nm,0.3s,mb4.5,baz=324,slow=20,SNR=4.0							
ARU	**Arti**	**54.95**	**338**	*e*P	**P**	**16 21 20.4**	**+7.7**
KMBO	**Kilima Mbogo**	**55.29**	**263**	P	**P**	**16 21 16.2**	**+0.5**
	comp=Z,3.8nm,0.9s,mb4.4,baz=48,slow=14,SNR=6.3							
KMBO				pP	pP	16 21 26.3	+0.8
	comp=Z,4.7nm,0.7s,baz=54,slow=11,SNR=7.2							
KMBO	**Kilima Mbogo**	**55.29**	**263**	P	**P**	**16 21 16.2**	**+0.5**
KMBO				pP	pP	16 21 26.3	+0.8
KIV	**Kislovodsk**	**55.79**	**319**	*e*P	**P**	**16 21 17.5**	**-1.4**
KIV				pmax	pmax			
	comp=Z,20nm,1.0s,mb5.1							
YSS	**Yuzh-Sakhalins**	**58.02**	**39**	*e*P	**P**	**16 21 39.2**	**+4.5**
YAK	**Yakutsk**	**60.58**	**19**	P	**P**	**16 21 51.1**	**-1.0**
YAK				pmax	pmax			
	comp=Z,867nm,2.0s							
YAK	**Yakutsk**	**60.58**	**19**	P	**P**	**16 21 51.1**	**-1.0**
	comp=Z,867nm,2.0s							
STKA	**Stephens Creek**	**61.77**	**133**	P	**P**	**16 22 03.1**	**+2.4**
MLR	**Muntele Rosu**	**67.58**	**316**	P	**P**	**16 22 38.0**	**-0.2**
	comp=Z,13nm,1.1s,mb4.9,baz=62,slow=7.9,SNR=2.8							
MATP	**Matopo**	**68.47**	**244**	P	**P**	**16 22 45.1**	**+0.9**
	comp=Z,2.3nm,0.5s,mb4.4,baz=163,slow=6.3,SNR=4.8							
FINES	**FINESS Array B**	**71.60**	**332**	P	**P**	**16 23 01.1**	**-1.4**
	comp=Z,3.1nm,0.9s,mb4.2,baz=143,slow=19,SNR=4.4							
FINES				pP	pP	16 23 12.0	-0.4
	comp=Z,6.7nm,0.8s,baz=141,slow=12,SNR=6.3							
KAF	**Kangasniemi**	**71.70**	**333**	*e*p	**P**	**16 22 59.5**	**-3.6**
BOSA	**Boshof**	**73.83**	**237**	P	**P**	**16 23 16.2**	**0.0**
	comp=Z,2.6nm,0.8s,mb4.2,baz=86,slow=5.7,SNR=4.2							
ARCES	**ARCESS Array B**	**74.42**	**340**	P	**P**	**16 23 17.8**	**-1.1**
	comp=Z,2.3nm,0.8s,mb4.1,baz=20,slow=25,SNR=2.8							
KSP	**Ksiaz**	**74.79**	**320**	*e*P	**P**	**16 23 20.9**	**-0.5**
BRG	**Berggiesshubel**	**76.28**	**320**	P	**P**	**16 23 29.7**	**-0.1**
BRG				*e*	pP	16 23 39.5	-0.4
BRG				pmax	pmax			
	comp=Z,13nm,1.5s,mb4.6							
BRG	**Berggiesshubel**	**76.28**	**320**	P	**P**	**16 23 29.7**	**-0.2**
	comp=Z,13nm,1.5s,mb4.7							
BRG				*e*	pP	16 23 39.5	-0.4
GERES	**GERESS Array B**	**76.30**	**318**	P	**P**	**16 23 29.7**	**-0.2**
	comp=Z,3.1nm,0.9s,mb4.2,baz=90,slow=6.7,SNR=12							
GERES				pP	pP	16 23 39.7	-0.3
	comp=Z,8.6nm,0.9s,baz=90,slow=5.3,SNR=14							
CLL	**Collm**	**76.90**	**321**	P	**P**	**16 23 33.0**	**-0.3**
CLL				*i* *PP	pP	16 23 43.5	+0.2
MOX	**Moxa**	**77.74**	**320**	*e*P	**P**	**16 23 38.0**	**+0.1**
GRA1	**Grafenberg Arr**	**77.96**	**319**	*e*P	**P**	**16 23 39.6**	**+0.4**
	comp=Z,14nm,1.0s,mb4.8							
GRF	**Grafenberg Arr**	**77.96**	**319**	*e*P	**P**	**16 23 39.6**	**+0.4**
GRF				pmax	pmax			
	comp=Z,14nm,1.0s,mb4.8							
GRF	**Grafenberg Arr**	**77.96**	**319**	*e*P	**P**	**16 23 39.6**	**+0.4**
GRF				pmax	pmax			
	comp=Z,14nm,1.0s,mb4.8							
GRF	**Grafenberg Arr**	**77.96**	**319**	*e*P	**P**	**16 23 39.6**	**+0.4**
	comp=Z,14nm,1.0s,mb4.8							
MAW	**Mawson**	**78.23**	**191**	P	**P**	**16 23 42.1**	**+1.8**
	comp=Z,1.7nm,0.9s,mb4.0,baz=23,slow=7.7,SNR=6.0							
NB2	**NORSAR Subarra**	**78.56**	**331**	P	**P**	**16 23 41.9**	**-0.3**
	comp=Z,12nm,1.4s,mb4.7,baz=95,slow=5.8							
NB2	**NORSAR Subarra**	**78.56**	**331**	P	**P**	**16 23 41.9**	**-0.3**
NB2				pmax	pmax			
	comp=Z,13nm,1.4s,mb4.7							
NOA	**NORSAR Array B**	**78.56**	**331**	P	**P**	**16 23 42.1**	**-0.2**
	comp=Z,1.8nm,1.0s,mb4.0,baz=95,slow=5.7,SNR=3.2							
NOA				pP	pP	16 23 52.1	-0.2
	comp=Z,5.0nm,0.9s,baz=95,slow=5.5,SNR=8.1							
DAVOX	**Davos**	**78.80**	**316**	P	**P**	**16 23 44.1**	**+0.3**
	comp=Z,3.0nm,0.5s,mb4.5,baz=76,slow=3.0,SNR=7.3							
DAVOX				pP	pP	16 23 54.4	+0.4
	comp=Z,7.5nm,0.8s,baz=125,slow=16,SNR=5.8							
LPG	**La Plagne**	**81.00**	**315**	*e*P	**P**	**16 23 55.8**	**+0.1**
	comp=Z,51nm,1.0s,mb5.1							
BNI	**Bardonecchia**	**81.07**	**314**	*e*P	**P**	**16 23 52.8**	**-3.2**
	comp=Z,19nm,0.9s,mb5.0							
ESDC	**Sonseca Array**	**89.48**	**310**	P	**P**	**16 24 38.4**	**+0.3**
	comp=Z,1.0nm,0.7s,mb4.2,baz=71,slow=3.8,SNR=5.4							
ESDC				pP	pP	16 24 48.5	+0.2
	comp=Z,2.8nm,0.8s,baz=90,slow=3.5,SNR=8.1							
ILAR	**Eielson Array**	**95.43**	**22**	P	**P**	**16 25 04.7**	**-0.2**
	comp=Z,0.7nm,0.7s,mb4.2,baz=305,slow=4.7,SNR=8.4							
INK	**Inuvik**	**97.46**	**16**	*e*P	**P**	**16 25 14.9**	**+0.9**
INK				pmax	pmax			
	comp=Z,4.0nm,1.1s							
INK	**Inuvik**	**97.46**	**16**	P	**P**	**16 25 15.2**	**+1.2**
	comp=Z,1.6nm,1.0s,mb4.4,baz=349,slow=2.1,SNR=2.6							
INK	**Inuvik**	**97.46**	**16**	*e*P	**P**	**16 25 14.9**	**+1.0**
	comp=Z,4.0nm,1.1s,mb4.8							
PDAR	**Pinedale Array**	**125.80**	**19**	PKP	PKPdf	16 30 44.6	-2.1
	comp=Z,0.4nm,0.7s,slow=1.5,SNR=4.2							
PDAR				pPKP		16 30 53.5		
	comp=Z,1.3nm,0.9s,baz=100,slow=1.2,SNR=6.5							
TXAR	**Lajitas Array**	**139.95**	**21**	PKP	PKPdf	16 31 09.9	-3.6
	comp=Z,0.1nm,0.4s,baz=306,slow=49,SNR=2.6							
PLCA	**Paso Flores**	**143.87**	**203**	PKP	PKPdf	16 31 15.1	-5.0
	comp=Z,0.5nm,0.4s,baz=245,slow=3.6,SNR=3.0							
CPUP	**Villa Florida**	**145.60**	**234**	PKPbc	PKPbc	16 31 19.4	+0.3
	comp=Z,2.3nm,0.7s,baz=98,slow=3.2,SNR=6.4							
CPUP	**Villa Florida**	**145.60**	**234**	*e*P	PKPbc	16 31 19.1	+0.1
CPUP				PKPbc	PKPbc	16 31 19.4	+0.3
CFAA	**Coronel Fontan**	**150.13**	**215**	PKPbc	PKPdf	16 31 32.4	+1.6
	comp=Z,0.2nm,0.5s,baz=133,slow=6.0,SNR=4.9							
SIV	**San Ignacio**	**152.48**	**251**	PKPbc	PKPdf	16 31 37.6	+2.9
	comp=Z,0.5nm,0.4s,baz=114,slow=13,SNR=3.5							
SIV				PKPab	PKPab	16 31 47.6	-1.4
	comp=Z,1.5nm,0.7s,baz=125,slow=2.5,SNR=6.0							
LPAZ	**La Paz**	**158.88**	**245**	PKPab	PKPab	16 32 16.5	+0.2
	comp=Z,0.7nm,0.6s,baz=55,slow=3.6,SNR=3.8							

*IDC **24** 16:15:03.8±1.1, 7.62N×91.52E, mb4.2/7, mb1 4.4/7, mb1mx4.0/21, mbtmp4.2/7, Error ellipse: s-maj=71.0km s-min=20.0km az=45.0*
*NEIC **24** 16:15:08.4±0.7, 7.63N×92.60E, h30km, mb4.2/1, Error ellipse: s-maj=49.0km s-min=12.8km az=46.0*

ISC 24 16:15:06.5±0.9, 7.6N±0.3×92.6E±0.3, h30km, n9, σ0§95/9, mb4.2/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MKAR	**Makanchi Array**	**40.02**	**349**	P		**P**	**16 22 41.0**	**+0.6**
	1.9nm,0.7s,mb3.9,baz=171,slow=7.6,SNR=3.8							
FITZ	**Fitzroy Crossi**	**41.45**	**128**	P		**P**	**16 22 53.3**	**+0.9**
	12nm,1.0s,mb4.5,baz=301,slow=2.9,SNR=2.7							
BVAR	**Borovoye Array**	**48.74**	**342**	P		**P**	**16 23 49.3**	**-1.1**
	1.0nm,0.7s,mb4.0,baz=153,slow=13,SNR=3.1							
WRA	**Warramunga Arr**	**49.38**	**124**	P		**P**	**16 23 55.6**	**-0.2**
	1.8nm,0.7s,mb4.2,baz=306,slow=8.6,SNR=4.8							
WRAB	**Tennant Creek**	**49.38**	**124**	*e*P		**P**	**16 23 54.9**	**-0.9**
BRTR	**Keskin Array B**	**61.43**	**311**	P		**P**	**16 25 21.2**	**-1.4**
	1.9nm,0.8s,mb4.3,baz=117,slow=6.4,SNR=4.4							
IDI	**Anoyia**	**67.45**	**305**	P		**P**	**16 26 01.7**	**-0.2**
	5.6nm,0.8s,mb4.6,baz=47,slow=8.1,SNR=3.9							
GERES	**GERESS Array B**	**76.99**	**318**	P		**P**	**16 26 58.7**	**+0.5**
	1.7nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=6.2							
GRA1	**Grafenberg Arr**	**78.65**	**319**	*e*P		**P**	**16 27 09.0**	**+1.7**
	2.0nm,0.8s,mb4.1							

IDC 24 16:17:39.3±1.8, 7.66N×91.85E, mb3.9/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.9/5, Error ellipse: s-maj=102.5km s-min=27.7km az=50.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MKAR	**Makanchi Array**	**39.85**	**350**	P		P	16 25 14.7	-1.5
	0.7nm,0.5s,baz=158,slow=7.8,SNR=4.4							
BVAR	**Borovoye Array**	**48.49**	**343**	P		P	16 26 23.6	-2.1
	0.4nm,0.4s,baz=143,slow=7.2,SNR=3.0							
WRA	**Warramunga Arr**	**50.00**	**124**	P		P	16 26 35.8	-2.0
	0.8nm,0.7s,baz=302,slow=9.0,SNR=3.8							
GERES	**GERESS Array B**	**76.48**	**318**	P		P	16 29 31.7	-1.1
	0.8nm,0.7s,baz=100,slow=6.0,SNR=4.7							
HFS	**Hagfors**	**77.50**	**330**	P		P	16 29 36.2	-2.1
	3.8nm,1.0s,baz=121,slow=8.4,SNR=4.4							

IDC 24 16:22:29.8±1.2, 7.99N×91.90E, h28km±5km, mb3.5/6, mb1 3.7/6, mb1mx3.5/19, mbtmp3.6/6, Error ellipse: s-maj=45.6km s-min=20.5km az=52.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MKAR	**Makanchi Array**	**39.53**	**350**	P		P	16 29 58.2	-1.7
	0.6nm,0.8s,baz=180,slow=7.2,SNR=3.0							
MKAR				pP		pP	16 30 06.7	-1.7
	0.5nm,0.6s,baz=180,slow=9.2,SNR=3.5							
SONM	**Songino Array**	**41.57**	**15**	P		P	16 30 15.4	-1.2
	0.7nm,0.7s,baz=207,slow=6.4,SNR=2.9							
SONM				pP		pP	16 30 23.5	-1.7
	0.7nm,0.6s,baz=190,slow=8.8,SNR=3.7							
BVAR	**Borovoye Array**	**48.19**	**343**	P		P	16 31 05.5	-4.1
	0.3nm,0.5s,baz=180,slow=5.8,SNR=2.5							
BVAR				pP		pP	16 31 16.5	-1.8
	0.3nm,0.3s,baz=153,slow=6.6,SNR=3.9							
WRA	**Warramunga Arr**	**50.15**	**124**	P		P	16 31 23.1	-2.1
	2.0nm,0.8s,baz=303,slow=9.0,SNR=6.6							
WRA				pP		pP	16 31 31.2	-2.6
	0.7nm,0.8s,baz=304,slow=8.5,SNR=3.5							
BRTR	**Keskin Array B**	**60.68**	**311**	P		P	16 32 37.8	-3.2
	0.3nm,0.6s,baz=76,slow=5.9,SNR=2.2							
GERES	**GERESS Array B**	**76.26**	**318**	P		P	16 34 17.4	-0.2
	0.4nm,0.7s,baz=80,slow=6.0,SNR=3.9							
GERES				pP		pP	16 34 25.1	-1.5
	0.5nm,0.7s,baz=90,slow=5.3,SNR=3.5							

IDC 24 16:26:13.8±8.2, 8.65N×91.89E, mb3.6/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=188.8km s-min=62.9km az=145.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MKAR	**Makanchi Array**	**38.88**	**349**	P		P	16 33 40.9	-1.8
	0.7nm,0.7s,baz=167,slow=8.2,SNR=4.3							
SONM	**Songino Array**	**40.94**	**15**	P		P	16 33 58.1	-1.5
	0.9nm,0.8s,baz=189,slow=9.2,SNR=3.5							
GERES	**GERESS Array B**	**75.77**	**318**	P		P	16 38 01.7	-1.5
	0.5nm,0.8s,baz=72,slow=3.1,SNR=3.3							

IDC 24 16:34:45.9±8.2, 7.92N×92.19E, mb3.6/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=179.7km s-min=71.6km az=144.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MKAR	**Makanchi Array**	**39.65**	**349**	P		P	16 42 19.9	-1.2
	0.5nm,0.6s,baz=170,slow=8.8,SNR=3.6							
SONM	**Songino Array**	**41.57**	**14**	P		P	16 42 35.3	-1.6
	0.5nm,0.7s,baz=198,slow=7.8,SNR=3.8							
BVAR	**Borovoye Array**	**48.34**	**343**	P		P	16 43 28.6	-2.5
	0.4nm,0.6s,baz=135,slow=6.1,SNR=3.4							
GERES	**GERESS Array B**	**76.51**	**318**	P		P	16 46 38.2	-1.3
	0.5nm,0.7s,baz=104,slow=4.0,SNR=4.8							

IDC 24 16:42:04.7±2.0, 8.38N×93.14E, mb3.4/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=76.6km s-min=31.7km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MKAR	**Makanchi Array**	**39.39**	**348**	P		P	16 49 36.2	-1.6
	0.1nm,0.5s,baz=180,slow=8.6,SNR=3.0							
SONM	**Songino Array**	**40.90**	**14**	P		P	16 49 48.6	-1.6
	0.4nm,0.6s,baz=191,slow=7.3,SNR=2.8							
WRA	**Warramunga Arr**	**49.36**	**125**	P		P	16 50 56.2	-2.0
	0.4nm,0.8s,baz=307,slow=8.5,SNR=4.7							
GERES	**GERESS Array B**	**76.79**	**318**	P		P	16 53 58.3	-1.6
	0.1nm,0.3s,baz=117,slow=2.2,SNR=3.3							

*IDC **24** 16:45:16.8±1.1, 7.70N×91.94E, mb3.8/8, mb1 4.1/8, mb1mx3.8/21, mbtmp3.8/8, Error ellipse: s-maj=52.6km s-min=19.4km az=49.0*
*NEIC **24** 16:45:21.1±0.5, 7.71N×91.97E, h30km, mb4.1/1, Error ellipse: s-maj=15.8km s-min=9.7km az=215.0*

ISC 24 16:45:19.0±0.7, 7.7N±0.1×91.9E±0.1, h30km, n11, σ0§62/12, mb3.9/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PALK	**Pallekele**	**11.11**	**269**	*e*P		**P**	**16 47 58.9**	**-0.3**
PALK				*e*S		**S**	**16 49 53.8**	**-10**
MKAR	**Makanchi Array**	**39.86**	**350**	P		**P**	**16 52 52.1**	**+0.4**
	1.4nm,0.7s,mb3.8,baz=167,slow=8.9,SNR=8.2							
SONM	**Songino Array**	**41.90**	**15**	P		**P**	**16 53 07.8**	**-0.6**
	0.3nm,0.5s,mb3.2,baz=195,slow=9.8,SNR=2.5							
FITZ	**Fitzroy Crossi**	**42.00**	**128**	P		**P**	**16 53 10.2**	**+0.5**
	2.5nm,0.7s,mb4.0,baz=179,slow=14,SNR=2.9							
BVAR	**Borovoye Array**	**48.51**	**343**	P		**P**	**16 54 01.2**	**+0.1**
	0.5nm,0.5s,mb3.8,baz=142,slow=11,SNR=5.5							
ZRNK	**Zerenda**	**48.86**	**342**	*e*P		**P**	**16 54 03.4**	**-0.4**
	1.3nm,0.7s,mb4.1							
WRA	**Warramunga Arr**	**49.96**	**124**	P		**P**	**16 54 12.9**	**+0.2**
	1.0nm,0.9s,mb3.9,baz=300,slow=9.6,SNR=9.4							
WRAB	**Tennant Creek**	**49.97**	**124**	*e*P		**P**	**16 54 12.0**	**-0.8**
	20nm,1.3s,mb5.0							
BRTR	**Keskin Array B**	**60.90**	**311**	P		**P**	**16 55 31.2**	**-0.3**
	0.6nm,0.7s,mb3.9,baz=141,slow=9.2,SNR=3.3							
MLR	**Muntele Rosu**	**67.78**	**316**	P		**P**	**16 56 16.0**	**-0.3**
	0.5nm,0.4s,mb3.9,baz=152,slow=7.0,SNR=3.9							
GERES	**GERESS Array B**	**76.51**	**318**	P		**P**	**16 57 09.6**	**+1.6**
	0.9nm,0.8s,mb3.8,baz=90,slow=6.7,SNR=10.0							

*IDC **24** 16:48:00.2±1.4, 7.93N×91.91E, mb3.9/6, mb1 4.1/6, mb1mx3.8/19, mbtmp3.9/6, Error ellipse: s-maj=50.3km s-min=26.0km az=50.0*
*NEIC **24** 16:48:04.2±0.9, 7.78N×91.82E, h30km, mb4.3/4, Error ellipse: s-maj=24.4km s-min=11.6km az=46.0*

ISC 24 16:48:02.3±1.0, 7.8N±0.2×91.9E±0.2, h30km, n11, σ1§00/11, mb4.1/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KULM	**Kulim**	**9.06**	**105**	*e*P		**P**	**16 50 12.5**	**-1.7**
KMI	**Kunming**	**20.12**	**30**	P		**P**	**16 52 38.0**	**+1.2**
	9.0nm,1.1s							
LSA	**Lhasa**	**21.81**	**358**	*e*P		**P**	**16 52 55.0**	**+1.0**
	26nm,1.2s,mb4.5							
MKAR	**Makanchi Array**	**39.72**	**350**	P		**P**	**16 55 33.0**	**-0.8**
	1.1nm,0.6s,mb3.7,baz=169,slow=8.9,SNR=6.0							
SONM	**Songino Array**	**41.77**	**15**	P		**P**	**16 55 50.4**	**-0.3**
	2.8nm,0.8s,mb4.0,baz=195,slow=8.3,SNR=15							
BVAR	**Borovoye Array**	**48.38**	**343**	P		**P**	**16 56 42.7**	**-0.7**
	1.1nm,0.8s,mb4.0,baz=149,slow=8.6,SNR=6.4							
ZRNK	**Zerenda**	**48.73**	**342**	*e*P		**P**	**16 56 44.9**	**-1.2**
	1.5nm,0.8s,mb4.1							
WRA	**Warramunga Arr**	**50.05**	**124**	P		**P**	**16 56 57.4**	**+0.7**
	1.9nm,0.8s,mb4.2,baz=304,slow=8.7,SNR=9.6							
WRAB	**Tennant Creek**	**50.06**	**124**	*e*P		**P**	**16 56 57.7**	**+0.9**
	4.3nm,0.6s,mb4.7							
BRTR	**Keskin Array B**	**60.79**	**311**	P		**P**	**16 58 13.4**	**-0.6**
	0.8nm,0.7s,mb4.0,baz=112,slow=6.7,SNR=4.2							
GERES	**GERESS Array B**	**76.40**	**318**	P		**P**	**16 59 51.9**	**+1.2**
	0.9nm,0.8s,mb3.8,baz=90,slow=5.3,SNR=8.2							

IDC 24 16:53:38.0±1.5, 7.97N×91.96E, mb3.5/5, mb1 3.7/5, mb1mx3.5/18, mbtmp3.5/5, Error ellipse: s-maj=57.2km s-min=27.6km az=49.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MKAR	**Makanchi Array**	**39.57**	**350**	P		P	17 01 11.0	-1.5
	0.3nm,0.5s,baz=161,slow=8.2,SNR=3.2							
SONM	**Songino Array**	**41.58**	**15**	P		P	17 01 27.3	-1.8
	0.3nm,0.7s,baz=192,slow=8.2,SNR=3.6							
WRA	**Warramunga Arr**	**50.08**	**124**	P		P	17 02 35.0	-2.0
	0.3nm,0.5s,baz=304,slow=8.7,SNR=5.2							
BRTR	**Keskin Array B**	**60.74**	**311**	P		P	17 03 51.4	-2.6
	0.4nm,0.4s,baz=90,slow=8.6,SNR=3.9							
GERES	**GERESS Array B**	**76.32**	**318**	P		P	17 05 29.4	-1.2
	0.5nm,0.8s,baz=53,slow=6.7,SNR=4.4							

*NEIC **24** 16:55:58.8±0.8, 7.68N×92.11E, mb4.2/1, Error ellipse: s-maj=26.2km s-min=10.3km az=223.0*
*IDC **24** 16:55:58.8±1.5, 7.73N×92.13E, h29km±5km, mb3.4/7, mb1 3.6/7, mb1mx3.4/19, mbtmp3.6/7, Error ellipse: s-maj=42.0km s-min=26.4km az=44.0*

ISC 24 16:55:56.7±1.0, 7.5N±0.2×92.1E±0.2, h30km, h30km±.7km:pP-P, n17, σ1§41/17, mb4.0/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KULM	**Kulim**	**8.78**	**104**	*e*P		**P**	**16 58 04.0**	**-0.7**
PKI	**Pulchoki**	**20.93**	**343**	*e*P		**P**	**17 00 43.7**	**+4.1**
	15nm,0.7s							
DMN	**Daman**	**21.05**	**342**	*e*P		**P**	**17 00 44.0**	**+3.2**
	27nm,0.8s,mb4.6							
GUN	**Gumba**	**21.12**	**345**	*e*P		**P**	**17 00 45.5**	**+4.0**
KKN	**Kakani**	**21.17**	**343**	*e*P		**P**	**17 00 45.4**	**+3.4**
	13nm,0.7s,mb4.4							
GKN	**Gorkha**	**21.57**	**342**	*e*P		**P**	**17 00 47.8**	**+1.8**
	12nm,0.4s,mb4.6							
KOLN	**Koldanda**	**21.69**	**339**	*e*P		**P**	**17 00 46.6**	**-0.7**
	32

0.3nm,0.3s,baz=196,slow=10,SNR=3.8
BVAR Borovoye Array 48.19 343 P P 17 15 57.2 -2.0
0.1nm,0.3s,baz=135,slow=10,SNR=2.9
WRA Warramunga Arr 50.13 124 P P 17 16 12.6 -2.0
0.3nm,0.6s,baz=303,slow=8.9,SNR=7.8

MOS ***24*** *17:10:04.3±1.0, 8.08N×92.09E, h33km, mb5.0/19, Error ellipse: s-maj=12.9km s-min=6.9km az=111.5*
BJI ***24*** *17:10:04.1, 7.91N×91.92E, h41km, mb4.6*
NEIC ***24*** *17:10:05.8±0.3, 8.07N×92.01E, mb4.8/23, Error ellipse: s-maj=10.8km s-min=6.4km az=217.0*
IDC ***24*** *17:10:06.0±0.4, 8.11N×91.97E, h28km±2km, mb4.0/21, mb1 4.1/21, mb1mx4.1/25, mbtmp4.2/21, Error ellipse: s-maj=16.0km s-min=10.4km az=49.0*
ISC 24 17:10:03.7±0.3, 8.02N±0.05×91.96E±0.04, h29km, h29km±.4km:pP-P,n149,σ1℘02/129, mb4.6/57, MS5.7/1, 3C-5D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SNG	**Songkhla**	**8.63**	**95**	P		**P**	**17 12 11.5**	**+1.8**
NNT	**Nongplab**	**8.90**	**59**	P		**P**	**17 12 15.0**	**+1.6**
KULM	**Kulim**	**9.05**	**107**	*e*P		**P**	**17 12 14.6**	**-1.0**
BDT	**Bhumibol Dam**	**11.46**	**36**	P		**P**	**17 12 50.0**	**+1.4**
KKTK	**Khon Kaen**	**13.45**	**51**	P		**P**	**17 13 25.0**	**+10**
	278nm,0.7s							
CHRT	**Chiangrai**	**14.01**	**32**	⇓P		**P**	**17 13 21.0**	**-1.7**
	205nm,0.8s							
TRD	**Trivandrum**	**14.85**	**273**	*i* S		**S**	**17 16 15.7**	**-2.4**
HYB	**Hyderabad**	**16.05**	**307**	*e*P		**P**	**17 13 54.0**	**+4.7**
HYB	**Hyderabad**	**16.05**	**307**	*i* P		**P**	**17 13 54.0**	**+4.7**
SHL	**Shillong**	**17.45**	**360**	*e*P		**P**	**17 14 07.0**	**+0.2**
SHL				*e*S		**S**	**17 17 23.0**	**+4.9**
KSM	**Kuching**	**19.40**	**109**	*e*P		**P**	**17 14 30.8**	**+0.2**
KAD	**Karad**	**19.63**	**300**	*i* S		**S**	**17 18 07.2**	**0.0**
KMI	**Kunming**	**19.88**	**30**	P		**P**	**17 14 36.0**	**+0.2**
KMI				AP			17 14 46.4	
KMI				AMB		AMB		
	comp=Z,30nm,2.0s							
KMI	**Kunming**	**19.88**	**30**	P		**P**	**17 14 36.0**	**+0.2**
KMI				pmax		pmax		
	comp=Z,30nm,2.0s							
KMI	**Kunming**	**19.88**	**30**	P		**P**	**17 14 36.0**	**+0.2**
	comp=Z,30nm,2.0s							
KMI				pP			17 14 46.4	
PKI	**Pulchoki**	**20.41**	**343**	*e*P		**P**	**17 14 41.8**	**+0.5**
	comp=Z,173nm,1.4s							
DMN	**Daman**	**20.53**	**342**	*e*P		**P**	**17 14 42.5**	**-0.1**
	comp=Z,59nm,0.6s							
BHPL	**Bhopal**	**20.58**	**319**	*e*P		**P**	**17 14 42.4**	**-0.7**
BHPL				AMb		AMB	17 14 59.0	
	comp=Z,60nm,0.7s							
BHPL				*e*S		**S**	**17 18 27.1**	**+0.3**
GUN	**Gumba**	**20.60**	**345**	*e*P		**P**	**17 14 43.5**	**+0.2**
	comp=Z,115nm,0.7s							
KKN	**Kakani**	**20.65**	**343**	*e*P		**P**	**17 14 44.3**	**+0.5**
	comp=Z,64nm,0.9s							
GKN	**Gorkha**	**21.04**	**342**	*e*P		**P**	**17 14 48.0**	**+0.2**
	comp=Z,80nm,0.6s,mb5.2							
KOLN	**Koldanda**	**21.17**	**339**	*e*P		**P**	**17 14 49.6**	**+0.5**
	comp=Z,107nm,0.9s,mb5.2							
LSA	**Lhasa**	**21.58**	**358**	P		**P**	**17 14 54.0**	**+0.8**
LSA	**Lhasa**	**21.58**	**358**	*e*P		**P**	**17 14 53.8**	**+0.6**
LSA				pmax		pmax		
	comp=Z,61nm,1.1s,mb4.9							
LSA	**Lhasa**	**21.58**	**358**	*e*P		**P**	**17 14 53.8**	**+0.6**
	comp=Z,61nm,1.1s,mb5.0							
GYA	**Guiyang**	**23.05**	**36⇑**	*i*P		**P**	**17 15 08.6**	**+0.7**
GYA				S		**S**	**17 19 18.8**	**+6.2**
GYA				AMB		AMB		
	comp=Z,20nm,0.9s,mb4.5							
GYA				AMB		AMB		
	comp=Z,120nm,3.0s							
LGTI	**Lohaghat**	**23.99**	**334**	*e*		**P**	**17 15 28.0**	**+11**
KKM	**Kota Kinabalu**	**24.16**	**93**	*e*P		**P**	**17 15 20.5**	**+1.8**
NDI	**New Delhi**	**24.81**	**328**	*e*P		**P**	**17 15 24.5**	**-0.4**
CD2	**Chengdu**	**25.30**	**24**	P		**P**	**17 15 30.0**	**+0.4**
CD2				AMB		AMB		
	comp=Z,22nm,1.0s,mb4.6							
DDI	**Dehra Dun**	**25.73**	**331**	*e*P		**P**	**17 15 34.0**	**+0.5**
ENH	**Enshi**	**27.56**	**34**	*e*P		**P**	**17 15 48.2**	**-2.2**
	comp=Z,64nm,1.4s,mb5.1							
LZH	**Lanzhou**	**29.97**	**20**	*e*P		**P**	**17 16 11.0**	**-1.0**
LZH				AP		pP	17 16 20.0	-0.5
LZH				XP		sP	17 16 26.0	+1.7
LZH				AMB		AMB		
	comp=Z,30nm,1.5s,mb4.8							
LZH	**Lanzhou**	**29.97**	**20**	*e*P		**P**	**17 16 11.0**	**-1.0**
	comp=Z,30nm,1.5s,mb4.8							
LZH				pP		pP	17 16 20.0	-0.5
LZH				sP		sP	17 16 26.0	+1.7
XAN	**Xi'an**	**30.25**	**29**	P		**P**	**17 16 12.6**	**-1.9**
GTA	**Gaotai**	**32.04**	**12**	P		**P**	**17 16 30.5**	**+0.3**
GTA				AP		pP	17 16 39.8	+1.1
GTA				XP		sP	17 16 43.8	+1.4
GTA				AMB		AMB		
	comp=Z,31nm,0.9s,mb5.1							
SSE	**Sheshan**	**35.65**	**46**	P		**P**	**17 16 55.8**	**-5.6**
	comp=Z,39nm,0.7s,mb5.5							
SSE				pP		pP	17 17 04.3	-5.7
SSE				sP		sP	17 17 08.5	-5.2
SSE				S		**S**	**17 22 29.3**	**-5.8**
SSE				sS			17 22 44.1	
SSE				SS		SS	17 25 04.6	+9.0
SSE				LR		LR		
	comp=Z,10μm,16.0s,MS5.7							
WMQ	**Urumqi**	**35.85**	**355**	*e*P		**P**	**17 17 03.1**	**+0.1**
AAK	**Ala-Archa**	**37.75**	**339**	*e*P		**P**	**17 17 19.7**	**+0.8**
AAK				pmax		pmax		
	comp=Z,13nm,1.2s,mb4.5							
AAK	**Ala-Archa**	**37.75**	**339**	*e*P		**P**	**17 17 19.4**	**+0.5**
	comp=Z,39nm,1.4s,mb5.0							
MKAR	**Makanchi Array**	**39.51**	**350**	P		**P**	**17 17 34.0**	**+0.3**
	comp=Z,2.8nm,0.9s,mb4.0,baz=168,slow=7.9,SNR=13							
MKAR				pP		pP	17 17 42.7	+0.4
	comp=Z,3.6nm,0.8s,baz=172,slow=8.6,SNR=8.9							
MKAR	**Makanchi Array**	**39.51**	**350**	P		**P**	**17 17 34.0**	**+0.3**
MKAR				pP		pP	17 17 42.7	+0.4
KKAR	**Karatay Array**	**39.69**	**335**	*i* P		**P**	**17 17 36.1**	**+1.0**
KKAR				pmax		pmax		
	comp=Z,31nm,1.3s,mb4.9							
SONM	**Songino Array**	**41.53**	**15**	P		**P**	**17 17 51.1**	**+0.9**
	comp=Z,7.6nm,0.8s,mb4.4,baz=196,slow=8.2,SNR=38							
SONM				pP		pP	17 18 00.1	+1.2
	comp=Z,5.8nm,0.8s,baz=196,slow=8.0,SNR=10							
SONM				pPcP			17 19 57.7	
	comp=Z,2.2nm,0.9s,baz=180,slow=3.7,SNR=3.7							
FITZ	**Fitzroy Crossi**	**42.18**	**128**	*e*P		**P**	**17 17 56.1**	**+0.1**
	comp=Z,10nm,0.9s,mb4.5							
FITZ	**Fitzroy Crossi**	**42.18**	**128**	P		**P**	**17 17 56.5**	**+0.5**
	comp=Z,3.5nm,0.5s,mb4.2,baz=2.7,slow=9.0,SNR=12							
ZAK	**Zakamensk**	**43.27**	**11**	*e*P		**P**	**17 18 04.5**	**+0.1**
ZAK				*e*			17 19 57.3	
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb4.0							
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.2s,mb3.7							
CN2	**Changchun**	**46.08**	**34**	*e*P		**P**	**17 18 26.3**	**-0.7**
RDF	**Al-Radifah**	**46.61**	**302**	*e*P		pP	17 18 41.9	+1.7
RDF				AMb		AMB	17 18 43.9	
	comp=Z,26nm,0.9s,mb5.2							
NAY	**Al-Naaiem**	**46.97**	**303**	*e*P		pP	17 18 43.6	+0.7
NAY				AMb		AMB	17 18 44.6	
	comp=Z,18nm,0.7s,mb5.1							
MIB	**Mutribah**	**47.06**	**303**	*e*P		pP	17 18 44.9	+1.2
MIB				AMb		AMB	17 18 45.8	
	comp=Z,58nm,0.8s,mb5.6							
NVS	**Novosibirsk**	**47.21**	**353**	*e*P		**P**	**17 18 34.7**	**-1.1**
NVS				pmax		pmax		
	comp=Z,41nm,2.5s,mb4.9							
NVS				pmax		pmax		
	comp=N,31nm,2.2s							
NVS				pmax		pmax		
	comp=E,13nm,1.9s							
BVA0	**Borovoye Array**	**48.18**	**343**	*i* P		**P**	**17 18 43.3**	**-0.1**
BVA0				pmax		pmax		
	comp=Z,8.0nm,2.6s,mb4.3							
BVAR	**Borovoye Array**	**48.18**	**343**	P		**P**	**17 18 43.2**	**-0.2**
	comp=Z,2.2nm,0.8s,mb4.2,baz=149,slow=8.6,SNR=14							
ZRNK	**Zerenda**	**48.53**	**342**	*e*P		**P**	**17 18 45.8**	**-0.3**
ZRNK				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.6							
ZRNK	**Zerenda**	**48.53**	**342**	*e*P		**P**	**17 18 45.8**	**-0.4**
	comp=Z,5.5nm,0.8s,mb4.6							
AB31	**Akbulak array**	**49.09**	**333**	*i* P		**P**	**17 18 50.8**	**+0.3**
AB31				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.2							
WRA	**Warramunga Arr**	**50.12**	**124**	P		**P**	**17 18 58.0**	**-0.8**
	comp=Z,1.6nm,0.6s,mb4.2,baz=302,slow=9.6,SNR=18							
WRA				pP		pP	17 19 07.2	-0.5
	comp=Z,7.4nm,1.0s,baz=305,slow=8.6,SNR=15							
WRA				pPcP			17 20 27.2	
	comp=Z,2.7nm,0.9s,baz=308,slow=3.0,SNR=6.4							
WRAB	**Tennant Creek**	**50.12**	**124**	*e*P		**P**	**17 18 57.9**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.9							
WRAB	**Tennant Creek**	**50.12**	**124**	*e*P		**P**	**17 18 57.9**	**-0.9**
	comp=Z,10nm,0.8s,mb4.9							
WB2	**Warramunga Arr**	**50.13**	**124⇑**	*i*P		**P**	**17 18 57.2**	**-1.7**
MJAR	**Matsushiro Arr**	**50.68**	**49**	P		**P**	**17 19 02.8**	**0.0**
	comp=Z,1.7nm,0.7s,mb4.1,baz=207,slow=5.6,SNR=7.1							
MJAR				pP		pP	17 19 12.7	+1.1
	comp=Z,2.2nm,0.8s,baz=245,slow=7.1,SNR=5.0							
MJAR				PcP		PcP	17 20 19.8	-0.3
	comp=Z,1.4nm,0.7s,baz=243,slow=5.4,SNR=3.4							
MJAR				pPcP			17 20 29.6	
	comp=Z,1.5nm,0.6s,baz=217,slow=4.7,SNR=6.9							
OPO	**Ambohidratompo**	**51.46**	**239**	pP		pP	17 19 19.3	+1.5
	comp=Z,1.6nm,0.6s,baz=45,slow=5.1,SNR=3.5							
BOD	**Bodaibo**	**52.53**	**15**	*e*P		**P**	**17 19 15.8**	**-0.7**
BOD				pmax		pmax		
	comp=Z,17nm,1.1s,mb4.9							
GNI	**Garni**	**52.79**	**315**	P		**P**	**17 19 19.8**	**+1.1**
	comp=Z,1.7nm,0.3s,mb4.4,baz=35,slow=16,SNR=2.7							
GNI				pP		pP	17 19 28.2	+0.6
	comp=Z,4.3nm,0.5s,baz=165,slow=23,SNR=2.5							
ARU	**Arti**	**54.93**	**338⇓**	*i*P		**P**	**17 19 33.7**	**-0.5**
ARU				*e*			17 20 30.8	
ARU				*e*			17 21 39.5	
ARU				*e*S		**S**	**17 27 18.9**	**+6.8**
ARU				pmax		pmax		
	comp=Z,24nm,1.4s,mb5.0							
ARU	**Arti**	**54.93**	**338**	*e*P		**P**	**17 19 32.7**	**-1.5**
	comp=Z,32nm,1.4s,mb5.2							
ARU				*e*		pP	17 19 42.2	-0.8
KMBO	**Kilima Mbogo**	**55.29**	**263**	P		**P**	**17 19 39.7**	**+2.2**
	comp=Z,2.4nm,0.8s,mb4.3,baz=52,slow=19,SNR=3.5							
KMBO				pP		pP	17 19 47.7	+1.4
	comp=Z,10nm,0.8s,baz=65,slow=12,SNR=17							
KMBO	**Kilima Mbogo**	**55.29**	**263**	P		**P**	**17 19 39.7**	**+2.2**
KMBO				pP		pP	17 19 47.7	+1.4
KIV	**Kislovodsk**	**55.77**	**319**	*e*P		**P**	**17 19 40.1**	**-0.3**
KIV				pmax		pmax		
	comp=Z,22nm,1.2s,mb5.1							
KIV	**Kislovodsk**	**55.77**	**319**	*e*P		**P**	**17 19 40.1**	**-0.3**
	comp=Z,22nm,1.2s,mb5.1							
ASF	**Jabal al Asfar**	**56.33**	**303**	P		**P**	**17 19 46.6**	**+1.9**
	comp=Z,1.5nm,0.4s,mb4.4,baz=167,slow=8.8,SNR=2.7							
ASF				pP		pP	17 19 55.0	+1.5
	comp=Z,5.5nm,0.9s,baz=296,slow=3.9,SNR=3.0							
MALT	**Malatya**	**56.72**	**311**	*e*P		**P**	**17 19 47.7**	**+0.3**
MALT				pmax		pmax		
	comp=Z,11nm,1.1s,mb4.8							
MALT	**Malatya**	**56.72**	**311**	*e*P		**P**	**17 19 47.7**	**+0.3**
	comp=Z,11nm,1.1s,mb4.8							
YSS	**Yuzh-Sakhalins**	**58.01**	**39**	*e*P		**P**	**17 19 56.0**	**-0.3**
YSS				*e*		pP	17 20 06.0	+0.7
YAK	**Yakutsk**	**60.56**	**19**	*e*P		**P**	**17 20 12.4**	**-1.3**
YAK				pmax		pmax		
	comp=Z,19nm,1.3s,mb5.1							
YAK	**Yakutsk**	**60.56**	**19**	*e*P		**P**	**17 20 11.6**	**-2.2**
	comp=Z,10.0nm,0.8s,mb5.0							
BR131	**Keskin Array S**	**60.70**	**311**	*e*P		**P**	**17 20 13.6**	**-1.4**
	comp=Z,3.3nm,0.6s,mb4.6							
BR131				*e*		pP	17 20 22.2	-1.9
BRTR	**Keskin Array B**	**60.70**	**311**	P		**P**	**17 20 13.9**	**-1.0**
	comp=Z,1.8nm,0.8s,mb4.2,baz=135,slow=7.0,SNR=7.8							
BRTR				pP		pP	17 20 22.8	-1.3
	comp=Z,5.6nm,0.8s,baz=126,slow=7.3,SNR=16							
STKA	**Stephens Creek**	**61.78**	**133**	P		**P**	**17 20 22.6**	**+0.1**
	comp=Z,1.2nm,0.6s,mb4.2,baz=323,slow=5.1,SNR=7.4							
STKA				pP		pP	17 20 32.2	+0.7
	comp=Z,6.9nm,1.0s,baz=246,slow=8.0,SNR=4.5							
STKA	**Stephens Creek**	**61.78**	**133**	P		**P**	**17 20 22.6**	**+0.1**
STKA				pP		pP	17 20 32.2	+0.7
ISP	**Isparta**	**62.65**	**308**	*e*P		**P**	**17 20 28.7**	**+0.6**
ISP	**Isparta**	**62.65**	**308**	P		**P**	**17 20 28.5**	**+0.4**
	comp=Z,5.0nm,0.8s,mb4.7							
OBN	**Obninsk**	**64.11**	**328**	*e*P		**P**	**17 20 36.0**	**-1.5**
OBN				pmax		pmax		
	comp=Z,30nm,2.9s,mb4.8							
AKASG	**Malin Array Be**	**66.70**	**322**	P		**P**	**17 20 52.5**	**-1.8**
	comp=Z,0.5nm,0.6s,mb3.8,baz=88,slow=4.3,SNR=6.4							
AKASG				pP		pP	17 21 01.8	-1.4
	comp=Z,1.1nm,0.6s,baz=88,slow=5.2,SNR=5.0							
IDI	**Anoyia**	**66.71**	**305**	P		**P**	**17 20 55.3**	**+0.7**
	comp=Z,4.2nm,0.8s,mb4.5,baz=62,slow=11,SNR=3.1							
IDI				pP		pP	17 21 04.3	+0.7
	comp=Z,12nm,0.6s,baz=90,slow=8.2,SNR=5.1							
VRI	**Vrincioaia**	**67.10**	**316**	⇑P		**P**	**17 20 56.5**	**-0.3**
MLR	**Muntele Rosu**	**67.56**	**316**	P		**P**	**17 20 59.8**	**0.0**
	comp=Z,4.2nm,0.9s,mb4.5,baz=90,slow=5.2,SNR=6.8							
MLR				pP		pP	17 21 08.8	0.0
	comp=Z,18nm,1.1s,baz=37,slow=2.3,SNR=9.8							
MLR	**Muntele Rosu**	**67.56**	**316**	⇓P		**P**	**17 21 00.1**	**+0.4**
MLR	**Muntele Rosu**	**67.56**	**316**	⇓P		**P**	**17 21 00.1**	**+0.4**
MA2	**Magadan**	**67.64**	**28**	*e*P		**P**	**17 20 56.3**	**-3.7**
MA2				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.3							
BURAR	**Bucovina Array**	**68.49**	**318**	⇓P		**P**	**17 21 08.5**	**+3.0**
SEY	**Seymchan**	**69.70**	**25**	*e*P		**P**	**17 21 09.4**	**-3.3**
VSU	**Vasula**	**70.36**	**330**	*e*P		**P**	**17 21 16.3**	**-0.5**
KOLS	**Kolonicke sedl**	**70.67**	**319**	*e*P		**P**	**17 21 23.2**	**+4.4**
KOLS	**Kolonicke sedl**	**70.67**	**319**	*e*		**P**	**17 21 23.2**	**+4.4**
CRVS	**Cervenica-Dubn**	**71.19**	**319**	*e*P		pP	17 21 34.5	+3.4
CRVS	**Cervenica-Dubn**	**71.19**	**319**	*e*pP		pP	17 21 34.5	+3.4
STHS	**Stebnicka Huta**	**71.42**	**319**	*e*P		pP	17 21 32.6	+0.2
STHS				*e*			17 21 44.6	
STHS	**Stebnicka Huta**	**71.42**	**319**	*e*pP		pP	17 21 32.6	+0.2
STHS				*e*			17 21 44.6	
FINES	**FINESS Array B**	**71.58**	**332**	P		**P**	**17 21 23.1**	**-1.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=90,slow=7.6,SNR=3.9							
FINES				pP		pP	17 21 31.8	-1.3
	comp=Z,2.7nm,0.9s,baz=63,slow=4.3,SNR=2.6							
KECS	**Kecovo**	**71.77**	**318**	*e*P		pP	17 21 33.8	-0.7
KECS				*e*PP		PP	17 24 15.8	+9.3
KECS	**Kecovo**	**71.77**	**318**	*e*pP		pP	17 21 33.8	-0.7
KECS				*e*			17 24 15.8	
LBTB	**Lobatse**	**72.42**	**241**	pP		pP	17 21 39.3	+0.5
	comp=Z,3.6nm,0.7s,baz=76,slow=8.3,SNR=3.1							
OKC	**Ostrava-Krasne**	**73.47**	**320**	*e*P		pP	17 21 44.2	-0.4
BOSA	**Boshof**	**73.84**	**237**	pP		pP	17 21 47.4	+0.3
	comp=Z,7.8nm,0.8s,baz=71,slow=7.8,SNR=5.1							
ZST	**Bratislava**	**73.97**	**318**	*e*P		pP	17 21 47.3	-0.2
ZST	**Bratislava**	**73.97**	**318**	*e*pP		pP	17 21 47.3	-0.2
DPC	**Dobruska-Polom**	**74.70**	**320**	*e*P		**P**	**17 21 43.0**	**+0.4**
KSP	**Ksiaz**	**74.77**	**320**	*e*P		**P**	**17 21 42.6**	**-0.3**
KSP				*e**PP		pP	17 21 52.2	+0.1
UPC	**Upice**	**74.91**	**320**	*e*P		**P**	**17 21 44.1**	**+0.3**
UPC				*e*pP		pP	17 21 51.5	-1.4
CASY	**Casey**	**75.35**	**172**	*e*P		**P**	**17 21 44.8**	**-1.2**
	comp=Z,8.0nm,1.0s,mb4.6							
CASY				*e*		pP	17 21 54.6	-0.5
PRU	**Pruhonice**	**75.81**	**319**	*e*P		**P**	**17 21 51.2**	**+2.3**
PVCC	**Panska Ves**	**75.83**	**320**	*e*P		**P**	**17 21 49.3**	**+0.3**
PVCC				*e*pP		pP	17 21 58.4	+0.2
BRG	**Berggiesshubel**	**76.26**	**320**	*e*P		**P**	**17 21 57.2**	**+5.8**
BRG				*e*			17 22 00.7	
BRG				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
BRG	**Berggiesshubel**	**76.26**	**320**	*e*P		**P**	**17 21 57.1**	**+5.7**
	comp=Z,4.9nm,0.7s,mb4.5							
BRG				*e*			17 22 00.7	
GERES	**GERESS Array B**	**76.28**	**318**	P		**P**	**17 21 51.8**	**+0.3**
	comp=Z,2.6nm,0.9s,mb4.2,baz=90,slow=5.3,SNR=14							
GERES				pP		pP	17 22 00.7	0.0
	comp=Z,5.8nm,0.8s,baz=90,slow=4.9,SNR=20							
KHC	**Kasperske Hory**	**76.37**	**319**	*e*P		**P**	**17 21 52.0**	**-0.1**
KHC				*e*		pP	17 22 01.0	-0.3
KHC	**Kasperske Hory**	**76.37**	**319**	*e*P		**P**	**17 21 52.0**	**-0.1**
KHC				pP		pP	17 22 01.0	-0.3
BILL	**Bilibino**	**76.75**	**22**	*e*P		**P**	**17 21 51.0**	**-2.9**
BILL				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.4							
CLL	**Collm**	**76.88**	**321**	*e*P		**P**	**17 21 55.0**	**+0.1**
CLL				*i*		pP	17 22 03.7	-0.3
CLL				pmax		pmax		
	comp=Z,10.0nm,1.4s,mb4.5							
CLL	**Collm**	**76.88**	**321**	*e*P		**P**	**17 21 55.0**	**+0.1**
	comp=Z,10.0nm,1.4s,mb4.5							
CLL				*i*		pP	17 22 03.7	-0.3
CLL	**Collm**	**76.88**	**321**	P		**P**	**17 21 55.0**	**+0.1**
	comp=Z,logA/T=0.9,mb4.6							
CLL				*i* *PP		pP	17 22 03.7	-0.3
NKC	**Novy Kostel**	**77.17**	**320**	*e*P		**P**	**17 22 02.4**	**+5.9**
MOX	**Moxa**	**77.72**	**320**	*e*P		pP	17 22 09.1	+0.4
MOX				pmax		pmax		
	comp=Z,9.0nm,1.4s,mb4.5							
MOX	**Moxa**	**77.72**	**320**	*e*P		pP	17 22 09.1	+0.4
	comp=Z,9.0nm,1.4s							
MOX	**Moxa**	**77.72**	**320**	*i* P		pP	17 22 09.1	+0.4
	comp=Z,logA/T=0.8							
GRA1	**Grafenberg Arr**	**77.94**	**319**	*e*P		**P**	**17 22 01.4**	**+0.7**
	comp=Z,17nm,1.1s,mb4.9							
GRA1				*e*pP		pP	17 22 10.4	+0.5
GRF	**Grafenberg Arr**	**77.94**	**319**	*e*P		**P**	**17 22 01.4**	**+0.7**
GRF				*e**PP		pP	17 22 10.4	+0.5
GRF				pmax		pmax		
	comp=Z,17nm,1.1s,mb4.9							
GRF	**Grafenberg Arr**	**77.94**	**319**	*e*P		**P**	**17 22 01.4**	**+0.7**
GRF				*e**PP		pP	17 22 10.4	+0.5
GRF				pmax		pmax		
	comp=Z,17nm,1.1s,mb4.9							
GRF	**Grafenberg Arr**	**77.94**	**319**	*e*P		**P**	**17 22 01.4**	**+0.7**
	comp=Z,17nm,1.1s,mb4.9							
GRF				*e*pP		pP	17 22 10.4	+0.5
MAW	**Mawson**	**78.25**	**191**	*e*P		pP	17 22 12.4	+1.1
	comp=Z,2.9nm,0.8s							
MAW	**Mawson**	**78.25**	**191**	P		**P**	**17 22 04.0**	**+1.9**
	comp=Z,1.3nm,0.7s,mb4.0,baz=31,slow=12,SNR=3.5							
MAW				pP		pP	17 22 12.8	+1.5
	comp=Z,3.7nm,0.8s,baz=7.8,slow=5.6,SNR=7.0							
NB2	**NORSAR Subarra**	**78.54**	**331**	P		**P**	**17 22 02.1**	**-1.7**
	comp=Z,1.9nm,0.7s,mb4.1,baz=95,slow=5.3							
NB2	**NORSAR Subarra**	**78.54**	**331**	P		**P**	**17 22 02.1**	**-1.7**
NB2				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.2							
NOA	**NORSAR Array B**	**78.54**	**331**	P		**P**	**17 22 03.4**	**-0.4**
	comp=Z,0.6nm,0.8s,mb3.6,baz=106,slow=8.2,SNR=2.8							
NOA				pP		pP	17 22 11.6	-1.4
	comp=Z,1.3nm,0.8s,baz=95,slow=5.4,SNR=4.9							
NOA	**NORSAR Array B**	**78.54**	**331**	P		**P**	**17 22 03.4**	**-0.4**
NOA				pP		pP	17 22 11.6	-1.4
SUR	**Sutherland**	**78.64**	**235**	pP		pP	17 22 15.2	+1.1
	comp=Z,14nm,0.9s,baz=85,slow=4.2,SNR=3.9							
DAVOX	**Davos**	**78.78**	**316**	P		**P**	**17 22 05.9**	**+0.4**
	comp=Z,2.8nm,0.5s,mb4.5,baz=176,slow=11,SNR=8.6							
DAVOX				pP		pP	17 22 15.3	+0.7
	comp=Z,4.5nm,0.5s,baz=117,slow=5.6,SNR=7.2							
BNI	**Bardonecchia**	**81.05**	**314**	*e*P		**P**	**17 22 17.9**	**+0.3**
BNI				pmax		pmax		
	comp=Z,15nm,0.9s,mb4.9							
BNI	**Bardonecchia**	**81.05**	**314**	*e*P		**P**	**17 22 17.9**	**+0.3**
	comp=Z,15nm,0.9s,mb4.9							
EKA	**Eskdalemuir Ar**	**86.37**	**325**	P		**P**	**17 22 44.7**	**+0.3**
	comp=Z,1.2nm,0.8s,mb4.2,baz=113,slow=5.4,SNR=3.3							
EKA				pP		pP	17 22 54.2	+0.5
	comp=Z,5.1nm,0.9s,baz=98,slow=5.9,SNR=8.2							
ESDC	**Sonseca Array**	**89.47**	**310**	P		**P**	**17 23 00.5**	**+0.8**
	comp=Z,0.4nm,0.5s,mb4.0,baz=90,slow=3.0,SNR=4.3							
ESDC				pP		pP	17 23 09.8	+0.8
	comp=Z,2.2nm,0.6s,baz=59,slow=4.6,SNR=9.7							
INK

BVAR	**Borovoye Array**	**48.43**	**343**	P		**P**	**17 36 05.5**	**-0.4**
	0.3nm,0.4s,mb3.7,baz=157,slow=11,SNR=3.6							
WRA	**Warramunga Arr**	**49.98**	**124**	P		**P**	**17 36 18.2**	**-0.1**
	0.7nm,0.6s,mb3.9,baz=300,slow=9.6,SNR=6.8							
BRTR	**Keskin Array B**	**60.86**	**311**	P		**P**	**17 37 36.2**	**-0.5**
	0.6nm,0.7s,mb3.8,baz=79,slow=7.3,SNR=2.9							
GERES	**GERESS Array B**	**76.46**	**318**	P		**P**	**17 39 14.1**	**+1.0**
	0.5nm,0.7s,mb3.6,baz=90,slow=5.9,SNR=5.7							

BJI ***24*** *17:28:20.1,7.66N×91.79E,h49km,mb4.7,Ms6.6,Msz5.3*
MOS ***24*** *17:28:22.0±0.7,8.08N×92.00E,h33km,mb5.1/25,Error ellipse: s-maj=12.6km s-min=5.9km az=118.6*
NEIC ***24*** *17:28:23.5±0.2,8.03N×91.96E,mb4.9/24,Error ellipse: s-maj=8.4km s-min=5.5km az=209.0*
IDC ***24*** *17:28:25.1±3.6,8.08N×91.96E,h40km±31km,mb4.3/21, mb1 4.4/21,mb1mx4.3/25,mbtmp4.5/21,Error ellipse: s-maj=15.9km s-min=14.1km az=56.0*

ISC 24 17:28:21.6±0.3,7.99N±0.05×91.99E±0.03,h32km, h32km±1.7km:pP-P,n177,σ0s89/176,mb4.7/58,MS5.3/3, 18C-2D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**8.59**	**95**	P		**P**	**17 30 27.0**	**+0.1**
NNT	**Nongplab**	**8.89**	**58**	P		**P**	**17 30 32.0**	**+1.0**
KULM	**Kulim**	**9.01**	**107**	*e*P		**P**	**17 30 31.6**	**-1.1**
IPM	**Ipoh**	**9.60**	**110**	P		**P**	**17 30 39.9**	**-1.0**
KGM	**Kluang**	**12.75**	**117**	P		**P**	**17 31 23.0**	**-0.6**
TRD	**Trivandrum**	**14.88**	**273**	*e*P		**P**	**17 31 50.8**	**-1.0**
TRD				AMb		AMB	17 31 57.3	
	comp=Z,74nm,1.5s							
TRD				*i* S		**S**	**17 34 37.5**	**+1.3**
HYB	**Hyderabad**	**16.10**	**307**	*e*P		**P**	**17 32 10.0**	**+2.5**
HYB	**Hyderabad**	**16.10**	**307**	*i* P		**P**	**17 32 10.0**	**+2.5**
SHL	**Shillong**	**17.48**	**360**	*e*P		**P**	**17 32 25.0**	**+0.2**
SHL				*e*			17 35 30.0	
KSM	**Kuching**	**19.36**	**109**	*e*P		**P**	**17 32 48.1**	**+0.3**
KMI	**Kunming**	**19.89**	**30**	P		**P**	**17 32 55.1**	**+1.6**
KMI				AMB		AMB		
	comp=Z,36nm,1.5s							
KMI	**Kunming**	**19.89**	**30**	P		**P**	**17 32 55.1**	**+1.6**
	comp=Z,36nm,1.5s							
KMI				pP			17 33 05.8	
PKI	**Pulchoki**	**20.45**	**343**	*e*P		**P**	**17 32 59.7**	**+0.4**
	comp=Z,28nm,0.5s							
QIZ	**Qiongzhong**	**20.52**	**56**	⇑P		**P**	**17 33 00.6**	**+0.6**
DMN	**Daman**	**20.57**	**342**	*e*P		**P**	**17 33 00.7**	**+0.1**
	comp=Z,55nm,0.8s							
BHPL	**Bhopal**	**20.62**	**319**	*e*P		**P**	**17 32 58.9**	**-2.2**
BHPL				AMb		AMB	17 33 02.6	
	comp=Z,32nm,1.2s							
BHPL				*e*S		**S**	**17 36 49.8**	**+4.8**
GUN	**Gumba**	**20.64**	**345**	*e*P		**P**	**17 33 02.0**	**+0.8**
	comp=Z,69nm,0.8s							
KKN	**Kakani**	**20.69**	**343**	*e*P		**P**	**17 33 01.7**	**-0.1**
	comp=Z,46nm,1.0s							
GKN	**Gorkha**	**21.09**	**342**	*e*P		**P**	**17 33 06.1**	**+0.3**
	comp=Z,50nm,0.6s,mb5.0							
KOLN	**Koldanda**	**21.21**	**339**	*e*P		**P**	**17 33 07.7**	**+0.6**
	comp=Z,85nm,0.9s,mb5.0							
LSA	**Lhasa**	**21.61**	**358**	*e*P		**P**	**17 33 13.2**	**+2.1**
LSA				pmax		pmax		
	comp=Z,36nm,1.0s,mb4.8							
LSA	**Lhasa**	**21.61**	**358**	*e*P		**P**	**17 33 13.2**	**+2.1**
	comp=Z,36nm,1.0s,mb4.8							
GYA	**Guiyang**	**23.06**	**35**	⇑*i*P		**P**	**17 33 26.4**	**+0.8**
GYA				AP			17 33 35.3	
GYA				XP			17 33 39.8	
GYA				S		**S**	**17 37 35.8**	**+5.7**
GYA				AMB		AMB		
	comp=Z,20nm,1.1s,mb4.5							
GYA				AMB		AMB		
	comp=Z,110nm,3.2s							
GYA				LR		LR		
	comp=N,7μm,16.7s,MS5.4							
GYA				LR		LR		
	comp=E,8μm,17.1s,MS5.4							
GYA				LR		LR		
	comp=Z,5μm,14.7s,MS5.1							
LGTI	**Lohaghat**	**24.03**	**334**	*e*P		**P**	**17 33 37.5**	**+2.5**
KKM	**Kota Kinabalu**	**24.12**	**93**	P		**P**	**17 33 38.2**	**+2.2**
KKM	**Kota Kinabalu**	**24.12**	**93**	P		**P**	**17 33 40.5**	**+4.5**
AJM	**Ajmer**	**24.69**	**320**	*e*P		**P**	**17 33 42.1**	**+0.8**
AJM				AMb		AMB	17 34 02.8	
	comp=Z,26nm,1.7s,mb4.5							
AJM				*e*			17 40 15.5	
CD2	**Chengdu**	**25.32**	**24**	P		**P**	**17 33 46.4**	**-0.9**
DDI	**Dehra Dun**	**25.77**	**331**	*e*P		**P**	**17 33 51.5**	**0.0**
TSM	**Tawau**	**25.99**	**97**	P		**P**	**17 33 55.5**	**+1.8**
ENH	**Enshi**	**27.57**	**34**	*e*P		**P**	**17 34 06.7**	**-1.3**
	comp=Z,13nm,0.9s,mb4.6							
LZH	**Lanzhou**	**29.99**	**19**	*e*P		**P**	**17 34 29.5**	**-0.2**
LZH				XP		sP	17 34 45.0	+1.8
LZH				AMB		AMB		
	comp=Z,30nm,1.5s,mb4.8							
LZH	**Lanzhou**	**29.99**	**19**	*e*P		**P**	**17 34 29.5**	**-0.2**
LZH				*PP		pP	17 34 37.0	-2.1
LZH				*SP		sP	17 34 45.0	+1.8
LZH				pmax		pmax		
	comp=Z,30nm,1.5s,mb4.8							
LZH	**Lanzhou**	**29.99**	**19**	*e*P		**P**	**17 34 29.5**	**-0.2**
	comp=Z,30nm,1.5s,mb4.8							
LZH				pP		pP	17 34 37.0	-2.1
LZH				sP		sP	17 34 45.0	+1.8
QZH	**Quanzhou**	**30.48**	**53**	P		**P**	**17 34 35.1**	**+1.0**
QZH				AMB		AMB		
	comp=Z,80nm,0.8s,mb5.5							
WHN	**Wuhan**	**30.68**	**40**	P		**P**	**17 34 36.0**	**+0.2**
GTA	**Gaotai**	**32.07**	**11**	P		**P**	**17 34 48.4**	**+0.5**
GTA				AP		pP	17 34 58.3	+1.0
GTA				XP		sP	17 35 02.3	+0.9
GTA				AMB		AMB		
	comp=Z,19nm,1.4s,mb4.7							
NJ2	**Nanjing**	**34.60**	**43**	*e*P		**P**	**17 35 10.1**	**+0.2**
NJ2				AP		pP	17 35 19.6	+0.2
NJ2				XP		sP	17 35 24.4	+1.0
NJ2				PP		PP	17 36 26.3	-0.5
NJ2				S		**S**	**17 40 37.0**	**+0.9**
NJ2				AMB		AMB		
	comp=Z,30nm,1.3s,mb5.1							
NJ2				LR		LR		
	comp=N,10μm,21.0s							
NJ2				LR		LR		
	comp=E,8μm,12.7s							
NJ2				LR		LR		
	comp=Z,5μm,16.7s,MS5.3							
SSE	**Sheshan**	**35.65**	**46**	P		**P**	**17 35 17.4**	**-1.5**
SSE				AP		pP	17 35 26.3	-2.1
SSE				S		**S**	**17 40 53.6**	**+1.2**
SSE				AMB		AMB		
	comp=Z,25nm,0.8s,mb5.2							
SSE				LR		LR		
	comp=N,6μm,20.0s,MS5.5							
SSE				LR		LR		
	comp=E,6μm,20.0s,MS5.5							
SSE				LR		LR		
	comp=Z,7μm,17.6s,MS5.5							
SSE	**Sheshan**	**35.65**	**46**	P		**P**	**17 35 17.4**	**-1.5**
	comp=Z,25nm,0.8s,mb5.2							
SSE				pP		pP	17 35 26.2	-2.2
SSE				sP		sP	17 35 30.1	-2.3
SSE				S		**S**	**17 40 53.6**	**+1.2**
SSE				ScP			17 41 08.8	
SSE				SS		SS	17 43 31.5	+19
SSE				LR		LR		
	comp=Z,7μm,17.6s,MS5.5							
AAK	**Ala-Archa**	**37.79**	**339**	⇑*i*P		**P**	**17 35 36.8**	**0.0**
AAK				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.6							
MKAR	**Makanchi Array**	**39.55**	**350**	P		**P**	**17 35 51.8**	**+0.3**
	comp=Z,3.2nm,0.8s,mb4.1,baz=166,slow=8.3,SNR=9.6							
KKAR	**Karatay Array**	**39.73**	**335**	*i* P		**P**	**17 35 53.6**	**+0.6**
KKAR				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.5							
SONM	**Songino Array**	**41.55**	**15**	P		**P**	**17 36 08.6**	**+0.7**
	comp=Z,6.4nm,0.7s,mb4.4,baz=196,slow=7.8,SNR=25							
SONM				ScP			17 41 51.7	
	comp=Z,0.7nm,1.0s,baz=180,slow=1.4,SNR=3.1							
FITZ	**Fitzroy Crossi**	**42.14**	**128**	*e*P		**P**	**17 36 13.4**	**+0.3**
	comp=Z,9.3nm,0.9s,mb4.4							
FITZ	**Fitzroy Crossi**	**42.14**	**128**	P		**P**	**17 36 13.7**	**+0.5**
	comp=Z,12nm,0.9s,mb4.5,baz=249,slow=2.3,SNR=6.4							
ZAK	**Zakamensk**	**43.29**	**11**	*e*P		**P**	**17 36 23.2**	**+1.1**
ZAK				*e*			17 38 12.7	
NVS	**Novosibirsk**	**47.24**	**353**	*e*P		**P**	**17 36 52.3**	**-1.3**
NVS				*e*S		**S**	**17 43 42.8**	**-0.8**
NVS				pmax		pmax		
	comp=Z,10.0nm,1.3s,mb4.6							
NVS				pmax		pmax		
	comp=N,8.0nm,1.2s							
NVS				pmax		pmax		
	comp=E,4.0nm,1.2s							
NVS				smax				
	comp=N,9.0nm,1.6s							
NVS				smax				
	comp=E,13nm,1.7s							
BVA0	**Borovoye Array**	**48.22**	**343**	P		**P**	**17 37 00.7**	**-0.5**
BVA0				pmax		pmax		
	comp=Z,1.0nm,1.1s,mb3.8							
BVAR	**Borovoye Array**	**48.22**	**343**	P		**P**	**17 37 00.9**	**-0.3**
	comp=Z,2.2nm,0.7s,mb4.3,baz=149,slow=8.6,SNR=9.8							
BRVK	**Borovoye**	**48.28**	**343**	*e*P		**P**	**17 37 00.8**	**-0.9**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.0							
BRVK	**Borovoye**	**48.28**	**343**	*e*P		**P**	**17 37 00.8**	**-0.9**
	comp=Z,1.3nm,0.6s,mb4.1							
ZRNK	**Zerenda**	**48.58**	**342**	*e*P		**P**	**17 37 03.4**	**-0.6**
ZRNK				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.5							
ZRNK	**Zerenda**	**48.58**	**342**	*e*P		**P**	**17 37 03.4**	**-0.5**
	comp=Z,4.6nm,1.0s,mb4.5							
AB31	**Akbulak array**	**49.13**	**333**	P		**P**	**17 37 08.2**	**-0.1**
AB31				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.1							
WRA	**Warramunga Arr**	**50.08**	**124**	P		**P**	**17 37 16.0**	**0.0**
	comp=Z,8.9nm,0.9s,mb4.8,baz=305,slow=8.8,SNR=24							
WRAB	**Tennant Creek**	**50.08**	**124**	⇓*i*P		**P**	**17 37 16.2**	**+0.2**
WRAB	**Tennant Creek**	**50.08**	**124**	*e*P		**P**	**17 37 15.8**	**-0.2**
	comp=Z,10nm,0.9s,mb4.9							
WB2	**Warramunga Arr**	**50.09**	**124**	*e*P		**P**	**17 37 15.6**	**-0.4**
MJAR	**Matsushiro Arr**	**50.68**	**49**	P		**P**	**17 37 20.6**	**+0.3**
	comp=Z,1.9nm,0.8s,mb4.1,baz=234,slow=7.2,SNR=8.0							
MJAR				PcP		PcP	17 38 38.4	+0.9
	comp=Z,1.3nm,0.8s,baz=245,slow=3.8,SNR=3.4							
OPO	**Ambohidratompo**	**51.47**	**239**	P		**P**	**17 37 27.9**	**+1.4**
	comp=Z,4.2nm,0.8s,mb4.4,baz=335,slow=8.9,SNR=4.3							
BOD	**Bodaibo**	**52.55**	**15**	*e*P		**P**	**17 37 33.4**	**-0.8**
BOD				pmax		pmax		
	comp=Z,22nm,1.5s,mb4.9							
GNI	**Garni**	**52.84**	**315**	⇑*i*P		**P**	**17 37 36.9**	**+0.3**
GNI				pmax		pmax		
	comp=Z,23nm,1.0s							
GNI	**Garni**	**52.84**	**315**	P		**P**	**17 37 37.1**	**+0.5**
	comp=Z,12nm,0.9s,mb4.8,baz=134,slow=22,SNR=7.3							
GNI	**Garni**	**52.84**	**315**	P		**P**	**17 37 37.1**	**+0.5**
ARU	**Arti**	**54.97**	**338**	⇓*i*P		**P**	**17 37 50.9**	**-1.1**
ARU				pmax		pmax		
	comp=Z,21nm,1.7s,mb4.9							
KMBO	**Kilima Mbogo**	**55.32**	**263**	*i* P		**P**	**17 37 56.5**	**+1.4**
KMBO				pmax		pmax		
	comp=Z,14nm,0.9s							
KMBO	**Kilima Mbogo**	**55.32**	**263**	P		**P**	**17 37 56.2**	**+1.1**
	comp=Z,14nm,0.8s,mb5.0,baz=57,slow=11,SNR=29							
KMBO	**Kilima Mbogo**	**55.32**	**263**	P		**P**	**17 37 56.2**	**+1.1**
KIV	**Kislovodsk**	**55.81**	**319**	⇑*i*P		**P**	**17 37 57.8**	**-0.5**
KIV				pmax		pmax		
	comp=Z,29nm,1.0s,mb5.3							
KIV	**Kislovodsk**	**55.81**	**319**	*e*P		**P**	**17 37 57.0**	**-1.2**
	comp=Z,21nm,1.1s,mb5.1							
ASF	**Jabal al Asfar**	**56.37**	**303**	P		**P**	**17 38 03.0**	**+0.6**
	comp=Z,7.1nm,0.9s,mb4.7,baz=2.2,slow=5.4,SNR=6.6							
ASAJ	**Asahikawa**	**56.74**	**42**	P		**P**	**17 38 05.5**	**+0.6**
	comp=Z,1.7nm,0.6s,mb4.3,baz=299,slow=5.9,SNR=3.7							
ZFRI	**Zfri**	**57.48**	**301**	P		**P**	**17 38 10.9**	**+0.5**
EIL	**Elat**	**57.52**	**300**	P		**P**	**17 38 10.6**	**0.0**
MBH	**Mount Berech**	**57.57**	**300**	P		**P**	**17 38 11.5**	**+0.5**
PRNI	**Paran**	**57.59**	**301**	P		**P**	**17 38 11.6**	**+0.4**
KMTI	**Karmit**	**57.79**	**301**	P		**P**	**17 38 12.6**	**+0.1**
SLTI	**Sal'it**	**57.92**	**303**	P		**P**	**17 38 14.6**	**+1.2**
YSS	**Yuzh-Sakhalins**	**58.02**	**39**	⇑*i*P		**P**	**17 38 13.1**	**-0.8**
YSS				pmax		pmax		
	comp=Z,15nm,1.7s,mb4.8							
OFRI	**'Ofer**	**58.04**	**303**	P		**P**	**17 38 13.5**	**-0.8**
ANN	**Anapa**	**59.61**	**318**	*e*P		**P**	**17 38 15.8**	**-9.2**
YAK	**Yakutsk**	**60.58**	**19**	⇑*i*P		**P**	**17 38 30.1**	**-1.2**
YAK				pmax		pmax		
	comp=Z,22nm,1.3s,mb5.1							
YAK	**Yakutsk**	**60.58**	**19**	*e*P		**P**	**17 38 30.4**	**-0.9**
	comp=Z,12nm,0.8s,mb5.1							
BR131	**Keskin Array S**	**60.74**	**311**	*e*P		**P**	**17 38 31.1**	**-1.7**
	comp=Z,13nm,0.9s,mb5.0							
BRTR	**Keskin Array B**	**60.74**	**311**	P		**P**	**17 38 31.4**	**-1.4**
	comp=Z,8.9nm,0.8s,mb5.0,baz=119,slow=7.3,SNR=29							
ISP	**Isparta**	**62.69**	**308**	⇑*i*P		**P**	**17 38 45.0**	**-0.9**
OBN	**Obninsk**	**64.15**	**328**	⇑*i*P		**P**	**17 38 54.0**	**-1.3**
OBN				pmax		pmax		
	comp=Z,38nm,1.6s,mb5.2							
KIS	**Kishinev**	**66.00**	**318**	*e*P		**P**	**17 39 12.0**	**+4.7**
AKASG	**Malin Array Be**	**66.75**	**322**	P		**P**	**17 39 09.9**	**-2.0**
	comp=Z,3.5nm,0.8s,mb4.4,baz=89,slow=4.9,SNR=16							
AKASG				PP		PP	17 41 37.8	-3.1
	comp=Z,1.8nm,0.9s,baz=101,slow=6.6,SNR=4.8							
VRI	**Vrincioaia**	**67.14**	**316**	⇑P		**P**	**17 39 15.0**	**+0.4**
TIXI	**Tiksi**	**67.55**	**12**	*e*P		**P**	**17 39 15.7**	**-1.1**
TIXI				pmax		pmax		
	comp=Z,23nm,1.0s,mb5.2							
MLR	**Muntele Rosu**	**67.60**	**316**	P		**P**	**17 39 17.7**	**+0.2**
	comp=Z,20nm,0.9s,mb5.1,baz=124,slow=1.6,SNR=26							
MLR	**Muntele Rosu**	**67.60**	**316**	⇑P		**P**	**17 39 17.9**	**+0.4**
MA2	**Magadan**	**67.66**	**28**	*e*P		**P**	**17 39 17.2**	**-0.4**
MA2				pmax		pmax		
	comp=Z,9.0nm,1.2s,mb4.7							
BURAR	**Bucovina Array**	**68.53**	**318**	⇑P		**P**	**17 39 23.5**	**+0.2**
BURAR	**Bucovina Array**	**68.53**	**318**	⇑P		**P**	**17 39 23.5**	**+0.2**
SEY	**Seymchan**	**69.72**	**25**	⇑*i*P		**P**	**17 39 29.6**	**-0.7**
VSU	**Vasula**	**70.40**	**330**	*e*P		**P**	**17 39 32.9**	**-1.6**
KWP	**Kalwaria**	**70.56**	**320**	*e*P		**P**	**17 39 34.8**	**-0.9**
KWP	**Kalwaria**	**70.56**	**320**	*e*P		**P**	**17 39 34.8**	**-0.8**
KOLS	**Kolonicke sedl**	**70.72**	**319**	*e*P		**P**	**17 39 34.2**	**-2.4**
KOLS				*e*			17 39 56.6	
SUW	**Suwalki**	**71.17**	**324**	*e*P		**P**	**17 39 36.9**	**-2.3**
SUW	**Suwalki**	**71.17**	**324**	*e*P		**P**	**17 39 36.9**	**-2.3**
CRVS	**Cervenica-Dubn**	**71.24**	**319**	*e*P		**P**	**17 39 39.9**	**+0.1**
STHS	**Stebnicka Huta**	**71.47**	**319**	*e*P		**P**	**17 39 40.9**	**-0.2**
STHS				*e*pP		pP	17 39 51.6	+0.5
FINES	**FINESS Array B**	**71.62**	**332**	*i* P		**P**	**17 39 41.0**	**-0.8**
FINES				pmax		pmax		
	comp=Z,5.0nm,0.8s							
FINES	**FINESS Array B**	**71.62**	**332**	P		**P**	**17 39 40.8**	**-1.0**
	comp=Z,4.9nm,0.8s,mb4.5,baz=121,slow=11,SNR=9.3							
KAF	**Kangasniemi**	**71.72**	**333**	*e*p		**P**	**17 39 34.8**	**-7.6**
KECS	**Kecovo**	**71.81**	**318**	*e*P		**P**	**17 39 42.6**	**-0.6**
OJC	**Ojcow**	**72.52**	**320**	*e*P		**P**	**17 39 46.5**	**-0.9**
VYHS	**Vyhne**	**72.90**	**318**	*e*P		**P**	**17 39 49.0**	**-0.6**
OKC	**Ostrava-Krasne**	**73.52**	**320**	*e*P		**P**	**17 39 52.4**	**-0.8**
TIP	**Timpagrande**	**73.55**	**308**	*e*P		**P**	**17 39 53.7**	**0.0**
BOSA	**Boshof**	**73.84**	**237**	P		**P**	**17 39 56.2**	**+0.7**
	comp=Z,7.6nm,1.0s,mb4.6,baz=80,slow=7.4,SNR=8.5							
BOSA	**Boshof**	**73.84**	**237**	P		**P**	**17 39 56.2**	**+0.7**
ZST	**Bratislava**	**74.01**	**318**	*e*P		**P**	**17 39 56.0**	**-0.1**
KOGS	**Kog**	**74.43**	**316**	*e*P		**P**	**17 39 58.0**	**-0.5**
ARCES	**ARCESS Array B**	**74.44**	**340**	P		**P**	**17 39 58.3**	**+0.2**
	comp=Z,2.1nm,0.8s,mb4.2,baz=101,slow=6.2,SNR=3.8							
DPC	**Dobruska-Polom**	**74.75**	**320**	*e*P		**P**	**17 40 00.6**	**+0.3**
KSP	**Ksiaz**	**74.81**	**320**	⇑*e*P		**P**	**17 40 00.2**	**-0.5**
KSP	**Ksiaz**	**74.81**	**320**	*e*P		**P**	**17 40 00.6**	**-0.1**
UPC	**Upice**	**74.96**	**320**	*e*P		**P**	**17 40 01.3**	**-0.2**
LJU	**Ljubljana**	**75.59**	**315**	*e*P		**P**	**17 40 05.5**	**+0.2**
PRU	**Pruhonice**	**75.85**	**319**	*e*P		**P**	**17 40 06.4**	**-0.2**
PRU				*e*pP		pP	17 40 17.3	+0.6
PVCC	**Panska Ves**	**75.88**	**320**	*e*P		**P**	**17 40 07.0**	**+0.2**
BRG	**Berggiesshubel**	**76.30**	**320**	*i* P		**P**	**17 40 09.1**	**-0.1**
BRG				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.8							
BRG	**Berggiesshubel**	**76.30**	**320**	*i* P		**P**	**17 40 09.1**	**-0.1**
	comp=Z,13nm,1.0s,mb4.8							
ROBS	**Robic**	**76.31**	**316**	*e*P		**P**	**17 40 08.6**	**-0.7**
GEC2	**GERESS Array S**	**76.32**	**318**	*e*P		**P**	**17 40 09.3**	**0.0**
GEC2				pmax		pmax		
	comp=Z,15nm,0.9s,mb4.9							
GEC2	**GERESS Array S**	**76.32**	**318**	*e*P		**P**	**17 40 09.3**	**0.0**
	comp=Z,15nm,0.9s,mb4.9							
GERES	**GERESS Array B**	**76.32**	**318**	P		**P**	**17 40 09.3**	**+0.0**
	comp=Z,8.6nm,0.8s,mb4.7,baz=90,slow=5.3,SNR=56							
KHC	**Kasperske Hory**	**76.42**	**319**	*e*P		**P**	**17 40 09.7**	**-0.1**
BILL	**Bilibino**	**76.77**	**22**	*e*P		**P**	**17 40 11.3**	**-0.1**
BILL				pmax		pmax		
	comp=Z,6.0nm,1.3s,mb4.4							
WET	**Wettzell**	**76.88**	**319**	*e*P		**P**	**17 40 12.6**	**+0.2**
WET				pmax		pmax		
	comp=Z,12nm,1.0s,mb4.8							
WET	**Wettzell**	**76.88**	**319**	*e*P		**P**	**17 40 12.6**	**+0.2**
	comp=Z,12nm,1.0s,mb4.8							
CLL	**Collm**	**76.92**	**321**	⇑*i*P		**P**	**17 40 12.4**	**-0.2**
CLL				pmax		pmax		
	comp=Z,14nm,1.1s,mb4.8							
CLL	**Collm**	**76.92**	**321**	⇑*i*P		**P**	**17 40 12.4**	**-0.2**
	comp=Z,14nm,1.1s,mb4.8							
CLL				*e*			17 40 37.0	
CLL	**Collm**	**76.92**	**321**	⇑P		**P**	**17 40 12.4**	**-0.2**
	comp=Z,logA/T=1.1,mb4.8							
CLL				*e*SP		sP	17 40 26.0	-0.1
CLL				*e*			17 40 37.0	
NKC	**Novy Kostel**	**77.21**	**320**	*e*P		**P**	**17 40 14.5**	**+0.3**
MOX	**Moxa**	**77.76**	**320**	*e*P		**P**	**17 40 17.3**	**0.0**
MOX				pmax		pmax		
	comp=Z,9.0nm,1.4s,mb4.5							
MOX	**Moxa**	**77.76**	**320**	*e*P		**P**	**17 40 17.3**	**0.0**
	comp=Z,9.0nm,1.4s,mb4.5							
MOX	**Moxa**	**77.76**	**320**	*i* P		**P**	**17 40 17.3**	**0.0**
	comp=Z,logA/T=0.8,mb4.5							
GRA1	**Grafenberg Arr**	**77.98**	**319**	*e*P		**P**	**17 40 19.0**	**+0.5**
	comp=Z,23nm,1.0s,mb5.1							
GRF	**Grafenberg Arr**	**77.98**	**319**	*e*P		**P**	**17 40 19.0**	**+0.5**
GRF				pmax		pmax		
	comp=Z,23nm,1.0s,mb5.1							
GRF	**Grafenberg Arr**	**77.98**	**319**	*e*P		**P**	**17 40 19.0**	**+0.5**
GRF				pmax		pmax		
	comp=Z,23nm,1.0s,mb5.1							
GRF	**Grafenberg Arr**	**77.98**	**319**	*e*P		**P**	**17 40 19.0**	**+0.5**
	comp=Z,23nm,1.0s,mb5.1							
MAW	**Mawson**	**78.23**	**191**	P		**P**	**17 40 20.5**	**+1.1**
	comp=Z,1.3nm,0.8s,mb3.9,baz=22,slow=8.0,SNR=4.6							
FX1	**Attu Island--F**	**78.35**	**38**	*e*P		**P**	**17 40 22.1**	**+1.7**
NB2	**NORSAR Subarra**	**78.58**	**331**	P		**P**	**17 40 20.5**	**-1.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=92,slow=5.8							
NB2	**NORSAR Subarra**	**78.58**	**331**	P		**P**	**17 40 20.5**	**-1.1**
NB2				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.8							
NOA	**NORSAR Array B**	**78.58**	**331**	P		**P**	**17 40 20.9**	**-0.7**
	comp=Z,3.0nm,0.9s,mb4.2,baz=94,slow=5.6,SNR=5.7							
CLZ	**Clausthal**	**78.59**	**321**	*e*P		**P**	**17 40 22.0**	**+0.3**
CLZ				pmax		pmax		
	comp=Z,15nm,0.9s,mb4.9							
CLZ	**Clausthal**	**78.59**	**321**	*e*P		**P**	**17 40 22.0**	**+0.3**
	comp=Z,15nm,0.9s,mb4.9							
BSEG	**Bad Segeberg**	**78.59**	**323**	*e*P		**P**	**17 40 22.5**	**+0.3**
TOD	**Tromm**	**78.55**	**319**	*e*P		**P**	**17 40 27.4**	**+0.3**
TNS	**Taunus Mts**	**79.78**	**320**	*e*P		**P**	**17 40 28.8**	**+0.5**
TNS				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.7							
TNS	**Taunus Mts**	**79.78**	**320**	*e*P		**P**	**17 40 28.8**	**+0.5**
	comp=Z,11nm,1.0s,mb4.7							
BFO	**Black Forest**	**79.87**	**318**	*e*P		**P**	**17 40 28.8**	**0.0**
BFO				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.7							
BFO	**Black Forest**	**79.87**	**318**	*e*P		**P**	**17 40 28.8**	**0.0**
	comp=Z,10.0nm,1.0s,mb4.7							
LANF	**Langenberg**	**80.21**	**318**	*e*P		**P**	**17 40 30.9**	**+0.3**
BNI	**Bardonecchia**	**81.09**	**314**	*e*P		**P**	**17 40 35.4**	**+0.1**
BNI				pmax		pmax		
	comp=Z,21nm,1.0s,mb5.0							
BNI	**Bardonecchia**	**81.09**	**314**	*e*P		**P**	**17 40 35.4**	**+0.1**
	comp=Z,21nm,1.0s,mb5.0							
RSL	**Roselend**	**81.11**	**315**	*e*P		**P**	**17 40 35.7**	**+0.3**
OG05	**Jujurieux**	**81.90**	**315**	*e*P		**P**	**17 40 39.8**	**+0.3**
PLDF	**La Plantade**	**83.19**	**315**	*e*P		**P**	**17 40 48.1**	**+1.9**
ESDC	**Sonseca Array**	**89.51**	**310**	P		**P**	**17 41 18.5**	**+1.2**
	comp=Z,1.8nm,0.6s,mb4.6,baz=50,slow=4.9,SNR=13							
SNAA	**Sanae**	**99.05**

QSPA	**South Pole Qui**	**71.41**	**180**	*eP*		**P**		**17**	**40**	**21.5**	**0.0**
	19nm,0.8s,mb4.9										
ASAJ	**Asahikawa**	**72.38**	**331**	P		**P**		**17**	**40**	**27.6**	**-0.2**
	4.7nm,0.7s,mb4.3,baz=142,slow=2.4,SNR=5.6										
KSM	**Kuching**	**73.71**	**277**	*eP*		**P**		**17**	**40**	**36.5**	**+0.2**
NVAR	**Mina Array Bea**	**79.31**	**43**	P		**P**		**17**	**41**	**07.3**	**+0.7**
	2.5nm,0.7s,mb4.1,baz=213,slow=6.9,SNR=22										
ELK	**Elko**	**82.56**	**43**	*eP*		**P**		**17**	**41**	**23.5**	**+0.2**
	3.9nm,1.1s,mb4.2										
MSU	**Marysvale**	**83.43**	**46**	*eP*		**P**		**17**	**41**	**29.2**	**+1.4**
MAW	**Mawson**	**83.48**	**200**	P		**P**		**17**	**41**	**26.7**	**-0.7**
	2.2nm,0.7s,mb4.1,baz=140,slow=8.9,SNR=6.6										
TXAR	**Lajitas Array**	**85.60**	**57**	P		**P**		**17**	**41**	**40.9**	**+2.1**
	3.0nm,0.9s,mb4.1,baz=218,slow=5.8,SNR=27										
ILAR	**Eielson Array**	**86.40**	**13**	P		**P**		**17**	**41**	**40.8**	**-0.9**
	2.6nm,0.4s,mb4.4,baz=221,slow=5.4,SNR=60										
PDAR	**Pinedale Array**	**87.25**	**43**	P		**P**		**17**	**41**	**46.9**	**+0.6**
	0.7nm,0.7s,mb3.6,baz=229,slow=3.5,SNR=7.1										
PLCA	**Paso Flores**	**90.14**	**133**	P		**P**		**17**	**42**	**00.0**	**0.0**
	1.3nm,0.6s,mb4.1,baz=181,slow=6.6,SNR=5.4										
YKA	**Yellowknife Ar**	**94.61**	**24**	P		**P**		**17**	**42**	**19.8**	**-0.1**
	1.6nm,0.7s,mb4.2,baz=242,slow=4.4,SNR=9.0										
YKA	**Yellowknife Ar**	**94.61**	**24**	P		**P**		**17**	**42**	**19.8**	**-0.1**
ARCES	**ARCESS Array B**	**127.21**	**350**	PKP		PKPdf		17	48	00.1	-0.4
	2.1nm,0.8s,baz=315,slow=1.7,SNR=5.1										
BRTR	**Keskin Array B**	**145.97**	**315**	PKPbc		PKPbc		17	48	37.4	+0.6
	2.3nm,0.8s,baz=90,slow=2.5,SNR=9.1										
ASF	**Jabal al Asfar**	**146.36**	**300**	PKPbc		PKPbc		17	48	38.8	+0.9
	1.1nm,0.3s,baz=18,slow=6.4,SNR=2.3										
CLL	**Collm**	**146.39**	**348**	⇓*iP*		PKPdf		17	48	38.1	+2.3
CLL				*i*				17	48	46.1	
CLL				*i*				17	48	48.7	
CLL	**Collm**	**146.39**	**348**	P		PKPdf		17	48	46.1	+10
CLL				*i*				17	48	48.7	
UPC	**Upice**	**146.46**	**344**	*eP*		PKPdf		17	48	38.8	+2.9
UPC	**Upice**	**146.46**	**344**	⇑*e*PKPB		PKPbc		17	48	38.8	+1.3
BRG	**Berggiesshubel**	**146.60**	**347**	*eP*		PKPdf		17	48	38.7	+2.5
PVCC	**Panska Ves**	**146.79**	**346**	*eP*		PKPdf		17	48	39.5	+3.0
PVCC	**Panska Ves**	**146.79**	**346**	⇑*e*PKPB		PKPbc		17	48	39.5	+1.2
MLR	**Muntele Rosu**	**146.95**	**329**	PKPbc		PKPbc		17	48	39.9	+1.0
	2.2nm,0.7s,baz=74,slow=7.4,SNR=5.2										
PRU	**Pruhonice**	**147.30**	**346**	*eP*		PKPdf		17	48	40.8	+3.5
PRU	**Pruhonice**	**147.30**	**346**	⇑*e*PKPB		PKPdf		17	48	40.8	+3.5
KHC	**Kasperske Hory**	**148.32**	**346**	*e*PKPDF		PKPdf		17	48	39.5	+0.6
KHC				⇑*e*PKPB		PKPdf		17	48	43.6	+4.7
GERES	**GERESS Array B**	**148.56**	**346**	PKPbc		PKPdf		17	48	44.0	+4.7
	1.4nm,0.7s,baz=27,slow=3.0,SNR=14										

*BJI **24** 17:38:28.7,7.80N×91.84E,h38km,mb4.4*
*NEIC **24** 17:38:31.3±0.8,7.89N×92.04E,mb4.2/3,Error ellipse: s-maj=20.0km s-min=13.8km az=49.0*
*IDC **24** 17:38:31.1±0.9,7.95N×92.06E,h29km±5km,mb3.6/5, mb1 3.8/5,mb1mx3.5/18,mbtmp3.7/5,Error ellipse: s-maj=25.6km s-min=19.8km az=53.0*

ISC 24 17:38:29.3±0.8,7.9N±0.1×92.1E±0.1,h29km, h29km±.6km:pP-P,n16,σ1§01/15,mb4.1/10,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KULM	**Kulim**	**8.87**	**106**	P		P	**17 40 38.1**	**-0.4**
KMI	**Kunming**	**19.94**	**29**	P		**P**	**17 43 03.1**	**+1.0**
KMI				AP			17 43 11.8	
KMI				AMB		AMB		
	comp=Z,10.0nm,1.2s							
KMI	**Kunming**	**19.94**	**29**	P		**P**	**17 43 03.1**	**+1.0**
	comp=Z,10.0nm,1.2s							
KMI				pP			17 43 11.8	
LSA	**Lhasa**	**21.74**	**358**	P		**P**	**17 43 22.1**	**+1.8**
	comp=Z,25nm,1.2s,mb4.5							
GYA	**Guiyang**	**23.09**	**35**	P		**P**	**17 43 34.4**	**+0.5**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.4							
DDI	**Dehra Dun**	**25.93**	**331**	*e*		**P**	**17 44 02.0**	**+1.0**
ENH	**Enshi**	**27.61**	**34**	*eP*		**P**	**17 44 14.3**	**-2.1**
GTA	**Gaotai**	**32.16**	**11**	*eP*		**P**	**17 44 56.8**	**0.0**
GTA				AP		pP	17 45 04.6	-0.7
GTA				XP		sP	17 45 07.6	-1.5
GTA				AMB		AMB		
	comp=Z,7.0nm,1.1s,mb4.4							
MKAR	**Makanchi Array**	**39.69**	**349**	P		**P**	**17 45 59.6**	**-1.0**
	comp=Z,0.3nm,0.5s,mb3.3,baz=168,slow=8.2,SNR=5.8							
MKAR				pP		pP	17 46 08.8	-0.5
	comp=Z,0.8nm,0.6s,baz=170,slow=8.4,SNR=6.1							
SONM	**Songino Array**	**41.64**	**14**	P		**P**	**17 46 16.5**	**-0.2**
	comp=Z,1.2nm,0.7s,mb3.6,baz=199,slow=8.2,SNR=8.6							
SONM				pP		pP	17 46 25.5	+0.1
	comp=Z,2.3nm,0.8s,baz=198,slow=8.2,SNR=8.9							
WRA	**Warramunga Arr**	**49.91**	**124**	P		**P**	**17 47 23.1**	**+0.4**
	comp=Z,1.9nm,0.9s,mb4.1,baz=304,slow=8.8,SNR=9.9							
WRA				pP		pP	17 47 31.7	+0.1
	comp=Z,1.9nm,0.8s,baz=304,slow=8.6,SNR=7.8							
WRAB	**Tennant Creek**	**49.92**	**124**	P		**P**	**17 47 23.9**	**+1.1**
	comp=Z,4.6nm,0.7s,mb4.6							
KMBO	**Kilima Mbogo**	**55.42**	**263**	P		**P**	**17 48 03.6**	**-0.3**
	comp=Z,0.9nm,0.8s,mb3.9,baz=48,slow=18,SNR=2.8							
KMBO				pP		pP	17 48 12.7	-0.1
	comp=Z,2.9nm,0.9s,baz=54,slow=11,SNR=4.5							
YAK	**Yakutsk**	**60.65**	**19**	P		**P**	**17 48 38.4**	**-1.5**
	comp=Z,3.7nm,0.5s,mb4.8							
GERES	**GERESS Array B**	**76.49**	**318**	P		**P**	**17 50 17.8**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=100,slow=6.0,SNR=4.2							
GERES				pP		pP	17 50 27.0	-0.5
	comp=Z,1.4nm,0.8s,baz=76,slow=5.5,SNR=7.6							
GRA1	**Grafenberg Arr**	**78.15**	**319**	*eP*		pP	17 50 36.2	-0.5
	comp=Z,3.0nm,1.1s							

*BJI **24** 17:39:38.5,7.79N×91.97E,h28km,mb4.5*
*NEIC **24** 17:39:41.2±0.7,7.82N×91.78E,mb4.4/6,Error ellipse: s-maj=19.2km s-min=13.1km az=225.0*
*IDC **24** 17:39:41.2±1.3,7.87N×91.81E,h29km±5km,mb3.8/7, mb1 4.0/7,mb1mx3.7/19,mbtmp3.9/7,Error ellipse: s-maj=35.6km s-min=26.3km az=39.0*

ISC 24 17:39:39.1±0.8,7.9N±0.1×91.8E±0.1,h30km, h30km±.6km:pP-P,n20,σ0§83/16,mb4.2/13,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMI	**Kunming**	**20.09**	**30**	P		**P**	**17 44 13.4**	**+0.2**
KMI				AP			17 44 22.8	
KMI				AMB		AMB		
	comp=Z,13nm,1.4s							
KMI	**Kunming**	**20.09**	**30**	P		**P**	**17 44 13.4**	**+0.2**
	comp=Z,13nm,1.4s							
KMI				pP			17 44 22.7	
QIZ	**Qiongzhong**	**20.71**	**56**	P		**P**	**17 44 18.6**	**-1.2**
ENH	**Enshi**	**27.77**	**34**	P		**P**	**17 45 28.4**	**+0.9**
	comp=Z,4.1nm,0.5s,mb4.3							
GTA	**Gaotai**	**32.23**	**12**	*eP*		**P**	**17 46 07.8**	**+0.7**
GTA				AP		pP	17 46 15.6	-0.3
GTA				XP		sP	17 46 18.3	-1.5
GTA				AMB		AMB		
	comp=Z,8.0nm,1.0s,mb4.5							
MKAR	**Makanchi Array**	**39.66**	**350**	P		**P**	**17 47 09.9**	**-0.2**
	comp=Z,0.8nm,0.7s,mb3.6,baz=177,slow=8.6,SNR=2.6							
MKAR				pP		pP	17 47 19.2	+0.1
	comp=Z,2.3nm,0.7s,baz=172,slow=8.8,SNR=4.7							
SONM	**Songino Array**	**41.73**	**15**	P		**P**	**17 47 26.9**	**-0.1**
	comp=Z,2.0nm,0.8s,mb3.8,baz=196,slow=7.3,SNR=5.3							
SONM				pP		pP	17 47 36.0	0.0
	comp=Z,2.7nm,0.7s,baz=197,slow=8.8,SNR=6.7							
BVAR	**Borovoye Array**	**48.31**	**343**	P		**P**	**17 48 21.0**	**+1.4**
	comp=Z,1.5nm,0.8s,mb4.1,baz=162,slow=9.1,SNR=4.3							
ZRNK	**Zerenda**	**48.66**	**342**	*eP*		**P**	**17 48 20.9**	**-1.5**
	comp=Z,3.0nm,0.8s,mb4.4							
ZRNK				*e*		pP	17 48 30.7	-0.8
WRA	**Warramunga Arr**	**50.12**	**124**	P		**P**	**17 48 34.4**	**+0.4**
	comp=Z,2.0nm,0.9s,mb4.1,baz=305,slow=8.7,SNR=5.5							
WRAB	**Tennant Creek**	**50.12**	**124**	*eP*		**P**	**17 48 33.7**	**-0.3**
	comp=Z,4.3nm,0.7s,mb4.6							
MJAR	**Matsushiro Arr**	**50.88**	**49**	pP		pP	17 48 48.7	0.0
	comp=Z,1.4nm,0.7s,baz=230,slow=6.1,SNR=6.0							
ARU	**Arti**	**55.05**	**338**	*eP*		**P**	**17 49 09.3**	**-1.0**
	comp=Z,5.7nm,0.9s,mb4.6							
ARU				*e*		pP	17 49 18.5	-0.9
BRTR	**Keskin Array B**	**60.73**	**311**	P		**P**	**17 49 49.5**	**-0.9**
	comp=Z,1.4nm,0.7s,mb4.2,baz=142,slow=7.5,SNR=4.2							
BRTR				pP		pP	17 49 58.8	-1.0
	comp=Z,2.0nm,0.8s,baz=121,slow=7.2,SNR=5.6							
MLR	**Muntele Rosu**	**67.60**	**316**	P		**P**	**17 50 35.0**	**-0.2**
	comp=Z,1.9nm,0.7s,mb4.2,baz=126,slow=1.8,SNR=3.6							
MLR				pP		pP	17 50 44.9	+0.3
	comp=Z,4.5nm,0.9s,baz=104,slow=7.0,SNR=5.1							
GERES	**GERESS Array B**	**76.33**	**318**	P		**P**	**17 51 27.7**	**+0.6**
	comp=Z,1.4nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=8.2							
GERES				pP		pP	17 51 36.8	+0.2
	comp=Z,1.9nm,0.8s,baz=90,slow=4.0,SNR=7.7							
CLL	**Collm**	**76.94**	**321**	*i* *PP		pP	17 51 41.0	+1.1
GRA1	**Grafenberg Arr**	**77.99**	**319**	*eP*		**P**	**17 51 37.4**	**+1.1**
	comp=Z,5.0nm,1.0s,mb4.4							
GRA1				*e*pP		pP	17 51 46.7	+0.9
PDAR	**Pinedale Array**	**125.98**	**19**	pPKP			17 58 51.3	
	comp=Z,0.7nm,0.9s,baz=45,slow=5.1,SNR=5.2							
NVAR	**Mina Array Bea**	**126.08**	**29**	pPKP			17 58 52.7	
	comp=Z,0.4nm,0.7s,baz=260,slow=0.9,SNR=4.4							

IDC 24 17:44:54.6±4.2,7.90N×92.03E,mb3.4/3,mb1 3.6/3, mb1mx3.4/18,mbtmp3.4/3,Error ellipse: s-maj=151.0km s-min=30.6km az=62.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKAR	**Makanchi Array**	**39.64**	**350**	P		P	17 52 28.0	-1.8
	0.2nm,0.7s,baz=168,slow=7.2,SNR=2.8							
SONM	**Songino Array**	**41.62**	**15**	P		P	17 52 44.5	-1.6
	0.8nm,0.7s,baz=202,slow=7.9,SNR=5.7							
WRA	**Warramunga Arr**	**49.99**	**124**	P		P	17 53 51.0	-2.0
	0.5nm,0.5s,baz=303,slow=8.9,SNR=6.3							

*IDC **24** 17:46:09.2±1.3,7.96N×91.78E,mb3.9/8,mb1 4.1/8, mb1mx3.9/20,mbtmp3.9/8,Error ellipse: s-maj=46.8km s-min=26.2km az=46.0*
*NEIC **24** 17:46:13.4±0.7,7.94N×91.84E,h30km,mb4.0/4,Error ellipse: s-maj=23.1km s-min=9.1km az=223.0*

ISC 24 17:46:11.4±0.9,7.9N±0.2×91.9E±0.2,h30km,n13, σ0§84/13,mb4.0/11,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KULM	**Kulim**	**9.10**	**106**	P		**P**	**17 48 23.0**	**-0.8**
KMI	**Kunming**	**20.00**	**30**	P		**P**	**17 50 52.3**	**+7.6**
	5.0nm,1.9s							
KMI				pP			17 51 08.5	
LSA	**Lhasa**	**21.67**	**358**	*eP*		**P**	**17 51 02.8**	**+1.0**
	3.1nm,0.5s,mb4.0							
MKAR	**Makanchi Array**	**39.59**	**350**	P		**P**	**17 53 41.5**	**-0.4**
	0.3nm,0.4s,mb3.4,baz=170,slow=8.3,SNR=4.1							
SONM	**Songino Array**	**41.64**	**15**	P		**P**	**17 53 59.4**	**+0.7**
	2.0nm,0.8s,mb3.8,baz=198,slow=7.6,SNR=12							
BVAR	**Borovoye Array**	**48.25**	**343**	P		**P**	**17 54 50.6**	**-0.9**
	0.5nm,0.5s,mb3.6,baz=141,slow=9.5,SNR=4.1							
ZRNK	**Zerenda**	**48.60**	**342**	*eP*		**P**	**17 54 53.3**	**-1.0**
	0.9nm,0.8s,mb4.0							
WRA	**Warramunga Arr**	**50.13**	**124**	P		**P**	**17 55 07.2**	**+0.7**
	1.7nm,0.8s,mb4.1,baz=304,slow=9.0,SNR=8.1							
WRAB	**Tennant Creek**	**50.13**	**124**	*eP*		**P**	**17 55 06.6**	**+0.1**
	11nm,1.0s,mb4.8							
BRTR	**Keskin Array B**	**60.70**	**311**	P		**P**	**17 56 21.4**	**-1.2**
	1.0nm,0.7s,mb4.1,baz=122,slow=7.2,SNR=5.3							
FINES	**FINESS Array B**	**71.62**	**332**	P		**P**	**17 57 31.6**	**-0.3**
	2.8nm,0.8s,mb4.2,baz=139,slow=18,SNR=4.8							
GERES	**GERESS Array B**	**76.30**	**318**	P		**P**	**17 57 59.8**	**+0.5**
	1.0nm,0.8s,mb3.8,baz=90,slow=5.3,SNR=9.4							
DAVOX	**Davos**	**78.80**	**316**	P		**P**	**17 58 14.6**	**+1.5**
	1.4nm,0.5s,mb4.2,baz=129,slow=13,SNR=4.4							

*IDC **24** 17:51:02.9±1.5,7.76N×91.90E,mb3.8/6,mb1 4.1/6, mb1mx3.8/19,mbtmp3.8/6,Error ellipse: s-maj=49.8km s-min=28.8km az=45.0*
*NEIC **24** 17:51:08.1±0.8,7.84N×91.83E,h30km,mb3.9/2,Error ellipse: s-maj=25.2km s-min=16.0km az=48.0*

ISC 24 17:51:06.1±1.0,7.9N±0.2×91.9E±0.2,h30km,n9,σ0§80/9, mb3.8/7,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMI	**Kunming**	**20.08**	**30**	P		**P**	**17 55 40.1**	**0.0**
	6.0nm,1.4s							
KMI				pP			17 55 49.3	
MKAR	**Makanchi Array**	**39.66**	**350**	P		**P**	**17 58 37.3**	**+0.1**
	0.6nm,0.4s,mb3.6,baz=169,slow=8.7,SNR=4.3							
SONM	**Songino Array**	**41.72**	**15**	P		**P**	**17 58 54.1**	**+0.1**
	2.2nm,0.7s,mb3.9,baz=197,slow=7.9,SNR=9.7							
ZRNK	**Zerenda**	**48.67**	**342**	*eP*		**P**	**17 59 48.8**	**-0.6**
	1.5nm,0.8s,mb4.1							
WRA	**Warramunga Arr**	**50.10**	**124**	P		**P**	**17 59 59.7**	**-1.2**
	0.4nm,0.5s,mb3.7,baz=301,slow=9.6,SNR=5.0							
CTAO	**Charters Tower**	**60.27**	**118**	*eP*		**P**	**18 01 15.8**	**+1.2**
BRTR	**Keskin Array B**	**60.74**	**311**	P		**P**	**18 01 16.4**	**-1.1**
	0.8nm,0.7s,mb4.0,baz=135,slow=7.0,SNR=4.0							
MLR	**Muntele Rosu**	**67.61**	**316**	P		**P**	**18 02 02.9**	**+0.6**
	1.3nm,0.6s,mb4.2,baz=78,slow=4.2,SNR=3.6							
GERES	**GERESS Array B**	**76.34**	**318**	P		**P**	**18 02 55.1**	**+1.0**
	0.3nm,0.7s,mb3.4,baz=79,slow=5.0,SNR=5.2							

IDC 24 17:59:06.0±3.1,7.89N×91.38E,mb3.4/4,mb1 3.6/4, mb1mx3.4/19,mbtmp3.4/4,Error ellipse: s-maj=112.4km s-min=29.5km az=59.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKAR	**Makanchi Array**	**39.54**	**350**	P		P	18 06 37.1	-3.2
	0.2nm,0.6s,baz=162,slow=9.1,SNR=2.9							
SONM	**Songino Array**	**41.81**	**15**	P		P	18 06 58.1	-0.8
	1.1nm,0.9s,baz=193,slow=8.3,SNR=6.7							
BVAR	**Borovoye Array**	**48.14**	**343**	P		P	18 07 48.4	-1.2
	0.2nm,0.5s,baz=135,slow=4.1,SNR=2.5							
WRA	**Warramunga Arr**	**50.52**	**124**	P		P	18 08 06.2	-2.2
	0.3nm,0.5s,baz=304,slow=8.8,SNR=4.8							

*NNC **24** 18:05:51.1±3.5,39.53N×63.80E,h7km±10km,mpv5.3, Error ellipse: s-maj=32.3km s-min=19.6km az=2.0*
*CSEM **24** 18:05:57.6±0.1,39.64N×64.07E,h24km,mb5.1/99,Error ellipse: s-maj=2.7km s-min=1.6km az=173.0*
*MOS **24** 18:05:58.3±1.0,39.65N×64.13E,h30km,mb5.2/63,Error ellipse: s-maj=5.9km s-min=3.7km az=37.2*
*NEIC **24** 18:05:59.5±0.2,39.67N×64.13E,mb5.1/95, Error ellipse: s-maj=6.0km s-min=3.1km az=3.0*
*IDC **24** 18:05:59.0±0.4,39.58N×64.07E,h22km±2km,mb4.6/27, mb1 4.7/30,mb1mx4.7/30,mbtmp4.7/30,ML4.6/2,Error ellipse: s-maj=10.5km s-min=8.6km az=157.0*
*BJI **24** 18:06:01.9,39.76N×64.71E,h24km,mB5.8,mb5.2,ML5.5, Ms5.2,Msz5.3*

ISC 24 18:05:57.4±0.1,39.62N±0.03×64.14E±0.02,h24km, h24km±.5km:pP-P,n505,σ1§03/513,mb5.0/147,MS5.4/5, 42C-25D,Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TAS	**Tashkent**	**4.28**	**65**	*i* PN		**Pn**	**18 07 01.5**	**-1.4**
TAS				*i*			18 08 13.3	
ASH	**Ashkhabad**	**4.82**	**252**	⇓*i* PN		**Pn**	**18 07 08.5**	**-2.0**
VAN	**Vannovskaya**	**5.00**	**252**	Pn		**Pn**	**18 07 10.5**	**-2.6**
KK31	**Karatay Array**	**5.92**	**52**	⇑Pn		**Pn**	**18 07 25.6**	**-0.4**
	157nm,0.6s,baz=237,slow=14,SNR=1121							
KK31				⇑Sn		**Sn**	**18 08 40.4**	**+6.6**
	240nm,0.6s,baz=233,slow=24,SNR=5.6							
KK31				⇑Lg			18 09 07.5	
	2μm,0.8s							
KKAR	**Karatay Array**	**5.92**	**52**	*e*PN		**Pn**	**18 07 25.5**	**-0.5**
KKAR				pmax		pmax		
	comp=Z,9.0nm,0.2s							
KKAR	**Karatay Array**	**5.92**	**52**	*i* P		**Pn**	**18 07 25.6**	**-0.4**
AML	**Almayashu**	**7.66**	**68**	P		**Pn**	**18 07 50.0**	**-0.5**
	SNR=72							
EKS2	**Erkin-Say**	**7.88**	**64**	P		**Pn**	**18 07 53.4**	**-0.1**
	SNR=208							
UCH	**Uchtor**	**8.27**	**68**	P		**P**	**18 07 58.6**	**-0.4**
	SNR=38							
AAK	**Ala-Archa**	**8.37**	**66**	P		**P**	**18 08 00.3**	**0.0**
	SNR=79							
AAK	**Ala-Archa**	**8.37**	**66**	⇑Pn		**P**	**18 08 00.2**	**-0.1**
	comp=Z,83nm,0.6s							
AAK				⇓Sn		**Sn**	**18 09 31.3**	**-3.8**
	comp=Z,212nm,0.9s							
AAK				⇓Lg			18 10 29.2	
	comp=Z,1μm,1.4s							
AAK	**Ala-Archa**	**8.37**	**66**	*c* *iP*		**P**	**18 07 59.3**	**-1.1**
AAK				pmax		pmax		
	comp=Z,157nm,1.0s							
AAK	**Ala-Archa**	**8.37**	**66**	⇑*e*P		**P**	**18 07 59.0**	**-1.3**
	comp=Z,160nm,0.6s							
AAK	**Ala-Archa**	**8.37**	**66**	*i* P		**P**	**18 07 59.3**	**-1.1**
	comp=Z,157nm,1.0s							
AAK	**Ala-Archa**	**8.37**	**66**	Pn		**P**	**18 08 00.2**	**-0.2**
	comp=Z,83nm,0.6s							
AAK				Sn		**Sn**	**18 09 31.3**	**-3.8**
	comp=Z,212nm,0.9s							
CEP	**Cherat**	**8.51**	**130**	P		**P**	**18 08 03.0**	**+0.8**
CEP				S		**Sn**	**18 09 38.0**	**-0.5**
FRU	**Bishkek**	**8.52**	**65**	*eP*		**P**	**18 08 06.0**	**+3.6**
FRU				pmax		pmax		
	comp=Z,160nm,1.4s							
USP	**Ospenovka**	**8.59**	**62**	P		**P**	**18 08 03.2**	**-0.1**
	SNR=20							
CHMS	**Chumysh**	**8.67**	**64**	P		**P**	**18 08 04.1**	**-0.4**
	SNR=18							
KBK	**Karagaybulak**	**8.70**	**66**	P		**P**	**18 08 04.9**	**0.0**
	SNR=145							
KZA	**Kyzart**	**8.77**	**70**	P		**P**	**18 08 06.2**	**+0.4**
	SNR=21							
SBDP	**Sheikh Budin**	**9.09**	**141**	P		**P**	**18 08 09.9**	**-0.3**
KSH	**Kashi**	**9.14**	**87**	⇓P		**P**	**18 08 09.8**	**-1.2**
KSH				S		**Sn**	**18 09 52.3**	**-1.9**
KSH				Smax				
	comp=N,1μm,1.2s							
KSH				Smax				
	comp=E,860nm,1.0s							
THW	**Thamme Wali**	**9.17**	**136**	P		**P**	**18 08 10.2**	**-1.2**
TKM2	**Tokmak 2**	**9.23**	**65**	P		**P**	**18 08 12.4**	**+0.1**
	SNR=8.6							
DRP	**Derazinda**	**9.28**	**146**	P		**P**	**18 08 13.2**	**+0.3**
CHCP	**Chirah Chowk**	**9.44**	**126**	P		**P**	**18 08 14.4**	**-0.7**
ULHL	**Ulahol**	**9.53**	**70**	P		**P**	**18 08 16.0**	**-0.2**
	SNR=42							
AB31	**Akbulak array**	**10.09**	**344**	⇑Pn		**P**	**18 08 19.6**	**-4.3**
	comp=E,12nm,0.3s							
AB31				⇓Sn		**S**	**18 10 09.9**	**-7.5**
	comp=E,62nm,0.6s							
AB31				⇑Lg			18 11 06.9	
	comp=E,178nm,0.6s							
SARP	**Sargodha**	**10.34**	**135**	P		**P**	**18 08 24.8**	**-2.7**
THN	**Thein Dam**	**11.79**	**124**	*eP*		**P**	**18 08 43.8**	**-3.5**
THN				*e*			18 10 53.4	
DLH	**Dalhousie**	**11.89**	**123**	*eP*		**P**	**18 08 47.0**	**-1.5**
DLH				*e*			18 10 55.0	
PONG	**Pong**	**12.26**	**125**	*eP*		**P**	**18 08 51.0**	**-2.5**
BHK	**Bhakra**	**12.91**	**126**	*eP*		**P**	**18 09 06.5**	**+4.2**
BHK				*e*S		**S**	**18 11 18.3**	**-7.9**
MAK	**Makhachkala**	**12.95**	**290**	*eP*		**P**	**18 08 56.0**	**-6.7**
SDNR	**Sundarnagar**	**13.21**	**124**	*eP*		**P**	**18 09 01.6**	**-4.6**
SDNR				*e*			18 11 25.0	
SMLA	**Simla**	**13.58**	**125**	⇓*i*		**P**	**18 09 06.5**	**-4.6**
SMLA				*i*			18 11 19.5	
ZRNK	**Zerenda**	**13.74**	**12**	⇑Pn		**P**	**18 09 08.4**	**-4.6**
	comp=E,29nm,0.6s							
ZRNK				⇓Sn		**S**	**18 11 43.0**	**-2.9**
	comp=E,160nm,0.8s							
ZRNK	**Zerenda**	**13.74**	**12**	*eP*		**P**	**18 09 09.6**	**-3.5**
	comp=E,56nm,0.6s							
ZRNK	**Zerenda**	**13.74**	**12**	*eP*		**P**	**18 09 09.6**	**-3.5**
	comp=E,56nm,0.6s							
ZRNK				Sn		**S**	**18 11 43.0**	**-2.9**
	comp=E,160nm,0.8s							
VOSK	**Vostochnaya**	**13.92**	**18**	⇑Pn		**P**	**18 09 14.2**	**-1.2**
	comp=E,78nm,0.7s							
VOSK				⇑Sn		**S**	**18 11 45.0**	**-5.2**
	comp=E,162nm,0.8s							
BVA0	**Borovoye Array**	**14.07**	**16**	⇓Pn		**P**	**18 09 12.6**	**-4.8**
	comp=E,13nm,0.6s							
BVA0				⇑Lg			18 13 18.9	
	comp=E,14nm,0.6s,baz=196,slow=27,SNR=12							
BVA0	**

SOC MLR MLR
comp=Z,3µm,16.0s
SOC MLR MLR
comp=N,3µm,19.0s
SOC MLR MLR
comp=E,2µm,16.0s
SOC Sochi 18.67 290 *e*S **S 18 13 37.9 -2.1**
comp=E,3µm,19.0s
BHPL Bhopal 19.84 141 *e*P **P 18 10 29.0 -0.6**
BHPL AMb AMB 18 10 31.0
comp=Z,69nm,1.1s
BHPL *e* 18 14 50.0
NVS Novosibirsk 19.89 34⇓*i*P **P 18 10 28.1 -1.8**
NVS *e*S **S 18 14 00.1 -7.0**
NVS pmax pmax
comp=N,43nm,1.0s
NVS pmax pmax
comp=Z,62nm,1.0s
NVS pmax pmax
comp=E,33nm,0.9s
NVS smax
comp=N,51nm,1.2s
KOLN Koldanda 20.00 120 *e*P **P 18 10 29.8 -1.5**
comp=N,212nm,0.8s
MALT Malatya 20.02 274 *e*P **P 18 10 29.9 -1.5**
MALT pmax pmax
comp=Z,161nm,0.6s
MALT Malatya 20.02 274 *e*P **P 18 10 29.9 -1.5**
comp=Z,161nm,0.6s
MALT Malatya 20.02 274 *e*P **P 18 10 29.9 -1.5**
comp=Z,161nm,0.6s
ANN Anapa 20.40 293 *e*P **P 18 10 33.6 -1.7**
ANN *e*S **S 18 14 21.2 +3.6**
ANN pmax pmax
comp=Z,166nm,1.3s
ANN MLR MLR
comp=N,5µm,22.0s,MS4.8
ANN MLR MLR
comp=E,2µm,22.0s,MS4.8
ANN MLR MLR
comp=Z,9µm,22.0s,MS5.1
ANN Anapa 20.40 293 *e*P **P 18 10 33.6 -1.7**
comp=Z,166nm,1.3s
GKN Gorkha 20.55 118 *e*P **P 18 10 36.0 -0.9**
comp=Z,633nm,1.0s
JHLN Al Jahlan 20.70 267⇑*i*P **P 18 10 38.5 0.0**
SLMH Al Salmeh 20.93 269⇑*i*P **P 18 10 40.7 -0.1**
VOR Voronezh 21.10 313 *e*P **P 18 10 43.0 +0.6**
VOR pmax pmax
comp=Z,250nm,1.9s,mb5.2
VOR Voronezh 21.10 313 *e*P **P 18 10 43.0 +0.6**
comp=Z,250nm,1.9s,mb5.2
DMN Daman 21.12 118 *e*P **P 18 10 42.5 -0.3**
comp=Z,390nm,1.2s,mb5.6
KKN Kakani 21.12 118 *e*P **P 18 10 42.1 -0.7**
comp=Z,300nm,0.7s,mb5.8
GAZ Gaziantep 21.22 272 P **P 18 10 43.4 -0.4**
PKI Pulchoki 21.35 118 *e*P **P 18 10 44.6 -0.5**
comp=Z,227nm,0.7s,mb5.6
GUN Gumba 21.46 116 *e*P **P 18 10 46.0 -0.2**
comp=Z,379nm,0.8s,mb5.8
AKL Akola 21.85 146 *e* **P 18 10 55.3 +5.1**
AKL AMb AMB 18 11 00.2
comp=Z,51nm,0.9s,mb5.0
BNN Bunyan 21.90 277 P **P 18 10 50.0 -0.5**
WRDH Warideh 22.32 268⇑*i*P **P 18 10 55.1 +0.3**
BYBT Boyabat 22.35 284 *e*P **P 18 10 55.1 +0.1**
NGP Nagpur 22.40 141 *e*P **P 18 10 55.7 0.0**
NGP AMb AMB 18 11 00.7
comp=Z,74nm,1.1s,mb5.0
ZALF Zalf 22.57 261⇑*i*P **P 18 10 58.5 +1.2**
CORM Corum 22.61 281 *e*P **P 18 10 57.3 -0.2**
SIM Simferopol' 22.77 293 *e*P **P 18 10 58.2 -0.9**
SIM S **S 18 14 57.0 -4.9**
SIM pmax pmax
comp=Z,100nm,1.0s,mb5.2
SIM Simferopol' 22.77 293 *e*P **P 18 10 58.2 -0.9**
comp=Z,100nm,1.0s,mb5.2
BZK Bozkurt 22.88 286 *e*P **P 18 10 59.4 -0.9**
TOS Tosya 22.95 283 P **P 18 11 02.0 +1.1**
SALA Sala 23.12 261⇑*i*P **P 18 11 05.5 +2.8**
ASF Jabal al Asfar 23.23 260 P **P 18 11 05.3 +1.6**
comp=Z,11nm,1.1s,mb4.2,baz=344,slow=6.5,SNR=5.8
BR131 Keskin Array S 23.43 280 *e*P **P 18 11 05.4 -0.2**
comp=Z,20nm,0.9s,mb4.5
BR131 Keskin Array S 23.43 280 *e*P **P 18 11 05.4 -0.1**
comp=Z,20nm,0.9s,mb4.5
BRTR Keskin Array B 23.43 280 P **P 18 11 05.3 -0.2**
comp=Z,15nm,0.9s,mb4.4,baz=90,slow=8.6,SNR=37
KAMT Kaman 23.43 279 P **P 18 11 05.4 -0.2**
MOS Moscow 23.84 321 *e*P **P 18 11 10.1 +0.8**
MOS *e* 18 11 37.8
MOS *e*S **S 18 15 29.6 +9.1**
MOS *e*SS SS 18 16 09.5 -1.4
MOS pmax pmax
comp=Z,70nm,1.0s,mb5.0
MOS Moscow 23.84 321 *e*P **P 18 11 10.1 +0.8**
comp=Z,70nm,1.0s,mb5.0
KAD Karad 23.89 156 *e* **P 18 11 24.2 +14**
SAFT Safranbolu 23.93 284 P **P 18 11 12.6 +2.1**
OBN Obninsk 24.04 319⇓*i*P **P 18 11 11.3 -0.1**
OBN *e* 18 11 41.4
OBN pmax pmax
comp=Z,41nm,0.7s,mb5.0
OBN Obninsk 24.04 319 *e*P **P 18 11 11.7 +0.3**
comp=Z,82nm,0.6s,mb5.3
OBN Obninsk 24.04 319 *e*P **P 18 11 11.7 +0.3**
comp=Z,82nm,0.6s,mb5.3
ANTO Ankara 24.05 281 P **P 18 11 12.8 +1.2**
LOD Lodumlu 24.07 281 *e*P **P 18 11 12.6 +0.8**
LSA Lhasa 24.24 106 *e*P **P 18 11 16.6 +3.0**
LSA pmax pmax
comp=Z,62nm,0.8s,mb5.1
LSA Lhasa 24.24 106 *e*P **P 18 11 16.6 +3.0**
comp=Z,62nm,0.8s,mb5.1
LSA Lhasa 24.24 106 *e*P **P 18 11 16.6 +3.0**
comp=Z,62nm,0.8s,mb5.1
KIZT Kizilcal 24.93 279 P **P 18 11 20.1 0.0**
HYB Hyderabad 25.43 146 *i*P **P 18 11 25.5 +0.5**
HYB Hyderabad 25.43 146 *e*P **P 18 11 25.5 +0.5**
ESKT Eskisehir 25.58 281 *e*P **P 18 11 25.5 -0.8**
EIL Elat 25.89 256 *e*P **P 18 11 30.3 +1.1**
comp=Z,24nm,1.0s,mb4.7
ISP Isparta 26.21 277 *e*P **P 18 11 32.0 -0.1**
ISP pmax pmax
comp=Z,30nm,0.8s,mb4.9
ISP Isparta 26.21 277 *e*P **P 18 11 32.0 -0.1**
comp=Z,30nm,0.8s,mb4.9
KIS Kishinev 26.57 298 *e*P **P 18 11 33.0 -2.3**
AKASG Malin Array Be 26.75 306 P **P 18 11 36.0 -1.0**
comp=Z,14nm,0.7s,mb4.6,baz=97,slow=7.1,SNR=66
KIEV Kiev 26.76 306 P **P 18 11 36.0 -1.0**
CFR Carcaliu 27.01 294⇓*i*P **P 18 11 39.6 +0.3**
SHL Shillong 27.12 113 *e*P **P 18 11 41.0 +0.4**
SHL AMb AMB 18 11 45.3
comp=Z,204nm,0.3s,mb6.1
HARR Harsova 27.17 293⇓*i*P **P 18 11 40.5 -0.3**
GTA Gaotai 27.41 79 P **P 18 11 44.8 +1.7**
GTA AP pP 18 11 48.5 -1.5
GTA XP sP 18 11 50.3 -2.8
GTA AMB AMB
comp=Z,15nm,1.1s,mb4.4
BRD Bordesti 27.78 295⇑*i*P **P 18 11 50.8 +4.5**
BRD Bordesti 27.78 295⇑*i*P **P 18 11 50.8 +4.4**
VRI Vrincioaia 27.99 295⇓*i*P **P 18 11 49.4 +1.2**
MOY Mondy 28.13 52 *e*P **P 18 11 51.6 +2.2**
MOY pmax pmax
comp=Z,27nm,1.8s,mb4.6
KMPD K-Podol'skiy 28.26 301 P **P 18 11 50.0 -0.6**
JMB Yambol 28.32 288 P **P 18 11 52.3 +1.1**
MNK Minsk 28.48 314 *e*P **P 18 11 53.0 +0.4**
MLR Muntele Rosu 28.55 294 P **P 18 11 54.5 +1.3**
MLR pmax pmax
comp=Z,21nm,0.8s
MLR Muntele Rosu 28.55 294 P **P 18 11 54.5 +1.2**
comp=Z,21nm,0.8s,mb4.9,baz=147,slow=2.1,SNR=46
MLR Muntele Rosu 28.55 294⇓*i*P **P 18 11 55.4 +2.1**
MLR Muntele Rosu 28.55 294⇓*i*P **P 18 11 55.3 +2.1**
BURAR Bucovina Array 29.04 299⇓*i*P **P 18 12 04.0 +6.3**
VOIR 29.18 294⇑*i*P **P 18 11 59.3 +0.3**
RDO Rodhopi 29.29 286 P **P 18 12 01.4 +1.4**
ZAK Zakamensk 29.37 55⇓*i*P **P 18 12 01.8 +1.2**
ZAK *e* 18 15 03.2
ZAK pmax pmax
comp=Z,15nm,0.9s,mb4.7
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
LVV L'vov 29.94 303 *e*P **P 18 12 06.0 +0.2**
IRK Irkutsk 30.23 52 *e*P **P 18 12 07.6 -0.6**
IRK *e* 18 13 13.8
IRK pmax pmax
comp=Z,40nm,2.4s,mb4.7
APE Apeiranthos 30.24 278⇓*i*P **P 18 12 06.1 -2.4**
VSU Vasula 30.36 321 *e*P **P 18 12 08.4 -1.0**
VTS Vitosha 30.77 289 P **P 18 12 13.4 +0.2**
KWP Kalwaria 30.79 303 *e*P **P 18 12 13.3 +0.1**
SUW Suwalki 31.02 311 *e*P **P 18 12 21.1 +5.9**
UZH Uzhgorod 31.02 301 *e*P **P 18 12 15.0 -0.3**
KOLS Kolonicke sedl 31.04 301 *e*P **P 18 12 15.3 -0.2**
KOLS *e* 18 13 03.0
IDI Anoyia 31.29 275 P **P 18 12 17.0 -0.7**
comp=Z,6.5nm,0.8s,mb4.5,baz=61,slow=10,SNR=4.2
SONM Songino Array 31.29 61 P **P 18 12 18.5 +0.8**
comp=Z,12nm,0.7s,mb4.8,baz=275,slow=9.5,SNR=77
SONM PcP PcP 18 15 11.4 -0.3
comp=Z,1.7nm,0.6s,baz=281,slow=4.0,SNR=4.8
LZH Lanzhou 31.37 84⇑P **P 18 12 20.1 +1.6**
LZH AP pP 18 12 29.8 +4.3
LZH AMB AMB
comp=Z,80nm,1.2s,mb5.4
LZH Lanzhou 31.37 84⇑P **P 18 12 20.1 +1.6**
LZH *PP pP 18 12 29.8 +4.3
LZH *SP sP 18 12 34.2 +5.6
LZH pmax pmax
comp=Z,80nm,1.2s,mb5.4
LZH Lanzhou 31.37 84⇑P **P 18 12 20.1 +1.6**
comp=Z,80nm,1.2s,mb5.4
LZH pP pP 18 12 29.8 +4.3
LZH sP sP 18 12 34.2 +5.6
CRVS Cervenica-Dubn 31.58 301 *e*P **P 18 12 21.7 +1.5**
CRVS *e* 18 13 11.8
STHS Stebnicka Huta 31.73 302 *e*P **P 18 12 21.4 -0.1**
STHS *e* 18 13 08.1
FINES FINESS Array B 31.87 326 P **P 18 12 22.2 -0.4**
comp=Z,3.9nm,0.6s,mb4.4,baz=135,slow=11,SNR=18
FINES pP pP 18 12 29.0 -0.6
comp=Z,7.5nm,0.5s,baz=140,slow=11,SNR=13
FINES FINESS Array B 31.87 326 P **P 18 12 22.2 -0.4**
FINES pP pP 18 12 29.0 -0.6
KAF Kangasniemi 32.07 327 *ep* **P 18 12 23.5 -0.8**
comp=Z,32nm,0.8s,mb5.2,baz=115,slow=8.8
KECS Kecovo 32.22 301 *e*P **P 18 12 26.2 +0.4**
KECS *e* 18 13 08.9
NIE Niedzica 32.34 302 *e*P **P 18 12 27.5 +0.7**
GRUS Gruza 32.40 292 *i*P **P 18 12 27.2 -0.2**
PSZ Piszkesteto 32.63 299⇑*i*P **P 18 12 30.0 +0.6**
OJC Ojcow 32.69 304 *e*P **P 18 12 29.2 -0.6**
APA Apatity 32.72 339⇓*i*P **P 18 12 37.0 +7.1**
APA pmax pmax
comp=Z,13nm,0.7s,mb5.0
DIVS Divcibare 32.88 292⇑*i*P **P 18 12 31.4 -0.2**
CD2 Chengdu 33.27 93 P **P 18 12 37.0 +1.8**
CD2 AMB AMB
comp=Z,50nm,1.2s,mb5.3
VYHS Vyhne 33.32 301 *e*P **P 18 12 35.2 -0.2**
PKSM Moragy 33.59 296 P **P 18 12 38.1 +0.3**
OKC Ostrava-Krasne 33.75 303 *e*P **P 18 12 42.4 +3.3**
JAVC Velka Javorina 34.08 301 P **P 18 12 43.2 +1.3**
MORC Moravsky Berou 34.14 303 P **P 18 12 42.4 -0.1**
MORC Moravsky Berou 34.14 303 *e*P **P 18 12 42.9 +0.4**
GKP Gorka Klasztor 34.43 309 *e*P **P 18 12 45.5 +0.6**
GKP Gorka Klasztor 34.43 309 *e*P **P 18 12 45.5 +0.6**
VRAC Vranov 34.77 302 P **P 18 12 48.1 +0.2**
VRAC Vranov 34.77 302 *e*P **P 18 12 48.6 +0.7**
SOP Sopron 34.89 299 P **P 18 12 49.0 +0.1**
KRUC Moravsky 34.91 302 P **P 18 12 49.2 +0.1**
DPC Dobruska-Polom 34.92 304 *e*P **P 18 12 49.2 +0.1**
DPC *epP pP 18 12 56.4 +0.2
DPC *ex* x 18 13 54.2
KSP Ksiaz 34.93 305 *e*P **P 18 12 49.2 -0.1**
KSP *epP pP 18 12 56.0 -0.3
KSP *ePP PP 18 14 06.2 -1.2
KSP Ksiaz 34.93 305 *e*P **P 18 12 49.4 +0.1**
KSP Ksiaz 34.93 305 *e*P **P 18 12 49.2 -0.1**
KSP *epP pP 18 12 56.0 -0.3
UPC Upice 35.12 304 *e*P **P 18 12 51.0 +0.2**
UPC *epP pP 18 12 57.9 0.0
KOGS Kog 35.22 297 P **P 18 12 52.5 +0.8**
KMI Kunming 35.38 102 P **P 18 12 54.6 +1.3**
KMI AMB AMB
comp=Z,42nm,0.8s,mb5.4
ARSA Arzberg 35.63 299⇓*i*P **P 18 12 55.1 -0.1**
comp=Z,11nm,1.5s,mb4.5
HHC Hu-ho-hao-te 35.88 72 *e*P **P 18 12 59.3 +1.9**
HHC PP PP 18 14 21.0 +2.1
HHC PCP PcP 18 15 23.4 -1.2
HHC S **S 18 14 40.2 +6.8**
HHC SCP 18 19 12.3
HHC SCS ScS 18 23 18.1 +6.2
HHC AMB AMB
comp=Z,16nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,2µm,12.0s
HHC LR LR
comp=N,5µm,20.4s,MS5.4
HHC LR LR
comp=E,6µm,21.6s,MS5.4
HHC LR LR
comp=Z,9µm,22.8s,MS5.5
CIT Chita 35.91 53 *e*P **P 18 12 58.8 +1.2**
CIT *e* pP 18 13 06.4 +1.8
CIT pmax pmax
comp=Z,102nm,1.4s,mb5.6
KEV Kevo 35.92 339 *ep* **P 18 12 55.9 -1.6**
BSD Bornholm Skovb 35.94 312 *i*P **P 18 13 03.0 +5.3**
BSD *i* 18 13 12.1
BSD pmax pmax
comp=Z,110nm,0.6s,mb6.0
BSD Bornholm Skovb 35.94 312 *i*P **P 18 13 03.0 +5.3**
comp=Z,106nm,0.6s,mb6.0
BSD *i* 18 13 12.1
BSD *e* 18 14 08.1
PERS Pernice 35.97 298 *e*P **P 18 12 58.3 +0.2**
PERS *e* pP 18 13 05.2 0.0
XAN Xi'an 35.99 85 P **P 18 12 59.4 +1.0**
XAN AP pP 18 13 07.8 +2.4
XAN AMB AMB
comp=Z,27nm,0.8s,mb5.2
BOJS Bojanci 36.03 296 *e*P **P 18 12 58.8 +0.2**
PVCC Panska Ves 36.03 304 *e*P **P 18 12 58.4 -0.2**
PVCC *epP pP 18 13 05.9 +0.2
PRU Pruhonice 36.07 303 *e*P **P 18 12 59.0 +0.1**
PRU *epP pP 18 13 06.1 +0.1
PRU *ePP PP 18 14 20.2 -1.1
ARCES ARCESS Array B 36.22 338 P **P 18 13 00.6 +0.6**
comp=Z,3.4nm,0.4s,mb4.6,baz=131,slow=8.8,SNR=53
ARCES pP pP 18 13 07.4 +0.4
comp=Z,21nm,0.6s,baz=131,slow=9.6,SNR=22
ARCES PP PP 18 14 23.6 +0.7
comp=Z,10nm,0.7s,baz=130,slow=9.5,SNR=4.5
ARCES ARCESS Array B 36.22 338 P **P 18 13 00.6 +0.6**
ARCES pP pP 18 13 07.4 +0.4
ARCES PP PP 18 14 23.6 +0.7
ARE0 ARCESS Array S 36.22 338 *e*P **P 18 13 00.7 +0.7**
ARE0 *e* pP 18 13 07.1 +0.1
ARE0 ARCESS Array S 36.22 338 *e*P **P 18 13 00.7 +0.8**
CHRT Chiangrai 36.35 112⇑P **P 18 13 02.0 +0.4**
comp=Z,232nm,0.7s
MOA Molln 36.41 300⇑*i*P **P 18 13 02.0 +0.2**
comp=Z,19nm,1.7s,mb4.7
BRG Berggiesshubel 36.42 305⇑*i*P **P 18 13 02.0 +0.1**
BRG *i* pP 18 13 09.1 +0.2
BRG pmax pmax
comp=Z,12nm,0.7s,mb4.9
BRG Berggiesshubel 36.42 305⇑*i*P **P 18 13 02.0 +0.1**
comp=Z,12nm,0.7s,mb5.0
BRG *i* pP 18 13 09.1 +0.1
BRG Berggiesshubel 36.42 305 *e*P **P 18 13 02.2 +0.3**
comp=Z,32nm,0.6s,mb5.4
LJU Ljubljana 36.45 297 *e*P **P 18 13 02.6 +0.4**
LJU *i* pP 18 13 09.6 +0.3
RUE Ruedersdorf 36.50 308 *e*P **P 18 13 01.8 -0.7**
comp=Z,40nm,1.2s,mb5.2
BOD Bodaibo 36.58 43 *e*P **P 18 13 02.2 -0.9**
BOD pmax pmax
comp=Z,14nm,1.0s,mb4.8
KTK1 Kautokeino 36.60 337 *e*P **P 18 13 03.6 +0.5**
comp=Z,47nm,1.4s,mb5.1
KTK1 Kautokeino 36.60 337 *e*P **P 18 13 03.6 +0.5**
KTK1 *epP pP 18 13 10.3 +0.1
KTK1 AMb AMB 18 13 11.3
comp=Z,47nm,1.4s,mb5.1
KTK1 Kautokeino 36.60 337 *e*P **P 18 13 03.7 +0.5**
comp=Z,47nm,1.4s,mb5.1
GEC2 GERESS Array S 36.70 302 *e*P **P 18 13 04.3 +0.1**
GEC2 pmax pmax
comp=Z,16nm,1.4s,mb4.7
GEC2 GERESS Array S 36.70 302 *e*P **P 18 13 04.3 +0.1**
comp=Z,16nm,1.4s,mb4.7
GERES GERESS Array B 36.70 302 P **P 18 13 04.1 -0.1**
comp=Z,3.5nm,0.7s,mb4.3,baz=90,slow=8.0,SNR=31
GERES pP pP 18 13 11.4 +0.2
comp=Z,2.8nm,0.5s,baz=71,slow=8.6,SNR=11
GERES PP PP 18 14 28.0 -1.4
comp=Z,4.1nm,0.8s,baz=78,slow=12,SNR=6.5
KHC Kasperske Hory 36.76 302 *e*P **P 18 13 05.0 +0.3**
KHC *epP pP 18 13 11.6 -0.1
KHC *ePP PP 18 14 27.3 -2.8
CUC Castrocucco 36.76 286 P **P 18 13 05.5 +0.7**
CLL Collm 37.00 306 *i*P **P 18 13 06.5 -0.2**
CLL *i* *PP pP 18 13 13.5 -0.3
CLL pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CLL Collm 37.00 306 *i*P **P 18 13 06.5 -0.2**
comp=Z,10.0nm,0.7s,mb4.8
CLL *i* pP pP 18 13 13.5 -0.3
CLL Collm 37.00 306 P **P 18 13 06.5 -0.2**
comp=Z,logA/T=1.2,mb4.8
CLL *i* *PP pP 18 13 13.5 -0.3
CLL *e* 18 14 17.0
CLL *i* PP PP 18 14 30.0 -3.3
CLL Collm 37.00 306 *e*P **P 18 13 06.8 +0.1**
comp=Z,26nm,0.7s,mb5.2
CLL *i* pP pP 18 13 13.5 -0.3
KBA Koelnbreinsper 37.12 299⇑*i*P **P 18 13 08.5 +0.7**
comp=Z,32nm,1.3s,mb5.0
KBA Koelnbreinsper 37.12 299⇑*i*P **P 18 13 08.5 +0.7**
KBA pmax pmax
comp=Z,32nm,1.3s,mb5.0
WET Wettzell 37.21 302 *e*P **P 18 13 09.4 +0.9**
WET pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
WET Wettzell 37.21 302 *e*P **P 18 13 09.4 +0.9**
comp=Z,10.0nm,1.1s,mb4.6
NKC Novy Kostel 37.41 304 *e*P **P 18 13 11.0 +0.9**
NKC *epP pP 18 13 16.7 -0.5
GUNZ Gunzen 37.47 304 *e*P **P 18 13 11.4 +0.7**
comp=Z,11nm,0.9s,mb4.7
WERD Werda 37.48 304 *e*P **P 18 13 11.3 +0.5**
comp=Z,12nm,0.8s,mb4.8
BDT Bhumibol Dam 37.55 116 P **P 18 13 12.0 +0.3**
NOTT Nottersdorf 37.65 303 *e*P **P 18 13 12.9 +0.7**
comp=Z,25nm,1.1s,mb4.9
MOX Moxa 37.91 305 *e*P **P 18 13 14.7 +0.3**
MOX Moxa 37.91 305 *i*P **P 18 13 14.7 +0.3**
MOX Moxa 37.91 305 *e*P **P 18 13 14.9 +0.6**
comp=Z,26nm,1.4s,mb4.8
ENH Enshi 37.98 90 *e*P **P 18 13 16.4 +1.3**
comp=Z,24nm,0.8s,mb5.0
ENH Enshi 37.98 90 *e*P **P 18 13 16.5 +1.3**
comp=Z,24nm,0.8s,mb5.0
GRA1 Grafenberg Arr 38.24 303 *e*P **P 18 13 18.3 +1.2**
comp=Z,102nm,1.4s,mb5.4
GRA1 *epP pP 18 13 25.6 +1.4
GRF Grafenberg Arr 38.24 303 *e*P **P 18 13 18.3 +1.2**
GRF *e*PP pP 18 13 25.6 +1.4
GRF pmax pmax
comp=Z,102nm,1.4s,mb5.4
GRF Grafenberg Arr 38.24 303 *e*P **P 18 13 18.3 +1.2**
GRF *e*PP pP 18 13 25.6 +1.4
GRF pmax pmax
comp=Z,102nm,1.4s,mb5.4
GRF Grafenberg Arr 38.24 303 *e*P **P 18 13 18.3 +1.2**
comp=Z,102nm,1.4s,mb5.4
GRF *epP pP 18 13 25.6 +1.4
GRFO Grafenberg 38.24 303 P **P 18 13 17.4 +0.2**
WTTA Wattenberg 38.25 299⇑*i*P **P 18 13 17.2 -0.1**
comp=Z,28nm,1.5s,mb4.8
WTTA Wattenberg 38.25 299⇑*i*P **P 18 13 17.2 -0.1**
WTTA pmax pmax
comp=Z,28nm,1.5s,mb4.8
WATA Walderalm 38.28 299⇓*i*P **P 18 13 17.4 -0.1**
comp=Z,10nm,0.8s,mb4.6
WATA Walderalm 38.28 299⇓*i*P **P 18 13 17.4 -0.1**
WATA pmax pmax
comp=Z,11nm,0.8s,mb4.6
FUR Furstenfeldbru 38.37 301 *e*P **P 18 13 19.0 +0.7**
FUR pmax pmax
comp=Z,33nm,0.9s,mb5.1
FUR Furstenfeldbru 38.37 301 *e*P **P 18 13 19.0 +0.7**
comp=Z,33nm,0.9s,mb5.1
MOR8 Moi Rana 38.43 330 *e*P **P 18 13 18.2 -0.4**
comp=Z,40nm,1.9s,mb4.8
MOR8 Moi Rana 38.43 330 *e*P **P 18 13 18.2 -0.4**
MOR8 *epP pP 18 13 24.9 -0.8
MOR8 AMb AMB 18 13 26.1
comp=Z,40nm,1.9s,mb4.8
MOR8 Moi Rana 38.43 330 *e*P **P 18 13 18.2 -0.4**
comp=Z,40nm,1.9s,mb4.8
BSEG Bad Segeberg 38.57 310 *e*P **P 18 13 20.0 +0.1**
MOTA Moosalm 38.60 299⇑*i*P **P 18 13 19.7 -0.5**
comp=Z,15nm,1.0s,mb4.7
MOTA Moosalm 38.60 299⇑*i*P **P 18 13 19.7 -0.5**
MOTA pmax pmax
comp=Z,15nm,1.0s,mb4.7
NB2 NORSAR Subarra 38.60 322 P **P 18 13 19.5 -0.6**
comp=Z,9.0nm,0.6s,mb4.7,baz=100,slow=8.6
NB2 NORSAR Subarra 38.60 322 P **P 18 13 19.5 -0.6**
NB2 pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
NB2 NORSAR Subarra 38.60 322 P **P 18 13 19.5 -0.6**
baz=100,slow=8.6
NOA NORSAR Array B 38.60 322 P **P 18 13 19.7 -0.4**
comp=Z,13nm,0.8s,mb4.7,baz=99,slow=8.4,SNR=43
NOA pP pP 18 13 26.4 -0.8
comp=Z,26nm,0.7s,baz=106,slow=8.0,SNR=33
NOA PP PP 18 14 42.8 -9.4
comp=Z,3.8nm,0.6s,baz=102,slow=11,SNR=4.2
CLZ Clausthal 38.61 307 *e*P **P 18 13 20.4 +0.1**
CLZ pmax pmax
comp=Z,20nm,1.2s,mb4.7
CLZ Clausthal 38.61 307 *e*P **P 18 13 20.4 +0.1**
comp=Z,20nm,1.2s,mb4.7
NRDL Niedersach Rie 38.74 308 *e*P **P 18 13 21.8 +0.5**
comp=Z,24nm,1.2s,mb4.8
MELSS Ber_school_2 38.93 331 *e*P **P 18 13 23.6 +0.9**
MELSS *epP pP 18 13 29.9 +0.1
KONO Kongsberg 39.22 319 *i*P **P 18 13 23.5 -1.8**
MUD Monsted U'grnd 39.24 314 *e*P **P 18 13 33.3 +7.8**
MUD pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
MUD Monsted U'grnd 39.24 314 *e*P **P 18 13 33.3 +7.8**
comp=Z,4.0nm,0.4s,mb4.5
MUD *e* 18 14 55.3
MUD Monsted U'grnd 39.24 314 *i*P **P 18 13 33.3 +7.8**
comp=Z,4.0nm,0.4s,mb4.5
MUD *e* 18 14 55.3
LOF Lofoten 39.41 333 *i* **P 18 13 35.7 +9.0**
DAVA Damuels 39.43 300⇑*i*P **P 18 13 27.0 -0.1**
comp=Z,44nm,1.3s,mb5.0
DAVOX Davos 39.52 299 P **P 18 13 27.6 -0.2**
comp=Z,5.5nm,0.6s,mb4.5,baz=96,slow=7.6,SNR=8.5
DAVOX pP pP 18 13 34.4 -0.5
comp=Z,15nm,0.9s,baz=115,slow=7.3,SNR=11
TOD Tromm 39.81 303 *e*P **P 18 13 31.5 +1.3**
TNS Taunus Mts 39.97 304 *e*P **P 18 13 31.9 +0.4**
TNS pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
TNS Taunus Mts 39.97 304 *e*P **P 18 13 31.9 +0.4**
comp=Z,7.0nm,0.9s,mb4.4
BFO Black Forest 40.30 301 *e*P **P 18 13 34.3 0.0**
BFO pmax pmax
comp=Z,28nm,1.2s,mb4.9
BFO Black Forest 40.30 301 *e*P **P 18 13 34.3 0.0**
comp=Z,28nm,1.2s,mb4.9
LANF Langenberg 40.54 302 *e*P **P 18 13 37.5 +1.2**
MOL Molde 40.55 324 *e*P **P 18 13 36.9 +0.8**
MOL *epP pP 18 13 43.5 +0.3
FELD Feldberg 40.59 301 *e*P **P 18 13 37.8 +1.2**
BLS5 Blasjo 40.80 319 *epP* pP 18 13 45.8 +0.4
KKTK Khon Kaen 40.85 113 P **P 18 13 39.5 +0.4**
comp=Z,648nm,0.6s
CDF Champ du Feu 40.98 302 *e*P **P 18 13 39.7 -0.1**

PGF Pioggiola 41.05 293 *e*P **P** **18 13 39.0 -1.5**
comp=Z,18nm,0.9s,mb4.4
PGF *e*pP pP 18 13 47.3 -0.3
PGF Pioggiola 41.05 293 *e*P **P** **18 13 39.0 -1.5**
PGF *e**PP pP 18 13 47.3 -0.3
PGF pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
LKBD Leukerbad 41.12 299 ⇑P **P** **18 13 40.8 -0.2**
MOF Molkenrain 41.17 301 *e*P **P** **18 13 41.2 -0.2**
HINF Hinteralfeld 41.36 301 *e*P **P** **18 13 43.1 +0.1**
comp=Z,39nm,1.0s,mb4.7
HINF Hinteralfeld 41.36 301 *e*P **P** **18 13 43.1 +0.1**
HINF pmax pmax
comp=Z,20nm,1.0s,mb4.7
TIA Tai'an 41.44 77 *e*P **P** **18 13 45.4 +1.7**
WLF Walferdange 41.51 304 *e*P **P** **18 13 44.9 +0.8**
comp=Z,40nm,1.1s,mb5.0
WHN Wuhan 41.61 87 P **P** **18 13 46.0 +0.8**
HAU Haudompre 41.66 301 *e*P **P** **18 13 45.6 +0.2**
comp=Z,34nm,0.8s,mb4.7
HAU Haudompre 41.66 301 *e*P **P** **18 13 45.6 +0.2**
HAU pmax pmax
comp=Z,17nm,0.8s,mb4.7
SAOF Saorge 41.70 295 *e*P **P** **18 13 46.2 +0.4**
AUTN L'Aution 41.79 295 *e*P **P** **18 13 46.9 +0.4**
SBF Sospel 41.82 295 *e*P **P** **18 13 45.5 -1.2**
comp=Z,33nm,0.8s,mb4.7
SBF Sospel 41.82 295 *e*P **P** **18 13 45.5 -1.2**
SBF pmax pmax
comp=Z,17nm,0.8s,mb4.7
LPG La Plagne 41.90 297 *e*P **P** **18 13 47.1 -0.3**
comp=Z,41nm,0.7s,mb4.9
LPG La Plagne 41.90 297 *e*P **P** **18 13 47.1 -0.3**
LPG pmax pmax
comp=Z,20nm,0.7s,mb4.9
TOUF Mont Tournerai 41.91 295 *e*P **P** **18 13 47.1 -0.4**
LPL La Plagne 41.91 298 *e*P **P** **18 13 47.0 -0.5**
comp=Z,55nm,0.9s,mb4.9
LPL La Plagne 41.91 298 *e*P **P** **18 13 47.0 -0.5**
LPL pmax pmax
comp=Z,28nm,0.9s,mb4.9
BNI Bardonecchia 42.06 297 *e*P **P** **18 13 48.8 +0.1**
BNI pmax pmax
comp=Z,19nm,0.9s,mb4.7
BNI Bardonecchia 42.06 297 *e*P **P** **18 13 48.8 +0.1**
comp=Z,19nm,0.9s,mb4.7
BNI Bardonecchia 42.06 297 *e*P **P** **18 13 48.8 +0.1**
comp=Z,19nm,0.9s,mb4.7
MBDF Montbardon 42.07 296 *e*P **P** **18 13 48.8 0.0**
comp=Z,10nm,0.7s,mb4.2
MBDF Montbardon 42.07 296 *e*P **P** **18 13 48.8 0.0**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
CABF La Chapelle 42.11 299 *e*P **P** **18 13 49.8 +0.7**
comp=Z,67nm,1.2s,mb4.8
CABF La Chapelle 42.11 299 *e*P **P** **18 13 49.8 +0.7**
CABF pmax pmax
comp=Z,34nm,1.2s,mb4.8
MEZF Maizieres J'vi 42.42 302 *e*P **P** **18 13 52.4 +0.8**
comp=Z,62nm,0.8s,mb5.0
FRF La Foret Royal 42.45 295 *e*P **P** **18 13 50.3 -1.6**
comp=Z,26nm,0.8s,mb4.6
FRF *e*pP pP 18 13 57.7 -1.3
FRF La Foret Royal 42.45 295 *e*P **P** **18 13 50.3 -1.6**
FRF *e**PP pP 18 13 57.7 -1.3
FRF pmax pmax
comp=Z,13nm,0.8s,mb4.6
ORIF Oris-en-Rattie 42.64 297 *e*P **P** **18 13 52.6 -0.8**
comp=Z,7.7nm,0.7s,mb4.2
ORIF Oris-en-Rattie 42.64 297 *e*P **P** **18 13 52.6 -0.8**
ORIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
BAIF Baives 42.69 305 *e*P **P** **18 13 54.0 +0.2**
comp=Z,96nm,1.4s,mb5.0
BAIF Baives 42.69 305 *e*P **P** **18 13 54.0 +0.2**
BAIF pmax pmax
comp=Z,48nm,1.4s,mb5.0
STOF St-Étienne Org 42.85 296 *e*P **P** **18 13 57.3 +2.1**
SMRF Simiane la Rot 43.09 296 *e*P **P** **18 13 56.8 -0.3**
comp=Z,31nm,1.2s,mb4.6
SMRF *e*pP pP 18 14 04.3 +0.1
LOR Lormes 43.46 301 *e*P **P** **18 13 59.9 -0.2**
comp=Z,47nm,1.0s,mb4.9
LOR Lormes 43.46 301 *e*P **P** **18 13 59.9 -0.2**
LOR pmax pmax
comp=Z,24nm,1.0s,mb4.9
VIVF Saint-Julien-l 43.48 297 *e*P **P** **18 14 00.1 -0.2**
comp=Z,94nm,1.0s,mb5.2
VIVF Saint-Julien-l 43.48 297 *e*P **P** **18 14 00.1 -0.2**
VIVF pmax pmax
comp=Z,47nm,1.0s,mb5.2
SMF Signal de Mont 43.61 300 *e*P **P** **18 14 00.8 -0.5**
comp=Z,14nm,0.7s,mb4.5
SMF Signal de Mont 43.61 300 *e*P **P** **18 14 00.8 -0.5**
SMF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
SSF Saint Saulge 43.74 300 *e*P **P** **18 14 02.4 0.0**
SSF *e**PP pP 18 14 09.1 -0.4
SSF pmax pmax
comp=Z,18nm,0.9s,mb4.8
SSF Saint Saulge 43.74 300 *e*P **P** **18 14 02.4 0.0**
comp=Z,18nm,0.9s,mb4.8
SSF *e*pP pP 18 14 09.1 -0.4
AVF Avril sur Loir 43.91 300 *e*P **P** **18 14 03.4 -0.3**
comp=Z,25nm,0.8s,mb4.7
AVF *e*pP pP 18 14 10.6 -0.2
AVF Avril sur Loir 43.91 300 *e*P **P** **18 14 03.4 -0.3**
AVF *e**PP pP 18 14 10.6 -0.2
AVF pmax pmax
comp=Z,12nm,0.8s,mb4.7
PLDF La Plantade 43.92 299 *e*P **P** **18 14 05.8 +2.0**
AGO Saint Agoulin 44.23 299 *e*P **P** **18 14 09.5 +3.1**
LASF Ste Croix 44.26 296 *e*P **P** **18 14 05.6 -1.0**
comp=Z,25nm,1.1s,mb4.6
QIZ Qiongzhong 44.26 104 *e*P **P** **18 14 08.0 +1.0**
SNY Shenyang 44.31 67 ⇑P **P** **18 14 07.8 +0.7**
SNY AMB AMB
comp=Z,20nm,0.6s,mb5.0
LBL Lubilhac 44.36 298 *e*P **P** **18 14 08.8 +1.3**
KBS Kingsbay 44.38 347 *e*P **P** **18 14 08.0 +0.8**
KBS *i* pP 18 14 15.1 +0.8
KBS pmax pmax
comp=Z,53nm,2.0s,mb4.9
KBS Kingsbay 44.38 347 *e*P **P** **18 14 08.0 +0.8**
comp=Z,53nm,2.0s,mb4.9
KBS *i* pP 18 14 15.1 +0.8
KBS Kingsbay 44.38 347 *e*P **P** **18 14 08.0 +0.8**
KBS *e*pP pP 18 14 15.1 +0.8
KBS AMb AMB 18 14 16.5
comp=Z,53nm,2.0s,mb4.9
PYM Petit Puy Mans 44.39 299 *e*P **P** **18 14 08.5 +0.8**
NJ2 Nanjing 44.41 82 *e*P **P** **18 14 09.6 +1.6**
NJ2 AP pP 18 14 18.9 +3.8
NJ2 PCP PcP 18 15 51.3 -0.8
NJ2 S **S** **18 20 40.0 -0.7**
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,640nm,10.7s
NJ2 LR LR
comp=N,8μm,22.0s,MS5.7
NJ2 LR LR
comp=E,6μm,19.6s,MS5.7
NJ2 LR LR
comp=Z,6μm,20.9s,MS5.5
YAK Yakutsk 44.69 38*c i*P **P** **18 14 10.1 +0.3**
YAK *e**PP pP 18 14 17.9 +0.9
YAK *e* 18 15 58.5
YAK *e*PPP PPP 18 16 41.3 +6.3
YAK *e*S **S** **18 20 58.8 +14**
YAK pmax pmax
comp=Z,66nm,0.8s,mb5.5
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=E,24nm,1.2s
YAK pmax pmax
comp=Z,11nm,0.8s,mb4.7
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax
comp=E,14nm,1.2s
YAK smax
comp=Z,4.0nm,1.0s
YAK smax
comp=N,11nm,1.2s
YAK MLR MLR
comp=Z,3μm,20.0s,MS5.2
YAK MLR MLR
comp=N,3μm,22.0s,MS5.3
YAK MLR MLR
comp=E,2μm,18.0s,MS5.3
YAK Yakutsk 44.69 38 *e*P **P** **18 14 10.0 +0.1**
comp=E,174nm,0.8s,mb5.9
YAK *e*pP pP 18 14 17.6 +0.7
YAK Yakutsk 44.69 38 *e*P **P** **18 14 10.0 +0.2**
comp=E,174nm,0.8s,mb5.9
YAK *e*pP pP 18 14 17.6 +0.6
TCF Toulx Ste Croi 44.79 300 *e*P **P** **18 14 09.6 -1.3**
comp=E,112nm,1.0s,mb5.4
TCF Toulx Ste Croi 44.79 300 *e*P **P** **18 14 09.6 -1.3**
TCF pmax pmax
comp=Z,56nm,1.0s,mb5.3
TIXI Tiksi 45.01 24 *e*P **P** **18 14 10.1 -2.2**
TIXI pmax pmax
comp=Z,20nm,0.8s,mb5.0
CN2 Changchun 45.04 64 *e*P **P** **18 14 13.8 +0.9**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
CAF Calviac 45.25 298 *e*P **P** **18 14 13.5 -1.1**
comp=Z,11nm,0.9s,mb4.4
CAF Calviac 45.25 298 *e*P **P** **18 14 13.5 -1.1**
CAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
LRDF Laroque-de-Fa 45.50 295 *e*P **P** **18 14 16.3 -0.3**
RJF Les Rejaudoux 45.52 299 *e*P **P** **18 14 15.8 -0.9**
comp=Z,38nm,1.4s,mb4.8
RJF Les Rejaudoux 45.52 299 *e*P **P** **18 14 15.8 -0.9**
RJF pmax pmax
comp=Z,19nm,1.4s,mb4.8
MTLF Montolieu 45.60 296 *e*P **P** **18 14 16.3 -1.1**
comp=Z,18nm,0.9s,mb4.7
MTLF Montolieu 45.60 296 *e*P **P** **18 14 16.3 -1.1**
MTLF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LPEF Le Peyrat 45.94 295 *e*P **P** **18 14 20.3 +0.3**
FLN La Foliniere 45.95 304 *e*P **P** **18 14 19.3 -0.7**
comp=Z,103nm,1.3s,mb5.3
FLN La Foliniere 45.95 304 *e*P **P** **18 14 19.3 -0.7**
FLN pmax pmax
comp=Z,52nm,1.3s,mb5.3
VALF Valcebollere 46.03 295 *e*P **P** **18 14 20.9 +0.1**
LFF La Frestale 46.15 298 *e*P **P** **18 14 20.3 -1.4**
comp=Z,18nm,0.6s,mb4.8
LFF *e*pP pP 18 14 29.0 +0.2
LFF La Frestale 46.15 298 *e*P **P** **18 14 20.3 -1.4**
LFF *e**PP pP 18 14 29.0 +0.2
LFF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
MFF Saint Martin d 46.28 301 *e*P **P** **18 14 21.7 -1.0**
comp=Z,42nm,1.2s,mb4.9
MFF Saint Martin d 46.28 301 *e*P **P** **18 14 21.7 -1.0**
MFF pmax pmax
comp=Z,21nm,1.2s,mb4.9
GRR Gorron 46.28 303 *e*P **P** **18 14 21.7 -1.0**
comp=Z,44nm,0.9s,mb5.1
GRR Gorron 46.28 303 *e*P **P** **18 14 21.7 -1.0**
GRR pmax pmax
comp=Z,22nm,0.9s,mb5.1
ETOS Mallorca 46.34 291 P **P** **18 14 20.6 -2.7**
comp=Z,29nm,1.0s,mb5.2
ETOS Mallorca 46.34 291 P **P** **18 14 20.6 -2.7**
comp=Z,29nm,1.0s,mb5.2
MLS Moulis 46.51 296 *e*P **P** **18 14 23.9 -0.6**
EMIR Miracle 46.54 294 P **P** **18 14 24.3 -0.4**
comp=Z,37nm,1.1s,mb5.2
EMIR Micle 46.54 294 P **P** **18 14 24.3 -0.5**
comp=Z,37nm,1.1s,mb5.2
SSE Sheshan 46.62 82 P **P** **18 14 23.8 -1.8**
SSE AP pP 18 14 32.1 -0.6
SSE XP sP 18 14 36.5 +0.9
SSE S **S** **18 21 09.8 -2.6**
SSE XS 18 21 24.8
SSE AMB AMB
comp=Z,43nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,2μm,9.2s
SSE Sheshan 46.62 82 P **P** **18 14 23.7 -1.9**
comp=Z,43nm,0.8s,mb5.4
SSE pP pP 18 14 32.1 -0.6
SSE sP sP 18 14 36.5 +0.9
SSE S **S** **18 21 09.7 -2.7**
SSE sS 18 21 24.8
SSE SS SS 18 24 37.0 +5.8
SSE LR LR
comp=Z,6μm,19.5s,MS5.6
EPF Esparros 47.01 296 *e*P **P** **18 14 27.3 -1.2**
comp=Z,15nm,0.7s,mb4.8
EPF Esparros 47.01 296 *e*P **P** **18 14 27.3 -1.2**
EPF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
EPOB Poblet 47.04 293 P **P** **18 14 26.3 -2.4**
comp=Z,618nm,3.5s
EPOB Poblet 47.04 293 P **P** **18 14 26.3 -2.5**
comp=Z,618nm,3.5s
EGRA Graus 47.30 295 P **P** **18 14 29.4 -1.4**
comp=Z,8.4nm,0.7s,mb4.8
EGRA Graus 47.30 295 P **P** **18 14 29.4 -1.4**
comp=Z,8.4nm,0.7s,mb4.8
SGMF Saint Gilles 47.41 304 *e*P **P** **18 14 31.0 -0.6**
KULM Kulim 47.44 126 *e*P **P** **18 14 32.4 +0.1**
KULM Kulim 47.44 126 *e*P **P** **18 14 32.4 +0.1**
KMBO Kilima Mbogo 47.44 218 P **P** **18 14 32.8 +0.5**
comp=Z,1.0nm,0.2s,mb4.3,baz=56,slow=20,SNR=4.4
KMBO pP pP 18 14 40.1 +0.6
comp=Z,5.4nm,0.8s,baz=36,slow=12,SNR=6.9
ETSF Etsaut 47.67 296 *e*P **P** **18 14 33.0 -0.7**
comp=Z,66nm,0.8s,mb5.4
ETSF Etsaut 47.67 296 *e*P **P** **18 14 33.0 -0.7**
ETSF pmax pmax
comp=Z,33nm,0.8s,mb5.4
KLR Kul'dur 47.74 55 *e*P **P** **18 14 32.2 -1.9**
ROSF Rostrenen 47.85 304 *e*P **P** **18 14 32.7 -2.4**
comp=Z,71nm,1.0s,mb5.3
ROSF *e*pP pP 18 14 41.7 -0.6
ROSF Rostrenen 47.85 304 *e*P **P** **18 14 32.7 -2.4**
ROSF *e**PP pP 18 14 41.7 -0.6
ROSF pmax pmax
comp=Z,36nm,1.0s,mb5.4
ESAC San Caprasio 48.01 294 P **P** **18 14 35.5 -0.8**
comp=Z,66nm,1.3s,mb5.5
ESAC San Caprasio 48.01 294 P **P** **18 14 35.5 -0.9**
comp=Z,66nm,1.3s,mb5.5
EMOS Mosqueruela 48.49 293 P **P** **18 14 39.4 -0.7**
comp=Z,164nm,2.1s,mb5.7
EMOS Mosqueruela 48.49 293 P **P** **18 14 39.4 -0.7**
comp=Z,164nm,2.1s,mb5.7
KS15 Wonju Array Si 48.97 71 *e*P **P** **18 14 44.5 +0.7**
KS15 Wonju Array Si 48.97 71 *e*P **P** **18 14 44.5 +0.7**
ECHE Chera 49.13 292 P **P** **18 14 44.4 -0.6**
ECHE pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ECHE Chera 49.13 292 P **P** **18 14 44.4 -0.6**
comp=Z,6.0nm,0.6s,mb4.8
ECHE Chera 49.13 292 P **P** **18 14 44.4 -0.6**
comp=Z,6.0nm,0.6s,mb4.8
ELAN Lanestosa 49.55 297 P **P** **18 14 50.2 +2.1**
comp=Z,52nm,0.8s,mb5.6
ELAN Lanestosa 49.55 297 P **P** **18 14 50.2 +2.0**
comp=Z,52nm,0.8s,mb5.6
ETOB Tobarra 49.91 291 P **P** **18 14 51.0 0.0**
comp=Z,81nm,2.7s,mb5.3
EMUR La Murta 50.00 290 P **P** **18 14 49.0 -2.7**
comp=Z,88nm,1.6s,mb5.5
EMUR La Murta 50.00 290 P **P** **18 14 49.0 -2.8**
comp=Z,88nm,1.6s,mb5.5
EVIA Vianos 50.60 291 P **P** **18 14 56.1 -0.2**
EVIA pmax pmax
comp=Z,14nm,0.7s,mb5.0
EVIA Vianos 50.60 291 P **P** **18 14 56.1 -0.2**
comp=Z,14nm,0.7s,mb5.0
EARI Arriondas 50.73 298 P **P** **18 14 58.6 +1.4**
comp=Z,676nm,4.2s
EARI Arriondas 50.73 298 P **P** **18 14 58.6 +1.3**
comp=Z,676nm,4.2s
ESDC Sonseca Array 51.23 293 P **P** **18 15 00.4 -0.7**
comp=Z,4.6nm,0.7s,mb4.5,baz=58,slow=7.4,SNR=22
ESDC pP pP 18 15 07.4 -0.9
comp=Z,9.7nm,0.6s,baz=58,slow=7.7,SNR=24
ESDC PP PP 18 17 01.5 +2.8
comp=Z,1.0nm,0.4s,baz=59,slow=8.6,SNR=8.2
ESDC Sonseca Array 51.23 293 P **P** **18 14 59.7 -1.3**
comp=Z,3.2nm,0.6s,mb4.4
ESDC Sonseca Array 51.23 293 P **P** **18 14 59.7 -1.4**
comp=Z,3.2nm,0.6s,mb4.4
EQES Quesada 51.34 291 P **P** **18 14 59.9 -2.1**
comp=Z,112nm,2.2s,mb5.4
EQES Quesada 51.34 291 P **P** **18 14 59.9 -2.1**
comp=Z,112nm,2.2s,mb5.4
EBER Berja 51.59 290 P **P** **18 15 04.4 +0.6**
comp=Z,116nm,1.4s,mb5.6
EBER Berja 51.59 290 P **P** **18 15 04.4 +0.6**
comp=Z,116nm,1.4s,mb5.6
EBAN Banos Encina 51.71 291 P **P** **18 15 04.1 -0.6**
EBAN pmax pmax
comp=Z,30nm,0.8s,mb5.3
EBAN Banos Encina 51.71 291 P **P** **18 15 04.1 -0.6**
comp=Z,30nm,0.8s,mb5.3
EPON Pontenova 52.04 299 P **P** **18 15 08.8 +1.6**
comp=Z,95nm,1.8s,mb5.4
EPON Pontenova 52.04 299 P **P** **18 15 08.8 +1.6**
comp=Z,95nm,1.8s,mb5.4
EADA Adamuz 52.28 292 P **P** **18 15 10.5 +1.5**
comp=Z,98nm,2.5s,mb5.3
EADA Adamuz 52.28 292 P **P** **18 15 10.5 +1.5**
comp=Z,98nm,2.5s,mb5.3
ECAL Calabor 52.29 297 P **P** **18 15 10.6 +1.6**
comp=Z,301nm,2.9s,mb5.7
ECAL Calabor 52.29 297 P **P** **18 15 10.6 +1.6**
comp=Z,301nm,2.9s,mb5.7
ELUQ Luque 52.31 291 P **P** **18 15 08.5 -0.8**
ELUQ pmax pmax
comp=Z,22nm,0.7s,mb5.2
ELUQ Luque 52.31 291 P **P** **18 15 08.5 -0.8**
comp=Z,22nm,0.7s,mb5.2
ELUQ Luque 52.31 291 P **P** **18 15 08.5 -0.8**
comp=Z,22nm,0.7s,mb5.2
PBRG Braganca 52.34 297 *e*pP pP 18 15 16.2 -0.5
PBRG Braganca 52.34 297 *e*pP pP 18 15 16.2 -0.5
ECAB El Cabril 52.92 292 P **P** **18 15 13.2 -0.6**
comp=Z,160nm,1.6s,mb5.7
ECAB El Cabril 52.92 292 P **P** **18 15 13.2 -0.6**
comp=Z,160nm,1.6s,mb5.7
JNU Nakatsue 53.03 75 P **P** **18 15 15.1 +0.4**
comp=Z,36nm,0.8s,mb5.3,baz=4.1,slow=4.6,SNR=17
PVRL Vila Real 53.22 297 *e*pP pP 18 15 23.2 -0.1
PVRL Vila Real 53.22 297 *e*pP pP 18 15 23.2 -0.1
ELOB Lobios 53.23 297 P **P** **18 15 18.4 +2.4**
comp=Z,400nm,3.2s
ELOB Lobios 53.23 297 P **P** **18 15 18.4 +2.4**
comp=Z,400nm,3.2s
EMAZ Mazaricos 53.42 299 P **P** **18 15 21.5 +4.0**
comp=Z,655nm,4.7s
EMAZ Mazaricos 53.42 299 P **P** **18 15 21.5 +4.0**
comp=Z,655nm,4.7s
MTE Manteigas 53.46 296 *e*pP pP 18 15 25.0 0.0
MTE Manteigas 53.46 296 *e*pP pP 18 15 25.0 0.0
PVIS Viseu 53.57 296 *e*P **P** **18 15 19.5 +0.9**
PVIS epP pP 18 15 25.8 0.0
PCBR Castelo Branco 53.64 295 *e*P **P** **18 15 20.0 +0.9**
PCBR epP pP 18 15 26.4 0.0
ESPR Espera 53.75 291 P **P** **18 15 18.1 -1.8**
comp=Z,69nm,1.5s,mb5.4
EBAD Badajoz 53.77 293 P **P** **18 15 19.2 -0.8**
comp=Z,128nm,1.7s,mb5.6
EBAD Badajoz 53.77 293 P **P** **18 15 19.2 -0.8**
comp=Z,128nm,1.7s,mb5.6
EMIN Mina Concepcio 53.95 292 P **P** **18 15 20.5 -0.8**
comp=Z,392nm,3.2s
JOW Kunigami 54.11 83 P **P** **18 15 22.4 -0.3**
comp=Z,20nm,0.7s,mb5.2,baz=330,slow=14,SNR=2.8
EVO Evora 54.57 294 *e*P **P** **18 15 25.0 -0.9**
comp=Z,28nm,0.8s,mb5.0
EGRO El Granado 54.63 292 P **P** **18 15 27.8 +1.4**
comp=Z,271nm,2.8s,mb5.8
EGRO El Granado 54.63 292 P **P** **18 15 27.8 +1.4**
comp=Z,271nm,2.8s,mb5.8
PBEJ Beja 54.69 293 *e*pP pP 18 15 33.7 -0.4
PBEJ Beja 54.69 293 *e*pP pP 18 15 33.7 -0.4
SEY Seymchan 54.85 34⇑ *i*P **P** **18 15 27.8 +0.1**
MA2 Magadan 55.26 38⇑ *i*P **P** **18 15 30.9 +0.2**
YSS Yuzh-Sakhalins 55.45 55⇑ *e*P **P** **18 15 32.0 -0.2**
YSS *e* pP 18 15 39.7 +0.2
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 55.45 55 *e*P **P** **18 15 32.1 -0.1**
comp=Z,50nm,0.9s,mb5.5
YSS Yuzh-Sakhalins 55.45 55 *e*P **P** **18 15 32.1 -0.1**
comp=Z,50nm,0.9s,mb5.5
PTEO Sao Teotonio 55.51 293 *e*pP pP 18 15 39.9 -0.2
PTEO Sao Teotonio 55.51 293 *e*pP pP 18 15 39.9 -0.2
SUMG Summit 56.29 339 *e*P **P** **18 15 38.2 +0.2**
comp=Z,14nm,0.6s,mb5.2
SUMG *e*pP pP 18 15 45.9 +0.6
SUMG Summit 56.29 339 *e*P **P** **18 15 38.2 +0.2**
comp=Z,14nm,0.6s,mb5.2
SUMG *e*pP pP 18 15 45.9 +0.6
MAJO Matsushiro 56.82 68 *e*P **P** **18 15 41.1 -1.1**
MAJO pmax pmax
comp=Z,41nm,1.1s,mb5.4
MAJO Matsushiro 56.82 68 *e*P **P** **18 15 41.1 -1.1**
comp=Z,41nm,1.1s,mb5.4
MAJO Matsushiro 56.82 68 *e*P **P** **18 15 41.1 -1.1**
comp=Z,41nm,1.1s,mb5.4
MAT Matsushiro 56.82 68 *e*P **P** **18 15 41.0 -1.2**
MAT pmax pmax
comp=Z,26nm,1.0s,mb5.2
MAT Matsushiro 56.82 68 P **P** **18 15 41.4 -0.8**
MAT Matsushiro 56.82 68 *e*P **P** **18 15 41.0 -1.2**
comp=Z,26nm,1.0s,mb5.2
MJAR Matsushiro Arr 56.82 68 P **P** **18 15 41.9 -0.3**
comp=Z,18nm,0.9s,mb5.1,baz=291,slow=8.6,SNR=50
BILL Bilibino 58.16 26 *e*P **P** **18 15 51.8 +0.6**
FX1 Attu Island--F 69.35 38 *e*P **P** **18 17 04.8 0.0**
FX1 *e*pP pP 18 17 11.7 -0.4
FX1 Attu Island--F 69.35 38 *e*P **P** **18 17 04.8 0.0**
FX1 *e*pP pP 18 17 11.7 -0.5
DBIC Dimbokro 69.62 262 P **P** **18 17 06.1 -0.9**
comp=Z,9.8nm,0.8s,mb4.8,baz=23,slow=7.7,SNR=16
DBIC pP pP 18 17 12.9 -1.5
comp=Z,9.8nm,0.8s,baz=21,slow=8.1,SNR=7.3
DBIC Dimbokro 69.62 262 P **P** **18 17 06.1 -1.0**
DBIC pP pP 18 17 12.9 -1.6
FRB Frobisher Bay 70.37 340 P **P** **18 17 10.7 -0.1**
comp=Z,2.7nm,0.5s,mb4.4,baz=15,slow=9.9,SNR=4.2
FRB pP pP 18 17 18.1 -0.1
comp=Z,15nm,0.9s,baz=32,slow=4.2,SNR=7.2
FRB Frobisher Bay 70.37 340 P **P** **18 17 10.7 -0.1**
FRB pP pP 18 17 18.0 -0.2
IMA Indian Mountai 70.67 15 *e*P **P** **18 17 12.8 +0.2**
IMA *e*pP pP 18 17 20.2 +0.2
INK Inuvik 71.58 7 P **P** **18 17 18.5 +0.5**
comp=Z,15nm,0.9s,mb4.9,baz=8.4,slow=8.2,SNR=36
INK pP pP 18 17 25.9 +0.4
comp=Z,17nm,0.8s,baz=334,slow=4.5,SNR=19
INK Inuvik 71.58 7 P **P** **18 17 18.5 +0.5**
INK pP pP 18 17 25.9 +0.4
TTA Tatalina 72.86 18 *e*P **P** **18 17 26.2 +0.6**
TTA *e*pP pP 18 17 49.8 +17
ILAR Eielson Array 73.13 13 P **P** **18 17 27.2 +0.1**
comp=Z,5.3nm,0.8s,mb4.5,baz=334,slow=4.5,SNR=55
ILAR pP pP 18 17 34.5 -0.1
comp=Z,4.9nm,0.8s,baz=316,slow=4.8,SNR=17
SVW2 Sparrevohn 74.54 19 *e*P **P** **18 17 35.9 +0.5**
PMR Palmer 75.58 16 *e*P **P** **18 17 41.5 +0.2**
RSO Redoubt South 75.78 18 *e*P **P** **18 17 43.5 +0.9**
RSO Redoubt South 75.78 18 *e*P **P** **18 17 43.5 +1.0**
BOSA Boshof 76.94 215 P **P** **18 17 49.1 -0.6**
comp=Z,4.6nm,0.6s,mb4.6,baz=39,slow=6.5,SNR=20
BOSA pP pP 18 17 56.5 -0.7
comp=Z,4.3nm,0.5s,baz=22,slow=5.2,SNR=5.5
SCHQ Schefferville 76.99 333 P **P** **18 17 49.8 +0.4**
comp=Z,5.3nm,0.8s,mb4.5,baz=34,slow=3.6,SNR=8.2
SCHQ pP pP 18 17 57.1 +0.2
comp=Z,12nm,0.8s,baz=44,slow=5.6,SNR=12
YKW3 Yellowknife Ar 78.16 359 *e*P **P** **18 17 56.0 +0.4**
YKW3 epP pP 18 18 03.0 -0.1
YKA Yellowknife Ar 78.23 359 P **P** **18 17 56.5 +0.5**
comp=Z,10nm,0.8s,mb4.8,baz=358,slow=6.2,SNR=72
YKA pP pP 18 18 03.6 0.0
comp=Z,13nm,0.8s,baz=358,slow=6.2,SNR=23
YKA Yellowknife Ar 78.23 359 P **P** **18 17 56.5 +0.4**
YKA pP pP 18 18 03.6 0.0
MBWA Marble Bar 79.66 128 *e*P **P** **18 18 04.5 -0.2**
comp=Z,4.8nm,0.6s,mb4.6
FITZ Fitzroy Crossi 81.12 122 *e*P **P** **18 18 12.6 +0.1**
comp=Z,16nm,0.9s,mb5.0

FITZ	**Fitzroy Crossi**	**81.12**	**122**	P	**P**	**18 18 12.4**	**-0.1**
	comp=Z,20nm,0.8s,mb5.1,baz=303,slow=2.6,SNR=14						
FITZ				pP	pP	18 18 19.1	-0.9
	comp=Z,10nm,0.9s,baz=302,slow=1.6,SNR=3.8						
KAKA	**Kakadu**	**81.96**	**114**	*eP*	**P**	**18 18 18.7**	**+1.8**
	comp=Z,21nm,0.8s,mb5.1						
EDM	**Edmonton**	**87.50**	**358**	*eP*	**P**	**18 18 45.3**	**+1.4**
EDM				*e*PP	pP	18 18 52.9	+1.4
WRA	**Warramunga Arr**	**88.23**	**118**	P	**P**	**18 18 48.1**	**-0.1**
	comp=Z,10nm,0.9s,mb5.1,baz=325,slow=4.3,SNR=97						
WRAB	**Tennant Creek**	**88.24**	**118**	*i* P	**P**	**18 18 48.1**	**-0.1**
WB2	**Warramunga Arr**	**88.24**	**118**	⇑*i*P	**P**	**18 18 48.3**	**+0.1**
MIV	**Mineville/With**	**88.36**	**331**	*eP*	**P**	**18 18 48.9**	**+0.7**
ULM	**Lac du Bonnet**	**88.80**	**347**	P	**P**	**18 18 50.7**	**+0.5**
	comp=Z,4.3nm,0.6s,mb4.9,baz=44,slow=4.1,SNR=4.3						
ULM				pP	pP	18 18 58.3	+0.5
	comp=Z,6.2nm,0.7s,baz=40,slow=5.3,SNR=5.0						
CHMT	**Chamberlain Mo**	**93.81**	**358**	*eP*	**P**	**18 19 14.5**	**+1.1**
CHMT				*e*pP	pP	18 19 21.8	+0.7
HRY	**Holter Researc**	**93.97**	**357**	*eP*	**P**	**18 19 15.7**	**+1.5**
HRY				*e*pP	pP	18 19 23.3	+1.5
PDAR	**Pinedale Array**	**97.79**	**355**	P	**P**	**18 19 32.8**	**+1.1**
	comp=Z,0.7nm,0.9s,mb4.2,baz=45,slow=2.1,SNR=4.8						
PDAR				pP	pP	18 19 40.2	+0.9
	comp=Z,0.8nm,0.8s,baz=27,slow=3.3,SNR=5.9						
TXAR	**Lajitas Array**	**110.46**	**349**	PP	PP	18 25 02.7	-5.4
	comp=Z,0.5nm,1.0s,baz=34,slow=4.5,SNR=4.1						
TXAR				PKKPbc		18 35 29.2	
	comp=Z,0.2nm,0.6s,baz=166,slow=5.2,SNR=3.8						
SNAA	**Sanae**	**120.46**	**200**		PKPdf	18 24 54.8	+4.2
VNA2	**Neumayer--Watz**	**121.30**	**201**		PKPdf	18 24 58.1	+5.8
VNA3	**Neumayer Olymp**	**122.10**	**202**		PKPdf	18 24 59.6	+5.8
CPUP	**Villa Florida**	**129.95**	**267**	PKP	PKPdf	18 25 05.9	-4.1
	comp=Z,2.6nm,0.7s,baz=140,slow=5.4,SNR=6.7						
PLCA	**Paso Flores**	**145.66**	**253**	PKPbc	PKPbc	18 25 36.0	+1.8
	comp=Z,18nm,1.0s,baz=86,slow=5.2,SNR=30						
PLCA				pPKPbc		18 25 42.9	
	comp=Z,20nm,1.0s,baz=100,slow=4.5,SNR=14						

PRU ***24*** *18:07:33.4,51.48N×16.07E*
NEIC ***24*** *18:07:34.6±1.5,51.40N×16.02E,h5km,MG2.5(WAR), Error ellipse: s-maj=17.4km s-min=7.6km az=199.0*
WAR 24 18:07:33.8,51.49N×16.06E,h1km,ML2.5,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.67**	**167**	*e*Pg	Pg	18 07 46.0	-1.1
KSP				*e*Sg	Sg	18 07 54.7	-1.3
KSP	**Ksiaz**	**0.67**	**167**	*e*Pg	Pg	18 07 46.0	-1.1
KSP				*e*Sg	Sg	18 07 55.2	-0.8
UPC	**Upice**	**0.98**	**182**	*e*PG	Pg	18 07 51.9	-1.6
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*PG	Pg	18 07 54.5	-2.3
DPC				*e*SG	Sg	18 08 09.7	-2.5
PVCC	**Panska Ves**	**1.35**	**225**	*e*PG	Pg	18 07 59.1	-1.6
BRG	**Berggiesshubel**	**1.47**	**246**	Pg	Pg	18 08 01.3	-1.8
BRG				Sg	Sg	18 08 20.8	-1.9
PRU	**Pruhonice**	**1.79**	**213**	*e*PN	Pn	18 08 04.3	-1.7
PRU				*e*PG	Pg	18 08 06.3	-3.2
PRU				*e*SG	Sg	18 08 30.3	-3.0
CLL	**Collm**	**1.92**	**266**	*e*PG	Pg	18 08 08.0	-4.2
CLL				*i* SG	Sg	18 08 33.9	-3.9
CLL				*i* L		18 08 38.0	
OKC	**Ostrava-Krasne**	**2.12**	**140**	*e*PG	Pg	18 08 12.5	-3.7
OKC				*e*SG	Sg	18 08 39.2	-5.3
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PN	Pn	18 08 19.4	-1.8
KHC				*e*PG	Pg	18 08 25.3	-5.3
KHC				*e*SG	Sg	18 09 02.8	-5.8
MOX	**Moxa**	**2.93**	**255**	*e*Pg	Pg	18 08 28.9	-3.3
MOX				*e*Sg	Sg	18 09 08.0	-3.3
STHS	**Stebnicka Huta**	**3.91**	**120**	*e*PG	Pg	18 08 47.2	-4.7
STHS				*e*SG	Sg	18 09 39.9	-4.1

NNC ***24*** *18:19:15.8±139.0,45.69N×94.71E,mpv4.2,Error ellipse: s-maj=1727.7km s-min=1151.5km az=101.0*
IDC ***24*** *18:19:21.8±5.5,44.66N×93.83E,mb3.5/2,mb1 3.6/5, mb1mx3.4/22,mbtmp3.5/5,ML3.5/3,Error ellipse: s-maj=137.7km s-min=22.6km az=0.0*
BJI ***24*** *18:19:24.4,44.90N×93.84E,h15km,ML4.3*
ISC 24 18:19:24.2±0.7,44.95N±0.09×94.00E±0.08,h33km,n8, σ0§89/10,mb3.5/2,1C,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**4.66**	**258**	P	**P**	**18 20 33.8**	**-0.2**
WMQ				S	**S**	**18 21 28.3**	**+0.6**
WMQ				SG	S	18 21 47.8	+20
WMQ				Smax			
	comp=N,625nm,1.0s						
WMQ				Smax			
	comp=E,381nm,1.0s						
GTA	**Gaotai**	**7.02**	**140**	P	**P**	**18 21 08.4**	**+1.2**
GTA				PG	P	18 21 30.3	+23
GTA				S	**S**	**18 22 25.8**	**-0.9**
GTA				SG	S	18 23 01.5	+35
GTA				Smax			
	comp=N,102nm,0.9s						
GTA				Smax			
	comp=E,107nm,1.1s						
MK31	**Makanchi Array**	**8.38**	**287**	Pn	**P**	**18 21 25.2**	**-0.9**
	comp=E,9.8nm,1.0s,baz=99,slow=15,SNR=71						
MK31				⇑Lg		18 23 48.0	
	comp=E,37nm,0.7s,baz=91,slow=28						
MKAR	**Makanchi Array**	**8.38**	**287**	Pn	**P**	**18 21 25.4**	**-0.8**
	comp=E,0.8nm,0.3s,baz=96,slow=15,SNR=41						
MKAR				Lg		18 23 46.8	
	comp=E,1.4nm,0.3s,baz=87,slow=30,SNR=3.5						
SONM	**Songino Array**	**9.04**	**67**	Pn	**P**	**18 21 34.9**	**-0.4**
	comp=E,0.3nm,0.3s,baz=253,slow=14,SNR=7.4						
SONM				Lg		18 24 03.2	
	comp=E,3.0nm,0.3s,baz=258,slow=29,SNR=12						
BVAR	**Borovoye Array**	**17.42**	**306**	P	**P**	**18 23 26.2**	**+0.3**
	comp=E,0.3nm,0.3s,baz=107,slow=12,SNR=6.7						
AKASG	**Malin Array Be**	**42.62**	**302**	P	**P**	**18 27 18.9**	**+0.3**
	comp=E,0.2nm,0.3s,mb3.3,baz=61,slow=9.0,SNR=4.1						
ILAR	**Eielson Array**	**60.79**	**25**	P	**P**	**18 29 38.0**	**+3.4**
	comp=E,0.4nm,0.8s,mb3.6,baz=311,slow=4.0,SNR=5.9						

IDC 24 18:21:46.6±1.7,7.90N×91.95E,mb3.8/5,mb1 4.0/5, mb1mx3.7/19,mbtmp3.8/5,Error ellipse: s-maj=66.2km s-min=27.1km az=54.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.63**	**350**	P	P	18 29 19.1	-2.6
	0.6nm,0.8s,baz=168,slow=9.7,SNR=4.4						
SONM	**Songino Array**	**41.65**	**15**	P	P	18 29 36.5	-1.8
	1.5nm,0.7s,baz=197,slow=9.0,SNR=4.9						
BVAR	**Borovoye Array**	**48.29**	**343**	P	P	18 30 31.2	-0.3
	1.1nm,0.7s,baz=150,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**50.06**	**124**	P	P	18 30 43.6	-1.9
	1.6nm,0.8s,baz=303,slow=8.8,SNR=9.7						
GERES	**GERESS Array B**	**76.36**	**318**	P	P	18 33 37.5	-1.9
	0.9nm,0.9s,baz=108,slow=4.2,SNR=7.0						

NEIC ***24*** *18:25:50.6±0.5,7.70N×92.14E,mb4.6/8,Error ellipse: s-maj=14.9km s-min=11.4km az=58.0*
IDC ***24*** *18:25:50.4±0.5,7.85N×92.15E,h25km±3km,mb4.0/8, mb1 4.1/8,mb1mx3.9/17,mbtmp4.1/8,Error ellipse: s-maj=29.6km s-min=13.4km az=47.0*
MOS ***24*** *18:25:53.8±1.9,8.37N×91.97E,h33km,mb4.9/7,Error ellipse: s-maj=35.8km s-min=15.3km az=91.0*
BJI ***24*** *18:25:57.5,8.46N×92.59E,h27km,mB5.5,mb4.2*
ISC 24 18:25:48.4±0.6,7.76N±0.07×92.15E±0.10,h26km±9km:pP-P,n47,σ1§08/37,mb4.4/21,MS5.0/1,2C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**17.01**	**6**	*e*P	**P**	**18 30 06.0**	**+20**
SHL	**Shillong**	**17.71**	**359**	*e*P	**P**	**18 30 05.0**	**+10**
SHL				*e*S	**S**	**18 33 08.0**	**-1.1**
KMI	**Kunming**	**20.01**	**29**	P	**P**	**18 30 23.0**	**+0.8**
KMI				AP		18 30 31.8	
KMI				XP		18 30 34.1	
KMI				AMB	AMB		
	comp=Z,11nm,1.3s						
KMI	**Kunming**	**20.01**	**29**	P	**P**	**18 30 23.0**	**+0.8**
	comp=Z,11nm,1.3s						
KMI				pP		18 30 31.7	
KMI				sP		18 30 34.1	
KMI				LR	LR		
	comp=Z,8μm,22.5s,MS5.0						
QIZ	**Qiongzhong**	**20.51**	**55**	*e*P	**P**	**18 30 27.6**	**+0.1**
QIZ	**Qiongzhong**	**20.51**	**55**	*e*P	**P**	**18 30 26.8**	**-0.7**
	comp=Z,84nm,1.4s						
LSA	**Lhasa**	**21.84**	**358**	P	**P**	**18 30 44.0**	**+3.1**
LSA	**Lhasa**	**21.84**	**358**	*e*P	**P**	**18 30 44.2**	**+3.3**
	comp=Z,26nm,0.9s,mb4.7						
CD2	**Chengdu**	**25.46**	**24**	P	**P**	**18 31 17.3**	**+1.2**
GTA	**Gaotai**	**32.26**	**11**	*e*P	**P**	**18 32 17.8**	**+0.7**
GTA				AP	pP	18 32 26.4	+1.6
GTA				XP	sP	18 32 30.6	+2.4
GTA				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb4.2						
HHC	**Hu-ho-hao-te**	**37.21**	**25**	*e*P	pP	18 33 07.0	-0.3
HHC				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.8						
HHC				AMB	AMB		
	comp=Z,933nm,10.0s						
AAK	**Ala-Archa**	**38.06**	**339**	⇓*i*P	**P**	**18 33 07.5**	**+0.9**
AAK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**38.06**	**339**	*e*P	**P**	**18 33 07.6**	**+1.0**
	comp=Z,4.7nm,1.1s,mb4.1						
FITZ	**Fitzroy Crossi**	**41.88**	**128**	P	**P**	**18 33 38.4**	**-0.1**
	comp=Z,7.0nm,0.9s,mb4.3,baz=250,slow=3.3,SNR=4.4						
FITZ				pP	pP	18 33 47.2	+0.8
	comp=Z,18nm,0.9s,baz=308,slow=3.8,SNR=6.8						
TLY	**Talaya**	**44.80**	**10**	*e*P	**P**	**18 34 03.9**	**+2.1**
TLY				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
TLY	**Talaya**	**44.80**	**10**	*e*P	**P**	**18 34 03.0**	**+1.2**
	comp=Z,22nm,0.9s,mb5.0						
IRK	**Irkutsk**	**45.45**	**10**	*e*P	**P**	**18 34 12.9**	**+5.9**
IRK				pmax	pmax		
	comp=Z,63nm,0.1s						
NVS	**Novosibirsk**	**47.49**	**353**	*e*P	**P**	**18 34 22.0**	**-1.1**
BVAR	**Borovoye Array**	**48.48**	**343**	P	**P**	**18 34 30.6**	**-0.2**
	comp=Z,1.2nm,0.7s,mb4.1,baz=149,slow=8.6,SNR=8.4						
BVAR				pP	pP	18 34 38.4	-0.3
	comp=Z,1.0nm,0.6s,baz=153,slow=9.9,SNR=5.8						
ZRNK	**Zerenda**	**48.84**	**342**	P	**P**	**18 34 33.1**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**49.82**	**124**	P	**P**	**18 34 41.0**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.3,baz=306,slow=8.7,SNR=14						
WRA				pP	pP	18 34 50.7	+1.2
	comp=Z,1.4nm,0.4s,baz=301,slow=9.5,SNR=9.9						
MJAR	**Matsushiro Arr**	**50.71**	**49**	PcP	PcP	18 36 05.5	+0.2
	comp=Z,0.3nm,0.4s,baz=173,slow=5.0,SNR=4.3						
BOD	**Bodaibo**	**52.73**	**14**	*e*P	**P**	**18 35 02.0**	**-1.1**
BOD				*e*	pP	18 35 09.2	-1.9
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
ARU	**Arti**	**55.24**	**338**	*e*P	pP	18 35 28.3	-1.3
ARU	**Arti**	**55.24**	**338**	*e*P	**P**	**18 35 20.3**	**-1.2**
	comp=Z,6.4nm,1.3s,mb4.5						
ARU				*e*	pP	18 35 29.0	-0.5
KIV	**Kislovodsk**	**56.09**	**319**	⇑*i*P	**P**	**18 35 27.6**	**-0.2**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.6						
YSS	**Yuzh-Sakhalins**	**58.09**	**39**	*e*P	**P**	**18 35 41.8**	**-0.1**
YAK	**Yakutsk**	**60.74**	**19**	⇑*i*P	**P**	**18 35 58.8**	**-1.2**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
BRTR	**Keskin Array B**	**61.01**	**311**	P	**P**	**18 36 01.5**	**-0.7**
	comp=Z,1.1nm,0.9s,mb4.0,baz=121,slow=7.2,SNR=5.7						
BRTR				pP	pP	18 36 08.8	-1.6
	comp=Z,0.8nm,0.8s,baz=108,slow=7.8,SNR=4.6						
STKA	**Stephens Creek**	**61.47**	**133**	P	**P**	**18 36 04.0**	**-1.4**
	comp=Z,1.7nm,0.7s,mb4.3,baz=342,slow=6.4,SNR=3.2						
AKASG	**Malin Array Be**	**67.02**	**322**	P	**P**	**18 36 39.8**	**-1.5**
	comp=Z,0.1nm,0.2s,baz=107,slow=3.5,SNR=5.3						
TIXI	**Tiksi**	**67.74**	**12**	*e*P	pP	18 36 53.5	-0.2
TIXI				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
MA2	**Magadan**	**67.79**	**28**	*e*P	**P**	**18 36 51.2**	**+5.2**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
SEY	**Seymchan**	**69.86**	**25**	*e*P	**P**	**18 37 00.9**	**+2.2**
FINES	**FINESS Array B**	**71.89**	**332**	pP	pP	18 37 17.7	-1.6
	comp=Z,0.7nm,0.6s,baz=124,slow=6.9,SNR=1.3						
BOSA	**Boshof**	**73.86**	**237**	P	**P**	**18 37 24.6**	**+1.4**
	comp=Z,2.1nm,0.9s,mb4.0,baz=129,slow=6.5,SNR=3.3						
BOSA				pP	pP	18 37 31.8	+0.4
	comp=Z,3.3nm,0.8s,baz=99,slow=9.3,SNR=3.9						
ARCES	**ARCESS Array B**	**74.71**	**340**	P	**P**	**18 37 27.0**	**-0.3**
	comp=Z,1.8nm,0.7s,mb4.1,baz=90,slow=5.4,SNR=3.3						
ARCES				pP	pP	18 37 34.8	-0.8
	comp=Z,2.9nm,1.1s,baz=90,slow=4.5,SNR=1.8						
GERES	**GERESS Array B**	**76.59**	**318**	P	**P**	**18 37 38.7**	**+0.3**
	comp=Z,1.4nm,0.9s,mb3.9,baz=90,slow=5.3,SNR=12						
GERES				pP	pP	18 37 46.6	-0.1
	comp=Z,0.9nm,0.8s,baz=90,slow=4.0,SNR=5.9						
GRA1	**Grafenberg Arr**	**78.26**	**319**	*e*P	**P**	**18 37 48.8**	**+1.2**
	comp=Z,6.0nm,1.2s,mb4.4						
GRF	**Grafenberg Arr**	**78.26**	**319**	P	**P**	**18 37 48.8**	**+1.2**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
GRF	**Grafenberg Arr**	**78.26**	**319**	*e*P	**P**	**18 37 48.8**	**+1.2**
	comp=Z,6.0nm,1.2s,mb4.4						
PDAR	**Pinedale Array**	**125.96**	**20**	PKP	PKPdf	18 44 51.5	-1.9
	comp=Z,0.6nm,0.9s,slow=3.0,SNR=5.3						
PDAR				pPKP		18 44 58.6	
	comp=Z,0.4nm,0.7s,baz=90,slow=1.5,SNR=3.7						
NVAR	**Mina Array Bea**	**126.01**	**29**	PKP	PKPdf	18 44 52.7	-0.8
	comp=Z,0.8nm,0.8s,baz=254,slow=1.1,SNR=5.7						
NVAR				pPKP		18 44 59.7	
	comp=Z,0.8nm,1.0s,baz=353,slow=1.9,SNR=3.9						
NVAR	**Mina Array Bea**	**126.01**	**29**	PKP	PKPdf	18 44 52.7	-0.8
NVAR				pPKP		18 44 59.7	
TXAR	**Lajitas Array**	**140.10**	**22**	pPKP		18 45 24.9	
	comp=Z,0.2nm,0.5s,baz=153,slow=0.8,SNR=3.8						
CPUP	**Villa Florida**	**145.61**	**234**	PKPbc	PKPbc	18 45 28.3	+2.4
	comp=Z,3.2nm,0.8s,baz=90,slow=4.0,SNR=5.3						
CPUP				pPKPbc		18 45 35.0	
	comp=Z,2.1nm,0.7s,baz=111,slow=4.5,SNR=3.5						
CPUP	**Villa Florida**	**145.61**	**234**	PKPbc	PKPbc	18 45 28.3	+2.4
CPUP				pPKPbc		18 45 35.0	

NNC ***24*** *18:31:11.5±44.0,46.33N×94.78E,mpv3.9,Error ellipse: s-maj=1819.8km s-min=559.1km az=7.0*
NEIC ***24*** *18:31:16.6±0.8,44.42N×93.82E,h10km,mb3.8/1,Error ellipse: s-maj=15.3km s-min=12.7km az=190.0*
IDC ***24*** *18:31:16.2±5.3,44.49N×93.82E,mb3.5/2,mb1 3.7/5, mb1mx3.5/22,mbtmp3.6/5,ML3.6/3,Error ellipse: s-maj=131.1km s-min=21.1km az=2.0*
BJI ***24*** *18:31:18.8,44.95N×93.98E,h25km,mb4.4,ML4.3*
ISC 24 18:31:20.1±0.7,44.97N±0.08×93.89E±0.07,h33km,n11, σ1§06/15,mb3.5/2,2C,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**4.59**	**258**	P	**P**	**18 32 29.8**	**+0.8**
WMQ				S	**S**	**18 33 22.8**	**+0.9**
WMQ				SG	S	18 33 41.1	+19
GTA	**Gaotai**	**7.08**	**140**	P	**P**	**18 33 04.9**	**+0.8**
GTA				S	**S**	**18 34 23.1**	**-1.2**
GTA				SG	S	18 34 58.8	+35
GTA				Smax			
	comp=N,110nm,0.9s						
GTA				Smax			
	comp=E,126nm,1.1s						
MK31	**Makanchi Array**	**8.30**	**287**	⇑Pn	**P**	**18 33 20.1**	**-1.0**
MK31				⇑Lg		18 35 41.8	
	comp=E,21nm,0.6s,baz=83,slow=30,SNR=4.7						
MKAR	**Makanchi Array**	**8.30**	**287**	Pn	**P**	**18 33 19.7**	**-1.4**
	comp=E,0.6nm,0.3s,baz=98,slow=15,SNR=33						
MKAR				Sn	**Sn**	**18 34 53.8**	**-1.1**
	comp=E,1.8nm,0.3s,baz=83,slow=23,SNR=3.5						
MKAR				Lg		18 35 43.5	
	comp=E,4.1nm,0.3s,baz=90,slow=30,SNR=4.2						
MKAR	**Makanchi Array**	**8.30**	**287**	Pn	**P**	**18 33 19.7**	**-1.4**
MKAR				Sn	**Sn**	**18 34 53.8**	**-1.1**
MKAR				Lg		18 35 43.5	
SONM	**Songino Array**	**9.10**	**67**	Pn	**P**	**18 33 31.3**	**-0.8**
	comp=E,0.4nm,0.3s,baz=250,slow=15,SNR=7.6						
SONM				Lg		18 35 58.2	
	comp=E,1.1nm,0.3s,baz=244,slow=34,SNR=3.7						
LSA	**Lhasa**	**15.39**	**189**	*e*P	**P**	**18 34 46.7**	**-10**
	comp=E,2.3nm,0.6s						
BVAR	**Borovoye Array**	**17.34**	**306**	P	**P**	**18 35 21.4**	**+0.4**
	comp=E,0.3nm,0.3s,baz=106,slow=12,SNR=5.2						
ZRNK	**Zerenda**	**18.12**	**305**	*e*P	**P**	**18 35 30.6**	**-0.2**
	comp=E,3.0nm,0.4s						
AKASG	**Malin Array Be**	**42.55**	**302**	P	**P**	**18 39 14.7**	**+0.7**
	comp=E,0.2nm,0.3s,mb3.3,baz=67,slow=7.1,SNR=2.9						
ILAR	**Eielson Array**	**60.80**	**25**	P	**P**	**18 41 33.2**	**+2.5**
	comp=E,0.4nm,0.7s,mb3.6,baz=290,slow=4.2,SNR=5.0						

IDC ***24*** *18:49:51.1±1.5,7.85N×91.82E,mb3.4/5,mb1 3.6/5, mb1mx3.5/18,mbtmp3.4/5,Error ellipse: s-maj=51.2km s-min=28.6km az=47.0*
ISC 24 18:49:49.1±1.3,7.8N±0.3×91.8E±0.3,n5,σ0§34/5, mb3.4/5,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.70**	**350**	P	**P**	**18 57 24.8**	**0.0**
	0.2nm,0.4s,mb3.1,baz=165,slow=8.6,SNR=6.9						
SONM	**Songino Array**	**41.78**	**15**	P	**P**	**18 57 42.0**	**+0.1**
	0.3nm,0.7s,mb3.1,baz=196,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**50.13**	**124**	P	**P**	**18 58 48.6**	**0.0**
	0.3nm,0.6s,mb3.4,baz=304,slow=8.7,SNR=5.5						
BRTR	**Keskin Array B**	**60.72**	**311**	P	**P**	**19 00 05.3**	**+0.4**
	0.3nm,0.4s,mb3.8,baz=129,slow=9.2,SNR=2.6						
GERES	**GERESS Array B**	**76.33**	**318**	P	**P**	**19 01 41.4**	**-0.4**
	0.5nm,0.7s,mb3.7,baz=90,slow=2.7,SNR=5.9						

NEIC ***24*** *18:53:21.1,38.55S×175.76E,h147km,MG3.8(WEL), After WEL.*
WEL 24 18:53:20.6±0.3,38.54S×175.76E,h152km±2km,ML3.8/18, Error ellipse: s-maj=1.8km s-min=1.5km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RATZ	**Rangitukua**	**0.33**	**179**	P	P	18 53 41.6	-0.3
RATZ	**Rangitukua**	**0.33**	**179**	PN	P	18 53 41.6	-0.3
HATZ	**Hinemaiaia**	**0.44**	**144**	P	P	18 53 42.0	-0.3
HATZ	**Hinemaiaia**	**0.44**	**144**	PN	P	18 53 41.8	-0.5
TWVZ	**Taurewa**	**0.59**	**205**	P	P	18 53 42.6	-0.4
TWVZ	**Taurewa**	**0.59**	**205**	PN	P	18 53 42.6	-0.4
WTVZ	**West Tongariro**	**0.60**	**193**	P	P	18 53 42.8	-0.3
WTVZ	**West Tongariro**	**0.60**	**193**	PN	P	18 53 42.9	-0.2
OTVZ	**Oturere**	**0.63**	**187**	PN	P	18 53 43.3	0.0
NGZ	**Ngauruhoe**	**0.65**	**191**	P	P	18 53 43.1	-0.3
NGZ	**Ngauruhoe**	**0.65**	**191**	PN	P	18 53 43.3	-0.1
CNZ	**Chateau**	**0.69**	**194**	P	P	18 53 43.4	-0.1
CNZ	**Chateau**	**0.69**	**194**	PN	P	18 53 43.4	-0.2
WPVZ	**Whakapapa**	**0.69**	**194**	P	P	18 53 43.4	-0.2
WPVZ	**Whakapapa**	**0.69**	**194**	PN	P	18 53 43.3	-0.2
HIZ	**Hauiti**	**0.71**	**271**	P	P	18 53 43.2	-0.5
HIZ	**Hauiti**	**0.71**	**271**	PN	P	18 53 43.3	-0.4
FWVZ	**Far West T-bar**	**0.74**	**193**	P	P	18 53 43.7	-0.2
FWVZ	**Far West T-bar**	**0.74**	**193**	PN	P	18 53 43.6	-0.3
TUVZ	**Tukino**	**0.74**	**187**	P	P	18 53 43.8	-0.1
TUVZ	**Tukino**	**0.74**	**187**	PN	P	18 53 43.8	0.0
TRVZ	**Turoa**	**0.78**	**192**	PN	P	18 53 44.2	+0.1
WNVZ	**Wahianoa**	**0.80**	**189**	P	P	18 53 44.2	-0.1
WNVZ	**Wahianoa**	**0.80**	**189**	PN	P	18 53 44.2	-0.1
PKVZ	**Pokaka**	**0.82**	**203**	PN	P	18 53 44.0	-0.4
BKZ	**Black Stump Fm**	**0.85**	**138**	P	P	18 53 44.6	0.0
BKZ	**Black Stump Fm**	**0.85**	**138**	PN	P	18 53 44.6	0.0
BKZ				SN	S	18 54 02.5	-0.5
MOVZ	**Moawhango**	**0.87**	**181**	P	P	18 53 44.3	-0.4
MOVZ				S	S	18 54 01.2	-2.1
MOVZ	**Moawhango**	**0.87**	**181**	PN	P	18 53 44.3	-0.4
MOVZ				SN	S	18 54 01.5	-1.8
MTVZ	**Mangateitei**	**0.88**	**195**	PN	P	18 53 44.5	-0.2
VRZ	**Vera Road**	**0.98**	**233**	P	P	18 53 45.0	-0.5
VRZ				S	S	18 53 46.7	-18
VRZ	**Vera Road**	**0.98**	**233**	PN	P	18 53 45.0	-0.5
URZ	**Urewera**	**1.09**	**76**	P	P	18 53 46.2	-0.3
URZ	**Urewera**	**1.09**	**76**	PN	P	18 53 46.2	-0.3
URZ				SN	S	18 54 05.6	-1.0
WAZ	**Wanganui**	**1.36**	**206**	P	P	18 53 48.5	-0.7
WAZ	**Wanganui**	**1.36**	**206**	PN	P	18 53 48.5	-0.7
MWZ	**Matawai**	**1.40**	**82**	P	P	18 53 49.4	-0.2
MWZ	**Matawai**	**1.40**	**82**	PN	P	18 53 49.4	-0.1
MWZ				SN	S	18

MKAR **Makanchi Array 40.07 350** P P 19 09 24.4 -2.1
0.6nm,0.6s,baz=174,slow=9.0,SNR=7.7
SONM **Songino Array 42.21 15** P P 19 09 42.6 -1.4
0.4nm,0.8s,baz=201,slow=8.0,SNR=3.0
WRA **Warramunga Arr 50.02 124** P P 19 10 44.4 -2.0
0.6nm,0.9s,baz=300,slow=9.8,SNR=5.1
GERES **GERESS Array B 76.54 318** P P 19 13 40.2 -1.3
0.3nm,0.8s,baz=104,slow=5.5,SNR=3.5

*IDC **24** 19:10:10.8±3.2, 15.14S×167.33E, h112km±27km, mb3.6/4, mb1 3.9/6, mb1mx3.6/16, mbtmp4.2/6, Error ellipse: s-maj=32.5km s-min=19.0km az=69.0*
*NEIC **24** 19:10:11.9±1.3, 15.20S×167.26E, h115km±11km, Error ellipse: s-maj=19.0km s-min=10.6km az=71.0*
ISC 24 19:10:10.6±2.1, 15.21S±0.09×167.2E±0.2, h125km±17km, n28, σ0°69/18, mb3.6/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.86**	**186**	*e*P		**P**		**19 11 50.1**	**+0.1**
DZM				*e*S		**S**		**19 13 05.8**	**-1.3**
DZM	**Mont Dzumac**	**6.86**	**186**	P		**P**		**19 11 50.2**	**+0.2**
	23nm,0.3s,baz=356,slow=11,SNR=124								
DZM				S		**S**		**19 13 07.7**	**+0.6**
	7.4nm,0.3s,baz=125,slow=22,SNR=3.2								
DZM	**Mont Dzumac**	**6.86**	**186**	*e*P		**P**		**19 11 50.1**	**+0.1**
DZM				*e*S		**S**		**19 13 05.8**	**-1.3**
NOUC	**Port Laguerre**	**6.91**	**187**	*e*P		**P**		**19 11 51.1**	**+0.5**
NOUC	**Port Laguerre**	**6.91**	**187**	*e*P		**P**		**19 11 51.1**	**+0.5**
HNR	**Honiara**	**9.15**	**308**	P		**P**		**19 12 21.0**	**+0.3**
	6.5nm,0.3s,baz=217,slow=6.0,SNR=4.2								
HNR				S		**S**		**19 14 01.7**	**-0.7**
	9.1nm,0.3s,baz=151,slow=19,SNR=3.8								
HNR	**Honiara**	**9.15**	**308**	*e*P		**P**		**19 12 21.5**	**+0.7**
HNR				S		**S**		**19 14 01.7**	**-0.7**
STKA	**Stephens Creek**	**28.66**	**230**	P		**P**		**19 15 58.3**	**+0.5**
WRA	**Warramunga Arr**	**31.68**	**257**	P		**P**		**19 16 24.0**	**-0.6**
	0.2nm,0.4s,mb3.2,baz=82,slow=7.1,SNR=4.6								
FITZ	**Fitzroy Crossi**	**39.90**	**260**	P		**P**		**19 17 35.3**	**+1.3**
	2.8nm,0.8s,mb4.1,baz=137,slow=6.0,SNR=6.2								
VNDA	**Vanda**	**62.38**	**181**	*e*P		**P**		**19 20 21.4**	**-0.6**
SONM	**Songino Array**	**82.87**	**324**	P		**P**		**19 22 22.6**	**0.0**
	1.0nm,0.9s,mb3.6,baz=104,slow=5.6,SNR=4.4								
ILAR	**Eielson Array**	**86.99**	**18**	P		**P**		**19 22 42.1**	**-0.3**
	0.4nm,0.6s,mb3.6,baz=236,slow=4.9,SNR=8.3								
ARCES	**ARCESS Array B**	**120.71**	**345**	PKP		PKPdf		19 28 49.1	+1.7
	1.3nm,0.7s,baz=65,slow=1.6,SNR=14								
CABF	**La Chapelle**	**144.96**	**337**	*e*PKP1		PKPbc		19 29 35.7	+2.5
LOR	**Lormes**	**145.18**	**340**	*e*PKP1		PKPbc		19 29 36.0	+2.2
	8.4nm,0.8s								
SSF	**Saint Saulge**	**145.48**	**340**	*e*PKP1		PKPbc		19 29 37.2	+2.7
	15nm,0.7s								
GRR	**Gorron**	**145.50**	**346**	*e*PKP1		PKPbc		19 29 36.7	+2.2
LPL	**La Plagne**	**145.62**	**335**	*e*PKP1		PKPbc		19 29 37.8	+2.9
	6.9nm,0.8s								
LPG	**La Plagne**	**145.63**	**335**	*e*PKP1		PKPbc		19 29 38.2	+3.2
	16nm,1.0s								
BGF	**Bois d'Agland**	**146.14**	**341**	*e*PKP1		PKPbc		19 29 38.2	+2.0
MBDF	**Montbardon**	**146.25**	**335**	*e*PKP1		PKPbc		19 29 39.2	+2.7
ORIF	**Oris-en-Rattie**	**146.45**	**336**	*e*PKP1		PKPbc		19 29 40.1	+3.1
SBF	**Sospel**	**146.66**	**333**	*e*PKP1		PKPbc		19 29 40.8	+3.3
	28nm,1.1s								
MFF	**Saint Martin d**	**146.98**	**344**	*e*PKP1		PKPbc		19 29 41.2	+3.1
	30nm,1.0s								
MTLF	**Montolieu**	**149.18**	**338**	*e*PKP1		PKPdf		19 29 47.7	+7.7
ETSF	**Etsaut**	**150.49**	**342**	*e*PKP1		PKPdf		19 29 50.6	+8.6
	8.0nm,1.1s								
EVO	**Evora**	**156.40**	**351**	*e*PKIKP		PKPdf		19 29 52.9	+2.5

*IDC **24** 19:21:32.5±0.8, 8.02N×91.87E, mb4.0/14, mb1 4.1/14, mb1mx4.0/21, mbtmp4.0/14, Error ellipse: s-maj=27.0km s-min=17.6km az=37.0*
*BJI **24** 19:21:33.3, 7.53N×91.92E, h47km, mb4.5, Ms4.8, Msz4.6*
*MOS **24** 19:21:35.3±1.5, 7.96N×92.08E, h33km, mb4.7/13, Error ellipse: s-maj=13.4km s-min=8.2km az=107.1*
*NEIC **24** 19:21:36.9±0.4, 7.90N×91.89E, h30km, mb4.4/11, Error ellipse: s-maj=11.9km s-min=7.8km az=200.0*
ISC 24 19:21:36.4±1.6, 7.97N±0.07×92.03E±0.06, h40km±14km, h32km±4.8km:pP-P, n78, σ1°09/81, mb4.3/34, MS4.6/2, 4C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.97**	**107**	*e*P		**P**		**19 23 45.0**	**-1.2**
PALK	**Pallekele**	**11.25**	**267**	*e*P		**P**		**19 24 12.2**	**-5.5**
HYB	**Hyderabad**	**16.14**	**307**	*e*P		**P**		**19 25 25.0**	**+2.9**
HYB	**Hyderabad**	**16.14**	**307**	*i* P		**P**		**19 25 25.0**	**+2.9**
SHL	**Shillong**	**17.50**	**360**	*e*P		**P**		**19 25 40.0**	**+0.9**
KMI	**Kunming**	**19.89**	**30**	P		**P**		**19 26 07.8**	**+0.5**
KMI				AP				19 26 19.4	
KMI				AMB		AMB			
	comp=Z,17nm,1.2s								
KMI	**Kunming**	**19.89**	**30**	P		**P**		**19 26 07.7**	**+0.4**
KMI				pmax		pmax			
	comp=Z,17nm,1.2s								
KMI	**Kunming**	**19.89**	**30**	P		**P**		**19 26 07.7**	**+0.4**
	comp=Z,17nm,1.2s								
KMI				pP				19 26 19.4	
PKI	**Pulchoki**	**20.48**	**343**	*e*P		**P**		**19 26 13.8**	**+0.3**
	comp=Z,27nm,0.8s								
QIZ	**Qiongzhong**	**20.49**	**56**	*e*P		**P**		**19 26 14.6**	**+0.9**
QIZ	**Qiongzhong**	**20.49**	**56**	*e*P		**P**		**19 26 14.6**	**+0.9**
DMN	**Daman**	**20.60**	**342**	*e*P		**P**		**19 26 15.3**	**+0.5**
	comp=Z,32nm,0.8s								
GUN	**Gumba**	**20.67**	**344**	*e*P		**P**		**19 26 14.6**	**-0.9**
KKN	**Kakani**	**20.72**	**343**	*e*P		**P**		**19 26 16.3**	**+0.3**
GKN	**Gorkha**	**21.11**	**342**	*e*P		**P**		**19 26 19.9**	**-0.1**
KOLN	**Koldanda**	**21.25**	**339**	*e*P		**P**		**19 26 20.8**	**-0.5**
	comp=Z,24nm,0.7s,mb4.6								
LSA	**Lhasa**	**21.63**	**358**	*e*P		**P**		**19 26 28.0**	**+2.8**
LSA				pmax		pmax			
	comp=Z,11nm,0.8s,mb4.3								
LSA	**Lhasa**	**21.63**	**358**	*e*P		**P**		**19 26 28.0**	**+2.8**
	comp=Z,10nm,0.8s,mb4.3								
CD2	**Chengdu**	**25.32**	**24**	P		**P**		**19 27 02.6**	**+1.4**
DDI	**Dehra Dun**	**25.80**	**331**	*e*		**P**		**19 27 05.0**	**-0.8**
GTA	**Gaotai**	**32.07**	**11**	*e*P		**P**		**19 28 02.3**	**+0.4**
GTA				AP		pP		19 28 12.6	-0.3
GTA				XP		sP		19 28 16.0	-1.9
GTA				AMB		AMB			
	comp=Z,11nm,1.2s,mb4.6								
NJ2	**Nanjing**	**34.58**	**42**	*e*P		**P**		**19 28 23.6**	**0.0**
NJ2				AP		pP		19 28 33.3	-1.4
NJ2				XP		sP		19 28 37.3	-2.4
NJ2				PP		PP		19 29 39.5	-1.2
NJ2				S		**S**		**19 33 49.0**	**-0.1**
NJ2				AMB		AMB			
	comp=Z,20nm,1.2s,mb4.9								
NJ2				LR		LR			
	comp=N,1μm,13.7s,MS4.9								
NJ2				LR		LR			
	comp=E,1μm,16.3s,MS4.9								
NJ2				LR		LR			
	comp=Z,1μm,19.7s,MS4.6								
SSE	**Sheshan**	**35.63**	**46**	P		**P**		**19 28 29.1**	**-3.5**
SSE				AP		pP		19 28 41.8	-1.9
SSE				S		**S**		**19 34 06.8**	**+1.5**
SSE				AMB		AMB			
	comp=Z,37nm,0.7s,mb5.4								
SSE				LR		LR			
	comp=N,610nm,19.9s,MS4.4								
SSE				LR		LR			
	comp=E,413nm,19.9s,MS4.4								
SSE				LR		LR			
	comp=Z,869nm,17.1s,MS4.6								
SSE	**Sheshan**	**35.63**	**46**	P		**P**		**19 28 29.1**	**-3.5**
	comp=Z,37nm,0.7s,mb5.4								
SSE				pP		pP		19 28 37.9	-5.8
SSE				sP		sP		19 28 41.8	-6.9
SSE				S		**S**		**19 34 06.7**	**+1.4**
SSE				sS				19 34 22.0	
SSE				SS		SS		19 36 45.6	+19
SSE				LR		LR			
	comp=Z,870nm,17.1s,MS4.6								
AAK	**Ala-Archa**	**37.82**	**339**	∥ *i*P		**P**		**19 28 51.3**	**+0.4**
AAK				pmax		pmax			
	comp=Z,3.0nm,1.0s,mb4.0								
MKAR	**Makanchi Array**	**39.57**	**349**	*i* P		**P**		**19 29 06.5**	**+1.1**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
MKAR	**Makanchi Array**	**39.57**	**349**	P		**P**		**19 29 04.8**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.5,baz=162,slow=7.7,SNR=4.9								
SONM	**Songino Array**	**41.56**	**15**	P		**P**		**19 29 21.9**	**+0.1**
	comp=Z,2.4nm,0.7s,mb4.0,baz=195,slow=7.8,SNR=21								
FITZ	**Fitzroy Crossi**	**42.10**	**128**	*e*P		**P**		**19 29 27.7**	**+1.0**
	comp=Z,3.6nm,0.6s,mb4.2								
FITZ	**Fitzroy Crossi**	**42.10**	**128**	P		**P**		**19 29 27.3**	**+0.7**
	comp=Z,4.1nm,0.7s,mb4.2,baz=210,slow=4.2,SNR=4.7								
ZAK	**Zakamensk**	**43.30**	**10**	*e*P		**P**		**19 29 36.9**	**+0.8**
ZAK				pmax		pmax			
	comp=Z,1.0nm,1.2s,mb3.4								
ZAK				pmax		pmax			
	comp=Z,1.0nm,1.2s,mb3.4								
RDF	**Al-Radifah**	**46.70**	**302**	*e*P		**P**		**19 30 04.4**	**+0.9**
RDF				AMb		AMB		19 30 05.7	
	comp=Z,17nm,0.9s,mb5.0								
NAY	**Al-Naaiem**	**47.05**	**303**	*e*P		**P**		**19 30 07.1**	**+0.8**
NAY				AMb		AMB		19 30 08.4	
	comp=Z,13nm,1.0s,mb4.8								
MIB	**Mutribah**	**47.14**	**304**	*e*P		**P**		**19 30 07.2**	**+0.2**
MIB				AMb		AMB		19 30 08.6	
	comp=Z,33nm,0.9s,mb5.3								
NVS	**Novosibirsk**	**47.27**	**353**	*e*P		**P**		**19 30 07.0**	**-0.6**
HIA	**Hailar**	**47.27**	**24**	*e*P		**P**		**19 30 06.6**	**-1.1**
HIA				pmax		pmax			
	comp=Z,5.0nm,1.3s								
HIA	**Hailar**	**47.27**	**24**	*e*P		**P**		**19 30 06.6**	**-1.2**
	comp=Z,5.5nm,1.3s,mb4.3								
BVAR	**Borovoye Array**	**48.25**	**343**	P		**P**		**19 30 14.2**	**-1.1**
	comp=Z,0.3nm,0.5s,mb3.6,baz=148,slow=7.3,SNR=5.0								
ZRNK	**Zerenda**	**48.60**	**342**	*e*P		**P**		**19 30 14.0**	**-4.0**
ZRNK				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.2								
ZRNK	**Zerenda**	**48.60**	**342**	*e*P		**P**		**19 30 14.0**	**-4.1**
	comp=Z,1.9nm,0.8s,mb4.2								
WRA	**Warramunga Arr**	**50.03**	**124**	P		**P**		**19 30 29.6**	**+0.1**
	comp=Z,3.7nm,0.9s,mb4.4,baz=304,slow=8.5,SNR=17								
WRAB	**Tennant Creek**	**50.04**	**124**	*e*P		**P**		**19 30 29.7**	**+0.2**
WRAB				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.7								
WRAB	**Tennant Creek**	**50.04**	**124**	*e*P		**P**		**19 30 29.7**	**+0.1**
	comp=Z,5.5nm,0.6s,mb4.8								
WB2	**Warramunga Arr**	**50.04**	**124**	*e*P		**P**		**19 30 29.9**	**+0.3**
MJAR	**Matsushiro Arr**	**50.66**	**49**	P		**P**		**19 30 35.7**	**+1.7**
	comp=Z,0.7nm,0.8s,mb3.6,baz=245,slow=9.5,SNR=2.8								
MJAR				PcP		PcP		19 31 52.9	+1.7
	comp=Z,1.0nm,0.7s,baz=242,slow=5.3,SNR=4.2								
BOD	**Bodaibo**	**52.56**	**15**	*e*P		**P**		**19 30 46.5**	**-1.5**
BOD				pmax		pmax			
	comp=Z,6.0nm,1.1s,mb4.4								
GNI	**Garni**	**52.88**	**315**	*e*P		**P**		**19 30 49.9**	**-0.8**
GNI				pmax		pmax			
	comp=Z,14nm,1.7s								
ARU	**Arti**	**55.00**	**338**	*e*P		**P**		**19 31 04.0**	**-2.0**
ARU				pmax		pmax			
	comp=Z,8.0nm,1.8s,mb4.5								
KMBO	**Kilima Mbogo**	**55.36**	**263**	P		**P**		**19 31 09.3**	**+0.1**
	comp=Z,4.5nm,0.9s,mb4.5,baz=56,slow=11,SNR=9.8								
KIV	**Kislovodsk**	**55.85**	**319**	*e*P		**P**		**19 31 11.7**	**-0.6**
KIV				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.5								
KIV	**Kislovodsk**	**55.85**	**319**	*e*P		**P**		**19 31 11.7**	**-0.6**
	comp=Z,3.0nm,0.6s,mb4.5								
YSS	**Yuzh-Sakhalins**	**58.00**	**39**	*i* P		**P**		**19 31 24.1**	**-3.5**
YAK	**Yakutsk**	**60.58**	**19**	*e*P		**P**		**19 31 44.6**	**-0.6**
YAK				pmax		pmax			
	comp=Z,16nm,1.3s,mb5.0								
YAK	**Yakutsk**	**60.58**	**19**	*e*P		**P**		**19 31 44.6**	**-0.6**
	comp=Z,16nm,1.3s,mb5.0								
BR131	**Keskin Array S**	**60.79**	**311**	*e*P		**P**		**19 31 45.1**	**-1.8**
	comp=Z,1.3nm,0.6s,mb4.2								
BRTR	**Keskin Array B**	**60.79**	**311**	P		**P**		**19 31 44.9**	**-2.1**
	comp=Z,2.3nm,0.8s,mb4.3,baz=123,slow=7.9,SNR=14								
OBN	**Obninsk**	**64.19**	**328**	*e*P		**P**		**19 32 07.6**	**-1.6**
OBN				pmax		pmax			
	comp=Z,15nm,1.6s,mb4.8								
KIS	**Kishinev**	**66.05**	**318**	*e*P		**P**		**19 32 12.0**	**-9.4**
AKASG	**Malin Array Be**	**66.78**	**322**	P		**P**		**19 32 23.6**	**-2.3**
	comp=Z,0.1nm,0.3s,mb3.3,baz=94,slow=4.3,SNR=6.8								
VRI	**Vrincioaia**	**67.19**	**316**	⇑P		**P**		**19 32 29.0**	**+0.4**
TIXI	**Tiksi**	**67.56**	**12**	*e*P		**P**		**19 32 27.6**	**-2.9**
TIXI				pmax		pmax			
	comp=Z,11nm,0.9s,mb4.9								
MLR	**Muntele Rosu**	**67.64**	**316**	⇑P		**P**		**19 32 32.0**	**+0.6**
BURAR	**Bucovina Array**	**68.57**	**318**	⇑P		**P**		**19 32 37.8**	**+0.6**
BURAR	**Bucovina Array**	**68.57**	**318**	⇑P		**P**		**19 32 37.8**	**+0.6**
SEY	**Seymchan**	**69.72**	**25**	*e*P		**P**		**19 32 43.2**	**-0.8**
STHS	**Stebnicka Huta**	**71.50**	**319**	*e*P		**P**		**19 32 55.7**	**+0.7**
FINES	**FINESS Array B**	**71.65**	**332**	P		**P**		**19 32 55.4**	**-0.3**
	comp=Z,1.6nm,0.9s,mb3.9,baz=190,slow=8.5,SNR=2.7								
ZST	**Bratislava**	**74.05**	**318**	*e*P		**P**		**19 33 09.6**	**-0.5**
GERES	**GERESS Array B**	**76.36**	**318**	P		**P**		**19 33 22.8**	**-0.4**
	comp=Z,2.0nm,0.8s,mb4.1,baz=90,slow=5.3,SNR=21								
KHC	**Kasperske Hory**	**76.46**	**319**	*e*P		**P**		**19 33 24.0**	**+0.2**
BILL	**Bilibino**	**76.77**	**22**	*i* P		**P**		**19 33 23.3**	**-1.9**
CLL	**Collm**	**76.96**	**321**	P		**P**		**19 33 27.0**	**+0.4**
CLL				*e**PP		pP		19 33 35.0	-3.5
MOX	**Moxa**	**77.80**	**320**	*e*P		**P**		**19 33 33.0**	**+1.7**
GRA1	**Grafenberg Arr**	**78.02**	**319**	*e*P		**P**		**19 33 33.0**	**+0.5**
	comp=Z,7.0nm,1.1s,mb4.5								
GRF	**Grafenberg Arr**	**78.02**	**319**	*e*P		**P**		**19 33 33.0**	**+0.5**
GRF				pmax		pmax			
	comp=Z,7.0nm,1.1s,mb4.5								
DAVOX	**Davos**	**78.87**	**316**	P		**P**		**19 33 37.5**	**+0.3**
	comp=Z,2.6nm,0.6s,mb4.3,baz=148,slow=13,SNR=8.6								
ESDC	**Sonseca Array**	**89.55**	**310**	P		**P**		**19 34 32.4**	**+1.1**
	comp=Z,0.3nm,0.4s,mb4.0,baz=24,slow=4.4,SNR=4.2								
ILAR	**Eielson Array**	**95.43**	**22**	P		**P**		**19 35 00.2**	**+2.5**
	comp=Z,0.3nm,1.0s,mb3.7,baz=284,slow=3.7,SNR=2.4								

IDC 24 19:31:40.7±21.0, 7.83N×91.80E, mb3.7/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=535.3km s-min=60.7km az=152.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.75**	**15**	P		P		19 39 31.7	-1.6
	0.4nm,0.7s,baz=190,slow=7.5,SNR=3.7								
BRTR	**Keskin Array B**	**60.71**	**311**	P		P		19 41 54.2	-2.2
	0.9nm,0.7s,baz=90,slow=8.6,SNR=3.5								
GERES	**GERESS Array B**	**76.32**	**318**	P		P		19 43 31.9	-1.4
	0.8nm,0.8s,baz=90,slow=4.0,SNR=6.4								

*IDC **24** 19:39:02.1±0.6, 8.08N×91.75E, mb4.2/14, mb1 4.4/14, mb1mx4.3/20, mbtmp4.2/14, Error ellipse: s-maj=20.8km s-min=15.8km az=37.0*
*NEIC **24** 19:39:03.8±4.5, 8.01N×91.81E, h10km±28km, mb4.6/14, Error ellipse: s-maj=10.9km s-min=7.8km az=203.0*
*BJI **24** 19:39:04.8, 8.08N×92.01E, h9km, mB5.1, mb4.6, Ms4.6, Msz4.4*
*MOS **24** 19:39:05.5±1.4, 7.99N×91.76E, h33km, mb4.8/14, Error ellipse: s-maj=14.3km s-min=8.4km az=104.0*
ISC 24 19:39:05.1±0.4, 7.86N±0.06×91.74E±0.05, h33km, n97, σ1°28/101, mb4.4/41, MS4.5/2, 4C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**8.83**	**94**	P		**P**		**19 41 13.0**	**-0.3**
NNT	**Nongplab**	**9.16**	**58**	P		**P**		**19 41 21.0**	**+3.1**
KULM	**Kulim**	**9.21**	**106**	*e*P		**P**		**19 41 16.1**	**-2.5**
PALK	**Pallekele**	**10.96**	**268**	*e*P		**P**		**19 41 42.1**	**-0.6**
PALK				*e*S		**S**		**19 43 37.7**	**-7.5**
MDRS	**Chennai**	**12.43**	**296**	*e*P		**P**		**19 42 01.1**	**-1.5**
MDRS				*e*S		**S**		**19 44 08.9**	**-12**
BWNR	**Bhubaneshwar**	**13.63**	**336**	*e*P		**P**		**19 42 18.1**	**-0.5**
BWNR				AMb		AMB		19 42 22.6	
	comp=Z,66nm,1.5s								
BWNR				*e*				19 44 38.5	
KKTK	**Khon Kaen**	**13.72**	**51**	P		**P**		**19 42 28.0**	**+8.2**
HYB	**Hyderabad**	**15.98**	**308**	*e*P		**P**		**19 42 58.0**	**+8.8**
HYB	**Hyderabad**	**15.98**	**308**	*i* P		**P**		**19 42 58.0**	**+8.8**
SHL	**Shillong**	**17.61**	**0**	*e*P		**P**		**19 43 10.0**	**+0.4**
SHL				*e*				19 46 14.0	
NGP	**Nagpur**	**18.02**	**318**	*e*P		**P**		**19 43 16.8**	**+2.0**
NGP				AMb		AMB		19 43 23.5	
	comp=Z,21nm,1.3s								
AKL	**Akola**	**19.12**	**313**	*e*P		**P**		**19 43 31.6**	**+3.4**
AKL				AMb		AMB		19 43 38.3	
	comp=Z,48nm,0.8s								
KSM	**Kuching**	**19.56**	**108**	*e*P		**P**		**19 43 32.5**	**-0.5**
KMI	**Kunming**	**20.13**	**30**	P		**P**		**19 43 37.8**	**-1.3**
KMI				XP				19 43 51.3	
KMI				AMB		AMB			
	comp=Z,16nm,1.0s								
KMI	**Kunming**	**20.13**	**30**	P		**P**		**19 43 37.7**	**-1.4**
KMI				*SP				19 43 51.3	
KMI				pmax		pmax			
	comp=Z,16nm,1.0s								
KMI	**Kunming**	**20.13**	**30**	P		**P**		**19 43 37.7**	**-1.4**
	comp=Z,16nm,1.0s								
KMI				sP				19 43 51.3	
PKI	**Pulchoki**	**20.50**	**344**	*e*P		**P**		**19 43 43.6**	**+0.6**
	comp=Z,41nm,0.7s								
PKI	**Pulchoki**	**20.50**	**344**	*e*P		**P**		**19 43 47.7**	**+4.7**
	comp=Z,41nm,0.7s								
BHPL	**Bhopal**	**20.56**	**320**	*i* P		**P**		**19 43 44.6**	**+0.9**
BHPL				AMb		AMB		19 43 55.9	
	comp=Z,39nm,1.7s								
BHPL				*e*				19 47 28.6	
DMN	**Daman**	**20.62**	**343**	*e*P		**P**		**19 43 44.1**	**-0.2**
	comp=Z,64nm,0.8s								
DMN	**Daman**	**20.62**	**343**	*e*P		**P**		**19 43 47.3**	**+3.0**
	comp=Z,70nm,1.0s								
GUN	**Gumba**	**20.70**	**345**	*e*P		**P**		**19 43 44.2**	**-0.9**
	comp=Z,106nm,1.0s								
KKN	**Kakani**	**20.75**	**344**	*e*P		**P**		**19 43 44.1**	**-1.4**
	comp=Z,48nm,0.9s								
KKN	**Kakani**	**20.75**	**344**	*e*P		**P**		**19 43 46.4**	**+0.9**
QIZ	**Qiongzhong**	**20.79**	**56**	*e*P		**P**		**19 43 44.0**	**-2.1**
QIZ	**Qiongzhong**	**20.79**	**56**	*e*P		**P**		**19 43 42.8**	**-3.2**
	comp=Z,34nm,0.9s								
GKN	**Gorkha**	**21.13**	**342**	*e*P		**P**		**19 43 45.5**	**-4.0**
	comp=Z,93nm,0.9s,mb5.1								
GKN	**Gorkha**	**21.13**	**342**	*e*P		**P**		**19 43 46.6**	**-2.9**
	comp=Z,93nm,0.9s,mb5.1								
KOLN	**Koldanda**	**21.25**	**340**	*e*P		**P**		**19 43 45.2**	**-5.5**
	comp=Z,41nm,0.9s,mb4.8								
KOLN	**Koldanda**	**21.25**	**340**	*e*P		**P**		**19 43 45.2**	**-5.5**
	comp=Z,26nm,0.7s,mb4.7								
LSA	**Lhasa**	**21.73**	**359**	P		**P**		**19 43 58.0**	**+2.5**
LSA	**Lhasa**	**21.73**	**359**	*e*P		**P**		**19 43 54.6**	**-0.9**
LSA				pmax		pmax			
	comp=Z,24nm,0.8s,mb4.7								
LSA	**Lhasa**	**21.73**	**359**	*e*P		**P**		**19 43 54.6**	**-0.9**
	comp=Z,24nm,0.8s,mb4.7								
AJM	**Ajmer**	**24.63**	**321**	*i*		**P**		**19 44 19.5**	**-4.6**
NDI	**New Delhi**	**24.83**	**328**	*e*P		**P**		**19 44 26.9**	**+1.0**
NDI				AMb		AMB		19 44 33.3	
	comp=Z,25nm,0.9s,mb4.8								
CD2	**Chengdu**	**25.54**	**25**	P		**P**		**19 44 32.8**	**+0.2**
DDI	**Dehra Dun**	**25.77**	**332**	*e*		**P**		**19 44 42.5**	**+7.8**
ENH	**Enshi**	**27.82**	**34**	P		**P**		**19 44 52.8**	**-0.7**
	comp=Z,8.0nm,0.7s,mb4.5								
GTA	**Gaotai**	**32.24**	**12**	*e*P		**P**		**19 45 33.6**	**+0.9**
GTA				AP		pP		19 45 40.6	-1.8
GTA				XP		sP		19 45 43.6	-3.1
GTA				AMB		AMB			
	comp=Z,9.0nm,1.2s,mb4.5								
NJ2	**Nanjing**	**34.86**	**43**	*e*P		**P**		**19 45 57.3**	**+1.9**
NJ2				XP		sP		19 46 07.0	-2.4
NJ2				PP		PP		19 47 16.8	+3.3
NJ2				S		**S**		**19 51 25.0**	**+1.7**
NJ2				AMB		AMB			
	comp=Z,20nm,0.9s,mb5.0								
NJ2				AMB		AMB			
	comp=Z,270nm,10.5s								
NJ2				LR		LR			
	comp=N,900nm,19.6s,MS4.7								
NJ2				LR		LR			
	comp=E,880nm,15.8s,MS4.7								
NJ2				LR		LR			
	comp=Z,740nm,21.6s								
SSE	**Sheshan**	**35.91**	**46**	P		**P**		**19 46 03.0**	**-1.4**
SSE				XP		sP		19 46 15.6	-2.8
SSE				S		**S**		**19 51 42.1**	**+2.5**
SSE				AMB		AMB			
	comp=Z,25nm,0.

comp=Z,3.2nm,0.8s,mb4.5,baz=116,slow=5.9,SNR=12
YAK Yakutsk 60.78 19 ⇓ *i* P **P** 19 49 14.8 -1.2
YAK pmax pmax
comp=Z,13nm,0.8s,mb5.1
STKA Stephens Creek 61.83 132 P **P** 19 49 23.9 +0.5
comp=Z,2.0nm,0.8s,mb4.3,baz=308,slow=19,SNR=2.6
AKASG Malin Array Be 66.70 322 P **P** 19 49 53.4 -1.5
comp=Z,0.2nm,0.4s,mb3.5,baz=94,slow=4.7,SNR=4.1
VRI Vrincioaia 67.07 317 ⇑ P **P** 19 50 05.8 +8.5
VRI Vrincioaia 67.07 317 ⇑ P **P** 19 50 05.8 +8.5
MLR Muntele Rosu 67.52 316 P **P** 19 50 00.4 +0.3
comp=Z,3.5nm,0.9s,mb4.4,baz=198,slow=2.0,SNR=5.7
MLR Muntele Rosu 67.52 316 ⇓ P **P** 19 50 02.5 +2.4
TIXI Tiksi 67.72 12 *eP* **P** 19 50 00.5 -0.5
TIXI pmax pmax
comp=Z,17nm,0.9s,mb5.1
MA2 Magadan 67.89 28 ⇑ *i* P **P** 19 50 03.9 +1.7
MA2 pmax pmax
comp=Z,16nm,1.7s,mb4.8
SEY Seymchan 69.94 25 *eP* **P** 19 50 15.5 +0.7
FINES FINESS Array B 71.62 333 P **P** 19 50 26.8 +1.9
comp=Z,1.4nm,1.0s,mb3.8,baz=127,slow=6.9,SNR=2.2
BOSA Boshof 73.57 237 P **P** 19 50 39.7 +2.6
comp=Z,1.7nm,0.8s,mb4.0,baz=38,slow=10,SNR=3.7
BOSA Boshof 73.57 237 P **P** 19 50 39.7 +2.6
GERES GERESS Array B 76.25 318 P **P** 19 50 51.8 -0.3
comp=Z,1.5nm,0.7s,mb4.0,baz=117,slow=6.0,SNR=14
GRA1 Grafenberg Arr 77.92 319 *eP* **P** 19 51 02.1 +0.7
comp=Z,4.0nm,0.8s,mb4.4
GRF Grafenberg Arr 77.92 319 *eP* **P** 19 51 02.1 +0.7
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
GRF Grafenberg Arr 77.92 319 *eP* **P** 19 51 02.1 +0.7
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
GRF Grafenberg Arr 77.92 319 *eP* **P** 19 51 02.1 +0.7
comp=Z,4.0nm,0.8s,mb4.4
BNI Bardonecchia 81.01 314 P **P** 19 51 16.6 -1.6
BNI pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BNI Bardonecchia 81.01 314 P **P** 19 51 16.6 -1.6
comp=Z,6.8nm,0.8s,mb4.6
ILAR Eielson Array 95.64 22 P **P** 19 52 29.1 +0.9
comp=Z,0.6nm,0.8s,mb4.1,baz=303,slow=4.5,SNR=9.7
TXAR Lajitas Array 140.16 21 PKP PKPdf 19 58 35.1 +4.0
comp=Z,0.1nm,0.4s,baz=166,slow=3.7,SNR=2.5
CPUP Villa Florida 145.34 234 PKPbc PKPbc 19 58 41.6 +0.8
comp=Z,1.4nm,0.8s,baz=143,slow=5.1,SNR=2.8

*IDC **24** 19:53:10.6±1.8, 8.02N×91.01E, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=64.5km s-min=28.5km az=56.0*
*NEIC **24** 19:53:14.8±1.5, 7.93N×90.91E, h30km, mb3.9/1, Error ellipse: s-maj=38.2km s-min=25.9km az=63.0*
ISC 24 19:53:13.1±1.7, 7.9N±0.2×91.0E±0.3, h30km, n5, σ1s35/5, mb3.5/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**20.44**	**32**	P	**P**	**19 57 51.2**	**+0.2**
	7.0nm,1.2s						
MKAR	**Makanchi Array**	**39.42**	**351**	P	**P**	**20 00 40.4**	**-1.8**
	0.5nm,0.5s,mb3.5,baz=164,slow=8.5,SNR=12						
SONM	**Songino Array**	**41.86**	**16**	P	**P**	**20 01 03.0**	**+0.8**
	0.6nm,0.8s,mb3.3,baz=207,slow=6.4,SNR=6.4						
WRA	**Warramunga Arr**	**50.87**	**124**	P	**P**	**20 02 13.5**	**-0.3**
	0.7nm,0.8s,mb3.6,baz=307,slow=8.3,SNR=4.6						
GERES	**GERESS Array B**	**75.69**	**318**	P	**P**	**20 04 58.5**	**+0.9**
	0.7nm,0.9s,mb3.6,baz=90,slow=5.3,SNR=5.8						

*NEIC **24** 19:53:37.5±2.1, 9.95S×159.82E, h25km±15km, mb4.3/1, Error ellipse: s-maj=30.9km s-min=16.0km az=120.0*
*IDC **24** 19:53:38.8±3.0, 9.70S×159.58E, h23km±31km, mb3.7/5, mb1 3.9/5, mb1mx3.8/12, mbtmp3.8/5, Error ellipse: s-maj=98.5km s-min=25.0km az=136.0*
ISC 24 19:53:36.1±2.2, 10.0S±0.2×159.8E±0.2, h27km±16km, n10, σ0s89/11, mb3.8/6, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.55**	**15**	Pg	**Pb**	**19 53 48.2**	**+1.1**
	1μm,0.3s,baz=237,slow=4.1,SNR=502						
HNR				Lg		19 53 54.8	
	6μm,0.3s,baz=156,slow=12,SNR=94						
HNR	**Honiara**	**0.55**	**15** ⇓	*i* P	**Pb**	**19 53 48.1**	**+1.0**
HNR				*e*S	**Sb**	**19 53 53.8**	**-0.9**
HNR				Lg		19 53 54.8	
WRAB	**Tennant Creek**	**26.48**	**245**	P	**P**	**19 59 12.5**	**-0.7**
WRA	**Warramunga Arr**	**26.49**	**245**	P	**P**	**19 59 13.9**	**+0.5**
	0.7nm,0.5s,mb3.4,baz=72,slow=10.0,SNR=6.1						
STKA	**Stephens Creek**	**27.57**	**215**	P	**P**	**19 59 24.3**	**+1.2**
FITZ	**Fitzroy Crossi**	**34.07**	**252**	P	**P**	**20 00 20.1**	**-0.6**
	2.6nm,0.5s,mb4.4,baz=155,slow=4.9,SNR=4.4						
VNDA	**Vanda**	**67.55**	**180**	*eP*	**P**	**20 04 30.3**	**-1.6**
	1.1nm,0.5s,mb4.1						
SONM	**Songino Array**	**74.42**	**326**	P	**P**	**20 05 13.7**	**+0.1**
	0.3nm,0.8s,mb3.3,baz=147,slow=5.2,SNR=6.9						
ILAR	**Eielson Array**	**84.44**	**20**	P	**P**	**20 06 08.3**	**+1.0**
	0.2nm,0.5s,mb3.5,baz=255,slow=5.2,SNR=6.0						
MKAR	**Makanchi Array**	**88.77**	**318**	P	**P**	**20 06 28.7**	**-0.2**
	0.3nm,0.5s,mb3.9,baz=97,slow=6.8,SNR=5.5						

IDC 24 20:20:34.8±4.4, 1.64N×97.69E, mb3.5/3, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=160.5km s-min=32.8km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.85**	**123**	P	P	20 28 26.7	-1.9
	0.3nm,0.5s,baz=304,slow=8.9,SNR=2.0						
SONM	**Songino Array**	**46.63**	**8**	P	P	20 29 05.6	-1.1
	0.9nm,0.7s,baz=188,slow=9.1,SNR=8.8						
MKAR	**Makanchi Array**	**46.94**	**346**	P	P	20 29 06.7	-2.5
	0.4nm,0.5s,baz=162,slow=8.8,SNR=7.6						

*IDC **24** 20:57:29.3±0.7, 7.89N×92.15E, mb4.1/13, mb1 4.2/13, mb1mx4.0/21, mbtmp4.1/13, Error ellipse: s-maj=29.6km s-min=17.1km az=59.0*
*BJI **24** 20:57:31.9, 7.63N×92.22E, h37km, mb4.1*
*NEIC **24** 20:57:34.8±1.3, 7.90N×92.14E, h37km±13km, mb4.4/6, Error ellipse: s-maj=12.1km s-min=8.6km az=218.0*
ISC 24 20:57:32.8±1.9, 7.77N±0.07×92.12E±0.07, h39km±18km, n40, σ1s04/38, mb4.2/22, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**8.83**	**106**	*eP*	**P**	**20 59 39.6**	**-1.2**
PALK	**Pallekele**	**11.33**	**268**	*eP*	**P**	**21 00 15.2**	**-0.1**
PALK				*e*S	**S**	**21 02 07.0**	**-15**
SHL	**Shillong**	**17.70**	**359**	*eP*	**P**	**21 01 39.0**	**+0.9**
KMI	**Kunming**	**20.02**	**29**	P	**P**	**21 02 05.6**	**+0.4**
KMI				AP		21 02 11.8	
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s						
KMI	**Kunming**	**20.02**	**29**	P	**P**	**21 02 05.6**	**+0.4**
	comp=Z,6.0nm,1.0s						
KMI				pP		21 02 11.8	
QIZ	**Qiongzhong**	**20.53**	**55**	P	**P**	**21 02 10.6**	**0.0**
PKI	**Pulchoki**	**20.69**	**343**	*eP*	**P**	**21 02 21.1**	**+8.9**
	comp=Z,22nm,0.4s						
DMN	**Daman**	**20.82**	**342**	*eP*	**P**	**21 02 20.5**	**+7.0**
	comp=Z,32nm,0.6s						
KKN	**Kakani**	**20.94**	**343**	*eP*	**P**	**21 02 21.2**	**+6.5**
	comp=Z,24nm,0.7s						
GKN	**Gorkha**	**21.33**	**342**	*eP*	**P**	**21 02 19.7**	**+1.0**
	comp=Z,52nm,0.6s,mb5.0						
KOLN	**Koldanda**	**21.46**	**339**	*eP*	**P**	**21 02 21.3**	**+1.3**
	comp=Z,45nm,0.8s,mb4.9						
LSA	**Lhasa**	**21.83**	**358**	P	**P**	**21 02 27.0**	**+3.3**
LSA	**Lhasa**	**21.83**	**358**	*eP*	**P**	**21 02 22.5**	**-1.2**
	comp=Z,10nm,0.6s,mb4.4						
KKM	**Kota Kinabalu**	**23.98**	**93**	P	**P**	**21 02 47.3**	**+2.3**
CD2	**Chengdu**	**25.46**	**24**	P	**P**	**21 02 59.9**	**+0.8**
DDI	**Dehra Dun**	**26.02**	**331**	*e*	**P**	**21 03 13.0**	**+8.7**
ENH	**Enshi**	**27.68**	**34**	P	**P**	**21 03 18.3**	**-1.2**
	comp=Z,4.8nm,0.5s,mb4.4						
GTA	**Gaotai**	**32.25**	**11**	*eP*	**P**	**21 04 00.8**	**+0.8**
GTA				AP	pP	21 04 06.3	-4.4
GTA				XP	sP	21 04 09.8	-5.9
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.3						
MKAR	**Makanchi Array**	**39.78**	**349**	P	**P**	**21 05 03.6**	**-0.1**
	comp=Z,3.0nm,0.7s,mb4.2,baz=168,slow=8.5,SNR=32						
MKAR				PcP	PcP	21 07 10.2	+0.1
	comp=Z,0.4nm,0.6s,baz=207,slow=4.4,SNR=2.9						
SONM	**Songino Array**	**41.73**	**14**	P	**P**	**21 05 19.6**	**-0.2**
	comp=Z,1.6nm,0.8s,mb3.7,baz=201,slow=7.1,SNR=12						
SONM				PcP	PcP	21 07 15.7	-0.7
	comp=Z,0.7nm,0.8s,baz=207,slow=3.2,SNR=3.4						
FITZ	**Fitzroy Crossi**	**41.90**	**128**	P	**P**	**21 05 22.0**	**+0.4**
	comp=Z,4.5nm,0.8s,mb4.2,baz=189,slow=9.9,SNR=5.8						
BVAR	**Borovoye Array**	**48.47**	**343**	P	**P**	**21 06 12.7**	**-0.7**
	comp=Z,1.4nm,0.8s,mb4.0,baz=149,slow=8.6,SNR=9.6						
BRVK	**Borovoye**	**48.52**	**343**	*eP*	**P**	**21 06 10.6**	**-3.4**
ZRNK	**Zerenda**	**48.82**	**342**	*eP*	**P**	**21 06 15.8**	**-0.5**
	comp=Z,2.5nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**49.85**	**124**	P	**P**	**21 06 24.0**	**-0.6**
	comp=Z,2.5nm,0.7s,mb4.3,baz=306,slow=8.7,SNR=22						
WRAB	**Tennant Creek**	**49.86**	**124**	*eP*	**P**	**21 06 24.1**	**-0.6**
	comp=Z,5.5nm,0.7s,mb4.7						
WB2	**Warramunga Ar**	**49.86**	**124**	*eP*	**P**	**21 06 24.5**	**-0.2**
ARU	**Arti**	**55.22**	**338**	P	**P**	**21 07 01.8**	**-2.3**
	comp=Z,7.7nm,1.3s,mb4.6						
BRTR	**Keskin Array B**	**60.98**	**311**	P	**P**	**21 07 43.4**	**-1.4**
	comp=Z,1.2nm,0.8s,mb4.0,baz=124,slow=8.9,SNR=6.8						
MLR	**Muntele Rosu**	**67.85**	**316**	P	**P**	**21 08 29.1**	**-0.1**
	comp=Z,4.0nm,1.0s,mb4.4,baz=16,slow=1.6,SNR=5.1						
FINES	**FINESS Array B**	**71.87**	**332**	P	**P**	**21 08 52.7**	**-0.8**
	comp=Z,1.7nm,0.9s,mb4.0,baz=135,slow=2.7,SNR=3.8						
BOSA	**Boshof**	**73.84**	**237**	P	**P**	**21 09 06.9**	**+1.1**
	comp=Z,1.4nm,0.8s,mb3.9,baz=75,slow=20,SNR=2.7						
ARCES	**ARCESS Array B**	**74.69**	**340**	P	**P**	**21 09 10.2**	**+0.3**
	comp=Z,2.2nm,0.8s,mb4.1,baz=6.3,slow=8.2,SNR=3.5						
GERES	**GERESS Array B**	**76.57**	**318**	P	**P**	**21 09 21.2**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=90,slow=5.3,SNR=10						
MAW	**Mawson**	**78.04**	**191**	P	**P**	**21 09 31.6**	**+2.8**
	comp=Z,1.1nm,0.8s,mb3.8,baz=352,slow=7.1,SNR=3.5						
NB2	**NORSAR Subarra**	**78.84**	**331**	P	**P**	**21 09 41.0**	**+7.7**
	comp=Z,0.6nm,0.6s,mb3.7,baz=98,slow=5.3						
ILAR	**Eielson Array**	**95.59**	**22**	P	**P**	**21 10 54.8**	**-0.2**
	comp=Z,0.2nm,0.8s,mb3.6,baz=317,slow=6.5,SNR=4.2						
BW06	**Boulder Array**	**125.96**	**20**	PKPdf	PKPdf	21 16 33.7	+2.5
PDAR	**Pinedale Array**	**125.96**	**20**	PKP	PKPdf	21 16 33.4	+2.1
	comp=Z,0.7nm,0.8s,baz=90,slow=1.5,SNR=5.6						
NVAR	**Mina Array Bea**	**126.02**	**29**	PKP	PKPdf	21 16 35.5	+4.0
	comp=Z,0.5nm,0.4s,baz=297,slow=2.0,SNR=3.5						

*CRAAG **24** 21:02:24.5, 35.58N×5.67E, Ml3.2*
*NEIC **24** 21:02:24.8, 35.41N×5.77E, MG3.9(MDD), After MDD.*
*CSEM **24** 21:02:25.5±0.4, 35.64N×5.60E, h12km, ML3.2, Error ellipse: s-maj=10.5km s-min=4.6km az=3.0*
*MDD **24** 21:02:26.4±1.4, 35.51N×5.73E, mb3.9/2, Error ellipse: s-maj=15.7km s-min=5.7km az=1.0, PRXIMO*
MDD EMS: III GAOUS (DATOS INTENSIDAD: CRAAG).
ISC 24 21:02:26.5±0.9, 35.62N±0.07×5.50E±0.04, h10km, n34, σ1s29/49, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMER	**Merouana**	**0.32**	**89**	P	**Pg**	**21 02 29.5**	**-3.7**
CKHR	**Kef el Ahmar**	**0.40**	**1**	P	**Pg**	**21 02 35.0**	**+0.4**
CTEI	**Djebel Teioual**	**0.86**	**59**	P	**Pb**	**21 02 41.0**	**-2.0**
DFRA	**Djebel Bou Aff**	**0.97**	**18**	P	**Pb**	**21 02 46.0**	**+1.0**
CASM	**Ain Smara**	**1.03**	**51**	P	**Pb**	**21 02 44.5**	**-1.4**
CKFL	**Kef-Lekhel**	**1.26**	**51**	P	**Pb**	**21 02 52.0**	**+2.2**
CAEH	**'Ain El Ouahch**	**1.59**	**43**	P	**Pg**	**21 03 00.0**	**+1.7**
ABSA	**Djebel Ababsia**	**1.73**	**67**	P	**Pn**	**21 02 53.0**	**-3.9**
CABS	**Djebel Ababsia**	**1.73**	**67**	P	**Pn**	**21 02 53.0**	**-3.9**
CMAH	**Djebel Manchou**	**1.85**	**56**	P	**Pn**	**21 02 58.0**	**-0.6**
EMHD	**Djebel Mahouad**	**2.15**	**286**	P	**Pn**	**21 03 06.5**	**+3.6**
EBNR	**Beni Rached**	**3.29**	**283**	P	**Pg**	**21 03 29.0**	**-3.2**
ECHA	**Ech Chlef**	**3.40**	**280**	P	**Pn**	**21 03 30.0**	**+9.3**
ECHF	**Ech Chlef**	**3.42**	**280**	P	**Pn**	**21 03 30.0**	**+9.0**
ETRT	**Tiaret**	**3.44**	**267**	P	**Pg**	**21 03 34.0**	**-1.1**
EANR	**'Ain N'Sour**	**3.59**	**277**	P	**Pn**	**21 03 32.0**	**+8.5**
ETOS	**Mallorca**	**4.66**	**334**	P	**Pn**	**21 03 38.4**	**-0.2**
	0.9nm,0.1s,SNR=8.9						
ETOS				S	**Sn**	**21 04 33.3**	**-0.1**
	1.5nm,0.3s,SNR=7.1						
ETOS	**Mallorca**	**4.66**	**334**	P	**Pn**	**21 03 38.4**	**-0.2**
	0.9nm,0.1s,SNR=8.9						
ETOS				S	**Sn**	**21 04 33.3**	**-0.1**
	1.5nm,0.3s,SNR=7.1						
EIBI	**Ibiza**	**4.75**	**317**	P	**Pn**	**21 03 40.6**	**+0.7**
	3.3nm,0.4s,SNR=7.4						
EIBI				S	**Sn**	**21 04 35.6**	**-0.2**
	2.7nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**4.75**	**317**	P	**Pn**	**21 03 40.6**	**+0.7**
	3.3nm,0.4s,SNR=7.4						
EIBI				S	**Sn**	**21 04 35.6**	**-0.1**
	2.7nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**5.51**	**306**	P	**Pn**	**21 03 50.8**	**+0.2**
	0.6nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**21 04 54.7**	**-0.2**
	1.0nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**5.51**	**306**	P	**Pn**	**21 03 50.8**	**+0.1**
	0.6nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**21 04 54.7**	**-0.2**
	1.0nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**5.85**	**294**	P	**Pn**	**21 03 54.9**	**-0.6**
	1.2nm,0.3s,SNR=7.6						
EMUR	**La Murta**	**5.85**	**294**	P	**Pn**	**21 03 54.9**	**-0.6**
	1.2nm,0.3s,SNR=7.6						
ETOB	**Tobarra**	**6.39**	**300**	P	**Pn**	**21 04 02.9**	**-0.1**
	0.3nm,0.1s,SNR=7.6						
ETOB				S	**Sn**	**21 05 16.1**	**-0.7**
	0.6nm,0.3s,SNR=5.1						
ETOB	**Tobarra**	**6.39**	**300**	P	**Pn**	**21 04 02.9**	**-0.2**
	0.3nm,0.1s,SNR=7.6						
ETOB				S	**Sn**	**21 05 16.1**	**-0.8**
	0.6nm,0.3s,SNR=5.1						
EMOS	**Mosqueruela**	**6.69**	**317**	P	**Pn**	**21 04 09.1**	**+1.9**
	0.5nm,0.3s,SNR=4.0						
EMOS				S	**Sn**	**21 05 23.0**	**-1.3**
	0.8nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**6.69**	**317**	P	**Pn**	**21 04 09.1**	**+1.9**
	0.5nm,0.3s,SNR=4.0						
EMOS				S	**Sn**	**21 05 23.0**	**-1.2**
	0.8nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**6.70**	**330**	P	**Pn**	**21 04 08.1**	**+0.8**
	0.4nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**21 05 22.6**	**-1.8**
	0.6nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**6.70**	**330**	P	**Pn**	**21 04 08.1**	**+0.8**
	0.4nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**21 05 22.6**	**-1.9**
	0.6nm,0.3s,SNR=7.9						
EQES	**Quesada**	**7.22**	**290**	P	**Pn**	**21 04 14.7**	**-0.1**
EQES				S	**Sn**	**21 05 39.0**	**+1.3**
EQES	**Quesada**	**7.22**	**290**	P	**Pn**	**21 04 14.5**	**-0.2**
	0.8nm,0.3s,SNR=6.8						
EQES				S	**Sn**	**21 05 39.0**	**+1.3**
	1.4nm,0.4s,SNR=6.6						
EQES	**Quesada**	**7.22**	**290**	P	**Pn**	**21 04 14.5**	**-0.3**
	0.8nm,0.3s,SNR=6.8						
EQES				S	**Sn**	**21 05 39.0**	**+1.3**
ESDC	**Sonseca Array**	**8.53**	**301**	P	**P**	**21 04 35.6**	**+2.7**

IDC 24 21:12:09.3±1.6, 6.81N×90.92E, mb3.6/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=57.8km s-min=30.2km az=46.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**40.53**	**351**	P	P	21 19 50.5	-1.4
	0.2nm,0.4s,baz=166,slow=5.9,SNR=2.9						
SONM	**Songino Array**	**42.96**	**15**	P	P	21 20 10.0	-1.8
	0.6nm,0.6s,baz=198,slow=9.1,SNR=4.1						
WRA	**Warramunga Arr**	**50.31**	**123**	P	P	21 21 08.2	-2.0
	1.0nm,1.1s,baz=301,slow=9.1,SNR=4.7						
BRTR	**Keskin Array B**	**60.73**	**312**	P	P	21 22 23.2	-2.0
	0.6nm,0.7s,baz=121,slow=7.2,SNR=3.8						
GERES	**GERESS Array B**	**76.50**	**319**	P	P	21 24 01.3	-1.7
	0.7nm,0.7s,baz=100,slow=6.0,SNR=6.0						

IDC 24 21:23:59.8±4.8, 7.94N×92.13E, mb3.5/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=163.7km s-min=34.6km az=64.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.63**	**349**	P	**P**	21 31 33.0	-1.9
	0.3nm,0.5s,baz=172,slow=8.9,SNR=2.8						
SONM	**Songino Array**	**41.57**	**14**	P	P	21 31 49.4	-1.5
	1.0nm,0.7s,baz=196,slow=8.2,SNR=11						
WRA	**Warramunga Arr**	**49.93**	**124**	P	P	21 32 55.7	-2.0
	0.4nm,0.7s,baz=308,slow=8.5,SNR=2.5						

*BJI **24** 21:29:09.0, 7.18N×91.35E, h29km, mB4.9, mb4.1, Ms4.2, Msz4.0*
*IDC **24** 21:29:12.5±1.2, 7.87N×91.68E, mb4.0/11, mb1 4.2/11, mb1mx4.0/19, mbtmp4.0/11, Error ellipse: s-maj=43.8km s-min=25.1km az=46.0*
*MOS **24** 21:29:16.1±1.1, 8.01N×91.88E, h33km, mb4.8/12, Error ellipse: s-maj=14.6km s-min=7.6km az=108.3*
*NEIC **24** 21:29:17.4±0.5, 7.98N×91.83E, mb4.6/10, MS3.7/1, Error ellipse: s-maj=12.9km s-min=10.6km az=179.0*
ISC 24 21:29:15.2±0.6, 7.97N±0.08×91.84E±0.06, h27km, h27km±3.0km:pP-P, n78, σ1s08/82, mb4.3/35, MS4.0/2, 6C-2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.06**	**267**	P	**P**	**21 31 52.1**	**-2.8**
HYB	**Hyderabad**	**15.99**	**307**	*eP*	**P**	**21 33 05.0**	**+4.8**
HYB	**Hyderabad**	**15.99**	**307**	*i* P	**P**	**21 33 05.0**	**+4.8**
KMI	**Kunming**	**19.98**	**30**	P	**P**	**21 33 49.4**	**+0.8**
KMI				AP		21 33 57.1	
KMI				AMB	AMB		
	comp=Z,8.0nm,1.4s						
KMI	**Kunming**	**19.98**	**30**	P	**P**	**21 33 49.4**	**+0.8**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.4s						
KMI	**Kunming**	**19.98**	**30**	P	**P**	**21 33 49.4**	**+0.8**
	comp=Z,8.0nm,1.4s						
KMI				pP		21 33 57.1	
PKI	**Pulchoki**	**20.42**	**343**	*eP*	**P**	**21 33 52.3**	**-0.8**
	comp=Z,25nm,0.6s						
DMN	**Daman**	**20.54**	**343**	*eP*	**P**	**21 33 53.9**	**-0.5**
	comp=Z,41nm,0.8s						
GUN	**Gumba**	**20.61**	**345**	*eP*	**P**	**21 33 55.0**	**-0.2**
QIZ	**Qiongzhong**	**20.65**	**56**	*eP*	**P**	**21 34 01.3**	**+5.8**
KKN	**Kakani**	**20.66**	**343**	*eP*	**P**	**21 33 54.9**	**-0.8**
	comp=Z,25nm,0.7s						
GKN	**Gorkha**	**21.05**	**342**	*eP*	**P**	**21 33 59.7**	**+0.1**
	comp=Z,35nm,0.7s,mb4.8						
KOLN	**Koldanda**	**21.18**	**339**	*eP*	**P**	**21 34 00.9**	**0.0**
	comp=Z,50nm,1.0s,mb4.8						
LSA	**Lhasa**	**21.62**	**358**	P	**P**	**21 34 08.6**	**+3.2**
LSA	**Lhasa**	**21.62**	**358**	P	**P**	**21 34 05.8**	**+0.4**
LSA				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.4						
LSA	**Lhasa**	**21.62**	**358**	P	**P**	**21 34 05.8**	**+0.5**
	comp=Z,11nm,0.7s,mb4.4						
GTA	**Gaotai**	**32.11**	**12**	*eP*	**P**	**21 35 43.8**	**+1.3**
GTA				AP	pP	21 35 49.8	-0.7
GTA				XP	sP	21 35 52.8	-1.2
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.1						
NJ2	**Nanjing**	**34.71**	**43**	*eP*	**P**	**21 36 05.9**	**+0.8**
NJ2				AP	pP	21 36 15.1	+2.0
NJ2				XP	sP	21 36 18.9	+2.3
NJ2				PP	PP	21 37 22.1	-0.3
NJ2				PPP	PPP	21 37 40.8	+0.4
NJ2				S	**S**	**21 41 33.0**	**+0.6**
NJ2				XS		21 41 50.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,150nm,7.8s						
NJ2				LR	LR		
	comp=N,620nm,16.4s,MS4.5						
NJ2				LR	LR		
	comp=E,410nm,20.8s,MS4.5						
NJ2				LR	LR		
	comp=Z,370nm,16.4s,MS4.2						
SSE	**Sheshan**	**35.77**	**46**	P	**P**	**21 36 12.3**	**-1.8**
SSE				AP	pP	21 36 21.0	-1.2
SSE				XP	sP	21 36 24.9	-0.7
SSE				S	**S**	**21 41 49.3**	**+0.5**
SSE				AMB	AMB		
	comp=Z,196nm,7.0s						
SSE				LR	LR		
	comp=N,63nm,20.0s,MS3.5						
SSE				LR	LR		
	comp=E,70nm,20.0s,MS3.5						
SSE				LR	LR		
	comp=Z,134nm,20.0s,MS3.7						
SSE	**Sheshan**	**35.77**	**46**	P	**P**	**21 36 12.2**	**-1.9**
	comp=Z,30nm,0.7s,mb5.3						
SSE				pP	pP	21 36 21.0	-1.2
SSE				sP	sP	21 36 24.9	-0.7
SSE				S	**S**	**21 41 49.2**	**+0.3**
SSE				sS		21 42 04.3	
SSE				LR	LR		
	comp=Z,130nm,20.0s,MS3.7						
AAK	**Ala-Archa**	**37.75**	**339**	*eP*	**P**	**21 36 31.4**	**+0.7**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**37.75**	**339**	*eP*	**P**	**21 36 31.4**	**+0.7**
	comp=Z,7.3nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**39.54**	**350**	P	**P**	**21 36 45.6**	**0.0**
	comp=Z,1.8nm,0.8s,mb3.8,baz=170,slow=7.4,SNR=12

SOC					pmax	pmax			
	comp=N,18nm,1.1s								
SOC					pmax	pmax			
	comp=E,17nm,1.2s								
YSS	**Yuzh-Sakhalins**	**58.12**	**39**	*i* P	**P**		**21 39 05.9**	**-2.9**
BR131	**Keskin Array S**	**60.64**	**311**	*e*P	**P**		**21 39 25.5**	**-0.9**
	comp=E,2.3nm,0.8s,mb4.4								
BRTR	**Keskin Array B**	**60.64**	**311**	P	**P**		**21 39 25.6**	**-0.8**
	comp=E,2.3nm,0.8s,mb4.4,baz=121,slow=7.2,SNR=14								
YAK	**Yakutsk**	**60.64**	**19**	*i* P	**P**		**21 39 24.0**	**-2.0**
ISP	**Isparta**	**62.59**	**309**	*e*P	**P**		**21 39 38.3**	**-1.2**
OBN	**Obninsk**	**64.09**	**328**⇑	*i*P	**P**		**21 39 48.3**	**-0.8**
OBN					pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.6								
AKASG	**Malin Array Be**	**66.67**	**322**	*i* P	**P**		**21 40 04.4**	**-1.4**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.7s								
AKASG	**Malin Array Be**	**66.67**	**322**	P	**P**		**21 40 04.2**	**-1.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=91,slow=5.1,SNR=6.0								
VRI	**Vrinicaaia**	**67.05**	**317**	⇓P	**P**		**21 40 08.9**	**+0.6**
MLR	**Muntele Rosu**	**67.51**	**316**	⇑P	**P**		**21 40 12.1**	**+0.9**
TIXI	**Tiksi**	**67.59**	**12**⇑	*i*P	**P**		**21 40 09.4**	**-1.9**
TIXI					pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.7								
MA2	**Magadan**	**67.74**	**28**	*e*P	**P**		**21 40 11.7**	**-0.7**
MA2					pmax	pmax			
	comp=Z,27nm,2.5s,mb4.8								
BURAR	**Bucovina Array**	**68.44**	**318**	⇑P	**P**		**21 40 17.6**	**+0.6**
BURAR	**Bucovina Array**	**68.44**	**318**	⇑P	**P**		**21 40 17.6**	**+0.6**
SEY	**Seymchan**	**69.80**	**25**	*e*P	**P**		**21 40 26.1**	**+1.1**
FINES	**FINESS Array B**	**71.56**	**332**	P	**P**		**21 40 32.5**	**-3.2**
	comp=Z,2.5nm,0.8s,mb4.2,baz=108,slow=4.4,SNR=8.3								
KAF	**Kangasniemi**	**71.67**	**333**	*e*p	**P**		**21 40 27.8**	**-8.6**
OJC	**Ojcow**	**72.43**	**320**	*e*P	**P**		**21 40 41.0**	**-0.1**
GERES	**GERESS Array B**	**76.23**	**318**	P	**P**		**21 41 03.4**	**+0.3**
	comp=Z,2.3nm,0.9s,mb4.1,baz=90,slow=5.3,SNR=23								
KHC	**Kasperske Hory**	**76.33**	**319**⇑	*i*P	**P**		**21 41 04.5**	**+0.9**
CLL	**Collm**	**76.84**	**321**	P	**P**		**21 41 07.0**	**+0.6**
BILL	**Bilibino**	**76.84**	**22**	*e*P	**P**		**21 41 06.3**	**+0.2**
BILL					pmax	pmax			
	comp=Z,2.0nm,0.4s,mb4.4								
HFS	**Hagfors**	**77.22**	**330**	P	**P**		**21 41 08.1**	**-0.2**
	comp=Z,2.7nm,0.7s,mb4.3,baz=90,slow=3.0,SNR=6.3								
MOX	**Moxa**	**77.68**	**320**	*e*P	**P**		**21 41 12.0**	**+0.9**
GRA1	**Grafenberg Arr**	**77.90**	**319**	*e*P	**P**		**21 41 13.6**	**+1.3**
	comp=Z,10.0nm,1.2s,mb4.6								
GRF	**Grafenberg Arr**	**77.90**	**319**	*e*P	**P**		**21 41 13.6**	**+1.3**
GRF					pmax	pmax			
	comp=Z,10.0nm,1.2s,mb4.6								
GRF	**Grafenberg Arr**	**77.90**	**319**	*e*P	**P**		**21 41 13.6**	**+1.3**
GRF					pmax	pmax			
	comp=Z,10.0nm,1.2s,mb4.6								
GRF	**Grafenberg Arr**	**77.90**	**319**	*e*P	**P**		**21 41 13.6**	**+1.3**
	comp=Z,10.0nm,1.2s,mb4.6								
NOA	**NORSAR Array B**	**78.53**	**331**	P	**P**		**21 41 15.2**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.6,baz=95,slow=5.5,SNR=3.4								
EKA	**Eskdalemuir Ar**	**86.34**	**325**	P	**P**		**21 41 56.9**	**+0.8**
	comp=Z,2.1nm,0.9s,mb4.4,baz=108,slow=5.3,SNR=3.7								
ESDC	**Sonseca Array**	**89.41**	**310**	P	**P**		**21 42 12.1**	**+0.9**
	comp=Z,0.2nm,0.4s,mb3.8,baz=48,slow=4.0,SNR=4.2								
TXAR	**Lajitas Array**	**140.02**	**21**	PKP	PKPdf		21 48 42.8	-4.0
	comp=Z,0.1nm,0.5s,baz=217,slow=4.5,SNR=2.0								

*IDC **24** 22:00:24.5±1.0, 7.87N×91.87E, mb3.8/8, mb1 4.0/8, mb1mx3.8/21, mbtmp3.8/8, MS4.0/6, Ms1 4.0/6, ms1mx3.5/43, Error ellipse: s-maj=46.4km s-min=18.8km az=48.0*
*NEIC **24** 22:00:28.4±3.3, 7.83N×91.87E, h25km±25km, mb4.4/5, Error ellipse: s-maj=13.6km s-min=8.6km az=211.0*
*BJI **24** 22:00:28.4, 7.80N×91.90E, h24km, mb4.1, Ms4.1, Msz3.8*

ISC 24 22:00:27.3±0.6, 7.83N±0.09×91.87E±0.08, h33km, n31, σ0s82/26, mb4.1/14, MS4.0/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.08**	**106**	*e*P	**P**	**22 02 37.8**	**-1.3**
PALK	**Pallekele**	**11.08**	**268**	*e*P	**P**	**22 03 05.4**	**-1.3**
SHL	**Shillong**	**17.64**	**0**	*e*P	**P**	**22 04 42.0**	**+10**
KMI	**Kunming**	**20.09**	**30**	P	**P**	**22 05 00.1**	**-0.9**
KMI				AP		22 05 08.8	
KMI				XP		22 05 13.8	
KMI				AMB	AMB		
	comp=Z,5.0nm,1.3s						
KMI	**Kunming**	**20.09**	**30**	P	**P**	**22 05 00.1**	**-0.9**
	comp=Z,5.0nm,1.3s						
KMI				pP		22 05 08.8	
KMI				sP		22 05 13.7	
PKI	**Pulchoki**	**20.57**	**343**	*e*P	**P**	**22 05 06.6**	**+0.6**
	comp=Z,25nm,0.5s						
DMN	**Daman**	**20.69**	**343**	*e*P	**P**	**22 05 07.8**	**+0.6**
	comp=Z,28nm,0.8s						
QIZ	**Qiongzhong**	**20.70**	**56**	*e*P	**P**	**22 05 07.4**	**0.0**
QIZ				LR	LR		
	comp=N,257nm,9.2s						
QIZ				LR	LR		
	comp=E,246nm,12.6s						
QIZ				LR	LR		
	comp=Z,248nm,14.2s,MS3.7						
GUN	**Gumba**	**20.76**	**345**	*e*P	**P**	**22 05 07.1**	**-0.9**
KKN	**Kakani**	**20.81**	**343**	*e*P	**P**	**22 05 08.4**	**-0.1**
	comp=Z,18nm,0.7s						
GKN	**Gorkha**	**21.20**	**342**	*e*P	**P**	**22 05 11.2**	**-1.2**
	comp=Z,37nm,0.8s,mb4.8						
KOLN	**Koldanda**	**21.32**	**339**	*e*P	**P**	**22 05 13.8**	**+0.2**
	comp=Z,29nm,0.8s,mb4.7						
LSA	**Lhasa**	**21.77**	**358**	P	**P**	**22 05 23.0**	**+4.9**
LSA	**Lhasa**	**21.77**	**358**	*e*P	**P**	**22 05 20.5**	**+2.4**
	comp=Z,30nm,1.3s,mb4.6						
CD2	**Chengdu**	**25.51**	**24**	P	**P**	**22 05 54.6**	**0.0**
MKAR	**Makanchi Array**	**39.68**	**350**	P	**P**	**22 07 58.6**	**+0.7**
	comp=Z,0.6nm,0.8s,mb3.4,baz=168,slow=7.3,SNR=3.9						
MKAR				LR	LR	22 26 15.4	
	comp=Z,99nm,19.6s,MS3.7,baz=94,slow=39						
SONM	**Songino Array**	**41.74**	**15**	P	**P**	**22 08 14.8**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.5,baz=198,slow=8.4,SNR=8.2						
FITZ	**Fitzroy Crossi**	**42.13**	**128**	P	**P**	**22 08 19.5**	**+0.9**
	comp=Z,6.3nm,0.9s,mb4.2,baz=0.5,slow=6.9,SNR=3.3						
BVAR	**Borovoye Array**	**48.34**	**343**	P	**P**	**22 09 06.8**	**-0.8**
	comp=Z,0.4nm,0.7s,mb3.6,baz=143,slow=7.4,SNR=3.9						
ZRNK	**Zerenda**	**48.69**	**342**	P	**P**	**22 09 10.6**	**+0.3**
	comp=Z,2.1nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**50.08**	**124**	P	**P**	**22 09 21.5**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=302,slow=9.0,SNR=17						
WRAB	**Tennant Creek**	**50.09**	**124**	*e*P	**P**	**22 09 22.3**	**+0.7**
	comp=Z,3.4nm,0.7s,mb4.5						
KMBO	**Kilima Mbogo**	**55.18**	**263**	LR	LR	22 31 45.6	
	comp=Z,165nm,18.6s,MS4.1,baz=192,slow=34						
KIV	**Kislovodsk**	**55.85**	**319**	P	**P**	**22 10 04.8**	**+0.8**
	comp=Z,2.6nm,0.5s,mb4.5						
BRTR	**Keskin Array B**	**60.76**	**311**	P	**P**	**22 10 39.0**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.8,baz=108,slow=9.1,SNR=2.2						
MLR	**Muntele Rosu**	**67.53**	**316**	P	**P**	**22 11 22.2**	**-0.9**
	comp=Z,1.2nm,0.8s,mb4.0,baz=159,slow=14,SNR=2.3						
LBTB	**Lobatse**	**72.25**	**241**	LR	LR	22 42 37.8	
	comp=Z,79nm,19.6s,MS4.0,baz=43,slow=35						
ARCES	**ARCESS Array B**	**74.55**	**340**	LR	LR	22 46 34.4	
	comp=Z,110nm,19.8s,MS4.2,baz=8.9,slow=37						
GERES	**GERESS Array B**	**76.36**	**318**	P	**P**	**22 12 16.2**	**+1.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=98,slow=6.9,SNR=3.3						
NOA	**NORSAR Array B**	**78.67**	**331**	LR	LR	22 50 57.5	
	comp=Z,78nm,21.3s,MS4.0,baz=115,slow=39						
VNDA	**Vanda**	**93.34**	**168**	LR	LR	22 51 49.6	
	comp=Z,82nm,20.3s,MS4.2,baz=38,slow=33						

MAN 24 22:01:52.7, 6.14N×125.52E, h175km, mb4.1, ML2.9, MS2.6, Mindanao

*IDC **24** 22:07:59.7±0.6, 7.85N×92.24E, mb4.2/12, mb1 4.4/12, mb1mx4.1/23, mbtmp4.2/12, Error ellipse: s-maj=25.1km s-min=16.5km az=68.0*
*BJI **24** 22:08:00.1, 7.18N×92.75E, h35km, mb4.1*
*NEIC **24** 22:08:05.0±1.2, 7.83N×92.26E, h36km±11km, mb4.5/6, Error ellipse: s-maj=10.5km s-min=8.5km az=48.0*

ISC 24 22:08:02.9±0.5, 7.78N±0.07×92.27E±0.08, h33km, n42, σ1s25/31, mb4.3/20, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.69**	**106**	*e*P	**P**	**22 10 07.8**	**-1.4**
PALK	**Pallekele**	**11.47**	**268**	*e*P	**P**	**22 10 46.4**	**-1.1**
SHL	**Shillong**	**17.69**	**359**	*e*P	**P**	**22 12 05.0**	**-3.5**
SHL				*e*S	**S**	**22 15 15.0**	**-7.1**
KMI	**Kunming**	**19.94**	**29**	P	**P**	**22 12 35.4**	**+0.5**
KMI				AP		22 12 46.0	
KMI				AMB	AMB		
	comp=Z,12nm,1.3s						
KMI	**Kunming**	**19.94**	**29**	P	**P**	**22 12 35.4**	**+0.5**
	comp=Z,12nm,1.3s						
KMI				pP		22 12 46.0	
PKI	**Pulchoki**	**20.73**	**343**	*e*P	**P**	**22 12 47.5**	**+4.3**
	comp=Z,73nm,0.9s						
DMN	**Daman**	**20.86**	**342**	*e*P	**P**	**22 12 48.3**	**+3.8**
	comp=Z,64nm,0.9s						
KKN	**Kakani**	**20.97**	**342**	*e*P	**P**	**22 12 48.7**	**+3.0**
	comp=Z,29nm,0.7s						
GKN	**Gorkha**	**21.37**	**341**	*e*P	**P**	**22 12 52.8**	**+3.1**
	comp=Z,48nm,0.7s,mb5.0						
KOLN	**Koldanda**	**21.51**	**339**	*e*P	**P**	**22 12 55.2**	**+4.1**
	comp=Z,48nm,0.8s,mb5.0						
LSA	**Lhasa**	**21.83**	**357**	P	**P**	**22 12 58.0**	**+3.7**
LSA	**Lhasa**	**21.83**	**357**	P	**P**	**22 12 55.0**	**+0.7**
	comp=Z,15nm,0.8s,mb4.5						
CD2	**Chengdu**	**25.40**	**24**	P	**P**	**22 13 30.0**	**+0.9**
GTA	**Gaotai**	**32.22**	**11**	*e*P	**P**	**22 14 30.6**	**+0.3**
GTA				AP	pP	22 14 38.5	-1.5
GTA				XP	sP	22 14 41.6	-2.7
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.1						
AAK	**Ala-Archa**	**38.08**	**339**	P	**P**	**22 15 19.1**	**-1.2**
	comp=Z,8.4nm,1.1s,mb4.4						
MKAR	**Makanchi Array**	**39.80**	**349**	P	**P**	**22 15 34.7**	**+0.2**
	comp=Z,2.0nm,0.8s,mb3.9,baz=170,slow=8.4,SNR=9.8						
SONM	**Songino Array**	**41.69**	**14**	P	**P**	**22 15 50.8**	**+0.7**
	comp=Z,1.4nm,0.9s,mb3.6,baz=198,slow=7.8,SNR=8.3						
FITZ	**Fitzroy Crossi**	**41.80**	**128**	P	**P**	**22 15 51.6**	**+0.2**
	comp=Z,2.3nm,0.6s,mb4.0,baz=4.8,slow=3.2,SNR=6.7						
BVAR	**Borovoye Array**	**48.50**	**343**	P	**P**	**22 16 44.2**	**-0.3**
	comp=Z,1.0nm,0.7s,mb4.0,baz=143,slow=7.4,SNR=7.7						
ZRNK	**Zerenda**	**48.86**	**342**	*e*P	**P**	**22 16 45.6**	**-1.6**
	comp=Z,3.1nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**49.73**	**124**	P	**P**	**22 16 54.1**	**-0.3**
	comp=Z,2.5nm,0.8s,mb4.3,baz=306,slow=8.8,SNR=18						
WRAB	**Tennant Creek**	**49.74**	**124**	*e*P	**P**	**22 16 53.9**	**-0.5**
	comp=Z,5.4nm,0.8s,mb4.6						
ARU	**Arti**	**55.26**	**338**	*e*P	**P**	**22 17 33.5**	**-1.6**
	comp=Z,5.7nm,1.0s,mb4.6						
BRTR	**Keskin Array B**	**61.09**	**311**	P	**P**	**22 18 15.1**	**-1.1**
	comp=Z,0.5nm,0.6s,mb3.8,baz=121,slow=7.2,SNR=4.0						
MLR	**Muntele Rosu**	**67.94**	**316**	P	**P**	**22 19 00.5**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=138,slow=9.3,SNR=3.7						
BOSA	**Boshof**	**73.97**	**237**	P	**P**	**22 19 38.0**	**+0.8**
	comp=Z,3.5nm,0.8s,mb4.3,baz=92,slow=8.4,SNR=5.4						
VRAC	**Vranov**	**74.80**	**319**	P	**P**	**22 19 40.2**	**-1.5**
	comp=Z,2.9nm,0.7s,mb4.3,baz=208,slow=16,SNR=2.6						
GERES	**GERESS Array B**	**76.66**	**318**	P	**P**	**22 19 52.4**	**+0.2**
	comp=Z,1.4nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=12						
MAW	**Mawson**	**78.08**	**191**	P	**P**	**22 20 01.8**	**+2.0**
	comp=Z,3.5nm,0.9s,mb4.3,baz=333,slow=6.8,SNR=6.3						
SUR	**Sutherland**	**78.75**	**235**	P	**P**	**22 20 06.0**	**+1.8**
	comp=Z,7.8nm,0.8s,mb4.7,baz=109,slow=14,SNR=3.9						
PDAR	**Pinedale Array**	**125.91**	**20**	PKP	PKPdf	22 27 04.2	+2.3
	comp=Z,0.4nm,0.7s,baz=27,slow=3.3,SNR=4.0						
SADO	**Sadowa**	**127.12**	**352**	PKP	PKPdf	22 27 03.7	-0.6
	comp=Z,5.0nm,0.9s,baz=6.2,slow=4.6,SNR=2.1						
SADO	**Sadowa**	**127.12**	**352**	PKP	PKPdf	22 27 03.7	-0.6
TXAR	**Lajitas Array**	**140.04**	**22**	PKP	PKPdf	22 27 31.6	+2.9
	comp=Z,0.4nm,0.8s,baz=114,slow=1.1,SNR=4.6						
PLCA	**Paso Flores**	**143.79**	**202**	PKP	PKPdf	22 27 36.9	+2.0
	comp=Z,1.0nm,0.8s,baz=24,slow=16,SNR=3.4						
PLCA	**Paso Flores**	**143.79**	**202**	PKP	PKPdf	22 27 36.9	+2.0
CPUP	**Villa Florida**	**145.72**	**234**	PKPbc	PKPbc	22 27 40.5	+0.9
	comp=Z,2.1nm,0.7s,baz=109,slow=5.4,SNR=8.2						
CPUP	**Villa Florida**	**145.72**	**234**	PKPbc	PKPbc	22 27 40.5	+0.9
CFAA	**Coronel Fontan**	**150.13**	**215**	PKPbc	PKPdf	22 27 53.2	+7.4
	comp=Z,0.5nm,0.8s,baz=146,slow=2.7,SNR=9.2						
CFAA	**Coronel Fontan**	**150.13**	**215**	PKPbc	PKPdf	22 27 53.2	+7.4
SIV	**San Ignacio**	**152.69**	**250**	PKPbc	PKPdf	22 27 57.8	+7.8
	comp=Z,0.3nm,0.5s,baz=25,slow=2.5,SNR=5.1						
LPAZ	**La Paz**	**159.06**	**244**	PKPab	PKPab	22 28 37.8	+0.4
	comp=Z,0.7nm,0.8s,baz=107,slow=5.8,SNR=4.9						

IDC 24 22:13:59.4±1.4, 8.30N×92.90E, mb3.8/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.8/5, Error ellipse: s-maj=58.9km s-min=27.9km az=41.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.03**	**14**	P	P	22 21 44.5	-1.6
	0.4nm,0.6s,baz=193,slow=8.4,SNR=4.4						
WRA	**Warramunga Arr**	**49.50**	**125**	P	P	22 22 52.0	-2.1
	0.7nm,0.7s,baz=305,slow=8.6,SNR=7.5						
BRTR	**Keskin Array B**	**61.23**	**311**	P	P	22 24 16.0	-2.7
	1.2nm,0.9s,baz=108,slow=7.8,SNR=4.6						
MLR	**Muntele Rosu**	**68.02**	**316**	P	P	22 24 59.9	-2.9
	1.8nm,0.8s,baz=143,slow=5.1,SNR=3.8						
GERES	**GERESS Array B**	**76.70**	**318**	P	P	22 25 54.0	-0.2
	0.8nm,0.7s,baz=90,slow=5.3,SNR=8.5						

*MOS **24** 22:21:56.2±0.9, 6.81S×124.39E, h608km, mb4.4/10, Error ellipse: s-maj=17.7km s-min=8.8km az=113.7*
*BJI **24** 22:21:56.2, 6.74S×124.48E, h601km, mB4.6, mb4.3*
*IDC **24** 22:21:57.5±1.5, 6.87S×124.47E, h605km±18km, mb3.7/19, mb1 3.8/21, mb1mx3.8/24, mbtmp4.6/21, Error ellipse: s-maj=15.3km s-min=8.3km az=69.0*
*NEIC **24** 22:21:58.2±0.6, 6.87S×124.43E, h617km±7km, mb4.7/15, Error ellipse: s-maj=8.1km s-min=5.6km az=62.0*

ISC 24 22:21:57.9±0.8, 6.87S±0.05×124.46E±0.07, h636km±11km, n90, σ0s73/71, mb4.2/39, 4C-4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.77**	**127**	*e*P	**P**	**22 24 16.0**	**+0.8**
	45nm,0.8s						
KAKA				*i* S	**S**	**22 26 06.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**11.23**	**174**⇑	*i*P	**P**	**22 24 28.4**	**-0.6**
	46nm,0.3s						
FITZ				*e*S	**S**	**22 26 30.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.23**	**174**	P	**P**	**22 24 28.4**	**-0.6**
	18nm,0.3s,baz=7.5,slow=8.8,SNR=181						
FITZ				S	**S**	**22 26 29.4**	**-1.0**
	1.6nm,0.3s,baz=341,slow=9.1,SNR=10						
MBWA	**Marble Bar**	**14.93**	**197**⇑	*i*P	**P**	**22 25 04.2**	**-0.6**
	109nm,0.7s						
WRAB	**Tennant Creek**	**16.15**	**144**⇑	*i*P	**P**	**22 25 16.5**	**+0.1**
WRAB				*e*S	**S**	**22 27 56.8**	**+1.2**
WRAB				pmax	pmax		
	comp=Z,42nm,0.9s						
WRAB	**Tennant Creek**	**16.15**	**144**⇑	*i*P	**P**	**22 25 16.5**	**+0.2**
	comp=Z,42nm,0.9s						
WRAB				*e*S	**S**	**22 27 56.8**	**+1.3**
WRA	**Warramunga Arr**	**16.15**	**145**	P	**P**	**22 25 16.1**	**-0.3**
	comp=Z,4.5nm,0.3s,baz=328,slow=9.0,SNR=194						
WRA				S	**S**	**22 27 55.7**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=322,slow=16,SNR=13						
WB2	**Warramunga Arr**	**16.16**	**145**	*e*P	**P**	**22 25 16.2**	**-0.3**
WB2				*e*S	**S**	**22 27 55.6**	**-0.1**
KSM	**Kuching**	**16.38**	**300**	*e*P	**P**	**22 25 19.3**	**+0.8**
PMG	**Port Moresby**	**22.61**	**98**	P	**P**	**22 26 15.0**	**-0.5**
	comp=Z,11nm,0.6s,mb4.5,baz=219,slow=23,SNR=3.8						
CTA	**Charters Tower**	**24.89**	**124**	P	**P**	**22 26 35.1**	**-0.4**
	comp=Z,4.7nm,0.8s,mb4.1,baz=350,slow=6.1,SNR=3.5						
CTAO	**Charters Tower**	**24.89**	**124**	P	**P**	**22 26 35.2**	**-0.3**
KLBR	**Kellerberrin**	**25.39**	**193**	*e*P	**P**	**22 26 38.8**	**-1.0**
	comp=Z,33nm,0.8s,mb4.9						
MUN	**Mundaring**	**26.14**	**196**⇓	*i*P	**P**	**22 26 45.1**	**-1.3**
	comp=Z,9.7nm,0.4s,mb4.7						
MUN	**Mundaring**	**26.14**	**196**⇓	*i*P	**P**	**22 26 45.1**	**-1.3**
MUN				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb4.7						
NWAO	**Narrogin (SRO)**	**26.79**	**194**	P	**P**	**22 26 51.0**	**-0.9**
	comp=Z,9.2nm,0.5s,mb4.5,baz=6.9,slow=11,SNR=16						
STKA	**Stephens Creek**	**29.58**	**149**⇓	*i*P	**P**	**22 27 15.8**	**0.0**
	comp=Z,21nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**29.58**	**149**	P	**P**	**22 27 15.9**	**+0.1**
	comp=Z,28nm,0.5s,mb5.0,baz=321,slow=8.8,SNR=71						
STKA				S	**S**	**22 31 28.1**	**-1.8**
	comp=Z,4.9nm,0.6s,baz=217,slow=22,SNR=5.5						
TOO	**Toolangi**	**36.05**	**151**	*e*P	**P**	**22 28 11.3**	**+1.6**
	comp=Z,10nm,0.6s,mb4.5						
TOO	**Toolangi**	**36.05**	**151**	*e*P	**P**	**22 28 11.3**	**+1.6**
TOO				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.5						
CNB	**Canberra Magne**	**36.40**	**145**	*e*P	**P**	**22 28 13.8**	**+1.2**
	comp=Z,14nm,0.8s,mb4.5						
DZM	**Mont Dzumac**	**43.20**	**115**	P	**P**	**22 29 06.1**	**-1.0**
	comp=Z,7.5nm,1.1s,mb4.0,baz=300,slow=20,SNR=2.3						
XAN	**Xi'an**	**43.26**	**341**	P	**P**	**22 29 06.5**	**-1.0**
XAN				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.4						
MJAR	**Matsushiro Arr**	**45.06**	**16**	P	**P**	**22 29 20.3**	**-1.0**
	comp=Z,2.8nm,0.8s,mb3.7,baz=194,slow=7.6,SNR=8.0						
LZH	**Lanzhou**	**46.91**	**337**	*e*P	**P**	**22 29 35.5**	**+0.2**
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.4						
LSA	**Lhasa**	**48.44**	**320**	*e*P	**P**	**22 29 47.4**	**+0.6**
HHC	**Hu-ho-hao-te**	**48.94**	**347**	*e*P	**P**	**22 29 49.9**	**-0.4**
HHC				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.0						
HHC				AMB	AMB		
	comp=Z,161nm,2.0s,mb5.0						
GTA	**Gaotai**	**51.39**	**336**	*e*P	**P**	**22 30 08.9**	**+0.8**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb3.9						
MDJ	**Mudanjiang**	**51.45**	**5**	P	**P**	**22 30 08.5**	**0.0**
MDJ				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,111nm,7.1s						
RPZ	**Rata Peaks**	**54.79**	**140**	P	**P**	**22 30 32.3**	**+0.3**
	comp=Z,63nm,0.8s,mb4.9,baz=239,slow=2.2,SNR=32						
SONM	**Songino Array**	**56.75**	**346**	P	**P**	**22 30 45.9**	**+0.6**
	comp=Z,1.9nm,0.5s,mb3.5,baz=165,slow=8.5,SNR=25						
SONM				PcP	PcP	22 31 32.5	+0.5
	comp=Z,1.4nm,0.9s,baz=145,slow=2.0,SNR=5.5						
URZ	**Urewera**	**56.81**	**132**	P	**P**	**22 30 45.1**	**-0.8**
	comp=Z,8.8nm,0.5s,mb4.2,baz=256,slow=4.4,SNR=8.3						
ZAK	**Zakamensk**	**59.90**	**344**	*e*P	**P**	**22 31 06.4**	**+0.1**
ZAK				*e*		22 31 43.8	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.2						
CASY	**Casey**	**60.10**	**186**⇓	*i*P	**P**	**22 31 06.8**	**-0.6**
BOD	**Bodaibo**	**65.02**	**354**	*e*P	**P**	**22 31 38.1**	**-0.8**
BOD				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.1						
MKAR	**Makanchi Array**	**65.21**	**329**	P	**P**	**22 31 40.4**	**+0.1**
	comp=Z,8.2nm,0.7s,mb4.2,baz=131,slow=7.8,SNR=54						
MKAR				PcP	PcP	22 32 06.6	+0.1
	comp=Z,1.4nm,0.7s,baz=124,slow=4.4,SNR=4.7						
MKAR	**Makanchi Array**	**65.21**	**329**	P	**P**	**22 31 40.4**	**+0.1**
MKAR				PcP	PcP	22 32 06.6	+0.1
YAK	**Yakutsk**	**68.81**	**3**	*e*P	**P**	**22 32 01.9**	**+0.1**
YAK				pmax	pmax		
	comp=Z,21nm,0.6s,mb4.6						
YAK	**Yakutsk**	**68.81**	**3**	*e*P	**P**	**22 32 01.9**	**+0.1**
	comp=Z,21nm,0.6s,mb4.6						
MAW	**Mawson**	**73.10**	**201**	P	**P**	**22 32 27.2**	**+0.6**
	comp=Z,3.6nm,0.8s,mb3.8,baz=69,slow=7.7,SNR=6.6						
VNDA	**Vanda**	**73.29**	**172**	P	**P**	**22 32 27.6**	**+0.1**
	comp=Z,2.5nm,0.4s,mb4.0,baz=315,slow=7.2,SNR=8.5						
SBA	**Scott Base**	**74.24**	**171**	P	**P**	**22 32 33.2**	**+0.4**
VOSK	**Vostochnaya**	**74.62**	**330**	P	**P**	**22 32 35.4**	**0.0**
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.2						
BVA0	**

SIV	**San Ignacio**	**156.64 166**	PKP	PKPdf	22 40 45.6	+3.4
	comp=Z,0.5nm,0.5s,baz=248,slow=6.3,SNR=5.2					
SIV			PKPab	PKPab	22 41 18.2	-0.1
	comp=Z,3.4nm,0.6s,baz=209,slow=5.2,SNR=22					
SAML	**Samuel**	**162.54 154**	*e*PKPdf	PKPdf	22 40 51.5	+2.7
SAML			*e*PKPab	PKPab	22 41 43.5	-0.4

*ATH **24** 22:25:18.6,40.41N×23.72E,h20km±1km,MD3.5/10*
*SOF **24** 22:25:18.2,40.46N×23.74E,h13km,MD3.0*
*THE **24** 22:25:19.3,40.46N×23.66E,h11km,ML3.3*
*NEIC **24** 22:25:19.3,40.46N×23.66E,h12km,MD3.5(ATH), ML3.2(THE),After THE.*
*CSEM **24** 22:25:19.1±0.1,40.47N×23.68E,h15km,ML3.3,Error ellipse: s-maj=1.4km s-min=1.3km az=71.0*

ISC 24 22:25:18.1±0.4,40.46N±0.02×23.69E±0.02,h10km±3km, n42,σ0§88/62,1C-3D,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLG	**Polygyros**	**0.21**	**247**	⇑*e*PB	**Pb**	**22 25 24.0**	**+0.5**
PLG				*e*SB	**Sb**	22 25 26.8	-0.2
OUR	**Ouranopolis**	**0.25**	**119**	*e*Pg	**Pg**	**22 25 25.1**	**+1.7**
OUR	**Ouranopolis**	**0.25**	**119**	*e*Pg	**Pg**	**22 25 25.1**	**+1.7**
PAIG	**Paliouri**	**0.53**	**181**	*e*Pg	**Pg**	**22 25 29.7**	**+0.9**
PAIG				*e*Sg	**Sg**	22 25 36.8	+0.9
THE	**Thessaloniki**	**0.58**	**288**	*e*Pg	**Pg**	**22 25 29.7**	**-0.1**
THE				*e*Sg	**Sg**	22 25 37.8	+0.1
THE	**Thessaloniki**	**0.58**	**288**	P	**Pg**	**22 25 30.2**	**+0.4**
THE	**Thessaloniki**	**0.58**	**288**	P	**Pg**	22 25 30.2	+0.4
THE				*e*Sg	**Sg**	22 25 37.8	+0.1
SRS	**Serrai**	**0.67**	**353**	*e*Pg	**Pg**	**22 25 32.0**	**+0.5**
SRS				*e*Sg	**Sg**	22 25 41.2	+0.8
NVR	**Nevrokopi**	**0.90**	**8**	*e*PN	**Pn**	**22 25 37.0**	**+0.3**
NVR				*e*SN	**Sn**	22 25 49.5	-0.3
KNT	**Kendrikon**	**0.93**	**320**	*e*Pg	**Pg**	**22 25 36.2**	**-0.5**
KNT				*e*Sg	**Sg**	22 25 49.1	0.0
LIT	**Litokhoron**	**0.99**	**249**	*e*Pg	**Pg**	**22 25 37.7**	**-0.1**
LIT				*e*Sg	**Sg**	22 25 50.5	-0.6
GRG	**Griva**	**1.10**	**297**	*e*Pg	**Pg**	**22 25 39.5**	**-0.7**
GRG				*e*Sg	**Sg**	22 25 55.8	+0.9
MMB	**Musomiste**	**1.13**	**1**	*i* Pg	**Pg**	**22 25 40.2**	**-0.6**
XOR	**Xorichti**	**1.16**	**200**	*e*Pg	**Pg**	**22 25 40.4**	**-0.9**
XOR				*e*Sg	**Sg**	22 25 56.1	-0.6
XOR	**Xorichti**	**1.16**	**200**	*e*Pg	**Pg**	**22 25 40.3**	**-0.9**
XOR				*e*Sg	**Sg**	22 25 56.1	-0.6
LOS	**Limnos**	**1.19**	**116**	*e*Pg	**Pg**	**22 25 40.7**	**-1.1**
LOS				*e*Sg	**Sg**	22 25 57.6	0.0
NEO	**Neokhori**	**1.20**	**198**	⇓*i*PN	**Pn**	**22 25 41.3**	**+0.3**
NEO				*e*SN	**Sn**	22 25 56.5	-1.0
LIA	**Limnos Island**	**1.27**	**116**	⇓*i*PN	**Pn**	**22 25 42.4**	**+0.4**
LIA				*e*SN	**Sn**	22 25 58.8	-0.4
AOS	**Alonnisos**	**1.29**	**174**	*e*Pg	**Pg**	**22 25 42.5**	**-1.5**
AOS				*e*Sg	**Sg**	22 26 00.4	-0.8
RZN	**Rozhen**	**1.45**	**32**	*i* P	**Pn**	**22 25 45.5**	**+0.9**
KKB	**Krupnik**	**1.48**	**342**	*i* P	**Pn**	**22 25 45.0**	**0.0**
RDO	**Rodhopi**	**1.56**	**63**	*e*PB	**Pb**	**22 25 46.5**	**-0.2**
KDZ	**Kurdzhali**	**1.77**	**47**	*i* P	**Pn**	**22 25 49.5**	**+0.4**
AGG	**Agios Georgios**	**1.78**	**217**	*e*Pb	**Pb**	**22 25 50.0**	**-0.4**
	comp=Z,3.1nm,0.7s						
AGG				*e*Sb	**Sb**	**22 26 12.7**	**0.0**
FNA	**Florina**	**1.79**	**281**	*e*Pb	**Pb**	**22 25 50.7**	**0.0**
	comp=Z,3.2nm,0.5s						
FNA				*e*Sb	**Sb**	**22 26 10.6**	**-2.5**
PLD	**Plovdiv**	**1.81**	**24**	P	**Pn**	**22 25 55.0**	**+5.3**
ALN	**Alexandroupoli**	**1.84**	**75**	*e*Pb	**Pb**	**22 25 50.5**	**-1.0**
ALN				*e*Sb	**Sb**	**22 26 14.8**	**+0.2**
LKR	**Lokris**	**1.88**	**197**	*e*PN	**Pn**	**22 25 51.0**	**+0.3**
MEV	**Metsovon**	**2.00**	**251**	*e*Pn	**Pn**	**22 25 53.2**	**+0.7**
	comp=Z,3.6nm,0.3s						
DIM	**Dimitrovgrad**	**2.11**	**40**	*i* P	**Pn**	**22 25 59.5**	**+5.5**
EVR	**Evrytania**	**2.12**	**224**	⇓*i*PN	**Pn**	**22 25 55.2**	**+1.1**
EVR				*e*SN	**Sn**	**22 26 22.0**	**+1.4**
PGB	**Panagyurishte**	**2.12**	**10**	P	**Pn**	**22 25 51.5**	**-2.7**
VTS	**Vitosha**	**2.16**	**350**	*i* P	**Pn**	**22 25 56.2**	**+1.4**
SKO	**Skopje**	**2.28**	**312**	*e*Pn	**Pn**	**22 25 50.0**	**-6.4**
JAN	**Janina**	**2.32**	**251**	*e*PB	**Pb**	**22 25 58.7**	**-1.0**
JAN				*e*SN	**Sn**	**22 26 26.4**	**+0.5**
PRK	**Paraskevi**	**2.32**	**120**	*e*PN	**Pn**	**22 25 58.1**	**+1.1**
ZAPS	**Zavoj/Pirot**	**2.95**	**345**	*i*	**Sn**	**22 26 41.4**	**-0.5**
JMB	**Yambol**	**2.96**	**46**	P	**Pn**	**22 26 14.5**	**+8.4**
PVL	**Pavlikeni**	**3.02**	**23**	P	**Pn**	**22 26 05.5**	**-1.4**
KEK	**Kerkira**	**3.08**	**257**	*e*PN	**Pn**	**22 26 09.6**	**+1.8**
GRUS	**Gruza**	**4.08**	**328**	*i* Pn	**Pn**	**22 26 21.9**	**-0.2**
GRUS				Sg	**Sg**	**22 27 29.8**	**-4.3**
DIVS	**Divcibare**	**4.56**	**324**	*i*	Sx	22 27 42.9	

*IDC **24** 22:27:27.3±0.7,6.80N×92.59E,mb4.0/11,mb1 4.2/11, mb1mx4.0/24,mbtmp4.0/11,Error ellipse: s-maj=24.7km s-min=18.8km az=60.0*
*NEIC **24** 22:27:31.9±0.4,6.78N×92.59E,h30km,mb4.4/4,Error ellipse: s-maj=11.2km s-min=8.4km az=200.0*

ISC 24 22:27:30.3±0.5,6.77N±0.10×92.59E±0.08,h33km,n18, σ0§99/18,mb4.0/13,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**8.15**	**100**	*e*P	**P**	**22 29 27.8**	**-1.3**
PALK	**Pallekele**	**11.81**	**273**	*e*P	**P**	**22 30 17.2**	**-2.3**
PALK				*e*S	**S**	**22 32 17.9**	**-13**
KMI	**Kunming**	**20.67**	**27**	P	**P**	**22 32 10.8**	**+0.8**
	6.0nm,1.3s						
KMI				pP		22 32 21.7	
MKAR	**Makanchi Array**	**40.84**	**349**	P	**P**	**22 35 10.8**	**+0.1**
	0.5nm,0.6s,mb3.3,baz=169,slow=7.3,SNR=3.0						
FITZ	**Fitzroy Crossi**	**40.92**	**128**	P	**P**	**22 35 11.6**	**0.0**
	6.1nm,0.6s,mb4.4,baz=325,slow=5.4,SNR=9.1						
SONM	**Songino Array**	**42.58**	**14**	P	**P**	**22 35 25.8**	**+0.9**
	0.2nm,0.4s,mb3.2,baz=213,slow=7.6,SNR=2.4						
WRA	**Warramunga Arr**	**48.90**	**124**	P	**P**	**22 36 15.4**	**0.0**
	1.6nm,0.6s,mb4.2,baz=304,slow=8.9,SNR=17						
WRAB	**Tennant Creek**	**48.91**	**124**	*e*P	**P**	**22 36 15.2**	**-0.3**
	3.8nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**49.55**	**343**	P	**P**	**22 36 19.5**	**-0.5**
	1.0nm,0.7s,mb3.9,baz=141,slow=9.5,SNR=5.4						
ARU	**Arti**	**56.31**	**338**	*e*P	**P**	**22 37 09.0**	**-1.1**
	4.4nm,1.0s,mb4.4						
MATP	**Matopo**	**68.51**	**245**	P	**P**	**22 38 33.4**	**+1.4**
	2.1nm,0.9s,mb4.1,baz=130,slow=21,SNR=4.0						
MLR	**Muntele Rosu**	**68.89**	**316**	P	**P**	**22 38 33.1**	**-0.8**
	2.5nm,0.8s,mb4.2,baz=166,slow=8.3,SNR=5.6						
LBTB	**Lobatse**	**72.37**	**241**	P	**P**	**22 38 55.1**	**-0.2**
	1.6nm,0.6s,mb4.2,baz=118,slow=7.7,SNR=4.1						
LBTB	**Lobatse**	**72.37**	**241**	*e*P	**P**	**22 38 56.8**	**+1.5**
	2.8nm,0.9s,mb4.2						
BOSA	**Boshof**	**73.70**	**238**	P	**P**	**22 39 04.2**	**+1.0**
	1.1nm,0.5s,mb4.1,baz=39,slow=6.4,SNR=8.3						
GERES	**GERESS Array B**	**77.62**	**318**	P	**P**	**22 39 25.1**	**0.0**
	0.9nm,0.7s,mb3.8,baz=80,slow=6.0,SNR=8.9						
DAVOX	**Davos**	**80.11**	**316**	P	**P**	**22 39 40.0**	**+1.3**
	1.2nm,0.5s,mb4.1,baz=160,slow=12,SNR=6.9						
CFAA	**Coronel Fontan**	**149.48**	**213**	PKPbc	PKPdf	22 47 19.2	+7.0
	0.2nm,0.6s,baz=99,slow=4.7,SNR=5.7						

IDC 24 22:51:57.3±9.5,6.41N×93.76E,mb3.6/4,mb1 3.7/4, mb1mx3.5/18,mbtmp3.6/4,Error ellipse: s-maj=219.2km s-min=60.7km az=145.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**41.43**	**348**	P	P	22 59 45.7	-1.5
	0.5nm,0.8s,baz=156,slow=8.7,SNR=3.4						
SONM	**Songino Array**	**42.66**	**13**	P	P	22 59 55.6	-1.7
	0.3nm,0.3s,baz=191,slow=8.1,SNR=3.6						
BRTR	**Keskin Array B**	**63.10**	**311**	P	P	23 02 26.8	-2.3
	0.7nm,0.8s,baz=134,slow=8.9,SNR=3.8						
GERES	**GERESS Array B**	**78.66**	**318**	P	P	23 04 01.9	-1.0
	0.3nm,0.6s,baz=90,slow=3.9,SNR=4.4						

*IDC **24** 23:06:04.5±0.9,7.66N×92.02E,mb4.0/9,mb1 4.1/9, mb1mx3.9/20,mbtmp4.0/9,MS3.6/1,Ms1 3.6/1, ms1mx3.0/23,Error ellipse: s-maj=35.5km s-min=21.0km az=56.0*
*MOS **24** 23:06:07.6±0.7,7.71N×92.12E,h33km,mb4.3/5,Error ellipse: s-maj=25.7km s-min=10.5km az=113.1*
*NEIC **24** 23:06:10.0±1.1,7.60N×92.02E,h38km±11km,mb4.2/5, Error ellipse: s-maj=12.9km s-min=7.9km az=212.0*

ISC 24 23:06:07.4±0.5,7.64N±0.10×92.04E±0.08,h33km,n37, σ0§72/36,mb4.1/17,MS3.6/1,3C-2D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**8.87**	**105**	P	**P**	**23 08 15.7**	**-0.5**
PALK	**Pallekele**	**11.25**	**269**	*e*P	**P**	**23 08 47.8**	**-1.2**
LSA	**Lhasa**	**21.96**	**358**	*e*P	**P**	**23 11 03.7**	**+3.6**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
LSA	**Lhasa**	**21.96**	**358**	*e*P	**P**	**23 11 03.7**	**+3.5**
	comp=Z,3.8nm,0.8s,mb3.9						
MKAR	**Makanchi Array**	**39.90**	**350**	*i* P	**P**	**23 13 40.0**	**+0.1**
MKAR	**Makanchi Array**	**39.90**	**350**	P	**P**	**23 13 40.2**	**+0.4**
	comp=Z,1.7nm,0.8s,mb3.8,baz=169,slow=8.2,SNR=13						
KKAR	**Karatay Array**	**40.07**	**335**	*i* P	**P**	**23 13 42.3**	**+0.9**
KKAR				S	PP	23 15 22.6	+5.3
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
SONM	**Songino Array**	**41.88**	**14**	P	**P**	**23 13 56.9**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.2,baz=195,slow=7.3,SNR=4.2						
FITZ	**Fitzroy Crossi**	**41.88**	**128**	P	**P**	**23 13 57.0**	**+0.4**
	comp=Z,6.8nm,1.0s,mb4.2,baz=318,slow=5.7,SNR=2.8						
VOSK	**Vostochnaya**	**48.13**	**343**	P	**P**	**23 14 46.3**	**+0.1**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BVA0	**Borovoye Array**	**48.57**	**343**	P	**P**	**23 14 49.2**	**-0.3**
BVAR	**Borovoye Array**	**48.57**	**343**	P	**P**	**23 14 49.6**	**0.0**
	comp=Z,1.1nm,0.6s,mb4.1,baz=170,slow=8.8,SNR=7.6						
BRVK	**Borovoye**	**48.63**	**343**	*e*P	**P**	**23 14 49.5**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BRVK	**Borovoye**	**48.63**	**343**	*e*P	**P**	**23 14 49.5**	**-0.5**
	comp=Z,1.4nm,0.5s,mb4.2						
ZRNK	**Zerenda**	**48.92**	**342**	*e*P	**P**	**23 14 52.0**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ZRNK	**Zerenda**	**48.92**	**342**	*e*P	**P**	**23 14 52.0**	**-0.3**
	comp=Z,1.9nm,0.8s,mb4.2						
AB31	**Akbulak array**	**49.46**	**333**	*i* P	**P**	**23 14 56.6**	**+0.1**
WRA	**Warramunga Arr**	**49.84**	**124**	P	**P**	**23 14 59.5**	**-0.2**
	comp=Z,1.3nm,0.8s,mb4.0,baz=303,slow=8.5,SNR=5.0						
WRAB	**Tennant Creek**	**49.84**	**124**	P	**P**	**23 14 59.9**	**+0.1**
BOD	**Bodaibo**	**52.88**	**15**	*e*P	**P**	**23 15 21.9**	**-0.3**
ARU	**Arti**	**55.31**	**338**	*e*P	**P**	**23 15 39.8**	**-0.3**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
ARU	**Arti**	**55.31**	**338**	*e*P	**P**	**23 15 39.8**	**-0.3**
	comp=Z,3.3nm,1.0s,mb4.3						
KIV	**Kislovodsk**	**56.11**	**319**	*e*P	**P**	**23 15 45.9**	**-0.1**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
KIV	**Kislovodsk**	**56.11**	**319**	*e*P	**P**	**23 15 45.9**	**-0.1**
	comp=Z,4.4nm,0.9s,mb4.5						
ASF	**Jabal al Asfar**	**56.60**	**304**	LR	LR	23 42 51.5	
	comp=Z,46nm,19.0s,MS3.6,baz=210,slow=39						
BRTR	**Keskin Array B**	**61.01**	**311**	P	**P**	**23 16 19.1**	**-1.1**
	comp=Z,0.7nm,0.6s,mb4.0,baz=124,slow=8.9,SNR=4.4						
VRI	**Vrincioaia**	**67.43**	**317**	⇑P	**P**	**23 17 02.3**	**+0.4**
TIXI	**Tiksi**	**67.88**	**12**	*e*P	**P**	**23 17 02.7**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
MLR	**Muntele Rosu**	**67.89**	**316**	⇓P	**P**	**23 17 06.0**	**+1.2**
MLR	**Muntele Rosu**	**67.89**	**316**	⇓P	**P**	**23 17 05.9**	**+1.1**
BURAR	**Bucovina Array**	**68.83**	**318**	⇑P	**P**	**23 17 10.6**	**0.0**
BURAR	**Bucovina Array**	**68.83**	**318**	⇑P	**P**	**23 17 10.6**	**0.0**
FINES	**FINESS Array B**	**71.95**	**333**	P	**P**	**23 17 28.7**	**-0.5**
	comp=Z,1.1nm,0.7s,mb3.9,baz=127,slow=9.5,SNR=5.1						
BOSA	**Boshof**	**73.70**	**237**	P	**P**	**23 17 41.6**	**+1.3**
	comp=Z,1.6nm,0.7s,mb4.1,baz=84,slow=11,SNR=3.8						
BOSA	**Boshof**	**73.70**	**237**	*e*P	**P**	**23 17 41.6**	**+1.4**
GERES	**GERESS Array B**	**76.61**	**318**	P	**P**	**23 17 57.2**	**+0.7**
	comp=Z,1.8nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=17						
CLL	**Collm**	**77.22**	**321**	P	**P**	**23 18 00.0**	**0.0**

*IDC **24** 23:18:47.9±2.6,0.65N×98.25E,mb3.7/5,mb1 3.8/5, mb1mx3.5/18,mbtmp3.7/5,Error ellipse: s-maj=116.8km s-min=22.3km az=57.0*
*NEIC **24** 23:18:54.5±1.3,1.07N×98.87E,h30km,Error ellipse: s-maj=39.1km s-min=15.5km az=68.0*

ISC 24 23:18:52.2±1.4,1.1N±0.1×98.8E±0.3,h30km,n7,σ1§12/7, mb3.8/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.58**	**24**	*e*P	**Pn**	**23 20 00.6**	**-0.7**
WRA	**Warramunga Arr**	**40.61**	**123**	P	**P**	**23 26 31.5**	**+0.1**
	0.3nm,0.4s,mb3.3,baz=304,slow=8.7,SNR=2.4						
WRAB	**Tennant Creek**	**40.62**	**123**	*e*P	**P**	**23 26 32.0**	**+0.6**
SONM	**Songino Array**	**47.04**	**7**	P	**P**	**23 27 25.5**	**+2.4**
	1.1nm,0.6s,mb4.0,baz=186,slow=8.0,SNR=8.5						
MKAR	**Makanchi Array**	**47.77**	**345**	P	**P**	**23 27 29.3**	**+0.5**
	0.4nm,0.4s,mb3.8,baz=156,slow=8.2,SNR=6.9						
STKA	**Stephens Creek**	**52.09**	**133**	P	**P**	**23 28 01.1**	**-0.9**
	1.8nm,0.7s,mb4.1,baz=317,slow=13,SNR=3.8						
BVAR	**Borovoye Array**	**56.91**	**340**	P	**P**	**23 28 35.5**	**-1.5**
	0.4nm,0.6s,mb3.6,baz=157,slow=11,SNR=4.4						

IDC 24 23:21:27.3±1.9,7.98N×91.92E,mb3.6/5,mb1 3.8/5, mb1mx3.6/19,mbtmp3.6/5,Error ellipse: s-maj=67.8km s-min=28.6km az=55.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.54**	**350**	P	P	23 29 00.3	-1.4
	0.5nm,0.6s,baz=149,slow=8.4,SNR=3.4						
SONM	**Songino Array**	**41.58**	**15**	P	P	23 29 17.1	-1.4
	1.0nm,0.6s,baz=194,slow=8.5,SNR=7.9						
BVAR	**Borovoye Array**	**48.20**	**343**	P	P	23 30 09.1	-2.4
	0.4nm,0.6s,baz=157,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**50.13**	**124**	P	P	23 30 24.7	-2.1
	1.7nm,0.8s,baz=306,slow=8.7,SNR=6.3						
GERES	**GERESS Array B**	**76.28**	**318**	P	P	23 33 18.1	-1.6
	0.2nm,0.5s,baz=90,slow=2.7,SNR=4.0						

*MOS **24** 23:31:02.3±1.3,43.03N×48.01E,h10km,mb3.9/1,Error ellipse: s-maj=10.4km s-min=9.0km az=59.5*
MOS Felt (II) at Makhachkala.
*CSEM **24** 23:31:03.4±0.3,42.94N×47.90E,h23km±2km,mb4.2/1, Error ellipse: s-maj=6.1km s-min=4.5km az=34.0*
*TIF **24** 23:31:04.4,42.90N×47.84E,h9km±3km*
*NEIC **24** 23:31:04.4±1.8,42.91N×47.85E,h6km±13km,mb4.2/1, Error ellipse: s-maj=9.3km s-min=8.1km az=108.0*
NEIC Felt [II] at Makhachkala.
*IDC **24** 23:31:09.8±6.0,42.97N×47.65E,h30km±53km,mb3.6/5, mb1 3.7/9,mb1mx3.5/23,mbtmp3.8/9,ML4.0/3,MS2.7/2, Ms1 2.8/2,ms1mx2.5/22,Error ellipse: s-maj=27.3km s-min=19.9km az=163.0*
*NNC **24** 23:31:18.5±4.2,43.05N×49.29E,h13km±33km,Error ellipse: s-maj=82.1km s-min=29.6km az=115.0*

ISC 24 23:31:03.6±0.4,43.03N±0.03×47.93E±0.04,h10km,n49, σ1§69/70,mb3.5/6,MS2.6/2,9C-4D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAK	**Makhachkala**	**0.32**	**258**	⇑*i*PG	**Pg**	**23 31 11.1**	**+0.9**
MAK				*i*		23 31 14.4	
MAK				pmax	pmax		
	comp=Z,4μm,0.2s						
MAK				smax			
	comp=N,16μm,0.8s						
MAK	**Makhachkala**	**0.32**	**258**	⇑*i*Pg	**Pg**	**23 31 11.1**	**+0.9**
MAK				*i* Sg	**Sg**	**23 31 14.4**	**-0.2**
	comp=N,16μm,0.8s						
DBC	**Dubki**	**0.81**	**270**	*i* PG	**Pg**	**23 31 17.0**	**-2.8**
DBC				*i* S	**Sb**	**23 31 28.0**	**-2.0**
DBC				pmax	pmax		
	comp=Z,448nm,0.3s						
URKR	**Urkarakh**	**0.89**	**194**	*i* PG	**Pg**	**23 31 19.0**	**-2.4**
URKR				*e*S	**Sb**	**23 31 31.0**	**-1.3**
URKR				pmax	pmax		
	comp=Z,997nm,0.2s						
GNBR	**Gunib**	**0.95**	**228**	⇑*i*PG	**Pg**	**23 31 22.0**	**-0.8**
GNBR				*e*S	**Sb**	**23 31 36.0**	**+1.7**
GNBR				pmax	pmax		
	comp=Z,551nm,0.3s						
KSMR	**Kasumkent**	**1.43**	**174**	*i* PG	**Pg**	**23 31 28.0**	**-4.2**
KSMR				*i* S	**Sb**	**23 31 48.0**	**-0.1**
KSMR				pmax	pmax		
	comp=Z,976nm,0.3s						

AKT	**Akhty**	**1.55**	**186**	*e*PG	**Pg**	**23 31 30.5**	**-4.2**
AKT				*i* S	**Sb**	**23 31 50.0**	**-1.6**
AKT				pmax	pmax		
	comp=Z,364nm,0.3s						
DGRG	**David-gareji**	**2.47**	**231**	P	**Pn**	**23 31 47.8**	**+3.2**
DGRG				S	**Sn**	**23 32 31.7**	**+17**
DUS	**Dusheti**	**2.56**	**250**	P	**Pn**	**23 31 50.2**	**+4.3**
MTA	**Mtatsminda**	**2.68**	**241**	P	**Pn**	**23 31 50.6**	**+3.0**
MTA				S	**Sn**	**23 32 27.0**	**+6.6**
TI2	**Plekhanov**	**2.69**	**242**	*i* PN	**Pn**	**23 31 51.2**	**+3.5**
TI2				*i* S	**Sn**	**23 32 28.4**	**+7.8**
TI2				pmax	pmax		
	comp=Z,20nm,0.2s						
TBLG	**Delisi**	**2.69**	**242**	*i* Pn	**Pn**	**23 31 51.2**	**+3.3**
TBLG				*i* S	**Sn**	**23 32 28.4**	**+7.5**
TBLG	**Delisi**	**2.69**	**242**	P	**Pn**	**23 31 52.4**	**+4.6**
TBLG				S	**Sn**	**23 32 25.5**	**+4.6**
ZEI	**Tsey**	**2.97**	**266**	*e*PN	**Pn**	**23 31 51.1**	**-0.7**
ZEI				*e*		23 31 57.2	
ZEI				*e*		23 32 25.9	
ZEI				*e*		23 32 38.0	
ZEI				pmax	pmax		
	comp=Z,32nm,0.2s						
ONI	**Oni**	**3.33**	**264**	P	**Pn**	**23 31 59.7**	**+2.8**
ONI				S	**Sn**	**23 32 46.1**	**+9.3**
GNI	**Garni**	**3.74**	**221**	*e*PN	**Pn**	**23 32 03.5**	**+0.8**
GNI						23 33 04.3	
GNI	**Garni**	**3.74**	**221**	Pn	**Pn**	**23 32 05.9**	**+3.2**
	comp=Z,3.7nm,0.3s,baz=1.3,slow=5.3,SNR=17						
GNI				Lg		23 33 04.3	
	comp=Z,3.8nm,0.3s,baz=346,slow=24,SNR=3.5						
KIV	**Kislovodsk**	**3.93**	**285**	*e*PN	**Pn**	**23 32 05.6**	**+0.3**
KIV				*e*S	**Sn**	**23 32 50.4**	**-1.6**
KIV	**Kislovodsk**	**3.93**	**285**	*e*P	**Pn**	**23 32 05.6**	**+0.2**
KIV				*e*S	**Sn**	**23 32 50.4**	**-1.6**
SOC	**Sochi**	**6.02**	**278**	*e*P	**Pn**	**23 32 33.3**	**-1.6**
SOC				*e*		23 33 41.1	
SOC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SOC				pmax	pmax		
	comp=N,17nm,0.9s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.9s						
SOC				MLR	MLR		
	comp=Z,148nm,15.0s						
SOC				MLR	MLR		
	comp=N,119nm,17.0s						
SOC				MLR	MLR		
	comp=E,106nm,11.0s						
SOC	**Sochi**	**6.02**	**278**	*e*P	**Pn**	**23 32 33.3**	**-1.6**
	comp=E,6.0nm,0.8s						
SOC				*e*		23 33 41.1	
SOC	**Sochi**	**6.02**	**278**	*e*P	**Pn**	**23 32 33.3**	**-1.6**
SOC				*e*S	**Sn**	**23 33 41.1**	**-3.6**
	comp=E,119nm,17.0s						
AB31	**Akbulak array**	**10.40**	**49**	P	**P**	**23 33 38.5**	**+2.7**
	comp=E,1.8nm,0.5s,baz=235,slow=12,SNR=4.7						
AB31				⇑S	**S**	**23 35 30.4**	**-3.1**
	comp=E,19nm,0.9s,baz=237,slow=19,SNR=5.9						
BR131	**Keskin Array S**	**11.23**	**258**	*e*P	**P**	**23 33 40.4**	**-6.8**
OBN	**Obninsk**	**14.18**	**332**	*e*P	**P**	**23 34 25.3**	**-1.1**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s						
OBN	**Obninsk**	**14.18**	**332**	*e*P	**P**	**23 34 25.3**	**-1.1**
	comp=Z,5.0nm,1.3s						
ISP	**Isparta**	**14.24**	**255**	*i* P	**P**	**23 34 27.4**	**+0.1**
AKASG	**Malin Array Be**	**14.89**	**307**	Pn	**P**	**23 34 34.7**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=110,slow=13,SNR=3.3						
ARU	**Arti**	**15.05**	**23**	*e*P	**P**	**23 34 37.7**	**-0.1**
	comp=Z,4.8nm,0.5s						
ARU				*e*S	**S**	**23 37 09.4**	**-16**
MLR	**Muntele Rosu**	**15.94**	**286**	Pn	**P**	**23 34 49.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=110,slow=12,SNR=1.9						
KK31	**Karatay Array**	**16.50**	**82**	⇓P	**P**	**23 34 56.4**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=285,slow=13,SNR=15						
KK31				⇑S	**S**	**23 37 49.2**	**-10**
	comp=Z,2.0nm,0.7s,baz=280,slow=21,SNR=4.4						
ZRNK	**Zerenda**	**17.19**	**47**	⇓P	**P**	**23 35 04.7**	**-0.5**
	comp=Z,5.6nm,0.9s						
Z

ANTU				AMP		00 17 36.7	
	comp=N,892nm,0.6s						
TACH	**Talagante**	**1.29**	**326**	⇓*i*P	Pb	00 17 17.6	-0.4
TACH				*i* S	Sb	00 17 36.0	+1.8
LNV	**Longovilo**	**1.35**	**304**	⇓*i*P	Pn	00 17 18.5	-0.4
LNV				*i* S	Sb	00 17 36.9	+0.9
SAN	**Santiago**	**1.36**	**339**	⇑*i*P	Pn	00 17 18.9	-0.1
SAN				*i* S	Sb	00 17 38.0	+1.8
SAN				AMP		00 17 39.6	
	comp=N,748nm,0.3s						
STL	**Santa Lucia**	**1.37**	**339**	⇑*i*P	Pn	00 17 18.6	-0.6
STL				*i* S	Sb	00 17 37.9	+1.3
STL				AMP		00 17 38.5	
	comp=N,251nm,0.2s						
RCDM	**Rinconada Maip**	**1.38**	**333**	*i* P	Pn	00 17 19.6	+0.3
RCDM				*i* S	Sb	00 17 38.5	+1.8
RCDM				AMP		00 17 39.1	
	comp=E,587nm,0.2s						
CLCH	**Cerro Calan**	**1.38**	**343**	⇑*i*P	Pn	00 17 19.8	+0.5
CLCH				*i* S	Sb	00 17 38.6	+1.8
CLCH				AMP		00 17 41.6	
	comp=E,1µm,0.8s						
DSCH	**Colegio Aleman**	**1.39**	**342**	*e*P	Pn	00 17 19.6	+0.2
DSCH				*i* S	Sb	00 17 38.7	+1.7
DSCH				AMP		00 17 45.0	
	comp=N,1µm,0.8s						
FCH	**Farellones**	**1.41**	**352**	⇑*i*P	Pn	00 17 20.3	+0.6
FCH				*i* S	Sb	00 17 39.9	+2.4
FCH				AMP		00 17 42.7	
	comp=E,359nm,0.2s						
LCCH	**Las Cruces**	**1.77**	**315**	*e*P	Pn	00 17 25.5	+0.7
LCCH				*i* S	Sn	00 17 49.3	+2.2
ROCH	**El Roble**	**1.92**	**336**	⇓*i*P	Pn	00 17 29.0	+2.0
ROCH				*i* S	Sn	00 17 54.5	+3.5
JACH	**Jahuel**	**2.09**	**348**	*e*P	Pn	00 17 31.9	+2.5
JACH				*i* S	Sn	00 17 59.9	+4.6

NEIC ***25*** *00:46:12.4, 19.26N×64.70W, h88km, MD3.5(RSPR), After RSPR.*

RSPR 25 00:46:12.4, 19.26N×64.70W, h88km±14km, MD3.5/5, MD3.5/5, 5C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.55**	**225**	⇑*e*P		P	00 46 38.1	-1.2
SJG	**San Juan**	**1.78**	**230**	⇑*e*P		P	00 46 41.1	-1.1
PORP	**Portuguez**	**2.19**	**237**	⇓*e*P		P	00 46 46.7	-1.0
PORP				*e*S		S	00 47 13.5	-0.4
LRS	**Lares**	**2.24**	**245**	⇑*e*P		P	00 46 47.2	-1.3
LRS				*e*S		S	00 47 14.1	-1.1
LSP	**Las Mesas**	**2.50**	**245**	⇑*e*P		P	00 46 51.2	-0.9
MGP	**Maguayo**	**2.58**	**242**	⇑*e*P		P	00 46 51.9	-1.3
MGP				*e*S		S	00 47 23.0	-0.7

NEIC ***25*** *01:02:57.6±0.8, 21.58S×68.20W, h114km±12km, Error ellipse: s-maj=31.3km s-min=10.9km az=111.0*
IDC ***25*** *01:02:57.4±0.9, 21.64S×68.11W, h106km±13km, mb4.0/1, mb1 3.5/4, mb1mx3.3/15, mbtmp3.9/4, MS3.0/1, Ms1 2.9/1, ms1mx2.3/15, Error ellipse: s-maj=44.4km s-min=14.6km az=123.0*

ISC 25 01:02:56.4±0.7, 21.77S±0.07×67.9W±0.1, h110km±13km, n12, σ1§12/17, mb4.2/1, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.25**	**228**	P		**P**	**01 03 21.5**	**+0.8**
	77nm,0.3s,baz=13,slow=8.2,SNR=836							
LVC				S		**S**	**01 03 38.8**	**-0.2**
	132nm,0.3s,baz=22,slow=4.9,SNR=115							
LVC	**Limon Verde**	**1.25**	**228**	⇑*i*Pn		**P**	**01 03 21.1**	**+0.4**
LVC				*e*Sn		**S**	**01 03 38.4**	**-0.6**
LVC				S		**S**	**01 03 38.8**	**-0.2**
LPAZ	**La Paz**	**5.45**	**358**	P		**P**	**01 04 15.4**	**-1.2**
	1.0nm,0.3s,baz=210,slow=6.1,SNR=52							
LPAZ	**La Paz**	**5.45**	**358**	*e*P		**P**	**01 04 15.7**	**-0.8**
ARE	**Arequipa**	**6.27**	**327**	P		**P**	**01 04 29.0**	**+1.3**
ARE				*e*S		**S**	**01 05 22.0**	**-16**
SIV	**San Ignacio**	**8.65**	**50**	P		**P**	**01 05 01.6**	**+1.5**
	0.9nm,0.3s,baz=244,slow=13,SNR=23							
SIV				S		**S**	**01 06 36.8**	**+0.2**
	0.1nm,0.3s,baz=147,slow=21,SNR=8.5							
CFAA	**Coronel Fontan**	**9.80**	**182**	P		**P**	**01 05 14.2**	**-1.4**
	0.0nm,0.3s,baz=343,slow=11,SNR=9.4							
CFAA				S		**S**	**01 06 59.1**	**-5.3**
	0.1nm,0.3s,baz=182,slow=15,SNR=10							
SAML	**Samuel**	**13.53**	**20**	*e*P		**P**	**01 06 02.9**	**-2.0**
PLCA	**Paso Flores**	**19.04**	**186**	P		**P**	**01 07 13.4**	**+1.1**
	0.1nm,0.3s,baz=323,slow=9.6,SNR=3.0							
BDFB	**Brasilia**	**19.80**	**75**	P		**P**	**01 07 26.5**	**+6.0**
	0.6nm,0.3s,baz=258,slow=10.0,SNR=6.8							
BDFB				LR		LR	01 14 53.8	
	comp=Z,41nm,18.8s,baz=295,slow=36							
DBIC	**Dimbokro**	**67.92**	**73**	P		**P**	**01 13 45.7**	**-0.1**
	3.8nm,0.9s,mb4.2,baz=229,slow=9.3,SNR=3.2							
MKAR	**Makanchi Array**	**145.29**	**37**	PKPbc		PKPbc	01 22 21.6	+0.1
	1.3nm,0.8s,baz=326,slow=4.4,SNR=11							

NEIC ***25*** *01:13:02.9, 28.06S×70.76W, h44km, MD4.3(GUC), After GUC.*
NEIC Felt [II] at Vallenar.

GUC 25 01:13:02.9±0.9, 28.06S×70.76W, h44km±4km, MD4.3, ML4.2, 2C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.51**	**180**	⇑*i*P		P	01 13 13.9	-0.1
VACH				*i* S		S	01 13 22.8	+1.0
VACH				AMP			01 13 23.5	
	comp=N,56µm,0.1s							
CPCH	**Copiapo**	**0.79**	**27**	⇑*i*P		P	01 13 18.0	+0.3
CPCH				*i* S		S	01 13 29.8	+1.4
CPCH				AMP			01 13 33.5	
	comp=E,25µm,0.1s							
LSCH	**La Serena**	**1.89**	**193**	*e*P		P	01 13 33.5	+0.2
LSCH				*i* S		S	01 13 57.0	+0.9
LSCH				AMP			01 14 02.8	
	comp=E,1µm,0.3s							
TLL	**Tololo Astrono**	**2.10**	**181**	⇓*i*P		P	01 13 36.5	+0.2
TLL				*i* S		S	01 14 03.0	+1.6
TLL				AMP			01 14 14.9	
	comp=N,2µm,0.5s							
CMCH	**Combarbala**	**3.11**	**184**	*i* P		P	01 13 48.1	-2.6
CMCH				*i* S		S	01 14 24.6	-2.3
ZON	**Zonda**	**3.91**	**153**	*e*P		P	01 14 05.0	+2.9
JACH	**Jahuel**	**4.61**	**178**	*e*P		P	01 14 11.0	-0.9
LVC	**Limon Verde**	**5.68**	**18**	*e*P		P	01 14 23.7	-3.1
	comp=N,12nm,0.6s							
LVC				*e*S		S	01 15 37.1	+5.4

NEIC ***25*** *01:26:20.8, 27.97S×70.88W, h45km, After GUC.*

GUC 25 01:26:20.8±0.8, 27.97S×70.88W, h45km±5km, ML3.7, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.61**	**170**	⇑*i*P		P	01 26 33.9	+0.7
VACH				*i* S		S	01 26 42.8	+0.6
VACH				AMP			01 26 43.4	
	comp=N,10µm,0.1s							
CPCH	**Copiapo**	**0.77**	**37**	*i* P		P	01 26 38.1	+2.7
CPCH				*i* S		S	01 26 49.6	+3.6
CPCH				AMP			01 26 52.0	
	comp=E,14µm,0.1s							
CRCH	**Chaqaral**	**1.64**	**8**	*i* P		P	01 26 47.8	+0.1
CRCH				*i* S		S	01 27 08.0	+0.3
TLL	**Tololo Astrono**	**2.19**	**178**	*e*P		P	01 26 56.2	+0.7
TLL				*i* S		S	01 27 22.8	+1.4
TLL				AMP			01 27 35.0	
	comp=N,230nm,0.6s							

MOS ***25*** *01:35:39.5±0.8, 42.76N×44.09E, h14km, mb4.1/1, Error ellipse: s-maj=12.6km s-min=8.2km az=114.2*
TIF ***25*** *01:35:40.0, 42.83N×44.12E, h14km*
CSEM ***25*** *01:35:40.9±0.3, 42.72N×43.79E, h20km, mb4.1, Error ellipse: s-maj=10.5km s-min=3.5km az=53.0*
NNC ***25*** *01:36:44.2±59.0, 46.45N×49.18E, mpv2.8, Error ellipse: s-maj=616.1km s-min=392.9km az=64.0*

ISC 25 01:35:41.3±0.6, 42.84N±0.02×44.10E±0.05, h11km±4km, n17, σ0§76/28, 2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.17**	**245**	*e*PG		**Pg**	**01 35 45.1**	**0.0**
ZEI				*e*			01 35 48.1	
ZEI				pmax		pmax		
	comp=Z,723nm,0.1s							
ZEI				smax				
	comp=N,1µm,0.1s							
ZEI	**Tsey**	**0.17**	**245**	*e*Pg		**Pg**	**01 35 45.1**	**0.0**
	comp=N,723nm,0.1s							
				*e*Sg		**Sg**	**01 35 48.1**	**+0.4**
ZEI								
	comp=N,1µm,0.1s							
ARNR	**Ardon**	**0.37**	**20**	*i* PG		**Pg**	**01 35 48.8**	**-0.2**
ARNR				*i* S		**Sg**	**01 35 55.4**	**+1.3**
ONI	**Oni**	**0.55**	**242**	P		**Pg**	**01 35 52.1**	**-0.3**
ONI				S		**Sg**	**01 36 00.1**	**+0.3**
DUS	**Dusheti**	**0.87**	**149**	P		**Pb**	**01 35 57.2**	**-0.7**
KUBR	**Kubataba**	**1.08**	**332**	*e*Pg		**Pg**	**01 36 01.6**	**-1.4**
KUBR				*e*Sg		**Sg**	**01 36 18.1**	**+0.5**
TBLG	**Delisi**	**1.20**	**157**	P		**Pb**	**01 36 03.3**	**-0.4**
TBLG				S		**Sb**	**01 36 20.1**	**+1.0**
TI2	**Plekhanov**	**1.21**	**156**	*i* PG		**Pb**	**01 36 03.0**	**-0.7**
TI2				*e*S		**Sb**	**01 36 20.6**	**+1.5**
TI2				pmax		pmax		
	comp=Z,40nm,0.2s							
TI2	**Plekhanov**	**1.21**	**156**	*i* P		**Pb**	**01 36 03.0**	**-0.7**
TI2				*i* S		**Sb**	**01 36 20.4**	**+1.3**
	comp=Z,100nm,0.4s							
MTA	**Mtatsminda**	**1.25**	**156**	P		**Pb**	**01 36 04.0**	**-0.5**
MTA				S		**Sb**	**01 36 20.9**	**+0.4**
SHAR	**Shatzhatmas**	**1.38**	**311**	*e*PG		**Pn**	**01 36 05.8**	**-0.8**
SHAR				*e*S		**Sb**	**01 36 25.1**	**+0.9**
PYA	**Pyatigorsk**	**1.42**	**328**	*e*PG		**Pn**	**01 36 06.5**	**-0.6**
PYA				*e*S		**Sb**	**01 36 25.7**	**+0.5**
KIV	**Kislovodsk**	**1.52**	**318**	*e*PG		**Pn**	**01 36 07.4**	**-1.2**
KIV				*e*S		**Sb**	**01 36 29.1**	**+0.9**
NAGR	**Nagutskaya**	**1.88**	**329**	*e*Pn		**Pn**	**01 36 13.2**	**-0.5**
DBC	**Dubki**	**2.01**	**84**	*e*PN		**Pn**	**01 36 15.5**	**-0.1**
MAK	**Makhachkala**	**2.50**	**86**	*e*PN		**Pn**	**01 36 35.0**	**+12**
AB31	**Akbulak array**	**12.73**	**54**	⇓Pn		**P**	**01 38 38.4**	**-6.5**
	comp=Z,0.2nm,0.3s,baz=250,slow=13,SNR=12							
AB31				⇓Lg			01 40 50.9	
	comp=Z,0.4nm,0.5s,baz=254,slow=26,SNR=6.1							

STR ***25*** *01:36:33.6±0.2, 48.00N×7.66E, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
PRU ***25*** *01:36:33.3, 48.02N×7.67E*
NEIC ***25*** *01:36:33.6, 48.00N×7.66E, h10km, ML2.8(LDG), ML2.6(LEDBW), ML2.4(STR), After STR.*
NEIC Felt [III] in the Kaiserstuhl area, Germany.
ZUR ***25*** *01:36:33.5, 48.00N×7.61E, h3km±2km, ML2.5/23*
CSEM ***25*** *01:36:33.6±0.0, 48.00N×7.70E, h10km, ML2.8/22, Error ellipse: s-maj=0.8km s-min=0.6km az=3.0*
LDG ***25*** *01:36:34.2±0.0, 48.00N×7.65E, h10km, Md2.9/2, Ml2.8/25, Error ellipse: s-maj=0.9km s-min=0.8km az=162.0*
BGR ***25*** *01:36:34.3, 48.02N×7.65E, h5km, ML2.6/7*
LEDBW ***25*** *01:36:34.1±0.1, 48.00N×7.66E, h6km±2km, ML2.7, Error ellipse: s-maj=2.0km s-min=1.4km az=48.0*

ISC 25 01:36:32.3±0.2, 47.98N±0.01×7.57E±0.01, h10km±2km, n115, σ1§38/213, 11C-22D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LIBD	**Limburg**	**0.17**	**8**	⇑*i*Pg		**Pg**	**01 36 37.7**	**+1.6**
LIBD	**Limburg**	**0.17**	**8**	Pg		**Pg**	**01 36 37.6**	**+1.4**
FBB	**Freiburg**	**0.19**	**84**	⇑*i*Pg		**Pg**	**01 36 37.2**	**+0.7**
FBB				Sg		**Sg**	**01 36 39.3**	**-0.1**
FBB	**Freiburg**	**0.19**	**84**	⇑*e*P		**Pg**	**01 36 37.1**	**+0.6**
FBB				⇑*i*P			01 36 37.2	
FBB				S		**Sg**	**01 36 39.0**	**-0.1**
FBB				*e*S		**Sg**	**01 36 39.5**	**+0.1**
KIZ	**Kirchzarten**	**0.24**	**96**	⇓*i*Pg		**Pg**	**01 36 37.8**	**+0.5**
KIZ				*i* Sg		**Sg**	**01 36 40.4**	**-0.3**
KIZ	**Kirchzarten**	**0.24**	**96**	⇓*i*P		**Pg**	**01 36 37.8**	**+0.5**
KIZ				⇓*e*P			01 36 37.9	
KIZ				*i* S		**Sg**	**01 36 40.4**	**-0.3**
KIZ				*e*S		**Sg**	**01 36 40.4**	**-0.3**
FELD	**Feldberg**	**0.31**	**109**	⇓*e*P		**Pg**	**01 36 39.4**	**+0.6**
FELD				⇓*i*P			01 36 39.4	
FELD				*e*S		**Sg**	**01 36 43.1**	**0.0**
FELD	**Feldberg**	**0.31**	**109**	⇓*i*P		**Pg**	**01 36 39.4**	**+0.6**
FELD	**Feldberg**	**0.31**	**109**	Pg		**Pg**	**01 36 39.3**	**+0.5**
FELD				Sg		**Sg**	**01 36 43.1**	**0.0**
MOF	**Molkenrain**	**0.32**	**246**	Pg		**Pg**	**01 36 41.4**	**+2.5**
MOF				Sg		**Sg**	**01 36 47.9**	**+4.6**
MOF	**Molkenrain**	**0.32**	**246**	P		**Pg**	**01 36 41.6**	**+2.7**
ECH	**Echery**	**0.36**	**311**	Pg		**Pg**	**01 36 41.6**	**+1.9**
ECH	**Echery**	**0.36**	**311**	⇓*i*Pg		**Pg**	**01 36 41.7**	**+1.9**
WLS	**Welschbruch**	**0.46**	**342**	⇑*i*Pg		**Pg**	**01 36 43.2**	**+1.6**
WLS	**Welschbruch**	**0.46**	**342**	Pg		**Pg**	**01 36 43.0**	**+1.4**
WLS				Sg		**Sg**	**01 36 49.2**	**+1.4**
CDF	**Champ du Feu**	**0.47**	**336**	*e*Pg		**Pg**	**01 36 43.4**	**+1.5**
CDF				*e*Sg		**Sg**	**01 36 49.7**	**+1.4**
	92nm,0.3s							
CDF				*e*Sn		**Sn**	**01 36 53.3**	**+0.2**
HINF	**Hinteralfeld**	**0.51**	**251**	*e*Pg		**Pg**	**01 36 44.5**	**+1.9**
HINF				*e*Pn		**Pn**	**01 36 47.1**	**+1.8**
HINF				*e*Sg		**Sg**	**01 36 52.7**	**+3.2**
HINF				*e*Sn		**Sn**	**01 36 55.5**	**+1.5**
	38nm,0.2s							
BBS	**Basel-Blauen**	**0.52**	**184**	*e*Pg		**Pg**	**01 36 44.6**	**+1.9**
BBS				*i* PmP			01 36 46.4	
SULZ	**Sulz-Cheisache**	**0.58**	**141**	⇓*i*P		**Pg**	**01 36 45.0**	**+0.9**
BFO	**Black Forest**	**0.62**	**55**	*e*Pg		**Pg**	**01 36 44.7**	**-0.1**
	SNR=16							
BFO	**Black Forest**	**0.62**	**55**	⇑*e*P		**Pg**	**01 36 44.7**	**-0.1**
BFO				P			01 36 45.7	
BFO				S		**Sg**	**01 36 55.7**	**+2.6**
STR	**Strasbourg**	**0.62**	**12**	Pg		**Pg**	**01 36 46.1**	**+1.3**
BOURR	**Bourrignon**	**0.63**	**201**	⇑*i*P		**Pb**	**01 36 47.0**	**+2.1**
BALST	**Balsthal**	**0.65**	**172**	⇓*i*P		**Pb**	**01 36 46.8**	**+1.5**
SLE	**Schleitheim**	**0.66**	**109**	⇓*i*P		**Pb**	**01 36 45.8**	**+0.3**
FLACH	**Flaach**	**0.79**	**121**	⇓*i*P		**Pb**	**01 36 48.6**	**+0.9**
LOMF	**Lomont**	**0.80**	**219**	Pg		**Pg**	**01 36 50.3**	**+1.8**
LOMF				Sg		**Sg**	**01 37 01.5**	**+2.3**
LOMF	**Lomont**	**0.80**	**219**	P		**Pb**	**01 36 50.4**	**+2.5**
HAU	**Haudompre**	**0.82**	**272**	*e*Pg		**Pg**	**01 36 50.4**	**+1.7**
HAU				*e*Pn		**Pn**	**01 36 51.0**	**+1.3**
HAU				*e*Sg		**Sg**	**01 37 01.8**	**+2.1**
	115nm,0.2s							
TRULL	**Truellikon**	**0.82**	**113**	⇓*i*P		**Pb**	**01 36 48.0**	**-0.2**
SPAK	**Spaichingen**	**0.83**	**81**	Pg		**Pg**	**01 36 49.8**	**+0.9**
ZUR	**Zurich**	**0.92**	**131**	⇓*i*P		**Pb**	**01 36 51.2**	**+1.3**
STEIN	**Stein am Rhein**	**0.93**	**109**	*e*P		**Pb**	**01 36 51.4**	**+1.3**
SISB	**Singen-Sch Ber**	**0.99**	**107**	Pn		**Pn**	**01 36 52.3**	**+0.2**
SISB				⇑*i*Pg		**Pg**	**01 36 52.8**	**+0.7**
LANF	**Langenberg**	**1.01**	**9**	Pg		**Pg**	**01 36 52.2**	**-0.4**
LANF	**Langenberg**	**1.01**	**9**	P		**Pb**	**01 36 53.4**	**+1.9**
GUT	**Gutenstein**	**1.04**	**84**	Pn		**Pn**	**01 36 52.8**	**-0.2**
WEIN	**Weingarten**	**1.06**	**115**	*e*P		**Pb**	**01 36 53.6**	**+1.3**
WEIN	**Weingarten**	**1.06**	**115**	*e*P		**Pb**	**01 36 53.5**	**+1.2**
WILA	**Wila**	**1.07**	**122**	*e*P		**Pb**	**01 36 53.8**	**+1.4**
LBG	**Lerchenberg**	**1.07**	**50**	Pn		**Pn**	**01 36 52.8**	**-0.5**
THEF	**They Montfort**	**1.09**	**284**	Pg		**Pg**	**01 36 55.5**	**+1.4**
THEF				Sg		**Sg**	**01 37 09.9**	**+1.3**
THEF	**They Montfort**	**1.09**	**284**	*e*Pg		**Pg**	**01 36 55.4**	**+1.3**
	SNR=4.6							
THEF	**They Montfort**	**1.09**	**284**	*e*P		**Pb**	**01 36 55.7**	**+2.9**
TUBL	**Tuebingen Lnz**	**1.15**	**61**	Pg		**Pg**	**01 36 55.3**	**0.0**
TUBL				Sg		**Sg**	**01 37 09.7**	**-1.0**
BNALP	**Bannalp**	**1.25**	**152**	⇓*i*P		**Pb**	**01 36 57.1**	**+1.5**
TORNY	**Torny**	**1.28**	**199**	*e*P		**Pb**	**01 36 57.5**	**+1.5**
BUCH	**Bad Urach**	**1.28**	**68**	Pn		**Pn**	**01 36 55.9**	**-0.5**
BUCH				Sg		**Sg**	**01 37 14.0**	**-1.1**
WIMIS	**Wimmis**	**1.32**	**178**	⇓*i*P		**Pb**	**01 36 57.7**	**+1.0**
STU	**Stuttgart**	**1.34**	**53**	*e*Pg		**Pg**	**01 36 58.6**	**-0.6**
	SNR=6.1							
STU				*e*Sg		**Sg**	**01 37 15.0**	**-2.1**
STU	**Stuttgart**	**1.34**	**53**	*e*Pn		**Pn**	**01 36 58.5**	**+1.3**
STU				*e*S		**Sb**	**01 37 15.1**	**+0.8**
STU	**Stuttgart**	**1.34**	**53**	*e*Pn		**Pn**	**01 36 58.5**	**+1.3**
STU				*e*S		**Sb**	**01 37 15.1**	**+0.8**
KTD	**Kalmit**	**1.38**	**14**	*e*Pg		**Pg**	**01 36 59.5**	**-0.5**
	SNR=1.1							
LIENZ	**Alp Oberkamor**	**1.47**	**117**	⇓*i*P		**Pn**	**01 37 00.1**	**+1.1**
RFYF	**Reffroy**	**1.54**	**296**	*e*Pn		**Pn**	**01 37 00.8**	**+0.8**
RFYF				*e*Pg		**Pg**	**01 37 03.9**	**+0.8**
	baz=114							
RFYF				*e*Sn		**Sn**	**01 37 19.9**	**-0.3**
RFYF				*e*Sg		**Sg**	**01 37 24.7**	**+1.0**
	24nm,0.2s							
RFYF	**Reffroy**	**1.54**	**296**	*e*Pg		**Pg**	**01 37 03.9**	**+0.8**
RFYF				*e*Sn		**Sn**	**01 37 19.9**	**-0.3**
RFYF				*e*Sg		**Sg**	**01 37 24.7**	**+1.0**
	12nm,0.2s							
PLONS	**Plons**	**1.54**	**126**	⇓*i*P		**Pn**	**01 37 01.2**	**+1.1**
LKBD	**Leukerbad**	**1.59**	**179**	⇑*i*P		**Pn**	**01 37 02.0**	**+1.2**
SENIN	**Lac Senin**	**1.63**	**187**	*e*P		**Pn**	**01 37 02.4**	**+1.1**
SWS	**Schriesheim**	**1.68**	**26**	Pg		**Pg**	**01 37 05.2**	**-0.7**
GIMEL	**Gimel**	**1.70**	**212**	⇓*i*P		**Pn**	**01 37 03.2**	**+0.9**
GIMEL	**Gimel**	**1.70**	**212**	⇓*i*P		**Pn**	**01 37 03.3**	**+1.0**
FUSIO	**Fusio**	**1.70**	**154**	⇓*i*P		**Pn**	**01 37 03.9**	**+1.6**
CABF	**La Chapelle**	**1.70**	**217**	*e*Pn		**Pn**	**01 37 03.2**	**+0.9**
CABF				*e*Pg		**Pg**	**01 37 06.9**	**+0.6**
CABF				*e*Sg		**Sg**	**01 37 29.7**	**+0.7**
	14nm,0.2s							
SFTF	**Sexfontaines**	**1.71**	**278**	*e*Pn		**Pn**	**01 37 03.3**	**+0.8**
	baz=105							
SFTF				*e*Pg		**Pg**	**01 37 07.1**	**+0.6**
	baz=100							
SFTF				*e*Sn		**Sn**	**01 37 24.2**	**-0.3**
SFTF				*e*Sg		**Sg**	**01 37 29.9**	**+0.6**
	17nm,0.2s							
SFTF	**Sexfontaines**	**1.71**	**278**	*e*Pg		**Pg**	**01 37 07.1**	**+0.6**
SFTF				*e*Sn		**Sn**	**01 37 24.2**	**-0.3**
SFTF				*e*Sg		**Sg**	**01 37 29.9**	**+0.6**
	8.5nm,0.2s							
DAVA	**Damuels**	**1.71**	**113**	⇓*i*PN		**Pn**	**01 37 03.5**	**+1.0**
DAVA				*i* SN		**Sn**	**01 37 23.9**	**-0.7**
UBR	**Uberruh**	**1.74**	**99**	Pn		**Pn**	**01 37 03.5**	**+0.6**
UBR				Sn		**Sn**	**01 37 23.6**	**-1.6**
RUP	**Ruppelstein**	**1.75**	**349**	*e*Pg		**Pg**	**01 37 06.6**	**-0.8**
	SNR=1.0							
MEZF	**Maizieres J'vi**	**1.76**	**288**	*e*Pn		**Pn**	**01 37 04.3**	**+1.1**
	baz=109							
MEZF				*e*Pg		**Pg**	**01 37 08.1**	**+0.6**
	baz=111							
MEZF				*e*Sn		**Sn**	**01 37 24.9**	**-0.9**
MEZF				*e*Sg		**Sg**	**01 37 31.2**	**+0.2**
	9.4nm,0.2s							
MEZF	**Maizieres J'vi**	**1.76**	**288**	*e*Pg		**Pg**	**01 37 08.1**	**+0.6**
MEZF				*e*Sn		**Sn**	**01 37 24.9**	**-0.9**
MEZF				*e*Sg		**Sg**	**01 37 31.2**	**+0.2**
	4.7nm,0.2s							
TOD	**Tromm**	**1.82**	**26**	*e*Pg		**Pg**	**01 37 06.5**	**-2.2**
	SNR=1.3							
HDH	**Heidenheim**	**1.86**	**70**	Pg		**Pg**	**01 37 08.1**	**-1.4**
HDH				Sn		**Sn**	**01 37 26.4**	**-2.1**
ABH	**Alteburg**	**1.90**	**360**	Pg		**Pg**	**01 37 09.4**	**-0.9**
SIND	**Sindeldorf**	**1.92**	**44**	Pn		**Pn**	**01 37 04.0**	**-1.5**
WLF	**Walferdange**	**1.93**	**332**	*e*Pg		**Pg**	**01 37 10.3**	**-0.5**
	SNR=1.1							
WLF				*e*Sg		**Sg**	**01 37 34.2**	**-2.3**
DAVOX	**Davos**	**1.98**	**127**	⇓*i*P		**Pn**	**01 37 07.9**	**+1.6**
FUORN	**Ofenpass**	**2.29**	**126**	⇑*i*P		**Pn**	**01 37 12.6**	**+1.9**
MUGIO	**Muggio**	**2.29**	**153**	⇑*i*P		**Pn**	**01 37 12.0**	**+1.2**
TNS	**Taunus Mts**	**2.32**	**14**	*e*Pg		**Pg**	**01 37 16.9**	**-1.7**
	SNR=1.7							
TNS				*e*Sg		**Sg**	**01 37 46.6**	**-2.9**
MOTA	**Moosalm**	**2.47**	**104**	⇑*i*PN		**Pn**	**01 37 13.7**	**+0.3**
MOTA				*i* SG		**Sg**	**01 37 50.9**	**-3.8**
FUR	**Furstenfeldbru**	**2.49**	**84**	*e*Sg		**Sg**	**01 37 51.7**	**-3.7**
LPL	**La Plagne**	**2.53**	**193**	*e*Pn		**Pn**	**01 37 14.4**	**+0.2**
LPL				*e*Pg		**Pg**	**01 37 22.1**	**-0.8**
LPL				*e*Sg		**Sg**	**01 37 55.2**	**-1.4**
	7.1nm,0.4s							
LPG	**La Plagne**	**2.55**	**193**	*e*Pn		**Pn**	**01 37 15.3**	**+0.9**
LPG				*e*Pg		**Pg**	**01 37 22.8**	**-0.4**
LPG				*e*Sg		**Sg**	**01 37 54.9**	**-2.2**
	8.1nm,0.5s							
SQTA	**Sankt Quirin**	**2.58**	**106**	⇑*i*PN		**Pn**	**01 37 15.0**	**+0.1**
SQTA				*i* SG		**Sg**	**01 37 54.1**	**-4.1**
LOR	**Lormes**	**2.61**	**256**	*e*Pn		**Pn**	**01 37 15.0**	**-0.3**
	baz=81							
LOR				*e*Pg		**

LASF					*e*Sn	**Sn**	**01 38 35.8**	**-4.1**
	1.8nm,0.4s								
LASF					*e*Sg	**Sg**	**01 39 02.5**	**-5.7**
	1.5nm,0.2s								
LMR	**La Mourre**	**4.71**	**189**		*e*Pn	**Pn**	**01 37 44.5**	**-0.6**
LMR					*e*Sn	**Sn**	**01 38 35.8**	**-4.7**
	0.6nm,0.3s								
CLL	**Collm**	**4.85**	**45**		*e*SG	**Sg**	**01 39 14.0**	**+0.1**
CAF	**Calviac**	**4.88**	**233**		*e*Sg	**Sg**	**01 39 09.0**	**-5.7**
	1.0nm,0.3s								
PRU	**Pruhonice**	**5.01**	**64**		*e*SG	**Sg**	**01 39 10.2**	**-9.0**

NEIC ***25*** *01:36:53.8, 32.90S×68.65W, h4km, ML3.1(GUC), After GUC.*

GUC 25 01:36:53.8±0.7, 32.90S×68.65W, h4km±7km, MD3.7, ML3.1, 3C-3D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ZON	**Zonda**	**1.35**	**359**	⇑*i*	*i*P	Pb	01 37 17.0	-2.3
ZON					*e*S	Sb	01 37 35.0	-1.8
FCH	**Farellones**	**1.44**	**252**	⇓*i*	*i*P	Pn	01 37 20.9	0.0
FCH					*i* S	Sb	01 37 41.0	+1.4
FCH					AMP		01 37 42.7	
	comp=N,357nm,0.3s							
LMEL	**Las Melosas**	**1.61**	**234**	⇓*i*	*i*P	Pn	01 37 23.2	0.0
LMEL					*i* S	Sb	01 37 45.7	+1.3
LMEL					AMP		01 37 46.5	
	comp=E,527nm,0.4s							
JACH	**Jahuel**	**1.65**	**277**	*e*P		Pn	01 37 24.3	+0.5
JACH					*i* S	Sb	01 37 46.9	+1.3
CLCH	**Cerro Calan**	**1.66**	**252**	⇓*i*	*i*P	Pn	01 37 24.6	+0.7
CLCH					*i* S	Sb	01 37 47.9	+2.0
CLCH					AMP		01 37 49.2	
	comp=N,535nm,0.4s							
DSCH	**Colegio Aleman**	**1.69**	**252**	*e*P		Pn	01 37 24.9	+0.6
DSCH					*i* S	Sn	01 37 48.7	+2.1
DSCH					AMP		01 37 49.9	
	comp=E,393nm,0.6s							
PCH	**Pirque**	**1.72**	**245**	⇑*i*	*i*P	Pn	01 37 25.6	+0.8
PCH					*i* S	Sn	01 37 49.6	+2.1
PEL	**Peldehue**	**1.73**	**261**	*i* S		Sn	01 37 49.5	+1.8
RCDM	**Rinconada Maip**	**1.90**	**251**	*e*P		Pn	01 37 28.8	+1.4
RCDM					*i* S	Sn	01 37 55.1	+3.0
RCDM					AMP		01 37 57.2	
	comp=N,105nm,0.6s							
CHCH	**Chadas Angostu**	**1.97**	**238**	*e*P		Pn	01 37 29.7	+1.4
CHCH					*i* S	Sn	01 37 56.5	+2.7
ROCH	**El Roble**	**1.99**	**267**	*e*P		Pn	01 37 30.2	+1.6
ROCH					*i* S	Sn	01 37 57.8	+3.6
CACH	**El Canelo**	**2.03**	**233**	*i* P		Pn	01 37 30.7	+1.4
CACH					*i* S	Sn	01 37 58.8	+3.4
CICH	**Cipreses**	**2.05**	**226**	⇑*i*	*i*P	Pn	01 37 30.7	+1.2
TACH	**Talagante**	**2.06**	**248**	*i* P		Pn	01 37 30.9	+1.2
TACH					*i* S	Sn	01 37 59.5	+3.5
LCCH	**Las Cruces**	**2.52**	**256**	*e*P		Pn	01 37 38.5	+2.3
LCCH					*e*S	Sn	01 38 12.3	+4.6
LNV	**Longovilo**	**2.54**	**245**	*i* P		Pn	01 37 38.7	+2.2
LNV					*i* S	Sn	01 38 13.2	+4.9
SFDO	**San Fernando**	**2.61**	**228**	*e*P		Pn	01 37 40.8	+3.3
SFDO					*e*S	Sn	01 38 17.3	+7.2
CMCH	**Combarbala**	**2.64**	**310**	*i* S		Sn	01 38 16.3	+5.5

MDD ***25*** *01:41:15.6±1.9, 34.65N×4.02W, h6km±8km, mb2.9/5, Error ellipse: s-maj=14.5km s-min=12.1km az=136.0, PRXIMO*

CSEM ***25*** *01:41:17.8±0.4, 34.92N×4.22W, h15km, MD2.5, Error ellipse: s-maj=14.6km s-min=8.1km az=93.0*

CNRM ***25*** *01:41:18.3, 34.86N×3.52W, h15km, MD2.5*

ISC 25 01:41:17.6±0.8, 34.95N±0.04×4.14W±0.06, h6km, n17, σ1°26/31, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TOU	**Touzarine**	**0.32**	**87**	P		**Pg**	**01 41 22.5**	**-1.6**
TOU				S		**Sg**	**01 41 27.5**	**-0.9**
MPAL	**Palemas**	**0.32**	**30**	*i* P		**Pg**	**01 41 26.5**	**+2.3**
MPAL				*i* S		**Sg**	**01 41 34.5**	**+6.0**
TZK	**Tazeka**	**0.85**	**182**	*i* P		**Pb**	**01 41 34.0**	**-0.5**
TZK				*i* S		**Sb**	**01 41 48.5**	**+2.6**
ZAI	**Zaio**	**1.15**	**88**	P		**Pn**	**01 41 29.5**	**-10**
ZAI				S		**Sb**	**01 41 40.5**	**-14**
EMIJ	**Mijas**	**1.69**	**343**	P		**Pn**	**01 41 46.9**	**-1.1**
	0.3nm,0.1s,SNR=7.9							
EMIJ				S		**Sn**	**01 42 05.8**	**-4.3**
	2.7nm,0.2s,SNR=10.0							
EMIJ	**Mijas**	**1.69**	**343**	P		**Pn**	**01 41 46.9**	**-1.1**
	0.3nm,0.1s,SNR=7.9							
EMIJ				S		**Sn**	**01 42 06.0**	**-4.2**
	2.7nm,0.2s,SNR=10.0							
EBER	**Berja**	**2.20**	**27**	P		**Pn**	**01 41 55.8**	**+0.6**
	0.6nm,0.1s,SNR=7.9							
EBER				S		**Sn**	**01 42 23.8**	**+0.9**
	2.3nm,0.4s,SNR=4.0							
EBER	**Berja**	**2.20**	**27**	P		**Pn**	**01 41 55.8**	**+0.7**
	SNR=7.9							
EBER				S		**Sn**	**01 42 23.8**	**+0.9**
	2.3nm,0.4s,SNR=4.0							
ESPR	**Espera**	**2.37**	**325**	S		**Sn**	**01 42 26.6**	**-0.8**
	0.1nm,0.0s,SNR=4.0							
ESPR	**Espera**	**2.37**	**325**	S		**Sn**	**01 42 23.3**	**-4.0**
	0.1nm,0.0s,SNR=4.0							
EQES	**Quesada**	**2.98**	**17**	P		**Pn**	**01 42 06.9**	**+0.6**
	0.8nm,0.3s,SNR=5.1							
EQES				S		**Sn**	**01 42 43.6**	**+0.9**
	0.8nm,0.2s,SNR=7.9							
EQES	**Quesada**	**2.98**	**17**	P		**Pn**	**01 42 06.9**	**+0.6**
	0.8nm,0.3s,SNR=5.1							
EQES				S		**Sn**	**01 42 43.6**	**+0.8**
	0.8nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**3.23**	**354**	P		**Pn**	**01 42 10.7**	**+0.8**
	0.2nm,0.1s,SNR=4.0							
EADA				S		**Sn**	**01 42 48.2**	**-1.0**
	0.4nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**3.23**	**354**	P		**Pn**	**01 42 10.7**	**+0.8**
	0.2nm,0.1s,SNR=4.0							
EADA				S		**Sn**	**01 42 46.5**	**-2.7**
	0.4nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.48**	**325**	P		**Pn**	**01 42 13.4**	**0.0**
	0.2nm,0.2s,SNR=7.9							
EMIN				S		**Sn**	**01 42 50.0**	**-5.4**
	0.2nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.48**	**325**	P		**Pn**	**01 42 13.4**	**0.0**
	0.2nm,0.2s,SNR=7.9							
EMIN				S		**Sn**	**01 42 50.0**	**-5.4**
	0.2nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**4.45**	**330**	S		**Sn**	**01 43 14.9**	**-5.0**
	0.9nm,0.2s,SNR=7.9							

MOS ***25*** *01:58:58.5±1.1, 50.26N×152.55E, h482km, mb4.1/1, Error ellipse: s-maj=99.9km s-min=33.5km az=51.6*

KRSC 25 01:58:58.7±0.6, 50.27N×151.98E, h453km±9km, ML4.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ALID	**Alaid**	**2.35**	**74**	*e*P		P	02 00 01.8	-0.3
ALID				*e*S		S	02 00 47.7	-4.4
PAU	**Pauzhetka**	**3.29**	**67**	*e*P		P	02 00 08.4	-0.3
PAU				*e*S		S	02 00 58.8	-5.2
MIPR	**Malaya Ipel'ka**	**3.61**	**54**	*e*P		P	02 00 11.9	+0.6
APC	**Apacha**	**4.18**	**49**	*i* P		P	02 00 15.4	-0.9
APC				*e*S		S	02 01 11.1	-6.4
GRL	**Gorelyy**	**4.45**	**57**	*i* P		P	02 00 18.8	+0.1
RUS	**Russkaya**	**4.63**	**60**	P		P	02 00 20.4	-0.1
RUS				S		S	02 01 20.4	-4.6
RUS	**Russkaya**	**4.63**	**60**	*e*P		P	02 00 20.4	-0.1
RUS				*e*S		S	02 01 20.2	-4.8
PET	**Petropavlovsk**	**4.99**	**54**	P		P	02 00 24.0	+0.1
PET				S		S	02 01 26.4	-4.6
PET	**Petropavlovsk**	**4.99**	**54**	P		P	02 00 24.0	+0.1
PET				*e*S		S	02 01 26.3	-4.7
GNL	**Ganaly**	**5.03**	**45**	*e*P		P	02 00 23.1	-1.2
GNL				*e*S		S	02 01 24.8	-7.0
KOK	**Koryaka**	**5.12**	**51**	*e*P		P	02 00 26.8	+1.6
KOK				*e*S		S	02 01 29.8	-3.6
AVH	**Avacha**	**5.16**	**52**	*e*P		P	02 00 24.1	-1.4
AVH				*e*S		S	02 01 26.7	-7.3
UGLR	**Uglovaya**	**5.17**	**53**	*e*P		P	02 00 26.6	+0.9
UGLR				*e*S		S	02 01 31.0	-3.2
SMAR	**Somma**	**5.19**	**52**	*e*P		P	02 00 27.0	+1.2
SMAR				*e*S		S	02 01 31.9	-2.7
SDLR	**Sedlovina**	**5.24**	**52**	*i* P		P	02 00 27.7	+1.4
SDLR				*e*S		S	02 01 32.3	-3.1
NLC	**Nalytchevo**	**5.42**	**55**	P		P	02 00 27.8	-0.4
NLC				S		S	02 01 32.4	-6.3
NLC	**Nalytchevo**	**5.42**	**55**	*e*P		P	02 00 27.7	-0.5
NLC				*e*S		S	02 01 32.3	-6.4
SPN	**Mys Shipunski**	**5.75**	**57**	P		P	02 00 30.4	-1.1
SPN				S		S	02 01 37.3	-7.3
SPN	**Mys Shipunski**	**5.75**	**57**	*e*P		P	02 00 30.3	-1.2
SPN				*e*S		S	02 01 37.7	-6.9
TUMR	**Tumrok**	**7.05**	**41**	*i* P		P	02 00 45.6	+0.5
TUMR				*e*S		S	02 02 03.5	-5.8
KMNR	**Kamenistaya**	**7.41**	**39**	*e*P		P	02 00 49.6	+0.6
KMNR				*e*S		S	02 02 11.1	-5.2
SRDR	**Sredinnyy**	**7.62**	**34**	*i* P		P	02 00 50.8	-0.5
SRDR				*i* S		S	02 02 12.5	-7.9
KRSR	**Krestovskiy**	**7.87**	**38**	*i* P		P	02 00 54.3	+0.3
KBTR	**Krutoberegovo**	**8.80**	**43**	P		P	02 01 02.3	-2.0
KBTR	**Krutoberegovo**	**8.80**	**43**	*e*P		P	02 01 02.8	-1.5
KBTR				*e*S		S	02 02 33.8	-10
BKI	**Bering**	**9.81**	**54**	*e*P		P	02 01 11.2	-4.0
BKI				*e*S		S	02 02 47.8	-16

IDC ***25*** *02:15:54.3±1.4, 8.03N×91.96E, mb3.5/5, mb1 3.7/5, mb1mx3.6/18, mbtmp3.5/5, Error ellipse: s-maj=50.3km s-min=27.1km az=47.0*

ISC 25 02:15:57.3±1.4, 8.0N±0.3×92.0E±0.3, h33km, n6, σ0°99/6, mb3.5/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MKAR	**Makanchi Array**	**39.53**	**350**	P		**P**	**02 23 26.4**	**-0.3**
	0.3nm,0.6s,mb3.2,baz=166,slow=6.9,SNR=3.0							
SONM	**Songino Array**	**41.54**	**15**	P		**P**	**02 23 43.4**	**+0.1**
	0.9nm,0.7s,mb3.5,baz=193,slow=8.5,SNR=8.5							
WRA	**Warramunga Arr**	**50.10**	**124**	P		**P**	**02 24 51.5**	**-0.1**
	1.2nm,0.8s,mb4.0,baz=304,slow=8.5,SNR=3.1							
BRTR	**Keskin Array B**	**60.72**	**311**	P		**P**	**02 26 07.2**	**-0.9**
	0.4nm,0.7s,mb3.7,baz=124,slow=6.9,SNR=3.4							
GERES	**GERESS Array B**	**76.30**	**318**	P		**P**	**02 27 45.9**	**+1.2**
	0.1nm,0.3s,mb3.2,baz=80,slow=6.0,SNR=2.3							
NB2	**NORSAR Subarra**	**78.56**	**331**	P		**P**	**02 28 04.5**	**+7.5**
	0.6nm,0.7s,mb3.6,baz=91,slow=5.8							

CRAAG ***25*** *02:17:14.2, 7.99N×92.34E, Mb5.4*

MOS ***25*** *02:17:14.7±0.9, 7.88N×92.00E, h33km, mb5.6/50, Error ellipse: s-maj=10.5km s-min=4.7km az=123.3*

BJI ***25*** *02:17:14.5, 7.80N×92.00E, h30km, mB5.1, mb4.9, Ms4.7, Msz4.5*

HRVD ***25*** *02:17:15.6±0.4, 7.79N×92.07E, h12km, MW5.0/59, Centroid moment Tensor Solution. LP body waves: s14,c19;Mantle waves: s59,c104; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.23±.19; Mθθ-1.74±.15; Mϕϕ2.98±.18; Mrθ1.21±.49; Mrϕ-3.01±.14; Mθϕ-1.64±.47; Best double couple: Mo4.188×10^16 NP1: ϕs201°, δ68°, λ-3°; NP2:ϕs110°, δ87°, λ158°. Principal axes: T 5.083, Plg18°, Azm63°; N -1.779, Plg68°, Azm283°; P -3.294, Plg13°, Azm158°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *02:17:15.6±0.2, 7.79N×92.01E, h30km, mb5.3/66 Error ellipse: s-maj=6.6km s-min=4.2km az=215.0*

IDC ***25*** *02:17:18.1±2.7, 7.85N×92.03E, h50km±24km, mb4.3/26, mb1 4.4/26, mb1mx4.4/27, mbtmp4.6/26, MS4.4/14, Ms1 4.4/14, ms1mx4.2/29, Error ellipse: s-maj=13.9km s-min=10.3km az=67.0*

ORF ***25*** *02:17:26.1, 7.76N×89.42E, h30km, mb5.6*

ISC 25 02:17:13.8±0.2, 7.78N±0.03×92.01E±0.03, h30km, h30km±4km: pP-P, n406, σ1°13/346, mb5.0/102, MS4.4/36, 16C-14D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SNG	**Songkhla**	**8.55**	**93**	P		**P**	**02 19 19.0**	**+0.3**
	146nm,0.9s							
KULM	**Kulim**	**8.93**	**106**	*e*P		**P**	**02 19 20.1**	**-3.8**
NNT	**Nongplab**	**8.98**	**57**	P		**P**	**02 19 23.3**	**-1.3**
NST	**Nakhon Sawan**	**11.17**	**45**	P		**P**	**02 19 53.6**	**-1.2**
PALK	**Pallekele**	**11.22**	**268**	*e*P		**P**	**02 19 54.3**	**-1.3**
	92nm,0.6s							
PALK				*e*S		**S**	**02 21 46.1**	**-15**
MDRS	**Chennai**	**12.71**	**295**	*e*P		**P**	**02 20 14.3**	**-1.2**
MDRS				*e*S		**S**	**02 22 22.2**	**-15**
MDRS				*i*			02 24 36.3	
KKTK	**Khon Kaen**	**13.56**	**50**	P		**P**	**02 20 35.0**	**+8.1**
	494nm,0.9s							
BWNR	**Bhubaneshwar**	**13.82**	**335**	*e*P		**P**	**02 20 31.6**	**+1.4**
BWNR					AMb	AMB	02 20 36.9	
	comp=Z,108nm,0.7s							
BWNR				*e*S		**S**	**02 22 59.3**	**-4.3**
TRD	**Trivandrum**	**14.92**	**274**	*e*P		**P**	**02 20 46.2**	**+1.5**
TRD					AMb	AMB	02 20 51.0	
	comp=Z,93nm,2.3s							
HYB	**Hyderabad**	**16.25**	**307**	*e*P		**P**	**02 21 07.0**	**+5.2**
HYB	**Hyderabad**	**16.25**	**307**	*i* P		**P**	**02 21 07.0**	**+5.2**
HYB				*e*			02 21 15.0	
HYB				*e*S		**S**	**02 24 05.0**	**+4.4**
BOK	**Bokaro**	**16.98**	**340**	*e*P		**P**	**02 21 10.4**	**-0.5**
BOK					AMb	AMB	02 21 26.1	
	comp=Z,193nm,2.3s							
BOK				*e*			02 24 04.4	
BOK				*i*			02 26 25.2	
IMP	**Imphal**	**17.01**	**6**	*e*P		**P**	**02 21 13.0**	**+1.6**
BLSP	**Bilaspur**	**17.15**	**327**	*e*P		**P**	**02 21 10.9**	**-2.3**
BLSP				*e*S		**S**	**02 24 25.7**	**+4.3**
SHL	**Shillong**	**17.69**	**360**	*e*S		**S**	**02 24 38.0**	**+4.4**
SHBG	**Sahibganj**	**17.83**	**347**	*e*P		**P**	**02 21 23.0**	**+1.4**
LATR	**Latur**	**18.38**	**307**	*e*P		**P**	**02 21 30.0**	**+1.5**
KSM	**Kuching**	**19.27**	**108**	*e*P		**P**	**02 21 37.1**	**-2.1**
KAD	**Karad**	**19.80**	**300**	*e*		**P**	**02 21 52.0**	**+7.0**
KMI	**Kunming**	**20.06**	**29**	P		**P**	**02 21 47.6**	**-0.1**
KMI				AP			02 21 54.3	
KMI				XP			02 21 58.6	
KMI				PP		PP	02 22 05.0	-2.3
KMI				PPP		PPP	02 22 16.3	0.0
KMI				S		**S**	**02 25 26.6**	**+0.4**
KMI				AMB		AMB		
	comp=Z,49nm,1.4s							
KMI				AMB		AMB		
	comp=Z,363nm,4.3s							
KMI				LR		LR		
	comp=N,1μm,18.5s,MS4.3							
KMI				LR		LR		
	comp=E,622nm,16.7s,MS4.3							
KMI				LR		LR		
	comp=Z,863nm,16.7s,MS4.2							
KMI	**Kunming**	**20.06**	**29**	P		**P**	**02 21 47.6**	**-0.1**
KMI				S		**S**	**02 25 26.6**	**+0.4**
KMI				pmax		pmax		
	comp=Z,49nm,1.4s							
KMI				MLR		MLR		
	comp=Z,860nm,16.7s,MS4.2							
KMI	**Kunming**	**20.06**	**29**	P		**P**	**02 21 47.6**	**-0.1**
	comp=Z,49nm,1.4s							
KMI				pP			02 21 54.3	
KMI				sP			02 21 58.6	
KMI				PP		PP	02 22 05.0	-2.3
KMI				PPP		PPP	02 22 16.2	-0.1
KMI				S		**S**	**02 25 26.6**	**+0.4**
KMI				sS			02 25 39.2	
KMI				SS		SS	02 25 55.4	+0.3
KMI				SSS		SSS	02 26 08.7	-0.4
KMI				LR		LR		
	comp=Z,860nm,16.7s,MS4.2							
QIZ	**Qiongzhong**	**20.61**	**55**	⇓P		**P**	**02 21 53.0**	**-0.5**
QIZ				AP			02 22 02.5	
QIZ				S		**S**	**02 25 40.0**	**+2.6**
QIZ				AMB		AMB		
	comp=Z,71nm,1.4s							
QIZ				LR		LR		
	comp=N,2μm,15.9s,MS4.5							
QIZ				LR		LR		
	comp=E,751nm,15.9s,MS4.5							
QIZ				LR		LR		
	comp=Z,1μm,12.8s,MS4.4							
POO	**Poona**	**20.64**	**303**	⇓*i*		**P**	**02 22 03.0**	**+9.2**
	comp=Z,200nm,1.0s							
POO				*i*			02 25 39.0	
PKI	**Pulchoki**	**20.66**	**343**	*e*P		**P**	**02 21 54.1**	**+0.2**
	comp=Z,267nm,0.7s							
DMN	**Daman**	**20.78**	**342**	*e*P		**P**	**02 21 55.2**	**0.0**
	comp=Z,162nm,0.8s							
BHPL	**Bhopal**	**20.80**	**319**	*e*P		**P**	**02 21 56.0**	**+0.6**
BHPL					AMb	AMB	02 22 10.4	
	comp=Z,220nm,1.1s							
GUN	**Gumba**	**20.85**	**345**	*e*P		**P**	**02 21 56.0**	**+0.1**
	comp=Z,571nm,0.7s							
KKN	**Kakani**	**20.90**	**343**	*e*P		**P**	**02 21 56.4**	**0.0**
	comp=Z,333nm,0.9s							
GKN	**Gorkha**	**21.29**	**342**	*e*P		**P**	**02 22 00.7**	**+0.3**
	comp=Z,783nm,0.8s,mb6.1							
KOLN	**Koldanda**	**21.42**	**339**	*e*P		**P**	**02 22 02.3**	**+0.6**
	comp=Z,974nm,0.8s							
LSA	**Lhasa**	**21.82**	**358**	P		**P**	**02 22 06.0**	**+0.3**
LSA				AP			02 22 13.3	
LSA				XP			02 22 16.8	
LSA				S		**S**	**02 26 03.1**	**+2.9**
LSA				LR		LR		
	comp=N,610nm,23.7s							
LSA				LR		LR		
	comp=E,1μm,15.4s							
LSA				LR		LR		
	comp=Z,1μm,23.7s,MS4.2							
LSA	**Lhasa**	**21.82**	**358**	*e*P		**P**	**02 22 08.3**	**+2.6**
LSA				pmax		pmax		
	comp=Z,314nm,0.9s,mb5.7							
LSA	**Lhasa**	**21.82**	**358**	*e*P		**P**	**02 22 08.3**	**+2.6**
	comp=Z,314nm,0.9s,mb5.7							
GYA	**Guiyang**	**23.22**	**35**	⇑*i*	*i*P	**P**	**02 22 19.8**	**+0.2**
GYA					AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6							
KKM	**Kota Kinabalu**	**24.09**	**93**	*e*P		**P**	**02 22 28.9**	**+0.8**
LGTI	**Lohaghat**	**24.23**	**334**	*e*P		**P**	**02 22 32.5**	**+3.1**
PTH	**Pithoragarh**	**24.33**	**334**	*e*		**P**	**02 22 22.0**	**-8.4**
AJM	**Ajmer**	**24.87**	**320**		AMb	AMB	02 23 00.6	
	comp=Z,91nm,1.4s,mb5.1							
NDI	**New Delhi**	**25.04**	**328**	*e*P		**P**	**02 22 37.0**	**-0.2**
NDI				*e*			02 27 25.0	
CD2	**Chengdu**	**25.50**	**24**	P		**P**	**02 22 40.4**	**-1.1**
GZH	**Guangzhou**	**25.52**	**51**	P		**P**	**02 22 46.1**	**+4.3**
GZH				LR		LR		
	comp=N,939nm,14.3s,MS4.5							
GZH				LR		LR		
	comp=E,632nm,14.3s,MS4.5							
GZH				LR		LR		
	comp=Z,773nm,13.1s,MS4.4							
DDI	**Dehra Dun**	**25.97**	**332**	*e*		**P**	**02 22 45.0**	**-0.8**
ENH	**Enshi**	**27.73**	**34**	P		**P**	**02 23 02.8**	**+0.9**
	comp=Z,89nm,1.0s,mb5.3							
THN	**Thein Dam**	**28.83**	**331**	*e*		pP	02 23 20.3	-0.3
LZH	**Lanzhou**	**30.18**	**19**	*e*P		**P**	**02 23 27.8**	**+3.9**
LZH				AP		pP	02 23 32.3	-0.4
LZH				XP		sP	02 23 35.5	-1.1
LZH				AMB		AMB		
	comp=Z,70nm,1.2s,mb5.3							
LZH				LR		LR		
	comp=N,2μm,18.8s							
LZH				LR		LR		
	comp=Z,2μm,19.2s,MS4.8							
LZH	**Lanzhou**	**30.18**	**19**	*e*P		**P**	**02 23 27.7**	**+3.8**
LZH				*SP		sP	02 23 35.5	-1.1
LZH				pmax		pmax		
	comp=Z,70nm,1.2s,mb5.3							
LZH				MLR		MLR		
	comp=Z,2μm,19.2s,MS4.8							
LZH	**Lanzhou**	**30.18**	**19**	*e*P		**P**	**02 23 27.7**	**+3.8**
	comp=Z,70nm,1.2s,mb5.3							
LZH				pP		pP	02 23 32.2	-0.5
LZH				sP		sP	02 23 35.5	-1.1
LZH				LR		LR		
	comp=Z,2μm,19.2s,MS4.8							
XAN	**Xi'an**	**30.44**	**28**	P		**P**	**02 23 23.3**	**-2.9**
XAN					AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.2							
WHN	**Wuhan**	**30.83**	**40**	*e*P		**P**	**02 23 28.5**	**-1.1**
GTA	**Gaotai**	**32.27**	**11**	P		**P**	**02 23 42.1**	**-0.1**
GTA				XP		sP	02 23 56.9	+2.1
GTA				SCP			02 30 16.0	
GTA				AMB		AMB		
	comp=Z,26nm,1.0s,mb5.0							
GTA				AMB		AMB		
	comp=Z,46nm,5.3s							
GTA				LR		LR		
	comp=N,304nm,21.7s,MS4.1							
GTA				LR		LR		
	comp=E,339nm,22.4s,MS4.1							
GTA				LR		LR		
	comp=Z,356nm,22.1s,MS4.0							
KSH	**Kashi**	**34.73**	**338**	*e*P		**P**	**02 24 08.8**	**+5.3**
KSH				*e*AP		pP	02 24 14.0	+1.6
KSH				*e*XP		sP	02 24 15.6	-0.6
KSH				*e*PP		PP	02 25 25.1	+4.3
KSH				AMB		AMB		
	comp=Z,50nm,0.4s,mb5.8							
KSH				AMB		AMB		
	comp=Z,190nm,11.9s							
KSH				LR		LR		
	comp=N,6μm,31.7s							
KSH				LR		LR		
	comp=E,19μm,44.9s							
NJ2	**Nanjing**	**34.73**	**42**	*e*P		**P**	**02 24 08.5**	**+4.9**
NJ2				XP		sP	02 24 18.3	+2.0
NJ2				S		**S**	**02 29 38.0**	**+7.1**
NJ2				AMB		AMB		
	comp=Z,40nm,1.0s,mb5.3							
NJ2				AMB		AMB		
	comp=Z,140nm,4.3s							
NJ2				LR		LR		
	comp=N,690nm,10.4s							
NJ2				LR		LR		
	comp=E,990nm,9.1s							
NJ2				LR		LR		
	comp=Z,540nm,9.6s							
WMQ	**Urumqi**	**36.10**	**355**	P		**P**	**02 24 15.6**	**+0.5**
WMQ				AP		pP	02 24 25.3	+1.3
WMQ				XP		sP	02 24 29.3	+1.5
WMQ				PP		PP	02 25 38.3	+0.7
WMQ				S		**S**	**02 29 52.1**	**+0.2**
WMQ				AMB		AMB		
	comp=Z,77nm,0.8s,mb5.7							
WMQ				AMB		AMB		
	comp=Z,341nm,4.7s							
WMQ				LR		LR		
	comp=N,383nm,15.0s,MS4.5							

AAK Ala-Archa 37.99 339 *e* **P** **02 24 31.6 +0.6**
comp=Z,122nm,1.0s,mb5.6
AAK *e* pP 02 24 40.2 +0.3
FRU Bishkek 38.13 339 *e*P **P** **02 24 35.0 +2.9**
FRU *e* 02 25 56.0
FRU pmax pmax
comp=Z,150nm,2.0s,mb5.4
FRU MLR MLR
comp=Z,500nm,16.0s,MS4.4
CHMS Chumysh 38.22 339 P pP 02 24 43.2 +1.3
SNR=8.0
EKS2 Erkin-Say 38.28 338 P **P** **02 24 34.9 +1.5**
SNR=10
USP Ospenovka 38.55 339 P **P** **02 24 36.6 +1.0**
SNR=16
MKAR Makanchi Array 39.76 350 P **P** **02 24 45.4 -0.3**
comp=Z,5.0nm,0.5s,mb4.5,baz=168,slow=9.1,SNR=48
MKAR S **S** **02 30 46.0 -1.4**
comp=Z,0.3nm,0.5s,baz=290,slow=41,SNR=2.1
MKAR Makanchi Array 39.76 350 P **P** **02 24 45.4 -0.3**
MKAR S **S** **02 30 46.0 -1.4**
KKAR Karatay Array 39.93 335 P **P** **02 24 47.6 +0.4**
KKAR pmax pmax
comp=Z,36nm,0.6s,mb5.3
SONM Songino Array 41.75 15 P **P** **02 25 02.0 0.0**
comp=Z,6.1nm,0.7s,mb4.3,baz=196,slow=8.6,SNR=32
SONM LR LR 02 44 55.0
comp=Z,618nm,21.2s,MS4.5,baz=195,slow=40
FITZ Fitzroy Crossi 41.99 128 *i*P **P** **02 25 03.7 -0.7**
comp=Z,47nm,1.0s,mb5.1
FITZ *e*pP pP 02 25 13.8 +0.4
FITZ *e*PCP PcP 02 27 00.0 +0.1
FITZ Fitzroy Crossi 41.99 128 P **P** **02 25 03.8 -0.5**
comp=Z,68nm,1.0s,mb5.2,baz=332,slow=4.6,SNR=24
FITZ PcP PcP 02 27 00.1 +0.2
comp=Z,18nm,0.7s,baz=276,slow=2.7,SNR=4.3
ZAK Zakamensk 43.49 10 *e*P **P** **02 25 16.5 +0.3**
ZAK *e* 02 27 10.0
ZAK pmax pmax
comp=Z,24nm,1.1s,mb4.8
ZAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.1
JNU Nakatsue 43.90 49 P **P** **02 25 20.4 +0.7**
comp=Z,12nm,1.0s,mb4.6,baz=56,slow=27,SNR=2.3
SNY Shenyang 43.92 34 ⇑P **P** **02 25 21.8 +2.0**
TLY Talaya 44.81 10 *e*P **P** **02 25 32.4 +5.5**
TLY *e* 02 27 07.3
TLY *e*S **S** **02 32 07.7 +6.2**
TLY pmax pmax
comp=Z,49nm,1.3s,mb5.2
TLY MLR MLR
comp=Z,228nm,19.0s,MS4.1
TLY Talaya 44.81 10 P **P** **02 25 29.0 +2.2**
comp=Z,62nm,1.2s,mb5.3
IRK Irkutsk 45.46 11 *e*P **P** **02 25 36.2 +4.2**
IRK pmax pmax
comp=Z,77nm,1.8s,mb5.2
MUN Mundaring 45.79 151 *e*P **P** **02 25 35.8 +0.9**
comp=Z,21nm,0.8s,mb5.1
MUN *e*pP pP 02 25 45.8 +1.9
MUN Mundaring 45.79 151 *e*P **P** **02 25 35.8 +0.9**
MUN *e**PP pP 02 25 45.8 +1.9
MUN pmax pmax
comp=Z,21nm,0.8s,mb5.1
CN2 Changchun 46.25 34 *e*P **P** **02 25 39.8 +1.4**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NWAO Narrogin (SRO) 47.06 151 *e*P **P** **02 25 45.3 +0.3**
NWAO pmax pmax
comp=Z,60nm,1.4s
NWAO Narrogin (SRO) 47.06 151 P **P** **02 25 45.5 +0.5**
comp=Z,15nm,0.5s,mb5.2,baz=339,slow=6.2,SNR=7.0
NWAO Narrogin (SRO) 47.06 151 *e*P **P** **02 25 45.3 +0.4**
comp=Z,60nm,1.4s,mb5.3
HIA Hailar 47.46 24 *e*P **P** **02 25 45.7 -2.2**
HIA pmax pmax
comp=Z,39nm,1.2s
HIA Hailar 47.46 24 *e*P **P** **02 25 45.7 -2.1**
comp=Z,39nm,1.2s,mb5.2
NVS Novosibirsk 47.46 353 *e*P **P** **02 25 44.4 -3.4**
NVS *e*S **S** **02 32 37.0 -2.3**
NVS pmax pmax
comp=Z,78nm,1.1s,mb5.5
NVS pmax pmax
comp=N,65nm,1.2s
NVS pmax pmax
comp=E,14nm,0.7s
NVS smax
comp=N,24nm,2.4s
VOSK Vostochnaya 47.99 343 P **P** **02 25 50.9 -1.1**
VOSK pmax pmax
comp=Z,46nm,0.8s,mb5.6
BVA0 Borovoye Array 48.43 343 P **P** **02 25 54.8 -0.5**
BVA0 pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
BVAR Borovoye Array 48.43 343 P **P** **02 25 54.8 -0.5**
comp=Z,5.9nm,0.8s,mb4.7,baz=149,slow=8.6,SNR=14
BVAR S **S** **02 32 51.7 -1.3**
comp=Z,0.2nm,0.4s,baz=121,slow=17,SNR=2.3
BRVK Borovoye 48.49 343 *e*P **P** **02 25 54.5 -1.3**
BRVK pmax pmax
comp=Z,24nm,0.8s,mb5.3
BRVK Borovoye 48.49 343 *e*P **P** **02 25 54.5 -1.3**
comp=Z,24nm,0.8s,mb5.3
ZRNK Zerenda 48.78 342 *e*P **P** **02 25 57.4 -0.7**
ZRNK *e* pP 02 26 06.7 -0.5
ZRNK pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
ZRNK Zerenda 48.78 342 *e*P **P** **02 25 57.4 -0.6**
comp=Z,2.2nm,0.4s,mb4.5
ZRNK *e* pP 02 26 06.7 -0.5
MDJ Mudanjiang 49.08 35 P **P** **02 26 05.6 +5.1**
MDJ AP pP 02 26 10.0 +0.4
MDJ PP PP 02 27 59.8 +5.5
MDJ S **S** **02 33 05.8 +3.5**
MDJ AMB AMB
comp=Z,14nm,1.1s,mb4.9
MDJ AMB AMB
comp=Z,139nm,5.2s
MDJ LR LR
comp=N,146nm,26.2s,MS4.1
MDJ LR LR
comp=E,197nm,26.9s,MS4.1
MDJ LR LR
comp=Z,158nm,23.9s,MS3.9
AB31 Akbulak array 49.33 333 P **P** **02 26 02.5 +0.2**
AB31 pmax pmax
comp=Z,27nm,0.6s,mb5.5
WRA Warramunga Arr 49.94 124 P **P** **02 26 06.3 -1.1**
comp=Z,24nm,0.8s,mb5.3,baz=304,slow=8.8,SNR=72
WRA PcP PcP 02 27 27.8 +0.3
comp=Z,6.7nm,1.0s,baz=311,slow=3.5,SNR=4.9
WRAB Tennant Creek 49.94 124 *e*P **P** **02 26 06.3 -1.1**
WRAB *e* pP 02 26 15.9 -0.7
WRAB pmax pmax
comp=Z,39nm,0.8s,mb5.5
WRAB Tennant Creek 49.94 124 *e*P **P** **02 26 06.3 -1.1**
comp=Z,40nm,0.8s,mb5.5
WRAB *e* pP 02 26 15.9 -0.7
WB2 Warramunga Arr 49.95 124 *e*P **P** **02 26 06.3 -1.2**
WB2 *e*pP pP 02 26 16.2 -0.4
MAT Matsushiro 50.80 49 *e*P pP 02 26 23.0 +0.1
MAT Matsushiro 50.80 49 P pP 02 26 23.4 +0.5
MJAR Matsushiro Arr 50.80 49 P **P** **02 26 14.1 +0.4**
comp=Z,1.5nm,0.3s,mb4.4,baz=234,slow=4.3,SNR=4.2
MJAR PcP PcP 02 27 30.4 -0.2
comp=Z,6.4nm,1.0s,baz=217,slow=2.9,SNR=5.1
HAKT HAKKARI 52.74 312 *i* P **P** **02 26 27.2 -1.2**
GNI Garni 53.01 315*d* *i*P **P** **02 26 30.5 +0.2**
GNI pmax pmax
comp=Z,25nm,1.7s
GNI Garni 53.01 315 LR LR 02 53 05.4
comp=Z,222nm,18.8s,MS4.2,baz=289,slow=40
GNI Garni 53.01 315 *e*P **P** **02 26 29.6 -0.8**
comp=Z,42nm,0.8s,mb5.4
KLR Kul'dur 53.06 32 *e*P **P** **02 26 34.8 +4.2**
KLR MLR MLR
comp=N,500nm,15.0s
KLR MLR MLR
comp=Z,600nm,15.0s,MS4.8
TBLG Delisi 53.67 317 P **P** **02 26 35.1 -0.1**
TBLG S sP 02 26 42.6 -5.2
BEST Besiri 54.67 311 *i* P **P** **02 26 47.4 +4.8**
ZEI Tsey 54.68 318 *e*P **P** **02 26 40.3 -2.3**
ZEI *i**PP pP 02 26 50.6 -1.1
ZEI *i* 02 28 43.4
ZEI pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
ARU Arti 55.17 338⇓ *i*P **P** **02 26 45.2 -0.8**
ARU *e* 02 28 46.7
ARU *e*PPP PPP 02 30 00.4 -3.9
ARU *e*S **S** **02 34 30.0 +4.7**
ARU pmax pmax
comp=Z,83nm,1.0s,mb5.7
ARU MLR MLR
comp=N,200nm,19.0s,MS4.6
ARU MLR MLR
comp=Z,400nm,19.0s,MS4.5
ARU MLR MLR
comp=E,400nm,18.0s,MS4.6
ARU Arti 55.17 338 *e*P **P** **02 26 45.3 -0.7**
comp=E,87nm,1.0s,mb5.7
ARU *e* 02 26 50.3
ARU *e* pP 02 26 54.3 -0.9
CLNS Chul'man 55.27 21 *e*P **P** **02 26 47.9 +1.2**
CLNS pmax pmax
comp=Z,43nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,22nm,1.1s
CLNS pmax pmax
comp=E,17nm,1.0s
CLNS MLR MLR
comp=Z,200nm,11.0s,MS4.5
CLNS MLR MLR
comp=N,700nm,9.0s
CLNS MLR MLR
comp=E,70nm,11.0s
KMBO Kilima Mbogo 55.32 263 P **P** **02 26 49.0 +1.4**
comp=E,2.6nm,0.7s,mb4.4,baz=53,slow=10,SNR=7.0
KIV Kislovodsk 55.98 319 *e*P **P** **02 26 51.7 -0.3**
KIV *e* pP 02 27 00.6 -0.6
KIV pmax pmax
comp=Z,55nm,0.9s,mb5.6
KIV Kislovodsk 55.98 319 *e*P **P** **02 26 51.7 -0.3**
comp=Z,55nm,0.9s,mb5.6
KIV *e* 02 26 56.6
KIV *e* pP 02 27 00.6 -0.5
ELZG Elazig 56.57 311 *i* P **P** **02 26 52.1 -4.1**
MALT Malatya 56.92 311 *e*P **P** **02 26 57.9 -1.0**
MALT *e* pP 02 27 07.6 -0.5
MALT pmax pmax
comp=Z,148nm,0.6s
MALT Malatya 56.92 311 *e*P **P** **02 26 57.9 -1.0**
comp=Z,148nm,0.6s
MALT *e* pP 02 27 07.6 -0.5
MKRJ Makawir 57.42 302 P **P** **02 27 04.2 +1.8**
HRFI Mount Harif 57.64 301 P **P** **02 27 01.7 -2.3**
EIL Elat 57.65 300 P **P** **02 27 05.0 +1.0**
EIL Elat 57.65 300 *e*P **P** **02 27 03.5 -0.5**
comp=Z,49nm,1.3s,mb5.4
EIL *e* pP 02 27 13.8 +0.6
PRNI Paran 57.72 301 P **P** **02 27 06.2 +1.6**
SOC Sochi 57.81 317 *e*P **P** **02 26 52.3 -13**
SOC *e* 02 29 12.0
SOC *e*S **S** **02 34 52.0 -8.4**
SOC MLR MLR
comp=Z,213nm,18.0s,MS4.3
SOC MLR MLR
comp=N,199nm,22.0s,MS4.2
SOC MLR MLR
comp=E,135nm,23.0s,MS4.2
SLTI Sal'it 58.06 303 P **P** **02 27 08.6 +1.7**
YSS Yuzh-Sakhalins 58.16 39 *e*P **P** **02 27 06.0 -1.4**
YSS *i* pP 02 27 16.2 -0.5
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.4
YSS Yuzh-Sakhalins 58.16 39 *e*P **P** **02 27 06.2 -1.2**
comp=Z,51nm,1.1s,mb5.5
KZIT Kziot 58.34 301 P **P** **02 27 10.6 +1.8**
MEST Erdemli 59.74 308 *i* P **P** **02 27 21.9 +3.4**
CTA Charters Tower 60.11 118 *e*P **P** **02 27 20.5 -0.7**
comp=Z,7.8nm,0.9s,mb4.7
CTA Charters Tower 60.11 118 *e*P **P** **02 27 20.5 -0.7**
CTA pmax pmax
comp=Z,8.0nm,0.9s
CTA Charters Tower 60.11 118 P **P** **02 27 20.6 -0.6**
comp=Z,8.0nm,1.0s,mb4.7,baz=306,slow=8.3,SNR=4.6
BOYT Boyabat 60.44 313 *i* P **P** **02 27 30.5 +7.3**
YAK Yakutsk 60.77 19 P **P** **02 27 25.3 +0.2**
YAK *e* pP 02 27 33.5 -1.0
YAK pmax pmax
comp=Z,52nm,0.9s,mb5.7
YAK Yakutsk 60.77 19 P **P** **02 27 25.3 +0.2**
comp=Z,52nm,0.9s,mb5.7
YAK *e* pP 02 27 33.5 -1.0
BR131 Keskin Array S 60.90 311 *e*P **P** **02 27 24.3 -2.0**
comp=Z,8.3nm,0.7s,mb5.0
BR131 *e* pP 02 27 34.3 -1.4
BRTR Keskin Array B 60.90 311 P **P** **02 27 25.2 -1.2**
comp=Z,1.5nm,0.8s,mb4.2,baz=135,slow=7.0,SNR=8.1
BALT Daday 61.57 313 *i* P **P** **02 27 28.6 -2.3**
STKA Stephens Creek 61.58 133 *e*P **P** **02 27 30.6 -0.5**
comp=Z,13nm,1.0s,mb5.0
STKA *e*pP pP 02 27 41.2 +0.8
STKA Stephens Creek 61.58 133 P **P** **02 27 30.1 -1.0**
comp=Z,14nm,1.0s,mb5.1,baz=321,slow=6.8,SNR=10
STKA LR LR 02 53 37.3
comp=Z,412nm,22.0s,MS4.5,baz=119,slow=35
SIM Simferopol' 62.06 317⇑ *e*P **P** **02 27 42.2 +8.1**
SIM pmax pmax
comp=Z,39nm,0.8s,mb5.6
SIM MLR MLR
comp=Z,170nm,20.0s,MS4.2
SGKT Sivrigoynuk 62.29 312 *i* P **P** **02 27 28.6 -7.2**
ISP Isparta 62.84 309 *e*P **P** **02 27 38.3 -1.1**
ISP *e* pP 02 27 48.0 -0.7
ISP pmax pmax
comp=Z,62nm,1.4s,mb5.5
ISP Isparta 62.84 309 *e*P **P** **02 27 38.3 -1.1**
comp=Z,62nm,1.4s,mb5.5
ISP *e* pP 02 27 48.0 -0.8
TKTP Tekketepe 63.03 309 *i* P **P** **02 27 38.1 -2.5**
MOS Moscow 64.08 329 *e*P **P** **02 27 44.7 -2.5**
MOS *e* 02 28 19.4
OBN Obninsk 64.34 328⇑ *e*P **P** **02 27 47.1 -1.9**
OBN *i **PP pP 02 27 56.6 -1.8
OBN *e* 02 28 05.2
OBN *e* 02 28 21.2
OBN *e*S **S** **02 36 20.0 -3.6**
OBN pmax pmax
comp=Z,33nm,1.6s,mb5.1
OBN MLR MLR
comp=Z,300nm,14.0s,MS4.6
OBN Obninsk 64.34 328 *e*P **P** **02 27 46.8 -2.2**
comp=Z,55nm,0.9s,mb5.6
OBN *e* pP 02 27 56.6 -1.7
ULDT Uludag 64.36 311 *i* P **P** **02 27 47.7 -1.7**
PSN Preselentsi 65.82 314 P pP 02 28 07.0 -1.1
URLA Izmir 65.97 308 *i* P **P** **02 27 58.3 -1.5**
KIS Kishinev 66.18 318 *e*P **P** **02 28 08.0 +7.0**
KIS *e*S S 02 36 52.0 +5.8
CFR Carcaliu 66.19 316 ⇓P **P** **02 28 00.1 -1.0**
NPS Neapolis 66.30 305 *e*P pP 02 28 10.0 -1.3
PRK Paraskevi 66.37 309 *e*P **P** **02 28 02.2 -0.1**
APE Apeiranthos 66.61 307 *i* P **P** **02 28 03.4 -0.5**
AKASG Malin Array Be 66.93 322 P **P** **02 28 03.5 -2.2**
comp=Z,2.2nm,0.7s,mb4.3,baz=86,slow=5.6,SNR=12
AKASG Malin Array Be 66.93 322 P **P** **02 28 03.5 -2.2**
TOO Toolangi 67.23 136 *e*P **P** **02 28 09.0 +1.1**
comp=Z,20nm,0.9s,mb5.2
TOO Toolangi 67.23 136 *e*P **P** **02 28 09.0 +1.1**
TOO pmax pmax
comp=Z,20nm,0.9s,mb5.2
RDO Rodhopi 67.24 311 *e*P pP 02 28 16.3 -0.9
VRI Vrincioaia 67.31 317 ⇓P **P** **02 28 07.5 -0.7**
SZH Strazhica 67.34 314 P **P** **02 28 08.0 -0.4**
VAM Vamos 67.47 305 *e*P pP 02 28 19.5 +0.8
TIXI Tiksi 67.75 12 *e*P **P** **02 28 07.1 -3.4**
TIXI *e*S S 02 36 57.5 -7.2
TIXI pmax pmax
comp=N,25nm,0.9s
TIXI pmax pmax
comp=Z,126nm,0.9s,mb6.0
TIXI pmax pmax
comp=E,11nm,0.8s
TIXI pmax pmax
comp=Z,325nm,1.7s,mb6.1
TIXI MLR MLR
comp=Z,204nm,15.0s,MS4.5
MLR Muntele Rosu 67.77 316 P **P** **02 28 10.8 -0.3**
comp=Z,5.2nm,0.7s,mb4.7,baz=41,slow=2.6,SNR=12
ZIMR 67.82 314 ⇑P **P** **02 28 11.3 -0.1**
MA2 Magadan 67.83 28 *e*P **P** **02 28 11.1 -0.1**
MA2 *e* pP 02 28 19.8 -0.8
MA2 pmax pmax
comp=Z,37nm,1.1s,mb5.3
MA2 Magadan 67.83 28 *e*P **P** **02 28 11.1 -0.1**
comp=Z,37nm,1.1s,mb5.3
MA2 *e* pP 02 28 19.8 -0.8
RZN Rozhen 67.94 312 P **P** **02 28 11.5 -0.7**
VOIR 68.38 316 ⇑P **P** **02 28 13.6 -1.3**
MATP Matopo 68.42 245 P **P** **02 28 15.4 -0.1**
comp=Z,1.5nm,0.9s,mb4.0,baz=107,slow=6.5,SNR=2.7
PGB Panagyurishte 68.49 313 P **P** **02 28 12.0 -3.6**
NVR Nevrokopi 68.52 311 *e*P pP 02 28 24.2 -1.0
PLG Polygyros 68.69 310 *e*P pP 02 28 25.4 -0.8
BURAR Bucovina Array 68.71 318 ⇓P **P** **02 28 16.8 -0.1**
BURAR Bucovina Array 68.71 318 ⇓P **P** **02 28 16.8 -0.1**
KKB Krupnik 69.18 312 P **P** **02 28 18.5 -1.4**
VTS Vitosha 69.19 313 P **P** **02 28 20.0 +0.1**
ITM Ithomi 69.48 307 *e*P pP 02 28 30.1 -1.1
PET Petropavlovsk 69.85 36 *e*P **P** **02 28 26.3 +2.5**
PET *e* 02 37 30.4
PET MLR MLR
comp=Z,200nm,17.0s,MS4.4
SEY Seymchan 69.90 25 *e*P **P** **02 28 24.6 +0.7**
SEY pmax pmax
comp=E,20nm,1.3s
SEY pmax pmax
comp=Z,40nm,1.3s,mb5.2
VSU Vasula 70.60 330 *e*P **P** **02 28 26.5 -1.7**
KWP Kalwaria 70.74 320 *e*P **P** **02 28 28.8 -0.4**
KWP *e* pP 02 28 38.1 -0.5
KWP Kalwaria 70.74 320 *e*P **P** **02 28 28.8 -0.5**
KWP *e* 02 28 33.3
KWP *e* pP 02 28 38.1 -0.5
KOLS Kolonicke sedl 70.89 319 *e*P **P** **02 28 30.3 +0.1**
KOLS *e*pP pP 02 28 39.1 -0.4
LVZ Lovozero 70.93 340 *e*P **P** **02 28 33.0 +2.9**
LVZ pmax pmax
comp=Z,16nm,0.8s,mb5.0
LVZ MLR MLR
comp=Z,536nm,20.0s,MS4.8
LVZ MLR MLR
comp=N,483nm,18.0s,MS4.9
LVZ MLR MLR
comp=E,254nm,17.0s,MS4.9
APA Apatity 71.20 340 *e*P **P** **02 28 30.0 -1.7**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.1
SUW Suwalki 71.36 324 *e*P **P** **02 28 31.4 -1.5**
SUW *e* pP 02 28 40.7 -1.5
SUW Suwalki 71.36 324 *e*P **P** **02 28 31.4 -1.5**
SUW *e* 02 28 36.0
SUW *e* pP 02 28 40.7 -1.6
CRVS Cervenica-Dubn 71.41 319 *e*P **P** **02 28 34.3 +1.0**
CRVS *e*pP pP 02 28 44.4 +1.7
STHS Stebnicka Huta 71.64 319 *e*P **P** **02 28 34.7 0.0**
STHS *e*pP pP 02 28 43.6 -0.4
DIVS Divcibare 71.72 314⇓ *i*P **P** **02 28 34.2 -1.0**
FINES FINESS Array B 71.82 332 P **P** **02 28 34.5 -1.0**
comp=Z,3.5nm,0.7s,mb4.4,baz=127,slow=9.5,SNR=9.5
KAF Kangasniemi 71.92 333 *e*p **P** **02 28 34.4 -1.7**
comp=Z,0.6nm,0.4s
KAF Kangasniemi 71.92 333 *e*p **P** **02 28 41.3 +5.2**
comp=Z,11nm,0.9s,mb4.8,baz=104,slow=5.4
KECS Kecovo 71.99 318 *e*P **P** **02 28 36.6 -0.1**
KECS *e*pP pP 02 28 45.5 -0.6
NIE Niedzica 72.24 319 *e*P **P** **02 28 38.1 -0.1**
PSZ Piszkesteto 72.29 318 *e*P **P** **02 28 38.1 -0.5**
PSZ *e* pP 02 28 47.2 -0.8
PSZ pmax pmax
comp=Z,19nm,0.8s,mb5.1
PSZ Piszkesteto 72.29 318 *e*P **P** **02 28 38.1 -0.5**
comp=Z,19nm,0.8s,mb5.1
PSZ *e* pP 02 28 47.2 -0.8
LBTB Lobatse 72.35 241 P **P** **02 28 39.5 +0.2**
comp=Z,6.0nm,1.1s,mb4.4,baz=119,slow=8.2,SNR=4.4
LBTB Lobatse 72.35 241 P **P** **02 28 39.5 +0.2**
OJC Ojcow 72.69 320 *e*P **P** **02 28 40.2 -0.7**
OJC *i* pP 02 28 49.8 -0.5
OJC Ojcow 72.69 320 *e*P **P** **02 28 40.2 -0.7**
OJC *e* pP 02 28 49.8 -0.5
PKSM Moragy 72.92 316⇓ *e*P **P** **02 28 41.4 -0.9**
PKSM *e* pP 02 28 50.9 -0.8
VYHS Vyhne 73.07 318 *e*P **P** **02 28 43.0 -0.2**
VYHS *e*pP pP 02 28 52.0 -0.6
SRO Srobarova 73.33 318 *e*P pP 02 28 54.1 0.0
SRO Srobarova 73.33 318 *e*pP pP 02 28 54.1 0.0
OKC Ostrava-Krasne 73.70 320 *e*P **P** **02 28 46.5 -0.2**
OKC *e*pP pP 02 28 55.9 -0.3
TIP Timpagrande 73.70 308 *e*P **P** **02 28 47.4 +0.3**
TIP *e* pP 02 28 56.5 +0.1
BOSA Boshof 73.75 237 P **P** **02 28 47.9 +0.4**
comp=Z,3.3nm,0.9s,mb4.3,baz=86,slow=11,SNR=4.4
BOSA LR LR 02 54 42.0
comp=Z,295nm,21.7s,MS4.5,baz=66,slow=30
BOSA Boshof 73.75 237 P **P** **02 28 47.9 +0.4**
BOSA LR LR 02 54 42.0
MORC Moravsky Berou 74.08 319 *e*P **P** **02 28 48.7 -0.3**
MORC *e* 02 28 53.8
MORC *e* pP 02 28 58.2 -0.2
MORC pmax pmax
comp=Z,25nm,1.0s,mb5.1
MORC Moravsky Berou 74.08 319 *e*P **P** **02 28 48.7 -0.3**
comp=Z,25nm,1.0s,mb5.1
MORC *e* 02 28 53.8
MORC *e* pP 02 28 58.2 -0.2
MIR Mirnyy 74.14 180 *e*P **P** **02 28 50.0 +1.0**
MIR *e* pP 02 28 59.0 +0.6
MIR *e* 02 29 09.0
MIR pmax pmax
comp=Z,24nm,1.4s,mb4.9
ZST Bratislava 74.19 318 *e*P **P** **02 28 49.5 -0.1**
ZST *e*pP pP 02 28 59.1 +0.1
KEV Kevo 74.23 341 *e*p **P** **02 28 48.5 -1.0**
comp=Z,3.6nm,0.8s,mb4.3
KEV Kevo 74.23 341 *e*p pP 02 28 57.1 -1.8
comp=Z,6.6nm,0.7s
ARCES ARCESS Array B 74.65 340 P **P** **02 28 51.7 -0.2**
comp=Z,3.3nm,0.8s,mb4.3,baz=90,slow=4.9,SNR=10
ARCES LR LR 03 03 57.5
comp=Z,390nm,21.2s,MS4.7,baz=111,slow=38
ARCES ARCESS Array B 74.65 340 P **P** **02 28 51.7 -0.2**
ARCES LR LR 03 03 57.5
ARE0 ARCESS Array S 74.65 340 *e*P **P** **02 28 50.8 -1.1**
ARE0 *e* pP 02 29 00.3 -1.0
DPC Dobruska-Polom 74.92 320 *e*P **P** **02 28 54.2 +0.4**
DPC *e*pP pP 02 29 03.6 +0.3
DPC AMS AMS 03 08 10.0
comp=Z,100nm,20.9s
KSP Ksiaz 74.99 320 *e*P **P** **02 28 54.5 +0.3**
KSP *e**PP pP 02 29 03.7 0.0
KSP Ksiaz 74.99 320 *e*P **P** **02 28 54.5 +0.3**
KSP *e* 02 28 59.1
KSP *e*pP pP 02 29 03.7 0.0
KSP Ksiaz 74.99 320 *e*P **P** **02 28 54.6 +0.3**
KSP *e* 02 28 59.3
KSP *e* pP 02 29 03.9 +0.3
CASY Casey 75.10 172⇓ *i*P **P** **02 28 55.5 +1.0**
CASY *e*pP pP 02 29 05.4 +1.4
UPC Upice 75.14 320 *e*P **P** **02 28 55.1 0.0**
UPC *e*pP pP 02 29 04.3 0.2
ARSA Arzberg 75.16 317⇑ *i*P **P** **02 28 55.4 +0.1**
comp=Z,26nm,0.9s,mb5.2
BOJS Bojanci 75.22 315 *i* P **P** **02 28 54.8 -0.8**
BOJS *e*pP pP 02 29 04.3 -0.7
PERS Pernice 75.39 316 *e*P **P** **02 28 56.5 -0.1**
PERS *e*pP pP 02 29 05.8 -0.2
LJU Ljubljana 75.76 315 *e*P **P** **02 28 58.1 -0.6**
LJU *e**PP pP 02 29 08.0 -0.2
PRU Pruhonice 76.03 320 *e*P **P** **02 29 00.1 -0.1**
PRU *e*pP pP 02 29 09.2 -0.4
PRU AMS AMS 03 07 40.0
MOA Molln 76.05 317⇑ *i*P **P** **02 29 00.2 -0.1**
comp=Z,21nm,1.0s,mb5.0
PVCC Panska Ves 76.06 320 *e*P **P** **02 29 00.5 +0.2**
PVCC *e*pP pP 02 29 09.7 0.0
PVCC AMS AMS 03 07 10.0
comp=Z,200nm,13.1s
VOY Vojsko 76.20 315 *e*P **P** **02 29 00.8 -0.4**
VOY *e* pP 02 29 10.0 -0.6
BSD Bornholm Skovb 76.28 325 *e*P **P** **02 29 05.1 +3.6**

BSD *i* 02 29 09.9
BSD pmax pmax
comp=Z,25nm,0.7s,mb5.2
BSD Bornholm Skovb 76.28 325 *e*P **P** **02 29 05.1 +3.6**
comp=Z,25nm,0.7s,mb5.3
BSD *i* 02 29 09.9
BSD Bornholm Skovb 76.28 325 *i* P **P** **02 29 05.1 +3.6**
comp=Z,25nm,0.7s,mb5.3
BSD *i* 02 29 09.9
AQU L'Aquila 76.39 312 P **P** **02 29 01.9 -0.5**
AQU *e* pP 02 29 11.0 -0.8
AQU pmax pmax
comp=Z,21nm,0.8s,mb5.1
AQU L'Aquila 76.39 312 P **P** **02 29 01.9 -0.4**
comp=Z,21nm,0.8s,mb5.1
AQU *e* pP 02 29 11.0 -0.8
BRG Berggiesshubel 76.48 320 *i* P **P** **02 29 03.1 +0.4**
BRG *i* pP 02 29 12.3 +0.2
BRG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BRG Berggiesshubel 76.48 320 *i* P **P** **02 29 03.1 +0.5**
comp=Z,6.9nm,0.9s,mb4.6
BRG *i* 02 29 08.0
BRG *i* pP 02 29 12.3 +0.2
GEC2 GERESS Array S 76.49 318 *e*P **P** **02 29 02.9 +0.1**
GEC2 pmax pmax
comp=Z,53nm,0.9s,mb5.5
GEC2 GERESS Array S 76.49 318 *e*P **P** **02 29 02.9 +0.1**
comp=Z,53nm,0.9s,mb5.5
GERES GERESS Array B 76.49 318 P **P** **02 29 03.2 +0.4**
comp=Z,6.9nm,0.9s,mb4.6,baz=90,slow=5.3,SNR=26
KHC Kasperske Hory 76.59 319 *e*P **P** **02 29 03.2 -0.1**
KHC epP pP 02 29 12.4 -0.4
KHC AMS AMS 03 06 40.0
comp=Z,100nm,19.4s
RUE Ruedersdorf 76.71 322 P **P** **02 29 02.1 -1.8**
comp=Z,166nm,1.1s,mb5.9
RUE *e* pP 02 29 13.2 -0.1
BILL Bilibino 76.96 22⇑ *e*P **P** **02 29 09.0 +4.0**
BILL *i* 02 29 14.7
BILL *e*S S 02 38 58.6 +8.9
BILL pmax pmax
comp=Z,14nm,1.8s,mb4.6
CLL Collm 77.10 321 *e*P **P** **02 29 06.0 -0.1**
CLL *i* *PP pP 02 29 14.8 -0.8
CLL pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
CLL Collm 77.10 321 *e*P **P** **02 29 06.0 -0.1**
comp=Z,9.0nm,1.3s,mb4.5
CLL *i* pP pP 02 29 14.8 -0.8
CLL Collm 77.10 321 P **P** **02 29 06.0 -0.1**
comp=Z,logA/T=0.8,mb4.5
CLL *e* 02 29 11.0
CLL *i* *PP pP 02 29 14.8 -0.8
NKC Novy Kostel 77.39 320 *e*P **P** **02 29 07.9 +0.2**
NKC epP pP 02 29 17.4 +0.2
NKC AMS AMS 03 08 00.0
comp=Z,200nm,17.9s
HFS Hagfors 77.48 330 LR LR 03 07 59.5
comp=Z,264nm,19.4s,MS4.6,baz=104,slow=39
COP Copenhagen 77.74 325 *e*P pP 02 29 18.4 -0.6
COP pmax pmax
comp=Z,28nm,0.8s,mb5.2
COP MLR MLR
comp=Z,88nm,19.0s,MS4.1
COP Copenhagen 77.74 325 *e*P pP 02 29 18.4 -0.6
comp=Z,28nm,0.8s
COP LR LR
comp=Z,90nm,19.0s,MS4.1
COP Copenhagen 77.74 325 *i* P pP 02 29 18.4 -0.6
comp=Z,28nm,0.8s
comp=Z,80nm,19.0s
MOX Moxa 77.94 320 *e*P **P** **02 29 10.5 -0.2**
MOX *e**PP pP 02 29 20.4 +0.2
MOX pmax pmax
comp=Z,43nm,1.4s,mb5.2
MOX MLR MLR
comp=Z,200nm,19.0s,MS4.5
MOX Moxa 77.94 320 *e*P **P** **02 29 10.5 -0.2**
comp=Z,43nm,1.4s,mb5.2
MOX *e*pP pP 02 29 20.4 +0.2
MOX *e*PS x 02 40 51.0
MOX LR LR
comp=Z,200nm,19.0s,MS4.5
MOX Moxa 77.94 320 *i* P **P** **02 29 10.5 -0.2**
MOX pP pP 02 29 20.0 -0.2
MOX PS x 02 40 51.0
MOX L 03 08 33.0
MAW Mawson 78.02 191 *e*P **P** **02 29 12.5 +1.6**
comp=Z,5.9nm,1.2s,mb4.4
MAW *e*pP pP 02 29 23.1 +2.8
MAW Mawson 78.02 191 *e*P **P** **02 29 12.5 +1.6**
MAW *e**PP pP 02 29 23.1 +2.8
MAW pmax pmax
comp=Z,6.0nm,1.2s
MAW Mawson 78.02 191 P **P** **02 29 12.5 +1.7**
comp=Z,5.3nm,0.9s,mb4.5,baz=3.9,slow=9.2,SNR=8.6
FUR Furstenfeldbru 78.07 318 *e*P **P** **02 29 11.3 -0.2**
FUR pmax pmax
comp=Z,32nm,0.8s,mb5.3
FUR Furstenfeldbru 78.07 318 *e*P **P** **02 29 11.3 -0.2**
comp=Z,32nm,0.8s,mb5.3
SQTA Sankt Quirin 78.09 317⇑ *i*P **P** **02 29 11.2 -0.5**
comp=Z,28nm,0.9s,mb5.2
SQTA Sankt Quirin 78.09 317⇑ *i*P **P** **02 29 11.2 -0.5**
SQTA pmax pmax
comp=Z,28nm,0.9s,mb5.2
GRA1 Grafenberg Arr 78.16 319 *e*P **P** **02 29 12.6 +0.6**
comp=Z,75nm,1.0s,mb5.6
GRA1 *e*pP pP 02 29 22.2 +0.8
GRF Grafenberg Arr 78.16 319 *e*P **P** **02 29 12.6 +0.6**
GRF *e**PP pP 02 29 22.2 +0.8
GRF pmax pmax
comp=Z,75nm,1.0s,mb5.6
GRF Grafenberg Arr 78.16 319 *e*P **P** **02 29 12.6 +0.6**
GRF *e**PP pP 02 29 22.2 +0.8
GRF pmax pmax
comp=Z,75nm,1.0s,mb5.6
GRF Grafenberg Arr 78.16 319 *e*P **P** **02 29 12.6 +0.6**
comp=Z,75nm,1.0s,mb5.6
GRF *e*pP pP 02 29 22.2 +0.8
MOTA Moosalm 78.17 317⇓ *i*P **P** **02 29 11.7 -0.4**
comp=Z,30nm,0.9s,mb5.2
MOTA Moosalm 78.17 317⇓ *i*P **P** **02 29 11.7 -0.4**
MOTA pmax pmax
comp=Z,30nm,0.9s,mb5.2
MAIM 78.55 313 P **P** **02 29 15.7 +1.4**
VALM 78.73 314 P **P** **02 29 16.1 +0.9**
CLZ Clausthal 78.77 321 *e*P **P** **02 29 15.3 0.0**
CLZ pmax pmax
comp=Z,50nm,0.9s,mb5.4
CLZ Clausthal 78.77 321 *e*P **P** **02 29 15.3 0.0**
comp=Z,50nm,0.9s,mb5.4
NB2 NORSAR Subarra 78.78 331 P **P** **02 29 14.1 -1.0**
comp=Z,2.8nm,0.8s,mb4.2,baz=94,slow=5.8
NB2 NORSAR Subarra 78.78 331 P **P** **02 29 14.1 -1.0**
NB2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
NOA NORSAR Array B 78.78 331 P **P** **02 29 14.1 -1.0**
comp=Z,3.6nm,1.0s,mb4.2,baz=93,slow=5.7,SNR=6.5
NOA LR LR 03 07 39.3
comp=Z,322nm,21.5s,MS4.6,baz=90,slow=38
GRAM 78.86 314 P **P** **02 29 16.7 +0.8**
BSEG Bad Segeberg 78.87 323 *e*P **P** **02 29 15.9 +0.1**
DAVOX Davos 79.00 316 LR LR 03 10 28.2
comp=Z,136nm,20.5s,MS4.3,baz=81,slow=40
DAVA Damuels 79.00 317⇑ *i*P **P** **02 29 17.1 +0.5**
comp=Z,88nm,1.0s,mb5.6
CODM 79.01 314 P **P** **02 29 16.4 -0.4**
VSL Villasalto 79.43 309 *e*P **P** **02 29 18.6 -0.5**
comp=Z,20nm,1.0s,mb5.0
STU Stuttgart 79.47 318 P **P** **02 29 18.2 -0.9**
STU *e* pP 02 29 28.5 -0.2
STU pmax pmax
comp=Z,20nm,0.8s,mb5.1
STU Stuttgart 79.47 318 P **P** **02 29 18.2 -0.9**
comp=Z,20nm,0.8s,mb5.1
STU *e* pP 02 29 28.5 -0.2
MUD Monsted U'grnd 79.61 326⇑ *i*P pP 02 29 29.5 +0.3
comp=Z,37nm,1.0s
comp=Z,140nm,17.0s
TOD Tromm 79.73 319 *e*P **P** **02 29 21.7 +1.2**
PCP Pian Castagno 79.95 314 P **P** **02 29 22.2 +0.4**
TNS Taunus Mts 79.96 320 *e*P **P** **02 29 22.0 +0.3**
TNS pmax pmax
comp=Z,29nm,0.9s,mb5.2
TNS Taunus Mts 79.96 320 *e*P **P** **02 29 22.0 +0.3**
comp=Z,29nm,0.9s,mb5.2
BFO Black Forest 80.05 318 *e*P **P** **02 29 22.1 -0.1**
BFO pmax pmax
comp=Z,34nm,1.1s,mb5.2
BFO Black Forest 80.05 318 *e*P **P** **02 29 22.1 -0.1**
comp=Z,34nm,1.1s,mb5.2
FIN Finale Ligure 80.19 313 P **P** **02 29 22.4 -0.7**
FELD Feldberg 80.27 317 *e*P **P** **02 29 24.7 +1.3**
ORX Oropa 80.32 315 P **P** **02 29 23.5 -0.3**
LANF Langenberg 80.39 318 *e*P **P** **02 29 24.3 +0.3**
IMI Imperia 80.43 313 P **P** **02 29 23.6 -0.8**
ROB Roburent 80.43 314 P **P** **02 29 23.2 -1.2**
MONE Monesi 80.52 313 P **P** **02 29 24.4 -0.5**
NEGI Negi 80.57 313 P **P** **02 29 23.7 -1.4**
SAOF Saorge 80.67 313 *e*P **P** **02 29 27.1 +1.4**
ENR Entracque 80.76 314 P **P** **02 29 25.5 -0.6**
AUTN L'Aution 80.76 313 *e*P **P** **02 29 28.1 +2.0**
RSP Reno Superiore 80.85 314 P **P** **02 29 25.5 -1.1**
BHB Bricherasio 80.85 314 P **P** **02 29 25.1 -1.5**
TOUF Mont Tournerai 80.89 313 *e*P **P** **02 29 28.2 +1.4**
LSD Ceresole Reale 80.91 315 P **P** **02 29 27.4 +0.5**
MVIF Mont Vial 80.96 313 *e*P **P** **02 29 27.6 +0.4**
FENE Fenestrelle 80.99 314 P **P** **02 29 25.9 -1.4**
LOMF Lomont 81.08 317 *e*P **P** **02 29 27.5 -0.2**
CALN Calern 81.16 313 *e*P **P** **02 29 28.4 +0.2**
SURF Saint Ours 81.19 314 *e*P **P** **02 29 29.3 +0.9**
BNI Bardonecchia 81.26 314 *e*P **P** **02 29 28.7 0.0**
BNI *e* 02 29 36.2
BNI pmax pmax
comp=Z,47nm,0.9s,mb5.4
BNI Bardonecchia 81.26 314 *e*P **P** **02 29 28.7 -0.1**
comp=Z,47nm,0.9s,mb5.4
BNI *e* 02 29 36.1
WLF Walferdange 81.45 319 P **P** **02 29 30.3 +0.7**
WLF *e* pP 02 29 39.1 -0.1
WLF pmax pmax
comp=Z,64nm,1.6s,mb5.3
WLF Walferdange 81.45 319 P **P** **02 29 30.3 +0.7**
comp=Z,64nm,1.6s,mb5.3
WLF *e* 02 29 35.5
WLF *e* pP 02 29 39.1 0.0
TAVF Tavernes 81.77 313 *e*P **P** **02 29 32.5 +1.1**
STOF St-Etienne Org 81.86 313 *e*P **P** **02 29 32.1 +0.3**
GRN Grenoble 81.91 315 *e*P **P** **02 29 33.3 +1.2**
VILF Villemus 82.00 313 *e*P **P** **02 29 34.3 +1.7**
PUYF Puyloubier 82.03 313 *e*P **P** **02 29 32.3 -0.5**
BERF Bertagne 82.05 313 *e*P **P** **02 29 32.5 -0.4**
GELF Grande-Etoile 82.24 313 *e*P **P** **02 29 33.6 -0.2**
PRAF Pradon 82.40 313 *e*P **P** **02 29 35.6 +0.9**
PLDF La Plantade 83.35 315 *e*P **P** **02 29 41.7 +2.1**
LBL Lubilhac 83.67 315 *e*P **P** **02 29 44.1 +2.9**
EJON La Conquera 84.17 312 P pP 02 29 53.9 +0.5
comp=Z,2.2nm,0.6s
FILF Fillols 84.40 312 *e*P **P** **02 29 51.3 +6.3**
ETOS Mallorca 84.47 309 P pP 02 29 56.5 +1.6
SYO Syowa Base 84.70 197⇑ P **P** **02 29 46.0 +0.2**
EMHD Djebel Mahouad 84.71 306 P **P** **02 29 49.2 +2.5**
EMIR Miracle 85.23 312 P pP 02 29 59.7 +1.0
EPOB Poblet 85.62 311 P pP 02 30 01.4 +0.7
comp=Z,9.5nm,0.6s
EIBI Ibiza 85.68 309 P pP 02 30 02.8 +1.7
EBNR Beni Rached 85.84 306 P **P** **02 29 54.0 +1.7**
ECHA Ech Chlef 85.99 306 P **P** **02 29 56.0 +2.9**
EGRA Graus 86.09 312 P pP 02 30 03.5 +0.5
comp=Z,20nm,1.2s
JMIC Jan Mayen 86.12 341 LR LR 03 09 51.1
comp=Z,130nm,20.9s,MS4.3,baz=258,slow=37
ETRT Tiaret 86.13 305 P **P** **02 29 56.5 +2.7**
ESAC San Caprasio 86.73 311 P pP 02 30 06.5 +0.4
comp=Z,36nm,1.0s
EMOS Mosqueruela 86.91 310 P pP 02 30 08.4 +1.3
DAG Danmarks Havn 87.12 348⇑ *i*P pP 02 30 06.6 -0.7
DAG pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
DAG Danmarks Havn 87.12 348⇑ *i*P pP 02 30 06.6 -0.7
comp=Z,4.1nm,0.7s
ECHE Chera 87.39 309 P pP 02 30 11.1 +1.7
RPZ Rata Peaks 87.48 135 LR LR 03 06 35.5
comp=Z,215nm,20.6s,MS4.5,baz=115,slow=34
ETOB Tobarra 87.97 309 P pP 02 30 13.8 +1.6
EHUE Huescar 88.91 308 P pP 02 30 18.6 +1.9
EQES Quesada 89.28 308 P pP 02 30 19.3 +0.8
comp=Z,7.0nm,0.8s
EBER Berja 89.28 307 P pP 02 30 19.9 +1.4
ESDC Sonseca Array 89.66 310 P **P** **02 30 11.7 +1.0**
comp=Z,13nm,0.6s,mb4.4,baz=62,slow=4.3,SNR=17
ESLA Sonseca Array 89.66 310 *e*P **P** **02 30 11.1 +0.5**
comp=Z,3.4nm,1.0s,mb4.6
ESLA *e* pP 02 30 20.9 +0.7
EBAN Banos Encina 89.78 308 P pP 02 30 21.7 +0.9
EGUA Guajares 89.83 307 P pP 02 30 22.4 +1.3
EADA Adamuz 90.40 308 P pP 02 30 24.7 +1.1
EMIJ Mijas 90.83 307 P pP 02 30 25.0 -0.8
comp=Z,8.4nm,0.8s
PBRG Braganca 91.35 312 epP pP 02 30 28.5 +0.6
ESPR Espera 91.63 307 P pP 02 30 30.3 +0.9
EMIN Mina Concepcio 92.10 308 P pP 02 30 32.5 +1.0
EBAD Badajoz 92.16 309 P pP 02 30 32.2 +0.5
comp=Z,2.8nm,0.6s
MTE Manteigas 92.23 311 *e*P **P** **02 30 24.1 +1.7**
MTE *e*pP pP 02 30 33.5 +1.5
MTE Manteigas 92.23 311 *i* -
MTE *e*LQ 02 54 55.7
MTE *e*LR LR 03 01 02.6
comp=Z,62nm,20.0s
PCBR Castelo Branco 92.29 311 *e*P **P** **02 30 24.5 +1.8**
PCBR *e*pP pP 02 30 33.9 +1.6
ELOB Lobios 92.30 313 P pP 02 30 33.3 +1.0
PVIS Viseu 92.42 311 *e*pP pP 02 30 34.1 +1.2
STS Santiago 92.43 314 P pP 02 30 34.2 +1.3
BORG Borgarnes 92.69 337 LR LR 03 15 08.8
comp=Z,176nm,19.9s,MS4.5,baz=70,slow=38
EGRO El Granado 92.78 308 P pP 02 30 36.3 +1.7
PBEJ Beja 92.97 309 *e*pP pP 02 30 37.1 +1.6
PTOM Tomar 93.04 310 *e*pP pP 02 30 37.2 +1.4
VNDA Vanda 93.26 168 P **P** **02 30 27.2 +0.9**
comp=Z,1.6nm,0.8s,mb4.5,baz=314,slow=4.5,SNR=5.8
VNDA LR LR 03 08 55.8
comp=Z,165nm,18.1s,MS4.5,baz=290,slow=33
SUMG Summit 93.76 347 *e*P **P** **02 30 27.9 -0.8**
comp=Z,15nm,1.1s,mb5.3
ILAR Eielson Array 95.62 22 P **P** **02 30 36.9 -0.6**
comp=Z,0.8nm,0.6s,mb4.3,baz=300,slow=4.2,SNR=11
ILAR PP PP 02 34 26.1 -4.9
comp=Z,0.8nm,0.9s,baz=298,slow=7.7,SNR=6.6
ILAR PKKPbc 02 47 29.2
comp=Z,0.1nm,0.4s,baz=121,slow=8.3,SNR=4.2
ILAR LR LR 03 15 33.4
comp=Z,114nm,20.2s,MS4.3,baz=328,slow=37
DBIC Dimbokro 95.87 278 LR LR 03 12 55.9
comp=Z,173nm,19.8s,MS4.5,baz=68,slow=35
INK Inuvik 97.66 16 *e*P **P** **02 30 47.0 +0.4**
INK *e* pP 02 30 56.0 -0.2
INK pmax pmax
comp=Z,10.0nm,0.9s
INK Inuvik 97.66 16 P **P** **02 30 47.0 +0.5**
comp=Z,1.8nm,0.8s,mb4.7,baz=4.2,slow=6.1,SNR=7.7
INK PP PP 02 34 46.4 -0.9
comp=Z,2.6nm,1.1s,baz=314,slow=5.3,SNR=3.2
INK Inuvik 97.66 16 *e*P **P** **02 30 47.0 +0.4**
comp=Z,9.9nm,0.9s,mb5.3
INK *e* pP 02 30 56.0 -0.2
YKA Yellowknife Ar 107.00 13 PP PP 02 35 46.1 -12
comp=Z,0.3nm,0.5s,baz=336,slow=6.1,SNR=3.3
MOOW Moose Ponds 124.72 20 PKPdf PKPdf 02 36 13.3 -2.9
LOHW Long Hollow 124.89 20 *e*PKPdf PKPdf 02 36 13.8 -2.7
LOHW *e* 02 36 19.1
LOHW *e* 02 36 23.0
SNOW Snow King Moun 124.97 20 *e*PKPdf PKPdf 02 36 14.4 -2.3
SNOW *e* 02 36 23.5
REDW Red Top Meadow 125.03 20 *e*PKPdf PKPdf 02 36 14.0 -2.8
REDW *e* 02 36 23.2
ELK Elko 125.59 25 *e*PKIKP PKPdf 02 36 15.0 -2.9
ELK *e* 02 36 24.9
PDAR Pinedale Array 125.99 20 PKP PKPdf 02 36 15.3 -3.3
comp=Z,1.1nm,0.8s,slow=1.5,SNR=9.4
PDAR PP PP 02 38 08.2 -3.4
comp=Z,0.9nm,1.1s,baz=346,slow=3.7,SNR=2.2
TAOE Nuku Hiva Isla 128.41 95 *e*S x 02 45 06.9
comp=Z,631nm,32.8s
TAOE *e*LR LR 03 17 50.3
comp=Z,2μm,33.3s
MSU Marysvale 128.74 24 *e*PKIKP PKPdf 02 36 21.8 -2.3
MSU *e* 02 36 32.0
NEN Nelson 129.94 29 *e*PKPdf PKPdf 02 36 24.5 -1.9
PV10 Paradox Valley 130.07 22 *e*PKPdf PKPdf 02 36 23.7 -3.0
ANMO Albuquerque 134.06 21 *e*PKIKP PKPdf 02 36 31.7 -2.5
ANMO *e* 02 36 41.8
TUC Tucson 134.59 27 *e*PKIKP PKPdf 02 36 33.0 -2.3
BNM Barren Site 134.72 22 *e*PKPdf PKPdf 02 36 33.8 -1.7
MNTX Cornudas Mount 137.37 22 *e*PKPdf PKPdf 02 36 36.4 -4.0
TXAR Lajitas Array 140.13 22 PKP PKPdf 02 36 41.8 -3.7
comp=Z,0.7nm,0.7s,baz=242,slow=0.2,SNR=6.3
TXAR PP PP 02 39 40.3 -1.5
comp=Z,0.4nm,0.7s,slow=7.2,SNR=4.3
PLCA Paso Flores 143.69 203 PKP PKPdf 02 36 45.8 -5.5
comp=Z,2.8nm,1.0s,baz=38,slow=23,SNR=5.5
CPUP Villa Florida 145.52 234 PKPbc PKPbc 02 36 51.3 +0.8
comp=Z,11nm,1.0s,baz=123,slow=4.3,SNR=13
CPUP Villa Florida 145.52 234 *e*PKPdf PKPdf 02 36 51.5 -3.5
MGV Manicaragua 149.28 345 *e*P PKPdf 02 37 01.9 +0.6
CFAA Coronel Fontan 149.98 215 PKPbc PKPdf 02 37 03.9 +1.7
comp=Z,1.5nm,0.9s,baz=140,slow=1.0,SNR=3.1
SIV San Ignacio 152.45 250 PKPbc PKPdf 02 37 08.5 +2.3
comp=Z,1.0nm,0.6s,baz=106,slow=6.0,SNR=8.9
LPAZ La Paz 158.83 245 PKP PKPdf 02 37 10.6 -4.1
comp=Z,1.1nm,1.0s,baz=123,slow=5.6,SNR=3.9
LPAZ PKPab PKPab 02 37 48.5 +0.7
comp=Z,2.8nm,0.8s,baz=113,slow=5.3,SNR=9.3
LPAZ La Paz 158.83 245 PKP PKPdf 02 37 10.6 -4.1
LPAZ PKPab PKPab 02 37 48.5 +0.6

NEIC ***25*** *02:26:08.8±0.7,23.08S×66.32W,h204km±11km,mb3.8/2, Error ellipse: s-maj=16.4km s-min=9.3km az=100.0*
IDC ***25*** *02:26:08.8±1.3,23.07S×66.40W,h207km±20km, mb1 3.2/6,mb1mx3.1/19,mbtmp3.7/6, Error ellipse: s-maj=26.5km s-min=17.2km az=119.0*

ISC 25 02:26:07.8±0.8,23.07S±0.07×66.3W±0.1,h207km±15km, n11,σ1§02/15,mb4.0/1,1C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.42**	**280**	P	**P**		**02 26 53.0**	**+1.2**
	25nm,0.3s,baz=95,slow=6.2,SNR=291							
LVC				S	**S**		**02 27 25.8**	**0.0**
	12nm,0.3s,baz=244,slow=21,SNR=17							
LVC	**Limon Verde**	**2.42**	**280**	⇑*i*Pn	**P**		**02 26 52.9**	**+1.1**
LVC				*e*Sn	**S**		**02 27 25.5**	**-0.3**
LVC				S	**S**		**02 27 25.8**	**0.0**
LPAZ	**La Paz**	**6.96**	**346**	P	**P**		**02 27 49.0**	**+0.8**
	0.8nm,0.3s,baz=169,slow=8.1,SNR=25							
LPAZ				S	**S**		**02 29 04.5**	**-2.2**
	0.0nm,0.3s,baz=240,slow=24,SNR=2.9							
SIV	**San Ignacio**	**8.61**	**36**	P	**P**		**02 28 09.7**	**-0.1**
	0.9nm,0.3s,baz=220,slow=12,SNR=26							
CFAA	**Coronel Fontan**	**8.67**	**191**	P	**P**		**02 28 10.1**	**-0.5**
	0.2nm,0.3s,baz=8.5,slow=11,SNR=5.8							
CFAA				S	**S**		**02 29 41.8**	**-4.7**
	0.2nm,0.3s,baz=238,slow=17,SNR=2.4							
TRQA	**Tornquist**	**15.40**	**167**	*e*P	**P**		**02 29 36.2**	**+0.5**
PLCA	**Paso Flores**	**17.97**	**190**	P	**P**		**02 30 03.5**	**-1.6**
	0.1nm,0.3s,baz=0.1,slow=13,SNR=4.5							
PLCA	**Paso Flores**	**17.97**	**190**	*e*P	**P**		**02 30 03.5**	**-1.6**
	1.2nm,0.7s							
BDFB	**Brasilia**	**18.78**	**70**	P	**P**		**02 30 13.9**	**+0.2**
	0.3nm,0.3s,baz=261,slow=11,SNR=11							
BOZ	**Bozeman (W)**	**79.82**	**330**	P	**P**		**02 37 55.5**	**+1.1**
	4.4nm,1.2s,mb4.0							
MKAR	**Makanchi Array**	**145.42**	**39**	PKPbc	PKPbc		02 45 21.6	+0.1
	0.5nm,0.4s,baz=297,slow=2.7,SNR=6.8							

SOF ***25*** *02:34:01.6,41.82N×21.80E,h2km,MD3.6*
BEO ***25*** *02:34:01.3±0.3,41.90N×22.14E,h6km±1km*
IDC ***25*** *02:34:03.4±1.4,41.87N×21.84E,mb3.5/4,mb1 3.8/12, mb1mx3.7/26,mbtmp3.7/12,ML3.7/8,MS2.9/6,Ms1 2.9/6, ms1mx2.8/20,Error ellipse: s-maj=21.6km s-min=11.4km az=36.0*
CSEM ***25*** *02:34:03.2±0.2,41.95N×21.87E,h5km±1km,ML3.9,Error ellipse: s-maj=1.8km s-min=0.9km az=60.0*
SKO ***25*** *02:34:04.0,41.80N×21.88E,h15km,ML3.8*
MOS ***25*** *02:34:04.2±0.9,41.92N×21.85E,h10km,mb4.0/1,Error ellipse: s-maj=6.0km s-min=4.1km az=109.3*
ATH ***25*** *02:34:05.0,41.81N×22.02E,h18km±2km,MD4.0/11*
THE ***25*** *02:34:05.7,41.79N×21.96E,h3km,ML3.9*
NEIC ***25*** *02:34:05.5±0.2,41.87N×21.89E,h10km,MD4.0(ATH), ML3.8(PDG),Error ellipse: s-maj=4.1km s-min=2.4km az=58.0*
NEIC Felt [VI] in the Skopje-Veles area.

ISC 25 02:34:03.7±0.2,41.89N±0.01×21.92E±0.02,h10km,n164, σ1§26/207,mb3.4/3,MS2.6/1,43C-16D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SKO	**Skopje**	**0.37**	**283**	⇑*i*Pg	**Pg**		**02 34 10.8**	**-0.5**
SKO				⇑*i*Sg	**Sg**		**02 34 15.6**	**-0.8**
SKO				Smax			02 34 17.0	
	comp=E,21nm,0.3s							
SKO				Smax			02 34 17.0	
	comp=N,27nm,0.3s							
KKB	**Krupnik**	**0.87**	**91**	*i* Pg	**Pg**		**02 34 21.7**	**+0.6**
GRG	**Griva**	**1.00**	**159**	*e*Pg	**Pg**		**02 34 22.0**	**-1.8**
GRG				*e*Sg	**Sg**		**02 34 35.8**	**-1.3**
KNT	**Kendrikon**	**1.03**	**134**	*e*Pg	**Pg**		**02 34 23.7**	**-0.7**
KNT				*e*Sg	**Sg**		**02 34 37.4**	**-0.9**
KKS	**Kukesi**	**1.14**	**280**	*i* Pg	**Pg**		**02 34 24.7**	**-1.9**
KKS				*i* Sg	**Sg**		**02 34 41.1**	**-0.8**
OHR	**Ohrid**	**1.15**	**228**	⇑*i*Pg	**Pg**		**02 34 24.2**	**-2.5**
OHR				⇑*i*Sg	**Sg**		**02 34 38.7**	**-3.4**
FNA	**Florina**	**1.18**	**201**	*e*Pg	**Pg**		**02 34 25.0**	**-2.3**
VTS	**Vitosha**	**1.19**	**53**	*i* P	**Pb**		**02 34 28.0**	**+2.1**
MMB	**Musomiste**	**1.38**	**102**	*i* Pg	**Pg**		**02 34 30.5**	**-0.9**
BCI	**Bajram Curri**	**1.46**	**290**	*e*Pn	**Pn**		**02 34 30.8**	**+0.5**
BCI				*i* Sn	**Sn**		**02 34 51.3**	**+1.7**
SRS	**Serrai**	**1.47**	**121**	*e*Pg	**Pg**		**02 34 31.4**	**-1.7**
SRS				*e*Sg	**Sg**		**02 34 50.6**	**-2.2**
THE	**Thessaloniki**	**1.48**	**148**	*e*Pg	**Pg**		**02 34 31.1**	**-2.3**
THE				*e*Sg	**Sg**		**02 34 50.2**	**-3.0**
THE	**Thessaloniki**	**1.48**	**148**	*e*Pg	**Pg**		**02 34 31.0**	**-2.4**
THE				*e*Sg	**Sg**		**02 34 50.2**	**-2.9**
ZAS	**Zavoj/Pirot**	**1.50**	**20**⇑	*i*Pn	**Pn**		**02 34 32.1**	**+1.2**
ZAPS				Sn	**Sn**		**02 34 53.1**	**+2.6**
PUK	**Puka**	**1.52**	**276**	*i* Pn	**Pn**		**02 34 31.2**	**0.0**
PUK				*i* Sn	**Sn**		**02 34 51.9**	**+0.7**
KBN	**Korca**	**1.53**	**214**	*i* Pn	**Pn**		**02 34 30.9**	**-0.4**
KBN				*i* Sn	**Sn**		**02 34 52.5**	**+1.2**
NVR	**Nevrokopi**	**1.55**	**110**⇓	*i*PN	**Pn**		**02 34 32.8**	**+1.2**
NVR				*e*SN	**Sn**		**02 34 52.7**	**+0.8**
NVR	**Nevrokopi**	**1.55**	**110**⇓	*i*Pn	**Pn**		**02 34 32.7**	**+1.1**
QSH	**Qafa e Shtames**	**1.56**	**257**	*i* Pn	**Pn**		**02 34 29.0**	**-2.7**
PVY	**Plav**	**1.61**	**297**⇑	*i*Pn	**Pn**		**02 34 33.7**	**+1.2**
PVY				*e*Sn	**Sn**		**02 34 57.8**	**+4.4**
PVY	**Plav**	**1.61**	**297**⇑	*i*Pn	**Pn**		**02 34 33.7**	**+1.3**
TIR	**Tirane**	**1.64**	**251**	*i* Pn	**Pn**		**02 34 34.5**	**+1.7**
TIR				*i* Sn	**Sn**		**02 34 56.0**	**+2.0**
PGB	**Panagyurishte**	**1.79**	**68**	*i* P	**Pn**		**02 34 37.5**	**+2.5**
IVA	**Berane**	**1.79**	**304**⇑	*i*Pn	**Pn**		**02 34 36.2**	**+1.1**
IVA				*e*Sn	**Sn**		**02 35 04.2**	**+6.1**
IVA	**Berane**	**1.79**	**304**⇑	*i*Pn	**Pn**		**02 34 36.2**	**+1.1**
LIT	**Litokhoron**	**1.84**	**166**	*e*Pb	**Pb**		**02 34 35.8**	**-1.2**
PLG	**Polygyros**	**1.90**	**142**⇓	*i*PN	**Pn**		**02 34 37.1**	**+0.5**
PLG				*e*SN	**Sn**		**02 35 00.2**	**-0.6**
PLG	**Polygyros**	**1.90**	**142**⇓	*i*Pn	**Pn**		**02 34 37.0**	**+0.4**
ULC	**Ulcinj**	**2.00**	**273**⇑	*i*Pn	**Pn**		**02 34 39.9**	**+1.9**
ULC				*e*Sn	**Sn**		**02 35 08.5**	**+5.3**
ULC	**Ulcinj**	**2.00**	**273**⇑	*i*Pn	**Pn**		**02 34 39.9**	**+1.9**
LSK	**Leskovik**	**2.00**	**210**	*i* Pn	**Pn**		**02 34 39.6**	**+1.5**
LSK				*i* Sn	**Sn**		**02 35 07.2**	**+3.8**
TTG	**Podgorica**	**2.05**	**286**⇑	*i*Pn	**Pn**		**02 34 39.9**	**+1.1**
TTG				*e*Sn	**Sn**		**02 35 09.8**	**+5.2**
TTG	**Podgorica**	**2.05**	**286**⇑	*i*Pn	**Pn**		**02 34 39.9**	**+1.1**
PLD	**Plovdiv**	**2.08**	**83**	*i* P	**Pn**		**02 34 41.5**	**+2.3**
RZN	**Rozhen**	**2.10**	**95**	*i* P	**Pn**		**02 34 41.3**	**+1.9**
TPE	**Tepelena**	**2.15**	**223**	*e*Pn	**Pn**		**02 34 43.4**	**+3.2**
MEV	**Metsovon**	**2.17**	**194**	*e*Pn	**Pn**		**02 34 41.0**	**+0.6**
GRUS	**Gruza**	**2.19**	**336**	*i* Pn	**Pn**		**02 34 40.9**	**+0.2**
GRUS				*i* Sn	**Sn**		**02 35 10.7**	**+2.7**
OUR	**Ouranopolis**	**2.20**	**134**	*e*Pn	**Pn**		**02 34 41.3**	**+0.5**
BUM	**Brajici-Budva**	**2.29**	**281**⇑	*i*Pn	**Pn**		**02 34 43.9**	**+1.7**
BUM				*e*Sn	**Sn**		**02 35 15.5**	**

BUM Brajici-Budva 2.29 281 ⇑ iPn Pn 02 34 43.9 +1.8
NVSS Nova Varos 2 2.30 315 ⇑ iPn Pn 02 34 42.3 0.0
NVSS Sn **Sn** 02 35 11.0 0.0
NKY Niksic 2.36 294 ⇑ iPn Pn 02 34 44.1 +1.0
NKY eSn **Sn** 02 35 17.7 +5.3
NKY Niksic 2.36 294 ⇑ iPn Pn 02 34 44.1 +1.0
PLE Pljevlja 2.36 308 ⇑ iPn Pn 02 34 43.9 +0.8
PLE eSn **Sn** 02 35 17.6 +5.2
PLE Pljevlja 2.36 308 ⇑ iPn Pn 02 34 43.9 +0.8
PAIG Paliouri 2.37 145 *ePn* **Pn 02 34 43.4 +0.1**
PAIG eSn **Sn** 02 35 12.7 0.0
JAN Janina 2.37 200 ⇑ iPb Pb 02 34 46.7 +0.5
JAN Janina 2.37 200 *ePB* **Pb 02 34 45.3 -0.9**
JAN eSN **Sn** 02 35 13.6 +0.8
JAN Janina 2.37 200 *i P* **Pb 02 34 46.7 +0.5**
SVIS Svilajnac 2.46 348 ⇑ iPn Pn 02 34 44.5 -0.1
SVIS Sn **Sn** 02 35 16.8 +1.8
SRN Sarande 2.48 217 *i Pn* **Pn 02 34 46.4 +1.5**
SRN *i* Sn **Sn** 02 35 17.6 +2.1
UPM Unac-Piva 2.58 302 ⇑ iPn Pn 02 34 47.4 +1.0
UPM eSn **Sn** 02 35 23.2 +5.0
UPM Unac-Piva 2.58 302 ⇑ iPn Pn 02 34 47.4 +1.0
HCY Herceg Novi 2.61 284 ⇑ iPn Pn 02 34 48.5 +1.8
HCY eSn **Sn** 02 35 23.0 +4.3
HCY Herceg Novi 2.61 284 ⇑ iPn Pn 02 34 48.5 +1.8
DIVS Divcibare 2.62 328 ⇓ iPn Pn 02 34 47.0 +0.1
DIVS Sn **Sn** 02 35 20.1 +1.0
KDZ Kurdzhali 2.62 94 *i P* **Pn 02 34 47.0 +0.1**
IGT Igoumenitsa 2.65 208 *ePn* **Pn 02 34 48.1 +0.8**
DIM Dimitrovgrad 2.70 85 *i P* **Pn 02 34 54.5 +6.5**
BRY Bratogost 2.70 293 ⇑ iPn Pn 02 34 49.3 +1.2
BRY eSn **Sn** 02 35 26.0 +4.9
BRY Bratogost 2.70 293 ⇑ iPn Pn 02 34 49.3 +1.3
XOR Xorichti 2.70 159 *ePn* **Pn 02 34 47.6 -0.4**
KEK Kerkira 2.71 217 *ePN* **Pn 02 34 49.8 +1.7**
KEK Kerkira 2.71 217 *ePn* **Pn 02 34 48.7 +0.6**
NEO Neokhori 2.76 159 *ePN* **Pn 02 34 48.8 -0.1**
NEO Neokhori 2.76 159 ⇑ iPn Pn 02 34 48.6 -0.3
TREB Trebinje 2.78 289 Pn **Pn 02 34 51.8 +2.7**
RDO Rodhopi 2.81 104 ⇓ iPN Pn 02 34 50.1 +0.4
RDO Rodhopi 2.81 104 ⇓ iPn Pn 02 34 50.3 +0.6
PVL Pavlikeni 2.85 61 *i P* **Pn 02 34 55.5 +5.4**
AGG Agios Georgios 2.88 174 *ePn* **Pn 02 34 50.4 -0.2**
EVR Evrytania 2.97 182 *ePN* **Pn 02 34 52.5 +0.6**
EVR Evrytania 2.97 182 *ePn* **Pn 02 34 54.0 +2.1**
LOS Limnos 3.09 128 *ePn* **Pn 02 34 53.3 -0.3**
ZIMR 3.09 54 ⇑ Pn Pn 02 35 05.3 +12
AOS Alonnisos 3.10 151 *ePn* **Pn 02 34 53.2 -0.5**
BEO Belgrade 3.12 340 ⇓ iPn Pn 02 34 53.2 -0.8
BEO Sn **Sn** 02 35 34.6 +2.9
LIA Limnos Island 3.17 128 *ePN* **Pn 02 34 54.7 0.0**
LIA Limnos Island 3.17 128 ⇓ iPn Pn 02 34 54.6 -0.1
ALN Alexandroupoli 3.26 106 *ePn* **Pn 02 34 56.5 +0.6**
SZH Strazhica 3.27 64 P **Pn 02 34 58.0 +1.9**
LKD Levkas 3.32 197 *ePn* **Pn 02 34 57.4 +0.5**
LKR Lokris 3.34 165 ⇑ iPn Pn 02 34 58.4 +1.3
LKR Lokris 3.34 165 *ePN* **Pn 02 34 57.5 +0.4**
LKR Lokris 3.34 165 *i Pn* **Pn 02 34 58.4 +1.3**
JMB Yambol 3.51 79 *i P* **Pn 02 34 59.5 -0.1**
RLS Riolos of Patr 3.84 185 *ePN* **Pn 02 35 05.7 +1.4**
RLS Riolos of Patr 3.84 185 *ePn* **Pn 02 35 06.9 +2.6**
MPAR Parnis Oros 3.98 159 *ePN* **Pn 02 35 08.0 +1.7**
MPAR Parnis Oros 3.98 159 *ePn* **Pn 02 35 08.2 +1.9**
MGER Gerania Oros 4.03 165 *ePN* **Pn 02 35 07.5 +0.5**
SG1 Sgolgore (BA) 4.08 257 *ePn* **Pn 02 35 07.2 -0.5**
NSAL Nisos Salamina 4.15 163 *ePN* **Pn 02 35 08.2 -0.4**
VOIR 4.21 32 ⇑ P Pn 02 35 12.6 +3.1
PRK Paraskevi 4.24 127 *ePN* **Pn 02 34 58.2 +0.2**
PRD Provadia 4.25 70 P **Pn 02 35 11.0 +0.9**
NAIG Nisos Aigina 4.30 163 *ePN* **Pn 02 35 10.5 -0.2**
CDT Castel del Mon 4.32 261 *ePn* **Pn 02 35 10.2 -0.9**
MS1 Monte Sant'Ang 4.47 270 *ePn* **Pn 02 35 12.9 -0.4**
MLR Muntele Rosu 4.63 38 P **Pn 02 35 17.3 +1.8**
MLR pmax pmax
comp=Z,2.0nm,0.3s
MLR MLR MLR
comp=Z,85nm,20.3s
MLR Muntele Rosu 4.63 38 ⇑ P Pn 02 35 19.7 +4.2
MLR Muntele Rosu 4.63 38 Pn **Pn 02 35 17.3 +1.8**
comp=Z,1.8nm,0.3s,baz=234,slow=14,SNR=23
MLR LR LR 02 37 22.7
comp=Z,85nm,20.3s,baz=270,slow=42
MLR Muntele Rosu 4.63 38 ⇑ P Pn 02 35 19.7 +4.2
RHK3 Tenkes 4.80 328 ⇓ eP Pn 02 35 17.3 -0.5
PKSM Moragy 4.93 332 ⇓ eP Pn 02 35 19.0 -0.7
PKSM eS **Sn** 02 36 15.5 -1.9
PKS6 Bocsa 5.00 341 ⇓ eP Pn 02 35 20.4 -0.4
PKSN Nyarlorinc 5.22 344 ⇓ eP Pn 02 35 23.3 -0.5
VRI Vrincioaia 5.28 40 ⇑ P Pn 02 35 26.4 +1.8
IZM Izmir 5.38 129 P **Pn 02 35 26.4 +0.4**
PKS9 Tamasi 5.38 332 ⇑ eP Pn 02 35 25.5 -0.5
AKS Akhisar 5.41 122 P **Pn 02 35 26.2 -0.2**
PKS8 Sarbogard 5.50 336 ⇓ eP Pn 02 35 27.1 -0.7
PKS7 Kunszentmiklos 5.52 340 ⇑ eP Pn 02 35 27.6 -0.5
CFR Carcaliu 5.58 52 ⇑ P Pn 02 35 39.3 +10
NVJ Novalja 5.80 300 *i Pn* **Sn 02 35 32.0 0.0**
NVLJ *i* Sn **Sn** 02 36 36.8 -2.7
HRT Hereke 5.92 98 P **Pn 02 35 33.1 -0.6**
BUD Budapest 5.96 341 ⇑ ePn Pn 02 35 33.5 -0.8
BOJS Bojanci 6.04 309 *ePn* **Pn 02 35 34.4 -0.9**
PKSG 6.05 337 ⇓ eP Pn 02 35 34.7 -0.8
BURAR Bucovina Array 6.19 21 ⇑ P Pn 02 35 40.3 +2.9
BURAR Bucovina Array 6.19 21 ⇑ P Pn 02 35 40.3 +2.9
PSZ Piszkesteto 6.20 347 ⇑ ePn Pn 02 35 36.9 -0.7
PSZ *i* Sn **Sn** 02 36 49.8 +0.5
AQU L'Aquila 6.35 277 *eP* **Pn 02 35 40.0 +0.2**
AQU pmax pmax
comp=Z,15nm,0.6s
AQU L'Aquila 6.35 277 *eP* **Pn 02 35 40.0 +0.2**
comp=Z,15nm,0.6s
AQU L'Aquila 6.35 277 *eP* **Pn 02 35 40.0 +0.2**
comp=Z,15nm,0.6s
SRO2 Moca 6.39 338 *ePN* **Pn 02 35 40.2 0.0**
SRO2 eSN **Sn** 02 36 55.7 +1.7
SRO1 Iza 6.43 337 *ePN* **Pn 02 35 41.2 +0.3**
VISS Visnje 6.44 310 *ePn* **Pn 02 35 39.8 -1.3**
SRO Srobarova 6.46 338 *ePN* **Pn 02 35 41.4 +0.2**
KECS Kecovo 6.67 352 *ePN* **Pn 02 35 43.6 -0.7**
LJU Ljubljana 6.76 310 *ePn* **Pn 02 35 44.5 -1.0**
YER Yerkesik 6.83 132 P **Pn 02 35 46.7 +0.2**
VYHS Vyhne 6.96 343 *ePN* **Pn 02 35 47.4 -0.9**
IDI Anoyia 6.99 160 Pn **Pn 02 35 48.4 -0.3**
comp=Z,1.6nm,0.3s,baz=335,slow=13,SNR=13
IDI Sn **Sn** 02 37 07.5 -1.6
baz=11,slow=21,SNR=1.7
CRVS Cervenica-Dubn 7.02 358 *ePN* **Pn 02 35 49.2 0.0**
ARSA Arzberg 7.04 322 ⇓ iP Pn 02 35 47.8 -1.7
comp=Z,23nm,0.5s
KOLS Kolonicke sedl 7.05 2 *ePN* **Pn 02 35 51.0 +1.4**
KOLS *e* 03 08 50.5
VOY Vojsko 7.12 308 *ePn* **Pn 02 35 49.7 -0.9**
VOY *e* 02 36 04.0
VOY *e* 02 38 05.2
ZST Bratislava 7.17 333 *ePN* **Pn 02 35 50.2 -1.1**
ZST *e* 02 37 06.7
ESKT Eskisehir 7.18 106 P **Pn 02 35 51.5 0.0**
CADS Cadrg 7.32 309 *ePn* **Pn 02 35 51.9 -1.5**
SMOL Smolenice 7.34 336 *ePN* **Pn 02 35 52.6 -1.1**
SMOL eSN **Sn** 02 37 16.0 -2.0
STHS Stebnicka Huta 7.54 357 *ePN* **Pn 02 35 55.8 -0.7**
MOA Molln 8.06 320 ⇑ iP P 02 36 03.8 0.0
comp=Z,11nm,0.8s
VRAC Vranov 8.30 335 Pn **P 02 36 05.8 -1.3**
comp=Z,0.7nm,0.3s,baz=140,slow=14,SNR=5.2
VRAC Sn **Sn** 02 37 38.9 -3.1
comp=Z,0.3nm,0.3s,baz=78,slow=8.8,SNR=2.5
OKC Ostrava-Krasne 8.37 343 *eP* **P 02 36 07.8 -0.3**
OKC *ex* x 02 36 13.8
MORC Moravsky Berou 8.46 340 *eP* **P 02 36 08.2 -1.1**
GERES GERESS Array B 9.04 323 Pn **P 02 36 15.3 -2.1**
comp=Z,0.6nm,0.3s,baz=138,slow=12,SNR=16
GERES Sn **Sn** 02 37 58.0 -2.3
comp=Z,0.2nm,0.3s,baz=126,slow=25,SNR=3.1
GERES LR LR 02 40 13.9
comp=Z,45nm,18.1s,baz=328,slow=41
BR131 Keskin Array S 9.14 100 *eP* **P 02 36 18.1 -0.7**
comp=Z,1.8nm,0.6s
BR131 Keskin Array S 9.14 100 *eP* **P 02 36 18.1 -0.7**
comp=Z,1.8nm,0.6s
BRTR Keskin Array B 9.14 100 Pn **P 02 36 18.0 -0.8**
comp=Z,0.6nm,0.3s,baz=284,slow=11,SNR=21

DPC Dobruska-Polom 9.31 337 *eP* **P 02 36 21.0 -0.1**
KHC Kasperske Hory 9.31 324 *eP* **P 02 36 20.3 -0.7**
KHC *ex* x 02 36 29.1
PRU Pruhonice 9.59 330 *eP* **P 02 36 18.7 -6.1**
PRU *ex* x 02 36 29.8
DAVOX Davos 9.91 304 Pn **P 02 36 27.3 -2.0**
comp=Z,0.2nm,0.3s,baz=155,slow=17,SNR=6.2
DAVOX Sn **Sn** 02 38 17.6 -4.2
comp=Z,0.1nm,0.3s,baz=145,slow=23,SNR=2.5
DAVOX LR LR 02 41 01.6
comp=Z,113nm,18.6s,baz=269,slow=42
HFS Hagfors 18.96 347 P **P 02 38 25.8 -1.4**
comp=Z,0.0nm,0.3s,baz=121,slow=17,SNR=3.5
HFS LR LR 02 46 22.8
comp=Z,37nm,19.3s,baz=274,slow=39
FINES FINESS Array B 19.74 6 P **P 02 38 33.7 -2.6**
comp=Z,0.3nm,0.3s,baz=173,slow=11,SNR=7.9
FINES LR LR 02 46 50.3
comp=Z,47nm,19.2s,baz=307,slow=39
NB2 NORSAR Subarra 20.25 345 P **P 02 38 39.7 -2.0**
comp=Z,1.0nm,0.6s,baz=158,slow=10
NOA NORSAR Array B 20.25 345 P **P 02 38 39.9 -1.9**
comp=Z,1.4nm,0.7s,baz=140,slow=11,SNR=6.6
NOA LR LR 02 47 17.5
comp=Z,27nm,18.8s,MS2.6,baz=90,slow=39
KAF Kangasniemi 20.43 6 *ep* **P 02 38 41.5 -2.0**
comp=Z,0.4nm,0.3s
EKA Eskdalemuir Ar 21.20 318 P **P 02 38 50.5 -1.1**
comp=Z,2.3nm,0.8s,mb3.6,baz=104,slow=10,SNR=5.2
MKAR Makanchi Array 42.52 62 P **P 02 42 00.2 -0.5**
comp=Z,0.5nm,0.5s,mb3.5,baz=285,slow=7.7,SNR=7.4
ILAR Eielson Array 73.32 355 P **P 02 45 37.4 +0.8**
comp=Z,0.2nm,0.8s,mb3.1,baz=11,slow=4.6,SNR=4.3

IDC 25 02:35:50.6±1.7, 7.93N×91.89E, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, MS3.9/1, Ms1 3.9/1, ms1mx3.1/23, Error ellipse: s-maj=65.7km s-min=28.9km az=54.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.59**	**350**	P	P	02 43 24.0	-1.4
	0.4nm,0.4s,baz=164,slow=8.8,SNR=5.4						
SONM	**Songino Array**	**41.63**	**15**	P	P	02 43 40.4	-1.8
	0.8nm,0.8s,baz=192,slow=8.4,SNR=4.8						
WRA	**Warramunga Arr**	**50.12**	**124**	P	P	02 44 48.0	-2.0
	0.6nm,0.8s,baz=304,slow=8.4,SNR=2.6						
OPO	**Ambohidratompo**	**51.36**	**239**	LR	LR	03 02 19.6	
	comp=Z,122nm,21.3s,baz=137,slow=31						
GERES	**GERESS Array B**	**76.30**	**318**	P	P	02 47 41.5	-1.6
	0.3nm,0.7s,baz=129,slow=6.3,SNR=3.2						

*NNC **25** 02:53:03.6±872.0, 36.84N×70.50E, h179km±999km, mpv3.7, Error ellipse: s-maj=10000.0km s-min=380.1km az=5.0*

ISC 25 02:53:01.3±2.7, 36.7N±0.2×70.5E±0.3, h200km, n8, σ0≥61/10, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.91**	**23**	P	P	02 54 28.2	+0.1
	SNR=82						
UCH	**Uchtor**	**6.28**	**28**	P	P	02 54 33.0	+0.1
	SNR=8.3						
KK31	**Karatay Array**	**6.36**	**360**	⇑P	P	02 54 34.5	+0.7
	2.0nm,0.4s,baz=189,slow=14,SNR=43						
KK31				⇑S	S	02 55 45.3	-0.7
	4.3nm,0.5s,baz=192,slow=21,SNR=14						
EKS2	**Erkin-Say**	**6.42**	**22**	P	P	02 54 35.5	+0.8
	SNR=13						
AAK	**Ala-Archa**	**6.63**	**26**	P	P	02 54 37.6	+0.2
	SNR=5.1						
AAK	**Ala-Archa**	**6.63**	**26**	⇓P	P	02 54 37.2	-0.2
	4.9nm,0.6s						
AAK				⇑S	S	02 55 53.0	+0.6
	5.7nm,0.8s						
ULHL	**Ulahol**	**7.04**	**37**	P	P	02 54 41.9	-0.9
	SNR=9.6						
TKM2	**Tokmak 2**	**7.29**	**31**	P	P	02 54 45.5	-0.6
	SNR=15						

*MOS **25** 03:06:56.7±1.3, 47.80N×16.22E, h11km, mb4.0/1, Error ellipse: s-maj=5.5km s-min=4.8km az=175.7*
*LDG **25** 03:06:58.1±0.2, 47.88N×16.36E, h10km, Md3.6/3, Ml3.6/20, Error ellipse: s-maj=5.5km s-min=2.8km az=163.0*
*PRU **25** 03:06:58.3, 47.89N×16.25E*
*NEIC **25** 03:06:58.3±0.6, 47.81N×16.28E, h12km±5km, ML4.1(FUR), ML3.5(VIE), ML3.7(SZGRF), ML3.6(STR), Error ellipse: s-maj=4.4km s-min=2.7km az=171.0*
NEIC Felt [VI] in the Wiener Neustadt area.
*IPEC **25** 03:06:58.1±0.1, 47.84N×16.32E, h15km, ML3.2/3, Error ellipse: s-maj=0.9km s-min=0.6km az=148.0*
*CSEM **25** 03:06:58.1±0.1, 47.76N×16.31E, h5km, ML3.8/26, Error ellipse: s-maj=1.7km s-min=1.0km az=166.0*
*BGR **25** 03:06:59.3±0.8, 47.74N×16.28E, h10km±1km, Ml3.6, Error ellipse: s-maj=12.2km s-min=5.6km az=103.0*
*STR **25** 03:07:15.4±0.6, 47.98N×14.37E, h10km±1km, Ml3.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 25 03:06:55.8±0.3, 47.88N±0.02×16.18E±0.02, h3km±2km, n127, σ1$36/239, 17C-9D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOP	**Sopron**	**0.32**	**127**	⇑iPn	Pg	03 07 03.5	+1.3
SOP				eSn	Sg	03 07 06.8	+0.3
SOP	**Sopron**	**0.32**	**127**	ePg	Pg	03 07 03.0	+0.8
SOP	**Sopron**	**0.32**	**127**	⇑iP	Pg	03 07 03.5	+1.3
SOP				eSg	Sg	03 07 06.8	+0.3
VKA	**Vienna**	**0.40**	**13**	⇓iPG	Pg	03 07 07.6	+3.8
VKA				*i* SG	Sg	03 07 14.1	+5.0
ZST	**Bratislava**	**0.69**	**62**	ePG	Pg	03 07 11.2	+1.5
ZST				eSG	Sg	03 07 21.1	+2.2
ZST	**Bratislava**	**0.69**	**62**	⇓iPg	Pg	03 07 10.9	+1.2
ZST				eSg	Sg	03 07 21.1	+2.2
ARSA	**Arzberg**	**0.77**	**216**	⇓iPG	Pg	03 07 12.4	+1.2
ARSA				*i* SG	Sg	03 07 23.0	+1.5
	490nm,0.3s						
ARSA	**Arzberg**	**0.77**	**216**	ePg	Pg	03 07 12.3	+1.2
ARSA				eSg	Sg	03 07 23.2	+1.7
ARSA	**Arzberg**	**0.77**	**216**	Pg	Pg	03 07 12.3	+1.1
ARSA				eSg	Sg	03 07 22.8	+1.3
SMOL	**Smolenice**	**1.05**	**52**	ePN	Pn	03 07 17.9	+0.7
SMOL				eSN	Sn	03 07 32.9	+0.4
KRUC	**Moravsky**	**1.19**	**7**	⇓iPg	Pg	03 07 20.7	+1.1
KRUC				⇓*i*Sg	Sg	03 07 36.8	+1.3
	485nm,0.2s						
MOA	**Molln**	**1.29**	**269**	⇑iPN	Pn	03 07 22.9	+2.2
MOA				*i* SG	Sg	03 07 42.2	+3.4
	277nm,0.5s						
MOA	**Molln**	**1.29**	**269**	ePn	Pn	03 07 23.0	+2.3
MOA				eSn	Sn	03 07 42.1	+3.4
MOA	**Molln**	**1.29**	**269**	Pn	Pn	03 07 23.0	+2.3
MOA				⇑*i*Sg	Sg	03 07 41.2	+2.4
MOA				*i* Sn	Sg	03 07 42.2	+3.4
SRO1	**Iza**	**1.39**	**94**	eP	Pb	03 07 21.7	-0.3
SRO1				*e*		03 07 40.0	
SRO1	**Iza**	**1.39**	**94**	ePN	Pb	03 07 21.7	-0.3
SRO1				ePG	Pg	03 07 23.7	+0.2
SRO1				eSN	Sn	03 07 40.0	-1.1
SRO1	**Iza**	**1.39**	**94**	ePg	Pg	03 07 23.7	+0.2
SRO1				eSn	Sn	03 07 40.0	-1.1
SRO	**Srobarova**	**1.44**	**92**	eP	Pn	03 07 22.5	-0.3
SRO				*e*		03 07 42.0	
SRO	**Srobarova**	**1.44**	**92**	ePN	Pn	03 07 22.5	-0.3
SRO				ePG	Pg	03 07 24.5	0.0
SRO				eSN	Sn	03 07 42.0	-0.3
SRO	**Srobarova**	**1.44**	**92**	ePg	Pn	03 07 22.5	-0.3
SRO				eSg	Sg	03 07 40.5	-3.1
SRO				eSn	Sn	03 07 42.0	-0.3
VRAC	**Vranov**	**1.46**	**11**	⇓iPn	Pn	03 07 24.3	+1.2
VRAC				eSn	Sn	03 07 43.6	+0.7
	301nm,0.3s						
SRO2	**Moca**	**1.50**	**94**	ePN	Pn	03 07 25.2	+1.6
PKSG		**1.57**	**107**	⇑ePn	Pn	03 07 24.4	-0.3
KOLL	**Kolacno**	**1.64**	**64**	*i* Pn	Pn	03 07 25.9	+0.2
KOLL				eS	Sb	03 07 44.9	-2.5
OBKA	**Obir**	**1.77**	**220**	⇑iPN	Pn	03 07 29.1	+1.6
OBKA				*i* SG	Sg	03 07 54.8	+0.2
	80nm,0.5s						
OBKA	**Obir**	**1.77**	**220**	ePn	Pn	03 07 27.3	-0.2
VYHS	**Vyhne**	**1.88**	**70**	*i* P	Pn	03 07 28.6	-0.5
VYHS				*e*		03 07 52.2	
VYHS	**Vyhne**	**1.88**	**70**	*i* PN	Pn	03 07 28.6	-0.5
VYHS				ePG	Pg	03 07 32.5	-0.8
VYHS				eSN	Sn	03 07 52.2	-1.4
VYHS	**Vyhne**	**1.88**	**70**	⇓iPn	Pn	03 07 28.6	-0.5
VYHS	**Vyhne**	**1.88**	**70**	ePg	Pg	03 07 32.5	-0.8
VYHS				eSn	Sn	03 07 51.5	-2.1
VYHS				eS	Sn	03 07 52.2	-1.4
GEC2	**GERESS Array S**	**1.92**	**301**	ePn	Pn	03 07 32.4	+2.8
PKS9	**Tamasi**	**1.93**	**131**	ePn	Pn	03 07 30.1	+0.3
BUD	**Budapest**	**1.96**	**101**	⇑ePg	Pg	03 07 34.4	-0.5
PKS8	**Sarbogard**	**1.97**	**120**	⇑ePn	Pn	03 07 30.0	-0.4
KBA	**Koelnbreinsper**	**2.08**	**248**	⇑iPN	Pn	03 07 34.8	+2.8
KBA				*i* SG	Sg	03 08 05.6	+0.4
	74nm,0.3s						
KBA	**Koelnbreinsper**	**2.08**	**248**	ePn	Pn	03 07 34.7	+2.7
MORC	**Moravsky Berou**	**2.10**	**25**	⇓iPn	Pn	03 07 33.4	+1.1
MORC				eSn	Sn	03 07 58.8	-0.5
	71nm,0.3s						
KHC	**Kasperske Hory**	**2.14**	**307**	ePn	Sn	03 07 35.3	+2.5
KHC				eSn	Sn	03 08 02.3	+2.1
KHC				eSg	Sg	03 08 07.0	0.0
KHC	**Kasperske Hory**	**2.14**	**307**	ePN	Pn	03 07 35.3	+2.5
KHC				*ex*	x	03 07 43.0	
KHC				eSN	Sn	03 08 02.3	+2.1
KHC				eSG	Sg	03 08 07.0	0.0
	97nm,0.2s						
KHC	**Kasperske Hory**	**2.14**	**307**	⇑*i*Pn	Pn	03 07 34.9	+2.1
KHC	**Kasperske Hory**	**2.14**	**307**	eP	Pn	03 07 35.3	+2.5
KHC				Sn	Sn	03 08 02.3	+2.1
KHC				Sg	Sg	03 08 07.0	0.0
	97nm,0.2s						
LIKS	**Likavka**	**2.27**	**58**	ePN	Pn	03 07 37.3	+2.6
LIKS				eSN	Sn	03 08 05.7	+2.1
OKC	**Ostrava-Krasne**	**2.35**	**33**	ePN	Pn	03 07 36.7	+0.8
PKSM	**Moragy**	**2.37**	**134**	⇓ePn	Pn	03 07 35.2	-0.9
PKSM				eSn	Sn	03 08 01.1	-4.9
PRU	**Pruhonice**	**2.37**	**333**	ePN	Pn	03 07 39.0	+2.8
PRU				eSN	Sn	03 08 08.6	+2.4
PRU				eSG	Sg	03 08 12.7	-2.1
	287nm,0.3s						
VOY	**Vojsko**	**2.42**	**221**	ePn	Pn	03 07 41.7	+4.8
VOY				eSn	Sn	03 08 16.2	+8.8
VOY	**Vojsko**	**2.42**	**221**	ePn	Pn	03 07 41.7	+4.8
VOY				*e*		03 07 45.1	
VOY				eSn	Sn	03 08 16.2	+8.8
RHK3	**Tenkes**	**2.44**	**144**	⇓ePn	Pn	03 07 36.6	-0.6
DPC	**Dobruska-Polom**	**2.48**	**2**	ePN	Pn	03 07 38.5	+0.9
DPC				eSG	Sg	03 08 14.5	-3.8
	215nm,0.3s						
DPC	**Dobruska-Polom**	**2.48**	**2**	ePn	Pn	03 07 38.4	+0.8
DPC				eSg	Sg	03 08 14.5	-3.8
	215nm,0.3s						
PSZ	**Piszkesteto**	**2.50**	**88**	ePB	Pb	03 07 40.4	-0.6
PKS6	**Bocsa**	**2.63**	**118**	ePn	Pn	03 07 39.1	-0.8
UPC	**Upice**	**2.63**	**358**	ePN	Pn	03 07 39.8	-0.1
UPC				ePG	Pg	03 07 47.0	-1.4
UPC				eSG	Sg	03 08 20.3	-3.2
UPC	**Upice**	**2.63**	**358**	ePg	Pg	03 07 47.0	-1.4
UPC				eSg	Sg	03 08 20.3	-3.2
KECS	**Kecovo**	**2.94**	**77**	ePN	Pn	03 07 43.6	-0.7
KSP	**Ksiaz**	**2.97**	**1**	eP	Pn	03 07 45.5	+0.8
KSP				*e*		03 08 28.4	
KSP	**Ksiaz**	**2.97**	**1**	ePn	Pn	03 07 45.5	+0.8
KSP				ePg	Pg	03 07 53.6	-1.5
KSP				eSg	Sg	03 08 28.4	-6.2
KSP	**Ksiaz**	**2.97**	**1**	ePn	Pn	03 07 45.8	+1.1
KSP				*e*		03 07 52.7	
KSP				ePP	PP	03 07 53.8	+1.8
KSP				eSn	Sn	03 08 20.4	-0.8
KSP				eSS	SS	03 08 28.5	-4.0
KSP				eSg	Sg	03 08 30.3	-4.4
KSP	**Ksiaz**	**2.97**	**1**	ePg	Pg	03 07 53.6	-1.5
KSP				eSg	Sg	03 08 28.4	-6.2
WTTA	**Wattenberg**	**3.14**	**260**	⇑iPN	Pn	03 07 50.2	+3.1
WTTA				*i* SG	Sg	03 08 40.1	-0.2
	40nm,0.5s						
WTTA	**Wattenberg**	**3.14**	**260**	ePn	Pn	03 07 49.1	+2.0
WTTA				eSn	Sn	03 08 21.6	-3.9
WTTA	**Wattenberg**	**3.14**	**260**	⇑iPn	Pn	03 07 50.2	+3.1
WTTA				Sn	Sn	03 08 21.6	-4.0
WTTA				*i* Sg	Sg	03 08 40.1	-0.2
	40nm,0.5s						
NIE	**Niedzica**	**3.14**	**59**	ePn	Pn	03 07 47.6	+0.5
NIE				eSn	Sn	03 08 25.1	-0.6
WATA	**Walderalm**	**3.16**	**262**	⇑iPN	Pn	03 07 50.3	+2.9
WATA				*i* SG	Sg	03 08 40.0	-1.1
	14nm,0.2s						
FUR	**Furstenfeldbru**	**3.31**	**277**	ePn	Pn	03 07 52.0	+2.5
BRG	**Berggiesshubel**	**3.34**	**335**	ePn	Pn	03 07 52.8	+2.9
BRG	**Berggiesshubel**	**3.34**	**335**	Pn	Pn	03 07 52.9	+3.0
BRG				Pg	Pg	03 08 04.3	+1.9
BRG				Sg	Sg	03 08 43.7	-3.2
BRG	**Berggiesshubel**	**3.34**	**335**	Pg	Pg	03 08 04.3	+1.9
OJC	**Ojcow**	**3.34**	**44**	eP	Pn	03 07 49.8	-0.1
OJC				*e*		03 08 28.5	
OJC	**Ojcow**	**3.34**	**44**	ePn	Pn	03 07 49.8	-0.1
OJC				ePg	Pg	03 07 59.4	-3.0
OJC				eSn	Sn	03 08 28.5	-2.1
OJC				eSg	Sg	03 08 45.0	-2.0
NKC	**Novy Kostel**	**3.41**	**315**	ePN	Pn	03 07 53.4	+2.5
NKC				eSG	Sg	03 08 44.7	-4.4
	179nm,0.3s						
SQTA	**Sankt Quirin**	**3.43**	**261**	⇑iPN	Pn	03 07 53.5	+2.2
SQTA				*i* SG	Sg	03 08 50.2	+0.1
	24nm,0.3s						
NVLJ	**Novalja**	**3.44**	**196**	*i* Pn	Pn	03 07 52.6	+1.2
NVLJ				*i* Sn	Sn	03 08 31.9	-1.3
NVLJ	**Novalja**	**3.44**	**196**	*i* Pn	Pn	03 07 52.5	+1.2
NVLJ				*i* Sn	Sn	03 08 31.8	-1.3
MOTA	**Moosalm**	**3.48**	**263**	⇑iPN	Pn	03 07 54.1	+2.2
MOTA				*i* SG	Sg	03 08 51.1	-0.5
	29nm,0.5s						
GUNZ	**Gunzen**	**3.55**	**316**	ePn	Pn	03 07 54.5	+1.6
WERD	**Werda**	**3

KWP				*e*Sn		**Sn**	**03 09 03.9**	**-0.2**
KWP	**Kalwaria**	**4.66**	**65**	*e*Pn		**Pn**	**03 08 08.9**	**+0.2**
KWP				*e*S		**Sn**	**03 09 03.8**	**-0.2**
TOD	**Tromm**	**5.18**	**292**	Pn		**Pn**	**03 08 16.9**	**+0.9**
TOD				Sn		**Sn**	**03 09 07.9**	**-9.2**
FELD	**Feldberg**	**5.50**	**273**	Pn		**Pn**	**03 08 20.6**	**0.0**
LANF	**Langenberg**	**5.69**	**284**	P		**Pn**	**03 08 21.6**	**-1.6**
BBS	**Basel-Blauen**	**5.87**	**269**	Pn		**Pn**	**03 08 25.4**	**-0.4**
WLS	**Welschbruch**	**5.93**	**278**	P		**Pn**	**03 08 26.7**	**0.0**
CDF	**Champ du Feu**	**5.99**	**278**	*e*Pn		**Pn**	**03 08 27.5**	**+0.1**
CDF				*e*Pg		**Pg**	**03 08 49.7**	**-5.6**
CDF				*e*Sg		**Sg**	**03 10 09.5**	**-5.6**
	45nm,0.8s							
ECH	**Echery**	**6.06**	**277**	P		**Pn**	**03 08 28.1**	**-0.4**
MOF	**Molkenrain**	**6.09**	**273**	P		**Pn**	**03 08 28.7**	**-0.2**
HINF	**Hinteralfeld**	**6.28**	**273**	*e*Pn		**Pn**	**03 08 31.0**	**-0.6**
HINF				*e*Sn		**Sn**	**03 09 38.8**	**-6.0**
HINF				*e*Sg		**Sg**	**03 10 18.3**	**-6.6**
	20nm,0.5s							
HAU	**Haudompre**	**6.61**	**275**	*e*Pn		**Pn**	**03 08 36.1**	**-0.1**
HAU				*e*Sn		**Sn**	**03 09 46.3**	**-6.7**
HAU				*e*Sg		**Sg**	**03 10 28.4**	**-7.4**
	20nm,0.5s							
LPG	**La Plagne**	**6.91**	**253**	*e*Pn		**Pn**	**03 08 41.6**	**+1.2**
LPG				*e*Sn		**Sn**	**03 09 53.2**	**-7.3**
	11nm,1.0s							
LPL	**La Plagne**	**6.92**	**254**	*e*Pn		**Pn**	**03 08 41.6**	**+1.1**
LPL				*e*Sn		**Sn**	**03 09 54.0**	**-6.6**
	5.2nm,0.6s							
CABF	**La Chapelle**	**6.99**	**263**	*e*Pn		**Pn**	**03 08 40.0**	**-1.6**
CABF				*e*Sn		**Sn**	**03 09 54.4**	**-8.1**
	15nm,0.9s							
RFYF	**Reffroy**	**7.19**	**280**	*e*Pn		**Pn**	**03 08 44.9**	**+0.5**
	baz=101							
RFYF				*e*Sg		**Sg**	**03 10 46.7**	**-8.5**
	17nm,0.6s							
MBDF	**Montbardon**	**7.24**	**248**	*e*Pn		**Pn**	**03 08 44.1**	**-1.0**
SFTF	**Sexfontaines**	**7.48**	**277**	*e*Pn		**Pn**	**03 08 47.6**	**-0.8**
SFTF				*e*Sg		**Sg**	**03 10 55.5**	**-9.3**
	57nm,1.2s							
ORIF	**Oris-en-Rattie**	**7.71**	**251**	*e*Pn		**Pn**	**03 08 52.1**	**+0.4**
ORIF				*e*Sn		**Sn**	**03 10 12.2**	**-8.4**
	7.4nm,0.7s							
GIVF	**Givet**	**7.80**	**291**	*e*Pn		**Pn**	**03 08 51.1**	**-1.8**
GIVF				*e*Sn		**Sn**	**03 10 14.8**	**-7.9**
	4.0nm,0.3s							
FRF	**La Foret Royal**	**7.95**	**241**	*e*Pn		**Pn**	**03 08 52.5**	**-2.5**
BAIF	**Baives**	**8.18**	**290**	*e*Pn		**P**	**03 08 57.6**	**-0.6**
LOR	**Lormes**	**8.36**	**270**	*e*Pn		**P**	**03 08 59.0**	**-1.7**
	baz=88							
LOR				*e*Sn		**Sn**	**03 10 28.1**	**-8.6**
	4.8nm,0.6s							
SMRF	**Simiane la Rot**	**8.36**	**246**	*e*Pn		**P**	**03 09 00.6**	**-0.1**
SMF	**Signal de Mont**	**8.49**	**266**	*e*Sn		**Sn**	**03 10 30.1**	**-10**
	4.6nm,0.6s							
VIVF	**Saint-Julien-l**	**8.51**	**253**	*e*Pn		**P**	**03 09 01.4**	**-1.5**
VIVF				*e*Sn		**Sn**	**03 10 33.2**	**-7.4**
	2.1nm,0.4s							
SSF	**Saint Saulge**	**8.63**	**269**	*e*Pn		**P**	**03 09 02.0**	**-2.5**
SSF				*e*Sn		**Sn**	**03 10 34.5**	**-8.9**
	6.3nm,0.9s							
AVF	**Avril sur Loir**	**8.78**	**268**	*e*Pn		**P**	**03 09 05.2**	**-1.4**
BGF	**Bois d'Agland**	**9.18**	**267**	*e*Pn		**P**	**03 09 10.3**	**-1.7**
BGF				*e*Sn		**Sn**	**03 10 49.1**	**-7.9**
	7.4nm,0.5s							
HYF	**Humbligny**	**9.18**	**271**	*e*Pn		**P**	**03 09 11.4**	**-0.7**
HYF				*e*Sn		**Sn**	**03 10 49.9**	**-7.2**
LASF	**Ste Croix**	**9.38**	**251**	*e*Pn		**P**	**03 09 13.9**	**-1.0**
LASF				*e*Sn		**Sn**	**03 10 53.1**	**-9.1**
	24nm,1.2s							
TCF	**Toulx Ste Croi**	**9.67**	**266**	*e*Pn		**P**	**03 09 16.1**	**-2.6**
TCF				*e*Sn		**Sn**	**03 11 00.7**	**-8.3**
	1.3nm,0.4s							
CAF	**Calviac**	**10.19**	**258**	*e*Pn		**P**	**03 09 24.4**	**-1.5**
CAF				*e*Sn		**S**	**03 11 11.5**	**-10**
	0.7nm,0.2s							
MFF	**Saint Martin d**	**11.18**	**269**	*e*Pn		**P**	**03 09 38.8**	**-0.6**

IDC ***25*** *03:10:08.1±1.1,2.40N×126.09E,mb3.8/5,mb1 4.0/5, mb1mx3.7/16,mbtmp3.8/5, Error ellipse: s-maj=96.9km s-min=19.1km az=70.0*

NEIC ***25*** *03:10:09.3±0.7,2.50N×126.37E,h10km,mb4.3/1, Error ellipse: s-maj=61.9km s-min=12.6km az=72.0*

ISC 25 03:10:10.9±1.1,2.4N±0.2×126.1E±0.6,h33km,n7,σ0°45/6, mb3.9/5,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
FITZ	**Fitzroy Crossi**	**20.39**	**181**	P		**P**	**03**	**14 47.5**	**-0.2**
	3.6nm,0.7s,baz=5.7,slow=10,SNR=2.7								
WRAB	**Tennant Creek**	**23.65**	**160**	*e*P		**P**	**03**	**15 20.9**	**+0.5**
	6.2nm,0.8s,mb4.1								
WRA	**Warramunga Arr**	**23.66**	**160**	P		**P**	**03**	**15 20.1**	**-0.3**
	2.2nm,0.5s,mb3.9,baz=337,slow=11,SNR=12								
STKA	**Stephens Creek**	**37.16**	**158**	P		**P**	**03**	**17 20.6**	**-0.1**
	1.0nm,0.4s,mb4.0,baz=331,slow=9.1,SNR=5.9								
SONM	**Songino Array**	**48.33**	**342**	P		**P**	**03**	**18 50.9**	**-0.3**
	0.3nm,0.5s,mb3.5,baz=158,slow=7.8,SNR=2.8								
MKAR	**Makanchi Array**	**58.26**	**326**	P		**P**	**03**	**20 04.9**	**+0.3**
	0.4nm,0.4s,mb3.8,baz=122,slow=6.8,SNR=8.6								
CFAA	**Coronel Fontan**	**147.99**	**157**	PKPbc		PKPdf	03	29 56.5	+6.1
	0.1nm,0.3s,baz=198,slow=3.2,SNR=3.7								

CRAAG ***25*** *03:26:12.6,8.18N×91.96E,Mb5.4*

MOS ***25*** *03:26:15.9±1.1,8.11N×91.96E,h33km,mb5.5/63, MS5.1/34,Error ellipse: s-maj=9.6km s-min=4.8km az=117.2*

BJI ***25*** *03:26:15.5,8.07N×91.92E,h32km,mB5.5,mb5.0,Ms5.6, Msz5.2*

IDC ***25*** *03:26:16.4±1.1,8.20N×91.87E,h22km±5km,mb4.8/36, mb1 4.9/36,mb1mx4.9/36,mbtmp4.9/36,MS5.2/26, Ms1 5.2/26,ms1mx5.0/36,Error ellipse: s-maj=8.9km s-min=6.3km az=48.0*

HRVD ***25*** *03:26:17.6±0.1,8.11N×91.92E,h12km,MW5.6/70, Centroid moment Tensor Solution. LP body waves: s50,c95;Mantle waves: s70,c148; Half duration: 1ŕ6 Moment tensor: Scale 10^17Nm; Mrr~2.11±.04; Mθθ~0.81±.04; Mφφ2.91±.04; Mrθ1.51±.13; Mθφ~0.03±.03; Mφr~1.88±.11; Best double couple: M0 3.549×10^17 NP1: φs207°,δ33°,λ-41°. NP2:φs333°,δ69°,λ-116°. Principal axes: T 3.599, Plg20°, Azm82°; N -.107, Plg24°, Azm343°; P -3.499, Plg58°, Azm208°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *03:26:17.6±0.2,8.12N×91.93E,mb5.3/107,MS5.1/17, MW5.5 Error ellipse: s-maj=6.5km s-min=4.3km az=207.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^17 Nm; Mrr~1.95; Mθθ0.24; Mφφ1.71; Mrθ1.15; Mθφ~1.23; Mφr~0.08; Best double couple: M0 2.5×10^17 NP1:φs174°, δ42°,λ-52°. NP2:φs307°,δ58°,λ-119°. Principal axes: T 2.51, Plg9°, Azm58°; N -.01, Plg24°, Azm324°; P -2.49, Plg64°, Azm166°;*

NEIC Felt in the Nicobar Islands.

ISC 25 03:26:15.6±0.1,8.06N±0.03×91.97E±0.02,h31km, h31km±.9km:pP-P,n557,σ1ŝ23/577,mb5.2/171,MS5.2/83, 27C-28D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
PBA	**Port Blair**	**3.65**	**12**	*e*P		**Pn**	**03**	**27 16.4**	**+4.9**
SNG	**Songkhla**	**8.62**	**95**	P		**P**	**03**	**28 22.0**	**+0.6**
	300nm,0.9s								
NNT	**Nongplab**	**8.87**	**59**	P		**P**	**03**	**28 25.3**	**+0.5**
KULM	**Kulim**	**9.05**	**107**	*e*Pn		**P**	**03**	**28 24.6**	**-2.7**
IPM	**Ipoh**	**9.64**	**110**	P		**P**	**03**	**28 34.2**	**-1.5**
PALK	**Pallekele**	**11.19**	**267**	*e*Pn		**P**	**03**	**28 52.7**	**-4.1**
	152nm,0.8s								
PALK				*e*Sn		S	03	30 41.2	-21
MDRS	**Chennai**	**12.55**	**294**	*e*P		**P**	**03**	**29 11.8**	**-3.3**
MDRS				AMb		AMB	03	29 15.5	
	comp=Z,277nm,0.1s								
MDRS				*e*S		**S**	**03**	**31 15.7**	**-19**
KGM	**Kluang**	**12.80**	**117**	P		**P**	**03**	**29 17.3**	**-1.2**
KKTK	**Khon Kaen**	**13.42**	**51**	P		**P**	**03**	**29 30.0**	**+3.4**
	comp=Z,1μm,0.8s								
BWNR	**Bhubaneshwar**	**13.54**	**335**	*e*P		**P**	**03**	**29 27.5**	**-0.9**
BWNR				AMb		AMB	03	29 33.9	
	comp=Z,181nm,0.1s								
NANT	**Nan**	**13.64**	**38**	⇑P		**P**	**03**	**29 34.0**	**+4.4**
	comp=Z,881nm,1.0s								
TRD	**Trivandrum**	**14.86**	**273**	*e*P		**P**	**03**	**29 45.1**	**-0.5**
TRD				AMb		AMB	03	29 48.6	
	comp=Z,104nm,0.5s								
AGT	**Agartala**	**15.75**	**358**	*e*		**P**	**03**	**30 11.0**	**+14**
HYB	**Hyderabad**	**16.04**	**307**	*e*P		**P**	**03**	**30 04.0**	**+3.2**
HYB				*e*S		**S**	**03**	**32 50.0**	**-7.5**
HYB	**Hyderabad**	**16.04**	**307**	*i* P		**P**	**03**	**30 04.0**	**+3.2**
HYB				*e*			03	32 40.0	
HYB				*e*			03	32 50.0	
HYB				*e*S		**S**	**03**	**32 58.0**	**+0.5**
HYB				LR		LR			
	comp=Z,11nm,16.0s								
BOK	**Bokaro**	**16.70**	**340**	*e*P		**P**	**03**	**30 08.2**	**-1.0**
BOK				AMb		AMB	03	30 14.9	
	comp=Z,108nm,0.1s								
BOK				*e*			03	33 02.0	
IMP	**Imphal**	**16.74**	**6**	*e*		**P**	**03**	**30 12.0**	**+2.4**
BLSP	**Bilaspur**	**16.89**	**327**	*e*P		**P**	**03**	**30 11.2**	**-0.4**
BLSP				*e*			03	33 06.1	
SHL	**Shillong**	**17.41**	**360**	*e*P		**P**	**03**	**30 18.5**	**+0.4**
SHL				AMb		AMB	03	30 25.6	
	comp=Z,2μm,0.1s								
SHL				*e*			03	33 24.0	
MNGI	**Mangalore**	**17.54**	**287**	*i* P		**P**	**03**	**30 20.6**	**+0.9**
SHBG	**Sahibganj**	**17.55**	**347**	*e*P		**P**	**03**	**30 21.0**	**+1.2**
NGP	**Nagpur**	**18.02**	**318**	*e*P		**P**	**03**	**30 26.9**	**+1.1**
NGP				AMb		AMB	03	30 31.8	
	comp=Z,168nm,1.0s								
LATR	**Latur**	**18.17**	**306**	*e*P		**P**	**03**	**30 25.6**	**-2.0**
LATR				*e*			03	33 35.5	
AKL	**Akola**	**19.15**	**313**	*e*P		**P**	**03**	**30 43.2**	**+3.8**
AKL				AMb		AMB	03	30 49.6	
	comp=Z,230nm,1.3s								
KSM	**Kuching**	**19.41**	**109**	*e*P		**P**	**03**	**30 40.7**	**-1.7**
KAD	**Karad**	**19.61**	**300**	*e*P		**P**	**03**	**30 44.4**	**-0.3**
KAD				AMb		AMB	03	30 55.7	
	comp=Z,448nm,1.0s								
KAD				*e*			03	34 11.9	
KMI	**Kunming**	**19.84**	**30**	P		**P**	**03**	**30 47.1**	**0.0**
KMI				AP			03	30 54.0	
KMI				XP			03	30 58.4	
KMI				PP		PP	03	31 05.4	-0.5
KMI				PPP		PPP	03	31 17.1	+2.2
KMI				S		**S**	**03**	**34 22.0**	**-1.3**
KMI				XS			03	34 33.8	
KMI				SS		SS	03	34 47.3	-4.0
KMI				AMB		AMB			
	comp=Z,519nm,4.4s								
KMI				LR		LR			
	comp=N,6μm,19.9s								
KMI				LR		LR			
	comp=E,6μm,11.5s								
KMI				LR		LR			
	comp=Z,7μm,18.8s								
KMI	**Kunming**	**19.84**	**30**	P		**P**	**03**	**30 47.1**	**0.0**
	comp=Z,0.5nm,4.4s								
KMI				pP			03	30 54.0	
KMI				sP			03	30 58.4	
KMI				PP		PP	03	31 05.4	-0.5
KMI				PPP		PPP	03	31 17.1	+2.2
KMI				S		**S**	**03**	**34 22.0**	**-1.3**
KMI				sS			03	34 33.7	
KMI				SS		SS	03	34 47.2	-4.1
KMI				SSS		SSS	03	35 05.1	-0.1
JIRN	**Jiri**	**20.25**	**345**	*e*P		**P**	**03**	**30 51.6**	**+0.3**
	comp=Z,198nm,0.5s								
PKI	**Pulchoki**	**20.37**	**343**	*e*P		**P**	**03**	**30 52.3**	**-0.3**
	comp=Z,319nm,0.7s								
PKI				*e*S		**S**	**03**	**34 35.1**	**+0.9**
POO	**Poona**	**20.45**	**302**	*e*P		**P**	**03**	**30 54.0**	**+0.5**
POO				*e*			03	34 48.0	
QIZ	**Qiongzhong**	**20.49**	**56**	⇓P		**P**	**03**	**30 53.8**	**-0.1**
QIZ				PP		PP	03	31 15.8	+0.8
QIZ				S		**S**	**03**	**34 38.6**	**+2.0**
QIZ				XS			03	34 50.0	
QIZ				AMB		AMB			
	comp=Z,106nm,1.1s								
QIZ				AMB		AMB			
	comp=Z,3μm,9.9s								
QIZ				LR		LR			
	comp=N,11μm,15.0s,MS5.3								
QIZ				LR		LR			
	comp=E,5μm,15.4s,MS5.3								
QIZ				LR		LR			
	comp=Z,10μm,14.2s,MS5.3								
QIZ	**Qiongzhong**	**20.49**	**56**	*e*P		**P**	**03**	**30 53.1**	**-0.8**
	comp=Z,580nm,1.5s								
DMN	**Daman**	**20.50**	**342**	*e*P		**P**	**03**	**30 53.8**	**-0.1**
	comp=Z,253nm,0.8s								
BHPL	**Bhopal**	**20.56**	**319**	*e*P		**P**	**03**	**30 52.8**	**-1.8**
BHPL				AMb		AMB	03	31 09.0	
	comp=Z,291nm,0.6s								
BHPL				*e*			03	34 33.7	
GUN	**Gumba**	**20.57**	**345**	*e*P		**P**	**03**	**30 54.4**	**-0.2**
	comp=Z,307nm,0.7s								
KKN	**Kakani**	**20.62**	**343**	*e*P		**P**	**03**	**30 55.6**	**+0.4**
	comp=Z,275nm,0.7s								
GKN	**Gorkha**	**21.01**	**342**	*e*P		**P**	**03**	**30 58.9**	**-0.3**
	comp=Z,818nm,1.1s,mb6.0								
GKN				*e*S		**S**	**03**	**34 46.0**	**-0.6**
KOLN	**Koldanda**	**21.14**	**339**	*e*P		**P**	**03**	**31 00.3**	**-0.2**
	comp=Z,688nm,1.1s,mb5.9								
KOLN				*e*S		**S**	**03**	**34 47.5**	**-1.6**
BOM	**Bombay**	**21.49**	**302**	*e*P		**P**	**03**	**31 01.2**	**-2.9**
BOM				*e*			03	31 15.1	
	comp=Z,1μm,1.7s								
BOM				*e*S		**S**	**03**	**34 58.1**	**+2.5**
LSA	**Lhasa**	**21.54**	**358**	P		**P**	**03**	**31 04.8**	**+0.3**
LSA				AP			03	31 12.3	
LSA				XP			03	31 16.6	
LSA				S		**S**	**03**	**34 58.1**	**+1.5**
LSA				PCP		PcP	03	35 02.4	-4.3
LSA				SCP			03	38 36.8	
LSA				PCS			03	38 42.5	
LSA				LR		LR			
	comp=N,4μm,14.3s,MS5.4								
LSA				LR		LR			
	comp=E,11μm,16.1s,MS5.4								
LSA				LR		LR			
	comp=Z,8μm,15.0s,MS5.2								
LSA	**Lhasa**	**21.54**	**358**	*e*P		**P**	**03**	**31 03.8**	**-0.7**
	comp=Z,315nm,0.9s,mb5.7								
LSA				LR		LR			
	comp=Z,5μm,22.0s,MS4.9								
GYA	**Guiyang**	**23.02**	**36**	⇑*i*P		**P**	**03**	**31 19.3**	**0.0**
GYA				AP			03	31 23.8	
GYA				PP		PP	03	31 50.6	+1.2
GYA				S		**S**	**03**	**35 27.9**	**+4.4**
GYA				AMB		AMB			
	comp=Z,50nm,1.0s,mb4.9								
GYA				AMB		AMB			
	comp=Z,2μm,9.3s								
GYA				LR		LR			
	comp=N,6μm,15.5s,MS5.3								
GYA				LR		LR			
	comp=E,6μm,15.0s,MS5.3								
GYA				LR		LR			
	comp=Z,5μm,16.7s,MS5.1								
BHV	**Bhavnagar**	**23.45**	**308**	*e*		**P**	**03**	**31 28.0**	**+4.5**
LGTI	**Lohaghat**	**23.96**	**334**	*e*P		**P**	**03**	**31 31.0**	**+2.6**
PTH	**Pithoragarh**	**24.06**	**334**	*e*P		**P**	**03**	**31 33.0**	**+3.6**
PTH				*e*			03	35 59.0	
KKM	**Kota Kinabalu**	**24.15**	**93**	*e*P		**P**	**03**	**31 31.1**	**+0.7**
KKM	**Kota Kinabalu**	**24.15**	**93**	P		**P**	**03**	**31 32.1**	**+1.7**
AJM	**Ajmer**	**24.62**	**320**	⇓*i*P		**P**	**03**	**31 36.0**	**+1.1**
NDI	**New Delhi**	**24.78**	**328**	*e*P		**P**	**03**	**31 37.1**	**+0.8**
NDI				AMb		AMB	03	31 41.8	
	comp=Z,186nm,0.8s,mb5.7								
CD2	**Chengdu**	**25.26**	**24**	P		**P**	**03**	**31 40.8**	**-0.1**
CD2				S		**S**	**03**	**36 02.9**	**+1.0**
CD2				SS		SS	03	37 00.1	-3.5
CD2				AMB		AMB			
	comp=Z,90nm,0.8s,mb5.3								
CD2				AMB		AMB			
	comp=Z,850nm,8.4s								
CD2				LR		LR			
	comp=N,4μm,19.3s								
CD2				LR		LR			
	comp=Z,3μm,12.0s								
GZH	**Guangzhou**	**25.39**	**52**	P		**P**	**03**	**31 46.8**	**+4.7**
GZH				AMB		AMB			
	comp=Z,103nm,1.0s,mb5.3								
GZH				LR		LR			
	comp=N,3μm,15.9s,MS5.2								
GZH				LR		LR			
	comp=E,5μm,14.6s,MS5.2								
GZH				LR		LR			
	comp=Z,6μm,17.1s,MS5.2								
HKC	**Hong Kong**	**25.63**	**54**	P		**P**	**03**	**31 46.0**	**+1.6**
DDI	**Dehra Dun**	**25.70**	**331**	*e*P		**P**	**03**	**31 45.0**	**0.0**
TSM	**Tawau**	**26.02**	**97**	P		**P**	**03**	**31 49.2**	**+1.1**
BHJ	**Bhuj**	**26.20**	**308**	⇓*e*		**P**	**03**	**32 00.8**	**+11**
	comp=Z,755nm,4.2s								
BHJ				*e*			03	36 55.3	
SDNR	**Sundarnagar**	**27.19**	**331**	*e*P		**P**	**03**	**32 00.0**	**+1.3**
BHK	**Bhakra**	**27.39**	**330**	*e*		**P**	**03**	**32 19.0**	**+18**
BHK				*e*			03	32 19.0	
BHK				*e*			03	37 11.0	
ENH	**Enshi**	**27.53**	**34**	*e*P		**P**	**03**	**31 59.7**	**-2.1**
	comp=Z,117nm,0.9s,mb5.5								
THN	**Thein Dam**	**28.56**	**330**	*e*P		**P**	**03**	**32 10.1**	**-1.0**
THN				*e*			03	38 03.1	
LZH	**Lanzhou**	**29.93**	**20**	P		**P**	**03**	**32 22.8**	**-0.6**
LZH				AP		pP	03	32 32.4	0.0
LZH				XP		sP	03	32 36.8	+0.4
LZH				PP		PP	03	33 20.0	-1.2
LZH				PPP		PPP	03	33 30.0	-5.1
LZH				PcP		PcP	03	35 29.0	+3.4
LZH				S		**S**	**03**	**37 13.0**	**-4.5**
LZH				sS			03	37 26.0	
LZH				SS		SS	03	38 45.0	-10
LZH				ScP			03	39 10.0	
LZH				PcS			03	39 13.0	
LZH				ScS		ScS	03	42 59.5	+1.5
LZH				LR		LR			
	comp=Z,14μm,19.6s,MS5.6								
XAN	**Xi'an**	**30.21**	**29**	P		**P**	**03**	**32 22.8**	**-3.0**
XAN				AP		pP	03	32 33.3	-1.6
XAN				PP		PP	03	33 26.5	+1.6
XAN				S		**S**	**03**	**37 18.8**	**-3.2**
XAN				AMB		AMB			
	comp=Z,22nm,1.1s,mb4.8								
XAN				LR		LR			
	comp=N,2μm,21.4s,MS5.0								
XAN				LR		LR			
	comp=E,3μm,19.5s,MS5.0								
XAN				LR		LR			
	comp=Z,6μm,20.8s,MS5.2								
QZH	**Quanzhou**	**30.45**	**53**	⇑*i*P		**P**	**03**	**32 27.8**	**-0.2**
QZH				S		**S**	**03**	**37 27.0**	**+1.1**
QZH				LR		LR			
	comp=N,11μm,15.2s,MS5.7								
QZH				LR		LR			
	comp=E,7μm,14.6s,MS5.7								
QZH				LR		LR			
	comp=Z,13μm,15.4s,MS5.7								
WHN	**Wuhan**	**30.64**	**40**	*e*P		**P**	**03**	**32 30.0**	**+0.4**
WHN				S		**S**	**03**	**37 29.0**	**+0.2**
WHN				LR		LR			
	comp=N,3μm,12.6s,MS5.5								
WHN				LR		LR			
	comp=E,5μm,11.3s,MS5.5								
WHN				LR		LR			
	comp=Z,9μm,16.4s								
GTA	**Gaotai**	**32.00**	**12**	P		**P**	**03**	**32 40.9**	**-0.6**
GTA				PP		PP	03	33 46.5	-1.6
GTA				PCP		PcP	03	35 31.4	+0.4
GTA				S		**S**	**03**	**37 49.4**	**-0.5**
GTA				SCP			03	39 13.0	
GTA				SS		SS	03	39 40.4	-2.8
GTA				SCS		ScS	03	43 09.8	+1.7
GTA				AMB		AMB			
	comp=Z,97nm,1.0s,mb5.6								
GTA				AMB		AMB			
	comp=Z,484nm,6.1s								
GTA				LR		LR			
	comp=N,3μm,14.4s,MS5.2								
GTA				LR		LR			
	comp=E,3μm,13.7s,MS5.2								
GTA				LR		LR			
	comp=Z,3μm,16.0s,MS5.0								
TATO	**Taipei**	**32.80**	**56**	*e*P		**P**	**03**	**32 50.0**	**+1.3**
	comp=Z,90nm,0.9s,mb5.7								
KSH	**Kashi**	**34.45**	**338**	*e*P		**P**	**03**	**33 04.8**	**+2.1**
KSH				*e*AP		pP	03	33 09.3	-2.6
KSH				*e*XP		sP	03	33 12.4	-3.4
KSH				*e*PP		PP	03	34 20.0	+1.1
KSH				*e*PCP		PcP	03	35 39.0	+1.2
KSH				*e*S		**S**	**03**	**38 32.8**	**+4.9**
KSH				*e*XS			03	38 41.8	
KSH				*e*PCS			03	39 24.6	
KSH				*e*SS		SS	03	40 40.5	+1.0
KSH				*e*SCS		ScS	03	43 23.5	+2.7
KSH				AMB		AMB			
	comp=Z,170nm,1.4s,mb5.8								
KSH				AMB		AMB			
	comp=Z,230nm,12.7s								
KSH				LR		LR			
	comp=N,79μm,59.9s								
NJ2	**Nanjing**	**34.56**	**43**	*e*P		**P**	**03**	**33 03.1**	**-0.7**
NJ2				AP		pP	03	33 12.8	-0.1
NJ2				XP		sP	03	33 16.8	0.0
NJ2				PP		PP	03	34 20.0	-0.4
NJ2				S		**S**	**03**	**38 30.0**	**+0.3**
NJ2				XS			03	38 45.0	
NJ2				AMB		AMB			
	comp=Z,30nm,0.6s,mb5.4								
NJ2				LR		LR			
	comp=N,6μm,13.4s,MS5.6								
NJ2				LR		LR			
	comp=E,5μm,16.0s,MS5.6								
NJ2				LR		LR			
	comp=Z,3μm,16.0s,MS5.1								
TIY	**Taiyuan**	**34.85**	**29**	⇑P		**P**	**03**	**33 08.0**	**+1.8**
TIY				LR		LR			
	comp=N,6μm,16.0s								
TIY				LR		LR			
	comp=Z,952nm,14.0s,MS4.7								
SSE	**Sheshan**	**35.61**	**46**	P		**P**	**03**	**33 12.8**	**0.0**
SSE				AP		pP	03	33 17.1	-4.8
SSE				S		**S**	**03**	**38 49.1**	**+3.0**
S

WMQ LR LR
comp=E,5µm,14.4s
WMQ LR LR
comp=Z,3µm,15.6s,MS5.2
BTO Baotou 36.18 24 *e*P **P 03 33 16.8 -0.7**
BTO S **S 03 39 01.3 +6.5**
TIA Tai'an 36.22 36 *e*P **P 03 33 16.3 -1.5**
ULHL Ulaho! 36.77 340 P **P 03 33 23.7 +1.3**
SNR=9.3
KZA Kyzart 36.96 339 P **P 03 33 27.7 +3.8**
SNR=6.4
HHC Hu-ho-hao-te 37.02 25 ⇑P **P 03 33 24.6 +0.1**
HHC AP pP 03 33 34.1 +0.4
HHC XP sP 03 33 37.8 +0.3
HHC PP PP 03 34 50.8 -0.5
HHC PCP PcP 03 35 46.0 +0.6
HHC S **S 03 39 07.4 -0.1**
HHC XS 03 39 23.0
HHC SCP 03 39 29.0
HHC PCS 03 39 33.8
HHC AMB AMB
comp=Z,26nm,1.9s,mb4.7
HHC AMB AMB
comp=Z,488nm,13.2s
HHC LR LR
comp=N,3µm,14.4s,MS5.4
HHC LR LR
comp=E,4µm,14.4s,MS5.4
HHC LR LR
comp=Z,3µm,13.2s,MS5.3
AAA Alma-Ata 37.47 342 *e*P **P 03 33 29.0 +0.8**
AAA *e*S **S 03 39 03.0 -11**
AAA pmax pmax
comp=Z,500nm,6.0s
AAA smax
comp=E,2µm,16.0s
AAA MLR MLR
comp=Z,2µm,18.0s,MS5.0
AML Almayashu 37.57 338 P **P 03 33 31.2 +2.0**
SNR=7.2
KBK Karagaybulak 37.57 339 P **P 03 33 31.4 +2.3**
SNR=16
TKM2 Tokmak 2 37.59 340 P **P 03 33 29.8 +0.5**
SNR=21
AAK Ala-Archa 37.72 339 *e*P **P 03 33 32.0 +1.7**
SNR=18
AAK Ala-Archa 37.72 339 *e*P **P 03 33 30.7 +0.4**
AAK pmax pmax
comp=Z,66nm,1.0s,mb5.3
AAK Ala-Archa 37.72 339 *e*P **P 03 33 30.6 +0.3**
comp=Z,66nm,0.9s,mb5.4
FRU Bishkek 37.85 339 *e*P **P 03 33 33.0 +1.6**
FRU *e*S **S 03 39 23.0 +2.8**
FRU pmax pmax
comp=Z,120nm,2.0s,mb5.3
CHMS Chumysh 37.94 339 P **P 03 33 33.6 +1.4**
SNR=10
EKS2 Erkin-Say 38.00 338 P **P 03 33 34.6 +1.9**
SNR=25
USP Ospenovka 38.27 339 P **P 03 33 36.5 +1.5**
SNR=41
JOW Kunigami 39.14 57 P **P 03 33 43.2 +0.8**
comp=Z,15nm,0.4s,mb5.1,baz=111,slow=24,SNR=7.2
JOW LR LR 03 52 19.3
comp=Z,3µm,18.8s,MS5.1,baz=254,slow=40
MKAR Makanchi Array 39.47 350 *i* P **P 03 33 44.2 -0.8**
MKAR pmax pmax
comp=Z,21nm,0.8s
MKAR Makanchi Array 39.47 350 P **P 03 33 43.9 -1.1**
comp=Z,7.3nm,0.6s,mb4.6,baz=164,slow=8.8,SNR=52
MKAR S **S 03 39 44.0 -0.7**
comp=Z,0.3nm,0.4s,baz=190,slow=32,SNR=2.1
KKAR Karatay Array 39.66 335 *e*P **P 03 33 47.2 +0.6**
KKAR pmax pmax
comp=Z,71nm,1.0s,mb5.3
KKAR Karatay Array 39.66 335 *i* P **P 03 33 47.3 +0.7**
MBWA Marble Bar 39.84 137 *e*P **P 03 33 46.3 -1.9**
SONM Songino Array 41.49 15 P **P 03 34 01.3 -0.2**
comp=Z,39nm,0.9s,mb5.0,baz=200,slow=8.1,SNR=114
SONM ScP 03 39 48.4
comp=Z,3.1nm,1.1s,baz=207,slow=6.4,SNR=5.4
SONM S **S 03 40 15.1 +0.4**
comp=Z,1.3nm,1.1s,baz=194,slow=5.1,SNR=2.3
SONM LR LR 03 53 41.0
comp=Z,3µm,20.9s,MS5.2,baz=194,slow=40
FITZ Fitzroy Crossi 42.20 128 *e*P **P 03 34 07.5 -0.3**
comp=Z,46nm,0.8s,mb5.2
FITZ *e*S **S 03 40 20.8 -4.9**
FITZ Fitzroy Crossi 42.20 128 P **P 03 34 07.3 -0.5**
comp=Z,43nm,0.8s,mb5.1,baz=340,slow=6.3,SNR=29
FITZ S **S 03 40 21.2 -4.4**
comp=Z,4.0nm,0.7s,baz=340,slow=11,SNR=2.1
FITZ LR LR 03 52 19.5
comp=Z,3µm,20.7s,MS5.2,baz=289,slow=37
ZAK Zakamensk 43.23 11 *e*P **P 03 34 15.7 0.0**
ZAK *e* 03 35 59.5
ZAK pmax pmax
comp=Z,20nm,1.2s,mb4.7
ZAK pmax pmax
comp=Z,9.0nm,1.5s,mb4.3
HASS Wahat al Ahsa' 43.71 298 P **P 03 34 21.5 +1.5**
SNY Shenyang 43.71 35 ⇑P **P 03 34 20.0 +0.2**
SNY S **S 03 40 45.5 -1.9**
SNY AMB AMB
comp=Z,30nm,1.6s,mb4.8
SNY AMB AMB
comp=Z,790nm,8.2s
SNY LR LR
comp=N,4µm,19.2s
SNY LR LR
comp=Z,3µm,17.2s,MS5.2
KS15 Wonju Array Si 43.73 42 *e*P **P 03 34 19.7 -0.3**
JNU Nakatsue 43.75 50 P **P 03 34 20.9 +0.7**
comp=Z,19nm,0.8s,mb4.9,baz=120,slow=3.4,SNR=8.7
JNU LR LR 03 54 46.5
comp=Z,3µm,18.8s,MS5.2,baz=66,slow=39
MOY Mondy 44.10 8 *e*P **P 03 34 25.0 +2.2**
MOY pmax pmax
comp=Z,62nm,3.7s
TLY Talaya 44.54 10 *e*P **P 03 34 27.7 +1.3**
TLY *e* 03 36 03.0
TLY *e*S **S 03 41 01.5 +2.3**
TLY *e*PS PS 03 41 17.0 +6.1
TLY *e*SS SS 03 44 21.3 +11
TLY pmax pmax
comp=Z,32nm,1.0s,mb5.1
TLY MLR MLR
comp=Z,2µm,19.0s,MS5.0
TLY Talaya 44.54 10 *e*P **P 03 34 26.3 -0.1**
comp=Z,29nm,1.0s,mb5.1
IRK Irkutsk 45.19 11 *e*P **P 03 34 32.7 +1.2**
IRK pmax pmax
comp=Z,92nm,2.0s,mb5.3
KAKA Kakadu 45.20 117 *e*P **P 03 34 33.8 +1.7**
comp=Z,7.8nm,0.6s,mb4.7
CN2 Changchun 46.05 34 *e*P **P 03 34 37.8 -0.6**
CN2 *e*S **S 03 41 22.9 +1.9**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,700nm,8.0s
CN2 LR LR
comp=N,2µm,15.0s,MS5.4
CN2 LR LR
comp=E,3µm,15.0s,MS5.4
CN2 LR LR
comp=Z,2µm,17.0s,MS5.0
MUN Mundaring 46.06 151 *e*P **P 03 34 42.3 +3.6**
comp=Z,21nm,1.1s,mb5.0
RYDS Riyadh 46.17 296 P **P 03 34 42.0 +2.3**
KLBR Kellerberrin 46.51 149 *e*P **P 03 34 47.9 +5.7**
comp=Z,26nm,0.6s,mb5.3
KBD Kabd 46.56 303 *e*P **P 03 34 43.2 +0.6**
KBD AMb AMB 03 34 50.0
comp=Z,584nm,1.2s
RDF Al-Radifah 46.60 302 *e*P **P 03 34 43.2 +0.2**
RDF AMb AMB 03 34 50.7
comp=Z,173nm,1.1s,mb5.9
MIB Mutribah 47.04 303 *e*P **P 03 34 45.8 -0.7**
MIB AMb AMB 03 34 49.4
comp=Z,190nm,0.7s,mb6.1
NVS Novosibirsk 47.17 353 *e*P **P 03 34 45.0 -2.2**
NVS *i* S **S 03 41 35.7 -1.1**
NVS pmax pmax
comp=Z,74nm,1.3s,mb5.5
NVS pmax pmax
comp=N,71nm,1.8s
NVS pmax pmax
comp=E,25nm,1.3s
NVS smax
comp=N,57nm,2.0s
NVS smax
comp=E,118nm,2.1s
HIA Hailar 47.22 25 *e*P **P 03 34 46.4 -1.2**
comp=E,71nm,1.3s,mb5.4
HIA LR LR
comp=Z,2µm,20.0s,MS5.0
RST Umm Al-Ruwaisa 47.23 303 *e*P **P 03 34 47.5 -0.5**
RST AMb AMB 03 34 55.1
comp=Z,162nm,1.0s,mb5.9
CIT Chita 47.27 18 *e*P **P 03 34 46.9 -1.1**
CIT pmax pmax
comp=Z,121nm,2.6s,mb5.4
NWAO Narrogin (SRO) 47.33 151 P **P 03 34 49.6 +0.9**
NWAO pmax pmax
comp=Z,25nm,1.0s
NWAO Narrogin (SRO) 47.33 151 P **P 03 34 51.0 +2.3**
comp=Z,13nm,0.8s,mb4.9,baz=29,slow=5.4,SNR=6.9
NWAO S **S 03 41 45.3 +6.0**
comp=Z,12nm,1.0s,baz=258,slow=17,SNR=1.7
NWAO Narrogin (SRO) 47.33 151 P **P 03 34 49.6 +0.9**
comp=E,25nm,1.0s,mb5.1
KAMS Al Khamasin 47.36 290 P **P 03 34 49.7 +0.6**
VOSK Vostochnaya 47.71 343 P **P 03 34 49.8 -1.6**
VOSK pmax pmax
comp=Z,15nm,0.8s,mb5.1
VOSK Vostochnaya 47.71 343 *i* P **P 03 34 49.8 -1.6**
DJNS Zahran al Janu 48.05 287 P **P 03 34 56.2 +1.7**
BVA0 Borovoye Array 48.14 343 P **P 03 34 54.0 -0.8**
BVA0 pmax pmax
comp=Z,15nm,1.5s,mb4.8
BVAR Borovoye Array 48.14 343 P **P 03 34 53.5 -1.3**
comp=Z,8.2nm,0.7s,mb4.9,baz=143,slow=7.4,SNR=40
BVAR S **S 03 41 52.1 +1.5**
comp=Z,0.4nm,0.5s,baz=233,slow=44,SNR=2.3
BRVK Borovoye 48.20 343 *e*P **P 03 34 54.3 -1.0**
comp=Z,21nm,1.0s,mb5.1
BRVK LR LR
comp=Z,384nm,19.0s,MS4.4
TATS Tathlith 48.30 289 P **P 03 34 57.2 +0.8**
ATD Arta Tunnel 48.48 278 S **S 03 42 01.1 +5.3**
comp=Z,7.7nm,0.6s,baz=251,slow=21,SNR=3.1
ATD LR LR 03 51 33.9
comp=Z,2µm,21.4s,MS5.1,baz=279,slow=31
ZRNK Zerenda 48.50 342 P **P 03 34 56.4 -1.2**
ZRNK pmax pmax
comp=Z,14nm,0.8s,mb5.0
ZRNK Zerenda 48.50 342 *e*P **P 03 34 56.4 -1.2**
MDJ Mudanjiang 48.88 35 P **P 03 34 59.5 -1.1**
MDJ PP PP 03 36 52.6 -1.3
MDJ S **S 03 42 01.5 +0.4**
MDJ SCS ScS 03 44 48.9 +1.3
MDJ SS SS 03 45 30.8 +3.5
MDJ AMB AMB
comp=Z,9.0nm,1.0s,mb4.8
MDJ AMB AMB
comp=Z,374nm,5.3s
MDJ LR LR
comp=N,2µm,13.7s,MS5.4
MDJ LR LR
comp=E,382nm,12.0s,MS5.4
MDJ LR LR
comp=Z,2µm,16.6s,MS5.2
AB31 Akbulak array 49.05 333 P **P 03 35 01.7 -0.2**
AB31 pmax pmax
comp=Z,15nm,0.7s,mb5.1
AB31 Akbulak array 49.05 333 *i* P **P 03 35 01.7 -0.2**
AFFS 'Afif 49.38 295 P **P 03 35 05.2 +0.5**
BLJS Baljurashi 50.09 289 P **P 03 35 10.9 +0.7**
WRA Warramunga Arr 50.13 124 *i* P **P 03 35 09.8 -0.8**
WRA pmax pmax
comp=Z,39nm,1.0s
WRA Warramunga Arr 50.13 124 P **P 03 35 09.8 -0.7**
comp=Z,39nm,1.0s,mb5.4,baz=305,slow=8.8,SNR=90
WRA ScP 03 40 23.3
comp=Z,4.3nm,1.1s,baz=300,slow=3.7,SNR=4.8
WRA S **S 03 42 17.7 -1.1**
comp=Z,0.8nm,0.5s,baz=298,slow=18,SNR=5.7
WRAB Tennant Creek 50.14 124*d* *i*P **P 03 35 10.3 -0.3**
WRAB Tennant Creek 50.14 124 *e*P **P 03 35 09.6 -1.0**
comp=Z,80nm,0.8s,mb5.8
WRAB LR LR
comp=Z,714nm,20.0s,MS4.7
WB2 Warramunga Arr 50.14 124 *e*P **P 03 35 09.6 -1.0**
WB2 *e*S **S 03 42 17.4 -1.5**
MAJO Matsushiro 50.65 49 *e*P **P 03 35 15.2 +1.0**
MAJO pmax pmax
comp=Z,42nm,1.3s,mb5.2
MAJO Matsushiro 50.65 49 *e*P **P 03 35 15.2 +1.0**
comp=Z,42nm,1.3s,mb5.2
MAT Matsushiro 50.65 49 *e*P **P 03 35 14.0 -0.2**
comp=Z,58nm,1.7s,mb5.2
MAT LR LR
comp=Z,2µm,22.0s,MS5.1
MAT Matsushiro 50.65 49 P **P 03 35 14.3 +0.1**
MJAR Matsushiro Arr 50.65 49 P **P 03 35 14.0 -0.2**
comp=Z,4.3nm,0.8s,mb4.4,baz=250,slow=9.2,SNR=13
MJAR PcP PcP 03 36 31.8 +0.1
comp=Z,9.1nm,0.8s,baz=239,slow=3.1,SNR=7.5
MJAR LR LR 03 57 16.4
comp=Z,2µm,21.4s,MS5.1,baz=220,slow=37
JHJ Hachijo jima 2 50.67 54 LR LR 03 55 15.1
comp=Z,2µm,20.6s,MS5.1,baz=265,slow=34
HILS Ha'il 51.12 299 P **P 03 35 18.6 +0.6**
MAK Makhachkala 52.16 319 *e*P **P 03 35 26.5 +0.9**
MAK *e*PPP PPP 03 38 27.0 -2.0
MAK *e*S **S 03 42 49.0 +2.6**
MAK pmax pmax
comp=Z,700nm,6.0s
MAK smax
comp=E,1µm,8.0s
GNI Garni 52.77 315*d* *i*P **P 03 35 30.4 +0.1**
GNI pmax pmax
comp=Z,60nm,0.9s
GNI Garni 52.77 315 P **P 03 35 29.6 -0.7**
comp=Z,30nm,0.8s,mb5.3,baz=53,slow=3.3,SNR=20
GNI S **S 03 42 58.8 +4.0**
comp=Z,4.0nm,0.4s,baz=90,slow=6.3,SNR=2.0
GNI Garni 52.77 315 *e*P **P 03 35 31.6 +1.3**
comp=Z,118nm,1.2s,mb5.7
KLR Kul'dur 52.84 32 *e*P **P 03 35 27.6 -3.0**
KLR *e* 03 36 40.0
KLR *e*S **S 03 42 52.0 -3.6**
KLR *e* 03 46 31.5
KLR smax
comp=N,1µm,13.0s
KLR smax
comp=E,900nm,13.0s
KLR MLR MLR
comp=N,2µm,16.0s
KLR MLR MLR
comp=Z,2µm,16.0s,MS5.3
KBRS Khaybar 53.04 296 P **P 03 35 35.4 +2.9**
MTA Mtatsminda 53.38 317 P **P 03 35 34.7 -0.1**
TI2 Plekhanov 53.43 317 *i* P **P 03 35 35.8 +0.7**
TBLG Delisi 53.44 317 P **P 03 35 35.3 +0.1**
ZEI Tsey 54.44 318 *e*P **P 03 35 38.5 -4.0**
ZEI *i* *PP pP 03 35 49.5 -2.4
ZEI *i* 03 37 40.8
ZEI pmax pmax
comp=Z,12nm,0.6s,mb5.0
BEST Besiri 54.45 311 *i* P **P 03 35 37.4 -5.2**
ONI Oni 54.66 317 P **P 03 35 43.0 -1.1**
UMJS Umm Lajj 54.70 295 P **P 03 35 46.8 +2.2**
ARU Arti 54.90 338⇓ *i*P **P 03 35 45.0 -0.6**
ARU *e* 03 36 43.9
ARU *e* 03 37 42.1
ARU *e*PPP PPP 03 38 56.8 -5.8
ARU *i* S **S 03 43 25.7 +2.5**
ARU *e* 03 45 32.7
ARU *e*SS SS 03 47 07.5 +1.1
ARU *e*SSS SSS 03 49 02.3 -5.3
ARU pmax pmax
comp=Z,60nm,0.9s,mb5.6
ARU MLR MLR
comp=N,1µm,18.0s,MS5.3
ARU MLR MLR
comp=Z,2µm,18.0s,MS5.3
ARU MLR MLR
comp=E,2µm,17.0s,MS5.3
ARU Arti 54.90 338 *e*P **P 03 35 44.5 -1.2**
comp=E,55nm,0.8s,mb5.6
CLNS Chul'man 55.03 21 *e*P **P 03 35 44.3 -2.3**
CLNS *e**PP pP 03 35 50.6 -5.4
CLNS *e* 03 36 46.5
CLNS *e* 03 37 43.9
CLNS *e*S **S 03 43 20.4 -4.5**
CLNS *e* 03 45 24.6
CLNS *e*SSS SSS 03 49 02.3 -8.3
CLNS pmax pmax
comp=N,23nm,0.9s
CLNS pmax pmax
comp=Z,56nm,0.9s,mb5.6
CLNS pmax pmax
comp=E,24nm,1.0s
CLNS pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
CLNS pmax pmax
comp=N,16nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS smax
comp=N,1µm,13.1s
CLNS smax
comp=Z,514nm,12.0s
CLNS smax
comp=E,73nm,12.4s
CLNS MLR MLR
comp=Z,2µm,15.0s,MS5.4
CLNS MLR MLR
comp=N,1µm,14.0s,MS5.1
CLNS MLR MLR
comp=E,300nm,14.0s,MS5.1
KMBO Kilima Mbogo 55.30 263 P **P 03 35 49.5 +0.3**
comp=E,34nm,0.9s,mb5.4,baz=63,slow=11,SNR=47
KMBO S **S 03 43 34.3 +5.0**
comp=E,0.4nm,0.4s,baz=222,slow=21,SNR=2.4
KMBO LR LR 03 55 16.6
comp=E,3µm,20.7s,MS5.4,baz=80,slow=32
KMBO Kilima Mbogo 55.30 263 P **P 03 35 49.5 +0.3**
KMBO S **S 03 43 34.3 +5.0**
KMBO LR LR 03 55 16.6
KIV Kislovodsk 55.74 319*c* *e*P **P 03 35 50.7 -1.2**
KIV *e* 03 36 49.5
KIV *e* 03 37 54.7
KIV *e*PPP PPP 03 39 08.8 -4.1
KIV *i* S **S 03 43 35.7 +1.0**
KIV pmax pmax
comp=Z,67nm,1.0s,mb5.6
KIV smax
comp=N,215nm,3.8s
KIV smax
comp=E,128nm,3.8s
KIV MLR MLR
comp=Z,1µm,20.0s,MS5.0
KIV MLR MLR
comp=N,798nm,17.0s,MS5.0
KIV MLR MLR
comp=E,989nm,20.0s,MS5.0
KIV Kislovodsk 55.74 319 *e*P **P 03 35 50.8 -1.1**
comp=E,100nm,1.2s,mb5.7
QURS Qurayyt al Mil 55.79 302 P **P 03 35 53.4 +1.0**
TBKS Tabuk 55.84 299 P **P 03 35 54.2 +1.4**
ASF Jabal al Asfar 56.31 303 P **P 03 35 56.6 +0.4**
comp=E,15nm,0.9s,mb5.0,baz=340,slow=4.2,SNR=13
ASF S **S 03 43 44.6 +2.1**
comp=E,0.9nm,0.3s,baz=102,slow=17,SNR=1.7
ASAJ Asahikawa 56.70 42 P **P 03 35 58.9 +0.1**
comp=E,19nm,1.0s,mb5.1,baz=225,slow=19,SNR=11
ASAJ S **S 03 43 53.4 +6.0**
comp=E,3.0nm,0.4s,baz=106,slow=34,SNR=1.7
ASAJ LR LR 04 03 42.5
comp=E,2µm,18.4s,MS5.2,baz=254,slow=40
MALT Malatya 56.70 311 *e*P **P 03 35 57.6 -1.3**
MALT pmax pmax
comp=Z,40nm,1.1s,mb5.4
MALT Malatya 56.70 311 *e*P **P 03 35 57.6 -1.3**
comp=Z,40nm,1.1s,mb5.4
BDAS Al Bad' 57.13 299 P **P 03 36 02.5 +0.4**
MKRJ Makawir 57.23 302 P **P 03 36 02.1 -0.6**
JMOS Jabal al Moall 57.24 299 P **P 03 36 03.1 +0.2**
ALWS Ilw as Safayha 57.31 300 P **P 03 36 03.6 +0.2**
TAYS Tayyib Ism 57.35 299 P **P 03 36 03.9 +0.2**
HAQS Haql 57.38 299 P **P 03 36 04.3 +0.5**
KSHT Keshet 57.38 304 P **P 03 36 03.5 -0.3**
ZFRI Zfri 57.43 301 P **P 03 36 04.5 +0.3**
HRFI Mount Harif 57.45 300 P **P 03 36 03.2 -1.2**
EIL Elat 57.47 300 P **P 03 36 03.6 -0.8**
EIL Elat 57.47 300 *e*P **P 03 36 02.6 -1.8**
comp=Z,49nm,1.1s,mb5.5
MBH Mount Berech 57.52 300 P **P 03 36 04.4 -0.4**
PRNI Paran 57.54 301 P **P 03 36 04.6 -0.3**
SOC Sochi 57.57 317 *e*P **P 03 36 02.0 -3.0**
SOC *e* 03 36 59.8
SOC *e*S **S 03 43 57.9 -1.0**
SOC *e*SS SS 03 47 46.2 -4.2
SOC pmax pmax
comp=Z,66nm,1.3s,mb5.5
SOC pmax pmax
comp=N,55nm,1.7s
SOC pmax pmax
comp=E,38nm,1.4s
MMLI Mount Malkishu 57.59 303 P **P 03 36 06.7 +1.4**
PMG Port Moresby 57.65 106 P **P 03 36 05.4 -0.5**
comp=E,29nm,0.8s,mb5.4,baz=33,slow=1.0,SNR=5.0
PMG S **S 03 44 06.1 +5.8**
comp=E,3.6nm,0.3s,baz=127,slow=16,SNR=1.9
PMG Port Moresby 57.65 106 *e*P **P 03 36 04.7 -1.2**
comp=E,31nm,0.8s,mb5.4
PMG LR LR
comp=Z,2µm,19.0s,MS5.2
KAHT Ahir Dag 57.68 310 *i* P **P 03 36 01.3 -4.5**
SLTI Sal'it 57.87 303 P **P 03 36 07.2 0.0**
YSS Yuzh-Sakhalins 57.97 39⇓ *e*P **P 03 36 07.0 -0.7**
YSS *e* 03 36 22.0
YSS *e*S **S 03 44 07.0 +2.9**
YSS *e*SS SS 03 47 59.0 +2.2
YSS pmax pmax
comp=Z,20nm,0.8s,mb5.2
YSS smax
comp=N,900nm,16.0s
YSS Yuzh-Sakhalins 57.97 39 *e*P **P 03 36 07.2 -0.5**
comp=N,29nm,0.8s,mb5.4
AVNT Avonos 59.52 310 *i* P **P 03 36 12.8 -5.8**
MEST Erdemli 59.53 308 *i* P **P 03 36 13.8 -4.9**
ANN Anapa 59.54 318*d* *i*P **P 03 36 15.9 -2.8**
ANN *e*S **S 03 44 20.6 -4.0**
ANN *e* 03 46 03.6
ANN pmax pmax
comp=Z,183nm,9.5s
ANN MLR MLR
comp=Z,1µm,24.0s,MS5.0
ANN MLR MLR
comp=N,243nm,12.0s
ANN MLR MLR
comp=E,2µm,24.0s
CSS Prodhromos 59.81 306 *e*P **P 03 36 20.5 -0.2**
comp=E,79nm,1.3s,mb5.6
CDAG Cicekdag 60.11 311 *i* P **P 03 36 14.8 -7.9**
CTA Charters Tower 60.28 119 *e*P **P 03 36 24.2 +0.1**
comp=E,11nm,0.8s,mb5.0
CTA Charters Tower 60.28 119 P **P 03 36 24.3 +0.2**
comp=E,20nm,1.0s,mb5.1,baz=272,slow=8.6,SNR=8.5
CTAO Charters Tower 60.28 119 *e*P **P 03 36 24.1 0.0**
CTAO pmax pmax
comp=Z,28nm,1.1s,mb5.2
CTAO Charters Tower 60.28 119 *e*P **P 03 36 24.1 0.0**
comp=Z,28nm,1.1s,mb5.2
YAK Yakutsk 60.52 19*de* *e*P **P 03 36 23.3 -1.8**
YAK *i* 03 37 07.2
YAK *i* 03 38 40.0
YAK *i* PPP PPP 03 40 13.2 +5.7
YAK *i* S **S 03 44 38.1 +1.2**
YAK *i* 03 46 08.1
YAK *i* SS SS 03 48 34.6 -1.7
YAK pmax pmax
comp=Z,88nm,1.1s,mb5.8
YAK pmax pmax
comp=N,52nm,1.2s
YAK pmax pmax
comp=E,63nm,1.3s
YAK pmax pmax
comp=Z,131nm,8.9s
YAK smax
comp=N,2µm,13.1s
YAK smax

comp=Z,220nm,9.5s
YAK smax
comp=E,385nm,11.9s
YAK MLR MLR
comp=Z,1µm,14.0s,MS5.2
YAK MLR MLR
comp=N,2µm,17.0s,MS5.5
YAK MLR MLR
comp=E,2µm,15.0s,MS5.5
YAK Yakutsk 60.52 19 *e*P **P 03 36 23.2 -1.9**
comp=E,90nm,0.9s,mb5.9
BR131 Keskin Array S 60.68 311 *e*P **P 03 36 23.8 -2.7**
comp=E,17nm,0.8s,mb5.2
BRTR Keskin Array B 60.68 311 P **P 03 36 23.9 -2.6**
comp=E,14nm,0.8s,mb5.2,baz=129,slow=7.5,SNR=36
BRTR S **S 03 44 42.5 +3.2**
comp=E,0.5nm,0.7s,baz=300,slow=17,SNR=0.7
PECR Pechory 60.94 332 *e*P **P 03 36 26.6 -1.4**
PECR *e*S **S 03 44 38.0 -4.3**
PECR smax
comp=N,1µm,14.0s
ADE Adelaide 61.45 137 *e*P **P 03 36 33.3 +1.4**
MBAR Mbarara 61.63 265 *e*P **P 03 36 33.4 +0.1**
MBAR pmax pmax
comp=Z,43nm,1.2s,mb5.5
MBAR Mbarara 61.63 265 *e*P **P 03 36 33.4 +0.1**
comp=Z,43nm,1.2s,mb5.5
STKA Stephens Creek 61.80 133 ⇓*i*P **P 03 36 34.6 +0.3**
comp=Z,17nm,0.9s,mb5.2
STKA *e*S **S 03 45 00.8 +7.1**
STKA Stephens Creek 61.80 133 P **P 03 36 33.8 -0.5**
comp=Z,26nm,1.1s,mb5.3,baz=291,slow=5.7,SNR=13
STKA S **S 03 45 01.1 +7.4**
comp=Z,2.0nm,0.9s,baz=341,slow=22,SNR=1.8
STKA LR LR 04 05 59.1
comp=Z,2µm,18.7s,MS5.2,baz=294,slow=38
STKA Stephens Creek 61.80 133 *e*P **P 03 36 33.9 -0.4**
STKA *e*S **S 03 45 00.8 +7.1**
SIM Simferopol' 61.82 317 ⇓*e*P **P 03 36 32.7 -1.5**
SIM S **S 03 44 47.7 -6.0**
SIM pmax pmax
comp=Z,47nm,1.1s,mb5.5
SIM MLR MLR
comp=Z,1µm,20.0s,MS5.0
ISP Isparta 62.63 308 *e*P **P 03 36 37.5 -2.2**
ISP Isparta 62.63 308 *e*P **P 03 36 37.0 -2.7**
comp=Z,78nm,1.1s,mb5.8
GOLH Golhisar 63.25 308 *i*P **P 03 36 35.9 -7.9**
MOS Moscow 63.81 329 *e*P **P 03 36 40.5 -6.7**
MOS *e* 03 37 18.7
MOS *e* 03 39 15.8
MOS *e*S **S 03 45 08.4 -10**
MOS pmax pmax
comp=Z,91nm,1.2s,mb5.7
MOS MLR MLR
comp=Z,2µm,17.9s,MS5.4
MOS MLR MLR
comp=N,2µm,15.8s
OBN Obninsk 64.08 328α *i*P **P 03 36 48.0 -1.0**
OBN *i* pP 03 36 57.8 -0.8
OBN 03 37 31.0
OBN *e* 03 39 06.7
OBN *i*S **S 03 45 18.8 -3.1**
OBN *e* 03 46 41.5
OBN *e*SS SS 03 49 32.1 -0.3
OBN pmax pmax
comp=Z,80nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,3µm,21.0s,MS5.4
OBN Obninsk 64.08 328 *e*P **P 03 36 47.8 -1.1**
comp=Z,74nm,1.2s,mb5.6
MANT Manisa 64.27 309 *i*P **P 03 36 45.4 -5.0**
PSN Preselentsi 65.59 314 *e*P **P 03 36 59.0 +0.1**
AYVA Ayvalik 65.84 309 *i*P **P 03 36 57.9 -2.7**
KIS Kishinev 65.94 318 *e*P **P 03 36 59.0 -2.1**
KIS *e* 03 37 11.0
KIS *e* 03 39 29.0
KIS *e*S S 03 45 41.0 -3.9
KIS *e* 03 46 50.0
KIS MLR MLR
comp=Z,2µm,18.0s,MS5.4
CFR Carcaliu 65.96 316 ⇓P **P 03 37 00.9 -0.3**
CFR Carcaliu 65.96 316 ⇓P **P 03 37 00.9 -0.3**
XRY Khrisi 65.99 305 *e*P **P 03 37 01.4 -0.2**
NPS Neapolis 66.10 305 *e*P **P 03 37 02.5 +0.2**
SANT Santorini 66.37 306 *e*P **P 03 37 01.3 -2.7**
comp=Z,81nm,1.3s,mb5.6
APE Apeiranthos 66.41 307 *e*P **P 03 37 04.0 -0.2**
JMB Yambol 66.49 313 *e*P **P 03 37 05.0 +0.3**
ALN Alexandroupoli 66.60 311 *e*P **P 03 37 04.3 -1.1**
AKASG Malin Array Be 66.68 322 *i*P **P 03 37 04.1 -1.6**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 66.68 322 P **P 03 37 02.6 -3.1**
comp=Z,2.9nm,0.5s,mb4.5,baz=91,slow=4.6,SNR=20
AKASG PP PP 03 39 30.9 -3.5
comp=Z,3.8nm,0.9s,baz=94,slow=6.0,SNR=3.8
AKASG S S 03 45 51.6 -2.1
comp=Z,0.2nm,0.3s,baz=85,slow=36,SNR=2.2
VRI Vrincioaia 67.08 316 ⇓P **P 03 37 07.6 -0.8**
VRI Vrincioaia 67.08 316 ⇓P **P 03 37 07.6 -0.8**
KDZ Kurdzhali 67.20 312 *e*P **P 03 37 08.0 -1.2**
VAM Vamos 67.27 305 *e*P **P 03 37 09.1 -0.7**
LSZ Lusaka 67.31 250 *e*P **P 03 37 10.0 -0.3**
LSZ pmax pmax
comp=Z,15nm,1.1s,mb4.9
LSZ Lusaka 67.31 250 *e*P **P 03 37 10.0 -0.3**
comp=Z,15nm,1.1s,mb5.0
TOO Toolangi 67.47 136 *e*P **P 03 37 12.9 +1.9**
comp=Z,35nm,1.1s,mb5.3
TIXI Tiksi 67.48 12 *e*P **P 03 37 06.8 -3.7**
TIXI *e* 03 39 33.7
TIXI *e*PPP PPP 03 41 15.1 -2.9
TIXI *e*S S 03 45 56.8 -6.3
TIXI *e* 03 46 37.5
TIXI pmax pmax
comp=Z,122nm,1.0s,mb5.9
TIXI Tiksi 67.48 12 *i*P **P 03 37 09.1 -1.4**
SKR Severo-Kuril's 67.53 38 *e*P **P 03 37 12.0 +0.8**
SKR *e* 03 37 32.0
SKR *e* 03 39 46.0
SKR *e*S S 03 46 04.8 +0.8
SKR *e*PS PS 03 46 29.0 -2.7
SKR *e* 03 46 44.0
SKR pmax pmax
comp=N,110nm,1.0s
SKR pmax pmax
comp=E,90nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.1
SKR smax
comp=N,1µm,14.0s
SKR smax
comp=E,1µm,14.0s
SKR MLR MLR
comp=N,2µm,18.0s,MS5.5
SKR MLR MLR
comp=E,2µm,18.0s,MS5.5
SKR MLR MLR
comp=Z,1µm,18.0s,MS5.2
MLR Muntele Rosu 67.54 316 P **P 03 37 10.1 -1.2**
comp=Z,44nm,1.0s,mb5.5,baz=37,slow=3.4,SNR=38
MLR S 03 46 03.6 -0.5
comp=Z,0.8nm,0.5s,baz=81,slow=22,SNR=3.7
MLR Muntele Rosu 67.54 316 ⇓P **P 03 37 10.9 -0.3**
MLR Muntele Rosu 67.54 316 ⇓P **P 03 37 10.9 -0.4**
ZIMR 67.59 314 ⇑P **P 03 37 10.7 -0.9**
ZIMR 67.59 314 ⇑P **P 03 37 10.7 -0.9**
MA2 Magadan 67.61 28*d* *i*P **P 03 37 10.7 -0.8**
MA2 pmax pmax
comp=Z,34nm,0.8s,mb5.4
MA2 Magadan 67.61 28 *e*P **P 03 37 10.0 -1.4**
comp=Z,49nm,1.0s,mb5.5
RZN Rozhen 67.72 312 *e*P **P 03 37 11.0 -1.5**
AOS Alonnisos 67.98 309 *e*P **P 03 37 12.3 -1.8**
VOIR 68.14 316 ⇓P **P 03 37 14.1 -1.0**
VOIR 68.14 316 ⇓P **P 03 37 14.1 -1.0**
PAIG Paliouri 68.24 310 *e*P **P 03 37 13.1 -2.6**
KYTH Kithira 68.30 306 *e*P **P 03 37 12.5 -3.7**
VLI Veliai 68.43 306 *e*P **P 03 37 17.5 +0.5**
MMB Musomiste 68.44 311 *e*P **P 03 37 18.0 +1.0**
BURAR Bucovina Array 68.47 318 ⇓P **P 03 37 16.7 -0.3**
BURAR Bucovina Array 68.47 318 ⇓P **P 03 37 16.7 -0.3**
SRS Serrai 68.47 311 *e*P **P 03 37 15.5 -1.6**

VTS Vitosha 68.97 312 *e*P **P 03 37 19.0 -1.2**
PUL Pulkovo 69.02 332 *e*P **P 03 37 21.4 +1.2**
PUL *e*S S 03 46 19.0 -2.5
PUL pmax pmax
comp=Z,91nm,0.6s,mb5.9
PUL smax
comp=E,199nm,1.0s
PUL MLR MLR
comp=Z,2µm,21.0s,MS5.4
PUL MLR MLR
comp=N,1µm,17.0s
PUL MLR MLR
comp=E,1µm,23.0s
CNB Canberra Magne 69.13 132 *e*P **P 03 37 22.1 +0.7**
comp=E,57nm,1.3s,mb5.3
AGG Agios Georgios 69.16 309 *e*P **P 03 37 19.9 -1.6**
LIT Litokhoron 69.16 310 *e*P **P 03 37 19.0 -2.5**
ITM Ithomi 69.28 307 *e*P **P 03 37 20.5 -1.7**
ZAPS Zavoj/Pirot 69.50 313 ⇓*i*P **P 03 37 21.4 -2.1**
PET Petropavlovsk 69.65 36*c* *i*P **P 03 37 22.4 -1.8**
PET *e* 03 39 56.6
PET *i*S S 03 46 29.8 +0.7
PET *e*SPP SPP 03 47 01.1 -7.2
PET *e* 03 47 18.8
PET *e*SS SS 03 50 59.9 +0.9
PET *e*SSS SSS 03 54 02.5 -0.4
PET pmax pmax
comp=Z,200nm,13.8s
PET pmax pmax
comp=Z,100nm,19.2s
PET smax
comp=N,800nm,15.2s
PET smax
comp=E,400nm,13.4s
PET MLR MLR
comp=Z,1µm,19.0s,MS5.1
PET MLR MLR
comp=Z,900nm,18.0s
PET Petropavlovsk 69.65 36 *e*P **P 03 37 21.9 -2.3**
comp=Z,17nm,0.6s,mb5.1
SEY Seymchan 69.67 25 *e*P **P 03 37 23.3 -0.8**
SEY *e* 03 37 47.0
SEY *e* 03 39 57.5
SEY PPP PPP 03 41 37.1 -2.4
SEY *e*S S 03 46 28.4 -0.7
SEY 03 47 19.7
SEY *e*SS SS 03 50 52.7 -6.3
SEY pmax pmax
comp=E,20nm,1.3s
SEY pmax pmax
comp=Z,50nm,1.3s,mb5.3
SEY pmax pmax
comp=N,20nm,1.2s
SEY smax
comp=N,2µm,14.6s
SEY smax
comp=E,600nm,13.1s
SEY MLR MLR
comp=N,3µm,20.0s
SEY MLR MLR
comp=Z,2µm,20.0s,MS5.3
SEY Seymchan 69.67 25 *i*P **P 03 37 24.0 -0.1**
FNA Florina 70.09 310 *e*P **P 03 37 26.4 -0.7**
SKO Skopje 70.18 312 *i*P **P 03 37 26.5 -1.1**
VSU Vasula 70.33 330 *e*P **P 03 37 27.3 -0.9**
VLS Valsamata 70.43 308 *e*P **P 03 37 29.0 -0.2**
KWP Kalwaria 70.50 320 *e*P **P 03 37 29.0 -0.4**
KWP *e*pP pP 03 37 38.6 -0.4
KWP *e*S S 03 46 43.5 +4.4
KWP MLR MLR 04 11 59.3
comp=Z,1µm,21.7s,MS5.1
KOLS Kolonicke sedl 70.65 319 *e*P **P 03 37 31.2 +0.8**
KOLS *e* pP 03 37 38.9 -1.1
LVZ Lovozero 70.65 340 *e*P **P 03 37 22.9 -7.2**
LVZ *e*S S 03 46 30.6 -10
LVZ pmax pmax
comp=Z,39nm,1.8s,mb5.0
LVZ smax
comp=N,391nm,3.7s
LVZ smax
comp=E,232nm,3.3s
LVZ MLR MLR
comp=Z,3µm,20.0s,MS5.5
LVZ MLR MLR
comp=N,3µm,21.0s,MS5.6
LVZ MLR MLR
comp=E,2µm,20.0s,MS5.6
SUW Suwalki 71.10 324 *e*P **P 03 37 31.8 -1.2**
SUW *e**PP pP 03 37 41.7 -0.9
SUW *e* 03 37 51.4
SUW *e*S S 03 46 42.0 -4.0
SUW MLR MLR
comp=Z,1µm,22.9s,MS5.2
SUW Suwalki 71.10 324 *e*P **P 03 37 31.8 -1.2**
SUW *e*pP pP 03 37 41.7 -0.9
SUW *e*PcP PcP 03 37 51.4 -1.7
SUW *e*S S 03 46 42.0 -4.0
SUW MLR MLR 04 11 53.4
comp=Z,1µm,22.9s,MS5.2
CRVS Cervenica-Dubn 71.17 319 *e*P **P 03 37 38.0 +4.5**
CRVS *e* pP 03 37 46.0 +2.9
CRVS Cervenica-Dubn 71.17 319 *e* **P 03 37 38.0 +4.5**
CRVS *e*sP sP 03 37 46.0 -0.6
STHS Stebnicka Huta 71.40 319 *e*P **P 03 37 34.6 -0.3**
STHS *e*sP sP 03 37 46.2 -1.7
DIVS Divcibare 71.50 314 ⇑*i*P **P 03 37 34.4 -1.2**
FINES FINES Array B 71.55 332 *i*P **P 03 37 34.7 -0.9**
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINES Array B 71.55 332 P **P 03 37 34.2 -1.4**
comp=Z,5.5nm,0.7s,mb4.6,baz=124,slow=6.9,SNR=19
FINES LR LR 04 13 36.7
comp=Z,2µm,18.9s,MS5.3,baz=288,slow=40
KAF Kangasniemi 71.65 333 *ep* **P 03 37 34.1 -2.1**
comp=Z,1.3nm,0.4s,mb4.2,baz=106,slow=5.8
KECS Kecovo 71.74 318 *e*P **P 03 37 36.8 -0.2**
KECS *e*pP pP 03 37 47.4 +0.8
NIE Niedzica 72.00 319 *e*P **P 03 37 38.6 +0.1**
WAR Warsaw 72.02 322 *e*P **P 03 37 37.7 -0.8**
WAR *e*S S 03 46 54.8 -1.8
WAR LR LR
comp=Z,1µm,25.5s,MS5.0
WAR Warsaw 72.02 322 *e*P **P 03 37 37.7 -0.9**
WAR *e*S S 03 46 54.8 -1.8
WAR MLR MLR 04 09 55.0
comp=Z,1µm,25.5s,MS5.0
PSZ Piszkesteto 72.05 318 *e*P **P 03 37 37.0 -1.8**
PSZ pmax pmax
comp=Z,25nm,1.2s,mb5.0
PSZ Piszkesteto 72.05 318 ⇑*e*P **P 03 37 38.6 -0.2**
LBTB Lobatse 72.45 241 LR LR 04 05 25.0
comp=Z,2µm,18.4s,MS5.3,baz=56,slow=32
LBTB Lobatse 72.45 241 *e*P **P 03 37 41.4 -0.1**
comp=Z,36nm,1.3s,mb5.1
LBTB LR LR
comp=Z,2µm,20.0s,MS5.3
OJC Ojcow 72.45 320 *e*P **P 03 37 39.2 -1.9**
OJC *e*S S 03 46 57.0 -4.6
OJC MLR MLR 04 17 34.3
comp=Z,800nm,17.4s,MS5.0
PKSM Moragy 72.69 316 ⇑*e*P **P 03 37 41.0 -1.6**
VYHS Vyhne 72.83 318 *e*P **P 03 37 43.1 -0.3**
VYHS *e*pP pP 03 37 52.7 -0.4
SRO Srobarova 73.10 317 *e*P **P 03 37 46.9 +1.9**
SRO1 Iza 73.14 317 *e*pP pP 03 37 55.0 +0.1
OKC Ostrava-Krasne 73.45 320 *e*P **P 03 37 46.8 -0.2**
OKC *e*pP pP 03 37 56.2 -0.5
OKC *e*S S 03 47 08.6 -4.3
OKC AMS AMS 04 15 00.0
comp=Z,600nm,18.2s
TIP Timpagrande 73.49 308 *e*P **P 03 37 45.1 -2.3**
MORC Moravsky Berou 73.83 319 *e*P **P 03 37 47.7 -1.5**
MORC pmax pmax
comp=Z,30nm,1.1s,mb5.1
MORC Moravsky Berou 73.83 319 *e*P **P 03 37 47.7 -1.5**
comp=Z,30nm,1.1s,mb5.1
BOSA Boshof 73.86 237 *e*P **P 03 37 49.9 +0.1**
BOSA pmax pmax
comp=Z,29nm,1.1s,mb5.1
BOSA Boshof 73.86 237 P **P 03 37 49.7 -0.1**
comp=Z,9.1nm,0.7s,mb4.8,baz=73,slow=7.4,SNR=17
BOSA LR LR 04 04 29.5
comp=Z,1µm,20.8s,MS5.2,baz=72,slow=31
BOSA Boshof 73.86 237 *e*P **P 03 37 49.9 +0.1**

comp=Z,29nm,1.1s,mb5.1
ZST Bratislava 73.95 318 *e*P **P 03 37 49.5 -0.4**
ZST *e*pP pP 03 38 00.3 +0.7
ZST *e*L 04 16 44.1
KEV Kevo 73.95 341 *e*p **P 03 37 48.9 -0.6**
comp=Z,0.5nm,0.3s
ARCES ARCESS Array B 74.37 340 P **P 03 37 51.9 0.0**
comp=Z,4.0nm,0.7s,mb4.4,baz=90,slow=6.1,SNR=13
ARCES S S 03 47 18.2 -4.6
comp=Z,1.8nm,0.8s,baz=15,slow=24,SNR=2.2
ARCES LR LR 04 13 04.8
comp=Z,3µm,21.2s,MS5.5,baz=117,slow=38
ARE0 ARCESS Array S 74.37 340 *e*P **P 03 37 51.5 -0.4**
VRAC Vranov 74.39 319 P **P 03 37 52.1 -0.4**
comp=Z,5.7nm,0.9s,mb4.5,baz=103,slow=6.5,SNR=5.2
MIR Mirnyy 74.42 180 *e*P **P 03 37 51.0 -1.3**
MIR *e* 03 38 04.0
MIR pmax pmax
comp=Z,19nm,1.4s,mb4.8
GKP Gorka Klasztor 74.45 323 *e*P **P 03 37 51.9 -0.8**
GKP *e*pP pP 03 37 59.8 -2.6
GKP *e*PcP PcP 03 38 04.9 -2.5
GKP *e*S S 03 47 23.8 -0.2
GKP LR LR
comp=Z,1µm,25.2s,MS5.1
GKP Gorka Klasztor 74.45 323 *e*P **P 03 37 51.9 -0.9**
GKP *e*pP pP 03 37 59.8 -2.6
GKP *e*PcP PcP 03 38 04.9 -2.6
GKP *e*S S 03 47 23.8 -0.3
GKP MLR MLR 04 11 36.3
comp=Z,1µm,25.2s,MS5.1
DPC Dobruska-Polom 74.68 320 *e*P **P 03 37 54.4 +0.3**
DPC *e*pP pP 03 38 03.6 -0.2
DPC *e*S S 03 47 24.8 -1.8
DPC AMS AMS 04 15 50.0
comp=Z,1µm,16.8s
KSP Ksiaz 74.75 320 *e*P **P 03 37 53.8 -0.7**
KSP *e**PP pP 03 38 04.6 +0.4
KSP *e* 03 40 36.5
KSP *e*S S 03 47 25.0 -2.4
KSP *e* 03 47 58.0
KSP MLR MLR
comp=Z,2µm,24.3s,MS5.4
KSP Ksiaz 74.75 320 *e*P **P 03 37 53.8 -0.7**
KSP *e*pP pP 03 38 04.6 +0.4
KSP *e* 03 38 13.8
KSP *e*PP PP 03 40 36.5 -7.2
KSP *e*S S 03 47 25.0 -2.4
KSP *e*SKS SKS 03 47 58.0 -6.3
KSP *e*SS SS 03 52 07.0 -10
KSP LR LR
comp=Z,2µm,24.3s,MS5.4
KSP Ksiaz 74.75 320 *e*P **P 03 37 54.4 -0.1**
KSP *e*PcP PcP 03 38 06.3 -2.4
KSP *e*S S 03 47 22.8 -4.6
KSP MLR MLR 04 10 58.2
comp=Z,2µm,24.3s,MS5.3
UPC Upice 74.89 320 *e*P **P 03 37 55.5 +0.2**
UPC *e*pP pP 03 38 04.9 -0.1
ARSA Arzberg 74.92 317 ⇓*i*P **P 03 37 55.3 -0.3**
comp=Z,107nm,1.6s,mb5.5
KTK1 Kautokeino 74.97 340 *e*P **P 03 37 55.2 -0.1**
comp=Z,47nm,1.3s,mb5.3
KTK1 Kautokeino 74.97 340 *e*P **P 03 37 55.2 -0.1**
KTK1 AMb AMB 03 38 13.7
comp=Z,47nm,1.3s,mb5.3
BOJS Bojanci 74.98 315 *e*P **P 03 37 55.3 -0.6**
BOJS *e*S S 03 47 30.4 +0.3
VISS Visnje 75.29 315 *e*P **P 03 37 57.1 -0.6**
CASY Casey 75.38 172 *e*P **P 03 37 58.4 +0.6**
CII Carovilli 75.48 311 *e*P **P 03 37 59.5 +0.7**
comp=Z,37nm,1.8s,mb5.0
LJU Ljubljana 75.52 315 *e*P **P 03 37 59.0 0.0**
LJU *e*S S 03 47 38.4 +2.3
OBKA Obir 75.54 316 ⇑*i*P **P 03 37 59.4 +0.3**
comp=Z,118nm,1.6s,mb5.6
PRU Pruhonice 75.78 319 *e*P **P 03 38 00.4 0.0**
PRU *e*pP pP 03 38 09.1 -1.0
PRU *e*S S 03 47 37.2 -1.7
PRU AMS AMS 04 16 10.0
comp=Z,1µm,18.0s
PVCC Panska Ves 75.81 320 *e*P **P 03 38 00.6 0.0**
PVCC AMS AMS 04 17 50.0
comp=Z,1µm,17.7s
MOA Molln 75.81 317 ⇑*i*P **P 03 38 00.2 -0.4**
comp=Z,104nm,2.1s,mb5.4
VOY Vojsko 75.97 315 *e*P **P 03 38 01.2 -0.3**
VOY *e* pP 03 38 10.4 -0.8
BSD Bornholm Skovb 76.03 325 *i*P **P 03 38 00.9 -0.8**
BSD *e* pP 03 38 10.8 -0.6
BSD pmax pmax
comp=Z,29nm,0.7s,mb5.3
BSD Bornholm Skovb 76.03 325 *i*P **P 03 38 00.9 -0.8**
comp=Z,29nm,0.7s,mb5.3
BSD *e* pP 03 38 10.8 -0.6
CADS Cadrg 76.08 316 *e*P **P 03 38 01.5 -0.7**
BRG Berggiesshubel 76.23 320 *i*P **P 03 38 02.7 -0.2**
BRG *i* pP 03 38 13.6 +0.9
BRG S S 03 47 43.0 -0.7
BRG PS PS 03 48 24.0 -1.7
BRG pmax pmax
comp=Z,39nm,1.4s,mb5.1
BRG pmax pmax
comp=Z,34nm,1.1s,mb5.2
BRG pmax pmax
comp=Z,38nm,1.3s,mb5.2
BRG MLR MLR
comp=Z,1µm,18.9s,MS5.2
BRG MLR MLR
comp=N,1µm,18.9s,MS5.2
BRG MLR MLR
comp=E,470nm,18.9s,MS5.2
BRG Berggiesshubel 76.23 320 *i*P **P 03 38 02.7 -0.2**
comp=E,39nm,1.4s,mb5.1
BRG *i* pP 03 38 13.6 +0.9
BRG *e* 03 38 22.9
BRG S S 03 47 43.0 -0.7
BRG PS PS 03 48 24.0 -1.7
BRG SS SS 03 52 31.0 -10
BRG LR LR
comp=Z,1µm,18.9s,MS5.2
GEC2 GERESS Array S 76.25 318 *e*P **P 03 38 02.7 -0.4**
GEC2 pmax pmax
comp=Z,31nm,1.0s,mb5.2
GEC2 GERESS Array S 76.25 318 *e*P **P 03 38 02.7 -0.4**
comp=Z,31nm,1.0s,mb5.2
GERES GERESS Array B 76.25 318 P **P 03 38 02.0 -1.0**
comp=Z,15nm,0.9s,mb4.9,baz=90,slow=6.7,SNR=43
GERES S S 03 47 39.5 -4.5
comp=Z,0.1nm,0.3s,baz=327,slow=27,SNR=2.5
GERES LR LR 04 15 22.7
comp=Z,1µm,21.2s,MS5.2,baz=214,slow=39
KHC Kasperske Hory 76.35 319 *e*P **P 03 38 03.0 -0.6**
KHC *e*pP pP 03 38 13.4 0.0
KHC *e*S S 03 47 41.7 -3.4
KHC AMS AMS 04 14 40.0
comp=Z,800nm,20.2s
KBA Koelnbreinsper 76.39 316 ⇓*i*P **P 03 38 03.6 -0.3**
comp=Z,77nm,1.9s,mb5.3
RUE Ruedersdorf 76.45 322 *e*P **P 03 38 03.9 -0.3**
comp=Z,103nm,1.0s,mb5.7
TRO Tromso 76.61 340 *e*P **P 03 38 03.0 -1.6**
TRO LR LR
comp=Z,1326µm,19.1s
TRO Tromso 76.61 340 *e*P **P 03 38 03.0 -1.6**
TRO *e*S S 03 47 48.9 +1.5
TRO AMS AMS 04 14 00.1
comp=Z,1µm,19.1s,MS5.3
BILL Bilibino 76.71 22 *e*P **P 03 38 05.2 -0.1**
BILL pmax pmax
comp=Z,20nm,0.8s,mb5.1
BILL Bilibino 76.71 22 *e*P **P 03 38 05.2 -0.1**
comp=Z,20nm,0.8s,mb5.1
CLL Collm 76.85 321 *e*P **P 03 38 05.0 -1.4**
CLL *i**PP pP 03 38 16.3 +0.2
CLL *e*S S 03 47 52.0 +1.5
CLL pmax pmax
comp=Z,72nm,1.8s,mb5.3
CLL MLR MLR
comp=Z,1µm,22.6s,MS5.1
CLL Collm 76.85 321 *e*P **P 03 38 05.0 -1.4**
comp=Z,72nm,1.8s,mb5.3
CLL *i* pP pP 03 38 16.3 +0.2
CLL *e*S S 03 47 52.0 +1.5

CLL LR LR
comp=Z,1μm,22.6s,MS5.1
CLL Collm 76.85 321 P **P** **03 38 05.0 -1.4**
comp=Z,logA/T=1.6,mb5.3
CLL *i* *PP pP 03 38 16.3 +0.2
CLL *e*PP PP 03 40 57.0 -3.8
CLL *e*PPP PPP 03 42 54.0 +5.3
CLL *e*S S 03 47 52.0 +1.5
CLL *e*SS SS 03 52 53.0 +3.0
CLL *e*SSS SSS 03 56 18.0 +12
NKC Novy Kostel 77.14 320 *e*P **P** **03 38 07.9 -0.1**
NKC *e*pP pP 03 38 18.3 +0.5
NKC AMS AMS 04 16 40.0
comp=Z,1μm,18.3s
HFS Hagfors 77.21 330 S S 03 47 48.8 -5.4
comp=Z,1.1nm,0.9s,baz=186,slow=15,SNR=1.8
HFS LR LR 04 16 03.2
comp=Z,2μm,18.3s,MS5.5,baz=93,slow=39
COP Copenhagen 77.48 325 *e*P **P** **03 38 10.5 +0.7**
COP *i* S S 03 47 55.0 -2.2
COP pmax pmax
comp=Z,23nm,0.8s,mb5.2
COP MLR MLR
comp=Z,770nm,20.0s,MS5.0
COP Copenhagen 77.48 325 *e*P **P** **03 38 10.5 +0.7**
comp=Z,23nm,0.8s,mb5.2
COP *i* S S 03 47 55.0 -2.2
COP LR LR
comp=Z,780nm,20.0s,MS5.0
COP Copenhagen 77.48 325 *i* P **P** **03 38 10.5 +0.7**
comp=Z,23nm,0.8s,mb5.2
COP *i* S S 03 47 55.0 -2.2
comp=Z,770nm,20.0s
WTTA Wattenberg 77.57 317⇑ *i*P **P** **03 38 09.7 -0.7**
comp=Z,136nm,1.8s,mb5.6
WATA Walderalm 77.61 317⇑ *i*P **P** **03 38 09.8 -0.9**
comp=Z,31nm,1.3s,mb5.1
MOR8 Moi Rana 77.63 336 *e*P **P** **03 38 09.6 -0.8**
comp=Z,39nm,1.0s,mb5.3
MOR8 Moi Rana 77.63 336 *e*P **P** **03 38 09.6 -0.8**
MOR8 AMb AMB 03 38 24.9
comp=Z,39nm,1.0s,mb5.3
MOX Moxa 77.70 320 *e*P **P** **03 38 11.7 +0.7**
MOX *e* pP 03 38 21.6 +0.8
MOX pmax pmax
comp=Z,39nm,1.2s,mb5.2
MOX MLR MLR
comp=Z,900nm,19.0s,MS5.1
MOX Moxa 77.70 320 *i* P **P** **03 38 11.7 +0.7**
comp=Z,logA/T=1.5,mb5.2
MOX *i* pP 03 38 22.0 +1.2
MOX PP PP 03 41 17.0 +8.7
MOX S S 03 48 00.0 +0.4
MOX SS SS 03 53 18.0 +15
MOX L 04 19 15.0
FUR Furstenfeldbru 77.83 317 *e*P **P** **03 38 11.2 -0.7**
FUR pmax pmax
comp=Z,33nm,0.7s,mb5.4
FUR Furstenfeldbru 77.83 317 *e*P **P** **03 38 11.2 -0.7**
comp=Z,33nm,0.7s,mb5.4
SQTA Sankt Quirin 77.86 317⇑ *i*P **P** **03 38 10.9 -1.1**
comp=Z,26nm,1.0s,mb5.1
GRA1 Grafenberg Arr 77.92 319 *e*P **P** **03 38 12.4 +0.1**
comp=Z,52nm,1.0s,mb5.4
GRA1 *e*pP pP 03 38 22.6 +0.6
GRA1 *e*S S 03 48 05.3 +3.3
GRA1 *e*SS SS 03 53 09.8 +3.8
GRA1 LR LR
comp=Z,1μm,18.3s,MS5.2
GRF Grafenberg Arr 77.92 319 *e*P **P** **03 38 12.4 +0.1**
comp=Z,52nm,1.0s,mb5.4
GRF *e*pP pP 03 38 22.6 +0.6
GRF *e*S S 03 48 05.3 +3.3
GRF *e*SS SS 03 53 09.8 +3.8
GRF LR LR
comp=Z,1μm,18.3s,MS5.2
MOTA Moosalm 77.93 317⇑ *i*P **P** **03 38 11.2 -1.2**
comp=Z,50nm,1.1s,mb5.4
MELSS Ber_school_2 78.01 337 *e*P **P** **03 38 12.9 +0.4**
LOF Lofoten 78.25 338 *e*P **P** **03 38 15.8 +2.0**
comp=Z,88nm,1.4s,mb5.5
LOF Lofoten 78.25 338 *e*P **P** **03 38 15.8 +2.0**
LOF AMb AMB 03 38 29.5
comp=Z,88nm,1.4s,mb5.5
MAW Mawson 78.29 191 *e*P **P** **03 38 15.4 +1.4**
comp=Z,6.2nm,0.7s,mb4.7
MAW Mawson 78.29 191 P **P** **03 38 14.3 +0.3**
comp=Z,3.9nm,0.6s,mb4.5,baz=23,slow=4.4,SNR=23
MAW S S 03 48 10.0 +4.3
comp=Z,0.8nm,0.8s,baz=249,slow=22,SNR=2.4
MAW LR LR 04 08 35.7
comp=Z,921nm,18.5s,MS5.1,baz=20,slow=32
FX1 Attu Island--F 78.31 38 P **P** **03 38 14.5 +0.2**
comp=Z,15nm,0.5s,mb5.2,baz=286,slow=2.2,SNR=14
FX1 S S 03 48 07.6 +1.5
comp=Z,10.0nm,0.9s,baz=86,slow=21,SNR=2.4
FX1 Attu Island--F 78.31 38 *e*P **P** **03 38 14.3 0.0**
SARO Sassorosso 78.39 313 P **P** **03 38 14.1 -0.9**
VLC Villacollemand 78.40 313 *e*P **P** **03 38 14.3 -0.7**
comp=Z,49nm,1.1s,mb5.3
NSS Namsos 78.47 334 *e*P **P** **03 38 13.4 -1.6**
NSS *e*S S 03 48 08.1 +0.5
NSS AMS AMS 04 19 31.9
comp=Z,2μm,19.4s,MS5.5
VALM 78.50 314 P **P** **03 38 14.1 -1.5**
NB2 NORSAR Subarra 78.51 331 P **P** **03 38 14.6 -0.7**
comp=Z,14nm,1.0s,mb4.8,baz=98,slow=5.3
NB2 NORSAR Subarra 78.51 331 P **P** **03 38 14.6 -0.7**
baz=98,slow=5.3
NOA NORSAR Array B 78.51 331 P **P** **03 38 14.6 -0.7**
comp=Z,6.4nm,0.8s,mb4.6,baz=94,slow=5.7,SNR=16
NOA S S 03 48 06.1 -2.1
comp=Z,0.8nm,0.8s,baz=151,slow=17,SNR=2.6
NOA LR LR 04 16 46.3
comp=Z,2μm,20.1s,MS5.4,baz=95,slow=39
CLZ Clausthal 78.52 321 *e*P **P** **03 38 15.2 -0.3**
CLZ pmax pmax
comp=Z,34nm,1.1s,mb5.2
CLZ Clausthal 78.52 321 *e*P **P** **03 38 15.2 -0.3**
comp=Z,34nm,1.1s,mb5.2
BSEG Bad Segeberg 78.62 323 *e*P **P** **03 38 15.8 -0.2**
BSEG pmax pmax
comp=Z,55nm,1.2s,mb5.4
BACM 78.63 314 P **P** **03 38 14.4 -1.9**
GRAM 78.63 314 P **P** **03 38 14.7 -1.6**
NAO01 NORSAR Array S 78.66 330 *e*P **P** **03 38 15.7 -0.4**
comp=Z,14nm,0.9s,mb4.6
SUR Sutherland 78.67 235 LR LR 04 09 19.9
comp=Z,1μm,18.7s,MS5.2,baz=254,slow=33
DAVOX Davos 78.76 316 P **P** **03 38 17.5 +0.5**
comp=Z,27nm,0.5s,mb5.4,baz=147,slow=4.8,SNR=105
DAVOX LR LR 04 21 00.1
comp=Z,889nm,18.3s,MS5.1,baz=76,slow=42
DAVA Damuels 78.76 317⇓ *i*P **P** **03 38 16.8 -0.2**
comp=Z,134nm,2.0s,mb5.5
CODM 78.78 314 P **P** **03 38 15.2 -1.9**
DZM Mont Dzumac 78.83 114 P **P** **03 38 20.1 +2.2**
comp=Z,21nm,0.9s,mb5.0,baz=58,slow=11,SNR=6.9
VSL Villasalto 79.22 309 P **P** **03 38 16.6 -3.1**
comp=Z,28nm,1.0s,mb5.2
KONO Kongsberg 79.23 329 *e*P **P** **03 38 20.4 +1.1**
KONO Kongsberg 79.23 329 *e*S S 03 48 14.6 -1.2
KONO *e*SS SS 03 53 23.5 -2.0
MUD Monsted U'grnd 79.35 326⇓ *i*P **P** **03 38 20.3 +0.3**
MUD *i* pP 03 38 30.7 +0.9
MUD *i* S S 03 48 16.5 -0.6
MUD pmax pmax
comp=Z,32nm,1.0s,mb5.2
MUD MLR MLR
comp=Z,1μm,17.0s,MS5.3
MUD Monsted U'grnd 79.35 326⇓ *i*P **P** **03 38 20.3 +0.3**
comp=Z,32nm,1.0s,mb5.2
MUD *i* pP 03 38 30.7 +0.9
MUD *i* S S 03 48 16.5 -0.6
comp=Z,1μm,17.0s
TOD Tromm 79.48 319 *e*P **P** **03 38 21.1 +0.2**
TNS Taunus Mts 79.71 320 *e*P **P** **03 38 21.9 -0.2**
TNS pmax pmax
comp=Z,27nm,1.1s,mb5.1
TNS Taunus Mts 79.71 320 *e*P **P** **03 38 21.9 -0.2**
comp=Z,27nm,1.1s,mb5.1
PCP Pian Castagno 79.72 314 P **P** **03 38 20.5 -1.7**
BFO Black Forest 79.81 318 *e*P **P** **03 38 22.0 -0.6**
BFO pmax pmax
comp=Z,28nm,1.2s,mb5.1
BFO Black Forest 79.81 318 *e*P **P** **03 38 22.0 -0.6**
comp=Z,28nm,1.2s,mb5.1
FIN Finale Ligure 79.97 313 P **P** **03 38 22.1 -1.4**
FELD Feldberg 80.03 317 *e*P **P** **03 38 24.3 +0.5**
ORX Oropa 80.09 315 P **P** **03 38 23.3 -0.9**
LANF Langenberg 80.14 318 *e*P **P** **03 38 24.7 +0.3**
IMI Imperia 80.20 313 P **P** **03 38 23.1 -1.8**
ROB Roburent 80.21 314 P **P** **03 38 23.1 -1.8**
KBS Kingsbay 80.22 349 *e*P **P** **03 38 23.7 -0.6**
KBS pmax pmax
comp=Z,21nm,1.2s,mb4.9
KBS Kingsbay 80.22 349 *e*P **P** **03 38 23.7 -0.6**
comp=Z,21nm,1.2s,mb4.9
KBS Kingsbay 80.22 349 *e*S S 03 48 27.7 +1.8
KBS *e*SS SS 03 53 36.7 -3.3
KBS AMS AMS 04 19 02.5
comp=Z,2μm,25.9s,MS5.3
LIBD Limburg 80.29 317 *e*P **P** **03 38 25.6 +0.4**
MONE Monesi 80.30 313 P **P** **03 38 22.9 -2.4**
MOL Molde 80.32 332 *e*P **P** **03 38 26.2 +1.1**
comp=Z,46nm,1.8s,mb5.1
MOL Molde 80.32 332 *e*P **P** **03 38 26.2 +1.1**
MOL AMb AMB 03 38 34.0
comp=Z,46nm,1.8s,mb5.1
NEGI Negi 80.34 313 P **P** **03 38 23.4 -2.2**
SAOF Saorge 80.44 313 *e*P **P** **03 38 28.2 +2.1**
WLS Welschbruch 80.45 318 *e*P **P** **03 38 26.3 +0.2**
ENR Entracque 80.53 313 P **P** **03 38 24.6 -2.0**
AUTN L'Aution 80.53 313 *e*P **P** **03 38 27.2 +0.6**
REVF Revere 80.59 313 *e*P **P** **03 38 27.1 +0.2**
ECH Echery 80.59 318 *e*P **P** **03 38 28.0 +1.2**
RSP Reno Superiore 80.62 314 P **P** **03 38 25.2 -1.8**
BHB Bricherasio 80.62 314 P **P** **03 38 24.7 -2.3**
TOUF Mont Tournerai 80.66 313 *e*P **P** **03 38 27.6 +0.3**
LSD Ceresole Reale 80.68 315 P **P** **03 38 25.3 -2.0**
MVIF Mont Vial 80.74 313 *e*P **P** **03 38 29.7 +2.0**
FENE Fenestrelle 80.76 314 P **P** **03 38 25.6 -2.2**
CMAH Djebel Manchou 80.88 306 P **P** **03 38 30.0 +1.4**
CALN Calern 80.93 313 *e*P **P** **03 38 29.3 +0.6**
BNI Bardonecchia 81.03 314 *e*P **P** **03 38 28.9 -0.3**
BNI pmax pmax
comp=Z,45nm,0.9s,mb5.4
BNI Bardonecchia 81.03 314 *e*P **P** **03 38 28.9 -0.3**
comp=Z,45nm,0.8s,mb5.5
WLF Walferdange 81.21 319 *e*P **P** **03 38 31.2 +1.2**
WLF pmax pmax
comp=Z,31nm,1.1s,mb5.2
WLF Walferdange 81.21 319 *e*P **P** **03 38 31.2 +1.2**
comp=Z,31nm,1.1s,mb5.1
THEF They Montfort 81.37 318 *e*P **P** **03 38 29.9 -1.0**
BER Bergen 81.39 330 *e*P **P** **03 38 33.8 +3.1**
BER LR LR
comp=Z,2190μm,16.2s
BER Bergen 81.39 330 *e*P **P** **03 38 33.8 +3.1**
BER *e*S S 03 48 39.9 +1.7
BER AMS AMS 04 19 14.8
comp=Z,2μm,16.2s,MS5.6
TAVF Tavernes 81.54 313 *e*P **P** **03 38 32.6 +0.7**
STOF St-Etienne Org 81.63 313 *e*P **P** **03 38 33.7 +1.4**
CASM Ain Smara 81.65 305 P **P** **03 38 34.0 +1.4**
GRN Grenoble 81.68 315 *e*P **P** **03 38 33.2 +0.6**
CTEI Djebel Teioual 81.73 305 P **P** **03 38 36.0 +3.0**
VILF Villemus 81.78 313 *e*P **P** **03 38 33.9 +0.8**
PUYF Puyloubier 81.81 313 *e*P **P** **03 38 35.6 +2.4**
GELF Grande-Etoile 82.01 313 *e*P **P** **03 38 33.9 -0.4**
DFRA Djebel Bou Aff 82.13 306 P **P** **03 38 40.0 +4.9**
PRAF Pradon 82.17 313 *e*P **P** **03 38 35.8 +0.7**
CMER Merouana 82.18 305 P **P** **03 38 44.0 +8.7**
CKHR Kef el Ahmar 82.46 305 P **P** **03 38 37.0 +0.2**
SET Setif 82.54 305 P **P** **03 38 40.0 +2.8**
PLDF La Plantade 83.12 315 *e*P **P** **03 38 41.0 +1.0**
LBL Lubilhac 83.44 315 *e*P **P** **03 38 42.9 +1.2**
PYM Petit Puy Mans 83.57 315 *e*P **P** **03 38 42.7 +0.4**
EJON La Jonquera 83.94 312 P **P** **03 38 44.6 +0.3**
comp=Z,7.0nm,1.0s,mb4.8
LRDF Laroque-de-Fa 84.16 312 *e*P **P** **03 38 46.0 +0.6**
FILF Fillols 84.18 312 *e*P **P** **03 38 46.5 +1.0**
ETOS Mallorca 84.26 309 P **P** **03 38 47.8 +1.9**
comp=Z,24nm,0.9s,mb5.3
EMHD Djebel Mahouad 84.51 306 P **P** **03 38 49.5 +2.2**
VALF Valcebollere 84.59 312 *e*P **P** **03 38 48.6 +1.0**
LPEF Le Peyrat 84.62 312 *e*P **P** **03 38 48.3 +0.6**
SYO Syowa Base 84.96 197 ⇓P **P** **03 38 48.3 -0.5**
SYO Syowa Base 84.96 197 ⇓PcP PcP 03 38 52.5 0.0
EMIR Miracle 85.01 311 P **P** **03 38 50.6 +1.0**
comp=Z,11nm,0.3s,mb5.5
EPOB Poblet 85.40 311 P **P** **03 38 52.9 +1.3**
comp=Z,44nm,1.3s,mb5.4
JMIC Jan Mayen 85.84 341 S S 03 49 24.3 +1.8
comp=Z,5.4nm,0.5s,baz=244,slow=17,SNR=2.0
JMIC LR LR 04 18 56.8
comp=Z,860nm,21.4s,MS5.1,baz=256,slow=37
JMIC Jan Mayen 85.84 341 *e*P **P** **03 38 55.7 +2.6**
JMIC LR LR
comp=Z,686μm,22.2s
JMIC Jan Mayen 85.84 341 *e*P **P** **03 38 55.7 +2.6**
JMIC *e*S S 03 49 24.5 +2.0
JMIC AMS AMS 04 24 38.5
comp=Z,686nm,22.2s,MS5.0
EGRA Graus 85.87 312 P **P** **03 38 55.0 +1.1**
comp=Z,7.1nm,0.6s,mb5.1
EBR Ebro Roquetas 85.91 310 *e*P **P** **03 38 55.5 +1.3**
EKA Eskdalemuir Ar 86.34 325 P **P** **03 38 56.9 +0.9**
comp=Z,6.9nm,0.6s,mb5.1,baz=91,slow=5.2,SNR=24
ESAC San Caprasio 86.51 311 P **P** **03 38 58.2 +1.1**
comp=Z,8.7nm,0.4s,mb5.3
EMOS Mosqueruela 86.69 310 P **P** **03 39 00.3 +2.2**
comp=Z,115nm,1.8s,mb5.8
LARF Larrau 86.71 313 *e*P **P** **03 38 59.0 +0.9**
DAG Danmarks Havn 86.83 348⇑ *e*P **P** **03 38 57.7 -0.2**
DAG pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
DAG Danmarks Havn 86.83 348⇑ *e*P **P** **03 38 57.7 -0.2**
comp=Z,2.0nm,0.7s,mb4.5
DAG Danmarks Havn 86.83 348⇑ *i*P **P** **03 38 57.7 -0.2**
comp=Z,2.1nm,0.7s,mb4.5
ECHE Chera 87.18 309 P **P** **03 39 02.6 +2.1**
comp=Z,8.0nm,0.9s,mb5.0
ETOB Tobarra 87.76 309 P **P** **03 39 05.2 +1.9**
comp=Z,9.7nm,0.8s,mb5.1
ECRI Cripan 87.89 313 P **P** **03 39 05.7 +1.9**
comp=Z,4.3nm,0.6s,mb4.9
EVIA Vianos 88.50 309 P **P** **03 39 10.0 +3.2**
comp=Z,5.7nm,0.6s,mb5.0
EHUE Huescar 88.70 308 P **P** **03 39 10.5 +2.7**
comp=Z,8.7nm,0.9s,mb5.1
EQES Quesada 89.07 308 P **P** **03 39 12.2 +2.6**
comp=Z,10nm,1.2s,mb5.0
EBER Berja 89.08 307 P **P** **03 39 12.5 +3.0**
comp=Z,47nm,1.4s,mb5.6
ESDC Sonseca Array 89.45 310 P **P** **03 39 11.1 -0.1**
comp=Z,2.6nm,0.4s,mb4.9,baz=65,slow=4.2,SNR=53
ESDC PP PP 03 42 42.7 -2.2
comp=Z,1.4nm,0.9s,baz=72,slow=8.1,SNR=3.7
ESDC S S 03 49 43.1 -14
comp=Z,0.1nm,0.3s,baz=356,slow=40,SNR=3.5
ESDC Sonseca Array 89.45 310 P **P** **03 39 11.4 +0.1**
comp=Z,6.1nm,0.4s,mb5.3
ESLA Sonseca Array 89.45 310 *e*P **P** **03 39 11.9 +0.6**
comp=Z,5.8nm,1.3s,mb4.8
ESLA LR LR
comp=Z,4μm,22.0s,MS5.8
EBAN Banos Encina 89.57 308 P **P** **03 39 13.7 +1.9**
comp=Z,2.7nm,0.7s,mb4.7
EADA Adamuz 90.18 308 P **P** **03 39 16.0 +1.2**
comp=Z,15nm,1.2s,mb5.2
EMIJ Mijas 90.63 307 P **P** **03 39 17.6 +0.8**
comp=Z,12nm,0.7s,mb5.3
URZ Urewera 91.14 128 P **P** **03 39 19.4 +0.3**
comp=Z,7.9nm,0.7s,mb5.1,baz=59,slow=1.9,SNR=5.0
ESPR Espera 91.42 307 P **P** **03 39 21.1 +0.6**
comp=Z,10nm,0.9s,mb5.2
EMIN Mina Concepcio 91.89 308 P **P** **03 39 23.2 +0.6**
comp=Z,3.6nm,0.5s,mb5.0
EBAD Badajoz 91.95 309 P **P** **03 39 24.3 +1.4**
comp=Z,4.2nm,0.5s,mb5.0
MTE Manteigas 92.01 311 *e*P **P** **03 39 24.9 +1.9**
comp=Z,8.3nm,0.6s,mb5.2
MTE Manteigas 92.01 311 *e*P **P** **03 39 25.1 +2.1**
MTE Manteigas 92.01 311 *e*PP PP 03 43 02.7 -2.7
MTE *e*S S 03 50 21.5 +1.5
MTE *i* SS SS 03 56 33.8 +1.2
MTE *e*LQ 04 03 56.0
MTE *e*LR LR 04 11 44.4
comp=Z,629nm,19.0s
ELOB Lobios 92.07 313 P **P** **03 39 26.2 +2.9**
comp=Z,7.0nm,0.9s,mb5.0
PCBR Castelo Branco 92.08 311 *e*P **P** **03 39 25.3 +1.9**
IMA Indian Mountai 92.26 22 *e*P **P** **03 39 25.1 +1.5**
IMA pmax pmax
comp=Z,140nm,1.4s,mb6.1
IMA Indian Mountai 92.26 22 *e*P **P** **03 39 25.2 +1.6**
TTA Tatalina 92.64 25 *e*P **P** **03 39 27.3 +1.9**
SUMG Summit 93.47 347 *e*P **P** **03 39 30.1 +1.0**
comp=Z,27nm,1.3s,mb5.5
VNDA Vanda 93.55 168 P **P** **03 39 31.1 +1.7**
comp=Z,0.7nm,0.7s,mb4.2,baz=283,slow=8.1,SNR=4.9
VNDA LR LR 04 16 19.3
comp=Z,770nm,20.1s,MS5.2,baz=308,slow=32
VNDA Vanda 93.55 168 *e*P **P** **03 39 31.0 +1.7**
comp=Z,9.6nm,1.5s,mb5.0
VNDA LR LR
comp=Z,831nm,20.0s,MS5.2
SVW2 Sparrevohn 93.56 27 *e*P **P** **03 39 32.3 +2.6**
SBA Scott Base 94.65 168 *e*P **P** **03 39 35.9 +1.5**
SBA pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
SBA Scott Base 94.65 168 *e*P **P** **03 39 35.9 +1.5**
comp=Z,8.3nm,1.1s,mb5.1
ILAR Eielson Array 95.38 22 P **P** **03 39 37.6 -0.3**
comp=Z,2.5nm,0.7s,mb4.8,baz=294,slow=4.5,SNR=31
ILAR LR LR 04 28 09.1
comp=Z,739nm,19.0s,MS5.2,baz=314,slow=39
DBIC Dimbokro 95.78 278 P **P** **03 39 42.7 +1.7**
comp=Z,7.2nm,0.9s,mb5.1,baz=22,slow=3.4,SNR=5.3
DBIC S 03 50 11.8
comp=Z,2.6nm,1.0s,baz=208,slow=16,SNR=1.8
DBIC LR LR 04 21 03.2
comp=Z,1μm,19.6s,MS5.4,baz=58,slow=34
DBIC Dimbokro 95.78 278 P **P** **03 39 42.7 +1.7**
DBIC S 03 50 11.8
DBIC LR LR 04 21 03.2
INK Inuvik 97.40 16 *e*P **P** **03 39 47.4 +0.4**
INK pmax pmax
comp=Z,11nm,0.9s
INK Inuvik 97.40 16 P **P** **03 39 47.5 +0.4**
comp=Z,9.0nm,1.1s,mb5.1,baz=317,slow=3.2,SNR=12
INK S 03 50 19.2
comp=Z,0.9nm,0.9s,baz=308,slow=7.2,SNR=3.2
INK Inuvik 97.40 16 *e*P **P** **03 39 47.4 +0.4**
comp=Z,11nm,0.9s,mb5.3
AFI Afiamalu 97.94 103 LR LR 04 18 32.6
comp=Z,512nm,21.2s,MS5.0,baz=307,slow=32
SNAA Sanae 99.11 199 *e* **P** **03 40 03.6 +8.9**
SNAA Sanae 99.11 199 LR LR 04 21 43.1
comp=Z,301nm,18.1s,MS4.8,baz=70,slow=34
SNAA Sanae 99.11 199⇑ *i*Pdif **P** **03 39 59.3 +4.6**
SNAA *e* 03 40 03.6
SNAA *e*S S 03 51 33.7 +14
VNA2 Neumayer--Watz 100.63 199 *e* P 03 40 09.5 +7.9
VNA2 Neumayer--Watz 100.63 199⇑ *i*Pdif P 03 40 04.3 +2.7
VNA2 *e* 03 40 09.5
VNA2 *e* 03 51 39.4
VNA1 Neumayer--Stat 100.95 200⇑ *i*P P 03 40 11.3 +8.2
VNA3 Neumayer Olymp 101.33 199⇑ *i*Pdif P 03 40 11.7 +6.9
VNA3 *e* 03 51 39.7
DLBC Dease Lake 105.58 21 PP PP 03 44 40.7 -8.3
comp=Z,1.0nm,0.9s,baz=219,slow=19,SNR=2.2
YKA Yellowknife Ar 106.73 13 PP PP 03 44 50.8 -6.8
comp=Z,1.3nm,0.8s,baz=330,slow=9,SNR=3.6
TBI Tubuai 119.35 112 *e*S 03 54 11.1
comp=Z,143nm,29.8s
TBI *e*LR LR 04 24 05.6
comp=Z,959nm,35.8s,baz=290
PPT Papeete 119.47 106 *e*S 03 53 36.6
comp=Z,151nm,20.2s
PPT *e*LR LR 04 23 14.8
comp=Z,2μm,35.5s,baz=270
MSO Missoula 120.69 20 *e*PKPdf PKPdf 03 45 06.2 -3.8
BOZ Bozeman (W) 122.50 19 *e*PKIKP PKPdf 03 45 10.7 -2.8
LAO LASA Array 123.14 15 *e*PKPdf PKPdf 03 45 12.3 -2.4
IMW Indian Meadow 124.28 20 *e*PKPdf PKPdf 03 45 14.6 -2.5
TPAW Teton Pass 124.63 20 *e*PKPdf PKPdf 03 45 15.0 -2.8
REDW Red Top Meadow 124.78 20 *e*PKPdf PKPdf 03 45 15.5 -2.5
PDAR Pinedale Array 125.74 19 PKP PKPdf 03 45 16.6 -3.2
comp=Z,1.6nm,0.8s,baz=3.0,SNR=14
PDAR PP PP 03 47 07.8 -3.7
comp=Z,2.2nm,1.1s,baz=346,slow=3.7,SNR=2.8
HWUT Hardware Ranch 126.07 22 *e*PKPdf PKPdf 03 45 17.6 -3.0
TAOE Nuku Hiva Isla 128.48 95 *e*S 03 54 25.9
comp=Z,1μm,37.5s
TAOE *e*LR LR 04 26 39.2
comp=Z,3μm,28.4s
MSU Marysvale 128.50 24 *e*PKIKP PKPdf 03 45 23.7 -1.7
PV10 Paradox Valley 129.83 22 *e*PKPdf PKPdf 03 45 25.7 -2.2
LPM Los Pinos Moun 134.32 22 *e*PKPdf PKPdf 03 45 35.5 -0.9
WVT Waverly 136.05 360 *e*PKPdf PKPdf 03 45 36.2 -3.4
WVT LR LR
comp=Z,745nm,20.0s,MS5.4
CPRX Cap Rock 136.45 19 PKPdf PKPdf 03 45 38.0 -2.4
GDL2 Guadalupe Moun 137.04 20 *e*PKPdf PKPdf 03 45 39.2 -2.3
MNTX Cornudas Mount 137.13 22 *e*PKPdf PKPdf 03 45 38.5 -3.2
TXAR Lajitas Array 139.89 21 PKhKP 03 45 39.8
comp=Z,1.1nm,0.8s,SNR=3.4
TXAR PP PP 03 48 29.6 -12
comp=Z,0.7nm,0.9s,baz=342,slow=5.7,SNR=3.0
PLCA Paso Flores 143.93 203 PKP PKPdf 03 45 48.2 -5.3
comp=Z,2.7nm,0.8s,baz=119,slow=2.3,SNR=6.2
CPUP Villa Florida 145.64 234 PKPdf PKPdf 03 45 53.8 -3.2
CPUP Villa Florida 145.64 234 PKPbc PKPbc 03 45 53.7 +1.2
comp=Z,6.8nm,0.7s,baz=123,slow=3.0,SNR=38
HLGC Holguin 148.92 338 *e*P PKPdf 03 46 04.0 +1.6
SOR Soroa 148.95 351 *e*P PKPdf 03 46 01.0 -1.4
SAML Samuel 155.41 266 PKPdf PKPdf 03 46 07.0 -5.0
LPAZ La Paz 158.91 245 PKP PKPdf 03 46 14.4 -2.0
comp=Z,1.9nm,0.8s,baz=332,slow=4.6,SNR=4.8
LPAZ PKPab PKPab 03 46 50.6 +0.8
comp=Z,4.9nm,0.9s,baz=67,slow=9.2,SNR=7.1

IDC 25 03:30:32.1±3.5, 16.73S×173.70W, mb3.8/2, mb1 4.2/2, mb1mx3.8/15, mbtmp3.8/2, Error ellipse: s-maj=170.5km s-min=42.9km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.36**	**34**	Pn	Pn		03 31 20.1	-6.9
	5.3nm,0.3s,baz=207,slow=11,SNR=9.5							
AFI				Sn	Sn		03 31 55.3	-13
	42nm,0.3s,baz=112,slow=17,SNR=12							
URZ	**Urewera**	**22.92**	**199**	P	P		03 35 35.4	-3.4
	2.6nm,0.4s,baz=129,slow=15,SNR=5.4							
WRA	**Warramunga Arr**	**49.27**	**259**	P	P		03 39 22.5	-2.4
	1.1nm,0.5s,baz=96,slow=7.0,SNR=4.6							
ILAR	**Eielson Array**	**83.80**	**11**	P	P		03 43 01.9	-2.4
	0.5nm,0.6s,baz=219,slow=5.8,SNR=4.5							
KMBO	**Kilima Mbogo**	**144.69**	**243**	PKP	PKPdf		03 50 11.4	-2.2
	3.3nm,0.9s,baz=80,slow=6.9,SNR=5.4							
BRTR	**Keskin Array B**	**146.99**	**319**	PKPbc	PKPbc		03 50 17.9	+1.3
	1.3nm,0.7s,baz=27,slow=3.2,SNR=8.0							
GERES	**GERESS Array B**	**147.41**	**351**	PKPbc	PKPdf		03 50 17.7	+0.5
	0.2nm,0.5s,baz=180,slow=1.3,SNR=4.0							

IDC 25 03:32:09.7±8.3, 4.86N×93.25E, mb3.8/4, mb1 3.9/4, mb1mx3.7/18, mbtmp3.8/4, Error ellipse: s-maj=195.6km s-min=55.5km az=145.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.84**	**349**	P	P		03 40 10.1	-1.1
	0.6nm,0.5s,baz=170,slow=8.8,SNR=2.7							
SONM	**Songino Array**	**44.28**	**13**	P	P		03 40 20.6	-2.3
	1.4nm,0.9s,baz=211,slow=8.4,SNR=3.5							
BRTR	**Keskin Array B**	**63.74**	**312**	P	P		03 42 42.5	-3.3
	0.8nm,0.7s,baz=110,slow=7.8,SNR=4.0							
GERES	**GERESS Array B**	**79.48**	**319**	P	P		03 44 19.3	-0.4
	0.6nm,0.7s,baz=90,slow=3.9,SNR=4.3							

*IDC **25** 04:06:24.4±1.1, 2.69N×126.59E, mb4.2/8, mb1 4.3/8, mb1mx4.1/17, mbtmp4.2/8, MS4.1/1, Ms1 4.1/1, ms1mx3.3/32, Error ellipse: s-maj=99.9km s-min=16.2km az=70.0*
*NEIC **25** 04:06:29.2±0.7, 2.72N×126.81E, h35km, mb4.3/3, Error ellipse: s-maj=54.1km s-min=9.6km az=70.0*
*BJI **25** 04:06:29.1, 3.06N×126.48E, h20km, mB5.1, mb4.5*
ISC 25 04:06:27.7±0.6, 2.6N±0.1×126.5E±0.3, h33km, n14, σ0$ 46/14, mb4.2/9, MS4.0/1, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.63**	**182**	*eP*	**P**	**04 11 07.1**	**+0.1**
	6.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.63**	**182**	P	**P**	**04 11 06.8**	**-0.2**
	13nm,0.7s,baz=66,slow=1.0,SNR=14						
WRAB	**Tennant Creek**	**23.72**	**161**	*eP*	**P**	**04 11 37.5**	**-0.3**
	16nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**23.73**	**161**	P	**P**	**04 11 37.5**	**-0.3**
	6.1nm,0.5s,mb4.3,baz=335,slow=11,SNR=34						
WB2	**Warramunga Arr**	**23.73**	**161**	*eP*	**P**	**04 11 37.5**	**-0.4**
WB2				*eS*	**S**	**04 15 51.1**	**+3.4**
JOW	**Kunigami**	**24.11**	**4**	LR	LR	04 20 53.2	
	comp=Z,515nm,21.0s,MS4.0,baz=299,slow=36						
STKA	**Stephens Creek**	**37.20**	**159**	*eP*	**P**	**04 13 37.9**	**+0.1**
	5.8nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**37.20**	**159**	P	**P**	**04 13 38.1**	**+0.3**
	4.9nm,0.7s,mb4.5,baz=312,slow=6.9,SNR=9.1						
MDJ	**Mudanjiang**	**41.89**	**3**	P	**P**	**04 14 16.8**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.3						
SONM	**Songino Array**	**48.25**	**342**	P	**P**	**04 15 07.3**	**-0.1**
	comp=Z,5.7nm,1.3s,mb4.4,baz=157,slow=9.4,SNR=8.5						
MKAR	**Makanchi Array**	**58.31**	**326**	P	**P**	**04 16 21.6**	**-0.2**
	comp=Z,0.8nm,0.4s,mb4.1,baz=124,slow=8.1,SNR=7.7						
MKAR				PcP	PcP	04 17 12.1	-0.3
	comp=Z,0.2nm,0.3s,baz=135,slow=5.3,SNR=2.5						
BVAR	**Borovoye Array**	**68.10**	**327**	P	**P**	**04 17 26.1**	**-0.2**
	comp=Z,0.4nm,0.3s,mb3.9,baz=101,slow=7.3,SNR=3.1						
VNDA	**Vanda**	**82.38**	**173**	P	**P**	**04 18 48.0**	**+0.7**
	comp=Z,0.5nm,0.5s,mb3.8,baz=312,slow=7.4,SNR=10						
BRTR	**Keskin Array B**	**90.53**	**310**	P	**P**	**04 19 28.4**	**+0.4**
	comp=Z,0.6nm,0.6s,mb4.1,baz=162,slow=4.6,SNR=3.0						

*IDC **25** 04:21:00.7±0.7,2.32N×128.62E,mb4.2/11,mb1 4.4/11, mb1mx4.3/17,mbtmp4.2/11,MS4.3/3,Ms1 4.3/3, ms1mx3.6/33,Error ellipse: s-maj=46.6km s-min=15.3km az=79.0*

*NEIC **25** 04:21:07.2±2.4,2.30N×128.70E,h46km±23km,mb4.4/4, Error ellipse: s-maj=23.2km s-min=9.7km az=76.0*

*BJI **25** 04:21:09.2,2.30N×128.70E,h45km,mb4.6*

ISC 25 04:21:04.2±7.1,**2.30N**±0.09×**128.6E**±0.2,**h33**km±51km, **n30,σ0§79/24,mb4.3**/15,**MS4.3**/3,**1D,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.39**	**166**	*eP*	**P**	**04 24 39.7**	**-1.2**
	16nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.48**	**188**	*eP*	**P**	**04 25 42.2**	**+0.1**
	10nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.48**	**188**	P	**P**	**04 25 41.1**	**-1.1**
	8.9nm,0.6s,baz=15,slow=10,SNR=9.7						
WRAB	**Tennant Creek**	**22.80**	**166**	*eP*	**P**	**04 26 07.0**	**+1.4**
	60nm,0.9s,mb5.0						
WRA	**Warramunga Arr**	**22.80**	**166**	P	**P**	**04 26 06.1**	**+0.5**
	20nm,0.8s,mb4.6,baz=342,slow=10,SNR=52						
WB2	**Warramunga Arr**	**22.81**	**166**	*eP*	**P**	**04 26 06.3**	**+0.7**
JOW	**Kunigami**	**24.40**	**359**	LR	LR	04 34 55.3	
	comp=Z,388nm,19.8s,MS3.9,baz=318,slow=34						
ENH	**Enshi**	**33.21**	**329**	P	**P**	**04 27 47.8**	**+7.3**
MJAR	**Matsushiro Arr**	**35.21**	**13**	P	**P**	**04 27 57.0**	**-0.6**
	0.8nm,0.3s,mb4.2,baz=184,slow=10,SNR=4.3						
STKA	**Stephens Creek**	**36.15**	**161**	*i*P	**P**	**04 28 06.2**	**+0.6**
	12nm,0.4s,mb5.2						
STKA	**Stephens Creek**	**36.15**	**161**	P	**P**	**04 28 06.3**	**+0.6**
	14nm,0.5s,mb5.2,baz=335,slow=8.7,SNR=42						
STKA	**Stephens Creek**	**36.15**	**161**	*eP*	**P**	**04 28 05.9**	**+0.3**
XAN	**Xi'an**	**36.54**	**332**	P	**P**	**04 28 10.5**	**+1.6**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
LZH	**Lanzhou**	**40.69**	**329**	*eP*	**P**	**04 28 51.0**	**+7.6**
LZH				AP	pP	04 28 58.5	+5.2
LZH				XP	sP	04 29 05.0	+7.6
LZH				AMB	AMB		
	comp=Z,40nm,1.4s,mb4.9						
GTA	**Gaotai**	**45.29**	**328**	*eP*	**P**	**04 29 29.0**	**+8.2**
GTA				AP	pP	04 29 36.3	+5.6
GTA				XP	sP	04 29 39.1	+4.3
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
ULN	**Ulaanbaatar**	**49.06**	**341**	*eP*	**P**	**04 29 37.5**	**-13**
SONM	**Songino Array**	**49.26**	**340**	P	**P**	**04 29 51.6**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.9,baz=155,slow=7.5,SNR=5.1						
HYB	**Hyderabad**	**51.37**	**290**	*i* P	**P**	**04 30 08.0**	**-0.3**
RPZ	**Rata Peaks**	**59.52**	**145**	LR	LR	04 57 11.3	
	comp=Z,518nm,18.3s,MS4.7,baz=243,slow=36						
MKAR	**Makanchi Array**	**59.80**	**325**	P	**P**	**04 31 09.1**	**+0.4**
	comp=Z,1.5nm,0.6s,mb4.2,baz=112,slow=8.6,SNR=6.2						
RAO	**Raoul Island**	**59.98**	**126**	LR	LR	04 55 29.7	
	comp=Z,227nm,19.4s,MS4.3,baz=181,slow=34						
BVAR	**Borovoye Array**	**69.54**	**327**	P	**P**	**04 32 10.9**	**-0.9**
	comp=Z,0.4nm,0.4s,mb3.7,baz=127,slow=7.2,SNR=4.0						
ZRNK	**Zerenda**	**70.27**	**326**	*eP*	**P**	**04 32 17.1**	**+0.8**
	comp=Z,2.9nm,0.7s,mb4.3						
VNDA	**Vanda**	**81.78**	**173**	P	**P**	**04 33 20.3**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=320,slow=5.7,SNR=6.8						
MAW	**Mawson**	**85.07**	**201**	P	**P**	**04 33 26.9**	**-0.8**
	comp=Z,1.0nm,0.7s,mb3.9,baz=12,slow=9.8,SNR=3.7						
ILAR	**Eielson Array**	**85.59**	**25**	P	**P**	**04 33 40.1**	**-0.2**
	comp=Z,0.2nm,0.4s,mb3.7,baz=248,slow=5.0,SNR=13						
ARCES	**ARCESS Array B**	**92.43**	**340**	P	**P**	**04 34 12.1**	**-0.6**
	comp=Z,1.1nm,0.4s,mb4.5,baz=83,slow=6.1,SNR=14						
NB2	**NORSAR Subarra**	**100.89**	**334**	P	P	04 35 26.1	+35
	comp=Z,0.8nm,0.8s,baz=260,slow=5.8						
PLCA	**Paso Flores**	**138.00**	**158**	PKP	PKPdf	04 40 28.2	-3.3
	comp=Z,1.4nm,0.8s,baz=290,slow=4.8,SNR=3.4						
CFAA	**Coronel Fontan**	**146.80**	**153**	PKPbc	PKPbc	04 40 43.9	+0.5
	comp=Z,0.3nm,0.6s,baz=220,slow=3.0,SNR=6.6						

*TRN **25** 04:23:52.5,9.88N×63.00W,h3km,MD4.4*

*FUNV **25** 04:23:55.4,9.87N×62.74W,h25km,MW3.7*

*NEIC **25** 04:23:57.6±0.6,9.97N×63.01W,h50km±6km,mb4.3/9, MD4.5(CAR),MD4.4(TRN),Error ellipse: s-maj=6.2km s-min=5.5km az=63.0*

*IDC **25** 04:23:57.7±1.7,10.02N×63.03W,h54km±15km,mb3.9/16, mb1 4.1/19,mb1mx3.9/26,mbtmp4.2/19,ML4.2/3,MS3.7/2, Ms1 3.7/2,ms1mx3.3/36,Error ellipse: s-maj=14.1km s-min=10.0km az=114.0*

ISC 25 04:23:54.8±0.3,**9.90N**±0.03×**63.05W**±0.03,**h33**km, **(h32**km±1.5km**:pP-P),n84,**σ1§29/106,**mb4.2**/23,**MS4.3**/1, **10C-8D,Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUNV	**Guanoco**	**0.28**	**22**	*eP*	**P**	**04 24 02.8**	**+0.6**
GUNV				*eS*	**S**	**04 24 08.6**	**+1.1**
CRUV	**Carupano**	**0.79**	**346**	⇑*iP*	**P**	**04 24 11.1**	**+1.6**
CRUV				*eS*	**S**	**04 24 23.6**	**+3.4**
ORIV	**Oritupano**	**0.90**	**203**	⇑*iP*	**P**	**04 24 14.5**	**+3.5**
ORIV				*eS*	**S**	**04 24 28.4**	**+5.4**
GUIV	**Guiria**	**1.10**	**48**	⇑*iP*	**P**	**04 24 13.9**	**+0.1**
GUIV				*eS*	**S**	**04 24 25.9**	**-2.1**
ITEV	**Isla Los Testi**	**1.45**	**357**	*eP*	**P**	**04 24 20.3**	**+1.4**
ITEV				*eS*	**S**	**04 24 39.2**	**+2.4**
PCRV	**Puerto La Cruz**	**1.59**	**280**	*eP*	**P**	**04 24 25.0**	**+4.1**
PCRV				*eS*	**S**	**04 24 47.2**	**+6.7**
TPP	**Pointe-a-Pierr**	**1.62**	**75**	*i* P	**P**	**04 24 23.7**	**+2.4**
TPP				*eS*	**S**	**04 24 47.2**	**+5.9**
TPP	**Pointe-a-Pierr**	**1.62**	**75**	*eS*	**S**	**04 24 42.8**	**+1.5**
TRN	**Trinidad (W)**	**1.78**	**65**	*eP*	**P**	**04 24 24.5**	**+0.9**
TRN				*eS*	**S**	**04 24 47.3**	**+2.1**
TBH	**Brigand Hill**	**2.03**	**73**	*eP*	**P**	**04 24 28.4**	**+1.2**
TBH				*eS*	**S**	**04 25 01.3**	**+10**
TBH	**Brigand Hill**	**2.03**	**73**	*eP*	**P**	**04 24 28.4**	**+1.2**
TBH				*eS*	**S**	**04 24 52.0**	**+0.4**
GURV	**El Guri**	**2.13**	**181**	*eP*	**P**	**04 24 28.2**	**-0.4**
TPR	**Prospect**	**2.57**	**60**	⇑*iP*	**P**	**04 24 35.7**	**+0.8**
TPR				*eS*	**S**	**04 25 03.9**	**-1.4**
TPR	**Prospect**	**2.57**	**60**	⇑*iP*	**P**	**04 24 35.7**	**+0.8**
TPR				*eS*	**S**	**04 25 04.7**	**-0.6**
BOT	**Bacolet**	**2.61**	**61**	*eP*	**P**	**04 24 35.9**	**+0.4**
BOT				*eS*	**S**	**04 24 55.3**	**-11**
GRW	**Mount Saint Ca**	**2.62**	**31**	*eP*	**P**	**04 24 37.2**	**+1.5**
GRW				*eS*	**S**	**04 25 02.9**	**-3.8**
GRW	**Mount Saint Ca**	**2.62**	**31**	*eP*	**P**	**04 24 37.2**	**+1.5**
GRW				*eS*	**S**	**04 25 09.0**	**+2.3**
GRHS	**Sauteurs**	**2.69**	**31**	*eP*	**P**	**04 24 37.7**	**+1.1**
GRHS				*eS*	**S**	**04 25 09.8**	**+1.5**
CUPV	**Cœpira**	**2.71**	**273**	*eP*	**P**	**04 24 40.3**	**+3.4**
CUPV				*eS*	**S**	**04 25 14.6**	**+5.8**
BIRV	**Birongo**	**3.22**	**280**	*eP*	**P**	**04 24 47.4**	**+3.2**
BIRV				*eS*	**S**	**04 25 26.7**	**+4.7**
MERV	**Las Mercedes**	**3.27**	**259**	*eP*	**P**	**04 24 47.5**	**+2.6**
MERV				*eS*	**S**	**04 25 27.7**	**+4.5**
SVB	**Belmont**	**3.78**	**28**	*eP*	**P**	**04 24 53.0**	**+0.8**
SVB				*eS*	**S**	**04 25 36.9**	**+0.7**
CAOV	**Caicara del Or**	**4.13**	**232**	⇑*iP*	**P**	**04 24 58.3**	**+1.2**
CAOV				*eS*	**S**	**04 25 45.6**	**+0.7**
BAUV	**El Baul**	**5.02**	**259**	*eP*	**P**	**04 25 11.1**	**+1.3**
BAUV				*eS*	**S**	**04 26 07.8**	**+0.4**
DSHT	**Scott's Head**	**5.52**	**17**	*eP*	**P**	**04 25 17.1**	**+0.3**
DSHT				*eS*	**S**	**04 26 17.1**	**-2.9**
BBL	**Barber's Block**	**5.80**	**15**	⇓*eP*	**P**	**04 25 19.9**	**-0.7**
TBG	**Guadaloupe-3**	**6.07**	**13**	⇓*eP*	**P**	**04 25 23.9**	**-0.5**
MGG	**Marie-Galante**	**6.21**	**16**	⇓*eP*	**P**	**04 25 26.4**	**-0.1**
PHG	**Guadaloupe-2**	**6.23**	**13**	⇓*eP*	**P**	**04 25 26.6**	**-0.1**
PHG				*eS*	**S**	**04 26 37.3**	**-0.3**
SCG	**Saint Claude**	**6.23**	**12**	⇓*eP*	**P**	**04 25 26.6**	**-0.2**
DOG	**Dongo Capester**	**6.25**	**13**	⇓*eP*	**P**	**04 25 26.8**	**-0.2**
LZG	**Guadaloupe-1**	**6.32**	**11**	*eP*	**P**	**04 25 27.4**	**-0.6**
SEG	**Port Louis**	**6.63**	**13**	⇓*eP*	**P**	**04 25 32.4**	**0.0**
DEG	**La Desirade**	**6.66**	**17**	⇓*eP*	**P**	**04 25 32.0**	**-0.8**
DEG				*eS*	**S**	**04 26 47.3**	**-1.0**
SDV	**Santo Domingo**	**7.55**	**263**	P	**P**	**04 25 45.9**	**+0.6**
	5.7nm,0.3s,baz=92,slow=8.4,SNR=34						
SDV				S	**S**	**04 27 11.0**	**+0.3**
	8.0nm,0.3s,baz=34,slow=18,SNR=4.2						
SDV	**Santo Domingo**	**7.55**	**263**	*eP*	**P**	**04 25 45.4**	**+0.1**
	47nm,0.6s						
SDV				S	**S**	**04 27 10.7**	**0.0**
SJG	**San Juan**	**8.70**	**340**	P	**P**	**04 25 59.4**	**-1.8**
	2.0nm,0.3s,baz=295,slow=19,SNR=3.5						
SJG				LR	LR	04 29 35.4	
	comp=Z,110nm,18.8s,baz=90,slow=39						
ROSC	**El Rosal**	**12.26**	**247**	P	**P**	**04 26 51.5**	**+1.5**
	1.7nm,0.3s,baz=86,slow=6.6,SNR=7.2						
SAML	**Samuel**	**18.73**	**180**	*eP*	**P**	**04 28 11.2**	**-2.1**
	7.6nm,0.2s						
NNA	**Nana**	**25.71**	**213**	P	**P**	**04 29 23.1**	**-0.9**
SIV	**San Ignacio**	**25.80**	**176**	P	**P**	**04 29 24.4**	**-0.5**
	1.0nm,0.5s,mb3.6,baz=16,slow=9.6,SNR=12						
LPAZ	**La Paz**	**26.50**	**191**	P	**P**	**04 29 32.2**	**+0.9**
	0.9nm,0.7s,mb3.4,baz=359,slow=18,SNR=5.6						
LPAZ	**La Paz**	**26.50**	**191**	*eP*	**P**	**04 29 32.5**	**+1.1**
	3.1nm,0.6s,mb4.0						
BDFB	**Brasilia**	**29.42**	**149**	P	**P**	**04 29 57.3**	**-0.4**
	3.6nm,0.6s,mb4.3,baz=317,slow=10.0,SNR=11						
BAO	**Brasilia Array**	**29.43**	**149**	P	**P**	**04 29 58.0**	**+0.2**
LRAL	**Lakeview Retre**	**31.89**	**320**	*eP*	**P**	**04 30 20.2**	**+0.8**
	4.5nm,0.9s,mb4.3						
TZTN	**Tazewell**	**32.38**	**328**	*eP*	**P**	**04 30 22.7**	**-1.0**
PLAL	**Pickwick Lake**	**33.84**	**321**	*eP*	**P**	**04 30 35.7**	**-0.6**
	2.9nm,0.4s,mb4.6						
WVT	**Waverly**	**34.46**	**323**	*eP*	**P**	**04 30 40.2**	**-1.5**
	2.9nm,0.6s,mb4.4						
SIUC	**Southern Illin**	**36.35**	**324**	*eP*	**P**	**04 30 57.6**	**-0.1**
SADO	**Sadowa**	**37.41**	**341**	LR	LR	04 44 15.3	
	comp=Z,569nm,21.5s,MS4.3,baz=12,slow=33						
TXAR	**Lajitas Array**	**42.58**	**303**	P	**P**	**04 31 49.6**	**0.0**
	0.5nm,0.5s,mb3.5,baz=117,slow=8.9,SNR=13						
TXAR				PcP	PcP	04 33 40.6	-1.5
	0.7nm,0.7s,baz=130,slow=9.8,SNR=3.9						
MNTX	**Cornudas Mount**	**44.75**	**305**	*eP*	**P**	**04 32 05.8**	**-1.3**
	1.5nm,0.6s,mb4.0						
SCHQ	**Schefferville**	**44.91**	**357**	P	**P**	**04 32 06.2**	**-1.8**
	1.5nm,0.5s,mb4.1,baz=138,slow=2.9,SNR=9.7						
ANMO	**Albuquerque**	**46.73**	**309**	*eP*	**P**	**04 32 22.5**	**-0.3**
	3.9nm,1.0s,mb4.3						
SDCO	**Great Sand Dun**	**47.12**	**313**	*eP*	**P**	**04 32 25.3**	**-0.5**
	2.9nm,0.8s,mb4.3						
ULM	**Lac du Bonnet**	**48.51**	**332**	P	**P**	**04 32 34.4**	**-2.0**
	4.7nm,0.6s,mb4.7,baz=117,slow=6.3,SNR=7.6						
PV01	**Paradox Valley**	**49.50**	**312**	*eP*	**P**	**04 32 44.5**	**+0.2**
PLCA	**Paso Flores**	**50.86**	**187**	P	**P**	**04 32 53.0**	**-1.6**
	1.9nm,1.0s,mb4.0,baz=12,slow=9.3,SNR=3.0						
PDAR	**Pinedale Array**	**52.05**	**317**	P	**P**	**04 33 01.6**	**-1.9**
	1.4nm,0.8s,mb3.9,baz=112,slow=8.1,SNR=14						
HWUT	**Hardware Ranch**	**52.95**	**315**	*eP*	**P**	**04 33 08.8**	**-1.5**
NVAR	**Mina Array Bea**	**56.85**	**310**	P	**P**	**04 33 37.3**	**-1.4**
	1.1nm,0.8s,mb4.0,baz=106,slow=7.5,SNR=5.8						
YKA	**Yellowknife Ar**	**64.17**	**336**	P	**P**	**04 34 24.4**	**-3.7**
	1.6nm,0.7s,mb4.2,baz=113,slow=7.8,SNR=6.1						
INK	**Inuvik**	**73.68**	**339**	*eP*	**P**	**04 35 23.9**	**-2.8**
	2.0nm,0.6s,mb4.2						
GERES	**GERESS Array B**	**73.89**	**42**	P	**P**	**04 35 26.7**	**-1.5**
	1.9nm,0.8s,mb4.1,baz=256,slow=5.5,SNR=12						
ILAR	**Eielson Array**	**79.48**	**334**	P	**P**	**04 35 51.5**	**-2.3**
	1.1nm,0.6s,mb4.0,baz=91,slow=4.7,SNR=27						
FINES	**FINESS Array B**	**80.96**	**29**	P	**P**	**04 36 05.1**	**-2.2**
	2.0nm,0.9s,mb4.0,baz=270,slow=6.9,SNR=2.4						
IDI	**Anoyia**	**82.69**	**56**	P	**P**	**04 36 17.1**	**+0.3**
	5.1nm,0.6s,mb4.8,baz=291,slow=7.5,SNR=6.9						
VNA3	**Neumayer Olymp**	**88.37**	**165**	*e*	**P**	**04 36 48.9**	**+4.8**
VNA3	**Neumayer Olymp**	**88.37**	**165**	*e*	pP	04 36 55.7	+1.1
VNA3	**Neumayer Olymp**	**88.37**	**165**	⇑*iP*	**P**	**04 36 44.8**	**+0.7**
VNA3				*e*	pP	04 36 55.7	+1.1
VNA1	**Neumayer--Stat**	**88.38**	**164**	*e*	**P**	**04 36 49.3**	**+5.2**
VNA1	**Neumayer--Stat**	**88.38**	**164**	*e*	pP	04 36 56.3	+1.6
VNA1	**Neumayer--Stat**	**88.38**	**164**	⇑*iP*	**P**	**04 36 45.3**	**+1.2**
VNA1				*e*	pP	04 36 56.3	+1.6
VNA2	**Neumayer--Watz**	**88.77**	**164**	*e*	**P**	**04 36 51.0**	**+5.0**
VNA2	**Neumayer--Watz**	**88.77**	**164**	*e*	pP	04 36 57.3	+0.7
VNA2	**Neumayer--Watz**	**88.77**	**164**	⇑*iP*	**P**	**04 36 46.7**	**+0.7**
VNA2				*e*	pP	04 36 57.3	+0.7
BRTR	**Keskin Array B**	**88.84**	**50**	P	**P**	**04 36 46.0**	**-1.0**
	0.9nm,0.8s,mb4.2,baz=256,slow=5.1,SNR=4.4						
SNAA	**Sanae**	**90.41**	**164**	⇑*i*	**P**	**04 36 52.9**	**-0.8**
SNAA	**Sanae**	**90.41**	**164**	*e*	**P**	**04 36 58.3**	**+4.6**
SNAA	**Sanae**	**90.41**	**164**	*e*	pP	04 37 03.3	-1.0
SNAA	**Sanae**	**90.41**	**164**	*eP*	**P**	**04 36 54.0**	**+0.3**
SNAA				*e*	pP	04 37 03.3	-1.0
BOSA	**Boshof**	**93.19**	**118**	P	**P**	**04 37 07.5**	**-0.1**
	2.1nm,0.8s,mb4.6,baz=178,slow=3.6,SNR=4.8						
BOSA	**Boshof**	**93.19**	**118**	P	**P**	**04 37 07.5**	**-0.1**

*NEIC **25** 04:27:30.8,9.87N×62.75W,h20km,MD3.5(CAR),After CAR.*

*FUNV **25** 04:27:30.5,9.86N×62.73W,h19km,MW2.9*

ISC 25 04:27:32.0±0.6,**9.96N**±0.05×**62.93W**±0.05,**h36**km±14km, **n14,σ1§24/18,1C-1D,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUNV	**Guanoco**	**0.20**	**358**	*eS*	**S**	**04 27 43.2**	**-0.6**
CRUV	**Carupano**	**0.77**	**337**	⇓*eP*	**P**	**04 27 46.8**	**+0.3**
CRUV				*eS*	**S**	**04 27 58.7**	**+1.7**
GUIV	**Guiria**	**0.98**	**46**	*eP*	**P**	**04 27 48.0**	**-1.4**
GUIV				*eS*	**S**	**04 28 00.1**	**-2.2**
ORIV	**Oritupano**	**1.00**	**208**	⇑*iP*	**P**	**04 27 49.5**	**-0.2**
ORIV				*eS*	**S**	**04 28 03.6**	**+0.8**
TPP	**Pointe-a-Pierr**	**1.50**	**76**	*eP*	**P**	**04 27 58.8**	**+1.8**
TRN	**Trinidad (W)**	**1.66**	**65**	*eP*	**P**	**04 27 59.5**	**+0.4**
TBH	**Brigand Hill**	**1.91**	**74**	*eP*	**P**	**04 28 03.8**	**+1.1**
TBH				*eS*	**S**	**04 28 10.9**	**-15**
TPR	**Prospect**	**2.45**	**60**	*eP*	**P**	**04 28 10.6**	**+0.2**
TPR				*eS*	x	04 28 14.9	
GRW	**Mount Saint Ca**	**2.52**	**30**	*eP*	**P**	**04 28 11.8**	**+0.3**
CUPV	**Cœpira**	**2.81**	**272**	*eP*	**P**	**04 28 16.5**	**+0.9**
BIRV	**Birongo**	**3.32**	**279**	*eP*	**P**	**04 28 24.0**	**+1.1**
CAOV	**Caicara del Or**	**4.25**	**232**	*eP*	**P**	**04 28 33.7**	**-2.3**
BAUV	**El Baul**	**5.14**	**259**	*eP*	**P**	**04 28 48.0**	**-0.7**
MONV	**Montecano**	**7.19**	**287**	*eP*	**P**	**04 29 15.1**	**-2.3**

*NEIC **25** 04:27:56.1,9.86N×62.84W,h19km,MD4.1(TRN), MD3.7(CAR),After CAR.*

TRN 25 04:27:56.9,10.00N×62.72W,h4km,MD4.1,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**1.29**	**76**	*eP*	Pb	04 28 24.0	+2.6
TPP				*eS*	Sb	04 28 48.4	+10
TPP	**Pointe-a-Pierr**	**1.29**	**76**	*eP*	Pb	04 28 22.0	+0.6
TPP				*eS*	Sb	04 28 43.6	+5.4
TRN	**Trinidad (W)**	**1.44**	**64**	*eP*	Pn	04 28 24.9	+1.0
TRN				*eS*	Sb	04 28 48.0	+5.3
TRN	**Trinidad (W)**	**1.44**	**64**	*eP*	Pn	04 28 24.9	+1.0
TRN				*eS*	Sb	04 28 44.1	+1.4
TBH	**Brigand Hill**	**1.69**	**74**	*eP*	Pn	04 28 27.4	-0.2
TPR	**Prospect**	**2.24**	**58**	*eP*	Pn	04 28 35.1	-0.2
TPR				*eS*	Sn	04 29 03.8	-0.1
TPR	**Prospect**	**2.24**	**58**	*eS*	Sn	04 29 03.8	-0.1
BOT	**Bacolet**	**2.28**	**59**	*eP*	Pn	04 28 35.6	-0.4
GRW	**Mount Saint Ca**	**2.38**	**26**	*eP*	Pn	04 28 36.9	-0.4
GRW				*eS*	Sn	04 29 03.0	-4.5
GRW	**Mount Saint Ca**	**2.38**	**26**	*eP*	Pn	04 28 36.9	-0.4
GRW				*eS*	Sn	04 29 06.8	-0.6
GRHS	**Sauteurs**	**2.45**	**26**	*eP*	Pn	04 28 38.7	+0.4
GRHS				*eS*	Sn	04 29 10.0	+0.9
GRHS	**Sauteurs**	**2.45**	**26**	*eP*	Pn	04 28 38.7	+0.4
GRHS				*eS*	Sn	04 29 08.2	-0.9

*MOS **25** 04:31:27.8±1.0,3.92S×151.85E,h233km,mb5.3/24,Error ellipse: s-maj=12.2km s-min=8.5km az=98.1*

*CSEM **25** 04:31:28.0,3.95S×151.87E,h243km,mb5.9*

*BJI **25** 04:31:28.1,3.83S×152.25E,h246km,mB5.1,mb5.4*

*HRVD **25** 04:31:29.5±0.2,4.07S×151.98E,h238km±1km,MW5.4/71, Centroid moment Tensor Solution. LP body waves: s54,c91;Mantle waves: s71,c140; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.61±.04; $M_{\theta\theta}$0.56±.03; $M_{\phi\phi}$0.04±.04; $M_{r\theta}$-0.23±.03; $M_{r\phi}$0.49±.04; $M_{\theta\phi}$-1.62±.04; Best double couple: $M_0$1.785×10^{17} NP1: ϕ_s263°,δ21°,λ-25° NP2:ϕ_s16°,δ81°,λ-109°. Principal axes: T 1.629, Plg34°, Azm122°; N .313, Plg19°, Azm19°; P -1.942, Plg50°, Azm265°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **25** 04:31:29.5±0.1,4.01S×151.87E,mb5.1/43 Error ellipse: s-maj=4.8km s-min=4.1km az=100.0*

*IDC **25** 04:31:29.5±0.7,4.03S×151.82E,h238km±6km,mb5.1/19, mb1 5.1/22,mb1mx5.1/22,mbtmp5.6/22,Error ellipse: s-maj=9.1km s-min=7.1km az=82.0*

ISC 25 04:31:28.6±0.2,**4.02S**±0.03×**151.88E**±0.03,**h244**km, **h244**km±2.9km**:pP-P,n396,σ0§95/240,mb5.3**/108,**23C-30D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.12**	**221**	P	**P**	**04 33 11.6**	**+0.2**
PMG				S	**S**	**04 34 32.2**	**+0.4**
PMG				pmax	pmax		
	comp=Z,14nm,0.3s						
PMG				smax			
	comp=N,21nm,0.3s						
PMG	**Port Moresby**	**7.12**	**221**	P	**P**	**04 33 11.6**	**+0.2**
	comp=N,14nm,0.3s,baz=0.1,slow=4.3,SNR=24						
PMG				S	**S**	**04 34 32.2**	**+0.4**
	comp=N,21nm,0.3s,baz=131,slow=15,SNR=6.6						
HNR	**Honiara**	**9.65**	**124**	P	**P**	**04 33 42.6**	**-1.1**
HNR				pmax	pmax		
	comp=Z,36nm,0.3s						
HNR	**Honiara**	**9.65**	**124**	P	**P**	**04 33 42.6**	**-1.1**
	comp=Z,36nm,0.3s,baz=203,slow=4.6,SNR=4.4						
HNR	**Honiara**	**9.65**	**124**	*eP*	**P**	**04 33 43.0**	**-0.8**
	comp=Z,1μm,1.4s						
CTA	**Charters Tower**	**16.89**	**198**	⇓*iP*	**P**	**04 35 12.6**	**+0.3**
	comp=Z,152nm,1.0s						
CTA				*es*P		04 36 09.2	
CTA				*eS*	**S**	**04 38 15.6**	**+4.

MAJO **Matsushiro** 42.32 344 *e*P P 04 38 59.2 -1.3
comp=N,46nm,0.7s,mb5.0
MAT **Matsushiro** 42.32 344 *e*P P 04 38 58.0 -2.4
comp=N,46nm,0.9s,mb4.9
MAT **Matsushiro** 42.32 344 P P 04 38 58.2 -2.2
NWAO **Narrogin (SRO)** 43.29 224 P P 04 39 07.1 -1.2
NWAO 04 40 49.4
NWAO pmax pmax
comp=Z,26nm,0.8s
NWAO pmax pmax
comp=Z,24nm,0.6s
NWAO **Narrogin (SRO)** 43.29 224 P P 04 39 07.1 -1.2
comp=Z,26nm,0.8s,mb4.7,baz=84,slow=10,SNR=11
NWAO PP PP 04 40 49.4 -4.3
comp=Z,24nm,0.6s,baz=59,slow=10,SNR=7.1
NWAO **Narrogin (SRO)** 43.29 224 P P 04 39 07.1 -1.2
NWAO PP PP 04 40 49.4 -4.3
QZH **Quanzhou** 43.30 313 *i* PR 04 39 09.1
QZH *eS* S 04 45 17.3 +0.5
QZH AMB AMB
comp=Z,380nm,0.8s,mb5.9
MUN **Mundaring** 43.50 226 *e*P P 04 39 08.5 -1.4
comp=Z,60nm,0.9s,mb5.0
SSE **Sheshan** 45.56 322 P P 04 39 26.6 +0.3
SSE AP pP 04 40 17.5 -0.7
SSE PCP PcP 04 41 00.8 -0.1
SSE S S 04 45 51.0 +1.9
SSE XS 04 47 21.8
SSE AMB AMB
comp=Z,109nm,1.2s,mb5.1
SSE AMB AMB
comp=Z,325nm,4.7s
SSE LR LR
comp=N,216nm,20.0s
SSE LR LR
comp=E,260nm,20.0s
SSE LR LR
comp=Z,191nm,20.6s
SSE **Sheshan** 45.56 322 P P 04 39 26.6 +0.3
comp=Z,109nm,1.2s,mb5.1
SSE pP pP 04 40 17.5 -0.7
SSE PcP PcP 04 41 00.8 -0.1
SSE S S 04 45 51.0 +1.9
SSE sS 04 47 21.8
SSE SS SS 04 49 19.9 +8.4
SSE LR LR
comp=Z,190nm,20.6s
GZH **Guangzhou** 46.26 307 P P 04 39 32.9 +1.1
KS15 **Wonju Array Si** 46.90 334 *e*P P 04 39 36.8 +0.2
QIZ **Qiongzhong** 47.28 300 ⇑P P 04 39 41.3 +1.5
QIZ XP sP 04 40 55.4 -4.3
QIZ S S 04 46 18.5 +5.0
QIZ AMB AMB
comp=Z,50nm,1.0s,mb4.8
QIZ AMB AMB
comp=Z,576nm,10.6s
QIZ **Qiongzhong** 47.28 300 *e*P P 04 39 41.0 +1.2
comp=Z,47nm,0.9s,mb4.8
INCN **Inchon** 47.50 333 *e*P P 04 39 41.6 +0.3
comp=Z,583nm,1.0s,mb5.9
NJ2 **Nanjing** 47.66 321 *e*P P 04 39 43.8 +1.2
NJ2 AP pP 04 40 39.3 +4.3
NJ2 XP sP 04 41 06.5 +4.0
NJ2 PP PP 04 41 38.1 +2.3
NJ2 S S 04 46 19.0 +0.3
NJ2 XS 04 47 52.0
NJ2 AMB AMB
comp=Z,80nm,1.2s,mb4.9
NJ2 AMB AMB
comp=Z,650nm,6.8s
NJ2 LR LR
comp=N,670nm,15.2s
NJ2 LR LR
comp=E,720nm,16.5s
NJ2 LR LR
comp=Z,220nm,20.8s
KGM **Kluang** 48.90 276 P P 04 39 52.8 +0.5
WHN **Wuhan** 49.66 316 *e*P P 04 39 58.0 +0.2
RAR **Rarotonga** 49.94 114 *e*P P 04 40 00.5 +0.5
comp=Z,72nm,0.6s,mb5.2
DL2 **Dalian** 51.04 330 P P 04 40 08.4 +0.4
DL2 AMB AMB
comp=Z,110nm,0.9s,mb5.3
YSS **Yuzh-Sakhalins** 51.39 352 ⇓*i*P P 04 40 09.7 -0.8
YSS *e* 04 41 21.2
YSS *eS* S 04 47 10.0 +0.1
YSS *e**SS 04 48 36.0
YSS pmax pmax
comp=N,30nm,0.9s
YSS pmax pmax
comp=Z,70nm,0.9s,mb5.1
YSS **Yuzh-Sakhalins** 51.39 352 *e*P P 04 40 09.8 -0.7
comp=Z,81nm,1.1s,mb5.1
IPM **Ipoh** 51.52 279 P P 04 40 11.1 -0.8
TIA **Tai'an** 51.55 324 *e*P P 04 40 11.0 -0.8
KULM **Kulim** 52.00 280 *e*P P 04 40 14.8 -0.7
SNG **Songkhla** 52.35 282 P P 04 40 15.0 -3.1
comp=Z,480nm,0.9s,mb5.9
MDJ **Mudanjiang** 52.37 340 P P 04 40 17.3 -0.5
MDJ AP pP 04 41 11.3 0.0
MDJ XP sP 04 41 38.0 -0.3
MDJ PP PP 04 42 20.8 +0.9
MDJ S S 04 47 24.3 +1.1
MDJ XS 04 48 59.8
MDJ AMB AMB
comp=Z,99nm,1.0s,mb5.2
MDJ AMB AMB
comp=Z,157nm,3.3s
MDJ **Mudanjiang** 52.37 340 *e*P P 04 40 17.1 -0.7
comp=Z,87nm,0.9s,mb5.2
SNY **Shenyang** 52.40 333 ⇓P P 04 40 17.3 -0.7
SNY AMB AMB
comp=Z,30nm,1.0s,mb4.7
KKTK **Khon Kaen** 52.54 294 P P 04 40 20.3 +0.9
comp=Z,926nm,0.8s,mb6.3
ENH **Enshi** 52.95 313 *e*P P 04 40 21.8 -0.5
comp=Z,258nm,1.3s,mb5.5
ENH *e*PcP PcP 04 41 26.7 -1.2
GYA **Guiyang** 53.19 307 ⇓*i*P P 04 40 25.0 +0.9
GYA S S 04 47 34.9 +0.4
GYA AMB AMB
comp=Z,60nm,1.3s,mb4.9
GYA AMB AMB
comp=Z,180nm,3.8s
GYA LR LR
comp=N,390nm,17.8s
GYA LR LR
comp=E,410nm,18.0s
GYA LR LR
comp=Z,240nm,18.2s
CN2 **Changchun** 53.22 336 ⇑P P 04 40 23.1 -0.9
CN2 *e*XP sP 04 41 43.1 -1.6
CN2 *eS* S 04 47 33.9 -0.7
CN2 AMB AMB
comp=Z,50nm,0.9s,mb4.9
CN2 AMB AMB
comp=Z,900nm,6.0s
NNT **Nongplab** 54.37 288 P P 04 40 34.0 +1.3
NST **Nakhon Sawan** 54.81 292 P P 04 40 36.8 +0.9
comp=Z,204nm,0.7s,mb5.8
NANT **Nan** 55.24 296 ⇑P P 04 40 37.0 -1.9
comp=Z,694nm,1.0s,mb6.1
XAN **Xi'an** 55.43 317 P P 04 40 39.4 -0.7
XAN AMB AMB
comp=Z,96nm,1.3s,mb5.2
KMI **Kunming** 55.79 304 P P 04 40 43.8 +1.0
KMI PCP PcP 04 41 40.1 +1.2
KMI XP sP 04 42 07.4 +3.6
KMI PP PP 04 42 52.9 +1.5
KMI PPP PPP 04 44 14.6 +3.0
KMI SCP 04 45 13.0
KMI S S 04 48 09.0 0.0
KMI AMB AMB
comp=Z,95nm,1.3s,mb5.2
KMI AMB AMB
comp=Z,421nm,4.5s
KMI LR LR
comp=N,411nm,14.7s
KMI LR LR
comp=E,292nm,13.1s
KMI LR LR
comp=Z,285nm,14.7s
KMI **Kunming** 55.79 304 P P 04 40 43.7 +0.9
comp=Z,95nm,1.3s,mb5.2
KMI PcP PcP 04 41 40.1 +1.2
KMI sP sP 04 42 07.4 +3.6
KMI PP PP 04 42 52.9 +1.5
KMI PPP PPP 04 44 14.6 +3.0
KMI ScP 04 45 13.0
KMI S S 04 48 09.0 0.0
KMI sS 04 49 48.4
KMI SS SS 04 51 55.7 -3.4
KMI SSS SSS 04 54 16.3 -6.0
KMI LR LR
comp=Z,290nm,14.7s
KLR **Kul'dur** 55.84 344 ⇑*i*P P 04 40 39.0 -3.8
KLR *e* pP 04 41 35.2 -1.9
KLR *eS* S 04 48 09.3 -0.1
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,100nm,1.4s,mb5.2
BDT **Bhumibol Dam** 56.30 294 P P 04 40 48.0 +1.6
comp=Z,27nm,1.0s,mb4.7
PET **Petropavlovsk** 57.12 5⇑*i*P P 04 40 51.0 -0.7
PET *e**PP pP 04 41 42.4 -3.9
PET *eS* S 04 48 23.6 -2.5
PET pmax pmax
comp=Z,16nm,0.6s,mb4.8
PET pmax pmax
comp=Z,31nm,0.7s,mb5.0
PET pmax pmax
comp=Z,100nm,15.5s
PET pmax pmax
comp=Z,200nm,18.5s
PET smax
comp=E,400nm,29.0s
PET pmax pmax
comp=E,300nm,22.6s
CD2 **Chengdu** 57.53 311 P P 04 40 54.8 -0.2
CD2 AMB AMB
comp=Z,30nm,1.0s,mb4.9
HHC **Hu-ho-hao-te** 57.88 325⇓*i*P P 04 40 57.6 +0.3
HHC AP pP 04 41 48.9 -3.1
HHC PCP PcP 04 41 50.1 +3.2
HHC XP sP 04 42 14.0 -4.6
HHC PP PP 04 43 10.4 +0.5
HHC SCP 04 45 22.3
HHC PCS 04 45 49.8
HHC S S 04 48 32.9 -3.3
HHC XS 04 50 11.3
HHC SCS ScS 04 50 18.4 -0.1
HHC AMB AMB
comp=Z,107nm,1.7s,mb5.2
HHC AMB AMB
comp=Z,373nm,9.6s
HHC LR LR
comp=N,264nm,13.2s
HHC LR LR
comp=E,315nm,14.4s
HHC LR LR
comp=Z,391nm,16.8s
BTO **Baotou** 58.63 323 *e*P P 04 41 02.9 +0.4
BTO AMB AMB
comp=Z,152nm,1.0s,mb5.6
PPT **Papeete** 58.84 108 P P 04 41 05.5 +1.3
PPT pmax pmax
comp=Z,103nm,0.6s
PPT **Papeete** 58.84 108 P P 04 41 05.5 +1.3
comp=Z,103nm,0.6s,mb5.6,baz=250,slow=4.7,SNR=15
FX1 **Attu Island--F** 59.47 15 *e*P P 04 41 08.6 +0.5
HIA **Hailar** 59.95 336 *e*P P 04 41 10.9 -0.5
comp=Z,80nm,0.9s,mb5.3
LZH **Lanzhou** 60.03 316 ⇑P P 04 41 13.5 +1.4
LZH PCP PcP 04 41 56.6 +1.1
LZH AP pP 04 42 09.8 +2.5
LZH XP sP 04 42 32.0 -1.8
LZH SCP 04 45 33.1
LZH PCS 04 45 55.4
LZH *eS* S 04 49 06.3 +2.3
LZH XS 04 50 45.0
LZH SS SS 04 53 08.0 +1.8
LZH AMB AMB
comp=Z,440nm,1.2s,mb6.0
LZH AMB AMB
comp=Z,1μm,4.0s
LZH LR LR
comp=N,490nm,13.0s
LZH LR LR
comp=Z,570nm,18.0s
LZH **Lanzhou** 60.03 316 ⇑P P 04 41 13.5 +1.4
comp=Z,440nm,1.2s,mb6.0
LZH PcP PcP 04 41 56.6 +1.1
LZH pP pP 04 42 09.8 +2.5
LZH sP sP 04 42 32.0 -1.8
LZH ScP 04 45 33.1
LZH PcS 04 45 55.4
LZH *eS* S 04 49 06.3 +2.3
LZH sS 04 50 45.0
LZH SS SS 04 53 08.0 +1.8
LZH LR LR
comp=Z,570nm,18.0s
GSTR **Great Sitkin T** 62.17 22 P P 04 41 26.8 +0.6
IMP **Imphal** 63.11 300 *e*P P 04 41 33.0 +0.3
MA2 **Magadan** 63.40 359 *c*⇓*i*P P 04 41 31.8 -2.3
MA2 pmax pmax
comp=Z,55nm,1.0s,mb5.1
MA2 **Magadan** 63.40 359 *e*P P 04 41 32.1 -2.0
comp=Z,41nm,0.8s,mb5.1
MA2 *e* 04 41 38.9
GTA **Gaotai** 64.46 317⇓*i*P P 04 41 41.8 +0.5
GTA PCP PcP 04 42 14.0 +0.5
GTA AP pP 04 42 40.0 +2.6
GTA XP sP 04 43 07.3 +3.9
GTA PP PP 04 44 09.4 +1.5
GTA SCP 04 45 51.1
GTA AMB AMB
comp=Z,126nm,1.0s,mb5.5
GTA AMB AMB
comp=Z,652nm,6.5s
GTA LR LR
comp=N,205nm,16.7s
GTA LR LR
comp=E,207nm,17.1s
GTA LR LR
comp=Z,163nm,16.0s
CLNS **Chul'man** 64.50 344 *e*P P 04 41 34.8 -6.5
CLNS *e* 04 42 12.5
CLNS *eS* S 04 49 53.9 -5.5
CLNS *e*PS SP 04 50 20.4 +0.2
CLNS *e* 04 51 09.5
CLNS pmax pmax
comp=Z,59nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,35nm,1.1s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS smax
comp=N,419nm,13.3s
CLNS smax
comp=Z,85nm,11.2s
CLNS smax
comp=E,60nm,13.2s
CIT **Chita** 64.60 335⇓*i*P P 04 41 42.5 +0.5
CIT *e* 04 42 13.5
CIT *e* 04 44 07.4
CIT pmax pmax
comp=Z,134nm,1.8s,mb5.3
SHL **Shillong** 65.12 300⇓*i*P P 04 41 44.8 -0.9
SHL *eS* S 04 50 09.0 +1.6
SONM **Songino Array** 65.18 328 P P 04 41 46.3 +0.6
comp=Z,24nm,0.8s,mb4.9,baz=135,slow=5.2,SNR=114
SONM PcP PcP 04 42 16.1 -0.2
comp=Z,26nm,0.9s,baz=132,slow=3.4,SNR=8.1
SONM ScS ScS 04 51 14.0 +0.8
comp=Z,1.0nm,0.9s,baz=90,slow=3.7,SNR=3.6
SONM PKPPKP 05 10 32.2
comp=Z,0.8nm,0.8s,baz=270,slow=1.2,SNR=3.8
SEY **Seymchan** 66.77 0 *e*P P 04 41 55.1 -0.4
SEY *e* pP 04 42 52.0 0.0
SEY pmax pmax
comp=N,20nm,1.2s
SEY pmax pmax
comp=Z,40nm,1.2s,mb4.9
SEY pmax pmax
comp=E,5.0nm,1.0s
LSA **Lhasa** 67.04 304 P P 04 41 58.8 +1.0
LSA **Lhasa** 67.04 304 *e*P P 04 41 59.6 +1.7
comp=E,65nm,0.9s,mb5.3
YAK **Yakutsk** 68.03 349*d*⇓*i*P P 04 42 02.5 -0.9
YAK *eS* S 04 50 41.8 +0.1
YAK pmax pmax
comp=Z,38nm,1.2s,mb4.9
YAK pmax pmax
comp=N,16nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK smax
comp=E,127nm,9.7s
YAK **Yakutsk** 68.03 349 *e*P P 04 42 02.6 -0.7
comp=E,31nm,0.7s,mb5.0
ZAK **Zakamensk** 68.35 329 *e*P P 04 42 05.9 +0.3
ZAK pmax pmax
comp=Z,54nm,1.0s,mb5.1
CASY **Casey** 68.49 197⇓*i*P P 04 42 05.5 -0.6
CASY *i* pP pP 04 43 08.2 +5.3
BOD **Bodaibo** 68.74 339 *e*P P 04 42 06.5 -1.3
BOD pmax pmax
comp=Z,47nm,1.3s,mb5.0
TLY **Talaya** 68.95 330*c i*P P 04 42 09.0 -0.2
TLY *e* 04 51 36.2
TLY pmax pmax
comp=Z,42nm,1.0s,mb5.0
TLY **Talaya** 68.95 330 *e*P P 04 42 09.2 0.0
comp=Z,31nm,0.6s,mb5.1
IRK **Irkutsk** 68.98 331 *e*P P 04 42 08.8 -0.6
IRK *e* pP 04 43 07.5 +1.3
IRK pmax pmax
comp=Z,98nm,1.7s,mb5.2
BOK **Bokaro** 69.89 297 *e*P P 04 42 16.1 +0.7
BOK AMb AMB 04 42 18.0
comp=Z,138nm,1.0s,mb5.5
MOY **Mondy** 70.28 329 *e*P P 04 42 17.3 +0.1
MOY pmax pmax
comp=Z,176nm,1.7s,mb5.4
JIRN **Jiri** 70.60 301 *e*P P 04 42 20.4 +0.8
comp=Z,219nm,0.9s,mb5.8
GUN **Gumba** 70.93 301 *e*P P 04 42 22.4 +0.8
comp=Z,561nm,0.9s,mb6.2
PKI **Pulchoki** 71.25 301 *e*P P 04 42 23.8 +0.3
comp=Z,401nm,1.1s,mb6.0
KKN **Kakani** 71.41 301 *e*P P 04 42 25.0 +0.5
comp=Z,362nm,0.9s,mb6.0
DMN **Daman** 71.52 301 *e*P P 04 42 25.3 +0.2
comp=Z,772nm,1.0s,mb6.3
PALK **Pallekele** 71.91 279 *e*P P 04 42 27.9 +0.2
comp=Z,192nm,1.2s,mb5.6
GKN **Gorkha** 72.02 301 *e*P P 04 42 28.2 +0.1
comp=Z,590nm,0.9s,mb6.2
BILL **Bilibino** 72.60 6*d*⇓*i*P P 04 42 30.2 -0.7
BILL pmax pmax
comp=Z,27nm,1.3s,mb4.7
BILL **Bilibino** 72.60 6 *e*P P 04 42 30.4 -0.5
comp=Z,26nm,1.1s,mb4.8
KOLN **Koldanda** 72.85 301 *e*P P 04 42 33.1 0.0
comp=Z,419nm,0.8s,mb6.1
VNDA **Vanda** 73.64 178 P P 04 42 36.9 +0.1
VNDA pmax pmax
comp=Z,5.0nm,0.5s
VNDA **Vanda** 73.64 178 P P 04 42 36.9 +0.1
comp=Z,5.2nm,0.5s,mb4.4,baz=330,slow=6.6,SNR=76
VNDA **Vanda** 73.64 178 *e*P P 04 42 36.5 -0.3
comp=Z,8.8nm,0.9s,mb4.4
SBA **Scott Base** 74.20 177 *e*P P 04 42 41.2 +1.2
comp=Z,23nm,1.2s,mb4.7
MIR **Mirnyy** 74.32 201*d*⇓*i*P P 04 42 40.2 -0.7
MIR *i* 04 42 49.0
MIR *i* pP 04 43 35.0 -3.2
MIR pmax pmax
comp=Z,219nm,1.2s,mb5.7
MIR pmax pmax
comp=Z,404nm,2.8s,mb5.6
WMQ **Urumqi** 74.55 317 *e*P P 04 42 41.8 -0.8
WMQ AP pP 04 43 41.6 +1.6
WMQ XP sP 04 44 08.4 +2.8
WMQ PP PP 04 45 34.1 0.0
WMQ AMB AMB
comp=Z,86nm,6.4s
WMQ LR LR
comp=N,299nm,12.8s
WMQ LR LR
comp=E,301nm,18.2s
WMQ LR LR
comp=Z,501nm,12.2s
SALM **Salem** 74.89 283 *e*P P 04 42 43.0 -2.1
HYB **Hyderabad** 75.37 289 *e*P P 04 42 47.0 -0.8
comp=Z,380nm,1.0s,mb6.0
HYB **Hyderabad** 75.37 289⇓*i*P P 04 42 47.0 -0.8
comp=Z,380nm,1.0s,mb6.0
TRD **Trivandrum** 75.73 280 *e*P P 04 42 50.3 +0.4
TRD AMb AMB 04 42 52.5
comp=Z,116nm,1.0s,mb5.5
LGTI **Lohaghat** 76.11 301 *e*P P 04 42 52.5 +0.8
PTH **Pithoragarh** 76.15 302 *e*P P 04 42 52.0 +0.1
SVW2 **Sparrevohn** 76.47 23 *e*P P 04 42 54.0 +1.0
TIXI **Tiksi** 77.01 353*d*⇓*i*P P 04 42 54.1 -1.7
TIXI pmax pmax
comp=Z,39nm,1.7s,mb4.8
BHPL **Bhopal** 77.37 295 *e*P P 04 42 58.5 -0.3
BHPL AMb AMB 04 43 00.1
comp=Z,129nm,0.9s,mb5.6
TTA **Tatalina** 77.38 22 *e*P P 04 42 59.0 +1.0
DDI **Dehra Dun** 78.15 302 *e*P P 04 43 02.5 -0.4
SLKM **Skilak Lake** 78.36 25 *e*P P 04 43 02.8 -0.5
SONA **Sohna** 78.58 300 *e*P P 04 43 04.3 -1.0
SONA AMb AMB 04 43 06.3
comp=Z,128nm,0.9s,mb5.5
AYAN **Aya Nagar** 78.58 300 *e*P P 04 43 02.9 -2.3
AYAN AMb AMB 04 43 04.9
comp=Z,18nm,0.8s,mb4.8
MKAR **Makanchi Array** 79.14 319 P P 04 43 08.2 +0.4
MKAR 04 53 07.8
MKAR pmax pmax
comp=Z,95nm,0.9s
MKAR pmax pmax
comp=N,1.0nm,1.1s
MKAR **Makanchi Array** 79.14 319 P P 04 43 08.2 +0.4
comp=N,94nm,0.8s,mb5.5,baz=105,slow=5.4,SNR=443
MKAR ScS ScS 04 53 07.8 +3.5
comp=N,1.4nm,1.1s,baz=80,slow=14,SNR=4.0
PMR **Palmer** 79.36 25 *e*P P 04 43 08.2 -0.5
KAD **Karad** 79.48 288 *e*P P 04 43 08.9 -1.3
KAD AMb AMB 04 43 11.6
comp=Z,170nm,1.1s,mb5.6
KHET **Khetri** 79.66 299 *e*P P 04 43 10.1 -0.8
KHET AMb AMB 04 43 11.7
comp=Z,154nm,0.8s,mb5.7
IMA **Indian Mountai** 80.03 20 *e*P P 04 43 11.8 -0.3
IMA *e*pP pP 04 44 10.1 -0.3
DLH **Dalhousie** 80.34 304 *e*P P 04 43 14.0 -0.5
THN **Thein Dam** 80.53 304 *e*P P 04 43 14.2 -1.3
NVS **Novosibirsk** 81.18 327⇓*i*P P 04 43 17.5 -0.9
NVS *i* 04 46 26.7
NVS *i* PPP PPP 04 48 25.9 +4.3
NVS *i* S S 04 53 03.3 -3.0
NVS pmax pmax
comp=Z,210nm,1.6s,mb5.5
NVS pmax pmax
comp=N,84nm,1.7s
NVS pmax pmax
comp=E,125nm,1.4s
NVS pmax pmax
comp=Z,25nm,1.7s,mb4.6
NVS smax
comp=N,18nm,1.5s
NVS smax
comp=E,101nm,2.0s
KSH **Kashi** 81.73 311 *i* PR 04 43 23.5
KSH *e*AP pP 04 44 17.5 -2.6
KSH *e*PP PP 04 46 29.0 -4.7
KSH *eS* S 04 53 10.1 -2.2
KSH AMB AMB
comp=Z,170nm,1.4s,mb5.5
KSH AMB AMB
comp=Z,600nm,15.9s
KSH LR LR
comp=N,3μm,48.0s
KSH LR LR
comp=E,6μm,41.5s

ILAR Eielson Array 81.79 22 P P 04 43 20.0 -1.3
ILAR *PP pP 04 44 17.8 -2.0
ILAR S S 04 53 09.2 -3.1
ILAR pmax pmax
comp=Z,23nm,0.6s
ILAR pmax pmax
comp=Z,13nm,0.9s
ILAR smax
comp=N,1.0nm,1.0s
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 81.79 22 P P 04 43 19.9 -1.4
comp=Z,23nm,0.6s,mb5.0,baz=250,slow=5.0,SNR=399
ILAR pP pP 04 44 17.8 -2.1
comp=Z,13nm,0.9s,baz=257,slow=5.1,SNR=5.2
ILAR S S 04 53 09.2 -3.1
comp=Z,1.1nm,1.0s,baz=247,slow=9.0,SNR=6.5
ILAR PKKPbc 05 01 50.5
comp=Z,1.2nm,0.8s,baz=341,slow=0.3,SNR=13
ULHL Ulahol 82.12 313 P P 04 43 25.1 +1.6
SNR=11
TKM2 Tokmak 2 82.73 314 P P 04 43 27.6 +1.0
SNR=98
KZA Kyzart 82.80 313 P P 04 43 29.2 +2.1
SNR=48
KBK Karagaybulak 83.14 314 P P 04 43 30.0 +1.2
SNR=52
CHMS Chumysh 83.35 314 P P 04 43 30.7 +0.9
SNR=96
UCH Uchtor 83.37 313 P P 04 43 32.2 +2.3
SNR=36
FRU Bishkek 83.42 314 ⇓*iP* P 04 43 31.5 +1.4
FRU pmax pmax
comp=Z,320nm,1.7s,mb5.8
AAK Ala-Archa 83.47 314 P P 04 43 31.6 +1.2
SNR=74
AAK Ala-Archa 83.47 314 *i* P P 04 43 29.6 -0.8
AAK pmax pmax
comp=Z,178nm,0.9s,mb5.8
AAK Ala-Archa 83.47 314 *e*P P 04 43 30.4 0.0
comp=Z,140nm,0.8s,mb5.7
USP Ospenovka 83.59 314 P P 04 43 31.9 +0.8
SNR=253
JASL Jaisalmer 83.78 298 *e*P P 04 43 31.7 -0.7
JASL AMb AMB 04 43 32.7
AML Almayashu 83.95 313 P P 04 43 34.7 +1.9
SNR=250
EKS2 Erkin-Say 83.99 313 P P 04 43 34.4 +1.4
SNR=218
MAW Mawson 85.93 203 ⇓*iP* P 04 43 41.7 -0.4
comp=Z,21nm,0.7s,mb5.0
MAW Mawson 85.93 203 P P 04 43 41.8 -0.3
MAW pmax pmax
comp=Z,28nm,0.9s
MAW Mawson 85.93 203 P P 04 43 41.8 -0.3
comp=Z,28nm,0.9s,mb5.0,baz=88,slow=5.7,SNR=46
QSPA South Pole Qui 85.94 180 *e*P P 04 43 42.4 +0.5
comp=Z,45nm,1.1s,mb5.1
KKAR Karatay Array 86.43 313 *i* P P 04 43 44.9 -0.2
KKAR pmax pmax
comp=Z,38nm,0.8s,mb5.2
DLBC Dease Lake 87.19 31 ScS ScS 04 54 10.1 -0.1
comp=Z,0.3nm,0.3s,baz=359,slow=27,SNR=6.0
DLBC Dease Lake 87.19 31 *e*P P 04 43 49.1 +0.8
VOSK Vostochnaya 87.67 323 P P 04 43 49.6 -1.1
VOSK pmax pmax
comp=Z,44nm,0.8s,mb5.3
INK Inuvik 88.06 21 S 04 53 56.0
comp=Z,0.8nm,0.7s,baz=58,slow=30,SNR=21
INK PKKPbc 05 01 36.3
comp=Z,4.1nm,0.8s,baz=25,slow=2.7,SNR=12
INK Inuvik 88.06 21 *e*P P 04 43 51.7 -0.5
comp=Z,20nm,1.0s,mb4.9
BVA0 Borovoye Array 88.07 323 *i* P P 04 43 51.6 -0.9
BVA0 pmax pmax
comp=Z,25nm,0.8s,mb5.1
BVAR Borovoye Array 88.07 323 P P 04 43 51.9 -0.6
comp=Z,133nm,0.7s,mb5.9,baz=104,slow=6.1,SNR=739
BVAR PP PP 04 47 23.5 -1.0
comp=Z,5.3nm,1.0s,baz=117,slow=6.6,SNR=3.5
BVAR S 04 53 54.0
comp=Z,3.4nm,1.1s,baz=146,slow=5.3,SNR=7.9
BVAR ScS ScS 04 54 14.1 -3.5
comp=Z,1.4nm,0.9s,baz=124,slow=11,SNR=4.1
BRVK Borovoye 88.14 323 *e*P P 04 43 52.1 -0.7
comp=Z,75nm,0.8s,mb5.6
ZRNK Zerenda 88.89 323 *e*P P 04 43 55.2 -1.2
comp=Z,76nm,0.9s,mb5.5
OSR Olympics--Salm 88.99 42 P P 04 43 58.5 +1.5
BUOR Burton Butte 89.62 48 P P 04 44 01.0 +0.9
LBCM Butte Creek Ri 90.16 49 P P 04 44 03.3 +0.6
CMB Columbia Colle 90.66 52 *e*P P 04 44 05.3 +0.3
comp=Z,14nm,1.4s,mb4.7
BEKR Beckwourth 90.83 50 *e*P P 04 44 05.5 -0.2
comp=Z,2.8nm,0.7s,mb4.3
EBG Ellensburg 91.23 43 P P 04 44 08.3 +0.9
MWC Mount Wilson 92.28 56 *e*P P 04 44 13.0 +0.3
NVAR Mina Array Bea 92.33 52 P P 04 44 13.2 +0.4
comp=Z,7.2nm,0.8s,mb4.7,baz=256,slow=4.3,SNR=30
OD2 Odessa Site #2 92.53 43 P P 04 44 14.2 +0.7
PFO Pinyon Flat Ob 93.59 57 *e*P P 04 44 19.0 +0.4
comp=Z,8.7nm,0.9s,mb4.8
SYO Syowa Base 94.09 200 ⇑P P 04 44 18.0 -2.1
SYO Syowa Base 94.09 200 ⇑PcP PcP 04 44 20.5 -0.2
AB31 Akbulak array 94.28 319 *i* P P 04 44 19.6 -1.8
AB31 pmax pmax
comp=Z,19nm,0.8s,mb5.2
LDFC Landfair 94.75 55 *e*P P 04 44 24.4 +0.5
ELK Elko 94.78 50 *e*P P 04 44 24.3 +0.4
comp=Z,13nm,1.8s,mb4.8
NEN Nelson 94.98 55 *e*P P 04 44 25.2 +0.3
ARU Arti 95.16 326 ⇓*iP* P 04 44 23.6 -1.7
ARU *e* 04 48 14.9
ARU *e*S 04 54 35.8
ARU pmax pmax
comp=Z,71nm,0.9s,mb5.8
ARU Arti 95.16 326 *e*P P 04 44 23.7 -1.5
comp=Z,83nm,0.9s,mb5.9
YKA Yellowknife Ar 95.17 28 P P 04 44 25.8 +0.7
YKA *PP pP 04 45 22.8 -1.8
YKA pmax pmax
comp=Z,5.0nm,0.6s
YKA pmax pmax
comp=Z,4.0nm,1.0s
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 95.17 28 P P 04 44 25.8 +0.7
comp=Z,4.9nm,0.6s,mb4.8,baz=271,slow=4.8,SNR=24
YKA pP pP 04 45 22.8 -1.8
comp=Z,4.4nm,1.0s,baz=270,slow=4.4,SNR=4.2
YKA PKKPbc 05 01 17.3
comp=Z,2.3nm,0.8s,baz=94,slow=2.9,SNR=9.3
YKA Yellowknife Ar 95.17 28 P P 04 44 25.8 +0.7
YKA pP pP 04 45 22.8 -1.8
YKA PKKPbc 05 01 17.3
WALA Waterton Lakes 95.77 41 *e*P P 04 44 29.0 +0.8
comp=Z,11nm,1.0s,mb5.0
EDM Edmonton 96.06 37 *e*P P 04 44 29.9 +0.6
ARUT Antelope Range 96.14 53 *e*P P 04 44 30.2 +0.1
CHMT Chamberlain Mo 96.24 43 *e*P P 04 44 30.5 +0.1
MCMT McKenzie Canyo 96.55 46 *e*P P 04 44 31.9 0.0
HWUT Hardware Ranch 97.55 49 *e*P P 04 44 36.1 -0.4
comp=Z,2.5nm,1.0s,mb4.5
MOOW Moose Ponds 98.09 47 *e*P P 04 44 37.8 -1.1
comp=Z,3.0nm,1.0s,mb4.6
PDAR Pinedale Array 99.00 48 P P 04 44 42.5 -0.6
comp=Z,3.0nm,0.9s,mb4.6,baz=266,slow=1.9,SNR=24
PDAR pP pP 04 45 40.6 -2.0
comp=Z,0.8nm,0.8s,baz=243,slow=4.0,SNR=1.9
PDAR PKKPbc 05 01 07.8
comp=Z,0.8nm,0.7s,baz=102,slow=5.3,SNR=8.1
PV10 Paradox Valley 99.60 52 *e*P P 04 44 46.0 +0.1
PV01 Paradox Valley 99.98 52 *e*P P 04 44 47.3 -0.3
SMCO Snowmass 101.17 51 *e*Pdif P 04 44 53.4 +0.5
OPO Ambohidratompo 102.59 250 P Pdif 04 44 56.6 -3.1
comp=Z,8.6nm,1.0s,baz=335,slow=5.2,SNR=4.1
SNAA Sanae 102.67 188 ⇑*iP* Pdif 04 45 02.6 +3.8
SNAA Sanae 102.67 188 *e* PP 04 49 18.8 +1.6
VNA3 Neumayer Olymp 103.90 186 ⇑*iP* Pdif 04 45 03.5 -0.7
VNA3 Neumayer Olymp 103.90 186 *e* PP 04 49 24.2 -1.9
VNA2 Neumayer--Watz 103.95 187 ⇑*iP* Pdif 04 45 05.6 +1.2
VNA2 Neumayer--Watz 103.95 187 *e* PP 04 49 25.2 -1.2
APA Apatity 104.29 340 *e*P Pdif 04 45 09.0 +3.0
TXAR Lajitas Array 104.56 61 PKiKP 04 49 24.4
comp=Z,0.6nm,0.8s,baz=180,slow=1.3,SNR=3.8
TXAR PKKPbc 05 00 53.6
comp=Z,1.4nm,0.7s,baz=119,slow=4.6,SNR=10
ARCES ARCESS Array B 105.86 343 PKiKP 04 49 23.9
comp=Z,3.5nm,0.7s,baz=103,slow=1.9,SNR=12
ARCES PKKPbc 05 00 46.9
comp=Z,2.1nm,1.0s,baz=232,slow=3.4,SNR=5.4
ARCES ARCESS Array B 105.86 343 PKPdf 04 49 23.9
ARCES PKKPbc 05 00 46.9
OBN Obninsk 107.58 327ĸ *i*P Pdif 04 45 19.5 -1.2
OBN *e* 04 49 52.3
OBN *e*PS PS 04 59 10.5 -6.5
OBN *e*SS SS 05 04 51.8 +9.4
OBN pmax pmax
comp=Z,34nm,1.1s
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,100nm,17.0s
SOC Sochi 108.74 315 *e*P Pdif 04 45 23.4 -2.7
SOC *e* 04 50 00.3
SOC *e* 05 00 28.5
SOC *e*SS SS 05 04 51.7 -6.5
FINES FINESS Array B 109.97 336 P Pdif 04 45 30.2 -0.9
FINES 04 50 07.4
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 109.97 336 Pdiff Pdif 04 45 30.1 -0.9
comp=Z,2.4nm,0.6s,baz=90,slow=5.6,SNR=3.6
FINES PKiKP 04 49 31.8
comp=Z,2.1nm,0.8s,baz=146,slow=10.0,SNR=5.1
FINES PP PP 04 50 07.4 -3.9
comp=Z,4.9nm,0.9s,baz=104,slow=7.9,SNR=5.6
AKASG Malin Array Be 113.33 324 P Pdif 04 45 45.7 -0.5
AKASG *i* 04 49 37.7
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 113.33 324 Pdiff Pdif 04 45 45.7 -0.4
comp=Z,0.5nm,0.4s,baz=52,slow=4.7,SNR=6.6
AKASG PKiKP 04 49 37.6
comp=Z,3.8nm,0.6s,baz=52,slow=2.3,SNR=13
AKASG PP PP 04 50 28.4 -7.6
comp=Z,0.6nm,0.5s,baz=56,slow=6.9,SNR=6.0
AKASG PKKPbc 05 00 23.7
comp=Z,0.4nm,0.3s,baz=267,slow=3.7,SNR=4.5
AKASG Malin Array Be 113.33 324 Pdif Pdif 04 45 45.7 -0.4
AKASG PKPdf PKPdf 04 49 37.6 +0.3
AKASG PP PP 04 50 28.4 -7.6
AKASG PKKPbc 05 00 23.7
BRTR Keskin Array B 114.10 312 PKiKP PKPdf 04 49 39.8 +0.7
BRTR 04 50 42.9
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR pmax pmax
comp=Z,6.0nm,1.1s
BRTR Keskin Array B 114.10 312 PKP PKPdf 04 49 39.8 +0.7
comp=Z,1.7nm,0.7s,baz=180,slow=1.2,SNR=5.9
BRTR PP PP 04 50 42.9 +1.2
comp=Z,5.5nm,1.1s,baz=101,slow=6.3,SNR=6.6
HFS Hagfors 115.62 338 PKiKP PKPdf 04 49 41.9 +0.3
HFS pmax pmax
comp=Z,3.0nm,0.5s
HFS Hagfors 115.62 338 PKP PKPdf 04 49 41.9 +0.3
comp=Z,2.5nm,0.5s,baz=90,slow=4.4,SNR=9.3
NB2 NORSAR Subarra115.87 340 PKPdf PKPdf 04 49 42.3 +0.2
comp=Z,1.1nm,0.6s,baz=45,slow=1.9
NOA NORSAR Array B115.87 340 PKiKP PKPdf 04 49 42.6 +0.5
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B115.87 340 PKP PKPdf 04 49 42.6 +0.5
comp=Z,2.9nm,0.7s,baz=46,slow=1.8,SNR=11
CFR Carcaliu 116.18 319 ⇓P PKPdf 04 49 43.4 +0.4
CFR Carcaliu 116.18 319 ⇓P PKPdf 04 49 43.4 +0.4
BURAR Bucovina Array 117.02 322 ⇑P PKPdf 04 49 45.4 +0.9
BURAR Bucovina Array 117.02 322 ⇑P PKPdf 04 49 45.4 +0.8
MLR Muntele Rosu 117.47 320 PKiKP PKPdf 04 49 46.3 +0.8
MLR pmax pmax
comp=Z,7.0nm,1.1s
MLR Muntele Rosu 117.47 320 PKP PKPdf 04 49 46.3 +0.8
comp=Z,7.4nm,1.1s,baz=278,slow=5.4,SNR=5.6
MLR Muntele Rosu 117.47 320 ⇑P PKPdf 04 49 47.2 +1.7
MLR Muntele Rosu 117.47 320 ⇑P PKPdf 04 49 47.2 +1.7
KOLS Kolonicke sedl 118.15 325 *e*PKP PKPdf 04 49 49.2 +2.5
STHS Stebnicka Huta 118.49 326 *e*PKP PKPdf 04 49 48.7 +1.3
CRVS Cervenica-Dubn 118.63 325 *e*PKiKP PKPdf 04 49 49.5 +1.8
BOSA Boshof 119.34 234 PKiKP PKPdf 04 49 50.9 +1.3
BOSA pmax pmax
comp=Z,3.0nm,0.6s
BOSA Boshof 119.34 234 PKP PKPdf 04 49 50.9 +1.3
comp=Z,3.1nm,0.6s,baz=196,slow=1.0,SNR=9.1
MATP Matopo 119.38 244 PKP PKPdf 04 49 50.7 +0.9
comp=Z,5.6nm,0.7s,baz=90,slow=1.4,SNR=19
VYHS Vyhne 120.33 326 *e*PKP PKPdf 04 49 51.4 +0.4
VYHS *e*PP PP 04 51 24.1 +0.3
LBTB Lobatse 120.42 238 PKiKP PKPdf 04 49 52.7 +1.0
LBTB pmax pmax
comp=Z,7.0nm,0.7s
LBTB Lobatse 120.42 238 PKP PKPdf 04 49 52.7 +0.9
comp=Z,7.3nm,0.7s,baz=142,slow=4.3,SNR=12
LBTB Lobatse 120.42 238 PKP PKPdf 04 49 52.7 +0.9
SCHQ Schefferville 120.47 25 PKP PKPdf 04 49 52.0 +0.9
comp=Z,1.7nm,0.5s,baz=315,slow=6.2,SNR=4.5
SCHQ Schefferville 120.47 25 PKP PKPdf 04 49 52.0 +0.9
DPC Dobruska-Polom 120.65 329 *e*PKPDF PKPdf 04 49 52.9 +1.3
DPC *ex* x 04 51 00.4
UPC Upice 120.71 329 *e*PKPDF PKPdf 04 49 52.7 +1.0
UPC *ex* x 04 51 18.1
PLCA Paso Flores 120.95 143 PKiKP PKPdf 04 49 54.5 +2.1
PLCA pmax pmax
comp=Z,3.0nm,0.7s
PLCA pmax pmax
comp=Z,3.0nm,0.7s
PLCA Paso Flores 120.95 143 PKP PKPdf 04 49 54.5 +2.0
comp=Z,2.6nm,0.7s,baz=219,slow=3.7,SNR=12
PLCA PKKPbc 04 59 59.1
comp=Z,3.0nm,0.7s,baz=57,slow=3.3,SNR=13
LSZ Lusaka 121.05 250 *e*PKPdf PKPdf 04 49 54.0 +0.8
PVCC Panska Ves 121.44 330 *e*PKPDF PKPdf 04 49 54.4 +1.3
GRUS Gruza 121.52 320 *i* PKP PKPdf 04 49 53.8 +0.4
BRG Berggiesshubel 121.54 330 *i* PKiKP PKPdf 04 49 53.8 +0.5
BRG pmax pmax
comp=Z,9.0nm,0.7s
BRG Berggiesshubel 121.54 330 *i* P PKPdf 04 49 53.8 +0.6
CLL Collm 121.73 331 *i* PKiKP PKPdf 04 49 54.6 +1.0
CLL pmax pmax
comp=Z,13nm,1.0s
CLL Collm 121.73 331 *i* PKiKP PKPdf 04 49 54.6 +1.0
comp=Z,logA/T=1.1
PRU Pruhonice 121.78 329 *e*PKPDF PKPdf 04 49 53.9 +0.1
DIVS Divcibare 121.88 321 ⇑*i*PKP PKPdf 04 49 54.6 +0.5
IDI Anoyia 122.08 310 PKP PKPdf 04 49 56.6 +1.9
comp=Z,20nm,1.0s,baz=121,slow=2.5,SNR=9.4
NKC Novy Kostel 122.69 330 *e*PKPDF PKPdf 04 49 55.4 -0.1
KHC Kasperske Hory 122.80 329 *i* PKiKP PKPdf 04 49 57.0 +1.3
KHC Kasperske Hory 122.80 329 *e*PKPDF PKPdf 04 49 55.9 +0.2
GERES GERESS Array B 122.91 328 PKP PKPdf 04 49 57.1 +1.2
comp=Z,5.8nm,0.6s,baz=83,slow=1.5,SNR=42
GERES SKKPbc 05 03 17.4
comp=Z,0.3nm,0.7s,baz=225,slow=1.9,SNR=3.6
GRA1 Grafenberg Arr 123.64 330 *e*PKP PKPdf 04 49 58.0 +0.6
GRF Grafenberg Arr 123.64 330 *e*PKiKP PKPdf 04 49 58.0 +0.6
BOJS Bojanci 124.02 324 *e*PKPdf PKPdf 04 49 59.1 +0.9
LJU Ljubljana 124.13 325 *e*PKPdf PKPdf 04 49 59.3 +0.9
ROBS Robic 124.58 326 *e*PKPdf PKPdf 04 49 59.5 +0.2
EKA Eskdalemuir Ar 125.02 343 PKiKP PKPdf 04 50 01.3 +1.4
EKA pmax pmax
comp=Z,4.0nm,0.6s
EKA pmax pmax
comp=N,3.0nm,1.0s
EKA Eskdalemuir Ar 125.02 343 PKP PKPdf 04 50 01.2 +1.4
comp=N,4.2nm,0.6s,baz=12,slow=2.7,SNR=20
EKA SKKPbc 05 03 09.6
comp=N,2.9nm,0.9s,baz=259,slow=4.3,SNR=4.1
DAVOX Davos 126.21 328 PKP PKPdf 04 50 03.9 +1.5
comp=N,11nm,0.6s,baz=149,slow=3.3,SNR=19
GIVF Givet 126.33 334 *e*PKiKP PKPdf 04 50 03.7 +1.2
CDF Champ du Feu 126.42 331 *e*PKiKP PKPdf 04 50 03.8 +1.1
comp=N,8.0nm,0.7s
BAIF Baives 126.62 335 *e*PKiKP PKPdf 04 50 04.3 +1.2
HINF Hinteralfeld 127.04 331 *e*PKiKP PKPdf 04 50 04.9 +1.0
comp=N,14nm,0.7s
HAU Haudompre 127.15 332 *e*PKiKP PKPdf 04 50 05.2 +1.1
comp=N,21nm,0.7s
CFAA Coronel Fontan 127.92 136 PKP PKPdf 04 50 07.9 +1.7
comp=N,1.1nm,0.7s,baz=232,slow=3.1,SNR=15
ORX Oropa 127.96 328 P tx 04 53 01.8
CABF La Chapelle 128.25 330 *e*PKiKP PKPdf 04 50 08.0 +1.6
comp=N,56nm,1.1s
PCP Pian Castagno 128.38 327 P tx 04 53 04.3
LSD Ceresole Reale 128.51 329 P tx 04 53 05.3
LPL La Plagne 128.69 329 *e*PKiKP PKPdf 04 50 08.4 +1.2
comp=N,7.2nm,0.6s
LPG La Plagne 128.69 329 *e*PKiKP PKPdf 04 50 08.4 +1.2
comp=N,12nm,0.7s
FIN Finale Ligure 128.78 327 P tx 04 53 04.9
FENE Fenestrelle 128.85 328 P tx 04 53 05.4
LOR Lormes 128.85 332 *e*PKiKP PKPdf 04 50 08.8 +1.3
comp=N,21nm,0.9s
ROB Roburent 128.91 327 P tx 04 53 05.2
BNI Bardonecchia 129.03 329 *e*PKPdf PKPdf 04 50 08.6 +0.7
MONE Monesi 129.11 327 P tx 04 53 05.9
IMI Imperia 129.15 327 P tx 04 53 06.1
SSF Saint Saulge 129.16 332 *e*PKiKP PKPdf 04 50 09.5 +1.4
comp=N,34nm,1.1s
MBDF Montbardon 129.21 328 *e*PKiKP PKPdf 04 50 09.3 +1.1
SAOF Saorge 129.28 327 PKP x 04 53 08.1
SAOF Saorge 129.28 327 *e*P tx 04 53 08.1
NEGI Negi 129.29 327 P tx 04 53 07.0
SMF Signal de Mont 129.31 332 *e*PKiKP PKPdf 04 50 09.7 +1.3
comp=N,21nm,1.0s
AUTN L'Aution 129.34 327 PKP x 04 53 08.6
AUTN L'Aution 129.34 327 *e*P tx 04 53 08.6
PGF Pioggiola 129.40 325 *e*PKiKP PKPdf 04 50 09.1 +0.4
comp=N,39nm,0.9s
TOUF Mont Tournerai 129.43 327 PKP x 04 53 08.7
TOUF Mont Tournerai 129.43 327 *e*P tx 04 53 08.7
AVF Avril sur Loir 129.43 332 *e*PKiKP PKPdf 04 50 09.6 +1.0
comp=N,3.8nm,0.7s
ORIF Oris-en-Rattie 129.54 329 *e*PKiKP PKPdf 04 50 09.9 +1.0
comp=N,10nm,0.7s
MVIF Mont Vial 129.56 327 PKP x 04 53 09.2
MVIF Mont Vial 129.56 327 *e*P tx 04 53 09.2
FLN La Foliniere 129.56 337 *e*PKiKP PKPdf 04 50 09.6 +0.8
comp=N,24nm,0.7s
CALN Calern 129.80 327 PKP x 04 53 09.7
CALN Calern 129.80 327 *e*P tx 04 53 09.7
BGF Bois d'Agland 129.84 332 *e*PKiKP PKPdf 04 50 10.2 +0.8
PLDF La Plantade 129.91 331 PKP x 04 53 12.2
PLDF La Plantade 129.91 331 *e*P tx 04 53 12.2
GRR Gorron 130.01 337 *e*PKiKP PKPdf 04 50 10.7 +1.0
comp=N,21nm,0.7s
FRF La Foret Royal 130.06 327 *e*PKiKP PKPdf 04 50 10.7 +0.8
STOF St-Etienne Org 130.15 328 PKP x 04 53 12.2
STOF St-Etienne Org 130.15 328 *e*P tx 04 53 12.2
VIVF Saint-Julien-l 130.19 330 *e*PKiKP PKPdf 04 50 11.2 +1.1
comp=N,11nm,0.9s
LMR La Mourre 130.28 327 *e*PKiKP PKPdf 04 50 11.1 +0.8
comp=N,13nm,0.8s
TAVF Tavernes 130.33 328 PKP x 04 53 12.0
TAVF Tavernes 130.33 328 *e*P tx 04 53 12.0
TCF Toulx Ste Croi 130.33 333 *e*PKiKP PKPdf 04 50 11.7 +1.4
comp=N,26nm,0.9s
SMRF Simiane la Rot 130.34 328 *e*PKiKP PKPdf 04 50 11.3 +0.9
comp=N,72nm,1.5s
VILF Villemus 130.35 328 PKP x 04 53 12.6
VILF Villemus 130.35 328 *e*P tx 04 53 12.6
PUYF Puyloubier 130.58 328 PKP x 04 53 12.6
PUYF Puyloubier 130.58 328 *e*P tx 04 53 12.6
LBL Lubilhac 130.63 331 PKP x 04 53 14.8
LBL Lubilhac 130.63 331 *e*P tx 04 53 14.8
PRAF Pradon 130.68 328 PKP x 04 53 13.5
PRAF Pradon 130.68 328 *e*P tx 04 53 13.5
BERF Bertagne 130.74 328 PKP x 04 53 13.5
BERF Bertagne 130.74 328 *e*P tx 04 53 13.5
SGMF Saint Gilles 130.78 338 *e*PKiKP PKPdf 04 50 12.0 +0.9
comp=N,17nm,0.6s
LASF Ste Croix 131.16 330 *e*PKiKP PKPdf 04 50 12.4 +0.4
comp=N,18nm,0.8s
QUIF Quistinic 131.29 338 *e*PKiKP PKPdf 04 50 13.0 +0.9
comp=N,433nm,1.9s
LVC Limon Verde 132.17 125 SKPbc 04 53 23.2
comp=N,36nm,0.9s,baz=267,slow=2.6,SNR=18
MTLF Montolieu 132.51 330 *e*PKiKP PKPdf 04 50 15.5 +1.0
comp=N,14nm,0.9s
LRDF Laroque-de-Fa 132.64 329 PKP x 04 53 20.8
LRDF Laroque-de-Fa 132.64 329 *e*P tx 04 53 19.5
SJAF Saint Jean de 132.79 329 PKP x 04 53 20.8
SJAF Saint Jean de 132.79 329 *e*P tx 04 53 20.1
FILF Fillols 132.91 329 PKP x 04 53 21.5
FILF Fillols 132.91 329 *e*P tx 04 53 21.5
LPEF Le Peyrat 132.95 330 PKP x 04 53 22.0
LPEF Le Peyrat 132.95 330 *e*P tx 04 53 20.9
VALF Valcebollere 133.30 329 PKP x 04 53 23.2
VALF Valcebollere 133.30 329 *e*P tx 04 53 22.6
EPF Esparros 133.66 331 *e*PKiKP PKPdf 04 50 17.6 +0.9
LABF Labassere 133.78 331 *e*P tx 04 53 22.1
RESF Ens 133.83 331 PKP x 04 53 25.5
RESF Ens 133.83 331 *e*P tx 04 53 23.0
ROSC El Rosal 133.93 87 PKP PKPdf 04 50 21.9 +3.9
comp=N,7.7nm,0.5s,baz=96,slow=20,SNR=9.5
ROSC SKPbc 04 53 29.5
comp=N,14nm,0.7s,baz=274,slow=2.7,SNR=17
ETSF Etsaut 134.19 332 *e*PKiKP PKPdf 04 50 19.0 +1.4
comp=N,21nm,0.7s
SJPF Ste Jean 134.34 332 *e*PKiKP PKPdf 04 50 18.9 +1.0
LPAZ La Paz 135.59 118 PKiKP PKPdf 04 50 24.6 +3.7
LPAZ pmax pmax
comp=Z,6.0nm,0.7s
LPAZ pmax pmax
comp=N,27nm,1.1s
LPAZ pmax pmax
comp=N,1.0nm,0.9s
LPAZ La Paz 135.59 118 PKP PKPdf 04 50 24.6 +3.7
comp=N,6.1nm,0.7s,baz=15,slow=5.6,SNR=17
LPAZ SKPbc 04 53 34.5
comp=N,27nm,1.1s,baz=272,slow=2.2,SNR=25
LPAZ SKKPbc 05 02 29.9
comp=N,0.9nm,0.8s,baz=59,slow=7.4,SNR=4.3
LPAZ La Paz 135.59 118 *e*PKPpre 04 50 09.6
LPAZ *e*PKPdf PKPdf 04 50 23.9 +3.0
LPAZ PKP PKPdf 04 50 24.6 +3.7
LPAZ SKPbc 04 53 34.5
LPAZ SKKPbc 05 02 29.9
SDV Santo Domingo 137.50 81 *e*PKPdf PKPdf 04 50 26.0 +1.6
STS Santiago 137.57 339 PKP PKPdf 04 50 27.0 +3.2
ELOB Lobios 138.26 337 PKP PKPdf 04 50 28.1 +3.0
ESDC Sonseca Array 138.31 332 PKhKP 04 50 22.0
comp=N,1.2nm,0.7s,baz=137,slow=0.9,SNR=5.3
ESDC PKP PKPdf 04 50 27.5 +2.2
comp=N,1.1nm,0.6s,baz=32,slow=3.0,SNR=5.8
ESDC PP PP 04 53 17.9 -3.3
comp=N,6.4nm,1.0s,baz=36,slow=6.9,SNR=7.4
ESDC SKKPbc 05 02 23.5
comp=N,1.4nm,0.5s,baz=227,slow=4.5,SNR=9.0
ESDC Sonseca Array 138.31 332 PKP PKPdf 04 50 17.0 -8.3
ESDC PKP PKPdf 04 50 22.0 -3.3
ESDC PKP PKPdf 04 50 27.5 +2.2
ESDC PP PP 04 53 17.9 -3.3
ESDC SKKPbc 05 02 23.5
EVIA Vianos 138.39 329 PKP PKPdf 04 50 21.3 -4.2
EHUE Huescar 139.06 329 PKP PKPdf 04 50 19.8 -6.9
EQES Queseda 139.32 329 PKP PKPdf 04 50 21.2 -5.9
EADA Adamuz 139.79 331 PKP PKPdf 04 50 24.0 -4.1
EBAD Badajoz 140.45 334 PKP PKPdf 04 50 27.8 -1.3
EVO Evora 141.07 335 *e*PKiKP PKPdf 04 50 30.8 +0.5
comp=N,30nm,1.2s
EMIN Mina Concepcio 141.10 333 PKP PKPdf 04 50 25.2 -5.2
ESPR Espera 141.44 331 PKP PKPdf 04 50 27.3 -3.7
EGRO El Granado 141.66 333 PKP PKPdf 04 50 25.8 -5.5
SIV San Ignacio 141.82 122 PKhKP 04 50 27.9
comp=N,7.7nm,0.6s,baz=234,slow=3.6,SNR=56
SAML Samuel 142.75 110 *e*PKPpre 04 50 29.9
BDFB Brasilia 152.26 135 PKiKP PKPdf 04 50 52.0 +2.8
BDFB pmax pmax
comp=Z,7.0nm,1.0s
BDFB pmax pmax
comp=Z,10.0nm,0.4s
BDFB Brasilia 152.26 135 PKP PKPdf 04 50 52.0 +2.8
comp=Z,6.8nm,0.9s,baz=348,slow=3.2,SNR=6.0
BDFB PKPbc PKPdf 04 50 58.0 +8.7
comp=Z,10nm,0.4s,baz=281,slow=1.6,SNR=30
BAO Brasilia Array 152.28 135 P PKPdf 04 50 52.0 +2.7
DBIC Dimbokro 156.69 277 PKiKP PKPdf 04 50 56.5 +1.2

DBIC 04 55 07.3
DBIC pmax pmax
comp=Z,9.0nm,1.2s
DBIC pmax pmax
comp=Z,11nm,1.0s
DBIC pmax pmax
comp=Z,35nm,0.7s
DBIC pmax pmax
comp=Z,15nm,1.0s
DBIC Dimbokro 156.69 277 PKP PKPdf 04 50 56.5 +1.2
comp=Z,9.0nm,1.2s,baz=304,slow=4.0,SNR=4.0
DBIC PKPbc PKPdf 04 51 06.5 +11
comp=Z,10nm,1.0s,baz=100,slow=2.3,SNR=8.6
DBIC PKPab PKPab 04 51 27.7 -0.7
comp=Z,35nm,0.7s,baz=81,slow=4.9,SNR=26
DBIC PP PP 04 55 07.2 -0.9
comp=Z,15nm,1.0s,baz=116,slow=6.3,SNR=4.4

BJI ***25*** *04:38:22.1, 37.31N×20.62E, h41km, mB5.3, mb4.7, Ms4.8, Msz4.5*
MOS ***25*** *04:38:23.7±1.0, 37.43N×21.00E, h26km, mb5.2/11, Error ellipse: s-maj=5.5km s-min=3.0km az=88.4*
ATH ***25*** *04:38:24.2, 37.37N×21.01E, h26km±1km, MD4.2/22, ML4.4*
ZUR_RM ***25*** *04:38:24, 37.37N×21.01E, h12km, Mw4.6/19, Moment Tensor Solution. s19 Moment tensor: Scale 10^15^Nm; Mrr=0.31; Mθθ=1.90; Mφφ=-1.59; Mrθ=7.34; Mrφ=0.60; Mθφ=-3.15; Best double couple: M₀=8.18×10^15^ NP1:φ=294°, δ=88°, λ=-78°. NP2:φ=34°, δ=12°, λ=-170°. Principal axes: T 8.486, Plg42°, Azm13°; N -.604, Plg12°, Azm114°; P -7.882, Plg46°, Azm216°;*
NEIC ***25*** *04:38:24.2, 37.37N×21.01E, h26km, mb4.7/11, MS4.4/1, MD4.3(ATH), After ATH.*
IDC ***25*** *04:38:25.5±4.9, 37.46N×21.05E, h27km±35km, mb4.2/16, mb1 4.2/23, mb1mx4.2/31, mbtmp4.3/23, ML3.8/7, MS4.1/3, Ms1 4.1/3, ms1mx3.4/29, Error ellipse: s-maj=15.3km s-min=12.3km az=90.0*
CSEM ***25*** *04:38:26.4, 37.50N×20.97E, h60km, mb4.7*
THE ***25*** *04:38:26.7, 37.35N×21.04E, h21km, ML4.3*
HLW ***25*** *04:38:44.5, 36.22N×22.41E, h22km, Mb4.1*
ISC 25 04:38:24.4±0.2, 37.35N±0.02×20.96E±0.02, h39km, h39km±6.1km:pP-P,n324,σ1°32/363,mb4.6/39,MS4.2/7, 36C-15D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.79**	**102**	*e*Pn	**P**		**04 38 38.8**	**-0.3**
ITM				*e*Sn	**S**		**04 38 50.6**	**+0.8**
RLS	**Riolos of Patr**	**0.81**	**29**	⇓*i*Pn	**P**		**04 38 50.6**	**+0.1**
RLS				*e*Sn	**S**		**04 38 50.6**	**+0.1**
VLS	**Valsamata**	**0.88**	**340**	*e*Pn	**P**		**04 38 41.0**	**+0.6**
VLS				*e*Sn	**S**		**04 38 54.2**	**+2.1**
VLS	**Valsamata**	**0.88**	**340**	*e*Pb	**P**		**04 38 40.5**	**+0.1**
VLS				*e*Sn	**S**		**04 38 54.5**	**+2.4**
LKD	**Levkas**	**1.38**	**350**	*e*Pg	**P**		**04 38 49.1**	**+1.6**
LKD				*e*Sg	**S**		**04 39 07.3**	**+2.5**
VLI	**Veliai**	**1.70**	**111**	*e*PN	**P**		**04 38 54.7**	**+2.6**
EVR	**Evrytania**	**1.70**	**23**	⇑*i*PN	**P**		**04 38 54.7**	**+2.6**
MGER	**Gerania Oros**	**1.93**	**70**	*e*PN	**P**		**04 38 56.9**	**+1.5**
KYTH	**Kithira**	**1.98**	**122**	*e*PN	**P**		**04 38 59.0**	**+3.0**
AGG	**Agios Georgios**	**1.99**	**32**	*e*Pb	**P**		**04 38 57.8**	**+1.6**
NAIG	**Nisos Aigina**	**2.05**	**78**	*e*PN	**P**		**04 38 58.5**	**+1.4**
LKR	**Lokris**	**2.07**	**50**	⇑*i*PB	**P**		**04 38 59.6**	**+2.2**
IGT	**Igoumenitsa**	**2.23**	**347**	*e*Pn	**P**		**04 39 01.7**	**+1.9**
ATH	**Athens Observa**	**2.27**	**73**	*e*PN	**P**		**04 39 01.3**	**+1.0**
ATH				*e*SN	**S**		**04 39 28.5**	**+1.2**
JAN	**Janina**	**2.31**	**358**	*e*PB	**P**		**04 39 03.1**	**+2.3**
MPAR	**Parnis Oros**	**2.34**	**69**	*e*PN	**P**		**04 39 02.0**	**+0.8**
PTL	**Penteli**	**2.41**	**72**	*e*PN	**P**		**04 39 03.5**	**+1.3**
KEK	**Kerkira**	**2.53**	**339**	*e*PN	**P**		**04 39 05.9**	**+1.9**
NEO	**Neokhori**	**2.64**	**42**	⇑*i*PN	**P**		**04 39 07.3**	**+1.7**
NEO				*e*SN	**S**		**04 39 38.4**	**+1.7**
XOR	**Xorichti**	**2.67**	**40**	*e*Pn	**P**		**04 39 06.7**	**+0.8**
XOR				*e*Sn	**S**		**04 39 38.0**	**+0.6**
AOS	**Alonnisos**	**2.93**	**51**	*e*Pn	**P**		**04 39 10.8**	**+1.2**
LIT	**Litokhoron**	**3.00**	**23**	*e*Pn	**P**		**04 39 11.9**	**+1.3**
VAM	**Vamos**	**3.25**	**126**	*e*PN	**P**		**04 39 15.5**	**+1.3**
VAM				*e*SN	**S**		**04 39 53.7**	**+1.5**
PAIG	**Paliouri**	**3.34**	**39**	*e*Pn	**P**		**04 39 16.2**	**+0.7**
PAIG				*e*Sn	**S**		**04 39 55.1**	**+0.7**
FNA	**Florina**	**3.44**	**5**	*e*Pn	**P**		**04 39 18.4**	**+1.4**
GVD	**Gavdhos**	**3.56**	**134**	*e*P	**P**		**04 39 29.8**	**+11**
PLG	**Polygyros**	**3.59**	**32**	⇑*i*PN	**P**		**04 39 19.5**	**+0.5**
THE	**Thessaloniki**	**3.63**	**25**	*e*Pn	**P**		**04 39 20.5**	**+0.9**
THE				*e*Sn	**S**		**04 40 03.0**	**+1.2**
APE	**Apeiranthos**	**3.66**	**93**	*e*PN	**P**		**04 39 19.8**	**-0.2**
THR3	**Thira Island,**	**3.68**	**103**	*e*Pn	**P**		**04 39 21.0**	**+0.7**
THR3				*e*Sn	**S**		**04 40 03.2**	**+0.1**
LCI	**Lecce**	**3.72**	**324**	P	**P**		**04 39 22.2**	**+1.3**
SANT	**Santorini**	**3.73**	**104**	*e*Pn	**P**		**04 39 21.0**	**0.0**
SANT				*e*Sn	**S**		**04 40 01.8**	**-2.6**
SANT	**Santorini**	**3.73**	**104**	*e*Pn	**P**		**04 39 21.0**	**-0.1**
SANT				*e*Sn	**S**		**04 40 01.8**	**-2.6**
THR1	**Thera Island**	**3.73**	**104**	*e*Pn	**P**		**04 39 21.7**	**+0.6**
THR1				*e*Sn	**S**		**04 40 03.8**	**-0.7**
OHR	**Ohrid**	**3.76**	**358**	⇑*i*Pn	**P**		**04 39 22.9**	**+1.5**
OHR				*i* Pg	**P**		**04 39 37.2**	**+16**
OHR				*i*			04 40 12.7	
OHR				*i* Sb	**S**		**04 40 20.3**	**+15**
OHR				*i* Sg	S		04 40 28.0	+23
GRG	**Griva**	**3.77**	**17**	*e*Pn	**P**		**04 39 22.2**	**+0.6**
GRG				*e*Sn	**S**		**04 40 06.2**	**+0.9**
GRG	**Griva**	**3.77**	**17**	*e*Pn	**P**		**04 39 22.2**	**+0.6**
IDI	**Anoyia**	**3.78**	**122**	Pn	**P**		**04 39 22.3**	**+0.6**
	3.9nm,0.3s,baz=292,slow=16,SNR=29							
IDI				Sn	**S**		**04 40 06.6**	**+1.0**
	100nm,0.3s,baz=281,slow=22,SNR=18							
TIP	**Timpagrande**	**3.78**	**300**	*e*Pn	**P**		**04 39 21.8**	**+0.1**
TIP	**Timpagrande**	**3.78**	**300**	*e*Pn	**P**		**04 39 21.8**	**+0.1**
OUR	**Ouranopolis**	**3.80**	**37**	*e*Pn	**P**		**04 39 22.6**	**+0.6**
OUR				*e*Sn	**S**		**04 40 06.8**	**+0.8**
SOI	**Samo**	**3.96**	**282**	P	**P**		**04 39 25.0**	**+0.7**
TIR	**Tirane**	**4.08**	**348**	*e*p	**P**		**04 39 28.6**	**+2.6**
TIR	**Tirane**	**4.08**	**348**	P	**P**		**04 39 26.1**	**+0.1**
KNT	**Kendrikon**	**4.09**	**21**	*e*Pn	**P**		**04 39 27.5**	**+1.4**
CEL	**Celeste**	**4.12**	**284**	P	**P**		**04 39 27.1**	**+0.6**
LIA	**Limnos Island**	**4.17**	**51**	⇑*i*PN	**P**		**04 39 27.7**	**+0.4**
MTTG	**Motta San Giov**	**4.23**	**280**	P	**P**		**04 39 28.6**	**+0.5**
QSH	**Qafa e Shtames**	**4.25**	**349**	*i* p	**P**		**04 39 29.0**	**+0.7**
QSH	**Qafa e Shtames**	**4.25**	**349**	*e*P	**P**		**04 39 29.0**	**+0.7**
SRS	**Serrai**	**4.28**	**28**	*e*Pn	**P**		**04 39 29.4**	**+0.5**
SRS				*e*Sn	**S**		**04 40 18.3**	**+0.1**
NPS	**Neapolis**	**4.29**	**118**	*e*PN	**P**		**04 39 30.1**	**+1.1**
PE1	**Pezze di Greco**	**4.42**	**322**	*e*Pn	**P**		**04 39 30.8**	**+0.1**
ORI	**Oriolo Calabro**	**4.45**	**309**	P	**P**		**04 39 32.7**	**+1.5**
XRY	**Khrisi**	**4.56**	**121**	*e*PN	**P**		**04 39 33.0**	**+0.3**
URLA	**Izmir**	**4.57**	**76**	*i* P	**P**		**04 39 32.8**	**-0.1**
LTRZ	**Laterza**	**4.58**	**316**	P	**P**		**04 39 33.1**	**0.0**
NVR	**Nevrokopi**	**4.58**	**28**	⇑*i*PN	**P**		**04 39 33.7**	**+0.6**
PRK	**Paraskevi**	**4.58**	**64**	*e*PN	**P**		**04 39 33.6**	**+0.5**
SKO	**Skopje**	**4.63**	**4**	⇑*i*Pn	**P**		**04 39 34.0**	**+0.2**
	comp=Z,0.1nm,0.9s							
SKO				*i* Sn	**S**		**04 40 28.5**	**+1.5**
SKO				*i* Sb	**S**		**04 40 46.4**	**+19**
SKO				*i* Sg	S		04 40 54.9	+28
SMG	**Samos**	**4.68**	**84**	*e*PN	**P**		**04 39 34.5**	**0.0**
MMB	**Musomiste**	**4.74**	**26**	*i* P	**P**		**04 39 35.4**	**0.0**
ULC	**Ulcinj**	**4.79**	**345**	⇓*i*Pn	**P**		**04 39 35.5**	**-0.6**
ULC				*e*Sn	**S**		**04 40 28.2**	**-2.9**
ULC	**Ulcinj**	**4.79**	**345**	*i* P	**P**		**04 39 35.5**	**-0.6**
ULC				*e*S	**S**		**04 40 28.2**	**-2.9**
KKB	**Krupnik**	**4.80**	**19**	*e*P	**P**		**04 39 36.0**	**-0.2**
CUC	**Castrocucco**	**4.82**	**305**	P	**P**		**04 39 36.2**	**-0.2**
AYVA	**Ayvalik**	**4.91**	**65**	*i* P	**P**		**04 39 37.5**	**-0.3**
BAI	**Bari**	**4.91**	**321**	*e*Pn	**P**		**04 39 37.1**	**-0.7**
MGR	**Morigerati**	**5.06**	**305**	P	**P**		**04 39 41.1**	**+1.2**
KDAG	**Bornova**	**5.10**	**76**	*i* P	**P**		**04 39 39.5**	**-0.8**
SLCN	**Sala Consilina**	**5.15**	**308**	P	**P**		**04 39 43.3**	**+2.2**
BUM	**Brajici-Budva**	**5.19**	**343**	⇓*i*Pn	**P**		**04 39 41.0**	**-0.7**
BUM				*e*Sn	**S**		**04 40 38.5**	**-2.7**
RDO	**Rodhopi**	**5.19**	**42**	⇑*i*PN	**P**		**04 39 41.4**	**-0.3**
CDT	**Castel del Mon**	**5.21**	**317**	*e*Pn	**P**		**04 39 40.2**	**-1.7**
RZN	**Rozhen**	**5.21**	**33**	*i* P	**P**		**04 39 42.3**	**+0.3**
VAE	**Valguarnera**	**5.22**	**273**	Pn	**P**		**04 39 43.6**	**+1.6**
	comp=Z,4.2nm,0.3s,baz=336,slow=2.7,SNR=6.1							
TTG	**Podgorica**	**5.24**	**346**	⇓*i*Pn	**P**		**04 39 41.6**	**-0.7**
TTG				*e*Sn	**S**		**04 40 39.4**	**-3.0**
TTG	**Podgorica**	**5.24**	**346**	*i* P	**P**		**04 39 41.6**	**-0.7**
TTG				*e*S	**S**		**04 40 39.4**	**-3.0**
PVY	**Plav**	**5.29**	**352**	*e*Pn	**P**		**04 39 43.3**	**+0.2**
PVY				*e*Sn	**S**		**04 40 41.0**	**-2.8**
ALN	**Alexandroupoli**	**5.31**	**47**	*e*Pn	**P**		**04 39 43.0**	**-0.2**
ALN				*e*Sn	**S**		**04 40 44.0**	**0.0**
WDD	**Wield Dalam**	**5.39**	**256**	P	**P**		**04 39 45.0**	**+0.6**
HCY	**Herceg Novi**	**5.43**	**340**	⇓*i*Pn	**P**		**04 39 43.6**	**-1.4**
HCY				*e*Sn	**S**		**04 40 43.7**	**-3.5**
HCY	**Herceg Novi**	**5.43**	**340**	*i* P	**P**		**04 39 43.6**	**-1.4**
HCY				*e*S	**S**		**04 40 43.7**	**-3.5**
SGO	**Sicignano**	**5.45**	**308**	P	**P**		**04 39 46.7**	**+1.4**
MRLC	**Muro Lucano**	**5.45**	**310**	P	**P**		**04 39 46.6**	**+1.3**
KDZ	**Kurdzhali**	**5.50**	**37**	*e*P	**P**		**04 39 45.0**	**-1.0**
AYDN	**Tasoluk**	**5.51**	**85**	*i* P	**P**		**04 39 46.2**	**+0.1**
VTS	**Vitosha**	**5.51**	**18**	*e*P	**P**		**04 39 46.8**	**+0.7**
VTS	**Vitosha**	**5.51**	**18**	P	**P**		**04 39 46.0**	**-0.1**
GIB	**Gibilmanna**	**5.54**	**279**	P	**P**		**04 39 48.4**	**+1.9**
PLD	**Plovdiv**	**5.55**	**30**	*e*P	**P**		**04 39 47.5**	**+0.8**
IVA	**Berane**	**5.58**	**352**	⇓*i*Pn	**P**		**04 39 47.1**	**+0.1**
IVA				*e*Sn	**S**		**04 40 48.0**	**-2.8**
NKY	**Niksic**	**5.66**	**345**	⇓*i*Pn	**P**		**04 39 47.2**	**-1.0**
NKY				*e*Sn	**S**		**04 40 49.5**	**-3.5**
NKY	**Niksic**	**5.66**	**345**	*i* P	**P**		**04 39 47.2**	**-1.0**
FG4	**Candela**	**5.67**	**313**	P	**P**		**04 39 48.9**	**+0.6**
PGB	**Panagyurishte**	**5.75**	**24**	*e*P	**P**		**04 39 49.0**	**-0.4**
CSSN	**Cassano Irpino**	**5.80**	**309**	P	**P**		**04 39 51.7**	**+1.6**
FAVR	**Favara**	**5.82**	**271**	P	**P**		**04 39 51.6**	**+1.2**
MS1	**Monte Sant'Ang**	**5.83**	**320**	*e*Pn	**P**		**04 39 49.8**	**-0.8**
BRY	**Bratogost**	**5.85**	**342**	⇓*i*Pn	**P**		**04 39 49.5**	**-1.3**
BRY				*e*Sn	**S**		**04 40 53.4**	**-4.1**
BRY	**Bratogost**	**5.85**	**342**	*i* P	**P**		**04 39 49.5**	**-1.3**
ARG	**Arkhangelos**	**5.86**	**99**	*e*PN	**P**		**04 39 51.5**	**+0.5**
DIM	**Dimitrovgrad**	**5.87**	**35**	*e*P	**P**		**04 39 51.0**	**-0.1**
FG5	**Orsara di Pugl**	**5.91**	**313**	P	**P**		**04 39 52.6**	**+0.9**
RGNG	**Rignano Grg**	**5.99**	**318**	P	**P**		**04 39 52.2**	**-0.7**
BTOK	**Tokmak**	**6.04**	**64**	*i* P	**P**		**04 39 53.8**	**+0.3**
UPM	**Unac-Piva**	**6.05**	**346**	*e*Pn	**P**		**04 39 53.4**	**-0.3**
UPM				*e*Sn	**S**		**04 40 59.4**	**-3.4**
ZAPS	**Zavoj/Pirot**	**6.07**	**11**	⇑*i*Pn	**P**		**04 39 53.4**	**-0.6**
PLE	**Pljevlja**	**6.09**	**349**	*e*Pn	**P**		**04 39 53.9**	**-0.4**
PLE				*e*Sn	**S**		**04 41 00.9**	**-2.8**
PLE	**Pljevlja**	**6.09**	**349**	*e*P	**P**		**04 39 53.9**	**-0.4**
MANT	**Manisa**	**6.11**	**77**	*i* P	**P**		**04 39 53.1**	**-1.4**
PSB1	**Pescosannita**	**6.14**	**311**	P	**P**		**04 39 55.9**	**+0.9**
NVSS	**Nova Varos 2**	**6.23**	**351**	⇓*i*Pn	**P**		**04 39 56.3**	**+0.1**
USI	**Ustica**	**6.29**	**285**	P	**P**		**04 39 57.0**	**-0.1**
DNZL	**Cakiroluk**	**6.43**	**85**	*i* P	**P**		**04 39 59.4**	**+0.3**
GRUS	**Gruza**	**6.54**	**358**	*i* Pn	**P**		**04 39 58.3**	**-2.2**
RFI	**Roccamonfina**	**6.70**	**308**	P	**P**		**04 40 03.2**	**+0.4**
MIDA	**Miranda**	**6.73**	**312**	P	**P**		**04 40 04.5**	**+1.2**
PVL	**Pavlikeni**	**6.75**	**28**	*e*P	**P**		**04 40 00.0**	**-3.5**
CII	**Carovilli**	**6.75**	**312**	*e*Pn	**P**		**04 40 04.5**	**+1.0**
	comp=Z,48nm,0.8s							
DIVS	**Divcibare**	**6.78**	**354**	⇓*i*Pn	**P**		**04 40 01.6**	**-2.4**
SLUM		**6.82**	**148**	⇓*e*P	**P**		**04 40 01.9**	**-2.5**
ULDT	**Uludag**	**6.97**	**64**	*i* P	**P**		**04 40 06.6**	**-0.1**
VVLD	**Villa Vallelon**	**7.25**	**311**	P	**P**		**04 40 11.0**	**+0.5**
TKTP	**Tekketepe**	**7.45**	**82**	*i* P	**P**		**04 40 15.4**	**+2.1**
ISP	**Isparta**	**7.59**	**83**	P	**P**		**04 40 13.5**	**-1.8**
ISP				pmax	pmax			
	comp=Z,17nm,0.6s							
ISP	**Isparta**	**7.59**	**83**	P	**P**		**04 40 13.5**	**-1.8**
	comp=Z,17nm,0.6s							
PRD	**Provadia**	**7.64**	**38**	*e*P	**P**		**04 40 15.0**	**-0.9**
HMAT	**Matruh**	**8.04**	**139**	P	**P**		**04 40 17.0**	**-4.5**
HMAT				S	S		04 41 26.2	-26
ESKT	**Eskisehir**	**8.06**	**71**	*i* P	**P**		**04 40 21.9**	**+0.2**
NRCA	**Norcia**	**8.13**	**315**	P	**P**		**04 40 23.8**	**+1.0**
PSN	**Preselentsi**	**8.38**	**39**	*e*P	**P**		**04 40 25.0**	**-1.2**
NVLJ	**Novalja**	**8.55**	**329**	*i* Pn	**P**		**04 40 25.7**	**-2.9**
NVLJ				*i* Sn	**S**		**04 42 01.8**	**-3.1**
NVLJ	**Novalja**	**8.55**	**329**	*i* Pn	**P**		**04 40 25.6**	**-3.0**
NVLJ				*i* Sn	**S**		**04 42 01.7**	**-3.2**
VOIR		**8.64**	**20**	⇓P	**P**		**04 40 29.8**	**0.0**
ARV	**Arcevia**	**8.67**	**318**	P	**P**		**04 40 30.4**	**+0.2**
SWA2		**8.91**	**154**	⇓*e*P	**P**		**04 40 30.2**	**-3.4**
MLR	**Muntele Rosu**	**8.95**	**23**	P	**P**		**04 40 34.6**	**+0.5**
MLR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MLR	**Muntele Rosu**	**8.95**	**23**	Pn	**P**		**04 40 34.6**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=225,slow=4.2,SNR=21							
MLR	**Muntele Rosu**	**8.95**	**23**	⇓P	**P**		**04 40 34.7**	**+0.6**
MLR	**Muntele Rosu**	**8.95**	**23**	⇓P	**P**		**04 40 34.7**	**+0.6**
SWA1		**8.99**	**152**	P	**P**		**04 40 31.3**	**-3.3**
SWA1				S	S		04 41 49.7	-26
BOJS	**Bojanci**	**9.21**	**334**	*e*Pn	**P**		**04 40 35.8**	**-1.8**
SGKT	**Sivrigoynuk**	**9.22**	**66**	*i* P	**P**		**04 40 38.7**	**+0.9**
VSL	**Villasalto**	**9.34**	**287**	P	**P**		**04 40 38.2**	**-1.3**
	comp=Z,29nm,1.4s							
VSL	**Villasalto**	**9.34**	**287**	P	**P**		**04 40 38.2**	**-1.3**
	comp=Z,29nm,1.4s							
CFR	**Carcaliu**	**9.50**	**32**	⇓P	**P**		**04 40 40.7**	**-1.0**
VRI	**Vrincioaia**	**9.54**	**25**	⇑P	**P**		**04 40 42.1**	**-0.1**
CEY	**Cerknica**	**9.71**	**332**	*e*Pn	**P**		**04 40 41.8**	**-2.6**
PDKS	**Podkum**	**9.78**	**335**	*e*Pn	**P**		**04 40 42.5**	**-3.0**
VOY	**Vojsko**	**10.15**	**331**	*e*Pn	**P**		**04 40 49.4**	**-1.2**
VOY				*e*Sn	**S**		**04 42 41.0**	**-3.3**
BR131	**Keskin Array S**	**10.21**	**73**	*e*P	**P**		**04 40 51.3**	**-0.1**
	comp=Z,2.2nm,0.5s							
BR131	**Keskin Array S**	**10.21**	**73**	*e*P	**P**		**04 40 51.3**	**-0.1**
	comp=Z,2.2nm,0.5s							
BRTR	**Keskin Array B**	**10.21**	**73**	Pn	**P**		**04 40 53.1**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=257,slow=13,SNR=14							
OBKA	**Obir**	**10.32**	**334**	⇑*i*P	**P**		**04 40 50.9**	**-2.0**
	comp=Z,14nm,1.1s							
BALT	**Daday**	**10.47**	**63**	*i* P	**P**		**04 40 58.3**	**+3.2**
MEST	**Erdemli**	**10.58**	**90**	*i* P	**P**		**04 40 57.7**	**+1.2**
PSZ	**Piszkesteto**	**10.59**	**356**	*e*P	**P**		**04 40 53.8**	**-2.8**
PSZ				pmax	pmax			
	comp=Z,12nm,0.9s							
PSZ	**Piszkesteto**	**10.59**	**356**	*e*P	**P**		**04 40 53.8**	**-2.8**
	comp=Z,12nm,0.9s							
ARSA	**Arzberg**	**10.68**	**340**	⇑*i*P	**P**		**04 40 55.3**	**-2.5**
	comp=Z,11nm,1.1s							
BURAR	**Bucovina Array**	**10.73**	**16**	⇑P	**P**		**04 40 57.9**	**-0.6**
BURAR	**Bucovina Array**	**10.73**	**16**	⇑P	**P**		**04 40 57.9**	**-0.5**
HMYD	**Mayadein**	**11.13**	**130**	⇑*e*P	**P**		**04 40 59.3**	**-4.8**
KECS	**Kecovo**	**11.13**	**358**	*e*PN	**P**		**04 41 02.2**	**-1.8**
AWBH		**11.20**	**141**	⇑*e*P	**P**		**04 40 59.7**	**-5.3**
KBA	**Koelnbreinsper**	**11.24**	**332**	⇑*i*P	**P**		**04 41 02.4**	**-3.0**
	comp=Z,14nm,1.4s							
KBA	**Koelnbreinsper**	**11.24**	**332**	⇑*i*P	**P**		**04 41 02.4**	**-3.0**
KBA				pmax	pmax			
	comp=Z,14nm,1.4s							
VYHS	**Vyhne**	**11.25**	**353**	*e*PN	**P**		**04 41 03.3**	**-2.2**
UZH	**Uzhgorod**	**11.32**	**4**	*i* P	**P**		**04 41 05.6**	**-0.9**
CRVS	**Cervenica-Dubn**	**11.55**	**2**	*e*P	**P**		**04 41 08.7**	**-0.9**
MOA	**Molln**	**11.59**	**337**	⇑*i*P	**P**		**04 41 07.2**	**-2.9**
	comp=Z,15nm,1.4s							
KOT	**Kottamia**	**11.69**	**126**	⇑*e*P	**P**		**04 41 06.4**	**-5.1**
HSAF	**As Saff**	**11.72**	**128**	⇑*e*P	**P**		**04 41 07.2**	**-4.8**
JAVC	**Velka Javorina**	**11.75**	**349**	P	**P**		**04 41 10.4**	**-1.9**
HHAG	**Hagoal**	**11.85**	**125**	P	**P**		**04 41 08.8**	**-4.9**
GLL	**Jalalah**	**11.85**	**128**	P	**P**		**04 41 08.6**	**-5.1**
HFRF	**Wahat Farafira**	**11.91**	**147**	⇑*e*P	**P**		**04 41 10.0**	**-4.6**
WTTA	**Wattenberg**	**12.07**	**328**	P	**P**		**04 41 16.7**	**+0.2**
NIE	**Niedzica**	**12.07**	**358**	*e*P	**P**		**04 41 15.7**	**-0.9**
HRSH	**Kfar Ka'horesh**	**12.33**	**117**	⇑*e*P	**P**		**04 41 15.0**	**-5.2**
RSH		**12.33**	**117**	P	**P**		**04 41 15.0**	**-5.2**
KWP	**Kalwaria**	**12.34**	**5**	*e*P	**P**		**04 41 20.8**	**+0.5**
KWP	**Kalwaria**	**12.34**	**5**	*e*P	**P**		**04 41 20.7**	**+0.4**
HNTI	**Hanita**	**12.37**	**106**	S	**S**		**04 43 26.5**	**-12**
SUZ		**12.40**	**124**	⇑*e*P	**P**		**04 41 15.9**	**-5.3**
GERES	**GERESS Array B**	**12.65**	**338**	Pn	**P**		**04 41 22.8**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=156,slow=13,SNR=7.6							
OKC	**Ostrava-Krasne**	**12.65**	**352**	*e*P	**P**		**04 41 22.8**	**-1.6**
MORC	**Moravsky Berou**	**12.67**	**350**	P	**P**		**04 41 21.9**	**-2.7**
ZNM		**12.73**	**125**	⇑*e*P	**P**		**04 41 20.6**	**-4.9**
KZIT	**Kziot**	**12.85**	**116**	S	**S**		**04 43 35.9**	**-14**
KHC	**Kasperske Hory**	**12.94**	**338**	*e*P	**P**		**04 41 28.3**	**+0.1**
KHC				*ex*	x		04 41 33.1	
KHC				*ex*	x		04 41 38.2	
KHC				AMS	AMS		04 47 30.0	
	comp=Z,700nm,14.6s							
WET	**Wettzell**	**13.17**	**336**	P	**P**		**04 41 30.4**	**-0.8**
MZDA	**Masada**	**13.33**	**113**	S	**S**		**04 43 46.4**	**-15**
ASUT		**13.36**	**135**	⇑*e*P	**P**		**04 41 28.4**	**-5.3**
DPC	**Dobruska-Polom**	**13.42**	**347**	*e*P	**P**		**04 41 43.1**	**+8.6**
DPC				AMS	AMS		04 47 40.0	
	comp=Z,1μm,12.2s							
PRU	**Pruhonice**	**13.45**	**342**	*e*P	**P**		**04 41 32.9**	**-2.1**
PRU				*ex*	x		04 41 40.8	
PRU				AMS	AMS		04 47 30.0	
	comp=Z,600nm,11.2s							
PRNI	**Paran**	**13.59**	**117**	S	**S**		**04 43 50.8**	**-17**
UPC	**Upice**	**13.62**	**346**	*e*P	**P**		**04 41 46.6**	**+9.5**
HDK1	**Dakhla**	**13.79**	**146**	⇑*e*P	**P**		**04 41 35.7**	**-3.8**
MALT	**Malatya**	**13.84**	**81**	*e*P	**P**		**04 41 39.8**	**-0.3**
MALT				pmax	pmax			
	comp=Z,9.0nm,0.8s							
MALT	**Malatya**	**13.84**	**81**	*e*P	**P**		**04 41 39.8**	**-0.2**
	comp=Z,9.3nm,0.8s							
MALT	**Malatya**	**13.84**	**81**	*e*P	**P**		**04 41 39.8**	**-0.3**
	comp=Z,9.3nm,0.8s							
KSP	**Ksiaz**	**13.90**	**348**	*e*P	**P**		**04 41 48.7**	**+8.0**
KSP	**Ksiaz**	**13.90**	**348**	*e*P	**P**		**04 41 49.7**	**+9.0**
EIL	**Elat**	**13.95**	**119**	S	**S**		**04 43 58.4**	**-18**
EIL	**Elat**	**13.95**	**119**	*e*P	**P**		**04 41 39.0**	**-2.5**
	comp=Z,13nm,0.6s							
PVCC	**Panska Ves**	**13.95**	**343**	*e*P	**P**		**04 41 41.3**	**-0.1**
PVCC				AMS	AMS		04 47 50.0	
	comp=Z,800nm,12.7s							
HKAT	**Jabal Katrina**	**14.03**	**125**	P	**P**		**04 41 38.4**	**-4.2**
GRA1	**Grafenberg Arr**	**14.20**	**333**	*e*P	**P**		**04 41 53.4**	**+8.7**
	comp=Z,44nm,1.2s							
GRF	**Grafenberg Arr**	**14.20**	**333**	*e*P	**P**		**04 41 53.4**	**+8.7**
GRF				pmax	pmax			
	comp=Z,44nm,1.2s							
GRF	**Grafenberg Arr**	**14.20**	**333**	*e*P	**P**		**04 41 53.4**	**+8.7**
GRF				pmax	pmax			
	comp=Z,44nm,1.2s							
GRF	**Grafenberg Arr**	**14.20**	**333**	*e*P	**P**		**04 41 53.4**	**+8.7**
	comp=Z,44nm,1.2s							
ALWS	**Iiw as Safayha**	**14.24**	**120**	P	**P**		**04 41 43.3**	**-2.1**
NKC	**Novy Kostel**	**14.26**	**337**	*e*P	**P**		**04 41 47.9**	**+2.5**
NKC				AMS	AMS		04

AAK	**Ala-Archa**	**40.78**	**65**	*e*P		**P**	**04 46 03.4**	**+0.1**
AAK				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.3							
AAK	**Ala-Archa**	**40.78**	**65**	*e*P		**P**	**04 46 03.5**	**+0.2**
KBS	**Kingsbay**	**41.85**	**357**	*e*P		**P**	**04 46 08.5**	**-3.2**
KBS				pmax		pmax		
	comp=Z,24nm,0.6s,mb5.0							
KBS	**Kingsbay**	**41.85**	**357**	*e*P		**P**	**04 46 08.5**	**-3.2**
	comp=Z,24nm,0.6s,mb5.0							
MKAR	**Makanchi Array**	**45.44**	**58**	P		**P**	**04 46 39.9**	**-1.2**
	comp=Z,6.6nm,0.8s,mb4.5,baz=273,slow=6.6,SNR=7.5							
SUMG	**Summit**	**45.72**	**339**	*e*P		**P**	**04 46 44.5**	**+1.5**
	comp=Z,5.0nm,0.9s,mb4.4							
SUMG	**Summit**	**45.72**	**339**	*e*P		**P**	**04 46 44.5**	**+1.5**
	comp=Z,5.0nm,0.9s,mb4.4							
WMQ	**Urumqi**	**49.86**	**60**	*e*P		**P**	**04 47 17.3**	**+1.7**
WMQ				AP		pP	04 47 29.8	+3.0
WMQ				AMB		AMB		
	comp=Z,3.0nm,2.3s,mb3.9							
WMQ				LR		LR		
	comp=N,287nm,16.3s,MS4.5							
WMQ				LR		LR		
	comp=E,266nm,17.3s,MS4.5							
WMQ				LR		LR		
	comp=Z,446nm,17.8s,MS4.5							
KOLN	**Koldanda**	**52.80**	**81**	*e*P		**P**	**04 47 36.7**	**-1.3**
	comp=Z,27nm,0.7s,mb5.3							
GKN	**Gorkha**	**53.51**	**80**	*e*P		**P**	**04 47 41.3**	**-2.0**
	comp=Z,31nm,0.7s,mb5.3							
DMN	**Daman**	**54.06**	**81**	*e*P		**P**	**04 47 46.2**	**-1.2**
	comp=Z,40nm,0.7s,mb5.5							
KKN	**Kakani**	**54.12**	**80**	*e*P		**P**	**04 47 46.6**	**-1.1**
	comp=Z,26nm,0.6s,mb5.3							
PKI	**Pulchoki**	**54.32**	**80**	*e*P		**P**	**04 47 48.0**	**-1.2**
	comp=Z,27nm,0.9s,mb5.2							
GUN	**Gumba**	**54.53**	**80**	*e*P		**P**	**04 47 49.5**	**-1.3**
	comp=Z,74nm,1.0s,mb5.7							
JIRN	**Jiri**	**54.89**	**80**	*e*P		**P**	**04 47 52.3**	**-1.1**
ZAK	**Zakamensk**	**57.84**	**49**	*e*P		**P**	**04 48 13.3**	**-0.9**
ZAK				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.2							
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.3s,mb4.0							
ZAK	**Zakamensk**	**57.84**	**49**	*e*P		**P**	**04 48 13.3**	**-0.9**
	comp=Z,2.0nm,1.3s,mb4.0							
MATP	**Matopo**	**57.90**	**172**	P		**P**	**04 48 16.3**	**+1.3**
	comp=Z,7.9nm,1.1s,mb4.7,baz=340,slow=5.8,SNR=8.9							
GTA	**Gaotai**	**59.91**	**61**	*e*P		**P**	**04 48 27.5**	**-1.2**
GTA				AP		pP	04 48 38.9	-1.3
GTA				XP		sP	04 48 44.8	0.0
GTA				AMB		AMB		
	comp=Z,5.0nm,0.9s,mb4.5							
SONM	**Songino Array**	**60.72**	**50**	P		**P**	**04 48 33.1**	**-1.0**
	comp=Z,1.6nm,0.8s,mb4.2,baz=285,slow=11,SNR=5.7							
BOD	**Bodaibo**	**60.81**	**38**	*e*P		**P**	**04 48 32.2**	**-2.4**
BOD				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.7							
LBTB	**Lobatse**	**62.18**	**175**	P		**P**	**04 48 44.9**	**+0.7**
	comp=Z,6.9nm,0.9s,mb4.8,baz=44,slow=7.1,SNR=10							
BOSA	**Boshof**	**65.74**	**176**	P		**P**	**04 49 08.2**	**+0.8**
	comp=Z,3.7nm,0.8s,mb4.5,slow=11,SNR=5.8							
KMI	**Kunming**	**69.00**	**74**	P		**P**	**04 49 27.3**	**-0.6**
KMI				AP		pP	04 49 36.1	-3.6
KMI				XP		sP	04 49 39.3	-4.7
KMI				S		S	04 58 32.3	+3.8
KMI				AMB		AMB		
	comp=Z,8.0nm,1.1s,mb4.6							
KMI				AMB		AMB		
	comp=Z,78nm,4.3s							
KMI				LR		LR		
	comp=N,158nm,18.4s,MS4.6							
KMI				LR		LR		
	comp=E,237nm,17.1s,MS4.6							
KMI				LR		LR		
	comp=Z,225nm,22.0s,MS4.4							
KMI	**Kunming**	**69.00**	**74**	P		**P**	**04 49 27.3**	**-0.6**
KMI				*PP		pP	04 49 36.1	-3.6
KMI				*SP		sP	04 49 39.3	-4.7
KMI				S		S	04 58 32.2	+3.7
KMI				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.6							
KMI				MLR		MLR		
	comp=Z,230nm,22.0s,MS4.4							
KMI	**Kunming**	**69.00**	**74**	P		**P**	**04 49 27.3**	**-0.6**
	comp=Z,8.0nm,1.1s,mb4.6							
KMI				pP		pP	04 49 36.1	-3.6
KMI				sP		sP	04 49 39.3	-4.7
KMI				S		S	04 58 32.2	+3.7
KMI				LR		LR		
	comp=Z,230nm,22.0s,MS4.4							
SEY	**Seymchan**	**72.78**	**21**	⇑*i*P		**P**	**04 49 50.6**	**+0.7**
SEY	**Seymchan**	**72.78**	**21**	⇑*i*P		**P**	**04 49 50.7**	**+0.8**
CN2	**Changchun**	**74.20**	**47**	*e*P		**P**	**04 49 59.6**	**+1.0**
YKA	**Yellowknife Ar**	**74.29**	**340**	P		**P**	**04 49 59.5**	**+0.8**
	comp=Z,1.5nm,0.9s,mb3.9,baz=37,slow=6.6,SNR=5.1							
YKA	**Yellowknife Ar**	**74.29**	**340**	P		**P**	**04 49 59.5**	**+0.8**
KLR	**Kul'dur**	**74.29**	**40**	*e*P		**P**	**04 49 55.9**	**-3.1**
MA2	**Magadan**	**74.91**	**24**	*e*P		**P**	**04 50 03.7**	**+1.3**
MA2				pmax		pmax		
	comp=Z,13nm,0.8s,mb4.9							
MA2	**Magadan**	**74.91**	**24**	*e*P		**P**	**04 50 03.7**	**+1.4**
	comp=Z,13nm,0.8s,mb4.9							
MA2	**Magadan**	**74.91**	**24**	*e*P		**P**	**04 50 03.7**	**+1.3**
	comp=Z,13nm,0.8s,mb4.9							
ULM	**Lac du Bonnet**	**76.58**	**324**	P		**P**	**04 50 13.4**	**+1.4**
	comp=Z,4.2nm,0.8s,mb4.4,baz=154,slow=1.5,SNR=3.6							
ULM	**Lac du Bonnet**	**76.58**	**324**	P		**P**	**04 50 13.4**	**+1.3**
NJ2	**Nanjing**	**76.93**	**60**	*e*P		**P**	**04 50 16.1**	**+1.6**
NJ2				AP		pP	04 50 29.3	+3.0
NJ2				PP		PP	04 53 10.8	+1.6
NJ2				S		S	04 59 59.0	+0.7
NJ2				XS			05 00 21.0	
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb5.0							
NJ2				AMB		AMB		
	comp=Z,340nm,7.9s							
NJ2				LR		LR		
	comp=N,510nm,16.4s,MS5.1							
NJ2				LR		LR		
	comp=E,540nm,15.4s,MS5.1							
NJ2				LR		LR		
	comp=Z,280nm,15.3s,MS4.7							
ILAR	**Eielson Array**	**77.77**	**355**	P		**P**	**04 50 20.2**	**+1.8**
	comp=Z,0.9nm,0.8s,mb3.7,baz=349,slow=3.6,SNR=6.0							
ILAR	**Eielson Array**	**77.77**	**355**	P		**P**	**04 50 20.2**	**+1.8**
QIZ	**Qiongzhong**	**77.85**	**75**	*e*P		**P**	**04 50 20.0**	**+0.2**
SSE	**Sheshan**	**79.10**	**59**	P		**P**	**04 50 24.1**	**-2.4**
SSE				AMB		AMB		
	comp=Z,27nm,0.7s,mb5.3							
SSE				AMB		AMB		
	comp=Z,235nm,12.0s							
SSE	**Sheshan**	**79.10**	**59**	P		**P**	**04 50 24.1**	**-2.4**
	comp=Z,27nm,0.7s,mb5.3							
YSS	**Yuzh-Sakhalins**	**81.23**	**36**	*e*P		**P**	**04 50 38.0**	**+0.5**
YSS				pmax		pmax		
	comp=Z,30nm,1.0s,mb5.2							
MJAR	**Matsushiro Arr**	**86.31**	**46**	P		**P**	**04 51 04.6**	**+1.3**
	comp=Z,1.5nm,0.6s,mb4.4,baz=318,slow=3.9,SNR=5.4							
HWUT	**Hardware Ranch**	**90.25**	**326**	*e*P		**P**	**04 51 23.8**	**+1.7**
	comp=Z,1.7nm,0.6s,mb4.5							
PV10	**Paradox Valley**	**91.67**	**323**	P		**P**	**04 51 30.8**	**+2.1**

IDC 25 04:39:00.8±2.4, 8.94S×111.46E, mb4.1/3, mb1 4.4/4, mb1mx4.0/15, mbtmp4.3/4, ML4.5/1, Error ellipse: s-maj=136.1km s-min=25.3km az=50.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**16.51**	**125**	Pn	P	04 42 52.9	-2.6
	1.3nm,0.3s,baz=301,slow=5.5,SNR=6.2						
FITZ				Sn	S	04 45 40.5	-19
	0.2nm,0.3s,baz=184,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**24.67**	**119**	P	P	04 44 24.1	-0.7
	2.7nm,0.6s,baz=292,slow=11,SNR=5.4						
STKA	**Stephens Creek**	**36.09**	**134**	P	P	04 46 04.3	-2.1
	3.8nm,0.8s,baz=318,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**61.28**	**338**	P	P	04 49 17.8	-2.4
	0.9nm,0.4s,baz=145,slow=7.0,SNR=7.4						

WEL 25 04:42:38.8±0.4, 37.13S×176.97E, h192km±4km, ML3.6/13, Error ellipse: s-maj=4.1km s-min=3.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.13**	**174**	PN	P	04 43 08.8	-0.2
URZ				SN	S	04 43 32.0	-0.3
MXZ	**Matakaoa Point**	**1.15**	**112**	PN	P	04 43 08.7	-0.4
MWZ	**Matawai**	**1.28**	**160**	*e*PN	P	04 43 10.3	+0.1
MWZ				SN	S	04 43 34.2	-0.4
PUZ	**Puketiti**	**1.39**	**133**	PN	P	04 43 10.8	-0.4
PUZ				SN	S	04 43 34.9	-1.3
PUZ				SN	S	04 43 35.0	-1.2
KNZ	**Kokohu**	**1.97**	**164**	PN	P	04 43 16.7	-0.1
BKZ	**Black Stump Fm**	**2.07**	**190**	PN	P	04 43 17.2	-0.6
NGZ	**Ngauruhoe**	**2.31**	**207**	*e*PN	P	04 43 20.8	+0.2
TUVZ	**Tukino**	**2.37**	**206**	PN	P	04 43 21.2	0.0
FWVZ	**Far West T-bar**	**2.40**	**207**	PN	P	04 43 21.8	+0.2
WNVZ	**Wahianoa**	**2.45**	**206**	PN	P	04 43 21.8	-0.3
MOVZ	**Moawhango**	**2.47**	**203**	PN	P	04 43 21.5	-0.9
PWZ	**Pawanui**	**2.89**	**182**	*e*PN	P	04 43 26.3	-1.0
TSZ	**Takapari Road**	**3.03**	**195**	PN	P	04 43 27.2	-1.7
TSZ				SN	S	04 44 06.0	-1.7
WAZ	**Wanganui**	**3.05**	**210**	*e*PN	P	04 43 28.2	-1.0
BFZ	**Birch Farm**	**3.59**	**189**	*e*PN	P	04 43 33.9	-1.9
MRZ	**Mangatainoka R**	**3.69**	**197**	*e*PN	P	04 43 34.7	-2.4
MRZ				SN	S	04 44 19.3	-2.8
KIW	**Kapiti Island**	**4.06**	**203**	PN	P	04 43 38.7	-2.9
KIW				SN	S	04 44 26.8	-3.5
MTW	**Mount Morrison**	**4.18**	**195**	PN	P	04 43 39.9	-3.3
CAW	**Cannon Point**	**4.24**	**200**	*e*PN	P	04 43 40.3	-3.7
MRW	**Makara Radio**	**4.46**	**203**	*e*PN	P	04 43 43.5	-3.3
TCW	**Tory Channel**	**4.58**	**206**	*e*PN	P	04 43 45.2	-3.2
TCW				SN	S	04 44 38.4	-3.8
TUWZ	**Tuamarina**	**4.89**	**208**	*e*PN	P	04 43 49.0	-3.4
NNZ	**Nelson**	**4.94**	**213**	SN	S	04 44 46.9	-3.6
THZ	**Tophouse**	**5.59**	**213**	*e*PN	P	04 43 57.9	-3.5
LTZ	**Lake Taylor**	**6.70**	**211**	SN	S	04 45 24.3	-7.2
MQZ	**McQueen's Vall**	**7.35**	**205**	SN	S	04 45 37.6	-9.1

*CSEM **25** 04:47:05.9±0.1, 35.70N×36.35E, h22km±1km, Mc2.7, Error ellipse: s-maj=2.9km s-min=2.3km az=27.0*
*GRAL **25** 04:47:06.9±7.7, 35.79N×36.50E, MD3.6*
*ISK **25** 04:47:06.2, 35.68N×36.36E, h23km, MD3.5*
ISC 25 04:47:07.1±0.4, 35.73N±0.02×36.43E±0.04, h20km±5km, n30, σ0°75/43, 10D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLNF	**Slenfeh**	**0.22**	**232**	⇑*i*P	**Pb**	**04 47 12.1**	**-0.5**
WRDH	**Warideh**	**0.22**	**184**	⇓*i*P	**Pb**	**04 47 12.4**	**-0.2**
BTCH	**Batrach**	**0.31**	**4**	⇓*i*P	**Pb**	**04 47 14.4**	**+0.4**
ARNB	**Al Arnab**	**0.40**	**290**	⇑*i*P	**Pb**	**04 47 14.5**	**-0.9**
HTY	**Hatay**	**0.46**	**329**	*i* PG	**Pb**	**04 47 16.4**	**0.0**
HTY				*i* SG	**Sb**	**04 47 23.8**	**+1.0**
HTY	**Hatay**	**0.46**	**329**	*e*Pg	**Pb**	**04 47 16.4**	**0.0**
KFRA	**Kufra**	**0.60**	**150**	⇓*i*P	**Pb**	**04 47 19.0**	**+0.2**
KFRA				⇓*i*S	**Sb**	**04 47 27.0**	**+0.3**
BIDA	**Albida**	**0.72**	**187**	⇓*i*P	**Pb**	**04 47 20.5**	**-0.3**
BIDA				⇓*i*S	**Sb**	**04 47 29.4**	**-0.8**
COBT	**Iskenderun**	**0.80**	**350**	*i* P	**Pb**	**04 47 22.8**	**+0.5**
COBT				*i* S	**Sb**	**04 47 33.0**	**+0.4**
DRWC	**Darouich**	**0.91**	**12**	⇓*i*P	**Pb**	**04 47 24.6**	**+0.5**
DRWC				⇓*i*S	**Sb**	**04 47 36.3**	**+0.6**
SLMH	**Al Salmeh**	**1.31**	**68**	⇑*i*P	**Pn**	**04 47 30.3**	**-0.3**
SLMH				⇑*i*S	**Sb**	**04 47 47.8**	**+0.4**
CEYT	**Ceyhan**	**1.39**	**337**	PN	**Pn**	**04 47 31.7**	**0.0**
FKH	**Fakeheh**	**1.49**	**181**	*e*Pn	**Pn**	**04 47 32.7**	**-0.4**
FKH				Sn	**Sn**	**04 47 52.7**	**+0.6**
HWQ	**Hawqa**	**1.50**	**196**	*e*Pn	**Pn**	**04 47 33.1**	**-0.2**
HWQ				Sn	**Sn**	**04 47 53.5**	**+1.1**
GAZ	**Gaziantep**	**1.57**	**23**	PN	**Pn**	**04 47 34.6**	**+0.3**
JHLN	**Al Jahlan**	**1.64**	**91**	⇓*i*P	**Pn**	**04 47 35.5**	**+0.3**
JHLN				⇓*i*S	**Sn**	**04 47 55.0**	**-0.8**
GZT	**Gaziantep**	**1.86**	**29**	*i* P	**Pn**	**04 47 38.0**	**-0.4**
GZT				*i* S	**Sn**	**04 48 07.4**	**+5.9**
BHL	**Bhannes**	**1.93**	**200**	*e*Pn	**Pn**	**04 47 39.7**	**+0.3**
BHL				Sn	**Sn**	**04 48 05.6**	**+2.3**
MEST	**Erdemli**	**2.04**	**295**	*i* P	**Pn**	**04 47 41.1**	**+0.2**
MEST				*i* S	**Sn**	**04 48 06.9**	**+0.8**
IKL	**Isikli**	**2.28**	**284**	PN	**Pn**	**04 47 42.8**	**-1.7**
IKL	**Isikli**	**2.28**	**284**	*e*Pn	**Pn**	**04 47 41.8**	**-2.7**
MATL	**Matirih**	**2.41**	**202**	Sn	**Sn**	**04 48 25.5**	**+10**
URFA	**Urfa**	**2.57**	**48**	PN	**Pn**	**04 47 48.4**	**-0.2**
NIG	**Nigde**	**2.79**	**329**	*e*Pn	**Pn**	**04 47 50.6**	**-1.1**
MYA	**Malataya**	**3.04**	**31**	PN	**Pn**	**04 47 55.2**	**-0.1**
MYA	**Malataya**	**3.04**	**31**	*e*Pn	**Pn**	**04 47 55.7**	**+0.4**
HDMB	**Hadim**	**3.42**	**292**	*e*PN	**Pn**	**04 47 59.1**	**-1.5**
ELZG	**Elazig**	**3.44**	**36**	*i* P	**Pn**	**04 47 56.3**	**-4.6**
ELZG				*i* S		04 47 56.9	
MARD	**Mardin**	**3.84**	**64**	*i* P	**Pn**	**04 48 05.8**	**-0.9**
MARD				*i* S	**Sn**	**04 49 05.2**	**+13**
PTK	**Pertek**	**3.94**	**36**	*e*PN	**Pn**	**04 48 08.3**	**+0.2**

*NNC **25** 04:53:12.6±20.0, 43.71N×84.41E, mpv2.6, Error ellipse: s-maj=472.5km s-min=219.6km az=64.0*
BJI 25 04:53:18.3, 43.84N×83.97E, h11km, ML3.4, 2C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**2.70**	**89**	P	Pn	04 54 03.0	+0.6
WMQ				S	Sn	04 54 36.8	+1.5
WMQ				SG	Sg	04 54 39.8	-8.3
WMQ				Smax			
	comp=N,61nm,0.4s						
WMQ				Smax			
	comp=E,62nm,0.4s						
MK31	**Makanchi Array**	**3.18**	**339**	⇓Pn	Pn	04 54 10.1	+0.7
	comp=E,0.2nm,0.2s,baz=150,slow=15,SNR=42						
MK31				⇑Pg	Pg	04 54 17.5	-4.4
	comp=E,2.5nm,0.5s,baz=157,slow=16,SNR=33						
MK31				⇑Lg		04 55 00.2	
	comp=E,8.3nm,0.3s,baz=157,slow=27,SNR=9.8						

*IDC **25** 04:59:28.9±1.1, 17.34S×174.03W, mb3.9/5, mb1 4.2/6, mb1mx4.0/17, mbtmp3.9/6, Error ellipse: s-maj=47.2km s-min=21.9km az=119.0*
*NEIC **25** 04:59:31.5±0.8, 17.28S×174.17W, h20km, Error ellipse: s-maj=33.5km s-min=13.8km az=127.0*
ISC 25 04:59:31.5±0.7, 17.3S±0.1×174.1W±0.2, h33km, n11, σ1°13/12, mb4.1/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.01**	**34**	Pn	**Pn**	**05 00 32.2**	**0.0**
	10nm,0.3s,baz=95,slow=0.2,SNR=15						
AFI				Sn	**Sn**	**05 01 15.0**	**-3.7**
	56nm,0.3s,baz=240,slow=23,SNR=8.5						
AFI	**Afiamalu**	**4.01**	**34**	*e*P	**P**	**05 00 31.8**	**-0.3**
URZ	**Urewera**	**22.29**	**199**	P	**P**	**05 04 27.3**	**-0.1**
	6.1nm,0.5s,mb4.3,baz=334,slow=3.7,SNR=9.4						
STKA	**Stephens Creek**	**42.56**	**242**	*e*P	**P**	**05 07 23.1**	**-3.0**
WRAB	**Tennant Creek**	**48.81**	**258**	P	**P**	**05 08 15.5**	**-0.3**
	10nm,1.2s,mb4.7						
WRA	**Warramunga Arr**	**48.81**	**258**	P	**P**	**05 08 16.4**	**+0.6**
	1.4nm,0.5s,mb4.2,baz=96,slow=6.9,SNR=11						
VNDA	**Vanda**	**61.46**	**186**	P	**P**	**05 09 46.2**	**-0.5**
	0.9nm,0.7s,mb4.0,baz=2.8,slow=6.5,SNR=6.7						
VNDA	**Vanda**	**61.46**	**186**	P	**P**	**05 09 46.2**	**-0.5**
NVAR	**Mina Array Bea**	**76.14**	**42**	P	**P**	**05 11 19.6**	**+1.5**
	0.7nm,0.9s,mb3.6,baz=229,slow=8.3,SNR=2.1						
NVAR	**Mina Array Bea**	**76.14**	**42**	P	**P**	**05 11 19.6**	**+1.5**
ILAR	**Eielson Array**	**84.40**	**11**	P	**P**	**05 12 02.7**	**+1.3**
	0.3nm,0.7s,mb3.5,baz=226,slow=6.2,SNR=4.1						

*IDC **25** 05:00:47.7±1.7, 9.29N×91.18E, mb3.7/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, MS3.9/1, Ms1 3.9/1, ms1mx3.4/19, Error ellipse: s-maj=61.9km s-min=27.2km az=55.0*
ISC 25 05:00:51.1±1.6, 9.2N±0.3×91.3E±0.3, h33km, n12, σ0°87/11, mb3.6/5, MS3.9/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIRN	**Jiri**	**19.02**	**346**	*e*P	**P**	**05 05 19.4**	**+6.4**
PKI	**Pulchoki**	**19.14**	**344**	*e*P	**P**	**05 05 20.2**	**+5.9**
	22nm,0.6s						
DMN	**Daman**	**19.26**	**343**	*e*P	**P**	**05 05 20.8**	**+5.2**
	19nm,0.5s						
KKN	**Kakani**	**19.38**	**344**	*e*P	**P**	**05 05 22.3**	**+5.3**
	7.1nm,0.5s						
GKN	**Gorkha**	**19.77**	**342**	*e*P	**P**	**05 05 21.9**	**+0.7**
	26nm,0.4s						
KOLN	**Koldanda**	**19.88**	**340**	*e*P	**P**	**05 05 23.5**	**+1.0**
	22nm,0.6s						
MKAR	**Makanchi Array**	**38.28**	**350**	P	**P**	**05 08 06.6**	**-3.5**
	0.3nm,0.5s,mb3.3,baz=173,slow=9.0,SNR=3.6						
SONM	**Songino Array**	**40.62**	**16**	P	**P**	**05 08 29.0**	**-0.5**
	1.7nm,0.7s,mb3.8,baz=194,slow=7.4,SNR=7.2						
FITZ	**Fitzroy Crossi**	**43.42**	**129**	LR	LR	05 28 14.7	
	comp=Z,131nm,18.5s,MS3.9,baz=278,slow=38						
BVAR	**Borovoye Array**	**46.90**	**343**	P	**P**	**05 09 19.2**	**-0.9**
	0.2nm,0.4s,mb3.4,baz=143,slow=7.2,SNR=2.8						
WRA	**Warramunga Arr**	**51.32**	**125**	P	**P**	**05 09 55.1**	**+0.5**
	1.2nm,0.5s,mb4.1,baz=302,slow=8.7,SNR=4.3						
GERES	**GERESS Array B**	**74.98**	**318**	P	**P**	**05 12 30.4**	**-0.4**
	0.2nm,0.3s,mb3.6,baz=117,slow=6.6,SNR=2.7						

*IDC **25** 05:09:57.2±1.3, 8.01N×91.82E, mb4.1/8, mb1 4.2/8, mb1mx3.9/20, mbtmp4.1/8, Error ellipse: s-maj=42.2km s-min=25.1km az=44.0*
*NEIC **25** 05:10:02.0±0.7, 7.98N×91.86E, h30km, mb4.5/3, Error ellipse: s-maj=17.1km s-min=13.4km az=193.0*
*BJI **25** 05:10:07.1, 8.61N×92.44E, h30km, mb4.3*
ISC 25 05:09:59.6±0.7, 7.94N±0.09×91.81E±0.07, h30km, n29, σ0°98/32, mb4.3/15, 2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.03**	**267**	*e*P	**P**	**05 12 39.0**	**+0.3**
PALK				S	**S**	**05 14 37.2**	**-4.9**
BWNR	**Bhubaneshwar**	**13.59**	**335**	*e*P	**P**	**05 13 14.2**	**+1.2**
BWNR				*e*		05 15 35.1	
BWNR				AML	AML	05 15 38.7	
	comp=N,47nm,0.3s						
BWNR				AML	AML	05 15 40.5	
	comp=E,86nm,0.5s						
TRD	**Trivandrum**	**14.71**	**273**	*e*P	**P**	**05 13 26.4**	**-1.3**
HYB	**Hyderabad**	**15.99**	**307**	*e*P	**P**	**05 13 49.0**	**+4.7**
HYB				*e*S	**S**	**05 16 43.0**	**+2.5**
HYB	**Hyderabad**	**15.99**	**307**	*i* P	**P**	**05 13 49.0**	**+4.7**
HYB				*e*S	**S**	**05 16 43.0**	**+2.5**
BOK	**Bokaro**	**16.76**	**341**	*e*P	**P**	**05 13 51.5**	**-2.5**
BOK				*e*		05 16 37.7	
PKI	**Pulchoki**	**20.45**	**344**	*e*P	**P**	**05 14 37.8**	**+0.3**
	comp=E,29nm,0.5s						
DMN	**Daman**	**20.57**	**343**	*e*P	**P**	**05 14 38.5**	**-0.2**
	comp=E,72nm,0.8s						
GUN	**Gumba**	**20.64**	**345**	*e*P	**P**	**05 14 39.2**	**-0.3**
	comp=E,31nm,0.6s						
QIZ	**Qiongzhong**	**20.69**	**56**	⇓P	**P**	**05 14 39.1**	**-0.9**
QIZ	**Qiongzhong**	**20.69**	**56**	*e*P	**P**	**05 14 39.4**	**-0.6**
KKN	**Kakani**	**20.69**	**343**	*e*P	**P**	**05 14 39.3**	**-0.7**
	comp=E,22nm,0.5s						
GKN	**Gorkha**	**21.08**	**342**	*e*P	**P**	**05 14 43.6**	**-0.4**
	comp=E,57nm,0.6s,mb5.0						
KOLN	**Koldanda**	**21.20**	**340**	*e*P	**P**	**05 14 44.7**	**-0.5**
	comp=E,29nm,0.6s,mb4.8						
LSA	**Lhasa**	**21.66**	**358**	P	**P**	**05 14 52.4**	**+2.6**
LSA	**Lhasa**	**21.66**	**358**	*e*P	**P**	**05 14 52.8**	**+3.0**
	comp=E,22nm,0.9s,mb4.6						
GYA	**Guiyang**	**23.20**	**36**	⇓*i*P	**P**	**05 15 06.3**	**+1.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
CD2	**Chengdu**	**25.44**	**24**	P	**P**	**05 15 26.4**	**-0.2**
GTA	**Gaotai**	**32.15**	**12**	*e*P	**P**	**05 16 27.1**	**+0.2**
GTA				AP	pP	05 16 35.4	-0.3
GTA				XP	sP	05 16 39.1	-0.5
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
MKAR	**Makanchi Array**	**39.57**	**350**	P	**P**	**05 17 30.0**	**+0.1**
	comp=Z,1.1nm,0.5s,mb3.9,baz=171,slow=8.6,SNR=17						
SONM	**Songino Array**	**41.65**	**15**	P	**P**	**05 17 46.7**	**-0.2**
	comp=Z,2.9nm,0.7s,mb4.0,baz=199,slow=8.3,SNR=14						
BVAR	**Borovoye Array**	**48.21**	**343**	P	**P**	**05 18 39.0**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.9,baz=135,slow=8.4,SNR=6.0						
ZRNK	**Zerenda**	**48.57**	**342**	*e*P	**P**	**05 18 40.7**	**-1.5**
	comp=Z,2.3nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**50.19**	**124**	P	**P**	**05 18 55.5**	**+0.4**
	comp=Z,1.9nm,0.7s,mb4.2,baz=306,slow=8.6,SNR=9.7						
WRAB	**Tennant Creek**	**50.20**	**124**	*e*P	**P**	**05 18 55.8**	**+0.7**
	comp=Z,4.1nm,0.7s,mb4.6						
BRTR	**Keskin Array B**	**60.65**

comp=Z,42nm,18.4s,baz=90,slow=33
PLCA Paso Flores 71.08 200 P P 06 18 40.5 -1.6
1.2nm,0.9s,baz=5.7,slow=10,SNR=2.8
ILAR Eielson Array 71.31 334 P P 06 18 41.1 -2.1
0.7nm,0.8s,baz=86,slow=5.7,SNR=9.0

IDC ***25*** *06:17:06.9±1.5,7.69N×92.05E,mb4.0/6,mb1 4.1/6, mb1mx3.9/19,mbtmp4.0/6, Error ellipse: s-maj=50.6km s-min=26.4km az=50.0*
BJI ***25*** *06:17:11.2,7.70N×92.20E,h30km,mB4.4,mb4.1,Ms4.1, Msz3.8*
NEIC ***25*** *06:17:12.3±0.9,7.66N×92.17E,h30km,mb4.2/2, Error ellipse: s-maj=18.1km s-min=15.1km az=185.0*
ISC 25 06:17:09.8±0.8,7.7N±0.1×92.14E±0.09,h30km,n16, σ1s09/16,mb4.1/8,MS3.9/1,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.35**	**269**	*eP*	**P**	**06 19 54.1**	**+0.9**
KMI	**Kunming**	**20.08**	**29**	P	**P**	**06 21 45.6**	**+1.7**
KMI				AP		06 21 52.1	
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s						
KMI	**Kunming**	**20.08**	**29**	P	**P**	**06 21 45.6**	**+1.7**
	comp=Z,7.0nm,0.9s						
KMI				pP		06 21 52.1	
QIZ	**Qiongzhong**	**20.56**	**55**	*eP*	**P**	**06 21 49.1**	**+0.2**
LSA	**Lhasa**	**21.92**	**358**	P	**P**	**06 22 05.0**	**+2.4**
LSA	**Lhasa**	**21.92**	**358**	*eP*	**P**	**06 22 05.4**	**+2.8**
	comp=Z,19nm,1.1s,mb4.4						
CD2	**Chengdu**	**25.53**	**24**	*eP*	**P**	**06 22 36.4**	**-1.3**
GTA	**Gaotai**	**32.33**	**11**	*eP*	**P**	**06 23 38.6**	**-0.1**
GTA				AP	pP	06 23 47.8	+0.3
GTA				XP	sP	06 23 51.9	+0.5
GTA				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.3						
GTA				AMB	AMB		
	comp=Z,35nm,5.3s						
GTA				LR	LR		
	comp=N,125nm,14.1s,MS4.0						
GTA				LR	LR		
	comp=E,186nm,13.3s,MS4.0						
GTA				LR	LR		
	comp=Z,117nm,11.0s,MS3.8						
MKAR	**Makanchi Array**	**39.87**	**349**	P	**P**	**06 24 42.1**	**-0.4**
	comp=Z,2.8nm,0.6s,mb4.2,baz=166,slow=8.9,SNR=32						
SONM	**Songino Array**	**41.81**	**14**	P	**P**	**06 24 58.2**	**-0.3**
	comp=Z,1.9nm,0.8s,mb3.8,baz=196,slow=9.0,SNR=9.2						
BVAR	**Borovoye Array**	**48.55**	**343**	P	**P**	**06 25 51.7**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=143,slow=7.4,SNR=9.6						
ZRNK	**Zerenda**	**48.91**	**342**	*eP*	**P**	**06 25 51.6**	**-3.4**
WRA	**Warramunga Arr**	**49.78**	**124**	P	**P**	**06 26 02.2**	**0.0**
	comp=Z,1.6nm,0.8s,mb4.1,baz=302,slow=8.7,SNR=7.5						
WRAB	**Tennant Creek**	**49.79**	**124**	P	**P**	**06 26 02.2**	**0.0**
BRTR	**Keskin Array B**	**61.05**	**311**	P	**P**	**06 27 21.8**	**-1.6**
	comp=Z,0.5nm,0.6s,mb3.9,baz=101,slow=7.3,SNR=2.6						
GERES	**GERESS Array B**	**76.64**	**318**	P	**P**	**06 29 00.1**	**+0.5**
	comp=Z,0.3nm,0.2s,mb3.8,baz=68,slow=7.2,SNR=4.5						

NEIC ***25*** *06:22:40.1±0.9,23.68S×179.96W,h517km±11km, mb4.6/14, Error ellipse: s-maj=9.4km s-min=7.9km az=166.0*
IDC ***25*** *06:22:40.5±1.4,23.60S×179.97W,h517km±14km, mb3.8/13,mb1 4.1/14,mb1mx4.0/17,mbtmp4.7/14, Error ellipse: s-maj=14.9km s-min=13.3km az=39.0*
ISC 25 06:22:38.8±1.1,23.62S±0.06×179.99E±0.08, h512km±13km,n62,σ0s86/59,mb4.3/23,4C-4D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.91**	**162**	P	**P**	**06 24 17.3**	**+1.7**
	124nm,0.3s,baz=310,slow=23,SNR=7.9						
RAO	**Raoul Island**	**5.91**	**162**	*eP*	**P**	**06 24 16.2**	**+0.6**
AFI	**Afiamalu**	**12.41**	**40**	*eP*	**P**	**06 25 20.3**	**-2.1**
	50nm,1.0s						
DZM	**Mont Dzumac**	**12.58**	**274**	P	**P**	**06 25 30.1**	**+5.9**
	0.6nm,0.3s,baz=91,slow=16,SNR=6.3						
PUZ	**Puketiti**	**14.48**	**185**	SN	**S**	**06 28 14.0**	**+1.3**
URZ	**Urewera**	**14.80**	**189**	P	**P**	**06 25 44.8**	**-1.9**
	11nm,0.3s,baz=348,slow=0.7,SNR=62						
URZ				S	**S**	**06 28 18.5**	**-0.1**
	2.1nm,0.3s,baz=212,slow=23,SNR=17						
CAW	**Cannon Point**	**17.92**	**192**	*ePN*	**P**	**06 26 17.2**	**-0.3**
QRZ	**Quartz Range**	**18.26**	**198**	PN	**P**	**06 26 21.7**	**+0.8**
NNZ	**Nelson**	**18.40**	**196**	*ePN*	**P**	**06 26 21.8**	**-0.4**
THZ	**Tophouse**	**19.03**	**196**	*ePN*	**P**	**06 26 27.7**	**-0.5**
RPZ	**Rata Peaks**	**21.35**	**198**	P	**P**	**06 26 49.9**	**0.0**
	7.0nm,0.6s,mb4.5,baz=35,slow=10,SNR=5.1						
CTA	**Charters Tower**	**31.46**	**270**	*i*P	**P**	**06 28 20.2**	**+0.8**
	41nm,0.6s,mb5.1						
CTA	**Charters Tower**	**31.46**	**270**	P	**P**	**06 28 20.3**	**+0.9**
	43nm,0.6s,mb5.2,baz=96,slow=11,SNR=42						
CTAO	**Charters Tower**	**31.46**	**270**	*eP*	**P**	**06 28 20.0**	**+0.6**
	35nm,0.6s,mb5.1						
PMG	**Port Moresby**	**34.39**	**289**	P	**P**	**06 28 45.0**	**+0.9**
	61nm,0.8s,mb5.2,baz=111,slow=3.9,SNR=11						
STKA	**Stephens Creek**	**34.81**	**248**	P	**P**	**06 28 48.1**	**+0.6**
	4.9nm,0.8s,mb4.1,baz=108,slow=12,SNR=4.7						
WB2	**Warramunga Arr**	**42.40**	**266**	*i*P	**P**	**06 29 48.7**	**-0.6**
WB2				*e*SCP		06 34 33.9	
WB2				*e*S	**S**	**06 35 29.4**	**-4.7**
WRAB	**Tennant Creek**	**42.41**	**266**	*eP*	**P**	**06 29 48.9**	**-0.4**
	60nm,1.1s,mb5.0						
WRA	**Warramunga Arr**	**42.41**	**266**	P	**P**	**06 29 49.0**	**-0.4**
	19nm,0.9s,mb4.6,baz=90,slow=5.9,SNR=130						
WRA				ScP		06 34 34.2	
	4.7nm,0.9s,baz=99,slow=4.3,SNR=12						
WRA				S	**S**	**06 35 29.8**	**-4.5**
	1.8nm,0.7s,baz=98,slow=14,SNR=7.0						
KAKA	**Kakadu**	**46.27**	**275**	*eP*	**P**	**06 30 21.0**	**+1.5**
	14nm,0.6s,mb4.7						
POHA	**Pohakuloa**	**49.28**	**31**	*eP*	**P**	**06 30 48.3**	**+6.1**
FITZ	**Fitzroy Crossi**	**50.84**	**265**	*i*P	**P**	**06 30 53.2**	**-0.5**
	22nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**50.84**	**265**	P	**P**	**06 30 53.6**	**-0.2**
	22nm,0.6s,mb4.7,baz=127,slow=4.0,SNR=31						
SBA	**Scott Base**	**54.65**	**183**	*eP*	**P**	**06 31 21.1**	**+0.8**
	13nm,0.9s,mb4.2						
VNDA	**Vanda**	**54.65**	**185**	P	**P**	**06 31 20.2**	**-0.1**
	1.8nm,0.7s,mb3.4,baz=358,slow=7.6,SNR=15						
VNDA				ScP		06 35 22.1	
	0.9nm,0.7s,baz=336,slow=4.6,SNR=5.8						
VNDA	**Vanda**	**54.65**	**185**	*eP*	**P**	**06 31 20.2**	**-0.2**
	2.2nm,0.8s,mb3.4						
CASY	**Casey**	**60.35**	**206**	*eP*	**P**	**06 31 57.1**	**-2.0**
	3.6nm,0.6s,mb3.9						
QSPA	**South Pole Qui**	**66.46**	**180**	*eP*	**P**	**06 32 38.2**	**+0.3**
	25nm,0.8s,mb4.8						
MJAR	**Matsushiro Arr**	**71.66**	**326**	P	**P**	**06 33 09.2**	**-0.6**
	5.2nm,0.8s,mb4.0,baz=167,slow=6.6,SNR=11						
MAW	**Mawson**	**78.00**	**200**	P	**P**	**06 33 44.9**	**+0.4**
	4.7nm,0.7s,mb3.9,baz=127,slow=9.8,SNR=15						
CMB	**Columbia Colle**	**83.01**	**43**	*eP*	**P**	**06 34 11.2**	**+0.3**
	12nm,1.4s,mb4.2						
SYO	**Syowa Base**	**83.28**	**193**	*i*P	**P**	**06 34 09.5**	**-2.1**
MTUM	**Tungsten Hills**	**83.77**	**45**	*eP*	**P**	**06 34 13.9**	**-0.8**
NVAR	**Mina Array Bea**	**84.56**	**44**	P	**P**	**06 34 18.9**	**+0.3**
	1.6nm,0.7s,mb3.6,baz=208,slow=6.0,SNR=12						
LDFC	**Landfair**	**84.77**	**48**	*eP*	**P**	**06 34 20.4**	**+0.8**
SNAA	**Sanae**	**84.94**	**179**	*e*	**P**	**06 34 23.5**	**+3.8**
SNAA	**Sanae**	**84.94**	**179**	*i*P	**P**	**06 34 18.5**	**-1.2**
SNAA				*e*		06 34 23.5	
SNAA				*e*	pP	06 36 15.9	+3.0
VNA3	**Neumayer Olymp**	**85.15**	**177**	*e*	**P**	**06 34 26.0**	**+5.3**
VNA3	**Neumayer Olymp**	**85.15**	**177**	*i*P	**P**	**06 34 19.8**	**-0.9**
VNA3				*e*		06 34 26.0	
VNA3				*e*		06 36 19.0	
NEN	**Nelson**	**85.27**	**48**	*eP*	**P**	**06 34 22.1**	**+0.1**
VNA2	**Neumayer--Watz**	**85.57**	**178**	*e*	**P**	**06 34 28.1**	**+5.4**
VNA2	**Neumayer--Watz**	**85.57**	**178**	*i*P	**P**	**06 34 21.9**	**-0.8**
VNA2				*e*		06 34 28.1	
VNA2				*e*		06 36 22.2	
VNA1	**Neumayer--Stat**	**85.81**	**177**	*e*	**P**	**06 34 29.3**	**+5.5**
VNA1	**Neumayer--Stat**	**85.81**	**177**	*i*P	**P**	**06 34 23.9**	**+0.1**
VNA1				*e*		06 34 29.3	
VNA1				*e*		06 36 24.0	
TUC	**Tucson**	**86.36**	**52**	*eP*	**P**	**06 34 27.3**	**-0.1**
	9.4nm,1.1s,mb4.3						
PLCA	**Paso Flores**	**88.47**	**134**	P	**P**	**06 34 37.6**	**+0.6**
	0.8nm,0.6s,mb3.7,baz=236,slow=5.4,SNR=3.5						
MSU	**Marysvale**	**88.60**	**47**	*eP*	**P**	**06 34 38.7**	**+0.9**
TMUT	**Trail Mountain**	**89.66**	**46**	*eP*	**P**	**06 34 43.8**	**+1.1**
SRU	**San Rafael**	**90.02**	**47**	*eP*	**P**	**06 34 44.3**	**0.0**
MNTX	**Cornudas Mount**	**90.06**	**55**	*eP*	**P**	**06 34 44.7**	**0.0**
	13nm,1.5s,mb4.5						
TXAR	**Lajitas Array**	**90.30**	**58**	P	**P**	**06 34 46.4**	**+0.6**
	2.8nm,0.8s,mb4.2,baz=213,slow=6.3,SNR=34						
ANMO	**Albuquerque**	**90.80**	**52**	*eP*	**P**	**06 34 47.5**	**-0.5**
	4.7nm,1.2s,mb4.3						
GDL2	**Guadalupe Moun**	**91.06**	**55**	*eP*	**P**	**06 34 50.2**	**+0.9**
SMCO	**Snowmass**	**92.45**	**48**	*eP*	**P**	**06 34 55.5**	**0.0**
BW06	**Boulder Array**	**92.50**	**44**	*eP*	**P**	**06 34 55.0**	**-0.6**
	1.3nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**92.50**	**44**	P	**P**	**06 34 55.7**	**+0.1**
	1.1nm,0.8s,mb3.9,baz=207,slow=3.3,SNR=9.4						
ARCES	**ARCESS Array B**	**131.62**	**348**	PKP	PKPdf	06 40 52.7	+0.4
	2.5nm,1.0s,baz=56,slow=4.4,SNR=3.7						
ARCES	**ARCESS Array B**	**131.62**	**348**	PKP	PKPdf	06 40 52.7	+0.4
FINES	**FINESS Array B**	**138.18**	**342**	SKPbc		06 43 49.5	
	3.1nm,0.8s,baz=124,slow=6.9,SNR=7.6						
AKASG	**Malin Array Be**	**144.73**	**327**	PKP	PKPdf	06 41 16.6	+0.3
	2.3nm,0.5s,baz=42,slow=4.3,SNR=17						
AKASG				SKPbc		06 44 07.7	
	3.7nm,0.8s,baz=42,slow=2.4,SNR=13						
BRTR	**Keskin Array B**	**147.40**	**308**	PKPbc	PKPdf	06 41 26.6	+5.5
	2.1nm,0.7s,baz=104,slow=5.9,SNR=6.1						
BRTR				PKPab	PKPab	06 41 30.1	-0.4
	2.2nm,0.7s,baz=104,slow=5.1,SNR=7.4						
GERES	**GERESS Array B**	**152.59**	**340**	PKPab	PKPab	06 41 51.1	-0.5
	0.6nm,0.7s,slow=2.7,SNR=4.3						

NEIC ***25*** *06:51:15.3±1.1,12.22S×77.04W,h85km±8km,mb4.3/2, Error ellipse: s-maj=19.8km s-min=15.8km az=48.0*
NEIC Felt [III] at Callao and Lima.
IDC ***25*** *06:51:28.9±5.7,11.59S×76.78W,h185km±64km,mb3.4/5, mb1 3.6/8,mb1mx3.4/22,mbtmp3.8/8,MS2.9/6,Ms1 2.9/6, ms1mx2.8/13, Error ellipse: s-maj=53.8km s-min=32.1km az=75.0*
ISC 25 06:51:14.8±1.8,11.9S±0.3×77.3W±0.2,h74km±11km,n22, σ0s77/18,mb4.2/7,1D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**0.49**	**97**	*i*P	**P**	**06 51 28.5**	**+0.6**
NNA				*i* S	**S**	**06 51 37.4**	**-0.4**
LPAZ	**La Paz**	**9.93**	**117**	P	**P**	**06 53 43.8**	**+6.9**
	0.1nm,0.3s,baz=312,slow=12,SNR=5.7						
LPAZ				LR	LR	06 57 58.6	
	comp=Z,52nm,18.6s,baz=43,slow=41						
LVC	**Limon Verde**	**13.32**	**144**	P	**P**	**06 54 31.8**	**+10**
	0.5nm,0.3s,baz=332,slow=11,SNR=6.0						
LVC	**Limon Verde**	**13.32**	**144**	*eP*	**P**	**06 54 32.6**	**+10**
SAML	**Samuel**	**14.24**	**79**	*eP*	**P**	**06 54 29.7**	**-4.5**
SIV	**San Ignacio**	**16.30**	**106**	P	**P**	**06 55 00.4**	**-0.1**
	0.1nm,0.3s,baz=280,slow=12,SNR=6.8						
ROSC	**El Rosal**	**16.94**	**10**	LR	LR	07 01 45.8	
	comp=Z,30nm,18.1s,baz=208,slow=37						
SDV	**Santo Domingo**	**21.73**	**18**	P	**P**	**06 56 01.5**	**-0.1**
	2.2nm,0.5s,mb3.7,baz=241,slow=7.8,SNR=4.3						
SDV				LR	LR	07 04 48.6	
	comp=Z,33nm,19.9s,baz=216,slow=38						
SDV	**Santo Domingo**	**21.73**	**18**	*eP*	**P**	**06 56 02.0**	**+0.4**
	3.8nm,0.8s,mb3.8						
JTS	**JuntasAbangare**	**23.33**	**341**	LR	LR	07 03 34.7	
	comp=Z,28nm,21.6s,baz=268,slow=31						
CPUP	**Villa Florida**	**23.67**	**130**	LR	LR	07 05 49.9	
	comp=Z,53nm,21.1s,baz=300,slow=37						
BDFB	**Brasilia**	**28.71**	**101**	LR	LR	07 10 14.9	
	comp=Z,34nm,18.6s,baz=121,slow=40						
TXAR	**Lajitas Array**	**48.25**	**329**	P	**P**	**06 59 51.0**	**+0.6**
	0.7nm,0.8s,mb3.6,baz=150,slow=9.4,SNR=7.4						
PMSA	**Palmer Station**	**53.58**	**173**	*eP*	**P**	**07 00 24.7**	**-5.6**
	45nm,0.6s,mb5.7						
PV01	**Paradox Valley**	**57.75**	**331**	*eP*	**P**	**07 01 00.7**	**+0.1**
PDAR	**Pinedale Array**	**61.91**	**334**	P	**P**	**07 01 27.2**	**-1.8**
	0.7nm,0.9s,mb3.7,baz=143,slow=7.4,SNR=5.4						
NVAR	**Mina Array Bea**	**63.04**	**325**	P	**P**	**07 01 37.5**	**+0.8**
	1.2nm,0.7s,mb3.9,baz=130,slow=7.0						
EDM	**Edmonton**	**71.82**	**338**	*eP*	**P**	**07 02 30.8**	**-0.5**
YKA	**Yellowknife Ar**	**79.64**	**343**	P	**P**	**07 03 14.9**	**-0.6**
	1.6nm,0.7s,mb4.0,baz=139,slow=6.2,SNR=8.9						
YKA	**Yellowknife Ar**	**79.64**	**343**	P	**P**	**07 03 14.9**	**-0.6**
SUMG	**Summit**	**88.07**	**11**	*eP*	**P**	**07 03 58.8**	**+1.0**
	9.4nm,1.3s,mb4.7						
SONM	**Songino Array**	**144.07**	**356**	PKP	PKPdf	07 10 42.1	+0.2
	0.6nm,0.4s,baz=333,slow=2.8,SNR=4.3						

BJI ***25*** *07:09:46.3,0.29N×96.97E,h30km,mb4.6,Ms3.8,Msz3.9*
IDC ***25*** *07:09:53.6±1.6,1.39N×96.93E,mb4.0/6,mb1 4.1/6, mb1mx3.9/17,mbtmp4.0/6, Error ellipse: s-maj=64.6km s-min=28.7km az=50.0*
NEIC ***25*** *07:09:57.0±0.9,1.22N×96.64E,h30km,mb4.4/3, Error ellipse: s-maj=27.2km s-min=15.1km az=60.0*
ISC 25 07:09:57.0±1.0,1.4N±0.1×96.9E±0.2,h33km,n13, σ0s97/12,mb4.1/10,MS3.8/1,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QIZ	**Qiongzhong**	**21.70**	**35**	*eP*	**P**	**07 14 49.0**	**+1.9**
	59nm,1.6s,mb4.8						
KMI	**Kunming**	**24.31**	**13**	P	**P**	**07 15 13.3**	**+0.4**
KMI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.3						
KMI				LR	LR		
	comp=N,186nm,15.2s						
KMI				LR	LR		
	comp=Z,231nm,14.0s,MS3.8						
KMI	**Kunming**	**24.31**	**13**	P	**P**	**07 15 13.2**	**+0.3**
	comp=Z,11nm,0.9s,mb4.3						
KMI				LR	LR		
	comp=Z,230nm,14.0s,MS3.8						
GYA	**Guiyang**	**26.69**	**20**	*i*P	**P**	**07 15 33.5**	**-1.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**42.41**	**122**	P	**P**	**07 17 50.3**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.6,baz=302,slow=9.1,SNR=4.9						
WRAB	**Tennant Creek**	**42.41**	**122**	*eP*	**P**	**07 17 50.6**	**+0.1**
	comp=Z,2.7nm,0.6s,mb4.0						
MKAR	**Makanchi Array**	**47.02**	**346**	P	**P**	**07 18 27.0**	**0.0**
	comp=Z,2.7nm,0.7s,mb4.3,baz=162,slow=8.8,SNR=18						
SONM	**Songino Array**	**47.04**	**9**	P	**P**	**07 18 26.4**	**-0.8**
	comp=Z,2.6nm,0.4s,mb4.5,baz=187,slow=9.7,SNR=19						
AKASG	**Malin Array Be**	**74.93**	**322**	P	**P**	**07 21 37.9**	**+1.4**
	comp=Z,0.2nm,0.2s,mb3.6,baz=86,slow=4.4,SNR=4.4						
ARCES	**ARCESS Array B**	**82.28**	**340**	P	**P**	**07 22 15.5**	**-0.7**
	comp=Z,1.5nm,0.6s,mb4.1,baz=90,slow=4.9,SNR=11						
ARCES	**ARCESS Array B**	**82.28**	**340**	P	**P**	**07 22 15.5**	**-0.7**
GERES	**GERESS Array B**	**84.48**	**319**	P	**P**	**07 22 27.8**	**-0.1**
	comp=Z,0.2nm,0.2s,mb3.8,baz=45,slow=3.8,SNR=3.4						
TXAR	**Lajitas Array**	**143.72**	**31**	PKP	PKPdf	07 29 29.4	0.0
	comp=Z,0.1nm,0.5s,baz=230,slow=1.4,SNR=4.2						

IDC ***25*** *07:17:20.1±0.8,55.49S×27.02W,mb3.9/6,mb1 4.0/7, mb1mx3.8/16,mbtmp3.8/7,ML3.4/1,MS4.0/9,Ms1 3.9/9, ms1mx3.8/16, Error ellipse: s-maj=29.3km s-min=19.5km az=39.0*
NEIC ***25*** *07:17:25.6±0.6,55.36S×26.92W,h35km,mb4.6/2, Error ellipse: s-maj=20.4km s-min=11.4km az=58.0*
ISC 25 07:17:20.5±0.7,55.4S±0.1×26.9W±0.2,h10km,n25, σ1s33/17,mb4.1/7,MS4.0/8,3D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.37**	**159**	*i*P	**P**	**07 21 27.4**	**+3.2**
VNA1				*e*		07 21 43.2	
VNA1				*e*		07 21 54.5	
VNA3	**Neumayer Olymp**	**17.58**	**162**	P	**P**	**07 21 27.6**	**+0.8**
VNA3				*e*		07 21 44.1	
VNA3				*e*		07 21 55.5	
VNA2	**Neumayer--Watz**	**17.77**	**159**	*i*P	**P**	**07 21 30.2**	**+1.1**
VNA2				*e*		07 21 47.2	
SNAA	**Sanae**	**19.30**	**157**	*i*	**P**	**07 21 47.1**	**-0.8**
SNAA	**Sanae**	**19.30**	**157**	*e*	**P**	**07 22 04.6**	**+17**
SNAA	**Sanae**	**19.30**	**157**	P	**P**	**07 21 45.4**	**-2.5**
	0.1nm,0.3s,baz=307,slow=9.4,SNR=20						
SNAA				LR	LR	07 27 47.9	
	comp=Z,104nm,21.0s,slow=33						
SNAA	**Sanae**	**19.30**	**157**	*eP*	**P**	**07 21 44.8**	**-3.0**
SNAA				*e*		07 22 04.6	
SNAA				*e*		07 22 15.6	
USHA	**Ushuaia**	**23.54**	**254**	LR	LR	07 29 33.7	
	comp=Z,406nm,21.4s,MS3.9,baz=209,slow=31						
PLCA	**Paso Flores**	**32.06**	**279**	LR	LR	07 35 47.6	
	comp=Z,118nm,20.3s,MS3.6,baz=134,slow=35						
QSPA	**South Pole Qui**	**34.89**	**180**	*eP*	**P**	**07 24 13.3**	**-0.2**
	11nm,1.2s,mb4.7						
CFAA	**Coronel Fontan**	**37.46**	**292**	P	**P**	**07 24 34.2**	**-1.4**
	0.5nm,0.7s,mb3.5,baz=147,slow=8.0,SNR=8.6						
MAW	**Mawson**	**40.60**	**144**	P	**P**	**07 25 00.1**	**-1.3**
	2.8nm,1.0s,mb3.8,baz=241,slow=4.6,SNR=4.2						
MAW				LR	LR	07 39 56.1	
	comp=Z,154nm,18.4s,MS3.9,baz=66,slow=33						
LVC	**Limon Verde**	**45.11**	**299**	P	**P**	**07 25 40.3**	**+1.7**
BOSA	**Boshof**	**45.63**	**76**	P	**P**	**07 25 41.6**	**-1.0**
	2.0nm,0.9s,mb4.0,baz=218,slow=5.7,SNR=3.2						
BOSA				LR	LR	07 41 38.1	
	comp=Z,281nm,18.8s,MS4.2,baz=217,slow=32						
VNDA	**Vanda**	**47.27**	**183**	P	**P**	**07 25 53.3**	**-1.7**
	1.1nm,0.6s,mb4.0,baz=191,slow=6.2,SNR=17						
LPAZ	**La Paz**	**50.13**	**304**	P	**P**	**07 26 18.2**	**+0.4**
	2.3nm,0.8s,mb4.2,baz=123,slow=9.8,SNR=8.7						
LPAZ				LR	LR	07 45 21.3	
	comp=Z,49nm,20.4s,MS3.5,baz=91,slow=34						
LPAZ	**La Paz**	**50.13**	**304**	*eP*	**P**	**07 26 18.5**	**+0.7**
	4.2nm,0.8s,mb4.5						
LPAZ				LR	LR	07 45 21.3	
MATP	**Matopo**	**53.91**	**73**	P	**P**	**07 26 47.2**	**+1.1**
	1.3nm,0.5s,mb4.1,baz=230,slow=7.9,SNR=4.4						
MATP	**Matopo**	**53.91**	**73**	P	**P**	**07 26 47.2**	**+1.0**
KMBO	**Kilima Mbogo**	**74.62**	**69**	LR	LR	07 59 39.7	
	comp=Z,102nm,19.2s,MS4.1,baz=95,slow=34						
STKA	**Stephens Creek**	**92.55**	**170**	LR	LR	08 11 05.4	
	comp=Z,245nm,20.9s,MS4.6,baz=312,slow=35						
PPT	**Papeete**	**92.75**	**233**	LR	LR	08 04 34.1	
	comp=Z,172nm,20.4s,MS4.5,baz=148,slow=31						
INK	**Inuvik**	**145.38**	**321**	PKPbc	PKPbc	07 36 57.7	+0.2
	1.7nm,0.5s,baz=63,slow=2.5,SNR=7.0						
ILAR	**Eielson Array**	**149.79**	**312**	PKPbc	PKPdf	07 37 09.5	+2.2
	1.8nm,0.9s,baz=114,slow=1.4,SNR=16						
SONM	**Songino Array**	**150.50**	**85**	PKPbc	PKPdf	07 37 12.7	+3.8
	0.7nm,0.5s,baz=244,slow=2.5,SNR=5.4						

IDC ***25*** *07:23:00.9±0.8,4.35N×93.19E,mb4.0/9,mb1 4.1/9, mb1mx3.9/20,mbtmp4.0/9, Error ellipse: s-maj=36.3km s-min=19.7km az=71.0*
NEIC ***25*** *07:23:05.2±0.5,4.35N×93.22E,h30km,mb4.6/2, Error ellipse: s-maj=25.0km s-min=12.4km az=60.0*
ISC 25 07:23:04.3±0.6,4.5N±0.1×93.3E±0.2,h33km,n19, σ0s69/14,mb4.0/10,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**21.04**	**356**	*eP*	**P**	**07 27 46.5**	**-1.3**
KMI	**Kunming**	**22.47**	**23**	P		07 28 12.6	
	11nm,1.2s						
MKAR	**Makanchi Array**	**43.25**	**349**	P	**P**	**07 31 04.8**	**+0.4**
	0.8nm,0.7s,mb3.6,baz=166,slow=8.3,SNR=6.4						
SONM	**Songino Array**	**44.66**	**13**	P	**P**	**07 31 17.2**	**+1.5**
	0.2nm,0.4s,mb3.3,baz=207,slow=6.4,SNR=2.5						
WRA	**Warramunga Arr**	**47.05**	**122**	P	**P**	**07 31 34.4**	**-0.5**
	comp=Z,1.7nm,0.8s,mb4.2,baz=300,slow=8.9,SNR=9.0						
WRAB	**Tennant Creek**	**47.05**	**122**	*eP*	**P**	**07 31 34.7**	**-0.2**
	17nm,1.3s,mb4.8						
BVAR	**Borovoye Array**	**51.97**	**343**	P	**P**	**07 32 12.0**	**-0.2**
	1.4nm,0.7s,mb4.0,baz=149,slow=8.6,SNR=9.4						
BRTR	**Keskin Array B**	**64.06**	**312**	P	**P**	**07 33 36.6**	**-0.8**
	1.2nm,0.7s,mb4.0,baz=135,slow=7.0,SNR=5.9						
MAW	**Mawson**	**75.03**	**192**	P	**P**	**07 34 44.0**	**0.0**
	1.6nm,0.8s,mb4.0,baz=8.9,slow=6.5,SNR=6.7						
BSD	**Bornholm Skovb**	**79.73**	**325**	*i*P	**P**	**07 35 10.2**	**-0.2**
BSD	**Bornholm Skovb**	**79.73**	**325**	*i*	**P**	**07 35 10.2**	**-0.2**
GERES	**GERESS Array B**	**79.82**	**319**	P	**P**	**07 35 11.5**	**+0.4**
	1.2nm,0.7s,mb4.0,baz=90,slow=4.0,SNR=8.6						

BRTR	**Keskin Array B**	**81.90**	**312**	P		**P**	**08 15 32.5**	**+1.9**
	0.3nm,0.4s,mb3.6,baz=133,slow=6.7,SNR=2.5							
SNAA	**Sanae**	**88.17**	**197**	⇑*i*		**P**	**08 16 00.8**	**-0.2**
SNAA	**Sanae**	**88.17**	**197**	*eP*		**P**	**08 16 01.5**	**+0.5**
TXAR	**Lajitas Array**	**145.01**	**49**	PKPbc	PKPbc		08 22 50.6	+3.1
	0.8nm,0.8s,baz=265,slow=1.2,SNR=9.1							

IDC 25 08:38:27.3±4.8,7.89N×91.58E,mb3.5/3,mb1 3.7/3, mb1mx3.5/18,mbtmp3.5/3,Error ellipse: s-maj=169.6km s-min=31.1km az=63.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.58**	**350**	P	P	08 46 00.1	-1.8
	0.3nm,0.4s,baz=166,slow=9.5,SNR=3.9						
SONM	**Songino Array**	**41.76**	**15**	P	P	08 46 18.3	-1.5
	0.9nm,0.8s,baz=198,slow=7.8,SNR=4.1						
WRA	**Warramunga Arr**	**50.35**	**124**	P	P	08 47 26.4	-2.0
	0.4nm,0.5s,baz=303,slow=9.1,SNR=5.8						

IDC 25 08:40:56.2±4.2,7.89N×92.03E,mb3.6/3,mb1 3.8/3, mb1mx3.6/18,mbtmp3.6/3,Error ellipse: s-maj=155.5km s-min=28.9km az=62.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.66**	**350**	P	P	08 48 29.8	-1.7
	0.2nm,0.4s,baz=170,slow=10,SNR=3.3						
SONM	**Songino Array**	**41.64**	**15**	P	P	08 48 46.1	-1.7
	0.6nm,0.5s,baz=199,slow=9.2,SNR=3.9						
WRA	**Warramunga Arr**	**49.98**	**124**	P	P	08 49 52.6	-2.0
	1.1nm,0.4s,baz=302,slow=9.0,SNR=13						

*IDC **25** 08:49:22.9±0.9,8.01N×92.07E,mb4.1/9,mb1 4.2/9, mb1mx4.0/19,mbtmp4.1/9,Error ellipse: s-maj=27.0km s-min=23.3km az=84.0*
*NEIC **25** 08:49:28.4±0.5,7.91N×91.96E,h35km,mb4.4/5,Error ellipse: s-maj=14.0km s-min=11.5km az=221.0*
*BJI **25** 08:49:37.1,8.86N×92.65E,h35km,mb4.1,Ms4.6,Msz4.2*
ISC 25 08:49:26.8±0.5,8.03N±0.06×92.07E±0.08,h33km,n31, σ1℗03/30,mb4.2/14,MS4.3/1,1C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.66**	**10**	*eS*	**S**	**08 51 04.0**	**-1.2**
PBA				*e*		08 52 27.3	
PALK	**Pallekele**	**11.29**	**267**	*eP*	**P**	**08 52 03.8**	**-5.2**
	21nm,0.9s						
HYB	**Hyderabad**	**16.14**	**307**	*eP*	**P**	**08 53 15.0**	**+2.1**
HYB	**Hyderabad**	**16.14**	**307**	*i* P	**P**	**08 53 15.0**	**+2.1**
BOK	**Bokaro**	**16.76**	**340**	*eP*	**P**	**08 53 19.9**	**-0.8**
BOK				AMb	AMB	08 53 25.5	
	comp=Z,15nm,0.7s						
SHL	**Shillong**	**17.44**	**359**	*eP*	**P**	**08 53 28.5**	**-0.7**
KAD	**Karad**	**19.72**	**300**	*eP*	**P**	**08 53 57.6**	**+1.1**
KAD				AMb	AMB	08 54 06.6	
	comp=Z,80nm,1.1s						
KMI	**Kunming**	**19.82**	**30**	P	**P**	**08 53 59.0**	**+1.5**
KMI				AP		08 54 04.0	
KMI				AMB	AMB		
	comp=Z,11nm,1.3s						
KMI	**Kunming**	**19.82**	**30**	P	**P**	**08 53 59.1**	**+1.6**
	comp=Z,11nm,1.3s						
KMI				pP		08 54 04.1	
QIZ	**Qiongzhong**	**20.42**	**56**	P	**P**	**08 54 04.5**	**+0.5**
LSA	**Lhasa**	**21.57**	**358**	P	**P**	**08 54 18.5**	**+2.9**
LSA				AP		08 54 27.5	
LSA				XP		08 54 30.5	
LSA				LR	LR		
	comp=N,340nm,15.2s,MS4.4						
LSA				LR	LR		
	comp=E,990nm,14.8s,MS4.4						
LSA				LR	LR		
	comp=Z,730nm,14.4s,MS4.2						
LSA	**Lhasa**	**21.57**	**358**	*eP*	**P**	**08 54 17.4**	**+1.8**
	comp=Z,16nm,0.8s,mb4.5						
GYA	**Guiyang**	**22.98**	**35**	⇑*iP*	**P**	**08 54 30.5**	**+0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**37.78**	**339**	*eP*	**P**	**08 56 42.3**	**+0.6**
MKAR	**Makanchi Array**	**39.52**	**349**	P	**P**	**08 56 55.8**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.7,baz=162,slow=8.4,SNR=8.0						
MBWA	**Marble Bar**	**39.74**	**137**	*eP*	**P**	**08 56 59.0**	**+0.8**
	comp=Z,58nm,1.3s,mb5.2						
SONM	**Songino Array**	**41.49**	**15**	P	**P**	**08 57 12.6**	**+0.2**
	comp=Z,4.2nm,0.7s,mb4.2,baz=197,slow=8.4,SNR=26						
BVAR	**Borovoye Array**	**48.20**	**343**	P	**P**	**08 58 05.4**	**-0.7**
	comp=Z,0.5nm,0.5s,mb3.8,baz=153,slow=9.7,SNR=3.8						
ZRNK	**Zerenda**	**48.56**	**342**	*eP*	**P**	**08 58 09.6**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**50.03**	**124**	P	**P**	**08 58 19.3**	**-1.3**
	comp=Z,3.3nm,0.9s,mb4.3,baz=305,slow=8.7,SNR=11						
WRAB	**Tennant Creek**	**50.03**	**124**	P	**P**	**08 58 21.5**	**+0.9**
	comp=Z,5.0nm,0.7s,mb4.7						
KMBO	**Kilima Mbogo**	**55.41**	**263**	P	**P**	**08 59 00.4**	**-0.2**
	comp=Z,3.8nm,0.9s,mb4.4,baz=47,slow=23,SNR=7.7						
MALT	**Malatya**	**56.80**	**311**	*eP*	**P**	**08 59 09.9**	**-0.5**
YSS	**Yuzh-Sakhalins**	**57.93**	**39**	*eP*	**P**	**08 59 11.2**	**-7.1**
BRTR	**Keskin Array B**	**60.78**	**311**	P	**P**	**08 59 36.0**	**-2.0**
	comp=Z,1.7nm,0.7s,mb4.3,baz=124,slow=4.5,SNR=5.1						
BOSA	**Boshof**	**73.94**	**237**	P	**P**	**09 01 00.6**	**-0.4**
	comp=Z,2.8nm,1.1s,mb4.1,baz=63,slow=6.8,SNR=3.2						
BOSA	**Boshof**	**73.94**	**237**	P	**P**	**09 01 00.6**	**-0.4**
GERES	**GERESS Array B**	**76.34**	**318**	P	**P**	**09 01 13.7**	**-0.7**
	comp=Z,1.3nm,0.8s,mb3.9,baz=90,slow=9.3,SNR=5.7						
RAO	**Raoul Island**	**93.88**	**119**	P	**P**	**09 02 41.5**	**-1.2**
ILAR	**Eielson Array**	**95.36**	**22**	P	**P**	**09 02 47.9**	**-0.7**
	comp=Z,0.3nm,0.7s,mb3.8,baz=305,slow=4.7,SNR=5.1						
CPUP	**Villa Florida**	**145.71**	**234**	PKPbc	PKPbc	09 09 04.2	+0.7
	comp=Z,2.0nm,0.7s,baz=120,slow=6.5,SNR=5.1						

*BJI **25** 08:50:20.9,7.73N×91.87E,h47km,mB5.3,mb4.7,Ms4.5, Msz4.3*
*MOS **25** 08:50:22.8±1.0,8.09N×91.97E,h33km,mb5.0/16,Error ellipse: s-maj=13.0km s-min=7.8km az=97.0*
*IDC **25** 08:50:23.6±0.7,8.14N×91.98E,h25km±4km,mb4.1/16, mb1 4.3/16,mb1mx4.2/20,mbtmp4.3/16,MS4.0/4, Ms1 4.0/4,ms1mx3.8/17,Error ellipse: s-maj=18.9km s-min=14.3km az=54.0*
*NEIC **25** 08:50:24.4±0.3,8.11N×91.93E,h30km,mb4.7/13,Error ellipse: s-maj=9.0km s-min=7.0km az=205.0*
ISC 25 08:50:22.2±0.4,8.15N±0.06×91.99E±0.04,h29km, h29km±.8km:pP-P,n93,σ1℗09/96,mb4.5/37,MS4.2/11,2C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.56**	**12**	*eP*	**Pn**	**08 51 15.0**	**-2.0**
KULM	**Kulim**	**9.05**	**108**	*eP*	**P**	**08 52 33.5**	**-0.7**
PALK	**Pallekele**	**11.22**	**266**	*eP*	**P**	**08 53 02.6**	**-1.4**
MDRS	**Chennai**	**12.54**	**294**	*eP*	**P**	**08 53 22.6**	**+0.9**
MDRS				AMb	AMB	08 53 26.0	
	comp=Z,76nm,0.1s						
SALM	**Salem**	**14.03**	**285**	*eP*	**P**	**08 53 42.0**	**+0.5**
SALM				*e*		08 56 00.0	
HYB	**Hyderabad**	**16.01**	**306**	*eP*	**P**	**08 54 11.0**	**+3.7**
HYB	**Hyderabad**	**16.01**	**306**	*i* P	**P**	**08 54 11.0**	**+3.7**
BOK	**Bokaro**	**16.62**	**340**	*eP*	**P**	**08 54 12.8**	**-2.3**
BOK				AMb	AMB	08 54 20.2	
	comp=Z,20nm,0.5s						
AKL	**Akola**	**19.11**	**312**	*eP*	**P**	**08 54 44.4**	**-1.4**
AKL				AMb	AMB	08 55 01.8	
	comp=Z,62nm,1.6s						
KSM	**Kuching**	**19.41**	**109**	*eP*	**P**	**08 54 49.2**	**-0.1**
KMI	**Kunming**	**19.75**	**30**	P	**P**	**08 54 54.3**	**+1.3**
KMI				AP		08 55 03.8	
KMI				XP		08 55 07.8	
KMI				PP	PP	08 55 12.3	+0.8
KMI				AMB	AMB		
	comp=Z,31nm,1.4s						
KMI				AMB	AMB		
	comp=Z,182nm,4.2s						
KMI				LR	LR		
	comp=N,580nm,10.3s						
KMI				LR	LR		
	comp=E,578nm,11.5s						
KMI				LR	LR		
	comp=Z,567nm,20.6s						
KMI	**Kunming**	**19.75**	**30**	P	**P**	**08 54 54.3**	**+1.3**
KMI				S	**S**	**08 58 21.4**	**-7.0**
KMI				pmax	pmax		
	comp=Z,31nm,1.4s						
KMI	**Kunming**	**19.75**	**30**	P	**P**	**08 54 54.3**	**+1.3**
	comp=Z,31nm,1.4s						
KMI				pP		08 55 03.7	
KMI				sP		08 55 07.8	
KMI				PP	PP	08 55 12.3	+0.8
KMI				PPP	PPP	08 55 19.5	-1.0
KMI				S	**S**	**08 58 21.4**	**-7.0**
KMI				sS		08 58 36.3	
KMI				SS	SS	08 58 47.4	-8.7
QIZ	**Qiongzhong**	**20.43**	**56**	P	**P**	**08 55 01.0**	**+0.9**
QIZ				AP		08 55 11.0	
QIZ				S	**S**	**08 58 49.8**	**+7.6**
QIZ				AMB	AMB		
	comp=Z,35nm,1.4s						
QIZ				LR	LR		
	comp=N,1μm,14.2s,MS4.4						
QIZ				LR	LR		
	comp=E,439nm,14.5s,MS4.4						
QIZ				LR	LR		
	comp=Z,1μm,14.1s,MS4.3						
QIZ	**Qiongzhong**	**20.43**	**56**	*eP*	**P**	**08 55 01.3**	**+1.2**
	comp=Z,70nm,1.3s						
LSA	**Lhasa**	**21.46**	**358**	*eP*	**P**	**08 55 15.3**	**+4.8**
LSA				pmax	pmax		
	comp=Z,52nm,1.3s,mb4.7						
LSA	**Lhasa**	**21.46**	**358**	*eP*	**P**	**08 55 15.3**	**+4.7**
	comp=Z,52nm,1.3s,mb4.7						
GYA	**Guiyang**	**22.93**	**36**	⇑*iP*	**P**	**08 55 26.5**	**+1.2**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
GYA				AMB	AMB		
	comp=Z,90nm,2.8s,mb4.7						
GYA				LR	LR		
	comp=N,760nm,15.9s,MS4.4						
GYA				LR	LR		
	comp=E,630nm,15.6s,MS4.4						
GYA				LR	LR		
	comp=Z,610nm,16.2s,MS4.1						
CD2	**Chengdu**	**25.18**	**24**	P	**P**	**08 55 46.3**	**-0.6**
ENH	**Enshi**	**27.44**	**34**	*eP*	**P**	**08 56 06.4**	**-1.4**
	comp=Z,29nm,1.1s,mb4.7						
LZH	**Lanzhou**	**29.84**	**20**	*eP*	**P**	**08 56 30.0**	**+0.6**
LZH				AP	pP	08 56 38.0	+0.1
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
LZH				LR	LR		
	comp=N,840nm,15.0s						
LZH				LR	LR		
	comp=Z,940nm,15.6s,MS4.5						
LZH	**Lanzhou**	**29.84**	**20**	*eP*	**P**	**08 56 30.0**	**+0.6**
LZH				*SP	sP	08 56 41.5	-0.2
LZH				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.0						
LZH				MLR	MLR		
	comp=Z,940nm,15.6s,MS4.5						
LZH	**Lanzhou**	**29.84**	**20**	*eP*	**P**	**08 56 30.0**	**+0.6**
	comp=Z,30nm,1.0s,mb5.0						
LZH				pP	pP	08 56 38.0	+0.1
LZH				sP	sP	08 56 41.5	-0.2
LZH				LR	LR		
	comp=Z,940nm,15.6s,MS4.5						
XAN	**Xi'an**	**30.12**	**29**	P	**P**	**08 56 30.5**	**-1.4**
NJ2	**Nanjing**	**34.48**	**43**	*eP*	**P**	**08 57 09.0**	**-1.0**
NJ2				AP	pP	08 57 18.8	+0.3
NJ2				XP	sP	08 57 22.8	+0.6
NJ2				PP	PP	08 58 26.0	-0.2
NJ2				S	**S**	**09 02 37.0**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,340nm,4.9s						
NJ2				LR	LR		
	comp=N,810nm,17.6s,MS4.7						
NJ2				LR	LR		
	comp=E,950nm,16.1s,MS4.7						
NJ2				LR	LR		
	comp=Z,580nm,12.1s,MS4.5						
SSE	**Sheshan**	**35.54**	**46**	P	**P**	**08 57 16.0**	**-3.0**
SSE				PP	PP	08 58 37.8	-1.6
SSE				S	**S**	**09 02 52.0**	**0.0**
SSE				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,298nm,5.5s						
SSE				LR	LR		
	comp=N,120nm,20.0s,MS3.8						
SSE				LR	LR		
	comp=E,117nm,20.0s,MS3.8						
SSE				LR	LR		
	comp=Z,181nm,20.0s,MS3.8						
SSE	**Sheshan**	**35.54**	**46**	P	**P**	**08 57 16.1**	**-2.9**
	comp=Z,33nm,0.7s,mb5.4						
SSE				pP	pP	08 57 25.0	-2.6
SSE				sP	sP	08 57 28.8	-2.5
SSE				PP	PP	08 58 37.7	-1.7
SSE				S	**S**	**09 02 52.1**	**+0.1**
SSE				sS		09 03 07.1	
SSE				LR	LR		
	comp=Z,180nm,20.0s,MS3.8						
AAK	**Ala-Archa**	**37.65**	**339**	*i* P	**P**	**08 57 39.4**	**+2.8**
AAK				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.5						
AAK	**Ala-Archa**	**37.65**	**339**	*eP*	**P**	**08 57 36.3**	**-0.3**
MKAR	**Makanchi Array**	**39.40**	**349**	P	**P**	**08 57 51.7**	**+0.5**
	comp=Z,1.0nm,0.4s,mb3.9,baz=166,slow=8.2,SNR=8.6						
MKAR	**Makanchi Array**	**39.40**	**349**	P	**P**	**08 57 51.7**	**+0.4**
SONM	**Songino Array**	**41.40**	**15**	P	**P**	**08 58 08.4**	**+0.7**
	comp=Z,8.4nm,0.8s,mb4.4,baz=196,slow=9.0,SNR=15						
SONM				ScP		09 03 54.7	
	comp=Z,0.8nm,0.9s,baz=207,slow=2.8,SNR=4.2						
SONM				LR	LR	09 17 46.2	
	comp=Z,266nm,20.1s,MS4.1,baz=66,slow=40						
TLY	**Talaya**	**44.45**	**10**	*eP*	**P**	**08 58 34.1**	**+1.6**
TLY				*eS*	**S**	**09 05 13.4**	**+8.4**
TLY				pmax	pmax		
	comp=Z,20nm,2.1s,mb4.5						
NVS	**Novosibirsk**	**47.09**	**353**	*eP*	**P**	**08 58 50.8**	**-2.6**
NVS				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.7						
NVS				pmax	pmax		
	comp=N,13nm,1.6s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.1s						
HIA	**Hailar**	**47.13**	**25**	*eP*	**P**	**08 58 54.3**	**+0.5**
CIT	**Chita**	**47.18**	**18**	*eP*	**P**	**08 58 55.2**	**+1.0**
CIT				pmax	pmax		
	comp=Z,35nm,2.5s,mb4.8						
NWAO	**Narrogin (SRO)**	**47.39**	**151**	P	**P**	**08 58 56.6**	**+0.5**
BVAR	**Borovoye Array**	**48.07**	**343**	P	**P**	**08 59 01.7**	**+0.5**
	comp=Z,1.1nm,0.5s,mb4.1,baz=158,slow=8.0,SNR=6.1						
BVAR				pP	pP	08 59 09.6	-0.3
	comp=Z,1.9nm,0.8s,baz=127,slow=7.4,SNR=4.0						
BRVK	**Borovoye**	**48.13**	**343**	*eP*	**P**	**08 59 01.8**	**+0.2**
ZRNK	**Zerenda**	**48.43**	**342**	*eP*	**P**	**08 59 04.8**	**+0.9**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**48.43**	**342**	*eP*	**P**	**08 59 04.8**	**+1.0**
	comp=Z,5.1nm,0.9s,mb4.5						
ATD	**Arta Tunnel**	**48.49**	**278**	LR	LR	09 17 10.1	
	comp=Z,137nm,18.9s,MS4.0,baz=291,slow=33						
WRA	**Warramunga Arr**	**50.16**	**124**	P	**P**	**08 59 16.5**	**-1.2**
	comp=Z,11nm,0.9s,mb4.9,baz=305,slow=8.6,SNR=16						
WRA				pP	pP	08 59 25.3	-1.2
	comp=Z,4.7nm,0.8s,baz=305,slow=8.6,SNR=7.0						
WRAB	**Tennant Creek**	**50.16**	**124**	*eP*	**P**	**08 59 17.1**	**-0.6**
MJAR	**Matsushiro Arr**	**50.57**	**49**	P	**P**	**08 59 20.7**	**+0.2**
	comp=Z,1.7nm,1.0s,mb3.9,baz=217,slow=5.9,SNR=3.8						
MJAR				PcP	PcP	09 00 38.8	+0.5
	comp=Z,1.5nm,0.6s,baz=251,slow=2.8,SNR=4.4						
BOD	**Bodaibo**	**52.40**	**15**	*eP*	**P**	**08 59 33.9**	**-0.2**
BOD				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
GNI	**Garni**	**52.73**	**315**	P	**P**	**08 59 37.6**	**+0.7**
	comp=Z,4.1nm,0.3s,mb4.8,baz=185,slow=9.0,SNR=5.1						
GNI	**Garni**	**52.73**	**315**	*eP*	**P**	**08 59 37.6**	**+0.8**
ARU	**Arti**	**54.83**	**338**	⇑*iP*	**P**	**08 59 53.0**	**+1.0**
ARU				*e*		09 00 50.4	
ARU				*e*		09 01 51.0	
ARU				*eS*	**S**	**09 07 33.8**	**+4.5**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
ARU	**Arti**	**54.83**	**338**	*eP*	**P**	**08 59 52.8**	**+0.8**
CLNS	**Chul'man**	**54.94**	**21**	*eP*	**P**	**08 59 52.3**	**-0.5**
CLNS				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.0s						
KMBO	**Kilima Mbogo**	**55.34**	**263**	P	**P**	**08 59 56.8**	**+0.4**
	comp=E,9.5nm,1.0s,mb4.8,baz=50,slow=10,SNR=13						
KIV	**Kislovodsk**	**55.70**	**318**	*eP*	**P**	**08 59 58.3**	**-0.2**
KIV				*eS*	**S**	**09 07 44.2**	**+3.0**
KIV				pmax	pmax		
	comp=N,8.0nm,0.9s						
KIV				pmax	pmax		
	comp=E,11nm,0.9s						
KIV				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
KIV				MLR	MLR		
	comp=N,57nm,19.0s,MS3.8						
KIV				MLR	MLR		
	comp=E,50nm,19.0s,MS3.8						
KIV				MLR	MLR		
	comp=Z,92nm,19.0s,MS3.9						
KIV	**Kislovodsk**	**55.70**	**318**	*eP*	**P**	**08 59 58.2**	**-0.3**
ASF	**Jabal al Asfar**	**56.29**	**303**	LR	LR	09 28 16.1	
	comp=Z,139nm,18.5s,MS4.1,baz=329,slow=40						
MALT	**Malatya**	**56.67**	**311**	*eP*	**P**	**09 00 05.5**	**-0.1**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
MALT	**Malatya**	**56.67**	**311**	*eP*	**P**	**09 00 05.5**	**-0.1**
	comp=Z,2.6nm,0.9s,mb4.3						
SOC	**Sochi**	**57.53**	**317**	*eP*	**P**	**09 00 10.6**	**-0.9**
SOC				*eS*	**S**	**09 08 02.4**	**-3.0**
SOC				*e*		09 09 52.7	
SOC				*eSS*	SS	09 11 57.3	+0.5
YSS	**Yuzh-Sakhalins**	**57.89**	**39**	*eP*	**P**	**09 00 14.0**	**0.0**
YSS				*e*	pP	09 00 24.0	+1.0
YSS	**Yuzh-Sakhalins**	**57.89**	**39**	*eP*	**P**	**09 00 14.9**	**+0.9**
YAK	**Yakutsk**	**60.43**	**19**	*eP*	**P**	**09 00 31.5**	**+0.1**
BR131	**Keskin Array S**	**60.64**	**311**	*eP*	**P**	**09 00 32.1**	**-1.0**
	comp=Z,2.5nm,0.7s,mb4.5						
BRTR	**Keskin Array B**	**60.64**	**311**	P	**P**	**09 00 31.7**	**-1.5**
	comp=Z,3.3nm,0.8s,mb4.5,baz=120,slow=7.4,SNR=8.0						
BRTR				pP	pP	09 00 40.7	-1.5
	comp=Z,1.4nm,0.8s,baz=117,slow=8.3,SNR=6.2						
STKA	**Stephens Creek**	**61.84**	**133**	P	**P**	**09 00 41.9**	**+0.4**
	comp=Z,4.6nm,1.0s,mb4.6,baz=9.1,slow=6.1,SNR=3.7						
STKA	**Stephens Creek**	**61.84**	**133**	*eP*	**P**	**09 00 42.5**	**+1.0**
OBN	**Obninsk**	**64.02**	**328**	*eP*	**P**	**09 00 55.7**	**+0.2**
OBN				*e*	pP	09 01 05.2	+0.7
OBN				*e*		09 01 10.4	
OBN						09 01 38.0	
OBN				*eS*	**S**	**09 09 33.3**	**+5.1**
OBN				SS	SS	09 13 38.0	-0.6
OBN				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.3						
OBN	**Obninsk**	**64.02**	**328**	P	**P**	**09 00 53.6**	**-1.8**
TIXI	**Tiksi**	**67.39**	**12**	*i* P	**P**	**09 01 16.8**	**0.0**
TIXI				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
SEY	**Seymchan**	**69.58**	**25**	*i* P	**P**	**09 01 30.3**	**-0.2**
ZST	**Bratislava**	**73.90**	**318**	*e*	**P**	**09 02 13.6**	**+17**
BOSA	**Boshof**	**73.93**	**237**	P	**P**	**09 01 56.8**	**-0.4**
	comp=Z,4.5nm,0.9s,mb4.4,baz=57,slow=3.9,SNR=5.7						
ARCES	**ARCESS Array B**	**74.29**	**340**	P	**P**	**09 01 57.8**	**-0.6**
	comp=Z,1.9nm,0.8s,mb4.1,baz=117,slow=6.0,SNR=2.9						
ARCES				pP	pP	09 02 06.4	-1.1
	comp=Z,4.0nm,0.9s,baz=90,slow=2.4,SNR=4.2						
GERES	**GERESS Array B**	**76.21**	**318**	P	**P**	**09 02 10.2**	**+0.4**
	comp=Z,2.8nm,0.8s,mb4.2,baz=90,slow=4.0,SNR=10						
BILL	**Bilibino**	**76.62**	**22**	*i* P	**P**	**09 02 12.3**	**+0.6**
BILL				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.5						
MOX	**Moxa**	**77.65**	**320**	*eP*	**P**	**09 02 20.0**	**+2.3**
GRA1	**Grafenberg Arr**	**77.87**	**319**	*eP*	**P**	**09 02 17.6**	**-1.3**
	comp=Z,11nm,1.5s,mb4.6						
GRF	**Grafenberg Arr**	**77.87**	**319**	*eP*	**P**	**09 02 17.6**	**-1.3**
GRF				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.6						
GRF	**Grafenberg Arr**	**77.87**	**319**	*eP*	**P**	**09 02 17.6**	**-1.3**
GRF				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.6						
GRF	**Grafenberg Arr**	**77.87**	**319**	*eP*	**P**	**09 02 17.6**	**-1.3**
	comp=Z,11nm,1.5s,mb4.6						
MAW	**Mawson**	**78.38**	**191**	P	**P**	**09 02 21.8**	**+0.5**
	comp=Z,3.2nm,0.9s,mb4.3,baz=289,slow=2.3,SNR=5.4						
NB2	**NORSAR Subarra**	**78.45**	**331**	P	**P**	**09 02 21.2**	**-0.7**
	comp=Z,1.2nm,0.9s,mb3.8,baz=91,slow=5.6						
NB2	**NORSAR Subarra**	**78.45**	**331**	P	**P**	**09 02 21.2**	**-0.7**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
NOA	**NORSAR Array B**	**78.45**	**331**	P	**P**	**09 02 21.0**	**-0.9**
	comp=Z,0.7nm,0.9s,mb3.6,baz=77,slow=5.5,SNR=2.8						
BNI	**Bardonecchia**	**80.99**	**314**	*eP*	**P**	**09 02 38.8**	**+2.9**
BNI				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
BNI	**Bardonecchia**	**80.99**	**314**	*eP*	**P**	**09 02 38.8**	**+3.0**
	comp=Z,8.7nm,0.9s,mb4.7						
JMIC	**Jan Mayen**	**85.77**	**341**	LR	LR	09 46 51.8	
	comp=Z,54nm,18.2s,MS4.0,baz=296,slow=40						
ESDC	**Sonseca Array**	**89.41**	**310**	P	**P**	**09 03 18.6**	**+0.6**
	comp=Z,0.3nm,0.3s,mb4.1,baz=60,slow=4.7,SNR=4.8						
ILAR	**Eielson Array**	**95.29**	**22**	P	**P**	**09 03 44.5**	**+0.1**
	comp=Z,0.5nm,0.7s,mb4.1,baz=303,slow=4.8,SNR=4.1						
ILAR				pP	pP	09 03 52.8	-1.0
	comp=Z,0.7nm,0.8s,baz=298,slow=4.8,SNR=4.9						
ILAR				PP	PP	09 07 36.8	-0.1
	comp=Z,0.7nm,1.0s,baz=290,slow=6.7,SNR=4.4						
PDAR	**Pinedale Array**	**125.65**	**19**	PKP	PKPdf	09 09 23.6	-2.9
	comp=Z,0.5nm,0.8s,baz=90,slow=4.4,SNR=3.9						
MCWV	**Mont Chateau**	**131.84**	**352**	*eP*

h43km±3.7km**:pP-P,n76,**σ1°**39/70,mb4.6/34,MS4.1/12,5D,**
South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.29**	**21**	*eP*	**P**	**09 07 57.9**	**+0.2**
GUMO				*eS*	**S**	**09 08 13.4**	**-0.6**
SAPN	**Saipan**	**3.11**	**25**	⇓*eP*	**P**	**09 08 23.2**	**-0.5**
SAPN				*eS*	**S**	**09 08 59.5**	**-0.4**
JOW	**Kunigami**	**20.88**	**316**	LR	LR	09 18 24.3	
	comp=Z,678nm,19.9s,MS4.0,baz=117,slow=31						
JHJ	**Hachijo jima 2**	**21.08**	**349**	LR	LR	09 19 37.6	
	comp=Z,581nm,21.9s,MS3.9,baz=297,slow=34						
PMG	**Port Moresby**	**21.81**	**173**	*eP*	**P**	**09 12 24.6**	**-1.6**
PMG	**Port Moresby**	**21.81**	**173**	pP		09 12 35.2	
	19nm,0.8s,baz=358,slow=6.5,SNR=3.1						
JNU	**Nakatsue**	**24.07**	**331**	P	**P**	**09 12 47.1**	**-1.1**
	9.1nm,0.8s,mb4.2,baz=180,slow=5.1,SNR=2.3						
MJAR	**Matsushiro Arr**	**24.70**	**348**	P	**P**	**09 12 53.2**	**-1.1**
	6.2nm,0.9s,mb4.1,baz=170,slow=8.8,SNR=9.0						
MJAR				LR	LR	09 22 20.3	
	comp=Z,540nm,18.4s,MS4.1,baz=160,slow=36						
MAJO	**Matsushiro**	**24.70**	**348**	*eP*	**P**	**09 12 53.6**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.5						
MAJO	**Matsushiro**	**24.70**	**348**	*eP*	**P**	**09 12 53.6**	**-0.7**
	comp=Z,13nm,0.8s,mb4.5						
MAT	**Matsushiro**	**24.70**	**348**	*eP*	**P**	**09 12 54.0**	**-0.3**
MAT				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.4						
MAT	**Matsushiro**	**24.70**	**348**	*eP*	**P**	**09 12 54.0**	**-0.3**
	comp=Z,12nm,1.0s,mb4.4						
MAT	**Matsushiro**	**24.70**	**348**	P	**P**	**09 12 53.8**	**-0.5**
KAKA	**Kakadu**	**27.60**	**206**	*eP*	**P**	**09 13 21.7**	**+0.2**
	comp=Z,15nm,0.9s,mb4.6						
WRAB	**Tennant Creek**	**33.59**	**197**	⇓*iP*	**P**	**09 14 13.3**	**-1.0**
WRAB				*e*	pP	09 14 26.2	+0.3
WRAB				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.3						
WRAB	**Tennant Creek**	**33.59**	**197**	⇓*iP*	**P**	**09 14 13.3**	**-1.0**
	comp=Z,33nm,0.8s,mb5.3						
WRAB				*e*	pP	09 14 26.2	+0.3
WB2	**Warramunga Arr**	**33.60**	**197**	⇓*iP*	**P**	**09 14 13.2**	**-1.2**
WB2				*e*	pP	09 14 26.0	0.0
WRA	**Warramunga Arr**	**33.61**	**197**	P	**P**	**09 14 13.3**	**-1.1**
	comp=Z,18nm,0.7s,mb5.2,baz=21,slow=9.4,SNR=88						
WRA				pP	pP	09 14 26.3	+0.3
	comp=Z,17nm,0.8s,baz=21,slow=9.5,SNR=12						
ENH	**Enshi**	**36.87**	**304**	*eP*	**P**	**09 14 43.5**	**+1.3**
	comp=Z,18nm,1.0s,mb4.8						
GYA	**Guiyang**	**38.09**	**297**	⇓*iP*	**P**	**09 14 55.3**	**+2.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
MBWA	**Marble Bar**	**41.20**	**216**	*eP*	**P**	**09 15 18.9**	**+0.7**
KMI	**Kunming**	**41.27**	**294**	P	**P**	**09 15 17.0**	**-1.7**
KMI				AP	pP	09 15 26.8	-3.7
KMI				XP	sP	09 15 31.8	-3.9
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
KMI				AMB	AMB		
	comp=Z,98nm,5.2s						
KMI				LR	LR		
	comp=N,230nm,14.9s						
KMI				LR	LR		
	comp=E,298nm,20.1s						
KMI				LR	LR		
	comp=Z,176nm,18.4s,MS4.0						
KMI	**Kunming**	**41.27**	**294**	P	**P**	**09 15 17.1**	**-1.6**
KMI				*PP	pP	09 15 26.8	-3.7
KMI				*SP	sP	09 15 31.7	-4.0
KMI				S	**S**	**09 21 19.6**	**-10**
KMI				*SS		09 21 32.7	
KMI				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.3						
KMI				MLR	MLR		
	comp=Z,180nm,18.4s,MS4.0						
KMI	**Kunming**	**41.27**	**294**	P	**P**	**09 15 17.1**	**-1.6**
	comp=Z,10.0nm,1.2s,mb4.3						
KMI				pP	pP	09 15 26.8	-3.7
KMI				sP	sP	09 15 31.7	-4.0
KMI				PP	PP	09 16 47.1	-10
KMI				S	**S**	**09 21 19.6**	**-10**
KMI				sS		09 21 32.7	
KMI				SS	SS	09 24 13.8	-15
KMI				LR	LR		
	comp=Z,180nm,18.4s,MS4.0						
CD2	**Chengdu**	**41.75**	**303**	P	**P**	**09 15 24.0**	**+1.3**
LZH	**Lanzhou**	**43.43**	**310**	*eP*	**P**	**09 15 38.0**	**+1.6**
LZH				AP	pP	09 15 51.5	+3.3
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
LZH	**Lanzhou**	**43.43**	**310**	*eP*	**P**	**09 15 38.0**	**+1.6**
	comp=Z,30nm,1.0s,mb5.0						
LZH				pP	pP	09 15 51.5	+3.3
LZH				sP	sP	09 15 56.0	+2.6
KULM	**Kulim**	**43.75**	**265**	*eP*	**P**	**09 15 42.2**	**+3.0**
STKA	**Stephens Creek**	**44.08**	**183**	P	**P**	**09 15 39.6**	**-2.1**
	comp=Z,3.4nm,0.9s,mb4.1,baz=328,slow=18,SNR=3.3						
STKA	**Stephens Creek**	**44.08**	**183**	*eP*	**P**	**09 15 40.2**	**-1.5**
SONM	**Songino Array**	**47.46**	**326**	P	**P**	**09 16 08.0**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=137,slow=5.7,SNR=9.2						
SONM				PcP	PcP	09 17 38.9	+0.4
	comp=Z,1.1nm,0.8s,baz=144,slow=3.1,SNR=3.6						
SONM				pPcP		09 17 52.2	
	comp=Z,1.6nm,0.7s,baz=135,slow=3.5,SNR=3.7						
SONM				ScP		09 21 29.8	
	comp=Z,0.8nm,0.8s,baz=155,slow=2.7,SNR=2.9						
SONM				LR	LR	09 36 34.1	
	comp=Z,356nm,18.9s,MS4.4,baz=78,slow=37						
GTA	**Gaotai**	**47.64**	**313**	*eP*	**P**	**09 16 11.0**	**+1.2**
GTA				AP	pP	09 16 18.8	-2.9
GTA				XP	sP	09 16 21.8	-5.0
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.8						
GTA				AMB	AMB		
	comp=Z,142nm,6.1s						
GTA				LR	LR		
	comp=N,268nm,16.7s,MS4.6						
GTA				LR	LR		
	comp=E,529nm,17.5s,MS4.6						
GTA				LR	LR		
	comp=Z,396nm,19.8s,MS4.4						
ZAK	**Zakamensk**	**50.59**	**327**	*eP*	**P**	**09 16 31.4**	**-1.0**
ZAK				*e*		09 17 45.1	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
SEY	**Seymchan**	**50.80**	**5**	*iP*	**P**	**09 16 30.5**	**-3.3**
LSA	**Lhasa**	**52.15**	**298**	*eP*	**P**	**09 16 47.0**	**+2.6**
BILL	**Bilibino**	**57.43**	**10**	*iP*	**P**	**09 17 20.5**	**-1.8**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
WMQ	**Urumqi**	**57.65**	**314**	*eP*	**P**	**09 17 25.0**	**+0.8**
TIXI	**Tiksi**	**59.99**	**354**	*iP*	**P**	**09 17 37.2**	**-2.9**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**62.05**	**317**	P	**P**	**09 17 54.1**	**-0.2**
	comp=Z,2.4nm,0.5s,mb4.6,baz=98,slow=8.6,SNR=20						
MKAR				pP	pP	09 18 05.2	-1.4
	comp=Z,1.8nm,0.6s,baz=90,slow=9.7,SNR=4.4						
MKAR				LR	LR	09 45 30.7	
	comp=Z,105nm,19.6s,MS4.0,baz=180,slow=37						
AAK	**Ala-Archa**	**66.96**	**311**	*iP*	**P**	**09 18 23.6**	**-2.6**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
ILAR	**Eielson Array**	**69.86**	**25**	P	**P**	**09 18 41.3**	**-2.5**
	comp=Z,1.4nm,0.6s,mb4.0,baz=249,slow=6.1,SNR=20						
ILAR				pP	pP	09 18 54.0	-2.4
	comp=Z,2.1nm,0.6s,baz=252,slow=5.3,SNR=8.2						
BRVK	**Borovoye**	**70.66**	**322**	*eP*	**P**	**09 18 46.8**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BRVK	**Borovoye**	**70.66**	**322**	*eP*	**P**	**09 18 46.8**	**-2.1**
	comp=Z,4.3nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**71.42**	**322**	*eP*	**P**	**09 18 53.7**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,84nm,0.8s,mb5.7						
ZRNK	**Zerenda**	**71.42**	**322**	*eP*	**P**	**09 18 53.7**	**+0.2**
	comp=Z,84nm,0.8s,mb5.7						
INK	**Inuvik**	**75.66**	**22**	P	**P**	**09 19 17.5**	**-0.4**
	comp=Z,5.1nm,1.1s,mb4.4,baz=257,slow=7.2,SNR=9.2						
INK	**Inuvik**	**75.66**	**22**	*eP*	**P**	**09 19 17.6**	**-0.2**
DLBC	**Dease Lake**	**77.25**	**33**	*eP*	**P**	**09 19 25.7**	**-1.4**
ARU	**Arti**	**77.50**	**325**	*iP*	**P**	**09 19 23.6**	**-4.9**
ARU				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
YKA	**Yellowknife Ar**	**84.14**	**27**	P	**P**	**09 20 03.7**	**+0.4**
	comp=Z,1.2nm,0.5s,mb4.2,baz=289,slow=5.5,SNR=5.3						
YKA				pP	pP	09 20 14.2	-1.9
	comp=Z,2.3nm,0.6s,baz=288,slow=5.1,SNR=3.8						
YKA				LR	LR	09 55 37.2	
	comp=Z,95nm,20.8s,MS4.2,baz=325,slow=34						
YKA	**Yellowknife Ar**	**84.14**	**27**	P	**P**	**09 20 03.7**	**+0.4**
YKA				pP	pP	09 20 14.2	-1.9
YKA				LR	LR	09 55 37.2	
NEW	**Newport**	**86.44**	**41**	*eP*	**P**	**09 20 14.8**	**-0.2**
NEW				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NEW	**Newport**	**86.44**	**41**	*eP*	**P**	**09 20 14.8**	**-0.2**
	comp=Z,6.2nm,0.7s,mb5.0						
CMB	**Columbia Colle**	**86.53**	**52**	*eP*	**P**	**09 20 17.0**	**+1.2**
CMB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
CMB	**Columbia Colle**	**86.53**	**52**	*eP*	**P**	**09 20 17.0**	**+1.3**
	comp=Z,4.2nm,0.8s,mb4.7						
BMO	**Blue Mountains**	**87.17**	**45**	*eP*	**P**	**09 20 19.7**	**+1.0**
BMO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.9						
BMO	**Blue Mountains**	**87.17**	**45**	*eP*	**P**	**09 20 19.7**	**+1.0**
	comp=Z,8.2nm,1.0s,mb4.9						
EDM	**Edmonton**	**87.39**	**36**	*eP*	**P**	**09 20 20.6**	**+1.0**
ARCES	**ARCESS Array B**	**88.09**	**342**	P	**P**	**09 20 23.2**	**+0.7**
	comp=Z,2.3nm,0.7s,mb4.5,baz=72,slow=7.7,SNR=7.7						
WALA	**Waterton Lakes**	**89.27**	**40**	*eP*	**P**	**09 20 25.9**	**+2.0**
	comp=Z,8.0nm,1.1s,mb4.9						
ELK	**Elko**	**89.72**	**48**	*eP*	**P**	**09 20 32.3**	**+1.3**
ELK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ELK	**Elko**	**89.72**	**48**	*eP*	**P**	**09 20 32.3**	**+1.3**
	comp=Z,7.7nm,1.0s,mb5.0						
OBN	**Obninsk**	**89.86**	**327**	P	**P**	**09 20 41.0**	**+10**
OBN				*e*	pP	09 20 56.5	+12
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.4						
VNDA	**Vanda**	**90.29**	**176**	LR	LR	10 02 40.1	
	comp=Z,61nm,18.9s,MS4.1,baz=103,slow=37						
IMW	**Indian Meadow**	**91.81**	**44**	*eP*	**P**	**09 20 42.3**	**+1.6**
	comp=Z,3.3nm,0.7s,mb4.8						
FINES	**FINESS Array B**	**92.06**	**335**	P	**P**	**09 20 40.8**	**-0.6**
	comp=Z,0.9nm,0.4s,mb4.4,baz=90,slow=5.7,SNR=8.0						
FINES				LR	LR	10 05 54.3	
	comp=Z,76nm,18.2s,MS4.2,baz=170,slow=38						
HWUT	**Hardware Ranch**	**92.11**	**47**	*eP*	**P**	**09 20 44.9**	**+2.9**
PDAR	**Pinedale Array**	**93.14**	**45**	P	**P**	**09 20 48.0**	**+1.2**
	comp=Z,0.4nm,0.7s,mb4.0,baz=270,slow=1.5,SNR=4.1						
SRU	**San Rafael**	**93.67**	**49**	P	**P**	**09 20 51.2**	**+2.0**
SMCO	**Snowmass**	**96.23**	**48**	*eP*	**P**	**09 21 03.9**	**+3.0**
NOA	**NORSAR Array B**	**98.02**	**339**	LR	LR	10 07 32.8	
	comp=Z,48nm,19.2s,MS4.0,baz=50,slow=37						
PLCA	**Paso Flores**	**138.33**	**139**	PKP	PKPdf	09 26 57.9	+0.9
	comp=Z,0.6nm,0.6s,baz=270,slow=1.7,SNR=3.7						
DBIC	**Dimbokro**	**144.05**	**300**	PKP	PKPdf	09 27 08.3	+0.5
	comp=Z,6.6nm,0.8s,baz=138,slow=6.5,SNR=6.0						
DBIC				pPKP		09 27 22.5	
	comp=Z,14nm,0.7s,baz=37,slow=3.5,SNR=8.8						
DBIC	**Dimbokro**	**144.05**	**300**	PKP	PKPdf	09 27 08.3	+0.5
DBIC				pPKP		09 27 22.5	
LVC	**Limon Verde**	**146.71**	**112**	*e*PKP	PKPdf	09 27 17.1	+5.0
LPAZ	**La Paz**	**148.26**	**101**	PKPbc	PKPdf	09 27 19.9	+5.1
	comp=Z,3.0nm,0.8s,baz=289,slow=2.7,SNR=12						

WEL 25 09:14:06.4±0.4, 36.16N×179.85W, h33km, ML3.5/4, Error ellipse: s-maj=7.6km s-min=5.0km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.04**	**226**	PN	Pn	09 14 37.6	-1.6
MXZ				SN	Sn	09 15 00.9	-2.9
PUZ	**Puketiti**	**2.44**	**218**	PN	Pn	09 14 43.2	-1.7
PUZ				SN	Sn	09 15 11.4	-2.6
MWZ	**Matawai**	**3.02**	**223**	PN	Pn	09 14 51.5	-1.6
MWZ				SN	Sn	09 15 25.7	-2.9
URZ	**Urewera**	**3.21**	**228**	PN	Pn	09 14 53.9	-1.9
URZ				SN	Sn	09 15 27.7	-5.8

GUC 25 09:16:05.6±1.0, 35.36S×72.36W, h15km±6km, MD3.6, ML2.8, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCH	**Constitucion**	**0.05**	**300**	⇓*iP*	Pb	09 16 08.4	+0.5
CTCH				*i* S	Sb	09 16 10.7	+1.4
CTCH				AMP		09 16 13.1	
	comp=E,8μm,0.4s						
CNCO	**Chanco**	**0.40**	**201**	⇑*iP*	Pb	09 16 12.7	-1.2
CNCO				*i* S	Sb	09 16 18.0	-1.5
CNCO				AMP		09 16 19.0	
	comp=N,2μm,0.3s						
CCHI	**Chillan**	**1.26**	**170**	⇑*iP*	Pb	09 16 27.6	-1.0
CCHI				*i* S	Sb	09 16 44.2	-0.3
CCHI				AMP		09 16 45.6	
	comp=E,356nm,0.2s						
CCHI				AMP		09 16 45.6	
	comp=E,188nm,0.2s						
LNV	**Longovilo**	**1.60**	**29**	*i* S	Sn	09 16 53.4	-0.7
CICH	**Cipreses**	**1.90**	**58**	*eP*	Pn	09 16 37.9	0.0
CICH				*i* S	Sn	09 17 02.2	+0.6
CACH	**El Canelo**	**1.90**	**50**	*i* S	Sn	09 17 02.5	+0.7
CHCH	**Chadas Angostu**	**2.00**	**45**	*i* S	Sn	09 17 05.0	+0.9

CSEM 25 09:20:52.6±0.1, 34.78N×23.50E, h8km, MD3.5, Error ellipse: s-maj=5.1km s-min=2.5km az=79.0
ATH 25 09:20:56.7, 35.08N×23.67E, h35km±3km, MD3.5/8
NEIC 25 09:20:56.7, 35.08N×23.67E, h35km, MD3.5(ATH), After ATH.
HLW 25 09:21:02.9, 34.60N×24.24E, h31km, Mb3.5
ISC 25 09:20:55.0±0.9, 34.85N±0.06×23.6E±0.1, h55km±11km, n14, σ1°**26/18, 5C-2D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.40**	**91**	*e*Pb	Pn	**09 21 06.5**	**+0.9**
GVD				*e*S	**S**	**09 21 13.1**	**-0.3**
VAM	**Vamos**	**0.74**	**41**	⇓*i*PN	**P**	**09 21 08.7**	**-0.9**
VAM				*e*SN	**S**	**09 21 17.4**	**-3.0**
KYTH	**Kithira**	**1.50**	**342**	*e*PB	**P**	**09 21 20.0**	**-0.2**
NPS	**Neapolis**	**1.70**	**75**	*e*PB	**P**	**09 21 24.9**	**+2.0**
XRY	**Khrisi**	**1.72**	**88**	*e*PN	**P**	**09 21 25.5**	**+2.3**
VLI	**Veliai**	**1.94**	**344**	*e*PB	**P**	**09 21 27.0**	**+0.7**
APE	**Apeiranthos**	**2.71**	**35**	*e*PN	**P**	**09 21 37.0**	**-0.3**
KARP	**Karpathos**	**2.99**	**75**	*e*PN	**P**	**09 21 42.1**	**+0.8**
SLUM		**3.61**	**158**	⇓*e*P	**P**	**09 21 50.9**	**+1.1**
HMAT	**Matruh**	**4.75**	**141**	⇓*e*P	**P**	**09 22 05.2**	**-0.8**
HMAT				S	**S**	**09 22 50.7**	**-10**
SWA2		**5.80**	**164**	⇑*e*P	**P**	**09 22 20.4**	**-0.1**
SWA1		**5.85**	**162**	⇑*e*P	**P**	**09 22 21.4**	**+0.2**
SWA1				S	**S**	**09 23 19.9**	**-7.8**
HFRF	**Wahat Farafira**	**8.67**	**151**	⇑*e*P	**P**	**09 22 58.8**	**-1.5**
AMAG	**Maghara**	**9.11**	**115**	⇑*e*P	**P**	**09 23 03.0**	**-3.4**

IDC 25 09:23:59.6±1.1, 7.71N×92.03E, h32km±5km, mb3.7/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.9/6, Error ellipse: s-maj=40.8km s-min=18.3km az=53.0
NEIC 25 09:24:01.4±2.4, 7.83N×92.12E, h43km±23km, mb4.2/2, Error ellipse: s-maj=21.5km s-min=13.6km az=60.0
ISC 25 09:23:57.3±0.8, 7.6N±0.1×91.87E±0.08, h31km, h31km±.7km:pP-P, n14, σ0°**63/12, mb4.0/8, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.08**	**269**	*eP*	**P**	**09 26 41.0**	**+4.0**
PALK				*e*S	**S**	**09 28 40.3**	**-0.5**
LSA	**Lhasa**	**21.95**	**358**	*eP*	**P**	**09 28 49.8**	**-0.5**
	7.6nm,0.9s,mb4.1						
MKAR	**Makanchi Array**	**39.87**	**350**	P	**P**	**09 31 29.3**	**-0.5**
	2.9nm,0.7s,mb4.1,baz=168,slow=8.6,SNR=27						
MKAR				pP	pP	09 31 39.0	-0.1
	1.7nm,0.6s,baz=163,slow=8.1,SNR=6.8						
SONM	**Songino Array**	**41.92**	**15**	P	**P**	**09 31 46.3**	**-0.4**
	1.1nm,0.8s,mb3.5,baz=196,slow=9.0,SNR=8.9						
SONM				pP	pP	09 31 56.2	+0.2
	1.2nm,0.8s,baz=198,slow=7.8,SNR=6.0						
BVAR	**Borovoye Array**	**48.51**	**343**	P	**P**	**09 32 39.4**	**+0.1**
	1.4nm,0.8s,mb4.1,baz=143,slow=7.4,SNR=9.3						
BVAR				pP	pP	09 32 48.8	+0.1
	1.0nm,0.9s,baz=149,slow=8.6,SNR=4.4						
BRVK	**Borovoye**	**48.57**	**343**	*eP*	**P**	**09 32 34.4**	**-5.4**
ZRNK	**Zerenda**	**48.87**	**342**	*eP*	**P**	**09 32 42.5**	**+0.5**
	2.2nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**49.98**	**124**	P	**P**	**09 32 50.5**	**-0.5**
	1.7nm,1.0s,mb4.0,baz=306,slow=8.4,SNR=6.9						
WRA				pP	pP	09 32 59.8	-0.6
	2.4nm,0.7s,baz=305,slow=8.6,SNR=13						
WRA				pPcP		09 34 21.0	
	0.3nm,0.7s,baz=309,slow=2.9,SNR=5.1						
WRAB	**Tennant Creek**	**49.98**	**124**	*eP*	**P**	**09 32 51.2**	**+0.2**
WRAB				*e*	pP	09 32 59.6	-0.8
BRTR	**Keskin Array B**	**60.89**	**311**	P	**P**	**09 34 09.8**	**+0.2**
	0.8nm,0.6s,mb4.0,baz=127,slow=6.2,SNR=4.3						
GERES	**GERESS Array B**	**76.50**	**318**	P	**P**	**09 35 47.4**	**+1.2**
	1.0nm,0.7s,mb3.8,baz=90,slow=2.9,SNR=5.7						
GERES				pP	pP	09 35 57.2	+1.3
	0.9nm,0.7s,baz=104,slow=5.5,SNR=3.3						
PDAR	**Pinedale Array**	**126.17**	**19**	PKP	PKPdf	09 42 58.1	-4.2
	0.2nm,0.6s,baz=90,slow=4.4,SNR=4.0						
TXAR	**Lajitas Array**	**140.31**	**21**	PKP	PKPdf	09 43 27.8	-1.4
	0.1nm,0.4s,baz=315,slow=1.3,SNR=3.5						
TXAR	**Lajitas Array**	**140.31**	**21**	PKP	PKPdf	09 43 27.8	-1.4

IDC 25 09:37:40.1±1.9, 7.77N×91.75E, mb3.7/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, Error ellipse: s-maj=70.9km s-min=29.7km az=55.0
ISC 25 09:37:43.4±1.6, 7.9N±0.2×91.8E±0.3, h33km, n11, σ0°**48/11, mb3.9/7, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKI	**Pulchoki**	**20.52**	**344**	*eP*	**P**	**09 42 21.0**	**-0.5**
DMN	**Daman**	**20.64**	**343**	*eP*	**P**	**09 42 22.8**	**0.0**
GUN	**Gumba**	**20.71**	**345**	*eP*	**P**	**09 42 23.1**	**-0.5**
	32nm,0.7s						
KKN	**Kakani**	**20.76**	**343**	*eP*	**P**	**09 42 23.5**	**-0.5**
GKN	**Gorkha**	**21.15**	**342**	*eP*	**P**	**09 42 27.8**	**-0.2**
	25nm,0.7s,mb4.7						
KOLN	**Koldanda**	**21.27**	**340**	*eP*	**P**	**09 42 29.7**	**+0.5**
	17nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	**39.63**	**350**	P	**P**	**09 45 14.7**	**+1.0**
	0.6nm,0.4s,mb3.6,baz=170,slow=9.0,SNR=11						
SONM	**Songino Array**	**41.71**	**15**	P	**P**	**09 45 31.2**	**+0.4**
	0.3nm,0.4s,mb3.3,baz=203,slow=8.2,SNR=4.5						
BVAR	**Borovoye Array**	**48.28**	**343**	P	**P**	**09 46 23.1**	**-0.3**
	0.3nm,0.4s,mb3.7,baz=169,slow=7.3,SNR=2.9						
WRA	**Warramunga Arr**	**50.14**	**124**	P	**P**	**09 46 37.8**	**-0.3**
	0.7nm,0.8s,mb3.7,baz=301,slow=9.0,SNR=4.5						
GERES	**GERESS Array B**	**76.30**	**318**	P	**P**	**09 49 31.1**	**+0.3**
	0.2nm,0.2s,mb3.6,baz=100,slow=8.1,SNR=4.1						

NNC 25 09:47:33.9±65.0, 42.42N×81.33E, mpv3.2, Error ellipse: s-maj=750.5km s-min=401.3km az=8.0
BJI 25 09:47:18.8, 41.55N×79.95E, h11km, ML3.6, 1C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.65**	**237**	*e*PG	Pg	09 48 25.5	-6.2
KSH				SG	Sg	09 49 14.8	-5.5
KSH				Smax			
	comp=N,70nm,1.1s						
KSH				Smax			
	comp=E,60nm,0.8s						
MK31	**Makanchi Array**	**5.51**	**17**	Pn	Pn	09 48 45.0	+2.3
	comp=E,1.7nm,0.3s,baz=194,slow=13,SNR=104						
MK31				⇓Lg		09 49 52.7	
	comp=E,1.3nm,0.3s,baz=188,slow=27,SNR=4.3						
KK31	**Karatay Array**	**7.17**	**286**	⇑Pn	Pb	09 49 32.2	+9.0
	comp=E,0.9nm,0.5s,baz=98,slow=15,SNR=11						
KK31				⇓Lg		09 51 09.1	
	comp=E,3.0nm,0.5s,baz=94,slow=28,SNR=7.1						

IDC 25 09:53:39.7±0.6, 16.84S×70.62W, mb4.4/10, mb1 4.6/13, mb1mx4.4/22, mbtmp4.5/13, ML4.5/2, MS3.7/13, Ms1 3.7/13, ms1mx3.6/30, Error ellipse: s-maj=23.3km s-min=15.8km az=58.0
NEIC 25 09:53:41.0±0.2, 16.85S×70.47W, h10km, mb4.8/24, Error ellipse: s-maj=8.5km s-min=5.0km az=51.0
NEIC Felt [II] at Arequipa.
BJI 25 09:53:41.0, 16.90S×70.50W, h10km, mB5.2, Ms5.3, Msz4.7
ISC 25 09:53:43.0±0.3, 16.91S±0.05×70.64W±0.05, h33km, n97, σ1°**02/76, mb4.6/31, MS3.9/9, 3C-4D, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.93**	**298**	⇑*iP*	**P**	**09 53 58.9**	**-0.8**
ARE				*i* S	**S**	**09 54 12.2**	**+0.1**
LPAZ	**La Paz**	**2.48**	**76**	Pn	**Pn**	**09 54 22.9**	**+0.9**
	53nm,0.3s,baz=258,slow=13,SNR=2086						
LPAZ				Sn	**Sn**	**09 54 52.4**	**+0.9**
	14nm,0.3s,baz=121,slow=12,SNR=2.4						
LPAZ				LR	LR	09 55 31.8	
	comp=Z,3μm,20.5s,baz=263,slow=46						
LPAZ	**La Paz**	**2.48**	**76**	*eP*	**P**	**09 54 21.8**	**-0.1

3.1nm,0.8s,mb4.5,baz=180,slow=6.7,SNR=12
ANMO Albuquerque 61.79 327 *e*P **P 10 04 00.8 -0.2**
3.7nm,1.0s,mb4.5
SDCO Great Sand Dun 63.48 330 *e*P **P 10 04 12.2 0.0**
15nm,1.0s,mb5.1
VNA3 Neumayer Olymp 64.92 162 *e* **P 10 04 28.1 +7.0**
VNA3 Neumayer Olymp 64.92 162 ⇓*i*P **P 10 04 20.6 -0.5**
VNA3 *e* 10 04 28.1
VNA1 Neumayer--Stat 65.13 161 *e* **P 10 04 31.5 +9.1**
VNA1 Neumayer--Stat 65.13 161 P **P 10 04 22.1 -0.3**
VNA1 *e* pP 10 04 31.5 -1.2
PV01 Paradox Valley 65.31 328 *e*P **P 10 04 24.5 +0.3**
SMCO Snowmass 65.32 330 *e*P **P 10 04 24.3 +0.2**
VNA2 Neumayer--Watz 65.50 161 *e* **P 10 04 32.7 +7.9**
VNA2 Neumayer--Watz 65.50 161 ⇓*i*P **P 10 04 24.1 -0.7**
VNA2 *e* pP 10 04 32.7 -2.4
BAR Barrett 66.10 318 *e*P **P 10 04 29.9 +0.7**
SRU San Rafael 67.05 327 *e*P **P 10 04 35.1 -0.1**
SNAA Sanae 67.13 161 *e* **P 10 04 42.0 +6.9**
SNAA Sanae 67.13 161 ⇓*i*P **P 10 04 34.4 -0.7**
SNAA *e* 10 04 42.0
MSU Marysvale 67.49 326 *e*P **P 10 04 38.9 +1.0**
ARUT Antelope Range 67.66 324 *e*P **P 10 04 40.7 +1.7**
TAOE Nuku Hiva Isla 67.96 267 *e*LR LR 10 25 06.8
295nm,27.0s
DAU Daniels Canyon 68.40 328 *e*P **P 10 04 44.2 +0.6**
JLU Jordanelle 68.64 328 *e*P **P 10 04 45.3 +0.3**
DBIC Dimbokro 69.10 76 LR LR 10 31 34.9
comp=Z,165nm,21.3s,MS4.2,baz=222,slow=33
PDAR Pinedale Array 69.33 330 P **P 10 04 48.4 -0.9**
3.0nm,1.0s,mb4.2,baz=153,slow=6.6,SNR=16
PDAR LR LR 10 39 07.6
comp=Z,46nm,18.7s,MS3.8,baz=356,slow=39
HWUT Hardware Ranch 69.44 328 *e*P **P 10 04 49.9 -0.1**
6.4nm,1.0s,mb4.5
REDW Red Top Meadow 70.40 330 *e*P **P 10 04 56.0 +0.2**
10nm,1.2s,mb4.6
SNOW Snow King Moun 70.43 330 *e*P **P 10 04 55.9 0.0**
6.0nm,1.0s,mb4.5
ULM Lac du Bonnet 70.47 343 P **P 10 04 54.5 -1.6**
8.3nm,0.8s,mb4.7,baz=151,slow=5.3,SNR=6.7
ULM LR LR 10 38 48.7
comp=Z,50nm,18.5s,MS3.8,baz=40,slow=38
LOHW Long Hollow 70.47 330 *e*P **P 10 04 56.6 +0.4**
8.1nm,1.2s,mb4.5
TPAW Teton Pass 70.55 330 *e*P **P 10 04 57.2 +0.6**
9.1nm,1.2s,mb4.6
RRI2 Red Ridge 70.62 330 *e*P **P 10 04 57.7 +0.6**
52nm,1.6s,mb5.2
ELK Elko 70.73 326 *e*P **P 10 04 58.0 +0.1**
3.4nm,1.1s,mb4.2
OMM Old Mammoth Mi 70.77 321 *e*P **P 10 04 59.1 +1.1**
IMW Indian Meadow 70.85 330 *e*P **P 10 04 59.1 +0.6**
14nm,1.2s,mb4.8
LKWY Lake 71.10 331 *e*P **P 10 05 01.3 +1.3**
14nm,1.0s,mb4.8
MCMT McKenzie Canyo 72.45 330 *e*P **P 10 05 09.0 +1.0**
TBI Tubuai 73.47 250 *e*LR LR 10 28 01.7
115nm,31.2s
MOD Modoc 74.32 324 *e*P **P 10 05 20.3 +1.2**
14nm,1.4s,mb4.7
BMO Blue Mountains 74.69 328 *e*P **P 10 05 21.3 +0.2**
8.8nm,1.2s,mb4.6
PPT Papeete 74.82 256 *e*LR LR 10 28 30.1
113nm,30.8s,baz=64
YBH Yreka Blue Hor 75.60 322 P **P 10 05 26.7 +0.3**
3.0nm,0.8s,mb4.3,baz=109,slow=9.4,SNR=4.2
WALA Waterton Lakes 76.07 332 *e*P **P 10 05 29.0 +0.1**
6.2nm,1.0s,mb4.5
EDM Edmonton 78.93 335 *e*P **P 10 05 43.5 -1.2**
VNDA Vanda 81.06 190 P **P 10 05 48.7 -7.0**
1.3nm,0.5s,mb4.1
SYO Syowa Base 81.35 160 ⇓P **P 10 05 55.2 -2.2**
SYO Syowa Base 81.35 160 ⇑PcP PcP 10 06 02.0 -1.8
YKA Yellowknife Ar 86.34 341 P **P 10 06 22.4 -0.1**
2.6nm,0.8s,mb4.5,baz=132,slow=4.9,SNR=19
BOSA Boshof 87.06 119 P **P 10 06 28.4 +1.5**
3.0nm,0.7s,mb4.6,baz=334,slow=19,SNR=5.7
BOSA LR LR 10 39 59.4
comp=Z,130nm,20.5s,MS4.3,baz=158,slow=32
MAW Mawson 89.17 164 *e*P **P 10 06 36.6 +0.5**
5.7nm,0.8s,mb5.0
MAW Mawson 89.17 164 P **P 10 06 37.1 +1.0**
6.9nm,0.8s,mb5.1,baz=219,slow=6.3,SNR=20
DLBC Dease Lake 89.40 333 *e*P **P 10 06 38.3 +0.9**
DAVOX Davos 95.83 43 LR LR 10 46 57.7
comp=Z,74nm,19.9s,MS4.2,baz=264,slow=33
WRA Warramunga Arr 135.92 215 PKP PKPdf 10 13 02.8 +1.3
1.5nm,1.0s,baz=187,slow=1.4,SNR=6.1
ZAL Zalesovo 138.41 22 PKP PKPdf 10 13 05.4 +0.3
4.6nm,0.9s,baz=208,slow=2.5,SNR=20
MKAR Makanchi Array 142.72 31 PKP PKPdf 10 13 12.0 -0.9
1.6nm,1.0s,baz=270,slow=2.4,SNR=8.0
MKAR Makanchi Array 142.72 31 PKP PKPdf 10 13 12.0 -0.9
TLY Talaya 145.01 6 *e*PKP PKPdf 10 13 16.9 +0.2
MDJ Mudanjiang 147.55 333 PKP PKPdf 10 13 24.8 +3.5
MJAR Matsushiro Arr 147.85 313 PKPbc PKPdf 10 13 27.4 +5.4
17nm,1.0s,baz=211,slow=0.9,SNR=33
MJAR Matsushiro Arr 147.85 313 PKPbc PKPdf 10 13 27.4 +5.4
MAJO Matsushiro 147.85 313 *e*PKPbc PKPdf 10 13 27.7 +5.7
MAT Matsushiro 147.85 313 *e*PKP PKPdf 10 13 27.0 +5.0
MAT Matsushiro 147.85 313 PKP PKPdf 10 13 27.3 +5.3
SONM Songino Array 149.06 4 PKP PKPdf 10 13 25.1 +1.6
7.5nm,0.8s,SNR=30
SONM PKPbc PKPdf 10 13 29.2 +5.7
2.9nm,0.8s,baz=270,slow=1.2,SNR=9.7
CN2 Changchun 149.93 336 *e*PKP PKPdf 10 13 27.8 +2.7
KMI Kunming 169.75 36 PKP PKPdf 10 13 49.0 +1.6
KMI LR LR
comp=Z,40nm,20.5s

*NEIC **25** 10:12:29.9, 61.17N×58.81W, h18km, ML4.6(OTT), After OTT.*
*OTT **25** 10:12:31.3±1.3, 61.02N×58.89W, h18km, ML4.6/13, LAlbertaRADOR Sea Seismic Zone. 327km east from Resolution Island, Nu*
*IDC **25** 10:12:32.5±1.1, 61.09N×59.08W, mb3.6/8, mb1 3.9/9, mb1mx3.7/25, mbtmp3.7/9, ML3.3/1, MS2.9/3, Ms1 2.9/3, ms1mx2.7/28, Error ellipse: s-maj=24.7km s-min=13.9km az=124.0*
ISC 25 10:12:31.6±0.8,**61.08N**±0.09×**59.2W**±0.2,**h10**km,**n49**, σ1§**45**/**29**,**mb3.5**/**7**,**MS2.7**/**2**,**1C**,**Davis Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**5.10**	**306**	Pn		**Pn**		**10 13 48.9**	**-1.2**
	baz=117,slow=14								
FRB	**Frobisher Bay**	**5.10**	**306**	Pn		**Pn**		**10 13 48.7**	**-1.3**
FRB	**Frobisher Bay**	**5.10**	**306**	PN		**Pn**		**10 13 49.0**	**-1.0**
KUQ	**Kuujjuuaa**	**5.54**	**242**	Pn		**Pn**		**10 13 54.9**	**-1.3**
KUQ				Sn		**Sn**		**10 14 53.5**	**-7.3**
KUQ	**Kuujjuuaa**	**5.54**	**242**	PN		**Pn**		**10 13 54.5**	**-1.7**
KUQ				SN		**Sn**		**10 14 53.5**	**-7.3**
KUQ				Trac				10 14 55.2	
	comp=Z,41nm,0.3s								
SFJD	**Kangerlussuaq**	**7.03**	**29**	⇑*i*P		**Pn**		**10 14 15.2**	**-2.0**
SFJD				*e*S		**Sn**		**10 15 39.1**	**+1.0**
SFJD	**Kangerlussuaq**	**7.03**	**29**	*i* P		**Pn**		**10 14 15.3**	**-1.9**
	66nm,0.4s								
SFJD				*i* S		**Sn**		**10 15 29.9**	**-8.1**
SFJD	**Kangerlussuaq**	**7.03**	**29**	PN		**Pn**		**10 14 15.1**	**-2.1**
SFJD				SN		**Sn**		**10 15 28.1**	**-10**
SFJD				Trac				10 15 42.9	
	comp=Z,23nm,0.6s								
SCHQ	**Schefferville**	**7.46**	**216**	Pn		**Pn**		**10 14 21.8**	**-1.4**
	5.2nm,0.3s,baz=27,slow=8.9,SNR=93								
SCHQ				Sn		**Sn**		**10 15 41.4**	**-7.3**
	18nm,0.3s,baz=279,slow=15,SNR=18								
SCHQ				LR		LR		10 17 17.1	
	comp=Z,135nm,19.7s,baz=40,slow=38								
SCHQ	**Schefferville**	**7.46**	**216**	Pn		**Pn**		**10 14 21.8**	**-1.4**
SCHQ				Sn		**Sn**		**10 15 41.4**	**-7.3**
SCHQ				LR		LR		10 17 17.1	
SCHQ	**Schefferville**	**7.46**	**216**	PN		**Pn**		**10 14 21.5**	**-1.7**
SCHQ				SN		**Sn**		**10 15 41.2**	**-7.5**
SCHQ				Trac				10 15 43.5	
	comp=Z,112nm,0.6s								
YOSQ	**Ashton Mining**	**10.84**	**226**	PN		Px		10 15 06.0	
YOSQ				SN		Sx		10 16 57.8	
YOSQ				Trac				10 17 01.1	
	comp=Z,30nm,0.3s								
LG4Q	**La Grande 4**	**10.95**	**234**	PN		Px		10 15 06.4	
LG4Q				SN		Sx		10 17 00.8	
LG4Q				Trac				10 17 03.6	
	comp=Z,13nm,0.3s								
SMQ	**Clarke City**	**11.66**	**204**	PN		Px		10 15 15.7	
SMQ				SN		Sx		10 17 16.4	
SMQ				Trac				10 17 21.2	
	comp=Z,15nm,0.2s								
DRLN	**Deer Lake**	**11.89**	**175**	Pn		Px		10 15 19.4	
DRLN				Sn		Sx		10 17 21.3	
DRLN	**Deer Lake**	**11.89**	**175**	PN		Px		10 15 19.4	
DRLN				SN		Sx		10 17 21.3	
DRLN				Trac				10 17 40.9	
	comp=Z,8.1nm,0.7s								
ICQ	**Pointe Anglais**	**12.44**	**205**	Pn		Px		10 15 25.6	
ICQ				Sn		Sx		10 17 34.5	
ICQ	**Pointe Anglais**	**12.44**	**205**	PN		Px		10 15 25.6	
ICQ				PN		Px		10 15 26.4	
ICQ				SN		Sx		10 17 34.5	
ICQ				SN		**S**		**10 17 36.2**	**-15**
ICQ				Trac				10 17 41.6	
	comp=E,15nm,0.3s								
ICQ				Trac				10 17 43.5	
	comp=Z,7.1nm,0.2s								
CNQ	**Baie Comeau**	**12.82**	**207**	PN		Px		10 15 30.8	
CNQ				SN		Sx		10 17 45.3	
CNQ				Trac				10 17 48.1	
	comp=Z,21nm,0.5s								
WEMQ	**Wemindji, Queb**	**12.95**	**240**	PN		Px		10 15 32.8	
WEMQ				SN		Sx		10 17 45.2	
WEMQ				Trac				10 17 53.5	
	comp=Z,38nm,0.6s								
GSQ	**Grosses Roches**	**12.99**	**204**	PN		Px		10 15 33.3	
GSQ				SN		Sx		10 17 50.2	
QILN	**Qililugaq Expl**	**13.13**	**307**	Pn		Px		10 15 34.4	
QILN				Sn		Sx		10 17 49.1	
QILN	**Qililugaq Expl**	**13.13**	**307**	PN		Px		10 15 34.9	
QILN				SN		Sx		10 17 49.1	
QILN				Trac				10 17 54.4	
	comp=Z,6.7nm,0.3s								
PINU	**Pond Inlet**	**13.69**	**336**	PN		Px		10 15 27.2	
PINU				SN		Sx		10 17 51.6	
SUMG	**Summit**	**14.01**	**26**	*e*P		Px		10 15 46.7	
	5.1nm,0.3s								
SILO	**Sutton Inlier**	**15.15**	**256**	PN		Px		10 16 02.2	
SILO				SN		Sx		10 18 36.4	
SILO				Trac				10 18 47.4	
	comp=Z,12nm,0.6s								
LMN	**Caledonia Moun**	**15.60**	**195**	Pn		Px		10 16 07.8	
LMN				Sn		Sx		10 18 47.7	
LMN	**Caledonia Moun**	**15.60**	**195**	PN		Px		10 16 07.8	
LMN				SN		Sx		10 18 47.7	
VIMO	**Victor Mine**	**15.65**	**249**	Pn		Px		10 16 08.3	
VIMO				Sn		Sx		10 18 47.4	
VIMO	**Victor Mine**	**15.65**	**249**	PN		Px		10 16 08.3	
VIMO				SN		Sx		10 18 47.7	
VIMO				Trac				10 18 56.9	
	comp=Z,17nm,0.7s								
MALO	**McAlpine Lake**	**15.97**	**235**	PN		Px		10 16 03.3	
MALO				SN		Sx		10 18 56.8	
GGN	**Saint George**	**16.61**	**199**	Pn		Px		10 16 23.4	
GGN				Sn		Sx		10 19 02.0	
GGN	**Saint George**	**16.61**	**199**	PN		Px		10 16 23.4	
GGN				SN		Sx		10 19 02.0	
VLDQ	**Val d'Or**	**16.66**	**227**	PN		Px		10 16 21.8	
VLDQ				SN		Sx		10 19 12.8	
KAPO	**Kapuskasing**	**17.54**	**239**	PN		Px		10 16 33.3	
KAPO				SN		Sx		10 19 35.6	
HSMO	**Haileybury Sch**	**18.09**	**230**	PN		Px		10 16 41.7	
HSMO				SN		Sx		10 19 45.1	
RES	**Resolute Bay**	**18.67**	**331**	Pn		Px		10 16 45.5	
RES				Sn		Sx		10 20 01.3	
RES	**Resolute Bay**	**18.67**	**331**	PN		Px		10 16 45.5	
RES				SN		Sx		10 20 01.3	
RES				Trac				10 20 12.2	
	comp=Z,9.3nm,0.8s								
SADO	**Sadowa**	**20.14**	**225**	P		**P**		**10 17 10.0**	**+1.6**
	2.7nm,0.4s,baz=37,slow=10,SNR=3.2								
JMIC	**Jan Mayen**	**22.10**	**42**	LR		LR		10 25 11.0	
	comp=Z,41nm,20.5s,MS2.8,baz=284,slow=34								
ULM	**Lac du Bonnet**	**23.02**	**259**	P		**P**		**10 17 41.1**	**+3.8**
	2.7nm,0.6s,mb3.9,baz=49,slow=6.8,SNR=2.9								
YKA	**Yellowknife Ar**	**25.56**	**298**	P		**P**		**10 18 03.8**	**+2.2**
	0.3nm,0.3s,mb3.3,baz=183,slow=33,SNR=3.5								
NOA	**NORSAR Array B**	**32.58**	**58**	LR		LR		10 32 10.4	
	comp=Z,12nm,19.1s,MS2.6,baz=70,slow=36								
PDAR	**Pinedale Array**	**34.95**	**262**	P		**P**		**10 19 25.9**	**+0.4**
	0.2nm,0.5s,mb3.3,baz=56,slow=5.3,SNR=5.2								
ILAR	**Eielson Array**	**37.06**	**315**	P		**P**		**10 19 44.2**	**+1.2**
	0.3nm,0.8s,mb3.2,baz=56,slow=6.5,SNR=3.6								
TXAR	**Lajitas Array**	**43.21**	**243**	P		**P**		**10 20 35.2**	**+1.0**
	0.9nm,0.9s,mb3.5,baz=51,slow=5.8,SNR=9.1								
TXAR	**Lajitas Array**	**43.21**	**243**	P		**P**		**10 20 35.2**	**+1.0**
AKASG	**Malin Array Be**	**46.93**	**60**	P		**P**		**10 21 04.9**	**+1.3**
	0.2nm,0.3s,mb3.6,baz=310,slow=6.6,SNR=5.4								
MKAR	**Makanchi Array**	**68.06**	**27**	P		**P**		**10 23 31.8**	**-1.1**
	0.2nm,0.4s,mb3.5,baz=345,slow=5.0,SNR=3.9								

*NNC **25** 10:12:40.2±126.0, 42.18N×88.43E, mpv3.2, Error ellipse: s-maj=2615.5km s-min=1083.1km az=48.0*
BJI 25 10:12:36.6, 41.62N×89.15E, h15km, ML3.6, 3C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.45**	**335**	*e*P		Pn		10 13 19.5	+2.8
WMQ				S		Sn		10 13 52.5	+5.9
WMQ				SG		Sg		10 13 54.3	-3.9
WMQ				Smax					
	comp=N,309nm,0.3s								
WMQ				Smax					
	comp=E,337nm,0.3s								
MK31	**Makanchi Array**	**7.14**	**319**	⇑Pn		Pn		10 14 17.9	-5.3
	comp=E,0.7nm,0.3s,baz=134,slow=14,SNR=35								
MK31				⇑Sn		Sn		10 15 35.1	-10
	comp=E,0.9nm,0.3s,baz=135,slow=26,SNR=14								
MK31				⇑Lg				10 16 14.6	
	comp=E,3.6nm,0.5s,baz=132,slow=29								

*PGC **25** 10:54:58.3, 50.48N×130.25W, h10km, Mw4.6, West of Vancouver Island, British Columbia*
*NEIC **25** 10:54:59.6±0.9, 50.75N×130.14W, h10km, mb4.2/9, MW4.6(PGC), Error ellipse: s-maj=11.3km s-min=6.4km az=85.0*
*IDC **25** 10:55:02.2±2.0, 50.65N×129.66W, mb3.9/2, mb1 4.0/8, mb1mx3.7/25, mbtmp3.7/8, ML3.3/6, MS3.5/11, Ms1 3.5/11, ms1mx3.3/29, Error ellipse: s-maj=28.2km s-min=12.1km az=83.0*
ISC 25 10:55:01.6±1.1,**50.65N**±0.03×**129.76W**±0.06, **h19**km±12km,**n106**,σ1§**21**/**128**,**mb3.9**/**6**,**MS3.6**/**7**,**3C-2D**, **Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.03**	**90**	⇑Pn		**Pn**		**10 55 21.6**	**+0.5**
HOLB				Sn		**Sn**		**10 55 38.2**	**+3.0**
	comp=Z,480nm,0.3s								
HOLB				Trac				10 55 39.2	
	comp=Z,480nm,0.3s								
BPBC	**Brooks Peninsu**	**1.36**	**110**	⇑Pn		**Pn**		**10 55 24.7**	**-1.2**
BPBC				Sn		**Sn**		**10 55 43.4**	**-0.1**
	comp=Z,394nm,0.2s								
BPBC				Trac				10 55 46.5	
	comp=Z,394nm,0.2s								
PHC	**Port Hardy**	**1.48**	**87**	⇑Pn		**Pn**		**10 55 28.2**	**+0.7**
PHC				Sn		**Sn**		**10 55 49.0**	**+2.5**
PHC				Trac				10 55 50.4	
	comp=Z,357nm,0.2s								
MAYB	**Maynard**	**1.67**	**97**	⇑Pn		**Pn**		**10 55 30.2**	**0.0**
MAYB				Sn		**Sn**		**10 55 53.8**	**+2.5**
	comp=Z,140nm,0.4s								
MAYB				Trac				10 55 56.9	
	comp=Z,140nm,0.4s								
BBB	**Bella Bella**	**1.85**	**33**	Pn		**Pn**		**10 55 33.2**	**+0.3**
	7.5nm,0.3s,baz=234,slow=6.8,SNR=251								
BBB				Sn		**Sn**		**10 55 56.5**	**+0.5**
	19nm,0.3s,baz=281,slow=5.2,SNR=8.9								
BBB				LR		LR		10 56 35.6	
	comp=Z,443nm,18.3s,baz=224,slow=51								
BBB	**Bella Bella**	**1.85**	**33**	Pn		**Pn**		**10 55 33.2**	**+0.3**
BBB				Sn		**Sn**		**10 55 56.5**	**+0.5**
BBB				LR		LR		10 56 35.6	
BBB	**Bella Bella**	**1.85**	**33**	⇓Pn		**Pn**		**10 55 33.1**	**+0.2**
BBB				Sn		**Sn**		**10 55 56.2**	**+0.9**
BBB				Trac				10 56 06.0	
	comp=Z,65nm,0.2s								
EDB	**Eliza Dome**	**1.86**	**114**	Pn		**Pn**		**10 55 31.7**	**-1.3**
EDB				Sn		**Sn**		**10 55 55.0**	**-1.2**
EDB				Trac				10 55 58.5	
	comp=Z,110nm,0.3s								
WOSB	**Woss**	**2.10**	**102**	⇑Pn		**Pn**		**10 55 36.3**	**-0.1**
WOSB				Trac				10 56 08.1	
	comp=Z,41nm,0.2s								
BNB	**Barry Inlet**	**2.30**	**328**	Pn		**Pn**		**10 55 34.0**	**-5.2**
BNB				Trac				10 56 05.7	
	comp=Z,276nm,0.2s								
NCRB	**Newcastle Ridg**	**2.38**	**94**	⇑Pn		**Pn**		**10 55 40.5**	**+0.2**
ETB	**Estevan Point**	**2.44**	**120**	Pn		**Pn**		**10 55 39.3**	**-1.9**
ETB				Sn		**Sn**		**10 56 08.0**	**-2.7**
	comp=Z,64nm,0.3s								
ETB				Trac				10 56 11.3	
	comp=Z,64nm,0.3s								
GDR	**Gold River**	**2.54**	**108**	⇑Pn		**Pn**		**10 55 41.9**	**-0.9**
GDR				Sn		**Sn**		**10 56 12.5**	**-1.1**
	comp=Z,91nm,0.5s								
GDR				Trac				10 56 18.0	
	comp=Z,91nm,0.5s								
MOBC	**Moresby Island**	**2.88**	**333**	Pn		**Pn**		**10 55 42.5**	**-5.0**
CBB	**Campbell River**	**2.88**	**101**	⇑Pn		**Pn**		**10 55 47.7**	**+0.1**
CBB				Sn		**Sn**		**10 56 22.8**	**+0.8**
CBB				Trac				10 56 23.1	
	comp=Z,72nm,0.6s								
BNAB	**Bonilla**	**2.90**	**350**	Pn		**Pn**		**10 55 45.0**	**-2.8**
BNAB				Sn		**Sn**		**10 56 18.6**	**-4.1**
	comp=Z,7.0nm,0.2s								
BNAB				Trac				10 56 22.4	
	comp=Z,7.0nm,0.2s								
BTB	**Buttle Lake**	**2.97**	**112**	⇑Pn		**Pn**		**10 55 47.9**	**-1.0**
BTB				Sn		**Sn**		**10 56 24.1**	**-0.3**
	comp=Z,187nm,0.3s								
BTB				Trac				10 56 26.0	
	comp=Z,187nm,0.3s								
VIB	**Van Inlet**	**3.13**	**328**	Pn		**Pn**		**10 55 46.0**	**-5.1**
VIB				Trac				10 56 40.2	
	comp=Z,15nm,0.4s								
OZB	**Mount Ozzard**	**3.24**	**120**	Pn		**Pn**		**10 55 50.8**	**-1.8**
OZB				Sn		**Sn**		**10 56 27.1**	**-3.9**
OZB				Trac				10 56 30.8	
	comp=Z,97nm,0.3s								
ALB	**Alberni**	**3.47**	**111**	Pn		**Pn**		**10 55 55.0**	**-0.9**
ALB				Sn		**Sn**		**10 56 36.4**	**-0.4**
	comp=Z,34nm,0.4s								
ALB				Trac				10 56 40.2	
	comp=Z,34nm,0.4s								
TXB	**Texada**	**3.55**	**103**	Pn		**Pn**		**10 55 56.6**	**-0.5**
RUBB	**Prince Rupert**	**3.70**	**356**	Pn		**Pn**		**10 55 57.0**	**-2.2**
RUBB				Sn		**Sn**		**10 56 39.6**	**-3.1**
RUBB				Trac				10 56 41.8	
	comp=Z,20nm,0.3s								
NDB	**Naden**	**3.85**	**331**	Pn		**Pn**		**10 55 56.2**	**-5.1**
NDB				Trac				10 57 00.7	
	comp=Z,5.0nm,0.4s								
SHB	**Sechelt**	**3.93**	**103**	Pn		**Pn**		**10 56 02.1**	**-0.3**
SHB				Sn		**Sn**		**10 56 48.3**	**-0.2**
SHB				Trac				10 56 53.5	
	comp=Z,54nm,0.3s								
NLLB	**Nanaimo Lost L**	**3.99**	**109**	Pn		**Pn**		**10 56 02.0**	**-1.3**
NLLB				Sn		**Sn**		**10 56 48.0**	**-2.1**
NLLB				Trac				10 56 56.5	
	comp=Z,17nm,0.3s								
PFB	**Port Renfrew**	**4.03**	**119**	Pn		**Pn**		**10 56 03.5**	**-0.5**
PFB				Sn		**Sn**		**10 56 48.5**	**-2.7**
PFB				Trac				10 56 54.6	
	comp=Z,33nm,0.5s								
WPB	**Watts Point**	**4.33**	**101**	Pn		**Pn**		**10 56 08.2**	**+0.1**
BIB	**Bowen Island**	**4.34**	**104**	Pn		**Pn**		**10 56 08.2**	**-0.1**
BIB				Sn		**Sn**		**10 56 58.4**	**-0.6**
	comp=Z,8.0nm,0.3s								
BIB				Trac				10 57 09.5	
	comp=Z,8.0nm,0.3s								
LZB	**Mount Lazard**	**4.36**	**116**	Pn		**Pn**		**10 56 08.8**	**+0.2**
LZB				Sn		**Sn**		**10 56 57.6**	**-1.9**
LZB				Trac				10 57 03.0	
	comp=Z,6.0nm,0.2s								
GOBB	**Galiano Island**	**4.39**	**110**	Pn		**Pn**		**10 56 09.6**	**+0.6**
GOBB				Sn		**Sn**		**10 56 59.9**	**-0.3**
	comp=Z,14nm,0.3s								
GOBB				Trac				10 57 04.0	
	comp=Z,14nm,0.3s								
WSLR	**Whistler**	**4.41**	**94**	Pn		**Pn**		**10 56 10.8**	**+1.5**
OBC	**Olympics--Boni**	**4.54**	**123**	P		**P**		**10 56 10.7**	**-0.4**
PGC	**Sidney**	**4.56**	**114**	*e*P		**Pn**		**10 56 10.6**	**-0.8**
PGC	**Sidney**	**4.56**	**114**	Pn		**Pn**		**10 56 11.0**	**-0.4**
PGC				Sn		**Sn**		**10 57 01.8**	**-2.7**
PGC				Trac				10 57 11.6	
	comp=Z,19nm,0.6s								
SNB	**Saturna Island**	**4.67**	**111**	Pn		**Pn**		**10 56 13.9**	**+1.0**
SNB				Sn		**Sn**		**10 57 07.5**	**+0.3**
SNB				Trac				10 57 13.5	
	comp=Z,22nm,0.3s								
OCWA	**Octopus Mounta**	**4.67**	**126**	*e*P		**Pn**		**10 56 11.7**	**-1.2**
VGZ	**Gonzales**	**4.75**	**116**	Pn		**Pn**		**10 56 13.3**	**-0.7**
VGZ				Sn		**Sn**		**10 57 05.8**	**-3.4**
VGZ				Trac				10 57 10.7	
	comp=Z,11nm,0.2s								
HNB	**Haney**	**4.83**	**104**	Pn		**Pn**		**10 56 16.2**	**+1.0**
HNB				Sn		**Sn**		**10 57 11.4**	**0.0**
HNB				Trac				10 57 23.8	
	comp=Z,32nm,0.8s								
MCW	**Mount Constitu**	**4.91**	**111**	P		**Pn**		**10 56 16.6**	**+0.3**
LLLB	**Lillooet**	**5.01**	**87**	⇓Pn		**Pn**		**10 56 18.4**	**+0.6**
VDB	**Vedder Mountai**	**5.21**	**105**	P		**Pn**		**10 56 21.5**	**+0.8**
VDB	**Vedder Mountai**	**5.21**	**105**	Pn		**Pn**		**10 56 21.4**	**+0.8**
MBW	**Mount Baker**	**5.43**	**107**	P		**Pn**		**10 56 24.5**	**+0.9**
CMW	**Cultus Mountai**	**5.45**	**111**	P		**Pn**		**10 56 24.5**	**+0.5**
HOPB	**Hope**	**5.52**	**100**	Pn		**Pn**		**10 56 25.7**	**+0.7**
RPW	**Rockport**	**5.80**	**109**	P		**Pn**		**10 56 29.3**	**+0.4**
GSM	**Grass Mountain**	**6.28**	**120**	P		**Pn**		**10 56 36.0**	**+0.4**
FMW	**Mount Fremont**	**6.51**	**122**	P		**Pn**		**10 56 39.1**	**+0.2**
LON	**Longmire**	**6.55**	**123**	P		**P

MOOW	**Moose Ponds**	**14.63**	**111**	*e*P		**P**	**10 58 30.8**	**+1.5**
	16nm,1.0s								
TPAW	**Teton Pass**	**14.66**	**112**	*e*P		**P**	**10 58 31.9**	**+2.2**
	28nm,1.0s								
NVAR	**Mina Array Bea**	**14.67**	**142**	Pn	P	**P**	**10 58 32.2**	**+2.3**
	0.0nm,0.3s,baz=318,slow=11,SNR=4.4								
SNOW	**Snow King Moun**	**14.79**	**112**	*e*P		**P**	**10 58 33.0**	**+1.6**
	24nm,1.0s								
REDW	**Red Top Meadow**	**14.79**	**112**	P		**P**	**10 58 32.6**	**+1.2**
	18nm,1.0s								
LOHW	**Long Hollow**	**14.79**	**111**	*e*P		**P**	**10 58 32.6**	**+1.2**
	12nm,0.9s								
OMM	**Old Mammoth Mi**	**15.12**	**145**	*e*P		**P**	**10 58 36.6**	**+0.8**
HWUT	**Hardware Ranch**	**15.48**	**119**	*e*P		**P**	**10 58 42.1**	**+1.7**
	63nm,2.1s								
BW06	**Boulder Array**	**15.90**	**112**	*e*P		**P**	**10 58 48.4**	**+2.4**
	20nm,1.2s								
PDAR	**Pinedale Array**	**15.91**	**112**	Pn	P	**P**	**10 58 49.0**	**+3.1**
	0.1nm,0.3s,baz=310,slow=12,SNR=66								
DAU	**Daniels Canyon**	**16.47**	**121**	*e*P		**P**	**10 58 54.5**	**+1.4**
PTRM	**Twissleman Ran**	**16.50**	**152**	P		**P**	**10 58 56.8**	**+3.2**
ILAR	**Eielson Array**	**16.77**	**334**	Pn	P	**P**	**10 58 59.9**	**+3.2**
	0.0nm,0.3s,baz=135,slow=7.7,SNR=8.0								
FFC	**Flin Flon**	**17.27**	**66**	P		**P**	**10 59 02.7**	**-0.5**
MSU	**Marysvale**	**17.38**	**128**	*e*P		**P**	**10 59 05.4**	**+0.8**
NEN	**Nelson**	**18.47**	**139**	*e*P		**P**	**10 59 19.1**	**+0.9**
LDFC	**Landfair**	**18.85**	**140**	*e*P		**P**	**10 59 20.7**	**-2.0**
PV10	**Paradox Valley**	**19.13**	**122**	*e*P		**P**	**10 59 26.5**	**+0.5**
PHWY	**Pilot Hill**	**19.23**	**110**	*e*P		**P**	**10 59 26.6**	**-0.6**
PV01	**Paradox Valley**	**19.55**	**122**	*e*P		**P**	**10 59 30.5**	**-0.4**
SMCO	**Snowmass**	**19.71**	**117**	*e*P		**P**	**10 59 32.5**	**-0.2**
ULM	**Lac du Bonnet**	**21.48**	**78**	P		**P**	**10 59 53.4**	**+2.4**
	2.3nm,0.6s,mb3.7,baz=284,slow=15,SNR=4.0								
ULM				LR		LR	11 08 48.3		
	comp=Z,82nm,21.4s,MS3.1,baz=281,slow=39								
SDCO	**Great Sand Dun**	**21.53**	**117**	*e*P		**P**	**10 59 51.8**	**+0.3**
	12nm,1.5s,mb4.1								
ANMO	**Albuquerque**	**23.06**	**124**	*e*P		**P**	**11 00 07.8**	**+1.1**
	6.4nm,1.5s,mb3.8								
TUC	**Tucson**	**23.07**	**135**	*e*P		**P**	**11 00 07.3**	**+0.5**
	6.5nm,1.1s,mb4.0								
LAZ	**Ladron**	**23.13**	**126**	*e*P		**P**	**11 00 08.3**	**+0.9**
MNTX	**Cornudas Mount**	**26.16**	**127**	*e*P		**P**	**11 00 36.3**	**-0.1**
	5.3nm,1.1s,mb4.0								
TXAR	**Lajitas Array**	**28.94**	**127**	P		**P**	**11 01 02.0**	**+0.4**
	1.7nm,1.0s,mb3.7,baz=329,slow=7.3,SNR=14								
TXAR				LR		LR	11 13 56.8		
	comp=Z,53nm,19.1s,MS3.2,baz=290,slow=39								
SIUC	**Southern Illin**	**31.41**	**98**	P		**P**	**11 01 21.0**	**-2.5**
SCHQ	**Schefferville**	**37.19**	**58**	LR		LR	11 16 08.8		
	comp=Z,88nm,19.7s,MS3.5,baz=287,slow=34								
ARCES	**ARCESS Array B**	**58.77**	**10**	LR		LR	11 30 08.9		
	comp=Z,46nm,18.8s,MS3.6,baz=80,slow=36								
FINES	**FINESS Array B**	**66.60**	**12**	LR		LR	11 33 23.7		
	comp=Z,49nm,21.4s,MS3.7,baz=325,slow=35								
BDFB	**Brasilia**	**96.81**	**106**	LR		LR	11 58 53.4		
	comp=Z,33nm,18.3s,MS3.9,baz=26,slow=40								
CPUP	**Villa Florida**	**99.65**	**120**	LR		LR	12 01 60.0		
	comp=Z,41nm,18.7s,MS4.0,baz=6.4,slow=40								

*NEIC **25** 11:07:15.1±0.4, 7.82N×91.91E, mb4.4/9, Error ellipse: s-maj=9.6km s-min=6.5km az=207.0*
*BJI **25** 11:07:15.1, 7.80N×91.90E, h31km, mB4.3, mb4.4, Ms4.2, Msz3.9*
*IDC **25** 11:07:15.9±1.1, 7.96N×91.98E, h31km±4km, mb3.8/11, mb1 3.9/11, mb1mx3.8/19, mbtmp3.9/11, MS3.6/2, Ms1 3.6/2, ms1mx3.3/18, Error ellipse: s-maj=34.5km s-min=21.4km az=47.0*

ISC 25 11:07:12.8±0.6, 7.82N±0.08×91.93E±0.08, h29km, h29km±1.4km:pP-P, n44, σ0§67/40, mb4.3/23, MS3.8/4, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**9.02**	**106**	*e*Pn	**P**	**11 09 22.9**	**-1.4**
PALK	**Pallekele**	**11.14**	**268**	*e*Pn	**P**	**11 09 52.0**	**-1.4**
HYB	**Hyderabad**	**16.15**	**307**	*e*P	**P**	**11 11 05.5**	**+5.9**
HYB	**Hyderabad**	**16.15**	**307**	*i* P	**P**	**11 11 05.5**	**+5.9**
SHL	**Shillong**	**17.65**	**360**	*e*P	**P**	**11 11 17.0**	**-1.4**
KMI	**Kunming**	**20.07**	**30**	P	**P**	**11 11 47.0**	**+0.2**
KMI				AP		11 11 56.0	
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s						
KMI				AMB	AMB		
	comp=Z,71nm,5.3s						
KMI				LR	LR		
	comp=N,175nm,12.7s,MS3.8						
KMI				LR	LR		
	comp=E,240nm,12.7s,MS3.8						
KMI				LR	LR		
	comp=Z,182nm,17.3s,MS3.5						
KMI	**Kunming**	**20.07**	**30**	P	**P**	**11 11 46.9**	**+0.1**
	comp=Z,10.0nm,1.2s						
KMI				pP		11 11 56.1	
KMI				LR	LR		
	comp=Z,180nm,17.3s,MS3.5						
PKI	**Pulchoki**	**20.59**	**343**	*e*P	**P**	**11 11 52.3**	**0.0**
	comp=Z,21nm,0.5s						
DMN	**Daman**	**20.71**	**343**	*e*P	**P**	**11 11 53.5**	**0.0**
	comp=Z,26nm,0.7s						
GUN	**Gumba**	**20.79**	**345**	*e*P	**P**	**11 11 53.9**	**-0.3**
	comp=Z,34nm,0.6s						
KKN	**Kakani**	**20.83**	**343**	*e*P	**P**	**11 11 54.7**	**-0.1**
	comp=Z,27nm,0.8s						
GKN	**Gorkha**	**21.23**	**342**	*e*P	**P**	**11 11 59.0**	**+0.3**
	comp=Z,56nm,0.5s,mb5.1						
KOLN	**Koldanda**	**21.35**	**339**	*e*P	**P**	**11 12 00.3**	**+0.3**
	comp=Z,84nm,0.7s,mb5.2						
LSA	**Lhasa**	**21.78**	**358**	P	**P**	**11 12 05.0**	**+0.7**
LSA	**Lhasa**	**21.78**	**358**	*e*P	**P**	**11 12 05.8**	**+1.5**
	comp=Z,31nm,0.6s,mb4.9						
LSA				epP		11 12 15.1	
GYA	**Guiyang**	**23.23**	**35⇑**	i/P	**P**	**11 12 18.0**	**-0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
CD2	**Chengdu**	**25.50**	**24**	P	**P**	**11 12 39.5**	**-1.0**
ENH	**Enshi**	**27.75**	**34**	*e*P	**P**	**11 13 01.4**	**+0.3**
	comp=Z,19nm,0.9s,mb4.7						
ENH				*e*pP	pP	11 13 07.6	-2.1
GTA	**Gaotai**	**32.24**	**11**	*e*P	**P**	**11 13 41.0**	**0.0**
GTA				AP	pP	11 13 47.8	-1.9
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.4						
WMQ	**Urumqi**	**36.05**	**355**	*e*P	**P**	**11 14 14.5**	**+0.8**
WMQ				AP	pP	11 14 24.3	+1.8
WMQ				XP	sP	11 14 28.3	+2.1
WMQ				AMB	AMB		
	comp=Z,1.0nm,1.1s,mb3.7						
WMQ				LR	LR		
	comp=N,286nm,15.7s,MS4.3						
WMQ				LR	LR		
	comp=E,264nm,15.4s,MS4.3						
WMQ				LR	LR		
	comp=Z,426nm,15.6s,MS4.3						
AAK	**Ala-Archa**	**37.92**	**339**	*e*P	**P**	**11 14 30.0**	**+0.6**
	comp=Z,7.3nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**39.70**	**350**	P	**P**	**11 14 44.2**	**0.0**
	comp=Z,1.9nm,0.7s,mb3.9,baz=164,slow=8.4,SNR=14						
MKAR				pP	pP	11 14 52.9	-0.2
	comp=Z,4.0nm,0.8s,baz=161,slow=9.5,SNR=12						
MKAR				LR	LR	11 32 08.5	
	comp=Z,51nm,20.3s,MS3.4,baz=184,slow=38						
MKAR	**Makanchi Array**	**39.70**	**350**	P	**P**	**11 14 44.2**	**0.0**
MKAR				pP	pP	11 14 52.9	-0.2
MKAR				LR	LR	11 32 08.5	
SONM	**Songino Array**	**41.73**	**15**	P	**P**	**11 15 01.1**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.6,baz=203,slow=9.4,SNR=6.2						
SONM				pP	pP	11 15 09.7	0.0
	comp=Z,6.2nm,0.7s,baz=203,slow=8.0,SNR=27						
ZAL	**Zalesovo**	**46.34**	**354**	P	**P**	**11 15 38.2**	**+0.2**
	comp=Z,1.3nm,0.6s,mb4.0,baz=294,slow=8.8,SNR=8.1						
BVAR	**Borovoye Array**	**48.36**	**343**	P	**P**	**11 15 53.6**	**-0.3**
	comp=Z,1.5nm,0.7s,mb4.1,baz=141,slow=9.5,SNR=11						
BVAR				pP	pP	11 16 03.8	+1.0
	comp=Z,0.6nm,0.5s,baz=129,slow=9.5,SNR=3.6						
BRVK	**Borovoye**	**48.42**	**343**	*e*P	**P**	**11 15 53.6**	**-0.7**
	comp=Z,1.4nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**48.71**	**342**	*e*P	**P**	**11 15 56.3**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**50.03**	**124**	P	**P**	**11 16 08.0**	**+0.8**
	comp=Z,1.3nm,0.4s,mb4.3,baz=303,slow=8.7,SNR=34						
WRAB	**Tennant Creek**	**50.04**	**124**	*e*P	**P**	**11 16 07.7**	**+0.5**
	comp=Z,3.3nm,0.5s,mb4.6						
ARU	**Arti**	**55.10**	**338**	*e*P	**P**	**11 16 44.5**	**0.0**
	comp=Z,5.2nm,0.3s,mb5.0						
BRTR	**Keskin Array B**	**60.81**	**311**	P	**P**	**11 17 24.9**	**+0.1**
	comp=Z,2.1nm,0.8s,mb4.3,baz=118,slow=7.3,SNR=9.6						
AKASG	**Malin Array Be**	**66.84**	**322**	P	**P**	**11 18 03.5**	**-0.7**
	comp=Z,0.2nm,0.3s,mb3.6,baz=89,slow=5.4,SNR=4.4						
FINES	**FINESS Array B**	**71.74**	**333**	pP	pP	11 18 43.9	+0.6
	comp=Z,1.4nm,0.6s,baz=112,slow=10,SNR=3.5						
ARCES	**ARCESS Array B**	**74.58**	**340**	P	**P**	**11 18 50.9**	**+0.4**
	comp=Z,2.1nm,0.7s,mb4.2,baz=97,slow=7.3,SNR=4.2						
ARCES				pP	pP	11 19 00.9	+1.1
	comp=Z,2.8nm,0.7s,baz=101,slow=6.2,SNR=4.4						
ARCES	**ARCESS Array B**	**74.58**	**340**	P	**P**	**11 18 50.9**	**+0.4**
ARCES				pP	pP	11 19 00.9	+1.1
GERES	**GERESS Array B**	**76.41**	**318**	P	**P**	**11 19 02.7**	**+1.4**
	comp=Z,1.8nm,0.7s,mb4.1,baz=76,slow=5.5,SNR=14						
GERES				pP	pP	11 19 12.9	+2.3
	comp=Z,2.2nm,0.9s,baz=90,slow=5.3,SNR=4.5						
FX1	**Attu Island--F**	**78.52**	**38**	pP	pP	11 19 24.6	+2.3
	comp=Z,5.2nm,0.6s,baz=131,slow=8.9,SNR=2.4						
NB2	**NORSAR Subarra**	**78.70**	**331**	P	**P**	**11 19 14.0**	**+0.3**
	comp=Z,0.6nm,0.7s,mb3.6,baz=94,slow=5.8						
NOA	**NORSAR Array B**	**78.70**	**331**	P	**P**	**11 19 14.1**	**+0.3**
	comp=Z,0.4nm,0.8s,mb3.4,baz=33,slow=22,SNR=3.2						
NOA				pP	pP	11 19 23.6	+0.5
	comp=Z,1.0nm,0.7s,baz=92,slow=5.8,SNR=3.1						
NOA	**NORSAR Array B**	**78.70**	**331**	P	**P**	**11 19 14.1**	**+0.3**
NOA				pP	pP	11 19 23.6	+0.5
ILAR	**Eielson Array**	**95.61**	**22**	P	**P**	**11 20 37.1**	**+0.7**
	comp=Z,0.3nm,0.7s,mb3.8,baz=304,slow=5.0,SNR=5.5						
ILAR				LR	LR	12 10 43.0	
	comp=Z,35nm,18.5s,MS3.9,baz=179,slow=40						
PDAR	**Pinedale Array**	**125.98**	**19**	PKP	PKPdf	11 26 15.3	-2.3
	comp=Z,0.6nm,0.8s,slow=1.5,SNR=6.5						
TXAR	**Lajitas Array**	**140.12**	**21**	PKP	PKPdf	11 26 43.2	-1.3
	comp=Z,0.3nm,0.6s,baz=220,slow=0.9,SNR=4.0						

CSEM 25 11:18:56.5±1.3, 41.32N×1.91E, mb3.6/1, Error ellipse: s-maj=10.0km s-min=5.4km az=147.0, After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EPOB	**Poblet**	**0.63**	**273**	Pg	Pg	11 19 08.1	-0.9
	2.5nm,0.2s,SNR=6.5						
EPOB				Lg		11 19 16.1	
	0.1nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**0.66**	**334**	Pg	Pg	11 19 08.8	-0.9
	1.4nm,0.2s,SNR=7.9						
EMIR				Lg		11 19 17.6	
	0.9nm,0.4s,SNR=7.9						
EJON	**La Jonquera**	**1.34**	**33**	Pg	Pg	11 19 20.4	-2.9
	0.9nm,0.4s,SNR=7.9						
EJON				Lg		11 19 38.5	
	4.4nm,0.3s,SNR=7.9						
EGRA	**Graus**	**1.48**	**307**	Pg	Pg	11 19 23.5	-2.5
	6.1nm,1.2s,SNR=7.9						
EGRA				Lg		11 19 44.2	
	2.3nm,0.7s,SNR=7.9						
ESAC	**San Caprasio**	**1.83**	**283**	Pn	Pn	11 19 28.6	-0.9
	6.1nm,0.3s,SNR=7.9						
ESAC				Lg		11 19 54.2	
	6.2nm,0.2s,SNR=7.9						

NNC 25 11:19:48.4±3.6, 37.53N×70.33E, mpv3.7, 1C-2D, Error ellipse: s-maj=35.4km s-min=24.0km az=149.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.57**	**1**	P	Pn	11 21 11.9	-2.6
	2.7nm,0.3s,baz=175,slow=11,SNR=76						
KK31				S	Sn	11 22 18.6	-1.7
	9.8nm,0.6s,baz=168,slow=29,SNR=7.7						
AAK	**Ala-Archa**	**6.01**	**31**	⇓P	Pn	11 21 19.1	-1.7
	6.3nm,0.8s						
AAK				⇑S	Sn	11 22 29.7	-1.7
	3.6nm,0.6s						
AB31	**Akbulak array**	**13.93**	**331**	P	P	11 23 08.0	-1.2
	0.1nm,0.3s,baz=152,slow=16,SNR=6.5						
AB31				⇓S	S	11 25 29.2	-16
	1.2nm,0.8s,baz=135,slow=23,SNR=4.6						

*IDC **25** 11:31:48.3±1.7, 1.21N×124.16E, mb3.8/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.8/3, Error ellipse: s-maj=206.1km s-min=26.3km az=62.0*
*NEIC **25** 11:31:53.1±1.0, 1.18N×124.16E, h35km, mb4.0/1, Error ellipse: s-maj=79.0km s-min=17.2km az=69.0*

ISC 25 11:31:51.2±1.1, 1.2N±0.2×124.0E±0.5, h33km, n7, σ1§10/7, mb3.8/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**23.31**	**155**	*e*P	**P**	**11 36 58.8**	**+1.4**
	3.6nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**23.31**	**155**	P	**P**	**11 36 57.9**	**+0.5**
	1.7nm,0.5s,mb3.8,baz=333,slow=11,SNR=38						
STKA	**Stephens Creek**	**36.87**	**155**	P	**P**	**11 38 58.0**	**-0.5**
	1.8nm,0.4s,mb4.2,baz=332,slow=11,SNR=5.5						
TAU	**Tasmania Unive**	**48.65**	**157**	P	**P**	**11 40 31.3**	**-2.8**
	138nm,1.4s						
MKAR	**Makanchi Array**	**58.15**	**327**	P	**P**	**11 41 44.4**	**+0.3**
	0.2nm,0.5s,mb3.4,baz=113,slow=8.3,SNR=4.5						
MKAR	**Makanchi Array**	**58.15**	**327**	P	**P**	**11 41 44.4**	**+0.3**
PMR	**Palmer**	**87.49**	**29**	P	**P**	**11 44 36.5**	**-0.1**

NNC 25 11:40:18.4±9.0, 36.92N×70.99E, h167km±171km, mpv4.1, 1C-2D, Error ellipse: s-maj=93.1km s-min=64.3km az=36.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.19**	**357**	⇑P	P	11 41 47.9	-0.7
	9.4nm,0.3s,baz=180,slow=13,SNR=240						
KK31				⇓S	S	11 42 58.9	+0.1
	3.5nm,0.4s,baz=182,slow=23,SNR=9.8						
AAK	**Ala-Archa**	**6.31**	**24**	P	P	11 41 48.6	-1.7
	3.7nm,0.4s						
AAK				S	S	11 43 01.8	+0.1
	3.4nm,0.7s						
AB31	**Akbulak array**	**14.72**	**330**	P	P	11 43 40.4	+1.0
	0.6nm,0.3s,baz=135,slow=13,SNR=36						
AB31				⇓S	S	11 46 18.4	+0.2
	0.7nm,0.6s,baz=159,slow=24,SNR=2.9						

*NEIC **25** 11:51:28.3±0.6, 38.83N×107.42W, h1km, ML3.1, Error ellipse: s-maj=8.8km s-min=5.7km az=150.0, Suspected Mining induced.*
NEIC Probable coal bump.
*IDC **25** 11:51:28.8±1.4, 39.27N×106.90W, mb1 3.1/3, mb1mx3.0/24, mbtmp2.6/3, ML2.9/3, Error ellipse: s-maj=25.7km s-min=9.8km az=68.0*

ISC 25 11:51:28.6±0.5, 38.98N±0.04×107.47W±0.06, n30, σ1§05/33, 1D, Colorado

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMCO	**Snowmass**	**0.44**	**63⇓**	*e*P	**Pg**	**11 51 36.3**	**-1.0**
PV01	**Paradox Valley**	**1.20**	**226**	*e*P	**Pb**	**11 51 49.5**	**-2.5**
PV10	**Paradox Valley**	**1.37**	**244**	*e*P	**Pb**	**11 51 53.6**	**-1.2**
SDCO	**Great Sand Dun**	**1.98**	**128**	*e*P	**Pn**	**11 52 02.3**	**-1.4**
SRU	**San Rafael**	**2.38**	**274**	*e*Pn	**Pn**	**11 52 09.9**	**+0.4**
RWWY	**Rawlins**	**2.72**	**4**	*e*Pn	**Pn**	**11 52 16.3**	**+2.0**
PHWY	**Pilot Hill**	**2.79**	**33**	*e*Pn	**Pn**	**11 52 15.6**	**+0.3**
TMUT	**Trail Mountain**	**2.92**	**277**	*e*Pn	**Pn**	**11 52 17.5**	**+0.3**
DAU	**Daniels Canyon**	**3.25**	**297**	*e*Pn	**Pn**	**11 52 23.1**	**+1.2**
MPU	**Maple Canyon**	**3.38**	**289**	*e*Pn	**Pn**	**11 52 22.4**	**-1.4**
JLU	**Jordanelle**	**3.47**	**299**	Pn	**Pn**	**11 52 25.5**	**+0.5**
NLU	**North Lily Min**	**3.69**	**287**	Pn	**Pn**	**11 52 28.7**	**+0.5**
TCUT	**Toone Canyon**	**3.70**	**307**	*e*Pn	**Pn**	**11 52 28.5**	**+0.2**
MSU	**Marysvale**	**3.71**	**264**	*e*Pn	**Pn**	**11 52 29.6**	**+1.2**
CTU	**Camp Tracy**	**3.71**	**299**	Pn	**Pn**	**11 52 30.2**	**+1.7**
HWUT	**Hardware Ranch**	**4.09**	**311**	*e*Pn	**Pn**	**11 52 33.7**	**0.0**
ANMO	**Albuquerque**	**4.10**	**168**	Pn	**Pn**	**11 52 40.7**	**+6.8**
	baz=356,slow=15,SNR=13						
ANMO				Pg	**Pg**	**11 52 52.5**	**+2.0**
	baz=357,slow=11,SNR=7.0						
ANMO	**Albuquerque**	**4.10**	**168**	Pn	**Pn**	**11 52 40.7**	**+6.8**
ANMO				Pg	**Pg**	**11 52 52.5**	**+2.0**
PDAR	**Pinedale Array**	**4.10**	**338**	Pn	**Pn**	**11 52 34.1**	**+0.2**
	0.1nm,0.3s,baz=145,slow=14,SNR=4.6						
PDAR				Pg	**Pg**	**11 52 44.5**	**-6.1**
	0.4nm,0.3s,baz=150,slow=12,SNR=41						
PDAR				Lg		11 53 38.2	
	0.2nm,0.3s,baz=133,slow=31,SNR=2.7						
ARUT	**Antelope Range**	**4.84**	**258**	Pn	**Pn**	**11 52 43.1**	**-1.3**
REDW	**Red Top Meadow**	**5.07**	**331**	Pn	**Pn**	**11 52 47.0**	**-0.7**
SNOW	**Snow King Moun**	**5.12**	**332**	*e*Pn	**Pn**	**11 52 48.6**	**+0.2**
LOHW	**Long Hollow**	**5.20**	**334**	*e*Pn	**Pn**	**11 52 48.4**	**-1.1**
TPAW	**Teton Pass**	**5.22**	**331**	Pn	**Pn**	**11 52 49.2**	**-0.6**
	17nm,1.0s						
RRI2	**Red Ridge**	**5.24**	**328**	Pn	**Pn**	**11 52 49.8**	**-0.3**
IMW	**Indian Meadow**	**5.56**	**333**	*e*Pn	**Pn**	**11 52 54.5**	**-0.2**
ELK	**Elko**	**6.23**	**289**	Pg	**Pg**	**11 53 24.7**	**-8.3**
	0.1nm,0.3s,baz=101,slow=6.5,SNR=4.4						
MCMT	**McKenzie Canyo**	**7.09**	**327**	Pn	**Pn**	**11 53 15.7**	**-0.4**
NVAR	**Mina Array Bea**	**8.49**	**270**	Pn	**P**	**11 53 40.9**	**+5.2**
	0.1nm,0.3s,baz=100,slow=10,SNR=1.6						
TXAR	**Lajitas Array**	**10.12**	**161**	Pn	**P**	**11 53 59.2**	**+0.9**
	0.0nm,0.3s,baz=344,slow=20,SNR=3.4						
TXAR				Pg	P	11 54 39.1	+41
	0.0nm,0.3s,baz=357,slow=16,SNR=5.2						

*ISK **25** 12:00:35.3, 39.89N×39.12E, h5km, MD3.5*
*CSEM **25** 12:00:35.3, 39.89N×39.12E, h5km, MD3.5, After ISK*

ISC 25 12:00:36.9±0.6, 39.88N±0.04×39.16E±0.06, h5km, n12, σ0§84/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMT	**Gumushane**	**0.63**	**23**	*i* Pg	**Pg**	**12 00 48.6**	**-1.0**
PTK	**Pertek**	**1.00**	**169**	*i* Pg	**Pg**	**12 00 55.8**	**-1.2**
ELZG	**Elazig**	**1.38**	**186**	*i* P	**Pb**	**12 01 01.4**	**-1.6**
ELZG				*i* S	**Sb**	**12 01 21.3**	**+0.5**
MYA	**Malataya**	**1.65**	**200**	PN	**Pn**	**12 01 06.2**	**-0.6**
MYA				SN	**Sn**	**12 01 29.4**	**+0.8**
EZM	**Erzurum**	**1.70**	**88**	PN	**Pn**	**12 01 08.3**	**+0.8**
SVST	**Sivas**	**1.70**	**267**	*i* P	**Pn**	**12 01 07.9**	**+0.5**
SVST				*i* S	**Sn**	**12 01 30.4**	**+0.6**
ERZM	**Erzurum**	**1.70**	**88**	*i* P	**Pn**	**12 01 09.0**	**+1.4**
ERZM				*i* S	**Sn**	**12 01 35.0**	**+5.1**
BCA	**Borcka**	**2.44**	**49**	PN	**Pn**	**12 01 18.0**	**-0.2**
BEST	**Besiri**	**2.58**	**140**	*i* P	**Pn**	**12 01 25.0**	**+4.9**
BEST				*i* S	**Sn**	**12 02 01.7**	**+9.5**
BNN	**Bunyan**	**2.76**	**249**	*e*PN	**Pn**	**12 01 22.7**	**0.0**
YOZ	**Yozgat**	**2.96**	**267**	*e*PN	**Pn**	**12 01 25.2**	**-0.4**
CORM	**Corum**	**3.49**	**276**	*e*PN	**Pn**	**12 01 33.0**	**+0.1**

*MOS **25** 12:13:09.6±1.1, 36.31N×71.10E, h149km, mb4.0/1, Error ellipse: s-maj=38.0km s-min=11.8km az=82.9*
*NEIC **25** 12:13:09.1±2.6, 36.25N×71.15E, h125km±26km, mb3.8/1, Error ellipse: s-maj=23.0km s-min=15.4km az=60.0*
*IDC **25** 12:13:10.1±17.0, 36.26N×71.16E, h137km±164km, mb3.3/3, mb1 3.4/5, mb1mx3.1/21, mbtmp3.8/5, ML3.8/2, Error ellipse: s-maj=101.1km s-min=31.2km az=20.0*
*NNC **25** 12:13:15.8±4.4, 36.85N×70.73E, h139km±52km, mpv4.3, Error ellipse: s-maj=36.2km s-min=26.7km az=19.0*

ISC 25 12:13:15.1±2.1, 36.8N±0.1×71.0E±0.1, h170km±17km, n27, σ1§11/31, mb3.3/2, 5C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.73**	**21**	P	**P**	**12 14 38.6**	**-0.6**
	SNR=163						
UCH	**Uchtor**	**6.08**	**26**	P	**P**	**12 14 45.4**	**+1.6**
	SNR=9.8						
EKS2	**Erkin-Say**	**6.25**	**19**	P	**P**	**12 14 45.7**	**-0.3**
	SNR=12						
KK31	**Karatay Array**	**6.31**	**357**	⇓P	**P**	**12 14 46.3**	**-0.6**
	15nm,0.5s,baz=186,slow=15,SNR=169						
KK31				⇑S	**S**	**12 15 57.0**	**-1.3**
	11nm,0.5s,baz=185,slow=23,SNR=12						
AAK	**Ala-Archa**	**6.43**	**24**	P	**P**	**12 14 47.8**	**-0.7**
	SNR=9.6						
AAK	**Ala-Archa**	**6.43**	**24**	⇑P	**P**	**12 14 48.2**	**-0.3**
	13nm,0.6s						
AAK				⇑S	**S**	**12 16 02.0**	**+0.8**
	16nm,1.0s						
AAK	**Ala-Archa**	**6.43**	**24**	*e*PN	**P**	**12 14 47.2**	**-1.3**
AAK				pmax	pmax		
	comp=Z,16nm,0.5s						
AAK	**Ala-Archa**	**6.43**	**24**	*e*P	**P**	**12 14 47.1**	**-1.3**
	comp=Z,16nm,0.5s						
AAK				*e*S	**S**	**12 16 00.0**	**-1.1**
KBK	**Karagaybulak**	**6.61**	**26**	P	**P**	**12 14

σ1§04/14, mb3.6/6, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
WMQ	**Urumqi**	**8.67**	**352**	*e*P		**P**	**12 42 54.5**	**-0.5**
GTA	**Gaotai**	**9.35**	**60**	*e*P		**P**	**12 43 04.8**	**+0.5**
GTA				AP			12 43 11.0	
GTA				XP			12 43 13.3	
GTA				S		**S**	**12 44 49.5**	**+0.7**
GTA				LG1			12 45 34.5	
GTA				LG2			12 45 49.8	
GTA				AMB	AMB			
	comp=Z,4.0nm,0.5s							
GTA				AMB	AMB			
	comp=Z,110nm,4.6s							
GTA				LR	LR			
	comp=N,659nm,11.4s							
GTA				LR	LR			
	comp=E,390nm,11.0s							
GTA				LR	LR			
	comp=Z,266nm,11.0s							
MKAR	**Makanchi Array**	**12.71**	**338**	Pn		**P**	**12 43 43.1**	**-6.4**
	comp=Z,0.1nm,0.3s,baz=151,slow=12,SNR=6.2							
SONM	**Songino Array**	**17.90**	**40**	P		**P**	**12 44 54.7**	**-1.1**
	baz=229,slow=13,SNR=7.7							
ZAL	**Zalesovo**	**18.97**	**352**	P		**P**	**12 45 05.6**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=302,slow=11,SNR=14							
ZAL				LR	LR		12 53 26.1	
	comp=Z,89nm,19.2s,baz=90,slow=40							
BVAR	**Borovoye Array**	**22.27**	**329**	P		**P**	**12 45 43.4**	**+1.1**
	comp=Z,2.5nm,0.8s,mb3.6,baz=140,slow=12,SNR=14							
BRVK	**Borovoye**	**22.33**	**329**	*e*P		**P**	**12 45 43.6**	**+0.6**
	comp=Z,3.1nm,0.9s,mb3.6							
ZRNK	**Zerenda**	**22.81**	**327**	*e*P		**P**	**12 45 49.3**	**+1.7**
	comp=Z,4.2nm,1.0s,mb3.7							
NB2	**NORSAR Subarra**	**54.28**	**324**	P		**P**	**12 50 10.4**	**-0.7**
	comp=Z,0.5nm,0.6s,mb3.7,baz=80,slow=7.0							
NOA	**NORSAR Array B**	**54.28**	**324**	P		**P**	**12 50 10.3**	**-0.9**
	comp=Z,1.0nm,0.8s,mb3.9,baz=79,slow=7.2,SNR=3.6							
NOA	**NORSAR Array B**	**54.28**	**324**	P		**P**	**12 50 10.3**	**-0.9**
WRA	**Warramunga Arr**	**69.53**	**135**	P		**P**	**12 51 53.5**	**-0.3**
	comp=Z,0.9nm,0.9s,mb3.6,baz=329,slow=6.6,SNR=8.1							
ILAR	**Eielson Array**	**71.12**	**22**	P		**P**	**12 52 02.5**	**-0.2**
	comp=Z,0.6nm,0.9s,mb3.4,baz=311,slow=5.3,SNR=6.2							

*ISK **25** 12:43:16.6,39.43N×40.78E,h29km,MD3.5*
*CSEM **25** 12:43:16.6,39.43N×40.78E,h29km,MD3.5,After ISK*
ISC 25 12:43:15.4±1.4, 39.40N±0.06×40.7E±0.1, h7km±15km, n12, σ0§68/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
BNGL	**BINGOL**	**0.56**	**144**	*i* S		**Pg**	**12 43 26.1**	**-0.5**
EZM	**Erzurum**	**0.70**	**44**	*i* PG		**Pg**	**12 43 29.9**	**+0.4**
ERZM	**Erzurum**	**0.70**	**44**	*i* P		**Pb**	**12 43 29.8**	**+0.2**
ERZM				*i* S		**Sb**	**12 43 43.6**	**+4.3**
PTK	**Pertek**	**1.16**	**244**	PN		**Pn**	**12 43 37.2**	**-0.8**
PTK				SN		**Sn**	**12 43 53.4**	**-0.8**
BTMT	**Batman**	**1.35**	**154**	*e*PN		**Pn**	**12 43 40.7**	**0.0**
GUMT	**Gumushane**	**1.43**	**318**	*e*PN		**Pn**	**12 43 42.0**	**+0.1**
DIY	**Diyarbakir**	**1.56**	**195**	*e*PN		**Pn**	**12 43 44.0**	**+0.3**
ELZG	**Elazig**	**1.63**	**237**	*i* P		**Pn**	**12 43 45.5**	**+0.7**
ELZG				*i* S		**Sn**	**12 44 09.5**	**+3.2**
MARD	**Mardin**	**2.09**	**179**	*i* P		Px	12 43 43.3	
MARD				*i* S		Sx	12 44 11.0	
MYA	**Malataya**	**2.09**	**240**	*e*PN		**Pn**	**12 43 51.3**	**-0.1**
BCA	**Borcka**	**2.15**	**18**	*e*PN		**Pn**	**12 43 51.6**	**-0.6**
URFA	**Urfa**	**2.46**	**218**	*e*PN		**Pn**	**12 43 57.1**	**+0.4**

*IDC **25** 12:43:40.0±0.5,7.91N×92.36E,mb4.5/22,mb1 4.6/22, mb1mx4.5/24,mbtmp4.5/22,Error ellipse: s-maj=17.5km s-min=14.5km az=72.0*
*HRVD **25** 12:43:46.5±0.2,7.85N×92.22E,h12km,MW5.2/66, Centroid moment Tensor Solution. LP body waves: s33,c53;Mantle waves: s66,c123; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.07±.02; $M_{\theta\theta}$-0.69±.01; $M_{\phi\phi}$0.76±.02; $M_{r\theta}$-0.26±.04; $M_{\theta\phi}$-0.19±.02; $M_{\phi r}$-0.24±.05; Best double couple: M_o.834×10^{17} NP1: ϕ_s129°,δ65°,λ-174°. NP2:ϕ_s36°,δ85°,λ-25°. Principal axes: T.835, Plg13°, Azm85°; N-.001, Plg64°, Azm205°; P-.833, Plg21°, Azm350°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 12:43:46.5±0.3,8.02N×93.00E,mb5.2/64,MS4.7/18 Error ellipse: s-maj=15.8km s-min=8.7km az=51.0*
*BJI **25** 12:43:46.0,7.84N×92.20E,h52km,mB5.0,mb4.8,Ms5.0, Msz4.7*
*MOS **25** 12:43:47.3±1.2,8.57N×92.16E,h33km,mb5.1/30, MS4.7/19,Error ellipse: s-maj=15.8km s-min=7.0km az=109.9*
ISC 25 12:43:42.3±0.3, 7.74N±0.04×92.31E±0.03, h31km, h31km±.6km:pP-P, n348, σ1§10/247, mb4.8/89, MS4.8/33, 6C-9D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PBA	**Port Blair**	**3.91**	**6**	*e*		**Pn**	**12 44 50.0**	**+8.1**
PBA				*e*			12 45 51.0	
SNG	**Songkhla**	**8.26**	**93**	P		**P**	**12 45 45.0**	**+2.0**
	180nm,0.9s							
KULM	**Kulim**	**8.64**	**106**	*e*Pn		**P**	**12 45 47.8**	**-0.4**
NNT	**Nongplab**	**8.75**	**56**	P		**P**	**12 45 49.4**	**-0.4**
NST	**Nakhon Sawan**	**10.99**	**43**	P		**P**	**12 46 21.0**	**+0.3**
PALK	**Pallekele**	**11.52**	**268**	*e*Pn		**P**	**12 46 24.8**	**-3.1**
MDRS	**Chennai**	**12.99**	**295**	*e*P		**P**	**12 46 52.9**	**+5.3**
MDRS				AML	AML		12 49 01.9	
	comp=N,836nm,0.3s							
MDRS				AML	AML		12 49 02.0	
	comp=E,375nm,0.3s							
MDRS				*e*S		**S**	**12 49 23.4**	**+11**
KKTK	**Khon Kaen**	**13.36**	**49**	⇓P		**P**	**12 47 00.0**	**+7.5**
	comp=E,988nm,0.8s							
SALM	**Salem**	**14.44**	**287**	*e*		**P**	**12 47 06.0**	**-0.8**
SALM				*e*			12 49 31.0	
UBT	**Ubonrachathani**	**14.51**	**58**	P		**P**	**12 47 09.5**	**+1.8**
CAL	**Calcutta**	**15.20**	**346**	*e*		**P**	**12 47 34.3**	**+18**
CAL				*e*			12 49 23.4	
TRD	**Trivandrum**	**15.22**	**274**	*e*P		**P**	**12 47 25.0**	**+8.0**
TRD				*e*			12 49 51.2	
HYB	**Hyderabad**	**16.50**	**307**	*e*P		**P**	**12 47 30.0**	**-3.4**
HYB				*e*			12 50 20.0	
HYB				*e*S		**S**	**12 50 36.0**	**+1.3**
HYB	**Hyderabad**	**16.50**	**307**	*i* P		**P**	**12 47 30.0**	**-3.4**
HYB				*e*			12 50 20.0	
HYB				*e*S		**S**	**12 50 36.0**	**+1.3**
IMP	**Imphal**	**17.02**	**5**	*e*		**P**	**12 47 44.0**	**+4.2**
IMP				*e*			12 50 58.0	
BLSP	**Bilaspur**	**17.34**	**327**	*e*P		**P**	**12 47 46.4**	**+2.5**
BLSP				AMb	AMB		12 47 53.0	
	comp=Z,147nm,0.6s							
BLSP				*e*			12 50 40.1	
SHL	**Shillong**	**17.73**	**359**	*e*P		**P**	**12 47 44.5**	**-4.2**
SHL				*e*			12 50 51.5	
SHBG	**Sahibganj**	**17.93**	**346**	*e*P		**P**	**12 47 52.0**	**+0.8**
LATR	**Latur**	**18.63**	**306**	*e*		**P**	**12 48 00.0**	**+0.1**
KSM	**Kuching**	**18.98**	**108**	*e*P		**P**	**12 48 03.4**	**-0.7**
GTK	**Gangtok**	**19.80**	**350**	*e*P		**P**	**12 48 15.0**	**+1.7**
KMI	**Kunming**	**19.95**	**29**	P		**P**	**12 48 16.3**	**+1.4**
KMI				AP			12 48 23.0	
KMI				PP	PP		12 48 37.0	+3.0
KMI				PPP	PPP		12 48 45.5	+2.5
KMI				S	S		**12 51 56.0**	**+3.8**
KMI				XS			12 52 16.3	
KMI				PS			12 52 07.3	
KMI				SS	SS		12 52 24.0	+3.5
KMI				SSS	SSS		12 52 39.0	+4.5
KMI				AMB	AMB			
	comp=Z,27nm,1.2s							
KMI				AMB	AMB			
	comp=Z,161nm,4.1s							
KMI				LR	LR			
	comp=N,2μm,16.2s							
KMI				LR	LR			
	comp=E,2μm,14.6s							
KMI				LR	LR			
	comp=Z,2μm,14.6s							
KMI	**Kunming**	**19.95**	**29**	P		**P**	**12 48 16.2**	**+1.3**
	comp=Z,27nm,1.2s							
KMI				pP			12 48 22.9	
KMI				sP			12 48 26.3	
KMI				PP	PP		12 48 37.1	+3.1
KMI				PPP	PPP		12 48 45.5	+2.5
KMI				S	**S**		**12 51 56.0**	**+3.8**
KMI				sS			12 52 07.2	
KMI				PS			12 52 15.2	
KMI				SS	SS		12 52 23.9	+3.4
KMI				SSS	SSS		12 52 38.9	+4.4
KAD	**Karad**	**20.07**	**300**	*e*P		**P**	**12 48 22.2**	**+6.1**
KAD				AMb	AMB		12 48 26.8	
	comp=Z,76nm,0.8s							
KAD				*e*			12 51 43.8	
QIZ	**Qiongzhong**	**20.39**	**55**	P		**P**	**12 48 19.5**	**0.0**
QIZ				S		**S**	**12 52 06.5**	**+5.3**
QIZ				XS			12 52 16.3	
QIZ				SS	SS		12 52 36.0	+4.7
QIZ				AMB	AMB			
	comp=Z,80nm,1.1s							
QIZ				LR	LR			
	comp=N,5μm,15.4s,MS5.0							
QIZ				LR	LR			
	comp=E,1μm,15.4s,MS5.0							
QIZ				LR	LR			
	comp=Z,2μm,16.3s,MS4.5							
QIZ	**Qiongzhong**	**20.39**	**55**	*e*P		**P**	**12 48 18.0**	**-1.5**
	comp=Z,67nm,0.9s							
PKI	**Pulchoki**	**20.78**	**343**	*e*P		**P**	**12 48 22.6**	**-0.8**
	comp=Z,410nm,0.8s							
DMN	**Daman**	**20.90**	**342**	*e*P		**P**	**12 48 24.2**	**-0.5**
	comp=Z,351nm,0.8s							
POO	**Poona**	**20.91**	**303**	⇓*i*		**P**	**12 48 33.0**	**+8.2**
	comp=Z,100nm,1.0s							
POO				*i*			12 52 04.0	
GUN	**Gumba**	**20.96**	**344**	*e*P		**P**	**12 48 24.6**	**-0.7**
	comp=Z,522nm,1.1s							
BHPL	**Bhopal**	**21.02**	**319**	*e*P		**P**	**12 48 28.8**	**+2.9**
BHPL				AMb	AMB		12 48 41.7	
	comp=Z,108nm,1.2s,mb5.1							
BHPL				*e*			12 52 08.0	
KKN	**Kakani**	**21.02**	**342**	*e*P		**P**	**12 48 25.2**	**-0.7**
	comp=Z,128nm,0.7s,mb5.3							
GKN	**Gorkha**	**21.42**	**341**	*e*P		**P**	**12 48 29.7**	**-0.2**
	comp=Z,394nm,0.9s,mb5.8							
KOLN	**Koldanda**	**21.56**	**339**	*e*P		**P**	**12 48 31.3**	**-0.1**
	comp=Z,327nm,0.8s,mb5.8							
LSA	**Lhasa**	**21.87**	**357**	P		**P**	**12 48 36.5**	**+2.0**
LSA				AP			12 48 44.5	
LSA				XP			12 48 48.5	
LSA				S		**S**	**12 52 27.8**	**-1.4**
LSA				PCP	PcP		12 52 35.8	+1.9
LSA				XS			12 52 49.3	
LSA				SCP			12 56 09.8	
LSA				PCS			12 56 13.8	
LSA				AMB	AMB			
	comp=Z,90nm,1.0s,mb5.2							
LSA				LR	LR			
	comp=N,1μm,24.0s							
LSA				LR	LR			
	comp=E,3μm,17.3s							
LSA				LR	LR			
	comp=Z,3μm,25.4s,MS4.6							
LSA	**Lhasa**	**21.87**	**357**	*e*P		**P**	**12 48 35.3**	**+0.9**
	comp=Z,105nm,0.7s,mb5.4							
GYA	**Guiyang**	**23.08**	**35**	⇑*i*P		**P**	**12 48 47.3**	**+0.8**
GYA				PP	PP		12 49 16.5	-0.4
GYA				S	**S**		**12 52 53.3**	**+2.1**
GYA				SS	SS		12 53 34.5	-2.3
GYA				AMB	AMB			
	comp=Z,30nm,0.9s,mb4.7							
GYA				AMB	AMB			
	comp=Z,120nm,2.8s,mb4.8							
GYA				LR	LR			
	comp=N,2μm,15.8s,MS4.8							
GYA				LR	LR			
	comp=E,1μm,15.0s,MS4.8							
GYA				LR	LR			
	comp=Z,2μm,14.6s,MS4.7							
LGTI	**Lohaghat**	**24.39**	**334**	*e*P		**P**	**12 49 00.5**	**+1.2**
AJM	**Ajmer**	**25.08**	**320**	*i*		pP	12 49 18.0	+3.0
NDI	**New Delhi**	**25.23**	**328**	*e*		**P**	**12 49 06.0**	**-1.2**
GZH	**Guangzhou**	**25.32**	**51**	P		**P**	**12 49 14.0**	**+5.9**
GZH				AMB	AMB			
	comp=Z,48nm,1.1s,mb4.9							
GZH				LR	LR			
	comp=N,954nm,15.8s,MS4.6							
GZH				LR	LR			
	comp=E,1μm,16.2s,MS4.6							
GZH				LR	LR			
	comp=Z,1μm,14.9s,MS4.6							
CD2	**Chengdu**	**25.41**	**23**	⇓*i*P		**P**	**12 49 10.0**	**+1.0**
CD2				S		**S**	**12 53 30.3**	**-0.7**
CD2				AMB	AMB			
	comp=Z,30nm,0.8s,mb4.9							
CD2				LR	LR			
	comp=N,1μm,16.8s							
CD2				LR	LR			
	comp=Z,860nm,15.6s,MS4.4							
DDI	**Dehra Dun**	**26.14**	**331**	*e*P		**P**	**12 49 16.1**	**+0.4**
DDI				*e*			12 54 09.6	
ENH	**Enshi**	**27.60**	**33**	*e*P		**P**	**12 49 28.1**	**-0.9**
	comp=Z,51nm,0.9s,mb5.2							
SDNR	**Sundarnagar**	**27.63**	**331**	*e*		**P**	**12 49 32.4**	**+3.1**
LZH	**Lanzhou**	**30.12**	**19**	*e*P		**P**	**12 49 51.8**	**+0.2**
LZH				PP	PP		12 50 52.0	+1.7
LZH				*e*S		**S**	**12 54 50.3**	**+3.3**
LZH				AMB	AMB			
	comp=Z,70nm,1.4s,mb5.2							
LZH				AMB	AMB			
	comp=Z,250nm,4.0s							
LZH				LR	LR			
	comp=E,3μm,18.0s							
LZH				LR	LR			
	comp=Z,6μm,21.0s,MS5.2							
LZH	**Lanzhou**	**30.12**	**19**	*e*P		**P**	**12 49 51.7**	**+0.1**
	comp=Z,70nm,1.4s,mb5.2							
LZH				pP	pP		12 49 59.9	-1.0
LZH				sP	sP		12 50 03.2	-1.8
LZH				PP	PP		12 50 52.0	+1.7
LZH				*e*S	**S**		**12 54 50.3**	**+3.3**
LZH				sS			12 55 01.0	
LZH				SS	SS		12 56 32.0	+6.5
LZH				LR	LR			
	comp=Z,6μm,21.0s,MS5.2							
XAN	**Xi'an**	**30.33**	**28**	P		**P**	**12 49 52.0**	**-1.5**
XAN				AMB	AMB			
	comp=Z,6.0nm,1.0s,mb4.3							
QZH	**Quanzhou**	**30.37**	**53**	P		**P**	**12 49 53.5**	**-0.4**
QZH				*e*S		**S**	**12 54 50.5**	**-0.7**
QZH				LR	LR			
	comp=N,840nm,7.5s							
QZH				LR	LR			
	comp=E,2μm,13.3s							
QZH				LR	LR			
	comp=Z,3μm,16.9s,MS5.0							
WHN	**Wuhan**	**30.66**	**39**	*e*P		**P**	**12 49 56.5**	**0.0**
GTA	**Gaotai**	**32.24**	**11**	P		**P**	**12 50 10.5**	**+0.3**
GTA				PP	PP		12 51 19.3	+1.5
GTA				PCP	PcP		12 52 59.3	+1.0
GTA				S	**S**		**12 55 21.5**	**+1.2**
GTA				AMB	AMB			
	comp=Z,22nm,1.2s,mb4.9							
GTA				AMB	AMB			
	comp=Z,138nm,5.9s							
GTA				LR	LR			
	comp=N,426nm,24.3s,MS4.4							
GTA				LR	LR			
	comp=E,923nm,23.2s,MS4.4							
GTA				LR	LR			
	comp=Z,896nm,28.9s							
NJ2	**Nanjing**	**34.56**	**42**	*e*P		**P**	**12 50 30.8**	**+0.4**
NJ2				PP	PP		12 51 47.0	-0.1
NJ2				S	**S**		**12 55 55.0**	**-1.4**
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.8							
NJ2				AMB	AMB			
	comp=Z,40nm,4.8s							
NJ2				LR	LR			
	comp=N,2μm,18.8s,MS5.1							
NJ2				LR	LR			
	comp=E,2μm,14.3s,MS5.1							
NJ2				LR	LR			
	comp=Z,960nm,19.9s							
SSE	**Sheshan**	**35.59**	**45**	P		**P**	**12 50 37.8**	**-1.4**
SSE				S		**S**	**12 56 14.8**	**+2.5**
SSE				AMB	AMB			
	comp=Z,32nm,0.6s,mb5.4							
SSE				AMB	AMB			
	comp=Z,416nm,6.8s							
SSE				LR	LR			
	comp=N,356nm,21.3s,MS4.3							
SSE				LR	LR			
	comp=E,393nm,21.3s,MS4.3							
SSE				LR	LR			
	comp=Z,401nm,17.8s,MS4.2							
SSE	**Sheshan**	**35.59**	**45**	P		**P**	**12 50 37.8**	**-1.4**
	comp=Z,32nm,0.6s,mb5.4							
SSE				pP	pP		12 50 41.0	-7.6
SSE				sP	sP		12 50 42.2	-10
SSE				S	**S**		**12 56 14.7**	**+2.4**
SSE				sS			12 56 20.0	
SSE				SS	SS		12 58 50.6	+18
SSE				LR	LR			
	comp=Z,400nm,17.8s,MS4.2							
WMQ	**Urumqi**	**36.16**	**354**	P		**P**	**12 50 44.0**	**+0.1**
WMQ				PP	PP		12 52 06.3	-0.5
WMQ				S	**S**		**12 56 22.3**	**+1.3**
WMQ				AMB	AMB			
	comp=Z,23nm,0.8s,mb5.2							
WMQ				AMB	AMB			
	comp=Z,281nm,4.2s							
WMQ				LR	LR			
	comp=N,1μm,17.0s,MS4.9							
WMQ				LR	LR			
	comp=E,1μm,22.0s,MS4.9							
WMQ				LR	LR			
	comp=Z,1μm,19.0s,MS4.6							
ULHL	**Ulahol**	**37.18**	**340**	P		**P**	**12 50 53.4**	**+0.9**
	SNR=7.2							
KZA	**Kyzart**	**37.38**	**339**	P		**P**	**12 50 55.6**	**+1.5**
	SNR=12							
UCH	**Uchtor**	**37.77**	**338**	P		**P**	**12 50 58.8**	**+1.3**
	SNR=6.7							
KBK	**Karagaybulak**	**37.99**	**339**	P		**P**	**12 51 00.7**	**+1.4**
	SNR=17							
AML	**Almayashu**	**38.00**	**337**	P		**P**	**12 51 00.7**	**+1.4**
	SNR=110							
TKM2	**Tokmak 2**	**38.00**	**340**	P		**P**	**12 50 59.7**	**+0.4**
	SNR=11							
AAK	**Ala-Archa**	**38.13**	**339**	P		**P**	**12 51 02.1**	**+1.6**
	SNR=14							
AAK	**Ala-Archa**	**38.13**	**339**	*i* P		**P**	**12 51 00.8**	**+0.3**
AAK				pmax	pmax			
	comp=Z,33nm,1.0s,mb5.0							
AAK				MLR	MLR			
	comp=Z,1μm,22.0s,MS4.7							
AAK	**Ala-Archa**	**38.13**	**339**	*e*P		**P**	**12 51 00.0**	**-0.5**
	comp=Z,39nm,0.9s,mb5.1							
FRU	**Bishkek**	**38.26**	**339**	*e*P		**P**	**12 51 02.0**	**+0.4**
FRU				*i*		pP	12 51 11.5	+0.5
FRU				pmax	pmax			
	comp=Z,80nm,1.9s,mb5.1							
FRU				MLR	MLR			
	comp=Z,2μm,18.0s,MS4.8							
CHMS	**Chumysh**	**38.36**	**339**	P		**P**	**12 51 03.2**	**+0.8**
	SNR=9.0							
EKS2	**Erkin-Say**	**38.42**	**338**	P		**P**	**12 51 04.2**	**+1.3**
	SNR=18							
USP	**Ospenovka**	**38.68**	**339**	P		**P**	**12 51 05.7**	**+0.7**
	SNR=26							
MBWA	**Marble Bar**	**39.37**	**137**	P		**P**	**12 51 11.9**	**+0.8**
	comp=Z,18nm,1.0s,mb4.8							
MKAR	**Makanchi Array**	**39.85**	**349**	*i* P		**P**	**12 51 13.8**	**-0.9**
MKAR				pmax	pmax			
	comp=Z,25nm,0.7s							
MKAR	**Makanchi Array**	**39.85**	**349**	P		**P**	**12 51 14.3**	**-0.4**
	comp=Z,17nm,0.8s,mb4.8,baz=166,slow=8.0,SNR=104							
MKAR	**Makanchi Array**	**39.85**	**349**	P		pP	12 51 24.6	+0.4
	comp=Z,38nm,0.7s,baz=167,slow=8.0,SNR=31							
MKAR	**Makanchi Array**	**39.85**	**349**	P		**P**	**12 51 14.3**	**-0.4**
KKAR	**Karatay Array**	**40.09**	**335**	*i* P		**P**	**12 51 16.8**	**+0.1**
KKAR				pmax	pmax			
	comp=Z,22nm,0.8s,mb4.9							
SONM	**Songino Array**	**41.71**	**14**	P		**P**	**12 51 30.3**	**+0.3**
	comp=Z,9.3nm,1.0s,mb4.4,baz=197,slow=7.2,SNR=33							
SONM	**Songino Array**	**41.71**	**14**	P		pP	12 51 40.3	+0.9
	comp=Z,6.9nm,0.9s,baz=194,slow=8.4,SNR=11							
SONM				PcP	PcP		12 53 38.0	+11
	comp=Z,5.6nm,0.8s,baz=200,slow=3.8,SNR=5.3							
SONM	**Songino Array**	**41.71**	**14**	P		**P**	**12 51 30.3**	**+0.3**
SONM				PcP	PcP		12 53 38.0	+11
FITZ	**Fitzroy Crossi**	**41.74**	**128**	*e*P		**P**	**12 51 31.4**	**+0.8**
	comp=Z,13nm,1.1s,mb4.5							
FITZ				*e*		pP	12 51 39.1	-0.9
ZAK	**Zakamensk**	**43.48**	**10**	*e*P		**P**	**12 51 44.2**	**-0.2**
ZAK				*e*			12 53 41.7	
ZAK				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.4							
ZAK				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.0							
TLY	**Talaya**	**44.79**	**10**	*e*P		**P**	**12 51 54.8**	**-0.2**
TLY				*e*S		**S**	**12 58 28.3**	**-1.1**
TLY				*e*SS		SS	13 01 42.9	+1.1
TLY				pmax	pmax			
	comp=Z,17nm,1.0s,mb4.8							
TLY	**Talaya**	**44.79**	**10**	*e*P		**P**	**12 51 53.9**	**-1.1**
	comp=Z,11nm,0.8s,mb4.7							
IRK	**Irkutsk**	**45.44**	**10**	*e*P		**P**	**12 52 00.5**	**+0.4**
IRK				pmax	pmax			
	comp=Z,29nm,2.0s,mb4.8							
CN2	**Changchun**	**46.12**	**33**	*e*P		**P**	**12 52 06.8**	**+1.2**
CN2				*e*S		**S**	**12 58 52.0**	**+3.4**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.8							
CN2				AMB	AMB			
	comp=Z,300nm,4.0s							
CN2				LR	LR			
	comp=N,2μm,15.0s,MS5.4							
CN2				LR	LR			
	comp=E,2μm,15.0s,MS5.4							
CN2				LR	LR			
	comp=Z,2μm,17.0s,MS5.1							
ZAL	**Zalesovo**	**46.46**	**354**	P		pP	12 52 17.8	+0.1
ZAL				pmax	pmax			
	comp=Z,11nm,0.8s							
ZAL	**Zalesovo**	**46.46**	**354**	P		**P**	**12 52 08.1**	**0.0**
	comp=Z,6.3nm,0.9s,mb4.5,baz=46,slow=1.7,SNR=30							
ZAL	**Zalesovo**	**46.46**	**354**	P		pP	12 52 17.8	+0.2
	comp=Z,11nm,0.8s,baz=289,slow=10.0,SNR=13							
CIT	**Chita**	**47.47**	**18**	*e*P		**P**	**12 52 22.2**	**+6.0**
CIT				pmax	pmax			
	comp=Z,22nm,4.3s							
NVS	**Novosibirsk**	**47.53**	**353**	*e*P		**P**	**12 52 15.1**	**-1.5**
NVS				*i*		pP	12 52 22.8	-3.3
NVS				*e*S		**S**	**12 59 18.3**	**+10**
NVS				pmax	pmax			
	comp=Z,13nm,0.9s,mb5.0							
NVS				pmax	pmax			
	comp=N,9.0nm,0.9s							
NVS				smax				
	comp=E,42nm,2.3s							
VOSK	**Vostochnaya**	**48.11**	**343**	P		**P**	**12 52 20.3**	**-0.9**
VOSK				pmax	pmax			
	comp=Z,28nm,1.0s,mb5.2							
BVA0	**Borovoye Array**	**48.55**	**342**	*i* P		**P**	**12 52 23.8**	**-0.7**
BVA0				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.5							
BVAR	**Borovoye Array**	**48.55**	**342**	P		**P**	**12 52 23.7**	**-0.8**
	comp=Z,11nm,0.8s,mb4.9,baz=143,slow=7.4,SNR=40							
BVAR	**Borovoye Array**	**48.55**	**342**	P		pP	12 52 34.1	-0.1

MDJ LR LR
comp=Z,350nm,17.8s
AB31 Akbulak array 49.49 333 P **P** 12 52 31.6 -0.3
AB31 pmax pmax
comp=Z,37nm,1.0s,mb5.4
WRA Warramunga Arr 49.67 124 P pP 12 52 43.4 +0.1
WRA pmax pmax
comp=Z,25nm,1.1s
WRA Warramunga Arr 49.67 124 P **P** 12 52 33.6 -0.1
comp=Z,7.3nm,0.9s,mb4.7,baz=299,slow=9.8,SNR=50
WRA Warramunga Arr 49.67 124 P pP 12 52 43.4 +0.1
comp=Z,25nm,1.1s,baz=302,slow=9.0,SNR=21
WRAB Tennant Creek 49.68 124 *i* P **P** 12 52 35.3 +1.6
WRAB Tennant Creek 49.68 124 *eP* **P** 12 52 33.3 -0.4
comp=Z,28nm,0.8s,mb5.3
WRAB *e* pP 12 52 43.1 -0.2
WRAB LR LR
comp=Z,449nm,21.0s,MS4.5
WB2 Warramunga Arr 49.68 124 *eP* **P** 12 52 33.6 -0.1
WB2 *e* pP 12 52 43.1 -0.3
MJAR Matsushiro Arr 50.60 48 P **P** 12 52 40.3 -0.2
comp=Z,1.1nm,0.7s,mb3.9,baz=202,slow=14,SNR=3.1
MJAR Matsushiro Arr 50.60 48 PcP PcP 12 54 07.6 +10
comp=Z,10nm,0.8s,baz=239,slow=4.3,SNR=14
OPO Ambohidratompo 51.62 239 P **P** 12 52 51.4 +2.9
comp=Z,1.8nm,0.6s,mb4.2,baz=71,slow=2.4,SNR=5.1
OPO Ambohidratompo 51.62 239 P pP 12 52 59.9 +1.9
comp=Z,6.3nm,0.8s,baz=37,slow=7.1,SNR=9.6
BOD Bodaibo 52.71 14 *eP* **P** 12 52 54.1 -2.1
BOD pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KLR Kul'dur 52.93 31 *eP* **P** 12 53 02.8 +4.9
KLR *e* 13 02 36.0
KLR MLR MLR
comp=Z,1µm,16.0s,MS5.0
GNI Garni 53.24 315 P pP 12 53 09.9 -0.1
GNI pmax pmax
comp=Z,18nm,0.8s
GNI Garni 53.24 315 P **P** 12 53 01.8 +1.5
comp=Z,4.5nm,0.3s,mb4.8,baz=63,slow=9.7,SNR=4.4
GNI Garni 53.24 315 P pP 12 53 09.9 0.0
comp=Z,18nm,0.8s,baz=12,slow=15,SNR=5.3
GNI Garni 53.24 315 *eP* **P** 12 52 59.9 -0.4
comp=Z,28nm,1.2s,mb5.1
GNI LR LR
comp=Z,552nm,21.0s,MS4.6
ZEI Tsey 54.91 318 *eP* **P** 12 53 10.6 -1.9
ZEI *i* *PP pP 12 53 21.5 -0.7
ZEI pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ONI Oni 55.12 317 P **P** 12 53 13.4 -0.8
CLNS Chul'man 55.20 21 *eP* **P** 12 53 11.5 -3.0
CLNS pmax pmax
comp=Z,15nm,1.3s,mb4.9
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=E,8.0nm,0.7s
CLNS MLR MLR
comp=Z,800nm,16.0s,MS4.9
CLNS MLR MLR
comp=N,600nm,17.0s,MS4.8
CLNS MLR MLR
comp=E,80nm,16.0s,MS4.8
ARU Arti 55.31 338 ⇓ *i* P **P** 12 53 13.5 -1.8
ARU *e* 12 54 14.0
ARU *e* 12 55 18.1
ARU *e*S **S** 13 00 56.2 +0.8
ARU pmax pmax
comp=Z,49nm,1.0s,mb5.5
ARU MLR MLR
comp=Z,1µm,21.0s,MS4.9
ARU MLR MLR
comp=N,700nm,20.5s,MS4.8
ARU MLR MLR
comp=E,500nm,17.0s,MS4.8
ARU Arti 55.31 338 *eP* **P** 12 53 13.9 -1.4
comp=E,83nm,1.3s,mb5.6
ARU *ep*P pP 12 53 24.7 -0.2
ARU LR LR
comp=Z,280nm,21.0s,MS4.3
KMBO Kilima Mbogo 55.61 263 *i* P pP 12 53 27.3 -0.3
KMBO pmax pmax
comp=Z,18nm,0.8s
KMBO Kilima Mbogo 55.61 263 P **P** 12 53 20.3 +2.3
comp=Z,3.3nm,0.6s,mb4.6,baz=62,slow=12,SNR=10
KMBO Kilima Mbogo 55.61 263 P pP 12 53 28.7 +1.0
comp=Z,18nm,0.8s,baz=58,slow=11,SNR=32
KMBO Kilima Mbogo 55.61 263 P **P** 12 53 20.3 +2.3
KIV Kislovodsk 56.20 319 *i* P **P** 12 53 21.6 -0.3
KIV pmax pmax
comp=Z,14nm,1.2s,mb4.9
KIV MLR MLR
comp=Z,400nm,22.0s,MS4.5
KIV Kislovodsk 56.20 319 *eP* **P** 12 53 20.8 -1.1
comp=Z,33nm,1.0s,mb5.3
KIV *ep*P pP 12 53 30.8 -0.7
KIV LR LR
comp=Z,89nm,20.0s,MS3.9
QURS Qurayyt al Mil 56.24 303 P **P** 12 53 23.7 +1.3
ASF Jabal al Asfar 56.77 303 P **P** 12 53 27.0 +0.9
comp=Z,3.9nm,0.7s,mb4.5,baz=293,slow=1.3,SNR=4.0
ASF Jabal al Asfar 56.77 303 P pP 12 53 36.0 +0.2
comp=Z,8.2nm,0.8s,baz=13,slow=1.6,SNR=6.1
MALT Malatya 57.17 311 *eP* **P** 12 53 27.1 -1.8
comp=Z,5.9nm,0.8s,mb4.7
BDAS Al Bad' 57.58 299 P **P** 12 53 32.8 +0.9
JMOS Jabal al Moall 57.70 300 P **P** 12 53 34.5 +1.8
TAYS Tayyib Ism 57.80 299 P **P** 12 53 34.2 +0.8
HAQS Haql 57.83 299 P **P** 12 53 34.2 +0.6
EIL Elat 57.92 300 P **P** 12 53 33.9 -0.3
comp=Z,7.0nm,0.6s,mb4.9
YSS Yuzh-Sakhalins 58.01 39 *eP* **P** 12 53 34.2 -0.4
YSS *e* 12 53 46.0
YSS *e* 13 03 14.0
YSS Yuzh-Sakhalins 58.01 39 *eP* **P** 12 53 34.3 -0.3
comp=Z,18nm,0.8s,mb5.2
YAK Yakutsk 60.70 19 *i* P **P** 12 53 52.0 -1.0
YAK pmax pmax
comp=Z,12nm,0.9s,mb5.0
YAK MLR MLR
comp=Z,1µm,23.0s,MS4.9
BR131 Keskin Array S 61.15 311 *eP* **P** 12 53 54.3 -2.0
comp=Z,11nm,0.7s,mb5.1
BR131 LR LR
comp=Z,315nm,19.0s,MS4.5
BRTR Keskin Array B 61.15 311 P pP 12 54 03.7 -2.4
BRTR pmax pmax
comp=Z,9.0nm,0.7s
BRTR Keskin Array B 61.15 311 P **P** 12 53 54.8 -1.5
comp=Z,3.5nm,1.0s,mb4.5,baz=127,slow=6.2,SNR=11
BRTR Keskin Array B 61.15 311 P pP 12 54 03.7 -2.4
comp=Z,9.3nm,0.7s,baz=125,slow=7.1,SNR=11
STKA Stephens Creek 61.34 133 P **P** 12 53 58.0 +0.3
comp=Z,3.2nm,0.8s,mb4.5,baz=305,slow=16,SNR=2.7
STKA Stephens Creek 61.34 133 P pP 12 54 07.0 -0.6
comp=Z,20nm,1.1s,baz=291,slow=9.1,SNR=6.3
STKA Stephens Creek 61.34 133 P **P** 12 53 55.0 -2.7
STKA *ep*P pP 12 54 07.2 -0.3
MBAR Mbarara 61.94 265 *eP* **P** 12 54 00.7 -1.3
comp=Z,11nm,1.1s,mb4.9
MBAR *ep*P pP 12 54 10.9 -0.9
SIM Simferopol' 62.28 317 P **P** 12 54 04.2 +0.3
SIM S **S** 13 02 33.6 +7.5
SIM pmax pmax
comp=Z,32nm,0.7s,mb5.6
SIM MLR MLR
comp=Z,670nm,25.0s,MS4.7
MOS Moscow 64.25 329 *eP* pP 12 54 25.4 -1.1
MOS *e* 12 54 50.0
MOS pmax pmax
comp=Z,45nm,0.6s,mb5.7
OBN Obninsk 64.53 328 *d* *iP* **P** 12 54 16.3 -2.2
OBN *i* *PP pP 12 54 27.6 -0.7
OBN *e* 12 54 55.7
OBN S **S** 13 02 51.0 -2.9
OBN pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
AKASG Malin Array Be 67.14 322 P **P** 12 54 33.3 -1.9
comp=Z,0.6nm,0.4s,mb4.0,baz=89,slow=4.9,SNR=8.8
AKASG Malin Array Be 67.14 322 P pP 12 54 42.8 -2.3
comp=Z,8.0nm,0.8s,baz=89,slow=4.9,SNR=14
AKASG PP PP 12 57 11.2 +6.3
comp=Z,0.2nm,0.3s,baz=102,slow=7.3,SNR=4.2
AKASG Malin Array Be 67.14 322 P **P** 12 54 33.3 -1.9
AKASG PP PP 12 57 11.2 +6.3
IDI Anoyia 67.15 305 P **P** 12 54 35.9 +0.3
comp=Z,10.0nm,0.6s,mb5.0,baz=52,slow=7.0,SNR=14
IDI Anoyia 67.15 305 P pP 12 54 45.5 0.0
comp=Z,36nm,0.7s,baz=100,slow=6.6,SNR=10
LSZ Lusaka 67.52 250 *eP* **P** 12 54 44.6 +6.4
comp=Z,12nm,1.3s,mb4.8
VRI Vrincioaia 67.54 316 ⇑ P **P** 12 54 38.7 +0.8
VRI Vrincioaia 67.54 316 ⇑ P **P** 12 54 38.7 +0.8
TIXI Tiksi 67.72 12 *eP* **P** 12 54 34.5 -4.1
TIXI pmax pmax
comp=Z,56nm,1.1s,mb5.5
MA2 Magadan 67.72 28 *eP* **P** 12 54 37.0 -1.8
MA2 *e*S S 13 03 28.3 -4.4
MA2 *e*SS SS 13 07 53.5 -2.0
MA2 MLR MLR
comp=Z,500nm,20.0s,MS4.7
MA2 Magadan 67.72 28 *eP* **P** 12 54 37.0 -1.8
comp=Z,21nm,1.0s,mb5.1
MA2 LR LR
comp=Z,439nm,19.0s,MS4.7
MLR Muntele Rosu 68.00 316 ⇓ P **P** 12 54 41.1 +0.4
MLR Muntele Rosu 68.00 316 ⇓ P **P** 12 54 41.2 +0.4
MATP Matopo 68.67 245 P pP 12 54 55.5 +0.4
comp=Z,3.2nm,0.7s,baz=72,slow=5.5,SNR=7.4
BURAR Bucovina Array 68.93 318 ⇓ P **P** 12 54 45.9 -0.6
BURAR Bucovina Array 68.93 318 ⇓ P **P** 12 54 45.9 -0.6
PET Petropavlovsk 69.70 36 *eP* **P** 12 54 52.1 +1.0
PET *e* 12 57 29.3
PET *e*S S 13 03 54.2 -2.1
PET *e*SS SS 13 08 20.9 -5.4
PET pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SEY Seymchan 69.81 25 *i* P **P** 12 54 52.0 +0.4
KWP Kalwaria 70.96 320 *eP* **P** 12 54 58.4 -0.4
KWP *e* pP 12 55 07.9 -0.8
KWP Kalwaria 70.96 320 *eP* **P** 12 54 58.4 -0.4
KWP *e* pP 12 55 07.9 -0.8
KOLS Kolonicke sedl 71.11 319 *eP* **P** 12 55 00.3 +0.5
KOLS *ep*P pP 12 55 10.2 +0.6
APA Apatity 71.34 340 ⇑ *iP* pP 12 55 09.6 -1.1
APA *i* S S 13 04 14.0 -1.1
APA pmax pmax
comp=Z,20nm,0.8s,mb5.1
APA MLR MLR
comp=Z,800nm,18.0s,MS5.0
SUW Suwalki 71.55 324 *eP* **P** 12 55 01.0 -1.3
SUW *e* pP 12 55 11.8 -0.4
SUW Suwalki 71.55 324 *eP* **P** 12 55 01.0 -1.3
SUW *e* pP 12 55 11.8 -0.4
CRVS Cervenica-Dubn 71.63 319 *eP* **P** 12 55 09.4 +6.5
CRVS *e* 12 55 16.3
CRVS Cervenica-Dubn 71.63 319 *e* **P** 12 55 09.4 +6.5
CRVS *e*sP sP 12 55 16.3 0.0
STHS Stebnicka Huta 71.86 319 *eP* **P** 12 55 04.0 -0.2
STHS *ep*P pP 12 55 13.4 -0.7
STHS *e*sP sP 12 55 20.1 +2.5
DIVS Divcibare 71.96 314 ⇑ *iP* **P** 12 55 03.9 -1.1
FINES FINESS Array B 71.98 332 P **P** 12 55 03.6 -1.1
comp=Z,3.9nm,0.8s,mb4.4,baz=129,slow=12,SNR=11
FINES FINESS Array B 71.98 332 P pP 12 55 12.3 -2.3
comp=Z,7.2nm,0.8s,baz=135,slow=8.1,SNR=7.9
KAF Kangasniemi 72.08 333 *ep* **P** 12 55 03.6 -1.8
comp=Z,4.3nm,0.7s,mb4.5,baz=105,slow=5.5
KECS Kecovo 72.21 318 *eP* **P** 12 55 06.1 -0.2
KECS *e* pP 12 55 15.9 -0.3
KECS Kecovo 72.21 318 *eP* **P** 12 55 06.1 -0.2
KECS *e* 12 55 11.7
KECS *ep*P pP 12 55 15.9 -0.3
NIE Niedzica 72.46 319 *eP* **P** 12 55 08.0 +0.2
PSZ Piszkesteto 72.52 318 *eP* **P** 12 55 06.6 -1.6
comp=Z,17nm,0.8s,mb5.0
PSZ *ep*P pP 12 55 17.1 -1.0
LBTB Lobatse 72.59 241 *eP* **P** 12 55 09.5 +0.4
comp=Z,17nm,1.2s,mb4.9
LBTB *ep*P pP 12 55 19.2 +0.2
LBTB LR LR
comp=Z,663nm,20.0s,MS4.9
OJC Ojcow 72.91 320 *eP* **P** 12 55 10.0 -0.4
OJC *ep*P pP 12 55 19.4 -0.9
VYHS Vyhne 73.29 318 *eP* **P** 12 55 10.7 -2.0
VYHS *ep*P pP 12 55 21.0 -1.6
OKC Ostrava-Krasne 73.91 320 *eP* **P** 12 55 16.1 -0.2
OKC *ep*P pP 12 55 25.9 -0.3
OKC AMS AMS 13 32 20.0
comp=Z,200nm,17.4s
TIP Timpagrande 73.95 308 *eP* **P** 12 55 15.8 -0.9
TIP *ep*P pP 12 55 26.7 +0.1
BOSA Boshof 73.98 237 P **P** 12 55 17.7 +0.6
comp=Z,6.0nm,0.6s,mb4.7,baz=83,slow=4.5,SNR=14
BOSA Boshof 73.98 237 P pP 12 55 27.7 +0.7
comp=Z,13nm,0.8s,baz=100,slow=6.5,SNR=5.8
BOSA Boshof 73.98 237 *eP* **P** 12 55 17.9 +0.8
comp=Z,15nm,0.8s,mb5.0
BOSA *ep*P pP 12 55 27.6 +0.6
BOSA LR LR
comp=Z,497nm,20.0s,MS4.8
MIR Mirnyy 74.10 180 *eP* pP 12 55 27.0 +0.1
MIR pmax pmax
comp=Z,24nm,1.4s,mb4.9
MORC Moravsky Berou 74.29 319 *eP* **P** 12 55 17.8 -0.7
comp=Z,24nm,1.1s,mb5.0
MORC *ep*P pP 12 55 28.0 -0.4
KEV Kevo 74.36 341 *ep* **P** 12 55 17.5 -1.0
comp=Z,0.5nm,0.4s,mb3.8
ZST Bratislava 74.41 318 *eP* **P** 12 55 19.7 +0.5
ZST *e* pP 12 55 29.1 0.0
ZST Bratislava 74.41 318 *eP* **P** 12 55 19.7 +0.5
ZST *e* 12 55 24.8
ZST *ep*P pP 12 55 29.1 0.0
ZST *e*L 13 34 08.0
ARCES ARCESS Array B 74.78 340 P **P** 12 55 20.8 -0.1
comp=Z,8.5nm,1.1s,mb4.6,baz=90,slow=6.1,SNR=8.7
ARCES ARCESS Array B 74.78 340 P pP 12 55 30.0 -0.8
comp=Z,11nm,0.9s,baz=101,slow=6.2,SNR=8.6
DPC Dobruska-Polom 75.14 320 *eP* **P** 12 55 23.2 -0.2
DPC *ep*P pP 12 55 33.2 -0.1
DPC AMS AMS 13 33 20.0
comp=Z,400nm,18.0s
KSP Ksiaz 75.21 320 *eP* **P** 12 55 25.3 +1.6
KSP *e*PP pP 12 55 33.8 +0.1
UPC Upice 75.35 320 *eP* **P** 12 55 24.6 0.0
UPC *ep*P pP 12 55 32.7 -1.8
PERS Pernice 75.62 316 *eP* **P** 12 55 25.9 -0.3
PERS *e* pP 12 55 36.2 +0.1
PDKS Podkum 75.66 315 *eP* **P** 12 55 26.3 -0.1
PDKS *e* pP 12 55 36.4 0.0
LJU Ljubljana 75.99 315 *e* **P** 12 55 28.5 +0.2
LJU *e* pP 12 55 38.6 +0.4
PRU Pruhonice 76.25 320 *eP* **P** 12 55 29.7 +0.1
PRU *ep*P pP 12 55 39.0 -0.6
PRU AMS AMS 13 34 00.0
comp=Z,300nm,19.3s
PVCC Panska Ves 76.27 320 *eP* **P** 12 55 29.8 0.0
PVCC *ep*P pP 12 55 40.3 +0.6
PVCC AMS AMS 13 34 00.0
comp=Z,300nm,20.2s
BRG Berggiesshubel 76.69 320 *eP* **P** 12 55 32.3 +0.2
BRG *i* 12 55 38.4
BRG *i* pP 12 55 42.4 +0.3
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BRG pmax pmax
comp=Z,22nm,0.9s,mb5.1
BRG MLR MLR
comp=Z,443nm,18.1s,MS4.8
BRG MLR MLR
comp=N,315nm,24.6s
BRG MLR MLR
comp=E,273nm,24.6s
BRG Berggiesshubel 76.69 320 *eP* **P** 12 55 32.3 +0.2
comp=E,5.8nm,1.0s,mb4.5
BRG *i* pP 12 55 42.4 +0.3
BRG LR LR
comp=Z,440nm,18.1s,MS4.8
ROBS Robic 76.71 316 *eP* **P** 12 55 31.4 -0.9
ROBS *e* pP 12 55 41.4 -0.8
GERES GERESS Array B 76.72 318 P **P** 12 55 32.6 +0.3
comp=Z,4.7nm,0.8s,mb4.5,baz=90,slow=5.3,SNR=31
GERES GERESS Array B 76.72 318 P pP 12 55 42.5 +0.2
comp=Z,24nm,0.8s,baz=90,slow=5.3,SNR=39
KHC Kasperske Hory 76.81 319 *eP* **P** 12 55 32.3 -0.5
KHC *ep*P pP 12 55 42.6 -0.2
KHC AMS AMS 13 34 30.0
comp=Z,300nm,20.7s
BILL Bilibino 76.88 22 *i* P **P** 12 55 34.0 +1.2
BILL pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BILL MLR MLR
comp=Z,800nm,21.0s,MS5.0
BILL Bilibino 76.88 22 P **P** 12 55 32.0 -0.9
comp=Z,7.2nm,1.0s,mb4.6
CLL Collm 77.31 321 P **P** 12 55 41.0 +5.4
CLL *i* *PP pP 12 55 46.1 +0.6
CLL *e*S S 13 05 31.0 +9.0
NKC Novy Kostel 77.61 320 *eP* **P** 12 55 32.8 -4.4
NKC *ep*P pP 12 55 48.1 +0.9
NKC AMS AMS 13 34 20.0
comp=Z,400nm,17.9s
MAW Mawson 78.05 191 P pP 12 55 50.9 +1.7
MAW pmax pmax
comp=Z,6.0nm,0.8s
MAW Mawson 78.05 191 P **P** 12 55 41.5 +2.3
comp=Z,2.9nm,0.8s,mb4.2,baz=1.0,slow=6.6,SNR=5.4
MAW Mawson 78.05 191 P pP 12 55 50.9 +1.7
comp=Z,6.1nm,0.8s,baz=8.9,slow=7.2,SNR=7.4
MOX Moxa 78.16 320 *eP* **P** 12 55 40.3 +0.1
MOX *e* pP 12 55 51.3 +1.1
MOX pmax pmax
comp=Z,31nm,1.4s,mb5.0
MOX MLR MLR
comp=Z,300nm,20.0s,MS4.6
MOX Moxa 78.16 320 *eP* **P** 12 55 40.3 +0.1
MOX LR LR
comp=Z,300nm,20.0s,MS4.6
MOX Moxa 78.16 320 *i* P **P** 12 55 40.3 +0.1
comp=Z,logA/T=1.4,mb5.1
MOX *i* pP 12 55 51.0 +0.8
MOX L 13 37 23.0
FX1 Attu Island--F 78.35 38 P **P** 12 55 39.7 -1.6
GRA1 Grafenberg Arr 78.38 319 *eP* **P** 12 55 42.2 +0.8
comp=Z,35nm,0.9s,mb5.3
GRA1 LR LR
comp=Z,500nm,19.2s,MS4.9
GRF Grafenberg Arr 78.38 319 *eP* **P** 12 55 42.2 +0.8
comp=Z,35nm,0.9s,mb5.3
GRF LR LR
comp=Z,500nm,19.2s,MS4.9
SUR Sutherland 78.77 235 *eP* **P** 12 55 44.0 0.0
comp=Z,29nm,0.8s,mb5.3
SARO Sassorosso 78.85 313 P **P** 12 55 47.9 +3.7
NB2 NORSAR Subarra 78.95 331 P **P** 12 55 43.3 -1.1
comp=Z,4.6nm,0.8s,mb4.5,baz=94,slow=5.6
NOA NORSAR Array B 78.95 331 P **P** 12 55 43.7 -0.6
comp=Z,3.0nm,0.9s,mb4.2,baz=97,slow=5.8,SNR=9.0
NOA NORSAR Array B 78.95 331 P pP 12 55 53.5 -0.9
comp=Z,8.9nm,0.8s,baz=94,slow=5.5,SNR=11
VINC Vinca 79.03 313 P **P** 12 55 49.1 +3.9
BACM 79.09 314 P **P** 12 55 49.5 +4.1
GRAM 79.09 314 P **P** 12 55 50.8 +5.3
NAO01 NORSAR Array S 79.10 330 *eP* **P** 12 55 44.3 -0.8
comp=Z,10nm,0.8s,mb4.8
NAO01 *ep*P pP 12 55 53.9 -1.3
PCP Pian Castagno 80.18 314 P **P** 12 55 56.3 +5.0
FIN Finale Ligure 80.43 313 P **P** 12 55 57.6 +5.0
LANF Langenberg 80.61 318 *eP* pP 12 56 03.1 -0.4
IMI Imperia 80.67 313 P **P** 12 55 59.0 +5.0
ROB Roburent 80.67 314 P **P** 12 55 59.2 +5.2
NEGI Negi 80.81 313 P **P** 12 55 59.1 +4.4
SAOF Saorge 80.91 313 *eP* pP 12 56 03.4 -1.8
ENR Entracque 81.00 314 P **P** 12 56 01.0 +5.4
STV2 Anna di Valdie 81.06 314 P **P** 12 56 01.6 +5.6
STV Sta Anna Valdi 81.06 314 P **P** 12 56 01.7 +5.7
RSP Reno Superiore 81.08 314 P **P** 12 56 00.6 +4.5
BHB Bricherasio 81.09 314 P **P** 12 56 00.5 +4.4
TOUF Mont Tournerai 81.13 313 *eP* pP 12 56 06.7 +0.3
LSD Ceresole Reale 81.14 315 P **P** 12 56 01.8 +5.4
MVIF Mont Vial 81.20 313 *eP* pP 12 56 07.4 +0.7
FENE Fenestrelle 81.22 314 P **P** 12 56 01.9 +5.1
LOMF Lomont 81.30 317 *eP* pP 12 56 07.3 +0.1
CALN Calern 81.40 313 *eP* **P** 12 56 04.2 +6.5
LPG La Plagne 81.42 315 *eP* **P** 12 55 58.8 +1.0
comp=Z,6.7nm,0.4s,mb4.6
BNI Bardonecchia 81.49 314 *eP* **P** 12 55 58.7 +0.5
comp=Z,29nm,0.9s,mb5.2
BNI *ep*P pP 12 56 07.2 -1.1
THEF They Montfort 81.84 318 *eP* pP 12 56 09.9 -0.1
TAVF Tavernes 82.01 313 *eP* pP 12 56 08.5 -2.4
VILF Villemus 82.24 313 *eP* pP 12 56 11.6 -0.6
PUYF Puyloubier 82.27 313 *eP* pP 12 56 13.4 +1.1
BERF Bertagne 82.29 313 *eP* pP 12 56 09.5 -2.9
PLDF La Plantade 83.58 315 *eP* pP 12 56 20.7 +1.6
EJON La Jonquera 84.41 312 P pP 12 56 23.6 +0.2
comp=Z,8.8nm,0.8s
FILF Fillols 84.64 312 *eP* pP 12 56 22.0 -2.5
ETOS Mallorca 84.72 309 P pP 12 56 26.5 +1.5
comp=Z,23nm,0.9s
SYO Syowa Base 84.75 197 ⇑ pP pP 12 56 22.2 -2.3
VALF Valcebollere 85.06 312 *eP* pP 12 56 24.2 -2.4
EPOB Poblet 85.87 311 P pP 12 56 31.5 +0.8
comp=Z,17nm,0.7s
EIBI Ibiza 85.93 309 P pP 12 56 32.5 +1.4
comp=Z,22nm,0.8s
EGRA Graus 86.33 312 P pP 12 56 34.3 +1.4
comp=Z,6.9nm,0.6s
ERTA Horta de San J 86.47 311 P pP 12 56 33.5 -0.1
comp=Z,5.5nm,0.7s
ESAC San Caprasio 86.97 312 P pP 12 56 36.7 +0.6
comp=Z,24nm,0.9s
EMOS Mosqueruela 87.16 310 P pP 12 56 39.0 +1.9
comp=Z,20nm,0.8s
EBEN Beniarda 87.19 308 P pP 12 56 38.1 +0.9
comp=Z,18nm,1.2s
EALK Alkurruntz 87.53 313 P pP 12 56 39.7 +0.9
comp=Z,5.7nm,0.7s
EMUR La Murta 88.10 308 P pP 12 56 42.1 +0.5
comp=Z,13nm,1.2s
ETOB Tobarra 88.22 309 P pP 12 56 42.6 +0.4
comp=Z,6.7nm,0.8s
ELAN Lanestosa 88.92 313 P pP 12 56 45.0 -0.4
comp=Z,45nm,1.9s
EQES Quesada 89.54 308 P pP 12 56 49.5 +1.1
comp=Z,12nm,0.9s
EBER Berja 89.54 307 P pP 12 56 49.7 +1.2
comp=Z,22nm,0.8s
ESDC Sonseca Array 89.91 310 P **P** 12 56 40.5 +0.4
comp=Z,0.4nm,0.4s,mb4.1,baz=76,slow=4.8,SNR=6.3
ESDC Sonseca Array 89.91 310 P pP 12 56 50.7 +0.6
comp=Z,8.7nm,0.8s,baz=68,slow=4.2,SNR=6.6
ESLA Sonseca Array 89.91 310 *eP* **P** 12 56 40.5 +0.5
comp=Z,2.6nm,0.9s,mb4.6
ESLA *ep*P pP 12 56 51.0 +0.8
ESLA LR LR
comp=Z,2µm,22.0s,MS5.4
EBAN Banos Encina 90.03 308 P pP 12 56 51.6 +0.8
comp=Z,17nm,1.8s
EGUA Guajares 90.09 307 P pP 12 56 52.2 +1.2
comp=Z,4.9nm,0.8s
EADA Adamuz 90.65 309 P pP 12 56 54.2 +0.6
comp=Z,20nm,0.9s
EMIJ Mijas 91.09 307 P pP 12 56 55.6 -0.1
comp=Z,17nm,0.8s
ECAB El Cabril 91.32 309 P pP 12 56 57.5 +0.9
comp=Z,12nm,0.8s
ECAL Calabor 91.56 313 P pP 12 56 58.5 +0.8
comp=Z,35nm,2.1s
EPON Pontenova 91.57 314 P pP 12 56 58.7 +1.1
comp=Z,15nm,1.1s
PBRG Braganca 91.59 312 *eP* pP 12 56 55.9 -1.9
ESPR Espera 91.89 307 P pP 12 56 60.0 +0.7
comp=Z,16nm,0.8s
EMIN Mina Concepcio 92.35 308 P pP 12 57 02.2 +0.8
comp=Z,11nm,0.8s
EBAD Badajoz 92.41 309 P pP 12 57 02.7 +1.0
comp=Z,3.2nm,0.8s
PVRL Vila Real 92.41 312 *eP* pP 12 56 59.9 -1.7
MTE Manteigas 92.47 311 *eP* pP 12 57 00.4 -1.5
ELOB Lobios 92.54 313 P pP 12 57 01.2 -0.9
comp=Z,50nm,2.2s
PCBR Castelo Branco 92.54 311 *eP* pP 12 57 00.1 -2.1
PVIS Viseu 92.66 312 *eP* pP 12 57 00.9 -1.9
EZAM Zamans 92.94 313 P pP 12 57 05.8 +1.8
comp=Z,0.1nm,1.7s
EGRO El Granado 93.03 308 P pP 12 57 05.7 +1.2
comp=Z,6.7nm,0.8s
PBEJ Beja 93.22 309 *eP* pP 12 57 04.0 -1.4
SUMG Summit 93.86 347 *eP* **P** 12 56 57.2 -0.3

comp=Z,11nm,1.1s,mb5.2
ILAR Eielson Array 95.54 22 P **P** 12 57 06.0 +0.6
comp=Z,0.4nm,0.7s,mb4.0,baz=304,slow=4.3,SNR=8.1
ILAR Eielson Array 95.54 22 P pP 12 57 16.4 +1.0
comp=Z,2.2nm,0.8s,baz=300,slow=3.2,SNR=13
ILAR PP PP 13 01 00.3 +1.7
comp=Z,0.5nm,0.8s,baz=304,slow=6.5,SNR=4.8
DBIC Dimbokro 96.16 278 P pP 12 57 20.9 +1.4
comp=Z,9.0nm,0.8s,baz=84,slow=6.0,SNR=9.0
INK Inuvik 97.61 16 P pP 12 57 24.2 -0.6
comp=Z,4.6nm,0.9s,baz=313,slow=4.2,SNR=8.2
INK Inuvik 97.61 16 *e*P **P** **12 57 15.3 +0.7**
comp=Z,5.7nm,0.9s,mb5.1
INK epP pP 12 57 24.0 -0.7
YKA Yellowknife Ar 106.96 13 PP PP 13 02 30.0 +3.9
comp=Z,1.1nm,0.8s,baz=181,slow=35,SNR=3.7
TBI Tubuai 118.92 112 *e*LQ 13 36 12.6
comp=Z,150nm,36.5s
TBI eLR LR 13 42 36.8
comp=Z,256nm,24.0s
MSO Missoula 120.86 21 *e*PKPdf PKPdf 13 02 33.4 -3.7
MOD Modoc 122.28 28 *e*PKPdf PKPdf 13 02 36.5 -3.4
BOZ Bozeman (W) 122.68 20 *e*PKPdf PKPdf 13 02 38.2 -2.3
IMW Indian Meadow 124.46 20 PKPdf PKPdf 13 02 39.1 -4.9
MOOW Moose Ponds 124.65 20 *e*PKPdf PKPdf 13 02 41.5 -3.0
RRI2 Red Ridge 124.81 21 PKPdf PKPdf 13 02 40.9 -3.9
TPAW Teton Pass 124.81 20 *e*PKPdf PKPdf 13 02 41.7 -3.1
LOHW Long Hollow 124.82 20 *e*PKPdf PKPdf 13 02 42.1 -2.7
SNOW Snow King Moun 124.90 20 *e*PKPdf PKPdf 13 02 43.5 -1.4
REDW Red Top Meadow 124.96 20 *e*PKPdf PKPdf 13 02 40.7 -4.4
ELK Elko 125.49 26 *e*PKPdf PKPdf 13 02 42.7 -3.4
BW06 Boulder Array 125.92 20 *e*PKPdf PKPdf 13 02 44.5 -2.5
PDAR Pinedale Array 125.92 20 PKP PKPdf 13 02 44.0 -2.9
comp=Z,1.1nm,0.7s,SNR=9.5
PDAR Pinedale Array 125.92 20 PKP PKPdf 13 02 51.9 +4.9
comp=Z,3.2nm,0.8s,baz=355,slow=1.7,SNR=15
PDAR Pinedale Array 125.92 20 PKP PKPdf 13 02 44.0 -2.9
PDAR PKP PKPdf 13 02 51.9 +4.9
NVAR Mina Array Bea 125.95 30 PKP PKPdf 13 02 45.6 -1.5
comp=Z,1.2nm,0.6s,baz=315,slow=1.2,SNR=9.7
NVAR Mina Array Bea 125.95 30 PKP PKPdf 13 02 53.5 +6.4
comp=Z,5.0nm,0.8s,baz=307,slow=1.4,SNR=17
NVAR Mina Array Bea 125.95 30 PKP PKPdf 13 02 45.6 -1.5
NVAR PKP PKPdf 13 02 53.5 +6.4
HWUT Hardware Ranch 126.23 22 *e*PKPdf PKPdf 13 02 43.3 -4.3
MSU Marysvale 128.65 25 *e*P PKPdf 13 02 49.0 -3.3
SMCO Snowmass 130.01 20 *e*PKPdf PKPdf 13 02 51.2 -3.7
ANMO Albuquerque 133.98 22 *e*PKPdf PKPdf 13 02 57.6 -4.9
TUC Tucson 134.49 28 PKPdf PKPdf 13 02 58.7 -4.8
BNM Barren Site 134.63 22 *e*PKPdf PKPdf 13 03 01.5 -2.2
WVT Waverly 136.36 0 *e*PKPdf PKPdf 13 03 03.1 -3.7
MNTX Cornudas Mount 137.29 22 *e*PKPdf PKPdf 13 03 05.3 -3.3
TXAR Lajitas Array 140.06 22 PKP PKPdf 13 03 13.0 -0.8
comp=Z,0.2nm,0.3s,SNR=2.8
TXAR Lajitas Array 140.06 22 PKP PKPdf 13 03 18.9 +5.2
comp=Z,1.7nm,0.7s,SNR=10
TXAR PP PP 13 06 18.1 +8.5
comp=Z,0.2nm,0.3s,baz=11,slow=6.4,SNR=3.8
TXAR Lajitas Array 140.06 22 PKP PKPdf 13 03 13.0 -0.8
TXAR PKP PKPdf 13 03 18.9 +5.2
TXAR PP PP 13 06 18.1 +8.5
BDFB Brasilia 140.42 255 PKP PKPdf 13 03 11.4 -3.3
comp=Z,2.7nm,0.7s,baz=223,slow=7.2,SNR=3.2
PLCA Paso Flores 143.77 202 PKhKP 13 03 14.7
comp=Z,1.0nm,0.7s,baz=277,slow=3.5,SNR=3.4
PLCA Paso Flores 143.77 202 PKP PKPdf 13 03 28.4 +8.5
comp=Z,8.9nm,1.2s,baz=194,slow=6.2,SNR=5.4
PLCA Paso Flores 143.77 202 PKPdf PKPdf 13 03 17.1 -2.8
PLCA PKP PKPdf 13 03 28.4 +8.5
CPUP Villa Florida 145.73 234 PKPbc PKPbc 13 03 21.2 +1.9
comp=Z,4.3nm,0.6s,baz=96,slow=3.9,SNR=13
CPUP Villa Florida 145.73 234 PKPbc PKPbc 13 03 30.9 +12
comp=Z,18nm,0.8s,baz=124,slow=3.5,SNR=18
CPUP Villa Florida 145.73 234 *e*PKPbc PKPbc 13 03 21.3 +2.0
LPAZ La Paz 159.09 244 PKP PKPdf 13 03 42.1 -1.3
comp=Z,1.1nm,0.9s,baz=63,slow=6.1,SNR=3.6
LPAZ La Paz 159.09 244 PKP PKPdf 13 03 52.4 +9.1
comp=Z,4.3nm,0.9s,baz=63,slow=6.7,SNR=11
LPAZ PKPab PKPab 13 04 27.6 +10
comp=Z,4.7nm,0.8s,baz=101,slow=5.9,SNR=8.1
LPAZ La Paz 159.09 244 *e*PKPdf PKPdf 13 03 40.9 -2.5
LPAZ PKP PKPdf 13 03 52.4 +9.1
LPAZ PKPab PKPab 13 04 27.6 +10

*CSEM **25** 13:15:27.1±0.1,37.79N×29.49E,h2km,MD3.8,Error ellipse: s-maj=1.5km s-min=1.2km az=45.0*
*NEIC **25** 13:15:28.0,37.83N×29.51E,h11km,ML3.8(ISK),After ISK,*
*ISK **25** 13:15:28.8,37.84N×29.51E,h11km,MD3.8,ML3.8*
*IDC **25** 13:15:34.3±2.4,37.95N×29.51E,h38km±29km,mb3.6/2,mb1 3.9/6,mb1mx3.5/23,mbtmp3.8/6,ML3.8/4,Error ellipse: s-maj=23.4km s-min=18.1km az=173.0*
*HLW **25** 13:15:41.5,37.04N×29.42E,h33km,Mb3.7*
ISC 25 13:15:29.0±0.6,37.84N±0.02×29.51E±0.02,h9km±4km, n87,σ1§02/106,mb3.7/2,9C-5D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.39**	**258**	*i* Pg	**Pg**	**13 15 37.4**	**+0.5**
KHL	**Karahalli**	**0.49**	**1**	*i* Pg	**Pg**	**13 15 38.6**	**-0.3**
GOLH	**Golhisar**	**0.60**	**176**	*i* P	**Pg**	**13 15 41.0**	**0.0**
GOLH				*i* S	**Sg**	**13 15 51.1**	**+2.0**
TKTP	**Tekketepe**	**0.67**	**72**	*i* P	**Pb**	**13 15 42.3**	**-0.1**
TKTP				*i* S	**Sg**	**13 15 56.9**	**+5.5**
TKTP	**Tekketepe**	**0.67**	**72**	*i* P	**Pb**	**13 15 42.3**	**-0.1**
TKTP				*i* S	**Sg**	**13 15 56.9**	**+5.5**
ISP	**Isparta**	**0.79**	**89**	*i* PG	**Pg**	**13 15 43.8**	**-1.0**
ISP				*i* SG	**Sg**	**13 15 57.0**	**+1.7**
ISP	**Isparta**	**0.79**	**89**	*e*P	**Pb**	**13 15 44.5**	**+0.1**
ISP				*e*S	**Sb**	**13 15 58.4**	**+3.4**
BCK	**Bucak**	**0.93**	**113**	PG	**Pg**	**13 15 46.9**	**-0.8**
ELL	**Elmali**	**1.13**	**164**	PN	**Pn**	**13 15 50.1**	**-0.8**
YER	**Yerkesik**	**1.20**	**235**	PN	**Pn**	**13 15 52.3**	**+0.3**
GDZ	**Gediz**	**1.25**	**359**	*i* P	**Pb**	**13 15 51.7**	**-0.6**
GDZ				*i* S	**Sb**	**13 16 10.0**	**+1.6**
DALT	**Dalyan (Mudla)**	**1.27**	**214**	PN	**Pn**	**13 15 53.9**	**+0.9**
ANTB	**Antalya**	**1.30**	**135**	*e*PN	**Pn**	**13 15 53.4**	**0.0**
ALT	**Altintas**	**1.30**	**21**	PN	**Pn**	**13 15 53.7**	**+0.3**
MLSB	**Milas**	**1.48**	**249**	*e*PN	**Pn**	**13 15 55.3**	**-0.7**
AKAS	**Kas**	**1.60**	**177**	*i* P	**Pn**	**13 15 59.8**	**+2.1**
AKAS				*i* S	**Sb**	**13 16 24.6**	**+6.1**
KSL	**Kastellorizon**	**1.68**	**178**	*e*P	**Pn**	**13 16 02.5**	**+3.7**
AKS	**Akhisar**	**1.69**	**308**	*e*PN	**Pn**	**13 15 58.5**	**-0.5**
KDAG	**Bornova**	**1.86**	**288**	*i* P	**Pn**	**13 16 00.6**	**-0.8**
KDAG				*i* S	**Sn**	**13 16 26.8**	**+1.6**
IZM	**Izmir**	**1.86**	**288**	*e*PN	**Pn**	**13 16 01.6**	**+0.2**
DST	**Dursunbey**	**1.90**	**339**	*e*PN	**Pn**	**13 16 01.9**	**0.0**
BODT	**Bodrum**	**1.92**	**247**	*e*PN	**Pn**	**13 16 01.8**	**-0.4**
ARG	**Arkhangelos**	**1.96**	**215**	*e*P	**Pn**	**13 16 05.2**	**+2.4**
ESKT	**Eskisehir**	**1.98**	**31**	*i* P	**Pn**	**13 16 02.2**	**-0.9**
ESKT				*i* S	**Sn**	**13 16 33.3**	**+5.1**
ESKT	**Eskisehir**	**1.98**	**31**	*e*Pn	**Pn**	**13 16 02.4**	**-0.7**
SMG	**Samos**	**2.12**	**267**	*e*P	**Pn**	**13 16 04.2**	**0.0**
KIZT	**Kizilcal**	**2.13**	**60**	*e*PN	**Pn**	**13 16 05.0**	**-0.2**
KDHN	**Kadinhani**	**2.16**	**71**	*i* P	**Pn**	**13 16 06.8**	**+1.1**
KDHN				*i* S	**Sn**	**13 16 38.0**	**+5.2**
BALB	**Balikesir**	**2.21**	**325**	*e*PN	**Pn**	**13 16 06.7**	**+0.3**
KONT	**Konya--Tatoy**	**2.25**	**86**	*e*PN	**Pn**	**13 16 07.2**	**+0.2**
ORLT	**Orhaneli**	**2.26**	**348**	*e*PN	**Pn**	**13 16 07.6**	**+0.6**
URLA	**Izmir**	**2.36**	**284**	*i* P	**Pn**	**13 16 09.3**	**+0.8**
URLA				*i* S	**Sn**	**13 16 42.0**	**+4.1**
HDMB	**Hadim**	**2.52**	**109**	*e*PN	**Pn**	**13 16 10.7**	**-0.2**
GPA	**Golpazari**	**2.53**	**14**	*e*PN	**Pn**	**13 16 11.2**	**+0.3**
YLV	**Yalova**	**2.73**	**358**	*e*PN	**Pn**	**13 16 13.8**	**0.0**
EYL	**Eskiyayla**	**2.77**	**10**	*e*PN	**Pn**	**13 16 14.2**	**-0.3**
BNT	**Bandirma**	**2.81**	**334**	*e*PN	**Pn**	**13 16 14.8**	**-0.1**
CANB	**Canakkale**	**2.90**	**319**	*e*PN	**Pn**	**13 16 16.1**	**-0.1**
PRK	**Paraskevi**	**2.91**	**300**	*e*P	**Pn**	**13 16 16.2**	**-0.1**
KARP	**Karpathos**	**2.96**	**220**	*e*P	**Pn**	**13 16 19.0**	**+1.8**
HRT	**Hereke**	**2.98**	**2**	*e*PN	**Pn**	**13 16 17.4**	**0.0**
BADT	**Buyukada**	**3.03**	**354**	*e*PN	**Pn**	**13 16 18.4**	**+0.4**
MRMT	**Marmara Adasi**	**3.11**	**332**	*e*PN	**Pn**	**13 16 20.7**	**+1.0**
EZN	**Ezine**	**3.19**	**310**	*e*PN	**Pn**	**13 16 19.4**	**-0.9**
ISK	**Istanbul-Kandi**	**3.25**	**354**	*e*PN	**Pn**	**13 16 21.7**	**+0.5**
APE	**Apeiranthos**	**3.26**	**258**	*e*PN	**Pn**	**13 16 22.0**	**+0.6**
APE	**Apeiranthos**	**3.26**	**258**	*e*P	**Pn**	**13 16 21.0**	**-0.4**
ANTO	**Ankara**	**3.27**	**51**	*e*PN	**Pn**	**13 16 22.0**	**+0.5**
LPK	**Lapseki**	**3.32**	**321**	*e*PN	**Pn**	**13 16 22.0**	**-0.2**
CTT	**Catalca**	**3.41**	**346**	*e*PN	**Pn**	**13 16 23.9**	**+0.4**
MFT	**Murefte**	**3.42**	**330**	*e*PN	**Pn**	**13 16 23.6**	**+0.1**
KAMT	**Kaman**	**3.63**	**64**	*e*PN	**Pn**	**13 16 26.6**	**+0.1**
IKL	**Isikli**	**3.70**	**114**	*e*PN	**Pn**	**13 16 27.4**	**-0.2**
BR131	**Keskin Array S**	**3.73**	**58**	*e*P	**Pn**	**13 16 28.2**	**+0.1**
BR131	**Keskin Array S**	**3.73**	**58**	*e*P	**Pn**	**13 16 28.2**	**+0.1**
BRTR	**Keskin Array B**	**3.73**	**58**	Pn	**Pn**	**13 16 28.2**	**+0.2**
	2.6nm,0.3s,baz=234,slow=14,SNR=30						
BRTR				Sn	**Sn**	**13 17 12.9**	**+0.2**
	2.2nm,0.3s,baz=247,slow=19,SNR=7.1						
BRTR	**Keskin Array B**	**3.73**	**58**	Pn	**Pn**	**13 16 28.2**	**+0.1**
BRTR				Sn	**Sn**	**13 17 12.9**	**+0.2**
LIA	**Limnos Island**	**3.96**	**303**	*e*P	**Pn**	**13 16 30.5**	**-0.8**
NPS	**Neapolis**	**4.06**	**232**	*e*P	**Pn**	**13 16 33.5**	**+0.8**
CSS	**Prodhromos**	**4.21**	**132**	*e*P	**Pn**	**13 16 38.2**	**+3.4**
CSS				*e*S	**Sn**	**13 17 36.5**	**+12**
XRY	**Khrisi**	**4.27**	**227**	*e*P	**Pn**	**13 16 35.5**	**-0.2**
IDI	**Anoyia**	**4.51**	**237**	Pn	**Pn**	**13 16 40.9**	**+1.8**
	3.5nm,0.3s,baz=58,slow=14,SNR=26						
IDI				Sn	**Sn**	**13 17 33.5**	**+1.2**
	6.1nm,0.3s,baz=216,slow=7.1,SNR=6.3						
RDO	**Rodhopi**	**4.52**	**318**	*e*P	**Pn**	**13 16 38.5**	**-0.7**
EDRB	**Edirne**	**4.54**	**333**	*e*PN	**Pn**	**13 16 38.6**	**-0.9**
CORM	**Corum**	**4.62**	**58**	*e*PN	**Pn**	**13 16 41.1**	**+0.4**
NVR	**Nevrokopi**	**5.60**	**311**	*e*P	**Pn**	**13 16 53.4**	**-1.1**
HMAT	**Matruh**	**7.01**	**197**	*e*P	**Pn**	**13 17 11.6**	**-2.8**
HMAT				S	**Sn**	**13 18 17.7**	**-17**
AMAG	**Maghara**	**7.80**	**156**	*e*P	**Pn**	**13 17 23.9**	**-1.5**
MLR	**Muntele Rosu**	**8.10**	**342**	Pn	**P**	**13 17 29.2**	**-0.4**
	1.0nm,0.3s,baz=308,slow=1.8,SNR=7.2						
MLR	**Muntele Rosu**	**8.10**	**342**		**P**	**13 17 28.2**	**-1.5**
MLR	**Muntele Rosu**	**8.10**	**342**		**P**	**13 17 28.2**	**-1.4**
HNAT	**Natroun**	**8.23**	**173**	*e*P	**P**	**13 17 28.6**	**-2.9**
ASF	**Jabal al Asfar**	**8.28**	**131**	Pn	**P**	**13 17 32.5**	**+0.4**
	0.7nm,0.3s,baz=311,slow=6.5,SNR=4.2						
ASF				Sn	**Sn**	**13 19 07.3**	**+0.5**
	0.2nm,0.3s,baz=199,slow=16,SNR=2.7						
VRI	**Vrincioaia**	**8.29**	**346**		**P**	**13 17 30.7**	**-1.6**
VRI	**Vrincioaia**	**8.29**	**346**		**P**	**13 17 30.7**	**-1.8**
SUZ		**8.44**	**160**	*e*P	**P**	**13 17 32.8**	**-1.5**
SWA1		**9.12**	**201**	*e*P	**P**	**13 17 41.1**	**-2.7**
SWA2		**9.21**	**203**	*e*P	**P**	**13 17 42.5**	**-2.6**
SWA2				S	**Sn**	**13 19 10.8**	**-19**
EIL	**Elat**	**9.31**	**149**	*e*P	**P**	**13 17 46.1**	**-0.4**
EIL				*e*S	**Sn**	**13 19 26.7**	**-5.8**
EIL	**Elat**	**9.31**	**149**	*e*P	**P**	**13 17 46.1**	**-0.4**
HKAT	**Jabal Katrina**	**10.02**	**157**	*e*P	**P**	**13 17 54.8**	**-1.3**
BURAR	**Bucovina Array**	**10.27**	**343**		**P**	**13 18 00.3**	**+0.7**
BURAR	**Bucovina Array**	**10.27**	**343**		**P**	**13 18 00.3**	**+0.7**
HFRF	**Wahat Farafira**	**10.71**	**186**	*e*P	**P**	**13 18 01.9**	**-3.7**
GERES	**GERESS Array B**	**15.88**	**319**	Pn	**P**	**13 19 18.4**	**+4.2**
	0.2nm,0.3s,baz=126,slow=12,SNR=10						
ESDC	**Sonseca Array**	**26.09**	**285**	P	**P**	**13 21 04.1**	**-0.5**
	0.6nm,0.5s,mb3.4,baz=78,slow=10.0,SNR=5.2						
MKAR	**Makanchi Array**	**39.39**	**60**	P	**P**	**13 22 59.6**	**-0.8**
	2.4nm,0.8s,mb4.0,baz=284,slow=5.0,SNR=14						

IDC 25 13:15:31.7±3.6,10.02N×95.83E,mb3.5/3,mb1 3.7/3, mb1mx3.4/19,mbtmp3.5/3,Error ellipse: s-maj=143.8km s-min=29.2km az=62.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**38.42**	**345**	P	P	13 22 55.6	-1.1
	0.4nm,0.5s,baz=166,slow=8.9,SNR=6.0						
SONM	**Songino Array**	**38.73**	**11**	P	P	13 22 56.6	-2.8
	0.4nm,0.8s,baz=162,slow=4.6,SNR=3.6						
WRA	**Warramunga Arr**	**48.20**	**128**	P	P	13 24 14.5	-1.8
	0.4nm,0.7s,baz=302,slow=8.9,SNR=7.8						

*IDC **25** 13:17:26.0±1.5,7.69N×92.03E,mb3.9/6,mb1 4.0/6, mb1mx3.8/20,mbtmp3.9/6,Error ellipse: s-maj=63.1km s-min=25.9km az=54.0*
*NEIC **25** 13:17:28.7±1.0,7.42N×91.60E,h30km,Error ellipse: s-maj=23.8km s-min=18.1km az=183.0*
ISC 25 13:17:26.5±1.1,7.3N±0.2×91.44E±0.08,h30km,n8, σ0§96/8,mb3.8/6,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.65**	**270**	*e*P	**P**	**13 20 01.1**	**+0.7**
	14nm,0.5s						
PALK				*e*S	**S**	**13 21 58.8**	**-0.8**
MKAR	**Makanchi Array**	**40.11**	**350**	P	**P**	**13 25 01.2**	**+0.1**
	2.3nm,0.7s,mb4.0,baz=170,slow=8.2,SNR=14						
SONM	**Songino Array**	**42.33**	**15**	P	**P**	**13 25 17.7**	**-1.7**
	1.2nm,0.8s,mb3.6,baz=191,slow=7.6,SNR=6.6						
BVAR	**Borovoye Array**	**48.69**	**343**	P	**P**	**13 26 10.5**	**+0.5**
	0.6nm,0.5s,mb3.9,baz=143,slow=7.4,SNR=5.9						
WRA	**Warramunga Arr**	**50.16**	**123**	P	**P**	**13 26 21.4**	**-0.3**
	0.8nm,0.7s,mb3.9,baz=303,slow=8.9,SNR=9.1						
FINES	**FINESS Array B**	**71.96**	**333**	P	**P**	**13 28 50.0**	**+1.1**
	0.9nm,0.7s,mb3.8,baz=146,slow=6.9,SNR=3.4						
GERES	**GERESS Array B**	**76.46**	**318**	P	**P**	**13 29 19.0**	**+3.8**
	0.3nm,0.2s,mb3.8,baz=56,slow=4.8,SNR=5.3						
PDAR	**Pinedale Array**	**126.61**	**19**	PKP	PKPdf	13 36 31.0	-1.4
	0.3nm,0.7s,baz=270,slow=1.5,SNR=3.6						

*NEIC **25** 13:40:03.9,16.12N×98.24W,h5km,MD3.9(MEX),After MEX.*
MEX 25 13:40:04.2±0.7,16.13N×98.25W,h5km,MD3.9,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.28**	**24**	*i* P	Pg	13 40 09.2	-0.7
PNIG				*i* S	Sg	13 40 13.3	-0.4
OXX	**Oaxaca**	**1.74**	**57**	*i* P	Pn	13 40 33.0	-2.3
OXX				*i* S	Sn	13 40 57.0	-1.1
OXX	**Oaxaca**	**1.74**	**57**	*i* P	Pn	13 40 33.0	-2.3
OXX				*i* S	Sn	13 40 56.0	-2.1
ACX	**Acapulco**	**1.76**	**295**	*e*P	Pn	13 40 31.0	-4.6
ACX				*e*S	Sn	13 40 51.5	-7.1
CAIG	**El Cayaco**	**2.14**	**295**	*i* P	Pn	13 40 36.6	-4.4
CAIG				*i* S	Sn	13 41 01.4	-6.9
CAIG				*e*S	Sn	13 41 04.1	-4.2
CAIG	**El Cayaco**	**2.14**	**295**	*i* P	Pn	13 40 36.6	-4.4
CAIG				*e*S	Sn	13 41 04.1	-4.2
PLIG	**Platanillo**	**2.54**	**332**	*e*P	Pn	13 40 45.1	-1.7
PLIG				*e*S	Sn	13 41 13.7	-4.9
PLIG	**Platanillo**	**2.54**	**332**	*i* P	Pn	13 40 43.6	-3.2
PLIG				*e*S	Sn	13 41 13.7	-4.9
YAIG	**Yautepec**	**2.82**	**344**	*e*P	Pn	13 40 48.9	-1.9
YAIG				*e*S	Sn	13 41 20.4	-5.3
CMIG	**Matias Romero**	**3.36**	**73**	*i* P	Pn	13 40 55.0	-3.5
CMIG				*i* S	Sn	13 41 35.9	-3.5

*SOF **25** 13:43:47.0,41.85N×21.82E,h4km,MD2.8*
*SKO **25** 13:43:48.6,41.82N×21.87E,h15km,ML2.9*
*THE **25** 13:43:49.7,41.82N×21.80E,h6km,ML3.2*
*BEO **25** 13:43:49.2±0.1,41.92N×22.05E,h13km*
*CSEM **25** 13:43:50.8±0.1,41.88N×22.11E,h2km,MD2.8,Error ellipse: s-maj=2.6km s-min=1.2km az=24.0*
*ATH **25** 13:43:51.8,41.99N×21.93E,h42km,MD3.6/3*
*NEIC **25** 13:43:51.8,41.99N×21.93E,h42km,MD3.6(ATH),After ATH.*
ISC 25 13:43:49.4±0.3,41.81N±0.02×21.96E±0.02,h2km,n47, σ1§22/80,3C-13D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKO	**Skopje**	**0.42**	**293**	*i* Pg	**Pg**	**13 43 56.0**	**-1.7**
SKO				*i* Sg	**Sg**	**13 44 01.0**	**-2.3**
SKO				Smax		13 44 02.0	
	comp=Z,1.1nm,0.3s						
VAY	**Valandovo**	**0.67**	**136**	*i* Pg	**Pg**	**13 44 02.7**	**-0.1**
VAY				*i* Sg	**Sg**	**13 44 13.0**	**+1.3**
KKB	**Krupnik**	**0.84**	**86**	*i* Pg	**Pg**	**13 44 07.0**	**+0.8**
GRG	**Griva**	**0.92**	**158**	*e*Pg	**Pg**	**13 44 07.5**	**-0.1**
GRG				*e*Sg	**Sg**	**13 44 22.0**	**+2.1**
FNA	**Florina**	**1.11**	**203**	*e*Pg	**Pg**	**13 44 10.0**	**-1.6**
FNA				*e*Sg	**Sg**	**13 44 25.5**	**-1.0**
OHR	**Ohrid**	**1.11**	**232**	*i* Pg	**Pg**	**13 44 09.3**	**-2.3**
OHR				*i* Sg	**Sg**	**13 44 23.9**	**-2.6**
VTS	**Vitosha**	**1.22**	**50**	*i* Pg	**Pg**	**13 44 13.0**	**-0.6**
MMB	**Musomiste**	**1.34**	**99**	*i* Pg	**Pg**	**13 44 16.0**	**-0.2**
THE	**Thessaloniki**	**1.40**	**147**	*e*Pg	**Pg**	**13 44 16.0**	**-1.4**
SRS	**Serrai**	**1.41**	**119**	*e*Pg	**Pg**	**13 44 16.6**	**-0.9**
SRS				*e*Sg	**Sg**	**13 44 37.1**	**+0.8**
NVR	**Nevrokopi**	**1.50**	**107**	*i* P	**Pn**	**13 44 18.2**	**+0.8**
NVR				*e*S	**Sb**	**13 44 39.2**	**+2.2**
ZAPS	**Zavoj/Pirot**	**1.56**	**18**	*i* P	**Pn**	**13 44 17.6**	**-0.7**
ZAPS				Sn	**Sn**	**13 44 38.4**	**-1.0**
ZAPS	**Zavoj/Pirot**	**1.56**	**18**	Pn	**Pn**	**13 44 17.6**	**-0.7**
ZAPS				Sn	**Sn**	**13 44 38.3**	**-1.1**
PVY	**Plav**	**1.67**	**299**	*i* Pn	**Pn**	**13 44 20.2**	**+0.4**
PVY				*e*Sn	**Sn**	**13 44 43.7**	**+1.7**
PVY	**Plav**	**1.67**	**299**	*i* Pn	**Pn**	**13 44 20.2**	**+0.4**
PVY				*e*Sn	**Sn**	**13 44 43.7**	**+1.6**
LIT	**Litokhoron**	**1.75**	**167**	*e*Pb	**Pb**	**13 44 20.4**	**-1.5**
LIT				*e*Sb	**Sb**	**13 44 44.2**	**-0.1**
PGB	**Panagyurishte**	**1.80**	**65**	*i* Pg	**Pg**	**13 44 24.0**	**-1.3**
PLG	**Polygyros**	**1.82**	**141**	*e*P	**Pn**	**13 44 24.6**	**+2.6**
PLG				*e*S	**Sn**	**13 44 47.1**	**+1.1**
IVA	**Berane**	**1.86**	**306**	*i* Pn	**Pn**	**13 44 22.5**	**0.0**
IVA				*e*Sn	**Sn**	**13 44 48.1**	**+1.2**
IVA	**Berane**	**1.86**	**306**	*i* Pn	**Pn**	**13 44 22.5**	**0.0**
IVA				*e*Sn	**Sn**	**13 44 48.1**	**+1.2**
ULC	**Ulcinj**	**2.03**	**275**	*i* Pn	**Pn**	**13 44 26.0**	**+1.1**
ULC				*e*Sn	**Sn**	**13 44 53.8**	**+2.7**
ULC	**Ulcinj**	**2.03**	**275**	*i* Pn	**Pn**	**13 44 26.0**	**+1.1**
ULC				*e*Sn	**Sn**	**13 44 53.8**	**+2.6**
RZN	**Rozhen**	**2.07**	**92**	*i* P	**Pn**	**13 44 26.3**	**+0.8**
PLD	**Plovdiv**	**2.07**	**81**	*e*P	**Pn**	**13 44 31.0**	**+5.5**
MEV	**Metsovon**	**2.10**	**196**	*e*Pn	**Pn**	**13 44 23.9**	**-2.0**
TTG	**Podgorica**	**2.10**	**288**	*i* Pn	**Pn**	**13 44 26.5**	**+0.5**
TTG				*e*Sn	**Sn**	**13 44 54.8**	**+1.8**
TTG	**Podgorica**	**2.10**	**288**	*i* Pn	**Pn**	**13 44 26.5**	**+0.5**
TTG				*e*Sn	**Sn**	**13 44 54.8**	**+1.8**
OUR	**Ouranopolis**	**2.12**	**133**	*e*Pn	**Pn**	**13 44 25.9**	**-0.4**
PAIG	**Paliouri**	**2.29**	**145**	*e*Pn	**Pn**	**13 44 28.6**	**-0.1**
PAIG	**Paliouri**	**2.29**	**145**	*e*Pn	**Pn**	**13 44 28.5**	**-0.2**
BUM	**Brajici-Budva**	**2.33**	**283**	*i* Pn	**Pn**	**13 44 29.8**	**+0.5**
BUM				*e*Sn	**Sn**	**13 45 00.5**	**+1.6**
BUM	**Brajici-Budva**	**2.33**	**283**	*i* Pn	**Pn**	**13 44 29.8**	**+0.5**
BUM				*e*Sn	**Sn**	**13 45 00.5**	**+1.6**
NKY	**Niksic**	**2.41**	**296**	*e*Pn	**Pn**	**13 44 30.6**	**+0.1**
NKY				*e*Sn	**Sn**	**13 45 01.9**	**+0.9**
NKY	**Niksic**	**2.41**	**296**	*e*Pn	**Pn**	**13 44 30.6**	**+0.2**
NKY				*e*Sn	**Sn**	**13 45 01.9**	**+0.9**
PLE	**Pljevlja**	**2.43**	**310**	*e*Pn	**Pn**	**13 44 30.5**	**-0.2**
PLE				*e*Sn	**Sn**	**13 45 01.4**	**0.0**
PLE	**Pljevlja**	**2.43**	**310**	*e*Pn	**Pn**	**13 44 30.5**	**-0.2**
PLE				*e*Sn	**Sn**	**13 45 01.4**	**+0.1**
SVIS	**Svilajnac**	**2.54**	**348**	*e*Pn	**Pn**	**13 44 32.9**	**+0.6**
KDZ	**Kurdzhali**	**2.59**	**92**	*e*P	**Pn**	**13 44 32.0**	**-1.0**
UPM	**Unac-Piva**	**2.65**	**303**	*e*Pn	**Pn**	**13 44 33.5**	**-0.3**
UPM				*e*Sn	**Sn**	**13 45 07.1**	**+0.1**
UPM	**Unac-Piva**	**2.65**	**303**	*e*Pn	**Pn**	**13 44 33.5**	**-0.3**
UPM				*e*Sn	**Sn**	**13 45 07.1**	**+0.2**
HCY	**Herceg Novi**	**2.65**	**285**	*e*Pn	**Pn**	**13 44 34.2**	**+0.4**
HCY				*e*Sn	**Sn**	**13 45 08.1**	**+1.1**
HCY	**Herceg Novi**	**2.65**	**285**	*e*Pn	**Pn**	**13 44 34.2**	**+0.4**
HCY				*e*Sn	**Sn**	**13 45 08.1**	**+1.1**
DIVS	**Divcibare**	**2.70**	**328**	*i* Pn	**Pn**	**13 44 32.2**	**-2.4**
DIVS		

NAS1	**Nasa**	**3.50**	**38**	P	P	14 37 36.7 +1.3
NAS1				S	S	14 38 18.7 +2.6
TAMB	**Tambo**	**3.52**	**40**	P	P	14 37 37.4 +1.7
TAMB				S	S	14 38 18.9 +2.3
VC1	**Cotopaxi 1**	**3.54**	**39**	P	P	14 37 37.1 +1.1
JUA2	**San Juan 2**	**3.77**	**33**	P	P	14 37 39.3 +0.1
TERV	**Terraza Guagua**	**3.80**	**32**	P	P	14 37 40.3 +0.6
TERV				S	S	14 38 21.4 -2.3
GGP	**Refugio Guagua**	**3.81**	**32**	⇓P	P	14 37 40.5 +0.7
GGP				S	S	14 38 21.3 -2.5
PINO	**Pino**	**3.81**	**32**	⇓P	P	14 37 40.2 +0.4
YANA	**Yana**	**3.87**	**32**	⇑P	P	14 37 41.0 +0.3
YANA				S	S	14 38 23.0 -2.3
JOR1	**San Jorge 1**	**3.93**	**31**	P	P	14 37 38.8 -2.8
JOR1				S	S	14 38 18.2 -8.7
CAYR	**Refugio Cayamb**	**4.30**	**38**	P	P	14 37 47.8 +1.1
CAYA	**Cayambe**	**4.35**	**37**	P	P	14 37 51.0 +3.5
ECEN	**Cerro Negro**	**4.98**	**32**	P	P	14 37 55.5 -0.8
ECEN				S	S	14 38 53.8 +0.5
LORE	**San Lorenzo**	**5.00**	**21**	P	P	14 37 55.3 -1.4

NEIC ***25*** *14:39:59.1, 19.09N×64.72W, h19km, MD3.5(RSPR), After RSPR.*

RSPR 25 14:39:59.1, 19.09N×64.72W, h19km±8km, MD3.5/8, MD3.5/8, 5C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TBVI	**Tortola**	**0.69**	**171**	*eS*		Sb	14 40 19.7	-1.6
TBVI	**Tortola**	**0.69**	**171**	⇓*eP*		Pb	14 40 10.3	-2.0
TBVI				*eS*		Sb	14 40 19.7	-1.6
STVI	**Saint Thomas**	**0.77**	**197**	⇑*eP*		Pb	14 40 11.7	-2.0
STVI				*eS*		Sb	14 40 22.4	-1.3
CDVI	**St. Croix**	**1.33**	**182**	⇑*eP*		Pn	14 40 21.9	-1.1
CDVI				*eS*		Sb	14 40 37.0	-3.0
HUMP	**Col San Antoni**	**1.43**	**229**	⇓*eP*		Pn	14 40 21.5	-2.8
HUMP				*eS*		Sn	14 40 38.8	-3.8
SJG	**San Juan**	**1.67**	**234**	⇑*eP*		Pn	14 40 25.7	-2.0
SJG				*eS*		Sn	14 40 44.0	-4.8
PORP	**Portuguez**	**2.09**	**241**	⇓*eP*		Pn	14 40 31.2	-2.5
PORP				*eS*		Sn	14 40 54.6	-4.9
LRS	**Lares**	**2.16**	**249**	⇑*eP*		Pn	14 40 31.4	-3.4
LRS				*eS*		Sn	14 40 57.6	-3.8
MGP	**Maguayo**	**2.49**	**245**	⇑*eP*		Pn	14 40 36.6	-2.9

IDC 25 14:43:06.8±4.2, 8.04N×94.51E, mb3.5/3, mb1 3.6/3, mb1mx3.5/19, mbtmp3.5/3, Error ellipse: s-maj=157.0km s-min=30.3km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**40.01**	**347**	P		P	14 50 43.9	-1.2
	0.5nm,0.8s,baz=158,slow=7.8,SNR=4.1							
SONM	**Songino Array**	**40.93**	**12**	P		P	14 50 50.3	-2.3
	0.5nm,0.6s,baz=197,slow=11,SNR=3.8							
WRA	**Warramunga Arr**	**48.06**	**126**	P		P	14 51 48.5	-1.9
	0.3nm,0.4s,baz=301,slow=9.0,SNR=8.0							

IDC 25 14:57:43.3±3.1, 7.65N×91.99E, mb3.4/4, mb1 3.6/4, mb1mx3.5/20, mbtmp3.4/4, Error ellipse: s-maj=115.0km s-min=28.8km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.88**	**350**	P		P	15 05 18.9	-1.6
	0.6nm,0.8s,baz=174,slow=12,SNR=4.8							
SONM	**Songino Array**	**41.88**	**15**	P		P	15 05 35.0	-1.8
	0.2nm,0.5s,baz=191,slow=7.3,SNR=2.4							
BVAR	**Borovoye Array**	**48.53**	**343**	P		P	15 06 27.9	-2.1
	0.4nm,0.6s,baz=162,slow=4.7,SNR=4.0							
WRA	**Warramunga Arr**	**49.89**	**124**	P		P	15 06 39.1	-1.8
	0.3nm,0.5s,baz=300,slow=9.8,SNR=6.7							

BJI ***25*** *15:10:38.6, 7.39N×92.13E, h30km, mB3.9, mb4.1, Ms4.5, Msz4.4*

IDC ***25*** *15:10:43.0±0.8, 7.76N×92.22E, h29km±4km, mb3.9/15, mb1 4.0/15, mb1mx3.9/23, mbtmp4.0/15, Error ellipse: s-maj=26.2km s-min=16.2km az=66.0*

NEIC ***25*** *15:10:43.1±0.3, 7.71N×92.23E, h30km, mb4.4/8, Error ellipse: s-maj=9.7km s-min=6.8km az=225.0*

ISC 25 15:10:40.5±3.8, 7.69N±0.07×92.22E±0.07, h26km±27km, h29km±2.1km: pP-P, n39, σ0s72/37, mb4.2/26, MS3.6/2, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**8.71**	**105**	*ePn*		**P**	**15 12 46.7**	**-1.2**
PALK	**Pallekele**	**11.43**	**269**	*ePn*		**P**	**15 13 25.6**	**+0.2**
KMI	**Kunming**	**20.04**	**29**	P		**P**	**15 15 15.3**	**+0.7**
KMI				AP			15 15 24.0	
KMI				AMB		AMB		
	comp=Z,10.0nm,1.1s							
KMI				AMB		AMB		
	comp=Z,52nm,4.9s							
KMI	**Kunming**	**20.04**	**29**	P		**P**	**15 15 15.2**	**+0.6**
	comp=Z,10.0nm,1.1s							
KMI				pP			15 15 24.0	
KMI				LR		LR		
	comp=Z,50nm,16.5s,MS2.9							
QIZ	**Qiongzhong**	**20.49**	**55**	*eP*		**P**	**15 15 19.0**	**-0.4**
PKI	**Pulchoki**	**20.80**	**343**	*eP*		**P**	**15 15 30.7**	**+8.2**
	comp=Z,46nm,0.8s							
DMN	**Daman**	**20.93**	**342**	*eP*		**P**	**15 15 33.3**	**+9.5**
	comp=Z,62nm,0.8s							
KKN	**Kakani**	**21.05**	**343**	*eP*		**P**	**15 15 32.3**	**+7.3**
	comp=Z,20nm,0.6s,mb4.6							
GKN	**Gorkha**	**21.44**	**341**	*eP*		**P**	**15 15 37.4**	**+8.4**
	comp=Z,58nm,0.8s,mb5.0							
LSA	**Lhasa**	**21.92**	**358**	P		**P**	**15 15 35.5**	**+1.7**
LSA	**Lhasa**	**21.92**	**358**	*eP*		**P**	**15 15 36.0**	**+2.2**
	comp=Z,14nm,0.8s,mb4.4							
GYA	**Guiyang**	**23.17**	**35**	⇑*iP*		**P**	**15 15 46.5**	**+0.2**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.2							
CD2	**Chengdu**	**25.50**	**24**	P		**P**	**15 16 13.8**	**+5.2**
GTA	**Gaotai**	**32.31**	**11**	*eP*		**P**	**15 17 09.8**	**+0.1**
GTA				AP		pP	15 17 15.5	-2.0
GTA				XP		sP	15 17 18.0	-2.9
GTA				AMB		AMB		
	comp=Z,3.0nm,1.2s,mb4.0							
WMQ	**Urumqi**	**36.21**	**354**	*eP*		**P**	**15 17 44.5**	**+1.3**
WMQ				AP		pP	15 17 54.3	+3.3
WMQ				XP		sP	15 17 58.0	+3.7
WMQ				AMB		AMB		
	comp=Z,1.0nm,0.9s,mb3.8							
WMQ				AMB		AMB		
	comp=Z,4.0nm,4.2s							
WMQ				LR		LR		
	comp=N,312nm,13.2s,MS4.3							
WMQ				LR		LR		
	comp=E,222nm,14.1s,MS4.3							
WMQ				LR		LR		
	comp=Z,456nm,14.8s,MS4.4							
AAK	**Ala-Archa**	**38.15**	**339**	*eP*		**P**	**15 18 00.0**	**+0.5**
	comp=Z,5.9nm,0.8s,mb4.4							
MKAR	**Makanchi Array**	**39.88**	**349**	P		**P**	**15 18 13.8**	**-0.1**
	comp=Z,1.8nm,0.7s,mb3.9,baz=165,slow=8.6,SNR=15							
FITZ	**Fitzroy Crossi**	**41.77**	**128**	P		**P**	**15 18 31.0**	**+1.2**
	comp=Z,6.9nm,0.8s,mb4.3,baz=356,slow=5.1,SNR=3.9							
SONM	**Songino Array**	**41.78**	**14**	P		**P**	**15 18 29.7**	**+0.2**
	comp=Z,1.3nm,0.7s,mb3.7,baz=188,slow=8.7,SNR=9.6							
ZAL	**Zalesovo**	**46.50**	**354**	P		**P**	**15 19 07.5**	**+0.1**
	comp=Z,0.9nm,0.4s,mb4.0,baz=305,slow=10,SNR=3.2							
BVAR	**Borovoye Array**	**48.57**	**343**	P		**P**	**15 19 23.5**	**-0.2**
	comp=Z,1.4nm,0.8s,mb4.0,baz=143,slow=7.4,SNR=7.9							
BRVK	**Borovoye**	**48.63**	**343**	*eP*		**P**	**15 19 23.3**	**-0.8**
	comp=Z,1.8nm,0.8s,mb4.2							
ZRNK	**Zerenda**	**48.93**	**342**	*eP*		**P**	**15 19 25.7**	**-0.8**
	comp=Z,4.7nm,0.9s,mb4.5							
WRA	**Warramunga Arr**	**49.72**	**124**	P		**P**	**15 19 32.5**	**-0.4**
	comp=Z,1.4nm,0.7s,mb4.1,baz=304,slow=8.8,SNR=11							
WRAB	**Tennant Creek**	**49.72**	**124**	*eP*		**P**	**15 19 33.1**	**+0.2**
	comp=Z,3.4nm,0.7s,mb4.5							
WB2	**Warramunga Arr**	**49.73**	**124**	*eP*		**P**	**15 19 33.0**	**0.0**
ARU	**Arti**	**55.33**	**338**	*eP*		**P**	**15 20 13.7**	**-0.7**
	comp=Z,4.3nm,0.8s,mb4.5							
BRTR	**Keskin Array B**	**61.12**	**311**	P		**P**	**15 20 54.0**	**-1.0**
	comp=Z,0.5nm,0.4s,mb4.0,baz=104,slow=5.9,SNR=3.4							
IDI	**Anoyia**	**67.11**	**305**	P		**P**	**15 21 34.0**	**-0.3**
	comp=Z,2.6nm,0.7s,mb4.4,baz=97,slow=8.1,SNR=3.2							
IDI				pP		pP	15 21 43.5	+0.9
	comp=Z,3.6nm,0.8s,baz=17,slow=18,SNR=2.2							
FINES	**FINESS Array B**	**71.99**	**332**	P		**P**	**15 22 03.1**	**-0.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=135,slow=5.9,SNR=3.0							
BOSA	**Boshof**	**73.88**	**237**	P		**P**	**15 22 15.6**	**+0.1**
	comp=Z,4.3nm,0.9s,mb4.4,baz=93,slow=12,SNR=5.9							
ARCES	**ARCESS Array B**	**74.80**	**340**	P		**P**	**15 22 19.2**	**-0.8**
	comp=Z,1.3nm,0.8s,mb3.9,baz=90,slow=3.6,SNR=3.5							
GERES	**GERESS Array B**	**76.70**	**318**	P		**P**	**15 22 31.5**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=90,slow=6.7,SNR=9.2							
GERES				pP		pP	15 22 41.4	+2.0
	comp=Z,2.7nm,0.8s,baz=90,slow=5.3,SNR=8.5							
HFS	**Hagfors**	**77.66**	**330**	P		**P**	**15 22 36.4**	**+0.2**
	comp=Z,1.6nm,0.7s,mb4.0,baz=202,slow=8.0,SNR=2.9							
MAW	**Mawson**	**77.98**	**191**	P		**P**	**15 22 38.9**	**+1.0**
	comp=Z,1.4nm,0.9s,mb3.9,baz=3.5,slow=9.4,SNR=4.1							
NB2	**NORSAR Subarra**	**78.96**	**331**	P		**P**	**15 22 51.6**	**+8.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=97,slow=5.3							
NOA	**NORSAR Array B**	**78.96**	**331**	P		**P**	**15 22 42.1**	**-1.2**
	comp=Z,0.7nm,0.8s,mb3.6,baz=112,slow=18,SNR=2.5							
NOA				pP		pP	15 22 51.7	0.0
	comp=Z,1.5nm,0.9s,baz=94,slow=5.5,SNR=4.6							
PDAR	**Pinedale Array**	**126.00**	**20**	PKP		PKPdf	15 29 41.8	-3.9
	comp=Z,0.2nm,0.5s,baz=45,slow=2.6,SNR=3.3							
PDAR				pPKP			15 29 51.5	
	comp=Z,0.5nm,0.9s,slow=1.5,SNR=4.2							
CPUP	**Villa Florida**	**145.63**	**234**	PKPbc		PKPbc	15 30 20.3	+2.2
	comp=Z,2.2nm,0.7s,baz=137,slow=3.1,SNR=7.6							

NIED ***25*** *15:23:00, 35.60N×140.10E, h74km, Mw4.0 Best double couple: M0 9.69×10^14 NP1:φs3°, δ57°, λ113°. NP2:φs144°, δ39°, λ58°.*

JMA ***25*** *15:23:47.1±0.2, 35.62N×140.13E, h70km±2km, M3.7 Broadband fault plane solution: P waves. NP1:φs154°, δ20°, λ62°. NP2:φs3°, δ73°, λ99°. Principal axes: T Plg61°, Azm287°; N Plg9°, Azm181°; P Plg27°, Azm86°;*

JMA Felt I J1.

NEIC ***25*** *15:23:47.1, 35.62N×140.13E, h70km, MG3.6(JMA), After JMA.*

IDC ***25*** *15:23:47.0±2.8, 35.53N×140.14E, h63km±24km, mb3.6/11, mb1 3.8/12, mb1mx3.7/22, mbtmp3.9/12, ML3.5/1, Error ellipse: s-maj=24.8km s-min=17.9km az=85.0*

ISC 25 15:23:46.5±0.4, 35.57N±0.04×140.13E±0.05, h74km±3km, n30, σ0s85/42, mb3.8/11, 3C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCN	**Nagara**	**0.16**	**159**	⇑P		**P**	**15 23 58.2**	**+0.8**
JCN				*eS*		**S**	**15 24 06.9**	**+1.3**
TOK	**Tokyo**	**0.32**	**291**	P		**P**	**15 23 58.9**	**+0.5**
TOK				*eS*		**S**	**15 24 07.6**	**+0.4**
JYT	**Yasato**	**0.66**	**5**	⇑P		**P**	**15 24 00.8**	**-0.6**
JYT				S		**S**	**15 24 10.7**	**-1.8**
BSO3	**Boso 3**	**0.83**	**158**	⇑P		**P**	**15 24 03.5**	**+0.1**
BSO3				*eS*		**S**	**15 24 16.6**	**+0.7**
JOD2	**Odawara 2**	**0.90**	**250**	⇓P		**P**	**15 24 04.3**	**+0.1**
JOD2				*eS*		**S**	**15 24 16.5**	**-1.0**
JAG	**Ashikaga**	**1.01**	**327**	⇓P		**P**	**15 24 05.6**	**0.0**
JAG				*eS*		**S**	**15 24 19.2**	**-0.7**
JIM2	**Oshima 3**	**1.02**	**214**	P		**P**	**15 24 05.4**	**-0.4**
JRY	**Ryogami san**	**1.09**	**294**	⇓P		**P**	**15 24 07.2**	**+0.6**
BSO1	**Boso 1**	**1.15**	**142**	P		**P**	**15 24 06.9**	**-0.5**
BSO1				*eS*		**S**	**15 24 22.8**	**-0.2**
JYN	**Shimob**	**1.29**	**267**	⇓P		**P**	**15 24 09.5**	**+0.2**
JYN				*eS*		**S**	**15 24 25.7**	**-0.6**
JIZS	**Izushimoda**	**1.33**	**231**	⇓P		**P**	**15 24 09.8**	**-0.1**
JIZS				*eS*		**S**	**15 24 26.2**	**-1.1**
JKT	**Katashina**	**1.39**	**329**	⇓P		**P**	**15 24 10.5**	**-0.2**
JKT				*eS*		**S**	**15 24 27.9**	**-0.7**
MJAR	**Matsushiro Arr**	**1.83**	**302**	P		**P**	**15 24 16.8**	**+0.2**
	61nm,0.3s,baz=142,slow=15,SNR=259							
MAJO	**Matsushiro**	**1.83**	**302**	⇓*iP*		**P**	**15 24 18.3**	**+1.7**
MAT	**Matsushiro**	**1.83**	**302**	*eP*		**P**	**15 24 17.0**	**+0.4**
MAT				*eS*		**S**	**15 24 41.0**	**+2.2**
MAT	**Matsushiro**	**1.83**	**302**	P		**P**	**15 24 17.3**	**+0.7**
MAT				S		**S**	**15 24 40.9**	**+2.1**
ASAJ	**Asahikawa**	**8.74**	**12**	P		**P**	**15 25 49.4**	**-3.0**
	0.6nm,0.3s,baz=281,slow=10,SNR=4.6							
SONM	**Songino Array**	**27.78**	**307**	P		**P**	**15 29 30.0**	**-0.3**
	0.6nm,0.7s,mb3.2,baz=109,slow=8.9,SNR=5.3							
ZAL	**Zalesovo**	**42.16**	**314**	P		**P**	**15 31 33.5**	**+0.5**
	1.1nm,0.4s,mb3.9,baz=25,slow=4.9,SNR=5.8							
MKAR	**Makanchi Array**	**44.03**	**303**	P		**P**	**15 31 48.9**	**+0.6**
	1.2nm,0.6s,mb3.8,baz=89,slow=9.4,SNR=14							
BVAR	**Borovoye Array**	**50.80**	**313**	P		**P**	**15 32 40.9**	**-0.2**
	0.5nm,0.6s,mb3.8,baz=82,slow=10,SNR=3.9							
ILAR	**Eielson Array**	**51.28**	**32**	P		**P**	**15 32 45.0**	**+0.4**
	0.5nm,0.7s,mb3.7,baz=273,slow=6.3,SNR=5.5							
FITZ	**Fitzroy Crossi**	**55.12**	**197**	P		**P**	**15 33 12.8**	**-0.7**
	4.5nm,0.9s,mb4.5,baz=139,slow=6.7,SNR=6.7							
WRA	**Warramunga Arr**	**55.48**	**187**	P		**P**	**15 33 14.6**	**-1.5**
	1.2nm,0.6s,mb4.1,baz=0.9,slow=7.5,SNR=32							
FINES	**FINESS Array B**	**69.62**	**332**	P		**P**	**15 34 49.2**	**-0.2**
	1.3nm,0.6s,mb3.9,baz=90,slow=5.7,SNR=7.0							
FINES	**FINESS Array B**	**69.62**	**332**	P		**P**	**15 34 49.2**	**-0.2**
AKASG	**Malin Array Be**	**74.81**	**322**	P		**P**	**15 35 20.3**	**+0.2**
	0.8nm,0.4s,mb3.8,baz=53,slow=4.8,SNR=5.8							
NB2	**NORSAR Subarra**	**75.13**	**337**	P		**P**	**15 35 22.1**	**+0.4**
	0.4nm,0.4s,mb3.5,baz=40,slow=6.2							
NOA	**NORSAR Array B**	**75.13**	**337**	P		**P**	**15 35 21.7**	**0.0**
	0.9nm,0.7s,mb3.6,baz=66,slow=4.5,SNR=3.8							
PDAR	**Pinedale Array**	**79.43**	**45**	P		**P**	**15 35 47.5**	**+1.4**
	0.3nm,0.5s,mb3.4,baz=297,slow=3.3,SNR=4.4							

IDC ***25*** *15:43:34.6±0.5, 46.85N×125.03E, mb4.5/19, mb1 4.7/21, mb1mx4.6/26, mbtmp4.5/21, ML3.3/3, MS4.5/8, Ms1 4.5/8, ms1mx4.2/32, Error ellipse: s-maj=15.5km s-min=12.3km az=34.0*

BJI ***25*** *15:43:35.3, 46.90N×124.97E, h16km, mB5.1, mb5.0, ML5.5, Ms5.3, Msz5.0*

MOS ***25*** *15:43:39.6±0.9, 46.89N×124.94E, h48km, mb5.2/62, MS4.6/14, Error ellipse: s-maj=8.7km s-min=4.9km az=120.5*

HRVD ***25*** *15:43:41.1±0.3, 46.86N×124.88E, h12km, MW5.0/46, Centroid moment Tensor Solution. LP body waves: s25,c35;Mantle waves: s46,c90; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.62±.12; Mθθ0.03±.11; Mφφ-3.64±.10; Mrθ0.14±.46; Mrφ0.45±.10; Mθφ-0.05±.32; Best double couple: M0 3.661×10^16 NP1:φs355°, δ45°, λ93°. NP2:φs171°, δ46°, λ87°. Principal axes: T 3.626, Plg88°, Azm6°; N .075, Plg2°, Azm173°; P -3.696, Plg1°, Azm263°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *15:43:41.1±0.1, 46.83N×125.06E, mb5.0/87, MS4.7/6 Error ellipse: s-maj=3.3km s-min=3.2km az=41.0*

NEIC At least one person killed and 12 injured at Daqing. Felt at Changchun and Harbin.

ISC 25 15:43:35.9±0.1, 46.91N±0.02×124.94E±0.03, h16km, (h16km±5.2km: pP-P), n356, σ1s02/364, mb4.9/119, MS4.7/19, 17C-7D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CN2	**Changchun**	**3.13**	**173**	*eP*		**Pn**	**15 44 24.8**	**-0.8**
CN2				*ePG*		**Pn**	**15 44 35.5**	**+10**
CN2				*eS*		**Sn**	**15 45 03.8**	**+0.8**
CN2				*eSG*		**Sn**	**15 45 13.8**	**+11**
CN2				Smax				
	comp=N,15μm,0.7s							
CN2				Smax				
	comp=E,21μm,0.7s							
MDJ	**Mudanjiang**	**3.98**	**124**	P		**Pn**	**15 44 35.8**	**-1.9**
MDJ				PG		**Pn**	**15 44 49.5**	**+12**
MDJ				S		**Sn**	**15 45 21.5**	**-3.0**
MDJ				SG		**Sn**	**15 45 38.8**	**+14**
MDJ				Smax				
	comp=N,14μm,0.8s							
MDJ				Smax				
	comp=E,16μm,0.7s							
MDJ	**Mudanjiang**	**3.98**	**124**	*ePn*		**Pn**	**15 44 35.0**	**-2.6**
MDJ				*ePg*		**Pn**	**15 44 48.4**	**+11**
MDJ				*eSg*		**Sn**	**15 45 39.9**	**+15**
HIA	**Hailar**	**4.21**	**306**	*eP*		**Pn**	**15 44 40.0**	**-1.0**
HIA				*eSn*		**Sn**	**15 45 30.5**	**+0.2**
HIA				*eSg*		Sn	15 45 50.3	+20
KLR	**Kul'dur**	**5.12**	**61**	*eP*		**Pn**	**15 44 49.2**	**-4.6**
SNY	**Shenyang**	**5.17**	**191**	⇑P		**Pn**	**15 44 52.5**	**-2.1**
SNY				PG		**Pn**	**15 45 09.5**	**+15**
SNY				SG		Sn	15 46 17.0	+22
SNY				Smax				
	comp=N,5μm,0.8s							
SNY				Smax				
	comp=E,5μm,0.9s							
DL2	**Dalian**	**8.36**	**198**	P		**P**	**15 45 37.0**	**-2.3**
DL2				S		**Sn**	**15 47 19.3**	**+5.0**
DL2				AMB		AMB		
	comp=Z,60nm,0.7s							
DL2				LR		LR		
	comp=E,6μm,10.8s							
DL2				LR		LR		
	comp=Z,5μm,8.4s							
CIT	**Chita**	**9.01**	**309**	*eP*		**P**	**15 45 44.4**	**-3.9**
CIT				*e*			15 47 25.4	
CIT				pmax		pmax		
	comp=Z,78nm,1.0s							
INCN	**Inchon**	**9.50**	**172**	*ePn*		**P**	**15 45 51.7**	**-3.5**
	comp=Z,83nm,0.8s							
KS15	**Wonju Array Si**	**9.71**	**166**	*ePn*		**P**	**15 45 56.5**	**-1.4**
CLNS	**Chul'man**	**9.94**	**360**	*eP*		**P**	**15 45 57.5**	**-3.6**
CLNS				*eS*		**Sn**	**15 47 55.4**	**+2.0**
CLNS				pmax		pmax		
	comp=Z,7.0nm,0.7s							
CLNS				pmax		pmax		
	comp=N,2.0nm,0.5s							
CLNS				pmax		pmax		
	comp=E,8.0nm,0.5s							
CLNS				pmax		pmax		
	comp=Z,7.0nm,0.7s							
CLNS				pmax		pmax		
	comp=N,3.0nm,0.6s							
CLNS				pmax		pmax		
	comp=E,5.0nm,0.7s							
CLNS				smax				
	comp=E,48nm,0.7s							
CLNS				smax				
	comp=N,125nm,1.2s							
CLNS				smax				
	comp=Z,78nm,1.2s							
CLNS				MLR		MLR		
	comp=Z,4μm,11.0s							
CLNS				MLR		MLR		
	comp=N,3μm,9.0s							
CLNS				MLR		MLR		
	comp=E,2μm,13.0s							
HHC	**Hu-ho-hao-te**	**11.39**	**243**	*eP*		**P**	**15 46 19.5**	**-1.5**
HHC				AP			15 46 23.3	
HHC				XP			15 46 25.5	
HHC				PP		PP	15 46 29.3	-0.4
HHC				S		**S**	**15 48 30.0**	**+1.1**
HHC				XS			15 48 34.3	
HHC				AMB		AMB		
	comp=Z,16nm,1.2s							
HHC				AMB		AMB		
	comp=Z,230nm,6.8s							
HHC				LR		LR		
	comp=N,7μm,8.4s							
HHC				LR		LR		
	comp=E,9μm,6.6s							
HHC				LR		LR		
	comp=Z,6μm,6.6s							
JSH	**Shimam**	**11.55**	**106**	P		**P**	**15 46 19.0**	**-4.1**
UGL	**Uglegorsk**	**11.68**	**73**	P		**P**	**15 46 30.0**	**+5.2**
UGL				MLR		MLR		
	comp=N,6μm,10.0s							
UGL				MLR		MLR		
	comp=Z,7μm,10.0s							
UGL				MLR		MLR		
	comp=E,6μm,8.0s							
TIA	**Tai'an**	**12.18**	**211**	*eP*		**P**	**15 46 30.8**	**-0.8**
TIA				LR		LR		
	comp=N,2μm,11.0s							
TIA				LR		LR		
	comp=E,2μm,11.0s							
YSS	**Yuzh-Sakhalins**	**12.18**	**83**	*eP*		**P**	**15 46 32.2**	**+0.6**
YSS				*eS*		**S**	**15 48 58.0**	**+10**
YSS				pmax		pmax		
	comp=Z,40nm,1.1s							
YSS				pmax		pmax		
	comp=E,30nm,1.0s							
YSS				pmax		pmax		
	comp=N,2μm,3.0s							
YSS				pmax		pmax		
	comp=N,5μm,4.0s							
YSS				pmax		pmax		
	comp=N,3μm,2.8s							
YSS				MLR		MLR		
	comp=Z,5μm,16.0s							
YSS				MLR		MLR		
	comp=E,5μm,14.0s							
YSS	**Yuzh-Sakhalins**	**12.18**	**83**	*ePn*		**P**	**15 46 30.4**	**-1.2**
	comp=E,55nm,1.3s							
JEW	**Eniwo**	**12.39**	**103**	P		**P**	**15 46 37.7**	**+3.2**
BTO	**Baotou**	**12.49**	**245**	*eP*		**P**	**15 46 35.8**	**+0.1**
BTO				AMB		AMB		
	comp=Z,23nm,1.1s							
SONM	**Songino Array**	**12.61**	**281**	Pn		**P**	**15 46 34.3**	**-3.1**
	comp=Z,0.9nm,0.3s,baz=88,slow=12,SNR=23							
SONM				Sn		**S**	**15 48 49.9**	**-8.6**
	comp=Z,1.4nm,0.3s,baz=83,slow=21,SNR=6.4							
SONM				Lg			15 50 16.3	
	comp=Z,5.2nm,0.3s,baz=80,slow=28,SNR=6.6							
SONM				LR		LR	15 51 47.1	
	comp=Z,5μm,19.0s,baz=91,slow=39							
ASAJ	**Asahikawa**	**12.69**	**96**	Pn		**P**	**15 46 35.0**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=95,slow=24,SNR=2.5							
ASAJ				Lg			15 50 15.7	
	comp=Z,0.2nm,0.3s,baz=314,slow=23,SNR=3.8							
ASAJ				LR		LR	15 51 34.0	
	comp=Z,3μm,21.4s,baz=292,slow=38							
JOT	**Ohata**	**12.81**	**110**	P		**P**	**15 46 48.9**	**+8.8**
JTM	**Tenm

YAK	**Yakutsk**	**15.39**	**8**	*e*P	**P**	**15 47 10.8**	**-3.0**
YAK				*e*S	**S**	**15 50 06.8**	**+2.4**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YAK				smax			
	comp=N,8.0nm,1.1s						
YAK				smax			
	comp=E,6.0nm,1.0s						
YAK				smax			
	comp=Z,8.0nm,1.0s						
YAK				smax			
	comp=N,46nm,0.9s						
YAK				smax			
	comp=Z,119nm,1.1s						
YAK				smax			
	comp=E,39nm,0.9s						
YAK				MLR	MLR		
	comp=Z,2µm,9.0s						
YAK	**Yakutsk**	**15.39**	**8**	*e*Pn	**P**	**15 47 10.1**	**-3.6**
	comp=Z,31nm,0.8s						
NJ2	**Nanjing**	**15.56**	**200**	*e*P	**P**	**15 47 16.0**	**-0.1**
NJ2				AP		15 47 19.5	
NJ2				XP		15 47 23.0	
NJ2				PP	PP	15 47 28.8	+0.1
NJ2				S	**S**	**15 50 12.0**	**+3.5**
NJ2				XS		15 50 17.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				LR	LR		
	comp=N,4µm,18.3s						
NJ2				LR	LR		
	comp=E,7µm,13.9s						
NJ2				LR	LR		
	comp=Z,2µm,17.4s						
JSU	**Suzuyama**	**15.96**	**163**	P	**P**	**15 47 25.4**	**+4.1**
KUR	**Kuril'sk**	**15.99**	**88**	*e*P	**P**	**15 47 23.0**	**+1.4**
KUR				MLR	MLR		
	comp=Z,5µm,14.0s						
SSE	**Sheshan**	**16.06**	**192**	P	**P**	**15 47 22.5**	**0.0**
SSE				XP		15 47 30.0	
SSE				S	**S**	**15 50 22.3**	**+2.2**
SSE				AMB	AMB		
	comp=Z,66nm,1.0s						
SSE				AMB	AMB		
	comp=Z,569nm,7.0s						
SSE				LR	LR		
	comp=Z,629nm,15.6s						
SSE	**Sheshan**	**16.06**	**192**	P	**P**	**15 47 22.5**	**0.0**
	comp=Z,66nm,1.0s						
SSE				sP		15 47 30.1	
SSE				S	**S**	**15 50 22.2**	**+2.1**
SSE				sS		15 50 40.0	
MOY	**Mondy**	**16.30**	**296**	*e*P	**P**	**15 47 27.1**	**+1.6**
MOY				pmax	pmax		
	comp=Z,130nm,2.1s						
XAN	**Xi'an**	**17.67**	**229**	P	**P**	**15 47 42.8**	**-0.1**
XAN				AP		15 47 45.3	
XAN				S	**S**	**15 51 06.0**	**+8.8**
XAN				AMB	AMB		
	comp=Z,38nm,1.7s						
XAN				LR	LR		
	comp=N,2µm,14.5s						
XAN				LR	LR		
	comp=E,3µm,14.7s						
XAN				LR	LR		
	comp=Z,2µm,14.3s						
JHJ	**Hachijo jima 2**	**17.82**	**135**	LR	LR	15 54 23.9	
	comp=Z,742nm,19.4s,baz=114,slow=37						
WHN	**Wuhan**	**18.28**	**210**	⇑P	**P**	**15 47 51.5**	**+1.0**
WHN				S	**S**	**15 51 03.0**	**-8.1**
WHN				LR	LR		
	comp=N,5µm,14.6s						
WHN				LR	LR		
	comp=E,7µm,11.5s						
WHN				LR	LR		
	comp=Z,5µm,9.3s						
LZH	**Lanzhou**	**19.09**	**243**	P	**P**	**15 48 00.5**	**+0.3**
LZH				AP		15 48 06.8	
LZH				XP		15 48 09.0	
LZH				PP	PP	15 48 18.0	+0.9
LZH				S	**S**	**15 51 32.0**	**+2.7**
LZH				XS		15 51 45.0	
LZH				SS	SS	15 51 59.0	+3.8
LZH				AMB	AMB		
	comp=Z,140nm,1.1s						
LZH				AMB	AMB		
	comp=Z,780nm,4.0s						
LZH				LR	LR		
	comp=N,9µm,6.0s						
LZH				LR	LR		
	comp=Z,10µm,8.6s						
LZH	**Lanzhou**	**19.09**	**243**	P	**P**	**15 48 00.5**	**+0.3**
LZH				S	**S**	**15 51 32.0**	**+2.7**
LZH				pmax	pmax		
	comp=Z,140nm,1.1s						
LZH	**Lanzhou**	**19.09**	**243**	P	**P**	**15 48 00.5**	**+0.3**
	comp=Z,140nm,1.1s						
LZH				pP		15 48 06.7	
LZH				sP		15 48 09.0	
LZH				PP	PP	15 48 18.0	+0.9
LZH				S	**S**	**15 51 32.0**	**+2.7**
LZH				sS		15 51 45.0	
LZH				SS	SS	15 51 59.0	+3.8
GTA	**Gaotai**	**19.75**	**257**	⇑P	**P**	**15 48 08.5**	**+0.7**
GTA				AP		15 48 12.0	
GTA				XP		15 48 14.5	
GTA				PP	PP	15 48 29.5	+3.2
GTA				S	**S**	**15 51 52.5**	**+8.6**
GTA				AMB	AMB		
	comp=Z,39nm,1.2s						
GTA				AMB	AMB		
	comp=Z,598nm,6.5s						
GTA				LR	LR		
	comp=N,4µm,12.9s						
GTA				LR	LR		
	comp=E,3µm,12.5s						
GTA				LR	LR		
	comp=Z,4µm,13.3s						
MA2	**Magadan**	**19.82**	**41**	*i* P	**P**	**15 48 07.7**	**-0.8**
MA2				pmax	pmax		
	comp=Z,43nm,2.4s						
MA2				MLR	MLR		
	comp=Z,1µm,20.0s						
MA2	**Magadan**	**19.82**	**41**	P	**P**	**15 48 06.1**	**-2.4**
	comp=Z,15nm,0.9s						
JOW	**Kunigami**	**20.21**	**171**	LR	LR	15 56 57.2	
	comp=Z,700nm,18.9s,MS4.0,baz=12,slow=40						
ENH	**Enshi**	**20.48**	**221**	*e*P	**P**	**15 48 14.6**	**-0.9**
	comp=Z,74nm,0.9s						
SKR	**Severo-Kuril's**	**20.80**	**68**	*e*P	**P**	**15 48 14.0**	**-4.7**
SKR				*e*		15 48 36.0	
SKR				*e*PPP	PPP	15 48 50.0	+0.1
SKR				*e*S	**S**	**15 52 08.0**	**+2.8**
SKR				*e*SS	SS	15 52 32.0	-4.9
SKR				pmax	pmax		
	comp=N,1µm,4.0s						
SKR				pmax	pmax		
	comp=E,1µm,4.0s						
SKR				pmax	pmax		
	comp=Z,1µm,4.0s						
SKR				pmax	pmax		
	comp=Z,160nm,0.9s						
SKR				pmax	pmax		
	comp=N,1µm,10.0s						
SKR				pmax	pmax		
	comp=E,4µm,12.0s						
SKR				MLR	MLR		
	comp=N,2µm,16.0s,MS4.8						
SKR				MLR	MLR		
	comp=E,2µm,16.0s,MS4.8						
SKR				MLR	MLR		
	comp=Z,4µm,16.0s,MS4.9						
SEY	**Seymchan**	**22.23**	**34**	*i* P	**P**	**15 48 33.2**	**+0.2**
SEY						15 48 58.9	
SEY				PPP	PPP	15 49 12.6	+2.8
SEY				*e*S	**S**	**15 52 38.7**	**+6.7**
SEY				SS	SS	15 53 31.3	+19
SEY				pmax	pmax		
	comp=E,20nm,1.1s						
SEY				pmax	pmax		
	comp=Z,50nm,1.1s,mb4.9						
SEY				pmax	pmax		
	comp=N,20nm,1.6s						
SEY				smax			
	comp=N,620nm,8.4s						
SEY				smax			
	comp=E,500nm,7.8s						
SEY				MLR	MLR		
	comp=Z,320nm,14.0s,MS3.9						
SEY				MLR	MLR		
	comp=N,140nm,17.0s,MS3.8						
SEY				MLR	MLR		
	comp=E,240nm,13.0s,MS3.8						
PET	**Petropavlovsk**	**22.38**	**62**	*e*P	**P**	**15 48 35.4**	**+0.8**
PET				*e*		15 48 47.6	
PET				*e*		15 49 02.9	
PET				*e*		15 52 28.3	
PET				*i* S	**S**	**15 52 37.4**	**+2.5**
PET				pmax	pmax		
	comp=Z,700nm,3.1s						
PET				pmax	pmax		
	comp=Z,61nm,1.4s,mb4.8						
PET				pmax	pmax		
	comp=Z,200nm,11.5s						
PET				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.3						
PET				smax			
	comp=E,2µm,12.8s						
PET				MLR	MLR		
	comp=Z,1µm,16.0s,MS4.4						
PET	**Petropavlovsk**	**22.38**	**62**	*e*P	**P**	**15 48 35.0**	**+0.3**
	comp=Z,122nm,1.5s,mb5.1						
QZH	**Quanzhou**	**22.50**	**195**	⇑*i*P	**P**	**15 48 36.0**	**0.0**
QZH				*e*S	**S**	**15 52 34.5**	**-2.8**
QZH				LR	LR		
	comp=N,3µm,12.9s,MS5.2						
QZH				LR	LR		
	comp=E,5µm,13.5s,MS5.2						
QZH				LR	LR		
	comp=Z,5µm,12.5s,MS5.1						
CD2	**Chengdu**	**22.85**	**233**	⇓*i*P	**P**	**15 48 40.5**	**+1.1**
CD2				PP	PP	15 49 08.0	-0.7
CD2				S	**S**	**15 52 48.0**	**+4.6**
CD2				XS		15 52 52.0	
CD2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,250nm,5.4s						
CD2				LR	LR		
	comp=N,2µm,4.2s						
CD2				LR	LR		
	comp=Z,2µm,15.0s,MS4.7						
GYA	**Guiyang**	**25.02**	**222**	⇓*i*P	**P**	**15 49 00.5**	**+0.1**
GYA				AP	pP	15 49 04.8	-0.3
GYA				XP	sP	15 49 07.5	+0.3
GYA				S	**S**	**15 53 29.8**	**+8.9**
GYA				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.7						
GYA				AMB	AMB		
	comp=Z,250nm,4.2s						
GYA				LR	LR		
	comp=N,2µm,15.3s,MS5.0						
GYA				LR	LR		
	comp=E,3µm,14.4s,MS5.0						
GYA				LR	LR		
	comp=Z,1µm,15.0s,MS4.5						
WMQ	**Urumqi**	**26.19**	**277**	P	**P**	**15 49 12.5**	**+1.3**
WMQ				AP	pP	15 49 16.8	+0.9
WMQ				XP	sP	15 49 19.5	+1.5
WMQ				PP	PP	15 49 54.5	+1.1
WMQ				S	**S**	**15 53 42.0**	**+1.7**
WMQ				XS		15 53 49.0	
WMQ				AMB	AMB		
	comp=Z,22nm,1.1s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,315nm,6.6s						
WMQ				LR	LR		
	comp=N,8µm,7.0s						
WMQ				LR	LR		
	comp=E,3µm,8.0s						
WMQ				LR	LR		
	comp=Z,5µm,16.1s,MS5.2						
ZAL	**Zalesovo**	**26.24**	**300**	P	**P**	**15 49 12.9**	**+1.4**
	comp=Z,2.4nm,0.6s,mb3.9,baz=14,slow=6.8,SNR=12						
ZAL				LR	LR	16 00 58.6	
	comp=Z,1µm,20.5s,MS4.5,baz=28,slow=40						
NVS	**Novosibirsk**	**27.14**	**302**	*i* P	**P**	**15 49 20.2**	**+0.4**
NVS				pmax	pmax		
	comp=Z,31nm,1.4s,mb4.7						
NVS				pmax	pmax		
	comp=E,30nm,1.5s						
KMI	**Kunming**	**28.02**	**227**	P	**P**	**15 49 27.5**	**-0.6**
KMI				AP	pP	15 49 38.5	+5.7
KMI				XP	sP	15 49 43.5	+8.6
KMI				PP	PP	15 50 17.3	-0.9
KMI				PPP	PPP	15 50 33.3	+3.1
KMI				S	**S**	**15 54 07.3**	**-2.9**
KMI				AMB	AMB		
	comp=Z,12nm,1.6s,mb4.3						
KMI				AMB	AMB		
	comp=Z,323nm,6.0s						
KMI				LR	LR		
	comp=N,2µm,15.0s,MS5.1						
KMI				LR	LR		
	comp=E,2µm,14.3s,MS5.1						
KMI				LR	LR		
	comp=Z,2µm,15.0s,MS4.7						
KMI	**Kunming**	**28.02**	**227**	P	**P**	**15 49 27.6**	**-0.5**
KMI				*PP	pP	15 49 38.6	+5.8
KMI				*SP	sP	15 49 43.5	+8.6
KMI						15 50 17.2	
KMI				PPP	PPP	15 50 33.3	+3.1
KMI				S	**S**	**15 54 07.3**	**-2.9**
KMI				*SS		15 54 32.5	
KMI				SS	SS	15 55 30.0	-2.4
KMI				SSS	SSS	15 55 50.4	-0.2
KMI				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.3						
KMI				MLR	MLR		
	comp=Z,2µm,15.0s,MS4.7						
KMI	**Kunming**	**28.02**	**227**	P	**P**	**15 49 27.6**	**-0.5**
	comp=Z,12nm,1.6s,mb4.3						
KMI				pP	pP	15 49 38.6	+5.8
KMI				sP	sP	15 49 43.5	+8.6
KMI				PP	PP	15 50 17.2	-1.0
KMI				PPP	PPP	15 50 33.3	+3.1
KMI				S	**S**	**15 54 07.3**	**-2.9**
KMI				sS		15 54 32.5	
KMI				SS	SS	15 55 30.0	-2.4
KMI				SSS	SSS	15 55 50.4	-0.2
KMI				LR	LR		
	comp=Z,2µm,15.0s,MS4.7						
MKAR	**Makanchi Array**	**28.91**	**286**	P	**P**	**15 49 36.3**	**+0.4**
	comp=Z,2.5nm,0.9s,mb3.9,baz=74,slow=8.8,SNR=18						
MKAR				LR	LR	16 01 49.1	
	comp=Z,2µm,20.0s,MS4.6,baz=33,slow=38						
BILL	**Bilibino**	**29.75**	**30**	*e*P	**P**	**15 49 42.1**	**-1.2**
BILL				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.5						
BILL	**Bilibino**	**29.75**	**30**	*e*P	**P**	**15 49 42.1**	**-1.2**
	comp=Z,17nm,1.5s,mb4.6						
BILL				LR	LR		
	comp=Z,471nm,21.0s,MS4.1						
KURK	**Kurchatov**	**30.35**	**295**	P	**P**	**15 49 47.9**	**-0.9**
KURK				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.9						
QIZ	**Qiongzhong**	**30.44**	**209**	*e*P	**P**	**15 49 52.3**	**+2.4**
QIZ				S	**S**	**15 54 57.3**	**+8.4**
QIZ				LR	LR		
	comp=N,1µm,16.3s,MS5.0						
QIZ				LR	LR		
	comp=E,3µm,16.1s,MS5.0						
QIZ				LR	LR		
	comp=Z,2µm,13.3s,MS4.8						
LSA	**Lhasa**	**31.29**	**249**	P	**P**	**15 49 58.0**	**+0.8**
LSA	**Lhasa**	**31.29**	**249**	*e*P	**P**	**15 49 57.7**	**+0.5**
LSA				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.9						
LSA	**Lhasa**	**31.29**	**249**	*e*P	**P**	**15 49 57.7**	**+0.5**
	comp=Z,12nm,0.6s,mb4.9						
SHL	**Shillong**	**33.75**	**242**	*e*P	**P**	**15 50 19.0**	**+0.2**
NANT	**Nan**	**34.37**	**224**	⇓P	**P**	**15 50 21.0**	**-3.2**
	comp=Z,128nm,1.0s,mb5.8						
VOSK	**Vostochnaya**	**34.60**	**300**	P	**P**	**15 50 25.4**	**-0.4**
VOSK				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.2						
TKM2	**Tokmak 2**	**34.71**	**282**	P	**P**	**15 50 28.3**	**+1.5**
	SNR=39						
BVA0	**Borovoye Array**	**34.88**	**301**	*i* P	**P**	**15 50 27.5**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,35nm,1.9s,mb5.0						
BVAR	**Borovoye Array**	**34.88**	**301**	P	**P**	**15 50 28.4**	**+0.2**
	comp=Z,8.0nm,0.6s,mb4.8,baz=84,slow=9.2,SNR=58						
BVAR				PcP	PcP	15 53 00.5	-0.8
	comp=Z,3.2nm,0.6s,baz=130,slow=3.2,SNR=7.5						
BRVK	**Borovoye**	**34.94**	**301**	P	**P**	**15 50 27.6**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,24nm,1.6s,mb4.9						
BRVK	**Borovoye**	**34.94**	**301**	*e*P	**P**	**15 50 28.4**	**-0.2**
	comp=Z,25nm,1.4s,mb5.0						
KBK	**Karagaybulak**	**35.25**	**282**	P	**P**	**15 50 32.9**	**+1.4**
	SNR=30						
KZA	**Kyzart**	**35.29**	**281**	P	**P**	**15 50 34.6**	**+2.7**
	SNR=18						
USP	**Ospenovka**	**35.30**	**283**	P	**P**	**15 50 33.1**	**+1.2**
	SNR=14						
FRU	**Bishkek**	**35.40**	**282**	*e*P	**P**	**15 50 34.0**	**+1.2**
FRU				*e*		15 50 47.5	
FRU				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.1						
FRU				pmax	pmax		
	comp=N,4µm,8.0s						
AAK	**Ala-Archa**	**35.57**	**282**	P	**P**	**15 50 35.1**	**+1.0**
	SNR=9.2						
AAK	**Ala-Archa**	**35.57**	**282**	P	**P**	**15 50 34.8**	**+0.6**
AAK				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
AAK	**Ala-Archa**	**35.57**	**282**	*e*P	**P**	**15 50 33.6**	**-0.6**
	comp=Z,20nm,0.9s,mb5.0						
KKTK	**Khon Kaen**	**35.58**	**218**	⇓P	**P**	**15 50 34.8**	**+0.3**
	comp=Z,494nm,1.0s						
ZRNK	**Zerenda**	**35.72**	**301**	P	**P**	**15 50 35.4**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,75nm,1.6s,mb5.4						
ZRNK	**Zerenda**	**35.72**	**301**	*e*P	**P**	**15 50 34.4**	**-0.9**
	comp=Z,16nm,0.6s,mb5.1						
GUN	**Gumba**	**35.90**	**252**	*e*P	**P**	**15 50 37.1**	**0.0**
	comp=Z,86nm,0.8s,mb5.7						
EKS2	**Erkin-Say**	**36.04**	**282**	P	**P**	**15 50 39.1**	**+0.9**
	SNR=7.0						
AML	**Almayashu**	**36.32**	**282**	P	**P**	**15 50 41.9**	**+1.4**
	SNR=7.6						
KKN	**Kakani**	**36.37**	**252**	*e*P	**P**	**15 50 41.2**	**+0.1**
	comp=Z,98nm,0.6s,mb5.9						
PKI	**Pulchoki**	**36.43**	**252**	*e*P	**P**	**15 50 42.1**	**+0.5**
	comp=Z,41nm,1.0s,mb5.3						
DMN	**Daman**	**36.61**	**252**	*e*P	**P**	**15 50 43.6**	**+0.5**
	comp=Z,89nm,1.2s,mb5.5						
GKN	**Gorkha**	**36.65**	**253**	*e*P	**P**	**15 50 42.1**	**-1.3**
	comp=Z,75nm,0.8s,mb5.6						
NST	**Nakhon Sawan**	**37.35**	**222**	P	**P**	**15 50 39.0**	**-10**
KOLN	**Koldanda**	**37.49**	**254**	*e*P	**P**	**15 50 51.3**	**+0.8**
	comp=Z,90nm,0.8s,mb5.7						
KKAR	**Karatay Array**	**38.03**	**285**	*i* P	**P**	**15 50 55.0**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
TNA	**Tin City**	**39.39**	**37**	*e*P	**P**	**15 51 05.3**	**-0.7**
	comp=Z,28nm,1.3s,mb4.8						
DDI	**Dehra Dun**	**39.57**	**262**	*e*	**P**	**15 51 07.0**	**-0.9**
ARU	**Arti**	**40.72**	**309**	⇑*i*P	**P**	**15 51 17.3**	**+0.2**
ARU				*e*		15 52 51.4	
ARU				*e*		15 53 17.3	
ARU				*e*PPP	PPP	15 53 27.4	+4.8
ARU				*e*S	**S**	**15 57 26.8**	**+0.3**
ARU				*e*SS	SS	16 00 27.4	+5.1
ARU				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.7						
ARU				MLR	MLR		
	comp=Z,1µm,18.0s,MS4.7						
ARU				MLR	MLR		
	comp=N,200nm,20.0s,MS4.6						
ARU				MLR	MLR		
	comp=E,800nm,18.0s,MS4.6						
ARU	**Arti**	**40.72**	**309**	*e*P	**P**	**15 51 17.4**	**+0.3**
	comp=E,30nm,1.3s,mb4.8						
ARU				LR	LR		
	comp=Z,305nm,19.0s,MS4.2						
NDI	**New Delhi**	**41.17**	**261**	*e*	**P**	**15 51 19.0**	**-2.0**
AB31	**Akbulak array**	**42.29**	**298**	*i* P	**P**	**15 51 30.3**	**+0.4**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
BLSP	**Bilaspur**	**42.35**	**249**	*e*P	**P**	**15 51 30.1**	**-0.7**
BLSP				AMb	AMB	15 51 31.6	
	comp=Z,64nm,1.1s,mb5.2						
BHPL	**Bhopal**	**44.64**	**255**	*e*P	**P**	**15 51 48.4**	**-1.0**
BHPL				AMb	AMB	15 51 51.5	
	comp=Z,82nm,1.2s,mb5.4						
TTA	**Tatalina**	**45.01**	**39**	*e*P	**P**	**15 51 50.9**	**-0.9**
KULM	**Kulim**	**46.45**	**214**	*e*P	**P**	**15 52 03.8**	**-0.1**
KSM	**Kuching**	**47.02**	**200**	*e*P	**P**	**15 52 07.3**	**-1.1**
SPU	**Mount Spurr**	**47.37**	**41**	*e*P	**P**	**15 52 10.1**	**-0.4**
ILAR	**Nelson Array**	**48.16**	**35**	P	**P**	**15 52 15.8**	**-0.8**
	comp=Z,4.1nm,0.7s,mb4.6,baz=287,slow=7.9,SNR=39						
SML	**Sawmill**	**48.76**	**39**	*e*P	**P**	**15 52 19.9**	**-1.4**
KEV	**Kevo**	**49.50**	**333**	*e*p	**P**	**15 52 25.5**	**-1.4**
	comp=Z,0.8nm,0.4s,mb4.1						
ARCES	**ARCESS Array B**	**50.06**	**333**	P	**P**	**15 52 30.7**	**-0.6**
	comp=Z,3.1nm,0.7s,mb4.4,baz=56,slow=8.7,SNR=7.8						
ARCES	**ARCESS Array B**	**50.06**	**333**	P	**P**	**15 52 30.7**	**-0.6**
POO	**Poona**	**50.32**	**254**	*e*P	**P**	**15 52 33.4**	**-0.4**
POO				AMb	AMB	15 52 42.3	
	comp=Z,101nm,1.4s,mb5.7						
KAD	**Karad**	**50.98**	**252**	*e*P	**P**	**15 52 38.0**	**-0.9**
KAD				AMb	AMB	15 52 44.2	
	comp=Z,63nm,2.2s,mb5.2						
INK	**Inuvik**	**51.33**	**28**	P	**P**	**15 52 41.3**	**+0.4**
	baz=316,slow=5.4						
INK	**Inuvik**	**51.33**	**28**	*e*P	**P**	**15 52 40.9**	**+0.1**
	comp=Z,59nm,1.4s,mb5.3						
MOS	**Moscow**	**51.79**	**314**	*e*P	**P**	**15 52 42.5**	**-2.0**
OBN	**Obninsk**	**52.63**	**314**	*e*P	**P**	**15 52 50.5**	**-0.3**
OBN				*e*		15 53 07.0	
OBN						15 54 00.0	
OBN						15 54 46.0	
OBN				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
FINES	**FINESS Array B**	**54.01**	**324**	P	**P**	**15 53 00.4**	**-0.5**
	comp=Z,3.1nm,0.5s,mb4.5,baz=90,slow=5.7,SNR=18						
PALK	**Pallekele**	**54.63**	**238**	*e*P	**P**	**15 53 05.7**	**-0.4**
	comp=Z,23nm,0.8s,mb5.2						
KIV	**Kislovodsk**	**55.23**	**299***c*	*i*P	**P**	**15 53 10.5**	**+0.3**
KIV				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
KIV	**Kislovodsk**	**55.23**	**299**	*e*P	**P**	**15 53 10.1**	**0.0**
	comp=Z,32nm,1.0s,mb5.3						
KIV				LR	LR		
	comp=Z,478nm,19.0s,MS4.6						
RES	**Resolute Bay**	**55.81**	**12**	*e*P	**P**	**15 53 12.3**	**-1.6**
RES				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
RES	**Resolute Bay**	**55.81**	**12**	*e*P	**P**	**15 53 12.3**	**-1.6**
	comp=Z,19nm,1.1s,mb5.0						
SOC	**Sochi**	**57.21**	**301**	*e*P	**P**	**15 53 23.1**	**-1.2**
SOC				*e*		15 54 11.6	
SOC				*e*		15 55 33.8	
SOC				*e*S	**S**	**16 01 15.5**	**-1.9**
SOC				pmax	pmax		
	comp=Z,48nm,1.9s,mb5.2						
SOC				pmax	pmax		
	comp=N,16nm,1.2s						
SOC				pmax	pmax		
	comp=E,28nm,2.0s						
SOC				MLR	MLR		
	comp=Z,722nm,13.0s,MS5.0						
SOC				MLR	MLR		
	comp=N,507nm,16.0s,MS5.0						
SOC				MLR	MLR		
	comp=E,629nm,13.0s,MS5.0						
DLBC	**Dease Lake**	**58.29**	**37**	*e*P	**P**	**15 53 31.0**	**-0.6**
AKASG	**Malin Array Be**	**58.78**	**312**	P	**P**	**15 53 34.6**	**-0.6**
	comp=E,6.7nm,0.9s,mb4.7,baz=45,slow=7.3,SNR=31						
KAKA	**Kakadu**	**59.73**	**172**	*e*P	**P**	**15 53 40.9**	**-1.3**
	comp=E,7.1nm,0.8s,mb4.8						
NB2	**NORSAR Subarra**	**59.89**	**329**	P	**P**	**15 53 41.1**	**-1.6**
	comp=E,32nm,1.4s,mb5.2,baz=42,slow=6.5						
NB2	**NORSAR Subarra**	**59.89**	**329**	P	**P**	**15 53 41.1**	**-1.6**
NB2				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.2						
NB2	**NORSAR Subarra**	**59.89**	**329**	P	**P**	**15 53 41.1**	**-1.6**
	baz=42,slow=6.5						
NOA	**NORSAR Array B**	**59.89**	**329**	P	**P**	**15 53 41.8**	**-1.0**
	comp=Z,5.9nm,1.0s,mb4.6,baz=45,slow=6.7,SNR=7.0						
SUMG	**Summit**	**60.25**	**354**	*e*P	**P**	**15 53 44.6**	**-0.5**
	comp=Z,3.5nm,0.6s,mb4.6						
YKW3	**Yellowknife Ar**	**61.04**	**27**	*e*P	**P**	**15 53 49.0**	**-1.5**
YKA	**Yellowknife Ar**	**61.09**	**27**	P	**P**	**15 53 49.7**	**-1.2**

comp=Z,3.0nm,0.8s,mb4.5,baz=320,slow=6.5,SNR=12
YKA Yellowknife Ar 61.09 27 P **P** 15 53 49.7 -1.2
MALT Malatya 61.17 296 *e*P **P** 15 53 52.0 +0.2
MALT pmax pmax
comp=Z,27nm,1.8s,mb5.1
MALT Malatya 61.17 296 *e*P **P** 15 53 52.0 +0.2
comp=Z,26nm,1.8s,mb5.1
BR131 Keskin Array S 63.17 300 *e*P **P** 15 54 04.3 -0.8
comp=Z,2.8nm,0.6s,mb4.6
BR131 LR LR
comp=Z,980nm,21.0s,MS5.0
BRTR Keskin Array B 63.17 300 P **P** 15 54 04.9 -0.2
comp=Z,5.9nm,0.7s,mb4.8,baz=76,slow=4.5,SNR=23
KOLS Kolonicke sedl 63.38 314 *e*P **P** 15 54 06.0 -0.3
STHS Stebnicka Huta 63.56 315 *e*P **P** 15 54 08.3 +0.9
OJC Ojcow 63.72 316 *e*P **P** 15 54 08.4 0.0
NIE Niedzica 64.01 315 *e*P **P** 15 54 10.9 +0.5
FITZ Fitzroy Crossi 64.71 179 *e*P **P** 15 54 13.7 -1.8
comp=Z,18nm,0.8s,mb5.2
FITZ Fitzroy Crossi 64.71 179 P **P** 15 54 14.3 -1.2
comp=Z,24nm,0.8s,mb5.2,baz=357,slow=6.8,SNR=12
OKC Ostrava-Krasne 64.75 317 *e*P **P** 15 54 15.7 +0.5
KSP Ksiaz 64.92 318 *e*P **P** 15 54 16.7 +0.4
MORC Moravsky Berou 65.08 317 *e*P **P** 15 54 16.7 -0.6
MORC pmax pmax
comp=Z,32nm,1.4s,mb5.2
MORC Moravsky Berou 65.08 317 *e*P **P** 15 54 16.7 -0.6
comp=Z,32nm,1.4s,mb5.2
PSZ Piszkesteto 65.23 314 *e*P **P** 15 54 18.9 +0.5
PSZ pmax pmax
comp=Z,20nm,1.4s,mb5.0
PSZ Piszkesteto 65.23 314 *e*P **P** 15 54 18.9 +0.6
comp=Z,20nm,1.4s,mb5.0
DPC Dobruska-Polom 65.25 318 *e*P **P** 15 54 18.5 +0.1
UPC Upice 65.28 318 *e*P **P** 15 54 19.4 +0.8
BSEG Bad Segeberg 65.28 324 *e*P **P** 15 54 18.8 +0.2
VYHS Vyhne 65.35 315 *e*P **P** 15 54 19.2 +0.1
PVCC Panska Ves 65.92 319 *e*P **P** 15 54 23.3 +0.6
BRG Berggiesshubel 65.95 320 *i* P **P** 15 54 23.0 +0.1
BRG pmax pmax
comp=Z,16nm,1.1s,mb5.0
BRG Berggiesshubel 65.95 320 *i* P **P** 15 54 23.0 +0.2
comp=Z,16nm,1.1s,mb5.0
CLL Collm 66.05 320 *i* P **P** 15 54 23.6 +0.1
CLL pmax pmax
comp=Z,16nm,1.0s,mb5.0
CLL Collm 66.05 320 *i* P **P** 15 54 23.6 +0.1
comp=Z,16nm,1.0s,mb5.0
CLL Collm 66.05 320 P **P** 15 54 23.6 +0.1
comp=Z,logA/T=1.2,mb5.0
CLL *i* pP 15 54 27.8 -0.7
PRU Pruhonice 66.31 319 *e*P **P** 15 54 25.2 0.0
CLZ Clausthal 66.79 322 *e*P **P** 15 54 28.6 +0.3
CLZ pmax pmax
comp=Z,63nm,1.9s,mb5.3
CLZ Clausthal 66.79 322 *e*P **P** 15 54 28.6 +0.3
comp=Z,63nm,1.9s,mb5.3
WRAB Tennant Creek 67.07 170 *e*P **P** 15 54 28.8 -1.7
WRAB pmax pmax
comp=Z,26nm,1.2s,mb5.1
WRAB Tennant Creek 67.07 170 *e*P **P** 15 54 28.8 -1.8
comp=Z,26nm,1.2s,mb5.1
NKC Novy Kostel 67.07 320 *e*P **P** 15 54 30.0 -0.1
WRA Warramunga Arr 67.08 170 P **P** 15 54 28.6 -2.0
comp=Z,5.4nm,0.7s,mb4.7,baz=351,slow=6.9,SNR=29
WB2 Warramunga Arr 67.08 170 *e*P **P** 15 54 28.6 -2.0
MOX Moxa 67.14 321 *e*P **P** 15 54 30.9 +0.4
MOX pmax pmax
comp=Z,50nm,2.0s,mb5.2
MOX Moxa 67.14 321 *e*P **P** 15 54 30.9 +0.4
comp=Z,50nm,2.0s,mb5.2
MOX Moxa 67.14 321 *i* P **P** 15 54 30.9 +0.4
comp=Z,logA/T=1.4,mb5.2
KHC Kasperske Hory 67.37 318 *e*P **P** 15 54 31.9 0.0
GEC2 GERESS Array S 67.52 318 *e*P **P** 15 54 33.3 +0.4
GEC2 pmax pmax
comp=Z,16nm,1.3s,mb4.9
GEC2 GERESS Array S 67.52 318 *e*P **P** 15 54 33.3 +0.4
comp=Z,16nm,1.3s,mb4.9
GERES GERESS Array B 67.52 318 P **P** 15 54 33.2 +0.3
comp=Z,3.6nm,0.8s,mb4.4,baz=45,slow=5.7,SNR=29
GRUS Gruza 67.60 311 *i* P **P** 15 54 33.4 -0.2
ARSA Arzberg 67.81 316⇑*i*P **P** 15 54 35.4 +0.6
comp=Z,15nm,1.6s,mb4.8
DIVS Divcibare 67.83 311⇓*i*P **P** 15 54 34.3 -0.7
MBWA Marble Bar 67.91 185 *e*P **P** 15 54 34.7 -1.1
comp=Z,12nm,0.9s,mb4.9
GRF Grafenberg Arr 68.01 320 *e*P **P** 15 54 36.5 +0.5
GRF pmax pmax
comp=Z,39nm,1.0s,mb5.4
GRF Grafenberg Arr 68.01 320 *e*P **P** 15 54 36.5 +0.5
GRF pmax pmax
comp=Z,39nm,1.0s,mb5.4
GRF Grafenberg Arr 68.01 320 *e*P **P** 15 54 36.5 +0.5
comp=Z,39nm,1.0s,mb5.4
PERS Pernice 68.45 316 *e*P **P** 15 54 39.1 +0.3
PERS *e* pP 15 54 43.8 0.0
EDM Edmonton 68.59 33 *e*P **P** 15 54 38.5 -1.0
TNS Taunus Mts 68.81 322 *e*P **P** 15 54 41.2 +0.3
TNS pmax pmax
comp=Z,19nm,1.5s,mb4.8
TNS Taunus Mts 68.81 322 *e*P **P** 15 54 41.2 +0.3
comp=Z,19nm,1.5s,mb4.8
OBKA Obir 68.81 316⇓*i*P **P** 15 54 42.1 +1.1
comp=Z,18nm,0.8s,mb5.1
KBA Koelnbreinsper 68.97 317⇑*i*P **P** 15 54 43.0 +1.1
comp=Z,28nm,1.0s,mb5.2
KBA Koelnbreinsper 68.97 317⇑*i*P **P** 15 54 43.0 +1.1
KBA pmax pmax
comp=Z,28nm,1.0s,mb5.2
EIL Elat 68.99 291 *e*P **P** 15 54 41.5 -0.9
comp=Z,38nm,1.8s,mb5.0
FUR Furstenfeldbru 69.11 319 *e*P **P** 15 54 43.9 +1.1
FUR pmax pmax
comp=Z,44nm,1.1s,mb5.3
FUR Furstenfeldbru 69.11 319 *e*P **P** 15 54 43.9 +1.1
comp=Z,44nm,1.1s,mb5.3
ALWS Ilw as Safayha 69.16 291 P **P** 15 54 44.2 +0.8
LJU Ljubljana 69.16 316 *e*P **P** 15 54 43.4 +0.2
BOJS Bojanci 69.20 315 *e*P **P** 15 54 42.7 -0.7
JMOS Jabal al Moall 69.22 291 P **P** 15 54 44.2 +0.4
CTA Charters Tower 69.40 159 *e*P **P** 15 54 43.6 -1.5
comp=Z,7.8nm,0.6s,mb4.8
CTA Charters Tower 69.40 159 *e*P **P** 15 54 43.6 -1.5
CTA pmax pmax
comp=Z,8.0nm,0.6s
CTAO Charters Tower 69.40 159 *e*P **P** 15 54 43.6 -1.5
CTAO pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
CTAO Charters Tower 69.40 159 *e*P **P** 15 54 43.6 -1.4
comp=Z,9.6nm,0.6s,mb4.9
HAQS Haql 69.42 291 P **P** 15 54 45.7 +0.6
JAVS Javornik 69.49 316 *e*P **P** 15 54 44.6 -0.6
WTTA Wattenberg 69.62 318⇑*i*P **P** 15 54 46.9 +1.0
comp=Z,33nm,1.6s,mb5.0
WTTA Wattenberg 69.62 318⇑*i*P **P** 15 54 46.9 +1.0
WTTA pmax pmax
comp=Z,33nm,1.6s,mb5.0
BDAS Al Bad' 69.73 290 P **P** 15 54 47.1 +0.1
MOTA Moosalm 69.80 318⇑*i*P **P** 15 54 47.5 +0.5
comp=Z,25nm,1.1s,mb5.1
MOTA Moosalm 69.80 318⇑*i*P **P** 15 54 47.5 +0.5
MOTA pmax pmax
comp=Z,25nm,1.1s,mb5.1
TATS Tathlith 70.25 278 P **P** 15 54 50.6 +0.4
BFO Black Forest 70.29 321 *e*P **P** 15 54 50.1 +0.1
BFO pmax pmax
comp=Z,31nm,1.2s,mb5.1
BFO Black Forest 70.29 321 *e*P **P** 15 54 50.1 +0.1
comp=Z,31nm,1.2s,mb5.1
DAVA Damuels 70.40 319⇓*i*P **P** 15 54 51.9 +1.2
comp=Z,38nm,1.1s,mb5.2
CDF Champ du Feu 70.69 321 *e*P **P** 15 54 52.3 -0.1
BAIF Baives 70.69 324 *e*P **P** 15 54 52.0 -0.4
FFC Flin Flon 71.26 27 P **P** 15 54 54.2 -1.6
FFC pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
FFC Flin Flon 71.26 27 P **P** 15 54 54.2 -1.6
comp=Z,3.3nm,0.6s,mb4.4
BLJS Baljurashi 71.28 279 P **P** 15 54 57.6 +1.1
HINF Hinteralfeld 71.33 321 *e*P **P** 15 54 56.0 -0.3
HAU Haudompre 71.39 322 *e*P **P** 15 54 56.4 -0.3
MEZF Maizieres J'vi 71.56 323 *e*P **P** 15 54 57.5 -0.2
WALA Waterton Lakes 71.64 36 *e*P **P** 15 54 57.6 -0.6
comp=Z,37nm,1.6s,mb5.1
GVD Gavdhos 72.08 302 *e*P **P** 15 55 00.7 -0.4
comp=Z,27nm,0.6s,mb5.3
CABF La Chapelle 72.59 321 *e*P **P** 15 55 03.8 0.0
comp=Z,22nm,1.0s,mb4.8
CABF La Chapelle 72.59 321 *e*P **P** 15 55 03.8 0.0
CABF pmax pmax
comp=Z,11nm,1.0s,mb4.7
LOR Lormes 73.02 322 *e*P **P** 15 55 05.8 -0.5
comp=Z,41nm,1.1s,mb5.0
LOR *e*pP pP 15 55 20.5 +9.2
LOR Lormes 73.02 322 *e*P **P** 15 55 05.8 -0.5
LOR *e**PP pP 15 55 20.5 +9.2
LOR pmax pmax
comp=Z,20nm,1.1s,mb5.0
TIP Timpagrande 73.04 309 *e*P **P** 15 55 07.0 +0.4
LPL La Plagne 73.16 320 *e*P **P** 15 55 07.9 +0.8
comp=Z,26nm,0.9s,mb4.9
LPL La Plagne 73.16 320 *e*P **P** 15 55 07.9 +0.8
LPL pmax pmax
comp=Z,13nm,0.9s,mb4.9
LPG La Plagne 73.16 320 *e*P **P** 15 55 07.9 +0.8
comp=Z,25nm,0.8s,mb4.9
LPG La Plagne 73.16 320 *e*P **P** 15 55 07.9 +0.8
LPG pmax pmax
comp=Z,13nm,0.8s,mb4.9
SSF Saint Saulge 73.33 322 *e*P **P** 15 55 07.8 -0.3
SSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
SSF Saint Saulge 73.33 322 *e*P **P** 15 55 07.8 -0.3
comp=Z,3.0nm,0.6s,mb4.4
SMF Signal de Mont 73.52 322 *e*P **P** 15 55 08.8 -0.4
comp=Z,47nm,1.1s,mb5.0
SMF Signal de Mont 73.52 322 *e*P **P** 15 55 08.8 -0.4
SMF pmax pmax
comp=Z,24nm,1.1s,mb5.0
BNI Bardonecchia 73.54 319 *e*P **P** 15 55 09.3 0.0
BNI pmax pmax
comp=Z,14nm,1.0s,mb4.8
BNI Bardonecchia 73.54 319 *e*P **P** 15 55 09.3 -0.1
comp=Z,14nm,1.0s,mb4.8
FLN La Floliniere 73.57 326 *e*P **P** 15 55 08.5 -0.9
CHMT Chamberlain Mo 73.60 37 *e*P **P** 15 55 09.4 -0.2
AVF Avril sur Loir 73.61 322 *e*P **P** 15 55 09.7 0.0
comp=Z,46nm,1.1s,mb5.0
AVF *e*pP pP 15 55 23.1 +8.3
AVF Avril sur Loir 73.61 322 *e*P **P** 15 55 09.7 0.0
AVF *e**PP pP 15 55 23.1 +8.3
AVF pmax pmax
comp=Z,23nm,1.1s,mb5.0
MBDF Montbardon 73.75 319 *e*P **P** 15 55 10.3 -0.3
comp=Z,23nm,0.7s,mb4.9
MBDF Montbardon 73.75 319 *e*P **P** 15 55 10.3 -0.3
MBDF pmax pmax
comp=Z,11nm,0.7s,mb4.9
ORIF Oris-en-Rattie 74.00 320 *e*P **P** 15 55 11.7 -0.3
comp=Z,12nm,0.9s,mb4.5
ORIF Oris-en-Rattie 74.00 320 *e*P **P** 15 55 11.7 -0.3
ORIF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
GRR Gorron 74.02 326 *e*P **P** 15 55 11.4 -0.6
comp=Z,282nm,1.9s,mb5.6
GRR Gorron 74.02 326 *e*P **P** 15 55 11.4 -0.6
GRR pmax pmax
comp=Z,141nm,1.9s,mb5.6
SBF Sospel 74.12 318 *e*P **P** 15 55 11.3 -1.4
HRY Holter Researc 74.35 37 *e*P **P** 15 55 13.0 -1.0
PGF Pioggiola 74.41 316 *e*P **P** 15 55 13.0 -1.4
comp=Z,66nm,1.5s,mb5.0
PGF Pioggiola 74.41 316 *e*P **P** 15 55 13.0 -1.4
PGF pmax pmax
comp=Z,33nm,1.5s,mb5.0
TCF Toulx Ste Croi 74.49 323 *e*P **P** 15 55 14.7 -0.1
comp=Z,53nm,1.2s,mb5.0
TCF Toulx Ste Croi 74.49 323 *e*P **P** 15 55 14.7 -0.1
TCF pmax pmax
comp=Z,27nm,1.2s,mb5.0
VIVF Saint-Julien-l 74.58 320 *e*P **P** 15 55 15.4 0.0
FRF La Foret Royal 74.72 318 *e*P **P** 15 55 15.8 -0.4
comp=Z,50nm,1.3s,mb5.0
FRF La Foret Royal 74.72 318 *e*P **P** 15 55 15.8 -0.4
FRF pmax pmax
comp=Z,25nm,1.3s,mb5.0
SGMF Saint Gilles 74.78 327 *e*P **P** 15 55 16.1 -0.3
comp=Z,23nm,0.9s,mb4.8
SGMF Saint Gilles 74.78 327 *e*P **P** 15 55 16.1 -0.3
SGMF pmax pmax
comp=Z,12nm,0.9s,mb4.8
SMRF Simiane la Rot 74.87 319 *e*P **P** 15 55 16.7 -0.4
comp=Z,25nm,1.2s,mb4.7
LMR La Mourre 74.95 318 *e*P **P** 15 55 17.4 -0.2
comp=Z,47nm,1.1s,mb5.0
LMR La Mourre 74.95 318 *e*P **P** 15 55 17.4 -0.2
LMR pmax pmax
comp=Z,23nm,1.1s,mb5.0
ROSF Rostrenen 74.98 327 *e*P **P** 15 55 17.6 0.0
comp=Z,275nm,1.8s,mb5.6
ROSF Rostrenen 74.98 327 *e*P **P** 15 55 17.6 0.0
ROSF pmax pmax
comp=Z,137nm,1.8s,mb5.6
MFF Saint Martin d 75.20 324 *e*P **P** 15 55 17.0 -1.9
comp=Z,83nm,1.5s,mb5.2
MFF Saint Martin d 75.20 324 *e*P **P** 15 55 17.0 -1.9
MFF pmax pmax
comp=Z,42nm,1.5s,mb5.2
QUIF Quistinic 75.28 327 *e*P **P** 15 55 19.3 -0.1
comp=Z,250nm,1.6s,mb5.6
QUIF Quistinic 75.28 327 *e*P **P** 15 55 19.3 -0.1
QUIF pmax pmax
comp=Z,125nm,1.6s,mb5.6
BOZ Bozeman (W) 75.29 37 *e*P **P** 15 55 19.5 0.0
BOZ pmax pmax
comp=Z,36nm,1.8s,mb5.0
BOZ Bozeman (W) 75.29 37 *e*P **P** 15 55 19.5 +0.1
comp=Z,36nm,1.8s,mb5.0
MCMT McKenzie Canyo 75.44 38 *e*P **P** 15 55 20.4 +0.1
LASF Ste Croix 75.55 320 *e*P **P** 15 55 21.4 +0.4
RJF Les Rejaudoux 75.57 323 *e*P **P** 15 55 20.2 -0.8
CAF Calviac 75.64 322 *e*P **P** 15 55 21.4 -0.1
comp=Z,121nm,1.9s,mb5.2
CAF Calviac 75.64 322 *e*P **P** 15 55 21.4 -0.1
CAF pmax pmax
comp=Z,61nm,1.9s,mb5.2
DGMT Dagmar 75.83 31 *e*P **P** 15 55 21.7 -0.8
comp=Z,14nm,0.9s,mb4.9
MTLF Montolieu 76.85 321 *e*P **P** 15 55 28.9 +0.6
MTLF *e*pP pP 15 55 43.5 +10
IMW Indian Meadow 77.00 38 *e*P **P** 15 55 29.4 +0.3
comp=Z,19nm,1.4s,mb4.8
MOOW Moose Ponds 77.20 38 *e*P **P** 15 55 30.9 +0.6
comp=Z,9.0nm,0.8s,mb4.8
RRI2 Red Ridge 77.28 38 *e*P **P** 15 55 31.1 +0.4
comp=Z,17nm,1.3s,mb4.8
TPAW Teton Pass 77.32 38 *e*P **P** 15 55 31.9 +1.0
comp=Z,36nm,1.7s,mb5.0
LOHW Long Hollow 77.37 38 *e*P **P** 15 55 31.3 +0.1
comp=Z,6.3nm,0.9s,mb4.5
ELK Elko 77.63 42 P **P** 15 55 33.7 +1.1
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 77.63 42 P **P** 15 55 33.7 +1.0
comp=Z,2.1nm,0.8s,mb4.1,baz=319,slow=6.4,SNR=6.5
ELK Elko 77.63 42 *e*P **P** 15 55 33.5 +0.8
comp=Z,5.5nm,1.1s,mb4.4
EPF Esparros 77.91 322 *e*P **P** 15 55 33.2 -0.9
comp=Z,21nm,1.0s,mb4.7
EPF Esparros 77.91 322 *e*P **P** 15 55 33.2 -0.9
EPF pmax pmax
comp=Z,11nm,1.0s,mb4.7
ETSF Etsaut 78.39 322 *e*P **P** 15 55 37.1 +0.3
comp=Z,19nm,0.9s,mb4.7
ETSF Etsaut 78.39 322 *e*P **P** 15 55 37.1 +0.3
ETSF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SJPF Ste Jean 78.50 323 *e*P **P** 15 55 35.4 -2.0
comp=Z,49nm,1.5s,mb4.9
SJPF Ste Jean 78.50 323 *e*P **P** 15 55 35.4 -2.0
SJPF pmax pmax
comp=Z,25nm,1.5s,mb4.9
PDAR Pinedale Array 78.50 38 P **P** 15 55 37.0 -0.3
comp=Z,2.4nm,0.6s,mb4.3,baz=359,slow=2.7,SNR=20
HWUT Hardware Ranch 78.59 40 *e*P **P** 15 55 38.3 +0.4
comp=Z,12nm,0.8s,mb4.9
TCUT Toone Canyon 79.06 40 *e*P **P** 15 55 41.0 +0.5
DAU Daniels Canyon 79.70 40 *e*P **P** 15 55 44.7 +0.7
STKA Stephens Creek 79.85 166 *e*P **P** 15 55 44.2 -0.8
comp=Z,5.7nm,0.4s,mb4.8
STKA Stephens Creek 79.85 166 P **P** 15 55 44.8 -0.2
comp=Z,6.4nm,0.4s,mb4.9,baz=343,slow=5.1,SNR=45
MSU Marysvale 80.83 42 *e*P **P** 15 55 51.2 +1.2
SRU San Rafael 81.08 40 *e*P **P** 15 55 51.1 -0.2
NEN Nelson 81.87 45 *e*P **P** 15 55 56.0 +0.5
PV10 Paradox Valley 82.34 40 *e*P **P** 15 55 59.2 +1.3
ESDC Sonseca Array 82.50 323 P **P** 15 55 59.8 +1.1
comp=Z,2.3nm,0.6s,mb4.3,baz=31,slow=5.2,SNR=13
ESLA Sonseca Array 82.50 323 *e*P **P** 15 55 59.2 +0.5
comp=Z,1.7nm,1.0s,mb3.9
SDCO Great Sand Dun 84.40 38 *e*P **P** 15 56 08.8 +0.5
comp=Z,41nm,1.9s,mb5.2
SDCO LR LR
comp=Z,1μm,19.0s,MS5.3
EVO Evora 85.11 325 *e*P **P** 15 56 12.5 +0.6
comp=Z,69nm,1.4s,mb5.3
ANMO Albuquerque 86.34 40 P **P** 15 56 19.7 +1.6
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO Albuquerque 86.34 40 P **P** 15 56 19.7 +1.5
comp=Z,4.1nm,0.9s,mb4.7,baz=317,slow=6.4,SNR=9.7
ANMO Albuquerque 86.34 40 *e*P **P** 15 56 18.9 +0.7
comp=Z,13nm,1.4s,mb5.0
ANMO LR LR
comp=Z,790nm,20.0s,MS5.1
LAZ Ladron 86.50 41 *e*P **P** 15 56 20.2 +1.3
BNM Barren Site 86.94 41 *e*P **P** 15 56 22.4 +1.3
MNTX Cornudas Mount 89.57 41 *e*P **P** 15 56 34.0 +0.3
comp=Z,3.6nm,1.2s,mb4.6
TXAR Lajitas Array 92.35 41 P **P** 15 56 48.2 +1.7
comp=Z,0.4nm,0.3s,mb4.2,baz=288,slow=4.0,SNR=5.9
PPT Papeete 99.61 105 *e*LQ 16 25 09.6
comp=Z,288nm,23.5s
PPT *e*LR LR 16 29 16.8
comp=Z,261nm,25.8s,baz=316
TAOE Nuku Hiva Isla 99.75 93 *e*LQ 16 25 43.1
comp=Z,2μm,36.7s
TAOE *e*LR LR 16 29 50.1
comp=Z,619nm,24.6s
TBI Tubuai 103.80 109 *e*LR LR 16 30 32.4
comp=Z,157nm,28.2s,baz=308
RKT Rikitea 113.25 99 *e*LR LR 16 35 06.5
comp=Z,258nm,25.5s,baz=288
LBTB Lobatse 114.03 259 *e*PKIKP PKPdf 16 02 14.0 -4.0
SDV Santo Domingo 122.74 18 PKP PKPdf 16 02 32.3 -2.7
comp=Z,3.1nm,0.6s,baz=42,slow=2.1,SNR=4.7
SDV Santo Domingo 122.74 18 *e*PKPdf PKPdf 16 02 32.5 -2.5
VNDA Vanda 126.25 171 PKP PKPdf 16 02 36.4 -3.9
comp=Z,1.0nm,0.9s,baz=294,slow=6.1,SNR=5.8
VNDA Vanda 126.25 171 *e*PKPdf PKPdf 16 02 37.1 -3.1
SNAA Sanae 145.44 206⇑*i*P PKPbc 16 03 12.0 -0.2
SNAA Sanae 145.44 206 PKPbc 16 03 17.6 +5.4
SNAA Sanae 145.44 206 PKPbc 16 03 32.0 +20
SNAA Sanae 145.44 206 PKPbc PKPbc 16 03 12.5 +0.3
comp=Z,5.9nm,1.1s,baz=104,slow=3.0,SNR=25
VNA2 Neumayer--Watz 147.07 207⇑*i*P PKPdf 16 03 18.3 +0.2
VNA2 Neumayer--Watz 147.07 207 PKPdf 16 03 22.9 +4.8
VNA2 Neumayer--Watz 147.07 207 PKPdf 16 03 25.1 +7.0
VNA2 Neumayer--Watz 147.07 207 PKPdf 16 03 33.7 +16
VNA1 Neumayer--Stat 147.44 207⇑*i*P PKPdf 16 03 19.5 +0.8
VNA1 Neumayer--Stat 147.44 207 PKPdf 16 03 23.3 +4.6
VNA1 Neumayer--Stat 147.44 207 PKPdf 16 03 27.0 +8.3
LPAZ La Paz 147.59 24 PKPbc PKPdf 16 03 19.6 -0.9
comp=Z,5.1nm,1.0s,baz=2.0,slow=4.6,SNR=13
LPAZ La Paz 147.59 24 *e*PKPdf PKPdf 16 03 19.0 -1.5
LPAZ *e*PKPbc PKPdf 16 03 20.9 +0.4
VNA3 Neumayer Olymp 147.63 205⇑*i*P PKPdf 16 03 19.4 +0.4
VNA3 Neumayer Olymp 147.63 205 PKPdf 16 03 22.7 +3.7
VNA3 Neumayer Olymp 147.63 205 PKPdf 16 03 26.3 +7.3
VNA3 Neumayer Olymp 147.63 205 PKPdf 16 03 35.8 +17
BDFB Brasilia 148.28 347 PKP2 PKPdf 16 03 22.2 +0.6
BDFB pmax pmax
comp=Z,4.0nm,0.8s
BDFB Brasilia 148.28 347 PKPbc PKPdf 16 03 22.2 +0.6
comp=Z,3.9nm,0.8s,baz=43,slow=5.8,SNR=3.6

BJI 25 15:54:05.5, 47.00N×124.90E, h15km, ML3.5, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MDJ	**Mudanjiang**	**4.05**	**124**	PG	Pg	Pn	15 55 18.5	-8.0
MDJ				SG	Sg	Sn	15 56 06.8	-14
MDJ				Smax				
	comp=N,64nm,0.4s							
MDJ				Smax				
	comp=E,56nm,0.5s							

BJI 25 15:57:14.8, 47.14N×125.03E, h25km, ML4.0, 1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CN2	**Changchun**	**3.35**	**175**	*e*PG		Pn	15 58 13.5	+6.6
CN2				*e*SG		Sn	15 58 53.0	+6.6
CN2				Smax				
	comp=N,220nm,0.7s							
CN2				Smax				
	comp=E,350nm,0.7s							
MDJ	**Mudanjiang**	**4.06**	**127**	PG		Pn	15 58 27.5	+10
MDJ				SG		Sn	15 59 17.3	+13
MDJ				Smax				
	comp=N,248nm,0.6s							
MDJ				Smax				
	comp=E,252nm,0.7s							
SNY	**Shenyang**	**5.41**	**192**	⇓PG		Pn	15 58 52.5	+16
SNY				SG		Sn	15 59 57.5	+19
SNY				Smax				
	comp=N,80nm,0.7s							
SNY				Smax				
	comp=E,90nm,0.9s							

*BJI **25** 16:02:00.7, 0.93N×96.86E, h39km, mB5.7, mb5.3, Ms5.7, Msz5.5*
*MOS **25** 16:02:01.6±0.9, 1.20N×96.86E, h33km, mb5.5/27, MS5.2/10, Error ellipse: s-maj=11.7km s-min=8.2km az=102.8*
*HRVD **25** 16:02:02.3±0.4, 0.94N×96.50E, h12km, MW5.3/58, Centroid moment Tensor Solution. LP body waves: s39,c62;Mantle waves: s58,c98; Half duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr 0.56±.02; Mθθ -0.28±.02; Mφφ -0.27±.02; Mrθ 0.61±.07; Mθφ 0.35±.02; Mφr -0.76±.06; Best double couple: M0 1.137×10^17 NP1: φs308°,δ16°,λ78°. NP2:φs141°,δ74°,λ93°. Principal axes: T 1.103, Plg60°, Azm55°; N .068, Plg3°, Azm320°; P -1.17, Plg29°, Azm228°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **25** 16:02:02.5±0.4, 1.23N×96.82E, h25km, 2km, mb4.6/29, mb1 4.7/29, mb1mx4.7/29, mbtmp4.7/29, MS4.9/11, Ms1 4.9/11, ms1mx4.8/22 Error ellipse: s-maj=11.9km s-min=10.4km az=99.0*
*NEIC **25** 16:02:02.4±0.2, 1.18N×96.84E, mb5.3/41, MS5.0/10, Error ellipse: s-maj=6.1km s-min=5.3km az=16.0*
ISC 25 16:02:00.6±0.2, 1.12N±0.04×96.87E±0.03, h26km, h26km±.5km: pP-P, n237, σ1s04/228, mb5.2/88, MS5.2/42, 6C-7D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.39**	**50**	P		**Pn**	**16 03 21.0**	**-0.5**
KULM	**Kulim**	**5.60**	**42**	*e*Pn		**Pn**	**16 03 23.7**	**-0.9**
KGM	**Kluang**	**6.51**	**82**	P		**Pn**	**16 03 37.9**	**+0.5**
PKT	**Phuket**	**7.04**	**11**	P		**Pn**	**16 03 40.0**	**-4.7**
SNG	**Songkhla**	**7.08**	**32**	P		**Pn**	**16 03 42.0**	**-3.4**
	740nm,1.0s							
NNT	**Nongplab**	**11.74**	**14**	P		**P**	**16 04 55.2**	**+5.5**
KSM	**Kuching**	**13.44**	**88**	*e*Pn		**P**	**16 05 13.5**	**+1.1**
KSM				*e*pPn			16 05 23.2	
NST	**Nakhon Sawan**	**14.81**	**12**	P		**P**	**16 05 30.5**	**0.0**
BDT	**Bhumibol Dam**	**16.16**	**7**	P		**P**	**16 05 49.0**	**+1.1**
UBT	**Ubonrachathani**	**16.18**	**29**	P		**P**	**16 05 51.0**	**+2.9**
KKTK	**Khon Kaen**	**16.22**	**21**	P		**P**	**16 05 48.0**	**-0.6**
	926nm,0.9s							
PALK	**Pallekele**	**17.23**	**291**	*e*Pn		**P**	**16 06 02.4**	**+1.0**
	123nm,1.6s							
NANT	**Nan**	**17.97**	**12**	⇓P		**P**	**16 06 18.0**	**+7.5**
	462nm,1.0s							
KKM	**Kota Kinabalu**	**19.91**	**75**	*e*P		**P**	**16 06 33.1**	**-0.5**
KKM	**Kota Kinabalu**	**19.91**	**75**	P		**P**	**16 06 34.5**	**+0.9**

MDRS	**Chennai**	**20.30**	**307**	*e*		**P**	**16 06 44.0**	**+6.5**
MDRS				*e*			16 08 10.0	
MDRS				*e*			16 11 52.0	
MDRS				*e*			16 14 18.0	
TSM	**Tawau**	**21.21**	**81**	P		**P**	**16 06 47.4**	**+0.5**
QIZ	**Qiongzhong**	**21.88**	**35**	⇑P		**P**	**16 06 54.0**	**+0.4**
QIZ				XP			16 07 03.3	
QIZ				S		**S**	**16 10 58.5**	**+10**
QIZ				AMB	AMB			
	comp=Z,128nm,1.4s,mb5.2							
QIZ				AMB	AMB			
	comp=Z,1μm,12.1s							
QIZ				LR	LR			
	comp=N,10μm,15.3s,MS5.5							
QIZ				LR	LR			
	comp=E,8μm,15.7s,MS5.5							
QIZ				LR	LR			
	comp=Z,7μm,14.9s,MS5.2							
QIZ	**Qiongzhong**	**21.88**	**35**	*e*P		**P**	**16 06 53.6**	**0.0**
	comp=Z,213nm,1.3s,mb5.4							
BATP	**Bataraza**	**22.19**	**69**	*e*P		**P**	**16 06 54.5**	**-2.2**
PPR	**Puerto Princes**	**23.38**	**68**⇓	*e*P		**P**	**16 07 09.3**	**+0.8**
HYB	**Hyderabad**	**24.22**	**313**	*e*P		**P**	**16 07 20.0**	**+3.3**
HYB				*e*S		**S**	**16 11 44.0**	**+14**
HYB	**Hyderabad**	**24.22**	**313**	*i* P		**P**	**16 07 20.0**	**+3.3**
HYB				*e*S		**S**	**16 11 36.0**	**+5.6**
KMI	**Kunming**	**24.53**	**13**	P		**P**	**16 07 21.0**	**+1.4**
KMI				AP			16 07 29.8	
KMI				XP			16 07 34.3	
KMI				PP	PP		16 07 57.5	+1.9
KMI				PPP	PPP		16 08 08.0	+1.8
KMI				S	**S**		**16 11 41.5**	**+5.9**
KMI				XS			16 11 57.0	
KMI				AMB	AMB			
	comp=Z,206nm,1.3s,mb5.5							
KMI				AMB	AMB			
	comp=Z,2μm,6.3s							
KMI				LR	LR			
	comp=N,12μm,12.6s,MS5.7							
KMI				LR	LR			
	comp=E,7μm,12.6s,MS5.7							
KMI				LR	LR			
	comp=Z,14μm,10.8s,MS5.7							
KMI	**Kunming**	**24.53**	**13**	P		**P**	**16 07 21.1**	**+1.5**
KMI				*PP			16 07 29.7	
KMI				*SP			16 07 34.3	
KMI							16 07 57.4	
KMI				PPP	PPP		16 08 08.1	+1.9
KMI				S	**S**		**16 11 41.4**	**+5.8**
KMI				*SS			16 11 57.0	
KMI				SS	SS		16 12 41.2	+10
KMI				pmax	pmax			
	comp=Z,206nm,1.3s,mb5.5							
KMI				MLR	MLR			
	comp=Z,14μm,10.8s,MS5.7							
KMI	**Kunming**	**24.53**	**13**	P		**P**	**16 07 21.1**	**+1.5**
	comp=Z,206nm,1.3s,mb5.5							
KMI				pP			16 07 29.7	
KMI				sP			16 07 34.3	
KMI				PP	PP		16 07 57.4	+1.8
KMI				PPP	PPP		16 08 08.1	+1.9
KMI				S	**S**		**16 11 41.4**	**+5.8**
KMI				sS			16 11 57.0	
KMI				SS	SS		16 12 41.2	+10
KMI				SSS	SSS		16 12 57.9	+10
KMI				LR	LR			
	comp=Z,14μm,10.8s,MS5.7							
SHL	**Shillong**	**24.77**	**349**	*e*P		**P**	**16 07 21.0**	**-0.9**
SHL				*e*S		**S**	**16 11 42.5**	**+2.7**
BLSP	**Bilaspur**	**25.33**	**327**	*e*P		**P**	**16 07 27.6**	**+0.3**
BLSP				AMb	AMB		16 07 40.8	
	comp=Z,76nm,1.9s,mb4.9							
BLSP				*e*			16 11 46.2	
BUSP	**Coron**	**25.54**	**64**	*e*P		**P**	**16 07 31.1**	**+1.8**
LUBP	**Lubang**	**26.31**	**60**	*e*P		**P**	**16 07 36.6**	**+0.2**
IPIL	**Ipil**	**26.45**	**75**	*e*P		**P**	**16 07 38.2**	**+0.4**
GYA	**Guiyang**	**26.90**	**20**⇓	*i* P		**P**	**16 07 41.8**	**+0.1**
GYA				AP	pP		16 07 49.0	-0.3
GYA				XS			16 12 36.0	
GYA				AMB	AMB			
	comp=Z,100nm,0.8s,mb5.4							
GYA				AMB	AMB			
	comp=Z,790nm,6.3s							
GYA				LR	LR			
	comp=N,11μm,12.9s,MS5.7							
GYA				LR	LR			
	comp=E,7μm,12.6s,MS5.7							
GYA				LR	LR			
	comp=Z,14μm,12.9s,MS5.7							
GZH	**Guangzhou**	**27.07**	**35**	P		**P**	**16 07 42.8**	**-0.5**
GZH				S		**S**	**16 12 25.0**	**+7.2**
GZH				LR	LR			
	comp=N,7μm,15.2s,MS5.5							
GZH				LR	LR			
	comp=E,8μm,14.9s,MS5.5							
GZH				LR	LR			
	comp=Z,13μm,12.1s,MS5.7							
BALP	**Baler**	**28.37**	**58**	*e*P		**P**	**16 07 56.8**	**+1.6**
PKI	**Pulchoki**	**28.50**	**338**	*e*P		**P**	**16 07 57.2**	**+1.0**
	comp=Z,336nm,1.5s,mb5.8							
GUN	**Gumba**	**28.64**	**339**	*e*P		**P**	**16 07 57.9**	**+0.4**
	comp=Z,130nm,0.7s,mb5.8							
DMN	**Daman**	**28.65**	**338**	*e*P		**P**	**16 07 57.7**	**+0.2**
	comp=Z,206nm,1.3s,mb5.7							
KKN	**Kakani**	**28.75**	**338**	*e*P		**P**	**16 07 58.5**	**+0.1**
	comp=Z,199nm,1.1s,mb5.8							
BUKP	**Musuan**	**28.88**	**76**	*e*P		**P**	**16 07 59.6**	**-0.2**
LSA	**Lhasa**	**28.94**	**350**	P		**P**	**16 08 00.0**	**-0.1**
LSA				AP	pP		16 08 08.5	+0.7
LSA				XP	sP		16 08 12.0	+0.8
LSA				PCP	PcP		16 11 09.5	+0.6
LSA				S	**S**		**16 12 43.5**	**-4.3**
LSA				XS			16 13 09.3	
LSA				SCP			16 14 47.5	
LSA				PCS			16 14 53.0	
LSA				SCS	ScS		16 18 41.8	+2.1
LSA				AMB	AMB			
	comp=Z,100nm,1.0s,mb5.5							
LSA				LR	LR			
	comp=N,2μm,17.9s,MS5.0							
LSA				LR	LR			
	comp=E,3μm,16.7s,MS5.0							
LSA				LR	LR			
	comp=Z,4μm,17.9s,MS5.0							
LSA	**Lhasa**	**28.94**	**350**	*e*P		**P**	**16 07 60.0**	**-0.1**
	comp=Z,111nm,1.0s,mb5.5							
BHPL	**Bhopal**	**28.98**	**321**	*e*P		**P**	**16 07 59.2**	**-1.3**
BHPL				AMb	AMB		16 08 20.4	
	comp=Z,28nm,0.9s,mb5.0							
BHPL				*e*			16 12 55.8	
CAUP	**Cauayan**	**29.16**	**56**	*e*P		**P**	**16 08 02.8**	**+0.5**
GKN	**Gorkha**	**29.18**	**337**	*e*P		**P**	**16 08 02.3**	**-0.1**
	comp=Z,176nm,1.1s,mb5.7							
KOLN	**Koldanda**	**29.39**	**336**	*e*P		**P**	**16 08 04.3**	**+0.1**
	comp=Z,230nm,1.3s,mb5.7							
CD2	**Chengdu**	**30.34**	**12**	P		**P**	**16 08 12.3**	**-0.3**
CD2				S		**S**	**16 13 01.0**	**-9.1**
CD2				LR	LR			
	comp=N,3μm,13.2s							
CD2				LR	LR			
	comp=Z,5μm,13.2s,MS5.4							
ENH	**Enshi**	**31.37**	**21**	*e*P		**P**	**16 08 19.9**	**-1.8**
	comp=Z,42nm,0.7s,mb5.4							
ENH				LR	LR			
	comp=Z,6μm,20.0s,MS5.3							
MBWA	**Marble Bar**	**31.47**	**136**	*e*P		**P**	**16 08 22.2**	**-0.5**
QZH	**Quanzhou**	**31.64**	**40**	P		**P**	**16 08 23.0**	**-1.2**
QZH				S		**S**	**16 13 32.8**	**+2.2**
QZH				AMB	AMB			
	comp=Z,150nm,1.1s,mb5.7							
QZH				AMB	AMB			
	comp=Z,670nm,5.2s							
QZH				LR	LR			
	comp=N,10μm,12.6s,MS5.8							
QZH				LR	LR			
	comp=E,7μm,12.9s,MS5.8							
QZH				LR	LR			
	comp=Z,11μm,11.9s,MS5.8							
LGTI	**Lohaghat**	**32.32**	**332**	*e*P		**P**	**16 08 30.5**	**+0.5**
LGTI				*e*			16 12 30.5	
PTH	**Pithoragarh**	**32.41**	**332**	*e*P		**P**	**16 08 32.0**	**+1.1**
PTH				*e*			16 12 29.0	
NACB	**Ninganchiao**	**33.14**	**44**	*e*P		**P**	**16 08 37.0**	**-0.2**
DDI	**Dehra Dun**	**34.10**	**330**	*e*P		**P**	**16 08 47.8**	**+2.3**
DDI				*e*			16 12 20.3	
FITZ	**Fitzroy Crossi**	**34.15**	**125**	*e*P		**P**	**16 08 45.6**	**-0.5**
	comp=Z,70nm,0.9s,mb5.6							
XAN	**Xi'an**	**34.64**	**18**	P		**P**	**16 08 47.8**	**-2.3**
XAN				AP	pP		16 08 57.0	-0.8
XAN				AMB	AMB			
	comp=Z,57nm,1.0s,mb5.5							
XAN				AMB	AMB			
	comp=Z,460nm,7.8s							
XAN				LR	LR			
	comp=N,5μm,13.1s,MS5.6							
XAN				LR	LR			
	comp=E,5μm,13.4s,MS5.6							
XAN				LR	LR			
	comp=Z,8μm,12.8s,MS5.7							
LZH	**Lanzhou**	**35.39**	**10**	P		**P**	**16 08 56.0**	**-0.5**
LZH				AP	pP		16 09 05.0	+0.8
LZH				XP	sP		16 09 07.5	0.0
LZH				PP	PP		16 10 13.0	-3.3
LZH				PPP	PPP		16 10 35.0	-0.1
LZH				AMB	AMB			
	comp=Z,170nm,1.1s,mb5.9							
LZH				AMB	AMB			
	comp=Z,960nm,4.0s							
LZH				LR	LR			
	comp=E,13μm,15.7s							
LZH				LR	LR			
	comp=Z,5μm,18.0s,MS5.3							
LZH	**Lanzhou**	**35.39**	**10**	P		**P**	**16 08 55.9**	**-0.6**
LZH				*PP			16 09 05.0	+0.8
LZH				*SP			16 09 07.4	-0.1
LZH							16 10 13.1	
LZH				PPP	PPP		16 10 35.0	-0.1
LZH				*eS*	**S**		**16 14 29.4**	**+0.8**
LZH				*SS			16 14 42.2	
LZH				SS	SS		16 16 49.2	+2.2
LZH				pmax	pmax			
	comp=Z,170nm,1.1s,mb5.9							
LZH				MLR	MLR			
	comp=Z,5μm,18.0s,MS5.3							
LZH	**Lanzhou**	**35.39**	**10**	P		**P**	**16 08 55.9**	**-0.6**
	comp=Z,170nm,1.1s,mb5.9							
LZH				pP	pP		16 09 05.0	+0.8
LZH				sP	sP		16 09 07.4	-0.1
LZH				PP	PP		16 10 13.1	-3.2
LZH				PPP	PPP		16 10 35.0	-0.1
LZH				*eS*	**S**		**16 14 29.4**	**+0.8**
LZH				sS			16 14 42.2	
LZH				SS	SS		16 16 49.2	+2.2
LZH				LR	LR			
	comp=Z,5μm,18.0s,MS5.3							
SDNR	**Sundarnagar**	**35.59**	**330**	*e*P		**P**	**16 08 58.0**	**-0.3**
THN	**Thein Dam**	**36.97**	**330**	*e*P		**P**	**16 09 10.6**	**+0.7**
NJ2	**Nanjing**	**37.10**	**32**	*e*P		**P**	**16 09 11.5**	**+0.5**
NJ2				AP	pP		16 09 19.0	+0.3
NJ2				XP	sP		16 09 22.3	+0.3
NJ2				PP	PP		16 10 38.3	+0.3
NJ2				AMB	AMB			
	comp=Z,30nm,0.9s,mb5.1							
NJ2				AMB	AMB			
	comp=Z,610nm,9.7s							
NJ2				LR	LR			
	comp=N,7μm,15.3s,MS5.8							
NJ2				LR	LR			
	comp=E,9μm,13.2s,MS5.8							
NJ2				LR	LR			
	comp=Z,6μm,13.1s,MS5.6							
SSE	**Sheshan**	**37.67**	**35**	P		**P**	**16 09 16.5**	**+0.8**
SSE				AP	pP		16 09 22.8	-0.7
SSE				S	**S**		**16 15 06.5**	**+2.8**
SSE				XS			16 15 17.0	
SSE				AMB	AMB			
	comp=Z,36nm,0.7s,mb5.2							
SSE				AMB	AMB			
	comp=Z,643nm,7.7s							
SSE				LR	LR			
	comp=N,2μm,14.7s,MS5.2							
SSE				LR	LR			
	comp=E,2μm,14.8s,MS5.2							
SSE				LR	LR			
	comp=Z,2μm,20.3s							
SSE	**Sheshan**	**37.67**	**35**	P		**P**	**16 09 16.6**	**+0.9**
	comp=Z,36nm,0.7s,mb5.2							
SSE				pP	pP		16 09 22.7	-0.8
SSE				sP	sP		16 09 25.4	-1.4
SSE				S	**S**		**16 15 06.4**	**+2.7**
SSE				sS			16 15 16.9	
SSE				SS	SS		16 17 53.0	+14
SSE				LR	LR			
	comp=Z,2μm,20.3s,MS4.8							
KAKA	**Kakadu**	**37.88**	**112**	*e*P		**P**	**16 09 18.9**	**+1.3**
	comp=Z,41nm,1.2s,mb5.0							
GTA	**Gaotai**	**38.20**	**4**	⇑P		**P**	**16 09 19.8**	**-0.3**
GTA				AP	pP		16 09 27.3	-0.6
GTA				XP	sP		16 09 30.5	-0.7
GTA				PP	PP		16 10 48.5	-2.5
GTA				PCP	PcP		16 11 35.5	+0.7
GTA				AMB	AMB			
	comp=Z,67nm,1.0s,mb5.3							
GTA				AMB	AMB			
	comp=Z,493nm,6.8s							
GTA				LR	LR			
	comp=N,3μm,12.6s,MS5.4							
GTA				LR	LR			
	comp=E,2μm,12.9s,MS5.4							
GTA				LR	LR			
	comp=Z,5μm,12.2s,MS5.5							
NWAO	**Narrogin (SRO)**	**38.94**	**152**	LR	LR		16 25 42.4	
	comp=Z,2μm,20.3s,MS4.9,baz=330,slow=36							
JOW	**Kunigami**	**39.54**	**47**	P		**P**	**16 09 31.9**	**+0.6**
	comp=Z,54nm,0.8s,mb5.3,baz=273,slow=11,SNR=8.0							
JOW				LR	LR		16 25 37.4	
	comp=Z,998nm,19.0s,MS4.7,baz=264,slow=36							
BTO	**Baotou**	**41.07**	**15**	*e*P		**P**	**16 09 45.3**	**+1.4**
BTO				AMB	AMB			
	comp=Z,39nm,1.0s,mb5.0							
HHC	**Hu-ho-hao-te**	**41.73**	**17**	*e*P		**P**	**16 09 50.3**	**+1.0**
HHC				AP	pP		16 09 58.0	+0.9
HHC				PP	PP		16 11 27.5	-1.4
HHC				S	**S**		**16 16 00.5**	**-4.0**
HHC				SCS	ScS		16 19 48.5	0.0
HHC				AMB	AMB			
	comp=Z,40nm,1.6s,mb4.8							
HHC				AMB	AMB			
	comp=Z,862nm,10.7s							
HHC				LR	LR			
	comp=N,6μm,13.1s,MS5.7							
HHC				LR	LR			
	comp=E,5μm,15.5s,MS5.7							
HHC				LR	LR			
	comp=Z,7μm,15.5s,MS5.7							
WRA	**Warramunga Arr**	**42.28**	**122**	P		**P**	**16 09 53.5**	**-0.6**
	comp=Z,62nm,0.9s,mb5.2,baz=300,slow=9.1,SNR=183							
WRAB	**Tennant Creek**	**42.28**	**122**	*e*P		**P**	**16 09 53.9**	**-0.2**
WRAB				pmax	pmax			
	comp=Z,103nm,0.9s,mb5.5							
WRAB	**Tennant Creek**	**42.28**	**122**	*e*P		**P**	**16 09 53.9**	**-0.2**
	comp=Z,103nm,0.9s,mb5.5							
WB2	**Warramunga Arr**	**42.29**	**122**⇓	*i* P		**P**	**16 09 53.8**	**-0.3**
WMQ	**Urumqi**	**43.29**	**350**	P		**P**	**16 10 02.8**	**+0.8**
WMQ				AP	pP		16 10 10.3	+0.4
WMQ				XP	sP		16 10 13.5	+0.4
WMQ				AMB	AMB			
	comp=Z,47nm,1.4s,mb5.0							
WMQ				AMB	AMB			
	comp=Z,803nm,4.6s							
WMQ				LR	LR			
	comp=N,2μm,17.4s,MS5.3							
WMQ				LR	LR			
	comp=E,2μm,14.1s,MS5.3							
WMQ				LR	LR			
	comp=Z,3μm,15.6s,MS5.2							
DL2	**Dalian**	**43.90**	**28**	P		**P**	**16 10 07.3**	**+0.3**
DL2				AP	pP		16 10 15.5	+0.6
DL2				AMB	AMB			
	comp=Z,60nm,1.2s,mb5.2							
DL2				LR	LR			
	comp=N,1μm,14.2s,MS5.3							
DL2				LR	LR			
	comp=E,3μm,14.1s,MS5.3							
DL2				LR	LR			
	comp=Z,2μm,13.3s,MS5.1							
JNU	**Nakatsue**	**45.08**	**42**	LR	LR		16 29 59.8	
	comp=Z,2μm,19.6s,MS5.0,baz=279,slow=37							
KZA	**Kyzart**	**45.17**	**337**	P		**P**	**16 10 18.0**	**+0.8**
	SNR=9.2							
INCN	**Inchon**	**45.40**	**34**	*e*P		**P**	**16 10 17.3**	**-1.7**
	comp=Z,83nm,1.2s,mb5.4							
UCH	**Uchtor**	**45.59**	**337**	P		**P**	**16 10 21.7**	**+1.2**
	SNR=7.3							
TKM2	**Tokmak 2**	**45.77**	**338**	P		**P**	**16 10 22.4**	**+0.5**
	SNR=21							
KBK	**Karagaybulak**	**45.78**	**337**	P		**P**	**16 10 23.6**	**+1.5**
	SNR=22							
AML	**Almayashu**	**45.84**	**336**	P		**P**	**16 10 23.2**	**+0.8**
	SNR=34							
AAK	**Ala-Archa**	**45.94**	**337**	*e*P		**P**	**16 10 22.3**	**-1.0**
AAK				pmax	pmax			
	comp=Z,43nm,1.2s,mb5.2							
AAK	**Ala-Archa**	**45.94**	**337**	*e*P		**P**	**16 10 22.3**	**-1.0**
	comp=Z,43nm,1.2s,mb5.2							
FRU	**Bishkek**	**46.06**	**337**	*e*P		**P**	**16 10 26.0**	**+1.8**
FRU				*e*		pP	16 10 35.0	+2.9
FRU				pmax	pmax			
	comp=Z,210nm,2.2s,mb5.7							
FRU				MLR	MLR			
	comp=Z,2μm,16.0s,MS5.1							
KS15	**Wonju Array Si**	**46.07**	**35**	*e*P		**P**	**16 10 24.1**	**-0.3**
CHMS	**Chumysh**	**46.15**	**337**	P		**P**	**16 10 24.9**	**-0.1**
	SNR=10.0							
EKS2	**Erkin-Say**	**46.25**	**336**	P		**P**	**16 10 26.6**	**+0.9**
	SNR=17							
USP	**Ospennovka**	**46.48**	**337**	P		**P**	**16 10 27.8**	**+0.3**
	SNR=49							
MKAR	**Makanchi Array**	**47.24**	**346**	P		**P**	**16 10 33.1**	**-0.4**
	comp=Z,51nm,0.8s,mb5.5,baz=159,slow=7.7,SNR=312							
MKAR				pP	pP		16 10 41.5	+0.1
	comp=Z,35nm,0.8s,baz=158,slow=7.7,SNR=18							
SONM	**Songino Array**	**47.26**	**9**	P		**P**	**16 10 33.5**	**-0.1**
	comp=Z,25nm,0.9s,mb5.2,baz=190,slow=7.5,SNR=120							
SONM				pP	pP		16 10 41.6	0.0
	comp=Z,33nm,0.9s,baz=192,slow=9.4,SNR=23							
SONM				PcP	PcP		16 12 04.5	-0.5
	comp=Z,7.1nm,0.7s,baz=195,slow=3.2,SNR=5.0							
ZAK	**Zakamensk**	**49.38**	**5**⇑	*i* P		**P**	**16 10 49.4**	**-0.7**
ZAK				pmax	pmax			
	comp=Z,19nm,1.3s,mb5.0							
ZAK				pmax	pmax			
	comp=Z,15nm,1.3s,mb4.9							
CN2	**Changchun**	**49.52**	**27**	*e*P		**P**	**16 10 49.8**	**-1.5**
CN2				AMB	AMB			
	comp=Z,30nm,1.1s,mb5.2							
CN2				AMB	AMB			
	comp=Z,1μm,8.0s							
CN2				LR	LR			
	comp=N,800nm,13.0s,MS5.0							
CN2				LR	LR			
	comp=E,600nm,13.0s,MS5.0							
CN2				LR	LR			
	comp=Z,1μm,15.0s,MS5.0							
PMG	**Port Moresby**	**51.16**	**103**	*e*P		**P**	**16 11 04.2**	**+0.1**
PMG				pmax	pmax			
	comp=Z,68nm,0.8s							
PMG				MLR	MLR			
	comp=Z,1μm,19.0s							
PMG	**Port Moresby**	**51.16**	**103**	*e*P		**P**	**16 11 04.2**	**0.0**
	comp=Z,68nm,0.8s,mb5.6							
PMG				LR	LR			
	comp=Z,1μm,19.0s,MS4.9							
HIA	**Hailar**	**51.82**	**19**	*e*P		**P**	**16 11 07.8**	**-0.9**
HIA				pmax	pmax			
	comp=Z,64nm,1.0s							
HIA				MLR	MLR			
	comp=Z,4μm,20.0s							
HIA	**Hailar**	**51.82**	**19**	*e*P		**P**	**16 11 07.8**	**-0.9**
	comp=Z,64nm,1.0s,mb5.5							
HIA				LR	LR			
	comp=Z,4μm,20.0s,MS5.5							
MAJO	**Matsushiro**	**51.97**	**42**	*e*P		**P**	**16 11 10.2**	**+0.2**
MAJO				pmax	pmax			
	comp=Z,32nm,1.2s,mb5.1							
MAJO	**Matsushiro**	**51.97**	**42**	*e*P		**P**	**16 11 10.2**	**+0.2**
	comp=Z,32nm,1.2s,mb5.1							
MAT	**Matsushiro**	**51.97**	**42**	*e*P		**P**	**16 11 10.0**	**0.0**
	comp=Z,31nm,1.2s,mb5.1							
MAT	**Matsushiro**	**51.97**	**42**	P		**P**	**16 11 09.7**	**-0.3**
MJAR	**Matsushiro Arr**	**51.97**	**42**	P		**P**	**16 11 09.3**	**-0.7**
	comp=Z,15nm,1.0s,mb4.9,baz=211,slow=5.1,SNR=33							
MJAR				pP	pP		16 11 17.6	-0.4
	comp=Z,18nm,1.1s,baz=221,slow=6.9,SNR=10							
MDJ	**Mudanjiang**	**52.10**	**29**	P		**P**	**16 11 11.0**	**+0.2**
MDJ				AP	pP		16 11 18.0	-0.8
MDJ				AMB	AMB			
	comp=Z,37nm,1.3s,mb5.2							
MDJ				AMB	AMB			
	comp=Z,618nm,5.2s							
MDJ				LR	LR			
	comp=N,1μm,18.9s,MS5.1							
MDJ				LR	LR			
	comp=E,868nm,18.4s,MS5.1							
MDJ				LR	LR			
	comp=Z,2μm,19.9s,MS5.1							
MDJ	**Mudanjiang**	**52.10**	**29**	*e*P		**P**	**16 11 10.5**	**-0.3**
	comp=Z,78nm,1.3s,mb5.5							
OPO	**Ambohidratompo**	**52.59**	**246**	P		**P**	**16 11 15.1**	**+0.3**
	comp=Z,12nm,1.0s,mb4.8,baz=56,slow=9.0,SNR=9.3							
CIT	**Chita**	**52.62**	**13**	*e*P		**P**	**16 11 04.5**	**-10**
CIT				*e*			16 18 40.0	
CIT				pmax	pmax			
	comp=Z,190nm,2.4s,mb5.6							
CTA	**Charters Tower**	**52.77**	**116**	*e*P		**P**	**16 11 16.8**	**+0.6**
	comp=Z,28nm,1.0s,mb5.2							
CTA				*e*S		**S**	**16 18 40.6**	**-0.5**
CTA	**Charters Tower**	**52.77**	**116**	*e*P		**P**	**16 11 16.8**	**+0.6**
CTA				*e*S		**S**	**16 18 40.6**	**-0.5**
CTA				pmax	pmax			
	comp=Z,28nm,1.0s							
CTAO	**Charters Tower**	**52.77**	**116**	*e*P		**P**	**16 11 15.8**	**-0.4**
CTAO				pmax	pmax			
	comp=Z,63nm,1.3s,mb5.4							
CTAO	**Charters Tower**	**52.77**	**116**	*e*P		**P**	**16 11 15.8**	**-0.3**
	comp=Z,63nm,1.3s,mb5.4							
STKA	**Stephens Creek**	**53.55**	**132**⇑	*i* P		**P**	**16 11 22.4**	**+0.6**
	comp=Z,22nm,0.8s,mb5.1							
STKA	**Stephens Creek**	**53.55**	**132**	P		**P**	**16 11 22.6**	**+0.8**
	comp=Z,22nm,0.8s,mb5.1,baz=308,slow=8.6,SNR=23							
STKA				pP	pP		16 11 30.4	+0.7
	comp=Z,27nm,0.8s,baz=326,slow=6.2,SNR=16							
STKA				LR	LR		16 36 17.6	
	comp=Z,3μm,20.9s,MS5.3,baz=296,slow=38							
ZAL	**Zalesovo**	**53.58**	**351**	P		**P**	**16 11 21.1**	**-0.5**
	comp=Z,30nm,0.7s,mb5.3,baz=302,slow=6.8,SNR=40							
ATD	**Arta Tunnel**	**54.58**	**283**	P		**P**	**16 11 29.7**	**+0.2**
	comp=Z,2.8nm,0.3s,mb4.8,baz=201,slow=5.3,SNR=3.7							
NVS	**Novosibirsk**	**54.70**	**350**	*e*P		**P**	**16 11 34.8**	**+4.9**
NVS				*e*S		**S**	**16 19 06.3**	**-0.4**
NVS				pmax	pmax			
	comp=Z,125nm,1.2s,mb5.8							
NVS				pmax	pmax			
	comp=N,43nm,1.1s							
NVS				smax				
	comp=E,81nm,1.9s							
BRVK	**Borovoye**	**56.28**	**341**	*e*P		**P**	**16 11 39.4**	**-1.9**
BRVK				pmax	pmax			
	comp=Z,33nm,1.2s,mb5.2							
BRVK	**Borovoye**	**56.28**	**341**	*e*P		**P**	**16 11 39.4**	**-1.9**
	comp=Z,33nm,1.2s,mb5.2							
KLR	**Kul'dur**	**56.47**	**27**	*e*P		**P**	**16 11 39.0**	**-3.8**
KLR				*e*			16 13 56.0	
KLR				*e*S		**S**	**16 19 26.0**	**-4.5**
KLR				*e*			16 23 21.5	
KLR				pmax	pmax			
	comp=N,40nm,1.8s							
KLR				pmax	pmax			
	comp=E,70nm

	comp=Z,48nm,0.9s,mb5.5								
ASAJ	**Asahikawa**	**58.92**	**37**	*e*P		**P**	**16 11 59.5**	**-0.6**
	comp=Z,5.6nm,0.6s,mb4.8,baz=256,slow=9.4,SNR=3.4								
KMBO	**Kilima Mbogo**	**59.65**	**268**	P		**P**	**16 12 05.6**	**0.0**
	comp=Z,4.3nm,0.8s,mb4.5,baz=57,slow=9.4,SNR=9.2								
KMBO				LR		LR	16 34 00.0		
	comp=Z,660nm,20.2s,MS4.8,baz=275,slow=32								
KMBO	**Kilima Mbogo**	**59.65**	**268**	P		**P**	**16 12 05.6**	**0.0**
KMBO				LR		LR	16 34 00.0		
YSS	**Yuzh-Sakhalins**	**60.60**	**34⇑**	*e*P		**P**	**16 12 12.0**	**+0.4**
YSS				*i*		pP	16 12 19.9	+0.2	
YSS				*e*			16 12 31.0		
YSS				*e*S		**S**	**16 20 32.0**	**+7.7**
YSS				*e*SS		SS	16 24 25.0	+1.0	
YSS				*e*SSS		SSS	16 26 56.0	-3.4	
YSS				pmax		pmax			
	comp=N,30nm,1.0s								
YSS				pmax		pmax			
	comp=Z,110nm,1.0s,mb5.9								
YSS				pmax		pmax			
	comp=E,20nm,0.8s								
YSS				pmax		pmax			
	comp=Z,190nm,1.3s,mb6.1								
YSS				MLR		MLR			
	comp=Z,2µm,16.0s,MS5.2								
YSS				MLR		MLR			
	comp=E,1µm,14.0s								
ARMA	**Armidale**	**60.76**	**126**	*e*P		**P**	**16 12 08.2**	**-4.7**
ARU	**Arti**	**63.13**	**337**	P		**P**	**16 12 26.9**	**-1.4**
ARU				pmax		pmax			
	comp=Z,33nm,1.1s,mb5.4								
ARU				MLR		MLR			
	comp=Z,229nm,22.0s,MS4.3								
ARU	**Arti**	**63.13**	**337**	P		**P**	**16 12 26.9**	**-1.4**
	comp=Z,33nm,1.1s,mb5.4								
ARU				LR		LR			
	comp=Z,229nm,22.0s,MS4.3								
HNR	**Honiara**	**63.67**	**101**	*e*P		**P**	**16 12 32.4**	**-0.3**
HNR				pmax		pmax			
	comp=Z,144nm,1.0s,mb6.0								
HNR	**Honiara**	**63.67**	**101**	*e*P		**P**	**16 12 32.4**	**-0.3**
	comp=Z,144nm,1.0s,mb6.0								
KIV	**Kislovodsk**	**64.15**	**319**	P		**P**	**16 12 35.9**	**+0.6**
KIV				pmax		pmax			
	comp=Z,30nm,1.0s,mb5.3								
KIV				MLR		MLR			
	comp=Z,126nm,20.0s								
KIV	**Kislovodsk**	**64.15**	**319**	P		**P**	**16 12 35.9**	**+0.6**
	comp=Z,30nm,1.0s,mb5.3								
KIV				LR		LR			
	comp=Z,126nm,20.0s								
EIL	**Elat**	**65.22**	**302**	P		**P**	**16 12 40.6**	**-1.8**
	comp=Z,29nm,1.0s,mb5.3								
YAK	**Yakutsk**	**65.59**	**16**	*e*P		**P**	**16 12 42.4**	**-1.9**
YAK				*e**PP		pP	16 12 51.2	-1.2	
BR131	**Keskin Array S**	**68.92**	**312**	*e*P		**P**	**16 13 05.2**	**-0.5**
	comp=Z,3.8nm,0.8s,mb4.4								
BR131				*e*pP		pP	16 13 12.5	-1.3	
BR131				LR		LR			
	comp=Z,426nm,19.0s,MS4.7								
BRTR	**Keskin Array B**	**68.92**	**312**	P		**P**	**16 13 04.5**	**-1.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=127,slow=7.2,SNR=3.7								
BRTR				pP		pP	16 13 12.8	-1.1	
	comp=Z,3.2nm,0.7s,baz=131,slow=6.9,SNR=6.0								
LSZ	**Lusaka**	**69.77**	**253**	*e*P		**P**	**16 13 11.0**	**-0.3**
LSZ				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
LSZ				MLR		MLR			
	comp=Z,1µm,19.0s,MS5.2								
LSZ	**Lusaka**	**69.77**	**253**	*e*P		**P**	**16 13 11.0**	**-0.2**
	comp=Z,3.8nm,0.8s,mb4.4								
LSZ				LR		LR			
	comp=Z,1µm,19.0s,MS5.2								
MATP	**Matopo**	**70.19**	**248**	P		**P**	**16 13 13.8**	**0.0**
	comp=Z,25nm,0.9s,mb5.1,baz=82,slow=6.0,SNR=35								
MATP				pP		pP	16 13 21.7	-0.2	
	comp=Z,26nm,1.0s,baz=80,slow=4.9,SNR=9.9								
MATP	**Matopo**	**70.19**	**248**	P		**P**	**16 13 13.8**	**0.0**
MATP				pP		pP	16 13 21.7	-0.2	
MA2	**Magadan**	**71.55**	**26**	*e*P		**P**	**16 13 20.5**	**-0.8**
MA2				*e**PP		pP	16 13 28.5	-1.0	
MA2				pmax		pmax			
	comp=Z,23nm,0.8s,mb5.2								
MA2	**Magadan**	**71.55**	**26**	*e*P		**P**	**16 13 20.5**	**-0.8**
	comp=Z,23nm,0.8s,mb5.2								
MA2				*e*pP		pP	16 13 28.4	-1.0	
PET	**Petropavlovsk**	**72.48**	**34**⇓	*i*P		**P**	**16 13 26.6**	**-0.4**
PET				*e*S		S	16 22 47.4	-0.7	
PET				pmax		pmax			
	comp=Z,55nm,0.8s,mb5.5								
PET				pmax		pmax			
	comp=Z,300nm,14.9s								
PET				MLR		MLR			
	comp=Z,900nm,16.0s,MS5.1								
PET	**Petropavlovsk**	**72.48**	**34**	*e*P		**P**	**16 13 26.1**	**-0.9**
	comp=Z,53nm,1.0s,mb5.4								
PET				*e*pP		pP	16 13 33.8	-1.4	
OBN	**Obninsk**	**72.51**	**328**	*e*P		**P**	**16 13 34.4**	**+7.3**
OBN				pmax		pmax			
	comp=Z,48nm,1.2s,mb5.3								
OBN				MLR		MLR			
	comp=Z,500nm,18.0s,MS4.8								
MAW	**Mawson**	**72.56**	**193**	*e*P		**P**	**16 13 27.9**	**+0.7**
	comp=Z,6.1nm,0.7s,mb4.6								
MAW	**Mawson**	**72.56**	**193**	*e*P		**P**	**16 13 27.9**	**+0.7**
MAW				pmax		pmax			
	comp=Z,6.0nm,0.7s								
MAW	**Mawson**	**72.56**	**193**	P		**P**	**16 13 28.3**	**+1.1**
	comp=Z,4.2nm,0.8s,mb4.4,baz=0.1,slow=7.2,SNR=11								
MAW				pP		pP	16 13 36.0	+0.7	
	comp=Z,6.8nm,0.7s,baz=334,slow=4.8,SNR=15								
MAW				LR		LR	16 41 53.0		
	comp=Z,432nm,18.6s,MS4.8,baz=39,slow=33								
LBTB	**Lobatse**	**73.55**	**244**	*e*P		**P**	**16 13 33.4**	**-0.4**
LBTB				pmax		pmax			
	comp=Z,24nm,1.1s,mb5.0								
LBTB				MLR		MLR			
	comp=Z,1µm,21.0s,MS5.1								
LBTB	**Lobatse**	**73.55**	**244**	P		**P**	**16 13 34.6**	**+0.8**
	comp=Z,15nm,0.8s,mb5.0,baz=108,slow=5.8,SNR=18								
LBTB	**Lobatse**	**73.55**	**244**	*e*P		**P**	**16 13 33.4**	**-0.5**
	comp=Z,24nm,1.1s,mb5.0								
LBTB				LR		LR			
	comp=Z,1µm,21.0s,MS5.1								
BOSA	**Boshof**	**74.45**	**240**	*e*P		**P**	**16 13 38.8**	**-0.2**
BOSA				pmax		pmax			
	comp=Z,74nm,1.8s,mb5.3								
BOSA	**Boshof**	**74.45**	**240**	P		**P**	**16 13 39.1**	**+0.2**
	comp=Z,7.3nm,0.8s,mb4.7,baz=87,slow=5.9,SNR=9.5								
BOSA	**Boshof**	**74.45**	**240**	*e*P		**P**	**16 13 38.8**	**-0.1**
	comp=Z,74nm,1.8s,mb5.3								
IDI	**Amoyia**	**74.68**	**306**	P		**P**	**16 13 39.8**	**-0.3**
	comp=Z,4.6nm,0.9s,mb4.4,baz=40,slow=5.7,SNR=4.1								
IDI				pP		pP	16 13 47.1	-1.2	
	comp=Z,7.7nm,0.9s,baz=125,slow=6.5,SNR=3.5								
AKASG	**Malin Array Be**	**75.12**	**323**	P		**P**	**16 13 40.6**	**-1.7**
AKASG	**Malin Array Be**	**75.12**	**323**	P		**P**	**16 13 40.5**	**-1.8**
	comp=Z,4.4nm,0.8s,mb4.5,baz=85,slow=4.8,SNR=7.4								
MLR	**Muntele Rosu**	**75.89**	**317**	P		**P**	**16 13 45.8**	**-1.0**
	comp=Z,3.2nm,0.8s,mb4.3,baz=172,slow=7.4,SNR=3.1								
MLR				pP		pP	16 13 55.0	-0.2	
	comp=Z,12nm,0.9s,baz=110,slow=1.9,SNR=6.2								
KOLS	**Kolonicke sedl**	**79.06**	**320**	*e*P		**P**	**16 14 03.8**	**-0.5**
KOLS				*e*pP		pP	16 14 13.8	+1.2	
KOLS	**Kolonicke sedl**	**79.06**	**320**	*e*		**P**	**16 14 03.8**	**-0.5**
KOLS				*e*		pP	16 14 13.8	+1.2	
APA	**Apatity**	**79.08**	**340**⇓	*i*P		**P**	**16 14 11.0**	**+6.9**
APA				*i*			16 17 10.0		
APA				*i*S		S	16 24 08.0	+7.7	
APA				pmax		pmax			
	comp=Z,36nm,1.2s,mb5.2								
APA				MLR		MLR			
	comp=Z,2µm,16.0s,MS5.6								
DIVS	**Divcibare**	**79.80**	**315⇑**	*i*P		**P**	**16 14 06.8**	**-1.6**
STHS	**Stebnicka Huta**	**79.81**	**320**	*e*P		**P**	**16 14 09.7**	**+1.3**
STHS	**Stebnicka Huta**	**79.81**	**320**	*e*		**P**	**16 14 09.7**	**+1.3**
SYO	**Syowa Base**	**79.83**	**198**	‖PcP		PcP	16 14 16.2	+0.2	
FINES	**FINESS Array B**	**79.91**	**333**	P		**P**	**16 14 08.1**	**-0.6**
	comp=Z,3.8nm,0.8s,mb4.4,baz=124,slow=6.9,SNR=5.4								
FINES				pP		pP	16 14 15.9	-1.0	
	comp=Z,2.9nm,0.6s,baz=124,slow=6.9,SNR=8.6								
FINES				LR		LR	16 55 01.3		
	comp=Z,790nm,19.9s,MS5.1,baz=295,slow=40								
KAF	**Kangasniemi**	**80.00**	**333**	*e*p		**P**	**16 14 07.1**	**-2.0**
	comp=Z,0.8nm,0.4s								
KECS	**Kecovo**	**80.15**	**319**	*e*P		**P**	**16 14 09.1**	**-1.1**
KECS				*e*pP		pP	16 14 18.4	-0.1	
KECS	**Kecovo**	**80.15**	**319**	*e*		**P**	**16 14 09.1**	**-1.1**
KECS				*e*		pP	16 14 18.4	-0.1	
FX1	**Attu Island--F**	**80.85**	**37**	P		**P**	**16 14 13.8**	**+0.1**
	comp=Z,11nm,0.7s,mb4.9,baz=6.3,slow=9.2,SNR=5.9								
FX1				pP		pP	16 14 22.6	+0.5	
	comp=Z,12nm,0.6s,baz=337,slow=7.7,SNR=6.9								
FX1	**Attu Island--F**	**80.85**	**37**	*e*P		**P**	**16 14 14.1**	**+0.3**
VYHS	**Vyhne**	**81.23**	**319**	*e*pP		pP	16 14 23.6	-0.6	
VYHS	**Vyhne**	**81.23**	**319**	*e*		**P**	**16 14 11.5**	**-4.4**
VYHS				*e*			16 14 23.6		
BILL	**Bilibino**	**81.36**	**21**	*e*P		**P**	**16 14 12.2**	**-3.9**
BILL				*i*			16 14 23.5		
BILL				pmax		pmax			
	comp=Z,8.0nm,1.2s,mb4.5								
BILL				MLR		MLR			
	comp=Z,2µm,17.0s,MS5.5								
BILL	**Bilibino**	**81.36**	**21**	*e*P		**P**	**16 14 15.0**	**-1.2**
	comp=Z,14nm,1.0s,mb4.8								
TIP	**Timpagrande**	**81.62**	**309**	*e*P		**P**	**16 14 17.5**	**-0.6**
OKC	**Ostrava-Krasne**	**81.87**	**320**	*e*P		**P**	**16 14 27.7**	**+8.5**
KEV	**Kevo**	**82.06**	**341**	*e*p		**P**	**16 14 26.2**	**+6.4**
	comp=Z,2.4nm,0.5s,mb4.4								
MORC	**Moravsky Berou**	**82.25**	**320**	*e*P		**P**	**16 14 20.8**	**-0.3**
MORC				pmax		pmax			
	comp=Z,12nm,1.2s,mb4.7								
MORC	**Moravsky Berou**	**82.25**	**320**	*e*P		**P**	**16 14 20.8**	**-0.3**
	comp=Z,12nm,1.2s,mb4.7								
ZST	**Bratislava**	**82.34**	**318**	*e*		**P**	**16 14 26.8**	**+5.2**
ZST	**Bratislava**	**82.34**	**318**	*e*		**P**	**16 14 26.8**	**+5.2**
ARCES	**ARCESS Array B**	**82.50**	**340**	P		**P**	**16 14 22.3**	**+0.3**
	comp=Z,1.7nm,0.4s,mb4.3,baz=153,slow=2.0,SNR=6.6								
ARCES				pP		pP	16 14 30.3	-0.1	
	comp=Z,10nm,0.9s,baz=79,slow=6.2,SNR=7.5								
DPC	**Dobruska-Polom**	**83.10**	**320**	*e*P		**P**	**16 14 21.2**	**-4.3**
DPC				*ex*		x	16 14 29.9		
BOJS	**Bojanci**	**83.32**	**316**	*e*P		**P**	**16 14 31.2**	**+4.4**
PERS	**Pernice**	**83.52**	**317**	*e*P		**P**	**16 14 31.1**	**+3.4**
LJU	**Ljubljana**	**83.87**	**316**	*e*P		**P**	**16 14 34.0**	**+4.4**
LJU				*e*			16 14 38.7		
PRU	**Pruhonice**	**84.20**	**320**	*e*P		**P**	**16 14 35.9**	**+4.7**
PVCC	**Panska Ves**	**84.23**	**321**	*e*P		**P**	**16 14 39.4**	**+8.1**
GERES	**GERESS Array B**	**84.65**	**319**	P		**P**	**16 14 34.0**	**+0.6**
	comp=Z,2.0nm,0.8s,mb4.3,baz=108,slow=4.2,SNR=10.0								
GERES				pP		pP	16 14 42.0	+0.2	
	comp=Z,1.7nm,0.9s,baz=80,slow=30,SNR=11								
CLL	**Collm**	**85.28**	**321**	P		**P**	**16 14 40.0**	**+3.5**
CLL				*i* *SP		sP	16 14 46.7	-0.9	
HFS	**Hagfors**	**85.62**	**330**	P		**P**	**16 14 37.9**	**-0.1**
	comp=Z,2.6nm,0.7s,mb4.6,baz=135,slow=8.4,SNR=5.0								
HFS				pP		pP	16 14 45.9	-0.5	
	comp=Z,2.8nm,0.5s,baz=135,slow=2.1,SNR=6.3								
VNDA	**Vanda**	**85.81**	**169**	*e*P		**P**	**16 14 40.1**	**+1.4**
VNDA				pmax		pmax			
	comp=Z,6.0nm,1.1s								
VNDA	**Vanda**	**85.81**	**169**	P		**P**	**16 14 40.0**	**+1.3**
	comp=Z,1.5nm,0.7s,mb4.3,baz=306,slow=5.6,SNR=7.2								
VNDA				LR		LR	16 52 17.2		
	comp=Z,471nm,18.3s,MS4.9,baz=132,slow=35								
VNDA	**Vanda**	**85.81**	**169**	*e*P		**P**	**16 14 40.1**	**+1.4**
	comp=Z,5.9nm,1.1s,mb4.7								
MOX	**Moxa**	**86.12**	**321**	*e*P		**P**	**16 14 48.0**	**+7.3**
GRA1	**Grafenberg Arr**	**86.33**	**320**	*e*P		**P**	**16 14 44.9**	**+3.2**
	comp=Z,17nm,1.4s,mb5.1								
GRF	**Grafenberg Arr**	**86.33**	**320**	*e*P		**P**	**16 14 44.9**	**+3.2**
GRF				pmax		pmax			
	comp=Z,17nm,1.4s,mb5.1								
GRF	**Grafenberg Arr**	**86.33**	**320**	*e*P		**P**	**16 14 44.9**	**+3.2**
GRF				pmax		pmax			
	comp=Z,17nm,1.4s,mb5.1								
GRF	**Grafenberg Arr**	**86.33**	**320**	*e*P		**P**	**16 14 44.9**	**+3.2**
	comp=Z,17nm,1.4s,mb5.1								
RAO	**Raoul Island**	**86.36**	**119**	LR		LR	16 54 41.2		
	comp=Z,672nm,20.3s,MS5.0,baz=193,slow=36								
NB2	**NORSAR Subarra**	**86.91**	**331**	P		**P**	**16 14 43.7**	**-0.6**
	comp=Z,4.6nm,0.8s,mb4.8,baz=94,slow=5.0								
NB2	**NORSAR Subarra**	**86.91**	**331**	P		**P**	**16 14 43.7**	**-0.6**
NB2				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.8								
NOA	**NORSAR Array B**	**86.91**	**331**	P		**P**	**16 14 44.1**	**-0.2**
	comp=Z,3.5nm,0.8s,mb4.7,baz=94,slow=4.9,SNR=7.1								
NOA				pP		pP	16 14 51.8	-0.9	
	comp=Z,4.6nm,0.9s,baz=94,slow=4.9,SNR=5.4								
NOA				LR		LR	16 58 07.4		
	comp=Z,602nm,21.9s,MS5.0,baz=80,slow=39								
DAVOX	**Davos**	**87.12**	**317**	P		**P**	**16 14 45.5**	**-0.1**
	comp=Z,3.7nm,0.7s,mb4.7,baz=102,slow=11,SNR=4.1								
DAVOX				pP		pP	16 14 53.2	-0.8	
	comp=Z,5.0nm,0.6s,baz=196,slow=3.3,SNR=4.7								
MAIT	**Maitri**	**89.44**	**199**	*e*P		**P**	**16 14 53.3**	**-2.9**
SNAA	**Sanae**	**94.12**	**198**	*e*P		**P**	**16 15 19.6**	**+1.8**
SNAA				pmax		pmax			
	comp=Z,13nm,1.6s								
SNAA	**Sanae**	**94.12**	**198**	*e*P		**P**	**16 15 19.6**	**+1.8**
	comp=Z,13nm,1.6s,mb5.1								
EKA	**Eskdalemuir Ar**	**94.79**	**326**	P		**P**	**16 15 21.4**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.6,baz=97,slow=6.7,SNR=6.0								
EKA				pP		pP	16 15 29.6	0.0	
	comp=Z,2.4nm,0.7s,baz=100,slow=5.2,SNR=6.1								
IMA	**Indian Mountai**	**96.78**	**23**	*e*P		**P**	**16 15 29.4**	**-0.7**
IMA				pmax		pmax			
	comp=Z,47nm,0.6s,mb6.1								
IMA	**Indian Mountai**	**96.78**	**23**	*e*P		**P**	**16 15 29.4**	**-0.7**
	comp=Z,47nm,0.6s,mb6.1								
ESDC	**Sonseca Array**	**97.62**	**310**	P		**P**	**16 15 35.6**	**+1.1**
	comp=Z,0.2nm,0.3s,mb4.1,baz=319,slow=19,SNR=2.5								
ILAR	**Eielson Array**	**99.90**	**23**	PP		PP	16 19 44.8	-6.9	
	comp=Z,1.1nm,0.9s,baz=302,slow=7.3,SNR=4.8								
ILAR				PKKPbc			16 32 09.8		
	comp=Z,0.8nm,1.1s,baz=144,slow=1.7,SNR=6.3								
ILAR				LR		LR	17 04 49.2		
	comp=Z,462nm,18.8s,MS5.0,baz=172,slow=38								
YKA	**Yellowknife Ar**	**112.25**	**15**	PP		PP	16 21 22.6	-0.9	
	comp=Z,3.3nm,0.9s,baz=330,slow=7.9,SNR=6.8								
BOZ	**Bozeman (W)**	**127.05**	**25**	*e*PKPdf		PKPdf	16 21 05.1	-2.6	
ULM	**Lac du Bonnet**	**127.61**	**10**	PKP		PKPdf	16 21 05.2	-3.5	
	comp=Z,3.4nm,0.8s,baz=299,slow=9.3,SNR=3.3								
RRI2	**Red Ridge**	**129.02**	**26**	*e*PKPdf		PKPdf	16 21 09.1	-2.4	
ELK	**Elko**	**129.11**	**31**	*e*PKPdf		PKPdf	16 21 10.3	-1.5	
ELK				*ep*PKPdf			16 21 18.1		
LOHW	**Long Hollow**	**129.12**	**26**	*e*PKPdf		PKPdf	16 21 09.4	-2.3	
PDAR	**Pinedale Array**	**130.25**	**25**	PKP		PKPdf	16 21 08.6	-5.3	
	comp=Z,0.8nm,0.8s,baz=180,slow=1.5,SNR=5.5								
PDAR				PP		PP	16 23 24.9	-1.9	
	comp=Z,2.4nm,1.0s,slow=4.4,SNR=5.8								
MSU	**Marysvale**	**132.35**	**31**	*e*PKPdf		PKPdf	16 21 16.3	-1.7	
SRU	**San Rafael**	**132.72**	**29**	*e*PKPdf		PKPdf	16 21 16.0	-2.7	
SRU				*ep*PKPdf			16 21 24.3		
NEN	**Nelson**	**132.96**	**36**	*e*PKPdf		PKPdf	16 21 16.1	-3.1	
SDCO	**Great Sand Dun**	**136.15**	**26**	*e*PKPdf		PKPdf	16 21 20.1	-4.9	
ANMO	**Albuquerque**	**138.00**	**29**	*e*PKPdf		PKPdf	16 21 26.5	-2.0	
MNTX	**Cornudas Mount**	**141.13**	**31**	*e*PKPdf		PKPdf	16 21 31.5	-2.9	
LTX	**Lajitas**	**143.91**	**31**	*e*PKPdf		PKPdf	16 21 34.4	-4.8	
TXAR	**Lajitas Array**	**143.91**	**31**	PKP		PKPdf	16 21 34.5	-4.6	
	comp=Z,4.5nm,0.9s,baz=270,slow=1.3,SNR=21								
TXAR				pPKP			16 21 42.9		
	comp=Z,12nm,1.1s,baz=270,slow=2.5,SNR=11								
TXAR				PP		PP	16 24 56.1	+4.2	
	comp=Z,1.9nm,1.1s,baz=333,slow=2.8,SNR=3.9								
CPUP	**Villa Florida**	**144.72**	**223**	PKP		PKPdf	16 21 36.5	-4.2	
	comp=Z,14nm,1.0s,baz=133,slow=2.8,SNR=16								
CPUP				pPKP			16 21 45.0		
	comp=Z,21nm,0.8s,baz=142,slow=2.6,SNR=21								
CPUP	**Villa Florida**	**144.72**	**223**	*e*PKPdf		PKPdf	16 21 37.2	-3.5	
JSC	**Jenkinsville**	**144.74**	**357**	*e*PKPdf		PKPdf	16 21 35.6	-4.9	
COW	**Cow Castle Cre**	**145.60**	**356**	*e*PKPbc		PKPbc	16 21 39.0	+1.0	
LRAL	**Lakeview Retre**	**145.83**	**6**	*e*PKPdf		PKPdf	16 21 38.7	-3.7	
NHSC	**New Hope**	**145.84**	**356**	*e*PKPbc		PKPbc	16 21 39.8	+1.2	
CFAA	**Coronel Fontan**	**146.57**	**203**	PKPbc		PKPbc	16 21 42.0	+1.7	
	comp=Z,1.8nm,0.6s,baz=154,slow=4.3,SNR=22								
SIV	**San Ignacio**	**153.71**	**235**	PKPbc		PKPdf	16 22 00.0	+5.0	
	comp=Z,1.3nm,0.8s,baz=270,slow=2.2,SNR=6.4								
SIV				PKPab		PKPab	16 22 13.0	-0.4	
	comp=Z,1.7nm,0.6s,baz=146,slow=6.3,SNR=5.9								
LVC	**Limon Verde**	**154.55**	**212**	PKPbc		PKPdf	16 22 03.5	+7.5	
	comp=Z,1.7nm,0.6s,baz=153,slow=7.2,SNR=2.7								
LVC				pPKPbc			16 22 11.6		
	comp=Z,2.8nm,0.6s,baz=249,slow=1.4,SNR=5.2								

*CSEM **25** 16:02:03.9, 71.34N×7.52W, h10km, mb5.5*
*MOS **25** 16:02:05.7±0.9, 71.09N×7.57W, h10km, mb5.6/99, MS4.9/39, Error ellipse: s-maj=14.3km s-min=2.6km az=99.8*

*NAO **25** 16:02:06.5±1.8, 70.95N×7.43W, ML5.5*
*IDC **25** 16:02:06.3±0.3, 71.04N×7.65W, mb4.8/30, mb1 4.9/34, mb1mx4.9/38, mbtmp4.8/34, ML4.2/4, MS4.8/26, Ms1 4.8/26, ms1mx4.7/31, Error ellipse: s-maj=13.1km s-min=8.2km az=35.0*
*BER **25** 16:02:06.1±2.4, 71.42N×8.30W, h10km, MD4.7, ML4.3, ML5.5(NAO)*
*HRVD **25** 16:02:07.6±0.1, 71.10N×7.26W, h12km, MW5.5/70, Centroid moment Tensor Solution. LP body waves: s54,c117;Mantle waves: s70,c154; Half duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr 1.27±.03; Mθθ-0.70±.03; Mφφ-0.56±.03; Mrθ 0.14±.08; Mθφ 1.38±.03; Mφr 0.70±.08; Best double couple: M0 1.876×10^17 NP1: φs 104°, δ47°, λ44°. NP2: φs 341°, δ59°, λ128°. Principal axes: T 1.694, Plg57°, Azm304°; N .37, Plg32°, Azm139°; P -2.059, Plg7°, Azm45°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **25** 16:02:07.5, 71.10N×7.40W, h10km, mB5.9, mb5.2, Ms5.5, Msz5.4*
*NEIC **25** 16:02:07.6±0.1, 71.11N×7.43W, h10km, mb5.5/180, MS4.6/19, MW5.5, Error ellipse: s-maj=3.1km s-min=1.6km az=46.0, Moment Tensor Solution. s29 Moment tensor: Scale 10^17Nm; Mrr 1.76; Mθθ-1.33; Mφφ-0.42; Mrθ-0.23; Mθφ 1.06; Mφr-0.68; Best double couple: M0 2×10^17 NP1: φs 283°, δ46°, λ60°. NP2: φs 144°, δ52°, λ118°. Principal axes: T 2.04, Plg68°, Azm117°; N 0, Plg21°, Azm305°; P -2.04, Plg3°, Azm214°;*
NEIC Felt on Jan Mayen.
*ZUR_RM **25** 16:02:07, 71.11N×7.43W, h4km, Mw5.4/16, Moment Tensor Solution. s16 Moment tensor: Scale 10^17Nm; Mrr 1.14; Mθθ-0.64; Mφφ-0.50; Mrθ-0.46; Mθφ 1.10; Mφr 0.24; Best double couple: M0 1.51×10^17 NP1: φs 303°, δ56°, λ77°. NP2: φs 145°, δ36°, λ108°. Principal axes: T 1.255, Plg76°, Azm175°; N .508, Plg11°, Azm311°; P -1.763, Plg10°, Azm43°;*
*BGS **25** 16:02:14.1±2.3, 70.59N×5.56W, h10km, mb5.4, MS4.4*

ISC 25 16:02:06.7±0.1, 71.10N±0.01×7.57W±0.04, h15km, h15km±1.6km: pP-P, n1073, σ1 08/1095, mb5.3/223, MS5.0/71, 29C-34D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.26**	**246**⇓	*i*P	**Pb**	**16 02 13.1**	**+0.5**
JNE	**Jan Mayen East**	**0.26**	**246**⇓	*i*P	**Pb**	**16 02 13.0**	**+0.4**
JNW	**Jan Mayen West**	**0.29**	**256**⇓	*i*P	**Pb**	**16 02 13.5**	**+0.5**
JNW	**Jan Mayen West**	**0.29**	**256**⇓	*i*P	**Pb**	**16 02 13.5**	**+0.5**
JMIC	**Jan Mayen**	**0.33**	**251**	Pg	**Pb**	**16 02 14.0**	**+0.3**
JMIC	**Jan Mayen**	**0.33**	**251**	Pn	**Pn**	**16 02 13.6**	**-2.9**
	15µm,0.3s,baz=107,slow=4.0						
JMIC				Sn	**Sn**	**16 02 19.7**	**-3.1**
	23µm,0.3s,baz=347,slow=14,SNR=40						
JMIC	**Jan Mayen**	**0.33**	**251**⇓	*i*P	**Pb**	**16 02 13.8**	**+0.1**
JMIC				*e*S	**Sb**	**16 02 19.8**	**+1.3**
JMI	**Jan Mayen**	**0.42**	**246**⇓	*i*P	**Pb**	**16 02 15.5**	**+0.3**
JMI				*e*S	**Sb**	**16 02 21.6**	**+0.6**
JMI	**Jan Mayen**	**0.42**	**246**⇓	*i*P	**Pb**	**16 02 15.6**	**+0.4**
JMI				*e*S	**Sb**	**16 02 21.8**	**+0.8**
JMI				AML	AML	16 02 24.2

OHO **Hoy** 12.45 170 *e*P **P** **16 05 03.7 -2.2**
NB2 **NORSAR Subarra** 12.57 134 Pn **P** **16 05 01.9 -5.6**
baz=324,slow=16
NB2 **NORSAR Subarra** 12.57 134 Pn **P** **16 05 02.2 -5.3**
comp=Z,21nm,0.8s,baz=330,slow=14
NB2 **NORSAR Subarra** 12.57 134 P **P** **16 05 02.2 -5.3**
NB2 pmax pmax
comp=Z,21nm,0.8s
NOA **NORSAR Array B** 12.57 134 Pn **P** **16 05 02.1 -5.5**
comp=Z,1.6nm,0.3s,baz=333,slow=12,SNR=26
NOA Sn **S** **16 07 22.3 -5.9**
comp=Z,1.4nm,0.3s,baz=348,slow=22,SNR=2.7
NOA LR LR 16 09 32.3
comp=Z,3μm,21.2s,baz=330,slow=36
ODD1 **Odda** 12.62 146 *e*P **P** **16 05 02.6 -5.8**
NAO01 **NORSAR Array S** 12.66 135 *e*Pn **P** **16 05 05.3 -3.6**
comp=Z,31nm,0.6s
NAO01 **NORSAR Array S** 12.66 135 *e*Pn **P** **16 05 05.3 -3.5**
comp=Z,31nm,0.6s
ORE **Reay** 12.70 171 *e*P **P** **16 05 05.6 -3.7**
OTO **Tongue** 12.72 172 *e*P **P** **16 05 07.2 -2.5**
KMY **Karmoy** 13.04 150 *e*P **P** **16 05 08.5 -5.4**
BLS5 **Blasjo** 13.05 147 *e*P **P** **16 05 09.8 -4.2**
MVH1 **Achvaich** 13.30 172 *e*P **P** **16 05 14.9 -2.5**
KONO **Kongsberg** 13.45 140 *e*P **P** **16 05 14.7 -4.6**
KONO pmax pmax
comp=Z,71nm,1.0s
KONO **Kongsberg** 13.45 140 *e*Pn **P** **16 05 14.7 -4.6**
comp=Z,71nm,1.0s
KONO **Kongsberg** 13.45 140 *e*Pn **P** **16 05 14.7 -4.6**
comp=Z,71nm,1.0s
MCD **Coleburn Disti** 13.69 170 *e*P **P** **16 05 20.7 -1.5**
HFA0 **Hagfors New Ar** 13.95 131 Pn **P** **16 05 22.7 -2.9**
HFS **Hagfors** 13.96 131 P **P** **16 05 22.1 -3.6**
baz=324,slow=16
HFS **Hagfors** 13.96 131 Pn **P** **16 05 23.2 -2.5**
comp=Z,0.4nm,0.3s,baz=326,slow=11,SNR=47
HFS LR LR 16 10 27.2
comp=Z,5μm,20.5s,baz=327,slow=36
SNART **Snarteno** 14.21 147 *e*P **P** **16 05 25.3 -3.7**
APA0 **Apatity Array** 14.51 84 P **P** **16 05 31.0 -1.9**
baz=310,slow=14
APA **Apatity** 14.66 84 *e*P **P** **16 05 33.5 -1.4**
APA *i* S **S** **16 08 12.0 -5.9**
APA pmax pmax
comp=Z,128nm,1.5s
APA MLR MLR
comp=Z,6μm,14.0s
APA **Apatity** 14.66 84 *e*P **P** **16 05 33.5 -1.4**
comp=Z,128nm,1.5s
LVZ **Lovozero** 14.89 82 *e*P **P** **16 05 34.9 -3.0**
LVZ pmax pmax
comp=Z,89nm,1.1s
LVZ pmax pmax
comp=N,55nm,1.3s
LVZ pmax pmax
comp=E,45nm,0.8s
LVZ MLR MLR
comp=Z,6μm,19.0s
LVZ MLR MLR
comp=N,2μm,11.0s
LVZ MLR MLR
comp=E,3μm,15.0s
LVZ **Lovozero** 14.89 82 *i* P **P** **16 05 34.0 -3.9**
LVZ **Lovozero** 14.89 82 *e*P **P** **16 05 34.9 -3.0**
comp=E,2μm,11.0s
EBL **Broad Law** 15.51 170 AMb AMB 16 05 54.6
comp=E,181nm,1.8s
EBL AMS AMS 16 12 21.4
comp=E,2μm,16.9s
EBL **Broad Law** 15.51 170 AMb AMB 16 05 54.6
comp=Z,181nm,1.8s
EBL AMS AMS 16 12 21.4
comp=Z,2μm,16.9s
SFJD **Kangerlussuaq** 15.65 276 *i* P **P** **16 05 44.2 -3.6**
comp=Z,379nm,1.2s
comp=Z,4μm,16.0s
KAF **Kangasniemi** 15.93 107 *e*p **P** **16 05 48.0 -3.4**
comp=Z,29nm,0.7s
EKA **Eskdalemuir Ar** 15.94 171 Pn **P** **16 05 51.0 -0.7**
comp=Z,1.0nm,0.3s,baz=356,slow=13,SNR=19
EKA Sn **S** **16 08 42.4 -5.7**
comp=Z,1.0nm,0.3s,baz=356,slow=24,SNR=5.3
ESK **Eskdalemuir** 15.96 171 *e*P **P** **16 05 52.5 +0.7**
ESK pmax pmax
comp=Z,189nm,1.2s
ESK **Eskdalemuir** 15.96 171 *e*P **P** **16 05 52.5 +0.7**
comp=Z,189nm,1.2s
ESK **Eskdalemuir** 15.96 171 *e*P **P** **16 05 51.4 -0.5**
ESK AMb AMB 16 06 02.9
comp=Z,222nm,1.5s
ESK AMS AMS 16 12 19.5
comp=Z,2μm,16.6s
ESK **Eskdalemuir** 15.96 171 *e*P **P** **16 05 52.5 +0.7**
comp=Z,189nm,1.2s
MUD **Monsted U'grnd** 16.34 145 *e*P **P** **16 06 00.6 +3.8**
MUD pmax pmax
comp=Z,8.0nm,0.4s
MUD MLR MLR
comp=Z,880nm,16.0s
MUD **Monsted U'grnd** 16.34 145 *i* P **P** **16 06 00.6 +3.8**
comp=Z,7.8nm,0.4s
MUD *i* S **S** **16 09 10.6 +13**
comp=Z,870nm,16.0s
FIA0 **FINESS Array S** 16.37 109 P **P** **16 05 55.1 -1.9**
baz=322,slow=14
FINES **FINESS Array B** 16.37 109 Pn **P** **16 05 56.3 -0.7**
comp=Z,1.1nm,0.3s,baz=307,slow=9.5,SNR=28
FINES LR LR 16 11 36.9
comp=Z,4μm,18.3s,baz=317,slow=35
COP **Copenhagen** 17.71 140 *i* P **P** **16 06 12.1 -1.8**
comp=Z,32nm,0.7s
COP *i* S **S** **16 09 30.6 +2.0**
comp=Z,770nm,14.0s
LHO **Holmfirth** 17.80 169 *e*P **P** **16 06 14.9 -0.2**
DCN **Croghan** 17.82 179 *e*P **P** **16 06 14.7 -0.6**
DLF **Lyons Farm** 17.88 178 *e*P **P** **16 06 15.2 -0.8**
DSB **Dublin** 17.93 178 *e*P **P** **16 06 17.2 +0.6**
comp=Z,95nm,1.0s
DSB **Dublin** 17.93 178 *e*P **P** **16 06 17.2 +0.6**
comp=Z,95nm,1.0s
BSD **Bornholm Skovb** 18.77 137 *i* P **P** **16 06 30.5 +3.4**
BSD pmax pmax
comp=Z,64nm,1.0s
BSD **Bornholm Skovb** 18.77 137 *i* P **P** **16 06 30.5 +3.4**
comp=Z,64nm,1.0s
SSP1 **Stoney Pound** 18.86 172 *e*P **P** **16 06 28.2 +0.1**
VSU **Vasula** 18.95 114 P **P** **16 06 27.2 -2.0**
VSU **Vasula** 18.95 114 *i* P **P** **16 06 27.2 -2.0**
VSU **Vasula** 18.95 114 *i* P **P** **16 06 27.1 -2.1**
RGN **Rugen** 18.96 140 P **P** **16 06 28.4 -0.9**
comp=Z,149nm,1.1s
RGN **Rugen** 18.96 140 P **P** **16 06 28.4 -0.9**
comp=Z,149nm,1.1s
PUL **Pulkovo** 18.99 107 *e*P **P** **16 06 27.2 -2.4**
PUL *e*S **S** **16 10 05.8 +8.2**
PUL pmax pmax
comp=Z,81nm,0.6s
PUL MLR MLR
comp=Z,4μm,13.0s
PUL MLR MLR
comp=N,3μm,12.0s
PUL MLR MLR
comp=E,982nm,10.0s
PUL **Pulkovo** 18.99 107 *e*P **P** **16 06 27.2 -2.4**
comp=E,81nm,0.6s
HTR **Trewern Hill** 19.19 172 *e*P **P** **16 06 30.3 -1.8**
VAL **Valentia** 19.27 185 *e*P **P** **16 06 33.8 +0.9**
VAL *i* S **S** **16 10 12.3 +8.3**
MCH1 **Michaelchurch** 19.28 171 AMb AMB 16 06 41.5
comp=E,143nm,1.2s
MCH1 AMS AMS 16 14 38.2
comp=E,2μm,16.3s
MCH1 **Michaelchurch** 19.28 171 AMb AMB 16 06 41.5
comp=Z,143nm,1.2s
MCH1 AMS AMS 16 14 38.2
comp=Z,2μm,16.3s
WIT **Witteveen** 19.43 153 *e*P **P** **16 06 36.8 +2.0**
HGH **Gray Hill** 19.65 171 *e*P **P** **16 06 36.5 -0.9**
HTL **Hartland** 20.22 174 AMS AMS 16 14 35.6
comp=Z,2μm,18.8s
HTL **Hartland** 20.22 174 AMS AMS 16 14 35.6
comp=Z,2μm,18.8s,MS4.5
WTSB **Winterswijk** 20.27 154 *e*P **P** **16 06 42.6 -1.4**
comp=Z,228nm,1.2s
BUG **Bochum--Univer** 20.85 153 P **P** **16 06 49.0 -1.0**
BUG **Bochum--Univer** 20.85 153 *e*P **P** **16 06 48.2 -1.8**
comp=Z,520nm,1.7s
CLZ **Clausthal** 20.96 148 *e*P **P** **16 06 49.9 -1.2**
CLZ pmax pmax
comp=Z,79nm,1.2s
CLZ **Clausthal** 20.96 148 *e*P **P** **16 06 49.9 -1.2**
comp=Z,79nm,1.2s
RUE **Ruedersdorf** 21.00 142 *e*P **P** **16 06 50.4 -1.1**
comp=Z,224nm,1.1s
RUE **Ruedersdorf** 21.00 142 *e*P **P** **16 06 52.0 +0.5**
comp=Z,263nm,1.2s
GKP **Gorka Klasztor** 21.00 135 *e*P **P** **16 06 51.1 -0.4**
GKP *e*pP 16 06 53.7
GKP *e*S **S** **16 10 46.4 +6.4**
GKP LR LR
comp=Z,6μm,13.6s,MS5.1
GKP **Gorka Klasztor** 21.00 135 *e*P **P** **16 06 51.1 -0.4**
GKP *e*pP 16 06 53.7
GKP *e*S **S** **16 10 46.4 +6.4**
GKP MLR MLR 16 16 17.5
comp=Z,6μm,13.6s,MS5.1
MENF **Mencas** 21.09 163 *e*P **P** **16 06 51.9 -0.6**
ISAL **Salakas** 21.23 120 *e*P **P** **16 06 51.7 -2.1**
ISAL AMb AMB 16 06 59.9
comp=Z,51nm,1.0s,mb4.8
HGN **Heimansgroeve** 21.32 156 *e*P **P** **16 06 52.5 -2.3**
comp=Z,152nm,1.3s,mb5.2
HGN *e*S **S** **16 10 47.7 +1.5**
IIGN **Ignalina** 21.45 120 *e*P **P** **16 06 51.7 -4.3**
IDID **Didziasalis** 21.63 119 *e*P **P** **16 06 56.1 -1.7**
SUW **Suwalki** 21.80 126 *e*P **P** **16 07 01.0 +1.4**
SUW *e*pP 16 07 07.3
SUW *e*S **S** **16 10 59.4 +4.4**
SUW **Suwalki** 21.80 126 *e*P **P** **16 07 01.0 +1.4**
SUW *e*pP 16 07 07.3
SUW *e*S **S** **16 10 59.4 +4.4**
SUW MLR MLR 16 14 56.2
comp=Z,6μm,19.2s,MS5.0
BAIF **Baives** 21.80 159 *e*P **P** **16 06 58.2 -1.5**
comp=Z,211nm,1.2s,mb5.1
BAIF **Baives** 21.80 159 *e*P **P** **16 06 58.2 -1.5**
BAIF pmax pmax
comp=Z,105nm,1.2s,mb5.1
GIVF **Givet** 21.83 158 *e*P **P** **16 06 58.8 -1.2**
comp=Z,164nm,0.9s,mb5.2
GIVF **Givet** 21.83 158 *e*P **P** **16 06 58.8 -1.2**
GIVF pmax pmax
comp=Z,82nm,0.9s,mb5.2
CLL **Collm** 21.95 144 *e*P **P** **16 07 00.0 -1.2**
CLL *e*S **S** **16 11 02.0 +4.1**
CLL pmax pmax
comp=Z,238nm,1.3s,mb5.5
CLL MLR MLR
comp=Z,1μm,18.9s,MS4.4
CLL **Collm** 21.95 144 *e*P **P** **16 07 00.0 -1.2**
comp=Z,238nm,1.3s,mb5.5
CLL *e*S **S** **16 11 02.0 +4.1**
CLL LR LR
comp=Z,1μm,18.9s,MS4.4
CLL **Collm** 21.95 144 P **P** **16 07 00.0 -1.2**
comp=Z,logA/T=2.3,mb5.5
CLL *e*S **S** **16 11 02.0 +4.1**
CLL **Collm** 21.95 144 *e*P **P** **16 07 00.5 -0.7**
comp=Z,238nm,1.3s,mb5.5
CLL *e*S **S** **16 11 07.3 +9.4**
NE53 **Naroch'** 22.00 120 *e*PcP PcP 16 10 58.0 -2.6
TNS **Taunus Mts** 22.21 152 *e*P **P** **16 07 03.2 -0.5**
TNS pmax pmax
comp=Z,60nm,0.7s,mb5.1
TNS **Taunus Mts** 22.21 152 *e*P **P** **16 07 03.2 -0.5**
comp=Z,60nm,0.7s,mb5.1
MOX **Moxa** 22.33 147 *i* P **P** **16 07 04.9 0.0**
MOX *e*S **S** **16 11 09.0 +4.2**
MOX pmax pmax
comp=Z,382nm,1.5s,mb5.6
MOX MLR MLR
comp=Z,2μm,16.0s,MS4.7
MOX **Moxa** 22.33 147 *i* P **P** **16 07 04.9 0.0**
comp=Z,382nm,1.5s,mb5.6
MOX *e*S **S** **16 11 09.0 +4.2**
MOX LR LR
comp=Z,2μm,16.0s,MS4.7
MOX **Moxa** 22.33 147 *i* P **P** **16 07 04.9 0.0**
comp=Z,logA/T=2.4,mb5.6
MOX S **S** **16 11 09.0 +4.2**
MOX L 16 17 25.0
MOX **Moxa** 22.33 147 *e*P **P** **16 07 04.0 -0.9**
comp=Z,237nm,1.2s,mb5.5
ABH **Alteburg** 22.41 154 *e*P **P** **16 07 05.6 -0.1**
ABH **Alteburg** 22.41 154 *e*P **P** **16 07 05.7 0.0**
WLF **Walferdange** 22.43 156 *e*P **P** **16 07 05.4 -0.5**
WLF pmax pmax
comp=Z,197nm,1.4s,mb5.3
WLF **Walferdange** 22.43 156 *e*P **P** **16 07 05.4 -0.5**
comp=Z,197nm,1.4s,mb5.3
WLF **Walferdange** 22.43 156 *e*P **P** **16 07 05.4 -0.5**
comp=Z,197nm,1.4s,mb5.3
BRG **Berggiesshubel** 22.55 143 *i* P **P** **16 07 06.7 -0.2**
BRG S **S** **16 11 08.0 -0.7**
BRG pmax pmax
comp=Z,31nm,1.1s,mb4.7
BRG MLR MLR
comp=Z,3μm,11.6s,MS5.0
BRG **Berggiesshubel** 22.55 143 *i* P **P** **16 07 06.7 -0.2**
comp=Z,31nm,1.1s,mb4.7
BRG *e* 16 07 16.6
BRG S **S** **16 11 08.0 -0.7**
BRG ScP 16 14 42.3
BRG LR LR
comp=Z,3μm,11.6s,MS5.0
BRG **Berggiesshubel** 22.55 143 *e*P **P** **16 07 06.1 -0.8**
comp=Z,158nm,1.3s,mb5.3
BRG S **S** **16 11 08.0 -0.7**
comp=Z,3μm,11.6s
WERD **Werda** 22.65 146 *e*P **P** **16 07 07.5 -0.4**
comp=Z,340nm,1.2s,mb5.7
MNK **Minsk** 22.65 119 *e*P **P** **16 07 02.0 -5.9**
FLN **La Foliniere** 22.66 168 *e*P **P** **16 07 06.9 -1.1**
comp=Z,290nm,1.1s,mb5.3
FLN *e*R
comp=Z,4μm,17.9s
FLN **La Foliniere** 22.66 168 *e*P **P** **16 07 06.9 -1.1**
FLN pmax pmax
comp=Z,145nm,1.1s,mb5.3
FLN MLR MLR
comp=Z,4μm,17.9s,MS4.9
GUNZ **Gunzen** 22.73 146 *e*P **P** **16 07 07.5 -1.2**
comp=Z,399nm,1.3s,mb5.7
WAR **Warsaw** 22.85 131 *e*P **P** **16 07 11.2 +1.3**
WAR *e*pP 16 07 14.2
WAR LR LR
comp=Z,6μm,16.9s,MS5.1
WAR **Warsaw** 22.85 131 *e*P **P** **16 07 11.2 +1.3**
WAR *e*pP 16 07 14.2
WAR MLR MLR 16 16 27.4
comp=Z,6μm,16.9s,MS5.1
TOD **Tromm** 22.87 152 *e*P **P** **16 07 09.4 -0.6**
TOD **Tromm** 22.87 152 *e*P **P** **16 07 10.9 +0.9**
NKC **Novy Kostel** 22.88 146 *e*P **P** **16 07 09.1 -1.0**
NKC AMS AMS 16 18 10.0
comp=Z,4μm,13.4s
ROSF **Rostrenen** 22.93 173 *e*P **P** **16 07 09.2 -1.4**
comp=Z,350nm,1.2s,mb5.4
ROSF **Rostrenen** 22.93 173 *e*P **P** **16 07 09.2 -1.4**
ROSF pmax pmax
comp=Z,175nm,1.2s,mb5.4
SWS **Schriesheim** 22.97 152 *e*P **P** **16 07 11.5 +0.5**
GRR **Gorron** 23.00 169 *e*P **P** **16 07 11.0 -0.4**
comp=Z,98nm,0.8s,mb5.0
GRR **Gorron** 23.00 169 *e*P **P** **16 07 11.0 -0.4**
GRR pmax pmax
comp=Z,49nm,0.8s,mb5.0
PVCC **Panska Ves** 23.00 142 *e*P **P** **16 07 11.5 +0.1**
PVCC AMS AMS 16 17 50.0
comp=Z,2μm,12.6s
KTD **Kalmit** 23.04 153 *e*P **P** **16 07 13.8 +2.1**
SGMF **Saint Gilles** 23.04 171 *e*P **P** **16 07 10.6 -1.1**
comp=Z,146nm,0.9s,mb5.1
SGMF **Saint Gilles** 23.04 171 *e*P **P** **16 07 10.6 -1.1**
SGMF pmax pmax
comp=Z,73nm,0.9s,mb5.1
KSP **Ksiaz** 23.06 139 *e*P **P** **16 07 12.4 +0.5**
KSP *e*PP 16 07 18.8
KSP *e*S **S** **16 11 22.0 +4.2**
KSP MLR MLR
comp=Z,6μm,13.6s,MS5.2
KSP **Ksiaz** 23.06 139 *e*P **P** **16 07 13.3 +1.3**
KSP *e*pP 16 07 15.9
KSP *e*S **S** **16 11 24.3 +6.5**
KSP MLR MLR 16 18 20.8
comp=Z,6μm,13.6s,MS5.2
GRA1 **Grafenberg Arr** 23.18 148 *e*P **P** **16 07 13.9 +0.8**
comp=Z,536nm,1.3s,mb5.8
GRA1 LR LR
comp=Z,2μm,18.2s,MS4.6
GRF **Grafenberg Arr** 23.18 148 *e*P **P** **16 07 13.9 +0.8**
GRF pmax pmax
comp=Z,536nm,1.3s,mb5.8
GRF MLR MLR
comp=Z,2μm,18.2s,MS4.6
GRF **Grafenberg Arr** 23.18 148 *e*P **P** **16 07 13.9 +0.8**
comp=Z,536nm,1.3s,mb5.8
GRF pmax pmax
comp=Z,2μm,18.2s,MS4.6
GRF **Grafenberg Arr** 23.18 148 *e*P **P** **16 07 13.9 +0.8**
comp=Z,536nm,1.3s,mb5.8
GRF LR LR
comp=Z,2μm,18.2s,MS4.6
GRF **Grafenberg Arr** 23.18 148 *e*P **P** **16 07 13.9 +0.8**
comp=Z,536nm,1.3s,mb5.8
GRFO **Grafenberg** 23.18 148 P **P** **16 07 14.8 +1.7**
SIND **Sindeldorf** 23.24 151 *e*P **P** **16 07 13.7 0.0**
SIND **Sindeldorf** 23.24 151 P **P** **16 07 14.6 +0.9**
UPC **Upice** 23.32 140 *e*P **P** **16 07 15.5 +1.1**
LANF **Langenberg** 23.33 154 *e*P **P** **16 07 15.4 +0.9**
QUIF **Quistinic** 23.35 173 *e*P **P** **16 07 13.5 -1.2**
comp=Z,256nm,1.2s,mb5.2
QUIF **Quistinic** 23.35 173 *e*P **P** **16 07 13.5 -1.2**
QUIF pmax pmax
comp=Z,128nm,1.2s,mb5.2
PRA **Prague** 23.41 143 P **P** **16 07 19.0 +3.7**
PRA AMS AMS 16 18 00.0
MEZF **Maizieres J'vi** 23.44 159 *e*P **P** **16 07 15.5 -0.1**
comp=Z,436nm,1.2s,mb5.5
PRU **Pruhonice** 23.51 142 *e*P **P** **16 07 16.9 +0.6**
PRU *e*S **S** **16 11 31.2 +5.5**
PRU AMS AMS 16 18 20.0
comp=Z,2μm,12.7s
DPC **Dobruska-Polom** 23.54 139 *e*P **P** **16 07 17.0 +0.5**
DPC *e*S **S** **16 11 32.6 +6.5**
DPC AMS AMS 16 19 10.0
comp=Z,3μm,13.5s
RES **Resolute Bay** 23.73 319 *e*P **P** **16 07 19.2 +1.0**
RES pmax pmax
comp=Z,92nm,0.9s,mb5.2
RES **Resolute Bay** 23.73 319 *e*P **P** **16 07 19.2 +1.0**
comp=Z,92nm,0.9s,mb5.2
RES **Resolute Bay** 23.73 319 *e*P **P** **16 07 19.2 +1.0**
comp=Z,92nm,0.9s,mb5.2
STU **Stuttgart** 23.74 152 *e*P **P** **16 07 20.1 +1.6**
STU pmax pmax
comp=Z,221nm,1.3s,mb5.4
STU **Stuttgart** 23.74 152 *e*P **P** **16 07 20.1 +1.6**
comp=Z,221nm,1.3s,mb5.4
STU **Stuttgart** 23.74 152 *e*P **P** **16 07 19.4 +0.9**
comp=Z,234nm,1.3s,mb5.5
LBG **Lerchenberg** 23.78 152 P **P** **16 07 21.2 +2.3**
LBG **Lerchenberg** 23.78 152 *e*P **P** **16 07 19.1 +0.2**
CDF **Champ du Feu** 23.81 155 *e*P **P** **16 07 19.7 +0.5**
comp=Z,164nm,1.2s,mb5.0
CDF **Champ du Feu** 23.81 155 *e*P **P** **16 07 19.7 +0.5**
CDF pmax pmax
comp=Z,82nm,1.2s,mb5.0
THEF **They Montfort** 23.82 157 *e*P **P** **16 07 20.1 +0.8**
ECH **Echery** 23.99 155 *e*P **P** **16 07 21.6 +0.7**
BFO **Black Forest** 24.04 153 P **P** **16 07 21.3 -0.1**
BUCH **Bad Urach** 24.08 152 *e*P **P** **16 07 22.5 +0.7**
BUCH **Bad Urach** 24.08 152 P **P** **16 07 23.0 +1.2**
HAU **Haudompre** 24.08 157 *e*P **P** **16 07 22.2 +0.3**
HAU *e*R
comp=Z,2μm,17.5s
KHC **Kasperske Hory** 24.15 145 *e*P **P** **16 07 23.4 +0.9**
KHC *e*S **S** **16 11 42.9 +6.2**
KHC AMS AMS 16 19 40.0
comp=Z,3μm,13.4s
RAC **Raciborz** 24.19 137 *e*P **P** **16 07 23.0 +0.1**
RAC *e*S **S** **16 11 41.0 +3.6**
RAC LME 16 18 40.0
comp=Z,7μm,12.9s
RAC MLR MLR 16 18 54.6
comp=Z,7μm,13.0s,MS5.3
RAC LMN 16 19 02.8
comp=Z,9μm,13.6s
SPAK **Spaichingen** 24.33 153 *e*P **P** **16 07 25.1 +0.8**
SPAK **Spaichingen** 24.33 153 *e*P **P** **16 07 25.8 +1.5**
HINF **Hinteralfeld** 24.34 156 *e*P **P** **16 07 24.4 +0.1**
comp=Z,70nm,1.0s,mb4.8
HINF **Hinteralfeld** 24.34 156 *e*P **P** **16 07 24.4 +0.1**
HINF pmax pmax
comp=Z,35nm,1.0s,mb4.7
MORC **Moravsky Berou** 24.34 138 *e*P **P** **16 07 24.1 -0.2**
MORC pmax pmax
comp=Z,54nm,0.8s,mb5.0
MORC **Moravsky Berou** 24.34 138 *e*P **P** **16 07 24.1 -0.2**
comp=Z,54nm,0.8s,mb5.0
MORC **Moravsky Berou** 24.34 138 *e*P **P** **16 07 24.1 -0.2**
comp=Z,54nm,0.8s,mb5.0
MOF **Molkenrain** 24.34 155 *e*P **P** **16 07 26.4 +2.0**
KIZ **Kirchzarten** 24.35 154 *e*P **P** **16 07 24.5 +0.1**
KIZ **Kirchzarten** 24.35 154 P **P** **16 07 24.6 +0.2**
HYF **Humbligny** 24.40 163 *e*P **P** **16 07 24.4 -0.5**
GUT **Gutenstein** 24.41 152 *e*P **P** **16 07 25.7 +0.6**
GUT **Gutenstein** 24.41 152 P **P** **16 07 26.0 +0.9**
OKC **Ostrava-Krasne** 24.41 137 *e*P **P** **16 07 24.5 -0.6**
OKC *e*S **S** **16 11 50.5 +9.3**
OKC AMS AMS 16 19 00.0
comp=Z,6μm,13.0s
OJC **Ojcow** 24.43 134 *e*P **P** **16 07 25.2 0.0**
OJC *e*S **S** **16 11 45.8 +4.3**
OJC MLR MLR 16 18 27.1
comp=Z,6μm,13.9s,MS5.2
FELD **Feldberg** 24.44 154 *e*P **P** **16 07 25.4 +0.1**
FELD **Feldberg** 24.44 154 *e*P **P** **16 07 25.5 +0.2**
GEC2 **GERESS Array S** 24.44 145 *e*P **P** **16 07 26.4 +1.0**
GEC2 pmax pmax
comp=Z,252nm,1.2s,mb5.5
GEC2 **GERESS Array S** 24.44 145 *e*P **P** **16 07 26.4 +1.0**
comp=Z,252nm,1.2s,mb5.5
GERES **GERESS Array B** 24.44 145 P **P** **16 07 26.4 +1.0**
comp=Z,42nm,0.9s,mb4.9,baz=350,slow=8.1,SNR=123
GERES LR LR 16 16 58.0
comp=Z,738nm,18.8s,MS4.2,baz=345,slow=36
LOR **Lormes** 24.52 161 *e*P **P** **16 07 25.7 -0.4**
comp=Z,127nm,0.9s,mb5.1
LOR *e*R
comp=Z,3μm,17.0s
LOR **Lormes** 24.52 161 *e*P **P** **16 07 25.7 -0.4**
LOR pmax pmax
comp=Z,63nm,0.9s,mb5.2
LOR MLR MLR
comp=Z,3μm,17.0s,MS4.8
MOS **Moscow** 24.55 105 *i* P **P** **16 07 29.5 +3.1**
MOS *e* 16 08 02.6
MOS *e*PPP PPP 16 08 11.5 -1.5
MOS *e*S **S** **16 11 51.0 +7.5**
MOS *e*SS SS 16 12 42.0 +2.8
MOS pmax pmax
comp=Z,193nm,1.3s,mb5.5
MOS pmax pmax
comp=Z,2μm,4.1s
MOS MLR MLR
comp=Z,4μm,17.3s,MS5.0
VRAC **Vranov** 24.58 140 P **P** **16 07 27.2 +0.5**
comp=Z,30nm,0.9s,mb4.8,baz=347,slow=12,SNR=18
SLE **Schleitheim** 24.61 153 P **P** **16 07 27.3 +0.3**
FUR **Furstenfeldbru** 24.66 149 *e*P **P** **16 07 28.6 +1.1**
FUR pmax pmax
comp=Z,314nm,1.4s,mb5.7
FUR **Furstenfeldbru** 24.66 149 *e*P **P** **16 07 28.6 +1.1**
comp=Z,314nm,1.4s,mb5.7
SSF **Saint Saulge** 24.69 162 *e*P **P** **16 07 27.0 -0.7**
SSF pmax pmax
comp=Z,29nm,0.7s,mb4.9
SSF **Saint Saulge** 24.69 162 *e*P **P** **16 07 27.0 -0.7**
comp=Z,29nm,0.7s,mb4.9
LCHF **La Chataignera** 24.72 169 *e*P **P** **16 07 28.9 +0.8**
OBN **Obninsk** 24.75 107 *i* P **P** **16 07 27.5 -0.7**
OBN *i* 16 07 31.3
OBN *e* 16 08 00.0

OBN *i* S **S** **16 11 54.4 +7.6**
OBN *i* SS SS 16 12 47.7 +3.7
OBN pmax pmax
comp=Z,158nm,1.2s,mb5.4
OBN MLR MLR
comp=Z,3µm,16.0s,MS4.9
OBN Obninsk 24.75 107 *e*P **P** **16 07 27.4 -0.8**
comp=Z,255nm,1.3s,mb5.6
OBN LR LR
comp=Z,700nm,19.0s,MS4.2
OBN Obninsk 24.75 107 *e*P **P** **16 07 27.4 -0.8**
comp=Z,255nm,1.3s,mb5.6
SISB Singen-Sch Ber 24.76 153 P **P** **16 07 30.1 +1.6**
LRYF La Roche-sur-Y 24.76 170 *e*P **P** **16 07 29.4 +0.9**
BBS Basel-Blauen 24.77 155 *e*P **P** **16 07 28.6 +0.1**
BBS Basel-Blauen 24.77 155 *e*P **P** **16 07 29.6 +1.1**
KRUC Moravsky 24.77 140 P **P** **16 07 28.8 +0.3**
LOMF Lomont 24.79 156 *e*P **P** **16 07 30.0 +1.3**
SULZ Sulz-Cheisache 24.79 154 ⇓P **P** **16 07 29.1 +0.3**
MFF Saint Martin d 24.83 168 *e*P **P** **16 07 28.6 -0.5**
comp=Z,178nm,1.0s,mb5.2
MFF Saint Martin d 24.83 168 *e*P **P** **16 07 28.6 -0.5**
MFF pmax pmax
comp=Z,89nm,1.0s,mb5.2
AVF Avril sur Loir 24.94 162 *e*P **P** **16 07 29.4 -0.8**
comp=Z,101nm,1.1s,mb5.0
AVF Avril sur Loir 24.94 162 *e*P **P** **16 07 29.4 -0.8**
AVF pmax pmax
comp=Z,51nm,1.1s,mb5.0
UBR Uberruh 24.94 151 *e*P **P** **16 07 30.6 +0.4**
UBR Uberruh 24.94 151 P **P** **16 07 31.2 +1.0**
ZUR Zurich 25.02 153 ⇓P **P** **16 07 32.8 +1.9**
BGF Bois d'Agland 25.12 163 *e*P **P** **16 07 31.1 -0.8**
comp=Z,158nm,0.9s,mb5.3
BGF Bois d'Agland 25.12 163 *e*P **P** **16 07 31.1 -0.8**
BGF pmax pmax
comp=Z,79nm,0.9s,mb5.2
SMF Signal de Mont 25.13 161 *e*P **P** **16 07 31.1 -0.9**
comp=Z,324nm,1.0s,mb5.5
SMF Signal de Mont 25.13 161 *e*P **P** **16 07 31.1 -0.9**
SMF pmax pmax
comp=Z,162nm,1.0s,mb5.5
JAVC Velka Javorina 25.23 139 P **P** **16 07 34.3 +1.4**
DAVA Damuels 25.29 151 ⇑*i*P **P** **16 07 34.1 +0.6**
comp=Z,341nm,1.5s,mb5.7
NIE Niedzica 25.30 134⇑*e*P **P** **16 07 33.8 +0.3**
TCF Toulx Ste Croi 25.33 164 *e*P **P** **16 07 32.8 -1.0**
comp=Z,268nm,1.3s,mb5.3
TCF Toulx Ste Croi 25.33 164 *e*P **P** **16 07 32.8 -1.0**
TCF pmax pmax
comp=Z,134nm,1.3s,mb5.3
LIKS Likavka 25.37 136 *e*P pP 16 07 41.3 +2.7
LIKS Likavka 25.37 136 *e*pP pP 16 07 41.3 +2.7
MUO Muotathal 25.41 154 ⇓P **P** **16 07 35.1 +0.4**
CABF La Chapelle 25.42 158 *e*P **P** **16 07 34.3 -0.4**
comp=Z,168nm,1.0s,mb5.2
CABF La Chapelle 25.42 158 *e*P **P** **16 07 34.3 -0.4**
CABF pmax pmax
comp=Z,84nm,1.0s,mb5.2
MOTA Moosalm 25.43 150 ⇓*i*P **P** **16 07 34.9 +0.1**
comp=Z,186nm,1.2s,mb5.5
MOTA Moosalm 25.43 150 ⇓*i*P **P** **16 07 34.9 +0.1**
MOTA pmax pmax
comp=Z,186nm,1.2s,mb5.5
MOA Molln 25.50 144⇑*i*P **P** **16 07 35.4 -0.1**
comp=Z,336nm,2.2s,mb5.5
SMOL Smolenice 25.51 139 *e*P **P** **16 07 35.7 +0.2**
SMOL *es*P sP 16 07 42.3 +0.3
VKA Vienna 25.51 141 *e*(P) **P** **16 07 37.0 +1.4**
comp=Z,896nm,4.0s
VKA Vienna 25.51 141 P **P** **16 07 37.0 +1.4**
VKA pmax pmax
comp=Z,896nm,4.0s
WATA Walderalm 25.52 149⇑*i*P **P** **16 07 35.6 0.0**
comp=Z,185nm,1.2s,mb5.5
WATA Walderalm 25.52 149⇑*i*P **P** **16 07 35.6 0.0**
WATA pmax pmax
comp=Z,185nm,1.2s,mb5.5
STHS Stebnicka Huta 25.52 133 *e*P **P** **16 07 35.9 +0.3**
STHS *e* 16 07 42.6
SQTA Sankt Quirin 25.57 149⇑*i*P **P** **16 07 36.7 +0.6**
comp=Z,185nm,1.4s,mb5.4
SQTA Sankt Quirin 25.57 149⇑*i*P **P** **16 07 36.7 +0.6**
SQTA pmax pmax
comp=Z,185nm,1.4s,mb5.4
LLS Linth-Limmern 25.59 153 ⇓P **P** **16 07 36.8 +0.5**
MATF Mathat 25.59 168 *e*P **P** **16 07 47.5 +11**
WTTA Wattenberg 25.60 149⇑*i*P **P** **16 07 37.1 +0.7**
comp=Z,455nm,1.5s,mb5.8
WTTA Wattenberg 25.60 149⇑*i*P **P** **16 07 37.1 +0.7**
WTTA pmax pmax
comp=Z,455nm,1.5s,mb5.8
AGO Saint Agoulin 25.65 163 *e*P **P** **16 07 38.2 +1.4**
KWP Kalwaria 25.68 131 *e*P **P** **16 07 40.2 +3.1**
KWP *e**PP pP 16 07 47.9 +6.4
KWP MLR MLR
comp=Z,4µm,17.1s,MS5.0
KWP Kalwaria 25.68 131 *e*P **P** **16 07 36.6 -0.4**
comp=Z,102nm,0.8s,mb5.4
KWP *ep*P pP 16 07 47.9 +6.4
KWP Kalwaria 25.68 131 *e*P **P** **16 07 40.2 +3.2**
KWP *ep*P pP 16 07 47.9 +6.4
KWP MLR MLR 16 18 01.1
comp=Z,4µm,17.1s,MS5.0
KWP Kalwaria 25.68 131 *e*P **P** **16 07 36.6 -0.5**
comp=Z,102nm,0.8s,mb5.4
ZST Bratislava 25.74 140 *e*P **P** **16 07 37.9 +0.2**
ZST *e*S **S** **16 12 10.6 +7.1**
ZST Bratislava 25.74 140 *e*P **P** **16 07 37.9 +0.2**
ZST *e*S **S** **16 12 10.6 +7.1**
ZST *e*L 16 25 31.6
OG01 Vacheresse 25.77 157 *e*P **P** **16 07 38.4 +0.4**
PLDF La Plantade 25.78 162 *e*P **P** **16 07 41.3 +3.2**
DAVOX Davos 25.78 152 P **P** **16 07 39.1 +1.0**
comp=Z,13nm,0.8s,mb4.5,baz=341,slow=10,SNR=12
DAVOX LR LR 16 18 23.0
comp=Z,1µm,20.0s,MS4.3,baz=235,slow=38
VYHS Vyhne 25.83 137 *e*P **P** **16 07 38.0 -0.5**
VYHS *e*S **S** **16 11 59.8 -5.2**
LVV L'vov 25.83 129 *e*P **P** **16 07 38.0 -0.5**
LKBD Leukerbad 25.84 155 ⇓P **P** **16 07 39.2 +0.5**
VERF Verneugheol 25.89 164 *e*P **P** **16 07 40.4 +1.3**
OG05 Jujurieux 25.91 159 *e*P **P** **16 07 39.2 -0.1**
PYM Petit Puy Mans 25.93 163 *e*P **P** **16 07 42.3 +2.8**
VDL Val di Lei 26.01 153 ⇓P **P** **16 07 41.9 +1.7**
CRVS Cervenica-Dubn 26.05 133 *e*P **P** **16 07 41.5 +0.9**
CRVS *e* 16 07 49.9
CRVS *e*S **S** **16 11 58.0 -11**
CRVS *e* 16 14 28.9
KBA Koelnbreinsper 26.08 146⇑*i*P **P** **16 07 41.4 +0.6**
comp=Z,231nm,1.4s,mb5.5
KBA Koelnbreinsper 26.08 146⇑*i*P **P** **16 07 41.4 +0.6**
KBA pmax pmax
comp=Z,231nm,1.4s,mb5.5
SOP Sopron 26.12 141 *e*P **P** **16 07 43.8 +2.6**
PECR Pechory 26.14 97 *e*P **P** **16 07 40.7 -0.6**
PECR pmax pmax
comp=Z,1.0nm,2.0s
PECR pmax pmax
comp=Z,1µm,4.4s
PECR MLR MLR
comp=Z,6µm,16.0s,MS5.2
PECR MLR MLR
comp=N,4µm,15.0s,MS5.2
PECR MLR MLR
comp=E,4µm,13.0s,MS5.2
PECR Pechory 26.14 97 *e*P **P** **16 07 40.7 -0.6**
comp=E,4µm,15.0s
SEST Monte Rota 26.20 148 P **P** **16 07 43.4 +1.5**
KECS Kecovo 26.21 135 *i*P **P** **16 07 41.4 -0.7**
KECS *e* 16 07 48.0
KOLS Kolonicke sedl 26.22 132 *e*P **P** **16 07 40.7 -1.4**
KOLS *e* 16 07 48.4
MMK Mattmark 26.22 155 ⇓P **P** **16 07 43.5 +1.4**
COLF Collangettes 26.23 162 *e*P **P** **16 07 41.7 -0.6**
RJF Les Rejaudoux 26.25 165 *e*P **P** **16 07 41.2 -1.2**
comp=E,91nm,0.8s,mb5.0
RJF *e*R
comp=E,2µm,17.6s
RJF Les Rejaudoux 26.25 165 *e*P **P** **16 07 41.2 -1.2**
RJF pmax pmax
comp=Z,46nm,0.8s,mb5.1
RJF MLR MLR
comp=Z,2µm,17.6s,MS4.7

FRNF Fournols 26.25 164 *e*P **P** **16 07 42.8 +0.3**
APPI Appiano 26.29 150 P **P** **16 07 43.6 +0.8**
ARSA Arzberg 26.32 143⇑*i*P **P** **16 07 43.1 0.0**
comp=Z,182nm,1.6s,mb5.4
RSL Roselend 26.40 157 *e*P **P** **16 07 43.4 -0.4**
AKASG Malin Array Be 26.42 121 P **P** **16 07 42.7 -1.2**
comp=Z,9.5nm,0.5s,mb4.6,baz=331,slow=9.4,SNR=27
FVI Forni Avoltri 26.44 147 P **P** **16 07 44.7 +0.5**
LBL Lubilhac 26.47 163 *e*P **P** **16 07 47.2 +2.7**
UZH Uzhgorod 26.50 132*c i*P **P** **16 07 44.0 -0.7**
UZH *e*S **S** **16 12 13.0 -3.2**
UZH MLR MLR
comp=Z,4µm,14.0s,MS5.1
UZH Uzhgorod 26.50 132 *i* P **P** **16 07 44.0 -0.7**
comp=Z,4µm,14.0s
LFF La Frestale 26.55 167 *e*P **P** **16 07 44.2 -1.0**
comp=Z,196nm,1.1s,mb5.3
LFF La Frestale 26.55 167 *e*P **P** **16 07 44.2 -1.0**
LFF pmax pmax
comp=Z,98nm,1.1s,mb5.2
LPL La Plagne 26.58 157 *e*P **P** **16 07 45.5 0.0**
comp=Z,107nm,0.8s,mb5.1
LPL La Plagne 26.58 157 *e*P **P** **16 07 45.5 0.0**
LPL pmax pmax
comp=Z,54nm,0.8s,mb5.1
LPG La Plagne 26.60 157 *e*P **P** **16 07 45.9 +0.2**
comp=Z,213nm,1.1s,mb5.3
LPG La Plagne 26.60 157 *e*P **P** **16 07 45.9 +0.2**
LPG pmax pmax
comp=Z,106nm,1.1s,mb5.3
PSZ Piszkesteto 26.61 136 *e*P **P** **16 07 46.0 +0.3**
PSZ pmax pmax
comp=Z,50nm,0.9s,mb5.0
PSZ Piszkesteto 26.61 136 *e*P **P** **16 07 46.0 +0.2**
comp=Z,50nm,0.9s,mb5.0
PSZ Piszkesteto 26.61 136 *e*P **P** **16 07 46.0 +0.3**
comp=Z,50nm,0.9s,mb5.0
ORX Oropa 26.63 155 P **P** **16 07 45.6 -0.3**
CAF Calviac 26.67 165 *e*P **P** **16 07 45.2 -1.1**
comp=Z,182nm,0.9s,mb5.3
CAF Calviac 26.67 165 *e*P **P** **16 07 45.2 -1.1**
CAF pmax pmax
comp=Z,91nm,0.9s,mb5.3
LSD Ceresole Reale 26.69 157 P **P** **16 07 46.9 +0.4**
GRN Grenoble 26.73 159 *e*P **P** **16 07 48.6 +1.7**
GDM Grand'Maison 26.81 158 *e*P **P** **16 07 47.6 0.0**
PERS Pernice 26.83 144 *e*P **P** **16 07 47.8 0.0**
OBKA Obir 26.85 145⇑*i*P **P** **16 07 48.0 +0.1**
comp=Z,96nm,1.4s,mb5.1
VIVF Saint-Julien-l 26.99 161 *e*P **P** **16 07 48.5 -0.7**
comp=Z,280nm,1.2s,mb5.4
VIVF Saint-Julien-l 26.99 161 *e*P **P** **16 07 48.5 -0.7**
VIVF pmax pmax
comp=Z,140nm,1.2s,mb5.4
RSP Reno Superiore 27.01 157 P **P** **16 07 49.4 0.0**
BNI Bardonecchia 27.03 157 *e*P **P** **16 07 50.0 +0.4**
BNI pmax pmax
comp=Z,110nm,1.3s,mb5.2
BNI Bardonecchia 27.03 157 *e*P **P** **16 07 50.0 +0.4**
comp=Z,110nm,1.3s,mb5.2
BNI Bardonecchia 27.03 157 *e*P **P** **16 07 50.0 +0.4**
comp=Z,110nm,1.3s,mb5.2
ORIF Oris-en-Rattie 27.07 159 *e*P **P** **16 07 49.8 -0.1**
comp=Z,266nm,1.2s,mb5.3
ORIF *e*R
comp=Z,1µm,17.1s
FENE Fenestrelle 27.10 157 P **P** **16 07 50.4 +0.2**
FENE Fenestrelle 27.10 157 P **P** **16 07 50.4 +0.1**
VOY Vojsko 27.19 146 *e*P **P** **16 07 51.3 +0.3**
VOY *e* pP 16 07 55.2 -0.3
VOY *e* 16 08 00.3
LJU Ljubljana 27.29 145 *e*P **P** **16 07 51.5 -0.4**
LJU Ljubljana 27.29 145 *e*P **P** **16 07 51.5 -0.5**
BHB Bricherasio 27.31 157 P **P** **16 07 52.3 +0.1**
BHB Bricherasio 27.31 157 P **P** **16 07 52.3 +0.1**
PKS8 Sarbogard 27.33 139 *e*P **P** **16 07 55.5 +3.2**
JAVS Javornik 27.35 146 *e*P **P** **16 07 51.5 -1.0**
MBDF Montbardon 27.36 157 *e*P **P** **16 07 52.7 +0.1**
comp=Z,292nm,1.2s,mb5.4
MBDF Montbardon 27.36 157 *e*P **P** **16 07 52.7 +0.1**
MBDF pmax pmax
comp=Z,146nm,1.2s,mb5.4
LASF Ste Croix 27.68 162 *e*P **P** **16 07 55.5 0.0**
comp=Z,94nm,0.9s,mb5.1
BOB Bobbio (Coli) 27.69 153 P **P** **16 07 56.6 +1.0**
PCP Pian Castagno 27.78 155 P **P** **16 07 55.8 -0.6**
EPON Pontenova 27.85 179 P **P** **16 07 56.7 -0.4**
comp=Z,294nm,1.3s,mb5.8
EPON Pontenova 27.85 179 P **P** **16 07 56.7 -0.4**
comp=Z,294nm,1.3s,mb5.8,SNR=5.6
EARI Arriondas 27.90 176 P **P** **16 07 60.0 +2.5**
comp=Z,310nm,1.2s,mb5.8
STV Sta Anna Valdi 27.91 157 P **P** **16 07 56.9 -0.7**
ROB Roburent 27.93 156 P **P** **16 07 56.9 -0.9**
PKSM Moragy 27.95 139⇑*e*P **P** **16 07 57.2 -0.8**
SMRF Simiane la Rot 27.96 160 *e*P **P** **16 07 57.4 -0.7**
comp=Z,98nm,1.2s,mb5.0
ELAN Lanestosa 28.02 174 P **P** **16 08 01.7 +3.1**
comp=Z,76nm,1.4s,mb5.1
GRAM 28.05 153 P **P** **16 07 58.2 -0.6**
GRAM 28.05 153 P **P** **16 07 58.2 -0.7**
FIN Finale Ligure 28.06 155 P **P** **16 07 57.8 -1.2**
PRAF Pradon 28.08 160 *e*P **P** **16 08 00.6 +1.4**
OSSF Osses 28.09 170 *e*P **P** **16 07 59.0 -0.3**
VILF Villemus 28.10 159 *e*P **P** **16 08 04.4 +5.1**
CODM 28.11 153 P **P** **16 07 58.9 -0.6**
CODM 28.11 153 P **P** **16 07 58.9 -0.6**
EALK Alkurruntz 28.11 171 P **P** **16 08 02.4 +2.9**
comp=Z,182nm,1.8s,mb5.4
TOUF Mont Tournerai 28.12 157 *e*P **P** **16 08 00.2 +0.6**
ORDF Ordiarp 28.15 170 *e*P **P** **16 07 58.3 -1.5**
AUTN L'Aution 28.16 157 *e*P **P** **16 08 00.7 +0.8**
ERBM Eremo 28.17 152 P **P** **16 08 01.4 +1.4**
SAOF Saorge 28.19 157 *e*P **P** **16 08 00.8 +0.6**
VALM 28.21 152 P **P** **16 08 00.1 -0.2**
VALM 28.21 152 P **P** **16 08 00.1 -0.3**
MVIF Mont Vial 28.23 157 *e*P **P** **16 08 00.4 -0.1**
EMAZ Mazaricos 28.23 182 P **P** **16 08 03.2 +2.7**
comp=Z,146nm,1.0s,mb5.6
SJPF Ste Jean 28.24 170 *e*P **P** **16 07 59.5 -1.1**
comp=Z,35nm,0.9s,mb4.7
SJPF Ste Jean 28.24 170 *e*P **P** **16 07 59.5 -1.1**
SJPF pmax pmax
comp=Z,18nm,0.9s,mb4.7
MTLF Montolieu 28.25 165 *e*P **P** **16 07 59.8 -0.9**
BACM 28.26 153 P **P** **16 07 59.7 -1.0**
BACM 28.26 153 P **P** **16 07 59.7 -1.0**
GSCL Gusciola 28.26 152 P **P** **16 08 01.7 +0.9**
STS Santiago 28.29 182 P **P** **16 08 02.9 +1.8**
STS pmax pmax
comp=Z,106nm,1.0s,mb5.4
STS Santiago 28.29 182 P **P** **16 08 02.9 +1.8**
comp=Z,106nm,1.0s,mb5.4
STS Santiago 28.29 182 P **P** **16 08 02.9 +1.8**
comp=Z,106nm,1.0s,mb5.4,SNR=15
SBF Sospel 28.30 157 *e*P **P** **16 08 00.5 -0.6**
comp=Z,157nm,0.9s,mb5.4
SBF Sospel 28.30 157 *e*P **P** **16 08 00.5 -0.6**
SBF pmax pmax
comp=Z,79nm,0.9s,mb5.3
IMI Imperia 28.31 156 P **P** **16 08 00.7 -0.6**
IMI Imperia 28.31 156 P **P** **16 08 00.7 -0.5**
DRGR 28.32 133 P **P** **16 08 00.5 -0.8**
REYF Montagne du Re 28.33 169 *e*P **P** **16 08 05.9 +4.5**
CALN Calern 28.34 158 *e*P **P** **16 08 03.0 +1.5**
LABF Labassere 28.38 168 *e*P **P** **16 07 59.9 -2.0**
SARO Sassorosso 28.40 152 P **P** **16 08 01.5 -0.5**
SARO Sassorosso 28.40 152 P **P** **16 08 01.5 -0.5**
EPF Esparros 28.42 168 *e*P **P** **16 08 00.8 -1.4**
comp=Z,101nm,0.7s,mb5.2
EPF Esparros 28.42 168 *e*P **P** **16 08 00.8 -1.4**
EPF pmax pmax
comp=Z,51nm,0.7s,mb5.3
VLC Villacollemand 28.42 152 *e*P **P** **16 08 02.1 -0.1**
comp=Z,200nm,1.3s,mb5.6
VLC Villacollemand 28.42 152 *e*P **P** **16 08 02.1 -0.1**
comp=Z,200nm,1.3s,mb5.6
VOR Voronezh 28.46 108 *e*P **P** **16 08 05.0 +2.5**
VOR *e* 16 08 12.0
VOR pmax pmax
comp=Z,140nm,1.6s,mb5.3
VOR pmax pmax
comp=N,110nm,1.7s
VOR pmax pmax

comp=E,80nm,1.6s
ETSF Etsaut 28.49 169 *e*P **P** **16 08 02.2 -0.7**
comp=E,57nm,1.0s,mb4.8
ETSF Etsaut 28.49 169 *e*P **P** **16 08 02.2 -0.7**
ETSF pmax pmax
comp=Z,29nm,1.0s,mb4.9
FRF La Foret Royal 28.50 158 *e*P **P** **16 08 02.3 -0.6**
VIEF Viey 28.54 168 *e*P **P** **16 08 03.4 +0.1**
MLS Moulis 28.54 167 *e*P **P** **16 08 02.6 -0.7**
EARA Aranguren 28.56 171 P **P** **16 08 04.4 +0.9**
comp=Z,212nm,2.8s,mb5.4,SNR=7.9
LPEF Le Peyrat 28.62 165 *e*P **P** **16 08 05.6 +1.6**
RESF Ens 28.64 168 *e*P **P** **16 08 05.2 +1.0**
ECRI Cripan 28.68 172 P **P** **16 08 06.5 +2.0**
ECRI pmax pmax
comp=Z,35nm,0.9s,mb5.1
ECRI Cripan 28.68 172 P **P** **16 08 06.5 +2.0**
comp=Z,35nm,0.9s,mb5.1
ECRI Cripan 28.68 172 P **P** **16 08 06.5 +2.0**
comp=Z,35nm,0.9s,mb5.1,SNR=7.9
LRDF Laroque-de-Fa 28.68 164 *e*P **P** **16 08 08.0 +3.4**
LMR La Mourre 28.70 158 *e*P **P** **16 08 03.7 -1.1**
SALF Salau 28.75 167 *e*P **P** **16 08 09.7 +4.5**
ERUA La Rua 28.78 179 P **P** **16 08 07.0 +1.5**
ERUA pmax pmax
comp=Z,93nm,1.1s,mb5.4
ERUA La Rua 28.78 179 P **P** **16 08 07.0 +1.5**
comp=Z,93nm,1.1s,mb5.4
ERUA La Rua 28.78 179 P **P** **16 08 07.0 +1.5**
comp=Z,93nm,1.1s,mb5.4,SNR=5.8
NVLJ Novalja 28.78 145 *i* P **P** **16 08 04.0 -1.5**
PII Pisa 28.87 152 P **P** **16 08 05.6 -0.7**
SFI Santa Sofia 28.90 150 P **P** **16 08 07.0 +0.5**
PGD Poggio Sodo 28.91 150 P **P** **16 08 07.9 +1.3**
EZAM Zamans 29.03 182 P **P** **16 08 08.8 +1.1**
EZAM pmax pmax
comp=Z,78nm,1.2s,mb5.3
EZAM Zamans 29.03 182 P **P** **16 08 08.8 +1.1**
comp=Z,78nm,1.2s,mb5.3
EZAM Zamans 29.03 182 P **P** **16 08 08.8 +1.1**
comp=Z,78nm,1.2s,mb5.3,SNR=6.0
FILF Fillols 29.06 164 *e*P **P** **16 08 10.7 +2.7**
SJAF Saint Jean de 29.16 164 *e*P **P** **16 08 10.1 +1.2**
VALF Valcebollere 29.17 165 *e*P **P** **16 08 09.4 +0.4**
CRE Caprese Michel 29.19 150 P **P** **16 08 10.9 +1.7**
EJON La Jonquera 29.20 164 P **P** **16 08 10.0 +0.8**
comp=Z,81nm,1.6s,mb5.2,SNR=6.4
CSNT Castellina Chi 29.23 151 P **P** **16 08 09.1 -0.4**
ECAL Calabor 29.23 179 P **P** **16 08 12.8 +3.2**
comp=Z,85nm,1.0s,mb5.4
EGRA Graus 29.25 168 P **P** **16 08 11.3 +1.6**
comp=Z,88nm,1.0s,mb5.4,SNR=5.3
ELOB Lobios 29.30 181 P **P** **16 08 12.5 +2.2**
comp=Z,35nm,1.0s,mb5.0
PBRG Braganca 29.37 179 *e*P **P** **16 08 11.8 +1.0**
comp=Z,30nm,2.0s,mb4.7
ARV Arcevia 29.48 149 P **P** **16 08 11.8 +0.1**
GRFL Gerfalco 29.50 152 P **P** **16 08 12.3 +0.3**
EMIR Miracle 29.61 166 P **P** **16 08 13.9 +0.9**
comp=Z,59nm,1.5s,mb5.1
EMIR Miracle 29.61 166 P **P** **16 08 13.9 +0.9**
comp=Z,59nm,1.5s,mb5.1,SNR=6.5
MURB Monte Urbino 29.63 150 P **P** **16 08 14.2 +1.0**
CING Cingoli 29.64 148 P **P** **16 08 12.8 -0.4**
ESAC San Caprasio 29.67 169 P **P** **16 08 15.2 +1.8**
comp=Z,186nm,1.3s,mb5.7
ESAC San Caprasio 29.67 169 P **P** **16 08 15.2 +1.7**
comp=Z,186nm,1.3s,mb5.6,SNR=7.9
KIS Kishinev 29.68 125 *e*P **P** **16 08 14.0 +0.5**
KIS *e* 16 09 08.0
KIS *e*S **S** **16 13 04.0 -3.3**
KIS MLR MLR
comp=Z,4µm,14.0s,MS5.2
KIS MLR MLR
comp=N,2µm,13.0s,MS5.0
KIS MLR MLR
comp=E,1µm,14.0s,MS5.0
KIS MLR MLR
comp=Z,4µm,14.0s
PGF Pioggiola 29.80 155 *e*P **P** **16 08 13.3 -1.3**
comp=Z,90nm,1.2s,mb5.1
PGF Pioggiola 29.80 155 *e*P **P** **16 08 13.3 -1.3**
PGF pmax pmax
comp=Z,45nm,1.2s,mb5.1
SCHQ Schefferville 29.84 268 P **P** **16 08 13.9 -0.9**
comp=Z,12nm,0.8s,mb4.7,baz=31,slow=7.0,SNR=12
SCHQ LR LR 16 18 56.9
comp=Z,4µm,19.8s,MS5.0,baz=40,slow=34
PVRL Vila Real 29.89 180 *ep*P pP 16 08 19.5 -0.5
PVRL Vila Real 29.89 180 *ep*P pP 16 08 19.5 -0.5
EPOB Poblet 30.14 167 P **P** **16 08 18.2 +0.5**
comp=Z,105nm,1.3s,mb5.4
EPOB Poblet 30.14 167 P **P** **16 08 18.2 +0.5**
comp=Z,105nm,1.3s,mb5.4,SNR=6.8
VRI Vrincioaia 30.18 128 P **P** **16 08 17.3 -0.7**
DIVS Divcibare 30.26 139⇑*i*P **P** **16 08 16.6 -2.1**
DIVS Divcibare 30.26 139 P **P** **16 08 16.5 -2.2**
DJES Djerdap 30.32 135 *i* P **P** **16 08 18.8 -0.3**
MLR Muntele Rosu 30.33 130 P **P** **16 08 19.0 -0.4**
comp=Z,7.1nm,1.0s,mb4.3,baz=338,slow=5.8,SNR=9.9
MLR LR LR 16 21 02.8
comp=Z,7µm,19.9s,MS5.3,baz=342,slow=38
MNS Montasola 30.52 150 P **P** **16 08 21.6 +0.6**
GRUS Gruza 30.61 138 *i* P **P** **16 08 20.7 -1.1**
EBR Ebro Roquetas 30.63 168 *e*P **P** **16 08 23.0 +1.0**
AQU L'Aquila 30.67 149 *e*P **P** **16 08 20.7 -1.6**
AQU pmax pmax
comp=Z,72nm,1.0s,mb5.5
AQU L'Aquila 30.67 149 *e*P **P** **16 08 20.7 -1.6**
comp=Z,72nm,1.0s,mb5.5
AQU L'Aquila 30.67 149 *e*P **P** **16 08 20.7 -1.6**
comp=Z,72nm,1.0s,mb5.5
FIAM Fiamignano 30.70 149 P **P** **16 08 23.0 +0.4**
TOLF Tolfa 30.72 151 P **P** **16 08 23.4 +0.6**
ARU Arti 30.76 83 ⇓*i*P **P** **16 08 23.0 +0.1**
ARU *e* 16 09 23.4
ARU *e*PPP PPP 16 09 32.7 -6.1
ARU *e* 16 11 15.1
ARU *e*S **S** **16 13 25.3 +1.1**
ARU *e*SS SS 16 15 07.4 +0.7
ARU *e*SSS SSS 16 15 22.6 -5.9
ARU *e* 16 19 02.2
ARU pmax pmax
comp=Z,70nm,1.0s,mb5.5
ARU MLR MLR
comp=N,2µm,17.0s,MS4.9
ARU MLR MLR
comp=Z,3µm,17.0s,MS5.0
ARU MLR MLR
comp=E,2µm,18.0s,MS4.9
ARU Arti 30.76 83 *e*P **P** **16 08 22.8 -0.1**
comp=E,67nm,0.9s,mb5.5
ARU LR LR
comp=Z,893nm,19.0s,MS4.4
ARU Arti 30.76 83 *e*P **P** **16 08 22.8 -0.1**
comp=Z,67nm,0.9s,mb5.5
ARU Arti 30.76 83 *e*PcP PcP 16 11 15.1 -5.4
ARU *e*S **S** **16 13 25.3 +1.1**
MTE Manteigas 30.77 180 *e*P **P** **16 08 22.9 -0.3**
comp=Z,76nm,1.1s,mb5.4
MTE Manteigas 30.77 180 *e*P **P** **16 08 22.7 -0.5**
comp=Z,42nm,1.8s,mb5.0
MTE *e*S **S** **16 13 26.7 +2.1**
MTE *e*LQ 16 15 10.1
MTE *e*LR LR 16 16 51.8
comp=Z,5µm,18.7s
PLE Pljevlja 30.86 140 ⇓*i*P **P** **16 08 24.8 +0.8**
UPM Unac-Piva 30.89 141 ⇓*i*P **P** **16 08 23.8 -0.5**
UPM Unac-Piva 30.89 141 ⇓*i*P **P** **16 08 23.8 -0.4**
EMOS Mosqueruela 31.02 169 P **P** **16 08 26.5 +1.0**
comp=Z,81nm,1.3s,mb5.4
EMOS Mosqueruela 31.02 169 P **P** **16 08 26.5 +1.1**
comp=Z,81nm,1.3s,mb5.4,SNR=7.3
BRY Bratogost 31.10 141 ⇓*i*P **P** **16 08 25.3 -0.8**
VVLD Villa Vallelon 31.17 149 P **P** **16 08 26.3 -0.5**
NKY Niksic 31.28 141 ⇓*i*P **P** **16 08 26.1 -1.6**
PCBR Castelo Branco 31.33 180 *e*P **P** **16 08 28.6 +0.4**
comp=Z,42nm,1.3s,mb5.1
IVA Berane 31.41 139 ⇓*i*P **P** **16 08 29.0 +0.2**
CII Carovilli 31.43 148 *e*P **P** **16 08 27.2 -1.8**
comp=Z,46nm,1.0s,mb5.3
CII Carovilli 31.43 148 *e*P **P** **16 08 27.2 -1.9**
comp=Z,46nm,1.0s,mb5.3
MIDA Miranda 31.50 148 P **P** **16 08 30.1 +0.4**
HCY Herceg Novi 31.53 142 ⇓*i*P **P** **16 08 28.3 -1.6**

ESDC Sonseca Array 31.55 175 P **P** **16 08 29.4 -0.7**
comp=Z,8.1nm,0.7s,mb4.7,baz=358,slow=9.1,SNR=21
ESDC PcP PcP 16 11 21.9 -0.9
comp=Z,0.4nm,0.4s,baz=3.0,slow=2.4,SNR=3.9
ESDC Sonseca Array 31.55 175 P **P** **16 08 29.7 -0.4**
comp=Z,21nm,1.4s,mb4.8
ESDC Sonseca Array 31.55 175 P **P** **16 08 29.7 -0.4**
comp=Z,21nm,1.4s,mb4.8,SNR=13
ESLA Sonseca Array 31.55 175 *e*P **P** **16 08 28.5 -1.6**
comp=Z,26nm,1.3s,mb4.9
ESLA LR LR
comp=Z,9μm,19.0s,MS5.5
ESLA Sonseca Array 31.55 175 *e*P **P** **16 08 28.5 -1.6**
comp=Z,26nm,1.3s,mb4.9
PTOM Tomar 31.55 181 *e*P **P** **16 08 30.5 +0.3**
comp=Z,73nm,1.4s,mb5.3
ZAPS Zavoj/Pirot 31.60 136 *i*P **P** **16 08 29.6 -1.0**
PVY Plav 31.69 139 *e*P **P** **16 08 29.4 -1.9**
PVY Plav 31.69 139 *e*P **P** **16 08 29.4 -1.9**
TTG Podgorica 31.70 141 ||*i*P **P** **16 08 30.3 -1.1**
BUM Brajici-Budva 31.75 141 ||*i*P **P** **16 08 30.2 -1.6**
BUM Brajici-Budva 31.75 141 ||*i*P **P** **16 08 30.2 -1.6**
ECHE Chera 31.76 170 P **P** **16 08 30.9 -1.1**
ECHE pmax pmax
comp=Z,29nm,0.7s,mb5.2
ECHE Chera 31.76 170 P **P** **16 08 30.9 -1.1**
comp=Z,29nm,0.7s,mb5.2
ECHE Chera 31.76 170 P **P** **16 08 30.9 -1.1**
comp=Z,29nm,0.7s,mb5.2,SNR=8.2
ETOS Mallorca 31.85 165 P **P** **16 08 30.7 -2.0**
comp=Z,143nm,1.4s,mb5.6
ETOS Mallorca 31.85 165 P **P** **16 08 30.7 -2.1**
comp=Z,143nm,1.4s,mb5.6,SNR=4.5
FG5 Orsara di Pugl 32.03 147 P **P** **16 08 34.0 -0.3**
ULC Ulcinj 32.14 141 ||*i*P **P** **16 08 34.6 -0.7**
PLOU Loures 32.29 182 *ep*P pP 16 08 40.4 -0.7
PLOU Loures 32.29 182 *ep*P pP 16 08 40.4 -0.7
PVL Pavlikeni 32.32 132 *e*P **P** **16 08 36.0 -0.8**
CSSN Cassano Irpino 32.40 147 P **P** **16 08 37.0 -0.5**
VTS Vitosha 32.41 135 *e*P **P** **16 08 36.0 -1.6**
VTS Vitosha 32.41 135 P **P** **16 08 36.7 -0.9**
SZH Strazhica 32.42 131 *e*P **P** **16 08 36.5 -1.1**
EIBI Ibiza 32.47 167 P **P** **16 08 37.6 -0.5**
comp=Z,91nm,1.4s,mb5.4
EIBI Ibiza 32.47 167 P **P** **16 08 37.6 -0.6**
comp=Z,91nm,1.4s,mb5.4,SNR=7.9
MRLC Muro Lucano 32.58 146 P **P** **16 08 39.5 +0.4**
SKO Skopje 32.60 138 *e*P **P** **16 08 39.0 -0.3**
EVIA Vianos 32.63 173 P **P** **16 08 40.0 +0.4**
EVIA pmax pmax
comp=Z,75nm,0.9s,mb5.6
EVIA Vianos 32.63 173 P **P** **16 08 40.0 +0.4**
comp=Z,75nm,0.9s,mb5.6,SNR=16
EVO Evora 32.64 181 *e*P **P** **16 08 38.3 -1.3**
comp=Z,58nm,1.2s,mb5.1
EVO *e*R
comp=Z,6μm,22.5s
ETOB Tobarra 32.67 171 P **P** **16 08 39.5 -0.4**
comp=Z,103nm,1.6s,mb5.5
ETOB Tobarra 32.67 171 P **P** **16 08 39.5 -0.4**
comp=Z,103nm,1.6s,mb5.5,SNR=7.8
EBEN Beniarda 32.69 169 P **P** **16 08 40.1 0.0**
comp=Z,144nm,1.5s,mb5.7
EBEN Beniarda 32.69 169 P **P** **16 08 40.1 +0.1**
comp=Z,144nm,1.5s,mb5.7,SNR=7.9
SGO Sicignano 32.74 147 P **P** **16 08 39.8 -0.7**
PRD Provadia 32.84 129 *e*P **P** **16 08 40.5 -0.9**
VSL Villasalto 32.85 155 P **P** **16 08 41.8 +0.4**
SLCN Sala Consilina 32.97 146 P **P** **16 08 42.5 +0.1**
LTRZ Laterza 32.98 145 P **P** **16 08 41.5 -1.0**
SIM Simferopol' 33.02 120 ||*e*P **P** **16 08 46.7 +3.8**
SIM S **S** **16 14 04.0 +4.3**
SIM pmax pmax
comp=Z,34nm,7.0s
SIM MLR MLR
comp=Z,5μm,15.0s,MS5.3
EADA Adamuz 33.04 176 P **P** **16 08 42.6 -0.5**
comp=Z,174nm,1.6s,mb5.7
EADA Adamuz 33.04 176 P **P** **16 08 42.6 -0.5**
comp=Z,174nm,1.6s,mb5.7,SNR=11
EBAN Banos Encina 33.06 175 P **P** **16 08 43.4 +0.1**
EBAN pmax pmax
comp=Z,62nm,1.2s,mb5.4
EBAN Banos Encina 33.06 175 P **P** **16 08 43.4 +0.1**
comp=Z,62nm,1.2s,mb5.4
EBAN Banos Encina 33.06 175 P **P** **16 08 43.4 +0.1**
comp=Z,62nm,1.2s,mb5.4,SNR=9.7
KKB Krupnik 33.07 136 *i*P **P** **16 08 42.0 -1.3**
ECAB El Cabril 33.11 177 P **P** **16 08 43.2 -0.5**
comp=Z,206nm,1.8s,mb5.8
ECAB El Cabril 33.11 177 P **P** **16 08 43.2 -0.6**
comp=Z,206nm,1.8s,mb5.8,SNR=11
PBEJ Beja 33.14 180 *e*P **P** **16 08 43.6 -0.4**
comp=Z,69nm,1.6s,mb5.3
MGR Morigerati 33.20 147 P **P** **16 08 43.8 -0.7**
CUC Castrocucco 33.38 146 P **P** **16 08 46.0 -0.1**
EMIN Mina Concepcio 33.40 179 P **P** **16 08 45.6 -0.7**
comp=Z,88nm,1.4s,mb5.5
EMIN Mina Concepcio 33.40 179 P **P** **16 08 45.6 -0.7**
comp=Z,88nm,1.4s,mb5.5,SNR=13
ORI Oriolo Calabro 33.43 145 P **P** **16 08 46.8 +0.3**
EQES Quesada 33.45 174 P **P** **16 08 46.2 -0.5**
comp=Z,121nm,1.1s,mb5.7,SNR=21
EHUE Huescar 33.45 173 P **P** **16 08 46.2 -0.5**
EHUE pmax pmax
comp=Z,52nm,0.9s,mb5.5
EHUE Huescar 33.45 173 P **P** **16 08 46.2 -0.5**
comp=Z,52nm,0.9s,mb5.5,SNR=24
DIM Dimitrovgrad 33.47 132 *e*P **P** **16 08 37.0 -10**
VAY Valandovo 33.47 137 *i*P **P** **16 08 46.2 -0.7**
MMB Musomiste 33.48 135 *i*P **P** **16 08 46.5 -0.4**
EMUR La Murta 33.49 171 P **P** **16 08 46.3 -0.8**
comp=Z,171nm,1.9s,mb5.7
EMUR La Murta 33.49 171 P **P** **16 08 46.3 -0.7**
comp=Z,171nm,1.9s,mb5.7,SNR=7.3
PTEO Sao Teotonio 33.63 182 *ep*P pP 16 08 52.1 -0.7
PTEO Sao Teotonio 33.63 182 *ep*P pP 16 08 52.1 -0.7
EGRO El Granado 33.63 180 P **P** **16 08 47.4 -0.9**
comp=Z,85nm,1.4s,mb5.5
EGRO El Granado 33.63 180 P **P** **16 08 47.4 -0.9**
comp=Z,85nm,1.4s,mb5.5,SNR=7.9
ELUQ Luque 33.65 175 P **P** **16 08 47.8 -0.7**
ELUQ pmax pmax
comp=Z,130nm,1.5s,mb5.6
ELUQ Luque 33.65 175 P **P** **16 08 47.8 -0.6**
comp=Z,130nm,1.5s,mb5.6
ELUQ Luque 33.65 175 P **P** **16 08 47.8 -0.7**
comp=Z,130nm,1.5s,mb5.6,SNR=7.9
FNA Florina 33.72 139 *e*P **P** **16 08 47.8 -1.3**
GRG Griva 33.78 137 *e*P **P** **16 08 49.3 -0.3**
SRS Serrai 33.90 135 *e*P **P** **16 08 49.5 -1.1**
ANN Anapa 34.11 116 *de*P **P** **16 08 53.2 +0.8**
ANN *i* pP 16 08 57.1 +0.2
ANN *e*S **S** **16 14 16.7 +0.1**
ANN *e*SS SS 16 16 26.8 +1.8
ANN *e*SSS SSS 16 16 45.4 -5.7
ANN *e* 16 19 17.4
ANN pmax pmax
comp=Z,39nm,0.6s,mb5.5
ANN MLR MLR
comp=Z,6μm,19.0s,MS5.3
ANN MLR MLR
comp=N,2μm,13.0s
ANN MLR MLR
comp=E,2μm,19.0s
ANN Anapa 34.11 116 *e*P **P** **16 08 53.2 +0.8**
comp=E,39nm,0.6s,mb5.5
ANN *e*S **S** **16 14 16.7 +0.1**
ESPR Espera 34.31 178 P **P** **16 08 55.0 +0.9**
comp=E,192nm,1.7s,mb5.8,SNR=5.9
ENIJ Nijar 34.31 172 P **P** **16 08 53.0 -1.2**
comp=E,1.1nm,0.4s,SNR=7.9
RDO Rodhopi 34.33 133 P **P** **16 08 53.0 -1.2**
TIP Timpagrande 34.34 145 *e*P **P** **16 08 53.2 -1.2**
EBER Berja 34.35 173 P **P** **16 08 55.4 +0.8**
comp=E,87nm,1.1s,mb5.6
EBER Berja 34.35 173 P **P** **16 08 55.3 +0.7**
comp=E,87nm,1.1s,mb5.6
EGUA Guajares 34.40 174 P **P** **16 08 55.5 +0.6**
EGUA pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
EGUA Guajares 34.40 174 P **P** **16 08 55.5 +0.6**
comp=Z,8.7nm,1.0s,mb4.6
EGUA Guajares 34.40 174 P **P** **16 08 55.5 +0.6**
comp=Z,8.7nm,1.0s,mb4.7,SNR=7.9

LIT Litokhoron 34.62 137 *e*P **P** **16 08 56.1 -0.7**
GRI Girifalco 34.63 146 P **P** **16 08 57.0 +0.1**
EMIJ Mijas 34.63 176 P **P** **16 08 56.7 -0.2**
comp=Z,163nm,1.3s,mb5.8
EMIJ Mijas 34.63 176 P **P** **16 08 56.7 -0.2**
comp=Z,163nm,1.3s,mb5.8,SNR=10
MEV Metsovon 34.65 139 *e*P **P** **16 08 58.6 +1.6**
ALN Alexandroupoli 34.68 132 *e*P **P** **16 09 00.9 +3.6**
IGT Igoumenitsa 34.70 141 *e*P **P** **16 08 57.6 0.0**
OUR Ouranopolis 34.73 135 *e*P **P** **16 09 01.5 +3.7**
GIB Gibilmanna 35.02 150 P **P** **16 09 02.0 +1.7**
CRJA Costa Raja 35.04 151 P **P** **16 09 02.3 +1.9**
PAIG Paliouri 35.05 136 *e*P **P** **16 08 59.6 -0.9**
CEL Celeste 35.08 147 P **P** **16 09 01.4 +0.6**
MMGO Monte Magaggia 35.17 151 P **P** **16 09 02.8 +1.2**
MTTG Motta San Giov 35.30 147 P **P** **16 09 03.4 +0.8**
LKD Levkas 35.56 141 *e*P **P** **16 09 08.3 +3.5**
EVR Evrytania 35.61 139 *e*P **P** **16 09 05.5 +0.3**
AGG Agios Georgios 35.62 138 *e*P **P** **16 09 04.6 -0.7**
SOC Sochi 35.89 114 *e*P **P** **16 09 07.3 -0.3**
SOC *e* 16 10 23.5
SOC *e*S **S** **16 14 43.8 -0.4**
SOC pmax pmax
comp=Z,39nm,1.3s,mb5.2
SOC pmax pmax
comp=N,37nm,1.4s
SOC pmax pmax
comp=E,14nm,1.2s
SOC MLR MLR
comp=N,4μm,18.0s,MS5.3
SOC MLR MLR
comp=E,2μm,18.0s,MS5.3
SOC MLR MLR
comp=Z,5μm,18.0s,MS5.3
SOC Sochi 35.89 114 *e*P **P** **16 09 07.3 -0.3**
comp=Z,37nm,1.4s,mb5.1
SOC *e*S **S** **16 14 43.8 -0.4**
HENT Hendek 35.97 127 *i*P **P** **16 09 05.7 -2.6**
BALT Daday 35.97 123 *i*P **P** **16 09 09.7 +1.4**
VLS Valsamata 36.06 141 *e*P **P** **16 09 09.0 -0.1**
ULDT Uludag 36.16 129 *i*P **P** **16 09 10.0 +0.2**
INK Inuvik 36.24 329 P **P** **16 09 10.1 -0.2**
INK pmax pmax
comp=Z,77nm,1.0s
INK MLR MLR
comp=Z,1μm,21.4s
INK Inuvik 36.24 329 P **P** **16 09 10.1 -0.2**
comp=Z,77nm,1.0s,mb5.6,baz=26,slow=11,SNR=100
INK LR LR 16 24 20.6
comp=Z,1μm,21.4s,MS4.6,baz=35,slow=37
INK Inuvik 36.24 329 *e*P **P** **16 09 09.3 -1.0**
comp=Z,307nm,1.5s,mb6.0
KIV Kislovodsk 36.45 111 *e*P **P** **16 09 12.3 0.0**
KIV *e* 16 10 32.9
KIV *e*S **S** **16 14 49.5 -3.2**
KIV pmax pmax
comp=N,43nm,1.1s
KIV pmax pmax
comp=Z,52nm,1.1s,mb5.4
KIV MLR MLR
comp=N,2μm,14.0s,MS4.9
KIV MLR MLR
comp=Z,1μm,14.0s,MS4.9
KIV MLR MLR
comp=E,847nm,18.0s,MS4.9
KIV Kislovodsk 36.45 111 *e*P **P** **16 09 12.6 +0.3**
comp=E,59nm,1.0s,mb5.5
KIV Kislovodsk 36.45 111 *e*P **P** **16 09 12.6 +0.3**
comp=E,59nm,1.0s,mb5.5
BOYT Boyabat 36.50 121 *i*P **P** **16 09 14.5 +1.8**
SGKT Sivrigoynuk 36.51 125 *i*P **P** **16 09 13.8 +0.9**
ELDT Eldivan 36.96 124 *i*P **P** **16 09 18.9 +2.3**
ZRNK Zerenda 37.01 78 *e*P **P** **16 09 16.6 -0.3**
ZRNK pmax pmax
comp=Z,26nm,0.7s,mb5.2
ZRNK Zerenda 37.01 78 *e*P **P** **16 09 16.6 -0.3**
comp=Z,26nm,0.7s,mb5.2
ZRNK Zerenda 37.01 78 *e*P **P** **16 09 16.6 -0.3**
comp=Z,26nm,0.7s,mb5.2
TZK Tazeka 37.11 175 *i*P **P** **16 09 16.0 -2.0**
ESKT Eskisehir 37.18 127 *i*P **P** **16 09 18.6 +0.1**
CTKT Corum 37.21 122 *i*P **P** **16 09 16.1 -2.6**
URLA Izmir 37.22 133 *i*P **P** **16 09 21.0 +2.2**
GDZ Gediz 37.24 129 *i*P **P** **16 09 10.6 -8.4**
ITM Ithomi 37.30 140 *e*P **P** **16 09 19.5 0.0**
BRVK Borovoye 37.33 77 *e*P **P** **16 09 19.6 0.0**
BRVK pmax pmax
comp=Z,47nm,1.0s,mb5.3
BRVK Borovoye 37.33 77 *e*P **P** **16 09 19.6 0.0**
comp=Z,47nm,1.0s,mb5.3
BRVK Borovoye 37.33 77 *e*P **P** **16 09 19.6 0.0**
comp=Z,47nm,1.0s,mb5.3
KDAG Bornova 37.34 132 *i*P **P** **16 09 16.1 -3.7**
BVAR Borovoye Array 37.39 77 P **P** **16 09 20.7 +0.6**
comp=Z,41nm,0.9s,mb5.2,baz=315,slow=6.3,SNR=28
YKW3 Yellowknife Ar 37.48 313 *e*P **P** **16 09 20.3 -0.5**
YKW3 Yellowknife Ar 37.48 313 *e*P **P** **16 09 20.3 -0.4**
YKA Yellowknife Ar 37.53 313 P **P** **16 09 21.2 0.0**
YKA 16 11 39.3
YKA pmax pmax
comp=Z,20nm,0.7s
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA MLR MLR
comp=Z,3μm,18.7s
YKA Yellowknife Ar 37.53 313 P **P** **16 09 21.2 +0.1**
comp=Z,20nm,0.7s,mb5.0,baz=29,slow=8.9,SNR=48
YKA PcP PcP 16 11 39.3 -0.4
comp=Z,4.4nm,0.9s,baz=22,slow=3.3,SNR=4.9
YKA LR LR 16 24 20.4
comp=Z,3μm,18.7s,MS5.1,baz=30,slow=36
YKA Yellowknife Ar 37.53 313 PcP PcP 16 11 39.3 -0.4
BR131 Keskin Array S 37.73 124 *e*P **P** **16 09 22.9 -0.1**
comp=Z,5.8nm,0.6s,mb4.5
BR131 LR LR
comp=Z,980nm,21.0s,MS4.6
BR131 Keskin Array S 37.73 124 *e*P **P** **16 09 22.9 -0.2**
comp=Z,5.8nm,0.6s,mb4.5
BRTR Keskin Array B 37.73 124 P **P** **16 09 23.6 +0.6**
comp=Z,7.3nm,0.6s,mb4.6,baz=333,slow=8.3,SNR=9.0
BRTR PP PP 16 10 54.1 +1.9
comp=Z,7.2nm,1.1s,baz=338,slow=6.7,SNR=3.6
BRTR Keskin Array B 37.73 124 P **P** **16 09 23.6 +0.5**
MIF Mishlifen 37.77 177 *i*P **P** **16 09 24.0 +0.5**
ZEI Tsey 37.89 110 *e*P **P** **16 09 25.2 +0.8**
ONI Oni 37.93 111 P **P** **16 09 27.6 +2.8**
VLI Veliai 37.96 138 *e*P **P** **16 09 24.5 -0.6**
CDAG Cicekdag 38.02 123 *i*P **P** **16 09 25.6 0.0**
CZD Col de Zad 38.15 177 *i*P **P** **16 09 29.0 +2.3**
KYTH Kithira 38.41 139 *e*P **P** **16 09 29.5 +0.7**
TKTP Tekketepe 38.44 129 *i*P **P** **16 09 29.7 +0.6**
KDHN Kadinhani 38.45 126 *i*P **P** **16 09 24.2 -5.0**
KIB El Ksiba 38.59 178 *i*P **P** **16 09 31.0 +0.6**
ISP Isparta 38.68 129 *i*P **P** **16 09 30.9 -0.2**
EMMW East Machias 38.79 260 *e*P **P** **16 09 32.6 +0.6**
comp=Z,206nm,1.5s,mb5.6
EMMW East Machias 38.79 260 *e*P **P** **16 09 32.6 +0.6**
comp=Z,206nm,1.5s,mb5.6
MAK Makhachkala 38.84 106 *e*P **P** **16 09 34.0 +1.7**
MAK *e* 16 11 06.0
MAK *e*PPP PPP 16 11 37.0 +8.7
MAK *i*S **S** **16 15 26.0 -3.1**
MAK pmax pmax
comp=Z,1μm,4.0s
MAK pmax pmax
comp=Z,1μm,4.0s
MAK smax
comp=N,1μm,6.0s
MAK smax
comp=E,2μm,6.0s
MAK MLR MLR
comp=N,4μm,12.0s,MS5.5
MAK MLR MLR
comp=E,2μm,12.0s,MS5.5
MAK MLR MLR
comp=Z,4μm,12.0s,MS5.4
MAK Makhachkala 38.84 106 *e*P **P** **16 09 34.0 +1.7**
comp=Z,1μm,4.0s
SANT Santorini 38.86 135 *e*P **P** **16 09 30.2 -2.4**
comp=Z,58nm,1.0s,mb5.3
SANT Santorini 38.86 135 *e*P **P** **16 09 30.2 -2.4**
comp=Z,58nm,1.0s,mb5.3
AVNT Avonos 38.95 123 *i*P **P** **16 09 33.9 +0.6**
GOLH Golhisar 39.01 130 *i*P **P** **16 09 33.3 -0.6**
TBLG Delisi 39.10 110 P **P** **16 09 39.6 +5.1**

TI2 Plekhanov 39.10 110 *e*P **P** **16 09 39.0 +4.5**
TI2 *e* 16 15 36.4
VAM Vamos 39.50 137 *e*P **P** **16 09 38.5 +0.6**
DGRG David-gareji 39.55 110 P **P** **16 09 39.6 +1.4**
WVL Waterville 39.63 262 *e*P **P** **16 09 39.0 +0.1**
comp=Z,506nm,1.7s,mb6.0
WVL LR LR
comp=Z,9μm,21.0s,MS5.6
WVL Waterville 39.63 262 *e*P **P** **16 09 39.0 +0.1**
comp=Z,506nm,1.7s,mb6.0
ERZM Erzurum 39.76 115 *i*P **P** **16 09 42.3 +2.3**
IDI Anoyia 39.77 137 P **P** **16 09 39.0 -1.1**
comp=Z,9.0nm,0.8s,mb4.5,baz=357,slow=18,SNR=4.1
IDI LR LR 16 25 27.2
comp=Z,453nm,21.4s,MS4.3,baz=331,slow=35
NVS Novosibirsk 39.78 65 ||*i*P **P** **16 09 41.0 +1.0**
NVS *e* 16 11 11.7
NVS *e*S **S** **16 15 50.4 +7.2**
NVS pmax pmax
comp=N,63nm,1.7s
NVS pmax pmax
comp=Z,101nm,1.7s,mb5.3
NVS pmax pmax
comp=Z,345nm,2.4s,mb5.7
NVS pmax pmax
comp=N,352nm,2.5s
NVS smax
comp=N,74nm,2.2s
NVS Novosibirsk 39.78 65 *i*P **P** **16 09 41.0 +1.0**
comp=N,345nm,2.4s,mb5.7
OUK Oukaimeden 39.94 180 *i*P **P** **16 09 42.0 +0.4**
AKAS Kas 39.98 131 *i*P **P** **16 09 41.7 -0.1**
ELZG Elazig 40.37 118 *i*P **P** **16 09 47.0 +1.9**
MALT Malatya 40.38 119 *e*P **P** **16 09 46.1 +1.0**
MALT pmax pmax
comp=Z,30nm,0.9s,mb5.0
MALT Malatya 40.38 119 *e*P **P** **16 09 46.1 +1.0**
comp=Z,30nm,0.9s,mb5.0
MALT Malatya 40.38 119 *e*P **P** **16 09 46.1 +1.0**
comp=Z,30nm,0.9s,mb5.0
ERMK Ermenek 40.43 126 *i*P **P** **16 09 48.2 +2.6**
GNI Garni 40.55 111 P **P** **16 09 46.7 +0.2**
GNI pmax pmax
comp=Z,5.0nm,0.5s
GNI MLR MLR
comp=Z,427nm,19.2s
GNI Garni 40.55 111 P **P** **16 09 46.7 +0.2**
comp=Z,5.1nm,0.5s,mb4.4,baz=335,slow=14,SNR=3.0
GNI LR LR 16 27 25.9
comp=Z,427nm,19.2s,MS4.3,baz=336,slow=38
GNI Garni 40.55 111 *e*P **P** **16 09 46.6 +0.1**
comp=Z,117nm,1.3s,mb5.3
GNI LR LR
comp=Z,807nm,20.0s,MS4.6
GNI Garni 40.55 111 *e*P **P** **16 09 46.6 +0.1**
comp=Z,117nm,1.3s,mb5.3
FFC Flin Flon 40.93 298 *e*P **P** **16 09 49.2 -0.3**
FFC pmax pmax
comp=Z,162nm,1.5s,mb5.4
FFC Flin Flon 40.93 298 *e*P **P** **16 09 49.2 -0.2**
comp=Z,162nm,1.5s,mb5.4
FFC Flin Flon 40.93 298 *e*P **P** **16 09 49.2 -0.3**
comp=Z,162nm,1.5s,mb5.4
MSNY Massena 40.93 267 *e*P **P** **16 09 51.2 +1.6**
MSNY Massena 40.93 267 *e*P **P** **16 09 51.2 +1.6**
ZAL Zalesovo 41.02 64 *i*P **P** **16 09 54.8 +4.6**
ZAL pmax pmax
comp=Z,5.0nm,0.8s
ZAL Zalesovo 41.02 64 P **P** **16 09 51.4 +1.1**
comp=Z,5.0nm,0.8s,baz=138,slow=9.3,SNR=23
ZAL LR LR 16 30 35.9
comp=Z,2μm,18.8s,MS5.1,baz=134,slow=42
GZT Gaziantep 41.03 121 *i*P **P** **16 09 51.8 +1.3**
BILL Bilibino 41.05 4 *i*P **P** **16 09 50.1 -0.3**
BILL pmax pmax
comp=Z,61nm,1.2s,mb5.1
BILL Bilibino 41.05 4 *e*P **P** **16 09 51.2 +0.8**
comp=Z,83nm,1.1s,mb5.3
BILL Bilibino 41.05 4 *e*P **P** **16 09 51.2 +0.8**
comp=Z,83nm,1.1s,mb5.3
IMA Indian Mountai 41.17 340 *e*P **P** **16 09 51.2 -0.1**
IMA pmax pmax
comp=Z,530nm,1.6s,mb5.9
IMA Indian Mountai 41.17 340 *e*P **P** **16 09 51.2 -0.1**
comp=Z,530nm,1.6s,mb5.9
IMA Indian Mountai 41.17 340 *e*P **P** **16 09 51.2 -0.1**
comp=Z,530nm,1.6s,mb5.9
HNH Hanover 41.25 264 *e*P **P** **16 09 53.5 +1.3**
comp=Z,16nm,1.9s,mb4.3
HNH Hanover 41.25 264 *e*P **P** **16 09 53.5 +1.3**
comp=Z,16nm,1.9s,mb4.3
MIV Mineville/With 41.32 266 *e*P **P** **16 09 53.3 +0.5**
MIV Mineville/With 41.32 266 *e*P **P** **16 09 53.3 +0.5**
ILAR Eielson Array 41.56 335 P **P** **16 09 55.5 +1.1**
comp=Z,58nm,1.0s,mb5.2,baz=14,slow=7.0,SNR=206
ILAR LR LR 16 27 23.5
comp=Z,511nm,20.5s,MS4.4,baz=237,slow=36
TVAN Van 41.63 113 *i*P **P** **16 09 57.7 +2.4**
NCB Newcomb 41.64 266 *e*P **P** **16 09 55.0 -0.3**
comp=Z,39nm,1.2s,mb4.9
NCB Newcomb 41.64 266 *e*P **P** **16 09 55.0 -0.3**
comp=Z,39nm,1.2s,mb4.9
KURK Kurchatov 41.97 72 P **P** **16 09 57.8 -0.1**
KURK pmax pmax
comp=Z,17nm,1.1s,mb4.6
KURK Kurchatov 41.97 72 P **P** **16 09 57.8 -0.1**
comp=Z,17nm,1.1s,mb4.6
KURK Kurchatov 41.97 72 P **P** **16 09 57.8 -0.1**
comp=Z,17nm,1.1s,mb4.6
ACCN Adirondack Com 41.98 265 *e*P **P** **16 09 59.5 +1.4**
MARD Mardin 41.98 117 *i*P **P** **16 09 58.1 -0.1**
HRV Harvard--Oak R 42.09 263 *e*P **P** **16 10 00.3 +1.3**
HRV pmax pmax
comp=Z,192nm,1.8s,mb5.4
HRV Harvard--Oak R 42.09 263 *e*P **P** **16 10 00.3 +1.3**
comp=Z,192nm,1.8s,mb5.4
HRV Harvard--Oak R 42.09 263 *e*P **P** **16 10 00.3 +1.3**
comp=Z,192nm,1.8s,mb5.4
CSS Prodhromos 42.13 127 *e*P **P** **16 09 59.5 +0.1**
comp=Z,72nm,0.9s,mb5.3
CSS Prodhromos 42.13 127 *e*P **P** **16 09 59.5 +0.1**
comp=Z,72nm,0.9s,mb5.3
MCK McKinley 42.83 336 *e*P **P** **16 10 05.8 +1.0**
MCK pmax pmax
comp=Z,121nm,1.2s,mb5.5
MCK MLR MLR
comp=Z,428nm,20.0s,MS4.3
MCK McKinley 42.83 336 *e*P **P** **16 10 05.8 +1.0**
comp=Z,121nm,1.2s,mb5.5
MCK LR LR
comp=Z,428nm,20.0s,MS4.3
MCK McKinley 42.83 336 *e*P **P** **16 10 05.8 +1.0**
comp=Z,121nm,1.2s,mb5.5
TNA Tin City 42.95 348 *e*P **P** **16 10 07.0 +1.3**
comp=Z,30nm,1.0s,mb5.0
TNA Tin City 42.95 348 *e*P **P** **16 10 07.0 +1.3**
comp=Z,30nm,1.0s,mb5.0
ULM Lac du Bonnet 43.03 290 P **P** **16 10 06.5 -0.1**
comp=Z,8.7nm,1.0s,mb4.4,baz=34,slow=12,SNR=7.9
ULM PcP PcP 16 11 55.2 -2.1
comp=Z,7.1nm,0.9s,baz=41,slow=4.4,SNR=3.7
ULM LR LR 16 27 00.3
comp=Z,826nm,20.3s,MS4.6,baz=206,slow=35
ULM Lac du Bonnet 43.03 290 P **P** **16 10 06.5 -0.1**
ULM PcP PcP 16 11 55.2 -2.1
ULM LR LR 16 27 00.3
ULM Lac du Bonnet 43.03 290 PcP PcP 16 11 55.2 -2.1
YAK Yakutsk 43.87 28 *e*P **P** **16 10 13.6 +0.4**
YAK *e* 16 11 55.5
YAK *i* 16 11 58.8
YAK *i*S **S** **16 16 44.5 +1.3**
YAK *e* 16 20 12.6
YAK pmax pmax
comp=Z,87nm,1.1s,mb5.4
YAK pmax pmax
comp=N,52nm,1.2s
YAK pmax pmax
comp=E,31nm,1.3s
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,11nm,1.2s
YAK pmax pmax
comp=Z,27nm,1.2s,mb4.8
YAK smax
comp=E,583nm,22.7s

YAK smax
comp=Z,310nm,10.2s
YAK smax
comp=N,623nm,18.8s
YAK Yakutsk 43.87 28 *e*P **P 16 10 12.8 -0.5**
comp=N,203nm,1.2s,mb5.7
YAK Yakutsk 43.87 28 *e*P **P 16 10 12.8 -0.4**
comp=N,203nm,1.2s,mb5.7
YAK Yakutsk 43.87 28 *e*PcP PcP 16 11 55.5 -4.5
YAK *i* S **S 16 16 44.5 +1.3**
comp=N,623nm,18.8s
YAK *e*ScS ScS 16 20 12.6 +3.0
KSDI Kefar Szold 44.42 125 P **P 16 10 19.2 +1.1**
TTA Tatalina 44.47 340 *e*P **P 16 10 19.6 +1.5**
SML Sawmill 44.59 335 *e*P **P 16 10 19.8 +0.7**
DLBC Dease Lake 44.60 321 LR LR 16 30 17.1
comp=N,720nm,21.8s,MS4.6,baz=20,slow=38
DLBC Dease Lake 44.60 321 *e*P **P 16 10 20.4 +1.3**
DLBC Dease Lake 44.60 321 *e*P **P 16 10 20.4 +1.2**
HAF Haifa 44.64 126 P **P 16 10 21.7 +1.8**
KSHT Keshet 44.66 125 P **P 16 10 20.4 +0.4**
OFRI 'Ofer 44.78 126 P **P 16 10 22.7 +1.7**
DIV Divide 44.87 333 *e*P **P 16 10 21.7 +0.4**
comp=N,254nm,1.4s,mb5.9
DIV LR LR
comp=Z,2μm,19.0s,MS5.0
DIV Divide 44.87 333 *e*P **P 16 10 21.7 +0.3**
comp=Z,254nm,1.4s,mb5.9
PMR Palmer 44.91 335 P **P 16 10 22.0 +0.3**
PMR pmax pmax
comp=Z,17nm,0.4s,mb5.2
PMR MLR MLR
comp=Z,775nm,19.0s,MS4.7
PMR Palmer 44.91 335 P **P 16 10 22.0 +0.3**
comp=Z,18nm,0.4s,mb5.2
PMR LR LR
comp=Z,775nm,19.0s,MS4.7
PMR Palmer 44.91 335 P **P 16 10 22.0 +0.3**
comp=Z,18nm,0.4s,mb5.2
BOD Bodaibo 44.98 40 *e*P **P 16 10 20.7 -1.6**
BOD pmax pmax
comp=Z,66nm,1.6s,mb5.2
BOD Bodaibo 44.98 40 *e*P **P 16 10 20.7 -1.6**
comp=Z,66nm,1.6s,mb5.2
MMLI Mount Malkishu 45.07 125 P **P 16 10 22.5 -0.8**
SLTI Sal'it 45.16 126 P **P 16 10 24.7 +0.7**
EDM Edmonton 45.41 306 *e*P **P 16 10 25.3 -0.4**
SEY Seymchan 45.52 13 *e*P **P 16 10 28.2 +1.7**
SEY 16 12 04.7
SEY 16 12 21.1
SEY *e*S **S 16 17 12.2 +5.1**
SEY 16 20 22.2
SEY *e*SSS SSS 16 21 28.5 +4.4
SEY pmax pmax
comp=N,50nm,1.2s
SEY pmax pmax
comp=Z,140nm,1.2s,mb5.8
SEY pmax pmax
comp=E,10.0nm,1.3s
SEY smax
comp=N,2μm,14.3s
SEY smax
comp=E,540nm,7.9s
SEY MLR MLR
comp=Z,860nm,23.0s,MS4.6
SEY MLR MLR
comp=N,360nm,21.0s,MS4.4
SEY MLR MLR
comp=E,240nm,16.0s,MS4.4
SEY Seymchan 45.52 13 *i*P **P 16 10 27.3 +0.8**
SEY Seymchan 45.52 13 PcP PcP 16 12 04.7 -1.0
SEY ScS ScS 16 20 22.2 +2.1
ALLY Alegheny Colle 45.65 270 *e*P **P 16 10 28.8 +1.0**
ALLY Alegheny Colle 45.65 270 *e*P **P 16 10 28.8 +1.0**
SPU Mount Spurr 45.70 337 *e*P **P 16 10 27.5 -0.4**
ASF Jabal al Asfar 45.72 124 P **P 16 10 28.1 -0.3**
comp=E,24nm,0.9s,mb5.1,baz=239,slow=2.9,SNR=22
ASF PcP PcP 16 12 06.6 -0.2
comp=E,4.5nm,0.6s,baz=29,slow=0.8,SNR=2.1
MKRJ Makawir 45.97 126 P **P 16 10 30.7 +0.3**
SLKM Skilak Lake 46.10 335 *e*P **P 16 10 31.9 +0.8**
MZDA Masada 46.12 126 P **P 16 10 31.6 -0.1**
SVW2 Sparrevohn 46.21 339 *e*P **P 16 10 33.6 +1.7**
KZIT Kziot 46.25 127 P **P 16 10 32.6 -0.1**
RSO Redoubt South 46.48 337 *e*P **P 16 10 33.7 -0.3**
RSO Redoubt South 46.48 337 *e*P **P 16 10 33.7 -0.4**
QURS Qurayyt al Mil 46.58 124 P **P 16 10 36.7 +1.5**
ZFRI Zfri 46.79 127 P **P 16 10 36.9 -0.1**
PRNI Paran 46.94 127 P **P 16 10 38.1 0.0**
KMTI Karmit 47.10 127 P **P 16 10 39.3 -0.1**
MBH Mount Berech 47.45 127 P **P 16 10 41.8 -0.4**
MOY Mondy 47.54 53 *e*P **P 16 10 45.0 +2.4**
EIL Elat 47.57 127 P **P 16 10 42.7 -0.5**
EIL Elat 47.57 127 *e*P **P 16 10 42.1 -1.0**
comp=E,29nm,0.7s,mb5.4
EIL Elat 47.57 127 *e*P **P 16 10 42.1 -1.1**
comp=E,29nm,0.7s,mb5.4
AAK Ala-Archa 47.84 80 P **P 16 10 44.6 -0.5**
AAK pmax pmax
comp=Z,28nm,0.7s,mb5.4
AAK Ala-Archa 47.84 80 P **P 16 10 44.6 -0.5**
comp=Z,28nm,0.7s,mb5.4
AAK Ala-Archa 47.84 80 P **P 16 10 44.6 -0.5**
comp=Z,28nm,0.7s,mb5.4
IRK Irkutsk 47.85 50 *e*P **P 16 10 44.2 -0.9**
IRK *e* 16 12 43.3
IRK pmax pmax
comp=Z,206nm,1.5s,mb5.9
IRK Irkutsk 47.85 50 *e*P **P 16 10 44.2 -0.9**
comp=Z,206nm,1.5s,mb5.9
CRAG Craig 47.99 321 *e*P **P 16 10 46.9 +0.8**
CLNS Chul'man 48.02 33 *e*P **P 16 10 46.9 +0.6**
CLNS *e*PP pP 16 10 52.3 +1.4
CLNS *e*S **S 16 17 38.5 -4.1**
CLNS pmax pmax
comp=Z,143nm,0.9s,mb6.0
CLNS pmax pmax
comp=N,76nm,1.0s
CLNS pmax pmax
comp=E,17nm,1.0s
CLNS pmax pmax
comp=Z,49nm,1.0s,mb5.5
CLNS pmax pmax
comp=N,63nm,1.1s
CLNS pmax pmax
comp=E,44nm,1.3s
CLNS smax
comp=N,1μm,13.1s
CLNS smax
comp=Z,133nm,7.7s
CLNS smax
comp=E,67nm,11.7s
CLNS Chul'man 48.02 33 *e*P **P 16 10 46.9 +0.6**
comp=E,143nm,0.9s,mb6.0
HAQS Haql 48.15 127 P **P 16 10 47.3 -0.4**
TLY Talaya 48.21 51 *e*P **P 16 10 50.4 +2.6**
TLY *e* 16 12 42.2
TLY *e*PPP PPP 16 13 33.6 +2.7
TLY *e*S **S 16 17 50.0 +4.6**
TLY *e*SS SS 16 21 08.8 -1.1
TLY pmax pmax
comp=Z,31nm,1.2s,mb5.2
TLY MLR MLR
comp=Z,4μm,19.0s,MS5.4
TLY Talaya 48.21 51 *e*P **P 16 10 48.7 +0.8**
comp=Z,16nm,0.8s,mb5.1
TLY Talaya 48.21 51 *e*P **P 16 10 48.7 +0.9**
comp=Z,16nm,0.8s,mb5.1
JMQS Jabal Moqyreh 48.56 126 P **P 16 10 51.0 +0.2**
TAYS Tayyib Ism 48.62 128 P **P 16 10 51.2 -0.1**
MA2 Magadan 48.73 14 *i*P **P 16 10 51.9 +0.2**
MA2 pmax pmax
comp=Z,149nm,1.6s,mb5.8
MA2 Magadan 48.73 14 *e*P **P 16 10 52.5 +0.8**
comp=Z,130nm,1.3s,mb5.8
MA2 LR LR
comp=Z,405nm,20.0s,MS4.4
MA2 Magadan 48.73 14 *e*P **P 16 10 52.5 +0.8**
comp=Z,130nm,1.3s,mb5.8
BDAS Al Bad' 48.79 127 P **P 16 10 52.7 +0.1**
WALA Waterton Lakes 49.33 304 *e*P **P 16 10 55.7 -0.8**
comp=Z,67nm,1.3s,mb5.5
WALA Waterton Lakes 49.33 304 *e*P **P 16 10 55.7 -0.8**
comp=Z,67nm,1.3s,mb5.5
TBKS Tabuk 49.37 126 P **P 16 10 57.3 +0.2**

FWV Forest Hill 49.55 269 *e*P **P 16 10 58.6 +0.3**
BLA Blacksburg 49.76 268 *e*P **P 16 11 00.3 +0.3**
BLA pmax pmax
comp=Z,360nm,1.8s,mb6.1
BLA Blacksburg 49.76 268 *e*P **P 16 11 00.3 +0.4**
comp=Z,360nm,1.8s,mb6.1
BLA Blacksburg 49.76 268 *e*P **P 16 11 00.3 +0.3**
comp=Z,360nm,1.8s,mb6.1
ELN Prospectdale 49.85 268 *e*P **P 16 11 00.2 -0.5**
BLO Bloomington 49.96 275 *e*P **P 16 11 01.2 -0.3**
BLO pmax pmax
comp=Z,367nm,1.8s,mb6.1
BLO Bloomington 49.96 275 *e*P **P 16 11 01.2 -0.3**
comp=Z,367nm,1.8s,mb6.1
BLO Bloomington 49.96 275 *e*P **P 16 11 01.2 -0.3**
comp=Z,367nm,1.8s,mb6.1
WCI Wyandotte Cave 50.75 274 *e*P **P 16 11 07.3 -0.2**
WCI pmax pmax
comp=Z,309nm,1.8s,mb5.9
WCI MLR MLR
comp=Z,298nm,19.0s,MS4.3
WCI Wyandotte Cave 50.75 274 *e*P **P 16 11 07.3 -0.1**
comp=Z,309nm,1.8s,mb5.9
WCI LR LR
comp=Z,298nm,19.0s,MS4.3
WCI Wyandotte Cave 50.75 274 *e*P **P 16 11 07.3 -0.2**
comp=Z,309nm,1.8s,mb5.9
HRY Holter Researc 50.90 301 *e*P **P 16 11 07.3 -1.1**
HRY Holter Researc 50.90 301 *e*P **P 16 11 07.3 -1.2**
WMQ Urumqi 50.90 68 P **P 16 11 10.3 +1.8**
WMQ AP pP 16 11 14.8 +1.6
WMQ XP sP 16 11 17.3 +2.3
WMQ PP PP 16 13 07.5 +1.6
WMQ S **S 16 18 24.3 +1.3**
WMQ XS 16 18 32.0
WMQ AMB AMB
comp=Z,73nm,1.4s,mb5.4
WMQ AMB AMB
comp=Z,707nm,5.6s
WMQ LR LR
comp=N,2μm,18.1s,MS5.4
WMQ LR LR
comp=E,2μm,15.8s,MS5.4
WMQ LR LR
comp=Z,3μm,16.2s,MS5.3
NEW Newport 50.91 306 P **P 16 11 08.5 -0.1**
comp=Z,2.8nm,0.4s,mb4.5,baz=35,slow=6.9,SNR=23
NEW PcP PcP 16 12 25.9 +0.6
comp=Z,12nm,1.0s,baz=332,slow=2.7,SNR=4.1
NEW Newport 50.91 306 P **P 16 11 08.5 -0.1**
NEW PcP PcP 16 12 25.9 +0.6
RSSD Black Hills 50.99 293 P **P 16 11 09.0 -0.2**
CHMT Chamberlain Mo 51.11 302 *e*P **P 16 11 08.9 -1.1**
CHMT Chamberlain Mo 51.11 302 *e*P **P 16 11 08.9 -1.2**
GCMT Greycliff 51.12 299 *e*P **P 16 11 10.2 0.0**
GCMT Greycliff 51.12 299 *e*P **P 16 11 10.2 0.0**
KSH Kashi 51.13 81 *e*P **P 16 11 16.0 +5.6**
KSH *e*AP pP 16 11 21.0 +6.0
KSH *e*XP sP 16 11 23.5 +6.7
KSH *e*PCP PcP 16 12 30.0 +3.8
KSH *e*PP PP 16 13 14.3 +6.3
KSH *e*PCS 16 16 24.3
KSH *e*S **S 16 18 36.0 +10**
KSH *e*XS 16 18 44.0
KSH *e*SCS ScS 16 21 03.0 +5.5
KSH AMB AMB
comp=Z,170nm,1.4s,mb5.8
KSH AMB AMB
comp=Z,640nm,3.3s
CHGN Chignik 51.23 340 *e*P **P 16 11 10.2 -0.6**
MSO Missoula 51.37 303 *e*P **P 16 11 11.2 -0.9**
comp=Z,58nm,1.3s,mb5.3
MSO Missoula 51.37 303 *e*P **P 16 11 11.2 -0.9**
comp=Z,58nm,1.3s,mb5.3
TZTN Tazewell 51.39 271 *e*P **P 16 11 12.8 +0.4**
TZTN Tazewell 51.39 271 *e*P **P 16 11 12.8 +0.5**
HILS Ha'il 51.59 121 P **P 16 11 14.5 +0.5**
PGC Sidney 52.17 311 *e*P **P 16 11 17.7 -0.4**
FVM French Village 52.31 278 *e*P **P 16 11 18.4 -0.9**
FVM pmax pmax
comp=Z,32nm,1.1s,mb5.2
FVM French Village 52.31 278 *e*P **P 16 11 18.4 -0.9**
comp=Z,32nm,1.1s,mb5.2
FVM French Village 52.31 278 *e*P **P 16 11 18.4 -0.9**
comp=Z,32nm,1.1s,mb5.2
YNR Norris Junctio 52.40 299 *e*P **P 16 11 20.4 +0.5**
SONM Songino Array 52.45 51 P **P 16 11 23.9 +3.7**
comp=Z,19nm,1.1s,mb5.0,baz=315,slow=8.2,SNR=5.9
SONM LR LR 16 36 18.1
comp=Z,2μm,18.2s,MS5.2,baz=187,slow=39
QLMT Earthquake Lak 52.51 299 *e*P **P 16 11 20.5 -0.2**
QLMT Earthquake Lak 52.51 299 *e*P **P 16 11 20.5 -0.2**
YMR Madison River 52.52 299 *e*P **P 16 11 21.2 +0.4**
YFT Old Faithful 52.68 299 *e*P **P 16 11 23.8 +1.8**
YFT Old Faithful 52.68 299 *e*P **P 16 11 23.8 +1.8**
JSC Jenkinsville 52.71 267 *e*P **P 16 11 22.3 -0.1**
OBC Olympics--Boni 52.90 311 P **P 16 11 25.1 +1.5**
OBC Olympics--Boni 52.90 311 P **P 16 11 25.1 +1.5**
MCMT McKenzie Canyo 52.91 301 *e*P **P 16 11 23.8 +0.1**
MCMT McKenzie Canyo 52.91 301 *e*P **P 16 11 23.8 +0.1**
WVT Waverly 53.16 274 *e*P **P 16 11 23.9 -1.8**
WVT *e* 16 12 33.0
WVT pmax pmax
comp=Z,140nm,1.8s,mb5.6
WVT MLR MLR
comp=Z,1μm,19.0s,MS4.9
WVT Waverly 53.16 274 *e*P **P 16 11 23.9 -1.8**
comp=Z,140nm,1.8s,mb5.6
WVT *e*PcP PcP 16 12 33.0 -0.7
WVT LR LR
comp=Z,1μm,19.0s,MS4.9
WVT Waverly 53.16 274 *e*P **P 16 11 23.9 -1.8**
comp=Z,140nm,1.8s,mb5.6
WVT Waverly 53.16 274 *e*PcP PcP 16 12 33.0 -0.7
IMW Indian Meadow 53.22 299 *e*P **P 16 11 26.2 +0.2**
comp=Z,105nm,1.6s,mb5.5
IMW *e*PcP PcP 16 12 35.0 +1.2
IMW Indian Meadow 53.22 299 *e*P **P 16 11 26.2 +0.2**
comp=Z,105nm,1.6s,mb5.5
KSU1 Kansas State U 53.27 284 *e*P **P 16 11 25.1 -1.4**
KSU1 Kansas State U 53.27 284 *e*P **P 16 11 25.0 -1.4**
MOOW Moose Ponds 53.30 298 *e*P **P 16 11 26.5 -0.1**
comp=Z,183nm,2.4s,mb5.6
MOOW *e*PcP PcP 16 12 34.8 +0.6
MOOW Moose Ponds 53.30 298 *e*P **P 16 11 26.5 -0.1**
comp=Z,183nm,2.4s,mb5.6
LOHW Long Hollow 53.39 298 *e*P **P 16 11 27.5 +0.3**
comp=Z,197nm,2.3s,mb5.6
LOHW Long Hollow 53.39 298 *e*P **P 16 11 27.5 +0.3**
comp=Z,197nm,2.3s,mb5.6
TWB Tillmans-White 53.41 266 *e*P **P 16 11 27.9 +0.4**
TWB Tillmans-White 53.41 266 *e*P **P 16 11 28.0 +0.5**
NHSC New Hope 53.44 266 *e*P **P 16 11 27.7 0.0**
comp=Z,524nm,1.3s,mb6.3
NHSC New Hope 53.44 266 *e*P **P 16 11 27.7 -0.1**
comp=Z,524nm,1.3s,mb6.3
CSU Charleston Sou 53.51 266 *e*P **P 16 11 28.5 +0.2**
SNOW Snow King Moun 53.57 298 *e*P **P 16 11 28.7 +0.1**
comp=Z,5.3nm,0.6s,mb4.7
TPAW Teton Pass 53.60 298 *e*P **P 16 11 28.8 0.0**
comp=Z,101nm,1.7s,mb5.5
TPAW *e*PcP PcP 16 12 36.2 +0.9
TPAW Teton Pass 53.60 298 *e*P **P 16 11 28.8 0.0**
comp=Z,101nm,1.7s,mb5.5
HBF Harts Bluff 53.66 266 *e*P **P 16 11 28.5 -0.9**
REDW Red Top Meadow 53.69 298 *e*P **P 16 11 29.8 +0.4**
comp=Z,99nm,1.5s,mb5.5
REDW Red Top Meadow 53.69 298 *e*P **P 16 11 29.8 +0.4**
comp=Z,99nm,1.5s,mb5.5
RRI2 Red Ridge 53.84 299 *e*P **P 16 11 30.8 +0.3**
comp=Z,352nm,2.3s,mb5.9
RRI2 *e*PcP PcP 16 12 36.1 -0.1
PDAR Pinedale Array 53.86 297 P **P 16 11 30.2 -0.4**
comp=Z,8.3nm,1.0s,mb4.6,baz=45,slow=6.3,SNR=52
PDAR LR LR 16 34 39.0
comp=Z,1μm,18.5s,MS5.0,baz=27,slow=36
PDAR Pinedale Array 53.86 297 P **P 16 11 30.2 -0.5**
PHWY Pilot Hill 53.99 293 *e*P **P 16 11 31.2 -0.5**
PHWY *e*PcP PcP 16 12 36.9 0.0
PHWY Pilot Hill 53.99 293 *e*P **P 16 11 31.2 -0.4**
PHWY Pilot Hill 53.99 293 *e*PcP PcP 16 12 36.9 +0.1
TDL Tradedollar La 54.00 309 P **P 16 11 32.0 +0.3**
TDL Tradedollar La 54.00 309 P **P 16 11 32.0 +0.3**
BMO Blue Mountains 54.11 304 *e*P **P 16 11 31.1 -1.4**
comp=Z,106nm,1.5s,mb5.5

BMO *e*PcP PcP 16 12 36.9 -0.3
BMO Blue Mountains 54.11 304 *e*P **P 16 11 31.1 -1.4**
comp=Z,106nm,1.5s,mb5.5
BMO Blue Mountains 54.11 304 *e*PcP PcP 16 12 36.9 -0.3
RWWY Rawlins 54.16 294 *e*P **P 16 11 32.1 -0.8**
comp=Z,212nm,2.1s,mb5.7
RWWY Rawlins 54.16 294 *e*P **P 16 11 32.1 -0.8**
comp=Z,212nm,2.1s,mb5.7
PLAL Pickwick Lake 54.29 274 *e*P **P 16 11 32.4 -1.5**
comp=Z,116nm,1.7s,mb5.5
PLAL Pickwick Lake 54.29 274 *e*P **P 16 11 32.4 -1.5**
comp=Z,116nm,1.7s,mb5.5
AHID Auburn Hatcher 54.31 298 *e*P **P 16 11 33.3 -0.6**
comp=Z,78nm,1.6s,mb5.4
AHID Auburn Hatcher 54.31 298 *e*P **P 16 11 33.3 -0.7**
comp=Z,78nm,1.6s,mb5.4
CBKS Cedar Bluff 54.51 287 *e*P **P 16 11 34.4 -1.1**
CBKS pmax pmax
comp=Z,106nm,1.3s,mb5.7
CBKS Cedar Bluff 54.51 287 *e*P **P 16 11 34.4 -1.2**
comp=Z,106nm,1.3s,mb5.7
CBKS Cedar Bluff 54.51 287 *e*P **P 16 11 34.4 -1.1**
comp=Z,106nm,1.3s,mb5.7
AFFS 'Afif 55.20 121 P **P 16 11 41.1 +0.2**
VIPM Ingram Point 55.31 307 P **P 16 11 42.3 +1.0**
HWUT Hardware Ranch 55.51 298 *e*P **P 16 11 42.1 -0.6**
comp=Z,132nm,1.6s,mb5.7
HWUT Hardware Ranch 55.51 298 *e*P **P 16 11 42.2 -0.6**
comp=Z,132nm,1.6s,mb5.7
HVU Hansel Valley 55.70 299 *e*P **P 16 11 44.0 -0.2**
HVU Hansel Valley 55.70 299 *e*P **P 16 11 44.0 -0.1**
PET Petropavlovsk 55.79 10 *e*P **P 16 11 43.4 -1.2**
PET *e*S **S 16 19 25.6 -3.6**
PET *e*SS SS 16 23 12.5 -2.4
PET pmax pmax
comp=Z,700nm,11.5s
PET pmax pmax
comp=Z,27nm,1.0s,mb5.2
PET pmax pmax
comp=Z,400nm,10.3s
PET MLR MLR
comp=Z,600nm,17.0s,MS4.8
PET Petropavlovsk 55.79 10 *e*P **P 16 11 42.7 -2.0**
comp=Z,26nm,1.1s,mb5.2
PET LR LR
comp=Z,587nm,19.0s,MS4.7
PET Petropavlovsk 55.79 10 *e*P **P 16 11 42.7 -1.9**
comp=Z,26nm,1.1s,mb5.2
UALR University of 55.86 278 *e*P **P 16 11 44.2 -1.2**
comp=Z,146nm,1.9s,mb5.7
UALR University of 55.86 278 *e*P **P 16 11 44.2 -1.2**
comp=Z,146nm,1.9s,mb5.7
TCUT Toone Canyon 55.91 298 *e*P **P 16 11 45.6 -0.1**
TCUT Toone Canyon 55.91 298 *e*P **P 16 11 45.6 -0.1**
FRIS Frissel Point 55.97 308 P **P 16 11 47.0 +1.0**
FRIS Frissel Point 55.97 308 P **P 16 11 47.0 +1.0**
RYDS Riyadh 55.99 117 P **P 16 11 47.4 +0.9**
FX1 Attu Island--F 56.32 359 LR LR 16 35 10.1
comp=Z,15nm,18.6s,baz=8.3,slow=35
FX1 Attu Island--F 56.32 359 *e*P **P 16 11 48.0 -0.5**
FX1 Attu Island--F 56.32 359 *e*P **P 16 11 48.0 -0.5**
JLU Jordanelle 56.40 297 *e*P **P 16 11 49.0 -0.2**
JLU Jordanelle 56.40 297 *e*P **P 16 11 49.0 -0.2**
CTU Camp Tracy 56.41 298 *e*P **P 16 11 48.4 -0.8**
CTU Camp Tracy 56.41 298 *e*P **P 16 11 48.4 -0.8**
DAU Daniels Canyon 56.52 297 *e*P **P 16 11 50.1 0.0**
BGU Big Grassy Mou 56.56 299 *e*P **P 16 11 50.5 +0.1**
BGU Big Grassy Mou 56.56 299 *e*P **P 16 11 50.5 +0.2**
GSTR Great Sitkin T 56.84 352 *e*P **P 16 11 52.2 0.0**
GSTR Great Sitkin T 56.84 352 *e*P **P 16 11 52.2 0.0**
MPU Maple Canyon 57.00 297 *e*P **P 16 11 53.9 +0.3**
MPU Maple Canyon 57.00 297 *e*P **P 16 11 53.9 +0.4**
NLU North Lily Min 57.18 298 *e*P **P 16 11 54.6 -0.2**
NLU North Lily Min 57.18 298 *e*P **P 16 11 54.6 -0.2**
SDCO Great Sand Dun 57.27 291 *e*P **P 16 11 54.5 -1.0**
comp=Z,53nm,1.6s,mb5.3
SDCO LR LR
comp=Z,1μm,19.0s,MS5.0
SDCO Great Sand Dun 57.27 291 *e*P **P 16 11 54.5 -1.0**
comp=Z,53nm,1.6s,mb5.3
ELK Elko 57.35 301 *e*P **P 16 11 55.8 -0.2**
ELK pmax pmax
comp=Z,54nm,1.6s
ELK MLR MLR
comp=Z,459nm,20.0s
ELK Elko 57.35 301 P **P 16 11 55.9 -0.1**
comp=Z,6.7nm,0.9s,mb4.7,baz=22,slow=6.6,SNR=31
ELK PcP PcP 16 12 51.4 +1.5
comp=Z,4.7nm,1.0s,baz=4.6,slow=5.6,SNR=3.3
ELK Elko 57.35 301 *e*P **P 16 11 55.8 -0.2**
comp=Z,54nm,1.6s,mb5.3
ELK LR LR
comp=Z,459nm,20.0s,MS4.6
ELK Elko 57.35 301 *e*P **P 16 11 55.8 -0.2**
comp=Z,54nm,1.6s,mb5.3
SRU San Rafael 57.51 296 *e*P **P 16 11 56.1 -1.0**
TMUT Trail Mountain 57.54 297 *e*P **P 16 11 57.2 -0.2**
TMUT Trail Mountain 57.54 297 *e*P **P 16 11 57.2 -0.1**
PV10 Paradox Valley 57.75 294 *e*P **P 16 11 58.7 -0.1**
PV10 Paradox Valley 57.75 294 *e*P **P 16 11 58.7 -0.1**
BUOR Burton Butte 57.81 307 P **P 16 11 59.5 +0.3**
BUOR Burton Butte 57.81 307 P **P 16 11 59.5 +0.3**
PV01 Paradox Valley 57.84 294 *e*P **P 16 11 59.1 -0.3**
PV01 Paradox Valley 57.84 294 *e*P **P 16 11 59.1 -0.3**
SKR Severo-Kuril's 57.97 12 *e*P **P 16 11 52.0 -8.1**
SKR *e* 16 15 32.0
YBH Yreka Blue Hor 58.45 307 P **P 16 12 02.3 -1.3**
YBH 16 12 55.5
YBH pmax pmax
comp=Z,5.0nm,0.9s
YBH pmax pmax
comp=Z,7.0nm,1.1s
YBH Yreka Blue Hor 58.45 307 P **P 16 12 02.3 -1.3**
comp=Z,4.7nm,0.9s,mb4.5,baz=41,slow=5.5,SNR=6.0
YBH PcP PcP 16 12 55.5 +1.4
comp=Z,6.7nm,1.1s,baz=350,slow=1.3,SNR=2.3
YBH Yreka Blue Hor 58.45 307 *e*P **P 16 12 02.6 -1.0**
comp=Z,24nm,1.5s,mb5.0
YBH Yreka Blue Hor 58.45 307 *e*P **P 16 12 02.6 -1.0**
comp=Z,24nm,1.5s,mb5.0
KTRM Thompson Ridge 58.45 308 P **P 16 12 04.2 +0.6**
KTRM Thompson Ridge 58.45 308 P **P 16 12 04.2 +0.5**
GTA Gaotai 58.51 60 *e*P **P 16 12 03.5 -0.6**
GTA AP pP 16 12 08.0 -0.8
GTA XP sP 16 12 10.5 -0.1
GTA PCP PcP 16 12 53.8 -0.6
GTA PP PP 16 14 14.8 -0.6
GTA SCP 16 16 52.3
GTA S **S 16 20 05.3 +0.1**
GTA SS SS 16 23 59.5 -0.1
GTA AMB AMB
comp=Z,14nm,2.0s,mb4.7
GTA AMB AMB
comp=Z,301nm,4.6s
GTA LR LR
comp=N,1μm,16.7s,MS5.3
GTA LR LR
comp=E,1μm,17.1s,MS5.3
GTA LR LR
comp=Z,2μm,19.8s,MS5.2
MSU Marysvale 58.55 297 *e*P **P 16 12 04.5 +0.1**
KRMB Red Mountain 58.95 308 *e*P **P 16 12 07.5 +0.3**
KRMB Red Mountain 58.95 308 *e*P **P 16 12 07.4 +0.2**
NATX Nacogdoches 59.38 279 *e*P **P 16 12 10.3 0.0**
NATX LR LR
comp=Z,964nm,20.0s,MS4.9
NATX Nacogdoches 59.38 279 *e*P **P 16 12 10.3 0.0**
WDC Whiskeytown Da 59.48 307 *e*P **P 16 12 09.6 -1.2**
WDC pmax pmax
comp=Z,87nm,1.6s,mb5.5
WDC Whiskeytown Da 59.48 307 *e*P **P 16 12 09.6 -1.3**
comp=Z,87nm,1.6s,mb5.5
WDC Whiskeytown Da 59.48 307 *e*P **P 16 12 09.6 -1.2**
comp=Z,87nm,1.6s,mb5.5
KHMM Horse Mountain 59.52 308 *e*P **P 16 12 10.9 -0.2**
KHMM Horse Mountain 59.52 308 *e*P **P 16 12 10.9 -0.2**
BEKR Beckwourth 59.57 305 *e*P **P 16 12 11.3 -0.1**
comp=Z,79nm,1.7s,mb5.5
BEKR Beckwourth 59.57 305 *e*P **P 16 12 11.4 -0.1**
comp=Z,79nm,1.7s,mb5.5
ARUT Antelope Range 59.59 298 *e*P **P 16 12 11.6 0.0**
ANMO Albuquerque 60.15 291 *e*P **P 16 12 14.6 -0.9**
ANMO pmax pmax
comp=Z,71nm,1.8s
ANMO Albuquerque 60.15 291 *e*P **P 16 12 14.6 -0.9**

comp=Z,71nm,1.8s,mb5.4
ANMO Albuquerque 60.15 291 *e*P **P 16 12 14.6 -0.9**
comp=Z,71nm,1.8s,mb5.4
YSS Yuzh-Sakhalins 60.35 23 *e*P **P 16 12 11.1 -5.5**
comp=Z,144nm,1.2s,mb5.9
TPH Tonopah 60.39 301 *e*P **P 16 12 15.9 -1.2**
TPH pmax pmax
comp=Z,115nm,2.0s,mb5.6
TPH Tonopah 60.39 301 *e*P **P 16 12 15.8 -1.3**
comp=Z,115nm,2.0s,mb5.6
TPH Tonopah 60.39 301 *e*P **P 16 12 15.9 -1.2**
comp=Z,115nm,2.0s,mb5.6
CN2 Changchun 60.59 37 *e*P **P 16 12 18.0 -0.4**
CN2 *e*S **S 16 20 27.5 -4.5**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.2
CN2 AMB AMB
comp=Z,720nm,5.0s
CN2 LR LR
comp=Z,4μm,14.0s,MS5.8
MDJ Mudanjiang 60.59 34 P **P 16 12 17.3 -1.1**
MDJ AP pP 16 12 23.8 +0.7
MDJ S **S 16 20 32.0 0.0**
MDJ AMB AMB
comp=Z,43nm,1.2s,mb5.5
MDJ AMB AMB
comp=Z,441nm,5.6s
MDJ LR LR
comp=Z,3μm,14.4s,MS5.6
LPM Los Pinos Moun 60.79 291 *e*P **P 16 12 19.9 0.0**
LPM Los Pinos Moun 60.79 291 *e*P **P 16 12 19.9 0.0**
LAZ Ladron 60.86 291 *e*P **P 16 12 20.6 +0.2**
LAZ Ladron 60.86 291 *e*P **P 16 12 20.6 +0.2**
BNM Barren Site 60.94 290 *e*P **P 16 12 20.3 -0.6**
BNM Barren Site 60.94 290 *e*P **P 16 12 20.3 -0.6**
LENM Lemitar 61.03 291 *e*P **P 16 12 21.4 -0.1**
LENM Lemitar 61.03 291 *e*P **P 16 12 21.4 -0.1**
CPRX Cap Rock 61.13 288 *e*P **P 16 12 21.9 -0.3**
CPRX Cap Rock 61.13 288 *e*P **P 16 12 21.9 -0.3**
CMB Columbia Colle 61.30 304 *e*P **P 16 12 22.6 -0.7**
CMB pmax pmax
comp=Z,43nm,1.2s,mb5.5
CMB Columbia Colle 61.30 304 *e*P **P 16 12 22.6 -0.6**
comp=Z,43nm,1.2s,mb5.5
CMB Columbia Colle 61.30 304 *e*P **P 16 12 22.6 -0.7**
comp=Z,43nm,1.2s,mb5.5
OMM Old Mammoth Mi 61.31 303 *e*P **P 16 12 24.1 +0.7**
OMM Old Mammoth Mi 61.31 303 *e*P **P 16 12 24.1 +0.8**
MTUM Tungsten Hills 61.44 302 *e*P **P 16 12 24.4 +0.2**
MTUM Tungsten Hills 61.44 302 *e*P **P 16 12 24.4 +0.2**
CLNB Carlsbad 61.84 287 *e*P **P 16 12 26.3 -0.8**
CLNB Carlsbad 61.84 287 *e*P **P 16 12 26.3 -0.7**
NEN Nelson 61.98 298 *e*P **P 16 12 27.5 -0.4**
NEN Nelson 61.98 298 *e*P **P 16 12 27.5 -0.5**
GDL2 Guadalupe Moun 62.05 288 *e*P **P 16 12 27.2 -1.2**
GDL2 Guadalupe Moun 62.05 288 *e*P **P 16 12 27.2 -1.3**
DAC Darwin (Calif) 62.18 301 *e*P **P 16 12 29.6 +0.4**
DAC pmax pmax
comp=Z,125nm,1.8s,mb5.7
DAC Darwin (Calif) 62.18 301 *e*P **P 16 12 29.6 +0.4**
comp=Z,125nm,1.8s,mb5.7
DAC Darwin (Calif) 62.18 301 *e*P **P 16 12 29.6 +0.4**
comp=Z,125nm,1.8s,mb5.7
LDFC Landfair 62.59 298 *e*P **P 16 12 31.6 -0.4**
LDFC Landfair 62.59 298 *e*P **P 16 12 31.6 -0.4**
LZH Lanzhou 62.74 58 P **P 16 12 36.8 +3.8**
comp=Z,90nm,1.3s,mb5.7
LZH pP pP 16 12 42.2 +4.5
LZH sP sP 16 12 47.4 +8.0
LZH PP PP 16 14 57.0 +4.2
LZH S **S 16 21 03.2 +3.8**
LZH sS 16 21 11.3
LZH PS PS 16 21 23.1 +4.0
LZH SS SS 16 25 10.0 +3.7
LZH LR LR
comp=Z,6μm,21.0s,MS5.7
MNTX Cornudas Mount 62.83 288 *e*P **P 16 12 32.1 -1.5**
comp=Z,63nm,1.4s,mb5.5
MNTX *e*PcP PcP 16 13 11.9 +0.1
MNTX Cornudas Mount 62.83 288 *e*P **P 16 12 32.1 -1.5**
comp=Z,63nm,1.4s,mb5.5
LRV Little Rabbit 62.98 304 *e*P **P 16 12 35.2 +0.7**
LRV Little Rabbit 62.98 304 *e*P **P 16 12 35.2 +0.7**
SJG San Juan 63.02 246 P **P 16 12 33.8 -1.2**
comp=Z,3.9nm,0.4s,mb4.9,baz=310,slow=17,SNR=4.2
MOAC Moa 63.33 255 *e*P **P 16 12 36.7 -0.3**
HLGC Holguin 63.46 257 *e*P **P 16 12 36.9 -0.9**
PTRM Twissleman Ran 63.48 303 *e*P **P 16 12 38.2 +0.4**
PTRM Twissleman Ran 63.48 303 *e*P **P 16 12 38.2 +0.3**
CCCC Cccc 63.71 258 *e*P **P 16 12 40.3 +0.9**
TUC Tucson 63.91 293 P **P 16 12 40.6 0.0**
TUC Tucson 63.91 293 *e*P **P 16 12 40.3 -0.3**
TUC pmax pmax
comp=Z,129nm,2.0s,mb5.6
TUC Tucson 63.91 293 *e*P **P 16 12 40.3 -0.3**
comp=Z,129nm,2.0s,mb5.6
TUC Tucson 63.91 293 *e*P **P 16 12 40.3 -0.3**
comp=Z,129nm,2.0s,mb5.6
SOR Soroa 63.91 264 *e*P **P 16 12 39.9 -0.9**
MWC Mount Wilson 64.23 300 *e*P **P 16 12 43.3 +0.6**
PFO Pinyon Flat Ob 64.35 299 *e*P **P 16 12 43.4 -0.1**
PFO pmax pmax
comp=Z,47nm,1.5s,mb5.3
PFO Pinyon Flat Ob 64.35 299 *e*P **P 16 12 43.4 -0.1**
comp=Z,47nm,1.5s,mb5.3
PFO Pinyon Flat Ob 64.35 299 *e*P **P 16 12 43.4 -0.1**
comp=Z,47nm,1.5s,mb5.3
DBIC Dimbokro 64.38 177 P **P 16 12 43.0 -1.0**
comp=Z,21nm,1.0s,mb5.1,baz=340,slow=8.8,SNR=8.2
DBIC LR LR 16 42 30.2
comp=Z,975nm,18.2s,MS5.0,baz=243,slow=38
DL2 Dalian 64.49 42 P **P 16 12 50.8 +6.5**
DL2 *e*S **S 16 21 32.3 +11**
DL2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
DL2 LR LR
comp=N,920nm,18.7s,MS5.1
DL2 LR LR
comp=E,580nm,17.4s,MS5.1
DL2 LR LR
comp=Z,1μm,16.7s,MS5.2
LTX Lajitas 64.50 286 *e*P **P 16 12 43.9 -0.6**
LTX pmax pmax
comp=Z,55nm,1.5s,mb5.4
LTX Lajitas 64.50 286 *e*P **P 16 12 43.9 -0.6**
comp=Z,55nm,1.5s,mb5.4
LTX Lajitas 64.50 286 *e*P **P 16 12 43.9 -0.6**
comp=Z,55nm,1.5s,mb5.4
TXAR Lajitas Array 64.50 286 P **P 16 12 43.5 -1.0**
comp=Z,4.3nm,0.7s,mb4.6,baz=43,slow=4.8,SNR=42
TXAR PcP PcP 16 13 18.0 -0.6
comp=Z,8.2nm,0.9s,baz=90,slow=3.8,SNR=6.1
TXAR LR LR 16 40 43.5
comp=Z,1μm,19.6s,MS5.1,baz=45,slow=36
TXAR PKP2bc 16 41 42.5
comp=Z,0.2nm,0.3s,baz=180,slow=5.0,SNR=3.9
TXAR Lajitas Array 64.50 286 P **P 16 12 43.5 -1.0**
TXAR PcP PcP 16 13 18.0 -0.6
TXAR LR LR 16 40 43.5
TXAR ⇑*e* 16 41 42.5
TXAR Lajitas Array 64.50 286 PcP PcP 16 13 18.0 -0.6
BAR Barrett 65.29 299 *e*P **P 16 12 49.8 +0.3**
XAN Xi'an 66.04 54 P **P 16 12 54.0 -0.3**
XAN AMB AMB
comp=Z,30nm,1.4s,mb5.1
INCN Inchon 66.91 38 *e*P **P 16 13 00.6 +0.7**
comp=Z,32nm,0.9s,mb5.4
ENH Enshi 69.76 55 *e*S **P 16 13 18.2 +0.5**
MAJO Matsushiro 69.91 29 *e*P **P 16 13 17.6 -0.9**
MAJO pmax pmax
comp=Z,23nm,1.0s,mb5.1
MAJO Matsushiro 69.91 29 *e*P **P 16 13 17.6 -0.8**
comp=Z,22nm,1.0s,mb5.0
MAT Matsushiro 69.91 29 *e*P **P 16 13 19.0 +0.5**
MAT pmax pmax
comp=Z,33nm,1.1s,mb5.2
MAT Matsushiro 69.91 29 *e*P **P 16 13 19.0 +0.5**
comp=Z,33nm,1.1s,mb5.2
MAT Matsushiro 69.91 29 P **P 16 13 18.7 +0.2**
MJAR Matsushiro Arr 69.91 29 P **P 16 13 18.8 +0.3**
comp=Z,22nm,1.0s,mb5.1,baz=348,slow=5.4,SNR=19
NJ2 Nanjing 70.43 46 *e*P **P 16 13 23.0 +1.3**
NJ2 AP pP 16 13 27.8 +1.3
NJ2 XP sP 16 13 30.0 +1.8
NJ2 PP PP 16 16 01.8 +2.1
NJ2 S S 16 22 34.0 +1.5
NJ2 XS 16 22 42.0
NJ2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
NJ2 AMB AMB
comp=Z,390nm,6.7s
NJ2 LR LR
comp=Z,2μm,18.9s,MS5.5
WHN Wuhan 70.77 51 *e*P **P 16 13 26.5 +2.7**
SSE Sheshan 71.89 45 P **P 16 13 27.3 -3.2**
comp=Z,49nm,0.7s,mb5.5
SSE pP pP 16 13 30.6 -4.7
SSE sP sP 16 13 31.8 -5.2
SSE S S 16 22 48.4 -1.0
SSE sS 16 22 54.0
SSE LR LR
comp=Z,1μm,25.9s,MS5.0
JNU Nakatsue 71.97 36 P **P 16 13 35.0 +4.0**
comp=Z,35nm,1.0s,mb5.2,baz=152,slow=14,SNR=6.8
HYB Hyderabad 72.40 88 *e*P **P 16 13 37.0 +3.2**
HYB Hyderabad 72.40 88 *i* P **P 16 13 37.0 +3.2**
GYA Guiyang 72.60 59⇑*i*P **P 16 13 34.5 -0.2**
GYA AP pP 16 13 38.8 -0.7
GYA XP sP 16 13 42.3 +1.1
GYA PP PP 16 16 18.0 -0.2
GYA S S 16 22 56.5 -1.0
GYA SKS SKS 16 23 34.3 -6.1
GYA SS SS 16 27 39.5 +0.5
GYA AMB AMB
comp=Z,40nm,1.2s,mb5.2
GYA AMB AMB
comp=Z,140nm,3.2s
GYA LR LR
comp=N,1μm,20.9s,MS5.3
GYA LR LR
comp=E,710nm,18.2s,MS5.3
GYA LR LR
comp=Z,2μm,17.3s,MS5.4
KMI Kunming 72.74 63 P **P 16 13 38.5 +2.9**
KMI AP pP 16 13 41.5 +1.1
KMI PCP PcP 16 13 57.3 +4.2
KMI AMB AMB
comp=Z,17nm,1.0s,mb4.9
KMI AMB AMB
comp=Z,729nm,5.7s
KMI LR LR
comp=N,937nm,26.9s
KMI LR LR
comp=E,784nm,20.9s
KMI LR LR
comp=Z,1μm,26.9s,MS5.0
KMI Kunming 72.74 63 P **P 16 13 38.6 +3.0**
comp=Z,17nm,1.0s,mb4.9
KMI pP pP 16 13 41.6 +1.2
KMI PcP PcP 16 13 57.3 +4.2
KMI LR LR
comp=Z,1μm,26.9s,MS5.0
SDV Santo Domingo 73.08 247 P **P 16 13 38.1 +0.3**
comp=Z,27nm,0.8s,mb5.2,baz=43,slow=4.8,SNR=26
SDV LR LR 16 40 37.1
comp=Z,810nm,21.7s,MS5.0,baz=133,slow=32
SDV Santo Domingo 73.08 247 *e*P **P 16 13 37.8 0.0**
comp=Z,110nm,1.4s,mb5.6
MBAR Mbarara 75.77 140 *e*P **P 16 13 52.9 -0.4**
MBAR pmax pmax
comp=Z,14nm,1.0s,mb4.8
MBAR Mbarara 75.77 140 *e*P **P 16 13 52.9 -0.4**
comp=Z,14nm,1.0s,mb4.8
QZH Quanzhou 77.18 49 P **P 16 14 00.5 -0.5**
QZH AMB AMB
comp=Z,1μm,5.6s
JOW Kunigami 77.55 40 P **P 16 14 05.9 +2.9**
comp=Z,43nm,0.9s,mb5.4,baz=3.2,slow=11,SNR=5.2
KMBO Kilima Mbogo 77.72 134 P **P 16 14 05.9 +1.7**
comp=Z,1.7nm,0.9s,baz=22,slow=5.4,SNR=2.1
ROSC El Rosal 78.02 249 P **P 16 14 08.5 +2.7**
comp=Z,22nm,0.9s,mb5.1,baz=91,slow=18,SNR=20
ROSC LR LR 16 45 12.4
comp=Z,564nm,20.7s,MS4.9,baz=199,slow=33
QIZ Qiongzhong 80.53 58 P **P 16 14 21.8 +2.5**
SAML Samuel 87.95 235 *e*P **P 16 14 57.4 +0.6**
comp=Z,92nm,1.6s,mb5.8
BDFB Brasilia 90.82 219 LR LR 16 50 12.5
comp=Z,917nm,19.2s,MS5.2,baz=25,slow=32
KULM Kulim 90.85 71 *e*P **P 16 15 12.1 +1.6**
SIV San Ignacio 94.15 231 P **P 16 15 27.0 +1.5**
comp=Z,5.1nm,0.9s,mb4.9,baz=1.4,slow=5.8,SNR=21
LPAZ La Paz 96.30 237 LR LR 16 57 42.2
comp=Z,347nm,18.4s,MS4.9,baz=193,slow=35
TAOE Nuku Hiva Isla 111.25 309 *e*P Pdif 16 17 01.6 +20
comp=Z,253nm,30.5s
TAOE Nuku Hiva Isla 111.25 309 *e*PP PP 16 21 31.3 +7.5
comp=Z,127nm,31.2s
TAOE Nuku Hiva Isla 111.25 309 *e*S SKS 16 28 19.2 +54
comp=Z,553nm,38.0s
TAOE *e*LR LR 16 53 29.9
comp=Z,1μm,22.7s
PPT Papeete 121.91 316 *e*LQ 16 53 28.7
comp=Z,484nm,31.2s
PPT Papeete 121.91 316 *e*P PKPdf 16 21 17.5 +14
PPT Papeete 121.91 316 *e*PP PP 16 22 56.5 +18
comp=Z,41nm,26.8s
PPT Papeete 121.91 316 *e*SS SS 16 39 49.0 +37
comp=Z,217nm,23.0s
PPT *e*LR LR 16 59 17.2
comp=Z,491nm,23.2s,baz=62
RKT Rikitea 123.46 299 *e*LQ 16 54 50.4
comp=Z,538nm,39.8s
RKT Rikitea 123.46 299 *e*PP PP 16 22 50.4 +1.4
comp=Z,98nm,28.0s
RKT Rikitea 123.46 299 *e*S SKS 16 28 11.3 +2.3
comp=Z,70nm,40.0s
RKT *e*LR LR 16 59 42.1
comp=Z,508nm,27.0s,baz=56
RKT Rikitea 123.46 299 *e*SS SS 16 39 46.0 +14
comp=Z,420nm,30.5s
WRA Warramunga Arr 124.18 45 PKP PKPdf 16 21 06.1 -2.0
comp=Z,5.2nm,1.1s,baz=338,slow=2.2,SNR=13
TBI Tubuai 127.46 314 *e*LQ 16 55 56.1
comp=Z,263nm,28.0s
TBI Tubuai 127.46 314 *e*P PKPdf 16 21 02.3 -12
TBI Tubuai 127.46 314 *e*PP PP 16 23 27.7 +13
comp=Z,29nm,24.2s
TBI Tubuai 127.46 314 *e*S SKS 16 28 46.2 +25
comp=Z,119nm,25.5s
TBI *e*LR LR 17 01 35.9
comp=Z,646nm,24.0s,baz=68
TBI Tubuai 127.46 314 *e*SS SS 16 40 44.7 +23
comp=Z,154nm,25.0s
VNA1 Neumayer--Stat 141.51 180 PKPdf 16 21 40.1 +1.4
VNA1 Neumayer--Stat 141.51 180 PKPdf 16 21 46.2 +7.5
VNA2 Neumayer--Watz 141.78 180 PKPdf 16 21 39.2 0.0
VNA2 Neumayer--Watz 141.78 180 PKPdf 16 21 40.8 +1.6
VNA2 Neumayer--Watz 141.78 180 PKPdf 16 21 47.3 +8.1
VNA3 Neumayer Olymp 142.11 181 PKPdf 16 21 41.4 +1.6
VNA3 Neumayer Olymp 142.11 181 PKPdf 16 21 44.0 +4.2
VNA3 Neumayer Olymp 142.11 181 PKPdf 16 21 49.4 +10
SNAA Sanae 142.57 178 PKPdf 16 21 41.7 +1.2
SNAA Sanae 142.57 178 PKPdf 16 21 49.5 +9.0
SNAA Sanae 142.57 178 PKPdf 16 21 56.4 +16
SNAA Sanae 142.57 178 PKP PKPdf 16 21 36.1 -4.4
comp=Z,1.2nm,0.9s,baz=7.5,slow=4.0,SNR=13
MAW Mawson 146.24 139⇑*i*P PKPbc 16 21 46.0 +1.5
comp=Z,16nm,0.6s
MAW Mawson 146.24 139 PKPbc PKPbc 16 21 46.1 +1.6
comp=Z,8.5nm,0.8s,baz=329,slow=3.1,SNR=33
URZ Urewera 147.00 353 PKPbc PKPdf 16 21 49.2 +0.1
comp=Z,17nm,0.9s,baz=337,slow=5.4,SNR=7.3
RPZ Rata Peaks 152.53 2 PKPbc PKPdf 16 22 03.0 +5.5
comp=Z,26nm,1.1s,baz=164,slow=2.4,SNR=6.5
RPZ PKPab PKPab 16 22 13.8 +0.1
comp=Z,28nm,0.9s,baz=358,slow=6.2,SNR=6.7
VNDA Vanda 172.96 161 PKP PKPdf 16 22 12.8 -3.5
comp=Z,0.2nm,0.6s,baz=198,slow=3.2,SNR=3.6
VNDA PKPab PKPab 16 23 42.3 +0.9
comp=Z,1.3nm,1.1s,baz=298,slow=4.4,SNR=3.8
VNDA Vanda 172.96 161 PKP PKPdf 16 22 12.8 -3.5
VNDA PKPab PKPab 16 23 42.3 +0.9

MAN 25 16:07:05.8, 15.16N×119.49E, h262km, mb3.7, ML2.4, MS2.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.74**	**34**	*e*P	P	16 07 41.7	+0.5
BOLP	**Bolinao**	**1.28**	**19**	*e*P	P	16 07 44.6	+0.5
POLP	**Polillo Island**	**2.41**	**100**	*e*P	P	16 07 53.7	+0.3
ABRA	**Dolores**	**2.74**	**25**	*e*P	P	16 07 57.0	+0.2
APYP	**Conner**	**3.17**	**32**	*e*P	P	16 08 01.5	+0.1

NAO ***25*** *16:09:02.9±13.0, 70.62N×7.06W*
BER ***25*** *16:09:02.6±1.6, 71.39N×6.69W, h18km±999km, MD2.4, ML2.9*
CSEM ***25*** *16:09:09.4±0.5, 71.03N×8.15W, h20km, ML2.9, Error ellipse: s-maj=22.8km s-min=6.3km az=139.0*

ISC 25 16:09:03.5±2.4, 70.9N±0.2×6.8W±0.2, h10km, n8, σ0.5/61/12, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.49**	**282**	*e*P	**Pg**	**16 09 13.0**	**-0.4**
JNE				AML	AML	16 09 22.3	
	comp=Z,526nm,0.2s						
JNW	**Jan Mayen West**	**0.54**	**285**	*e*P	**Pg**	**16 09 13.4**	**-1.0**
JNW				*e*S	**Sg**	**16 09 21.6**	**-0.1**
JNW				AML	AML	16 09 23.9	
	comp=Z,453nm,0.3s						
JNW	**Jan Mayen West** SNR=90	**0.54**	**285**	*e*P	**Pg**	**16 09 13.4**	**-1.0**
JNW				*e*S	**Sg**	**16 09 21.6**	**-0.1**
	comp=Z,453nm,0.3s,SNR=90						
JMIC	**Jan Mayen**	**0.56**	**280**	Pg	**Pg**	**16 09 14.7**	**-0.2**
JMIC				Lg		16 09 22.6	
JMI	**Jan Mayen**	**0.62**	**274**	*e*P	**Pb**	**16 09 16.4**	**+0.3**
JMI				*e*S	**Sg**	**16 09 25.4**	**+0.9**
JMI				AML	AML	16 09 25.7	
	comp=Z,331nm,0.2s						
JMI	**Jan Mayen** SNR=90	**0.62**	**274**	*e*P	**Pb**	**16 09 16.4**	**+0.4**
JMI				*e*S	**Sg**	**16 09 25.4**	**+0.9**
	comp=Z,331nm,0.2s,SNR=90						
KBS	**Kingsbay**	**9.36**	**23**	Pn	**P**	**16 11 21.2**	**-0.4**
SPA0	**Spitsbergen Ar** baz=227,slow=16	**9.48**	**30**	Pn	**P**	**16 11 24.0**	**+0.8**

CSEM ***25*** *16:13:22.1±0.1, 70.61N×8.22W, h30km, ML3.5, Error ellipse: s-maj=5.5km s-min=1.5km az=50.0*
BER ***25*** *16:13:25.5±1.0, 70.99N×7.33W, MD3.1, ML3.5*
NAO ***25*** *16:13:26.1±2.8, 71.09N×7.56W*

ISC 25 16:13:22.7±0.6, 71.01N±0.09×7.17W±0.09, h10km, n16, σ0.9/83/26, 7D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.37**	**267**	⇓*i*P	**Pg**	**16 13 31.2**	**+0.9**
JNW	**Jan Mayen West**	**0.41**	**273**	⇓*i*P	**Pg**	**16 13 31.7**	**+0.6**
JNW				*e*S	**Sg**	**16 13 36.7**	**0.0**
JNW				AML	AML	16 13 40.4	
	comp=Z,12μm,0.4s						
JNW	**Jan Mayen West** SNR=90	**0.41**	**273**	⇓*i*P	**Pg**	**16 13 31.7**	**+0.6**
JNW				*e*S	**Sg**	**16 13 36.7**	**0.0**
	comp=Z,12μm,0.4s,SNR=90						
JMIC	**Jan Mayen**	**0.44**	**268**	Pg	**Pg**	**16 13 32.1**	**+0.4**
JMIC				Lg		16 13 37.1	
JMIC	**Jan Mayen**	**0.44**	**268**	⇓*i*P	**Pg**	**16 13 32.0**	**+0.3**
JMIC				*e*S	**Sg**	**16 13 36.8**	**-0.9**
JMIC				AML	AML	16 13 37.5	
	comp=Z,5μm,0.2s						
JMIC	**Jan Mayen** SNR=90	**0.44**	**268**	⇓*i*P	**Pg**	**16 13 32.0**	**+0.3**
JMIC				*e*S	**Sg**	**16 13 36.8**	**-0.9**
	comp=Z,5μm,0.2s,SNR=90						
JMI	**Jan Mayen**	**0.52**	**261**	⇓*i*P	**Pg**	**16 13 33.7**	**+0.5**
JMI				*e*S	**Sg**	**16 13 39.7**	**-0.5**
JMI				AML	AML	16 13 40.6	
	comp=N,7μm,0.2s						
JMI	**Jan Mayen** SNR=90	**0.52**	**261**	⇓*i*P	**Pg**	**16 13 33.7**	**+0.5**
JMI				*e*S	**Sg**	**16 13 39.7**	**-0.5**
	comp=N,7μm,0.2s,SNR=90						
LOF	**Lofoten**	**7.78**	**102**	*e*P	**Pn**	**16 15 20.6**	**+1.8**
STOK	**Stokkvaagen**	**8.69**	**113**	*e*P	**P**	**16 15 31.3**	**-0.2**
STOK				*e*S	**Sn**	**16 17 04.9**	**-5.7**
STOK				AML	AML	16 17 09.3	
	comp=Z,8.3nm,0.3s						
STOK	**Stokkvaagen** SNR=48	**8.69**	**113**	*e*P	**P**	**16 15 31.3**	**-0.2**
STOK				*e*S	**Sn**	**16 17 04.9**	**-5.7**
	comp=Z,8.3nm,0.3s,SNR=48						
KBS	**Kingsbay**	**9.29**	**23**	Pn	**P**	**16 15 38.7**	**-1.1**
SPA0	**Spitsbergen Ar** baz=230,slow=16	**9.43**	**30**	Pn	**P**	**16 15 42.3**	**+0.6**
NSS	**Namsos**	**9.69**	**123**	*e*P	**P**	**16 15 43.9**	**-1.3**
NSS				*e*S	**Sn**	**16 17 25.9**	**-9.2**
NSS				AML	AML	16 17 32.5	
	comp=Z,7.1nm,0.5s						
NSS	**Namsos** SNR=48	**9.69**	**123**	*e*P	**P**	**16 15 43.8**	**-1.3**
NSS				*e*S	**Sn**	**16 17 25.9**	**-9.2**
	comp=Z,7.1nm,0.5s,SNR=48						
ARA0	**ARCESS Array S** baz=290,slow=12	**11.06**	**82**	Pn	**P**	**16 16 03.2**	**-0.6**

IDC ***25*** *16:47:09.4±1.0, 15.37S×173.23W, mb3.8/5, mb1 4.1/6, mb1mx3.9/18, mbtmp3.9/6, Error ellipse: s-maj=53.0km s-min=20.1km az=137.0*
NEIC ***25*** *16:47:10.7±0.7, 15.31S×173.23W, h10km, Error ellipse: s-maj=40.0km s-min=13.4km az=137.0*

ISC 25 16:47:12.3±0.8, 15.2S±0.2×173.3W±0.2, h33km, n9, σ1.5/17/9, mb3.7/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.97**	**48**	Pn	**Pn**	**16 47 43.0**	**-1.1**
	167nm,0.3s,baz=229,slow=11,SNR=174						
AFI				Sn	**Sn**	**16 48 02.4**	**-5.6**
	388nm,0.3s,baz=200,slow=21,SNR=16						
AFI	**Afiamalu**	**1.97**	**48**	*e*Pn	**Pn**	**16 47 42.8**	**-1.3**
AFI				*e*Sn	**Sn**	**16 48 02.5**	**-5.4**
URZ	**Urewera**	**24.45**	**198**	P	**P**	**16 52 28.9**	**-0.5**
	5.8nm,0.8s,mb4.1,baz=306,slow=8.7,SNR=3.6						
STKA	**Stephens Creek**	**44.21**	**240**	P	**P**	**16 55 20.0**	**-0.2**
	2.5nm,0.9s,mb3.9,baz=51,slow=6.5,SNR=3.1						
WRA	**Warramunga Arr**	**49.98**	**257**	P	**P**	**16 56 05.3**	**-0.4**
	0.2nm,0.6s,mb3.4,baz=91,slow=6.7,SNR=8.8						
TXAR	**Lajitas Array**	**80.44**	**56**	P	**P**	**16 59 24.7**	**+2.0**
	0.2nm,0.4s,mb3.4,baz=207,slow=4.0,SNR=4.1						
PDAR	**Pinedale Array**	**82.08**	**42**	P	**P**	**16 59 32.0**	**+1.1**
	0.4nm,0.5s,mb3.6,baz=240,slow=7.3,SNR=4.8						
GERES	**GERESS Array B**	**146.00**	**352**	PKPbc	PKPbc	17 06 51.6	+2.7
	0.2nm,0.4s,baz=34,slow=3.5,SNR=2.5						
BRTR	**Keskin Array B**	**146.10**	**321**	PKPbc	PKPbc	17 06 52.5	+3.1
	1.7nm,0.8s,baz=90,slow=3.7,SNR=5.9						

CASC 25 16:53:12.3±1.7, 10.92N×86.66W, h18km±6km, MD3.9, ML3.7, 12C-6D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUN	**El Crucero**	**1.11**	**18**⇑	*e*P	Pb	16 53 33.0	+0.3
APON	**Apoyo**	**1.15**	**30**⇑	*e*P	Pb	16 53 32.6	-0.7
MASN	**Masaya**	**1.17**	**25**⇓	*e*P	Pb	16 53 33.4	-0.3
TICN	**Ticuantepe**	**1.18**	**21**⇑	*e*P	Pb	16 53 33.8	-0.1
CONN	**Concepcion**	**1.20**	**58**⇑	*e*P	Pb	16 53 33.2	-0.9
COPN	**Copaltepe**	**1.25**	**3**⇓	*e*P	Pb	16 53 34.4	-0.6
XAVN	**Gruta Xavier**	**1.26**	**15**⇓	*e*P	Pn	16 53 34.8	-0.4
MGAN	**Managua**	**1.28**	**18**⇑	*e*P	Pn	16 53 34.8	-0.7
MGAN				*e*S	Sb	16 53 52.0	+0.4
MGAN				*i*		16 53 53.4	
	comp=E,2μm,0.4s						

WILN	**Americas 2**	**1.31**	**21**⇑	*e*P	Pn	16 53 35.1	-0.9
WILN				*e*S	Sb	16 53 53.0	+0.5
APYN	**Apoyeque**	**1.34**	**13**⇓	*e*P	Pn	16 53 35.6	-0.7
LIM1	**Limonal**	**1.40**	**99**	*i* P	Pn	16 53 35.8	-1.4
MOMJ	**Momotombo**	**1.48**	**5**⇑	*e*P	Pn	16 53 37.3	-1.1
LEON	**Leon**	**1.50**	**351**⇑	*e*P	Pn	16 53 38.0	-0.6
MIRN	**Miramar**	**1.51**	**358**⇓	*e*P	Pn	16 53 38.1	-0.6
CNGN	**Cerro Negro**	**1.57**	**359**⇓	*e*P	Pn	16 53 38.9	-0.7
CNGN				*e*S	Sn	16 54 01.9	+2.4
TEL3	**Telica 3**	**1.65**	**354**⇑	*e*P	Pn	16 53 40.0	-0.7
TELN	**Telica**	**1.68**	**354**⇑	*e*P	Pn	16 53 40.1	-1.0
PYTN	**Playitas**	**1.71**	**20**⇑	*i* P	Pn	16 53 41.3	-0.3
CRIN	**San Cristobal**	**1.81**	**348**⇑	*e*P	Pn	16 53 42.4	-0.6

*IDC **25** 16:59:00.2±0.8, 15.67S×71.20W, mb4.0/5, mb1 4.4/7, mb1mx4.1/20, mbtmp4.1/7, ML4.4/2, MS3.4/2, Ms1 3.4/2, ms1mx3.1/29, Error ellipse: s-maj=33.5km s-min=17.8km az=62.0*

*NEIC **25** 16:59:03.3±1.8, 15.71S×71.20W, h20km±12km, mb4.7/4, Error ellipse: s-maj=13.8km s-min=9.4km az=60.0*

ISC 25 16:59:03.8±0.6, 15.73S±0.05×71.23W±0.06, h33km, n26, σ0§99/24, mb4.2/8, MS3.4/1, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**0.77**	**199**⇑	*i*P	**P**	**16 59 18.4**	**+0.3**
ARE				*i* S	**S**	**16 59 29.2**	**+0.6**
LPAZ	**La Paz**	**3.03**	**101**	Pn	**Pn**	**16 59 50.8**	**+0.1**
	31nm,0.3s,baz=287,slow=12,SNR=260						
LPAZ				Sn	**Sn**	**17 00 26.8**	**+0.5**
	baz=170,slow=24,SNR=1.7						
LVC	**Limon Verde**	**7.19**	**163**	Pn	**Pn**	**17 00 47.9**	**-1.4**
	1.1nm,0.3s,baz=322,slow=9.6,SNR=16						
LVC				Sn	**Sn**	**17 02 09.8**	**-0.9**
	0.5nm,0.3s,baz=226,slow=22,SNR=2.3						
LVC				LR	LR	17 03 58.5	
	comp=Z,213nm,20.4s,baz=102,slow=41						
SIV	**San Ignacio**	**9.78**	**93**	Pn	**P**	**17 01 18.0**	**-7.2**
	2.5nm,0.3s,baz=276,slow=12,SNR=44						
SDV	**Santo Domingo**	**24.47**	**1**	LR	LR	17 13 44.6	
	comp=Z,102nm,18.6s,MS3.4,baz=68,slow=36						
PLCA	**Paso Flores**	**24.92**	**179**	P	**P**	**17 04 24.9**	**-0.4**
	4.6nm,0.9s,mb4.0,baz=352,slow=12,SNR=7.3						
PLCA	**Paso Flores**	**24.92**	**179**	*e*P	**P**	**17 04 25.5**	**+0.2**
	4.9nm,0.9s,mb4.0						
TXAR	**Lajitas Array**	**54.66**	**325**	P	**P**	**17 08 31.9**	**-0.1**
	0.7nm,0.8s,mb3.8,baz=149,slow=7.3,SNR=7.3						
SDCO	**Great Sand Dun**	**62.18**	**330**	*e*P	**P**	**17 09 24.5**	**+0.1**
	5.0nm,0.8s,mb4.7						
VNA3	**Neumayer Olymp**	**66.22**	**162**		**P**	**17 09 49.6**	**-0.5**
VNA3	**Neumayer Olymp**	**66.22**	**162**		**P**	**17 09 52.4**	**+2.3**
VNA1	**Neumayer--Stat**	**66.43**	**161**		**P**	**17 09 51.0**	**-0.4**
VNA1	**Neumayer--Stat**	**66.43**	**161**		**P**	**17 09 54.8**	**+3.4**
VNA2	**Neumayer--Watz**	**66.79**	**161**		**P**	**17 09 53.2**	**-0.5**
VNA2	**Neumayer--Watz**	**66.79**	**161**		**P**	**17 09 56.4**	**+2.7**
PDAR	**Pinedale Array**	**68.03**	**330**	P	**P**	**17 10 00.5**	**-1.5**
	0.9nm,0.8s,mb3.9,baz=117,slow=6.6,SNR=7.9						
SNAA	**Sanae**	**68.42**	**162**		**P**	**17 10 02.6**	**-1.3**
SNAA	**Sanae**	**68.42**	**162**		**P**	**17 10 04.8**	**+0.9**
SNAA	**Sanae**	**68.42**	**162**	*e*P	**P**	**17 10 02.4**	**-1.5**
	5.6nm,0.9s,mb4.6						
RRI2	**Red Ridge**	**69.32**	**330**	*e*P	**P**	**17 10 10.3**	**+0.4**
	5.5nm,0.8s,mb4.5						
VNDA	**Vanda**	**82.12**	**190**	P	**P**	**17 11 23.6**	**+1.6**
	0.9nm,0.9s,mb3.7,baz=134,slow=5.3,SNR=4.1						
YKA	**Yellowknife Ar**	**85.05**	**341**	P	**P**	**17 11 36.6**	**-0.4**
	3.2nm,0.7s,mb4.6,baz=135,slow=5.3,SNR=12						
ZAL	**Zalesovo**	**137.53**	**21**	PKP	PKPdf	17 18 25.1	+0.8
	1.7nm,0.8s,baz=192,slow=2.5,SNR=12						
MKAR	**Makanchi Array**	**142.00**	**30**	PKP	PKPdf	17 18 33.1	+0.6
	0.4nm,0.8s,SNR=4.2						
MJAR	**Matsushiro Ar**	**146.63**	**314**	PKPbc	PKPbc	17 18 44.0	+1.8
	2.5nm,0.7s,baz=122,slow=1.0,SNR=6.4						
SONM	**Songino Array**	**147.93**	**3**	PKPbc	PKPdf	17 18 46.9	+4.4
	2.7nm,0.7s,baz=314,slow=2.0,SNR=19						

IDC 25 17:06:44.1±3.0, 8.17N×91.81E, h24km±6km, mb3.5/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.6/4, Error ellipse: s-maj=106.2km s-min=21.9km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.34**	**350**	P	P	17 14 10.8	-2.5
	1.1nm,0.8s,baz=168,slow=8.7,SNR=9.2						
MKAR				pP	pP	17 14 19.0	-1.5
	0.4nm,0.6s,baz=174,slow=7.6,SNR=3.8						
SONM	**Songino Array**	**41.43**	**15**	P	P	17 14 28.4	-2.0
	0.3nm,0.7s,baz=191,slow=8.2,SNR=5.5						
SONM				pP	pP	17 14 36.5	-1.2
	0.5nm,0.7s,baz=196,slow=8.2,SNR=3.6						
ZAL	**Zalesovo**	**45.99**	**354**	P	P	17 15 05.7	-1.6
	0.5nm,0.4s,baz=261,slow=6.0,SNR=4.2						
WRA	**Warramunga Arr**	**50.32**	**124**	P	P	17 15 39.7	-1.6
	0.2nm,0.3s,baz=300,slow=9.9,SNR=5.7						
WRA				pP	pP	17 15 46.1	-2.7
	0.7nm,0.9s,baz=304,slow=8.6,SNR=3.2						

BER 25 17:16:54.9±0.4, 71.15N×7.49W, h17km±1km, MD2.7, ML3.5, 1C-2D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.31**	**238**	*e*P	Pb	17 17 00.9	-0.7
JNE				*e*S	Sb	17 17 05.5	-0.6
JNE				AML	AML	17 17 06.7	
	comp=Z,4μm,0.3s						
JNE	**Jan Mayen East**	**0.31**	**238**	⇓*i*P	Pb	17 17 00.9	-0.7
JNE				*e*S	Sb	17 17 04.9	-1.3
JNE				AML	AML	17 17 06.9	
	comp=Z,5μm,0.6s						
JNE	**Jan Mayen East**	**0.31**	**238**	*e*P	Pb	17 17 00.9	-0.7
	SNR=117						
JNE				*e*S	Sb	17 17 05.5	-0.7
	comp=Z,4μm,0.3s,SNR=117						
JNW	**Jan Mayen West**	**0.33**	**248**	*e*P	Pb	17 17 01.3	-0.7
JNW				*e*S	Sb	17 17 06.0	-0.7
JNW				AML	AML	17 17 06.9	
	comp=Z,3μm,0.5s						
JNW	**Jan Mayen West**	**0.33**	**248**	⇑*i*P	Pb	17 17 01.4	-0.6
JNW				*e*S	Sb	17 17 05.9	-0.8
JNW				AML	AML	17 17 07.0	
	comp=Z,3μm,0.4s						
JNW	**Jan Mayen West**	**0.33**	**248**	*e*P	Pb	17 17 01.3	-0.7
	SNR=115						
JNW				*e*S	Sb	17 17 06.0	-0.8
	comp=Z,3μm,0.5s,SNR=115						
JMI	**Jan Mayen**	**0.47**	**241**	*e*P	Pb	17 17 03.4	-0.9
JMI				*e*S	Sb	17 17 09.2	-1.4
JMI				AML	AML	17 17 10.9	
	comp=Z,3μm,0.3s						
JMI	**Jan Mayen**	**0.47**	**241**	⇓*i*P	Pb	17 17 03.3	-0.9
JMI				*e*S	Sb	17 17 09.0	-1.6
JMI	**Jan Mayen**	**0.47**	**241**	*e*P	Pb	17 17 03.4	-0.8
	SNR=53						
JMI				*e*S	Sb	17 17 09.2	-1.4
	comp=Z,3μm,0.3s,SNR=53						

*IDC **25** 17:47:36.3±3.6, 0.11S×97.06E, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, MS3.7/1, Ms1 3.7/1, ms1mx3.1/21, Error ellipse: s-maj=139.1km s-min=27.9km az=55.0*

*NEIC **25** 17:47:41.2±1.3, 0.02N×97.24E, h30km, mb4.0/1, Error ellipse: s-maj=28.4km s-min=20.7km az=60.0*

ISC 25 17:47:39.3±1.5, 0.1N±0.2×97.2E±0.2, h30km, n6, σ1§14/6, mb3.9/5, MS3.7/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.22**	**33**	*e*Pn	**Pn**	**17 49 11.1**	**-0.5**
KULM				*e*pPn		17 49 19.2	
WRA	**Warramunga Arr**	**41.44**	**121**	P	**P**	**17 55 25.1**	**-0.1**
	0.6nm,0.5s,mb3.5,baz=302,slow=8.9,SNR=8.2						
SONM	**Songino Array**	**48.24**	**8**	P	**P**	**17 56 20.9**	**+1.5**
	0.6nm,0.6s,mb3.6,baz=185,slow=8.1,SNR=6.0						
ZAL	**Zalesovo**	**54.66**	**351**	P	**P**	**17 57 08.2**	**+0.6**
	2.9nm,0.5s,mb4.5,baz=297,slow=5.2,SNR=12						
ZAL				LR	LR	18 23 34.5	
	comp=Z,70nm,20.2s,MS3.7,baz=23,slow=39						
BVAR	**Borovoye Array**	**57.31**	**341**	P	**P**	**17 57 25.8**	**-0.9**
	0.3nm,0.4s,mb3.6,baz=153,slow=6.6,SNR=4.3						
ZRNK	**Zerenda**	**57.71**	**340**	P	**P**	**17 57 29.0**	**-0.5**
	0.5nm,0.3s,mb4.0						

*NEIC **25** 17:51:35.0±0.9, 8.23N×92.89E, mb4.3/8, Error ellipse: s-maj=27.5km s-min=13.2km az=39.0*

*BJI **25** 17:51:35.9, 8.27N×92.70E, h14km, mB4.9, mb4.2, Ms4.3, Msz4.0*

*IDC **25** 17:51:35.3±1.2, 8.42N×92.85E, h14km±4km, mb3.7/11, mb1 3.8/11, mb1mx3.8/21, mbtmp3.8/11, Error ellipse: s-maj=44.9km s-min=24.0km az=48.0*

ISC 25 17:51:33.0±1.0, 8.0N±0.1×92.6E±0.1, h15km, h15km±1.1km:pP-P, n35, σ1§40/35, mb4.1/21, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**8.50**	**108**	Pn	**P**	**17 53 33.4**	**-5.1**
KMI	**Kunming**	**19.57**	**29**	P	**P**	**17 56 04.3**	**+1.0**
KMI				AP		17 56 12.3	
KMI				AMB	AMB		
	comp=Z,8.0nm,1.4s						
KMI	**Kunming**	**19.57**	**29**	P	**P**	**17 56 04.2**	**+0.9**
	comp=Z,8.0nm,1.4s						
KMI				pP		17 56 12.2	
QIZ	**Qiongzhong**	**20.03**	**55**	*e*P	**P**	**17 56 09.8**	**+1.5**
PKI	**Pulchoki**	**20.56**	**342**	*e*P	**P**	**17 56 15.3**	**+1.4**
	comp=Z,33nm,0.6s						
DMN	**Daman**	**20.69**	**341**	*e*P	**P**	**17 56 15.3**	**+0.1**
	comp=Z,37nm,0.9s						
GUN	**Gumba**	**20.74**	**343**	*e*P	**P**	**17 56 17.6**	**+1.9**
KKN	**Kakani**	**20.81**	**342**	*e*P	**P**	**17 56 16.7**	**+0.3**
	comp=Z,24nm,0.8s						
GKN	**Gorkha**	**21.21**	**340**	*e*P	**P**	**17 56 19.5**	**-1.0**
	comp=Z,25nm,0.5s,mb4.8						
KOLN	**Koldanda**	**21.37**	**338**	*e*P	**P**	**17 56 19.4**	**-2.7**
	comp=Z,44nm,0.7s,mb4.9						
LSA	**Lhasa**	**21.58**	**357**	P	**P**	**17 56 24.5**	**+0.3**
LSA	**Lhasa**	**21.58**	**357**	*e*P	**P**	**17 56 24.8**	**+0.5**
	comp=Z,21nm,0.8s,mb4.6						
GYA	**Guiyang**	**22.70**	**35**⇑	*i*P	**P**	**17 56 36.5**	**+1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
DDI	**Dehra Dun**	**25.99**	**330**	*e*	**P**	**17 57 14.0**	**+7.0**
ENH	**Enshi**	**27.22**	**33**	*e*P	**P**	**17 57 16.0**	**-2.3**
	comp=Z,14nm,0.9s,mb4.5						
GTA	**Gaotai**	**31.91**	**11**	*e*P	**P**	**17 57 59.0**	**-1.1**
GTA				AP	pP	17 58 04.5	-0.1
GTA				XP	sP	17 58 07.8	+1.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.2						
WMQ	**Urumqi**	**35.89**	**354**	*e*P	**P**	**17 58 36.0**	**+1.6**
AAK	**Ala-Archa**	**37.94**	**338**	*e*P	**P**	**17 58 53.4**	**+1.7**
	comp=Z,5.4nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	**39.60**	**349**	P	**P**	**17 59 03.9**	**-1.6**
	comp=Z,1.4nm,0.7s,mb3.8,baz=172,slow=8.1,SNR=4.0						
SONM	**Songino Array**	**41.36**	**14**	P	**P**	**17 59 17.1**	**-2.9**
	comp=Z,0.6nm,0.4s,mb3.6,baz=203,slow=7.7,SNR=8.1						
KURK	**Kurchatov**	**44.08**	**347**	*e*P	**P**	**17 59 43.6**	**+1.5**
	comp=Z,1.5nm,0.5s,mb4.0						
ZAL	**Zalesovo**	**46.19**	**354**	P	**P**	**17 59 56.8**	**-2.1**
	comp=Z,0.8nm,0.3s,mb4.1,baz=214,slow=12,SNR=3.3						
BVAR	**Borovoye Array**	**48.33**	**342**	P	**P**	**18 00 14.3**	**-1.4**
	comp=Z,1.0nm,0.8s,mb3.9,baz=149,slow=8.6,SNR=5.0						
ZRNK	**Zerenda**	**48.70**	**341**	*e*P	**P**	**18 00 17.4**	**-1.2**
	comp=Z,1.6nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**49.65**	**125**	P	**P**	**18 00 26.5**	**+0.2**
	comp=Z,0.4nm,0.4s,mb3.8,baz=302,slow=9.1,SNR=12						
ARU	**Arti**	**55.13**	**338**	*e*P	**P**	**18 01 06.8**	**-0.1**
	comp=Z,5.4nm,0.7s,mb4.7						
BR131	**Keskin Array S**	**61.12**	**311**	P	**P**	**18 01 51.6**	**+2.5**
	comp=Z,1.2nm,0.6s,mb4.2						
BRTR	**Keskin Array B**	**61.12**	**311**	P	**P**	**18 01 48.1**	**-1.0**
	comp=Z,1.2nm,0.8s,mb4.1,baz=121,slow=7.2,SNR=5.8						
AKASG	**Malin Array Be**	**67.04**	**322**	P	**P**	**18 02 28.0**	**+0.3**
	comp=Z,0.2nm,0.2s,mb3.7,baz=93,slow=4.6,SNR=4.4						
FINES	**FINESS Array B**	**71.83**	**332**	P	**P**	**18 02 57.1**	**+0.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=130,slow=15,SNR=2.7						
FINES				pP	pP	18 03 01.3	-0.4
	comp=Z,1.2nm,0.7s,baz=153,slow=4.3,SNR=2.4						
ARCES	**ARCESS Array B**	**74.57**	**340**	P	**P**	**18 03 10.5**	**-2.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=178,slow=33,SNR=3.1						
ARCES				pP	pP	18 03 16.1	-1.5
	comp=Z,2.7nm,0.7s,baz=90,slow=11,SNR=3.6						
ARCES	**ARCESS Array B**	**74.57**	**340**	P	**P**	**18 03 10.5**	**-2.2**
ARCES				pP	pP	18 03 16.1	-1.5
GERES	**GERESS Array B**	**76.65**	**318**	P	**P**	**18 03 25.5**	**+0.6**
	comp=Z,0.2nm,0.3s,mb3.5,baz=117,slow=2.2,SNR=4.9						
GERES				pP	pP	18 03 30.0	+0.2
	comp=Z,1.0nm,0.8s,baz=124,slow=4.8,SNR=4.8						
HFS	**Hagfors**	**77.51**	**330**	P	**P**	**18 03 30.6**	**+1.1**
	comp=Z,2.2nm,1.0s,mb4.1,baz=127,slow=14,SNR=3.9						
HFS				pP	pP	18 03 35.0	+0.7
	comp=Z,1.0nm,0.5s,baz=108,slow=4.7,SNR=2.1						
HFS	**Hagfors**	**77.51**	**330**	P	**P**	**18 03 30.6**	**+1.1**
HFS				pP	pP	18 03 35.0	+0.7

*NNC **25** 17:53:45.8±23.0, 42.68N×85.82E, mpv2.5, Error ellipse: s-maj=409.6km s-min=152.2km az=59.0*

BJI 25 17:53:44.0, 41.76N×84.52E, h15km, ML2.8, 2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**3.12**	**48**	*e*P	Pn	17 54 33.5	-0.1
WMQ				S	Sn	17 55 09.3	-1.6
WMQ				SG	Sg	17 55 13.3	-15
WMQ				Smax			
	comp=N,15nm,0.4s						
WMQ				Smax			
	comp=E,28nm,0.5s						
MK31	**Makanchi Array**	**5.28**	**343**	⇓Pg	Pg	17 55 13.7	-16
	comp=E,0.3nm,0.4s,baz=145,slow=17,SNR=6.4						
MK31				⇓Lg		17 56 17.1	
	comp=E,4.3nm,0.8s,baz=149,slow=28,SNR=8.6						

WEL 25 17:55:07.1±0.1, 42.49S×172.75E, h8km±1km, ML3.5/13, 1C-2D, Error ellipse: s-maj=1.0km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTZ	**Lake Taylor**	**0.46**	**231**	⇓PG	Pg	17 55 16.1	-0.3
LTZ				SG	Sg	17 55 22.2	-0.4
KHZ	**Kahutara**	**0.59**	**83**	⇓P*	Pb	17 55 18.7	-0.5
KHZ				S*	Sb	17 55 26.6	-0.9
THZ	**Tophouse**	**0.74**	**9**	⇑P*	Pb	17 55 20.5	-1.2
DSZ	**Denniston Nort**	**1.02**	**316**	P*	Pb	17 55 26.4	-0.3
DSZ				S*	Sb	17 55 39.8	-0.4
CRLZ	**Canterbury Las**	**1.09**	**185**	P*	Pb	17 55 27.4	-0.5
CRLZ				S*	Sb	17 55 42.9	+0.9
BSWZ	**Blackbirch Sta**	**1.14**	**48**	P*	Pb	17 55 28.5	-0.2
BSWZ				S*	Sb	17 55 47.1	+3.6
MQZ	**McQueen's Vall**	**1.22**	**183**	P*	Pb	17 55 29.0	-1.0
CMWZ	**Cape Campbell**	**1.32**	**56**	PN	Pn	17 55 32.4	+0.5
NNZ	**Nelson**	**1.35**	**20**	PN	Pn	17 55 31.4	-1.1
TUWZ	**Tuamarina**	**1.38**	**40**	PN	Pn	17 55 31.8	-1.0
QRZ	**Quartz Range**	**1.67**	**354**	PN	Pn	17 55 36.2	-0.8
TCW	**Tory Channel**	**1.71**	**42**	PN	Pn	17 55 36.8	-0.7
RPZ	**Rata Peaks**	**1.75**	**225**	PN	Pn	17 55 36.6	-1.4
SNZO	**South Karori**	**1.88**	**52**	PN	Pn	17 55 39.1	-0.8
DUWZ	**D'Urville Isla**	**1.90**	**28**	PN	Pn	17 55 40.2	-0.1
MRW	**Makara Radio**	**1.93**	**50**	PN	Pn	17 55 39.8	-0.8
MSWZ	**Moikau Station**	**2.15**	**61**	PN	Pn	17 55 41.9	-1.9
CAW	**Cannon Point**	**2.21**	**52**	PN	Pn	17 55 43.5	-1.2
KIW	**Kapiti Island**	**2.29**	**46**	PN	Pn	17 55 45.2	-0.7
MTW	**Mount Morrison**	**2.45**	**58**	PN	Pn	17 55 45.6	-2.5
FOZ	**Fox Glacier**	**2.49**	**243**	PN	Pn	17 55 46.5	-2.2
LBZ	**Lake Benmore**	**2.66**	**224**	PN	Pn	17 55 49.4	-1.7
MRZ	**Mangatainoka R**	**2.80**	**50**	PN	Pn	17 55 50.8	-2.3
ODZ	**Otahua Downs**	**2.98**	**210**	PN	Pn	17 55 53.0	-2.6
WAZ	**Wanganui**	**3.21**	**32**	PN	Pn	17 55 59.3	+0.4
NRZ	**Ngariki Road**	**3.27**	**16**	*e*PN	Pn	17 56 01.5	+1.6
PKE	**Pukeiti**	**3.42**	**16**	PN	Pn	17 56 02.5	+0.5
VRZ	**Vera Road**	**3.69**	**25**	*e*PN	Pn	17 56 06.4	+0.7
EAZ	**Earnscleugh**	**3.70**	**221**	*e*PN	Pn	17 56 02.4	-3.5
FWVZ	**Far West T-bar**	**3.87**	**34**	*e*PN	Pn	17 56 07.5	-0.8
TUVZ	**Tukino**	**3.90**	**35**	*e*PN	Pn	17 56 07.9	-0.9
TUZ	**Tuapeka**	**4.13**	**212**	PN	Pn	17 56 08.7	-3.2
HIZ	**Hauiti**	**4.28**	**23**	PN	Pn	17 56 13.6	-0.6

*JMA **25** 18:16:29.9, 37.40N×139.46E, h5km±1km, M3.5*
JMA Felt II J1.

ISC 25 18:16:29.7±0.8, 37.40N±0.06×139.47E±0.06, h9km±11km, n5, σ0§31/9, 2C-2D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFY	**Yanaizu**	**0.19**	**87**	⇓P	**Pg**	**18 16 33.9**	**0.0**
JFY				S	**Sg**	**18 16 36.6**	**0.0**
JHK	**Hiroka**	**0.39**	**247**	⇑P	**Pg**	**18 16 37.5**	**-0.2**
JHK				S	**Sg**	**18 16 42.7**	**-0.2**
JNS	**Sasagawa**	**0.44**	**344**	⇑P	**Pg**	**18 16 38.4**	**-0.2**
JNS				S	**Sg**	**18 16 44.3**	**-0.2**
JIZZ	**Izumozaki**	**0.62**	**283**	⇓P	**Pg**	**18 16 43.0**	**+0.8**
MAT	**Matsushiro**	**1.32**	**230**	P	**Pb**	**18 16 54.3**	**0.0**
MAT				S	**Sb**	**18 17 11.1**	**-0.1**

*IDC **25** 18:39:10.7±2.5, 1.49N×98.10E, mb4.0/4, mb1 4.2/4, mb1mx3.8/18, mbtmp4.0/4, Error ellipse: s-maj=109.2km s-min=26.8km az=57.0*

*NEIC **25** 18:39:11.9±1.1, 1.00N×97.38E, h30km, mb4.1/2, Error ellipse: s-maj=24.2km s-min=17.1km az=53.0*

ISC 25 18:39:10.0±1.5, 1.0N±0.2×97.4E±0.2, h30km, n7, σ0§50/7, mb4.0/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.36**	**38**	*e*Pn	**Pn**	**18 40 30.0**	**-0.1**
LSA	**Lhasa**	**29.13**	**349**	P	**P**	**18 45 11.4**	**+0.7**
	2.1nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**41.80**	**122**	P	**P**	**18 46 59.1**	**+0.1**
	0.5nm,0.6s,mb3.3,baz=302,slow=9.0,SNR=7.7						
SONM	**Songino Array**	**47.28**	**8**	P	**P**	**18 47 42.3**	**-0.3**
	0.8nm,0.5s,mb3.9,baz=189,slow=10,SNR=10						
SONM				PcP	PcP	18 49 14.2	+0.4
	0.4nm,0.5s,baz=188,slow=4.3,SNR=4.8						
MKAR	**Makanchi Array**	**47.45**	**346**	P	**P**	**18 47 44.4**	**+0.4**
	1.9nm,0.6s,mb4.2,baz=162,slow=7.8,SNR=22						
MKAR				PcP	PcP	18 49 17.8	+3.4
	0.1nm,0.4s,baz=225,slow=2.0,SNR=2.2						
ZAL	**Zalesovo**	**53.75**	**351**	P	**P**	**18 48 31.8**	**+0.1**
	3.0nm,0.4s,mb4.5,baz=322,slow=3.7,SNR=12						
ZRNK	**Zerenda**	**56.88**	**340**	*e*P	**P**	**18 48 53.4**	**-1.0**
	0.8nm,0.3s,mb4.2						

*NEIC **25** 18:56:10.3, 32.40S×70.93W, h70km, MD3.7(GUC), After GUC.*

GUC 25 18:56:10.3±0.9, 32.40S×70.93W, h70km±4km, MD3.7, ML3.2, 13C-10D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACH	**Jahuel**	**0.40**	**135**⇑	*i*P	P	18 56 22.4	+0.1
JACH				*i* S	S	18 56 31.7	+0.5
PACH	**Papudo**	**0.45**	**253**⇑	*i*P	P	18 56 23.1	+0.3
PACH				*i* S	S	18 56 32.6	+0.6
ROCH	**El Roble**	**0.57**	**187**⇑	*i*P	P	18 56 24.1	+0.1
ROCH				*i* S	S	18 56 34.3	+0.3
PEL	**Peldehue**	**0.77**	**165**⇑	*i*P	P	18 56 26.3	+0.2
PEL				*i* S	S	18 56 38.5	+0.6
ILCH	**Illapel**	**0.79**	**345**⇑	*i*P	P	18 56 26.8	+0.3
ILCH				*i* S	S	18 56 39.5	+1.0
ILCH				AMP		18 56 41.8	
	comp=N,2μm,0.1s						
IHA	**Instituto Hidr**	**0.86**	**224**⇓	*i*P	P	18 56 27.6	+0.3
IHA				*i* S	S	18 56 39.9	0.0
DSCH	**Colegio Aleman**	**1.04**	**163**⇓	*i*P	P	18 56 29.7	+0.1
DSCH				*i* S	S	18 56 44.8	+1.0
DSCH				AMP		18 56 47.0	
	comp=N,2μm,0.4s						
CLCH	**Cerro Calan**	**1.04**	**162**⇓	*i*P	P	18 56 29.6	0.0
CLCH				*i* S	S	18 56 44.7	+0.8
CLCH				AMP		18 56 48.5	
	comp=N,897nm,0.3s						
CLCH				AMP		18 56 49.0	
	comp=E,692nm,0.5s						
STL	**Santa Lucia**	**1.06**	**167**⇑	*i*P	P	18 56 28.9	-0.9
STL				*i* S	S	18 56 44.2	-0.1
STL				AMP		18 56 46.0	
	comp=N,320nm,0.4s						
FCH	**Farellones**	**1.06**	**150**⇓	*i*P	P	18 56 30.3	+0.4
FCH				*i* S	S	18 56 46.1	+1.7
FCH				AMP		18 56 46.6	
	comp=E,1μm,0.2s						
SAN	**Santiago**	**1.07**	**168**	*i* S	S	18 56 44.9	+0.4
SAN				AMP		18 56 46.9	
	comp=E,518nm,0.2s						
**S

SONM				LR	LR	19 39 12.9			
WRA	**Warramunga Arr**	**50.06**	**123**	P	**P**	**19 21 24.9**	**+0.3**		
	0.6nm,0.9s,mb3.6,baz=302,slow=8.9,SNR=6.8								
GERES	**GERESS Array B**	**76.56**	**318**	P	**P**	**19 24 18.9**	**-0.5**		
	0.1nm,0.2s,mb3.3,baz=146,slow=7.1,SNR=2.2								
GERES				pP	pP	19 24 29.8	+0.1		
	0.3nm,0.5s,baz=72,slow=4.2,SNR=4.9								

*IDC **25** 19:27:22.2±1.0, 13.53S×72.66W, mb3.7/4, mb1 4.0/8, mb1mx3.9/21, mbtmp3.7/8, ML4.0/4, MS2.9/3, Ms1 2.9/3, ms1mx2.7/31, Error ellipse: s-maj=40.8km s-min=17.8km az=47.0*

*NEIC **25** 19:27:29.3±1.1, 13.48S×72.50W, h50km±12km, mb4.4/2, Error ellipse: s-maj=24.6km s-min=9.2km az=222.0*

ISC 25 19:27:27.6±1.7, 13.5S±0.2×72.5W±0.1, h56km±20km, n18, σ1§13/14, mb3.8/6, MS3.0/1, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARE	**Arequipa**	**3.14**	**162**	*e*P		**P**	**19 28 17.0**	**+1.1**
ARE				*i*			19 28 19.2	
NNA	**Nana**	**4.47**	**289**	*e*Pn		**P**	**19 28 34.8**	**+0.2**
NNA				*e*Sn		**S**	**19 29 25.4**	**-0.5**
LPAZ	**La Paz**	**5.08**	**124**	Pn		**P**	**19 28 43.5**	**+0.3**
	0.6nm,0.3s,baz=318,slow=12,SNR=10.0							
LPAZ				Pg		**P**	**19 28 59.2**	**+16**
	0.9nm,0.3s,baz=344,slow=14,SNR=7.2							
LPAZ				Lg			19 30 17.1	
	0.3nm,0.3s,baz=211,slow=20,SNR=2.3							
LVC	**Limon Verde**	**9.72**	**160**	Pn		**P**	**19 29 43.4**	**-4.1**
	1.7nm,0.3s,baz=334,slow=9.2,SNR=13							
LVC				Pg		P	19 30 22.1	+35
	4.2nm,0.3s,baz=348,slow=11,SNR=16							
SIV	**San Ignacio**	**11.35**	**104**	Pn		**P**	**19 30 06.2**	**-3.4**
	0.3nm,0.3s,baz=286,slow=11,SNR=5.9							
SIV				Lg			19 33 26.5	
	0.4nm,0.3s,baz=297,slow=18,SNR=4.9							
ROSC	**El Rosal**	**18.29**	**354**	LR		LR	19 39 08.8	
	comp=Z,77nm,19.6s,baz=340,slow=38							
CFAA	**Coronel Fontan**	**18.48**	**168**	LR		LR	19 38 04.8	
	comp=Z,11nm,20.7s,baz=359,slow=35							
CPUP	**Villa Florida**	**19.15**	**134**	P		**P**	**19 31 46.8**	**-2.4**
	0.1nm,0.3s,baz=348,slow=13,SNR=3.6							
JTS	**JuntasAbangare**	**26.63**	**332**	LR		LR	19 42 52.2	
	comp=Z,40nm,19.7s,MS3.0,baz=332,slow=35							
WVT	**Waverly**	**51.40**	**344**	*e*P		**P**	**19 36 28.5**	**-0.7**
	1.7nm,0.5s,mb4.2							
TXAR	**Lajitas Array**	**52.10**	**325**	P		**P**	**19 36 35.0**	**+0.5**
	0.4nm,0.5s,mb3.6,baz=149,slow=10,SNR=4.4							
SDCO	**Great Sand Dun**	**59.61**	**330**	*e*P		**P**	**19 37 29.2**	**+0.9**
	2.8nm,0.9s,mb4.3							
PDAR	**Pinedale Array**	**65.46**	**331**	P		**P**	**19 38 06.2**	**-1.0**
	0.4nm,0.7s,mb3.6,baz=135,slow=1.3,SNR=3.6							
SNAA	**Sanae**	**70.95**	**162**	P		**P**	**19 38 40.8**	**+0.1**
	1.0nm,1.1s,mb3.6,baz=306,slow=8.1,SNR=3.7							
ESDC	**Sonseca Array**	**82.67**	**46**	P		**P**	**19 39 48.6**	**+1.8**
	0.2nm,0.3s,mb3.6,baz=250,slow=6.7,SNR=5.1							
ZAL	**Zalesovo**	**135.83**	**19**	PKP		PKPdf	19 46 45.3	+3.1
	0.5nm,0.3s,baz=283,slow=2.3,SNR=4.0							
WRA	**Warramunga Arr**	**137.57**	**219**	PKP		PKPdf	19 46 48.9	+2.6
	1.4nm,1.1s,baz=140,slow=1.8,SNR=3.7							
SONM	**Songino Array**	**145.72**	**1**	PKPbc		PKPbc	19 47 03.5	+2.8
	1.6nm,0.8s,baz=345,slow=1.7,SNR=12							

*NEIC **25** 19:27:33.6±4.2, 50.37N×18.73E, h5km, MG2.5(WAR), Error ellipse: s-maj=58.1km s-min=9.4km az=164.0*

*PRU **25** 19:27:35.1, 50.27N×18.70E*

WAR 25 19:27:33.9, 50.25N×18.85E, h0km, ML2.4, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OJC	**Ojcow**	**0.61**	**93**	*i* Pg		Pg	19 27 45.8	-0.3
OJC				*i* Sg		Sg	19 27 54.2	0.0
OKC	**Ostrava-Krasne**	**0.61**	**228**	*e*PG		Pg	19 27 46.1	0.0
MORC	**Moravsky Berou**	**0.97**	**241**	*e*Pg		Pg	19 27 52.0	-1.2
MORC				*e*Sg		Sg	19 28 04.7	-1.4
NIE	**Niedzica**	**1.26**	**131**	*e*PG		Pg	19 27 58.0	-1.1
NIE				*e*SG		Sg	19 28 16.0	+0.1
DPC	**Dobruska-Polom**	**1.62**	**275**	*e*PG		Pg	19 28 02.8	-3.5
DPC				*e*SG		Sg	19 28 23.7	-4.3
	26nm,1.1s							
KSP	**Ksiaz**	**1.74**	**291**	*e*PG		Pg	19 28 06.0	-2.6
KSP				*e*SG		Sg	19 28 29.0	-2.7
VYHS	**Vyhne**	**1.76**	**180**	*e*PN		Pn	19 28 05.3	-0.5
VYHS				*e*SN		Sn	19 28 27.4	-1.8
STHS	**Stebnicka Huta**	**1.76**	**117**	*e*PN		Pn	19 28 07.2	+1.4
STHS				*e*SN		Sn	19 28 30.2	+1.0
UPC	**Upice**	**1.83**	**279**	*e*SG		Sg	19 28 31.0	-4.0
CRVS	**Cervenica-Dubn**	**2.17**	**127**	*e*PN		Pn	19 28 13.8	+2.1
CRVS				*e*SN		Sn	19 28 40.8	+1.2
KOLS	**Kolonicke sedl**	**2.59**	**119**	*e*PG		Pg	19 28 25.0	-0.6
PRU	**Pruhonice**	**2.79**	**266**	*e*SG		Sg	19 28 59.6	-7.0
KHC	**Kasperske Hory**	**3.60**	**254**	*e*SG		Sg	19 29 27.5	-6.3
CLL	**Collm**	**3.86**	**288**	*e*SG		Sg	19 29 39.0	-3.4

*SKO **25** 19:41:45.0, 41.82N×21.87E, h15km, ML2.8*

*CSEM **25** 19:41:46.5±0.2, 41.87N×21.76E, h20km, MD3.3, Error ellipse: s-maj=5.4km s-min=2.4km az=112.0*

*THE **25** 19:41:48.8, 41.67N×21.90E, h13km*

*SOF **25** 19:41:48.7, 41.88N×22.19E, h10km, MD3.3*

ISC 25 19:41:45.3±0.5, 41.80N±0.03×21.86E±0.04, h10km, n24, σ0§83/31, 3C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKO	**Skopje**	**0.36**	**300**	⇑*i* Pg		**Pg**	**19 41 52.5**	**-0.2**
SKO				*i* Sg		**Sg**	**19 41 57.5**	**-0.1**
SKO				Smax			19 41 58.0	
	comp=Z,0.7nm,0.3s							
VAY	**Valandovo**	**0.71**	**131**	⇑*i* Pg		**Pg**	**19 41 59.2**	**-0.4**
VAY				*i* Sg		**Sg**	**19 42 09.5**	**+0.3**
KKB	**Krupnik**	**0.92**	**85**	*i* Pg		**Pg**	**19 42 03.6**	**-0.1**
GRG	**Griva**	**0.93**	**154**	*e*Pg		**Pg**	**19 42 04.0**	**+0.1**
GRG				*e*Sg		**Sg**	**19 42 15.7**	**-0.7**
KNT	**Kendrikon**	**1.00**	**129**	*e*Pg		**Pg**	**19 42 06.5**	**+1.1**
OHR	**Ohrid**	**1.05**	**230**	⇑*i* Pg		**Pg**	**19 42 05.7**	**-0.6**
OHR				*i* Sg		**Sg**	**19 42 20.4**	**+0.1**
FNA	**Florina**	**1.07**	**200**	*e*Pg		**Pg**	**19 42 06.6**	**-0.2**
FNA				*e*Sg		**Sg**	**19 42 21.6**	**+0.5**
VTS	**Vitosha**	**1.28**	**51**	*i* Pg		**Pg**	**19 42 09.5**	**-1.4**
MMB	**Musomiste**	**1.41**	**98**	*i* Pg		**Pg**	**19 42 12.6**	**-1.0**
THE	**Thessaloniki**	**1.43**	**144**	*e*Pg		**Pg**	**19 42 12.1**	**-1.7**
ZAPS	**Zavoj/Pirot**	**1.60**	**20**	⇓*i* Pn		**Pn**	**19 42 14.7**	**+0.9**
ZAPS				Sn		**Sn**	**19 42 34.5**	**-0.2**
LIT	**Litokhoron**	**1.76**	**164**	*e*Pb		**Pb**	**19 42 17.1**	**-0.1**
LIT	**Litokhoron**	**1.76**	**164**	*e*Pb		**Pb**	**19 42 17.0**	**-0.2**
PGB	**Panagyurishte**	**1.87**	**65**	*i* P		**Pn**	**19 42 19.0**	**+1.3**
LSK	**Leskovik**	**1.90**	**211**	*i* Pn		**Pn**	**19 42 22.7**	**+4.6**
LSK				*i* Sn		**Sn**	**19 42 46.2**	**+3.9**
RZN	**Rozhen**	**2.14**	**92**	*i* P		**Pn**	**19 42 23.0**	**+1.4**
PLD	**Plovdiv**	**2.14**	**81**	*e*Pg		**Pg**	**19 42 27.0**	**-1.1**
OUR	**Ouranopolis**	**2.17**	**132**	*e*Pn		**Pn**	**19 42 23.1**	**+1.1**
PAIG	**Paliouri**	**2.32**	**143**	*e*Pn		**Pn**	**19 42 25.2**	**+1.1**
XOR	**Xorichti**	**2.63**	**157**	*e*Pn		**Pn**	**19 42 27.8**	**-0.8**
KDZ	**Kurdzhali**	**2.67**	**92**	*e*P		**Pn**	**19 42 36.0**	**+6.9**
DIM	**Dimitrovgrad**	**2.75**	**83**	*e*P		**Pn**	**19 42 39.5**	**+9.2**
AOS	**Alonnisos**	**3.04**	**149**	*e*Pn		**Pn**	**19 42 34.4**	**0.0**
ALN	**Alexandroupoli**	**3.28**	**104**	*e*Pn		**Pn**	**19 42 38.3**	**+0.5**

*ATH **25** 19:41:55.0, 38.74N×21.06E, h8km±2km, MD3.8/15, ML3.8*

*NEIC **25** 19:41:55.1, 38.72N×21.06E, h8km, ML3.8(ATH), After ATH.*

*CSEM **25** 19:41:55.5±0.1, 38.73N×21.02E, h5km, ML3.8, Error ellipse: s-maj=2.3km s-min=1.9km az=41.0*

*IDC **25** 19:41:56.3±2.1, 39.03N×21.44E, mb3.6/7, mb1 3.7/9, mb1mx3.6/25, mbtmp3.6/9, ML3.4/2, MS2.7/1, Ms1 2.8/1, ms1mx2.3/35, Error ellipse: s-maj=48.5km s-min=18.4km az=47.0*

*HLW **25** 19:42:07.0, 38.11N×21.64E, h29km, Mb3.3*

ISC 25 19:41:53.2±0.6, 38.60N±0.03×21.11E±0.04, h13km±5km, n55, σ1§20/67, mb3.6/7, MS2.6/1, 6C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LKD	**Levkas**	**0.37**	**287**	*e*P		**Pg**	**19 42 00.6**	**-0.3**
VLS	**Valsamata**	**0.59**	**224**	*e*PG		**Pg**	**19 42 07.6**	**+2.5**
VLS				*e*SB		**Sb**	**19 42 18.2**	**+5.6**
VLS	**Valsamata**	**0.59**	**224**	*e*Pg		**Pg**	**19 42 07.6**	**+2.5**
VLS				*e*Sb		**Sb**	**19 42 17.2**	**+4.6**
RLS	**Riolos of Patr**	**0.61**	**152**	*e*PB		**Pb**	**19 42 09.9**	**+4.7**
EVR	**Evrytania**	**0.63**	**60**	⇓*i* PB		**Pb**	**19 42 06.2**	**+0.7**
EVR				*e*SB		**Sb**	**19 42 15.4**	**+1.4**
EVR	**Evrytania**	**0.63**	**60**	⇓*i* Pb		**Pb**	**19 42 06.2**	**+0.7**
EVR				*e*Sb		**Sb**	**19 42 15.9**	**+1.9**
AGG	**Agios Georgios**	**1.05**	**66**	*e*P		**Pb**	**19 42 15.2**	**+2.7**
AGG	**Agios Georgios**	**1.05**	**66**	*e*P		**Pb**	**19 42 15.2**	**+2.6**
JAN	**Janina**	**1.07**	**349**	*e*PB		**Pb**	**19 42 12.5**	**-0.5**
JAN				*e*SB		**Sb**	**19 42 25.5**	**-1.2**
JAN	**Janina**	**1.07**	**349**	*e*Pb		**Pb**	**19 42 12.2**	**-0.8**
JAN				*e*Sb		**Sb**	**19 42 26.6**	**-0.1**
IGT	**Igoumenitsa**	**1.11**	**327**	*e*P		**Pb**	**19 42 12.2**	**-1.5**
IGT	**Igoumenitsa**	**1.11**	**327**	*e*P		**Pb**	**19 42 12.1**	**-1.5**
LKR	**Lokris**	**1.48**	**88**	*e*PB		**Pb**	**19 42 24.2**	**+4.1**
KEK	**Kerkira**	**1.50**	**318**	*e*Pg		**Pb**	**19 42 21.0**	**+0.6**
KEK				*e*Sb		**Sb**	**19 42 41.1**	**+1.8**
KEK	**Kerkira**	**1.50**	**318**	*e*PB		**Pb**	**19 42 21.0**	**+0.6**
KEK				*e*SB		**Sb**	**19 42 40.0**	**+0.7**
ITM	**Ithomi**	**1.56**	**155**	*e*PG		**Pg**	**19 42 26.5**	**+2.1**
NEO	**Neokhori**	**1.80**	**66**	*e*PG		**Pg**	**19 42 27.4**	**-1.7**
MGER	**Gerania Oros**	**1.80**	**109**	*e*PN		**Pn**	**19 42 29.5**	**+5.2**
NSAL	**Nisos Salamina**	**1.98**	**110**	*e*PG		**Pg**	**19 42 33.0**	**+0.2**
NSAL	**Nisos Salamina**	**1.98**	**110**	*e*Pg		**Pg**	**19 42 33.5**	**+0.7**
NAIG	**Nisos Aigina**	**2.06**	**113**	*e*PN		**Pn**	**19 42 33.8**	**+5.9**
MPAR	**Parnis Oros**	**2.12**	**101**	*e*PG		**Pg**	**19 42 34.5**	**-1.0**
MPAR	**Parnis Oros**	**2.12**	**101**	*e*Pg		**Pg**	**19 42 34.8**	**-0.7**
ATH	**Athens Observa**	**2.15**	**106**	*e*PN		**Pn**	**19 42 35.0**	**+5.8**
VLI	**Veliai**	**2.38**	**142**	*e*PN		**Pn**	**19 42 38.2**	**+5.7**
KYTH	**Kithira**	**2.78**	**146**	*e*PN		**Pn**	**19 42 45.7**	**+7.5**
TIR	**Tirane**	**2.90**	**341**	ep		**Pn**	**19 42 38.5**	**+1.5**
TIP	**Timpagrande**	**3.44**	**281**	*e*Pn		**Pn**	**19 42 48.1**	**+0.5**
TIP	**Timpagrande**	**3.44**	**281**	*e*Pn		**Pn**	**19 42 48.1**	**+0.5**
PE1	**Pezze di Greco**	**3.59**	**309**	*e*Pn		**Pn**	**19 42 50.0**	**+0.2**
VAM	**Vamos**	**4.04**	**141**	*e*Pb		**Pb**	**19 43 04.3**	**+0.5**
VAM	**Vamos**	**4.04**	**141**	*e*PB		**Pb**	**19 43 03.4**	**-0.4**
SG1	**Sgolgore (BA)**	**4.08**	**305**	*e*Pn		**Pn**	**19 42 56.3**	**-0.4**
BAI	**Bari**	**4.10**	**309**	*e*Pn		**Pn**	**19 42 57.8**	**+0.8**
BARS	**Barje**	**4.25**	**7**	⇑*i* Pg		**Sb**	**19 44 00.3**	**+1.3**
BARS						**Sg**	**19 44 14.0**	**-0.7**
CDT	**Castel del Mon**	**4.47**	**305**	*e*Pn		**Pn**	**19 43 01.9**	**-0.3**
IDI	**Anoyia**	**4.49**	**136**	Pn		**Pn**	**19 43 08.6**	**+6.1**
	0.8nm,0.3s,baz=213,slow=18,SNR=11							
IDI				Sn		**Sn**	**19 44 02.4**	**+7.3**
	1.7nm,0.3s,baz=270,slow=18,SNR=3.9							
MS1	**Monte Sant'Ang**	**5.03**	**310**	*e*Pn		**Pn**	**19 43 09.0**	**-1.1**
CII	**Carovilli**	**6.07**	**303**	*e*Pn		**Pn**	**19 43 24.9**	**+0.1**
	17nm,0.3s							
CII	**Carovilli**	**6.07**	**303**	*e*Pn		**Pn**	**19 43 24.9**	**+0.1**
	17nm,0.3s							
SLUM		**7.85**	**153**	⇑*e*P		**Pn**	**19 43 49.3**	**-0.5**
HMAT	**Matruh**	**8.96**	**145**	⇑*e*P		**P**	**19 44 04.2**	**-1.1**
HMAT				S		**Sn**	**19 45 31.9**	**-15**
BRTR	**Keskin Array B**	**9.80**	**80**	Pn		**P**	**19 44 22.9**	**+6.1**
	0.2nm,0.3s,baz=243,slow=14,SNR=4.5							
SWA2		**10.01**	**158**	⇑*e*P		**P**	**19 44 19.0**	**-0.7**
SWA2				S		**S**	**19 45 57.0**	**-16**
SWA1		**10.07**	**156**	⇑*e*P		**P**	**19 44 19.6**	**-0.9**
GERES	**GERESS Array B**	**11.55**	**335**	Pn		**P**	**19 44 38.2**	**-2.5**
	0.2nm,0.3s,baz=151,slow=14,SNR=5.3							
HFRF	**Wahat Farafira**	**12.92**	**150**	⇑*e*P		**P**	**19 44 58.1**	**-1.1**
HFS	**Hagfors**	**22.06**	**350**	P		**P**	**19 46 49.7**	**+0.6**
	1.7nm,0.8s,mb3.5,baz=162,slow=9.1,SNR=3.0							
FINES	**FINESS Array B**	**23.08**	**6**	P		**P**	**19 46 58.5**	**-0.5**
	1.0nm,0.8s,mb3.3,baz=245,slow=32,SNR=2.8							
NOA	**NORSAR Array B**	**23.30**	**348**	P		**P**	**19 47 03.6**	**+2.5**
	0.8nm,0.8s,mb3.2,baz=167,slow=10.0,SNR=3.3							
NOA				LR		LR	19 55 44.8	
	comp=Z,22nm,21.2s,MS2.6,baz=185,slow=36							
EKA	**Eskdalemuir Ar**	**23.35**	**324**	P		**P**	**19 47 04.0**	**+2.2**
	1.5nm,0.8s,mb3.5,baz=132,slow=10.0,SNR=4.0							
ARCES	**ARCESS Array B**	**31.09**	**3**	P		**P**	**19 48 13.1**	**+0.3**
	1.3nm,0.8s,mb3.8,baz=190,slow=10,SNR=4.0							
MKAR	**Makanchi Array**	**44.69**	**59**	P		**P**	**19 50 06.3**	**-0.9**
	0.5nm,0.5s,mb3.6,baz=284,slow=6.4,SNR=9.0							
ZAL	**Zalesovo**	**45.06**	**48**	P		**P**	**19 50 09.3**	**-0.8**
	2.3nm,0.4s,mb4.4,baz=184,slow=10.0,SNR=6.8							
ZAL	**Zalesovo**	**45.06**	**48**	P		**P**	**19 50 09.3**	**-0.8**

*MOS **25** 19:45:05.4±0.9, 55.98S×27.72W, h10km, mb5.5/15, MS4.6/11, Error ellipse: s-maj=23.7km s-min=10.7km az=104.6*

*HRVD **25** 19:45:16.1±0.2, 56.23S×27.48W, h86km±1km, MW6.6/68, Centroid moment Tensor Solution. LP body waves: s64,c130; Mantle waves: s68,c161; Half duration: 1s5 Moment tensor: Scale 10^17Nm; Mrr0.48±.05; Mθθ0.67±.06; Mφφ-1.15±.05; Mrθ-1.51±.04; Mθφ1.50±.05; Mφr-1.82±.03; Best double couple: M0 2.871×10^17 NP1:φs296°, δ41°, λ12°. NP2:φs197°, δ82°, λ130°. Principal axes: T 3.319, Plg39°, Azm143°; N -.895, Plg40°, Azm10°; P -2.423, Plg26°, Azm256°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **25** 19:45:16.1±0.2, 56.03S×27.76W, mb5.5/21, MW5.5 Error ellipse: s-maj=7.7km s-min=5.3km az=48.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^17Nm; Mrr-0.12; Mθθ0.34; Mφφ-0.22; Mrθ-0.93; Mθφ0.54; Mφr-2.16; Best double couple: M0 2.4×10^17 NP1:φs284°, δ14°, λ-9°. NP2:φs23°, δ88°, λ-104°. Principal axes: T 2.5, Plg41°, Azm125°; N -.14, Plg14°, Azm23°; P -2.36, Plg46°, Azm279°;*

*BJI **25** 19:45:16.0, 56.00S×27.80W, h84km, mB5.4, Ms5.5, Msz5.2*

*IDC **25** 19:45:18.9±1.0, 56.08S×27.88W, h105km±7km, mb4.9/18, mb1 5.0/19, mb1mx5.0/20, mbtmp5.3/19, MS4.6/17, Ms1 4.6/17, ms1mx4.5/18, Error ellipse: s-maj=14.8km s-min=8.6km az=36.0*

ISC 25 19:45:12.2±1.8, 56.03S±0.05×27.8W±0.1, h56km±16km, h81km±3.4km: pP-P, n211, σ1§07/101, mb5.4/33, MS4.8/33, 18C-8D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNA1	**Neumayer--Stat**	**16.93**	**158**	⇑*i* P		**P**	**19 49 07.6**	**+1.3**
VNA1	**Neumayer--Stat**	**16.93**	**158**			**P**	**19 49 09.8**	**+3.5**
VNA1	**Neumayer--Stat**	**16.93**	**158**			**P**	**19 49 12.6**	**+6.3**
VNA1	**Neumayer--Stat**	**16.93**	**158**			**P**	**19 49 18.5**	**+12**
VNA1	**Neumayer--Stat**	**16.93**	**158**			**P**	**19 49 25.9**	**+20**
VNA3	**Neumayer Olymp**	**17.12**	**160**	⇑*i* P		**P**	**19 49 10.1**	**+1.5**
VNA3	**Neumayer Olymp**	**17.12**	**160**			**P**	**19 49 11.4**	**+2.8**
VNA3	**Neumayer Olymp**	**17.12**	**160**			**P**	**19 49 14.4**	**+5.8**
VNA3	**Neumayer Olymp**	**17.12**	**160**			**P**	**19 49 19.8**	**+11**
VNA3	**Neumayer Olymp**	**17.12**	**160**			**P**	**19 49 26.7**	**+18**
VNA2	**Neumayer--Watz**	**17.33**	**157**	⇑*i* P		**P**	**19 49 11.9**	**+0.6**
VNA2	**Neumayer--Watz**	**17.33**	**157**	⇑*i*		**P**	**19 49 14.7**	**+3.4**
VNA2	**Neumayer--Watz**	**17.33**	**157**			**P**	**19 49 21.8**	**+11**
VNA2	**Neumayer--Watz**	**17.33**	**157**			**P**	**19 49 24.1**	**+13**
VNA2	**Neumayer--Watz**	**17.33**	**157**			**P**	**19 49 29.4**	**+18**
SNAA	**Sanae**	**18.89**	**156**	⇑*i* P		**P**	**19 49 29.5**	**-0.7**
SNAA	**Sanae**	**18.89**	**156**			**P**	**19 49 31.0**	**+0.8**
SNAA	**Sanae**	**18.89**	**156**			**P**	**19 49 34.2**	**+4.0**
SNAA	**Sanae**	**18.89**	**156**			**P**	**19 49 44.4**	**+14**
SNAA	**Sanae**	**18.89**	**156**	⇑*i* P		**P**	**19 49 29.4**	**-0.8**
SNAA				pmax	pmax			
	comp=Z,450nm,0.7s							
SNAA	**Sanae**	**18.89**	**156**	P		**P**	**19 49 29.9**	**-0.3**
	comp=Z,20nm,0.3s,baz=308,slow=9.8,SNR=2177							
SNAA				PcP	PcP		19 53 52.4	-2.1
	comp=Z,0.5nm,0.3s,baz=258,slow=1.7,SNR=4.5							
SNAA				LR	LR		19 55 58.5	
	comp=Z,720nm,18.6s,baz=323,slow=34							
SNAA				ScP			19 57 17.0	
	comp=Z,0.2nm,0.3s,baz=273,slow=3.4,SNR=25							
PMSA	**Palmer Station**	**19.67**	**229**	*e*P		**P**	**19 49 39.9**	**+1.1**
	comp=Z,178nm,0.8s							
PMSA				*e*Sn		**S**	**19 53 22.1**	**+10**
PMSA				*e*ScP			19 57 18.9	
MAIT	**Maitri**	**22.43**	**146**	*e*P		**P**	**19 49 58.8**	**-8.1**
MAIT				*e*S		**S**	**19 54 07.2**	**+2.6**
NVL	**N'lazarevskaya**	**22.46**	**146**	⇓*i* P		**P**	**19 50 06.7**	**-0.4**
NVL				pmax	pmax			
	comp=Z,9.0nm,1.1s							
NVL				MLR	MLR			
	comp=Z,75nm,17.4s							
USHA	**Ushuaia**	**22.88**	**256**	P		**P**	**19 50 11.7**	**+0.5**
	comp=Z,99nm,0.9s,mb5.2,baz=80,slow=7.9,SNR=28							
USHA				ScP			19 57 26.8	
	comp=Z,10.0nm,0.7s,baz=101,slow=6.5,SNR=6.7							
TRQA	**Tornquist**	**29.02**	**294**	*e*P		**P**	**19 51 07.8**	**-0.9**
	comp=Z,48nm,0.6s,mb5.4							
TRQA				*e*pP		pP	19 51 28.1	+5.5
TRQA				*e*ScP			19 57 45.5	
TRQA				LR		LR		
	comp=Z,2μm,22.0s,MS4.6							
LPA	**La Plata**	**29.50**	**303**	*de*P		**P**	**19 51 13.0**	**0.0**
PLCA	**Paso Flores**	**31.68**	**281**	*e*P		**P**	**19 51 30.0**	**-2.2**
PLCA				pmax		pmax		
	comp=Z,19nm,0.8s							
PLCA	**Paso Flores**	**31.68**	**281**	P		**P**	**19 51 30.8**	**-1.4**
	comp=Z,16nm,0.7s,mb4.9,baz=141,slow=7.8,SNR=57							
PLCA				PcP		PcP	19 54 21.2	-1.8
	comp=Z,2.3nm,0.6s,baz=220,slow=1.4,SNR=3.6							
PLCA				ScP			19 57 53.1	
	comp=Z,6.2nm,0.7s,baz=100,slow=2.9,SNR=12							
PLCA				LR		LR	20 04 25.6	
	comp=Z,1μm,18.2s,MS4.7,baz=124,slow=36							
PLCA	**Paso Flores**	**31.68**	**281**	*e*P		**P**	**19 51 30.0**	**-2.2**
	comp=Z,19nm,0.8s,mb5.0							
SYO	**Syowa Base**	**31.80**	**141**	⇓P		**P**	**19 51 30.0**	**-3.0**
QSPA	**South Pole Qui**	**34.22**	**180**	P		**P**	**19 51 54.3**	**+0.5**
QSPA	**South Pole Qui**	**34.22**	**180**	⇑*i* P		**P**	**19 51 54.4**	**+0.6**
	comp=Z,237nm,0.6s,mb6.3							
CPUP	**Villa Florida**	**36.56**	**312**	P		**P**	**19 52 13.7**	**-0.5**
CPUP				ScP			19 58 11.7	
CPUP	**Villa Florida**	**36.56**	**312**	*e*P		**P**	**19 52 12.9**	**-1.3**
CPUP				*e*			19 54 35.2	
CPUP				pmax		pmax		
	comp=Z,82nm,0.9s							
CPUP				MLR		MLR		
	comp=Z,993nm,20.0s							
CPUP	**Villa Florida**	**36.56**	**312**	P		**P**	**19 52 13.9**	**-0.3**
	comp=Z,52nm,0.8s,mb5.4,baz=171,slow=7.8,SNR=90							
CPUP				PcP		PcP	19 54 35.4	-1.7
	comp=Z,7.8nm,0.7s,baz=149,slow=2.3,SNR=4.4							
CPUP				ScP			19 58 11.5	
	comp=Z,12nm,0.7s,baz=167,slow=3.1,SNR=16							
CPUP				LR		LR	20 07 03.5	
	comp=Z,711nm,18.8s,MS4.5,baz=175,slow=36							
CPUP	**Villa Florida**	**36.56**	**312**	*e*P		**P**	**19 52 12.9**	**-1.3**
	comp=Z,82nm,0.9s,mb5.6							
CPUP				*e*pP		pP	19 52 30.4	+1.8
CPUP				*e*PcP		PcP	19 54 35.2	-1.9
CPUP				*e*ScP			19 58 11.9	
CPUP				LR		LR		
	comp=Z,993nm,20.0s,MS4.6							
CFAA	**Coronel Fontan**	**37.26**	**294**	P		**P**	**19 52 18.5**	**-1.5**
	comp=Z,11nm,0.7s,mb4.8,baz=145,slow=8.6,SNR=148							
CFAA				PcP		PcP	19 54 37.4	-1.7
	comp=Z,0.9nm,0.4s,baz=130,slow=2.6,SNR=4.8							
CFAA				ScP			19 58 13.4	
	comp=Z,0.6nm,0.6s,baz=138,slow=2.6,SNR=5.3							
CFAA				LR		LR	20 07 53.8	
	comp=Z,112nm,19.4s,baz=141,slow=36							
CFAA	**Coronel Fontan**	**37.26**	**294**	P

LPAZ LR LR 20 16 41.5
comp=Z,255nm,18.2s,MS4.3,baz=150,slow=38
LPAZ La Paz 50.10 306 ⇓ *e*P **P** **19 54 04.2 +0.6**
LPAZ *e*ScP 19 59 06.8
LPAZ LR LR
comp=Z,448nm,20.0s,MS4.5
ARE Arequipa 51.52 302 *e*P **P** **19 54 15.0 +0.7**
MATP Matopo 54.59 73 LR LR 20 13 44.2
comp=Z,303nm,21.0s,MS4.3,baz=210,slow=31
DRV Dumont d'Urvil 57.28 174 P **P** **19 54 53.0 -2.7**
NNA Nana 57.96 299 *e*P **P** **19 55 00.6 -0.6**
comp=Z,104nm,1.1s,mb5.8
NNA *e*pP pP 19 55 20.7 +4.5
NNA LR LR
comp=Z,224nm,21.0s,MS4.2
LSZ Lusaka 58.67 69 *e*P **P** **19 55 04.5 -1.6**
LSZ pmax pmax
comp=Z,19nm,0.7s,mb5.2
LSZ MLR MLR
comp=Z,683nm,21.0s,MS4.8
LSZ Lusaka 58.67 69 *e*P **P** **19 55 04.5 -1.6**
comp=Z,19nm,0.7s,mb5.2
LSZ LR LR
comp=Z,683nm,21.0s,MS4.8
DBIC Dimbokro 65.29 25 P **P** **19 55 49.5 -0.8**
comp=Z,11nm,0.8s,mb5.0,baz=181,slow=8.2,SNR=17
DBIC LR LR 20 19 19.9
comp=Z,417nm,18.2s,MS4.7,baz=177,slow=31
OPO Ambohidratompo 66.41 88 P **P** **19 55 58.2 +0.8**
comp=Z,14nm,0.8s,mb5.0
ROSC El Rosal 71.64 310 P **P** **19 56 30.0 +0.4**
comp=Z,14nm,0.5s,mb5.2,baz=85,slow=4.1,SNR=16
ROSC LR LR 20 31 32.9
comp=Z,346nm,18.1s,MS4.7,baz=289,slow=39
MBAR Mbarara 72.43 63 ⇑ *i*P **P** **19 56 34.7 +0.3**
MBAR pmax pmax
comp=Z,19nm,1.3s,mb4.9
MBAR Mbarara 72.43 63 ⇑ *i*P **P** **19 56 34.7 +0.3**
comp=Z,19nm,1.3s,mb4.9
SDV Santo Domingo 73.77 316 P **P** **19 56 41.8 -0.4**
comp=Z,62nm,0.7s,mb5.7,baz=186,slow=3.4,SNR=66
SDV Santo Domingo 73.77 316 ⇓ *e*P **P** **19 56 41.1 -1.0**
comp=Z,66nm,0.8s,mb5.6
SDV *e*pP pP 19 57 03.9 +6.1
SDV LR LR
comp=Z,1μm,21.0s,MS5.2
KMBO Kilima Mbogo 75.33 70 P **P** **19 56 54.2 +3.0**
comp=Z,3.3nm,0.9s,mb4.3,baz=218,slow=2.0,SNR=9.0
KMBO LR LR 20 27 53.8
comp=Z,467nm,19.0s,MS4.8,baz=270,slow=34
MGG Marie-Galante 77.03 327 *e*P **P** **19 57 01.6 +0.8**
TBG Guadaloupe-3 77.06 327 *e*P **P** **19 57 01.9 +1.0**
PHG Guadaloupe-2 77.22 327 ⇑ *i*P **P** **19 57 03.1 +1.3**
SCG Saint Claude 77.24 327 ⇑ *e*P **P** **19 57 03.2 +1.2**
LZG Guadaloupe-1 77.38 327 *e*P **P** **19 57 03.7 +1.0**
RKT Rikitea 80.20 243 *e*S S 20 07 00.5 -17
comp=Z,482nm,25.5s
RKT *e*SS SS 20 12 37.0 +5.4
comp=Z,360nm,23.5s
RKT *e*LQ 20 19 13.0
comp=Z,731nm,28.8s
RKT *e*LR LR 20 22 23.6
comp=Z,1μm,33.5s
JTS JuntasAbangare 81.23 303 *e*P **P** **19 57 23.8 +0.2**
JTS pmax pmax
comp=Z,181nm,1.4s
JTS JuntasAbangare 81.23 303 *e*P **P** **19 57 23.8 +0.2**
comp=Z,181nm,1.4s,mb5.8
NWAO Narrogin (SRO) 86.50 151 *e*P **P** **19 57 48.7 -1.0**
NWAO pmax pmax
comp=Z,24nm,0.7s
NWAO Narrogin (SRO) 86.50 151 LR LR 20 30 58.9
comp=Z,392nm,19.2s,MS4.8,baz=188,slow=32
NWAO Narrogin (SRO) 86.50 151 *e*P **P** **19 57 48.7 -1.0**
comp=Z,24nm,0.7s,mb5.5
TOO Toolangi 86.58 175 *e*P **P** **19 57 50.0 0.0**
comp=Z,11nm,0.8s,mb5.1
TOO Toolangi 86.58 175 *e*P **P** **19 57 50.0 0.0**
TOO pmax pmax
comp=Z,11nm,0.8s,mb5.1
TBI Tubuai 86.84 232 *e*S S 20 08 18.1 -5.3
comp=Z,683nm,26.8s
TBI *e*SS SS 20 14 12.5 +3.1
comp=Z,185nm,25.5s
TBI *e*LQ 20 21 35.7
comp=Z,460nm,32.8s
TBI *e*LR LR 20 25 21.1
comp=Z,805nm,33.2s
MUN Mundaring 87.11 150 *e*P **P** **19 57 52.0 -0.7**
comp=Z,108nm,0.7s,mb6.2
MUN Mundaring 87.11 150 *e*P **P** **19 57 52.0 -0.7**
MUN pmax pmax
comp=Z,108nm,0.7s,mb6.2
KLBR Kellerberrin 87.90 151 *e*P **P** **19 57 55.8 -0.7**
comp=Z,98nm,0.8s,mb6.1
ATD Arta Tunnel 88.95 68 P **P** **19 58 03.6 +1.8**
comp=Z,3.2nm,0.3s,mb5.1,baz=73,slow=23,SNR=5.2
ATD LR LR 20 36 19.8
comp=Z,406nm,18.2s,MS4.9,baz=289,slow=34
CNB Canberra Magne 88.98 178 *e*P **P** **19 58 01.8 +0.3**
comp=Z,13nm,0.9s,mb5.3
PPT Papeete 91.95 234 *e*S S 20 08 46.8 -23
comp=Z,335nm,24.2s
PPT *e*SS SS 20 15 27.2 +4.2
comp=Z,304nm,22.5s
PPT *e*LQ 20 24 10.7
comp=Z,1μm,28.8s
PPT *e*LR LR 20 27 45.4
comp=Z,1μm,33.5s
PPT Papeete 91.95 234 LR LR 20 31 22.8
comp=Z,232nm,18.0s,MS4.7,baz=159,slow=30
STKA Stephens Creek 91.97 171 *e*P **P** **19 58 14.8 -0.8**
comp=Z,3.8nm,0.7s,mb4.8
STKA Stephens Creek 91.97 171 P **P** **19 58 15.1 -0.5**
comp=Z,3.1nm,0.4s,mb5.0,baz=168,slow=2.1,SNR=17
STKA LR LR 20 41 13.8
comp=Z,520nm,19.3s,MS5.0,baz=190,slow=36
ESDC Sonseca Array 97.46 18 P **P** **19 58 40.8 +0.4**
comp=Z,1.6nm,0.7s,mb4.5,baz=181,slow=4.7,SNR=8.1
FITZ Fitzroy Crossi 102.81 154 *e*P Pdif 19 59 05.9 +1.0
comp=Z,7.5nm,0.9s
WRA Warramunga Arr 102.82 163 P Pdif 19 59 03.3 -1.7
comp=Z,3.2nm,0.8s,baz=202,slow=4.1,SNR=15
WRA PP PP 20 03 14.5 -7.5
comp=Z,6.5nm,0.9s,baz=194,slow=6.2,SNR=7.0
WRA PKKPbc 20 15 01.4
comp=Z,0.9nm,0.3s,baz=355,slow=2.9,SNR=20
WB2 Warramunga Arr 102.82 163 *e*P Pdif 19 59 03.1 -1.8
WRAB Tennant Creek 102.83 163 *e*P Pdif 19 59 04.0 -1.0
SCHQ Schefferville 115.02 336 PKP PKPdf 20 03 43.9 -2.1
comp=Z,1.1nm,0.5s,baz=213,slow=1.8,SNR=2.8
KULM Kulim 115.03 121 *e*PKP PKPdf 20 03 46.2 -0.8
KIV Kislovodsk 115.90 49 *i* PKIKP PKPdf 20 03 46.8 -1.2
KIV pmax pmax
comp=N,3.0nm,1.2s
KIV pmax pmax
comp=E,4.0nm,1.2s
KIV pmax pmax
comp=Z,4.0nm,1.2s
KIV MLR MLR
comp=N,116nm,15.0s
KIV MLR MLR
comp=Z,128nm,15.0s,MS4.7
AKASG Malin Array Be 116.38 37 PKP PKPdf 20 03 47.1 -1.5
comp=Z,0.6nm,0.4s,baz=240,slow=1.6,SNR=10
AKASG SKIKP 20 07 14.0
comp=Z,0.8nm,0.6s,baz=242,slow=2.3,SNR=5.9
AKASG PKKPbc 20 14 19.1
comp=Z,0.2nm,0.3s,baz=41,slow=4.7,SNR=4.2
AKASG Malin Array Be 116.38 37 PKP PKPdf 20 03 47.1 -1.5
AKASG PKKPbc 20 14 19.1
ULM Lac du Bonnet 120.01 317 PKP PKPdf 20 03 54.1 -1.6
comp=Z,3.8nm,0.6s,baz=124,slow=2.3,SNR=3.4
ULM PKKPbc 20 14 04.4
comp=Z,4.2nm,0.7s,baz=151,slow=2.5,SNR=3.9
PDAR Pinedale Array 120.06 303 PKP PKPdf 20 03 55.8 -0.2
comp=Z,0.9nm,0.5s,baz=117,slow=3.3,SNR=9.6
PDAR PKKPbc 20 14 04.5
comp=Z,0.7nm,0.5s,baz=52,slow=0.9,SNR=6.8
HWUT Hardware Ranch 120.13 300 *e*PKPdf PKPdf 20 03 56.2 0.0
HFS Hagfors 120.39 23 PKP PKPdf 20 03 54.7 -1.6
comp=Z,1.9nm,0.4s,baz=146,slow=5.3,SNR=20
HFS PKKPbc 20 14 02.8
comp=Z,1.0nm,0.5s,baz=90,slow=5.9,SNR=7.8
NB2 NORSAR Subarra 120.70 21 PKPdf PKPdf 20 03 56.3 -0.5
comp=Z,0.6nm,0.5s,baz=202,slow=1.9
NOA NORSAR Array B 120.70 21 PKP PKPdf 20 03 56.6 -0.2
comp=Z,2.1nm,0.7s,baz=204,slow=1.8,SNR=11
NOA SKiKP 20 07 23.2
comp=Z,1.3nm,0.7s,baz=204,slow=1.9,SNR=6.7
NOA PKKPbc 20 14 00.6
comp=Z,1.3nm,0.8s,baz=17,slow=2.8,SNR=5.9
NOA NORSAR Array B 120.70 21 PKP PKPdf 20 03 56.6 -0.2
NOA PKKPbc 20 14 00.6
LOHW Long Hollow 121.20 303 *e*PKPdf PKPdf 20 03 58.3 0.0
TPAW Teton Pass 121.27 302 *e*PKPdf PKPdf 20 03 57.7 -0.7
ELK Elko 121.28 297 PKP PKPdf 20 03 58.5 0.0
comp=Z,3.0nm,0.9s,baz=98,slow=2.6,SNR=13
ELK Elko 121.28 297 *e*PKPdf PKPdf 20 03 58.4 -0.1
RRI2 Red Ridge 121.34 302 *e*PKPdf PKPdf 20 03 59.5 +1.0
MOOW Moose Ponds 121.37 303 *e*PKPdf PKPdf 20 03 58.3 -0.3
OBN Obninsk 122.53 38 *i* PKIKP PKPdf 20 03 59.9 -0.6
OBN PS PS 20 15 34.0 +0.3
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.5
BOZ Bozeman (W) 123.21 304 *e*PKIKP PKPdf 20 04 02.1 0.0
HRY Holter Researc 124.09 304 *e*PKPdf PKPdf 20 04 04.2 +0.5
KOLN Koldanda 124.39 90 *e*P PKPdf 20 04 04.4 -0.4
comp=Z,39nm,0.7s
FINES FINESS Array B 124.52 28 PKP PKPdf 20 04 03.6 -0.4
comp=Z,5.8nm,0.5s,baz=180,slow=3.8,SNR=35
FINES SKiKP 20 07 30.1
comp=Z,1.6nm,0.6s,baz=194,slow=7.9,SNR=4.0
CHMT Chamberlain Mo 124.91 304 *e*PKPdf PKPdf 20 04 05.3 +0.1
DMN Daman 125.11 92 *e*P PKPdf 20 04 05.0 -1.1
comp=Z,21nm,0.7s
KAF Kangasniemi 125.14 28 *e*p PKPdf 20 04 04.0 -1.2
GKN Gorkha 125.15 91 *e*P PKPdf 20 04 05.4 -0.8
comp=Z,44nm,1.0s
MSO Missoula 125.17 303 *e*PKPdf PKPdf 20 04 06.0 +0.3
PKI Pulchoki 125.25 92 *e*P PKPdf 20 04 05.4 -1.0
comp=Z,21nm,0.7s
KKN Kakani 125.34 92 *e*P PKPdf 20 04 05.8 -0.7
comp=Z,26nm,0.7s
BMO Blue Mountains 125.35 299 *e*PKPdf PKPdf 20 04 06.3 +0.2
BMO *e*SKPdf 20 07 32.8
GUN Gumba 125.77 92 *e*P PKPdf 20 04 07.6 +0.2
YBH Yreka Blue Hor 125.81 293 PKP PKPdf 20 04 06.6 -0.4
comp=Z,2.4nm,0.7s,baz=46,slow=6.0,SNR=3.6
WALA Waterton Lakes 126.76 305 *e*PKPdf PKPdf 20 04 08.4 -0.2
SHL Shillong 127.30 99 *e*P PKPdf 20 04 10.5 +0.1
NEW Newport 127.70 302 PKP PKPdf 20 04 09.6 -1.0
comp=Z,1.6nm,0.4s,baz=90,slow=5.1,SNR=4.6
SUMG Summit 128.53 356 *e*PKPdf PKPdf 20 04 11.9 +0.4
KSH Kashi 128.88 75 *e*PKP PKPdf 20 04 14.0 +1.0
KSH *e*XPKP 20 04 51.0
KSH *e*PKS PKS 20 07 49.0 +0.4
KSH *e*SKS SKS 20 11 14.0 -0.1
KSH PP PP
comp=Z,180nm,4.9s
KSH LR LR
comp=N,370nm,5.0s
KSH LR LR
comp=E,500nm,5.9s
EDM Edmonton 129.44 309 *e*PKIKP PKPdf 20 04 13.3 -0.4
AML Almayashu 129.50 71 P PKPdf 20 04 15.2 +1.0
SNR=11
EKS2 Erkin-Say 129.91 70 P PKPdf 20 04 15.6 +0.7
SNR=9.0
LSA Lhasa 130.10 95 PKP PKPdf 20 04 16.0 +0.4
AAK Ala-Archa 130.28 71 P PKPdf 20 04 16.4 +0.8
SNR=7.6
AAK Ala-Archa 130.28 71 *e*PKPdf PKPdf 20 04 14.8 -0.8
AAK *e*SKPbc 20 07 28.7
KBK Karagaybulak 130.53 71 P PKPdf 20 04 16.9 +0.8
SNR=6.1
USP Ospenovka 130.72 70 P PKPdf 20 04 16.4 0.0
SNR=9.6
ARCES ARCESS Array B 131.05 22 PKP PKPdf 20 04 16.1 -0.2
comp=E,4.9nm,0.5s,baz=189,slow=1.7,SNR=47
ARCES SKPbc 20 07 29.6
comp=E,6.4nm,0.7s,baz=180,slow=2.4,SNR=12
ARE0 ARCESS Array S 131.05 22 *e*PKPdf PKPdf 20 04 15.8 -0.5
ARE0 *e*SKPbc 20 07 30.4
TKM2 Tokmak 2 131.06 71 P PKPdf 20 04 17.0 -0.1
SNR=6.5
QIZ Qiongzhong 131.33 122 *e*PKP PKPdf 20 04 17.8 -0.4
KEV Kevo 131.54 22 *e*p PKPdf 20 04 16.0 -1.3
comp=E,1.1nm,0.4s
LVZ Lovozero 131.89 27 *i* PKIKP PKPdf 20 04 18.3 +0.3
LVZ pmax pmax
comp=Z,11nm,0.7s
LVZ MLR MLR
comp=Z,313nm,22.0s,MS5.0
ARU Arti 131.93 48 *i* PKIKP PKPdf 20 04 18.3 0.0
ARU *e* 20 06 37.9
ARU Arti 131.93 48 *e*PKPdf PKPdf 20 04 18.2 -0.2
ARU *e*SKPbc 20 07 34.0
KMI Kunming 132.84 110 PKIKP PKPdf 20 04 21.7 +0.7
KMI sPKP 20 04 38.9
KMI PP PP 20 06 52.5 +2.2
KMI PPP PPP 20 09 45.4 +1.4
KMI SKKS 20 13 36.8
KMI SS SS 20 24 19.1 -6.0
KMI SSS SSS 20 29 01.2 -21
KMI LR LR
comp=Z,490nm,28.7s,MS5.1
BRVK Borovoye 135.01 58 *e*PKPdf PKPdf 20 04 23.7 -0.5
BRVK *e*SKPbc 20 07 44.8
BVAR Borovoye Array 135.04 58 PKhKP 20 04 13.0
comp=Z,1.0nm,0.7s,baz=220,slow=4.0,SNR=8.0
BVAR PKP PKPdf 20 04 24.5 +0.3
comp=Z,12nm,0.8s,baz=237,slow=1.8,SNR=33
BVAR SKPbc 20 07 44.5
comp=Z,4.3nm,0.7s,baz=224,slow=3.5,SNR=7.1
BVAR SKKPbc 20 16 49.1
comp=Z,0.9nm,0.6s,baz=58,slow=2.6,SNR=4.6
BBB Bella Bella 135.58 300 SKPbc 20 07 46.2
comp=Z,7.1nm,0.7s,baz=324,slow=1.2,SNR=4.3
YKA Yellowknife Ar 135.94 318 PKP PKPdf 20 04 25.3 -0.3
comp=Z,10nm,0.7s,baz=127,slow=2.1,SNR=24
YKA PP PP 20 07 06.4 -2.3
comp=Z,1.9nm,0.7s,baz=120,slow=6.4,SNR=5.3
YKA SKPbc 20 07 46.2
comp=Z,7.4nm,1.1s,baz=111,slow=2.8,SNR=7.8
YKA SKKPbc 20 16 50.9
comp=Z,0.7nm,0.7s,baz=307,slow=4.5,SNR=4.0
YKA Yellowknife Ar 135.94 318 PKP PKPdf 20 04 25.3 -0.3
YKA PP PP 20 07 06.5 -2.3
YKA SKPbc 20 07 46.2
YKA SKKPbc 20 16 50.9
GYA Guiyang 135.97 113 ⇑ *i*PKP PKPdf 20 04 26.0 -0.7
GYA XPKP 20 05 02.8
GYA PP PP
comp=Z,130nm,7.6s
GYA LR LR
comp=N,270nm,21.2s,MS5.1
GYA LR LR
comp=E,280nm,22.1s,MS5.1
GYA LR LR
comp=Z,370nm,21.8s,MS5.1
YKW3 Yellowknife Ar 135.99 318 *e*PKPdf PKPdf 20 04 25.3 -0.4
YKW3 *e*SKPbc 20 07 45.9
MKAR Makanchi Array 137.19 72 PKHKP 20 04 15.9
comp=Z,1.4nm,0.7s,baz=237,slow=2.7,SNR=10
MKAR PKP PKPdf 20 04 28.0 -0.3
comp=Z,4.6nm,0.7s,baz=256,slow=1.2,SNR=17
MKAR SKPbc 20 07 50.6
comp=Z,4.7nm,0.8s,baz=234,slow=3.3,SNR=13
MKAR SKKPbc 20 16 42.4
comp=Z,0.5nm,0.7s,baz=41,slow=6.4,SNR=4.1
WMQ Urumqi 138.22 79 PKP PKPdf 20 04 31.3 +1.0
WMQ XPKP 20 05 08.8
WMQ PP PP 20 07 25.5 +1.7
WMQ PP PP
comp=Z,271nm,10.9s
WMQ LR LR
comp=N,414nm,23.2s,MS5.2
WMQ LR LR
comp=E,314nm,24.1s,MS5.2
WMQ LR LR
comp=Z,618nm,24.6s,MS5.2
DLBC Dease Lake 140.05 307 PKhKP 20 04 25.8
comp=Z,1.5nm,0.3s,baz=192,slow=20,SNR=4.0
DLBC PKP PKPdf 20 04 33.7 +0.5
comp=Z,2.9nm,0.6s,baz=202,slow=23,SNR=4.7
DLBC SKPbc 20 07 59.2
comp=Z,11nm,0.7s,baz=126,slow=1.3,SNR=15
DLBC Dease Lake 140.05 307 PKP PKPdf 20 04 25.8 -7.5
DLBC *e*PKPdf PKPdf 20 04 33.0 -0.2
LZH Lanzhou 141.93 101 *e*P PKPdf 20 04 32.0 -5.1
LZH pP 20 04 37.5
LZH sP 20 04 41.0
NVS Novosibirsk 142.32 62 ⇓ *i*PKIKP PKPdf 20 04 33.2 -3.9
NVS pmax pmax
comp=Z,30nm,0.9s
NVS pmax pmax
comp=N,8.0nm,0.8s
ZAL Zalesovo 142.64 64 PKhKP 20 04 34.1
comp=N,8.4nm,0.4s,baz=226,slow=2.7,SNR=33
ZAL PKP PKPdf 20 04 39.0 +1.4
comp=N,3.1nm,0.3s,baz=332,slow=5.5,SNR=5.9
ZAL SKPbc 20 08 06.3
comp=N,2.6nm,0.7s,baz=275,slow=4.4,SNR=3.7
XAN Xi'an 143.16 108 PKP PKPdf 20 04 36.0 -3.2
INK Inuvik 145.58 321 *e*PKP2 PKPab 20 04 41.7 -3.4
INK *e* 20 04 42.9
INK *e* 20 08 12.3
INK Inuvik 145.58 321 PKPbc PKPbc 20 04 42.9 -0.3
comp=N,61nm,0.6s,baz=109,slow=3.8,SNR=157
INK SKPbc 20 08 12.1
comp=N,13nm,0.8s,baz=47,slow=1.7,SNR=6.1
JOW Kunigami 146.09 139 PKPbc PKPbc 20 04 46.4 +0.7
baz=231,slow=3.6
NJ2 Nanjing 146.63 122 *e*PKP PKPdf 20 04 47.5 +2.2
NJ2 PP PP 20 08 15.0 +0.5
NJ2 PKS PKS 20 08 21.0 +1.4
NJ2 PPP PPP 20 11 34.0 +1.9
NJ2 SKS SKS 20 11 50.0 +3.5
NJ2 PP PP
comp=Z,90nm,6.4s
NJ2 LR LR
comp=N,750nm,16.3s,MS5.5
NJ2 LR LR
comp=E,310nm,19.8s,MS5.5
NJ2 LR LR
comp=Z,370nm,17.1s,MS5.2
SSE Sheshan 146.91 126 *e*PKP PKPdf 20 04 45.0 -0.8
SSE PP PP 20 08 17.5 +1.2
SSE SS SS 20 27 11.0 +1.7
SSE LR LR
comp=N,192nm,36.7s,MS4.8
SSE LR LR
comp=E,266nm,36.8s,MS4.8
SSE LR LR
comp=Z,386nm,28.8s
SSE Sheshan 146.91 126 *e*PKP PKPdf 20 04 45.1 -0.7
SSE PP PP 20 08 17.4 +1.1
SSE SS SS 20 27 11.0 +1.7
SSE LR LR
comp=Z,390nm,28.8s,MS5.0
BTO Baotou 148.55 101 *e*PKP PKPdf 20 04 52.5 +4.4
HHC Hu-ho-hao-te 149.56 103 *e*PKP PKPdf 20 04 54.5 +4.7
HHC APKP 20 05 19.5
HHC PKS PKS 20 08 28.0 +4.4
HHC SKS SKS 20 11 52.0 +1.8
HHC SKKS 20 15 08.8
HHC SS SS 20 27 41.0 +2.8
HHC PP PP
comp=Z,272nm,11.9s
HHC LR LR
comp=N,235nm,16.7s,MS5.3
HHC LR LR
comp=E,317nm,14.3s,MS5.3
HHC LR LR
comp=Z,316nm,19.1s,MS5.1
ILAR Eielson Array 149.86 312 PKP PKPdf 20 04 47.5 -2.0
comp=Z,2.1nm,0.8s,baz=311,slow=1.0,SNR=22
ILAR PKPbc PKPdf 20 04 54.7 +5.2
comp=Z,55nm,0.8s,baz=130,slow=1.7,SNR=199
PMR Palmer 150.06 305 *e*P PKPdf 20 04 55.9 +6.0
PMR *e*PKPab PKPab 20 05 00.6 -2.5
SLKM Skilak Lake 150.25 303 *e*PKIKP PKPdf 20 04 56.0 +5.8
ZAK Zakamensk 150.66 80 *e*PKIKP PKPdf 20 04 50.9 -0.2
ZAK *e* 20 04 57.2
ZAK pmax pmax
comp=Z,36nm,0.8s
SONM Songino Array 151.05 87 PKP PKPdf 20 04 52.0 +0.2
comp=Z,3.1nm,0.8s,baz=222,slow=1.6,SNR=27
SONM PKPbc PKPdf 20 04 58.1 +6.3
comp=Z,67nm,0.5s,baz=222,slow=3.4,SNR=656
SPU Mount Spurr 151.30 304 *e*PKPbc PKPdf 20 04 57.8 +6.0
RSO Redoubt South 151.44 302 *e*PKPbc PKPdf 20 04 58.6 +6.6
TLY Talaya 151.50 78 *e*PKIKP PKPdf 20 04 53.0 +0.7
TLY *i* 20 04 58.6
TLY pmax pmax
comp=Z,37nm,0.8s
TLY Talaya 151.50 78 *e*PKPbc PKPdf 20 04 59.0 +6.6
IRK Irkutsk 152.10 77 *e*PKIKP PKPdf 20 04 59.6 +6.4
IRK pmax pmax
comp=Z,71nm,0.7s
JNU Nakatsue 152.72 138 PKPbc PKPdf 20 05 02.0 +7.3
baz=69,slow=3.0
JNU PKPab PKPab 20 05 13.8 -1.4
comp=Z,15nm,0.7s,baz=216,slow=5.6,SNR=4.4
SVW2 Sparrevohn 152.94 302 *e*P PKPdf 20 05 01.6 +7.5
TTA Tatalina 153.49 306 *e*PKIKP PKPdf 20 05 03.2 +8.4
TTA Tatalina 153.49 306 *e*P PKPdf 20 05 03.4 +8.6
KS15 Wonju Array Si 155.24 128 *e*PKPbc PKPdf 20 05 08.3 +10
CIT Chita 157.14 84 *e*PKP2 PKPab 20 05 32.6 -0.7
CIT *e* 20 09 17.0
CIT pmax pmax
comp=Z,47nm,2.0s
MJAR Matsushiro Arr 158.31 148 PKPab PKPab 20 05 37.2 -1.6
comp=Z,13nm,0.7s,baz=187,slow=5.0,SNR=21
MAT Matsushiro 158.31 148 PKP2 PKPab 20 05 37.1 -1.8
CN2 Changchun 159.01 114 *e*PKP PKPdf 20 05 02.3 -0.3
CN2 PKP2 PKPab 20 05 39.3 -2.3
CN2 PP PP 20 09 22.8 -0.6
CN2 PP PP
comp=Z,730nm,8.0s
CN2 LR LR
comp=N,750nm,21.0s,MS5.6
CN2 LR LR
comp=E,510nm,21.0s,MS5.6
CN2 LR LR
comp=Z,810nm,21.0s,MS5.5
BOD Bodaibo 159.24 69 *e*PKIKP PKPdf 20 05 00.7 -1.7
BOD *e* 20 05 39.6
BOD pmax pmax
comp=Z,5.0nm,1.3s
BOD pmax pmax
comp=Z,18nm,0.9s
MDJ Mudanjiang 161.67 119 PKP PKPdf 20 05 04.8 -0.5
MDJ APKP 20 05 31.0
MDJ XPKP 20 05 42.5
MDJ PKP2 PKPab 20 05 55.8 +2.7
MDJ PP PP 20 09 38.5 +0.8
MDJ SKKS 20 16 16.5
MDJ PP PP
comp=Z,166nm,7.7s
MDJ LR LR
comp=N,145nm,25.2s
MDJ LR LR
comp=E,135nm,26.1s
MDJ LR LR
comp=Z,280nm,25.2s
KLR Kul'dur 165.85 110 *e*PKIKP PKPdf 20 05 07.8 -1.5
KLR *e* 20 06 06.0
ASAJ Asahikawa 166.58 149 PKP PKPdf 20 05 11.3 +1.3
comp=Z,3.6nm,0.7s,baz=270,slow=8.1,SNR=4.2
ASAJ PKPab PKPab 20 06 13.6 -0.9
comp=Z,7.1nm,0.8s,baz=225,slow=2.9,SNR=6.4
YSS Yuzh-Sakhalins 169.17 143 ⇓ *i*PKIKP PKPdf 20 05 12.0 +0.5
YSS *e* 20 06 25.0
YSS Yuzh-Sakhalins 169.17 143 *e*PKPdf PKPdf 20 05 11.9 +0.4
YSS *e*PKPab PKPab 20 06 24.4 -1.3
SEY Seymchan 173.08 359 *i* PKIKP PKPdf 20 05 10.9 -2.3

*NEIC **25** 20:05:10.5± 0.8, 43.90N× 105.37W, ML3.3, Error ellipse: s-maj=11.4km s-min=8.0km az=133.0, Suspected Mining explosion.*
NEIC 45 km [25 miles] SSE of Gillette.
*IDC **25** 20:05:10.7± 1.8, 43.85N× 105.48W, mb4.1/1, mb1 3.9/4, mb1mx3.5/23, mbtmp3.7/4, ML3.5/3, MS3.8/3, Ms1 3.8/3, ms1mx2.8/32, Error ellipse: s-maj=55.7km s-min=8.6km az=148.0*

ISC 25 20:05:08.8±0.8,**43.96N**±0.07×**105.37W**±0.10,**n26,** σ1§**37**/23,**mb4.3**/1,**MS4.4**/2,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RWWY	**Rawlins**	**2.64**	**212**	*e*P	**Pn**	**20 05 54.5**	**+1.1**
PHWY	**Pilot Hill**	**2.66**	**182**	*e*Pn	**Pn**	**20 05 53.0**	**-0.6**
BW06	**Boulder Array**	**3.28**	**250**	*e*P	**Pn**	**20 06 03.8**	**+1.3**
PDAR	**Pinedale Array**	**3.28**	**250**	Pn	**Pn**	**20 06 05.0**	**+2.5**
	3.7nm,0.3s,baz=74,slow=17,SNR=42						
PDAR				Lg		20 06 49.4	
	3.2nm,0.3s,baz=73,slow=31,SNR=6.4						
GCMT	**Greycliff**	**3.57**	**302**	P	**Pn**	**20 06 10.0**	**+3.5**
LOHW	**Long Hollow**	**3.81**	**267**	P	**Pn**	**20 06 10.2**	**+0.2**
MOOW	**Moose Ponds**	**3.90**	**269**	P	**Pn**	**20 06 08.7**	**-2.6**
SNOW	**Snow King Moun**	**3.94**	**265**	P	**Pn**	**20 06 12.6**	**+0.8**
YFT	**Old Faithful**	**3.96**	**279**	P	**Pn**	**20 06 13.6**	**+1.4**
REDW	**Red Top Meadow**	**4.03**	**263**	P	**Pn**	**20 06 11.8**	**-1.3**
IMW	**Indian Meadow**	**4.03**	**271**	P	**Pn**	**20 06 13.8**	**+0.7**
TPAW	**Teton Pass**	**4.08**	**265**	P	**Pn**	**20 06 12.0**	**-1.8**
AHID	**Auburn Hatcher**	**4.35**	**256**	P	**Pn**	**20 06 18.3**	**+0.6**
RRI2	**Red Ridge**	**4.37**	**264**	P	**Pn**	**20 06 16.4**	**-1.5**
QLMT	**Earthquake Lak**	**4.43**	**283**	P	**Pn**	**20 06 19.1**	**+0.2**
DGMT	**Dagmar**	**4.59**	**10**	P	**Pn**	**20 06 22.9**	**+1.8**
BOZ	**Bozeman (W)**	**4.77**	**293**	P	**Pn**	**20 06 23.0**	**-0.6**
MPU	**Maple Canyon**	**6.11**	**232**	P	**Pn**	**20 06 41.0**	**-1.5**
WALA	**Waterton Lakes**	**7.79**	**314**	P	**Pn**	**20 07 04.6**	**-1.6**
ELK	**Elko**	**7.99**	**250**	Pn	**Pn**	**20 07 09.4**	**+0.5**
	0.3nm,0.3s,baz=88,slow=14,SNR=4.2						
ULM	**Lac du Bonnet**	**9.02**	**42**	Pn	**P**	**20 07 21.1**	**-2.3**
	1.6nm,0.3s,baz=236,slow=10,SNR=7.5						
ULM				Lg		20 09 53.7	
	0.4nm,0.3s,baz=171,slow=19,SNR=2.0						
ULM	**Lac du Bonnet**	**9.02**	**42**	Pn	**P**	**20 07 21.1**	**-2.3**
ULM				Lg		20 09 53.7	
NEW	**Newport**	**9.23**	**302**	LR	LR	20 10 41.6	
	comp=Z,46nm,18.7s,baz=174,slow=36						
ARCES	**ARCESS Array B**	**61.23**	**18**	P	**P**	**20 15 28.4**	**+1.1**
	2.2nm,0.9s,mb4.3,baz=338,slow=7.4,SNR=8.6						
MKAR	**Makanchi Array**	**89.38**	**355**	LR	LR	21 01 12.1	
	comp=Z,81nm,21.2s,MS4.4,baz=180,slow=38						
RAO	**Raoul Island**	**98.46**	**237**	LR	LR	20 55 12.5	
	comp=Z,233nm,20.1s,MS4.7,baz=142,slow=30						

*NEIC **25** 20:14:20.0,41.48S×174.18E,h8km,ML3.8(WEL),After WEL.*

WEL 25 20:14:20.1±0.1,**41.49S×174.19E,h12km,ML3.9**/32, **5C-3D,Error ellipse: s-maj=0.9km s-min=0.8km az=0.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUWZ	**Tuamarina**	**0.20**	**288**	PG	Pg	20 14 24.2	-0.3
TUWZ				SG	Sg	20 14 27.8	+0.3
CMWZ	**Cape Campbell**	**0.26**	**177**	P	Pg	20 14 25.4	-0.3
CMWZ				S	Sg	20 14 30.0	+0.6
CMWZ	**Cape Campbell**	**0.26**	**177**	⇑PG	Pg	20 14 25.4	-0.2
CMWZ				SG	Sg	20 14 29.7	+0.3
TCW	**Tory Channel**	**0.28**	**13**	P	Pg	20 14 25.9	-0.2
TCW	**Tory Channel**	**0.28**	**13**	⇑PG	Pg	20 14 25.9	-0.2
TCW				SG	Sg	20 14 30.9	+0.8
BSWZ	**Blackbirch Sta**	**0.33**	**227**	⇑PG	Pg	20 14 26.3	-0.6
BSWZ				SG	Sg	20 14 31.4	-0.1
SNZO	**South Karori**	**0.42**	**65**	P	Pg	20 14 28.6	-0.2
SNZO				S	Sg	20 14 34.9	+0.2
SNZO	**South Karori**	**0.42**	**65**	⇑PG	Pg	20 14 28.6	-0.3
SNZO				SG	Sg	20 14 34.8	+0.1
MRW	**Makara Radio**	**0.46**	**56**	P	Pg	20 14 29.2	-0.3
MRW	**Makara Radio**	**0.46**	**56**	⇑PG	Pg	20 14 29.1	-0.4
WEL	**Wellington**	**0.48**	**65**	P	Pg	20 14 29.5	-0.4
WEL				S	Sg	20 14 37.3	+0.9
WEL	**Wellington**	**0.48**	**65**	PG	Pg	20 14 29.5	-0.4
WEL				SG	Sg	20 14 37.2	+0.8
BHW	**Baring Head**	**0.52**	**81**	P	Pb	20 14 30.3	-0.3
BHW	**Baring Head**	**0.52**	**81**	⇓PG	Pg	20 14 30.3	-0.3
BHW				SG	Sg	20 14 37.9	+0.3
NNZ	**Nelson**	**0.67**	**294**	P	Pb	20 14 32.7	-0.5
NNZ	**Nelson**	**0.67**	**294**	⇓P*	Pb	20 14 32.7	-0.5
DUWZ	**D'Urville Isla**	**0.72**	**343**	P*	Pb	20 14 33.7	-0.3
CAW	**Cannon Point**	**0.76**	**60**	P	Pb	20 14 34.6	-0.2
CAW	**Cannon Point**	**0.76**	**60**	P*	Pb	20 14 34.2	-0.6
CAW				SG	Sg	20 14 45.0	-0.7
MSWZ	**Moikau Station**	**0.80**	**85**	P	Pb	20 14 35.7	+0.3
MSWZ	**Moikau Station**	**0.80**	**85**	⇓P*	Pb	20 14 35.7	+0.3
MSWZ				SG	Sg	20 14 47.0	+0.1
KIW	**Kapiti Island**	**0.83**	**41**	P*	Pb	20 14 35.5	-0.4
PAWZ	**Paruwai Farm**	**0.93**	**84**	P*	Pb	20 14 37.9	+0.2
PAWZ				SG	Sg	20 14 50.6	-0.7
THZ	**Tophouse**	**1.00**	**254**	P	Pb	20 14 38.6	-0.3
THZ	**Tophouse**	**1.00**	**254**	P*	Pb	20 14 38.6	-0.3
MTW	**Mount Morrison**	**1.04**	**72**	P	Pb	20 14 40.0	+0.5
MTW	**Mount Morrison**	**1.04**	**72**	P*	Pb	20 14 40.0	+0.5
MTW				SG	Sg	20 14 53.8	-1.1
KHZ	**Kahutara**	**1.05**	**208**	P	Pb	20 14 40.1	+0.5
KHZ	**Kahutara**	**1.05**	**208**	P*	Pb	20 14 40.2	+0.6
TRWZ	**Traveller**	**1.13**	**86**	P*	Pb	20 14 41.0	0.0
MRZ	**Mangatainoka R**	**1.33**	**52**	P	Pb	20 14 44.6	0.0
MRZ	**Mangatainoka R**	**1.33**	**52**	P*	Pb	20 14 44.5	-0.1
QRZ	**Quartz Range**	**1.42**	**297**	*e*P	Pn	20 14 46.2	+0.4
QRZ	**Quartz Range**	**1.42**	**297**	PN	Pn	20 14 45.8	-0.1
DSZ	**Denniston Nort**	**1.81**	**261**	*e*P	Pn	20 14 52.6	+1.2
DSZ	**Denniston Nort**	**1.81**	**261**	*e*PN	Pn	20 14 51.8	+0.4
WAZ	**Wanganui**	**1.83**	**19**	P	Pn	20 14 54.6	+2.8
WAZ	**Wanganui**	**1.83**	**19**	PN	Pn	20 14 53.3	+1.6
LTZ	**Lake Taylor**	**1.93**	**227**	PN	Pn	20 14 52.8	-0.3
TSZ	**Takapari Road**	**1.96**	**44**	*e*PN	Pn	20 14 53.7	+0.1
MTVZ	**Mangateitei**	**2.32**	**25**	*e*PN	Pn	20 15 02.2	+3.5
MOVZ	**Moawhango**	**2.40**	**30**	P	Pn	20 15 02.8	+3.0
MOVZ	**Moawhango**	**2.40**	**30**	*e*PN	Pn	20 15 02.7	+2.9
VRZ	**Vera Road**	**2.40**	**11**	*e*P	Pn	20 15 02.8	+2.9
VRZ	**Vera Road**	**2.40**	**11**	*e*PN	Pn	20 15 02.1	+2.2
WNVZ	**Wahianoa**	**2.41**	**27**	P	Pn	20 15 03.4	+3.4
WNVZ	**Wahianoa**	**2.41**	**27**	*e*PN	Pn	20 15 02.9	+2.9
TRVZ	**Turoa**	**2.42**	**26**	*e*PN	Pn	20 15 03.8	+3.7
DRZ	**Dome Shelter**	**2.45**	**26**	P	Pn	20 15 05.6	+5.1
FWVZ	**Far West T-bar**	**2.46**	**25**	P	Pn	20 15 04.2	+3.5
FWVZ	**Far West T-bar**	**2.46**	**25**	*e*PN	Pn	20 15 03.2	+2.4
TUVZ	**Tukino**	**2.48**	**27**	P	Pn	20 15 04.5	+3.4
MQZ	**McQueen's Vall**	**2.49**	**207**	*e*PN	Pn	20 14 58.2	-3.0
CNZ	**Chateau**	**2.51**	**25**	P	Pn	20 15 05.5	+4.1
CNZ	**Chateau**	**2.51**	**25**	*e*PN	Pn	20 15 03.3	+1.9
NGZ	**Ngauruhoe**	**2.55**	**25**	P	Pn	20 15 06.3	+4.0
NGZ	**Ngauruhoe**	**2.55**	**25**	*e*PN	Pn	20 15 03.5	+1.5
OTVZ	**Oturere**	**2.58**	**26**	*e*PN	Pn	20 15 03.6	+1.2
TWVZ	**Taurewa**	**2.60**	**22**	P	Pn	20 15 06.5	+3.8
TWVZ	**Taurewa**	**2.60**	**22**	*e*PN	Pn	20 15 06.1	+3.5
WTVZ	**West Tongariro**	**2.60**	**25**	P	Pn	20 15 06.7	+4.0
KRVZ	**Karewarewa**	**2.64**	**25**	*e*PN	Pn	20 15 06.5	+3.3
KATZ	**Kakaramea**	**2.76**	**25**	P	Pn	20 15 09.6	+4.6
KATZ	**Kakaramea**	**2.76**	**25**	*e*PN	Pn	20 15 08.9	+3.8
BKZ	**Black Stump Fm**	**2.91**	**38**	*e*P	Pn	20 15 12.3	+5.2
HIZ	**Hauiti**	**3.02**	**10**	*e*P	Pn	20 15 10.9	+2.3
HIZ	**Hauiti**	**3.02**	**10**	*e*PN	Pn	20 15 09.0	+0.4
ODZ	**Otahua Downs**	**4.40**	**215**	*e*PN	Pn	20 15 25.0	-3.2

*IDC **25** 20:19:09.7±1.0,33.28N×142.50E,mb3.9/8,mb1 4.0/11, mb1mx3.9/23,mbtmp3.9/11,ML3.8/3,MS3.0/1,Ms1 3.0/1, ms1mx2.5/26,Error ellipse: s-maj=24.2km s-min=20.4km az=69.0*

*MOS **25** 20:19:11.9±1.9,33.34N×142.74E,h33km,mb4.2/6,Error ellipse: s-maj=22.4km s-min=8.8km az=116.4*

*JMA **25** 20:19:12.2±0.5,33.39N×142.34E,h9km,M3.8*

*NEIC **25** 20:19:12.6±0.7,33.17N×142.44E,h20km,mb4.4/5,Error ellipse: s-maj=17.9km s-min=10.2km az=62.0*

ISC 25 20:19:10.2±2.2,**33.33N**±0.06×**142.57E**±0.06,**h18**km±15km, **n45,**σ1§**28**/52,**mb4.0**/14,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.87**	**316**	P	**Pn**	**20 19 42.4**	**+0.6**
BSO3	**Boso 3**	**2.25**	**311**	P	**Pn**	**20 19 48.2**	**+0.9**
JHJ2	**Mitsune**	**2.32**	**265**	P	**Pn**	**20 19 48.8**	**+0.6**
JHJ2				*e*S	**Sn**	**20 20 16.2**	**-0.2**
JHJ	**Hachijo jima 2**	**2.34**	**266**	Pn	**Pn**	**20 19 48.5**	**-0.1**
	110nm,0.3s,baz=54,slow=20,SNR=6.7						
JHJ				Sn	**Sn**	**20 20 16.4**	**-0.7**
	111nm,0.3s,baz=244,slow=23,SNR=5.9						
BSO4	**Boso 4**	**2.48**	**313**	P	**Pn**	**20 19 52.0**	**+1.4**
JHO	**Hitachi**	**3.66**	**334**	P	**Pn**	**20 20 07.1**	**-0.3**
JYN	**Shimob**	**3.97**	**304**	P	**Pn**	**20 20 13.7**	**+2.0**
JAG	**Ashikaga**	**4.01**	**321**	P	**Pn**	**20 20 12.6**	**+0.3**
JFK	**Kawauchi**	**4.26**	**342**	P	**Pn**	**20 20 14.5**	**-1.4**
JFK				*e*S	**Sn**	**20 21 00.7**	**-5.0**
JMM	**Marumori**	**4.75**	**343**	P	**Pn**	**20 20 21.4**	**-1.5**
MJAR	**Matsushiro Arr**	**4.81**	**313**	Pn	**Pn**	**20 20 23.2**	**-0.4**
	3.2nm,0.3s,baz=16,slow=13,SNR=22						
MJAR				Sn	**Sn**	**20 21 18.8**	**-0.7**
	2.3nm,0.3s,baz=41,slow=31,SNR=5.4						
MAJO	**Matsushiro**	**4.81**	**313**	*e*P	**Pn**	**20 20 25.7**	**+2.1**
MAT	**Matsushiro**	**4.81**	**313**	*e*P	**Pn**	**20 20 25.0**	**+1.4**
MAT				*e*S	**Sn**	**20 21 17.0**	**-2.5**
MAT	**Matsushiro**	**4.81**	**313**	P	**Pn**	**20 20 24.5**	**+0.9**
MAT				S	**Sn**	**20 21 16.8**	**-2.7**
MAT	**Matsushiro**	**4.81**	**313**	P	**Pn**	**20 20 24.4**	**+0.8**
MAT				*e*S	**Sn**	**20 21 18.9**	**-0.6**
JNU	**Nakatsue**	**9.79**	**272**	LR	LR	20 24 22.9	
	comp=Z,81nm,20.4s,baz=209,slow=32						
ASAJ	**Asahikawa**	**10.77**	**0**	P	**P**	**20 21 44.0**	**-2.7**
ASAJ						20 23 39.1	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.77**	**0**	Pn	**P**	**20 21 44.0**	**-2.7**
	comp=Z,0.7nm,0.3s,baz=221,slow=19,SNR=4.6						
ASAJ				Sn	**S**	**20 23 39.1**	**-8.8**
	comp=Z,0.4nm,0.3s,baz=73,slow=19,SNR=3.4						
KS15	**Wonju Array Si**	**12.66**	**293**	*e*Pn	**P**	**20 22 11.0**	**-1.3**
YSS	**Yuzh-Sakhalins**	**13.61**	**1**	P	**P**	**20 22 22.7**	**-2.1**
HIA	**Hailar**	**23.27**	**320**	P	**P**	**20 24 18.0**	**+0.5**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HIA	**Hailar**	**23.27**	**320**	P	**P**	**20 24 18.0**	**+0.6**
	comp=Z,4.9nm,0.9s,mb3.9						
CIT	**Chita**	**28.07**	**320**	*e*P	**P**	**20 25 05.7**	**+3.2**
CIT				*e*		20 25 17.5	
CIT				pmax	pmax		
	comp=Z,19nm,3.1s						
ENH	**Enshi**	**28.21**	**273**	*e*P	**P**	**20 25 02.1**	**-1.9**
	comp=Z,14nm,1.2s,mb4.5						
SONM	**Songino Array**	**30.75**	**309**	P	**P**	**20 25 27.8**	**+1.4**
	comp=Z,1.7nm,0.8s,mb3.9,baz=112,slow=8.4,SNR=12						
BOD	**Bodaibo**	**31.19**	**330**	*e*P	**P**	**20 25 29.5**	**-0.8**
ZAK	**Zakamensk**	**33.39**	**313**	*e*P	**P**	**20 25 49.6**	**0.0**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.7						
ZAL	**Zalesovo**	**45.17**	**315**	P	**P**	**20 27 31.5**	**+4.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**45.17**	**315**	P	**P**	**20 27 31.4**	**+4.0**
	comp=Z,0.9nm,0.3s,mb4.1,baz=2.3,slow=8.6,SNR=5.5						
MKAR	**Makanchi Array**	**46.96**	**305**	P	**P**	**20 27 42.4**	**+0.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=90,slow=8.4,SNR=12						
ILAR	**Eielson Array**	**52.15**	**31**	P	**P**	**20 28 22.8**	**+1.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=266,slow=6.8,SNR=5.1						
CTAO	**Charters Tower**	**53.23**	**176**	*e*P	**P**	**20 28 25.9**	**-4.1**
	comp=Z,5.1nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**53.54**	**190**	*e*P	**P**	**20 28 29.3**	**-3.0**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**53.54**	**190**	*e*P	**P**	**20 28 29.3**	**-3.0**
	comp=Z,3.6nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**53.55**	**190**	P	**P**	**20 28 31.4**	**-1.0**
	comp=Z,1.2nm,0.6s,mb4.0,baz=7.6,slow=7.7,SNR=15						
WRA				PcP	PcP		
	comp=Z,0.5nm,0.6s,baz=2.5,slow=4.4,SNR=5.4					20 29 40.0	+1.0
BVAR	**Borovoye Array**	**53.80**	**315**	P	**P**	**20 28 34.2**	**+0.5**
	comp=Z,0.5nm,0.7s,mb3.5,baz=112,slow=8.0,SNR=4.2						
MBWA	**Marble Bar**	**58.40**	**205**	*e*P	**P**	**20 29 06.6**	**-0.6**
HFS	**Hagfors**	**77.85**	**337**	P	**P**	**20 31 08.3**	**+0.4**
	comp=Z,1.5nm,0.7s,mb4.0,baz=127,slow=7.4,SNR=5.2						
NB2	**NORSAR Subarra**	**77.97**	**338**	P	**P**	**20 31 09.6**	**+1.2**
	comp=Z,0.8nm,0.6s,mb3.8,baz=39,slow=5.6						
NB2	**NORSAR Subarra**	**77.97**	**338**	P	**P**	**20 31 09.6**	**+1.2**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**77.97**	**338**	P	**P**	**20 31 09.5**	**+1.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**77.97**	**338**	P	**P**	**20 31 09.5**	**+1.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=40,slow=5.5,SNR=5.2						
BRTR	**Keskin Array B**	**82.03**	**313**	P	**P**	**20 31 32.8**	**+2.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=153,slow=2.8,SNR=3.6						
BRTR	**Keskin Array B**	**82.03**	**313**	P	**P**	**20 31 32.8**	**+2.2**
FFD	**Franklin Falls**	**97.42**	**24**	*e*P	**P**	**20 32 33.9**	**-10**

WEL 25 20:27:19.9±0.2,**38.73S×177.36E,h66**km±2km,**ML3.6**/7, **4C-2D,Error ellipse: s-maj=1.2km s-min=1.1km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNZ	**Kokohu**	**0.38**	**140**	⇓PN	P	20 27 31.2	-0.2
KNZ				SN	S	20 27 39.1	-0.7
MWZ	**Matawai**	**0.41**	**19**	⇑PN	P	20 27 31.3	-0.4
MWZ				SN	S	20 27 40.2	-0.1
URZ	**Urewera**	**0.51**	**337**	⇑PN	P	20 27 32.0	-0.5
URZ				SN	S	20 27 40.9	-0.9
EDRZ	**Edgecumbe**	**0.79**	**322**	PN	P	20 27 35.3	-0.4
BKZ	**Black Stump Fm**	**0.80**	**237**	⇑PN	P	20 27 35.9	-0.1
BKZ				SN	S	20 27 47.8	+0.1
TAZ	**Tarawera**	**0.83**	**306**	PN	P	20 27 36.2	0.0
PATZ	**Paeroa**	**0.93**	**292**	PN	P	20 27 37.0	-0.4
PUZ	**Puketiti**	**0.96**	**48**	⇑PN	P	20 27 37.6	-0.4
PUZ				SN	S	20 27 51.0	-0.4
LIRZ	**Lichensteins R**	**1.05**	**313**	PN	P	20 27 38.4	-0.7
WIZ	**White Island**	**1.21**	**354**	SN	S	20 27 54.3	-2.7
PWZ	**Pawanui**	**1.35**	**196**	PN	P	20 27 41.7	-1.7
PWZ				SN	S	20 27 59.0	-1.7
MXZ	**Matakaoa Point**	**1.38**	**33**	PN	P	20 27 43.2	-0.5
KRVZ	**Karewarewa**	**1.39**	**254**	⇓PN	P	20 27 43.1	-0.7
KRVZ				SN	S	20 27 59.8	-1.6
OTVZ	**Oturere**	**1.39**	**251**	*e*PN	P	20 27 43.0	-0.8
MOVZ	**Moawhango**	**1.42**	**241**	PN	P	20 27 43.2	-1.0
TUVZ	**Tukino**	**1.43**	**247**	*e*PN	P	20 27 43.5	-0.9
NGZ	**Ngauruhoe**	**1.44**	**251**	PN	P	20 27 43.8	-0.7
CNZ	**Chateau**	**1.49**	**251**	PN	P	20 27 44.3	-0.8
WPVZ	**Whakapapa**	**1.49**	**251**	PN	P	20 27 44.5	-0.6
WNVZ	**Wahianoa**	**1.50**	**246**	PN	P	20 27 44.5	-0.7
WNVZ				SN	S	20 28 03.1	-0.9
FWVZ	**Far West T-bar**	**1.50**	**249**	PN	P	20 27 44.4	-0.9
TSZ	**Takapari Road**	**1.71**	**219**	*e*PN	P	20 27 45.6	-2.6
WAZ	**Wanganui**	**2.11**	**240**	PN	P	20 27 52.9	-0.7
MRZ	**Mangatainoka R**	**2.37**	**215**	PN	P	20 27 54.0	-3.3
MRZ				SN	S	20 28 21.7	-3.5
MTW	**Mount Morrison**	**2.82**	**210**	PN	P	20 27 59.3	-4.3
KIW	**Kapiti Island**	**2.85**	**221**	PN	P	20 28 00.2	-3.8
MRW	**Makara Radio**	**3.23**	**218**	SN	S	20 28 42.3	-4.6
TCW	**Tory Channel**	**3.43**	**223**	*e*PN	P	20 28 07.6	-4.7
THZ	**Tophouse**	**4.56**	**227**	PN	P	20 28 22.9	-5.2
DSZ	**Denniston Nort**	**5.21**	**233**	SN	S	20 29 28.6	-7.9
LTZ	**Lake Taylor**	**5.60**	**222**	SN	S	20 29 35.6	-10
MQZ	**McQueen's Vall**	**6.11**	**214**	SN	S	20 29 47.0	-12

WEL 25 20:36:48.8±0.4,**37.03S×176.80E,h239**km±4km,**ML3.6**/12, **Error ellipse: s-maj=6.3km s-min=4.9km az=90.0,North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.26**	**169**	*e*PN	P	20 37 24.3	-0.3
URZ				SN	S	20 37 52.3	-0.1
MXZ	**Matakaoa Point**	**1.31**	**115**	PN	P	20 37 24.2	-0.8
MXZ				SN	S	20 37 51.6	-1.5
MWZ	**Matawai**	**1.43**	**157**	PN	P	20 37 26.0	+0.1
MWZ				SN	S	20 37 54.2	-0.4
PUZ	**Puketiti**	**1.56**	**133**	PN	P	20 37 26.7	-0.2
PUZ				SN	S	20 37 55.2	-1.2
PUZ				SN	S	20 37 55.4	-1.0
KNZ	**Kokohu**	**2.11**	**161**	*e*PN	P	20 37 31.3	-0.4
KNZ				SN	S	20 38 04.0	-0.9
BKZ	**Black Stump Fm**	**2.15**	**186**	*e*PN	P	20 37 31.6	-0.5
BKZ				SN	S	20 38 05.1	-0.6
FWVZ	**Far West T-bar**	**2.44**	**204**	*e*PN	P	20 37 34.3	-0.7
WNVZ	**Wahianoa**	**2.49**	**202**	PN	P	20 37 35.4	-0.2
PWZ	**Pawanui**	**3.00**	**179**	*e*PN	P	20 37 39.6	-1.4
TSZ	**Takapari Road**	**3.10**	**192**	*e*PN	P	20 37 41.0	-1.2
MRZ	**Mangatainoka R**	**3.75**	**194**	*e*PN	P	20 37 47.9	-1.9
MRZ				SN	S	20 38 34.6	-2.4
KIW	**Kapiti Island**	**4.11**	**200**	*e*PN	P	20 37 50.9	-3.0
KIW				SN	S	20 38 42.1	-2.4
MTW	**Mount Morrison**	**4.25**	**193**	*e*PN	P	20 37 53.2	-2.5
MTW				SN	S	20 38 44.2	-3.4
DUWZ	**D'Urville Isla**	**4.39**	**210**	*e*PN	P	20 37 54.9	-2.5
SNZO	**South Karori**	**4.58**	**200**	*e*PN	P	20 37 56.2	-3.4
TCW	**Tory Channel**	**4.62**	**204**	PN	P	20 37 57.6	-2.5
TCW				SN	S	20 38 52.5	-3.2
NNZ	**Nelson**	**4.96**	**211**	*e*PN	P	20 38 01.6	-2.7
QRZ	**Quartz Range**	**5.05**	**220**	*e*PN	P	20 38 02.4	-3.1
THZ	**Tophouse**	**5.61**	**211**	*e*PN	P	20 38 09.5	-3.0
THZ				SN	S	20 39 12.9	-4.9
KHZ	**Kahutara**	**5.94**	**204**	PN	P	20 38 13.8	-2.9
LTZ	**Lake Taylor**	**6.72**	**210**	PN	P	20 38 22.9	-3.6
MQZ	**McQueen's Vall**	**7.39**	**204**	*e*PN	P	20 38 30.6	-4.4
MQZ				SN	S	20 39 51.9	-6.2

JMA 25 21:15:29.7±0.4,**43.60N×147.57E,h2**km±5km,**M3.5,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.35**	**261**	P	Pb	21 15 55.1	-0.3
NEM2				*e*S	Sb	21 16 14.1	+1.1
JRA	**Rausu**	**1.81**	**282**	P	Pn	21 16 01.9	-0.2
JRA				*e*S	Sn	21 16 25.8	-0.1
JNK	**Nakash**	**2.07**	**271**	P	Pn	21 16 05.4	-0.5
JNK				*e*S	Sn	21 16 32.1	-0.5
JAK	**Akkeshi**	**2.18**	**255**	P	Pn	21 16 07.7	+0.2
JAK				*e*S	Sn	21 16 35.2	-0.3
JTKR	**Abashiri--Toko**	**2.68**	**279**	P	Pn	21 16 15.0	+0.4
JAR	**Ashorobuto**	**2.78**	**265**	P	Pn	21 16 16.9	+0.8
JAR				*e*S	Sn	21 16 50.7	0.0
JOB	**Onbets**	**2.82**	**257**	*e*S	Sn	21 16 50.6	-1.0
JCH	**Churui**	**3.23**	**254**	P	Pn	21 16 23.6	+1.1
JCH				*e*S	Sn	21 17 01.3	-0.9
JFR	**Furan**	**3.65**	**265**	P	Pn	21 16 29.3	+0.8
JNBK	**Urakawa-nobuka**	**3.77**	**251**	P	Pn	21 16 30.7	+0.5

*IDC **25** 21:31:46.0±4.8,35.38N×69.70E,h61km±43km,mb4.0/17, mb1 4.2/19,mb1mx4.2/21,mbtmp4.4/19,ML4.4/2,MS3.8/16, Ms1 3.8/16,ms1mx3.8/21,Error ellipse: s-maj=18.9km s-min=14.2km az=165.0*

*MOS **25** 21:31:47.7±1.0,35.53N×69.80E,h92km,mb4.5/30,Error ellipse: s-maj=8.2km s-min=5.5km az=106.4*

*NEIC **25** 21:31:48.4±1.5,35.45N×69.76E,h83km±13km,mb4.6/33, Error ellipse: s-maj=8.7km s-min=6.2km az=201.0*

*BJI **25** 21:31:48.8,35.77N×69.57E,h98km,mB5.0,mb4.6*

*NNC **25** 21:31:50.6±2.0,35.62N×69.58E,h122km±17km,mpv5.6, Error ellipse: s-maj=23.0km s-min=14.4km az=98.0*

ISC 25 21:31:46.2±0.5,**35.37N**±0.02×**69.84E**±0.03,**h86**km±5km, **h106**km±2.5km:**pP-P,n206,**σ1§**19**/226,**mb4.4**/64,**14C-15D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.30**	**131**	⇓P	**P**	**21 32 26.8**	**+3.9**
THW	**

MKAR pmax pmax
comp=Z,25nm,0.9s
MKAR Makanchi Array 14.76 36 P **P** **21 35 11.3 -0.1**
comp=Z,0.6nm,0.3s,baz=225,slow=12,SNR=35
MKAR LR LR 21 40 30.3
comp=Z,240nm,20.2s,baz=182,slow=35
DMN Daman 15.13 117 *e*P **P** **21 35 15.1 -1.3**
comp=Z,348nm,1.0s
KKN Kakani 15.16 116 *e*P **P** **21 35 15.4 -1.3**
comp=Z,194nm,0.6s
PKI Pulchoki 15.38 116 *e*P **P** **21 35 18.3 -1.1**
comp=Z,339nm,0.8s
GUN Gumba 15.54 114 *e*P **P** **21 35 20.5 -1.0**
comp=Z,192nm,0.7s
AB31 Akbulak array 15.67 335 ⇑P **P** **21 35 19.5 -3.6**
comp=Z,9.9nm,0.3s,baz=152,slow=12,SNR=671
AB31 ⇑S **S** **21 38 00.3 -14**
comp=Z,5.0nm,0.5s,baz=162,slow=22,SNR=7.8
AB31 Akbulak array 15.67 335 *i*P **P** **21 35 19.9 -3.1**
AB31 S **S** **21 38 07.9 -6.2**
AB31 pmax pmax
comp=Z,11nm,0.4s
AKL Akola 15.91 155 *e*P **P** **21 35 30.1 +3.9**
AKL *e* 21 38 16.6
WMQ Urumqi 16.12 53 P **P** **21 35 30.0 +1.3**
WMQ XP 21 36 01.8
WMQ S **S** **21 38 23.8 -0.6**
WMQ PCP PcP 21 40 21.5 +0.9
WMQ SCP 21 43 44.5
WMQ SCS ScS 21 47 22.0 -1.6
WMQ AMB AMB
comp=Z,35nm,0.9s
WMQ AMB AMB
comp=Z,317nm,4.0s
WMQ LR LR
comp=N,588nm,6.2s
WMQ LR LR
comp=E,513nm,5.6s
WMQ LR LR
comp=Z,326nm,4.2s
BLSP Bilaspur 17.01 138 *e*P **P** **21 35 43.0 +3.1**
BLSP *e* 21 38 36.0
POO Poona 17.14 167 *e* **P** **21 35 40.6 -1.0**
POO *e* 21 38 48.5
VOSK Vostochnaya 17.37 2 ⇓P **P** **21 35 41.8 -2.5**
comp=Z,40nm,1.1s
VOSK Vostochnaya 17.37 2 P **P** **21 35 41.7 -2.6**
VOSK S **S** **21 38 58.6 +6.0**
VOSK pmax pmax
comp=Z,42nm,1.1s
ZRNK Zerenda 17.59 358 ⇑P **P** **21 35 44.9 -2.1**
comp=Z,47nm,1.1s
ZRNK Zerenda 17.59 358 P **P** **21 35 44.8 -2.2**
ZRNK S **S** **21 38 52.7 -4.7**
ZRNK pmax pmax
comp=Z,12nm,0.6s
BVA0 Borovoye Array 17.66 1 ⇓P **P** **21 35 46.0 -1.8**
comp=Z,15nm,1.8s,baz=220,slow=39,SNR=231
BVA0 ⇓S **S** **21 39 07.5 +8.6**
comp=Z,10nm,2.1s
BVA0 Borovoye Array 17.66 1 *e*P **P** **21 35 45.4 -2.4**
BVA0 pmax pmax
comp=Z,10.0nm,0.8s
BVAR Borovoye Array 17.66 1 P **P** **21 35 46.5 -1.3**
comp=Z,4.0nm,0.3s,baz=167,slow=12,SNR=85
BVAR S **S** **21 39 06.8 +7.8**
comp=Z,1.0nm,0.3s,baz=184,slow=24,SNR=3.2
BRVK Borovoye 17.69 1 ⇓P **P** **21 35 46.9 -1.3**
comp=Z,20nm,0.8s
BRVK ⇑S **S** **21 39 00.1 +0.4**
comp=Z,16nm,1.5s
BRVK Borovoye 17.69 1 *e*P **P** **21 35 47.1 -1.1**
BRVK pmax pmax
comp=Z,47nm,0.9s
BRVK Borovoye 17.69 1 *e*P **P** **21 35 47.1 -1.1**
comp=Z,47nm,0.9s
BRVK *e*S **S** **21 39 08.1 +8.5**
LATR Latur 17.90 159 *e* **P** **21 36 09.0 +18**
LATR *e* 21 40 00.0
KAD Karad 18.40 167 *e*P **P** **21 35 57.8 +1.0**
HYB Hyderabad 19.49 154 *e*P **P** **21 36 11.5 +2.7**
HYB *e*S **S** **21 39 35.0 -4.0**
HYB Hyderabad 19.49 154 *i*P **P** **21 36 11.5 +2.7**
HYB *e*S **S** **21 39 35.0 -4.0**
QRN Al-Qurain 19.70 257 *e*P **P** **21 36 10.8 -0.3**
QRN AMb AMB 21 36 12.5
comp=Z,87nm,0.8s
KBD Kabd 19.70 258 *e*P **P** **21 36 10.8 -0.3**
KBD AMb AMB 21 36 12.9
comp=Z,276nm,0.8s
RDF Al-Radifah 19.92 257 *e*P **P** **21 36 12.2 -1.1**
RDF AMb AMB 21 36 15.6
comp=Z,156nm,1.0s
NAY Al-Naaiem 20.04 259 *e*P **P** **21 36 14.2 -0.3**
NAY AMb AMB 21 36 17.3
comp=Z,39nm,1.3s
HASS Wahat al Ahsa' 20.11 245 P **P** **21 36 12.8 -2.6**
GNI Garni 20.39 291 *e*P **P** **21 36 19.8 +1.7**
GNI pmax pmax
comp=Z,28nm,0.8s
GNI Garni 20.39 291 P **P** **21 36 17.7 -0.4**
comp=Z,15nm,0.8s,baz=263,slow=3.1,SNR=8.9
GNI LR LR 21 44 42.6
comp=Z,58nm,21.1s,baz=198,slow=38
GNI Garni 20.39 291 *e*P **P** **21 36 19.8 +1.7**
comp=Z,28nm,0.8s
TBLG Delisi 20.60 295 P **P** **21 36 20.9 +0.7**
ZAL Zalesovo 21.32 25 P **P** **21 36 28.0 +0.5**
comp=Z,71nm,0.5s,mb5.3,baz=252,slow=6.9,SNR=72
ZAL S **S** **21 40 18.9 +4.9**
comp=Z,5.3nm,0.8s,baz=189,slow=23,SNR=8.3
ZAL Zalesovo 21.32 25 P **P** **21 36 28.0 +0.5**
ZAL S **S** **21 40 18.9 +4.9**
ZEI Tsey 21.40 298 *e*P **P** **21 36 28.5 +0.1**
ZEI *i* *PP 21 36 50.4
ZEI pmax pmax
comp=Z,6.0nm,0.5s,mb4.2
NVS Novosibirsk 21.57 21 ⇓*i*P **P** **21 36 30.6 +0.6**
NVS *i* S **S** **21 40 24.2 +5.5**
NVS pmax pmax
comp=N,169nm,1.2s
NVS pmax pmax
comp=Z,199nm,1.2s,mb5.3
NVS smax
comp=N,187nm,2.2s
ARU Arti 22.43 343 ⇓*i*P **P** **21 36 38.9 +0.6**
ARU *e* 21 37 09.4
ARU *e*PPP PPP 21 37 18.4 -1.4
ARU *e*S S **21 40 38.7 +4.8**
ARU *e*SS SS 21 41 13.7 -7.6
ARU *e*SSS SSS 21 41 23.0 -15
ARU pmax pmax
comp=Z,60nm,1.5s,mb4.7
ARU Arti 22.43 343 *e*P **P** **21 36 38.1 -0.2**
comp=Z,43nm,0.9s,mb4.8
KIV Kislovodsk 22.52 301 *e*P **P** **21 36 40.8 +1.5**
KIV pmax pmax
comp=Z,22nm,0.8s,mb4.5
KIV Kislovodsk 22.52 301 *e*P **P** **21 36 40.8 +1.5**
comp=Z,22nm,0.8s,mb4.5
GOF Gofitskoye 22.56 304 ⇑*i*P **P** **21 36 39.1 -0.5**
GOF pmax pmax
comp=Z,30nm,1.3s,mb4.5
IMP Imphal 23.31 110 *e* **P** **21 36 53.0 +5.9**
GTA Gaotai 24.10 71 P **P** **21 36 59.3 +4.7**
GTA AP 21 37 18.0
GTA XP 21 37 27.0
GTA AMB AMB
comp=Z,14nm,0.7s,mb4.4
GTA AMB AMB
comp=Z,76nm,5.7s
GTA LR LR
comp=N,394nm,11.0s
GTA LR LR
comp=E,235nm,11.0s
GTA LR LR
comp=Z,256nm,12.2s
HILS Ha'il 25.18 259 P **P** **21 37 05.0 -0.1**
MALT Malatya 25.25 286 *e*P **P** **21 37 07.0 +1.3**
MALT pmax pmax
comp=Z,3.0nm,0.9s,mb3.7
MALT Malatya 25.25 286 *e*P **P** **21 37 07.0 +1.3**
comp=Z,3.2nm,0.9s,mb3.8
AFFS 'Afif 25.88 251 P **P** **21 37 11.1 -0.6**
ANN Anapa 26.38 301 *e*P **P** **21 37 12.2 -3.9**
ANN *e*S **S** **21 41 46.1 +5.1**
ANN pmax pmax
comp=Z,60nm,1.1s,mb4.9
ANN MLR MLR
comp=N,167nm,16.0s
ANN MLR MLR
comp=E,235nm,16.0s
ANN MLR MLR
comp=Z,190nm,16.0s
KAMS Al Khamasin 26.80 243 P **P** **21 37 18.8 -1.4**
KBRS Khaybar 27.91 258 P **P** **21 37 31.2 +0.9**
TATS Tathlith 28.09 243 P **P** **21 37 30.9 -1.0**
CD2 Chengdu 28.66 89 *e*P **P** **21 37 40.0 +3.1**
BR131 Keskin Array S 28.91 290 *e*P **P** **21 37 38.5 -0.5**
comp=Z,2.1nm,0.8s,mb3.8
BRTR Keskin Array B 28.91 290 P **P** **21 37 38.7 -0.3**
comp=Z,2.1nm,0.8s,mb3.8,baz=90,slow=8.6,SNR=9.3
TLY Talaya 29.10 45 *i*P **P** **21 37 39.9 -0.7**
TLY pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
SONM Songino Array 29.76 54 P **P** **21 37 48.6 +2.1**
comp=Z,2.6nm,0.8s,mb3.9,baz=253,slow=9.9,SNR=20
SONM LR LR 21 51 27.4
comp=Z,336nm,19.1s,baz=254,slow=40
OBN Obninsk 30.21 321 *e*,*i*P **P** **21 37 49.6 -0.8**
OBN *e* pP 21 38 13.9 +3.6
OBN *e*S **S** **21 42 47.5 +5.4**
OBN pmax pmax
comp=Z,21nm,1.2s,mb4.6
OBN MLR MLR
comp=Z,300nm,20.0s
OBN Obninsk 30.21 321 *e*P **P** **21 37 49.5 -0.9**
comp=Z,9.2nm,0.4s,mb4.8
XAN Xi'an 32.02 81 P **P** **21 38 09.3 +2.9**
GYA Guiyang 32.66 95 ⇑*i*P **P** **21 38 15.0 +2.8**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
AKASG Malin Array Be 32.95 310 P **P** **21 38 13.5 -0.8**
comp=Z,3.1nm,0.5s,mb4.4,baz=86,slow=7.3,SNR=27
HHC Hu-ho-hao-te 33.05 68 *e*P **P** **21 38 20.5 +5.1**
HHC AP pP 21 38 43.5 +7.9
HHC XP sP 21 38 51.8 +5.9
HHC PCP PcP 21 40 54.0 -3.2
HHC SCP 21 44 29.8
HHC PCS 21 44 40.5
HHC SCS ScS 21 48 31.5 +0.1
HHC AMB AMB
comp=Z,13nm,1.3s,mb4.6
HHC AMB AMB
comp=Z,98nm,13.1s
HHC LR LR
comp=N,235nm,14.2s
HHC LR LR
comp=E,290nm,15.4s
HHC LR LR
comp=Z,235nm,17.8s
CIT Chita 35.10 48 *e*P **P** **21 38 39.3 +6.5**
CIT pmax pmax
comp=Z,17nm,2.3s,mb4.5
BOD Bodaibo 36.82 38 *e*P **P** **21 38 45.2 -2.1**
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
FINES FINESS Array B 37.91 327 P **P** **21 38 56.2 -0.1**
comp=Z,3.1nm,0.7s,mb4.2,baz=129,slow=9.8,SNR=13
FINES LR LR 21 56 03.4
comp=Z,277nm,19.1s,baz=118,slow=38
KAF Kangasniemi 38.08 328 *e*p **P** **21 38 57.7 0.0**
comp=Z,0.5nm,0.3s,mb3.8
LVZ Lovozero 38.18 339 *e*P **P** **21 39 01.4 +2.9**
LVZ pmax pmax
comp=Z,28nm,2.0s,mb4.8
LVZ MLR MLR
comp=Z,230nm,13.0s
MORC Moravsky Berou 40.30 308 *e*P **P** **21 39 16.7 +0.5**
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
MORC Moravsky Berou 40.30 308 *e*P **P** **21 39 16.7 +0.5**
comp=Z,3.3nm,0.8s,mb4.2
NJ2 Nanjing 40.58 80 *e*P **P** **21 39 19.5 +0.8**
NJ2 AP pP 21 39 44.8 +5.4
NJ2 XP sP 21 39 57.8 +8.4
NJ2 PP PP 21 40 57.5 +0.7
NJ2 S **S** **21 45 19.0 -2.4**
NJ2 XS 21 46 04.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
NJ2 AMB AMB
comp=Z,610nm,9.7s
NJ2 LR LR
comp=N,640nm,7.0s
NJ2 LR LR
comp=E,450nm,7.6s
NJ2 LR LR
comp=Z,370nm,6.4s
KEV Kevo 41.52 339 *e*p **P** **21 39 25.8 -0.1**
comp=Z,1.5nm,0.4s,mb4.1
ARCES ARCESS Array B 41.84 338 P **P** **21 39 28.8 +0.2**
comp=Z,6.1nm,0.7s,mb4.4,baz=101,slow=7.4,SNR=17
ARCES LR LR 21 57 57.7
comp=Z,213nm,18.7s,baz=242,slow=38
ARCES ARCESS Array B 41.84 338 P **P** **21 39 28.8 +0.2**
BRG Berggiesshubel 42.60 309 *e*P **P** **21 39 35.5 +0.4**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
BRG Berggiesshubel 42.60 309 *e*P **P** **21 39 35.5 +0.4**
comp=Z,3.8nm,0.9s,mb4.1
SSE Sheshan 42.77 81 P **P** **21 39 34.1 -2.6**
comp=Z,39nm,0.7s,mb5.2
SSE sP sP 21 40 12.1 +4.6
SSE S **S** **21 45 49.8 -4.0**
SSE sS 21 46 34.1
SSE SS SS 21 49 06.0 +5.6
GERES GERESS Array B 42.83 306 P **P** **21 39 37.8 +0.8**
comp=Z,0.9nm,0.8s,mb3.5,baz=104,slow=5.5,SNR=6.7
GERES LR LR 22 01 34.7
comp=Z,65nm,18.0s,baz=343,slow=42
CLL Collm 43.19 310 *e**PP pP 21 40 01.0 +0.5
MOX Moxa 44.08 309 *e*P **P** **21 39 50.0 +2.9**
MOX L 22 01 49.0
GRA1 Grafenberg Arr 44.40 308 *e*P **P** **21 39 51.2 +1.6**
comp=Z,6.0nm,1.2s,mb4.2
GRF Grafenberg Arr 44.40 308 *e*P **P** **21 39 51.2 +1.6**
GRF pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
GRF Grafenberg Arr 44.40 308 *e*P **P** **21 39 51.2 +1.6**
GRF pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
GRF Grafenberg Arr 44.40 308 *e*P **P** **21 39 51.2 +1.6**
comp=Z,6.0nm,1.2s,mb4.2
NB2 NORSAR Subarra 44.73 324 P **P** **21 39 51.2 -0.9**
comp=Z,6.6nm,0.7s,mb4.5,baz=98,slow=7.9
NB2 NORSAR Subarra 44.73 324 P **P** **21 39 51.2 -0.9**
NB2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
NOA NORSAR Array B 44.73 324 P **P** **21 39 51.5 -0.6**
comp=Z,7.1nm,0.8s,mb4.5,baz=99,slow=8.0,SNR=16
NOA LR LR 22 00 00.6
comp=Z,151nm,18.5s,baz=90,slow=38
YAK Yakutsk 45.43 35 *i*P **P** **21 39 56.4 -1.3**
YAK pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
KLR Kul'dur 46.57 53 *e*P pP 21 40 24.3 -3.5
PGF Pioggiola 46.97 298 *e*P **P** **21 40 09.9 -0.2**
comp=Z,3.3nm,0.6s,mb3.9
PGF Pioggiola 46.97 298 *e*P **P** **21 40 09.9 -0.2**
PGF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
TIXI Tiksi 47.17 22 *i*P **P** **21 40 08.4 -2.9**
TIXI pmax pmax
comp=Z,12nm,1.3s,mb4.5
KMBO Kilima Mbogo 47.37 227 *i*P **P** **21 40 15.5 +1.8**
KMBO pmax pmax
comp=Z,1.0nm,0.7s
KMBO Kilima Mbogo 47.37 227 P **P** **21 40 14.0 +0.3**
comp=Z,1.3nm,0.7s,mb3.8,baz=36,slow=12,SNR=9.9
KMBO LR LR 22 03 43.1
comp=Z,85nm,18.3s,baz=76,slow=40
SBF Sospel 47.80 300 *e*P **P** **21 40 16.6 0.0**
LPG La Plagne 47.95 302 *e*P **P** **21 40 18.6 +0.8**
LPL La Plagne 47.96 302 *e*P **P** **21 40 18.2 +0.4**
comp=Z,4.5nm,0.6s,mb4.2
LPL La Plagne 47.96 302 *e*P **P** **21 40 18.2 +0.4**
LPL pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
MBDF Montbardon 48.09 301 *e*P **P** **21 40 19.2 +0.4**
comp=Z,5.5nm,0.6s,mb4.2
MBDF Montbardon 48.09 301 *e*P **P** **21 40 19.2 +0.4**
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
CABF La Chapelle 48.20 304 *e*P **P** **21 40 19.9 +0.3**
comp=Z,32nm,1.3s,mb4.7
CABF La Chapelle 48.20 304 *e*P **P** **21 40 19.9 +0.3**
CABF pmax pmax
comp=Z,16nm,1.3s,mb4.7
FRF La Foret Royal 48.43 300 *e*P **P** **21 40 21.2 -0.2**
comp=Z,31nm,1.4s,mb4.6
FRF La Foret Royal 48.43 300 *e*P **P** **21 40 21.2 -0.2**
FRF pmax pmax
comp=Z,16nm,1.4s,mb4.7
ORIF Oris-en-Rattie 48.67 302 *e*P **P** **21 40 23.3 0.0**
comp=Z,8.3nm,1.1s,mb4.3
ORIF *e*R
comp=Z,76nm,18.0s
SMRF Simiane la Rot 49.09 301 *e*P **P** **21 40 26.4 -0.2**
VIVF Saint-Julien-l 49.52 302 *e*P **P** **21 40 29.7 -0.2**
SMF Signal de Mont 49.71 304 *e*P **P** **21 40 31.1 -0.2**
comp=Z,8.6nm,0.7s,mb4.5
SMF Signal de Mont 49.71 304 *e*P **P** **21 40 31.1 -0.2**
SMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
AVF Avril sur Loir 50.01 305 *e*P **P** **21 40 33.1 -0.5**
comp=Z,9.9nm,1.0s,mb4.4
AVF Avril sur Loir 50.01 305 *e*P **P** **21 40 33.1 -0.5**
AVF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
LASF Ste Croix 50.27 301 *e*P **P** **21 40 35.5 -0.1**
comp=Z,21nm,1.2s,mb4.7
BGF Bois d'Agland 50.40 304 *e*P **P** **21 40 36.8 +0.2**
TCF Toulx Ste Croi 50.89 304 *e*P **P** **21 40 40.3 0.0**
comp=Z,3.5nm,0.6s,mb4.3
TCF Toulx Ste Croi 50.89 304 *e*P **P** **21 40 40.3 0.0**
TCF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
MBAR Mbarara 51.08 234 *e*P **P** **21 40 41.1 -1.1**
MBAR pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
MBAR Mbarara 51.08 234 *e*P **P** **21 40 41.1 -1.1**
comp=Z,4.3nm,1.0s,mb4.4
CAF Calviac 51.31 303 *e*P **P** **21 40 43.2 -0.3**
comp=Z,10nm,1.1s,mb4.5
CAF Calviac 51.31 303 *e*P **P** **21 40 43.2 -0.3**
CAF pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
MTLF Montolieu 51.61 301 *e*P **P** **21 40 45.3 -0.4**
comp=Z,2.1nm,0.6s,mb4.0
MTLF Montolieu 51.61 301 *e*P **P** **21 40 45.3 -0.4**
MTLF pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
EPF Esparros 53.01 301 *e*P **P** **21 40 56.4 +0.1**
ETSF Etsaut 53.68 301 *e*P **P** **21 41 01.0 -0.2**
comp=Z,12nm,1.0s,mb4.6
ETSF Etsaut 53.68 301 *e*P **P** **21 41 01.0 -0.2**
ETSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
YSS Yuzh-Sakhalins 54.25 54 *i*P **P** **21 41 06.1 +0.9**
YSS pmax pmax
comp=Z,18nm,1.7s,mb4.8
MJAR Matsushiro Arr 54.25 67 P **P** **21 41 06.0 +0.5**
comp=Z,0.5nm,0.3s,mb4.0,baz=282,slow=12,SNR=4.4
SEY Seymchan 55.88 33 *i*P **P** **21 41 15.4 -1.5**
ESDC Sonseca Array 57.16 298 P **P** **21 41 26.0 -0.3**
comp=Z,0.5nm,0.5s,mb3.8,baz=58,slow=8.4,SNR=4.2
BILL Bilibino 60.03 26 *i*P **P** **21 41 38.7 -7.1**
BILL pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
BILL MLR MLR
comp=Z,200nm,20.0s
EVO Evora 60.51 298 *e*P **P** **21 41 49.8 +0.4**
comp=Z,9.4nm,1.1s,mb4.5
EVO *e*R
comp=Z,52nm,23.0s
SUMG Summit 61.83 341 *e*P **P** **21 42 02.5 +4.6**
comp=Z,5.3nm,0.7s,mb4.7
LBTB Lobatse 73.21 221 *e*P **P** **21 43 09.8 +0.1**
LBTB pmax pmax
comp=Z,17nm,0.6s,mb5.0
LBTB Lobatse 73.21 221 *e*P **P** **21 43 09.8 +0.2**
comp=Z,17nm,0.6s,mb5.0
DBIC Dimbokro 73.70 267 P **P** **21 43 11.9 -0.9**
comp=Z,6.4nm,0.8s,mb4.4,baz=10,slow=7.3,SNR=6.7
DBIC LR LR 22 19 07.8
comp=Z,66nm,18.5s,baz=42,slow=39
FITZ Fitzroy Crossi 74.99 125 *e*P **P** **21 43 21.9 +1.8**
comp=Z,18nm,1.0s,mb4.8
INK Inuvik 75.17 9 *e*P **P** **21 43 19.9 -0.3**
INK pmax pmax
comp=Z,26nm,1.1s
INK Inuvik 75.17 9 LR LR 22 20 35.4
comp=Z,67nm,20.6s,baz=127,slow=39
INK Inuvik 75.17 9 *e*P **P** **21 43 19.9 -0.3**
comp=Z,26nm,1.1s,mb4.9
KAKA Kakadu 76.05 117 *e*P **P** **21 43 29.6 +3.4**
comp=Z,7.4nm,0.6s,mb4.6
ILAR Eielson Array 76.12 15 P **P** **21 43 26.2 +0.6**
comp=Z,0.4nm,0.4s,mb3.5,baz=307,slow=5.3,SNR=6.6
ILAR LR LR 22 23 30.7
comp=Z,60nm,19.1s,baz=0.6,slow=41
BOSA Boshof 76.28 219 P **P** **21 43 27.8 +0.5**
BOSA pmax pmax
comp=Z,15nm,0.7s,mb4.8
BOSA MLR MLR
comp=Z,75nm,18.3s
BOSA Boshof 76.28 219 P **P** **21 43 27.8 +0.6**
comp=Z,15nm,0.7s,mb4.8,baz=39,slow=5.6,SNR=28
BOSA LR LR 22 20 27.8
comp=Z,74nm,18.2s,baz=348,slow=38
BOSA Boshof 76.28 219 *e*P **P** **21 43 26.4 -0.9**
comp=Z,14nm,0.7s,mb4.8
WRA Warramunga Arr 82.20 121 P **P** **21 44 01.0 +1.6**
comp=Z,6.7nm,0.7s,mb4.6,baz=324,slow=5.0,SNR=49
WRAB Tennant Creek 82.20 121 *i*P **P** **21 44 00.7 +1.3**
WRAB Tennant Creek 82.20 121 *e*P **P** **21 44 00.3 +0.9**
comp=Z,18nm,0.9s,mb4.9
WB2 Warramunga Ar 82.21 121 *e*P **P** **21 44 00.8 +1.3**
YKA Yellowknife Ar 82.42 2 P **P** **21 44 02.7 +3.1**
comp=Z,4.5nm,0.7s,mb4.4,baz=350,slow=5.2,SNR=13
YKA LR LR 22 24 27.8
comp=Z,82nm,19.6s,baz=295,slow=38
SCHQ Schefferville 82.76 336 P **P** **21 44 02.5 +0.9**
comp=Z,1.9nm,0.7s,mb4.0,baz=31,slow=18,SNR=2.6
SCHQ LR LR 22 19 42.8
comp=Z,54nm,21.9s,baz=66,slow=35
DLBC Dease Lake 85.08 10 LR LR 22 23 36.6
comp=Z,81nm,19.8s,baz=188,slow=37
ULM Lac du Bonnet 93.83 351 LR LR 22 26 28.5
comp=Z,66nm,21.1s,baz=17,slow=35
SNAA Sanae 118.01 200 21 50 46.9
VNA2 Neumayer--Watz 119.00 202 PKPdf 21 50 29.8 +5.8
VNA2 Neumayer--Watz 119.00 202 21 50 49.0
VNA2 Neumayer--Watz 119.00 202 21 50 52.4
VNA2 Neumayer--Watz 119.00 202 21 50 55.8
VNA3 Neumayer Olymp 119.81 202 PKPdf 21 50 31.4 +5.8
VNA3 Neumayer Olymp 119.81 202 21 50 50.4
VNA3 Neumayer Olymp 119.81 202 21 50 55.3
VNDA Vanda 124.66 165 PKP PKPdf 21 50 37.8 +3.0
comp=Z,1.4nm,0.9s,baz=297,slow=5.1,SNR=7.4
CPUP Villa Florida 134.22 266 PKP PKPdf 21 50 56.4 +2.2
comp=Z,1.4nm,0.7s,baz=145,slow=14,SNR=3.8
PLCA Paso Flores 148.55 248 PKPbc PKPdf 21 51 25.6 +6.6
comp=Z,3.3nm,0.8s,baz=95,slow=6.2,SNR=7.0

NEIC ***25*** *21:56:48.0,38.76N×27.72E,h18km,MD3.4(ATH), MD3.2(ISK), After ISK.*
ISK ***25*** *21:56:48.5,38.76N×27.72E,h18km,MD3.2*
CSEM ***25*** *21:56:48.1±0.1,38.73N×27.79E,h12km,MD3.2, Error ellipse: s-maj=2.8km s-min=1.4km az=116.0*
ATH ***25*** *21:56:50.0,38.72N×27.74E,h33km±11km,MD3.4/4*
ISC 25 21:56:48.8±0.5**,38.75N**±0.02×**27.78E**±0.03**,h11**km±3km**,**
n35,σ0*97/52,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.14**	**12**	*i* PG		**Pg**	**21 56 52.2**	**0.0**
AKS				*i* SG		**Sg**	**21 56 55.2**	**+0.8**
KDAG	**Bornova**	**0.53**	**230**	*i* P		**Pg**	**21 56 58.6**	**-1.0**
KDAG				*i* S		**Sg**	**21 57 07.1**	**+0.4**
IZM	**Izmir**	**0.53**	**229**	*i* PG		**Pg**	**21 56 58.8**	**-0.9**
IZM				*i* SG		**Sg**	**21 57 07.4**	**+0.5**
MANT	**Manisa**	**0.66**	**112**	*i* P		**Pb**	**21 57 01.6**	**-0.3**
MANT				*i* S		**Sb**	**21 57 10.1**	**-0.8**

BALB	**Balikesir**	**0.90**	**5**	*i* PG	**Pg**	**21 57 06.5**	**-0.4**
BALB				*i* SG	**Sg**	**21 57 19.5**	**+0.6**
URLA	**Izmir**	**1.00**	**248**	*i* P	**Pb**	**21 57 07.9**	**+0.1**
URLA				*i* S	**Sb**	**21 57 22.9**	**+2.1**
AYVA	**Ayvalik**	**1.02**	**304**	*i* P	**Pb**	**21 57 09.3**	**+1.4**
AYVA				*i* S	**Sb**	**21 57 24.9**	**+3.8**
BTOK	**Tokmak**	**1.03**	**11**	*i* P	**Pb**	**21 57 08.8**	**+0.5**
BTOK				*i* S	**Sb**	**21 57 22.4**	**+0.8**
DST	**Dursunbey**	**1.08**	**37**	*i* PN	**Pn**	**21 57 09.9**	**0.0**
SMG	**Samos**	**1.27**	**216**	*e*PN	**Pn**	**21 57 12.6**	**0.0**
SMG				*e*SN	**Sn**	**21 57 29.4**	**-0.4**
PRK	**Paraskevi**	**1.28**	**293**	*e*PN	**Pn**	**21 57 13.4**	**+0.7**
PRK				*e*SN	**Sn**	**21 57 29.8**	**0.0**
GDZ	**Gediz**	**1.37**	**75**	*i* P	**Pn**	**21 57 14.8**	**+0.8**
GDZ				*i* S	**Sb**	**21 57 35.4**	**+4.0**
CANB	**Canakkale**	**1.39**	**337**	PN	**Pn**	**21 57 12.7**	**-1.5**
KHL	**Karahalli**	**1.43**	**107**	PN	**Pn**	**21 57 15.6**	**+0.7**
MLSB	**Milas**	**1.45**	**180**	PN	**Pn**	**21 57 14.5**	**-0.6**
DNZL	**Cakiroluk**	**1.45**	**136**	*i* P	**Pn**	**21 57 14.2**	**-1.0**
DNZL				*i* S	**Sb**	**21 57 35.6**	**+1.8**
ORLT	**Orhaneli**	**1.56**	**33**	PN	**Pn**	**21 57 16.5**	**-0.3**
BNT	**Bandirma**	**1.61**	**4**	PN	**Pn**	**21 57 16.5**	**-1.0**
YER	**Yerkesik**	**1.66**	**166**	PN	**Pn**	**21 57 17.7**	**-0.4**
BDRM	**Kayabasi**	**1.70**	**189**	*i* P	**Pn**	**21 57 21.0**	**+2.3**
BDRM				*i* S	**Sn**	**21 57 40.1**	**-0.5**
BODT	**Bodrum**	**1.72**	**193**	PN	**Pn**	**21 57 18.3**	**-0.8**
ULDT	**Uludag**	**1.75**	**37**	*i* P	**Pn**	**21 57 19.3**	**0.0**
ULDT				*i* S	**Sn**	**21 57 45.0**	**+3.3**
LPK	**Lapseki**	**1.81**	**334**	PN	**Pn**	**21 57 18.4**	**-1.9**
ALT	**Altintas**	**1.84**	**80**	PN	**Pn**	**21 57 21.0**	**+0.2**
MRMT	**Marmara Adasi**	**1.86**	**356**	PN	**Pn**	**21 57 19.7**	**-1.3**
MFT	**Murefte**	**2.07**	**350**	*e*PN	**Pn**	**21 57 22.9**	**-1.2**
TKTP	**Tekketepe**	**2.12**	**109**	*i* P	**Pn**	**21 57 30.3**	**+5.6**
TKTP				*i* S	**Sn**	**21 58 02.3**	**+11**
YLV	**Yalova**	**2.19**	**34**	*e*PN	**Pn**	**21 57 25.4**	**-0.4**
LIA	**Limnos Island**	**2.32**	**301**	*e*PN	**Pn**	**21 57 27.9**	**+0.3**
ESKT	**Eskisehir**	**2.51**	**71**	*e*PN	**Pn**	**21 57 30.4**	**+0.1**
ESKT	**Eskisehir**	**2.51**	**71**	*i* P	**Pn**	**21 57 35.1**	**+4.8**
ESKT				*i* S	**Sn**	**21 58 11.2**	**+10**
ISK	**Istanbul-Kandi**	**2.52**	**23**	*e*PN	**Pn**	**21 57 30.0**	**-0.5**
RDO	**Rodhopi**	**2.95**	**325**	*e*PN	**Pn**	**21 57 37.0**	**+0.4**
EDRB	**Edirne**	**3.20**	**346**	*e*PN	**Pn**	**21 57 39.1**	**-0.9**
SGKT	**Sivrigoynuk**	**3.77**	**60**	*i* P	**Pn**	**21 58 00.4**	**+12**
SGKT				*i* S	**Sn**	**21 58 50.2**	**+17**

*LJU **25** 22:12:21.1,46.05N×14.77E,h9km,ML1.9*
*CSEM **25** 22:12:21.0±0.2,46.03N×14.84E,h5km,ML2.6/3,Error ellipse: s-maj=3.8km s-min=2.4km az=67.0*
*ROM **25** 22:12:22.6±0.9,46.06N×14.59E,h4km,Md2.7/3,Ml1.8/1,Error ellipse: s-maj=8.8km s-min=4.9km az=103.0*

ISC 25 22:12:21.1±0.3,46.06N±0.02×14.79E±0.02,h9km,n25, σ0$77/42,11C-4D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PDKS	**Podkum**	**0.15**	**89**	⇑*i*P		**Pg**	**22 12 24.9**	**+0.5**
PDKS				*i* Sg		**Sg**	**22 12 27.1**	**+0.4**
	comp=Z,268nm,0.1s							
LJU	**Ljubljana**	**0.18**	**265**	⇑*i*Pg		**Pg**	**22 12 25.4**	**+0.3**
LJU				*i* Sg		**Sg**	**22 12 27.9**	**+0.1**
	comp=Z,192nm,0.1s							
VISS	**Visnje**	**0.26**	**172**	⇓*i*Pg		**Pg**	**22 12 26.4**	**-0.1**
VISS				*i* Sg		**Sg**	**22 12 30.0**	**-0.1**
	comp=Z,139nm,0.1s							
LEGS	**Legarje**	**0.39**	**107**	⇑*i*Pg		**Pg**	**22 12 29.1**	**+0.2**
LEGS				*i* Sg		**Sg**	**22 12 34.4**	**+0.2**
CEY	**Cerknica**	**0.41**	**218**	⇓*i*Pg		**Pg**	**22 12 29.2**	**-0.2**
CEY				*i* Sg		**Sg**	**22 12 34.4**	**-0.6**
	comp=Z,22nm,0.1s							
CESS	**Cesta pri Krsk**	**0.48**	**100**	⇑*i*Pg		**Pg**	**22 12 30.9**	**+0.1**
OBKA	**Obir**	**0.48**	**340**	⇑*i*PG		**Pg**	**22 12 31.0**	**+0.2**
OBKA				*i* SG		**Sg**	**22 12 37.6**	**+0.3**
	comp=Z,31nm,0.2s							
DOBS	**Dobrina**	**0.48**	**79**	⇑*i*Pg		**Pg**	**22 12 30.8**	**0.0**
JAVS	**Javornik**	**0.53**	**252**	*i* Pg		**Pg**	**22 12 31.4**	**-0.4**
JAVS				*i* Sg		**Sg**	**22 12 38.2**	**-0.8**
GOLS	**Golise**	**0.58**	**94**	⇑*i*Pg		**Pg**	**22 12 32.9**	**0.0**
GORS	**Gorjuse**	**0.61**	**295**	⇑*i*Pg		**Pg**	**22 12 33.1**	**-0.3**
GCIS	**Gornji Cirnik**	**0.62**	**108**	*i* Pg		**Pg**	**22 12 33.4**	**-0.1**
GCIS				*i* Sg		**Sg**	**22 12 41.4**	**-0.4**
PERS	**Pernice**	**0.62**	**21**	⇓*i*Pg		**Pg**	**22 12 33.4**	**-0.2**
VOJS	**Vojsko**	**0.63**	**268**	⇑*i*Pg		**Pg**	**22 12 33.1**	**-0.7**
BISS	**Bistriski jare**	**0.63**	**22**	⇓*i*Pg		**Pg**	**22 12 33.6**	**-0.2**
BOJS	**Bojanci**	**0.64**	**150**	*i* Pg		**Pg**	**22 12 33.6**	**-0.4**
CADS	**Cadrg**	**0.75**	**283**	*e*Pg		**Pg**	**22 12 35.4**	**-0.7**
CADS				*i* Sg		**Sg**	**22 12 46.0**	**-0.2**
TRI	**Trieste**	**0.80**	**244**	Pg		**Pg**	**22 12 37.2**	**+0.1**
TRI				Sg		**Sg**	**22 12 47.3**	**-0.5**
	comp=Z,9.0nm,0.2s							
DRE	**Drenchia**	**0.81**	**279**	⇑*i*Pg		**Pg**	**22 12 36.3**	**-0.9**
DRE				*i* Sg		**Sg**	**22 12 49.2**	**+1.2**
ROBS	**Robic**	**0.91**	**282**	*i* Sg		**Sg**	**22 12 51.7**	**+0.3**
PTCC	**Patocco-Chiusa**	**1.05**	**290**	Pg		**Pg**	**22 12 40.9**	**-1.3**
PTCC				Sg		**Sg**	**22 12 56.7**	**+0.4**
	comp=Z,11nm,0.3s							
ARSA	**Arzberg**	**1.29**	**23**	⇑*i*PG		**Pg**	**22 12 45.4**	**-1.6**
ARSA				*i* SG		**Sg**	**22 13 04.0**	**-0.3**
	comp=Z,9.2nm,0.4s							
FVI	**Forni Avoltri**	**1.49**	**292**	Pn		**Pn**	**22 12 49.8**	**+1.6**
FVI				Sn		**Sn**	**22 13 10.6**	**+2.7**
	comp=Z,12nm,0.5s							
NVLJ	**Novalja**	**1.50**	**178**	*i* Pn		**Pn**	**22 12 49.5**	**+1.3**
NVLJ				*i* Sg		**Sg**	**22 13 10.2**	**-0.8**
NVLJ				*i* Sn		**Sn**	**22 13 10.3**	**+2.3**
NVLJ	**Novalja**	**1.50**	**178**	*i* Pn		**Pn**	**22 12 49.5**	**+1.3**
NVLJ				*i* Sn		**Sn**	**22 13 10.3**	**+2.3**

*IDC **25** 22:31:36.0±1.2,9.80N×126.52E,mb4.1/9,mb1 4.2/9,mb1mx3.9/21,mbtmp4.1/9,MS3.7/2,Ms1 3.8/2,ms1mx3.2/21,Error ellipse: s-maj=93.1km s-min=18.5km az=76.0*
*NEIC **25** 22:31:38.3±0.7,9.78N×126.48E,h15km,mb4.3/2,Error ellipse: s-maj=56.7km s-min=11.2km az=75.0*
*MAN **25** 22:31:41.5,9.61N×126.21E,h2km,mb4.9,ML3.8,MS3.9*

ISC 25 22:31:39.5±0.6,9.72N±0.05×126.51E±0.05,h33km,n28, σ1$28/34,mb4.1/11,MS3.7/2,3C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SCPH	**Surigao**	**1.01**	**274**	⇑*e*P		**P**	**22 31 56.1**	**-1.2**
SCPH				*e*S		**S**	**22 32 09.6**	**-0.9**
BUTP	**Butuan**	**1.15**	**230**	*e*P		**P**	**22 31 58.5**	**-0.9**
BUTP				*e*S		**S**	**22 32 13.6**	**-0.6**
BIPH	**Bislig**	**1.53**	**186**	⇑*i*P		**P**	**22 32 06.1**	**+1.3**
BIPH				*i* S		**S**	**22 32 22.9**	**-0.9**
BESP	**Borongan**	**2.15**	**331**	*e*P		**P**	**22 32 17.5**	**+3.9**
BUKP	**Musuan**	**2.32**	**218**	*e*P		**P**	**22 32 18.3**	**+2.1**
BUKP				*e*S		**S**	**22 32 48.0**	**+4.1**
LLP	**Lapu-Lapu**	**2.58**	**284**	*i* P		**P**	**22 32 22.6**	**+2.8**
LLP				*e*S		**S**	**22 32 50.6**	**+0.4**
TBP	**Tagbilaran**	**2.61**	**270**	⇓*e*P		**P**	**22 32 21.6**	**+1.3**
TBP				*e*S		**S**	**22 32 50.5**	**-0.6**
SNPH	**Sibulan**	**3.25**	**264**	⇓*e*P		**P**	**22 32 32.0**	**+2.6**
SNPH				*e*S		**S**	**22 33 11.5**	**+4.1**
DCPH	**Dipolog City**	**3.32**	**250**	*e*P		**P**	**22 32 30.8**	**+0.5**
DCPH				*e*S		**S**	**22 33 05.8**	**-3.3**
GUIM	**Jordan**	**3.96**	**283**	*e*P		**P**	**22 32 38.7**	**-0.8**
RCP	**Roxas**	**4.13**	**297**	⇑*e*P		**P**	**22 32 45.4**	**+3.6**
IPIL	**Ipil**	**4.34**	**244**	*e*P		**P**	**22 32 49.3**	**+4.5**
FITZ	**Fitzroy Crossi**	**27.66**	**182**	*e*P		**P**	**22 37 26.0**	**-0.6**
	8.4nm,0.9s,mb4.4							
FITZ	**Fitzroy Crossi**	**27.66**	**182**	P		**P**	**22 37 26.4**	**-0.3**
	14nm,0.9s,mb4.6,baz=2.9,slow=20,SNR=6.7							
FITZ				LR		LR	22 47 06.7	
	comp=Z,70nm,20.8s,MS3.2,baz=94,slow=34							
WRA	**Warramunga Arr**	**30.47**	**165**	P		**P**	**22 37 50.5**	**-1.2**
	0.4nm,0.8s,mb3.2,baz=345,slow=9.4,SNR=3.6							
NWAO	**Narrogin (SRO)**	**43.32**	**191**	P		**P**	**22 39 40.5**	**+0.2**
	6.2nm,0.7s,mb4.4,baz=45,slow=7.6,SNR=5.3							
NWAO	**Narrogin (SRO)**	**43.32**	**191**	P		**P**	**22 39 40.5**	**+0.2**
MKAR	**Makanchi Array**	**52.61**	**323**	P		**P**	**22 40 51.6**	**-0.7**
	0.8nm,0.6s,mb3.8,baz=128,slow=7.0,SNR=8.9							
ZRNK	**Zerenda**	**63.00**	**325**	P		**P**	**22 42 03.9**	**-1.6**
	0.9nm,0.6s,mb4.1							
ARCES	**ARCESS Array B**	**84.79**	**340**	P		**P**	**22 44 12.4**	**+1.0**
	1.5nm,0.7s,mb4.2,baz=79,slow=6.2,SNR=6.1							
KAF	**Kangasniemi**	**86.22**	**332**	*ep*		**P**	**22 44 17.3**	**-1.3**
	0.3nm,0.4s,mb3.9							
FINES	**FINESS Array B**	**86.49**	**332**	P		**P**	**22 44 19.5**	**-0.3**
	0.6nm,0.5s,mb4.1,baz=63,slow=4.3,SNR=6.3							
VNDA	**Vanda**	**89.36**	**173**	P		**P**	**22 44 35.2**	**+1.8**
	0.4nm,0.6s,mb3.9,baz=330,slow=6.0,SNR=3.6							
VNDA				LR		LR	23 26 30.3	
	comp=Z,76nm,18.2s,MS4.2,baz=51,slow=37							
HFS	**Hagfors**	**92.64**	**332**	P		**P**	**22 44 48.3**	**-0.7**
	2.1nm,0.9s,mb4.6,baz=108,slow=4.7,SNR=4.2							
HFS	**Hagfors**	**92.64**	**332**	P		**P**	**22 44 48.3**	**-0.7**
NOA	**NORSAR Array B**	**93.35**	**334**	P		**P**	**22 44 52.2**	**-0.1**
	0.8nm,0.9s,mb4.2,baz=298,slow=1.5,SNR=2.7							
PLCA	**Paso Flores**	**145.61**	**157**	PKPbc		PKPbc	22 51 17.3	+1.8
	1.4nm,0.8s,baz=334,slow=9.0,SNR=3.2							
PLCA	**Paso Flores**	**145.61**	**157**	PKPbc		PKPbc	22 51 17.3	+1.8

*IDC **25** 22:53:34.5±6.1,7.45N×94.04E,mb3.9/8,mb1 4.0/8,mb1mx3.8/21,mbtmp3.9/8,Error ellipse: s-maj=152.5km s-min=59.9km az=132.0*
*NEIC **25** 22:53:38.0±2.5,7.30N×94.23E,h30km,mb4.0/2,Error ellipse: s-maj=66.1km s-min=28.6km az=121.0*

ISC 25 22:53:36.3±4.1,7.3N±0.5×94.2E±0.6,h30km,n10, σ0$65/10,mb3.8/9,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LSA	**Lhasa**	**22.47**	**353**	*e*P		**P**	**22 58 35.9**	**+1.3**
	4.9nm,0.6s,mb4.1							
LSA				*e*			22 58 42.4	
MKAR	**Makanchi Array**	**40.66**	**347**	P		**P**	**23 01 14.9**	**-0.7**
	1.0nm,0.6s,mb3.6,baz=167,slow=8.2,SNR=9.2							
SONM	**Songino Array**	**41.71**	**12**	P		**P**	**23 01 24.1**	**0.0**
	0.3nm,0.7s,mb3.0,baz=194,slow=5.1,SNR=3.7							
ZAL	**Zalesovo**	**47.13**	**352**	P		**P**	**23 02 07.2**	**-0.4**
	1.5nm,0.4s,mb4.3,baz=307,slow=5.7,SNR=5.4							
BVAR	**Borovoye Array**	**49.55**	**341**	P		**P**	**23 02 25.4**	**-1.1**
	0.6nm,0.7s,mb3.8,baz=135,slow=10,SNR=3.4							
FINES	**FINESS Array B**	**73.25**	**332**	P		**P**	**23 05 06.2**	**-0.2**
	2.0nm,0.9s,mb4.0,baz=146,slow=6.9,SNR=4.6							
GERES	**GERESS Array B**	**78.30**	**318**	P		**P**	**23 05 35.6**	**+0.4**
	0.2nm,0.5s,mb3.3,baz=76,slow=5.5,SNR=4.5							
HFS	**Hagfors**	**78.99**	**330**	P		**P**	**23 05 39.0**	**+0.3**
	1.4nm,0.5s,mb4.1,baz=104,slow=6.1,SNR=9.9							
NB2	**NORSAR Subarra**	**80.27**	**331**	P		**P**	**23 05 45.8**	**+0.2**
	0.6nm,0.6s,mb3.7,baz=97,slow=4.8							
NOA	**NORSAR Array B**	**80.27**	**331**	P		**P**	**23 05 46.0**	**+0.4**
	0.9nm,0.7s,mb3.8,baz=95,slow=4.8,SNR=4.0							

MEX 25 23:08:13.6±0.3,16.01N×97.95W,h7km±6km,MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.42**	**336**	*i* P		Pg	23 08 21.3	-0.7
PNIG				*i* S		Sg	23 08 27.4	-0.3
OXX	**Oaxaca**	**1.59**	**48**	*e*P		Pn	23 08 38.5	-3.8
OXX				*i* S		Sb	23 08 58.0	-5.0

*GUC **25** 23:52:57.8±0.8,25.86S×70.72W,h48km±9km,ML5.2*
*NEIC **25** 23:52:58.8±0.2,25.89S×70.57W,mb4.8/16,Error ellipse: s-maj=8.0km s-min=4.4km az=82.0*
NEIC Felt [IV] at Diego de Almagro and Taltal; [III] at Chanaral and Copiapo.
*IDC **25** 23:52:58.6±0.6,25.89S×70.60W,h38km±4km,mb4.3/14,mb1 4.3/19,mb1mx4.3/20,mbtmp4.4/19,ML4.0/4,MS3.8/9,Ms1 3.8/9,ms1mx3.6/24,Error ellipse: s-maj=19.2km s-min=11.9km az=77.0*

ISC 25 23:52:57.3±0.2,25.95S±0.02×70.59W±0.06,h40km, h40km±9km:pP-P,n100,σ0$95/83,mb4.6/29,MS3.8/5, 5C-5D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CPN1	**Cerro Paranal**	**1.32**	**7**	*e*P		**P**	**23 53 20.6**	**+0.9**
CPN1				*i* S		**S**	**23 53 37.2**	**+0.8**
CPN1				AMP			23 53 42.0	
	comp=E,33μm,0.6s							
CPCH	**Copiapo**	**1.42**	**171**	⇓*i*P		**P**	**23 53 23.6**	**+2.5**
CPCH				*i* S		**S**	**23 53 42.7**	**+3.8**
CPCH				AMP			23 53 44.2	
	comp=N,65μm,0.2s							
ANCH	**Antofagasta**	**2.26**	**4**	⇓*i*P		**P**	**23 53 32.5**	**-0.5**
ANCH				AMP			23 54 15.8	
	comp=N,8μm,0.6s							
VACH	**Vallenar**	**2.62**	**183**	*i* P		**S**	**23 53 38.8**	**+0.6**
VACH				*i* S		**S**	**23 54 09.5**	**+0.4**
VACH				AMP			23 54 25.4	
	comp=E,16μm,0.5s							
LVC	**Limon Verde**	**3.65**	**25**	*e*P		**P**	**23 53 53.9**	**+1.1**
LVC				*i* S		**S**	**23 54 35.9**	**+0.7**
LVC				AMP			23 54 56.9	
	comp=E,5μm,0.5s							
LVC	**Limon Verde**	**3.65**	**25**	Pn		**P**	**23 53 54.2**	**+1.4**
	comp=E,8.6nm,0.3s,baz=208,slow=11,SNR=246							
LVC				Sn		**S**	**23 54 35.4**	**+0.2**
	comp=E,129nm,0.3s,baz=244,slow=21,SNR=6.7							
LVC				Lg			23 54 51.8	
	comp=E,900nm,0.3s,baz=325,slow=17,SNR=18							
LVC				LR		LR	23 55 28.4	
	comp=E,2μm,19.1s,baz=208,slow=42							
LVC	**Limon Verde**	**3.65**	**25**	*e*Pn		**P**	**23 53 54.8**	**+2.0**
LVC				*e*Sn		**S**	**23 54 50.4**	**+15**
LSCH	**La Serena**	**3.99**	**188**	*e*P		**P**	**23 53 56.3**	**-1.3**
LSCH				*i* S		**S**	**23 54 42.8**	**-0.9**
TLL	**Tololo Astrono**	**4.21**	**183**	⇓*i*P		**P**	**23 54 00.8**	**+0.1**
TLL				*i* S		**S**	**23 54 49.8**	**+0.5**
ZON	**Zonda**	**5.83**	**164**	*e*P		**P**	**23 54 30.0**	**+6.6**
CFAA	**Coronel Fontan**	**6.01**	**160**	Pn		**P**	**23 54 27.0**	**+1.1**
	comp=E,0.4nm,0.3s,baz=341,slow=10,SNR=24							
CFAA				Sn		**S**	**23 55 32.5**	**-1.8**
	comp=E,2.0nm,0.3s,baz=353,slow=20,SNR=3.1							
CFAA				LR		LR	23 56 57.7	
	comp=E,113nm,19.1s,baz=343,slow=39							
ARE	**Arequipa**	**9.47**	**355**	*e*P		**P**	**23 55 10.0**	**-4.1**
ARE				*e*S		**S**	**23 56 52.0**	**-8.5**
LPAZ	**La Paz**	**9.88**	**14**	Pn		**P**	**23 55 18.6**	**-1.2**
	comp=E,1.4nm,0.3s,baz=204,slow=6.7,SNR=18							
LPAZ	**La Paz**	**9.88**	**14**	*e*Pn		**P**	**23 55 18.4**	**-1.4**
	comp=E,19nm,0.7s							
CPUP	**Villa Florida**	**11.92**	**95**	Pn		**P**	**23 55 47.3**	**-0.2**
	comp=E,0.2nm,0.3s,baz=293,slow=14,SNR=6.1							
CPUP				LR		LR	00 00 57.6	
	comp=E,570nm,18.5s,baz=296,slow=40							
CPUP	**Villa Florida**	**11.92**	**95**	*e*Pn		**P**	**23 55 47.2**	**-0.3**
	comp=E,32nm,1.1s							
SIV	**San Ignacio**	**13.30**	**44**	Pn		**P**	**23 56 02.0**	**-3.9**
	comp=E,1.3nm,0.3s,baz=238,slow=7.7,SNR=23							
SIV				Sn		**S**	**23 58 19.6**	**-14**
	baz=190,slow=17,SNR=2.4							
TRQA	**Tornquist**	**14.10**	**151**	*e*Pn		**P**	**23 56 16.9**	**+0.5**
	comp=E,42nm,0.6s							
PLCA	**Paso Flores**	**14.75**	**180**	Pn		**P**	**23 56 27.1**	**+2.3**
	comp=E,0.0nm,0.3s,baz=327,slow=21,SNR=3.4							
PLCA				LR		LR	00 02 14.5	
	comp=E,567nm,20.1s,baz=355,slow=38							
PLCA	**Paso Flores**	**14.75**	**180**	*e*P		**P**	**23 56 31.1**	**+6.3**
SAML	**Samuel**	**18.31**	**24**	*e*P		**P**	**23 57 10.1**	**-0.1**
	comp=E,34nm,1.0s							
BDFB	**Brasilia**	**23.43**	**68**	P		**P**	**23 58 03.5**	**-0.3**
	comp=E,6.0nm,0.5s,mb4.2,baz=248,slow=9.5,SNR=10							
BDFB				LR		LR	00 08 09.2	
	comp=E,302nm,20.9s,MS3.7,baz=282,slow=39							
BAO	**Brasilia Array**	**23.45**	**68**	P		**P**	**23 58 04.0**	**0.0**
USHA	**Ushuaia**	**28.90**	**177**	LR		LR	00 11 32.2	
	comp=E,317nm,19.7s,MS3.9,baz=338,slow=38							
ROSC	**El Rosal**	**30.83**	**353**	P		**P**	**23 59 10.2**	**-1.7**
	comp=E,3.2nm,0.4s,mb4.5,baz=96,slow=19,SNR=2.9							
ROSC				LR		LR	00 11 37.9	
	comp=E,111nm,20.6s,MS3.5,baz=192,slow=36							
SDV	**Santo Domingo**	**34.62**	**360**	*e*P		**P**	**23 59 46.0**	**+1.1**
	comp=E,7.8nm,1.0s,mb4.6							
JTS	**JuntasAbangare**	**38.63**	**337**	P		**P**	**00 00 17.6**	**-1.1**
	comp=E,5.1nm,0.6s,mb4.4,baz=9.1,slow=16,SNR=3.9							
JTS	**JuntasAbangare**	**38.63**	**337**	*e*P		**P**	**00 00 21.3**	**+2.6**
RCBR	**Riachuelo**	**38.70**	**65**	*e*P		**P**	**00 00 19.5**	**+0.3**
	comp=E,12nm,0.7s,mb4.7							
RCBR				*ep*P		pP	00 00 31.5	+1.0
PMSA	**Palmer Station**	**39.06**	**176**	*e*P		**P**	**00 00 16.0**	**-5.7**
	comp=E,17nm,1.1s,mb4.7							
VNA3	**Neumayer Olymp**	**56.41**	**160**	*e*		pP	00 02 47.3	-1.0
VNA3	**Neumayer Olymp**	**56.41**	**160**	⇑*i*P		**P**	**00 02 35.7**	**-1.0**
VNA3				*e*		pP	00 02 47.3	-1.0
VNA1	**Neumayer--Stat**	**56.66**	**159**	*e*		pP	00 02 53.5	+3.4
VNA1	**Neumayer--Stat**	**56.66**	**159**	⇑*i*P		**P**	**00 02 40.3**	**+1.8**
VNA1				*e*		pP	00 02 53.5	+3.4
VNA2	**Neumayer--Watz**	**57.02**	**160**	*e*		pP	00 02 50.9	-1.8
VNA2	**Neumayer--Watz**	**57.02**	**160**	⇑*i*P		**P**	**00 02 40.0**	**-1.1**
VNA2				*e*		pP	00 02 50.9	-1.8
SNAA	**Sanae**	**58.63**	**160**	*e*		pP	00 03 02.6	-1.4
SNAA	**Sanae**	**58.63**	**160**	P		**P**	**00 02 51.2**	**-1.1**
	comp=E,1.1nm,0.5s,mb4.1,baz=282,slow=6.2,SNR=33							
SNAA	**Sanae**	**58.63**	**160**	⇑*i*P		**P**	**00 02 50.7**	**-1.6**
SNAA				*e*		pP	00 03 02.6	-1.4
LRAL	**Lakeview Retre**	**60.70**	**344**	*e*P		**P**	**00 03 04.3**	**-2.8**
	comp=E,15nm,1.0s,mb5.1							
TXAR	**Lajitas Array**	**63.47**	**328**	P		**P**	**00 03 24.9**	**-0.8**
	comp=E,1.5nm,0.7s,mb4.2,baz=154,slow=9.2,SNR=13							
QSPA	**South Pole Qui**	**64.27**	**180**	⇑*i*P		**P**	**00 03 30.5**	**+0.4**
	comp=E,17nm,0.6s,mb5.2							
GDL2	**Guadalupe Moun**	**66.19**	**329**	*e*P		**P**	**00 03 42.9**	**-0.2**
LAZ	**Ladron**	**69.31**	**328**	*e*P		**P**	**00 04 03.1**	**+0.5**
ANMO	**Albuquerque**	**69.44**	**329**	*e*P		**P**	**00 04 03.4**	**-0.1**
	comp=E,6.4nm,0.8s,mb4.6							
SDCO	**Great Sand Dun**	**71.33**	**331**	*e*P		**P**	**00 04 14.7**	**-0.1**
	comp=E,6.3nm,0.7s,mb4.7							
DBIC	**Dimbokro**	**71.50**	**73**	P		**P**	**00 04 15.9**	**-0.3**
	comp=E,17nm,0.7s,mb5.1,baz=210,slow=5.4,SNR=29							
DBIC				pP		pP	00 04 27.4	-0.7
	comp=E,13nm,0.7s,baz=211,slow=4.8,SNR=5.9							
DBIC				LR		LR	00 33 40.3	
	comp=E,79nm,20.0s,MS4.0,baz=125,slow=34							
VNDA	**Vanda**	**72.22**	**190**	P		**P**	**00 04 20.8**	**+1.3**
	comp=E,2.4nm,0.9s,mb4.1,baz=157,slow=3.1,SNR=3.9							
SYO	**Syowa Base**	**72.91**	**159**	⇓P		**P**	**00 04 21.6**	**-2.0**
SYO	**Syowa Base**	**72.91**	**159**	⇓pP		pP	00 04 33.0	-2.5
PV01	**Paradox Valley**	**73.02**	**330**	*e*P		**P**	**00 04 25.5**	**+0.7**
SMCO	**Snowmass**	**73.16**	**331**	*e*P		**P**	**00 04 25.5**	**-0.2**
PV10	**Paradox Valley**	**73.43**	**329**	*e*P		**P**	**00 04 23.3**	**-3.9**
PHWY	**Pilot Hill**	**74.31**	**333**	*e*P		**P**	**00 04 32.2**	**-0.1**
MSU	**Marysvale**	**75.02**	**327**	*e*P		**P**	**00 04 36.2**	**-0.3**
ARUT	**Antelope Range**	**75.08**	**326**	*e*P		**P**	**00 04 38.1**	**+1.3**
MPU	**Maple Canyon**	**75.94**	**329**	*e*P		**P**	**00 04 42.1**	**+0.4**
JLU	**Jordanelle**	**76.32**	**329**	*e*P		**P**	**00 04 43.8**	**0.0**
HWUT	**Hardware Ranch**	**77.17**	**330**	*e*P		**P**	**00 04 47.8**	**-0.8**
	comp=E,11nm,0.8s,mb4.8							
PDAR	**Pinedale Array**	**77.22**	**332**	P		**P**	**00 04 48.6**	**-0.3**
	comp=E,1.8nm,0.8s,mb4.1,baz=124,slow=5.3,SNR=12							
TPH	**Tonopah**	**77.25**	**324**	*e*P		**P**	**00 04 49.7**	**+0

NGZ	**Ngauruhoe**	**1.02**	**28**	P*	Pb	00 21 54.5	-0.7
CAW	**Cannon Point**	**1.03**	**177**	P*	Pb	00 21 55.1	-0.3
CAW				S*	Sb	00 22 08.3	-0.8
OTVZ	**Oturere**	**1.05**	**30**	P*	Pb	00 21 55.2	-0.6
OTVZ				S*	Sb	00 22 09.9	+0.2
TWVZ	**Taurewa**	**1.06**	**19**	P*	Pb	00 21 52.0	-4.0
WTVZ	**West Tongariro**	**1.07**	**26**	P*	Pb	00 21 55.2	-0.8
WTVZ				S*	Sb	00 22 09.5	-0.6
DUWZ	**D'Urville Isla**	**1.09**	**228**	P*	Pb	00 21 55.8	-0.6
KRVZ	**Karewarewa**	**1.10**	**27**	P*	Pb	00 21 55.9	-0.8
BFZ	**Birch Farm**	**1.13**	**123**	P*	Pb	00 21 57.9	+0.8
MTW	**Mount Morrison**	**1.15**	**160**	P*	Pb	00 21 57.8	+0.4
MTW				S*	Sb	00 22 12.9	+0.5
MRW	**Makara Radio**	**1.17**	**191**	P*	Pb	00 21 57.3	-0.5
MRW				S*	Sb	00 22 12.3	-0.8
PKE	**Pukeiti**	**1.18**	**318**	P*	Pb	00 21 59.0	+1.1
WEL	**Wellington**	**1.22**	**188**	P*	Pb	00 21 58.4	-0.2
KATZ	**Kakaramea**	**1.23**	**26**	P*	Pb	00 21 58.2	-0.6
SNZO	**South Karori**	**1.25**	**190**	P*	Pb	00 21 58.6	-0.6
TCW	**Tory Channel**	**1.26**	**206**	P*	Pb	00 21 58.1	-1.2
BHW	**Baring Head**	**1.33**	**184**	P*	Pb	00 22 00.2	-0.3
PAWZ	**Paruwai Farm**	**1.34**	**166**	PN	Pn	00 22 00.9	0.0
MSWZ	**Moikau Station**	**1.35**	**172**	PN	Pn	00 22 01.0	0.0
RATZ	**Rangitukua**	**1.35**	**27**	PN	Pn	00 22 00.7	-0.3
TRWZ	**Traveller**	**1.42**	**158**	PN	Pn	00 22 02.4	+0.4
BKZ	**Black Stump Fm**	**1.47**	**52**	PN	Pn	00 22 02.5	-0.3
WATZ	**Wairara**	**1.48**	**23**	PN	Pn	00 22 02.9	-0.1
HIZ	**Hauiti**	**1.57**	**356**	PN	Pn	00 22 03.4	-0.7
TUWZ	**Tuamarina**	**1.57**	**210**	PN	Pn	00 22 03.5	-0.7
NNZ	**Nelson**	**1.67**	**227**	PN	Pn	00 22 05.4	-0.3
BSWZ	**Blackbirch Sta**	**1.84**	**207**	PN	Pn	00 22 08.1	+0.1
QRZ	**Quartz Range**	**2.02**	**248**	PN	Pn	00 22 09.5	-1.1
THZ	**Tophouse**	**2.31**	**223**	PN	Pn	00 22 15.0	+0.2
KHZ	**Kahutara**	**2.58**	**205**	PN	Pn	00 22 17.4	-1.3
MQZ	**McQueen's Vall**	**4.02**	**205**	PN	Pn	00 22 34.8	-4.3

NEIC ***26*** *00:33:12.5±0.4,52.13N×175.78W,h99km±4km, mb4.2/1, Error ellipse: s-maj=18.0km s-min=8.4km az=176.0*
IDC ***26*** *00:33:12.2±0.9,52.32N×175.86W,h94km±6km, mb3.6/10, mb1 3.9/12,mb1mx3.6/26,mbtmp4.0/12, Error ellipse: s-maj=27.4km s-min=11.2km az=1.0*
ISC 26 00:33:11.5±0.4,52.3N±0.1×175.80W±0.07,h100km±5km, n30,σ0⁹92/30,mb3.9/11,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GSTR	**Great Sitkin T**	**0.24**	**221**	P		**P**	**00 33 26.4**	**+0.5**
GSMY	**Great Sitkin M**	**0.28**	**214**	P		**P**	**00 33 26.1**	**0.0**
GSTD	**Great Sitkin T**	**0.31**	**224**	P		**P**	**00 33 26.4**	**+0.2**
GSCK	**Great Sitkin C**	**0.35**	**220**	P		**P**	**00 33 27.0**	**+0.6**
GSCK				S		**S**	**00 33 37.3**	**-0.3**
ADAG	**Mount Adagdak**	**0.58**	**239**	P		**P**	**00 33 28.0**	**0.0**
KINC	**Kanaga Island**	**0.89**	**248**	P		**P**	**00 33 31.3**	**+0.3**
KIKV	**Kanaga Island**	**0.94**	**245**	P		**P**	**00 33 31.7**	**+0.2**
ATKA	**Atka Island**	**0.99**	**94**	P		**P**	**00 33 32.0**	**-0.1**
ATKA				S		**S**	**00 33 46.6**	**-0.9**
KIMD	**Kanaga Island**	**1.03**	**240**	P		**P**	**00 33 32.5**	**0.0**
KIMD				S		**S**	**00 33 47.6**	**-0.6**
FX1	**Attu Island--F**	**6.76**	**280**	P		**P**	**00 34 49.9**	**+0.2**
	2.8nm,0.3s,baz=153,slow=3.6,SNR=15							
FX1				S		**S**	**00 36 05.4**	**-0.2**
	1.0nm,0.3s,baz=274,slow=19,SNR=3.0							
FX1	**Attu Island--F**	**6.76**	**280**	*eP*		**P**	**00 34 49.6**	**-0.1**
BILL	**Bilibino**	**18.02**	**338**	*eP*		**P**	**00 37 19.0**	**+2.5**
	12nm,0.8s							
ILAR	**Eielson Array**	**19.38**	**39**	P		**P**	**00 37 30.6**	**-0.9**
	0.4nm,0.3s,baz=239,slow=9.6,SNR=17							
INK	**Inuvik**	**25.65**	**35**	P		**P**	**00 38 33.0**	**+0.1**
	0.8nm,0.5s,mb3.4,baz=217,slow=5.2,SNR=6.4							
MJAR	**Matsushiro Arr**	**35.76**	**262**	P		**P**	**00 40 02.2**	**-0.1**
	1.9nm,0.3s,mb4.5,baz=54,slow=6.1,SNR=8.5							
MJAR	**Matsushiro Arr**	**35.76**	**262**	P		**P**	**00 40 02.2**	**-0.1**
NEW	**Newport**	**36.83**	**72**	P		**P**	**00 40 11.6**	**+0.4**
	1.9nm,0.4s,mb4.4,baz=307,slow=10,SNR=4.8							
YBH	**Yreka Blue Hor**	**36.92**	**85**	P		**P**	**00 40 12.4**	**+0.4**
	2.1nm,1.0s,mb4.0,baz=296,slow=6.2,SNR=2.6							
NVAR	**Mina Array Bea**	**41.61**	**86**	P		**P**	**00 40 52.0**	**+1.2**
	1.1nm,0.7s,mb3.7,baz=300,slow=5.1,SNR=5.8							
PDAR	**Pinedale Array**	**44.27**	**75**	P		**P**	**00 41 13.1**	**+0.7**
	2.6nm,0.5s,mb4.2,baz=312,slow=3.4,SNR=28							
PDAR				pP		pP	00 41 34.5	-1.5
	0.9nm,0.7s,baz=258,slow=1.8,SNR=2.9							
SONM	**Songino Array**	**47.90**	**297**	P		**P**	**00 41 43.6**	**+2.7**
	0.4nm,0.6s,mb3.4,baz=31,slow=8.4,SNR=3.6							
TXAR	**Lajitas Array**	**56.69**	**84**	P		**P**	**00 42 45.9**	**-0.7**
	0.6nm,0.5s,mb3.9,baz=297,slow=5.8,SNR=14							
TXAR				pP		pP	00 43 08.4	-2.9
	1.3nm,0.6s,baz=299,slow=4.8,SNR=10							
TXAR				sP		sP	00 43 19.8	-2.7
	0.2nm,0.4s,baz=305,slow=6.9,SNR=2.9							
TXAR	**Lajitas Array**	**56.69**	**84**	P		**P**	**00 42 45.9**	**-0.7**
TXAR				pP		pP	00 43 08.4	-2.9
TXAR				sP		sP	00 43 19.8	-2.7
ARCES	**ARCESS Array B**	**57.51**	**351**	P		**P**	**00 42 50.7**	**-1.1**
	2.1nm,0.9s,mb4.1,baz=8.3,slow=7.4,SNR=7.8							
MKAR	**Makanchi Array**	**60.91**	**310**	P		**P**	**00 43 12.9**	**-2.7**
	0.3nm,0.6s,mb3.5,baz=48,slow=6.6,SNR=6.9							
BVAR	**Borovoye Array**	**61.39**	**321**	P		**P**	**00 43 17.2**	**-1.5**
	0.5nm,0.4s,mb3.9,baz=63,slow=6.1,SNR=5.9							
PPT	**Papeete**	**73.19**	**154**	*e*LR		LR	00 44 58.2	
	279nm,28.0s,baz=101							
TBI	**Tubuai**	**78.75**	**155**	*e*LR		LR	00 44 37.4	
	125nm,23.0s,baz=71							
MAW	**Mawson**	**148.34**	**219**	PKPbc		PKPdf	00 52 44.8	+4.0
	1.7nm,0.8s,baz=53,slow=6.0,SNR=5.3							
BOSA	**Boshof**	**151.65**	**318**	PKPbc		PKPdf	00 52 53.6	+6.5
	0.8nm,0.4s,baz=343,slow=19,SNR=3.8							

IDC ***26*** *00:46:36.2±8.7,41.90N×149.29E,mb3.8/3,mb1 3.7/4, mb1mx3.5/20,mbtmp3.8/4,ML3.3/1,MS3.4/1,Ms1 3.4/1, ms1mx2.7/25,Error ellipse: s-maj=216.5km s-min=67.5km az=173.0*
JMA ***26*** *00:46:49.9±0.5,43.23N×147.90E,h9km,M3.0*
ISC 26 00:46:51.4±3.1,43.4N±0.4×148.0E±0.2,h34km±19km,n11, σ0⁹50/12,mb3.7/3,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NEM2	**Nemuro 2**	**1.68**	**269**	P		**P**	**00 47 18.3**	**-0.5**
NEM2				*e*S		**S**	**00 47 38.7**	**-0.7**
JRA	**Rausu**	**2.18**	**285**	P		**P**	**00 47 26.4**	**+0.3**
JNK	**Nakash**	**2.42**	**275**	P		**P**	**00 47 29.3**	**-0.2**
JNK				*e*S		**S**	**00 47 58.4**	**+0.1**
JAK	**Akkeshi**	**2.48**	**262**	*e*S		**S**	**00 48 00.3**	**+0.5**
JTKR	**Abashiri--Toko**	**3.05**	**282**	P		**P**	**00 47 39.1**	**+0.6**
JAR	**Ashorobuto**	**3.12**	**269**	*e*S		**S**	**00 48 15.7**	**-0.3**
ASAJ	**Asahikawa**	**4.01**	**282**	Pn		**P**	**00 47 57.8**	**+5.7**
	1.0nm,0.3s,baz=114,slow=19,SNR=5.1							
JNU	**Nakatsue**	**16.92**	**238**	LR		LR	00 57 34.0	
	comp=Z,130nm,18.5s,baz=192,slow=39							
SONM	**Songino Array**	**29.20**	**293**	P		**P**	**00 52 52.5**	**+0.7**
	0.9nm,0.8s,mb3.5,baz=82,slow=8.7,SNR=6.3							
MKAR	**Makanchi Array**	**45.32**	**298**	P		**P**	**00 55 07.7**	**+0.1**
	1.0nm,0.8s,mb3.7,baz=74,slow=8.8,SNR=6.4							
FINES	**FINESS Array B**	**65.47**	**333**	P		**P**	**00 57 31.9**	**-0.8**
	0.7nm,0.6s,mb3.9,baz=45,slow=5.4,SNR=4.4							

IDC ***26*** *00:56:10.7±0.9,8.08N×91.91E,mb4.1/13,mb1 4.3/13, mb1mx4.2/19,mbtmp4.1/13,Error ellipse: s-maj=29.3km s-min=21.1km az=50.0*
BJI ***26*** *00:56:12.2,7.72N×91.79E,h37km,mB4.9,mb4.9,Ms4.3, Msz4.0*
MOS ***26*** *00:56:14.3±0.9,8.16N×91.99E,h33km,mb4.8/14, Error ellipse: s-maj=21.3km s-min=7.7km az=117.2*
NEIC ***26*** *00:56:15.5±0.6,8.06N×91.89E,h30km,mb4.7/14, Error ellipse: s-maj=19.6km s-min=10.3km az=207.0*
ISC 26 00:56:14.2±0.6,8.07N±0.09×91.94E±0.08,h33km,n77, σ0⁹93/76,mb4.4/37,6C-1D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HYB	**Hyderabad**	**16.02**	**307**	*e*P		**P**	**01 00 00.0**	**+1.3**
HYB	**Hyderabad**	**16.02**	**307**	*i* P		**P**	**01 00 00.0**	**+1.3**
SHL	**Shillong**	**17.40**	**360**	*e*P		**P**	**01 00 17.0**	**+0.9**
KMI	**Kunming**	**19.84**	**30**	P		**P**	**01 00 56.4**	**+11**
PKI	**Pulchoki**	**20.36**	**343**	*e*P		**P**	**01 00 51.4**	**+0.7**
	59nm,1.1s							
DMN	**Daman**	**20.48**	**342**	*e*P		**P**	**01 00 52.2**	**+0.2**
GUN	**Gumba**	**20.55**	**345**	*e*P		**P**	**01 00 53.7**	**+1.0**
KKN	**Kakani**	**20.60**	**343**	*e*P		**P**	**01 00 53.8**	**+0.6**
	30nm,0.9s							
GKN	**Gorkha**	**20.99**	**342**	*e*P		**P**	**01 00 58.2**	**+1.0**
	72nm,0.7s							
KOLN	**Koldanda**	**21.12**	**339**	*e*P		**P**	**01 00 59.7**	**+1.2**
	106nm,0.8s,mb5.2							
LSA	**Lhasa**	**21.53**	**358**	*e*P		**P**	**01 01 06.3**	**+3.7**
LSA				*e**PP			01 01 15.9	
LSA				pmax		pmax		
	comp=Z,19nm,0.7s,mb4.6							
LSA	**Lhasa**	**21.53**	**358**	*e*P		**P**	**01 01 06.3**	**+3.6**
	comp=Z,19nm,0.7s,mb4.6							
LSA				*e*pP			01 01 15.9	
GYA	**Guiyang**	**23.02**	**36**	*i* P		**P**	**01 01 17.3**	**-0.2**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.2							
KKM	**Kota Kinabalu**	**24.17**	**93**	*e*P		**P**	**01 01 30.8**	**+2.0**
CD2	**Chengdu**	**25.27**	**24**	P		**P**	**01 01 38.5**	**-0.7**
DDI	**Dehra Dun**	**25.68**	**331**	*e*		**P**	**01 01 43.0**	**-0.1**
GTA	**Gaotai**	**32.00**	**12**	P		**P**	**01 02 39.5**	**-0.2**
GTA				AP		pP	01 02 48.5	-0.9
GTA				XP		sP	01 02 52.5	-1.2
GTA				AMB		AMB		
	comp=Z,23nm,0.9s,mb5.0							
AAK	**Ala-Archa**	**37.70**	**339**	*e*P		**P**	**01 03 29.5**	**+1.1**
AAK				pmax		pmax		
	comp=Z,15nm,1.1s,mb4.6							
AAK	**Ala-Archa**	**37.70**	**339**	*e*P		**P**	**01 03 29.4**	**+1.0**
	comp=Z,16nm,1.1s,mb4.7							
MKAR	**Makanchi Array**	**39.46**	**350**	P		**P**	**01 03 43.2**	**+0.2**
	comp=Z,5.0nm,0.8s,mb4.3,baz=169,slow=8.6,SNR=28							
MKAR	**Makanchi Array**	**39.46**	**350**	P		**P**	**01 03 43.2**	**+0.2**
KKAR	**Karatay Array**	**39.64**	**335**	*i* P		**P**	**01 03 45.6**	**+1.1**
KKAR				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.3							
SONM	**Songino Array**	**41.49**	**15**	P		**P**	**01 04 00.1**	**+0.3**
	comp=Z,2.7nm,0.8s,mb3.9,baz=195,slow=8.7,SNR=15							
SONM				PcP		PcP	01 05 57.1	-0.6
	comp=Z,1.2nm,0.7s,baz=201,slow=3.3,SNR=4.0							
KURK	**Kurchatov**	**43.93**	**348**	*e*P		**P**	**01 04 19.6**	**-0.1**
KURK				pmax		pmax		
	comp=Z,17nm,1.2s,mb4.7							
KURK	**Kurchatov**	**43.93**	**348**	*e*P		**P**	**01 04 19.6**	**-0.1**
	comp=Z,17nm,1.2s,mb4.6							
ZAL	**Zalesovo**	**46.10**	**354**	P		**P**	**01 04 37.1**	**+0.1**
	comp=Z,2.3nm,0.6s,mb4.3,baz=293,slow=5.3,SNR=15							
NVS	**Novosibirsk**	**47.16**	**353**	*e*P		**P**	**01 04 44.3**	**-1.0**
NVS				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.7							
NVS				pmax		pmax		
	comp=N,5.0nm,0.8s							
VOSK	**Vostochnaya**	**47.69**	**343**	P		**P**	**01 04 48.7**	**-0.8**
VOSK				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.6							
BVA0	**Borovoye Array**	**48.13**	**343**	*i* P		**P**	**01 04 51.9**	**-1.0**
BVA0				pmax		pmax		
	comp=Z,1.0nm,1.0s,mb3.8							
BVAR	**Borovoye Array**	**48.13**	**343**	P		**P**	**01 04 52.6**	**-0.3**
	comp=Z,3.1nm,0.8s,mb4.4,baz=158,slow=8.0,SNR=26							
AB31	**Akbulak array**	**49.04**	**333**	*i* P		**P**	**01 05 00.2**	**+0.2**
AB31				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.4							
WRA	**Warramunga Arr**	**50.16**	**124**	P		**P**	**01 05 09.8**	**+0.9**
	comp=Z,3.0nm,0.8s,mb4.4,baz=304,slow=8.8,SNR=3.5							
WRA				PcP		PcP	01 06 25.9	-2.4
	comp=Z,0.7nm,0.6s,baz=304,slow=3.4,SNR=3.5							
BOD	**Bodaibo**	**52.49**	**15**	*i* P		**P**	**01 05 24.7**	**-1.3**
BOD				pmax		pmax		
	comp=Z,9.0nm,1.1s,mb4.6							
ARU	**Arti**	**54.88**	**338**	*e*P		**P**	**01 05 43.0**	**-0.7**
ARU	**Arti**	**54.88**	**338**	*e*P		**P**	**01 05 43.0**	**-0.6**
	comp=Z,16nm,1.2s,mb4.9							
KMBO	**Kilima Mbogo**	**55.28**	**263**	P		**P**	**01 05 48.4**	**+1.2**
	comp=Z,1.3nm,0.7s,mb4.1,baz=44,slow=16,SNR=4.9							
EIL	**Elat**	**57.44**	**300**	*e*P		**P**	**01 06 02.7**	**+0.3**
	comp=Z,4.9nm,0.9s,mb4.5							
PMG	**Port Moresby**	**57.67**	**106**	*e*P		**P**	**01 06 09.2**	**+4.9**
	comp=Z,21nm,0.9s,mb5.2							
BR131	**Keskin Array S**	**60.66**	**311**	*e*P		**P**	**01 06 22.9**	**-1.7**
	comp=Z,4.1nm,0.9s,mb4.6							
BRTR	**Keskin Array B**	**60.66**	**311**	P		**P**	**01 06 23.4**	**-1.2**
	comp=Z,2.2nm,0.8s,mb4.3,baz=118,slow=7.0,SNR=13							
OBN	**Obninsk**	**64.06**	**328**	*e*P		**P**	**01 06 46.5**	**-0.5**
OBN				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.5							
AKASG	**Malin Array Be**	**66.66**	**322**	P		**P**	**01 07 01.8**	**-1.9**
	comp=Z,0.9nm,0.7s,mb3.9,baz=93,slow=4.2,SNR=8.1							
AKASG	**Malin Array Be**	**66.66**	**322**	P		**P**	**01 07 01.8**	**-1.9**
VRI	**Vrincioaia**	**67.06**	**316**	⇑P		**P**	**01 07 06.7**	**+0.4**
TIXI	**Tiksi**	**67.48**	**12**	*e*P		**P**	**01 07 06.1**	**-2.5**
TIXI				pmax		pmax		
	comp=Z,18nm,0.8s,mb5.2							
MLR	**Muntele Rosu**	**67.51**	**316**	⇑P		**P**	**01 07 09.7**	**+0.5**
BURAR	**Bucovina Array**	**68.44**	**318**	⇑P		**P**	**01 07 15.4**	**+0.4**
BURAR	**Bucovina Array**	**68.44**	**318**	⇑P		**P**	**01 07 15.4**	**+0.4**
DRGR		**69.97**	**317**	⇑P		**P**	**01 07 22.3**	**-2.0**
KOLS	**Kolonicke sedl**	**70.63**	**319**	*e*P		**P**	**01 07 29.3**	**+1.0**
FINES	**FINESS Array B**	**71.53**	**332**	P		**P**	**01 07 32.4**	**-1.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=108,slow=6.0,SNR=4.7							
KECS	**Kecovo**	**71.72**	**318**	*e*P		**P**	**01 07 34.3**	**-0.6**
ZST	**Bratislava**	**73.92**	**318**	*e*P		**P**	**01 07 47.5**	**-0.4**
ARCES	**ARCESS Array B**	**74.35**	**340**	P		**P**	**01 07 46.1**	**-3.8**
	comp=Z,2.0nm,0.8s,mb4.1,baz=90,slow=8.5,SNR=7.7							
DPC	**Dobruska-Polom**	**74.66**	**320**	*e*P		**P**	**01 07 52.7**	**+0.6**
UPC	**Upice**	**74.87**	**320**	*e*P		**P**	**01 07 53.5**	**+0.2**
PRU	**Pruhonice**	**75.76**	**319**	*e*P		**P**	**01 07 58.8**	**+0.3**
PVCC	**Panska Ves**	**75.79**	**320**	*e*P		**P**	**01 07 59.0**	**+0.4**
BRG	**Berggiesshubel**	**76.21**	**320**	*i* P		**P**	**01 08 01.4**	**+0.4**
BRG				pmax		pmax		
	comp=Z,7.0nm,1.2s,mb4.5							
BRG	**Berggiesshubel**	**76.21**	**320**	*i* P		**P**	**01 08 01.4**	**+0.4**
	comp=Z,6.5nm,1.2s,mb4.4							
GEC2	**GERESS Array S**	**76.23**	**318**	*e*P		**P**	**01 08 01.5**	**+0.4**
GEC2				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.4							
GEC2	**GERESS Array S**	**76.23**	**318**	*e*P		**P**	**01 08 01.5**	**+0.4**
	comp=Z,6.0nm,1.1s,mb4.4							
GERES	**GERESS Array B**	**76.23**	**318**	P		**P**	**01 08 01.2**	**+0.1**
	comp=Z,2.9nm,0.8s,mb4.3,baz=90,slow=5.3,SNR=20							
KHC	**Kasperske Hory**	**76.33**	**319**	*e*P		**P**	**01 08 01.5**	**-0.2**
GRA1	**Grafenberg Arr**	**77.89**	**319**	*e*P		**P**	**01 08 10.6**	**+0.2**
	comp=Z,21nm,1.2s,mb4.9							
GRF	**Grafenberg Arr**	**77.89**	**319**	*e*P		**P**	**01 08 10.6**	**+0.2**
GRF				pmax		pmax		
	comp=Z,21nm,1.2s,mb4.9							
GRF	**Grafenberg Arr**	**77.89**	**319**	*e*P		**P**	**01 08 10.6**	**+0.2**
	comp=Z,21nm,1.2s,mb4.9							
NOA	**NORSAR Array B**	**78.49**	**331**	P		**P**	**01 08 12.5**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=94,slow=5.7,SNR=3.6							
CLZ	**Clausthal**	**78.50**	**321**	*e*P		**P**	**01 08 13.6**	**-0.1**
CLZ				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.5							
CLZ	**Clausthal**	**78.50**	**321**	*e*P		**P**	**01 08 13.6**	**-0.1**
	comp=Z,6.0nm,1.0s,mb4.5							
BSEG	**Bad Segeberg**	**78.59**	**323**	*e*P		**P**	**01 08 14.4**	**+0.2**
BSEG				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.0							
BFO	**Black Forest**	**79.78**	**318**	*e*P		**P**	**01 08 18.7**	**-2.1**
BFO				pmax		pmax		
	comp=Z,38nm,2.0s,mb5.0							
BFO	**Black Forest**	**79.78**	**318**	*e*P		**P**	**01 08 18.7**	**-2.1**
	comp=Z,38nm,2.0s,mb5.0							
BNI	**Bardonecchia**	**81.01**	**314**	*e*P		**P**	**01 08 26.0**	**-1.4**
	comp=Z,5.5nm,0.8s,mb4.5							
ESDC	**Sonseca Array**	**89.42**	**310**	P		**P**	**01 09 10.1**	**+0.9**
	comp=Z,0.2nm,0.5s,mb3.7,baz=124,slow=5.3,SNR=4.7							
ILAR	**Eielson Array**	**95.38**	**22**	P		**P**	**01 09 36.1**	**+0.1**
	comp=Z,0.6nm,0.7s,mb4.1,baz=296,slow=4.9,SNR=6.9							
PDAR	**Pinedale Array**	**125.74**	**19**	PKP		PKPdf	01 15 14.2	+1.3
	comp=Z,0.5nm,0.7s,baz=117,slow=3.3,SNR=5.1							

IGQ 26 01:11:54.0,1.11S×78.40W,h10km±1km,mb4.0,19C-4D, Error ellipse: s-maj=0.7km s-min=0.4km az=1.7, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PISA	**Pisayambo**	**0.06**	**12**	⇓P		Pg	01 11 56.4	+0.2
RUN5	**Runtun**	**0.30**	**185**	⇑P		Pg	01 12 00.5	+0.2
JUIV	**Juive**	**0.32**	**192**	⇑P		Pg	01 12 00.7	+0.1
ULBA	**Ulba**	**0.33**	**182**	⇑P		Pg	01 12 00.8	-0.1
CUSU	**Cusua**	**0.34**	**194**	⇑P		Pg	01 12 01.2	+0.2
RETU	**Refugio**	**0.34**	**188**	P		Pg	01 12 01.4	+0.4
ARRY	**Arrayan**	**0.40**	**188**	⇑P		Pg	01 12 01.9	-0.3
TAMB	**Tambo**	**0.42**	**4**	⇑P		Pg	01 12 02.8	+0.2
IGUA	**Igualata**	**0.45**	**213**	⇑P		Pg	01 12 03.8	+0.6
CAMI	**Rancho Maria**	**0.45**	**346**	⇑P		Pg	01 12 03.8	+0.7
VC1	**Cotopaxi 1**	**0.47**	**359**	⇑P		Pg	01 12 04.0	+0.4
NAS1	**Nasa**	**0.48**	**350**	⇑P		Pg	01 12 04.4	+0.6
QIL1	**Quilotoa**	**0.60**	**296**	⇑P		Pb	01 12 06.8	+0.7
QIL1				S		Sg	01 12 14.9	+0.7
JUA2	**San Juan 2**	**0.92**	**347**	⇑P		Pb	01 12 12.2	+0.6
JUA2				S		Sb	01 12 25.2	+1.6
GGP	**Refugio Guagua**	**0.95**	**348**	⇑P		Pb	01 12 12.8	+0.6
TERV	**Terraza Guagua**	**0.95**	**347**	⇑P		Pb	01 12 13.0	+0.8
PINO	**Pino**	**0.97**	**347**	P		Pb	01 12 13.2	+0.7
YANA	**Yana**	**1.00**	**350**	⇑P		Pb	01 12 13.5	+0.5
YANA				S		Sb	01 12 26.8	+0.7
JOR1	**San Jorge 1**	**1.13**	**348**	⇑P		Pb	01 12 12.0	-3.2
CAYR	**Refugio Cayamb**	**1.19**	**19**	⇑P		Pb	01 12 17.2	+1.0
CAYR				S		Sb	01 12 34.1	+2.7
CAYA	**Cayambe**	**1.25**	**19**	⇑P		Pb	01 12 18.5	+1.3
ECOPE	**Copete-Rev Vol**	**1.27**	**38**	⇓P		Pb	01 12 18.2	+0.6
ECOPE				S		Sb	01 12 35.0	+1.3
LAV3	**Lava3-Reventad**	**1.27**	**37**	⇓P		Pb	01 12 18.3	+0.8
LAV3				S		Sb	01 12 34.7	+1.0
CONE	**Cono NE Rev Vo**	**1.28**	**36**	⇑P		Pb	01 12 18.7	+0.9
CONE				S		Sb	01 12 35.7	+1.5
ECEN	**Cerro Negro**	**1.97**	**12**	⇓P		Pn	01 12 31.4	+3.5

NEIC ***26*** *01:18:59.5±0.6,7.71N×92.30E,mb4.4/2,Error ellipse: s-maj=15.8km s-min=12.6km az=129.0*
IDC ***26*** *01:19:00.4±1.2,7.84N×92.13E,h31km±3km,mb3.8/9, mb1 3.9/9,mb1mx3.7/18,mbtmp4.0/9, Error ellipse: s-maj=37.3km s-min=20.0km az=115.0*
ISC 26 01:18:58.7±1.7,7.8N±0.2×92.1E±0.2,h31km, h31km±.5km:pP-P,n33,σ0⁹87/28,mb4.1/13,6C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PALK	**Pallekele**	**11.30**	**268**	*e*Pn		**P**	**01 21 41.0**	**-0.4**
PKI	**Pulchoki**	**20.64**	**343**	*e*P		**P**	**01 23 46.9**	**+8.4**
	22nm,0.6s							
DMN	**Daman**	**20.77**	**342**	*e*P		**P**	**01 23 49.3**	**+10**
	23nm,0.6s							
KKN	**Kakani**	**20.89**	**343**	*e*P		**P**	**01 23 49.2**	**+8.3**
	13nm,0.5s							
GKN	**Gorkha**	**21.28**	**342**	*e*P		**P**	**01 23 53.9**	**+9.0**
	24nm,0.4s,mb4.8							
KOLN	**Koldanda**	**21.41**	**339**	*e*P		**P**	**01 23 57.7**	**+11**
	20nm,0.6s,mb4.6							
LSA	**Lhasa**	**21.79**	**358**	*e*P

KMI AP 01 44 14.8
KMI XP 01 44 18.3
KMI PP PP 01 44 40.8 +3.7
KMI PCP PcP 01 47 48.5 -1.2
KMI S **S** **01 48 19.0 +5.2**
KMI XS 01 48 33.3
KMI SS SS 01 49 11.8 +8.5
KMI SCP 01 51 23.5
KMI PCS 01 51 27.0
KMI AMB AMB
comp=Z,38nm,1.1s,mb4.7
KMI AMB AMB
comp=Z,320nm,7.6s
KMI LR LR
comp=N,3μm,15.7s,MS4.9
KMI LR LR
comp=E,1μm,12.7s,MS4.9
KMI LR LR
comp=Z,3μm,14.0s,MS4.9
KMI Kunming 23.68 13 P **P** **01 44 06.2 +2.1**
KMI *PP 01 44 14.7
KMI *SP 01 44 18.2
KMI 01 44 40.8
KMI PPP PPP 01 44 51.4 +4.3
KMI 01 47 48.6
KMI S **S** **01 48 19.1 +5.3**
KMI *SS 01 48 33.3
KMI SS SS 01 49 11.8 +8.5
KMI pmax pmax
comp=Z,38nm,1.1s,mb4.7
KMI MLR MLR
comp=Z,3μm,14.0s,MS4.9
KMI Kunming 23.68 13 P **P** **01 44 06.2 +2.1**
comp=Z,38nm,1.1s,mb4.7
KMI pP
KMI sP 01 44 14.8
KMI PP PP 01 44 40.8 +3.7
KMI PPP PPP 01 44 51.4 +4.3
KMI PcP PcP 01 47 48.6 -1.1
KMI S **S** **01 48 19.1 +5.3**
KMI sS 01 48 33.3
KMI SS SS 01 49 11.8 +8.5
KMI SSS SSS 01 49 27.8 +8.4
KMI ScP 01 51 23.4
KMI PcS 01 51 26.9
KMI LR LR
comp=Z,3μm,14.0s,MS4.9
HYB Hyderabad 23.82 311 *e*P **P** **01 44 09.0 +3.5**
HYB Hyderabad 23.82 311 *i* P **P** **01 44 09.0 +3.5**
SHL Shillong 24.01 348 *e*P **P** **01 44 06.0 -1.3**
SHL *e*S **S** **01 48 24.6 +5.2**
BLSP Bilaspur 24.77 325 **P** **01 44 25.4 +11**
BLSP AMb AMB 01 44 26.8
comp=Z,127nm,1.2s,mb5.3
GYA Guiyang 26.05 20⇑ *i*P **P** **01 44 26.3 -0.4**
GYA AP pP 01 44 35.8 +1.3
GYA XP sP 01 44 39.5 +1.5
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.7
GYA AMB AMB
comp=Z,160nm,3.3s
GYA LR LR
comp=N,3μm,15.0s,MS5.0
GYA LR LR
comp=E,1μm,14.7s,MS5.0
GYA LR LR
comp=Z,4μm,15.9s,MS5.0
DGAR Diego Garcia 26.26 249 *i* P **P** **01 44 28.4 -0.3**
PKI Pulchoki 27.82 337 *e*P **P** **01 44 42.8 0.0**
comp=Z,86nm,1.1s,mb5.3
GUN Gumba 27.95 339 *e*P **P** **01 44 44.5 +0.5**
comp=Z,292nm,1.2s,mb5.8
DMN Daman 27.97 337 *e*P **P** **01 44 44.6 +0.4**
comp=Z,95nm,0.8s,mb5.5
KKN Kakani 28.06 337 *e*P **P** **01 44 45.1 +0.1**
comp=Z,220nm,1.2s,mb5.7
LSA Lhasa 28.17 349 P **P** **01 44 46.5 +0.6**
LSA AP pP 01 45 01.5 +7.8
LSA S **S** **01 49 25.3 -2.8**
LSA AMB AMB
comp=Z,40nm,1.1s,mb5.0
LSA AMB AMB
comp=Z,210nm,11.0s
LSA LR LR
comp=N,520nm,26.5s
LSA LR LR
comp=E,930nm,32.0s
LSA LR LR
comp=Z,840nm,24.5s,MS4.2
LSA Lhasa 28.17 349 *e*P **P** **01 44 46.4 +0.5**
LSA pmax pmax
comp=Z,21nm,0.6s,mb4.9
LSA Lhasa 28.17 349 *e*P **P** **01 44 46.4 +0.4**
comp=Z,21nm,0.6s,mb5.0
BHPL Bhopal 28.47 320 *e* **P** **01 44 57.3 +8.6**
BHPL AMb AMB 01 44 59.2
comp=Z,48nm,0.8s,mb5.2
GKN Gorkha 28.50 336 *e*P **P** **01 44 49.1 +0.1**
comp=Z,155nm,1.1s,mb5.6
KOLN Koldanda 28.73 335 *e*P **P** **01 44 51.1 +0.1**
comp=Z,59nm,0.9s,mb5.3
CD2 Chengdu 29.49 12 P **P** **01 44 58.0 +0.1**
ENH Enshi 30.53 21 *e*P **P** **01 45 05.8 -1.3**
comp=Z,24nm,0.8s,mb5.1
LGTI Lohaghat 31.69 331 *e*P **P** **01 45 18.0 +0.7**
PTH Pithoragarh 31.79 331 *e*P **P** **01 45 19.9 +1.8**
AJM Ajmer 32.54 321 *e*P **P** **01 45 23.9 -0.8**
WHN Wuhan 32.82 28 *e*P **P** **01 45 27.0 -0.1**
DDI Dehra Dun 33.49 329 *e*P **P** **01 45 31.0 -1.9**
DDI *e* 01 51 07.0
XAN Xi'an 33.79 18 P **P** **01 45 34.0 -1.6**
XAN AP pP 01 45 42.5 -0.9
XAN PP PP 01 46 52.0 +3.0
XAN S **S** **01 50 50.8 -5.8**
XAN SS SS 01 53 04.0 +0.9
XAN AMB AMB
comp=Z,31nm,0.9s,mb5.2
XAN LR LR
comp=N,2μm,14.7s,MS4.9
XAN LR LR
comp=E,693nm,14.0s,MS4.9
XAN LR LR
comp=Z,3μm,14.7s,MS5.1
FITZ Fitzroy Crossi 34.47 127 *e*P **P** **01 45 41.9 +0.3**
comp=Z,7.4nm,0.8s,mb4.7
FITZ Fitzroy Crossi 34.47 127 P **P** **01 45 41.1 -0.4**
comp=Z,4.1nm,0.6s,mb4.5,baz=189,slow=14,SNR=6.9
LZH Lanzhou 34.54 10 *e*P **P** **01 45 42.0 0.0**
LZH AP pP 01 45 50.5 +0.6
LZH XP sP 01 45 55.0 +1.7
LZH PP PP 01 46 54.8 -3.7
LZH *e*S **S** **01 51 01.0 -7.2**
LZH AMB AMB
comp=Z,53nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,230nm,4.2s
LZH LR LR
comp=E,3μm,15.7s
LZH LR LR
comp=Z,3μm,16.9s,MS5.2
LZH Lanzhou 34.54 10 *e*P **P** **01 45 42.1 +0.1**
LZH *PP pP 01 45 50.6 +0.7
LZH *SP sP 01 45 55.1 +1.8
LZH 01 46 54.7
LZH *e*S **S** **01 51 01.0 -7.2**
LZH *SS 01 51 15.0
LZH pmax pmax
comp=Z,53nm,1.5s,mb5.2
LZH MLR MLR
comp=Z,3μm,16.9s,MS5.2
LZH Lanzhou 34.54 10 *e*P **P** **01 45 42.1 +0.1**
comp=Z,53nm,1.5s,mb5.2
LZH pP pP 01 45 50.6 +0.7
LZH sP sP 01 45 55.1 +1.8
LZH PP PP 01 46 54.7 -3.8
LZH *e*S **S** **01 51 01.0 -7.2**
LZH sS 01 51 15.0
LZH SS SS 01 53 04.1 -16
LZH LR LR
comp=Z,3μm,16.9s,MS5.2
NJ2 Nanjing 36.30 32 *e*P **P** **01 45 56.3 -0.7**
NJ2 AP pP 01 46 06.3 +1.4
NJ2 XP sP 01 46 10.0 +1.7
NJ2 PP PP 01 47 19.3 -1.1
NJ2 S **S** **01 51 33.0 -2.4**
NJ2 XS 01 51 49.0
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.3
NJ2 AMB AMB
comp=Z,210nm,6.9s
NJ2 LR LR
comp=N,2μm,19.5s,MS5.0
NJ2 LR LR
comp=E,2μm,22.4s,MS5.0
NJ2 LR LR
comp=Z,360nm,17.7s,MS4.2
THN Thein Dam 36.37 329 *e*P **P** **01 45 55.6 -1.9**
SSE Sheshan 36.88 36 *e*P **P** **01 45 59.0 -2.9**
SSE AP pP 01 46 09.5 -0.3
SSE PP PP 01 47 26.3 -1.7
SSE PCP PcP 01 48 22.3 -1.3
SSE S **S** **01 51 45.0 +0.7**
SSE XS 01 52 00.0
SSE SCS ScS 01 56 07.5 -5.6
SSE AMB AMB
comp=Z,39nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,64nm,6.0s
SSE LR LR
comp=N,2μm,16.1s,MS5.0
SSE LR LR
comp=E,376nm,16.0s,MS5.0
SSE LR LR
comp=Z,3μm,15.6s,MS5.1
SSE Sheshan 36.88 36 *e*P **P** **01 45 58.9 -3.0**
comp=Z,39nm,0.7s,mb5.3
SSE pP pP 01 46 09.4 -0.4
SSE PP PP 01 47 26.2 -1.8
SSE PcP PcP 01 48 22.3 -1.3
SSE S **S** **01 51 44.9 +0.6**
SSE sS 01 52 00.1
SSE SS SS 01 54 28.5 +15
SSE ScS ScS 01 56 07.6 -5.5
SSE LR LR
comp=Z,3μm,15.6s,MS5.1
GTA Gaotai 37.37 4 P **P** **01 46 06.0 +0.1**
GTA AP pP 01 46 14.5 +0.7
GTA XP sP 01 46 18.5 +1.3
GTA PP PP 01 47 33.0 -0.8
GTA PCP PcP 01 48 26.5 +1.5
GTA S **S** **01 51 49.5 -2.2**
GTA SCP 01 52 10.3
GTA PCS 01 52 14.8
GTA SCS ScS 01 56 16.5 +0.7
GTA AMB AMB
comp=Z,30nm,1.0s,mb5.1
GTA AMB AMB
comp=Z,340nm,11.9s
GTA LR LR
comp=N,615nm,16.8s,MS4.6
GTA LR LR
comp=E,667nm,19.1s,MS4.6
GTA LR LR
comp=Z,521nm,22.2s,MS4.3
KAKA Kakadu 38.02 113 *e*P **P** **01 46 12.6 +1.1**
comp=Z,12nm,0.6s,mb4.8
JOW Kunigami 38.83 48 LR LR 02 02 06.7
comp=Z,547nm,20.4s,MS4.4,baz=148,slow=36
BTO Baotou 40.23 15 *e*P **P** **01 46 29.3 -0.4**
HHC Hu-ho-hao-te 40.88 17 *e*P **P** **01 46 36.5 +1.4**
HHC AP pP 01 46 44.0 +1.0
HHC XP sP 01 46 46.0 -0.4
HHC PP PP 01 48 16.3 +3.9
HHC PCP PcP 01 48 36.5 +0.4
HHC SCP 01 52 23.3
HHC S **S** **01 52 48.5 +3.9**
HHC XS 01 53 02.8
HHC SS SS 01 55 47.0 +5.1
HHC SCS ScS 01 56 36.0 -0.1
HHC AMB AMB
comp=Z,28nm,1.6s,mb4.6
HHC AMB AMB
comp=Z,232nm,8.4s
HHC LR LR
comp=N,2μm,16.8s,MS5.1
HHC LR LR
comp=E,941nm,15.6s,MS5.1
HHC LR LR
comp=Z,1μm,16.8s,MS4.9
KSH Kashi 42.04 335 *e*P **P** **01 46 45.5 +0.9**
KSH *e*AP pP 01 46 50.8 -1.8
KSH *e*PCS 01 52 32.5
KSH *e*S **S** **01 53 03.0 +1.2**
KSH *e*SS SS 01 56 06.5 +2.6
KSH *e*SCS ScS 01 56 46.0 +2.9
KSH AMB AMB
comp=Z,40nm,0.7s,mb5.2
KSH AMB AMB
comp=Z,400nm,3.0s
KSH LR LR
comp=N,650nm,12.6s,MS4.9
KSH LR LR
comp=E,710nm,12.6s,MS4.9
WMQ Urumqi 42.52 350 P **P** **01 46 49.3 +0.8**
WRA Warramunga Arr 42.54 123 *i* P **P** **01 46 48.4 -0.6**
comp=E,2.8nm,0.5s,mb4.2,baz=300,slow=9.2,SNR=20
WRAB Tennant Creek 42.55 123 *i* P **P** **01 46 48.4 -0.6**
WRAB Tennant Creek 42.55 123 *e*P **P** **01 46 48.1 -0.9**
comp=E,6.4nm,0.6s,mb4.5
WB2 Warramunga Arr 42.55 123 *e*P **P** **01 46 48.5 -0.6**
DL2 Dalian 43.08 28 P **P** **01 46 54.0 +0.8**
DL2 *e*S **S** **01 53 15.3 -1.8**
DL2 AMB AMB
comp=Z,40nm,0.8s,mb5.2
DL2 AMB AMB
comp=Z,310nm,4.9s
DL2 LR LR
comp=N,370nm,15.5s,MS4.6
DL2 LR LR
comp=E,380nm,14.7s,MS4.6
DL2 LR LR
comp=Z,680nm,15.3s,MS4.7
JNU Nakatsue 44.34 42 LR LR 02 06 28.1
comp=Z,804nm,20.2s,MS4.6,baz=74,slow=37
TKM2 Tokmak 2 45.08 338 P **P** **01 47 10.7 +1.5**
SNR=24
KBK Karagaybulak 45.10 337 P **P** **01 47 11.3 +1.9**
SNR=19
AML Almayashu 45.17 335 P **P** **01 47 11.1 +1.1**
SNR=15
AAK Ala-Archa 45.26 336 P **P** **01 47 11.5 +0.8**
AAK pmax pmax
comp=Z,72nm,1.7s,mb5.2
AAK Ala-Archa 45.26 336 *e*P **P** **01 47 10.3 -0.3**
comp=Z,70nm,1.8s,mb5.2
KS15 Wonju Array Si 45.28 35 *e*P **P** **01 47 11.3 +0.4**
CHMS Chumysh 45.47 337 P **P** **01 47 13.5 +1.2**
SNR=6.5
USP Ospenovka 45.80 337 P **P** **01 47 15.3 +0.5**
SNR=25
SNY Shenyang 46.30 27 ⇓P **P** **01 47 19.3 +0.4**
SNY S **S** **01 54 11.8 +8.3**
SNY AMB AMB
comp=Z,40nm,1.2s,mb5.2
SNY LR LR
comp=N,1μm,19.5s,MS5.0
SNY LR LR
comp=E,670nm,18.6s,MS5.0
SNY LR LR
comp=Z,1μm,18.3s,MS5.0
SONM Songino Array 46.41 9 P **P** **01 47 20.2 +0.5**
comp=Z,7.2nm,0.5s,mb4.9,baz=192,slow=6.8,SNR=73
SONM PcP PcP 01 48 54.6 -0.1
comp=Z,1.9nm,0.6s,baz=191,slow=4.0,SNR=6.4
SONM pPcP 01 49 02.3
comp=Z,2.6nm,0.8s,baz=186,slow=2.9,SNR=4.2
SONM LR LR 02 09 41.4
comp=Z,1μm,19.5s,MS4.9,baz=190,slow=40
MKAR Makanchi Array 46.49 346 *i* P **P** **01 47 20.1 -0.2**
MKAR pmax pmax
comp=Z,140nm,1.4s
MKAR Makanchi Array 46.49 346 P **P** **01 47 20.2 -0.1**
comp=Z,16nm,0.8s,mb5.0,baz=159,slow=7.2,SNR=85
MKAR LR LR 02 10 44.7
comp=Z,616nm,20.9s,MS4.5,baz=178,slow=41
KKAR Karatay Array 47.33 334 *i* P **P** **01 47 26.3 -0.7**
KKAR pmax pmax
comp=Z,18nm,1.0s,mb5.0
ZAK Zakamensk 48.54 5 *e*P **P** **01 47 36.6 +0.2**
ZAK pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
CN2 Changchun 48.70 27 *e*P **P** **01 47 37.5 -0.2**
CN2 AMB AMB
comp=Z,30nm,1.3s,mb5.2
CN2 AMB AMB
comp=Z,330nm,4.0s
CN2 LR LR
comp=N,2μm,17.0s,MS5.1
CN2 LR LR
comp=E,970nm,17.0s,MS5.1
CN2 LR LR
comp=Z,2μm,17.0s,MS5.1
MOY Mondy 49.65 3 *e*P **P** **01 47 43.9 -1.0**
MOY pmax pmax
comp=Z,54nm,2.9s,mb5.1
TLY Talaya 49.86 5 *e*P **P** **01 47 46.5 0.0**
TLY *e* 01 49 45.9
TLY *e*S **S** **01 54 50.6 -2.8**
TLY pmax pmax
comp=Z,17nm,1.3s,mb4.9
TLY MLR MLR
comp=Z,1μm,18.0s,MS5.0
HIA Hailar 50.98 19 *e*P **P** **01 47 54.6 -0.4**
HIA *e*PP pP 01 48 02.9 -0.3
HIA pmax pmax
comp=Z,42nm,1.3s
HIA MLR MLR
comp=Z,2μm,19.0s
HIA Hailar 50.98 19 *e*P **P** **01 47 54.6 -0.4**
comp=Z,42nm,1.3s,mb5.2
HIA *e*pP pP 01 48 02.9 -0.2
HIA LR LR
comp=Z,2μm,19.0s,MS5.1
KURK Kurchatov 51.04 345 *e*P **P** **01 47 54.8 -0.6**
KURK pmax pmax
comp=Z,36nm,1.1s,mb5.2
KURK Kurchatov 51.04 345 *e*P **P** **01 47 54.8 -0.6**
comp=Z,36nm,1.1s,mb5.2
PMG Port Moresby 51.16 104 P **P** **01 47 55.8 -1.1**
comp=Z,5.3nm,0.5s,mb4.7,baz=283,slow=14,SNR=2.5
MJAR Matsushiro Arr 51.23 43 P **P** **01 47 57.0 -0.1**
comp=Z,6.4nm,0.8s,mb4.6,baz=214,slow=7.6,SNR=8.9
MDJ Mudanjiang 51.28 29 P **P** **01 47 57.8 +0.4**
MDJ AP pP 01 48 04.0 -1.5
MDJ XP sP 01 48 06.3 -2.4
MDJ PCP PcP 01 49 11.3 -1.1
MDJ PP PP 01 49 55.0 -0.1
MDJ SCP 01 53 07.5
MDJ PCS 01 53 10.3
MDJ S **S** **01 55 16.5 +3.4**
MDJ XS 01 55 27.3
MDJ AMB AMB
comp=Z,20nm,1.6s,mb4.8
MDJ AMB AMB
comp=Z,134nm,7.2s
MDJ LR LR
comp=N,716nm,15.9s,MS5.0
MDJ LR LR
comp=E,1μm,19.1s,MS5.0
MDJ LR LR
comp=Z,1μm,15.1s,MS5.1
MDJ Mudanjiang 51.28 29 *e*P **P** **01 47 57.4 +0.1**
comp=Z,22nm,1.1s,mb5.0
MDJ *e*pP pP 01 48 05.7 +0.2
CIT Chita 51.77 13 *e*P **P** **01 48 01.4 +0.4**
CIT *e* pP 01 48 09.6 +0.4
CIT *e* 01 49 20.7
CIT pmax pmax
comp=Z,114nm,1.8s,mb5.5
ZAL Zalesovo 52.79 351 *i* P **P** **01 48 08.4 -0.3**
ZAL pmax pmax
comp=Z,33nm,0.5s
ZAL Zalesovo 52.79 351 P **P** **01 48 08.2 -0.5**
comp=Z,33nm,0.5s,mb5.5,baz=312,slow=5.4,SNR=122
CTAO Charters Tower 52.95 117 *e*P **P** **01 48 10.2 -0.1**
NVS Novosibirsk 53.92 350⇑ *i*P **P** **01 48 15.5 -1.4**
NVS *i* S **S** **01 55 49.0 0.0**
NVS pmax pmax
comp=Z,42nm,1.1s,mb5.3
NVS pmax pmax
comp=N,53nm,1.5s
NVS pmax pmax
comp=E,32nm,1.3s
NVS smax
comp=E,53nm,1.7s
STKA Stephens Creek 53.95 132 *e*P **P** **01 48 17.2 -0.3**
comp=E,8.5nm,1.6s,mb4.4
STKA Stephens Creek 53.95 132 P **P** **01 48 17.4 0.0**
comp=E,3.6nm,0.6s,mb4.5,baz=305,slow=13,SNR=11
STKA pP pP 01 48 26.1 +0.5
comp=E,4.7nm,0.7s,baz=305,slow=17,SNR=5.4
STKA LR LR 02 14 23.8
comp=E,587nm,18.5s,MS4.7,baz=296,slow=39
VOSK Vostochnaya 55.05 341 P **P** **01 48 22.8 -2.5**
VOSK pmax pmax
comp=Z,60nm,1.5s,mb5.4
BVAR Borovoye Array 55.50 341 P **P** **01 48 27.2 -1.3**
comp=Z,13nm,0.8s,mb5.0,baz=141,slow=9.5,SNR=65
BVAR pP pP 01 48 35.5 -1.2
comp=Z,11nm,0.8s,baz=143,slow=7.4,SNR=16
BRVK Borovoye 55.57 341 P **P** **01 48 27.7 -1.3**
BRVK pmax pmax
comp=Z,23nm,1.7s,mb4.9
KLR Kul'dur 55.65 27 *e*P **P** **01 48 26.8 -2.8**
KLR pmax pmax
comp=N,45nm,2.0s
KLR pmax pmax
comp=E,58nm,2.0s
KLR pmax pmax
comp=Z,90nm,2.0s,mb5.5
KLR MLR MLR
comp=N,1μm,13.5s,MS5.2
KLR MLR MLR
comp=E,600nm,13.5s,MS5.2
KLR MLR MLR
comp=Z,2μm,13.5s,MS5.5
AB31 Akbulak array 56.80 332 *i* P **P** **01 48 36.3 -1.6**
AB31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
BOD Bodaibo 57.30 11⇓ *i*P **P** **01 48 40.1 -1.2**
BOD *e* pP 01 48 48.2 -1.4
BOD pmax pmax
comp=Z,14nm,1.0s,mb5.0
BOD pmax pmax
comp=Z,19nm,1.6s,mb4.9
YSS Yuzh-Sakhalins 59.81 35*c* *i*P **P** **01 48 59.1 +0.2**
YSS pmax pmax
comp=Z,64nm,1.3s,mb5.5
KMBO Kilima Mbogo 59.88 268 *i* P **P** **01 49 00.4 +0.5**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 59.88 268 P **P** **01 48 59.3 -0.6**
comp=Z,2.9nm,0.8s,mb4.3,baz=47,slow=9.4,SNR=8.1
KMBO pP pP 01 49 08.2 0.0
comp=Z,2.4nm,0.8s,baz=72,slow=9.1,SNR=7.4
KMBO LR LR 02 10 18.6
comp=Z,405nm,19.1s,MS4.6,baz=84,slow=32
GNI Garni 60.66 316 P **P** **01 49 04.8 -0.1**
comp=Z,2.1nm,0.5s,mb4.5,baz=188,slow=7.5,SNR=4.2
GNI Garni 60.66 316 *e*P **P** **01 49 05.0 +0.2**
comp=Z,44nm,1.5s,mb5.4
GNI LR LR
comp=Z,279nm,22.0s,MS4.4
TI2 Plekhanov 61.34 318 *e*P **P** **01 49 05.0 -4.4**
ARU Arti 62.45 337⇑ *i*P **P** **01 49 14.8 -1.8**
ARU *e* 01 49 53.2
ARU *e*S **S** **01 57 40.0 -0.2**
ARU *e*SS SS 02 01 46.8 +0.7
ARU pmax pmax
comp=Z,15nm,1.1s,mb5.0
ARU Arti 62.45 337 *e*P **P** **01 49 14.6 -2.0**
comp=Z,13nm,0.8s,mb5.1
KIV Kislovodsk 63.66 319 *e*P **P** **01 49 24.8 0.0**
KIV *e* 01 50 00.7
KIV *e* 01 51 44.4
KIV *e*PPP PPP 01 53 14.3 -3.9
KIV *e*S **S** **01 57 53.0 -2.7**
KIV *e*SS SS 02 02 03.4 -1.7
KIV pmax pmax
comp=N,8.0nm,1.2s
KIV pmax pmax
comp=Z,18nm,1.2s,mb5.0
KIV MLR MLR
comp=Z,158nm,22.0s,MS4.2
KIV MLR MLR

comp=N,109nm,19.0s,MS4.1
KIV MLR MLR
comp=E,63nm,22.0s,MS4.1
ASF Jabal al Asfar 63.93 305 pP pP 01 49 35.9 +0.8
comp=E,3.6nm,0.9s,baz=38,slow=3.8,SNR=6.7
MALT Malatya 64.53 312 *e*P **P 01 49 30.3 -0.4**
MALT pmax pmax
comp=Z,16nm,1.3s,mb4.9
MALT Malatya 64.53 312 *e*P **P 01 49 30.3 -0.4**
comp=Z,16nm,1.3s,mb4.9
YAK Yakutsk 64.74 16 *e*P **P 01 49 30.9 -0.6**
comp=Z,43nm,0.6s,mb5.7
YAK LR LR
comp=Z,938nm,20.0s,MS5.0
EIL Elat 64.95 302 *e*P **P 01 49 34.2 +0.7**
comp=Z,31nm,1.4s,mb5.2
KAHT Ahir Dag 65.48 311 *i* P **P 01 49 37.2 +0.4**
MBAR Mbarara 66.37 268 *e*P **P 01 49 42.4 -0.4**
MBAR *e**PP pP 01 49 51.3 +0.2
MBAR pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
MBAR Mbarara 66.37 268 *e*P **P 01 49 42.4 -0.4**
comp=Z,7.2nm,1.0s,mb4.7
MBAR *e*pP pP 01 49 51.3 +0.2
ANN Anapa 67.45 318 *e*P **P 01 49 57.7 +8.5**
ANN *i **PP pP 01 50 07.9 +10
ANN *i* 01 50 19.7
ANN *e*S S 01 59 03.2 +21
ANN pmax pmax
comp=Z,33nm,1.8s,mb5.1
BR131 Keskin Array S 68.51 312 *e*P **P 01 49 54.2 -1.8**
comp=Z,2.4nm,0.6s,mb4.3
BR131 *e*pP pP 01 50 03.8 -0.5
BRTR Keskin Array B 68.51 312 P **P 01 49 55.3 -0.6**
comp=Z,1.0nm,0.8s,mb3.8,baz=135,slow=8.7,SNR=5.8
BRTR pP pP 01 50 04.1 -0.1
comp=Z,3.8nm,0.8s,baz=133,slow=5.9,SNR=15
ESKT Eskisehir 70.54 311 *i* P **P 01 50 15.3 +7.0**
TKTP Tekketepe 70.59 310 *i* P **P 01 50 07.1 -1.6**
MA2 Magadan 70.72 26 *e*P **P 01 50 09.4 +0.4**
MA2 *e* 01 52 53.8
MA2 *e*PPP PPP 01 54 23.8 -4.7
MA2 *e*S S 01 59 24.6 +4.2
MA2 *e*PS PS 01 59 56.7 +5.2
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MA2 MLR MLR
comp=Z,2µm,23.9s,MS5.2
MA2 Magadan 70.72 26 *e*P **P 01 50 08.5 -0.6**
comp=Z,14nm,0.8s,mb4.9
MA2 *e*pP pP 01 50 22.0 +4.6
MOS Moscow 71.62 329 *e*P **P 01 50 20.4 +5.8**
MOS *e* 01 50 40.1
MOS *e* 01 54 37.3
MOS pmax pmax
comp=Z,40nm,0.6s,mb5.5
PET Petropavlovsk 71.69 34 *e*P **P 01 50 14.8 -0.2**
PET *e*S S 01 59 35.7 +4.0
PET pmax pmax
comp=Z,18nm,0.5s,mb5.3
PET pmax pmax
comp=Z,100nm,15.7s
PET smax
comp=N,100nm,16.0s
PET MLR MLR
comp=Z,300nm,19.0s,MS4.6
OBN Obninsk 71.92 328*c* *i*P **P 01 50 14.6 -1.7**
OBN *e*S S 01 59 31.3 -3.0
OBN pmax pmax
comp=Z,53nm,2.5s,mb5.0
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.4
OBN Obninsk 71.92 328 *e*P **P 01 50 15.1 -1.2**
comp=Z,8.3nm,0.6s,mb4.8
ULDT Uludag 71.97 312 *i* P **P 01 50 11.7 -5.2**
TIXI Tiksi 72.48 10 *e*P **P 01 50 15.9 -3.5**
TIXI *e*S S 01 59 37.8 -2.6
TIXI pmax pmax
comp=Z,18nm,1.1s,mb4.9
TIXI MLR MLR
comp=Z,424nm,16.0s,MS4.8
SEY Seymchan 73.13 23 *e*P **P 01 50 24.2 +0.9**
SEY pmax pmax
comp=E,10.0nm,1.0s
SEY pmax pmax
comp=Z,30nm,1.0s,mb5.2
MAW Mawson 73.41 193 P **P 01 50 24.7 -0.1**
comp=Z,1.3nm,0.6s,mb4.0,baz=40,slow=7.6,SNR=9.6
MAW LR LR 02 16 02.5
comp=Z,420nm,19.6s,MS4.7,baz=188,slow=30
IDI Anoyia 74.36 306 P **P 01 50 30.6 -0.4**
comp=Z,2.4nm,0.5s,mb4.4,baz=125,slow=19,SNR=5.1
AKASG Malin Array Be 74.59 322 P **P 01 50 30.6 -1.4**
comp=Z,1.9nm,0.5s,mb4.3,baz=84,slow=5.0,SNR=11
AKASG pP pP 01 50 38.5 -2.0
comp=Z,2.5nm,0.6s,baz=90,slow=4.7,SNR=14
AKASG PP PP 01 53 21.7 +0.9
comp=Z,0.3nm,0.3s,baz=92,slow=6.5,SNR=4.2
AKASG Malin Array Be 74.59 322 P **P 01 50 30.6 -1.4**
AKASG pP pP 01 50 38.5 -2.0
AKASG PP PP 01 53 21.7 +0.9
VRI Vrincioaia 74.98 317 ⇑P **P 01 50 35.2 +0.8**
VRI Vrincioaia 74.98 317 ⇑P **P 01 50 35.2 +0.8**
BOSA Boshof 75.04 240 P **P 01 50 34.3 -0.8**
comp=Z,3.9nm,1.1s,mb4.3,slow=11,SNR=2.4
BOSA LR LR 02 22 13.7
comp=Z,619nm,18.5s,MS4.9,baz=347,slow=35
MLR Muntele Rosu 75.44 317 P **P 01 50 37.0 -0.1**
comp=Z,3.7nm,1.0s,mb4.3,baz=190,slow=5.0,SNR=6.0
MLR Muntele Rosu 75.44 317 ⇓P **P 01 50 37.0 -0.1**
MLR Muntele Rosu 75.44 317 ⇓P **P 01 50 37.0 0.0**
BURAR Bucovina Array 76.38 319 ⇑P **P 01 50 44.3 +2.0**
BURAR Bucovina Array 76.38 319 ⇑P **P 01 50 44.3 +2.0**
DRGR 77.89 317 ⇓P **P 01 50 51.7 +1.0**
DRGR 77.89 317 ⇓P **P 01 50 51.7 +1.0**
LVZ Lovozero 78.09 340 *e*P **P 01 50 50.9 -0.4**
LVZ *e*S S 02 00 39.0 -3.4
LVZ pmax pmax
comp=Z,30nm,1.8s,mb4.9
LVZ pmax pmax
comp=N,7.0nm,1.6s
LVZ pmax pmax
comp=E,10.0nm,1.3s
LVZ smax
comp=N,104nm,3.3s
LVZ smax
comp=E,69nm,2.8s
KOLS Kolonicke sedl 78.56 320 *e*P **P 01 50 55.3 +1.0**
SUW Suwalki 78.99 325 *e*P **P 01 50 56.7 +0.1**
SUW Suwalki 78.99 325 *e*P **P 01 50 56.7 +0.2**
CRVS Cervenica-Dubn 79.09 319 *e*P sP 01 51 08.9 +0.4
CRVS Cervenica-Dubn 79.09 319 *e*sP sP 01 51 08.9 +0.4
FINES FINESS Array B 79.28 332 P **P 01 50 57.9 -0.1**
comp=E,1.6nm,0.4s,mb4.3,baz=124,slow=6.9,SNR=23
FINES LR LR 02 30 44.5
comp=E,196nm,19.7s,MS4.5,baz=302,slow=39
STHS Stebnicka Huta 79.31 320 *e*P **P 01 50 58.8 +0.4**
STHS *e*pP pP 01 51 06.3 -0.6
STHS *e* 01 51 35.5
KAF Kangasniemi 79.36 333 *e*p **P 01 50 57.8 -0.6**
DIVS Divcibare 79.37 314 ⇑*i*P **P 01 50 58.7 -0.1**
KECS Kecovo 79.66 319 *e*P **P 01 50 00.5 +0.2**
KECS *e* 01 51 31.3
PSZ Piszkesteto 79.97 318 *e*P **P 01 51 03.6 +1.7**
FX1 Attu Island--F 80.07 37 P **P 01 51 03.3 +0.9**
comp=E,6.8nm,0.5s,mb4.8,baz=260,slow=17,SNR=3.8
BILL Bilibino 80.52 21 *i* P **P 01 51 03.7 -0.8**
BILL pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
BILL MLR MLR
comp=Z,1µm,19.0s,MS5.2
PKSM Moragy 80.59 316 *e*P pP 01 51 13.0 -0.8
SYO Syowa Base 80.67 198 ⇑PcP PcP 01 51 11.3 -1.1
VYHS Vyhne 80.75 319 *e*P **P 01 51 06.3 +0.2**
VYHS *e*pP pP 01 51 14.4 -0.2
TIP Timpagrande 81.26 309 *e*P **P 01 51 08.4 -0.6**
KEV Kevo 81.36 341 *e*p sP 01 51 22.0 +1.8
OKC Ostrava-Krasne 81.37 320 *e*P **P 01 51 09.8 +0.5**
OKC *ex* x 01 51 17.8
MORC Moravsky Berou 81.75 320 *e*P **P 01 51 11.1 -0.2**
comp=Z,5.8nm,1.0s,mb4.5
ARCES ARCESS Array B 81.79 340 P **P 01 51 11.4 +0.3**
comp=Z,2.0nm,0.5s,mb4.3,baz=96,slow=5.0,SNR=28
ARCES *e*pP pP 01 51 19.1 -0.5
comp=Z,1.9nm,0.4s,baz=100,slow=5.3,SNR=17
ARCES LR LR 02 34 55.0
comp=Z,269nm,18.4s,MS4.6,baz=110,slow=41
ZST Bratislava 81.86 318 *e*P **P 01 51 12.0 +0.1**
ZST *e*pP pP 01 51 20.3 -0.1
ZST *e* 01 51 44.7
KOGS Kog 82.26 316 *e*P **P 01 51 14.4 +0.4**
KOGS *e*pP pP 01 51 22.6 +0.1
DPC Dobruska-Polom 82.59 320 *e*P **P 01 51 16.6 +0.9**
DPC *e*pP pP 01 51 24.5 +0.3
KSP Ksiaz 82.66 321 *e*P pP 01 51 23.5 -1.0
KSP *e*S S 02 01 29.0 -1.4
UPC Upice 82.81 321 *e*P **P 01 51 17.2 +0.4**
UPC *e*pP pP 01 51 25.5 +0.2
PERS Pernice 83.06 317 *e*P **P 01 51 18.7 +0.6**
PRU Pruhonice 83.70 320 *e*P **P 01 51 22.1 +0.7**
PRU *e*pP pP 01 51 28.4 -1.5
PVCC Panska Ves 83.73 320 *e*P **P 01 51 22.0 +0.5**
PVCC *e*pP pP 01 51 30.0 0.0
AQU L'Aquila 84.01 312 *e*P **P 01 51 22.0 -1.1**
comp=Z,27nm,1.2s,mb5.3
AQU *e*pP pP 01 51 30.7 -0.9
BRG Berggiesshubel 84.15 321 *e*P **P 01 51 24.6 +1.0**
BRG *e*pP pP 01 51 31.9 -0.3
BRG S S 02 01 46.0 +0.7
BRG pmax pmax
comp=Z,4.0nm,1.3s,mb4.4
BRG Berggiesshubel 84.15 321 *e*P pP 01 51 31.9 -0.3
BRG S S 02 01 46.0 +0.7
BRG pmax pmax
comp=Z,39nm,2.0s,mb5.2
BRG Berggiesshubel 84.15 321 *e*P **P 01 51 24.6 +1.0**
comp=Z,3.9nm,1.3s,mb4.4
BRG P pP 01 51 31.9 -0.3
BRG S S 02 01 46.0 +0.7
GERES GERESS Array B 84.17 319 P **P 01 51 24.5 +0.7**
comp=Z,1.6nm,0.5s,mb4.4,baz=119,slow=4.5,SNR=20
GERES *e*pP pP 01 51 32.8 +0.5
comp=Z,1.4nm,0.8s,baz=72,slow=4.2,SNR=8.1
KHC Kasperske Hory 84.27 319 *e*P **P 01 51 23.6 -0.6**
KHC *e*pP pP 01 51 32.5 -0.3
CLL Collm 84.77 321 *e*P **P 01 51 29.0 +2.3**
CLL Collm 84.77 321 P **P 01 51 29.0 +2.3**
CLL *e**PP pP 01 51 36.0 +0.7
HFS Hagfors 85.01 330 P **P 01 51 28.2 +0.5**
comp=Z,1.0nm,0.5s,mb4.2,baz=124,slow=5.3,SNR=12
MOX Moxa 85.61 320 *e*P **P 01 51 36.0 +5.1**
MOX MLR MLR
comp=Z,100nm,19.0s,MS4.2
GRA1 Grafenberg Arr 85.83 320 *e*P **P 01 51 32.6 +0.6**
comp=Z,49nm,2.2s,mb5.3
GRF Grafenberg Arr 85.83 320 *e*P **P 01 51 32.6 +0.6**
GRF pmax pmax
comp=Z,49nm,2.2s,mb5.3
GRF Grafenberg Arr 85.83 320 *e*P **P 01 51 32.6 +0.6**
GRF pmax pmax
comp=Z,49nm,2.2s,mb5.3
GRF Grafenberg Arr 85.83 320 *e*P **P 01 51 32.6 +0.6**
comp=Z,49nm,2.2s,mb5.3
NB2 NORSAR Subarra 86.29 331 P **P 01 51 33.7 -0.3**
comp=Z,2.9nm,0.8s,mb4.6,baz=93,slow=4.8
NB2 NORSAR Subarra 86.29 331 P **P 01 51 33.7 -0.3**
NB2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
NOA NORSAR Array B 86.29 331 P **P 01 51 34.3 +0.2**
comp=Z,1.7nm,0.8s,mb4.3,baz=94,slow=4.9,SNR=6.9
NOA LR LR 02 32 38.2
comp=Z,146nm,21.6s,MS4.3,baz=90,slow=37
VNDA Vanda 86.58 169 P **P 01 51 35.1 -0.1**
comp=Z,0.4nm,0.6s,mb3.9,baz=307,slow=5.6,SNR=11
VNDA LR LR 02 27 30.5
comp=Z,258nm,18.2s,MS4.7,baz=308,slow=34
DAVOX Davos 86.66 317 P **P 01 51 36.6 +0.4**
comp=Z,5.5nm,0.5s,mb5.0,baz=163,slow=3.8,SNR=17
DAVOX pP pP 01 51 44.9 +0.1
comp=Z,2.8nm,0.4s,baz=203,slow=2.3,SNR=5.7
EKA Eskdalemuir Ar 94.22 326 P **P 01 52 12.9 +1.6**
comp=Z,0.9nm,0.5s,mb4.4,baz=90,slow=5.2,SNR=8.8
EKA pP pP 01 52 20.4 +0.4
comp=Z,1.3nm,0.7s,baz=86,slow=5.6,SNR=5.0
SNAA Sanae 94.96 198 *e* pP 01 52 25.3 +2.4
SNAA Sanae 94.96 198 *e* sP 01 52 31.8 +6.1
SNAA Sanae 94.96 198 ⇑*i*P **P 01 52 16.7 +2.3**
SNAA *e* pP 01 52 25.3 +2.4
SNAA *e* 01 52 31.8
VNA3 Neumayer Olymp 97.19 198 ⇑*i*P **P 01 52 21.9 -2.6**
VNA3 *e* 01 52 32.6
ILAR Eielson Array 99.06 23 PP PP 01 56 36.8 -0.9
comp=Z,1.1nm,1.1s,baz=287,slow=7.7,SNR=7.3
TBI Tubuai 112.28 114 *e*LR LR 02 30 58.5
comp=Z,221nm,26.0s
PPT Papeete 112.84 108 *e*LR LR 02 31 13.9
comp=Z,174nm,23.8s
NEW Newport 121.82 26 PKP PKPdf 01 57 47.0 -3.3
comp=Z,1.0nm,0.5s,baz=17,slow=11,SNR=3.1
SCHQ Schefferville 121.87 349 PKP PKPdf 01 57 47.2 -3.0
comp=Z,1.0nm,0.5s,baz=307,slow=10,SNR=3.4
TAOE Nuku Hiva Isla 122.68 99 *e*LR LR 02 35 47.1
comp=Z,2µm,34.8s
RKT Rikitea 125.39 117 *e*LR LR 02 37 02.9
comp=Z,184nm,29.0s
ULM Lac du Bonnet 126.83 10 PP PP 01 59 52.9 -3.7
comp=Z,0.9nm,0.5s,slow=8.1,SNR=3.3
PDAR Pinedale Array 129.43 25 PKP PKPdf 01 58 01.9 -3.2
comp=Z,0.4nm,0.5s,baz=150,slow=0.6,SNR=4.5
PDAR pPKP 01 58 10.1
comp=Z,0.2nm,0.5s,baz=270,slow=1.5,SNR=4.1
TXAR Lajitas Array 143.10 31 PKP PKPdf 01 58 25.9 -4.7
comp=Z,0.3nm,0.5s,baz=169,slow=0.8,SNR=9.6
NATX Nacogdoches 144.68 17 *e*PKPdf PKPdf 01 58 29.9 -3.4
NATX LR LR
comp=Z,273nm,19.0s,MS5.0
LRAL Lakeview Retre 144.99 6 *e*PKP PKPdf 01 58 28.9 -4.9
LRAL LR LR
comp=Z,266nm,19.0s,MS5.0
CPUP Villa Florida 145.46 223 PKPbc PKPbc 01 58 31.1 +0.5
comp=Z,4.2nm,0.6s,baz=146,slow=5.0,SNR=20
CPUP Villa Florida 145.46 223 *e*PKPdf PKPdf 01 58 31.5 -3.2
LPAZ La Paz 159.62 225 PKPab PKPab 01 59 32.0 +0.7
comp=Z,1.0nm,0.7s,baz=146,slow=3.6,SNR=3.8

IDC **26** *01:39:44.0±19.0, 34.28N×135.37E, h384km±26km, mb3.0/2, mb1 3.2/3, mb1mx2.8/21, mbtmp3.7/3, Error ellipse: s-maj=427.2km s-min=63.7km az=180.0*
JMA **26** *01:39:47.7±0.1, 34.95N×135.40E, h381km±1km, M3.1*
ISC 26 01:39:46.9±0.8, 35.0N±0.2×135.4E±0.1, h387km±7km, n16, σ0$31/19, mb3.0/2, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JWT	**Wachi**	**0.33**	**1**	P		**P**	**01 40 35.3**	**+0.1**
JWT				S		**S**	**01 41 12.7**	**-0.5**
JWY	**Kouya**	**0.75**	**167**	P		**P**	**01 40 36.4**	**+0.4**
JWY				S		**S**	**01 41 13.8**	**-0.8**
JIE	**Ise**	**1.21**	**117**	P		**P**	**01 40 37.9**	**+0.2**
JGM	**Miyama**	**1.31**	**55**	P		**P**	**01 40 38.3**	**+0.1**
JGM				S		**S**	**01 41 18.7**	**+0.3**
JWZ	**Kozaga**	**1.44**	**169**	P		**P**	**01 40 38.7**	**-0.1**
JMN	**Monobe**	**1.75**	**226**	P		**P**	**01 40 40.6**	**+0.1**
JHS	**Saijyo**	**1.87**	**272**	P		**P**	**01 40 41.4**	**+0.2**
JHT	**Toyohira**	**2.46**	**264**	P		**P**	**01 40 45.3**	**+0.1**
JYN	**Shimod**	**2.63**	**77**	P		**P**	**01 40 46.4**	**-0.1**
MAT	**Matsushiro**	**2.79**	**54**	P		**P**	**01 40 47.6**	**-0.1**
MAT	**Matsushiro**	**2.79**	**54**	P		**P**	**01 40 47.7**	**0.0**
MJAR	**Matsushiro Arr**	**2.79**	**54**	P		**P**	**01 40 48.1**	**+0.5**
	3.9nm,0.3s,baz=225,slow=6.6,SNR=34							
JTO	**Tosashimizu**	**3.00**	**227**	P		**P**	**01 40 49.6**	**+0.2**
JRY	**Ryogami san**	**3.05**	**69**	P		**P**	**01 40 49.9**	**0.0**
ILAR	**Eielson Array**	**53.84**	**31**	P		**P**	**01 48 32.5**	**-0.5**
	0.2nm,0.6s,mb2.5,baz=281,slow=6.7,SNR=4.6							
ARCES	**ARCESS Array B**	**64.18**	**338**	P		**P**	**01 49 42.5**	**-0.1**
	1.5nm,0.9s,mb3.5,baz=39,slow=7.8,SNR=4.1							

IDC 26 02:25:57.0±5.5, 8.04N×91.95E, mb3.6/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=131.0km s-min=68.1km az=143.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKAR	**Makanchi Array**	**39.49**	**350**	P		P	02 33 29.6	-1.4
	0.3nm,0.4s,baz=172,slow=9.0,SNR=4.9							
SONM	**Songino Array**	**41.52**	**15**	P		P	02 33 45.8	-1.8
	1.1nm,0.7s,baz=194,slow=7.9,SNR=8.9							
GERES	**GERESS Array B**	**76.26**	**318**	P		P	02 37 47.5	-1.7
	0.4nm,0.7s,baz=90,slow=2.9,SNR=3.9							
TXAR	**Lajitas Array**	**139.91**	**21**	PKP		PKPdf	02 45 28.6	-1.2
	0.2nm,0.5s,baz=27,slow=2.0,SNR=3.6							

IDC **26** *02:32:37.0±0.6, 5.67Sx151.17E, mb4.2/13, mb1 4.4/14, mb1mx4.3/18, mbtmp4.3/14, ML3.5/1, MS3.7/7, Ms1 3.7/7, ms1mx3.6/15, Error ellipse: s-maj=24.0km s-min=16.1km az=108.0*
NEIC **26** *02:32:43.1±2.5, 5.78Sx151.13E, h41km±22km, mb4.5/5, Error ellipse: s-maj=15.7km s-min=12.5km az=203.0*
ISC 26 02:32:41.4±3.3, 5.8S±0.1×151.05E±0.10, h38km±29km, n32, σ1$06/29, mb4.2/16, MS3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.25**	**227**	Pn		**P**	**02 34 00.5**	**+1.0**
	9.8nm,0.3s,baz=27,slow=7.8,SNR=19							
PMG				Sn		**S**	**02 34 58.0**	**-1.7**
	30nm,0.3s,baz=353,slow=20,SNR=9.4							
PMG				LR		LR	02 35 52.5	
	comp=Z,461nm,21.1s,baz=245,slow=36							
PMG	**Port Moresby**	**5.25**	**227**	*e*Pn		**P**	**02 34 00.2**	**+0.7**
PMG				Pn		**P**	**02 34 00.5**	**+1.0**
PMG				Sn		**S**	**02 34 58.0**	**-1.7**
HNR	**Honiara**	**9.52**	**113**	LR		LR	02 38 01.6	
	comp=Z,290nm,18.8s,baz=312,slow=34							
CTA	**Charters Tower**	**14.93**	**198**	Pn		**P**	**02 36 17.9**	**+6.3**
	0.5nm,0.3s,baz=37,slow=15,SNR=4.2							
CTA				LR		LR	02 40 54.6	
	comp=Z,260nm,20.3s,baz=225,slow=33							
KAKA	**Kakadu**	**19.59**	**248**	*e*P		**P**	**02 37 11.3**	**+2.0**
	17nm,0.6s							
WRAB	**Tennant Creek**	**21.46**	**228**	*e*P		**P**	**02 37 28.2**	**-0.4**
	8.7nm,0.5s,mb4.3							
WB2	**Warramunga Arr**	**21.46**	**228**	*e*P		**P**	**02 37 28.5**	**-0.2**
WRA	**Warramunga Arr**	**21.47**	**228**	P		**P**	**02 37 28.7**	**-0.1**
	4.3nm,0.5s,mb4.1,baz=53,slow=10,SNR=25							
WRA				PcP		PcP	02 41 31.5	+0.1
	2.0nm,0.8s,baz=40,slow=2.0,SNR=6.3							
DZM	**Mont Dzumac**	**21.96**	**139**	P		**P**	**02 37 33.7**	**0.0**
	6.3nm,1.0s,mb4.0,baz=329,slow=18,SNR=2.7							
DZM				LR		LR	02 44 22.4	
	comp=Z,182nm,20.3s,MS3.5,baz=215,slow=32							
STKA	**Stephens Creek**	**27.39**	**198**	*e*P		**P**	**02 38 27.4**	**+1.9**
	7.3nm,1.0s,mb4.2							
STKA	**Stephens Creek**	**27.39**	**198**	P		**P**	**02 38 27.2**	**+1.7**
	5.0nm,0.9s,mb4.1,baz=353,slow=10,SNR=4.2							
STKA				LR		LR	02 48 48.9	
	comp=Z,260nm,19.4s,MS3.8,baz=25,slow=35							
STKA	**Stephens Creek**	**27.39**	**198**	*e*P		**P**	**02 38 27.0**	**+1.4**
STKA				*e*P			02 38 27.4	
FITZ	**Fitzroy Crossi**	**27.65**	**242**	*e*P		**P**	**02 38 27.3**	**-0.7**
	12nm,0.8s,mb4.6							
FITZ	**Fitzroy Crossi**	**27.65**	**242**	P		**P**	**02 38 27.7**	**-0.3**
	10.0nm,0.5s,mb4.7,baz=82,slow=4.1,SNR=11							
RAO	**Raoul Island**	**37.44**	**132**	*e*P		**P**	**02 39 52.5**	**-0.5**
	339nm,0.3s							
FX1	**Attu Island--F**	**61.41**	**15**	P		**P**	**02 42 52.4**	**-3.7**
	5.4nm,0.6s,mb4.9,baz=286,slow=7.4,SNR=3.5							
SONM	**Songino Array**	**66.27**	**329**	P		**P**	**02 43 28.3**	**+0.4**
	0.7nm,0.5s,mb4.0,baz=124,slow=4.5,SNR=6.7							
PALK	**Pallekele**	**71.38**	**280**	*e*P		**P**	**02 44 01.9**	**+1.8**
	37nm,1.1s,mb5.2							
VNDA	**Vanda**	**71.88**	**178**	P		**P**	**02 44 00.9**	**-1.1**
	0.4nm,0.7s,mb3.5,baz=305,slow=5.7,SNR=4.1							
MKAR	**Makanchi Array**	**79.96**	**319**	P		**P**	**02 44 47.4**	**-0.9**
	0.8nm,0.6s,mb3.8,baz=103,slow=6.2,SNR=7.7							
MKAR	**Makanchi Array**	**79.96**	**319**	P		**P**	**02 44 47.4**	**-0.9**
KURK	**Kurchatov**	**83.50**	**322**	*e*P		**P**	**02 45 05.8**	**-0.9**
	3.6nm,1.1s,mb4.4							
ILAR	**Eielson Array**	**83.76**	**22**	P		**P**	**02 45 06.0**	**-1.5**
	1.9nm,0.7s,mb4.3,baz=251,slow=5.8,SNR=17							
ILAR				LR		LR	03 21 10.1	
	comp=Z,49nm,18.4s,MS3.9,baz=1.9,slow=35							
MAW	**Mawson**	**83.96**	**203**	P		**P**	**02 45 09.2**	**+0.6**
	0.5nm,0.5s,mb3.9,baz=110,slow=15,SNR=6.1							
MAW				LR		LR	03 18 30.7	
	comp=Z,106nm,21.5s,MS4.2,baz=236,slow=33							
BVAR	**Borovoye Array**	**89.02**	**323**	P		**P**	**02 45 33.2**	**-0.3**
	0.7nm,0.6s,mb4.2,baz=104,slow=6.1,SNR=5.1							
YBH	**Yreka Blue Hor**	**91.03**	**48**	P		**P**	**02 45 44.5**	**+1.2**
	1.5nm,0.6s,mb4.5,baz=333,slow=4.5,SNR=3.5							
ELK	**Elko**	**96.57**	**50**	P		**P**	**02 46 09.0**	**+0.4**
	0.5nm,0.5s,mb4.2,baz=216,slow=14,SNR=3.8							
CLL	**Collm**	**122.88**	**330**	*e*PKIKP		PKPdf	02 51 37.0	+3.2
GERES	**GERESS Array B**	**123.99**	**327**	PKP		PKPdf	02 51 37.8	+1.9
	0.7nm,0.5s,baz=77,slow=1.3,SNR=9.0							
LPAZ	**La Paz**	**135.44**	**120**	PKP		PKPdf	02 51 59.7	+1.2
	1.7nm,0.9s,baz=207,slow=4.5,SNR=2.9							
LPAZ	**La Paz**	**135.44**	**120**	PKP		PKPdf	02 51 59.7	+1.2
BDFB	**Brasilia**	**151.52**	**139**	PKP		PKPdf	02 52 28.2	+2.0
	1.3nm,0.5s,baz=202,slow=5.4,SNR=2.6							
BDFB				PKPbc		PKPdf	02 52 33.9	+7.7
	2.5nm,0.7s,baz=87,slow=2.7,SNR=4.2							

CSEM **26** *02:37:43.5±0.6, 38.71Nx29.02W, ML1.6, Error ellipse: s-maj=25.2km s-min=5.0km az=59.0, After PDA*
PDA **26** *02:37:43.5±0.6, 38.71Nx29.02W, MD3.1, ML1.6, Error ellipse: s-maj=25.2km s-min=5.0km az=59.0*
SVSA 26 02:37:43.5±0.6, 38.71N×29.02W, MD3.1, ML1.6, Error ellipse: s-maj=25.2km s-min=5.0km az=59.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CALA	**Caldeira**	**0.28**	**117**	*e*P		Pg	02 37 48.9	-0.1
CALA				*e*S		Sg	02 37 52.7	0.0
HOR	**Horta**	**0.35**	**120**	*e*P		Pg	02 37 50.0	-0.5
HOR				*e*S		Sg	02 37 55.0	-0.2
PICO	**Pico**	**0.51**	**114**	*e*P		Pg	02 37 52.8	-0.8
PICO				*e*S		Sg	02 38 00.0	-0.4
PMAN	**Manadas**	**0.73**	**95**	*e*S		Sg	02 38 05.5	-2.3
	26nm,0.3s							
PMAN	**Manadas**	**0.73**	**95**	*e*S		Sg	02 38 05.5	-2.3
	26nm,0.3s							

NEIC **26** *03:01:52.5±0.7, 20.92Sx67.72W, h157km±8km, Error ellipse: s-maj=12.5km s-min=10.4km az=76.0*
IDC **26** *03:01:53.4±0.8, 20.96Sx67.75W, h164km±9km, mb3.1/4, mb1 3.4/8, mb1mx3.3/17, mbtmp3.7/8, Error ellipse: s-maj=18.7km s-min=10.1km az=96.0*
ISC 26 03:01:52.2±0.6, 20.96S±0.05×67.71W±0.10, h173km±8km, n16, σ1$07/21, mb3.4/4, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**1.99**	**214**	P		**P**	**03 02 29.8**	**+0.8**
	7.6nm,0.3s,baz=34,slow=8.3,SNR=157							
LVC				S		**S**	**03 02 57.3**	**-0.1**
	62nm,0.3s,baz=282,slow=21,SNR=44							
LVC	**Limon Verde**	**1.99**	**214**	*e*Pn		**P**	**03 02 28.9**	**-0.1**
LVC				P			03 02 29.8	
LVC				S		**S**	**03 02 57.3**	**-0.1**
LVC				*e*S		**S**	**03 02 57.7**	**+0.3**
LPAZ	**La Paz**	**4.66**	**355**	P		**P**	**03 03 04.1**	**+1.6**
	1.8nm,0.3s,baz=146,slow=9.7,SNR=75							
LPAZ				S		**S**	**03 03 57.5**	**+0.8**
	0.5nm,0.3s,baz=30,slow=24,SNR=4.0							
LPAZ	**La Paz**	**4.66**	**355**	*e*Pn		**P**	**03 03 03.6**	**+1.1**
LPAZ				P			03 03 04.1	
LPAZ				S		**S**	**03 03 57.5**	**+0.8**
LPAZ				*e*S		**S**	**03 03 57.6**	**+0.9**
ARE	**Arequipa**	**5.73**	**321**	*e*P		**P**	**03 03 14.0**	**-2.4**
ARE				*e*S		**S**	**03 04 16.0**	**-5.8**
SIV	**San Ignacio**	**8.00**	**53**	P		**P**	**03 03 44.3**	**-2.2**
	12nm,0.3s,baz=244,slow=12,SNR=286							
CPUP	**Villa Florida**	**10.91**	**121**	P		**P**	**03 04 25.4**	**+0.7**
	0.3nm,0.3s,baz=324,slow=14,SNR=7.7							
CPUP	**Villa Florida**	**10.91**	**121**	*e*Pn		**P**	**03 04 24.9**	**+0.2**
CPUP				P			03 04 25.4	
BDFB	**Brasilia**	**19.43**	**77**	P		**P**	**03 06 07.0**	**-0.5**
	1.3nm,0.3s,baz=270,slow=9.0,SNR=12							
PLCA	**Paso Flores**	**19.86**	**186**	P		**P**	**03 06 11.8**	**0.0**
	0.2nm,0.3s,baz=348,slow=15,SNR=4.1

PDAR	**Pinedale Array**	**74.21**	**329**	P		**P**	**03 13 12.5**	**+0.7**
	0.3nm,0.7s,mb3.1,baz=127,slow=9.0,SNR=3.9							
MKAR	**Makanchi Array**	**144.54**	**36**	PKP		PKPdf	03 21 09.3	+1.5
	1.2nm,0.5s,baz=307,slow=2.6,SNR=15							
SONM	**Songino Array**	**152.77**	**9**	PKPbc		PKPdf	03 21 31.1	+10
	0.3nm,0.4s,baz=287,slow=2.0,SNR=5.1							

CNRM ***26*** *03:07:27.6, 35.81N×3.36W, h15km, MD2.7*
CSEM ***26*** *03:07:30.1±0.1, 35.50N×3.42W, h35km, ML2.7/2, Error ellipse: s-maj=3.8km s-min=3.2km az=54.0*
MDD ***26*** *03:07:31.2±0.6, 35.80N×3.41W, h21km±10km, mbLg2.0/4, Error ellipse: s-maj=7.8km s-min=4.0km az=125.0, PRXIMO*

ISC 26 03:07:29.3±0.5, 35.67N±0.03×3.50W±0.05, h21km, n20, σ1°21/33, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.47**	**54**	Pg		**Pb**		**03 07 38.5**	**-0.2**
	54nm,0.3s,SNR=7.0								
EALB				Lg				03 07 44.9	
	233nm,0.2s,SNR=10								
EALB	**Alboran**	**0.47**	**54**	Pg		**Pb**		**03 07 38.5**	**-0.3**
	54nm,0.3s,SNR=7.0								
EALB				Lg				03 07 44.9	
	233nm,0.2s,SNR=10								
MPAL	**Palemas**	**0.57**	**219**	*i* P		**Pb**		**03 07 43.5**	**+3.0**
MPAL				*i* S		**Sb**		**03 07 55.0**	**+6.9**
EMEL	**Melilla**	**0.58**	**129**	Pg		**Pb**		**03 07 42.6**	**+2.0**
	76nm,0.3s,SNR=15								
EMEL				Lg				03 07 51.0	
	793nm,0.1s,SNR=19								
TOU	**Touzarine**	**0.73**	**196**	*e*P		**Pb**		**03 07 41.0**	**-2.2**
TOU				*e*S		**Sb**		**03 07 52.0**	**-0.8**
ZAI	**Zaio**	**0.93**	**138**	*i* P		**Pb**		**03 07 45.0**	**-1.6**
ZAI				*i* S		**Sb**		**03 07 58.0**	**-0.5**
EGUA	**Guajares**	**1.17**	**357**	Pg		**Pb**		**03 07 49.4**	**-1.2**
	SNR=7.9								
EGUA				Lg				03 08 03.3	
	2.0nm,0.2s,SNR=4.0								
EBER	**Berja**	**1.32**	**22**	Pg		**Pn**		**03 07 54.0**	**+1.1**
	0.9nm,0.0s,SNR=9.6								
EBER				Lg				03 08 10.2	
	22nm,0.4s								
EBER	**Berja**	**1.32**	**22**	Pg		**Pn**		**03 07 54.0**	**+1.2**
	13nm,0.3s,SNR=9.6								
EMIJ	**Mijas**	**1.36**	**311**	Pg		**Pn**		**03 07 54.0**	**+0.5**
	0.6nm,0.1s,SNR=9.5								
EMIJ				Lg				03 08 11.1	
	6.4nm,0.2s								
EQES	**Quesada**	**2.16**	**9**	Pn		**Pn**		**03 08 06.3**	**+1.6**
	4.0nm,0.8s,SNR=19								
EQES				Sn		**Sn**		**03 08 31.3**	**+0.1**
	1.0nm,0.1s,SNR=4.7								
EQES	**Quesada**	**2.16**	**9**	Pn		**Pn**		**03 08 06.4**	**+1.6**
	4.0nm,0.8s,SNR=19								
EQES				Sn		**Sn**		**03 08 31.3**	**+0.1**
	2.3nm,0.4s,SNR=4.7								
EADA	**Adamuz**	**2.64**	**341**	Pn		**Pn**		**03 08 12.5**	**+0.9**
	1.6nm,0.6s,SNR=5.9								
EADA				Sn		**Sn**		**03 08 43.4**	**0.0**
	1.7nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**2.64**	**341**	Pn		**Pn**		**03 08 12.4**	**+0.7**
	1.6nm,0.6s,SNR=5.9								
EADA				Sn		**Sn**		**03 08 43.4**	**0.0**
	SNR=7.9								
EMIN	**Mina Concepcio**	**3.30**	**310**	Pn		**Pn**		**03 08 21.4**	**+0.4**
	0.2nm,0.3s,SNR=7.9								
EMIN				Sn		**Sn**		**03 08 59.4**	**-0.7**
	0.3nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**3.30**	**310**	Pn		**Pn**		**03 08 21.4**	**+0.4**
	SNR=7.9								
EMIN				Sn		**Sn**		**03 08 59.4**	**-0.7**
	SNR=7.9								
ETOB	**Tobarra**	**3.36**	**27**	Pn		**Pn**		**03 08 21.9**	**+0.1**
	24nm,1.4s,SNR=5.6								
ETOB				Sn		**Sn**		**03 08 59.9**	**-1.6**
	21nm,1.4s								
ETOB	**Tobarra**	**3.36**	**27**	Pn		**Pn**		**03 08 21.9**	**+0.1**
	24nm,1.4s,SNR=5.6								
ETOB				Sn		**Sn**		**03 08 59.9**	**-1.6**
	21nm,1.4s								
EGRO	**El Granado**	**3.71**	**301**	Pn		**Pn**		**03 08 27.1**	**+0.3**
	0.3nm,0.1s,SNR=7.9								
EGRO				Sn		**Sn**		**03 09 09.2**	**-1.2**
	0.7nm,0.3s,SNR=7.9								
EGRO	**El Granado**	**3.71**	**301**	Pn		**Pn**		**03 08 27.1**	**+0.3**
	SNR=7.9								
EGRO				Sn		**Sn**		**03 09 09.2**	**-1.2**
	SNR=7.9								

IDC ***26*** *03:29:44.9±1.0, 14.85N×146.96E, mb4.1/6, mb1 4.3/6, mb1mx4.0/18, mbtmp4.1/6, MS3.6/5, Ms1 3.6/5, ms1mx3.3/31, Error ellipse: s-maj=37.4km s-min=26.0km az=92.0*
NEIC ***26*** *03:29:51.9±2.0, 14.82N×146.87E, h52km±16km, mb4.6/3, Error ellipse: s-maj=24.5km s-min=10.8km az=97.0*

ISC 26 03:29:49.8±2.9, 14.81N±0.10×147.0E±0.3, h54km±22km, n25, σ0°81/14, mb4.3/9, MS3.6/5, 1C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAPN	**Saipan**	**1.28**	**289**	*e*P		**P**		**03 30 12.2**	**+0.4**
SARN	**Sarigan**	**2.23**	**328**	*e*P		**P**		**03 30 24.7**	**-0.4**
JOW	**Kunigami**	**21.17**	**307**	LR		LR		03 42 21.3	
	comp=Z,108nm,20.0s,MS3.2,baz=277,slow=36								
HNR	**Honiara**	**27.29**	**151**	LR		LR		03 45 28.4	
	comp=Z,89nm,19.3s,MS3.4,baz=102,slow=34								
ASAJ	**Asahikawa**	**29.45**	**354**	LR		LR		03 45 39.4	
	comp=Z,94nm,20.5s,MS3.4,baz=180,slow=32								
CTA	**Charters Tower**	**34.68**	**181**	LR		LR		03 48 33.4	
	comp=Z,83nm,20.9s,MS3.5,baz=49,slow=32								
WRAB	**Tennant Creek**	**36.70**	**200**	P		**P**		**03 36 52.5**	**-1.1**
	7.9nm,0.8s,mb4.6								
WB2	**Warramunga Arr**	**36.70**	**200**	*e*P		**P**		**03 36 53.8**	**+0.1**
WRA	**Warramunga Arr**	**36.71**	**200**	P		**P**		**03 36 53.8**	**+0.1**
	3.5nm,0.8s,mb4.2,baz=20,slow=9.3,SNR=8.7								
FITZ	**Fitzroy Crossi**	**38.89**	**213**	*e*P		**P**		**03 37 12.8**	**+0.8**
	11nm,2.0s,mb4.2								
SONM	**Songino Array**	**46.97**	**323**	P		**P**		**03 38 17.6**	**+0.3**
	2.6nm,0.6s,mb4.3,baz=134,slow=7.4,SNR=25								
MKAR	**Makanchi Array**	**62.07**	**315**	P		**P**		**03 40 07.6**	**+0.3**
	2.7nm,0.7s,mb4.5,baz=91,slow=7.4,SNR=34								
MKAR	**Makanchi Array**	**62.07**	**315**	P		**P**		**03 40 07.6**	**+0.3**
KURK	**Kurchatov**	**65.00**	**319**	*e*P		**P**		**03 40 25.3**	**-1.1**
	3.6nm,0.6s,mb4.6								
ILAR	**Eielson Array**	**66.59**	**25**	P		**P**		**03 40 35.4**	**-0.9**
	0.4nm,0.6s,mb3.7,baz=241,slow=5.3,SNR=5.2								
INK	**Inuvik**	**72.46**	**23**	P		**P**		**03 41 14.1**	**+2.0**
	1.6nm,0.8s,mb4.0,baz=258,slow=8.4,SNR=3.5								
INK	**Inuvik**	**72.46**	**23**	P		**P**		**03 41 14.1**	**+2.0**
FINES	**FINESS Array B**	**90.93**	**336**	P		**P**		**03 42 48.6**	**-0.2**
	1.4nm,0.9s,mb4.3,baz=124,slow=6.9,SNR=3.6								
ANMO	**Albuquerque**	**94.67**	**52**	LR		LR		04 19 16.5	
	comp=Z,124nm,19.0s,MS4.4,baz=355,slow=31								
VNA2	**Neumayer--Watz**	**121.78**	**190**	*i*			PKPdf	03 48 39.8	+2.3
VNA3	**Neumayer Olymp**	**121.84**	**189**	*e*			PKPdf	03 48 39.5	+1.9
DBIC	**Dimbokro**	**144.88**	**305**	PKP			PKPdf	03 49 23.4	+1.5
	2.5nm,0.6s,baz=140,slow=7.9,SNR=4.4								
LVC	**Limon Verde**	**145.18**	**108**	*e*PKP			PKPdf	03 49 25.7	+3.6
LPAZ	**La Paz**	**146.14**	**97**	PKPbc			PKPbc	03 49 29.3	+4.2
	0.5nm,0.3s,baz=193,slow=5.0,SNR=7.7								
LPAZ	**La Paz**	**146.14**	**97**	PKPbc			PKPbc	03 49 29.3	+4.2

ROM ***26*** *03:32:15.4±0.3, 40.00N×12.71E, h502km±4km, Ml4.0/16, Error ellipse: s-maj=4.9km s-min=4.6km az=81.0*
CSEM ***26*** *03:32:17.8, 40.08N×12.70E, h518km, mb4.8*
CRAAG ***26*** *03:32:17.8, 40.08N×12.70E, Mb4.8*
LDG ***26*** *03:32:18.0±0.2, 40.14N×12.77E, h534km, Mb4.7/37, Error ellipse: s-maj=9.2km s-min=5.4km az=68.0*
IDC ***26*** *03:32:18.6±0.6, 40.06N×12.63E, h503km±7km, mb3.6/18, mb1 3.7/26, mb1mx3.7/32, mbtmp4.6/26, Error ellipse: s-maj=10.6km s-min=7.2km az=82.0*
MOS ***26*** *03:32:18.3±0.7, 40.06N×12.70E, h515km, mb4.7/7, Error ellipse: s-maj=4.3km s-min=2.7km az=92.6*
NEIC ***26*** *03:32:19.0±0.1, 40.02N×12.69E, h514km±1km, mb5.0/67, MD4.4(PDG), Error ellipse: s-maj=2.6km s-min=2.0km az=175.0*
ZUR_RM ***26*** *03:32:19, 40.02N×12.69E, h513km, Mw4.5/32, Moment Tensor Solution. s32 Moment tensor: Scale 10¹⁵Nm; Mrr=1.58; Mθθ-3.83; Mϕϕ5.42; Mrθ2.20; Mϕr=-2.62; Mθr=0.88; Best double couple: Mo5.93×10¹⁵ NP1:ϕ304°, δ79°, λ-153°. NP2:ϕ208°, δ63°, λ-12°. Principal axes: T 6.368, Plg10°, Azm73°; N -.878, Plg61°, Azm324°; P -5.49, Plg27°, Azm169°;*
ZUR ***26*** *03:32:27.4, 40.80N×12.20E, h494km±1km, mb5.8/3*
BGS ***26*** *03:32:30.8±1.7, 41.29N×12.26E, h522km±266km, mb4.4*

ISC 26 03:32:18.2±0.1, 40.04N±0.02×12.72E±0.02, h517km±1km, n700, σ0°90/780, mb4.1/25, 158C-40D, Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VENT	**Ventotene**	**0.93**	**35**	*i* Pg			**P**	**03 33 21.7**	**+0.2**
VENT							S	03 34 11.7	+0.3
ISOR	**Termini**	**1.35**	**66**	*i* Pg			**P**	**03 33 22.7**	**0.0**
USI	**Ustica**	**1.38**	**165**	P			**P**	**03 33 22.7**	**-0.1**
USI	**Ustica**	**1.38**	**165**	*i* Pg			**P**	**03 33 22.8**	**0.0**
MSC	**Monte Massico**	**1.49**	**39**	Pg			**P**	**03 33 23.6**	**+0.4**
GIUL	**Giuliano Di Ro**	**1.57**	**15**	*i* Pg			**P**	**03 33 24.0**	**+0.5**
GIUL							**S**	**03 34 16.7**	**+1.5**
RFI	**Roccamonfina**	**1.59**	**37**	P			**P**	**03 33 24.1**	**+0.5**
RFI	**Roccamonfina**	**1.59**	**37**	*i* Pg			**P**	**03 33 24.2**	**+0.6**
LAV9	**Lanuvio**	**1.64**	**360**	Pg			**P**	**03 33 24.9**	**+1.1**
VAGA	**Valle Agricola**	**1.79**	**40**	*i* Pg			**P**	**03 33 24.9**	**+0.5**
VAGA							S	03 34 17.9	+1.0
SGG	**Gregorio Mates**	**1.84**	**43**	*i* Pg			**P**	**03 33 25.2**	**+0.5**
SGG							S	03 34 18.5	+1.2
	74nm,0.5s								
CERT	**Cerreto**	**1.92**	**6**	*i* Pg			**P**	**03 33 25.3**	**+0.3**
CERT							S	03 34 19.3	+1.4
	44nm,0.6s								
CSSN	**Cassano Irpino**	**1.94**	**64**	Pg			**P**	**03 33 25.7**	**+0.6**
	90nm,0.6s								
VVLD	**Villa Vallelon**	**1.95**	**20**	*e*Pg			**P**	**03 33 25.5**	**+0.4**
VVLD							S	03 34 20.1	+1.9
	131nm,1.1s								
MIDA	**Miranda**	**1.98**	**36**	*i* Pg			**P**	**03 33 26.0**	**+0.7**
MIDA							S	03 34 20.8	+2.4
	63nm,0.5s								
MTCE	**Montecelio**	**1.98**	**1**	*i* Pg			**P**	**03 33 25.7**	**+0.4**
MTCE							S	03 34 18.7	+0.3
	53nm,0.4s								
RNI2	**Rionero Sannit**	**1.98**	**33**	*i* Pg			**P**	**03 33 26.4**	**+1.1**
RNI2							S	03 34 20.9	+2.4
	106nm,0.8s								
ERC	**Erice**	**2.00**	**183**	Pg			**P**	**03 33 25.7**	**+0.3**
IPES	**Pescosannita**	**2.00**	**53**	Pg			**P**	**03 33 25.9**	**+0.5**
SACR	**S. Croce Del S**	**2.03**	**47**	*i* Pg			**P**	**03 33 26.0**	**+0.5**
SACR							S	03 34 20.0	+1.1
	80nm,1.1s								
PTQR	**Pietraquaria**	**2.05**	**14**	*i* Pg			**P**	**03 33 26.5**	**+0.9**
	291nm,1.4s								
SGO	**Sicignano**	**2.05**	**74**	*i* Pg			**P**	**03 33 26.1**	**+0.5**
	95nm,0.8s								
CII	**Carovilli**	**2.07**	**35**	P			**P**	**03 33 25.9**	**+0.2**
CII	**Carovilli**	**2.07**	**35**	*e*Pg			**P**	**03 33 26.6**	**+0.9**
	86nm,0.7s								
BSSO	**Busso**	**2.07**	**43**	*i* Pg			**P**	**03 33 26.6**	**+0.9**
BSSO							S	03 34 21.4	+2.2
	89nm,0.5s								
TOLF	**Tolfa**	**2.09**	**345**	*i* Pg			**P**	**03 33 26.6**	**+0.7**
TOLF							S	03 34 19.9	+0.5
	96nm,0.4s								
SNAL	**S. Angelo Dei**	**2.10**	**64**	*e*Pg			**P**	**03 33 26.4**	**+0.5**
SNAL							S	03 34 21.1	+1.6
	118nm,0.8s								
MTGR	**Montagna Grand**	**2.14**	**179**	P			**P**	**03 33 26.4**	**+0.3**
MTGR	**Montagna Grand**	**2.14**	**179**	Pg			**P**	**03 33 26.3**	**+0.2**
MGR	**Morigerati**	**2.18**	**87**	P			**P**	**03 33 26.5**	**+0.2**
MGR	**Morigerati**	**2.18**	**87**	*e*Pg			**P**	**03 33 26.4**	**+0.1**
	107nm,0.6s								
TRIV	**Trivento**	**2.21**	**38**	*i* Pg			**P**	**03 33 27.1**	**+0.6**
TRIV							S	03 34 22.3	+1.7
MRLC	**Muro Lucano**	**2.23**	**70**	P			**P**	**03 33 27.5**	**+0.9**
MRLC	**Muro Lucano**	**2.23**	**70**	Pg			**P**	**03 33 27.0**	**+0.4**
MRLC							S	03 34 21.7	+0.9
	121nm,0.7s								
FIAM	**Fiamignano**	**2.25**	**8**	*i* Pg			**P**	**03 33 27.5**	**+0.8**
FIAM							S	03 34 22.9	+2.0
	126nm,1.0s								
SLCN	**Sala Consilina**	**2.26**	**80**	Pg			**P**	**03 33 27.1**	**+0.3**
	76nm,0.4s								
GIB	**Gibilmanna**	**2.29**	**153**	P			**P**	**03 33 26.0**	**-0.9**
GIB	**Gibilmanna**	**2.29**	**153**	Pg			**P**	**03 33 26.1**	**-0.8**
GIB							S	03 34 20.1	-1.2
	110nm,0.9s								
FG5	**Orsara di Pugl**	**2.30**	**57**	P			**P**	**03 33 27.2**	**+0.2**
FG5	**Orsara di Pugl**	**2.30**	**57**	Pg			**P**	**03 33 27.1**	**+0.1**
	198nm,1.2s								
FAGN	**Fagnano**	**2.32**	**16**	*e*Pg			**P**	**03 33 27.6**	**+0.5**
FAGN							S	03 34 23.8	+2.2
	141nm,0.3s								
PLLN	**Pollina**	**2.33**	**151**	Pg			**P**	**03 33 26.6**	**-0.5**
MNS	**Montasola**	**2.34**	**359**	*i* Pg			**P**	**03 33 27.5**	**+0.3**
MNS	**Montasola**	**2.34**	**359**	P			**P**	**03 33 26.7**	**-0.5**
MNS	**Montasola**	**2.34**	**359**	*i* Pg			**P**	**03 33 27.5**	**+0.3**
CSLB	**Castelbuono**	**2.34**	**153**	P			**P**	**03 33 26.6**	**-0.6**
CSLB	**Castelbuono**	**2.34**	**153**	Pg			**P**	**03 33 26.5**	**-0.7**
	69nm,0.2s								
LLI	**Lipari**	**2.35**	**132**	Pg			**P**	**03 33 28.1**	**+0.8**
	395nm,0.6s								
AQU	**L'Aquila**	**2.37**	**12**	*i* Pg			**P**	**03 33 28.2**	**+0.8**
	180nm,0.9s								
AQU	**L'Aquila**	**2.37**	**12**	P			**P**	**03 33 27.3**	**-0.1**
AQU	**L'Aquila**	**2.37**	**12**	*i* Pg			**P**	**03 33 28.2**	**+0.8**
	180nm,0.9s								
CUC	**Castrocucco**	**2.38**	**90**	P			**P**	**03 33 27.4**	**0.0**
FG4	**Candela**	**2.40**	**62**	P			**P**	**03 33 27.4**	**-0.1**
FG4	**Candela**	**2.40**	**62**	Pg			**P**	**03 33 27.3**	**-0.2**
DGI	**Dorgali Grotta**	**2.40**	**276**	*i* Pg			**P**	**03 33 28.0**	**+0.5**
DGI							S	03 34 24.5	+2.1
	51nm,1.0s								
VPL	**Vulcano Piano**	**2.42**	**133**	Pg			**P**	**03 33 27.5**	**-0.1**
	142nm,0.5s								
FRES	**Fresagrandinar**	**2.43**	**37**	*i* Pg			**P**	**03 33 27.6**	**-0.1**
FRES							S	03 34 23.6	+0.9
CLTB	**Caltabellotta**	**2.49**	**171**	P			**P**	**03 33 28.0**	**-0.1**
CLTB	**Caltabellotta**	**2.49**	**171**	Pg			**P**	**03 33 27.9**	**-0.2**
	60nm,0.4s								
LNSS	**Leonessa**	**2.57**	**5**	*i* Pg			**P**	**03 33 28.9**	**+0.4**
VSL	**Villasalto**	**2.63**	**259**	P			**P**	**03 33 29.2**	**+0.3**
VSL	**Villasalto**	**2.63**	**259**	*i* Pg			**P**	**03 33 29.3**	**+0.2**
TERO	**Teramo**	**2.67**	**14**	P			**P**	**03 33 29.4**	**+0.4**
TERO	**Teramo**	**2.67**	**14**	*i* Pg			**P**	**03 33 29.5**	**+0.4**
TERO							S	03 34 26.3	+1.1
MAON	**Monte Argentar**	**2.67**	**334**	*i* Pg			**P**	**03 33 29.4**	**+0.3**
MAON							S	03 34 24.5	-0.7
RGNG	**Rignano Grg**	**2.72**	**52**	Pg			**P**	**03 33 28.2**	**-1.2**
MSRU	**Castanea**	**2.80**	**128**	Pg			**P**	**03 33 29.2**	**-0.8**
NRCA	**Norcia**	**2.81**	**6**	*i* Pg			**P**	**03 33 30.2**	**+0.2**
ORI	**Oriolo Calabro**	**2.86**	**88**	P			**P**	**03 33 30.2**	**-0.1**
ORI	**Oriolo Calabro**	**2.86**	**88**	*e*Pg			**P**	**03 33 30.3**	**0.0**
FAVR	**Favara**	**2.87**	**165**	Pg			**P**	**03 33 31.5**	**+1.1**
	91nm,0.6s								
SACS	**San Casciano d**	**2.87**	**348**	*i* Pg			**P**	**03 33 30.9**	**+0.5**
SACS							S	03 34 28.8	+1.4
VAE	**Valguarnera**	**2.88**	**152**	P			**P**	**03 33 30.0**	**-0.4**
	3.5nm,0.3s,baz=68,slow=5.5,SNR=4.9								
VAE				S			**S**	**03 34 26.2**	**-1.3**
	4.4nm,0.3s,baz=236,slow=13,SNR=3.8								
SCLL	**Scilla**	**2.93**	**126**	Pg			**P**	**03 33 29.8**	**-1.0**
MS1	**Monte Sant'Ang**	**2.96**	**55**	*i* P			**P**	**03 33 30.0**	**-0.9**
ARCI	**Arcidosso**	**2.96**	**342**	*i* Pg			**P**	**03 33 32.1**	**+1.2**
CEL	**Celeste**	**3.04**	**125**	Pg			**P**	**03 33 30.2**	**-1.3**
GMB	**Gambarie**	**3.06**	**127**	P			**P**	**03 33 31.2**	**-0.4**
MTTG	**Motta San Giov**	**3.08**	**130**	P			**P**	**03 33 31.2**	**-0.6**
MTTG	**Motta San Giov**	**3.08**	**130**	Pg			**P**	**03 33 31.1**	**-0.7**
GRI	**Girifalco**	**3.11**	**112**	*e*Pg			**P**	**03 33 31.6**	**-0.4**
SG1	**Sgolgore (BA)**	**3.13**	**74**	*i* P			**P**	**03 33 31.3**	**-0.7**
LTRZ	**Laterza**	**3.19**	**79**	P			**P**	**03 33 31.2**	**-1.2**
LTRZ	**Laterza**	**3.19**	**79**	Pg			**P**	**03 33 31.3**	**-1.1**
MURB	**Monte Urbino**	**3.22**	**357**	*i* Pg			**P**	**03 33 32.6**	**-0.1**
TIP	**Timpagrande**	**3.24**	**104**	⇓			**P**	**03 33 31.7**	**-1.1**
TIP	**Timpagrande**	**3.24**	**104**	P			**P**	**03 33 32.1**	**-0.7**
SOI	**Samo**	**3.26**	**126**	Pg			**P**	**03 33 31.1**	**-1.8**
BAI	**Bari**	**3.34**	**70**	*i* P			**P**	**03 33 32.6**	**-0.9**
CING	**Cingoli**	**3.35**	**6**	*i* Pg			**P**	**03 33 32.9**	**-0.7**
GRFL	**Gerfalco**	**3.37**	**338**	*i* Pg			**P**	**03 33 34.3**	**+0.6**
AGST	**Augusta-Monte**	**3.40**	**144**	P			**P**	**03 33 32.4**	**-1.5**
AGST	**Augusta-Monte**	**3.40**	**144**	Pg			**P**	**03 33 32.5**	**-1.4**
SSY	**Sortino**	**3.42**	**147**	P			**P**	**03 33 33.3**	**-0.8**
SSY	**Sortino**	**3.42**	**147**	Pg			**P**	**03 33 33.1**	**-1.0**
ARV	**Arcevia**	**3.46**	**3**	P			**P**	**03 33 33.7**	**-0.6**
ARV	**Arcevia**	**3.46**	**3**	*i* Pg			**P**	**03 33 33.8**	**-0.5**
HMDC	**Modica**	**3.48**	**152**	Pg			**P**	**03 33 33.8**	**-0.7**
BADI	**Badiali**	**3.48**	**354**	P			**P**	**03 33 34.3**	**-0.2**
BADI	**Badiali**	**3.48**	**354**	*i* Pg			**P**	**03 33 34.1**	**-0.4**
BRT	**Bari-Castellan**	**3.52**	**75**	P			**P**	**03 33 34.1**	**-0.7**
AOI	**Ancona**	**3.57**	**10**	*i* Pg			**P**	**03 33 34.1**	**-1.0**
CSNT	**Castellina Chi**	**3.59**	**343**	P			**P**	**03 33 35.4**	**+0.1**
CSNT	**Castellina Chi**	**3.59**	**343**	*i* Pg			**P**	**03 33 35.5**	**+0.2**
CRE	**Caprese Michel**	**3.62**	**351**	*i* Pg			**P**	**03 33 35.0**	**-0.5**
FSSB	**Fossombrone**	**3.65**	**1**	*i* Pg			**P**	**03 33 35.1**	**-0.6**
PE1	**Pezze di Greco**	**3.67**	**76**	*i* P			**P**	**03 33 34.8**	**-1.1**
RSM	**Repubblica di**	**3.89**	**357**	P			**P**	**03 33 37.5**	**-0.3**
RSM	**Repubblica di**	**3.89**	**357**	*e*Pg			**P**	**03 33 37.3**	**-0.2**
PGD	**Poggio Sodo**	**3.90**	**349**	Pg			**P**	**03 33 37.3**	**-0.3**
SFI	**Santa Sofia**	**3.92**	**351**	P			**P**	**03 33 37.2**	**-0.5**
SFI	**Santa Sofia**	**3.92**	**351**	*e*Pg			**P**	**03 33 37.3**	**-0.4**
VMG	**Vicchio**	**4.01**	**348**	Pg			**P**	**03 33 37.9**	**-0.6**
PII	**Pisa**	**4.03**	**337**	P			**P**	**03 33 39.1**	**+0.5**
PII	**Pisa**	**4.03**	**337**	*e*Pg			**P**	**03 33 39.2**	**+0.6**
SEI	**Scarperia**	**4.14**	**346**	Pg			**P**	**03 33 38.8**	**-0.7**
SEI	**Scarperia**	**4.14**	**346**	P			**P**	**03 33 38.7**	**-0.8**
LCI	**Lecce**	**4.14**	**84**	P			**P**	**03 33 38.5**	**-1.0**
LCI	**Lecce**	**4.14**	**84**	*i* Pg			**P**	**03 33 38.6**	**-0.9**
MAIM		**4.21**	**338**	P			**P**	**03 33 39.6**	**-0.5**
MAIM		**4.21**	**338**	P			**P**	**03 33 39.6**	**-0.5**
WDD	**Wield Dalam**	**4.40**	**161**					**03 33 41.0**	**-0.7**
WDD	**Wield Dalam**	**4.40**	**161**	P				**03 33 41.6**	**-0.1**
VLC	**Villacollemand**	**4.47**	**338**					**03 33 41.1**	**-1.1**
VLC	**Villacollemand**	**4.47**	**338**	P				**03 33 39.7**	**-2.5**
SARO	**Sassorosso**	**4.49**	**338**	P				**03 33 41.1**	**-1.3**
SARO	**Sassorosso**	**4.49**	**338**	P				**03 33 41.1**	**-1.3**
SARO	**Sassorosso**	**4.49**	**338**	P				**03 33 41.1**	**-1.3**
ZCCA	**Zocca**	**4.50**	**344**	P				**03 33 42.7**	**+0.2**
ZCCA	**Zocca**	**4.50**	**344**	*e*Pg				**03 33 42.6**	**+0.1**
VINC	**Vinca**	**4.52**	**336**	P				**03 33 41.9**	**-0.9**
VINC	**Vinca**	**4.52**	**336**	P				**03 33 41.8**	**-0.9**
VINC	**Vinca**	**4.52**	**336**	P				**03 33 41.8**	**-0.9**
GSCL	**Gusciola**	**4.59**	**341**	P				**03 33 43.1**	**-0.2**
GSCL	**Gusciola**	**4.59**	**341**	*e*Pg				**03 33 43.2**	**-0.1**
BACM		**4.67**	**336**	P				**03 33 42.8**	**-1.2**
BACM		**4.67**	**336**	P				**03 33 42.8**	**-1.2**
VALM		**4.68**	**338**	P				**03 33 43.4**	**-0.7**
VALM		**4.68**	**338**	P				**03 33 43.4**	**-0.7**
ERBM	**Eremo**	**4.70**	**339**	*e*Pg				**03 33 44.3**	**+0.1**
NVLJ	**Novalja**	**4.79**	**19**	*i* P				**03 33 43.9**	**-1.2**
CODM		**4.84**	**335**	P				**03 33 44.1**	**-1.4**
CODM		**4.84**	**335**	P				**03 33 44.1**	**-1.4**
RAVA	**Ravarino**	**4.86**	**346**	Pg				**03 33 45.1**	**-0.5**
GRAM		**4.86**	**337**	P				**03

FNA **Florina** 6.65 81 *e*P P 03 34 02.4 -0.1
BERNI **Berninapass** 6.67 344⇑*i*P P 03 34 01.7 -0.9
BNI **Bardonecchia** 6.71 320 *e*P P 03 34 03.2 +0.2
BNI pmax pmax
comp=Z,69nm,0.6s
BNI Bardonecchia 6.71 320 *e*P **P** 03 34 03.2 +0.2
comp=Z,69nm,0.6s
BNI Bardonecchia 6.71 320 *e*P **P** 03 34 03.2 +0.2
comp=Z,69nm,0.6s
DIVS **Divcibare** 6.76 51⇑*i*Pn P 03 34 03.4 -0.2
LSD **Ceresole Reale** 6.79 325 P P 03 34 03.3 -0.5
FUORN **Ofenpass** 6.82 346⇑*i*P P 03 34 03.6 -0.5
VDL **Val di Lei** 6.87 341 ⇓P P 03 34 04.1 -0.5
SKO **Skopje** 6.87 71 ⇓*i*P P 03 34 04.7 0.0
comp=Z,0.1nm,0.7s
KOGS **Kog** 6.90 21 *e*P P 03 34 05.2 +0.2
KOGS **Kog** 6.90 21 P P 03 34 05.3 +0.3
SET **Setif** 6.92 239 P P 03 34 07.0 +1.8
MMK **Mattmark** 6.94 331 ⇑P P 03 34 03.3 -2.0
CKHR **Kef el Ahmar** 6.96 237 P P 03 34 06.0 +0.5
LPG **La Plagne** 7.00 323 *e*P P 03 34 06.1 +0.2
comp=Z,87nm,0.3s
ORIF **Oris-en-Rattie** 7.02 316 *e*P P 03 34 06.1 0.0
comp=Z,92nm,0.7s
LPL **La Plagne** 7.02 323 *e*P P 03 34 06.1 0.0
comp=Z,181nm,0.6s
DAVOX **Davos** 7.05 344 P P 03 34 06.1 -0.3
comp=Z,16nm,0.3s,baz=151,slow=11,SNR=194
DAVOX S S 03 35 31.9 -0.4
comp=Z,1.8nm,0.3s,baz=165,slow=16,SNR=2.3
KBA **Koelnbreinsper** 7.05 3⇑*i*P P 03 34 06.7 +0.3
comp=Z,216nm,2.3s
KBA Koelnbreinsper 7.05 3⇑*i*P **P** 03 34 06.7 +0.3
KBA pmax pmax
comp=Z,216nm,2.3s
KBA **Koelnbreinsper 7.05 3** *e*P P 03 34 06.8 +0.4
GRUS **Gruza** 7.09 55 *i*Pn P 03 34 06.8 0.0
DIX **Grande Dixence** 7.18 329⇑*i*P P 03 34 07.2 -0.5
AKF **Akfadou** 7.25 245 P P 03 34 09.4 +0.9
SQTA **Sankt Quirin** 7.26 352⇑*i*P P 03 34 08.7 +0.2
comp=Z,143nm,0.8s
SQTA Sankt Quirin 7.26 352⇑*i*P **P** 03 34 08.7 +0.2
SQTA pmax pmax
comp=Z,143nm,0.8s
WTTA Wattenberg 7.26 354⇑*i*P P 03 34 09.1 +0.5
comp=Z,393nm,1.1s
WTTA Wattenberg 7.26 354⇑*i*P P 03 34 09.1 +0.5
WTTA pmax pmax
comp=Z,393nm,1.1s
LLS **Linth-Limmern** 7.32 340 ⇑P P 03 34 08.3 -0.8
LLS **Linth-Limmern** 7.32 340⇑*i*P P 03 34 08.2 -0.9
WATA Walderalm 7.34 354⇑*i*P **P** 03 34 09.5 +0.2
comp=Z,104nm,0.9s
WATA Walderalm 7.34 354⇑*i*P **P** 03 34 09.5 +0.2
WATA pmax pmax
comp=Z,104nm,0.9s
LKBD **Leukerbad** 7.35 331⇑*e*P P 03 34 08.3 -1.2
EMV **Vieux Emosson** 7.37 327 ⇑P P 03 34 09.0 -0.7
EMV **Vieux Emosson** 7.37 327⇑*i*P P 03 34 08.9 -0.8
MOTA **Moosalm** 7.39 351⇑*i*P P 03 34 09.6 -0.3
comp=Z,108nm,0.8s
MOTA Moosalm 7.39 351⇑*i*P **P** 03 34 09.6 -0.3
MOTA pmax pmax
comp=Z,108nm,0.8s
SALAN **Lac Salanfe** 7.41 327⇑*i*P P 03 34 09.2 -0.8
PLONS **Plons** 7.41 342⇑*i*P P 03 34 09.2 -0.9
GRG **Griva** 7.44 80 *e*P P 03 34 10.2 -0.1
GRYON **Gryon** 7.44 328⇑*i*P P 03 34 09.3 -1.0
SENIN **Lac Senin** 7.46 330⇑*i*P P 03 34 09.5 -1.0
ARSA **Arzberg** 7.49 15⇑*i*P P 03 34 11.2 +0.4
comp=Z,133nm,1.4s
HASLI **Hasliberg** 7.49 335⇑*i*P P 03 34 09.3 -1.6
LIT **Litokhoron** 7.50 86 *e*P P 03 34 09.9 -1.0
AGG **Agios Georgios** 7.50 95 *e*P P 03 34 11.3 +0.3
BNALP **Bannalp** 7.51 337⇑*i*P P 03 34 09.6 -1.4
DAVA **Damuels** 7.53 345⇑*i*P P 03 34 10.3 -1.0
comp=Z,106nm,0.9s
DAVA *e*S S 03 35 42.3 +1.2
MUO **Muotathal** 7.53 338⇑*i*P P 03 34 10.1 -1.2
PKSM **Moragy** 7.54 33⇑*i*P P 03 34 11.7 +0.4
PKSM *i* 03 35 43.6
AIGLE **Aigle** 7.57 328⇑*i*P P 03 34 10.4 -1.3
WIMIS **Wimmis** 7.59 332⇑*i*P P 03 34 10.3 -1.6
VAY **Valandovo** 7.60 77⇓*i*P P 03 34 11.8 -0.1
ETOS **Mallorca** 7.62 271 P P 03 34 11.9 -0.2
comp=Z,338nm,1.6s
ETOS Mallorca 7.62 271 P **P** 03 34 11.9 -0.3
comp=Z,338nm,1.6s,SNR=47
VIVF **Saint-Julien-l 7.65 312** *e*P **P** 03 34 12.3 -0.2
comp=Z,111nm,0.8s
PKS9 **Tamasi** 7.70 30⇑*e*P P 03 34 13.5 +0.5
LASF **Ste Croix** 7.73 304 *e*P P 03 34 13.2 -0.1
comp=Z,50nm,0.7s
EJON **La Jonquera** 7.79 291 P P 03 34 12.6 -1.3
comp=Z,21nm,0.9s
EJON La Jonquera 7.79 291 P **P** 03 34 12.6 -1.3
comp=Z,21nm,0.9s,SNR=12
SJAF **Saint Jean de** 7.80 291 *e*P P 03 34 13.6 -0.4
THE **Thessaloniki** 7.85 82 *e*P P 03 34 13.4 -1.1
ATAF **Djebel Tarf** 7.86 241 P P 03 34 15.3 +0.7
UBR **Uberruh** 7.87 347 *e*P P 03 34 11.2 -3.5
UBR **Uberruh** 7.87 347 P P 03 34 13.7 -1.0
WILA **Wila** 7.87 341⇑*i*P P 03 34 13.6 -1.1
MOA **Molln** 7.89 8⇑*i*P P 03 34 15.1 +0.2
comp=Z,128nm,2.0s
ZUR **Zurich** 7.91 339⇑*i*P P 03 34 13.9 -1.3
ZUR **Zurich** 7.91 339 ⇑P P 03 34 13.8 -1.4
TORNY **Torny** 7.93 330⇑*i*P P 03 34 13.8 -1.5
WEIN **Weingarten** 7.96 341⇑*i*P P 03 34 14.5 -1.1
GIMEL **Gimel** 8.01 326⇑*i*P P 03 34 14.6 -1.6
AKET **Djebel Ketaf** 8.03 243 P P 03 34 17.1 +0.7
FILF **Fíllols** 8.05 292 *e*P P 03 34 17.0 +0.4
KKB **Krupnik** 8.05 74 *i*P P 03 34 17.0 +0.4
PKS8 **Sarbogard** 8.09 30⇑*e*P P 03 34 17.2 +0.2
XOR **Xorichti** 8.10 91 *e*P P 03 34 16.7 -0.4
SISB **Singen-Sch Ber** 8.11 342 P P 03 34 16.1 -1.1
STEIN **Stein am Rhein** 8.12 341⇑*i*P P 03 34 16.2 -1.1
SOP **Sopron** 8.13 19⇑*i* P 03 34 18.3 +0.9
TRULL **Truellikon** 8.14 340⇑*i*P P 03 34 15.2 -2.4
BALST **Balsthal** 8.15 335⇑*i*P P 03 34 15.8 -1.8
CABF **La Chapelle** 8.15 326 *e*P P 03 34 16.0 -1.6
comp=Z,376nm,0.7s
LRDF **Laroque-de-Fa** 8.17 294 *e*P P 03 34 17.3 -0.5
FUR **Furstenfeldbru** 8.19 353 *e*P P 03 34 17.8 -0.2
SULZ **Sulz-Cheisache** 8.19 338⇑*i*P P 03 34 16.3 -1.7
BRANT **Les Verrieres** 8.25 329⇑*i*P P 03 34 17.2 -1.5
ADJB **Djebel Djouab** 8.28 245 P P 03 34 19.1 +0.2
VTS **Vitosha** 8.30 69 P P 03 34 19.0 -0.1
VTS **Vitosha** 8.30 69 P P 03 34 18.6 -0.5
SLE **Schleitheim** 8.30 340⇑*i*P P 03 34 17.4 -1.8
BBS **Basel-Blauen** 8.32 335 *e*P P 03 34 17.7 -1.7
BBS **Basel-Blauen** 8.32 335 P P 03 34 18.1 -1.3
SRS **Serrai** 8.35 79 *e*P P 03 34 19.1 -0.6
BOURR **Bourrignon** 8.35 333⇑*i*P P 03 34 18.0 -1.7
PKSG 8.42 27⇑*e*P P 03 34 21.1 +0.7
PAIG **Paliouri** 8.42 87 *e*P P 03 34 19.5 -0.9
GUT **Gutenstein** 8.44 343 *e*P P 03 34 19.3 -1.3
LOMF **Lomont** 8.46 332 P P 03 34 19.7 -1.1
MMB **Musomiste** 8.49 76 *i*P P 03 34 21.0 -0.1
MTLF **Montolieu** 8.52 296 *e*P P 03 34 20.8 -0.6
comp=Z,28nm,0.9s
FELD **Feldberg** 8.54 338 *e*P P 03 34 20.0 -1.6
SPAK **Spaichingen** 8.54 342 *e*P P 03 34 20.5 -1.1
SPAK **Spaichingen** 8.54 342 P P 03 34 20.9 -0.7
VKA **Vienna** 8.62 16⇑*i*P P 03 34 23.5 +1.0
comp=Z,299nm,1.0s
VKA Vienna 8.62 16⇑*i*P **P** 03 34 23.5 +1.0
VKA pmax pmax
comp=Z,299nm,1.0s
OUR **Ouranopolis** 8.63 84 *e*P P 03 34 22.0 -0.5
KIZ **Kirchzarten** 8.63 338⇑*e*P P 03 34 21.0 -1.6
KIZ **Kirchzarten** 8.63 338 P P 03 34 21.3 -1.3
AOS **Alonnisos** 8.66 92 *e*P P 03 34 21.8 -1.1
EMIR **Miracle** 8.67 286 P P 03 34 23.4 +0.5
comp=Z,120nm,0.8s
EMIR Miracle 8.67 286 P **P** 03 34 23.4 +0.4
comp=Z,120nm,0.8s,SNR=43
SRO1 **Iza** 8.68 25 *e*P P 03 34 23.7 +0.6
SRO2 **Moca** 8.74 26 *e*P P 03 34 24.5 +0.8
ZST **Bratislava** 8.74 20 *e*P P 03 34 24.4 +0.7
ZST *e* 03 34 27.8
BUCH **Bad Urach** 8.75 345⇑*e*P P 03 34 22.9 -0.9
BUCH **Bad Urach** 8.75 345 P P 03 34 23.0 -0.8

SRO **Srobarova** 8.75 26 *e*P P 03 34 24.6 +0.7
MOF **Molkenrain** 8.78 335 P P 03 34 23.1 -1.1
GEC2 **GERESS Array S** 8.83 4 *e*P P 03 34 24.6 -0.1
GERES **GERESS Array B** 8.83 4 P P 03 34 24.6 0.0
comp=Z,22nm,0.3s,baz=180,slow=11,SNR=662
GERES S S 03 36 05.4 +0.2
baz=200,slow=12,SNR=2.5
EIBI Ibiza 8.85 267 P P 03 34 25.6 +0.7
comp=Z,232nm,1.3s
EIBI Ibiza 8.85 267 P P 03 34 25.6 +0.8
comp=Z,232nm,1.3s,SNR=24
HINF **Hinteralfeld** 8.85 333 *e*P P 03 34 23.4 -1.4
comp=Z,282nm,0.7s
BFO **Black Forest** 8.87 341 *e*P P 03 34 23.6 -1.4
EPOB **Poblet** 8.94 282 P P 03 34 25.8 0.0
comp=Z,133nm,0.6s,SNR=108
PGB **Panagyurishte** 8.98 70 *i*P P 03 34 26.0 -0.1
LBG **Lerchenberg** 9.07 343 *e*P P 03 34 26.6 -0.5
LBG **Lerchenberg** 9.07 343 P P 03 34 26.8 -0.3
SALF **Salau** 9.08 291 *e*P P 03 34 28.3 +1.1
STU **Stuttgart** 9.09 345 P P 03 34 26.3 -1.0
ECH **Echery** 9.10 336 P P 03 34 27.0 -0.4
KHC **Kasperske Hory** 9.11 4⇑*i*P P 03 34 27.5 0.0
KHC *e*S S 03 36 10.2 -0.3
KHC Kasperske Hory 9.11 4⇑*i*P **P** 03 34 27.5 0.0
KHC *e* 03 34 34.5
KHC *e* 03 34 40.5
KHC *e*S S 03 36 10.2 -0.3
KHC Kasperske Hory 9.11 4⇑*i*P **P** 03 34 27.5 0.0
KHC x x 03 34 34.5
KHC x x 03 34 40.5
KHC *e*S S 03 36 10.2 -0.3
KHC Kasperske Hory 9.11 4 P **P** 03 34 27.5 0.0
KHC S S 03 36 10.2 -0.3
SMOL **Smolenice** 9.12 20 *e*P P 03 34 28.1 +0.5
HAU **Haudompre** 9.19 332 *e*P P 03 34 27.3 -1.0
CDF **Champ du Feu** 9.23 337 *e*P P 03 34 28.1 -0.7
comp=Z,171nm,0.5s
SMF **Signal de Mont 9.24 319** *e*P **P** 03 34 28.0 -0.9
comp=Z,104nm,0.5s
RZN **Rozhen 9.24 76** *i*P P 03 34 29.0 +0.1
CAF **Calviac 9.26 305** *e*P P 03 34 29.1 0.0
comp=Z,37nm,0.8s
PLD **Plovdiv** 9.29 73 P P 03 34 29.9 +0.5
EBR **Ebro Roquetas** 9.36 279 *e*P P 03 34 30.0 -0.1
KRUC **Moravsky** 9.39 15 P P 03 34 30.0 -0.5
MELF **Melles** 9.41 291 *e*P P 03 34 31.5 +0.8
PSZ **Piszkesteto** 9.42 31⇓*i* P 03 34 31.6 +0.9
KOLL **Kolacno** 9.46 24 *e*P P 03 34 31.5 +0.4
JAVC **Velka Javorina** 9.50 20 P P 03 34 30.6 -1.0
THEF **They Montfort** 9.50 332 P P 03 34 31.5 -0.1
VYHS **Vyhne** 9.52 25 *e*P P 03 34 32.1 +0.4
VYHS *e*S S 03 36 20.6 +2.4
SIND **Sindeldorf** 9.57 348 P P 03 34 32.5 +0.3
AVF **Avril sur Loir** 9.58 318 *e*P P 03 34 31.6 -0.8
LANF **Langenberg** 9.60 340 P P 03 34 32.7 +0.1
EGRA **Graus** 9.61 287 P P 03 34 32.8 +0.2
comp=Z,48nm,0.6s
EGRA Graus 9.61 287 P **P** 03 34 32.8 +0.2
comp=Z,48nm,0.6s,SNR=58
LOR **Lormes** 9.66 321 *e*P P 03 34 32.4 -0.8
comp=Z,292nm,0.7s
VRAC **Vranov** 9.67 15 P P 03 34 33.9 +0.6
comp=Z,3.9nm,0.3s,baz=195,slow=7.3,SNR=83
VRAC S S 03 36 22.3 +1.3
baz=336,slow=18,SNR=8.5
VRAC Vranov 9.67 15 *i*P **P** 03 34 33.9 +0.6
VRAC S S 03 36 22.3 +1.3
SSF **Saint Saulge 9.69 319** *e*P **P** 03 34 32.6 -0.9
comp=Z,73nm,0.8s
BGF **Bois d'Agland** 9.70 315 *e*P P 03 34 33.1 -0.5
comp=Z,126nm,0.8s
RESF **Ens** 9.70 291 *e*P P 03 34 34.3 +0.7
GRA1 **Grafenberg Arr** 9.71 354 *e*P P 03 34 34.2 +0.5
GRF **Grafenberg Arr** 9.71 354 *e*P P 03 34 34.2 +0.5
EPF **Esparros** 9.75 292 *e*P P 03 34 33.3 -0.9
comp=Z,30nm,0.5s
ECHA **Ech Chlef** 9.75 250 P P 03 34 35.0 +0.8
KDZ **Kurdzhali** 9.76 76 P P 03 34 33.5 -0.7
RJF **Les Rejaudoux** 9.78 306 *e*P P 03 34 34.7 +0.2
comp=Z,98nm,0.8s
RDO **Rodhopi** 9.82 79 P P 03 34 34.3 -0.5
KTD **Kalmit** 9.85 342 *e*P P 03 34 35.4 +0.3
KTD **Kalmit** 9.85 342 P P 03 34 35.8 +0.7
SWS **Schriesheim** 9.86 345⇑*e*P P 03 34 35.7 +0.4
DIM **Dimitrovgrad** 9.89 74 P P 03 34 36.0 +0.4
TCF **Toulx Ste Croi** 9.89 313 *e*P P 03 34 35.5 -0.1
comp=Z,74nm,0.7s
DRGR 9.91 44 ⇓P P 03 34 36.5 +0.7
LABF **Labassere** 9.94 292 *e*P P 03 34 36.8 +0.6
VIEF **Viey** 9.94 291 *e*P P 03 34 36.1 -0.1
TOD **Tromm** 9.96 345⇑*e*P P 03 34 36.8 +0.5
TOD **Tromm** 9.96 345 P P 03 34 36.9 +0.6
PVL **Pavlikeni** 9.96 67 *e*P P 03 34 36.0 -0.4
PRU **Pruhonice** 10.03 7⇑*i*P P 03 34 37.2 +0.2
PRU *e*S S 03 36 27.0 -0.9
PRU Pruhonice 10.03 7 P **P** 03 34 37.2 +0.2
PRU S S 03 36 27.0 -0.9
EANR **'Ain N'Sour** 10.04 250 P P 03 34 37.0 -0.1
MEZF **Maizieres J'vi** 10.08 330 *e*P P 03 34 37.7 +0.1
comp=Z,207nm,0.5s
EMOS **Mosqueruela** 10.10 276 P P 03 34 39.0 +1.3
comp=Z,142nm,0.8s
EMOS Mosqueruela 10.10 276 P **P** 03 34 39.0 +1.2
comp=Z,142nm,0.8s,SNR=63
KECS **Kecovo** 10.11 31 *e*P P 03 34 38.9 +1.1
LFF **La Frestale** 10.11 303 *e*P P 03 34 38.5 +0.6
comp=Z,70nm,0.8s
LFF La Frestale 10.11 303 *e*P **P** 03 34 38.5 +0.6
LFF pmax pmax
comp=Z,35nm,0.8s
EBEN **Beniarda** 10.11 267 P P 03 34 38.9 +1.0
comp=Z,139nm,0.7s
EBEN Beniarda 10.11 267 P **P** 03 34 38.9 +1.0
comp=Z,139nm,0.7s,SNR=29
ESAC **San Caprasio** 10.13 284 P P 03 34 38.1 0.0
comp=Z,114nm,0.3s
ESAC San Caprasio 10.13 284 P **P** 03 34 38.1 0.0
comp=Z,114nm,0.3s,SNR=59
ETRT **Tiaret** 10.16 246 P P 03 34 38.0 -0.5
ALN **Alexandroupoli** 10.19 81 *e*P P 03 34 39.1 +0.3
NKC **Novy Kostel** 10.20 359⇑*i*P P 03 34 39.4 +0.7
NKC *e*S S 03 36 31.7 +0.7
HYF **Humbligny** 10.27 318 *e*P P 03 34 38.8 -0.7
REYF **Montagne du Re** 10.28 291 *e*P P 03 34 40.4 +0.7
MORC **Moravsky Berou** 10.32 18 P P 03 34 39.4 -0.6
MORC *e*S S 03 36 35.2 +1.8
GUNZ **Gunzen** 10.33 359 *e*P P 03 34 40.9 +0.8
ETSF **Etsaut** 10.37 290 *e*P P 03 34 41.1 +0.5
comp=Z,64nm,0.6s
ETSF Etsaut 10.37 290 *e*P **P** 03 34 41.1 +0.5
ETSF pmax pmax
comp=Z,32nm,0.6s
WERD **Werda** 10.41 359 *e*P P 03 34 41.6 +0.6
RUP **Ruppelstein** 10.46 339 *e*P P 03 34 42.7 +1.2
RUP **Ruppelstein** 10.46 339 P P 03 34 42.1 +0.6
ABH **Alteburg** 10.50 341⇑*e*P P 03 34 42.7 +0.8
ABH **Alteburg** 10.50 341 P P 03 34 43.0 +1.1
OKC **Ostrava-Krasne** 10.52 20⇑*i*P P 03 34 42.7 +0.6
OKC *e*S S 03 36 38.9 +1.6
OKC Ostrava-Krasne 10.52 20 P **P** 03 34 42.7 +0.6
OKC *e*S S 03 36 38.9 +1.6
ECHE **Chera** 10.54 272 P P 03 34 43.7 +1.3
ECHE pmax pmax
comp=Z,31nm,0.5s
ECHE Chera 10.54 272 P **P** 03 34 43.7 +1.3
comp=Z,31nm,0.5s
ECHE Chera 10.54 272 P **P** 03 34 43.7 +1.3
comp=Z,31nm,0.5s,SNR=40
VOIR 10.55 55 ⇓P P 03 34 43.7 +1.3
PVCC **Panska Ves** 10.57 6⇑*i*P P 03 34 43.1 +0.5
DPC **Dobruska-Polom** 10.62 13⇑*i*P P 03 34 43.1 0.0
DPC *e*S S 03 36 41.3 +2.2
TNS **Taunus Mts** 10.62 345 *e*P P 03 34 43.4 +0.3
MOX **Moxa** 10.63 356⇑*i*P P 03 34 43.8 +0.5
MOX pmax pmax
comp=Z,222nm,0.9s
MOX Moxa 10.63 356⇑*i*P **P** 03 34 43.8 +0.5
comp=Z,222nm,0.9s
MOX *e*PP PP 03 34 53.8 -8.3
MOX Moxa 10.63 356⇑*i*P **P** 03 34 43.8 +0.5
comp=Z,logA/T=2.4
MOX PP PP 03 34 54.0 -8.1

MOX **Moxa 10.63 356** *e*P **P** 03 34 43.7 +0.4
WLF **Walferdange** 10.69 336 P P 03 34 41.3 -2.6
WLF **Walferdange** 10.69 336 *e*P P 03 34 43.8 -0.1
JMB **Yambol** 10.72 72 P P 03 34 44.0 -0.2
UPC **Upice** 10.72 11⇑*i*P P 03 34 44.8 +0.6
UPC *e*S S 03 36 42.2 +1.2
UPC Upice 10.72 11⇑*i*P **P** 03 34 44.8 +0.6
UPC *ex* x 03 35 54.1
UPC *e*S S 03 36 42.2 +1.2
UPC Upice 10.72 11 P **P** 03 34 44.8 +0.6
UPC *e*S S 03 36 42.2 +1.2
IDI **Anoyia 10.75 112** P P 03 34 43.6 -1.0
comp=Z,5.7nm,0.3s,baz=308,slow=11,SNR=40
IDI S S 03 36 40.4 -1.3
comp=Z,4.0nm,0.3s,baz=90,slow=20,SNR=9.7
IDI Anoyia 10.75 112 P **P** 03 34 43.5 -1.0
IDI S S 03 36 40.4 -1.2
NIE **Niedzica 10.82 27**⇑*e*P P 03 34 47.0 +1.8
NIE *e*S S 03 36 47.5 +4.6
CRVS **Cervenica-Dubn 10.83 32** *e*P P 03 34 48.3 +2.9
CRVS *e* 03 36 47.6
CRVS Cervenica-Dubn 10.83 32 *e* P 03 34 48.3 +2.9
CRVS *e*S S 03 36 47.6 +4.4
BRG Berggiesshubel 10.87 4⇑*i*P **P** 03 34 46.5 +0.8
BRG pmax pmax
comp=Z,60nm,0.9s
BRG Berggiesshubel 10.87 4⇑*i*P **P** 03 34 46.5 +0.8
comp=Z,60nm,0.9s
BRG Berggiesshubel 10.87 4 *e*P P 03 34 46.2 +0.5
SJPF **Ste Jean 10.89 291** *e*P P 03 34 46.7 +0.7
EARA **Aranguren 11.08 289** P P 03 34 48.5 +0.6
comp=Z,15nm,0.6s,SNR=7.9
KSP **Ksiaz 11.09 12** *e*P P 03 34 48.7 +0.7
KSP Ksiaz 11.09 12⇑*e*P **P** 03 34 48.7 +0.7
EMUR **La Murta 11.09 263** P P 03 34 47.0 -1.0
comp=Z,82nm,1.4s
EMUR La Murta 11.09 263 P **P** 03 34 47.0 -1.1
comp=Z,82nm,1.4s,SNR=9.3
EALK **Alkurruntz 11.11 291** P P 03 34 47.7 -0.6
comp=Z,27nm,0.7s
EALK Alkurruntz 11.11 291 P **P** 03 34 47.7 -0.5
comp=Z,27nm,0.7s,SNR=20
ETOB **Tobarra 11.14 267** P P 03 34 49.5 +1.0
comp=Z,63nm,0.6s
ETOB Tobarra 11.14 267 P **P** 03 34 49.5 +1.0
comp=Z,63nm,0.6s,SNR=28
MLR **Muntele Rosu 11.14 56** P P 03 34 49.5 +1.0
MLR S S 03 36 52.2 +3.1
MLR pmax pmax
comp=Z,23nm,0.3s
MLR Muntele Rosu 11.14 56 P **P** 03 34 49.5 +0.9
comp=Z,23nm,0.3s,baz=213,slow=0.4,SNR=414
MLR S S 03 36 52.2 +3.1
comp=Z,0.4nm,0.3s,baz=94,slow=22,SNR=12
MLR **Muntele Rosu 11.14 56** ⇑P P 03 34 50.0 +1.4
MLR Muntele Rosu 11.14 56 ⇑P **P** 03 34 50.0 +1.5
STHS **Stebnicka Huta 11.16 30** *e*P P 03 34 50.4 +1.7
STHS *e* 03 36 26.9
STHS *e*S S 03 36 50.6 +1.2
STHS Stebnicka Huta 11.16 30 *e*P **P** 03 34 50.4 +1.7
STHS *e*S S 03 36 50.6 +1.2
KOLS **Kolonicke sedl 11.20 34** *e*P P 03 34 50.8 +1.7
CLL **Collm 11.27 1**⇑*i*P P 03 34 50.5 +0.7
CLL pmax pmax
comp=Z,144nm,0.9s
CLL Collm 11.27 1 ⇑P **P** 03 34 50.5 +0.7
comp=Z,logA/T=2.2
CLL *e* 03 35 02.0
CLL Collm 11.27 1⇑*i*P **P** 03 34 50.5 +0.7
comp=Z,144nm,0.9s
OJC **Ojcow 11.33 24** *e*P P 03 34 51.5 +1.0
ISR **Istrita 11.38 59** ⇓P P 03 34 52.1 +1.1
MFF **Saint Martin d 11.43 309** *e*P P 03 34 51.4 -0.1
comp=Z,22nm,0.4s
GIVF **Givet 11.50 334** *e*P P 03 34 51.6 -0.6
comp=Z,62nm,0.6s
GIVF Givet 11.50 334 *e*P **P** 03 34 51.6 -0.6
GIVF pmax pmax
comp=Z,31nm,0.6s
BAIF **Baives 11.68 332** *e*P P 03 34 53.3 -0.7
HGN **Heimansgroeve 11.73 338**⇑*i*P P 03 34 55.6 +1.0
comp=Z,222nm,0.7s
ECRI **Cripan 11.73 288** P P 03 34 55.0 +0.4
ECRI pmax pmax
comp=Z,39nm,0.8s
ECRI Cripan 11.73 288 P **P** 03 34 55.0 +0.3
comp=Z,39nm,0.8s
ECRI Cripan 11.73 288 P **P** 03 34 55.0 +0.4
comp=Z,39nm,0.8s,SNR=7.9
BURAR **Bucovina Array 11.77 46** ⇑P P 03 34 57.5 +2.5
BURAR Bucovina Array 11.77 46 ⇑P **P** 03 34 57.5 +2.5
VRI **Vrincioaia 11.80 56** ⇑P P 03 34 55.4 +0.2
BRD **Bordesti 11.86 58** ⇑P P 03 34 57.2 +1.3
EVIA **Vianos 11.87 268** P P 03 34 57.2 +1.1
EVIA pmax pmax
comp=Z,40nm,0.5s
EVIA Vianos 11.87 268 P **P** 03 34 57.2 +1.1
comp=Z,40nm,0.5s
EVIA Vianos 11.87 268 P **P** 03 34 57.2 +1.1
comp=Z,40nm,0.5s,SNR=22
CLZ **Clausthal 11.91 353** *e*P P 03 34 57.0 +0.5
BUG **Bochum--Univer 12.02 343** P P 03 34 58.1 +0.6
ENIJ **Nijar 12.09 260** P P 03 34 58.0 -0.3
ENIJ pmax pmax
comp=Z,3.0nm,0.3s
ENIJ Nijar 12.09 260 P **P** 03 34 58.0 -0.2
comp=Z,2.7nm,0.3s
ENIJ Nijar 12.09 260 P **P** 03 34 58.0 -0.3
comp=Z,2.7nm,0.3s,SNR=13
EHUE **Huescar 12.13 264** P P 03 35 00.6 +1.9
EHUE pmax pmax
comp=Z,35nm,0.7s
EHUE Huescar 12.13 264 P **P** 03 35 00.6 +1.9
comp=Z,35nm,0.7s
EHUE Huescar 12.13 264 P **P** 03 35 00.6 +1.9
comp=Z,35nm,0.7s,SNR=41
HARR **Harsova** 12.17 63 ⇓P P 03 34 59.2 +0.1
TIRR **Tirgusor** 12.44 64 ⇑P P 03 35 01.7 -0.2
CFR **Carcaliu** 12.46 61 ⇓P P 03 35 01.6 -0.5
RUE **Ruedersdorf** 12.46 3 *e*P P 03 35 02.4 +0.2
comp=Z,93nm,1.0s
RUE Ruedersdorf 12.46 3 *e*P **P** 03 35 02.4 +0.3
comp=Z,93nm,1.0s
ELAN **Lanestosa** 12.50 290 P P 03 35 02.6 +0.1
comp=Z,24nm,0.6s
ELAN Lanestosa 12.50 290 P **P** 03 35 02.6 +0.1
comp=Z,24nm,0.6s,SNR=11
EQES **Quesada** 12.50 265 P P 03 35 03.7 +1.2
comp=Z,305nm,0.9s
EQES Quesada 12.50 265 P **P** 03 35 03.7 +1.1
comp=Z,305nm,0.9s,SNR=150
WTSB **Winterswijk** 12.61 343⇑*i*P **P** 03 35 04.8 +1.1
comp=Z,48nm,0.6s
WTSB *i*x x 03 35 06.1
EBER **Berja** 12.63 261 P P 03 35 05.1 +1.2
comp=Z,209nm,0.6s
EBER Berja 12.63 261 P **P** 03 35 05.1 +1.2
comp=Z,209nm,0.6s,SNR=38
GRR **Gorron** 12.81 315 *e*P **P** 03 35 04.6 -1.1
comp=Z,38nm,0.4s
ESDC **Sonseca Array** 12.83 274 P P 03 35 06.1 +0.2
comp=Z,6.5nm,0.3s,baz=77,slow=11,SNR=134
ESDC Sonseca Array 12.83 274 P **P** 03 35 06.1 +0.2
comp=Z,32nm,0.4s
ESLA **Sonseca Array** 12.83 274 *e*P P 03 35 05.7 -0.2
comp=Z,9.2nm,0.8s
ESLA Sonseca Array 12.83 274 *e*P **P** 03 35 05.7 -0.2
comp=Z,9.2nm,0.8s
FLN **La Foliniere** 12.83 317 *e*P P 03 35 04.8 -1.2
comp=Z,60nm,0.5s
EBAN **Banos Encina** 12.96 267 P P 03 35 07.8 +0.5
EBAN pmax pmax
comp=Z,35nm,0.7s
EBAN **Banos Encina** 12.96 267 P **P** 03 35 07.8 +0.6
comp=Z,34nm,0.7s
EBAN Banos Encina 12.96 267 P **P** 03 35 07.8 +0.5
comp=Z,34nm,0.7s,SNR=25
EALB **Alboran** 13.08 257 P P 03 35 08.2 -0.4
comp=Z,100nm,0.3s
EALB Alboran 13.08 257 P **P** 03 35 08.2 -0.3
comp=Z,100nm,0.3s,SNR=7.9
EGUA **Guajares** 13.16 261 P P 03 35 09.9 +0.5
EGUA pmax pmax
comp=Z,14nm,0.4s
EGUA Guajares 13.16 261 P **P** 03 35 09.9 +0.5

comp=Z,14nm,0.4s
EGUA Guajares 13.16 261 P **P** 03 35 09.9 +0.5
comp=Z,14nm,0.4s,SNR=7.9
EADA Adamuz 13.56 268 P **P** 03 35 14.0 +0.6
comp=Z,78nm,0.8s
EADA Adamuz 13.56 268 P **P** 03 35 14.0 +0.5
comp=Z,78nm,0.8s,SNR=54
KIS Kishinev 13.58 54*d iP* **P** 03 35 12.0 -1.6
KIS *i* S **S** 03 37 42.0 +7.1
KIS Kishinev 13.58 54⇓ *iP* **P** 03 35 12.0 -1.6
GKP Gorka Klasztor 13.59 12 *eP* **P** 03 35 14.7 +1.1
SGMF Saint Gilles 13.68 312 *eP* **P** 03 35 13.6 -1.0
comp=Z,28nm,0.5s
EARI Arriondas 13.79 289 P **P** 03 35 16.8 +1.1
comp=Z,173nm,2.2s
EARI Arriondas 13.79 289 P **P** 03 35 16.8 +1.1
comp=Z,173nm,2.2s,SNR=7.2
QUIF Quistinic 13.87 310 *eP* **P** 03 35 15.9 -0.6
comp=Z,42nm,0.7s
ROSF Rostrenen 14.14 311 *eP* **P** 03 35 18.6 -0.6
comp=Z,13nm,0.6s
EMIJ Mijas 14.17 261 P **P** 03 35 19.1 -0.5
comp=Z,140nm,0.6s
EMIJ Mijas 14.17 261 P **P** 03 35 19.1 -0.5
comp=Z,140nm,0.6s,SNR=50
REAL Reales 14.52 262 *eP* **P** 03 35 22.5 -0.7
LIJA Lijar 14.54 263 *eP* **P** 03 35 22.0 -1.3
ECAL Calabor 14.82 284 P **P** 03 35 26.3 +0.2
comp=Z,54nm,1.1s
ECAL Calabor 14.82 284 P **P** 03 35 26.3 +0.2
comp=Z,54nm,1.1s,SNR=5.3
PBRG Braganca 14.82 283 *eP* **P** 03 35 26.4 +0.3
comp=Z,25nm,0.7s
PBRG Braganca 14.82 283 *eP* **P** 03 35 26.2 +0.1
ALJ Aljibe 14.84 262 *eP* **P** 03 35 26.0 -0.4
ESPR Espera 14.89 264 P **P** 03 35 26.3 -0.6
comp=Z,14nm,0.4s
ESPR Espera 14.89 264 P **P** 03 35 26.3 -0.6
comp=Z,14nm,0.4s,SNR=20
ERUA La Rua 15.13 285 P **P** 03 35 29.0 -0.3
ERUA pmax pmax
comp=Z,16nm,0.6s
ERUA La Rua 15.13 285 P **P** 03 35 29.0 -0.2
comp=Z,16nm,0.6s
BSD Bornholm Skovb 15.15 5⇓ *iP* **P** 03 35 29.3 -0.1
BSD pmax pmax
comp=Z,89nm,0.7s
BSD Bornholm Skovb 15.15 5⇓ *iP* **P** 03 35 29.3 -0.1
comp=Z,88nm,0.7s
EMIN Mina Concepcio 15.27 268 P **P** 03 35 30.8 +0.2
comp=Z,64nm,1.0s
EBAD Badajoz 15.31 272 P **P** 03 35 30.2 -0.9
comp=Z,12nm,0.6s
MTE Manteigas 15.48 278⇓ *iP* **P** 03 35 32.6 -0.2
comp=Z,19nm,0.8s
MTE Manteigas 15.48 278 *i P* **P** 03 35 33.0 +0.2
comp=Z,46nm,0.9s
PCBR Castelo Branco 15.49 276 *eP* **P** 03 35 32.6 -0.3
PCBR Castelo Branco 15.49 276 *eP* **P** 03 35 32.7 -0.2
comp=Z,30nm,1.3s
PVRL Vila Real 15.56 281 *eP* **P** 03 35 33.4 -0.1
PVRL Vila Real 15.56 281 *eP* **P** 03 35 33.3 -0.2
COP Copenhagen 15.66 359⇑ *iP* **P** 03 35 34.7 +0.3
COP pmax pmax
comp=Z,40nm,0.6s
COP Copenhagen 15.66 359⇑ *iP* **P** 03 35 34.7 +0.3
comp=Z,40nm,0.6s
SUW Suwalki 15.67 23 *eP* **P** 03 35 34.7 +0.2
SUW *e*Sn **S** 03 38 13.6 +0.3
SUW Suwalki 15.67 23 *eP* **P** 03 35 34.8 +0.3
SUW *e* 03 35 35.0
SUW *e*S **S** 03 38 13.6 +0.4
AKASG Malin Array Be 15.72 42 P **P** 03 35 34.3 -0.7
comp=Z,29nm,0.3s,baz=233,slow=9.1,SNR=95
AKASG S **S** 03 38 15.3 +1.1
comp=Z,1.9nm,0.3s,baz=240,slow=20,SNR=13
AKASG Malin Array Be 15.72 42 S **S** 03 38 15.3 +1.1
ELOB Lobios 15.80 283 P **P** 03 35 35.8 -0.1
comp=Z,128nm,1.7s
HGH Gray Hill 15.82 322 *eP* **P** 03 35 36.3 +0.3
HGH AMb AMB 03 35 38.1
comp=Z,250nm,1.0s
EGRO El Granado 15.95 267 P **P** 03 35 36.4 -1.0
comp=Z,17nm,0.5s
BR131 Keskin Array S 16.07 84 *eP* **P** 03 35 39.1 +0.6
comp=Z,4.6nm,0.6s
BRTR Keskin Array B 16.07 84 P **P** 03 35 40.0 +1.5
comp=Z,1.1nm,0.3s,baz=270,slow=8.1,SNR=36
PBEJ Beja 16.12 269 *eP* **P** 03 35 38.8 -0.3
PBEJ Beja 16.12 269 *eP* **P** 03 35 38.9 -0.2
comp=Z,27nm,1.4s
EVO Evora 16.12 271 *eP* **P** 03 35 39.3 +0.2
comp=Z,16nm,0.6s
MCH1 Michaelchurch 16.15 323⇑ *eP* **P** 03 35 40.0 +0.8
STS Santiago 16.19 287 P **P** 03 35 38.1 -1.6
comp=Z,40nm,1.3s
PTOM Tomar 16.24 275 *eP* **P** 03 35 40.1 -0.1
comp=Z,39nm,0.9s
EZAM Zamans 16.28 284 P **P** 03 35 40.2 -0.4
EZAM pmax pmax
comp=Z,39nm,1.0s
EZAM Zamans 16.28 284 P **P** 03 35 40.2 -0.4
comp=Z,39nm,1.0s
HTR Trewern Hill 16.33 323⇑ *eP* **P** 03 35 41.5 +0.5
HTR AMb AMB 03 35 43.5
comp=Z,236nm,0.9s
HLM1 Long Mynd 16.45 325⇑ *eP* **P** 03 35 42.5 +0.3
HLM1 AMb AMB 03 35 43.9
comp=Z,149nm,1.0s
SSP1 Stoney Pound 16.48 324⇑ *eP* **P** 03 35 43.2 +0.7
SSP1 AMb AMB 03 35 44.3
comp=Z,178nm,1.4s
SIM Simferopol' 16.51 66*c iP* **P** 03 35 44.5 +1.6
SIM S **S** 03 38 32.0 +3.5
SIM pmax pmax
comp=Z,32nm,1.0s
MUD Monsted U'grnd 16.59 353⇑ *iP* **P** 03 35 43.9 +0.4
MUD *e* 03 38 36.4
MUD pmax pmax
comp=Z,55nm,0.7s
MUD Monsted U'grnd 16.59 353⇑ *iP* **P** 03 35 43.9 +0.4
comp=Z,55nm,0.7s
MUD *e* 03 38 36.4
LHO Holmfirth 16.75 329⇑ *eP* **P** 03 35 46.0 +0.9
RTC Rabat Centre 16.75 255 P **P** 03 35 44.6 -0.6
SBD1 Bryn Du 16.88 325 *eP* **P** 03 35 47.2 +0.8
PTEO Sao Teotonio 16.90 268 *eP* **P** 03 35 46.9 +0.2
LWH Whinny Nab 16.90 332 *eP* **P** 03 35 47.4 +0.7
WPM1 Penmaenmawr 17.41 325⇑ *eP* **P** 03 35 52.7 +1.1
WPM1 AMb AMB 03 35 54.4
comp=Z,280nm,0.5s
YLL Llanberis 17.44 324 *eP* **P** 03 35 52.9 +0.9
YRE Yr Eifl 17.45 324⇑ *eP* **P** 03 35 53.1 +1.0
YRE AMb AMB 03 35 54.8
comp=Z,166nm,1.1s
LCP Cassop 17.51 332 *eP* **P** 03 35 52.7 +0.1
WLF1 Llynfaes 17.64 324⇑ *eP* **P** 03 35 54.9 +1.0
WLF1 AMb AMB 03 35 57.2
comp=Z,141nm,0.9s
WME Myndd Eilian 17.68 325 *eP* **P** 03 35 55.4 +1.2
YRC Rhoscolyn 17.70 324⇑ *eP* **P** 03 35 55.5 +1.0
YRC AMb AMB 03 35 58.5
comp=Z,139nm,1.2s
WCB1 Church Bay 17.77 324⇑ *eP* **P** 03 35 56.2 +1.1
WCB1 AMb AMB 03 35 57.7
comp=Z,175nm,0.6s
WIM Isle of Man 18.35 326 *eP* **P** 03 36 01.8 +1.1
WIM AMb AMB 03 36 02.8
comp=Z,167nm,1.5s
GCD Castle Douglas 18.55 329 *eP* **P** 03 36 03.1 +0.5
EKA Eskdalemuir Ar 18.59 331 P **P** 03 36 03.2 +0.2
comp=Z,12nm,0.3s,baz=147,slow=12,SNR=360
ESK Eskdalemuir 18.60 331 *eP* **P** 03 36 03.4 +0.3
ESK pmax pmax
comp=Z,45nm,0.5s
ESK Eskdalemuir 18.60 331 *eP* **P** 03 36 03.4 +0.3
comp=Z,45nm,0.5s
ESK Eskdalemuir 18.60 331 *eP* **P** 03 36 03.4 +0.3
comp=Z,45nm,0.5s
DLF Lyons Farm 18.64 322 *eP* **P** 03 36 04.0 +0.5
ANN Anapa 18.83 67 *eP* **P** 03 36 05.4 0.0
ANN pmax pmax
comp=Z,62nm,0.9s
ANN Anapa 18.83 67 *eP* **P** 03 36 05.4 0.0
comp=Z,62nm,0.9s
GAL1 Galloway 18.86 328 *eP* **P** 03 36 06.7 +1.1
DCN Croghan 19.02 321 *eP* **P** 03 36 05.7 -1.4
GMK Mull of Kintyr 19.56 328 *eP* **P** 03 36 12.6 +0.4
GCL Cushendall 19.60 326 *eP* **P** 03 36 13.0 +0.4
KONO Kongsberg 19.73 355 *eP* **P** 03 36 13.1 -0.7
KMY Karmoy 19.77 349 *eP* **P** 03 36 15.2 +1.0
KMY AMb AMB 03 36 16.4
comp=Z,63nm,0.7s
KMY Karmoy 19.77 349 *eP* **P** 03 36 15.1 +0.9
comp=Z,63nm,0.7s,SNR=53
BLS5 Blasjo 19.80 351 *eP* **P** 03 36 16.0 +1.5
comp=Z,53nm,0.8s
BLS5 Blasjo 19.80 351 *eP* **P** 03 36 16.0 +1.5
BLS5 AMb AMB 03 36 18.1
comp=Z,53nm,0.8s
BLS5 Blasjo 19.80 351 *eP* **P** 03 36 16.0 +1.5
comp=Z,53nm,0.8s,SNR=53
MALT Malatya 19.99 87 P **P** 03 36 17.6 +1.2
MME1 Meikle Cairn 20.06 335 *eP* **P** 03 36 16.7 -0.3
HFS Hagfors 20.13 1 P **P** 03 36 17.0 -0.5
comp=Z,18nm,0.4s,baz=186,slow=11,SNR=123
HFA0 Hagfors New Ar 20.13 1 P **P** 03 36 16.7 -0.9
ODD1 Odda 20.26 351 *eP* **P** 03 36 18.9 +0.1
MCD Coleburn Disti 20.37 335 *eP* **P** 03 36 19.4 -0.4
SOC Sochi 20.40 71 *i* P **P** 03 36 21.0 +0.9
SOC *e**SP 03 38 33.3
SOC *e*S **S** 03 39 45.3 +10
SOC pmax pmax
comp=Z,55nm,1.1s
SOC pmax pmax
comp=N,16nm,0.9s
SOC pmax pmax
comp=E,27nm,0.8s
SOC Sochi 20.40 71 *i* P **P** 03 36 21.0 +0.9
comp=E,16nm,0.9s
VSU Vasula 20.50 21 *i* P **P** 03 36 20.9 -0.1
NAO01 NORSAR Array S 20.86 357 *eP* **P** 03 36 23.8 -0.5
comp=E,14nm,0.5s
NAO01 NORSAR Array S 20.86 357 *eP* **P** 03 36 23.8 -0.5
comp=E,14nm,0.5s
ASF Jabal al Asfar 21.01 104 P **P** 03 36 28.2 +2.3
comp=E,6.6nm,0.4s,mb4.7,baz=176,slow=4.7,SNR=13
NB2 NORSAR Subarra 21.05 358 P **P** 03 36 25.3 -0.7
comp=E,1.5nm,0.5s,mb3.9,baz=181,slow=11
NB2 NORSAR Subarra 21.05 358 P **P** 03 36 25.3 -0.7
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
NB2 NORSAR Subarra 21.05 358 P **P** 03 36 25.3 -0.7
baz=180,slow=11
NOA NORSAR Array B 21.05 358 P **P** 03 36 25.7 -0.3
comp=Z,13nm,0.6s,mb4.7,baz=183,slow=9.2,SNR=45
HYA Hoyanger 21.53 351 *eP* **P** 03 36 34.5 +4.0
OBN Obninsk 21.89 39 *eP* **P** 03 36 33.3 -0.6
OBN *e*S **S** 03 39 59.3 -0.2
OBN pmax pmax
comp=E,11nm,0.9s,mb4.5
OBN Obninsk 21.89 39 *eP* **P** 03 36 33.3 -0.6
comp=Z,11nm,0.9s,mb4.5
OBN *e*S **S** 03 39 59.3 -0.2
FOO Floro 22.09 350 *eP* **P** 03 36 35.4 -0.2
KIV Kislovodsk 22.55 70 *i* P **P** 03 36 40.9 +1.0
GOF Gofitskoye 22.82 67⇑ *iP* **P** 03 36 41.0 -1.2
GOF pmax pmax
comp=Z,68nm,1.0s,mb5.2
GOF Gofitskoye 22.82 67 *i* P **P** 03 36 41.0 -1.2
comp=Z,68nm,1.0s,mb5.2
FINES FINESS Array B 22.95 17 P **P** 03 36 43.1 -0.1
comp=Z,17nm,0.5s,mb4.9,baz=191,slow=9.7,SNR=108
FINES S **S** 03 40 17.8 +1.4
comp=Z,2.3nm,0.8s,baz=195,slow=22,SNR=4.3
ONI Oni 23.16 74 P **P** 03 36 46.0 +0.6
KAF Kangasniemi 23.59 16 *ep* **P** 03 36 48.1 -1.0
GNI Garni 24.43 79 *i* P **P** 03 36 57.2 +0.3
GNI pmax pmax
comp=Z,37nm,1.6s
GNI Garni 24.43 79 P **P** 03 36 58.4 +1.5
comp=Z,4.0nm,0.4s,mb4.4,baz=350,slow=23,SNR=6.2
GNI Garni 24.43 79 P **P** 03 36 58.4 +1.5
GNI Garni 24.43 79 *i* P **P** 03 36 57.2 +0.3
comp=Z,37nm,1.6s,mb4.8
NSS Namsos 24.53 359 *eP* **P** 03 36 56.0 -1.5
MOR8 Moi Rana 26.20 2 *eP* **P** 03 37 12.9 +0.7
MOR8 Moi Rana 26.20 2 *eP* **P** 03 37 12.7 +0.5
KTK1 Kautokeino 29.58 8 *eP* **P** 03 37 41.1 -0.6
KTK1 Kautokeino 29.58 8 *eP* **P** 03 37 41.6 -0.1
KTK1 Kautokeino 29.58 8 *eP* **P** 03 37 41.1 -0.6
TRO Tromso 29.84 4 *eP* **P** 03 37 42.8 -1.2
TRO AMb AMB 03 37 49.4
comp=Z,20nm,1.6s,mb4.4
TRO Tromso 29.84 4 *eP* **P** 03 37 42.8 -1.2
comp=Z,20nm,1.6s,mb4.4,SNR=50
ARCES ARCESS Array B 30.33 9 P **P** 03 37 47.4 -0.7
comp=Z,9.0nm,0.6s,mb4.5,baz=189,slow=8.2,SNR=118
ARCES ScP 03 43 24.4
comp=Z,1.0nm,0.8s,baz=189,slow=3.5,SNR=5.9
ARCES ARCESS Array B 30.33 9 P **P** 03 37 47.4 -0.7
ARCES ScP 03 43 24.4
ARU Arti 33.91 46⇓ *iP* **P** 03 38 18.3 -0.3
ARU *e* 03 39 48.9
ARU *e*S **S** 03 43 15.2 +7.7
ARU pmax pmax
comp=Z,26nm,1.0s,mb4.7
ARU Arti 33.91 46⇓ *iP* **P** 03 38 18.4 -0.2
ARU Arti 33.91 46 *i* P **P** 03 38 18.3 -0.3
comp=Z,26nm,1.0s,mb4.7
AB31 Akbulak array 34.34 58 *i* P **P** 03 38 22.0 -0.2
DBIC Dimbokro 36.78 210 P **P** 03 38 42.6 -0.2
comp=Z,8.9nm,0.6s,mb4.5,baz=12,slow=9.9,SNR=58
BRVK Borovoye 40.59 52 *i* P **P** 03 39 13.9 +0.6
BVA0 Borovoye Array 40.65 52 *i* P **P** 03 39 14.0 +0.2
BVA0 pmax pmax
comp=Z,1.0nm,1.2s,mb3.2
BVA0 Borovoye Array 40.65 52 *i* P **P** 03 39 14.0 +0.2
comp=Z,1.0nm,1.2s,mb3.2
KKAR Karatay Array 42.61 66 *i* P **P** 03 39 29.3 -0.2
AAK Ala-Archa 45.55 66 *i* P **P** 03 39 51.9 -0.5
KURK Kurchatov 46.06 54 *eP* **P** 03 39 55.8 -0.5
KURK pmax pmax
comp=Z,14nm,0.8s,mb4.5
KURK Kurchatov 46.06 54 *eP* **P** 03 39 55.8 -0.5
comp=Z,14nm,0.8s,mb4.5
KURK Kurchatov 46.06 54 *eP* **P** 03 39 55.8 -0.5
comp=Z,14nm,0.8s,mb4.5
KMBO Kilima Mbogo 46.70 145 P **P** 03 40 02.6 +0.9
comp=Z,0.5nm,0.4s,mb3.4,baz=347,slow=9.1,SNR=4.0
NVS Novosibirsk 47.87 47 *eP* **P** 03 40 09.9 -0.1
MKAR Makanchi Array 49.48 58 P **P** 03 40 22.0 -0.2
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 49.48 58 P **P** 03 40 22.0 -0.2
comp=Z,2.9nm,0.8s,mb3.9,baz=95,slow=8.3,SNR=6.6
MKAR Makanchi Array 49.48 58 P **P** 03 40 22.0 -0.2
FRB Frobisher Bay 51.26 326 P **P** 03 40 35.0 0.0
comp=Z,3.4nm,0.4s,mb4.0,baz=77,slow=9.2,SNR=10.0
SCHQ Schefferville 52.90 314 P **P** 03 40 46.5 -0.5
comp=Z,1.5nm,0.3s,mb3.8,baz=91,slow=5.2,SNR=11
ZAK Zakamensk 60.83 47 *eP* **P** 03 41 38.1 -3.2
MATP Matopo 61.93 163 P **P** 03 41 49.1 +0.2
comp=Z,3.0nm,0.6s,mb3.9,baz=354,slow=7.3,SNR=14
BOD Bodaibo 62.56 36⇑ *iP* **P** 03 41 51.6 -0.8
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
BOD Bodaibo 62.56 36 *i* P **P** 03 41 51.6 -0.8
comp=Z,6.0nm,0.9s,mb4.0
SONM Songino Array 63.88 48 P **P** 03 42 01.6 +0.7
comp=Z,5.2nm,0.8s,mb4.0,baz=290,slow=7.2,SNR=34
INK Inuvik 69.05 347 P **P** 03 42 32.8 +0.2
comp=Z,0.9nm,0.5s,mb3.5,baz=51,slow=4.2,SNR=3.3
BOSA Boshof 69.29 168 P **P** 03 42 34.7 0.0
comp=Z,2.7nm,0.5s,mb4.0,baz=334,slow=11,SNR=7.4
YKA Yellowknife Ar 69.43 337 P **P** 03 42 33.8 -1.1
comp=Z,0.6nm,0.4s,mb3.5,baz=38,slow=5.6,SNR=5.1
YKA Yellowknife Ar 69.43 337 P **P** 03 42 33.8 -1.1
ILAR Eielson Array 74.30 351 P **P** 03 43 05.9 +3.1
comp=Z,0.2nm,0.6s,baz=10,slow=10,SNR=4.1
BDFB Brasilia 79.05 239 P **P** 03 43 31.3 +1.7
comp=Z,1.1nm,0.3s,mb3.6,baz=229,slow=13,SNR=3.9
PDAR Pinedale Array 82.44 321 P **P** 03 43 47.6 +1.1
comp=Z,0.5nm,0.6s,mb3.1,baz=45,slow=4.2,SNR=4.1
YSS Yuzh-Sakhalins 82.62 32 *eP* **P** 03 43 48.1 +0.8
SSE Sheshan 83.07 55 *eP* **P** 03 43 44.2 -5.8
comp=Z,24nm,0.7s,mb4.8

*MOS **26** 03:46:48.2±1.2, 6.77S×129.44E, h105km, mb4.2/8, Error ellipse: s-maj=23.6km s-min=9.7km az=119.9*

*BJI **26** 03:46:50.3, 7.09S×130.02E, h154km, mB5.1, mb4.7*
*NEIC **26** 03:46:52.7±1.7, 6.87S×129.57E, h129km±17km, mb4.6/11, Error ellipse: s-maj=15.4km s-min=8.8km az=223.0*
*IDC **26** 03:46:52.8±3.9, 6.81S×129.58E, h129km±35km, mb4.0/10, mb1 4.2/12, mb1mx4.1/17, mbtmp4.5/12, Error ellipse: s-maj=21.0km s-min=14.3km az=62.0*

ISC 26 03:46:52.1±1.8, **6.97S**±0.07×**129.52E**±0.08, **h141**km±18km, **n54**, σ1**912**/56, **mb4.2**/22, **2C-1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.39**	**153**⇓	*iP*	**P**	**03 48 30.3**	**+5.3**
	91nm,0.2s						
KAKA				*e*S	**S**	**03 49 35.2**	**-1.9**
FITZ	**Fitzroy Crossi**	**11.70**	**199**	*eP*	**P**	**03 49 37.3**	**+1.7**
	10nm,0.3s						
FITZ				*e*S	**S**	**03 51 41.2**	**-2.5**
FITZ	**Fitzroy Crossi**	**11.70**	**199**	P	**P**	**03 49 37.7**	**+2.2**
	2.5nm,0.3s,baz=19,slow=8.2,SNR=62						
FITZ				S	**S**	**03 51 41.8**	**-1.9**
	8.6nm,0.3s,baz=136,slow=11,SNR=6.5						
WRAB	**Tennant Creek**	**13.72**	**160**	*i* P	**P**	**03 50 01.6**	**-0.2**
WRAB	**Tennant Creek**	**13.72**	**160**	*e*Pn	**P**	**03 50 01.4**	**-0.3**
	82nm,0.8s						
WRA	**Warramunga Arr**	**13.72**	**161**	P	**P**	**03 50 01.9**	**+0.1**
	3.9nm,0.3s,baz=335,slow=14,SNR=104						
WRA				S	**S**	**03 52 26.3**	**-4.8**
	5.7nm,0.3s,baz=349,slow=22,SNR=11						
WRA	**Warramunga Arr**	**13.72**	**161**	P	**P**	**03 50 01.9**	**+0.1**
WRA				S	**S**	**03 52 26.3**	**-4.8**
WB2	**Warramunga Arr**	**13.72**	**160**⇑	*iP*	**P**	**03 50 01.6**	**-0.3**
WB2				*e*S	**S**	**03 52 25.6**	**-5.6**
PMG	**Port Moresby**	**17.63**	**99**	*eP*	**P**	**03 50 51.5**	**+1.1**
PMG				pmax	pmax		
	comp=Z,48nm,0.9s						
PMG	**Port Moresby**	**17.63**	**99**	P	**P**	**03 50 52.6**	**+2.2**
	comp=Z,1.7nm,0.3s,baz=271,slow=8.9,SNR=5.9						
PMG	**Port Moresby**	**17.63**	**99**	*eP*	**P**	**03 50 51.5**	**+1.1**
	comp=Z,48nm,0.9s						
PMG				P		03 50 52.6	
KKM	**Kota Kinabalu**	**18.53**	**314**	*eP*	**P**	**03 51 01.3**	**+0.9**
CTA	**Charters Tower**	**20.82**	**130**	*eP*	**P**	**03 51 25.7**	**+1.7**
	comp=Z,8.8nm,0.9s						
CTA	**Charters Tower**	**20.82**	**130**	*eP*	**P**	**03 51 25.7**	**+1.7**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CTA	**Charters Tower**	**20.82**	**130**	P	**P**	**03 51 26.2**	**+2.2**
	comp=Z,12nm,0.9s,baz=303,slow=13,SNR=7.1						
CTAO	**Charters Tower**	**20.82**	**130**	*eP*	**P**	**03 51 23.8**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,17nm,0.9s						
CTAO	**Charters Tower**	**20.82**	**130**	*eP*	**P**	**03 51 23.8**	**-0.2**
	comp=Z,17nm,0.9s						
KSM	**Kuching**	**20.93**	**293**	*eP*	**P**	**03 51 26.2**	**+1.1**
STKA	**Stephens Creek**	**27.23**	**157**	*eP*	**P**	**03 52 25.9**	**+1.0**
	comp=Z,4.8nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**27.23**	**157**	P	**P**	**03 52 25.4**	**+0.5**
	comp=Z,8.5nm,0.6s,mb4.5,baz=334,slow=8.2,SNR=12						
HNR	**Honiara**	**30.21**	**97**	P	**P**	**03 52 51.9**	**+0.1**
	comp=Z,37nm,0.4s,mb5.4,baz=259,slow=1.4,SNR=3.6						
DZM	**Mont Dzumac**	**38.63**	**117**	P	**P**	**03 54 03.7**	**+0.2**
	comp=Z,4.0nm,0.6s,mb4.2,baz=248,slow=16,SNR=4.4						
SSE	**Sheshan**	**38.68**	**349**	*eP*	**P**	**03 54 00.8**	**-2.9**
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,216nm,5.2s						
SSE	**Sheshan**	**38.68**	**349**	*eP*	**P**	**03 54 00.8**	**-2.9**
	comp=Z,29nm,0.7s,mb5.0						
NJ2	**Nanjing**	**40.11**	**346**	*eP*	**P**	**03 54 16.8**	**+1.3**
NJ2				PP	PP	03 55 56.5	+3.3
NJ2				S	**S**	**04 00 10.0**	**-0.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,230nm,5.2s						
NJ2				LR	LR		
	comp=N,450nm,18.2s						
NJ2				LR	LR		
	comp=E,690nm,16.0s						
NJ2				LR	LR		
	comp=Z,340nm,15.9s						
GTA	**Gaotai**	**53.71**	**332**	P	**P**	**03 56 01.5**	**-0.3**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.5						
SONM	**Songino Array**	**58.26**	**342**	P	**P**	**03 56 33.6**	**-0.5**
	comp=Z,1.9nm,0.6s,mb4.1,baz=157,slow=5.7,SNR=14						
SONM				PcP	PcP	03 57 22.8	-0.7
	comp=Z,0.5nm,0.6s,baz=153,slow=6.4,SNR=2.8						
ZAK	**Zakamensk**	**61.48**	**341**	*eP*	**P**	**03 56 52.1**	**-4.0**
ZAK				*e*		03 57 34.2	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.6						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.6						
BOD	**Bodaibo**	**65.79**	**351**	*eP*	**P**	**03 57 20.1**	**-4.0**
BOD				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.8						
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**03 57 37.7**	**-0.1**
	comp=Z,8.0nm,0.4s,mb4.8,baz=116,slow=8.3,SNR=105						
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**03 57 37.7**	**-0.1**
AAK	**Ala-Archa**	**70.21**	**320**	*eP*	**P**	**03 57 51.9**	**+0.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
AAK	**Ala-Archa**	**70.21**	**320**	*eP*	**P**	**03 57 51.9**	**+0.2**
	comp=Z,5.4nm,0.5s,mb4.5						
SEY	**Seymchan**	**71.86**	**11**	*i* P	**P**	**03 58 01.4**	**+0.2**
KURK	**Kurchatov**	**72.24**	**329**	P	**P**	**03 58 03.0**	**-0.6**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.3						
KURK	**Kurchatov**	**72.24**	**329**	*eP*	**P**	**03 58 02.4**	**-1.2**
	comp=Z,8.3nm,0.7s,mb4.6						
VNDA	**Vanda**	**72.54**	**173**	P	**P**	**03 58 06.2**	**+1.2**
	comp=Z,1.0nm,0.6s,mb3.7,baz=314,slow=6.4,SNR=10						
NVS	**Novosibirsk**	**72.63**	**334**	*eP*	**P**	**03 58 03.6**	**-2.2**
KKAR	**Karatay Array**	**73.00**	**319**	*eP*	**P**	**03 58 08.6**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
MAW	**Mawson**	**74.81**	**201**	P	**P**	**03 58 19.9**	**+1.7**
	comp=Z,1.9nm,0.6s,mb3.9,baz=66,slow=9.6,SNR=11						
VOSK	**Vostochnaya**	**77.32**	**328**	P	**P**	**03 58 31.7**	**-0.9**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
BVA0	**Borovoye Array**	**77.78**	**328**	*i* P	**P**	**03 58 34.8**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.4						
BVAR	**Borovoye Array**	**77.78**	**328**	P	**P**	**03 58 34.9**	**-0.2**
	comp=Z,9.9nm,0.8s,mb4.2,baz=135,slow=6.3,SNR=29						
BRVK	**Borovoye**	**77.85**	**328**	P	**P**	**03 58 35.4**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
BRVK	**Borovoye**	**77.85**	**328**	*eP*	**P**	**03 58 34.7**	**-0.8**
	comp=Z,6.6nm,1.0s,mb4.2						
OPO	**Ambohidratompo**	**80.57**	**252**	P	**P**	**03 58 52.2**	**+1.3**
	comp=Z,1.9nm,0.7s,mb3.9,baz=353,slow=8.1,SNR=3.5						
ARU	**Arti**	**85.42**	**328**⇑	*iP*	**P**	**03 59 14.8**	**0.0**
ARU				*e*		04 02 31.1	
ARU				*e*S	S	04 09 35.0	+2.9
ARU				*e*SS	SS	04 15 17.2	+3.6
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
ARU	**Arti**	**85.42**	**328**	*eP*	**P**	**03 59 14.7**	**-0.1**
	comp=Z,7.7nm,0.6s,mb4.6						
ILAR	**Eielson Array**	**93.52**	**25**	P	**P**	**03 59 51.0**	**-1.6**
	comp=Z,0.8nm,0.8s,mb3.9,baz=274,slow=4.2,SNR=8.4						
ARCES	**ARCESS Array B**	**101.38**	**340**	P	P	04 00 27.1	-1.0
	comp=Z,3.4nm,1.0s,baz=90,slow=6.1,SNR=3.8						
PDAR	**Pinedale Array**	**117.20**	**45**	PKP	PKPdf	04 05 23.1	+2.3
	comp=Z,0.4nm,0.6s,slow=1.5,SNR=4.8						
ANMO	**Albuquerque**	**121.66**	**53**	PKP	PKPdf	04 05 31.6	+2.0
	comp=Z,0.4nm,0.3s,baz=202,slow=5.4						
TXAR	**Lajitas Array**	**125.32**	**59**	PKP	PKPdf	04 05 39.0	+2.1
	comp=Z,0.2nm,0.4s,baz=225,slow=3.8,SNR=3.6						
CPUP	**Villa Florida**	**146.24**	**169**	PKPbc	PKPbc	04 06 19.4	+2.8
	comp=Z,2.5nm,0.6s,baz=202,slow=3.4,SNR=11						

*IDC **26** 04:08:34.5±0.3, 45.31N×112.71W, mb5.2/21, mb1 5.3/29, mb1mx5.3/30, mbtmp5.2/29, ML4.8/7, MS5.1/23, Ms1 5.1/23, ms1mx5.0/29, Error ellipse: s-maj=7.7km s-min=6.1km az=60.0*
*CRAAG **26** 04:08:36.5, 45.46N×112.50W, Mb5.8*
*MOS **26** 04:08:36.2±0.9, 45.43N×112.64W, h15km, mb5.9/104, MS5.3/45, Error ellipse: s-maj=6.0km s-min=3.2km*

az=74.4

BJI ***26*** *04:08:36.1,45.40N×112.60W,h12km,mB5.8,mb5.8, Ms5.8,Msz5.5*

HRVD ***26*** *04:08:37.2±0.2,45.37N×112.55W,h12km,MW5.6/75, Centroid moment Tensor Solution. LP body waves: s54,c103;Mantle waves: s75,c162; Half duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.93±.04; $M_{\theta\theta}$-0.10±.04; $M_{\phi\phi}$2.02±.04; $M_{r\theta}$-1.32±.13; $M_{\theta\phi}$-1.56±.03; $M_{\phi r}$0.13±.13; Best double couple: M_o2.837×10^{17} NP1:ϕ_s1°, δ45°,λ-44°. NP2:ϕ_s125°,δ61°,λ-126°. Principal axes: T 2.964, Plg9°, Azm239°; N -.259, Plg31°, Azm144°; P -2.711, Plg58°, Azm344°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***26*** *04:08:37.2±0.1,45.37N×112.62W,mb5.7/166,ME5.4, MS5.2/66,MW5.5,MW5.4(SLM) Error ellipse: s-maj=1.9km s-min=1.3km az=196.0 Broadband fault plane solution: P waves. NP1:ϕ_s355°,δ60°,λ-50°. NP2: ϕ_s116°,δ48°,λ-138°. Principal axes: T Plg7°, Azm58°; N Plg0°, Azm0°; P Plg55°, Azm318°; Moment Tensor Solution. s17 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.66; $M_{\theta\theta}$0.91; $M_{\phi\phi}$0.75; $M_{r\theta}$-0.61; $M_{\theta\phi}$-1.17; $M_{\phi r}$-0.39; Best double couple: M_o2×10^{17} NP1:ϕ_s335°,δ47°,λ-57°. NP2: ϕ_s112°,δ52°,λ-120°. Principal axes: T 2.01, Plg3°, Azm222°; N -.04, Plg23°, Azm131°; P -1.97, Plg67°, Azm319°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Minor damage [VI] at Dillon, Silver Star and Twin Bridges. Felt [V] at Gold Creek, Sheridan, Virginia City and Wisdom; [IV] at Alberton, Anaconda, Bonner, Boulder, Bozeman, Butte, Canyon Creek, Cardwell, Cascade, Clancy, Clinton, Corvallis, Darby, Deer Lodge, East Helena, Ennis, Florence, Gallatin Gateway, Gardiner, Garrison, Helena, Helmville, Lolo, Manhattan, Missoula, Pray, Seeley Lake, Stevensville, Sula, Superior, Victor, West Yellowstone and Whitehall; [III] at Arlee, Belgrade, Bigfork, Billings, Columbia Falls, Columbus, Cut Bank, Drummond, Dutton, Emigrant, Fairfield, Fort Benton, Frenchtown, Great Falls, Hamilton, Kalispell, Livingston, McLeod, Philipsburg, Polson, Red Lodge, Ronan, Roscoe, Saint Regis, Shelby, Three Forks, Townsend, Whitefish, White Sulphur Springs and Wilsall. Felt [V] at Leadore; [IV] at Island Park, North Fork and Salmon; [III] at Arco, Carmen, Challis, Coeur d'Alene, Hailey, Kamiah, Kooskia, Ketchum, Mackay, McCall, Moscow, Orofino, Pierce, Potlatch, Priest River, Saint Anthony, Saint Maries and Sandpoint; [II] at Boise, Idaho. Also felt [IV] in Yellowstone National Park, Wyoming and [III] at Spokane, Washington. Felt as far as Denver, Colorado; Seattle, Washington and Calgary, Alberta.

BGS ***26*** *04:08:43.9,46.73N×112.01W,h5km,mb5.7*

ISC 26 04:08:35.7±0.1,45.38N±0.01×112.65W±0.02,h13km, h13km±.3km:pP-P,n865,σ0:91/798,mb5.6/227,MS5.2/113, 46C-194D,Montana

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MCMT	**McKenzie Canyo**	**0.57**	**194**	⇑*i*P		**Pb**	**04 08 46.4**	**-0.7**
LCCM	**Lewis and Clar**	**0.71**	**50**	⇑P		**Pb**	**04 08 49.3**	**0.0**
BOZ	**Bozeman (W)**	**0.76**	**69**	⇓*e*P		**Pb**	**04 08 49.5**	**-0.8**
QLMT	**Earthquake Lak**	**1.02**	**122**	⇑*i*P		**Pb**	**04 08 54.1**	**-0.7**
YMR	**Madison River**	**1.39**	**120**	⇑P		**Pb**	**04 09 00.8**	**-0.1**
YMR				*e*S		**Sb**	**04 09 18.5**	**0.0**
HRY	**Holter Researc**	**1.45**	**23**	*e*P		**Pn**	**04 09 02.6**	**+0.9**
YNR	**Norris Junctio**	**1.55**	**115**	⇑*i*Pn		**Pn**	**04 09 03.7**	**+0.6**
YNR				*e*S		**Sb**	**04 09 23.4**	**+0.3**
CHMT	**Chamberlain Mo**	**1.59**	**345**	⇓*i*P		**Pn**	**04 09 05.1**	**+1.4**
YFT	**Old Faithful**	**1.59**	**125**	⇑*i*Pn		**Pn**	**04 09 04.7**	**+1.0**
MSO	**Missoula**	**1.70**	**329**	⇓*i*Pn		**Pn**	**04 09 06.4**	**+1.0**
MSO				*e*Pg		**Pg**	**04 09 09.4**	**-0.4**
MSO				*e*Sn		**Sn**	**04 09 29.6**	**+2.4**
MSO				*e*Sg		**Sg**	**04 09 32.4**	**-0.2**
LKWY	**Lake**	**1.79**	**116**	⇑*e*P		**Pn**	**04 09 08.3**	**+1.6**
IMW	**Indian Meadow**	**1.92**	**140**	⇓*e*Pn		**Pn**	**04 09 09.5**	**+1.0**
MOOW	**Moose Ponds**	**2.12**	**140**	*e*Pn		**Pn**	**04 09 12.4**	**+1.0**
GCMT	**Greycliff**	**2.13**	**78**	⇑*e*Pn		**Pn**	**04 09 11.9**	**+0.4**
RRI2	**Red Ridge**	**2.25**	**154**	⇓*e*Pn		**Pn**	**04 09 14.2**	**+1.1**
TPAW	**Teton Pass**	**2.25**	**147**	⇓*e*Pn		**Pn**	**04 09 14.4**	**+1.2**
LOHW	**Long Hollow**	**2.29**	**140**	⇓*e*Pn		**Pn**	**04 09 14.8**	**+1.0**
SNOW	**Snow King Moun**	**2.35**	**144**	*e*Pn		**Pn**	**04 09 15.9**	**+1.3**
REDW	**Red Top Meadow**	**2.40**	**147**	*e*Pn		**Pn**	**04 09 16.4**	**+1.1**
AHID	**Auburn Hatcher**	**2.84**	**156**	*e*Pn		**Pn**	**04 09 22.2**	**+0.5**
BSMT	**Bassoo Peak**	**2.88**	**330**	⇓P		**Pn**	**04 09 23.2**	**+1.1**
BMO	**Blue Mountains**	**3.34**	**263**	*e*Pn		**Pn**	**04 09 28.4**	**-0.4**
BW06	**Boulder Array**	**3.43**	**138**	*e*Pn		**Pn**	**04 09 31.2**	**+1.1**
PDAR	**Pinedale Array**	**3.43**	**138**	Pn		**Pn**	**04 09 33.0**	**+3.0**
	21nm,0.3s,baz=342,slow=11,SNR=209							
PDAR				Lg			04 10 21.3	
	180nm,0.3s,baz=320,slow=23,SNR=5.1							
HVU	**Hansel Valley**	**3.60**	**182**	*e*P		**Pn**	**04 09 32.8**	**+0.3**
HWUT	**Hardware Ranch**	**3.85**	**168**	*e*Pn		**Pn**	**04 09 36.5**	**+0.5**
LNOR	**Lincton Mounta**	**3.98**	**279**	⇓P		**Pn**	**04 09 39.3**	**+1.4**
SPUT	**South Promonto**	**4.07**	**178**	*e*Pn		**Pn**	**04 09 38.4**	**-0.7**
NEW	**Newport**	**4.21**	**315**	Pn		**Pn**	**04 09 40.9**	**-0.3**
	89nm,0.3s,baz=136,slow=12,SNR=622							
NEW				Pg		**Pg**	**04 09 53.9**	**-6.0**
	281nm,0.3s,baz=126,slow=17,SNR=43							
NEW				Lg			04 10 47.4	
	2μm,0.3s,baz=239,slow=19,SNR=8.9							
NEW				LR		LR	04 11 46.0	
	comp=Z,32μm,19.1s,baz=129,slow=45							
NEW	**Newport**	**4.21**	**315**	⇓*e*Pn		**Pn**	**04 09 40.6**	**-0.5**
TCUT	**Toone Canyon**	**4.36**	**168**	Pn		**Pn**	**04 09 44.3**	**+1.1**
BGU	**Big Grassy Mou**	**4.46**	**184**	*e*Pn		**Pn**	**04 09 44.6**	**-0.1**
YPT	**Yellepit**	**4.47**	**281**	⇓P		**Pn**	**04 09 45.5**	**+0.7**
ET3	**Eltopia**	**4.54**	**287**	P		**Pn**	**04 09 45.6**	**-0.3**
ET3				P			04 09 46.1	
DPW	**Davenport**	**4.56**	**305**	⇓P		**Pn**	**04 09 45.6**	**-0.5**
OD2	**Odessa Site #2**	**4.65**	**298**	⇓P		**Pn**	**04 09 46.7**	**-0.7**
LAO	**LASA Array**	**4.66**	**71**	⇑*e*Pn		**Pn**	**04 09 46.5**	**-1.0**
CTU	**Camp Tracy**	**4.73**	**172**	Pn		**Pn**	**04 09 50.4**	**+1.9**
WRD	**Warden**	**4.74**	**290**	⇓P		**Pn**	**04 09 49.2**	**+0.6**
WIW	**Wooded Island**	**4.75**	**285**	P		**Pn**	**04 09 48.7**	**0.0**
OT3	**Othello 3**	**4.76**	**288**	⇓P		**Pn**	**04 09 48.9**	**-0.1**
MJ2	**May Junction 2**	**4.83**	**286**	P		**Pn**	**04 09 49.9**	**+0.1**
MJ2				P			04 09 50.2	
REDWA	**Red Mountain**	**4.83**	**283**	⇓P		**Pn**	**04 09 50.0**	**0.0**
H2OWA	**Water**	**4.84**	**285**	⇓P		**Pn**	**04 09 50.0**	**0.0**
JLU	**Jordanelle**	**4.86**	**169**	Pn		**Pn**	**04 09 52.4**	**+2.1**
GBL	**Gable Mountain**	**4.90**	**287**	⇓P		**Pn**	**04 09 50.9**	**0.0**
CRF	**Corfu**	**4.90**	**290**	⇓P		**Pn**	**04 09 50.8**	**-0.2**
LOCW	**Lottie Island**	**4.91**	**288**	⇓P		**Pn**	**04 09 51.4**	**+0.4**
RSW	**Rattlesnake Hi**	**4.95**	**284**	⇓P		**Pn**	**04 09 51.8**	**+0.1**
PRW	**Prosser**	**4.99**	**282**	⇓P		**Pn**	**04 09 52.5**	**+0.3**
ELK	**Elko**	**5.01**	**203**	Pn		**Pn**	**04 09 52.6**	**+0.2**
	5.9nm,0.3s,baz=14,slow=13,SNR=102							
ELK				Lg			04 11 06.0	
	128nm,0.3s,baz=159,slow=9.1,SNR=4.0							
ELK	**Elko**	**5.01**	**203**	⇑*e*Pn		**Pn**	**04 09 52.6**	**+0.2**
FHE	**Frenchman Hill**	**5.01**	**291**	P		**Pn**	**04 09 52.3**	**-0.2**
SNIWA	**Snively Ranch**	**5.01**	**285**	⇓P		**Pn**	**04 09 52.5**	**0.0**
GBB	**Gable Butte**	**5.02**	**287**	⇓P		**Pn**	**04 09 52.4**	**-0.1**
BENWA	**Benson Ranch**	**5.06**	**285**	⇓P		**Pn**	**04 09 53.2**	**0.0**
DAU	**Daniels Canyon**	**5.07**	**168**	*e*Pn		**Pn**	**04 09 56.5**	**+3.2**
MDW	**Midway**	**5.11**	**286**	P		**Pn**	**04 09 53.6**	**-0.2**
EPH	**Ephrata**	**5.20**	**295**	P		**Pn**	**04 09 54.4**	**-0.7**
SAW	**Saint Andrews**	**5.21**	**299**	⇓P		**Pn**	**04 09 54.3**	**+0.9**
WVOR	**Wild Horse Val**	**5.24**	**238**	P		**Pn**	**04 09 55.2**	**-0.4**
BRVW	**Black Rock Val**	**5.24**	**285**	P		**Pn**	**04 09 56.1**	**+0.4**
MPU	**Maple Canyon**	**5.42**	**172**	*e*Pn		**Pn**	**04 09 59.8**	**+1.7**
NLU	**North Lily Min**	**5.44**	**175**	Pn		**Pn**	**04 09 58.2**	**-0.3**
MXC	**Moxie City**	**5.46**	**285**	⇓P		**Pn**	**04 09 58.8**	**0.0**
WTV	**Waterville**	**5.55**	**297**	⇓P		**Pn**	**04 09 59.1**	**-1.0**
VTHM	**Trough**	**5.59**	**271**	P		**Pn**	**04 10 00.6**	**0.0**
CBSW	**Chelan Butte S**	**5.64**	**298**	⇓P		**Pn**	**04 10 00.3**	**-1.0**
EBG	**Ellensburg**	**5.71**	**288**	⇓P		**Pn**	**04 10 02.4**	**0.0**
VIPM	**Ingram Point**	**5.72**	**264**	P		**Pn**	**04 10 02.5**	**0.0**
ETW	**Entiat**	**5.75**	**295**	⇓P		**Pn**	**04 10 02.0**	**-0.9**
TBM	**Table Mountain**	**5.79**	**291**	⇓P		**Pn**	**04 10 03.1**	**-0.4**
NAC	**Naches**	**5.85**	**286**	P		**Pn**	**04 10 02.5**	**-1.8**
CROR	**Criterion Ridg**	**5.91**	**269**	⇓P		**Pn**	**04 10 05.4**	**+0.3**
TWW	**Teanaway**	**5.96**	**290**	⇓P		**Pn**	**04 10 05.5**	**-0.4**
BMN	**Battle Mountai**	**5.98**	**216**	P		**Pn**	**04 10 06.1**	**0.0**
BMN	**Battle Mountai**	**5.98**	**216**	*e*Pn		**Pn**	**04 10 05.6**	**-0.5**
WRW	**Wenatchee Ridg**	**6.19**	**297**	⇓P		**Pn**	**04 10 07.8**	**-1.3**
VFP	**Flag Point**	**6.21**	**273**	⇓P		**Pn**	**04 10 08.9**	**-0.5**
RSSD	**Black Hills**	**6.26**	**99**	Pn		**Pn**	**04 10 07.8**	**-2.3**
WPW	**White Pass**	**6.33**	**285**	P		**Pn**	**04 10 10.5**	**-0.6**
HOOD	**Mount Hood Mea**	**6.35**	**273**	P		**Pn**	**04 10 10.6**	**-0.7**
FMW	**Mount Fremont**	**6.46**	**287**	P		**Pn**	**04 10 12.0**	**-0.8**
SRU	**San Rafael**	**6.46**	**165**	*e*Pn		**Pn**	**04 10 13.8**	**+0.9**
RCM	**Mount Rainier-**	**6.48**	**286**	⇓P		**Pn**	**04 10 12.9**	**-0.3**
LON	**Longmire**	**6.52**	**285**	⇓P		**Pn**	**04 10 13.3**	**-0.4**
DGMT	**Dagmar**	**6.56**	**59**	*e*Pn		**Pn**	**04 10 12.7**	**-1.6**
VLMM	**Larch Mountain**	**6.61**	**275**	P		**Pn**	**04 10 14.7**	**-0.3**
RVC	**Mount Rainier-**	**6.66**	**287**	⇓P		**Pn**	**04 10 14.9**	**-0.8**
RMW	**Rattlesnake Mo**	**6.66**	**291**	⇓P		**Pn**	**04 10 14.7**	**-1.0**
TDL	**Tradedollar La**	**6.75**	**282**	⇓P		**Pn**	**04 10 16.6**	**-0.4**
MSU	**Marysvale**	**6.87**	**177**	P		**Pn**	**04 10 20.7**	**+2.0**
MSU	**Marysvale**	**6.87**	**177**	*e*Pn		**Pn**	**04 10 19.8**	**+1.1**
HBO	**Huckleberry Mo**	**7.07**	**261**	P		**Pn**	**04 10 22.9**	**+1.4**
COR	**Corvallis**	**7.60**	**268**	P		**Pn**	**04 10 29.2**	**+0.3**
COR	**Corvallis**	**7.60**	**268**	*e*Pn		**Pn**	**04 10 28.4**	**-0.4**
ARUT	**Antelope Range**	**7.61**	**185**	P		**Pn**	**04 10 33.1**	**+4.1**
ARUT	**Antelope Range**	**7.61**	**185**	*e*Pn		**Pn**	**04 10 31.6**	**+2.6**
TPH	**Tonopah**	**8.06**	**207**	P		**P**	**04 10 33.6**	**-1.7**
NVAR	**Mina Array Bea**	**8.12**	**213**	LR		LR	04 14 14.2	
	comp=Z,16μm,19.0s,baz=95,slow=42							
YBH	**Yreka Blue Hor**	**8.17**	**247**	Pn		**P**	**04 10 35.8**	**-1.0**
	4.0nm,0.3s,baz=60,slow=9.7,SNR=97							
YBH				Lg			04 12 49.0	
	0.3nm,0.3s,baz=62,slow=14,SNR=1.4							
YBH	**Yreka Blue Hor**	**8.17**	**247**	*e*Pn		**P**	**04 10 35.4**	**-1.4**
OCWA	**Octopus Mounta**	**8.29**	**291**	*e*Pn		**P**	**04 10 36.6**	**-1.9**
WDC	**Whiskeytown Da**	**8.69**	**240**	P		**P**	**04 10 44.5**	**+0.4**
WDC	**Whiskeytown Da**	**8.69**	**240**	*e*Pn		**P**	**04 10 42.9**	**-1.2**
KEBM	**Edson Butte**	**8.77**	**258**	Pn		**P**	**04 10 44.5**	**-0.7**
KBO	**Bosley Butte**	**8.95**	**253**	Pn		**P**	**04 10 46.7**	**-1.0**
KRMB	**Red Mountain**	**9.05**	**249**	*e*Pn		**P**	**04 10 48.9**	**-0.1**
MTUM	**Tungsten Hills**	**9.17**	**211**	Pn		**P**	**04 10 49.0**	**-1.7**
KHMM	**Horse Mountain**	**9.27**	**245**	*e*Pn		**P**	**04 10 50.4**	**-1.7**
SDCO	**Great Sand Dun**	**9.32**	**142**	*e*Pn		**P**	**04 10 52.5**	**-0.3**
CMB	**Columbia Colle**	**9.34**	**221**	*e*P		**P**	**04 10 55.0**	**+1.9**
CMB	**Columbia Colle**	**9.34**	**221**	*e*Pn		**P**	**04 10 54.7**	**+1.6**
KIPM	**Iron Peak**	**9.73**	**239**	Pn		**P**	**04 10 59.1**	**+0.6**
DAC	**Darwin (Calif)**	**9.84**	**204**	*e*Pn		**P**	**04 10 59.3**	**-0.5**
KCPM	**Cahto Peak**	**9.87**	**239**	Pn		**P**	**04 11 00.1**	**-0.2**
HOPS	**Hopland**	**10.03**	**234**	Pn		**P**	**04 11 00.0**	**-2.4**
NSHM	**Saint Helena R**	**10.10**	**231**	Pn		**P**	**04 11 02.0**	**-1.5**
GSC	**Goldstone**	**10.55**	**199**	P		**P**	**04 11 09.4**	**-0.4**
SAC	**San Andreas**	**10.69**	**227**	Pn		**P**	**04 11 11.1**	**-0.5**
SAO	**San Andreas Ge**	**10.87**	**221**	*e*P		**P**	**04 11 16.7**	**+2.7**
SAO					pmax	pmax		
	comp=Z,390nm,1.0s							
SAO	**San Andreas Ge**	**10.87**	**221**	Pn		**P**	**04 11 13.7**	**-0.3**
LRV	**Little Rabbit**	**10.96**	**218**	Pn		**P**	**04 11 16.2**	**+1.0**
PTRM	**Twissleman Ran**	**11.29**	**213**	Pn		**P**	**04 11 19.4**	**-0.3**
ANMO	**Albuquerque**	**11.44**	**153**	Pn		**P**	**04 11 20.3**	**-1.5**
	baz=336,slow=13,SNR=69							
ANMO				Lg			04 14 37.1	
	baz=71,slow=19,SNR=3.3							
FFC	**Flin Flon**	**11.58**	**32**	P		**P**	**04 11 17.9**	**-5.8**
FFC					pmax	pmax		
	comp=Z,16nm,1.0s							
FFC	**Flin Flon**	**11.58**	**32**	*e*Pn		**P**	**04 11 17.8**	**-5.8**
LAZ	**Ladron**	**11.75**	**157**	Pn		**P**	**04 11 23.4**	**-2.6**
LAZ				*e*			04 11 28.0	
GVA	**Apache Junctio**	**11.97**	**176**	*e*P		**P**	**04 11 36.5**	**+7.5**
BBB	**Bella Bella**	**12.25**	**309**	Pn		**P**	**04 11 31.8**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=134,slow=9.8,SNR=9.0							
BBB				Lg			04 14 55.2	
	comp=Z,3.1nm,0.3s,baz=46,slow=23,SNR=13							
BBB				LR		LR	04 15 57.8	
	comp=Z,10μm,21.6s,baz=124,slow=36							
BBB	**Bella Bella**	**12.25**	**309**	Pn		**P**	**04 11 31.8**	**-0.9**
BBB				Lg			04 14 55.2	
BBB				LR		LR	04 15 57.8	
ULM	**Lac du Bonnet**	**12.28**	**61**	Pn		**P**	**04 11 27.6**	**-5.4**
	comp=Z,13nm,0.3s,baz=255,slow=12,SNR=61							
ULM				Pg		P	04 12 17.0	+44
	comp=Z,16nm,0.3s,baz=258,slow=17,SNR=4.5							
ULM				Lg			04 14 55.3	
	comp=Z,31nm,0.3s,baz=162,slow=22,SNR=5.2							
ULM				LR		LR	04 16 14.6	
	comp=Z,12μm,18.9s,baz=257,slow=37							
GLA	**Glamis**	**12.43**	**189**	P		**P**	**04 11 40.2**	**+5.1**
GLA	**Glamis**	**12.43**	**189**	Pn		**P**	**04 11 34.9**	**-0.2**
KSU1	**Kansas State U**	**13.43**	**112**	*e*Pn		**P**	**04 11 46.4**	**-2.0**
CRAG	**Craig**	**16.43**	**315**	*e*P		**P**	**04 12 29.6**	**+2.3**
	comp=Z,245nm,1.4s							
DLBC	**Dease Lake**	**16.83**	**327**	Pn		**P**	**04 12 34.1**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=133,slow=10,SNR=60							
DLBC				Lg			04 17 32.1	
	comp=Z,1.0nm,0.3s,baz=28,slow=24,SNR=6.2							
DLBC				LR		LR	04 20 12.3	
	comp=Z,1μm,20.0s,baz=133,slow=41							
DLBC	**Dease Lake**	**16.83**	**327**	*e*P		**P**	**04 12 33.2**	**+0.8**
DLBC				*e*Lg			04 17 28.6	
YKA	**Yellowknife Ar**	**17.18**	**357**	P		**P**	**04 12 31.9**	**-4.8**
YKA							04 15 52.5	
YKA					pmax	pmax		
	comp=Z,4.0nm,0.3s							
YKA					smax			
	comp=E,7.0nm,0.3s							
YKA					MLR	MLR		
	comp=Z,15μm,18.5s							
YKA	**Yellowknife Ar**	**17.18**	**357**	Pn		**P**	**04 12 31.9**	**-4.8**
	comp=Z,3.7nm,0.3s,baz=175,slow=12,SNR=190							
YKA					Sn	**S**	**04 15 52.5**	**+6.2**
	comp=Z,6.5nm,0.3s,baz=171,slow=23,SNR=5.4							
YKA					LR	LR	04 19 29.3	
	comp=Z,15μm,18.5s,baz=185,slow=38							
YKA	**Yellowknife Ar**	**17.18**	**357**	Pn		**P**	**04 12 31.9**	**-4.8**
YKA					Sn	**S**	**04 15 52.5**	**+6.2**
YKA					LR	LR	04 19 29.3	
LTX	**Lajitas**	**17.52**	**153**	P		**P**	**04 12 43.0**	**+1.8**
LTX					pmax	pmax		
	comp=Z,160nm,1.6s							
LTX	**Lajitas**	**17.52**	**153**	⇓*e*Pn		**P**	**04 12 42.3**	**+1.1**
	comp=Z,160nm,1.7s							
LTX				*e*S		**S**	**04 16 10.6**	**+16**
TXAR	**Lajitas Array**	**17.52**	**153**	Pn		**P**	**04 12 42.9**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=343,slow=9.7,SNR=57							
TXAR					Sn	**S**	**04 16 13.5**	**+19**
	comp=Z,0.1nm,0.3s,baz=320,slow=14,SNR=2.3							
TXAR				Lg			04 17 41.5	
	comp=Z,0.1nm,0.3s,baz=357,slow=18,SNR=2.9							
TXAR				LR		LR	04 19 50.5	
	comp=Z,10μm,20.9s,baz=330,slow=39							
SLM	**Saint Louis**	**17.94**	**104**	*e*P		**P**	**04 12 43.1**	**-3.2**
SLM					pmax	pmax		
	comp=Z,664nm,1.5s							
SLM	**Saint Louis**	**17.94**	**104**	*e*P		**P**	**04 12 43.1**	**-3.3**
	comp=Z,664nm,1.5s							
SIT	**Sitka**	**18.29**	**318**	P		**P**	**04 12 53.7**	**+3.1**
SIT					pmax	pmax		
	comp=Z,400nm,1.2s							
SIT	**Sitka**	**18.29**	**318**	*e*P		**P**	**04 12 52.4**	**+1.8**
	comp=Z,405nm,1.2s							
UALR	**University of**	**18.75**	**117**	*e*P		**P**	**04 12 54.8**	**-1.7**
	comp=Z,341nm,1.4s							
NATX	**Nacogdoches**	**19.50**	**128**	*e*P		**P**	**04 13 05.4**	**+0.1**
	comp=Z,34nm,0.2s							
GNAR	**Gosnell**	**19.52**	**111**	*e*P		**P**	**04 13 04.0**	**-1.4**
GLAT	**Glass**	**19.83**	**109**	*e*P		**P**	**04 13 07.3**	**-1.6**
HALT	**Halls**	**20.00**	**110**	*e*P		**P**	**04 13 08.2**	**-2.6**
UTMT	**University of**	**20.07**	**108**	*e*P		**P**	**04 13 10.0**	**-1.5**
	comp=Z,838nm,1.4s							
MET	**Memphis--Engin**	**20.08**	**113**	P		**P**	**04 13 10.2**	**-1.4**
BLO	**Bloomington**	**20.25**	**99**	*e*P		**P**	**04 13 11.1**	**-2.3**
BLO					pmax	pmax		
	comp=Z,223nm,0.8s							
BLO	**Bloomington**	**20.25**	**99**	*e*P		**P**	**04 13 11.1**	**-2.3**
	comp=Z,223nm,0.8s							
OXF	**Oxford**	**20.79**	**113**	*e*P		**P**	**04 13 18.3**	**-0.7**
OXF					pmax	pmax		
	comp=Z,36nm,0.6s							
OXF	**Oxford**	**20.79**	**113**	*e*P		**P**	**04 13 18.3**	**-0.7**
	comp=Z,36nm,0.6s							
WCI	**Wyandotte Cave**	**20.85**	**101**	*e*P		**P**	**04 13 18.2**	**-1.3**
WCI					pmax	pmax		
	comp=Z,530nm,1.3s							
WCI	**Wyandotte Cave**	**20.85**	**101**	*e*P		**P**	**04 13 18.2**	**-1.3**
	comp=Z,530nm,1.3s							
LPIG	**La Paz**	**21.32**	**174**	*i*P		**P**	**04 13 28.0**	**+3.6**
PLAL	**Pickwick Lake**	**21.38**	**110**	*e*P		**P**	**04 13 23.6**	**-1.3**
	comp=Z,144nm,0.8s,mb5.4							
PLAL					LR	LR		
	comp=Z,4μm,19.0s,MS4.8							
LRAL	**Lakeview Retre**	**23.28**	**113**	*e*P		**P**	**04 13 43.6**	**-0.1**
	comp=Z,56nm,0.7s,mb5.1							
LRAL					LR	LR		
	comp=Z,2μm,21.0s,MS4.6							
SADO	**Sadowa**	**23.58**	**79**	P		**P**	**04 13 46.9**	**+0.3**
	comp=Z,41nm,0.7s,mb5.0,baz=302,slow=9.5,SNR=32							
SADO					LR	LR	04 24 17.9	
	comp=Z,3μm,18.3s,MS4.8,baz=302,slow=40							
ALLY	**Alegheny Colle**	**23.77**	**87**	*e*P		**P**	**04 13 49.0**	**+0.5**
DAWY	**Dawson**	**23.95**	**331**	*e*P		**P**	**04 13 51.0**	**+1.1**
MCWV	**Mont Chateau**	**24.73**	**92**	*e*P		**P**	**04 13 57.1**	**-0.8**
	comp=Z,36nm,0.6s,mb5.1							
MCWV					LR	LR		
	comp=Z,1μm,21.0s,MS4.5							
FWV	**Forest Hill**	**24.97**	**97**	*e*P		**P**	**04 13 59.6**	**-0.5**
GENY	**Geneseo**	**25.05**	**83**	*e*P		**P**	**04 14 01.8**	**+1.0**
ELN	**Prospectdale**	**25.18**	**98**	*e*P		**P**	**04 14 01.4**	**-0.8**
INK	**Inuvik**	**25.39**	**342**	P		**P**	**04 14 03.9**	**+0.1**
	comp=Z,28nm,0.8s,mb4.8,baz=145,slow=12,SNR=38							
INK					LR	LR	04 25 24.4	
	comp=Z,4μm,22.0s,MS4.9,baz=140,slow=40							
MSNY	**Massena**	**26.48**	**77**	*e*P		**P**	**04 14 13.4**	**-0.7**
PMR	**Palmer**	**26.61**	**321**	*e*P		**P**	**04 14 17.2**	**+2.0**
	comp=Z,420nm,2.4s,mb5.5							
PMR					LR	LR		
	comp=Z,9μm,19.0s,MS5.3							
SLKM	**Skilak Lake**	**26.76**	**318**	*e*P		**P**	**04 14 16.8**	**+0.2**
ILAR	**Eielson Array**	**27.04**	**328**	P		**P**	**04 14 19.9**	**+0.8**
	comp=Z,51nm,0.8s,mb5.1,baz=130,slow=8.1,SNR=190							
ILAR					PcP	PcP	04 17 39.8	-1.0
	comp=Z,14nm,0.8s,baz=150,slow=1.4,SNR=12							
ILAR					LR	LR	04 25 58.8	
	comp=Z,6μm,20.0s,MS5.2,baz=142,slow=39							
CBN	**Corbin**	**27.10**	**93**	*e*P		**P**	**04 14 18.9**	**-1.0**
	comp=Z,352nm,1.2s,mb5.8							
CBN					LR	LR		
	comp=Z,15μm,19.0s,MS5.6							
COW	**Cow Castle Cre**	**27.27**	**105**	*e*P		**P**	**04 14 19.8**	**-1.7**
MOIG	**Morelia**	**27.33**	**156**	*i*P		**P**	**04 14 26.5**	**+4.3**
MIV	**Mineville/With**	**27.64**	**79**	*e*P		**P**	**04 14 23.6**	**-1.2**
ACCN	**Adirondack Com**	**27.75**	**80**	*e*P		**P**	**04 14 24.0**	**-1.7**
NHSC	**New Hope**	**27.78**	**105**	*e*P		**P**	**04 14 24.2**	**-1.9**
	comp=Z,180nm,1.4s,mb5.5							
NHSC					LR	LR		
	comp=Z,7μm,19.0s,MS5.2							
SPU	**Mount Spurr**	**27.82**	**319**	*e*P		**P**	**04 14 26.5**	**+0.4**
RSO	**Redoubt South**	**27.95**	**317**

SEY pmax pmax
comp=Z,90nm,1.1s,mb5.6
SEY pmax pmax
comp=N,30nm,1.0s
SEY pmax pmax
comp=E,70nm,1.0s
SEY smax
comp=N,290nm,6.9s
SEY smax
comp=E,230nm,6.5s
SEY Seymchan 52.92 325 *e*P **P 04 17 54.0 +0.8**
MIDW Midway 53.18 275 PFAKE 04 18 10.0 +14
MIDW LR LR
comp=Z,2µm,21.0s,MS5.1
PET Petropavlovsk 54.90 312 *e*P **P 04 18 07.0 -0.9**
PET *e* 04 20 13.5
PET *e*S **S 04 25 45.7 -1.4**
PET *e*SS SS 04 29 24.0 -6.5
PET pmax pmax
comp=Z,600nm,7.0s
PET pmax pmax
comp=Z,69nm,1.2s,mb5.6
PET pmax pmax
comp=Z,100nm,10.5s
PET pmax pmax
comp=Z,400nm,6.7s
PET pmax pmax
comp=Z,200nm,14.6s
PET smax
comp=N,200nm,11.6s
PET MLR MLR
comp=Z,1µm,18.0s,MS4.9
PET Petropavlovsk 54.90 312 *e*P **P 04 18 07.5 -0.4**
comp=Z,19nm,0.7s,mb5.2
MA2 Magadan 55.28 322 *d i*P **P 04 18 11.0 +0.4**
MA2 pmax pmax
comp=Z,236nm,1.1s,mb6.1
MA2 MLR MLR
comp=Z,3µm,13.0s,MS5.6
MA2 Magadan 55.28 322 *e*P **P 04 18 10.6 0.0**
comp=Z,192nm,0.9s,mb6.1
TIXI Tiksi 55.50 340 *e*P **P 04 18 08.0 -4.0**
TIXI *e* 04 20 11.2
TIXI *e*PPP PPP 04 21 29.6 -1.9
TIXI pmax pmax
comp=Z,92nm,0.9s,mb5.8
TIXI MLR MLR
comp=Z,1µm,16.0s,MS5.0
TIXI Tiksi 55.50 340 *i* P **P 04 18 11.6 -0.4**
TAOE Nuku Hiva Isla 59.38 212 *e*PP PP 04 20 54.3 +1.0
comp=Z,3µm,34.2s
TAOE Nuku Hiva Isla 59.38 212 *e*SS SS 04 30 39.6 -3.8
comp=Z,2µm,30.3s
TAOE *e*LR LR 04 36 26.1
comp=Z,5µm,30.2s
LOF Lofoten 59.88 20 *e*P **P 04 18 43.5 +0.6**
comp=Z,82nm,1.0s,mb5.7
LOF Lofoten 59.88 20 *e*P **P 04 18 43.5 +0.6**
LOF AMb AMB 04 18 44.9
comp=Z,82nm,1.0s,mb5.7
TRO Tromso 59.95 18 *e*P **P 04 18 40.9 -2.5**
TRO *e* 04 26 52.0
TRO LR LR
comp=Z,1006µm,19.5s
TRO Tromso 59.95 18 *e*P **P 04 18 40.9 -2.5**
TRO AMb AMB 04 18 51.9
comp=Z,56nm,1.9s,mb5.3
TRO *e*PP PP 04 20 55.3 -2.3
TRO *e*S **S 04 26 52.7 -0.7**
TRO AMS AMS 04 46 09.0
comp=Z,1µm,19.5s,MS5.0
KTK1 Kautokeino 61.35 17⇓ *i*P **P 04 18 50.9 -2.0**
comp=Z,80nm,1.5s,mb5.6
KTK1 Kautokeino 61.35 17⇓ *i*P **P 04 18 50.9 -2.0**
KTK1 AMb AMB 04 18 52.9
comp=Z,80nm,1.5s,mb5.6
ARCES ARCESS Array B 61.35 16 P **P 04 18 50.4 -2.5**
comp=Z,16nm,0.7s,mb5.3,baz=336,slow=5.4,SNR=67
ARCES LR LR 04 44 28.6
comp=Z,1µm,19.8s,MS5.1,baz=224,slow=35
ARE0 ARCESS Array S 61.35 16 *e*P **P 04 18 50.6 -2.3**
KEV Kevo 61.44 15 *e*p **P 04 18 50.7 -2.8**
KEV Kevo 61.44 15 *e*P **P 04 18 50.9 -2.6**
KEV pmax pmax
comp=Z,20nm,0.7s,mb5.4
KEV MLR MLR
comp=Z,242nm,21.0s,MS4.3
KEV Kevo 61.44 15 *e*P **P 04 18 50.9 -2.6**
comp=Z,20nm,0.7s,mb5.3
KEV LR LR
comp=Z,242nm,21.0s,MS4.3
MOR8 Moi Rana 61.60 22⇓ *i*P **P 04 18 53.1 -1.5**
comp=Z,54nm,1.7s,mb5.4
MOR8 Moi Rana 61.60 22⇓ *i*P **P 04 18 53.1 -1.5**
MOR8 AMb AMB 04 19 03.8
comp=Z,54nm,1.7s,mb5.4
YAK Yakutsk 61.88 332 *d i*P **P 04 18 56.2 -0.4**
YAK *e**PP pP 04 19 00.7 0.0
YAK *e* 04 19 35.5
YAK *e* 04 21 10.9
YAK *e*S **S 04 27 22.4 +4.3**
YAK *e**SS 04 27 39.8
YAK *e* 04 28 47.9
YAK pmax pmax
comp=Z,79nm,0.9s,mb5.8
YAK pmax pmax
comp=N,23nm,1.2s
YAK pmax pmax
comp=E,24nm,1.2s
YAK pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,13nm,1.0s
YAK smax
comp=N,79nm,9.1s
YAK smax
comp=E,106nm,9.5s
YAK MLR MLR
comp=Z,2µm,14.0s,MS5.4
YAK MLR MLR
comp=N,1µm,21.0s
YAK MLR MLR
comp=E,1µm,14.0s
YAK Yakutsk 61.88 332 *e*P **P 04 18 55.7 -0.8**
comp=E,149nm,0.9s,mb6.1
YAK LR LR
comp=Z,3µm,19.0s,MS5.5
NSS Namsos 62.19 24 *e*P **P 04 18 54.7 -3.9**
NSS AMb AMB 04 19 02.0
comp=Z,60nm,0.9s,mb5.7
NSS AMS AMS 04 45 57.8
comp=Z,2µm,18.7s,MS5.2
VAL Valentia 62.39 43⇓ *i*P **P 04 18 57.7 -2.4**
DCN Croghan 62.89 41⇓ *i*P **P 04 19 02.0 -1.3**
GMM Mts of Mourne 62.90 39⇓ *e*P **P 04 19 02.1 -1.4**
EAU Auchinoon 62.93 37 *e*P **P 04 19 01.8 -1.8**
EAU AMb AMB 04 19 07.8
comp=Z,103nm,1.5s,mb5.8
GAL1 Galloway 63.04 38⇓ *e*P **P 04 19 02.6 -1.7**
BER Bergen 63.16 29 *e*P **P 04 19 04.2 -0.9**
BER AMb AMB 04 19 11.0
comp=Z,103nm,1.7s,mb5.7
BER *e*S **S 04 27 35.0 +0.7**
BER AMS AMS 04 44 41.5
comp=Z,1µm,12.4s,MS5.3
DLF Lyons Farm 63.26 40⇓ *i*P **P 04 19 04.5 -1.3**
DSB Dublin 63.36 40 *e*P **P 04 19 04.5 -2.0**
comp=Z,56nm,1.1s,mb5.6
ESK Eskdalemuir 63.38 37 *e*P **P 04 19 05.0 -1.6**
ESK pmax pmax
comp=Z,19nm,0.8s,mb5.3
ESK Eskdalemuir 63.38 37 *e*P **P 04 19 05.0 -1.6**
comp=Z,19nm,0.8s,mb5.3
ESK Eskdalemuir 63.38 37⇓ *e*P **P 04 19 04.5 -2.1**
ESK AMb AMB 04 19 05.9
comp=Z,47nm,1.1s,mb5.5
ECK Cauldkaine Hil 63.51 37⇓ *e*P **P 04 19 05.5 -1.8**
ECK AMb AMB 04 19 15.3
comp=Z,74nm,1.7s,mb5.4
WIM Isle of Man 63.53 39⇓ *e*P **P 04 19 06.0 -1.5**
WIM AMb AMB 04 19 12.4
comp=Z,162nm,1.4s,mb5.9
WCB1 Church Bay 64.10 39⇓ *e*P **P 04 19 10.1 -1.1**
WCB1 AMb AMB 04 19 16.4
comp=Z,269nm,1.6s,mb6.0
YRC Rhoscolyn 64.17 39⇓ *e*P **P 04 19 10.2 -1.5**
YRC AMb AMB 04 19 16.7
comp=Z,179nm,1.3s,mb6.0
WLF1 Llynfaes 64.22 39⇓ *e*P **P 04 19 10.9 -1.2**
WLF1 AMb AMB 04 19 17.2
comp=Z,196nm,1.4s,mb6.0
LVZ Lovozero 64.39 13 *d i*P **P 04 19 12.0 -0.9**
LVZ *e* 04 23 04.8
LVZ *e*S **S 04 27 48.8 -0.5**
LVZ pmax pmax
comp=N,42nm,0.9s
LVZ pmax pmax
comp=E,27nm,0.9s
LVZ pmax pmax
comp=Z,141nm,0.9s,mb6.0
LVZ smax
comp=E,184nm,3.5s
LVZ smax
comp=N,94nm,3.3s
LVZ MLR MLR
comp=N,1µm,16.0s,MS5.4
LVZ MLR MLR
comp=Z,3µm,16.0s,MS5.5
LVZ MLR MLR
comp=E,2µm,17.0s,MS5.4
LVZ Lovozero 64.39 13 *i* P **P 04 19 11.0 -1.9**
YRE Yr Eifl 64.42 40⇓ *e*P **P 04 19 11.9 -1.4**
YLL Llanberis 64.43 39⇓ *e*P **P 04 19 12.0 -1.3**
WPM1 Penmaenmawr 64.47 39⇓ *e*P **P 04 19 12.3 -1.3**
WPM1 AMb AMB 04 19 18.1
comp=Z,189nm,1.4s,mb5.9
APA Apatity 64.49 14⇑ *i*P **P 04 19 12.6 -0.9**
APA *i* 04 19 48.0
APA *i* 04 21 37.5
APA *i* S **S 04 27 52.0 +1.5**
APA pmax pmax
comp=Z,47nm,1.0s,mb5.5
APA MLR MLR
comp=Z,3µm,16.0s,MS5.5
NB2 NORSAR Subarra 64.62 27 P **P 04 19 13.6 -0.9**
comp=Z,43nm,0.8s,mb5.5,baz=315,slow=6.5
NB2 NORSAR Subarra 64.62 27 P **P 04 19 13.6 -0.9**
NB2 pmax pmax
comp=Z,43nm,0.8s,mb5.5
NB2 NORSAR Subarra 64.62 27 P **P 04 19 13.6 -0.9**
baz=315,slow=6.9
NOA NORSAR Array B 64.62 27 P **P 04 19 13.4 -1.1**
comp=Z,35nm,0.9s,mb5.4,baz=316,slow=6.5,SNR=84
NAO01 NORSAR Array S 64.67 27 *e*P **P 04 19 13.6 -1.2**
comp=Z,33nm,0.9s,mb5.4
NAO01 LR LR
comp=Z,2µm,19.0s,MS5.3
KONO Kongsberg 65.15 28 *e*P **P 04 19 16.6 -1.3**
KONO *e* 04 28 03.6
KONO Kongsberg 65.15 28 *e*P **P 04 19 16.6 -1.3**
KONO *e*S S 04 28 01.2 +2.4
LHO Holmfirth 65.17 38⇓ *e*P **P 04 19 16.8 -1.3**
LHO AMb AMB 04 19 23.2
comp=Z,131nm,1.3s,mb5.8
HSA Swansea 65.37 40 *e*P **P 04 19 18.7 -0.8**
KBI1 Birley Grange 65.51 38⇓ *e*P **P 04 19 19.3 -1.1**
KWE Weaver Farm 65.54 38 *e*P **P 04 19 19.6 -0.9**
NNA Nana 65.61 141 *e*P **P 04 19 19.8 -1.8**
comp=Z,66nm,1.1s,mb5.6
CCA1 Carnmenellis 65.93 42⇓ *e*P **P 04 19 22.2 -0.9**
CRQ2 Rosemanowes 2 65.97 42⇓ *e*P **P 04 19 22.4 -1.0**
CRQ2 AMb AMB 04 19 27.9
comp=Z,183nm,1.2s,mb6.0
CSA1 St Austell 65.98 42⇓ *e*P **P 04 19 22.5 -0.9**
CGW Gweek 65.99 42⇓ *e*P **P 04 19 22.4 -1.1**
HEX Exmoor 66.00 41 *e*P **P 04 19 22.4 -1.2**
CMA1 Manaccan 66.05 42⇓ *e*P **P 04 19 23.0 -0.8**
CGH1 Goonhilly 66.06 42⇓ *e*P **P 04 19 22.9 -0.9**
YSS Yuzh-Sakhalins 66.72 314 *d i*P **P 04 19 28.2 0.0**
YSS pmax pmax
comp=Z,286nm,0.9s,mb6.3
YSS MLR MLR
comp=Z,1µm,15.0s,MS5.2
YSS Yuzh-Sakhalins 66.72 314 *e*P **P 04 19 27.4 -0.8**
comp=Z,243nm,0.8s,mb6.3
YSS LR LR
comp=Z,1µm,21.0s,MS5.1
YUK Yuzh-Kuril'sk 67.04 310 *i* P **P 04 19 28.3 -2.0**
YUK pmax pmax
comp=Z,110nm,0.6s,mb6.1
YUK pmax pmax
comp=Z,2µm,1.3s
MUD Monsted U'grnd 67.43 31⇓ *i*P **P 04 19 32.3 -0.3**
MUD *i* pP 04 19 36.3 -0.4
MUD *e* 04 21 58.2
MUD pmax pmax
comp=Z,102nm,0.9s,mb5.8
MUD Monsted U'grnd 67.43 31⇓ *i*P **P 04 19 32.3 -0.3**
comp=Z,102nm,0.9s,mb5.8
MUD *i* pP 04 19 36.3 -0.4
MUD *e* 04 21 58.2
MUD *i* S S 04 28 35.8 +9.2
MUD *i* 04 32 51.8
comp=Z,950nm,18.0s
KAF Kangasniemi 67.90 19 *e*p **P 04 19 33.8 -1.6**
comp=Z,27nm,0.8s,mb5.3,baz=327,slow=6.4
ROSF Rostrenen 68.14 43 *e*P **P 04 19 36.2 -0.9**
comp=Z,135nm,1.0s,mb5.6
ROSF Rostrenen 68.14 43 *e*P **P 04 19 36.2 -0.9**
ROSF pmax pmax
comp=Z,68nm,1.0s,mb5.6
FINES FINESS Array B 68.43 20 P **P 04 19 37.6 -1.1**
comp=Z,50nm,0.8s,mb5.6,slow=1.9,SNR=160
FINES LR LR 04 47 20.2
comp=Z,1µm,19.9s,MS5.2,baz=242,slow=34
FINES FINESS Array B 68.43 20 P **P 04 19 37.6 -1.1**
FINES LR LR 04 47 20.2
QUIF Quistinic 68.48 43 *e*P **P 04 19 38.6 -0.7**
comp=Z,141nm,1.1s,mb5.6
QUIF Quistinic 68.48 43 *e*P **P 04 19 38.6 -0.7**
QUIF pmax pmax
comp=Z,70nm,1.1s,mb5.6
SGMF Saint Gilles 68.53 42 *e*P **P 04 19 38.8 -0.8**
comp=Z,155nm,1.0s,mb5.6
SGMF Saint Gilles 68.53 42 *e*P **P 04 19 38.8 -0.8**
SGMF pmax pmax
comp=Z,78nm,1.0s,mb5.6
ASAJ Asahikawa 68.72 312 P **P 04 19 40.6 -0.2**
ASAJ pmax pmax
comp=Z,135nm,0.8s
ASAJ Asahikawa 68.72 312 P **P 04 19 40.6 -0.2**
comp=Z,135nm,0.8s,mb5.9,baz=13,slow=0.7,SNR=35
EMAZ Mazaricos 68.94 50 P **P 04 19 41.8 -0.4**
comp=Z,641nm,2.8s,mb6.1
MENF Mencas 69.03 38⇓ *e*P **P 04 19 42.4 -0.2**
FLN La Foliniere 69.15 41 *e*P **P 04 19 43.0 -0.3**
comp=Z,200nm,1.0s,mb5.7
FLN *e*R
comp=Z,2µm,19.8s
FLN La Foliniere 69.15 41 *e*P **P 04 19 43.0 -0.3**
FLN pmax pmax
comp=Z,100nm,1.0s,mb5.7
FLN MLR MLR
comp=Z,2µm,19.8s,MS5.3
COP Copenhagen 69.19 30⇓ *i*P **P 04 19 43.3 -0.2**
COP *i* pP 04 19 47.1 -0.5
COP *i* 04 22 18.1
COP *e* 04 24 00.7
COP *i* S S 04 28 52.7 +5.2
COP pmax pmax
comp=Z,42nm,0.9s,mb5.4
COP MLR MLR
comp=Z,770nm,19.0s,MS5.0
COP Copenhagen 69.19 30⇓ *i*P **P 04 19 43.3 -0.2**
comp=Z,42nm,0.9s,mb5.4
COP *i* pP 04 19 47.1 -0.5
COP *i* 04 22 18.1
COP *e* 04 24 00.7
COP *i* S S 04 28 52.7 +5.2
comp=Z,760nm,19.0s
STS Santiago 69.21 50 P **P 04 19 43.4 -0.5**
STS pmax pmax
comp=Z,42nm,0.8s,mb5.4
STS Santiago 69.21 50 P **P 04 19 43.4 -0.5**
comp=Z,42nm,0.8s,mb5.4
GRR Gorron 69.24 41 *e*P **P 04 19 43.8 -0.1**
comp=Z,393nm,1.3s,mb5.9
GRR Gorron 69.24 41 *e*P **P 04 19 43.8 -0.1**
GRR pmax pmax
comp=Z,197nm,1.3s,mb5.9
WIT Witteveen 69.25 34⇓ *e*P **P 04 19 44.6 +0.7**
comp=Z,392nm,1.3s,mb6.2
WIT *e*x x 04 19 48.2
EZAM Zamans 69.64 50 P **P 04 19 45.8 -0.7**
EZAM pmax pmax
comp=Z,33nm,1.0s,mb5.2
EZAM Zamans 69.64 50 P **P 04 19 45.8 -0.7**
comp=Z,33nm,1.0s,mb5.2
EPON Pontenova 69.66 49 P **P 04 19 46.1 -0.5**
comp=Z,270nm,2.1s,mb5.8
BSEG Bad Segeberg 69.80 32 *e*P **P 04 19 47.2 0.0**
WTSB Winterswijk 69.94 35⇓ *i*P **P 04 19 47.8 -0.3**
comp=Z,87nm,1.5s,mb5.5
WTSB *e*x x 04 19 51.5
comp=Z,85nm,1.3s
SAML Samuel 69.95 127 *e*P **P 04 19 45.2 -3.5**
comp=Z,41nm,1.1s,mb5.3
SAML *e*pP pP 04 19 49.1 -3.8
SAML LR LR
comp=Z,829nm,20.0s,MS5.0
BOD Bodaibo 70.10 336⇓ *i*P **P 04 19 47.3 -1.7**
BOD pmax pmax
comp=Z,62nm,0.8s,mb5.6
ELOB Lobios 70.18 50 P **P 04 19 48.9 -0.8**
comp=Z,180nm,2.0s,mb5.7
BAIF Baives 70.29 38 *e*P **P 04 19 50.1 -0.2**
comp=Z,199nm,1.2s,mb5.6
BAIF Baives 70.29 38 *e*P **P 04 19 50.1 -0.2**
BAIF pmax pmax
comp=Z,99nm,1.2s,mb5.6
ERUA La Rua 70.31 49 P **P 04 19 50.8 +0.3**
ERUA pmax pmax
comp=Z,90nm,1.2s,mb5.6
ERUA La Rua 70.31 49 P **P 04 19 50.8 +0.3**
comp=Z,90nm,1.2s,mb5.6
KLR Kul'dur 70.36 321⇑ *i*P **P 04 19 48.0 -2.7**
KLR *i* 04 19 48.0
KLR *e* 04 22 25.5
KLR *e*S S 04 29 03.5 +2.1
KLR pmax pmax
comp=N,80nm,1.2s
KLR pmax pmax
comp=E,56nm,1.2s
KLR pmax pmax
comp=Z,110nm,1.2s,mb5.7
KLR pmax pmax
comp=N,500nm,6.0s
KLR pmax pmax
comp=Z,1µm,6.0s
KLR smax
comp=N,500nm,9.5s
KLR smax
comp=E,400nm,9.5s
KLR MLR MLR
comp=N,2µm,15.0s,MS5.7
KLR MLR MLR
comp=E,2µm,15.0s,MS5.7
KLR MLR MLR
comp=Z,3µm,15.0s,MS5.7
RGN Rugen 70.40 30 *e*P **P 04 19 50.6 -0.3**
comp=Z,134nm,1.3s,mb5.7
HGN Heimansgroeve 70.50 36⇓ *i*P **P 04 19 51.3 -0.2**
comp=Z,95nm,0.9s,mb5.7
HGN *e*x x 04 19 55.1
comp=Z,80nm,1.4s
HGN *e*PP PP 04 22 32.0 +2.3
HGN *e*PPP PPP 04 24 07.1 -3.1
HGN *e*x x 04 29 42.7
HGN *e*SS SS 04 33 30.3 -5.7
HGN *e*x x 04 37 10.1
comp=Z,2.9nm,0.3s
BSD Bornholm Skovb 70.50 29⇓ *i*P **P 04 19 50.7 -0.8**
BSD pmax pmax
comp=Z,42nm,1.0s,mb5.3
BSD Bornholm Skovb 70.50 29⇓ *i*P **P 04 19 50.7 -0.8**
comp=Z,42nm,1.0s,mb5.3
GIVF Givet 70.53 37 *e*P **P 04 19 51.7 0.0**
comp=Z,340nm,1.2s,mb5.8
GIVF Givet 70.53 37 *e*P **P 04 19 51.7 0.0**
GIVF pmax pmax
comp=Z,170nm,1.2s,mb5.8
LCHF La Chataignera 70.53 43 *e*P **P 04 19 52.5 +0.7**
EARI Arriondas 70.69 48 P **P 04 19 52.5 -0.4**
comp=Z,241nm,1.7s,mb5.8
PVRL Vila Real 70.77 50 *i* P **P 04 19 52.9 -0.5**
comp=Z,148nm,1.5s,mb5.7
ECAL Calabor 70.84 49 P **P 04 19 53.7 -0.1**
comp=Z,132nm,0.9s,mb5.9
MFF Saint Martin d 70.86 42 *e*P **P 04 19 53.5 -0.3**
comp=Z,164nm,1.0s,mb5.6
MFF Saint Martin d 70.86 42 *e*P **P 04 19 53.5 -0.3**
MFF pmax pmax
comp=Z,82nm,1.0s,mb5.6
PUL Pulkovo 70.90 19 *e*P **P 04 19 53.6 -0.3**
PUL *e*S S 04 29 04.8 -2.7
PUL pmax pmax
comp=Z,159nm,0.5s,mb6.2
PUL Pulkovo 70.90 19 *i* P **P 04 19 53.4 -0.5**
PBRG Braganca 70.93 50 *i* P **P 04 19 53.9 -0.4**
comp=Z,77nm,1.5s,mb5.4
PPT Papeete 71.06 217 *e*S S 04 29 13.5 +3.4
comp=Z,435nm,25.2s
PPT *e*SS SS 04 33 37.0 -8.5
comp=Z,766nm,26.0s
PPT *e*LR LR 04 41 22.3
comp=Z,3µm,34.5s,baz=20
PPT Papeete 71.06 217 P **P 04 19 58.4 +2.9**
comp=Z,54nm,0.9s,mb5.5,baz=34,slow=7.3,SNR=4.0
PPT LR LR 04 45 45.4
comp=Z,874nm,18.3s,MS5.0,baz=39,slow=31
RKT Rikitea 71.14 202 *e*S S 04 29 13.4 +2.4
comp=Z,393nm,28.0s
RKT *e*SS SS 04 33 45.3 -1.4
comp=Z,373nm,37.8s
RKT *e*LQ 04 38 24.0
comp=Z,616nm,34.5s
RKT *e*LR LR 04 41 56.8
comp=Z,2µm,31.5s,baz=15
VSU Vasula 71.20 21 *i* P **P 04 19 54.8 -0.9**
VSU Vasula 71.20 21 *i* P **P 04 19 54.8 -0.9**
WLF Walferdange 71.42 37 *e*P **P 04 19 57.0 -0.2**
WLF *e**PP pP 04 20 01.0 -0.3
WLF pmax pmax
comp=Z,144nm,1.3s,mb5.7
WLF Walferdange 71.42 37 *e*P **P 04 19 57.0 -0.1**
comp=Z,144nm,1.3s,mb5.8
WLF *e*pP pP 04 20 01.0 -0.3
CLZ Clausthal 71.45 33 *e*P **P 04 19 57.7 +0.4**
CLZ pmax pmax
comp=Z,93nm,1.0s,mb5.7
CLZ Clausthal 71.45 33 *e*P **P 04 19 57.7 +0.4**
comp=Z,93nm,1.0s,mb5.7
MTE Manteigas 71.47 51 *e*P **P 04 19 56.5 -1.1**
comp=Z,121nm,1.2s,mb5.7
MTE *e*pP pP 04 20 01.3 -0.5
MTE Manteigas 71.47 51 *i* P **P 04 19 57.3 -0.3**
comp=Z,100nm,1.1s,mb5.7
MTE *e*S S 04 29 07.0 -7.5
MTE *e*LQ 04 37 32.2
MTE *e*LR LR 04 42 32.1
comp=Z,927nm,27.2s
PTOM Tomar 71.54 52 *i* P **P 04 19 57.7 -0.3**
comp=Z,144nm,1.1s,mb5.8
PLOU Loures 71.63 53 *i* P **P 04 19 58.3 -0.3**
comp=Z,236nm,1.0s,mb6.1
ELAN Lanestosa 71.66 47 P **P 04 19 58.5 -0.2**
comp=Z,125nm,1.1s,mb5.8
HYF Humbligny 71.67 40 *e*P **P 04 19 58.6 -0.1**
RUP Ruppelstein 71.77 36⇓ *e*P **P 04 19 59.7 +0.4**
MEZF Maizieres J'vi 71.83 38 *e*P **P 04 19 59.7 +0.1**
ABH Alteburg 71.84 36 *e*P **P 04 19 59.7 0.0**
ABH Alteburg 71.84 36⇓ *e*P **P 04 19 59.8 +0.1**
PCBR Castelo Branco 71.90 51 *e*P **P 04 19 59.5 -0.7**
comp=Z,100nm,1.0s,mb5.7
TNS Taunus Mts 71.95 35 *e*P **P 04 20 00.3 0.0**
TNS pmax pmax
comp=Z,55nm,1.1s,mb5.4
TNS Taunus Mts 71.95 35 *e*P **P 04 20 00.3 0.0**
comp=Z,55nm,1.1s,mb5.4
ARE Arequipa 71.98 138 *e*P **P 04 20 03.0 +2.0**
TCF Toulx Ste Croi 72.20 41 *e*P **P 04 20 01.5 -0.4**
comp=Z,165nm,1.1s,mb5.6
TCF Toulx Ste Croi 72.20 41 *e*P **P 04 20 01.5 -0.4**
TCF pmax pmax

comp=Z,83nm,1.1s,mb5.6
SSF Saint Saulge 72.22 40 *e*P **P 04 20 01.6 -0.4**
SSF pmax pmax
comp=Z,95nm,1.2s,mb5.6
SSF Saint Saulge 72.22 40 *e*P **P 04 20 01.6 -0.4**
comp=Z,95nm,1.2s,mb5.6
RPN Rapa Nui 72.22 177 PFAKE 04 20 10.0 +7.7
RPN LR LR
comp=Z,632nm,22.0s,MS4.8
LOR Lormes 72.22 40 *e*P **P 04 20 02.0 0.0**
comp=Z,419nm,1.2s,mb5.9
LOR *e*R
comp=Z,2µm,23.0s
LOR Lormes 72.22 40 *e*P **P 04 20 02.0 0.0**
LOR pmax pmax
comp=Z,209nm,1.2s,mb5.9
LOR MLR MLR
comp=Z,2µm,23.0s,MS5.4
BGF Bois d'Agland 72.30 41 *e*P **P 04 20 02.1 -0.3**
comp=Z,146nm,0.9s,mb5.6
BGF *e*pP pP 04 20 06.4 -0.1
BGF Bois d'Agland 72.30 41 *e*P **P 04 20 02.1 -0.3**
BGF *e**PP pP 04 20 06.4 -0.1
BGF pmax pmax
comp=Z,73nm,0.9s,mb5.6
AVF Avril sur Loir 72.35 40 *e*P **P 04 20 02.2 -0.6**
comp=Z,166nm,1.1s,mb5.6
AVF Avril sur Loir 72.35 40 *e*P **P 04 20 02.2 -0.6**
AVF pmax pmax
comp=Z,83nm,1.1s,mb5.6
THEF They Montfort 72.44 38 *e*P **P 04 20 03.5 +0.2**
KTD Kalmit 72.50 36 *e*P **P 04 20 03.7 +0.1**
LFF La Frestale 72.50 43 *e*P **P 04 20 03.6 -0.1**
LFF *e*pP pP 04 20 08.2 +0.4
EVO Evora 72.52 53 *e*P **P 04 20 01.7 -2.1**
comp=Z,278nm,1.3s,mb5.7
EVO *e*R
comp=Z,1µm,19.0s
TOD Tromm 72.57 36⇓*e*P **P 04 20 04.2 +0.3**
ECRI Cripan 72.58 47 P **P 04 20 03.7 -0.4**
ECRI pmax pmax
comp=Z,45nm,0.7s,mb5.5
ECRI Cripan 72.58 47 P **P 04 20 03.7 -0.4**
comp=Z,45nm,0.7s,mb5.5
RJF Les Rejaudoux 72.60 42 *e*P **P 04 20 03.8 -0.4**
comp=Z,204nm,1.2s,mb5.6
RJF *e*R
comp=Z,2µm,18.2s
RJF Les Rejaudoux 72.60 42 *e*P **P 04 20 03.8 -0.4**
RJF pmax pmax
comp=Z,102nm,1.2s,mb5.6
RJF MLR MLR
comp=Z,2µm,18.3s,MS5.3
SWS Schriesheim 72.62 36⇓*e*P **P 04 20 04.4 +0.2**
LANF Langenberg 72.64 37 *e*P **P 04 20 04.5 +0.2**
EALK Alkurruntz 72.65 46 P **P 04 20 04.3 -0.2**
comp=Z,200nm,1.8s,mb5.7
SMF Signal de Mont 72.69 40 *e*P **P 04 20 04.2 -0.4**
comp=Z,191nm,1.3s,mb5.6
SMF Signal de Mont 72.69 40 *e*P **P 04 20 04.2 -0.4**
SMF pmax pmax
comp=Z,95nm,1.3s,mb5.6
HAU Haudompre 72.77 38 *e*P **P 04 20 05.1 0.0**
comp=Z,240nm,1.3s,mb5.7
HAU *e*R
comp=Z,3µm,22.0s
HAU Haudompre 72.77 38 *e*P **P 04 20 05.1 0.0**
HAU pmax pmax
comp=Z,120nm,1.3s,mb5.7
HAU MLR MLR
comp=Z,3µm,22.0s,MS5.5
GKP Gorka Klasztor 72.80 29 *e*P **P 04 20 05.3 +0.1**
GKP *e**PP pP 04 20 09.9 +0.6
GKP pmax pmax
comp=Z,1.0nm,2.7s
GKP MLR MLR
comp=Z,2µm,16.3s,MS5.5
GKP Gorka Klasztor 72.80 29 *e*P **P 04 20 05.3 +0.1**
comp=Z,0.5nm,2.7s
GKP *e*pP pP 04 20 09.9 +0.6
GKP LR LR
comp=Z,2µm,16.3s
GKP Gorka Klasztor 72.80 29 *e*P **P 04 20 05.3 +0.1**
comp=Z,500nm,2.7s,mb6.0
GKP *e*pP pP 04 20 09.9 +0.6
GKP MLR MLR 04 52 48.1
comp=Z,2µm,16.3s,MS5.5
PTEO Sao Teotonio 72.80 54 *i* P **P 04 20 05.3 -0.2**
comp=Z,120nm,1.4s,mb5.6
AGO Saint Agoulin 72.80 41 *e*P **P 04 20 06.1 +0.7**
CDF Champ du Feu 72.86 37 *e*P **P 04 20 05.9 +0.3**
comp=Z,258nm,1.1s,mb5.8
CDF Champ du Feu 72.86 37 *e*P **P 04 20 05.9 +0.3**
CDF pmax pmax
comp=Z,129nm,1.1s,mb5.8
SJPF Ste Jean 72.87 46 *e*P **P 04 20 05.5 -0.3**
MOX Moxa 72.88 33⇓*e*P **P 04 20 05.8 +0.1**
MOX *i* pP 04 20 10.0 +0.2
MOX *e* 04 22 55.0
MOX *e*PPP PPP 04 24 34.0 +1.1
MOX *e*SS SS 04 34 13.0 0.0
MOX pmax pmax
comp=Z,101nm,1.5s,mb5.5
MOX MLR MLR
comp=Z,900nm,22.0s,MS5.0
MOX Moxa 72.88 33⇓*e*P **P 04 20 05.8 +0.1**
comp=Z,101nm,1.5s,mb5.5
MOX *i* pP 04 20 10.0 +0.2
MOX *e*PP PP 04 22 55.0 +5.0
MOX *e*PPP PPP 04 24 34.0 +1.1
MOX *e*S S 04 29 43.0 +13
MOX *e*SS SS 04 34 13.0 0.0
MOX *e*LQ 04 38 10.0
MOX LR LR
comp=Z,900nm,22.0s,MS5.0
MOX Moxa 72.88 33⇓*i*P **P 04 20 05.8 +0.1**
comp=Z,logA/T=1.8,mb5.5
MOX *i* pP 04 20 10.0 +0.2
MOX PP PP 04 22 55.0 +5.0
MOX PPP PPP 04 24 34.0 +1.1
MOX S S 04 29 43.0 +13
MOX SS SS 04 34 13.0 0.0
MOX LQ 04 38 10.0
MOX L 04 50 12.0
CLL Collm 72.88 32⇓*i*P **P 04 20 05.5 -0.2**
CLL *e*S S 04 29 30.0 -0.2
CLL pmax pmax
comp=Z,70nm,0.9s,mb5.6
CLL MLR MLR
comp=Z,1µm,20.0s,MS5.2
CLL Collm 72.88 32⇓*i*P **P 04 20 05.5 -0.2**
comp=Z,70nm,0.9s,mb5.6
CLL *e*S S 04 29 30.0 -0.2
CLL LR LR
comp=Z,1µm,20.0s,MS5.2
CLL Collm 72.88 32⇓P **P 04 20 05.5 -0.2**
comp=Z,logA/T=1.9,mb5.6
CLL *i* *PP pP 04 20 09.9 +0.1
CLL *e*PP PP 04 22 42.0 -8.0
CLL *e*PPP PPP 04 24 33.0 +0.1
CLL *e*S S 04 29 30.0 -0.2
CLL *e*SS SS 04 34 14.0 +1.0
CLL *e*SSS SSS 04 37 42.0 +19
EBAD Badajoz 72.92 52 P **P 04 20 05.9 -0.3**
comp=Z,273nm,1.5s,mb6.0
PBEJ Beja 72.95 53 *i* P **P 04 20 06.1 -0.3**
comp=Z,86nm,1.4s,mb5.5
ECH Echery 72.96 37 *e*P **P 04 20 06.3 +0.1**
PYM Petit Puy Mans 72.97 41 *e*P **P 04 20 06.9 +0.6**
LARF Larrau 73.04 45⇓*e*P **P 04 20 07.5 +0.7**
PLDF La Plantade 73.09 41 *e*P **P 04 20 08.0 +1.0**
SIND Sindeldorf 73.10 35⇓*e*P **P 04 20 07.1 +0.1**
HINF Hinteralfeld 73.13 38 *e*P **P 04 20 07.4 +0.2**
comp=Z,234nm,1.2s,mb5.7
HINF Hinteralfeld 73.13 38 *e*P **P 04 20 07.4 +0.2**
HINF pmax pmax
comp=Z,117nm,1.2s,mb5.7
CAF Calviac 73.14 42 *e*P **P 04 20 07.2 -0.2**
comp=Z,143nm,1.1s,mb5.5
CAF Calviac 73.14 42 *e*P **P 04 20 07.2 -0.2**
CAF pmax pmax
comp=Z,72nm,1.1s,mb5.5
MOF Molkenrain 73.22 38 *e*P **P 04 20 08.0 +0.2**
LBG Lerchenberg 73.30 36⇓*e*P **P 04 20 08.7 +0.5**
REYF Montagne du Re 73.31 45 *e*P **P 04 20 08.5 +0.1**

ETSF Etsaut 73.36 45 *e*P **P 04 20 09.2 +0.5**
comp=Z,74nm,0.8s,mb5.3
ETSF Etsaut 73.36 45 *e*P **P 04 20 09.2 +0.5**
ETSF pmax pmax
comp=Z,37nm,0.8s,mb5.4
BFO Black Forest 73.36 37 *e*P **P 04 20 08.6 0.0**
BFO pmax pmax
comp=Z,69nm,1.0s,mb5.5
BFO Black Forest 73.36 37 *e*P **P 04 20 08.6 0.0**
comp=Z,69nm,1.0s,mb5.5
STU Stuttgart 73.38 36 *e*P **P 04 20 08.1 -0.6**
STU pmax pmax
comp=Z,115nm,1.4s,mb5.6
STU Stuttgart 73.38 36 *e*P **P 04 20 08.1 -0.6**
comp=Z,115nm,1.4s,mb5.6
LPAZ La Paz 73.45 135 P **P 04 20 08.5 -1.2**
LPAZ pmax pmax
comp=Z,5.0nm,0.6s
LPAZ MLR MLR
comp=Z,675nm,19.5s
LPAZ La Paz 73.45 135 P **P 04 20 08.4 -1.2**
comp=Z,5.4nm,0.6s,mb4.6,baz=336,slow=4.1,SNR=41
LPAZ LR LR 04 56 29.1
comp=Z,675nm,19.5s,MS4.9,baz=175,slow=39
LPAZ La Paz 73.45 135 *e*P **P 04 20 08.0 -1.7**
comp=Z,49nm,1.5s,mb5.2
LPAZ *e*pP pP 04 20 12.2 -1.7
COLF Collangettes 73.47 41 *e*P **P 04 20 09.2 0.0**
LBL Lubilhac 73.47 42 *e*P **P 04 20 10.4 +1.1**
GRA1 Grafenberg Arr 73.48 34 *e*P **P 04 20 09.9 +0.7**
comp=Z,765nm,2.9s,mb6.1
GRA1 *e*pP pP 04 20 14.5 +1.2
GRA1 LR LR
comp=Z,2µm,21.1s,MS5.4
GRF Grafenberg Arr 73.48 34 *e*P **P 04 20 09.9 +0.7**
GRF *e**PP pP 04 20 14.5 +1.2
GRF pmax pmax
comp=Z,765nm,2.9s,mb6.1
GRF MLR MLR
comp=Z,2µm,21.1s,MS5.4
GRF Grafenberg Arr 73.48 34 *e*P **P 04 20 09.9 +0.7**
GRF *e**PP pP 04 20 14.5 +1.2
GRF pmax pmax
comp=Z,765nm,2.9s,mb6.1
GRF MLR MLR
comp=Z,2µm,21.1s,MS5.4
GRF Grafenberg Arr 73.48 34 *e*P **P 04 20 09.9 +0.7**
comp=Z,765nm,2.9s,mb6.1
GRF *e*pP pP 04 20 14.5 +1.2
GRF LR LR
comp=Z,2µm,21.1s,MS5.4
GRFO Grafenberg 73.48 34 P **P 04 20 09.8 +0.6**
LOMF Lomont 73.48 38 *e*P **P 04 20 09.4 +0.1**
KIZ Kirchzarten 73.48 37⇓*e*P **P 04 20 09.2 -0.1**
EGRO El Granado 73.51 53 P **P 04 20 09.7 0.0**
comp=Z,236nm,1.6s,mb5.9
NKC Novy Kostel 73.53 33⇓*i*P **P 04 20 09.7 +0.2**
NKC *e*pP pP 04 20 13.2 -0.4
NKC AMS AMS 04 48 20.0
comp=Z,2µm,23.9s
LABF Labassere 73.56 45⇓*e*P **P 04 20 09.6 -0.3**
FELD Feldberg 73.58 37⇓*e*P **P 04 20 09.9 +0.1**
BRG Berggiesshubel 73.58 32⇓*i*P **P 04 20 09.8 0.0**
BRG *i* pP 04 20 13.9 0.0
BRG 04 22 51.0
BRG PPP PPP 04 24 43.0 +3.1
BRG S S 04 29 43.0 +4.9
BRG SS SS 04 34 27.0 +3.3
BRG pmax pmax
comp=Z,53nm,1.0s,mb5.4
BRG MLR MLR
comp=Z,2µm,19.3s,MS5.4
BRG Berggiesshubel 73.58 32⇓*i*P **P 04 20 09.8 0.0**
comp=Z,53nm,1.0s,mb5.4
BRG *i* pP 04 20 13.9 0.0
BRG PP PP 04 22 51.0 -4.8
BRG PPP PPP 04 24 43.0 +3.1
BRG S S 04 29 43.0 +4.9
BRG SS SS 04 34 27.0 +3.3
BRG SSS SSS 04 38 17.0 +42
BRG LR LR
comp=Z,2µm,19.3s,MS5.4
BRANT Les Verrieres 73.64 39⇓*e*P **P 04 20 10.2 0.0**
VIEF Viey 73.66 45⇓*e*P **P 04 20 11.2 +0.8**
BBS Basel-Blauen 73.69 38⇓*e*P **P 04 20 10.7 +0.2**
BUCH Bad Urach 73.70 36⇓*e*P **P 04 20 11.2 +0.7**
EPF Esparros 73.71 45 *e*P **P 04 20 10.4 -0.3**
CABF La Chapelle 73.72 39 *e*P **P 04 20 11.3 +0.6**
comp=Z,196nm,0.8s,mb5.8
CABF *e*pP pP 04 20 15.7 +0.9
CABF La Chapelle 73.72 39 *e*P **P 04 20 11.3 +0.6**
CABF *e**PP pP 04 20 15.7 +0.9
CABF pmax pmax
comp=Z,98nm,0.8s,mb5.8
SPAK Spaichingen 73.73 37⇓*e*P **P 04 20 11.1 +0.4**
EMIN Mina Concepcio 73.80 53 P **P 04 20 11.4 0.0**
comp=Z,249nm,1.5s,mb5.9
GIMEL Gimel 73.86 39⇓*i*P **P 04 20 12.2 +0.7**
BALST Balsthal 73.87 38⇓*i*P **P 04 20 11.6 +0.1**
RESF Ens 73.87 45⇓*e*P **P 04 20 12.7 +1.1**
GUT Gutenstein 73.90 36⇓*e*P **P 04 20 12.1 +0.4**
SULZ Sulz-Cheisache 73.90 37⇓*i*P **P 04 20 11.8 +0.1**
CHIE El Hierro 73.90 67 P **P 04 20 13.9 +1.8**
comp=Z,12nm,0.8s,mb4.9
ESDC Sonseca Array 73.93 50 P **P 04 20 12.1 +0.1**
comp=Z,33nm,0.7s,mb5.3,baz=309,slow=5.8,SNR=174
ESDC Sonseca Array 73.93 50 P **P 04 20 12.1 +0.1**
comp=Z,41nm,0.8s,mb5.4
ESLA Sonseca Array 73.93 50 *e*P **P 04 20 11.5 -0.5**
comp=Z,15nm,0.9s,mb4.9
ESLA LR LR
comp=Z,6µm,20.0s,MS5.9
TORNY Torny 73.98 38⇓*e*P **P 04 20 11.9 -0.3**
MELF Melles 74.03 45 *e*P **P 04 20 12.1 -0.5**
FLACH Flaach 74.06 37⇓*i*P **P 04 20 12.3 -0.3**
SUW Suwalki 74.08 25 *e*P **P 04 20 11.6 -1.0**
SUW *e*pP pP 04 20 15.4 -1.3
SUW *e*S S 04 29 44.8 +1.2
SUW Suwalki 74.08 25 *e*P **P 04 20 11.6 -1.0**
comp=Z,200nm,0.9s,mb6.0
SUW *e*pP pP 04 20 15.4 -1.3
SUW *e*S S 04 29 44.8 +1.2
SUW MLR MLR 04 49 13.8
comp=Z,1µm,23.6s,MS5.0
EGOM La Gomera 74.09 66 P **P 04 20 14.4 +1.1**
comp=Z,152nm,2.1s,mb5.6
PVCC Panska Ves 74.09 32⇓*i*P **P 04 20 13.1 +0.4**
PVCC *e*pP pP 04 20 16.7 -0.2
PVCC AMS AMS 04 51 50.0
comp=Z,2µm,19.9s
MLS Moulis 74.13 44⇓*e*P **P 04 20 13.0 -0.2**
ZUR Zurich 74.22 37⇓*i*P **P 04 20 13.8 +0.3**
ESAC San Caprasio 74.26 46 P **P 04 20 14.6 +0.6**
comp=Z,298nm,1.5s,mb6.0
EGRA Graus 74.31 45 P **P 04 20 14.8 +0.6**
comp=Z,138nm,1.2s,mb5.8
WILA Wila 74.32 37⇓*i*P **P 04 20 14.5 +0.4**
SALF Salau 74.33 44 *e*P **P 04 20 14.5 +0.2**
MTLF Montolieu 74.40 43 *e*P **P 04 20 14.7 0.0**
comp=Z,174nm,1.2s,mb5.6
MTLF Montolieu 74.40 43 *e*P **P 04 20 14.7 0.0**
MTLF pmax pmax
comp=Z,87nm,1.2s,mb5.6
VIVF Saint-Julien-l 74.42 41 *e*P **P 04 20 14.8 0.0**
comp=Z,138nm,1.4s,mb5.4
VIVF Saint-Julien-l 74.42 41 *e*P **P 04 20 14.8 0.0**
VIVF pmax pmax
comp=Z,69nm,1.4s,mb5.4
CCAN Las Canadas 74.44 66 P **P 04 20 16.6 +1.4**
comp=Z,51nm,1.2s,mb5.3
SENIN Lac Senin 74.45 39⇓*i*P **P 04 20 15.6 +0.7**
KSP Ksiaz 74.47 31⇓*e*P **P 04 20 15.1 +0.2**
KSP *e*pP pP 04 20 18.9 -0.1
KSP *e*PP PP 04 22 56.5 -6.9
KSP *e*PPP PPP 04 24 50.0 +1.6
KSP *e*S S 04 29 49.0 +0.9
KSP *e*SS SS 04 34 35.0 -2.0
KSP LR LR
comp=Z,2µm,25.0s,MS5.4
KSP Ksiaz 74.47 31 *e*P **P 04 20 15.3 +0.3**
comp=Z,800nm,3.0s
KSP *e*pP pP 04 20 19.1 +0.1
KSP *e*S S 04 29 51.3 +3.2
KSP MLR MLR 04 49 21.6

comp=Z,2µm,25.0s,MS5.3
SALAN Lac Salanfe 74.47 39⇓*i*P **P 04 20 15.7 +0.7**
EMV Vieux Emosson 74.50 39⇑*i*P **P 04 20 16.0 +0.8**
HASLI Hasliberg 74.51 38⇓*e*P **P 04 20 15.3 0.0**
PRU Pruhonice 74.52 32⇓*i*P **P 04 20 15.4 +0.2**
PRU *e*pP pP 04 20 19.2 -0.2
PRU AMS AMS 04 49 10.0
comp=Z,2µm,26.2s
LPEF Le Peyrat 74.54 44⇓*e*P **P 04 20 15.9 +0.4**
MUO Muotathal 74.56 37⇓*i*P **P 04 20 16.3 +0.8**
LKBD Leukerbad 74.57 38⇓*i*P **P 04 20 16.3 +0.7**
UBR Uberruh 74.62 36⇓*e*P **P 04 20 16.7 +0.9**
LASF Ste Croix 74.63 42 *e*P **P 04 20 16.2 +0.2**
comp=Z,98nm,1.2s,mb5.3
UPC Upice 74.64 31⇓*i*P **P 04 20 15.8 -0.1**
UPC *e*pP pP 04 20 20.0 -0.1
LIENZ Alp Oberkamor 74.66 37⇓*i*P **P 04 20 16.7 +0.6**
EADA Adamuz 74.68 51 P **P 04 20 16.8 +0.4**
comp=Z,249nm,1.2s,mb6.0
FUR Furstenfeldbru 74.71 35 *e*P **P 04 20 17.2 +0.8**
FUR pmax pmax
comp=Z,70nm,1.0s,mb5.5
FUR Furstenfeldbru 74.71 35 *e*P **P 04 20 17.2 +0.8**
comp=Z,70nm,1.0s,mb5.5
DIX Grande Dixence 74.71 39⇓*e*P **P 04 20 17.3 +0.9**
MDJ Mudanjiang 74.80 319 P **P 04 20 16.8 -0.2**
MDJ PP PP 04 23 02.5 -4.0
MDJ S S 04 29 53.5 +1.5
MDJ SCS ScS 04 30 29.0 +3.9
MDJ SS SS 04 34 40.5 -1.7
MDJ AMB AMB
comp=Z,62nm,0.9s,mb5.5
MDJ AMB AMB
comp=Z,376nm,6.1s
MDJ LR LR
comp=N,959nm,20.1s,MS5.2
MDJ LR LR
comp=E,896nm,18.7s,MS5.2
MDJ LR LR
comp=Z,2µm,16.4s,MS5.4
MDJ Mudanjiang 74.80 319 *e*P **P 04 20 16.6 -0.4**
comp=Z,48nm,0.8s,mb5.5
MDJ LR LR
comp=Z,654nm,20.0s,MS4.9
LLS Linth-Limmern 74.81 37⇓*i*P **P 04 20 17.8 +0.8**
PLONS Plons 74.81 37⇓*i*P **P 04 20 17.6 +0.6**
PLONS Plons 74.81 37⇓*i*P **P 04 20 17.5 +0.5**
DAVA Damuels 74.83 36⇑*i*P **P 04 20 18.0 +0.9**
comp=Z,282nm,2.8s,mb5.7
LPL La Plagne 74.85 39 *e*P **P 04 20 18.1 +0.9**
comp=Z,92nm,1.1s,mb5.3
LPL La Plagne 74.85 39 *e*P **P 04 20 18.1 +0.9**
LPL pmax pmax
comp=Z,46nm,1.1s,mb5.3
KHC Kasperske Hory 74.85 33⇓*i*P **P 04 20 17.4 +0.2**
KHC *e*pP pP 04 20 21.3 0.0
KHC *e*S S 04 29 53.9 +1.5
KHC AMS AMS 04 49 10.0
comp=Z,2µm,23.5s
LRDF Laroque-de-Fa 74.86 44⇓*e*P **P 04 20 17.6 +0.3**
LPG La Plagne 74.87 39 *e*P **P 04 20 18.4 +1.0**
comp=Z,138nm,1.3s,mb5.4
LPG La Plagne 74.87 39 *e*P **P 04 20 18.4 +1.0**
LPG pmax pmax
comp=Z,69nm,1.3s,mb5.4
DPC Dobruska-Polom 74.88 31⇓*i*P **P 04 20 17.7 +0.4**
DPC *e*pP pP 04 20 21.8 +0.3
DPC *e*S S 04 29 57.7 +5.0
DPC AMS AMS 04 49 20.0
comp=Z,1µm,24.1s
ESPR Espera 74.90 53 P **P 04 20 18.5 +0.7**
comp=Z,369nm,1.4s,mb6.1
WAR Warsaw 74.92 27 *e*P **P 04 20 17.8 +0.3**
comp=Z,0.2nm,0.6s
WAR *e*S S 04 29 55.3 +2.2
WAR Warsaw 74.92 27 *e*P **P 04 20 17.8 +0.3**
comp=Z,200nm,0.6s,mb6.2
WAR *e*S S 04 29 55.3 +2.2
ORIF Oris-en-Rattie 74.92 40 *e*P **P 04 20 18.0 +0.3**
comp=Z,104nm,1.3s,mb5.3
ORIF *e*R
comp=Z,2µm,20.0s
FUSIO Fusio 74.97 38⇓*i*P **P 04 20 18.9 +1.0**
MMK Mattmark 74.98 38⇓*i*P **P 04 20 19.3 +1.3**
MNK Minsk 74.98 23⇓*i*P **P 04 20 12.0 -5.8**
VALF Valcebollere 75.00 44⇓*e*P **P 04 20 18.7 +0.5**
LSD Ceresole Reale 75.08 39 P **P 04 20 19.4 +0.8**
EBAN Banos Encina 75.11 51 P **P 04 20 19.6 +0.7**
EBAN pmax pmax
comp=Z,61nm,0.9s,mb5.5
EBAN Banos Encina 75.11 51 P **P 04 20 19.6 +0.6**
comp=Z,61nm,0.9s,mb5.5
EMIR Miracle 75.12 45 P **P 04 20 19.3 +0.4**
comp=Z,161nm,1.2s,mb5.8
GEC2 GERESS Array S 75.13 33 *e*P **P 04 20 19.0 +0.2**
GEC2 pmax pmax
comp=Z,45nm,1.0s,mb5.3
GEC2 GERESS Array S 75.13 33 *e*P **P 04 20 19.0 +0.2**
comp=Z,45nm,1.0s,mb5.3
GERES GERESS Array B 75.13 33 P **P 04 20 19.0 +0.2**
comp=Z,17nm,0.7s,mb5.1,baz=326,slow=4.8,SNR=152
GERES LR LR 04 53 58.5
comp=Z,2µm,18.3s,MS5.3,baz=324,slow=36
CIT Chita 75.15 333 *e*P **P 04 20 19.6 +0.8**
CIT *e* 04 20 34.0
CIT pmax pmax
comp=Z,193nm,1.9s,mb5.7
FILF Fillols 75.15 44⇓*e*P **P 04 20 18.7 -0.3**
BNI Bardonecchia 75.18 40 *e*P **P 04 20 19.3 +0.1**
BNI pmax pmax
comp=Z,67nm,1.3s,mb5.4
BNI Bardonecchia 75.18 40 *e*P **P 04 20 19.3 +0.1**
comp=Z,68nm,1.3s,mb5.4
DAVOX Davos 75.23 37⇓*i*P **P 04 20 20.6 +1.2**
EMOS Mosqueruela 75.26 47 P **P 04 20 20.6 +0.8**
comp=Z,440nm,2.4s,mb6.0
HIA Hailar 75.27 328 *e*P **P 04 20 19.3 -0.3**
HIA pmax pmax
comp=Z,85nm,0.8s
HIA MLR MLR
comp=Z,2µm,20.0s
HIA Hailar 75.27 328 *e*P **P 04 20 19.3 -0.3**
comp=Z,85nm,0.8s,mb5.7
HIA LR LR
comp=Z,2µm,20.0s,MS5.5
MOTA Moosalm 75.30 36⇑*i*P **P 04 20 20.5 +0.7**
comp=Z,151nm,1.3s,mb5.8
MOTA Moosalm 75.30 36⇑*i*P **P 04 20 20.5 +0.7**
MOTA pmax pmax
comp=Z,151nm,1.3s,mb5.8
ORX Oropa 75.31 39 P **P 04 20 20.6 +0.7**
EPOB Poblet 75.32 45 P **P 04 20 20.1 +0.1**
comp=Z,161nm,1.6s,mb5.7
SJAF Saint Jean de 75.36 44⇓*e*P **P 04 20 20.5 +0.2**
RSP Reno Superiore 75.37 39 P **P 04 20 20.5 +0.3**
FENE Fenestrelle 75.37 40 P **P 04 20 21.2 +1.0**
EJON La Jonquera 75.39 44 P **P 04 20 20.6 +0.2**
comp=Z,130nm,2.3s,mb5.5
EBR Ebro Roquetas 75.42 46 *e*P **P 04 20 21.0 +0.4**
SQTA Sankt Quirin 75.44 36⇑*i*P **P 04 20 21.8 +1.2**
comp=Z,126nm,1.2s,mb5.7
SQTA Sankt Quirin 75.44 36⇑*i*P **P 04 20 21.8 +1.2**
SQTA pmax pmax
comp=Z,126nm,1.2s,mb5.7
PRAF Pradon 75.45 41⇓*e*P **P 04 20 21.5 +0.8**
EVIA Vianos 75.46 49 P **P 04 20 21.8 +0.9**
EVIA pmax pmax
comp=Z,156nm,1.0s,mb5.9
EVIA Vianos 75.46 49 P **P 04 20 21.8 +0.9**
comp=Z,156nm,1.0s,mb5.9
MBDF Montbardon 75.48 40 *e*P **P 04 20 21.6 +0.7**
comp=Z,138nm,1.2s,mb5.5
MBDF Montbardon 75.48 40 *e*P **P 04 20 21.6 +0.7**
MBDF pmax pmax
comp=Z,69nm,1.2s,mb5.5
WATA Walderalm 75.50 36⇓*i*P **P 04 20 21.9 +1.0**
comp=Z,105nm,1.3s,mb5.6
WATA Walderalm 75.50 36⇓*i*P **P 04 20 21.9 +1.0**
WATA pmax pmax
comp=Z,105nm,1.3s,mb5.6
SMRF Simiane la Rot 75.51 41 *e*P **P 04 20 21.8 +0.7**
comp=Z,119nm,1.4s,mb5.3
FUORN Ofenpass 75.52 37⇓*i*P **P 04 20 22.6 +1.5**
MUGIO Muggio 75.55 38⇓*i*P **P 04 20 21.8 +0.6**
ECHE Chera 75.57 48 P **P 04 20 22.3 +0.7**

comp=Z,37nm,0.8s,mb5.4
WTTA Wattenberg 75.58 36⇑ iP P 04 20 22.4 +1.0
comp=Z,287nm,1.8s,mb5.9
WTTA Wattenberg 75.58 36⇑ iP P 04 20 22.4 +1.0
WTTA pmax pmax
comp=Z,287nm,1.8s,mb5.9
BERNI Berninapass 75.58 37⇓ iP P 04 20 23.0 +1.6
BHB Bricherasio 75.61 40 P P 04 20 22.1 +0.5
STOF St-Etienne Org 75.64 41⇓ eP P 04 20 22.3 +0.5
VILF Villemus 75.67 41⇓ eP P 04 20 22.6 +0.6
EMIJ Mijas 75.72 52 P P 04 20 22.4 0.0
comp=Z,204nm,1.7s,mb5.8
EQES Quesada 75.76 50 P P 04 20 23.5 +0.9
comp=Z,175nm,1.8s,mb5.7
EFAM Famara 75.77 63 P P 04 20 23.2 +0.3
comp=Z,285nm,1.9s,mb5.9
RAC Raciborz 75.78 30 eP P 04 20 23.0 +0.5
RAC MLR MLR 04 50 06.4
comp=Z,1μm,23.2s,MS5.2
MORC Moravsky Berou 75.80 31 eP P 04 20 22.1 -0.5
MORC e*PP pP 04 20 26.0 -0.7
MORC pmax pmax
comp=Z,70nm,1.3s,mb5.4
MORC Moravsky Berou 75.80 31 eP P 04 20 22.1 -0.5
comp=Z,70nm,1.3s,mb5.4
MORC epP pP 04 20 26.0 -0.7
VRAC Vranov 75.84 32 P P 04 20 23.5 +0.7
GELF Grande-Etoile 75.89 42⇓ eP P 04 20 23.8 +0.5
PUYF Puyloubier 75.91 41⇓ eP P 04 20 23.6 +0.3
CFTV Fuerteventura 75.92 64 P P 04 20 24.2 +0.5
comp=Z,22nm,0.9s,mb5.1
ETOB Tobarra 75.96 49 P P 04 20 24.7 +0.9
comp=Z,190nm,1.5s,mb5.8
OKC Ostrava-Krasne 75.97 30⇓ iP P 04 20 23.6 +0.1
OKC epP pP 04 20 27.4 -0.3
OKC AMS AMS 04 54 20.0
comp=Z,1μm,15.3s
TAVF Tavernes 76.01 41⇓ eP P 04 20 24.4 +0.5
EHUE Huescar 76.01 50 P P 04 20 24.8 +0.7
EHUE pmax pmax
comp=Z,35nm,1.0s,mb5.2
EHUE Huescar 76.01 50 P P 04 20 24.8 +0.7
comp=Z,35nm,1.0s,mb5.2
BERF Bertagne 76.07 41⇓ eP P 04 20 25.0 +0.7
STV Sta Anna Valdi 76.10 40 P P 04 20 24.3 -0.1
STV2 Anna di Valdie 76.10 40 P P 04 20 23.9 -0.5
ENR Entracque 76.16 40 P P 04 20 23.7 -1.0
MOA Molln 76.16 34⇑ iP P 04 20 24.8 +0.1
comp=Z,135nm,2.3s,mb5.5
TBI Tubuai 76.17 215 eS S 04 30 00.2 -7.3
comp=Z,217nm,26.2s
TBI eSS SS 04 34 47.8 -16
comp=Z,454nm,35.2s
TBI eLQ 04 40 48.0
comp=Z,823nm,31.0s
TBI eLR LR 04 43 56.0
comp=Z,2μm,34.2s,baz=23
MOS Moscow 76.18 17⇑ iP P 04 20 23.3 -1.3
MOS e 04 20 31.9
MOS e 04 23 14.4
MOS e 04 25 08.4
MOS eS S 04 30 04.9 -1.9
MOS eSS SS 04 34 59.4 -4.1
MOS pmax pmax
comp=Z,600nm,2.2s,mb6.1
MOS pmax pmax
comp=Z,272nm,1.7s,mb5.9
MOS MLR MLR
comp=Z,2μm,18.8s,MS5.4
OJC Ojcow 76.22 29⇓ iP P 04 20 24.8 -0.2
OJC ePcP PcP 04 20 35.1 -2.3
OJC ePP PP 04 23 17.0 -1.0
OJC eS S 04 30 08.7 +1.2
OJC MLR MLR 04 52 30.6
comp=Z,1μm,19.3s,MS5.3
TOUF Mont Tournerai 76.25 40⇓ eP P 04 20 25.5 +0.3
CALN Calern 76.28 40 eP P 04 20 25.3 -0.2
MVIF Mont Vial 76.29 40 eP P 04 20 25.7 +0.2
ROB Roburent 76.31 40 P P 04 20 25.4 -0.2
FRF La Foret Royal 76.32 41 eP P 04 20 25.5 -0.2
comp=Z,117nm,1.2s,mb5.4
FRF La Foret Royal 76.32 41 eP P 04 20 25.5 -0.2
FRF pmax pmax
comp=Z,59nm,1.2s,mb5.4
AUTN L'Aution 76.34 40⇓ eP P 04 20 25.2 -0.6
SAOF Saorge 76.41 40 eP P 04 20 26.0 -0.1
PCP Pian Castagno 76.42 39 P P 04 20 25.3 -0.9
KBA Koelnbreinsper 76.42 35⇑ iP P 04 20 27.0 +0.9
comp=Z,181nm,1.6s,mb5.8
KBA Koelnbreinsper 76.42 35⇑ iP P 04 20 27.0 +0.9
KBA pmax pmax
comp=Z,181nm,1.6s,mb5.8
MONE Monesi 76.42 40 P P 04 20 25.8 -0.4
LMR La Mourre 76.43 41 eP P 04 20 26.2 -0.1
comp=Z,58nm,1.1s,mb5.1
LMR La Mourre 76.43 41 eP P 04 20 26.2 -0.1
LMR pmax pmax
comp=Z,29nm,1.1s,mb5.1
MAJO Matsushiro 76.44 309 eP P 04 20 27.2 +0.7
MAJO pmax pmax
comp=Z,141nm,0.8s,mb6.0
MAJO MLR MLR
comp=Z,989nm,20.0s,MS5.1
MAJO Matsushiro 76.44 309 eP P 04 20 27.2 +0.7
comp=Z,141nm,0.8s,mb6.0
MAJO LR LR
comp=Z,989nm,20.0s,MS5.1
MAT Matsushiro 76.44 309 eP P 04 20 27.0 +0.5
MAT pmax pmax
comp=Z,118nm,0.9s,mb5.8
MAT Matsushiro 76.44 309 eP P 04 20 27.0 +0.5
comp=Z,118nm,0.9s,mb5.8
MAT Matsushiro 76.44 309 P P 04 20 26.5 0.0
MJAR Matsushiro Arr 76.44 308 P P 04 20 26.8 +0.3
comp=Z,46nm,0.8s,mb5.5,baz=36,slow=4.7,SNR=64
SBF Sospel 76.45 40 eP P 04 20 26.2 -0.2
comp=Z,76nm,0.9s,mb5.3
SBF Sospel 76.45 40 eP P 04 20 26.2 -0.2
SBF pmax pmax
comp=Z,38nm,0.9s,mb5.3
REVF Revere 76.51 40 eP P 04 20 26.6 -0.1
EBER Berja 76.52 51 P P 04 20 28.6 +1.7
comp=Z,181nm,1.1s,mb5.9
FIN Finale Ligure 76.53 39 P P 04 20 26.2 -0.6
OBN Obninsk 76.54 18 *d* **iP P 04 20 26.4 -0.2**
OBN *i* pP 04 20 30.8 0.0
OBN *e* 04 23 17.4
OBN pmax pmax
comp=Z,184nm,0.7s,mb6.1
OBN Obninsk 76.54 18 eP P 04 20 26.1 -0.5
comp=Z,193nm,0.8s,mb6.1
NEGI Negi 76.58 40 P P 04 20 25.7 -1.4
KWAJ Kwajalein Atol 76.59 269 PFAKE 04 20 40.0 +12
KWAJ LR LR
comp=Z,382nm,21.0s,MS4.7
IMI Imperia 76.62 40 P P 04 20 25.7 -1.6
EBEN Beniarda 76.62 48 P P 04 20 28.6 +1.1
comp=Z,265nm,1.8s,mb5.9
EMUR La Murta 76.72 49 P P 04 20 28.6 +0.5
comp=Z,255nm,1.8s,mb5.8
PECR Pechory 76.80 13⇑ iP P 04 20 27.6 -0.5
PECR eS S 04 30 06.0 -7.6
PECR pmax pmax
comp=Z,700nm,6.4s
PECR MLR MLR
comp=E,1μm,16.0s,MS5.3
PECR MLR MLR
comp=Z,1μm,16.0s,MS5.2
PECR MLR MLR
comp=N,700nm,17.0s,MS5.3
SMOL Smolenice 76.81 32 *i* P P **04 20 29.0 +0.7**
SMOL epP pP 04 20 32.8 +0.4
ZST Bratislava 76.95 32 *i* P P **04 20 29.8 +0.7**
ZST epP pP 04 20 33.7 +0.4
ZST eL 04 52 50.3
CART Cartagena 77.03 49 eP P 04 20 28.8 -1.0
comp=N,91nm,1.1s,mb5.6
NIE Niedzica 77.08 29⇓ iP P 04 20 30.3 +0.5
CODM 77.11 38 P P 04 20 29.6 -0.5
KOLL Kolacno 77.11 31 *i* P P **04 20 30.3 +0.3**
KOLL epP pP 04 20 34.7 +0.6
GRAM 77.12 38 P P 04 20 30.1 0.0
ARSA Arzberg 77.14 33⇓ iP P 04 20 30.7 +0.6
comp=N,286nm,2.9s,mb5.7
ROBS Robic 77.16 35 eP P 04 20 30.0 -0.3

EIBI Ibiza 77.19 47 P P 04 20 31.7 +1.1
comp=N,296nm,1.9s,mb5.9
CADS Cadrg 77.27 35⇓ iP P 04 20 30.6 -0.2
CADS *e*PP PP 04 23 24.3 -2.3
CN2 Changchun 77.31 321 eP P 04 20 31.0 -0.2
CN2 PCP PcP 04 20 42.5 +0.3
CN2 PP PP 04 23 24.0 -3.1
CN2 *e*S S 04 30 18.5 -1.0
CN2 SS SS 04 35 20.0 -0.8
CN2 AMB AMB
comp=Z,130nm,1.3s,mb5.7
CN2 AMB AMB
comp=Z,880nm,3.0s
CN2 LR LR
comp=N,1μm,19.0s,MS5.4
CN2 LR LR
comp=E,1μm,19.0s,MS5.4
CN2 LR LR
comp=Z,1μm,19.0s,MS5.3
VYHS Vyhne 77.34 31 *i* P P **04 20 31.0 -0.2**
VYHS epP pP 04 20 35.7 +0.3
OBKA Obir 77.36 34⇑ iP P 04 20 31.6 +0.2
comp=Z,297nm,2.3s,mb5.8
ETOS Mallorca 77.38 45 P P 04 20 32.0 +0.4
comp=Z,176nm,2.2s,mb5.6
STHS Stebnicka Huta 77.40 29 *i* P P **04 20 32.4 +0.9**
STHS epP pP 04 20 36.1 +0.4
PERS Pernice 77.48 34⇓ iP P 04 20 32.3 +0.2
VOY Vojsko 77.49 35 eP P 04 20 32.1 0.0
VOY *e* 04 20 45.8
SARO Sassorosso 77.51 38 P P 04 20 31.8 -0.5
IRK Irkutsk 77.70 338 eP P 04 20 32.6 -0.5
IRK pmax pmax
comp=Z,220nm,2.3s,mb5.7
KWP Kalwaria 77.71 28 eP P 04 20 33.7 +0.5
KWP epP pP 04 20 37.0 -0.4
KWP Kalwaria 77.71 28 eP P 04 20 33.7 +0.5
comp=Z,400nm,2.4s,mb5.9
KWP epP pP 04 20 37.0 -0.3
KWP MLR MLR 04 51 37.3
comp=Z,1μm,25.0s,MS5.2
SRO Srobarova 77.72 31 eP P 04 20 34.0 +0.7
SRO epP pP 04 20 38.4 +0.9
LJU Ljubljana 77.74 35⇓ eP P 04 20 33.4 -0.1
LJU epP pP 04 20 37.5 -0.1
SRO1 Iza 77.74 31 eP P 04 20 34.3 +0.9
SRO1 epP pP 04 20 38.6 +1.0
MAIM 77.77 38 P P 04 20 32.2 -1.4
CRVS Cervenica-Dubn 77.92 29 eP P 04 20 35.2 +0.8
CRVS *e* pP 04 20 37.8 -0.7
CRVS *e*sP sP 04 20 41.1 +1.2
KECS Kecovo 77.94 30 eP P 04 20 34.6 +0.1
KECS epP pP 04 20 38.5 -0.1
LVV L'vov 77.97 27 *d* **iP P 04 20 34.7 0.0**
LVV *e*S S 04 30 24.0 -2.4
LVV MLR MLR
comp=Z,600nm,15.0s,MS5.0
PKSG 78.11 32⇓ eP P 04 20 36.1 +0.7
KOLS Kolonicke sedl 78.16 28 eP P 04 20 36.6 +0.9
KOLS epP pP 04 20 40.6 +0.7
PGF Pioggiola 78.19 40 eP P 04 20 35.7 -0.3
comp=Z,107nm,1.3s,mb5.3
PGF Pioggiola 78.19 40 eP P 04 20 35.7 -0.3
PGF pmax pmax
comp=Z,53nm,1.3s,mb5.3
PSZ Piszkesteto 78.21 30 eP P 04 20 36.2 +0.2
PSZ *e*PP pP 04 20 40.5 +0.3
PSZ pmax pmax
comp=Z,85nm,1.2s,mb5.5
PSZ Piszkesteto 78.21 30 eP P 04 20 36.2 +0.2
comp=Z,84nm,1.2s,mb5.5
PSZ epP pP 04 20 40.5 +0.3
BUD Budapest 78.26 31⇑ eP P 04 20 37.4 +1.1
ARU Arti 78.29 5⇓ iP P 04 20 36.4 +0.1
ARU *e* 04 20 46.1
ARU *e* 04 23 33.4
ARU ePPP PPP 04 25 18.7 -5.9
ARU *e*S S 04 30 30.0 +0.3
ARU *e* 04 30 54.5
ARU eSS SS 04 35 32.2 -3.0
ARU pmax pmax
comp=Z,186nm,1.4s,mb5.8
ARU MLR MLR
comp=Z,2μm,20.0s,MS5.4
ARU MLR MLR
comp=N,2μm,19.0s,MS5.4
ARU MLR MLR
comp=E,900nm,17.0s,MS5.4
ARU Arti 78.29 5 eP P 04 20 36.0 -0.2
comp=E,178nm,1.0s,mb6.0
ARU LR LR
comp=Z,551nm,20.0s,MS4.9
TLY Talaya 78.38 338 *d* **iP P 04 20 37.9 +1.1**
TLY pmax pmax
comp=Z,164nm,1.2s,mb5.8
TLY MLR MLR
comp=Z,2μm,16.0s,MS5.5
TLY Talaya 78.38 338 eP P 04 20 37.6 +0.7
comp=Z,144nm,1.1s,mb5.8
UZH Uzhgorod 78.43 29 eP P 04 20 37.0 -0.2
UZH *e*S S 04 30 32.0 +0.6
UZH MLR MLR
comp=Z,920nm,15.0s,MS5.2
BOJS Bojanci 78.47 34⇓ iP P 04 20 37.8 +0.4
BOJS *e* 04 30 34.6
LVC Limon Verde 78.50 139 *i* P P **04 20 37.9 -0.3**
LVC Limon Verde 78.50 139 eP P 04 20 37.8 -0.3
comp=Z,65nm,1.3s,mb5.4
LVC epP pP 04 20 42.4 +0.1
LVC LR LR
comp=Z,923nm,20.0s,MS5.1
PKS7 Kunszentmiklos 78.68 31⇓ eP P 04 20 39.2 +0.6
AKASG Malin Array Be 78.76 24 P P 04 20 38.4 -0.6
comp=Z,67nm,0.6s,mb5.7,baz=330,slow=4.9,SNR=130
AKASG PKPPKP 04 47 39.3
comp=Z,0.2nm,0.3s,baz=180,slow=2.9,SNR=4.4
MOY Mondy 79.07 339 eP P 04 20 41.3 +0.7
MOY pmax pmax
comp=Z,213nm,2.5s,mb5.6
SPCH San Pedro de A 79.09 139 *i* P P **04 20 41.3 -0.1**
NVLJ Novalja 79.09 35 *i* P P **04 20 40.9 0.0**
PKSM Moragy 79.19 32⇓ iP P 04 20 41.6 +0.2
NVS Novosibirsk 79.25 351⇓ iP P 04 20 40.1 -1.4
NVS *e*S S 04 30 38.7 -1.2
NVS pmax pmax
comp=Z,263nm,2.1s,mb5.8
NVS pmax pmax
comp=N,77nm,1.8s
NVS pmax pmax
comp=E,64nm,1.6s
NVS smax
comp=N,42nm,1.9s
EBNR Beni Rached 79.35 49 P P 04 20 45.0 +2.5
ECHA Ech Chlef 79.37 49 P P 04 20 43.5 +0.9
EANR 'Ain N'Sour 79.38 49 P P 04 20 44.0 +1.3
ZAK Zakamensk 79.65 338 eP P 04 20 44.2 +0.4
ZAK pmax pmax
comp=Z,18nm,1.4s,mb4.8
SNY Shenyang 79.72 321 ⇓P P 04 20 45.5 +1.1
SNY AMB AMB
comp=Z,170nm,0.7s,mb6.1
SNY LR LR
comp=N,980nm,18.0s,MS5.5
SNY LR LR
comp=E,1μm,15.6s,MS5.5
SNY LR LR
comp=Z,2μm,17.7s,MS5.4
ETRT Tiaret 79.91 49 P P 04 20 47.5 +2.0
DRGR 80.16 29⇑ P P 04 20 46.5 -0.1
EMHD Djebel Mahouad 80.16 48 P P 04 20 48.0 +1.1
BURAR Bucovina Array 80.28 27⇑ P P 04 20 48.5 +1.3
BURAR Bucovina Array 80.28 27⇑ P P 04 20 48.5 +1.2
AQU L'Aquila 80.28 37 eP P 04 20 47.6 +0.2
AQU pmax pmax
comp=Z,70nm,0.9s,mb5.6
AQU L'Aquila 80.28 37 eP P 04 20 47.6 +0.2
comp=Z,70nm,0.9s,mb5.6
VSL Villasalto 80.78 42 eP P 04 20 49.8 -0.3
comp=Z,60nm,1.1s,mb5.4
ULN Ulaanbaatar 80.83 334 PFAKE 04 21 00.0 +10
ULN LR LR
comp=Z,2μm,19.0s,MS5.5
SONM Songino Array 81.06 335 P P 04 20 52.4 +1.1
comp=Z,34nm,0.9s,mb5.3,baz=29,slow=4.7,SNR=142

SONM LR LR 04 59 50.7
comp=Z,3μm,19.4s,MS5.6,baz=18,slow=38
KS15 Wonju Array Si 81.17 315 eP P 04 20 52.8 +0.7
DFRA Djebel Bou Aff 81.40 46 P P 04 20 55.0 +1.6
SET Setif 81.42 46 P P 04 20 54.0 +0.5
DIVS Divcibare 81.49 32⇑ iP P 04 20 53.9 +0.3
CKHR Kef el Ahmar 81.62 46 P P 04 20 56.0 +1.4
INCN Inchon 81.75 316 eP P 04 20 55.9 +0.7
comp=Z,103nm,0.9s,mb5.8
SVIS Svilajnac 81.78 32⇓ iP P 04 20 55.7 +0.5
BRVK Borovoye 81.91 358 P P 04 20 55.7 +0.1
BRVK pmax pmax
comp=Z,100nm,0.9s,mb5.8
BRVK Borovoye 81.91 358 eP P 04 20 55.4 -0.2
comp=Z,100nm,0.9s,mb5.7
BRVK LR LR
comp=Z,226nm,21.0s,MS4.5
CASM Ain Smara 81.93 45 P P 04 20 57.0 +0.9
CKFL Kef-Lekhel 81.94 45 P P 04 20 58.0 +1.8
BVA0 Borovoye Array 81.94 358 *i* P P **04 20 55.7 -0.1**
BVA0 pmax pmax
comp=Z,19nm,0.9s,mb5.0
BVAR Borovoye Array 81.94 358 PKKPbc 04 39 25.4
comp=Z,1.1nm,0.7s,baz=207,slow=3.3,SNR=7.2
BVAR PKPPKP 04 47 30.5
comp=Z,1.3nm,0.8s,baz=135,slow=8.4,SNR=5.4
GRUS Gruza 81.94 32 *i* P P **04 20 56.8 +0.7**
KIS Kishinev 81.96 26 *к* *iP* P **04 20 54.0 -2.1**
KIS *e* 04 24 02.0
KIS *e* 04 31 50.0
KIS *e*S x 04 32 20.0
KIS pmax pmax
comp=Z,600nm,7.0s
KIS pmax pmax
comp=Z,900nm,6.0s
KIS MLR MLR
comp=N,1μm,16.0s,MS5.3
KIS MLR MLR
comp=Z,1μm,16.0s,MS5.3
KIS MLR MLR
comp=E,400nm,15.0s,MS5.3
KIS MLR MLR
comp=Z,1μm,16.0s
CMAH Djebel Manchou 82.11 45 P P 04 21 01.0 +4.0
VOIR 82.14 29⇑ P P 04 20 57.1 +0.1
VRI Vrincioaia 82.31 27 P P 04 20 58.4 +0.5
MLR Muntele Rosu 82.39 28⇑ P P 04 20 58.9 +0.6
ABSA Djebel Ababsia 82.41 45 P P 04 21 02.0 +3.4
DL2 Dalian 82.95 320 P P 04 21 02.3 +0.9
DL2 S S 04 31 21.0 +2.4
DL2 AMB AMB
comp=Z,50nm,0.8s,mb5.6
DL2 AMB AMB
comp=Z,200nm,4.4s
DL2 LR LR
comp=N,710nm,17.5s,MS5.2
DL2 LR LR
comp=E,430nm,17.8s,MS5.2
DL2 LR LR
comp=Z,790nm,13.8s,MS5.2
CFR Carcaliu 83.38 27⇑ P P 04 21 03.8 +0.4
KURK Kurchatov 83.79 353⇓ iP P 04 21 04.9 -0.4
KURK *e* pP 04 21 08.9 -0.6
KURK pmax pmax
comp=Z,137nm,1.3s,mb5.9
KURK Kurchatov 83.79 353⇓ iP P 04 21 04.9 -0.4
comp=Z,137nm,1.3s,mb5.9
KURK ⇓epP pP 04 21 08.9 -0.6
SKO Skopje 83.86 33⇓ iP P 04 21 06.4 +0.5
VTS Vitosha 83.98 31 P P 04 21 01.0 -5.5
TIRR Tirgusor 84.11 27⇑ P P 04 21 06.5 -0.6
PVL Pavlikeni 84.19 29 eP P 04 21 07.0 -0.5
BDFB Brasilia 84.21 119 P P 04 21 07.1 -1.1
comp=Z,7.0nm,0.9s,mb4.8,baz=338,slow=6.5,SNR=8.5
BDFB LR LR 04 58 01.4
comp=Z,607nm,19.9s,MS5.0,baz=321,slow=35
BAO Brasilia Array 84.22 119 P P 04 21 08.5 +0.2
TIP Timpagrande 84.34 37 eP P 04 21 07.8 -0.6
OHR Ohrid 84.35 33⇓ iP P 04 21 09.0 +0.6
KKB Krupnik 84.56 32 P P 04 21 10.0 +0.6
PSN Preselentsi 84.73 27 P P 04 21 11.0 +0.8
VAY Valandovo 84.84 32⇓ iP P 04 21 11.8 +0.9
FNA Florina 84.85 33 eP P 04 21 11.3 +0.4
RCBR Riachuelo 84.88 104 PFAKE 04 21 20.0 +8.3
RCBR LR LR
comp=Z,1μm,22.0s,MS5.2
PRD Provadia 84.90 28 P P 04 21 12.0 +0.9
PLD Plovdiv 84.94 30 eP P 04 21 12.0 +0.7
MMB Musomiste 85.04 31 P P 04 21 12.5 +0.7
GRG Griva 85.10 32 eP P 04 21 12.9 +0.8
JMB Yambol 85.28 29 P P 04 21 13.0 0.0
DIM Dimitrovgrad 85.28 30 eP P 04 21 14.0 +1.0
RZN Rozhen 85.31 31 P P 04 21 14.0 +0.8
SIM Simferopol' 85.36 23 *d* **iP P 04 21 14.0 +0.7**
SIM *e* pP 04 21 18.0 +0.4
SIM *e*S S 04 31 46.0 +3.8
SIM pmax pmax
comp=Z,28nm,1.3s,mb5.2
SRS Serrai 85.40 32 eP P 04 21 14.0 +0.3
HHC Hu-ho-hao-te 85.47 328 ⇓P P 04 21 14.3 +0.3
HHC AP pP 04 21 19.0 +0.8
HHC XP sP 04 21 22.0 +2.4
HHC PP PP 04 24 33.3 -0.8
HHC S S 04 31 35.3 -8.1
HHC AMB AMB
comp=Z,35nm,1.3s,mb5.3
HHC AMB AMB
comp=Z,555nm,7.2s
HHC LR LR
comp=N,809nm,18.0s,MS5.5
HHC LR LR
comp=E,2μm,18.0s,MS5.5
HHC LR LR
comp=Z,634nm,20.4s,MS5.0
AB31 Akbulak array 85.53 5 *i* P P **04 21 14.7 +0.7**
THE Thessaloniki 85.59 32 eP P 04 21 14.3 -0.3
KDZ Kurdzhali 85.60 30 P P 04 21 15.0 +0.4
LIT Litokhoron 85.87 33 eP P 04 21 15.4 -0.6
BTO Baotou 86.25 329 eP P 04 21 17.5 -0.4
ANN Anapa 86.37 21 eP P 04 21 18.1 -0.3
ANN *i* 04 24 34.5
ANN *e*S S 04 31 41.2 -11
ANN pmax pmax
comp=Z,128nm,1.4s,mb6.0
ANN MLR MLR
comp=N,350nm,20.0s,MS5.1
ANN MLR MLR
comp=E,770nm,20.0s,MS5.1
ANN MLR MLR
comp=Z,2μm,20.0s,MS5.4
PAIG Paliouri 86.47 32 eP P 04 21 19.0 0.0
ALN Alexandroupoli 86.48 30 eP P 04 21 19.3 +0.3
AGG Agios Georgios 86.74 33 eP P 04 21 20.3 0.0
XOR Xorichti 86.78 33 eP P 04 21 20.4 -0.1
TIA Tai'an 87.18 322 eP P 04 21 23.0 +0.5
AOS Alonnisos 87.21 32 eP P 04 21 22.7 +0.1
FCH Farellones 87.24 146⇑ iP P 04 21 23.6 +0.6
MKAR Makanchi Array 87.27 350 *i* P P **04 21 21.9 -0.8**
MKAR pmax pmax
comp=Z,298nm,1.8s
MKAR Makanchi Array 87.27 350 P P 04 21 22.1 -0.6
comp=Z,11nm,0.7s,mb5.2,slow=3.6,SNR=86
MKAR PKKPbc 04 39 13.3
comp=Z,1.1nm,1.0s,baz=180,slow=2.4,SNR=5.1
MKAR PKPPKP 04 47 22.2
comp=Z,0.7nm,0.9s,baz=207,slow=2.7,SNR=3.7
MKAR LR LR 05 01 34.2
comp=Z,985nm,20.4s,MS5.2,slow=36
MKAR Makanchi Array 87.27 350 P P 04 21 22.1 -0.6
MKAR PKKPbc 04 39 13.3
MKAR P'P' 04 47 22.2
MKAR LR LR 05 01 34.2
CPUP Villa Florida 87.31 132 eP P 04 21 22.2 -1.2
CPUP *e*PP pP 04 21 26.3 -1.3
CPUP pmax pmax
comp=Z,79nm,1.5s
CPUP MLR MLR
comp=Z,730nm,19.0s
CPUP Villa Florida 87.31 132 LR LR 05 02 44.0
comp=Z,552nm,18.8s,MS5.0,baz=5.2,slow=37
CPUP Villa Florida 87.31 132 eP P 04 21 22.2 -1.2
comp=Z,79nm,1.5s,mb5.7
CPUP epP pP 04 21 26.3 -1.3
CPUP LR LR

comp=Z,730nm,19.0s,MS5.1
SOC Sochi 88.07 20*d* *i*P **P** **04 21 27.5 +0.9**
SOC *i* S S 04 31 52.8 -15
SOC pmax pmax
comp=Z,110nm,1.6s,mb5.8
SOC pmax pmax
comp=N,36nm,1.1s
SOC pmax pmax
comp=E,34nm,1.1s
SOC MLR MLR
comp=N,518nm,16.0s,MS5.3
SOC MLR MLR
comp=E,816nm,16.0s,MS5.3
SOC MLR MLR
comp=Z,964nm,16.0s,MS5.3
KIV Kislovodsk 88.39 18*d* *i*P **P** **04 21 28.7 +0.6**
KIV pmax pmax
comp=Z,49nm,1.3s,mb5.6
KIV Kislovodsk 88.39 18 *e*P **P** **04 21 28.8 +0.7**
comp=Z,81nm,1.3s,mb5.8
KIV *e*pP pP 04 21 32.8 +0.4
GUMO Guam 89.00 288 PFAKE 04 21 40.0 +8.3
GUMO LR LR
comp=Z,3μm,20.0s,MS5.6
WMQ Urumqi 89.36 345 P **P** **04 21 34.5 +1.7**
WMQ PP PP 04 25 08.5 +2.4
WMQ S S 04 32 24.5 +4.4
WMQ AMB AMB
comp=Z,25nm,1.4s,mb5.3
WMQ AMB AMB
comp=Z,307nm,4.0s
WMQ LR LR
comp=N,1μm,19.0s,MS5.5
WMQ LR LR
comp=E,1μm,20.0s,MS5.5
WMQ LR LR
comp=Z,2μm,14.4s
SSE Sheshan 89.55 316 ⇓P **P** **04 21 34.5 +0.5**
SSE AP pP 04 21 37.5 -0.7
SSE SS SS 04 38 23.8 +2.1
SSE AMB AMB
comp=Z,58nm,1.3s,mb5.8
SSE AMB AMB
comp=Z,129nm,3.5s
SSE LR LR
comp=N,532nm,15.5s,MS5.4
SSE LR LR
comp=E,1μm,15.5s,MS5.4
SSE LR LR
comp=Z,1μm,15.3s,MS5.5
ANTO Ankara 89.64 26 P **P** **04 21 35.1 +0.9**
ZEI Tsey 89.78 17 *e*P **P** **04 21 34.1 -0.6**
ZEI *i* *PP pP 04 21 42.1 +3.1
ZEI *i* 04 25 05.4
ZEI pmax pmax
comp=Z,8.0nm,0.6s,mb5.2
ONI Oni 89.86 17 P **P** **04 21 35.4 +0.3**
NJ2 Nanjing 89.88 318 *e*P **P** **04 21 36.0 +0.5**
NJ2 AP pP 04 21 40.8 +1.1
NJ2 XP sP 04 21 43.0 +1.9
NJ2 PP PP 04 25 11.0 +0.4
NJ2 S S 04 32 26.0 +0.9
NJ2 XS 04 32 35.0
NJ2 SS SS 04 38 28.0 +1.5
NJ2 AMB AMB
comp=Z,70nm,1.0s,mb6.0
NJ2 AMB AMB
comp=Z,520nm,5.9s
NJ2 LR LR
comp=N,1μm,29.0s
NJ2 LR LR
comp=E,2μm,20.0s
NJ2 LR LR
comp=Z,660nm,24.4s,MS5.0
BR131 Keskin Array S 90.03 25 *e*P **P** **04 21 35.5 -0.5**
comp=Z,2.2nm,0.7s,mb4.6
BR131 LR LR
comp=Z,537nm,20.0s,MS5.0
BRTR Keskin Array B 90.03 25 P **P** **04 21 35.5 -0.5**
comp=Z,3.9nm,0.9s,mb4.8,baz=335,slow=3.4,SNR=14
BRTR PKKPbc 04 39 08.3
comp=Z,1.0nm,0.6s,baz=158,slow=6.7,SNR=5.5
GTA Gaotai 90.69 335 P **P** **04 21 39.8 +0.7**
GTA PP PP 04 25 21.5 +4.6
GTA SKS SKS 04 32 10.8 -3.3
GTA S S 04 32 36.8 +4.6
GTA SS SS 04 38 42.3 +4.4
GTA AMB AMB
comp=Z,20nm,1.5s,mb5.2
GTA AMB AMB
comp=Z,471nm,7.6s
GTA LR LR
comp=N,3μm,18.3s,MS5.8
GTA LR LR
comp=E,1μm,17.6s,MS5.8
GTA LR LR
comp=Z,3μm,18.0s,MS5.8
AAA Alma-Ata 91.32 353 *e*P **P** **04 21 40.5 -1.3**
USP Ospenovka 91.51 355 P **P** **04 21 43.7 +1.0**
SNR=33
CHMS Chumysh 91.76 355 P **P** **04 21 44.6 +0.7**
SNR=12
TKM2 Tokmak 2 91.78 354 P **P** **04 21 45.0 +1.0**
SNR=33
KKAR Karatay Array 91.86 358 *i*P **P** **04 21 44.5 +0.2**
FRU Bishkek 91.93 355 *i*P **P** **04 21 44.0 -0.7**
FRU pmax pmax
comp=Z,220nm,2.0s,mb6.1
KBK Karagaybulak 92.09 354 P **P** **04 21 46.6 +1.2**
SNR=6.6
AAK Ala-Archa 92.14 355 P **P** **04 21 46.8 +1.1**
SNR=9.2
AAK Ala-Archa 92.14 355*d* *i*P **P** **04 21 45.6 0.0**
AAK pmax pmax
comp=Z,77nm,2.1s,mb5.7
AAK MLR MLR
comp=Z,1μm,17.0s,MS5.3
AAK Ala-Archa 92.14 355 *e*P **P** **04 21 45.2 -0.5**
comp=Z,38nm,1.3s,mb5.6
AAK LR LR
comp=Z,308nm,21.0s,MS4.7
EKS2 Erkin-Say 92.16 355 P **P** **04 21 47.2 +1.5**
SNR=29
ULHL Ulahol 92.40 353 P **P** **04 21 47.9 +1.1**
SNR=12
LZH Lanzhou 92.46 331 ⇓P **P** **04 21 48.5 +1.2**
LZH AP pP 04 21 52.0 +0.5
LZH XP sP 04 21 54.5 +1.7
LZH PP PP 04 25 30.5 -0.6
LZH SKS SKS 04 32 19.0 -5.3
LZH S S 04 32 48.0 0.0
LZH SS SS 04 39 02.0 -1.2
LZH AMB AMB
comp=Z,71nm,1.6s,mb5.8
LZH AMB AMB
comp=Z,380nm,4.5s
LZH LR LR
comp=E,3μm,18.8s
LZH LR LR
comp=Z,5μm,19.9s,MS6.0
LZH Lanzhou 92.46 331 ⇓P **P** **04 21 48.5 +1.2**
comp=Z,71nm,1.6s,mb5.8
LZH pP pP 04 21 52.1 +0.6
LZH sP sP 04 21 54.5 +1.7
LZH PP PP 04 25 30.5 -0.6
LZH SKS SKS 04 32 19.0 -5.3
LZH S S 04 32 48.0 0.0
LZH sS 04 32 52.0
LZH SS SS 04 39 02.0 -1.2
LZH LR LR
comp=Z,5μm,19.9s,MS6.0
GNI Garni 92.47 17 *i*P **P** **04 21 48.8 +1.6**
GNI pmax pmax
comp=Z,28nm,1.5s
GNI Garni 92.47 17 *e*P **P** **04 21 48.0 +0.8**
comp=Z,48nm,1.4s,mb5.6
GNI LR LR
comp=Z,706nm,21.0s,MS5.1
KZA Kyzart 92.64 354 P **P** **04 21 48.6 +0.7**
SNR=6.2
AML Almayashu 92.69 355 P **P** **04 21 50.1 +1.9**
SNR=13
MALT Malatya 92.71 22 *e*P **P** **04 21 49.1 +0.7**
MALT pmax pmax
comp=Z,37nm,1.4s,mb5.6
MALT Malatya 92.71 22 *e*P **P** **04 21 49.1 +0.7**
comp=Z,37nm,1.4s,mb5.6
WHN Wuhan 93.21 321 *e*P **P** **04 21 51.0 +0.2**
PLCA Paso Flores 93.65 149 *e*P **P** **04 21 52.0 -0.6**
PLCA *e**PP pP 04 21 56.5 -0.4
PLCA pmax pmax
comp=Z,80nm,1.6s
PLCA MLR MLR
comp=Z,1μm,19.0s
PLCA Paso Flores 93.65 149 P **P** **04 21 52.7 +0.1**
comp=Z,11nm,1.0s,mb5.2,baz=340,slow=4.2,SNR=8.3
PLCA LR LR 05 00 09.2
comp=Z,954nm,18.8s,MS5.3,baz=357,slow=33
PLCA Paso Flores 93.65 149 *e*P **P** **04 21 52.0 -0.6**
comp=Z,80nm,1.6s,mb5.9
PLCA *e*pP pP 04 21 56.5 -0.3
PLCA LR LR
comp=Z,1μm,19.0s,MS5.3
CSS Prodhromos 94.31 27 *e*P **P** **04 21 55.2 -0.5**
comp=Z,50nm,1.1s,mb5.8
TATO Taipei 94.41 312 PFAKE
TATO LR LR 04 22 10.0 +14
comp=Z,754nm,19.0s,MS5.2
TRQA Tornquist 94.75 142 PFAKE 04 22 10.0 +12
TRQA LR LR
comp=Z,651nm,22.0s,MS5.0
HNR Honiara 94.82 262 PFAKE
HNR LR LR 04 22 10.0 +11
comp=Z,646nm,20.0s,MS5.1
RAO Raoul Island 95.00 233 PFAKE
RAO LR LR 04 22 10.0 +11
comp=Z,3μm,21.0s,MS5.7
KSH Kashi 95.13 353 *e*P **P** **04 22 01.0 +1.5**
KSH *e*AP pP 04 22 05.3 +1.6
KSH *e*XP sP 04 22 09.3 +4.3
KSH *e*PP PP 04 25 49.5 -1.9
KSH *e*SKS SKS 04 32 35.5 -3.5
KSH *e*S S 04 33 11.8 +1.0
KSH *e*XS 04 33 22.5
KSH *e*SS SS 04 39 47.0 +6.0
KSH AMB AMB
comp=Z,40nm,0.7s,mb6.0
KSH AMB AMB
comp=Z,410nm,4.1s
KSH LR LR
comp=N,530nm,4.6s
KSH LR LR
comp=E,550nm,5.2s
ENH Enshi 95.53 324 PFAKE 04 22 10.0 +8.5
ENH LR LR
comp=Z,867nm,22.0s,MS5.2
GYA Guiyang 100.05 325 P P 04 22 28.0 +5.9
GYA SKS SKS 04 33 03.5 -1.2
GYA S S 04 34 02.5 +10
GYA AMB AMB
comp=Z,20nm,0.8s
GYA AMB AMB
comp=Z,140nm,3.4s
GYA LR LR
comp=N,1μm,18.7s,MS5.5
GYA LR LR
comp=E,990nm,17.4s,MS5.5
GYA LR LR
comp=Z,2μm,16.8s,MS5.6
LSA Lhasa 102.20 339 PFAKE 04 22 40.0 +8.2
LSA LR LR
comp=Z,2μm,20.0s,MS5.6
KMI Kunming 102.78 327 P Pdif 04 22 34.0 -0.4
KMI SKS SKS 04 33 15.8 -2.1
KMI S S 04 34 17.0 +1.4
KMI SS SS 04 41 27.0 -1.5
KMI AMB AMB
comp=Z,5.0nm,0.5s
KMI AMB AMB
comp=Z,131nm,4.4s
KMI LR LR
comp=N,1μm,18.5s,MS5.6
KMI LR LR
comp=E,1μm,19.4s,MS5.6
KMI LR LR
comp=Z,1μm,16.6s,MS5.6
KMI Kunming 102.78 327 P Pdif 04 22 34.1 -0.3
comp=Z,5.0nm,0.5s
KMI SKS SKS 04 33 15.8 -2.1
KMI S S 04 34 16.9 +1.3
KMI SS SS 04 41 27.0 -1.5
KMI LR LR
comp=Z,1μm,16.6s,MS5.6
QIZ Qiongzhong 105.17 319 PDIF Pdif 04 22 46.3 +1.3
QIZ PP PP 04 27 10.8 +1.8
QIZ S 04 34 39.5
QIZ SS SS 04 42 04.5 +3.5
QIZ LR LR
comp=E,962nm,18.1s
QIZ LR LR
comp=Z,1μm,15.8s,MS5.5
QIZ Qiongzhong 105.17 319 PFAKE 04 27 10.0
QIZ LR LR
comp=Z,661nm,21.0s,MS5.2
CTAO Charters Tower 111.70 263 PFAKE 04 27 20.0 +6.6
CTAO LR LR
comp=Z,725nm,20.0s,MS5.3
PMSA Palmer Station 116.18 159 PFAKE 04 27 30.0 +8.8
PMSA LR LR
comp=Z,810nm,22.0s,MS5.3
KSM Kuching 119.84 308 *e*PKP PKPdf 04 27 27.1 -2.3
WRAB Tennant Creek 119.97 271 PKIKP PKPdf 04 27 27.5 -2.0
WRAB Tennant Creek 119.97 271 *e*PKP PKPdf 04 27 27.0 -2.5
WRAB LR LR
comp=Z,365nm,20.0s,MS5.0
WB2 Warramunga Arr 119.97 271 *e*PKP PKPdf 04 27 27.3 -2.2
WRA Warramunga Arr 119.98 271 PKP PKPdf 04 27 27.3 -2.2
comp=Z,30nm,0.9s,baz=41,slow=2.1,SNR=90
WRA PKKPbc 04 37 34.6
comp=Z,2.5nm,1.0s,baz=229,slow=2.9,SNR=6.4
STKA Stephens Creek 122.39 256 *e*PKP PKPdf 04 27 31.5 -2.5
comp=Z,17nm,0.9s
STKA Stephens Creek 122.39 256 PKP PKPdf 04 27 31.1 -2.8
comp=Z,20nm,0.9s,baz=10,slow=2.9,SNR=28
STKA PKKPbc 04 37 27.1
comp=Z,5.9nm,1.1s,baz=229,slow=3.5,SNR=4.9
FITZ Fitzroy Crossi 124.85 280 *e*PKP PKPdf 04 27 36.6 -2.5
comp=Z,26nm,1.0s
MBAR Mbarara 124.97 47 PFAKE 04 27 50.0 +11
MBAR LR LR
comp=Z,134nm,22.0s,MS4.6
PALK Pallekele 126.23 344 PFAKE 04 27 50.0 +8.2
PALK LR LR
comp=Z,207nm,19.0s,MS4.8
KMBO Kilima Mbogo 128.57 40 PKP PKPdf 04 27 45.8 -0.6
comp=Z,18nm,1.1s,baz=360,slow=3.7,SNR=16
MBWA Marble Bar 131.01 282 PFAKE 04 28 00.0 +9.2
MBWA LR LR
comp=Z,337nm,21.0s,MS5.0
SBA Scott Base 131.99 196 *e*PKIKP PKPdf 04 27 49.9 -1.4
SBA MLR MLR
comp=Z,379nm,20.0s,MS5.1
VNDA Vanda 132.88 197 PKIKP PKPdf 04 27 50.2 -2.8
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA Vanda 132.88 197 PKP PKPdf 04 27 50.2 -2.8
comp=Z,5.6nm,0.9s,baz=24,slow=2.1,SNR=13
VNDA Vanda 132.88 197 *e*PKP PKPdf 04 27 50.5 -2.5
QSPA South Pole Qui 135.20 180 *e*P PKPdf 04 27 55.3 -1.9
LSZ Lusaka 135.49 60 PKIKP PKPdf 04 27 58.3 -1.0
LSZ Lusaka 135.49 60 *e*PKP PKPdf 04 27 57.7 -1.7
LSZ LR LR
comp=Z,447nm,19.0s,MS5.2
VNA3 Neumayer Olymp 136.26 153 *e* PKPdf 04 27 54.3 -4.9
VNA3 Neumayer Olymp 136.26 153 *e* PKPdf 04 27 57.2 -2.0
VNA3 Neumayer Olymp 136.26 153 *e* PKPdf 04 28 07.2 +8.0
VNA3 Neumayer Olymp 136.26 153 *e* PKPdf 04 28 22.1 +23
VNA3 Neumayer Olymp 136.26 153 ⇑*i*PKPdf PKPdf 04 27 50.3 -8.9
VNA3 *e* 04 27 54.3
VNA3 *e* 04 27 57.2
VNA3 *e* 04 28 07.2
VNA3 *e* 04 28 22.1
VNA3 *e* 04 30 34.1
VNA3 *e* 04 32 21.3
VNA3 *e* 04 39 14.6
VNA3 *e* 04 39 22.5
VNA1 Neumayer--Stat 136.65 152 *e* PKPdf 04 27 58.3 -1.6
VNA1 Neumayer--Stat 136.65 152 *e* PKPdf 04 28 01.6 +1.7
VNA1 Neumayer--Stat 136.65 152 *e* PKPdf 04 28 11.6 +12
VNA1 Neumayer--Stat 136.65 152 *e* PKPdf 04 28 25.1 +25
VNA1 Neumayer--Stat 136.65 152 ⇑*i*PKPdf PKPdf 04 27 54.2 -5.7
VNA1 *e* 04 27 58.3
VNA1 *e* 04 28 01.6
VNA1 *e* 04 28 11.6
VNA1 *e* 04 28 25.1
VNA1 *e* 04 30 32.3
VNA2 Neumayer--Watz 136.97 152 *e* PKPdf 04 27 55.8 -4.7
VNA2 Neumayer--Watz 136.97 152 *e* PKPdf 04 27 58.8 -1.7
VNA2 Neumayer--Watz 136.97 152 *e* PKPdf 04 28 08.7 +8.2
VNA2 Neumayer--Watz 136.97 152 *e* PKPdf 04 28 23.8 +23
VNA2 Neumayer--Watz 136.97 152 ⇑*i*PKPdf PKPdf 04 27 51.9 -8.6
VNA2 *e* 04 27 55.8
VNA2 *e* 04 27 58.8
VNA2 *e* 04 28 08.7
VNA2 *e* 04 28 23.8
VNA2 *e* 04 30 33.4
VNA2 *e* 04 32 13.9
VNA2 *e* 04 39 29.9
VNA2 *e* 04 39 39.7
SNAA Sanae 138.47 153 *e* PKPdf 04 27 58.6 -4.7
SNAA Sanae 138.47 153 *e* PKPdf 04 28 01.4 -1.9
SNAA Sanae 138.47 153 *e* PKPdf 04 28 12.5 +9.2
SNAA Sanae 138.47 153 *e* PKPdf 04 28 26.7 +23
SNAA Sanae 138.47 153 PKIKP PKPdf 04 27 58.8 -4.5
SNAA Sanae 138.47 153 ⇑*i*PKPdf PKPdf 04 27 54.3 -9.0
SNAA *e* 04 27 58.6
SNAA *e*PKP PKPdf 04 28 00.9 -2.4
SNAA *e* 04 28 01.4
SNAA *e* 04 28 12.5
SNAA *e* 04 28 26.7
SNAA *e* 04 30 42.5
SNAA *e* 04 32 17.0
SNAA *e* 04 39 26.2
MUN Mundaring 140.17 272 *e*P PKPdf 04 28 07.0 -0.5
comp=Z,11nm,0.9s
BOSA Boshof 142.92 78 PKIKP PKPdf 04 28 06.4 -5.9
BOSA pmax pmax
comp=Z,25nm,1.0s
BOSA Boshof 142.92 78 PKhKP 04 28 06.4
comp=Z,25nm,1.0s,baz=307,slow=2.4,SNR=13
BOSA Boshof 142.92 78 *e*PKP PKPdf 04 28 06.7 -5.6
NVL N'lazarevskaya 143.28 153 ⇓*i*PKIKP PKPdf 04 28 13.1 +1.5
NVL *i* *PP 04 28 22.9
NVL pmax pmax
comp=Z,2.0nm,1.2s
CASY Casey 148.95 212 *e*PKP PKPdf 04 28 22.0 +0.7
SYO Syowa Base 152.44 159 ⇑PKPdf PKPdf 04 28 22.8 -3.7
SYO Syowa Base 152.44 159 ⇑pPKPdf 04 28 27.0
SYO Syowa Base 152.44 159 ⇑PKiKP 04 28 34.0
MIR Mirnyy 154.74 204 *e*PKIKP PKPdf 04 28 27.0 -2.7
MIR pmax pmax
comp=Z,190nm,2.4s
MAW Mawson 157.60 175 *e*PKP PKPdf 04 28 31.8 -1.7
comp=Z,6.6nm,1.3s
MAW *e* 04 29 04.2
MAW Mawson 157.60 175 PKIKP PKPdf 04 28 31.9 -1.6
MAW pmax pmax
comp=Z,5.0nm,1.1s
MAW pmax pmax
comp=Z,18nm,1.1s
MAW Mawson 157.60 175 PKP PKPdf 04 28 31.9 -1.6
comp=Z,5.0nm,1.1s,baz=225,slow=4.3,SNR=4.3
MAW PKPab PKPab 04 29 03.8 -0.8
comp=Z,18nm,1.1s,baz=179,slow=4.3,SNR=4.9

WEL 26 04:18:39.8±0.4, 38.58S×175.79E, h168km±3km, ML3.6/15, Error ellipse: s-maj=4.2km s-min=3.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WNVZ	**Wahianoa**	**0.76**	**191**	PN	P	04 19 05.0	+0.1
WNVZ				*e*SN	S	04 19 23.5	-0.7
MOVZ	**Moawhango**	**0.83**	**182**	PN	P	04 19 05.0	-0.2
MOVZ				SN	S	04 19 24.5	-0.3
URZ	**Urewera**	**1.09**	**73**	PN	P	04 19 06.7	-0.5
URZ				SN	S	04 19 27.5	-0.8
URZ				*e*SN	S	04 19 27.8	-0.5
WAZ	**Wanganui**	**1.33**	**208**	PN	P	04 19 08.5	-0.9
WAZ				SN	S	04 19 31.7	-0.6
MWZ	**Matawai**	**1.39**	**80**	PN	P	04 19 10.4	+0.4
MWZ				SN	S	04 19 32.5	-0.8
TSZ	**Takapari Road**	**1.49**	**175**	PN	P	04 19 10.4	-0.5
TSZ				*e*SN	S	04 19 33.1	-1.8
KNZ	**Kokohu**	**1.54**	**107**	PN	P	04 19 09.1	-2.4
PWZ	**Pawanui**	**1.67**	**150**	PN	P	04 19 12.7	-0.1
PWZ				SN	S	04 19 38.8	+0.5
PUZ	**Puketiti**	**2.01**	**76**	PN	S	04 19 16.1	-0.3
PUZ				SN	S	04 19 43.1	-1.5
MRZ	**Mangatainoka R**	**2.09**	**184**	PN	P	04 19 15.6	-1.8
MRZ				SN	S	04 19 43.3	-3.0
BFZ	**Birch Farm**	**2.13**	**171**	PN	P	04 19 16.6	-1.3
MXZ	**Matakaoa Point**	**2.23**	**64**	PN	P	04 19 18.2	-0.9
MXZ				SN	S	04 19 48.2	-1.0
KIW	**Kapiti Island**	**2.38**	**196**	PN	P	04 19 17.9	-3.0
KIW				SN	S	04 19 48.2	-4.2
MTW	**Mount Morrison**	**2.59**	**185**	PN	P	04 19 20.5	-2.9
MTW				*e*SN	S	04 19 52.2	-4.7
DUWZ	**D'Urville Isla**	**2.65**	**212**	PN	P	04 19 20.5	-3.6
MRW	**Makara Radio**	**2.78**	**197**	PN	P	04 19 22.7	-3.1
MRW				*e*SN	S	04 19 56.1	-4.9
PAWZ	**Paruwai Farm**	**2.81**	**186**	PN	P	04 19 23.0	-3.2
TRWZ	**Traveller**	**2.82**	**181**	PN	P	04 19 23.4	-2.9
SNZO	**South Karori**	**2.85**	**197**	PN	P	04 19 23.3	-3.3
SNZO				SN	S	04 19 57.8	-4.8
TCW	**Tory Channel**	**2.88**	**203**	PN	P	04 19 23.5	-3.5
TCW				*e*SN	S	04 19 58.1	-5.1
BHW	**Baring Head**	**2.91**	**194**	PN	P	04 19 23.9	-3.5
TUWZ	**Tuamarina**	**3.18**	**206**	PN	P	04 19 26.9	-3.9
TUWZ				*e*SN	S	04 20 04.2	-5.8
NNZ	**Nelson**	**3.22**	**214**	PN	P	04 19 27.2	-4.1
NNZ				*e*SN	S	04 20 05.6	-5.3
QRZ	**Quartz Range**	**3.37**	**227**	*e*SN	S	04 20 07.9	-5.4
THZ	**Tophouse**	**3.87**	**214**	*e*PN	P	04 19 34.2	-5.4
KHZ	**Kahutara**	**4.20**	**203**	PN	P	04 19 39.3	-4.5
LTZ	**Lake Taylor**	**4.98**	**211**	PN	P	04 19 48.2	-5.8
MQZ	**McQueen's Vall**	**5.64**	**204**	*e*PN	P	04 19 56.1	-6.7
MQZ				*e*SN	S	04 20 56.6	-11

GUC 26 04:35:40.9±0.8, 22.73S×69.15W, h86km±8km, ML4.0, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.25**	**61**	⇓*i*P	P	04 35 54.7	+1.0
LVC				*i* S	S	04 36 04.5	+1.2
LVC				AMP		04 36 05.0	
	comp=N,13μm,0.4s						
SPCH	**San Pedro de A**	**0.89**	**101**	⇓*i*P	P	04 36 00.0	+0.7
SPCH				*i* S	S	04 36 14.5	+1.4
SPCH				AMP		04 36 15.0	
	comp=E,10μm,0.3s						
ANCH	**Antofagasta**	**1.50**	**231**	⇑*i*P	P	04 36 10.5	+3.6
ANCH				*i* S	S	04 36 33.0	+6.8
ANCH				AMP		04 36 39.8	
	comp=N,2μm,0.5s						
CPN1	**Cerro Paranal**	**2.21**	**211**	*e*P	P	04 36 19.0	+2.6
CPN1				*i* S	S	04 36 47.8	+5.0
CPN1				AMP		04 36 57.2	
	comp=E,829nm,0.3s						
CRCH	**Chaqaral**	**3.84**	**200**	⇓*i*P	P	04 36 38.9	-0.1
CRCH				*i* S	S	04 37 23.7	+0.5
CPCH	**Copiapo**	**4.73**	**193**	*e*P	P	04 36 50.1	-1.3
CPCH				*e*S	S	04 37 44.5	-1.0

NNC 26 05:06:16.8±2.1, 47.23N×82.87E, h15km±12km, mpv2.8, 10C-4D, Error ellipse: s-maj=18.4km s-min=11.4km az=104.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**0.59**	**223**	⇑P	Pb	05 06 28.8	+0.6
	8.7nm,0.3s,baz=67,slow=17,SNR=4681						
MK31				⇓S	Sb	05 06 38.5	+2.4
	171nm,0.5s,baz=57,slow=29,SNR=78						
KURK	**Kurchatov**	**4.47**	**323**	⇓Pn	Pn	05 07 27.0	+1.3
	1.0nm,0.5s						
KURK				⇑Pg	Pg	05 07 39.4	-6.8
KURK				⇑Sn	Sn	05 08 19.1	+0.9
	1.2nm,0.4s						
KURK				⇑Lg		05 08 38.6	

8.1nm,0.4s
AAK Ala-Archa 7.51 235 ⇓Lg 05 10 14.7
6.4nm,0.8s
VOSK Vostochnaya 9.43 310 ⇑Pn P 05 08 34.3 -0.8
2.8nm,1.4s
VOSK ⇑Sn Sn 05 10 16.8 -5.1
1.0nm,0.6s
VOSK ⇓Lg 05 11 15.8
7.5nm,1.1s
KK31 Karatay Array 9.65 249 ⇑Lg 05 11 23.5
1.9nm,0.6s,baz=61,slow=30,SNR=3.6
BVA0 Borovoye Array 9.89 311 ⇑Sn Sn 05 10 29.2 -3.9
0.2nm,0.6s,baz=125,slow=20,SNR=3.9
BVA0 ⇑Lg 05 11 29.6
0.6nm,0.9s,baz=117,slow=25,SNR=4.1
AB31 Akbulak array 15.40 286 ⇑P P 05 09 52.6 -2.4
0.5nm,0.7s,baz=97,slow=11,SNR=5.9

CSEM ***26*** *05:07:01.2±0.9,38.72N×29.04W,h40km,ML1.6,Error ellipse: s-maj=27.2km s-min=14.1km az=63.0*
PDA ***26*** *05:07:03.2±0.7,38.81N×29.14W,MD3.0,ML1.6,Error ellipse: s-maj=19.6km s-min=6.5km az=68.0*
SVSA 26 05:07:03.2±0.7,38.81N×29.14W,MD3.0,ML1.6,Error ellipse: s-maj=19.6km s-min=6.5km az=68.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
CALA	**Caldeira**	**0.41**	**124**	*e*P		Pg	05 07 10.7		-0.7
CALA				*e*S		Sg	05 07 16.4		-0.5
HOR	**Horta**	**0.49**	**126**	*e*P		Pg	05 07 12.3		-0.6
HOR				*e*S		Sg	05 07 18.7		-0.7
PICO	**Pico**	**0.64**	**119**	*e*P		Pg	05 07 14.3		-1.6
PICO				*e*S		Sg	05 07 23.1		-1.3
PMAN	**Manadas**	**0.84**	**102**	*e*S		Sg	05 07 27.8		-3.3

MDD ***26*** *05:10:21.8±0.4,37.69N×2.55W,h10km±3km,mbLg3.2/26, Error ellipse: s-maj=4.9km s-min=3.5km az=133.0, PRXIMO*
NEIC ***26*** *05:10:22.5,37.69N×2.55W,h6km,MN3.3(MDD),After MDD.*
NEIC Felt [III] at Galera and Orce; [II] at Castillejar and Cullar de Baza.
CSEM ***26*** *05:10:22.7±0.1,37.67N×2.58W,h10km,ML3.6/14,Error ellipse: s-maj=1.3km s-min=1.1km az=147.0*
SFS ***26*** *05:10:22.0,37.69N×2.55W*
LDG ***26*** *05:10:23.5±0.2,37.67N×2.61W,h10km,Md3.6/4,Ml3.7/5, Error ellipse: s-maj=4.8km s-min=1.8km az=156.0*
INMG ***26*** *05:10:23.0±1.3,37.68N×2.56W,h11km±3km,ML3.4,Error ellipse: s-maj=2.2km s-min=1.7km az=133.0*
IGIL ***26*** *05:10:23.3,37.80N×2.60W,h0km,ML3.3*
STR ***26*** *05:10:42.8±8.9,38.94N×1.90W,h10km±1km,Ml3.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 26 05:10:20.8±0.5,37.95N±0.02×2.70W±0.02,h1km±3km, n133,σ1$41/212,11C-6D,Spain

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
EHUE	**Huescar**	**0.16**	**149**	⇑Pg		**Pg**	**05 10 25.1**		**+1.2**
	66nm,0.1s,SNR=18								
EQES	**Quesada**	**0.33**	**244**	⇑Pg		**Pg**	**05 10 30.6**		**+3.2**
	113nm,0.2s,SNR=18								
EQES				Lg			05 10 36.8		
	652nm,0.2s,SNR=7.9								
EQES	**Quesada**	**0.33**	**244**	Pg		**Pg**	**05 10 30.6**		**+3.2**
	113nm,0.2s,SNR=18								
EQES				Lg			05 10 36.8		
	652nm,0.2s,SNR=7.9								
EVIA	**Vianos**	**0.71**	**12**	Pg		**Pg**	**05 10 39.8**		**+4.9**
	394nm,0.3s,SNR=205								
EVIA				Lg			05 10 53.5		
	155nm,0.1s,SNR=7.9								
EBAN	**Banos Encina**	**0.89**	**284**	⇑Pg		**Pg**	**05 10 42.5**		**+4.0**
	140nm,0.1s,SNR=18								
EBAN				Lg			05 10 56.8		
	188nm,0.2s,SNR=18								
ENIJ	**Nijar**	**1.05**	**158**	⇓Pg		**Pg**	**05 10 36.5**		**-5.3**
ENIJ	**Nijar**	**1.05**	**158**	⇓Pg		**Pg**	**05 10 36.5**		**-5.3**
	6.0nm,0.3s,SNR=18								
EBER	**Berja**	**1.06**	**188**	⇓Pg		**Pg**	**05 10 37.4**		**-4.5**
EBER				Lg			05 10 49.7		
EBER	**Berja**	**1.06**	**188**	⇓Pg		**Pg**	**05 10 37.5**		**-4.5**
	29nm,0.3s,SNR=18								
EBER				Lg			05 10 49.7		
	641nm,0.3s,SNR=7.9								
EBER	**Berja**	**1.06**	**188**	Pg		**Pg**	**05 10 37.4**		**-4.6**
	29nm,0.3s,SNR=18								
EBER				Lg			05 10 49.7		
	641nm,0.3s,SNR=7.9								
ETOB	**Tobarra**	**1.14**	**52**	Pg		**Pg**	**05 10 45.2**		**+1.6**
ETOB				Lg			05 11 02.7		
ETOB	**Tobarra**	**1.14**	**52**	Pg		**Pg**	**05 10 45.1**		**+1.6**
	244nm,0.2s,SNR=768								
ETOB				Lg			05 11 02.7		
	403nm,0.2s,SNR=28								
ETOB	**Tobarra**	**1.14**	**52**	Pg		**Pg**	**05 10 45.2**		**+1.6**
	244nm,0.2s,SNR=768								
ETOB				Lg			05 11 02.7		
	403nm,0.2s,SNR=28								
EMUR	**La Murta**	**1.16**	**95**	Pg		**Pg**	**05 10 42.1**		**-1.8**
	175nm,0.4s,SNR=76								
EMUR				Lg			05 10 56.2		
	287nm,0.3s,SNR=12								
EMUR	**La Murta**	**1.16**	**95**	Pg		**Pg**	**05 10 42.1**		**-1.8**
	175nm,0.4s,SNR=76								
EMUR				Lg			05 10 56.2		
	287nm,0.3s,SNR=12								
EGUA	**Guajares**	**1.31**	**212**	⇑Pg		**Pg**	**05 10 44.1**		**-2.9**
	13nm,0.2s,SNR=18								
EGUA				Lg			05 11 01.1		
	14nm,0.2s,SNR=7.9								
CART	**Cartagena**	**1.39**	**105**	*e*Pg		**Pg**	**05 10 45.2**		**-3.4**
CART	**Cartagena**	**1.39**	**105**	*e*Pg		**Pg**	**05 10 45.2**		**-3.4**
EADA	**Adamuz**	**1.50**	**279**	⇑Pn		**Pn**	**05 10 50.4**		**+1.4**
	25nm,0.2s,SNR=18								
EADA				Pg		**Pg**	**05 10 53.3**		**+2.5**
	44nm,0.1s,SNR=7.9								
EADA				Sn		**Sn**	**05 11 13.8**		**+4.3**
	400nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**1.50**	**279**	Pn		**Pn**	**05 10 50.4**		**+1.4**
	25nm,0.2s,SNR=18								
EADA	**Adamuz**	**1.50**	**279**	Pg		**Pg**	**05 10 53.3**		**+2.5**
	44nm,0.1s,SNR=7.9								
EADA				Sn		**Sn**	**05 11 13.8**		**+4.3**
	400nm,0.1s,SNR=7.9								
ESDC	**Sonseca Array**	**1.99**	**331**	Pn		**Pn**	**05 10 59.2**		**+3.3**
	11nm,0.2s,baz=147,slow=13,SNR=24								
ESDC				Pg		**Pg**	**05 11 04.0**		**+3.5**
	22nm,0.1s,baz=146,slow=17,SNR=7.9								
ESDC				Sn		**Sn**	**05 11 25.0**		**+3.1**
	73nm,0.3s,baz=150,slow=22,SNR=7.9								
ESDC				Lg			05 11 30.8		
	158nm,0.6s,baz=154,slow=4.1,SNR=7.9								
ESDC	**Sonseca Array**	**1.99**	**331**	Pn		**Pn**	**05 10 59.2**		**+3.3**
	11nm,0.2s,SNR=24								
ESDC	**Sonseca Array**	**1.99**	**331**	Pg		**Pg**	**05 11 04.0**		**+3.5**
	22nm,0.1s,SNR=7.9								
ESDC				Sn		**Sn**	**05 11 25.0**		**+3.2**
	73nm,0.3s,SNR=7.9								
ESLA	**Sonseca Array**	**1.99**	**331**	*e*Pn		**Pn**	**05 10 59.1**		**+3.1**
ESLA	**Sonseca Array**	**1.99**	**331**	*e*Pn		**Pn**	**05 10 59.1**		**+3.2**
EALB	**Alboran**	**2.02**	**188**	Pn		**Pn**	**05 10 52.3**		**-4.2**
	7.8nm,0.1s,SNR=7.9								
EALB				Sn		**Sn**	**05 11 14.7**		**-8.1**
	70nm,0.2s,SNR=7.9								
EALB				Lg			05 11 18.4		
	70nm,0.2s,SNR=7.9								
EALB	**Alboran**	**2.02**	**188**	Pn		**Pn**	**05 10 52.3**		**-4.2**
	SNR=7.9								
EALB				Sn		**Sn**	**05 11 14.7**		**-8.1**
	SNR=7.9								
EBEN	**Beniarda**	**2.08**	**68**	Pn		**Pn**	**05 10 56.9**		**-0.5**
EBEN				Sn		**Sn**	**05 11 22.8**		**-1.5**
EBEN	**Beniarda**	**2.08**	**68**	Pn		**Pn**	**05 10 56.9**		**-0.5**
	23nm,0.3s,SNR=57								
EBEN				Pg		**Pg**	**05 10 59.8**		**-2.6**
	11nm,0.2s,SNR=7.9								
EBEN				Sn		**Sn**	**05 11 22.8**		**-1.5**
	84nm,0.4s,SNR=6.0								
EBEN	**Beniarda**	**2.08**	**68**	Pn		**Pn**	**05 10 56.9**		**-0.4**
	23nm,0.3s,SNR=57								
EBEN				Sn		**Sn**	**05 11 22.8**		**-1.5**
	84nm,0.4s,SNR=6.0								
ECHE	**Chera**	**2.12**	**39**	Pn		**Pn**	**05 10 59.1**		**+1.2**
ECHE				Pg		**Pg**	**05 11 04.8**		**+1.6**
ECHE				Lg			05 11 34.5		
ECHE	**Chera**	**2.12**	**39**	Pn		**Pn**	**05 10 59.1**		**+1.2**
	5.1nm,0.2s,SNR=18								
ECHE				Pg		**Pg**	**05 11 04.0**		**+0.8**
	25nm,0.2s,SNR=7.9								
ECHE				Lg			05 11 34.6		
	65nm,0.3s,SNR=10								
ECHE	**Chera**	**2.12**	**39**	Pg		**Pg**	**05 11 04.8**		**+1.6**
	25nm,0.2s,SNR=7.9								
ECAB	**El Cabril**	**2.15**	**274**	⇑Pn		**Pn**	**05 10 59.1**		**+0.7**
	76nm,0.3s,SNR=18								
ECAB				Sn		**Sn**	**05 11 27.1**		**+1.1**
	50nm,0.2s,SNR=7.9								
ECAB				Lg			05 11 34.7		
	133nm,0.2s,SNR=7.9								
ECAB	**El Cabril**	**2.15**	**274**	Pn		**Pn**	**05 10 59.1**		**+0.8**
	76nm,0.3s,SNR=18								
ECAB				Sn		**Sn**	**05 11 27.1**		**+1.0**
	50nm,0.2s,SNR=7.9								
EMIJ	**Mijas**	**2.16**	**231**	Pn		**Pn**	**05 10 58.5**		**+0.1**
	12nm,0.1s,SNR=11								
EMIJ				Lg			05 11 29.3		
	90nm,0.3s,SNR=11								
LIJA	**Lijar**	**2.39**	**245**	P		**Pn**	**05 11 01.0**		**-0.8**
LIJA				S		**Sn**	**05 11 41.0**		**+8.8**
LIJA	**Lijar**	**2.39**	**245**	*e*P		**Pn**	**05 11 01.0**		**-0.8**
REAL	**Reales**	**2.48**	**235**	S		**Sn**	**05 11 42.5**		**+8.1**
ESPR	**Espera**	**2.74**	**248**	Pn		**Pn**	**05 11 06.7**		**+0.1**
	12nm,0.2s,SNR=11								
ESPR				Lg			05 11 50.8		
	130nm,0.3s,SNR=7.9								
ESPR	**Espera**	**2.74**	**248**	Pn		**Pn**	**05 11 06.7**		**0.0**
	12nm,0.2s,SNR=11								
ALJ	**Aljibe**	**2.75**	**240**	P		**Pn**	**05 11 15.0**		**+8.1**
ALJ				S		**Sn**	**05 11 52.0**		**+11**
GIBL	**Gibalbin**	**2.83**	**248**	P		**Pn**	**05 11 14.5**		**+6.4**
GIBL				S		**Sn**	**05 11 54.0**		**+11**
GIBL	**Gibalbin**	**2.83**	**248**	*e*P		**Pn**	**05 11 14.5**		**+6.4**
EMOS	**Mosqueruela**	**2.97**	**35**	Pn		**Pn**	**05 11 11.6**		**+1.6**
EMOS				Pg		**Pg**	**05 11 19.7**		**-0.4**
EMOS				Sn		**Sn**	**05 11 47.4**		**+0.7**
EMOS				Lg			05 12 01.2		
EMOS	**Mosqueruela**	**2.97**	**35**	Pn		**Pn**	**05 11 11.5**		**+1.6**
	2.7nm,0.1s,SNR=29								
EMOS				Pg		**Pg**	**05 11 19.7**		**-0.4**
	34nm,0.6s,SNR=7.9								
EMOS				Sn		**Sn**	**05 11 48.2**		**+1.5**
	7.7nm,0.2s,SNR=7.9								
EMOS				Lg			05 12 01.2		
	42nm,0.3s,SNR=7.9								
EMOS	**Mosqueruela**	**2.97**	**35**	Pn		**Pn**	**05 11 11.6**		**+1.6**
EMOS	**Mosqueruela**	**2.97**	**35**	Pg		**Pg**	**05 11 19.7**		**-0.3**
	34nm,0.6s,SNR=7.9								
EMOS				Sn		**Sn**	**05 11 47.4**		**+0.7**
	7.7nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**3.15**	**268**	⇑Pn		**Pn**	**05 11 12.0**		**-0.6**
EMIN				Sn		**Sn**	**05 11 50.0**		**-1.4**
EMIN				Lg			05 12 03.7		
EMIN	**Mina Concepcio**	**3.15**	**268**	⇑Pn		**Pn**	**05 11 11.9**		**-0.6**
	6.0nm,0.1s,SNR=18								
EMIN				Sn		**Sn**	**05 11 50.0**		**-1.4**
	18nm,0.2s,SNR=7.9								
EMIN				Lg			05 12 03.7		
	74nm,0.4s,SNR=7.9								
EMIN	**Mina Concepcio**	**3.15**	**268**	Pn		**Pn**	**05 11 12.0**		**-0.6**
	6.0nm,0.1s,SNR=18								
EMIN				Sn		**Sn**	**05 11 50.0**		**-1.4**
	18nm,0.2s,SNR=7.9								
EIBI	**Ibiza**	**3.35**	**70**	⇓Pn		**Pn**	**05 11 14.4**		**-1.0**
EIBI				Sn		**Sn**	**05 11 51.9**		**-4.5**
EIBI	**Ibiza**	**3.35**	**70**	⇓Pn		**Pn**	**05 11 14.4**		**-1.0**
	15nm,0.1s,SNR=18								
EIBI				Sn		**Sn**	**05 11 52.9**		**-3.5**
	27nm,0.3s,SNR=7.9								
EIBI	**Ibiza**	**3.35**	**70**	Pn		**Pn**	**05 11 14.4**		**-1.0**
	15nm,0.1s,SNR=18								
EIBI				Sn		**Sn**	**05 11 51.9**		**-4.5**
	27nm,0.3s,SNR=7.9								
EBAD	**Badajoz**	**3.49**	**285**	Pn		**Pn**	**05 11 17.4**		**0.0**
EBAD				Sn		**Sn**	**05 11 59.9**		**0.0**
EBAD				Lg			05 12 16.2		
EBAD	**Badajoz**	**3.49**	**285**	⇑Pn		**Pn**	**05 11 17.3**		**0.0**
	3.2nm,0.1s,SNR=18								
EBAD				Pg		**Pg**	**05 11 29.7**		**-0.7**
	10nm,0.2s,SNR=7.9								
EBAD				Sn		**Sn**	**05 12 01.2**		**+1.2**
	21nm,0.1s,SNR=7.9								
EBAD				Lg			05 12 16.3		
	130nm,0.3s,SNR=7.9								
EBAD	**Badajoz**	**3.49**	**285**	Pn		**Pn**	**05 11 17.4**		**0.0**
	3.2nm,0.1s,SNR=7.9								
EBAD				Sn		**Sn**	**05 11 59.9**		**0.0**
	SNR=7.9								
EBR	**Ebro Roquetas**	**3.79**	**40**	*e*PN		**Pn**	**05 11 23.3**		**+1.7**
EBR				*e*S*S*			05 12 28.0		
EGRO	**El Granado**	**3.82**	**265**	⇑Pn		**Pn**	**05 11 20.8**		**-1.3**
EGRO				Sn		**Sn**	**05 12 05.3**		**-3.0**
EGRO				Lg			05 12 25.6		
EGRO	**El Granado**	**3.82**	**265**	⇑Pn		**Pn**	**05 11 20.8**		**-1.3**
	14nm,0.1s,SNR=18								
EGRO				Sn		**Sn**	**05 12 05.3**		**-3.0**
	9.5nm,0.1s,SNR=7.9								
EGRO				Lg			05 12 24.9		
	87nm,0.4s,SNR=7.9								
EGRO	**El Granado**	**3.82**	**265**	Pn		**Pn**	**05 11 20.8**		**-1.2**
	14nm,0.1s,SNR=18								
EGRO				Sn		**Sn**	**05 12 05.3**		**-2.9**
	9.5nm,0.1s,SNR=7.9								
PBEJ	**Beja**	**4.09**	**273**	*e*Pn		**Pn**	**05 11 24.9**		**-0.9**
PBEJ				*e*Sn		**Sn**	**05 12 13.2**		**-1.8**
PBEJ				*e*Sg		**Sg**	**05 12 33.1**		**-3.7**
	33nm,0.3s								
ESAC	**San Caprasio**	**4.14**	**24**	Pn		**Pn**	**05 11 28.1**		**+1.4**
ESAC				Lg			05 12 39.7		
ESAC	**San Caprasio**	**4.14**	**24**	Pn		**Pn**	**05 11 28.1**		**+1.4**
	12nm,0.4s,SNR=7.1								
ESAC				Pg		**Pg**	**05 11 41.3**		**-2.2**
	22nm,0.3s,SNR=7.9								
ESAC				Lg			05 12 39.6		
	166nm,0.3s,SNR=7.9								
ESAC	**San Caprasio**	**4.14**	**24**	Pn		**Pn**	**05 11 28.1**		**+1.5**
	12nm,0.4s,SNR=7.1								
PCBR	**Castelo Branco**	**4.18**	**298**	*e*Pn		**Pn**	**05 11 27.9**		**+0.7**
PCBR				*e*Sn		**Sn**	**05 12 18.2**		**+0.7**
PCBR				*e*Sg		**Sg**	**05 12 40.6**		**+0.6**
	52nm,0.5s								
EVO	**Evora**	**4.23**	**280**	*e*Pn		**Pn**	**05 11 28.3**		**+0.4**
EVO				*e*Pg		**Pg**	**05 11 45.1**		**-0.1**
EVO				*e*Sn		**Sn**	**05 12 17.8**		**-0.8**
EVO				*e*Sg		**Sg**	**05 12 41.5**		**0.0**
	120nm,0.3s								
EPOB	**Poblet**	**4.48**	**39**	Pn		**Pn**	**05 11 32.1**		**+0.7**
EPOB				Sn		**Sn**	**05 12 23.8**		**-1.1**
EPOB				Lg			05 12 46.6		
EPOB	**Poblet**	**4.48**	**39**	Pn		**Pn**	**05 11 32.1**		**+0.7**
	5.2nm,0.2s,SNR=12								
EPOB				Sn		**Sn**	**05 12 24.0**		**-1.0**
	3.3nm,0.3s,SNR=7.9								
EPOB				Lg			05 12 46.6		
	2.7nm,0.3s,SNR=7.9								
EPOB	**Poblet**	**4.48**	**39**	Pn		**Pn**	**05 11 32.1**		**+0.7**
	5.2nm,0.2s,SNR=12								
EPOB				Sn		**Sn**	**05 12 23.8**		**-1.2**
	3.3nm,0.3s,SNR=7.9								
MTE	**Manteigas**	**4.49**	**305**	*e*Pn		**Pn**	**05 11 34.1**		**+2.5**
MTE				*e*Sg		**Sg**	**05 12 47.8**		**-2.6**
	75nm,0.5s								
ECRI	**Cripan**	**4.66**	**2**	Pn		**Pn**	**05 11 37.0**		**+3.0**
ECRI				Lg			05 13 00.6		
ECRI	**Cripan**	**4.66**	**2**	Pn		**Pn**	**05 11 37.0**		**+3.0**
	3.7nm,0.2s,SNR=7.9								
ECRI				Pg		**Pg**	**05 11 52.8**		**-1.0**
	SNR=7.9								
ECRI				Lg			05 12 58.6		
	21nm,0.3s,SNR=7.9								
ETOS	**Mallorca**	**4.67**	**65**	Pn		**Pn**	**05 11 33.1**		**-1.1**
ETOS				Sn		**Sn**	**05 12 24.4**		**-5.4**
ETOS	**Mallorca**	**4.67**	**65**	Pn		**Pn**	**05 11 33.1**		**-1.1**
	5.6nm,0.2s,SNR=18								
ETOS				Sn		**Sn**	**05 12 24.0**		**-5.8**
	7.2nm,0.5s,SNR=7.9								
ETOS	**Mallorca**	**4.67**	**65**	Pn		**Pn**	**05 11 33.1**		**-1.0**
	5.6nm,0.2s,SNR=18								
ETOS				Sn		**Sn**	**05 12 24.4**		**-5.4**
	7.2nm,0.5s,SNR=7.9								
ALMR	**Almeirim**	**4.76**	**286**	*e*P		**Pn**	**05 11 35.8**		**+0.3**
ALMR				*e*S		**Sn**	**05 12 28.7**		**-3.5**
ALMR				*e*S		**Sn**	**05 12 28.8**		**-3.5**
ALMR				AML		AML	05 12 32.0		
	comp=N,52nm,1.0s								
PTOM	**Tomar**	**4.77**	**292**	*e*Pn		**Pn**	**05 11 36.1**		**+0.6**
PTOM				*e*Sn		**Sn**	**05 12 30.9**		**-1.4**
PTOM				*e*Sg		**Sg**	**05 12 55.9**		**-3.6**
	comp=N,80nm,0.7s								
PTEO	**Sao Teotonio**	**4.79**	**267**	*e*Pn		**Pn**	**05 11 34.7**		**-1.2**
PTEO				*e*Sn		**Sn**	**05 12 29.6**		**-3.4**
PTEO				*e*Sg		**Sg**	**05 12 55.0**		**-5.4**
	comp=N,48nm,0.5s								
EGRA	**Graus**	**4.83**	**28**	Pn		**Pn**	**05 11 37.9**		**+1.5**
	comp=N,1.7nm,0.1s,SNR=15								
EGRA				Lg			05 13 01.5		
	comp=N,7.0nm,0.4s,SNR=7.9								
PBRG	**Braganca**	**4.95**	**322**	*e*Pn		**Pn**	**05 11 40.2**		**+2.1**
PBRG				*e*Sn		**Sn**	**05 12 37.0**		**+0.1**
PBRG				*e*Sg		**Sg**	**05 13 04.6**		**-1.0**
	comp=N,25nm,0.5s								
ECAL	**Calabor**	**5.05**	**323**	Pn		**Pn**	**05 11 42.1**		**+2.5**
ECAL				Sn		**Sn**	**05 12 38.8**		**-0.7**
ECAL				Lg			05 13 13.6		
ECAL	**Calabor**	**5.05**	**323**	Pn		**Pn**	**05 11 42.1**		**+2.5**
	comp=N,5.5nm,0.5s,SNR=8.0								
ECAL				Sn		**Sn**	**05 12 38.8**		**-0.7**
	comp=N,12nm,0.3s,SNR=7.9								
ECAL				Lg			05 13 11.6		
	comp=N,4.1nm,0.9s,SNR=7.9								
ECAL	**Calabor**	**5.05**	**323**	Pn		**Pn**	**05 11 42.1**		**+2.5**
	comp=N,5.5nm,0.5s,SNR=8.0								
ECAL				Sn		**Sn**	**05 12 38.8**		**-0.7**
	comp=N,12nm,0.3s,SNR=7.9								
PVRL	**Vila Real**	**5.11**	**312**	*e*Sn		**Sn**	**05 12 41.0**		**+0.2**
	comp=N,30nm,0.3s								
EMIR	**Miracle**	**5.12**	**38**	Pn		**Pn**	**05 11 41.3**		**+0.8**
	comp=N,8.8nm,0.4s,SNR=7.3								
EMIR				Lg			05 13 07.3		
	comp=N,6.7nm,0.3s,SNR=4.7								
EMIR	**Miracle**	**5.12**	**38**	Pn		**Pn**	**05 11 41.3**		**+0.8**
	comp=N,8.8nm,0.4s,SNR=7.3								
PLOU	**Loures**	**5.16**	**282**	*e*Sg		**Sg**	**05 13 08.5**		**-4.0**
	comp=N,50nm,0.6s								
ETSF	**Etsaut**	**5.21**	**18**	*e*Pn		**Pn**	**05 11 43.4**		**+1.7**
ETSF				*e*Pg		**Pg**	**05 12 04.5**		**-0.2**
ETSF				*e*Sg		**Sg**	**05 13 13.4**		**-0.7**
	comp=N,14nm,0.5s								
LARF	**Larrau**	**5.25**	**14**	P		**Pn**	**05 11 44.7**		**+2.4**
SJPF	**Ste Jean**	**5.28**	**12**	*e*Pn		**Pn**	**05 11 45.1**		**+2.3**
SJPF				*e*Pg		**Pg**	**05 12 05.7**		**-0.5**
SJPF				*e*Sg		**Sg**	**05 13 17.2**		**+0.6**
	comp=N,26nm,0.5s								
ELAN	**Lanestosa**	**5.31**	**354**	Pn		**Pn**	**05 11 45.4**		**+2.2**
ELAN				Pg		**Pg**	**05 12 04.7**		**-2.1**
ELAN				Lg			05 13 18.1		
ELAN	**Lanestosa**	**5.31**	**354**	Pn		**Pn**	**05 11 44.8**		**+1.7**
	comp=N,1.0nm,0.1s,SNR=7.9								
ELAN				Pg		**Pg**	**05 12 04.7**		**-2.1**
	comp=N,6.5nm,0.3s,SNR=7.9								
ELAN				Lg			05 13 18.1		
	comp=N,19nm,0.5s,SNR=7.9								
ELAN	**Lanestosa**	**5.31**	**354**	Pn		**Pn**	**05 11 45.4**		**+2.2**
	comp=N,1.0nm,0.1s,SNR=7.9								
ELAN	**Lanestosa**	**5.31**	**354**	Pg		**Pg**	**05 12 04.7**		**-2.1**
	comp=N,6.5nm,0.3s,SNR=7.9								
EALK	**Alkurruntz**	**5.34**	**9**	Pn		**Pn**	**05 11 45.6**		**+1.9**
	comp=N,15nm,0.3s,SNR=16								
EALK				Lg			05 13 17.9		
	comp=N,21nm,0.4s,SNR=7.9								
VIEF	**Viey**	**5.35**	**22**	P		**Pn**	**05 11 44.6**		**+0.9**
RESF	**Ens**	**5.38**	**25**	P		**Pn**	**05 11 46.1**		**+1.9**
ORDF	**Ordiarp**	**5.43**	**14**	P		**Pn**	**05 11 46.9**		**+2.1**
LABF	**Labassere**	**5.51**	**22**	P		**Pn**	**05 11 46.9**		**+0.8**
EPF	**Esparros**	**5.58**	**24**	*e*Pn		**Pn**	**05 11 47.8**		**+0.8**
EPF				*e*Pg		**Pg**	**05 12 11.4**		**-0.8**
EPF				*e*Sn		**Sn**	**05 12 50.5**		**-2.2**
EPF				*e*Sg		**Sg**	**05 13 25.1**		**-1.4**
	comp=N,16nm,0.5s								
EPF	**Esparros**	**5.58**	**24**	*e*Pn		**Pn**	**05 11 47.8**		**+0.8**
EPF				*e*Sn		**Sn**	**05 12 50.5**		**-2.2**
EPF				*e*Sg		**Sg**	**05 13 25.1**		**-1.4**
	comp=N,8.0nm,0.5s								
MELF	**Melles**	**5.58**	**27**	P		**Pn**	**05 11 48.3**		**+1.3**
SALF	**Salau**	**5.65**	**30**	P		**Pn**	**05 11 49.0**		**+1.0**
EARI	**Arriondas**	**5.68**	**341**	Pn		**Pn**	**05 11 50.1**		**+1.7**
EARI				Sn		**Sn**	**05 12 59.9**	

JKRS				*e*S	S	05 13 01.9	+0.3	
HATJ	**Hateruma jima**	**1.14**	**160**	P	P	05 12 43.4	0.0	
HATJ				*e*S	S	05 13 02.9	-0.1	
JTJ	**Tarama**	**1.30**	**112**	P	P	05 12 44.9	-0.2	
JTJ				*e*S	S	05 13 05.6	-0.3	
JMJ	**Miyako jima 2**	**1.77**	**100**	*e*S	S	05 13 14.8	-0.1	
JOGS	**Gusukube**	**1.88**	**101**	P	P	05 12 51.9	+0.4	
JKE	**Kume jima 2**	**3.29**	**68**	P	P	05 13 07.9	-1.7	
JAGN	**Aguni-jima**	**3.77**	**67**	P	P	05 13 13.7	-2.2	
JAGN				*e*S	S	05 13 56.5	-3.8	
JJT2	**Tamagusuku 2**	**4.07**	**75**	P	P	05 13 17.9	-1.9	
JIH	**Iheya**	**4.54**	**64**	P	P	05 13 23.1	-3.0	
JOW	**Kunigami**	**4.72**	**68**	P	P	05 13 24.9	-3.6	
JTK	**Tokunoshima**	**5.65**	**61**	P	P	05 13 36.6	-4.3	
JAM	**Amami Oshima**	**6.45**	**58**	P	P	05 13 46.5	-5.2	

NIED ***26*** *05:14:00, 33.30N× 142.50E, h5km, Mw4.9 Best double couple: M0 2.67×10^16 NP1:φs167°, δ62°, λ-88°. NP2: φs342°, δ28°, λ-94°.*

CSEM ***26*** *05:14:37.7, 33.28N× 142.41E, h10km, mb5.5*

IDC ***26*** *05:14:37.2± 0.5, 33.30N× 142.43E, mb4.8/25, mb1 4.9/31, mb1mx4.9/32, mbtmp4.9/31, ML4.6/5, MS4.2/16, Ms1 4.2/16, ms1mx4.1/25, Error ellipse: s-maj=13.6km s-min=12.9km az=175.0*

JMA ***26*** *05:14:39.1± 0.3, 33.29N× 142.55E, h75km, M4.8*

BJI ***26*** *05:14:40.1, 33.35N× 142.13E, h17km, mB5.2, mb5.1, Ms4.9, Msz4.7*

MOS ***26*** *05:14:43.1± 0.8, 33.50N× 142.31E, h41km, mb5.4/70, MS4.5/27, Error ellipse: s-maj=8.7km s-min=4.8km az=114.6*

HRVD ***26*** *05:14:43.1± 0.3, 33.27N× 142.70E, h12km, MW5.0/64, Centroid moment Tensor Solution. LP body waves: s30,c40; Mantle waves: s64,c104; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr -3.80± .12; Mθθ 0.57± .12; Mφφ 3.22± .11; Mrθ 0.25± .40; Mrφ -0.90± .10; Mθφ -2.93± .33; Best double couple: M0 4.682×10^16 NP1: φs157°, δ26°, λ-102°. NP2: φs350°, δ64°, λ-84°. Principal axes: T 4.502, Plg19°, Azm76°; N .354, Plg5°, Azm168°; P -4.863, Plg70°, Azm272°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***26*** *05:14:43.1± 0.1, 33.26N× 142.29E, mb5.2/83, MS4.6/56, MW4.9(NIED) Error ellipse: s-maj=4.9km s-min=3.2km az=177.0*

ISC 26 05:14:41.9±0.2, 33.29N±0.03× 142.29E±0.02, h37km, h37km±.9km: pP-P, n455, σ1s01/420, mb5.2/140, MS4.6/89, 19C-34D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.74**	**322**	P	**P**	**05 15 09.7**	**-0.4**
BSO2	**Boso 2**	**1.93**	**319**	S	**S**	**05 15 39.0**	**+2.8**
JHJ2	**Mitsune**	**2.08**	**266**	P	**P**	**05 15 16.0**	**+1.0**
JHJ2				S	**S**	**05 15 43.0**	**+3.1**
JHJ	**Hachijo jima 2**	**2.10**	**266**	Pn	**P**	**05 15 15.6**	**+0.2**
	522nm,0.3s,baz=115,slow=11,SNR=44						
JHJ				Sn	**S**	**05 15 43.2**	**+2.7**
	748nm,0.3s,baz=70,slow=23,SNR=10						
BSO3	**Boso 3**	**2.11**	**316**	P	**P**	**05 15 15.6**	**+0.2**
BSO3				S	**S**	**05 15 43.2**	**+2.6**
BSO4	**Boso 4**	**2.34**	**317**	P	**P**	**05 15 19.2**	**+0.5**
KTR	**Katsuura**	**2.47**	**319**	S	**S**	**05 15 50.9**	**+1.1**
JIM2	**Oshima 3**	**2.77**	**302**	P	**P**	**05 15 24.4**	**-0.4**
JIZS	**Izushimoda**	**3.17**	**298**	P	**P**	**05 15 30.3**	**-0.2**
JOD2	**Odawara 2**	**3.30**	**307**	P	**P**	**05 15 31.6**	**-0.8**
JYN	**Shimob**	**3.80**	**306**	P	**P**	**05 15 39.1**	**-0.3**
JRY	**Ryogami san**	**3.89**	**315**	P	**P**	**05 15 40.0**	**-0.8**
JRY				S	**S**	**05 16 26.5**	**+0.5**
JAG	**Ashikaga**	**3.90**	**324**	P	**P**	**05 15 39.7**	**-1.2**
JAG				S	**S**	**05 16 24.8**	**-1.2**
MJAR	**Matsushiro Arr**	**4.66**	**315**	Pn	**P**	**05 15 49.5**	**-2.2**
	22nm,0.3s,baz=142,slow=9.3,SNR=86						
MJAR				Sn	**S**	**05 16 44.5**	**-0.8**
	13nm,0.3s,baz=162,slow=12,SNR=4.1						
MAJO	**Matsushiro**	**4.66**	**315**	*e*P	**P**	**05 15 51.8**	**+0.1**
MAT	**Matsushiro**	**4.66**	**315**	*e*P	**P**	**05 15 51.0**	**-0.7**
MAT				*e*S	**S**	**05 16 43.0**	**-2.4**
MAT	**Matsushiro**	**4.66**	**315**	P	**P**	**05 15 50.7**	**-1.0**
MAT				S	**S**	**05 16 42.7**	**-2.7**
MAT	**Matsushiro**	**4.66**	**315**	P	**P**	**05 15 50.7**	**-1.0**
MAT				S	**S**	**05 16 45.0**	**-0.4**
JMM	**Marumori**	**4.72**	**345**	P	**P**	**05 15 48.6**	**-4.0**
JMM				S	**S**	**05 16 39.2**	**-7.7**
JIE	**Ise**	**4.77**	**285**	P	**P**	**05 15 53.9**	**+0.6**
JNS	**Sasagawa**	**5.12**	**333**	P	**P**	**05 15 56.2**	**-2.0**
JNS				S	**S**	**05 16 54.7**	**-2.2**
JGM	**Miyama**	**5.19**	**299**	P	**P**	**05 16 00.0**	**+0.9**
CBIJ	**Chichi jima**	**6.18**	**181**	Pn	**P**	**05 16 09.8**	**-3.1**
	67nm,0.3s,baz=284,slow=21,SNR=6.0						
CBIJ				Sn	**S**	**05 17 16.8**	**-6.5**
	71nm,0.3s,baz=299,slow=22,SNR=3.9						
JNU	**Nakatsue**	**9.56**	**272**	Pn	**P**	**05 16 58.6**	**-1.5**
	1.9nm,0.3s,baz=70,slow=17,SNR=19						
JNU				LR	LR	05 20 40.7	
	comp=Z,2μm,20.1s,baz=81,slow=38						
ASAJ	**Asahikawa**	**10.81**	**1**	P	**P**	**05 17 11.3**	**-5.9**
ASAJ						05 19 04.6	
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ				smax			
	comp=E,8.0nm,0.3s						
ASAJ	**Asahikawa**	**10.81**	**1**	Pn	**P**	**05 17 11.3**	**-5.9**
	comp=E,8.1nm,0.3s,baz=280,slow=34,SNR=16						
ASAJ				Sn	**S**	**05 19 04.5**	**-13**
	comp=E,7.9nm,0.3s,baz=96,slow=31,SNR=4.1						
YUK	**Yuzh-Kuril'sk**	**11.08**	**14**	*e*P	**P**	**05 17 13.8**	**-7.1**
YUK				pmax	pmax		
	comp=Z,140nm,0.4s						
YUK				pmax	pmax		
	comp=E,140nm,0.3s						
YUK				MLR	MLR		
	comp=N,3μm,9.0s						
YUK				MLR	MLR		
	comp=E,3μm,9.0s						
YUK				MLR	MLR		
	comp=E,2μm,11.0s						
KS15	**Wonju Array Si**	**12.46**	**293**	*e*Pn	**P**	**05 17 42.0**	**+2.5**
KUR	**Kuril'sk**	**12.68**	**18**	*e*P	**P**	**05 17 34.0**	**-8.4**
KUR				pmax	pmax		
	comp=Z,320nm,1.2s						
KUR				MLR	MLR		
	comp=N,3μm,13.0s						
KUR				MLR	MLR		
	comp=E,5μm,13.0s						
KUR				MLR	MLR		
	comp=Z,3μm,13.0s						
INCN	**Inchon**	**13.44**	**293**	*e*Pn	**P**	**05 17 53.1**	**+0.7**
YSS	**Yuzh-Sakhalins**	**13.65**	**1**	⇑*i*P	**P**	**05 17 49.4**	**-5.7**
YSS				*e*S	**S**	**05 20 13.3**	**-13**
YSS				pmax	pmax		
	comp=N,70nm,0.8s						
YSS				pmax	pmax		
	comp=E,50nm,0.8s						
YSS				pmax	pmax		
	comp=Z,70nm,0.8s						
YSS				smax			
	comp=N,90nm,1.2s						
YSS				smax			
	comp=E,20nm,1.0s						
YSS				MLR	MLR		
	comp=Z,800nm,19.0s						
YSS				MLR	MLR		
	comp=N,1μm,14.0s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**13.65**	**1**	*e*Pn	**P**	**05 17 49.4**	**-5.7**
	comp=E,118nm,0.9s						
JOW	**Kunigami**	**13.73**	**246**	Pn	**P**	**05 17 54.8**	**-1.5**
	comp=E,0.2nm,0.3s,baz=75,slow=13,SNR=9.4						
JOW				LR	LR	05 22 48.9	
	comp=E,1μm,19.7s,baz=317,slow=36						
MDJ	**Mudanjiang**	**14.99**	**323**	P	**P**	**05 18 10.8**	**-1.9**
MDJ				AP		05 18 18.5	
MDJ				XP		05 18 25.8	
MDJ				S	**S**	**05 20 53.0**	**-5.1**
MDJ				PCP	PcP	05 23 20.0	-0.8
MDJ				SCP		05 26 50.8	
MDJ				PCS		05 26 55.5	
MDJ				SCS	ScS	05 30 28.5	+1.4
MDJ				AMB	AMB		
	comp=Z,20nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,175nm,5.3s						
MDJ				LR	LR		
	comp=N,1μm,17.9s						
MDJ				LR	LR		
	comp=E,1μm,18.9s						
MDJ				LR	LR		
	comp=Z,2μm,16.0s						
MDJ	**Mudanjiang**	**14.99**	**323**	*e*Pn	**P**	**05 18 11.3**	**-1.4**
	comp=Z,32nm,0.9s						
UGL	**Uglegorsk**	**15.77**	**359**	P	**P**	**05 18 25.0**	**+2.3**
UGL				pmax	pmax		
	comp=Z,36nm,0.6s						
CN2	**Changchun**	**16.81**	**314**	*e*P	**P**	**05 18 34.5**	**-1.3**
CN2				*e*AP		05 18 44.0	
CN2				*e*S	**S**	**05 21 37.5**	**-2.8**
CN2				AMB	AMB		
	comp=Z,40nm,1.2s						
CN2				AMB	AMB		
	comp=Z,360nm,3.0s						
CN2				LR	LR		
	comp=N,2μm,14.0s						
CN2				LR	LR		
	comp=E,1μm,14.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
SNY	**Shenyang**	**17.08**	**305**	⇑P	**P**	**05 18 39.3**	**0.0**
SNY				AMB	AMB		
	comp=Z,700nm,7.5s						
SNY				LR	LR		
	comp=N,970nm,12.6s						
SNY				LR	LR		
	comp=E,1μm,15.9s						
SNY				LR	LR		
	comp=Z,2μm,14.7s						
DL2	**Dalian**	**17.60**	**294**	P	**P**	**05 18 45.5**	**-0.3**
DL2				XP		05 18 57.8	
DL2				S	**S**	**05 22 01.3**	**+3.0**
DL2				AMB	AMB		
	comp=Z,30nm,0.8s						
DL2				AMB	AMB		
	comp=Z,210nm,4.1s						
DL2				LR	LR		
	comp=N,790nm,11.7s						
DL2				LR	LR		
	comp=E,1μm,13.8s						
DL2				LR	LR		
	comp=Z,1μm,14.1s						
KLR	**Kul'dur**	**17.75**	**337**	*e*P	**P**	**05 18 40.3**	**-7.4**
KLR				MLR	MLR		
	comp=N,2μm,13.0s						
KLR				MLR	MLR		
	comp=E,1μm,13.0s						
KLR				MLR	MLR		
	comp=Z,3μm,13.0s						
SSE	**Sheshan**	**17.99**	**269**	*e*P	**P**	**05 18 51.3**	**+0.6**
SSE				S	**S**	**05 22 10.8**	**+3.5**
SSE				AMB	AMB		
	comp=Z,44nm,0.6s						
SSE				AMB	AMB		
	comp=Z,573nm,7.8s						
SSE				LR	LR		
	comp=N,517nm,13.7s						
SSE				LR	LR		
	comp=E,1μm,13.7s						
SSE				LR	LR		
	comp=Z,2μm,13.6s						
SSE	**Sheshan**	**17.99**	**269**	*e*P	**P**	**05 18 51.3**	**+0.6**
	comp=Z,44nm,0.6s						
SSE				pP		05 19 02.5	
SSE				sP		05 19 08.2	
SSE				S	**S**	**05 22 10.7**	**+3.4**
SSE				sS		05 22 33.8	
NJ2	**Nanjing**	**19.76**	**273**	*e*P	**P**	**05 19 09.5**	**-2.0**
NJ2				AP		05 19 20.0	
NJ2				XP		05 19 26.0	
NJ2				PP	PP	05 19 29.3	-1.1
NJ2				S	**S**	**05 22 45.0**	**-1.9**
NJ2				AMB	AMB		
	comp=Z,180nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,220nm,5.8s						
NJ2				LR	LR		
	comp=N,3μm,12.1s						
NJ2				LR	LR		
	comp=E,2μm,15.3s						
NJ2				LR	LR		
	comp=Z,910nm,14.5s						
SKR	**Severo-Kuril's**	**20.13**	**26**	*e*P	**P**	**05 19 11.0**	**-4.3**
SKR				*e*S	**S**	**05 22 58.0**	**+3.7**
SKR				pmax	pmax		
	comp=N,1μm,2.0s						
SKR				pmax	pmax		
	comp=E,1μm,2.0s						
SKR				pmax	pmax		
	comp=Z,1μm,2.0s						
SKR				pmax	pmax		
	comp=N,180nm,1.0s						
SKR				pmax	pmax		
	comp=E,180nm,1.0s						
SKR				pmax	pmax		
	comp=Z,270nm,1.0s						
SKR				smax			
	comp=N,1μm,8.0s						
SKR				smax			
	comp=E,1μm,8.0s						
SKR				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.4						
SKR				MLR	MLR		
	comp=N,1μm,12.0s,MS4.5						
SKR				MLR	MLR		
	comp=E,1μm,12.0s,MS4.5						
QZH	**Quanzhou**	**22.27**	**254**	P	**P**	**05 19 42.0**	**+4.8**
QZH				S	**S**	**05 23 40.5**	**+5.5**
QZH				LR	LR		
	comp=N,780nm,6.4s						
QZH				LR	LR		
	comp=E,2μm,15.1s						
QZH				LR	LR		
	comp=Z,2μm,16.9s,MS4.7						
PET	**Petropavlovsk**	**22.95**	**26**	*i*P	**P**	**05 19 43.5**	**-0.1**
HIA	**Hailar**	**23.14**	**320**	⇓*e*P	**P**	**05 19 44.7**	**-0.8**
HIA				pmax	pmax		
	comp=Z,68nm,0.9s						
HIA	**Hailar**	**23.14**	**320**	⇓*e*P	**P**	**05 19 44.7**	**-0.8**
	comp=Z,68nm,0.9s,mb5.1						
WHN	**Wuhan**	**23.84**	**271**	P	**P**	**05 19 51.5**	**-1.0**
WHN				AP		05 20 04.0	
WHN				LR	LR		
	comp=Z,3μm,13.5s,MS4.9						
HHC	**Hu-ho-hao-te**	**25.55**	**296**	⇑*i*P	**P**	**05 20 08.3**	**-0.5**
HHC				AP	pP	05 20 17.3	-1.7
HHC				XP	sP	05 20 22.0	-1.4
HHC				PP	PP	05 20 52.0	+3.2
HHC				S	**S**	**05 24 36.3**	**+4.8**
HHC				XS		05 24 49.5	
HHC				AMB	AMB		
	comp=Z,98nm,1.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,544nm,10.8s						
HHC				LR	LR		
	comp=N,1μm,15.6s,MS4.7						
HHC				LR	LR		
	comp=E,1μm,15.6s,MS4.7						
CLNS	**Chul'man**	**26.40**	**338**	*e*P	**P**	**05 20 16.2**	**-0.3**
CLNS				*e*		05 20 59.0	
CLNS				*e*		05 23 42.3	
CLNS				*e*S	**S**	**05 24 45.4**	**+0.1**
CLNS				pmax	pmax		
	comp=Z,62nm,0.8s,mb5.2						
CLNS				pmax	pmax		
	comp=N,46nm,1.0s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.6						
CLNS				pmax	pmax		
	comp=N,23nm,0.9s						
CLNS				pmax	pmax		
	comp=E,41nm,0.9s						
CLNS				smax			
	comp=E,94nm,12.9s						
CLNS				smax			
	comp=Z,226nm,12.6s						
CLNS				smax			
	comp=N,368nm,11.2s						
CLNS				MLR	MLR		
	comp=Z,1μm,13.0s,MS4.5						
CLNS				MLR	MLR		
	comp=N,500nm,14.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,90nm,13.0s,MS4.2						
BTO	**Baotou**	**26.69**	**295**	*e*P	**P**	**05 20 19.0**	**-0.4**
MA2	**Magadan**	**26.89**	**10**	*d i*P	**P**	**05 20 19.5**	**-1.5**
MA2				pmax	pmax		
	comp=Z,50nm,1.6s,mb4.8						
MA2				MLR	MLR		
	comp=Z,600nm,16.0s,MS4.2						
MA2	**Magadan**	**26.89**	**10**	*e*P	**P**	**05 20 20.5**	**-0.4**
	comp=Z,80nm,1.7s,mb5.0						
XAN	**Xi'an**	**27.71**	**281**	P	**P**	**05 20 27.3**	**-1.5**
XAN				AMB	AMB		
	comp=Z,53nm,1.4s,mb5.0						
XAN				LR	LR		
	comp=N,541nm,19.0s,MS4.7						
XAN				LR	LR		
	comp=E,2μm,14.8s,MS4.7						
XAN				LR	LR		
	comp=Z,2μm,14.9s,MS4.8						
CIT	**Chita**	**27.95**	**321**	*e*P	**P**	**05 20 31.0**	**+0.3**
CIT				*e*		05 20 37.2	
CIT				*e*		05 20 45.1	
CIT				pmax	pmax		
	comp=Z,652nm,4.1s						
ENH	**Enshi**	**27.98**	**273**	⇓*e*P	**P**	**05 20 29.4**	**-1.9**
	comp=Z,204nm,1.2s,mb5.6						
ENH				*e*pP	pP	05 20 40.4	-1.2
ENH				LR	LR		
	comp=Z,921nm,22.0s,MS4.3						
FX1	**Attu Island--F**	**29.52**	**39**	P	**P**	**05 20 43.0**	**-1.7**
FX1				pmax	pmax		
	comp=Z,8.0nm,0.6s						
FX1				MLR	MLR		
	comp=Z,9.0nm,19.1s						
FX1	**Attu Island--F**	**29.52**	**39**	P	**P**	**05 20 43.0**	**-1.7**
	comp=Z,8.3nm,0.6s,baz=286,slow=7.4,SNR=3.6						
FX1				LR	LR	05 32 53.8	
	comp=Z,8.9nm,19.1s,baz=262,slow=37						
YAK	**Yakutsk**	**29.87**	**348**	⇓*e*P	**P**	**05 20 46.2**	**-1.5**
YAK				pmax	pmax		
	comp=Z,37nm,0.5s,mb5.4						
SEY	**Seymchan**	**30.34**	**9**	*e*P	**P**	**05 20 50.9**	**-1.0**
SEY				*e*		05 22 05.7	
SEY				pmax	pmax		
	comp=E,4.0nm,0.7s						
SEY				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
SONM	**Songino Array**	**30.58**	**309**	P	**P**	**05 20 54.4**	**+0.2**
	comp=Z,21nm,0.8s,mb5.0,baz=117,slow=8.3,SNR=90						
SONM				LR	LR	05 33 13.6	
	comp=Z,658nm,20.1s,MS4.3,baz=99,slow=36						
SONM	**Songino Array**	**30.58**	**309**	P	**P**	**05 20 54.4**	**+0.2**
SONM				LR	LR	05 33 13.6	
BOD	**Bodaibo**	**31.10**	**331**	*e*P	**P**	**05 20 57.5**	**-1.2**
BOD				*e*		05 21 04.6	
BOD				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
BOD				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.3						
GYA	**Guiyang**	**31.52**	**267**	⇑*i*P	**P**	**05 21 01.3**	**-1.4**
GYA				AP	pP	05 21 14.5	+1.3
GYA				PP	PP	05 22 10.8	+3.3
GYA				S	**S**	**05 26 12.3**	**+5.0**
GYA				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.2						
GYA				AMB	AMB		
	comp=Z,160nm,6.3s						
GYA				LR	LR		
	comp=N,2μm,16.8s,MS4.9						
GYA				LR	LR		
	comp=E,1μm,13.4s,MS4.9						
GYA				LR	LR		
	comp=Z,1μm,12.4s,MS4.7						
LZH	**Lanzhou**	**31.60**	**286**	*e*P	**P**	**05 21 02.5**	**-0.8**
LZH				S	**S**	**05 26 06.0**	**-2.4**
LZH				SS	SS	05 27 56.0	-2.8
LZH				AMB	AMB		
	comp=Z,97nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,450nm,4.6s						
LZH				LR	LR		
	comp=E,3μm,14.0s						
LZH				LR	LR		
	comp=Z,4μm,14.9s,MS5.2						
LZH	**Lanzhou**	**31.60**	**286**	*e*P	**P**	**05 21 02.6**	**-0.7**
LZH				*PP	pP	05 21 16.4	+2.6
LZH				*SP	sP	05 21 20.9	+2.3
LZH						05 22 26.0	
LZH				S	**S**	**05 26 06.0**	**-2.4**
LZH				*SS		05 26 28.1	
LZH				SS	SS	05 27 56.0	-2.8
LZH				pmax	pmax		
	comp=Z,97nm,1.5s,mb5.4						
LZH				MLR	MLR		
	comp=Z,4μm,14.9s,MS5.2						
LZH	**Lanzhou**	**31.60**	**286**	*e*P	**P**	**05 21 02.6**	**-0.7**
	comp=Z,97nm,1.5s,mb5.4						
LZH				pP	pP	05 21 16.4	+2.6
LZH				sP	sP	05 21 20.9	+2.3
LZH				PP	PP	05 22 26.0	+18
LZH				S	**S**	**05 26 06.0**	**-2.4**
LZH				sS		05 26 28.1	
LZH				SS	SS	05 27 56.0	-2.8
LZH				LR	LR		
	comp=Z,4μm,14.9s,MS5.2						
QIZ	**Qiongzhong**	**32.25**	**252**	PFAKE		05 21 20.0	+11
QIZ				LR	LR		
	comp=Z,533nm,21.0s,MS4.2						
CD2	**Chengdu**	**32.60**	**276**	P	**P**	**05 21 10.5**	**-1.7**
IRK	**Irkutsk**	**33.22**	**316**	*e*P	**P**	**05 21 13.4**	**-3.8**
IRK				*e*		05 22 23.6	
IRK				*e*		05 26 25.2	
IRK				pmax	pmax		
	comp=Z,121nm,0.6s,mb6.0						
ZAK	**Zakamensk**	**33.24**	**313**	⇓*i*P	**P**	**05 21 18.0**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
TLY	**Talaya**	**33.40**	**315**	*e*P	**P**	**05 21 18.1**	**-0.7**
TLY				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
TLY				MLR	MLR		
	comp=Z,672nm,15.0s,MS4.5						
TLY	**Talaya**	**33.40**	**315**	⇓*e*P	**P**	**05 21 19.6**	**+0.8**
	comp=Z,19nm,0.8s,mb5.1						
GTA	**Gaotai**	**34.51**	**293**	P	**P**	**05 21 28.3**	**-0.2**
GTA				AP	pP	05 21 39.3	+0.3
GTA				PP	PP	05 22 46.0	+0.9
GTA				PCP	PcP	05 24 01.8	-1.4
GTA				S	**S**	**05 26 54.5**	**+0.9**
GTA				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.9						
GTA				AMB	AMB		
	comp=Z,287nm,7.6s						
GTA				LR	LR		
	comp=N,687nm,14.9s,MS4.7						
GTA				LR	LR		
	comp=E,778nm,15.3s,MS4.7						
GTA				LR	LR		
	comp=Z,947nm,15.3s,MS4.6						
MOY	**Mondy**	**34.98**	**314**	*e*P	**P**	**05 21 32.9**	**+0.5**
MOY				pmax	pmax		
	comp=Z,67nm,3.1s						
KMI	**Kunming**	**35.30**	**267**	P	**P**	**05 21 34.5**	**-0.9**
KMI				PP	PP	05 22 56.5	+1.2
KMI				PCP	PcP	05 24 07.0	+1.4
KMI				S	**S**	**05 27 06.0**	**0.0**
KMI				PCS		05 27 52.8	
KMI				SS	SS	05 29 25.5	+1.1
KMI				SCS	ScS	05 31 51.8	+1.8
KMI				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.9						
KMI				AMB	AMB		
	comp=Z,424nm,10.8s						
KMI				LR	LR		
	comp=N,695nm,18.4s,MS4.8						
KMI				LR	LR		

comp=E,1µm,15.2s,MS4.8
KMI LR LR
comp=Z,1µm,13.6s,MS4.9
KMI Kunming 35.30 267 P **P** **05 21 34.4 -1.0**
KMI *PP pP 05 21 49.9 +3.9
KMI 05 22 56.6
KMI PPP PPP 05 23 16.3 +2.4
KMI 05 24 07.1
KMI S **S** **05 27 06.0 0.0**
KMI *SS 05 27 26.8
KMI SS SS 05 29 25.5 +1.1
KMI 05 31 51.7
KMI pmax pmax
comp=Z,19nm,1.1s,mb4.9
KMI MLR MLR
comp=Z,1µm,13.6s,MS4.9
KMI Kunming 35.30 267 P **P** **05 21 34.4 -1.0**
comp=Z,19nm,1.1s,mb4.9
KMI pP pP 05 21 49.9 +3.9
KMI sP sP 05 21 56.2 +5.4
KMI PP PP 05 22 56.6 +1.3
KMI PPP PPP 05 23 16.3 +2.4
KMI PcP PcP 05 24 07.1 +1.5
KMI S **S** **05 27 06.0 0.0**
KMI sS 05 27 26.8
KMI PcS 05 27 52.7
KMI SS SS 05 29 25.5 +1.1
KMI ScS ScS 05 31 51.7 +1.7
KMI LR LR
comp=Z,1µm,13.6s,MS4.9
BILL Bilibino 37.43 15*c* iP **P** **05 21 52.2 -0.8**
BILL pmax pmax
comp=Z,27nm,1.3s,mb4.9
TIXI Tiksi 39.08 353*de*P **P** **05 22 05.8 -0.8**
TIXI pmax pmax
comp=Z,28nm,1.3s,mb4.8
TIXI MLR MLR
comp=Z,400nm,19.0s,MS4.3
NANT Nan 39.78 259 ⇑P **P** **05 22 10.0 -3.0**
comp=Z,235nm,1.0s,mb5.9
CHG Chiang Mai 41.23 261 ⇑P **P** **05 22 23.4 -1.5**
comp=Z,35nm,1.2s,mb4.9
NST Nakhon Sawan 41.86 256 P **P** **05 22 23.0 -7.2**
WMQ Urumqi 43.26 301 P **P** **05 22 43.3 +2.0**
WMQ PP PP 05 24 26.5 +2.4
WMQ S **S** **05 29 06.5 +1.0**
WMQ AMB AMB
comp=Z,101nm,0.9s,mb5.5
WMQ AMB AMB
comp=Z,661nm,4.4s
WMQ LR LR
comp=N,946nm,16.4s,MS4.8
WMQ LR LR
comp=E,402nm,13.6s,MS4.8
WMQ LR LR
comp=Z,446nm,16.5s,MS4.5
LSA Lhasa 43.40 280 P **P** **05 22 44.5 +1.8**
LSA Lhasa 43.40 280 *e*P **P** **05 22 43.0 +0.3**
LSA e*PP pP 05 22 53.6 +0.2
LSA pmax pmax
comp=Z,33nm,1.4s,mb4.9
LSA MLR MLR
comp=Z,369nm,19.0s,MS4.3
LSA Lhasa 43.40 280 *e*P **P** **05 22 43.0 +0.3**
comp=Z,33nm,1.4s,mb4.9
LSA *e*pP pP 05 22 53.6 +0.2
LSA LR LR
comp=Z,369nm,19.0s,MS4.3
KSM Kuching 43.60 230 *e*P **P** **05 22 44.6 +0.2**
SHL Shillong 44.22 274 *e*P **P** **05 22 49.2 -0.1**
ZAL Zalesovo 45.03 315 P **P** **05 22 54.9 -0.5**
comp=Z,4.0nm,0.8s,mb4.3,baz=18,slow=6.3,SNR=19
ZAL PcP PcP 05 24 35.0 -1.3
comp=Z,7.1nm,0.8s,baz=346,slow=5.4,SNR=4.0
ZAL PP PP 05 24 43.3 +1.8
comp=Z,8.1nm,0.9s,baz=319,slow=2.9,SNR=3.9
HNR Honiara 45.69 155 LR LR 05 40 14.3
comp=Z,224nm,21.9s,MS4.1,baz=320,slow=34
NVS Novosibirsk 45.99 316⇓*i*P **P** **05 23 02.5 -0.6**
NVS *eS* **S** **05 29 48.6 +4.0**
NVS pmax pmax
comp=Z,73nm,1.5s,mb5.4
NVS pmax pmax
comp=E,76nm,1.4s
NVS smax
comp=E,48nm,2.4s
MKAR Makanchi Array 46.79 305 P **P** **05 23 09.2 -0.2**
comp=E,13nm,0.8s,mb4.9,baz=90,slow=8.5,SNR=73
MKAR PP PP 05 24 57.2 -2.0
comp=E,5.4nm,0.8s,baz=91,slow=8.9,SNR=2.5
MKAR LR LR 05 43 40.1
comp=E,351nm,20.1s,MS4.3,baz=360,slow=37
MKAR Makanchi Array 46.79 305 P **P** **05 23 09.2 -0.2**
MKAR PP PP 05 24 57.2 -2.0
MKAR LR LR 05 43 40.1
SVW2 Sparrevohn 48.11 35 *e*P **P** **05 23 20.0 +0.4**
JIRN Jiri 48.19 279 *e*P **P** **05 23 21.4 +0.7**
GUN Gumba 48.35 279 *e*P **P** **05 23 22.5 +0.5**
comp=E,141nm,1.0s,mb5.9
PKI Pulchoki 48.87 279 *e*P **P** **05 23 25.9 0.0**
comp=E,103nm,1.2s,mb5.8
KKN Kakani 48.89 280 *e*P **P** **05 23 26.3 +0.2**
comp=E,92nm,1.0s,mb5.7
DMN Daman 49.10 279 *e*P **P** **05 23 28.0 +0.3**
comp=E,60nm,1.0s,mb5.6
GKN Gorkha 49.35 280 *e*P **P** **05 23 29.7 +0.1**
comp=E,247nm,1.3s,mb6.1
RSO Redoubt South 49.44 36 *e*P **P** **05 23 28.8 -1.1**
IMA Indian Mountai 49.58 29 *e*P **P** **05 23 32.1 +1.2**
IMA pmax pmax
comp=Z,16nm,1.2s,mb4.9
IMA Indian Mountai 49.58 29 *e*P **P** **05 23 32.1 +1.2**
comp=Z,16nm,1.2s,mb4.9
SPU Mount Spurr 49.82 35 *e*P **P** **05 23 32.5 -0.3**
KOLN Koldanda 50.29 280 *e*P **P** **05 23 36.9 +0.1**
comp=Z,142nm,1.3s,mb5.8
PMR Palmer 51.24 35 *e*P **P** **05 23 43.3 -0.3**
PMR pmax pmax
comp=Z,50nm,1.2s,mb5.3
PMR MLR MLR
comp=Z,247nm,19.0s,MS4.2
PMR Palmer 51.24 35 *e*P **P** **05 23 43.3 -0.3**
comp=Z,50nm,1.2s,mb5.3
PMR LR LR
comp=Z,247nm,19.0s,MS4.2
ULHL Ulahol 51.80 300 P **P** **05 23 48.8 +0.8**
SNR=12
TKM2 Tokmak 2 52.11 301 P **P** **05 23 51.2 +0.9**
SNR=32
ILAR Eielson Array 52.30 31 P **P** **05 23 49.4 -2.1**
comp=Z,12nm,0.9s,mb4.8,baz=267,slow=6.1,SNR=68
ILAR LR LR 05 45 23.0
comp=Z,75nm,20.5s,MS3.7,baz=101,slow=35
PTH Pithoragarh 52.42 284 *e*P **P** **05 23 54.2 +1.4**
LGTI Lohaghat 52.43 284 *e*P **P** **05 23 54.0 +1.1**
KBK Karagaybulak 52.63 301 P **P** **05 23 55.3 +1.0**
SNR=8.7
KSH Kashi 52.66 297 *e*P **P** **05 23 56.8 +2.3**
KSH *e*PCP PcP 05 25 07.5 +3.3
KSH *e*PP PP 05 25 56.0 +1.0
KSH *e*PCS 05 29 02.5
KSH *e*S **S** **05 31 18.0 +0.1**
KSH *e*SCS ScS 05 33 37.5 -0.4
KSH *e*SS SS 05 34 54.3 -1.0
KSH AMB AMB
comp=Z,160nm,0.8s,mb6.0
KSH AMB AMB
comp=Z,650nm,3.6s
KSH LR LR
comp=N,2µm,19.9s,MS5.2
KSH LR LR
comp=E,1µm,17.8s,MS5.2
CHMS Chumysh 52.70 302 P **P** **05 23 55.5 +0.8**
SNR=7.1
USP Ospenovka 52.81 302 P **P** **05 23 55.8 +0.2**
SNR=14
FRU Bishkek 52.83 301 *e*P **P** **05 23 56.0 +0.2**
FRU *e* pP 05 24 06.0 -0.7
FRU pmax pmax
comp=Z,100nm,2.0s,mb5.4
AAK Ala-Archa 52.97 301*d* iP **P** **05 23 56.0 -0.8**
AAK pmax pmax
comp=Z,29nm,1.7s,mb4.9
AAK MLR MLR
comp=Z,400nm,15.0s,MS4.6

AAK Ala-Archa 52.97 301 *e*P **P** **05 23 55.2 -1.6**
comp=Z,18nm,1.0s,mb4.9
CTA Charters Tower 53.22 175 *e*P **P** **05 23 57.6 -1.3**
comp=Z,8.7nm,1.1s,mb4.6
CTA Charters Tower 53.22 175 *e*P **P** **05 23 57.6 -1.3**
CTA pmax pmax
comp=Z,9.0nm,1.1s
VOSK Vostochnaya 53.35 314 P **P** **05 23 58.8 -0.7**
VOSK pmax pmax
comp=Z,41nm,1.2s,mb5.2
WRAB Tennant Creek 53.47 189 *e*P **P** **05 23 58.9 -1.9**
WRAB *e*PP pP 05 24 09.9 -1.8
WRAB pmax pmax
comp=Z,19nm,0.8s,mb5.1
WRAB Tennant Creek 53.47 189 *e*P **P** **05 23 58.9 -1.9**
comp=Z,19nm,0.8s,mb5.1
WRAB *e*pP pP 05 24 09.9 -1.9
EKS2 Erkin-Say 53.47 301 P **P** **05 24 01.0 +0.5**
SNR=5.5
WB2 Warramunga Arr 53.48 189⇓*i*P **P** **05 23 58.9 -1.9**
WRA Warramunga Arr 53.48 189 P **P** **05 23 58.7 -2.2**
comp=Z,7.1nm,0.6s,mb4.8,baz=7.8,slow=7.7,SNR=34
WRA PcP PcP 05 25 06.6 -0.9
comp=Z,5.7nm,0.7s,baz=3.6,slow=4.1,SNR=7.0
FITZ Fitzroy Crossi 53.52 200⇓*i*P **P** **05 24 00.4 -0.8**
comp=Z,24nm,1.0s,mb5.1
BVA0 Borovoye Array 53.66 315 *i* P **P** **05 24 00.9 -0.9**
BVA0 pmax pmax
comp=Z,20nm,2.2s,mb4.7
BVAR Borovoye Array 53.66 315 P **P** **05 24 00.8 -1.0**
comp=Z,6.7nm,0.9s,mb4.6,baz=90,slow=7.4,SNR=37
BVAR PP PP 05 25 58.8 -5.4
comp=Z,2.0nm,0.4s,baz=96,slow=7.7,SNR=4.9
AML Almayashu 53.66 301 P **P** **05 24 03.4 +1.5**
SNR=9.5
BRVK Borovoye 53.72 315⇓*e*P **P** **05 24 01.3 -0.9**
BRVK pmax pmax
comp=Z,15nm,1.1s,mb4.8
BRVK Borovoye 53.72 315⇓*e*P **P** **05 24 01.3 -0.9**
comp=Z,15nm,1.1s,mb4.8
SDNR Sundarnagar 54.35 287 *e*P **P** **05 24 06.2 -0.9**
THN Thein Dam 55.02 289 *e*P **P** **05 24 10.7 -1.3**
BISR Bishrakh 55.04 284 *e*P **P** **05 24 11.6 -0.6**
AYAN Aya Nagar 55.33 284 *e*P **P** **05 24 12.5 -1.7**
AYAN AMb AMB 05 24 18.8
comp=Z,18nm,0.7s,mb5.2
SONA Sohna 55.45 283 *e*P **P** **05 24 15.2 0.0**
SONA AMb AMB 05 24 18.9
comp=Z,83nm,1.3s,mb5.6
INK Inuvik 57.41 26 P **P** **05 24 26.8 -1.8**
comp=Z,5.2nm,0.6s,mb4.7,baz=58,slow=12,SNR=5.5
MBWA Marble Bar 58.27 205 PFAKE
MBWA LR LR 05 24 50.0 +15
comp=Z,252nm,20.0s,MS4.3
SIT Sitka 58.79 39 PFAKE
SIT LR LR 05 24 50.0 +12
comp=Z,579nm,22.0s,MS4.7
HYB Hyderabad 58.91 271 *e*P **P** **05 24 39.5 -0.3**
HYB pmax pmax
comp=Z,100nm,1.0s,mb5.8
HYB Hyderabad 58.91 271 *e*P **P** **05 24 39.5 -0.3**
comp=Z,100nm,1.0s,mb5.8
HYB Hyderabad 58.91 271 *i* P **P** **05 24 39.5 -0.3**
comp=Z,100nm,1.0s,mb5.8
ARU Arti 59.66 320⇓*i*P **P** **05 24 43.6 -0.9**
ARU *e* 05 25 28.8
ARU *e* 05 26 53.2
ARU *e*S **S** **05 32 52.9 +2.3**
ARU *e* 05 34 26.3
ARU *e*SS SS 05 36 45.7 -2.0
ARU pmax pmax
comp=Z,47nm,1.5s,mb5.3
ARU MLR MLR
comp=Z,400nm,16.5s,MS4.6
ARU MLR MLR
comp=N,200nm,15.0s,MS4.6
ARU MLR MLR
comp=E,300nm,18.0s,MS4.6
ARU Arti 59.66 320⇓*e*P **P** **05 24 43.7 -0.8**
comp=E,17nm,0.6s,mb5.2
AB31 Akbulak array 60.93 312 P **P** **05 24 52.3 -1.0**
AB31 pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
JASL Jaisalmer 61.00 285 *e*P **P** **05 24 53.4 -0.6**
JASL AMb AMB 05 24 56.7
comp=Z,94nm,1.0s,mb5.9
DLBC Dease Lake 61.16 37 *e*P **P** **05 24 55.9 +1.2**
ARMA Armidale 63.98 171 *e*P **P** **05 25 08.3 -5.5**
STKA Stephens Creek 64.82 181⇓*i*P **P** **05 25 18.3 -0.9**
comp=Z,13nm,0.9s,mb5.0
STKA Stephens Creek 64.82 181 P **P** **05 25 18.0 -1.2**
comp=Z,13nm,0.8s,mb5.0,baz=342,slow=8.0,SNR=12
LVZ Lovozero 65.82 337*d* iP **P** **05 25 23.9 -1.1**
LVZ pmax pmax
comp=Z,24nm,1.4s,mb5.0
RES Resolute Bay 66.04 14 *e*P **P** **05 25 25.2 -1.2**
RES *e*PP pP 05 25 36.5 -1.1
RES pmax pmax
comp=Z,36nm,1.1s,mb5.3
RES Resolute Bay 66.04 14 *e*P **P** **05 25 25.2 -1.2**
comp=Z,36nm,1.1s,mb5.3
RES *e*pP pP 05 25 36.5 -1.2
YKW3 Yellowknife Ar 66.66 29 *e*P **P** **05 25 27.5 -2.9**
YKW3 *e*pP pP 05 25 39.0 -2.6
YKA Yellowknife Ar 66.69 29 P **P** **05 25 29.0 -1.6**
comp=Z,9.7nm,0.9s,mb4.8,baz=295,slow=6.3,SNR=20
YKA LR LR 05 52 18.6
comp=Z,149nm,21.5s,MS4.2,baz=270,slow=34
KEV Kevo 67.19 340 *e*p **P** **05 25 31.1 -2.5**
comp=Z,13nm,1.0s,mb4.9
ARCES ARCESS Array B 67.75 340 P **P** **05 25 36.0 -1.2**
comp=Z,6.4nm,0.8s,mb4.7,baz=53,slow=7.0,SNR=17
ARCES LR LR 06 01 40.1
comp=Z,282nm,18.3s,MS4.5,baz=270,slow=42
ARCES ARCESS Array B 67.75 340 P **P** **05 25 36.0 -1.2**
ARCES LR LR 06 01 40.1
KLBR Kellerberrin 68.56 202⇑*i*P **P** **05 25 42.3 -0.6**
comp=Z,29nm,1.0s,mb5.2
DAG Danmarks Havn 69.55 355⇑*e*P **P** **05 25 47.7 -0.6**
DAG pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
DAG Danmarks Havn 69.55 355⇑*e*P **P** **05 25 47.7 -0.6**
comp=Z,3.5nm,0.5s,mb4.5
DAG Danmarks Havn 69.55 355⇑*i*P **P** **05 25 47.7 -0.6**
comp=Z,3.5nm,0.5s,mb4.5
HTW Haystack Looko 69.82 46 P **P** **05 25 50.4 +0.1**
NWAO Narrogin (SRO) 69.97 202 *e*P **P** **05 25 49.2 -2.2**
NWAO *e*PP pP 05 26 02.0 -0.7
NWAO pmax pmax
comp=Z,23nm,0.7s
NWAO Narrogin (SRO) 69.97 202 *e*P **P** **05 25 49.2 -2.3**
comp=Z,23nm,0.7s,mb5.2
NWAO *e*pP pP 05 26 02.0 -0.7
COR Corvallis 70.36 49 PFAKE
COR LR LR 05 26 10.0 +16
comp=Z,273nm,22.0s,MS4.5
MOS Moscow 70.69 325 *e*P **P** **05 25 55.2 -0.3**
MOS *e* 05 26 15.9
MOS *e* 05 28 29.4
MOS *e*S S 05 35 08.9 +3.2
MOS *e* 05 35 53.9
MOS *e*SS SS 05 39 41.1 +1.3
MOS pmax pmax
comp=Z,140nm,1.8s,mb5.6
TDH Tom, Dick, Har 70.98 48 P **P** **05 25 58.7 +1.3**
VFP Flag Point 71.17 48 P **P** **05 25 60.0 +1.4**
HUMO Hull Mountain 71.51 51 PFAKE
HUMO LR LR 05 26 10.0 +9.4
comp=Z,336nm,19.0s,MS4.6
OBN Obninsk 71.53 324*d* iP **P** **05 26 00.3 -0.2**
OBN *i* *PP pP 05 26 11.6 -0.2
OBN *e* 05 28 37.9
OBN *e*S S 05 35 14.4 -1.0
OBN pmax pmax
comp=Z,78nm,1.6s,mb5.4
OBN MLR MLR
comp=Z,200nm,11.0s,MS4.6
CROR Criterion Ridg 71.62 48 P **P** **05 26 02.6 +1.4**
KHMM Horse Mountain 71.82 53 *e*P **P** **05 26 03.7 +1.2**
KAF Kangasniemi 71.96 334 *e*p **P** **05 26 01.6 -1.3**
comp=Z,11nm,0.5s,mb5.0,baz=50,slow=5.7
YBH Yreka Blue Hor 72.08 52 *e*P **P** **05 26 03.7 -0.3**
YBH pmax pmax
comp=Z,27nm,1.3s
YBH MLR MLR

comp=Z,366nm,19.0s
YBH Yreka Blue Hor 72.08 52 *e*P **P** **05 26 03.7 -0.3**
comp=Z,27nm,1.3s,mb5.0
YBH LR LR
comp=Z,366nm,19.0s,MS4.7
NEW Newport 72.33 44 *e*P **P** **05 26 04.9 -0.4**
NEW pmax pmax
comp=Z,27nm,1.2s
NEW MLR MLR
comp=Z,220nm,19.0s
NEW Newport 72.33 44 *e*P **P** **05 26 04.8 -0.5**
comp=Z,27nm,1.2s,mb5.0
NEW LR LR
comp=Z,220nm,19.0s,MS4.5
FINES FINESS Array B 72.46 333 P **P** **05 26 05.3 -0.6**
comp=Z,15nm,0.8s,mb5.0,baz=108,slow=6.0,SNR=46
FINES LR LR 06 00 25.1
comp=Z,125nm,18.6s,MS4.2,baz=53,slow=38
WDC Whiskeytown Da 72.75 53 *e*P **P** **05 26 06.6 -1.4**
WDC pmax pmax
comp=Z,37nm,1.4s,mb5.1
WDC MLR MLR
comp=Z,314nm,20.0s,MS4.6
WDC Whiskeytown Da 72.75 53 *e*P **P** **05 26 06.6 -1.5**
comp=Z,37nm,1.4s,mb5.1
WDC LR LR
comp=Z,314nm,20.0s,MS4.6
LTIM Timbered Crate 73.16 52 P **P** **05 26 11.9 +1.5**
HOPS Hopland 73.17 54 PFAKE 05 26 20.0 +9.5
HOPS LR LR
comp=Z,707nm,20.0s,MS4.9
MOD Modoc 73.57 51 PFAKE 05 26 20.0 +7.2
MOD LR LR
comp=Z,239nm,21.0s,MS4.5
WALA Waterton Lakes 73.74 42 *e*P **P** **05 26 13.2 -0.4**
comp=Z,8.6nm,0.7s,mb4.8
WALA *e*pP pP 05 26 24.4 -0.5
BSMT Bassoo Peak 73.88 43 P **P** **05 26 16.1 +1.6**
KIV Kislovodsk 73.92 312 *e*P **P** **05 26 15.7 +0.9**
KIV *e* 05 26 30.6
KIV *e*S S 05 35 47.3 +4.6
KIV pmax pmax
comp=N,21nm,1.1s
KIV pmax pmax
comp=E,19nm,1.1s
KIV pmax pmax
comp=Z,25nm,1.1s,mb5.1
KIV Kislovodsk 73.92 312 *e*P **P** **05 26 16.2 +1.4**
comp=Z,18nm,0.7s,mb5.1
BMO Blue Mountains 73.96 47 *e*P **P** **05 26 14.8 -0.2**
comp=Z,20nm,1.2s,mb4.9
VSU Vasula 74.05 330*d* iP **P** **05 26 15.1 -0.1**
ONI Oni 74.14 311 P **P** **05 26 17.1 +1.1**
WVOR Wild Horse Val 74.37 49 *e*P **P** **05 26 17.0 -0.4**
WVOR pmax pmax
comp=Z,38nm,1.4s,mb5.1
WVOR MLR MLR
comp=Z,353nm,22.0s,MS4.6
WVOR Wild Horse Val 74.37 49 *e*P **P** **05 26 17.0 -0.4**
comp=Z,38nm,1.4s,mb5.1
WVOR LR LR
comp=Z,353nm,22.0s,MS4.6
SUMG Summit 74.42 0 *e*P **P** **05 26 17.4 +0.3**
comp=Z,15nm,0.7s,mb5.0
SUMG *e*pP pP 05 26 28.5 +0.1
GNI Garni 74.54 308*d* iP **P** **05 26 19.8 +1.4**
GNI pmax pmax
comp=Z,43nm,1.5s
GNI Garni 74.54 308 P **P** **05 26 19.0 +0.6**
comp=Z,3.2nm,0.4s,mb4.6,baz=152,slow=15,SNR=8.1
GNI LR LR 06 02 58.1
comp=Z,155nm,18.7s,MS4.3,baz=56,slow=39
GNI Garni 74.54 308 *e*P **P** **05 26 18.9 +0.4**
comp=Z,51nm,1.4s,mb5.3
GNI LR LR
comp=Z,213nm,19.0s,MS4.5
BEKR Beckwourth 74.56 52 *e*P **P** **05 26 17.8 -0.7**
comp=Z,22nm,1.1s,mb5.0
BEKR *e*pP pP 05 26 29.0 -0.9
MSO Missoula 74.91 44 *e*P **P** **05 26 19.1 -1.4**
comp=Z,11nm,1.2s,mb4.7
CHMT Chamberlain Mo 75.27 43 *e*P **P** **05 26 22.5 0.0**
SAO San Andreas Ge 75.39 56 PFAKE 05 26 30.0 +6.6
SAO LR LR
comp=Z,552nm,21.0s,MS4.8
CMB Columbia Colle 75.47 54 *e*P **P** **05 26 23.7 -0.2**
CMB pmax pmax
comp=Z,35nm,1.2s,mb5.2
CMB MLR MLR
comp=Z,520nm,22.0s,MS4.8
CMB Columbia Colle 75.47 54 *e*P **P** **05 26 23.6 -0.2**
comp=Z,35nm,1.2s,mb5.2
CMB LR LR
comp=Z,520nm,22.0s,MS4.8
MNK Minsk 76.02 327 *e*P **P** **05 26 22.0 -4.6**
BMN Battle Mountai 76.32 51 *e*P **P** **05 26 28.5 -0.1**
BMN pmax pmax
comp=Z,29nm,1.2s,mb5.1
BMN MLR MLR
comp=Z,316nm,22.0s,MS4.6
BMN Battle Mountai 76.32 51 *e*P **P** **05 26 28.5 -0.1**
comp=Z,28nm,1.2s,mb5.1
BMN LR LR
comp=Z,316nm,22.0s,MS4.6
FFC Flin Flon 76.47 33 *e*P **P** **05 26 29.4 +0.3**
FFC pmax pmax
comp=Z,45nm,1.3s,mb5.2
FFC Flin Flon 76.47 33 *e*P **P** **05 26 29.4 +0.2**
comp=Z,46nm,1.3s,mb5.2
ANN Anapa 76.66 315 *e*P **P** **05 26 26.0 -4.4**
ANN *i* *PP pP 05 26 36.4 -5.4
ANN *e*S S 05 36 07.2 -5.8
ANN pmax pmax
comp=Z,30nm,1.0s,mb5.2
ANN MLR MLR
comp=N,300nm,18.0s,MS4.7
ANN MLR MLR
comp=E,192nm,18.0s,MS4.7
ANN MLR MLR
comp=Z,276nm,18.0s,MS4.6
NVAR Mina Aray Bea 76.67 53 P **P** **05 26 30.8 +0.2**
comp=Z,14nm,1.1s,mb4.8,baz=300,slow=4.0,SNR=26
PTRM Twissleman Ran 76.82 56 *e*P **P** **05 26 31.9 +0.3**
BOZ Bozeman (W) 76.90 44 *e*Pn **P** **05 26 27.0 -4.8**
BOZ LR LR
comp=Z,125nm,19.0s,MS4.2
MTUM Tungsten Hills 77.06 54 *e*P **P** **05 26 32.7 -0.2**
ELK Elko 77.42 49 *e*P **P** **05 26 34.7 -0.1**
ELK pmax pmax
comp=Z,12nm,1.1s
ELK MLR MLR
comp=Z,316nm,19.0s
ELK Elko 77.42 49 *e*P **P** **05 26 34.7 -0.1**
comp=Z,12nm,1.1s,mb4.7
ELK LR LR
comp=Z,316nm,19.0s,MS4.7
TPH Tonopah 77.58 53 *e*P **P** **05 26 36.6 +0.9**
TPH pmax pmax
comp=Z,20nm,1.1s,mb5.0
TPH MLR MLR
comp=Z,422nm,21.0s,MS4.7
TPH Tonopah 77.58 53 *e*P **P** **05 26 36.6 +0.9**
comp=Z,20nm,1.1s,mb5.0
TPH LR LR
comp=Z,422nm,21.0s,MS4.7
AKASG Malin Array Be 77.70 323 P **P** **05 26 35.2 -0.9**
comp=Z,4.0nm,0.6s,mb4.5,baz=44,slow=5.8,SNR=52
YMR Madison River 77.85 44 *e*P **P** **05 26 38.0 +1.0**
NB2 NORSAR Subarra 77.91 338 P **P** **05 26 37.1 0.0**
comp=Z,404nm,2.5s,mb5.9,baz=40,slow=5.6
NB2 NORSAR Subarra 77.91 338 P **P** **05 26 37.1 0.0**
NB2 pmax pmax
comp=Z,404nm,2.5s,mb5.9
NB2 NORSAR Subarra 77.91 338 P **P** **05 26 37.1 0.0**
baz=40,slow=5.6
NOA NORSAR Array B 77.91 338 P **P** **05 26 37.0 0.0**
comp=Z,17nm,0.8s,mb5.0,baz=39,slow=5.6,SNR=70
NOA LR LR 06 03 55.9
comp=Z,198nm,19.5s,MS4.5,baz=30,slow=38
YNR Norris Junctio 77.99 44 *e*P **P** **05 26 39.3 +1.5**
MIB Mutribah 78.03 298 *e*P **P** **05 26 38.1 -0.2**
MIB AMb AMB 05 26 39.1
comp=Z,65nm,0.7s,mb5.7
YFT Old Faithful 78.05 44 *e*P **P** **05 26 39.8 +1.6**
KBD Kabd 78.09 297 *i* P **P** **05 26 39.8 +1.0**
KBD AMb AMB 05 26 41.9

comp=Z,202nm,1.1s,mb6.0
QRN Al-Qurain 78.15 297 *e*P **P** **05 26 39.5 +0.5**
QRN AMb AMB 05 26 40.3
comp=Z,84nm,0.8s,mb5.7
NAO01 NORSAR Array S 78.16 338 *e*P **P** **05 26 37.6 -0.9**
comp=Z,9.0nm,0.8s,mb4.8
NAO01 *e*pP pP 05 26 49.1 -0.7
NAO01 LR LR
comp=Z,355nm,19.0s,MS4.7
LKWY Lake 78.24 44 *e*P **P** **05 26 42.2 +3.0**
LKWY pmax pmax
comp=Z,102nm,1.7s,mb5.5
LKWY MLR MLR
comp=Z,294nm,20.0s,MS4.6
LKWY Lake 78.24 44 *e*P **P** **05 26 42.2 +3.0**
comp=Z,102nm,1.7s,mb5.5
LKWY LR LR
comp=Z,294nm,20.0s,MS4.6
DAC Darwin (Calif) 78.29 54 PFAKE 05 26 50.0 +10
DAC LR LR
comp=Z,356nm,20.0s,MS4.7
IMW Indian Meadow 78.30 45 *e*P **P** **05 26 40.5 +0.9**
comp=Z,78nm,1.7s,mb5.4
IMW *e*pP pP 05 26 51.6 +0.7
RDF Al-Radifah 78.33 297 *e*P **P** **05 26 40.8 +0.7**
RDF AMb AMB 05 26 42.9
comp=Z,111nm,1.6s,mb5.5
RRI2 Red Ridge 78.39 46 *e*P **P** **05 26 39.6 -0.5**
comp=Z,61nm,1.5s,mb5.3
HVU Hansel Valley 78.40 48 *e*P **P** **05 26 40.4 +0.3**
SUW Suwalki 78.43 328 *e*P **P** **05 26 40.3 +0.2**
SUW Suwalki 78.43 328 *e*P **P** **05 26 40.3 +0.2**
TPAW Teton Pass 78.53 45 *e*P **P** **05 26 40.6 -0.2**
comp=Z,15nm,1.1s,mb4.8
REDW Red Top Meadow 78.66 45 *e*P **P** **05 26 41.2 -0.4**
comp=Z,52nm,1.5s,mb5.2
SNOW Snow King Moun 78.66 45 *e*P **P** **05 26 42.6 +1.0**
comp=Z,17nm,1.2s,mb4.8
AHID Auburn Hatcher 78.86 46 *e*P **P** **05 26 42.0 -0.7**
comp=Z,32nm,1.4s,mb5.1
AHID LR LR
comp=Z,173nm,19.0s,MS4.4
MWC Mount Wilson 79.08 56 *e*P **P** **05 26 44.3 +0.2**
HWUT Hardware Ranch 79.24 47 *e*P **P** **05 26 44.6 -0.1**
comp=Z,82nm,1.6s,mb5.4
HWUT LR LR
comp=Z,186nm,20.0s,MS4.4
DGMT Dagmar 79.32 38 *e*P **P** **05 26 45.1 +0.1**
comp=Z,18nm,1.0s,mb5.0
DGMT LR LR
comp=Z,223nm,20.0s,MS4.5
LAO LASA Array 79.34 41 *e*P **P** **05 26 45.1 0.0**
comp=Z,80nm,1.3s,mb5.5
LAO LR LR
comp=Z,260nm,20.0s,MS4.6
GSC Goldstone 79.36 55 *e*P **P** **05 26 45.3 -0.3**
KONO Kongsberg 79.50 338 PFAKE 05 27 00.0 +14
KONO LR LR
comp=Z,336nm,19.0s,MS4.7
TCUT Toone Canyon 79.62 47 *e*P **P** **05 26 47.2 +0.4**
CTU Camp Tracy 79.65 48 *e*P **P** **05 26 47.0 0.0**
MALT Malatya 79.66 309 *e*P **P** **05 26 46.9 -0.2**
MALT pmax pmax
comp=Z,12nm,1.0s,mb4.8
MALT Malatya 79.66 309 *e*P **P** **05 26 46.9 -0.2**
comp=Z,12nm,1.0s,mb4.8
BW06 Boulder Array 79.78 45 PFAKE 05 27 00.0 +12
BW06 LR LR
comp=Z,221nm,19.0s,MS4.5
PDAR Pinedale Array 79.78 45 P P **05 26 47.0 -0.7**
comp=Z,1.4nm,0.6s,mb4.1,baz=243,slow=3.3,SNR=9.5
PDAR LR LR 05 59 49.3
comp=Z,110nm,18.1s,MS4.2,baz=93,slow=34
JLU Jordanelle 79.89 48 *e*P **P** **05 26 48.8 +0.5**
MPU Maple Canyon 80.11 49 *e*P **P** **05 26 50.0 +0.5**
DAU Daniels Canyon 80.12 48 *e*P **P** **05 26 49.9 +0.4**
DAU *e**PP pP 05 27 00.9 -0.1
ARUT Antelope Range 80.23 51 *e*P **P** **05 26 50.3 +0.1**
NEN Nelson 80.50 54 *e*P **P** **05 26 49.6 -2.1**
PFO Pinyon Flat Ob 80.53 56 *e*P **P** **05 26 50.3 -1.6**
PFO pmax pmax
comp=Z,26nm,1.3s,mb5.0
PFO MLR MLR
comp=Z,127nm,20.0s,MS4.3
PFO Pinyon Flat Ob 80.53 56 *e*P **P** **05 26 50.3 -1.5**
comp=Z,26nm,1.3s,mb5.0
PFO LR LR
comp=Z,127nm,20.0s,MS4.3
MSU Marysvale 80.63 50 *e*P **P** **05 26 52.9 +0.6**
TMUT Trail Mountain 80.80 49 *e*P **P** **05 26 53.0 -0.1**
TMUT *e*pP pP 05 27 04.4 -0.2
BAR Barrett 80.89 57 *e*P **P** **05 26 53.7 -0.1**
BAR *e*pP pP 05 27 04.1 -1.1
SRU San Rafael 81.33 49 *e*P **P** **05 26 55.4 -0.6**
BORG Borgarnes 81.44 353 P **P** **05 26 55.7 -0.3**
comp=Z,17nm,1.0s,mb4.9,baz=225,slow=1.4,SNR=3.0
BORG Borgarnes 81.44 353 P **P** **05 26 55.7 -0.3**
KWP Kalwaria 81.59 325 *e*P **P** **05 26 58.6 +1.5**
KWP *e**PP pP 05 27 09.3 +0.8
BURAR Bucovina Array 81.70 322 ⇑P **P** **05 26 58.3 +0.6**
BURAR Bucovina Array 81.70 322 ⇑P **P** **05 26 58.3 +0.6**
RWWY Rawlins 81.82 45 *e*P **P** **05 26 58.6 +0.1**
comp=Z,83nm,1.4s,mb5.5
RWWY *e*pP pP 05 27 12.3 +2.4
BR131 Keskin Array S 81.88 312 *e*P **P** **05 26 59.2 +0.4**
comp=Z,5.7nm,0.7s,mb4.6
BR131 *e*pP pP 05 27 10.2 -0.1
BRTR Keskin Array B 81.88 312 P **P** **05 26 59.1 +0.4**
comp=Z,8.0nm,0.8s,mb4.7,baz=101,slow=3.9,SNR=31
BRTR PP PP 05 30 10.1 +1.7
comp=Z,2.1nm,0.9s,baz=76,slow=5.1,SNR=3.8
VRI Vrincioaia 82.05 320 ⇓P **P** **05 27 01.0 +1.5**
ULM Lac du Bonnet 82.23 33 P **P** **05 27 00.9 +0.5**
comp=Z,14nm,1.1s,mb4.8,baz=299,slow=4.0,SNR=7.3
ULM Lac du Bonnet 82.23 33 P **P** **05 27 00.9 +0.5**
ULM LR LR
comp=Z,254nm,19.0s,MS4.6
KOLS Kolonicke sedl 82.28 325 *i*P **P** **05 27 01.4 +0.8**
PPT Papeete 82.32 117 *e*LR LR 05 51 58.1
comp=Z,302nm,25.2s,baz=313
PPT Papeete 82.32 117 LR LR 05 58 07.3
comp=Z,118nm,19.5s,MS4.3,baz=313,slow=32
STHS Stebnicka Huta 82.44 326 *i*P **P** **05 27 02.9 +1.5**
CRVS Cervenica-Dubn 82.69 325 *e*P **P** **05 27 09.6 +6.9**
CRVS Cervenica-Dubn 82.69 325 *e* **P** **05 27 09.6 +6.9**
MLR Muntele Rosu 82.71 321 P **P** **05 27 04.4 +1.5**
MLR Muntele Rosu 82.71 321 ⇑P **P** **05 27 03.0 +0.1**
MLR Muntele Rosu 82.71 321 ⇑P **P** **05 27 03.0 +0.1**
NIE Niedzica 82.87 326 ⇓*i*P **P** **05 27 04.9 +1.3**
PHWY Pilot Hill 83.10 45 *e*P **P** **05 27 04.6 -0.4**
KECS Kecovo 83.44 325 *e*P **P** **05 27 06.8 +0.2**
KECS *e*pP pP 05 27 18.2 +0.1
SMCO Snowmass 83.50 47 *e*P **P** **05 27 08.8 +0.7**
SMCO *e*pP pP 05 27 19.4 +0.8
DRGR 83.52 323 P **P** **05 27 08.1 +1.1**
OKC Ostrava-Krasne 83.57 327 ⇓*i*P **P** **05 27 07.7 +0.6**
OKC *e*pP pP 05 27 19.2 +0.6
OKC AMS AMS 06 10 30.0
comp=Z,400nm,13.8s
KSP Ksiaz 83.66 329 *e*P **P** **05 27 08.2 +0.6**
KSP *e*pP pP 05 27 19.3 +0.2
KSP Ksiaz 83.66 329 *e*P **P** **05 27 08.8 +1.2**
BSEG Bad Segeberg 83.72 334 *e*P **P** **05 27 08.3 +0.5**
MORC Moravsky Berou 83.89 328 *e*P **P** **05 27 08.2 -0.6**
MORC *e**PP pP 05 27 20.2 -0.1
MORC pmax pmax
comp=Z,14nm,0.9s,mb5.1
MORC Moravsky Berou 83.89 328 *e*P **P** **05 27 08.2 -0.6**
comp=Z,14nm,0.9s,mb5.1
MORC *e*pP pP 05 27 20.2 0.0
DPC Dobruska-Polom 84.01 329 ⇓*i*P **P** **05 27 09.9 +0.5**
DPC *e*pP pP 05 27 21.3 +0.4
DPC AMS AMS 06 09 50.0
comp=Z,400nm,16.1s
UPC Upice 84.03 329 ⇓*i*P **P** **05 27 10.1 +0.6**
UPC *e*pP pP 05 27 21.2 +0.2
PSZ Piszkesteto 84.12 325 ⇓*i*P **P** **05 27 11.0 +1.0**
ASF Jabal al Asfar 84.20 305 P **P** **05 27 12.2 +1.4**
comp=Z,19nm,0.7s,mb5.3,baz=284,slow=2.4,SNR=24
VYHS Vyhne 84.21 326 *e*P **P** **05 27 11.2 +0.8**
HRI Mount Hermon 84.36 306 P **P** **05 27 12.9 +1.4**
TAOE Nuku Hiva Isla 84.57 104 *e*LR LR 05 53 05.5
comp=Z,2µm,26.5s
PVCC Panska Ves 84.63 330 ⇓*i*P **P** **05 27 13.1 +0.6**
PVCC *e*pP pP 05 27 24.7 +0.7
PVCC AMS AMS 06 10 40.0
comp=Z,300nm,15.1s
BRG Berggiesshubel 84.64 330 *i*P **P** **05 27 13.1 +0.6**
BRG *i* pP 05 27 24.0 0.0
BRG pmax pmax
comp=Z,21nm,0.9s,mb5.3
BRG MLR MLR
comp=Z,430nm,13.5s,MS5.0
BRG Berggiesshubel 84.64 330 *i*P **P** **05 27 13.1 +0.6**
comp=Z,21nm,0.9s,mb5.3
BRG *i* pP 05 27 24.0 -0.1
BRG LR LR
comp=Z,430nm,13.5s,MS5.0
VRAC Vranov 84.65 328 P **P** **05 27 14.1 +1.5**
CLL Collm 84.70 331 ⇓*i*P **P** **05 27 13.1 +0.3**
CLL *i **PP pP 05 27 24.4 +0.1
CLL pmax pmax
comp=Z,37nm,1.0s,mb5.5
CLL Collm 84.70 331 ⇓*i*P **P** **05 27 13.1 +0.3**
comp=Z,37nm,1.0s,mb5.5
CLL *i* pP pP 05 27 24.4 +0.1
CLL Collm 84.70 331 ⇓P **P** **05 27 13.1 +0.3**
comp=Z,logA/T=1.6,mb5.5
CLL *i **PP pP 05 27 24.4 +0.1
HNTI Hanita 84.84 306 P **P** **05 27 15.0 +1.0**
SMOL Smolenice 84.85 327 *e*P **P** **05 27 15.2 +1.6**
SMOL *e*pP pP 05 27 26.0 +0.8
PRU Pruhonice 85.05 329 ⇓*i*P **P** **05 27 15.2 +0.6**
PRU *e*pP pP 05 27 26.1 0.0
PRU AMS AMS 06 10 20.0
comp=Z,300nm,13.5s
MMLI Mount Malkishu 85.06 306 P **P** **05 27 16.4 +1.3**
TUC Tucson 85.18 54 *e*P **P** **05 27 15.2 -0.5**
TUC pmax pmax
comp=Z,22nm,1.3s,mb5.1
TUC Tucson 85.18 54 *e*P **P** **05 27 15.2 -0.5**
comp=Z,22nm,1.3s,mb5.1
ZST Bratislava 85.23 327 *e*P **P** **05 27 16.4 +0.9**
ZST *e*S S 05 37 48.5 +7.1
ZST Bratislava 85.23 327 *e*S S 05 37 48.5 +7.1
ZST *e*L 06 12 18.8
KAMS Al Khamasin 85.23 291 P **P** **05 27 16.6 +0.4**
SDCO Great Sand Dun 85.30 47 *e*P **P** **05 27 16.7 +0.6**
comp=Z,52nm,1.3s,mb5.5
SDCO *e*PP PP 05 30 32.9 -2.8
SDCO LR LR
comp=Z,245nm,21.0s,MS4.6
CLZ Clausthal 85.33 332 *e*P **P** **05 27 16.6 +0.7**
CLZ pmax pmax
comp=Z,66nm,1.5s,mb5.5
CLZ Clausthal 85.33 332 *e*P **P** **05 27 16.6 +0.7**
comp=Z,66nm,1.5s,mb5.5
MKRJ Makawir 85.43 305 P **P** **05 27 18.0 +1.1**
NKC Novy Kostel 85.75 330 ⇓*i*P **P** **05 27 18.5 +0.5**
NKC *e*pP pP 05 27 30.0 +0.5
NKC AMS AMS 06 11 30.0
comp=Z,400nm,13.1s
MOX Moxa 85.77 331 *e*P **P** **05 27 18.9 +0.8**
MOX *e**PP pP 05 27 30.3 +0.7
MOX pmax pmax
comp=Z,72nm,1.9s,mb5.6
MOX MLR MLR
comp=Z,500nm,15.0s,MS5.0
MOX Moxa 85.77 331 *e*P **P** **05 27 18.9 +0.8**
comp=Z,72nm,1.9s,mb5.6
MOX *e*pP pP 05 27 30.3 +0.7
MOX LR LR
comp=Z,500nm,15.0s,MS5.0
MOX Moxa 85.77 331 *i*P **P** **05 27 18.9 +0.8**
comp=Z,logA/T=1.6,mb5.6
MOX pP pP 05 27 30.0 +0.4
MOX L 06 14 32.0
TBI Tubuai 85.99 121 *e*LR LR 05 53 44.3
comp=Z,263nm,25.2s,baz=310
KHC Kasperske Hory 86.11 329 ⇓*i*P **P** **05 27 20.3 +0.5**
KHC *e*pP pP 05 27 31.5 +0.2
KHC AMS AMS 06 11 20.0
comp=Z,400nm,16.6s
KBRS Khaybar 86.20 298 P **P** **05 27 22.7 +1.9**
GEC2 GERESS Array S 86.27 329 *e*P **P** **05 27 20.9 +0.3**
GERES GERESS Array B 86.27 329 P **P** **05 27 20.7 +0.2**
comp=Z,0.7nm,0.2s,mb4.5,baz=45,slow=5.7,SNR=12
GERES PP PP 05 30 40.6 -2.9
comp=Z,0.2nm,0.3s,baz=45,slow=11,SNR=3.8
LAZ Ladron 86.34 51 *e*P **P** **05 27 22.2 +0.9**
ANMO Albuquerque 86.44 50 *i*P **P** **05 27 22.0 +0.2**
ANMO Albuquerque 86.44 50 PFAKE 05 27 30.0 +8.2
ANMO LR LR
comp=Z,422nm,20.0s,MS4.8
TATS Tathlith 86.52 291 P **P** **05 27 23.7 +1.2**
PRNI Paran 86.58 304 P **P** **05 27 23.3 +0.7**
LENM Lemitar 86.59 51 *e*P **P** **05 27 24.1 +1.5**
GRA1 Grafenberg Arr 86.67 331 *e*P **P** **05 27 23.5 +1.0**
comp=Z,59nm,1.5s,mb5.6
GRF Grafenberg Arr 86.67 331 *e*P **P** **05 27 23.5 +1.0**
GRF pmax pmax
comp=Z,59nm,1.5s,mb5.6
GRF Grafenberg Arr 86.67 331 *e*P **P** **05 27 23.5 +1.0**
GRF pmax pmax
comp=Z,59nm,1.5s,mb5.6
GRF Grafenberg Arr 86.67 331 *e*P **P** **05 27 23.5 +1.0**
comp=Z,59nm,1.5s,mb5.6
LPM Los Pinos Moun 86.72 51 *e*P **P** **05 27 23.6 +0.4**
DIVS Divcibare 86.76 322 ⇑*i*P **P** **05 27 23.3 +0.2**
MBH Mount Berech 86.98 304 P **P** **05 27 25.1 +0.6**
EIL Elat 87.03 304 P **P** **05 27 25.0 +0.2**
PERS Pernice 87.29 327 *e*P **P** **05 27 26.0 +0.4**
TNS Taunus Mts 87.36 332 *e*P **P** **05 27 26.3 +0.4**
TNS pmax pmax
comp=Z,15nm,1.2s,mb5.1
TNS Taunus Mts 87.36 332 *e*P **P** **05 27 26.3 +0.4**
comp=Z,15nm,1.2s,mb5.1
DOBS Dobrina 87.49 326 *e*P **P** **05 27 26.5 -0.1**
NAMS An Nimas 87.72 291 P **P** **05 27 29.7 +1.3**
FUR Furstenfeldbru 87.83 330 *e*P **P** **05 27 29.0 +0.8**
FUR pmax pmax
comp=Z,14nm,0.4s,mb5.5
FUR Furstenfeldbru 87.83 330 *e*P **P** **05 27 29.0 +0.8**
comp=Z,14nm,0.4s,mb5.5
CBKS Cedar Bluff 88.05 44 *e*P **P** **05 27 28.8 -0.6**
CBKS pmax pmax
comp=Z,39nm,1.1s,mb5.5
CBKS MLR MLR
comp=Z,165nm,19.0s,MS4.5
CBKS Cedar Bluff 88.05 44 *e*P **P** **05 27 28.8 -0.6**
comp=Z,39nm,1.1s,mb5.5
CBKS LR LR
comp=Z,165nm,19.0s,MS4.5
SCHQ Schefferville 88.72 16 P **P** **05 27 32.3 0.0**
comp=Z,6.5nm,0.8s,mb5.0,baz=335,slow=4.9,SNR=5.6
SCHQ LR LR 06 08 38.4
comp=Z,99nm,18.9s,MS4.2,baz=38,slow=36
BFO Black Forest 88.92 331 *e*P **P** **05 27 33.7 +0.3**
BFO pmax pmax
comp=Z,36nm,1.7s,mb5.4
BFO Black Forest 88.92 331 *e*P **P** **05 27 33.7 +0.3**
comp=Z,36nm,1.7s,mb5.4
MNTX Cornudas Mount 89.18 52 *e*P **P** **05 27 34.9 -0.1**
comp=Z,5.9nm,1.1s,mb4.8
MNTX *e*pP pP 05 27 45.3 -1.4
MNTX LR LR
comp=Z,200nm,21.0s,MS4.5
CDF Champ du Feu 89.27 332 *e*P **P** **05 27 35.0 0.0**
CPRX Cap Rock 89.32 50 *e*P **P** **05 27 35.1 -0.6**
DAVOX Davos 89.50 330 P **P** **05 27 36.4 +0.2**
comp=Z,4.9nm,0.7s,mb5.0,baz=52,slow=10,SNR=7.5
GDL2 Guadalupe Moun 89.53 51 *e*P **P** **05 27 36.8 +0.1**
KSU1 Kansas State U 89.63 42 *e*P **P** **05 27 36.4 -0.5**
ATD Arta Tunnel 91.50 285 LR LR 06 07 33.9
comp=Z,86nm,21.0s,MS4.2,baz=211,slow=35
LOR Lormes 91.53 333 *e*P **P** **05 27 45.6 0.0**
LOR *e*R
comp=Z,170nm,19.8s
LTX Lajitas 91.82 53 *e*P **P** **05 27 47.0 -0.4**
LTX *e**PP pP 05 27 58.8 -0.3
LTX pmax pmax
comp=Z,37nm,1.4s,mb5.5
LTX MLR MLR
comp=Z,401nm,22.0s,MS4.8
LTX Lajitas 91.82 53 *e*P **P** **05 27 47.0 -0.4**
comp=Z,37nm,1.4s,mb5.5
LTX *e*pP pP 05 27 58.8 -0.3
LTX LR LR
comp=Z,401nm,22.0s,MS4.8
TXAR Lajitas Array 91.82 53 P **P** **05 27 47.8 +0.4**
comp=Z,2.8nm,0.6s,mb4.8,baz=305,slow=3.0,SNR=43
TXAR LR LR 06 04 11.9
comp=Z,287nm,19.3s,MS4.7,baz=255,slow=32
LPL La Plagne 91.83 330 *e*P **P** **05 27 47.3 +0.2**
comp=Z,22nm,0.9s,mb5.2
LPL La Plagne 91.83 330 *e*P **P** **05 27 47.3 +0.2**
LPL pmax pmax
comp=Z,11nm,0.9s,mb5.2
SSF Saint Saulge 91.83 333 *e*P **P** **05 27 47.1 +0.1**
SSF pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
SSF Saint Saulge 91.83 333 *e*P **P** **05 27 47.1 +0.1**
comp=Z,6.7nm,0.8s,mb5.0
LPG La Plagne 91.84 330 *e*P **P** **05 27 47.5 +0.4**
comp=Z,19nm,0.8s,mb5.2
LPG La Plagne 91.84 330 *e*P **P** **05 27 47.5 +0.4**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
AVF Avril sur Loir 92.12 333 *e*P **P** **05 27 48.4 +0.1**
comp=Z,41nm,1.0s,mb5.4
AVF Avril sur Loir 92.12 333 *e*P **P** **05 27 48.4 +0.1**
AVF pmax pmax
comp=Z,20nm,1.0s,mb5.4
BNI Bardonecchia 92.23 330 *e*P **P** **05 27 48.9 0.0**
BNI pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
BNI Bardonecchia 92.23 330 *e*P **P** **05 27 48.9 0.0**
comp=Z,9.6nm,0.9s,mb5.1
GRR Gorron 92.26 336 *e*P **P** **05 27 49.0 0.0**
comp=Z,24nm,0.9s,mb5.2
GRR Gorron 92.26 336 *e*P **P** **05 27 49.0 0.0**
GRR pmax pmax
comp=Z,12nm,0.9s,mb5.2
MBDF Montbardon 92.45 330 *e*P **P** **05 27 49.5 -0.4**
comp=Z,19nm,0.8s,mb5.2
MBDF Montbardon 92.45 330 *e*P **P** **05 27 49.5 -0.4**
MBDF pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
ORIF Oris-en-Rattie 92.67 331 *e*P **P** **05 27 51.1 +0.2**
ORIF *e*R
comp=Z,291nm,19.4s
SBF Sospel 92.87 329 *e*P **P** **05 27 51.2 -0.7**
comp=Z,21nm,0.7s,mb5.4
SBF Sospel 92.87 329 *e*P **P** **05 27 51.2 -0.7**
SBF pmax pmax
comp=Z,11nm,0.7s,mb5.4
TCF Toulx Ste Croi 92.97 334 *e*P **P** **05 27 52.3 0.0**
comp=Z,19nm,0.9s,mb5.2
TCF Toulx Ste Croi 92.97 334 *e*P **P** **05 27 52.3 0.0**
TCF pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
VIVF Saint-Julien-l 93.21 331 *e*P **P** **05 27 53.4 0.0**
comp=Z,25nm,0.9s,mb5.3
VIVF Saint-Julien-l 93.21 331 *e*P **P** **05 27 53.4 0.0**
VIVF pmax pmax
comp=Z,12nm,0.9s,mb5.3
PGF Pioggiola 93.23 327 *e*P **P** **05 27 52.7 -0.8**
comp=Z,28nm,1.3s,mb5.2
PGF Pioggiola 93.23 327 *e*P **P** **05 27 52.7 -0.8**
PGF pmax pmax
comp=Z,14nm,1.3s,mb5.2
QUIF Quistinic 93.43 338 *e*P **P** **05 27 54.1 -0.2**
FRF La Foret Royal 93.45 329 *e*P **P** **05 27 53.7 -0.8**
SMRF Simiane la Rot 93.56 330 *e*P **P** **05 27 55.2 +0.2**
comp=Z,10nm,0.8s,mb5.0
LMR La Mourre 93.69 329 *e*P **P** **05 27 55.1 -0.5**
comp=Z,19nm,0.8s,mb5.2
LMR La Mourre 93.69 329 *e*P **P** **05 27 55.1 -0.5**
LMR pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
CAF Calviac 94.17 333 *e*P **P** **05 27 57.8 +0.1**
LASF Ste Croix 94.18 331 *e*P **P** **05 27 58.2 +0.4**
WCI Wyandotte Cave 95.72 36 PFAKE 05 28 20.0 +15
WCI LR LR
comp=Z,180nm,22.0s,MS4.5
PQI Presque Isle 95.84 20 PFAKE 05 28 20.0 +15
PQI LR LR
comp=Z,2µm,19.0s,MS5.5
NATX Nacogdoches 95.91 46 PFAKE 05 28 20.0 +14
NATX LR LR
comp=Z,174nm,20.0s,MS4.5
NCB Newcomb 96.20 26 PFAKE 05 28 20.0 +13
NCB LR LR
comp=Z,269nm,22.0s,MS4.7
RKT Rikitea 96.65 113 *e*LR LR 05 58 41.0
comp=Z,265nm,30.8s,baz=304
OXF Oxford 96.93 41 PFAKE 05 28 20.0 +9.4
OXF LR LR
comp=Z,172nm,22.0s,MS4.5
WVL Waterville 97.24 22 PFAKE 05 28 20.0 +8.3
WVL LR LR
comp=Z,5µm,22.0s
PLAL Pickwick Lake 97.29 40 PFAKE 05 28 20.0 +7.8
PLAL LR LR
comp=Z,179nm,21.0s,MS4.5
MCWV Mont Chateau 97.60 31 PFAKE 05 28 30.0 +17
MCWV LR LR
comp=Z,292nm,22.0s,MS4.7
EMMW East Machias 97.79 21 PFAKE 05 28 30.0 +16
EMMW LR LR
comp=Z,2µm,21.0s,MS5.5
HRV Harvard--Oak R 98.43 25 PFAKE 05 28 30.0 +13
HRV LR LR
comp=Z,161nm,19.0s,MS4.5
BLA Blacksburg 99.35 33 PFAKE 05 28 30.0 +8.6
BLA LR LR
comp=Z,177nm,19.0s,MS4.6
LRAL Lakeview Retre 99.35 40 PFAKE 05 28 30.0 +8.4
LRAL LR LR
comp=Z,186nm,20.0s,MS4.6
CBN Corbin 99.88 31 PFAKE 05 28 40.0 +16
CBN LR LR
comp=Z,218nm,19.0s,MS4.7
ESLA Sonseca Array 100.96 334 PFAKE 05 28 40.0 +11
ESLA LR LR
comp=Z,1µm,19.0s,MS5.4
PTCN Pitcairn Islan 101.46 112 PFAKE 05 28 40.0 +8.7
PTCN LR LR
comp=Z,4µm,21.0s
NHSC New Hope 102.80 36 PFAKE 05 28 50.0 +13
NHSC LR LR
comp=Z,251nm,22.0s,MS4.7
DWPF Disney 106.18 39 PFAKE 05 33 20.0
DWPF LR LR
comp=Z,195nm,19.0s,MS4.7
PAYG Puerto Ayora 121.02 68 PFAKE 05 33 40.0 +8.8
PAYG LR LR
comp=Z,376nm,19.0s,MS5.0
SYO Syowa Base 125.17 205 ⇑PKPdf PKPdf 05 33 37.5 -0.3
BOSA Boshof 126.51 257 PKP PKPdf 05 33 42.9 +1.4
comp=Z,2.0nm,0.7s,baz=82,slow=4.0,SNR=3.8
BOSA Boshof 126.51 257 PKP PKPdf 05 33 42.9 +1.4
SDV Santo Domingo 127.66 43 *e*PKPdf PKPdf 05 33 45.1 +1.1
SDV *ep*PKPdf 05 33 56.4
SDV LR LR
comp=Z,115nm,19.0s,MS4.6
DBIC Dimbokro 129.48 316 PKP PKPdf 05 33 48.8 +1.3
comp=Z,2.7nm,0.7s,baz=184,slow=6.7,SNR=4.0
SNAA Sanae 137.36 195 *e* PKPdf 05 34 06.3 +5.5
SNAA Sanae 137.36 195 *e* PKPdf 05 34 10.5 +10
SNAA Sanae 137.36 195 *e* PKPdf 05 34 14.6 +14
SNAA Sanae 137.36 195 *e* PKPdf 05 34 16.7 +16
SNAA Sanae 137.36 195 ⇑*i*PKIKP PKPdf 05 34 00.9 +0.1
SNAA *e* 05 34 10.5
SNAA *e* 05 34 16.7
SNAA *e* 05 36 48.0
SNAA Sanae 137.36 195 ⇑*i*PKPdf PKPdf 05 34 00.9 +0.1
SNAA *e* 05 34 06.3
SNAA *e* 05 34 10.5
SNAA *e* 05 34 14.6
SNAA *e* 05 34 16.7
SNAA *e* 05 36 48.0
SNAA *e* 05 37 19.5
VNA2 Neumayer--Watz 138.91 195 *e* PKPdf 05 34 07.0 +3.4
VNA2 Neumayer--Watz 138.91 195 *e* PKPdf 05 34 12.8 +9.2
VNA2 Neumayer--Watz 138.91 195 *e* PKPdf 05 34 16.5 +13
VNA2 Neumayer--Watz 138.91 195 *e* PKPdf 05 34 18.4 +15
VNA2 Neumayer--Watz 138.91 195 ⇑*i*PKPdf PKPdf 05 34 01.4 -2.2
VNA2 *e* 05 34 07.0
VNA2 *e* 05 34 12.8
VNA2 *e* 05 34 16.5
VNA2 *e* 05 34 18.4
VNA2 *e* 05 36 53.3
VNA2 *e* 05 37 24.5

VNA3	**Neumayer Olymp**	**139.12**	**193**	*e*		PKPdf	05 34 06.7	+2.8
VNA3	**Neumayer Olymp**	**139.12**	**193**	*e*		PKPdf	05 34 13.2	+9.3
VNA3	**Neumayer Olymp**	**139.12**	**193**	*e*		PKPdf	05 34 17.0	+13
VNA3	**Neumayer Olymp**	**139.12**	**193**	*e*		PKPdf	05 34 19.2	+15
VNA3	**Neumayer Olymp**	**139.12**	**193**	PKPdf		PKPdf	05 34 01.3	-2.6
VNA3				*e*			05 34 06.7	
VNA3				*e*			05 34 13.2	
VNA3				*e*			05 34 17.0	
VNA3				*e*			05 34 19.2	
VNA3				*e*			05 36 50.5	
VNA3				*e*			05 37 23.1	
VNA1	**Neumayer--Stat**	**139.31**	**195**	*e*		PKPdf	05 34 07.9	+3.6
VNA1	**Neumayer--Stat**	**139.31**	**195**	*e*		PKPdf	05 34 15.0	+11
VNA1	**Neumayer--Stat**	**139.31**	**195**	*e*		PKPdf	05 34 19.2	+15
VNA1	**Neumayer--Stat**	**139.31**	**195**	*e*		PKPdf	05 34 21.4	+17
VNA1	**Neumayer--Stat**	**139.31**	**195**	PKPdf		PKPdf	05 34 02.3	-2.0
VNA1				*e*			05 34 07.9	
VNA1				*e*			05 34 15.0	
VNA1				*e*			05 34 19.2	
VNA1				*e*			05 34 21.4	
SAML	**Samuel**	**146.25**	**50**	*e*PKP		PKPdf	05 34 19.3	+1.3
SAML				LR	LR			
	comp=Z,142nm,22.0s,MS4.7							
LPAZ	**La Paz**	**147.77**	**66**	PKPbc		PKPdf	05 34 22.7	+2.4
	comp=Z,11nm,0.9s,baz=323,slow=2.4,SNR=19							
LPAZ	**La Paz**	**147.77**	**66**	*e*PKP		PKPdf	05 34 22.8	+2.5
LVC	**Limon Verde**	**150.56**	**77**	*e*PKPbc		PKPdf	05 34 31.9	+7.3
PLCA	**Paso Flores**	**152.86**	**115**	PKPbc		PKPdf	05 34 35.3	+7.9
	comp=Z,3.5nm,0.9s,baz=323,slow=5.3,SNR=6.5							
BDFB	**Brasilia**	**160.11**	**30**	PKP2		PKPab	05 35 17.9	-1.9
BDFB				pmax	pmax			
	comp=Z,4.0nm,0.8s							
BDFB	**Brasilia**	**160.11**	**30**	PKPab		PKPab	05 35 17.9	-1.9
	comp=Z,3.8nm,0.8s,baz=275,slow=4.8,SNR=5.2							

*THR **26** 05:15:53.3±1.2,35.50N×48.98E,h15km±10km,ML3.0*
*CSEM **26** 05:15:53.1±0.1,35.60N×49.04E,h2km,ML3.0*
*TEH **26** 05:15:57.5,35.31N×49.13E,h10km,Mn3.0*
ISC 26 05:15:54.5±0.6,35.54N±0.08×49.08E±0.04,h10km,n19, σ1§56/20,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAZ	**Razeghan**	**0.71**	**101**	Pg	**Sb**	**05 16 17.0**	**-1.0**
IMHD	**Mahdasht**	**1.30**	**83**	Pg	**Pg**	**05 16 18.7**	**-1.9**
IMHD				Sg	**Sg**	**05 16 38.0**	**0.0**
SNGE	**Sanandaj**	**1.49**	**253**	*e*Pg	**Pn**	**05 16 19.0**	**-2.4**
SNGE				*e*Sg	**Sn**	**05 16 38.2**	**-2.9**
SNGE				AML	AML	05 16 40.3	
	comp=N,323nm,0.5s						
SNGE	**Sanandaj**	**1.49**	**253**	*e*Pg	**Pn**	**05 16 19.0**	**-2.4**
	SNR=90						
SNGE				*e*Sg	**Sn**	**05 16 38.2**	**-2.8**
	comp=N,323nm,0.5s,SNR=90						
THKV	**Tehran--Karaj**	**1.51**	**75**	*e*Pg	**Pg**	**05 16 22.0**	**-2.7**
IKOM	**Komasi**	**1.88**	**224**	Pn	**Pn**	**05 16 27.7**	**+0.7**
IVIS	**Veys**	**2.09**	**242**	Pn	**Pn**	**05 16 31.1**	**+1.0**
IVRN	**Varamin**	**2.24**	**103**	Pn	**Pn**	**05 16 34.0**	**+1.8**
IVRN	**Varamin**	**2.24**	**103**	Lg		05 17 04.4	
DAMV	**Damavand**	**2.36**	**87**	*e*Pn	**Pn**	**05 16 35.5**	**+1.5**
DAMV				AML	AML	05 17 13.2	
	comp=N,61nm,0.5s						
IDHR	**Dehrash**	**2.36**	**250**	Pn	**Pn**	**05 16 35.5**	**+1.5**
IDMV	**Damavand**	**2.41**	**88**	Pn	**Pn**	**05 16 36.4**	**+1.7**
IPRN	**Paran-Amol**	**2.66**	**74**	Pn	**Pn**	**05 16 44.6**	**+6.3**
IFIR	**Firoozkooh**	**3.00**	**87**	Pn	**Pn**	**05 16 44.8**	**+1.8**
IFIR	**Firoozkooh**	**3.00**	**87**	Lg		05 17 30.3	
IKLH	**Kalahroud**	**3.03**	**136**	Pn	**Pn**	**05 16 47.5**	**+4.0**
GRMI	**Germi**	**3.40**	**344**	*e*PN	**Pn**	**05 16 48.3**	**-0.4**
IZEF	**Zefreh**	**3.77**	**134**	Pn	**Pn**	**05 16 52.3**	**-1.8**
NASN	**Na'in**	**4.13**	**130**	*e*Pn	**Pn**	**05 16 58.7**	**-0.5**

*THR **26** 05:18:47.2±0.4,35.53N×49.00E,h18km±17km,ML2.7*
*CSEM **26** 05:18:49.0±0.1,35.62N×48.88E,h20km,ML3.0,Error ellipse: s-maj=4.7km s-min=2.5km az=159.0*
*TEH **26** 05:18:50.7,35.77N×49.02E,Mn3.0*
ISC 26 05:18:50.2±0.7,35.71N±0.08×48.86E±0.05,h20km,n19, σ1§08/18,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNGE	**Sanandaj**	**1.38**	**244**	*e*PG	**Pn**	**05 19 13.6**	**-1.1**
SNGE				*e*SG	**Sb**	**05 19 32.5**	**0.0**
IMHD	**Mahdasht**	**1.47**	**91**	Pg	**Pn**	**05 19 13.6**	**-2.4**
IMHD	**Mahdasht**	**1.47**	**91**	Lg		05 19 32.8	
THKV	**Tehran--Karaj**	**1.65**	**82**	*e*PG	**Pn**	**05 19 16.4**	**-2.1**
IKOM	**Komasi**	**1.89**	**216**	Pn	**Pn**	**05 19 21.4**	**-0.5**
IVIS	**Veys**	**2.03**	**235**	Pn	**Pn**	**05 19 25.1**	**+1.2**
IDHR	**Dehrash**	**2.26**	**244**	Pn	**Pn**	**05 19 31.3**	**+4.0**
IVRN	**Varamin**	**2.45**	**106**	Lg		05 20 03.4	
IVRN	**Varamin**	**2.45**	**106**	Pn	**Pn**	**05 19 30.3**	**+0.3**
DAMV	**Damavand**	**2.54**	**91**	*e*Pg	**Pn**	**05 19 31.3**	**+0.1**
DAMV				*e*Sg	**Sn**	**05 20 03.4**	**+1.6**
DAMV				AML	AML	05 20 15.3	
	comp=E,55nm,0.4s						
IDMV	**Damavand**	**2.59**	**92**	Pn	**Pn**	**05 19 31.8**	**-0.1**
IFIR	**Firoozkooh**	**3.17**	**90**	Lg		05 20 25.5	
IFIR	**Firoozkooh**	**3.17**	**90**	Pn	**Pn**	**05 19 39.8**	**-0.4**
GRMI	**Germi**	**3.18**	**346**	*e*PN	**Pn**	**05 19 41.4**	**+1.0**
GRMI				AML	AML	05 20 35.4	
	comp=E,13nm,0.3s						
IKLH	**Kalahroud**	**3.28**	**136**	Pn	**Pn**	**05 19 42.6**	**+0.9**
ILAS	**Lasjerd**	**3.36**	**94**	Pn	**Pn**	**05 19 49.4**	**+6.5**
ISHM	**Shahmirzad**	**3.61**	**87**	Pn	**Pn**	**05 19 54.7**	**+8.3**
IZEF	**Zefreh**	**4.02**	**133**	Pn	**Pn**	**05 19 52.5**	**+0.2**
IANJ	**Anjiloo**	**4.13**	**92**	Pn	**Pn**	**05 20 00.5**	**+6.7**

NEIC 26 05:20:19.9±0.2,45.40N×112.61W,h5km,ML3.5,2C-1D, Error ellipse: s-maj=3.3km s-min=2.8km az=78.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCMT	**McKenzie Canyo**	**0.60**	**197**	⇑*i*P	Pg	05 20 31.1	-0.7
BOZ	**Bozeman (W)**	**0.73**	**70**	⇑*i*P	Pg	05 20 33.7	-0.8
QLMT	**Earthquake Lak**	**1.01**	**124**	*e*P	Pb	05 20 38.2	-1.3
YMR	**Madison River**	**1.38**	**121**	⇓*e*P	Pb	05 20 45.2	-0.5
HRY	**Holter Researc**	**1.42**	**22**	*e*P	Pn	05 20 46.4	0.0
YNR	**Norris Junctio**	**1.53**	**126**	*e*P	Pn	05 20 47.9	-0.1
YFT	**Old Faithful**	**1.58**	**126**	*e*P	Pn	05 20 48.6	-0.1
CHMT	**Chamberlain Mo**	**1.58**	**344**	*e*P	Pn	05 20 49.1	+0.3
MSO	**Missoula**	**1.70**	**328**	*e*P	Pn	05 20 50.4	-0.1
LKWY	**Lake**	**1.78**	**117**	*e*P	Pn	05 20 52.3	+0.8
IMW	**Indian Meadow**	**1.92**	**141**	*e*P	Pn	05 20 53.5	0.0
GCMT	**Greycliff**	**2.10**	**78**	*e*Pn	Pn	05 20 56.3	+0.1
GCMT				*e*Pg	Pg	05 20 58.8	-3.1
MOOW	**Moose Ponds**	**2.12**	**140**	*e*P	Pn	05 20 56.9	+0.5
MOOW				*e*S	Sn	05 21 24.4	+0.9
TPAW	**Teton Pass**	**2.25**	**148**	*e*Pn	Pn	05 20 58.6	+0.4
RRI2	**Red Ridge**	**2.25**	**155**	*e*Pn	Pn	05 20 58.2	-0.1
LOHW	**Long Hollow**	**2.29**	**141**	*e*Pn	Pn	05 20 59.2	+0.4
SNOW	**Snow King Moun**	**2.35**	**145**	*e*Pn	Pn	05 20 59.4	-0.3
REDW	**Red Top Meadow**	**2.39**	**148**	*e*Pn	Pn	05 21 00.6	+0.2
AHID	**Auburn Hatcher**	**2.85**	**157**	*e*Pn	Pn	05 21 06.3	-0.6
BMO	**Blue Mountains**	**3.37**	**262**	*e*Pn	Pn	05 21 13.2	-1.0
HVU	**Hansel Valley**	**3.62**	**182**	*e*Pn	Pn	05 21 16.9	-0.9
HVU				*e*Sg	Sg	05 22 11.6	-8.8
WALA	**Waterton Lakes**	**3.77**	**347**	*e*Pn	Pn	05 21 18.9	-1.0
HWUT	**Hardware Ranch**	**3.87**	**168**	Pn	Pn	05 21 20.0	-1.3
NEW	**Newport**	**4.22**	**314**	*e*Pn	Pn	05 21 24.4	-1.9
NEW				*e*Pg	Pg	05 21 40.3	-3.8
NEW				*e*Sn	Sn	05 22 12.6	-4.1
NEW				*e*Sg	Sg	05 22 33.5	-6.9
TCUT	**Toone Canyon**	**4.37**	**168**	Pn	Pn	05 21 26.4	-2.1
LAO	**LASA Array**	**4.63**	**72**	*e*Pn	Pn	05 21 29.7	-2.5
CTU	**Camp Tracy**	**4.75**	**172**	Pn	Pn	05 21 31.0	-2.8
NOQ	**North Oquirrh**	**4.76**	**176**	Pn	Pn	05 21 32.7	-1.3
JLU	**Jordanelle**	**4.87**	**170**	Pn	Pn	05 21 33.8	-1.7
ELK	**Elko**	**5.04**	**203**	*e*Pn	Pn	05 21 36.1	-1.8
DAU	**Daniels Canyon**	**5.08**	**168**	*e*Pn	Pn	05 21 37.5	-1.1
WVOR	**Wild Horse Val**	**5.27**	**238**	Pn	Pn	05 21 39.3	-1.9
RWWY	**Rawlins**	**5.40**	**131**	*e*Pn	Pn	05 21 42.0	-1.1
BMN	**Battle Mountai**	**6.01**	**216**	Pn	Pn	05 21 50.0	-1.6
SRU	**San Rafael**	**6.47**	**165**	Pn	Pn	05 21 55.7	-2.5
DGMT	**Dagmar**	**6.53**	**59**	*e*Pn	Pn	05 21 56.9	-2.1
	25nm,0.7s						
DGMT				*e*Sg	Sg	05 23 44.2	-13
SMCO	**Snowmass**	**7.49**	**144**	Pn	Pn	05 22 09.6	-2.8
SMCO				*e*Pg	Pg	05 22 42.5	-6.9
SMCO				*e*Sg	Sg	05 24 12.7	-17
EDM	**Edmonton**	**7.84**	**357**	*e*Pn	Pn	05 22 12.9	-4.5

*IDC **26** 05:21:35.1±0.7,33.25N×142.54E,mb4.3/12,mb1 4.4/16, mb1mx4.3/24,mbtmp4.4/16,ML4.2/4,MS3.8/1,Ms1 3.8/1, ms1mx2.9/22,Error ellipse: s-maj=21.8km s-min=16.0km az=67.0*
*BJI **26** 05:21:36.8,33.34N×142.27E,h15km,mB4.9,mb4.7, Ms4.5,Msz4.2*
*MOS **26** 05:21:37.9±0.7,33.20N×142.42E,h31km,mb4.8/6,Error ellipse: s-maj=24.3km s-min=9.4km az=123.3*
*NEIC **26** 05:21:37.1±0.5,33.30N×142.67E,h15km,mb4.8/7,Error ellipse: s-maj=11.9km s-min=7.7km az=67.0*
*JMA **26** 05:21:38.2±0.4,33.30N×142.47E,h83km,M4.0*
ISC 26 05:21:36.3±1.6,33.25N±0.04×142.50E±0.06,h20km±11km, n69,σ0§91/75,mb4.7/30,2C,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.89**	**318**	P	**Pn**	**05 22 08.5**	**+0.6**
BSO1				*e*S	**Sn**	**05 22 31.2**	**-0.1**
BSO2	**Boso 2**	**2.08**	**316**	S	**Sn**	**05 22 37.1**	**+0.8**
JHJ2	**Mitsune**	**2.26**	**267**	P	**Pn**	**05 22 14.1**	**+0.8**
JHJ2				S	**Sn**	**05 22 41.1**	**+0.3**
BSO3	**Boso 3**	**2.26**	**314**	P	**Pn**	**05 22 13.9**	**+0.6**
JHJ	**Hachijo jima 2**	**2.29**	**267**	Pn	**Pn**	**05 22 13.6**	**0.0**
	197nm,0.3s,baz=233,slow=18,SNR=12						
JHJ				Sn	**Sn**	**05 22 40.9**	**-0.6**
	252nm,0.3s,baz=67,slow=23,SNR=10.0						
JHJ				LR	LR	05 22 54.3	
	comp=Z,2μm,21.3s,baz=287,slow=35						
BSO4	**Boso 4**	**2.50**	**315**	P	**Pn**	**05 22 17.7**	**+1.1**
JIM2	**Oshima 2**	**2.94**	**301**	P	**Pn**	**05 22 21.9**	**-1.1**
JYN	**Shimob**	**3.97**	**305**	P	**Pn**	**05 22 37.8**	**+0.3**
JAG	**Ashikaga**	**4.04**	**322**	P	**Pn**	**05 22 38.2**	**-0.4**
JRY	**Ryogami san**	**4.05**	**314**	P	**Pn**	**05 22 39.3**	**+0.5**
JRY				S	**Sn**	**05 23 24.6**	**-1.6**
MJAR	**Matsushiro Arr**	**4.82**	**314**	Pn	**Pn**	**05 22 49.5**	**-0.1**
	12nm,0.3s,baz=160,slow=14,SNR=26						
MJAR				Sn	**Sn**	**05 23 44.1**	**-1.5**
	6.5nm,0.3s,baz=12,slow=20,SNR=6.0						
MAJO	**Matsushiro**	**4.82**	**314**	*e*P	**Pn**	**05 22 51.3**	**+1.6**
MAT	**Matsushiro**	**4.82**	**314**	*e*P	**Pn**	**05 22 50.0**	**+0.3**
MAT				*e*S	**Sn**	**05 23 42.0**	**-3.6**
MAT	**Matsushiro**	**4.82**	**314**	P	**Pn**	**05 22 50.0**	**+0.3**
MAT				S	**Sn**	**05 23 41.9**	**-3.7**
MAT	**Matsushiro**	**4.82**	**314**	P	**Pn**	**05 22 49.9**	**+0.2**
MAT				S	**Sn**	**05 23 43.1**	**-2.5**
JGM	**Miyama**	**5.37**	**299**	P	**Pn**	**05 22 58.3**	**+1.0**
JMK	**Ichinoseki**	**5.78**	**350**	P	**Pn**	**05 23 00.3**	**-2.9**
JYK	**Kaneyama**	**5.91**	**344**	P	**Pn**	**05 23 03.1**	**-2.0**
CBIJ	**Chichi jima**	**6.14**	**183**	Pn	**Pn**	**05 23 07.0**	**-1.3**
	35nm,0.3s,baz=281,slow=19,SNR=3.2						
CBIJ				Sn	**Sn**	**05 24 12.2**	**-6.6**
	35nm,0.3s,baz=286,slow=20,SNR=2.7						
JNU	**Nakatsue**	**9.74**	**272**	Pn	**P**	**05 23 58.4**	**-0.1**
	0.9nm,0.3s,baz=82,slow=22,SNR=5.0						
KS15	**Wonju Array Si**	**12.64**	**293**	*e*P	**P**	**05 24 39.6**	**+1.7**
YSS	**Yuzh-Sakhalins**	**13.69**	**1**	⇑*e*P	**P**	**05 24 48.3**	**-3.3**
YSS	**Yuzh-Sakhalins**	**13.69**	**1**	P	**P**	**05 24 47.4**	**-4.2**
	15nm,0.9s						
HIA	**Hailar**	**23.29**	**320**	*e*P	**P**	**05 26 43.8**	**+0.3**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MA2	**Magadan**	**26.89**	**9**	P	**P**	**05 27 04.7**	**-13**
CIT	**Chita**	**28.09**	**321**	*e*P	**P**	**05 27 27.4**	**-1.1**
CIT				*e*		05 27 43.4	
ENH	**Enshi**	**28.17**	**273**	*e*P	**P**	**05 27 26.2**	**-3.2**
	comp=Z,12nm,0.6s,mb4.7						
SONM	**Songino Array**	**30.75**	**309**	P	**P**	**05 27 53.2**	**+0.9**
	comp=Z,4.1nm,0.7s,mb4.4,baz=110,slow=9.6,SNR=12						
GYA	**Guiyang**	**31.70**	**267**	P	**P**	**05 28 00.3**	**-0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
GTA	**Gaotai**	**34.69**	**293**	P	**P**	**05 28 26.5**	**-0.2**
GTA				AP	pP	05 28 32.8	0.0
GTA				XP	sP	05 28 36.8	+1.4
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
ZAL	**Zalesovo**	**45.18**	**315**	P	**P**	**05 29 57.3**	**+4.0**
ZAL						05 31 33.1	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL	**Zalesovo**	**45.18**	**315**	P	**P**	**05 29 57.3**	**+3.9**
	comp=Z,2.3nm,0.4s,mb4.4,baz=339,slow=8.6						
ZAL				PcP	PcP	05 31 33.0	-0.9
	comp=Z,1.5nm,0.4s,baz=118,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**46.96**	**305**	P	**P**	**05 30 07.7**	**+0.3**
	comp=Z,3.3nm,0.7s,mb4.4,baz=88,slow=8.3,SNR=14						
JIRN	**Jiri**	**48.38**	**279**	*e*P	**P**	**05 30 19.7**	**+0.9**
	comp=Z,32nm,0.5s,mb5.6						
GUN	**Gumba**	**48.54**	**280**	*e*P	**P**	**05 30 20.6**	**+0.5**
KURK	**Kurchatov**	**49.02**	**311**	*e*P	**P**	**05 30 22.5**	**-1.0**
KURK				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.4						
KURK	**Kurchatov**	**49.02**	**311**	*e*P	**P**	**05 30 22.5**	**-1.0**
	comp=Z,32nm,0.8s,mb5.4						
PKI	**Pulchoki**	**49.05**	**279**	*e*P	**P**	**05 30 24.2**	**+0.2**
	comp=Z,16nm,0.8s,mb5.1						
KKN	**Kakani**	**49.08**	**280**	*e*P	**P**	**05 30 24.6**	**+0.3**
	comp=Z,19nm,0.6s,mb5.3						
DMN	**Daman**	**49.29**	**280**	*e*P	**P**	**05 30 26.1**	**+0.2**
	comp=Z,14nm,0.7s,mb5.1						
GKN	**Gorkha**	**49.53**	**280**	*e*P	**P**	**05 30 27.9**	**+0.1**
	comp=Z,19nm,0.5s,mb5.3						
KOLN	**Koldanda**	**50.47**	**280**	*e*P	**P**	**05 30 35.1**	**+0.2**
	comp=Z,22nm,0.9s,mb5.2						
ILAR	**Eielson Array**	**52.24**	**31**	P	**P**	**05 30 47.7**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=267,slow=5.9,SNR=8.5						
WRAB	**Tennant Creek**	**53.46**	**190**	*e*P	**P**	**05 30 56.4**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
WRAB	**Tennant Creek**	**53.46**	**190**	*e*P	**P**	**05 30 56.4**	**-1.0**
	comp=Z,6.4nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**53.47**	**190**	*e*P	**P**	**05 30 56.6**	**-0.9**
WRA	**Warramunga Arr**	**53.47**	**190**	P	**P**	**05 30 57.0**	**-0.5**
	comp=Z,3.3nm,0.5s,mb4.5,baz=6.9,slow=7.7,SNR=22						
WRA				PcP	PcP	05 32 05.1	+0.7
	comp=Z,0.5nm,0.6s,baz=360,slow=4.0,SNR=6.6						
FITZ	**Fitzroy Cossi**	**53.55**	**200**	*e*P	**P**	**05 30 58.6**	**+0.5**
	comp=Z,6.3nm,0.5s,mb4.8						
BVAR	**Borovoye Array**	**53.82**	**315**	P	**P**	**05 30 59.2**	**-0.4**
	comp=Z,1.0nm,0.6s,mb4.0,baz=90,slow=7.4,SNR=4.1						
BRVK	**Borovoye**	**53.87**	**315**	*e*P	sP	05 31 11.1	+2.4
HYB	**Hyderabad**	**59.09**	**271**	*e*P	**P**	**05 31 38.0**	**+0.2**
HYB	**Hyderabad**	**59.09**	**271**	*i*P	**P**	**05 31 38.0**	**+0.2**
STKA	**Stephens Creek**	**64.79**	**181**	P	**P**	**05 32 15.2**	**-0.6**
	comp=Z,5.0nm,0.8s,mb4.6,baz=317,slow=5.8,SNR=5.0						
KEV	**Kevo**	**67.29**	**340**	*ep*	**P**	**05 32 31.5**	**+0.3**
	comp=Z,4.0nm,0.9s,mb4.5						
ARCES	**ARCESS Array B**	**67.84**	**340**	P	**P**	**05 32 34.8**	**+0.2**
	comp=Z,2.8nm,0.9s,mb4.3,baz=18,slow=7.7,SNR=5.1						
NWAO	**Narrogin (SRO)**	**70.00**	**202**	*e*P	**P**	**05 32 48.3**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,13nm,0.7s						
NWAO	**Narrogin (SRO)**	**70.00**	**202**	*e*P	**P**	**05 32 48.3**	**-0.3**
	comp=Z,13nm,0.7s,mb5.0						
OBN	**Obninsk**	**71.67**	**324**	*e*P	**P**	**05 32 57.9**	**-0.4**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5						
KAF	**Kangasniemi**	**72.08**	**334**	*ep*	**P**	**05 33 00.2**	**-0.4**
	comp=Z,2.6nm,0.4s,mb4.5,baz=50,slow=5.7						
FINES	**FINESS Array B**	**72.58**	**333**	P	**P**	**05 33 03.6**	**+0.2**
	comp=Z,2.7nm,0.7s,mb4.3,baz=108,slow=6.0,SNR=9.7						
NB2	**NORSAR Subarra**	**78.02**	**338**	P	**P**	**05 33 35.2**	**+0.8**
	comp=Z,5.2nm,0.8s,mb4.5,baz=40,slow=5.6						
NB2	**NORSAR Subarra**	**78.02**	**338**	P	**P**	**05 33 35.2**	**+0.8**
NB2				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
NOA	**NORSAR Array B**	**78.02**	**338**	P	**P**	**05 33 35.5**	**+1.0**
	comp=Z,4.1nm,0.8s,mb4.4,baz=39,slow=5.6,SNR=14						
BRTR	**Keskin Array B**	**82.04**	**313**	P	**P**	**05 33 57.4**	**+1.0**
	comp=Z,1.6nm,0.5s,mb4.2,baz=119,slow=3.7,SNR=9.1						
ASF	**Jabal al Asfar**	**84.38**	**305**	P	**P**	**05 34 08.7**	**+0.2**
	comp=Z,5.4nm,0.7s,mb4.8,baz=285,slow=6.1,SNR=7.0						
CLL	**Collm**	**84.82**	**331**	⇑P	**P**	**05 34 11.4**	**+1.1**
	comp=Z,logA/T=1.1,mb5.0						
TXAR	**Lajitas Array**	**91.70**	**53**	P	**P**	**05 34 45.3**	**+1.6**
	comp=Z,0.5nm,0.7s,mb4.0,baz=290,slow=3.6,SNR=6.0						
LPAZ	**La Paz**	**147.62**	**66**	PKP2	PKPab	05 41 20.9	-3.2
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LPAZ	**La Paz**	**147.62**	**66**	PKPbc	PKPdf	05 41 20.9	-0.3
	comp=Z,0.6nm,0.4s,baz=310,slow=6.5,SNR=4.1						

IDC 26 05:34:27.8±4.0,2.15N×96.79E,mb3.9/4,mb1 4.0/4, mb1mx3.7/18,mbtmp3.9/4,Error ellipse: s-maj=155.9km s-min=27.3km az=57.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.89**	**123**	P	P	05 42 28.3	-1.8
	0.8nm,0.6s,baz=302,slow=9.2,SNR=5.9						
MKAR	**Makanchi Array**	**46.23**	**346**	P	P	05 42 54.5	-2.0
	1.9nm,0.7s,baz=158,slow=8.4,SNR=17						
SONM	**Songino Array**	**46.26**	**9**	P	P	05 42 55.3	-1.5
	0.4nm,0.4s,baz=196,slow=9.0,SNR=6.3						
ZAL	**Zalesovo**	**52.55**	**351**	P	P	05 43 42.7	-2.4
	1.6nm,0.5s,baz=344,slow=5.0,SNR=5.7						

*IDC **26** 05:47:35.8±0.8,8.05N×91.78E,mb4.1/11,mb1 4.3/11, mb1mx4.1/21,mbtmp4.1/11,Error ellipse: s-maj=35.6km s-min=18.7km az=54.0*
*NEIC **26** 05:47:40.3±0.6,7.99N×91.80E,h30km,mb4.7/4,Error ellipse: s-maj=21.8km s-min=12.0km az=51.0*
ISC 26 05:47:38.8±0.7,8.0N±0.1×91.9E±0.1,h33km,n22, σ1§01/19,mb4.3/15,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**19.51**	**109**	P	**P**	**05 52 04.7**	**-1.5**
LSA	**Lhasa**	**21.56**	**358**	*e*P	**P**	**05 52 31.1**	**+3.7**
	14nm,0.7s,mb4.5						
ENH	**Enshi**	**27.61**	**34**	*e*P	**P**	**05 53 24.6**	**-0.8**
	4.6nm,0.3s,mb4.6						
MKAR	**Makanchi Array**	**39.48**	**350**	P	**P**	**05 55 07.4**	**-0.3**
	2.4nm,0.8s,mb4.0,baz=173,slow=9.8,SNR=4.9						
SONM	**Songino Array**	**41.54**	**15**	P	**P**	**05 55 25.5**	**+0.7**
	3.4nm,0.8s,mb4.0,baz=194,slow=8.9,SNR=19						
ZAL	**Zalesovo**	**46.12**	**354**	P	**P**	**05 56 02.4**	**+0.7**
	1.3nm,0.3s,mb4.3,baz=89,slow=21,SNR=3.0						
BVAR	**Borovoye Array**	**48.13**	**343**	P	**P**	**05 56 17.8**	**+0.2**
	1.9nm,0.7s,mb4.3,baz=157,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**50.21**	**124**	P	**P**	**05 56 33.2**	**-0.7**
	2.1nm,0.7s,mb4.3,baz=304,slow=8.7,SNR=11						
WRAB	**Tennant Creek**	**50.22**	**124**	*e*P	**P**	**05 56 35.4**	**+1.4**
	5.8nm,0.8s,mb4.7						
BRTR	**Keskin Array B**	**60.61**	**311**	P	**P**	**05 57 47.0**	**-1.8**
	0.4nm,0.3s,mb4.0,baz=90,slow=8.6,SNR=2.4						
STKA	**Stephens Creek**	**61.87**	**133**	P	**P**	**05 57 58.6**	**+1.2**
	3.4nm,1.0s,mb4.4,baz=298,slow=6.7,SNR=5.6						
STKA	**Stephens Creek**	**61.87**	**133**	P	**P**	**05 57 58.6**	**+1.2**
STKA				*e*P		05 57 59.7	
IDI	**Anoyia**	**66.61**	**305**	P	**P**	**05 58 28.5**	**+0.3**
	4.3nm,0.6s,mb4.7,baz=104,slow=11,SNR=3.8						
MA2	**Magadan**	**67.68**	**28**	*e*P	**P**	**05 58 35.2**	**+0.7**
	5.1nm,0.7s,

AGRA	**Agra**	**11.25**	**153**	*e*P		**P**	**05 51 09.2**	**-1.1**
MK31	**Makanchi Array**	**11.90**	**35**	⇑P		**P**	**05 51 17.9**	**-0.5**
	comp=E,1.4nm,0.3s,baz=222,slow=14,SNR=58							
MKAR	**Makanchi Array**	**11.90**	**35**	*e*P		**P**	**05 51 18.1**	**-0.4**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
MKAR	**Makanchi Array**	**11.90**	**35**	P		**P**	**05 51 18.0**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=222,slow=15,SNR=27							
KOLN	**Koldanda**	**13.54**	**132**	*e*P		**P**	**05 51 40.1**	**+0.7**
	comp=Z,32nm,0.3s							
KURK	**Kurchatov**	**14.00**	**17**	⇑P		**P**	**05 51 42.3**	**-2.6**
	comp=Z,15nm,1.0s							
KURK	**Kurchatov**	**14.00**	**17**	*e*P		**P**	**05 51 42.5**	**-2.4**
KURK				pmax	pmax			
	comp=Z,30nm,1.0s							
KURK	**Kurchatov**	**14.00**	**17**	*e*Pn		**P**	**05 51 42.5**	**-2.5**
	comp=Z,30nm,1.0s							
GKN	**Gorkha**	**14.00**	**129**	*e*P		**P**	**05 51 46.0**	**+0.9**
	comp=Z,117nm,0.3s							
KKN	**Kakani**	**14.55**	**128**	*e*P		**P**	**05 51 53.1**	**+1.1**
	comp=Z,78nm,0.5s							
DMN	**Daman**	**14.57**	**129**	*e*P		**P**	**05 51 53.4**	**+1.1**
	comp=Z,73nm,0.3s							
PKI	**Pulchoki**	**14.79**	**128**	*e*P		**P**	**05 51 55.5**	**+0.5**
	comp=Z,47nm,0.3s							
AB31	**Akbulak array**	**14.81**	**327**	P		**P**	**05 51 53.4**	**-1.7**
	comp=Z,8.2nm,0.5s,baz=138,slow=12,SNR=257							
AB31				⇓S		**S**	**05 54 26.6**	**-7.8**
	comp=Z,5.6nm,0.5s,baz=138,slow=23,SNR=9.9							
AB31	**Akbulak array**	**14.81**	**327**	*e*P		**P**	**05 51 53.4**	**-1.7**
AB31				S		**S**	**05 54 26.5**	**-7.8**
AB31				pmax	pmax			
	comp=Z,2.0nm,0.3s							
AB31				smax				
	comp=Z,3.0nm,0.4s							
GUN	**Gumba**	**14.85**	**126**	*e*P		**P**	**05 51 56.4**	**+0.7**
	comp=Z,63nm,0.3s							
JIRN	**Jiri**	**15.22**	**126**	*e*P		**P**	**05 52 01.4**	**+1.0**
	comp=Z,197nm,0.4s							
VOSK	**Vostochnaya**	**15.29**	**357**	⇑P		**P**	**05 51 59.8**	**-1.3**
	comp=Z,7.3nm,0.8s							
VOSK	**Vostochnaya**	**15.29**	**357**	P		**P**	**05 51 59.1**	**-2.0**
VOSK				pmax	pmax			
	comp=Z,6.0nm,0.8s							
BVA0	**Borovoye Array**	**15.62**	**356**	⇑P		**P**	**05 52 02.7**	**-2.5**
	comp=Z,3.7nm,0.8s,baz=171,slow=14,SNR=131							
BVA0				⇓S		**S**	**05 54 52.9**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=169,slow=28,SNR=4.6							
BVA0	**Borovoye Array**	**15.62**	**356**	*i* P		**P**	**05 52 03.6**	**-1.6**
BVA0				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BVAR	**Borovoye Array**	**15.62**	**356**	P		**P**	**05 52 03.7**	**-1.5**
	comp=Z,2.3nm,0.3s,baz=164,slow=12,SNR=112							
BVAR				S		**S**	**05 54 53.5**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=162,slow=23,SNR=4.9							
BRVK	**Borovoye**	**15.66**	**355**	P		**P**	**05 52 04.1**	**-1.6**
BRVK				pmax	pmax			
	comp=Z,6.0nm,0.7s							
BRVK	**Borovoye**	**15.66**	**355**	*e*P		**P**	**05 52 04.0**	**-1.7**
	comp=Z,16nm,0.6s							
LSA	**Lhasa**	**17.48**	**111**	P		**P**	**05 52 31.8**	**+4.6**
LSA				AMB	AMB			
	comp=Z,20nm,0.8s							
ZAL	**Zalesovo**	**18.59**	**24**	P		**P**	**05 52 38.8**	**-0.1**
	comp=Z,10nm,0.3s,baz=253,slow=5.8,SNR=67							
NVS	**Novosibirsk**	**18.92**	**20**	⇓*i* P		**P**	**05 52 41.5**	**-0.7**
NVS				pmax	pmax			
	comp=Z,22nm,0.8s							
NVS				pmax	pmax			
	comp=N,22nm,0.9s							
ARU	**Arti**	**21.10**	**338**	⇑*i* P		**P**	**05 53 04.8**	**+0.6**
ARU				*e*PPP			05 54 04.0	
ARU				pmax	pmax			
	comp=Z,16nm,0.8s,mb4.4							
ARU	**Arti**	**21.10**	**338**	*e*P		**P**	**05 53 03.8**	**-0.5**
	comp=Z,19nm,0.8s,mb4.5							
GTA	**Gaotai**	**21.59**	**76**	P		**P**	**05 53 13.5**	**+4.3**
GTA				AMB	AMB			
	comp=Z,3.0nm,0.8s,mb3.8							
OBN	**Obninsk**	**29.92**	**318**	*e*P		**P**	**05 54 36.3**	**+10**
OBN				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.3							
BR131	**Keskin Array S**	**30.17**	**286**	*e*P		**P**	**05 54 28.4**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.0							
BRTR	**Keskin Array B**	**30.17**	**286**	P		**P**	**05 54 29.0**	**+0.8**
	comp=Z,1.3nm,0.5s,mb4.0,baz=105,slow=8.0,SNR=6.2							
AKASG	**Malin Array Be**	**33.19**	**307**	P		**P**	**05 54 54.4**	**+0.1**
	comp=Z,0.4nm,0.3s,mb3.6,baz=91,slow=11,SNR=6.3							
AKASG	**Malin Array Be**	**33.19**	**307**	P		**P**	**05 54 54.4**	**+0.1**
ARCES	**ARCESS Array B**	**40.67**	**337**	P		**P**	**05 55 57.5**	**+0.8**
	comp=Z,0.9nm,0.4s,mb3.8,baz=117,slow=9.4,SNR=20							
NB2	**NORSAR Subarra**	**44.26**	**322**	P		**P**	**05 56 25.9**	**+0.2**
	comp=Z,1.1nm,0.7s,mb3.6,baz=99,slow=7.4							
NB2	**NORSAR Subarra**	**44.26**	**322**	P		**P**	**05 56 25.9**	**+0.2**
NB2				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.5							
NOA	**NORSAR Array B**	**44.26**	**322**	P		**P**	**05 56 26.3**	**+0.6**
	comp=Z,1.2nm,0.8s,mb3.6,baz=94,slow=7.6,SNR=6.8							
INK	**Inuvik**	**72.79**	**10**	P		**P**	**05 59 44.0**	**+1.4**
INK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**72.79**	**10**	P		**P**	**05 59 44.0**	**+1.4**
	comp=Z,1.2nm,0.5s,mb3.9							
ILAR	**Eielson Array**	**73.57**	**16**	P		**P**	**05 59 47.4**	**+0.1**
	comp=Z,0.5nm,0.8s,mb3.3,baz=316,slow=4.3,SNR=4.9							
DBIC	**Dimbokro**	**75.80**	**268**	P		**P**	**06 00 00.8**	**-0.2**
	comp=Z,3.0nm,0.6s,mb4.1,baz=294,slow=10,SNR=4.7							
DBIC	**Dimbokro**	**75.80**	**268**	P		**P**	**06 00 00.8**	**-0.2**
YKA	**Yellowknife Ar**	**80.24**	**3**	P		**P**	**06 00 25.0**	**+0.9**
	comp=Z,1.0nm,0.4s,mb3.8,baz=350,slow=5.5,SNR=5.8							
WRA	**Warramunga Arr**	**81.61**	**123**	P		**P**	**06 00 32.2**	**0.0**
	comp=Z,0.9nm,0.5s,mb3.7,baz=328,slow=5.3,SNR=13							
WRAB	**Tennant Creek**	**81.61**	**123**	*e*P		**P**	**06 00 32.8**	**+0.6**
WRAB				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.2							
WRAB	**Tennant Creek**	**81.61**	**123**	*e*P		**P**	**06 00 32.8**	**+0.6**
	comp=Z,2.8nm,0.5s,mb4.2							

NIED ***26*** *06:05:00,43.20N×147.80E,h11km,Mw4.0 Best double couple: M₀1.2×10¹⁵ NP1:φs71°,δ76°,λ141°. NP2:φs172°, δ53°,λ17°.*
JMA ***26*** *06:05:07.4±0.6,43.20N×147.79E,M3.8*
MOS ***26*** *06:05:14.1±1.0,44.02N×147.70E,h50km,mb4.4/5,Error ellipse: s-maj=16.3km s-min=15.0km az=127.8*
IDC ***26*** *06:05:18.0±3.3,44.01N×147.66E,h68km±31km,mb3.6/12, mb1 3.8/14,mb1mx3.7/22,mbtmp3.9/14,ML3.3/2,Error ellipse: s-maj=22.5km s-min=20.0km az=158.0*
NEIC ***26*** *06:05:18.4±2.1,44.02N×147.60E,h70km±22km,mb4.2/2, Error ellipse: s-maj=18.4km s-min=14.3km az=157.0*

ISC 26 06:05:09.9±1.3,43.1N±0.1×147.92E±0.09,h50km±11km, n37,σ1§02/43,mb3.9/15,1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.60**	**279**	P		P	**P**	**06 05 35.8**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**1.74**	**302**	*e*PN		P	**P**	**06 05 35.7**	**-2.6**
YUK				pmax	pmax				
	comp=Z,180nm,0.4s								
JRA	**Rausu**	**2.18**	**292**	*e*S		S	**S**	**06 06 10.9**	**+0.5**
JAK	**Akkeshi**	**2.37**	**268**	P		P	**P**	**06 05 47.3**	**+0.1**
JAK				*e*S		S	**S**	**06 06 15.5**	**+0.4**
JNK	**Nakash**	**2.38**	**282**	P		P	**P**	**06 05 46.8**	**-0.5**
JNK				*e*S		S	**S**	**06 06 16.4**	**+1.1**
JOB	**Onbets**	**3.00**	**267**	*e*S		S	**S**	**06 06 30.6**	**-0.7**
JTKR	**Abashiri--Toko**	**3.03**	**287**	P		P	**P**	**06 05 56.7**	**+0.1**
JAR	**Ashorobuto**	**3.04**	**274**	P		P	**P**	**06 05 57.0**	**+0.3**
JCH	**Churui**	**3.39**	**263**	P		P	**P**	**06 06 02.6**	**+0.9**
JCH				*e*S		S	**S**	**06 06 41.9**	**+0.9**
JFR	**Furan**	**3.90**	**272**	P		P	**P**	**06 06 09.1**	**+0.3**
JFR				*e*S		S	**S**	**06 06 54.7**	**+0.9**
ASAJ	**Asahikawa**	**3.98**	**286**	PN		P	**P**	**06 06 11.0**	**+0.9**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
ASAJ	**Asahikawa**	**3.98**	**286**	P		P	**P**	**06 06 10.9**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=100,slow=10,SNR=3.8								
JKB	**Kayabe**	**5.24**	**259**	P		P	**P**	**06 06 27.5**	**-0.2**
JKB				*e*S		S	**S**	**06 07 26.0**	**-1.6**
YSS	**Yuzh-Sakhalins**	**5.28**	**318**	⇑*e*PN		P	**P**	**06 06 34.9**	**+6.6**
JOT	**Ohata**	**5.39**	**253**	P		P	**P**	**06 06 29.4**	**-0.4**
JOT				*e*S		S	**S**	**06 07 30.8**	**-0.6**
MJAR	**Matsushiro Arr**	**9.95**	**232**	P		P	**P**	**06 07 43.8**	**+11**
	comp=Z,0.6nm,0.3s,baz=31,slow=13,SNR=4.7								
SONM	**Songino Array**	**29.23**	**294**	P		P	**P**	**06 11 09.4**	**+0.5**
	comp=Z,6.3nm,1.0s,mb4.3,baz=82,slow=8.7,SNR=26								
ZAK	**Zakamensk**	**31.04**	**299**	*e*P		P	**P**	**06 11 25.1**	**+0.2**
ZAK				pmax	pmax				
	comp=Z,1.0nm,0.9s,mb3.6								
ILAR	**Eielson Array**	**41.65**	**36**	P		P	**P**	**06 12 55.1**	**+0.7**
	comp=Z,0.4nm,0.8s,mb3.1,baz=283,slow=9.6,SNR=4.8								
MKAR	**Makanchi Array**	**45.37**	**298**	*i* P		P	**P**	**06 13 25.3**	**+0.6**
MKAR				pmax	pmax				
	comp=Z,4.0nm,0.7s								
MKAR	**Makanchi Array**	**45.37**	**298**	P		P	**P**	**06 13 25.2**	**+0.4**
	comp=Z,5.0nm,0.9s,mb4.3,baz=79,slow=8.1,SNR=24								
INK	**Inuvik**	**46.65**	**30**	P		P	**P**	**06 13 33.9**	**-0.7**
	comp=Z,0.8nm,0.6s,mb3.8,baz=319,slow=3.0,SNR=3.6								
AAK	**Ala-Archa**	**52.13**	**296**	P		P	**P**	**06 14 16.7**	**-0.3**
AAK				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb4.3								
AAK	**Ala-Archa**	**52.13**	**296**	P		P	**P**	**06 14 16.7**	**-0.3**
	comp=Z,4.3nm,1.0s,mb4.3								
AB31	**Akbulak array**	**57.88**	**309**	*i* P		P	**P**	**06 14 58.6**	**-0.1**
AB31				pmax	pmax				
	comp=Z,1.0nm,0.4s,mb4.2								
ARCES	**ARCESS Array B**	**60.01**	**340**	P		P	**P**	**06 15 11.4**	**-1.8**
	comp=Z,2.6nm,0.7s,mb4.4,baz=39,slow=7.8,SNR=6.0								
WRA	**Warramunga Arr**	**64.00**	**194**	P		P	**P**	**06 15 49.8**	**+9.3**
	comp=Z,0.8nm,0.8s,mb3.8,baz=9.5,slow=6.7,SNR=4.0								
KAF	**Kangasniemi**	**65.11**	**334**	*e*p		P	**P**	**06 15 40.3**	**-6.7**
FINES	**FINESS Array B**	**65.67**	**333**	P		P	**P**	**06 15 49.3**	**-1.3**
	comp=Z,1.5nm,0.5s,mb4.2,baz=45,slow=5.4,SNR=7.7								
PDAR	**Pinedale Array**	**69.88**	**50**	P		P	**P**	**06 16 19.9**	**+2.7**
	comp=Z,0.1nm,0.4s,mb3.1,baz=90,slow=3.6,SNR=2.3								
NB2	**NORSAR Subarra**	**70.37**	**339**	P		P	**P**	**06 16 19.1**	**-0.7**
	comp=Z,1.1nm,0.6s,mb4.0,baz=31,slow=6.2								
NB2	**NORSAR Subarra**	**70.37**	**339**	P		P	**P**	**06 16 19.1**	**-0.7**
NB2				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb3.9								
NOA	**NORSAR Array B**	**70.37**	**339**	P		P	**P**	**06 16 18.5**	**-1.3**
	comp=Z,1.8nm,0.7s,mb4.1,baz=31,slow=6.2,SNR=7.7								
AKASG	**Malin Array Be**	**72.40**	**324**	P		P	**P**	**06 16 30.2**	**-2.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=38,slow=6.2,SNR=8.4								
CLL	**Collm**	**78.11**	**333**	P		P	**P**	**06 17 07.0**	**+2.3**
GERES	**GERESS Array B**	**79.96**	**331**	P		P	**P**	**06 17 14.9**	**0.0**
	comp=Z,0.3nm,0.2s,mb3.8,baz=350,slow=6.0,SNR=4.7								
TXAR	**Lajitas Array**	**82.52**	**57**	P		P	**P**	**06 17 29.9**	**+1.2**
	comp=Z,0.4nm,0.7s,mb3.5,baz=310,slow=3.6,SNR=4.6								

NIED ***26*** *06:20:00,33.40N×142.40E,h5km,Mw5.0 Best double couple: M₀3.19×10¹⁶ NP1:φs154°,δ64°,λ-95°. NP2: φs345°,δ26°,λ-81°.*
CSEM ***26*** *06:20:19.7,33.25N×142.47E,h2km,mb5.5*
BJI ***26*** *06:20:23.5,33.36N×142.10E,h14km,mB5.2,mb5.2, Ms4.9,Msz4.8*
JMA ***26*** *06:20:24.0±0.3,33.36N×142.45E,h70km,M4.9*
MOS ***26*** *06:20:25.5±1.0,33.45N×142.32E,h33km,mb5.4/63, MS4.6/10,Error ellipse: s-maj=9.4km s-min=4.6km az=115.6*
HRVD ***26*** *06:20:26.9±0.4,33.36N×142.60E,h12km,MW5.0/64, Centroid moment Tensor Solution. LP body waves: s33,c44;Mantle waves: s64,c104; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.80±.12; Mθθ0.19±.12; Mφφ3.61±.11; Mrθ0.94±.37; Mrφ-0.50±.10; Mθφ-1.78±.35; Best double couple: M₀4.246×10¹⁶ NP1: φs180°,δ32°,λ-76°. NP2:φs343°,δ59°,λ-99°. Principal axes: T 4.142, Plg14°, Azm79°; N .212, Plg8°, Azm348°; P -4.351, Plg74°, Azm229°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***26*** *06:20:26.6±0.6,33.32N×142.39E,h36km±3km,mb4.6/20, mb1 4.8/23,mb1mx4.7/26,mbtmp4.8/23,ML4.6/3,MS4.2/6, Ms1 4.2/6,ms1mx3.8/30 Error ellipse: s-maj=14.9km s-min=12.3km az=169.0*
NEIC ***26*** *06:20:26.9±0.2,33.31N×142.34E,mb5.2/77, MW4.9(NIED),Error ellipse: s-maj=5.1km s-min=3.9km az=2.0*

ISC 26 06:20:25.7±0.2,33.37N±0.03×142.29E±0.02,h37km, h37km±.7km:pP-P,n359,σ1§01/372,mb5.1/127,MS4.6/23, 13C-24D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.68**	**320**	P		P	**P**	**06 20 53.1**	**0.0**
BSO3	**Boso 3**	**2.05**	**314**	P		P	**P**	**06 20 58.8**	**+0.4**
JHJ2	**Mitsune**	**2.09**	**263**	P		P	**P**	**06 20 59.5**	**+0.5**
JHJ2				*e*S		S	**S**	**06 21 25.9**	**+1.9**
JHJ	**Hachijo jima 2**	**2.12**	**264**	Pn		P	**P**	**06 20 59.6**	**+0.3**
	604nm,0.3s,baz=136,slow=9.7,SNR=28								
JHJ				Sn		S	**S**	**06 21 27.1**	**+2.5**
	999nm,0.3s,baz=60,slow=23,SNR=12								
BSO4	**Boso 4**	**2.29**	**315**	P		P	**P**	**06 21 02.5**	**+0.8**
CHOJ	**Chosi**	**2.61**	**333**	P		P	**P**	**06 21 05.7**	**-0.7**
CHOJ				*e*S		S	**S**	**06 21 37.1**	**0.0**
NJJJ	**Nii jima 2**	**2.70**	**293**	P		P	**P**	**06 21 08.0**	**+0.3**
JIM2	**Oshima 3**	**2.73**	**300**	P		P	**P**	**06 21 07.8**	**-0.3**
JIM2				*e*S		S	**S**	**06 21 40.1**	**0.0**
JOD2	**Odawara 2**	**3.25**	**306**	P		P	**P**	**06 21 15.0**	**-0.5**
JYN	**Shimob**	**3.75**	**305**	P		P	**P**	**06 21 22.4**	**-0.2**
JAG	**Ashikaga**	**3.83**	**323**	P		P	**P**	**06 21 23.0**	**-0.8**
JAG				*e*S		S	**S**	**06 22 07.7**	**-0.6**
JRY	**Ryogami san**	**3.84**	**314**	P		P	**P**	**06 21 23.1**	**-0.8**
JRY				*e*S		S	**S**	**06 22 08.4**	**0.0**
TK01	**Tokai 1**	**3.94**	**277**	P		P	**P**	**06 21 25.3**	**0.0**
MJAR	**Matsushiro Arr**	**4.61**	**314**	Pn		P	**P**	**06 21 34.5**	**-0.2**
	29nm,0.3s,baz=101,slow=14,SNR=162								
MJAR				Sn		S	**S**	**06 22 28.4**	**+0.6**
	33nm,0.3s,baz=114,slow=16,SNR=8.0								
MAJO	**Matsushiro**	**4.61**	**314**	*e*P		P	**P**	**06 21 35.2**	**+0.4**
MAT	**Matsushiro**	**4.61**	**314**	*e*P		P	**P**	**06 21 34.0**	**-0.8**
MAT				*e*S		S	**S**	**06 22 25.0**	**-2.8**
MAT	**Matsushiro**	**4.61**	**314**	P		P	**P**	**06 21 33.9**	**-0.9**
MAT				S		S	**S**	**06 22 24.7**	**-3.1**
JMM	**Marumori**	**4.64**	**345**	P		P	**P**	**06 21 31.8**	**-3.5**
JMM				*e*S		S	**S**	**06 22 22.4**	**-6.3**
CBIJ	**Chichi jima**	**6.26**	**181**	Pn		P	**P**	**06 21 52.5**	**-5.4**
	63nm,0.3s,baz=290,slow=23,SNR=6.3								
CBIJ				Sn		S	**S**	**06 22 58.3**	**-11**
	148nm,0.3s,baz=319,slow=23,SNR=6.5								
JNU	**Nakatsue**	**9.56**	**272**	Pn		P	**P**	**06 22 44.6**	**+0.7**
	4.3nm,0.3s,baz=81,slow=13,SNR=17								
ASAJ	**Asahikawa**	**10.73**	**1**	Pn		P	**P**	**06 22 54.1**	**-5.7**
	12nm,0.3s,baz=259,slow=30,SNR=15								
ASAJ				Sn		S	**S**	**06 24 46.9**	**-13**
	4.2nm,0.3s,baz=313,slow=15,SNR=3.8								
ASAJ				LR		LR		06 27 33.2	
	comp=Z,1μm,19.6s,baz=7.1,slow=40								
YUK	**Yuzh-Kuril'sk**	**11.00**	**14**	P		P	**P**	**06 22 58.2**	**-5.4**
YUK				pmax	pmax				
	comp=Z,140nm,0.5s								
YUK				MLR	MLR				
	comp=N,2μm,8.0s								
YUK				MLR	MLR				
	comp=E,2μm,8.0s								
YUK				MLR	MLR				
	comp=Z,3μm,8.0s								
KS15	**Wonju Array Si**	**12.43**	**293**	P		P	**P**	**06 23 24.5**	**+1.6**
KUR	**Kuril'sk**	**12.60**	**18**	*e*P		P	**P**	**06 23 30.0**	**+4.9**
KUR				pmax	pmax				
	comp=Z,320nm,1.3s								
KUR				MLR	MLR				
	comp=N,3μm,14.0s								
KUR				MLR	MLR				
	comp=E,8μm,14.0s								
KUR				MLR	MLR				
	comp=Z,3μm,14.0s								
YSS	**Yuzh-Sakhalins**	**13.57**	**1**	⇑*i*P		P	**P**	**06 23 32.6**	**-5.2**
YSS				*e*S		S	**S**	**06 25 57.0**	**-11**
YSS				pmax	pmax				
	comp=N,70nm,0.8s								
YSS				pmax	pmax				
	comp=Z,70nm,0.8s								
YSS	**Yuzh-Sakhalins**	**13.57**	**1**	*e*Pn		P	**P**	**06 23 32.3**	**-5.6**
	comp=Z,63nm,0.6s								
MDJ	**Mudanjiang**	**14.93**	**322**	P		P	**P**	**06 23 55.3**	**-0.4**
MDJ				AP				06 24 04.0	
MDJ				S		S	**S**	**06 26 39.0**	**-1.5**
MDJ				PCP		PcP		06 29 03.5	-1.0
MDJ				SCP				06 32 36.5	
MDJ				PCS				06 32 40.0	
MDJ				SCS		ScS		06 36 14.3	+3.5
MDJ				AMB	AMB				
	comp=Z,18nm,0.9s								
MDJ				AMB	AMB				
	comp=Z,264nm,10.9s								
MDJ				LR	LR				
	comp=N,1μm,18.9s								
MDJ				LR	LR				
	comp=E,1μm,17.6s								
MDJ				LR	LR				
	comp=Z,1μm,17.6s								
MDJ	**Mudanjiang**	**14.93**	**322**	*e*P		P	**P**	**06 23 54.8**	**-0.9**
	comp=Z,18nm,0.6s								
UGL	**Uglegorsk**	**15.69**	**359**	*e*P		P	**P**	**06 24 07.0**	**+1.5**
UGL				pmax	pmax				
	comp=Z,35nm,0.5s								
UGL				pmax	pmax				
	comp=Z,500nm,2.0s								
CN2	**Changchun**	**16.76**	**313**	*e*P		P	**P**	**06 24 17.5**	**-1.5**
CN2				*e*AP				06 24 25.3	
CN2				*e*S		S	**S**	**06 27 22.3**	**-0.6**
CN2				AMB	AMB				
	comp=Z,30nm,1.3s								
CN2				LR	LR				
	comp=N,2μm,13.0s								
CN2				LR	LR				
	comp=E,1μm,13.0s								
CN2				LR	LR				
	comp=Z,2μm,14.0s								
SNY	**Shenyang**	**17.04**	**305**	⇑P		P	**P**	**06 24 22.8**	**+0.2**
SNY				AMB	AMB				
	comp=Z,40nm,0.6s								
SNY				LR	LR				
	comp=N,1μm,12.6s								
SNY				LR	LR				
	comp=E,1μm,15.6s								
SNY				LR	LR				
	comp=Z,2μm,14.4s								
DL2	**Dalian**	**17.57**	**294**	P		P	**P**	**06 24 29.3**	**+0.1**
DL2				S		S	**S**	**06 27 45.8**	**+4.4**
DL2				AMB	AMB				
	comp=Z,40nm,0.6s								
DL2				AMB	AMB				
	comp=Z,280nm,4.1s								
DL2				LR	LR				
	comp=N,630nm,12.7s								
DL2				LR	LR				
	comp=E,1μm,13.7s								
DL2				LR	LR				
	comp=Z,1μm,14.0s								
KLR	**Kul'dur**	**17.68**	**337**	*e*P		P	**P**	**06 24 24.0**	**-6.6**
KLR				MLR	MLR				
	comp=N,2μm,12.5s								
KLR				MLR	MLR				
	comp=E,1μm,12.5s								
KLR				MLR	MLR				
	comp=Z,3μm,12.5s								
SSE	**Sheshan**	**18.00**	**268**	⇑P		P	**P**	**06 24 34.5**	**-0.1**
SSE				AP				06 24 43.3	
SSE				S		S	**S**	**06 27 54.0**	**+2.8**
SSE				AMB	AMB				
	comp=Z,55nm,0.8s								
SSE				AMB	AMB				
	comp=Z,490nm,8.5s								
SSE				LR	LR				
	comp=N,516nm,13.8s								
SSE				LR	LR				
	comp=E,1μm,13.9s								
SSE				LR	LR				
	comp=Z,2μm,13.8s								
SSE	**Sheshan**	**18.00**	**268**	⇑P		P	**P**	**06 24 34.6**	**0.0**
	comp=Z,55nm,0.8s								
SSE				pP				06 24 43.2	
SSE				sP				06 24 49.2	
SSE				S		S	**S**	**06 27 54.1**	**+2.9**
SSE				sS				06 28 13.1	
NJ2	**Nanjing**	**19.76**	**273**	*e*P		P	**P**	**06 24 53.0**	**-2.3**
NJ2				AP				06 25 01.5	
NJ2				XP				06 25 05.8	
NJ2				PP		PP		06 25 11.8	-2.4
NJ2				S		S	**S**	**06 28 29.0**	**-1.7**
NJ2				XS				06 28 42.0	
NJ2				AMB	AMB				
	comp=Z,120nm,1.0s								
NJ2				AMB	AMB				
	comp=Z,270nm,4.7s								
NJ2				LR	LR				
	comp=N,2μm,11.5s								
NJ2				LR	LR				
	comp=E,3μm,16.6s								
NJ2				LR	LR				
	comp=Z,1μm,15.4s								
SKR	**Severo-Kuril's**	**20.06**	**26**	*e*P		P	**P**	**06 24 53.0**	**-5.3**
SKR				*e*S		S	**S**	**06 28 39.0**	**+2.3**
SKR				pmax	pmax				
	comp=E,60nm,0.8s								
SKR				pmax	pmax				
	comp=Z,60nm,0.8s								
SKR				pmax	pmax				
	comp=N,1μm,3.0s								
SKR				pmax	pmax				
	comp=Z,1μm,3.0s								
SKR				smax					
	comp=N,1μm,8.0s								
SKR				smax					
	comp=E,1μm,8.0s								
TIA	**Tai'an**	**20.85**	**285**	*e*P		P	**P**	**06 25 05.0**	**-1.6**
QZH	**Quanzhou**	**22.30**	**254**	P		P	**P**	**06 25 18.0**	**-3.

CLNS pmax pmax
comp=E,29nm,0.9s
CLNS smax
comp=N,358nm,12.7s
CLNS smax
comp=Z,224nm,13.2s
CLNS smax
comp=E,118nm,13.3s
CLNS MLR MLR
comp=Z,700nm,11.0s,MS4.5
CLNS MLR MLR
comp=N,600nm,13.0s,MS4.3
CLNS MLR MLR
comp=E,80nm,12.0s,MS4.3
BTO Baotou 26.66 295 *e*P **P 06 26 02.8 -0.1**
MA2 Magadan 26.81 10 *d*eP **P 06 26 04.6 +0.5**
MA2 *e*S **S 06 30 29.6 -6.1**
MA2 pmax pmax
comp=Z,20nm,1.2s,mb4.5
MA2 pmax pmax
comp=N,20nm,1.3s
MA2 MLR MLR
comp=Z,700nm,22.0s,MS4.2
MA2 Magadan 26.81 10 *e*P **P 06 26 03.0 -1.1**
comp=Z,8.8nm,0.7s,mb4.4
XAN Xi'an 27.70 281 P **P 06 26 11.0 -1.5**
XAN AMB AMB
comp=Z,35nm,1.2s,mb4.9
XAN AMB AMB
comp=Z,342nm,6.4s
XAN LR LR
comp=E,2µm,14.7s
XAN LR LR
comp=Z,2µm,14.6s,MS4.9
CIT Chita 27.89 321 *e*P **P 06 26 14.0 0.0**
CIT *e* 06 26 28.4
CIT pmax pmax
comp=Z,473nm,2.5s,mb5.7
ENH Enshi 27.98 273 *e*P **P 06 26 13.1 -2.0**
comp=Z,146nm,0.9s,mb5.6
ENH *e*pP pP 06 26 24.8 -0.6
FX1 Attu Island--F 29.45 39 P **P 06 26 27.9 0.0**
FX1 pmax pmax
comp=Z,6.0nm,0.6s
FX1 Attu Island--F 29.45 39 P **P 06 26 27.9 0.0**
comp=Z,6.1nm,0.6s,mb4.5,baz=299,slow=5.2,SNR=5.8
YAK Yakutsk 29.79 348 *e*P **P 06 26 28.8 -2.0**
YAK *e**PP pP 06 26 40.7 -0.6
YAK pmax pmax
comp=Z,45nm,0.8s,mb5.2
YAK Yakutsk 29.79 348 *e*P **P 06 26 28.8 -2.0**
comp=Z,46nm,0.8s,mb5.2
YAK *e*pP pP 06 26 40.7 -0.5
SEY Seymchan 30.26 9⇓ *e*P **P 06 26 34.1 -0.9**
SONM Songino Array 30.54 309 P **P 06 26 38.4 +0.8**
comp=Z,17nm,0.7s,mb5.0,baz=108,slow=7.8,SNR=54
SONM PcP PcP 06 29 35.6 -0.4
comp=Z,1.6nm,0.5s,baz=124,slow=2.5,SNR=4.9
SONM LR LR 06 40 30.6
comp=Z,674nm,18.3s,MS4.3,baz=92,slow=39
BOD Bodaibo 31.03 331 *e*P **P 06 26 40.9 -1.0**
BOD pmax pmax
comp=Z,13nm,1.0s,mb4.7
BOD pmax pmax
comp=Z,35nm,1.2s,mb5.1
GYA Guiyang 31.53 267⇓ *i*P **P 06 26 44.3 -2.3**
GYA AP pP 06 26 53.5 -3.6
GYA PP PP 06 27 54.0 +2.6
GYA S **S 06 31 56.0 +4.7**
GYA AMB AMB
comp=Z,30nm,1.1s,mb5.0
GYA AMB AMB
comp=Z,140nm,6.0s
GYA LR LR
comp=N,2µm,17.1s,MS5.1
GYA LR LR
comp=E,3µm,16.8s,MS5.1
GYA LR LR
comp=Z,2µm,16.2s,MS4.8
LZH Lanzhou 31.58 286 *e*P **P 06 26 46.5 -0.5**
LZH AP pP 06 26 55.8 -1.6
LZH XP sP 06 27 01.0 -1.3
LZH PP PP 06 27 51.5 -0.5
LZH S **S 06 31 49.0 -2.9**
LZH XS 06 32 04.0
LZH SS SS 06 33 38.3 -3.9
LZH AMB AMB
comp=Z,69nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,332nm,4.0s
LZH LR LR
comp=E,2µm,12.9s
LZH LR LR
comp=Z,3µm,15.4s,MS5.1
LZH Lanzhou 31.58 286 *e*P **P 06 26 46.4 -0.6**
LZH *PP pP 06 26 55.8 -1.6
LZH *SP sP 06 27 01.1 -1.2
LZH 06 27 51.5
LZH S **S 06 31 49.0 -2.9**
LZH *SS 06 32 04.0
LZH SS SS 06 33 38.3 -3.9
LZH pmax pmax
comp=Z,69nm,1.5s,mb5.3
LZH Lanzhou 31.58 286 *e*P **P 06 26 46.4 -0.6**
comp=Z,69nm,1.5s,mb5.3
LZH pP pP 06 26 55.8 -1.6
LZH sP sP 06 27 01.1 -1.2
LZH PP PP 06 27 51.5 -0.5
LZH S **S 06 31 49.0 -2.9**
LZH sS 06 32 04.0
LZH SS SS 06 33 38.3 -3.9
CD2 Chengdu 32.60 276 P **P 06 26 54.3 -1.6**
CD2 S **S 06 32 05.0 -2.9**
CD2 AMB AMB
comp=Z,40nm,0.7s,mb5.5
CD2 LR LR
comp=N,2µm,15.0s
CD2 LR LR
comp=Z,2µm,15.6s,MS4.9
IRK Irkutsk 33.16 316 *e*P **P 06 26 58.9 -1.7**
IRK *e* 06 29 40.6
IRK pmax pmax
comp=Z,70nm,2.9s,mb5.1
ZAK Zakamensk 33.19 313 *e*P **P 06 27 01.6 +0.8**
ZAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
TLY Talaya 33.35 315 *e*P **P 06 27 02.5 +0.3**
TLY pmax pmax
comp=Z,15nm,0.9s,mb4.9
TLY MLR MLR
comp=Z,551nm,14.0s,MS4.4
TLY Talaya 33.35 315⇓ *e*P **P 06 27 02.7 +0.5**
comp=Z,18nm,0.8s,mb5.0
GTA Gaotai 34.48 292 P **P 06 27 11.8 -0.2**
GTA AP pP 06 27 23.5 +0.9
GTA PP PP 06 28 29.8 +1.2
GTA PCP PcP 06 29 46.0 -0.9
GTA S **S 06 32 39.0 +2.0**
GTA PCS 06 33 29.0
GTA AMB AMB
comp=Z,12nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,222nm,7.3s
GTA LR LR
comp=N,953nm,14.5s,MS4.8
GTA LR LR
comp=E,878nm,14.1s,MS4.8
GTA LR LR
comp=Z,1µm,16.4s,MS4.7
MOY Mondy 34.92 314 *e*P **P 06 27 17.7 +2.0**
MOY pmax pmax
comp=Z,61nm,3.1s
KMI Kunming 35.31 267 P **P 06 27 18.3 -1.0**
KMI AP pP 06 27 29.3 -0.6
KMI XP sP 06 27 33.5 -1.2
KMI PP PP 06 28 39.5 +0.3
KMI PCP PcP 06 29 50.3 +0.8
KMI AMB AMB
comp=Z,24nm,0.7s,mb5.2
KMI AMB AMB
comp=Z,221nm,3.1s
KMI LR LR
comp=N,2µm,12.5s,MS5.2
KMI LR LR
comp=E,2µm,13.1s,MS5.2
KMI LR LR
comp=Z,1µm,22.5s
KMI Kunming 35.31 267 P **P 06 27 18.3 -1.0**
KMI *PP pP 06 27 29.3 -0.6
KMI *SP sP 06 27 33.4 -1.3
KMI 06 28 39.6
KMI PPP PPP 06 28 57.9 0.0
KMI 06 29 50.2
KMI S **S 06 32 49.3 -0.7**
KMI *SS 06 33 08.7
KMI SS SS 06 35 07.5 -0.9
KMI pmax pmax
comp=Z,24nm,0.7s,mb5.2
KMI Kunming 35.31 267 P **P 06 27 18.3 -1.0**
comp=Z,24nm,0.7s,mb5.2
KMI pP pP 06 27 29.3 -0.6
KMI sP sP 06 27 33.4 -1.3
KMI PP PP 06 28 39.6 +0.4
KMI PPP PPP 06 28 57.9 0.0
KMI PcP PcP 06 29 50.2 +0.7
KMI S **S 06 32 49.3 -0.7**
KMI sS 06 33 08.7
KMI SS SS 06 35 07.5 -0.9
BILL Bilibino 37.35 15⇑ *e*P **P 06 27 34.9 -1.2**
BILL pmax pmax
comp=Z,25nm,1.7s,mb4.8
TIXI Tiksi 39.00 353 *e*P **P 06 27 47.1 -2.7**
TIXI *e*S **S 06 33 39.3 -6.7**
TIXI pmax pmax
comp=Z,12nm,0.8s,mb4.7
TIXI MLR MLR
comp=Z,433nm,14.0s,MS4.4
CHG Chiang Mai 41.24 260 ⇑P **P 06 28 08.7 -0.2**
comp=Z,28nm,1.2s,mb4.8
NST Nakhon Sawan 41.88 256 P **P 06 28 04.0 -10**
BDT Bhumibol Dam 41.98 258 P **P 06 28 12.0 -3.0**
WMQ Urumqi 43.22 301 P **P 06 28 27.3 +2.4**
WMQ AP pP 06 28 37.3 +1.7
WMQ PP PP 06 30 10.3 +2.8
WMQ S **S 06 34 52.0 +3.2**
WMQ AMB AMB
comp=Z,31nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,488nm,4.0s
WMQ LR LR
comp=N,713nm,12.4s,MS4.8
WMQ LR LR
comp=E,371nm,14.6s,MS4.8
WMQ LR LR
comp=Z,561nm,15.6s,MS4.6
LSA Lhasa 43.39 280 P **P 06 28 27.3 +0.9**
LSA Lhasa 43.39 280 *e*P **P 06 28 27.1 +0.7**
LSA pmax pmax
comp=Z,25nm,1.1s,mb4.9
LSA Lhasa 43.39 280 *e*P **P 06 28 27.1 +0.7**
comp=Z,25nm,1.1s,mb4.8
KSM Kuching 43.65 230 *e*P **P 06 28 28.4 -0.3**
KSM *e*pP pP 06 28 39.9 +0.4
ZAL Zalesovo 44.97 315 P **P 06 28 38.8 0.0**
comp=Z,3.8nm,0.8s,mb4.3,baz=14,slow=8.3,SNR=15
ZAL PcP PcP 06 30 18.8 -1.2
comp=Z,7.1nm,0.7s,baz=359,slow=5.0,SNR=4.3
NVS Novosibirsk 45.93 316⇓ *i*P **P 06 28 45.7 -0.7**
NVS pmax pmax
comp=Z,77nm,2.0s,mb5.3
NVS pmax pmax
comp=E,32nm,1.3s
MKAR Makanchi Array 46.74 305 *i* P **P 06 28 53.4 +0.5**
MKAR pmax pmax
comp=Z,47nm,0.8s
MKAR Makanchi Array 46.74 305 P **P 06 28 53.2 +0.3**
comp=Z,14nm,0.7s,mb5.0,baz=88,slow=9.0,SNR=77
KAKA Kakadu 46.78 193 *e*P **P 06 28 54.4 +0.8**
comp=Z,14nm,0.6s,mb5.1
JIRN Jiri 48.18 279 *e*P **P 06 29 04.0 -0.4**
comp=Z,142nm,0.7s,mb6.1
GUN Gumba 48.35 279 *e*P **P 06 29 06.2 +0.5**
comp=Z,81nm,0.7s,mb5.9
KURK Kurchatov 48.81 311⇓ *i*P **P 06 29 08.6 -0.4**
KURK *e**PP pP 06 29 16.8 -2.9
KURK pmax pmax
comp=Z,36nm,0.6s,mb5.6
KURK Kurchatov 48.81 311⇓ *i*P **P 06 29 08.6 -0.3**
comp=Z,36nm,0.6s,mb5.6
KURK *e*pP pP 06 29 16.8 -2.9
PKI Pulchoki 48.86 279 *e*P **P 06 29 09.6 -0.1**
comp=Z,71nm,0.9s,mb5.7
KKN Kakani 48.88 279 *e*P **P 06 29 09.9 0.0**
comp=Z,94nm,0.8s,mb5.8
DMN Daman 49.09 279 *e*P **P 06 29 11.4 -0.1**
comp=Z,45nm,0.8s,mb5.6
GKN Gorkha 49.34 280 *e*P **P 06 29 13.3 -0.1**
comp=Z,149nm,1.0s,mb6.0
RSO Redoubt South 49.38 36 *e*P **P 06 29 13.6 +0.4**
SPU Mount Spurr 49.75 35 *e*P **P 06 29 15.5 -0.6**
KOLN Koldanda 50.28 280 *e*P **P 06 29 20.7 +0.1**
comp=Z,158nm,1.3s,mb5.9
ULHL Ulahol 51.76 300 P **P 06 29 32.3 +0.7**
SNR=15
TKM2 Tokmak 2 52.07 301 P **P 06 29 35.0 +1.1**
SNR=40
ILAR Eielson Array 52.23 31 P **P 06 29 33.0 -1.8**
comp=Z,5.9nm,0.6s,mb4.7,baz=263,slow=5.9,SNR=73
ILAR pP pP 06 29 44.8 -0.8
comp=Z,10nm,1.0s,baz=272,slow=6.8,SNR=9.6
ILAR LR LR 06 48 49.5
comp=Z,87nm,20.3s,MS3.8,baz=100,slow=33
KZA Kyzart 52.52 300 P **P 06 29 39.0 +1.8**
SNR=14
KBK Karagaybulak 52.60 301 P **P 06 29 38.5 +0.7**
SNR=15
KSH Kashi 52.63 297 *e*P **P 06 29 38.8 +0.7**
KSH *e*PCP PcP 06 30 47.5 -0.4
KSH *e*PP PP 06 31 38.8 +0.3
KSH *e*PCS 06 34 45.8
KSH *e*S **S 06 37 01.3 0.0**
KSH AMB AMB
comp=Z,50nm,0.4s,mb5.8
KSH AMB AMB
comp=Z,630nm,3.6s
KSH LR LR
comp=N,2µm,24.9s
KSH LR LR
comp=E,8µm,34.7s
USP Ospenovka 52.77 302 P **P 06 29 39.5 +0.4**
SNR=14
FRU Bishkek 52.79 301 *e*P **P 06 29 40.0 +0.7**
FRU *e* 06 29 54.0
FRU pmax pmax
comp=Z,80nm,2.0s,mb5.3
AAK Ala-Archa 52.93 301 P **P 06 29 41.2 +0.9**
SNR=7.6
AAK Ala-Archa 52.93 301 *e*P **P 06 29 39.5 -0.8**
AAK pmax pmax
comp=Z,19nm,0.8s,mb5.1
AAK Ala-Archa 52.93 301 *e*P **P 06 29 39.5 -0.9**
comp=Z,18nm,0.8s,mb5.1
VOSK Vostochnaya 53.30 314 P **P 06 29 42.2 -0.7**
VOSK pmax pmax
comp=Z,22nm,1.0s,mb5.0
EKS2 Erkin-Say 53.43 301 P **P 06 29 44.6 +0.5**
SNR=8.3
WRAB Tennant Creek 53.55 189 *e*P **P 06 29 42.1 -3.1**
WRAB *e* 06 30 51.7
WRAB pmax pmax
comp=Z,24nm,0.7s,mb5.2
WRAB Tennant Creek 53.55 189 *e*P **P 06 29 42.1 -3.1**
comp=Z,24nm,0.7s,mb5.2
WRAB *e*PcP PcP 06 30 51.6 +0.1
WB2 Warramunga Arr 53.55 189 *e*P **P 06 29 42.8 -2.5**
WB2 *e*PCP PcP 06 30 51.5 -0.1
WRA Warramunga Arr 53.56 189 P **P 06 29 42.8 -2.5**
comp=Z,14nm,0.6s,mb5.1,baz=9.2,slow=7.7,SNR=5.4
WRA PcP PcP 06 30 50.7 -0.9
comp=Z,8.7nm,0.6s,baz=360,slow=4.0,SNR=7.5
FITZ Fitzroy Crossi 53.60 200⇓ *i*P **P 06 29 44.3 -1.3**
comp=Z,20nm,0.6s,mb5.2
BVA0 Borovoye Array 53.60 314 *i* P **P 06 29 44.5 -0.7**
BVA0 pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
AML Almayashu 53.62 301 P **P 06 29 46.8 +1.3**
SNR=24
BRVK Borovoye 53.66 315 *e*P **P 06 29 44.8 -0.8**
BRVK pmax pmax
comp=Z,34nm,1.7s,mb5.0
BRVK Borovoye 53.66 315 *e*P **P 06 29 44.8 -0.8**
comp=Z,34nm,1.7s,mb5.0
INK Inuvik 57.33 26 P **P 06 30 10.6 -1.3**
INK *PP pP 06 30 21.8 -1.2
INK pmax pmax
comp=Z,7.0nm,0.6s
INK pmax pmax
comp=Z,5.0nm,0.5s
INK Inuvik 57.33 26 P **P 06 30 10.6 -1.3**
comp=Z,7.2nm,0.6s,mb4.9,baz=289,slow=7.0,SNR=34
INK pP pP 06 30 21.8 -1.2
comp=Z,4.7nm,0.5s,baz=300,slow=5.9,SNR=6.1
INK Inuvik 57.33 26 *e*P **P 06 30 10.3 -1.7**
comp=Z,7.5nm,0.6s,mb4.9
MBWA Marble Bar 58.34 205 *e*P **P 06 30 18.0 -1.7**
comp=Z,11nm,0.6s,mb5.1
MBWA *e*pP pP 06 30 30.0 -0.7
HYB Hyderabad 58.91 271⇓ *e*P **P 06 30 23.0 -0.6**
HYB pmax pmax
comp=Z,80nm,1.0s,mb5.7
HYB Hyderabad 58.91 271⇓ *e*P **P 06 30 23.0 -0.6**
comp=Z,80nm,1.0s,mb5.7
HYB Hyderabad 58.91 271⇓ *i*P **P 06 30 23.0 -0.6**
comp=Z,80nm,1.0s,mb5.7
ARU Arti 59.60 320⇓ *i*P **P 06 30 27.0 -0.9**
ARU *e* 06 31 14.3
ARU *e*PPP PPP 06 34 01.3 -5.6
ARU *e*S **S 06 38 33.2 -0.4**
ARU *e* 06 40 14.7
ARU *e*SS SS 06 42 27.8 -2.9
ARU pmax pmax
comp=Z,20nm,0.8s,mb5.2
ARU Arti 59.60 320 *e*P **P 06 30 27.2 -0.7**
comp=Z,18nm,0.5s,mb5.3
AB31 Akbulak array 60.88 312 *i* P **P 06 30 35.8 -0.9**
AB31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
DLBC Dease Lake 61.09 37 P **P 06 30 37.9 -0.1**
comp=Z,14nm,1.3s,mb4.9,baz=314,slow=6.2,SNR=7.5
STKA Stephens Creek 64.90 181 *e*P **P 06 31 02.1 -1.5**
comp=Z,6.3nm,0.6s,mb4.8
STKA Stephens Creek 64.90 181 P **P 06 31 02.1 -1.5**
comp=Z,8.5nm,0.7s,mb4.9,baz=347,slow=8.9,SNR=10.0
LVZ Lovozero 65.74 337 *e*P **P 06 31 08.1 -0.2**
LVZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
RES Resolute Bay 65.96 14 *e*P **P 06 31 08.6 -1.1**
RES *e**PP pP 06 31 19.9 -1.0
RES pmax pmax
comp=Z,12nm,0.7s,mb5.0
RES Resolute Bay 65.96 14 *e*P **P 06 31 08.6 -1.1**
comp=Z,12nm,0.7s,mb5.0
RES *e*pP pP 06 31 19.9 -1.0
YKW3 Yellowknife Ar 66.58 29 *e*P **P 06 31 13.9 +0.2**
YKA Yellowknife Ar 66.62 30 P **P 06 31 12.2 -1.7**
comp=Z,7.7nm,0.9s,mb4.7,baz=295,slow=6.3,SNR=14
YKA pP pP 06 31 24.2 -1.0
comp=Z,8.8nm,0.9s,baz=295,slow=6.2,SNR=8.0
YKA LR LR 07 02 41.4
comp=Z,113nm,19.1s,MS4.1,baz=250,slow=38
YKA Yellowknife Ar 66.62 30 P **P 06 31 12.2 -1.7**
YKA pP pP 06 31 24.2 -1.0
KEV Kevo 67.12 340 *e*p **P 06 31 15.6 -1.4**
comp=Z,9.8nm,1.0s,mb4.8
ARCES ARCESS Array B 67.67 340 P **P 06 31 20.2 -0.2**
comp=Z,5.1nm,0.7s,mb4.7,baz=59,slow=7.1,SNR=18
KLBR Kellerberrin 68.64 202 *e*P **P 06 31 25.9 -1.3**
comp=Z,21nm,0.8s,mb5.1
DAG Danmarks Havn 69.47 355⇑ *e*P **P 06 31 31.2 -0.4**
DAG pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
DAG Danmarks Havn 69.47 355⇑ *e*P **P 06 31 31.2 -0.4**
comp=Z,3.4nm,0.4s,mb4.6
DAG Danmarks Havn 69.47 355⇑ *i*P **P 06 31 31.2 -0.4**
comp=Z,3.4nm,0.4s,mb4.6
NWAO Narrogin (SRO) 70.04 202 *e*P **P 06 31 34.9 -0.8**
NWAO *e**PP pP 06 31 45.5 -1.5
NWAO pmax pmax
comp=Z,27nm,0.6s
NWAO Narrogin (SRO) 70.04 202 *e*P **P 06 31 34.9 -0.9**
comp=Z,27nm,0.6s,mb5.3
NWAO *e*pP pP 06 31 45.5 -1.5
MOS Moscow 70.63 325 *e*P **P 06 31 36.9 -2.0**
MOS *e* 06 31 44.0
MOS *e* 06 31 58.2
MOS *e* 06 34 12.6
MOS pmax pmax
comp=Z,63nm,0.6s,mb5.7
OBN Obninsk 71.47 324⇓ *e*P **P 06 31 43.8 -0.1**
OBN *e**PP pP 06 31 54.3 -0.9
OBN *e* 06 34 21.6
OBN *e*S S 06 40 59.5 +1.0
OBN pmax pmax
comp=Z,20nm,0.8s,mb5.1
OBN MLR MLR
comp=Z,500nm,16.0s,MS4.9
EDM Edmonton 71.78 38 *e*P **P 06 31 44.9 -0.9**
KAF Kangasniemi 71.89 334 *e*p **P 06 31 45.7 -0.6**
comp=Z,12nm,0.6s,mb5.0,baz=50,slow=5.7
FINES FINESS Array B 72.39 333 P **P 06 31 48.9 -0.4**
comp=Z,11nm,0.7s,mb4.9,baz=108,slow=6.0,SNR=50
FINES pP pP 06 32 00.1 -0.4
comp=Z,14nm,0.8s,baz=124,slow=6.9,SNR=12
FINES FINESS Array B 72.39 333 P **P 06 31 48.9 -0.4**
FINES pP pP 06 32 00.1 -0.4
WDC Whiskeytown Da 72.70 53 *e*P **P 06 31 53.0 +1.5**
WDC pmax pmax
comp=Z,24nm,1.2s,mb5.0
WDC Whiskeytown Da 72.70 53 *e*P **P 06 31 53.0 +1.5**
comp=Z,24nm,1.2s,mb5.0
ZEI Tsey 73.71 311 *e*P **P 06 31 54.6 -2.8**
ZEI *i* *PP pP 06 32 04.2 -4.5
ZEI pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
KIV Kislovodsk 73.87 312 *e*P **P 06 31 59.1 +0.8**
KIV pmax pmax
comp=Z,19nm,0.6s,mb5.2
KIV Kislovodsk 73.87 312 *e*P **P 06 31 59.1 +0.8**
comp=Z,19nm,0.6s,mb5.2
VSU Vasula 73.98 330 *d i*P **P 06 31 58.7 +0.1**
SUMG Summit 74.34 0 *e*P **P 06 32 01.1 +0.6**
comp=Z,13nm,0.7s,mb5.0
SUMG *e*pP pP 06 32 12.9 +1.1
BEKR Beckwourth 74.50 52 *e*P **P 06 32 01.4 -0.6**
comp=Z,13nm,0.9s,mb4.8
BEKR *e*pP pP 06 32 14.0 +0.6
CMB Columbia Colle 75.42 54 *e*P **P 06 32 06.6 -0.8**
CMB *e**PP pP 06 32 19.4 +0.7
CMB pmax pmax
comp=Z,19nm,1.0s,mb5.0
CMB Columbia Colle 75.42 54 *e*P **P 06 32 06.5 -0.8**
comp=Z,19nm,1.0s,mb5.0
CMB *e*pP pP 06 32 19.4 +0.7
SOC Sochi 75.89 313 *e*P **P 06 32 07.7 -2.2**
SOC *e*PPP PPP 06 36 43.3 -5.8
SOC *e*S S 06 41 39.3 -9.2
SOC *e* 06 42 21.4
SOC *e*SS SS 06 46 41.2 -2.9
SOC pmax pmax
comp=Z,72nm,1.8s,mb5.3
SOC pmax pmax
comp=N,50nm,1.7s
SOC pmax pmax
comp=E,49nm,1.8s
SOC MLR MLR
comp=N,770nm,23.0s,MS5.1
SOC MLR MLR
comp=Z,971nm,23.0s,MS5.0
SOC MLR MLR
comp=E,577nm,20.0s,MS5.1
MNK Minsk 75.96 327 *e*P **P 06 32 06.0 -4.1**
FFC Flin Flon 76.39 33 *e*P **P 06 32 11.6 -1.0**
FFC pmax pmax
comp=Z,12nm,0.9s,mb4.8
FFC Flin Flon 76.39 33 *e*P **P 06 32 11.6 -1.0**
comp=Z,12nm,0.9s,mb4.8
ANN Anapa 76.60 315 *e*P **P 06 32 13.1 -0.8**
ANN *i* 06 32 29.3
ANN *e*S S 06 41 59.4 +3.2
ANN pmax pmax
comp=Z,35nm,1.1s,mb5.2
ANN MLR MLR
comp=Z,512nm,18.0s,MS4.9
PTRM Twissleman Ran 76.77 56 P **P 06 32 15.5 +0.4**
TPH Tonopah 77.52 53 *e*P **P 06 32 20.2 +0.9**

TPH pmax pmax
comp=Z,18nm,1.1s,mb4.9
TPH Tonopah 77.52 53 *e*P **P 06 32 20.2 +0.9**
comp=Z,18nm,1.1s,mb4.9
AKASG Malin Array Be 77.64 323 P **P 06 32 18.7 -0.9**
comp=Z,4.6nm,0.5s,mb4.6,baz=46,slow=6.0,SNR=45
AKASG pP pP 06 32 30.6 -0.4
comp=Z,4.9nm,0.6s,baz=48,slow=6.0,SNR=7.4
NB2 NORSAR Subarra 77.84 338 P **P 06 32 20.3 -0.2**
comp=Z,18nm,0.7s,mb5.1,baz=40,slow=5.6
NB2 NORSAR Subarra 77.84 338 P **P 06 32 20.3 -0.2**
NB2 pmax pmax
comp=Z,18nm,0.7s,mb5.1
NB2 NORSAR Subarra 77.84 338 P **P 06 32 20.3 -0.2**
baz=40,slow=5.6
NOA NORSAR Array B 77.84 338 P **P 06 32 20.5 0.0**
comp=Z,15nm,0.6s,mb5.1,baz=39,slow=5.7,SNR=103
NOA pP pP 06 32 31.4 -0.4
comp=Z,18nm,0.9s,baz=39,slow=5.6,SNR=14
NOA NORSAR Array B 77.84 338 P **P 06 32 20.5 0.0**
NOA pP pP 06 32 31.4 -0.4
KBD Kabd 78.06 297 *e*P **P 06 32 23.2 +0.8**
KBD AMb AMB 06 32 24.8
comp=Z,167nm,0.6s,mb6.1
NAO01 NORSAR Array S 78.09 338 *e*P **P 06 32 20.9 -0.9**
comp=Z,9.0nm,0.6s,mb4.9
NAO01 *e* pP 06 32 31.8 -1.4
QRN Al-Qurain 78.12 297 *e*P **P 06 32 22.9 +0.2**
QRN AMb AMB 06 32 24.1
comp=Z,69nm,0.6s,mb5.8
LKWY Lake 78.17 44 *e*P **P 06 32 25.8 +3.1**
comp=Z,12nm,0.7s,mb4.9
IMW Indian Meadow 78.24 45 *e*P **P 06 32 24.1 +1.0**
comp=Z,29nm,1.4s,mb5.0
RDF Al-Radifah 78.30 297 *e*P **P 06 32 24.2 +0.5**
RDF AMb AMB 06 32 26.5
comp=Z,67nm,0.9s,mb5.6
SUW Suwalki 78.36 328 *e*P **P 06 32 23.9 +0.4**
MOOW Moose Ponds 78.44 45 *e*P **P 06 32 25.4 +1.2**
comp=Z,5.0nm,0.7s,mb4.5
HWUT Hardware Ranch 79.18 47 *e*P **P 06 32 28.8 +0.5**
comp=Z,18nm,1.1s,mb4.9
DUG Dugway 79.21 49 *e*P **P 06 32 28.6 +0.1**
DUG pmax pmax
comp=Z,24nm,1.3s,mb5.0
DUG Dugway 79.21 49 *e*P **P 06 32 28.6 +0.1**
comp=Z,24nm,1.3s,mb5.0
DGMT Dagmar 79.25 38 *e*P **P 06 32 29.9 +1.4**
comp=Z,64nm,1.3s,mb5.4
LAO LASA Array 79.27 41 *e*P **P 06 32 28.5 -0.1**
comp=Z,27nm,1.0s,mb5.1
CTU Camp Tracy 79.59 48 *e*P **P 06 32 30.6 +0.1**
MALT Malatya 79.61 309 *e*P **P 06 32 31.5 +0.8**
MALT pmax pmax
comp=Z,145nm,0.6s,mb6.1
MALT Malatya 79.61 309 *e*P **P 06 32 31.5 +0.9**
comp=Z,145nm,0.6s,mb6.1
PDAR Pinedale Array 79.72 45 P **P 06 32 30.9 -0.3**
comp=Z,1.8nm,0.6s,mb4.2,baz=287,slow=2.8,SNR=7.4
PDAR LR LR 07 05 58.0
comp=Z,107nm,20.9s,MS4.2,baz=71,slow=34
NLU North Lily Min 79.81 49 *e*P **P 06 32 32.9 +1.1**
JLU Jordanelle 79.83 48 *e*P **P 06 32 32.2 +0.4**
MPU Maple Canyon 80.06 49 *e*P **P 06 32 33.3 +0.3**
DAU Daniels Canyon 80.06 48 *e*P **P 06 32 33.4 +0.4**
ARUT Antelope Range 80.17 51 *e*P **P 06 32 35.7 +2.0**
NEN Nelson 80.45 54 *e*P **P 06 32 34.7 -0.5**
PFO Pinyon Flat Ob 80.48 56 *e*P **P 06 32 34.6 -0.8**
PFO *e**PP pP 06 32 47.2 +0.3
PFO pmax pmax
comp=Z,16nm,1.1s,mb4.9
PFO Pinyon Flat Ob 80.48 56 *e*P **P 06 32 34.6 -0.9**
comp=Z,16nm,1.1s,mb4.9
PFO *e*pP pP 06 32 47.2 +0.3
MSU Marysvale 80.58 50 *e*P **P 06 32 36.1 +0.3**
LDFC Landfair 80.59 54 *e*P **P 06 32 35.6 -0.3**
LDFC *e*pP pP 06 32 48.2 +0.8
BAR Barrett 80.84 57 *e*P **P 06 32 37.4 0.0**
SRU San Rafael 81.28 49 *e*P **P 06 32 39.6 +0.1**
SRU *e**PP pP 06 32 52.0 +1.1
GKP Gorka Klasztor 81.43 330 *e*P **P 06 32 40.8 +0.8**
GKP Gorka Klasztor 81.43 330 *e*P **P 06 32 40.8 +0.8**
KWP Kalwaria 81.53 325 *e*P **P 06 32 41.6 +1.0**
KWP Kalwaria 81.53 325 *e*P **P 06 32 41.6 +1.1**
BURAR Bucovina Array 81.64 322 ⇑P **P 06 32 41.9 +0.7**
BURAR Bucovina Array 81.64 322 ⇑P **P 06 32 41.9 +0.7**
RWWY Rawlins 81.76 45 *e*P **P 06 32 41.0 -0.9**
comp=Z,45nm,1.3s,mb5.2
BR131 Keskin Array S 81.83 312 *e*P **P 06 32 43.1 +0.8**
comp=Z,5.5nm,0.6s,mb4.7
BRTR Keskin Array B 81.83 312 P **P 06 32 42.5 +0.2**
comp=Z,9.5nm,0.7s,mb4.8,baz=109,slow=3.9,SNR=34
VRI Vrincioaia 81.99 320 ⇑P **P 06 32 44.6 +1.6**
KOLS Kolonicke sedl 82.21 325 *e*P **P 06 32 44.9 +0.8**
KOLS *e*pP pP 06 32 55.6 0.0
STHS Stebnicka Huta 82.37 326 *e*P **P 06 32 46.2 +1.3**
STHS *es*P sP 06 33 00.0 -0.4
OJC Ojcow 82.48 327 *e*P **P 06 32 46.2 +0.7**
ISR Istrita 82.57 320 ⇑P **P 06 32 48.1 +2.1**
CRVS Cervenica-Dubn 82.62 325 *e*P **P 06 32 46.2 0.0**
MLR Muntele Rosu 82.65 321 P **P 06 32 47.8 +1.4**
MLR Muntele Rosu 82.65 321 ⇓P **P 06 32 47.0 +0.5**
MLR Muntele Rosu 82.65 321 ⇓P **P 06 32 47.0 +0.6**
NIE Niedzica 82.81 326 *e*P **P 06 32 48.9 +1.8**
PHWY Pilot Hill 83.04 45 *e*P **P 06 32 49.0 +0.6**
KECS Kecovo 83.38 325 *e*P **P 06 32 50.4 +0.3**
KECS *e*pP pP 06 33 02.1 +0.5
HILS Ha'il 83.40 298 P **P 06 32 51.6 +1.0**
SMCO Snowmass 83.44 47 *e*P **P 06 32 50.9 +0.3**
DRGR 83.45 323 P **P 06 32 51.7 +1.2**
OKC Ostrava-Krasne 83.50 327 *e*P **P 06 32 51.6 +1.0**
OKC AMS AMS 07 18 00.0
comp=Z,500nm,15.9s
KSP Ksiaz 83.59 329 *e*P **P 06 32 51.6 +0.5**
KSP *e*pP pP 06 33 03.2 +0.7
KSP Ksiaz 83.59 329 *e*P **P 06 32 51.9 +0.9**
BSEG Bad Segeberg 83.65 334 *e*P **P 06 32 52.1 +0.8**
MORC Moravsky Berou 83.82 328 P **P 06 32 53.3 +1.1**
MORC Moravsky Berou 83.82 328 *e*P **P 06 32 51.5 -0.7**
comp=Z,9.0nm,0.8s,mb5.0
MORC *e*pP pP 06 33 03.9 +0.2
DPC Dobruska-Polom 83.94 329 *e*P **P 06 32 53.9 +1.1**
DPC *e**PP pP 06 33 05.2 +0.9
DPC Dobruska-Polom 83.94 329 AMS AMS 06 21 10.0
comp=Z,700nm,16.6s
DPC *e*P 06 32 53.9
DPC *e*pP pP 06 33 05.2 +0.9
UPC Upice 83.96 329 *e*P **P 06 32 53.7 +0.8**
UPC *e*pP pP 06 33 04.6 +0.2
PSZ Piszkesteto 84.06 325 P **P 06 32 55.0 +1.5**
PSZ Piszkesteto 84.06 325 ⇓P **P 06 32 54.7 +1.2**
VYHS Vyhne 84.15 326 *e*P **P 06 32 54.2 +0.3**
VYHS *e*pP pP 06 33 05.9 +0.5
ASF Jabal al Asfar 84.16 305 P **P 06 32 55.3 +0.9**
comp=Z,16nm,0.7s,mb5.3,baz=294,slow=3.1,SNR=29
ASF pP pP 06 33 06.3 +0.4
comp=Z,17nm,0.8s,baz=316,slow=1.9,SNR=7.6
QURS Qurayyt al Mil 84.32 304 P **P 06 32 56.8 +1.5**
PVCC Panska Ves 84.56 330 *e*P **P 06 32 56.6 +0.6**
PVCC *e*pP pP 06 33 08.0 +0.5
PVCC AMS AMS 07 22 50.0
comp=Z,500nm,15.8s
BRG Berggiesshubel 84.57 330 *i* P **P 06 32 56.6 +0.6**
BRG *e* pP 06 33 07.7 +0.2
BRG pmax pmax
comp=Z,15nm,0.7s,mb5.2
BRG Berggiesshubel 84.57 330 *i* P **P 06 32 56.5 +0.6**
comp=Z,15nm,0.7s,mb5.2
BRG *e* pP 06 33 07.7 +0.2
VRAC Vranov 84.58 328 P **P 06 32 57.9 +1.8**
CLL Collm 84.63 331 ⇓*i*P **P 06 32 56.6 +0.3**
CLL *i* *PP pP 06 33 07.7 -0.1
CLL *e*S S 06 43 25.0 +5.7
CLL pmax pmax
comp=Z,26nm,0.9s,mb5.4
CLL Collm 84.63 331 ⇓*i*P **P 06 32 56.6 +0.3**
comp=Z,26nm,0.9s,mb5.4
CLL *i* pP pP 06 33 07.7 -0.1
CLL *e*S S 06 43 25.0 +5.7
CLL Collm 84.63 331 ⇓P **P 06 32 56.6 +0.3**
comp=Z,logA/T=1.5,mb5.4
CLL *i* *PP pP 06 33 07.7 -0.1
CLL *e*S S 06 43 25.0 +5.7
SMOL Smolenice 84.79 327 *e*P **P 06 32 58.7 +1.6**

CSS Prodhromos 84.89 309 *e*P **P 06 32 57.5 -0.6**
comp=Z,17nm,0.8s,mb5.2
PRU Pruhonice 84.98 329 *e*P **P 06 32 58.6 +0.6**
PRU *e*pP pP 06 33 09.4 -0.2
PRU AMS AMS 07 18 40.0
comp=Z,300nm,17.8s
TUC Tucson 85.13 54 *e*P **P 06 32 58.8 -0.4**
TUC pmax pmax
comp=Z,15nm,1.2s,mb5.0
TUC Tucson 85.13 54 *e*P **P 06 32 58.8 -0.5**
comp=Z,15nm,1.2s,mb5.0
ZST Bratislava 85.17 327 *e*P **P 06 33 00.2 +1.2**
ZST *e*S S 06 43 30.1 +5.5
KAMS Al Khamasin 85.21 291 P **P 06 32 59.9 0.0**
SDCO Great Sand Dun 85.24 47 ⇓*i*P **P 06 33 00.4 +0.7**
comp=Z,19nm,0.9s,mb5.2
CLZ Clausthal 85.26 332 *e*P **P 06 33 00.5 +1.1**
CLZ pmax pmax
comp=Z,23nm,0.9s,mb5.3
CLZ Clausthal 85.26 332 *e*P **P 06 33 00.5 +1.1**
comp=Z,23nm,0.9s,mb5.3
MKRJ Makawir 85.39 305 P **P 06 33 01.7 +1.2**
NKC Novy Kostel 85.68 330 *e*P **P 06 33 01.8 +0.3**
NKC *e*pP pP 06 33 13.4 +0.4
MOX Moxa 85.70 331 *e*P **P 06 33 02.3 +0.7**
MOX pmax pmax
comp=Z,61nm,1.9s,mb5.5
MOX Moxa 85.70 331 *e*P **P 06 33 02.3 +0.7**
comp=Z,61nm,1.9s,mb5.5
MOX *e*LR LR 07 02 31.0
MOX Moxa 85.70 331 *i* P **P 06 33 02.3 +0.7**
comp=Z,logA/T=1.5,mb5.5
MOX LR LR 07 02 31.0
MOX L 07 23 07.0
KHC Kasperske Hory 86.04 329 *e*P **P 06 33 04.3 +1.0**
KHC AMS AMS 07 19 40.0
comp=Z,500nm,16.4s
KBRS Khaybar 86.17 298 P **P 06 33 06.3 +1.8**
GEC2 GERESS Array S 86.20 329 *e*P **P 06 33 04.8 +0.7**
GEC2 pmax pmax
comp=Z,5.0nm,1.1s,mb4.7
GEC2 GERESS Array S 86.20 329 *e*P **P 06 33 04.8 +0.7**
comp=Z,5.0nm,1.1s,mb4.7
GERES GERESS Array B 86.20 329 P **P 06 33 04.1 0.0**
comp=Z,1.8nm,0.6s,mb4.5,baz=34,slow=4.8,SNR=14
GERES pP pP 06 33 15.7 0.0
comp=Z,1.5nm,0.7s,baz=34,slow=4.8,SNR=3.3
GERES PP PP 06 36 16.8 -10
comp=Z,0.3nm,0.2s,baz=45,slow=3.8,SNR=3.8
ANMO Albuquerque 86.38 50 ⇓*e*P **P 06 33 05.6 +0.3**
ANMO *e**PP pP 06 33 18.4 +1.5
ANMO pmax pmax
comp=Z,11nm,0.9s
ANMO Albuquerque 86.38 50 ⇓*e*P **P 06 33 05.6 +0.3**
comp=Z,11nm,0.9s,mb5.1
ANMO *e*pP pP 06 33 18.4 +1.6
TATS Tathlith 86.50 291 P **P 06 33 07.2 +1.0**
PRNI Paran 86.54 304 P **P 06 33 06.7 +0.5**
GRA1 Grafenberg Arr 86.60 331 *e*P **P 06 33 07.3 +1.3**
comp=Z,19nm,0.9s,mb5.3
GRF Grafenberg Arr 86.60 331 *e*P **P 06 33 07.3 +1.3**
GRF pmax pmax
comp=Z,19nm,0.9s,mb5.3
GRF Grafenberg Arr 86.60 331 *e*P **P 06 33 07.3 +1.3**
GRF pmax pmax
comp=Z,19nm,0.9s,mb5.3
GRF Grafenberg Arr 86.60 331 *e*P **P 06 33 07.3 +1.3**
comp=Z,19nm,0.9s,mb5.3
LPM Los Pinos Moun 86.67 51 *e*P **P 06 33 07.1 +0.3**
JMQS Jabal Moqyreh 86.80 303 P **P 06 33 08.2 +0.6**
MBH Mount Berech 86.94 304 P **P 06 33 08.5 +0.4**
EIL Elat 86.99 304 P **P 06 33 08.4 0.0**
PERS Pernice 87.23 327 *e*P **P 06 33 09.5 +0.4**
TNS Taunus Mts 87.29 332 *e*P **P 06 33 10.1 +0.8**
TNS pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
TNS Taunus Mts 87.29 332 *e*P **P 06 33 10.1 +0.8**
comp=Z,7.0nm,0.8s,mb4.9
HAQS Haql 87.37 303 P **P 06 33 10.9 +0.7**
FUR Furstenfeldbru 87.76 330 *e*P **P 06 33 12.8 +1.1**
FUR pmax pmax
comp=Z,26nm,0.4s,mb5.8
FUR Furstenfeldbru 87.76 330 *e*P **P 06 33 12.8 +1.1**
comp=Z,26nm,0.4s,mb5.8
UMJS Umm Lajj 87.92 299 P **P 06 33 14.1 +1.1**
LJU Ljubljana 87.94 327 *e*P **P 06 33 11.4 -1.1**
YNBS Yanbu' al Bahr 87.94 298 P **P 06 33 14.0 +0.9**
CBKS Cedar Bluff 87.99 44 *e*P **P 06 33 12.3 -0.7**
CBKS pmax pmax
comp=Z,30nm,1.2s,mb5.4
CBKS Cedar Bluff 87.99 44 *e*P **P 06 33 12.3 -0.7**
comp=Z,30nm,1.2s,mb5.4
BOJS Bojanci 88.01 326 *e*P **P 06 33 12.9 0.0**
SCHQ Schefferville 88.65 16 P **P 06 33 15.7 0.0**
comp=Z,4.0nm,0.7s,mb4.9,baz=350,slow=6.2,SNR=7.5
BFO Black Forest 88.85 331 *e*P **P 06 33 17.5 +0.7**
BFO pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
BFO Black Forest 88.85 331 *e*P **P 06 33 17.5 +0.7**
comp=Z,8.0nm,0.8s,mb5.1
MNTX Cornudas Mount 89.12 52 *e*P **P 06 33 18.0 -0.5**
comp=Z,2.8nm,1.0s,mb4.5
MNTX *e*pP pP 06 33 30.8 +0.6
CDF Champ du Feu 89.20 332 *e*P **P 06 33 18.8 +0.3**
CPRX Cap Rock 89.26 50 *e*P **P 06 33 18.4 -0.8**
GDL2 Guadalupe Moun 89.47 51 *e*P **P 06 33 19.9 -0.3**
KSU1 Kansas State U 89.57 42 *e*P **P 06 33 19.1 -1.4**
HINF Hinteralfeld 89.85 332 *e*P **P 06 33 21.4 -0.2**
FLN La Foliniere 91.74 336 *e*P **P 06 33 30.2 -0.2**
comp=Z,17nm,0.7s,mb5.2
FLN La Foliniere 91.74 336 *e*P **P 06 33 30.2 -0.2**
FLN pmax pmax
comp=Z,9.0nm,0.7s,mb5.2
LPL La Plagne 91.76 330 *e*P **P 06 33 31.0 +0.4**
comp=Z,14nm,0.7s,mb5.1
LPL La Plagne 91.76 330 *e*P **P 06 33 31.0 +0.4**
LPL pmax pmax
comp=Z,7.0nm,0.7s,mb5.1
SSF Saint Saulge 91.76 333 *e*P **P 06 33 30.6 +0.1**
SSF *e**PP pP 06 33 41.6 -0.6
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
SSF Saint Saulge 91.76 333 *e*P **P 06 33 30.6 +0.1**
comp=Z,5.8nm,0.8s,mb5.0
SSF *e*pP pP 06 33 41.6 -0.6
LTX Lajitas 91.77 53 *e*P **P 06 33 29.7 -1.3**
LTX pmax pmax
comp=Z,31nm,1.4s,mb5.5
LTX Lajitas 91.77 53 *e*P **P 06 33 29.7 -1.3**
comp=Z,31nm,1.4s,mb5.5
TXAR Lajitas Array 91.77 53 P **P 06 33 30.9 0.0**
comp=Z,5.6nm,0.6s,mb5.0,baz=307,slow=3.1,SNR=71
TXAR SKPbc 06 37 19.2
comp=Z,2.5nm,0.6s,baz=307,slow=3.0,SNR=14
TXAR LR LR 07 10 17.7
comp=Z,228nm,20.4s,MS4.6,baz=290,slow=33
LPG La Plagne 91.77 330 *e*P **P 06 33 31.1 +0.5**
comp=Z,14nm,0.6s,mb5.2
LPG *e*pP pP 06 33 41.6 -0.7
LPG La Plagne 91.77 330 *e*P **P 06 33 31.1 +0.5**
LPG *e**PP pP 06 33 41.6 -0.7
LPG pmax pmax
comp=Z,7.0nm,0.6s,mb5.2
AVF Avril sur Loir 92.05 333 *e*P **P 06 33 31.4 -0.4**
comp=Z,19nm,0.6s,mb5.3
AVF *e*pP pP 06 33 42.5 -1.0
AVF Avril sur Loir 92.05 333 *e*P **P 06 33 31.4 -0.4**
AVF *e**PP pP 06 33 42.5 -1.0
AVF pmax pmax
comp=Z,9.0nm,0.6s,mb5.3
BNI Bardonecchia 92.16 330 *e*P **P 06 33 32.9 +0.5**
BNI pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
BNI Bardonecchia 92.16 330 *e*P **P 06 33 32.9 +0.5**
comp=Z,4.7nm,0.6s,mb5.0
MBDF Montbardon 92.39 330 *e*P **P 06 33 33.2 -0.2**
comp=Z,18nm,0.6s,mb5.2
MBDF Montbardon 92.39 330 *e*P **P 06 33 33.2 -0.2**
MBDF pmax pmax
comp=Z,9.0nm,0.6s,mb5.3
ORIF Oris-en-Rattie 92.60 331 *e*P **P 06 33 34.6 +0.2**
comp=Z,13nm,0.6s,mb5.2
ORIF Oris-en-Rattie 92.60 331 *e*P **P 06 33 34.6 +0.2**
ORIF pmax pmax
comp=Z,7.0nm,0.6s,mb5.3

SBF Sospel 92.80 329 *e*P **P 06 33 34.7 -0.7**
comp=Z,40nm,0.6s,mb5.7
SBF Sospel 92.80 329 *e*P **P 06 33 34.7 -0.7**
SBF pmax pmax
comp=Z,20nm,0.6s,mb5.7
VIVF Saint-Julien-l 93.14 331 *e*P **P 06 33 37.0 +0.1**
comp=Z,19nm,0.9s,mb5.2
VIVF *e*pP pP 06 33 47.8 -0.8
VIVF Saint-Julien-l 93.14 331 *e*P **P 06 33 37.0 +0.1**
VIVF *e**PP pP 06 33 47.8 -0.8
VIVF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
PGF Pioggiola 93.16 327 *e*P **P 06 33 35.9 -1.2**
comp=Z,16nm,1.0s,mb5.1
PGF Pioggiola 93.16 327 *e*P **P 06 33 35.9 -1.2**
PGF pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
FRF La Foret Royal 93.38 329 *e*P **P 06 33 37.5 -0.5**
comp=Z,8.4nm,0.6s,mb5.0
FRF La Foret Royal 93.38 329 *e*P **P 06 33 37.5 -0.5**
FRF pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
MFF Saint Martin d 93.49 335 *e*P **P 06 33 38.0 -0.4**
MFF *e*pP pP 06 33 49.5 -0.6
SMRF Simiane la Rot 93.49 330 *e*P **P 06 33 38.0 -0.5**
comp=Z,8.0nm,0.8s,mb4.9
LMR La Mourre 93.62 329 *e*P **P 06 33 38.1 -1.0**
comp=Z,10nm,0.6s,mb5.1
LMR *e*pP pP 06 33 49.5 -1.3
LMR La Mourre 93.62 329 *e*P **P 06 33 38.1 -1.0**
LMR *e**PP pP 06 33 49.5 -1.3
LMR pmax pmax
comp=Z,5.0nm,0.6s,mb5.1
CAF Calviac 94.10 333 *e*P **P 06 33 41.2 0.0**
LASF Ste Croix 94.11 331 *e*P **P 06 33 41.0 -0.3**
BOSA Boshof 126.53 257 PKP PKPdf 06 39 26.2 +0.9
comp=Z,2.5nm,0.6s,baz=206,slow=17,SNR=7.7
SDV Santo Domingo 127.59 43 *e*PKPdf PKPdf 06 39 28.4 +0.6
DBIC Dimbokro 129.43 316 PKIKP PKPdf 06 39 31.6 +0.3
DBIC pmax pmax
comp=Z,7.0nm,1.0s
DBIC Dimbokro 129.43 316 PKP PKPdf 06 39 31.6 +0.3
comp=Z,7.1nm,1.0s,baz=228,slow=4.1,SNR=5.4
SNAA Sanae 137.44 196 P PKPdf 06 39 35.2 -10
SNAA Sanae 137.44 196 *e* PKPdf 06 39 42.9 -1.8
SNAA Sanae 137.44 196 *e* PKPdf 06 39 46.7 +2.0
SNAA Sanae 137.44 196 *e* PKPdf 06 39 59.4 +15
SNAA Sanae 137.44 196 PKHKP 06 39 31.3
SNAA 06 39 46.0
SNAA 06 42 31.2
SNAA pmax pmax
comp=Z,1.0nm,0.6s
SNAA pmax pmax
comp=Z,1.0nm,1.0s
SNAA Sanae 137.44 196 PKhKP 06 39 31.3
SNAA PKP PKPdf 06 39 46.0 +1.3
comp=Z,0.5nm,0.6s,baz=187,slow=8.1
SNAA PP PP 06 42 31.2 -3.1
comp=Z,0.6nm,1.0s,baz=51,slow=13,SNR=3.9
SNAA Sanae 137.44 196 PKP PKPdf 06 39 46.0 +1.3
SNAA *e* 06 39 46.7
SNAA *e* 06 39 59.4
SNAA PP PP 06 42 31.2 -3.1
SNAA *e* 06 42 35.0
SNAA *e* 06 43 19.7
SNAA *e* 06 50 31.4
VNA2 Neumayer--Watz 138.99 195 *e* PKPdf 06 39 50.6 +3.1
VNA2 Neumayer--Watz 138.99 195 *e* PKPdf 06 40 02.2 +15
VNA2 Neumayer--Watz 138.99 195 *e* PKPdf 06 39 50.6 +3.1
VNA2 *e* 06 40 02.2
VNA2 *e* 06 42 40.0
VNA2 *e* 06 43 28.5
VNA2 *e* 06 50 40.1
VNA3 Neumayer Olymp 139.20 193 *e* PKPdf 06 39 51.0 +3.1
VNA3 Neumayer Olymp 139.20 193 *e* PKPdf 06 40 03.0 +15
VNA3 Neumayer Olymp 139.20 193 *e* PKPdf 06 39 51.0 +3.1
VNA3 *e* 06 40 03.0
VNA3 *e* 06 42 41.4
VNA3 *e* 06 43 26.3
VNA3 *e* 06 50 37.2
SAML Samuel 146.20 50 *e*PKP PKPdf 06 40 03.0 +1.4
SAML *e*SKP 06 43 40.4
LPAZ La Paz 147.74 66 PKPbc PKPdf 06 40 07.2 +3.1
comp=Z,5.1nm,0.8s,baz=227,slow=10,SNR=2.7
PLCA Paso Flores 152.89 115 PKPbc PKPdf 06 40 19.2 +7.9
comp=Z,1.5nm,0.6s,baz=205,slow=3.0,SNR=6.3
BDFB Brasilia 160.03 30 PKP PKPdf 06 40 20.8 -0.3
comp=Z,0.6nm,0.3s,baz=31,slow=24,SNR=3.0
BDFB PKPab PKPab 06 41 01.4 -1.9
comp=Z,3.2nm,1.0s,baz=131,slow=1.4,SNR=4.3
CPUP Villa Florida 161.60 73 PKP PKPdf 06 40 23.9 +1.4
comp=Z,0.8nm,0.8s,baz=9.5,slow=6.1,SNR=2.0
CPUP PKPab PKPab 06 41 09.4 -0.4
comp=Z,3.9nm,1.0s,baz=57,slow=1.6,SNR=4.0

IDC ***26*** *06:23:58.4±0.7, 33.31N×142.53E, mb4.3/15, mb1 4.5/18, mb1mx4.4/24, mbtmp4.3/18, ML4.0/3, MS4.2/2, Ms1 4.2/2, ms1mx3.5/32, Error ellipse: s-maj=19.8km s-min=17.9km az=175.0*
JMA ***26*** *06:24:00.4±0.7, 33.33N×142.58E, h41km, M4.4*
MOS ***26*** *06:24:01.9±1.2, 33.21N×142.34E, h33km, mb5.0/10, Error ellipse: s-maj=17.4km s-min=9.7km az=112.8*
BJI ***26*** *06:24:02.5, 33.44N×142.25E, h21km, mB5.0, mb4.6, Ms4.9, Msz4.8*
HRVD ***26*** *06:24:04.5±1.0, 33.11N×142.41E, h23km±3km, MW5.0/31, Centroid moment Tensor Solution. LP body waves: s9,c10;Mantle waves: s31,c40; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.56±.52; $M_{\theta\theta}$0.54±.31; $M_{\phi\phi}$2.02±.32; $M_{r\theta}$-2.49±.77; $M_{\theta\phi}$-0.28±.24; $M_{r\phi}$0.90±.37; Best double couple: $M_0$3.351×10^{16} NP1:ϕ_s353°, δ27°, λ-50°. NP2:ϕ_s130°, δ70°, λ-108°. Principal axes: T 2.688, Plg23°, Azm234°; N 1.328, Plg17°, Azm137°; P -4.013, Plg61°, Azm13°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***26*** *06:24:04.5±0.4, 33.28N×142.32E, mb4.9/11 Error ellipse: s-maj=11.0km s-min=9.1km az=171.0*
ISC 26 06:24:02.1±0.4, 33.32N±0.05×142.41E±0.05, h32km, h32km±2.4km:pP-P, n61, σ1s17/69, mb4.6/30, MS4.6/2,
1C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.18**	**265**	P	**Pn**	**06 24 37.1**	**+0.2**
JHJ2				*e*S	**Sn**	**06 25 04.6**	**+1.5**
JHJ	**Hachijo jima 2**	**2.21**	**266**	Pn	**Pn**	**06 24 36.9**	**-0.5**
	144nm,0.3s,baz=72,slow=20,SNR=8.3						
JHJ				Sn	**Sn**	**06 25 03.3**	**-0.5**
	134nm,0.3s,baz=78,slow=23,SNR=4.7						
JHJ				LR	LR	06 25 34.7	
	comp=Z,3μm,18.3s,baz=103,slow=42						
JIZS	**Izushimoda**	**3.24**	**296**	P	**Pn**	**06 24 52.4**	**+0.3**
JYT	**Yasato**	**3.42**	**329**	P	**Pn**	**06 24 54.7**	**+0.1**
JYT				*e*S	**Sn**	**06 25 35.0**	**+0.4**
JHO	**Hitachi**	**3.61**	**336**	P	**Pn**	**06 24 55.1**	**-2.2**
JHO				*e*S	**Sn**	**06 25 36.9**	**-2.5**
JYN	**Shimob**	**3.86**	**305**	P	**Pn**	**06 25 00.5**	**-0.3**
JYN				*e*S	**Sn**	**06 25 47.1**	**+1.4**
JAG	**Ashikaga**	**3.94**	**323**	P	**Pn**	**06 25 01.1**	**-0.8**
HMMJ	**Hamamatsu 2**	**4.18**	**293**	P	**Pn**	**06 25 06.1**	**+0.8**
MJAR	**Matsushiro Arr**	**4.71**	**314**	Pn	**Pn**	**06 25 12.1**	**-0.8**
	10nm,0.3s,baz=162,slow=13,SNR=7.0						
JNU	**Nakatsue**	**9.66**	**272**	Pn	**P**	**06 26 21.9**	**-0.1**
	0.9nm,0.3s,baz=88,slow=17,SNR=5.6						
KS15	**Wonju Array Si**	**12.54**	**293**	*e*Pn	**P**	**06 27 07.2**	**+6.0**
YSS	**Yuzh-Sakhalins**	**13.62**	**1**	⇓*e*P	**P**	**06 27 10.9**	**-4.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**13.62**	**1**	*e*Pn	**P**	**06 27 10.7**	**-4.7**
WHN	**Wuhan**	**23.94**	**271**	⇑P	**P**	**06 29 15.5**	**+1.2**
HHC	**Hu-ho-hao-te**	**25.63**	**296**	⇓*i*P	**P**	**06 29 33.0**	**+2.6**
HHC				AP	pP	06 29 42.3	+2.7
HHC				XP	sP	06 29 46.5	+2.6
HHC				PP	PP	06 30 11.8	+1.4
HHC				PCP	PcP	06 33 06.8	+5.5
HHC				S	**S**	**06 33 52.3**	**-1.7**
HHC				XS		06 34 07.8	
HHC				SS	SS	06 34 52.3	-6.1
HHC				SCP		06 36 43.8	
HHC				AMB	AMB		
	comp=Z,32nm,1.3s,mb4.7						

HHC					AMB	AMB			
	comp=Z,271nm,8.4s								
HHC					LR	LR			
	comp=N,892nm,14.4s,MS4.8								
HHC					LR	LR			
	comp=E,2μm,14.4s,MS4.8								
HHC					LR	LR			
	comp=Z,2μm,16.8s,MS4.7								
MA2	**Magadan**	**26.84**	**9**	*e*P	**P**		**06 29 42.6**	**+1.2**	
MA2				pmax	pmax				
	comp=Z,24nm,1.5s,mb4.5								
MA2	**Magadan**	**26.84**	**9**	*e*P	**P**		**06 29 42.6**	**+1.2**	
	comp=Z,24nm,1.5s,mb4.5								
CIT	**Chita**	**27.99**	**321**	*e*P	**P**		**06 29 53.0**	**+1.2**	
CIT				*e*			06 30 09.4		
CIT				pmax	pmax				
	comp=Z,141nm,1.7s,mb5.3								
ENH	**Enshi**	**28.08**	**273**	*e*P	**P**		**06 29 50.4**	**-2.5**	
	comp=Z,35nm,0.9s,mb5.0								
ENH				*e*pP	pP		06 30 01.9	-0.3	
SONM	**Songino Array**	**30.64**	**309**	P	**P**		**06 30 16.0**	**+0.4**	
	comp=Z,6.2nm,0.8s,mb4.5,baz=120,slow=6.7,SNR=5.3								
BOD	**Bodaibo**	**31.13**	**331**	*e*P	**P**		**06 30 22.6**	**+2.8**	
BOD				pmax	pmax				
	comp=Z,17nm,1.0s,mb4.8								
KMI	**Kunming**	**35.40**	**267**	P	**P**		**06 30 56.8**	**-0.4**	
KMI				AP	pP		06 31 07.8	+1.2	
KMI				XP	sP		06 31 12.0	+1.4	
KMI				PP	PP		06 32 14.0	-3.1	
KMI				S	**S**		**06 36 23.5**	**-5.4**	
KMI				AMB	AMB				
	comp=Z,12nm,0.8s,mb4.9								
KMI				AMB	AMB				
	comp=Z,125nm,7.1s								
KMI	**Kunming**	**35.40**	**267**	P	**P**		**06 30 56.7**	**-0.5**	
KMI				*PP	pP		06 31 07.7	+1.1	
KMI				*SP	sP		06 31 11.9	+1.3	
KMI							06 32 14.1		
KMI				S	**S**		**06 36 23.5**	**-5.4**	
KMI				pmax	pmax				
	comp=Z,12nm,0.8s,mb4.9								
KMI	**Kunming**	**35.40**	**267**	P	**P**		**06 30 56.7**	**-0.5**	
	comp=Z,12nm,0.8s,mb4.9								
KMI				pP	pP		06 31 07.7	+1.1	
KMI				sP	sP		06 31 11.9	+1.3	
KMI				PP	PP		06 32 14.1	-3.0	
KMI				S	**S**		**06 36 23.5**	**-5.4**	
ZAL	**Zalesovo**	**45.08**	**315**	P	**P**		**06 32 17.1**	**+0.4**	
	comp=Z,1.5nm,0.3s,mb4.3,baz=192,slow=14,SNR=2.1								
MKAR	**Makanchi Array**	**46.85**	**305**	P	**P**		**06 32 30.1**	**-0.7**	
	comp=Z,8.7nm,0.8s,mb4.7,baz=98,slow=8.6,SNR=4.8								
KURK	**Kurchatov**	**48.92**	**311**	*e*P	**P**		**06 32 45.8**	**-1.1**	
KURK				*e*PP	pP		06 32 54.7	-1.8	
KURK				pmax	pmax				
	comp=Z,10.0nm,0.8s,mb4.9								
KURK	**Kurchatov**	**48.92**	**311**	*e*P	**P**		**06 32 45.8**	**-1.0**	
	comp=Z,10nm,0.8s,mb4.9								
KURK				*e*pP	pP		06 32 54.7	-1.8	
PMR	**Palmer**	**51.16**	**35**	*e*P	**P**		**06 33 05.0**	**+1.1**	
PMR				pmax	pmax				
	comp=Z,5.0nm,0.4s,mb4.8								
PMR	**Palmer**	**51.16**	**35**	*e*P	**P**		**06 33 05.0**	**+1.1**	
	comp=Z,4.6nm,0.4s,mb4.8								
ILAR	**Eielson Array**	**52.23**	**31**	P	**P**		**06 33 10.6**	**-1.3**	
	comp=Z,1.4nm,0.5s,mb4.1,baz=258,slow=6.3,SNR=8.3								
WRAB	**Tennant Creek**	**53.51**	**189**	*e*P	**P**		**06 33 20.5**	**-1.5**	
WRA	**Warramunga Arr**	**53.52**	**189**	P	**P**		**06 33 20.3**	**-1.8**	
	comp=Z,3.3nm,0.7s,mb4.4,baz=5.8,slow=7.6,SNR=7.3								
WRA	**Warramunga Arr**	**53.52**	**189**	P	**P**		**06 33 20.3**	**-1.8**	
BRVK	**Borovoye**	**53.77**	**315**	*e*P	**P**		**06 33 23.8**	**+0.4**	
BRVK				pmax	pmax				
	comp=Z,7.0nm,1.1s,mb4.5								
BRVK	**Borovoye**	**53.77**	**315**	*e*P	**P**		**06 33 23.8**	**+0.3**	
	comp=Z,7.4nm,1.1s,mb4.5								
INK	**Inuvik**	**57.34**	**26**	P	**P**		**06 33 48.0**	**-1.1**	
	comp=Z,2.1nm,0.6s,mb4.4,baz=265,slow=5.3,SNR=5.4								
ARU	**Arti**	**59.70**	**320**	*e*P	**P**		**06 34 04.6**	**-1.1**	
ARU				pmax	pmax				
	comp=Z,7.0nm,0.7s,mb4.8								
ARU	**Arti**	**59.70**	**320**	*e*P	**P**		**06 34 04.6**	**-1.1**	
	comp=Z,7.4nm,0.7s,mb4.8								
STKA	**Stephens Creek**	**64.85**	**181**	P	**P**		**06 34 40.0**	**-0.3**	
	comp=Z,2.1nm,0.4s,mb4.5,baz=338,slow=9.9,SNR=4.6								
STKA	**Stephens Creek**	**64.85**	**181**	*e*P	**P**		**06 34 40.1**	**-0.2**	
YKA	**Yellowknife Ar**	**66.62**	**30**	P	**P**		**06 34 49.6**	**-1.5**	
	comp=Z,2.5nm,1.1s,mb4.2,baz=293,slow=6.0,SNR=5.2								
KAF	**Kangasniemi**	**71.98**	**334**	*e*p	**P**		**06 35 23.1**	**-1.0**	
	comp=Z,2.3nm,0.4s,mb4.5,baz=50,slow=5.6								
FINES	**FINESS Array B**	**72.48**	**333**	P	**P**		**06 35 26.6**	**-0.4**	
	comp=Z,2.7nm,0.8s,mb4.2,baz=90,slow=7.6,SNR=4.8								
AKASG	**Malin Array Be**	**77.74**	**323**	P	**P**		**06 35 56.6**	**-0.6**	
	comp=Z,0.5nm,0.4s,mb3.8,baz=45,slow=6.5,SNR=5.5								
NB2	**NORSAR Subarra**	**77.92**	**338**	P	**P**		**06 35 58.0**	**0.0**	
	comp=Z,20nm,1.4s,mb4.9,baz=40,slow=5.6								
NB2	**NORSAR Subarra**	**77.92**	**338**	P	**P**		**06 35 58.0**	**0.0**	
NB2				pmax	pmax				
	comp=Z,20nm,1.4s,mb4.8								
NOA	**NORSAR Array B**	**77.92**	**338**	P	**P**		**06 35 57.9**	**-0.2**	
	comp=Z,3.9nm,0.8s,mb4.4,baz=39,slow=5.6,SNR=6.6								
MOOW	**Moose Ponds**	**78.41**	**45**	P	**P**		**06 36 04.2**	**+3.1**	
	comp=Z,21nm,2.0s,mb4.7								
PDAR	**Pinedale Array**	**79.69**	**45**	P	**P**		**06 36 08.8**	**+0.7**	
	comp=Z,0.6nm,0.7s,mb3.6,baz=270,slow=2.7,SNR=3.6								
DAU	**Daniels Canyon**	**80.03**	**48**	*e*P	**P**		**06 36 11.3**	**+1.4**	
DAU				*e*	pP		06 36 20.5	+0.5	
RPZ	**Rata Peaks**	**81.01**	**159**	LR	LR		07 05 30.7		
	comp=Z,230nm,19.6s,MS4.5,baz=277,slow=31								
SRU	**San Rafael**	**81.24**	**49**	*e*P	**P**		**06 36 18.7**	**+2.3**	
SRU				*e*	pP		06 36 27.1	+0.6	
BRTR	**Keskin Array B**	**81.94**	**312**	P	**P**		**06 36 19.4**	**-0.5**	
	comp=Z,2.6nm,0.9s,mb4.2,baz=108,slow=3.9,SNR=3.6								
MORC	**Moravsky Berou**	**83.92**	**328**	*e*P	**P**		**06 36 30.4**	**+0.5**	
MORC				pmax	pmax				
	comp=Z,11nm,1.1s,mb4.9								
MORC	**Moravsky Berou**	**83.92**	**328**	*e*P	**P**		**06 36 30.4**	**+0.5**	
	comp=Z,11nm,1.1s,mb4.9								
PSZ	**Piszkesteto**	**84.16**	**325**	*e*P	**P**		**06 36 32.2**	**+1.1**	
PSZ				pmax	pmax				
	comp=Z,26nm,1.4s,mb5.2								
PSZ	**Piszkesteto**	**84.16**	**325**	*e*P	**P**		**06 36 32.2**	**+1.1**	
	comp=Z,26nm,1.4s,mb5.2								
ASF	**Jabal al Asfar**	**84.27**	**305**	P	**P**		**06 36 33.6**	**+1.5**	
	comp=Z,8.8nm,1.0s,mb4.8,baz=294,slow=2.0,SNR=4.4								
CLL	**Collm**	**84.72**	**331**	P	**P**		**06 36 34.0**	**+0.1**	
	comp=Z,logA/T=1.2,mb5.1								
TXAR	**Lajitas Array**	**91.72**	**53**	P	**P**		**06 37 08.8**	**+0.9**	
	comp=Z,1.4nm,0.6s,mb4.5,baz=306,slow=3.4,SNR=10.0								

IDC ***26*** *06:32:06.9±0.4,8.40N×91.61E,mb5.0/26,mb1 5.1/26, mb1mx5.1/26,mbtmp5.0/26,MS4.8/18,Ms1 4.8/18, ms1mx4.7/25,Error ellipse: s-maj=14.6km s-min=12.5km az=55.0*

BJI ***26*** *06:32:08.3,8.10N×91.64E,h30km,mB5.5,mb5.0,Ms5.1, Msz4.8*

MOS ***26*** *06:32:10.7±0.9,8.40N×91.72E,h33km,mb5.3/48, MS4.9/20,Error ellipse: s-maj=11.2km s-min=6.1km az=110.5*

HRVD ***26*** *06:32:11.4±0.2,8.44N×91.56E,h12km,MW5.3/68, Centroid moment Tensor Solution. LP body waves: s47,c77;Mantle waves: s68,c155; Half duration: 1s2 Moment tensor: Scale 10¹⁷Nm; Mrr=1.07±.02; Mθθ0.02±.02; Mφφ1.05±.02; Mrθ0.64±.06; Mφθ0.29±.02; Mrφ0.07±.05; Best double couple: M₀1.259×10¹⁷ NP1: φs353°,δ44°,λ-126°. NP2:φs218°,δ56°,λ-61°. Principal axes: T 1.154, Plg7°, Azm288°; N .208, Plg24°, Azm21°; P -1.364, Plg65°, Azm183°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***26*** *06:32:11.4±0.1,8.37N×91.64E,mb5.2/81 Error ellipse: s-maj=5.4km s-min=3.4km az=215.0*

ISC 26 06:32:09.7±0.2,8.35N±0.03×91.69E±0.02,h24km, h24km±8km:pP-P,n413,σ1s11/372,mb5.1/133,MS4.9/45, 29C-20D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PBA	**Port Blair**	**3.45**	**17**	*e*	**Pn**	**06 33 09.2**	**+6.0**
PBA				*e*		06 34 27.2	
SNG	**Songkhla** 468nm,0.9s	**8.92**	**97**	P	**P**	**06 34 22.0**	**+1.8**
NNT	**Nongplab**	**8.96**	**61**	P	**P**	**06 34 22.3**	**+1.6**
KULM	**Kulim**	**9.40**	**108**	*e*Pn	**P**	**06 34 25.4**	**-1.4**

IPM	**Ipoh**	**10.00**	**111**	P		**P**	**06 34 34.5**	**-0.7**	
PALK	**Pallekele** 203nm,1.0s	**10.94**	**265**	*e*Pn		**P**	**06 34 43.6**	**-4.4**	
NST	**Nakhon Sawan** 42nm,0.7s	**11.01**	**48**	P		**P**	**06 34 50.6**	**+1.7**	
BDT	**Bhumibol Dam**	**11.36**	**38**	P		**P**	**06 34 52.5**	**-1.2**	
CHG	**Chiang Mai** 26nm,0.8s	**12.56**	**33**	⇑P		**P**	**06 35 10.3**	**+0.4**	
BWNR	**Bhubaneshwar**	**13.17**	**335**	*e*P		**P**	**06 35 19.7**	**+1.7**	
BWNR				*e*			06 37 36.5		
BWNR				AML	AML		06 37 38.5		
	comp=N,217nm,0.2s								
BWNR				AML	AML		06 37 39.5		
	comp=E,411nm,0.4s								
KGM	**Kluang**	**13.17**	**118**	P		**P**	**06 35 17.5**	**-0.6**	
KKTK	**Khon Kaen**	**13.46**	**53**	P		**P**	**06 35 25.0**	**+3.2**	
NANT	**Nan**	**13.58**	**39**	⇑P		**P**	**06 35 24.0**	**+0.5**	
	comp=E,462nm,1.0s								
TRD	**Trivandrum**	**14.57**	**272**	⇓*e*		**P**	**06 35 40.2**	**+3.6**	
TRD				*e*S		**S**	**06 38 18.2**	**0.0**	
HYB	**Hyderabad**	**15.65**	**306**	*e*P		**P**	**06 35 50.0**	**-0.6**	
HYB				*e*S		**S**	**06 38 29.0**	**-14**	
HYB	**Hyderabad**	**15.65**	**306**	*i* P		**P**	**06 35 50.0**	**-0.6**	
HYB				*e*			06 35 54.0		
HYB				*e*			06 38 29.0		
HYB				*e*S		**S**	**06 38 40.0**	**-3.5**	
HYB				LR	LR				
	comp=E,5.4nm,16.0s								
BOK	**Bokaro**	**16.34**	**341**	*e*		**P**	**06 35 54.9**	**-4.4**	
BOK				AMb	AMB		06 36 06.2		
	comp=Z,123nm,1.1s								
BOK				*e*			06 38 45.4		
IMP	**Imphal**	**16.48**	**7**	*e*		**P**	**06 36 03.0**	**+1.8**	
BLSP	**Bilaspur**	**16.50**	**327**	*e*P		**P**	**06 35 58.5**	**-2.9**	
BLSP				AMb	AMB		06 36 11.6		
	comp=Z,160nm,1.1s								
BLSP				*e*			06 38 47.8		
SHL	**Shillong**	**17.13**	**1**	*i* P		**P**	**06 36 10.0**	**+0.8**	
SHL				*e*			06 39 08.0		
MNGI	**Mangalore**	**17.19**	**287**	*i* P		**P**	**06 36 07.2**	**-2.9**	
MNGI				*i*			06 38 57.5		
	comp=Z,401nm,1.5s								
LATR	**Latur**	**17.79**	**306**	*e*P		**P**	**06 36 15.5**	**-2.0**	
LATR				*e*			06 39 15.0		
AKL	**Akola**	**18.76**	**312**	⇓*i*P		**P**	**06 36 30.0**	**+0.5**	
AKL				*i*			06 39 45.8		
KAD	**Karad**	**19.24**	**299**	*e*P		**P**	**06 36 33.0**	**-2.2**	
KAD				AMb	AMB		06 36 37.2		
	comp=Z,235nm,1.6s								
KAD				*e*			06 39 52.9		
KMI	**Kunming**	**19.73**	**31**	P		**P**	**06 36 43.5**	**+2.8**	
KMI				AP			06 36 51.0		
KMI				PP	PP		06 37 02.3	+3.1	
KMI				S	**S**		**06 40 20.8**	**+4.6**	
KMI				XS			06 40 31.0		
KMI				SS	SS		06 40 45.5	+1.7	
KMI				AMB	AMB				
	comp=Z,53nm,1.4s								
KMI				AMB	AMB				
	comp=Z,850nm,5.5s								
KMI				LR	LR				
	comp=N,2μm,14.0s								
KMI				LR	LR				
	comp=E,2μm,12.0s								
KMI				LR	LR				
	comp=Z,2μm,17.0s								
KMI	**Kunming**	**19.73**	**31**	P		**P**	**06 36 43.4**	**+2.7**	
	comp=Z,53nm,1.4s								
KMI				pP			06 36 50.9		
KMI				sP			06 36 52.5		
KMI				PP	PP		06 37 02.2	+3.0	
KMI				PPP	PPP		06 37 10.6	+2.4	
KMI				S	**S**		**06 40 20.7**	**+4.5**	
KMI				sS			06 40 30.9		
KMI				SS	SS		06 40 45.6	+1.8	
KSM	**Kuching**	**19.76**	**109**	*e*P		**P**	**06 36 41.1**	**0.0**	
JIRN	**Jiri**	**19.90**	**346**	*e*P		**P**	**06 36 42.6**	**0.0**	
	comp=Z,239nm,0.9s								
PKI	**Pulchoki**	**20.02**	**344**	*e*P		**P**	**06 36 43.4**	**-0.4**	
	comp=Z,571nm,1.4s								
POO	**Poona**	**20.07**	**302**	⇓*i*P		**P**	**06 36 42.0**	**-2.3**	
	comp=Z,159nm,1.2s								
POO				*i*			06 44 14.0		
DMN	**Daman**	**20.15**	**343**	*e*P		**P**	**06 36 44.8**	**-0.3**	
	comp=Z,182nm,0.8s								
BHPL	**Bhopal**	**20.16**	**319**	*e*P		**P**	**06 36 43.6**	**-1.7**	
BHPL				AMb	AMB		06 36 49.6		
	comp=Z,150nm,1.3s								
BHPL				*e*			06 40 15.9		
GUN	**Gumba**	**20.22**	**345**	*e*P		**P**	**06 36 45.4**	**-0.5**	
	comp=Z,147nm,0.6s								
KKN	**Kakani**	**20.27**	**343**	*e*P		**P**	**06 36 45.8**	**-0.5**	
	comp=Z,140nm,0.9s								
QIZ	**Qiongzhong**	**20.56**	**57**	P		**P**	**06 36 49.5**	**0.0**	
QIZ				PP	PP		06 37 14.5	+3.7	
QIZ				S	**S**		**06 40 37.5**	**+4.2**	
QIZ				AMB	AMB				
	comp=Z,46nm,1.0s								
QIZ				LR	LR				
	comp=N,4μm,17.4s								
QIZ				LR	LR				
	comp=Z,3μm,11.9s								
QIZ	**Qiongzhong**	**20.56**	**57**	*e*P		**P**	**06 36 49.8**	**+0.3**	
	comp=Z,99nm,1.1s								
GKN	**Gorkha**	**20.66**	**342**	*e*P		**P**	**06 36 50.2**	**-0.2**	
	comp=Z,248nm,0.8s								
GKN				*e*S		**S**	**06 40 31.0**	**-4.0**	
KOLN	**Koldanda**	**20.78**	**339**	*e*P		**P**	**06 36 50.8**	**-0.8**	
	comp=Z,339nm,1.1s								
KOLN				*e*S		**S**	**06 40 32.3**	**-5.2**	
LSA	**Lhasa**	**21.25**	**359**	P		**P**	**06 36 57.0**	**+0.6**	
LSA				AP			06 37 09.0		
LSA				S		**S**	**06 40 50.0**	**+3.6**	
LSA				AMB	AMB				
	comp=Z,30nm,1.2s,mb4.5								
LSA				LR	LR				
	comp=N,1μm,13.9s,MS4.9								
LSA				LR	LR				
	comp=E,3μm,13.9s,MS4.9								
LSA				LR	LR				
	comp=Z,2μm,15.3s,MS4.6								
LSA	**Lhasa**	**21.25**	**359**	*e*P		**P**	**06 36 56.9**	**+0.5**	
	comp=Z,87nm,0.6s,mb5.3								
GYA	**Guiyang**	**22.95**	**36**	⇑*i*P		**P**	**06 37 13.8**	**+0.4**	
GYA				AP			06 37 21.0		
GYA				XP			06 37 24.3		
GYA				PP	PP		06 37 47.5	+4.2	
GYA				S	**S**		**06 41 25.5**	**+7.8**	
GYA				AMB	AMB				
	comp=Z,180nm,0.9s,mb5.5								
GYA				AMB	AMB				
	comp=Z,540nm,5.1s								
GYA				LR	LR				
	comp=N,3μm,12.6s,MS4.9								
GYA				LR	LR				
	comp=E,2μm,12.9s,MS4.9								
GYA				LR	LR				
	comp=Z,2μm,10.8s,MS4.8								
LGTI	**Lohaghat**	**23.59**	**334**	*e*P		**P**	**06 37 22.0**	**+2.4**	
PTH	**Pithoragarh**	**23.68**	**334**	*e*P		**P**	**06 37 23.3**	**+2.7**	
PTH				*e*			06 41 45.3		
AJM	**Ajmer**	**24.23**	**320**	⇓*i*P		**P**	**06 37 27.0**	**+1.1**	
NDI	**New Delhi**	**24.39**	**328**	*e*P		**P**	**06 37 26.0**	**-1.5**	
NDI				*e*S		**S**	**06 41 47.0**	**+4.3**	
KKM	**Kota Kinabalu**	**24.44**	**94**	*e*P		**P**	**06 37 30.3**	**+2.3**	
KKM	**Kota Kinabalu**	**24.44**	**94**	P		**P**	**06 37 31.9**	**+3.8**	
CD2	**Chengdu**	**25.12**	**25**	P		**P**	**06 37 34.0**	**-0.4**	
CD2				AMB	AMB				
	comp=Z,40nm,0.9s,mb5.0								
BHJ	**Bhuj**	**25.81**	**308**	⇑*e*		**P**	**06 37 48.7**	**+7.7**	
BHJ				*e*			06 42 34.5		
TSM	**Tawau**	**26.33**	**97**	P		**P**	**06 37 47.7**	**+1.9**	
SDNR	**Sundarnagar**	**26.81**	**331**	*e*P		**P**	**06 37 50.0**	**-0.1**	
SDNR				*e*			06 43 00.0		
ENH	**Enshi**	**27.45**	**35**	*e*P		**P**	**06 37 54.6**	**-1.3**	
	comp=Z,74nm,0.9s,mb5.2								
THN	**Thein Dam**	**28.18**	**330**	*e*P		**P**	**06 38 04.8**	**+2.3**	
ABRA	**Dolores**	**29.71**	**69**	*e*P		**P**	**06 38 15.6**	**-0.8**	
LZH	**Lanzhou**	**29.76**	**20**	*e*P		**P**	**06 38 16.8**	**+0.1**	
LZH				AP	pP		06 38 24.8	+1.0	
LZH				XP	sP		06 38 27.0	0.0	
LZH				PP	PP		06 39 14.8	+1.1	
LZH				AMB	AMB				
	comp=Z,100nm,1.5s,mb5.3								
LZH				AMB	AMB				
	comp=Z,500nm,5.3s								
LZH				LR	LR				
	comp=E,3μm,15.7s								
LZH				LR	LR				
	comp=Z,4μm,17.8s,MS5.1								
LZH	**Lanzhou**	**29.76**	**20**	*e*P		**P**	**06 38 16.8**	**+0.1**	
	comp=Z,100nm,1.5s,mb5.3								
LZH				pP	pP		06 38 24.7	+0.9	
LZH				sP	sP		06 38 27.1	+0.1	
LZH				PP	PP		06 39 14.8	+1.1	
XAN	**Xi'an**	**30.10**	**29**	P		**P**	**06 38 17.8**	**-1.9**	
XAN				AMB	AMB				
	comp=Z,29nm,1.0s,mb5.0								
QZH	**Quanzhou**	**30.50**	**54**	P		**P**	**06 38 24.5**	**+1.1**	
QZH				*e*S		**S**	**06 43 19.5**	**-2.6**	
QZH				LR	LR				
	comp=N,4μm,17.4s								
QZH				LR	LR				
	comp=E,3μm,11.7s								
QZH				LR	LR				
	comp=Z,4μm,12.6s,MS5.3								
RCP	**Roxas**	**30.74**	**81**	⇑*e*P		**P**	**06 38 27.1**	**+1.5**	
GTA	**Gaotai**	**31.78**	**12**	P		**P**	**06 38 34.3**	**-0.1**	
GTA				AP	pP		06 38 39.5	-2.1	
GTA				PP	PP		06 39 40.3	+0.3	
GTA				PCP	PcP		06 41 27.0	+1.5	
GTA				S	**S**		**06 43 45.8**	**+3.9**	
GTA				SCP			06 45 03.3		
GTA				PCS			06 45 09.5		
GTA				SS	SS		06 45 36.8	+3.8	
GTA				AMB	AMB				
	comp=Z,42nm,1.0s,mb5.2								
GTA				AMB	AMB				
	comp=Z,356nm,8.8s								
GTA				LR	LR				
	comp=N,727nm,17.6s,MS4.5								
GTA				LR	LR				
	comp=E,602nm,19.9s,MS4.5								
GTA				LR	LR				
	comp=Z,710nm,18.7s,MS4.4								
KSH	**Kashi**	**34.08**	**338**	*e*P		**P**	**06 38 55.3**	**+0.8**	
KSH				*e*AP	pP		06 39 02.5	+0.8	
KSH				*e*XP	sP		06 39 05.8	+1.0	
KSH				*e*PP	PP		06 40 09.0	+0.1	
KSH				*e*PCP	PcP		06 41 31.5	-0.3	
KSH				*e*S	**S**		**06 44 18.5**	**+0.8**	
KSH				*e*SCS	ScS		06 49 14.5	-0.1	
KSH				AMB	AMB				
	comp=Z,50nm,0.4s,mb5.8								
KSH				AMB	AMB				
	comp=Z,160nm,7.6s								
NJ2	**Nanjing**	**34.54**	**43**	*e*P		**P**	**06 39 00.0**	**+1.5**	
NJ2				AP	pP		06 39 07.5	+1.8	
NJ2				XP	sP		06 39 10.8	+2.0	
NJ2				PP	PP		06 40 16.8	+1.9	
NJ2				S	**S**		**06 44 27.0**	**+2.2**	
NJ2				XS			06 44 40.0		
NJ2				AMB	AMB				
	comp=Z,40nm,0.8s,mb5.4								
NJ2				AMB	AMB				
	comp=Z,270nm,6.0s								
NJ2				LR	LR				
	comp=N,3μm,10.9s,MS5.4								
NJ2				LR	LR				
	comp=E,3μm,11.6s,MS5.4								
NJ2				LR	LR				
	comp=Z,1μm,11.9s,MS4.9								
WMQ	**Urumqi**	**35.51**	**355**	P		**P**	**06 39 06.5**	**-0.1**	
WMQ				AP	pP		06 39 16.3	+2.4	
WMQ				XP	sP		06 39 20.0	+3.0	
WMQ				PP	PP		06 40 27.0	+0.1	
WMQ				S	**S**		**06 44 39.0**	**-0.8**	
WMQ				AMB	AMB				
	comp=Z,28nm,1.0s,mb5.2								
WMQ				AMB	AMB				
	comp=Z,753nm,4.0s								
WMQ				LR	LR				
	comp=N,877nm,14.6s,MS4.9								
WMQ				LR	LR				
	comp=E,1μm,14.7s,MS4.9								
WMQ				LR	LR				
	comp=Z,691nm,11.1s,MS4.7								
SSE	**Sheshan**	**35.61**	**46**	*e*P		**P**	**06 39 08.3**	**+0.6**	
SSE				AP	pP		06 39 16.5	+1.6	
SSE				XP	sP		06 39 21.8	+3.8	
SSE				S	**S**		**06 44 44.5**	**+2.9**	
SSE				XS			06 44 57.5		
SSE				SCS	ScS		06 49 23.0	+0.1	
SSE				AMB	AMB				
	comp=Z,54nm,0.8s,mb5.5								
SSE				AMB	AMB				
	comp=Z,922nm,11.7s								
SSE				LR	LR				
	comp=N,1μm,15.7s,MS4.8								
SSE				LR	LR				
	comp=E,823nm,15.7s,MS4.8								
SSE				LR	LR				
	comp=E,1μm,11.2s,MS4.9								
SSE	**Sheshan**	**35.61**	**46**	*e*P		**P**	**06 39 08.3**	**+0.6**	
	comp=Z,54nm,0.8s,mb5.5								
SSE				pP	pP		06 39 16.5	+1.6	
SSE				sP	sP		06 39 21.7	+3.7	
SSE				S	**S**		**06 44 44.4**	**+2.8**	
SSE				sS			06 44 57.6		
SSE				SS	SS		06 47 24.9	+23	
SSE				ScS	ScS		06 49 23.1	+0.2	
BTO	**Baotou**	**36.03**	**24**	*e*P		**P**	**06 39 09.0**	**-2.1**	
TIA	**Tai'an**	**36.14**	**36**	*e*P		**P**	**06 39 12.0**	**-0.1**	
ULHL	**Ulahol** SNR=5.8	**36.41**	**341**	P		**P**	**06 39 15.1**	**+0.9**	
KZA	**Kyzart** SNR=7.4	**36.60**	**339**	P		**P**	**06 39 17.3**	**+1.5**	
HHC	**Hu-ho-hao-te**	**36.88**	**25**	*e*P		**P**	**06 39 16.3**	**-1.9**	
HHC				AP	pP		06 39 23.5	-2.0	
HHC				PP	PP	

MKAR PcP PcP 06 41 46.0 -0.9
JOW Kunigami 39.22 57 P P 06 39 38.3 +0.3
comp=Z,28nm,0.8s,mb5.0,baz=271,slow=10,SNR=6.2
JOW LR LR 06 55 41.2
comp=Z,891nm,21.6s,MS4.6,baz=267,slow=36
MBWA Marble Bar 40.23 137 eP P 06 39 46.0 -0.4
comp=Z,29nm,0.9s,mb5.0
DL2 Dalian 40.60 37 P P 06 39 50.0 +0.8
DL2 S S 06 46 02.3 +5.2
DL2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
DL2 LR LR
comp=N,430nm,14.1s,MS4.7
DL2 LR LR
comp=E,520nm,12.1s,MS4.7
DL2 LR LR
comp=Z,540nm,15.3s,MS4.5
SONM Songino Array 41.28 15 P P 06 39 54.2 -0.5
comp=Z,33nm,0.8s,mb5.0,baz=198,slow=7.8,SNR=102
SONM LR LR 07 00 09.3
comp=Z,931nm,18.1s,MS4.7,baz=204,slow=41
FITZ Fitzroy Crossi 42.59 128⇓ iP P 06 40 05.2 -0.7
comp=Z,47nm,1.0s,mb5.2
FITZ ePCP PcP 06 41 57.0 -1.6
FITZ Fitzroy Crossi 42.59 128 LR LR 06 58 56.6
comp=Z,2μm,19.8s,MS5.1,baz=286,slow=38
ZAK Zakamensk 43.00 11 eP P 06 40 08.7 -0.1
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
ZAK pmax pmax
comp=Z,13nm,1.1s,mb4.6
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.2
KURK Kurchatov 43.61 348 eP P 06 40 13.2 -0.5
comp=Z,65nm,1.2s,mb5.2
SNY Shenyang 43.63 35 ⇓P P 06 40 13.5 -0.6
SNY AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
SNY LR LR
comp=N,1μm,14.7s,MS5.0
SNY LR LR
comp=E,570nm,13.2s,MS5.0
SNY LR LR
comp=Z,660nm,21.0s
JNU Nakatsue 43.77 50 P P 06 40 14.2 -1.2
comp=Z,18nm,0.9s,mb4.8,baz=12,slow=7.3,SNR=6.5
MOY Mondy 43.86 8 eP P 06 40 24.3 +8.5
MOY pmax pmax
comp=Z,40nm,4.0s
TLY Talaya 44.31 11 eP P 06 40 20.3 +0.9
TLY pmax pmax
comp=Z,18nm,1.3s,mb4.6
TLY Talaya 44.31 11 eP P 06 40 19.7 +0.3
comp=Z,16nm,1.2s,mb4.6
ZAL Zalesovo 45.80 354 i P P 06 40 31.3 +0.1
ZAL pmax pmax
comp=Z,36nm,1.1s
ZAL Zalesovo 45.80 354 P P 06 40 30.9 -0.4
comp=Z,36nm,1.1s,mb5.2,baz=295,slow=9.3,SNR=72
ZAL LR LR 07 03 54.1
comp=Z,1μm,20.0s,MS4.9,baz=290,slow=42
CN2 Changchun 45.96 34 eP P 06 40 32.5 -0.2
CN2 eXP sP 06 40 44.5 +1.5
CN2 eS S 06 47 14.0 -1.2
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,720nm,5.0s
CN2 LR LR
comp=N,1μm,16.0s,MS5.0
CN2 LR LR
comp=E,1μm,16.0s,MS5.0
CN2 LR LR
comp=Z,680nm,13.0s,MS4.8
KBD Kabd 46.17 303 eP P 06 40 34.7 +0.2
RDF Al-Radifah 46.22 302 eP P 06 40 35.5 +0.6
MUN Mundaring 46.44 151 eP P 06 40 37.1 +0.5
comp=Z,34nm,1.0s,mb5.2
NVS Novosibirsk 46.86 353⇑ iP P 06 40 38.7 -0.9
NVS eS S 06 47 27.8 -0.1
NVS pmax pmax
comp=Z,65nm,1.2s,mb5.4
NVS pmax pmax
comp=N,44nm,1.4s
NVS pmax pmax
comp=E,36nm,1.2s
NVS smax
comp=E,49nm,1.8s
KLBR Kellerberrin 46.89 149 eP P 06 40 40.4 +0.2
comp=E,69nm,1.2s,mb5.5
KLBR ePCP PcP 06 42 11.6 -1.6
CIT Chita 47.09 18 eP P 06 40 41.2 -0.3
CIT e pP 06 40 48.5 -0.3
CIT pmax pmax
comp=Z,73nm,1.4s,mb5.4
VOSK Vostochnaya 47.35 343 P P 06 40 42.8 -0.8
VOSK pmax pmax
comp=Z,15nm,1.0s,mb4.9
NWAO Narrogin (SRO) 47.71 151 eP P 06 40 46.0 -0.6
comp=Z,58nm,1.1s,mb5.5
BVA0 Borovoye Array 47.79 343 i P P 06 40 46.4 -0.6
BVA0 pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
BVAR Borovoye Array 47.79 343 P P 06 40 45.6 -1.4
comp=Z,10nm,1.0s,mb4.8,baz=143,slow=7.4,SNR=28
BRVK Borovoye 47.85 343 P P 06 40 46.7 -0.8
BRVK pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
BRVK Borovoye 47.85 343 eP P 06 40 45.8 -1.7
comp=Z,14nm,1.0s,mb4.9
AB31 Akbulak array 48.68 333 eP P 06 40 53.1 -0.8
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
MDJ Mudanjiang 48.81 36 P P 06 40 55.5 +0.5
MDJ AP pP 06 41 01.8 -0.6
MDJ XP sP 06 41 04.3 -1.0
MDJ PCP PcP 06 42 19.0 -0.9
MDJ PP PP 06 42 48.8 +0.6
MDJ SCP 06 46 12.8
MDJ PCS 06 46 16.0
MDJ S S 06 47 57.5 +2.0
MDJ AMB AMB
comp=Z,12nm,1.4s,mb4.7
MDJ AMB AMB
comp=Z,183nm,6.4s
MDJ LR LR
comp=N,828nm,13.3s,MS5.0
MDJ LR LR
comp=E,783nm,12.7s,MS5.0
MDJ LR LR
comp=Z,802nm,14.5s,MS4.8
MDJ Mudanjiang 48.81 36 eP P 06 40 55.0 0.0
comp=Z,4.6nm,0.5s,mb4.8
BLJS Baljurashi 49.74 289 P P 06 41 04.5 +2.0
WRA Warramunga Arr 50.52 124 P P 06 41 06.9 -1.5
WRA 06 42 25.9
WRA pmax pmax
comp=Z,77nm,1.0s
WRA pmax pmax
comp=Z,17nm,0.9s
WRA Warramunga Arr 50.52 124 P P 06 41 06.9 -1.5
comp=Z,77nm,0.9s,mb5.6,baz=304,slow=8.7,SNR=152
WRA PcP PcP 06 42 25.9 -0.5
comp=Z,17nm,0.9s,baz=311,slow=3.6,SNR=6.1
WRAB Tennant Creek 50.52 124 d iP P 06 41 07.5 -0.9
WRAB Tennant Creek 50.52 124⇓ eP P 06 41 07.5 -1.0
comp=Z,177nm,1.0s,mb6.0
WRAB epP pP 06 41 15.9 0.0
WRAB ePcP PcP 06 42 25.8 -0.6
WB2 Warramunga Arr 50.53 124⇓ iP P 06 41 07.5 -1.0
WB2 ePCP PcP 06 42 27.0 +0.6
MAT Matsushiro 50.66 49 eP P 06 41 09.0 -0.3
MAT Matsushiro 50.66 49 P P 06 41 08.6 -0.7
MJAR Matsushiro Arr 50.66 49 P P 06 41 09.7 +0.4
MJAR 06 42 26.2
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR pmax pmax
comp=Z,18nm,0.9s
MJAR MLR MLR
comp=Z,624nm,19.4s
MJAR Matsushiro Arr 50.66 49 P P 06 41 09.7 +0.4
comp=Z,1.2nm,0.3s,mb4.3,baz=53,slow=19,SNR=10.0
MJAR PcP PcP 06 42 26.2 -0.5
comp=Z,18nm,0.9s,baz=239,slow=5.2,SNR=12
MJAR LR LR 07 04 23.1
comp=Z,624nm,19.4s,MS4.6,baz=220,slow=38
HILS Ha'il 50.74 299 P P 06 41 12.1 +2.1
BOD Bodaibo 52.28 15⇓ iP P 06 41 20.8 -0.5
BOD pmax pmax
comp=Z,37nm,1.1s,mb5.2
GNI Garni 52.38 315⇑ eP P 06 41 23.1 +0.9
GNI pmax pmax
comp=Z,23nm,1.1s
GNI MLR MLR
comp=Z,1μm,24.0s
KBRS Khaybar 52.67 296 P P 06 41 26.8 +2.2
KLR Kul'dur 52.74 32 eP P 06 41 21.8 -3.0
TI2 Plekhanov 53.03 317 eP P 06 41 31.0 +3.9
YNBS Yanbu' al Bahr 53.59 294 P P 06 41 32.7 +1.3
ZEI Tsey 54.05 318 eP P 06 41 31.5 -3.0
ZEI *i* *PP pP 06 41 40.2 -1.8
ZEI pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ONI Oni 54.27 317 P P 06 41 36.3 +0.1
UMJS Umm Lajj 54.33 295 P P 06 41 38.6 +1.8
ARU Arti 54.53 338⇓ iP P 06 41 36.9 -0.9
ARU e 06 42 37.5
ARU e 06 43 47.1
ARU ePPP PPP 06 44 50.9 -2.1
ARU eS S 06 49 15.6 +1.8
ARU pmax pmax
comp=Z,30nm,1.2s,mb5.2
ARU MLR MLR
comp=Z,900nm,18.0s,MS4.9
ARU MLR MLR
comp=N,800nm,17.0s,MS4.9
ARU MLR MLR
comp=E,500nm,19.0s,MS4.9
ARU Arti 54.53 338 eP P 06 41 35.8 -2.1
comp=E,42nm,1.2s,mb5.3
CLNS Chul'man 54.86 22 eP P 06 41 39.6 -0.7
CLNS e 06 42 40.2
CLNS e 06 43 37.3
CLNS eS S 06 49 15.6 -2.7
CLNS pmax pmax
comp=N,37nm,1.1s
CLNS pmax pmax
comp=E,30nm,1.1s
CLNS pmax pmax
comp=Z,71nm,1.1s,mb5.6
CLNS pmax pmax
comp=Z,15nm,1.2s,mb4.9
CLNS pmax pmax
comp=N,17nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS smax
comp=N,219nm,13.4s
CLNS smax
comp=Z,168nm,11.6s
CLNS smax
comp=E,360nm,13.0s
CLNS pmax pmax
comp=N,600nm,16.5s
CLNS pmax pmax
comp=Z,600nm,17.4s
CLNS pmax pmax
comp=E,30nm,11.7s
KMBO Kilima Mbogo 55.07 263 P P 06 41 42.4 0.0
comp=E,14nm,0.9s,mb5.0,baz=52,slow=10,SNR=24
KMBO LR LR 07 03 12.2
comp=E,2μm,18.2s,MS5.2,baz=88,slow=34
KIV Kislovodsk 55.35 318 eP P 06 41 43.6 -0.4
KIV e 06 43 47.2
KIV eS S 06 49 26.6 +1.6
KIV pmax pmax
comp=N,18nm,1.2s
KIV pmax pmax
comp=E,11nm,1.2s
KIV pmax pmax
comp=Z,32nm,1.2s,mb5.2
KIV Kislovodsk 55.35 318 eP P 06 41 43.1 -0.9
comp=Z,51nm,1.2s,mb5.4
QURS Qurayyt al Mil 55.40 302 P P 06 41 45.4 +0.8
TBKS Tabuk 55.46 298 P P 06 41 47.1 +2.0
ASF Jabal al Asfar 55.93 303 P P 06 41 47.7 -0.6
comp=Z,4.6nm,0.8s,mb4.6,baz=1.5,slow=3.1,SNR=4.1
JMQS Jabal Moqyreh 56.16 299 P P 06 41 51.9 +1.9
MALT Malatya 56.31 311 eP P 06 41 50.0 -1.0
comp=Z,22nm,1.2s,mb5.1
BDAS Al Bad' 56.76 298 P P 06 41 55.4 +1.1
MKRJ Makawir 56.85 302 P P 06 41 54.7 -0.3
JMOS Jabal al Moall 56.87 299 P P 06 41 56.2 +1.1
TAYS Tayyib Ism 56.98 299 P P 06 41 57.0 +1.1
HAQS Haql 57.00 299 P P 06 41 57.2 +1.0
EIL Elat 57.09 300 P P 06 41 56.9 +0.2
MBH Mount Berech 57.14 300 P P 06 41 57.4 +0.3
PRNI Paran 57.16 301 P P 06 41 57.1 -0.1
SOC Sochi 57.18 317 eP P 06 41 48.7 -8.4
SOC e 06 42 50.3
SOC ePPP PPP 06 45 26.8 +0.8
SOC eS S 06 49 45.4 -3.8
SOC eSS SS 06 53 37.2 -2.5
SOC pmax pmax
comp=Z,22nm,1.1s,mb5.1
SOC pmax pmax
comp=N,45nm,1.2s
SOC pmax pmax
comp=E,43nm,1.1s
SOC MLR MLR
comp=N,670nm,22.0s,MS4.8
SOC MLR MLR
comp=E,636nm,22.0s,MS4.8
SOC MLR MLR
comp=Z,887nm,22.0s,MS4.8
YSS Yuzh-Sakhalins 57.92 39⇑ eP P 06 42 02.0 -0.3
YSS pmax pmax
comp=Z,20nm,0.9s,mb5.2
PMG Port Moresby 57.99 107 P P 06 42 02.8 -0.4
PMG pmax pmax
comp=Z,47nm,0.9s
PMG Port Moresby 57.99 107 P P 06 42 02.8 -0.3
comp=Z,47nm,0.9s,mb5.5,baz=294,slow=5.8,SNR=7.7
PMG Port Moresby 57.99 107 eP P 06 42 02.7 -0.4
comp=Z,66nm,0.9s,mb5.7
BR131 Keskin Array S 60.29 311 eP P 06 42 16.6 -2.2
comp=Z,7.9nm,0.9s,mb4.7
BRTR Keskin Array B 60.29 311 P P 06 42 16.4 -2.4
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 60.29 311 P P 06 42 16.4 -2.4
comp=Z,3.9nm,0.7s,mb4.6,baz=128,slow=7.7,SNR=20
YAK Yakutsk 60.34 20 eP P 06 42 17.0 -1.8
YAK e*PP pP 06 42 25.3 -1.1
YAK eS S 06 50 32.2 +2.1
YAK e*SS 06 50 39.3
YAK e 06 51 55.9
YAK eSS SS 06 54 27.9 -1.2
YAK pmax pmax
comp=Z,48nm,1.0s,mb5.5
YAK pmax pmax
comp=N,20nm,1.1s
YAK pmax pmax
comp=E,15nm,1.2s
YAK pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK smax
comp=E,5.0nm,1.1s
YAK smax
comp=Z,6.0nm,0.8s
YAK smax
comp=N,5.0nm,1.4s
YAK MLR MLR
comp=Z,327nm,12.0s,MS4.7
YAK MLR MLR
comp=N,274nm,14.0s,MS4.7
YAK MLR MLR
comp=E,363nm,16.0s,MS4.7
YAK Yakutsk 60.34 20 eP P 06 42 18.0 -0.8
comp=E,114nm,1.0s,mb5.9
CTA Charters Tower 60.66 119 eP P 06 42 21.8 +0.2
comp=E,49nm,1.0s,mb5.6
CTA ePCP PP 06 44 32.6 -4.7
CTA Charters Tower 60.66 119 LR LR 07 11 42.9
comp=E,1μm,20.2s,MS5.0,baz=288,slow=39
CTAO Charters Tower 60.66 119⇑ eP P 06 42 20.7 -0.9
comp=E,108nm,1.1s,mb5.9
ADE Adelaide 61.85 137 eP P 06 42 30.0 +0.5
STKA Stephens Creek 62.20 133 eP P 06 42 31.5 -0.3
comp=E,53nm,1.0s,mb5.6
STKA Stephens Creek 62.20 133 P P 06 42 30.9 -1.0
comp=E,66nm,1.0s,mb5.7,baz=314,slow=6.8,SNR=34
STKA LR LR 07 10 37.7
comp=E,965nm,21.3s,MS4.9,baz=290,slow=37
STKA Stephens Creek 62.20 133 eP P 06 42 31.4 -0.5
MOS Moscow 63.42 329 eP P 06 42 31.8 -7.8
MOS e 06 43 08.9
MOS pmax pmax
comp=Z,50nm,0.6s,mb5.8
MOS MLR MLR
comp=Z,2μm,22.2s,MS5.1
OBN Obninsk 63.70 328⇑ eP P 06 42 40.5 -0.9
OBN e pP 06 42 46.9 -2.1
OBN e 06 43 16.4
OBN eSS SS 06 55 21.6 -0.5
OBN pmax pmax
comp=Z,29nm,0.9s,mb5.3
OBN MLR MLR
comp=Z,600nm,14.0s,MS4.9
AKASG Malin Array Be 66.28 322 P P 06 42 55.2 -3.0
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 66.28 322 P P 06 42 55.2 -3.0
comp=Z,2.0nm,0.6s,mb4.3,baz=91,slow=4.8,SNR=19
AKASG Malin Array Be 66.28 322 P P 06 42 55.2 -3.0
VRI Vrincioaia 66.69 316⇑ P P 06 43 00.5 -0.4
VRI Vrincioaia 66.69 316⇑ P P 06 43 00.4 -0.4
MLR Muntele Rosu 67.14 316⇑ P P 06 43 03.0 -0.7
LSZ Lusaka 67.15 250 eP P 06 43 03.4 -0.8
comp=Z,33nm,1.1s,mb5.3
LSZ ePcP PcP 06 43 32.2 +0.1
TIXI Tiksi 67.26 12 d iP P 06 43 02.5 -1.6
TIXI pmax pmax
comp=Z,64nm,0.9s,mb5.7
MA2 Magadan 67.48 28 deP P 06 43 05.1 -0.5
MA2 e 06 59 23.6
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.2
MA2 pmax pmax
comp=N,7.0nm,1.2s
MA2 pmax pmax
comp=E,9.0nm,1.4s
MA2 Magadan 67.48 28 eP P 06 43 04.3 -1.3
comp=E,38nm,1.0s,mb5.4
MA2 epP pP 06 43 12.5 -0.7
TOO Toolangi 67.86 136 eP P 06 43 09.6 +1.2
comp=E,36nm,1.2s,mb5.3
BURAR Bucovina Array 68.07 318⇓ P P 06 43 08.4 -1.1
BURAR Bucovina Array 68.07 318⇓ P P 06 43 08.4 -1.1
PUL Pulkovo 68.64 332 eP P 06 43 13.2 +0.4
PUL eS S 06 52 12.8 +0.2
PUL pmax pmax
comp=N,189nm,0.6s
PUL pmax pmax
comp=E,115nm,0.6s
PUL pmax pmax
comp=Z,151nm,0.6s,mb6.1
PUL MLR MLR
comp=Z,1μm,20.0s,MS5.1
PUL MLR MLR
comp=N,377nm,15.0s
PUL MLR MLR
comp=E,1μm,24.0s
VAY Valandovo 68.87 311 i P P 06 43 13.8 -0.8
SEY Seymchan 69.52 25⇑ eP P 06 43 17.3 -0.9
CNB Canberra Magne 69.53 132 eP P 06 43 19.0 +0.3
comp=E,65nm,1.3s,mb5.4
PET Petropavlovsk 69.58 36 c iP P 06 43 18.4 -0.3
PET pmax pmax
comp=Z,32nm,0.9s,mb5.2
PET MLR MLR
comp=Z,700nm,17.0s,MS5.0
PET Petropavlovsk 69.58 36 eP P 06 43 17.2 -1.5
comp=Z,36nm,1.1s,mb5.2
VSU Vasula 69.95 330 d iP P 06 43 18.9 -2.0
KOLS Kolonicke sedl 70.26 319 eP P 06 43 22.8 -0.1
KOLS e 06 43 38.1
LVZ Lovozero 70.29 340 eP P 06 43 21.2 -1.6
LVZ eS S 06 52 30.9 -1.1
LVZ pmax pmax
comp=Z,15nm,0.6s,mb5.1
LVZ pmax pmax
comp=E,5.0nm,0.8s
LVZ smax
comp=N,169nm,3.4s
LVZ smax
comp=E,67nm,3.0s
LVZ MLR MLR
comp=Z,1μm,16.0s,MS5.2
LVZ MLR MLR
comp=N,383nm,15.0s,MS5.0
LVZ MLR MLR
comp=E,546nm,15.0s,MS5.0
APA Apatity 70.56 340⇓ iP P 06 43 23.0 -1.5
APA eS S 06 52 36.0 +0.9
APA pmax pmax
comp=Z,30nm,0.8s,mb5.3
APA MLR MLR
comp=Z,2μm,16.0s,MS5.3
SUW Suwalki 70.71 324 eP P 06 43 24.1 -1.4
comp=Z,100nm,1.2s,mb5.6
CRVS Cervenica-Dubn 70.78 319 eP P 06 43 28.9 +2.8
STHS Stebnicka Huta 71.00 319 eP P 06 43 28.1 +0.6
DIVS Divcibare 71.10 314⇑ iP P 06 43 26.5 -1.7
FINES FINESS Array B 71.17 332 i P P 06 43 26.5 -1.7
FINES pmax pmax
comp=Z,13nm,0.7s
FINES FINESS Array B 71.17 332 P P 06 43 25.6 -2.7
comp=Z,13nm,0.7s,mb5.0,baz=124,slow=6.9,SNR=43
FINES LR LR 07 17 54.1
comp=Z,850nm,21.3s,MS5.0,baz=348,slow=39
KAF Kangasniemi 71.27 333 ep P 06 43 27.0 -1.9
comp=Z,19nm,0.9s,mb5.0,baz=107,slow=5.8
KECS Kecovo 71.35 318 i P P 06 43 28.9 -0.7
NIE Niedzica 71.61 319 eP P 06 43 32.1 +1.0
OJC Ojcow 72.06 320 eP P 06 43 32.5 -1.2
OJC eS S 06 52 52.9 +0.2
OJC MLR MLR 07 15 57.7
comp=Z,700nm,18.6s,MS5.0
PKSM Moragy 72.30 316 eP P 06 43 34.3 -0.9
LBTB Lobatse 72.35 241 eP P 06 43 35.1 -0.9
comp=Z,16nm,0.9s,mb5.0
VYHS Vyhne 72.44 318 i P P 06 43 35.9 -0.1
OKC Ostrava-Krasne 73.06 320 eP P 06 43 39.2 -0.5
OKC epP pP 06 43 46.0 -1.3
TIP Timpagrande 73.10 308 eP P 06 43 39.4 -0.8
MORC Moravsky Berou 72.44 319 eP P 06 43 40.7 -1.2
comp=Z,16nm,1.2s,mb4.8
ZST Bratislava 73.55 318 eP P 06 43 42.0 -0.6
KEV Kevo 73.59 341 ep P 06 43 41.4 -1.0
comp=Z,15nm,0.8s,mb5.0
KEV Kevo 73.59 341 eP P 06 43 41.3 -1.1
comp=Z,27nm,1.1s,mb5.1
BOSA Boshof 73.79 237 P P 06 43 43.2 -1.2
comp=Z,18nm,1.1s,mb4.9,baz=68,slow=5.5,SNR=9.5
BOSA LR LR 07 11 17.0
comp=Z,828nm,19.6s,MS5.0,baz=255,slow=32
ARCES ARCESS Array B 74.01 340 P P 06 43 43.0 -1.8
ARCES pmax pmax
comp=Z,20nm,1.0s
ARCES MLR MLR
comp=Z,695nm,18.5s
ARCES ARCESS Array B 74.01 340 P P 06 43 43.0 -1.8
comp=Z,20nm,0.9s,mb5.0,baz=90,slow=3.6,SNR=30
ARCES LR LR 07 20 48.7
comp=Z,694nm,18.5s,MS5.0,baz=110,slow=40
ARE0 ARCESS Array S 74.01 340 eP P 06 43 42.9 -1.9
DPC Dobruska-Polom 74.28 320 eP P 06 43 46.2 -0.6
DPC epP pP 06 43 54.1 -0.3
KSP Ksiaz 74.35 320 eP P 06 43 47.4 +0.2
KSP e 06 44 01.8
KSP MLR MLR
comp=Z,1μm,18.7s,MS5.3
KSP Ksiaz 74.35 320 eP P 06 43 47.4 +0.2
KSP ePcP PcP 06 44 01.8 -0.3
KSP eSS SS 06 58 14.0 +6.9
UPC Upice 74.50 320 eP P 06 43 48.1 +0.1
UPC epP pP 06 43 55.5 -0.2
ARSA Arzberg 74.53 317⇑ iP P 06 43 49.0 +0.8
comp=Z,28nm,1.4s,mb5.0
BOJS Bojanci 74.59 315 eP P 06 43 48.0 -0.6
MIR Mirnyy 74.71 179 c iP P 06 43 49.2 +0.3

MIR pmax pmax
comp=Z,43nm,1.4s,mb5.2
VISS Visnje 74.90 315 *e*P **P 06 43 50.1 -0.3**
LJU Ljubljana 75.13 315 *e*P **P 06 43 51.6 -0.1**
LJU *e* 06 44 06.5
OBKA Obir 75.14 316⇑*i*P **P 06 43 51.3 -0.5**
comp=Z,25nm,1.4s,mb4.9
PRU Pruhonice 75.39 319 *e*P **P 06 43 52.5 -0.7**
PRU epP pP 06 44 00.4 -0.5
PVCC Panska Ves 75.42 320 *e*P **P 06 43 53.5 +0.2**
MOA Molln 75.42 317⇑*i*P **P 06 43 53.3 -0.1**
comp=Z,14nm,1.4s,mb4.7
VOJS Vojsko 75.58 315 *e*P **P 06 43 53.1 -1.2**
CASY Casey 75.70 172⇓*i*P **P 06 43 54.4 -0.2**
BRG Berggiesshubel 75.84 320 *i*P **P 06 43 56.2 +0.5**
BRG *e* 06 44 14.6
BRG pmax pmax
comp=Z,27nm,1.3s,mb5.0
BRG pmax pmax
comp=Z,28nm,1.5s,mb5.0
BRG MLR MLR
comp=Z,588nm,19.0s,MS4.9
BRG Berggiesshubel 75.84 320 *i*P **P 06 43 56.2 +0.5**
comp=Z,27nm,1.3s,mb5.0
BRG *e* 06 44 14.6
GEC2 GERESS Array S 75.86 318 *e*P **P 06 43 55.6 -0.2**
GEC2 pmax pmax
comp=Z,32nm,1.4s,mb5.1
GEC2 GERESS Array S 75.86 318 *e*P **P 06 43 55.6 -0.2**
comp=Z,32nm,1.4s,mb5.1
GERES GERESS Array B 75.86 318 P **P 06 43 54.7 -1.1**
GERES pmax pmax
comp=Z,6.0nm,0.8s
GERES GERESS Array B 75.86 318 P **P 06 43 54.7 -1.1**
comp=Z,6.3nm,0.8s,mb4.6,baz=90,slow=5.3,SNR=40
KHC Kasperske Hory 75.96 319 *e*P **P 06 43 56.0 -0.4**
KHC *e* pP 06 44 02.0 -2.1
KHC Kasperske Hory 75.96 319 *e*P **P 06 43 56.0 -0.4**
KHC pP pP 06 44 02.0 -2.1
KBA Koelnbreinsper 76.00 316⇑*i*P **P 06 43 56.4 -0.3**
comp=Z,15nm,1.1s,mb4.8
CLL Collm 76.46 321 *i*P **P 06 43 59.0 -0.2**
CLL pmax pmax
comp=Z,23nm,1.3s,mb5.0
CLL Collm 76.46 321 *i*P **P 06 43 59.0 -0.2**
comp=Z,23nm,1.3s,mb5.0
CLL Collm 76.46 321 P **P 06 43 59.0 -0.2**
comp=Z,logA/T=1.2,mb4.9
CLL *e*SS SS 06 58 48.0 +8.3
BILL Bilibino 76.55 22*c i*P **P 06 43 59.7 +0.4**
BILL pmax pmax
comp=Z,24nm,1.5s,mb4.9
BILL MLR MLR
comp=Z,900nm,22.0s,MS5.0
NKC Novy Kostel 76.75 320 *e*P **P 06 44 01.0 +0.2**
NKC epP pP 06 44 08.3 -0.2
WTTA Wattenberg 77.17 317⇑*i*P **P 06 44 02.2 -1.0**
comp=Z,26nm,1.3s,mb5.0
MOX Moxa 77.30 320 *e*P **P 06 44 04.0 +0.1**
MOX pmax pmax
comp=Z,26nm,1.4s,mb5.0
MOX Moxa 77.30 320 *e*P **P 06 44 04.0 +0.1**
comp=Z,26nm,1.4s,mb5.0
MOX Moxa 77.30 320 *i*P **P 06 44 04.0 +0.1**
comp=Z,logA/T=1.3,mb5.0
MOX SS SS 06 59 01.0 +8.7
FUR Furstenfeldbru 77.44 317 *e*P **P 06 44 04.0 -0.7**
FUR pmax pmax
comp=Z,22nm,1.0s,mb5.0
FUR Furstenfeldbru 77.44 317 *e*P **P 06 44 04.0 -0.7**
comp=Z,22nm,1.0s,mb5.0
GRA1 Grafenberg Arr 77.52 319 *e*P **P 06 44 05.3 +0.2**
comp=Z,43nm,1.1s,mb5.3
GRF Grafenberg Arr 77.52 319 *e*P **P 06 44 05.3 +0.2**
GRF pmax pmax
comp=Z,43nm,1.1s,mb5.3
GRF MLR MLR
comp=Z,400nm,20.3s,MS4.7
GRF Grafenberg Arr 77.52 319 *e*P **P 06 44 05.3 +0.2**
comp=Z,43nm,1.1s,mb5.3
MOTA Moosalm 77.54 317⇑*i*P **P 06 44 04.8 -0.4**
comp=Z,20nm,1.1s,mb5.0
CLZ Clausthal 78.12 321 *e*P **P 06 44 08.1 -0.2**
CLZ pmax pmax
comp=Z,28nm,1.1s,mb5.1
CLZ Clausthal 78.12 321 *e*P **P 06 44 08.1 -0.2**
comp=Z,28nm,1.1s,mb5.1
NB2 NORSAR Subarra 78.13 331 P **P 06 44 06.4 -1.8**
comp=Z,14nm,0.8s,mb5.0,baz=96,slow=5.3
NB2 NORSAR Subarra 78.13 331 P **P 06 44 06.4 -1.8**
baz=96,slow=5.3
NOA NORSAR Array B 78.13 331 P **P 06 44 06.7 -1.5**
NOA pmax pmax
comp=Z,8.0nm,0.7s
NOA MLR MLR
comp=Z,647nm,19.4s
NOA NORSAR Array B 78.13 331 P **P 06 44 06.7 -1.5**
comp=Z,8.2nm,0.7s,mb4.8,baz=94,slow=5.7,SNR=30
NOA LR LR 07 23 28.9
comp=Z,646nm,19.4s,MS5.0,baz=105,slow=40
BSEG Bad Segeberg 78.22 323 *e*P **P 06 44 08.7 -0.1**
BSEG pmax pmax
comp=Z,30nm,1.0s,mb5.2
FX1 Attu Island--F 78.25 38 P **P 06 44 08.6 -0.4**
FX1 pmax pmax
comp=Z,26nm,0.7s
FX1 Attu Island--F 78.25 38 P **P 06 44 08.6 -0.4**
comp=Z,26nm,0.7s,mb5.3,baz=340,slow=4.6,SNR=15
FX1 Attu Island--F 78.25 38 *e*P **P 06 44 08.6 -0.5**
NAO01 NORSAR Array S 78.28 330 *e*P **P 06 44 07.0 -2.0**
comp=Z,21nm,0.9s,mb5.1
NAO01 epP pP 06 44 15.0 -1.7
DAVA Damuels 78.37 317⇑*i*P **P 06 44 09.6 -0.2**
comp=Z,39nm,1.1s,mb5.2
MAW Mawson 78.52 191⇓*i*P **P 06 44 10.8 +0.6**
comp=Z,24nm,1.1s,mb5.0
MAW Mawson 78.52 191 P **P 06 44 10.5 +0.3**
MAW pmax pmax
comp=Z,35nm,1.1s
MAW Mawson 78.52 191 P **P 06 44 10.5 +0.3**
comp=Z,34nm,1.1s,mb5.2,baz=9.7,slow=6.3,SNR=33
TOD Tromm 79.09 319 *e*P **P 06 44 14.3 +0.6**
DZM Mont Dzumac 79.19 114 LR LR 07 18 02.2
comp=Z,321nm,20.4s,MS4.7,baz=24,slow=35
TNS Taunus Mts 79.32 320 *e*P **P 06 44 14.9 0.0**
TNS pmax pmax
comp=Z,18nm,1.0s,mb5.0
TNS Taunus Mts 79.32 320 *e*P **P 06 44 14.9 0.0**
comp=Z,18nm,1.0s,mb5.0
BFO Black Forest 79.41 318 *e*P **P 06 44 14.9 -0.6**
BFO pmax pmax
comp=Z,16nm,1.1s,mb4.9
BFO Black Forest 79.41 318 *e*P **P 06 44 14.9 -0.6**
comp=Z,16nm,1.1s,mb4.9
FELD Feldberg 79.64 317 *e*P **P 06 44 16.0 -0.7**
LANF Langenberg 79.75 318 *e*P **P 06 44 17.0 -0.3**
KBS Kingsbay 79.89 349 *e*P **P 06 44 14.8 -2.7**
comp=Z,30nm,1.0s,mb5.2
ABH Alteburg 79.90 319 *e*P **P 06 44 17.7 -0.4**
SAOF Saorge 80.05 313 *e*P **P 06 44 19.6 +0.6**
AUTN L'Aution 80.14 313 *e*P **P 06 44 20.3 +0.8**
ECH Echery 80.20 317 *e*P **P 06 44 20.6 +0.9**
RUP Ruppelstein 80.22 319 *e*P **P 06 44 19.7 -0.1**
MVIF Mont Vial 80.34 313 *e*P **P 06 44 19.8 -0.8**
LOMF Lomont 80.44 317 *e*P **P 06 44 19.8 -1.2**
CALN Calern 80.54 313 *e*P **P 06 44 21.7 +0.1**
BNI Bardonecchia 80.64 314 *e*P **P 06 44 21.1 -1.0**
comp=Z,35nm,1.0s,mb5.2
THEF They Montfort 80.98 318 *e*P **P 06 44 23.1 -0.7**
TAVF Tavernes 81.15 313 *e*P **P 06 44 25.7 +0.9**
VILF Villemus 81.38 313 *e*P **P 06 44 27.6 +1.6**
PUYF Puyloubier 81.41 313 *e*P **P 06 44 27.2 +1.0**
BERF Bertagne 81.43 313 *e*P **P 06 44 24.8 -1.5**
GELF Grande-Etoile 81.62 313 *e*P **P 06 44 28.6 +1.3**
PRAF Pradon 81.78 313 *e*P **P 06 44 28.6 +0.5**
PLDF La Plantade 82.73 315 *e*P **P 06 44 34.1 +1.2**
LBL Lubilhac 83.05 315 *e*P **P 06 44 34.6 0.0**
PYM Petit Puy Mans 83.17 315 *e*P **P 06 44 36.6 +1.4**
EJON La Jonquera 83.55 312 P **P 06 44 37.0 -0.3**
comp=Z,11nm,1.0s,mb4.9
LRDF Laroque-de-Fa 83.76 312 *e*P **P 06 44 38.5 +0.1**
FILF Fillols 83.78 312 *e*P **P 06 44 39.2 +0.7**
ETOS Mallorca 83.87 309 P **P 06 44 40.4 +1.4**
comp=Z,33nm,1.0s,mb5.4
VALF Valcebollere 84.20 312 *e*P **P 06 44 41.5 +0.9**

LPEF Le Peyrat 84.22 312 *e*P **P 06 44 40.7 0.0**
EMIR Miracle 84.61 311 P **P 06 44 43.2 +0.6**
comp=Z,30nm,0.8s,mb5.5
EPOB Poblet 85.01 311 P **P 06 44 45.0 +0.3**
comp=Z,18nm,0.8s,mb5.3
SYO Syowa Base 85.15 197⇑P **P 06 44 44.2 -0.5**
SYO Syowa Base 85.15 197⇓pP pP 06 44 53.2 +0.7
EGRA Graus 85.48 312 P **P 06 44 48.6 +1.7**
comp=Z,11nm,0.7s,mb5.1
EBR Ebro Roquetas 85.51 310 *e*P **P 06 44 49.0 +1.8**
ESK Eskdalemuir 85.98 325 *e*P **P 06 44 48.6 -0.5**
comp=Z,24nm,0.8s,mb5.5
ESAC San Caprasio 86.12 311 P **P 06 44 51.2 +1.0**
comp=Z,16nm,0.8s,mb5.3
EMOS Mosqueruela 86.30 310 P **P 06 44 52.6 +1.5**
comp=Z,26nm,0.9s,mb5.5
DAG Danmarks Havn 86.50 348⇑*i*P **P 06 44 50.3 -1.0**
DAG pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
DAG Danmarks Havn 86.50 348⇑*i*P **P 06 44 50.3 -1.0**
comp=Z,7.5nm,0.7s,mb5.0
EALK Alkurruntz 86.67 313 P **P 06 44 52.6 -0.2**
ECHE Chera 86.78 309 P **P 06 44 55.5 +2.0**
comp=Z,11nm,1.0s,mb5.0
EHUE Huescar 88.31 308 P **P 06 45 01.9 +1.0**
comp=Z,5.2nm,0.7s,mb4.9
ESDC Sonseca Array 89.06 310 P **P 06 45 04.2 -0.2**
comp=Z,3.5nm,0.6s,mb4.9,baz=55,slow=5.1,SNR=14
ESDC Sonseca Array 89.06 310 P **P 06 45 04.8 +0.4**
comp=Z,3.8nm,0.6s,mb4.9
ESLA Sonseca Array 89.06 310 *e*P **P 06 45 04.4 0.0**
comp=Z,6.4nm,1.3s,mb4.8
ESLA *e*pP pP 06 45 11.9 -0.3
EBAN Banos Encina 89.18 308 P **P 06 45 05.2 +0.1**
comp=Z,3.2nm,0.4s,mb5.0
EADA Adamuz 89.79 308 P **P 06 45 09.4 +1.5**
comp=Z,20nm,1.0s,mb5.4
ECAB El Cabril 90.46 308 P **P 06 45 11.6 +0.6**
comp=Z,12nm,0.8s,mb5.3
PBRG Braganca 90.73 312 *e*P **P 06 45 13.2 +1.1**
comp=Z,30nm,1.4s,mb5.4
ESPR Espera 91.03 307 P **P 06 45 13.7 0.0**
comp=Z,18nm,0.9s,mb5.4
EMIN Mina Concepcio 91.50 308 P **P 06 45 15.8 +0.1**
comp=Z,16nm,0.9s,mb5.4
PVRL Vila Real 91.56 312 *e*P **P 06 45 17.5 +1.6**
EBAD Badajoz 91.56 309 P **P 06 45 17.0 +1.0**
comp=Z,13nm,1.0s,mb5.2
MTE Manteigas 91.61 311 *e*P **P 06 45 15.7 -0.5**
comp=Z,29nm,0.9s,mb5.6
MTE Manteigas 91.61 311 *e*P **P 06 45 17.8 +1.6**
comp=Z,36nm,1.1s,mb5.6
MTE Manteigas 91.61 311 *e*S S 06 56 10.3 -1.9
MTE *e*SS SS 07 02 24.4 +1.7
MTE Manteigas 91.61 311 *e*LR LR 07 16 57.5
comp=Z,311nm,18.5s
PCBR Castelo Branco 91.68 310 *e*P **P 06 45 17.9 +1.3**
comp=Z,35nm,1.6s,mb5.4
EGRO El Granado 92.17 308 P **P 06 45 21.2 +2.4**
comp=Z,11nm,0.8s,mb5.2
PBEJ Beja 92.37 309 *e*P **P 06 45 21.4 +1.7**
comp=Z,26nm,1.3s,mb5.4
PTOM Tomar 92.43 310 *e*P **P 06 45 21.9 +1.9**
comp=Z,63nm,1.5s,mb5.7
PTEO Sao Teotonio 93.13 308 *e*P **P 06 45 25.6 +2.3**
comp=Z,46nm,1.7s,mb5.6
SUMG Summit 93.14 347 *e*P **P 06 45 22.9 +0.5**
comp=Z,40nm,1.2s,mb5.7
VNDA Vanda 93.88 168 P **P 06 45 25.6 -0.2**
comp=Z,4.6nm,1.1s,mb4.8,baz=300,slow=5.3,SNR=14
VNDA LR LR 07 23 23.6
comp=Z,210nm,19.7s,MS4.6,baz=316,slow=33
VNDA Vanda 93.88 168 *e*P **P 06 45 26.0 +0.2**
comp=Z,12nm,1.3s,mb5.2
SBA Scott Base 94.99 168 *e*P **P 06 45 31.3 +0.4**
comp=Z,13nm,1.0s,mb5.3
ILAR Eielson Array 95.21 22 P **P 06 45 31.5 -0.7**
comp=Z,4.7nm,0.8s,mb5.0,baz=287,slow=4.5,SNR=28
ILAR PP PP 06 49 14.7 -10
comp=Z,1.3nm,0.9s,baz=284,slow=5.7,SNR=4.2
ILAR PKKPbc 07 02 25.4
comp=Z,0.7nm,0.8s,baz=139,slow=1.7,SNR=6.1
ILAR LR LR 07 34 01.8
comp=Z,220nm,18.9s,MS4.7,baz=163,slow=39
DBIC Dimbokro 95.48 278 P **P 06 45 34.3 -0.3**
DBIC pmax pmax
comp=Z,11nm,0.9s
DBIC MLR MLR
comp=Z,769nm,20.6s
DBIC Dimbokro 95.48 278 P **P 06 45 34.3 -0.3**
comp=Z,11nm,0.9s,mb5.3,baz=62,slow=4.8,SNR=6.0
DBIC LR LR 07 26 40.1
comp=Z,769nm,20.6s,MS5.2,baz=62,slow=34
INK Inuvik 97.20 15 P **P 06 45 41.0 -0.1**
comp=Z,13nm,1.1s,mb5.3,baz=320,slow=6.0,SNR=17
INK LR LR 07 37 50.3
comp=Z,274nm,18.5s,MS4.8,baz=112,slow=41
INK Inuvik 97.20 15 *e*P **P 06 45 41.2 +0.1**
comp=Z,18nm,1.1s,mb5.4
SNAA Sanae 99.30 199 P **P 06 45 51.3 +0.8**
SNAA pmax pmax
comp=Z,1.0nm,1.0s
SNAA Sanae 99.30 199 P **P 06 45 51.3 +0.8**
comp=Z,0.5nm,1.0s,mb4.0,baz=23,slow=2.9,SNR=3.5
YKA Yellowknife Ar 106.5 12 PP PP 06 50 44.4 -6.4
comp=Z,1.0nm,0.7s,baz=331,slow=7.2,SNR=4.2
YKA PKKPbc 07 01 52.6
comp=Z,1.2nm,0.8s,baz=143,slow=2.5,SNR=4.1
YKA PKKPab 07 02 08.9
comp=Z,0.3nm,0.3s,baz=141,slow=4.5,SNR=4.0
NEW Newport 118.17 21 *e*PKPdf PKPdf 06 50 56.9 -2.6
MSO Missoula 120.51 20 *e*PKPdf PKPdf 06 51 00.3 -3.8
ULM Lac du Bonnet 121.28 6 PKP PKPdf 06 51 00.5 -5.1
comp=Z,5.4nm,0.7s,baz=3.9,slow=2.2,SNR=5.5
HRY Holter Researc 121.31 19 *e*P PKPdf 06 51 05.9 +0.2
DGMT Dugmar 121.72 12 *e*PKPdf PKPdf 06 51 03.2 -3.2
WVOR Wild Horse Val 122.37 26 *e*PKPdf PKPdf 06 51 05.3 -2.5
LAO LASA Array 122.93 15 *e*PKPdf PKPdf 06 51 06.4 -2.3
IMW Indian Meadow 124.10 20 *e*PKPdf PKPdf 06 51 09.0 -2.1
MOOW Moose Ponds 124.30 20 *e*PKPdf PKPdf 06 51 08.8 -2.8
TPAW Teton Pass 124.46 20 *e*PKPdf PKPdf 06 51 08.1 -3.7
RRI2 Red Ridge 124.46 20 *e*PKPdf PKPdf 06 51 09.0 -2.9
LOHW Long Hollow 124.47 20 *e*PKPdf PKPdf 06 51 09.2 -2.6
LOHW *ep*PKPdf 06 51 16.4
SNOW Snow King Moun 124.55 20 *e*PKPdf PKPdf 06 51 09.5 -2.5
SNOW *ep*PKPdf 06 51 17.2
REDW Red Top Meadow 124.61 20 *e*PKPdf PKPdf 06 51 09.6 -2.6
BMN Battle Mountai 124.61 27 *e*PKPdf PKPdf 06 51 09.7 -2.5
CMB Columbia Colle 125.00 31 *e*PKPdf PKPdf 06 51 09.9 -3.2
ELK Elko 125.21 25 *e*PKPdf PKPdf 06 51 10.6 -2.7
PDAR Pinedale Array 125.56 19 PKP PKPdf 06 51 10.4 -3.5
comp=Z,8.1nm,0.9s,baz=74,slow=0.9,SNR=45
PDAR PKKPbc 07 00 45.9
comp=Z,0.5nm,0.8s,baz=108,slow=4.7,SNR=4.1
HWUT Hardware Ranch 125.90 21 *e*PKPdf PKPdf 06 51 11.4 -3.3
MIV Mineville/With 126.14 347 *e*PKPdf PKPdf 06 51 11.7 -3.3
MTUM Tungsten Hills 126.44 30 *e*PKPdf PKPdf 06 51 12.4 -3.4
PTRM Twissleman Ran 126.91 33 *e*PKPdf PKPdf 06 51 15.1 -1.6
RWWY Rawlins 127.28 18 *e*PKPdf PKPdf 06 51 14.2 -3.1
DAC Darwin (Calif) 127.77 30 *e*PKPdf PKPdf 06 51 16.2 -2.2
MSU Marysvale 128.35 24 *e*PKPdf PKPdf 06 51 17.9 -1.7
ARUT Antelope Range 128.45 25 *e*PKPdf PKPdf 06 51 17.9 -1.8
GSC Goldstone 128.93 30 *e*PKPdf PKPdf 06 51 19.0 -1.7
GSC *ep*PKPdf 06 51 26.7
NEN Nelson 129.60 28 *e*PKPdf PKPdf 06 51 19.3 -2.6
SDCO Great Sand Dun 131.41 18 *e*PKPdf PKPdf 06 51 24.0 -1.3
SDCO *e*PP PP 06 53 39.2 -4.7
KSU1 Kansas State U 132.17 9 *e*PKPdf PKPdf 06 51 24.9 -1.8
ANMO Albuquerque 133.65 21 *e*PKPdf PKPdf 06 51 27.2 -2.4
LPM Los Pinos Moun 134.16 21 *e*PKPdf PKPdf 06 51 28.5 -2.0
LENM Lemitar 134.17 22 *e*PKPdf PKPdf 06 51 28.5 -2.1
TUC Tucson 134.24 27 *e*PKPdf PKPdf 06 51 28.6 -2.1
TUC *ep*PKPdf 06 51 36.7
BNM Barren Site 134.31 21 *e*PKPdf PKPdf 06 51 28.3 -2.5
TZTN Tazewell 135.13 355 *e*PKPdf PKPdf 06 51 27.4 -4.9
TZTN *ep*PKPdf 06 51 35.2
CPRX Cap Rock 136.27 19 *e*PKPdf PKPdf 06 51 32.3 -2.1
MYNC Murphy 136.64 355 *e*PKPdf PKPdf 06 51 31.6 -3.4
MYNC *ep*PKPdf 06 51 40.3
GDL2 Guadalupe Moun 136.87 20 *e*PKPdf PKPdf 06 51 31.3 -4.2
PLAL Pickwick Lake 136.91 360 *e*PKPdf PKPdf 06 51 30.8 -4.8
MNTX Cornudas Mount 136.96 22 *e*PKPdf PKPdf 06 51 32.9 -2.8
JSC Jenkinsville 137.08 351 *e*PKPdf PKPdf 06 51 33.0 -2.9
LRAL Lakeview Retre 138.83 358 *e*PKPdf PKPdf 06 51 35.3 -3.9
LTX Lajitas 139.72 21 *e*PKPdf PKPdf 06 51 37.7 -3.2

TXAR Lajitas Array 139.72 21 PKHKP 06 51 28.9
TXAR 06 51 37.7
TXAR 06 54 31.8
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR pmax pmax
comp=Z,3.0nm,0.7s
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 139.72 21 PKhKP 06 51 28.9
comp=Z,0.5nm,0.7s,baz=157,slow=1.4,SNR=5.6
TXAR PKP PKPdf 06 51 37.7 -3.2
comp=Z,2.9nm,0.7s,baz=285,slow=0.4,SNR=19
TXAR PP PP 06 54 31.8 -4.2
comp=Z,1.0nm,0.9s,slow=2.5,SNR=4.2
BDFB Brasilia 139.98 256 PKIKP PKPdf 06 51 38.3 -3.3
BDFB pmax pmax
comp=Z,7.0nm,0.9s
BDFB Brasilia 139.98 256 PKP PKPdf 06 51 38.3 -3.3
comp=Z,7.3nm,0.9s,baz=341,slow=2.4,SNR=7.2
PLCA Paso Flores 144.09 203 PKIKP PKPdf 06 51 42.9 -5.3
PLCA pmax pmax
comp=Z,6.0nm,1.0s
PLCA Paso Flores 144.09 203 PKP PKPdf 06 51 42.9 -5.2
comp=Z,5.7nm,1.0s,baz=150,slow=8.1,SNR=7.4
PLCA Paso Flores 144.09 203 PKP PKPdf 06 51 42.9 -5.3
CPUP Villa Florida 145.59 235 PKP2 PKPab 06 51 47.7 -1.5
CPUP pmax pmax
comp=Z,50nm,1.0s
CPUP Villa Florida 145.59 235 PKPbc PKPbc 06 51 47.7 +0.3
comp=Z,50nm,1.0s,baz=111,slow=4.9,SNR=49
CPUP Villa Florida 145.59 235 PKPbc PKPbc 06 51 47.7 +0.3
MOIG Morelia 149.40 24 *i*P PKPdf 06 51 59.3 +1.6
LMGC Las Mercedes 149.66 339 *e*P PKPdf 06 51 59.6 +1.5
FCH Farellones 150.08 211 *e*P PKPdf 06 51 56.9 -1.5
CLCH Cerro Calan 150.15 211 *e*P PKPdf 06 51 54.7 -3.8
SAML Samuel 155.15 267 *e*PKPdf PKPdf 06 52 03.2 -2.9
SAML *e*PKPbc PKPdf 06 52 10.1 +4.0
LPAZ La Paz 158.78 246 PKIKP PKPdf 06 52 08.2 -2.5
LPAZ pmax pmax
comp=Z,8.0nm,1.1s
LPAZ La Paz 158.78 246 PKP PKPdf 06 52 08.2 -2.5
comp=Z,8.2nm,1.1s,baz=64,slow=2.5,SNR=15
ROSC El Rosal 160.86 313 PKP PKPdf 06 52 11.2 -1.9
comp=Z,13nm,1.1s,baz=220,slow=1.0,SNR=7.0

IDC ***26*** *06:35:41.3±2.1,33.42N×142.47E,mb3.9/4,mb1 4.1/7, mb1mx3.9/21,mbtmp4.0/7,ML3.9/3,MS4.0/1,Ms1 4.0/1, ms1mx3.0/34,Error ellipse: s-maj=51.1km s-min=26.6km az=169.0*
JMA ***26*** *06:35:43.0±0.5,33.26N×142.50E,h77km,M3.6*
ISC 26 06:35:41.4±2.4,33.25N±0.08×142.51E±0.08,h17km±18km, n19,σ0.99/25,mb3.8/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.89**	**318**	P	**Pn**	**06 36 13.7**	**+0.3**
BSO1				*e*S	**Sn**	**06 36 36.8**	**-0.1**
BSO2	**Boso 2**	**2.09**	**316**	S	**Sn**	**06 36 43.5**	**+1.5**
JHJ2	**Mitsune**	**2.26**	**267**	P	**Pn**	**06 36 19.4**	**+0.7**
JHJ2				S	**Sn**	**06 36 46.6**	**+0.2**
BSO3	**Boso 3**	**2.27**	**314**	P	**Pn**	**06 36 19.2**	**+0.4**
BSO3				S	**Sn**	**06 36 46.8**	**+0.3**
JHJ	**Hachijo jima 2**	**2.29**	**267**	Pn	**Pn**	**06 36 18.5**	**-0.6**
	80nm,0.3s,baz=262,slow=23,SNR=6.8						
JHJ				Sn	**Sn**	**06 36 43.1**	**-4.0**
	59nm,0.3s,baz=252,slow=24,SNR=6.0						
JHJ				LR	LR	06 36 48.2	
	comp=Z,3μm,19.2s,baz=302,slow=30						
BSO4	**Boso 4**	**2.50**	**315**	P	**Pn**	**06 36 22.9**	**+0.8**
JYN	**Shimob**	**3.97**	**305**	P	**Pn**	**06 36 43.4**	**+0.4**
JAG	**Ashikaga**	**4.04**	**322**	P	**Pn**	**06 36 43.6**	**-0.4**
JRY	**Ryogami san**	**4.05**	**314**	P	**Pn**	**06 36 44.0**	**-0.2**
JRY				S	**Sn**	**06 37 30.8**	**-1.0**
MJAR	**Matsushiro Arr**	**4.82**	**314**	Pn	**Pn**	**06 36 53.1**	**-2.0**
	3.6nm,0.3s,baz=146,slow=8.8,SNR=11						
MAT	**Matsushiro**	**4.82**	**314**	P	**Pn**	**06 36 55.0**	**-0.1**
MAT				S	**Sn**	**06 37 47.3**	**-3.9**
MAT	**Matsushiro**	**4.82**	**314**	P	**Pn**	**06 36 55.7**	**+0.6**
ASAJ	**Asahikawa**	**10.85**	**0**	Pn	**P**	**06 38 14.4**	**-4.6**
	1.5nm,0.3s,baz=219,slow=18,SNR=3.1						
MKAR	**Makanchi Array**	**46.96**	**305**	P	**P**	**06 44 13.3**	**+0.3**
	3.1nm,0.9s,mb4.2,baz=89,slow=8.6,SNR=3.0						
ILAR	**Eielson Array**	**52.24**	**31**	P	**P**	**06 44 52.5**	**-0.9**
	0.6nm,0.8s,mb3.6,baz=265,slow=6.9,SNR=6.1						
NB2	**NORSAR Subarra**	**78.02**	**338**	P	**P**	**06 47 40.8**	**+0.8**
	0.9nm,0.8s,mb3.8,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**78.02**	**338**	P	**P**	**06 47 40.7**	**+0.6**
	1.1nm,0.9s,mb3.8,baz=39,slow=5.6,SNR=4.2						
BRTR	**Keskin Array B**	**82.05**	**313**	P	**P**	**06 47 59.3**	**-2.7**
	0.6nm,0.6s,mb3.7,baz=70,slow=5.4,SNR=2.4						
TXAR	**Lajitas Array**	**91.69**	**53**	P	**P**	**06 48 50.7**	**+1.4**
	0.3nm,0.6s,mb3.8,baz=297,slow=2.0,SNR=3.3						

IDC ***26*** *06:55:12.0±0.8,5.27S×152.83E,mb4.2/8,mb1 4.4/8, mb1mx4.3/14,mbtmp4.2/8,MS3.8/1,Ms1 3.8/1, ms1mx3.1/24,Error ellipse: s-maj=35.8km s-min=21.5km az=73.0*
NEIC ***26*** *06:55:19.6±2.9,5.32S×152.83E,h56km±25km,mb4.7/6, Error ellipse: s-maj=19.0km s-min=14.8km az=49.0*
ISC 26 06:55:17.3±3.7,5.3S±0.1×152.8E±0.1,h51km±32km,n23, σ1.9/02/23,mb4.3/15,MS3.7/1,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.92**	**234**	Pn	**P**	**06 56 59.7**	**+1.1**
	1.3nm,0.3s,baz=15,slow=1.5,SNR=7.5						
PMG				Sn	**S**	**06 58 15.0**	**-1.7**
	7.7nm,0.3s,baz=72,slow=16,SNR=9.6						
PMG	**Port Moresby**	**6.92**	**234**	*e*Pn	**P**	**06 56 59.1**	**+0.5**
PMG				Pn	**P**	**06 56 59.7**	**+1.1**
PMG				Sn	**S**	**06 58 15.0**	**-1.7**
DZM	**Mont Dzumac**	**21.24**	**143**	P	**P**	**07 00 01.3**	**0.0**
	8.1nm,0.9s,mb4.0,baz=294,slow=20,SNR=4.0						
KAKA	**Kakadu**	**21.41**	**249**⇑*i*P		**P**	**07 00 05.2**	**+2.2**
	27nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**23.10**	**229**	*e*P	**P**	**07 00 20.5**	**+0.8**
	20nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	**23.10**	**229**	*e*P	**P**	**07 00 20.2**	**+0.4**
WRA	**Warramunga Arr**	**23.11**	**229**	P	**P**	**07 00 20.0**	**+0.1**
	15nm,0.9s,mb4.4,baz=53,slow=9.6,SNR=29						
STKA	**Stephens Creek**	**28.43**	**200**	P	**P**	**07 01 05.1**	**-4.4**
	4.4nm,1.0s,mb4.1,baz=315,slow=14,SNR=3.8						
STKA	**Stephens Creek**	**28.43**	**200**	P	**P**	**07 01 05.1**	**-4.4**
STKA				P		07 01 07.1	
FITZ	**Fitzroy Crossi**	**29.42**	**242**	*e*P	**P**	**07 01 17.7**	**-0.9**
	13nm,0.8s,mb4.7						
AFI	**Afiamalu**	**35.89**	**106**	LR	LR	07 12 14.4	
	comp=Z,146nm,21.9s,MS3.7,baz=226,slow=28						
ENH	**Enshi**	**54.52**	**313**	*e*P	**P**	**07 04 42.2**	**-0.5**
	17nm,1.2s,mb5.0						
ULN	**Ulaanbaatar**	**66.45**	**328**	*e*P	**P**	**07 06 01.0**	**-2.7**
	1.7nm,0.3s,mb4.5						
SONM	**Songino Array**	**66.78**	**328**	P	**P**	**07 06 05.9**	**+0.2**
	0.5nm,0.5s,mb3.8,baz=135,slow=5.2,SNR=5.6						
LSA	**Lhasa**	**68.55**	**305**	P	**P**	**07 06 18.1**	**+0.9**
	10nm,1.2s,mb4.6						
VNDA	**Vanda**	**72.30**	**178**	P	**P**	**07 06 38.6**	**-0.5**
	1.8nm,0.9s,mb4.0,baz=335,slow=5.0,SNR=8.7						
VNDA	**Vanda**	**72.30**	**178**	P	**P**	**07 06 38.6**	**-0.5**
VNDA				*e*P		07 06 39.7	
MKAR	**Makanchi Array**	**80.73**	**319**	P	**P**	**07 07 27.6**	**+0.7**
	0.7nm,0.6s,mb3.8,baz=106,slow=6.0,SNR=7.8						
ZAL	**Zalesovo**	**81.61**	**326**	P	**P**	**07 07 30.9**	**-0.4**
	1.5nm,0.3s,mb4.4,baz=184,slow=14,SNR=4.5						
ILAR	**Eielson Array**	**82.64**	**22**	P	**P**	**07 07 35.5**	**-1.0**
	0.7nm,0.7s,mb3.8,baz=254,slow=5.6,SNR=6.9						
BVAR	**Borovoye Array**	**89.67**	**323**	P	**P**	**07 08 11.8**	**+0.7**
	1.9nm,0.6s,mb4.6,baz=107,slow=5.6,SNR=13						
GERES	**GERESS Array B**	**124.51**	**328**	PKP	PKPdf	07 14 14.1	+2.7
	0.7nm,0.7s,slow=1.3,SNR=5.7						
BDFB	**Brasilia**	**150.68**	**136**	PKPbc	PKPdf	07 15 07.7	+8.5
	10nm,1.2s,baz=184,slow=3.1,SNR=4.8						

Philipsburg, Superior, Virginia City and Whitehall. Also felt [III] at Salmon, Idaho. Felt at Clayton, Cascade and Sandpoint, Idaho.

*IDC **26** 07:12:46.2±0.7, 45.37N× 112.69W, mb3.9/2, mb1 3.9/10, mb1mx3.7/29, mbtmp3.7/10, ML3.5/6, MS2.8/2, Ms1 2.8/2, ms1mx2.4/32, Error ellipse: s-maj=10.1km s-min=7.1km az=66.0*

ISC 26 07:12:45.3±1.1, **45.39N**±0.03× **112.65W**±0.05, **h2**km±9km, **n58**, σ1§**05**/60, **mb3.7**/2, **MS4.6**/1, **2C-2D, Montana**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCMT	**McKenzie Canyo**	**0.58**	**194**	*i*P	**Pg**	**07 12 57.9**	**+0.9**
BOZ	**Bozeman (W)**	**0.76**	**70**	*i*Pg	**Pg**	**07 13 00.5**	**0.0**
BOZ				*e*Pn	**Pn**	**07 13 03.3**	**+0.6**
QLMT	**Earthquake Lak**	**1.03**	**123**	*e*P	**Pb**	**07 13 05.1**	**-0.4**
YMR	**Madison River**	**1.40**	**121**	*e*P	**Pb**	**07 13 12.1**	**+0.3**
HRY	**Holter Researc**	**1.44**	**23**	*e*P	**Pn**	**07 13 13.1**	**+0.7**
YNR	**Norris Junctio**	**1.55**	**115**	*e*P	**Pn**	**07 13 14.6**	**+0.6**
CHMT	**Chamberlain Mo**	**1.58**	**345**	*e*P	**Pn**	**07 13 15.7**	**+1.2**
YFT	**Old Faithful**	**1.59**	**126**	*e*P	**Pn**	**07 13 15.6**	**+0.9**
MSO	**Missoula**	**1.69**	**328**	*e*P	**Pn**	**07 13 17.1**	**+1.0**
LKWY	**Lake**	**1.80**	**117**	*e*Pn	**Pn**	**07 13 18.2**	**+0.6**
IMW	**Indian Meadow**	**1.93**	**140**	*e*Pn	**Pn**	**07 13 20.3**	**+0.8**
GCMT	**Greycliff**	**2.13**	**78**	*e*Pn	**Pn**	**07 13 22.7**	**+0.4**
GCMT				*e*Pg	**Pg**	**07 13 25.5**	**-2.3**
MOOW	**Moose Ponds**	**2.13**	**140**	*i*P	**Pn**	**07 13 23.4**	**+1.0**
MOOW				*e*Sg	**Sg**	**07 13 51.1**	**-5.3**
RRI2	**Red Ridge**	**2.26**	**155**	*e*Pn	**Pn**	**07 13 25.2**	**+1.0**
TPAW	**Teton Pass**	**2.26**	**147**	*e*Pn	**Pn**	**07 13 25.1**	**+1.0**
LHW	**Long Hollow**	**2.30**	**140**	*e*Pn	**Pn**	**07 13 25.8**	**+0.9**
SNOW	**Snow King Moun**	**2.36**	**144**	*e*Pn	**Pn**	**07 13 26.9**	**+1.3**
REDW	**Red Top Meadow**	**2.40**	**147**	*e*Pn	**Pn**	**07 13 27.2**	**+0.9**
AHID	**Auburn Hatcher**	**2.85**	**156**	*e*Pn	**Pn**	**07 13 33.2**	**+0.5**
BMO	**Blue Mountains**	**3.34**	**262**	*e*Pn	**Pn**	**07 13 39.7**	**+0.1**
PDAR	**Pinedale Array**	**3.44**	**139**	Pn	**Pn**	**07 13 44.2**	**+3.2**
	3.1nm,0.3s,baz=340,slow=13,SNR=84						
PDAR				Lg		07 14 34.9	
	4.3nm,0.3s,baz=336,slow=32,SNR=5.2						
HVU	**Hansel Valley**	**3.61**	**182**	Pn	**Pn**	**07 13 43.6**	**+0.1**
WALA	**Waterton Lakes**	**3.77**	**347**	*e*Pn	**Pn**	**07 13 46.5**	**+0.8**
HWUT	**Hardware Ranch**	**3.87**	**168**	Pn	**Pn**	**07 13 47.9**	**+0.8**
SPUT	**South Promonto**	**4.09**	**178**	*e*Pn	**Pn**	**07 13 50.5**	**+0.4**
NEW	**Newport**	**4.21**	**315**	Pn	**Pn**	**07 13 52.3**	**+0.4**
	5.5nm,0.3s,baz=132,slow=12,SNR=36						
NEW				Lg		07 14 58.6	
	42nm,0.3s,baz=247,slow=21,SNR=20						
NEW				LR	LR	07 15 49.9	
	comp=Z,123nm,18.9s,baz=339,slow=44						
NEW	**Newport**	**4.21**	**315**	*e*Pn	**Pn**	**07 13 51.9**	**0.0**
TCUT	**Toone Canyon**	**4.37**	**168**	Pn	**Pn**	**07 13 53.8**	**-0.4**
BGU	**Big Grassy Mou**	**4.47**	**184**	Pn	**Pn**	**07 13 56.2**	**+0.5**
LAO	**LASA Array**	**4.66**	**72**	*e*Pn	**Pn**	**07 13 56.9**	**-1.4**
CTU	**Camp Tracy**	**4.75**	**172**	Pn	**Pn**	**07 13 58.7**	**-0.8**
NOQ	**North Oquirrh**	**4.75**	**175**	Pn	**Pn**	**07 13 58.5**	**-1.2**
JLU	**Jordanelle**	**4.87**	**169**	Pn	**Pn**	**07 13 59.8**	**-1.6**
ELK	**Elko**	**5.02**	**203**	Pn	**Pn**	**07 14 03.7**	**+0.3**
	0.3nm,0.3s,baz=15,slow=11,SNR=5.4						
ELK				Lg		07 15 18.8	
	8.6nm,0.3s,baz=241,slow=20,SNR=11						
ELK				LR	LR	07 15 33.4	
	comp=Z,72nm,18.9s,baz=50,slow=34						
DAU	**Daniels Canyon**	**5.08**	**168**	Pn	**Pn**	**07 14 05.0**	**+0.7**
WVOR	**Wild Horse Val**	**5.24**	**238**	*e*Pn	**Pn**	**07 14 06.8**	**+0.2**
RWWY	**Rawlins**	**5.41**	**131**	Pn	**Pn**	**07 14 09.4**	**+0.4**
MPU	**Maple Canyon**	**5.43**	**172**	Pn	**Pn**	**07 14 09.3**	**+0.1**
NLU	**North Lily Min**	**5.45**	**175**	Pn	**Pn**	**07 14 08.8**	**-0.8**
BMN	**Battle Mountai**	**5.99**	**216**	Pn	**Pn**	**07 14 15.8**	**-1.4**
TMUT	**Trail Mountain**	**6.19**	**170**	Pn	**Pn**	**07 14 18.4**	**-1.5**
SRU	**San Rafael**	**6.47**	**165**	Pn	**Pn**	**07 14 23.9**	**-0.1**
DGMT	**Dagmar**	**6.55**	**59**	*e*Pn	**Pn**	**07 14 23.3**	**-1.7**
MSU	**Marysvale**	**6.88**	**177**	Pn	**Pn**	**07 14 27.1**	**-2.7**
SMCO	**Snowmass**	**7.50**	**144**	*e*Pn	**Pn**	**07 14 37.3**	**-1.1**
EDM	**Edmonton**	**7.85**	**357**	*e*Pn	**Pn**	**07 14 40.0**	**-3.3**
BEKR	**Beckwourth**	**7.92**	**229**	Pn	**Pn**	**07 14 42.9**	**-1.4**
NVAR	**Mina Array Bea**	**8.13**	**213**	Pn	**P**	**07 14 48.7**	**+1.5**
	0.2nm,0.3s,baz=28,slow=13,SNR=11						
NVAR				Lg		07 17 02.6	
	0.9nm,0.3s,baz=48,slow=25,SNR=5.5						
ANMO	**Albuquerque**	**11.45**	**154**	Pn	**P**	**07 15 29.6**	**-3.3**
	baz=353,slow=8.8,SNR=2.7						
ULM	**Lac du Bonnet**	**12.27**	**61**	Pn	**P**	**07 15 38.5**	**-5.4**
	0.8nm,0.3s,baz=249,slow=10,SNR=4.8						
ULM				Lg		07 19 08.3	
	0.7nm,0.3s,baz=335,slow=22,SNR=4.8						
ULM	**Lac du Bonnet**	**12.27**	**61**	Pn	**P**	**07 15 38.5**	**-5.4**
ULM				Lg		07 19 08.3	
MNTX	**Cornudas Mount**	**14.80**	**155**	P	**P**	**07 16 15.9**	**-1.5**
	2.8nm,1.0s						
YKA	**Yellowknife Ar**	**17.17**	**357**	Pn	**P**	**07 16 43.5**	**-4.1**
	0.2nm,0.3s,baz=175,slow=13,SNR=13						
YKA				Lg		07 21 38.4	
	0.1nm,0.3s,baz=172,slow=28,SNR=3.6						
YKA	**Yellowknife Ar**	**17.17**	**357**	Pn	**P**	**07 16 43.5**	**-4.1**
YKA				Lg		07 21 38.4	
TXAR	**Lajitas Array**	**17.53**	**153**	P	**P**	**07 16 52.0**	**-0.3**
	0.0nm,0.3s,baz=346,slow=10,SNR=4.0						
LPAZ	**La Paz**	**73.46**	**135**	LR	LR	07 57 47.4	
	comp=Z,324nm,21.9s,MS4.6,baz=257,slow=37						
AKASG	**Malin Array Be**	**78.75**	**24**	P	**P**	**07 24 49.4**	**-0.9**
	0.2nm,0.3s,mb3.6,baz=330,slow=4.9,SNR=4.7						
BVAR	**Borovoye Array**	**81.93**	**358**	P	**P**	**07 25 07.0**	**-0.1**
	1.2nm,0.8s,mb3.9,baz=18,slow=4.6,SNR=3.1						

*NIED **26** 07:13:00, 33.30N× 142.50E, h5km, Mw4.5 Best double couple: M0 6.23×10^15 NP1:φs145°, δ79°, λ-90°. NP2: φs324°, δ11°, λ-91°.*

*IDC **26** 07:13:33.5±0.8, 33.32N× 142.56E, mb4.2/13, mb1 4.3/17, mb1mx4.2/25, mbtmp4.2/17, ML4.3/4, MS3.9/2, Ms1 3.9/2, ms1mx3.2/25, Error ellipse: s-maj=21.4km s-min=18.0km az=7.0*

*JMA **26** 07:13:36.2±0.3, 33.31N× 142.47E, h71km, M4.1*

*NEIC **26** 07:13:38.6±0.7, 33.24N× 142.27E, h40km, mb4.6/5, MW4.5(NIED), Error ellipse: s-maj=18.2km s-min=10.5km az=196.0*

*BJI **26** 07:13:38.6, 33.20N× 142.30E, h40km, mB5.0, mb4.3*

*MOS **26** 07:13:39.9±1.3, 33.93N× 142.60E, h33km, mb4.5/6, Error ellipse: s-maj=17.7km s-min=8.4km az=118.7*

ISC 26 07:13:37.2±0.5, **33.42N**±0.06× **142.44E**±0.05, **h33**km, **n59**, σ1§**10**/62, **mb4.3**/21, **MS4.5**/1, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.73**	**316**	P	**P**	**07 14 05.8**	**+0.4**
BSO1				*e*S	**S**	**07 14 28.4**	**+1.9**
BSO3	**Boso 3**	**2.12**	**311**	P	**P**	**07 14 11.6**	**+0.7**
JHJ2	**Mitsune**	**2.22**	**263**	P	**P**	**07 14 11.8**	**-0.6**
JHJ2				*e*S	**S**	**07 14 39.4**	**+0.5**
JHJ	**Hachijo jima 2**	**2.25**	**263**	Pn	**Pn**	**07 14 11.4**	**-1.5**
	109nm,0.3s,baz=82,slow=23,SNR=6.7						
JHJ				Sn	**Sn**	**07 14 35.3**	**-4.5**
	81nm,0.3s,baz=92,slow=19,SNR=3.4						
BSO4	**Boso 4**	**2.35**	**313**	P	**P**	**07 14 15.2**	**+1.0**
JYT	**Yasato**	**3.36**	**327**	P	**P**	**07 14 28.8**	**+0.2**
JHO	**Hitachi**	**3.54**	**335**	P	**P**	**07 14 30.3**	**-0.8**
JHO				S	**S**	**07 15 09.6**	**-2.8**
JHU	**Hanno**	**3.56**	**314**	P	**P**	**07 14 31.2**	**-0.3**
JHU				S	**S**	**07 15 13.5**	**+0.5**
MJAR	**Matsushiro Arr**	**4.67**	**313**	Pn	**Pn**	**07 14 45.6**	**-1.7**
	4.4nm,0.3s,baz=141,slow=10.0,SNR=24						
MAJO	**Matsushiro**	**4.67**	**313**	*e*P	**P**	**07 14 48.4**	**+1.2**
MAT	**Matsushiro**	**4.67**	**313**	*e*P	**P**	**07 14 47.0**	**-0.2**
MAT				*e*S	**S**	**07 15 40.0**	**-1.0**
MAT	**Matsushiro**	**4.67**	**313**	P	**P**	**07 14 47.0**	**-0.2**
MAT				S	**S**	**07 15 40.2**	**-0.8**
CBIJ	**Chichi jima**	**6.30**	**182**	Pn	**Pn**	**07 15 05.2**	**-5.2**
	42nm,0.3s,baz=257,slow=22,SNR=4.8						
JNU	**Nakatsue**	**9.69**	**271**	Pn	**P**	**07 15 51.2**	**-6.1**
	0.4nm,0.3s,baz=112,slow=15,SNR=2.1						
ASAJ	**Asahikawa**	**10.69**	**1**	P	**P**	**07 16 06.9**	**-4.1**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**10.69**	**1**	Pn	**P**	**07 16 06.9**	**-4.1**
	comp=Z,1.9nm,0.3s,baz=295,slow=24,SNR=6.4						
YSS	**Yuzh-Sakhalins**	**13.53**	**1**	*e*P	**P**	**07 16 45.0**	**-4.0**
YSS	**Yuzh-Sakhalins**	**13.53**	**1**	*e*Pn	**P**	**07 16 45.5**	**-3.5**
JOW	**Kunigami**	**13.90**	**246**	LR	LR	07 21 15.9	
	comp=Z,176nm,20.5s,baz=150,slow=33						
MDJ	**Mudanjiang**	**14.97**	**322**	*e*Pn	**P**	**07 17 07.3**	**-0.7**
CN2	**Changchun**	**16.82**	**313**	*e*P	**P**	**07 17 29.3**	**-2.3**
HIA	**Hailar**	**23.13**	**320**	*e*P	**P**	**07 18 41.3**	**+0.2**
HIA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HIA	**Hailar**	**23.13**	**320**	*e*P	**P**	**07 18 41.3**	**+0.1**
	comp=Z,9.3nm,1.0s,mb4.2						
WHN	**Wuhan**	**23.97**	**271**	*e*P	**P**	**07 18 50.0**	**+0.5**
BTO	**Baotou**	**26.76**	**295**	*e*P	**P**	**07 19 15.8**	**+0.1**
CIT	**Chita**	**27.94**	**320**	*e*P	**P**	**07 19 30.2**	**+3.9**
CIT				*e*	pP	07 19 41.7	+5.9
CIT				*e*		07 19 47.1	
CIT				*e*		07 20 17.1	
ENH	**Enshi**	**28.11**	**273**	*e*P	**P**	**07 19 23.8**	**-4.3**
	comp=Z,35nm,1.1s,mb4.9						
SONM	**Songino Array**	**30.61**	**309**	P	**P**	**07 19 51.5**	**+1.3**
	comp=Z,4.4nm,0.8s,mb4.3,baz=100,slow=7.5,SNR=24						
BOD	**Bodaibo**	**31.06**	**330**	*e*P	**P**	**07 19 53.1**	**-1.0**
BOD				*e*		07 19 58.2	
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
ZAK	**Zakamensk**	**33.25**	**312**	*e*P	**P**	**07 20 16.6**	**+3.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
GTA	**Gaotai**	**34.58**	**292**	P	**P**	**07 20 25.0**	**+0.1**
GTA				AP	pP	07 20 33.5	-1.1
GTA				XP	sP	07 20 36.5	-2.4
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
ZAL	**Zalesovo**	**45.03**	**315**	P	**P**	**07 21 53.5**	**+2.3**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL	**Zalesovo**	**45.03**	**315**	P	**P**	**07 21 53.5**	**+2.3**
	comp=Z,1.8nm,0.3s,mb4.3,baz=94,slow=12,SNR=3.5						
ZAL	**Zalesovo**	**45.03**	**315**	P	**P**	**07 21 53.5**	**+2.3**
HNR	**Honiara**	**45.75**	**156**	LR	LR	07 37 33.6	
	comp=Z,527nm,21.4s,MS4.5,baz=339,slow=32						
NVS	**Novosibirsk**	**45.99**	**316**	*e*P	**P**	**07 22 05.4**	**+6.6**
MKAR	**Makanchi Array**	**46.82**	**305**	*i*P	**P**	**07 22 05.6**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,11nm,0.9s						
MKAR	**Makanchi Array**	**46.82**	**305**	P	**P**	**07 22 06.5**	**+1.1**
	comp=Z,3.8nm,0.8s,mb4.4,baz=93,slow=8.8,SNR=18						
KURK	**Kurchatov**	**48.88**	**311**	*e*P	**P**	**07 22 21.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.2						
KURK	**Kurchatov**	**48.88**	**311**	*e*P	**P**	**07 22 21.0**	**-0.4**
	comp=Z,19nm,0.7s,mb5.2						
ILAR	**Eielson Array**	**52.13**	**31**	P	**P**	**07 22 45.0**	**-0.9**
	comp=Z,2.5nm,0.8s,mb4.2,baz=264,slow=6.2,SNR=24						
BVAR	**Borovoye Array**	**53.67**	**314**	P	**P**	**07 22 57.0**	**-0.6**
	comp=Z,0.5nm,0.5s,mb3.7,baz=90,slow=12,SNR=4.7						
INK	**Inuvik**	**57.24**	**26**	P	**P**	**07 23 22.3**	**-0.9**
	comp=Z,2.4nm,0.7s,mb4.4,baz=276,slow=8.1,SNR=6.1						
AB31	**Akbulak array**	**60.95**	**312**	*i*P	**P**	**07 23 48.8**	**-0.4**
STKA	**Stephens Creek**	**64.95**	**181**	P	**P**	**07 24 14.2**	**-1.7**
	comp=Z,21nm,0.8s,mb4.2,baz=308,slow=21,SNR=2.8						
YKA	**Yellowknife Ar**	**66.52**	**30**	P	**P**	**07 24 24.5**	**-0.8**
	comp=Z,2.2nm,0.9s,mb4.2,baz=296,slow=6.0,SNR=5.7						
OBN	**Obninsk**	**71.51**	**324**	*e*P	**P**	**07 24 59.1**	**+2.9**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**72.41**	**333**	P	**P**	**07 25 00.3**	**-1.1**
	comp=Z,2.0nm,0.8s,mb4.1,baz=101,slow=9.7,SNR=4.1						
NB2	**NORSAR Subarra**	**77.85**	**338**	P	**P**	**07 25 32.7**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=40,slow=5.6						
NB2	**NORSAR Subarra**	**77.85**	**338**	P	**P**	**07 25 32.7**	**+0.2**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**77.85**	**338**	P	**P**	**07 25 33.3**	**+0.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=38,slow=5.7,SNR=4.5						
PDAR	**Pinedale Array**	**79.60**	**45**	P	**P**	**07 25 43.1**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.7,baz=285,slow=1.6,SNR=5.9						
SRU	**San Rafael**	**81.16**	**49**	*e*P	**P**	**07 25 50.9**	**0.0**
SMCO	**Snowmass**	**83.32**	**47**	*e*P	**P**	**07 26 02.6**	**+0.6**
SDCO	**Great Sand Dun**	**85.12**	**48**	*e*P	**P**	**07 26 11.7**	**+0.7**
	comp=Z,4.3nm,0.7s,mb4.7						
ANMO	**Albuquerque**	**86.26**	**50**	P	**P**	**07 26 18.1**	**+1.4**
	comp=Z,3.1nm,1.1s,mb4.4,baz=286,slow=5.2,SNR=7.0						
TXAR	**Lajitas Array**	**91.64**	**53**	P	**P**	**07 26 43.3**	**+0.8**
	comp=Z,1.3nm,0.7s,mb4.4,baz=307,slow=3.1,SNR=14						
LPAZ	**La Paz**	**147.60**	**66**	PKP2	PKPab	07 33 20.6	-2.3
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LPAZ	**La Paz**	**147.60**	**66**	PKPbc	PKPdf	07 33 20.6	+4.7
	comp=Z,0.5nm,0.3s,baz=348,slow=7.1,SNR=4.4						

*IDC **26** 07:15:27.8±0.9, 8.36N× 91.70E, mb4.1/12, mb1 4.2/12, mb1mx4.1/19, mbtmp4.0/12, MS4.7/1, Ms1 4.7/1, ms1mx3.2/27, Error ellipse: s-maj=42.3km s-min=18.7km az=55.0*

*NEIC **26** 07:15:32.5±0.8, 8.40N× 91.71E, h30km, mb4.1/4, Error ellipse: s-maj=26.5km s-min=15.3km az=57.0*

*BJI **26** 07:15:34.2, 8.44N× 91.85E, h24km, mB4.9, mb4.6, Ms4.3, Msz4.3*

ISC 26 07:15:32.8±5.8, **8.3N**±0.1× **91.7E**±0.2, **h49**km±49km, **n26**, σ0§**98**/25, **mb4.1**/17, **MS4.7**/1, **1C, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**17.18**	**1**	*e*P	**P**	**07 19 30.7**	**-0.2**
LSA	**Lhasa**	**21.30**	**359**	*e*P	**P**	**07 20 19.3**	**+1.9**
LSA	**Lhasa**	**21.30**	**359**	*e*P	**P**	**07 20 16.9**	**-0.5**
	7.7nm,1.3s,mb3.9						
GYA	**Guiyang**	**23.00**	**36**	*i*P	**P**	**07 20 34.8**	**+0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2	**Chengdu**	**25.17**	**25**	P	**P**	**07 20 57.0**	**+1.7**
ENH	**Enshi**	**27.50**	**35**	*e*P	**P**	**07 21 15.1**	**-1.7**
	comp=Z,4.9nm,0.4s,mb4.4						
GTA	**Gaotai**	**31.83**	**12**	P	**P**	**07 21 55.3**	**+0.1**
GTA				AP	pP	07 22 03.3	-4.8
GTA				XP	sP	07 22 07.0	-7.3
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.1						
MKAR	**Makanchi Array**	**39.19**	**350**	P	**P**	**07 22 55.8**	**-1.9**
	comp=Z,3.7nm,0.6s,mb3.5,baz=84,slow=13,SNR=2.4						
SONM	**Songino Array**	**41.34**	**15**	P	**P**	**07 23 15.5**	**+0.1**
	comp=Z,2.4nm,0.8s,mb3.9,baz=194,slow=8.9,SNR=7.5						
KURK	**Kurchatov**	**43.65**	**348**	*e*P	**P**	**07 23 34.8**	**+0.5**
	comp=Z,5.5nm,1.2s,mb4.2						
ZAL	**Zalesovo**	**45.85**	**354**	P	**P**	**07 23 51.1**	**-0.7**
	comp=Z,1.4nm,0.3s,mb4.4,baz=293,slow=9.9,SNR=3.8						
WRA	**Warramunga Arr**	**50.51**	**124**	P	**P**	**07 24 28.3**	**-0.2**
	comp=Z,2.6nm,0.8s,mb4.2,baz=304,slow=8.7,SNR=13						
MJAR	**Matsushiro Arr**	**50.71**	**49**	LR	LR	07 47 29.8	
	comp=Z,727nm,18.3s,MS4.7,baz=140,slow=38						
BRTR	**Keskin Array B**	**60.30**	**311**	P	**P**	**07 25 39.2**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.9,baz=53,slow=7.2,SNR=3.4						
STKA	**Stephens Creek**	**62.18**	**133**	P	**P**	**07 25 52.2**	**+0.5**
	comp=Z,3.0nm,0.9s,mb4.4,baz=334,slow=18,SNR=3.8						
STKA	**Stephens Creek**	**62.18**	**133**	P	**P**	**07 25 52.2**	**+0.5**
FINES	**FINESS Array B**	**71.20**	**332**	P	**P**	**07 26 48.2**	**-0.1**
	comp=Z,2.0nm,0.8s,mb4.1,baz=143,slow=9.5,SNR=4.3						
FINES	**FINESS Array B**	**71.20**	**332**	P	**P**	**07 26 48.2**	**-0.1**
ARCES	**ARCESS Array B**	**74.04**	**340**	P	**P**	**07 27 05.5**	**+0.6**
	comp=Z,2.0nm,0.9s,mb4.0,baz=27,slow=6.0,SNR=3.1						
GERES	**GERESS Array B**	**75.88**	**318**	P	**P**	**07 27 17.6**	**+1.7**
	comp=Z,0.2nm,0.2s,mb3.6,baz=149,slow=39,SNR=2.8						
NB2	**NORSAR Subarra**	**78.16**	**331**	P	**P**	**07 27 26.3**	**-2.0**
	comp=Z,1.1nm,0.9s,mb3.8,baz=91,slow=5.8						
NB2	**NORSAR Subarra**	**78.16**	**331**	P	**P**	**07 27 26.3**	**-2.0**
	comp=Z,1.1nm,0.9s,mb3.8						
NOA	**NORSAR Array B**	**78.16**	**331**	P	**P**	**07 27 26.9**	**-1.4**
	comp=Z,0.5nm,0.7s,mb3.5,baz=314,slow=18,SNR=3.1						
NOA	**NORSAR Array B**	**78.16**	**331**	P	**P**	**07 27 26.9**	**-1.4**
VNDA	**Vanda**	**93.84**	**168**	P	**P**	**07 28 45.0**	**-0.5**
	comp=Z,1.0nm,1.1s,mb4.2,baz=303,slow=7.0,SNR=3.1						
ILAR	**Eielson Array**	**95.26**	**22**	P	**P**	**07 28 52.6**	**+0.5**
	comp=Z,0.5nm,0.8s,mb4.0,baz=295,slow=4.5,SNR=4.5						

*IDC **26** 07:15:50.8±1.1, 33.27N× 142.59E, mb3.8/6, mb1 4.1/7, mb1mx3.9/19, mbtmp3.8/7, ML3.5/1, Error ellipse: s-maj=33.6km s-min=26.4km az=46.0*

*NEIC **26** 07:15:51.4±1.0, 33.31N× 142.56E, h5km, mb4.2/2, Error ellipse: s-maj=30.5km s-min=16.0km az=222.0*

ISC 26 07:15:54.3±0.9, **33.3N**±0.2× **142.4E**±0.2, **h33**km, **n16**, σ1§**19**/14, **mb3.8**/7, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**4.72**	**314**	Pn	**Pn**	**07 17 03.8**	**-1.4**
	2.1nm,0.3s,baz=169,slow=13,SNR=4.1						
MAJO	**Matsushiro**	**4.72**	**314**	*e*Pn	**Pn**	**07 17 06.0**	**+0.8**
MDJ	**Mudanjiang**	**15.04**	**322**	*e*P	**P**	**07 19 25.9**	**0.0**
	4.0nm,0.5s						
HIA	**Hailar**	**23.20**	**320**	*e*P	**P**	**07 20 56.9**	**-1.9**
	7.5nm,0.9s,mb4.1						
SONM	**Songino Array**	**30.65**	**309**	P	**P**	**07 22 08.4**	**+0.7**
	1.1nm,0.7s,mb3.8,baz=117,slow=6.4,SNR=5.6						
MKAR	**Makanchi Array**	**46.86**	**305**	P	**P**	**07 24 24.2**	**+1.4**
	1.5nm,0.8s,mb4.0,baz=99,slow=9.8,SNR=3.1						
ILAR	**Eielson Array**	**52.25**	**31**	P	**P**	**07 25 02.3**	**-1.7**
	0.4nm,0.9s,mb3.4,baz=268,slow=6.7,SNR=4.5						
WRA	**Warramunga Arr**	**53.49**	**189**	P	**P**	**07 25 12.8**	**-1.1**
	0.8nm,0.6s,mb3.8,baz=6.8,slow=7.6,SNR=4.8						
NB2	**NORSAR Subarra**	**77.94**	**338**	P	**P**	**07 27 50.2**	**+0.1**
	0.8nm,0.7s,mb3.8,baz=39,slow=5.6						
NB2	**NORSAR Subarra**	**77.94**	**338**	P	**P**	**07 27 50.2**	**+0.1**
NOA	**NORSAR Array B**	**77.94**	**338**	P	**P**	**07 27 50.8**	**+0.6**
	0.7nm,0.8s,mb3.6,baz=8.8,slow=3.7,SNR=2.9						
NOA	**NORSAR Array B**	**77.94**	**338**	P	**P**	**07 27 50.8**	**+0.6**
CLL	**Collm**	**84.74**	**331**	P	**P**	**07 28 27.0**	**+1.1**
TXAR	**Lajitas Array**	**91.74**	**53**	P	**P**	**07 29 01.4**	**+1.5**
	0.5nm,0.7s,mb4.0,baz=252,slow=4.0,SNR=3.9						
LPAZ	**La Paz**	**147.69**	**66**	PKPbc	PKPdf	07 35 37.2	+4.1
	0.3nm,0.3s,baz=0.9,slow=11,SNR=3.3						
LPAZ	**La Paz**	**147.69**	**66**	PKPbc	PKPdf	07 35 37.2	+4.1

*NEIC **26** 07:22:48.5±0.9, 5.64S× 110.30E, h553km±11km, mb4.4/6, Error ellipse: s-maj=18.4km s-min=6.7km az=58.0*

*IDC **26** 07:22:50.2±4.4, 5.57S× 110.41E, h570km±54km, mb3.4/10, mb1 3.5/11, mb1mx3.4/20, mbtmp4.3/11, Error ellipse: s-maj=48.2km s-min=11.4km az=65.0*

ISC 26 07:22:48.4±1.2, **5.6S**±0.1× **110.4E**±0.2, **h568**km±17km, **n33**, σ0§**66**/31, **mb4.3**/21, **Java Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSM	**Kuching**	**7.06**	**359**	*e*P	**P**	**07 24 38.0**	**-0.3**
KKM	**Kota Kinabalu**	**12.98**	**27**	*e*Pn	**P**	**07 25 37.0**	**-0.1**
KULM	**Kulim**	**14.56**	**318**	*e*P	**P**	**07 25 52.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.39**	**131**	*e*P	**P**	**07 26 40.5**	**+1.4**
	7.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.39**	**131**	P	**P**	**07 26 40.4**	**+1.3**
	1.5nm,0.3s,baz=343,slow=11,SNR=18						
KLBR	**Kellerberrin**	**26.74**	**166**	*e*P	**P**	**07 27 44.3**	**-0.8**
	4.5nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**27.30**	**124**	P	**P**	**07 27 49.4**	**-0.7**
	0.6nm,0.5s,mb3.5,baz=303,slow=9.2,SNR=5.6						
WRA				PcP	PcP	07 30 50.7	-0.3
	0.2n

CDVI	**St. Croix**	**1.37 184**⇓	*e*P	P	07 25 41.6	+0.2
CDVI			*e*S	S	07 25 57.4	-1.1
HUMP	**Col San Antoni**	**1.49 229**⇓	*e*P	P	07 25 41.4	-1.7
HUMP			*e*S	S	07 25 58.9	-2.7
SJG	**San Juan**	**1.73 235**⇑	*e*P	P	07 25 45.0	-1.6
SJG			*e*S	S	07 26 06.1	-1.6
SJG	**San Juan**	**1.73 235**⇓	*e*P	P	07 25 44.4	-2.2
SJG			*e*S	S	07 26 06.2	-1.5
PORP	**Portuguez**	**2.15 241**⇑	*e*P	P	07 25 51.5	-1.1
PORP			*e*S	S	07 26 16.3	-2.0
LRS	**Lares**	**2.23 249**⇑	*e*P	P	07 25 52.2	-1.5
LSP	**Las Mesas**	**2.48 248**⇑	*e*P	P	07 25 56.1	-1.2
MGP	**Maguayo**	**2.56 245**⇑	*e*P	P	07 25 57.2	-1.1
MGP			*e*S	S	07 26 26.9	-1.7

JMA ***26*** *07:28:40.4±0.6, 33.33N×142.60E, h66km, M3.5*
IDC ***26*** *07:28:42.8±4.7, 34.68N×143.30E, mb3.6/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=151.1km s-min=28.7km az=61.0*

ISC 26 07:28:42.1±1.8, 33.5N±0.1×142.6E±0.2, h33km, n13, σ1§00/14, mb3.7/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.79**	**310**	P	P		P	07 29 10.9	-0.2
BSO1					*e*S		S	07 29 34.4	+1.4
BSO3	**Boso 3**	**2.19**	**307**	P	P		P	07 29 16.7	-0.1
JHJ2	**Mitsune**	**2.40**	**261**	P	P		P	07 29 17.6	-2.2
BSO4	**Boso 4**	**2.42**	**308**	P	P		P	07 29 20.5	+0.5
JYT	**Yasato**	**3.38**	**324**	P	P		P	07 29 34.5	+0.7
JHO	**Hitachi**	**3.53**	**332**	P	P		P	07 29 35.5	-0.5
JHO				S	S		S	07 30 16.2	-1.0
JHU	**Hanno**	**3.62**	**311**	P	P		P	07 29 37.2	-0.1
JYN	**Shimob**	**3.92**	**302**	P	P		P	07 29 41.0	-0.5
JFK	**Kawauchi**	**4.11**	**340**	P	P		P	07 29 43.1	-1.1
MJAR	**Matsushiro Arr**	**4.73**	**311**	Pn	Pn		Pn	07 29 52.9	-0.3
	2.1nm,0.3s,baz=170,slow=13,SNR=5.9								
SONM	**Songino Array**	**30.68**	**309**	P	P		P	07 34 57.7	+1.9
	0.3nm,0.3s,mb3.6,baz=90,slow=7.2,SNR=2.8								
MKAR	**Makanchi Array**	**46.91**	**305**	P	P		P	07 37 12.1	+1.1
	0.7nm,0.7s,mb3.7,baz=80,slow=8.8,SNR=6.2								
WRA	**Warramunga Arr**	**53.73**	**190**	P			pP	07 38 15.9	+2.4
	0.7nm,0.7s,baz=5.0,slow=7.4,SNR=2.9								

IDC ***26*** *07:34:58.8±1.0, 33.33N×142.45E, mb3.8/8, mb1 4.0/11, mb1mx3.9/22, mbtmp3.9/11, ML3.9/3, Error ellipse: s-maj=22.4km s-min=21.4km az=28.0*
JMA ***26*** *07:35:01.1±0.4, 33.35N×142.53E, h70km, M3.7*
NEIC ***26*** *07:35:04.8±2.4, 33.33N×142.35E, h41km±17km, mb4.3/4, Error ellipse: s-maj=22.1km s-min=20.7km az=90.0*

ISC 26 07:35:00.9±1.9, 33.36N±0.06×142.49E±0.07, h28km±14km, n32, σ1§13/40, mb4.0/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.80**	**316**	P	P		Pn	07 35 30.9	+0.3
BSO1					*e*S		Sn	07 35 54.0	+1.3
BSO3	**Boso 3**	**2.18**	**312**	P	P		Pn	07 35 36.6	+0.5
BSO3					*e*S		Sn	07 36 04.3	+1.9
JHJ2	**Mitsune**	**2.25**	**264**	P	P		Pn	07 35 37.7	+0.6
JHJ	**Hachijo jima 2**	**2.28**	**265**	Pn	P		Pn	07 35 36.8	-0.8
	112nm,0.3s,baz=68,slow=22,SNR=7.8								
JHJ				Sn			Sn	07 36 04.3	-0.6
	63nm,0.3s,baz=70,slow=22,SNR=5.6								
BSO4	**Boso 4**	**2.41**	**313**	P	P		Pn	07 35 40.5	+1.1
JIZS	**Izushimoda**	**3.29**	**295**	P	P		Pn	07 35 52.0	+0.1
JYT	**Yasato**	**3.42**	**327**	P	P		Pn	07 35 54.0	+0.2
JYT				S	S		Sn	07 36 34.5	+0.5
JHO	**Hitachi**	**3.60**	**335**	P	P		Pn	07 35 55.4	-1.0
JHO				*e*S	*e*S		Sn	07 36 35.1	-3.4
JHU	**Hanno**	**3.62**	**314**	P	P		Pn	07 35 56.1	-0.6
JYN	**Shimob**	**3.89**	**304**	P	P		Pn	07 36 01.0	+0.5
JAG	**Ashikaga**	**3.94**	**322**	P	P		Pn	07 36 00.8	-0.4
JFK	**Kawauchi**	**4.21**	**342**	P	P		Pn	07 36 02.6	-2.4
HMMJ	**Hamamatsu 2**	**4.22**	**292**	P	P		Pn	07 36 04.8	-0.4
JNY	**Yasuok**	**4.31**	**299**	P	P		Pn	07 36 07.4	+1.0
MJAR	**Matsushiro Arr**	**4.73**	**313**	Pn	P		Pn	07 36 12.8	+0.4
	5.4nm,0.3s,baz=162,slow=14,SNR=16								
MJAR				Sn			Sn	07 37 04.9	-2.1
	3.0nm,0.3s,baz=143,slow=16,SNR=5.5								
MAJO	**Matsushiro**	**4.73**	**313**	*e*Pn	P		Pn	07 36 14.0	+1.6
MAT	**Matsushiro**	**4.73**	**313**	*e*P	P		Pn	07 36 12.0	-0.4
MAT				*e*S	S		Sn	07 37 04.0	-3.1
MAT	**Matsushiro**	**4.73**	**313**	P	P		Pn	07 36 12.0	-0.4
MAT				S	S		Sn	07 37 04.2	-2.9
MAT	**Matsushiro**	**4.73**	**313**	P	P		Pn	07 36 13.1	+0.7
ASAJ	**Asahikawa**	**10.74**	**0**	Pn	P		P	07 37 32.8	-3.3
	1.1nm,0.3s,baz=210,slow=20,SNR=2.9								
HIA	**Hailar**	**23.20**	**320**	*e*P	P		P	07 40 05.6	-0.7
	9.9nm,1.3s,mb4.1								
ENH	**Enshi**	**28.14**	**273**	P	P		P	07 40 51.9	-0.9
	5.6nm,0.5s,mb4.5								
SONM	**Songino Array**	**30.67**	**309**	P	P		P	07 41 16.9	+1.7
	1.7nm,0.7s,mb4.0,baz=108,slow=7.8,SNR=11								
MKAR	**Makanchi Array**	**46.88**	**305**	P	P		P	07 43 30.8	+0.4
	3.3nm,0.7s,mb4.4,baz=88,slow=9.2,SNR=10								
KURK	**Kurchatov**	**48.94**	**311**	*e*P	P		P	07 43 46.3	-0.1
	6.6nm,0.7s,mb4.8								
ILAR	**Eielson Array**	**52.16**	**31**	P	P		P	07 44 11.1	+0.3
	0.4nm,0.6s,mb3.5,baz=254,slow=5.8,SNR=5.2								
WRA	**Warramunga Arr**	**53.57**	**190**	P	P		P	07 44 21.0	-0.9
	1.0nm,0.6s,mb3.9,baz=8.5,slow=7.7,SNR=18								
BVAR	**Borovoye Array**	**53.73**	**315**	P	P		P	07 44 21.7	-0.8
	0.4nm,0.4s,mb3.7,baz=45,slow=4.1,SNR=3.7								
FINES	**FINESS Arra B**	**72.47**	**333**	P	P		P	07 46 25.4	-1.1
	0.6nm,0.7s,mb3.6,baz=146,slow=5.0,SNR=3.2								
NB2	**NORSAR Subarra**	**77.91**	**338**	P	P		P	07 46 58.6	+1.2
	1.9nm,0.8s,mb4.1,baz=40,slow=5.6								
NOA	**NORSAR Array B**	**77.91**	**338**	P	P		P	07 46 58.3	+0.9
	1.0nm,0.7s,mb3.9,baz=39,slow=5.6,SNR=5.5								
TXAR	**Lajitas Array**	**91.64**	**53**	P	P		P	07 48 09.4	+2.5
	0.4nm,0.6s,mb3.9,baz=308,slow=3.0,SNR=6.2								

NIED ***26*** *07:41:00, 33.40N×142.40E, h5km, Mw4.6 Best double couple: M0 9.15×10^15 NP1:φs145°, δ69°, λ-93°. NP2: φs334°, δ22°, λ-82°.*
IDC ***26*** *07:41:00.3±0.6, 33.33N×142.47E, mb4.5/17, mb1 4.7/23, mb1mx4.7/26, mbtmp4.6/23, ML4.2/6, MS3.7/5, Ms1 3.7/5, ms1mx3.4/33, Error ellipse: s-maj=16.3km s-min=14.5km az=88.0*
BJI ***26*** *07:41:02.8, 33.26N×142.18E, h25km, mB5.0, mb4.8, Ms4.5, Msz4.2*
JMA ***26*** *07:41:03.6±0.3, 33.36N×142.40E, h70km, M4.5*
MOS ***26*** *07:41:04.6±0.8, 33.39N×142.31E, h33km, mb5.2/38, Error ellipse: s-maj=12.1km s-min=5.3km az=117.9*
HRVD ***26*** *07:41:05.3±0.7, 33.32N×142.52E, h18km±2km, MW4.7/41, Centroid moment Tensor Solution. LP body waves: s11,c11;Mantle waves: s41,c51; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.45±.18; Mθθ0.49±.11; Mφφ0.95±.12; Mrθ-0.48±.32; Mθφ-0.44±.07; Mφr0.17±.30; Best double couple: M0 1.424×10^16 NP1:φs338°, δ37°, λ-74°. NP2:φs138°, δ54°, λ-102°. Principal axes: T 1.282, Plg9°, Azm236°; N .286, Plg10°, Azm145°; P -1.566, Plg77°, Azm7°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***26*** *07:41:05.3±0.2, 33.28N×142.34E, mb5.0/44, MW4.6(NIED) Error ellipse: s-maj=4.9km s-min=4.0km az=186.0*

ISC 26 07:41:03.9±0.2, 33.29N±0.03×142.29E±0.03, h32km, h32km±.5km:pP-P, n246, σ0§94/250, mb4.8/81, MS4.2/8, 15C-12D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.74**	**322**	P	P		Pn	07 41 32.1	-0.4
BSO1					S		Sn	07 41 54.0	+0.2
JHJ2	**Mitsune**	**2.08**	**266**	P	P		Pn	07 41 38.6	+1.2
JHJ2					S		Sn	07 42 05.4	+3.0
JHJ	**Hachijo jima 2**	**2.11**	**266**	Pn	P		Pn	07 41 38.7	+1.0
	371nm,0.3s,baz=217,slow=21,SNR=18								
BSO3	**Boso 3**	**2.11**	**316**	P	P		Pn	07 41 37.8	0.0
BSO3					S		Sn	07 42 04.8	+1.6
BSO4	**Boso 4**	**2.34**	**317**	P	P		Pn	07 41 41.6	+0.5
BSO4					S		Sn	07 42 10.4	+1.3
KTR	**Katsuura**	**2.47**	**319**	P	P		Pn	07 41 42.5	-0.5
KTR					S		Sn	07 42 12.8	+0.5
JIM2	**Oshima 3**	**2.77**	**302**		S		Sn	07 42 18.6	-1.3
JIZS	**Izushimoda**	**3.17**	**298**	P	P		Pn	07 41 52.5	-0.4
JIZS					S		Sn	07 42 29.3	-0.7
JYN	**Shimob**	**3.80**	**306**	P	P		Pn	07 42 01.2	-0.6
JRY	**Ryogami san**	**3.90**	**315**	P	P		Pn	07 42 02.6	-0.6
JRY					S		Sn	07 42 46.8	-1.6
JAG	**Ashikaga**	**3.90**	**324**	P	P		Pn	07 42 01.9	-1.4
JAG					S		Sn	07 42 45.5	-3.0
MJAR	**Matsushiro Arr**	**4.66**	**315**	Pn	P		Pn	07 42 13.4	-0.7
	17nm,0.3s,baz=159,slow=14,SNR=74								
MJAR	**Matsushiro Arr**	**4.66**	**315**	Pn			Pn	07 42 13.4	-0.7
MAJO	**Matsushiro**	**4.67**	**315**	*e*P			Pn	07 42 14.9	+0.8
MAT	**Matsushiro**	**4.67**	**315**	*e*P			Pn	07 42 13.0	-1.1
MAT				*e*S			Sn	07 43 05.0	-2.9
MAT	**Matsushiro**	**4.67**	**315**	P	P		Pn	07 42 13.4	-0.7
MAT				S	S		Sn	07 43 05.1	-2.8
MAT	**Matsushiro**	**4.67**	**315**	P	P		Pn	07 42 13.5	-0.6
MAT				S	S		Sn	07 43 06.2	-1.7
CBIJ	**Chichi jima**	**6.17**	**181**	Pn	P		Pn	07 42 31.9	-3.5
	22nm,0.3s,baz=270,slow=2.0,SNR=3.5								
JNU	**Nakatsue**	**9.56**	**272**	Pn	P			07 43 23.1	+0.4
	1.7nm,0.3s,baz=89,slow=14,SNR=13								
JNU					LR		LR	07 47 04.3	
	comp=Z,519nm,20.0s,baz=262,slow=38								
ASAJ	**Asahikawa**	**10.81**	**1**	P	P		P	07 43 33.7	-6.0
ASAJ					pmax		pmax		
	comp=Z,6.0nm,0.3s								
ASAJ					MLR		MLR		
	comp=Z,340nm,20.5s								
ASAJ	**Asahikawa**	**10.81**	**1**	Pn	P		P	07 43 33.6	-6.1
	comp=Z,6.3nm,0.3s,baz=211,slow=11,SNR=36								
ASAJ					LR		LR	07 48 19.5	
	comp=Z,340nm,20.5s,baz=180,slow=41								
YUK	**Yuzh-Kuril'sk**	**11.09**	**14**	*e*P	P		P	07 43 34.3	-9.1
YUK					pmax		pmax		
	comp=Z,210nm,0.4s								
YUK					MLR		MLR		
	comp=Z,2μm,6.0s								
YUK					MLR		MLR		
	comp=N,2μm,8.0s								
YUK					MLR		MLR		
	comp=E,2μm,7.0s								
KS15	**Wonju Array Si**	**12.46**	**293**	*e*Pn	P		P	07 44 03.0	+0.9
YSS	**Yuzh-Sakhalins**	**13.65**	**1**⇑	*e*P	P		P	07 44 11.2	-6.5
YSS					pmax		pmax		
	comp=N,50nm,0.8s								
YSS					pmax		pmax		
	comp=Z,60nm,0.8s								
YSS					MLR		MLR		
	comp=Z,300nm,15.0s								
YSS	**Yuzh-Sakhalins**	**13.65**	**1**	*e*Pn	P		P	07 44 11.9	-5.7
	comp=Z,117nm,0.9s								
JOW	**Kunigami**	**13.73**	**246**	Pn	P		P	07 44 16.3	-2.5
	comp=Z,0.6nm,0.3s,baz=72,slow=12,SNR=5.3								
JOW					LR		LR	07 49 01.8	
	comp=Z,438nm,21.5s,baz=126,slow=35								
MDJ	**Mudanjiang**	**14.99**	**323**	P	P		P	07 44 36.0	+0.8
MDJ					AP			07 44 44.0	
MDJ					S		S	07 47 22.3	+1.4
MDJ					SCP			07 53 14.5	
MDJ					PCS			07 53 18.3	
MDJ					SCS		ScS	07 56 52.8	+2.3
MDJ					AMB		AMB		
	comp=Z,8.0nm,0.8s								
MDJ					AMB		AMB		
	comp=Z,104nm,7.2s								
MDJ					LR		LR		
	comp=N,291nm,12.0s								
MDJ					LR		LR		
	comp=E,458nm,14.3s								
MDJ					LR		LR		
	comp=Z,631nm,14.3s								
MDJ	**Mudanjiang**	**14.99**	**323**	*e*P	P		P	07 44 35.9	+0.6
	comp=Z,16nm,0.9s								
CN2	**Changchun**	**16.81**	**314**	*e*P	P		P	07 44 57.3	-1.2
CN2				*e*AP				07 45 05.5	
CN2				*e*S	S		S	07 48 01.0	-2.1
CN2				AMB			AMB		
	comp=Z,10.0nm,1.0s								
CN2				LR			LR		
	comp=N,2μm,12.0s								
CN2				LR			LR		
	comp=E,2μm,12.0s								
CN2				LR			LR		
	comp=Z,2μm,13.0s								
SNY	**Shenyang**	**17.08**	**305**	⇓P	P		P	07 45 03.0	+1.0
SNY					LR		LR		
	comp=N,570nm,13.5s								
SNY					LR		LR		
	comp=E,620nm,14.7s								
SNY					LR		LR		
	comp=Z,570nm,13.8s								
DL2	**Dalian**	**17.60**	**294**	P	P		P	07 45 08.0	-0.4
DL2					S		S	07 48 21.0	-0.1
DL2					AMB		AMB		
	comp=Z,10.0nm,0.5s								
DL2					LR		LR		
	comp=N,360nm,12.0s								
DL2					LR		LR		
	comp=E,300nm,11.8s								
DL2					LR		LR		
	comp=Z,470nm,14.2s								
KLR	**Kul'dur**	**17.76**	**337**	*e*P	P		P	07 45 03.0	-7.3
SSE	**Sheshan**	**17.99**	**269**	*e*P	P		P	07 45 12.5	-0.8
SSE				AP				07 45 21.3	
SSE				XP				07 45 25.3	
SSE				S	S			07 48 31.8	+1.7
SSE				ScS	ScS			07 57 03.5	+4.5
SSE				AMB			AMB		
	comp=Z,20nm,0.8s								
SSE				AMB			AMB		
	comp=Z,163nm,5.9s								
SSE				LR			LR		
	comp=N,182nm,13.2s								
SSE				LR			LR		
	comp=E,413nm,13.2s								
SSE				LR			LR		
	comp=Z,449nm,14.6s								
SSE	**Sheshan**	**17.99**	**269**	*e*P	P		P	07 45 12.5	-0.8
	comp=Z,20nm,0.8s								
SSE				pP				07 45 21.3	
SSE				sP				07 45 25.2	
SSE				S	S			07 48 31.8	+1.7
SSE				sS				07 48 51.3	
SSE				ScS	ScS			07 57 03.4	+4.4
GUMO	**Guam**	**19.75**	**173**	*e*P	P			07 45 33.4	-0.9
GUMO					pmax		pmax		
	comp=Z,451nm,1.5s								
GUMO	**Guam**	**19.75**	**173**	*e*P	P			07 45 33.4	-0.9
	comp=Z,451nm,1.5s								
NJ2	**Nanjing**	**19.76**	**273**	*e*P	P			07 45 32.8	-1.5
NJ2					AP			07 45 41.5	
NJ2					XP			07 45 45.8	
NJ2					PP		PP	07 45 51.8	-1.0
NJ2					S		S	07 49 11.0	+1.4
NJ2					AMB		AMB		
	comp=Z,70nm,1.0s								
NJ2					AMB		AMB		
	comp=Z,160nm,5.6s								
NJ2					LR		LR		
	comp=N,650nm,15.4s								
NJ2					LR		LR		
	comp=E,660nm,14.7s								
NJ2					LR		LR		
	comp=Z,310nm,16.7s								
SKR	**Severo-Kuril's**	**20.13**	**26**	*e*P	P		P	07 45 29.0	-9.0
HIA	**Hailar**	**23.15**	**320**	*e*P	P		P	07 46 07.8	-0.5
HIA					pmax		pmax		
	comp=Z,19nm,0.8s								
HIA	**Hailar**	**23.15**	**320**	*e*P	P		P	07 46 07.8	-0.5
	comp=Z,19nm,0.8s,mb4.6								
WHN	**Wuhan**	**23.84**	**271**	*e*P	P		P	07 46 14.8	-0.4
HHC	**Hu-ho-hao-te**	**25.56**	**296**	*e*P	P		P	07 46 31.0	-0.5
HHC					AP		pP	07 46 40.5	-0.3
HHC					XP		sP	07 46 44.8	-0.3
HHC					PP		PP	07 47 08.0	-3.3
HHC					S		S	07 50 59.3	+4.7
HHC					SCP			07 53 34.0	
HHC					PCS			07 53 38.8	
HHC					SCS		ScS	07 57 21.8	-4.4
HHC					AMB		AMB		
	comp=Z,43nm,1.4s,mb4.8								
HHC					AMB		AMB		
	comp=Z,111nm,8.4s								
HHC					LR		LR		
	comp=N,235nm,14.4s,MS4.2								
HHC					LR		LR		
	comp=E,437nm,13.2s,MS4.2								
HHC					LR		LR		
	comp=Z,417nm,16.8s,MS4.0								
CLNS	**Chul'man**	**26.40**	**338**	*e*P	P		P	07 46 38.9	-0.3
CLNS				*e*PPP	PP			07 47 16.7	-5.8
CLNS				*e*				07 49 57.8	
CLNS				*e*S	S			07 51 10.4	+1.9
CLNS				pmax	pmax				
	comp=Z,20nm,1.3s,mb4.5								
CLNS				pmax	pmax				
	comp=N,15nm,1.2s								
CLNS				pmax	pmax				
	comp=E,11nm,1.0s								
CLNS				pmax	pmax				
	comp=Z,28nm,0.9s,mb4.8								
CLNS				pmax	pmax				
	comp=N,20nm,1.1s								
CLNS				pmax	pmax				
	comp=E,21nm,1.1s								
CLNS				smax					
	comp=N,57nm,10.9s								
CLNS				smax					
	comp=Z,101nm,11.1s								
CLNS				smax					
	comp=E,55nm,13.5s								
BTO	**Baotou**	**26.70**	**295**	*e*P	P		P	07 46 42.3	+0.3
MA2	**Magadan**	**26.89**	**10**⇓	*e*P	P		P	07 46 42.3	-1.3
MA2					pmax		pmax		
	comp=Z,30nm,2.1s,mb4.5								
XAN	**Xi'an**	**27.71**	**281**	P	P		P	07 46 50.0	-1.4
XAN					AMB		AMB		
	comp=Z,22nm,1.1s,mb4.7								
CIT	**Chita**	**27.95**	**321**	*e*P	P		P	07 46 53.0	-0.3
CIT				*e*				07 47 10.9	
CIT				*e*				07 50 05.7	
CIT				pmax	pmax				
	comp=Z,165nm,1.6s,mb5.4								
ENH	**Enshi**	**27.98**	**273**	*e*P	P		P	07 46 52.5	-1.3
	comp=Z,74nm,1.0s,mb5.3								
FX1	**Attu Island--F**	**29.52**	**39**	LR	LR			07 56 14.6	
	comp=Z,8.6nm,21.0s,baz=245,slow=31								
YAK	**Yakutsk**	**29.87**	**348**	*i*P	P		P	07 47 10.2	-0.3
YAK					pmax		pmax		
	comp=Z,24nm,1.0s,mb4.9								
SEY	**Seymchan**	**30.34**	**9**	*e*P	P		P	07 47 13.9	-0.8
SEY					pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.6								
SONM	**Songino Array**	**30.59**	**309**	P	P		P	07 47 17.8	+0.8
	comp=Z,7.3nm,0.6s,mb4.7,baz=113,slow=9.4,SNR=38								
SONM					LR		LR	07 59 50.2	
	comp=Z,132nm,19.8s,MS3.6,baz=265,slow=37								
BOD	**Bodaibo**	**31.11**	**331**	*e*P	P		P	07 47 19.7	-1.7
BOD				*e*				07 47 24.8	
BOD				pmax	pmax				
	comp=Z,5.0nm,1.3s,mb4.2								
BOD				pmax	pmax				
	comp=Z,14nm,1.0s,mb4.8								
GYA	**Guiyang**	**31.52**	**267**⇑	*i*P	P		P	07 47 23.3	-2.1
GYA					AP		pP	07 47 32.5	-2.4
GYA					XP		sP	07 47 37.0	-2.0
GYA					PP		PP	07 48 26.5	-3.5
GYA					S		S	07 52 29.3	-1.2
GYA					SS		SS	07 54 13.0	-6.8
GYA					AMB		AMB		
	comp=Z,20nm,1.1s,mb4.9								
GYA					AMB		AMB		
	comp=Z,110nm,2.8s,mb5.2								
GYA					LR		LR		
	comp=N,640nm,15.2s,MS4.6								
GYA					LR		LR		
	comp=E,710nm,16.0s,MS4.6								
GYA					LR		LR		
	comp=Z,610nm,15.8s,MS4.4								
LZH	**Lanzhou**	**31.60**	**286**	⇑P	P		P	07 47 25.5	-0.5
LZH					AP		pP	07 47 32.5	-2.9
LZH					XP		sP	07 47 36.0	-3.6
LZH					PP		PP	07 48 30.5	-0.4
LZH					*e*S		S	07 52 32.0	+0.4
LZH					XS			07 52 43.0	
LZH					*e*SS		SS	07 54 21.5	0.0
LZH					AMB		AMB		
	comp=Z,54nm,1.6s,mb5.1								
LZH					AMB		AMB		
	comp=Z,213nm,4.3s								
LZH					LR		LR		
	comp=E,1μm,15.3s								
LZH					LR		LR		
	comp=Z,2μm,16.0s,MS4.8								
LZH	**Lanzhou**	**31.60**	**286**	⇑P	P		P	07 47 25.5	-0.5
LZH					*SP		sP	07 47 36.0	-3.6
LZH								07 48 30.5	
LZH					*eS		S	07 52 32.0	+0.4
LZH					*SS			07 52 43.0	
LZH					*eSS		SS	07 54 21.5	0.0
LZH					pmax		pmax		
	comp=Z,54nm,1.6s,mb5.1								
LZH					MLR		MLR		
	comp=Z,2μm,16.0s,MS4.8								
LZH	**Lanzhou**	**31.60**	**286**	⇑P	P		P	07 47 25.5	-0.5
	comp=Z,54nm,1.6s,mb5.1								
LZH					pP		pP	07 47 32.6	-2.8
LZH					sP		sP	07 47 36.0	-3.6
LZH					PP		PP	07 48 30.5	-0.4
LZH					*eS		S	07 52 32.0	+0.4
LZH					sS			07 52 43.0	
LZH					*eSS		SS	07 54 21.5	0.0
LZH					LR		LR		
	comp=Z,2μm,16.0s,MS4.8								
CD2	**Chengdu**	**32.60**	**276**	P	P		P	07 47 32.3	-2.5
ZAK	**Zakamensk**	**33.24**	**313**⇓	*i*P	P		P	07 47 40.6	+0.4
ZAK					pmax		pmax		
	comp=Z,4.0nm,1.4s,mb4.2								
ZAK					pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0								
TLY	**Talaya**	**33.41**	**315**	*e*P	P		P	07 47 41.6	0.0
TLY					pmax		pmax		
	comp=Z,11nm,1.0s,mb4.7								
TLY					MLR		MLR		
	comp=Z,147nm,14.0s,MS3.9								
TLY	**Talaya**	**33.41**	**315**	*e*P	P		P	07 47 42.1	+0.5
	comp=Z,11nm,0.9s,mb4.8								
GTA	**Gaotai**	**34.51**	**293**	P	P		P	07 47 51.5	+0.3
GTA					AP		pP	07 48 01.8	+1.1
GTA					XP		sP	07 48 07.5	+2.7
GTA					PP		PP	07 49 09.0	+1.4
GTA					PCP		PcP	07 50 25.5

ZAL	**Zalesovo**	**45.03**	**315**	*i* P		**P**	**07 49 19.2**	**+1.0**
ZAL					pmax	pmax		
	comp=Z,3.0nm,0.3s							
ZAL	**Zalesovo**	**45.03**	**315**	P		**P**	**07 49 17.4**	**-0.8**
	comp=Z,2.5nm,0.3s,mb4.5,baz=90,slow=5.4,SNR=5.6							
NVS	**Novosibirsk**	**45.99**	**316**	*i* P		**P**	**07 49 25.1**	**-0.6**
NVS					pmax	pmax		
	comp=E,27nm,1.3s							
NVS					pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0							
MKAR	**Makanchi Array**	**46.79**	**305**	P		**P**	**07 49 32.4**	**+0.2**
	comp=Z,8.9nm,0.8s,mb4.8,baz=88,slow=9.4,SNR=48							
JIRN	**Jiri**	**48.19**	**279**	*e*P		**P**	**07 49 44.2**	**+0.8**
	comp=Z,31nm,0.5s,mb5.6							
GUN	**Gumba**	**48.36**	**279**	*e*P		**P**	**07 49 45.6**	**+0.9**
KURK	**Kurchatov**	**48.86**	**311**	*e*P		**P**	**07 49 47.9**	**-0.4**
KURK				*e**PP		pP	07 49 56.5	-1.5
KURK					pmax	pmax		
	comp=Z,37nm,0.8s,mb5.5							
KURK	**Kurchatov**	**48.86**	**311**	*e*P		**P**	**07 49 47.9**	**-0.4**
	comp=Z,36nm,0.8s,mb5.5							
KURK				*e*pP		pP	07 49 56.5	-1.6
PKI	**Pulchoki**	**48.87**	**279**	*e*P		**P**	**07 49 48.6**	**-0.1**
	comp=Z,31nm,0.9s,mb5.3							
KKN	**Kakani**	**48.90**	**280**	*e*P		**P**	**07 49 49.3**	**+0.4**
	comp=Z,38nm,0.8s,mb5.5							
DMN	**Daman**	**49.10**	**279**	*e*P		**P**	**07 49 50.5**	**0.0**
	comp=Z,10nm,0.4s,mb5.2							
GKN	**Gorkha**	**49.35**	**280**	*e*P		**P**	**07 49 52.4**	**0.0**
	comp=Z,66nm,0.9s,mb5.6							
KOLN	**Koldanda**	**50.29**	**280**	*e*P		**P**	**07 49 59.7**	**+0.1**
	comp=Z,60nm,1.1s,mb5.5							
ILAR	**Eielson Array**	**52.30**	**31**	P		**P**	**07 50 12.5**	**-1.8**
	comp=Z,3.3nm,0.6s,mb4.4,baz=261,slow=6.3,SNR=32							
KSH	**Kashi**	**52.66**	**297**	*e*P		**P**	**07 50 18.5**	**+1.1**
KSH				*e*AP		pP	07 50 31.0	+3.8
KSH				*e*PCP		PcP	07 51 27.0	+0.1
KSH				*e*PP		PP	07 52 19.0	+1.3
KSH				*e*PCS			07 55 26.0	
KSH				*e*S		**S**	**07 57 42.0**	**+0.9**
KSH				*e*SCS		ScS	08 00 00.8	-0.4
KSH				*e*SS		SS	08 01 18.5	0.0
KSH				AMB		AMB		
	comp=Z,70nm,4.1s							
KSH				LR		LR		
	comp=N,810nm,18.6s							
KSH				LR		LR		
	comp=E,4μm,39.9s							
FRU	**Bishkek**	**52.83**	**301**	*e*P		**P**	**07 50 18.0**	**-0.6**
FRU					pmax	pmax		
	comp=Z,40nm,1.6s,mb5.1							
AAK	**Ala-Archa**	**52.97**	**301⇓**	*e*P		**P**	**07 50 18.8**	**-0.8**
AAK					pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7							
AAK	**Ala-Archa**	**52.97**	**301**	*e*P		**P**	**07 50 18.5**	**-1.1**
	comp=Z,8.1nm,0.7s,mb4.8							
VOSK	**Vostochnaya**	**53.35**	**314**	P		**P**	**07 50 21.5**	**-0.8**
VOSK					pmax	pmax		
	comp=Z,26nm,1.3s,mb5.0							
WRAB	**Tennant Creek**	**53.46**	**189**	*d i* P		**P**	**07 50 22.1**	**-1.4**
WRAB	**Tennant Creek**	**53.46**	**189**	*e*P		**P**	**07 50 22.0**	**-1.6**
	comp=Z,15nm,0.8s,mb5.0							
WB2	**Warramunga Arr**	**53.47**	**189**	*e*P		**P**	**07 50 22.2**	**-1.4**
WB2				*e*			07 51 30.5	
WRA	**Warramunga Arr**	**53.47**	**189**	P		**P**	**07 50 22.2**	**-1.4**
	comp=Z,8.7nm,0.6s,mb4.8,baz=8.1,slow=7.8,SNR=45							
WRA				PcP		PcP	07 51 30.8	+0.6
	comp=Z,4.5nm,0.7s,baz=4.5,slow=3.7,SNR=5.4							
FITZ	**Fitzroy Crossi**	**53.52**	**200⇓**	*i* P		**P**	**07 50 23.7**	**-0.2**
	comp=Z,18nm,0.6s,mb5.2							
BVA0	**Borovoye Array**	**53.66**	**315**	*i* P		**P**	**07 50 23.7**	**-0.8**
BVA0					pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1							
BVAR	**Borovoye Array**	**53.66**	**315**	P		**P**	**07 50 24.2**	**-0.3**
	comp=Z,6.1nm,1.0s,mb4.5,baz=90,slow=7.4,SNR=24							
BRVK	**Borovoye**	**53.72**	**315**	*e*P		**P**	**07 50 24.5**	**-0.4**
BRVK				*e**PP		pP	07 50 34.1	-0.6
BRVK					pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7							
BRVK	**Borovoye**	**53.72**	**315**	*e*P		**P**	**07 50 24.5**	**-0.4**
	comp=Z,14nm,1.3s,mb4.7							
BRVK				*e*pP		pP	07 50 34.1	-0.6
INK	**Inuvik**	**57.41**	**26**	P		**P**	**07 50 50.3**	**-1.1**
INK					pmax	pmax		
	comp=Z,5.0nm,0.8s							
INK	**Inuvik**	**57.41**	**26**	P		**P**	**07 50 50.3**	**-1.1**
	comp=Z,4.7nm,0.8s,mb4.6,baz=292,slow=5.6,SNR=9.9							
INK	**Inuvik**	**57.41**	**26**	*e*P		**P**	**07 50 49.6**	**-1.9**
	comp=Z,9.3nm,0.9s,mb4.8							
INK				*e*pP		pP	07 50 59.1	-2.2
HYB	**Hyderabad**	**58.91**	**271**	*e*P		**P**	**07 51 03.0**	**+0.4**
HYB	**Hyderabad**	**58.91**	**271**	*i* P		**P**	**07 51 03.0**	**+0.4**
ARU	**Arti**	**59.66**	**320⇓**	*i* P		**P**	**07 51 06.1**	**-1.1**
ARU				*e*			07 51 52.9	
ARU				*e*			07 53 14.4	
ARU				*e*S		**S**	**07 59 13.8**	**0.0**
ARU				*e*SS		SS	08 03 07.9	-3.0
ARU					pmax	pmax		
	comp=Z,26nm,1.5s,mb5.0							
ARU	**Arti**	**59.66**	**320**	*e*P		**P**	**07 51 05.9**	**-1.3**
	comp=Z,41nm,1.5s,mb5.2							
ARU				*e*pP		pP	07 51 15.3	-1.9
AB31	**Akbulak array**	**60.94**	**312**	P		**P**	**07 51 15.0**	**-1.0**
AB31					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6							
DLBC	**Dease Lake**	**61.16**	**37**	*e*P		**P**	**07 51 16.5**	**-0.9**
DLBC				*e*pP		pP	07 51 26.7	-0.7
AFI	**Afiamalu**	**64.20**	**129**	LR		LR	08 12 50.5	
	comp=Z,77nm,20.9s,MS3.9,baz=94,slow=30							
STKA	**Stephens Creek**	**64.82**	**181⇓**	*i* P		**P**	**07 51 41.5**	**-0.5**
	comp=Z,9.9nm,0.9s,mb4.8							
STKA	**Stephens Creek**	**64.82**	**181**	P		**P**	**07 51 41.5**	**-0.5**
	comp=Z,12nm,0.8s,mb5.0,baz=338,slow=10.0,SNR=12							
RES	**Resolute Bay**	**66.05**	**14**	*e*P		**P**	**07 51 48.5**	**-0.7**
RES				*e**PP		pP	07 51 57.9	-1.2
RES					pmax	pmax		
	comp=Z,26nm,1.2s,mb5.1							
RES	**Resolute Bay**	**66.05**	**14**	*e*P		**P**	**07 51 48.5**	**-0.6**
	comp=Z,26nm,1.2s,mb5.1							
RES				*e*pP		pP	07 51 57.9	-1.3
APA	**Apatity**	**66.39**	**337⇓**	*i* P		**P**	**07 51 49.5**	**-2.0**
APA					pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1							
YKA	**Yellowknife Ar**	**66.69**	**29**	P		**P**	**07 51 52.0**	**-1.5**
	comp=Z,2.8nm,0.9s,mb4.3,baz=294,slow=6.1,SNR=9.8							
YKA	**Yellowknife Ar**	**66.69**	**29**	P		**P**	**07 51 52.0**	**-1.5**
KEV	**Kevo**	**67.19**	**340**	*e*p		**P**	**07 51 56.6**	**0.0**
	comp=Z,7.3nm,1.1s,mb4.6							
ARCES	**ARCESS Array B**	**67.75**	**340**	P		**P**	**07 51 58.6**	**-1.4**
	comp=Z,3.8nm,0.9s,mb4.4,baz=40,slow=9.5,SNR=5.9							
KLBR	**Kellerberrin**	**68.56**	**202**	*e*P		**P**	**07 52 04.8**	**-1.0**
	comp=Z,29nm,1.0s,mb5.2							
OBN	**Obninsk**	**71.53**	**324⇑**	*e*P		**P**	**07 52 23.9**	**+0.5**
OBN				*e**PP		pP	07 52 33.8	+0.4
OBN					pmax	pmax		
	comp=Z,14nm,0.4s,mb5.2							
KAF	**Kangasniemi**	**71.97**	**334**	*e*p		**P**	**07 52 24.5**	**-1.4**
	comp=Z,8.1nm,0.8s,mb4.7,baz=50,slow=5.7							
FINES	**FINESS Array B**	**72.46**	**333**	P		**P**	**07 52 28.5**	**-0.3**
	comp=Z,4.2nm,0.7s,mb4.5,baz=72,slow=4.4,SNR=13							
FINES	**FINESS Array B**	**72.46**	**333**	P		**P**	**07 52 28.5**	**-0.3**
KIV	**Kislovodsk**	**73.92**	**312**	*i* P		**P**	**07 52 38.9**	**+1.3**
KIV					pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9							
SUMG	**Summit**	**74.42**	**0**	*e*P		**P**	**07 52 40.2**	**+0.2**
	comp=Z,7.3nm,0.8s,mb4.7							
BEKR	**Beckwourth**	**74.56**	**52**	*e*P		**P**	**07 52 41.0**	**-0.4**
	comp=Z,14nm,1.5s,mb4.7							
CMB	**Columbia Colle**	**75.47**	**54**	*e*P		**P**	**07 52 46.1**	**-0.6**
CMB				*e**PP		pP	07 52 56.5	-0.3
CMB					pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7							
CMB	**Columbia Colle**	**75.47**	**54**	*e*P		**P**	**07 52 46.1**	**-0.6**
	comp=Z,14nm,1.3s,mb4.7							
CMB				*e*pP		pP	07 52 56.5	-0.2
SOC	**Sochi**	**75.95**	**313**	*e*P		**P**	**07 52 40.3**	**-9.0**
SOC				*e*S		S	08 02 21.8	-6.7
FFC	**Flin Flon**	**76.47**	**33**	*e*P		**P**	**07 52 51.5**	**-0.5**
FFC				*e**PP		pP	07 53 01.3	-0.7
FFC					pmax	pmax		
	comp=Z,22nm,1.7s,mb4.8							
FFC	**Flin Flon**	**76.47**	**33**	*e*P		**P**	**07 52 51.5**	**-0.4**
	comp=Z,22nm,1.7s,mb4.8							
FFC				*e*pP		pP	07 53 01.3	-0.8
BOZ	**Bozeman (W)**	**76.91**	**44**	*e*P		**P**	**07 52 55.4**	**+0.8**
BOZ				*e**PP		pP	07 53 05.1	+0.4
AKASG	**Malin Array Be**	**77.70**	**323**	P		**P**	**07 52 58.6**	**-0.3**
	comp=Z,0.7nm,0.4s,mb3.9,baz=43,slow=5.7,SNR=24							
NB2	**NORSAR Subarra**	**77.91**	**338**	P		**P**	**07 52 59.7**	**-0.1**
	comp=Z,44nm,1.7s,mb5.1,baz=40,slow=5.6							
NB2	**NORSAR Subarra**	**77.91**	**338**	P		**P**	**07 52 59.7**	**-0.1**
NB2					pmax	pmax		
	comp=Z,44nm,1.7s,mb5.1							
NB2	**NORSAR Subarra**	**77.91**	**338**	P		**P**	**07 52 59.7**	**-0.1**
	baz=40,slow=5.6							
NOA	**NORSAR Array B**	**77.91**	**338**	P		**P**	**07 52 59.7**	**-0.1**
	comp=Z,5.1nm,0.7s,mb4.5,baz=39,slow=5.6,SNR=25							
NOA	**NORSAR Array B**	**77.91**	**338**	P		**P**	**07 52 59.7**	**-0.1**
GCMT	**Greycliff**	**77.95**	**43**	*e*P		**P**	**07 53 00.9**	**+0.6**
IMW	**Indian Meadow**	**78.31**	**45**	*e*P		**P**	**07 53 02.3**	**-0.1**
IMW				*e*		pP	07 53 13.1	+0.6
SUW	**Suwalki**	**78.43**	**328**	*e*P		**P**	**07 53 03.0**	**+0.2**
SUW	**Suwalki**	**78.43**	**328**	*e*P		**P**	**07 53 03.0**	**+0.2**
MOOW	**Moose Ponds**	**78.50**	**45**	*e*P		**P**	**07 53 04.7**	**+1.3**
	comp=Z,26nm,1.8s,mb4.9							
TPAW	**Teton Pass**	**78.53**	**45**	*e*P		**P**	**07 53 04.9**	**+1.3**
	comp=Z,31nm,1.8s,mb4.9							
LOHW	**Long Hollow**	**78.67**	**45**	*e*P		**P**	**07 53 05.5**	**+1.1**
	comp=Z,13nm,1.6s,mb4.6							
PDAR	**Pinedale Array**	**79.78**	**45**	P		**P**	**07 53 10.2**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.8,baz=290,slow=1.8,SNR=6.1							
DAU	**Daniels Canyon**	**80.12**	**48**	*e*P		**P**	**07 53 13.6**	**+1.3**
NEN	**Nelson**	**80.50**	**54**	*e*P		**P**	**07 53 13.9**	**-0.4**
NEN				*e*pP		pP	07 53 24.7	+0.1
MSU	**Marysvale**	**80.63**	**50**	*e*P		**P**	**07 53 15.7**	**+0.7**
SRU	**San Rafael**	**81.34**	**49**	*e*P		**P**	**07 53 18.8**	**+0.1**
SRU				*e**PP		pP	07 53 29.1	+0.2
KWP	**Kalwaria**	**81.59**	**325**	*e*P		**P**	**07 53 21.4**	**+1.6**
KWP	**Kalwaria**	**81.59**	**325**	*e*P		**P**	**07 53 21.4**	**+1.6**
BURAR	**Bucovina Array**	**81.70**	**322**	⇑P		**P**	**07 53 20.8**	**+0.5**
BURAR	**Bucovina Array**	**81.70**	**322**	⇑P		**P**	**07 53 20.8**	**+0.4**
BR131	**Keskin Array S**	**81.88**	**312**	*e*P		**P**	**07 53 21.7**	**+0.2**
	comp=Z,0.9nm,0.5s,mb4.0							
BRTR	**Keskin Array B**	**81.88**	**312**	P		**P**	**07 53 22.8**	**+1.2**
	comp=Z,2.6nm,0.7s,mb4.3,baz=112,slow=4.1,SNR=12							
KOLS	**Kolonicke sedl**	**82.28**	**325**	*e*P		**P**	**07 53 23.7**	**+0.3**
STHS	**Stebnicka Huta**	**82.44**	**326**	*e*P		**P**	**07 53 25.4**	**+1.2**
STHS				*e*			07 53 32.8	
OJC	**Ojcow**	**82.55**	**327**	*e*P		**P**	**07 53 25.4**	**+0.7**
CRVS	**Cervenica-Dubn**	**82.69**	**325**	*e*P		**P**	**07 53 26.4**	**+0.9**
CRVS				*e*		pP	07 53 37.3	+1.6
CRVS	**Cervenica-Dubn**	**82.69**	**325**	*e*P		**P**	**07 53 26.4**	**+0.9**
CRVS				*e*			07 53 31.9	
CRVS				*e*		pP	07 53 37.3	+1.6
MLR	**Muntele Rosu**	**82.71**	**321**	⇓P		**P**	**07 53 26.4**	**+0.7**
NIE	**Niedzica**	**82.87**	**326**	*e*P		**P**	**07 53 28.5**	**+2.1**
PHWY	**Pilot Hill**	**83.10**	**45**	*e*P		**P**	**07 53 28.2**	**+0.4**
KECS	**Kecovo**	**83.45**	**325**	*e*P		**P**	**07 53 30.1**	**+0.7**
KECS				*e*pP		pP	07 53 40.7	+1.1
SMCO	**Snowmass**	**83.50**	**47**	*e*P		**P**	**07 53 30.9**	**+1.0**
OKC	**Ostrava-Krasne**	**83.57**	**327**	*e*P		**P**	**07 53 26.1**	**-3.9**
KSP	**Ksiaz**	**83.66**	**329**	*e*P		**P**	**07 53 31.2**	**+0.8**
BSEG	**Bad Segeberg**	**83.72**	**334**	*e*P		**P**	**07 53 31.3**	**+0.7**
MORC	**Moravsky Berou**	**83.89**	**328**	*e*P		**P**	**07 53 31.6**	**0.0**
MORC				*e**PP		pP	07 53 43.1	+1.3
MORC					pmax	pmax		
	comp=Z,25nm,1.5s,mb5.1							
MORC	**Moravsky Berou**	**83.89**	**328**	*e*P		**P**	**07 53 31.6**	**0.0**
	comp=Z,25nm,1.5s,mb5.1							
MORC				*e*pP		pP	07 53 43.1	+1.3
DPC	**Dobruska-Polom**	**84.01**	**329**	*e*P		**P**	**07 53 33.2**	**+1.0**
DPC				*e*pP		pP	07 53 43.0	+0.6
DPC				AMS		AMS	08 38 20.0	
	comp=Z,100nm,18.6s							
UPC	**Upice**	**84.03**	**329**	*e*P		**P**	**07 53 32.9**	**+0.6**
PSZ	**Piszkesteto**	**84.12**	**325⇑**	*i* P		**P**	**07 53 34.2**	**+1.4**
VYHS	**Vyhne**	**84.22**	**326**	*e*P		**P**	**07 53 34.4**	**+1.1**
VYHS				*e*pP		pP	07 53 43.5	0.0
VYHS				*e*			07 53 54.9	
PVCC	**Panska Ves**	**84.64**	**330**	*e*P		**P**	**07 53 36.0**	**+0.7**
PVCC				*e*pP		pP	07 53 46.3	+0.7
BRG	**Berggiesshubel**	**84.64**	**330**	*i* P		**P**	**07 53 36.1**	**+0.8**
BRG				*e*		pP	07 53 46.5	+0.9
BRG					pmax	pmax		
	comp=Z,15nm,1.3s,mb5.0							
BRG	**Berggiesshubel**	**84.64**	**330**	*i* P		**P**	**07 53 36.1**	**+0.8**
	comp=Z,15nm,1.3s,mb5.0							
BRG				*e*		pP	07 53 46.5	+1.0
BRG				*e*			07 53 56.1	
VRAC	**Vranov**	**84.66**	**328**	⇓P		**P**	**07 53 22.6**	**-13**
VRAC	**Vranov**	**84.66**	**328**	⇓P		**P**	**07 53 22.6**	**-13**
CLL	**Collm**	**84.70**	**331⇑**	*i*P		**P**	**07 53 36.1**	**+0.5**
CLL				*i* *PP		pP	07 53 46.1	+0.2
CLL					pmax	pmax		
	comp=Z,39nm,1.6s,mb5.3							
CLL	**Collm**	**84.70**	**331⇑**	*i*P		**P**	**07 53 36.1**	**+0.5**
	comp=Z,39nm,1.6s,mb5.3							
CLL				*i* pP		pP	07 53 46.1	+0.2
CLL	**Collm**	**84.70**	**331**	⇑P		**P**	**07 53 36.1**	**+0.5**
	comp=Z,logA/T=1.4,mb5.3							
CLL				*i* *PP		pP	07 53 46.1	+0.2
CLL				*i*			07 53 55.9	
SMOL	**Smolenice**	**84.85**	**327**	*e*P		**P**	**07 53 44.9**	**+8.5**
SMOL	**Smolenice**	**84.85**	**327**	*e*		**P**	**07 53 44.9**	**+8.5**
PRU	**Pruhonice**	**85.05**	**329**	*e*P		**P**	**07 53 37.7**	**+0.3**
PRU				*e*pP		pP	07 53 46.8	-0.8
PRU				AMS		AMS	08 38 40.0	
	comp=Z,100nm,14.3s							
TUC	**Tucson**	**85.18**	**54**	*e*P		**P**	**07 53 38.4**	**-0.1**
TUC					pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.6							
TUC	**Tucson**	**85.18**	**54**	*e*P		**P**	**07 53 38.4**	**-0.1**
	comp=Z,6.4nm,1.3s,mb4.6							
ZST	**Bratislava**	**85.23**	**327**	*e*P		**P**	**07 53 38.8**	**+0.5**
SDCO	**Great Sand Dun**	**85.30**	**47**	*e*P		**P**	**07 53 39.3**	**+0.3**
	comp=Z,14nm,0.9s,mb5.1							
SDCO				*e*pP		pP	07 53 50.1	+0.9
CLZ	**Clausthal**	**85.34**	**332**	*e*P		**P**	**07 53 39.6**	**+0.8**
CLZ					pmax	pmax		
	comp=Z,23nm,1.2s,mb5.2							
CLZ	**Clausthal**	**85.34**	**332**	*e*P		**P**	**07 53 39.6**	**+0.8**
	comp=Z,23nm,1.2s,mb5.2							
NKC	**Novy Kostel**	**85.75**	**330**	*e*P		**P**	**07 53 41.8**	**+0.9**
NKC				*e*pP		pP	07 53 51.2	+0.1
MOX	**Moxa**	**85.77**	**331**	*e*P		**P**	**07 53 41.6**	**+0.6**
MOX				*e**PP		pP	07 53 52.1	+0.9
MOX	**Moxa**	**85.77**	**331**	*i* P		**P**	**07 53 41.6**	**+0.6**
MOX				*i* pP		pP	07 53 52.0	+0.8
KHC	**Kasperske Hory**	**86.11**	**329**	*e*P		**P**	**07 53 42.7**	**0.0**
KHC				*e*pP		pP	07 53 52.7	-0.2
KHC				AMS		AMS	08 39 10.0	
	comp=Z,200nm,12.6s							
GEC2	**GERESS Array S**	**86.27**	**329**	*e*P		**P**	**07 53 44.7**	**+1.2**
GERES	**GERESS Array B**	**86.27**	**329**	P		**P**	**07 53 43.3**	**-0.2**
	comp=Z,0.3nm,0.3s,mb4.0,baz=34,slow=4.8,SNR=6.8							
ANMO	**Albuquerque**	**86.44**	**50**	*e*P		**P**	**07 53 45.0**	**+0.3**
ANMO					pmax	pmax		
	comp=Z,12nm,1.4s							
ANMO	**Albuquerque**	**86.44**	**50**	*e*P		**P**	**07 53 45.0**	**+0.3**
	comp=Z,12nm,1.4s,mb4.9							
GRA1	**Grafenberg Arr**	**86.67**	**331**	*e*P		**P**	**07 53 46.5**	**+1.1**
	comp=Z,19nm,1.1s,mb5.2							
GRA1				*e*pP		pP	07 53 57.2	+1.5
GRF	**Grafenberg Arr**	**86.67**	**331**	*e*P		**P**	**07 53 46.5**	**+1.1**
GRF				*e**PP		pP	07 53 57.2	+1.5
GRF					pmax	pmax		
	comp=Z,19nm,1.1s,mb5.2							
GRF	**Grafenberg Arr**	**86.67**	**331**	*e*P		**P**	**07 53 46.5**	**+1.1**
GRF				*e**PP		pP	07 53 57.2	+1.5
GRF					pmax	pmax		
	comp=Z,19nm,1.1s,mb5.2							
GRF	**Grafenberg Arr**	**86.67**	**331**	*e*P		**P**	**07 53 46.5**	**+1.1**
	comp=Z,19nm,1.1s,mb5.2							
GRF				*e*pP		pP	07 53 57.2	+1.5
BNM	**Barren Site**	**86.83**	**51**	*e*P		**P**	**07 53 47.4**	**+0.8**
BNM				*e*pP		pP	07 53 57.5	+0.6
TNS	**Taunus Mts**	**87.36**	**332**	*e*P		**P**	**07 53 49.3**	**+0.5**
TNS					pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8							
TNS	**Taunus Mts**	**87.36**	**332**	*e*P		**P**	**07 53 49.3**	**+0.5**
	comp=Z,7.0nm,1.0s,mb4.8							
LOR	**Lormes**	**91.53**	**333**	*e*P		**P**	**07 54 08.4**	**0.0**
FLN	**La Foliniere**	**91.82**	**336**	*e*P		**P**	**07 54 09.8**	**+0.1**
LTX	**Lajitas**	**91.82**	**53**	*e*P		**P**	**07 54 10.3**	**+0.1**
LTX					pmax	pmax		
	comp=Z,14nm,1.3s,mb5.1							
LTX	**Lajitas**	**91.82**	**53**	*e*P		**P**	**07 54 10.3**	**+0.1**
	comp=Z,14nm,1.3s,mb5.1							
TXAR	**Lajitas Array**	**91.82**	**53**	P		**P**	**07 54 10.7**	**+0.5**
	comp=Z,2.8nm,0.6s,mb4.7,baz=308,slow=3.2,SNR=28							
LPL	**La Plagne**	**91.83**	**330**	*e*P		**P**	**07 54 10.2**	**+0.4**
SSF	**Saint Saulge**	**91.84**	**333**	*e*P		**P**	**07 54 10.0**	**+0.2**
SSF					pmax	pmax		
	comp=Z,11nm,1.2s,mb5.1							
SSF	**Saint Saulge**	**91.84**	**333**	*e*P		**P**	**07 54 10.0**	**+0.2**
	comp=Z,11nm,1.2s,mb5.0							
LPG	**La Plagne**	**91.84**	**330**	*e*P		**P**	**07 54 10.4**	**+0.5**
	comp=Z,5.9nm,0.5s,mb4.8							
LPG	**La Plagne**	**91.84**	**330**	*e*P		**P**	**07 54 10.4**	**+0.5**
LPG					pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.9							
AVF	**Avril sur Loir**	**92.12**	**333**	*e*P		**P**	**07 54 10.8**	**-0.3**
	comp=Z,11nm,0.8s,mb5.0							
AVF	**Avril sur Loir**	**92.12**	**333**	*e*P		**P**	**07 54 10.8**	**-0.3**
AVF					pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0							
MBDF	**Montbardon**	**92.46**	**330**	*e*P		**P**	**07 54 12.2**	**-0.5**
	comp=Z,10nm,0.8s,mb4.9							
MBDF	**Montbardon**	**92.46**	**330**	*e*P		**P**	**07 54 12.2**	**-0.5**
MBDF					pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9							
TCF	**Toulx Ste Croi**	**92.97**	**334**	*e*P		**P**	**07 54 14.8**	**-0.3**
VIVF	**Saint-Julien-l**	**93.21**	**331**	*e*P		**P**	**07 54 16.2**	**0.0**
PGF	**Pioggiola**	**93.23**	**327**	*e*P		**P**	**07 54 15.8**	**-0.5**
FRF	**La Foret Royal**	**93.45**	**329**	*e*P		**P**	**07 54 17.1**	**-0.2**
	comp=Z,7.1nm,0.7s,mb4.9							
FRF	**La Foret Royal**	**93.45**	**329**	*e*P		**P**	**07 54 17.1**	**-0.2**
FRF					pmax	pmax		
	comp=Z,4.0nm,0.6s,mb5.0							
SMRF	**Simiane la Rot**	**93.57**	**330**	*e*P		**P**	**07 54 17.4**	**-0.5**
LMR	**La Mourre**	**93.69**	**329**	*e*P		**P**	**07 54 18.1**	**-0.4**
	comp=Z,24nm,1.0s,mb5.3							
LMR	**La Mourre**	**93.69**	**329**	*e*P		**P**	**07 54 18.1**	**-0.4**
LMR					pmax	pmax		
	comp=Z,12nm,1.0s,mb5.3							
SDV	**Santo Domingo**	**127.66**	**43**	*e*PKPdf		PKPdf	08 00 08.2	-3.9
SDV				*ep*PKPdf			08 00 18.4	
SNAA	**Sanae**	**137.36**	**195**	*e*		PKPdf	08 00 21.9	-6.9
SNAA	**Sanae**	**137.36**	**195**	*e*		PKPdf	08 00 31.7	+2.9
SNAA	**Sanae**	**137.36**	**195**	PKPdf		PKPdf	08 00 17.7	-11
SNAA				*e*			08 00 21.9	
SNAA				*e*			08 00 31.7	
VNA2	**Neumayer--Watz**	**138.91**	**195**	*e*		PKPdf	08 00 21.6	-10
VNA2	**Neumayer--Watz**	**138.91**	**195**	*e*		PKPdf	08 00 30.3	-1.3
VNA2	**Neumayer--Watz**	**138.91**	**195**	*e*		PKPdf	08 00 38.1	+6.5
VNA2	**Neumayer--Watz**	**138.91**	**195**	*e*		PKPdf	08 00 40.8	+9.2
VNA2	**Neumayer--Watz**	**138.91**	**195⇑**	*i*PKPdf		PKPdf	08 00 17.8	-14
VNA2				*e*			08 00 21.6	
VNA2				*e*			08 00 30.3	
VNA2				*e*			08 00 38.1	
VNA2				*e*			08 00 40

GYA PP PP 08 01 35.5 -5.2
GYA S **S** **08 05 18.8 -10**
GYA AMB AMB
comp=Z,30nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,120nm,3.0s
GYA LR LR
comp=N,2μm,12.5s,MS4.8
GYA LR LR
comp=E,670nm,14.1s,MS4.8
GYA LR LR
comp=Z,1μm,11.7s,MS4.6
PKI Pulchoki 28.67 338 *e*P **P** **08 01 12.6 +0.8**
comp=Z,102nm,1.1s,mb5.5
GUN Gumba 28.81 339 *e*P **P** **08 01 12.4 -0.6**
comp=Z,130nm,0.8s,mb5.7
DMN Daman 28.82 337 *e*P **P** **08 01 14.2 +1.0**
comp=Z,97nm,1.2s,mb5.4
KKN Kakani 28.92 338 *e*P **P** **08 01 14.3 +0.3**
comp=Z,89nm,1.1s,mb5.4
LSA Lhasa 29.05 349 P **P** **08 01 17.0 +1.8**
LSA AP pP 08 01 23.0 +0.7
LSA LR LR
comp=Z,260nm,15.0s,MS4.0
LSA Lhasa 29.05 349 *e*P **P** **08 01 16.5 +1.3**
comp=Z,9.7nm,0.6s,mb4.7
LSA *e*pP pP 08 01 23.3 +1.0
LSA *e*sP sP 08 01 30.3 +4.8
GKN Gorkha 29.36 337 *e*P **P** **08 01 17.5 -0.5**
comp=Z,182nm,1.2s,mb5.7
KOLN Koldanda 29.57 335 *e*P **P** **08 01 20.2 +0.3**
comp=Z,90nm,1.0s,mb5.4
CD2 Chengdu 30.34 11 P **P** **08 01 25.0 -1.7**
ENH Enshi 31.32 21 *e*P **P** **08 01 33.5 -1.9**
comp=Z,54nm,0.6s,mb5.5
ENH *e*pP pP 08 01 40.9 -1.5
LGTI Lohaghat 32.52 332 *e*P **P** **08 01 46.3 +0.5**
FITZ Fitzroy Crossi 33.87 126 *e*P **P** **08 01 56.3 -1.3**
comp=Z,12nm,0.9s,mb4.8
FITZ *e* pP 08 02 03.3 -1.5
XAN Xi'an 34.60 17 P **P** **08 02 02.5 -1.3**
XAN AP pP 08 02 08.8 -2.2
XAN AMB AMB
comp=Z,28nm,0.9s,mb5.2
XAN LR LR
comp=N,174nm,15.6s,MS4.4
XAN LR LR
comp=E,545nm,15.7s,MS4.4
XAN LR LR
comp=Z,760nm,12.5s,MS4.6
LZH Lanzhou 35.40 9 *e*P **P** **08 02 10.0 -0.6**
LZH AP pP 08 02 17.3 -0.5
LZH XP sP 08 02 21.3 +0.5
LZH AMB AMB
comp=Z,38nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,176nm,4.0s
LZH LR LR
comp=E,1μm,14.0s
LZH LR LR
comp=Z,1μm,15.0s,MS4.8
LZH Lanzhou 35.40 9 *e*P **P** **08 02 10.0 -0.6**
comp=Z,38nm,1.0s,mb5.3
LZH pP pP 08 02 17.3 -0.5
LZH sP sP 08 02 21.2 +0.4
SDNR Sundarnagar 35.80 330 *e*P **P** **08 02 14.2 +0.1**
NJ2 Nanjing 37.00 31 *e*P **P** **08 02 25.0 +0.9**
NJ2 AP pP 08 02 34.5 +3.2
NJ2 XP sP 08 02 38.5 +4.2
NJ2 PP PP 08 03 51.5 +0.8
NJ2 S **S** **08 08 08.0 +0.4**
NJ2 XS 08 08 24.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
NJ2 AMB AMB
comp=Z,420nm,6.3s
NJ2 LR LR
comp=N,1μm,12.2s,MS5.0
NJ2 LR LR
comp=E,730nm,16.6s,MS5.0
NJ2 LR LR
comp=Z,660nm,15.5s,MS4.5
KAKA Kakadu 37.57 112 *e*P **P** **08 02 30.0 +0.9**
comp=Z,49nm,1.6s,mb5.0
GTA Gaotai 38.24 3 P **P** **08 02 34.8 +0.3**
GTA AP pP 08 02 41.5 -0.2
GTA XP sP 08 02 45.3 +0.5
GTA PP PP 08 04 01.5 -4.0
GTA SCS ScS 08 12 45.5 +3.1
GTA AMB AMB
comp=Z,19nm,0.6s,mb5.0
GTA AMB AMB
comp=Z,131nm,11.5s
GTA LR LR
comp=N,296nm,18.0s,MS4.4
GTA LR LR
comp=E,322nm,14.1s,MS4.4
GTA LR LR
comp=Z,323nm,14.5s,MS4.3
JOW Kunigami 39.35 47 P **P** **08 02 43.1 -0.8**
comp=Z,12nm,0.5s,mb4.9,baz=244,slow=6.4,SNR=6.5
HHC Hu-ho-hao-te 41.70 16 *e*P **P** **08 03 05.3 +2.2**
HHC AP pP 08 03 12.5 +2.2
HHC XP sP 08 03 15.8 +2.5
HHC PP PP 08 04 44.0 +1.3
HHC SCP 08 08 49.8
HHC S **S** **08 09 18.5 +0.2**
HHC XS 08 09 29.5
HHC SS SS 08 12 19.5 +0.5
HHC SCS ScS 08 13 05.0 +2.3
HHC AMB AMB
comp=Z,22nm,1.3s,mb4.6
HHC AMB AMB
comp=Z,134nm,10.8s
HHC LR LR
comp=N,582nm,15.6s,MS4.8
HHC LR LR
comp=E,734nm,15.6s,MS4.8
HHC LR LR
comp=Z,494nm,16.8s,MS4.5
WRA Warramunga Arr 41.98 122 P **P** **08 03 04.7 -1.0**
comp=Z,5.6nm,0.7s,mb4.3,baz=300,slow=9.1,SNR=24
WRAB Tennant Creek 41.99 122 *e*P **P** **08 03 05.0 -0.7**
comp=Z,9.2nm,0.6s,mb4.6
WB2 Warramunga Arr 41.99 122 *e*P **P** **08 03 05.5 -0.3**
WB2 *e* pP 08 03 12.6 -0.4
WMQ Urumqi 43.41 350 P **P** **08 03 20.0 +3.0**
DL2 Dalian 43.81 28 P **P** **08 03 21.0 +0.6**
DL2 AMB AMB
comp=Z,30nm,0.7s,mb5.1
JNU Nakatsue 44.93 41 P **P** **08 03 29.2 -0.3**
comp=Z,8.2nm,0.7s,mb4.7,baz=254,slow=17,SNR=4.5
KS15 Wonju Array Si 45.95 34 *e*P **P** **08 03 37.6 +0.1**
KS15 *e*pP pP 08 03 44.7 -0.1
AAK Ala-Archa 46.12 337 *e*P **P** **08 03 39.2 +0.5**
AAK pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
AAK Ala-Archa 46.12 337 *e*P **P** **08 03 39.1 +0.4**
comp=Z,21nm,1.4s,mb4.9
FRU Bishkek 46.24 337 *e*P **P** **08 03 41.0 +1.3**
FRU *e* pP 08 03 48.0 +1.0
SNY Shenyang 47.04 27 ⇓P **P** **08 03 46.0 0.0**
SNY AMB AMB
comp=Z,20nm,0.7s,mb5.2
SNY LR LR
comp=N,450nm,14.1s,MS4.7
SNY LR LR
comp=E,450nm,15.3s,MS4.7
SNY LR LR
comp=Z,620nm,13.2s,MS4.8
SONM Songino Array 47.27 8 P **P** **08 03 48.1 +0.3**
comp=Z,5.9nm,0.4s,mb4.8,baz=192,slow=9.1,SNR=30
SONM PcP PcP 08 05 19.2 +0.1
comp=Z,1.3nm,0.5s,baz=188,slow=5.0,SNR=3.9
MKAR Makanchi Array 47.37 346 *i* P **P** **08 03 49.1 +0.5**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 47.37 346 P **P** **08 03 49.1 +0.5**
comp=Z,7.9nm,0.6s,mb4.8,baz=158,slow=7.8,SNR=66
MKAR LR LR 08 24 47.2
comp=Z,88nm,19.8s,MS3.7,baz=174,slow=38
ZAK Zakamensk 49.41 5 *e*P **P** **08 04 04.2 -0.2**
ZAK *e* 08 05 33.1
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
ZAK pmax pmax
comp=Z,2.0nm,1.5s,mb3.9
CN2 Changchun 49.44 27 *e*P **P** **08 04 04.0 -0.7**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
CN2 LR LR
comp=N,540nm,16.0s,MS4.8
CN2 LR LR
comp=E,440nm,16.0s,MS4.8
CN2 LR LR
comp=Z,600nm,16.0s,MS4.7
TLY Talaya 50.73 5 *e*P **P** **08 04 14.8 +0.4**
TLY *e* pP 08 04 22.2 +0.4
TLY Talaya 50.73 5 *e*P **P** **08 04 15.1 +0.7**
comp=Z,4.1nm,0.6s,mb4.5
TLY *e*pP pP 08 04 21.6 -0.2
HIA Hailar 51.78 19 *e*P **P** **08 04 21.4 -1.0**
comp=Z,19nm,0.6s,mb5.2
HIA *e*pP pP 08 04 29.3 -0.5
MJAR Matsushiro Arr 51.81 42 P **P** **08 04 23.1 +0.3**
comp=Z,2.0nm,0.4s,mb4.4,baz=213,slow=7.4,SNR=6.5
KURK Kurchatov 51.92 345 *e*P **P** **08 04 23.7 +0.2**
comp=Z,33nm,1.1s,mb5.2
MDJ Mudanjiang 52.00 29 *e*P **P** **08 04 24.5 +0.3**
comp=Z,7.9nm,0.7s,mb4.8
CTAO Charters Tower 52.46 116 P **P** **08 04 28.1 +0.2**
comp=Z,6.7nm,0.9s,mb4.6
CIT Chita 52.61 13 *e*P **P** **08 04 29.6 +1.0**
CIT *e* 08 05 38.8
STKA Stephens Creek 53.28 132 *e*P **P** **08 04 33.6 -0.3**
comp=Z,3.7nm,0.6s,mb4.5
STKA *e* pP 08 04 41.0 -0.3
STKA Stephens Creek 53.28 132 P **P** **08 04 34.5 +0.6**
comp=Z,4.4nm,0.7s,mb4.5,baz=311,slow=7.8,SNR=11
ZAL Zalesovo 53.68 351 P **P** **08 04 36.6 +0.2**
comp=Z,10nm,0.5s,mb5.0,baz=310,slow=5.8,SNR=31
QRN Al-Qurain 54.42 305 *e*P **P** **08 04 42.3 0.0**
QRN AMb AMB 08 04 42.5
comp=Z,37nm,0.8s,mb5.4
KBD Kabd 54.76 306 *e*P **P** **08 04 45.2 +0.4**
RDF Al-Radifah 54.79 305 *e*P **P** **08 04 45.0 +0.1**
RDF AMb AMB 08 04 46.5
comp=Z,62nm,0.9s,mb5.6
NVS Novosibirsk 54.81 350 *e*P **P** **08 04 43.2 -1.6**
NVS *e*S **S** **08 12 34.1 +12**
NVS pmax pmax
comp=Z,26nm,1.3s,mb5.1
NVS pmax pmax
comp=N,30nm,1.5s
NVS pmax pmax
comp=E,16nm,1.4s
VOSK Vostochnaya 55.92 341 P **P** **08 04 51.6 -1.3**
VOSK pmax pmax
comp=Z,21nm,1.0s,mb5.1
BVA0 Borovoye Array 56.37 341 *i* P **P** **08 04 54.7 -1.4**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
KLR Kul'dur 56.39 27 *e*P **P** **08 04 53.1 -3.1**
KLR MLR MLR
comp=N,500nm,15.0s
KLR MLR MLR
comp=Z,800nm,15.0s,MS4.9
BRVK Borovoye 56.44 341 P **P** **08 04 55.2 -1.3**
BRVK pmax pmax
comp=Z,11nm,1.3s,mb4.7
BRVK Borovoye 56.44 341 *e*P **P** **08 04 54.8 -1.8**
comp=Z,5.7nm,0.8s,mb4.7
BRVK *e*pP pP 08 05 02.0 -2.0
AB31 Akbulak array 57.62 332 *i* P **P** **08 05 03.5 -1.5**
AB31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
BOD Bodaibo 58.15 11 ⇓*i*P **P** **08 05 07.6 -1.0**
BOD pmax pmax
comp=Z,18nm,1.1s,mb5.0
KMBO Kilima Mbogo 59.96 268 P **P** **08 05 21.6 -0.2**
comp=Z,3.4nm,0.7s,mb4.5,baz=62,slow=11,SNR=12
YSS Yuzh-Sakhalins 60.48 34⇑*e*P **P** **08 05 24.1 -0.7**
YSS *e* pP 08 05 31.0 -1.3
YSS Yuzh-Sakhalins 60.48 34 *e*P **P** **08 05 24.6 -0.2**
comp=Z,11nm,0.8s,mb5.0
YSS *e*pP pP 08 05 31.1 -1.2
GNI Garni 61.38 316 P **P** **08 05 30.7 -0.3**
comp=Z,3.1nm,0.4s,mb4.8,baz=60,slow=12,SNR=2.7
GNI Garni 61.38 316 P **P** **08 05 30.7 -0.3**
ARU Arti 63.30 337 ⇓*i*P **P** **08 05 42.1 -1.5**
ARU *e* 08 08 04.9
ARU *e*S **S** **08 14 21.8 +9.3**
ARU pmax pmax
comp=Z,14nm,1.0s,mb5.0
ARU Arti 63.30 337 *e*P **P** **08 05 42.0 -1.6**
comp=Z,5.7nm,0.3s,mb5.2
ARU *e*pP pP 08 05 48.6 -2.5
KIV Kislovodsk 64.40 319 *e*P **P** **08 05 49.5 -1.5**
KIV *e* 08 06 18.6
KIV pmax pmax
comp=Z,13nm,1.1s,mb4.9
MALT Malatya 65.20 312 *e*P **P** **08 05 55.8 -0.5**
comp=Z,5.2nm,0.9s,mb4.6
MALT *e*pP pP 08 06 03.6 -0.2
YAK Yakutsk 65.56 16 *e*P **P** **08 06 02.2 +4.0**
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=Z,29nm,1.1s,mb5.2
YAK pmax pmax
comp=E,9.0nm,1.2s
CASY Casey 67.87 174 *e*P **P** **08 06 12.5 -0.3**
comp=E,5.1nm,0.8s,mb4.6
ANN Anapa 68.19 319 *e*P **P** **08 06 11.7 -3.4**
ANN *i* *PP pP 08 06 21.1 -1.6
ANN *e*S S 08 15 20.4 +8.1
ANN pmax pmax
comp=Z,45nm,1.3s,mb5.3
BRTR Keskin Array B 69.19 312 P **P** **08 06 19.6 -1.8**
comp=Z,3.5nm,0.7s,mb4.4,baz=121,slow=7.2,SNR=14
MA2 Magadan 71.47 26*c**e*P **P** **08 06 34.7 -0.2**
MA2 *e* 08 09 20.9
MA2 *e*PS PS 08 16 29.7 +6.7
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MA2 Magadan 71.47 26 *e*P **P** **08 06 34.1 -0.8**
comp=Z,6.8nm,0.6s,mb4.8
MA2 *e*pP pP 08 06 41.2 -1.2
MOS Moscow 72.44 329 *e*P **P** **08 06 45.6 +4.9**
MOS pmax pmax
comp=Z,56nm,0.9s,mb5.5
MAW Mawson 72.57 193 P **P** **08 06 42.1 +0.8**
comp=Z,2.6nm,0.6s,mb4.4,baz=28,slow=6.0,SNR=23
OBN Obninsk 72.72 328⇑*i*P **P** **08 06 39.5 -2.9**
OBN *e**PP pP 08 06 48.1 -1.9
OBN pmax pmax
comp=Z,18nm,1.3s,mb4.8
OBN pmax pmax
comp=Z,100nm,14.1s
SEY Seymchan 73.90 23 *e*P **P** **08 06 48.9 -0.2**
SEY pmax pmax
comp=Z,20nm,1.4s,mb4.8
BOSA Boshof 74.69 240 P **P** **08 06 54.0 -0.4**
comp=Z,5.8nm,0.7s,mb4.6,baz=82,slow=4.7,SNR=13
AKASG Malin Array Be 75.35 322 P **P** **08 06 56.3 -1.5**
comp=Z,4.3nm,0.6s,mb4.6,baz=88,slow=4.8,SNR=12
VRI Vrincioaia 75.70 317 ⇓P **P** **08 06 59.6 -0.2**
VRI Vrincioaia 75.70 317 ⇓P **P** **08 06 59.7 -0.2**
MLR Muntele Rosu 76.15 317 ⇓P **P** **08 07 02.1 -0.3**
MLR Muntele Rosu 76.15 317 ⇓P **P** **08 07 02.1 -0.3**
BURAR Bucovina Array 77.11 319 ⇓P **P** **08 07 07.9 +0.2**
BURAR Bucovina Array 77.11 319 ⇓P **P** **08 07 07.9 +0.2**
KOLS Kolonicke sedl 79.31 320 *e*P **P** **08 07 20.3 +0.6**
KOLS *e* pP 08 07 27.6 +0.2
CRVS Cervenica-Dubn 79.83 319 *e*P **P** **08 07 25.1 +2.6**
SYO Syowa Base 79.86 198 ⇑P **P** **08 07 23.8 +1.5**
SYO Syowa Base 79.86 198 ⇑PcP PcP 08 07 29.3 -1.0
STHS Stebnicka Huta 80.06 320 *e*P **P** **08 07 24.1 +0.4**
STHS *e*pP pP 08 07 30.2 -1.2
FINES FINESS Array B 80.11 333 P **P** **08 07 23.4 -0.3**
comp=Z,2.8nm,0.8s,mb4.2,baz=127,slow=9.5,SNR=8.1
FINES LR LR 08 48 32.9
comp=Z,86nm,19.2s,MS4.1,baz=152,slow=40
FINES FINESS Array B 80.11 333 P **P** **08 07 23.4 -0.4**
KAF Kangasniemi 80.19 333 *e*p **P** **08 07 23.3 -0.9**
comp=Z,3.6nm,0.5s,mb4.6,baz=104,slow=5.0
KECS Kecovo 80.39 319 *e*P **P** **08 07 24.3 -1.3**
KECS *e*pP pP 08 07 33.2 0.0
FX1 Attu Island--F 80.72 37 P **P** **08 07 27.6 +0.5**
comp=Z,4.7nm,0.6s,mb4.6,baz=169,slow=16,SNR=5.6
VYHS Vyhne 81.48 319 *e*P **P** **08 07 30.9 -0.4**
VYHS *e*pP pP 08 07 38.0 -1.0
OKC Ostrava-Krasne 82.11 320 *e*P **P** **08 07 34.8 +0.3**
KEV Kevo 82.22 341 *e*p **P** **08 07 35.7 +1.0**
comp=Z,7.4nm,1.0s,mb4.6
MORC Moravsky Berou 82.49 320 *e*P **P** **08 07 35.8 -0.7**
comp=Z,7.6nm,1.0s,mb4.6
MORC *e*pP pP 08 07 44.2 0.0
ARCES ARCESS Array B 82.66 340 P **P** **08 07 37.3 +0.3**
comp=Z,2.9nm,0.9s,mb4.3,baz=90,slow=4.9,SNR=13
ARCES LR LR 08 47 48.6
comp=Z,70nm,18.4s,MS4.1,baz=101,slow=38
DPC Dobruska-Polom 83.34 320 *e*P **P** **08 07 41.4 +0.5**
UPC Upice 83.56 321 *e*P **P** **08 07 41.4 -0.6**
BOJS Bojanci 83.58 316 *e*P **P** **08 07 42.1 -0.1**
BOJS *e* pP 08 07 48.5 -1.4
PERS Pernice 83.77 317 *e*P **P** **08 07 43.3 +0.2**
LJU Ljubljana 84.13 316 *e*P **P** **08 07 45.2 +0.2**
PVCC Panska Ves 84.47 321 *e*P **P** **08 07 46.6 0.0**
AQU L'Aquila 84.68 312 *e*P **P** **08 07 47.4 -0.4**
AQU *e*pP pP 08 07 55.6 0.0
BRG Berggiesshubel 84.90 321 *e*P **P** **08 07 49.3 +0.6**
BRG *e* pP 08 07 56.6 +0.1
BRG pmax pmax
comp=Z,22nm,1.7s,mb5.0
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
BRG Berggiesshubel 84.90 321 *e*P **P** **08 07 49.3 +0.6**
comp=Z,22nm,1.7s,mb5.0
BRG *e* pP 08 07 56.6 +0.2
GERES GERESS Array B 84.90 319 P **P** **08 07 49.4 +0.6**
comp=Z,4.4nm,0.9s,mb4.6,baz=90,slow=5.3,SNR=25
KHC Kasperske Hory 85.00 319 *e*P **P** **08 07 49.2 -0.1**
CLL Collm 85.52 321 P **P** **08 07 43.0 -8.8**
comp=Z,logA/T=0.9,mb4.9
CLL Collm 85.52 321 ⇑P **P** **08 07 52.1 +0.3**
comp=Z,logA/T=0.9,mb4.9
CLL *i* *PP pP 08 07 59.4 -0.2
CLL *e*SP sP 08 08 02.0 0.0
VNDA Vanda 85.69 169 P **P** **08 07 53.0 +0.9**
comp=Z,1.3nm,0.6s,mb4.3,baz=293,slow=5.2,SNR=16
HFS Hagfors 85.83 330 LR LR 08 53 47.2
comp=Z,97nm,18.2s,MS4.2,baz=184,slow=41
MOX Moxa 86.36 321 *e*P **P** **08 07 56.0 0.0**
GRA1 Grafenberg Arr 86.57 320 *e*P **P** **08 07 57.7 +0.7**
comp=Z,10.0nm,1.2s,mb4.9
GRA1 *e*pP pP 08 08 05.3 +0.5
GRF Grafenberg Arr 86.57 320 *e*P **P** **08 07 57.7 +0.7**
GRF *e**PP pP 08 08 05.3 +0.5
GRF pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
GRF Grafenberg Arr 86.57 320 *e*P **P** **08 07 57.7 +0.7**
comp=Z,10.0nm,1.2s,mb4.9
GRF *e*pP pP 08 08 05.3 +0.5
NB2 NORSAR Subarra 87.11 331 P **P** **08 07 59.4 0.0**
comp=Z,6.8nm,1.1s,mb4.8,baz=94,slow=4.8
NOA NORSAR Array B 87.11 331 P **P** **08 07 59.5 +0.1**
comp=Z,2.9nm,0.8s,mb4.5,baz=94,slow=4.9,SNR=9.1
NOA LR LR 08 52 20.9
comp=Z,61nm,18.3s,MS4.0,baz=85,slow=39
MAIT Maitri 89.48 199 *e*P **P** **08 08 12.9 +2.4**
PDAR Pinedale Array 130.18 26 PKP PKPdf 08 14 25.1 -2.5
comp=Z,0.3nm,0.6s,baz=90,slow=3.0,SNR=3.7
ANMO Albuquerque 137.90 29 PKP PKPdf 08 14 41.7 -0.5
comp=Z,0.9nm,0.9s,baz=311,slow=4.1,SNR=3.3
ANMO Albuquerque 137.90 29 PKP PKPdf 08 14 41.7 -0.5
BNM Barren Site 138.45 30 *e*PKPdf PKPdf 08 14 39.6 -3.7
BDFB Brasilia 142.73 245 PKhKP 08 14 44.6
comp=Z,4.5nm,1.0s,baz=127,slow=5.2,SNR=3.5
TXAR Lajitas Array 143.80 32 PKP PKPdf 08 14 48.7 -4.2
comp=Z,0.8nm,0.6s,baz=178,slow=0.9,SNR=15
CPUP Villa Florida 144.89 222 PKP PKPdf 08 14 51.2 -3.7
comp=Z,15nm,0.6s,baz=124,slow=2.9,SNR=69
CPUP Villa Florida 144.89 222 *e*PKP PKPdf 08 14 50.0 -4.9
LRAL Lakeview Retre 145.86 6 *e*PKP PKPdf 08 14 53.4 -2.9
LPAZ La Paz 159.06 223 PKP PKPdf 08 15 14.0 -1.8
comp=Z,0.7nm,0.7s,baz=68,slow=7.0,SNR=3.5

GUC 26 08:07:05.6±0.6, 24.57S×70.29W, h55km±4km, ML3.6, 1C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPN1	**Cerro Paranal**	**0.12**	**240**	⇓*i*P	P	08 07 15.2	+1.1
CPN1				*i* S	S	08 07 22.3	+2.0
CPN1				AMP		08 07 23.3	
	comp=N,8μm,0.2s						
ANCH	**Antofagasta**	**0.89**	**353**	⇓*i*P	P	08 07 22.7	+0.6
ANCH				*i* S	S	08 07 34.4	0.0
ANCH				AMP		08 07 36.6	
	comp=E,987nm,0.3s						
CRCH	**Chaqaral**	**1.80**	**190**	*e*P	P	08 07 34.7	-0.2
CRCH				*e*S	S	08 07 56.8	+0.3
CRCH				AMP		08 08 02.5	
	comp=E,866nm,0.4s						
LVC	**Limon Verde**	**2.32**	**33**	⇓*i*P	P	08 07 42.4	+0.2
LVC				*i* S	S	08 08 10.4	+0.9
LVC				AMP		08 08 14.5	
	comp=N,312nm,0.4s						
SPCH	**San Pedro de A**	**2.53**	**50**	⇑*i*P	P	08 07 45.5	+0.3
CPCH	**Copiapo**	**2.78**	**181**	⇓*i*P	P	08 07 48.0	-0.8
CPCH				*i* S	S	08 08 20.7	-0.6
CPCH				AMP		08 08 24.6	
	comp=N,2μm,0.1s						

*IDC **26** 08:07:06.0±1.5, 29.19N×130.65E, mb3.9/4, mb1 3.8/5, mb1mx3.6/22, mbtmp3.8/5, ML2.8/2, Error ellipse: s-maj=48.6km s-min=23.3km az=80.0*
*JMA **26** 08:07:11.0±0.2, 29.27N×130.58E, h21km±3km, M3.3*
ISC 26 08:07:12.2±0.8, 29.27N±0.04×130.55E±0.09, h33km, n16, σ1§30/23, mb3.9/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.82**	**314**	P	**P**	**08 07 26.5**	**-0.7**
JNN				S	**S**	**08 07 37.8**	**-0.5**
JZK	**Kikaishima**	**1.08**	**208**	*e*S	**S**	**08 07 44.9**	**-0.2**
JAM	**Amami Oshima**	**1.20**	**224**	P	**P**	**08 07 32.7**	**0.0**
JAM				S	**S**	**08 07 48.7**	**+0.7**
JKC	**Kuchinoerabu**	**1.22**	**345**	P	**P**	**08 07 33.0**	**0.0**
JKC				S	**S**	**08 07 49.2**	**+0.5**
JTN	**Tanegashima 3**	**1.43**	**15**	P	**P**	**08 07 36.3**	**+0.3**
JTSR	**Tashiro 2**	**1.91**	**10**	P	**P**	**08 07 43.2**	**+0.2**
JTSR				S	**S**	**08 08 06.7**	**+0.6**
JTK	**Tokunoshima**	**2.04**	**224**	P	**P**	**08 07 45.1**	**+0.2**
JTK				*e*S	**S**	**08 08 11.5**	**+2.0**
JSU	**Suzuyama**	**2.23**	**358**	P	**P**	**08 07 47.1**	**-0.4**
JSU				*e*S	**S**	**08 08 15.4**	**+1.3**
JNAR	**Kushima--Naru**	**2.33**	**15**	P	**P**	**08 07 49.7**	**+0.7**
JNAR				*e*S	**S**	**08 08 18.8**	**+2.1**
JOW	**Kunigami**	**3.16**	**220**	Pn	**Pn**	**08 07 58.3**	**-2.6**
	1.5nm,0.3s,baz=78,slow=19,SNR=3.8						
JOW				Sn	**Sn**	**08 08 40.1**	**+2.2**
	2.0nm,0.3s,baz=128,slow=30,SNR=3.9						
JNU	**Nakatsue**	**3.84**	**4**	Pn	**Pn**	**08 08 09.6**	**-1.0**
	1.3nm,0.3s,baz=153,slow=9.3,SNR=8.3						
MKAR	**Makanchi Array**	**41.14**	**309**	P	**P**	**08 14 52.6**	**-2.2**
	0.3nm,0.4s,mb3.3,baz=92,slow=10.0,SNR=8.6						
WB2	**Warramunga Arr**	**49.07**	**175**	*e*P	pP	08 16 10.6	+2.3
BVAR	**Borovoye Array**	**49.44**	**316**	P	**P**	**08 15 58.2**	**-2.6**
	1.0nm,0.6s,mb4.0,baz=100,slow=8.8,SNR=6.6						
STKA	**Stephens Creek**	**61.71**	**169**	P	**P**	**08 17 25.2**	**-4.5**
	4.1nm,0.8s,mb4.6,baz=1.0,slow=12,SNR=6.8						
FINES	**FINESS Array B**	**71.23**	**331**	P	**P**	**08 18 26.9**	**-2.7**
	0.2nm,0.3s,mb3.5,baz=76,slow=5.7,SNR=4.4						

*BJI **26** 08:08:32.9, 20.26N×155.22W, h18km, mB5.0, mb4.7, Ms4.7, Msz4.4*
*IDC **26** 08:08:33.9±3.7, 19.62N×155.42W, mb3.9/5, mb1 4.2/5, mb1mx4.0/20, mbtmp3.9/5, Error ellipse: s-maj=85.4km s-min=40.3km az=9.0*
*NEIC **26** 08:08:35.4, 19.35N×155.33W, h32km, mb4.2/3, MD4.5(HVO), After HVO.*
NEIC Felt [IV] at Naalehu; [III] at Captain Cook, Holualoa, Kailua Kona and Volcano; [II] at Hilo. Felt throughout the Island of Hawaii. Felt [III] at Kainalu, Molokai; [IV] at Honolulu and [III] at Kailua and Makiki, Oahu. Also felt [III] of Maui.
ISC 26 08:08:34.9±0.3, 19.35N±0.04×155.35W±0.02, h30km±2km, n61, σ0§68/75, mb4.4/15, MS4.5/1, 16C-20D, Hawaiian

Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DES	**Desert**	**0.04**	**259**	⇓*i*P	**Pn**	**08 08 40.0**	**+0.7**
CPK	**Cone Peak**	**0.05**	**17**	⇑*i*P	**Pn**	**08 08 40.0**	**+0.5**
HLP	**Hilina Pali**	**0.06**	**144**	⇑*i*P	**Pn**	**08 08 40.2**	**+0.7**
OUT	**Outlet**	**0.07**	**53**	⇑*e*P	**Pn**	**08 08 40.0**	**+0.2**
OUT				*e*S	**Sn**	**08 08 43.3**	**+0.6**
AHA	**Ahua**	**0.08**	**69**	⇓*i*P	**Pn**	**08 08 40.2**	**+0.3**
AHA				*e*S	**Sn**	**08 08 43.7**	**+0.9**
RIM	**Rim**	**0.08**	**50**	⇑*i*P	**Pn**	**08 08 40.1**	**+0.2**
NPH	**North Pit**	**0.09**	**40**	⇑*i*P	**Pn**	**08 08 40.0**	**0.0**
NPH				*e*S	**Sn**	**08 08 43.4**	**+0.3**
UWE	**Uwekahuna**	**0.09**	**32**	⇑*e*P	**Pn**	**08 08 40.1**	**+0.1**
UWE				*e*S	**Sn**	**08 08 43.5**	**+0.3**
AIN	**Ainahou**	**0.11**	**286**	⇓*i*P	**Pb**	**08 08 40.8**	**+0.6**
AIN				*e*S	**Sn**	**08 08 44.7**	**+1.0**
ESR	**Escape Road**	**0.12**	**56**	⇓*e*P	**Pb**	**08 08 40.1**	**-0.1**
PUH	**Pauahi**	**0.12**	**75**	⇓*i*P	**Pb**	**08 08 40.3**	**0.0**
PUH				*e*S	**Sn**	**08 08 43.7**	**-0.2**
PWH	**Poliokeawe Pal**	**0.13**	**118**	⇑*i*P	**Pb**	**08 08 40.6**	**+0.2**
RSD	**Rainshed**	**0.13**	**28**	⇑*i*P	**Pb**	**08 08 40.4**	**0.0**
MLH	**Mauna Loa**	**0.16**	**345**	⇓*i*P	**Pb**	**08 08 41.0**	**+0.4**
MLH				*e*S	**Sb**	**08 08 44.9**	**+0.4**
KNHH	**Kane Nui o Ham**	**0.17**	**78**	⇑*e*P	**Pb**	**08 08 40.7**	**0.0**
WOH	**Wood Valley**	**0.17**	**238**	⇓*i*P	**Pb**	**08 08 41.1**	**+0.3**
KAE	**Kaena**	**0.21**	**105**	⇓*e*P	**Pb**	**08 08 41.2**	**+0.1**
STCH	**Steam Cracks**	**0.21**	**78**	⇑*i*P	**Pb**	**08 08 40.9**	**-0.2**
PLL	**Puu Ulaula**	**0.22**	**330**	⇓*i*P	**Pb**	**08 08 41.5**	**+0.3**
PPL	**Puu Pili**	**0.22**	**211**	⇑*i*P	**Pb**	**08 08 41.2**	**0.0**
WIH	**Wilkes Camp**	**0.26**	**299**	⇓*i*P	**Pb**	**08 08 42.0**	**+0.3**
WIH				*e*S	**Sb**	**08 08 47.1**	**+0.7**
KLCH	**Kalalua Cone**	**0.27**	**77**	⇑*i*P	**Pb**	**08 08 41.4**	**-0.4**
SWH	**Southwest Rift**	**0.27**	**294**	⇓*i*P	**Pb**	**08 08 42.0**	**+0.1**
RCO	**Red Cone**	**0.28**	**283**	⇓*i*P	**Pb**	**08 08 42.0**	**0.0**
MWH	**Mokuaweoweo**	**0.28**	**301**	⇓*i*P	**Pb**	**08 08 42.2**	**+0.2**
HMH	**Humuula**	**0.29**	**333**	⇑*i*P	**Pb**	**08 08 42.6**	**+0.4**
HMH				*e*S	**Sb**	**08 08 47.8**	**+0.6**
DAH	**Dandelion**	**0.30**	**272**	⇓*i*P	**Pb**	**08 08 42.3**	**-0.1**
HPO	**Honuapo**	**0.32**	**218**	*e*P	**Pb**	**08 08 42.5**	**-0.1**
HUL	**Heiheiahulu**	**0.35**	**78**	⇓*i*P	**Pb**	**08 08 42.5**	**-0.5**
HUL				*e*S	**Sb**	**08 08 47.7**	**-0.8**
PKL	**Puu Kaliu**	**0.41**	**74**	⇓*i*P	**Pb**	**08 08 43.2**	**-0.8**
KIH	**Kanekii**	**0.43**	**292**	⇑*i*P	**Pb**	**08 08 43.9**	**-0.3**
KIH				*e*S	**Sb**	**08 08 50.5**	**+0.1**
OVEH	**Oceanview Est**	**0.44**	**245**	⇓*e*P	**Pb**	**08 08 44.0**	**-0.4**
HPU	**Hale Pohaku**	**0.45**	**346**	⇑*i*P	**Pb**	**08 08 44.2**	**-0.2**
NGH	**National Guard**	**0.46**	**40**	⇑*e*P	**Pb**	**08 08 44.3**	**-0.4**
NGH				*e*S	**Sb**	**08 08 50.9**	**-0.5**
KKU	**Keanakolu**	**0.54**	**0**	⇓*e*P	**Pb**	**08 08 45.7**	**-0.2**
KKH	**Kailua Kona**	**0.71**	**296**	⇓*i*P	**Pb**	**08 08 47.3**	**-1.4**
HKL	**Haleakala**	**1.61**	**326**	⇓*i*P	**Pn**	**08 08 59.7**	**-2.0**
HKL				*e*S	**Sn**	**08 09 16.6**	**-5.0**
HON	**Honolulu**	**3.18**	**309**	*e*Pn	**Pn**	**08 09 20.4**	**-3.7**
HON				*e*Sn	**Sn**	**08 09 52.3**	**-9.2**
KIP	**Kipapa**	**3.25**	**310**	*e*Pn	**Pn**	**08 09 21.1**	**-4.0**
MSU	**Marysvale**	**41.89**	**54**	*e*P	**P**	**08 16 24.3**	**+0.1**
NEW	**Newport**	**42.21**	**38**	P	**P**	**08 16 23.1**	**-3.8**
	0.8nm,0.4s,mb3.8,baz=127,slow=10,SNR=2.6						
HVU	**Hansel Valley**	**42.38**	**49**	*e*P	**P**	**08 16 28.5**	**+0.2**
RRI2	**Red Ridge**	**43.90**	**47**	*e*P	**P**	**08 16 40.4**	**-0.2**
	5.4nm,1.3s,mb4.1						
TPAW	**Teton Pass**	**44.20**	**47**	*e*P	**P**	**08 16 44.4**	**+1.3**
	4.9nm,1.0s,mb4.2						
BW06	**Boulder Array**	**44.96**	**48**	*e*P	**P**	**08 16 49.0**	**-0.2**
	4.0nm,1.1s,mb4.2						
PDAR	**Pinedale Array**	**44.96**	**48**	P	**P**	**08 16 49.5**	**+0.4**
	1.8nm,0.9s,mb3.9,baz=245,slow=4.7,SNR=12						
ILAR	**Eielson Array**	**45.75**	**5**	P	**P**	**08 16 54.7**	**-0.4**
	1.1nm,0.7s,mb3.9,baz=197,slow=7.4,SNR=9.6						
SMCO	**Snowmass**	**45.99**	**54**	P	**P**	**08 16 56.9**	**-0.5**
EDM	**Edmonton**	**46.76**	**34**	*e*P	**P**	**08 17 02.6**	**-0.7**
SDCO	**Great Sand Dun**	**46.89**	**56**	P	**P**	**08 17 05.2**	**+0.7**
TXAR	**Lajitas Array**	**47.80**	**68**	P	**P**	**08 17 13.4**	**+1.6**
	0.5nm,0.6s,mb3.7,baz=250,slow=8.1,SNR=4.2						
INK	**Inuvik**	**50.84**	**10**	P	**P**	**08 17 34.0**	**-0.5**
	3.5nm,0.9s,mb4.3,baz=191,slow=5.2,SNR=5.1						
MDJ	**Mudanjiang**	**66.15**	**311**	P	**P**	**08 19 17.8**	**-4.0**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,112nm,5.0s						
CN2	**Changchun**	**69.20**	**310**	*e*P	**P**	**08 19 40.8**	**-0.1**
SSE	**Sheshan**	**74.85**	**298**	*e*P	**P**	**08 20 12.0**	**-2.8**
SSE				AMB	AMB		
	comp=Z,131nm,4.3s						
SSE	**Sheshan**	**74.85**	**298**	*e*P	**P**	**08 20 11.9**	**-2.9**
	comp=Z,320nm,0.7s,mb5.4						
NJ2	**Nanjing**	**76.55**	**299**	*e*P	**P**	**08 20 24.0**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
HHC	**Hu-ho-hao-te**	**79.87**	**310**	*e*P	**P**	**08 20 37.8**	**-4.6**
HHC				PCP	PcP	08 20 46.5	-3.8
HHC				AP	pP	08 20 47.8	-4.0
HHC				XP	sP	08 20 52.0	-3.0
HHC				PP	PP	08 23 39.0	-6.5
HHC				S	S	08 30 36.3	-6.0
HHC				SKS	SKS	08 30 48.3	-12
HHC				XS		08 30 53.0	
HHC				SCS	ScS	08 30 54.3	-7.1
HHC				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,116nm,9.6s						
HHC				LR	LR		
	comp=N,149nm,14.4s,MS4.8						
HHC				LR	LR		
	comp=E,317nm,16.8s,MS4.8						
HHC				LR	LR		
	comp=Z,99nm,14.4s,MS4.3						
SONM	**Songino Array**	**81.26**	**318**	P	**P**	**08 20 50.8**	**+1.2**
	comp=Z,0.8nm,0.6s,mb3.8,baz=72,slow=3.9,SNR=3.7						
LZH	**Lanzhou**	**87.16**	**307**	*e*P	**P**	**08 21 19.0**	**-0.7**
LZH				AP	pP	08 21 27.0	-2.2
LZH				XP	sP	08 21 30.5	-1.8
LZH				PP	PP	08 24 45.0	-0.9
LZH				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.5						
KMI	**Kunming**	**92.16**	**297**	P	**P**	**08 21 42.5**	**-0.9**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.3						

IDC 26 09:00:11.1±4.4,**1.43N**×**97.83E**,**mb3.4**/3,**mb1 3.5**/3,
mb1mx3.4/18,**mbtmp3.4**/3,**MS3.7**/2,**Ms1 3.7**/2,
ms1mx3.2/16,**Error ellipse: s-maj=165.9km s-min=29.1km az=58.0**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**38.78**	**154**	LR	LR	09 22 38.4	
	comp=Z,106nm,21.8s,baz=255,slow=35						
WRA	**Warramunga Arr**	**41.62**	**123**	P	P	09 08 01.3	-1.7
	0.3nm,0.6s,baz=300,slow=9.3,SNR=3.5						
SONM	**Songino Array**	**46.81**	**8**	P	P	09 08 42.7	-1.7
	0.3nm,0.3s,baz=153,slow=3.2,SNR=4.7						
SONM				LR	LR	09 28 17.6	
	comp=Z,108nm,19.6s,baz=257,slow=36						
MKAR	**Makanchi Array**	**47.17**	**345**	P	P	09 08 45.3	-2.0
	0.4nm,0.6s,baz=149,slow=8.8,SNR=3.2						

IDC 26 09:05:22.8±4.1,**2.70N**×**96.32E**,**mb4.1**/3,**mb1 4.3**/3,
mb1mx3.8/18,**mbtmp4.1**/3,**Error ellipse: s-maj=148.5km s-min=29.9km az=59.0**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.58**	**123**	P	P	09 13 28.8	-1.8
	1.3nm,0.9s,baz=300,slow=9.3,SNR=5.9						
MKAR	**Makanchi Array**	**45.59**	**347**	P	P	09 13 44.3	-2.1
	2.1nm,0.4s,baz=154,slow=8.7,SNR=8.0						
SONM	**Songino Array**	**45.80**	**9**	P	P	09 13 46.6	-1.5
	3.0nm,0.7s,baz=190,slow=8.6,SNR=22						

MOS ***26*** *09:08:26.4*±*1.0,36.22N*×*70.10E,h124km,mb4.6/8, Error ellipse: s-maj=14.2km s-min=6.9km az=85.6*
NEIC ***26*** *09:08:27.6*±*2.1,36.15N*×*70.26E,h122km*±*19km,mb4.7/9, Error ellipse: s-maj=14.2km s-min=9.5km az=190.0*
BJI ***26*** *09:08:29.4,36.57N*×*70.02E,h145km,mB4.9,mb4.8*

NNC ***26*** *09:08:34.5*±*3.5,36.73N*×*69.94E,h175km*±*35km,mpv5.1, Error ellipse: s-maj=34.8km s-min=26.0km az=32.0*
IDC ***26*** *09:08:34.1*±*5.1,36.17N*×*70.18E,h184km*±*49km,mb3.8/16, mb1 3.9/16,mb1mx3.8/25,mbtmp4.3/16,Error ellipse: s-maj=17.0km s-min=12.4km az=166.0*

ISC 26 09:08:28.3±0.5,**36.25N**±0.03×**70.22E**±0.05,**h141**km±5km,
n108,σ1⇕**07**/124,**mb4.3**/29,**12C-9D**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.79**	**150**	⇓P	**P**	**09 09 14.7**	**+1.4**
CEP				S	**S**	**09 09 49.0**	**+1.4**
CHCP	**Chirah Chowk**	**3.59**	**135**	⇓P	**P**	**09 09 25.3**	**+1.4**
THW	**Thamme Wali**	**3.67**	**159**	⇑P	**P**	**09 09 25.0**	**+0.2**
SBDP	**Sheikh Budin**	**3.97**	**173**	P	**P**	**09 09 28.4**	**-0.4**
SBDP	**Sheikh Budin**	**3.97**	**173**	⇓P	**P**	**09 09 35.7**	**+6.9**
DRP	**Derazinda**	**4.49**	**180**	⇓P	**P**	**09 09 35.7**	**0.0**
SARP	**Sargodha**	**4.77**	**154**	P	**P**	**09 09 39.0**	**-0.4**
JMU	**Jammu**	**5.23**	**131**	*e*S	**S**	**09 10 45.0**	**-0.3**
KSH	**Kashi**	**5.60**	**53**	*e*P	**P**	**09 09 54.5**	**+4.0**
KSH				S	**S**	**09 10 59.3**	**+5.0**
KSH				Smax			
	comp=N,600nm,0.7s						
KSH				Smax			
	comp=E,430nm,0.6s						
THN	**Thein Dam**	**5.93**	**128**	*e*P	**P**	**09 09 54.4**	**-0.5**
THN				*e*		09 11 03.0	
DLH	**Dalhousie**	**6.02**	**126**	*e*P	**P**	**09 09 58.0**	**+1.9**
DLH				*e*S	**S**	**09 11 03.0**	**-1.3**
PONG	**Pong**	**6.40**	**130**	*e*P	**P**	**09 10 01.0**	**-0.2**
PONG				*e*S	**S**	**09 11 11.0**	**-2.4**
AML	**Almayashu**	**6.47**	**24**	P	**P**	**09 10 02.3**	**+0.2**
	SNR=95						
UCH	**Uchtor**	**6.84**	**28**	P	**P**	**09 10 07.6**	**+0.3**
	SNR=64						
KK31	**Karatay Array**	**6.85**	**2**	⇓P	**P**	**09 10 06.5**	**-0.9**
	comp=E,59nm,0.3s,baz=183,slow=11,SNR=1795						
KK31				⇑S	**S**	**09 11 19.9**	**-4.5**
	comp=E,41nm,0.4s,baz=193,slow=22,SNR=6.9						
EKS2	**Erkin-Say**	**6.97**	**22**	P	**P**	**09 10 09.5**	**+0.5**
	SNR=15						
KZA	**Kyzart**	**7.01**	**32**	P	**P**	**09 10 09.6**	**0.0**
	SNR=87						
BHK	**Bhakra**	**7.06**	**131**	*e*	**P**	**09 10 11.0**	**+0.9**
BHK				*e*S	**S**	**09 11 28.8**	**-0.5**
AAK	**Ala-Archa**	**7.19**	**26**	P	**P**	**09 10 12.2**	**+0.4**
	SNR=75						
AAK	**Ala-Archa**	**7.19**	**26**	⇑P	**P**	**09 10 12.1**	**+0.2**
	comp=E,112nm,0.7s						
AAK				⇑S	**S**	**09 11 30.9**	**-1.6**
	comp=E,194nm,0.8s						
AAK	**Ala-Archa**	**7.19**	**26**	⇓*i*PN	**P**	**09 10 10.9**	**-1.0**
AAK				pmax	pmax		
	comp=Z,124nm,0.6s						
AAK	**Ala-Archa**	**7.19**	**26**	⇓*i*Pn	**P**	**09 10 10.9**	**-1.0**
	comp=Z,124nm,0.6s						
AAK				*e*Sn	**S**	**09 11 32.1**	**-0.3**
SDNR	**Sundarnagar**	**7.34**	**128**	*e*P	**P**	**09 10 15.0**	**+1.0**
SDNR				*e*S	**S**	**09 11 32.4**	**-3.8**
KBK	**Karagaybulak**	**7.37**	**28**	P	**P**	**09 10 14.9**	**+0.5**
	SNR=36						
FRU	**Bishkek**	**7.41**	**26**	*i* PN	**P**	**09 10 15.0**	**+0.2**
FRU				pmax	pmax		
	comp=Z,150nm,1.0s						
CHMS	**Chumysh**	**7.60**	**26**	P	**P**	**09 10 17.6**	**+0.2**
	SNR=18						
ULHL	**Ulahol**	**7.60**	**36**	P	**P**	**09 10 17.4**	**0.0**
	SNR=14						
USP	**Suspanovka**	**7.75**	**24**	P	**P**	**09 10 19.8**	**+0.4**
	SNR=24						
TKM2	**Tokmak 2**	**7.85**	**30**	P	**P**	**09 10 20.9**	**+0.1**
	SNR=87						
KLP	**Kalpa**	**8.16**	**123**	*e*P	**P**	**09 10 26.8**	**+1.8**
KLP				*e*S	**S**	**09 11 51.4**	**-4.6**
KLP				AML	AML	09 12 02.4	
	comp=N,755nm,0.7s						
KLP				AML	AML	09 12 05.4	
	comp=E,565nm,0.7s						
DDI	**Dehra Dun**	**8.83**	**130**	*e*	**P**	**09 10 38.5**	**+4.7**
DDI				*e*S	**S**	**09 12 04.6**	**-7.2**
AYAN	**Aya Nagar**	**9.70**	**141**	*e*P	**P**	**09 10 43.7**	**-1.6**
SONA	**Sohna**	**9.86**	**142**	*e*P	**P**	**09 10 47.4**	**-0.1**
SONA				*e*S	**S**	**09 12 30.1**	**-6.3**
SONA				AML	AML	09 12 35.4	
	comp=N,88nm,0.2s						
SONA				AML	AML	09 12 36.8	
	comp=E,102nm,0.5s						
AJM	**Ajmer**	**10.44**	**158**	*i* S	**S**	**09 12 42.0**	**-8.2**
LGTI	**Lohaghat**	**10.81**	**126**	*e*P	**P**	**09 11 01.0**	**+1.0**
LGTI				*e*S	**S**	**09 12 52.8**	**-6.2**
AGRA	**Agra**	**11.13**	**142**	*e*P	**P**	**09 11 01.3**	**-2.9**
AGRA				*e*S	**S**	**09 12 55.7**	**-11**
AGRA				*e*S	**S**	**09 12 58.6**	**-7.9**
AGRA				AML	AML	09 13 18.6	
	comp=N,114nm,0.6s						
AGRA				AML	AML	09 13 20.1	
	comp=E,132nm,0.8s						
MK31	**Makanchi Array**	**13.87**	**37**	⇑P	**P**	**09 11 40.2**	**+0.6**
	comp=E,50nm,0.7s,baz=230,slow=12,SNR=287						
MKAR	**Makanchi Array**	**13.87**	**37**	P	**P**	**09 11 39.4**	**-0.2**
	comp=E,0.7nm,0.3s,baz=230,slow=17,SNR=22						
KOLN	**Kołdanda**	**14.14**	**123**	*e*P	**P**	**09 11 43.1**	**-0.1**
	comp=E,36nm,0.5s						
KOLN				*e*S	**S**	**09 14 11.5**	**-5.3**
GKN	**Gorkha**	**14.71**	**120**	*e*P	**P**	**09 11 49.4**	**-1.0**
	comp=E,113nm,0.6s						
GKN				*e*S	**S**	**09 14 23.5**	**-6.4**
AB31	**Akbulak array**	**15.01**	**333**	⇑P	**P**	**09 11 51.9**	**-2.2**
	comp=E,24nm,0.3s						
AB31				⇑S	**S**	**09 14 25.7**	**-11**
	comp=E,24nm,0.5s						
AB31	**Akbulak array**	**15.01**	**333**	P	**P**	**09 11 51.8**	**-2.3**
AB31				S	**S**	**09 14 26.3**	**-10**
AB31				pmax	pmax		
	comp=Z,12nm,0.3s						
AB31				smax			
	comp=N,10.0nm,0.4s						
DMN	**Daman**	**15.28**	**120**	*e*P	**P**	**09 11 56.5**	**-1.1**
	comp=N,38nm,0.5s						
KKN	**Kakani**	**15.29**	**119**	*e*P	**P**	**09 11 57.6**	**-0.1**
	comp=N,155nm,0.7s						
WMQ	**Urumqi**	**15.36**	**55**	P	**P**	**09 11 59.0**	**+0.5**
PKI	**Pulchoki**	**15.52**	**120**	*e*P	**P**	**09 12 01.2**	**+0.7**
	comp=N,79nm,0.6s						
GUN	**Gumba**	**15.65**	**118**	*e*P	**P**	**09 12 01.3**	**-0.9**
KURK	**Kurchatov**	**15.68**	**20**	⇑P	**P**	**09 12 00.3**	**-2.1**
	comp=N,15nm,1.0s						
VOSK	**Vostochnaya**	**16.48**	**2**	⇓P	**P**	**09 12 10.8**	**-1.6**
	comp=N,9.7nm,0.8s						
VOSK	**Vostochnaya**	**16.48**	**2**	P	**P**	**09 12 10.7**	**-1.7**
VOSK				pmax	pmax		
	comp=Z,17nm,1.3s						
BVA0	**Borovoye Array**	**16.78**	**0**	P	**P**	**09 12 14.7**	**-1.2**
	comp=Z,3.1nm,0.7s,baz=225,slow=31,SNR=118						
BVA0	**Borovoye Array**	**16.78**	**0**	*i* P	**P**	**09 12 14.7**	**-1.3**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**16.78**	**0**	P	**P**	**09 12 14.9**	**-1.1**
	comp=Z,3.2nm,0.3s,baz=174,slow=13,SNR=47						
BRVK	**Borovoye**	**16.81**	**0**	P	**P**	**09 12 15.0**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	**16.81**	**0**	*e*P	**P**	**09 12 14.8**	**-1.6**
	comp=Z,14nm,0.6s						
LSA	**Lhasa**	**18.72**	**104**	P	**P**	**09 12 42.3**	**+3.9**
LSA	**Lhasa**	**18.72**	**104**	*e*P	**P**	**09 12 41.5**	**+3.1**
	comp=Z,25nm,1.1s						
GNI	**Garni**	**20.37**	**289**	*e*P	**P**	**09 12 58.1**	**+2.7**
GNI				pmax	pmax		
	comp=Z,24nm,0.6s						
GNI	**Garni**	**20.37**	**289**	P	**P**	**09 12 58.4**	**+3.0**
	comp=Z,18nm,0.6s,baz=357,slow=3.4,SNR=9.8						
GNI	**Garni**	**20.37**	**289**	*e*P	**P**	**09 12 58.1**	**+2.7**
	comp=Z,24nm,0.6s						
ZAL	**Zalesovo**	**20.39**	**25**	P	**P**	**09 12 56.3**	**+0.8**
	comp=Z,32nm,0.3s,baz=254,slow=8.3,SNR=92						
NVS	**Novosibirsk**	**20.65**	**22**	⇓*i*P	**P**	**09 12 58.3**	**+0.2**
NVS				*i* S	**S**	**09 16 40.3**	**+4.7**
NVS				pmax	pmax		
	comp=Z,26nm,0.9s						
NVS				pmax	pmax		
	comp=N,24nm,0.9s						
NVS				smax			
	comp=N,28nm,1.9s						
ZEI	**Tsey**	**21.28**	**296**	*e*P	**P**	**09 13 08.4**	**+4.0**
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.2						
SHL	**Shillong**	**21.38**	**114**	⇑*i*	**P**	**09 13 07.0**	**+1.5**
SHL				*e*S	**S**	**09 16 56.5**	**+7.4**
ARU	**Arti**	**21.68**	**342**	*e*P	**P**	**09 13 09.0**	**+0.8**
ARU				pmax	pmax		
	comp=Z,23nm,0.6s,mb4.8						
ARU	**Arti**	**21.68**	**342**	*e*P	**P**	**09 13 09.0**	**+0.8**
	comp=Z,23nm,0.6s,mb4.8						
GTA	**Gaotai**	**23.54**	**73**	P	**P**	**09 13 29.8**	**+3.4**
GTA				AMB	AMB		
	comp=Z,22nm,0.8s,mb4.7						
GTA				AMB	AMB		
	comp=Z,84nm,10.7s						
GTA				LR	LR		
	comp=N,184nm,16.8s						
GTA				LR	LR		
	comp=E,227nm,14.1s						
GTA				LR	LR		
	comp=Z,175nm,20.3s						
ZAK	**Zakamensk**	**27.63**	**49**	*e*P	**P**	**09 14 03.0**	**-1.4**
ZAK				*e*		09 15 01.0	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
BRTR	**Keskin Array B**	**28.91**	**288**	P	**P**	**09 14 15.6**	**-0.3**
	comp=Z,0.7nm,0.6s,mb3.6,baz=72,slow=12,SNR=3.2						
SONM	**Songino Array**	**29.00**	**55**	P	**P**	**09 14 18.1**	**+1.4**
	comp=Z,2.0nm,0.8s,mb3.9,baz=257,slow=10,SNR=9.9						
OBN	**Obninsk**	**29.72**	**320**	*i* P	**P**	**09 14 23.3**	**+0.3**
OBN				*i* *PP	pP	09 14 52.6	-0.5
OBN				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.8						
XAN	**Xi'an**	**31.59**	**82**	P	**P**	**09 14 40.5**	**+0.9**
XAN				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.8						
AKASG	**Malin Array Be**	**32.62**	**309**	P	**P**	**09 14 47.9**	**-0.5**
	comp=Z,1.7nm,0.4s,mb4.1,baz=79,slow=7.6,SNR=5.7						
CIT	**Chita**	**34.30**	**49**	*e*P	**P**	**09 15 03.7**	**+1.0**
CIT				pmax	pmax		
	comp=Z,109nm,1.5s,mb5.4						
MLR	**Muntele Rosu**	**34.35**	**300**	P	**P**	**09 15 03.3**	**+0.1**
	comp=Z,1.8nm,0.8s,mb3.9,baz=90,slow=8.1,SNR=3.7						
BOD	**Bodaibo**	**35.95**	**39**	*e*P	**P**	**09 15 07.4**	**-9.1**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.3						
IDI	**Anoyia**	**36.53**	**282**	P	**P**	**09 15 22.9**	**+1.1**
	comp=Z,12nm,1.0s,mb4.5,baz=309,slow=6.5,SNR=3.7						
FINES	**FINESS Array B**	**37.34**	**327**	P	**P**	**09 15 28.4**	**+0.2**
	comp=Z,2.2nm,0.6s,mb4.0,baz=121,slow=11,SNR=10						
KAF	**Kangasniemi**	**37.50**	**328**	*e*p	**P**	**09 15 29.6**	**0.0**
NJ2	**Nanjing**	**40.14**	**81**	*e*P	**P**	**09 15 56.3**	**+4.6**
NJ2				AP	pP	09 16 27.3	+4.1
NJ2				XP	sP	09 16 43.3	+3.3
NJ2				PP	PP	09 17 34.0	+4.6
NJ2				S	**S**	**09 21 41.0**	**-6.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,280nm,5.3s						
NJ2				LR	LR		
	comp=N,740nm,16.4s						
NJ2				LR	LR		
	comp=E,540nm,16.7s						
NJ2				LR	LR		
	comp=Z,180nm,15.7s						
KEV	**Kevo**	**40.81**	**339**	*e*p	**P**	**09 15 56.2**	**-0.6**
ARCES	**ARCESS Array B**	**41.14**	**338**	P	**P**	**09 16 00.2**	**+0.7**
	comp=Z,3.4nm,0.6s,mb4.2,baz=114,slow=8.0,SNR=23						
ARCES	**ARCESS Array B**	**41.14**	**338**	P	**P**	**09 16 00.2**	**+0.7**
SSE	**Sheshan**	**42.34**	**82**	*e*P	**P**	**09 16 11.0**	**+1.2**
SSE				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
SSE				AMB	AMB		
	comp=Z,90nm,4.3s						
SSE	**Sheshan**	**42.34**	**82**	*e*P	**P**	**09 16 10.9**	**+1.1**
	comp=Z,30nm,0.6s,mb5.1						
NB2	**NORSAR Subarra**	**44.20**	**323**	P	**P**	**09 16 23.5**	**-0.9**
	comp=Z,1.5nm,0.5s,mb3.9,baz=98,slow=7.9						
NB2	**NORSAR Subarra**	**44.20**	**323**	P	**P**	**09 16 23.5**	**-0.9**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
NOA	**NORSAR Array B**	**44.20**	**323**	P	**P**	**09 16 23.9**	**-0.5**
	comp=Z,1.7nm,0.5s,mb4.0,baz=98,slow=7.9,SNR=13						
YAK	**Yakutsk**	**44.54**	**35**	*i* P	**P**	**09 16 27.7**	**+0.6**
YAK				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.0						
TIXI	**Tiksi**	**46.25**	**22**	*e*P	**P**	**09 16 44.0**	**+3.5**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
KMBO	**Kilima Mbogo**	**49.19**	**227**	P	**P**	**

JRY **Ryogami san** 3.89 314 P **P** 09 10 23.7 +0.7
JRY *eS* **S** 09 11 08.6 +0.5
MJAR Matsushiro Arr 4.66 315 Pn **P** 09 10 33.7 -0.1
6.7nm,0.3s,baz=106,slow=34,SNR=54
MJAR Sn **S** 09 11 26.4 -1.0
6.7nm,0.3s,baz=154,slow=23,SNR=5.8
MAJO Matsushiro 4.66 315 *e*Pn **P** 09 10 35.2 +1.4
MAJO *e*Sn **S** 09 11 28.1 +0.7
MAT Matsushiro 4.66 315 *e*P **P** 09 10 34.0 +0.1
MAT *e*S **S** 09 11 26.0 -1.5
MAT Matsushiro 4.66 315 P **P** 09 10 33.7 -0.2
MAT S **S** 09 11 25.7 -1.8
MAT Matsushiro 4.66 315 P **P** 09 10 33.8 -0.1
MAT *e*S **S** 09 11 26.1 -1.4
JMM Marumori 4.69 345 P **P** 09 10 31.0 -3.3
JMM *e*S **S** 09 11 20.9 -7.4
JGM Miyama 5.20 299 P **P** 09 10 38.3 -3.1
JWZ Kozaga 5.53 274 P **P** 09 10 46.2 +0.1
JMK Ichinoseki 5.68 351 P **P** 09 10 43.9 -4.2
JMK *e*S **S** 09 11 43.6 -9.5
JWY Kouya 5.68 281 P **P** 09 10 48.4 +0.3
JSD Sado 5.74 326 P **P** 09 10 47.1 -1.9
JSD *e*S **S** 09 11 53.0 -1.7
CBIJ Chichi jima 6.22 181 Pn **P** 09 10 54.6 -1.1
48nm,0.3s,baz=280,slow=19,SNR=6.2
CBIJ Sn **S** 09 11 58.2 -8.2
130nm,0.3s,baz=256,slow=23,SNR=8.5
JNU Nakatsue 9.60 272 Pn **P** 09 11 43.4 +0.6
1.3nm,0.3s,baz=75,slow=14,SNR=7.5
ASAJ Asahikawa 10.77 1 P **P** 09 11 53.8 -5.0
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ MLR MLR
comp=Z,197nm,18.8s
ASAJ Asahikawa 10.77 1 Pn **P** 09 11 53.8 -5.0
comp=Z,3.2nm,0.3s,baz=205,slow=9.8,SNR=16
ASAJ LR LR 09 16 42.8
comp=Z,197nm,18.8s,baz=189,slow=41
KS15 Wonju Array Si 12.48 293 *e*Pn **P** 09 12 24.5 +2.6
YSS Yuzh-Sakhalins 13.61 1⇑ *e*P **P** 09 12 32.3 -4.5
YSS pmax pmax
comp=N,20nm,0.8s
YSS pmax pmax
comp=Z,20nm,0.8s
YSS Yuzh-Sakhalins 13.61 1 *e*Pn **P** 09 12 32.3 -4.4
comp=Z,22nm,0.8s
JOW Kunigami 13.78 246 Pn **P** 09 12 38.4 -0.8
comp=Z,1.1nm,0.3s,baz=55,slow=7.8,SNR=5.2
JOW LR LR 09 17 09.7
comp=Z,404nm,21.2s,baz=263,slow=34
CN2 Changchun 16.81 313 *e*P **P** 09 13 17.5 -0.5
CN2 AMB AMB
comp=Z,10.0nm,1.0s
KLR Kul'dur 17.73 337 *e*P **P** 09 13 22.2 -7.4
SSE Sheshan 18.03 269 *e*P **P** 09 13 29.5 -3.9
SSE AP 09 13 37.5
SSE XP 09 13 42.8
SSE AMB AMB
comp=Z,42nm,0.8s
SSE AMB AMB
comp=Z,114nm,7.7s
SSE LR LR
comp=N,33nm,15.7s
SSE LR LR
comp=E,98nm,15.7s
SSE LR LR
comp=Z,86nm,14.8s
SSE Sheshan 18.03 269 *e*P **P** 09 13 29.5 -3.9
comp=Z,42nm,0.8s
SSE pP 09 13 37.6
SSE sP 09 13 42.7
SSE S **S** 09 16 48.3 -2.0
SSE sS 09 17 07.1
NJ2 Nanjing 19.79 273 *e*P **P** 09 13 51.3 -2.7
NJ2 AP 09 14 00.0
NJ2 XP 09 14 04.0
NJ2 PP PP 09 14 09.5 -3.5
NJ2 AMB AMB
comp=Z,50nm,1.0s
NJ2 AMB AMB
comp=Z,240nm,4.3s
NJ2 LR LR
comp=N,580nm,13.5s
NJ2 LR LR
comp=E,600nm,16.4s
NJ2 LR LR
comp=Z,250nm,11.3s
HIA Hailar 23.14 320 *e*P **P** 09 14 27.3 -0.3
HIA pmax pmax
comp=Z,19nm,0.9s
HIA Hailar 23.14 320 *e*P **P** 09 14 27.3 -0.4
comp=Z,19nm,0.9s,mb4.5
WHN Wuhan 23.88 271 *e*P **P** 09 14 35.0 -0.1
HHC Hu-ho-hao-te 25.57 296 ⇑P **P** 09 14 52.3 +1.1
HHC AP pP 09 15 02.0 +0.8
HHC XP sP 09 15 06.0 +0.4
HHC PP PP 09 15 31.3 +0.1
HHC PCP PcP 09 18 21.5 -0.9
HHC S **S** 09 19 18.0 +4.0
HHC XS 09 19 31.0
HHC SCP 09 21 55.0
HHC SCS ScS 09 25 46.3 +1.0
HHC AMB AMB
comp=Z,25nm,1.3s,mb4.6
HHC AMB AMB
comp=Z,282nm,8.4s
HHC LR LR
comp=N,245nm,13.2s,MS4.1
HHC LR LR
comp=E,384nm,16.8s,MS4.1
HHC LR LR
comp=Z,367nm,15.6s,MS4.0
CLNS Chul'man 26.38 338 *e*P **P** 09 14 55.9 -2.6
CLNS pmax pmax
comp=N,13nm,0.9s
CLNS pmax pmax
comp=Z,18nm,0.9s,mb4.6
CLNS pmax pmax
comp=E,5.0nm,0.8s
BTO Baotou 26.71 295 *e*P **P** 09 15 01.3 -0.5
MA2 Magadan 26.84 10 *i* P **P** 09 14 59.9 -2.9
MA2 pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
CIT Chita 27.94 321 *e* **P** 09 15 16.1 +3.2
ENH Enshi 28.02 273 *e*P **P** 09 15 12.5 -1.2
comp=Z,49nm,0.9s,mb5.1
YAK Yakutsk 29.84 348⇑ *i*P **P** 09 15 29.1 -0.6
YAK pmax pmax
comp=Z,29nm,0.9s,mb5.0
SEY Seymchan 30.30 9 *e*P **P** 09 15 33.6 -0.1
SONM Songino Array 30.59 309 P **P** 09 15 37.8 +1.4
comp=Z,4.3nm,0.7s,mb4.4,baz=106,slow=8.5,SNR=16
GYA Guiyang 31.56 267⇑ *i*P **P** 09 15 43.8 -1.5
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
LZH Lanzhou 31.62 286 *e*P **P** 09 15 45.0 -0.7
LZH AP pP 09 15 52.0 -4.1
LZH XP sP 09 15 55.8 -5.1
LZH AMB AMB
comp=Z,27nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,120nm,4.0s
LZH LR LR
comp=N,1μm,17.5s
LZH LR LR
comp=Z,2μm,18.2s,MS4.7
LZH Lanzhou 31.62 286 *e*P **P** 09 15 45.1 -0.6
LZH *SP sP 09 15 55.7 -5.2
LZH pmax pmax
comp=Z,27nm,1.4s,mb4.9
LZH Lanzhou 31.62 286 *e*P **P** 09 15 45.1 -0.6
comp=Z,27nm,1.4s,mb4.9
LZH pP pP 09 15 51.9 -4.2
LZH sP sP 09 15 55.7 -5.2
CD2 Chengdu 32.63 276 P **P** 09 15 53.3 -1.3
ZAK Zakamensk 33.24 313 *e*P **P** 09 16 00.0 +0.3
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
GTA Gaotai 34.52 293 P **P** 09 16 10.5 -0.3
GTA AP pP 09 16 23.5 +2.2
GTA XP sP 09 16 27.5 +1.5
GTA AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
BILL Bilibino 37.39 15⇑ *i*P **P** 09 16 34.4 -0.4
BILL pmax pmax
comp=Z,11nm,1.4s,mb4.5
WMQ Urumqi 43.27 301 P **P** 09 17 25.5 +1.8
LSA Lhasa 43.43 280 *e*P **P** 09 17 27.5 +2.4
LSA pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
LSA Lhasa 43.43 280 *e*P **P** 09 17 27.5 +2.3
comp=Z,4.0nm,0.5s,mb4.4
KSM Kuching 43.65 230 *e*P **P** 09 17 28.4 +1.2
ZAL Zalesovo 45.02 315 P **P** 09 17 38.0 +0.4
comp=Z,1.6nm,0.3s,mb4.3,baz=16,slow=14,SNR=2.4
ZAL PcP PcP 09 19 18.7 +0.1
comp=Z,4.0nm,0.3s,baz=159,slow=3.4,SNR=3.9
ZAL LR LR 09 35 50.0
comp=Z,39nm,21.0s,MS3.3,baz=199,slow=35
ZAL Zalesovo 45.02 315 P **P** 09 17 38.0 +0.4
ZAL PcP PcP 09 19 18.7 +0.1
NVS Novosibirsk 45.98 316 *i* P **P** 09 17 44.9 -0.3
NVS pmax pmax
comp=Z,14nm,1.1s,mb4.8
MKAR Makanchi Array 46.79 305 *i* P **P** 09 17 52.7 +1.0
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 46.79 305 P **P** 09 17 52.5 +0.8
comp=Z,6.5nm,0.8s,mb4.6,baz=99,slow=8.5,SNR=11
MKAR LR LR 09 38 12.2
comp=Z,86nm,18.1s,MS3.8,baz=269,slow=37
MKAR Makanchi Array 46.79 305 P **P** 09 17 52.5 +0.8
GUN Gumba 48.38 279 *e*P **P** 09 18 05.3 +0.9
PKI Pulchoki 48.90 279 *e*P **P** 09 18 08.8 +0.4
KKN Kakani 48.92 280 *e*P **P** 09 18 08.9 +0.3
comp=Z,29nm,0.8s,mb5.4
DMN Daman 49.13 279 *e*P **P** 09 18 10.1 -0.1
comp=Z,25nm,0.9s,mb5.2
GKN Gorkha 49.38 280 *e*P **P** 09 18 12.0 -0.1
comp=Z,59nm,1.1s,mb5.5
KOLN Koldanda 50.31 280 *e*P **P** 09 18 18.8 -0.5
comp=Z,15nm,0.7s,mb5.1
COLA College 51.84 31 *e*P **P** 09 18 30.5 +0.2
ILAR Eielson Array 52.25 31 P **P** 09 18 32.2 -1.1
comp=Z,2.0nm,0.6s,mb4.2,baz=268,slow=6.4,SNR=16
ILAR LR LR 09 39 25.0
comp=Z,23nm,18.5s,MS3.2,baz=180,slow=35
AAK Ala-Archa 52.98 301 *e*P **P** 09 18 38.8 -0.3
AAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
AAK Ala-Archa 52.98 301 *e*P **P** 09 18 38.8 -0.3
comp=Z,8.6nm,1.0s,mb4.6
WRAB Tennant Creek 53.51 189 *e*P **P** 09 18 42.3 -1.0
WRAB Tennant Creek 53.51 189 *e*P **P** 09 18 41.1 -2.2
comp=Z,14nm,0.7s,mb5.0
WRAB *e*PcP PcP 09 19 50.2 +0.3
WB2 Warramunga Arr 53.52 189⇓ *i*P **P** 09 18 42.0 -1.4
WRA Warramunga Arr 53.52 189 P **P** 09 18 42.4 -1.0
comp=Z,7.8nm,0.6s,mb4.8,baz=8.2,slow=7.6,SNR=130
WRA PcP PcP 09 19 50.2 +0.3
comp=Z,3.7nm,0.7s,baz=1.1,slow=4.0,SNR=9.8
FITZ Fitzroy Crossi 53.57 200⇓ *i*P **P** 09 18 43.6 -0.2
comp=Z,12nm,0.6s,mb5.0
BVAR Borovoye Array 53.66 315 P **P** 09 18 42.4 -1.5
comp=Z,3.8nm,0.8s,mb4.4,baz=119,slow=15,SNR=3.4
INK Inuvik 57.36 26 *e*P **P** 09 19 09.8 -0.7
INK *e**PP pP 09 19 21.0 -0.4
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 57.36 26 P **P** 09 19 07.6 -2.9
comp=Z,4.3nm,0.9s,mb4.5,baz=291,slow=9.1,SNR=6.9
INK Inuvik 57.36 26 *e*P **P** 09 19 09.8 -0.7
comp=Z,4.4nm,0.9s,mb4.5
INK *e*pP pP 09 19 21.0 -0.5
MBWA Marble Bar 58.32 205 *e*P **P** 09 19 16.6 -1.2
comp=Z,12nm,0.9s,mb4.9
DLBC Dease Lake 61.10 37 P **P** 09 19 34.9 -1.6
comp=Z,2.8nm,1.1s,mb4.3,baz=298,slow=18,SNR=1.7
BBB Bella Bella 64.22 43 P **P** 09 19 56.8 -0.4
comp=Z,5.5nm,1.0s,mb4.6,baz=8.1,slow=7.1,SNR=3.5
STKA Stephens Creek 64.86 181⇑ *i*P **P** 09 20 01.6 -0.1
comp=Z,7.6nm,0.8s,mb4.8
STKA Stephens Creek 64.86 181 P **P** 09 20 01.4 -0.3
comp=Z,8.9nm,0.8s,mb4.8,baz=339,slow=8.0,SNR=13
YKA Yellowknife Ar 66.64 30 P **P** 09 20 11.6 -0.9
comp=Z,2.3nm,0.8s,mb4.3,baz=294,slow=6.2,SNR=9.1
ARCES ARCESS Array B 67.72 340 P **P** 09 20 19.6 +0.3
comp=Z,2.7nm,0.8s,mb4.3,baz=18,slow=7.7,SNR=5.2
NWAO Narrogin (SRO) 70.02 202 *e*P **P** 09 20 33.9 -0.1
NWAO pmax pmax
comp=Z,19nm,0.7s
NWAO Narrogin (SRO) 70.02 202 *e*P **P** 09 20 33.9 -0.1
comp=Z,19nm,0.7s,mb5.1
OBN Obninsk 71.52 324 *e*P **P** 09 20 40.0 -2.7
OBN pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.2
KAF Kangasniemi 71.94 334 *e*P **P** 09 20 43.5 -1.5
comp=Z,6.6nm,0.8s,mb4.6,baz=50,slow=5.7
FINES FINESS Array B 72.44 333 P **P** 09 20 48.4 +0.4
comp=Z,5.3nm,0.8s,mb4.5,baz=108,slow=6.0,SNR=15
FINES LR LR 09 57 08.1
comp=Z,39nm,18.1s,MS3.7,baz=170,slow=40
WALA Waterton Lakes 73.68 42 *e*P **P** 09 20 54.7 -0.8
comp=Z,2.7nm,0.7s,mb4.3
WALA *e* 09 21 19.6
SUMG Summit 74.38 0 *e*P **P** 09 21 00.7 +1.6
comp=Z,11nm,1.1s,mb4.7
CMB Columbia Colle 75.42 54 *e*P **P** 09 21 06.1 +0.3
CMB *e* pP 09 21 16.7 -0.3
CMB pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CMB Columbia Colle 75.42 54 *e*P **P** 09 21 06.1 +0.3
comp=Z,4.1nm,0.8s,mb4.4
CMB *e*PcP PcP 09 21 16.7 -2.4
AKASG Malin Array Be 77.69 323 P **P** 09 21 18.2 -0.1
comp=Z,0.9nm,0.5s,mb4.0,baz=46,slow=5.9,SNR=12
NB2 NORSAR Subarra 77.89 338 P **P** 09 21 19.6 +0.4
comp=Z,7.9nm,0.8s,mb4.7,baz=40,slow=5.6
NB2 NORSAR Subarra 77.89 338 P **P** 09 21 19.6 +0.4
NB2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
NOA NORSAR Array B 77.89 338 P **P** 09 21 19.9 +0.7
comp=Z,7.0nm,0.8s,mb4.7,baz=39,slow=5.6,SNR=30
NOA LR LR 10 00 51.9
comp=Z,34nm,19.3s,MS3.7,baz=30,slow=40
HWUT Hardware Ranch 79.19 47 *e*P **P** 09 21 29.9 +3.2
comp=Z,12nm,1.4s,mb4.6
PDAR Pinedale Array 79.73 45 P **P** 09 21 30.5 +0.9
comp=Z,0.5nm,0.6s,mb3.6,baz=282,slow=2.2,SNR=5.6
DAU Daniels Canyon 80.07 48 *e*P **P** 09 21 32.8 +1.3
NEN Nelson 80.45 54 *e*P **P** 09 21 34.0 +0.3
NEN *e*PcP PcP 09 21 45.1 +4.3
MSU Marysvale 80.58 50 *e*P **P** 09 21 35.8 +1.5
SRU San Rafael 81.28 49 *e*P **P** 09 21 38.8 +0.9
BR131 Keskin Array S 81.88 312 *e*P **P** 09 21 41.9 +0.9
comp=Z,3.8nm,0.7s,mb4.4
BRTR Keskin Array B 81.88 312 P **P** 09 21 42.5 +1.4
comp=Z,3.2nm,0.8s,mb4.3,baz=108,slow=3.7,SNR=13
PPT Papeete 82.31 117 *e*LR LR 09 46 44.3
comp=Z,56nm,23.8s
STHS Stebnicka Huta 82.42 326 *e*P **P** 09 21 45.3 +1.7
STHS *e* pP 09 21 59.3 +4.4
OJC Ojcow 82.53 327 *e*P **P** 09 21 44.9 +0.8
MLR Muntele Rosu 82.70 321 P **P** 09 21 45.9 +0.8
comp=Z,1.4nm,0.8s,mb4.0,baz=121,slow=5.1,SNR=3.7
KECS Kecovo 83.43 325 *e*P **P** 09 21 49.4 +0.7
SMCO Snowmass 83.45 47 *e*P **P** 09 21 50.5 +1.4
KSP Ksiaz 83.65 329 *e*P **P** 09 21 50.9 +1.2
KSP *e**PP pP 09 22 02.0 +0.9
PSZ Piszkesteto 84.11 325 *e*P **P** 09 21 53.4 +1.2
PSZ *e**PP pP 09 22 05.3 +1.8
PSZ pmax pmax
comp=Z,23nm,1.1s,mb5.2
PSZ Piszkesteto 84.11 325 *e*P **P** 09 21 53.4 +1.2
comp=Z,23nm,1.1s,mb5.2
PSZ *e*pP pP 09 22 05.3 +1.8
VYHS Vyhne 84.20 326 *e*P **P** 09 21 53.8 +1.2
VYHS *e*pP pP 09 22 05.1 +1.1
ASF Jabal al Asfar 84.21 305 P **P** 09 21 54.7 +1.6
comp=Z,9.7nm,0.8s,mb5.0,baz=276,slow=2.0,SNR=7.8
TAOE Nuku Hiva Isla 84.54 104 *e*LR LR 09 47 49.7
comp=Z,280nm,26.5s
BRG Berggiesshubel 84.62 330 *i* P **P** 09 21 55.9 +1.2
BRG *i* pP 09 22 07.2 +1.2
BRG pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
BRG Berggiesshubel 84.62 330 *i* P **P** 09 21 55.9 +1.3
comp=Z,7.0nm,1.0s,mb4.8
BRG *i* pP 09 22 07.2 +1.2
CLL Collm 84.68 331⇓ *i*P **P** 09 21 55.6 +0.7
CLL *i* pP 09 22 06.7 +0.4
CLL pmax pmax
comp=Z,18nm,1.0s,mb5.2
CLL Collm 84.68 331⇓ *i*P **P** 09 21 55.6 +0.7
comp=Z,18nm,1.0s,mb5.2
CLL *i* pP 09 22 06.7 +0.4
CLL Collm 84.68 331⇓ P **P** 09 21 55.6 +0.7
comp=Z,logA/T=1.3,mb5.2
CLL *i* *PP pP 09 22 06.7 +0.4
MOX Moxa 85.75 331 *e*P **P** 09 22 02.0 +1.8
MOX pP pP 09 22 12.0 +0.4
GERES GERESS Array B 86.25 329 P **P** 09 22 04.2 +1.4
comp=Z,0.4nm,0.2s,mb4.2,baz=45,slow=3.8,SNR=6.2
GERES LR LR 10 01 43.0
comp=Z,32nm,18.6s,MS3.8,baz=105,slow=36
ANMO Albuquerque 86.39 50*c* *i*P **P** 09 22 05.7 +2.0
GRA1 Grafenberg Arr 86.65 331 *e*P **P** 09 22 06.5 +1.8
comp=Z,4.0nm,0.8s,mb4.7
GRF Grafenberg Arr 86.65 331 *e*P **P** 09 22 06.5 +1.8
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
GRF Grafenberg Arr 86.65 331 *e*P **P** 09 22 06.5 +1.8
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
GRF Grafenberg Arr 86.65 331 *e*P **P** 09 22 06.5 +1.8
comp=Z,4.0nm,0.8s,mb4.7
TXAR Lajitas Array 91.77 53 P **P** 09 22 30.5 +1.1
comp=Z,2.4nm,0.7s,mb4.6,baz=306,slow=3.1,SNR=28
FLN La Foliniere 91.79 336 *e*P **P** 09 22 27.8 -1.2
LPL La Plagne 91.81 331 *e*P **P** 09 22 28.7 -0.5
SSF Saint Saulge 91.82 333 *e*P **P** 09 22 28.2 -1.0
LPG La Plagne 91.82 330 *e*P **P** 09 22 28.9 -0.4
comp=Z,4.8nm,0.6s,mb4.7
LPG La Plagne 91.82 330 *e*P **P** 09 22 28.9 -0.4
LPG pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
AVF Avril sur Loir 92.10 333 *e*P **P** 09 22 29.4 -1.1
comp=Z,14nm,0.8s,mb5.0
AVF Avril sur Loir 92.10 333 *e*P **P** 09 22 29.4 -1.1
AVF pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
MBDF Montbardon 92.44 330 *e*P **P** 09 22 31.2 -0.9
comp=Z,8.9nm,0.7s,mb4.9
MBDF Montbardon 92.44 330 *e*P **P** 09 22 31.2 -0.9
MBDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
ORIF Oris-en-Rattie 92.65 331 *e*P **P** 09 22 32.0 -1.1
TCF Toulx Ste Croi 92.95 334 *e*P **P** 09 22 33.6 -0.8
comp=Z,3.8nm,0.5s,mb4.8
TCF Toulx Ste Croi 92.95 334 *e*P **P** 09 22 33.6 -0.8
TCF pmax pmax
comp=Z,2.0nm,0.5s,mb4.8
VIVF Saint-Julien-l 93.19 331 *e*P **P** 09 22 34.6 -1.0
FRF La Foret Royal 93.43 329 *e*P **P** 09 22 35.6 -1.1
comp=Z,5.4nm,0.6s,mb4.9
FRF La Foret Royal 93.43 329 *e*P **P** 09 22 35.6 -1.1
FRF pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
LMR La Mourre 93.68 329 *e*P **P** 09 22 36.4 -1.4
comp=Z,23nm,0.9s,mb5.3
LMR La Mourre 93.68 329 *e*P **P** 09 22 36.4 -1.4
LMR pmax pmax
comp=Z,11nm,0.9s,mb5.3
SNAA Sanae 137.41 195⇑ *i*PKPdf PKPdf 09 28 39.5 -3.6
SNAA *e* 09 28 56.9
SNAA *e* 09 31 23.8
VNA2 Neumayer--Watz 138.96 195⇑ *i*PKPdf PKPdf 09 28 41.2 -4.7
VNA2 *e* 09 28 58.8
VNA2 *e* 09 31 39.6
VNA3 Neumayer Olymp 139.17 193⇑ *i*PKPdf PKPdf 09 28 43.3 -2.9
VNA3 *e* 09 29 01.5
VNA3 *e* 09 31 42.3
VNA1 Neumayer--Stat 139.35 195⇑ *i*PKPdf PKPdf 09 28 44.3 -2.3
VNA1 *e* 09 29 02.5
SAML Samuel 146.20 50 *e*PKP PKPdf 09 29 02.0 +1.9
LPAZ La Paz 147.72 66 *e*PKP2 PKPdf 09 29 05.7 +3.2
LPAZ La Paz 147.72 66 PKPbc PKPdf 09 29 06.5 +4.0
comp=Z,2.7nm,0.8s,baz=3.2,slow=8.3,SNR=12
PLCA Paso Flores 152.85 115 PKPbc PKPdf 09 29 17.1 +7.4
comp=Z,1.3nm,0.7s,baz=178,slow=6.8,SNR=3.0

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*STR **26** 10:00:34.2±0.5, 43.54N×0.61W, h10km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **26** 10:00:34.2, 43.54N×0.61W, h10km, ML2.8(LDG), ML2.5(STR), After STR.*
*LDG **26** 10:00:36.4±0.1, 43.39N×0.61W, h3km, Md2.6/3, Ml2.8/11, Error ellipse: s-maj=1.6km s-min=1.1km az=114.0*
*MDD **26** 10:00:36.6±0.4, 43.42N×0.59W, h18km±4km, mbLg2.0/16, Error ellipse: s-maj=3.8km s-min=2.4km az=18.0, PRXIMO*
*CSEM **26** 10:00:36.6±0.1, 43.40N×0.60W, h5km, ML2.8/9, Error ellipse: s-maj=1.3km s-min=0.9km az=125.0*

ISC 26 10:00:34.3±0.3, 43.50N±0.02×0.55W±0.03, h2km±4km, n42, σ1§07/78, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORDF	**Ordiarp**	**0.41**	**225**	Pg	**Pg**	**10 00 42.8**	**+0.4**
ORDF				Sg	**Sg**	**10 00 48.9**	**+1.1**
ORDF	**Ordiarp**	**0.41**	**225**	P	**Pg**	**10 00 42.9**	**+0.5**
ORDF				S	**Sg**	**10 00 48.5**	**+0.7**
ATE	**Arette**	**0.43**	**195**	P	**Pg**	**10 00 42.9**	**0.0**
ATE				S	**Sg**	**10 00 48.2**	**-0.5**
REYF	**Montagne du Re**	**0.45**	**165**	Pg	**Pg**	**10 00 43.3**	**+0.1**
REYF				Sg	**Sg**	**10 00 51.2**	**+2.0**
REYF	**Montagne du Re**	**0.45**	**165**	P	**Pg**	**10 00 43.3**	**+0.1**
REYF				S	**Sg**	**10 00 49.0**	**-0.2**
LARF	**Larrau**	**0.57**	**215**	Pg	**Pg**	**10 00 45.3**	**-0.3**
LARF				Sg	**Sg**	**10 00 52.9**	**-0.2**
LARF	**Larrau**	**0.57**	**215**	P	**Pg**	**10 00 45.4**	**-0.2**
LARF				S	**Sg**	**10 00 52.9**	**-0.2**
OSSF	**Osses**	**0.58**	**245**	P	**Pg**	**10 00 46.5**	**+0.7**
OSSF				S	**Sg**	**10 00 54.1**	**+0.6**
ETSF	**Etsaut**	**0.60**	**181**	*e*Pg	**Pg**	**10 00 45.8**	**-0.5**
ETSF				*e*Sg	**Sg**	**10 00 51.9**	**-2.5**
	38nm,0.2s						
SJPF	**Ste Jean**	**0.63**	**232**	*e*Pg	**Pg**	**10 00 46.9**	**0.0**
SJPF				*e*Sg	**Sg**	**10 00 53.9**	**-1.4**
	52nm,0.4s						
LABF	**Labassere**	**0.64**	**135**	Pg	**Pg**	**10 00 47.9**	**+0.8**
LABF				Sg	**Sg**	**10 00 57.9**	**+2.2**
LABF	**Labassere**	**0.64**	**135**	P	**Pg**	**10 00 48.3**	**+1.2**
LABF				S	**Sg**	**10 00 57.9**	**+2.2**
FDAF	**Les Forges d'A**	**0.69**	**181**	P	**Pg**	**10 00 47.5**	**-0.4**
FDAF				S	**Sg**	**10 00 56.3**	**-0.8**
VIEF	**Viey**	**0.75**	**146**	P	**Pg**	**10 00 49.3**	**+0.1**
VIEF				S	**Sg**	**10 00 59.3**	**+0.2**
EALK	**Alkurruntz**	**0.76**	**248**	Pg	**Pg**	**10 00 49.7**	**+0.3**
	10nm,0.3s,SNR=7.9						
EALK				Lg		10 00 59.9	
	90nm,0.4s,SNR=7.9						
EPF	**Esparros**	**0.80**	**126**	*e*Pg	**Pg**	**10 00 51.2**	**+0.9**
EPF				*e*Pn	**Pn**	**10 00 52.8**	**+0.5**
EPF				*e*Sg	**Sg**	**10 01 02.1**	**+1.1**
	39nm,0.2s						
EPF	**Esparros**	**0.80**	**126**	Pg	**Pg**	**10 00 51.2**	**+0.9**
EPF				Lg		10 01 02.1	
	19nm,0.2s						
RESF	**Ens**	**0.95**	**137**	P	**Pb**	**10 00 54.4**	**+1.3**
RESF				S	**Sg**	**10 01 07.4**	**+1.5**
MELF	**Melles**	**1.14**	**123**	Pg	**Pg**	**10 00 56.6**	**-0.5**
MELF	**Melles**	**1.14**	**123**	P	**Pb**	**10 00 56.8**	**+0.3**
MELF				S	**Sb**	**10 01 11.4**	**-0.2**
MLS	**Moulis**	**1.32**	**114**	S	**Sb**	**10 01 16.0**	**-0.7**
EGRA	**Graus**	**1.45**	**154**	Pg	**Pg**	**10 01 02.9**	**-0.4**
	7.6nm,0.3s,SNR=7.9						
EGRA				Lg		10 01 23.2	
	12nm,0.5s,SNR=7.9						
ECRI	**Cripan**	**1.69**	**239**	Pg	**Pg**	**10 01 07.5**	**-0.6**
ECRI				Lg		10 01 30.0	
ECRI	**Cripan**	**1.69**	**239**	Pg	**Pg**	**10 01 07.5**	**-0.6**
	2.8nm,0.2s,SNR=7.9						
ECRI				Lg		10 01 30.0	
	1.0nm,0.4s,SNR=7.9						
LFF	**La Frestale**	**1.71**	**32**	*e*Pn	**Pn**	**10 01 06.9**	**+1.6**
LFF				*e*Pg	**Pg**	**10 01 10.4**	**+2.0**
LFF				*e*Sg	**Sg**	**10 01 34.7**	**+3.6**
	16nm,0.3s						
ESAC	**San Caprasio**	**1.78**	**178**	Pg	**Pg**	**10 01 08.5**	**-1.4**
	51nm,0.5s,SNR=7.9						
ESAC				Lg		10 01 31.1	
	63nm,0.3s,SNR=7.9						

ESAC	**San Caprasio**	**1.78**	**178**	Pg		**Pg**	**10 01 08.5**	**-1.3**
	51nm,0.5s,SNR=7.9								
MTLF	**Montolieu**	**2.02**	**94**	*e*Pn		**Pn**	**10 01 10.5**	**+0.7**
MTLF				*e*Pg		**Pg**	**10 01 14.2**	**-0.4**
MTLF				*e*Sn		**Sn**	**10 01 34.7**	**-1.2**
MTLF				*e*Sg		**Sg**	**10 01 41.2**	**-0.3**
	14nm,0.3s								
CARF	**Carcanieres**	**2.10**	**111**	S		**Sn**	**10 01 44.1**	**+6.2**
ELAN	**Lanestosa**	**2.12**	**264**	Pg		**Pg**	**10 01 16.2**	**-0.4**
	0.5nm,0.3s,SNR=7.9								
ELAN				Lg			10 01 44.3		
	1.5nm,0.2s,SNR=7.9								
ELAN	**Lanestosa**	**2.12**	**264**	Pg		**Pg**	**10 01 16.2**	**-0.5**
	0.5nm,0.3s,SNR=7.9								
RJF	**Les Rejaudoux**	**2.33**	**39**	*e*Pn		**Pn**	**10 01 15.6**	**+1.4**
RJF				*e*Pg		**Pg**	**10 01 21.8**	**+1.0**
RJF				*e*Sn		**Sn**	**10 01 44.3**	**+0.5**
RJF				*e*Sg		**Sg**	**10 01 53.0**	**+1.2**
	17nm,0.4s								
CAF	**Calviac**	**2.35**	**52**	*e*Pn		**Pn**	**10 01 15.2**	**+0.6**
CAF				*e*Pg		**Pg**	**10 01 21.9**	**+0.6**
CAF				*e*Sn		**Sn**	**10 01 44.3**	**-0.2**
	21nm,0.5s								
CAF				*e*Sg		**Sg**	**10 01 54.3**	**+1.6**
EPOB	**Poblet**	**2.46**	**150**	Pg		**Pg**	**10 01 20.4**	**-3.0**
	0.7nm,0.1s,SNR=7.9								
EPOB				Lg			10 01 53.3		
	4.5nm,0.3s,SNR=7.9								
EPOB	**Poblet**	**2.46**	**150**	Pg		**Pg**	**10 01 20.4**	**-3.0**
	SNR=7.9								
MFF	**Saint Martin d**	**3.11**	**5**	*e*Pn		**Pn**	**10 01 25.6**	**+0.2**
MFF				*e*Pg		**Pg**	**10 01 36.2**	**-0.2**
MFF				*e*Sg		**Sg**	**10 02 17.1**	**-0.7**
	5.7nm,0.4s								
LASF	**Ste Croix**	**3.24**	**78**	*e*Pn		**Pn**	**10 01 27.2**	**0.0**
LASF				*e*Sn		**Sn**	**10 02 04.3**	**-2.6**
LASF				*e*Sg		**Sg**	**10 02 21.0**	**-1.1**
	7.4nm,0.5s								
TCF	**Toulx Ste Croi**	**3.40**	**34**	*e*Pn		**Pn**	**10 01 30.0**	**+0.5**
TCF				*e*Sg		**Sg**	**10 02 26.4**	**-1.2**
	18nm,0.7s								
BGF	**Bois d'Agland**	**3.89**	**37**	*e*Pg		**Pg**	**10 01 51.0**	**-0.9**
BGF				*e*Sg		**Sg**	**10 02 41.3**	**-2.4**
	4.8nm,0.3s								
VIVF	**Saint-Julien-l**	**3.99**	**68**	*e*Pn		**Pn**	**10 01 37.6**	**-0.2**
VIVF				*e*Sg		**Sg**	**10 02 44.3**	**-2.8**
	2.8nm,0.4s								
SMF	**Signal de Mont**	**4.42**	**43**	*e*Sg		**Sg**	**10 02 58.4**	**-3.0**
	3.2nm,0.4s								
SMRF	**Simiane la Rot**	**4.46**	**82**	*e*Pn		**Pn**	**10 01 43.7**	**-0.8**

*IDC **26** 10:09:36.0±0.7,33.25N×142.47E,mb4.0/15,mb1 4.1/20, mb1mx4.1/28,mbtmp4.1/20,ML3.8/5,Error ellipse: s-maj=17.3km s-min=15.3km az=97.0*
*JMA **26** 10:09:39.1±0.6,33.30N×142.46E,h75km,M3.6*
*MOS **26** 10:09:40.9±1.0,33.62N×142.57E,h33km,mb4.3/7,Error ellipse: s-maj=21.0km s-min=8.7km az=113.0*
*BJI **26** 10:09:40.5,33.49N×142.54E,h44km,mB4.7,mb4.1*
*NEIC **26** 10:09:43.0±2.7,33.32N×142.27E,h42km±23km,mb4.5/2, Error ellipse: s-maj=28.7km s-min=16.5km az=92.0*
ISC 26 10:09:37.4±1.8,33.33N±0.05×142.47E±0.06,h19km±13km, n52,σ1ᵖ28/64,mb4.0/19,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.81**	**317**	P		**Pn**	**10 10 09.0**	**+0.9**
BSO1				*e*S		**Sn**	**10 10 32.3**	**+1.6**
BSO3	**Boso 3**	**2.19**	**313**	P		**Pn**	**10 10 14.5**	**+1.0**
JHJ2	**Mitsune**	**2.23**	**265**	P		**Pn**	**10 10 14.7**	**+0.5**
JHJ	**Hachijo jima 2**	**2.26**	**265**	Pn		**Pn**	**10 10 14.9**	**+0.3**
	59nm,0.3s,baz=248,slow=21,SNR=9.8							
JHJ						Sn	**Sn**	**10 10 41.7**	**-0.5**
	81nm,0.3s,baz=55,slow=23,SNR=6.3							
BSO4	**Boso 4**	**2.42**	**314**	P		**Pn**	**10 10 18.4**	**+1.6**
JYN	**Shimob**	**3.90**	**305**	P		**Pn**	**10 10 39.0**	**+1.2**
JAG	**Ashikaga**	**3.96**	**322**	P		**Pn**	**10 10 39.3**	**+0.6**
JAG				*e*S		**Sn**	**10 11 23.9**	**-1.3**
JRY	**Ryogami san**	**3.98**	**313**	P		**Pn**	**10 10 40.0**	**+1.0**
JRY				*e*S		**Sn**	**10 11 24.5**	**-1.1**
JMM	**Marumori**	**4.73**	**344**	P		**Pn**	**10 10 47.9**	**-1.7**
JMM				*e*S		**Sn**	**10 11 38.7**	**-5.9**
MJAR	**Matsushiro Arr**	**4.74**	**314**	Pn		**Pn**	**10 10 50.3**	**+0.5**
	3.3nm,0.3s,baz=160,slow=13,SNR=30							
MJAR						Sn	**Sn**	**10 11 44.9**	**-0.2**
	2.0nm,0.3s,baz=124,slow=41,SNR=3.6							
MAJO	**Matsushiro**	**4.74**	**314**	*e*P		**Pn**	**10 10 51.7**	**+1.8**
MAT	**Matsushiro**	**4.74**	**314**	*e*P		**Pn**	**10 10 50.0**	**+0.1**
MAT				*e*S		**Sn**	**10 11 42.0**	**-3.1**
MAT	**Matsushiro**	**4.74**	**314**	P		**Pn**	**10 10 50.2**	**+0.3**
MAT				S		**Sn**	**10 11 42.3**	**-2.8**
MAT	**Matsushiro**	**4.74**	**314**	P		**Pn**	**10 10 50.7**	**+0.8**
MAT				*e*S		**Sn**	**10 11 42.9**	**-2.2**
JMK	**Ichinoseki**	**5.70**	**350**	P		**Pn**	**10 11 01.0**	**-2.4**
JMK				*e*S		**Sn**	**10 12 02.3**	**-6.7**
CBIJ	**Chichi jima**	**6.22**	**182**	Pn		**Pn**	**10 11 08.1**	**-2.6**
	18nm,0.3s,baz=270,slow=20,SNR=2.7							
CBIJ						Sn	**Sn**	**10 12 14.6**	**-7.5**
	18nm,0.3s,baz=296,slow=22,SNR=2.6							
JNU	**Nakatsue**	**9.71**	**272**	Pn		**P**	**10 11 57.5**	**-1.9**
	0.3nm,0.3s,baz=319,slow=11,SNR=2.6							
ASAJ	**Asahikawa**	**10.77**	**0**	P		**P**	**10 12 10.8**	**-3.0**
ASAJ							10 14 06.0	
ASAJ					pmax	pmax		
	comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**10.77**	**0**	Pn		**P**	**10 12 10.8**	**-3.1**
	comp=Z,0.8nm,0.3s,baz=347,slow=27,SNR=6.9							
ASAJ					Sn	**S**	**10 14 06.0**	**-9.0**
	comp=Z,0.2nm,0.3s,baz=329,slow=29,SNR=2.8							
KS15	**Wonju Array Si**	**12.59**	**293**	*e*Pn		**P**	**10 12 44.4**	**+6.0**
YSS	**Yuzh-Sakhalins**	**13.61**	**1**	*e*P		**P**	**10 12 48.6**	**-3.3**
CN2	**Changchun**	**16.89**	**313**	*e*P		**P**	**10 13 34.5**	**+0.1**
CN2					AMB	AMB		
	comp=Z,10.0nm,1.2s							
HIA	**Hailar**	**23.21**	**320**	*e*P		**P**	**10 14 44.2**	**+0.1**
HIA					pmax	pmax		
	comp=Z,11nm,1.0s							
HIA	**Hailar**	**23.21**	**320**	*e*P		**P**	**10 14 44.2**	**+0.1**
	comp=Z,11nm,1.0s,mb4.2							
CIT	**Chita**	**28.01**	**320**	*e*P		**P**	**10 15 32.6**	**+3.4**
CIT				*e*			10 15 43.3	
ENH	**Enshi**	**28.13**	**273**	*e*P		**P**	**10 15 29.0**	**-1.4**
	comp=Z,29nm,1.4s,mb4.7							
YAK	**Yakutsk**	**29.86**	**348**	P		**P**	**10 15 46.4**	**+0.7**
SONM	**Songino Array**	**30.68**	**309**	P		**P**	**10 15 54.4**	**+1.4**
	comp=Z,1.9nm,0.7s,mb4.0,baz=117,slow=8.3,SNR=10							
BOD	**Bodaibo**	**31.14**	**330**	*e*P		**P**	**10 15 56.2**	**-0.8**
BOD				*e*		pP	10 16 03.4	+0.9
BOD					pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.0							
ZAK	**Zakamensk**	**33.33**	**313**	*e*P		**P**	**10 16 20.3**	**+4.1**
ZAK					pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.6							
MKAR	**Makanchi Array**	**46.89**	**305**	P		**P**	**10 18 08.4**	**+0.1**
	comp=Z,2.6nm,0.9s,mb4.2,baz=90,slow=8.5,SNR=9.2							
ILAR	**Eielson Array**	**52.19**	**31**	P		**P**	**10 18 48.6**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.8,baz=260,slow=5.8,SNR=11							
WRA	**Warramunga Arr**	**53.54**	**190**	P		**P**	**10 18 57.6**	**-1.8**
	comp=Z,0.9nm,0.6s,mb3.9,baz=6.2,slow=7.8,SNR=21							
WRA					PcP	PcP	10 20 04.2	-1.9
	comp=Z,0.5nm,0.5s,baz=0.8,slow=4.2,SNR=5.8							
FITZ	**Fitzroy Crossi**	**53.61**	**200**	P		**P**	**10 18 58.7**	**-1.3**
	comp=Z,8.1nm,1.0s,mb4.6,slow=9.1,SNR=3.7							
INK	**Inuvik**	**57.31**	**26**	P		**P**	**10 19 26.5**	**+0.4**
INK					pmax	pmax		
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**57.31**	**26**	P		**P**	**10 19 26.5**	**+0.5**
	comp=Z,0.7nm,0.5s,mb3.9,baz=315,slow=5.7,SNR=3.5							
ARCES	**ARCESS Array B**	**67.76**	**340**	P		**P**	**10 20 34.6**	**-0.9**
ARCES					pmax	pmax		
	comp=Z,3.0nm,0.9s							
ARCES	**ARCESS Array B**	**67.76**	**340**	P		**P**	**10 20 34.6**	**-0.9**
	comp=Z,2.8nm,0.9s,mb4.3,baz=8.1,slow=17,SNR=3.2							
FINES	**FINESS Array B**	**72.49**	**333**	P		**P**	**10 21 03.5**	**-1.0**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**72.49**	**333**	P		**P**	**10 21 03.5**	**-1.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=135,slow=2.7,SNR=4.2							
AKASG	**Malin Array Be**	**77.76**	**323**	P		**P**	**10 21 34.3**	**-0.4**
	comp=Z,0.3nm,0.4s,mb3.6,baz=34,slow=3.3,SNR=5.3							
HFS	**Hagfors**	**77.82**	**336**	P		**P**	**10 21 35.0**	**+0.3**
HFS					pmax	pmax		
	comp=Z,2.0nm,0.8s							
HFS	**Hagfors**	**77.82**	**336**	P		**P**	**10 21 35.0**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=135,slow=4.2,SNR=4.4							
NB2	**NORSAR Subarra**	**77.93**	**338**	P		**P**	**10 21 35.9**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=40,slow=5.6							
NOA	**NORSAR Array B**	**77.93**	**338**	P		**P**	**10 21 36.3**	**+0.9**
NOA					pmax	pmax		
	comp=Z,2.0nm,0.8s							
NOA	**NORSAR Array B**	**77.93**	**338**	P		**P**	**10 21 36.3**	**+0.9**
	comp=Z,2.0nm,0.8s,mb4.1,baz=39,slow=5.7,SNR=7.2							
PDAR	**Pimedale Array**	**79.65**	**45**	P		**P**	**10 21 46.6**	**+1.5**
	comp=Z,0.3nm,0.7s,mb3.3,baz=284,slow=3.7,SNR=3.5							
BRTR	**Keskin Array B**	**81.97**	**313**	P		**P**	**10 21 59.6**	**+2.2**
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.9s							
BRTR	**Keskin Array B**	**81.97**	**313**	P		**P**	**10 21 59.6**	**+2.2**
	comp=Z,0.9nm,0.9s,mb3.7,baz=90,slow=5.8,SNR=2.5							
ASF	**Jabal al Asfar**	**84.31**	**305**	P		**P**	**10 22 10.2**	**+0.6**
	comp=Z,1.1nm,0.3s,mb4.4,baz=230,slow=2.4,SNR=3.9							
CLL	**Collm**	**84.74**	**331**	P		**P**	**10 22 12.0**	**+0.7**
TXAR	**Lajitas Array**	**91.67**	**53**	P		**P**	**10 22 46.1**	**+1.2**
	comp=Z,0.4nm,0.7s,mb3.8,baz=299,slow=3.4,SNR=6.9							

*IDC **26** 10:11:34.6±0.5,15.27S×173.37W,mb4.4/15,mb1 4.6/15, mb1mx4.5/22,mbtmp4.4/15,MS4.4/19,Ms1 4.4/19, ms1mx4.4/21,Error ellipse: s-maj=30.4km s-min=14.2km az=131.0*
*MOS **26** 10:11:38.6±1.5,15.32S×173.38W,h33km,mb5.2/11, MS4.6/12,Error ellipse: s-maj=17.8km s-min=12.0km az=51.9*
*HRVD **26** 10:11:39.8±0.3,15.26S×172.97W,h22km±1km,MW5.1/57, Centroid moment Tensor Solution. LP body waves: s34,c50;Mantle waves: s57,c102; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.40±.25; $M_{\theta\theta}$-0.09±.15; $M_{\phi\phi}$-3.32±.16; $M_{r\theta}$0.43±.27; $M_{\theta\phi}$0.80±.11; $M_{\phi r}$4.39±.35; Best double couple: M_o5.602×10^{16} NP1: ϕ_s153°,δ21°,λ64°. NP2:ϕ_s1°,δ71°,λ100°. Principal axes: T 5.665, Plg62°, Azm286°; N -.13, Plg9°, Azm178°; P -5.54, Plg26°, Azm84°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 10:11:39.8±0.2,15.19S×173.45W,mb5.0/34,MS4.7/95 Error ellipse: s-maj=11.2km s-min=5.1km az=135.0*
*BJI **26** 10:11:39.8,15.20S×173.40W,h36km,mB5.2,mb4.9, Ms5.0,Msz4.6*
ISC 26 10:11:38.2±0.3,15.31S±0.08×173.31W±0.08,h34km, h34km±1.4km:pP-P,n276,σ0693/119,mb4.8/48,MS4.7/113, 13C-7D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.04**	**47**	Pn		**P**	**10 12 04.8**	**-6.0**
	420nm,0.3s,baz=173,slow=1.2,SNR=509							
AFI					Sn	**S**	**10 12 23.6**	**-12**
AFI	**Afiamalu**	**2.04**	**47**	‖*i*Pn		**P**	**10 12 04.7**	**-6.0**
AFI				*e*Sn		**S**	**10 12 25.2**	**-10**
DZM	**Mont Dzumac**	**20.31**	**248**	*e*P		**P**	**10 16 20.0**	**+5.9**
DZM	**Mont Dzumac**	**20.31**	**248**	P		**P**	**10 16 10.8**	**-3.3**
	4.3nm,0.9s,baz=339,slow=16,SNR=2.0							
NOUC	**Port Laguerre**	**20.45**	**248**	*e*P		**P**	**10 16 17.4**	**+1.9**
PPT	**Papeete**	**22.87**	**99**	*e*LQ			10 20 48.8	
	1μm,29.8s							
PPT				*e*LR		LR	10 21 34.7	
	3μm,24.8s,baz=266							
PPT	**Papeete**	**22.87**	**99**	LR		LR	10 23 05.6	
	comp=Z,1μm,18.6s,MS4.4,baz=266,slow=30							
TBI	**Tubuai**	**23.86**	**113**	*e*LQ			10 21 26.9	
	1μm,29.8s							
TBI				*e*LR		LR	10 22 11.5	
	3μm,27.0s,baz=285							
URZ	**Urewera**	**24.38**	**199**	P		**P**	**10 16 54.1**	**-0.3**
	8.3m,0.5s,mb4.5,baz=40,slow=7.7,SNR=10							
HNR	**Honiara**	**26.75**	**279**	LR		LR	10 26 25.6	
	comp=Z,1μm,19.6s,MS4.5,baz=127,slow=33							
HNR	**Honiara**	**26.75**	**279**	PFAKE			10 17 30.0	+13
HNR				LR		LR		
	comp=Z,2μm,19.0s,MS4.6							
SNZO	**South Karori**	**27.91**	**200**	PFAKE			10 17 40.0	+13
SNZO				LR		LR		
	comp=Z,622nm,19.0s,MS4.2							
TAOE	**Nuku Hiva Isla**	**33.03**	**83**	*e*S		**S**	**10 23 08.4**	**-20**
	comp=Z,205nm,24.4s							
TAOE				*e*LR		LR	10 26 11.2	
	comp=Z,6μm,25.8s							
RKT	**Rikitea**	**36.94**	**108**	*e*LQ			10 26 58.0	
	comp=Z,255nm,28.2s							
RKT				*e*LR		LR	10 28 10.8	
	comp=Z,2μm,27.5s,baz=279							
CTA	**Charters Tower**	**38.75**	**257**	P		**P**	**10 19 00.1**	**-1.1**
	comp=Z,1.9nm,0.5s,mb4.1,baz=65,slow=13,SNR=3.3							
CTA						LR	10 32 32.6	
	comp=Z,1μm,20.7s,MS4.6,baz=78,slow=32							
CTAO	**Charters Tower**	**38.75**	**257**	*e*P		**P**	**10 19 00.4**	**-0.8**
CTAO					pmax	pmax		
	comp=Z,55nm,2.0s,mb4.9							
CTAO					MLR	MLR		
	comp=Z,1μm,20.0s,MS4.7							
CTAO	**Charters Tower**	**38.75**	**257**	*e*P		**P**	**10 19 00.4**	**-0.8**
	comp=Z,54nm,2.0s,mb4.9							
CTAO					LR	LR		
	comp=Z,1μm,20.0s,MS4.7							
PMG	**Port Moresby**	**39.01**	**274**	PFAKE			10 19 10.0	+6.6
PMG					LR	LR		
	comp=Z,605nm,19.0s,MS4.4							
STKA	**Stephens Creek**	**44.16**	**240**	*e*P		**P**	**10 19 44.9**	**-0.7**
	comp=Z,4.9nm,0.6s,mb4.4							
STKA	**Stephens Creek**	**44.16**	**240**	P		**P**	**10 19 44.5**	**-1.0**
	comp=Z,4.2nm,0.5s,mb4.4,baz=90,slow=7.8,SNR=7.2							
STKA						LR	10 35 56.7	
	comp=Z,478nm,20.8s,MS4.4,baz=37,slow=33							
WB2	**Warramunga Arr**	**49.94**	**257**	*e*P		**P**	**10 20 30.1**	**-1.0**
WRAB	**Tennant Creek**	**49.94**	**257**	*i* P		**P**	**10 20 29.3**	**-1.8**
WRAB	**Tennant Creek**	**49.94**	**257**	*e*P		**P**	**10 20 27.6**	**-3.5**
	comp=Z,11nm,0.7s,mb5.0							
WRAB						LR	LR	
	comp=Z,481nm,21.0s,MS4.5							
WRA	**Warramunga Arr**	**49.95**	**257**	P		**P**	**10 20 29.3**	**-1.9**
	comp=Z,4.0nm,0.4s,mb4.8,baz=91,slow=6.8,SNR=92							
KAKA	**Kakadu**	**52.59**	**266**	*e*P		**P**	**10 20 55.3**	**+4.1**
	comp=Z,8.3nm,0.7s,mb4.8							
CBIJ	**Chichi jima**	**60.35**	**314**	LR		LR	10 42 35.4	
	comp=Z,559nm,20.2s,MS4.7,baz=114,slow=31							
SBA	**Scott Base**	**63.35**	**185**	*e*P		**P**	**10 22 07.1**	**+1.1**
SBA					pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8							
SBA	**Scott Base**	**63.35**	**185**	*e*P		**P**	**10 22 07.1**	**+1.2**
	comp=Z,7.3nm,0.9s,mb4.8							
MBWA	**Marble Bar**	**63.47**	**254**	PFAKE			10 22 20.0	+13
MBWA				LR		LR		
	comp=Z,528nm,19.0s,MS4.7							
VNDA	**Vanda**	**63.48**	**186**	*e*P		**P**	**10 22 06.3**	**-0.5**
VNDA					pmax	pmax		
	comp=Z,2.0nm,0.7s							
VNDA					MLR	MLR		
	comp=Z,270nm,19.0s							
VNDA	**Vanda**	**63.48**	**186**	P		**P**	**10 22 07.1**	**+0.3**
	comp=Z,1.7nm,0.8s,mb4.2,baz=0.4,slow=7.3,SNR=11							
VNDA						LR	10 44 53.9	
	comp=Z,112nm,20.8s,MS4.0,baz=9.6,slow=32							
VNDA	**Vanda**	**63.48**	**186**	*e*P		**P**	**10 22 06.3**	**-0.5**
	comp=Z,2.1nm,0.7s,mb4.4							
VNDA					LR	LR		
	comp=Z,270nm,19.0s,MS4.4							
KLBR	**Kellerberrin**	**64.36**	**242**	*e*P		**P**	**10 22 11.5**	**-1.6**
	comp=Z,18nm,0.9s,mb5.1							
MAJO	**Matsushiro**	**68.92**	**320**	P		**P**	**10 22 39.3**	**-2.7**
MAJO					pmax	pmax		
	comp=Z,74nm,1.7s,mb5.3							
MAJO	**Matsushiro**	**68.92**	**320**	P		**P**	**10 22 39.3**	**-2.7**
	comp=Z,74nm,1.7s,mb5.3							
SNCC	**San Nicolas Is**	**70.45**	**46**	PFAKE			10 23 00.0	+8.6
SNCC				LR		LR		
	comp=Z,533nm,19.0s,MS4.8							
JOW	**Kunigami**	**70.50**	**306**	LR		LR	10 48 03.3	
	comp=Z,286nm,21.3s,MS4.5,baz=315,slow=31							
CASY	**Casey**	**70.53**	**205**	PFAKE			10 23 00.0	+8.8
CASY				LR		LR		
	comp=Z,396nm,22.0s,MS4.6							
SAO	**San Andreas Ge**	**71.20**	**42**	PFAKE			10 23 10.0	+14
SAO				LR		LR		
	comp=Z,539nm,19.0s,MS4.8							
ASAJ	**Asahikawa**	**71.50**	**328**	LR		LR	10 47 39.7	
	comp=Z,263nm,21.4s,MS4.5,baz=166,slow=30							
HOPS	**Hopland**	**71.55**	**39**	PFAKE			10 23 10.0	+12
HOPS				LR		LR		
	comp=Z,711nm,19.0s,MS5.0							
JNU	**Nakatsue**	**71.80**	**313**	LR		LR	10 47 49.9	
	comp=Z,195nm,20.0s,MS4.4,baz=38,slow=30							
PET	**Petropavlovsk**	**72.22**	**343**	PFAKE			10 23 10.0	+8.5
PET				LR		LR		
	comp=Z,131nm,21.0s,MS4.2							
ISA	**Isabella**	**72.53**	**44**	PFAKE			10 23 20.0	+16
ISA				LR		LR		
	comp=Z,163nm,20.0s,MS4.3							
CMB	**Columbia Colle**	**72.64**	**41**	PFAKE			10 23 20.0	+16
CMB				LR		LR		
	comp=Z,533nm,21.0s,MS4.8							
PFO	**Pinyon Flat Ob**	**72.80**	**47**	PFAKE			10 23 20.0	+15
PFO				LR		LR		
	comp=Z,164nm,21.0s,MS4.3							
WDC	**Whiskeytown Da**	**72.85**	**38**	PFAKE			10 23 20.0	+14
WDC				LR		LR		
	comp=Z,702nm,20.0s,MS4.9							
YSS	**Yuzh-Sakhalins**	**73.44**	**330**	*e*P		**P**	**10 23 10.0**	**+1.1**
YSS	**Yuzh-Sakhalins**	**73.44**	**330**	PFAKE			10 23 20.0	+11
YSS				LR		LR		
	comp=Z,300nm,19.0s,MS4.6							
DAC	**Darwin (Calif)**	**73.46**	**44**	PFAKE			10 23 20.0	+11
DAC				LR		LR		
	comp=Z,799nm,20.0s,MS5.0							
YBH	**Yreka Blue Hor**	**73.47**	**37**	P		**P**	**10 23 09.9**	**+0.6**
	comp=Z,4.2nm,0.9s,mb4.3,baz=220,slow=4.2,SNR=5.8							
YBH	**Yreka Blue Hor**	**73.47**	**37**	P		**P**	**10 23 09.9**	**+0.6**
YBH					LR	LR		
	comp=Z,450nm,20.0s,MS4.8							
HUMO	**Hull Mountain**	**73.88**	**36**	PFAKE			10 23 20.0	+8.4
HUMO				LR		LR		
	comp=Z,374nm,20.0s,MS4.7							
LDFC	**Landfair**	**74.52**	**46**	*e*P		**P**	**10 23 15.7**	**+0.2**
TPH	**Tonopah**	**74.71**	**43**	*e*P		**P**	**10 23 16.2**	**-0.3**
	comp=Z,29nm,1.5s,mb5.0							
TPH					LR	LR		
	comp=Z,665nm,21.0s,MS4.9							
QSPA	**South Pole Qui**	**74.74**	**180**	*e*P		**P**	**10 23 16.8**	**+1.0**
	comp=Z,12nm,0.9s,mb4.8							
COR	**Corvallis**	**74.95**	**35**	PFAKE			10 23 30.0	+12
COR				LR		LR		
	comp=Z,501nm,19.0s,MS4.8							
MOD	**Modoc**	**75.00**	**38**	PFAKE			10 23 30.0	+12
MOD				LR		LR		
	comp=Z,655nm,19.0s,MS5.0							
NEN	**Nelson**	**75.00**	**46**	*e*P		**P**	**10 23 17.5**	**-0.7**
BMN	**Battle Mountai**	**76.03**	**41**	PFAKE			10 23 40.0	+16
BMN				LR		LR		
	comp=Z,426nm,20.0s,MS4.8							
TUC	**Tucson**	**76.27**	**51**	*e*P		**P**	**10 23 25.4**	**-0.1**
TUC					pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7							
TUC					MLR	MLR		
	comp=Z,350nm,20.0s,MS4.7							
TUC	**Tucson**	**76.27**	**51**	*e*P		**P**	**10 23 25.4**	**-0.1**
	comp=Z,10nm,1.1s,mb4.7							
TUC					LR	LR		
	comp=Z,350nm,20.0s,MS4.7							
WVOR	**Wild Horse Val**	**76.31**	**38**	*e*P		**P**	**10 23 25.0**	**-0.5**
WVOR					pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8							
WVOR					MLR	MLR		
	comp=Z,796nm,19.0s,MS5.0							
WVOR	**Wild Horse Val**	**76.31**	**38**	*e*P		**P**	**10 23 25.0**	**-0.5**
	comp=Z,17nm,1.2s,mb4.8							
WVOR					LR	LR		
	comp=Z,796nm,19.0s,MS5.0							
ARUT	**Antelope Range**	**77.08**	**45**	*e*P		**P**	**10 23 29.6**	**-0.4**
ELK	**Elko**	**77.46**	**41**	*e*P		**P**	**10 23 31.8**	**-0.2**
ELK					pmax	pmax		
	comp=Z,16nm,1.4s							
ELK					MLR	MLR		
	comp=Z,379nm,20.0s							
ELK	**Elko**	**77.46**	**41**	*e*P		**P**	**10 23 31.8**	**-0.2**
	comp=Z,16nm,1.4s,mb4.8							
ELK					LR	LR		
	comp=Z,379nm,20.0s,MS4.7							
MSU	**Marysvale**	**78.30**	**45**	*e*P		**P**	**10 23 36.9**	**+0.3**
FIB	**Fire Island**	**78.42**	**11**	PFAKE			10 23 50.0	+13
FIB				LR		LR		
	comp=Z,1μm,20.0s,MS5.2							
BMO	**Blue Mountains**	**78.50**	**37**	*e*P		**P**	**10

comp=Z,271nm,18.1s,MS4.6,baz=293,slow=32
ANMO Albuquerque 80.68 50 *e*P **P 10 23 49.4 -0.2**
comp=Z,10nm,1.1s,mb4.7
ANMO LR LR
comp=Z,322nm,20.0s,MS4.7
TNA Tin City 80.73 2 PFAKE 10 24 00.0 +11
TNA LR LR
comp=Z,76nm,20.0s,MS4.0
MCK McKinley 81.02 11 *e*P **P 10 23 50.4 -0.4**
MCK pmax pmax
comp=Z,13nm,1.2s,mb4.7
MCK MLR MLR
comp=Z,110nm,20.0s,MS4.2
MCK McKinley 81.02 11 *e*P **P 10 23 50.4 -0.3**
comp=Z,13nm,1.2s,mb4.7
MCK LR LR
comp=Z,110nm,20.0s,MS4.2
CN2 Changchun 81.07 320 *e*P **P 10 23 53.0 +1.5**
CN2 *e*S S 10 33 58.0 +1.0
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,180nm,5.0s
CN2 LR LR
comp=N,350nm,16.0s,MS4.8
CN2 LR LR
comp=E,170nm,16.0s,MS4.8
CN2 LR LR
comp=Z,270nm,18.0s,MS4.6
GDL2 Guadalupe Moun 81.10 53 *e*P **P 10 23 52.0 +0.1**
MCMT McKenzie Canyo 81.13 39 *e*P **P 10 23 52.2 +0.5**
AHID Auburn Hatcher 81.15 41 PFAKE 10 24 00.0 +8.1
AHID LR LR
comp=Z,300nm,20.0s,MS4.7
RRI2 Red Ridge 81.31 41 *e*P **P 10 23 53.1 +0.4**
comp=Z,24nm,1.1s,mb5.0
CLNB Carlsbad 81.50 53 *e*P **P 10 23 53.9 -0.1**
MSO Missoula 81.56 37 *e*P **P 10 23 53.0 -1.0**
MSO LR LR
comp=Z,261nm,21.0s,MS4.6
DLBC Dease Lake 81.58 21 LR LR 10 51 55.3
comp=Z,159nm,20.3s,MS4.4,baz=266,slow=30
REDW Red Top Meadow 81.61 41 *e*P **P 10 23 53.8 -0.5**
comp=Z,29nm,1.3s,mb5.0
TPAW Teton Pass 81.61 41 *e*P **P 10 23 55.1 +0.8**
comp=Z,21nm,1.1s,mb5.0
SNOW Snow King Moun 81.72 41 *e*P **P 10 23 55.2 +0.3**
comp=Z,23nm,1.1s,mb5.0
CPRX Cap Rock 81.82 53 *e*P **P 10 23 55.1 -0.5**
IMW Indian Meadow 81.82 40 *e*P **P 10 23 55.4 0.0**
comp=Z,44nm,1.4s,mb5.2
MOOW Moose Ponds 81.87 41 *e*P **P 10 23 55.0 -0.7**
comp=Z,25nm,1.5s,mb4.9
LOHW Long Hollow 81.89 41 *e*P **P 10 23 54.5 -1.3**
comp=Z,20nm,1.3s,mb4.9
QLMT Earthquake Lak 81.99 39 *e*P **P 10 23 57.5 +1.3**
CHMT Chamberlain Mo 82.00 37 *e*P **P 10 23 56.2 -0.1**
BW06 Boulder Array 82.14 42 PFAKE 10 24 10.0 +13
BW06 LR LR
comp=Z,491nm,19.0s,MS4.9
PDAR Pinedale Array 82.14 42 P **P 10 23 56.7 -0.4**
comp=Z,5.9nm,1.1s,mb4.4,baz=225,slow=2.1,SNR=32
SMCO Snowmass 82.19 46 *e*P **P 10 23 57.7 +0.3**
YMR Madison River 82.20 40 *e*P **P 10 23 57.0 -0.3**
BOZ Bozeman (W) 82.29 39 PFAKE 10 24 10.0 +12
BOZ LR LR
comp=Z,380nm,20.0s,MS4.8
ILAR Eielson Array 82.34 11 P **P 10 23 57.5 -0.2**
comp=Z,2.0nm,0.8s,mb4.1,baz=213,slow=5.9,SNR=18
ILAR LR LR 10 59 08.3
comp=Z,54nm,18.6s,MS3.9,baz=356,slow=35
YNR Norris Junctio 82.40 40 *e*P **P 10 23 59.4 +1.1**
SEY Seymchan 82.45 345 *i* P **P 10 24 01.1 +2.9**
LKWY Lake 82.49 40 *e*P **P 10 24 00.5 +1.7**
LKWY *e**PP pP 10 24 11.8 +2.2
LKWY pmax pmax
comp=Z,37nm,1.4s,mb5.1
LKWY MLR MLR
comp=Z,320nm,21.0s,MS4.7
LKWY Lake 82.49 40 *e*P **P 10 24 00.5 +1.6**
comp=Z,37nm,1.4s,mb5.1
LKWY *e*pP pP 10 24 11.8 +2.1
LKWY LR LR
comp=Z,320nm,21.0s,MS4.7
SDCO Great Sand Dun 82.59 48 *e*P **P 10 23 59.2 -0.2**
comp=Z,18nm,1.2s,mb5.0
SDCO LR LR
comp=Z,382nm,20.0s,MS4.8
HRY Holter Researc 82.72 38 *e*P **P 10 23 59.3 -0.6**
WALA Waterton Lakes 82.79 35 *e*P **P 10 23 59.8 -0.4**
comp=Z,24nm,1.6s,mb5.0
QIZ Qiongzhong 82.95 292 PFAKE 10 24 10.0 +8.4
QIZ LR LR
comp=Z,282nm,22.0s,MS4.6
RWWY Rawlins 83.17 44 *e*P **P 10 24 02.0 -0.3**
comp=Z,64nm,1.3s,mb5.5
RWWY *e*pP pP 10 24 13.8 +0.6
DAWY Dawson 83.31 14 *e*P **P 10 24 02.3 -0.2**
PHWY Pilot Hill 84.17 45 *e*P **P 10 24 07.4 0.0**
BILL Bilibino 84.43 352 P **P 10 24 10.5 +2.4**
BILL pmax pmax
comp=Z,2.0nm,1.3s,mb4.1
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.3
BILL Bilibino 84.43 352 PFAKE 10 24 20.0 +12
BILL LR LR
comp=Z,263nm,21.0s,MS4.6
EDM Edmonton 85.36 31 *e*P **P 10 24 12.0 -1.1**
LAO LASA Array 86.08 39 *e*P **P 10 24 17.1 +0.3**
comp=Z,44nm,1.4s,mb5.5
LAO LR LR
comp=Z,231nm,19.0s,MS4.6
ENH Enshi 86.94 302 PFAKE 10 24 30.0 +8.6
ENH LR LR
comp=Z,214nm,21.0s,MS4.5
CBKS Cedar Bluff 87.17 49 PFAKE 10 24 30.0 +7.7
CBKS LR LR
comp=Z,242nm,19.0s,MS4.6
HIA Hailar 87.17 323 PFAKE 10 24 30.0 +8.0
HIA LR LR
comp=Z,451nm,21.0s,MS4.8
MAW Mawson 87.91 199 P **P 10 24 25.4 +0.3**
comp=Z,2.7nm,0.8s,mb4.6,baz=184,slow=4.6,SNR=7.9
MAW Mawson 87.91 199 P **P 10 24 25.4 +0.3**
MAW LR LR
comp=Z,439nm,20.0s,MS4.9
DGMT Dagmar 88.10 38 *e*P **P 10 24 26.2 -0.3**
comp=Z,26nm,1.1s,mb5.4
DGMT LR LR
comp=Z,545nm,22.0s,MS4.9
INK Inuvik 88.16 14 P **P 10 24 25.9 -0.5**
comp=Z,2.7nm,1.1s,mb4.4,baz=219,slow=4.9,SNR=3.7
INK LR LR 10 57 04.3
comp=Z,142nm,20.0s,MS4.4,baz=20,slow=31
NATX Nacogdoches 88.61 57 PFAKE 10 24 40.0 +11
NATX LR LR
comp=Z,430nm,21.0s,MS4.8
HHC Hu-ho-hao-te 89.03 313 *e*P **P 10 24 33.5 +2.4**
HHC AP pP 10 24 44.0 +1.9
HHC XP sP 10 24 48.0 +2.3
HHC PP PP 10 28 08.0 +4.5
HHC SKS SKS 10 35 00.3 +4.4
HHC S S 10 35 19.5 +4.6
HHC XS 10 35 37.5
HHC AMB AMB
comp=Z,19nm,1.3s,mb5.3
HHC AMB AMB
comp=Z,183nm,10.8s
HHC LR LR
comp=N,206nm,13.2s,MS4.8
HHC LR LR
comp=E,113nm,15.6s,MS4.8
HHC LR LR
comp=Z,123nm,14.4s,MS4.5
YAK Yakutsk 89.06 337 PFAKE 10 24 40.0 +9.2
YAK LR LR
comp=Z,139nm,20.0s,MS4.4
PLCA Paso Flores 89.51 132 LR LR 10 55 53.0
comp=Z,221nm,18.6s,MS4.6,baz=327,slow=30
PLCA Paso Flores 89.51 132 PFAKE 10 24 50.0 +17
PLCA LR LR
comp=Z,337nm,22.0s,MS4.7
YKA Yellowknife Ar 89.98 23 P **P 10 24 34.2 -0.9**
comp=Z,0.5nm,0.3s,mb4.3,baz=239,slow=4.5,SNR=9.7
YKA LR LR 10 58 52.1
comp=Z,194nm,19.8s,MS4.5,baz=265,slow=32
YKA Yellowknife Ar 89.98 23 P **P 10 24 34.2 -0.9**
YKA LR LR 10 58 52.1
KMI Kunming 91.06 296 P **P 10 24 42.3 +1.2**
KMI S S 10 35 32.3 -1.4
KMI AMB AMB
comp=Z,6.0nm,0.6s,mb5.1
KMI LR LR
comp=Z,165nm,34.6s,MS4.2
KMI Kunming 91.06 296 P **P 10 24 42.3 +1.2**
comp=Z,6.0nm,0.6s,mb5.1
KMI S S 10 35 32.3 -1.4
KMI LR LR
comp=Z,170nm,34.6s,MS4.2
JTS JuntasAbangare 91.11 80 PFAKE 10 24 50.0 +8.5
JTS LR LR
comp=Z,122nm,20.0s,MS4.3
FFC Flin Flon 91.98 33 PFAKE 10 25 00.0 +15
FFC LR LR
comp=Z,64nm,20.0s,MS4.1
SYO Syowa Base 92.71 191 ⇓*p*P pP 10 25 02.0 +3.4
VNA3 Neumayer Olymp 92.94 175 ⇑*i* **P 10 24 49.5 +0.9**
VNA3 Neumayer Olymp 92.94 175 *e* **P 10 24 52.0 +3.4**
VNA3 Neumayer Olymp 92.94 175 *e* **P 10 24 59.1 +10**
SNAA Sanae 93.00 177 ⇑*i* **P 10 24 51.8 +2.9**
SNAA Sanae 93.00 177 *e* **P 10 24 54.2 +5.3**
SNAA Sanae 93.00 177 *e* **P 10 25 00.5 +12**
SNAA Sanae 93.00 177 *i* P **P 10 24 48.6 -0.3**
NNA Nana 93.00 103 PFAKE 10 25 00.0 +10
NNA LR LR
comp=Z,61nm,20.0s,MS4.0
VNA2 Neumayer--Watz 93.44 175 ⇑*i* **P 10 24 51.8 +0.9**
VNA2 Neumayer--Watz 93.44 175 *e* **P 10 24 54.9 +4.0**
VNA2 Neumayer--Watz 93.44 175 *e* **P 10 25 00.8 +10**
OXF Oxford 93.63 55 PFAKE 10 25 00.0 +7.4
OXF LR LR
comp=Z,436nm,19.0s,MS4.9
VNA1 Neumayer--Stat 93.64 175 ⇑*i* **P 10 24 50.4 -1.4**
VNA1 Neumayer--Stat 93.64 175 *e* **P 10 24 53.3 +1.5**
VNA1 Neumayer--Stat 93.64 175 *e* **P 10 24 59.4 +7.6**
ULM Lac du Bonnet 93.81 39 P **P 10 24 51.8 -1.2**
comp=Z,1.0nm,0.3s,mb4.7,baz=226,slow=6.5,SNR=4.3
ULM Lac du Bonnet 93.81 39 P **P 10 24 51.8 -1.2**
ULM LR LR
comp=Z,501nm,20.0s,MS5.0
ULN Ulaanbaatar 94.42 318 PFAKE 10 25 10.0 +14
ULN LR LR
comp=Z,200nm,20.0s,MS4.6
PLAL Pickwick Lake 94.81 55 PFAKE 10 25 10.0 +12
PLAL LR LR
comp=Z,281nm,19.0s,MS4.8
SONM Songino Array 94.83 318 LR LR 11 02 44.2
comp=Z,122nm,20.6s,MS4.4,baz=84,slow=32
TIXI Tiksi 94.94 344 PFAKE 10 25 10.0 +12
TIXI LR LR
comp=Z,301nm,22.0s,MS4.7
LRAL Lakeview Retre 95.18 57 PFAKE 10 25 10.0 +10
LRAL LR LR
comp=Z,202nm,19.0s,MS4.6
WCI Wyandotte Cave 97.02 52 PFAKE 10 25 20.0 +12
WCI LR LR
comp=Z,313nm,20.0s,MS4.8
TLY Talaya 97.61 321 PFAKE 10 25 20.0 +10
TLY LR LR
comp=Z,51nm,20.0s,MS4.0
LPAZ La Paz 99.76 110 LR LR 10 59 43.0
comp=Z,148nm,21.9s,MS4.5,baz=256,slow=29
LPAZ La Paz 99.76 110 PFAKE 10 25 30.0 +9.2
LPAZ LR LR
comp=Z,235nm,20.0s,MS4.7
ROSC El Rosal 99.92 88 LR LR 11 00 24.0
comp=Z,131nm,21.8s,MS4.4,baz=238,slow=29
NHSC New Hope 100.77 59 PFAKE 10 25 40.0 +15
NHSC LR LR
comp=Z,279nm,19.0s,MS4.8
BLA Blacksburg 101.35 54 PFAKE 10 25 40.0 +12
BLA LR LR
comp=Z,407nm,19.0s,MS5.0
LSA Lhasa 102.14 298 PFAKE 10 25 40.0 +8.7
LSA LR LR
comp=Z,110nm,21.0s,MS4.3
MCWV Mont Chateau 102.23 52 PFAKE 10 25 40.0 +8.6
MCWV LR LR
comp=Z,479nm,21.0s,MS5.0
CBN Corbin 103.90 54 PFAKE 10 25 50.0 +11
CBN LR LR
comp=Z,511nm,21.0s,MS5.0
SDV Santo Domingo 104.45 85 PFAKE 10 25 50.0 +8.2
SDV LR LR
comp=Z,167nm,21.0s,MS4.5
SAML Samuel 106.71 104 PFAKE 10 30 10.0
SAML LR LR
comp=Z,196nm,20.0s,MS4.7
WMQ Urumqi 106.87 312 PDIF Pdif 10 25 51.3 -0.5
WMQ PP PP 10 30 19.8 -1.4
WMQ PP PP
comp=Z,49nm,10.1s
WMQ LR LR
comp=N,214nm,23.1s,MS4.8
WMQ LR LR
comp=E,188nm,24.1s,MS4.8
WMQ LR LR
comp=Z,322nm,24.6s,MS4.8
HRV Harvard--Oak R 108.78 50 PFAKE 10 30 20.0
HRV LR LR
comp=Z,464nm,20.0s,MS5.0
WES Weston 108.95 50 PFAKE 10 30 20.0
WES LR LR
comp=Z,2μm,21.0s,MS5.6
WVL Waterville 110.26 48 PFAKE 10 30 20.0 +13
WVL LR LR
comp=Z,3μm,20.0s,MS5.8
SJG San Juan 110.60 76 PFAKE 10 30 20.0 +12
SJG LR LR
comp=Z,164nm,20.0s,MS4.6
MKAR Makanchi Array 110.82 315 *i* PKIKP PKPdf 10 30 17.6 +10
PQI Presque Isle 111.44 46 PFAKE 10 30 20.0 +11
PQI LR LR
comp=Z,2μm,22.0s,MS5.7
EMMW East Machias 111.83 48 PFAKE 10 30 20.0 +10
EMMW LR LR
comp=Z,3μm,22.0s,MS5.8
SCHQ Schefferville 111.86 37 PFAKE 10 30 20.0 +11
SCHQ LR LR
comp=Z,142nm,20.0s,MS4.5
BRVK Borovoye 117.92 322 PFAKE 10 30 30.0 +8.8
BRVK LR LR
comp=Z,47nm,19.0s,MS4.1
ARU Arti 123.31 328 PFAKE 10 30 40.0 +8.3
ARU LR LR
comp=Z,54nm,20.0s,MS4.2
KEV Kevo 124.12 352 PFAKE 10 30 50.0 +17
KEV LR LR
comp=Z,98nm,20.0s,MS4.5
ARCES ARCESS Array B 124.53 352 PKP PKPdf 10 30 34.4 +0.7
comp=Z,2.3nm,0.9s,baz=27,slow=2.0,SNR=5.8
FINES FINESS Array B 131.87 348 PKP PKPdf 10 30 48.9 +1.0
comp=Z,0.3nm,0.4s,baz=180,slow=32,SNR=2.7
RCBR Riachuelo 132.87 113 PFAKE 10 31 00.0 +8.9
RCBR LR LR
comp=Z,361nm,20.0s,MS5.1
OBN Obninsk 134.06 337 PFAKE 10 31 00.0 +7.8
OBN LR LR
comp=Z,34nm,19.0s,MS4.1
HFS Hagfors 134.95 355 PKP PKPdf 10 30 56.5 +2.9
comp=Z,2.1nm,0.9s,baz=117,slow=9.7,SNR=2.7
HFS Hagfors 134.95 355 PKP PKPdf 10 30 56.5 +2.8
KONO Kongsberg 135.68 358 PFAKE 10 31 10.0 +15
KONO LR LR
comp=Z,114nm,19.0s,MS4.6
KIV Kislovodsk 138.18 320 PFAKE 10 31 10.0 +10
KIV LR LR
comp=Z,38nm,21.0s,MS4.1
GNI Garni 138.67 314 PFAKE 10 31 10.0 +8.9
GNI LR LR
comp=Z,113nm,22.0s,MS4.6
ESK Eskdalemuir 139.35 9 PFAKE 10 31 10.0 +8.2
ESK LR LR
comp=Z,49nm,19.0s,MS4.3
AKASG Malin Array Be 140.29 338 *i* PKIKP PKPdf 10 31 12.4 +8.7
AKASG Malin Array Be 140.29 338 PKP PKPdf 10 31 05.5 +1.9
comp=Z,0.2nm,0.4s,baz=45,slow=2.6,SNR=3.8
LSZ Lusaka 142.92 216 PFAKE 10 31 20.0 +11
LSZ LR LR
comp=Z,370nm,20.0s,MS5.1
CLL Collm 143.73 353 *e*PKIKP PKPdf 10 31 17.0 +7.4
CLL Collm 143.73 353 *e**PPKP 10 31 17.0
STHS Stebnicka Huta 143.96 344 *e*PKP PKPdf 10 31 12.5 +2.5
UPC Upice 144.09 350 *e*PKP PKPdf 10 31 09.7 -0.5
UPC *ep*PKP 10 31 18.2
DPC Dobruska-Polom 144.19 349 *e*PKP PKPdf 10 31 10.9 +0.5
BURAR Bucovina Array 144.31 338 ⇑P PKPbc 10 31 13.1 +2.8
BURAR Bucovina Array 144.31 338 ⇑P PKPbc 10 31 13.1 +2.9
OKC Ostrava-Krasne 144.32 347 *e*P PKPbc 10 31 12.3 +2.1
OKC *ep*P 10 31 21.9
MORC Moravsky Berou 144.50 348 *e*PKPdf PKPdf 10 31 12.5 +1.5
MOX Moxa 144.53 355 *e*P PKPbc 10 31 10.0 -0.7
MOX *e* 10 31 42.0
PRU Pruhonice 144.83 351 *e*PKP PKPdf 10 31 13.4 +1.8
PRU *ep*PKP 10 31 23.2
NKC Novy Kostel 144.85 354 *e*PKP PKPdf 10 31 11.7 +0.1
NKC *ep*PKP 10 31 23.3
KECS Kecovo 145.02 344 *e*PKP PKPdf 10 31 12.8 +0.8
KECS *e* 10 31 24.4
VRAC Vranov 145.14 349 PKPbc PKPbc 10 31 13.9 +1.5
comp=Z,2.1nm,0.3s,baz=351,slow=9.2,SNR=6.2
VRI Vrincioaia 145.20 335 ⇑P PKPdf 10 31 15.3 +2.9
VRI Vrincioaia 145.20 335 ⇑P PKPdf 10 31 15.3 +3.0
BAIF Baives 145.28 3 *e*PKIKP PKPdf 10 31 14.2 +1.9
VYHS Vyhne 145.43 346 *e*PKIKP PKPdf 10 31 15.2 +2.6
VYHS *e* 10 31 25.1
VYHS Vyhne 145.43 346 *e* PKPdf 10 31 15.2 +2.6
VYHS Vyhne 145.43 346 *e*PKP PKPdf 10 31 25.1 +12
KOLL Kolacno 145.45 346 *e*PKIKP PKPdf 10 31 15.4 +2.7
KOLL *e* 10 31 25.8
KOLL Kolacno 145.45 346 *e* PKPdf 10 31 15.4 +2.7
KOLL Kolacno 145.45 346 *e*PKP PKPdf 10 31 25.8 +13
GRA1 Grafenberg Arr 145.51 355 *e*PKP PKPdf 10 31 15.6 +2.9
GRA1 *e* 10 31 24.6
GRF Grafenberg Arr 145.51 355 *e*PKP PKPdf 10 31 15.6 +2.9
GRF *e* 10 31 24.6
TIRR Tirgusor 145.59 332 ⇓P PKPdf 10 31 17.2 +4.2
TIRR Tirgusor 145.59 332 ⇓P PKPdf 10 31 17.2 +4.1
HARR Harsova 145.63 333 ⇓P PKPdf 10 31 16.7 +3.6
HARR Harsova 145.63 333 ⇓P PKPdf 10 31 16.7 +3.6
KMBO Kilima Mbogo 145.65 244 PKPbc PKPbc 10 31 16.8 +1.9
comp=Z,3.5nm,1.0s,baz=74,slow=4.0,SNR=5.6
KHC Kasperske Hory 145.80 352 *i* PKP2 PKPab 10 31 16.5 +0.3
KHC Kasperske Hory 145.80 352 *e*PKP PKPdf 10 31 16.2 +2.9
KHC *ep*PKP 10 31 25.5
MLR Muntele Rosu 145.82 336 PKPbc PKPbc 10 31 17.0 +2.7
comp=Z,5.2nm,0.7s,baz=53,slow=1.2,SNR=9.3
MLR Muntele Rosu 145.82 336 ⇑P PKPdf 10 31 17.4 +4.0
MLR Muntele Rosu 145.82 336 ⇑P PKPdf 10 31 17.5 +4.1
ROSF Rostrenen 146.06 12 *e*PKIKP PKPdf 10 31 15.1 +1.4
comp=Z,85nm,1.3s
GERES GERESS Array B 146.06 352 PKPbc PKPbc 10 31 16.8 +2.1
comp=Z,3.2nm,0.9s,baz=45,slow=1.9,SNR=15
ZST Bratislava 146.10 347 *e*PKP PKPdf 10 31 18.5 +4.7
ZST *e* 10 31 27.8
BRTR Keskin Array B 146.14 321 PKPbc PKPbc 10 31 17.3 +2.1
comp=Z,8.3nm,0.9s,baz=63,slow=2.8,SNR=16
VOIR 146.22 336 ⇑P PKPdf 10 31 18.1 +4.0
VOIR 146.22 336 ⇑P PKPdf 10 31 18.1 +4.0
SGMF Saint Gilles 146.27 11 *e*PKIKP PKPdf 10 31 16.5 +2.4
comp=Z,56nm,1.2s
CDF Champ du Feu 146.99 359 *e*PKIKP PKPdf 10 31 18.8 +3.5
HAU Haudompre 147.39 0 *e*PKIKP PKPdf 10 31 18.8 +2.8
HAU *e*R
comp=Z,164nm,19.8s
LOR Lormes 148.05 4 *e*PKIKP PKPdf 10 31 19.8 +2.8
LOR *e*R
comp=Z,196nm,20.0s
SSF Saint Saulge 148.23 4 *e*PKIKP PKPdf 10 31 20.2 +2.9
comp=Z,14nm,1.0s
AVF Avril sur Loir 148.49 4 *e*PKIKP PKPdf 10 31 20.7 +2.9
DAVOX Davos 148.51 356 PKPbc PKPdf 10 31 23.1 +5.4
comp=Z,5.3nm,0.9s,baz=359,slow=16,SNR=4.6
SMF Signal de Mont 148.67 4 *e*PKIKP PKPdf 10 31 21.3 +3.3
BGF Bois d'Agland 148.68 5 *e*PKIKP PKPdf 10 31 21.2 +3.1
CABF La Chapelle 148.79 1 *e*PKIKP PKPdf 10 31 21.4 +3.2
comp=Z,18nm,1.2s
TCF Toulx Ste Croi 148.89 6 *e*PKIKP PKPdf 10 31 21.8 +3.4
DIVS Divcibare 149.15 341 ⇓*i* PKP PKPdf 10 31 25.5 +6.6
LPL La Plagne 149.89 360 *e*PKIKP PKPdf 10 31 23.3 +3.3
LPG La Plagne 149.90 360 *e*PKIKP PKPdf 10 31 23.8 +3.7
ORIF Oris-en-Rattie 150.48 1 *e*PKIKP PKPdf 10 31 23.9 +2.9
ORIF *e*R
comp=Z,210nm,21.8s
VIVF Saint-Julien-l 150.50 3 *e*PKIKP PKPdf 10 31 24.1 +3.1
MBDF Montbardon 150.68 360 *e*PKIKP PKPdf 10 31 24.3 +3.0
comp=Z,3.0nm,0.7s
LASF Ste Croix 151.22 4 *e*PKIKP PKPdf 10 31 24.7 +2.6
comp=Z,16nm,1.1s
SMRF Simiane la Rot 151.41 2 *e*PKIKP PKPdf 10 31 25.4 +3.0
MBAR Mbarara 151.45 239 PFAKE 10 31 40.0 +17
MBAR LR LR
comp=Z,73nm,21.0s,MS4.5
ESDC Sonseca Array 153.99 19 PKPbc PKPdf 10 31 38.2 +12
comp=Z,0.2nm,0.3s,baz=315,slow=2.1,SNR=2.9
ESDC PKPab PKPab 10 31 49.8 -0.3
comp=Z,0.5nm,0.3s,baz=342,slow=4.7,SNR=5.6
ESLA Sonseca Array 153.99 19 PFAKE 10 31 40.0 +14
ESLA LR LR
comp=Z,896nm,19.0s,MS5.6

SKO ***26*** *10:14:41.0, 41.82N×21.87E, h15km, ML2.7*
THE ***26*** *10:14:43.1, 41.90N×21.74E, h20km, ML3.0*
ISC 26 10:14:40.8±0.8, 41.84N±0.04×21.90E±0.05, h1km±7km, n13, σ0.9°72/23, 2C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKO	**Skopje**	**0.37**	**292**	*i* Pg	**Pg**	**10 14 48.5**	**+0.3**
SKO				⇑*i* Sg	**Sg**	**10 14 53.3**	**+0.2**
SKO				Smax		10 14 54.0	
	comp=Z,0.6nm,0.3s						
VAY	**Valandovo**	**0.72**	**135**	⇑*i* Pg	**Pg**	**10 14 54.8**	**-0.3**
VAY				*i* Sg	**Sg**	**10 15 05.1**	**+0.4**
GRG	**Griva**	**0.95**	**157**	*e*Pg	**Pg**	**10 14 59.7**	**-0.1**
GRG				*e*Sg	**Sg**	**10 15 15.2**	**+2.6**
GRG	**Griva**	**0.95**	**157**	*e*Pg	**Pg**	**10 14 59.7**	**-0.1**
GRG				*e*Sg	**Sg**	**10 15 15.1**	**+2.6**
FNA	**Florina**	**1.12**	**201**	*e*Pg	**Pg**	**10 15 02.2**	**-0.9**
FNA				*e*Sg	**Sg**	**10 15 17.9**	**-0.2**
FNA	**Florina**	**1.12**	**201**	*e*Pg	**Pg**	**10 15 02.2**	**-1.0**
FNA				*e*Sg	**Sg**	**10 15 17.9**	**-0.2**
SRS	**Serrai**	**1.46**	**119**	*e*Pg	**Pg**	**10 15 08.9**	**-0.9**
SRS				*e*Sg	**Sg**	**10 15 28.9**	**-0.5**
SRS	**Serrai**	**1.46**	**119**	*e*Pg	**Pg**	**10 15 08.9**	**-1.0**
SRS				*e*Sg	**Sg**	**10 15 28.9**	**-0.4**
ZAPS	**Zavoj/Pirot**	**1.55**	**20**	⇓*i* Pn	**Pn**	**10 15 10.5**	**+0.9**
ZAPS				Sn	**Sn**	**10 15 30.3**	**-0.3**
LIT	**Litokhoron**	**1.79**	**165**	*e*Pb	**Pb**	**10 15 13.3**	**-0.7**
OUR	**Ouranopolis**	**2.17**	**133**	*e*Pn	**Pn**	**10 15 19.0**	**+0.5**
PAIG	**Paliouri**	**2.33**	**144**	*e*Pn	**Pn**	**10 15 21.1**	**+0.3**
PAIG				*e*Sn	**Sn**	**10 15 50.3**	**-0.2**
XOR	**Xorichti**	**2.66**	**158**	*e*Pn	**Pn**	**10 15 25.3**	**0.0**

IDC ***26*** *10:14:48.8±1.1, 33.29N×142.48E, mb3.9/6, mb1 4.1/9, mb1mx3.9/21, mbtmp3.9/9, ML4.0/3, MS3.9/1, Ms1 3.9/1, ms1mx2.7/28, Error ellipse: s-maj=25.3km s-min=23.1km az=150.0*
JMA ***26*** *10:14:50.9±0.7, 33.33N×142.51E, h59km, M3.8*
NEIC ***26*** *10:14:53.0±6.2, 33.26N×142.39E, h27km±42km, mb4.0/2, Error ellipse: s-maj=30.2km s-min=19.3km az=85.0*
ISC 26 10:14:51.0±2.2, 33.43N±0.07×142.46E±0.07, h22km±16km, n27, σ1°91/34, mb4.0/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.73**	**315**	P	**Pn**	**10 15 20.8**	**+0.4**
BSO3	**Boso 3**	**2.12**	**311**	P	**Pn**	**10 15 26.6**	**+0.7**
JHJ2	**Mitsune**	**2.24**	**263**	P	**Pn**	**10 15 27.2**	**-0.4**
JHJ	**Hachijo jima 2**	**2.27**	**263**	Pn	**Pn**	**10 15 27.2**	**-0.8**
	107nm,0.3s,baz=90,slow=20,SNR=8.5						
JHJ				LR	LR	10 15 55.5	
	comp=Z,2μm,20.6s,baz=290,slow=30						
JHJ				Sn	**Sn**	**10 15 55.6**	**+0.1**
	47nm,0.3s,baz=247,slow=23,SNR=4.7						
BSO4	**Boso 4**	**2.35**	**312**	P	**Pn**	**10 15 30.4**	**+1.2**
JYT	**Yasato**	**3.36**	**327**	P	**Pn**	**10 15 44.2**	**+0.7**
JHO	**Hitachi**	**3.53**	**334**	P	**Pn**	**10 15 45.3**	**-0.7**
JHU	**Hanno**	**3.56**	**314**	P	**Pn**	**10 15 46.8**	**+0.3**
JHU				*e*S	**Sn**	**10 16 29.4**	**+1.0**
JFK	**Kawauchi**	**4.14**	**342**	P	**Pn**	**10 15 53.2**	**-1.4**

MJAR	**Matsushiro Arr**	**4.67**	**313**	Pn		**Pn**	**10 16 02.7**	**+0.5**
	6.1nm,0.3s,baz=162,slow=14,SNR=49							
MJAR				Sn		**Sn**	**10 16 55.4**	**-1.1**
	1.9nm,0.3s,baz=270,slow=29,SNR=5.4							
MJAR	**Matsushiro Arr**	**4.67**	**313**	Pn		**Pn**	**10 16 02.7**	**+0.5**
MJAR				Sn		**Sn**	**10 16 55.4**	**-1.1**
MAJO	**Matsushiro**	**4.67**	**313**	*e*Pn		**Pn**	**10 16 03.5**	**+1.3**
MAT	**Matsushiro**	**4.67**	**313**	*e*P		**Pn**	**10 16 02.0**	**-0.2**
MAT				*e*S		**Sn**	**10 16 55.0**	**-1.5**
MAT	**Matsushiro**	**4.67**	**313**	P		**Pn**	**10 16 02.3**	**+0.1**
MAT				S		**Sn**	**10 16 54.9**	**-1.6**
ASAJ	**Asahikawa**	**10.67**	**1**	Pn		**P**	**10 17 23.1**	**-2.7**
	1.3nm,0.3s,baz=222,slow=12,SNR=7.6							
ASAJ				Sn		**S**	**10 19 19.3**	**-6.4**
	0.5nm,0.3s,baz=30,slow=30,SNR=3.1							
ULN	**Ulaanbaatar**	**30.19**	**309**	*e*P		**P**	**10 20 52.4**	**-10**
	1.8nm,0.4s,mb4.2							
SONM	**Songino Array**	**30.61**	**309**	P		**P**	**10 21 09.6**	**+4.0**
	0.8nm,0.5s,mb3.9,baz=113,slow=9.4,SNR=13							
ZAL	**Zalesovo**	**45.03**	**315**	P		**P**	**10 23 14.9**	**+8.2**
	1.7nm,0.4s,mb4.3,baz=129,slow=5.4,SNR=3.3							
MKAR	**Makanchi Array**	**46.83**	**305**	P		**P**	**10 23 21.6**	**+0.7**
	3.1nm,0.7s,mb4.4,baz=91,slow=9.5,SNR=8.7							
WRA	**Warramunga Arr**	**53.63**	**190**	P		**P**	**10 24 10.8**	**-2.5**
	1.1nm,0.7s,mb3.9,baz=8.0,slow=7.6,SNR=9.4							
YKA	**Yellowknife Ar**	**66.50**	**30**	P		**P**	**10 25 41.3**	**+0.5**
	0.4nm,0.3s,mb3.9,baz=301,slow=7.5,SNR=4.8							
YKA	**Yellowknife Ar**	**66.50**	**30**	P		**P**	**10 25 41.3**	**+0.5**
HFS	**Hagfors**	**77.72**	**336**	P		**P**	**10 26 47.8**	**+0.4**
	2.1nm,0.9s,mb4.1,baz=108,slow=9.1,SNR=4.2							
NB2	**NORSAR Subarra**	**77.84**	**338**	P		**P**	**10 26 48.4**	**+0.4**
	0.5nm,0.6s,mb3.6,baz=39,slow=5.8							
NOA	**NORSAR Array B**	**77.84**	**338**	P		**P**	**10 26 47.5**	**-0.5**
	1.1nm,0.8s,mb3.9,baz=38,slow=5.6,SNR=4.2							
CLL	**Collm**	**84.65**	**331**	P		**P**	**10 27 24.0**	**0.0**
TXAR	**Lajitas Array**	**91.62**	**53**	P		**P**	**10 27 58.9**	**+1.0**
	0.3nm,0.6s,mb3.8,baz=311,slow=3.0,SNR=5.5							

IDC 26 10:17:16.5±2.0, 7.36N×91.49E, mb3.6/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.6/4, MS3.3/1, Ms1 3.3/1, ms1mx2.9/17, Error ellipse: s-maj=73.0km s-min=31.5km az=55.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.08**	**350**	P	P	10 24 54.8	-0.6
	0.9nm,0.8s,baz=153,slow=9.7,SNR=4.3						
SONM	**Songino Array**	**42.28**	**15**	P	P	10 25 11.1	-2.3
	0.7nm,0.8s,baz=191,slow=7.3,SNR=3.7						
WRA	**Warramunga Arr**	**50.13**	**124**	P	P	10 26 14.1	-1.9
	0.5nm,0.9s,baz=306,slow=8.8,SNR=4.8						
IDI	**Anoyia**	**66.71**	**305**	LR	LR	10 56 29.6	
	comp=Z,20nm,20.7s,baz=84,slow=35						
GERES	**GERESS Array B**	**76.47**	**318**	P	P	10 29 07.9	-2.0
	0.4nm,0.5s,baz=124,slow=4.8,SNR=4.1						

*NEIC **26** 10:31:20.5±3.2, 10.93N×58.06E, h10km, mb4.6/9, Error ellipse: s-maj=71.5km s-min=17.8km az=170.0*
*IDC **26** 10:31:32.0±1.1, 12.82N×58.16E, mb4.0/13, mb1 4.1/13, mb1mx4.0/20, mbtmp4.0/13, MS3.7/5, Ms1 3.7/5, ms1mx3.4/19, Error ellipse: s-maj=25.8km s-min=20.8km az=144.0*
ISC 26 10:31:28.7±1.1, 12.4N±0.2×57.9E±0.1, h10km, n47, σ1§86/43, mb4.2/24, MS3.7/5, 6C-4D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRN	**Al-Qurain**	**18.74**	**332**	*e*P	**P**	**10 35 50.5**	**+0.5**
QRN				AMb	AMB	10 35 53.3	
	comp=Z,112nm,0.8s						
RDF	**Al-Radifah**	**19.07**	**331**	*e*P	**P**	**10 35 54.3**	**+0.5**
RDF				AMb	AMB	10 36 03.6	
	comp=Z,111nm,0.9s						
KBD	**Kabd**	**19.21**	**332**	*e*P	**P**	**10 35 56.5**	**+0.9**
KBD				AMb	AMB	10 35 59.1	
	comp=Z,236nm,0.8s						
KMBO	**Kilima Mbogo**	**24.48**	**238**	P	**P**	**10 36 58.8**	**+9.3**
	comp=Z,2.6nm,0.9s,mb3.7,baz=43,slow=14,SNR=4.4						
ASF	**Jabal al Asfar**	**27.55**	**319**	LR	LR	10 48 40.8	
	comp=Z,168nm,19.7s,MS3.6,baz=68,slow=38						
MALT	**Malatya**	**31.10**	**330**	*e*P	**P**	**10 37 52.9**	**+3.4**
	comp=Z,3.7nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**34.64**	**326**	P	**P**	**10 38 21.2**	**+0.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=153,slow=11,SNR=5.6						
IDI	**Anoyia**	**37.53**	**313**	P	**P**	**10 38 49.8**	**+4.9**
	comp=Z,17nm,0.9s,mb4.8,baz=119,slow=9.3,SNR=4.7						
MKAR	**Makanchi Array**	**39.99**	**26**	P	**P**	**10 39 05.4**	**+0.1**
	comp=Z,0.7nm,0.3s,mb3.9,baz=212,slow=6.6,SNR=18						
TIRR	**Tirgusor**	**40.72**	**327**	⇓P	**P**	**10 39 13.7**	**+2.4**
TIRR	**Tirgusor**	**40.72**	**327**	⇓P	**P**	**10 39 13.7**	**+2.4**
BVAR	**Borovoye Array**	**41.76**	**11**	P	**P**	**10 39 19.9**	**+0.2**
	comp=Z,1.0nm,0.5s,mb3.7,baz=234,slow=38,SNR=3.8						
VRI	**Vrincioaia**	**42.55**	**328**	⇑P	**P**	**10 39 30.1**	**+3.8**
VRI	**Vrincioaia**	**42.55**	**328**	⇑P	**P**	**10 39 30.1**	**+3.8**
MLR	**Muntele Rosu**	**42.72**	**327**	P	**P**	**10 39 30.7**	**+3.0**
	comp=Z,4.1nm,0.7s,mb4.8,baz=102,slow=4.8,SNR=9.3						
MLR	**Muntele Rosu**	**42.72**	**327**	⇑P	**P**	**10 39 31.8**	**+4.1**
MLR	**Muntele Rosu**	**42.72**	**327**	⇑P	**P**	**10 39 31.8**	**+4.1**
VOIR		**43.16**	**326**	⇓P	**P**	**10 39 34.3**	**+2.9**
VOIR		**43.16**	**326**	⇓P	**P**	**10 39 34.3**	**+3.0**
BURAR	**Bucovina Array**	**44.48**	**329**	⇑P	**P**	**10 39 44.7**	**+2.7**
BURAR	**Bucovina Array**	**44.48**	**329**	⇑P	**P**	**10 39 44.7**	**+2.7**
AKASG	**Malin Array Be**	**44.79**	**334**	P	**P**	**10 39 44.9**	**+0.5**
	comp=Z,2.2nm,0.8s,mb4.1,baz=140,slow=7.8,SNR=9.6						
ZAL	**Zalesovo**	**46.61**	**22**	P	**P**	**10 39 57.6**	**-1.2**
	comp=Z,1.8nm,0.7s,mb4.1,baz=258,slow=5.2,SNR=9.8						
LBTB	**Lobatse**	**48.71**	**220**	LR	LR	10 59 13.4	
	comp=Z,118nm,18.0s,MS3.9,baz=130,slow=34						
MORC	**Moravsky Berou**	**49.83**	**327**	*e*P	**P**	**10 40 24.7**	**+0.8**
	comp=Z,7.8nm,0.9s,mb4.7						
GERES	**GERESS Array B**	**51.47**	**324**	P	**P**	**10 40 35.9**	**-0.5**
	comp=Z,0.2nm,0.3s,mb3.6,baz=180,slow=2.7,SNR=3.6						
GERES				LR	LR	11 04 35.9	
	comp=Z,38nm,18.7s,MS3.4,baz=174,slow=39						
BOSA	**Boshof**	**51.54**	**217**	LR	LR	11 00 00.1	
	comp=Z,133nm,18.0s,MS4.0,baz=164,slow=33						
PGF	**Pioggiola**	**51.80**	**315**	*e*P	**P**	**10 40 36.8**	**-2.2**
	comp=Z,13nm,0.9s,mb4.5						
SONM	**Songino Array**	**53.59**	**39**	P	**P**	**10 40 51.8**	**-0.4**
	comp=Z,1.0nm,0.9s,mb3.8,baz=243,slow=8.3,SNR=7.3						
FRF	**La Foret Royal**	**53.77**	**315**	*e*P	**P**	**10 40 51.2**	**-2.4**
	comp=Z,15nm,1.1s,mb4.5						
MBDF	**Montbardon**	**54.07**	**317**	*e*P	**P**	**10 40 54.2**	**-1.6**
FINES	**FINESS Array B**	**54.13**	**342**	P	**P**	**10 40 54.8**	**-1.3**
	comp=Z,2.1nm,0.9s,mb4.1,baz=141,slow=12,SNR=5.2						
LPG	**La Plagne**	**54.35**	**318**	*e*P	**P**	**10 40 56.0**	**-1.9**
	comp=Z,12nm,0.8s,mb4.6						
LPL	**La Plagne**	**54.37**	**318**	*e*P	**P**	**10 40 56.1**	**-1.9**
	comp=Z,7.4nm,0.8s,mb4.3						
CDF	**Champ du Feu**	**55.10**	**321**	*e*P	**P**	**10 41 01.6**	**-1.8**
CABF	**La Chapelle**	**55.18**	**319**	*e*P	**P**	**10 41 02.2**	**-1.8**
	comp=Z,41nm,1.2s,mb5.0						
LOR	**Lormes**	**56.84**	**319**	*e*P	**P**	**10 41 13.9**	**-2.0**
	comp=Z,8.9nm,0.8s,mb4.5						
LOR				*e*R			
	comp=Z,58nm,20.5s						
SSF	**Saint Saulge**	**57.00**	**319**	*e*P	**P**	**10 41 14.5**	**-2.5**
BGF	**Bois d'Agland**	**57.27**	**318**	*e*P	**P**	**10 41 16.7**	**-2.3**
	comp=Z,4.8nm,0.5s,mb4.5						
BAIF	**Baives**	**57.59**	**322**	*e*P	**P**	**10 41 19.1**	**-2.0**
NOA	**NORSAR Array B**	**59.17**	**336**	LR	LR	11 09 31.1	
	comp=Z,27nm,20.0s,MS3.4,baz=125,slow=39						
FLN	**La Foliniere**	**60.07**	**319**	*e*P	**P**	**10 41 35.9**	**-2.5**
FLN				*e*R			
	comp=Z,39nm,22.0s						
ARCES	**ARCESS Array B**	**60.68**	**348**	P	**P**	**10 41 41.0**	**-1.3**
	comp=Z,1.5nm,0.8s,mb4.2,baz=174,slow=8.2,SNR=4.8						
ARCES	**ARCESS Array B**	**60.68**	**348**	P	**P**	**10 41 41.0**	**-1.3**
DBIC	**Dimbokro**	**62.02**	**271**	P	**P**	**10 41 57.0**	**+4.9**
	comp=Z,5.5nm,0.9s,mb4.7,baz=54,slow=3.5,SNR=3.3						
EVO	**Evora**	**63.56**	**307**	*e*P	**P**	**10 42 00.5**	**-1.5**
	comp=Z,9.3nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**81.78**	**112**	P	**P**	**10 43 51.8**	**+2.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=296,slow=4.4,SNR=7.0						

*IDC **26** 10:44:37.6±0.9, 45.34N×112.77W, mb1 3.5/5, mb1mx3.4/25, mbtmp3.1/5, ML3.6/5, Error ellipse: s-maj=15.9km s-min=7.4km az=55.0*
NEIC 26 10:44:37.0, 45.35N×112.59W, h14km, ML3.4(BUT), After BUT., Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCMT	**McKenzie Canyo**	**0.55**	**199**	*e*P	Pb	10 44 48.2	+0.3
BOZ	**Bozeman (W)**	**0.74**	**66**	*e*P	Pb	10 44 51.2	+0.1
QLMT	**Earthquake Lak**	**0.97**	**122**	*e*P	Pb	10 44 55.4	+0.3
YMR	**Madison River**	**1.34**	**120**	*e*P	Pn	10 45 02.2	+0.9
HRY	**Holter Researc**	**1.46**	**21**	*e*P	Pn	10 45 04.0	+0.8
YNR	**Norris Junctio**	**1.50**	**114**	*e*P	Pn	10 45 05.1	+1.5
YFT	**Old Faithful**	**1.54**	**125**	*e*P	Pn	10 45 06.0	+1.8
CHMT	**Chamberlain Mo**	**1.63**	**344**	*e*P	Pn	10 45 06.6	+1.1
LKWY	**Lake**	**1.74**	**116**	Pn	Pn	10 45 07.1	-0.1
MSO	**Missoula**	**1.75**	**328**	*e*Pn	Pn	10 45 07.8	+0.5
IMW	**Indian Meadow**	**1.87**	**140**	*e*Pn	Pn	10 45 10.9	+1.9
MOOW	**Moose Ponds**	**2.08**	**140**	*e*Pn	Pn	10 45 13.7	+1.8
GCMT	**Greycliff**	**2.10**	**77**	*e*Pn	Pn	10 45 13.3	+1.1
TPAW	**Teton Pass**	**2.20**	**147**	*e*Pn	Pn	10 45 15.3	+1.7
RRI2	**Red Ridge**	**2.20**	**155**	*e*Pn	Pn	10 45 15.0	+1.3
LOHW	**Long Hollow**	**2.25**	**140**	*e*Pn	Pn	10 45 16.6	+2.3
SNOW	**Snow King Moun**	**2.30**	**144**	*e*Pn	Pn	10 45 17.8	+2.7
REDW	**Red Top Meadow**	**2.35**	**147**	*e*Pn	Pn	10 45 16.2	+0.4
AHID	**Auburn Hatcher**	**2.80**	**157**	Pn	Pn	10 45 21.6	-0.6
BMO	**Blue Mountains**	**3.38**	**263**	*e*Pn	Pn	10 45 30.3	-0.2
PDAR	**Pinedale Array**	**3.38**	**139**	Pn	Pn	10 45 35.9	+5.4
	1.2nm,0.3s,baz=321,slow=13,SNR=29						
PDAR				Lg		10 46 26.1	
	2.4nm,0.3s,baz=349,slow=30,SNR=6.5						
HVU	**Hansel Valley**	**3.57**	**182**	*e*Pn	Pn	10 45 32.7	-0.5
HWUT	**Hardware Ranch**	**3.81**	**168**	Pn	Pn	10 45 36.0	-0.6
WALA	**Waterton Lakes**	**3.82**	**347**	*e*Pn	Pn	10 45 37.3	+0.6
SPUT	**South Promonto**	**4.04**	**178**	Pn	Pn	10 45 40.0	+0.1
NEW	**Newport**	**4.26**	**315**	Pn	Pn	10 45 43.2	+0.2
	1.9nm,0.3s,baz=131,slow=12,SNR=23						
NEW				Lg		10 46 50.3	
	21nm,0.3s,baz=56,slow=21,SNR=11						
NEW	**Newport**	**4.26**	**315**	*e*Pn	Pn	10 45 41.9	-1.2
TCUT	**Toone Canyon**	**4.32**	**168**	Pn	Pn	10 45 44.6	+0.8
BGU	**Big Grassy Mou**	**4.43**	**184**	Pn	Pn	10 45 46.2	+0.7
LAO	**LASA Array**	**4.63**	**71**	*e*Pn	Pn	10 45 47.5	-0.8
CTU	**Camp Tracy**	**4.70**	**172**	Pn	Pn	10 45 49.2	+0.1
NOQ	**North Oquirrh**	**4.71**	**176**	*e*Pn	Pn	10 45 47.2	-2.1
JLU	**Jordanelle**	**4.82**	**170**	Pn	Pn	10 45 50.6	-0.3
ELK	**Elko**	**5.00**	**204**	Pn	Pn	10 45 55.2	+1.8
	0.4nm,0.3s,baz=20,slow=12,SNR=7.5						
ELK				Lg		10 47 12.1	
	3.6nm,0.3s,baz=141,slow=18,SNR=5.4						
ELK	**Elko**	**5.00**	**204**	*e*Pn	Pn	10 45 51.6	-1.9
DAU	**Daniels Canyon**	**5.03**	**168**	Pn	Pn	10 45 53.2	-0.7
WVOR	**Wild Horse Val**	**5.25**	**238**	*e*Pn	Pn	10 45 56.7	-0.4
RWWY	**Rawlins**	**5.36**	**131**	Pn	Pn	10 45 55.9	-2.7
MPU	**Maple Canyon**	**5.38**	**172**	Pn	Pn	10 45 56.6	-2.2
NLU	**North Lily Min**	**5.41**	**176**	Pn	Pn	10 45 55.6	-3.6
BMN	**Battle Mountai**	**5.98**	**216**	Pn	Pn	10 46 06.6	-0.6
SRU	**San Rafael**	**6.42**	**165**	Pn	Pn	10 46 11.7	-1.8
DGMT	**Dagmar**	**6.54**	**59**	*e*Pn	Pn	10 46 14.2	-1.1
MSU	**Marysvale**	**6.84**	**177**	Pn	Pn	10 46 16.7	-2.7
SMCO	**Snowmass**	**7.44**	**144**	Pn	Pn	10 46 24.9	-2.9
ARUT	**Antelope Range**	**7.58**	**185**	Pn	Pn	10 46 25.1	-4.8
EDM	**Edmonton**	**7.89**	**357**	*e*Pn	Pn	10 46 29.9	-4.3
YKA	**Yellowknife Ar**	**17.22**	**357**	Pn	P	10 48 34.4	-4.0
	0.1nm,0.3s,baz=174,slow=12,SNR=2.7						
YKA				Lg		10 53 33.5	
	0.1nm,0.3s,baz=173,slow=27,SNR=5.4						
TXAR	**Lajitas Array**	**17.47**	**153**	Pn	P	10 48 46.3	+4.5
	0.0nm,0.3s,baz=335,slow=13,SNR=2.8						

*CSEM **26** 10:46:31.9±0.1, 29.70N×52.04E, h8km, ML3.5, Error ellipse: s-maj=3.9km s-min=3.0km az=16.0*
*TEH **26** 10:46:32.8, 29.68N×52.02E, h10km, Mn3.5*
*KISR **26** 10:46:33.9±1.2, 29.89N×51.91E, h33km, ML3.4*
*THR **26** 10:46:35.0±0.5, 29.83N×52.57E, h14km±11km, ML3.5*
ISC 26 10:46:32.3±0.4, 29.67N±0.04×52.04E±0.03, h14km, n23, σ1§37/27, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.41**	**93**	Pg	**Pg**	**10 46 40.6**	**-0.3**
IMOK	**Mook**	**0.85**	**136**	Pg	**Pg**	**10 46 48.9**	**-0.6**
IPAR	**Pars**	**0.89**	**78**	Pg	**Pg**	**10 46 50.1**	**-0.2**
GHIR	**Ghir-Karzin**	**1.60**	**149**	*e*PG	**Pg**	**10 47 03.9**	**-0.5**
GHIR				*e*SG	**Sg**	**10 47 25.3**	**-0.6**
GHIR				AML	AML	10 47 42.5	
	comp=N,631nm,0.7s						
IGAR	**Garneh**	**2.57**	**3**	Pn	**Pn**	**10 47 15.1**	**+0.8**
ISAD	**Sadrabad**	**2.65**	**32**	Pn	**Pn**	**10 47 18.3**	**+2.9**
IMEH	**Mehriz**	**2.81**	**52**	Pn	**Pn**	**10 47 20.1**	**+2.5**
NASN	**Na'in**	**3.19**	**12**	*e*PN	**Pn**	**10 47 23.9**	**+0.7**
IZEF	**Zefreh**	**3.23**	**4**	Pn	**Pn**	**10 47 21.2**	**-2.5**
ICHK	**Chekchek**	**3.27**	**38**	Pn	**Pn**	**10 47 26.7**	**+2.4**
IBAF	**Bafgh**	**3.59**	**57**	Pn	**Pn**	**10 47 30.7**	**+1.9**
IKLH	**Kalahroud**	**3.66**	**354**	Pn	**Pn**	**10 47 28.6**	**-1.2**
SHGO	**Shushtar**	**3.70**	**312**	*e*Pn	**Pn**	**10 47 37.5**	**+7.1**
QRN	**Al-Qurain**	**3.72**	**257**	*e*P	**Pn**	**10 47 31.2**	**+0.5**
QRN				AML	AML	10 48 14.8	
	comp=Z,40nm,0.4s						
QRN				*e*S	**Sn**	**10 48 15.5**	**+0.8**
QRN	**Al-Qurain**	**3.72**	**257**	*e*P	**Pn**	**10 47 31.2**	**+0.5**
QRN				*e*S	**Sn**	**10 48 15.5**	**+0.8**
KBD	**Kabd**	**3.83**	**264**	*e*P	**Pn**	**10 47 33.6**	**+1.4**
KBD				*e*S	**Sn**	**10 48 16.6**	**-0.8**
KBD				AML	AML	10 48 25.5	
	comp=Z,128nm,0.3s						
RDF	**Al-Radifah**	**3.99**	**260**	*e*P	**Pn**	**10 47 35.3**	**+0.8**
RDF				*e*S	**Sn**	**10 48 22.0**	**+0.3**
RDF				AML	AML	10 48 22.8	
	comp=Z,59nm,0.7s						
BNDS	**Bandar-Abbas**	**4.28**	**121**	*e*PN	**Pn**	**10 47 38.1**	**-0.4**
BNDS				AML	AML	10 48 33.1	
	comp=N,48nm,0.5s						
IVRN	**Varamin**	**5.32**	**357**	Lg		10 49 18.4	
IVRN	**Varamin**	**5.32**	**357**	Pn	**Pn**	**10 47 51.8**	**-1.5**
IDMV	**Damavand**	**5.89**	**360**	Pn	**Pn**	**10 47 58.7**	**-2.7**
IKOM	**Komasi**	**5.92**	**321**	Pn	**Pn**	**10 47 55.9**	**-5.9**
IDHR	**Dehrash**	**6.94**	**318**	Pn	**Pn**	**10 48 13.5**	**-2.7**

WEL 26 11:32:55.6±0.6, 36.70S×177.07E, h245km±5km, ML3.5/13, Error ellipse: s-maj=10.4km s-min=7.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.32**	**132**	PN	P	11 33 31.8	-0.6
MXZ				SN	S	11 34 00.7	-0.3
URZ	**Urewera**	**1.56**	**179**	PN	P	11 33 34.1	-0.1
URZ				SN	S	11 34 04.0	-0.3
PUZ	**Puketiti**	**1.67**	**146**	PN	P	11 33 34.9	-0.2
PUZ				SN	S	11 34 04.0	-1.8
MWZ	**Matawai**	**1.68**	**167**	PN	P	11 33 35.3	+0.2
KNZ	**Kokohu**	**2.37**	**168**	PN	P	11 33 41.3	-0.3
BKZ	**Black Stump Fm**	**2.51**	**190**	PN	P	11 33 42.4	-0.6
PWZ	**Pawanui**	**3.33**	**183**	PN	P	11 33 50.8	-1.1
TSZ	**Takapari Road**	**3.47**	**194**	PN	P	11 33 52.3	-1.2
MRZ	**Mangatainoka R**	**4.13**	**196**	PN	P	11 33 59.2	-2.0
MTW	**Mount Morrison**	**4.62**	**195**	PN	P	11 34 05.1	-2.0
NNZ	**Nelson**	**5.35**	**211**	PN	P	11 34 13.4	-2.8
QRZ	**Quartz Range**	**5.44**	**219**	PN	P	11 34 15.0	-2.2
THZ	**Tophouse**	**6.00**	**211**	PN	P	11 34 21.1	-3.1
KHZ	**Kahutara**	**6.33**	**204**	PN	P	11 34 26.0	-2.3
LTZ	**Lake Taylor**	**7.11**	**210**	PN	P	11 34 35.7	-2.5

*BJI **26** 12:11:43.9, 52.49N×160.44E, h41km, mB4.7, mb4.5, Ms5.6, Msz5.3*
*MOS **26** 12:11:44.2±1.1, 52.70N×160.31E, h23km, mb4.9/25, Error ellipse: s-maj=10.0km s-min=5.1km az=96.5*
*IDC **26** 12:11:46.9±0.6, 52.91N×159.99E, h28km±3km, mb4.2/21, mb1 4.4/23, mb1mx4.3/28, mbtmp4.4/23, ML4.3/2, Error ellipse: s-maj=15.4km s-min=9.8km az=160.0*
*KRSC **26** 12:11:47.2±0.8, 52.77N×160.24E, h28km±3km, mL4.9*
*NEIC **26** 12:11:47.6±0.3, 52.88N×160.04E, mb4.7/33, Error ellipse: s-maj=8.1km s-min=4.8km az=153.0*
ISC 26 12:11:45.4±0.3, 52.70N±0.02×160.39E±0.03, h31km, h31km±1.5km:pP-P, n175, σ1§14/213, mb4.5/57, MS5.7/1, 13C-9D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.46**	**331**	*i* P	**Pb**	**12 11 56.1**	**+0.9**
SPN				*e*S	**Sb**	**12 12 01.9**	**0.0**

NLC	**Nalytchevo**	**0.79**	**307**	*i* P		**Pn**	**12 12 00.5**	**0.0**
NLC				*e*S		**Sb**	**12 12 10.4**	**-0.6**
UGLR	**Uglovaya**	**1.08**	**299**	*i* P		**Pn**	**12 12 05.2**	**+0.6**
UGLR				*e*S		**Sn**	**12 12 18.7**	**+0.2**
SDLR	**Sedlovina**	**1.08**	**303**	*i* P		**Pn**	**12 12 05.1**	**+0.5**
SDLR				*e*S		**Sn**	**12 12 18.1**	**-0.5**
PET	**Petropavlovsk**	**1.10**	**288**	⇓*i* Pn		**Pn**	**12 12 05.3**	**+0.3**
PET	**Petropavlovsk**	**1.10**	**288**	*i* P		**Pn**	**12 12 05.4**	**+0.5**
PET				*i* S		**Sn**	**12 12 18.9**	**-0.3**
SMAR	**Somma**	**1.11**	**301**	*i* P		**Pn**	**12 12 05.5**	**+0.4**
SMAR				*e*S		**Sn**	**12 12 19.2**	**-0.3**
AVH	**Avacha**	**1.15**	**300**	*i* P		**Pn**	**12 12 06.3**	**+0.7**
AVH				*e*S		**Sn**	**12 12 20.6**	**+0.2**
RUS	**Russkaya**	**1.18**	**258**	P		**Pn**	**12 12 06.6**	**+0.6**
RUS				S		**Sn**	**12 12 21.3**	**+0.2**
RUS	**Russkaya**	**1.18**	**258**	*i* P		**Pn**	**12 12 06.7**	**+0.7**
RUS				*i* S		**Sn**	**12 12 21.2**	**+0.1**
KOK	**Koryaka**	**1.22**	**300**	*i* P		**Pn**	**12 12 07.0**	**+0.4**
KOK				*e*S		**Sn**	**12 12 21.3**	**-0.8**
KRMR	**Karymshinskiy**	**1.38**	**276**	*i* P		**Pn**	**12 12 08.5**	**-0.4**
KRMR				*e*S		**Sn**	**12 12 24.5**	**-1.7**
GRL	**Gorelyy**	**1.42**	**265**	*i* P		**Pn**	**12 12 11.1**	**+1.6**
GRL				*e*S		**Sn**	**12 12 27.8**	**+0.5**
KII	**Karymskiy**	**1.45**	**338**	P		**Pn**	**12 12 11.1**	**+1.1**
KII	**Karymskiy**	**1.45**	**338**	*i* P		**Pn**	**12 12 10.9**	**+0.9**
GNL	**Ganaly**	**1.78**	**305**	*i* P		**Pn**	**12 12 16.2**	**+1.6**
GNL				*e*S		**Sn**	**12 12 37.2**	**+0.8**
APC	**Apacha**	**1.97**	**278**	*i* P		**Pn**	**12 12 19.2**	**+1.8**
APC				*i* S		**Sn**	**12 12 42.5**	**+1.1**
APC				Smax				
	1μm,1.1s							
MKZ	**Mys Kozlova**	**2.02**	**23**	P		**Pn**	**12 12 18.3**	**+0.1**
MKZ				S		**Sn**	**12 12 40.9**	**-1.8**
MKZ	**Mys Kozlova**	**2.02**	**23**	*e*P		**Pn**	**12 12 18.3**	**+0.1**
MKZ				*i* S		**Sn**	**12 12 41.6**	**-1.1**
MIPR	**Malaya Ipel'ka**	**2.26**	**261**	*i* P		**Pn**	**12 12 23.5**	**+2.0**
MIPR				*e*S		**Sn**	**12 12 50.4**	**+1.8**
PAU	**Pauzhetka**	**2.53**	**242**	*i* P		**Pn**	**12 12 27.1**	**+1.7**
PAU				*e*S		**Sn**	**12 12 56.5**	**+1.0**
PAU				Smax				
	2μm,0.8s							
TUMR	**Tumrok**	**2.59**	**357**	*i* P		**Pn**	**12 12 28.0**	**+1.7**
TUMR				*e*S		**Sn**	**12 12 57.1**	**0.0**
KMNR	**Kamenistaya**	**3.06**	**358**	*e*P		**Pn**	**12 12 35.0**	**+2.0**
KMNR				*e*S		**Sn**	**12 13 08.9**	**-0.1**
KPT	**Kopyto**	**3.28**	**358**	*i* P		**Pn**	**12 12 37.0**	**+1.0**
KPT				*e*S		**Sn**	**12 13 14.6**	**+0.2**
ZLN	**Zelenaya**	**3.33**	**4**	*e*P		**Pn**	**12 12 37.2**	**+0.4**
ZLN				*e*S		**Sn**	**12 13 13.8**	**-2.0**
KOZ	**Kozyrevsk**	**3.38**	**355**	P		**Pn**	**12 12 38.5**	**+1.0**
KOZ

INK	**Inuvik**	**34.08**	**37**	P		**P**		**12 18 28.9**	**+0.3**
ZAK	**Zakamensk**	**34.80**	**290**	*e*P		**P**		**12 18 32.8**	**-2.3**
ZAK				*e*				12 20 12.3	
JOW	**Kunigami**	**35.23**	**235**	P		**P**		**12 18 38.2**	**-0.7**
	comp=Z,15nm,0.5s,mb5.2,baz=98,slow=6.3,SNR=7.8								
NJ2	**Nanjing**	**36.30**	**252**	*e*P		**P**		**12 18 41.0**	**-7.0**
NJ2				AP		pP		12 18 59.5	+2.4
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.7s,mb4.8								
NJ2				AMB		AMB			
	comp=Z,180nm,6.2s								
NJ2				LR		LR			
	comp=N,14μm,18.0s,MS5.9								
NJ2				LR		LR			
	comp=E,12μm,15.7s,MS5.9								
NJ2				LR		LR			
	comp=Z,5μm,18.1s,MS5.4								
DLBC	**Dease Lake**	**38.14**	**53**	P		**P**		**12 19 04.2**	**+1.0**
	comp=Z,2.7nm,0.9s,mb4.0,baz=272,slow=10,SNR=5.8								
YKA	**Yellowknife Ar**	**43.33**	**42**	P		**P**		**12 19 45.7**	**0.0**
	comp=Z,1.4nm,0.8s,mb3.8,baz=298,slow=7.5,SNR=10								
YKA				pP		pP		12 19 53.7	-1.2
	comp=Z,1.9nm,1.0s,baz=299,slow=8.1,SNR=5.0								
YKA	**Yellowknife Ar**	**43.33**	**42**	P		**P**		**12 19 45.7**	**0.0**
YKA				pP		pP		12 19 53.7	-1.2
NVS	**Novosibirsk**	**43.49**	**305**	*e*P		**P**		**12 19 43.0**	**-4.1**
NVS				pmax		pmax			
	comp=Z,6.0nm,0.6s,mb4.5								
NVS				pmax		pmax			
	comp=N,4.0nm,0.8s								
NVS				pmax		pmax			
	comp=E,8.0nm,0.8s								
MKAR	**Makanchi Array**	**48.49**	**296**	*i* P		**P**		**12 20 24.1**	**-2.7**
MKAR				pmax		pmax			
	comp=Z,7.0nm,0.5s								
MKAR	**Makanchi Array**	**48.49**	**296**	P		**P**		**12 20 23.8**	**-3.1**
	comp=Z,7.0nm,0.5s,mb4.9,baz=73,slow=9.2,SNR=5.9								
MKAR	**Makanchi Array**	**48.49**	**296**	P		**P**		**12 20 23.8**	**-3.1**
BVAR	**Borovoye Array**	**50.78**	**309**	P		**P**		**12 20 40.7**	**-3.6**
	comp=Z,2.8nm,0.5s,mb4.4,baz=64,slow=7.3,SNR=22								
DAG	**Danmarks Havn**	**50.80**	**360**	⇑*i*P		**P**		**12 20 43.0**	**-1.2**
DAG				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.3								
DAG	**Danmarks Havn**	**50.80**	**360**	⇑*i*P		**P**		**12 20 43.0**	**-1.2**
	comp=Z,2.7nm,0.7s,mb4.3								
BRVK	**Borovoye**	**50.80**	**309**	*e*P		**P**		**12 20 40.7**	**-3.8**
BRVK				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb4.2								
BRVK	**Borovoye**	**50.80**	**309**	*e*P		**P**		**12 20 40.6**	**-3.9**
	comp=Z,2.1nm,0.6s,mb4.2								
ARCES	**ARCESS Array B**	**53.72**	**342**	P		**P**		**12 21 03.0**	**-3.1**
	comp=Z,1.4nm,0.5s,mb4.1,baz=44,slow=9.6,SNR=9.1								
ARCES				pP		pP		12 21 13.1	-2.4
	comp=Z,0.9nm,0.5s,baz=51,slow=7.8,SNR=2.0								
ARU	**Arti**	**53.81**	**318**	⇑*i*P		**P**		**12 21 03.6**	**-3.3**
ARU				*e*				12 22 08.0	
ARU				*e*S		**S**		**12 28 33.2**	**-4.7**
ARU				*e*				12 30 46.8	
ARU				*e*SS		SS		12 32 15.3	-3.1
ARU				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
ARU	**Arti**	**53.81**	**318**	*e*P		**P**		**12 21 03.1**	**-3.8**
	comp=Z,5.7nm,0.8s,mb4.5								
SUMG	**Summit**	**54.33**	**7**	*e*P		**P**		**12 21 10.6**	**0.0**
	comp=Z,17nm,0.8s,mb5.0								
ELK	**Elko**	**55.86**	**66**	*e*P		**P**		**12 21 23.3**	**+1.2**
ELK				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ELK	**Elko**	**55.86**	**66**	P		**P**		**12 21 23.1**	**+1.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=295,slow=8.7,SNR=7.0								
ELK				pP		pP		12 21 31.9	+0.4
	comp=Z,1.7nm,0.8s,baz=294,slow=9.2,SNR=6.1								
ELK	**Elko**	**55.86**	**66**	*e*P		**P**		**12 21 23.3**	**+1.2**
	comp=Z,1.7nm,0.8s,mb4.1								
NANT	**Nan**	**56.97**	**257**	⇓P		**P**		**12 21 43.0**	**+13**
	comp=Z,425nm,1.0s								
BW06	**Boulder Array**	**57.56**	**61**	*e*P		**P**		**12 21 35.0**	**+0.7**
	comp=Z,1.3nm,0.7s,mb4.1								
PDAR	**Pinedale Array**	**57.56**	**61**	P		**P**		**12 21 35.0**	**+0.8**
	comp=Z,1.0nm,0.6s,mb4.0,baz=316,slow=3.0,SNR=11								
PDAR				pP		pP		12 21 43.0	-0.7
	comp=Z,1.8nm,0.9s,baz=338,slow=8.0,SNR=8.1								
KAF	**Kangasniemi**	**59.92**	**337**	*e*p		**P**		**12 21 47.6**	**-2.7**
	comp=Z,3.8nm,0.5s,mb4.7,baz=31,slow=6.3								
FINES	**FINESS Array B**	**60.55**	**337**	P		**P**		**12 21 52.2**	**-2.5**
	comp=Z,4.1nm,0.6s,mb4.8,baz=34,slow=6.9,SNR=21								
OBN	**Obninsk**	**62.95**	**328**	*e*P		**P**		**12 22 04.5**	**-6.3**
OBN				pmax		pmax			
	comp=Z,8.0nm,1.0s,mb4.8								
NB2	**NORSAR Subarra**	**63.97**	**344**	P		**P**		**12 22 15.1**	**-2.2**
	comp=Z,5.7nm,0.8s,mb4.8,baz=24,slow=6.5								
NB2	**NORSAR Subarra**	**63.97**	**344**	P		**P**		**12 22 15.1**	**-2.2**
NB2				pmax		pmax			
	comp=Z,6.0nm,0.6s,mb4.8								
NOA	**NORSAR Array B**	**63.97**	**344**	P		**P**		**12 22 15.6**	**-1.8**
	comp=Z,6.3nm,0.6s,mb4.8,baz=21,slow=6.6,SNR=32								
SCHQ	**Schefferville**	**65.92**	**28**	P		**P**		**12 22 29.1**	**-0.9**
	comp=Z,2.8nm,0.5s,mb4.5,baz=0.5,slow=9.9,SNR=7.0								
SUW	**Suwalki**	**67.86**	**334**	*e*P		**P**		**12 22 39.8**	**-2.5**
SUW				pmax		pmax			
	comp=Z,35nm,0.9s,mb5.4								
SUW	**Suwalki**	**67.86**	**334**	*e*P		**P**		**12 22 39.8**	**-2.5**
	comp=Z,35nm,0.9s,mb5.4								
AKASG	**Malin Array Be**	**69.05**	**329**	P		**P**		**12 22 47.6**	**-2.1**
	comp=Z,9.2nm,0.5s,mb5.0,baz=30,slow=6.0,SNR=45								
TXAR	**Lajitas Array**	**70.63**	**67**	P		**P**		**12 23 00.8**	**+1.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=304,slow=4.9,SNR=13								
TXAR				pP		pP		12 23 09.0	-0.3
	comp=Z,0.8nm,0.6s,baz=304,slow=4.6,SNR=8.2								
TXAR	**Lajitas Array**	**70.63**	**67**	P		**P**		**12 23 00.8**	**+1.0**
TXAR				pP		pP		12 23 09.0	-0.3
KWP	**Kalwaria**	**71.93**	**333**	*e*P		**P**		**12 23 06.8**	**-0.4**
STHS	**Stebnicka Huta**	**72.53**	**333**	*e*P		**P**		**12 23 10.7**	**+0.1**
KOLS	**Kolonicke sedl**	**72.68**	**333**	*e*P		**P**		**12 23 10.6**	**-0.9**
CLL	**Collm**	**72.79**	**339**	⇑*i*P		**P**		**12 23 11.2**	**-0.9**
CLL				pmax		pmax			
	comp=Z,17nm,1.1s,mb4.9								
CLL	**Collm**	**72.79**	**339**	⇑*i*P		**P**		**12 23 11.2**	**-0.9**
	comp=Z,17nm,1.1s,mb4.9								
CLL	**Collm**	**72.79**	**339**	⇑P		**P**		**12 23 11.2**	**-0.9**
	comp=Z,logA/T=1.2,mb4.9								
CLL				*e*				12 23 15.0	
BRG	**Berggiesshubel**	**72.99**	**339**	*e*P		**P**		**12 23 12.4**	**-0.9**
BRG				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.5								
BRG	**Berggiesshubel**	**72.99**	**339**	*e*P		**P**		**12 23 12.4**	**-0.9**
	comp=Z,3.5nm,0.7s,mb4.4								
BURAR	**Bucovina Array**	**73.01**	**330**	⇑P		**P**		**12 23 12.6**	**-0.9**
MORC	**Moravsky Berou**	**73.16**	**336**	*e*P		**P**		**12 23 13.4**	**-0.9**
MORC				pmax		pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
MORC	**Moravsky Berou**	**73.16**	**336**	*e*P		**P**		**12 23 13.4**	**-0.9**
	comp=Z,10.0nm,0.9s,mb4.8								
KECS	**Kecovo**	**73.58**	**333**	*e*P		**P**		**12 23 15.5**	**-1.3**
TLCR		**74.01**	**327**	⇓P		**P**		**12 23 18.8**	**-0.6**
VYHS	**Vyhne**	**74.01**	**335**	*e*P		**P**		**12 23 18.9**	**-0.4**
VRI	**Vrincioaia**	**74.09**	**328**	⇑P		**P**		**12 23 19.4**	**-0.4**
CFR	**Carcaliu**	**74.25**	**327**	⇑P		**P**		**12 23 19.6**	**-1.1**
PSZ	**Piszkesteto**	**74.26**	**334**	*e*P		**P**		**12 23 19.9**	**-0.8**
PSZ				pmax		pmax			
	comp=Z,9.0nm,0.8s,mb4.8								
PSZ	**Piszkesteto**	**74.26**	**334**	*e*P		**P**		**12 23 19.9**	**-0.8**
	comp=Z,8.5nm,0.8s,mb4.7								
DRGR		**74.49**	**331**	⇑P		**P**		**12 23 21.3**	**-0.8**
MLR	**Muntele Rosu**	**74.68**	**329**	⇓P		**P**		**12 23 23.6**	**+0.4**
MLR	**Muntele Rosu**	**74.68**	**329**	⇓P		**P**		**12 23 23.5**	**+0.3**
GRA1	**Grafenberg Arr**	**74.69**	**340**	*e*P		**P**		**12 23 23.1**	**-0.1**
	comp=Z,8.0nm,0.9s,mb4.7								
GRA1				*e*pP		pP		12 23 34.0	+1.2
GRF	**Grafenberg Arr**	**74.69**	**340**	*e*P		**P**		**12 23 23.1**	**-0.1**
GRF				*e**PP		pP		12 23 34.0	+1.2
GRF				pmax		pmax			
	comp=Z,8.0nm,0.9s,mb4.7								
GRF	**Grafenberg Arr**	**74.69**	**340**	*e*P		**P**		**12 23 23.1**	**-0.1**
	comp=Z,8.0nm,0.9s,mb4.7								
GRF				*e*pP		pP		12 23 34.0	+1.2
KHC	**Kasperske Hory**	**74.71**	**338**	*e*P		**P**		**12 23 22.5**	**-0.8**
TIRR	**Tirgusor**	**74.79**	**327**	⇓P		**P**		**12 23 23.5**	**-0.4**
GERES	**GERESS Array B**	**74.95**	**338**	P		**P**		**12 23 24.2**	**-0.5**
	comp=Z,1.1nm,0.4s,mb4.2,baz=27,slow=6.0,SNR=11								
VOIR		**75.01**	**329**	⇓P		**P**		**12 23 25.2**	**+0.1**
WRA	**Warramunga Arr**	**75.80**	**205**	P		**P**		**12 23 30.0**	**-0.2**
	comp=Z,2.5nm,0.9s,mb4.1,baz=18,slow=6.1,SNR=17								
WRA				pP		pP		12 23 39.8	0.0
	comp=Z,1.3nm,0.7s,baz=21,slow=6.1,SNR=6.4								
MALT	**Malatya**	**76.32**	**317**	*e*P		**P**		**12 23 31.4**	**-1.3**
MALT				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.7								
MALT	**Malatya**	**76.32**	**317**	*e*P		**P**		**12 23 31.4**	**-1.4**
	comp=Z,9.2nm,0.9s,mb4.7								
CDF	**Champ du Feu**	**76.70**	**342**	*e*P		**P**		**12 23 34.3**	**-0.3**
	comp=Z,18nm,0.9s,mb4.7								
CDF	**Champ du Feu**	**76.70**	**342**	*e*P		**P**		**12 23 34.3**	**-0.3**
CDF				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.7								
BR131	**Keskin Array S**	**77.04**	**321**	*e*P		**P**		**12 23 34.9**	**-1.8**
	comp=Z,4.5nm,0.6s,mb4.6								
BRTR	**Keskin Array B**	**77.04**	**321**	P		**P**		**12 23 35.6**	**-1.1**
	comp=Z,4.8nm,0.6s,mb4.6,baz=45,slow=3.4,SNR=20								
DIVS	**Divcibare**	**77.74**	**332**	⇑*i*P		**P**		**12 23 38.8**	**-1.7**
CABF	**La Chapelle**	**78.65**	**342**	*e*P		**P**		**12 23 45.3**	**-0.1**
SSF	**Saint Saulge**	**78.67**	**344**	*e*P		**P**		**12 23 45.9**	**+0.4**
AVF	**Avril sur Loir**	**78.96**	**344**	*e*P		**P**		**12 23 46.7**	**-0.4**
	comp=Z,9.1nm,0.7s,mb4.5								
AVF	**Avril sur Loir**	**78.96**	**344**	*e*P		**P**		**12 23 46.7**	**-0.4**
AVF				pmax		pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
LPL	**La Plagne**	**79.59**	**342**	*e*P		**P**		**12 23 51.3**	**+0.8**
LPG	**La Plagne**	**79.60**	**341**	*e*P		**P**		**12 23 51.6**	**+1.0**
	comp=Z,16nm,0.7s,mb4.8								
LPG	**La Plagne**	**79.60**	**341**	*e*P		**P**		**12 23 51.6**	**+1.0**
LPG				pmax		pmax			
	comp=Z,8.0nm,0.7s,mb4.8								
KBD	**Kabd**	**79.66**	**305**	*e*P		**P**		**12 23 50.8**	**-0.4**
QRN	**Al-Qurain**	**79.90**	**304**	*e*P		**P**		**12 23 51.7**	**-0.8**
QRN				AMb		AMB		12 24 46.0	
	comp=Z,44nm,0.5s,mb5.7								
RDF	**Al-Radifah**	**79.94**	**305**	*e*P		**P**		**12 23 52.1**	**-0.7**
RDF				AMb		AMB		12 23 53.8	
	comp=Z,32nm,0.6s,mb5.4								
ORIF	**Oris-en-Rattie**	**80.32**	**342**	*e*P		**P**		**12 23 55.0**	**+0.5**
	comp=Z,18nm,1.0s,mb4.7								
ORIF	**Oris-en-Rattie**	**80.32**	**342**	*e*P		**P**		**12 23 55.0**	**+0.5**
ORIF				pmax		pmax			
	comp=Z,9.0nm,1.0s,mb4.7								
MBDF	**Montbardon**	**80.34**	**341**	*e*P		**P**		**12 23 55.1**	**+0.5**
	comp=Z,3.6nm,0.5s,mb4.2								
MBDF	**Montbardon**	**80.34**	**341**	*e*P		**P**		**12 23 55.1**	**+0.5**
MBDF				pmax		pmax			
	comp=Z,2.0nm,0.5s,mb4.3								
VIVF	**Saint-Julien-l**	**80.61**	**343**	*e*P		**P**		**12 23 56.4**	**+0.4**
	comp=Z,14nm,1.0s,mb4.5								
VIVF	**Saint-Julien-l**	**80.61**	**343**	*e*P		**P**		**12 23 56.4**	**+0.4**
VIVF				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
CAF	**Calviac**	**80.99**	**345**	*e*P		**P**		**12 23 58.6**	**+0.6**
FRF	**La Foret Royal**	**81.48**	**341**	*e*P		**P**		**12 24 00.8**	**+0.2**
	comp=Z,6.0nm,0.6s,mb4.4								
FRF	**La Foret Royal**	**81.48**	**341**	*e*P		**P**		**12 24 00.8**	**+0.2**
FRF				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.4								
LASF	**Ste Croix**	**81.51**	**343**	*e*P		**P**		**12 24 01.5**	**+0.8**
PGF	**Pioggiola**	**81.97**	**339**	*e*P		**P**		**12 24 03.2**	**+0.1**
	comp=Z,21nm,1.1s,mb4.7								
PGF	**Pioggiola**	**81.97**	**339**	*e*P		**P**		**12 24 03.2**	**+0.1**
PGF				pmax		pmax			
	comp=Z,11nm,1.1s,mb4.7								
MTLF	**Montolieu**	**82.50**	**344**	*e*P		**P**		**12 24 06.0**	**+0.1**
	comp=Z,5.3nm,0.7s,mb4.4								
TIP	**Timpagrande**	**83.20**	**332**	*e*P		**P**		**12 24 08.9**	**-0.8**
ETSF	**Etsaut**	**83.37**	**346**	*e*P		**P**		**12 24 10.8**	**+0.4**
	comp=Z,6.6nm,0.6s,mb4.6								
ESDC	**Sonseca Array**	**87.00**	**348**	P		**P**		**12 24 28.5**	**0.0**
	comp=Z,0.3nm,0.3s,mb4.0,baz=41,slow=2.7,SNR=6.9								
PLCA	**Paso Flores**	**143.82**	**92**	PKP		PKPdf		12 31 16.4	-5.5
	comp=Z,1.2nm,0.6s,baz=312,slow=6.3,SNR=4.3								

BJI ***26*** *12:16:06.5,42.58N×104.21E,h16km,mB5.0,mb5.0, ML5.8,Ms5.3,Msz5.0*

MOS ***26*** *12:16:07.9±0.8,42.59N×104.25E,h23km,mb5.3/70, MS4.8/8,Error ellipse: s-maj=9.4km s-min=4.2km az=122.9*

LDG ***26*** *12:16:08.9,42.59N×104.06E,h30km*

IDC ***26*** *12:16:08.9±0.4,42.54N×104.14E,h15km±2km,mb4.9/24, mb1 5.0/26,mb1mx4.9/30,mbtmp5.0/26,ML4.7/2,MS4.4/2, Ms1 4.4/2,ms1mx3.9/36,Error ellipse: s-maj=13.1km s-min=9.3km az=50.0*

HRVD ***26*** *12:16:08.9±0.4,42.56N×104.33E,h24km±2km,MW5.1/41, Centroid moment Tensor Solution. LP body waves: s10,c10;Mantle waves: s41,c64; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr 1.36±.43; Mθθ 2.38±.26; Mφφ -3.74±.33; Mrθ 2.33±.65; Mθφ 3.70±.21; Mφr 2.03±.67; Best double couple: M0 5.818×10^16^ NP1:φs 115°,δ61°,λ19°. NP2:φs 15°,δ73°,λ150°. Principal axes: T 6.036, Plg33°, Azm332°; N -.437, Plg56°, Azm169°; P -5.599, Plg8°, Azm67°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***26*** *12:16:08.9±0.1,42.54N×104.14E,mb5.2/121,MS5.2/98 Error ellipse: s-maj=4.9km s-min=3.1km az=39.0*

ISC 26 12:16:07.2±0.1,42.58N±0.02×104.19E±0.03,h16km, h16km±.4km:pP-P,n539,σ0s96/439,mb5.1/160,MS5.2/104, 36C-10D,Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
GTA	**Gaotai**	**4.58**	**228**	P		**Pn**	**12**	**17**	**18.3**	**+0.8**
GTA				PG		**Pn**	**12**	**17**	**29.5**	**+12**
GTA				S		**Sn**	**12**	**18**	**11.0**	**+0.1**
GTA				SG		**Sn**	**12**	**18**	**28.8**	**+18**
GTA				Smax						
	comp=N,9μm,1.0s									
GTA				Smax						
	comp=E,8μm,1.2s									
GTA				LR		LR				
	comp=N,43μm,8.7s									
GTA				LR		LR				
	comp=E,43μm,11.4s									
GTA				LR		LR				
	comp=Z,31μm,9.2s									
BTO	**Baotou**	**4.80**	**112**	*e*P		**Pn**	**12**	**17**	**20.5**	**-0.2**
BTO				PG		**Pn**	**12**	**17**	**35.8**	**+15**
BTO				S		**Sn**	**12**	**18**	**12.0**	**-4.6**
BTO				SG		**Sn**	**12**	**18**	**34.3**	**+18**
SONM	**Songino Array**	**5.49**	**16**	Pn		**Pn**	**12**	**17**	**31.3**	**+1.0**
	comp=Z,114nm,0.3s,baz=195,slow=14,SNR=1512									
SONM				Sn		**Sn**	**12**	**18**	**33.9**	**+0.1**
	comp=Z,103nm,0.3s,baz=199,slow=20,SNR=7.1									
SONM				Lg			12	19	01.4	
	comp=Z,515nm,0.3s,baz=190,slow=28,SNR=11									
SONM				LR		LR	12	20	04.8	
	comp=Z,4μm,21.0s,baz=195,slow=43									
ULN	**Ulaanbaatar**	**5.66**	**20**	⇑*e*Pn		**Pn**	**12**	**17**	**20.0**	**-13**
HHC	**Hu-ho-hao-te**	**5.79**	**105**	*e*P		**Pn**	**12**	**17**	**32.5**	**-2.1**
HHC				PG		**Pn**	**12**	**17**	**52.3**	**+18**
HHC				S		**Sn**	**12**	**18**	**39.8**	**-1.5**
HHC				SG		Sn	12	19	07.0	+26
HHC				Smax						
	comp=N,6μm,0.6s									
HHC				Smax						
	comp=E,7μm,0.7s									
LZH	**Lanzhou**	**6.49**	**182**	⇓P		**Pn**	**12**	**17**	**44.5**	**0.0**
LZH				*e*PG		**Pn**	**12**	**18**	**04.5**	**+20**
LZH				S		**Sn**	**12**	**18**	**57.0**	**-1.9**
LZH				SG		Sn	12	19	28.8	+30
LZH				Smax						
	comp=N,9μm,0.8s									
LZH				LR		LR				
	comp=E,44μm,4.0s									
LZH				LR		LR				
	comp=Z,52μm,5.0s									
LZH	**Lanzhou**	**6.49**	**182**	⇓P		**Pn**	**12**	**17**	**44.6**	**+0.1**
LZH							12	18	57.1	
LZH				pmax		pmax				
	comp=Z,9μm,0.8s									
LZH	**Lanzhou**	**6.49**	**182**	⇓Pn		**Pn**	**12**	**17**	**44.6**	**+0.1**
	comp=Z,9μm,0.8s									
LZH				*e*Pg		**Pn**	**12**	**18**	**04.6**	**+20**
LZH				Sn		**Sn**	**12**	**18**	**57.1**	**-1.8**
LZH				Sg		Sn	12	19	28.7	+30
TLY	**Talaya**	**9.12**	**358**	*e*P		**P**	**12**	**18**	**21.2**	**0.0**
TLY				pmax		pmax				
	comp=Z,117nm,0.7s									
TLY	**Talaya**	**9.12**	**358**	⇑*e*Pn		**P**	**12**	**18**	**20.7**	**-0.4**
	comp=Z,152nm,0.8s									
XAN	**Xi'an**	**9.30**	**155**	P		**P**	**12**	**18**	**21.8**	**-1.9**
XAN				AMB		AMB				
	comp=Z,18nm,1.0s									
XAN				LR		LR				
	comp=N,3μm,12.9s									
XAN				LR		LR				
	comp=E,8μm,13.9s									
XAN				LR		LR				
	comp=Z,5μm,12.2s									
CD2	**Chengdu**	**11.65**	**182**	P		**P**	**12**	**18**	**57.8**	**+1.9**
CD2				LR		LR				
	comp=N,9μm,10.8s									
CD2				LR		LR				
	comp=Z,4μm,11.4s									
TIA	**Tai'an**	**11.85**	**118**	*e*P		**P**	**12**	**18**	**59.3**	**+0.7**
TIA				LR		LR				
	comp=N,5μm,10.0s									
TIA				LR		LR				
	comp=E,7μm,9.0s									
WMQ	**Urumqi**	**12.10**	**281**	P		**P**	**12**	**19**	**00.3**	**-1.6**
WMQ				S		**S**	**12**	**21**	**22.0**	**+4.5**
WMQ				AMB		AMB				
	comp=Z,62nm,1.5s									
WMQ				AMB		AMB				
	comp=Z,329nm,4.0s									
WMQ				LR		LR				
	comp=N,15μm,5.1s									
WMQ				LR		LR				
	comp=E,7μm,7.0s									
WMQ				LR		LR				
	comp=Z,5μm,5.7s									
HIA	**Hailar**	**12.72**	**53**	*e*P		**P**	**12**	**19**	**07.4**	**-2.8**
HIA				pmax		pmax				
	comp=Z,51nm,0.6s									
HIA	**Hailar**	**12.72**	**53**	*e*Pn		**P**	**12**	**19**	**07.4**	**-2.7**
	comp=Z,51nm,0.6s									
ENH	**Enshi**	**13.00**	**159**	*e*Pn		**P**	**12**	**19**	**11.1**	**-2.8**
	comp=Z,33nm,1.4s									
SNY	**Shenyang**	**14.40**	**86**	⇓P		**P**	**12**	**19**	**36.3**	**+4.0**
SNY				S		**S**	**12**	**22**	**13.3**	**+0.9**
SNY				AMB		AMB				
	comp=Z,20nm,0.5s									
SNY				LR		LR				
	comp=E,5μm,9.0s									
SNY				LR		LR				
	comp=Z,8μm,9.2s									
WHN	**Wuhan**	**14.51**	**143**	*e*P		**P**	**12**	**19**	**31.5**	**-2.3**
WHN				LR		LR				
	comp=N,4μm,11.6s									
WHN				LR		LR				
	comp=E,7μm,7.6s									
CN2	**Changchun**	**15.56**	**78**	*e*P		**P**	**12**	**19**	**46.8**	**-0.6**
CN2				AMB		AMB				
	comp=Z,30nm,1.3s									
NJ2	**Nanjing**	**15.68**	**127**	*e*P		**P**	**12**	**19**	**52.3**	**+3.2**
NJ2				PP		PP	12	20	04.3	+2.6
NJ2				S		**S**	**12**	**22**	**41.0**	**-1.7**
NJ2				XS			12	22	53.0	
NJ2				AMB		AMB				
	comp=Z,100nm,0.9s									
NJ2				AMB		AMB				
	comp=Z,200nm,4.7s									
NJ2				LR		LR				
	comp=N,12μm,13.0s									
NJ2				LR		LR				
	comp=E,13μm,18.2s									
NJ2				LR		LR				
	comp=Z,4μm,10.9s									
MKAR	**Makanchi Array**	**16.12**	**293**	*e*P		**P**	**12**	**19**	**53.5**	**-1.1**
MKAR				pmax		pmax				
	comp=Z,29nm,0.7s									
MKAR	**Makanchi Array**	**16.12**	**293**	Pn		**P**	**12**	**19**	**52.7**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=96,slow=12,SNR=41									
MKAR	**Makanchi Array**	**16.12**	**293**	Pn		**P**	**12**	**19**	**52.7**	**-1.9**
GYA	**Guiyang**	**16.21**	**172**	⇑*i*P		**P**	**12**	**19**	**54.3**	**-1.6**
GYA				AP			12	19	58.5	
GYA				XP			12	20	01.5	
GYA				PP		PP	12	20	09.0	-0.2
GYA				AMB		AMB				
	comp=Z,50nm,1.0s									
GYA				AMB		AMB				
	comp=N,350nm,5.1s									
GYA				LR		LR				
	comp=N,4μm,11.7s									
GYA				LR		LR				
	comp=E,3μm,9.3s									
GYA				LR		L

comp=E,271nm,0.8s
TKM2 Tokmak 2 20.96 281 P P 12 20 51.8 0.0
SNR=34
QZH Quanzhou 21.23 141 P P 12 20 55.8 +1.2
QZH S S **12 24 53.8 +8.8**
QZH AMB AMB
comp=Z,140nm,0.9s,mb5.3
QZH LR LR
comp=N,4µm,15.8s,MS5.1
QZH LR LR
comp=E,4µm,16.2s,MS5.1
QZH LR LR
comp=Z,5µm,18.4s,MS4.9
KKN Kakani 21.29 232 *eP* **P 12 20 55.4 +0.1**
comp=Z,311nm,0.7s,mb5.7
KZA Kyzart 21.36 279 P P 12 20 56.5 +0.7
SNR=14
PKI Pulchoki 21.38 232 *eP* **P 12 20 56.3 +0.1**
comp=Z,188nm,0.9s,mb5.4
KSH Kashi 21.46 271 *i* PR 12 20 59.0
KSH *eA* AP 12 21 07.0
KSH *eX* P 12 21 12.3
KSH AMB AMB
comp=Z,110nm,1.1s,mb5.1
KSH AMB AMB
comp=Z,390nm,8.2s
KSH LR LR
comp=N,10µm,35.6s,MS5.8
KSH LR LR
comp=E,78µm,35.9s,MS5.8
KBK Karagaybulak 21.48 280 P P 12 21 00.6 +3.6
SNR=31
GKN Gorkha 21.52 234 *eP* **P 12 20 57.3 -0.2**
comp=E,468nm,1.1s,mb5.8
DMN Daman 21.53 232 *eP* **P 12 20 57.3 -0.4**
comp=E,482nm,1.0s,mb5.9
CHMS Chumysh 21.56 281 P P 12 20 58.3 +0.4
SNR=45
FRU Bishkek 21.69 281 *i* P **P 12 21 00.0 +0.8**
FRU pmax pmax
comp=Z,200nm,2.0s,mb5.2
USP Ospenovka 21.70 282 P P 12 20 59.5 +0.2
SNR=34
AAK Ala-Archa 21.81 280 P P 12 21 03.8 +3.4
SNR=18
AAK Ala-Archa 21.81 280 *d i* P **P 12 21 00.4 0.0**
AAK pmax pmax
comp=Z,28nm,0.5s,mb5.0
AAK Ala-Archa 21.81 280⇓ *eP* **P 12 21 00.3 -0.1**
comp=Z,43nm,0.6s,mb5.1
UCH Uchtor 21.87 279 P P 12 21 02.8 +1.8
SNR=12
KOLN Koldanda 22.31 235 *eP* **P 12 21 06.5 +1.0**
comp=Z,638nm,1.0s,mb6.0
EKS2 Erkin-Say 22.32 281 P P 12 21 06.2 +0.6
SNR=20
AML Almayashu 22.48 279 P P 12 21 08.7 +1.5
SNR=78
TATO Taipei 22.62 135 *eP* **P 12 21 09.1 +0.5**
comp=Z,97nm,0.9s,mb5.2
JNU Nakatsue 23.02 105 P P 12 21 13.2 +0.9
comp=Z,23nm,1.1s,mb4.5,baz=334,slow=5.6
LGTI Lohaghat 23.28 244 *eP* **P 12 21 18.8 +3.8**
NACB Ninganchiao 23.33 136 *eP* **P 12 21 17.5 +2.0**
QIZ Qiongzhong 23.96 167 P P 12 21 22.0 +0.4
QIZ S S **12 25 37.0 +2.6**
QIZ AMB AMB
comp=Z,20nm,1.0s,mb4.5
QIZ LR LR
comp=E,2µm,14.3s
QIZ LR LR
comp=Z,2µm,11.7s,MS4.9
QIZ Qiongzhong 23.96 167 *eP* **P 12 21 21.9 +0.2**
comp=Z,32nm,1.0s,mb4.7
QIZ LR LR
comp=Z,870nm,21.0s,MS4.2
CHG Chiang Mai 24.10 192 ⇓*P* **P 12 21 26.6 +3.5**
comp=Z,41nm,1.1s,mb4.8
DDI Dehra Dun 24.21 248 *eP* **P 12 21 24.8 +0.8**
SDNR Sundarnagar 24.27 252 *eP* **P 12 21 26.0 +1.4**
THN Thein Dam 24.65 255 *eP* **P 12 21 27.1 -1.1**
YAK Yakutsk 24.66 29⇑ *iP* **P 12 21 27.7 -0.3**
YAK pmax pmax
comp=Z,524nm,0.9s,mb6.1
YAK MLR MLR
comp=Z,19µm,19.0s,MS5.6
YAK Yakutsk 24.66 29⇑ *iP* **P 12 21 27.7 -0.3**
comp=Z,524nm,0.9s,mb6.1
YAK LR LR
comp=Z,19µm,19.0s,MS5.6
BHK Bhakra 24.71 252 *e* 12 21 43.9
BVA0 Borovoye Array 24.77 307 *i* P **P 12 21 29.7 +0.5**
BVA0 pmax pmax
comp=Z,4.0nm,0.7s,mb4.1
BVAR Borovoye Array 24.77 307 P P 12 21 29.9 +0.7
comp=Z,38nm,0.6s,mb5.1,baz=104,slow=9.7,SNR=121
BRVK Borovoye 24.84 307⇑ *eP* **P 12 21 30.4 +0.5**
BRVK pmax pmax
comp=Z,54nm,0.9s,mb5.1
BRVK Borovoye 24.84 307⇑ *eP* **P 12 21 30.4 +0.5**
comp=Z,54nm,0.9s,mb5.1
JOW Kunigami 25.15 121 P P 12 21 33.4 +0.3
comp=Z,29nm,0.5s,mb5.0,baz=326,slow=6.9,SNR=7.7
BDT Bhumibol Dam 25.63 192 P P 12 21 39.0 +1.3
NDI New Delhi 25.80 246 *eP* **P 12 21 38.5 -0.7**
NDI *e* 12 26 20.0
KKTK Khon Kaen 26.18 183 P P 12 21 44.0 +1.2
MAJO Matsushiro 26.79 92 PFAKE 12 22 00.0 +12
MAJO LR LR
comp=Z,8µm,20.0s,MS5.3
MAT Matsushiro 26.79 92 *eP* **P 12 21 47.0 -1.2**
MAT pmax pmax
comp=Z,17nm,0.8s,mb4.6
MAT Matsushiro 26.79 92 *eP* **P 12 21 47.0 -1.2**
comp=Z,17nm,0.8s,mb4.6
MAT Matsushiro 26.79 92 P P 12 21 46.7 -1.5
MJAR Matsushiro Arr 26.79 92 P P 12 21 50.0 +1.7
comp=Z,50nm,0.9s,mb5.0,baz=284,slow=10,SNR=24
NST Nakhon Sawan 27.04 189 P P 12 21 53.0 +2.3
BWNR Bhubaneshwar 27.07 221 *e* **P 12 21 42.3 -8.7**
BWNR AMb AMB 12 21 44.1
comp=Z,30nm,1.4s,mb4.6
BLSP Bilaspur 27.47 229 *e* **P 12 21 48.5 -6.1**
BLSP *eP* pP 12 21 52.7 -6.6
BLSP AMb AMB 12 21 56.9
comp=Z,19nm,0.7s,mb4.8
YSS Yuzh-Sakhalins 27.54 67 PFAKE 12 22 10.0 +15
YSS LR LR
comp=Z,10µm,19.0s,MS5.4
BHPL Bhopal 29.41 238 *eP* **P 12 22 12.1 0.0**
BHPL AMb AMB 12 22 19.9
comp=Z,60nm,1.2s,mb5.2
TIXI Tiksi 31.57 15 PFAKE 12 22 40.0 +9.3
TIXI LR LR
comp=Z,10µm,19.0s,MS5.5
ARU Arti 32.06 312⇓ *iP* **P 12 22 34.8 -0.3**
ARU *e* 12 23 40.4
ARU *ePPP* PPP 12 23 52.2 -4.6
ARU *e* 12 25 21.5
ARU *eS* **S 12 27 46.7 +1.5**
ARU *eSS* SS 12 29 38.7 +0.3
ARU *eSSS* SSS 12 30 06.3 +4.9
ARU pmax pmax
comp=Z,32nm,0.7s,mb5.3
ARU Arti 32.06 312⇑ *iP* **P 12 22 34.7 -0.4**
comp=Z,40nm,0.7s,mb5.4
MA2 Magadan 33.00 43 PFAKE 12 23 00.0 +17
MA2 LR LR
comp=Z,2µm,19.0s,MS4.8
KAD Karad 35.87 235 *eP* **P 12 23 05.2 -3.1**
KAD AMb AMB 12 23 10.6
comp=Z,55nm,1.2s,mb5.4
KAD *eS* **S 12 28 45.4 +0.7**
PET Petropavlovsk 37.20 54 PFAKE 12 23 30.0 +11
PET LR LR
comp=Z,1µm,19.0s,MS4.8
KULM Kulim 37.26 186 *eP* **P 12 23 24.9 +4.8**
BILL Bilibino 41.01 30 *i* P **P 12 23 51.4 +0.7**
BILL pmax pmax
comp=Z,60nm,1.4s,mb5.0
BILL Bilibino 41.01 30 *eP* **P 12 23 51.6 +0.9**
comp=Z,38nm,0.9s,mb5.0
BILL LR LR
comp=Z,2µm,20.0s,MS4.9
GOF Gofitskoye 43.27 295⇑ *iP* **P 12 24 09.0 -0.4**
GOF pmax pmax
comp=Z,98nm,1.1s,mb5.5
ZEI Tsey 43.48 292 *eP* **P 12 24 06.9 -4.2**
ZEI *i* *PP pP 12 24 13.4 -2.5
ZEI pmax pmax
comp=Z,14nm,0.8s,mb4.7
GOR Gori 43.62 290 P **P 12 24 14.3 +2.1**
VOR Voronezh 43.77 305 P **P 12 24 13.0 -0.3**
VOR pmax pmax
comp=Z,100nm,1.7s,mb5.3
ONI Oni 43.85 292 P **P 12 24 14.8 +0.7**
KIV Kislovodsk 43.88 294 *eP* **P 12 24 15.7 +1.4**
KIV pmax pmax
comp=N,31nm,1.1s
KIV pmax pmax
comp=E,23nm,1.1s
KIV pmax pmax
comp=Z,47nm,1.1s,mb5.1
KIV MLR MLR
comp=N,851nm,17.0s,MS4.9
KIV MLR MLR
comp=E,984nm,17.0s,MS4.9
KIV MLR MLR
comp=Z,936nm,17.0s,MS4.8
KIV Kislovodsk 43.88 294 *eP* **P 12 24 14.7 +0.3**
comp=Z,23nm,0.8s,mb5.0
KIV LR LR
comp=Z,379nm,22.0s,MS4.3
GNI Garni 43.88 288 *eP* **P 12 24 16.9 +2.5**
GNI MLR MLR
comp=Z,994nm,21.0s
APA Apatity 44.29 329 *eP* **P 12 24 17.8 +0.4**
APA pmax pmax
comp=Z,16nm,1.0s,mb4.7
OBN Obninsk 44.49 311 *ce* *eP* **P 12 24 18.6 -0.6**
OBN *e* 12 26 01.9
OBN pmax pmax
comp=Z,15nm,0.7s,mb4.8
OBN Obninsk 44.49 311 PFAKE 12 24 30.0 +11
OBN LR LR
comp=Z,458nm,21.0s,MS4.4
FX1 Attu Island--F 45.83 52 P **P 12 24 31.0 +1.2**
comp=Z,49nm,0.7s,mb5.6,baz=234,slow=8.7,SNR=5.1
KEV Kevo 46.45 332 *ep* **P 12 24 34.5 0.0**
comp=Z,6.9nm,0.7s,mb4.7
KEV Kevo 46.45 332 PFAKE
KEV LR LR 12 24 50.0 +15
comp=Z,3µm,22.0s,MS5.3
ARCES ARCESS Array B 47.00 332 P **P 12 24 39.1 +0.2**
comp=Z,6.9nm,0.7s,mb4.7,baz=73,slow=8.4,SNR=41
ARCES PcP PcP 12 26 10.9 -0.7
comp=Z,5.3nm,0.6s,baz=88,slow=3.8,SNR=8.5
ARE0 ARCESS Array S 47.00 332 *eP* **P 12 24 38.9 0.0**
KAF Kangasniemi 48.10 322 *ep* **P 12 24 46.1 -1.5**
comp=Z,5.9nm,0.6s,mb4.8,baz=76,slow=7.4
FINES FINESS Array B 48.37 321 P **P 12 24 49.4 -0.3**
comp=Z,8.8nm,0.5s,mb5.0,baz=81,slow=7.4,SNR=44
KBS Kingsbay 49.02 345 PFAKE
KBS LR LR 12 25 10.0 +15
comp=Z,3µm,20.0s,MS5.3
MALT Malatya 49.10 288 *eP* **P 12 24 57.2 +1.6**
MALT pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
MALT Malatya 49.10 288 *eP* **P 12 24 57.2 +1.5**
comp=Z,7.4nm,0.7s,mb4.8
SIM Simferopol' 49.20 298 *eP* **P 12 24 57.0 +0.7**
SIM pmax pmax
comp=Z,38nm,0.8s,mb5.5
SIM MLR MLR
comp=Z,560nm,15.6s,MS4.7
AKASG Malin Array Be 50.05 307 P **P 12 25 02.1 -0.7**
comp=Z,3.7nm,0.5s,mb4.7,baz=56,slow=7.5,SNR=29
AKASG PcP PcP 12 26 21.6 -1.2
comp=Z,3.8nm,0.7s,baz=55,slow=4.1,SNR=5.3
TNA Tin City 51.37 32 *eP* **P 12 25 13.5 +0.9**
comp=Z,45nm,1.0s,mb5.3
TNA LR LR
comp=Z,600nm,21.0s,MS4.6
BR131 Keskin Array S 51.77 292 *eP* **P 12 25 15.9 -0.1**
comp=Z,3.8nm,0.7s,mb4.4
BR131 LR LR
comp=Z,363nm,21.0s,MS4.4
BRTR Keskin Array B 51.77 292 P **P 12 25 16.4 +0.4**
comp=Z,8.2nm,1.0s,mb4.6,baz=90,slow=4.9,SNR=17
NSS Namsos 53.45 327 *eP* **P 12 25 25.8 -2.5**
VRI Vrincioaia 53.54 302 P **P 12 25 30.0 +0.9**
KSHT Keshet 53.56 284 P **P 12 25 30.2 +0.8**
BURAR Bucovina Array 53.70 305 P **P 12 25 30.4 +0.2**
MLR Muntele Rosu 54.20 302 P **P 12 25 34.9 +1.0**
KWP Kalwaria 54.32 308 *eP* **P 12 25 35.1 +0.3**
comp=Z,76nm,0.7s,mb5.7
MKRJ Makawir 54.43 282 P **P 12 25 36.5 +0.7**
SLTI Sal'it 54.50 283 P **P 12 25 36.9 +0.6**
NB2 NORSAR Subarra 55.23 324 P **P 12 25 40.0 -1.3**
comp=Z,10nm,0.6s,mb5.0,baz=63,slow=7.0
NB2 NORSAR Subarra 55.23 324 P **P 12 25 40.0 -1.3**
NB2 pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
NOA NORSAR Array B 55.23 324 P **P 12 25 40.2 -1.1**
comp=Z,6.6nm,0.6s,mb4.9,baz=63,slow=7.0,SNR=39
NOA pP pP 12 25 45.4 -0.9
comp=Z,4.9nm,0.7s,baz=70,slow=6.4,SNR=12
NOA NORSAR Array B 55.23 324 P **P 12 25 40.2 -1.1**
NOA pP pP 12 25 45.4 -0.9
STHS Stebnicka Huta 55.27 308 *eP* **P 12 25 41.4 -0.3**
CRVS Cervenica-Dubn 55.37 307 *eP* **P 12 25 44.1 +1.6**
NAO01 NORSAR Array S 55.46 324 *eP* **P 12 25 41.1 -1.9**
comp=Z,12nm,0.6s,mb5.1
NAO01 LR LR
comp=Z,1µm,20.0s,MS5.0
PRNI Paran 55.54 281 P **P 12 25 44.3 +0.3**
OJC Ojcow 55.73 309⇑ *iP* **P 12 25 44.7 -0.4**
OJC *e* *PP pP 12 25 49.8 -0.2
NIE Niedzica 55.81 308⇑ *eP* **P 12 25 46.1 +0.5**
NIE *ep* P pP 12 25 49.8 -0.8
KMTI Karmit 55.88 281 P **P 12 25 46.4 0.0**
MBH Mount Berech 55.91 281 P **P 12 25 47.0 +0.4**
EIL Elat 55.95 281 P **P 12 25 47.0 +0.1**
KECS Kecovo 56.14 307 *eP* **P 12 25 47.4 -0.6**
KECS *ep* P pP 12 25 53.7 +0.7
KDZ Kurdzhali 56.35 298 *eP* **P 12 25 50.0 +0.4**
KONO Kongsberg 56.59 323 PFAKE 12 26 00.0 +9.0
KONO LR LR
comp=Z,2µm,22.0s,MS5.1
PLD Plovdiv 56.59 299 *eP* **P 12 25 52.0 +0.7**
PGB Panagyurishte 56.72 299 *eP* **P 12 25 53.0 +0.8**
UNV Unalaska Valle 56.75 45 PFAKE 12 26 00.0 +7.7
UNV LR LR
comp=Z,1µm,19.0s,MS5.1
PSZ Piszkesteto 56.76 307 P **P 12 25 53.0 +0.6**
RZN Rozhen 56.79 298 *eP* **P 12 25 53.0 +0.2**
OKC Ostrava-Krasne 56.86 310 *eP* **P 12 25 52.8 -0.3**
OKC *ep* P pP 12 25 57.3 -0.8
WAKE Wake Island 57.06 94 PFAKE 12 26 10.0 +15
WAKE LR LR
comp=Z,2µm,20.0s,MS5.3
VYHS Vyhne 57.10 308 *eP* **P 12 25 55.0 +0.1**
MORC Moravsky Berou 57.23 310 *eP* **P 12 25 55.3 -0.5**
MORC pmax pmax
comp=Z,19nm,1.0s,mb5.1
MORC Moravsky Berou 57.23 310 *eP* **P 12 25 55.3 -0.4**
comp=Z,19nm,1.0s,mb5.1
VTS Vitosha 57.31 300 *eP* **P 12 25 56.6 +0.1**
MMB Musomiste 57.48 299 *eP* **P 12 25 57.0 -0.7**
DPC Dobruska-Polom 57.64 311 *eP* **P 12 25 58.9 +0.2**
DPC *ep* P pP 12 26 04.0 +0.3
UPC Upice 57.74 311 *eP* **P 12 25 59.3 0.0**
UPC *ep* P pP 12 26 03.8 -0.5
KKB Krupnik 57.76 299 *eP* **P 12 26 00.0 +0.4**
VRAC Vranov 58.00 310 P **P 12 26 01.5 +0.4**
ZST Bratislava 58.26 308 *eP* **P 12 26 02.7 -0.3**
ZST *ep* P pP 12 26 08.8 +0.8
PKSM Moragy 58.34 306⇑ *eP* **P 12 26 03.2 -0.4**
PKSM *i* 12 28 57.2
PVCC Panska Ves 58.53 312 *eP* **P 12 26 05.0 +0.2**
PVCC *ep* P pP 12 26 10.0 +0.1
DIVS Divcibare 58.58 303⇓ *iP* **P 12 26 04.5 -0.8**
BRG Berggiesshubel 58.70 312 *i* P **P 12 26 05.7 -0.3**
BRG *i* pP 12 26 10.8 -0.3
BRG pmax pmax
comp=Z,14nm,0.9s,mb5.0
BRG Berggiesshubel 58.70 312 *i* P **P 12 26 05.7 -0.3**
comp=Z,14nm,0.9s,mb5.0
BRG *i* pP 12 26 10.8 -0.3
PRU Pruhonice 58.81 311 *eP* **P 12 26 06.8 -0.1**
PRU *ep* P pP 12 26 11.7 -0.2
CLL Collm 58.99 313⇑ *iP* **P 12 26 07.6 -0.5**
CLL *i* pP 12 26 12.8 -0.3
CLL pmax pmax
comp=Z,30nm,0.6s,mb5.5
CLL Collm 58.99 313⇑ *iP* **P 12 26 07.6 -0.5**
comp=Z,30nm,0.6s,mb5.5
CLL *i* pP 12 26 12.8 -0.3
CLL Collm 58.99 313⇑ P **P 12 26 07.6 -0.5**
comp=Z,logA/T=1.7,mb5.5
CLL *i* *PP pP 12 26 12.8 -0.3
BSEG Bad Segeberg 59.06 317 *eP* **P 12 26 08.5 0.0**
MCK McKinley 59.45 30 *eP* **P 12 26 11.1 0.0**
comp=Z,20nm,1.0s,mb5.1
MCK LR LR
comp=Z,508nm,22.0s,MS4.6
ILAR Eielson Array 59.58 28 P **P 12 26 11.6 -0.4**
comp=Z,35nm,0.8s,mb5.5,baz=290,slow=5.9,SNR=30
ARSA Arzberg 59.66 308⇑ *iP* **P 12 26 12.5 -0.2**
comp=Z,5.5nm,0.9s,mb4.6
KHC Kasperske Hory 59.79 311 *eP* **P 12 26 13.5 -0.1**
KHC *ep* P pP 12 26 18.6 -0.1
NKC Novy Kostel 59.85 312 *eP* **P 12 26 13.1 -0.9**
NKC *ep* P pP 12 26 18.8 -0.2
GEC2 GERESS Array S 59.87 310 *eP* **P 12 26 13.9 -0.3**
GEC2 *e* 12 27 05.3
GEC2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GEC2 GERESS Array S 59.87 310 *eP* **P 12 26 13.9 -0.3**
comp=Z,10.0nm,0.9s,mb4.8
GEC2 *e* PcP PcP 12 27 05.3 +4.9
GERES GERESS Array B 59.87 310 P **P 12 26 13.7 -0.5**
comp=Z,5.7nm,0.8s,mb4.7,baz=59,slow=7.8,SNR=30
GERES pP pP 12 26 19.2 0.0
comp=Z,6.8nm,0.8s,baz=59,slow=7.8,SNR=12
MOA Molln 60.07 309⇑ *iP* **P 12 26 15.9 +0.3**
comp=Z,27nm,1.4s,mb5.1
MOX Moxa 60.08 313 *eP* **P 12 26 15.4 -0.2**
MOX *e* *PP pP 12 26 20.0 -0.7
MOX *e* 12 27 05.0
MOX Moxa 60.08 313 *i* P **P 12 26 15.4 -0.2**
MOX pP pP 12 26 20.0 -0.7
MOX PcP PcP 12 27 05.0 +3.8
CLZ Clausthal 60.12 314 *eP* **P 12 26 15.9 +0.1**
CLZ pmax pmax
comp=Z,24nm,0.9s,mb5.2
CLZ Clausthal 60.12 314 *eP* **P 12 26 15.9 +0.1**
comp=Z,24nm,0.9s,mb5.2
WET Wettzell 60.18 311 *eP* **P 12 26 16.2 -0.1**
WET pmax pmax
comp=Z,15nm,1.0s,mb5.0
WET Wettzell 60.18 311 *eP* **P 12 26 16.2 -0.1**
comp=Z,15nm,1.0s,mb5.0
PERS Pernice 60.21 307 *eP* **P 12 26 16.2 -0.4**
PERS *i* pP pP 12 26 21.4 -0.2
PDKS Podkum 60.59 307 *i* P **P 12 26 18.6 -0.5**
OBKA Obir 60.61 308⇑ *iP* **P 12 26 19.1 -0.2**
comp=Z,14nm,1.2s,mb5.0
PMR Palmer 60.62 32 PFAKE 12 26 30.0 +11
PMR LR LR
comp=Z,728nm,20.0s,MS4.8
BOJS Bojanci 60.73 306 *i* P **P 12 26 19.7 -0.4**
GVD Gavdhos 60.80 292 *eP* **P 12 26 19.5 -1.3**
comp=Z,98nm,0.9s,mb5.9
GRA1 Grafenberg Arr 60.80 312 *eP* **P 12 26 20.8 +0.3**
comp=Z,30nm,0.8s,mb5.5
GRA1 *ep* P pP 12 26 26.2 +0.6
GRF Grafenberg Arr 60.80 312 *eP* **P 12 26 20.8 +0.3**
GRF *e* *PP pP 12 26 26.2 +0.6
GRF pmax pmax
comp=Z,30nm,0.8s,mb5.5
GRF Grafenberg Arr 60.80 312 *eP* **P 12 26 20.8 +0.3**
GRF *e* *PP pP 12 26 26.2 +0.6
GRF pmax pmax
comp=Z,30nm,0.8s,mb5.5
GRF Grafenberg Arr 60.80 312 *eP* **P 12 26 20.8 +0.3**
comp=Z,30nm,0.8s,mb5.5
GRF *ep* P pP 12 26 26.2 +0.6
KAKA Kakadu 60.82 148 *eP* **P 12 26 22.5 +1.4**
comp=Z,34nm,1.5s,mb5.2
LJU Ljubljana 60.87 307 *eP* **P 12 26 20.4 -0.6**
KBA Koelnbreinsper 61.01 309⇑ *iP* **P 12 26 22.4 +0.4**
comp=Z,47nm,1.3s,mb5.5
KBA Koelnbreinsper 61.01 309⇑ *iP* **P 12 26 22.4 +0.4**
KBA pmax pmax
comp=Z,47nm,1.3s,mb5.5
INK Inuvik 61.38 21 *eP* **P 12 26 23.7 -0.5**
INK pmax pmax
comp=Z,50nm,0.8s
INK Inuvik 61.38 21 P **P 12 26 24.3 +0.1**
comp=Z,42nm,0.8s,mb5.6,baz=336,slow=7.2,SNR=12
INK Inuvik 61.38 21 *eP* **P 12 26 23.7 -0.5**
comp=Z,50nm,0.8s,mb5.7
FUR Furstenfeldbru 61.60 311 *eP* **P 12 26 26.1 +0.1**
FUR pmax pmax
comp=Z,45nm,0.8s,mb5.7
FUR Furstenfeldbru 61.60 311 *eP* **P 12 26 26.1 +0.1**
comp=Z,45nm,0.8s,mb5.7
WATA Walderalm 61.88 310⇑ *iP* **P 12 26 27.9 0.0**
comp=Z,15nm,0.9s,mb5.1
WATA Walderalm 61.88 310⇑ *iP* **P 12 26 27.9 0.0**
WATA pmax pmax
comp=Z,15nm,0.9s,mb5.1
WTTA Wattenberg 61.89 310⇑ *iP* **P 12 26 28.0 +0.1**
comp=Z,40nm,1.1s,mb5.5
WTTA Wattenberg 61.89 310⇑ *iP* **P 12 26 28.0 +0.1**
WTTA pmax pmax
comp=Z,40nm,1.1s,mb5.5
TNS Taunus Mts 62.02 314 *eP* **P 12 26 28.7 -0.1**
TNS pmax pmax
comp=Z,44nm,1.8s,mb5.3
TNS Taunus Mts 62.02 314 *eP* **P 12 26 28.7 -0.1**
comp=Z,44nm,1.8s,mb5.3
MOTA Moosalm 62.15 310⇑ *iP* **P 12 26 29.6 -0.1**
comp=Z,21nm,1.0s,mb5.2
MOTA Moosalm 62.15 310⇑ *iP* **P 12 26 29.6 -0.1**
MOTA pmax pmax
comp=Z,21nm,1.0s,mb5.2
SQTA Sankt Quirin 62.16 310⇑ *iP* **P 12 26 29.7 0.0**
comp=Z,19nm,0.9s,mb5.2
SQTA Sankt Quirin 62.16 310⇑ *iP* **P 12 26 29.7 0.0**
SQTA pmax pmax
comp=Z,19nm,0.9s,mb5.2
TOD Tromm 62.17 313 *eP* **P 12 26 29.6 -0.2**
DIV Divide 62.19 31 *eP* **P 12 26 29.9 +0.1**
comp=Z,207nm,1.0s,mb6.2
DIV LR LR
comp=Z,3µm,19.0s,MS5.5
RES Resolute Bay 62.33 6 *eP* **P 12 26 30.4 -0.2**
RES pmax pmax
comp=Z,24nm,1.0s,mb5.3
RES Resolute Bay 62.33 6 *eP* **P 12 26 30.4 -0.2**
comp=Z,24nm,1.0s,mb5.3
EYAK Cordova Ski Ar 62.56 32 *eP* **P 12 26 32.2 0.0**
DAVA Damuels 62.87 310⇓ *iP* **P 12 26 35.3 +0.9**
comp=Z,46nm,1.9s,mb5.3
BFO Black Forest 63.14 312 *eP* **P 12 26 36.0 -0.2**
BFO pmax pmax
comp=Z,13nm,0.9s,mb5.1
BFO Black Forest 63.14 312 *eP* **P 12 26 36.0 -0.2**
comp=Z,13nm,0.9s,mb5.1
TIP Timpagrande 63.26 300 *eP* **P 12 26 37.0 -0.2**
FITZ Fitzroy Crossi 63.53 157 *eP* **P 12 26 38.3 -0.9**
comp=Z,22nm,0.8s,mb5.2
FITZ Fitzroy Crossi 63.53 157 P **P 12 26 38.6 -0.6**
comp=Z,27nm,0.8s,mb5.3,baz=356,slow=2.2,SNR=14
FELD Feldberg 63.58 312 *eP* **P 12 26 38.5 -0.5**
WLS Welschbruch 63.63 312 *eP* **P 12 26 38.7 -0.7**
CDF Champ du Feu 63.67 312 *eP* **P 12 26 39.2 -0.4**
comp=Z,34nm,1.0s,mb5.0
CDF Champ du Feu 63.67 312 *eP* **P 12 26 39.2 -0.4**
CDF pmax pmax
comp=Z,17nm,1.0s,mb5.0
ECH Echery 63.85 312 *eP* **P 12 26 40.6 -0.2**
GIVF Givet 64.00 315 *eP* **P 12 26 41.1 -0.7**
BBS Basel-Blauen 64.09 311 *eP* **P 12 26 42.0 -0.4**
HINF Hinteralfeld 64.25 312 *eP* **P 12 26 42.8 -0.6**
VALM 64.33 307 P **P 12 26 42.7 -1.3**
SARO Sassorosso 64.33 307 P **P 12 26 43.4 -0.6**
BAIF Baives 64.35 315 *eP* **P 12 26 43.7 -0.3**
comp=Z,35nm,1.1s,mb5.0
BAIF Baives 64.35 315 *eP* **P 12 26 43.7 -0.3**
BAIF pmax pmax
comp=Z,17nm,1.1s,mb5.0
GRAM 64.35 308 P **P 12 26 42.1 -2.0**

VLC Villacollemand 64.36 307 *e*P P **12 26 44.7 +0.5**
comp=Z,75nm,1.2s,mb5.6
HAU Haudompre 64.42 312 *e*P P **12 26 44.0 -0.5**
comp=Z,38nm,0.9s,mb5.1
HAU Haudompre 64.42 312 *e*P P **12 26 44.0 -0.5**
HAU pmax pmax
comp=Z,19nm,0.9s,mb5.1
MAIM 64.44 307 P P **12 26 42.5 -2.2**
THEF They Montfort 64.48 313 *e*P P **12 26 44.6 -0.3**
LOMF Lomont 64.54 312 *e*P P **12 26 44.3 -1.0**
CODM 64.54 308 P P **12 26 44.0 -1.4**
KWAJ Kwajalein Atol 64.59 102 PFAKE 12 27 00.0 +14
KWAJ LR LR
comp=Z,413nm,21.0s,MS4.6
ESK Eskdalemuir 64.73 323 PFAKE 12 27 00.0 +14
ESK LR LR
comp=Z,255nm,20.0s,MS4.4
BORG Borgarnes 64.86 337 PFAKE 12 27 00.0 +13
BORG LR LR
comp=Z,383nm,21.0s,MS4.6
ORX Oropa 64.89 310 P P **12 26 47.6 -0.1**
PMG Port Moresby 64.92 132 PFAKE 12 27 00.0 +12
PMG LR LR
comp=Z,1µm,21.0s,MS5.1
MBWA Marble Bar 65.02 164 *e*P P **12 26 47.9 -1.0**
comp=Z,15nm,0.7s,mb5.1
MBWA *e*pP pP 12 26 51.8 -2.1
MBWA LR LR
comp=Z,897nm,22.0s,MS4.9
PCP Pian Castagno 65.21 308 P P **12 26 48.8 -0.9**
CABF La Chapelle 65.38 311 *e*P P **12 26 50.3 -0.5**
comp=Z,17nm,0.7s,mb4.9
CABF La Chapelle 65.38 311 *e*P P **12 26 50.3 -0.5**
CABF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
LSD Ceresole Reale 65.47 310 P P **12 26 50.6 -0.7**
RSP Reno Superiore 65.59 310 P P **12 26 50.2 -1.9**
FIN Finale Ligure 65.60 308 P P **12 26 50.3 -1.9**
LPL La Plagne 65.67 310 *e*P P **12 26 53.0 +0.4**
comp=Z,46nm,0.7s,mb5.3
LPL La Plagne 65.67 310 *e*P P **12 26 53.0 +0.4**
LPL pmax pmax
comp=Z,23nm,0.7s,mb5.3
LPG La Plagne 65.67 310 *e*P P **12 26 53.0 +0.4**
comp=Z,50nm,0.8s,mb5.3
LPG La Plagne 65.67 310 *e*P P **12 26 53.0 +0.4**
LPG pmax pmax
comp=Z,25nm,0.8s,mb5.3
ROB Roburent 65.75 308 P P **12 26 51.4 -1.7**
BHB Bricherasio 65.77 309 P P **12 26 50.7 -2.6**
FENE Fenestrelle 65.77 310 P P **12 26 51.7 -1.6**
MONE Monesi 65.94 308 P P **12 26 51.3 -3.1**
IMI Imperia 65.96 308 P P **12 26 52.2 -2.3**
BNI Bardonecchia 65.98 310 *e*P P **12 26 54.2 -0.4**
BNI pmax pmax
comp=Z,22nm,0.9s,mb5.2
BNI Bardonecchia 65.98 310 *e*P P **12 26 54.2 -0.4**
comp=Z,22nm,0.9s,mb5.2
ENR Entracque 66.05 309 P P **12 26 52.9 -2.2**
STV2 Anna di Valdie 66.09 309 P P **12 26 52.4 -3.0**
STV Sta Anna Valdi 66.09 309 P P **12 26 52.3 -3.0**
NEGI Negi 66.11 308 P P **12 26 53.0 -2.4**
SAOF Saorge 66.11 308 *e*P P **12 26 54.8 -0.7**
MBDF Montbardon 66.12 309 *e*P P **12 26 54.9 -0.6**
comp=Z,55nm,0.8s,mb5.3
MBDF Montbardon 66.12 309 *e*P P **12 26 54.9 -0.6**
MBDF pmax pmax
comp=Z,28nm,0.8s,mb5.3
PGF Pioggiola 66.12 306 *e*P P **12 26 55.7 +0.1**
comp=Z,116nm,1.0s,mb5.6
PGF Pioggiola 66.12 306 *e*P P **12 26 55.7 +0.1**
PGF pmax pmax
comp=Z,58nm,1.0s,mb5.6
AUTN L'Aution 66.18 308 *e*P P **12 26 56.5 +0.6**
LOR Lormes 66.21 313 *e*P P **12 26 55.2 -0.8**
comp=Z,14nm,0.7s,mb4.8
LOR Lormes 66.21 313 *e*P P **12 26 55.2 -0.8**
LOR pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
SBF Sospel 66.25 308 *e*P P **12 26 56.1 -0.3**
comp=Z,85nm,0.7s,mb5.6
SBF Sospel 66.25 308 *e*P P **12 26 56.1 -0.3**
SBF pmax pmax
comp=Z,42nm,0.7s,mb5.6
TOUF Mont Tournerai 66.27 309 *e*P P **12 26 56.8 +0.3**
ORIF Oris-en-Rattie 66.51 310 *e*P P **12 26 57.9 -0.1**
comp=Z,46nm,0.8s,mb5.3
ORIF Oris-en-Rattie 66.51 310 *e*P P **12 26 57.9 -0.1**
ORIF pmax pmax
comp=Z,23nm,0.8s,mb5.3
SSF Saint Saulge 66.52 313 *e*P P **12 26 57.1 -1.0**
SSF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
SSF Saint Saulge 66.52 313 *e*P P **12 26 57.1 -1.0**
comp=Z,2.5nm,0.5s,mb4.5
SMF Signal de Mont 66.60 312 *e*P P **12 26 57.9 -0.6**
comp=Z,60nm,1.0s,mb5.3
SMF Signal de Mont 66.60 312 *e*P P **12 26 57.9 -0.6**
SMF pmax pmax
comp=Z,30nm,1.0s,mb5.3
CALN Calern 66.64 308 *e*P P **12 26 58.3 -0.5**
AVF Avril sur Loir 66.77 313 *e*P P **12 26 59.0 -0.7**
comp=Z,54nm,1.1s,mb5.2
AVF Avril sur Loir 66.77 313 *e*P P **12 26 59.0 -0.7**
AVF pmax pmax
comp=Z,27nm,1.1s,mb5.2
FRF La Foret Royal 66.89 308 *e*P P **12 26 59.2 -1.3**
comp=Z,36nm,0.9s,mb5.1
FRF La Foret Royal 66.89 308 *e*P P **12 26 59.2 -1.3**
FRF pmax pmax
comp=Z,18nm,0.9s,mb5.1
STOF St-Etienne Org 67.05 309 *e*P P **12 27 01.9 +0.4**
LMR La Mourre 67.11 308 *e*P P **12 27 01.0 -0.9**
comp=Z,22nm,0.8s,mb4.9
LMR La Mourre 67.11 308 *e*P P **12 27 01.0 -0.9**
LMR pmax pmax
comp=Z,11nm,0.8s,mb4.9
TAVF Tavernes 67.20 309 *e*P P **12 27 03.1 +0.7**
VIVF Saint-Julien-l 67.23 310 *e*P P **12 27 02.0 -0.6**
comp=Z,37nm,1.1s,mb5.0
VIVF Saint-Julien-l 67.23 310 *e*P P **12 27 02.0 -0.6**
VIVF pmax pmax
comp=Z,18nm,1.1s,mb5.0
SMRF Simiane la Rot 67.26 309 *e*P P **12 27 01.8 -1.0**
comp=Z,19nm,0.8s,mb4.8
AGO Saint Agoulin 67.35 312 *e*P P **12 27 04.2 +0.9**
PUYF Puyloubier 67.46 309 *e*P P **12 27 03.8 -0.3**
DLF Lyons Farm 67.53 323 ⇑*i*P P **12 27 03.8 -0.5**
FLN La Foliniere 67.56 316 *e*P P **12 27 04.0 -0.6**
comp=Z,112nm,1.1s,mb5.5
FLN La Foliniere 67.56 316 *e*P P **12 27 04.0 -0.6**
FLN pmax pmax
comp=Z,56nm,1.1s,mb5.5
PRAF Pradon 67.59 309 *e*P P **12 27 05.2 +0.3**
BERF Bertagne 67.60 309 *e*P P **12 27 05.0 +0.1**
PYM Petit Puy Mans 67.60 312 *e*P P **12 27 05.9 +1.0**
TCF Toulx Ste Croi 67.70 313 *e*P P **12 27 04.7 -0.9**
comp=Z,53nm,1.1s,mb5.2
TCF Toulx Ste Croi 67.70 313 *e*P P **12 27 04.7 -0.9**
TCF pmax pmax
comp=Z,26nm,1.1s,mb5.2
VSL Villasalto 67.72 304 *e*P P **12 27 04.0 -1.8**
comp=Z,25nm,0.9s,mb5.2
LBL Lubilhac 67.79 311 *e*P P **12 27 07.3 +1.2**
DCN Croghan 67.83 323 ⇑*i*P P **12 27 06.0 -0.2**
GRR Gorron 68.00 316 *e*P P **12 27 06.8 -0.5**
comp=Z,91nm,1.0s,mb5.5
GRR Gorron 68.00 316 *e*P P **12 27 06.8 -0.5**
GRR pmax pmax
comp=Z,45nm,1.0s,mb5.5
WRAB Tennant Creek 68.14 149 *e*P P **12 27 07.1 -1.6**
WRAB *e**PP pP 12 27 12.2 -1.5
WRAB pmax pmax
comp=Z,22nm,0.9s,mb5.2
WRAB MLR MLR
comp=Z,454nm,22.0s,MS4.7
WRAB Tennant Creek 68.14 149 *e*P P **12 27 07.1 -1.6**
comp=Z,22nm,0.9s,mb5.2
WRAB *e*pP pP 12 27 12.2 -1.5
WRAB LR LR
comp=Z,454nm,22.0s,MS4.7
WRA Warramunga Arr 68.14 149 P P **12 27 07.8 -0.9**
comp=Z,14nm,0.9s,mb5.0,baz=344,slow=6.2,SNR=71
WRA pP pP 12 27 12.4 -1.3
comp=Z,14nm,0.7s,baz=343,slow=6.1,SNR=30
WB2 Warramunga Arr 68.15 149 ⇑*i*P P **12 27 07.9 -0.9**
LASF Ste Croix 68.17 310 *e*P P **12 27 08.2 -0.3**
comp=Z,42nm,0.9s,mb5.1
CAF Calviac 68.64 312 *e*P P **12 27 11.6 +0.2**
comp=Z,32nm,1.0s,mb4.9
CAF Calviac 68.64 312 *e*P P **12 27 11.6 +0.2**
CAF pmax pmax
comp=Z,16nm,1.0s,mb4.9
RJF Les Rejaudoux 68.70 312 *e*P P **12 27 11.0 -0.8**
comp=Z,51nm,0.9s,mb5.1
RJF Les Rejaudoux 68.70 312 *e*P P **12 27 11.0 -0.8**
RJF pmax pmax
comp=Z,25nm,0.9s,mb5.1
MFF Saint Martin d 68.77 314 *e*P P **12 27 11.9 -0.3**
comp=Z,141nm,1.1s,mb5.5
MFF Saint Martin d 68.77 314 *e*P P **12 27 11.9 -0.3**
MFF pmax pmax
comp=Z,70nm,1.1s,mb5.5
SIT Sitka 68.91 30 PFAKE 12 27 20.0 +7.1
SIT LR LR
comp=Z,1µm,19.0s,MS5.1
SGMF Saint Gilles 68.95 317 *e*P P **12 27 12.5 -0.7**
comp=Z,126nm,1.2s,mb5.4
ROSF Rostrenen 69.25 317 *e*P P **12 27 14.2 -0.9**
LFF La Frestale 69.36 312 *e*P P **12 27 16.2 +0.4**
comp=Z,96nm,0.9s,mb5.4
LFF La Frestale 69.36 312 *e*P P **12 27 16.2 +0.4**
LFF pmax pmax
comp=Z,48nm,0.9s,mb5.4
QUIF Quistinic 69.48 317 *e*P P **12 27 15.6 -0.9**
MTLF Montolieu 69.56 310 *e*P P **12 27 16.9 -0.2**
comp=Z,21nm,1.1s,mb4.7
MTLF Montolieu 69.56 310 *e*P P **12 27 16.9 -0.2**
MTLF pmax pmax
comp=Z,11nm,1.1s,mb4.7
EJON La Jonquera 69.75 309 P P **12 27 18.5 +0.3**
comp=Z,6.2nm,0.5s,mb4.8
FILF Fillols 69.86 310 *e*P P **12 27 19.1 +0.2**
LPEF Le Peyrat 69.98 310 *e*P P **12 27 19.7 0.0**
VALF Valcebollere 70.27 310 *e*P P **12 27 21.8 +0.4**
MLS Moulis 70.44 311 *e*P P **12 27 22.2 -0.2**
CMAH Djebel Manchou 70.71 302 P P **12 27 24.5 +0.3**
YKA Yellowknife Ar 70.75 18 P P **12 27 24.1 +0.1**
YKA pmax pmax
comp=Z,32nm,0.8s
YKA Yellowknife Ar 70.75 18 P P **12 27 24.1 +0.2**
comp=Z,32nm,0.8s,mb5.3,baz=332,slow=5.8,SNR=32
EPF Esparros 70.81 311 *e*P P **12 27 24.1 -0.6**
comp=Z,19nm,0.8s,mb4.8
EPF Esparros 70.81 311 *e*P P **12 27 24.1 -0.6**
EPF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
EMIR Mirac le 70.86 310 P P **12 27 24.8 -0.3**
comp=Z,24nm,0.7s,mb5.2
ABSA Djebel Ababsia 70.89 302 P P **12 27 25.5 +0.2**
RESF Ens 70.95 311 *e*P P **12 27 26.3 +0.7**
CAEH 'Ain El Ouahch 70.97 303 P P **12 27 26.0 +0.2**
CKFL Kef-Lekhel 71.29 302 P P **12 27 28.0 +0.3**
EGRA Graus 71.37 310 P P **12 27 27.3 -0.8**
comp=Z,13nm,0.7s,mb5.0
ETSF Etsaut 71.39 311 *e*P P **12 27 28.6 +0.4**
comp=Z,25nm,0.9s,mb4.8
ETSF Etsaut 71.39 311 *e*P P **12 27 28.6 +0.4**
ETSF pmax pmax
comp=Z,13nm,0.9s,mb4.9
EPOB Poblet 71.48 309 P P **12 27 28.8 0.0**
comp=Z,13nm,0.6s,mb5.0
ETOS Mallorca 71.50 307 P P **12 27 29.4 +0.5**
comp=Z,28nm,0.9s,mb5.2
CASM Ain Smara 71.52 302 P P **12 27 29.0 -0.1**
SJPF Ste Jean 71.62 312 *e*P P **12 27 30.5 +0.9**
comp=Z,37nm,0.9s,mb5.0
SJPF Ste Jean 71.62 312 *e*P P **12 27 30.5 +0.9**
SJPF pmax pmax
comp=Z,19nm,0.9s,mb5.0
EALK Alkurruntz 71.70 312 P P **12 27 30.5 +0.4**
comp=Z,7.4nm,0.6s,mb4.8
DFRA Djebel Bou Aff 71.72 303 P P **12 27 31.0 +0.7**
ESAC San Caprasio 72.12 310 P P **12 27 32.1 -0.5**
comp=Z,22nm,0.7s,mb5.2
EBR Ebro Roquetas 72.17 309 *e*P P **12 27 33.0 +0.1**
HNR Honiara 72.52 121 PFAKE 12 27 50.0 +15
HNR LR LR
comp=Z,2µm,21.0s,MS5.3
ECRI Cripan 72.66 312 P P **12 27 36.5 +0.8**
ECRI pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ECRI Cripan 72.66 312 P P **12 27 36.5 +0.7**
comp=Z,9.8nm,0.8s,mb4.8
ELAN Lanestosa 72.74 313 P P **12 27 36.9 +0.7**
comp=Z,12nm,0.7s,mb5.0
EIBI Ibiza 72.85 307 P P **12 27 37.1 +0.2**
comp=Z,136nm,2.7s,mb5.4
EMOS Mosqueruela 73.02 309 P P **12 27 38.4 +0.5**
comp=Z,14nm,0.7s,mb5.0
CTA Charters Tower 73.43 139 P P **12 27 41.0 +0.3**
comp=Z,5.1nm,0.4s,mb4.8,baz=323,slow=15,SNR=2.7
CTA pP pP 12 27 45.6 -0.1
comp=Z,9.3nm,0.7s,baz=310,slow=9.4,SNR=4.6
CTAO Charters Tower 73.43 139 PFAKE 12 27 50.0 +9.4
CTAO LR LR
comp=Z,1µm,22.0s,MS5.1
EARI Arriondas 73.64 314 P P **12 27 42.0 +0.5**
comp=Z,15nm,1.0s,mb4.9
EMHD Djebel Mahouad 73.74 304 P P **12 27 45.0 +2.9**
ECHE Chera 73.82 309 P P **12 27 43.2 +0.7**
ECHE pmax pmax
comp=Z,11nm,1.5s,mb4.6
ECHE Chera 73.82 309 P P **12 27 43.2 +0.7**
comp=Z,11nm,1.5s,mb4.6
KMBO Kilima Mbogo 73.97 253 P P **12 27 44.5 +0.6**
comp=Z,3.9nm,0.8s,mb4.4,baz=40,slow=9.1,SNR=8.6
KMBO pP pP 12 27 48.9 0.0
comp=Z,6.8nm,0.8s,baz=42,slow=8.1,SNR=8.9
EBEN Beniarda 73.98 308 P P **12 27 44.0 +0.5**
comp=Z,87nm,1.5s,mb5.5
EPON Pontenova 74.65 315 P P **12 27 47.3 +0.1**
comp=Z,125nm,2.2s,mb5.5
ETOB Tobarra 74.79 309 P P **12 27 49.0 +0.9**
comp=Z,8.7nm,0.7s,mb4.8
KLBR Kellerberrin 74.85 168 *e*P P **12 27 48.5 -0.2**
comp=Z,27nm,0.8s,mb5.2
MUN Mundaring 75.01 169 *e*P P **12 27 49.0 -0.6**
comp=Z,9.1nm,0.8s,mb4.8
MUN Mundaring 75.01 169 *e*P P **12 27 49.0 -0.6**
MUN pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
EMUR La Murta 75.15 308 P P **12 27 50.0 -0.3**
comp=Z,29nm,1.0s,mb5.2
ETRT Tiaret 75.28 305 P P **12 27 52.0 +0.9**
EVIA Vianos 75.34 309 P P **12 27 52.5 +1.2**
EVIA pmax pmax
comp=Z,26nm,0.7s,mb5.3
EVIA Vianos 75.34 309 P P **12 27 52.5 +1.2**
comp=Z,26nm,0.7s,mb5.3
ECAL Calabor 75.40 314 P P **12 27 51.3 -0.3**
comp=Z,102nm,2.2s,mb5.4
ESDC Sonseca Array 75.46 311 P P **12 27 52.6 +0.6**
comp=Z,3.5nm,0.5s,mb4.5,baz=46,slow=5.4,SNR=16
ESDC pP pP 12 27 57.1 0.0
comp=Z,5.6nm,0.6s,baz=46,slow=5.7,SNR=12
ESLA Sonseca Array 75.46 311 *e*P P **12 27 51.8 -0.2**
comp=Z,6.6nm,1.2s,mb4.4
ESLA *e*pP pP 12 27 56.9 -0.2
ESLA LR LR
comp=Z,9µm,20.0s,MS6.0
PBRG Braganca 75.50 314 *e*P P **12 27 52.4 +0.2**
comp=Z,34nm,1.8s,mb5.0
EHUE Huescar 75.95 309 P P **12 27 55.8 +1.0**
EHUE pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
EHUE Huescar 75.95 309 P P **12 27 55.8 +0.9**
comp=Z,5.0nm,0.8s,mb4.5
ELOB Lobios 76.15 315 P P **12 27 57.0 +1.2**
comp=Z,6.3nm,0.6s,mb4.7
EQES Quesada 76.24 309 P P **12 27 57.1 +0.7**
comp=Z,15nm,1.0s,mb4.9
ENIJ Nijar 76.31 308 P P **12 27 57.0 +0.1**
ENIJ pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
ENIJ Nijar 76.31 308 P P **12 27 57.0 +0.1**
comp=Z,9.0nm,0.7s,mb4.8
EBAN Banos Encina 76.40 310 P P **12 27 58.3 +1.0**
EBAN pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
EBAN Banos Encina 76.40 310 P P **12 27 58.3 +0.9**
comp=Z,6.2nm,0.6s,mb4.7
EBER Berja 76.75 308 P P **12 28 00.3 +1.0**
comp=Z,273nm,2.0s,mb5.8
EADA Adamuz 76.85 310 P P **12 28 00.9 +1.1**
comp=Z,9.4nm,0.8s,mb4.8
MTE Manteigas 76.92 313 *e*P P **12 27 59.8 -0.4**
comp=Z,39nm,1.1s,mb5.2
ELUQ Luque 77.09 309 P P **12 28 02.0 +0.8**
ELUQ pmax pmax
comp=Z,15nm,0.8s,mb5.0
ELUQ Luque 77.09 309 P P **12 28 02.0 +0.8**
comp=Z,15nm,0.8s,mb5.0
PCBR Castelo Branco 77.28 313 *e*P P **12 28 03.1 +0.9**
ECAB El Cabril 77.39 310 P P **12 28 04.0 +1.2**
comp=Z,14nm,1.1s,mb4.8
EBAD Badajoz 77.80 312 P P **12 28 06.2 +1.1**
comp=Z,22nm,0.9s,mb5.1
MBAR Mbarara 78.26 258 PFAKE 12 28 20.0 +12
MBAR LR LR
comp=Z,107nm,21.0s,MS4.2
EMIN Mina Concepcio 78.31 311 P P **12 28 09.1 +1.2**
comp=Z,13nm,1.1s,mb4.8
ESPR Espera 78.48 310 P P **12 28 09.7 +0.8**
comp=Z,12nm,0.7s,mb5.0
EVO Evora 78.50 312 *e*P P **12 28 09.1 +0.2**
comp=Z,57nm,1.1s,mb5.1
PBEJ Beja 78.78 312 *e*P P **12 28 11.3 +0.8**
comp=Z,30nm,1.3s,mb5.1
EGRO El Granado 78.92 311 P P **12 28 12.0 +0.7**
comp=Z,20nm,1.1s,mb5.0
OPO Ambohidratompo 80.31 234 P P **12 28 19.6 +0.5**
comp=Z,5.8nm,0.8s,mb4.6,baz=9.0,slow=2.7,SNR=4.0
OCWA Octopus Mounta 80.43 31 PFAKE 12 28 30.0 +11
OCWA LR LR
comp=Z,970nm,19.0s,MS5.2
FFC Flin Flon 80.53 15 *e*P P **12 28 18.5 -1.0**
FFC pmax pmax
comp=Z,21nm,0.9s,mb5.1
FFC MLR MLR
comp=Z,477nm,19.0s,MS4.9
FFC Flin Flon 80.53 15 *e*P P **12 28 18.4 -1.1**
comp=Z,21nm,0.9s,mb5.1
FFC LR LR
comp=Z,477nm,19.0s,MS4.9
OSD Olympics--Snow 80.55 30 P P **12 28 22.1 +2.3**
CMW Cultus Mountai 80.63 29 P P **12 28 22.0 +1.8**
NLW Nelson Butte 81.55 28 P P **12 28 26.7 +1.7**
RMW Rattlesnake Mo 81.55 30 P P **12 28 26.8 +1.8**
STKA Stephens Creek 81.67 149 *e*P P **12 28 25.9 -0.1**
comp=Z,9.5nm,0.7s,mb4.8
STKA Stephens Creek 81.67 149 P P **12 28 26.2 +0.2**
comp=Z,11nm,0.7s,mb4.9,baz=352,slow=4.4,SNR=16
NEW Newport 82.49 26 P P **12 28 31.4 +1.5**
comp=Z,4.5nm,0.7s,mb4.5,baz=313,slow=5.2,SNR=3.0
NEW Newport 82.49 26 P P **12 28 31.4 +1.5**
NEW LR LR
comp=Z,1µm,20.0s,MS5.2
SCHQ Schefferville 82.66 355 P P **12 28 31.9 +1.3**
comp=Z,8.5nm,0.6s,mb4.9,baz=331,slow=7.2,SNR=4.7
SCHQ Schefferville 82.66 355 P P **12 28 31.9 +1.3**
SCHQ LR LR
comp=Z,2µm,21.0s,MS5.5
COR Corvallis 83.40 32 PFAKE 12 28 50.0 +15
COR LR LR
comp=Z,654nm,20.0s,MS5.0
MSO Missoula 84.77 25 PFAKE 12 28 50.0 +8.5
MSO LR LR
comp=Z,598nm,19.0s,MS5.0
HUMO Hull Mountain 85.20 33 PFAKE 12 29 00.0 +16
HUMO LR LR
comp=Z,515nm,21.0s,MS4.9
BMO Blue Mountains 85.40 28 PFAKE 12 29 00.0 +15
BMO LR LR
comp=Z,807nm,19.0s,MS5.1
ULM Lac du Bonnet 85.91 13 PFAKE 12 29 00.0 +13
ULM LR LR
comp=Z,4µm,20.0s,MS5.8
DGMT Dagmar 85.95 18 PFAKE 12 29 00.0 +13
DGMT LR LR
comp=Z,871nm,19.0s,MS5.2
YBH Yreka Blue Hor 86.03 33 PFAKE 12 29 00.0 +12
YBH LR LR
comp=Z,496nm,19.0s,MS4.9
BOZ Bozeman (W) 86.55 24 PFAKE 12 29 00.0 +10
BOZ LR LR
comp=Z,760nm,21.0s,MS5.1
MOD Modoc 86.84 32 PFAKE 12 29 00.0 +8.2
MOD LR LR
comp=Z,778nm,21.0s,MS5.1
WVOR Wild Horse Val 87.02 30 PFAKE 12 29 00.0 +7.3
WVOR LR LR
comp=Z,771nm,19.0s,MS5.1
WDC Whiskeytown Da 87.07 34 PFAKE 12 29 10.0 +17
WDC LR LR
comp=Z,577nm,19.0s,MS5.0
LAO LASA Array 87.11 20 PFAKE 12 29 10.0 +17
LAO LR LR
comp=Z,1µm,20.0s,MS5.3
LKWY Lake 87.90 24 PFAKE 12 29 10.0 +13
LKWY LR LR
comp=Z,743nm,20.0s,MS5.1
HOPS Hopland 88.18 35 PFAKE 12 29 10.0 +12
HOPS LR LR
comp=Z,738nm,19.0s,MS5.1
BMN Battle Mountai 89.28 30 PFAKE 12 29 20.0 +16
BMN LR LR
comp=Z,445nm,20.0s,MS4.9
AHID Auburn Hatcher 89.31 25 PFAKE 12 29 20.0 +16
AHID LR LR
comp=Z,633nm,19.0s,MS5.1
ELK Elko 89.73 29 PFAKE 12 29 20.0 +14
ELK LR LR
comp=Z,846nm,20.0s,MS5.2
BW06 Boulder Array 89.78 24 PFAKE 12 29 20.0 +14
BW06 LR LR
comp=Z,816nm,20.0s,MS5.2
CMB Columbia Colle 90.11 34 PFAKE 12 29 20.0 +12
CMB LR LR
comp=Z,620nm,20.0s,MS5.0
HWUT Hardware Ranch 90.21 26 PFAKE 12 29 20.0 +12
HWUT LR LR
comp=Z,875nm,19.0s,MS5.2
LSZ Lusaka 90.23 249 PFAKE 12 29 20.0 +11
LSZ LR LR
comp=Z,370nm,20.0s,MS4.8
EOSO Osorio 90.47 310 P P **12 29 09.8 +0.3**
comp=Z,74nm,1.2s,mb5.9
SAO San Andreas Ge 90.75 35 PFAKE 12 29 20.0 +9.5
SAO LR LR
comp=Z,672nm,20.0s,MS5.1
PQI Presque Isle 90.87 355 PFAKE 12 29 20.0 +9.2
PQI LR LR
comp=Z,9µm,20.0s,MS6.2
CCAN Las Canadas 90.95 311 P P **12 29 13.9 +2.3**
comp=Z,11nm,0.8s,mb5.2
TPH Tonopah 91.33 31 PFAKE 12 29 30.0 +17
TPH LR LR
comp=Z,504nm,19.0s,MS5.0
DAC Darwin (Calif) 92.75 33 PFAKE 12 29 30.0 +10
DAC LR LR
comp=Z,783nm,22.0s,MS5.1
EMMW East Machias 92.78 354 PFAKE 12 29 30.0 +10
EMMW LR LR
comp=Z,10µm,22.0s,MS6.2
ISA Isabella 92.93 34 PFAKE 12 29 30.0 +9.5
ISA LR LR
comp=Z,146nm,20.0s,MS4.4
WVL Waterville 93.07 356 PFAKE 12 29 30.0 +9.0
WVL LR LR
comp=Z,9µm,19.0s,MS6.2
MATP Matopo 93.59 246 P P **12 29 24.3 +0.4**
comp=Z,6.0nm,0.8s,mb5.1,baz=29,slow=5.2,SNR=13
MATP pP pP 12 29 28.9 -0.2
comp=Z,8.2nm,0.8s,baz=18,slow=4.2,SNR=8.5
MATP Matopo 93.59 246 P P **12 29 24.3 +0.4**
MATP pP pP 12 29 28.9 -0.2
NCB Newcomb 93.83 359 PFAKE 12 29 40.0 +16
NCB LR LR
comp=Z,1µm,20.0s,MS5.5
HRV Harvard--Oak R 95.22 357 PFAKE 12 29 40.0 +9.1
HRV LR LR
comp=Z,1µm,21.0s,MS5.4
WES Weston 95.33 357 PFAKE 12 29 40.0 +8.6
WES LR LR
comp=Z,1µm,22.0s,MS5.3
PFO Pinyon Flat Ob 95.53 33 PFAKE 12 29 40.0 +7.4

PFO				LR	LR					
	comp=Z,156nm,20.0s,MS4.5									
SDCO	**Great Sand Dun**	**95.61**	**23**	PFAKE			12 29 50.0	+17		
SDCO				LR	LR					
	comp=Z,1μm,20.0s,MS5.3									
CBKS	**Cedar Bluff**	**96.12**	**19**	PFAKE			12 29 50.0	+15		
CBKS				LR	LR					
	comp=Z,2μm,19.0s,MS5.6									
ANMO	**Albuquerque**	**97.91**	**25**	PFAKE			12 30 00.0	+17		
ANMO				LR	LR					
	comp=Z,664nm,20.0s,MS5.1									
MCWV	**Mont Chateau**	**98.07**	**3**	PFAKE			12 30 00.0	+16		
MCWV				LR	LR					
	comp=Z,2μm,21.0s,MS5.7									
TUC	**Tucson**	**98.86**	**29**	PFAKE			12 30 00.0	+12		
TUC				LR	LR					
	comp=Z,482nm,20.0s,MS5.0									
WCI	**Wyandotte Cave**	**99.01**	**8**	PFAKE			12 30 00.0	+12		
WCI				LR	LR					
	comp=Z,2μm,20.0s,MS5.7									
CBN	**Corbin**	**99.59**	**1**	PFAKE			12 30 00.0	+9.2		
CBN				LR	LR					
	comp=Z,2μm,19.0s,MS5.6									
BLA	**Blacksburg**	**100.48**	**4**	PFAKE			12 30 10.0	+15		
BLA				LR	LR					
	comp=Z,2μm,21.0s,MS5.5									
MNTX	**Cornudas Mount**	**101.25**	**25**	PFAKE			12 30 10.0	+11		
MNTX				LR	LR					
	comp=Z,698nm,20.0s,MS5.2									
BOSA	**Boshof**	**101.33**	**242**	PFAKE			12 30 10.0	+11		
BOSA				LR	LR					
	comp=Z,429nm,20.0s,MS5.0									
PLAL	**Pickwick Lake**	**102.00**	**10**	PFAKE			12 30 10.0	+8.1		
PLAL				LR	LR					
	comp=Z,1μm,19.0s,MS5.4									
OXF	**Oxford**	**102.28**	**11**	PFAKE			12 30 10.0	+6.9		
OXF				LR	LR					
	comp=Z,1μm,21.0s,MS5.5									
MYNC	**Murphy**	**102.35**	**7**	PFAKE			12 30 20.0	+17		
MYNC				LR	LR					
	comp=Z,3μm,20.0s,MS5.8									
LTX	**Lajitas**	**103.99**	**25**	PFAKE			12 30 20.0	+9.3		
LTX				LR	LR					
	comp=Z,1μm,21.0s,MS5.4									
NATX	**Nacogdoches**	**104.03**	**16**	PFAKE			12 30 20.0	+9.1		
NATX				LR	LR					
	comp=Z,1μm,19.0s,MS5.5									
LRAL	**Lakeview Retre**	**104.06**	**10**	PFAKE			12 30 20.0	+9.0		
LRAL				LR	LR					
	comp=Z,2μm,20.0s,MS5.6									
NHSC	**New Hope**	**104.58**	**4**	PFAKE			12 30 30.0	+17		
NHSC				LR	LR					
	comp=Z,3μm,20.0s,MS5.8									
BBSR	**BB Station**	**104.72**	**350**	PFAKE			12 30 30.0	+16		
BBSR				LR	LR					
	comp=Z,2μm,19.0s,MS5.7									
SNZO	**South Karori**	**104.94**	**133**	PFAKE			12 30 30.0	+15		
SNZO				LR	LR					
	comp=Z,2μm,21.0s,MS5.7									
SUR	**Sutherland**	**106.69**	**241**	PFAKE			12 34 40.0			
SUR				LR	LR					
	comp=Z,471nm,22.0s,MS5.0									
CASY	**Casey**	**108.63**	**177**	PFAKE			12 34 50.0			
CASY				LR	LR					
	comp=Z,555nm,20.0s,MS5.1									
MAW	**Mawson**	**114.21**	**196**	PKP	PKPdf		12 34 46.4	-2.3		
	comp=Z,1.6nm,0.9s,baz=20,slow=7.4,SNR=3.5									
MAW	**Mawson**	**114.21**	**196**	PKP	PKPdf		12 34 46.4	-2.3		
MAW				LR	LR					
	comp=Z,438nm,20.0s,MS5.1									
SJG	**San Juan**	**118.96**	**349**	PFAKE			12 35 10.0	+11		
SJG				LR	LR					
	comp=Z,939nm,21.0s,MS5.4									
SYO	**Syowa Base**	**120.97**	**202**	⇓PKiKP			12 35 02.8			
VNDA	**Vanda**	**124.89**	**167**	PKP	PKPdf		12 35 06.0	-3.2		
	comp=Z,2.3nm,0.8s,baz=304,slow=4.5,SNR=18									
VNDA	**Vanda**	**124.89**	**167**	*e*PKPdf	PKPdf		12 35 06.0	-3.2		
VNDA				LR	LR					
	comp=Z,2μm,22.0s,MS5.6									
SBA	**Scott Base**	**125.92**	**167**	PFAKE			12 35 20.0	+8.9		
SBA				LR	LR					
	comp=Z,1μm,21.0s,MS5.5									
JTS	**JuntasAbangare**	**126.73**	**11**	PFAKE			12 35 20.0	+5.8		
JTS				LR	LR					
	comp=Z,185nm,21.0s,MS4.7									
SDV	**Santo Domingo**	**128.57**	**353**	PKP	PKPdf		12 35 15.5	-2.3		
	baz=327,slow=5.3									
SDV	**Santo Domingo**	**128.57**	**353**	*e*PKPdf	PKPdf		12 35 14.7	-3.1		
SDV				LR	LR					
	comp=Z,630nm,22.0s,MS5.3									
RCBR	**Riachuelo**	**129.17**	**305**	PFAKE			12 35 30.0	+11		
RCBR				LR	LR					
	comp=Z,732nm,20.0s,MS5.4									
SNAA	**Sanae**	**135.06**	**205**		PKPdf		12 35 27.0	-1.6		
SNAA	**Sanae**	**135.06**	**205**		PKPdf		12 35 31.2	+2.6		
SNAA	**Sanae**	**135.06**	**205**		PKPdf		12 35 43.6	+15		
SNAA	**Sanae**	**135.06**	**205**		PKPdf		12 35 58.7	+30		
SNAA	**Sanae**	**135.06**	**205**	PKP	PKPdf		12 35 26.5	-2.1		
	comp=Z,1.9nm,0.9s,baz=71,slow=2.7,SNR=9.6									
SNAA	**Sanae**	**135.06**	**205**	P	PKPdf		12 35 27.0	-1.6		
SNAA				P			12 35 31.2			
SNAA				P			12 35 43.6			
VNA2	**Neumayer--Watz**	**136.55**	**206**		PKPdf		12 35 32.9	+1.7		
VNA2	**Neumayer--Watz**	**136.55**	**206**		PKPdf		12 35 38.1	+6.9		
VNA2	**Neumayer--Watz**	**136.55**	**206**		PKPdf		12 35 40.8	+10		
VNA2	**Neumayer--Watz**	**136.55**	**206**		PKPdf		12 35 43.5	+12		
VNA2	**Neumayer--Watz**	**136.55**	**206**		PKPdf		12 35 45.3	+14		
VNA2	**Neumayer--Watz**	**136.55**	**206**		PKPdf		12 35 52.7	+22		
VNA2	**Neumayer--Watz**	**136.55**	**206**	P	PKPdf		12 35 24.7	-6.5		
VNA2				P			12 35 32.9			
VNA2				P			12 35 38.1			
VNA2				P			12 35 40.8			
VNA2				P			12 35 43.5			
VNA2				P			12 35 45.3			
VNA2				P			12 35 52.7			
VNA1	**Neumayer--Stat**	**136.85**	**207**		PKPdf		12 35 33.5	+1.8		
VNA1	**Neumayer--Stat**	**136.85**	**207**		PKPdf		12 35 38.6	+6.9		
VNA1	**Neumayer--Stat**	**136.85**	**207**		PKPdf		12 35 45.5	+14		
VNA1	**Neumayer--Stat**	**136.85**	**207**	P	PKPdf		12 35 25.9	-5.8		
VNA1				P			12 35 33.5			
VNA1				P			12 35 38.6			
VNA1				P			12 35 45.5			
VNA3	**Neumayer Olymp**	**137.26**	**206**		PKPdf		12 35 34.2	+1.7		
VNA3	**Neumayer Olymp**	**137.26**	**206**		PKPdf		12 35 39.2	+6.7		
VNA3	**Neumayer Olymp**	**137.26**	**206**		PKPdf		12 35 42.1	+10		
VNA3	**Neumayer Olymp**	**137.26**	**206**		PKPdf		12 35 44.7	+12		
VNA3	**Neumayer Olymp**	**137.26**	**206**	P	PKPdf		12 35 27.4	-5.1		
VNA3				P			12 35 34.2			
VNA3				P			12 35 39.2			
VNA3				P			12 35 42.1			
VNA3				P			12 35 44.7			
BAO	**Brasilia Array**	**144.09**	**310**	PKPdf	PKPdf		12 35 42.0	-4.1		
BDFB	**Brasilia**	**144.11**	**310**	PKP	PKPdf		12 35 42.4	-3.7		
	comp=Z,46nm,0.8s,baz=81,slow=1.5,SNR=58									
SAML	**Samuel**	**144.71**	**338**	*e*PKP	PKPdf		12 35 44.0	-3.3		
SAML				LR	LR					
	comp=Z,1μm,22.0s,MS5.6									
NNA	**Nana**	**149.51**	**2**	PFAKE			12 36 00.0	+4.8		
NNA				LR	LR					
	comp=Z,156nm,21.0s,MS4.8									
SIV	**San Ignacio**	**150.64**	**330**	PKP	PKPdf		12 35 55.5	-1.4		
	comp=Z,4.9nm,0.9s,baz=172,slow=1.1,SNR=15									
SIV				PKPbc	PKPdf		12 36 00.6	+3.7		
	comp=Z,7.2nm,0.6s,baz=72,slow=3.0,SNR=34									
SIV				pPKPbc			12 36 05.9			
	comp=Z,7.6nm,0.5s,baz=42,slow=2.4,SNR=12									
LPAZ	**La Paz**	**152.99**	**344**	PKP	PKPdf		12 35 60.0	-0.3		
	comp=Z,4.2nm,0.9s,baz=26,slow=19,SNR=16									
LPAZ				PKPbc	PKPdf		12 36 06.0	+5.7		
	comp=Z,8.5nm,0.7s,baz=17,slow=4.2,SNR=24									
LPAZ	**La Paz**	**152.99**	**344**	*e*PKPdf	PKPdf		12 35 59.1	-1.2		
PMSA	**Palmer Station**	**156.77**	**193**	PFAKE			12 36 10.0	+6.1		
PMSA				LR	LR					
	comp=Z,1μm,22.0s,MS5.7									
CPUP	**Villa Florida**	**157.83**	**311**	PKP	PKPdf		12 36 04.5	-2.1		
	comp=Z,2.2nm,0.9s,baz=76,slow=4.2,SNR=3.0									
CPUP				PKPab	PKPab		12 36 37.3	-0.8		
	comp=Z,5.5nm,0.9s,baz=24,slow=6.9,SNR=5.4									
CPUP	**Villa Florida**	**157.83**	**311**	PKP	PKPdf		12 36 04.5	-2.1		
CPUP				PKPab	PKPab		12 36 37.3	-0.8		
CPUP				LR	LR					
	comp=Z,847nm,21.0s,MS5.5									
LVC	**Limon Verde**	**159.28**	**342**	PKPab	PKPab		12 36 43.9	-0.4		
	comp=Z,7.6nm,0.9s,baz=359,slow=5.4,SNR=5.4									
LVC	**Limon Verde**	**159.28**	**342**	PFAKE			12 36 20.0	+12		
LVC				LR	LR					
	comp=Z,3μm,22.0s,MS6.1									
USHA	**Ushuaia**	**166.81**	**199**	PKP	PKPdf		12 36 12.0	-2.6		
	comp=Z,14nm,1.1s,baz=135,slow=2.9,SNR=2.9									
TRQA	**Tornquist**	**168.52**	**289**	PFAKE			12 36 30.0	+14		
TRQA				LR	LR					
	comp=Z,4μm,22.0s									
PLCA	**Paso Flores**	**175.65**	**293**	PKP	PKPdf		12 36 17.6	-1.9		
	comp=Z,3.9nm,0.9s,baz=316,slow=0.9,SNR=7.0									
PLCA	**Paso Flores**	**175.65**	**293**	PKP	PKPdf		12 36 17.6	-1.9		
PLCA				LR	LR					
	comp=Z,3μm,20.0s									

BJI ***26*** *12:17:11.9,52.74N×159.82E,h17km,mB5.7,mb5.3, Ms5.9,Msz5.8*

MOS ***26*** *12:17:12.8±0.9,52.74N×160.17E,h33km,mb5.7/93, MS5.5/53,Error ellipse: s-maj=7.2km s-min=3.2km az=96.1*

CSEM ***26*** *12:17:14.6,53.02N×160.16E,h40km,mb5.5*

KRSC ***26*** *12:17:14.6±0.8,52.78N×160.22E,h29km±3km,ML5.9*

IDC ***26*** *12:17:14.4±4.1,52.93N×159.95E,h29km±29km, mb5.0/28, mb1 5.1/30,mb1mx5.1/33,mbtmp5.2/30,ML5.1/2,MS5.3/37, Ms1 5.3/37,ms1mx5.2/42,Error ellipse: s-maj=13.8km s-min=9.5km az=146.0*

NEIC ***26*** *12:17:14.3±0.1,52.87N×160.11E,mb5.4/158,MS5.4/112, MW5.7,Error ellipse: s-maj=3.8km s-min=2.3km az=179.0, Moment Tensor Solution. s52 Moment tensor: Scale 10^17 Nm; Mrr3.08; Mθθ0.61; Mϕϕ-3.70; Mrθ1.43; Mθϕ-0.11; Mϕr2.06; Best double couple: M₀4.2×10^17 NP1:ϕs161°, δ33°,λ54°. NP2:ϕs21°,δ64°,λ111°. Principal axes: T 4.17, Plg65°, Azm327°; N .15, Plg18°, Azm192°; P -4.32, Plg17°, Azm96°;*

NEIC Felt at Petropavlovsk-Kamchatskiy.

HRVD ***26*** *12:17:14.3±0.1,52.76N×160.44E,h34km,MW5.8/76, Centroid moment Tensor Solution. LP body waves: s72,c166;Mantle waves: s76,c177; Half duration: 1s9 Moment tensor: Scale 10^17Nm; Mrr4.22±.08; Mθθ-1.23±.06; Mϕϕ-3.00±.06; Mrθ2.18±.09; Mθϕ-2.27±.04; Mϕr3.00±.07; Best double couple: M₀5.743×10^17 NP1: ϕs213°,δ25°,λ88°. NP2:ϕs35°,δ65°,λ91°. Principal axes: T 5.579, Plg70°, Azm308°; N .32, Plg1°, Azm215°; P -5.908, Plg20°, Azm125°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

CRAAG ***26*** *12:17:14.6,53.02N×160.16E,Mb5.5*

ISC 26 12:17:12.2±0.1,52.72N±0.02×160.22E±0.03,h29km, h29km±1.1km:pP-P,n984,σ1s05/933,mb5.4/214,MS5.4/170, 144C-26D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.40**	**343**	P		**Pb**		**12 17 23.2**	**+2.2**
SPN	**Mys Shipunski**	**0.40**	**343**	*i* P		**Pb**		**12 17 23.1**	**+2.1**
SPN				*e*S		**Sb**		**12 17 29.5**	**+2.5**
NLC	**Nalytchevo**	**0.70**	**311**	*i* P		**Pb**		**12 17 27.6**	**+1.9**
UGLR	**Uglovaya**	**0.97**	**301**	*i* P		**Pn**		**12 17 32.2**	**+2.2**
SDLR	**Sedlovina**	**0.98**	**305**	*i* P		**Pn**		**12 17 32.2**	**+2.1**
PET	**Petropavlovsk**	**0.99**	**289**	⇓*i*PN		**Pn**		**12 17 32.5**	**+2.2**
PET				*e*S		**Sn**		**12 17 43.8**	**+0.4**
PET				pmax	pmax				
	comp=E,7μm,0.9s								
PET				pmax	pmax				
	comp=Z,16μm,0.9s								
PET				pmax	pmax				
	comp=N,2μm,0.7s								
PET				smax					
	comp=E,328μm,3.5s								
PET				smax					
	comp=E,107μm,0.8s								
PET				smax					
	comp=N,110μm,0.6s								
PET	**Petropavlovsk**	**0.99**	**289**	⇓*i*Pn		**Pn**		**12 17 32.4**	**+2.1**
PET	**Petropavlovsk**	**0.99**	**289**	*i* P		**Pn**		**12 17 32.4**	**+2.1**
PET				*e*S		**Sn**		**12 17 46.1**	**+2.7**
SMAR	**Somma**	**1.01**	**303**	*i* P		**Pn**		**12 17 32.4**	**+1.8**
SMAR				*e*S		**Sn**		**12 17 45.8**	**+1.9**
AVH	**Avacha**	**1.05**	**302**	*e*P		**Pn**		**12 17 33.4**	**+2.4**
RUS	**Russkaya**	**1.08**	**255**	P		**Pn**		**12 17 33.8**	**+2.4**
RUS	**Russkaya**	**1.08**	**255**	*i* P		**Pn**		**12 17 33.7**	**+2.3**
RUS				*e*S		**Sn**		**12 17 48.4**	**+2.9**
KOK	**Koryaka**	**1.11**	**302**	*i* P		**Pn**		**12 17 34.3**	**+2.3**
KRMR	**Karymshinskiy**	**1.27**	**276**	*i* P		**Pn**		**12 17 35.8**	**+1.6**
KRMR				*i* S		**Sn**		**12 17 51.7**	**+1.3**
GRL	**Gorelyy**	**1.32**	**264**	*i* P		**Pn**		**12 17 38.1**	**+3.2**
KII	**Karymskiy**	**1.40**	**341**	P		**Pn**		**12 17 38.1**	**+2.1**
KII	**Karymskiy**	**1.40**	**341**	*i* P		**Pn**		**12 17 37.9**	**+1.9**
GNL	**Ganaly**	**1.68**	**307**	*i* P		**Pn**		**12 17 43.2**	**+3.1**
APC	**Apacha**	**1.87**	**278**	*i* P		**Pn**		**12 17 46.5**	**+3.8**
APC				*e*S		**Sn**		**12 18 10.4**	**+4.9**
APC				Smax					
	comp=N,11μm,0.9s								
MKZ	**Mys Kozlova**	**2.05**	**25**	*i* P		**Pn**		**12 17 45.6**	**+0.2**
MKZ				*e*S		**Sn**		**12 18 08.8**	**-1.5**
MIPR	**Malaya Ipel'ka**	**2.16**	**260**	*i* P		**Pn**		**12 17 50.5**	**+3.6**
MIPR				*i* S		**Sn**		**12 18 16.9**	**+3.9**
PAU	**Pauzhetka**	**2.44**	**241**	*i* P		**Pn**		**12 17 54.8**	**+3.8**
PAU				*e*S		**Sn**		**12 18 24.2**	**+4.0**
PAU				Smax					
	comp=N,18μm,0.9s								
TUMR	**Tumrok**	**2.57**	**359**	*i* P		**Pn**		**12 17 55.1**	**+2.3**
TUMR				*e*S		**Sn**		**12 18 24.2**	**+0.8**
KMNR	**Kamenistaya**	**3.05**	**0**	*i* P		**Pn**		**12 18 01.9**	**+2.3**
KPT	**Kopyto**	**3.26**	**0**	*i* P		**Pn**		**12 18 04.4**	**+1.9**
KPT				*e*S		**Sn**		**12 18 41.0**	**+0.2**
SKR	**Severo-Kuril's**	**3.26**	**233**	*e*PN		**Pn**		**12 18 02.4**	**-0.2**
SKR				*e*S		**Sn**		**12 18 40.0**	**-0.9**
SKR				pmax	pmax				
	comp=N,2μm,4.0s								
SKR				pmax	pmax				
	comp=E,2μm,4.0s								
SKR				pmax	pmax				
	comp=Z,2μm,4.0s								
SKR				pmax	pmax				
	comp=N,160nm,0.5s								
SKR				pmax	pmax				
	comp=E,270nm,0.5s								
SKR				pmax	pmax				
	comp=Z,410nm,0.5s								
SKR				smax					
	comp=N,2μm,0.5s								
SKR				smax					
	comp=E,5μm,0.5s								
SKR				smax					
	comp=N,21μm,8.0s								
SKR				smax					
	comp=E,33μm,8.0s								
SKR				MLR	MLR				
	comp=Z,62μm,20.0s								
SKR				MLR	MLR				
	comp=N,40μm,18.0s								
SKR				MLR	MLR				
	comp=E,61μm,18.0s								
SKR	**Severo-Kuril's**	**3.26**	**233**	*e*P		**Pn**		**12 18 02.0**	**-0.6**
ZLN	**Zelenaya**	**3.33**	**6**	*i* P		**Pn**		**12 18 06.3**	**+2.8**
ESO	**Esso**	**3.33**	**345**	*i* P		**Pn**		**12 18 05.3**	**+1.6**
ESO				*e*S		**Sn**		**12 18 42.4**	**-0.3**
ESO				Smax					
	comp=E,7μm,1.4s								
KOZ	**Kozyrevsk**	**3.35**	**357**	*i* P		**Pn**		**12 18 06.0**	**+2.1**
KOZ				*e*S		**Sn**		**12 18 42.9**	**-0.3**
KOZR	**Kozyr**	**3.36**	**357**	PN		**Pn**		**12 18 06.0**	**+2.0**
LGNR	**Loginova**	**3.38**	**5**	*i* P		**Pn**		**12 18 07.1**	**+2.7**
LGNR				*e*S		**Sn**		**12 18 44.9**	**+0.9**
CIRR	**Tsirk**	**3.42**	**5**	*i* P		**Pn**		**12 18 09.1**	**+4.2**
ALID	**Alaid**	**3.44**	**239**	*e*P		**Pn**		**12 18 08.7**	**+3.6**
ALID				*e*S		**Sn**		**12 18 48.8**	**+3.5**
KRSR	**Krestovskiy**	**3.51**	**3**	*i* P		**Pn**		**12 18 08.5**	**+2.3**
KRSR				*e*S		**Sn**		**12 18 47.8**	**+0.5**
KLY	**Klyuchi**	**3.61**	**4**	P		**Pn**		**12 18 09.9**	**+2.3**
KLY	**Klyuchi**	**3.61**	**4**	*i* P		**Pn**		**12 18 09.8**	**+2.2**
KLY				*i* S		**Sn**		**12 18 49.6**	**-0.2**
SRDR	**Sredinnyy**	**3.62**	**356**	*i* P		**Pn**		**12 18 09.0**	**+1.3**
SRDR				*e*S		**Sn**		**12 18 48.2**	**-1.8**
KBTR	**Krutoberegovo**	**3.81**	**22**	P		**Pn**		**12 18 11.7**	**+1.2**
KBTR	**Krutoberegovo**	**3.81**	**22**	*e*P		**Pn**		**12 18 12.0**	**+1.5**
KBTR				*e*S		**Sn**		**12 18 53.7**	**-1.2**
SVLR	**Shiveluch**	**3.91**	**8**	*e*P		**Pn**		**12 18 11.4**	**-0.5**
BKI	**Bering**	**4.21**	**51**	*i* P		**Pn**		**12 18 15.8**	**-0.4**
BKI				*i* S		**Sn**		**12 18 59.1**	**-6.0**
BKI				Smax					
	comp=E,5μm,0.6s								
OSSR	**Ossora**	**6.74**	**13**	*e*P		**Pn**		**12 18 54.3**	**+2.5**
OSSR				Smax					
	comp=E,2μm,1.3s								
FX1	**Attu Island--F**	**7.85**	**84**	Pn		**Pn**		**12 19 06.6**	**-0.7**
	comp=E,153nm,0.3s,baz=309,slow=5.3,SNR=256								
FX1				Sn		**Sn**		**12 20 29.6**	**-6.6**
	comp=E,465nm,0.3s,baz=74,slow=22,SNR=18								
FX1				LR	LR	LR		12 21 52.6	
	comp=E,1μm,21.9s,baz=307,slow=35								
FX1	**Attu Island--F**	**7.85**	**84**	⇓*i*Pn		**Pn**		**12 19 06.6**	**-0.8**
FX1				*e*Sn		**Sn**		**12 20 29.1**	**-7.1**
MA2	**Magadan**	**8.66**	**326**	*c i*PN		**P**		**12 19 19.3**	**+0.8**
MA2	**Magadan**	**8.66**	**326**	*e*Pn		**P**		**12 19 18.8**	**+0.2**
	comp=E,74nm,0.7s								
OKH	**Okha**	**10.42**	**281**	*i* PN		**P**		**12 19 43.8**	**+1.1**
OKH				pmax	pmax				
	comp=Z,4μm,6.0s								
KUR	**Kuril'sk**	**11.03**	**232**	*e*PN		**P**		**12 19 51.2**	**+0.1**
KUR				pmax	pmax				
	comp=Z,210nm,1.0s								
KUR				MLR	MLR				
	comp=E,14μm,15.0s								
KUR				MLR	MLR				
	comp=Z,14μm,15.0s								
TYV	**Tymovskoe**	**11.03**	**267**	*e*PN		**P**		**12 19 51.5**	**+0.4**
TYV				pmax	pmax				
	comp=Z,810nm,2.0s								
TYV				pmax	pmax				
	comp=N,2μm,6.0s								
TYV				pmax	pmax				
	comp=E,6μm,6.0s								
TYV				pmax	pmax				
	comp=Z,7μm,6.0s								
TYV				MLR	MLR				
	comp=N,12μm,16.0s								
TYV				MLR	MLR				
	comp=Z,43μm,16.0s								
TYV				MLR	MLR				
	comp=E,35μm,14.0s								
SEY	**Seymchan**	**11.05**	**341**	*e*PN		**P**		**12 19 52.9**	**+1.6**
SEY				pmax	pmax				
	comp=Z,90nm,1.2s								
SEY				pmax	pmax				
	comp=N,50nm,1.1s								
SEY				pmax	pmax				
	comp=E,40nm,1.1s								
SEY	**Seymchan**	**11.05**	**341**	⇑*i*P		**P**		**12 19 52.8**	**+1.5**
UGL	**Uglegorsk**	**12.02**	**260**	*c i*PN		**P**		**12 20 09.0**	**+4.6**
UGL				*i*				12 22 30.0	
UGL				pmax	pmax				
	comp=N,1μm,5.0s								
UGL				pmax	pmax				
	comp=E,4μm,5.0s								
UGL				pmax	pmax				
	comp=Z,4μm,5.0s								
UGL				pmax	pmax				
	comp=Z,400nm,1.2s								
UGL				MLR	MLR				
	comp=N,12μm,16.0s								
UGL				MLR	MLR				
	comp=E,25μm,18.0s								
UGL				MLR	MLR				
	comp=Z,25μm,18.0s								
YSS	**Yuzh-Sakhalins**	**12.65**	**250**	*e*PN		**P**		**12 20 15.0**	**+2.2**
YSS				*e*S		**S**		**12 22 36.0**	**+2.3**
YSS				pmax	pmax				
	comp=N,2μm,6.0s								
YSS				pmax	pmax				
	comp=E,2μm,6.0s								
YSS				pmax	pmax				
	comp=Z,2μm,6.0s								
YSS				pmax	pmax				
	comp=N,70nm,1.0s								
YSS				pmax	pmax				
	comp=E,90nm,1.0s								
YSS				pmax	pmax				
	comp=Z,100nm,1.0s								
YSS				pmax	pmax				
	comp=N,2μm,8.0s								
YSS				pmax	pmax				
	comp=E,3μm,8.0s								
YSS				pmax	pmax				
	comp=Z,3μm,8.0s								
YSS				smax					
	comp=N,2μm,9.0s								
YSS				smax					
	comp=E,2μm,9.0s								
YSS				MLR	MLR				
	comp=Z,30μm,18.0s								
YSS				MLR	MLR				
	comp=N,10μm,19.0s								
YSS				MLR	MLR				
	comp=E,24μm,17.0s								
YSS	**Yuzh-Sakhalins**	**12.65**	**250**	⇑*i*Pn		**P**		**12 20 15.2**	**+2.3**
	comp=E,99nm,1.0s								
YUK	**Yuzh-Kuril'sk**	**12.88**	**233**	*e*PN		**P**		**12 20 14.0**	**-2.0**
YUK				S		**S**		**12 22 48.0**	**+8.7**
YUK				pmax	pmax				
	comp=Z,420nm,0.5s								
YUK				pmax	pmax				
	comp=N,260nm,0.4s								
YUK				pmax	pmax				
	comp=E,1μm,1.0s								
YUK				pmax	pmax				
	comp=Z,2μm,1.0s								
YUK				smax					
	comp=N,3μm,4.0s								
YUK				MLR	MLR				
	comp=N,17μm,17.0s								
YUK				MLR	MLR				
	comp=Z,29μm,17.0s								
YUK				MLR	MLR				
	comp=E,15μm,18.0s								
GSTR	**Great Sitkin T**	**14.48**	**83**	*e*Pn		**P**		**12 20 37.2**	**+0.3**
ASAJ	**As

CLNS MLR MLR
comp=N,5µm,15.0s,MS5.1
CLNS MLR MLR
comp=E,1µm,12.0s,MS5.1
MDJ Mudanjiang 21.66 260 P P 12 21 59.5 -2.5
MDJ AP 12 22 05.3
MDJ XP 12 22 08.3
MDJ S **S 12 25 49.5 -5.6**
MDJ PCP PcP 12 26 03.0 -0.3
MDJ XS 12 26 06.0
MDJ SCP 12 29 38.5
MDJ PCS 12 29 40.3
MDJ AMB AMB
comp=Z,20nm,1.6s,mb4.3
MDJ AMB AMB
comp=Z,764nm,8.9s
MDJ LR LR
comp=N,4µm,20.6s,MS5.2
MDJ LR LR
comp=E,9µm,22.3s,MS5.2
MDJ LR LR
comp=Z,12µm,20.6s,MS5.3
MDJ Mudanjiang 21.66 260 *eP* **P 12 22 00.6 -1.4**
comp=Z,85nm,0.9s,mb5.2
MDJ LR LR
comp=Z,13µm,20.0s,MS5.3
MAJO Matsushiro 22.37 232 *eP* **P 12 22 12.4 +3.2**
MAJO pmax pmax
comp=Z,371nm,0.9s,mb5.8
MAJO MLR MLR
comp=Z,8µm,20.0s,MS5.1
MAJO Matsushiro 22.37 232 *eP* **P 12 22 12.4 +3.2**
comp=Z,371nm,0.9s,mb5.8
MAJO LR LR
comp=Z,8µm,20.0s,MS5.1
MAT Matsushiro 22.37 232 *eP* **P 12 22 10.0 +0.8**
MAT *eS* **S 12 26 07.0 -1.4**
MAT pmax pmax
comp=Z,100nm,1.0s,mb5.2
MAT MLR MLR
comp=Z,8µm,20.0s,MS5.1
MAT Matsushiro 22.37 232 *eP* **P 12 22 10.0 +0.8**
comp=Z,100nm,1.0s,mb5.2
MAT *eS* **S 12 26 07.0 -1.4**
MAT LR LR
comp=Z,8µm,20.0s,MS5.1
MAT Matsushiro 22.37 232 P **P 12 22 10.0 +0.8**
MAT S **S 12 26 18.0 +10**
MJAR Matsushiro Arr 22.37 232 P **P 12 22 11.4 +2.2**
comp=Z,92nm,0.8s,mb5.3,baz=16,slow=7.0,SNR=27
MJAR LR 12 32 06.2
comp=Z,8µm,20.4s,MS5.1,baz=40,slow=40
TIXI Tiksi 23.45 336 *eP* **P 12 22 15.6 -3.8**
TIXI *eS* **S 12 26 21.2 -6.0**
TIXI pmax pmax
comp=Z,35nm,0.7s,mb4.9
TIXI MLR MLR
comp=Z,5µm,14.0s,MS5.1
TIXI Tiksi 23.45 336⇑ *i*P **P 12 22 17.7 -1.7**
CN2 Changchun 24.60 263 *eP* **P 12 22 28.5 -2.2**
CN2 *e*AP 12 22 35.8
CN2 *eS* **S 12 26 44.3 -2.7**
CN2 AMB AMB
comp=Z,30nm,1.3s,mb4.7
CN2 AMB AMB
comp=Z,1µm,4.0s
CN2 LR LR
comp=N,15µm,17.0s,MS5.7
CN2 LR LR
comp=E,17µm,17.0s,MS5.7
CN2 LR LR
comp=Z,18µm,19.0s,MS5.6
TTA Tatalina 24.95 49 *eP* **P 12 22 34.3 +0.4**
TTA *e* 12 26 08.0
SVW2 Sparrevohn 25.10 53 *eP* **P 12 22 36.5 +1.2**
HIA Hailar 25.47 279 PFAKE 12 22 50.0 +11
HIA LR LR
comp=Z,14µm,19.0s,MS5.5
IMA Indian Mountai 26.27 42 *i* P **P 12 22 46.5 +0.3**
IMA *e* 12 26 12.6
IMA pmax pmax
comp=Z,190nm,0.8s,mb5.7
IMA Indian Mountai 26.27 42 *eP* **P 12 22 47.0 +0.8**
comp=Z,22nm,0.8s,mb4.7
BOD Bodaibo 26.39 300 *eP* **P 12 22 45.9 -1.5**
RSO Redoubt South 26.51 54 *eP* **P 12 22 48.5 +0.1**
RSO *e*PcP PcP 12 26 14.2 +0.9
SPU Mount Spurr 26.80 53 *eP* **P 12 22 50.8 -0.4**
SPU *e*PcP PcP 12 26 12.6 -1.4
KS15 Wonju Array Si 27.18 249 *eP* **P 12 22 56.5 +1.7**
INCN Inchon 27.86 250 P **P 12 23 03.6 +2.6**
comp=Z,54nm,0.9s,mb5.2
INCN LR LR
comp=Z,6µm,19.0s,MS5.2
PMR Palmer 28.18 52 PFAKE 12 23 20.0 +16
PMR LR LR
comp=Z,5µm,21.0s,MS5.1
SML Sawmill 28.54 51 *eP* **P 12 23 03.9 -3.0**
SML *e* 12 26 18.2
JNU Nakatsue 28.76 239 P **P 12 23 10.0 +0.9**
comp=Z,85nm,0.9s,mb5.5,baz=34,slow=19,SNR=12
JNU LR LR 12 35 22.9
comp=Z,4µm,21.4s,MS5.0,baz=260,slow=38
CBIJ Chichi jima 28.92 215 LR LR 12 33 00.6
comp=Z,2µm,21.2s,MS4.8,baz=331,slow=33
ILAR Eielson Array 29.03 45 P **P 12 23 10.2 -1.0**
comp=Z,9.6nm,0.7s,mb4.6,baz=259,slow=8.2,SNR=79
ILAR LR LR 12 36 23.5
comp=Z,2µm,18.1s,MS4.8,baz=287,slow=40
MIDW Midway 29.59 137 PFAKE 12 23 30.0 +13
MIDW LR LR
comp=Z,8µm,22.0s,MS5.3
DL2 Dalian 29.84 258 *eP* **P 12 23 20.8 +2.0**
DL2 *eS* **S 12 28 19.0 +6.6**
DL2 AMB AMB
comp=Z,50nm,0.9s,mb5.2
DL2 LR LR
comp=N,7µm,16.5s,MS5.4
DL2 LR LR
comp=E,5µm,16.5s,MS5.4
DL2 LR LR
comp=Z,6µm,20.7s,MS5.2
DIV Divide 29.84 52 *eP* **P 12 23 19.3 +0.7**
comp=Z,85nm,1.0s,mb5.4
DIV LR LR
comp=Z,13µm,22.0s,MS5.5
DAWY Dawson 32.33 46 *eP* **P 12 23 38.2 -2.2**
ULN Ulaanbaatar 33.66 283 PFAKE 12 24 00.0 +7.9
ULN LR LR
comp=Z,17µm,19.0s,MS5.8
WAKE Wake Island 33.74 169 PFAKE 12 24 10.0 +17
WAKE LR LR
comp=Z,8µm,21.0s,MS5.4
SONM Songino Array 34.06 284 PcP PcP 12 26 32.9 -0.1
comp=Z,23nm,0.8s,baz=75,slow=2.2,SNR=3.9
SONM LR LR 12 39 15.9
comp=Z,21µm,18.3s,MS5.9,baz=59,slow=39
INK Inuvik 34.12 37 P **P 12 23 56.0 0.0**
comp=Z,14nm,0.7s,mb5.0,baz=288,slow=7.5,SNR=46
INK Inuvik 34.12 37⇑ *i*P **P 12 23 55.9 -0.1**
comp=Z,58nm,0.9s,mb5.5
JOW Kunigami 35.15 235 P **P 12 24 05.7 +0.4**
comp=Z,238nm,1.1s,mb6.0,baz=15,slow=8.0,SNR=21
JOW LR LR 12 40 42.1
comp=Z,2µm,18.7s,MS4.8,baz=44,slow=40
SSE Sheshan 35.58 248 *eP* **P 12 24 09.5 +0.7**
SSE AP pP 12 24 18.8 +1.2
SSE XP sP 12 24 22.5 +1.2
SSE PP PP 12 25 28.5 -0.9
SSE S **S 12 29 43.5 +1.4**
SSE XS 12 29 58.0
SSE AMB AMB
comp=Z,32nm,0.9s,mb5.2
SSE AMB AMB
comp=Z,764nm,5.9s
SSE LR LR
comp=N,1µm,17.3s,MS5.1
SSE LR LR
comp=E,3µm,17.4s,MS5.1
SSE LR LR
comp=Z,3µm,17.3s,MS5.1
SSE Sheshan 35.58 248 *eP* **P 12 24 09.6 +0.8**
comp=Z,32nm,0.9s,mb5.2
SSE pP pP 12 24 18.8 +1.2
SSE sP sP 12 24 22.4 +1.1
SSE PP PP 12 25 28.6 -0.8
SSE S **S 12 29 43.4 +1.3**
SSE sS 12 29 57.9
SSE LR LR
comp=Z,3µm,17.3s,MS5.1
SIT Sitka 36.09 57 PFAKE 12 24 20.0 +7.1
SIT LR LR
comp=Z,3µm,20.0s,MS5.1
NJ2 Nanjing 36.21 252 *eP* **P 12 24 16.8 +2.7**
NJ2 AP pP 12 24 24.0 +1.1
NJ2 XP sP 12 24 27.5 +0.9
NJ2 PP PP 12 25 39.5 +2.4
NJ2 S **S 12 29 56.0 +4.3**
NJ2 XS 12 30 08.0
NJ2 AMB AMB
comp=Z,70nm,1.0s,mb5.5
NJ2 LR LR
comp=N,6µm,14.6s
NJ2 LR LR
comp=E,6µm,20.5s
NJ2 LR LR
comp=Z,4µm,18.0s,MS5.3
DLBC Dease Lake 38.21 53 P **P 12 24 32.7 +2.1**
comp=Z,20nm,0.9s,mb4.9,baz=290,slow=11,SNR=48
DLBC Dease Lake 38.21 53⇑ *eP* **P 12 24 32.6 +2.0**
TATO Taipei 40.18 242 PFAKE 12 25 00.0 +13
TATO LR LR
comp=Z,6µm,19.0s,MS5.5
BBB Bella Bella 42.00 61 P **P 12 25 03.4 +1.6**
comp=Z,12nm,0.8s,mb4.5,baz=300,slow=8.1,SNR=7.9
BBB Bella Bella 42.00 61 P **P 12 25 03.4 +1.6**
LZH Lanzhou 42.41 270 *eP* **P 12 25 06.5 +1.0**
LZH AP pP 12 25 14.5 +0.2
LZH XP sP 12 25 17.3 -0.7
LZH PP PP 12 26 47.5 +1.0
LZH *e*S **S 12 31 24.0 -0.9**
LZH XS 12 31 36.5
LZH SS SS 12 34 27.5 -1.0
LZH AMB AMB
comp=Z,256nm,1.5s,mb5.6
LZH AMB AMB
comp=Z,1µm,6.2s
LZH LR LR
comp=E,16µm,15.6s
LZH LR LR
comp=Z,18µm,16.4s,MS6.0
LZH Lanzhou 42.41 270 *eP* **P 12 25 06.4 +0.9**
LZH *SP sP 12 25 17.2 -0.8
LZH 12 26 47.5
LZH *e*S **S 12 31 24.0 -0.9**
LZH *SS 12 31 36.5
LZH SS SS 12 34 27.5 -1.0
LZH pmax pmax
comp=Z,256nm,1.5s,mb5.6
LZH MLR MLR
comp=Z,18µm,16.4s,MS6.0
LZH Lanzhou 42.41 270 *eP* **P 12 25 06.4 +0.9**
comp=Z,256nm,1.5s,mb5.6
LZH pP pP 12 25 14.4 +0.1
LZH sP sP 12 25 17.2 -0.8
LZH PP PP 12 26 47.5 +1.0
LZH *e*S **S 12 31 24.0 -0.9**
LZH sS 12 31 36.5
LZH SS SS 12 34 27.5 -1.0
LZH LR LR
comp=Z,18µm,16.4s,MS6.0
GTA Gaotai 42.72 277 P **P 12 25 09.5 +1.5**
GTA AP pP 12 25 18.0 +1.2
GTA XP sP 12 25 21.0 +0.5
GTA PP PP 12 26 51.8 +2.2
GTA PCP PcP 12 27 02.0 +2.1
GTA SCP 12 30 51.5
GTA S **S 12 31 31.5 +2.1**
GTA XS 12 31 45.3
GTA SS SS 12 34 36.8 +2.5
GTA SCS ScS 12 35 06.3 +1.7
GTA AMB AMB
comp=Z,76nm,1.0s,mb5.4
GTA AMB AMB
comp=Z,1µm,10.7s
GTA LR LR
comp=N,7µm,16.4s,MS5.8
GTA LR LR
comp=E,8µm,15.7s,MS5.8
GTA LR LR
comp=Z,13µm,15.7s,MS5.9
ENH Enshi 43.01 259 PFAKE 12 25 20.0 +10
ENH LR LR
comp=Z,11µm,20.0s,MS5.8
ZAL Zalesovo 43.06 303 LR LR 12 44 47.9
comp=Z,13µm,20.4s,MS5.8,baz=46,slow=39
YKW3 Yellowknife Ar 43.36 42 *eP* **P 12 25 13.1 +0.2**
YKW3 *e* 12 27 23.5
YKA Yellowknife Ar 43.39 42 P **P 12 25 13.5 +0.4**
comp=Z,10nm,0.7s,mb4.7,baz=299,slow=8.0,SNR=48
YKA LR LR 12 44 30.1
comp=Z,3µm,21.5s,MS5.2,baz=325,slow=38
YKA Yellowknife Ar 43.39 42 P **P 12 25 13.5 +0.4**
YKA LR LR 12 44 30.1
RES Resolute Bay 43.65 22 *eP* **P 12 25 14.6 -0.4**
RES pmax pmax
comp=Z,23nm,0.7s,mb5.0
RES Resolute Bay 43.65 22 *eP* **P 12 25 14.6 -0.4**
comp=Z,23nm,0.7s,mb5.0
KWAJ Kwajalein Atol 44.20 169 PFAKE 12 25 30.0 +10
KWAJ LR LR
comp=Z,1µm,21.0s,MS4.8
KIP Kipapa 44.69 118 PFAKE 12 25 40.0 +16
KIP LR LR
comp=Z,3µm,20.0s,MS5.2
OCWA Octopus Mounta 46.55 64 PFAKE 12 25 50.0 +11
OCWA LR LR
comp=Z,4µm,22.0s,MS5.4
WMQ Urumqi 47.16 290 P **P 12 25 45.0 +1.5**
WMQ AP pP 12 25 52.5 +0.1
WMQ XP sP 12 25 55.8 -0.2
WMQ PP PP 12 27 35.3 +1.5
WMQ S **S 12 32 34.3 +1.1**
WMQ XS 12 32 46.5
WMQ AMB AMB
comp=Z,86nm,1.5s,mb5.5
WMQ AMB AMB
comp=Z,2µm,5.0s
WMQ LR LR
comp=N,7µm,18.2s,MS5.9
WMQ LR LR
comp=E,10µm,15.5s,MS5.9
WMQ LR LR
comp=Z,15µm,16.0s,MS6.0
MBW Mount Baker 47.18 62 P **P 12 25 44.4 +0.9**
HDW Hoodsport 47.22 64 P **P 12 25 44.9 +1.0**
KBS Kingsbay 47.26 352 P **P 12 25 43.4 -0.4**
KBS pmax pmax
comp=Z,26nm,0.8s,mb5.2
KBS Kingsbay 47.26 352⇑ *i*P **P 12 25 42.8 -1.1**
KBS AMb AMB 12 25 50.4
comp=Z,45nm,2.3s,mb5.0
KBS *eP*P PP 12 27 36.6 +2.4
KBS *eS* **S 12 32 34.4 +0.2**
KBS AMS AMS 12 46 04.5
comp=Z,2µm,18.6s,MS5.1
POHA Pohakuloa 47.38 117 PFAKE 12 26 00.0 +14
POHA LR LR
comp=Z,26µm,22.0s,MS6.2
PNT Penticton 48.08 60 P **P 12 25 50.8 +0.3**
MKAR Makanchi Array 48.39 296 P **P 12 25 51.1 -1.8**
comp=Z,15nm,0.5s,mb5.3,baz=32,slow=3.9,SNR=17
MKAR LR LR 12 47 26.3
comp=Z,6µm,19.6s,MS5.6,baz=9.5,slow=38
TWW Teanaway 48.72 63 P **P 12 25 57.0 +1.5**
TBM Table Mountain 48.84 63 P **P 12 25 57.7 +1.2**
EDM Edmonton 48.94 53⇑ *eP* **P 12 25 57.3 +0.2**
EDM *e* 12 28 13.4
COR Corvallis 48.94 67 PFAKE 12 26 10.0 +13
COR LR LR
comp=Z,4µm,21.0s,MS5.3
EBG Ellensburg 49.02 63 P **P 12 25 58.9 +1.1**
OD2 Odessa Site #2 49.73 62 P **P 12 26 03.5 +0.2**
CROR Criterion Ridg 49.98 65 P **P 12 26 06.1 +0.8**
NEW Newport 50.03 60 *eP* **P 12 26 04.7 -0.9**
NEW pmax pmax
comp=Z,24nm,1.2s
NEW MLR MLR
comp=Z,3µm,22.0s
NEW Newport 50.03 60 P **P 12 26 05.8 +0.2**
comp=Z,7.7nm,0.9s,mb4.8,baz=308,slow=7.7,SNR=12
NEW LR LR 12 44 53.5
comp=Z,3µm,22.0s,MS5.3,baz=296,slow=33
NEW Newport 50.03 60 *eP* **P 12 26 04.7 -0.9**
comp=Z,24nm,1.2s,mb5.1
NEW LR LR
comp=Z,3µm,22.0s,MS5.3
VIPM Ingram Point 50.48 66 P **P 12 26 10.2 +1.1**
BVAR Borovoye Array 50.68 309 P **P 12 26 07.8 -2.7**
comp=Z,16nm,0.4s,mb5.3,baz=61,slow=7.2,SNR=35
BVAR PcP PcP 12 27 26.1 -1.6
comp=Z,10nm,0.8s,baz=90,slow=4.3,SNR=2.5
BRVK Borovoye 50.71 309 *eP* **P 12 26 08.8 -1.9**
BRVK pmax pmax
comp=Z,16nm,0.6s,mb5.1
BRVK MLR MLR
comp=Z,2µm,20.0s,MS5.1
BRVK Borovoye 50.71 309 *eP* **P 12 26 08.8 -1.9**
comp=Z,16nm,0.6s,mb5.1
BRVK LR LR
comp=Z,2µm,20.0s,MS5.1
DAG Danmarks Havn 50.78 360⇓ *i*P **P 12 26 09.8 -1.2**
DAG pmax pmax
comp=Z,44nm,0.9s,mb5.4
DAG MLR MLR
comp=Z,1µm,18.0s,MS5.0
DAG Danmarks Havn 50.78 360⇓ *i*P **P 12 26 09.8 -1.2**
comp=Z,44nm,0.9s,mb5.4
comp=Z,1µm,18.0s
KMI Kunming 50.83 260 P **P 12 26 12.3 +0.3**
KMI AP pP 12 26 21.8 +0.8
KMI XP sP 12 26 25.5 +1.0
KMI PCP PcP 12 27 31.5 +2.8
KMI PP PP 12 28 10.3 +1.2
KMI S **S 12 33 25.5 +0.8**
KMI XS 12 33 39.8
KMI SCS ScS 12 36 01.0 +3.6
KMI SS SS 12 36 57.8 +0.8
KMI AMB AMB
comp=Z,40nm,2.0s,mb5.0
KMI LR LR
comp=N,6µm,25.8s
KMI LR LR
comp=E,6µm,19.5s
KMI LR LR
comp=Z,9µm,20.3s
KMI Kunming 50.83 260 P **P 12 26 12.2 +0.2**
KMI *PP pP 12 26 21.7 +0.7
KMI *SP sP 12 26 25.5 +1.0
KMI 12 27 31.4
KMI 12 28 10.3
KMI S **S 12 33 25.5 +0.8**
KMI *SS 12 33 39.7
KMI 12 36 00.9
KMI SS SS 12 36 57.7 +0.7
KMI pmax pmax
comp=Z,40nm,2.0s,mb5.0
KMI MLR MLR
comp=Z,9µm,20.3s,MS5.8
KMI Kunming 50.83 260 P **P 12 26 12.2 +0.2**
comp=Z,40nm,2.0s,mb5.0
KMI pP pP 12 26 21.7 +0.7
KMI sP sP 12 26 25.5 +1.0
KMI PcP PcP 12 27 31.4 +2.7
KMI PP PP 12 28 10.3 +1.2
KMI S **S 12 33 25.5 +0.8**
KMI sS 12 33 39.7
KMI ScS ScS 12 36 00.9 +3.5
KMI SS SS 12 36 57.7 +0.7
KMI LR LR
comp=Z,9µm,20.3s,MS5.8
BUOR Burton Butte 51.00 69 P **P 12 26 14.5 +1.5**
YBH Yreka Blue Hor 51.09 70 P **P 12 26 15.2 +1.5**
comp=Z,13nm,1.0s,mb4.8,baz=257,slow=0.8,SNR=12
YBH LR LR 12 44 51.0
comp=Z,3µm,21.5s,MS5.2,baz=312,slow=32
YBH Yreka Blue Hor 51.09 70 *eP* **P 12 26 15.2 +1.6**
comp=Z,25nm,1.1s,mb5.1
YBH LR LR
comp=Z,2µm,21.0s,MS5.2
WALA Waterton Lakes 51.20 57⇑ *eP* **P 12 26 14.8 +0.3**
comp=Z,32nm,0.9s,mb5.2
QIZ Qiongzhong 51.37 249 P **P 12 26 17.5 +1.3**
QIZ S **S 12 33 34.0 +1.8**
QIZ AMB AMB
comp=Z,66nm,1.1s,mb5.5
QIZ AMB AMB
comp=Z,886nm,9.5s
QIZ LR LR
comp=N,2µm,18.0s,MS5.4
QIZ LR LR
comp=E,2µm,15.3s,MS5.4
QIZ LR LR
comp=Z,3µm,17.7s,MS5.4
QIZ Qiongzhong 51.37 249 PFAKE 12 26 30.0 +14
QIZ LR LR
comp=Z,2µm,19.0s,MS5.2
BSMT Bassoo Peak 51.51 59 P **P 12 26 17.6 +0.7**
WDC Whiskeytown Da 51.93 71 *eP* **P 12 26 20.9 +0.7**
WDC pmax pmax
comp=Z,12nm,0.9s,mb4.8
WDC MLR MLR
comp=Z,1µm,21.0s,MS5.0
WDC Whiskeytown Da 51.93 71 *eP* **P 12 26 20.9 +0.7**
comp=Z,12nm,0.9s,mb4.8
WDC LR LR
comp=Z,1µm,21.0s,MS5.0
BMO Blue Mountains 52.08 63 *eP* **P 12 26 21.1 -0.1**
comp=Z,9.5nm,0.9s,mb4.7
BMO LR LR
comp=Z,4µm,22.0s,MS5.4
MSO Missoula 52.61 60 *eP* **P 12 26 24.7 -0.5**
comp=Z,27nm,1.1s,mb5.1
HOPS Hopland 52.68 73 PFAKE 12 26 40.0 +14
HOPS LR LR
comp=Z,2µm,22.0s,MS5.1
CHMT Chamberlain Mo 52.91 59 *eP* **P 12 26 26.9 -0.5**
WVOR Wild Horse Val 52.92 66 *eP* **P 12 26 27.8 +0.2**
WVOR pmax pmax
comp=Z,416nm,1.5s,mb6.1
WVOR MLR MLR
comp=Z,4µm,21.0s,MS5.4
WVOR Wild Horse Val 52.92 66 *eP* **P 12 26 27.8 +0.3**
comp=Z,416nm,1.5s,mb6.1
WVOR LR LR
comp=Z,4µm,21.0s,MS5.4
LVZ Lovozero 53.08 337 *de*P **P 12 26 24.7 -3.6**
LVZ *i* S **S 12 33 46.9 -7.9**
LVZ pmax pmax
comp=Z,33nm,0.7s,mb5.4
LVZ pmax pmax
comp=N,12nm,0.6s
LVZ pmax pmax
comp=E,6.0nm,0.8s
LVZ smax
comp=N,47nm,2.2s
LVZ smax
comp=Z,51nm,2.0s
LVZ smax
comp=E,99nm,2.5s
LVZ MLR MLR
comp=Z,6µm,22.0s,MS5.6
LVZ MLR MLR
comp=N,6µm,25.0s,MS5.6
LVZ MLR MLR
comp=E,3µm,21.0s,MS5.6
KEV Kevo 53.20 342 *ep* **P 12 26 27.2 -2.0**
comp=E,16nm,0.8s,mb5.0
KEV Kevo 53.20 342 PFAKE 12 26 40.0 +11
KEV LR LR
comp=Z,3µm,20.0s,MS5.4
FFC Flin Flon 53.23 46 *eP* **P 12 26 28.8 -0.9**
comp=Z,17nm,0.9s,mb5.0
APA Apatity 53.63 338⇓ *i*P **P 12 26 30.5 -1.9**
APA *i* 12 27 38.0
APA *i* 12 28 28.0
APA *i* S **S 12 33 56.0 -6.3**
APA *i* SS SS 12 37 47.0 +4.6
APA pmax pmax
comp=Z,101nm,1.6s,mb5.5
APA MLR MLR
comp=Z,5µm,24.0s,MS5.5
BEKR Beckwourth 53.66 70 *eP* **P 12 26 33.1 +0.2**
comp=Z,19nm,1.0s,mb5.0
BEKR *e* 12 29 01.1
ARCES ARCESS Array B 53.67 342 P **P 12 26 30.2 -2.4**

comp=Z,16nm,0.7s,mb5.1,baz=41,slow=7.1,SNR=15
ARCES LR LR 12 51 48.9

comp=Z,3µm,21.3s,MS5.3,baz=35,slow=39
ARE0 ARCESS Array S 53.67 342 *eP* **P 12 26 29.4 -3.3**
ARU Arti 53.72 318⇑ *iP* **P 12 26 30.5 -2.7**
ARU *e* 12 26 45.0
ARU *i* 12 27 36.4
ARU *i* PPP PPP 12 29 40.5 -3.9
ARU *e*S **S 12 33 59.0 -4.8**
ARU *e*SS 12 34 27.0
ARU *e* 12 36 13.3
ARU *e*SS SS 12 37 45.2 +1.2
ARU *e*SSS SSS 12 39 36.3 -0.6
ARU pmax pmax

comp=Z,39nm,0.7s,mb5.5
ARU MLR MLR

comp=Z,7µm,20.0s,MS5.7
ARU MLR MLR

comp=N,4µm,21.0s,MS5.6
ARU MLR MLR

comp=E,4µm,19.0s,MS5.6
ARU Arti 53.72 318 *eP* **P 12 26 29.9 -3.3**

comp=E,40nm,0.6s,mb5.5
ARU LR LR

comp=Z,2µm,20.0s,MS5.1
HRY Holter Researc 53.78 58 *eP* **P 12 26 34.6 +0.8**
SUMG Summit 54.33 7 *eP* **P 12 26 36.7 -0.7**

comp=Z,59nm,0.9s,mb5.5
LSA Lhasa 54.52 274 *eP* **P 12 26 39.4 -0.1**
LSA pmax pmax

comp=Z,23nm,0.8s,mb5.3
LSA MLR MLR

comp=Z,4µm,20.0s,MS5.5
LSA Lhasa 54.52 274 *eP* **P 12 26 39.4 -0.1**

comp=Z,23nm,0.8s,mb5.3
LSA LR LR

comp=Z,4µm,20.0s,MS5.5
KTK1 Kautokeino 54.54 342 *eP* **P 12 26 36.5 -2.5**

comp=Z,83nm,2.2s,mb5.4
KTK1 Kautokeino 54.54 342 *eP* **P 12 26 36.5 -2.5**
KTK1 AMb AMB 12 26 39.8

comp=Z,83nm,2.2s,mb5.4
BOZ Bozeman (W) 54.59 59 PFAKE 12 26 50.0 +10
BOZ LR LR

comp=Z,2µm,21.0s,MS5.2
TRO Tromso 54.74 344 *eP* **P 12 26 37.0 -3.5**
TRO AMS AMS 12 58 00.4

comp=Z,1µm,20.5s,MS5.0
CMB Columbia Colle 54.88 72 P **P 12 26 42.7 +0.7**
CMB pmax pmax

comp=Z,65nm,1.5s,mb5.4
CMB Columbia Colle 54.88 72 *eP* **P 12 26 41.8 -0.2**

comp=Z,21nm,1.0s,mb5.1
CMB LR LR

comp=Z,3µm,22.0s,MS5.2
BMN Battle Mountai 55.05 67 *eP* **P 12 26 44.0 +0.8**
BMN *e**PP pP 12 26 51.4 -0.8
BMN pmax pmax

comp=Z,38nm,0.9s,mb5.4
BMN MLR MLR

comp=Z,2µm,21.0s,MS5.3
BMN Battle Mountai 55.05 67 *eP* **P 12 26 44.0 +0.7**

comp=Z,38nm,0.9s,mb5.4
BMN *e*pP pP 12 26 51.4 -0.9
BMN LR LR

comp=Z,2µm,21.0s,MS5.3
SAO San Andreas Ge 55.13 73 PFAKE 12 27 00.0 +16
SAO LR LR

comp=Z,2µm,22.0s,MS5.2
AAK Ala-Archa 55.31 296*c iP* **P 12 26 41.9 -3.2**
AAK pmax pmax

comp=Z,43nm,0.9s,mb5.5
AAK MLR MLR

comp=Z,7µm,21.0s,MS5.7
AAK Ala-Archa 55.31 296 *eP* **P 12 26 41.2 -3.9**

comp=Z,51nm,0.8s,mb5.6
AAK LR LR

comp=Z,1µm,19.0s,MS5.0
YFT Old Faithful 55.81 60 *eP* **P 12 26 50.1 +1.5**
ELK Elko 55.95 66 *eP* **P 12 26 50.1 +0.5**
ELK *e**PP pP 12 26 58.1 -0.6
ELK pmax pmax

comp=Z,14nm,0.8s
ELK MLR MLR

comp=Z,3µm,21.0s
ELK Elko 55.95 66 *eP* **P 12 26 50.0 +0.4**

comp=Z,14nm,0.8s,mb5.0
ELK *e*pP pP 12 26 58.1 -0.5
ELK *e*PP PP 12 29 07.4 +12
ELK LR LR

comp=Z,3µm,21.0s,MS5.4
LKWY Lake 55.97 60 *eP* **P 12 26 50.9 +1.2**
LKWY LR LR

comp=Z,71µm,22.0s
IMW Indian Meadow 56.13 61 *eP* **P 12 26 51.9 +1.0**

comp=Z,37nm,1.0s,mb5.4
IMW *e*PP PP 12 28 59.5 +2.0
RRI2 Red Ridge 56.31 61 *eP* **P 12 26 53.2 +1.0**

comp=Z,10nm,0.8s,mb4.9
JMIC Jan Mayen 56.34 356 LR LR 12 49 36.6

comp=Z,1µm,21.5s,MS5.0,baz=191,slow=35
JMIC Jan Mayen 56.34 356 *eP* **P 12 26 52.2 +0.2**
JMIC AMS AMS 12 50 02.3

comp=Z,1µm,21.4s,MS5.0
MOOW Moose Ponds 56.34 61 *eP* **P 12 26 52.3 -0.1**

comp=Z,25nm,1.3s,mb5.1
MTUM Tungsten Hills 56.39 71 *eP* **P 12 26 53.9 +1.0**
MTUM *e*pP pP 12 27 02.0 0.0
MTUM *e*PP PP 12 29 15.5 +16
TPAW Teton Pass 56.41 61 *eP* **P 12 26 54.1 +1.2**

comp=Z,25nm,1.1s,mb5.2
DGMT Dagmar 56.43 53 *eP* **P 12 26 52.9 -0.1**

comp=Z,25nm,0.9s,mb5.2
DGMT *e*pP pP 12 27 01.3 -0.7
DGMT LR LR

comp=Z,3µm,22.0s,MS5.4
LOHW Long Hollow 56.51 61 *eP* **P 12 26 54.5 +0.9**

comp=Z,22nm,1.0s,mb5.2
SNOW Snow King Moun 56.53 61 *eP* **P 12 26 54.6 +0.8**

comp=Z,33nm,1.2s,mb5.2
REDW Red Top Meadow 56.55 61 *eP* **P 12 26 54.6 +0.7**

comp=Z,24nm,0.9s,mb5.2
HVU Hansel Valley 56.59 63 *eP* **P 12 26 53.7 -0.6**
HVU *e**PP pP 12 27 03.7 +0.3
PTRM Twissleman Ran 56.62 74 *eP* **P 12 26 55.3 +0.8**
LAO LASA Array 56.66 55 *eP* **P 12 26 54.6 -0.1**

comp=Z,30nm,1.0s,mb5.3
LAO LR LR

comp=Z,4µm,22.0s,MS5.5
TPH Tonopah 56.66 70 *eP* **P 12 26 55.5 +0.7**
TPH pmax pmax

comp=Z,23nm,0.8s,mb5.3
TPH MLR MLR

comp=Z,1µm,19.0s,MS4.9
TPH Tonopah 56.66 70 *eP* **P 12 26 55.5 +0.7**

comp=Z,23nm,0.8s,mb5.3
TPH LR LR

comp=Z,1µm,19.0s,MS4.9
AHID Auburn Hatcher 56.82 62 *eP* **P 12 26 56.7 +0.8**

comp=Z,30nm,1.0s,mb5.3
AHID *e*pP pP 12 27 02.5 -2.5
AHID LR LR

comp=Z,3µm,22.0s,MS5.4
LOF Lofoten 56.95 346 *eP* **P 12 26 56.1 -0.3**

comp=Z,134nm,0.8s,mb6.0
LOF Lofoten 56.95 346 *eP* **P 12 26 56.1 -0.3**
LOF AMb AMB 12 26 57.7

comp=Z,134nm,0.8s,mb6.0
SCO Scoresbysund 57.10 1 *iP* **P 12 26 55.2 -2.3**
SCO pmax pmax

comp=Z,5.0nm,0.6s,mb4.7
SCO Scoresbysund 57.10 1 *i* P **P 12 26 55.2 -2.3**

comp=Z,5.2nm,0.6s,mb4.7
HWUT Hardware Ranch 57.37 63 *eP* **P 12 27 00.3 +0.5**

comp=Z,16nm,0.8s,mb5.1
HWUT LR LR

comp=Z,2µm,22.0s,MS5.3
KKTK Khon Kaen 57.55 253 P **P 12 27 02.0 +0.7**
BW06 Boulder Array 57.64 61 PFAKE 12 27 10.0 +8.3
BW06 LR LR

comp=Z,1µm,21.0s,MS5.0
PDAR Pinedale Array 57.64 61 P **P 12 27 02.2 +0.6**

comp=Z,9.5nm,0.7s,mb5.0,baz=311,slow=2.8,SNR=72
PDAR pP pP 12 27 09.7 -1.1

comp=Z,36nm,1.1s,baz=333,slow=2.0,SNR=27
PDAR LR LR 12 52 10.4

comp=Z,1µm,21.7s,MS5.0,baz=335,slow=36
PDAR Pinedale Array 57.64 61 P **P 12 27 02.2 +0.6**
PDAR pP pP 12 27 09.7 -1.1
PDAR LR LR 12 52 10.3
DAC Darwin (Calif) 57.70 71 PFAKE 12 27 10.0 +7.8
DAC LR LR

comp=Z,3µm,22.0s,MS5.3
NOQ North Oquirrh 57.73 64 *eP* **P 12 27 03.0 +0.6**
TCUT Toone Canyon 57.80 63 *eP* **P 12 27 02.6 -0.1**
CHG Chiang Mai 57.90 259⇓ *iP* **P 12 27 03.8 0.0**

comp=Z,21nm,0.8s,mb5.2
MELSS Ber_school_2 58.09 345 *eP* **P 12 27 02.7 -1.8**
JLU Jordanelle 58.13 64 *eP* **P 12 27 05.6 +0.5**
NLU North Lily Min 58.24 65 *eP* **P 12 27 05.4 -0.5**
SFJD Kangerlussuaq 58.37 14⇑ *iP* **P 12 27 04.5 -1.9**
SFJD *i* S **S 12 35 01.2 -4.1**
SFJD pmax pmax

comp=Z,28nm,0.6s,mb5.5
SFJD MLR MLR

comp=Z,3µm,19.0s,MS5.5
SFJD Kangerlussuaq 58.37 14⇑ *iP* **P 12 27 04.5 -1.9**

comp=Z,28nm,0.6s,mb5.5
SFJD *i* S **S 12 35 01.2 -4.1**
SFJD *i* 12 37 39.8

comp=Z,3µm,19.0s
DAU Daniels Canyon 58.37 64 *eP* **P 12 27 07.9 +1.1**
DAU *e**PP pP 12 27 17.5 +1.6
MPU Maple Canyon 58.44 64 *eP* **P 12 27 07.7 +0.4**
MOR8 Moi Rana 58.61 344 *eP* **P 12 27 04.6 -3.5**
STOK Stokkvaagen 58.69 345 *eP* **P 12 27 07.0 -1.6**

comp=Z,101nm,1.4s,mb5.7
STOK Stokkvaagen 58.69 345 *eP* **P 12 27 07.0 -1.6**
STOK AMb AMB 12 27 11.0

comp=Z,101nm,1.4s,mb5.7
STOK *e*pP pP 12 27 16.1 -1.7
SNCC San Nicolas Is 58.71 75 PFAKE 12 27 20.0 +11
SNCC LR LR

comp=Z,3µm,22.0s,MS5.4
MWC Mount Wilson 58.88 73 *eP* **P 12 27 10.7 +0.3**
MWC *e**PP pP 12 27 19.5 -0.1
ARUT Antelope Range 59.00 67 *eP* **P 12 27 11.3 0.0**
GUN Gumba 59.01 276 *eP* **P 12 27 10.2 -1.2**

comp=Z,63nm,0.4s,mb6.0
GUN Gumba 59.01 276 *eP* **P 12 27 10.2 -1.2**

comp=Z,63nm,0.4s,mb6.0
ULM Lac du Bonnet 59.03 47 P **P 12 27 10.9 -0.3**

comp=Z,16nm,0.6s,mb5.2,baz=313,slow=7.4,SNR=15
ULM LR LR 12 55 10.7

comp=Z,3µm,20.0s,MS5.4,baz=323,slow=39
ULM Lac du Bonnet 59.03 47 *eP* **P 12 27 09.9 -1.3**

comp=Z,21nm,0.7s,mb5.3
ULM LR LR

comp=Z,4µm,20.0s,MS5.6
TMUT Trail Mountain 59.18 65 *eP* **P 12 27 13.8 +1.3**
TMUT *e*pP pP 12 27 21.2 -0.4
MSU Marysvale 59.20 66 *eP* **P 12 27 12.9 +0.3**
MSU *e**PP pP 12 27 21.1 -0.7
PECR Pechory 59.35 324ĸ *iP* **P 12 27 11.0 -2.4**
PECR *e*PPP PPP 12 30 54.0 +2.7
PECR *e*S **S 12 35 11.0 -7.3**
PECR *e* 12 35 29.0
PECR pmax pmax

comp=Z,250nm,2.0s,mb5.9
PECR pmax pmax

comp=Z,800nm,7.6s
PECR pmax pmax

comp=N,500nm,5.0s
PECR pmax pmax

comp=E,300nm,5.0s
PECR smax

comp=N,400nm,8.0s
PECR smax

comp=E,700nm,5.0s
PECR MLR MLR

comp=Z,6µm,22.0s,MS5.7
PECR MLR MLR

comp=N,2µm,20.0s,MS5.4
PECR MLR MLR

comp=E,2µm,20.0s,MS5.4
KKN Kakani 59.46 277 *eP* **P 12 27 12.8 -1.7**

comp=E,85nm,0.6s,mb5.9
KKN Kakani 59.46 277 *eP* **P 12 27 12.8 -1.7**

comp=E,85nm,0.6s,mb5.9
PKI Pulchoki 59.54 276 *eP* **P 12 27 13.3 -1.8**

comp=E,113nm,0.7s,mb6.0
PKI Pulchoki 59.54 276 *eP* **P 12 27 13.3 -1.8**

comp=E,113nm,0.7s,mb6.0
RWWY Rawlins 59.64 60 *eP* **P 12 27 15.3 -0.3**

comp=E,9.6nm,0.9s,mb4.8
RWWY *e*pP pP 12 27 24.4 -0.4
NST Nakhon Sawan 59.65 255 P **P 12 27 13.3 -2.7**
SRU San Rafael 59.69 64 P **P 12 27 16.6 +0.6**
SRU San Rafael 59.69 64 *iP* **P 12 27 16.7 +0.7**
GKN Gorkha 59.69 277 *eP* **P 12 27 14.2 -1.9**

comp=E,150nm,0.9s,mb6.0
GKN Gorkha 59.69 277 *eP* **P 12 27 14.2 -1.9**

comp=E,150nm,0.9s,mb6.0
DMN Daman 59.70 277 *eP* **P 12 27 14.6 -1.6**

comp=E,56nm,0.5s,mb5.9
DMN Daman 59.70 277 *eP* **P 12 27 14.6 -1.6**

comp=E,56nm,0.5s,mb5.9
NEN Nelson 59.72 70 *eP* **P 12 27 15.2 -1.0**
NEN *e*pP pP 12 27 25.5 +0.1
KAF Kangasniemi 59.86 337 *ep* **P 12 27 14.4 -2.4**

comp=E,22nm,0.5s,mb5.4,baz=31,slow=6.3
LDFC Landfair 59.98 71 *eP* **P 12 27 18.0 0.0**
PFO Pinyon Flat Ob 60.25 73 *eP* **P 12 27 19.6 -0.3**

comp=E,8.4nm,0.9s,mb4.8
PFO *e*pP pP 12 27 28.2 -0.9
PFO LR LR

comp=Z,722nm,22.0s,MS4.8
KOLN Koldanda 60.49 278 *eP* **P 12 27 19.5 -2.1**

comp=Z,78nm,0.7s,mb5.8
KOLN Koldanda 60.49 278 *eP* **P 12 27 19.5 -2.1**

comp=Z,78nm,0.7s,mb5.8
FINES FINESS Array B 60.50 337 P **P 12 27 19.3 -1.8**

comp=Z,29nm,0.5s,mb5.6,baz=37,slow=5.8,SNR=40
FINES LR LR 12 57 21.3

comp=Z,2µm,18.4s,MS5.4,baz=33,slow=40
NSS Namsos 60.53 345 *eP* **P 12 27 19.0 -2.4**
NSS AMS AMS 13 01 24.4

comp=Z,2µm,16.2s,MS5.4
BAR Barrett 60.79 74 *eP* **P 12 27 23.4 -0.1**
BAR *e*pP pP 12 27 32.2 -0.6
PHWY Pilot Hill 60.84 59 *eP* **P 12 27 23.0 -0.7**
PHWY *e* 12 29 20.0
PUL Pulkovo 60.85 334 *eP* **P 12 27 21.8 -1.8**
PUL *e*S **S 12 35 33.5 -4.0**
PUL pmax pmax

comp=Z,92nm,0.3s,mb6.4
PUL MLR MLR

comp=N,4µm,16.0s,MS5.8
PUL MLR MLR

comp=Z,7µm,16.0s,MS5.9
PUL MLR MLR

comp=E,4µm,18.0s,MS5.8
SMCO Snowmass 61.56 62 *eP* **P 12 27 29.2 +0.5**
SMCO *e*pP pP 12 27 38.0 0.0
HNR Honiara 61.90 180 LR LR 12 52 01.2

comp=E,2µm,21.0s,MS5.3,baz=185,slow=34
HNR Honiara 61.90 180 PFAKE 12 27 40.0 +8.7
HNR LR LR

comp=Z,2µm,21.0s,MS5.2
MOS Moscow 62.02 327 *iP* **P 12 27 27.7 -3.8**
MOS *e* 12 27 40.3
MOS *e* 12 28 05.1
MOS *e* 12 29 45.6
MOS *e*S **S 12 35 51.4 -0.9**
MOS pmax pmax

comp=Z,134nm,1.5s,mb5.8
MOS MLR MLR

comp=Z,5µm,19.7s,MS5.7
OBN Obninsk 62.87 327*c iP* **P 12 27 35.0 -2.2**
OBN *e**PP pP 12 27 49.9 +3.5
OBN *e*S **S 12 35 57.2 -5.9**
OBN pmax pmax

comp=Z,131nm,1.5s,mb5.8
OBN MLR MLR

comp=Z,3µm,13.0s,MS5.6
OBN Obninsk 62.87 327 *eP* **P 12 27 35.9 -1.4**

comp=Z,39nm,0.6s,mb5.7
OBN LR LR

comp=Z,914nm,19.0s,MS5.0
PMG Port Moresby 62.88 195 PFAKE 12 27 50.0 +12
PMG LR LR

comp=Z,1µm,21.0s,MS5.1
DOMB Dombas 63.33 345⇑ *iP* **P 12 27 38.3 -1.8**
SDCO Great Sand Dun 63.40 62 *eP* **P 12 27 41.5 +0.5**

comp=Z,9.3nm,1.1s,mb4.8
SDCO *e*pP pP 12 27 49.7 -0.4
SDCO LR LR

comp=Z,2µm,21.0s,MS5.3
NB2 NORSAR Subarra 63.93 344 P **P 12 27 42.7 -1.2**

comp=Z,54nm,0.8s,mb5.6,baz=21,slow=6.5
NB2 NORSAR Subarra 63.93 344 P **P 12 27 42.7 -1.2**
NB2 pmax pmax

comp=Z,54nm,0.8s,mb5.6
NB2 NORSAR Subarra 63.93 344 P **P 12 27 42.7 -1.2**

baz=21,slow=6.9
NOA NORSAR Array B 63.93 344 P **P 12 27 42.3 -1.6**

comp=Z,48nm,0.7s,mb5.6,baz=20,slow=6.6,SNR=83
NOA LR LR 13 00 23.4

comp=Z,2µm,19.2s,MS5.3,baz=25,slow=41
NAO01 NORSAR Array S 64.17 344 *eP* **P 12 27 43.8 -1.6**

comp=Z,25nm,0.7s,mb5.4
NAO01 LR LR

comp=Z,3µm,19.0s,MS5.4
HFA0 Hagfors New Ar 64.33 342 P **P 12 27 44.8 -1.7**
HFS Hagfors 64.33 342 LR LR 13 00 10.2

comp=Z,3µm,19.7s,MS5.5,baz=24,slow=40
TUC Tucson 64.46 70 *eP* **P 12 27 48.2 +0.3**

comp=Z,4.3nm,0.9s,mb4.5
TUC *e*pP pP 12 27 56.9 -0.2
TUC LR LR

comp=Z,749nm,22.0s,MS4.8
VOR Voronezh 64.75 324 *eP* **P 12 27 47.0 -2.4**
VOR **PP pP 12 28 00.0 +1.4
VOR pmax pmax

comp=N,140nm,2.4s
VOR pmax pmax

comp=Z,350nm,2.4s,mb6.0
ANMO Albuquerque 64.94 65 *eP* **P 12 27 51.6 +0.7**

comp=Z,4.5nm,0.8s,mb4.5
ANMO *e*pP pP 12 27 58.5 -1.7
ANMO LR LR

comp=Z,2µm,22.0s,MS5.3
LAZ Ladron 64.97 66 *eP* **P 12 27 52.3 +1.2**
LAZ *e*pP pP 12 28 01.1 +0.8
LENM Lemitar 65.23 66 *eP* **P 12 27 53.4 +0.5**
LPM Los Pinos Moun 65.31 65 *eP* **P 12 27 54.1 +0.7**
LPM *e*pP pP 12 28 02.6 0.0
BNM Barren Site 65.44 66 *eP* **P 12 27 54.9 +0.7**
BNM *e*pP pP 12 28 03.0 -0.4
BER Bergen 65.47 347 *eP* **P 12 27 53.1 -0.8**
BER AMS AMS 13 02 36.7

comp=Z,2µm,19.5s,MS5.4
KONO Kongsberg 65.51 344 P **P 12 27 53.1 -1.1**
KONO Kongsberg 65.51 344 *eP* **P 12 27 52.8 -1.4**
KONO pmax pmax

comp=Z,22nm,0.8s,mb5.2
KONO MLR MLR

comp=Z,2µm,20.0s,MS5.4
KONO Kongsberg 65.51 344 *eP* **P 12 27 52.8 -1.4**

comp=Z,22nm,0.8s,mb5.2
KONO LR LR

comp=Z,2µm,20.0s,MS5.4
KONO Kongsberg 65.51 344 *eP* **P 12 27 46.5 -7.7**
KONO *e*S S 12 36 32.0 -3.5
ISAL Salakas 65.62 333 *eP* **P 12 27 53.8 -1.2**
ISAL AMb AMB 12 27 56.8

comp=Z,25nm,1.2s,mb5.1
CBKS Cedar Bluff 65.64 58 PFAKE 12 28 10.0 +15
CBKS LR LR

comp=Z,2µm,19.0s,MS5.4
IDID Didziasalis 65.67 333 *eP* **P 12 27 54.1 -1.2**
IDID AMb AMB 12 27 56.9

comp=Z,29nm,0.7s,mb5.4
KSM Kuching 65.67 237 *eP* **P 12 27 56.1 +0.1**
IIGN Ignalina 65.78 333 *eP* **P 12 27 55.2 -0.8**
SCHQ Schefferville 65.95 28 P **P 12 27 56.2 -0.9**

comp=Z,19nm,0.6s,mb5.3,baz=349,slow=6.8,SNR=35
SCHQ LR LR 12 58 39.9

comp=Z,1µm,21.4s,MS5.1,baz=324,slow=38
SCHQ Schefferville 65.95 28 P **P 12 27 56.2 -0.9**
SCHQ LR LR 12 58 39.9
SNG Songkhla 66.17 249 P **P 12 28 01.0 +1.8**

comp=Z,180nm,0.9s,mb6.1
BLS5 Blasjo 66.22 346⇑ *iP* **P 12 27 59.2 +0.4**
BLS5 *e*pP pP 12 28 06.0 -1.9
KSU1 Kansas State U 67.01 55 P **P 12 28 02.8 -1.3**
SUW Suwalki 67.79 334⇑ *eP* **P 12 28 07.4 -1.4**
SUW *e*pP pP 12 28 21.4 +3.4
SUW *e*S S 12 37 00.7 -2.6
SUW Suwalki 67.79 334⇑ *eP* **P 12 28 07.4 -1.4**

comp=Z,700nm,1.9s,mb6.4
SUW *e*pP pP 12 28 21.4 +3.4
SUW *e*S S 12 37 00.7 -2.5
SUW MLR MLR 13 00 41.8

comp=Z,7µm,20.1s,MS5.9
CPRX Cap Rock 67.80 64 *eP* **P 12 28 09.5 +0.3**
MNTX Cornudas Mount 67.96 66 *eP* **P 12 28 10.3 0.0**

comp=Z,31nm,1.2s,mb5.2
MNTX *e*pP pP 12 28 19.4 -0.1
MNTX LR LR

comp=Z,2µm,21.0s,MS5.2
GDL2 Guadalupe Moun 68.15 65 *eP* **P 12 28 12.0 +0.6**
GDL2 *e*pP pP 12 28 19.5 -1.1
CLNB Carlsbad 68.37 65 *eP* **P 12 28 12.8 0.0**
CLNB *e*PP PP 12 30 57.3 +12
MAK Makhachkala 68.50 313*d iP* **P 12 28 12.0 -1.4**
MAK *e*PPP PPP 12 32 24.0 -0.2
MAK *i* 12 38 01.0
MAK pmax pmax

comp=Z,1µm,8.0s
MAK MLR MLR

comp=N,5µm,15.0s,MS6.1
MAK MLR MLR

comp=Z,6µm,15.0s,MS5.9
MAK MLR MLR

comp=E,8µm,17.0s,MS6.1
MUD Monsted U'grnd 68.62 343⇑ *iP* **P 12 28 13.4 -0.5**

comp=E,42nm,0.6s,mb5.5
MUD *i* 12 30 45.9
MUD *i* S S 12 37 14.5 +1.5

comp=Z,2µm,20.0s
GOF Gofitskoye 68.72 317⇑ *iP* **P 12 28 15.0 +0.3**
GOF pmax pmax

comp=Z,116nm,0.8s,mb5.9
COP Copenhagen 68.74 341 *eP* **P 12 28 14.4 -0.2**
COP *i* S S 12 37 14.3 -0.2
COP pmax pmax

comp=Z,73nm,0.8s,mb5.7
COP MLR MLR

comp=Z,2µm,21.0s,MS5.4
COP Copenhagen 68.74 341 *eP* **P 12 28 14.4 -0.2**

comp=Z,73nm,0.8s,mb5.7
COP *i* S S 12 37 14.3 -0.2
COP *i* 12 47 09.1
COP LR LR

comp=Z,2µm,21.0s,MS5.4
COP Copenhagen 68.74 341 *iP* **P 12 28 14.4 -0.2**

comp=Z,73nm,0.8s,mb5.7
COP *i* S S 12 37 14.3 -0.2
COP *i* 12 47 09.1

comp=Z,2µm,21.0s
BSD Bornholm Skovb 68.76 339 *eP* **P 12 28 14.1 -0.7**
BSD pmax pmax

comp=Z,107nm,0.6s,mb6.0
BSD Bornholm Skovb 68.76 339 *eP* **P 12 28 14.1 -0.7**

comp=Z,107nm,0.6s,mb6.0
BSD Bornholm Skovb 68.76 339 *iP* **P 12 28 14.1 -0.7**

comp=Z,107nm,0.6s,mb6.0
AKASG Malin Array Be 68.97 329 P **P 12 28 14.2 -2.0**

comp=Z,60nm,0.5s,mb5.8,baz=29,slow=6.1,SNR=74
KAKA Kakadu 69.41 209 *eP* **P 12 28 21.9 +2.5**

comp=Z,16nm,0.8s,mb5.0
RGN Rugen 69.62 340 *eP* **P 12 28 20.2 +0.2**

comp=Z,173nm,0.6s,mb6.2
KIV Kislovodsk 69.76 317*c iP* **P 12 28 20.3 -0.8**
KIV pmax pmax

comp=Z,47nm,0.9s,mb5.4
KIV MLR MLR

comp=Z,6µm,19.0s,MS5.9
KIV Kislovodsk 69.76 317⇑ *iP* **P 12 28 20.4 -0.7**
GKP Gorka Klasztor 69.95 337 *eP* **P 12 28 21.5 -0.6**

comp=Z,1.5nm,3.0s
GKP *e*pP pP 12 28 35.7 +4.4
GKP *e*S S 12 37 27.7 -1.1
GKP *e*SKS SKS 12 38 13.2 -12
GKP LR LR

comp=Z,4µm,22.1s,MS5.7
GKP Gorka Klasztor 69.95 337 *e*P **P 12 28 21.6 -0.5**
comp=Z,2µm,3.0s
GKP *e*pP pP 12 28 35.7 +4.4
GKP *e*S S 12 37 27.7 -1.1
GKP *e*SKS SKS 12 38 13.2 -12
GKP MLR MLR 13 02 01.3
comp=Z,4µm,22.1s,MS5.7
WAR Warsaw 69.95 335 *e*P **P 12 28 21.9 -0.2**
comp=Z,2.7nm,3.1s
WAR *e*pP pP 12 28 36.3 +5.0
WAR *e*S S 12 37 28.8 -0.1
WAR LR LR
comp=Z,7µm,19.2s,MS5.9
WAR Warsaw 69.95 335 *e*P **P 12 28 21.9 -0.3**
comp=Z,3µm,3.1s
WAR *e*pP pP 12 28 36.3 +5.0
WAR *e*S S 12 37 28.8 -0.1
WAR MLR MLR 13 02 09.5
comp=Z,7µm,19.2s,MS5.9
ZEI Tsey 70.22 315 *e*P **P 12 28 21.5 -2.4**
ZEI *i* *PP pP 12 28 34.9 +1.8
ZEI pmax pmax
comp=Z,23nm,0.8s,mb5.2
DUS Dusheti 70.43 315 P **P 12 28 25.3 +0.1**
SLM Saint Louis 70.48 52 *e*P **P 12 28 25.1 -0.5**
SLM pmax pmax
comp=Z,49nm,0.8s,mb5.5
SLM Saint Louis 70.48 52 *e*P **P 12 28 25.1 -0.5**
comp=Z,49nm,0.8s,mb5.5
ONI Oni 70.57 316 P **P 12 28 25.0 -1.1**
AFI Afiamalu 70.61 151 LR LR 12 52 48.5
comp=Z,2µm,20.1s,MS5.4,baz=326,slow=30
AFI Afiamalu 70.61 151 PFAKE 12 28 40.0 +13
AFI LR LR
comp=Z,3µm,19.0s,MS5.6
TI2 Plekhanov 70.70 314⇑ *i*P **P 12 28 23.0 -3.9**
TI2 *e*S S 12 37 33.0 -4.8
TI2 MLR MLR
comp=E,2µm,17.0s
MTA Mtatsminda 70.71 314 P **P 12 28 25.6 -1.3**
LTX Lajitas 70.72 67 *e*P **P 12 28 27.5 +0.3**
LTX *e**PP pP 12 28 35.8 -0.6
LTX pmax pmax
comp=Z,13nm,0.9s,mb4.9
LTX MLR MLR
comp=Z,2µm,21.0s,MS5.3
LTX Lajitas 70.72 67 *e*P **P 12 28 27.5 +0.3**
comp=Z,13nm,0.9s,mb4.9
LTX *e*pP pP 12 28 35.8 -0.6
LTX LR LR
comp=Z,2µm,21.0s,MS5.3
TXAR Lajitas Array 70.72 67 P **P 12 28 27.8 +0.5**
comp=Z,8.3nm,0.7s,mb4.8,baz=297,slow=4.3,SNR=60
TXAR pP pP 12 28 35.9 -0.5
comp=Z,15nm,0.7s,baz=304,slow=4.9,SNR=23
BSEG Bad Segeberg 70.80 342 *e*P **P 12 28 27.2 -0.1**
FVM French Village 70.91 52 *e*P **P 12 28 27.0 -1.2**
FVM pmax pmax
comp=Z,15nm,0.8s,mb5.0
FVM French Village 70.91 52 *e*P **P 12 28 27.0 -1.2**
comp=Z,15nm,0.8s,mb5.0
ANN Anapa 71.17 321 *e*P **P 12 28 22.4 -7.2**
ANN *i* 12 28 33.8
ANN *i* *PP pP 12 28 46.7 +7.9
ANN pmax pmax
comp=Z,97nm,2.0s,mb5.4
ANN MLR MLR
comp=N,9µm,21.0s,MS6.1
ANN MLR MLR
comp=E,6µm,21.0s,MS6.1
ANN MLR MLR
comp=Z,5µm,21.0s,MS5.7
ANN Anapa 71.17 321⇑ *i*P **P 12 28 27.3 -2.3**
SOC Sochi 71.28 319 *c i*P **P 12 28 29.0 -1.4**
SOC *i* pP 12 28 39.4 -0.2
SOC *e**PP pP 12 28 54.6 +15
SOC *e* 12 31 09.0
SOC *e*S S 12 37 35.5 -9.1
SOC *e*SSS SSS 12 45 28.4 +0.7
SOC pmax pmax
comp=Z,666nm,2.5s,mb6.1
SOC pmax pmax
comp=Z,75nm,0.9s,mb5.6
SOC pmax pmax
comp=N,70nm,1.1s
SOC pmax pmax
comp=E,51nm,1.2s
SOC MLR MLR
comp=Z,5µm,15.0s,MS5.8
SOC MLR MLR
comp=N,3µm,18.0s,MS5.8
SOC MLR MLR
comp=E,3µm,18.0s,MS5.8
HYB Hyderabad 71.32 274 *e*P **P 12 28 30.0 -1.0**
HYB Hyderabad 71.32 274 *i*P **P 12 28 30.0 -1.0**
ESK Eskdalemuir 71.46 350 *e*P **P 12 28 29.9 -1.3**
ESK pmax pmax
comp=Z,28nm,0.9s,mb5.2
ESK Eskdalemuir 71.46 350 *e*P **P 12 28 29.9 -1.3**
comp=Z,28nm,0.9s,mb5.2
RUE Ruedersdorf 71.47 339 *e*P **P 12 28 30.9 -0.4**
comp=Z,117nm,0.9s,mb5.8
KWP Kalwaria 71.86 332⇑ *i*P **P 12 28 33.5 -0.2**
KWP *e*S S 12 37 47.8 -3.3
KWP Kalwaria 71.86 332⇑ *i*P **P 12 28 33.5 -0.2**
comp=Z,2µm,2.2s
KWP *e*S S 12 37 47.8 -3.3
KWP MLR MLR 13 03 48.6
comp=Z,8µm,18.1s,MS6.0
GNI Garni 71.99 313 *c i*P **P 12 28 34.8 +0.1**
GNI pmax pmax
comp=Z,90nm,1.5s
GNI MLR MLR
comp=Z,600nm,9.0s
GNI Garni 71.99 313 LR LR 13 04 42.0
comp=Z,3µm,18.8s,MS5.7,baz=17,slow=40
GNI Garni 71.99 313⇑ *i*P **P 12 28 34.9 +0.2**
OJC Ojcow 72.12 335⇑ *i*P **P 12 28 34.5 -0.7**
OJC *e*PcP PcP 12 28 48.7 -4.9
OJC *e*S S 12 37 51.9 -2.1
OJC MLR MLR 13 03 36.5
comp=Z,7µm,19.5s,MS6.0
PARMO Parma 72.28 52 *e*P **P 12 28 36.7 +0.2**
SIM Simferopol' 72.28 323 *c i*P **P 12 28 35.0 -1.3**
SIM *e*S S 12 37 51.0 -5.0
SIM pmax pmax
comp=Z,56nm,0.7s,mb5.6
SIM MLR MLR
comp=Z,14µm,17.5s,MS6.3
KSP Ksiaz 72.42 337 *e*P **P 12 28 36.2 -0.8**
KSP *e*pP pP 12 28 44.2 -2.0
KSP *e*S S 12 37 52.0 -5.4
KSP LR LR
comp=Z,8µm,21.6s,MS6.0
KSP Ksiaz 72.42 337⇑ *i*P **P 12 28 36.6 -0.4**
comp=Z,1µm,3.2s
KSP *e*pP pP 12 28 50.1 +3.8
KSP *e*S S 12 37 57.4 0.0
KSP MLR MLR 13 02 10.2
comp=Z,7µm,23.4s,MS5.8
STHS Stebnicka Huta 72.46 333 *i* P **P 12 28 37.9 +0.6**
STHS *e* 12 28 42.9
WIT Witteveen 72.53 344⇑ *i*P **P 12 28 38.4 +0.9**
ALLY Alegheny Colle 72.54 43 *e*P **P 12 28 37.2 -0.6**
GENY Geneseo 72.56 41 *e*P **P 12 28 38.4 +0.6**
IAS Iasi 72.58 328 P **P 12 28 38.4 +0.5**
KOLS Kolonicke sedl 72.61 332 *i* P **P 12 28 37.8 -0.3**
RAC Raciborz 72.66 335 *e*P **P 12 28 38.7 +0.4**
RAC MLR MLR 13 04 22.0
comp=Z,6µm,18.2s,MS5.9
WCI Wyandotte Cave 72.66 49 *e*P **P 12 28 38.3 -0.3**
WCI pmax pmax
comp=Z,14nm,0.6s,mb5.1
WCI MLR MLR
comp=Z,2µm,20.0s,MS5.5
WCI Wyandotte Cave 72.66 49 *e*P **P 12 28 38.3 -0.3**
comp=Z,14nm,0.6s,mb5.1
WCI LR LR
comp=Z,2µm,20.0s,MS5.5
NIE Niedzica 72.71 334⇑ *i*P **P 12 28 38.6 0.0**
GNAR Gosnell 72.71 53 *e*P **P 12 28 38.0 -0.9**
CLL Collm 72.73 339⇑ *i*P **P 12 28 38.1 -0.6**
CLL *e**PP pP 12 28 46.0 -2.0
CLL *e*S S 12 37 55.0 -5.9
CLL pmax pmax
comp=Z,105nm,1.1s,mb5.7
CLL MLR MLR
comp=Z,3µm,22.0s,MS5.5
CLL Collm 72.73 339⇑ *i*P **P 12 28 38.1 -0.6**
comp=Z,105nm,1.1s,mb5.7
CLL *e*pP pP 12 28 46.0 -2.0
CLL *e*S S 12 37 55.0 -5.9
CLL LR LR
comp=Z,3µm,22.0s,MS5.5
CLL Collm 72.73 339⇑ P **P 12 28 38.1 -0.6**
comp=Z,logA/T=2.0,mb5.7
CLL *e**PP pP 12 28 46.0 -2.0
CLL *e*PP PP 12 31 19.0 -3.6
CLL *e*PPP PPP 12 33 04.0 -1.3
CLL *e*S S 12 37 55.0 -5.9
CLL *e*SS SS 12 42 36.0 -7.0
CLL *e*SSS SSS 12 46 00.0 +7.2
PQI Presque Isle 72.76 33 PFAKE 12 28 50.0 +11
PQI LR LR
comp=Z,9µm,20.0s,MS6.0
CLZ Clausthal 72.78 341 *e*P **P 12 28 39.2 +0.3**
CLZ pmax pmax
comp=Z,146nm,1.1s,mb5.8
CLZ Clausthal 72.78 341 *e*P **P 12 28 39.2 +0.3**
comp=Z,146nm,1.1s,mb5.8
UPC Upice 72.80 337⇑ *i*P **P 12 28 38.8 -0.3**
IBBN Ibbenburen 72.83 343 P **P 12 28 39.0 -0.2**
CRVS Cervenica-Dubn 72.87 333 *i* P **P 12 28 40.1 +0.5**
DPC Dobruska-Polom 72.87 337⇑ *i*P **P 12 28 39.6 +0.1**
DPC *e*S S 12 38 01.2 -1.2
DPC AMS AMS 13 06 50.0
comp=Z,5µm,15.8s
OKC Ostrava-Krasne 72.89 335⇑ *i*P **P 12 28 39.6 -0.1**
OKC *e*S S 12 38 02.5 -0.2
OKC AMS AMS 13 04 20.0
comp=Z,4µm,17.8s
BRG Berggiesshubel 72.93 338⇑ *i*P **P 12 28 39.3 -0.6**
BRG *e* pP 12 28 47.0 -2.1
BRG 12 31 23.0
BRG pmax pmax
comp=Z,168nm,1.9s,mb5.7
BRG MLR MLR
comp=Z,5µm,14.8s,MS5.9
BRG Berggiesshubel 72.93 338⇑ *i*P **P 12 28 39.3 -0.6**
comp=Z,168nm,1.9s,mb5.7
BRG *e* pP 12 28 47.0 -2.1
BRG PP PP 12 31 23.0 -1.4
BRG LR LR
comp=Z,5µm,14.8s,MS5.9
BURAR Bucovina Array 72.94 330⇑ P **P 12 28 39.8 -0.2**
BURAR Bucovina Array 72.94 330⇑ P **P 12 28 39.8 -0.2**
MORC Moravsky Berou 73.10 336 *e*P **P 12 28 40.7 -0.2**
MORC pmax pmax
comp=Z,48nm,0.8s,mb5.5
MORC Moravsky Berou 73.10 336 *e*P **P 12 28 40.7 -0.2**
comp=Z,48nm,0.8s,mb5.5
PVCC Panska Ves 73.11 338⇑ *i*P **P 12 28 40.7 -0.3**
PVCC *e*S S 12 38 03.2 -2.0
PVCC AMS AMS 13 07 10.0
comp=Z,6µm,15.1s
CLDR Caldiran 73.18 313 *e*P **P 12 28 41.1 -0.5**
WTSB Winterswijk 73.33 343⇑ *i*P **P 12 28 41.9 -0.2**
comp=Z,72nm,1.1s,mb5.5
CTA Charters Tower 73.51 194 *e*P **P 12 28 43.6 -0.3**
comp=Z,14nm,1.0s,mb4.8
CTA Charters Tower 73.51 194 *e*P **P 12 28 43.6 -0.3**
CTA pmax pmax
comp=Z,14nm,1.0s
CTA Charters Tower 73.51 194 P **P 12 28 44.5 +0.6**
comp=Z,15nm,1.0s,mb4.9,baz=4.7,slow=7.1,SNR=6.2
CTAO Charters Tower 73.51 194 P **P 12 28 46.3 +2.4**
CTAO MLR MLR
comp=Z,1µm,22.0s,MS5.1
KECS Kecovo 73.52 333 *i* P **P 12 28 43.1 -0.3**
PRA Prague 73.57 338⇑ P **P 12 28 44.0 +0.4**
PRA AMS AMS 13 07 30.0
PRU Pruhonice 73.63 338⇑ *i*P **P 12 28 43.8 -0.1**
PRU *e*pP pP 12 28 50.5 -2.7
PRU *e*S S 12 38 08.9 -2.0
PRU AMS AMS 13 07 30.0
comp=Z,5µm,14.9s
ACCN Adirondack Com 73.63 38 *e*P **P 12 28 40.4 -3.7**
MOX Moxa 73.65 340⇑ *i*P **P 12 28 44.0 -0.1**
MOX *e* 12 31 28.0
MOX *e*S S 12 38 19.0 +7.8
MOX *e*PPS PPS 12 39 00.0 -3.0
MOX pmax pmax
comp=Z,145nm,1.3s,mb5.8
MOX MLR MLR
comp=Z,3µm,18.0s,MS5.6
MOX Moxa 73.65 340⇑ *i*P **P 12 28 44.0 -0.1**
comp=Z,145nm,1.3s,mb5.8
MOX *e*PP PP 12 31 28.0 -2.2
MOX *e*S S 12 38 19.0 +7.8
MOX *e*PPS PPS 12 39 00.0 -3.0
MOX *e*SS SS 12 43 30.0 +33
MOX LR LR
comp=Z,3µm,18.0s,MS5.6
MOX Moxa 73.65 340⇑ *i*P **P 12 28 44.0 -0.1**
comp=Z,logA/T=2.0,mb5.7
MOX PP PP 12 31 28.0 -2.2
MOX S S 12 38 19.0 +7.8
MOX PPS PPS 12 39 00.0 -3.0
MOX SS SS 12 43 30.0 +33
MOX QM 13 02 55.0
MOX RM 13 07 13.0
ERZM Erzurum 73.66 315 *i* P **P 12 28 44.2 -0.2**
EZM Erzurum 73.66 315 *e*P **P 12 28 44.0 -0.3**
NATX Nacogdoches 73.71 59 PFAKE 12 29 00.0 +15
NATX LR LR
comp=Z,2µm,22.0s,MS5.4
BUG Bochum--Univer 73.75 343 P **P 12 28 43.9 -0.7**
VRAC Vranov 73.77 336 P **P 12 28 45.2 +0.4**
DLF Lyons Farm 73.78 352 *e*P **P 12 28 38.9 -5.9**
DLF Lyons Farm 73.78 352⇑ *i*P **P 12 28 44.1 -0.7**
DLF Lyons Farm 73.78 352⇑ *i*P **P 12 28 44.1 -0.7**
DCN Croghan 73.80 352 *e*P **P 12 28 39.1 -5.7**
DCN Croghan 73.80 352⇑ *i*P **P 12 28 44.3 -0.5**
DCN Croghan 73.80 352⇑ *i*P **P 12 28 44.3 -0.5**
NKC Novy Kostel 73.86 339⇑ *i*P **P 12 28 45.2 -0.1**
NKC *e*pP pP 12 28 55.2 +0.6
NKC *e*S S 12 38 11.7 -1.9
NKC AMS AMS 13 07 50.0
comp=Z,3µm,16.7s
TVAN Van 73.91 313 *i* P **P 12 28 46.8 +1.0**
JAVC Velka Javorina 73.92 335 P **P 12 28 46.1 +0.5**
TLCR 73.94 326⇑ P **P 12 28 45.4 -0.5**
VYHS Vyhne 73.95 334 *i* P **P 12 28 46.0 +0.1**
KOLL Kolacno 73.99 335 *i* P **P 12 28 45.7 -0.4**
GUMT Gumushane 73.99 317 *e*P **P 12 28 44.8 -1.4**
VRI Vrincioaia 74.02 328⇓ P **P 12 28 45.8 -0.5**
KRUC Moravsky 74.05 336 P **P 12 28 46.6 +0.2**
WVL Waterville 74.05 35 *e*P **P 12 28 46.2 -0.4**
comp=Z,230nm,1.3s,mb6.0
WVL LR LR
comp=Z,9µm,19.0s,MS6.1
CFR Carcaliu 74.17 327⇓ P **P 12 28 46.8 -0.4**
OXF Oxford 74.17 54 *e*P **P 12 28 46.3 -1.2**
OXF pmax pmax
comp=Z,81nm,1.3s,mb5.5
OXF MLR MLR
comp=Z,3µm,22.0s,MS5.5
OXF Oxford 74.17 54 *e*P **P 12 28 46.3 -1.2**
comp=Z,81nm,1.3s,mb5.5
OXF LR LR
comp=Z,3µm,22.0s,MS5.5
PSZ Piszkesteto 74.20 333 P **P 12 28 46.9 -0.4**
PSZ pmax pmax
comp=Z,54nm,0.9s,mb5.5
PSZ Piszkesteto 74.20 333⇑ *i*P **P 12 28 47.6 +0.3**
SMOL Smolenice 74.30 335 *e*P **P 12 28 49.3 +1.4**
MCWV Mont Chateau 74.33 44 *e*P **P 12 28 47.8 -0.4**
comp=Z,25nm,0.7s,mb5.2
MCWV LR LR
comp=Z,2µm,21.0s,MS5.5
DRGR 74.43 331 P **P 12 28 48.5 -0.2**
DRGR 74.43 331⇓ P **P 12 28 48.6 0.0**
DRGR 74.43 331⇓ P **P 12 28 48.7 0.0**
PLAL Pickwick Lake 74.44 52 *e*P **P 12 28 48.3 -0.7**
comp=Z,20nm,0.8s,mb5.1
PLAL LR LR
comp=Z,3µm,22.0s,MS5.5
HAKT HAKKARI 74.58 312 *i* P **P 12 28 48.1 -1.6**
MLR Muntele Rosu 74.61 329 P **P 12 28 50.1 +0.4**
MLR Muntele Rosu 74.61 329 LR LR 13 06 23.4
comp=Z,5µm,20.3s,MS5.8,baz=29,slow=40
MLR Muntele Rosu 74.61 329⇓ P **P 12 28 50.2 +0.5**
MLR Muntele Rosu 74.61 329⇓ P **P 12 28 50.2 +0.5**
HGN Heimansgroeve 74.63 343⇑ *i*P **P 12 28 49.6 -0.1**
HGN *e*PP PP 12 31 38.2 -0.5
HGN *e*PPP PPP 12 33 25.6 +2.0
HGN *e*S S 12 38 22.0 -0.2
HGN *e*SS SS 12 43 04.1 -7.7
comp=Z,33nm,1.7s
GRA1 Grafenberg Arr 74.64 340 *i* P **P 12 28 50.2 +0.4**
comp=Z,142nm,0.9s,mb5.9
GRF Grafenberg Arr 74.64 340 *i* P **P 12 28 50.2 +0.4**
GRF pmax pmax
comp=Z,142nm,0.9s,mb5.9
GRF Grafenberg Arr 74.64 340 *i* P **P 12 28 50.2 +0.4**
GRF pmax pmax
comp=Z,142nm,0.9s,mb5.9
GRF Grafenberg Arr 74.64 340 *i* P **P 12 28 50.2 +0.4**
comp=Z,142nm,0.9s,mb5.9
GRFO Grafenberg 74.64 340 P **P 12 28 50.3 +0.5**
GRFO S S 12 38 23.5 +1.2
GRFO Grafenberg 74.64 340 P **P 12 28 49.2 -0.6**
KHC Kasperske Hory 74.65 338⇑ *i*P **P 12 28 50.0 +0.1**
KHC *e*pP pP 12 28 59.7 +0.5
KHC *e*S S 12 38 19.1 -3.3
KHC AMS AMS 13 08 00.0
comp=Z,6µm,14.4s
DZM Mont Dzumac 74.67 174 P **P 12 28 51.8 +1.3**
comp=Z,13nm,0.9s,mb4.8,baz=60,slow=14,SNR=3.7
DZM LR LR 12 57 06.2
comp=Z,2µm,20.4s,MS5.5,baz=8.9,slow=32
EMMW East Machias 74.67 33 PFAKE 12 29 00.0 +10
EMMW LR LR
comp=Z,10µm,22.0s,MS6.1
HARR Harsova 74.67 327⇓ P **P 12 28 49.4 -0.7**
ZST Bratislava 74.67 335 *e*P **P 12 28 50.4 +0.3**
ZST *e* pP 12 29 00.0 +0.7
ZST *eL* 13 05 51.2
TNS Taunus Mts 74.69 342 *e*P **P 12 28 50.1 0.0**
TNS pmax pmax
comp=Z,64nm,0.9s,mb5.5
TNS Taunus Mts 74.69 342 *e*P **P 12 28 50.1 0.0**
comp=Z,64nm,0.9s,mb5.5
SRO Srobarova 74.72 334 *e*P **P 12 28 51.2 +0.9**
TIRR Tirgusor 74.72 326⇓ P **P 12 28 50.0 -0.4**
TIRR Tirgusor 74.72 326⇓ P **P 12 28 50.0 -0.4**
ISR Istrita 74.75 328⇑ P **P 12 28 51.6 +1.1**
WET Wettzell 74.80 338 *e*P **P 12 28 51.1 +0.4**
WET pmax pmax
comp=Z,51nm,0.8s,mb5.5
WET Wettzell 74.80 338 *e*P **P 12 28 51.1 +0.4**
comp=Z,51nm,0.8s,mb5.5
BUD Budapest 74.83 334 *e*P **P 12 28 51.2 +0.2**
BUD Budapest 74.83 334 *e*P **P 12 28 51.4 +0.4**
KVT Kavak 74.86 320 *e*P **P 12 28 50.7 -0.6**
GEC2 GERESS Array S 74.89 338 *e*P **P 12 28 51.2 -0.1**
GEC2 pmax pmax
comp=Z,33nm,0.9s,mb5.3
GEC2 GERESS Array S 74.89 338 *e*P **P 12 28 51.2 -0.1**
comp=Z,33nm,0.9s,mb5.3
GERES GERESS Array B 74.89 338 P **P 12 28 51.0 -0.3**
comp=Z,19nm,0.7s,mb5.1,baz=32,slow=4.6,SNR=32
GERES LR LR 13 05 33.6
comp=Z,3µm,22.0s,MS5.6,baz=26,slow=39
VOIR 74.94 329⇑ P **P 12 28 52.0 +0.4**
BOYT Boyabat 75.01 321 *i* P **P 12 28 52.1 -0.1**
PKSG 75.08 334⇑ *e*P **P 12 28 52.9 +0.5**
HRV Harvard--Oak R 75.17 37 *e*P **P 12 28 51.7 -1.3**
HRV pmax pmax
comp=Z,46nm,1.4s,mb5.2
HRV MLR MLR
comp=Z,1µm,21.0s,MS5.2
HRV Harvard--Oak R 75.17 37 *e*P **P 12 28 51.7 -1.3**
comp=Z,46nm,1.4s,mb5.2
HRV LR LR
comp=Z,1µm,21.0s,MS5.2
ABH Alteburg 75.19 342⇑ *e*P **P 12 28 52.9 -0.1**
TOD Tromm 75.21 341 *e*P **P 12 28 53.1 0.0**
TOD Tromm 75.21 341⇑ *e*P **P 12 28 53.3 +0.2**
SOP Sopron 75.29 336 P **P 12 28 53.9 +0.3**
TZTN Tazewell 75.29 48 *e*P **P 12 28 53.8 -0.1**
SIND Sindeldorf 75.30 341⇑ *e*P **P 12 28 53.6 0.0**
TOKT Tokat 75.31 319 *e*P **P 12 28 52.2 -1.7**
PTK Pertek 75.34 316 *e*P **P 12 28 53.6 -0.6**
SWS Schriesheim 75.35 341 P **P 12 28 55.4 +1.5**
SWS Schriesheim 75.35 341⇑ *e*P **P 12 28 53.7 -0.2**
WES Weston 75.36 37 PFAKE 12 29 10.0 +16
WES LR LR
comp=Z,1µm,22.0s,MS5.1
BEST Besiri 75.38 314 *i* P **P 12 28 54.2 -0.1**
RUP Ruppelstein 75.45 342 *e*P **P 12 28 54.5 0.0**
RUP Ruppelstein 75.45 342⇑ *e*P **P 12 28 54.4 -0.1**
GIVF Givet 75.46 344 *e*P **P 12 28 53.9 -0.6**
comp=Z,107nm,0.9s,mb5.5
GIVF Givet 75.46 344 *e*P **P 12 28 53.9 -0.6**
GIVF pmax pmax
comp=Z,54nm,0.9s,mb5.5
PKS8 Sarbogard 75.48 334⇑ *e*P **P 12 28 54.4 -0.3**
PSN Preselentsi 75.48 326 *e*P **P 12 28 54.5 -0.3**
BALT Daday 75.49 322 *i* P **P 12 28 54.7 -0.2**
PAL Palisades 75.59 39 *e*P **P 12 28 52.7 -2.7**
PAL pmax pmax
comp=Z,52nm,1.3s,mb5.3
PAL Palisades 75.59 39 *e*P **P 12 28 52.7 -2.7**
comp=Z,52nm,1.3s,mb5.3
BUC1 Bucharest 75.60 328 P **P 12 28 55.3 -0.2**
BAIF Baives 75.61 344 *e*P **P 12 28 55.0 -0.4**
comp=Z,96nm,0.7s,mb5.5
BAIF Baives 75.61 344 *e*P **P 12 28 55.0 -0.4**
BAIF pmax pmax
comp=Z,48nm,0.7s,mb5.5
KTD Kalmit 75.62 342 *e*P **P 12 28 55.6 +0.1**
FWV Forest Hill 75.65 46 *e*P **P 12 28 55.2 -0.6**
FWV *e*pP pP 12 29 05.1 -0.1
WLF Walferdange 75.65 343 *e*P **P 12 28 55.4 -0.2**
WLF pmax pmax
comp=Z,89nm,1.4s,mb5.5
WLF Walferdange 75.65 343 *e*P **P 12 28 55.4 -0.3**
comp=Z,89nm,1.4s,mb5.5
TOS Tosya 75.68 321 *e*P **P 12 28 56.1 +0.2**
MOA Molln 75.69 337⇑ *i*P **P 12 28 56.0 +0.1**
comp=Z,754nm,3.8s
CTKT Corum 75.74 320 *i* P **P 12 28 56.2 -0.1**
WRAB Tennant Creek 75.76 205 *e*P **P 12 28 55.7 -1.1**
WRAB *e**PP pP 12 29 09.1 +3.0
WB2 Warramunga Arr 75.77 205 *e*P **P 12 28 56.9 0.0**
WRA Warramunga Arr 75.77 205 P **P 12 28 57.0 +0.1**
comp=Z,18nm,0.9s,mb5.0,baz=18,slow=6.2,SNR=14
ELZG Elazig 75.85 316 *i* P **P 12 28 56.8 -0.1**
STU Stuttgart 75.93 341 *e*P **P 12 28 56.9 -0.3**
STU pmax pmax
comp=Z,28nm,0.5s,mb5.5
STU Stuttgart 75.93 341 *e*P **P 12 28 56.9 -0.3**
comp=Z,28nm,0.5s,mb5.4
ARSA Arzberg 75.95 336⇑ *i*P **P 12 28 57.8 +0.4**
comp=Z,673nm,3.0s
ELN Prospectdale 75.97 46 *e*P **P 12 28 56.8 -0.9**
LANF Langenberg 76.00 342 *e*P **P 12 28 57.6 0.0**
SAFT Safranbolu 76.01 322 *e*P **P 12 28 56.5 -1.4**
FUR Furstenfeldbru 76.07 339 *e*P **P 12 28 58.2 +0.2**
FUR pmax pmax
comp=Z,88nm,0.9s,mb5.7
FUR Furstenfeldbru 76.07 339 *e*P **P 12 28 58.2 +0.2**
comp=Z,88nm,0.9s,mb5.7
LBG Lerchenberg 76.11 341 P **P 12 28 58.9 +0.7**
LBG Lerchenberg 76.11 341⇑ *e*P **P 12 28 58.1 -0.1**
BLA Blacksburg 76.13 46 PFAKE 12 29 10.0 +11
BLA LR LR
comp=Z,2µm,21.0s,MS5.3
PRD Provadia 76.17 326 P **P 12 28 58.0 -0.7**
CORM Corum 76.18 320 *e*P **P 12 28 58.4 -0.4**
BUCH Bad Urach 76.21 340 P **P 12 28 59.5 +0.7**
BUCH Bad Urach 76.21 340⇑ *e*P **P 12 28 59.0 +0.2**
CANT Cankiri 76.21 321 *e*P **P 12 28 57.5 -1.4**
MYA Malataya 76.23 317 *e*P **P 12 28 58.6 -0.6**
MYNC Murphy 76.23 50 *e*P **P 12 28 58.4 -0.8**
MYNC pmax pmax
comp=Z,28nm,1.0s,mb5.2
MYNC MLR MLR
comp=Z,3µm,20.0s,MS5.6
MYNC Murphy 76.23 50 *e*P **P 12 28 58.4 -0.8**
comp=Z,28nm,1.0s,mb5.1

MYNC LR LR
comp=Z,3µm,20.0s,MS5.6
MALT Malatya 76.24 316 *eP* **P 12 28 58.1 -1.0**
MALT Malatya 76.24 316 P **P 12 28 59.4 +0.2**
ELDT Eldivan 76.38 321 *i P* **P 12 29 00.2 +0.3**
ZIMR 76.43 328 ⇓P **P 12 28 59.6 -0.6**
KOGS Kog 76.51 335⇑*eP* **P 12 29 00.3 -0.2**
BFO Black Forest 76.53 341 *eP* **P 12 29 00.4 -0.2**
BFO pmax pmax
comp=Z,52nm,0.9s,mb5.5
BFO Black Forest 76.53 341 *eP* **P 12 29 00.4 -0.2**
comp=Z,52nm,0.9s,mb5.5
LRAL Lakeview Retre 76.54 53 *eP* **P 12 28 60.0 -1.0**
comp=Z,14nm,0.7s,mb5.0
LRAL LR LR
comp=Z,2µm,20.0s,MS5.4
CBN Corbin 76.59 43 PFAKE 12 29 10.0 +8.8
CBN LR LR
comp=Z,2µm,19.0s,MS5.4
SZH Strazhica 76.60 327 *eP* **P 12 29 00.0 -1.1**
GUT Gutenstein 76.61 341⇑*eP* **P 12 29 01.1 0.0**
PERS Pernice 76.62 336⇑*eP* **P 12 29 01.5 +0.4**
PERS *eS* S 12 38 44.2 +0.1
FITZ Fitzroy Crossi 76.63 214 *eP* **P 12 28 59.4 -2.3**
comp=Z,24nm,0.8s,mb5.2
FITZ Fitzroy Crossi 76.63 214 P **P 12 29 02.1 +0.4**
comp=Z,23nm,0.8s,mb5.2,baz=11,slow=6.5,SNR=6.0
FITZ LR LR 13 02 07.6
comp=Z,445nm,18.2s,MS4.8,baz=70,slow=35
KBA Koelnbreinsper 76.63 337⇑*iP* **P 12 29 02.1 +0.9**
comp=Z,638nm,2.0s,mb6.2
KBA Koelnbreinsper 76.63 337⇑*iP* **P 12 29 02.1 +0.9**
KBA pmax pmax
comp=Z,638nm,2.0s,mb6.2
WLS Welschbruch 76.63 342 *eP* **P 12 29 01.4 +0.2**
CDF Champ du Feu 76.65 342 *eP* **P 12 29 01.2 -0.1**
comp=Z,121nm,0.8s,mb5.6
CDF Champ du Feu 76.65 342 *eP* **P 12 29 01.2 -0.1**
CDF pmax pmax
comp=Z,61nm,0.8s,mb5.6
SPAK Spaichingen 76.65 341 P **P 12 29 02.1 +0.8**
SPAK Spaichingen 76.65 341 *eP* **P 12 29 01.5 +0.2**
CDAG Cicekdag 76.76 320 *i P* **P 12 29 01.6 -0.5**
UBR Uberruh 76.78 340⇑*eP* **P 12 29 01.9 -0.1**
WATA Walderalm 76.79 339⇑*iP* **P 12 29 02.7 +0.6**
comp=Z,63nm,1.2s,mb5.4
WATA Walderalm 76.79 339⇑*iP* **P 12 29 02.7 +0.6**
WATA pmax pmax
comp=Z,63nm,1.2s,mb5.4
URFA Urfa 76.81 316 *eP* **P 12 29 01.8 -0.6**
SGKT Sivrigoynuk 76.83 322 *i P* **P 12 29 02.0 -0.4**
LIBD Limburg 76.84 342 *eP* **P 12 29 02.6 +0.3**
PVL Pavlikeni 76.84 328 *eP* **P 12 29 02.0 -0.4**
BNN Bunyan 76.84 319 *eP* **P 12 29 01.5 -1.1**
WTTA Wattenberg 76.85 339⇑*iP* **P 12 29 03.1 +0.7**
comp=Z,1µm,2.8s,mb6.3
WTTA Wattenberg 76.85 339⇑*iP* **P 12 29 03.1 +0.7**
WTTA pmax pmax
comp=Z,1µm,2.8s,mb6.3
ECH Echery 76.86 342 *eP* **P 12 29 02.5 +0.1**
ECH Echery 76.86 342 *eP* **P 12 29 01.3 -1.1**
ECH Echery 76.86 342 *eP* **P 12 29 01.3 -1.1**
ECH *eP* 12 29 02.5
BEO Belgrade 76.88 332⇓*iP* **P 12 29 01.9 -0.7**
OBKA Obir 76.88 336⇑*iP* **P 12 29 02.9 +0.3**
comp=Z,1µm,3.3s
MOTA Moosalm 76.89 339⇑*iP* **P 12 29 03.2 +0.6**
comp=Z,211nm,1.8s,mb5.8
MOTA Moosalm 76.89 339⇑*iP* **P 12 29 03.2 +0.6**
MOTA pmax pmax
comp=Z,211nm,1.8s,mb5.8
BR131 Keskin Array S 76.96 321 *eP* **P 12 29 02.7 -0.5**
comp=Z,33nm,0.8s,mb5.3
BR131 LR LR
comp=Z,2µm,19.0s,MS5.5
BRTR Keskin Array B 76.96 321 P **P 12 29 02.7 -0.5**
comp=Z,45nm,0.9s,mb5.4,baz=46,slow=3.9,SNR=36
KIZ Kirchzarten 76.96 341 P **P 12 29 03.1 +0.1**
KIZ Kirchzarten 76.96 341⇑*eP* **P 12 29 02.6 -0.4**
MEZF Maizieres J'vi 76.97 343 *eP* **P 12 29 02.9 -0.1**
SQTA Sankt Quirin 76.98 339⇑*iP* **P 12 29 03.8 +0.7**
comp=Z,55nm,1.1s,mb5.4
SQTA Sankt Quirin 76.98 339⇑*iP* **P 12 29 03.8 +0.7**
SQTA pmax pmax
comp=Z,55nm,1.1s,mb5.4
SISB Singen-Sch Ber 77.01 341 P **P 12 29 05.2 +1.9**
FELD Feldberg 77.02 341⇑*eP* **P 12 29 03.2 -0.2**
SLE Schleitheim 77.03 341⇑*eP* **P 12 29 02.8 -0.6**
HENT Hendek 77.04 323 *i P* **P 12 29 02.4 -1.2**
THEF They Montfort 77.07 343 *eP* **P 12 29 03.7 +0.1**
JMB Yambol 77.10 327 *eP* **P 12 29 03.0 -0.9**
SVIS Svilajnac 77.13 331⇑*iP* **P 12 29 03.2 -0.8**
ANTO Ankara 77.16 321 *eP* **P 12 29 03.1 -1.2**
ANTO Ankara 77.16 321 P **P 12 29 04.4 +0.1**
DAVA Damuels 77.20 340⇑*iP* **P 12 29 04.7 +0.3**
comp=Z,707nm,3.2s
HAU Haudompre 77.21 342 *eP* **P 12 29 04.2 -0.2**
comp=Z,65nm,0.7s,mb5.4
HAU *eR*
comp=Z,4µm,21.8s
HAU Haudompre 77.21 342 *eP* **P 12 29 04.2 -0.2**
HAU pmax pmax
comp=Z,32nm,0.7s,mb5.4
HAU MLR MLR
comp=Z,4µm,21.8s,MS5.7
MOF Molkenrain 77.21 342 *eP* **P 12 29 04.3 -0.1**
KAMT Kaman 77.24 320 *eP* **P 12 29 03.5 -1.2**
LIENZ Alp Oberkamor 77.28 340⇑*iP* **P 12 29 05.0 +0.2**
WILA Wila 77.28 340⇑*iP* **P 12 29 05.0 +0.2**
AVNT Avonos 77.30 319 *i P* **P 12 29 04.2 -0.9**
HINF Hinteralfeld 77.30 342 *eP* **P 12 29 04.3 -0.6**
comp=Z,68nm,0.9s,mb5.3
HINF Hinteralfeld 77.30 342 *eP* **P 12 29 04.3 -0.6**
HINF pmax pmax
comp=Z,34nm,0.9s,mb5.3
LJU Ljubljana 77.32 336⇑*eP* **P 12 29 04.6 -0.4**
LJU *eS* S 12 38 51.0 -0.8
SULZ Sulz-Cheisache 77.33 341⇑*iP* **P 12 29 05.0 -0.1**
CADS Cadrg 77.34 337⇑*eP* **P 12 29 04.3 -0.8**
ROBS Robic 77.38 337 *eP* **P 12 29 04.5 -0.9**
ZUR Zurich 77.39 341 ⇑P **P 12 29 05.8 +0.4**
GZT Gaziantep 77.41 317 *i P* **P 12 29 05.5 -0.2**
KAHT Ahir Dag 77.46 317 *i P* **P 12 29 05.8 -0.2**
VOY Vojsko 77.49 337 *eP* **P 12 29 05.2 -0.7**
VOY *e* 12 29 28.9
BBS Basel-Blauen 77.51 341 *eP* **P 12 29 06.4 +0.3**
BBS Basel-Blauen 77.51 341 *eP* **P 12 29 06.2 +0.1**
PLONS Plons 77.53 340⇑*iP* **P 12 29 06.5 +0.3**
FLN La Foliniere 77.57 347 *eP* **P 12 29 05.8 -0.6**
comp=Z,106nm,0.9s,mb5.5
FLN *eR*
comp=Z,3µm,22.2s
FLN La Foliniere 77.57 347 *eP* **P 12 29 05.8 -0.6**
FLN pmax pmax
comp=Z,53nm,0.9s,mb5.5
FLN MLR MLR
comp=Z,3µm,22.3s,MS5.6
EDRB Edirne 77.60 326 *eP* **P 12 29 04.9 -1.7**
BALST Balsthal 77.60 341⇑*iP* **P 12 29 06.7 +0.1**
ZAPS Zavoj/Pirot 77.62 330⇑*iP* **P 12 29 05.8 -1.0**
BOURR Bourrignon 77.64 342⇑*iP* **P 12 29 06.8 +0.1**
BOJS Bojanci 77.65 336⇑*eP* **P 12 29 06.7 -0.1**
DIVS Divcibare 77.67 332⇑*iP* **P 12 29 06.3 -0.7**
DAVOX Davos 77.69 340 LR LR 13 08 38.8
comp=Z,3µm,19.2s,MS5.6,baz=72,slow=40
DAVOX Davos 77.69 340⇑*iP* **P 12 29 07.8 +0.8**
GAZ Gaziantep 77.71 317 *eP* **P 12 29 07.0 -0.3**
LOMF Lomont 77.75 342 *eP* **P 12 29 07.8 +0.4**
FUORN Ofenpass 77.76 339⇑*iP* **P 12 29 08.4 +1.0**
MUO Muotathal 77.77 341⇑*iP* **P 12 29 07.7 +0.2**
LLS Linth-Limmern 77.80 340⇑*iP* **P 12 29 07.9 +0.2**
PGB Panagyurishte 77.81 328 P **P 12 29 06.8 -1.0**
YLV Yalova 77.81 324 *eP* **P 12 29 05.4 -2.5**
DIM Dimitrovgrad 77.82 327 *eP* **P 12 29 08.5 +0.6**
PALK Pallekele 77.90 266 *eP* **P 12 29 08.4 -0.5**
comp=Z,47nm,0.8s,mb5.5
BNALP Bannalp 77.90 341⇑*iP* **P 12 29 08.5 +0.3**
GRR Gorron 77.99 347 *eP* **P 12 29 08.2 -0.5**
comp=Z,98nm,1.0s,mb5.4
GRR Gorron 77.99 347 *eP* **P 12 29 08.2 -0.5**
GRR pmax pmax
comp=Z,49nm,1.0s,mb5.4
BERNI Berninapass 78.00 339⇑*iP* **P 12 29 09.6 +0.8**
PLD Plovdiv 78.04 328 *eP* **P 12 29 09.0 -0.1**
VDL Val di Lei 78.05 340⇑*iP* **P 12 29 09.8 +0.8**
HASLI Hasliberg 78.06 341⇑*iP* **P 12 29 09.3 +0.2**
VTS Vitosha 78.08 329 *i P* **P 12 29 08.6 -0.7**
VTS Vitosha 78.08 329 P **P 12 29 09.0 -0.3**
ESKT Eskisehir 78.19 322 *eP* **P 12 29 09.0 -1.0**
ESKT Eskisehir 78.19 322 *i P* **P 12 29 09.6 -0.4**
JSC Jenkinsville 78.20 48 *eP* **P 12 29 09.0 -1.1**
JSC *e**PP pP 12 29 19.2 -0.3
BRANT Les Verrieres 78.22 342⇑*eP* **P 12 29 10.0 +0.1**
FUSIO Fusio 78.25 340⇑*iP* **P 12 29 10.8 +0.7**
ULDT Uludag 78.28 324 *i P* **P 12 29 09.8 -0.6**
TORNY Torny 78.28 342⇑*iP* **P 12 29 10.7 +0.4**
SGMF Saint Gilles 78.34 348 *eP* **P 12 29 10.3 -0.3**
comp=Z,112nm,1.0s,mb5.5
SGMF Saint Gilles 78.34 348 *eP* **P 12 29 10.3 -0.3**
SGMF pmax pmax
comp=Z,56nm,1.0s,mb5.5
ROSF Rostrenen 78.35 349 *eP* **P 12 29 10.4 -0.2**
comp=Z,80nm,0.9s,mb5.3
ROSF Rostrenen 78.35 349 *eP* **P 12 29 10.4 -0.2**
ROSF pmax pmax
comp=Z,40nm,0.9s,mb5.3
MFT Murefte 78.36 325 *eP* **P 12 29 07.8 -3.0**
LOR Lormes 78.37 344 *eP* **P 12 29 10.5 -0.3**
comp=Z,103nm,0.8s,mb5.5
LOR *eR*
comp=Z,4µm,22.2s
LOR Lormes 78.37 344 *eP* **P 12 29 10.5 -0.3**
LOR pmax pmax
comp=Z,51nm,0.8s,mb5.5
LOR MLR MLR
comp=Z,4µm,22.3s,MS5.7
KIZT Kizilcal 78.37 321 *eP* **P 12 29 09.3 -1.6**
MRMT Marmara Adasi 78.41 325 *eP* **P 12 29 07.8 -3.3**
BNT Bandirma 78.52 325 *eP* **P 12 29 10.6 -1.2**
LKBD Leukerbad 78.52 341⇑P **P 12 29 12.2 +0.6**
PLE Pljevlja 78.55 332⇑*iP* **P 12 29 12.1 +0.3**
CABF La Chapelle 78.60 342 *eP* **P 12 29 12.5 +0.4**
comp=Z,127nm,0.9s,mb5.5
CABF La Chapelle 78.60 342 *eP* **P 12 29 12.5 +0.4**
CABF pmax pmax
comp=Z,63nm,0.9s,mb5.5
SENIN Lac Senin 78.61 341⇑*iP* **P 12 29 12.6 +0.5**
NVLJ Novalja 78.62 336 *i P* **P 12 29 11.2 -1.0**
SSF Saint Saulge 78.63 344 *eP* **P 12 29 12.0 -0.2**
SSF *e**PP pP 12 29 25.3 +3.8
SSF pmax pmax
comp=Z,32nm,0.8s,mb5.3
SSF Saint Saulge 78.63 344 *eP* **P 12 29 12.0 -0.2**
comp=Z,32nm,0.8s,mb5.3
SSF *epP* pP 12 29 25.3 +3.8
RDO Rodhopi 78.63 327 *eP* **P 12 29 03.0 -9.3**
ALN Alexandroupoli 78.68 326 *eP* **P 12 29 11.7 -0.9**
MUGIO Muggio 78.68 340⇑*iP* **P 12 29 12.4 -0.1**
AIGLE Aigle 78.70 341⇑*iP* **P 12 29 12.8 +0.2**
QUIF Quistinic 78.75 349 *eP* **P 12 29 12.4 -0.4**
comp=Z,50nm,0.8s,mb5.2
QUIF *epP* pP 12 29 25.1 +2.9
QUIF Quistinic 78.75 349 *eP* **P 12 29 12.4 -0.4**
QUIF *e**PP pP 12 29 25.1 +2.9
QUIF pmax pmax
comp=Z,25nm,0.8s,mb5.2
KKB Krupnik 78.77 329 *i P* **P 12 29 13.0 -0.1**
MMK Mattmark 78.78 341⇑*iP* **P 12 29 14.0 +1.0**
UPM Unac-Piva 78.80 332⇑*iP* **P 12 29 12.5 -0.7**
MMB Musomiste 78.82 328 *i P* **P 12 29 12.5 -0.9**
IVA Berane 78.82 331⇑*iP* **P 12 29 12.8 -0.5**
DIX Grande Dixence 78.86 341⇑*iP* **P 12 29 14.5 +1.0**
DIX Grande Dixence 78.86 341⇑*iP* **P 12 29 14.4 +0.9**
AVF Avril sur Loir 78.92 344 *eP* **P 12 29 13.6 -0.2**
comp=Z,113nm,0.9s,mb5.5
AVF *epP* pP 12 29 26.3 +3.2
AVF Avril sur Loir 78.92 344 *eP* **P 12 29 13.6 -0.2**
AVF *e**PP pP 12 29 26.3 +3.2
AVF pmax pmax
comp=Z,57nm,0.9s,mb5.5
SMF Signal de Mont 78.97 344 *eP* **P 12 29 14.2 +0.1**
EMV Vieux Emosson 78.98 341⇑P **P 12 29 15.0 +0.9**
KONT Konya--Tatoy 79.00 321 *eP* **P 12 29 13.0 -1.4**
BTOK Tokmak 79.00 324 *i P* **P 12 29 13.9 -0.5**
PVY Plav 79.06 331⇑*iP* **P 12 29 13.8 -0.9**
HTY Hatay 79.06 317 *eP* **P 12 29 13.2 -1.6**
GDZ Gediz 79.08 323 *i P* **P 12 29 13.9 -1.0**
NKY Niksic 79.14 332 *eP* **P 12 29 13.3 -1.8**
ORX Oropa 79.17 341 P **P 12 29 15.4 +0.2**
BRY Bratogost 79.18 332⇑*iP* **P 12 29 14.3 -1.0**
SKO Skopje 79.19 330⇑*iP* **P 12 29 15.2 -0.2**
comp=Z,0.0nm,0.8s
TTG Podgorica 79.41 332⇑*iP* **P 12 29 15.7 -0.9**
VAY Valandovo 79.43 329⇑*iP* **P 12 29 16.8 +0.1**
STON Ston 79.45 333 *i P* **P 12 29 15.0 -1.7**
KNT Kendrikon 79.47 329 *eP* **P 12 29 17.3 +0.4**
MEST Erdemli 79.47 319 *i P* **P 12 29 16.0 -1.0**
TAOE Nuku Hiva Isla 79.48 120 *eS* S 12 39 18.5 +3.0
comp=Z,5µm,36.1s
TAOE *eLR* LR 12 53 25.4
comp=Z,6µm,34.8s
LSD Ceresole Reale 79.51 341 P **P 12 29 17.9 +0.9**
LPL La Plagne 79.53 341 *eP* **P 12 29 18.4 +1.2**
comp=Z,177nm,0.9s,mb5.7
LPL La Plagne 79.53 341 *eP* **P 12 29 18.4 +1.2**
LPL pmax pmax
comp=Z,88nm,0.9s,mb5.7
LPG La Plagne 79.55 341 *eP* **P 12 29 18.5 +1.3**
comp=Z,137nm,0.7s,mb5.7
LPG La Plagne 79.55 341 *eP* **P 12 29 18.5 +1.3**
LPG pmax pmax
comp=Z,68nm,0.7s,mb5.7
KBD Kabd 79.56 305 *eP* **P 12 29 17.1 -0.6**
KBD AMb AMB 12 29 20.3
comp=Z,466nm,0.7s
TCF Toulx Ste Croi 79.59 345 *eP* **P 12 29 17.5 0.0**
comp=Z,66nm,0.9s,mb5.3
TCF Toulx Ste Croi 79.59 345 *eP* **P 12 29 17.5 0.0**
TCF pmax pmax
comp=Z,33nm,0.9s,mb5.3
HCY Herceg Novi 79.61 332⇑*iP* **P 12 29 16.6 -1.1**
BUM Brajici-Buova 79.64 332 *eP* **P 12 29 17.1 -0.7**
MFF Saint Martin d 79.64 346 *eP* **P 12 29 17.8 +0.1**
comp=Z,48nm,0.9s,mb5.1
MFF Saint Martin d 79.64 346 *eP* **P 12 29 17.8 +0.1**
MFF pmax pmax
comp=Z,24nm,0.9s,mb5.1
LCHF La Chataignera 79.66 347 *eP* **P 12 29 18.4 +0.6**
PLDF La Plantade 79.67 344 *eP* **P 12 29 19.6 +1.7**
AGO Saint Agoulin 79.67 344 *eP* **P 12 29 19.7 +1.8**
NHSC New Hope 79.68 48 PFAKE 12 29 30.0 +12
NHSC LR LR
comp=Z,3µm,20.0s,MS5.6
TKTP Tekketepe 79.69 322 *i P* **P 12 29 17.2 -1.0**
RSP Reno Superiore 79.78 341 P **P 12 29 18.6 +0.1**
ISP Isparta 79.79 322 P **P 12 29 18.1 -0.6**
ISP pmax pmax
comp=Z,64nm,0.9s,mb5.5
ISP Isparta 79.79 322 P **P 12 29 18.3 -0.4**
HDMB Hadim 79.80 320 *eP* **P 12 29 17.1 -1.7**
QRN Al-Qurain 79.80 304 *eP* **P 12 29 17.7 -1.2**
QRN AMb AMB 12 29 21.1
comp=Z,208nm,0.7s,mb6.2
GRG Griva 79.81 329 *eP* **P 12 29 18.6 -0.2**
GRAM 79.82 339 P **P 12 29 19.0 +0.2**
RDF Al-Radifah 79.84 305 *eP* **P 12 29 18.5 -0.7**
RDF AMb AMB 12 29 21.7
comp=Z,324nm,0.8s,mb6.3
ULC Ulcinj 79.85 331⇑*iP* **P 12 29 17.9 -1.0**
LOS Limnos 79.87 327 *eP* **P 12 29 18.7 -0.4**
ERMK Ermenek 79.92 319 *i P* **P 12 29 18.4 -1.0**
VALM 79.92 339 P **P 12 29 19.3 0.0**
THE Thessaloniki 79.93 328 *eP* **P 12 29 18.4 -1.0**
FENE Fenestrelle 79.94 341 P **P 12 29 19.8 +0.4**
GDM Grand'Maison 79.95 342 *eP* **P 12 29 20.7 +1.3**
IKL Isikli 79.96 319 *eP* **P 12 29 16.9 -2.7**
CODM 79.97 339 P **P 12 29 19.5 0.0**
PYM Petit Puy Mans 79.98 344 *eP* **P 12 29 21.3 +1.7**
GRN Grenoble 79.99 342 *eP* **P 12 29 20.8 +1.2**
BNI Bardonecchia 79.99 341 *eP* **P 12 29 20.2 +0.6**
BNI pmax pmax
comp=Z,100nm,1.3s,mb5.6
BNI Bardonecchia 79.99 341 P **P 12 29 19.5 -0.1**
PLG Polygyros 80.01 328 *eP* **P 12 29 19.0 -0.8**
SARO Sassorosso 80.04 338 P **P 12 29 20.1 +0.2**
QSH Qafa e Shtames 80.06 331 *i p* **P 12 29 18.8 -1.3**
VLC Villacollemand 80.07 338 *eP* **P 12 29 20.3 +0.2**
comp=Z,46nm,0.9s,mb5.4
VERF Verneugheol 80.07 344 *eP* **P 12 29 20.3 +0.3**
BHB Bricherasio 80.08 341 P **P 12 29 19.4 -0.7**
PRK Paraskevi 80.08 325 *eP* **P 12 29 19.5 -0.7**
COLF Collangettes 80.09 343 *eP* **P 12 29 20.8 +0.7**
RRL Cesana Torines 80.10 341 P **P 12 29 20.8 +0.6**
PCP Pian Castagno 80.10 340 P **P 12 29 20.2 0.0**
OHR Ohrid 80.17 330⇑*iP* **P 12 29 20.1 -0.6**
TIR Tirane 80.23 331 P **P 12 29 20.7 -0.3**
ORIF Oris-en-Rattie 80.27 342 *eP* **P 12 29 22.1 +1.0**
comp=Z,148nm,0.9s,mb5.6
ORIF *eR*
comp=Z,3µm,22.2s
MAIM 80.28 338 P **P 12 29 20.7 -0.5**
MBDF Montbardon 80.29 341 *eP* **P 12 29 21.9 +0.7**
comp=Z,76nm,0.8s,mb5.4
MBDF Montbardon 80.29 341 *eP* **P 12 29 21.9 +0.7**
MBDF pmax pmax
comp=Z,38nm,0.8s,mb5.4
PAIG Paliouri 80.34 328 *eP* **P 12 29 20.1 -1.5**
DNZL Cakiroluk 80.47 323 *i P* **P 12 29 21.6 -0.8**
ROB Roburent 80.48 340 P **P 12 29 20.9 -1.3**
KDAG Borrnova 80.48 324 *i P* **P 12 29 21.2 -1.2**
FIN Finale Ligure 80.49 340 P **P 12 29 21.9 -0.4**
SURF Saint Ours 80.51 341 *eP* **P 12 29 23.8 +1.4**
VIVF Saint-Julien-l 80.56 343 *eP* **P 12 29 23.4 +0.8**
comp=Z,139nm,1.0s,mb5.5
VIVF *epP* pP 12 29 36.1 +4.1
VIVF Saint-Julien-l 80.56 343 *eP* **P 12 29 23.4 +0.8**
VIVF *e**PP pP 12 29 36.1 +4.1
VIVF pmax pmax
comp=Z,70nm,1.0s,mb5.5
LIT Litokhoron 80.56 328 *eP* **P 12 29 21.4 -1.4**
KZN Kozani 80.60 329 *eP* **P 12 29 22.5 -0.5**
ENR Entracque 80.64 341 P **P 12 29 21.9 -1.2**
STV2 Anna di Valdie 80.64 341 P **P 12 29 22.2 -0.9**
STV Sta Anna Valdi 80.64 341 P **P 12 29 22.0 -1.1**
RJF Les Rejaudoux 80.66 345 *eP* **P 12 29 23.5 +0.3**
RJF *eR*
comp=Z,3µm,20.8s
GOLH Golhisar 80.68 322 *i P* **P 12 29 22.0 -1.5**
MONE Monesi 80.71 340 P **P 12 29 22.8 -0.7**
URLA Izmir 80.76 325 *i P* **P 12 29 21.0 -2.8**
SAOF Saorge 80.84 340 *eP* **P 12 29 24.2 +0.1**
IMI Imperia 80.84 340 P **P 12 29 24.1 -0.1**
AUTN L'Aution 80.86 340 *eP* **P 12 29 24.1 -0.1**
TOUF Mont Tournerai 80.88 341 *eP* **P 12 29 24.9 +0.6**
CAF Calviac 80.94 344 *eP* **P 12 29 25.5 +0.8**
comp=Z,113nm,1.1s,mb5.4
CAF Calviac 80.94 344 *eP* **P 12 29 25.5 +0.8**
CAF pmax pmax
comp=Z,57nm,1.1s,mb5.4
NEGI Negi 80.94 340 P **P 12 29 24.3 -0.4**
AOS Alonnisos 80.96 327 *eP* **P 12 29 24.2 -0.6**
SBF Sospel 80.98 340 *eP* **P 12 29 25.0 +0.1**
comp=Z,93nm,0.8s,mb5.5
SBF *epP* pP 12 29 39.0 +4.7
SBF Sospel 80.98 340 *eP* **P 12 29 25.0 +0.1**
SBF *e**PP pP 12 29 39.0 +4.7
SBF pmax pmax
comp=Z,46nm,0.8s,mb5.5
ELL Elmali 80.98 322 *eP* **P 12 29 23.4 -1.7**
XOR Xorichti 81.00 328 *eP* **P 12 29 23.8 -1.4**
MVIF Mont Vial 81.01 341 *eP* **P 12 29 24.6 -0.4**
AQU L'Aquila 81.06 336 *eP* **P 12 29 26.0 +0.6**
AQU pmax pmax
comp=Z,43nm,0.8s,mb5.4
AQU L'Aquila 81.06 336 *eP* **P 12 29 26.0 +0.7**
comp=Z,43nm,0.8s,mb5.4
REVF Revere 81.11 340 *eP* **P 12 29 26.3 +0.7**
LFF La Frestale 81.14 345 *eP* **P 12 29 26.3 +0.6**
BHL Bhannes 81.16 316 *eP* **P 12 29 25.7 -0.4**
CALN Calern 81.20 341 *eP* **P 12 29 26.6 +0.6**
CSS Prodhromos 81.21 318⇑P **P 12 29 25.7 -0.6**
comp=Z,2.1nm,0.8s
CSS Prodhromos 81.21 318⇑*eP* **P 12 29 25.7 -0.6**
SMRF Simiane la Rot 81.24 342 *eP* **P 12 29 27.3 +1.1**
comp=Z,40nm,0.8s,mb5.1
YER Yerkesik 81.25 323 *eP* **P 12 29 26.4 -0.1**
MEV Metsovon 81.25 329 *eP* **P 12 29 26.8 +0.4**
MLSB Milas 81.29 323 *eP* **P 12 29 23.0 -3.6**
ALFC Alevga 81.33 319 P **P 12 29 26.1 -0.8**
comp=Z,4.2nm,0.8s,mb4.4
VILF Villemus 81.33 342 *eP* **P 12 29 27.6 +0.9**
FRF La Foret Royal 81.43 341 *eP* **P 12 29 27.2 -0.1**
DALT Dalyan (Mudla) 81.44 323 *eP* **P 12 29 25.8 -1.7**
LASF Ste Croix 81.46 343 *eP* **P 12 29 28.5 +1.1**
JAN Janina 81.48 329 *eP* **P 12 29 27.5 -0.1**
JAN Janina 81.48 329 *eP* **P 12 29 29.0 +1.4**
PRAF Pradon 81.48 342 *eP* **P 12 29 29.5 +2.0**
TAVF Tavernes 81.49 341 *eP* **P 12 29 28.8 +1.2**
MBWA Marble Bar 81.54 218 PFAKE 12 29 40.0 +12
MBWA LR LR
comp=Z,897nm,22.0s,MS5.1
AKAS Kas 81.55 322 *i P* **P 12 29 26.2 -1.9**
AGG Agios Georgios 81.60 328 *eP* **P 12 29 26.2 -2.0**
PUYF Puyloubier 81.64 342 *eP* **P 12 29 29.5 +1.1**
PPCY Paphos 81.67 319 ⇑P **P 12 29 27.6 -1.1**
LMR La Mourre 81.68 341 *eP* **P 12 29 29.0 +0.5**
comp=Z,96nm,1.1s,mb5.3
LMR La Mourre 81.68 341 *eP* **P 12 29 29.0 +0.5**
LMR pmax pmax
comp=Z,48nm,1.1s,mb5.3
KEK Kerkira 81.75 330 *eP* **P 12 29 29.0 0.0**
KSDI Kefar Szold 81.77 316 P **P 12 29 29.2 0.0**
HASS Wahat al Ahsa' 81.79 301 P **P 12 29 28.2 -1.3**
GELF Grande-Etoile 81.84 342 *eP* **P 12 29 30.7 +1.3**
BERF Bertagne 81.86 342 *eP* **P 12 29 30.9 +1.4**
EVR Evrytania 81.86 328 *eP* **P 12 29 29.0 -0.6**
KSHT Keshet 81.89 316 P **P 12 29 29.7 -0.1**
PGF Pioggiola 81.91 339 *eP* **P 12 29 29.6 -0.2**
MPAR Parnis Oros 81.93 327 *eP* **P 12 29 29.0 -0.9**
PTL Penteli 81.97 327 *eP* **P 12 29 29.5 -0.7**
HNTI Hanita 82.07 316 P **P 12 29 30.7 -0.1**
ATH Athens Observa 82.09 327 *eP* **P 12 29 29.1 -1.7**
ASF Jabal al Asfar 82.11 314 LR LR 13 12 12.6
comp=Z,3µm,18.3s,MS5.7,baz=251,slow=40
ARG Arkhangelos 82.12 323 *eP* **P 12 29 30.5 -0.5**
MGER Gerania Oros 82.23 327 *eP* **P 12 29 30.0 -1.5**
NSAL Nisos Salamina 82.24 327 *eP* **P 12 29 30.5 -1.1**
PPT Papeete 82.34 132 *eSS* SS 12 45 12.1 +3.1
comp=Z,579nm,26.0s
PPT *eLR* LR 12 55 12.1
comp=Z,6µm,25.0s,baz=329
PPT Papeete 82.34 132 LR LR 13 00 23.6
comp=Z,2µm,18.6s,MS5.4,baz=278,slow=31
NAIG Nisos Aigina 82.36 327 *eP* **P 12 29 32.1 -0.1**
HAF Haifa 82.40 316 P **P 12 29 32.1 -0.4**
MTLF Montolieu 82.46 344 *eP* **P 12 29 33.4 +0.8**
comp=Z,66nm,0.9s,mb5.2
MTLF Montolieu 82.46 344 *eP* **P 12 29 33.4 +0.8**
MTLF pmax pmax
comp=Z,33nm,0.9s,mb5.3
MMLI Mount Malkishu 82.52 316 P **P 12 29 33.3 +0.1**
OFRI 'Ofer 82.55 316 P **P 12 29 33.0 -0.3**
QURS Qurayyt al Mil 82.60 314 P **P 12 29 34.2 +0.6**
LRDF Laroque-de-Fa 82.79 344 *eP* **P 12 29 35.8 +1.5**
SLTI Sal'it 82.86 316 P **P 12 29 34.7 -0.2**
LPEF Le Peyrat 82.89 344 *eP* **P 12 29 36.0 +1.2**
VLS Valsamata 82.92 329 *eP* **P 12 29 34.5 -0.6**
MLS Moulis 83.01 345 *eP* **P 12 29 36.6 +1.1**
EPF Esparros 83.06 345 *eP* **P 12 29 36.0 +0.3**
comp=Z,62nm,1.0s,mb5.2
EPF Esparros 83.06 345 *eP* **P 12 29 36.0 +0.3**
EPF pmax pmax
comp=Z,31nm,1.0s,mb5.3
KARP Karpathos 83.07 323 *eP* **P 12 29 34.1 -1.8**
ORDF Ordiarp 83.07 346 *eP* **P 12 29 36.1 +0.3**
ARMA Armidale 83.12 187 *eP* **P 12 29 34.4 -1.9**
TIP Timpagrande 83.14 332 *eP* **P 12 29 36.2 0.0**
EALK Alkurruntz 83.15 347 P **P 12 29 36.9 +0.7**
comp=Z,27nm,0.9s,mb5.3
FILF Fillols 83.16 344 *eP* **P 12 29 37.5 +1.3**
SJAF Saint Jean de 83.17 343 *eP* **P 12 29 37.2 +0.9**
MKRJ Makawir 83.19 315 P **P 12 29 36.7 +0.1**
SALF Salau 83.19 345 *eP* **P 12 29 37.1 +0.7**
EJON La Jonquera 83.21 343 P **P 12 29 38.3 +1.8**
comp=Z,20nm,0.9s,mb5.2
SJPF Ste Jean 83.21 346 *eP* **P 12 29 37.8 +1.3**
comp=Z,26nm,0.8s,mb5.0
SJPF Ste Jean 83.21 346 *eP* **P 12 29 37.8 +1.3**
SJPF pmax pmax
comp=Z,13nm,0.8s,mb5.0

LARF	**Larrau**	**83.25**	**346**	*e*P	**P**	**12 29 38.0**	**+1.3**
VIEF	**Viey**	**83.25**	**345**	*e*P	**P**	**12 29 38.2**	**+1.5**
RESF	**Ens**	**83.28**	**345**	*e*P	**P**	**12 29 38.7**	**+1.9**
ETSF	**Etsaut**	**83.33**	**346**	*e*P	**P**	**12 29 38.3**	**+1.2**
	comp=Z,114nm,0.8s,mb5.6						
ETSF	**Etsaut**	**83.33**	**346**	*e*P	**P**	**12 29 38.3**	**+1.2**
ETSF				pmax	pmax		
	comp=Z,57nm,0.8s,mb5.7						
ELAN	**Lanestosa**	**83.39**	**348**	P	**P**	**12 29 38.2**	**+0.8**
	comp=Z,32nm,0.9s,mb5.3						
ITM	**Ithomi**	**83.40**	**328**	*e*P	**P**	**12 29 37.6**	**0.0**
VALF	**Valcebollere**	**83.40**	**344**	*e*P	**P**	**12 29 38.9**	**+1.4**
VLI	**Veliai**	**83.49**	**327**	*e*P	**P**	**12 29 38.5**	**+0.4**
MZDA	**Masada**	**83.52**	**315**	P	**P**	**12 29 38.2**	**-0.1**
EARI	**Arriondas**	**83.54**	**349**	P	**P**	**12 29 38.8**	**+0.7**
	comp=Z,14nm,0.7s,mb5.2						
EPON	**Pontenova**	**83.72**	**351**	P	**P**	**12 29 40.4**	**+1.4**
	comp=Z,16nm,0.6s,mb5.3						
RAO	**Raoul Island**	**83.83**	**161**	LR	LR	13 01 44.8	
	comp=Z,740nm,20.5s,MS5.0,baz=32,slow=32						
KYTH	**Kithira**	**83.86**	**326**	*e*P	**P**	**12 29 40.5**	**+0.7**
EGRA	**Graus**	**83.88**	**345**	P	**P**	**12 29 41.9**	**+2.0**
	comp=Z,33nm,0.6s,mb5.6						
NPS	**Neapolis**	**83.88**	**324**	*e*P	**P**	**12 29 39.5**	**-0.5**
ECRI	**Cripan**	**83.89**	**347**	P	**P**	**12 29 40.5**	**+0.7**
ECRI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.9						
ECRI	**Cripan**	**83.89**	**347**	P	**P**	**12 29 40.5**	**+0.6**
	comp=Z,5.6nm,0.6s,mb4.9						
HILS	**Ha'il**	**83.94**	**308**	P	**P**	**12 29 40.7**	**+0.3**
EMIR	**Miracle**	**83.96**	**344**	P	**P**	**12 29 42.5**	**+2.2**
	comp=Z,21nm,0.7s,mb5.4						
IDI	**Anoyia**	**84.11**	**325**	LR	LR	13 11 30.3	
	comp=Z,2µm,21.6s,MS5.5,baz=199,slow=39						
RYDS	**Riyadh**	**84.19**	**303**	P	**P**	**12 29 40.3**	**-1.5**
XRY	**Khrisi**	**84.20**	**324**	*e*P	**P**	**12 29 40.3**	**-1.3**
VAM	**Vamos**	**84.25**	**325**	*e*P	**P**	**12 29 43.0**	**+1.2**
ZFRI	**Zfri**	**84.25**	**315**	P	**P**	**12 29 41.9**	**-0.1**
EMAZ	**Mazaricos**	**84.26**	**352**	P	**P**	**12 29 44.6**	**+2.9**
	comp=Z,6.4nm,0.5s,mb5.0						
KZIT	**Kziot**	**84.28**	**316**	P	**P**	**12 29 41.9**	**-0.2**
STS	**Santiago**	**84.28**	**352**	P	**P**	**12 29 41.9**	**+0.1**
STS				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
STS	**Santiago**	**84.28**	**352**	P	**P**	**12 29 41.9**	**+0.1**
	comp=Z,18nm,0.8s,mb5.3						
ESAC	**San Caprasio**	**84.47**	**346**	P	**P**	**12 29 44.2**	**+1.4**
	comp=Z,43nm,0.5s,mb5.8						
PRNI	**Paran**	**84.50**	**315**	P	**P**	**12 29 43.2**	**0.0**
EPOB	**Poblet**	**84.58**	**344**	P	**P**	**12 29 45.0**	**+1.6**
	comp=Z,14nm,0.9s,mb5.1						
KMTI	**Karmit**	**84.83**	**315**	P	**P**	**12 29 44.6**	**-0.3**
AQBJ	**Aqaba**	**85.02**	**314**	P	**P**	**12 29 45.9**	**+0.1**
MBH	**Mount Berech**	**85.02**	**315**	P	**P**	**12 29 45.8**	**0.0**
EZAM	**Zamans**	**85.03**	**352**	P	**P**	**12 29 46.7**	**+1.1**
EZAM				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.5						
EZAM	**Zamans**	**85.03**	**352**	P	**P**	**12 29 46.7**	**+1.2**
	comp=Z,32nm,0.8s,mb5.5						
EIL	**Elat**	**85.11**	**315**	P	**P**	**12 29 46.2**	**-0.1**
PBRG	**Braganca**	**85.18**	**350**	*e*P	**P**	**12 29 46.7**	**+0.4**
PBRG	**Braganca**	**85.18**	**350**	*e*P	**P**	**12 29 47.4**	**+1.1**
	comp=Z,69nm,1.9s,mb5.5						
EBR	**Ebro Roquetas**	**85.20**	**345**	*e*P	**P**	**12 29 48.0**	**+1.6**
ELOB	**Lobios**	**85.25**	**351**	P	**P**	**12 29 48.1**	**+1.4**
	comp=Z,14nm,0.8s,mb5.1						
ALWS	**Ilw as Safayha**	**85.37**	**314**	P	**P**	**12 29 47.8**	**+0.2**
VAE	**Valguarnera**	**85.38**	**333**	LR	LR	13 13 28.9	
	comp=Z,3µm,18.3s,MS5.8,baz=40,slow=40						
JMQS	**Jabal Moqyreh**	**85.38**	**313**	P	**P**	**12 29 48.0**	**+0.4**
JMOS	**Jabal al Moall**	**85.48**	**314**	P	**P**	**12 29 48.3**	**+0.2**
TBKS	**Tabuk**	**85.65**	**313**	P	**P**	**12 29 49.5**	**+0.5**
HAQS	**Haql**	**85.65**	**314**	P	**P**	**12 29 49.3**	**+0.2**
STKA	**Stephens Creek**	**85.79**	**196**	*e*P	**P**	**12 29 51.7**	**+2.1**
	comp=Z,14nm,1.2s,mb5.1						
STKA	**Stephens Creek**	**85.79**	**196**	P	**P**	**12 29 51.8**	**+2.2**
	comp=Z,11nm,0.9s,mb5.1,baz=330,slow=6.7,SNR=4.9						
STKA				LR	LR	13 06 05.5	
	comp=Z,2µm,21.7s,MS5.4,baz=6.1,slow=34						
EMOS	**Mosqueruela**	**85.80**	**345**	P	**P**	**12 29 51.4**	**+1.9**
	comp=Z,18nm,0.8s,mb5.3						
PVRL	**Vila Real**	**85.80**	**351**	*e*P	**P**	**12 29 51.0**	**+1.5**
	comp=Z,43nm,0.9s,mb5.7						
TAYS	**Tayyib Ism**	**86.11**	**314**	P	**P**	**12 29 52.3**	**+1.0**
BDAS	**Al Bad'**	**86.12**	**314**	P	**P**	**12 29 51.4**	**0.0**
AYUS	**'Aynunah**	**86.25**	**314**	P	**P**	**12 29 52.4**	**+0.4**
KBRS	**Khaybar**	**86.48**	**309**	P	**P**	**12 29 53.7**	**+0.5**
ECHE	**Chera**	**86.63**	**346**	P	**P**	**12 29 55.7**	**+2.1**
MTE	**Manteigas**	**86.65**	**351**	*e*P	**P**	**12 29 53.9**	**+0.2**
	comp=Z,29nm,0.8s,mb5.5						
MTE	**Manteigas**	**86.65**	**351**	*e*P	**P**	**12 29 53.0**	**-0.7**
	comp=Z,44nm,1.6s,mb5.4						
MTE	**Manteigas**	**86.65**	**351**	*e*P	**P**	**12 29 54.7**	**+1.0**
	comp=Z,44nm,1.6s,mb5.4						
MTE	**Manteigas**	**86.65**	**351**	*e*PP	PP	12 33 16.8	-1.2
MTE				*e*S	S	12 40 28.7	+1.7
MTE				*e*SS	SS	12 46 12.8	+1.2
MTE				*e*LQ		12 54 26.2	
MTE				*e*LR	LR	12 58 57.2	
	comp=Z,2µm,20.0s						
BBSR	**BB Station**	**86.66**	**37**	PFAKE		12 30 10.0	+16
BBSR				LR	LR		
	comp=Z,2µm,19.0s,MS5.5						
DBAS	**Duba**	**86.78**	**312**	P	**P**	**12 29 55.5**	**+0.9**
ESDC	**Sonseca Array**	**86.97**	**348**	P	**P**	**12 29 55.7**	**+0.5**
	comp=Z,14nm,0.8s,mb5.3,baz=2.2,slow=4.0,SNR=24						
ESDC	**Sonseca Array**	**86.97**	**348**	P	**P**	**12 29 55.4**	**+0.2**
	comp=Z,17nm,0.8s,mb5.3						
ESLA	**Sonseca Array**	**86.97**	**348**	*e*P	**P**	**12 29 55.1**	**-0.1**
	comp=Z,3.1nm,0.8s,mb4.6						
ESLA				LR	LR		
	comp=Z,9µm,20.0s,MS6.2						
PCBR	**Castelo Branco**	**87.20**	**351**	*e*P	**P**	**12 29 55.5**	**-0.8**
PCBR	**Castelo Branco**	**87.20**	**351**	*e*P	**P**	**12 29 56.9**	**+0.6**
	comp=Z,22nm,0.8s,mb5.4						
TBI	**Tubuai**	**87.47**	**135**	*e*SS	SS	12 46 26.2	+2.3
	comp=Z,617nm,28.5s						
TBI				*e*LR	LR	12 57 34.7	
	comp=Z,4µm,24.0s,baz=331						
ETOB	**Tobarra**	**87.64**	**346**	P	**P**	**12 29 59.5**	**+1.0**
	comp=Z,14nm,0.8s,mb5.3						
EVIA	**Vianos**	**87.79**	**347**	P	**P**	**12 30 00.0**	**+0.8**
	comp=Z,15nm,0.7s,mb5.3						
UMJS	**Umm Lajj**	**87.87**	**310**	P	**P**	**12 30 01.2**	**+1.3**
YNBS	**Yanbu' al Bahr**	**88.31**	**309**	P	**P**	**12 30 02.8**	**+0.7**
EBAN	**Banos Encina**	**88.43**	**347**	P	**P**	**12 30 02.2**	**-0.1**
EBAN				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
EBAN	**Banos Encina**	**88.43**	**347**	P	**P**	**12 30 02.2**	**0.0**
	comp=Z,8.6nm,0.8s,mb5.0						
KAMS	**Al Khamasin**	**88.46**	**302**	P	**P**	**12 30 01.9**	**-1.0**
EADA	**Adamuz**	**88.53**	**348**	P	**P**	**12 30 02.7**	**0.0**
	comp=Z,44nm,2.3s,mb5.4						
EVO	**Evora**	**88.55**	**351**	*e*P	**P**	**12 30 04.2**	**+1.4**
	comp=Z,9.0nm,0.8s,mb4.9						
EVO				*e*R			
	comp=Z,2µm,21.0s						
EHUE	**Huescar**	**88.61**	**346**	P	**P**	**12 30 03.8**	**+0.7**
EHUE				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.9						
EHUE	**Huescar**	**88.61**	**346**	P	**P**	**12 30 03.8**	**+0.6**
	comp=Z,3.9nm,0.7s,mb4.8						
TATS	**Tathlith**	**89.67**	**303**	P	**P**	**12 30 08.2**	**-0.3**
BLJS	**Baljurashi**	**90.34**	**304**	P	**P**	**12 30 11.7**	**0.0**
DJNS	**Zahran al Janu**	**91.17**	**302**	P	**P**	**12 30 16.1**	**+0.6**
URZ	**Urewera**	**91.79**	**167**	LR	LR	13 10 26.9	
	comp=Z,964nm,18.3s,MS5.3,baz=360,slow=35						
NWAO	**Narrogin (SRO)**	**93.16**	**215**	LR	LR	13 07 31.2	
	comp=Z,460nm,21.1s,MS4.9,baz=16,slow=32						
NWAO	**Narrogin (SRO)**	**93.16**	**215**	PFAKE		12 30 40.0	+16
NWAO				LR	LR		
	comp=Z,596nm,19.0s,MS5.1						
RKT	**Rikitea**	**94.10**	**123**	*e*PS	PS	12 42 55.9	-2.6
RKT	**Rikitea**	**94.10**	**123**	*e*SKSac		12 41 01.5	
RKT				*e*SS	SS	12 48 02.9	+3.6
	comp=Z,569nm,27.5s						
RKT				*e*LR	LR	13 00 46.0	
	comp=Z,3µm,25.8s,baz=324						
SNZO	**South Karori**	**94.49**	**169**	PFAKE		12 30 40.0	+10
SNZO				LR	LR		
	comp=Z,2µm,21.0s,MS5.6						
RPZ	**Rata Peaks**	**96.51**	**172**	LR	LR	13 10 59.3	
	comp=Z,2µm,20.9s,MS5.6,baz=353,slow=33						
SJG	**San Juan**	**98.86**	**44**	PFAKE		12 31 00.0	+9.4
SJG				LR	LR		
	comp=Z,939nm,21.0s,MS5.3						
PAYG	**Puerto Ayora**	**102.26**	**75**	PFAKE		12 31 20.0	+14
PAYG				LR	LR		
	comp=Z,831nm,19.0s,MS5.3						
SDV	**Santo Domingo**	**104.94**	**52**	PFAKE		12 31 30.0	+12
SDV				LR	LR		
	comp=Z,630nm,22.0s,MS5.1						
MBAR	**Mbarara**	**113.27**	**303**	PFAKE		12 36 00.0	+7.9
MBAR				LR	LR		
	comp=Z,487nm,22.0s,MS5.0						
DBIC	**Dimbokro**	**119.49**	**343**	PKP	PKPdf	12 36 00.5	-3.6
	comp=Z,12nm,0.8s,baz=325,slow=2.1,SNR=9.8						
DRV	**Dumont d'Urvil**	**120.04**	**189**	PP	PP	12 37 34.0	+6.3
DRV				SP	SP	12 47 19.0	+8.8
SAML	**Samuel**	**124.01**	**55**	PFAKE		12 36 20.0	+7.1
SAML				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
CASY	**Casey**	**124.51**	**202**	*e*PKPdf	PKPdf	12 36 07.7	-4.8
CASY				LR	LR		
	comp=Z,555nm,20.0s,MS5.2						
LSZ	**Lusaka**	**126.93**	**296**	*e*PKPdf	PKPdf	12 36 14.8	-3.6
LSZ				LR	LR		
	comp=Z,2µm,19.0s,MS5.9						
LPAZ	**La Paz**	**127.56**	**65**	PFAKE		12 36 30.0	+10
LPAZ				LR	LR		
	comp=Z,862nm,22.0s,MS5.4						
VNDA	**Vanda**	**129.97**	**180**	PFAKE		12 36 30.0	+7.2
VNDA				LR	LR		
	comp=Z,2µm,22.0s,MS5.7						
SBA	**Scott Base**	**130.36**	**178**	PFAKE		12 36 30.0	+6.5
SBA				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
MATP	**Matopo**	**130.92**	**292**	PKP	PKPdf	12 36 22.6	-3.4
	comp=Z,6.5nm,0.8s,baz=96,slow=2.4,SNR=9.8						
SIV	**San Ignacio**	**131.07**	**57**	PKP	PKPdf	12 36 23.3	-3.1
	comp=Z,8.5nm,0.8s,baz=351,slow=2.0,SNR=6.6						
RCBR	**Riachuelo**	**131.41**	**22**	PFAKE		12 36 40.0	+13
RCBR				LR	LR		
	comp=Z,732nm,20.0s,MS5.4						
LVC	**Limon Verde**	**132.17**	**71**	PFAKE		12 36 40.0	+12
LVC				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
LBTB	**Lobatse**	**136.17**	**291**	*e*PKPdf	PKPdf	12 36 33.1	-2.5
LBTB				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
BOSA	**Boshof**	**139.12**	**288**	PKP	PKPdf	12 36 38.2	-2.8
	comp=Z,7.0nm,0.8s,baz=336,slow=2.7,SNR=4.9						
BOSA	**Boshof**	**139.12**	**288**	PKP	PKPdf	12 36 38.2	-2.8
BOSA				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
CFAA	**Coronel Fontan**	**139.30**	**78**	PKP	PKPdf	12 36 38.8	-2.4
	comp=Z,0.3nm,0.7s,baz=317,slow=4.0,SNR=3.6						
MAW	**Mawson**	**139.72**	**216**	PKhKP		12 36 29.4	
	comp=Z,2.1nm,0.8s,baz=22,slow=2.1,SNR=3.6						
MAW				PKP	PKPdf	12 36 38.4	-2.5
	comp=Z,3.9nm,0.8s,baz=308,slow=6.1,SNR=7.2						
MAW	**Mawson**	**139.72**	**216**	PKP	PKPdf	12 36 38.4	-2.5
MAW				LR	LR		
	comp=Z,438nm,20.0s,MS5.2						
CPUP	**Villa Florida**	**141.54**	**62**	*e*PKPdf	PKPdf	12 36 42.4	-2.9
CPUP				LR	LR		
	comp=Z,846nm,21.0s,MS5.5						
PLCA	**Paso Flores**	**143.93**	**91**	PKP	PKPdf	12 36 43.9	-5.0
	comp=Z,6.5nm,0.9s,baz=316,slow=3.9,SNR=11						
PLCA	**Paso Flores**	**143.93**	**91**	PKP	PKPdf	12 36 43.9	-5.0
PLCA				LR	LR		
	comp=Z,1µm,22.0s,MS5.7						
SUR	**Sutherland**	**144.47**	**289**	PKP	PKPdf	12 36 46.4	-3.7
	comp=Z,20nm,0.9s,baz=249,slow=1.7,SNR=5.5						
SUR	**Sutherland**	**144.47**	**289**	PKP	PKPdf	12 36 46.4	-3.7
SUR				LR	LR		
	comp=Z,525nm,21.0s,MS5.3						
CAM4	**Nova Friburgo**	**145.02**	**39** ⇑	*i*P	PKPbc	12 36 47.6	+1.0
CAM4				*i*		12 36 57.8	
TRQA	**Tornquist**	**147.46**	**80**	PFAKE		12 37 00.0	+4.9
TRQA				LR	LR		
	comp=Z,844nm,21.0s,MS5.5						
SYO	**Syowa Base**	**148.43**	**216**	⇓PKPdf	PKPdf	12 36 54.0	-1.7
SYO	**Syowa Base**	**148.43**	**216**	⇓PKPbc	PKPdf	12 36 57.6	+1.9
USHA	**Ushuaia**	**151.63**	**114**	PKPbc	PKPdf	12 37 05.0	+4.0
	comp=Z,6.7nm,0.7s,baz=112,slow=3.3,SNR=3.8						
PMSA	**Palmer Station**	**154.66**	**136**	PFAKE		12 37 10.0	+5.1
PMSA				LR	LR		
	comp=Z,1µm,22.0s,MS5.7						
SNAA	**Sanae**	**159.56**	**195**		PKPdf	12 37 27.3	+16
SNAA	**Sanae**	**159.56**	**195**		PKPab	12 37 46.3	-0.3
SNAA	**Sanae**	**159.56**	**195**			12 37 53.6	
VNA3	**Neumayer Olymp**	**160.86**	**190**	P	PKPdf	12 37 11.6	-0.8
VNA3	**Neumayer Olymp**	**160.86**	**190**		PKPdf	12 37 21.9	+10
VNA3	**Neumayer Olymp**	**160.86**	**190**	P	PKPab	12 37 51.5	-0.7
VNA3	**Neumayer Olymp**	**160.86**	**190**	P		12 37 55.8	
VNA3	**Neumayer Olymp**	**160.86**	**190**			12 38 04.6	
VNA2	**Neumayer--Watz**	**160.89**	**192** ⇑	*i*P	PKPdf	12 37 10.6	-1.8
VNA2	**Neumayer--Watz**	**160.89**	**192**			12 37 55.7	
VNA2	**Neumayer--Watz**	**160.89**	**192**			12 38 05.2	
VNA2	**Neumayer--Watz**	**160.89**	**192**			12 38 19.6	
VNA1	**Neumayer--Stat**	**161.26**	**192**		PKPab	12 37 56.0	+2.1
VNA1	**Neumayer--Stat**	**161.26**	**192**			12 38 05.8	
VNA1	**Neumayer--Stat**	**161.26**	**192**			12 38 20.6	

JMA ***26*** *12:18:22.3±0.6,33.31N×142.68E,h66km,M3.6*
ISC 26 12:18:25.1±1.8,33.66N±0.10×142.7E±0.1,h107km±18km, n12,σ0§91/21,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.75**	**305**	P	**P**	**12 18 53.8**	**-1.5**
BSO1				*e*S	**S**	**12 19 17.2**	**-0.6**
BSO2	**Boso 2**	**1.96**	**304**	*e*S	**S**	**12 19 23.1**	**+0.7**
BSO3	**Boso 3**	**2.15**	**302**	P	**P**	**12 18 59.5**	**-1.0**
BSO3				*e*S	**S**	**12 19 27.0**	**0.0**
BSO4	**Boso 4**	**2.38**	**304**	P	**P**	**12 19 03.4**	**-0.1**
BSO4				*e*S	**S**	**12 19 33.8**	**+1.5**
JHJ2	**Mitsune**	**2.49**	**258**	P	**P**	**12 19 00.5**	**-4.6**
JAG	**Ashikaga**	**3.84**	**317**	P	**P**	**12 19 23.9**	**+0.4**
JYN	**Shimob**	**3.90**	**299**	P	**P**	**12 19 23.9**	**-0.4**
JYN				*e*S	**S**	**12 20 10.3**	**+0.9**
JRY	**Ryogami san**	**3.92**	**308**	P	**P**	**12 19 25.2**	**+0.7**
JRY				*e*S	**S**	**12 20 09.9**	**+0.1**
JMM	**Marumori**	**4.48**	**340**	P	**P**	**12 19 32.7**	**+0.6**
JMM				*e*S	**S**	**12 20 22.7**	**-0.7**
MAT	**Matsushiro**	**4.68**	**309**	P	**P**	**12 19 35.7**	**+0.8**
MAT				S	**S**	**12 20 26.6**	**-1.9**
MAT	**Matsushiro**	**4.68**	**309**	P	**P**	**12 19 35.1**	**+0.2**
MAT				*e*S	**S**	**12 20 26.7**	**-1.8**
JMK	**Ichinoseki**	**5.41**	**347**	P	**P**	**12 19 45.9**	**+1.1**
JMK				*e*S	**S**	**12 20 46.1**	**-0.3**

IDC 26 12:26:44.5±1.0,33.65N×141.70E,mb3.8/6,mb1 4.0/7, mb1mx3.8/20,mbtmp3.7/7,ML3.2/1,Error ellipse: s-maj=26.6km s-min=21.6km az=158.0,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.69**	**252**	Pn	Pn	12 27 13.3	-2.2
	99nm,0.3s,baz=58,slow=22,SNR=9.0						
MJAR	**Matsushiro Arr**	**4.07**	**316**	Pn	Pn	12 27 47.7	-1.7
	1.5nm,0.3s,baz=126,slow=18,SNR=8.8						
MAT	**Matsushiro**	**4.07**	**316**	P	Pn	12 27 48.5	-0.9
SONM	**Songino Array**	**29.98**	**309**	P	P	12 32 54.8	-1.9
	0.7nm,0.7s,baz=105,slow=6.7,SNR=2.0						
MKAR	**Makanchi Array**	**46.18**	**305**	P	P	12 35 11.9	-0.7
	0.8nm,0.7s,baz=88,slow=8.3,SNR=3.6						
ILAR	**Eielson Array**	**52.25**	**31**	P	P	12 35 57.3	-1.8
	0.8nm,0.7s,baz=272,slow=6.2,SNR=4.6						
WRA	**Warramunga Arr**	**53.75**	**189**	P	P	12 36 09.2	-1.7
	0.6nm,0.5s,baz=6.8,slow=7.5,SNR=5.8						
YKA	**Yellowknife Ar**	**66.62**	**29**	P	P	12 37 35.4	-3.0
	0.8nm,0.9s,baz=295,slow=5.5,SNR=2.8						
TXAR	**Lajitas Array**	**91.99**	**53**	P	P	12 39 56.1	-0.5
	0.3nm,0.3s,baz=315,slow=3.8,SNR=2.8						
LPAZ	**La Paz**	**148.07**	**65**	PKPbc	PKPdf	12 46 32.1	+0.9
	0.5nm,0.3s,baz=360,slow=5.5,SNR=2.7						

JMA ***26*** *12:26:48.3±0.5,33.42N×142.31E,M4.1*
IDC ***26*** *12:26:57.5±1.1,33.67N×141.69E,mb4.1/7,mb1 4.2/8, mb1mx4.0/21,mbtmp4.0/8,ML3.6/1,Error ellipse: s-maj=26.1km s-min=19.4km az=157.0*
ISC 26 12:27:00.6±0.8,33.75N±0.06×141.84E±0.07,h33km,n17, σ1§11/23,mb4.0/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.15**	**322**	P	**P**	**12 27 18.8**	**-1.5**
BSO1				*e*S	**S**	**12 27 41.5**	**+6.4**
BSO4	**Boso 4**	**1.75**	**315**	P	**P**	**12 27 29.6**	**+0.6**
BSO4				*e*S	**S**	**12 27 57.0**	**+6.7**
JHJ2	**Mitsune**	**1.81**	**250**	*e*S	**S**	**12 27 52.8**	**+1.0**
JHJ	**Hachijo jima 2**	**1.83**	**250**	Pn	**Pn**	**12 27 25.7**	**-4.6**
	152nm,0.3s,baz=81,slow=19,SNR=9.7						
JHJ				Sn	**Sn**	**12 27 51.9**	**-0.7**
	134nm,0.3s,baz=250,slow=23,SNR=6.9						
JYT	**Yasato**	**2.81**	**332**	P	**P**	**12 27 42.5**	**-1.7**
JHU	**Hanno**	**2.97**	**316**	P	**P**	**12 27 46.9**	**+0.5**
JHU				*e*S	**S**	**12 28 28.1**	**+6.9**
JHO	**Hitachi**	**3.03**	**340**	P	**P**	**12 27 43.9**	**-3.5**
JHO				*e*S	**S**	**12 28 23.5**	**+0.5**
MJAR	**Matsushiro Arr**	**4.07**	**314**	Pn	**Pn**	**12 27 59.3**	**-3.0**
	4.0nm,0.3s,baz=157,slow=8.5,SNR=17						
MAT	**Matsushiro**	**4.07**	**314**	P	**P**	**12 28 00.8**	**-1.3**
MAT				S	**S**	**12 28 51.1**	**+1.8**
MAT	**Matsushiro**	**4.07**	**314**	P	**P**	**12 28 01.8**	**-0.3**
SONM	**Songino Array**	**30.00**	**309**	P	**P**	**12 33 07.1**	**-1.1**
	1.6nm,0.9s,mb3.8,baz=105,slow=6.7,SNR=4.5						
MKAR	**Makanchi Array**	**46.21**	**305**	P	**P**	**12 35 24.4**	**+0.3**
	2.5nm,0.6s,mb4.3,baz=90,slow=8.5,SNR=8.2						
ILAR	**Eielson Array**	**52.10**	**31**	P	**P**	**12 36 09.8**	**+0.7**
	1.1nm,0.7s,mb3.9,baz=262,slow=5.6,SNR=6.6						
BVAR	**Borovoye Array**	**53.07**	**314**	P	**P**	**12 36 17.4**	**+0.9**
	0.6nm,0.4s,mb3.8,baz=47,slow=9.1,SNR=3.4						
STKA	**Stephens Creek**	**65.28**	**180**	P	**P**	**12 37 41.1**	**-0.2**
	1.1nm,0.5s,mb4.1,baz=328,slow=9.5,SNR=4.9						
YKA	**Yellowknife Ar**	**66.48**	**29**	P	**P**	**12 37 48.8**	**+0.4**
	2.0nm,0.9s,mb4.1,baz=300,slow=6.6,SNR=5.6						
TXAR	**Lajitas Array**	**91.84**	**53**	P	**P**	**12 40 07.7**	**+0.9**
	0.3nm,0.4s,mb4.0,baz=315,slow=3.5,SNR=4.0						

MOS ***26*** *12:27:21.1±0.7,52.65N×160.43E,h22km,mb4.2/5,Error ellipse: s-maj=20.2km s-min=10.0km az=91.2*
KRSC ***26*** *12:27:24.4±0.6,52.85N×160.23E,h30km±2km,ML4.2*
IDC ***26*** *12:27:24.5±1.5,53.43N×158.67E,mb3.8/5,mb1 4.1/5, mb1mx3.7/21,mbtmp3.9/5,Error ellipse: s-maj=41.9km s-min=30.1km az=158.0*
ISC 26 12:27:24.1±0.6,52.83N±0.03×160.29E±0.05,h30km,n46, σ0§96/79,mb3.7/5,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.32**	**329**	*i* P	**Pb**	**12 27 32.3**	**+0.6**
SPN				*e*S	**Sb**	**12 27 37.5**	**+0.5**
NLC	**Nalytchevo**	**0.67**	**301**	*i* P	**Pb**	**12 27 37.0**	**-0.2**
NLC				*i* S	**Sb**	**12 27 46.6**	**+0.4**
SDLR	**Sedlovina**	**0.96**	**299**	*i* P	**Pn**	**12 27 41.6**	**-0.1**
SDLR				*e*S	**Sn**	**12 27 54.3**	**-0.1**
UGLR	**Uglovaya**	**0.97**	**294**	*i* P	**Pn**	**12 27 41.9**	**+0.2**
UGLR				*e*S	**Sn**	**12 27 54.9**	**+0.4**
SMAR	**Somma**	**1.00**	**296**	*i* P	**Pn**	**12 27 42.1**	**-0.1**
SMAR				*e*S	**Sn**	**12 27 54.5**	**-0.9**
PET	**Petropavlovsk**	**1.01**	**282**	*i* P	**Pn**	**12 27 42.1**	**-0.3**
PET				*i* S	**Sn**	**12 27 55.2**	**-0.5**
AVH	**Avacha**	**1.04**	**296**	*i* P	**Pn**	**12 27 42.9**	**+0.2**
AVH				*e*S	**Sn**	**12 27 55.7**	**-0.6**
KOK	**Koryaka**	**1.10**	**296**	*e*P	**Pn**	**12 27 44.1**	**+0.4**
KOK				*e*S	**Sn**	**12 27 58.2**	**+0.2**
RUS	**Russkaya**	**1.16**	**251**	P	**Pn**	**12 27 43.6**	**-0.8**
RUS				S	**Sn**	**12 27

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.94**	**281**⇑	*i*P	P	12 30 57.7	+0.6
ILCH				*i* S	S	12 31 15.5	+0.2
ILCH				AMP		12 31 16.2	
	comp=N,3μm,0.2s						
JACH	**Jahuel**	**0.96**	**207**⇑	*i*P	P	12 30 57.5	+0.3
JACH				*i* S	S	12 31 16.2	+0.6
CMCH	**Combarbala**	**1.01**	**309**⇓	*i*P	P	12 30 58.2	+0.6
CMCH				*i* S	S	12 31 16.4	+0.1
CMCH				AMP		12 31 17.7	
	comp=N,7μm,0.2s						
ZON	**Zonda**	**1.23**	**78**⇑	*i*P	P	12 30 55.3	-4.5
ZON				*e*S	S	12 31 12.3	-7.8
PACH	**Papudo**	**1.35**	**238**⇑	*i*P	P	12 31 01.3	+0.3
PACH				*i* S	S	12 31 21.9	-0.5
ROCH	**El Roble**	**1.39**	**214**⇓	*i*P	P	12 31 01.9	+0.4
ROCH				*i* S	S	12 31 23.6	+0.5
PEL	**Peldehue**	**1.42**	**201**	*e*P	P	12 31 02.0	+0.3
PEL				*i* S	S	12 31 23.7	+0.1
FCH	**Farellones**	**1.52**	**187**⇓	*i*P	P	12 31 03.5	+0.7
FCH				*i* S	S	12 31 26.0	+0.5
FCH				AMP		12 31 30.3	
	comp=E,358nm,0.3s						
CLCH	**Cerro Calan**	**1.62**	**194**⇑	*i*P	P	12 31 04.3	+0.3
CLCH				*i* S	S	12 31 27.6	+0.1
CLCH				AMP		12 31 33.7	
	comp=E,314nm,0.5s						
CLCH				AMP		12 31 34.5	
	comp=E,382nm,0.4s						
TLL	**Tololo Astrono**	**1.76**	**339**⇓	*i*P	P	12 31 06.3	+0.8
TLL				*i* S	S	12 31 30.2	0.0
TLL				AMP		12 31 32.8	
	comp=E,990nm,0.6s						
RCDM	**Rinconada Maip**	**1.77**	**200**⇑	*i*P	P	12 31 05.9	+0.2
RCDM				*i* S	S	12 31 30.5	-0.1
RCDM				AMP		12 31 31.4	
	comp=E,878nm,0.2s						
ANTU	**Antumapu**	**1.81**	**195**	*e*P	P	12 31 06.2	+0.2
ANTU				*i* S	S	12 31 30.9	-0.3
ANTU				AMP		12 31 31.7	
	comp=E,356nm,0.2s						
SCR	**San Cristobal**	**1.85**	**205**⇑	*i*P	P	12 31 04.6	-1.9
SCR				*i* S	S	12 31 28.0	-4.0
SCR				AMP		12 31 36.2	
	comp=E,129nm,0.2s						
TACH	**Talagante**	**1.97**	**201**⇑	*i*P	P	12 31 08.0	+0.1
TACH				*i* S	S	12 31 34.6	+0.1
LMEL	**Las Melosas**	**2.03**	**183**	*e*P	P	12 31 09.2	+0.6
LMEL				*i* S	S	12 31 38.5	+2.8
LMEL				AMP		12 31 42.0	
	comp=N,313nm,0.1s						
LSCH	**La Serena**	**2.15**	**332**⇓	*i*P	P	12 31 15.7	+5.5
LSCH				*i* S	S	12 31 42.5	+4.0
LSCH				AMP		12 31 45.7	
	comp=E,566nm,0.4s						
CHCH	**Chadas Angostu**	**2.16**	**193**	*e*P	P	12 31 10.6	+0.2
CHCH				*i* S	S	12 31 38.8	+0.1
CACH	**El Canelo**	**2.33**	**191**⇑	*i*P	P	12 31 12.9	+0.4
LNV	**Longovilo**	**2.41**	**207**⇑	*i*P	P	12 31 12.9	-0.6
LNV				*i* S	S	12 31 43.0	-1.1
CICH	**Cipreses**	**2.51**	**186**⇑	*i*P	P	12 31 14.4	-0.3

JMA 26 12:37:34.1±0.1, 29.38N×129.91E, h58km±3km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.46**	**356**	P	P	12 37 45.2	-0.4
JNN				S	S	12 37 53.7	-0.2
JAM	**Amami Oshima**	**1.00**	**196**	P	P	12 37 51.9	-0.4
JAM				S	S	12 38 04.2	-1.6
JZK	**Kikaishima**	**1.06**	**177**	P	P	12 37 53.7	+0.5
JZK				S	S	12 38 08.5	+1.2
JKC	**Kuchinoerabu**	**1.11**	**13**	P	P	12 37 54.2	+0.4
JKC				S	S	12 38 08.1	-0.2
JTN	**Tanegashima 3**	**1.57**	**36**	P	P	12 38 01.1	+0.8
JTK	**Tokunoshima**	**1.80**	**208**	P	P	12 38 03.0	-0.4
JTK				*e*S	S	12 38 24.6	-0.5
JTSR	**Tashiro 2**	**1.98**	**26**	P	P	12 38 06.8	+0.8
JTSR				S	S	12 38 31.4	+1.8
JSU	**Suzuyama**	**2.17**	**12**	P	P	12 38 08.7	+0.1

IDC 26 12:47:52.9±1.1, 8.02N×91.93E, mb3.9/8, mb1 4.0/8, mb1mx3.8/20, mbtmp3.9/8, Error ellipse: s-maj=32.5km s-min=26.2km az=51.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.51**	**350**	P	P	12 55 26.4	-0.6
	0.5nm,0.5s,baz=155,slow=8.8,SNR=5.3						
SONM	**Songino Array**	**41.54**	**15**	P	P	12 55 43.0	-0.7
	1.4nm,0.7s,baz=195,slow=8.9,SNR=14						
BVAR	**Borovoye Array**	**48.17**	**343**	P	P	12 56 34.9	-2.0
	0.6nm,0.7s,baz=166,slow=6.1,SNR=3.9						
WRA	**Warramunga Arr**	**50.14**	**124**	P	P	12 56 50.2	-2.2
	0.8nm,0.7s,baz=306,slow=8.7,SNR=8.3						
KMBO	**Kilima Mbogo**	**55.27**	**263**	P	P	12 57 30.2	-0.5
	2.5nm,0.8s,baz=49,slow=10.0,SNR=6.4						
BRTR	**Keskin Array B**	**60.68**	**311**	P	P	12 58 05.8	-2.7
	0.9nm,0.6s,baz=106,slow=9.0,SNR=5.1						
FINES	**FINESS Array B**	**71.57**	**332**	P	P	12 59 14.2	-3.4
	1.6nm,0.6s,baz=56,slow=10.0,SNR=6.7						
GERES	**GERESS Array B**	**76.26**	**318**	P	P	12 59 42.7	-2.5
	0.3nm,0.3s,baz=63,slow=6.0,SNR=3.7						

IDC 26 12:50:21.8±1.6, 15.37S×173.37W, mb3.9/5, mb1 4.2/5, mb1mx4.0/16, mbtmp3.9/5, Error ellipse: s-maj=96.7km s-min=23.9km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.12**	**47**	Pn	Pn	12 50 52.3	-6.6
	68nm,0.3s,baz=5.8,slow=0.9,SNR=66						
AFI				Sn	Sn	12 51 10.9	-15
	123nm,0.3s,baz=76,slow=22,SNR=13						
STKA	**Stephens Creek**	**44.08**	**240**	P	P	12 58 31.9	-1.7
	1.4nm,0.6s,baz=80,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**49.88**	**257**	P	P	12 59 16.8	-2.6
	2.0nm,0.7s,baz=91,slow=7.2,SNR=23						
TXAR	**Lajitas Array**	**80.57**	**56**	P	P	13 02 36.8	-1.2
	0.5nm,0.8s,baz=219,slow=8.0,SNR=4.7						
PDAR	**Pinedale Array**	**82.22**	**42**	P	P	13 02 44.8	-1.6
	1.1nm,1.0s,baz=207,slow=2.0,SNR=6.3						
ILAR	**Eielson Array**	**82.41**	**11**	P	P	13 02 44.8	-2.1
	0.6nm,0.7s,baz=210,slow=7.3,SNR=4.5						
GERES	**GERESS Array B**	**146.12**	**352**	PKPbc	PKPbc	13 10 04.4	+0.4
	0.3nm,0.2s,baz=45,slow=1.4,SNR=2.8						
BRTR	**Keskin Array B**	**146.16**	**321**	PKPbc	PKPbc	13 10 04.8	+0.4
	3.0nm,1.0s,baz=90,slow=2.9,SNR=8.3						

*JMA **26** 12:53:12.9±0.4, 43.22N×147.78E, h5km, M4.3*
*MOS **26** 12:53:13.8±1.2, 43.39N×147.90E, h39km, mb4.6/8, Error ellipse: s-maj=14.1km s-min=8.3km az=106.2*
*NEIC **26** 12:53:15.8±0.5, 43.36N×147.88E, mb4.6/4, Error ellipse: s-maj=12.4km s-min=9.4km az=149.0*
*IDC **26** 12:53:15.6±0.7, 43.36N×147.96E, h37km±4km, mb3.9/17, mb1 4.0/19, mb1mx3.9/26, mbtmp4.1/19, ML3.5/2, Error ellipse: s-maj=17.4km s-min=15.5km az=138.0*
*BJI **26** 12:53:16.1, 43.40N×147.90E, h38km, mB4.8, mb4.5*
ISC 26 12:53:13.6±0.5, 43.34N±0.06×147.98E±0.05, h37km, h37km±1.8km:pP-P, n67, σ1§08/75, mb4.2/24, 3C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.63**	**272**	P	**P**	**12 53 40.6**	**+0.2**
NEM2				*e*S	**S**	**12 53 59.8**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**1.69**	**295**⇑	*i*PN	**P**	**12 53 40.0**	**-1.2**
YUK				S	**S**	**12 54 00.5**	**-1.3**
YUK				pmax	pmax		
	comp=N,390nm,0.5s						
YUK				pmax	pmax		
	comp=E,770nm,0.5s						
YUK				pmax	pmax		
	comp=E,490nm,0.3s						
YUK				pmax	pmax		
	comp=E,5μm,1.0s						
YUK				pmax	pmax		
	comp=N,2μm,0.8s						
YUK				pmax	pmax		
	comp=E,1μm,0.6s						
YUK				smax			
	comp=N,3μm,0.4s						
YUK				smax			
	comp=E,3μm,0.6s						
YUK				smax			
	comp=N,6μm,1.0s						
YUK				smax			
	comp=E,12μm,1.4s						
KUR	**Kuril'sk**	**1.90**	**358**⇑	*i*PN	**P**	**12 53 41.6**	**-2.5**
KUR				pmax	pmax		
	comp=N,150nm,0.6s						
KUR				pmax	pmax		
	comp=E,150nm,0.6s						
KUR				pmax	pmax		
	comp=Z,320nm,0.6s						
JRA	**Rausu**	**2.16**	**287**	P	**P**	**12 53 48.4**	**+0.5**
JRA				*e*S	**S**	**12 54 14.9**	**+1.2**
JNK	**Nakash**	**2.39**	**277**	P	**P**	**12 53 51.1**	**-0.1**
JNK				*e*S	**S**	**12 54 18.8**	**-0.7**
JAK	**Akkeshi**	**2.43**	**263**	P	**P**	**12 53 51.4**	**-0.4**
JAK				*e*S	**S**	**12 54 21.0**	**+0.5**
JTKR	**Abashiri--Toko**	**3.02**	**283**	P	**P**	**12 54 01.2**	**+1.0**
JOB	**Onbets**	**3.07**	**263**	P	**P**	**12 54 02.0**	**+1.1**
JAR	**Ashorobuto**	**3.07**	**271**	P	**P**	**12 54 01.0**	**0.0**
JAR				*e*S	**S**	**12 54 36.7**	**-0.2**
JCH	**Churui**	**3.47**	**260**	P	**P**	**12 54 06.7**	**+0.2**
JCH				*e*S	**S**	**12 54 46.5**	**-0.4**
JKK2	**Kamakawa 2**	**3.84**	**280**	P	**P**	**12 54 12.8**	**+1.0**
JFR	**Furan**	**3.94**	**269**	P	**P**	**12 54 14.0**	**+0.8**
JFR				*e*S	**S**	**12 54 59.9**	**+1.0**
ASAJ	**Asahikawa**	**3.98**	**283**	PN	**P**	**12 54 15.5**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ	**Asahikawa**	**3.98**	**283**	Pn	**P**	**12 54 15.5**	**+1.7**
	comp=Z,4.1nm,0.3s,baz=89,slow=9.6,SNR=17						
JNBK	**Urakawa-nobuka**	**3.99**	**256**	P	**P**	**12 54 13.9**	**-0.1**
JNBK				*e*S	**S**	**12 54 59.8**	**-0.4**
JWK2	**Keihoku**	**4.79**	**296**	P	**P**	**12 54 27.7**	**+2.4**
JEW	**Eniwo**	**4.81**	**266**	P	**P**	**12 54 26.1**	**+0.5**
YSS	**Yuzh-Sakhalins**	**5.17**	**316**	*e*PN	**P**	**12 54 35.0**	**+4.4**
YSS				pmax	pmax		
	comp=N,30nm,0.7s						
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.17**	**316**	*e*Pn	**P**	**12 54 30.7**	**+0.1**
	comp=Z,27nm,0.6s						
JKB	**Kayabe**	**5.33**	**257**	P	**P**	**12 54 31.9**	**-0.9**
JKB				*e*S	**S**	**12 55 30.6**	**-3.3**
JSK	**Shakotan**	**5.47**	**273**	P	**P**	**12 54 36.1**	**+1.2**
JOT	**Ohata**	**5.50**	**252**	P	**P**	**12 54 34.0**	**-1.2**
JOT				*e*S	**S**	**12 55 33.1**	**-5.0**
MJAR	**Matsushiro Arr**	**10.11**	**231**	Pn	**P**	**12 55 38.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=28,slow=12,SNR=3.3						
MJAR	**Matsushiro Arr**	**10.11**	**231**	Pn	**P**	**12 55 38.7**	**-0.7**
MA2	**Magadan**	**16.35**	**5**	*de*P	**P**	**12 57 02.5**	**+0.8**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FX1	**Attu Island--F**	**19.25**	**51**	pP		12 57 47.3	
	comp=Z,1.1nm,0.3s,baz=277,slow=1.3,SNR=4.2						
FX1	**Attu Island--F**	**19.25**	**51**	*e*P		12 57 47.9	
SEY	**Seymchan**	**19.80**	**6**	*i*P	**P**	**12 57 42.2**	**-1.1**
HIA	**Hailar**	**20.32**	**297**	*e*P	**P**	**12 57 46.3**	**-2.7**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HIA	**Hailar**	**20.32**	**297**	*e*P	**P**	**12 57 46.3**	**-2.7**
	comp=Z,6.3nm,0.6s						
YAK	**Yakutsk**	**21.61**	**336**	*d*iP	**P**	**12 57 59.0**	**-3.1**
YAK				pmax	pmax		
	comp=Z,29nm,0.7s,mb4.8						
BOD	**Bodaibo**	**25.64**	**316**	*e*P	**P**	**12 58 35.2**	**-6.0**
BILL	**Bilibino**	**26.59**	**15**	*e*P	**P**	**12 58 45.2**	**-4.6**
BILL				*e*		12 59 47.8	
BILL				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.2						
SONM	**Songino Array**	**29.19**	**294**	P	**P**	**12 59 14.0**	**+0.5**
	comp=Z,5.1nm,0.7s,mb4.4,baz=82,slow=8.7,SNR=37						
SONM				pP	pP	12 59 24.0	+0.1
	comp=Z,3.9nm,0.6s,baz=85,slow=8.5,SNR=9.4						
ZAK	**Zakamensk**	**30.98**	**299**	*e*P	**P**	**12 59 29.3**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
GTA	**Gaotai**	**35.96**	**281**	P	**P**	**13 00 13.8**	**+1.3**
GTA				AP	pP	13 00 21.3	-1.9
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
IMA	**Indian Mountai**	**38.69**	**34**	*e*P	**P**	**13 00 37.2**	**+2.1**
IMA				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.0						
IMA	**Indian Mountai**	**38.69**	**34**	*e*P	**P**	**13 00 37.2**	**+2.1**
	comp=Z,19nm,0.6s,mb5.0						
ILAR	**Eielson Array**	**41.46**	**36**	P	**P**	**13 00 57.9**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.4,baz=283,slow=10,SNR=7.8						
ZAL	**Zalesovo**	**41.74**	**308**	*i*P	**P**	**13 01 01.6**	**+1.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**41.74**	**308**	P	**P**	**13 01 01.2**	**+0.9**
	comp=Z,1.4nm,0.4s,mb3.9,baz=38,slow=5.5,SNR=8.1						
MKAR	**Makanchi Array**	**45.31**	**298**	P	**P**	**13 01 29.6**	**+0.2**
	comp=Z,7.1nm,0.9s,mb4.5,baz=74,slow=8.8,SNR=36						
MKAR				pP	pP	13 01 41.3	+1.1
	comp=Z,3.5nm,0.5s,baz=78,slow=8.7,SNR=12						
INK	**Inuvik**	**46.45**	**30**	P	**P**	**13 01 39.4**	**+1.3**
	comp=Z,1.4nm,0.5s,mb4.2,baz=254,slow=9.1,SNR=12						
BVAR	**Borovoye Array**	**50.23**	**310**	P	**P**	**13 02 07.6**	**0.0**
	comp=Z,2.1nm,0.6s,mb4.3,baz=63,slow=13,SNR=2.4						
AAK	**Ala-Archa**	**52.08**	**296**⇓	*e*P	**P**	**13 02 21.8**	**0.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**52.08**	**296**	*e*P	**P**	**13 02 21.1**	**-0.7**
	comp=Z,3.6nm,0.6s,mb4.5						
ARU	**Arti**	**55.06**	**317**	*e*P	**P**	**13 02 42.6**	**-1.0**
YKA	**Yellowknife Ar**	**55.81**	**34**	*e*P	**P**	**13 02 53.4**	**+4.5**
YKA	**Yellowknife Ar**	**55.81**	**34**	P	**P**	**13 02 48.2**	**-0.7**
	comp=Z,0.5nm,0.6s,mb3.7,baz=300,slow=6.8,SNR=4.5						
YKA	**Yellowknife Ar**	**55.81**	**34**	P	**P**	**13 02 48.2**	**-0.7**
ARCES	**ARCESS Array B**	**59.84**	**340**	P	**P**	**13 03 15.3**	**-1.9**
	comp=Z,3.3nm,0.7s,mb4.5,baz=42,slow=6.6,SNR=13						
WRA	**Warramunga Arr**	**64.20**	**194**	P	**P**	**13 03 45.8**	**-1.2**
	comp=Z,0.5nm,0.9s,mb3.5,baz=12,slow=6.8,SNR=3.7						
WRA				pP	pP	13 03 57.4	-0.8
	comp=Z,1.3nm,0.7s,baz=11,slow=6.9,SNR=6.2						
FINES	**FINESS Array B**	**65.52**	**333**	P	**P**	**13 03 53.8**	**-1.0**
	comp=Z,3.0nm,0.7s,mb4.5,baz=56,slow=6.9,SNR=16						
FINES				pP	pP	13 04 05.7	-0.4
	comp=Z,3.0nm,0.6s,baz=72,slow=6.0,SNR=7.4						
OBN	**Obninsk**	**66.00**	**324**	*e*P	**P**	**13 03 57.1**	**-0.9**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
PDAR	**Pinedale Array**	**69.71**	**50**	P	**P**	**13 04 23.4**	**+2.1**
	comp=Z,0.2nm,0.6s,mb3.2,baz=135,slow=1.3,SNR=2.3						
NB2	**NORSAR Subarra**	**70.20**	**339**	P	**P**	**13 04 23.3**	**-0.7**
	comp=Z,4.7nm,0.8s,mb4.5,baz=30,slow=6.2						
NB2	**NORSAR Subarra**	**70.20**	**339**	P	**P**	**13 04 23.3**	**-0.7**
NB2				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
NOA	**NORSAR Array B**	**70.20**	**339**	P	**P**	**13 04 23.9**	**0.0**
	comp=Z,3.3nm,0.7s,mb4.4,baz=32,slow=6.1,SNR=13						
NOA				pP	pP	13 04 35.0	-0.4
	comp=Z,3.8nm,0.6s,baz=31,slow=6.2,SNR=11						
HFS	**Hagfors**	**70.30**	**338**	P	**P**	**13 04 23.9**	**-0.7**
	comp=Z,3.6nm,0.6s,mb4.5,baz=45,slow=6.3,SNR=11						
HFS				pP	pP	13 04 35.0	-0.9
	comp=Z,4.8nm,0.6s,baz=45,slow=6.3,SNR=7.4						
AKASG	**Malin Array Be**	**72.27**	**324**	P	**P**	**13 04 36.3**	**-0.2**
	comp=Z,3.6nm,0.7s,mb4.4,baz=39,slow=6.3,SNR=14						
AKASG				pP	pP	13 04 47.7	-0.1
	comp=Z,2.2nm,0.5s,baz=39,slow=6.0,SNR=4.0						
AKASG	**Malin Array Be**	**72.27**	**324**	P	**P**	**13 04 36.3**	**-0.2**
AKASG				pP	pP	13 04 47.7	-0.1
CLL	**Collm**	**77.96**	**333**	P	**P**	**13 05 11.4**	**+2.3**
BRTR	**Keskin Array B**	**78.27**	**314**	P	**P**	**13 05 10.2**	**-0.8**
	comp=Z,1.3nm,1.0s,mb3.8,baz=63,slow=2.8,SNR=4.3						
EKA	**Eskdalemuir Ar**	**78.69**	**344**	P	**P**	**13 05 12.7**	**-0.4**
	comp=Z,1.4nm,0.8s,mb3.9,baz=39,slow=5.3,SNR=4.3						
EKA				pP	pP	13 05 25.4	+0.9
	comp=Z,1.3nm,0.6s,baz=20,slow=4.9,SNR=4.3						
KHC	**Kasperske Hory**	**79.61**	**332**	*e*P	**P**	**13 05 18.5**	**+0.3**
GERES	**GERESS Array B**	**79.81**	**331**	P	**P**	**13 05 19.8**	**+0.6**
	comp=Z,0.4nm,0.3s,mb3.8,baz=31,slow=7.8,SNR=5.0						
SNAA	**Sanae**	**148.24**	**197**	PKPbc	PKPdf	13 12 56.6	+5.7
	comp=Z,0.4nm,1.0s,baz=224,slow=11,SNR=4.5						

*NIED **26** 13:20:00,33.40N×142.40E, h8km, Mw4.4 Best double couple: M0 4.6×10^15 NP1:φs 154°, δ55°, λ-89°. NP2:φs 333°, δ35°, λ-91°.*
*JMA **26** 13:20:18.9±0.4, 33.38N×142.40E, h13km, M4.1*
*BJI **26** 13:20:20.0, 33.30N×142.09E, h12km, mB4.9, mb4.6, Ms4.5, Ms4.1*
*MOS **26** 13:20:21.2±1.0, 33.27N×142.25E, h33km, mb4.7/20, Error ellipse: s-maj=13.2km s-min=7.0km az=114.8*
*NEIC **26** 13:20:23.4±0.3, 33.29N×142.28E, mb4.7/19, MW4.4(NIED), Error ellipse: s-maj=7.3km s-min=6.4km az=177.0*
*IDC **26** 13:20:23.1±0.5, 33.27N×142.38E, h34km±3km, mb4.1/18, mb1 4.3/22, mb1mx4.3/26, mbtmp4.3/22, ML3.9/3, MS3.6/2, Ms1 3.6/2, ms1mx3.1/33, Error ellipse: s-maj=14.1km s-min=12.0km az=109.0*
ISC 26 13:20:21.7±0.3, 33.29N±0.04×142.26E±0.04, h36km, h36km±.9km:pP-P, n125, σ1§19/140, mb4.4/48, MS4.2/2, 2C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.73**	**322**	P	**P**	**13 20 49.3**	**-0.5**
BSO1				S	**S**	**13 21 11.7**	**+0.9**
JHJ2	**Mitsune**	**2.06**	**266**	P	**P**	**13 20 56.0**	**+1.5**
JHJ	**Hachijo jima 2**	**2.09**	**266**	Pn	**P**	**13 20 55.4**	**+0.5**
	165nm,0.3s,baz=158,slow=7.2,SNR=14						
JHJ				Sn	**S**	**13 21 22.9**	**+2.9**
	128nm,0.3s,baz=62,slow=20,SNR=5.6						
BSO3	**Boso 3**	**2.09**	**316**	P	**P**	**13 20 55.3**	**+0.3**
BSO3				S	**S**	**13 21 22.1**	**+2.0**
BSO4	**Boso 4**	**2.33**	**317**	P	**P**	**13 20 59.0**	**+0.6**
BSO4				S	**S**	**13 21 26.6**	**+0.6**
JYN	**Shimob**	**3.78**	**307**	P	**P**	**13 21 18.8**	**-0.2**
JYN				S	**S**	**13 22 05.3**	**+2.4**
JRY	**Ryogami san**	**3.88**	**315**	P	**P**	**13 21 20.8**	**+0.3**
JRY				S	**S**	**13 22 05.6**	**+0.1**
JAG	**Ashikaga**	**3.88**	**324**	P	**P**	**13 21 19.3**	**-1.2**
TK01	**Tokai 1**	**3.93**	**278**	P	**P**	**13 21 20.8**	**-0.4**
TK01				S	**S**	**13 22 13.1**	**+6.3**
MJAR	**Matsushiro Arr**	**4.65**	**315**	Pn	**P**	**13 21 31.2**	**-0.1**
	8.1nm,0.3s,baz=171,slow=6.5,SNR=54						
MAJO	**Matsushiro**	**4.65**	**315**	*e*P	**P**	**13 21 32.0**	**+0.6**
MAT	**Matsushiro**	**4.65**	**315**	*e*P	**P**	**13 21 31.0**	**-0.4**
MAT				*e*S	**S**	**13 22 23.0**	**-1.9**
MAT	**Matsushiro**	**4.65**	**315**	P	**P**	**13 21 30.9**	**-0.5**
MAT				S	**S**	**13 22 22.9**	**-2.0**
MAT	**Matsushiro**	**4.65**	**315**	P	**P**	**13 21 31.7**	**+0.3**
MAT				S	**S**	**13 22 23.7**	**-1.2**
JMM	**Marumori**	**4.72**	**346**	P	**P**	**13 21 28.7**	**-3.6**
JMM				S	**S**	**13 22 19.9**	**-6.7**
JIE	**Ise**	**4.75**	**285**	P	**P**	**13 21 33.1**	**+0.3**
JNS	**Sasagawa**	**5.11**	**333**	P	**P**	**13 21 36.3**	**-1.6**
JGM	**Miyama**	**5.17**	**299**	P	**P**	**13 21 38.1**	**-0.6**
JMK	**Ichinoseki**	**5.71**	**352**	P	**P**	**13 21 41.9**	**-4.3**
JMK				S	**S**	**13 22 43.1**	**-8.4**
JSD	**Sado**	**5.75**	**327**	P	**P**	**13 21 44.8**	**-2.0**
JYK	**Kaneyama**	**5.82**	**345**	P	**P**	**13 21 45.0**	**-2.8**
JYK				S	**S**	**13 22 50.0**	**-4.3**
JNU	**Nakatsue**	**9.54**	**272**	Pn	**P**	**13 22 39.5**	**-0.2**
	0.5nm,0.3s,baz=9.0,slow=14,SNR=5.4						
JNU				LR	LR	13 26 21.0	
	comp=Z,258nm,19.2s,baz=158,slow=37						
ASAJ	**Asahikawa**	**10.81**	**1**	P	**P**	**13 22 50.7**	**-6.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,357nm,19.2s						
ASAJ	**Asahikawa**	**10.81**	**1**	Pn	**P**	**13 22 50.7**	**-6.3**
	comp=Z,1.5nm,0.3s,baz=198,slow=9.4,SNR=8.6						
ASAJ				LR	LR	13 27 30.3	
	comp=Z,357nm,19.2s,baz=226,slow=39						
YSS	**Yuzh-Sakhalins**	**13.65**	**1**⇓	*e*P	**P**	**13 23 28.5**	**-6.5**
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
YSS	**Yuzh-Sakhalins**	**13.65**	**1**	*e*Pn	**P**	**13 23 28.8**	**-6.2**
	comp=Z,59nm,0.9s						
JOW	**Kunigami**	**13.71**	**246**	Pn	**P**	**13 23 36.1**	**+0.1**
	baz=35,slow=10,SNR=4.8						
MDJ	**Mudanjiang**	**14.98**	**323**	P	**P**	**13 23 51.8**	**-0.6**
MDJ				AP		13 24 00.0	
MDJ				XP		13 24 06.0	
MDJ				S	**S**	**13 26 35.8**	**-2.0**
MDJ				PCP	PcP	13 28 59.8	-1.0
MDJ				SCP		13 32 31.5	
MDJ				PCS		13 32 35.3	
MDJ				SCS	ScS	13 36 09.5	+2.2
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,209nm,6.3s						
MDJ				LR	LR		
	comp=N,379nm,12.9s						
MDJ				LR	LR		
	comp=E,293nm,12.9s						
MDJ				LR	LR		
	comp=Z,477nm,13.5s						
CN2	**Changchun**	**16.79**	**314**	*e*P	**P**	**13 24 18.8**	**+3.2**
CN2				*e*S	**S**	**13 27 24.0**	**+4.0**
CN2

comp=Z,43nm,1.1s,mb5.0
YAK Yakutsk 29.86 348 P **P** **13 26 26.4 -1.2**
YAK e*PP pP 13 26 37.5 -0.3
SEY Seymchan 30.34 9 ⇓*i*P **P** **13 26 32.0 +0.1**
SONM Songino Array 30.57 309 P **P** **13 26 34.6 +0.6**
comp=Z,3.2nm,0.7s,mb4.2,baz=108,slow=7.7,SNR=17
BOD Bodaibo 31.09 331 *e*P **P** **13 26 37.0 -1.6**
BOD *e* 13 26 43.7
BOD pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
GYA Guiyang 31.50 267⇑ *i*P **P** **13 26 41.3 -1.3**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
LZH Lanzhou 31.58 286 *e*P **P** **13 26 42.8 -0.3**
LZH AP pP 13 26 52.8 -0.5
LZH XP sP 13 26 57.0 -0.9
LZH PP PP 13 27 47.0 -1.1
LZH AMB AMB
comp=Z,25nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,82nm,4.2s
LZH Lanzhou 31.58 286 *e*P **P** **13 26 42.8 -0.3**
LZH *e*PP pP 13 26 52.7 -0.6
LZH *e*SP sP 13 26 57.0 -0.9
LZH 13 27 47.0
LZH pmax pmax
comp=Z,25nm,1.5s,mb4.8
LZH Lanzhou 31.58 286 *e*P **P** **13 26 42.8 -0.3**
comp=Z,25nm,1.5s,mb4.8
LZH pP pP 13 26 52.7 -0.6
LZH sP sP 13 26 57.0 -0.9
LZH PP PP 13 27 47.0 -1.1
CD2 Chengdu 32.59 276 P **P** **13 26 50.8 -1.2**
ZAK Zakamensk 33.23 313 *e*P **P** **13 26 57.7 +0.4**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
TLY Talaya 33.39 315 *e*P **P** **13 26 58.6 -0.1**
TLY *e* 13 28 07.7
TLY pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
GTA Gaotai 34.49 293 P **P** **13 27 08.5 +0.2**
GTA AP pP 13 27 19.5 +1.0
GTA XP sP 13 27 24.0 +0.9
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
KMI Kunming 35.28 267 P **P** **13 27 16.0 +0.8**
KMI AMB AMB
comp=Z,9.0nm,1.1s,mb4.6
KMI Kunming 35.28 267 P **P** **13 27 16.1 +0.9**
comp=Z,9.0nm,1.1s,mb4.6
BILL Bilibino 37.44 15 *i*P **P** **13 27 32.8 -0.2**
BILL pmax pmax
comp=Z,7.0nm,1.3s,mb4.3
TIXI Tiksi 39.08 353 *i*P **P** **13 27 46.7 +0.1**
TIXI pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
WMQ Urumqi 43.24 301 P **P** **13 28 22.5 +1.3**
WMQ AP pP 13 28 32.5 +0.9
WMQ XP sP 13 28 36.3 +0.3
WMQ AMB AMB
comp=Z,2.0nm,1.6s,mb3.6
WMQ LR LR
comp=N,393nm,17.6s,MS4.4
WMQ LR LR
comp=E,255nm,17.7s,MS4.4
WMQ LR LR
comp=Z,510nm,17.8s,MS4.5
ZAL Zalesovo 45.01 315 *i*P **P** **13 28 41.0 +5.7**
ZAL pmax pmax
comp=Z,1.0nm,0.5s
ZAL Zalesovo 45.01 315 P **P** **13 28 37.4 +2.2**
comp=Z,1.2nm,0.5s,mb4.0,baz=81,slow=6.1,SNR=6.0
ZAL Zalesovo 45.01 315 P **P** **13 28 37.4 +2.2**
NVS Novosibirsk 45.97 316 *e*P **P** **13 28 41.4 -1.5**
NVS pmax pmax
comp=N,3.0nm,1.2s
NVS pmax pmax
comp=E,10.0nm,1.2s
NVS pmax pmax
comp=Z,12nm,1.2s,mb4.7
KAKA Kakadu 46.70 193 *e*P **P** **13 28 53.4 +4.3**
comp=Z,7.3nm,0.8s,mb4.7
MKAR Makanchi Array 46.77 305 P **P** **13 28 50.1 +0.8**
comp=Z,5.9nm,0.9s,mb4.5,baz=90,slow=9.7,SNR=16
SML Sawmill 51.63 35 *e*P **P** **13 29 24.4 -2.1**
SML *e*PP pP 13 29 35.6 -1.4
ILAR Eielson Array 52.31 31 P **P** **13 29 29.4 -2.1**
comp=Z,1.5nm,0.6s,mb4.1,baz=262,slow=4.9,SNR=27
ILAR pP pP 13 29 40.4 -1.7
comp=Z,5.5nm,0.7s,baz=265,slow=6.2,SNR=22
KSH Kashi 52.64 297 *e*P **P** **13 29 36.0 +1.6**
KSH *e*AP pP 13 29 46.0 +1.0
KSH *e*XP sP 13 29 51.0 +1.8
KSH *e*PP PP 13 31 36.0 +1.1
KSH *e*S **S** **13 36 59.0 +1.2**
KSH *e*SCS ScS 13 39 20.0 +2.0
KSH *e*SS SS 13 40 39.0 +3.8
KSH AMB AMB
comp=Z,220nm,6.2s
KSH LR LR
comp=N,560nm,7.1s
KSH LR LR
comp=E,390nm,11.2s
AAK Ala-Archa 52.95 301 *i*P **P** **13 29 36.0 -0.6**
AAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
WRAB Tennant Creek 53.46 189 *e*P **P** **13 29 39.6 -1.2**
WRAB Tennant Creek 53.46 189 *e*P **P** **13 29 38.8 -1.9**
comp=Z,13nm,0.9s,mb4.9
WB2 Warramunga Arr 53.47 189 *e*P **P** **13 29 39.3 -1.5**
WRA Warramunga Arr 53.48 189 P **P** **13 29 39.2 -1.6**
comp=Z,3.6nm,0.7s,mb4.4,baz=9.6,slow=7.6,SNR=48
WRA PcP PcP 13 30 48.1 +0.6
comp=Z,1.8nm,0.7s,baz=1.0,slow=4.3,SNR=3.7
WRA pPcP 13 30 58.7
comp=Z,1.7nm,0.6s,baz=1.6,slow=3.9,SNR=5.6
FITZ Fitzroy Crossi 53.52 200 *e*P **P** **13 29 40.8 -0.4**
comp=Z,9.8nm,1.0s,mb4.7
FITZ Fitzroy Crossi 53.52 200 P **P** **13 29 40.9 -0.3**
comp=Z,14nm,0.9s,mb4.9,baz=30,slow=8.9,SNR=8.7
INK Inuvik 57.41 26 P **P** **13 30 08.2 -0.5**
INK *e*PP pP 13 30 18.5 -0.9
INK pmax pmax
comp=Z,3.0nm,0.7s
INK pmax pmax
comp=Z,8.0nm,0.9s
INK Inuvik 57.41 26 P **P** **13 30 08.2 -0.5**
comp=Z,3.0nm,0.7s,mb4.4,baz=297,slow=5.8,SNR=8.3
INK pP pP 13 30 18.4 -0.9
comp=Z,8.3nm,0.9s,baz=289,slow=7.9,SNR=10
INK Inuvik 57.41 26 *e*P **P** **13 30 07.3 -1.4**
comp=Z,3.4nm,0.7s,mb4.5
INK *e*pP pP 13 30 18.0 -1.4
ARU Arti 59.65 320⇓ *i*P **P** **13 30 23.7 -0.7**
ARU *e* 13 32 31.2
ARU *e*S **S** **13 38 32.3 +1.8**
ARU pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ARU Arti 59.65 320 *e*P **P** **13 30 23.5 -0.9**
comp=Z,6.9nm,1.0s,mb4.6
ARU *e*pP pP 13 30 34.6 -0.5
DLBC Dease Lake 61.17 37 *e*P **P** **13 30 34.6 -0.1**
STKA Stephens Creek 64.82 181 *e*P **P** **13 30 58.9 -0.3**
comp=Z,4.0nm,0.9s,mb4.5
STKA Stephens Creek 64.82 181 P **P** **13 30 58.8 -0.4**
comp=Z,3.4nm,0.8s,mb4.4,baz=357,slow=16,SNR=5.9
STKA pP pP 13 31 08.1 -2.0
comp=Z,3.9nm,0.8s,baz=43,slow=3.3,SNR=3.3
YKA Yellowknife Ar 66.70 29 *i*P **P** **13 31 10.9 +0.2**
YKA pmax pmax
comp=Z,4.0nm,1.0s
YKA Yellowknife Ar 66.70 29 P **P** **13 31 10.1 -0.5**
comp=Z,4.1nm,1.0s,mb4.4,baz=297,slow=6.4,SNR=12
YKA pP pP 13 31 20.4 -1.1
comp=Z,5.2nm,0.8s,baz=296,slow=6.2,SNR=14
YKA Yellowknife Ar 66.70 29 P **P** **13 31 10.2 -0.5**
YKA pP pP 13 31 20.4 -1.1
ARCES ARCESS Array B 67.74 340 P **P** **13 31 17.8 +0.6**
comp=Z,1.6nm,0.7s,mb4.1,baz=60,slow=7.3,SNR=3.1
NWAO Narrogin (SRO) 69.96 202 P **P** **13 31 30.7 -0.7**
comp=Z,7.4nm,0.7s,mb4.7,baz=20,slow=6.3,SNR=4.7
OBN Obninsk 71.52 324 *e*P **P** **13 31 38.4 -2.0**
OBN *e* 13 34 15.5
OBN pmax pmax
comp=Z,6.0nm,1.1s,mb4.4

KAF Kangasniemi 71.95 334 *ep* **P** **13 31 41.9 -1.0**
comp=Z,3.7nm,0.6s,mb4.5,baz=49,slow=5.6
FINES FINESS Array B 72.45 333 P **P** **13 31 45.7 -0.2**
comp=Z,2.6nm,0.9s,mb4.2,baz=76,slow=7.9,SNR=5.6
FINES pP pP 13 31 57.0 +0.2
comp=Z,5.0nm,0.8s,baz=90,slow=5.7,SNR=8.1
FINES FINESS Array B 72.45 333 P **P** **13 31 45.7 -0.2**
FINES pP pP 13 31 57.0 +0.2
CMB Columbia Colle 75.49 54 *e*P **P** **13 32 04.4 +0.5**
CMB pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CMB Columbia Colle 75.49 54 *e*P **P** **13 32 04.3 +0.4**
comp=Z,6.3nm,1.0s,mb4.5
BOZ Bozeman (W) 76.92 44 *e*P **P** **13 32 12.3 +0.4**
BOZ *e**PP pP 13 32 22.6 -0.3
BOZ pmax pmax
comp=Z,12nm,1.7s,mb4.5
BOZ Bozeman (W) 76.92 44 *e*P **P** **13 32 12.3 +0.4**
comp=Z,12nm,1.7s,mb4.6
BOZ *ep*P pP 13 32 22.6 -0.3
AKASG Malin Array Be 77.69 323 P **P** **13 32 15.8 -0.2**
comp=Z,0.3nm,0.3s,mb3.7,baz=46,slow=5.6,SNR=6.4
AKASG pP pP 13 32 26.9 -0.1
comp=Z,1.3nm,0.5s,baz=45,slow=5.8,SNR=3.3
AKASG Malin Array Be 77.69 323 P **P** **13 32 15.8 -0.2**
AKASG pP pP 13 32 26.9 -0.1
NB2 NORSAR Subarra 77.90 338 P **P** **13 32 16.5 -0.5**
comp=Z,2.8nm,0.7s,mb4.3,baz=40,slow=5.6
NB2 NORSAR Subarra 77.90 338 P **P** **13 32 16.5 -0.5**
NB2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
NOA NORSAR Array B 77.90 338 P **P** **13 32 17.2 +0.1**
comp=Z,2.5nm,0.7s,mb4.3,baz=39,slow=5.7,SNR=11
NOA pP pP 13 32 28.5 +0.5
comp=Z,5.1nm,0.7s,baz=39,slow=5.6,SNR=13
NOA NORSAR Array B 77.90 338 P **P** **13 32 17.2 +0.1**
NOA pP pP 13 32 28.5 +0.5
IMW Indian Meadow 78.32 45 *e*P **P** **13 32 22.4 +2.8**
comp=Z,11nm,1.3s,mb4.6
HWUT Hardware Ranch 79.25 47 *e*P **P** **13 32 25.6 +0.8**
comp=Z,12nm,1.4s,mb4.6
PDAR Pinedale Array 79.79 45 P **P** **13 32 28.5 +0.8**
comp=Z,0.7nm,0.8s,mb3.6,baz=315,slow=4.2,SNR=7.2
PDAR pP pP 13 32 38.6 -0.2
comp=Z,0.8nm,0.7s,baz=262,slow=2.5,SNR=6.2
DAU Daniels Canyon 80.13 48 *e*P **P** **13 32 31.1 +1.5**
DAU *e**PP pP 13 32 41.1 +0.5
NEN Nelson 80.51 54 *e*P **P** **13 32 32.7 +1.0**
NEN *ep*P pP 13 32 43.0 +0.2
MSU Marysvale 80.64 50 *e*P **P** **13 32 33.1 +0.7**
SRU San Rafael 81.35 49 *e*P **P** **13 32 37.4 +1.3**
SRU *e**PP pP 13 32 47.3 +0.2
BRTR Keskin Array B 81.87 312 P **P** **13 32 39.4 +0.7**
comp=Z,1.4nm,0.8s,mb4.0,baz=108,slow=3.9,SNR=6.0
KOLS Kolonicke sedl 82.26 325 *e*P **P** **13 32 41.6 +1.0**
KOLS *ep*P pP 13 32 53.6 +2.0
STHS Stebnicka Huta 82.42 326 *e*P **P** **13 32 42.7 +1.3**
STHS *ep*P pP 13 32 53.3 +0.8
PSZ Piszkesteto 84.11 325 *e*P **P** **13 32 51.5 +1.6**
PSZ *e**PP pP 13 33 02.5 +1.4
PSZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
PSZ Piszkesteto 84.11 325 *e*P **P** **13 32 51.5 +1.5**
comp=Z,3.6nm,0.7s,mb4.6
PSZ *ep*P pP 13 33 02.5 +1.4
VYHS Vyhne 84.20 326 *e*P **P** **13 32 49.3 -1.1**
VYHS *ep*P pP 13 33 02.9 +1.4
BRG Berggiesshubel 84.63 330 *i*P pP 13 33 04.3 +0.7
BRG pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
CLL Collm 84.69 331 *i*P **P** **13 32 53.2 +0.4**
CLL *i**PP pP 13 33 04.2 +0.3
CLL pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
CLL Collm 84.69 331 *i*P **P** **13 32 53.2 +0.4**
comp=Z,7.0nm,1.0s,mb4.8
CLL *i*pP pP 13 33 04.2 +0.3
CLL Collm 84.69 331 P **P** **13 32 53.2 +0.4**
comp=Z,logA/T=0.8,mb4.7
CLL *i**PP pP 13 33 04.2 +0.3
SDCO Great Sand Dun 85.31 47 *e*P **P** **13 32 57.2 +1.0**
comp=Z,9.2nm,1.1s,mb4.8
SDCO *ep*P pP 13 33 08.3 +0.9
GERES GERESS Array B 86.26 329 P **P** **13 33 01.9 +1.3**
comp=Z,0.2nm,0.3s,mb3.8,baz=225,slow=4.2,SNR=2.8
ANMO Albuquerque 86.45 50⇓ *i*P **P** **13 33 02.3 +0.5**
BNM Barren Site 86.84 51 *e*P **P** **13 33 05.9 +2.1**
TXAR Lajitas Array 91.83 53 P **P** **13 33 28.5 +1.0**
comp=Z,2.0nm,0.7s,mb4.5,baz=308,slow=3.5,SNR=13
TXAR pP pP 13 33 39.4 +0.7
comp=Z,1.5nm,0.6s,baz=324,slow=1.6,SNR=5.7
TXAR Lajitas Array 91.83 53 P **P** **13 33 28.5 +1.0**
TXAR pP pP 13 33 39.4 +0.7
SAML Samuel 146.27 50 *e*PKP PKPdf 13 39 59.8 +1.8
SAML *ep*PKP 13 40 11.2
LPAZ La Paz 147.79 66 PKP2 PKPdf 13 40 03.9 +3.5
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 147.79 66 PKPbc PKPdf 13 40 03.9 +3.5
comp=Z,2.2nm,0.8s,baz=352,slow=13,SNR=7.1

*IDC **26** 13:32:27.6±0.7, 3.93S×147.15E, mb4.7/11, mb1 4.8/14, mb1mx4.8/16, mbtmp4.8/14, ML4.1/3, MS4.6/17, Ms1 4.6/17, ms1mx4.5/24, Error ellipse: s-maj=24.5km s-min=14.1km az=84.0*
*BJI **26** 13:32:29.2, 3.75S×147.66E, h28km, mB5.2, mb5.1, Ms5.1, Msz4.7*
*CSEM **26** 13:32:31.6, 4.09S×147.19E, h40km, mb5.5*
*MOS **26** 13:32:31.2±0.8, 4.00S×146.95E, h33km, mb4.9/11, Error ellipse: s-maj=26.1km s-min=10.9km az=88.5*
*HRVD **26** 13:32:31.3±0.2, 3.98S×147.22E, h12km, MW5.2/63, Centroid moment Tensor Solution. LP body waves: s33,c48; Mantle waves: s63,c131; Half duration: 1s0 Moment tensor: Scale 10^16^Nm; Mrr=0.16±.22; Mθθ=3.76±.19; Mϕϕ=3.92±.22; Mrθ=-2.00±.56; Mrϕ=7.63±.15; Mθϕ=0.40±.56; Best double couple: M=8.781×10^16^ NP1: ϕ=167°, δ=78°, λ=-175°. NP2: ϕ=76°, δ=85°, λ=-12°. Principal axes: T 8.68, Plg5°, Azm122°; N .205, Plg77°, Azm233°; P -8.882, Plg12°, Azm31°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 13:32:31.3±3.0, 3.94S×147.20E, h23km±21km, mb5.0/13 Error ellipse: s-maj=9.1km s-min=8.5km az=109.0*
ISC 26 13:32:30.7±0.3, **4.02S**±0.03×**147.23E**±0.06, **h33km, (h31km±7.3km: pP-P), n86,** σ=0.97**/80, mb4.8/34, MS4.6/21, 3C-2D, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.35**	**181**	*i* P	**P**	**13 33 50.1**	**-0.2**
PMG	**Port Moresby**	**5.35**	**181**	Pn	**Pn**	**13 33 50.7**	**+0.3**
	7.1nm,0.3s,baz=326,slow=9.5,SNR=24						
PMG				Sn	**Sn**	**13 34 53.1**	**+1.4**
	17nm,0.3s,baz=359,slow=9.5,SNR=3.5						
PMG				LR	LR	13 35 55.9	
	comp=Z,7μm,21.3s,baz=360,slow=38						
HNR	**Honiara**	**13.72**	**114**	Pn	**P**	**13 35 44.9**	**-0.5**
	2.4nm,0.3s,baz=111,slow=6.5,SNR=4.6						
HNR				LR	LR	13 40 14.8	
	comp=Z,2μm,20.4s,baz=286,slow=34						
CTA	**Charters Tower**	**16.00**	**183**	*e*P	**P**	**13 36 20.3**	**+5.3**
	72nm,0.9s						
CTA				*e*S	**S**	**13 39 09.8**	**-1.3**
CTA	**Charters Tower**	**16.00**	**183**	Pn	**P**	**13 36 17.4**	**+2.3**
	1.6nm,0.3s,baz=3.3,slow=12,SNR=53						
CTA				LR	LR	13 42 09.4	
	comp=Z,2μm,20.7s,baz=5.3,slow=36						
CTAO	**Charters Tower**	**16.00**	**183**	*e*P	**P**	**13 36 17.3**	**+2.3**
CTAO				pmax	pmax		
	comp=Z,132nm,1.0s						
CTAO	**Charters Tower**	**16.00**	**183**	*e*P	**P**	**13 36 17.3**	**+2.3**
	comp=Z,132nm,1.0s						
KAKA	**Kakadu**	**16.98**	**239**	*e*P	**P**	**13 36 29.4**	**+2.0**
	comp=Z,252nm,0.6s						
WRAB	**Tennant Creek**	**20.19**	**217**	*d* iP	**P**	**13 37 04.6**	**-0.9**
WRAB	**Tennant Creek**	**20.19**	**217**	*e*P	**P**	**13 37 04.6**	**-0.9**
	comp=Z,307nm,0.8s						
WRAB				LR	LR		
	comp=Z,1μm,19.0s,MS4.2						
WB2	**Warramunga Arr**	**20.20**	**217**	⇓*i*P	**P**	**13 37 04.7**	**-0.8**
WB2				*e*S	**S**	**13 41 00.2**	**+15**
WRA	**Warramunga Arr**	**20.21**	**217**	P	**P**	**13 37 04.6**	**-1.0**

comp=Z,86nm,0.8s,baz=42,slow=11,SNR=168
BUKP Musuan 25.08 298 *e*P **P** **13 37 54.1 +0.1**
BUTP Butuan 25.11 301 *e*P **P** **13 37 53.6 -0.7**
FITZ Fitzroy Crossi 25.34 235 *e*P **P** **13 37 56.3 -0.2**
comp=Z,150nm,1.5s,mb5.3
FITZ *e*S **S** **13 42 25.6 +7.5**
FITZ Fitzroy Crossi 25.34 235 P **P** **13 37 55.3 -1.2**
comp=Z,54nm,0.6s,mb5.3,baz=51,slow=4.9,SNR=32
NOUC Port Laguerre 25.79 136 *e*P **P** **13 38 00.3 -0.3**
DZM Mont Dzumac 25.87 136 *e*P **P** **13 38 01.5 +0.1**
DZM Mont Dzumac 25.87 136 P **P** **13 38 02.0 +0.6**
comp=Z,47nm,0.9s,mb5.0,baz=346,slow=8.9,SNR=22
DZM LR LR 13 46 41.6
comp=Z,2μm,22.0s,MS4.7,baz=341,slow=33
ARMA Armidale 26.59 171 *e*P **P** **13 38 03.5 -4.4**
IPIL Ipil 27.25 295 *e*P **P** **13 38 15.8 +1.6**
STKA Stephens Creek 28.21 190 *e*P **P** **13 38 23.5 +0.8**
comp=Z,21nm,0.8s,mb4.8
STKA Stephens Creek 28.21 190 P **P** **13 38 23.1 +0.3**
comp=Z,16nm,0.9s,mb4.7,baz=4.7,slow=9.6,SNR=21
STKA LR LR 13 50 28.3
comp=Z,2μm,19.0s,MS4.6,baz=7.3,slow=38
CBIJ Chichi jima 31.32 351 LR LR 13 48 16.8
comp=Z,715nm,20.3s,MS4.3,baz=136,slow=30
TOO Toolangi 33.43 183 *e*P **P** **13 39 08.9 +0.2**
comp=Z,20nm,1.0s,mb5.0
TOO Toolangi 33.43 183 *e*P **P** **13 39 08.9 +0.2**
TOO pmax pmax
comp=Z,21nm,1.0s,mb5.0
KLBR Kellerberrin 38.97 222 *e*P **P** **13 39 55.2 -0.4**
comp=Z,76nm,1.6s,mb5.2
JNU Nakatsue 40.05 338 P **P** **13 40 04.0 -0.5**
comp=Z,16nm,0.9s,mb4.7,baz=186,slow=8.6,SNR=6.3
JNU LR LR 13 53 19.7
comp=Z,490nm,21.7s,MS4.3,baz=358,slow=31
MUN Mundaring 40.25 223 *e*P **P** **13 40 03.6 -2.6**
comp=Z,9.9nm,0.9s,mb4.5
SSE Sheshan 42.85 326 *e*P **P** **13 40 27.5 -0.2**
SSE AP pP 13 40 36.5 -1.1
SSE XP sP 13 40 39.8 -1.9
SSE PP PP 13 42 07.3 -2.3
SSE S **S** **13 46 50.5 +0.9**
SSE XS 13 47 05.5
SSE SCS ScS 13 50 24.5 +0.9
SSE AMB AMB
comp=Z,78nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,127nm,3.7s
SSE LR LR
comp=N,535nm,19.3s,MS4.7
SSE LR LR
comp=E,691nm,19.3s,MS4.7
SSE LR LR
comp=Z,1μm,21.8s,MS4.7
SSE Sheshan 42.85 326 *e*P **P** **13 40 27.4 -0.3**
comp=Z,78nm,0.8s,mb5.5
SSE pP pP 13 40 36.5 -1.1
SSE sP sP 13 40 39.8 -1.9
SSE PP PP 13 42 07.2 -2.4
SSE S **S** **13 46 50.5 +0.9**
SSE sS 13 47 05.6
SSE SS SS 13 50 02.0 +6.9
SSE ScS ScS 13 50 24.6 +1.0
URZ Urewera 43.62 145 LR LR 13 55 57.6
comp=Z,717nm,21.5s,MS4.5,baz=305,slow=32
RPZ Rata Peaks 44.79 155 LR LR 13 57 08.0
comp=Z,620nm,21.8s,MS4.5,baz=321,slow=33
NJ2 Nanjing 44.88 325 *e*P **P** **13 40 44.5 +0.4**
NJ2 AP pP 13 40 57.0 +3.0
NJ2 PP PP 13 42 30.8 +1.0
NJ2 S **S** **13 47 19.0 0.0**
NJ2 XS 13 47 31.0
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,220nm,5.4s
NJ2 LR LR
comp=N,2μm,26.3s,MS5.1
NJ2 LR LR
comp=E,2μm,24.9s,MS5.1
NJ2 LR LR
comp=Z,980nm,25.5s,MS4.6
ASAJ Asahikawa 48.10 356 LR LR 13 57 15.2
comp=Z,301nm,21.5s,MS4.2,baz=192,slow=31
YSS Yuzh-Sakhalins 50.91 356 *i*P **P** **13 41 32.8 +2.0**
YSS pmax pmax
comp=Z,12nm,1.3s,mb4.7
CN2 Changchun 51.49 340 *e*P **P** **13 41 31.0 -4.2**
KLR Kul'dur 54.72 348 *e*P **P** **13 42 03.0 +3.9**
LZH Lanzhou 56.88 318 *e*P **P** **13 42 15.5 +0.6**
LZH AP pP 13 42 23.0 -2.0
LZH XP sP 13 42 26.0 -2.9
LZH AMB AMB
comp=Z,65nm,1.4s,mb5.5
LZH AMB AMB
comp=Z,223nm,4.5s
LZH LR LR
comp=E,775nm,14.5s
LZH LR LR
comp=Z,1μm,16.0s,MS5.1
LZH Lanzhou 56.88 318 *e*P **P** **13 42 15.6 +0.7**
comp=Z,65nm,1.4s,mb5.5
LZH pP pP 13 42 23.1 -1.9
LZH sP sP 13 42 26.1 -2.8
FX1 Attu Island--F 60.77 18 LR LR 14 05 17.0
comp=Z,26nm,19.0s,MS3.4,baz=245,slow=32
SHL Shillong 61.16 302 *e*P **P** **13 42 42.5 -2.1**
CIT Chita 62.73 337 *e*P **P** **13 42 44.5 -10**
CIT *e* 13 43 26.6
CIT pmax pmax
comp=Z,37nm,2.8s,mb5.0
SONM Songino Array 62.80 330 P **P** **13 42 53.9 -1.5**
comp=Z,3.6nm,0.8s,mb4.6,baz=148,slow=9.1,SNR=4.0
SONM LR LR 14 09 16.1
comp=Z,618nm,20.7s,MS4.8,baz=139,slow=35
PPT Papeete 63.25 108 *e*S **S** **13 51 25.2 -1.4**
PPT eLR LR 14 02 09.8
comp=Z,623nm,25.8s
MA2 Magadan 63.46 2*ce*P **P** **13 43 07.0 +7.5**
MA2 pmax pmax
comp=Z,10.0nm,1.5s,mb4.7
TBI Tubuai 63.94 114 *e*S **S** **13 51 34.3 -0.9**
TBI eLR LR 14 02 12.2
comp=Z,1μm,39.8s
ZAK Zakamensk 66.03 331 *e*P **P** **13 43 15.8 -0.4**
TLY Talaya 66.71 332 *e*P **P** **13 43 13.4 -7.1**
TLY pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
SEY Seymchan 66.88 3⇑ *e*P **P** **13 43 22.1 +0.7**
GUN Gumba 66.99 302 *e*P **P** **13 43 23.2 +0.5**
comp=Z,12nm,0.4s,mb5.3
BOD Bodaibo 67.18 341 *e*P **P** **13 43 21.9 -1.5**
BOD pmax pmax
comp=Z,4.0nm,1.5s,mb4.2
CASY Casey 67.21 195 *e*P **P** **13 43 23.1 -0.3**
YAK Yakutsk 67.23 351 *i*P **P** **13 43 18.0 -5.6**
PKI Pulchoki 67.29 302 *e*P **P** **13 43 24.7 +0.1**
comp=Z,20nm,1.1s,mb5.1
KKN Kakani 67.46 302 *e*P **P** **13 43 25.2 -0.5**
comp=Z,50nm,1.1s,mb5.5
DMN Daman 67.55 302 *e*P **P** **13 43 26.7 +0.4**
comp=Z,55nm,1.0s,mb5.5
GKN Gorkha 68.07 302 *e*P **P** **13 43 29.5 0.0**
comp=Z,38nm,1.0s,mb5.4
WMQ Urumqi 71.45 319 P **P** **13 43 50.8 +0.9**
TAOE Nuku Hiva Isla 72.24 98 *e*LR LR 14 05 59.7
comp=Z,2μm,30.2s
MIR Mirnyy 72.71 200 *e*P **P** **13 43 57.0 +0.1**
MIR pmax pmax
comp=Z,43nm,1.2s,mb5.2
BILL Bilibino 73.13 7 *i*P **P** **13 43 59.2 -0.2**
VNDA Vanda 73.86 177 P **P** **13 44 04.8 +1.3**
comp=Z,3.3nm,1.0s,mb4.2,baz=324,slow=6.1,SNR=8.8
VNDA Vanda 73.86 177 P **P** **13 44 04.8 +1.3**
MKAR Makanchi Array 76.13 320 *i*P **P** **13 44 17.8 +0.7**
MKAR pmax pmax
comp=Z,18nm,1.1s
MKAR Makanchi Array 76.13 320 P **P** **13 44 17.8 +0.7**
comp=Z,6.9nm,0.9s,mb4.6,baz=112,slow=6.5,SNR=39
MKAR LR LR 14 17 43.7
comp=Z,378nm,19.3s,MS4.7,baz=1.2,slow=36
RKT Rikitea 77.21 113 *e*LR LR 14 08 30.1
comp=Z,1μm,33.8s
ZAL Zalesovo 77.48 328 LR LR 14 17 43.5
comp=Z,676nm,21.2s,MS4.9,baz=354,slow=35

NVS	**Novosibirsk**	**78.69**	**328**	*e*P		**P**	**13 44 30.5**	**-0.7**
NVS				pmax		pmax			
	comp=N,13nm,1.6s								
NVS				pmax		pmax			
	comp=E,17nm,1.6s								
NVS				pmax		pmax			
	comp=Z,19nm,1.6s,mb4.8								
AAK	**Ala-Archa**	**80.12**	**314**	*i* P		**P**	**13 44 39.5**	**+0.3**
AAK				pmax		pmax			
	comp=Z,4.0nm,1.3s,mb4.2								
AAK				MLR		MLR			
	comp=Z,300nm,17.0s,MS4.7								
SML	**Sawmill**	**81.77**	**26**	P		**P**	**13 44 52.9**	**+5.4**
MCK	**McKinley**	**82.34**	**24**	*e*P		**P**	**13 44 50.8**	**+0.4**
	comp=Z,6.2nm,0.9s,mb4.5								
ILAR	**Eielson Array**	**83.58**	**23**	P		**P**	**13 44 56.8**	**+0.2**
	comp=Z,2.8nm,1.0s,mb4.3,baz=253,slow=5.4,SNR=20								
ILAR				LR		LR	14 16 38.6		
	comp=Z,292nm,21.4s,MS4.6,baz=96,slow=32								
MAW	**Mawson**	**84.15**	**203**	P		**P**	**13 45 01.0**	**+1.5**
	comp=Z,1.2nm,0.7s,mb4.2,baz=108,slow=9.6,SNR=3.8								
BVAR	**Borovoye Array**	**85.31**	**324**	P		**P**	**13 45 05.5**	**-0.1**
	comp=Z,6.6nm,0.7s,mb4.9,baz=104,slow=6.1,SNR=35								
BRVK	**Borovoye**	**85.38**	**324**	P		**P**	**13 45 05.0**	**-0.9**
BRVK				pmax		pmax			
	comp=Z,5.0nm,0.7s,mb4.8								
BRVK	**Borovoye**	**85.38**	**324**	P		**P**	**13 45 05.0**	**-0.9**
	comp=Z,5.1nm,0.7s,mb4.8								
DLBC	**Dease Lake**	**89.60**	**31**	LR		LR	14 20 44.3		
	comp=Z,373nm,18.6s,MS4.8,baz=279,slow=32								
INK	**Inuvik**	**89.74**	**21**	LR		LR	14 21 15.7		
	comp=Z,546nm,21.3s,MS5.0,baz=265,slow=33								
INK	**Inuvik**	**89.74**	**21**	P		**P**	**13 45 32.6**	**+6.1**
	comp=Z,3.1nm,0.9s,mb4.6								
BBB	**Bella Bella**	**89.87**	**38**	LR		LR	14 18 07.4		
	comp=Z,500nm,20.1s,MS4.9,baz=234,slow=30								
ARU	**Arti**	**92.58**	**326**	⇑*i*P		**P**	**13 45 39.1**	**-0.9**
ARU				*e*			13 49 20.5		
ARU				*e*PPP		PPP	13 51 23.7	-2.2	
ARU				*e*S			13 56 09.8		
ARU				*e*SP		SP	13 57 52.2	-2.8	
ARU				*e*SS		SS	14 02 54.7	-0.6	
ARU				pmax		pmax			
	comp=Z,3.0nm,1.2s,mb4.6								
ARU				MLR		MLR			
	comp=N,100nm,22.0s,MS4.7								
ARU				MLR		MLR			
	comp=E,300nm,22.0s,MS4.7								
ARU				MLR		MLR			
	comp=Z,500nm,22.0s,MS4.9								
YKA	**Yellowknife Ar**	**97.32**	**28**	*i* P		**P**	**13 46 03.0**	**+1.5**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**97.32**	**28**	P		**P**	**13 46 02.3**	**+0.9**
	comp=Z,1.1nm,0.7s,mb4.4,baz=277,slow=4.8,SNR=9.3								
LPAZ	**La Paz**	**139.63**	**121**	PKP		PKPdf	13 51 59.5	+3.4	
	comp=Z,0.7nm,0.5s,baz=333,slow=6.8,SNR=4.1								
SAML	**Samuel**	**147.06**	**113**	*e*PKPdf		PKPdf	13 52 12.9	+3.7	

NIED ***26*** *13:37:00,24.40N×121.70E,h41km,Mw4.4 Best double couple: M₀4.45×10¹⁵ NP1:φs169°,δ85°,λ153°. NP2: φs262°,δ63°,λ5°.*

BJI ***26*** *13:37:03.3,24.42N×121.67E,h34km,mB4.6,mb4.5, ML5.0,Ms4.5,Msz4.0*

JMA ***26*** *13:37:04.6±0.3,24.37N×121.71E,h78km,M4.3*

IDC ***26*** *13:37:04.5±3.9,24.10N×121.84E,h73km±37km,mb3.9/12, mb1 4.0/13,mb1mx3.9/21,mbtmp4.3/13,ML4.3/1, Error ellipse: s-maj=24.9km s-min=14.6km az=71.0*

NEIC ***26*** *13:37:04.2,24.16N×121.60E,h57km,mb4.4/6,After TAP.*

NEIC Felt at T'ai-pei and Yung-ho. Recorded [3 TAP] in Hua-lien, I-lan and Nan-t'ou; [2 TAP] in Hsin-chu, Miao-li, T'ai-chung, T'ao-yuan and Yun-lin; [1 TAP] in Chang-hua, Chia-i, T'ai-pei and T'ai-tung Counties.

ISC 26 13:37:02.7±0.3,24.17N±0.03×121.65E±0.03,h69km±3km, n55,σ1ş24/79,mb4.1/19,3C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NACB	**Ninganchiao**	**0.05**	**269**	⇑*i*P		**P**	**13 37 12.1**	**-0.6**
NACB				*e*S		**S**	**13 37 18.4**	**-1.7**
TATO	**Taipei**	**0.81**	**350**	⇓*i*P		**P**	**13 37 19.7**	**+0.7**
TATO				*e*S		**S**	**13 37 31.1**	**0.0**
YOJ	**Yonaguni jima**	**1.28**	**77**	P		**P**	**13 37 26.1**	**+1.0**
YOJ				S		**S**	**13 37 42.6**	**+0.9**
IRIF	**Iriomote-Funau**	**1.91**	**85**	P		**P**	**13 37 34.6**	**+0.9**
IRIF				S		**S**	**13 37 57.1**	**+0.5**
HATJ	**Hateruma jima**	**1.98**	**93**	P		**P**	**13 37 36.6**	**+2.0**
HATJ				S		**S**	**13 37 58.8**	**+0.6**
JKRS	**Kuro-shima**	**2.16**	**88**	P		**P**	**13 37 38.6**	**+1.4**
JKRS				S		**S**	**13 38 04.1**	**+1.3**
JIJ	**Ishigaki jima**	**2.29**	**85**	P		**P**	**13 37 39.7**	**+0.7**
JIJ				S		**S**	**13 38 06.1**	**+0.1**
JTJ	**Tarama**	**2.82**	**80**	P		**P**	**13 37 47.2**	**+0.6**
JTJ				S		**S**	**13 38 19.3**	**-0.3**
QZH	**Quanzhou**	**2.88**	**286**	⇑*i*P		**P**	**13 37 46.5**	**-1.0**
QZH				S		**S**	**13 38 17.0**	**-4.1**
QZH				Smax				
	comp=N,5μm,0.4s							
QZH				Smax				
	comp=E,3μm,0.4s							
JMJ	**Miyako jima 2**	**3.38**	**78**	P		**P**	**13 37 55.5**	**+1.0**
JMJ				S		**S**	**13 38 33.9**	**+0.3**
JOGS	**Gusukube**	**3.48**	**80**	P		**P**	**13 37 57.2**	**+1.5**
JOGS				S		**S**	**13 38 36.1**	**+0.2**
BBP	**Basco**	**3.73**	**175**	*e*P		**P**	**13 37 57.5**	**-1.7**
BBP				*e*S		**S**	**13 38 38.2**	**-4.0**
JKE	**Kume jima 2**	**5.12**	**64**	P		**P**	**13 38 19.1**	**+0.4**
JKE				S		**S**	**13 39 17.1**	**0.0**
JAGN	**Aguni-jima**	**5.60**	**63**	P		**P**	**13 38 25.2**	**-0.1**
JAGN				S		**S**	**13 39 27.2**	**-1.9**
NAH1	**Naha**	**5.83**	**68**	P		**P**	**13 38 28.6**	**+0.1**
NAH1				*e*S		**S**	**13 39 32.8**	**-2.0**
JJT2	**Tamagusuku 2**	**5.87**	**69**	P		**P**	**13 38 28.8**	**-0.1**
JJT2				*e*S		**S**	**13 39 34.3**	**-1.3**
APYP	**Conner**	**6.29**	**184**	*e*P		**P**	**13 38 35.7**	**+0.8**
APYP				*e*S		**S**	**13 39 41.7**	**-4.5**
JIH	**Iheya**	**6.38**	**62**	P		**P**	**13 38 35.4**	**-0.7**
JIH				S		**S**	**13 39 46.1**	**-2.1**
JOW	**Kunigami**	**6.55**	**65**	P		**P**	**13 38 36.9**	**-1.6**
	comp=E,13nm,0.3s,baz=231,slow=9.6,SNR=84							
JOW				S		**S**	**13 39 48.5**	**-3.9**
	comp=E,2.4nm,0.3s,baz=114,slow=19,SNR=3.1							
ABRA	**Dolores**	**6.55**	**188**	*e*P		**P**	**13 38 38.5**	**0.0**
ABRA				*e*S		**S**	**13 39 52.1**	**-0.4**
CAUP	**Cauayan**	**7.20**	**179**	*e*P		**P**	**13 38 49.2**	**+1.7**
JTK	**Tokunoshima**	**7.49**	**60**	P		**P**	**13 38 49.3**	**-2.2**
JTK				S		**S**	**13 40 10.6**	**-5.2**
NJ2	**Nanjing**	**8.22**	**343**	*e*P		**P**	**13 38 59.0**	**-2.6**
NJ2				XP			13 39 14.5		
NJ2				S		**S**	**13 40 27.0**	**-6.9**
NJ2				AMB		AMB			
	comp=Z,100nm,0.6s								
NJ2				Smax					
	comp=N,2μm,1.1s								
NJ2				Smax					
	comp=E,2μm,1.0s								
NJ2				LR		LR			
	comp=N,1μm,6.1s								
NJ2				LR		LR			
	comp=E,2μm,4.4s								
NJ2				LR		LR			
	comp=Z,330nm,5.1s								
JAM	**Amami Oshima**	**8.29**	**58**	P		**P**	**13 38 59.9**	**-2.6**
JAM				S		**S**	**13 40 29.7**	**-5.9**
BALP	**Baler**	**8.39**	**180**	*e*P		**P**	**13 39 05.5**	**+1.6**
WHN	**Wuhan**	**9.07**	**316**	*e*P		**P**	**13 39 11.0**	**-2.2**
WHN				S		**S**	**13 40 46.5**	**-8.2**
WHN				Smax					
	comp=N,209nm,1.0s								
WHN				Smax					
	comp=E,258nm,1.0s								
WHN				LR		LR			
	comp=N,2μm,4.5s								
WHN				LR		LR			
	comp=E,2μm,3.0s								
QIZ	**Qiongzhong**	**12.11**	**247**	*e*P		**P**	**13 39 58.5**	**+4.1**
TIA	**Tai'an**	**12.62**	**343**	*e*P		**P**	**13 40 03.5**	**+2.5**
GYA	**Guiyang**	**13.74**	**283**	⇑*i*P		**P**	**13 40 16.3**	**+0.5**
GYA				AP			13 40 25.5		
GYA				XP			13 40 29.8		
GYA				AMB		AMB			
	comp=Z,20nm,0.7s								
GYA				AMB		AMB			
	comp=Z,100nm,4.2s								
GYA				LR		LR			
	comp=N,860nm,7.8s								
GYA				LR		LR			
	comp=E,340nm,6.9s								
GYA				LR		LR			
	comp=Z,310nm,6.8s								
INCN	**Inchon**	**13.94**	**17**	P		**P**	**13 40 21.1**	**+2.8**
	comp=Z,30nm,0.9s								
KS15	**Wonju Array Si**	**14.26**	**21**	*e*Pn		**P**	**13 40 24.9**	**+2.4**
BTO	**Baotou**	**19.07**	**332**	*e*P		**P**	**13 41 22.5**	**+0.3**
GTA	**Gaotai**	**23.89**	**315**	P		**P**	**13 42 14.0**	**+3.2**
GTA				PP		PP	13 42 47.3	+0.7	
GTA				AMB		AMB			
	comp=Z,6.0nm,0.8s,mb4.0								
HIA	**Hailar**	**25.09**	**357**	*e*P		**P**	**13 42 21.8**	**-0.5**
	comp=Z,13nm,1.0s,mb4.3								
SONM	**Songino Array**	**26.54**	**337**	P		**P**	**13 42 36.9**	**+1.0**
	comp=Z,5.5nm,0.7s,mb4.2,baz=156,slow=9.3,SNR=34								
TLY	**Talaya**	**30.74**	**338**	*e*P		**P**	**13 43 13.7**	**+0.2**
	comp=Z,2.9nm,0.7s,mb4.1								
MKAR	**Makanchi Array**	**38.64**	**316**	P		**P**	**13 44 22.9**	**+2.0**
	comp=Z,4.9nm,0.6s,mb4.5,baz=101,slow=10,SNR=24								
MKAR	**Makanchi Array**	**38.64**	**316**	P		**P**	**13 44 22.9**	**+2.0**
WRAB	**Tennant Creek**	**45.55**	**163**	*e*P		**P**	**13 45 16.4**	**-1.4**
	comp=Z,4.2nm,0.7s,mb4.3								
WRA	**Warramunga Arr**	**45.56**	**163**	P		**P**	**13 45 16.1**	**-1.6**
	comp=Z,1.6nm,0.5s,mb4.0,baz=345,slow=8.7,SNR=20								
BVAR	**Borovoye Array**	**47.95**	**321**	P		**P**	**13 45 37.3**	**+1.1**
	comp=Z,4.0nm,0.5s,mb4.5,baz=113,slow=8.9,SNR=8.8								
BRVK	**Borovoye**	**48.02**	**321**	*e*P		**P**	**13 45 37.1**	**+0.4**
	comp=Z,5.6nm,0.8s,mb4.5								
ARU	**Arti**	**55.37**	**323**	*e*P		**P**	**13 46 31.2**	**-0.6**
	comp=Z,6.3nm,0.6s,mb4.8								
NWAO	**Narrogin (SRO)**	**56.94**	**184**	P		**P**	**13 46 41.6**	**-1.8**
	comp=Z,7.6nm,0.9s,mb4.7,baz=157,slow=15,SNR=5.8								
STKA	**Stephens Creek**	**58.91**	**160**	P		**P**	**13 46 55.6**	**-1.5**
	comp=Z,2.5nm,0.8s,mb4.3,baz=314,slow=8.7,SNR=3.4								
ILAR	**Eielson Array**	**69.03**	**27**	P		**P**	**13 48 02.1**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=297,slow=7.8,SNR=12								
ARCES	**ARCESS Array B**	**69.71**	**338**	P		**P**	**13 48 07.5**	**+0.7**
	comp=Z,1.5nm,0.9s,mb3.8,baz=63,slow=5.4,SNR=6.6								
MALT	**Malatya**	**70.35**	**304**	P		**P**	**13 48 11.7**	**+0.5**
	comp=Z,5.8nm,1.4s,mb4.2								
FINES	**FINESS Array B**	**71.67**	**330**	P		**P**	**13 48 18.5**	**-0.2**
	comp=Z,0.7nm,0.5s,mb3.8,baz=72,slow=6.0,SNR=5.0								
AKASG	**Malin Array Be**	**73.16**	**318**	P		**P**	**13 48 27.4**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.6,baz=62,slow=5.6,SNR=4.9								
NB2	**NORSAR Subarra**	**78.43**	**332**	P		**P**	**13 48 56.5**	**-0.8**
	comp=Z,0.1nm,0.7s,mb2.6,baz=65,slow=5.8								
NOA	**NORSAR Array B**	**78.43**	**332**	P		**P**	**13 48 56.9**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.6,baz=58,slow=5.6,SNR=5.8								
NOA	**NORSAR Array B**	**78.43**	**332**	P		**P**	**13 48 56.9**	**-0.4**
YKA	**Yellowknife Ar**	**82.81**	**23**	P		**P**	**13 49 21.3**	**+0.9**
	comp=Z,1.4nm,0.6s,mb4.0,baz=314,slow=4.9,SNR=11								
YKA	**Yellowknife Ar**	**82.81**	**23**	P		**P**	**13 49 21.3**	**+0.9**

NEIC ***26*** *13:54:28.8±1.4,16.99S×177.09W,h471km±17km,mb4.1/2, Error ellipse: s-maj=43.6km s-min=16.9km az=155.0*

IDC ***26*** *13:54:28.3±2.6,15.39S×178.06W,h410km±39km,mb3.3/5, mb1 3.6/6,mb1mx3.4/15,mbtmp4.1/6,Error ellipse: s-maj=88.0km s-min=17.8km az=148.0*

ISC 26 13:54:27.4±1.6,17.1S±0.3×177.2W±0.2,h459km±20km, n14,σ1ş13/11,mb3.8/7,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**6.10**	**59**	P		**P**	**13 56 04.0**	**0.0**
	13nm,0.3s,baz=348,slow=1.6,SNR=21							
STKA	**Stephens Creek**	**40.04**	**241**	P		**P**	**14 01 26.6**	**+4.0**
	3.8nm,0.9s,mb3.8,baz=127,slow=17,SNR=4.7							
STKA	**Stephens Creek**	**40.04**	**241**	P		**P**	**14 01 22.1**	**-0.5**
WB2	**Warramunga Arr**	**45.92**	**259**	*e*P		**P**	**14 02 09.0**	**-0.4**
WRAB	**Tennant Creek**	**45.92**	**259**	*e*P		**P**	**14 02 08.6**	**-0.8**
	2.8nm,0.6s,mb3.9							
WRA	**Warramunga Arr**	**45.94**	**259**	P		**P**	**14 02 09.4**	**-0.1**
	1.0nm,0.3s,mb3.7,baz=81,slow=6.3,SNR=39							
KAKA	**Kakadu**	**48.78**	**268**	*e*P		**P**	**14 02 33.0**	**+1.8**
	9.1nm,0.6s,mb4.3							
ILAR	**Eielson Array**	**84.85**	**13**	P		**P**	**14 06 11.4**	**-1.6**
	1.7nm,1.0s,mb3.6,baz=227,slow=6.1,SNR=8.6							
PDAR	**Pinedale Array**	**85.97**	**43**	P		**P**	**14 06 21.1**	**+2.1**
	0.5nm,0.5s,mb3.4,baz=220,slow=1.9,SNR=5.7							
SONM	**Songino Array**	**93.72**	**319**	P		**P**	**14 06 49.9**	**-5.0**
	0.3nm,0.4s,mb3.7,baz=73,slow=3.6,SNR=4.5							
ZON	**Zonda**	**96.13**	**125**	⇓*i*P		**P**	**14 07 06.0**	**-0.2**
BRTR	**Keskin Array B**	**145.04**	**316**	PKP		PKPdf	14 13 13.8	+2.3	
	2.5nm,0.8s,baz=63,slow=2.8,SNR=11								
GERES	**GERESS Array B**	**147.13**	**347**	PKPbc		PKPdf	14 13 18.8	+4.2	
	0.2nm,0.3s,baz=27,slow=3.0,SNR=3.7								
ESDC	**Sonseca Array**	**156.75**	**13**	PKPab		PKPab	14 13 59.7	-3.8	
	0.5nm,0.3s,baz=37,slow=7.4,SNR=6.4								

NEIC ***26*** *13:56:37.2±1.0,53.04N×168.32W,h52km±4km,mb3.8/1, ML3.7(AEIC),Error ellipse: s-maj=29.4km s-min=5.8km az=156.0*

IDC ***26*** *13:56:39.9±7.8,53.32N×168.27W,h62km±37km,mb3.6/11, mb1 3.8/13,mb1mx3.6/24,mbtmp3.9/13,ML3.5/2, Error ellipse: s-maj=134.8km s-min=24.2km az=159.0*

ISC 26 13:56:34.9±1.0,52.8N±0.1×168.20W±0.10,h57km±5km, n30,σ1ş04/33,mb4.0/11,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIKO	**Nikolski**	**0.43**	**294**	P		**P**	**13 56 44.7**	**-1.3**
NIKO				S		**S**	**13 56 51.9**	**-2.2**
OKCE	**Okmok Cone E**	**0.63**	**2**	P		**P**	**13 56 48.0**	**-0.1**
OKCE				S		**S**	**13 56 58.8**	**+0.8**
OKCD	**Okmok Cone D**	**0.64**	**5**	P		**P**	**13 56 48.1**	**-0.1**
OKCD				S		**S**	**13 56 58.2**	**+0.2**
MSW	**Makushin Switc**	**1.41**	**37**	P		**P**	**13 56 58.9**	**+0.1**
MNAT	**Makushin Natee**	**1.42**	**39**	P		**P**	**13 56 58.4**	**-0.5**
UNV	**Unalaska Valle**	**1.46**	**43**	P		**P**	**13 56 58.6**	**-1.0**
MTBL	**Makushin Table**	**1.49**	**37**	P		**P**	**13 56 59.7**	**-0.2**
AKLV	**Akutan Long Va**	**1.92**	**44**	P		**P**	**13 57 06.7**	**+0.9**
AKGG	**Akutan Green G**	**1.93**	**42**	P		**P**	**13 57 06.4**	**+0.5**
AKUT	**Akutan**	**1.98**	**46**	P		**P**	**13 57 06.2**	**-0.4**
WESE	**West Dahl East**	**2.73**	**51**	P		**P**	**13 57 18.4**	**+1.1**
WESN	**West Dahl Nort**	**2.79**	**49**	P		**P**	**13 57 19.6**	**+1.4**
ATKA	**Atka Island**	**3.71**	**263**	P		**P**	**13 57 32.1**	**+0.9**
SPIA	**Saint Paul Isl**	**4.54**	**346**	P		**P**	**13 57 44.5**	**+1.6**
GSTR	**Great Sitkin T**	**4.86**	**265**	*e*P		**P**	**13 57 48.2**	**+0.9**
FX1	**Attu Island--F**	**11.27**	**278**	P		**P**	**13 59 17.0**	**+1.5**
	1.0nm,0.3s,baz=117,slow=23,SNR=13							
ILAR	**Eielson Array**	**16.20**	**34**	P		**P**	**14 00 17.9**	**-1.8**
	0.1nm,0.3s,baz=247,slow=11,SNR=5.4							
INK	**Inuvik**	**22.60**	**33**	P		**P**	**14 01 30.0**	**-1.0**
	1.9nm,0.6s,mb3.7,baz=222,slow=15,SNR=8.8							
INK	**Inuvik**	**22.60**	**33**	*e*P		**P**	**14 01 30.1**	**-0.9**
	3.2nm,0.9s,mb3.8							
SONM	**Songino Array**	**51.69**	**301**	P		**P**	**14 05 37.8**	**0.0**
	0.2nm,0.4s,mb3.4,baz=68,slow=5.6,SNR=3.0							
ARCES	**ARCESS Array B**	**57.57**	**354**	P		**P**	**14 06 19.4**	**-1.0**
	2.8nm,1.0s,mb4.3,baz=27,slow=8.1,SNR=6.0							
ZAL	**Zalesovo**	**57.60**	**318**	P		**P**	**14 06 20.6**	**-0.1**
	1.5nm,0.3s,mb4.5,baz=225,slow=1.4,SNR=4.2							
MKAR	**Makanchi Array**	**64.02**	**314**	P		**P**	**14 07 02.9**	**-1.4**
	0.6nm,0.7s,mb3.7,baz=45,slow=6.9,SNR=5.3							
FINES	**FINESS Array B**	**65.54**	**353**	P		**P**	**14 07 12.3**	**-1.5**
	0.7nm,0.6s,mb3.9,baz=18,slow=6.0,SNR=4.1							
FINES	**FINESS Array B**	**65.54**	**353**	P		**P**	**14 07 12.3**	**-1.5**
NOA	**NORSAR Array B**	**66.51**	**0**	P		**P**	**14 07 19.2**	**-0.8**
	0.5nm,0.8s,mb3.6,baz=348,slow=5.1,SNR=3.4							
AKASG	**Malin Array Be**	**75.83**	**349**	P		**P**	**14 08 15.2**	**-0.8**
	1.0nm,0.5s,mb4.0,baz=14,slow=5.5,SNR=6.3							
GERES	**GERESS Array B**	**78.72**	**359**	P		**P**	**14 08 32.8**	**+0.8**
	0.4nm,0.3s,mb3.8,slow=5.3,SNR=4.3							
BRTR	**Keskin Array B**	**85.92**	**343**	P		**P**	**14 09 11.2**	**+1.9**
	1.0nm,0.5s,mb4.3,baz=34,slow=4.5,SNR=5.6							
ESDC	**Sonseca Array**	**86.89**	**12**	P		**P**	**14 09 15.4**	**+1.3**
	1.4nm,0.7s,mb4.3,baz=338,slow=4.9,SNR=4.6							

CRAAG ***26*** *14:11:28.9,15.38S×73.10W,Mb5.9*

IGIL ***26*** *14:11:33.9,15.33S×72.94W,h111km,MS5.4*

MOS ***26*** *14:11:33.9±0.8,15.13S×73.03W,h93km,mb6.0/8,Error ellipse: s-maj=7.0km s-min=5.2km az=81.3*

BGS ***26*** *14:11:35.9,15.35S×72.96W,h111km,mb5.5*

HRVD ***26*** *14:11:36.4±0.1,15.41S×73.15W,h108km,MW5.9/73, Centroid moment Tensor Solution. LP body waves: s72,c176;Mantle waves: s73,c228; Half duration: 2ş2 Moment tensor: Scale 1018Nm; Mrr-0.79±.01; Mθθ0.32±.01; Mφφ0.47±.01; Mrθ0.18±.01; Mrφ-0.48±.01; Mθφ-0.11±.01; Best double couple: M₀.866×10¹⁸ NP1: φs145°,δ39°,λ-81°. NP2:φs314°,δ52°,λ-97°. Principal axes: T .909, Plg7°, Azm49°; N -.087, Plg5°, Azm319°; P -.822, Plg81°, Azm190°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

IDC ***26*** *14:11:36.2±0.4,15.31S×72.85W,h110km±3km,mb5.3/24, mb1 5.4/26,mb1mx5.4/27,mbtmp5.6/26,MS4.9/10, Ms1 4.9/10,ms1mx4.7/19 Error ellipse: s-maj=9.6km s-min=6.8km az=66.0*

NEIC ***26*** *14:11:36.4±0.1,15.35S×72.96W,mb5.8/185,ME5.7, MW5.9, Error ellipse: s-maj=3.4km s-min=2.4km az=48.0 Broadband fault plane solution: P waves. NP1:φs320°, δ65°,λ-90°. NP2:φs140°,δ25°,λ-90°. Principal axes: T Plg20°, Azm50°; N Plg0°, Azm0°; P Plg70°, Azm230°; Moment Tensor Solution. s43 Moment tensor: Scale 10¹⁸ Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mrφ0.00; Best double couple: M₀1×10¹⁸ NP1:φs169°,δ32°, λ-73°. NP2:φs329°,δ59°,λ-100°. Principal axes: T 1.14, Plg14°, Azm66°; N -.21, Plg9°, Azm334°; P -.93, Plg74°, Azm212°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Pausa, [III] at Coracora and [II] at Arequipa. Also felt at Cusco.

BJI ***26*** *14:11:36.3,15.30S×73.00W,h110km,mB5.8*

LDG ***26*** *14:11:37.1±0.5,14.88S×72.54W,h103km,Mb5.7/37, Ms5.0/9,Error ellipse: s-maj=28.4km s-min=12.7km az=29.0*

ISC 26 14:11:34.8±0.1,15.34S±0.03×73.06W±0.03,h109km, h109km±.7km:pP-P,n752,σ0ş88/541,mb5.7/207,26C-143D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARE	**Arequipa**	**1.88**	**127**	⇑*i*P		**P**	**14 12 06.0**	**-0.6**
ARE				*e*S		**S**	**14 12 32.0**	**+1.5**
LPAZ	**La Paz**	**4.84**	**102**	P		**P**	**14 12 47.7**	**+1.1**
	82nm,0.3s,baz=287,slow=13,SNR=528							
LPAZ	**La Paz**	**4.84**	**102**	⇑*i*Pn		**P**	**14 12 47.9**	**+1.3**
NNA	**Nana**	**4.96**	**312**	*e*Pn		**P**	**14 12 44.7**	**-3.6**
	5μm,0.8s							
LVC	**Limon Verde**	**8.23**	**152**	⇑*i*P		**P**	**14 13 29.6**	**-3.2**
LVC	**Limon Verde**	**8.23**	**152**	P		**P**	**14 13 29.1**	**-3.7**
	64nm,0.3s,baz=341,slow=9.4,SNR=496							
LVC				S		**S**	**14 14 57.3**	**-7.5**
	76nm,0.3s,baz=207,slow=22,SNR=12							
LVC	**Limon Verde**	**8.23**	**152**	*i* Pn		**P**	**14 13 29.6**	**-3.2**
	443nm,0.7s							
ANCH	**Antofagasta**	**8.67**	**164**	*e*P		**P**	**14 13 33.4**	**-5.3**
CPN1	**Cerro Paranal**	**9.57**	**165**	*e*P		**P**	**14 13 45.5**	**-5.4**
SAML	**Samuel**	**11.55**	**58**	Pn		**P**	**14 14 12.8**	**-4.7**
SAML	**Samuel**	**11.55**	**58**	⇑*i*Pn		**P**	**14 14 13.0**	**-4.4**
	342nm,0.6s							
SIV	**San Ignacio**	**11.56**	**95**	P		**P**	**14 14 13.5**	**-4.0**
	32nm,0.3s,baz=277,slow=11,SNR=446							
SIV				S		**S**	**14 16 17.5**	**-7.3**
	17nm,0.3s,baz=40,slow=19,SNR=3.8							
ZON	**Zonda**	**16.62**	**167**	*e*P		**P**	**14 15 20.0**	**-2.5**
CFAA	**Coronel Fontan**	**16.78**	**166**	P		**P**	**14 15 23.2**	**-1.2**
	2.0nm,0.3s,baz=341,slow=12,SNR=111							
CFAA				S		**S**	**14 18 30.9**	**+4.8**
	0.1nm,0.3s,baz=202,slow=5.4,SNR=2.4							
FCH	**Farellones**	**18.09**	**173**	⇓*i*P		**P**	**14 15 39.0**	**-1.3**
CLCH	**Cerro Calan**	**18.12**	**173**	⇓*i*P		**P**	**14 15 39.1**	**-1.6**
SCR	**San Cristobal**	**18.18**	**174**	⇓*i*P		**P**	**14 15 38.8**	**-2.5**
CPUP	**Villa Florida**	**18.30**	**129**	P		**P**	**14 15 39.9**	**-2.9**
CPUP				S		**S**	**14 19 03.5**	**+3.5**
CPUP				pmax		pmax			
	comp=Z,1.0nm,0.3s								
CPUP	**Villa Florida**	**18.30**	**129**	P		**P**	**14 15 39.9**	**-2.9**
	comp=Z,1.0nm,0.3s,baz=327,slow=14,

CCCC Cccc 36.60 353 *e*P P **14 18 34.5 +2.2**
RCBR Riachuelo 37.67 80 *e*P P **14 18 39.7 -1.6**
comp=N,77nm,1.0s,mb5.5
MGV Manicaragua 37.83 350 P P **14 18 42.7 +0.2**
MGV 14 24 00.0
comp=E,4µm,5.7s
MGV S S **14 24 28.0 +3.0**
comp=N,3µm,4.4s
HUIG Huatulco 38.39 323 *i* P P **14 18 48.3 +1.1**
SOR Soroa 39.13 345 P P **14 18 54.0 +0.7**
SOR 14 24 00.0
comp=E,7µm,3.8s
SOR S S **14 24 44.1 -0.4**
comp=N,4µm,5.6s
USHA Ushuaia 39.57 176 P P **14 18 56.2 -0.4**
comp=N,139nm,1.1s,mb5.7,baz=347,slow=6.5,SNR=25
CAIG El Cayaco 41.91 319 *i* P P **14 19 16.6 +0.4**
PLIG Platanillo 42.45 321 *i* P P **14 19 21.8 +1.1**
YAIG Yautepec 42.55 322 *i* P P **14 19 23.2 +1.7**
CJM Chamela 46.78 317 *i* P P **14 19 55.5 +0.1**
RGRS Roger Stewart 48.45 352 *e*P P **14 20 08.3 +0.1**
HBF Harts Bluff 48.51 352 *e*P P **14 20 06.9 -1.7**
HBF *e**PP pP 14 20 35.9 +1.5
HBF *e*SP PcP 14 21 32.8 -0.5
HBF Harts Bluff 48.51 352 *e*P P **14 20 06.9 -1.7**
HBF *e*PP pP 14 20 35.9 +1.5
HBF *e*SP sP 14 20 44.1 -2.4
HBF *e*SP PcP 14 21 32.8 -0.5
CSU Charleston Sou 48.52 352 *e*P P **14 20 07.9 -0.8**
CSU *e*PP pP 14 20 35.2 +0.7
CSU *e*SP sP 14 20 46.9 +0.2
CSU *e*PP PcP 14 21 33.5 +0.2
TWB Tillmans-White 48.65 352 *e*P P **14 20 09.2 -0.5**
TWB *e*PP pP 14 20 36.9 +1.4
TWB *e*PcP PcP 14 21 32.9 -0.9
NHSC New Hope 48.65 352 *e*P P **14 20 09.9 +0.2**
comp=N,441nm,0.9s,mb6.4
NHSC *e*PP pP 14 20 36.2 +0.7
NHSC *e*PcP PcP 14 21 31.7 -2.1
COW Cow Castle Cre 48.99 352 *e*P P **14 20 11.8 -0.5**
COW *e*PcP PcP 14 21 34.4 -0.7
PMSA Palmer Station 49.77 175 ⇓*i*P P **14 20 17.5 -0.4**
comp=N,330nm,1.4s,mb6.1
PMSA *e*PcP PcP 14 21 37.8 +0.3
PMSA *e*PP PP 14 22 09.1 -5.0
LRAL Lakeview Retre 49.91 345 ⇓*i*P P **14 20 18.2 -1.2**
comp=N,221nm,1.1s,mb6.0
LRAL *e*pP pP 14 20 43.9 -1.5
JSC Jenkinsville 49.96 351 P P **14 20 19.1 -0.6**
JSC Jenkinsville 49.96 351 *i* P P **14 20 16.7 -1.0**
JSC *e*PP pP 14 20 45.5 -0.2
JSC *e*PcP PcP 14 21 38.1 -0.4
NATX Nacogdoches 51.21 336 *e*P P **14 20 29.3 0.0**
comp=N,134nm,0.9s,mb6.0
NATX *e*PcP PcP 14 21 42.8 -0.4
MYNC Murphy 51.22 348 ⇓*i*P P **14 20 28.2 -1.1**
MYNC *e* 14 21 42.2
MYNC pmax pmax
comp=Z,126nm,0.9s,mb6.0
MYNC Murphy 51.22 348 ⇓*i*P P **14 20 28.2 -1.1**
comp=Z,126nm,0.9s,mb6.0
MYNC *e*PcP PcP 14 21 42.2 -1.0
OXF Oxford 51.95 343 ⇓*i*P P **14 20 32.4 -2.4**
OXF *e* 14 21 45.1
OXF pmax pmax
comp=Z,459nm,1.2s,mb6.4
OXF Oxford 51.95 343 ⇓*i*P P **14 20 32.4 -2.4**
comp=Z,459nm,1.2s,mb6.4
OXF *e*PcP PcP 14 21 45.1 -0.8
PLAL Pickwick Lake 52.03 344 ⇓*i*P P **14 20 33.0 -2.5**
comp=Z,132nm,1.0s,mb5.9
PLAL *e*pP pP 14 20 59.1 -2.5
PLAL *e*PcP PcP 14 21 44.3 -1.9
TZTN Tazewell 52.54 349 ⇓*e*P P **14 20 37.6 -1.6**
TZTN *e*pP pP 14 21 08.0 -0.4
BLA Blacksburg 52.72 353 ⇓*i*P P **14 20 39.8 -0.8**
BLA *e**PP pP 14 21 07.5 +0.8
BLA *e* 14 21 50.1
BLA pmax pmax
comp=Z,60nm,0.7s,mb5.7
BLA Blacksburg 52.72 353 ⇓*i*P P **14 20 39.8 -0.7**
comp=Z,60nm,0.7s,mb5.7
BLA *e*pP pP 14 21 07.5 +0.8
BLA *e*PcP PcP 14 21 50.1 +1.3
ELN Prospectdale 52.78 352 ⇓*e*P P **14 20 40.4 -0.6**
FWV Forest Hill 53.14 352 *e*P P **14 20 42.6 -1.0**
FWV *e*pP pP 14 21 10.1 +0.3
HBAR Harrisburg 53.29 342 ⇓*e*P P **14 20 43.3 -1.5**
HBAR *e*pP pP 14 21 11.0 0.0
HBAR *e*PcP PcP 14 21 50.5 -0.3
LTX Lajitas 53.35 326 ⇓*i*P P **14 20 44.6 -0.7**
LTX pmax pmax
comp=Z,168nm,1.3s,mb5.9
LTX Lajitas 53.35 326 ⇓*i*P P **14 20 44.5 -0.7**
comp=Z,168nm,1.3s,mb5.9
TXAR Lajitas Array 53.35 326 P P **14 20 44.5 -0.8**
comp=Z,45nm,1.0s,mb5.5,baz=146,slow=9.0,SNR=182
TXAR pP pP 14 21 11.1 -0.4
comp=Z,36nm,0.9s,baz=135,slow=12,SNR=7.8
TXAR sP sP 14 21 23.1 -0.5
comp=Z,31nm,0.7s,baz=135,slow=8.8,SNR=5.6
TXAR PKPPKP 14 50 55.8
comp=Z,1.4nm,1.0s,slow=2.5,SNR=6.6
CBN Corbin 53.41 356 *e*P P **14 20 45.1 -0.6**
comp=Z,251nm,0.7s,mb6.3
CBN *e*pP pP 14 21 12.7 +0.9
GNAR Gosnell 53.49 343 *e*P P **14 20 45.0 -1.2**
GNAR *e*pP pP 14 21 12.7 +0.2
GNAR *e*PcP PcP 14 21 51.4 -0.2
UTMT University of 53.53 344 *e*P P **14 20 44.7 -1.8**
comp=Z,605nm,1.1s,mb6.5
GLAT Glass 53.57 344 *e*P P **14 20 45.2 -1.7**
WCI Wyandotte Cave 54.71 347 ⇓*i*P P **14 20 52.9 -2.2**
WCI *e**PP pP 14 21 19.9 -1.5
WCI pmax pmax
comp=Z,184nm,0.9s,mb6.1
WCI Wyandotte Cave 54.71 347 ⇓*i*P P **14 20 52.9 -2.2**
comp=Z,184nm,0.9s,mb6.1
WCI *e*pP pP 14 21 19.9 -1.5
WCI Wyandotte Cave 54.71 347 P P **14 20 53.1 -2.0**
MCWV Mont Chateau 55.07 354 *e*P P **14 20 56.8 -0.9**
comp=Z,91nm,0.8s,mb5.9
MCWV *e*sP sP 14 21 38.0 +1.8
FVM French Village 55.49 343 ⇓*i*P P **14 20 58.8 -2.0**
FVM *e**PP pP 14 21 26.0 -1.2
FVM *e* 14 21 58.7
FVM pmax pmax
comp=Z,288nm,1.1s,mb6.2
FVM French Village 55.49 343 ⇓*i*P P **14 20 58.8 -2.0**
comp=Z,288nm,1.1s,mb6.2
FVM *e*pP pP 14 21 25.9 -1.2
FVM *e*sP sP 14 21 41.0 +1.6
FVM *e*PcP PcP 14 21 58.7 -0.6
BLO Bloomington 55.67 347 *e*P P **14 20 59.8 -2.2**
BLO *e**PP pP 14 21 27.1 -1.3
BLO *e* 14 21 59.5
BLO pmax pmax
comp=Z,86nm,0.6s,mb6.0
BLO Bloomington 55.67 347 *e*P P **14 20 59.8 -2.2**
comp=Z,86nm,0.6s,mb6.0
BLO *e*pP pP 14 21 27.1 -1.3
BLO *e*PcP PcP 14 21 59.5 -0.4
BRNJ Basking Ridge 55.75 359 *e*P P **14 21 02.2 -0.4**
BRNJ *e*pP pP 14 21 29.5 +0.5
CLNB Carlsbad 55.78 328 *e*P P **14 21 02.4 -0.6**
GDL2 Guadalupe Moun 55.98 328 *e*P P **14 21 04.0 -0.3**
GDL2 *e*sP sP 14 21 43.8 +0.8
SLM Saint Louis 56.05 344 *e*P P **14 21 03.0 -1.8**
SLM *e**PP pP 14 21 30.4 -0.8
SLM *e* 14 22 00.9
SLM pmax pmax
comp=Z,143nm,0.8s,mb6.0
SLM Saint Louis 56.05 344 *e*P P **14 21 03.0 -1.8**
comp=Z,144nm,0.8s,mb6.0
SLM *e*pP pP 14 21 30.4 -0.8
SLM *e*PcP PcP 14 22 00.9 -0.5
PAL Palisades 56.06 359 *e*P P **14 21 03.5 -1.3**
PAL *e**PP pP 14 21 29.8 -1.5
PAL pmax pmax
comp=Z,174nm,1.6s,mb5.8
PALS Palisades 56.06 359 *e*P P **14 21 03.5 -1.3**
comp=Z,174nm,1.6s,mb5.8
PAL *e*pP pP 14 21 29.8 -1.5
PAL *e*sP sP 14 21 44.3 +0.9
MNTX Cornudas Mount 56.11 327 ⇓*e*P P **14 21 03.5 -1.8**
comp=Z,182nm,1.2s,mb6.0
MNTX *e*pP pP 14 21 31.4 -0.4
MNTX *e*sP sP 14 21 43.5 -0.4
CPRX Cap Rock 56.39 329 *e*P P **14 21 06.5 -0.8**
CPRX *e*pP pP 14 21 34.8 +1.0
ALLY Alegheny Colle 57.08 354 *e*P P **14 21 10.4 -1.5**
ALLY *e*pP pP 14 21 38.3 -0.2
ALLY *e*sP sP 14 21 49.4 -1.3
QUA2 Belchertown 57.33 1 *e*P P **14 21 12.4 -1.4**
comp=Z,47nm,0.7s,mb5.6
QUA2 *e*pP pP 14 21 40.2 -0.1
WES Weston 57.45 2 *e*P P **14 21 14.2 -0.4**
WES *e* pP 14 21 41.6 +0.4
WES pmax pmax
comp=Z,200nm,1.3s,mb6.0
WES Weston 57.45 2 *e*P P **14 21 13.7 -0.9**
comp=Z,178nm,1.2s,mb6.0
WES *e*pP pP 14 21 41.0 -0.2
WES *e*sP sP 14 21 55.3 +1.9
HRV Harvard--Oak R 57.57 1 P P **14 21 14.8 -0.6**
HRV pP pP 14 21 40.8 -1.2
HRV S S **14 29 05.1 +2.4**
HRV Harvard--Oak R 57.57 1 *e*P P **14 21 14.9 -0.5**
HRV *e* pP 14 21 41.5 -0.5
HRV pmax pmax
comp=Z,340nm,1.6s,mb6.1
HRV Harvard--Oak R 57.57 1 *e*P P **14 21 14.5 -1.0**
comp=Z,131nm,1.0s,mb5.9
HRV *e*pP pP 14 21 41.2 -0.8
HRV *e*sP sP 14 21 56.1 +1.9
TRIS Tristan da Cun 57.66 124 *e*P P **14 21 15.2 -1.0**
comp=Z,552nm,1.0s,mb6.5
GENY Geneseo 57.98 356 *e*P P **14 21 18.9 +0.6**
GENY *e*pP pP 14 21 46.5 +1.6
ACCN Adirondack Com 58.43 359 *e*P P **14 21 20.4 -1.0**
ACCN *e*pP pP 14 21 47.4 -0.7
ACCN *e*sP sP 14 22 01.8 +1.5
ACCN *e*PcP PcP 14 22 09.6 -1.1
KSU1 Kansas State U 58.46 339 *e*P P **14 21 19.9 -1.7**
FFD Franklin Falls 58.53 1 *e*P P **14 21 21.7 -0.4**
comp=Z,55nm,0.6s,mb5.8
RKT Rikitea 58.61 252 *e*S S **14 29 19.6 +3.0**
comp=Z,5µm,23.0s
RKT *e*LQ 14 36 28.5
RKT *e*LR LR 14 38 36.5
comp=Z,5µm,31.8s
BNM Barren Site 58.68 328 ⇓*i*P P **14 21 22.9 -0.3**
HNH Hanover 58.76 1 *e*P P **14 21 22.2 -1.4**
comp=Z,20nm,1.5s,mb4.9
HNH *e*pP pP 14 21 50.7 +0.4
LPM Los Pinos Moun 58.81 328 ⇓*e*P P **14 21 23.6 -0.6**
LENM Lemitar 58.87 327 ⇓*e*P P **14 21 24.3 -0.3**
MIV Mineville/With 59.12 360 *e*P P **14 21 25.0 -1.2**
LAZ Ladron 59.14 327 *e*P P **14 21 26.6 +0.1**
ANMO Albuquerque 59.22 328 P P **14 21 26.5 -0.4**
ANMO pP pP 14 21 52.5 -1.2
ANMO S S **14 29 27.4 +3.1**
ANMO sS 14 30 13.6
ANMO ScS 14 31 55.0
ANMO Albuquerque 59.22 328 P P **14 21 26.6 -0.4**
ANMO pmax pmax
comp=Z,180nm,1.2s
ANMO Albuquerque 59.22 328 ⇓*i*P P **14 21 26.4 -0.6**
comp=Z,187nm,1.3s,mb6.0
ANMO *e*pP pP 14 21 53.9 +0.2
ANMO *e*sP sP 14 22 07.6 +1.7
CBKS Cedar Bluff 59.37 336 P P **14 21 27.4 -0.6**
CBKS pmax pmax
comp=Z,520nm,1.1s,mb6.5
CBKS Cedar Bluff 59.37 336 ⇓*i*P P **14 21 27.0 -1.0**
comp=Z,568nm,1.1s,mb6.5
TUC Tucson 59.58 323 P P **14 21 28.9 -0.5**
TUC pP pP 14 21 54.6 -1.6
TUC S S **14 29 31.5 +2.6**
TUC sS 14 30 18.3
TUC Tucson 59.58 323 P P **14 21 28.8 -0.7**
TUC pmax pmax
comp=Z,110nm,1.3s,mb5.7
TUC Tucson 59.58 323 ⇓*i*P P **14 21 28.7 -0.7**
comp=Z,107nm,1.3s,mb5.7
TUC *e*pP pP 14 21 56.3 +0.1
WVL Waterville 59.69 3 *e*P P **14 21 29.1 -1.0**
comp=Z,440nm,1.1s,mb6.4
WVL *e*pP pP 14 21 57.2 +0.4
EMMW East Machias 59.98 5 *e*P P **14 21 30.6 -1.4**
comp=Z,814nm,1.4s,mb6.6
EMMW *e*pP pP 14 21 58.6 -0.3
MSNY Massena 60.07 359 *e*P P **14 21 31.8 -0.8**
SDCO Great Sand Dun 60.97 331 ⇓*e*P P **14 21 38.7 -0.2**
comp=Z,1µm,1.4s,mb6.7
SDCO *e*pP pP 14 22 04.6 -1.2
PQI Presque Isle 61.89 4 *e*P P **14 21 42.5 -2.4**
comp=Z,2µm,1.6s,mb6.8
PQI *e*pP pP 14 22 08.7 -3.2
SMCO Snowmass 62.81 331 *e*P P **14 21 51.0 -0.1**
BAR Barrett 63.39 319 *e*P P **14 21 54.5 -0.6**
PHWY Pilot Hill 63.84 333 *e*P P **14 21 57.3 -0.6**
PFO Pinyon Flat Ob 63.88 320 ⇓*i*P P **14 21 58.5 +0.2**
PFO *e**PP pP 14 22 26.6 +1.2
PFO pmax pmax
comp=Z,198nm,1.4s,mb5.8
PFO Pinyon Flat Ob 63.88 320 ⇓*i*P P **14 21 58.5 +0.1**
comp=Z,198nm,1.4s,mb5.8
PFO *e*pP pP 14 22 26.6 +1.2
LDFC Landfair 64.07 322 ⇓*i*P P **14 21 59.9 +0.4**
NEN Nelson 64.31 323 ⇓*i*P P **14 22 00.9 -0.2**
NEN *e*pP pP 14 22 27.1 -1.2
SRU San Rafael 64.49 328 ⇓*i*P P **14 22 01.9 -0.3**
SRU *e**PP pP 14 22 28.9 -0.4
MSU Marysvale 64.90 327 *e*P P **14 22 05.3 +0.5**
RWWY Rawlins 64.92 332 ⇓*i*P P **14 22 04.8 -0.2**
comp=Z,659nm,1.3s,mb6.3
RWWY *e*pP pP 14 22 34.0 +1.9
TMUT Trail Mountain 64.98 328 *e*P P **14 22 05.6 +0.2**
ARUT Antelope Range 65.05 326 *e*P P **14 22 06.7 +0.9**
MWC Mount Wilson 65.28 320 P P **14 22 07.7 +0.3**
MWC Mount Wilson 65.28 320 *e*P P **14 22 07.3 -0.1**
RSSD Black Hills 65.58 336 P P **14 22 08.9 -0.2**
RSSD pP pP 14 22 35.1 -1.2
RSSD S S 14 30 47.2 +3.2
TAOE Nuku Hiva Isla 65.71 267 *e*S S 14 30 47.7 +1.7
comp=Z,1µm,23.4s
TAOE *e*LR LR 14 41 47.1
comp=Z,14µm,30.2s
MPU Maple Canyon 65.73 328 *e*P P **14 22 10.3 +0.1**
DAU Daniels Canyon 65.84 329 *e*P P **14 22 11.4 +0.5**
NLU North Lily Min 65.91 328 ⇓*e*P P **14 22 11.3 0.0**
JLU Jordanelle 66.08 329 ⇓*e*P P **14 22 12.7 +0.3**
JLU *e*pP pP 14 22 38.1 -1.5
CTU Camp Tracy 66.30 329 *e*P P **14 22 13.0 -0.8**
CTU *e* pP 14 22 42.7 +1.6
DAC Darwin (Calif) 66.36 322 ⇓*e*P P **14 22 14.3 0.0**
DAC *e**PP pP 14 22 41.4 -0.1
DAC pmax pmax
comp=Z,143nm,1.2s,mb5.7
DAC Darwin (Calif) 66.36 322 ⇓*e*P P **14 22 14.3 0.0**
comp=Z,143nm,1.2s,mb5.7
DAC *e*pP pP 14 22 41.4 -0.1
TCUT Toone Canyon 66.45 329 ⇓*e*P P **14 22 14.8 +0.1**
TCUT *e* pP 14 22 42.8 +0.8
NOQ North Oquirrh 66.46 328 *e*P P **14 22 14.5 -0.3**
ISA Isabella 66.49 321 ⇓*e*P P **14 22 15.3 +0.3**
ISA *e**PP pP 14 22 43.3 +1.0
ISA pmax pmax
comp=Z,132nm,1.2s,mb5.6
ISA Isabella 66.49 321 ⇓*e*P P **14 22 15.3 +0.2**
comp=Z,132nm,1.2s,mb5.6
ISA *e*pP pP 14 22 43.3 +1.0
BW06 Boulder Array 66.84 332 ⇓*e*P P **14 22 16.3 -0.8**
comp=Z,270nm,1.5s,mb5.8
PDAR Pinedale Array 66.84 332 P P **14 22 16.4 -0.7**
comp=Z,52nm,1.1s,mb5.3,baz=143,slow=7.4,SNR=241
PDAR pP pP 14 22 43.4 -1.0
comp=Z,13nm,0.8s,baz=134,slow=7.7,SNR=3.4
PDAR PKPPKP 14 50 43.0
comp=Z,2.5nm,1.1s,slow=5.9,SNR=10
PDAR LR LR 14 52 35.3
comp=Z,471nm,20.1s,baz=147,slow=37
PDAR Pinedale Array 66.84 332 P P **14 22 16.4 -0.7**
PDAR pP pP 14 22 43.4 -1.0
PDAR P'P' 14 50 43.0
PDAR LR LR 14 52 35.3
HWUT Hardware Ranch 66.90 329 ⇓*e*P P **14 22 17.2 -0.4**
comp=Z,187nm,0.9s,mb5.9
SPUT South Promonto 67.11 329 ⇓*e*P P **14 22 18.8 -0.1**
BGU Big Grassy Mou 67.12 328 *e*P P **14 22 18.3 -0.6**
VNA3 Neumayer Olymp 67.14 162 ⇓*i*P P **14 22 19.8 +1.3**
VNA3 Neumayer Olymp 67.14 162 PcP 14 22 47.1 +1.4
VNA3 Neumayer Olymp 67.14 162 pP 14 22 49.0 +3.2
VNA3 Neumayer Olymp 67.14 162 sP 14 22 59.5 +1.7
TPH Tonopah 67.37 323 ⇓*i*P P **14 22 21.0 +0.5**
TPH *e* pP 14 22 47.4 -0.5
TPH pmax pmax
comp=Z,238nm,1.2s,mb5.9
TPH Tonopah 67.37 323 ⇓*i*P P **14 22 21.0 +0.5**
comp=Z,238nm,1.2s,mb5.9
TPH *e* pP 14 22 47.4 -0.5
VNA1 Neumayer--Stat 67.37 161 ⇓*i*P P **14 22 21.6 +1.6**
VNA1 Neumayer--Stat 67.37 161 PcP 14 22 48.9 +2.2
VNA1 Neumayer--Stat 67.37 161 pP 14 22 50.5 +3.2
VNA1 Neumayer--Stat 67.37 161 sP 14 23 01.4 +2.2
PTRM Twissleman Ran 67.55 320 *e*P P **14 22 22.1 +0.3**
PTRM *e* pP 14 22 50.0 +1.0
AHID Auburn Hatcher 67.56 331 ⇓*e*P P **14 22 21.2 -0.4**
comp=Z,193nm,1.0s,mb5.9
HVU Hansel Valley 67.63 329 ⇓*e*P P **14 22 21.7 -0.4**
HVU *e* pP 14 22 48.0 -1.4
MTUM Tungsten Hills 67.66 322 *e*P P **14 22 23.0 +0.6**
VNA2 Neumayer--Watz 67.73 161 ⇓*i*P P **14 22 23.5 +1.3**
VNA2 Neumayer--Watz 67.73 161 P **14 22 34.1 +12**
VNA2 Neumayer--Watz 67.73 161 PcP 14 22 48.9 +0.7
VNA2 Neumayer--Watz 67.73 161 pP 14 22 50.8 +1.2
VNA2 Neumayer--Watz 67.73 161 sP 14 23 03.3 +1.8
REDW Red Top Meadow 67.90 331 ⇓*e*P P **14 22 23.6 -0.1**
comp=Z,788nm,1.7s,mb6.3
SNOW Snow King Moun 67.93 331 ⇓*e*P P **14 22 23.9 0.0**
comp=Z,111nm,0.9s,mb5.7
LOHW Long Hollow 67.98 331 ⇓*i*P P **14 22 24.1 -0.1**
comp=Z,114nm,0.9s,mb5.7
LOHW *e*pP pP 14 22 51.8 +0.2
TPAW Teton Pass 68.04 331 ⇓*e*P P **14 22 24.6 0.0**
comp=Z,141nm,1.0s,mb5.8
TPAW *e*sP sP 14 23 05.5 +1.7
OMM Old Mammoth Mi 68.09 322 ⇓*i*P P **14 22 25.8 +0.8**
OMM *e*pP pP 14 22 53.7 +1.3
RRI2 Red Ridge 68.11 331 ⇓*i*P P **14 22 25.1 +0.1**
comp=Z,2µm,1.6s,mb6.7
RRI2 *e*pP pP 14 22 51.6 -0.8
ELK Elko 68.14 327 ⇓*e*P P **14 22 25.5 +0.3**
ELK *e* pP 14 22 50.2 -2.5
MOOW Moose Ponds 68.15 331 ⇓*e*P P **14 22 25.1 -0.2**
comp=Z,219nm,1.3s,mb5.8
MOOW *e*pP pP 14 22 53.2 +0.6
ULM Lac du Bonnet 68.32 344 P P **14 22 24.9 -1.3**
comp=Z,89nm,0.5s,mb5.8,baz=155,slow=6.1,SNR=102
ULM S S 14 31 14.2 -2.7
comp=Z,2.2nm,0.7s,baz=232,slow=20,SNR=2.6
ULM PKPPKP 14 50 40.5
comp=Z,1.5nm,0.4s,baz=288,slow=2.7,SNR=4.8
ULM Lac du Bonnet 68.32 344 ⇓*i*P P **14 22 24.7 -1.5**
comp=Z,165nm,0.6s,mb6.0
IMW Indian Meadow 68.35 331 ⇓*e*P P **14 22 26.6 +0.1**
comp=Z,495nm,1.3s,mb6.2
CHIE El Hierro 68.43 51 P P **14 22 26.5 -0.7**
comp=Z,38nm,1.2s,mb5.1
LRV Little Rabbit 68.55 320 *e*P P **14 22 28.3 +0.4**
LRV *e*pP pP 14 22 55.9 +0.6
LAO LASA Array 68.57 336 ⇓*i*P P **14 22 27.5 -0.3**
comp=Z,504nm,1.3s,mb6.2
LKWY Lake 68.62 332 P P **14 22 29.6 +1.4**
LKWY pmax pmax
comp=Z,1µm,1.7s,mb6.4
LKWY Lake 68.62 332 ⇓*i*P P **14 22 29.5 +1.3**
comp=Z,250nm,1.0s,mb6.0
YFT Old Faithful 68.73 332 ⇓*e*P P **14 22 30.3 +1.5**
YNR Norris Junctio 68.87 332 ⇓*e*P P **14 22 30.4 +0.8**
YMR Madison River 68.96 332 ⇓*i*P P **14 22 31.3 +1.1**
YMR *e*pP pP 14 22 59.1 +1.4
BMN Battle Mountai 68.99 325 P P **14 22 30.4 -0.1**
BMN pmax pmax
comp=Z,260nm,1.7s,mb5.8
BMN Battle Mountai 68.99 325 ⇓*e*P P **14 22 30.3 -0.2**
comp=Z,41nm,0.9s,mb5.3
SAO San Andreas Ge 69.03 320 P P **14 22 30.9 +0.1**
SAO pmax pmax
comp=Z,96nm,1.2s,mb5.5
SAO San Andreas Ge 69.03 320 *e*P P **14 22 30.0 -0.8**
comp=Z,204nm,2.0s,mb5.6
SAO *e*sP sP 14 23 09.9 -0.1
CMB Columbia Colle 69.20 322 ⇓*e*P P **14 22 31.8 0.0**
CMB pmax pmax
comp=Z,83nm,1.1s,mb5.5
CMB Columbia Colle 69.20 322 ⇓*e*P P **14 22 31.8 0.0**
comp=Z,83nm,1.1s,mb5.5
EGOM La Gomera 69.22 51 P P **14 22 30.4 -1.7**
comp=Z,80nm,1.1s,mb5.5
GCMT Greycliff 69.26 334 ⇓*e*P P **14 22 32.1 +0.1**
QLMT Earthquake Lak 69.30 332 *e*P P **14 22 33.2 +1.0**
DGMT Dagmar 69.30 338 ⇓*i*P P **14 22 32.8 +0.5**
comp=Z,386nm,0.8s,mb6.3
DGMT *e*pP pP 14 22 59.9 +0.2
DGMT *e*sP sP 14 23 14.8 +3.3
SNAA Sanae 69.35 161 ⇓*i*P P **14 22 31.1 -1.1**
SNAA Sanae 69.35 161 P **14 22 42.6 +10**
SNAA Sanae 69.35 161 PcP 14 22 58.5 +3.5
SNAA Sanae 69.35 161 pP 14 23 00.5 +0.8
SNAA Sanae 69.35 161 sP 14 23 10.7 -0.8
SNAA Sanae 69.35 161 *d*⇓*i*P P **14 22 31.4 -0.8**
CCAN Las Canadas 69.71 52 P P **14 22 34.1 -1.0**
comp=Z,24nm,0.8s,mb5.1
PAHR Pah Rah Range 69.71 323 ⇓*e*P P **14 22 35.9 +1.0**
comp=Z,199nm,0.9s,mb5.9
PAHR *e*pP pP 14 23 04.7 +2.2
MCMT McKenzie Canyo 69.95 331 ⇓*e*P P **14 22 37.0 +0.7**
BOZ Bozeman (W) 70.01 332 ⇓*i*P P **14 22 36.5 -0.1**
BOZ pmax pmax
comp=Z,281nm,1.3s,mb5.9
BOZ Bozeman (W) 70.01 332 ⇓*i*P P **14 22 36.5 -0.1**
comp=Z,282nm,1.3s,mb5.9
BOZ *e*sP sP 14 23 18.4 +2.5
SCHQ Schefferville 70.09 4 P P **14 22 36.2 -0.8**
comp=Z,85nm,0.9s,mb5.5,baz=182,slow=5.1,SNR=48
SCHQ pP pP 14 23 01.9 -2.6
comp=Z,38nm,0.9s,baz=218,slow=8.9,SNR=3.9
SCHQ S S 14 31 36.7 -0.9
comp=Z,3.0nm,0.9s,baz=209,slow=10,SNR=2.2
SCHQ LR LR 14 52 06.9
comp=Z,718nm,20.3s,baz=8.2,slow=35
SCHQ Schefferville 70.09 4 P P **14 22 36.2 -0.8**
SCHQ pP pP 14 23 01.9 -2.6
SCHQ S S 14 31 36.7 -0.9
SCHQ LR LR 14 52 06.9
SAC San Andreas 70.15 320 P P **14 22 38.7 +1.1**
SAC San Andreas 70.15 320 *e*P P **14 22 38.1 +0.5**
BEKR Beckwourth 70.38 323 ⇓*i*P P **14 22 39.9 +0.9**
comp=Z,144nm,1.1s,mb5.7
BEKR *e*pP pP 14 23 08.7 +2.2
EOSO Osorio 70.43 52 P P **14 22 38.1 -1.4**
comp=Z,116nm,1.8s,mb5.4
NSHM Saint Helena R 70.85 321 *e*P P **14 22 40.0 +0.2**
HRY Holter Researc 70.92 333 ⇓*i*P P **14 22 42.3 +0.3**
DBIC Dimbokro 71.00 77 P P **14 22 41.5 -1.6**
DBIC S S 14 31 42.7 -6.1
DBIC Dimbokro 71.00 77 ⇓*e*P P **14 22 41.7 -1.4**
DBIC *e**PP pP 14 23 09.0 -1.8
DBIC pmax pmax
comp=Z,84nm,0.9s
DBIC Dimbokro 71.00 77 P P **14 22 41.5 -1.6**
comp=Z,62nm,0.9s,mb5.4,baz=227,slow=6.3,SNR=33
DBIC pP pP 14 23 08.9 -1.8
comp=Z,41nm,0.8s,baz=238,slow=4.9,SNR=4.5
DBIC S S 14 31 45.5 -3.2
comp=Z,7.0nm,1.1s,baz=336,slow=18,SNR=3.8
DBIC LR LR 14 52 03.4
comp=Z,2µm,19.8s,baz=230,slow=34
DBIC Dimbokro 71.00 77 ⇓*e*P P **14 22 41.6 -1.5**
comp=Z,84nm,0.9s,mb5.6
DBIC *e*pP pP 14 23 09.0 -1.8
WVOR Wild Horse Val 71.14 326 ⇓*e*P P **14 22 43.5 0.0**
WVOR pmax pmax
comp=Z,305nm,1.7s,mb5.8
WVOR Wild Horse Val 71.14 326 ⇓*e*P P **14 22 43.5 +0.1**
comp=Z,305nm,1.7s,mb5.8
HOPS Hopland 71.43 321 *e*P P **14 22 45.8 +0.5**
comp=Z,112nm,1.2s,mb5.6

CHMT Chamberlain Mo 71.71 332⇓ *e*P P **14 22 47.1 +0.4**
CFTV Fuerteventura 71.72 53 P P **14 22 46.3 -0.9**
comp=Z,13nm,1.0s,mb4.7
TBI Tubuai 71.81 250 *e*S S 14 32 00.4 +2.5
comp=Z,2μm,26.5s
TBI *e*LR LR 14 44 44.9
comp=Z,3μm,33.5s
MSO Missoula 71.95 332⇓ *i*P P **14 22 48.8 +0.5**
comp=Z,238nm,1.3s,mb5.9
WDC Whiskeytown Da 72.11 323⇓ *i*P P **14 22 48.1 -1.2**
WDC pmax pmax
comp=Z,37nm,0.6s,mb5.4
WDC Whiskeytown Da 72.11 323⇓ *i*P P **14 22 48.0 -1.2**
comp=Z,37nm,0.6s,mb5.4
BMO Blue Mountains 72.13 329⇓ *e*P P **14 22 49.3 0.0**
comp=Z,99nm,0.9s,mb5.6
BMO *e*pP pP 14 23 17.3 +0.3
KCPM Cahto Peak 72.17 321 *e*P P **14 22 48.6 -1.0**
KIPM Iron Peak 72.19 321 *e*P P **14 22 50.7 +1.0**
EFAM Famara 72.50 52 P P **14 22 50.7 -1.0**
comp=Z,73nm,1.1s,mb5.4
PPT Papeete 72.94 256 *e*S S 14 32 12.5 +1.7
comp=Z,3μm,26.2s
PPT *e*LQ 14 42 23.6
PPT *e*LR LR 14 45 06.4
comp=Z,3μm,31.5s
PPT Papeete 72.94 256 P P **14 22 56.0 +1.5**
comp=Z,121nm,1.2s,mb5.6,baz=119,slow=5.3,SNR=7.5
PPT LR LR 14 46 17.6
comp=Z,739nm,19.8s,baz=99,slow=28
YBH Yreka Blue Hor 72.95 323 *e*P P **14 22 53.2 -1.0**
YBH pmax pmax
comp=Z,60nm,0.8s
YBH Yreka Blue Hor 72.95 323 *e*P P **14 22 53.2 -1.0**
comp=Z,60nm,0.8s,mb5.5
KHMM Horse Mountain 73.00 322⇓ *e*P P **14 22 55.5 +1.0**
KHMM *e*pP pP 14 23 23.9 +1.6
KTRM Thompson Ridge 73.44 323 P P **14 22 58.0 +0.9**
KRMB Red Mountain 73.51 323 *e*P P **14 22 58.1 +0.6**
KRMB *e*pP pP 14 23 27.3 +2.0
VIPM Ingram Point 73.61 327 P P **14 22 59.2 +1.2**
WALA Waterton Lakes 73.62 333⇓ *i*P P **14 22 58.4 +0.4**
comp=Z,161nm,1.0s,mb5.7
MAIT Maitri 73.92 160⇓ *i*P P **14 22 59.6 +0.3**
NVL N'lazarevskaya 73.95 160⇑ *i*P P **14 22 56.8 -2.7**
NVL *i* 14 23 13.1
NVL *i*S S 14 32 19.0 -2.1
NVL *e* 14 33 01.4
NVL pmax pmax
comp=Z,47nm,1.4s,mb5.0
NVL MLR MLR
comp=Z,20nm,15.6s
WIFE Three Sisters- 73.95 326 P P **14 23 01.1 +1.1**
FFC Flin Flon 73.99 343⇓ *e*P P **14 22 59.1 -0.9**
FFC *e* 14 23 13.5
FFC *e**PP pP 14 23 25.5 -2.4
FFC pmax pmax
comp=Z,126nm,1.0s,mb5.6
FFC Flin Flon 73.99 343⇓ *e*P P **14 22 59.1 -0.9**
comp=Z,126nm,1.0s,mb5.6
FFC *e*PcP PcP 14 23 13.5 -1.4
FFC *e*pP pP 14 23 25.5 -2.4
KBO Bosley Butte 74.13 323 *e*P P **14 23 00.9 -0.1**
BROR Big Rock Looko 74.44 326 P P **14 23 03.0 +0.3**
NEW Newport 74.47 331⇓ *e*P P **14 23 02.8 -0.1**
NEW *e**PP pP 14 23 27.6 -3.2
NEW pmax pmax
comp=Z,135nm,1.4s
NEW Newport 74.47 331⇓ *e*P P **14 23 02.8 -0.1**
comp=Z,135nm,1.4s,mb5.5
NEW *e*pP pP 14 23 27.6 -3.2
KEBM Edson Butte 74.60 323⇓ *e*P P **14 23 04.9 +1.2**
KEBM *e*pP pP 14 23 34.4 +2.7
OD2 Odessa Site #2 74.61 330 P P **14 23 04.5 +0.8**
EUO Eugene 74.62 325 P P **14 23 04.2 +0.4**
QSPA South Pole Qui 74.82 180 P P **14 23 04.8 +0.5**
COR Corvallis 75.11 325 P P **14 23 07.8 +1.2**
COR pmax pmax
comp=Z,1μm,1.7s,mb6.4
COR Corvallis 75.11 325 *e*P P **14 23 07.2 +0.7**
comp=Z,284nm,1.0s,mb6.0
COR *e*pP pP 14 23 36.7 +2.1
LON Longmire 75.72 328 P P **14 23 10.4 +0.4**
EDM Edmonton 76.56 336⇓ *i*P P **14 23 14.1 -0.5**
EDM *e**PP pP 14 23 41.6 -1.0
EDM *e**SP sP 14 23 51.0 -3.5
SQM Sequim 77.23 328 P P **14 23 20.2 +1.7**
OCWA Octopus Mounta 77.60 327⇓ *e*P P **14 23 22.0 +1.5**
comp=Z,536nm,1.5s,mb6.0
OCWA *e*pP pP 14 23 49.4 +0.8
PGC Sidney 77.81 328⇓ *e*P P **14 23 22.7 +1.1**
comp=Z,450nm,1.1s,mb6.1
PTEO Sao Teotonio 80.06 47 *e*P P **14 23 35.3 +1.2**
comp=Z,228nm,1.6s,mb5.8
PTEO *e*pP pP 14 24 02.8 +0.5
LIS Lisbon 80.32 45 *e*P P **14 23 34.2 -1.2**
LIS *e*S S 14 33 27.0 -3.4
LIS *e*S S 14 33 27.0 -3.4
LIS AMS AMS 14 57 52.2
comp=Z,2μm,18.9s
PLOU Loures 80.39 45 *e*P P **14 23 37.1 +1.2**
comp=Z,86nm,0.8s,mb5.6
PLOU *e*pP pP 14 24 04.9 +0.8
PBEJ Beja 80.88 47 *e*P P **14 23 39.5 +1.0**
comp=Z,61nm,1.6s,mb5.2
PBEJ *e*pP pP 14 24 06.9 +0.2
EGRO El Granado 80.93 47 P P **14 23 38.9 +0.1**
comp=Z,88nm,1.3s,mb5.4
EVO Evora 81.02 46 *e*P P **14 23 38.4 -0.7**
comp=Z,132nm,1.2s,mb5.3
EVO *e*R
comp=Z,1μm,21.2s
SBA Scott Base 81.13 191⇓ *i*P P **14 23 40.2 +1.2**
SBA pmax pmax
comp=Z,314nm,1.4s,mb6.0
SBA Scott Base 81.13 191⇓ *i*P P **14 23 40.2 +1.2**
comp=Z,314nm,1.4s,mb6.0
PTOM Tomar 81.25 45 *e*P P **14 23 41.3 +1.0**
comp=Z,71nm,1.0s,mb5.5
PTOM *e*pP pP 14 24 08.8 +0.2
SFS San Fernando 81.36 49 P P **14 23 42.4 +1.4**
EMIN Mina Concepcio 81.61 47 P P **14 23 42.0 -0.3**
comp=Z,86nm,1.3s,mb5.4
ESPR Espera 81.79 48 P P **14 23 43.5 +0.3**
comp=Z,81nm,1.1s,mb5.5
EBAD Badajoz 81.81 46 P P **14 23 42.9 -0.4**
comp=Z,71nm,1.7s,mb5.2
PCBR Castelo Branco 81.99 45 *e*P P **14 23 45.1 +0.9**
comp=Z,65nm,1.4s,mb5.3
PCBR *e*pP pP 14 24 11.9 -0.6
VNDA Vanda 82.19 190 P P **14 23 45.6 +1.1**
VNDA SKSac 14 33 56.2
VNDA Vanda 82.19 190 P P **14 23 45.5 +1.0**
comp=Z,80nm,1.1s,mb5.5,baz=129,slow=4.7,SNR=230
VNDA S S 14 33 54.2 +5.4
comp=Z,0.4nm,0.9s,baz=307,slow=15,SNR=5.8
VNDA PKKPbc 14 42 10.1
comp=Z,1.7nm,1.0s,baz=249,slow=3.8,SNR=6.2
VNDA LR LR 14 55 02.4
comp=Z,601nm,18.2s,baz=123,slow=32
VNDA Vanda 82.19 190⇓ *e*P P **14 23 45.2 +0.7**
comp=Z,190nm,1.3s,mb5.8
MTE Manteigas 82.20 45 *e*P P **14 23 45.5 +0.2**
comp=Z,93nm,1.5s,mb5.4
MTE *e*pP pP 14 24 12.3 -1.3
EZAM Zamans 82.26 43 P P **14 23 46.2 +0.7**
EZAM pmax pmax
comp=Z,50nm,1.2s,mb5.2
EZAM Zamans 82.26 43 P P **14 23 46.2 +0.7**
comp=Z,50nm,1.2s,mb5.2
BBB Bella Bella 82.35 329 P P **14 23 46.7 +1.0**
comp=Z,98nm,1.0s,mb5.6,baz=145,slow=4.0,SNR=57
BBB pP pP 14 24 14.8 +0.7
comp=Z,66nm,0.9s,baz=119,slow=5.5,SNR=5.6
BBB Bella Bella 82.35 329 P P **14 23 46.7 +1.0**
BBB pP pP 14 24 14.8 +0.7
EMIJ Mijas 82.45 49 P P **14 23 46.5 -0.1**
comp=Z,17nm,0.7s,mb5.0
EMAZ Mazaricos 82.46 42 P P **14 23 46.1 -0.5**
comp=Z,164nm,1.6s,mb5.6
PVRL Vila Real 82.49 44 *e*P P **14 23 47.9 +1.2**
comp=Z,112nm,1.8s,mb5.4
PVRL *e*pP pP 14 24 16.0 +0.9
ELOB Lobios 82.54 43 P P **14 23 47.3 +0.4**
comp=Z,222nm,1.7s,mb5.7

ECAB El Cabril 82.63 47 P P **14 23 47.1 -0.4**
comp=Z,144nm,1.9s,mb5.5
STS Santiago 82.71 42 P P **14 23 48.5 +0.7**
STS pmax pmax
comp=Z,46nm,0.9s,mb5.3
STS Santiago 82.71 42 P P **14 23 48.5 +0.7**
comp=Z,46nm,0.9s,mb5.3
ELUQ Luque 83.23 48 P P **14 23 51.8 +1.2**
ELUQ pmax pmax
comp=Z,163nm,1.4s,mb5.7
ELUQ Luque 83.23 48 P P **14 23 51.8 +1.2**
comp=Z,163nm,1.4s,mb5.7
EADA Adamuz 83.27 48 P P **14 23 50.5 -0.2**
comp=Z,182nm,1.6s,mb5.7
PBRG Braganca 83.39 44 *e*P P **14 23 51.9 +0.7**
comp=Z,212nm,1.6s,mb5.7
PBRG *e*pP pP 14 24 19.7 +0.1
ECAL Calabor 83.45 43 P P **14 23 51.3 -0.2**
comp=Z,283nm,1.4s,mb5.9
EALB Alboran 83.46 50 P P **14 23 50.8 -0.9**
comp=Z,330nm,1.3s,mb6.0
SYO Syowa Base 83.61 160⇑ P P **14 23 50.4 -1.3**
SYO Syowa Base 83.61 160⇓ PcP PcP 14 23 54.1 -2.0
SFJD Kangerlussuaq 83.75 9 *i*P P **14 23 51.5 -1.0**
SFJD *i*S S 14 33 59.7 -5.0
SFJD pmax pmax
comp=Z,56nm,1.0s,mb5.3
SFJD Kangerlussuaq 83.75 9 *i*P P **14 23 51.5 -1.0**
comp=Z,56nm,1.0s,mb5.3
SFJD *i*S S 14 33 59.7 -5.0
SFJD *i* 14 45 29.9
SFJD *i* 14 50 33.2
EPON Pontenova 83.82 42 P P **14 23 52.4 -1.0**
comp=Z,304nm,1.6s,mb5.9
EBAN Banos Encina 83.83 48 P P **14 23 54.3 +0.7**
EBAN pmax pmax
comp=Z,67nm,1.1s,mb5.4
EBAN Banos Encina 83.83 48 P P **14 23 54.3 +0.7**
comp=Z,67nm,1.1s,mb5.4
EBER Berja 83.96 49 P P **14 23 53.8 -0.4**
comp=Z,202nm,1.4s,mb5.8
YKA Yellowknife Ar 84.12 342 P P **14 23 54.4 0.0**
comp=Z,167nm,0.8s,mb5.9,baz=136,slow=5.1,SNR=536
YKA PKKPbc 14 42 08.2
comp=Z,0.4nm,0.4s,baz=306,slow=2.5,SNR=4.8
YKA Yellowknife Ar 84.12 342 P P **14 23 54.4 0.0**
YKA PKKPbc 14 42 08.2
YKW3 Yellowknife Ar 84.17 342⇓ *i*P P **14 23 54.6 -0.1**
EQES Quesada 84.20 48 P P **14 23 55.3 -0.1**
comp=Z,210nm,1.5s,mb5.8
ESDC Sonseca Array 84.34 46 P P **14 23 57.2 +1.1**
comp=Z,49nm,0.8s,mb5.4,baz=250,slow=5.3,SNR=136
ESDC pP pP 14 24 24.9 +0.3
comp=Z,28nm,0.8s,baz=248,slow=5.1,SNR=6.3
ESDC S S 14 34 11.1 -0.1
comp=Z,0.2nm,0.3s,baz=300,slow=21,SNR=2.1
ESDC Sonseca Array 84.34 46 P P **14 23 56.9 +0.8**
comp=Z,130nm,1.1s,mb5.7
ESLA Sonseca Array 84.34 46⇓ *i*P P **14 23 57.0 +1.0**
comp=Z,74nm,1.3s,mb5.4
ESLA *e*pP pP 14 24 24.9 +0.4
ENIJ Nijar 84.49 49 P P **14 23 56.9 0.0**
ENIJ pmax pmax
comp=Z,22nm,1.5s,mb4.8
ENIJ Nijar 84.49 49 P P **14 23 56.9 0.0**
comp=Z,22nm,1.5s,mb4.8
EHUE Huescar 84.55 49 P P **14 23 57.2 0.0**
EHUE pmax pmax
comp=Z,212nm,1.6s,mb5.8
EHUE Huescar 84.55 49 P P **14 23 57.2 +0.1**
comp=Z,212nm,1.6s,mb5.8
EVIA Vianos 84.95 48 P P **14 24 00.0 +0.9**
EVIA pmax pmax
comp=Z,106nm,1.0s,mb5.7
EVIA Vianos 84.95 48 P P **14 23 60.0 +0.8**
comp=Z,106nm,1.0s,mb5.7
EARI Arriondas 85.07 43 P P **14 23 59.5 -0.2**
comp=Z,125nm,1.8s,mb5.5
SUR Sutherland 85.12 122 *e*P P **14 24 00.4 +0.3**
comp=Z,190nm,1.3s,mb5.9
EMUR La Murta 85.54 49 P P **14 24 01.0 -1.1**
comp=Z,63nm,1.3s,mb5.4
ETOB Tobarra 85.64 48 P P **14 24 02.2 -0.3**
comp=Z,172nm,1.6s,mb5.7
VAL Valentia 86.19 33 *e*P P **14 24 05.3 +0.4**
VAL Valentia 86.19 33 *e*P pP 14 24 31.4 -2.1
ELAN Lanestosa 86.21 43 P P **14 24 04.7 -0.5**
comp=Z,108nm,1.4s,mb5.6
ECHE Chera 86.42 47 P P **14 24 07.4 +1.1**
ECHE pmax pmax
comp=Z,27nm,1.1s,mb5.1
ECHE Chera 86.42 47 P P **14 24 07.4 +1.0**
comp=Z,27nm,1.1s,mb5.1
ETRT Tiaret 86.50 52 P P **14 24 09.0 +2.2**
EANR 'Ain N'Sour 86.56 51 P P **14 24 09.0 +1.9**
ECRI Cripan 86.57 44 P P **14 24 07.6 +0.6**
ECRI pmax pmax
comp=Z,40nm,1.0s,mb5.3
ECRI Cripan 86.57 44 P P **14 24 07.6 +0.6**
comp=Z,40nm,1.0s,mb5.3
CRAG Craig 86.67 330 *e*P P **14 24 07.9 +0.8**
comp=Z,445nm,1.8s,mb6.1
ECHA Echi Chlef 86.83 51 P P **14 24 09.5 +1.1**
DLBC Dease Lake 86.96 334⇓ *i*P P **14 24 09.8 +1.3**
DLBC *e*pP pP 14 24 37.6 +0.5
EBNR Beni Rached 87.01 51 P P **14 24 10.0 +0.7**
EMOS Mosqueruela 87.08 47 P P **14 24 10.3 +0.8**
comp=Z,88nm,1.2s,mb5.6
EALK Alkurruntz 87.49 44 P P **14 24 11.7 +0.3**
comp=Z,100nm,1.8s,mb5.5
ESAC San Caprasio 87.60 46 P P **14 24 12.1 +0.1**
comp=Z,220nm,1.5s,mb6.0
SJPF Ste Jean 87.64 44 *e*P P **14 24 12.6 +0.5**
comp=Z,192nm,1.4s,mb5.6
SJPF Ste Jean 87.64 44 *e*P P **14 24 12.6 +0.5**
SJPF pmax pmax
comp=Z,96nm,1.4s,mb5.6
LARF Larrau 87.77 44 *e*P P **14 24 13.5 +0.8**
EIBI Ibiza 87.87 49 P P **14 24 14.4 +1.0**
comp=Z,66nm,1.6s,mb5.4
EBR Ebro Roquetas 87.93 47 *e*P P **14 24 14.7 +1.1**
ETSF Etsaut 88.00 45 *e*P P **14 24 14.4 +0.5**
comp=Z,100nm,1.3s,mb5.4
ETSF Etsaut 88.00 45 *e*P P **14 24 14.4 +0.5**
ETSF pmax pmax
comp=Z,50nm,1.3s,mb5.4
EMHD Djebel Mahouad 88.05 52 P P **14 24 15.0 +0.7**
REYF Montagne du Re 88.18 44 *e*P P **14 24 15.2 +0.5**
EGRA Graus 88.33 45 P P **14 24 16.7 +1.2**
comp=Z,93nm,1.0s,mb5.8
QUIF Quistinic 88.36 39 *e*P P **14 24 15.1 -0.3**
VIEF Viey 88.39 45 *e*P P **14 24 16.4 +0.7**
DCN Croghan 88.46 33 *e*P P **14 24 15.4 -0.4**
ROSF Rostrenen 88.47 39 *e*P P **14 24 15.8 -0.2**
comp=Z,249nm,1.5s,mb5.7
ROSF Rostrenen 88.47 39 *e*P P **14 24 15.8 -0.2**
ROSF pmax pmax
comp=Z,125nm,1.5s,mb5.7
LABF Labassere 88.48 45 *e*P P **14 24 16.9 +0.7**
EPOB Poblet 88.54 46 P P **14 24 15.5 -0.9**
comp=Z,102nm,1.3s,mb5.7
RESF Ens 88.57 45 *e*P P **14 24 17.3 +0.7**
EPF Esparros 88.66 45 *e*P P **14 24 17.5 +0.5**
comp=Z,260nm,1.5s,mb5.7
EPF Esparros 88.66 45 *e*P P **14 24 17.5 +0.5**
EPF pmax pmax
comp=Z,130nm,1.5s,mb5.7
DLF Lyons Farm 88.83 33 *e*P P **14 24 17.2 -0.3**
SGMF Saint Gilles 88.87 39 *e*P P **14 24 17.6 -0.2**
MELF Melles 88.89 45 *e*P P **14 24 18.8 +0.8**
EMIR Miracle 89.06 46 P P **14 24 18.6 -0.2**
comp=Z,131nm,1.3s,mb5.8
SALF Salau 89.14 45 *e*P P **14 24 20.0 +0.8**
MLS Moulis 89.14 45 *e*P P **14 24 19.2 -0.1**
ETOS Mallorca 89.20 48 P P **14 24 19.8 +0.3**
comp=Z,104nm,1.9s,mb5.5
HEX Exmoor 89.33 36 *e*P P **14 24 19.9 0.0**
LCHF La Chataignera 89.36 41 *e*P P **14 24 20.4 +0.2**
VALF Valcebollere 89.57 46 *e*P P **14 24 22.0 +0.7**
LFF La Frestale 89.65 43 *e*P P **14 24 21.6 0.0**
comp=Z,254nm,1.1s,mb6.0
LFF La Frestale 89.65 43 *e*P P **14 24 21.6 0.0**
LFF pmax pmax
comp=Z,127nm,1.1s,mb6.0
MFF Saint Martin d 89.71 41 *e*P P **14 24 21.5 -0.3**
comp=Z,224nm,1.4s,mb5.8

MFF *e*pP pP 14 24 48.7 -2.0
MFF Saint Martin d 89.71 41 *e*P P **14 24 21.5 -0.3**
MFF *e**PP pP 14 24 48.7 -2.0
MFF pmax pmax
comp=Z,112nm,1.4s,mb5.8
BOSA Boshof 89.85 120 P P **14 24 22.8 -0.1**
BOSA Boshof 89.85 120 *e*P P **14 24 22.2 -0.7**
BOSA *e**PP pP 14 24 49.6 -2.2
BOSA pmax pmax
comp=Z,127nm,1.4s,mb5.9
BOSA Boshof 89.85 120 P P **14 24 23.1 +0.2**
BOSA *PP pP 14 24 51.1 -0.7
BOSA pmax pmax
comp=Z,29nm,0.6s,mb5.6
BOSA pmax pmax
comp=Z,15nm,0.9s,mb5.1
BOSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
BOSA Boshof 89.85 120 P P **14 24 23.1 +0.1**
comp=Z,29nm,0.6s,mb5.6,baz=258,slow=4.6,SNR=60
BOSA pP pP 14 24 51.0 -0.7
comp=Z,15nm,0.9s,baz=218,slow=5.6,SNR=2.7
BOSA PKKPbc 14 41 54.9
comp=Z,3.7nm,0.6s,baz=157,slow=19,SNR=9.0
BOSA LR LR 15 00 27.9
comp=Z,497nm,20.4s,baz=258,slow=33
BOSA Boshof 89.85 120 *e*P P **14 24 22.2 -0.7**
comp=Z,127nm,1.4s,mb5.9
BOSA *e*pP pP 14 24 49.6 -2.2
GRR Gorron 89.96 39 *e*P P **14 24 22.6 -0.4**
comp=Z,93nm,1.1s,mb5.5
GRR Gorron 89.96 39 *e*P P **14 24 22.6 -0.4**
GRR pmax pmax
comp=Z,46nm,1.1s,mb5.5
FILF Fillols 90.01 46 *e*P P **14 24 23.7 +0.4**
MTLF Montolieu 90.05 45 *e*P P **14 24 23.2 -0.3**
comp=Z,187nm,1.4s,mb5.7
MTLF Montolieu 90.05 45 *e*P P **14 24 23.2 -0.3**
MTLF pmax pmax
comp=Z,94nm,1.4s,mb5.7
EJON La Jonquera 90.19 46 P P **14 24 24.1 -0.1**
comp=Z,79nm,1.3s,mb5.7
SJAF Saint Jean de 90.20 46 *e*P P **14 24 24.4 +0.2**
RJF Les Rejaudoux 90.30 43 *e*P P **14 24 24.3 -0.3**
comp=Z,194nm,1.3s,mb5.8
RJF *e*R
comp=Z,1μm,20.0s
FLN La Foliniere 90.34 39 *e*P P **14 24 24.4 -0.3**
comp=Z,101nm,1.2s,mb5.5
FLN *e*R
comp=Z,1μm,19.2s
CAF Calviac 90.52 43 *e*P P **14 24 25.5 -0.2**
comp=Z,142nm,1.2s,mb5.7
CAF *e*pP pP 14 24 52.8 -1.7
CAF Calviac 90.52 43 *e*P P **14 24 25.5 -0.2**
CAF *e**PP pP 14 24 52.8 -1.7
CAF pmax pmax
comp=Z,71nm,1.2s,mb5.7
SUMG Summit 90.65 10 *e*P P **14 24 26.9 +1.2**
comp=Z,442nm,1.0s,mb6.5
RES Resolute Bay 90.88 354 *e*P P **14 24 26.7 0.0**
RES pmax pmax
comp=Z,28nm,1.0s,mb5.3
RES Resolute Bay 90.88 354 *e*P P **14 24 26.7 0.0**
comp=Z,28nm,1.0s,mb5.3
VERF Verneugheol 91.09 43 *e*P P **14 24 28.3 0.0**
TCF Toulx Ste Croi 91.10 42 *e*P P **14 24 27.8 -0.6**
comp=Z,85nm,1.1s,mb5.5
TCF *e*pP pP 14 24 55.1 -2.2
TCF Toulx Ste Croi 91.10 42 *e*P P **14 24 27.8 -0.6**
TCF *e**PP pP 14 24 55.1 -2.2
TCF pmax pmax
comp=Z,42nm,1.1s,mb5.5
LBTB Lobatse 91.22 116 P P **14 24 30.3 +0.9**
LBTB pmax pmax
comp=Z,250nm,1.5s,mb6.1
LBTB Lobatse 91.22 116⇓ *e*P P **14 24 29.7 +0.3**
comp=Z,200nm,1.3s,mb6.1
LBTB *e*pP pP 14 24 58.1 -0.2
KWE Weaver Farm 91.25 35 *e*P P **14 24 28.9 0.0**
KWE AMb AMB 14 24 32.3
comp=Z,103nm,1.9s,mb5.6
MAW Mawson 91.31 165⇓ *i*P P **14 24 29.1 +0.3**
comp=Z,90nm,1.3s,mb5.7
MAW Mawson 91.31 165 P P **14 24 29.2 +0.4**
MAW *PP pP 14 24 57.2 -0.5
MAW pmax pmax
comp=Z,81nm,1.0s
MAW pmax pmax
comp=Z,21nm,0.9s
MAW pmax pmax
comp=Z,2.0nm,0.7s
MAW Mawson 91.31 165 P P **14 24 29.2 +0.4**
comp=Z,81nm,1.0s,mb5.8,baz=216,slow=5.7,SNR=118
MAW pP pP 14 24 57.2 -0.6
comp=Z,21nm,0.9s,baz=196,slow=2.5,SNR=3.1
MAW PKKPbc 14 41 49.3
comp=Z,2.1nm,0.7s,baz=10,slow=4.5,SNR=6.5
MAW LR LR 15 03 40.5
comp=Z,482nm,21.4s,baz=224,slow=34
LASF Ste Croix 91.42 45 *e*P P **14 24 30.1 +0.2**
comp=Z,119nm,1.4s,mb5.5
LHO Holmfirth 91.46 34 *e*P P **14 24 29.8 0.0**
ECK Cauldkaine Hil 91.46 33 *e*P P **14 24 29.1 -0.7**
ECK AMb AMB 14 24 31.8
comp=Z,93nm,1.9s,mb5.6
ESK Eskdalemuir 91.47 32 P P **14 24 29.7 -0.2**
ESK pmax pmax
comp=Z,21nm,1.1s,mb5.2
ESK Eskdalemuir 91.47 32 *e*P P **14 24 28.3 -1.6**
comp=Z,28nm,1.0s,mb5.3
ESK Eskdalemuir 91.47 32 *e*P P **14 24 29.2 -0.7**
EKA Eskdalemuir Ar 91.50 32 PKKPbc 14 41 51.0
comp=Z,0.9nm,0.5s,baz=153,slow=1.9,SNR=4.9
EAU Auchinoon 91.58 32 *e*P P **14 24 29.5 -0.8**
EAU AMb AMB 14 24 32.8
comp=Z,95nm,1.7s,mb5.8
BGF Bois d'Agland 91.61 42 *e*P P **14 24 30.3 -0.4**
comp=Z,168nm,1.1s,mb5.9
BGF Bois d'Agland 91.61 42 *e*P P **14 24 30.3 -0.4**
BGF pmax pmax
comp=Z,84nm,1.0s,mb5.9
AGO Saint Agoulin 91.62 43 *e*P P **14 24 31.7 +0.9**
HYF Humbligny 91.73 41 *e*P P **14 24 31.0 -0.2**
COLF Collangettes 91.81 43 *e*P P **14 24 31.9 +0.3**
PLDF La Plantade 91.91 43 *e*P P **14 24 33.1 +1.0**
AVF Avril sur Loir 92.02 42 *e*P P **14 24 31.8 -0.8**
comp=Z,112nm,1.3s,mb5.6
AVF Avril sur Loir 92.02 42 *e*P P **14 24 31.8 -0.8**
AVF pmax pmax
comp=Z,56nm,1.3s,mb5.6
SSF Saint Saulge 92.21 42 *e*P P **14 24 32.6 -0.8**
VIVF Saint-Julien-l 92.23 44 *e*P P **14 24 33.8 +0.2**
comp=Z,186nm,1.5s,mb5.8
VIVF Saint-Julien-l 92.23 44 *e*P P **14 24 33.8 +0.2**
VIVF pmax pmax
comp=Z,93nm,1.5s,mb5.8
SMF Signal de Mont 92.28 42 *e*P P **14 24 33.4 -0.4**
comp=Z,185nm,1.2s,mb5.9
SMF Signal de Mont 92.28 42 *e*P P **14 24 33.4 -0.4**
SMF pmax pmax
comp=Z,93nm,1.2s,mb5.9
LOR Lormes 92.51 42 *e*P P **14 24 34.0 -0.8**
comp=Z,132nm,1.6s,mb5.7
LOR *e*R
comp=Z,773nm,20.0s
SCO Scoresbysund 92.52 15 *i*P P **14 24 34.9 +0.6**
SCO *i* pP 14 25 02.0 -1.3
SMRF Simiane la Rot 92.56 45 *e*P P **14 24 35.6 +0.5**
comp=Z,202nm,1.5s,mb5.9
LMR La Mourre 93.00 46 *e*P P **14 24 36.8 -0.3**
comp=Z,173nm,1.3s,mb5.9
LMR La Mourre 93.00 46 *e*P P **14 24 36.8 -0.3**
LMR pmax pmax
comp=Z,86nm,1.3s,mb5.9
ORIF Oris-en-Rattie 93.06 44 *e*P P **14 24 38.0 +0.6**
comp=Z,191nm,1.4s,mb6.0
ORIF *e*R
comp=Z,2μm,21.8s
FRF La Foret Royal 93.16 46 *e*P P **14 24 37.8 -0.1**
comp=Z,251nm,1.6s,mb6.0
FRF *e*pP pP 14 25 03.7 -3.1
FRF La Foret Royal 93.16 46 *e*P P **14 24 37.8 -0.1**
FRF *e**PP pP 14 25 03.7 -3.1
FRF pmax pmax
comp=Z,126nm,1.6s,mb6.0

CALN Calern 93.39 46 *e*P P **14 24 39.7 +0.8**
MBDF Montbardon 93.61 45 *e*P P **14 24 40.5 +0.6**
comp=Z,103nm,1.4s,mb5.7
MBDF Montbardon 93.61 45 *e*P P **14 24 40.5 +0.6**
MBDF pmax pmax
comp=Z,51nm,1.4s,mb5.7
MVIF Mont Vial 93.61 46 *e*P P **14 24 40.7 +0.8**
BNI Bardonecchia 93.64 44 *e*P P **14 24 41.2 +1.2**
BNI pmax pmax
comp=Z,79nm,1.9s,mb5.7
BNI Bardonecchia 93.64 44 *e*P P **14 24 41.2 +1.1**
comp=Z,80nm,1.9s,mb5.7
BAIF Baives 93.67 39 *e*P P **14 24 39.7 -0.3**
MEZF Maizieres J'vi 93.67 41 *e*P P **14 24 39.9 -0.2**
REVF Revere 93.72 46 *e*P P **14 24 40.8 +0.4**
TOUF Mont Tournerai 93.72 45 *e*P P **14 24 40.9 +0.5**
CABF La Chapelle 93.74 43 *e*P P **14 24 39.8 -0.6**
comp=Z,134nm,1.4s,mb5.8
CABF *e*pP pP 14 25 09.9 +0.5
CABF La Chapelle 93.74 43 *e*P P **14 24 39.8 -0.6**
CABF *e**PP pP 14 25 09.9 +0.5
CABF pmax pmax
comp=Z,67nm,1.4s,mb5.8
DAWY Dawson 93.77 336⇓*i*P P **14 24 40.2 +0.1**
SBF Sospel 93.80 46 *e*P P **14 24 41.0 +0.2**
comp=Z,278nm,1.6s,mb6.0
SBF Sospel 93.80 46 *e*P P **14 24 41.0 +0.2**
SBF pmax pmax
comp=Z,139nm,1.6s,mb6.0
LPL La Plagne 93.82 44 *e*P P **14 24 41.4 +0.6**
comp=Z,147nm,1.3s,mb5.8
LPL La Plagne 93.82 44 *e*P P **14 24 41.4 +0.6**
LPL pmax pmax
comp=Z,74nm,1.3s,mb5.9
LPG La Plagne 93.83 44 *e*P P **14 24 41.9 +1.1**
comp=Z,141nm,1.3s,mb5.8
LPG La Plagne 93.83 44 *e*P P **14 24 41.9 +1.1**
LPG pmax pmax
comp=Z,71nm,1.3s,mb5.8
AUTN L'Aution 93.83 46 *e*P P **14 24 41.4 +0.5**
INK Inuvik 93.85 341 P P **14 24 40.4 0.0**
INK pmax pmax
comp=Z,150nm,1.1s
INK Inuvik 93.85 341⇓*e*P P **14 24 40.3 -0.1**
comp=Z,121nm,1.0s,mb6.2
INK *e*pP pP 14 25 07.1 -2.2
SAOF Saorge 93.92 46 *e*P P **14 24 41.5 +0.2**
GIVF Givet 94.05 39 *e*P P **14 24 41.8 +0.1**
comp=Z,280nm,1.4s,mb6.1
GIVF Givet 94.05 39 *e*P P **14 24 41.8 +0.1**
GIVF pmax pmax
comp=Z,140nm,1.4s,mb6.1
THEF They Montfort 94.18 41 *e*P P **14 24 42.2 -0.1**
HAU Haudompre 94.34 41 *e*P P **14 24 42.6 -0.5**
HAU *e*R
comp=Z,705nm,20.0s
LOMF Lomont 94.45 42 *e*P P **14 24 42.8 -0.8**
PGF Pioggiola 94.51 47 *e*P P **14 24 44.0 0.0**
comp=Z,133nm,1.7s,mb5.8
PGF Pioggiola 94.51 47 *e*P P **14 24 44.0 0.0**
PGF pmax pmax
comp=Z,67nm,1.7s,mb5.8
AFI Afiamalu 94.54 254 P P **14 24 47.0 +2.3**
comp=Z,20nm,0.8s,mb5.6,baz=25,slow=9.6,SNR=3.6
HINF Hinteralfeld 94.61 42 *e*P P **14 24 43.7 -0.6**
DRV Dumont d'Urvil 94.64 193 S S 14 35 36.0 -8.4
WLF Walferdange 94.73 40 *e*P P **14 24 45.5 +0.7**
WLF pmax pmax
comp=Z,80nm,1.1s,mb6.1
WLF Walferdange 94.73 40 *e*P P **14 24 45.5 +0.7**
comp=Z,80nm,1.1s,mb6.1
MOF Molkenrain 94.80 42 *e*P P **14 24 45.1 -0.1**
ECH Echery 94.92 41 *e*P P **14 24 45.8 0.0**
BBS Basel-Blauen 94.92 42 *e*P P **14 24 45.8 0.0**
HGN Heimansgroeve 94.94 39⇓*e*P P **14 24 45.8 0.0**
HGN *ex* x 14 25 13.1
CDF Champ du Feu 95.06 41 *e*P P **14 24 46.1 -0.3**
comp=Z,127nm,1.4s,mb5.8
CDF Champ du Feu 95.06 41 *e*P P **14 24 46.1 -0.3**
CDF pmax pmax
comp=Z,64nm,1.4s,mb5.9
WLS Welschbruch 95.10 41 *e*P P **14 24 46.5 -0.1**
MATP Matopo 95.17 113 PKKPbc 14 41 42.4
comp=Z,3.7nm,0.8s,baz=85,slow=8.2,SNR=5.7
LIBD Limburg 95.19 42 *e*P P **14 24 47.2 +0.2**
RUP Ruppelstein 95.30 40 *e*P P **14 24 48.0 +0.5**
FELD Feldberg 95.36 42 *e*P P **14 24 47.9 +0.1**
URZ Urewera 95.48 228 P P **14 24 49.8 +1.2**
comp=Z,17nm,1.1s,mb5.4,baz=91,slow=6.2,SNR=6.5
LANF Langenberg 95.56 41 *e*P P **14 24 48.8 +0.2**
ABH Aiburg 95.66 40 *e*P P **14 24 49.5 +0.4**
WTSB Winterswijk 95.82 38⇓*e*P P **14 24 49.8 0.0**
comp=Z,96nm,1.4s,mb6.0
WTSB *ex* x 14 25 17.1
KTD Kalmit 95.83 41 *e*P P **14 24 50.2 +0.4**
TOD Tromm 96.36 40 *e*P P **14 24 52.1 -0.1**
DAVA Damuels 96.42 43⇓*i*P P **14 24 53.2 +0.6**
comp=Z,121nm,1.6s,mb6.1
LSZ Lusaka 96.48 108 P P **14 24 55.2 +1.7**
LSZ pmax pmax
comp=Z,88nm,1.8s,mb5.9
LSZ Lusaka 96.48 108 *e*P P **14 24 54.8 +1.2**
comp=Z,24nm,1.2s,mb5.5
ILAR Eielson Array 97.03 335 P P **14 24 54.3 -0.7**
comp=Z,9.7nm,0.8s,mb5.3,baz=152,slow=3.6,SNR=71
ILAR pP pP 14 25 22.8 -1.1
comp=Z,4.0nm,0.7s,baz=124,slow=3.7,SNR=3.9
ILAR PP PP 14 28 48.5 -5.8
comp=Z,6.3nm,0.9s,baz=98,slow=6.7,SNR=11
SLKM Skilak Lake 97.03 331 P P **14 24 55.2 +0.1**
SLKM Skilak Lake 97.03 331 *e*P P **14 24 53.2 -1.9**
RPZ Rata Peaks 97.15 221 P P **14 24 57.5 +1.5**
comp=Z,4.9nm,1.0s,mb4.9,baz=222,slow=22,SNR=3.2
MOTA Moosalm 97.24 43⇑*i*P P **14 24 57.1 +0.8**
comp=Z,75nm,1.4s,mb5.9
MOTA Moosalm 97.24 43⇑*i*P P **14 24 57.1 +0.8**
MOTA pmax pmax
comp=Z,75nm,1.4s,mb5.9
DAG Danmarks Havn 97.27 11⇑*e*P P **14 24 55.7 -0.1**
DAG pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
DAG Danmarks Havn 97.27 11⇑*e*P P **14 24 55.7 -0.1**
comp=Z,6.7nm,0.9s,mb5.1
DAG Danmarks Havn 97.27 11⇑*i*P P **14 24 55.7 -0.1**
comp=Z,6.7nm,0.9s,mb5.1
SQTA Sankt Quirin 97.28 43⇑*i*P P **14 24 57.5 +1.0**
comp=Z,84nm,1.2s,mb6.0
SQTA Sankt Quirin 97.28 43⇑*i*P P **14 24 57.5 +1.0**
SQTA pmax pmax
comp=Z,84nm,1.2s,mb6.0
WATA Walderalm 97.55 43⇓*i*P P **14 24 58.3 +0.6**
comp=Z,68nm,1.4s,mb6.0
WATA Walderalm 97.55 43⇓*i*P P **14 24 58.3 +0.6**
WATA pmax pmax
comp=Z,68nm,1.4s,mb6.0
WTTA Wattenberg 97.57 43⇑*i*P P **14 24 58.5 +0.7**
comp=Z,261nm,1.7s,mb6.5
WTTA Wattenberg 97.57 43⇑*i*P P **14 24 58.5 +0.7**
WTTA pmax pmax
comp=Z,261nm,1.7s,mb6.5
GRA1 Grafenberg Arr 97.90 41 *e*P P **14 24 59.8 +0.6**
comp=Z,58nm,1.2s,mb6.0
GRA1 *e*pP pP 14 25 27.9 -0.3
GRF Grafenberg Arr 97.90 41 *e*P P **14 24 59.8 +0.6**
GRF *e**PP pP 14 25 27.9 -0.3
GRF pmax pmax
comp=Z,58nm,1.2s,mb6.0
GRF Grafenberg Arr 97.90 41 *e*P P **14 24 59.8 +0.6**
GRF *e**PP pP 14 25 27.9 -0.3
GRF pmax pmax
comp=Z,58nm,1.2s,mb6.0
GRF Grafenberg Arr 97.90 41 *e*P P **14 24 59.8 +0.6**
comp=Z,58nm,1.2s,mb6.0
GRF *e*pP pP 14 25 27.9 -0.3
SPU Mount Spurr 98.09 331 *e*P P **14 24 59.5 -0.4**
MOX Moxa 98.38 40 *e*P P **14 25 02.4 +1.0**
MOX *e**PP pP 14 25 32.3 +1.9
MOX *e*PS PS 14 37 50.0 -10
MOX pmax pmax
comp=Z,60nm,1.9s,mb5.8
MOX MLR MLR
comp=Z,1μm,21.0s
MOX Moxa 98.38 40 *e*P P **14 25 02.4 +1.0**
comp=Z,60nm,1.9s,mb5.8
MOX *e*pP pP 14 25 32.3 +1.9
MOX *e*SKS SKS 14 35 38.0 +10
MOX *e*PS PS 14 37 50.0 -10
MOX *e*SS SS 14 42 53.0 -14
MOX LR LR
comp=Z,1μm,21.0s
MOX Moxa 98.38 40 *i* P P **14 25 02.4 +1.0**
comp=Z,logA/T=1.5,mb5.8
MOX pP pP 14 25 32.0 +1.6
MOX SKS SKS 14 35 38.0 +10
MOX PS PS 14 37 50.0 -10
MOX SS SS 14 42 53.0 -14
MOX L 15 07 25.0
MUD Monsted U'grnd 98.41 34 *i* P P **14 25 02.1 +0.7**
comp=Z,49nm,1.2s,mb5.9
MUD *i* 14 25 25.8
MUD *i* 14 35 33.6
comp=Z,530nm,19.0s
CASY Casey 98.58 181⇓*i*P P **14 25 02.0 0.0**
KBA Koelnbreinsper 98.66 44⇓*i*P P **14 25 02.8 0.0**
comp=Z,110nm,2.5s,mb5.9
KBA Koelnbreinsper 98.66 44⇓*i*P P **14 25 02.8 0.0**
KBA pmax pmax
comp=Z,110nm,2.5s,mb5.9
CADS Cadrg 98.73 45 *e*Pdiff P **14 25 03.4 +0.3**
CADS *ep*Pdiff pP 14 25 32.2 +0.1
CADS *e*PP PP 14 29 02.2 -5.4
CADS *e*SKSac 14 35 34.6
CADS *e*Sdiff 14 36 23.5
VOY Vojsko 98.79 45 *e*Pdiff P **14 25 03.8 +0.4**
VOY *ep*Pdiff pP 14 25 33.0 +0.6
VOY *e*PP PP 14 29 00.7 -7.4
VOY *ep*PP 14 29 31.4
NKC Novy Kostel 98.80 40 *e*PDIF P **14 25 04.4 +1.1**
NKC *ep*P pP 14 25 32.1 -0.2
NKC *e*PP PP 14 29 03.7 -4.3
JAVS Javornik 98.88 45 *e*Pdiff P **14 25 04.1 +0.3**
LJU Ljubljana 99.23 45 *e*P P **14 25 05.7 +0.3**
LJU *e* 14 29 05.5
LJU *e* 14 35 37.0
LJU *e*S S 14 36 27.1 +3.5
LJU *e*SP SP 14 37 55.3 -0.4
LJU *e*SS SS 14 43 12.2 -6.5
LJU Ljubljana 99.23 45 *e*Pdif P **14 25 05.7 +0.3**
LJU *e*PP PP 14 29 05.5 -5.8
LJU *ep*PP 14 29 32.8
LJU *e*SKSac 14 35 37.0
LJU *e*Sdif 14 36 27.1
LJU *e*SP SP 14 37 55.3 -0.4
LJU *ep*PKKP 14 41 57.2
LJU *e* 14 42 35.8
LJU *e*SS SS 14 43 12.2 -6.5
LJU *eP'P'* 14 49 46.7
LJU Ljubljana 99.23 45 *e*Pdiff P **14 25 05.7 +0.3**
LJU *ep*Pdiff pP 14 25 35.0 +0.6
LJU *e*PP PP 14 29 05.5 -5.8
LJU *ep*PP 14 29 32.8
LJU *e*SKSac 14 35 37.0
LJU *e*Sdiff 14 36 27.1
LJU *e*SP SP 14 37 55.3 -0.4
LJU *ep*PKKP 14 41 57.2
LJU *e* 14 42 35.8
LJU *e*SS SS 14 43 12.2 -6.5
KHC Kasperske Hory 99.27 42 *e*PDIF P **14 25 05.6 +0.1**
KHC *ep*P pP 14 25 33.6 -0.9
KHC *e*SKS SKS 14 35 35.4 +3.1
KHC *ex* x 14 36 25.8
KHC *ex* x 14 37 49.2
KHC AMS AMS 15 11 00.0
comp=Z,700nm,17.7s
GERES GERESS Array B 99.28 42 P P **14 25 04.9 -0.7**
comp=Z,6.3nm,0.8s,mb5.2,baz=252,slow=4.2,SNR=43
GERES pP pP 14 25 33.3 -1.3
comp=Z,4.3nm,0.9s,baz=270,slow=2.7,SNR=5.0
GERES PKKPbc 14 41 29.8
comp=Z,0.3nm,0.5s,baz=90,slow=1.3,SNR=6.7
OBKA Obir 99.34 44⇑*i*P P **14 25 06.2 +0.3**
comp=Z,138nm,2.3s,mb6.1
CLL Collm 99.38 39⇓*i*P P **14 25 06.5 +0.5**
CLL *e* 14 35 39.0
CLL *e*SP SP 14 37 55.0 -2.2
CLL pmax pmax
comp=Z,35nm,1.2s,mb5.8
CLL Collm 99.38 39⇓*i*Pdif P **14 25 06.5 +0.5**
comp=Z,35nm,1.2s,mb5.8
CLL *e*SKS SKS 14 35 39.0 +6.2
CLL *e*SP SP 14 37 55.0 -2.2
CLL Collm 99.38 39⇓*i*PDIF P **14 25 06.5 +0.5**
CLL *e* pP 14 25 35.0 0.0
CLL *e**PPP 14 29 35.0
CLL *e* 14 35 39.0
CLL *e* 14 36 30.0
CLL *e*SP SP 14 37 55.0 -2.2
MOA Molln 99.44 43⇓*i*P P **14 25 06.4 +0.1**
comp=Z,142nm,2.4s,mb6.1
BOJS Bojanci 99.61 45 *e*Pdiff P **14 25 07.6 +0.4**
BOJS *e*SKSac 14 35 38.8
BOJS *e*SP SP 14 38 02.5 +2.9
BOJS *e*PKKP PKKP 14 41 29.0 +11
BOJS *ep*PKKP 14 41 55.8
BOJS *e* 14 42 33.9
BRG Berggiesshubel 99.87 40 *i* P P **14 25 09.2 +1.0**
BRG *e* pP 14 25 37.1 0.0
BRG *e* 14 29 39.1
BRG SKS SKS 14 35 43.0 +7.8
BRG S S 14 36 33.0 +4.1
BRG PS PS 14 38 00.0 -15
BRG PKKP PKKP 14 41 54.9 +38
BRG SS SS 14 43 29.0 +1.5
COP Copenhagen 100.00 35 *i* P 14 25 37.3
COP Copenhagen 100.00 35 *i* S 14 35 42.4
COP *i* 14 38 03.9
comp=Z,400nm,19.0s
PRU Pruhonice 100.06 41 *e*PDIF P 14 25 09.7 +0.6
PRU *ep*P 14 25 37.8
PRU *e*PP PP 14 29 10.2 -4.7
PRU *e*SKS SKS 14 35 39.2 +3.0
PRU *e*SDIF 14 36 33.1
PRU *e*SP SP 14 37 59.6 -4.4
PRU AMS AMS 15 11 20.0
comp=Z,500nm,16.5s
IMA Indian Mountai 100.13 336 P P 14 25 08.5 -0.5
IMA pmax pmax
comp=Z,220nm,1.4s
IMA Indian Mountai 100.13 336 *e*Pdif P 14 25 08.2 -0.8
comp=Z,222nm,1.4s
ARSA Arzberg 100.15 44⇑*i*P P 14 25 09.3 -0.2
comp=Z,138nm,2.8s
PVCC Panska Ves 100.19 40 *e*P P 14 25 10.3 +0.7
PVCC MLR MLR
comp=Z,900nm,17.5s
PVCC Panska Ves 100.19 40 *e*PDIF P 14 25 10.3 +0.7
PVCC *ep*P 14 25 40.4
PVCC AMS AMS 15 08 00.0
comp=Z,900nm,17.5s
NB2 NORSAR Subarra100.53 30 P P 14 25 11.8 +0.9
comp=Z,28nm,1.4s,baz=258,slow=4.6
NB2 NORSAR Subarra100.53 30 P P 14 25 11.8 +0.9
baz=258,slow=4.6
NOA NORSAR Array B100.53 30 P P 14 25 11.1 +0.1
comp=Z,5.5nm,1.1s,baz=255,slow=4.4,SNR=6.3
NOA pP 14 25 39.5
comp=Z,1.6nm,1.0s,baz=255,slow=4.5,SNR=1.6
NOA tx tx 14 41 49.9
comp=Z,2.6nm,0.9s,baz=73,slow=4.5,SNR=5.1
UPC Upice 101.09 41 *e*PDIF P 14 25 14.3 +0.6
UPC *ep*P 14 25 42.9
DPC Dobruska-Polom 101.25 41 *e*P P 14 25 15.1 +0.7
DPC *e* 14 35 47.7
DPC *e* 14 36 36.8
DPC *e* 14 38 11.6
DPC MLR MLR
comp=Z,700nm,22.5s
DPC Dobruska-Polom 101.25 41 *e*PDIF P 14 25 15.1 +0.7
DPC *ep*P 14 25 43.8
DPC *e*SKS SKS 14 35 47.7 +5.8
DPC *ex* x 14 36 36.8
DPC *e*SP SP 14 38 11.6 -5.3
DPC AMS AMS 15 06 40.0
comp=Z,700nm,22.5s
KSP Ksiaz 101.33 40 *e*Pdif P 14 25 15.5 +0.8
KSP *e* 14 25 44.7
ZST Bratislava 101.37 43 *e*PP PP 14 29 46.2 +18
ZST *e* 14 38 13.5
ZST *eL* 15 11 31.0
HFS Hagfors 101.55 31 PKKPbc 14 41 22.6
comp=Z,1.0nm,0.7s,baz=75,slow=17,SNR=4.0
HFS tx tx 14 41 45.1
comp=Z,5.6nm,0.9s,baz=72,slow=4.7,SNR=6.2
MORC Moravsky Berou 101.93 41 P P 14 25 18.6 +1.2
MORC pmax pmax
comp=Z,27nm,1.7s
MORC Moravsky Berou 101.93 41 *e*Pdif P 14 25 17.8 +0.4
comp=Z,28nm,1.8s
OKC Ostrava-Krasne 102.33 42 *e*P Pdif 14 25 19.7 +0.6
OKC *e* 14 29 30.1
OKC *e* 14 35 50.5
OKC *e* 14 36 43.3
OKC MLR MLR
comp=Z,500nm,17.1s
OKC Ostrava-Krasne 102.33 42 *e*PDIF Pdif 14 25 19.7 +0.6
OKC *ep*P 14 25 50.7
OKC *e*PP PP 14 29 30.1 -4.9
OKC *e*SKS SKS 14 35 50.5 +3.5
OKC *ex* x 14 36 43.3
OKC AMS AMS 15 13 40.0
comp=Z,500nm,17.1s
VYHS Vyhne 102.56 43 *e*P Pdif 14 25 20.1 -0.1
VYHS *e* 14 25 48.8
VYHS Vyhne 102.56 43 PDIF Pdif 14 25 20.1 -0.1
VYHS *ep*PDIF 14 25 48.8
OJC Ojcow 103.44 41 *e*P Pdif 14 25 25.3 +1.3
OJC *e*PP PP 14 29 38.9 -4.5
OJC *e*SKS SKS 14 35 57.2 +5.0
OJC MLR MLR 15 11 09.5
comp=Z,500nm,23.2s
KECS Kecovo 103.65 43 *e*P Pdif 14 25 26.1 +1.1
KECS *e*PP PP 14 30 04.5 +20
KECS Kecovo 103.65 43 PDIF Pdif 14 25 26.1 +1.1
KECS *e* 14 30 04.5
STHS Stebnicka Huta 104.26 42 *e*PKP 14 30 13.3
MLR Muntele Rosu 107.04 47 P Pdif 14 25 40.7 +0.7
MLR pmax pmax
comp=Z,1.0nm,0.6s
MLR pmax pmax
comp=Z,3.0nm,0.6s
MLR Muntele Rosu 107.04 47 Pdiff Pdif 14 25 40.7 +0.7
comp=Z,1.3nm,0.6s,baz=160,slow=10,SNR=3.6
MLR PKKPbc 14 41 07.1
comp=Z,3.1nm,0.6s,baz=231,slow=3.4,SNR=6.7
ARCES ARCESS Array B 107.25 21 P Pdif 14 25 40.8 +0.4
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 107.25 21 Pdiff Pdif 14 25 40.8 +0.4
comp=Z,4.0nm,0.9s,baz=291,slow=10,SNR=8.1
ARCES PKKPbc 14 41 05.6
comp=Z,4.3nm,0.9s,baz=76,slow=5.0,SNR=7.7
ARCES PKKP PKKP 14 41 19.3 +16
comp=Z,4.3nm,0.7s,baz=108,slow=3.8,SNR=9.3
FINES FINESS Array B 107.71 30 PKKPbc 14 41 04.4
comp=Z,2.1nm,0.5s,baz=135,slow=5.4,SNR=7.6
FINES PKKP PKKP 14 41 18.3 +16
comp=Z,1.9nm,0.7s,baz=143,slow=19,SNR=5.2
KMBO Kilima Mbogo 109.25 97 PKKPbc 14 41 01.3
comp=Z,1.0nm,0.5s,baz=42,slow=12,SNR=5.1
KMBO PKKP PKKP 14 41 14.4 +13
comp=Z,5.8nm,1.2s,baz=44,slow=23,SNR=5.6
AKASG Malin Array Be 109.48 41 PKIKP 14 29 53.4
comp=Z,4.0nm,0.7s,baz=270,slow=2.7,SNR=16
AKASG PP PP 14 30 24.9 -3.7
comp=Z,0.6nm,0.3s,baz=274,slow=3.4,SNR=5.3
AKASG PKKPab 14 41 10.7
comp=Z,0.5nm,0.4s,baz=71,slow=4.0,SNR=14
CSS Prodhromos 111.94 58 *e*PKPdf PKPdf 14 29 59.1 +1.9
BR131 Keskin Array S 112.40 53 *e*PKPdf PKPdf 14 30 00.0 +2.0
BRTR Keskin Array B 112.40 53 *i* PKIKP PKPdf 14 30 00.1 +2.1
BRTR 14 30 50.4
BRTR pmax pmax
comp=Z,8.0nm,1.0s
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 112.40 53 PKiKP 14 30 00.1
comp=Z,8.0nm,1.0s,baz=180,slow=3.7,SNR=21
BRTR PP PP 14 30 50.4 +0.5
comp=Z,1.9nm,0.9s,baz=180,slow=4.3,SNR=2.8
BRTR PKKPbc 14 40 49.5
comp=Z,1.0nm,0.5s,baz=135,slow=3.5,SNR=5.1
BRTR PKKPab 14 40 58.0
comp=Z,3.6nm,0.9s,baz=127,slow=6.2,SNR=12
TAYS Tayyib Ism 112.72 65 P PKPdf 14 30 01.7 +2.8
HAQS Haql 112.82 65 P PKPdf 14 30 01.6 +2.6
BDAS Al Bad' 112.92 65 P PKPdf 14 30 02.2 +2.9
AYUS 'Aynunah 113.04 66 P PKPdf 14 30 02.6 +3.1
JMQS Jabal Moqyreh 113.64 65 P PKPdf 14 30 03.5 +2.8
OBN Obninsk 113.66 36*de*PKIKP PKPdf 14 30 01.4 +1.3
OBN *e* 14 30 33.4
OBN pmax pmax
comp=Z,23nm,0.9s
OBN MLR MLR
comp=Z,800nm,19.0s
OBN Obninsk 113.66 36 *i* P PKPdf 14 30 01.5 +1.4
OBN LR LR
comp=Z,800nm,19.0s
TBKS Tabuk 114.17 66 P PKPdf 14 30 04.6 +2.8
UMJS Umm Lajj 114.56 69 P PKPdf 14 30 05.5 +2.9
ASF Jabal al Asfar 114.74 61 PKP PKPdf 14 30 05.6 +2.7
comp=Z,25nm,1.0s,baz=89,slow=1.5,SNR=19
ASF PKKPab 14 40 49.9
comp=Z,2.5nm,0.3s,baz=338,slow=2.0,SNR=5.9
ANN Anapa 115.16 47 *i* PKIKP PKPdf 14 29 56.5 -6.8
ANN pmax pmax
comp=Z,77nm,1.7s
BILL Bilibino 115.38 339*d i* PKIKP PKPdf 14 30 04.4 +1.2
BILL MLR MLR
comp=Z,500nm,20.0s
BILL Bilibino 115.38 339 *e*PKPdf PKPdf 14 30 04.8 +1.6
VOR Voronezh 115.67 40 PKIKP PKPdf 14 30 05.0 +0.9
VOR pmax pmax
comp=Z,80nm,2.0s
MALT Malatya 116.12 55 *e*PKIKP PKPdf 14 30 07.0 +1.7
SOC Sochi 116.87 49 *i* PKIKP PKPdf 14 30 07.6 +1.0
SOC *e*PPP PPP 14 33 52.8 +1.4
SOC *e* 14 36 46.0
SOC *e*PS PS 14 40 43.7 -18
SOC pmax pmax
comp=Z,56nm,1.2s
SOC pmax pmax
comp=N,40nm,1.3s
SOC pmax pmax
comp=E,24nm,0.8s
BLJS Baljurashi 117.89 75 P PKPdf 14 30 12.7 +3.7
HILS Ha'il 118.74 67 P PKPdf 14 30 13.2 +2.6
KIV Kislovodsk 118.98 48⇑*i* PKIKP PKPdf 14 30 12.4 +1.7
KIV Kislovodsk 118.98 48⇑*i* PKP PKPdf 14 30 12.5 +1.8
DJNS Zahran al Janu 119.43 78 P PKPdf 14 30 15.3 +3.1
AFFS 'Afif 119.60 71 P PKPdf 14 30 14.7 +2.3
TATS Tathlith 119.60 76 P PKPdf 14 30 15.7 +3.2
ZEI Tsey 120.00 49 *e*PKIKP PKPdf 14 30 12.0 -0.7
KAMS Al Khamasin 120.72 75 P PKPdf 14 30 17.1 +2.5
TI2 Plekhanov 120.75 50 *i* PKIKP PKPdf 14 30 13.0 -1.2
GNI Garni 120.92 52 *i* PKIKP PKPdf 14 30 16.2 +1.6
GNI Garni 120.92 52 PKP PKPdf 14 30 17.2 +2.6
comp=E,15nm,0.5s,baz=289,slow=0.8,SNR=5.6
GNI Garni 120.92 52 PKP PKPdf 14 30 17.2 +2.6
TIXI Tiksi 122.20 352 *i* PKIKP PKPdf 14 30 16.6 +0.3
STKA Stephens Creek 122.49 215 *i* PKP PKPdf 14 30 19.0 +1.2
comp=E,15nm,0.6s
STKA Stephens Creek 122.49 215 PKP PKPdf 14 30 19.1 +1.3
comp=E,15nm,0.6s,baz=123,slow=1.7,SNR=43
STKA PKKPbc 14 40 13.8

comp=E,4.8nm,0.9s,baz=327,slow=8.6,SNR=5.9
SEY Seymchan 122.92 337 *e*PKIKP PKPdf 14 30 19.2 +1.4
SEY *e* 14 30 49.1
SEY *e* 14 31 58.3
SEY *e* 14 48 29.4
SEY pmax pmax
comp=Z,20nm,0.9s
SEY Seymchan 122.92 337 *i* P PKPdf 14 30 17.5 -0.3
RYDS Riyadh 122.93 71 P PKPdf 14 30 21.5 +2.7
RDF Al-Radifah 123.86 65 *e*P PKPdf 14 30 23.0 +2.5
RDF AMb AMB 14 30 24.6
comp=Z,72nm,1.2s
KBD Kabd 123.98 65 *e*P PKPdf 14 30 23.1 +2.3
QRN Al-Qurain 124.18 66 *e*P PKPdf 14 30 23.4 +2.3
QRN AMb AMB 14 30 25.2
comp=Z,93nm,1.1s
PET Petropavlovsk 124.79 325 *e*PKIKP PKPdf 14 30 22.7 +1.0
PET *e* 14 32 16.4
PET *e*SP SP 14 42 00.2 +1.1
PET *e* 14 43 32.7
PET *e*SS SS 14 48 55.7 -1.9
PET *e*SSS SSS 14 53 30.8 -6.5
PET pmax pmax
comp=Z,31nm,1.2s
PET pmax pmax
comp=Z,400nm,25.3s
PET Petropavlovsk 124.79 325 *i* P PKPdf 14 30 23.4 +1.7
ARU Arti 125.07 30 *i* PKIKP PKPdf 14 30 23.7 +1.5
ARU *e* 14 32 13.8
ARU *e* 14 37 24.6
ARU *e*SP SP 14 42 10.0 +8.5
ARU *e*SS SS 14 49 07.0 +6.0
ARU Arti 125.07 30 *e*PKPdf PKPdf 14 30 24.1 +1.9
ARU *ep*PKPdf 14 30 53.3
MA2 Magadan 125.49 334 *d* *i*PKIKP PKPdf 14 30 24.1 +1.2
MA2 *e* 14 42 08.6
MA2 *e*PPS PPS 14 43 42.6 -7.7
MA2 *i*SS SS 14 49 13.4 +7.4
MA2 pmax pmax
comp=Z,20nm,1.1s
MA2 pmax pmax
comp=Z,10.0nm,1.7s
MA2 MLR MLR
comp=Z,3μm,27.0s
MA2 Magadan 125.49 334 *e*PKPdf PKPdf 14 30 23.9 +1.1
CTA Charters Tower 127.72 229 *e*PKP PKPdf 14 30 29.5 +1.2
comp=Z,40nm,1.2s
CTA *ep*PKP 14 30 57.2
CTA Charters Tower 127.72 229 PKIKP PKPdf 14 30 29.7 +1.4
CTA pmax pmax
comp=Z,41nm,1.0s
CTA Charters Tower 127.72 229 PKP PKPdf 14 30 29.7 +1.5
comp=Z,41nm,1.0s,baz=153,slow=1.5,SNR=22
CTAO Charters Tower 127.72 229 *e*PKIKP PKPdf 14 30 29.8 +1.5
CTAO *e* 14 32 29.8
CTAO Charters Tower 127.72 229 *e*PKPdf PKPdf 14 30 29.8 +1.5
CTAO ⇓*es*PKP 14 31 11.9
CTAO *e*PP PP 14 32 29.8 -5.5
AB31 Akbulak array 129.03 38 *i* PKIKP PKPdf 14 30 32.1 +2.1
AB31 pmax pmax
comp=Z,111nm,1.0s
YAK Yakutsk 130.64 346 *d* *i*PKIKP PKPdf 14 30 33.7 +1.0
YAK *e* 14 31 02.6
YAK pmax pmax
comp=Z,55nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,11nm,1.2s
YAK pmax pmax
comp=Z,14nm,1.2s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK Yakutsk 130.64 346 *i* PKPr 14 30 33.8
NWAO Narrogin (SRO) 131.01 191 PKP PKPdf 14 30 34.8 +0.6
comp=E,35nm,1.0s,baz=114,slow=1.4,SNR=9.8
MUN Mundaring 132.12 191 *e*PKP PKPdf 14 30 37.8 +1.4
comp=E,29nm,1.3s
MUN *ep*PKP 14 31 06.2
KLBR Kellerberrin 132.20 192 *e*PKP PKPdf 14 30 37.8 +1.3
comp=E,86nm,1.2s
KLBR *e*PKS PKS 14 34 04.5 -7.3
BRVK Borovoye 132.59 29 *e*PKIKP PKPdf 14 30 38.7 +2.0
BVA0 Borovoye Array 132.66 29 *i* PKIKP PKPdf 14 30 38.9 +2.1
BVA0 pmax pmax
comp=Z,31nm,1.6s
VOSK Vostochnaya 133.13 29 PKIKP PKPdf 14 30 39.6 +1.9
VOSK pmax pmax
comp=Z,162nm,1.7s
PMG Port Moresby 133.18 241 PKIKP PKPdf 14 30 40.3 +1.5
PMG pmax pmax
comp=Z,56nm,1.1s
PMG Port Moresby 133.18 241 PKP PKPdf 14 30 40.3 +1.5
comp=Z,56nm,1.1s,baz=39,slow=1.5,SNR=13
PMG Port Moresby 133.18 241 *e*PKPdf PKPdf 14 30 41.0 +2.2
WB2 Warramunga Arr 135.78 218 *e*PKP PKPdf 14 30 44.0 +0.6
WB2 *ep*PKP 14 31 12.9
WB2 *e*PKS PKS 14 34 15.9 -2.8
WRA Warramunga Arr 135.79 218 PKP PKPdf 14 30 44.1 +0.7
comp=Z,66nm,0.8s,baz=148,slow=1.7,SNR=92
WRA pPKP 14 31 13.2
comp=Z,22nm,0.8s,baz=146,slow=1.6,SNR=4.2
WRA PP PP 14 33 18.5 -7.8
comp=Z,14nm,1.3s,baz=141,slow=5.2,SNR=6.7
WRAB Tennant Creek 135.79 218 *e*PKIKP PKPdf 14 30 44.8 +1.4
WRAB *e* 14 31 13.1
CLNS Chul'man 136.39 346 *e*PKIKP PKPdf 14 30 44.6 +1.1
CLNS pmax pmax
comp=N,22nm,1.1s
CLNS pmax pmax
comp=E,81nm,1.1s
CLNS pmax pmax
comp=E,4.0nm,1.0s
NVS Novosibirsk 136.51 20 *e*PKIKP PKPdf 14 30 43.0 -0.8
NVS *e* 14 31 11.1
NVS pmax pmax
comp=Z,309nm,2.1s
NVS pmax pmax
comp=N,17nm,1.4s
NVS pmax pmax
comp=E,86nm,1.8s
YSS Yuzh-Sakhalins 136.68 324⇓ *e*PKIKP PKPdf 14 30 40.0 -4.3
YSS *e* 14 31 16.0
YSS *e* 14 33 30.0
YSS *e*SS SS 14 51 20.0 -3.4
YSS pmax pmax
comp=Z,560nm,2.0s
YSS pmax pmax
comp=Z,1μm,3.5s
YSS Yuzh-Sakhalins 136.68 324 *e*PKPdf PKPdf 14 30 46.2 +1.9
YSS *e*PP PP 14 33 29.4 -1.5
BOD Bodaibo 137.26 354 *e*PKHKP 14 30 31.3
BOD *e* 14 30 44.2
BOD pmax pmax
comp=Z,36nm,1.6s
ZAL Zalesovo 137.77 19 PKHKP 14 30 36.6
ZAL 14 30 48.0
ZAL 14 31 16.9
ZAL pmax pmax
comp=Z,2.0nm,0.7s
ZAL pmax pmax
comp=Z,58nm,0.9s
ZAL pmax pmax
comp=Z,24nm,0.8s
ZAL Zalesovo 137.77 19 PKhKP 14 30 36.6
comp=Z,2.0nm,0.7s,baz=241,slow=3.7,SNR=6.6
ZAL PKP PKPdf 14 30 48.0 +1.8
comp=Z,58nm,0.9s,baz=182,slow=2.4,SNR=77
ZAL pPKP 14 31 16.9
comp=Z,24nm,0.8s,baz=178,slow=2.0,SNR=4.6
ZAL Zalesovo 137.77 19 PKP PKPdf 14 30 48.0 +1.8
ZAL pPKP 14 31 16.9
ASAJ Asahikawa 138.33 321 PKIKP PKPdf 14 30 49.8 +2.3
ASAJ pmax pmax
comp=Z,64nm,1.0s
ASAJ Asahikawa 138.33 321 PKP PKPdf 14 30 49.8 +2.3
comp=Z,64nm,1.0s,baz=250,slow=10,SNR=19
KKAR Karatay Array 138.38 41 *i* PKIKP PKPdf 14 30 50.1 +2.5
KKAR pmax pmax
comp=Z,23nm,1.1s
KLR Kul'dur 140.59 334 *e*PKHKP 14 30 41.4
KLR *e* 14 30 49.8

FRU Bishkek 141.06 39 *e*PKHKP 14 30 48.0
FRU *i* 14 30 55.0
FRU pmax pmax
comp=Z,60nm,2.0s
AAK Ala-Archa 141.10 39 *c* *i*PKHKP 14 30 48.7
AAK Ala-Archa 141.10 39 *e*PKPpre 14 30 48.7
AAK *e*PKPdf PKPdf 14 30 54.5 +1.9
MBWA Marble Bar 141.62 199 *e*PKPpre 14 30 48.1
MBWA *e*PKPdf PKPdf 14 30 54.7 +0.7
FITZ Fitzroy Crossi 142.00 210 *i* PKP PKPdf 14 30 50.1 -4.7
comp=Z,55nm,0.6s
FITZ *e*PKS PKS 14 34 34.2 +4.8
FITZ Fitzroy Crossi 142.00 210 PKhKP 14 30 50.2
comp=Z,99nm,0.8s,baz=177,slow=2.8,SNR=62
FITZ PKP PKPdf 14 30 56.4 +1.6
comp=Z,117nm,0.9s,baz=179,slow=2.4,SNR=13
FITZ Fitzroy Crossi 142.00 210 PKP PKPdf 14 30 56.4 +1.6
KAKA Kakadu 142.40 224 *e*PKP PKPdf 14 30 53.9 -1.6
comp=Z,55nm,1.1s
MKAR Makanchi Array 142.51 28 *i* PKIKP PKPdf 14 30 52.5 -2.3
MKAR pmax pmax
comp=Z,11nm,0.7s
MKAR Makanchi Array 142.51 28 PKhKP 14 30 52.2
comp=Z,20nm,0.8s,baz=316,slow=2.8,SNR=77
MKAR Makanchi Array 142.51 28 PKP PKPdf 14 30 52.2 -2.6
CIT Chita 143.03 353 *e*PKIKP PKPdf 14 30 53.5 -2.0
CIT pmax pmax
comp=Z,250nm,1.8s
IRK Irkutsk 143.12 3 *e*PKIKP PKPdf 14 30 53.5 -2.1
IRK *e* 14 31 17.0
IRK *e* 14 34 04.3
IRK pmax pmax
comp=Z,262nm,1.8s
MOY Mondy 143.45 6 *e*PKIKP PKPdf 14 30 55.6 -0.6
MOY pmax pmax
comp=Z,290nm,2.4s
TLY Talaya 143.65 3 *i* PKIKP PKPdf 14 30 55.9 -0.7
TLY pmax pmax
comp=Z,110nm,1.2s
TLY Talaya 143.65 3 *e*PKP PKPdf 14 30 56.0 -0.5
KSH Kashi 143.76 42 PKP PKPdf 14 30 56.0 -1.1
KSH *e*SKS SKS 14 37 56.0 +2.2
KSH LR LR
comp=N,15μm,43.4s
KSH LR LR
comp=E,23μm,52.3s
BHUJ Bhuj 144.02 72 *e*P PKPbc 14 30 58.1 +0.7
BHUJ AMb AMB 14 31 01.0
comp=Z,523nm,1.4s
HIA Hailar 144.58 345 *e*PKIKP PKPdf 14 30 58.5 +0.2
HIA *e* 14 34 15.7
ZAK Zakamensk 144.92 4 *e*PKIKP PKPdf 14 31 00.2 +1.3
ZAK *e* 14 31 30.5
ZAK *e* 14 34 17.6
ZAK pmax pmax
comp=Z,196nm,1.1s
ZAK pmax pmax
comp=Z,74nm,1.0s
ZAK pmax pmax
comp=Z,11nm,1.8s
ZAK pmax pmax
comp=Z,2.0nm,2.2s
MDJ Mudanjiang 145.08 331 PKP PKPdf 14 30 59.5 +0.2
MDJ APKP 14 31 27.8
MDJ XPKP 14 31 41.3
MDJ PP PP 14 34 20.3 -1.7
MDJ PKS PKS 14 34 36.0 +2.2
MDJ SKS SKS 14 37 59.3 +3.7
MDJ PP PP
comp=Z,375nm,12.8s
MDJ LR LR
comp=N,539nm,43.8s
MDJ LR LR
comp=E,346nm,45.8s
MDJ LR LR
comp=Z,788nm,33.9s
MDJ Mudanjiang 145.08 331 PKPbc PKPbc 14 30 59.9 +0.2
MDJ Mudanjiang 145.08 331 *e*PKP PKPdf 14 30 60.0 +0.6
MJAR Matsushiro Arr 145.08 313 PKIKP PKPdf 14 30 59.8 +0.2
MJAR pmax pmax
comp=Z,334nm,1.1s
MJAR Matsushiro Arr 145.08 313 PKPbc PKPbc 14 30 59.8 -0.2
comp=Z,334nm,1.1s,baz=107,slow=1.1,SNR=213
MAJO Matsushiro 145.08 313 *e*PKP PKPdf 14 31 00.6 +0.9
MAJO *es*PKPdf 14 31 41.1
MAT Matsushiro 145.08 313 *e*PKP PKPdf 14 30 59.0 -0.6
MAT Matsushiro 145.08 313 PKP PKPdf 14 30 59.0 -0.6
THN Thein Dam 146.93 53 *e*P PKPdf 14 31 04.6 +1.8
DLH Dalhousie 147.08 53 *e*P PKPdf 14 31 07.0 +3.9
WMQ Urumqi 147.22 26 PKP PKPdf 14 31 00.3 -2.6
WMQ APKP 14 31 30.5
WMQ PP PP 14 34 32.3 -2.6
WMQ PP PP
comp=Z,611nm,11.0s
WMQ LR LR
comp=N,287nm,20.0s
WMQ LR LR
comp=E,509nm,16.0s
WMQ LR LR
comp=Z,532nm,20.1s
PONG Pong 147.30 54 *e*P PKPdf 14 31 06.0 +2.5
CN2 Changchun 147.54 335 *e*PKP PKPdf 14 31 04.5 +1.0
CN2 PP PP 14 34 34.3 -2.5
CN2 SS SS 14 53 30.8 +1.5
CN2 PP PP
comp=Z,320nm,3.0s
CN2 LR LR
comp=N,390nm,21.0s
CN2 LR LR
comp=E,360nm,21.0s
CN2 LR LR
comp=Z,460nm,21.0s
SONM Songino Array 147.59 1 PKPbc PKPdf 14 31 06.0 +2.5
comp=Z,263nm,1.0s,baz=328,slow=1.4,SNR=199
SONM pPKPbc 14 31 38.3
comp=Z,87nm,0.8s,baz=323,slow=2.1,SNR=6.5
BHK Bhakra 147.88 55 *e* PKPdf 14 31 09.6 +5.2
AJM Ajmer 147.95 64 *e*P PKPdf 14 31 06.5 +1.8
AJM AMb AMB 14 31 10.5
comp=Z,100nm,1.3s
POO Poona 148.21 80⇓ *i* PKPdf 14 31 11.0 +5.7
comp=Z,420nm,1.0s
SDNR Sundarnagar 148.28 54 *e*P PKPdf 14 31 07.2 +2.1
KAD Karad 148.52 82 *e*P PKPdf 14 31 06.6 +0.8
KAD AMb AMB 14 31 13.4
comp=Z,392nm,1.6s
NDI New Delhi 149.51 59 *e*P PKPdf 14 31 08.0 +0.9
DDI Dehra Dun 149.60 56 *e*P PKPdf 14 31 09.6 +2.4
TRD Trivandrum 149.91 100 *e*P PKPdf 14 31 11.6 +3.4
SNY Shenyang 149.95 335⇓ PKP PKPdf 14 31 09.3 +1.9
SNY PP PP 14 34 49.3 -1.0
SNY PP PP
comp=Z,340nm,12.9s
SNY LR LR
comp=N,280nm,20.7s
SNY LR LR
comp=E,250nm,24.3s
SNY LR LR
comp=Z,640nm,37.8s
LATR Latur 150.78 80 *e*P PKPdf 14 31 11.0 +1.7
AKL Akola 151.07 75⇑ *i* PKPdf 14 31 22.6 +13
AKL *i* 14 31 30.7
BHPL Bhopal 151.10 70 *e*P PKPdf 14 31 12.3 +2.7
BHPL AMb AMB 14 31 19.8
comp=Z,204nm,1.6s
KS15 Wonju Array Si 151.21 324 *e*PKPdf PKPdf 14 31 12.1 +2.7
KS15 *e*PKPbc PKPdf 14 31 17.3 +7.9
LGT! Lohaghat 151.69 56 *e*P PKPdf 14 31 12.5 +2.1
INCN Inchon 151.88 325 *e*PKPdf PKPdf 14 31 12.2 +1.7
INCN *e*PKPbc PKPdf 14 31 18.2 +7.8
INCN *e*PKPab PKPab 14 31 27.3 -1.6
JNU Nakatsue 152.00 313 PKP PKPdf 14 31 11.4 +0.7
comp=Z,15nm,1.1s,baz=113,slow=9.0,SNR=5.5
JNU PKPbc PKPdf 14 31 18.5 +7.8
comp=Z,127nm,0.9s,baz=51,slow=7.7,SNR=58
HYB Hyderabad 152.70 82 *e*PKIKP PKPdf 14 31 14.0 +1.9
HYB *e* 14 31 49.0
HYB Hyderabad 152.70 82⇓ *i*PKP PKPdf 14 31 14.0 +1.9
comp=Z,180nm,1.0s
HYB *e* 14 31 49.0
DL2 Dalian 153.20 334 *i* PKP PKPdf 14 31 13.5 +1.3
DL2 PKP2 PKPab 14 31 33.0 -1.4
DL2 APKP 14 31 41.8
DL2 PP PP 14 35 11.0 +2.0
DL2 SS SS 14 54 34.5 +3.0
DL2 PP PP
comp=Z,260nm,7.9s
HHC Hu-ho-hao-te 154.27 352⇓ *i*PKP PKPdf 14 31 17.0 +3.4
HHC PKP2 PKPab 14 31 37.5 -1.3
HHC APKP 14 31 43.5
HHC XPKP 14 31 54.3
HHC PKS PKS 14 34 51.0 +4.1
HHC SKS SKS 14 38 10.5 +2.9
HHC SKKS 14 41 50.0
HHC PP PP
comp=Z,407nm,15.4s
HHC LR LR
comp=N,389nm,22.5s
HHC LR LR
comp=E,314nm,20.2s
HHC LR LR
comp=Z,468nm,23.7s
BTO Baotou 154.68 355 *e*PKP PKPdf 14 31 16.3 +2.1
GTA Gaotai 155.22 13 PKP PKPdf 14 31 17.5 +2.6
GTA PKP2 PKPab 14 31 45.0 +2.1
GTA APKP 14 31 47.0
GTA XPKP 14 32 00.3
GTA PP PP 14 35 17.3 -2.7
GTA SKS SKS 14 38 12.5 +3.8
GTA SKKS 14 41 53.5
GTA PP PP
comp=Z,266nm,18.3s
BLSP Bilaspur 155.57 70 *e*P PKPdf 14 31 17.9 +2.0
BLSP AMb AMB 14 31 20.1
comp=Z,93nm,1.8s
GKN Gorkha 155.79 55 *e*P PKPdf 14 31 17.8 +1.8
comp=Z,415nm,1.2s
DMN Daman 156.34 55 *e*P PKPdf 14 31 18.1 +1.3
comp=Z,568nm,1.5s
KKN Kakani 156.40 55 *e*P PKPdf 14 31 18.5 +1.7
comp=Z,322nm,1.0s
PKI Pulchoki 156.60 55 *e*P PKPdf 14 31 17.8 +0.7
comp=Z,193nm,1.4s
GUN Gumba 156.81 54 *e*P PKPdf 14 31 19.6 +2.2
comp=Z,418nm,1.2s
JOW Kunigami 157.08 303 PKP PKPdf 14 31 19.8 +2.0
comp=Z,24nm,1.0s,baz=74,slow=29,SNR=8.6
TIA Tai'an 157.31 338 *e*PKP PKPdf 14 31 21.5 +3.7
LZH Lanzhou 159.15 7⇓ PKP PKPdf 14 31 23.8 +3.7
LZH APKP 14 31 53.8
LZH PKP2 PKPab 14 32 03.0 +3.1
LZH PP PP 14 35 44.5 +2.9
LZH SKKS 14 42 20.5
LZH SS SS 14 55 37.0 +1.7
LZH PP PP
comp=Z,496nm,7.2s
LZH LR LR
comp=E,1μm,20.0s
LZH LR LR
comp=Z,2μm,21.0s
LZH Lanzhou 159.15 7⇓ PKP PKPdf 14 31 23.7 +3.6
LZH pPKP 14 31 53.7
SSE Sheshan 159.60 323⇓ PKP PKPdf 14 31 23.0 +2.3
SSE XPKP 14 32 01.5
SSE PP PP 14 35 45.3 +1.3
SSE SS SS 14 55 43.0 +3.1
SSE PP PP
comp=Z,382nm,10.8s
SSE LR LR
comp=N,430nm,38.1s
SSE LR LR
comp=E,253nm,38.1s
SSE LR LR
comp=Z,671nm,39.6s
SSE Sheshan 159.60 323⇓ PKP PKPdf 14 31 22.9 +2.2
SSE sPKP 14 32 01.5
SSE PP PP 14 35 45.2 +1.2
SSE SS SS 14 55 43.1 +3.2
SSE LR LR
comp=Z,670nm,39.6s
LSA Lhasa 159.61 43 *e*PKP PKPdf 14 31 24.0 +3.2
LSA Lhasa 159.61 43 PKPdf PKPdf 14 31 24.3 +3.5
LSA Lhasa 159.61 43 *e*PKP PKPdf 14 31 24.2 +3.5
NJ2 Nanjing 160.13 329 *e*PKP PKPdf 14 31 23.8 +2.6
NJ2 APKP 14 31 50.3
NJ2 XPKP 14 32 01.0
NJ2 PKP2 PKPab 14 32 06.5 +2.3
NJ2 PP PP 14 35 46.0 -0.8
NJ2 SKS SKS 14 38 17.0 +3.1
NJ2 SKKS 14 42 26.0
NJ2 SS SS 14 55 49.0 +3.9
NJ2 PP PP
comp=Z,530nm,10.8s
NJ2 LR LR
comp=N,1μm,31.7s
NJ2 LR LR
comp=E,2μm,32.2s
NJ2 LR LR
comp=Z,880nm,32.2s
XAN Xi'an 161.29 355 PKP PKPdf 14 31 25.5 +3.2
XAN PP PP 14 35 49.5 -3.9
XAN SS SS 14 55 52.8 -4.1
XAN PP PP
comp=Z,549nm,14.3s
XAN LR LR
comp=N,248nm,46.6s
XAN LR LR
comp=E,194nm,41.5s
XAN LR LR
comp=Z,644nm,48.8s
SHL Shillong 162.62 52 *e*P PKPdf 14 31 25.5 +1.6
PVCP Virac 163.24 266 *e*P PKPdf 14 31 28.1 +3.3
WHN Wuhan 163.41 337 *e*PKP PKPdf 14 31 27.8 +3.2
CD2 Chengdu 164.23 10 PKP PKPdf 14 31 28.5 +3.1
CD2 LR LR
comp=N,200nm,11.4s
CD2 LR LR
comp=Z,250nm,19.2s
ENH Enshi 164.95 351 PKPdf PKPdf 14 31 28.3 +2.2
ENH Enshi 164.95 351 *e*PKPdf PKPdf 14 31 28.4 +2.3
ENH *e*PKPab PKPab 14 32 24.8 -0.4
ENH *e*PP PP 14 36 08.8 -4.0
KSM Kuching 165.83 194 *e*PKPdf PKPdf 14 31 28.6 +1.2
KSM *e*PKPab PKPab 14 32 28.8 -0.7
APYP Conner 166.06 282 *e*P PKPdf 14 31 27.4 0.0
KKM Kota Kinabalu 167.03 226 *e*PKPdf PKPdf 14 31 29.5 +1.3
KULM Kulim 168.26 148 *e*PKPdf PKPdf 14 31 30.7 +1.7
KULM *e*PKPab PKPab 14 32 39.0 -1.1
GYA Guiyang 168.93 1 *i* PKP PKPdf 14 31 31.0 +2.0
GYA APKP 14 31 58.5
GYA XPKP 14 32 09.8
GYA PKP2 PKPab 14 32 42.0 -0.7
GYA PKS PKS 14 35 02.3 +1.6
GYA PP PP 14 36 29.3 -3.5
GYA SKKS 14 43 05.5
GYA SS SS 14 57 13.8 -1.5
GYA PP PP
comp=Z,1μm,8.7s
GYA LR LR
comp=N,600nm,19.5s
GYA LR LR
comp=E,810nm,20.4s
GYA LR LR
comp=Z,760nm,20.2s
KMI Kunming 169.50 21⇓ PKP PKPdf 14 31 32.0 +2.6
KMI APKP 14 32 00.5
KMI XPKP 14 32 15.0
KMI PKP2 PKPab 14 32 44.8 -0.5
KMI PKS PKS 14 35 01.5 +0.4
KMI PP PP 14 36 37.5 +1.8
KMI SKKS 14 43 12.3
KMI SS SS 14 57 22.5 +1.5
KMI PP PP
comp=Z,650nm,7.9s
KMI LR LR
comp=N,282nm,24.7s
KMI LR LR
comp=E,361nm,22.4s
KMI LR LR
comp=Z,887nm,39.2s
KMI Kunming 169.50 21 PKIKP PKPdf 14 31 31.9 +2.5
KMI 14 32 00.5
KMI 14 32 44.7
KMI 14 36 37.6
KMI PPP PPP 14 40 42.0 +1.3
KMI SSS SSS 15 04 04.6 +1.4
KMI MLR MLR
comp=Z,890nm,39.2s

KMI	**Kunming**	**169.50**	**21**	PKP	PKPdf	14 31 31.9	+2.5
KMI				pPKP		14 32 00.5	
KMI				sPKP		14 32 15.1	
KMI				PKPab	PKPab	14 32 44.7	-0.6
KMI				PKS	PKS	14 35 01.5	+0.4
KMI				PP	PP	14 36 37.6	+1.9
KMI				PcPP'		14 40 01.6	
KMI				PPP	PPP	14 40 42.0	+1.3
KMI				SKKS		14 43 12.3	
KMI				SSS	SSS	15 04 04.6	+1.4
KMI				LR	LR		
	comp=Z,890nm,39.2s						
CHG	**Chiang Mai**	**171.61**	**65**	⇓P	PKPdf	14 31 32.6	+1.8
	comp=Z,44nm,1.3s						
BDT	**Bhumibol Dam**	**172.15**	**75**	P	PKPdf	14 31 29.8	-1.3
NANT	**Nan**	**173.11**	**59**	⇓P	PKPdf	14 31 31.0	-0.6
	comp=Z,219nm,1.0s						
NST	**Nakhon Sawan**	**173.43**	**86**	P	PKPdf	14 31 27.7	-4.0
QIZ	**Qiongzhong**	**175.40**	**323**	PKP	PKPdf	14 31 34.5	+2.3
QIZ				APKP		14 32 01.5	
QIZ				PKP2	PKPab	14 33 11.3	-0.3
QIZ				PP	PP	14 37 02.5	-2.8
QIZ				SKKS		14 43 40.0	
QIZ				SS	SS	14 58 20.5	+2.8
QIZ				PP	PP		
	comp=Z,545nm,7.8s						
QIZ	**Qiongzhong**	**175.40**	**323**	PKPdf	PKPdf	14 31 35.0	+2.7
QIZ				PP	PP	14 37 03.3	-2.0

*NEIC **26** 14:20:21.1, 16.70N×99.65W, h5km, MD3.7(MEX), After MEX.*

MEX 26 14:20:21.1±1.2, 16.70N×99.65W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.30**	**303**	*i* P	Pg	14 20 25.8	-1.4
ACX				*i* S	Sg	14 20 30.0	-1.2
CAIG	**El Cayaco**	**0.68**	**300**	*i* P	Pg	14 20 34.1	-0.6
CAIG				*i* S	Sg	14 20 44.3	+0.4
PNIG	**Pinotepa**	**1.50**	**102**	*e*P	Pn	14 20 43.0	-5.8
PNIG				*e*P		14 20 43.8	
PNIG				*e*S	Sb	14 21 02.9	-5.3
PNIG	**Pinotepa**	**1.50**	**102**	*e*P	Pn	14 20 43.8	-4.9
PNIG				*e*S	Sb	14 21 02.9	-5.3
PLIG	**Platanillo**	**1.69**	**5**	*i* P	Pn	14 20 48.5	-3.0
PLIG				*i* S	Sn	14 21 09.4	-4.3
YAIG	**Yautepec**	**2.22**	**14**	*i* P	Pn	14 20 56.1	-3.0
YAIG				*i* S	Sn	14 21 23.3	-3.9
PPM	**Popocatepetl**	**2.55**	**22**	*e*P	Pn	14 21 01.0	-2.8
UNM	**Universidad Na**	**2.65**	**10**	*e*P	Pn	14 21 03.0	-2.3
OXX	**Oaxaca**	**2.83**	**82**	*e*P	Pn	14 21 09.0	+1.2
OXX				*i* S	Sn	14 21 43.5	+0.8
OXX	**Oaxaca**	**2.83**	**82**	*e*P	Pn	14 21 09.0	+1.2
OXX				*i* S	Sn	14 21 38.0	-4.7
IISM	**Ciudad Serdan**	**3.14**	**43**	*e*P	Pn	14 21 08.0	-4.2
CMIG	**Matias Romero**	**4.58**	**84**	*i* P	Pn	14 21 30.4	-2.3
CMIG				*i* S	Sn	14 22 21.7	-5.3

*JMA **26** 14:20:57.2±0.5, 33.37N×142.47E, h99km, M3.2*
*IDC **26** 14:20:57.3±2.1, 32.99N×142.25E, mb3.6/3, mb1 3.7/5, mb1mx3.5/21, mbtmp3.5/5, ML3.1/2, MS3.9/2, Ms1 4.0/2, ms1mx3.4/26, Error ellipse: s-maj=48.0km s-min=24.8km az=54.0*

ISC 26 14:20:56.1±2.6, 33.32N±0.06×142.47E±0.10, h17km±23km, n14, σ1°00/18, mb3.6/3, MS4.2/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.82**	**317**	P	**Pn**	**14 21 27.1**	**0.0**
BSO1				*e*S	**Sn**	**14 21 50.3**	**+0.4**
BSO2	**Boso 2**	**2.02**	**316**	*e*S	**Sn**	**14 21 55.5**	**+0.5**
BSO3	**Boso 3**	**2.20**	**313**	P	**Pn**	**14 21 32.1**	**-0.4**
JHJ2	**Mitsune**	**2.23**	**265**	P	**Pn**	**14 21 33.7**	**+0.7**
JHJ2				*e*S	**Sn**	**14 22 01.0**	**+0.6**
JHJ	**Hachijo jima 2**	**2.26**	**266**	Pn	**Pn**	**14 21 33.0**	**-0.4**
	24nm,0.3s,baz=52,slow=12,SNR=5.0						
JHJ				Sn	**Sn**	**14 22 00.3**	**-0.8**
	38nm,0.3s,baz=58,slow=19,SNR=5.2						
JHJ				LR	LR	14 22 02.0	
	comp=Z,2μm,19.8s,baz=275,slow=32						
BSO4	**Boso 4**	**2.43**	**314**	P	**Pn**	**14 21 36.7**	**+0.9**
BSO4				*e*S	**Sn**	**14 22 05.7**	**+0.3**
JYT	**Yasato**	**3.46**	**328**	*e*S	**Sn**	**14 22 30.8**	**-0.6**
JHO	**Hitachi**	**3.64**	**335**	P	**Pn**	**14 21 51.4**	**-1.6**
JHO				*e*S	**Sn**	**14 22 31.7**	**-4.3**
JYN	**Shimob**	**3.91**	**305**	*e*S	**Sn**	**14 22 41.4**	**-1.4**
MJAR	**Matsushiro Arr**	**4.75**	**314**	Pn	**Pn**	**14 22 09.5**	**+0.7**
	0.6nm,0.3s,baz=162,slow=15,SNR=3.0						
SONM	**Songino Array**	**30.69**	**309**	P	**P**	**14 27 15.3**	**+3.3**
	0.3nm,0.4s,mb3.5,baz=108,slow=7.8,SNR=3.9						
MKAR	**Makanchi Array**	**46.90**	**305**	P	**P**	**14 29 29.6**	**+2.3**
	0.4nm,0.6s,mb3.5,baz=95,slow=9.7,SNR=3.5						
WRA	**Warramunga Arr**	**53.52**	**190**	P	**P**	**14 30 17.0**	**-1.2**
	0.9nm,0.6s,mb3.9,baz=7.9,slow=7.7,SNR=15						
NOA	**NORSAR Array B**	**77.95**	**338**	LR	LR	15 11 11.2	
	comp=Z,111nm,18.3s,MS4.2,baz=250,slow=39						

*NEIC **26** 14:22:03.7, 16.73N×99.64W, h6km, MD3.6(MEX), After MEX.*

MEX 26 14:22:03.8±1.1, 16.72N×99.64W, h6km±7km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.30**	**299**	*i* P	Pg	14 22 09.3	-0.6
ACX				*i* S	Sg	14 22 13.4	-0.5
CAIG	**El Cayaco**	**0.68**	**298**	*i* P	Pg	14 22 15.9	-1.5
CAIG				*i* S	Sg	14 22 25.5	-1.0
PNIG	**Pinotepa**	**1.49**	**103**	*e*P	Pn	14 22 28.4	-2.8
PNIG				*e*S	Sb	14 22 45.0	-5.7
PLIG	**Platanillo**	**1.67**	**5**	*i* P	Pn	14 22 30.8	-3.0
PLIG				*i* S	Sn	14 22 51.3	-4.3
YAIG	**Yautepec**	**2.20**	**14**	*i* P	Pn	14 22 39.1	-2.3
YAIG				*i* S	Sn	14 23 04.3	-4.9
PPM	**Popocatepetl**	**2.52**	**22**	*e*P	Pn	14 22 46.0	0.0
UNM	**Universidad Na**	**2.63**	**10**	*e*P	Pn	14 22 47.0	-0.6
OXX	**Oaxaca**	**2.82**	**82**	*e*P	Pn	14 22 47.5	-2.7
OXX				*e*S	Sn	14 23 16.0	-9.0
IISM	**Ciudad Serdan**	**3.12**	**43**	*e*P	Pn	14 22 55.5	+1.0

IDC 26 14:55:05.8±1.4, 2.61N×126.44E, mb3.8/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.8/5, Error ellipse: s-maj=100.5km s-min=20.5km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.60**	**182**	P	P	14 59 47.9	-1.4
	3.4nm,0.6s,baz=5.7,slow=10,SNR=6.4						
WRA	**Warramunga Arr**	**23.72**	**161**	P	P	15 00 18.8	-1.7
	1.0nm,0.4s,baz=337,slow=11,SNR=39						
STKA	**Stephens Creek**	**37.20**	**158**	P	P	15 02 19.1	-1.6
	1.3nm,0.4s,baz=351,slow=7.1,SNR=4.3						
SONM	**Songino Array**	**48.26**	**342**	P	P	15 03 47.9	-2.6
	0.5nm,0.7s,baz=145,slow=7.0,SNR=4.1						
MKAR	**Makanchi Array**	**58.30**	**326**	P	P	15 05 03.0	-1.9
	0.3nm,0.5s,baz=114,slow=12,SNR=4.4						

*CSEM **26** 14:56:45.4±0.4, 38.22N×23.92E, h2km, ML2.0, Error ellipse: s-maj=9.8km s-min=4.1km az=79.0*
*NEIC **26** 14:56:46.4, 38.17N×23.84E, h5km, MD2.5(ATH), After ATH.*

ATH 26 14:56:45.1, 38.19N×23.94E, h14km±4km, MD2.5/6, ML2.2, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTL	**Penteli**	**0.15**	**203**	*e*PG	Pg	14 56 48.5	-0.6
PTL				*e*SG	Sg	14 56 51.5	-0.2
MPAR	**Parnis Oros**	**0.17**	**257**	*e*PG	Pg	14 56 48.7	-0.6
MPAR				*e*SG	Sg	14 56 52.5	+0.5
MPAR	**Parnis Oros**	**0.17**	**257**	*e*Pg	Pg	14 56 48.5	-0.8
ATH	**Athens Observa**	**0.28**	**219**	*e*PG	Pg	14 56 50.9	-0.3
NSAL	**Nisos Salamina**	**0.47**	**233**	*e*PG	Pg	14 56 54.1	-0.7
NAIG	**Nisos Aigina**	**0.56**	**220**	*e*PB	Pb	14 56 56.5	+0.4
MGER	**Gerania Oros**	**0.57**	**249**	*e*PG	Pg	14 56 56.0	-0.8
LKR	**Lokris**	**0.87**	**302**	*e*PB	Pb	14 57 02.1	+0.6

*IDC **26** 15:21:40.5±2.0, 43.90N×129.14W, mb3.4/4, mb1 3.7/6, mb1mx3.5/24, mbtmp3.5/6, ML3.4/2, MS3.3/2, Ms1 3.3/2, ms1mx2.9/21, Error ellipse: s-maj=51.9km s-min=21.1km az=49.0*
*NEIC **26** 15:21:42.8±1.4, 44.04N×128.91W, h10km, mb3.8/2, Error ellipse: s-maj=29.1km s-min=10.1km az=49.0*

ISC 26 15:21:42.2±1.5, 44.2N±0.1×128.7W±0.2, h10km, n13, σ0°89/12, mb3.3/3, MS3.3/1, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YBH	**Yreka Blue Hor**	**5.04**	**117**	Pn	**Pn**	**15 23 01.4**	**+1.8**
	0.2nm,0.3s,baz=264,slow=7.9,SNR=5.6						
BBB	**Bella Bella**	**8.01**	**3**	Pn	**P**	**15 23 41.9**	**+0.5**
	0.3nm,0.3s,baz=193,slow=15,SNR=4.9						
BBB	**Bella Bella**	**8.01**	**3**	Pn	**P**	**15 23 41.9**	**+0.4**
NEW	**Newport**	**9.00**	**59**	LR	LR	15 27 17.6	
	comp=Z,145nm,18.6s,baz=235,slow=36						
MSU	**Marysvale**	**13.64**	**109**	P	**P**	**15 24 58.8**	**+0.8**
SRU	**San Rafael**	**14.50**	**104**	P	**P**	**15 25 08.7**	**-0.6**
SDCO	**Great Sand Dun**	**18.63**	**102**	*e*P	**P**	**15 26 01.3**	**-0.6**
	2.1nm,0.9s						
YKA	**Yellowknife Ar**	**20.09**	**19**	P	**P**	**15 26 18.7**	**+0.3**
	2.1nm,0.8s,baz=210,slow=11,SNR=9.0						
YKA	**Yellowknife Ar**	**20.09**	**19**	P	**P**	**15 26 18.7**	**+0.3**
FFC	**Flin Flon**	**20.20**	**49**	*e*P	**P**	**15 26 18.5**	**-1.0**
	12nm,0.8s						
ILAR	**Eielson Array**	**23.00**	**340**	P	**P**	**15 26 48.5**	**+0.9**
	0.4nm,0.7s,mb2.9,baz=144,slow=11,SNR=5.0						
TXAR	**Lajitas Array**	**24.81**	**118**	P	**P**	**15 27 04.7**	**-1.0**
	0.2nm,0.3s,mb3.2,baz=288,slow=7.9,SNR=4.5						
TXAR				LR	LR	15 36 16.3	
	comp=Z,94nm,21.5s,MS3.3,baz=45,slow=35						
SONM	**Songino Array**	**76.35**	**325**	P	**P**	**15 33 32.0**	**-0.8**
	1.2nm,1.0s,mb3.8,baz=45,slow=4.1,SNR=5.4						

*ATH **26** 16:11:06.4, 39.52N×21.72E, h16km±2km, MD3.0/8*
*THE **26** 16:11:06.7, 39.57N×21.67E, h14km, ML2.8*
*NEIC **26** 16:11:06.5, 39.53N×21.72E, h17km, MD3.0(ATH), After ATH.*
*CSEM **26** 16:11:06.8±0.1, 39.54N×21.71E, h12km, ML2.8, Error ellipse: s-maj=2.2km s-min=1.7km az=14.0*

ISC 26 16:11:05.7±0.6, 39.59N±0.03×21.70E±0.03, h9km±5km, n15, σ1°18/25, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEV	**Metsovon**	**0.41**	**298**	*e*Pg	**Pg**	**16 11 14.8**	**+0.7**
MEV				*e*Sg	**Sg**	**16 11 20.8**	**+1.1**
JAN	**Janina**	**0.66**	**276**	*e*PB	**Pb**	**16 11 19.3**	**+0.3**
JAN				*e*SN	**Sn**	**16 11 29.2**	**-2.3**
EVR	**Evrytania**	**0.68**	**173**	*e*PB	**Pb**	**16 11 17.6**	**-1.6**
EVR				*e*SN	**Sn**	**16 11 25.9**	**-5.9**
EVR	**Evrytania**	**0.68**	**173**	*e*Pb	**Pb**	**16 11 17.6**	**-1.6**
EVR				*e*Sn	**Sn**	**16 11 27.3**	**-4.5**
KZN	**Kozani**	**0.72**	**4**	*e*PN	**Pn**	**16 11 22.0**	**+0.2**
KZN				*e*SN	**Sn**	**16 11 32.5**	**-0.4**
AGG	**Agios Georgios**	**0.75**	**139**	*e*Pg	**Pg**	**16 11 20.5**	**-0.2**
AGG				*e*Sg	**Sg**	**16 11 32.5**	**+1.8**
LIT	**Litokhoron**	**0.79**	**50**	*e*Pg	**Pg**	**16 11 22.0**	**+0.4**
XOR	**Xorichti**	**1.17**	**100**	*e*Pg	**Pg**	**16 11 28.4**	**-0.8**
XOR				*e*Sg	**Sg**	**16 11 44.6**	**-0.2**
LKD	**Levkas**	**1.20**	**223**	*e*Pg	**Pg**	**16 11 27.4**	**-2.3**
LKD				*e*Sg	**Sg**	**16 11 44.3**	**-1.5**
NEO	**Neokhori**	**1.21**	**103**	*e*PN	**Pn**	**16 11 28.8**	**0.0**
NEO				*e*SN	**Sn**	**16 11 45.5**	**+0.1**
LKR	**Lokris**	**1.38**	**132**	*e*PN	**Pn**	**16 11 31.6**	**+0.4**
KEK	**Kerkira**	**1.48**	**275**	*e*PN	**Pn**	**16 11 34.8**	**+2.2**
RLS	**Riolos of Patr**	**1.54**	**187**	*e*PN	**Pn**	**16 11 34.5**	**+1.0**
VLS	**Valsamata**	**1.66**	**212**	*e*PN	**Pn**	**16 11 36.0**	**+0.8**
VLS				*e*SN	**Sn**	**16 11 58.4**	**+1.7**
OUR	**Ouranopolis**	**1.90**	**66**	*e*Pb	**Pb**	**16 11 38.8**	**-1.4**

IDC 26 16:24:31.2±3.0, 9.01N×94.67E, mb3.3/3, mb1 3.4/3, mb1mx3.3/19, mbtmp3.3/3, Error ellipse: s-maj=130.6km s-min=29.5km az=66.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.11**	**346**	P	P	16 31 59.4	-2.5
	0.4nm,0.7s,baz=164,slow=8.3,SNR=3.4						
SONM	**Songino Array**	**39.95**	**12**	P	P	16 32 07.4	-1.5
	0.3nm,0.6s,baz=180,slow=8.6,SNR=2.7						
WRA	**Warramunga Arr**	**48.51**	**127**	P	P	16 33 14.8	-3.3
	0.2nm,0.5s,baz=302,slow=8.8,SNR=5.8						
WRA				PcP	PcP	16 34 44.0	-0.5
	0.2nm,0.5s,baz=309,slow=2.9,SNR=7.6						

*NNC **26** 16:43:06.8±10.0, 40.77N×82.82E, mpv2.9, Error ellipse: s-maj=344.7km s-min=71.3km az=73.0*

BJI 26 16:43:11.1, 41.11N×83.77E, h8km, ML3.2, 3C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**3.97**	**46**	*e*P	Pn	16 44 16.5	+2.8
WMQ				S	Sn	16 45 05.0	+4.0
WMQ				SG	Sg	16 45 19.8	-3.5
WMQ				Smax			
	comp=N,11nm,0.5s						
WMQ				Smax			
	comp=E,23nm,0.5s						
MK31	**Makanchi Array**	**5.78**	**350**	⇑Pn	Pn	16 44 40.0	+0.7
	comp=E,0.8nm,0.7s,baz=154,slow=14,SNR=8.4						
MK31				⇑Lg		16 46 17.1	
	comp=E,4.4nm,0.6s,baz=166,slow=27,SNR=4.4						
KURK	**Kurchatov**	**10.25**	**341**	⇑Lg		16 48 35.5	
	comp=E,1.2nm,1.0s						

*IDC **26** 16:43:16.8±4.6, 6.15S×146.73E, h80km±39km, mb3.8/4, mb1 4.1/7, mb1mx3.8/14, mbtmp4.2/7, Error ellipse: s-maj=38.0km s-min=31.4km az=120.0*
*NEIC **26** 16:43:19.2±2.4, 6.21S×146.76E, h103km±20km, mb4.4/3, Error ellipse: s-maj=24.2km s-min=17.9km az=172.0*

ISC 26 16:43:19.1±3.0, 6.3S±0.2×146.8E±0.1, h112km±25km, n15, σ0°99/17, mb3.9/4, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.09**	**173**	P	**P**	**16 44 07.7**	**+0.4**
	25nm,0.3s,baz=46,slow=4.6,SNR=135						
PMG				S	**S**	**16 44 43.4**	**-0.4**
	12nm,0.3s,baz=357,slow=8.7,SNR=5.7						
PMG	**Port Moresby**	**3.09**	**173**	⇑*i*Pn	P	**16 44 07.7**	**+0.4**
PMG				*e*Sn	**S**	**16 44 43.8**	**-0.1**
CTA	**Charters Tower**	**13.70**	**182**	*e*P	**P**	**16 46 33.5**	**+3.8**
	4.4nm,0.5s						
CTA	**Charters Tower**	**13.70**	**182**	P	**P**	**16 46 30.3**	**+0.7**
	0.2nm,0.3s,baz=14,slow=15,SNR=5.2						
CTAO	**Charters Tower**	**13.70**	**182**	*e*Pn	**P**	**16 46 33.9**	**+4.3**
KAKA	**Kakadu**	**15.48**	**245**	*e*P	**P**	**16 46 54.3**	**+1.9**
	16nm,0.6s						
WRAB	**Tennant Creek**	**18.12**	**221**	*e*P	**P**	**16 47 24.1**	**-0.8**
	7.3nm,0.6s						
WB2	**Warramunga Arr**	**18.13**	**221**	*e*P	**P**	**16 47 23.5**	**-1.4**
WRA	**Warramunga Arr**	**18.14**	**221**	P	**P**	**16 47 24.1**	**-0.9**
	1.2nm,0.3s,baz=37,slow=11,SNR=69						
FITZ	**Fitzroy Crossi**	**23.70**	**238**	*e*P	**P**	**16 48 21.7**	**+0.1**
	15nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**23.70**	**238**	P	**P**	**16 48 22.1**	**+0.5**
	9.5nm,0.3s,mb4.6,baz=52,slow=5.8,SNR=62						
STKA	**Stephens Creek**	**25.88**	**190**	P	**P**	**16 48 42.3**	**+0.1**
	0.9nm,0.3s,mb3.7,baz=31,slow=5.9,SNR=4.8						
STKA	**Stephens Creek**	**25.88**	**190**	*e*P	**P**	**16 48 42.6**	**+0.4**
VNDA	**Vanda**	**71.61**	**177**	P	**P**	**16 54 31.1**	**+1.3**
	0.4nm,0.6s,mb3.5,baz=316,slow=5.7,SNR=5.3						
ILAR	**Eielson Array**	**85.87**	**23**	P	**P**	**16 55 46.2**	**-0.8**
	0.8nm,0.6s,mb3.8,baz=264,slow=4.9,SNR=5.9						

IGQ 26 17:09:56.3, 0.99S×78.80W, h17km±2km, mb4.1, 6C-15D, Error ellipse: s-maj=1.2km s-min=0.6km az=173.1, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QIL1	**Quilotoa**	**0.20**	**317**	⇓P	Pb	17 10 02.7	+1.6
PISA	**Pisayambo**	**0.42**	**99**	⇓P	Pb	17 10 05.1	+0.2
CAMI	**Rancho Maria**	**0.43**	**44**	⇓P	Pb	17 10 05.8	+0.8
NAS1	**Nasa**	**0.48**	**42**	⇓P	Pb	17 10 06.7	+0.9
IGUA	**Igualata**	**0.52**	**162**	⇑P	Pb	17 10 07.4	+0.8
TAMB	**Tambo**	**0.52**	**56**	⇓P	Pb	17 10 07.0	+0.4
VC1	**Cotopaxi 1**	**0.53**	**49**	⇓P	Pb	17 10 07.3	+0.6
JUIV	**Juive**	**0.55**	**142**	⇓P	Pb	17 10 07.1	+0.1
CUSU	**Cusua**	**0.55**	**145**	⇑P	Pb	17 10 07.5	+0.4
RUN5	**Runtun**	**0.57**	**138**	⇑P	Pb	17 10 07.5	+0.2
RETU	**Refugio**	**0.58**	**142**	P	Pb	17 10 08.3	+0.7
ULBA	**Ulba**	**0.60**	**139**	⇑P	Pb	17 10 08.0	0.0
ARRY	**Arrayan**	**0.62**	**146**	⇑P	Pb	17 10 08.4	+0.2
JUA2	**San Juan 2**	**0.80**	**14**	⇓P	Pb	17 10 11.9	+0.7
JUA2				S	Sb	17 10 22.6	+1.1
TERV	**Terraza Guagua**	**0.83**	**14**	⇓P	Pb	17 10 12.7	+0.8
GGP	**Refugio Guagua**	**0.84**	**14**	⇓P	Pb	17 10 12.5	+0.6
PINO	**Pino**	**0.85**	**13**	⇓P	Pb	17 10 12.9	+0.7
YANA	**Yana**	**0.90**	**15**	⇓P	Pb	17 10 13.3	+0.4
YANA				S	Sb	17 10 25.8	+1.4
JOR1	**San Jorge 1**	**1.00**	**9**	P	Pb	17 10 11.5	-3.2
CAYR	**Refugio Cayamb**	**1.28**	**39**	⇓P	Pb	17 10 20.6	+1.1
CAYA	**Cayambe**	**1.33**	**38**	⇓P	Pn	17 10 21.3	+1.0
LAV3	**Lava3-Reventad**	**1.47**	**53**	⇓P	Pn	17 10 24.2	+2.0
LAV3				S	Sb	17 10 44.5	+3.6
ECOPE	**Copete-Rev Vol**	**1.47**	**53**	P	Pn	17 10 24.1	+1.8
CONE	**Cono NE Rev Vo**	**1.48**	**52**	⇑P	Pn	17 10 24.2	+1.9
JAMA	**Jama**	**1.58**	**297**	P	Pn	17 10 25.4	+1.5
ECEN	**Cerro Negro**	**1.98**	**25**	P	Pn	17 10 32.7	+3.1
LORE	**San Lorenzo**	**2.27**	**359**	P	Pn	17 10 37.4	+3.7
LORE				S	Sn	17 11 07.0	+5.4

MEX 26 17:56:12.3±1.0, 18.29N×100.89W, h50km±137km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLIG	**Platanillo**	**1.32**	**85**	*i* P	P	17 56 33.5	-1.4
PLIG				*i* S	S	17 56 48.6	-3.1
CAIG	**El Cayaco**	**1.37**	**154**	*i* P	S	17 56 32.8	-2.8
CAIG				*i* S	S	17 56 50.7	-2.1
ACX	**Acapulco**	**1.69**	**147**	*i* P	P	17 56 38.0	-2.0
ACX				*i* S	S	17 56 58.0	-2.6

WEL 26 18:16:02.4±0.5, 39.69S×173.99E, h212km±4km, ML3.5/16, Error ellipse: s-maj=4.6km s-min=3.1km az=90.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAZ	**Wanganui**	**0.77**	**95**	PN	P	18 16 32.8	+0.4
WAZ				SN	S	18 16 54.9	-0.6
DUWZ	**D'Urville Isla**	**1.11**	**183**	PN	P	18 16 34.5	0.0
DUWZ				SN	S	18 16 57.0	-2.2
FWVZ	**Far West T-bar**	**1.29**	**71**	PN	P	18 16 35.3	-0.5
FWVZ				SN	S	18 16 59.7	-1.9
WPVZ	**Whakapapa**	**1.30**	**69**	PN	P	18 16 35.0	-0.9
CNZ	**Chateau**	**1.30**	**68**	PN	P	18 16 35.3	-0.6
NGZ	**Ngauruhoe**	**1.35**	**68**	PN	P	18 16 35.8	-0.2
TUVZ	**Tukino**	**1.36**	**72**	PN	P	18 16 35.9	-0.5
KIW	**Kapiti Island**	**1.36**	**149**	PN	P	18 16 36.1	-0.3
WTVZ	**West Tongariro**	**1.37**	**66**	PN	P	18 16 35.6	-0.8
WTVZ				SN	S	18 17 02.3	-0.5
MOVZ	**Moawhango**	**1.40**	**79**	PN	P	18 16 35.7	-1.0
MOVZ				SN	S	18 16 59.0	-4.2
TCW	**Tory Channel**	**1.54**	**172**	PN	P	18 16 37.8	0.0
TCW				SN	S	18 17 02.7	-2.6
TSZ	**Takapari Road**	**1.56**	**104**	PN	P	18 16 37.6	-0.5
QRZ	**Quartz Range**	**1.59**	**224**	PN	P	18 16 37.5	-0.9
NNZ	**Nelson**	**1.59**	**197**	PN	P	18 16 38.0	-0.4
MRW	**Makara Radio**	**1.63**	**161**	PN	P	18 16 38.3	-0.4
CAW	**Cannon Point**	**1.64**	**150**	PN	P	18 16 38.4	-0.4
WEL	**Wellington**	**1.70**	**160**	PN	P	18 16 38.7	-0.7
SNZO	**South Karori**	**1.71**	**161**	PN	P	18 16 38.9	-0.6
TUWZ	**Tuamarina**	**1.74**	**181**	PN	P	18 16 39.5	-0.2
MTW	**Mount Morrison**	**1.87**	**142**	PN	P	18 16 40.2	-0.7
MSWZ	**Moikau Station**	**1.97**	**151**	PN	P	18 16 41.5	-0.5
BKZ	**Black Stump Fm**	**2.01**	**76**	PN	P	18 16 41.1	-1.2
BSWZ	**Blackbirch Sta**	**2.02**	**182**	PN	P	18 16 42.4	0.0
THZ	**Tophouse**	**2.23**	**201**	PN	P	18 16 44.0	-0.6
PWZ	**Pawanui**	**2.24**	**100**	PN	P	18 16 44.1	-0.6
DSZ	**Denniston Nort**	**2.64**	**218**	PN	P	18 16 48.2	-0.9
KHZ	**Kahutara**	**2.74**	**187**	PN	P	18 16 49.6	-0.7
KNZ	**Kokohu**	**2.94**	**78**	PN	P	18 16 51.0	-1.5
MWZ	**Matawai**	**3.07**	**65**	PN	P	18 16 51.7	-2.3
LTZ	**Lake Taylor**	**3.35**	**202**	PN	P	18 16 56.1	-1.2
MQZ	**McQueen's Vall**	**4.13**	**194**	PN	P	18 17 04.8	-2.1

*IDC **26** 18:26:60.0±1.0, 23.34N×91.53E, mb3.9/9, mb1 4.0/9, mb1mx3.9/19, mbtmp3.9/9, MS3.4/2, Ms1 3.4/2, ms1mx3.0/23, Error ellipse: s-maj=47.0km s-min=18.1km az=58.0*
*BJI **26** 18:27:02.9, 23.24N×91.60E, h40km, mB4.3, mb4.2*
*NEIC **26** 18:27:05.3±3.3, 23.27N×

comp=Z,0.8nm,0.5s,mb4.0,baz=109,slow=5.9,SNR=8.2
GERES **GERESS Array B 64.96 315** P **P** 18 37 41.3 +0.3
comp=Z,0.4nm,0.5s,mb3.7,baz=76,slow=5.5,SNR=5.0
NB2 **NORSAR Subarra 65.28 328** P **P** 18 37 42.0 -0.8
comp=Z,0.1nm,0.6s,mb3.0,baz=85,slow=7.0
NOA **NORSAR Array B 65.28 328** P **P** 18 37 42.5 -0.3
comp=Z,0.6nm,0.6s,mb3.8,baz=85,slow=6.3,SNR=4.4
NOA **NORSAR Array B 65.28 328** P **P** 18 37 42.5 -0.3
STKA **Stephens Creek 72.81 137** P **P** 18 38 32.2 +2.4
comp=Z,2.3nm,1.0s,mb4.1,baz=259,slow=5.2,SNR=2.6
ILAR **Eielson Array 81.57 22** P **P** 18 39 17.6 -0.2
comp=Z,0.8nm,0.8s,mb3.7,baz=291,slow=5.8,SNR=6.6
SCHQ **Schefferville 100.09 347** LR LR 19 37 44.9
comp=Z,31nm,18.9s,MS3.8,baz=6.1,slow=42

MAN 26 18:28:05.9, 6.96N×123.78E, h30km, mb3.8, ML2.5, MS2.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.53**	**61**	*eP*		Pb	18 28 16.5	-0.3
CTBH				*i*	S	Sb	18 28 23.5	-0.7
PAGZ	**Pagadian**	**0.96**	**336**	*eP*		Pn	18 28 22.6	-1.0
PAGZ				*eS*		Sn	18 28 34.3	-2.0
IPIL	**Ipil**	**1.46**	**304**	*eP*		Pn	18 28 31.0	+0.4
IPIL				*eS*		Sn	18 28 48.7	-0.1
BUKP	**Musuan**	**1.56**	**54**	*eP*		Pn	18 28 32.2	+0.1
BUKP				*eS*		Sn	18 28 51.5	+0.1

*IDC **26** 18:43:11.2±2.7, 8.10N×73.06W, h151km±26km, mb3.5/7, mb1 3.7/8, mb1mx3.5/21, mbtmp3.9/8, Error ellipse: s-maj=32.8km s-min=16.1km az=80.0*
*NEIC **26** 18:43:13.0±0.8, 8.12N×73.02W, h166km±7km, mb3.9/2, Error ellipse: s-maj=13.5km s-min=9.0km az=96.0*
*FUNV **26** 18:43:14.1, 8.32N×73.05W, h158km, MW3.3*
ISC 26 18:43:11.4±0.6, 8.23N±0.05×72.99W±0.07, h166km±5km, n25, σ1§27/35, mb3.6/7, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAPV	**Capacho**	**0.76**	**118**	*eP*		**P**	**18 43 37.6**	**+1.3**
CAPV				*eS*		**S**	**18 43 55.7**	**+0.2**
VIGV	**El Vigia**	**1.72**	**69**	*eP*		**P**	**18 43 46.6**	**+1.8**
VIGV				*eS*		**S**	**18 44 10.3**	**-0.3**
VIRV	**Villa del Rosa**	**2.33**	**14**	*eP*		**P**	**18 43 51.1**	**-0.7**
VIRV				*eS*		**S**	**18 44 19.9**	**-2.9**
SDV	**Santo Domingo**	**2.42**	**74**	P		**P**	**18 43 54.5**	**+1.6**
	11nm,0.3s,baz=272,slow=8.4,SNR=92							
SDV				S		**S**	**18 44 24.8**	**0.0**
	50nm,0.3s,baz=350,slow=20,SNR=19							
SDV	**Santo Domingo**	**2.42**	**74**	*i*	Pn	**S**	**18 43 54.5**	**+1.6**
SDV				*e*	Sn	**S**	**18 44 25.4**	**+0.6**
QARV	**Quebrada Arrib**	**3.13**	**51**	*eP*		**P**	**18 44 02.9**	**+1.2**
QARV				*eS*		**S**	**18 44 37.4**	**-2.8**
CURV	**Curarigua**	**3.48**	**59**	*eP*		**P**	**18 44 06.7**	**+0.6**
CURV				*eS*		**S**	**18 44 45.0**	**-3.2**
DABV	**Dabajuro**	**3.54**	**41**	*eP*		**P**	**18 44 07.2**	**+0.2**
DABV				*eS*		**S**	**18 44 46.1**	**-3.5**
ROSC	**El Rosal**	**3.61**	**202**	P		**P**	**18 44 08.2**	**+0.4**
	15nm,0.3s,baz=102,slow=8.9,SNR=18							
ROSC				S		**S**	**18 44 48.2**	**-2.9**
	17nm,0.3s,baz=270,slow=24,SNR=9.6							
SANV	**Sanarito**	**3.64**	**69**	*eP*		**P**	**18 44 09.3**	**+1.1**
ELOV	**Elorza**	**3.69**	**109**	*eP*		**P**	**18 44 09.6**	**+0.8**
ELOV				*eS*		**S**	**18 44 52.2**	**-0.7**
SIQV	**Siquisique**	**3.95**	**52**	*eP*		**P**	**18 44 12.7**	**+0.4**
SIQV				*eS*		**S**	**18 44 55.4**	**-3.7**
MONV	**Montecano**	**4.75**	**39**	*eP*		**P**	**18 44 22.5**	**-0.1**
SAML	**Samuel**	**19.67**	**150**	*eP*		**P**	**18 47 29.0**	**-0.6**
	4.0nm,0.4s							
SAML				*eS*		**S**	**18 51 03.5**	**+6.2**
LPAZ	**La Paz**	**24.83**	**169**	P		**P**	**18 48 19.6**	**-0.4**
	1.5nm,0.6s,mb3.7,baz=342,slow=13,SNR=5.6							
SIV	**San Ignacio**	**26.80**	**154**	P		**P**	**18 48 37.0**	**-1.2**
	0.5nm,0.4s,mb3.5,baz=290,slow=9.1,SNR=4.7							
TXAR	**Lajitas Array**	**35.64**	**310**	P		**P**	**18 49 55.5**	**+0.3**
	0.3nm,0.4s,mb3.2,baz=129,slow=8.7,SNR=3.4							
PLCA	**Paso Flores**	**48.77**	**178**	P		**P**	**18 51 39.7**	**-1.7**
	0.9nm,0.5s,mb3.6,baz=341,slow=8.6,SNR=3.7							
PLCA	**Paso Flores**	**48.77**	**178**	P		**P**	**18 51 39.7**	**-1.7**
YKA	**Yellowknife Ar**	**61.99**	**340**	P		**P**	**18 53 15.6**	**-0.3**
	1.3nm,0.6s,mb3.9,baz=130,slow=7.1,SNR=12							
NB2	**NORSAR Subarra 80.05**		**29**	P		**P**	**18 55 04.9**	**+1.3**
	0.5nm,0.5s,mb3.4,baz=268,slow=5.6							
NOA	**NORSAR Array B 80.05**		**29**	P		**P**	**18 55 05.2**	**+1.6**
	0.6nm,0.6s,mb3.4,baz=270,slow=5.8,SNR=3.9							
ARCES	**ARCESS Array B 85.31**		**20**	P		**P**	**18 55 31.6**	**+1.2**
	1.6nm,0.9s,mb3.8,baz=281,slow=4.6,SNR=2.8							
WRA	**Warramunga Arr 151.10 243**			PKPbc		PKPdf	19 02 47.1	+7.7
	2.1nm,0.4s,baz=105,slow=2.8,SNR=72							
WRA				PKPab		PKPab	19 02 53.1	-3.0
	0.8nm,0.3s,baz=106,slow=2.7,SNR=16							
WRA				pPKPbc			19 03 27.8	
	1.2nm,0.5s,baz=108,slow=2.5,SNR=11							
WRA	**Warramunga Arr 151.10 243**			PKPbc		PKPdf	19 02 47.1	+7.7
WRA				PKPab		PKPab	19 02 53.1	-3.0
WRA				pPKPbc			19 03 27.8	

*BJI **26** 19:03:21.1, 6.56N×91.51E, h30km, mb4.1*
*NEIC **26** 19:03:24.3±1.1, 7.44N×92.04E, h30km, mb4.5/3, Error ellipse: s-maj=46.0km s-min=12.1km az=62.0*
*IDC **26** 19:03:25.3±1.4, 7.62N×92.09E, h31km±6km, mb3.4/5, mb1 3.6/5, mb1mx3.4/19, mbtmp3.5/5, MS3.6/2, Ms1 3.6/2, ms1mx3.2/13, Error ellipse: s-maj=49.5km s-min=20.8km az=57.0*
ISC 26 19:03:22.9±1.2, 7.4N±0.2×92.1E±0.3, h33km, h33km±1.1km:pP-P, n12, σ0§84/11, mb4.0/10, MS3.6/2, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMI	**Kunming**	**20.33**	**29**	P		**P**	**19 08 10.5**	**+11**
KMI				AMB		AMB		
	comp=Z,9.0nm,0.9s							
LSA	**Lhasa**	**22.16**	**358**	*eP*		**P**	**19 08 19.7**	**+2.0**
	comp=Z,18nm,1.0s,mb4.5							
GYA	**Guiyang**	**23.47**	**35**	*i*	P	**P**	**19 08 39.8**	**+9.2**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.3							
MBWA	**Marble Bar**	**39.31**	**137**	*eP*		**P**	**19 10 50.8**	**-0.2**
	comp=Z,25nm,1.5s,mb4.7							
MKAR	**Makanchi Array**	**40.10**	**350**	P		**P**	**19 10 56.3**	**-0.9**
	comp=Z,0.5nm,0.5s,mb3.5,baz=166,slow=9.1,SNR=5.7							
MKAR				pP		pP	19 11 05.8	-1.2
	comp=Z,1.2nm,0.6s,baz=167,slow=8.2,SNR=8.3							
MKAR				LR		LR	19 29 20.8	
	comp=Z,35nm,19.0s,MS3.2,baz=145,slow=39							
SONM	**Songino Array**	**42.06**	**14**	P		**P**	**19 11 12.6**	**-0.7**
	comp=Z,0.3nm,0.7s,mb3.0,baz=190,slow=8.8,SNR=3.6							
SONM				pP		pP	19 11 21.9	-1.1
	comp=Z,2.0nm,1.0s,baz=194,slow=9.4,SNR=11							
KURK	**Kurchatov**	**44.57**	**348**	*eP*		**P**	**19 11 33.3**	**-0.3**
	comp=Z,2.2nm,1.1s,mb3.9							
KURK				*e*	pP	pP	19 11 43.1	-0.3
ZAL	**Zalesovo**	**46.74**	**354**	P		**P**	**19 11 50.4**	**-0.4**
	comp=Z,0.6nm,0.4s,mb3.9,baz=286,slow=5.0,SNR=4.0							
WRA	**Warramunga Arr**	**49.70**	**124**	P		**P**	**19 12 15.2**	**+0.9**
	comp=Z,0.4nm,0.6s,mb3.6,baz=302,slow=8.6,SNR=5.7							
WRA				pP		pP	19 12 24.9	+0.7
	comp=Z,0.7nm,0.6s,baz=304,slow=8.5,SNR=4.9							
WRAB	**Tennant Creek**	**49.71**	**124**	P		**P**	**19 12 13.7**	**-0.6**
	comp=Z,20nm,1.6s,mb4.9							
WRAB				*e*	pP	pP	19 12 25.3	+1.0
CTA	**Charters Tower**	**59.90**	**118**	LR		LR	19 43 52.0	
	comp=Z,92nm,19.6s,MS3.9,baz=1.7,slow=40							
GERES	**GERESS Array B**	**76.78**	**318**	P		**P**	**19 15 13.4**	**+0.4**
	comp=Z,0.1nm,0.3s,mb3.2,baz=104,slow=4.0,SNR=4.1							
GERES				pP		pP	19 15 23.1	-0.3
	comp=Z,0.4nm,0.5s,baz=108,slow=4.2,SNR=3.0							

MAN 26 19:10:33.1, 13.77N×120.51E, h92km, mb4.0, ML2.8, MS2.4, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LUBP	**Lubang**	**0.26**	**262**	*eP*		P	19 10 47.9	+1.4
LUBP				*eS*		S	19 10 58.2	+1.4
PGP	**Puerto Galera**	**0.51**	**122**	*eP*		P	19 10 49.5	+1.2
BOAC	**Boac**	**1.34**	**103**	*eP*		P	19 10 58.0	+0.7
BOAC				*eS*		S	19 11 16.1	+0.8
SJMP	**San Jose**	**1.43**	**155**	*eP*		P	19 10 59.6	+1.1
SJMP				*eS*		S	19 11 18.6	+1.3
POLP	**Polilio Island**	**1.68**	**55**	*eP*		P	19 11 01.6	-0.1
BUSP	**Coron**	**1.78**	**190**	*eP*		P	19 11 03.2	+0.2
BUSP				*eS*		S	19 11 25.6	+0.6
OTRP	**Odiongan**	**2.03**	**133**	*eP*		P	19 11 06.4	+0.1
OTRP				*eS*		S	19 11 31.0	+0.2
ENPP	**El Nido**	**2.76**	**203**	*eP*		P	19 11 16.4	+0.1
ENPP				*eS*		S	19 11 48.8	0.0
CUYO	**Cuyo Island**	**2.94**	**170**	*eP*		P	19 11 18.6	-0.4
CUYO				*eS*		S	19 11 53.1	-0.3

*NIED **26** 19:33:00, 33.40N×142.30E, h5km, Mw5.0 Best double couple: M0 3.99×10^16 NP1:φs156°, δ64°, λ-90°. NP2: φs337°, δ26°, λ-89°.*
*JMA **26** 19:33:41.9±0.4, 33.40N×142.35E, h92km, M4.9*
*BJI **26** 19:33:41.9, 33.42N×142.10E, h24km, mB5.1, mb4.9, Ms4.8, Msz4.7*
*MOS **26** 19:33:42.6±1.0, 33.40N×142.24E, h33km, mb5.3/62, MS4.5/37, Error ellipse: s-maj=9.1km s-min=4.5km az=115.4*
*HRVD **26** 19:33:44.7±0.3, 33.39N×142.57E, h12km, MW5.0/64, Centroid moment Tensor Solution. LP body waves: s36,c49; Mantle waves: s64,c121; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mr -3.71±.09; Mθθ 0.00±.09; Mφφ 3.71±.07; Mrθ 0.47±.27; Mrφ -0.62±.07; Mθφ -1.35±.25; Best double couple: M0 4.023×10^16 NP1: φs174°, δ35°, λ-84°. NP2: φs347°, δ55°, λ-94°. Principal axes: T 4.066, Plg10°, Azm80°; N -.083, Plg3°, Azm350°; P -3.98, Plg79°, Azm241°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 19:33:44.7±0.2, 33.34N×142.22E, mb5.1/75, MS4.4/63, MW5.0(NIED) Error ellipse: s-maj=5.4km s-min=4.5km az=168.0*
*IDC **26** 19:33:44.8±0.4, 33.38N×142.25E, h41km±3km, mb4.4/31, mb1 4.6/35, mb1mx4.6/36, mbtmp4.7/35, ML4.3/4, MS4.3/17, Ms1 4.3/17, ms1mx4.2/23, Error ellipse: s-maj=8.5km s-min=6.0km az=165.0*
ISC 26 19:33:43.0±0.2, 33.31N±0.03×142.24E±0.02, h40km, h40km±1.0km:pP-P, n385, σ1§05/366, mb5.0/131, MS4.5/96, 17C-14D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**1.70**	**322**	P		**P**	**19 34 10.7**	**0.0**
JHJ2	**Mitsune**	**2.04**	**265**	P		**P**	**19 34 16.5**	**+0.9**
BSO3	**Boso 3**	**2.07**	**316**	P		**P**	**19 34 15.9**	**0.0**
BSO3				S		**S**	**19 34 41.6**	**+1.0**
JHJ	**Hachijo jima 2**	**2.07**	**265**	P		**P**	**19 34 16.5**	**+0.5**
	434nm,0.3s,baz=111,slow=8.0,SNR=101							
JHJ				S		**S**	**19 34 40.5**	**-0.2**
	2µm,0.3s,baz=235,slow=22,SNR=14							
BSO4	**Boso 4**	**2.30**	**317**	P		**P**	**19 34 19.2**	**-0.1**
BSO4				S		**S**	**19 34 46.8**	**+0.2**
KTR	**Katsuura**	**2.43**	**319**	P		**P**	**19 34 20.6**	**-0.5**
KTR				S		**S**	**19 34 50.4**	**+0.6**
JIM2	**Oshima 3**	**2.72**	**302**	P		**P**	**19 34 24.2**	**-1.1**
JIZS	**Izushimoda**	**3.12**	**298**	P		**P**	**19 34 30.5**	**-0.5**
JIZS				S		**S**	**19 35 07.8**	**+0.3**
JOD2	**Odawara 2**	**3.26**	**308**	P		**P**	**19 34 32.1**	**-0.8**
JYN	**Shimob**	**3.75**	**307**	P		**P**	**19 34 39.4**	**-0.5**
JRY	**Ryogami san**	**3.85**	**315**	P		**P**	**19 34 40.2**	**-1.2**
JRY				S		**S**	**19 35 26.7**	**+0.7**
JAG	**Ashikaga**	**3.86**	**324**	P		**P**	**19 34 39.5**	**-1.9**
MJAR	**Matsushiro Arr**	**4.62**	**315**	P		**P**	**19 34 51.6**	**-0.6**
	61nm,0.3s,baz=160,slow=13,SNR=362							
MJAR				S		**S**	**19 35 43.8**	**-1.6**
	54nm,0.3s,baz=155,slow=18,SNR=11							
MAJO	**Matsushiro**	**4.62**	**315**	*eP*		**P**	**19 34 53.0**	**+0.7**
MAT	**Matsushiro**	**4.62**	**315**	*eP*		**P**	**19 34 51.0**	**-1.3**
MAT				*eS*		**S**	**19 35 43.0**	**-2.4**
MAT	**Matsushiro**	**4.62**	**315**	P		**P**	**19 34 50.8**	**-1.5**
MAT				S		**S**	**19 35 43.0**	**-2.4**
MAT	**Matsushiro**	**4.62**	**315**	P		**P**	**19 34 51.8**	**-0.5**
MAT				S		**S**	**19 35 44.7**	**-0.7**
JMM	**Marumori**	**4.69**	**346**	P		**P**	**19 34 48.6**	**-4.7**
CBIJ	**Chichi jima**	**6.20**	**180**	P		**P**	**19 35 10.7**	**-3.7**
	77nm,0.3s,baz=281,slow=19,SNR=14							
CBIJ				S		**S**	**19 36 16.4**	**-8.4**
	133nm,0.3s,baz=56,slow=23,SNR=11							
JNU	**Nakatsue**	**9.52**	**272**	P		**P**	**19 36 01.1**	**+0.6**
	3.6nm,0.3s,baz=98,slow=24,SNR=22							
ASAJ	**Asahikawa**	**10.79**	**1**	P		**P**	**19 36 11.1**	**-6.8**
	18nm,0.3s,baz=210,slow=9.4,SNR=33							
ASAJ				S		**S**	**19 38 03.8**	**-15**
	4.8nm,0.3s,baz=74,slow=28,SNR=5.7							
ASAJ				LR		LR	19 40 51.2	
	comp=Z,2µm,21.4s,baz=187,slow=40							
YUK	**Yuzh-Kuril'sk**	**11.07**	**14**	*eP*		**P**	**19 36 13.0**	**-8.7**
YUK				pmax		pmax		
	comp=Z,330nm,0.5s							
YUK				MLR		MLR		
	comp=N,2µm,9.0s							
YUK				MLR		MLR		
	comp=Z,5µm,9.0s							
KS15	**Wonju Array Si**	**12.42**	**293**	*eP*		**P**	**19 36 42.3**	**+2.3**
INCN	**Inchon**	**13.39**	**292**	*eP*		**P**	**19 36 55.3**	**+2.5**
	comp=Z,18nm,0.6s							
YSS	**Yuzh-Sakhalins**	**13.63**	**1**	*eP*		**P**	**19 36 49.4**	**-6.4**
YSS				pmax		pmax		
	comp=N,50nm,0.9s							
YSS				pmax		pmax		
	comp=Z,60nm,0.9s							
YSS				MLR		MLR		
	comp=Z,1µm,14.0s							
YSS				MLR		MLR		
	comp=N,1µm,15.0s							
YSS	**Yuzh-Sakhalins**	**13.63**	**1**	*eP*		**P**	**19 36 49.8**	**-6.1**
	comp=N,119nm,1.0s							
JOW	**Kunigami**	**13.71**	**246**	P		**P**	**19 36 57.1**	**+0.2**
	comp=N,0.7nm,0.3s,baz=66,slow=14,SNR=7.2							
JOW				LR		LR	19 41 50.3	
	comp=N,1µm,20.4s,baz=268,slow=35							
MDJ	**Mudanjiang**	**14.95**	**323**	*eP*		**P**	**19 37 11.8**	**-1.3**
	comp=N,19nm,0.8s							
UGL	**Uglegorsk**	**15.75**	**360**	*eP*		**P**	**19 37 23.5**	**+0.1**
UGL				MLR		MLR		
	comp=Z,1µm,16.0s							
UGL				MLR		MLR		
	comp=N,2µm,14.0s							
UGL				MLR		MLR		
	comp=E,1µm,14.0s							
CN2	**Changchun**	**16.77**	**314**	*eP*		**P**	**19 37 34.8**	**-1.5**
CN2				AMB		AMB		
	comp=Z,20nm,1.1s							
CN2				AMB		AMB		
	comp=Z,240nm,4.0s							
CN2				LR		LR		
	comp=N,2µm,14.0s							
CN2				LR		LR		
	comp=E,1µm,14.0s							
CN2				LR		LR		
	comp=Z,1µm,15.0s							
SNY	**Shenyang**	**17.04**	**305**	P		**P**	**19 37 40.5**	**+0.8**
SNY				S		**S**	**19 40 48.5**	**+2.0**
SNY				AMB		AMB		
	comp=Z,50nm,0.6s							
SNY				LR		LR		
	comp=N,970nm,12.3s							
SNY				LR		LR		
	comp=E,2µm,14.7s							
SNY				LR		LR		
	comp=Z,2µm,15.7s							
DL2	**Dalian**	**17.55**	**294**	P		**P**	**19 37 47.3**	**+1.1**
DL2				S		**S**	**19 41 00.5**	**+2.3**
DL2				AMB		AMB		
	comp=Z,20nm,1.1s							
DL2				AMB		AMB		
	comp=Z,340nm,7.6s							
DL2				LR		LR		
	comp=N,960nm,12.6s							
DL2				LR		LR		
	comp=E,890nm,12.3s							
DL2				LR		LR		
	comp=Z,1µm,15.7s							
KLR	**Kul'dur**	**17.72**	**337**	*eP*		**P**	**19 37 41.5**	**-6.7**
SSE	**Sheshan**	**17.96**	**269**	*eP*		**P**	**19 37 48.5**	**-2.8**
SSE				AP			19 37 57.0	
SSE				S		**S**	**19 41 07.3**	**0.0**
SSE				XS			19 41 20.3	
SSE				AMB		AMB		
	comp=Z,35nm,0.8s							
SSE				AMB		AMB		
	comp=Z,392nm,9.0s							
SSE				LR		LR		
	comp=N,177nm,13.4s							
SSE				LR		LR		
	comp=E,1µm,13.4s							
SSE				LR		LR		
	comp=Z,1µm,12.9s							
SSE	**Sheshan**	**17.96**	**269**	*eP*		**P**	**19 37 48.5**	**-2.8**
	comp=Z,35nm,0.8s							
SSE				pP			19 37 57.1	
SSE				S		**S**	**19 41 07.2**	**-0.1**
SSE				sS			19 41 20.3	
NJ2	**Nanjing**	**19.72**	**273**	*eP*		**P**	**19 38 10.8**	**-1.1**
NJ2				AP			19 38 19.5	
NJ2				XP			19 38 23.5	
NJ2				PP		PP	19 38 29.8	-1.0
NJ2				S		**S**	**19 41 48.0**	**+1.2**
NJ2				XS			19 42 01.0	
NJ2				AMB		AMB		
	comp=Z,60nm,1.0s							
NJ2				AMB		AMB		
	comp=Z,290nm,6.0s							
NJ2				LR		LR		
	comp=N,2µm,14.2s							
NJ2				LR		LR		
	comp=E,2µm,17.2s							
NJ2				LR		LR		
	comp=Z,1µm,15.2s							
TATO	**Taipei**	**19.92**	**251**	*eP*		**P**	**19 38 11.2**	**-2.8**
	comp=Z,102nm,1.2s							
SKR	**Severo-Kuril's**	**20.13**	**26**	*eP*		**P**	**19 38 07.5**	**-8.7**
SKR				*e*			19 38 32.0	
SKR				*e*	PPP	PPP	19 38 45.0	-0.6
SKR				*eS*		**S**	**19 41 51.0**	**-4.0**
SKR				pmax		pmax		
	comp=Z,800nm,4.0s							
SKR				smax				
	comp=N,1µm,10.0s							
SKR				smax				
	comp=E,1µm,10.0s							
SKR				MLR		MLR		
	comp=N,1µm,20.0s,MS4.6							
SKR				MLR		MLR		
	comp=E,2µm,20.0s,MS4.6							
SKR				MLR		MLR		
	comp=Z,2µm,20.0s,MS4.4							
TIA	**Tai'an**	**20.82**	**285**	*eP*		**P**	**19 38 22.5**	**-1.0**
PET	**Petropavlovsk**	**22.95**	**26**	*eP*		**P**	**19 38 42.2**	**-2.3**
PET				*e*			19 39 08.1	
PET				*i*	S	**S**	**19 42 42.2**	**-5.4**
PET				*eSS*		SS	19 43 27.0	-6.2
PET				pmax		pmax		
	comp=Z,400nm,5.5s							
PET				pmax		pmax		
	comp=Z,100nm,11.5s							
PET				pmax		pmax		
	comp=Z,200nm,18.3s							
PET				smax				
	comp=N,500nm,10.5s							
PET				smax				
	comp=N,700nm,13.2s							
PET				MLR		MLR		
	comp=Z,600nm,16.0s,MS4.1							
PET	**Petropavlovsk**	**22.95**	**26**	PFAKE			19 39 00.0	+16
PET				LR		LR		
	comp=Z,546nm,19.0s,MS4.0							
HIA	**Hailar**	**23.10**	**320**	*eP*		**P**	**19 38 45.1**	**-0.9**
HIA				pmax		pmax		
	comp=Z,97nm,1.3s							
HIA				MLR		MLR		
	comp=Z,400nm,19.0s							
HIA	**Hailar**	**23.10**	**320**	*eP*		**P**	**19 38 45.0**	**-0.9**
	comp=Z,98nm,1.3s,mb5.1							
HIA				LR		LR		
	comp=Z,400nm,19.0s,MS3.9							
WHN	**Wuhan**	**23.81**	**271**	*eP*		**P**	**19 38 53.0**	**0.0**
WHN				LR		LR		
	comp=N,2µm,11.2s,MS5.0							
WHN				LR		LR		
	comp=E,2µm,10.0s,MS5.0							
WHN				LR		LR		
	comp=Z,3µm,13.0s,MS4.9							
CLNS	**Chul'man**	**26.37**	**338**	*eP*		**P**	**19 39 16.8**	**-0.3**
CLNS				*e*	PP	pP	19 39 22.5	-5.3
CLNS				*e*			19 39 59.9	
CLNS				*e*	PPP	PPP	19 40 10.4	-2.3
CLNS				pmax		pmax		
	comp=Z,23nm,1.0s,mb4.7							
CLNS				pmax		pmax		
	comp=N,57nm,1.3s							
CLNS				pmax		pmax		
	comp=E,12nm,0.8s							
CLNS				pmax		pmax		
	comp=Z,24nm,1.0s,mb4.7							
CLNS				pmax		pmax		
	comp=N,21nm,0.9s							
CLNS				pmax		pmax		
	comp=E,50nm,0.8s							
BTO	**Baotou**	**26.65**	**295**	*eP*		**P**	**19 39 20.0**	**+0.1**
MA2	**Magadan**	**26.87**	**10**	*de*	P	**P**	**19 39 20.2**	**-1.5**
MA2				*eS*		**S**	**19 43 51.6**	**-2.1**
MA2				*eSSS*		SSS	19 45 21.5	-5.2
MA2				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.3							
MA2				pmax		pmax		
	comp=N,9.0nm,1.2s							
MA2				MLR		MLR		
	comp=Z,800nm,20.0s,MS4.3							
MA2	**Magadan**	**26.87**	**10**	*eP*		**P**	**19 39 20.1**	**-1.6**
	comp=Z,27nm,1.2s,mb4.7							
MA2				LR		LR		
	comp=Z,378nm,19.0s,MS4.0							
XAN	**Xi'an**	**27.67**	**281**	P		**P**	**19 39 28.0**	**-1.3**
XAN				S		**S**	**19 44 07.0**	**+0.1**
XAN				AMB		AMB		
	comp=Z,39nm,2.1s,mb4.7							
XAN				LR		LR		
	comp=E,2µm,14.9s							
XAN				LR		LR		
	comp=Z,2µm,15.1s,MS4.9							
CIT	**Chita**	**27.91**	**321**	*eP*		**P**	**19 39 30.6**	**-0.6**
CIT				*e*			19 39 47.0	
CIT				pmax		pmax		
	comp=Z,423nm,2.5s,mb5.6							
ENH	**Enshi**	**27.94**	**273**	*eP*		**P**	**19 39 30.5**	**-1.3**
	comp=Z,90nm,0.9s,mb5.4							
ENH				*es*	P	sP	19 39 43.9	-3.7
ENH				LR		LR		
	comp=Z,1µm,19.0s,MS4.4							
FX1	**Attu Island--F**	**29.52**	**39**	P		**P**	**19 39 46.0**	**+0.4**
FX1				pmax		pmax		
	comp=Z,5.0nm,0.7s							
FX1				MLR		MLR		
	comp=Z,19nm,20.0s							
FX1	**Attu Island--F**	**29.52**	**39**	P		**P**	**19 39 46.0**	**+0.5**
	comp=Z,4.9nm,0.7s,mb4.3,baz=121,slow=5.9,SNR=4.0							
FX1				LR		LR	19 50 20

SEY eSSS SSS 19 46 52.6 +1.3
SEY pmax pmax
comp=N,60nm,0.9s
SEY pmax pmax
comp=Z,70nm,0.9s,mb5.4
SEY MLR MLR
comp=Z,500nm,13.0s,MS4.3
SONM Songino Array 30.54 309 P **P** **19 39 55.9 +1.2**
comp=Z,9.8nm,0.6s,mb4.8,baz=117,slow=8.3,SNR=58
SONM PcP PcP 19 42 51.9 -1.1
comp=Z,1.0nm,0.5s,baz=101,slow=1.5,SNR=5.2
SONM pPcP 19 43 05.6
comp=Z,0.7nm,0.4s,baz=123,slow=2.6,SNR=4.5
SONM LR LR 19 53 26.9
comp=Z,562nm,18.6s,MS4.2,baz=109,slow=39
SONM Songino Array 30.54 309 P **P** **19 39 55.9 +1.2**
SONM PcP PcP 19 42 51.9 -1.1
SONM pPcP 19 43 05.6
SONM LR LR 19 53 26.9
BOD Bodaibo 31.07 331 *eP* **P** **19 39 57.7 -1.6**
BOD *e* 19 40 03.7
BOD pmax pmax
comp=Z,111nm,0.7s,mb4.8
BOD pmax pmax
comp=Z,34nm,1.2s,mb5.0
GYA Guiyang 31.49 267⇑ *i*P **P** **19 40 01.8 -1.5**
GYA PP PP 19 41 07.3 -0.7
GYA S **S** **19 45 06.8 -0.6**
GYA XS 19 45 26.3
GYA SS SS 19 46 57.0 -0.1
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,210nm,3.9s
GYA LR LR
comp=N,700nm,14.4s,MS4.7
GYA LR LR
comp=E,960nm,14.0s,MS4.7
GYA LR LR
comp=Z,1μm,14.4s,MS4.7
LZH Lanzhou 31.56 286⇑ P **P** **19 40 03.5 -0.3**
LZH AP pP 19 40 11.5 -3.3
LZH XP sP 19 40 16.0 -3.9
LZH PP PP 19 41 09.5 +0.7
LZH *e*S **S** **19 45 10.5 +2.1**
LZH XS 19 45 24.3
LZH SS SS 19 46 59.3 +0.6
LZH AMB AMB
comp=Z,69nm,1.6s,mb5.2
LZH AMB AMB
comp=Z,360nm,6.1s
LZH LR LR
comp=E,3μm,14.3s
LZH LR LR
comp=Z,3μm,16.1s,MS5.0
LZH Lanzhou 31.56 286⇑ P **P** **19 40 03.5 -0.3**
LZH *PP pP 19 40 11.5 -3.3
LZH *SP sP 19 40 16.0 -3.9
LZH 19 41 09.5
LZH *e*S **S** **19 45 10.5 +2.1**
LZH *SS 19 45 24.2
LZH SS SS 19 46 59.2 +0.5
LZH pmax pmax
comp=Z,69nm,1.6s,mb5.2
LZH MLR MLR
comp=Z,3μm,16.1s,MS5.0
LZH Lanzhou 31.56 286⇑ P **P** **19 40 03.5 -0.3**
comp=Z,69nm,1.6s,mb5.2
LZH pP pP 19 40 11.5 -3.3
LZH sP sP 19 40 16.0 -3.9
LZH PP PP 19 41 09.5 +0.7
LZH *e*S **S** **19 45 10.5 +2.1**
LZH sS 19 45 24.2
LZH SS SS 19 46 59.2 +0.5
LZH LR LR
comp=Z,3μm,16.1s,MS5.0
QIZ Qiongzhong 32.22 252 P **P** **19 40 09.5 -0.3**
QIZ S **S** **19 45 15.3 -3.6**
QIZ AMB AMB
comp=Z,102nm,8.5s
QIZ LR LR
comp=N,493nm,14.3s,MS4.5
QIZ LR LR
comp=E,524nm,15.7s,MS4.5
QIZ LR LR
comp=Z,733nm,28.9s
QIZ Qiongzhong 32.22 252 PFAKE 19 40 20.0 +10
QIZ LR LR
comp=Z,295nm,21.0s,MS4.0
CD2 Chengdu 32.56 276 P **P** **19 40 11.5 -1.2**
CD2 S **S** **19 45 19.5 -4.7**
CD2 AMB AMB
comp=Z,30nm,0.7s,mb5.3
CD2 LR LR
comp=N,820nm,13.2s
CD2 LR LR
comp=Z,2μm,15.6s,MS4.8
IRK Irkutsk 33.18 316 *eP* **P** **19 40 18.0 +0.3**
IRK *e* 19 41 37.8
IRK pmax pmax
comp=Z,55nm,2.6s,mb5.0
ZAK Zakamensk 33.20 313⇓ *i*P **P** **19 40 18.4 +0.4**
ZAK *e* 19 42 59.5
ZAK pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
TLY Talaya 33.36 315 *eP* **P** **19 40 15.8 -3.5**
TLY *eS* **S** **19 45 40.6 +4.2**
TLY pmax pmax
comp=Z,18nm,0.9s,mb5.0
TLY MLR MLR
comp=Z,425nm,15.0s,MS4.3
TLY Talaya 33.36 315 *eP* **P** **19 40 19.8 +0.4**
comp=Z,22nm,0.9s,mb5.1
GTA Gaotai 34.46 293 ⇓P **P** **19 40 28.8 -0.2**
GTA SCP 19 46 43.5
GTA PCS 19 46 49.3
GTA AMB AMB
comp=Z,19nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,287nm,7.3s
GTA LR LR
comp=N,682nm,14.1s,MS4.7
GTA LR LR
comp=E,701nm,15.3s,MS4.7
GTA LR LR
comp=Z,784nm,17.2s,MS4.5
MIDW Midway 34.92 87 PFAKE 19 40 40.0 +7.0
MIDW LR LR
comp=Z,1μm,22.0s,MS4.6
MOY Mondy 34.94 314 *eP* **P** **19 40 33.3 +0.4**
MOY pmax pmax
comp=Z,37nm,2.0s,mb5.0
KMI Kunming 35.26 267 P **P** **19 40 35.3 -0.7**
KMI AP pP 19 40 44.5 -2.6
KMI XP sP 19 40 48.5 -3.7
KMI AMB AMB
comp=Z,14nm,1.0s,mb4.8
KMI AMB AMB
comp=Z,176nm,5.2s
KMI LR LR
comp=N,741nm,17.8s,MS4.7
KMI LR LR
comp=E,947nm,15.5s,MS4.7
KMI LR LR
comp=Z,978nm,14.7s,MS4.7
KMI Kunming 35.26 267 P **P** **19 40 35.3 -0.7**
KMI *PP pP 19 40 44.6 -2.5
KMI *SP sP 19 40 48.4 -3.8
KMI 19 42 00.2
KMI PPP PPP 19 42 17.3 +2.9
KMI SS SS 19 48 55.7 +31
KMI pmax pmax
comp=Z,14nm,1.0s,mb4.8
KMI MLR MLR
comp=Z,980nm,14.7s,MS4.7
KMI Kunming 35.26 267 P **P** **19 40 35.3 -0.7**
comp=Z,14nm,1.0s,mb4.8
KMI pP pP 19 40 44.6 -2.5
KMI sP sP 19 40 48.4 -3.8
KMI PP PP 19 42 00.2 +4.4
KMI PPP PPP 19 42 17.3 +2.9
KMI PcP PcP 19 42 53.6 -13
KMI S **S** **19 46 22.8 +17**
KMI PS 19 46 33.5
KMI sS 19 46 38.0
KMI PcS 19 46 43.0
KMI SS SS 19 48 55.7 +31
KMI LR LR
comp=Z,980nm,14.7s,MS4.7
BILL Bilibino 37.42 15⇓ *i*P **P** **19 40 52.7 -1.0**
BILL pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
BILL MLR MLR
comp=Z,300nm,18.0s,MS4.1
BILL Bilibino 37.42 15 PFAKE 19 41 10.0 +16
BILL LR LR
comp=Z,314nm,20.0s,MS4.1
WMQ Urumqi 43.22 301 P **P** **19 41 42.5 +0.6**
LSA Lhasa 43.36 280 *eP* **P** **19 41 44.8 +1.6**
LSA Lhasa 43.36 280 *eP* **P** **19 41 43.4 +0.2**
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
LSA MLR MLR
comp=Z,337nm,20.0s,MS4.2
LSA Lhasa 43.36 280 *eP* **P** **19 41 43.4 +0.2**
comp=Z,6.3nm,0.6s,mb4.5
LSA LR LR
comp=Z,337nm,20.0s,MS4.2
KSM Kuching 43.58 230 *eP* **P** **19 41 45.1 -0.1**
KSM *eS*P sP 19 41 59.0 -2.4
ZAL Zalesovo 44.99 315 P **P** **19 41 55.6 -0.3**
comp=Z,2.4nm,0.4s,mb4.4,baz=11,slow=7.2,SNR=15
ZAL PcP PcP 19 43 35.6 -1.4
comp=Z,5.3nm,0.6s,baz=356,slow=5.1,SNR=5.2
ZAL pPcP 19 43 49.1
comp=Z,2.9nm,0.7s,baz=352,slow=1.7,SNR=3.4
ZAL LR LR 20 01 55.3
comp=Z,247nm,18.1s,MS4.2,baz=15,slow=38
NVS Novosibirsk 45.95 316 *eP* **P** **19 42 02.6 -1.0**
NVS *e* 19 43 45.5
NVS *eS* **S** **19 48 45.5 +0.8**
NVS pmax pmax
comp=N,8.0nm,1.3s
NVS pmax pmax
comp=E,38nm,1.3s
NVS pmax pmax
comp=Z,42nm,1.3s,mb5.2
NVS smax
comp=N,18nm,2.4s
NVS smax
comp=E,17nm,1.8s
KAKA Kakadu 46.71 193 *eP* **P** **19 42 11.8 +1.7**
comp=E,10nm,0.6s,mb4.9
MKAR Makanchi Array 46.74 305 P **P** **19 42 10.2 +0.2**
comp=E,7.5nm,0.6s,mb4.8,baz=84,slow=10.0,SNR=44
MKAR PcP PcP 19 43 43.7 +0.4
comp=E,4.4nm,0.8s,baz=104,slow=5.9,SNR=1.9
MKAR S **S** **19 49 02.1 +6.0**
comp=E,0.3nm,0.7s,baz=108,slow=4.6,SNR=2.4
MKAR LR LR 20 02 40.0
comp=E,390nm,20.2s,MS4.4,baz=83,slow=37
GUN Gumba 48.32 279 *eP* **P** **19 42 22.6 +0.1**
comp=E,61nm,0.6s,mb5.8
KURK Kurchatov 48.82 311 *eP* **P** **19 42 25.2 -0.8**
KURK *e*PP pP 19 42 35.1 -2.3
KURK pmax pmax
comp=Z,48nm,0.7s,mb5.6
KURK MLR MLR
comp=Z,154nm,20.0s,MS4.0
KURK Kurchatov 48.82 311 *eP* **P** **19 42 25.2 -0.9**
comp=Z,48nm,0.7s,mb5.6
KURK *epP pP 19 42 35.1 -2.3
KURK LR LR
comp=Z,154nm,20.0s,MS4.0
PKI Pulchoki 48.83 279 *eP* **P** **19 42 26.4 0.0**
comp=Z,38nm,0.8s,mb5.5
KKN Kakani 48.85 280 *eP* **P** **19 42 26.7 0.0**
comp=Z,57nm,0.8s,mb5.7
DMN Daman 49.06 279 *eP* **P** **19 42 28.4 +0.1**
comp=Z,34nm,0.8s,mb5.4
GKN Gorkha 49.31 280 *eP* **P** **19 42 30.2 0.0**
comp=Z,65nm,0.6s,mb5.8
SPU Mount Spurr 49.83 35 *eP* **P** **19 42 32.8 -0.9**
SPU *epP pP 19 42 45.1 +0.1
KOLN Koldanda 50.25 280 *eP* **P** **19 42 37.0 -0.4**
comp=Z,45nm,0.8s,mb5.6
AAA Alma-Ata 51.02 301 *eP* **P** **19 42 42.0 -1.1**
AAA S **S** **19 50 00.0 +4.0**
AAA MLR MLR
comp=Z,600nm,14.0s,MS4.8
PMR Palmer 51.24 35 PFAKE 19 43 00.0 +16
PMR LR LR
comp=Z,249nm,20.0s,MS4.2
TKM2 Tokmak 2 52.07 301 P **P** **19 42 52.0 +1.1**
SNR=29
ILAR Eielson Array 52.30 31 P **P** **19 42 50.2 -2.1**
comp=Z,3.1nm,0.5s,mb4.5,baz=261,slow=6.0,SNR=45
ILAR pP pP 19 43 02.3 -1.5
comp=Z,9.6nm,1.0s,baz=263,slow=6.1,SNR=14
ILAR LR LR 20 05 11.2
comp=Z,108nm,19.5s,MS3.9,baz=182,slow=36
KZA Kyzart 52.51 300 P **P** **19 42 55.9 +1.7**
SNR=9.1
KBK Karagaybulak 52.59 301 P **P** **19 42 55.6 +0.8**
SNR=16
KSH Kashi 52.62 297 *eP* **P** **19 42 57.0 +1.9**
KSH *eAP pP 19 43 07.8 +1.3
KSH *eXP sP 19 43 11.8 +0.5
KSH *ePCP PcP 19 44 06.3 +1.5
KSH *ePP PP 19 44 57.0 +1.5
KSH *ePCS 19 48 03.3
KSH *eS **S** **19 50 22.3 +4.3**
KSH *eSCS ScS 19 52 40.0 +1.9
KSH *eSS SS 19 53 59.3 +4.0
KSH AMB AMB
comp=Z,530nm,3.3s
KSH LR LR
comp=N,1μm,14.0s,MS5.2
KSH LR LR
comp=E,1μm,14.5s,MS5.2
CHMS Chumysh 52.65 302 P **P** **19 42 56.9 +1.6**
SNR=6.7
USP Ospenovka 52.77 302 P **P** **19 42 57.8 +1.7**
SNR=13
FRU Bishkek 52.79 301 *eP* **P** **19 42 57.0 +0.7**
FRU *e* 19 43 05.0
FRU pmax pmax
comp=Z,60nm,1.6s,mb5.3
AAK Ala-Archa 52.92 301 *eP* **P** **19 42 56.9 -0.4**
AAK *e*PP pP 19 43 07.3 -1.5
AAK pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
AAK MLR MLR
comp=Z,98nm,19.0s,MS3.9
AAK Ala-Archa 52.92 301 *eP* **P** **19 42 56.9 -0.4**
comp=Z,9.3nm,0.7s,mb4.8
AAK *epP pP 19 43 07.3 -1.5
AAK LR LR
comp=Z,98nm,19.0s,MS3.9
CTA Charters Tower 53.24 175 P **P** **19 43 00.1 +0.1**
comp=Z,4.7nm,0.6s,mb4.6,baz=352,slow=7.7,SNR=10
VOSK Vostochnaya 53.31 314 P **P** **19 42 58.6 -1.4**
VOSK pmax pmax
comp=Z,42nm,1.3s,mb5.2
EKS2 Erkin-Say 53.43 301 P **P** **19 43 01.1 0.0**
SNR=8.7
WRAB Tennant Creek 53.48 189 *eP* **P** **19 43 00.2 -1.5**
WRAB pmax pmax
comp=Z,16nm,0.6s,mb5.1
WRAB Tennant Creek 53.48 189 *eP* **P** **19 43 00.2 -1.6**
comp=Z,16nm,0.6s,mb5.1
WB2 Warramunga Arr 53.49 189⇑ *i*P **P** **19 42 59.8 -2.0**
WRA Warramunga Arr 53.49 189 P **P** **19 43 00.1 -1.7**
comp=Z,12nm,0.5s,mb5.1,baz=7.6,slow=7.7,SNR=173
WRA PcP PcP 19 44 08.2 -0.1
comp=Z,4.7nm,0.6s,baz=1.3,slow=4.2,SNR=6.5
WRA S **S** **19 50 35.1 +5.1**
comp=Z,0.5nm,1.0s,baz=14,slow=14,SNR=2.9
FITZ Fitzroy Crossi 53.53 200⇑ *i*P **P** **19 43 01.3 -0.8**
comp=Z,29nm,0.6s,mb5.4
FITZ Fitzroy Crossi 53.53 200 P **P** **19 43 01.5 -0.6**
comp=Z,38nm,0.6s,mb5.5,baz=9.1,slow=8.6,SNR=72
BVA0 Borovoye Array 53.62 315 *i* P **P** **19 43 00.4 -1.9**
BVA0 pmax pmax
comp=Z,7.0nm,1.5s,mb4.4
BVAR Borovoye Array 53.62 315 P **P** **19 43 02.1 -0.2**
comp=Z,2.6nm,0.6s,mb4.4,baz=76,slow=6.1,SNR=30
BVAR S **S** **19 50 39.8 +8.5**
comp=Z,0.4nm,0.7s,baz=51,slow=9.2,SNR=3.8
AML Almayashu 53.62 301 P **P** **19 43 03.6 +1.2**
SNR=36
BRVK Borovoye 53.68 315 *eP* **P** **19 43 02.4 -0.3**
BRVK *e*PP pP 19 43 13.8 -0.5
BRVK pmax pmax
comp=Z,25nm,1.1s,mb5.1
BRVK MLR MLR
comp=Z,53nm,21.0s,MS3.6
BRVK Borovoye 53.68 315 *eP* **P** **19 43 02.4 -0.3**
comp=Z,25nm,1.1s,mb5.1
BRVK *epP pP 19 43 13.8 -0.5
BRVK LR LR
comp=Z,53nm,21.0s,MS3.6
DDI Dehra Dun 53.85 285 *e* **P** **19 43 04.0 -0.4**
SDNR Sundarnagar 54.31 287 *eP* **P** **19 43 08.0 +0.3**
THN Thein Dam 54.98 289 *eP* **P** **19 43 11.0 -1.6**
KKAR Karatay Array 55.64 303 *i* P **P** **19 43 17.2 0.0**
KKAR pmax pmax
comp=Z,13nm,0.8s,mb5.0
POHA Pohakuloa 56.55 87 PFAKE 19 43 40.0 +16
POHA LR LR
comp=Z,7μm,22.0s
INK Inuvik 57.41 26 P **P** **19 43 27.9 -1.5**
comp=Z,3.9nm,0.5s,mb4.7,baz=301,slow=5.3,SNR=15
INK LR LR 20 09 03.5
comp=Z,183nm,18.1s,MS4.2,baz=84,slow=37
MBWA Marble Bar 58.27 205 *eP* **P** **19 43 35.5 -0.6**
comp=Z,9.6nm,0.6s,mb5.0
MBWA *epP pP 19 43 48.4 +0.7
SIT Sitka 58.80 39 PFAKE 19 43 50.0 +11
SIT LR LR
comp=Z,527nm,20.0s,MS4.7
HYB Hyderabad 58.87 271 *eP* **P** **19 43 40.0 -0.3**
HYB Hyderabad 58.87 271 *i* P **P** **19 43 40.0 -0.3**
ARU Arti 59.62 320⇓ *i*P **P** **19 43 43.9 -1.1**
ARU *e* 19 44 28.9
ARU *e* 19 45 54.5
ARU *ePPP PPP 19 47 17.4 -6.8
ARU *eS **S** **19 51 53.5 +2.8**
ARU *e* 19 53 28.8
ARU *eSS SS 19 55 52.9 +5.1
ARU pmax pmax
comp=Z,19nm,0.8s,mb5.2
ARU MLR MLR
comp=Z,400nm,17.0s,MS4.6
ARU MLR MLR
comp=N,100nm,16.0s,MS4.4
ARU MLR MLR
comp=E,200nm,18.0s,MS4.4
ARU Arti 59.62 320 *eP* **P** **19 43 44.0 -1.0**
comp=E,14nm,0.6s,mb5.2
ARU LR LR
comp=Z,45nm,20.0s,MS3.6
AB31 Akbulak array 60.89 312 *i* P **P** **19 43 52.5 -1.3**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
DLBC Dease Lake 61.16 37 P **P** **19 43 55.5 0.0**
comp=Z,1.2nm,0.3s,mb4.5,baz=296,slow=4.1,SNR=4.7
DLBC pP pP 19 44 07.5 +0.3
comp=Z,4.0nm,0.7s,baz=278,slow=10,SNR=3.6
DLBC LR LR 20 07 44.0
comp=Z,159nm,20.3s,MS4.2,baz=128,slow=33
DLBC Dease Lake 61.16 37 P **P** **19 43 55.5 0.0**
DLBC pP pP 19 44 07.5 +0.3
DLBC LR LR 20 07 44.0
KBS Kingsbay 64.43 351 PFAKE 19 44 30.0 +13
KBS LR LR
comp=Z,164nm,20.0s,MS4.2
KBS Kingsbay 64.43 351 *eS* **S** **19 52 54.9 +3.9**
KBS AMS AMS 20 14 25.0
comp=Z,77nm,24.3s,MS3.8
STKA Stephens Creek 64.84 181⇑ *i*P **P** **19 44 19.6 -0.6**
comp=Z,6.8nm,0.6s,mb4.8
STKA *e* pP 19 44 32.8 +0.8
STKA Stephens Creek 64.84 181 P **P** **19 44 19.6 -0.5**
comp=Z,9.6nm,0.7s,mb4.9,baz=331,slow=7.9,SNR=23
STKA pP pP 19 44 32.5 +0.4
comp=Z,10nm,0.7s,baz=331,slow=9.4,SNR=8.7
LVZ Lovozero 65.78 337 *eP* **P** **19 44 24.8 -0.8**
LVZ pmax pmax
comp=Z,18nm,1.3s,mb4.9
LVZ pmax pmax
comp=N,10.0nm,1.4s
LVZ MLR MLR
comp=Z,354nm,17.0s,MS4.6
LVZ MLR MLR
comp=N,127nm,15.0s,MS4.5
LVZ MLR MLR
comp=E,216nm,16.0s,MS4.5
APA Apatity 66.36 337⇓ *i*P **P** **19 44 22.5 -6.8**
APA *eS* S 19 53 22.0 +7.4
APA pmax pmax
comp=Z,21nm,1.0s,mb5.1
APA MLR MLR
comp=Z,600nm,18.0s,MS4.8
YKW3 Yellowknife Ar 66.66 29 *eP* **P** **19 44 30.1 -1.1**
YKW3 *epP pP 19 44 42.4 -0.7
YKA Yellowknife Ar 66.69 29 P **P** **19 44 30.3 -1.2**
comp=Z,2.6nm,0.6s,mb4.5,baz=297,slow=6.3,SNR=16
YKA pP pP 19 44 42.8 -0.5
comp=Z,9.2nm,1.0s,baz=295,slow=6.3,SNR=9.9
YKA LR LR 20 14 17.1
comp=Z,108nm,18.3s,MS4.1,baz=265,slow=36
KEV Kevo 67.16 340 *ep* **P** **19 44 32.5 -1.8**
comp=Z,3.5nm,0.5s,mb4.7
KEV Kevo 67.16 340 PFAKE 19 44 50.0 +16
KEV LR LR
comp=Z,118nm,19.0s,MS4.1
PECR Pechory 67.19 323 *i* P **P** **19 44 34.0 -0.7**
PECR *e* 19 45 00.0
PECR pmax pmax
comp=Z,500nm,1.8s
PECR MLR MLR
comp=Z,500nm,16.0s,MS4.8
ARCES ARCESS Array B 67.72 340 P **P** **19 44 37.2 -0.5**
comp=Z,3.5nm,0.7s,mb4.5,baz=79,slow=6.2,SNR=26
ARCES pP pP 19 44 49.4 -0.2
comp=Z,4.6nm,0.8s,baz=63,slow=5.4,SNR=6.0
ARCES LR LR 20 20 49.4
comp=Z,267nm,18.1s,MS4.5,baz=172,slow=42
ARCES ARCESS Array B 67.72 340 P **P** **19 44 37.2 -0.5**
ARCES pP pP 19 44 49.4 -0.3
ARCES LR LR 20 20 49.4
ARE0 ARCESS Array S 67.72 340 *eP* **P** **19 44 36.6 -1.1**
OCWA Octopus Mounta 68.40 46 PFAKE 19 44 50.0 +7.6
OCWA LR LR
comp=Z,181nm,19.0s,MS4.3
KLBR Kellerberrin 68.57 202 *eP* **P** **19 44 43.0 -0.8**
comp=Z,22nm,1.1s,mb5.0
MUN Mundaring 69.43 203 *eP* **P** **19 44 49.4 +0.4**
comp=Z,8.6nm,1.2s,mb4.6
MUN Mundaring 69.43 203 *eP* **P** **19 44 49.4 +0.4**
MUN pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
TRO Tromso 69.45 342 *eS* S 19 53 54.4 +2.8
TRO AMS AMS 20 22 24.8
comp=Z,304nm,14.2s,MS4.7
NWAO Narrogin (SRO) 69.97 202 P **P** **19 44 52.3 0.0**
comp=Z,23nm,0.6s,mb5.3,baz=17,slow=6.1,SNR=33
NWAO pP pP 19 45 05.6 +1.4
comp=Z,21nm,0.6s,baz=34,slow=6.8,SNR=5.6
NWAO Narrogin (SRO) 69.97 202 P **P** **19 44 52.3 0.0**
NWAO pP pP 19 45 05.6 +1.4
MOS Moscow 70.65 325 *eP* **P** **19 44 55.3 -0.7**
MOS *e* 19 45 21.7
MOS *e* 19 47 29.3
MOS *ePPP PPP 19 49 13.5 -2.0
MOS *eS S 19 54 06.1 +0.2
MOS pmax pmax
comp=Z,53nm,1.2s,mb5.3
MOS MLR MLR
comp=Z,500nm,17.5s,MS4.8
OBN Obninsk 71.49 324*d* *i*P **P** **19 45 00.2 -0.9**
OBN *e* pP 19 45 13.1 +0.1
OBN *e* 19 47 37.9
OBN *eSS SS 19 58 55.9 +3.1
OBN pmax pmax
comp=Z,46nm,1.8s,mb5.1
OBN MLR MLR
comp=Z,300nm,13.0s,MS4.7
OBN Obninsk 71.49 324 PFAKE 19 45 10.0 +8.9
OBN LR LR
comp=Z,49nm,22.0s,MS3.7
HUMO Hull Mountain 71.52 51 PFAKE 19 45 10.0 +8.5
HUMO LR LR

comp=Z,324nm,20.0s,MS4.6
EDM Edmonton 71.85 38 P **P** **19 45 02.7 -0.6**
EDM e*PP pP 19 45 14.4 -0.8
KAF Kangasniemi 71.93 334 eP **P** **19 45 02.6 -0.9**
comp=Z,13nm,0.5s,mb5.1,baz=50,slow=5.7
YBH Yreka Blue Hor 72.10 52 P **P** **19 45 04.8 -0.2**
comp=Z,1.6nm,0.7s,mb4.1,baz=31,slow=1.9,SNR=4.9
YBH pP pP 19 45 17.4 +0.6
comp=Z,4.5nm,0.9s,baz=308,slow=4.1,SNR=4.5
NEW Newport 72.34 44 P **P** **19 45 05.8 -0.4**
comp=Z,1.9nm,0.4s,mb4.4,baz=285,slow=9.7,SNR=5.8
NEW pP pP 19 45 18.1 0.0
comp=Z,5.4nm,0.7s,baz=309,slow=2.4,SNR=3.0
NEW Newport 72.34 44 P **P** **19 45 05.8 -0.4**
NEW pP pP 19 45 18.1 0.0
NEW LR LR
comp=Z,167nm,20.0s,MS4.3
FINES FINESS Array B 72.42 333 P **P** **19 45 06.2 -0.3**
comp=Z,7.5nm,0.7s,mb4.7,baz=72,slow=6.0,SNR=26
FINES LR LR 20 21 02.0
comp=Z,227nm,18.2s,MS4.5,baz=64,slow=39
FINES FINESS Array B 72.42 333 P **P** **19 45 06.2 -0.3**
FINES LR LR 20 21 02.0
MOR8 Moi Rana 73.08 340 eP **P** **19 45 08.6 -1.7**
HOPS Hopland 73.19 54 PFAKE 19 45 20.0 +8.6
HOPS LR LR
comp=Z,599nm,20.0s,MS4.9
MOD Modoc 73.58 51 PFAKE
MOD LR LR 19 45 30.0 +16
comp=Z,230nm,21.0s,MS4.4
KIV Kislovodsk 73.88 312 eP **P** **19 45 16.8 +1.4**
KIV pmax pmax
comp=Z,16nm,0.9s,mb5.0
KIV MLR MLR
comp=Z,52nm,19.0s,MS3.8
KIV Kislovodsk 73.88 312 eP **P** **19 45 16.8 +1.4**
comp=Z,16nm,0.9s,mb5.0
KIV LR LR
comp=Z,52nm,19.0s,MS3.8
VSU Vasula 74.01 330 *i* P **P** **19 45 15.0 -0.8**
WVOR Wild Horse Val 74.38 49 eP **P** **19 45 18.7 +0.4**
WVOR e*PP pP 19 45 30.9 +0.7
WVOR pmax pmax
comp=Z,25nm,1.5s,mb4.9
WVOR MLR MLR
comp=Z,272nm,20.0s,MS4.5
WVOR Wild Horse Val 74.38 49 eP **P** **19 45 18.7 +0.4**
comp=Z,25nm,1.5s,mb4.9
WVOR epP pP 19 45 30.9 +0.6
WVOR LR LR
comp=Z,272nm,20.0s,MS4.5
SUMG Summit 74.40 0 eP **P** **19 45 19.7 +1.9**
comp=Z,6.5nm,0.5s,mb4.8
SUMG epP pP 19 45 31.0 +1.2
GNI Garni 74.50 308*d i* P **P** **19 45 19.7 +0.7**
GNI pmax pmax
comp=Z,27nm,1.5s
GNI MLR MLR
comp=Z,300nm,20.0s
GNI Garni 74.50 308 P **P** **19 45 18.2 -0.8**
comp=Z,2.1nm,0.4s,mb4.4,baz=14,slow=4.2,SNR=4.6
GNI Garni 74.50 308 eP **P** **19 45 14.7 -4.4**
comp=Z,26nm,1.3s,mb5.0
GNI LR LR
comp=Z,229nm,20.0s,MS4.5
MSO Missoula 74.92 44 PFAKE
MSO LR LR 19 45 30.0 +8.7
comp=Z,95nm,22.0s,MS4.0
CHMT Chamberlain Mo 75.28 43 eP **P** **19 45 24.2 +0.8**
SAO San Andreas Ge 75.41 56 PFAKE 19 45 40.0 +16
SAO LR LR
comp=Z,503nm,19.0s,MS4.8
CMB Columbia Colle 75.49 54 eP **P** **19 45 24.4 -0.4**
CMB e*PP pP 19 45 37.1 +0.4
CMB pmax pmax
comp=Z,12nm,0.9s,mb4.8
CMB MLR MLR
comp=Z,512nm,22.0s,MS4.8
CMB Columbia Colle 75.49 54 eP **P** **19 45 24.4 -0.4**
comp=Z,12nm,0.9s,mb4.8
CMB epP pP 19 45 37.1 +0.4
CMB LR LR
comp=Z,512nm,22.0s,MS4.8
SOC Sochi 75.90 313 eP **P** **19 45 25.5 -1.5**
SOC e 19 45 42.8
SOC e 19 48 13.9
SOC eS S 19 55 07.2 +1.8
SOC e 19 55 36.6
SOC pmax pmax
comp=Z,25nm,0.8s,mb5.2
SOC pmax pmax
comp=N,3.0nm,0.5s
SOC pmax pmax
comp=E,8.0nm,0.8s
SOC MLR MLR
comp=Z,286nm,16.0s,MS4.7
SOC MLR MLR
comp=N,114nm,18.0s,MS4.5
SOC MLR MLR
comp=E,181nm,16.0s,MS4.5
MNK Minsk 75.99 327 eP **P** **19 45 24.0 -3.2**
HRY Holter Researc 76.20 43 eP **P** **19 45 29.2 +0.6**
HRY e pP 19 45 41.5 +0.9
BMN Battle Mountai 76.34 51 PFAKE 19 45 40.0 +10
BMN LR LR
comp=Z,318nm,19.0s,MS4.7
FFC Flin Flon 76.47 32 eP **P** **19 45 29.9 -0.1**
FFC e pP 19 45 41.1 -0.8
FFC pmax pmax
comp=Z,18nm,1.0s,mb5.0
FFC MLR MLR
comp=Z,49nm,19.0s,MS3.8
FFC Flin Flon 76.47 32 eP **P** **19 45 29.9 -0.1**
comp=Z,18nm,1.0s,mb5.0
FFC e pP 19 45 41.1 -0.8
FFC LR LR
comp=Z,49nm,19.0s,MS3.8
OMM Old Mammoth Mi 76.65 54 eP **P** **19 45 20.8 -11**
NVAR Mina Array Bea 76.68 53 P **P** **19 45 31.1 -0.5**
comp=Z,2.6nm,0.7s,mb4.3
NVAR pP pP 19 45 43.0 -0.5
comp=Z,8.3nm,0.9s,baz=315,slow=4.4,SNR=5.0
BOZ Bozeman (W) 76.92 44 PFAKE
BOZ LR LR 19 45 40.0 +7.3
comp=Z,140nm,19.0s,MS4.3
ELK Elko 77.44 49 P **P** **19 45 36.7 +1.0**
comp=Z,0.7nm,0.4s,mb4.0,baz=306,slow=6.7,SNR=11
ELK pP pP 19 45 48.3 +0.6
comp=Z,2.4nm,0.6s,baz=333,slow=3.8,SNR=5.2
ELK Elko 77.44 49 P **P** **19 45 36.7 +1.0**
ELK pP pP 19 45 48.3 +0.6
ELK LR LR
comp=Z,262nm,21.0s,MS4.5
QLMT Earthquake Lak 77.49 44 eP **P** **19 45 36.6 +0.7**
TPH Tonopah 77.59 53 eP **P** **19 45 38.6 +2.0**
TPH MLR MLR
comp=Z,355nm,20.0s,MS4.7
AKASG Malin Array Be 77.66 323 P **P** **19 45 36.2 -0.5**
comp=Z,4.1nm,0.5s,mb4.6,baz=46,slow=5.8,SNR=30
NB2 NORSAR Subarra 77.88 338 P **P** **19 45 37.0 -0.7**
comp=Z,18nm,0.8s,mb5.0,baz=40,slow=5.6
NB2 NORSAR Subarra 77.88 338 P **P** **19 45 37.0 -0.7**
NB2 pmax pmax
comp=Z,18nm,0.8s,mb5.0
NB2 NORSAR Subarra 77.88 338 P **P** **19 45 37.0 -0.7**
baz=40,slow=5.6
NOA NORSAR Array B 77.88 338 P **P** **19 45 37.1 -0.6**
comp=Z,9.3nm,0.6s,mb4.9,baz=39,slow=5.7,SNR=54
NOA LR LR 20 25 10.2
comp=Z,244nm,19.1s,MS4.5,baz=30,slow=40
ISA Isabella 78.04 55 PFAKE 19 45 50.0 +11
ISA LR LR
comp=Z,122nm,22.0s,MS4.2
DAC Darwin (Calif) 78.31 54 PFAKE
DAC LR LR 19 45 50.0 +9.4
comp=Z,382nm,21.0s,MS4.7
IMW Indian Meadow 78.32 45 eP **P** **19 45 41.6 +1.1**
comp=Z,10nm,1.0s,mb4.7
RRI2 Red Ridge 78.40 46 eP **P** **19 45 41.9 +1.0**
comp=Z,40nm,1.7s,mb5.1
SIM Simferopol' 78.47 316 eP **P** **19 45 41.0 -0.3**
SIM eS S 19 55 41.0 +7.9
SIM pmax pmax
comp=Z,11nm,0.8s,mb4.8
MOOW Moose Ponds 78.52 45 eP **P** **19 45 42.0 +0.4**
comp=Z,62nm,2.0s,mb5.2
MOOW epP pP 19 45 54.9 +1.3
TPAW Teton Pass 78.54 45 eP **P** **19 45 42.9 +1.2**
comp=Z,10nm,0.9s,mb4.8
REDW Red Top Meadow 78.67 45 eP **P** **19 45 44.4 +2.0**
comp=Z,24nm,1.5s,mb4.9
REDW epP pP 19 45 55.4 +0.9
LOHW Long Hollow 78.68 45 eP **P** **19 45 44.2 +1.7**
AHID Auburn Hatcher 78.87 46 PFAKE 19 46 00.0 +16
AHID LR LR
comp=Z,146nm,21.0s,MS4.3
HWUT Hardware Ranch 79.25 47 eP **P** **19 45 46.2 +0.6**
comp=Z,31nm,1.6s,mb5.0
HWUT LR LR
comp=Z,196nm,22.0s,MS4.4
DGMT Dagmar 79.33 38 eP **P** **19 45 46.4 +0.5**
comp=Z,11nm,0.7s,mb4.9
LAO LASA Array 79.35 41 eP **P** **19 45 46.1 +0.1**
comp=Z,42nm,1.5s,mb5.2
LAO epP pP 19 45 58.9 +0.8
LAO LR LR
comp=Z,251nm,19.0s,MS4.6
KONO Kongsberg 79.47 338 eP **P** **19 45 45.5 -0.9**
KONO MLR MLR
comp=Z,328nm,20.0s,MS4.7
MALT Malatya 79.62 309 eP **P** **19 45 49.9 +2.2**
MALT pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MALT Malatya 79.62 309 eP **P** **19 45 49.9 +2.1**
comp=Z,7.1nm,1.0s,mb4.5
BW06 Boulder Array 79.79 45 PFAKE
BW06 LR LR 19 46 00.0 +11
comp=Z,167nm,22.0s,MS4.3
PDAR Pinedale Array 79.79 45 P **P** **19 45 47.4 -1.1**
comp=Z,1.1nm,0.7s,mb3.9,baz=278,slow=1.4,SNR=11
PDAR pP pP 19 46 00.6 0.0
comp=Z,1.3nm,0.6s,baz=297,slow=6.6,SNR=7.7
PDAR LR LR 20 14 10.4
comp=Z,120nm,21.2s,MS4.2,baz=147,slow=30
DAU Daniels Canyon 80.13 48 eP **P** **19 45 51.5 +1.1**
DAU e*PP pP 19 46 03.9 +1.4
BER Bergen 80.17 340 AMS AMS 20 25 10.6
comp=Z,217nm,16.3s,MS4.6
FRB Frobisher Bay 80.23 13 P **P** **19 45 50.0 -0.5**
comp=Z,11nm,0.9s,mb4.8,baz=308,slow=8.1,SNR=4.0
FRB Frobisher Bay 80.23 13 P **P** **19 45 50.0 -0.5**
ARUT Antelope Range 80.24 51 eP **P** **19 45 52.2 +1.1**
NEN Nelson 80.52 54 eP **P** **19 45 51.5 -1.1**
NEN epP pP 19 46 05.1 +0.5
PFO Pinyon Flat Ob 80.55 56 PFAKE 19 46 00.0 +7.2
PFO LR LR
comp=Z,128nm,19.0s,MS4.3
MSU Marysvale 80.65 50 eP **P** **19 45 54.2 +1.0**
MSU e*PP pP 19 46 04.8 -0.5
SRU San Rafael 81.35 49 eP **P** **19 45 57.1 +0.2**
SRU e*PP pP 19 46 09.6 +0.7
KWP Kalwaria 81.55 325 eP **P** **19 45 58.9 +1.2**
KWP e*PP pP 19 46 11.3 +1.5
KWP pmax pmax
comp=Z,81nm,1.3s,mb5.5
KWP Kalwaria 81.55 325 eP **P** **19 45 58.9 +1.2**
comp=Z,81nm,1.3s,mb5.5
KWP epP pP 19 46 11.2 +1.5
BURAR Bucovina Array 81.66 322 ⇓P **P** **19 45 59.5 +1.2**
BURAR Bucovina Array 81.66 322 ⇓P **P** **19 45 59.5 +1.2**
CFR Carcaliu 81.69 319 ⇓P **P** **19 46 00.6 +2.1**
RWWY Rawlins 81.83 45 eP **P** **19 46 00.7 +1.4**
comp=Z,29nm,1.3s,mb5.0
RWWY epP pP 19 46 12.7 +1.3
BRTR Keskin Array B 81.84 312 P **P** **19 46 00.4 +1.0**
comp=Z,6.2nm,0.7s,mb4.7,baz=101,slow=4.0,SNR=29
GLA Glamis 81.99 56 eP **P** **19 46 00.1 -0.2**
GLA e*PP pP 19 46 11.7 -0.7
VRI Vrincioaia 82.01 320 P **P** **19 46 02.1 +2.0**
RSSD Black Hills 82.15 42 eP **P** **19 46 03.6 +2.7**
RSSD e*PP pP 19 46 13.5 +0.5
RSSD pmax pmax
comp=Z,29nm,1.7s,mb4.9
RSSD Black Hills 82.15 42 eP **P** **19 46 03.6 +2.7**
comp=Z,29nm,1.7s,mb4.9
RSSD epP pP 19 46 13.5 +0.5
ULM Lac du Bonnet 82.23 33 P **P** **19 46 00.7 -0.5**
comp=Z,1.4nm,0.5s,mb4.2,baz=131,slow=1.9,SNR=4.2
ULM LR LR 20 20 41.8
comp=Z,109nm,20.4s,MS4.2,baz=1.3,slow=34
KOLS Kolonicke sedl 82.24 325 eP **P** **19 46 01.6 +0.4**
KOLS epP pP 19 46 13.6 +0.3
KOLS e 19 48 32.9
PPT Papeete 82.36 117 eLR LR 20 11 03.8
comp=Z,379nm,24.5s,baz=332
PPT Papeete 82.36 117 LR LR 20 15 41.1
comp=Z,215nm,19.5s,MS4.5,baz=56,slow=30
STHS Stebnicka Huta 82.40 326 eP **P** **19 46 03.8 +1.8**
OJC Ojcow 82.51 327 eP **P** **19 46 03.0 +0.4**
OJC eS S 19 56 10.9 -4.0
OJC MLR MLR 20 25 54.0
comp=Z,200nm,19.8s,MS4.5
CRVS Cervenica-Dubn 82.65 325 eP **P** **19 46 11.4 +8.1**
CRVS Cervenica-Dubn 82.65 325 e **P** **19 46 11.4 +8.1**
MLR Muntele Rosu 82.67 321 P **P** **19 46 04.7 +1.2**
MLR Muntele Rosu 82.67 321 ⇑P **P** **19 46 04.6 +1.1**
MLR Muntele Rosu 82.67 321 ⇑P **P** **19 46 04.6 +1.1**
NIE Niedzica 82.83 326 eP **P** **19 46 05.7 +1.4**
PHWY Pilot Hill 83.11 45 eP **P** **19 46 07.5 +1.6**
PHWY epP pP 19 46 18.6 +0.7
VOIR 83.18 321 ⇑P **P** **19 46 07.7 +1.6**
KECS Kecovo 83.41 325 eP **P** **19 46 07.0 -0.2**
DRGR 83.48 323 ⇓P **P** **19 46 08.0 +0.4**
OKC Ostrava-Krasne 83.53 327 eP **P** **19 46 08.3 +0.5**
OKC eS S 19 56 29.2 +4.0
OKC AMS AMS 20 29 40.0
comp=Z,400nm,14.2s
KSP Ksiaz 83.62 329 eP **P** **19 46 09.4 +1.2**
KSP eS S 19 56 31.0 +5.0
BSEG Bad Segeberg 83.69 334 eP **P** **19 46 08.8 +0.4**
MORC Moravsky Berou 83.85 328 P **P** **19 46 11.9 +2.5**
DPC Dobruska-Polom 83.97 329 eP **P** **19 46 10.4 +0.4**
DPC eS S 19 56 32.5 +3.0
DPC AMS AMS 20 28 40.0
comp=Z,400nm,16.3s
UPC Upice 83.99 329 eP **P** **19 46 10.5 +0.4**
PSZ Piszkesteto 84.08 325 P **P** **19 46 12.4 +1.8**
PSZ Piszkesteto 84.08 325‖ eP **P** **19 46 11.5 +0.9**
VYHS Vyhne 84.18 326 eP **P** **19 46 12.0 +0.9**
PVCC Panska Ves 84.60 330 eP **P** **19 46 13.7 +0.6**
PVCC AMS AMS 20 29 40.0
comp=Z,400nm,16.1s
BRG Berggiesshubel 84.60 330 *i* P **P** **19 46 13.3 +0.2**
BRG pmax pmax
comp=Z,15nm,1.0s,mb5.1
BRG MLR MLR
comp=Z,430nm,16.7s,MS4.9
BRG Berggiesshubel 84.60 330 *i* P **P** **19 46 13.3 +0.2**
comp=Z,15nm,1.0s,mb5.1
BRG LR LR
comp=Z,430nm,16.7s,MS4.9
TAOE Nuku Hiva Isla 84.61 104 eLR LR 20 12 08.6
comp=Z,2µm,26.2s
VRAC Vranov 84.61 328 P **P** **19 46 14.9 +1.7**
CLL Collm 84.66 331⇑ *i* P **P** **19 46 13.9 +0.5**
CLL eS S 19 56 41.0 +4.7
CLL pmax pmax
comp=Z,25nm,1.0s,mb5.3
CLL Collm 84.66 331⇑ *i* P **P** **19 46 13.9 +0.5**
comp=Z,25nm,1.0s,mb5.3
CLL eS S 19 56 41.0 +4.7
CLL Collm 84.66 331⇑P **P** **19 46 13.9 +0.5**
comp=Z,logA/T=1.4,mb5.3
CLL e*PP pP 19 46 26.0 +0.4
CLL ePP PP 19 49 29.0 -2.2
CLL eS S 19 56 41.0 +4.7
SMOL Smolenice 84.81 327 eP **P** **19 46 15.6 +1.4**
PRU Pruhonice 85.01 329 eP **P** **19 46 15.5 +0.3**
PRU eS S 19 56 46.5 +6.7
PRU AMS AMS 20 29 30.0
comp=Z,300nm,17.2s
ZST Bratislava 85.19 327 eSCS ScS 19 56 51.3 +1.0
ZST eL 20 30 58.0
TUC Tucson 85.20 54 eP **P** **19 46 20.0 +3.4**
TUC e*PP pP 19 46 29.4 +0.7
TUC pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
TUC Tucson 85.20 54 eP **P** **19 46 19.9 +3.4**
comp=Z,6.8nm,1.0s,mb4.7
TUC epP pP 19 46 29.4 +0.6
CLZ Clausthal 85.30 332 eP **P** **19 46 17.3 +0.7**
CLZ pmax pmax
comp=Z,21nm,1.1s,mb5.2
CLZ Clausthal 85.30 332 eP **P** **19 46 17.3 +0.7**
comp=Z,21nm,1.1s,mb5.2
SDCO Great Sand Dun 85.31 47 eP **P** **19 46 17.6 +0.6**
comp=Z,18nm,0.9s,mb5.2
SDCO epP pP 19 46 30.6 +1.5
SDCO LR LR
comp=Z,196nm,22.0s,MS4.5
NKC Novy Kostel 85.71 330 eP **P** **19 46 20.2 +1.6**
NKC eS S 19 56 53.3 +6.7
NKC AMS AMS 20 29 50.0
comp=Z,400nm,14.7s
MOX Moxa 85.73 331 eP **P** **19 46 20.0 +1.3**
MOX eS S 19 56 56.0 +9.2
MOX pmax pmax
comp=Z,21nm,1.5s,mb5.2
MOX MLR MLR
comp=Z,400nm,15.0s,MS4.9
MOX Moxa 85.73 331 eP **P** **19 46 20.0 +1.3**
comp=Z,21nm,1.5s,mb5.2
MOX eS S 19 56 56.0 +9.2
MOX LR LR
comp=Z,400nm,15.0s,MS4.9
MOX Moxa 85.73 331 *i* P **P** **19 46 20.0 +1.3**
comp=Z,logA/T=1.1,mb5.1
MOX S S 19 56 56.0 +9.2
MOX L 20 33 20.0
TBI Tubuai 86.03 121 eLR LR 20 12 45.0
comp=Z,313nm,23.2s,baz=312
KHC Kasperske Hory 86.07 329 eP **P** **19 46 21.6 +1.2**
KHC e 19 46 40.5
KHC e 19 56 56.9
KHC MLR MLR
comp=Z,300nm,18.3s,MS4.7
KHC Kasperske Hory 86.07 329 eP **P** **19 46 21.6 +1.2**
KHC x x 19 46 40.5
KHC eS S 19 56 56.9 +6.8
KHC AMS AMS 20 30 20.0
comp=Z,300nm,18.3s
GEC2 GERESS Array S 86.23 329 eP **P** **19 46 22.1 +0.9**
GEC2 pmax pmax
comp=Z,6.0nm,1.2s,mb4.7
GEC2 GERESS Array S 86.23 329 eP **P** **19 46 22.1 +0.9**
comp=Z,6.0nm,1.2s,mb4.7
GERES GERESS Array B 86.23 329 P **P** **19 46 21.3 +0.1**
comp=Z,1.1nm,0.5s,mb4.4,baz=34,slow=4.8,SNR=13
GERES PP PP 19 49 35.6 -8.4
comp=Z,0.2nm,0.5s,baz=4.8,slow=12,SNR=2.3
LAZ Ladron 86.35 51 eP **P** **19 46 21.3 -0.9**
LAZ epP pP 19 46 35.4 +1.0
WET Wettzell 86.36 329 eP **P** **19 46 22.7 +0.9**
WET pmax pmax
comp=Z,18nm,1.8s,mb5.0
WET Wettzell 86.36 329 eP **P** **19 46 22.7 +0.9**
comp=Z,18nm,1.8s,mb5.0
ANMO Albuquerque 86.45 50 P **P** **19 46 23.4 +0.8**
comp=Z,5.6nm,1.1s,mb4.7,baz=297,slow=8.8,SNR=12
ANMO pP pP 19 46 35.4 +0.6
comp=Z,9.0nm,1.0s,baz=296,slow=7.0,SNR=7.9
ARSA Arzberg 86.61 327⇑ *i* P **P** **19 46 24.2 +1.1**
comp=Z,76nm,2.5s,mb5.5
GRA1 Grafenberg Arr 86.63 331 eP **P** **19 46 24.2 +1.1**
comp=Z,31nm,1.3s,mb5.4
GRF Grafenberg Arr 86.63 331 eP **P** **19 46 24.2 +1.1**
GRF pmax pmax
comp=Z,31nm,1.3s,mb5.4
GRF Grafenberg Arr 86.63 331 eP **P** **19 46 24.2 +1.1**
GRF pmax pmax
comp=Z,31nm,1.3s,mb5.4
GRF Grafenberg Arr 86.63 331 eP **P** **19 46 24.2 +1.1**
comp=Z,31nm,1.3s,mb5.4
BNM Barren Site 86.84 51 eP **P** **19 46 24.8 +0.2**
BNM epP pP 19 46 36.8 0.0
ESK Eskdalemuir 86.89 341 PFAKE 19 46 40.0 +16
ESK LR LR
comp=Z,58nm,19.0s,MS4.0
TNS Taunus Mts 87.33 332 eP **P** **19 46 27.2 +0.7**
TNS pmax pmax
comp=Z,24nm,1.5s,mb5.2
TNS Taunus Mts 87.33 332 eP **P** **19 46 27.2 +0.7**
comp=Z,24nm,1.5s,mb5.2
PDKS Podkum 87.74 326 eP **P** **19 46 28.2 -0.4**
CBKS Cedar Bluff 88.06 44 PFAKE 19 46 40.0 +10
CBKS LR LR
comp=Z,165nm,19.0s,MS4.5
SCHQ Schefferville 88.72 16 P **P** **19 46 33.5 +0.5**
comp=Z,4.5nm,0.8s,mb4.9,baz=341,slow=4.7,SNR=4.4
SCHQ LR LR 20 27 40.2
comp=Z,89nm,18.4s,MS4.2,baz=296,slow=36
BFO Black Forest 88.88 331 eP **P** **19 46 34.8 +0.8**
BFO pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
BFO Black Forest 88.88 331 eP **P** **19 46 34.8 +0.8**
comp=Z,6.0nm,0.9s,mb4.9
DAVA Damuels 89.07 330⇑ *i* P **P** **19 46 36.3 +1.4**
comp=Z,8.2nm,1.3s,mb4.9
MNTX Cornudas Mount 89.19 52 PFAKE 19 46 50.0 +14
MNTX LR LR
comp=Z,216nm,19.0s,MS4.6
CDF Champ du Feu 89.23 332 eP **P** **19 46 35.8 +0.1**
comp=Z,14nm,1.0s,mb5.0
CDF Champ du Feu 89.23 332 eP **P** **19 46 35.8 +0.1**
CDF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
HAU Haudompre 89.93 332 eP **P** **19 46 38.2 -0.7**
HAU eR
comp=Z,176nm,20.0s
CABF La Chapelle 91.17 331 eP **P** **19 46 43.3 -1.5**
comp=Z,15nm,1.1s,mb5.0
CABF La Chapelle 91.17 331 eP **P** **19 46 43.3 -1.5**
CABF pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
LOR Lormes 91.49 333 eP **P** **19 46 45.2 -1.1**
LOR eR
comp=Z,167nm,21.2s
FLN La Foliniere 91.78 336 eP **P** **19 46 46.7 -0.9**
FLN eR
comp=Z,209nm,21.2s
LPL La Plagne 91.79 330 eP **P** **19 46 47.8 +0.1**
comp=Z,9.8nm,0.7s,mb5.0
LPL La Plagne 91.79 330 eP **P** **19 46 47.8 +0.1**
LPL pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
SSF Saint Saulge 91.80 333 eP **P** **19 46 47.4 -0.3**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
SSF Saint Saulge 91.80 333 eP **P** **19 46 47.4 -0.3**
comp=Z,5.3nm,0.9s,mb4.9
LPG La Plagne 91.80 330 eP **P** **19 46 47.9 +0.2**
comp=Z,20nm,0.8s,mb5.2
LPG La Plagne 91.80 330 eP **P** **19 46 47.9 +0.2**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
LTX Lajitas 91.84 53 eP **P** **19 46 47.2 -1.1**
LTX pmax pmax
comp=Z,20nm,1.4s,mb5.2
LTX Lajitas 91.84 53 eP **P** **19 46 47.2 -1.1**
comp=Z,20nm,1.4s,mb5.2
TXAR Lajitas Array 91.84 53 P **P** **19 46 48.1 -0.2**
comp=Z,3.3nm,0.6s,mb4.8,baz=307,slow=3.4,SNR=24
TXAR pP pP 19 47 01.4 +0.7
comp=Z,5.7nm,0.6s,baz=308,slow=3.1,SNR=11
TXAR LR LR 20 23 46.3
comp=Z,290nm,20.0s,MS4.7,baz=290,slow=33
SMF Signal de Mont 92.02 333 eP **P** **19 46 48.4 -0.3**
comp=Z,8.1nm,0.7s,mb4.8
SMF Signal de Mont 92.02 333 eP **P** **19 46 48.4 -0.3**
SMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
AVF Avril sur Loir 92.08 333 eP **P** **19 46 48.8 -0.2**
comp=Z,21nm,0.8s,mb5.2
AVF Avril sur Loir 92.08 333 eP **P** **19 46 48.8 -0.2**
AVF pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
BNI Bardonecchia 92.19 330 eP **P** **19 46 49.8 +0.3**
BNI pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
BNI Bardonecchia 92.19 330 eP **P** **19 46 49.8 +0.3**
comp=Z,6.4nm,1.0s,mb4.9
GRR Gorron 92.23 336 eP **P** **19 46 49.0 -0.6**
MBDF Montbardon 92.42 330 eP **P** **19 46 49.9 -0.7**
comp=Z,10nm,0.7s,mb5.0
MBDF Montbardon 92.42 330 eP **P** **19 46 49.9 -0.7**
MBDF pmax pmax

comp=Z,5.0nm,0.7s,mb5.0
BGF Bois d'Agland 92.47 333 *e*P **P** **19 46 50.4 -0.4**
ORIF Oris-en-Rattie 92.63 331 *e*P **P** **19 46 51.2 -0.4**
comp=Z,12nm,0.8s,mb5.0
ORIF *e*R
comp=Z,179nm,21.2s
SBF Sospel 92.83 329 *e*P **P** **19 46 51.5 -1.0**
comp=Z,32nm,0.8s,mb5.5
SBF Sospel 92.83 329 *e*P **P** **19 46 51.5 -1.0**
SBF pmax pmax
comp=Z,16nm,0.8s,mb5.5
TCF Toulx Ste Croi 92.94 334 *e*P **P** **19 46 52.1 -0.8**
comp=Z,21nm,1.1s,mb5.2
TCF Toulx Ste Croi 92.94 334 *e*P **P** **19 46 52.1 -0.8**
TCF pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
VIVF Saint-Julien-l 93.17 331 *e*P **P** **19 46 53.8 -0.2**
comp=Z,14nm,0.9s,mb5.1
VIVF Saint-Julien-l 93.17 331 *e*P **P** **19 46 53.8 -0.2**
VIVF pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
PGF Pioggiola 93.19 327 *e*P **P** **19 46 53.2 -1.0**
CCM Cathedral Cave 93.31 39 *e*P **P** **19 46 55.3 +0.4**
CCM pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
CCM MLR MLR
comp=Z,157nm,20.0s,MS4.5
CCM Cathedral Cave 93.31 39 *e*P **P** **19 46 55.3 +0.4**
comp=Z,10.0nm,0.8s,mb5.3
CCM LR LR
comp=Z,157nm,20.0s,MS4.5
FRF La Foret Royal 93.41 329 *e*P **P** **19 46 54.7 -0.5**
comp=Z,8.4nm,0.8s,mb4.9
FRF La Foret Royal 93.41 329 *e*P **P** **19 46 54.7 -0.5**
FRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
SMRF Simiane la Rot 93.53 330 *e*P **P** **19 46 55.2 -0.5**
comp=Z,6.2nm,0.8s,mb4.8
LMR La Mourre 93.66 329 *e*P **P** **19 46 55.2 -1.1**
comp=Z,30nm,1.1s,mb5.3
LMR La Mourre 93.66 329 *e*P **P** **19 46 55.2 -1.1**
LMR pmax pmax
comp=Z,15nm,1.1s,mb5.3
RJF Les Rejaudoux 94.03 333 *e*P **P** **19 46 57.0 -0.9**
comp=Z,16nm,0.9s,mb5.1
RJF *e*R
comp=Z,203nm,20.8s
RJF Les Rejaudoux 94.03 333 *e*P **P** **19 46 57.0 -0.9**
RJF pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
RJF MLR MLR
comp=Z,200nm,20.8s,MS4.6
CAF Calviac 94.14 333 *e*P **P** **19 46 58.1 -0.3**
comp=Z,7.0nm,0.8s,mb4.8
CAF Calviac 94.14 333 *e*P **P** **19 46 58.1 -0.3**
CAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
LASF Ste Croix 94.15 331 *e*P **P** **19 46 57.9 -0.5**
comp=Z,49nm,1.7s,mb5.4
NATX Nacogdoches 95.92 46 PFAKE 19 47 20.0 +13
NATX LR LR
comp=Z,259nm,20.0s,MS4.7
RKT Rikitea 96.69 113 *e*LR LR 20 17 43.2
comp=Z,301nm,34.0s,baz=304
ETSF Etsaut 96.86 333 *e*P **P** **19 47 09.4 -1.4**
comp=Z,4.2nm,0.8s,mb4.6
ETSF Etsaut 96.86 333 *e*P **P** **19 47 09.4 -1.4**
ETSF pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
PLAL Pickwick Lake 97.30 40 PFAKE 19 47 20.0 +6.9
PLAL LR LR
comp=Z,189nm,19.0s,MS4.6
HRV Harvard--Oak R 98.43 25 PFAKE 19 47 30.0 +12
HRV LR LR
comp=Z,130nm,22.0s,MS4.4
BLA Blacksburg 99.35 33 PFAKE 19 47 30.0 +7.7
BLA LR LR
comp=Z,175nm,19.0s,MS4.6
LRAL Lakeview Retre 99.36 40 PFAKE 19 47 30.0 +7.6
LRAL LR LR
comp=Z,188nm,19.0s,MS4.6
CBN Corbin 99.88 31 PFAKE 19 47 40.0 +15
CBN LR LR
comp=Z,302nm,22.0s,MS4.8
NHSC New Hope 102.81 35 PFAKE 19 47 50.0 +12
NHSC LR LR
comp=Z,163nm,19.0s,MS4.6
DWPF Disney 106.19 39 PFAKE 19 52 20.0
DWPF LR LR
comp=Z,188nm,20.0s,MS4.6
MAW Mawson 116.47 205 PKP PKPdf 19 52 23.1 +1.3
comp=Z,1.2nm,0.9s,baz=86,slow=1.7,SNR=6.2
JTS JuntasAbangare 117.58 55 PFAKE 19 52 40.0 +15
JTS LR LR
comp=Z,54nm,21.0s,MS4.2
QSPA South Pole Qui 123.06 180 *e*P PKPdf 19 52 34.7 +0.2
BOSA Boshof 126.48 257 PKP PKPdf 19 52 44.0 +1.8
comp=Z,1.9nm,0.5s,slow=3.0,SNR=9.0
SDV Santo Domingo 127.67 43 PFAKE 19 53 00.0 +15
SDV LR LR
comp=Z,97nm,21.0s,MS4.5
DBIC Dimbokro 129.44 316 PKP PKPdf 19 52 48.5 +0.2
comp=Z,1.4nm,0.6s,baz=292,slow=1.5,SNR=4.2
DBIC Dimbokro 129.44 316 PKP PKPdf 19 52 48.5 +0.2
PMSA Palmer Station 144.65 161 *e*P PKPbc 19 53 16.0 +1.7
PMSA *ep*P 19 53 27.2
SAML Samuel 146.27 50 *e*PKPdf PKPdf 19 53 19.9 +1.2
SAML *ep*PKPdf 19 53 33.4
SAML LR LR
comp=Z,143nm,21.0s,MS4.7
LPAZ La Paz 147.80 66 PKIKP PKPdf 19 53 24.1 +3.0
LPAZ pmax pmax
comp=Z,7.0nm,0.8s
LPAZ La Paz 147.80 66 PKPbc PKPdf 19 53 24.1 +3.0
comp=Z,6.7nm,0.8s,baz=357,slow=3.4,SNR=14
LVC Limon Verde 150.59 77 *e*PKP PKPdf 19 53 33.8 +8.3
PLCA Paso Flores 152.90 115 PKIKP PKPdf 19 53 37.0 +8.7
PLCA 19 53 49.4
PLCA pmax pmax
comp=Z,2.0nm,0.7s
PLCA pmax pmax
comp=Z,2.0nm,0.7s
PLCA Paso Flores 152.90 115 PKPbc PKPdf 19 53 37.0 +8.7
comp=Z,2.0nm,0.7s,baz=300,slow=1.5,SNR=5.0
PLCA PKPab PKPab 19 53 49.4 +0.2
comp=Z,2.3nm,0.7s,baz=225,slow=5.7,SNR=3.3

JMA 26 20:02:31.2±0.6, 33.46N×142.29E, h87km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.61**	**318**	P	P	20 02 58.6	-0.1
BSO2	**Boso 2**	**1.81**	**316**	*e*S	S	20 03 23.7	+0.2
BSO3	**Boso 3**	**1.99**	**313**	P	P	20 03 03.9	+0.2
JHJ2	**Mitsune**	**2.10**	**261**	*e*S	S	20 03 30.9	+0.5
BSO4	**Boso 4**	**2.22**	**314**	P	P	20 03 07.4	+0.4
BSO4				*e*S	S	20 03 34.6	+1.1
JAG	**Ashikaga**	**3.77**	**323**	P	P	20 03 27.7	-0.6
JAG				*e*S	S	20 04 11.4	-0.3
JMM	**Marumori**	**4.56**	**345**	*e*S	S	20 04 27.3	-4.2

*NEIC **26** 20:11:06.4, 32.91S×70.74W, h76km, MD3.7(GUC), After GUC.*

GUC 26 20:11:06.4±0.9, 32.91S×70.74W, h76km±3km, MD3.7, ML3.4, 11C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.23**	**254**	⇑*i*P	P	20 11 18.4	+0.5
ROCH				*i* S	S	20 11 27.2	+0.9
PEL	**Peldehue**	**0.24**	**168**	*i* S	S	20 11 27.5	+1.1
JACH	**Jahuel**	**0.26**	**29**	⇑*i*P	P	20 11 18.3	+0.3
JACH				*i* S	S	20 11 27.2	+0.5
DSCH	**Colegio Aleman**	**0.51**	**163**	⇑*i*P	P	20 11 20.2	+0.3
DSCH				*i* S	S	20 11 30.6	+0.7
DSCH				AMP		20 11 30.9	
	comp=N,4μm,0.3s						
CLCH	**Cerro Calan**	**0.52**	**160**	⇓*i*P	P	20 11 20.3	+0.4
CLCH				*i* S	S	20 11 30.8	+0.7
CLCH				AMP		20 11 32.9	
	comp=E,2μm,0.2s						
CLCH				AMP		20 11 33.5	
	comp=E,2μm,0.2s						
STL	**Santa Lucia**	**0.53**	**171**	*e*P	P	20 11 19.6	-0.6
STL				*i* S	S	20 11 30.3	0.0
STL				AMP		20 11 32.4	
	comp=E,520nm,0.1s						
SAN	**Santiago**	**0.55**	**173**	*i* S	S	20 11 30.9	+0.3
SAN				AMP		20 11 34.1	
	comp=E,2μm,0.5s						
FCH	**Farellones**	**0.56**	**138**	⇑*i*P	P	20 11 21.1	+0.6
FCH				*i* S	S	20 11 32.5	+1.6
FCH				AMP		20 11 32.9	
	comp=N,3μm,0.2s						
RCDM	**Rinconada Maip**	**0.58**	**185**	⇓*i*P	P	20 11 20.6	0.0
RCDM				*i* S	S	20 11 31.6	+0.4
RCDM				AMP		20 11 32.5	
	comp=E,9μm,0.2s						
FSR	**Penalolen**	**0.60**	**162**	⇓*i*P	P	20 11 21.1	+0.3
FSR				*i* S	S	20 11 32.5	+1.1
FSR				AMP		20 11 38.3	
	comp=N,1μm,0.3s						
SCR	**San Cristobal**	**0.63**	**200**	⇑*i*P	P	20 11 20.0	-1.1
SCR				*i* S	S	20 11 30.6	-1.4
SCR				AMP		20 11 32.0	
	comp=E,938nm,0.3s						
ANTU	**Antumapu**	**0.67**	**172**	⇑*i*P	P	20 11 21.4	-0.1
ANTU				*i* S	S	20 11 33.2	+0.4
ANTU				AMP		20 11 33.5	
	comp=N,2μm,0.3s						
TACH	**Talagante**	**0.76**	**192**	⇓*i*P	P	20 11 22.6	0.0
TACH				*i* S	S	20 11 34.5	-0.1
IHA	**Instituto Hidr**	**0.76**	**261**	*e*P	P	20 11 22.8	+0.1
SJCH	**San Jose de Ma**	**0.80**	**156**	⇓*i*P	P	20 11 23.1	+0.1
SJCH				*i* S	S	20 11 35.8	+0.4
SJCH				AMP		20 11 37.0	
	comp=N,1μm,0.1s						
LCCH	**Las Cruces**	**0.89**	**231**	⇑*i*P	P	20 11 24.5	+0.4
LCCH				*i* S	S	20 11 38.4	+1.1
CHCH	**Chadas Angostu**	**1.02**	**176**	⇑*i*P	P	20 11 25.7	-0.1
CHCH				*i* S	S	20 11 39.3	-0.9
LMEL	**Las Melosas**	**1.04**	**154**	*e*P	P	20 11 26.6	+0.7
LMEL				*i* S	S	20 11 42.1	+1.6
LMEL				AMP		20 11 43.1	
	comp=N,5μm,0.1s						
LNV	**Longovilo**	**1.18**	**208**	⇓*i*P	P	20 11 27.4	-0.4
LNV				*i* S	S	20 11 43.3	-0.5
CACH	**El Canelo**	**1.21**	**174**	*i* P	P	20 11 28.6	+0.5
CACH				*i* S	S	20 11 46.4	+2.0
ILCH	**Illapel**	**1.32**	**344**	*e*P	P	20 11 30.0	+0.2
ILCH				*i* S	S	20 11 47.2	+0.2
ILCH				AMP		20 11 50.8	
	comp=N,2μm,0.2s						
CICH	**Cipreses**	**1.43**	**169**	⇑*i*P	P	20 11 31.5	+0.4
CICH				*i* S	S	20 11 49.8	+0.3
SFDO	**San Fernando**	**1.72**	**187**	⇑*i*P	P	20 11 34.6	-0.3
SFDO				*i* S	S	20 11 56.1	+0.1
CMCH	**Combarbala**	**1.74**	**353**	⇑*i*P	P	20 11 34.9	-0.4
CMCH				*i* S	S	20 11 57.3	+0.7
CMCH				AMP		20 12 07.0	
	comp=E,2μm,0.5s						
TLL	**Tololo Astrono**	**2.73**	**359**	*e*P	P	20 11 49.2	+0.1
TLL				*i* S	S	20 12 21.9	+0.8
TLL				AMP		20 12 31.4	
	comp=N,397nm,0.4s						

*ATH **26** 20:17:00.0, 38.57N×23.56E, h31km±4km, MD2.7/7, ML2.7*
*NEIC **26** 20:17:00.1, 38.57N×23.56E, h30km, ML2.7(ATH), After ATH.*
*CSEM **26** 20:17:00.9±0.1, 38.58N×23.70E, h12km, ML2.7, Error ellipse: s-maj=3.1km s-min=1.5km az=84.0*
*THE **26** 20:17:02.1, 38.64N×23.74E, h19km*
ISC 26 20:17:00.1±0.7, 38.56N±0.03×23.70E±0.07, h24km±7km, n15, σ0s96/22, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	**0.41**	**177**	*e*PB	**Pb**	**20 17 09.5**	**+0.7**
PTL	**Penteli**	**0.53**	**166**	*e*PN	**Pn**	**20 17 11.5**	**-0.5**
LKR	**Lokris**	**0.56**	**279**	*e*PB	**Pb**	**20 17 09.7**	**-1.5**
LKR				*e*SB	**Sb**	**20 17 17.1**	**-1.7**
ATH	**Athens Observa**	**0.59**	**179**	*e*PN	**Pn**	**20 17 12.6**	**-0.3**
ATH				*e*SN	**Sn**	**20 17 22.2**	**+0.5**
AOS	**Alonnisos**	**0.62**	**13**	*e*Pg	**Pb**	**20 17 12.1**	**-0.1**
AOS				*e*Sg	**Sb**	**20 17 20.8**	**+0.2**
MGER	**Gerania Oros**	**0.67**	**211**	*e*PN	**Pn**	**20 17 13.3**	**-0.8**
MGER	**Gerania Oros**	**0.67**	**211**	*e*Pn	**Pn**	**20 17 13.6**	**-0.5**
NSAL	**Nisos Salamina**	**0.68**	**196**	*e*PN	**Pn**	**20 17 14.0**	**-0.2**
NSAL	**Nisos Salamina**	**0.68**	**196**	*e*Pn	**Pn**	**20 17 14.5**	**+0.3**
NAIG	**Nisos Aigina**	**0.82**	**192**	*e*PN	**Pn**	**20 17 17.0**	**+0.8**
NEO	**Neokhori**	**0.83**	**333**	*e*PN	**Pn**	**20 17 15.1**	**-1.2**
NEO				*e*SN	**Sn**	**20 17 27.5**	**-0.4**
XOR	**Xorichti**	**0.90**	**334**	*e*Pg	**Pb**	**20 17 17.9**	**+1.0**
XOR				*e*Sg	**Sb**	**20 17 29.5**	**+1.2**
AGG	**Agios Georgios**	**1.17**	**294**	*e*Pg	**Pn**	**20 17 22.2**	**+1.1**
AGG				*e*Sg	**Sb**	**20 17 38.5**	**+2.3**
PAIG	**Paliouri**	**1.36**	**359**	*e*Pg	**Pn**	**20 17 24.3**	**+0.4**
PAIG				*e*Sg	**Sn**	**20 17 41.2**	**-0.1**
OUR	**Ouranopolis**	**1.78**	**7**	*e*Pb	**Pb**	**20 17 30.5**	**-1.4**

*NEIC **26** 20:17:56.0, 29.50S×69.38W, h95km, After GUC.*

GUC 26 20:17:56.0±0.5, 29.50S×69.38W, h95km, ML4.1, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**1.52**	**307**	⇓*i*P	P	20 18 22.8	+0.1
VACH				*i* S	S	20 18 42.9	+0.4
VACH				AMP		20 18 44.7	
	comp=N,5μm,0.1s						
LSCH	**La Serena**	**1.68**	**255**	⇑*i*P	P	20 18 34.9	+10
LSCH				*i* S	S	20 18 56.3	+10
LSCH				AMP		20 18 56.9	
	comp=E,399nm,0.1s						
CMCH	**Combarbala**	**2.18**	**220**	⇓*i*P	P	20 18 31.3	0.0
CMCH				*i* S	S	20 18 58.0	+0.4
CMCH				AMP		20 18 59.4	
	comp=N,4μm,0.8s						
CPCH	**Copiapo**	**2.30**	**338**	⇑*i*P	P	20 18 32.6	-0.4
CPCH				*i* S	S	20 19 00.3	-0.2
CPCH				AMP		20 19 01.7	
	comp=E,2μm,0.1s						
LVC	**Limon Verde**	**6.87**	**4**	Pn	P	20 19 34.8	-1.1
LVC				*e*Sn	S	20 20 48.6	-4.4
TRQA	**Tornquist**	**10.52**	**146**	*e*Pn	P	20 20 24.8	-0.5
CPUP	**Villa Florida**	**11.11**	**76**	*e*P	P	20 20 31.7	-1.5

IDC 26 20:28:59.5±4.3, 8.38N×93.58E, mb3.4/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, Error ellipse: s-maj=156.6km s-min=32.0km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.48**	**348**	P	P	20 36 31.8	-1.5
	0.2nm,0.4s,baz=164,slow=9.5,SNR=3.2						
SONM	**Songino Array**	**40.80**	**13**	P	P	20 36 42.3	-1.9
	0.5nm,0.7s,baz=197,slow=7.9,SNR=5.2						
WRA	**Warramunga Arr**	**49.01**	**126**	P	P	20 37 48.4	-1.8
	0.5nm,0.6s,baz=302,slow=9.2,SNR=5.3						

*BJI **26** 20:59:02.0, 11.23N×92.28E, h31km, mB5.0, mb4.9, Ms4.5, Msz4.3*
*MOS **26** 20:59:03.8±0.8, 11.42N×92.19E, h33km, mb5.0/24, Error ellipse: s-maj=11.1km s-min=6.2km az=108.8*
*NEIC **26** 20:59:04.6±0.2, 11.43N×92.23E, mb4.8/28, Error ellipse: s-maj=5.8km s-min=4.2km az=45.0*
*IDC **26** 20:59:07.2±3.5, 11.45N×92.22E, h43km±31km, mb4.4/20, mb1 4.4/20, mb1mx4.3/24, mbtmp4.6/20, MS4.1/11, Ms1 4.1/11, ms1mx3.9/27, Error ellipse: s-maj=16.8km s-min=10.8km az=50.0*
ISC 26 20:59:02.8±0.2, 11.37N±0.03×92.17E±0.03, h27km, h27km±2.4km: pP-P, n161, σ1s97/175, mb4.7/71, MS4.2/22, 21C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.63**	**63**	*e*P	**Pb**	**20 59 17.4**	**+2.2**
PBA				*e*S	**Sb**	**20 59 27.8**	**+4.1**
NNT	**Nongplab**	**7.50**	**80**	P	**Pn**	**21 00 55.0**	**+1.6**
NST	**Nakhon Sawan**	**8.85**	**60**	P	**P**	**21 01 11.0**	**-1.1**
	108nm,0.5s						
KULM	**Kulim**	**10.34**	**125**	*e*Pn	**P**	**21 01 29.9**	**-2.8**
NANT	**Nan**	**11.06**	**47**	⇑P	**P**	**21 01 42.0**	**-0.6**
	102nm,1.0s						
KKTK	**Khon Kaen**	**11.46**	**63**	P	**P**	**21 01 49.0**	**+0.9**
PALK	**Pallekele**	**12.02**	**251**	*e*Pn	**P**	**21 01 55.4**	**-0.2**
	69nm,0.9s						
PALK				*e*Sn	**S**	**21 03 59.8**	**-10**
SHL	**Shillong**	**14.13**	**359**	*e*P	**P**	**21 02 24.5**	**+0.9**
SHL				*e*		21 04 49.0	
BLSP	**Bilaspur**	**14.38**	**319**	*e*P	**P**	**21 02 23.6**	**-3.3**
BLSP				AMb	AMB	21 02 25.7	
	comp=Z,25nm,0.9s						
BLSP				*e*		21 04 43.2	
HYB	**Hyderabad**	**14.49**	**296**	*e*P	**P**	**21 02 27.0**	**-1.4**
HYB				*e*S	**S**	**21 05 05.0**	**-4.0**
HYB	**Hyderabad**	**14.49**	**296**	*e*P	**P**	**21 02 27.0**	**-1.4**
HYB				*e*		21 04 51.0	
HYB				*e*S	**S**	**21 05 05.0**	**-4.0**
HYB	**Hyderabad**	**14.49**	**296**	*i* P	**P**	**21 02 27.0**	**-1.4**
HYB				*e*		21 04 51.0	
HYB				*e*S	**S**	**21 05 05.0**	**-4.0**
TRD	**Trivandrum**	**15.25**	**261**	*e*P	**P**	**21 02 38.0**	**-0.3**
TRD				AMb	AMB	21 02 42.0	
	comp=Z,44nm,2.0s						
TRD				*e*		21 05 17.0	
LATR	**Latur**	**16.63**	**297**	*e*P	**P**	**21 02 55.0**	**-0.9**
LATR				*e*		21 05 35.0	
KMI	**Kunming**	**16.96**	**35**	P	**P**	**21 03 01.0**	**+1.0**
KMI				AP		21 03 08.3	
KMI				XP		21 03 11.8	
KMI				PP	PP	21 03 15.8	+1.7
KMI				S	**S**	**21 06 13.8**	**+7.4**
KMI				PCP	PcP	21 07 44.0	-2.5
KMI				AMB	AMB		
	comp=Z,32nm,1.1s						
KMI				AMB	AMB		
	comp=Z,257nm,5.8s						
KMI				LR	LR		
	comp=N,602nm,17.0s						
KMI				LR	LR		
	comp=E,690nm,18.9s						
KMI				LR	LR		
	comp=Z,732nm,17.0s						
KMI	**Kunming**	**16.96**	**35**	P	**P**	**21 03 00.9**	**+0.9**
KMI				S	**S**	**21 06 13.7**	**+7.3**
KMI				pmax	pmax		
	comp=Z,32nm,1.1s						
KMI	**Kunming**	**16.96**	**35**	P	**P**	**21 03 00.9**	**+0.9**
	comp=Z,32nm,1.1s						
KMI				pP		21 03 08.2	
KMI				sP		21 03 11.8	
KMI				PP	PP	21 03 15.7	+1.6
KMI				PPP	PPP	21 03 23.8	+1.7
KMI				S	**S**	**21 06 13.7**	**+7.3**
KMI				sS		21 06 28.6	
KMI				SS	SS	21 06 34.4	+7.1
KMI				PcP	PcP	21 07 43.9	-2.6
MNGI	**Mangalore**	**17.03**	**277**	*i* P	**P**	**21 02 59.8**	**-1.2**
MNGI				*e*		21 05 51.2	
	comp=Z,142nm,1.2s						
PKI	**Pulchoki**	**17.33**	**339**	*e*P	**P**	**21 03 04.4**	**-0.2**
	comp=Z,56nm,0.6s						
PKI				*e*S	**S**	**21 06 06.3**	**-8.5**
DMN	**Daman**	**17.47**	**339**	*e*P	**P**	**21 03 06.3**	**-0.1**
	comp=Z,132nm,0.7s						
KKN	**Kakani**	**17.57**	**339**	*e*P	**P**	**21 03 08.6**	**+0.9**
	comp=Z,102nm,0.9s						
GKN	**Gorkha**	**18.00**	**338**	*e*P	**P**	**21 03 13.5**	**+0.6**
	comp=Z,68nm,0.5s						
KOLN	**Kolhapur**	**18.19**	**335**	*e*P	**P**	**21 03 16.3**	**+0.8**
	comp=Z,76nm,0.9s						
KOLN				*e*S	**S**	**21 06 24.6**	**-10**
LSA	**Lhasa**	**18.27**	**357**	P	**P**	**21 03 18.0**	**+1.6**
LSA				S	**S**	**21 06 38.8**	**+2.7**
LSA				LR	LR		
	comp=N,340nm,15.0s						
LSA				LR	LR		
	comp=E,580nm,17.0s						
LSA				LR	LR		
	comp=Z,490nm,16.0s						
LSA	**Lhasa**	**18.27**	**357**	*e*P	**P**	**21 03 17.2**	**+0.8**
LSA				pmax	pmax		
	comp=Z,30nm,0.7s						
LSA	**Lhasa**	**18.27**	**357**	*e*P	**P**	**21 03 17.2**	**+0.8**
	comp=Z,30nm,0.7s						
BHPL	**Bhopal**	**18.35**	**312**	*e*P	**P**	**21 03 16.3**	**-1.2**
BHPL				AMb	AMB	21 03 24.4	
	comp=Z,32nm,1.3s						
BHPL				*e*		21 06 29.5	
KAD	**Karad**	**18.39**	**291**	*e*	**S**	**21 06 30.6**	**-8.5**
QIZ	**Qiongzhong**	**18.67**	**64**	P	**P**	**21 03 19.8**	**-1.5**
QIZ				AP		21 03 28.0	
QIZ				S	**S**	**21 06 49.0**	**+3.7**
QIZ				LR	LR		
	comp=N,551nm,17.1s						
QIZ				LR	LR		
	comp=E,529nm,17.9s						
QIZ				LR	LR		
	comp=Z,790nm,18.0s						
POO	**Poona**	**19.07**	**294**	*e*	**S**	**21 06 41.0**	**-13**
GYA	**Guiyang**	**20.30**	**40**	⇑*i*P	**P**	**21 03 38.5**	**-1.1**
GYA				AP		21 03 47.5	
GYA				XP		21 03 51.8	
GYA				AMB	AMB		
	comp=Z,40nm,1.0s						
GYA				AMB	AMB		
	comp=Z,300nm,6.0s						
GYA				LR	LR		
	comp=N,610nm,13.2s,MS4.2						
GYA				LR	LR		
	comp=E,390nm,13.8s,MS4.2						
GYA				LR	LR		
	comp=Z,960nm,14.7s,MS4.3						
KSM	**Kuching**	**20.51**	**117**	*e*P	**P**	**21 03 41.2**	**-0.6**
LGTI	**Lohaghat**	**21.15**	**330**	*e*	**P**	**21 03 52.5**	**+4.2**
CD2	**Chengdu**	**22.22**	**27**	P	**P**	**21 03 58.0**	**-1.0**
CD2				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.8						
AJM	**Ajmer**	**22.34**	**315**	⇑*i*P	**P**	**21 04 02.0**	**+1.8**
DDI	**Dehra Dun**	**22.97**	**327**	*e*P	**P**	**21 04 07.8**	**+1.3**
DDI				*e*S	**S**	**21 08 14.3**	**+3.6**
SDNR	**Sundarnagar**	**24.47**	**327**	*e*P	**P**	**21 04 23.4**	**+2.4**
SDNR				*e*		21 09 16.6	
ENH	**Enshi**	**24.75**	**38**	⇑*e*P	**P**	**21 04 22.9**	**-0.9**
	comp=Z,88nm,0.5s,mb5.5						
ENH				*e*		21 04 30.1	
LZH	**Lanzhou**	**26.78**	**21**	*e*P	**P**	**21 04 42.5**	**-0.1**
LZH				AP	pP	21 04 52.0	+1.6
LZH				XP	sP	21 04 56.5	+2.6
LZH				AMB	AMB		
	comp=Z,32nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
LZH				LR	LR		
	comp=E,774nm,14.1s						
LZH				LR	LR		
	comp=Z,1μm,16.0s,MS4.5						
LZH	**Lanzhou**	**26.78**	**21**	*e*P	**P**	**21 04 42.5**	**-0.1**
	comp=Z,32nm,1.4s,mb4.7						
LZH				pP	pP	21 04 52.0	+1.6
LZH				sP	sP	21 04 56.5	+2.6
LZH				LR	LR		
	comp=Z,1μm,16.0s,MS4.5						
XAN	**Xi'an**	**27.27**	**31**	P	**P**	**21 04 44.5**	**-2.6**
XAN				S	**S**	**21 09 19.5**	**-3.5**
XAN				AMB	AMB		
	comp=Z,22nm,0.8s,mb4.7						
XAN				LR	LR		
	comp=N,269nm,21.8s,MS4.1						
XAN				LR	LR		
	comp=E,489nm,21.8s,MS4.1						
XAN				LR	LR		
	comp=Z,404nm,15.8s						
WHN	**Wuhan**	**28.06**	**44**	*e*P	**P**	**21 04 53.5**	**-0.8**
GTA	**Gaotai**	**28.75**	**12**	P	**P**	**21 05 00.8**	**+0.4**
GTA				AP	pP	21 05 13.8	+5.6
GTA				PCP	PcP	21 08 11.0	+0.6
GTA				S	**S**	**21 09 48.5**	**+1.8**
GTA				SCP		21 11 51.8	
GTA				SCS	ScS	21 15 43.5	+2.8
GTA				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						

GTA					AMB	AMB			
	comp=Z,160nm,9.5s								
GTA					LR	LR			
	comp=N,160nm,19.8s,MS3.9								
GTA					LR	LR			
	comp=E,237nm,14.8s,MS3.9								
GTA					LR	LR			
	comp=Z,246nm,20.5s								
KSH	**Kashi**	**31.51**	**336**	*e*P	**P**		**21 05 26.0**	**+1.1**	
KSH				*e*AP	pP		21 05 36.3	+3.5	
KSH				*e*XP	sP		21 05 41.0	+4.8	
KSH				*e*PP	PP		21 06 31.5	+2.2	
KSH				*e*S	**S**		**21 10 34.0**	**+3.7**	
KSH				*e*XS			21 10 50.0		
KSH				*e*PCS			21 11 59.0		
KSH				AMB	AMB				
	comp=Z,80nm,2.0s,mb5.2								
KSH				LR	LR				
	comp=N,1μm,17.0s,MS4.8								
KSH				LR	LR				
	comp=E,800nm,12.7s,MS4.8								
NJ2	**Nanjing**	**32.07**	**46**	*e*P	**P**		**21 05 29.8**	**-0.1**	
NJ2				AP	pP		21 05 41.8	+4.1	
NJ2				PP	PP		21 06 36.0	-0.6	
NJ2				S	**S**		**21 10 35.0**	**-4.1**	
NJ2				XS			21 10 55.0		
NJ2				AMB	AMB				
	comp=Z,30nm,1.1s,mb5.0								
NJ2				AMB	AMB				
	comp=Z,180nm,5.9s								
NJ2				LR	LR				
	comp=N,910nm,17.9s,MS4.6								
NJ2				LR	LR				
	comp=E,620nm,17.7s,MS4.6								
NJ2				LR	LR				
	comp=Z,350nm,18.0s,MS4.1								
WMQ	**Urumqi**	**32.57**	**354**	P	**P**		**21 05 35.0**	**+0.9**	
BTO	**Baotou**	**33.11**	**25**	*e*P	**P**		**21 05 37.3**	**-1.6**	
SSE	**Sheshan**	**33.25**	**49**	*e*P	**P**		**21 05 37.0**	**-3.2**	
SSE				AP	pP		21 05 46.5	-1.6	
SSE				S	**S**		**21 10 55.3**	**-2.3**	
SSE				XS			21 11 10.8		
SSE				SCS	ScS		21 15 58.3	-4.6	
SSE				AMB	AMB				
	comp=Z,32nm,0.8s,mb5.3								
SSE				AMB	AMB				
	comp=Z,75nm,3.7s								
SSE				LR	LR				
	comp=N,314nm,20.7s,MS4.1								
SSE				LR	LR				
	comp=E,224nm,20.7s,MS4.1								
SSE				LR	LR				
	comp=Z,363nm,17.2s,MS4.2								
SSE	**Sheshan**	**33.25**	**49**	*e*P	**P**		**21 05 37.1**	**-3.1**	
	comp=Z,32nm,0.8s,mb5.3								
SSE				pP	pP		21 05 46.4	-1.7	
SSE				S	**S**		**21 10 55.2**	**-2.4**	
SSE				sS			21 11 10.8		
SSE				SS	SS		21 13 19.0	+19	
SSE				ScS	ScS		21 15 58.3	-4.6	
SSE				LR	LR				
	comp=Z,360nm,17.2s,MS4.2								
AAK	**Ala-Archa**	**34.75**	**337**	*e*P	**P**		**21 05 53.2**	**+0.2**	
AAK				*e*			21 05 58.5		
AAK				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.5								
AAK	**Ala-Archa**	**34.75**	**337**	*e*P	**P**		**21 05 53.1**	**+0.2**	
	comp=Z,6.4nm,0.9s,mb4.5								
AAK				*e*			21 05 58.5		
MKAR	**Makanchi Array**	**36.29**	**349**	P	**P**		**21 06 05.9**	**-0.1**	
	comp=Z,10nm,0.9s,mb4.8,baz=171,slow=9.1,SNR=59								
MKAR				LR	LR		21 23 15.6		
	comp=Z,129nm,19.6s,MS3.7,baz=174,slow=40								
KKAR	**Karatay Array**	**36.79**	**333**	*i* P	**P**		**21 06 11.3**	**+1.1**	
KKAR				pmax	pmax				
	comp=Z,1.0nm,0.5s,mb3.9								
JOW	**Kunigami**	**37.26**	**60**	P	**P**		**21 06 14.7**	**+0.3**	
	comp=Z,8.4nm,0.4s,mb5.0,baz=244,slow=6.6,SNR=22								
JOW				LR	LR		21 24 31.7		
	comp=Z,294nm,20.0s,MS4.1,baz=312,slow=41								
DL2	**Dalian**	**37.94**	**39**	P	**P**		**21 06 20.3**	**+0.3**	
DL2				*e*S	**S**		**21 12 14.8**	**+5.1**	
DL2				AMB	AMB				
	comp=Z,10.0nm,0.7s,mb4.7								
DL2				LR	LR				
	comp=N,130nm,18.8s,MS4.0								
DL2				LR	LR				
	comp=E,190nm,17.4s,MS4.0								
DL2				LR	LR				
	comp=Z,250nm,10.2s								
SONM	**Songino Array**	**38.27**	**16**	P	**P**		**21 06 22.9**	**+0.3**	
	comp=Z,3.6nm,0.4s,mb4.4,baz=206,slow=7.6,SNR=44								
SONM				PcP	PcP		21 08 37.1	+0.1	
	comp=Z,2.9nm,0.9s,baz=173,slow=2.0,SNR=3.7								
SONM				LR	LR		21 24 51.8		
	comp=Z,350nm,20.2s,MS4.2,baz=197,slow=40								
ZAK	**Zakamensk**	**39.96**	**11**	*e*P	**P**		**21 06 36.5**	**-0.2**	
ZAK				*e*			21 08 40.4		
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.0s,mb4.0								
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.0s,mb4.0								
KURK	**Kurchatov**	**40.78**	**347**	*e*P	**P**		**21 06 43.7**	**+0.3**	
KURK				pmax	pmax				
	comp=Z,18nm,1.1s,mb4.6								
KURK	**Kurchatov**	**40.78**	**347**	*e*P	**P**		**21 06 43.7**	**+0.3**	
	comp=Z,18nm,1.1s,mb4.6								
MOY	**Mondy**	**40.83**	**8**	*e*P	sP		21 06 54.7	-0.4	
SNY	**Shenyang**	**40.92**	**36**	⇑P	**P**		**21 06 44.5**	**-0.2**	
SNY				AMB	AMB				
	comp=Z,20nm,1.2s,mb4.6								
SNY				LR	LR				
	comp=N,270nm,12.9s,MS4.5								
SNY				LR	LR				
	comp=E,310nm,14.7s,MS4.5								
SNY				LR	LR				
	comp=Z,340nm,15.6s,MS4.3								
KS15	**Wonju Array Si**	**41.21**	**45**	*e*P	**P**		**21 06 46.8**	**-0.3**	
TLY	**Talaya**	**41.27**	**11**	*e*P	**P**		**21 06 48.1**	**+0.7**	
TLY				*e*S	**S**		**21 13 05.3**	**+5.7**	
TLY				pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.2								
TLY				MLR	MLR				
	comp=Z,201nm,21.0s,MS4.0								
JNU	**Nakatsue**	**41.53**	**52**	P	**P**		**21 06 50.0**	**+0.2**	
	comp=Z,16nm,0.9s,mb4.7,baz=284,slow=5.3								
MBWA	**Marble Bar**	**42.17**	**140**	*e*P	**P**		**21 06 54.9**	**-0.3**	
	comp=Z,75nm,1.3s,mb5.2								
ZAL	**Zalesovo**	**42.87**	**354**	P	**P**		**21 07 00.0**	**-0.5**	
	comp=Z,7.2nm,0.4s,mb4.8,baz=304,slow=6.4,SNR=27								
ZAL				LR	LR		21 25 16.8		
	comp=Z,294nm,19.1s,MS4.2,baz=291,slow=37								
CN2	**Changchun**	**43.23**	**35**	*e*P	**P**		**21 07 03.3**	**-0.2**	
CN2				*e*AP	pP		21 07 10.0	-1.6	
CN2				AMB	AMB				
	comp=Z,30nm,1.0s,mb5.0								
NVS	**Novosibirsk**	**43.94**	**353**	*e*P	**P**		**21 07 07.7**	**-1.4**	
NVS				*e*S	**S**		**21 13 36.0**	**-2.6**	
NVS				pmax	pmax				
	comp=N,2.0nm,0.9s								
NVS				pmax	pmax				
	comp=E,3.0nm,0.9s								
NVS				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.3								
NVS				smax					
	comp=N,14nm,2.1s								
NVS				smax					
	comp=E,10.0nm,2.0s								
FITZ	**Fitzroy Crossi**	**44.15**	**131**	⇑*i*P	**P**		**21 07 10.6**	**-0.7**	
	comp=E,66nm,0.7s,mb5.5								
FITZ	**Fitzroy Crossi**	**44.15**	**131**	P	**P**		**21 07 10.5**	**-0.8**	
	comp=E,112nm,0.8s,mb5.7,baz=341,slow=5.4,SNR=120								
VOSK	**Vostochnaya**	**44.64**	**342**	P	**P**		**21 07 14.6**	**-0.3**	
VOSK				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.3								
BVA0	**Borovoye Array**	**45.08**	**342**	*i* P	**P**		**21 07 17.3**	**-1.1**	
BVA0				pmax	pmax				
	comp=Z,1.0nm,1.2s								
BVAR	**Borovoye Array**	**45.08**	**342**	P	**P**		**21 07 18.0**	**-0.3**	
	comp=Z,0.9nm,0.4s,mb3.9,baz=145,slow=9.0,SNR=15								
BRVK	**Borovoye**	**45.14**	**341**	*e*P	**P**		**21 07 18.6**	**-0.3**	
BRVK				*e*	pP		21 07 24.9	-2.0	
BRVK				pmax	pmax				
	comp=Z,6.0nm,1.0s,mb4.4								
BRVK	**Borovoye**	**45.14**	**341**	*e*P	**P**		**21 07 18.6**	**-0.2**	
	comp=Z,5.9nm,1.0s,mb4.4								
BRVK				*e*	pP		21 07 24.9	-2.0	
AB31	**Akbulak array**	**46.25**	**331**	P	**P**		**21 07 28.2**	**+0.5**	
AB31				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.4								
KAKA	**Kakadu**	**46.58**	**120**	*e*P	**P**		**21 07 32.5**	**+1.7**	
	comp=Z,9.5nm,0.6s,mb4.9								
MJAR	**Matsushiro Arr**	**48.37**	**51**	P	**P**		**21 07 44.7**	**+0.1**	
	comp=Z,4.6nm,0.8s,mb4.6,baz=242,slow=7.4,SNR=8.5								
MJAR				PcP	PcP		21 09 11.4	+0.3	
	comp=Z,4.1nm,0.5s,baz=236,slow=3.8,SNR=8.4								
MUN	**Mundaring**	**48.86**	**153**	*e*P	**P**		**21 07 48.7**	**+0.4**	
	comp=Z,16nm,0.6s,mb5.2								
MUN	**Mundaring**	**48.86**	**153**	*e*P	**P**		**21 07 48.7**	**+0.4**	
MUN				pmax	pmax				
	comp=Z,16nm,0.6s,mb5.2								
KLBR	**Kellerberrin**	**49.25**	**151**	*e*P	**P**		**21 07 51.3**	**-0.1**	
	comp=Z,13nm,0.6s,mb5.1								
BOD	**Bodaibo**	**49.27**	**15**	⇓*i*P	**P**		**21 07 50.2**	**-0.9**	
BOD				pmax	pmax				
	comp=Z,10.0nm,0.9s,mb4.8								
NWAO	**Narrogin (SRO)**	**50.12**	**152**	P	**P**		**21 07 58.2**	**+0.2**	
	comp=Z,14nm,0.5s,mb5.2,baz=330,slow=7.0,SNR=14								
GNI	**Garni**	**50.63**	**313**	*e*P	**P**		**21 08 02.9**	**+1.1**	
GNI				pmax	pmax				
	comp=Z,28nm,1.0s								
GNI	**Garni**	**50.63**	**313**	LR	LR		21 33 45.2		
	comp=Z,67nm,19.5s,MS3.7,baz=333,slow=41								
GNI	**Garni**	**50.63**	**313**	*e*P	**P**		**21 08 02.9**	**+1.1**	
	comp=Z,28nm,1.0s,mb5.1								
WRA	**Warramunga Arr**	**51.88**	**127**	P	**P**		**21 08 11.0**	**-0.6**	
	comp=Z,28nm,0.4s,mb5.5,baz=300,slow=10,SNR=999								
WRA				S	**S**		**21 15 31.4**	**+0.5**	
	comp=Z,0.9nm,0.8s,baz=307,slow=15,SNR=4.5								
WRAB	**Tennant Creek**	**51.88**	**127**	*c i*P	**P**		**21 08 11.1**	**-0.4**	
WRAB	**Tennant Creek**	**51.88**	**127**	⇑*e*P	**P**		**21 08 11.0**	**-0.5**	
	comp=Z,65nm,0.5s,mb5.8								
WRAB				*e*pP	pP		21 08 17.2	-2.5	
WB2	**Warramunga Arr**	**51.89**	**127**	⇑*i*P	**P**		**21 08 11.0**	**-0.6**	
ARU	**Arti**	**51.94**	**337**	*e*P	**P**		**21 08 10.6**	**-0.9**	
ARU				*e*			21 09 26.0		
ARU				*e*			21 10 06.3		
ARU				*e*PPP	PPP		21 11 10.1	-3.6	
ARU				*e*S	**S**		**21 15 29.6**	**-1.7**	
ARU				*e*			21 17 57.4		
ARU				*e*SS	SS		21 19 04.5	-1.8	
ARU				*e*SSS	SSS		21 20 45.5	-2.0	
ARU	**Arti**	**51.94**	**337**	*e*P	**P**		**21 08 10.8**	**-0.7**	
	comp=Z,2.8nm,0.8s,mb4.2								
ARU				*e*			21 08 24.8		
KIV	**Kislovodsk**	**53.45**	**317**	*d i*P	**P**		**21 08 23.5**	**+0.6**	
KIV				pmax	pmax				
	comp=Z,17nm,1.6s,mb4.7								
KIV	**Kislovodsk**	**53.45**	**317**	*e*P	**P**		**21 08 23.1**	**+0.2**	
	comp=Z,16nm,1.0s,mb4.9								
MALT	**Malatya**	**54.75**	**309**	*e*P	**P**		**21 08 32.5**	**-0.1**	
MALT				pmax	pmax				
	comp=Z,9.0nm,1.1s,mb4.7								
MALT	**Malatya**	**54.75**	**309**	*e*P	**P**		**21 08 32.5**	**-0.1**	
	comp=Z,9.0nm,1.1s,mb4.7								
YSS	**Yuzh-Sakhalins**	**55.31**	**40**	⇓*e*P	**P**		**21 08 36.3**	**-0.2**	
YSS				pmax	pmax				
	comp=Z,29nm,1.3s,mb5.2								
ANN	**Anapa**	**57.28**	**316**	*e*P	**P**		**21 08 57.6**	**+7.0**	
ANN				*e*S	**S**		**21 16 59.8**	**+17**	
ANN				pmax	pmax				
	comp=Z,31nm,1.0s,mb5.3								
YAK	**Yakutsk**	**57.36**	**20**	*e*P	**P**		**21 08 48.4**	**-2.6**	
YAK				pmax	pmax				
	comp=Z,10.0nm,0.9s,mb4.8								
YAK				pmax	pmax				
	comp=N,3.0nm,1.0s								
YAK				pmax	pmax				
	comp=E,3.0nm,1.1s								
PMG	**Port Moresby**	**58.44**	**108**	*i* P	**P**		**21 08 59.8**	**+0.6**	
VOR	**Voronezh**	**58.62**	**324**	P	**P**		**21 09 00.0**	**+0.1**	
VOR				pmax	pmax				
	comp=Z,30nm,1.2s,mb5.2								
BR131	**Keskin Array S**	**58.70**	**310**	*e*P	**P**		**21 08 59.7**	**-0.9**	
	comp=Z,1.9nm,0.6s,mb4.3								
BR131				*e*pP	pP		21 09 05.9	-3.1	
BRTR	**Keskin Array B**	**58.70**	**310**	P	**P**		**21 08 59.8**	**-0.9**	
	comp=Z,2.0nm,0.7s,mb4.3,baz=126,slow=7.1,SNR=10								
MOS	**Moscow**	**61.10**	**328**	*e*P	sP		21 09 29.6	+1.4	
MOS				pmax	pmax				
	comp=Z,33nm,0.9s,mb5.5								
OBN	**Obninsk**	**61.41**	**327**	*i* P	**P**		**21 09 18.5**	**-0.5**	
OBN				*i*			21 09 37.4		
OBN				pmax	pmax				
	comp=Z,12nm,1.3s,mb4.9								
OBN				MLR	MLR				
	comp=Z,100nm,17.0s,MS4.0								
OBN	**Obninsk**	**61.41**	**327**	*e*P	**P**		**21 09 18.9**	**0.0**	
OBN				*e*			21 09 32.6		
CTA	**Charters Tower**	**61.72**	**120**	⇑*i*P	**P**		**21 09 21.7**	**+0.1**	
	comp=Z,15nm,1.0s,mb5.1								
CTA	**Charters Tower**	**61.72**	**120**	⇑*i*P	**P**		**21 09 21.7**	**+0.1**	
CTA				pmax	pmax				
	comp=Z,15nm,1.0s								
CFR	**Carcaliu**	**63.76**	**315**	⇑P	**P**		**21 09 34.7**	**-0.1**	
STKA	**Stephens Creek**	**63.91**	**134**	⇑*i*P	**P**		**21 09 36.1**	**+0.1**	
	comp=Z,7.6nm,0.7s,mb4.8								
STKA	**Stephens Creek**	**63.91**	**134**	P	**P**		**21 09 36.2**	**+0.2**	
	comp=Z,9.9nm,0.7s,mb5.0,baz=319,slow=6.1,SNR=34								
STKA	**Stephens Creek**	**63.91**	**134**	*e*P	**P**		**21 09 36.1**	**+0.1**	
TIXI	**Tiksi**	**64.23**	**12**	*e*P	**P**		**21 09 33.3**	**-4.1**	
TIXI				*e*S	**S**		**21 18 02.5**	**-9.1**	
TIXI				*e*SS	SS		21 22 17.7	-5.0	
TIXI				pmax	pmax				
	comp=Z,16nm,1.3s,mb4.9								
AKASG	**Malin Array Be**	**64.23**	**321**	P	**P**		**21 09 36.8**	**-1.0**	
	comp=Z,2.3nm,0.7s,mb4.3,baz=90,slow=4.8,SNR=6.7								
MA2	**Magadan**	**64.62**	**29**	*e*P	**P**		**21 09 39.2**	**-0.9**	
MA2				pmax	pmax				
	comp=Z,10.0nm,0.9s,mb4.8								
MA2	**Magadan**	**64.62**	**29**	*e*P	**P**		**21 09 39.1**	**-1.1**	
	comp=Z,14nm,0.8s,mb5.0								
VRI	**Vrincioaia**	**64.86**	**315**	⇑P	**P**		**21 09 42.7**	**+0.8**	
MLR	**Muntele Rosu**	**65.34**	**315**	P	**P**		**21 09 44.8**	**-0.2**	
	comp=Z,3.3nm,0.7s,mb4.5,baz=119,slow=3.2								
MLR	**Muntele Rosu**	**65.34**	**315**	⇑P	**P**		**21 09 45.7**	**+0.7**	
MLR	**Muntele Rosu**	**65.34**	**315**	⇑P	**P**		**21 09 45.7**	**+0.7**	
BURAR	**Bucovina Array**	**66.17**	**317**	⇑P	**P**		**21 09 50.8**	**+0.5**	
BURAR	**Bucovina Array**	**66.17**	**317**	⇑P	**P**		**21 09 50.8**	**+0.5**	
SEY	**Seymchan**	**66.61**	**26**	⇓*e*P	**P**		**21 09 51.9**	**-0.9**	
LVZ	**Lovozero**	**67.63**	**340**	*i* P	**P**		**21 09 58.5**	**-0.7**	
LVZ				pmax	pmax				
	comp=Z,8.0nm,1.0s,mb4.7								
DRGR			**67.75**	**316**	⇑P	**P**		**21 10 00.4**	**+0.1**
APA	**Apatity**		**67.92**	**339**	*e*P	**P**		**21 10 00.0**	**-1.0**
APA					pmax	pmax			
	comp=Z,21nm,1.0s,mb5.1								
LSZ	**Lusaka**		**68.66**	**249**	*e*P	**P**		**21 10 07.5**	**+1.0**
LSZ					*e**PP	pP		21 10 14.8	0.0
LSZ					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6								
LSZ	**Lusaka**		**68.66**	**249**	*e*P	**P**		**21 10 07.5**	**+1.0**
	comp=Z,6.7nm,0.9s,mb4.6								
LSZ					*e*pP	pP		21 10 14.8	0.0
FINES	**FINESS Array B**		**68.73**	**332**	P	**P**		**21 10 05.6**	**-0.6**
	comp=Z,3.4nm,0.6s,mb4.5,baz=124,slow=6.9,SNR=26								
KAF	**Kangasniemi**		**68.82**	**333**	*e*p	**P**		**21 10 05.9**	**-0.8**
	comp=Z,2.4nm,0.5s,mb4.4,baz=105,slow=6.0								
ARMA	**Armidale**		**70.62**	**128**	⇑*i*P	**P**		**21 10 14.8**	**-3.5**
KEV	**Kevo**		**70.92**	**340**	*e*p	**P**		**21 10 18.5**	**-0.9**
	comp=Z,9.6nm,0.9s,mb4.7								
ARCES	**ARCESS Array B**		**71.34**	**340**	P	**P**		**21 10 22.3**	**+0.3**
	comp=Z,5.0nm,0.5s,mb4.7,baz=87,slow=6.0,SNR=65								
ARCES					LR	LR		21 45 05.2	
	comp=Z,235nm,19.4s,MS4.5,baz=115,slow=39								
MORC	**Moravsky Berou**		**71.48**	**319**	*e*P	**P**		**21 10 23.2**	**+0.1**
	comp=Z,2.8nm,0.8s,mb4.2								
BILL	**Bilibino**		**73.59**	**22**	⇓*e*P	**P**		**21 10 35.0**	**-0.2**
BILL					pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6								
BRG	**Berggiesshubel**		**73.84**	**320**	*e*P	pP		21 10 43.7	-1.7
BRG					pmax	pmax			
	comp=Z,5.0nm,1.2s,mb4.3								
BRG	**Berggiesshubel**		**73.84**	**320**	*e*P	pP		21 10 43.7	-1.6
	comp=Z,5.0nm,1.2s								
GERES	**GERESS Array B**		**73.95**	**318**	P	**P**		**21 10 37.9**	**+0.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=14								
LBTB	**Lobatse**		**74.25**	**240**	*e*P	**P**		**21 10 41.9**	**+2.0**
LBTB					*e*pP	pP		21 10 48.9	+0.6
CLL	**Collm**		**74.45**	**320**	*e**PP	pP		21 10 47.0	-1.9
FX1	**Attu Island--F**		**75.60**	**38**	P	**P**		**21 10 47.4**	**+0.4**
	comp=Z,14nm,0.6s,mb5.1,baz=306,slow=6.8,SNR=13								
FX1	**Attu Island--F**		**75.60**	**38**	*e*P	**P**		**21 10 47.3**	**+0.2**
FX1					*e*	pP		21 10 55.8	+0.4
NB2	**NORSAR Subarra**		**75.75**	**330**	P	**P**		**21 10 47.3**	**-0.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=93,slow=5.6								
NB2	**NORSAR Subarra**		**75.75**	**330**	P	**P**		**21 10 47.3**	**-0.5**
NB2					pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9								
NOA	**NORSAR Array B**		**75.75**	**330**	P	**P**		**21 10 47.4**	**-0.4**
	comp=Z,1.3nm,0.6s,mb4.0,baz=93,slow=5.7,SNR=7.2								
BOSA	**Boshof**		**75.83**	**237**	P	**P**		**21 10 51.1**	**+2.3**
	comp=Z,6.6nm,1.1s,mb4.5,baz=100,slow=10,SNR=4.4								
BOSA					LR	LR		21 42 16.4	
	comp=Z,145nm,18.5s,MS4.3,baz=198,slow=34								
CASY	**Casey**		**78.61**	**173**	*e*P	**P**		**21 11 09.5**	**+6.0**
BNI	**Bardonecchia**		**78.89**	**314**	*e*P	**P**		**21 11 06.5**	**+1.0**
	comp=Z,6.5nm,0.9s,mb4.6								
DZM	**Mont Dzumac**		**80.02**	**115**	LR	LR		21 45 52.9	
	comp=Z,232nm,18.8s,MS4.5,baz=82,slow=35								
MAW	**Mawson**		**81.55**	**191**	P	**P**		**21 11 21.4**	**+2.2**
	comp=Z,2.7nm,0.8s,mb4.3,baz=9.0,slow=5.6,SNR=8.2								
MAW	**Mawson**		**81.55**	**191**	P	**P**		**21 11 21.4**	**+2.2**
	comp=Z,2.6nm,0.8s,mb4.2								
SYO	**Syowa Base**		**88.16**	**197**	⇑P	**P**		**21 11 54.2**	**+2.0**
IMA	**Indian Mountai**		**89.14**	**22**	*e*P	**P**		**21 11 58.5**	**+1.6**
RPZ	**Rata Peaks**		**89.87**	**135**	LR	LR		21 50 19.1	
	comp=Z,176nm,20.8s,MS4.5,baz=265,slow=34								
ILAR	**Eielson Array**		**92.25**	**22**	P	**P**		**21 12 11.2**	**-0.2**
	comp=Z,2.6nm,0.7s,mb4.7,baz=299,slow=4.5,SNR=26								
INK	**Inuvik**		**94.18**	**15**	P	**P**		**21 12 20.6**	**+0.5**
	comp=Z,1.0nm,0.4s,mb4.6,baz=322,slow=9.7,SNR=5.9								
INK	**Inuvik**		**94.18**	**15**	*e*P	**P**		**21 12 20.4**	**+0.3**
	comp=Z,4.2nm,0.5s,mb5.1								
INK					*e*			21 12 26.0	
INK					*e*			21 12 32.3	
DBIC	**Dimbokro**		**95.54**	**278**	LR	LR		21 58 27.5	
	comp=Z,74nm,19.2s,MS4.2,baz=129,slow=37								
VNDA	**Vanda**		**96.72**	**168**	LR	LR		21 51 21.7	
	comp=Z,98nm,19.7s,MS4.3,baz=285,slow=32								
MSU	**Marysvale**		**125.42**	**23**	*e*PKPdf	PKPdf		21 18 05.3	-1.5
PLCA	**Paso Flores**		**147.02**	**204**	PKPbc	PKPdf		21 18 46.4	+0.2
	comp=Z,3.0nm,0.7s,baz=154,slow=3.7,SNR=9.9								

NEIC ***26*** *20:59:18.6±0.7,24.16S×66.95W,h169km±8km, mb4.1/3, Error ellipse: s-maj=11.7km s-min=9.1km az=92.0*
IDC ***26*** *20:59:18.4±1.0,24.20S×66.95W,h165km±10km, mb3.6/4, mb1 3.7/10,mb1mx3.6/21,mbtmp4.1/10, Error ellipse: s-maj=17.0km s-min=11.1km az=75.0*
GUC ***26*** *20:59:20.4±0.7,24.23S×67.28W,h180km±37km, ML4.4*
ISC 26 20:59:17.5±0.6,24.24S±0.04×67.00W±0.07,h170km±9km, n31,σ1°13/37,mb3.8/4,5C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**2.39**	**312**	⇑*i*P		**P**	**21 00 01.0**	**+2.2**
LVC				*i* S		**S**	**21 00 31.5**	**+0.9**
LVC				AMP			21 00 33.3	
	comp=E,963nm,0.3s							
LVC	**Limon Verde**	**2.39**	**312**	P		**P**	**21 00 01.0**	**+2.2**
	comp=E,33nm,0.3s,baz=132,slow=5.7,SNR=500							
LVC				S		**S**	**21 00 31.6**	**+1.0**
	comp=E,148nm,0.3s,baz=270,slow=21,SNR=67							
LVC	**Limon Verde**	**2.39**	**312**	⇑*i*Pn		**P**	**21 00 00.9**	**+2.1**
LVC				*e*Sn		**S**	**21 00 31.2**	**+0.7**
CPN1	**Cerro Paranal**	**3.13**	**262**	⇓*i*P		**P**	**21 00 09.2**	**+1.3**
CPN1				*i* S		**S**	**21 00 46.0**	**-0.6**
CPN1				AMP			21 00 48.9	
	comp=E,550nm,0.5s							
ANCH	**Antofagasta**	**3.17**	**279**	⇑*i*P		**P**	**21 00 09.6**	**+1.2**
ANCH				*i* S		**S**	**21 00 46.2**	**-1.4**
CRCH	**Chaqaral**	**3.89**	**237**	⇑*i*P		**P**	**21 00 18.1**	**+0.4**
CRCH				*i* S		**S**	**21 01 02.7**	**-1.4**
CRCH				AMP			21 01 03.2	
	comp=E,588nm,0.3s							
CFAA	**Coronel Fontan**	**7.42**	**188**	P		**P**	**21 01 04.7**	**+0.6**
	comp=E,0.1nm,0.3s,baz=356,slow=9.2,SNR=8.1							
C

SMCO	**Snowmass**	**4.75**	**197**	P	**Pn**	**21 10 41.1**	**+0.3**	
DGMT	**Dagmar**	**4.79**	**8**	P	**Pn**	**21 10 42.1**	**+0.7**	
BOZ	**Bozeman (W)**	**4.95**	**295**	*e*P	**Pn**	**21 10 42.9**	**-0.8**	
HWUT	**Hardware Ranch**	**5.14**	**248**	*e*P	**Pn**	**21 10 45.8**	**-0.6**	
TCUT	**Toone Canyon**	**5.28**	**242**	*e*P	**Pn**	**21 10 47.5**	**-0.8**	
HRY	**Holter Researc**	**5.53**	**305**	P	**Pn**	**21 10 51.8**	**-0.2**	
MCMT	**McKenzie Canyo**	**5.58**	**284**	P	**Pn**	**21 10 52.8**	**+0.2**	
DAU	**Daniels Canyon**	**5.59**	**236**	*e*P	**Pn**	**21 10 52.6**	**-0.1**	
SPUT	**South Promonto**	**5.87**	**248**	*e*P	**Pn**	**21 10 56.8**	**+0.1**	
HVU	**Hansel Valley**	**5.90**	**253**	*e*P	**Pn**	**21 10 55.7**	**-1.4**	
SDCO	**Great Sand Dun**	**5.99**	**182**	*e*P	**Pn**	**21 10 58.6**	**+0.2**	
MPU	**Maple Canyon**	**6.06**	**234**	P	**Pn**	**21 11 00.1**	**+0.7**	
SRU	**San Rafael**	**6.11**	**223**	*e*P	**Pn**	**21 10 58.9**	**-1.1**	
TMUT	**Trail Mountain**	**6.32**	**227**	*e*P	**Pn**	**21 11 02.7**	**-0.3**	
CBKS	**Cedar Bluff**	**6.42**	**138**	P	**Pn**	**21 11 03.7**	**-0.8**	
CHMT	**Chamberlain Mo**	**6.49**	**302**	*e*P	**Pn**	**21 11 05.0**	**-0.4**	
MSU	**Marysvale**	**7.40**	**228**	*e*P	**Pn**	**21 11 17.2**	**-1.1**	
ELK	**Elko**	**8.01**	**251**	Pn	**P**	**21 11 25.6**	**-1.2**	
	0.3nm,0.3s,baz=60,slow=12,SNR=4.5							
WALA	**Waterton Lakes**	**8.02**	**315**	*e*P	**P**	**21 11 24.8**	**-2.1**	
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**P**	**21 11 40.4**	**-1.7**	
	4.9nm,0.3s,baz=232,slow=13,SNR=18							
ULM				Lg		21 14 18.6		
	baz=264,slow=19,SNR=2.8							
ARCES	**ARCESS Array B**	**61.41**	**18**	P	**P**	**21 19 44.9**	**-1.1**	
	0.8nm,0.4s,mb4.2,baz=326,slow=6.5,SNR=11							

IDC 26 21:13:32.1±2.2, 16.30N×94.10E, 98km, mb3.7/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, MS4.7/1, Ms1 4.7/1, ms1mx3.2/26, Error ellipse: s-maj=98.9km s-min=25.2km az=62.0, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**31.96**	**345**	P	P	21 20 00.1	-1.8
	0.5nm,0.8s,baz=153,slow=6.4,SNR=3.7						
SONM	**Songino Array**	**33.04**	**15**	P	P	21 20 08.9	-2.5
	0.3nm,0.4s,baz=200,slow=8.1,SNR=3.6						
JNU	**Nakatsue**	**37.14**	**56**	LR	LR	21 39 27.7	
	comp=Z,997nm,18.1s,baz=70,slow=42						
ZAL	**Zalesovo**	**38.26**	**351**	P	P	21 20 54.6	-1.0
	1.1nm,0.6s,baz=304,slow=6.7,SNR=5.3						
WRA	**Warramunga Arr**	**53.48**	**131**	P	P	21 22 54.6	-2.2
	0.5nm,0.4s,baz=311,slow=7.7,SNR=12						
ARCES	**ARCESS Array B**	**67.40**	**339**	P	P	21 24 28.4	-2.7
	1.6nm,1.0s,baz=104,slow=7.4,SNR=4.5						

MAN 26 21:16:26.5, 10.48N×126.21E, h1km, mb4.3, ML3.2, MS2.9, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.99**	**226**↑	*e*P	Pb	21 16 45.6	-0.4
SCPH				*e*S	Sg	21 16 54.9	-4.4
BESP	**Borongan**	**1.35**	**326**	*e*P	Pb	21 16 52.0	-0.3
BESP				*e*S	Sb	21 17 12.3	+2.4
MSLP	**Maasin**	**1.37**	**256**	*e*P	Pb	21 16 51.8	-0.8
MSLP				*e*S	Sb	21 17 11.0	+0.5
PLP	**Palo**	**1.39**	**300**	*e*P	Pb	21 16 53.2	+0.3
PLP				*e*S	Sb	21 17 13.0	+2.0
BUTP	**Butuan**	**1.60**	**201**	*e*P	Pn	21 16 55.9	-0.2
BUTP				*e*S	Sb	21 17 14.8	-2.6
CNP	**Catarman**	**2.52**	**323**	*e*P	Pn	21 17 08.9	-0.4
CNP				*e*S	Sn	21 17 39.3	-1.9
BUKP	**Musuan**	**2.82**	**204**	*e*P	Pn	21 17 13.6	+0.1
BUKP				*e*S	Sn	21 17 50.1	+1.6
PVCP	**Virac**	**3.69**	**327**	*e*P	Pn	21 17 26.2	+0.3
PVCP				*e*S	Sn	21 18 24.8	+14
PAGZ	**Pagadian**	**3.82**	**227**	*e*P	Pn	21 17 28.3	+0.5
PAGZ				*e*S	Sn	21 18 12.2	-1.8

*IDC **26** 21:29:58.7±0.5, 33.41N×142.37E, mb4.5/20, mb1 4.7/24, mb1mx4.7/27, mbtmp4.6/24, ML4.4/4, MS4.0/9, Ms1 4.1/9, ms1mx3.8/18, Error ellipse: s-maj=14.0km s-min=12.8km az=65.0*

*NIED **26** 21:30:00, 33.40N×142.50E, h5km, Mw4.8 Best double couple: M0 1.66×10^16 NP1: ϕs191°, δ67°, λ-83°. NP2: ϕs353°, δ24°, λ-107°.*

*JMA **26** 21:30:00.8±0.3, 33.39N×142.47E, h68km, M4.8*

*BJI **26** 21:30:00.6, 33.46N×142.02E, h15km, mB5.2, mb4.8, Ms4.6, Msz4.3*

*MOS **26** 21:30:02.8±0.9, 33.52N×142.29E, h33km, mb5.3/42, MS4.4/16, Error ellipse: s-maj=10.7km s-min=4.8km az=116.8*

*HRVD **26** 21:30:03.6±0.4, 33.50N×142.59E, h12km, MW4.9/60, Centroid moment Tensor Solution. LP body waves: s19,c24;Mantle waves: s60,c112; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.24±.08; Mθθ 0.05±.07; Mϕϕ 2.19±.06; Mrθ 0.71±.35; Mθϕ 0.18±.06; Mϕr-1.00±.23; Best double couple: Mo2.529×10^16 NP1: ϕs199°, δ35°, λ-64°. NP2: ϕs348°, δ59°, λ-108°. Principal axes: T 2.406, Plg12°, Azm91°; N .245, Plg15°, Azm357°; P -2.653, Plg71°, Azm218°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **26** 21:30:03.6±0.2, 33.40N×142.33E, mb5.0/48, MW4.8(NIED) Error ellipse: s-maj=6.4km s-min=5.7km az=41.0*

ISC 26 21:30:01.9±0.2, 33.40N±0.03×142.34E±0.03, h33km, h33km±2.0km: pP-P, n263, σ1s 09/286, mb4.8/89, MS4.2/24, 13C-15D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.69**	**318**	P	**Pn**	**21 30 29.4**	**-0.2**
BSO1				S	**Sn**	**21 30 53.5**	**+3.3**
BSO3	**Boso 3**	**2.06**	**313**	*e*S	**Sn**	**21 31 02.4**	**+2.6**
JHJ2	**Mitsune**	**2.13**	**263**	P	**Pn**	**21 30 36.8**	**+0.8**
JHJ2				*e*S	**Sn**	**21 31 03.3**	**+1.8**
JHJ	**Hachijo jima 2**	**2.16**	**263**	Pn	**Pn**	**21 30 36.6**	**+0.3**
	893nm,0.3s,baz=144,slow=9.1,SNR=127						
JHJ				Sn	**Sn**	**21 31 03.0**	**+0.8**
	889nm,0.3s,baz=256,slow=22,SNR=15						
BSO4	**Boso 4**	**2.29**	**314**	P	**Pn**	**21 30 39.1**	**+0.8**
BSO4				*e*S	**Sn**	**21 31 05.6**	**-0.1**
KTR	**Katsuura**	**2.42**	**317**	P	**Pn**	**21 30 40.6**	**+0.5**
KTR				*e*S	**Sn**	**21 31 11.1**	**+2.3**
JMY	**Miyakejima3**	**2.45**	**287**	*e*S	**Sn**	**21 31 11.5**	**+1.9**
JIM2	**Oshima 3**	**2.75**	**299**	P	**Pn**	**21 30 44.2**	**-0.6**
JIM2				*e*S	**Sn**	**21 31 15.8**	**-1.4**
JOD2	**Odawara 2**	**3.27**	**306**	P	**Pn**	**21 30 51.8**	**-0.3**
JOD2				*e*S	**Sn**	**21 31 29.0**	**-0.8**
JYN	**Shimob**	**3.77**	**305**	P	**Pn**	**21 30 59.4**	**+0.2**
JYN				*e*S	**Sn**	**21 31 43.8**	**+0.8**
JAG	**Ashikaga**	**3.84**	**323**	P	**Pn**	**21 30 59.4**	**-0.8**
JAG				S	**Sn**	**21 31 43.6**	**-1.2**
JRY	**Ryogami san**	**3.85**	**314**	P	**Pn**	**21 31 00.1**	**-0.3**
JRY				S	**Sn**	**21 31 46.4**	**+1.3**
MJAR	**Matsushiro Arr**	**4.62**	**314**	Pn	**Pn**	**21 31 10.2**	**-1.0**
	38nm,0.3s,baz=21,slow=13,SNR=145						
MJAR				Sn	**Sn**	**21 32 04.6**	**+0.1**
	36nm,0.3s,baz=157,slow=20,SNR=8.5						
MAJO	**Matsushiro**	**4.62**	**314**	*e*P	**Pn**	**21 31 12.5**	**+1.2**
MAT	**Matsushiro**	**4.62**	**314**	*e*P	**Pn**	**21 31 10.0**	**-1.3**
MAT				*e*S	**Sn**	**21 32 03.0**	**-1.5**
MAT	**Matsushiro**	**4.62**	**314**	P	**Pn**	**21 31 10.2**	**-1.1**
MAT				S	**Sn**	**21 32 02.8**	**-1.7**
MAT	**Matsushiro**	**4.62**	**314**	P	**Pn**	**21 31 11.5**	**+0.2**
MAT				S	**Sn**	**21 32 05.0**	**+0.5**
JMM	**Marumori**	**4.63**	**345**	P	**Pn**	**21 31 08.5**	**-3.0**
JMM				*e*S	**Sn**	**21 31 59.1**	**-5.7**
JIE	**Ise**	**4.79**	**284**	P	**Pn**	**21 31 14.3**	**+0.6**
JIE				*e*S	**Sn**	**21 32 08.0**	**-0.7**
JNS	**Sasagawa**	**5.05**	**332**	P	**Pn**	**21 31 16.1**	**-1.3**
JNS				*e*S	**Sn**	**21 32 15.1**	**-0.2**
JGM	**Miyama**	**5.17**	**298**	P	**Pn**	**21 31 19.8**	**+0.7**
JGM				*e*S	**Sn**	**21 32 18.7**	**+0.3**
JWZ	**Kozaga**	**5.54**	**273**	P	**Pn**	**21 31 24.0**	**-0.2**
JMK	**Ichinoseki**	**5.62**	**351**	P	**Pn**	**21 31 21.6**	**-3.8**
JMK				*e*S	**Sn**	**21 32 21.7**	**-7.8**
JWY	**Kouya**	**5.67**	**280**	P	**Pn**	**21 31 26.3**	**+0.1**
JSD	**Sado**	**5.69**	**326**	P	**Pn**	**21 31 24.2**	**-2.3**
JYK	**Kaneyama**	**5.74**	**344**	P	**Pn**	**21 31 24.8**	**-2.3**
JYK				*e*S	**Sn**	**21 32 29.2**	**-3.3**
CBIJ	**Chichi jima**	**6.28**	**181**	Pn	**Pn**	**21 31 31.8**	**-3.0**
	63nm,0.3s,baz=304,slow=22,SNR=8.4						
CBIJ				Sn	**Sn**	**21 32 39.3**	**-6.9**
	90nm,0.3s,baz=295,slow=22,SNR=5.2						
JNU	**Nakatsue**	**9.60**	**271**	Pn	**P**	**21 32 21.6**	**+0.7**
	2.0nm,0.3s,baz=51,slow=18,SNR=13						
ASAJ	**Asahikawa**	**10.71**	**1**	P	**P**	**21 32 30.4**	**-5.7**
ASAJ						21 34 26.9	
ASAJ				pmax	pmax		
	comp=Z,18nm,0.3s						
ASAJ				smax			
	comp=E,2.0nm,0.3s						
ASAJ	**Asahikawa**	**10.71**	**1**	Pn	**P**	**21 32 30.4**	**-5.7**
	comp=E,18nm,0.3s,baz=225,slow=11,SNR=56						
ASAJ				Sn	**S**	**21 34 26.9**	**-8.8**
	comp=E,2.3nm,0.3s,baz=22,slow=30,SNR=3.8						
KS15	**Wonju Array Si**	**12.46**	**293**	*e*Pn	**P**	**21 32 57.7**	**-2.1**
KS15				*e*pPn		21 33 06.8	
KUR	**Kuril'sk**	**12.57**	**18**	*e*P	**P**	**21 32 53.5**	**-7.7**
KUR				MLR	MLR		
	comp=E,3μm,13.0s						
KUR				MLR	MLR		
	comp=Z,3μm,13.0s						
YSS	**Yuzh-Sakhalins**	**13.54**	**1**↑	*e*P	**P**	**21 33 09.0**	**-5.1**
YSS				*e*S	**S**	**21 35 33.0**	**-11**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax			
	comp=N,50nm,1.3s						
YSS				MLR	MLR		
	comp=N,600nm,13.0s						
YSS				MLR	MLR		
	comp=Z,600nm,13.0s						
YSS				MLR	MLR		
	comp=E,500nm,15.0s						
YSS	**Yuzh-Sakhalins**	**13.54**	**1**	*e*P	**P**	**21 33 08.8**	**-5.3**
	comp=E,29nm,0.6s						
JOW	**Kunigami**	**13.81**	**245**	Pn	**P**	**21 33 17.7**	**-0.1**
	comp=E,0.7nm,0.3s,baz=90,slow=16,SNR=4.9						
MDJ	**Mudanjiang**	**14.93**	**322**	P	**P**	**21 33 31.3**	**-1.0**
MDJ				AP		21 33 39.8	
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,157nm,12.2s						
MDJ				LR	LR		
	comp=N,675nm,20.3s						
MDJ				LR	LR		
	comp=E,786nm,18.3s						
MDJ				LR	LR		
	comp=Z,857nm,14.2s						
MDJ	**Mudanjiang**	**14.93**	**322**	*e*P	**P**	**21 33 31.8**	**-0.5**
	comp=Z,14nm,1.0s						
UGL	**Uglegorsk**	**15.67**	**359**	P	**P**	**21 33 42.0**	**+0.2**
CN2	**Changchun**	**16.77**	**313**	*e*P	**P**	**21 33 54.3**	**-1.5**
CN2				AMB	AMB		
	comp=Z,20nm,1.3s						
CN2				LR	LR		
	comp=N,1μm,14.0s						
CN2				LR	LR		
	comp=E,840nm,14.0s						
CN2				LR	LR		
	comp=Z,900nm,15.0s						
DL2	**Dalian**	**17.59**	**294**	P	**P**	**21 34 06.3**	**+0.1**
DL2				*e*S	**S**	**21 37 18.3**	**-0.4**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
DL2				AMB	AMB		
	comp=Z,240nm,3.4s						
DL2				LR	LR		
	comp=N,650nm,12.7s						
DL2				LR	LR		
	comp=E,460nm,11.0s						
DL2				LR	LR		
	comp=Z,770nm,15.7s						
KLR	**Kul'dur**	**17.68**	**337**	*e*P	**P**	**21 34 00.0**	**-7.1**
KLR				MLR	MLR		
	comp=N,900nm,14.5s						
KLR				MLR	MLR		
	comp=E,700nm,14.5s						
KLR				MLR	MLR		
	comp=Z,1μm,14.5s						
SSE	**Sheshan**	**18.04**	**268**	*e*P	**P**	**21 34 08.5**	**-3.3**
SSE				AP		21 34 17.0	
SSE				XP		21 34 21.0	
SSE				S	**S**	**21 37 29.0**	**+0.1**
SSE				AMB	AMB		
	comp=Z,26nm,0.9s						
SSE				AMB	AMB		
	comp=Z,256nm,5.8s						
SSE				LR	LR		
	comp=N,247nm,13.6s						
SSE				LR	LR		
	comp=E,641nm,13.6s						
SSE				LR	LR		
	comp=Z,808nm,13.7s						
SSE	**Sheshan**	**18.04**	**268**	*e*P	**P**	**21 34 08.5**	**-3.3**
	comp=Z,26nm,0.9s						
SSE				pP		21 34 17.0	
SSE				sP		21 34 21.1	
SSE				S	**S**	**21 37 29.0**	**+0.1**
SSE				sS		21 37 47.3	
NJ2	**Nanjing**	**19.80**	**273**	*e*P	**P**	**21 34 30.5**	**-2.0**
NJ2				AP		21 34 39.0	
NJ2				XP		21 34 43.5	
NJ2				PP	PP	21 34 49.5	-1.6
NJ2				S	**S**	**21 38 09.0**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,120nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,170nm,4.8s						
NJ2				LR	LR		
	comp=N,1μm,13.9s						
NJ2				LR	LR		
	comp=E,2μm,16.1s						
NJ2				LR	LR		
	comp=Z,710nm,14.8s						
SKR	**Severo-Kuril's**	**20.02**	**26**	*e*P	**P**	**21 34 33.0**	**-1.6**
SKR				pmax	pmax		
	comp=N,800nm,4.0s						
SKR				pmax	pmax		
	comp=E,800nm,4.0s						
SKR				pmax	pmax		
	comp=Z,1μm,4.0s						
SKR				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.2						
PET	**Petropavlovsk**	**22.84**	**26**	*i* P	**P**	**21 35 05.2**	**+2.2**
HIA	**Hailar**	**23.09**	**320**	*e*P	**P**	**21 35 05.2**	**-0.3**
HIA				pmax	pmax		
	comp=Z,81nm,1.3s						
HIA	**Hailar**	**23.09**	**320**	*e*Pn	**P**	**21 35 05.2**	**-0.3**
	comp=Z,81nm,1.3s,mb5.0						
WHN	**Wuhan**	**23.89**	**271**	⇑P	**P**	**21 35 13.0**	**-0.4**
CLNS	**Chul'man**	**26.32**	**338**	*e*P	**P**	**21 35 35.2**	**-1.0**
CLNS				pmax	pmax		
	comp=N,20nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,32nm,1.2s,mb4.7						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.9s						
BTO	**Baotou**	**26.69**	**295**	*e*P	**P**	**21 35 39.5**	**-0.3**
MA2	**Magadan**	**26.78**	**10**	*e*P	**P**	**21 35 39.9**	**-0.5**
MA2				*e*		21 39 07.6	
MA2				*e*S	**S**	**21 40 11.6**	**-0.7**
MA2				*e*SS	SS	21 41 24.5	-0.8
MA2				pmax	pmax		
	comp=N,10.0nm,1.9s						
MA2				pmax	pmax		
	comp=Z,10.0nm,1.9s,mb4.0						
MA2				MLR	MLR		
	comp=Z,300nm,22.0s,MS3.8						
XAN	**Xi'an**	**27.74**	**281**	P	**P**	**21 35 47.8**	**-1.6**
XAN				S	**S**	**21 40 35.5**	**+7.5**
XAN				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.7						
XAN				LR	LR		
	comp=E,791nm,14.6s						
XAN				LR	LR		
	comp=Z,1μm,14.8s,MS4.6						
CIT	**Chita**	**27.89**	**321**	*e*P	**P**	**21 35 51.1**	**+0.5**
CIT				*e*		21 36 03.7	
CIT				pmax	pmax		
	comp=Z,346nm,3.4s						
ENH	**Enshi**	**28.02**	**273**	*e*Pn	**P**	**21 35 50.1**	**-1.9**
	comp=Z,101nm,1.2s,mb5.3						
FX1	**Attu Island--F**	**29.41**	**39**	P	**P**	**21 36 05.1**	**+0.8**
FX1				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FX1				MLR	MLR		
	comp=Z,6.0nm,22.0s						
FX1	**Attu Island--F**	**29.41**	**39**	P	**P**	**21 36 05.1**	**+0.8**
	comp=Z,3.9nm,0.6s,mb4.3,baz=279,slow=4.5,SNR=5.0						
FX1				LR	LR	21 45 52.4	
	comp=Z,5.8nm,22.0s,baz=253,slow=32						
YAK	**Yakutsk**	**29.77**	**348**	*d* P	**P**	**21 36 06.5**	**-1.0**
YAK				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.0						
YAK				MLR	MLR		
	comp=Z,300nm,14.0s,MS4.1						
SEY	**Seymchan**	**30.23**	**9**⇑	*e*P	**P**	**21 36 11.2**	**-0.3**
SONM	**Songino Array**	**30.55**	**309**	P	**P**	**21 36 15.3**	**+0.9**
	comp=Z,9.2nm,0.7s,mb4.7,baz=121,slow=7.2,SNR=54						
SONM				PcP	PcP	21 39 13.3	+0.5
	comp=Z,1.0nm,0.7s,baz=127,slow=3.4,SNR=3.5						
SONM				LR	LR	21 48 55.7	
	comp=Z,336nm,21.6s,MS4.0,baz=109,slow=37						
BOD	**Bodaibo**	**31.03**	**330**	*e*P	**P**	**21 36 17.1**	**-1.5**
BOD				*e*		21 36 23.9	
BOD				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.4						
BOD				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.7						
GYA	**Guiyang**	**31.57**	**267**↑	*i* P	**P**	**21 36 21.8**	**-1.9**
GYA				AP	pP	21 36 33.5	+0.1
GYA				S	**S**	**21 41 25.5**	**-3.4**
GYA				SS	SS	21 43 17.3	-1.4
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
GYA				AMB	AMB		
	comp=Z,280nm,5.4s						
GYA				LR	LR		
	comp=N,330nm,16.2s,MS4.4						
GYA				LR	LR		
	comp=E,590nm,15.2s,MS4.4						
GYA				LR	LR		
	comp=Z,730nm,14.3s,MS4.5						
LZH	**Lanzhou**	**31.61**	**286**	*e*P	**P**	**21 36 23.5**	**-0.4**
LZH				AP	pP	21 36 28.3	-5.3
LZH				XP	sP	21 36 30.8	-7.1
LZH				AMB	AMB		
	comp=Z,47nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,193nm,4.3s						
LZH				LR	LR		
	comp=E,1μm,15.2s						
LZH				LR	LR		
	comp=Z,2μm,16.9s,MS4.8						
LZH	**Lanzhou**	**31.61**	**286**	*e*P	**P**	**21 36 23.4**	**-0.5**
LZH				*SP	sP	21 36 30.8	-7.1
LZH				pmax	pmax		
	comp=Z,47nm,1.5s,mb5.1						
LZH				MLR	MLR		
	comp=Z,2μm,16.9s,MS4.8						
LZH	**Lanzhou**	**31.61**	**286**	*e*P	**P**	**21 36 23.4**	**-0.5**
	comp=Z,47nm,1.5s,mb5.1						
LZH				pP	pP	21 36 28.2	-5.4
LZH				sP	sP	21 36 30.8	-7.1
LZH				LR	LR		
	comp=Z,2μm,16.9s,MS4.8						
CD2	**Chengdu**	**32.63**	**276**	P	**P**	**21 36 31.0**	**-1.9**
IRK	**Irkutsk**	**33.17**	**316**	*e*P	**P**	**21 36 32.3**	**-5.0**
IRK				pmax	pmax		
	comp=Z,47nm,3.4s						
ZAK	**Zakamensk**	**33.20**	**313**	*e*P	**P**	**21 36 37.7**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
TLY	**Talaya**	**33.36**	**315**	*e*P	**P**	**21 36 39.4**	**+0.4**
TLY				*e*		21 38 04.1	
TLY				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
TLY				MLR	MLR		
	comp=Z,278nm,15.0s,MS4.1						
TLY	**Talaya**	**33.36**	**315**↓	*e*P	**P**	**21 36 39.2**	**+0.3**
	comp=Z,12nm,1.1s,mb4.7						
GTA	**Gaotai**	**34.51**	**292**	P	**P**	**21 36 48.5**	**-0.5**
GTA				AP	pP	21 36 52.3	-6.5
GTA				XP	sP	21 36 55.5	-7.5
GTA				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
GTA				AMB	AMB		
	comp=Z,248nm,6.5s						
GTA				LR	LR		
	comp=N,362nm,15.6s,MS4.4						
GTA				LR	LR		
	comp=E,350nm,14.8s,MS4.4						
GTA				LR	LR		
	comp=Z,440nm,16.3s,MS4.3						
MOY	**Mondy**	**34.94**	**314**	*e*P	**P**	**21 36 52.7**	**+0.1**
MOY				pmax	pmax		
	comp=Z,43nm,3.3s						
KMI	**Kunming**	**35.35**	**267**	P	**P**	**21 36 55.0**	**-1.4**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
KMI				AMB	AMB		
	comp=Z,95nm,3.2s						
KMI				LR	LR		
	comp=N,290nm,11.9s,MS4.5						
KMI				LR	LR		
	comp=E,566nm,15.2s,MS4.5						
KMI				LR	LR		
	comp=Z,277nm,28.8s						
KMI	**Kunming**	**35.35**	**267**	P	**P**	**21 36 55.0**	**-1.4**
	comp=Z,7.0nm,0.8s,mb4.6						
KMI				S	**S**	**21 42 41.1**	**+13**
KMI				LR	LR		
	comp=Z,280nm,28.8s,MS3.9						
BILL	**Bilibino**	**37.32**	**15**	*i* P	**P**	**21 37 11.5**	**-1.0**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
TIXI	**Tiksi**	**38.98**	**353**	*d* iP	**P**	**21 37 25.7**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.0						
WMQ	**Urumqi**	**43.25**	**300**	P	**P**	**21 38 03.0**	**+1.3**
LSA	**Lhasa**	**43.42**	**280**	*e*P	**P**	**21 38 04.8**	**+1.4**
LSA	**Lhasa**	**43.42**	**280**	*e*P	**P**	**21 38 03.5**	**+0.1**
LSA				*e**PP	pP	21 38 14.0	+0.8
LSA				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.5						
LSA	**Lhasa**	**43.42**	**280**	*e*P	**P**	**21 38 03.5**	**+0.2**
	comp=Z,14nm,1.3s,mb4.5						
LSA				*e*pP	pP	21 38 13.9	+0.7
ZAL	**Zalesovo**	**44.98**	**315**	P	**P**	**21 38 15.1**	**-0.6**
	comp=Z,2.1nm,0.4s,mb4.3,baz=6.1,slow=6.8,SNR=15						
ZAL				PcP	PcP	21 39 56.3	-0.5
	comp=Z,3.1nm,0.6s,baz=303,slow=1.9,SNR=5.6						
ZAL				LR	LR	21 58 05.1	
	comp=Z,185nm,19.1s,MS4.0,baz=20,slow=38						
ZAL	**Zalesovo**	**44.98**	**315**	P	**P**	**21 38 15.1**	**-0.6**
ZAL				PcP	PcP	21 39 56.3	-0.5
ZAL				LR	LR	21 58 05.0	
HNR	**Honiara**	**45.77**	**155**	LR	LR	21 56 58.3	
	comp=Z,160nm,18.6s,MS4.0,baz=129,slow=35						
NVS	**Novosibirsk**	**45.94**	**316**	*e*P	**P**	**21 38 22.3**	**-0.9**
NVS				*e*S	**S**	**21 44 55.2**	**-10**
NVS				pmax	pmax		
	comp=N,8.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,39nm,1.4s						
NVS				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.1						
NVS				smax			
	comp=N,12nm,2.3s						
NVS				smax			
	comp=E,8.0nm,2.3s						
MKAR

DMN Daman 49.13 279 *e*P **P 21 38 46.9 -1.6**
comp=Z,19nm,0.7s,mb5.3
GKN Gorkha 49.37 280 *e*P **P 21 38 50.2 -0.1**
comp=Z,49nm,0.7s,mb5.7
KOLN Koldanda 50.31 280 *e*P **P 21 38 53.3 -4.2**
comp=Z,25nm,0.7s,mb5.4
ULHL Ulahol 51.78 300 P **P 21 39 09.6 +1.1**
SNR=5.1
TKM2 Tokmak 2 52.09 301 P **P 21 39 11.6 +0.8**
SNR=24
ILAR Eielson Array 52.19 31 P **P 21 39 10.1 -1.2**
comp=Z,3.4nm,0.5s,mb4.5,baz=261,slow=6.0,SNR=7.5
KBK Karagaybulak 52.62 301 P **P 21 39 15.9 +1.2**
SNR=12
KSH Kashi 52.65 297 *e*P **P 21 39 17.0 +1.9**
KSH *e*AP pP 21 39 27.0 +1.8
KSH *e*PCP PcP 21 40 25.0 +0.3
KSH *e*PP PP 21 41 17.0 +1.6
KSH *e*PCS 21 44 19.8
KSH *e*S **S 21 46 43.0 +4.3**
KSH ScS 21 49 02.5 +3.7
KSH AMB AMB
comp=Z,160nm,2.5s,mb5.5
KSH LR LR
comp=N,420nm,11.4s
KSH LR LR
comp=E,400nm,9.1s
CHMS Chumysh 52.68 301 P **P 21 39 15.7 +0.5**
SNR=6.5
USP Ospenovka 52.79 302 P **P 21 39 16.8 +0.7**
SNR=8.6
AAK Ala-Archa 52.95 301 *e*P **P 21 39 17.1 -0.1**
AAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
AAK Ala-Archa 52.95 301 *e*P **P 21 39 17.1 -0.2**
comp=Z,6.9nm,0.8s,mb4.6
VOSK Vostochnaya 53.31 314 P **P 21 39 19.0 -0.7**
VOSK pmax pmax
comp=Z,50nm,1.5s,mb5.2
CTA Charters Tower 53.32 175 *e*P **P 21 39 19.5 -0.7**
comp=Z,3.7nm,0.9s,mb4.3
CTA Charters Tower 53.32 175 *e*P **P 21 39 19.5 -0.7**
CTA pmax pmax
comp=Z,4.0nm,0.9s
EKS2 Erkin-Say 53.45 301 P **P 21 39 21.7 +0.8**
SNR=6.1
WRAB Tennant Creek 53.58 189 *e*P **P 21 39 20.8 -1.3**
WRAB pmax pmax
comp=Z,25nm,1.1s,mb5.1
WRAB Tennant Creek 53.58 189 *e*P **P 21 39 20.8 -1.3**
comp=Z,25nm,1.1s,mb5.0
WB2 Warramunga Arr 53.59 189 *e*P **P 21 39 20.5 -1.7**
WRA Warramunga Arr 53.59 189 P **P 21 39 20.3 -1.9**
comp=Z,7.8nm,0.7s,mb4.8,baz=7.7,slow=7.6,SNR=111
WRA PcP PcP 21 40 29.2 +0.8
comp=Z,2.8nm,0.6s,baz=1.4,slow=4.0,SNR=5.3
BVA0 Borovoye Array 53.62 314 *i* P **P 21 39 21.5 -0.5**
BVA0 pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
BVAR Borovoye Array 53.62 314 P **P 21 39 21.5 -0.5**
comp=Z,9.3nm,1.1s,mb4.7,baz=90,slow=5.9,SNR=36
BVAR PcP PcP 21 40 27.3 -0.7
comp=Z,2.1nm,0.6s,baz=104,slow=5.9,SNR=2.5
FITZ Fitzroy Crossi 53.63 200 ⇓ *i*P **P 21 39 21.5 -1.1**
comp=Z,14nm,0.5s,mb5.2
AML Almayashu 53.65 301 P **P 21 39 23.8 +1.4**
SNR=31
BRVK Borovoye 53.67 315 *e*P **P 21 39 21.3 -1.1**
BRVK *e**PP pP 21 39 32.7 +0.2
BRVK pmax pmax
comp=Z,19nm,1.4s,mb4.8
BRVK Borovoye 53.67 315 *e*P **P 21 39 21.3 -1.1**
comp=Z,19nm,1.4s,mb4.8
BRVK *e*pP pP 21 39 32.7 +0.3
DDI Dehra Dun 53.91 285 *e* **P 21 39 24.0 -0.4**
THN Thein Dam 55.03 289 *e*P **P 21 39 30.8 -1.9**
KKAR Karatay Array 55.66 303 *i* P **P 21 39 36.5 -0.6**
KKAR pmax pmax
comp=Z,35nm,1.1s,mb5.3
INK Inuvik 57.29 26 P **P 21 39 48.0 -0.5**
comp=Z,3.3nm,0.4s,mb4.7,baz=289,slow=6.5,SNR=30
MBWA Marble Bar 58.38 205 *e*P **P 21 39 55.8 -0.8**
comp=Z,6.2nm,0.5s,mb4.9
HYB Hyderabad 58.95 271 *e*P **P 21 40 01.0 +0.4**
HYB Hyderabad 58.95 271 ⇑ *i*P **P 21 40 01.0 +0.4**
ARU Arti 59.61 320 *e*P **P 21 40 03.7 -1.0**
ARU pmax pmax
comp=Z,26nm,0.9s,mb5.3
ARU Arti 59.61 320 *e*P **P 21 40 03.7 -1.0**
comp=Z,26nm,0.9s,mb5.3
DZM Mont Dzumac 59.76 154 P **P 21 40 06.8 +0.6**
comp=Z,12nm,0.8s,mb5.0,baz=56,slow=17,SNR=4.6
AB31 Akbulak array 60.89 312 *i* P **P 21 40 12.9 -0.6**
AB31 pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
DLBC Dease Lake 61.05 37 P **P 21 40 14.3 -0.2**
comp=Z,1.5nm,0.6s,mb4.3,baz=244,slow=3.1,SNR=4.2
DLBC Dease Lake 61.05 37 P **P 21 40 14.3 -0.2**
STKA Stephens Creek 64.93 181 ⇑ *i*P **P 21 40 40.0 -0.5**
comp=Z,7.2nm,1.0s,mb4.7
STKA Stephens Creek 64.93 181 P **P 21 40 40.1 -0.4**
comp=Z,9.2nm,0.9s,mb4.8,baz=12,slow=5.8,SNR=10
LVZ Lovozero 65.74 337 ⇑ *e*P **P 21 40 44.8 -0.3**
LVZ pmax pmax
comp=Z,18nm,1.1s,mb5.0
LVZ MLR MLR
comp=Z,200nm,19.0s,MS4.3
YKA Yellowknife Ar 66.58 30 P **P 21 40 49.5 -1.0**
comp=Z,2.3nm,0.7s,mb4.3,baz=294,slow=6.3,SNR=16
YKA Yellowknife Ar 66.58 30 P **P 21 40 49.5 -1.0**
KEV Kevo 67.11 340 *e*p **P 21 40 50.9 -2.9**
comp=Z,1.7nm,0.5s,mb4.3
ARCES ARCESS Array B 67.66 340 P **P 21 40 57.4 0.0**
comp=Z,2.4nm,0.7s,mb4.3,baz=68,slow=6.5,SNR=21
ARCES LR LR 22 14 13.7
comp=Z,94nm,18.2s,MS4.0,baz=195,slow=39
KLBR Kellerberrin 68.68 202 ⇑ *i*P **P 21 41 03.6 -0.7**
comp=Z,19nm,1.1s,mb4.9
MOS Moscow 70.63 325 *e*P **P 21 41 12.7 -3.1**
MOS *e* 21 41 29.8
MOS pmax pmax
comp=Z,74nm,1.5s,mb5.4
OBN Obninsk 71.47 324 ⇓ *e*P **P 21 41 20.4 -0.4**
OBN *e**PP pP 21 41 32.1 +0.9
OBN *e* 21 43 56.2
OBN pmax pmax
comp=Z,41nm,1.4s,mb5.2
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.6
OBN Obninsk 71.47 324 *e*P **P 21 41 20.6 -0.2**
comp=Z,42nm,1.4s,mb5.2
KAF Kangasniemi 71.89 334 *e*p **P 21 41 22.0 -1.2**
comp=Z,8.5nm,0.4s,mb5.0,baz=50,slow=5.7
FINES FINESS Array B 72.39 333 P **P 21 41 26.2 0.0**
comp=Z,7.0nm,0.8s,mb4.6,baz=72,slow=6.0,SNR=22
FINES LR LR 22 15 45.4
comp=Z,108nm,18.4s,MS4.2,baz=178,slow=38
FINES FINESS Array B 72.39 333 P **P 21 41 26.2 0.0**
FINES LR LR 22 15 45.4
BMO Blue Mountains 73.85 47 *e*P **P 21 41 35.8 +0.8**
comp=Z,1.7nm,0.7s,mb4.1
KIV Kislovodsk 73.88 312 *e*P **P 21 41 35.6 +0.4**
KIV *e* 21 41 51.0
KIV *e*S S 21 51 05.8 +2.6
KIV pmax pmax
comp=Z,16nm,1.2s,mb4.8
KIV Kislovodsk 73.88 312 *e*P **P 21 41 36.4 +1.3**
comp=Z,16nm,1.1s,mb4.8
KIV *e*pP pP 21 41 46.6 +1.1
VSU Vasula 73.97 330 *d i*P **P 21 41 35.6 +0.2**
WVOR Wild Horse Val 74.27 49 *e*P **P 21 41 37.8 +0.3**
WVOR pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
WVOR Wild Horse Val 74.27 49 *e*P **P 21 41 37.8 +0.4**
comp=Z,4.4nm,1.1s,mb4.3
GNI Garni 74.51 308 ⇑ *e*P **P 21 41 39.8 +0.9**
GNI pmax pmax
comp=Z,24nm,1.5s
SOC Sochi 75.91 313 *c i*P **P 21 41 47.6 +0.8**
SOC *e* 21 44 35.0
SOC *e*PPP PPP 21 46 20.9 -4.9
SOC *e*S S 21 51 24.0 -1.7
SOC *e* 21 51 57.0
SOC *e*SS SS 21 56 17.6 -3.6
SOC *e*SSS SSS 21 59 36.8 +0.7
SOC pmax pmax
comp=Z,22nm,1.0s,mb5.0
SOC pmax pmax
comp=N,9.0nm,0.8s
SOC pmax pmax
comp=E,20nm,1.0s
SOC MLR MLR
comp=N,123nm,20.0s,MS4.4
SOC MLR MLR
comp=E,137nm,20.0s,MS4.4
SOC MLR MLR
comp=Z,256nm,20.0s,MS4.5
HRY Holter Researc 76.08 43 *e*P **P 21 41 48.7 +0.9**
NVAR Mina Array Bea 76.57 53 P **P 21 41 51.3 +0.6**
comp=Z,1.7nm,0.6s,mb4.1,baz=305,slow=4.2,SNR=13
BOZ Bozeman (W) 76.80 44 *e*P **P 21 41 52.6 +0.8**
BOZ *e* pP 21 42 03.1 +0.9
BOZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BOZ Bozeman (W) 76.80 44 *e*P **P 21 41 52.6 +0.8**
comp=Z,3.9nm,0.8s,mb4.4
BOZ *e* pP 21 42 03.1 +0.9
AKASG Malin Array Be 77.64 323 P **P 21 41 56.1 -0.2**
comp=Z,1.9nm,0.5s,mb4.3,baz=43,slow=5.9,SNR=39
NB2 NORSAR Subarra 77.83 338 P **P 21 41 57.1 0.0**
comp=Z,89nm,1.7s,mb5.4,baz=40,slow=5.6
NB2 NORSAR Subarra 77.83 338 P **P 21 41 57.1 0.0**
NB2 pmax pmax
comp=Z,89nm,1.7s,mb5.4
NB2 NORSAR Subarra 77.83 338 P **P 21 41 57.1 0.0**
baz=40,slow=5.6
NOA NORSAR Array B 77.83 338 P **P 21 41 57.4 +0.2**
comp=Z,5.9nm,0.7s,mb4.6,baz=39,slow=5.6,SNR=32
NOA LR LR 22 21 29.7
comp=Z,84nm,18.1s,MS4.1,baz=55,slow=40
SUW Suwalki 78.36 328 *e*P **P 21 42 00.3 +0.1**
SUW Suwalki 78.36 328 *e*P **P 21 42 00.3 +0.1**
MOOW Moose Ponds 78.40 45 *e*P **P 21 42 02.3 +1.7**
comp=Z,1.7nm,0.8s,mb4.0
MOOW *e*pP pP 21 42 13.0 +1.9
MALT Malatya 79.63 309 *e*P **P 21 42 08.8 +1.3**
MALT pmax pmax
comp=Z,22nm,1.7s,mb4.8
MALT Malatya 79.63 309 *e*P **P 21 42 08.8 +1.4**
comp=Z,22nm,1.7s,mb4.8
IAS Iasi 80.70 321 P **P 21 42 14.0 +1.0**
SRU San Rafael 81.23 49 *e*P **P 21 42 16.5 +0.6**
SRU *e**PP pP 21 42 25.8 -0.7
KWP Kalwaria 81.53 325 *e*P **P 21 42 18.6 +1.4**
KWP Kalwaria 81.53 325 *e*P **P 21 42 18.6 +1.4**
BURAR Bucovina Array 81.64 323 ⇑ P **P 21 42 19.3 +1.4**
BURAR Bucovina Array 81.64 323 ⇑ P **P 21 42 19.3 +1.4**
BR131 Keskin Array S 81.84 312 *e*P **P 21 42 20.3 +1.2**
comp=Z,2.1nm,0.6s,mb4.2
BRTR Keskin Array B 81.84 312 P **P 21 42 19.9 +0.8**
comp=Z,2.5nm,0.7s,mb4.2,baz=119,slow=4.1,SNR=12
VRI Vrincioaia 82.00 320 ⇓ P **P 21 42 22.0 +2.3**
KOLS Kolonicke sedl 82.21 325 *e*P **P 21 42 22.0 +1.2**
PPT Papeete 82.33 117 *e*LR LR 22 07 20.7
comp=Z,214nm,25.0s
STHS Stebnicka Huta 82.37 326 *e*P **P 21 42 23.2 +1.6**
OJC Ojcow 82.48 327 *e*P **P 21 42 20.9 -1.3**
CRVS Cervenica-Dubn 82.62 325 *e*P **P 21 42 26.6 +3.7**
MLR Muntele Rosu 82.66 321 ⇑ P **P 21 42 24.9 +1.7**
NIE Niedzica 82.81 326 *e*P **P 21 42 25.1 +1.2**
VOIR 83.17 321 ⇓ P **P 21 42 27.7 +1.9**
VOIR 83.17 321 ⇓ P **P 21 42 27.6 +1.8**
KECS Kecovo 83.38 325 *e*P **P 21 42 28.1 +1.2**
DRGR 83.46 323 P **P 21 42 28.9 +1.6**
DRGR 83.46 323 ⇓ P **P 21 42 28.3 +1.0**
DRGR 83.46 323 ⇓ P **P 21 42 28.3 +1.0**
OKC Ostrava-Krasne 83.50 327 *e*P **P 21 42 27.7 +0.3**
OKC AMS AMS 22 28 50.0
comp=Z,200nm,18.9s
KSP Ksiaz 83.59 329 *e*P **P 21 42 28.2 +0.4**
BSEG Bad Segeberg 83.64 334 *e*P **P 21 42 28.7 +0.7**
MORC Moravsky Berou 83.82 328 *e*P **P 21 42 30.0 +1.0**
MORC pmax pmax
comp=Z,36nm,1.7s,mb5.2
MORC Moravsky Berou 83.82 328 *e*P **P 21 42 30.0 +1.0**
comp=Z,36nm,1.7s,mb5.2
DPC Dobruska-Polom 83.94 329 *e*P **P 21 42 30.8 +1.2**
DPC AMS AMS 22 27 00.0
comp=Z,200nm,15.2s
UPC Upice 83.96 329 *e*P **P 21 42 31.0 +1.3**
PSZ Piszkesteto 84.06 325 P **P 21 42 31.8 +1.5**
PSZ Piszkesteto 84.06 325 ⇓ *e*P **P 21 42 31.5 +1.2**
VYHS Vyhne 84.15 326 *i* P **P 21 42 31.8 +1.1**
PVCC Panska Ves 84.56 330 *e*P **P 21 42 33.7 +1.0**
PVCC AMS AMS 22 25 20.0
comp=Z,200nm,15.2s
BRG Berggiesshubel 84.57 330 *i* P **P 21 42 33.3 +0.6**
BRG pmax pmax
comp=Z,26nm,1.1s,mb5.3
BRG MLR MLR
comp=Z,290nm,13.5s,MS4.8
BRG Berggiesshubel 84.57 330 *i* P **P 21 42 33.3 +0.6**
comp=Z,26nm,1.1s,mb5.3
BRG LR LR
comp=Z,290nm,13.5s,MS4.8
VRAC Vranov 84.59 328 P **P 21 42 34.6 +1.7**
CLL Collm 84.63 331 ⇓ *i*P **P 21 42 33.4 +0.4**
CLL pmax pmax
comp=Z,39nm,1.4s,mb5.3
CLL Collm 84.63 331 ⇓ *i*P **P 21 42 33.4 +0.4**
comp=Z,39nm,1.4s,mb5.3
CLL Collm 84.63 331 ⇓ P **P 21 42 33.4 +0.4**
comp=Z,logA/T=1.4,mb5.3
SMOL Smolenice 84.79 327 *e*P **P 21 42 35.7 +1.8**
PRU Pruhonice 84.98 329 *e*P **P 21 42 36.0 +1.2**
PRU AMS AMS 22 26 30.0
comp=Z,200nm,13.8s
ZST Bratislava 85.17 327 *e*P **P 21 42 37.0 +1.2**
SDCO Great Sand Dun 85.19 47 *e*P **P 21 42 37.7 +1.5**
comp=Z,6.5nm,0.8s,mb4.8
SDCO *e*pP pP 21 42 48.8 +2.0
CLZ Clausthal 85.26 332 *e*P **P 21 42 37.1 +0.9**
CLZ pmax pmax
comp=Z,39nm,1.4s,mb5.3
CLZ Clausthal 85.26 332 *e*P **P 21 42 37.1 +0.9**
comp=Z,39nm,1.4s,mb5.3
NKC Novy Kostel 85.67 330 *e*P **P 21 42 39.5 +1.2**
NKC AMS AMS 22 25 50.0
comp=Z,300nm,11.4s
MOX Moxa 85.70 331 *e*P **P 21 42 39.2 +0.8**
MOX pmax pmax
comp=Z,29nm,1.5s,mb5.3
MOX MLR MLR
comp=Z,200nm,15.0s,MS4.6
MOX Moxa 85.70 331 *e*P **P 21 42 39.2 +0.8**
comp=Z,29nm,1.5s,mb5.3
MOX LR LR
comp=Z,200nm,15.0s,MS4.6
MOX Moxa 85.70 331 *i* P **P 21 42 39.2 +0.8**
comp=Z,logA/T=1.3,mb5.3
MOX L 22 29 38.0
TBI Tubuai 86.01 121 *e*LR LR 22 09 01.8
comp=Z,217nm,25.0s
KHC Kasperske Hory 86.04 329 *e*P **P 21 42 40.3 +0.2**
KHC AMS AMS 22 28 10.0
comp=Z,200nm,15.7s
GEC2 GERESS Array S 86.20 329 *e*P **P 21 42 41.7 +0.8**
GEC2 pmax pmax
comp=Z,15nm,1.6s,mb5.0
GEC2 GERESS Array S 86.20 329 *e*P **P 21 42 41.7 +0.8**
comp=Z,15nm,1.6s,mb5.0
GERES GERESS Array B 86.20 329 P **P 21 42 41.8 +0.9**
comp=Z,0.8nm,0.5s,mb4.2,baz=34,slow=4.8,SNR=13
GERES LR LR 22 20 59.7
comp=Z,58nm,18.4s,MS4.0,baz=51,slow=36
GERES GERESS Array B 86.20 329 P **P 21 42 41.8 +0.9**
GERES LR LR 22 20 59.7
WET Wettzell 86.33 329 *e*P **P 21 42 42.5 +1.0**
WET pmax pmax
comp=Z,24nm,1.6s,mb5.2
WET Wettzell 86.33 329 *e*P **P 21 42 42.5 +1.0**
comp=Z,24nm,1.6s,mb5.2
ANMO Albuquerque 86.34 50 *i* P **P 21 42 43.0 +1.0**
GRA1 Grafenberg Arr 86.60 331 *e*P **P 21 42 43.9 +1.1**
comp=Z,37nm,1.5s,mb5.4
GRF Grafenberg Arr 86.60 331 *e*P **P 21 42 43.9 +1.1**
GRF pmax pmax
comp=Z,37nm,1.5s,mb5.4
GRF Grafenberg Arr 86.60 331 *e*P **P 21 42 43.9 +1.1**
GRF pmax pmax
comp=Z,37nm,1.5s,mb5.4
GRF Grafenberg Arr 86.60 331 *e*P **P 21 42 43.9 +1.1**
comp=Z,37nm,1.5s,mb5.4
TNS Taunus Mts 87.29 332 *e*P **P 21 42 46.3 +0.1**
TNS pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
TNS Taunus Mts 87.29 332 *e*P **P 21 42 46.3 +0.1**
comp=Z,7.0nm,1.1s,mb4.8
CEY Cerknica 88.22 326 *e*P **P 21 42 50.4 -0.4**
JAVS Javornik 88.27 327 *e*P **P 21 42 50.5 -0.5**
BFO Black Forest 88.84 331 *e*P **P 21 42 54.0 +0.3**
BFO pmax pmax
comp=Z,10.0nm,1.6s,mb4.9
BFO Black Forest 88.84 331 *e*P **P 21 42 54.0 +0.3**
comp=Z,10.0nm,1.6s,mb4.9
LOR Lormes 91.45 333 *e*P **P 21 43 04.7 -1.1**
LOR *e*R
comp=Z,74nm,17.5s
TXAR Lajitas Array 91.72 53 P **P 21 43 08.6 +1.1**
comp=Z,2.3nm,0.6s,mb4.7,baz=310,slow=3.7,SNR=19
TXAR LR LR 22 19 19.9
comp=Z,111nm,20.4s,MS4.3,baz=10.0,slow=32
LPL La Plagne 91.76 331 *e*P **P 21 43 06.8 -0.5**
comp=Z,10nm,0.8s,mb4.9
LPL La Plagne 91.76 331 *e*P **P 21 43 06.8 -0.5**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
SSF Saint Saulge 91.76 333 *e*P **P 21 43 06.4 -0.8**
LPG La Plagne 91.77 330 *e*P **P 21 43 06.7 -0.6**
comp=Z,20nm,1.1s,mb5.0
LPG La Plagne 91.77 330 *e*P **P 21 43 06.7 -0.6**
LPG pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
AVF Avril sur Loir 92.04 333 *e*P **P 21 43 08.0 -0.6**
comp=Z,16nm,0.9s,mb5.0
AVF Avril sur Loir 92.04 333 *e*P **P 21 43 08.0 -0.6**
AVF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
GRR Gorron 92.18 336 *e*P **P 21 43 08.5 -0.7**
comp=Z,6.7nm,0.6s,mb4.9
GRR Gorron 92.18 336 *e*P **P 21 43 08.5 -0.7**
GRR pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
MBDF Montbardon 92.38 330 *e*P **P 21 43 09.5 -0.7**
comp=Z,8.3nm,0.7s,mb4.9
MBDF Montbardon 92.38 330 *e*P **P 21 43 09.5 -0.7**
MBDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
ORIF Oris-en-Rattie 92.60 331 *e*P **P 21 43 10.3 -0.9**
comp=Z,4.6nm,0.7s,mb4.7
ORIF *e*R
comp=Z,114nm,19.2s
SBF Sospel 92.80 329 *e*P **P 21 43 11.0 -1.1**
comp=Z,12nm,0.7s,mb5.2
SBF Sospel 92.80 329 *e*P **P 21 43 11.0 -1.1**
SBF pmax pmax
comp=Z,6.0nm,0.7s,mb5.1
VIVF Saint-Julien-l 93.14 331 *e*P **P 21 43 12.3 -1.3**
comp=Z,11nm,0.8s,mb5.0
VIVF Saint-Julien-l 93.14 331 *e*P **P 21 43 12.3 -1.3**
VIVF pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
PGF Pioggiola 93.16 327 *e*P **P 21 43 12.8 -1.0**
FRF La Foret Royal 93.38 329 *e*P **P 21 43 13.5 -1.3**
SMRF Simiane la Rot 93.49 330 *e*P **P 21 43 13.8 -1.5**
comp=Z,28nm,1.4s,mb5.2
LMR La Mourre 93.62 329 *e*P **P 21 43 15.1 -0.8**
comp=Z,35nm,1.3s,mb5.3
LMR La Mourre 93.62 329 *e*P **P 21 43 15.1 -0.8**
LMR pmax pmax
comp=Z,18nm,1.3s,mb5.3
RKT Rikitea 96.66 113 *e*LR LR 22 13 59.6
comp=Z,573nm,37.0s
BOSA Boshof 126.57 257 PKP PKPdf 21 49 04.3 -3.1
comp=Z,2.1nm,0.8s,baz=35,slow=9.2,SNR=4.2
SAML Samuel 146.15 50 *e*PKPdf PKPdf 21 49 40.5 -3.2
SAML *ep*PKPdf 21 49 51.9
LPAZ La Paz 147.69 66 PKPbc PKPdf 21 49 45.0 -1.2
comp=Z,2.5nm,0.4s,baz=344,slow=4.0,SNR=14
USHA Ushuaia 149.62 144 PKPbc PKPdf 21 49 50.1 +2.0
comp=Z,9.4nm,0.9s,baz=114,slow=2.3,SNR=4.2
PLCA Paso Flores 152.87 115 PKIKP PKPdf 21 49 57.2 +3.8
PLCA pmax pmax
comp=Z,1.0nm,0.5s
PLCA Paso Flores 152.87 115 PKPbc PKPdf 21 49 57.2 +3.8
comp=Z,1.0nm,0.5s,baz=30,slow=1.4,SNR=4.3

IDC 26 21:33:10.3±8.8, 2.23N×96.05E, mb4.0/5, mb1 4.1/5, mb1mx3.7/19, mbtmp4.0/5, Error ellipse: s-maj=204.6km s-min=85.9km az=138.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.98**	**347**	P	P		21 41 35.4	-1.7
	2.8nm,0.7s,baz=162,slow=7.7,SNR=6.4							
SONM	**Songino Array**	**46.30**	**10**	P	P		21 41 37.9	-1.8
	0.4nm,0.5s,baz=190,slow=6.7,SNR=3.8							
ZAL	**Zalesovo**	**52.37**	**352**	P	P		21 42 24.0	-2.3
	2.4nm,0.5s,baz=295,slow=6.2,SNR=7.0							
BVAR	**Borovoye Array**	**54.91**	**341**	P	P		21 42 42.5	-2.6
	1.6nm,0.6s,baz=149,slow=8.6,SNR=4.1							
GERES	**GERESS Array B**	**83.29**	**319**	P	P		21 45 39.3	-1.1
	0.4nm,0.7s,baz=79,slow=5.0,SNR=2.6							

*IDC **26** 21:34:27.3±0.8, 15.11S×173.23W, mb4.0/9, mb1 4.3/9, mb1mx4.2/16, mbtmp4.0/9, Error ellipse: s-maj=37.2km s-min=18.9km az=130.0*

ISC 26 21:34:30.5±0.7, 15.1S±0.2×173.4W±0.2, h33km, n14, σ0s72/12, mb4.0/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.91**	**53**	Pn	**Pn**		**21 34 54.7**	**-6.6**
	96nm,0.3s,baz=63,slow=1.9,SNR=55							
AFI				Sn	**Sn**		**21 35 13.1**	**-11**
	280nm,0.3s,baz=53,slow=21,SNR=34							
DZM	**Mont Dzumac**	**20.37**	**247**	P	P		21 39 07.3	+0.2
	3.8nm,0.8s,baz=99,slow=21,SNR=1.9							
URZ	**Urewera**	**24.59**	**198**	P	P		21 39 48.0	-0.9
	2.7nm,0.4s,mb4.2,baz=273,slow=10,SNR=3.9							
STKA	**Stephens Creek**	**44.25**	**240**	P	P		21 42 39.0	+0.2
	1.9nm,0.4s,mb4.1,baz=71,slow=13,SNR=4.7							
WRA	**Warramunga Arr**	**49.97**	**256**	P	P		21 43 23.0	-0.8
	1.3nm,0.4s,mb4.3,baz=93,slow=6.7,SNR=17							
VNDA	**Vanda**	**63.71**	**186**	P	P		21 45 00.7	0.0
	0.4nm,0.7s,mb3.5,baz=337,slow=7.5,SNR=5.1							
NVAR	**Mina Array Bea**	**74.05**	**42**	P	P		21 46 05.0	0.0
	0.2nm,0.4s,mb3.4,baz=208,slow=6.9,SNR=4.4							
TXAR	**Lajitas Array**	**90.39**	**56**	P	P		21 46 39.8	-0.8
	0.2nm,0.3s,mb3.5,baz=191,slow=6.4,SNR=4.7							
ILAR	**Eielson Array**	**82.11**	**11**	P	P		21 46 49.0	+0.1
	54nm,0.3s,baz=201,slow=7.7,SNR=2.3							
MAW	**Mawson**	**88.12**	**199**	P	P		21 47 20.4	+1.8
	3.0nm,1.0s,mb4.5,baz=67,slow=3.9,SNR=4.6							
YKA	**Yellowknife Ar**	**89.77**	**23**	P	P		21 47 26.8	+0.3
	0.5nm,0.6s,mb4.1,baz=241,slow=4.0,SNR=7.5							
KHC	**Kasperske Hory**	**145.56**	**352**	*e*P		PKPdf	21 54 08.0	+2.7
GERES	**GERESS Array B**	**145.82**	**352**	PKPbc		PKPbc	21 54 09.1	+2.5
	1.1nm,0.9s,baz=27,slow=3.0,SNR=10							
BRTR	**Keskin Array B**	**145.93**	**321**	PKPbc		PKPbc	21 54 10.4	+3.3
	5.5nm,1.0s,baz=117,slow=2.8,SNR=19							

*ATH **26** 21:41:36.4, 36.66N×26.71E, h139km±10km*
*HLW **26** 21:41:41.2, 36.09N×27.15E, h18km, Mb3.1*
*CSEM **26** 21:41:44.0±0.9, 35.80N×27.21E, h146km±24km, ML3.1, Error ellipse: s-maj=26.6km s-min=11.2km az=153.0*

ISC 26 21:41:36.6±1.9, 36.4N±0.2×26.81E±0.08, h157km±9km, n11, σ0s77/16, 3C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.92**	**162**	*e*P	P		21 42 02.6	+1.0
KARP				*e*S	**S**		21 42 21.5	+0.7
ARG	**Arkhangelos**	**1.08**	**101**	*e*P	P		21 42 03.4	+0.5
ARG				*e*S	**S**		21 42 22.1	-1.1
NPS	**Neapolis**	**1.51**	**220**	*e*P	P		21 42 07.6	+0.5
NPS				*e*S	**S**		21 42 30.4	-0.3
XRY	**Khrisi**	**1.79**	**211**	*e*P	P		21 42 10.5	+0.4
VAM	**Vamos**	**2.35**	**245**	*e*P	P		21 42 17.2	+0.5
VAM				*e*S	**S**		21 42 45.9	-1.6
SLUM		**5.09**	**196**	⇓ *e*P	P		21 42 52.9	+0.7
HMAT	**Matruh**	**5.32**	**177**	P	P		21 42 54.7	-0.5
SWA1		**7.20**	**188**	⇑ *e*P	P		21 43 20.5	+0.2

SWA1				S		**S**	**21 44 34.8**	**-6.3**
SWA2		**7.25**	**189**⇑	*e*P		**P**	**21 43 21.2**	**+0.2**
AMAG	**Maghara**	**7.86**	**135**	P		**P**	**21 43 27.7**	**-1.4**
HFRF	**Wahat Farafira**	**9.34**	**172**	⇑P		**P**	**21 43 48.6**	**+0.1**

*CASC **26** 22:27:13.6±1.6, 13.90N×91.22W, h29km±5km, MD4.1, ML4.5, mb4.0(NEIC)*
*MEX **26** 22:27:14.5±0.3, 13.93N×90.96W, h76km±47km, MD4.5*
*NEIC **26** 22:27:14.9±0.7, 14.07N×90.92W, mb4.0/7, MD4.5(MEX), Error ellipse: s-maj=21.1km s-min=8.2km az=219.0*
*IDC **26** 22:27:20.8±3.5, 14.15N×90.81W, h120km±33km, mb3.6/5, mb1 3.8/7, mb1mx3.5/21, mbtmp3.9/7, MS3.4/9, Ms1 3.4/9, ms1mx3.2/20, Error ellipse: s-maj=68.0km s-min=15.2km az=46.0*

ISC 26 22:27:15.0±0.6,**14.02N**±0.06×**91.11W**±0.04,**h78**km±5km, **n49**,σ1§**01**/60,**mb4.0**/9,**1C-1D**,**Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.50**	**31**	*e*P	**P**	**22 27 26.6**	**-2.0**
PCG	**Pacaya**	**0.61**	**53**	*e*P	**P**	**22 27 28.9**	**-0.9**
PCG				*e*S	**S**	**22 27 40.8**	**+0.2**
IXG	**Ixpaco**	**0.66**	**76**	*e*P	**P**	**22 27 28.4**	**-1.8**
IXG				*e*S	**S**	**22 27 40.3**	**-1.1**
IXG				AML	AML	22 27 43.5	
	comp=E,35μm,0.5s						
TP2	**Tecpan 2**	**0.77**	**6**	*e*P	**P**	**22 27 30.4**	**-1.0**
TP2				*e*S	**S**	**22 27 43.9**	**+0.3**
TP2				AML	AML	22 27 47.2	
	comp=N,24μm,0.5s						
RBDL	**Robledal**	**1.39**	**86**⇓	*e*P	**P**	**22 27 39.0**	**-0.2**
RBDL				*e*S	**S**	**22 27 58.5**	**+1.4**
RTR	**El Retiro**	**1.43**	**95**	*e*P	**P**	**22 27 39.7**	**-0.1**
RTR				*e*S	**S**	**22 27 59.2**	**+1.1**
SBLS	**San Blas**	**1.46**	**97**	*e*P	**P**	**22 27 40.1**	**0.0**
SBLS				*e*S	**S**	**22 27 59.6**	**+0.9**
MRL	**Marmol**	**1.73**	**53**⇓	*e*P	**P**	**22 27 44.1**	**+0.4**
BOQS	**Boqueron**	**1.80**	**99**	*e*P	**P**	**22 27 44.6**	**-0.1**
BOQS				*e*S	**S**	**22 28 08.4**	**+1.8**
LFU	**La Fuente**	**1.96**	**98**	*e*P	**P**	**22 27 46.9**	**+0.1**
LFRS	**El Faro**	**2.03**	**101**	*e*P	**P**	**22 27 47.8**	**0.0**
LFRS				*e*S	**S**	**22 28 12.3**	**+0.3**
LCBS	**La Ceiba**	**2.10**	**100**	*e*P	**P**	**22 27 48.9**	**+0.1**
SNVI	**San Vicente**	**2.24**	**100**	*e*P	**P**	**22 27 51.0**	**+0.1**
SNVI				*e*S	**S**	**22 28 17.7**	**+0.3**
CCIG	**Comitan**	**2.46**	**336**	*i* P	**P**	**22 27 53.4**	**-0.5**
CCIG				*i* S	**S**	**22 28 23.7**	**+0.9**
SCX	**San Cristobal**	**3.08**	**332**	*e*P	**P**	**22 28 02.2**	**-0.3**
SCX				*i* S	**S**	**22 28 36.0**	**-2.2**
SCX	**San Cristobal**	**3.08**	**332**	*e*P	**P**	**22 28 02.2**	**-0.3**
SCX				*i* S	**S**	**22 28 39.5**	**+1.3**
CMIG	**Matias Romero**	**4.75**	**311**	*i* P	**P**	**22 29 24.5**	**-1.2**
CMIG				*i* S	**S**	**22 29 40.4**	**+0.4**
HUIG	**Huatulco**	**5.13**	**290**	*i* P	**P**	**22 28 39.2**	**+8.2**
HUIG				*i* S	**S**	**22 29 30.6**	**+1.0**
EVV	**El Vigia**	**6.00**	**318**	*e*P	**P**	**22 28 41.8**	**-1.1**
EVV				*i* S	**S**	**22 29 53.0**	**+1.9**
OXX	**Oaxaca**	**6.21**	**300**	*e*P	**P**	**22 28 47.5**	**+1.7**
OXX				*i* S	**S**	**22 29 49.0**	**-7.1**
OXX	**Oaxaca**	**6.21**	**300**	*e*P	**P**	**22 28 47.5**	**+1.7**
OXX				*i* S	**S**	**22 29 55.5**	**-0.6**
JTS	**JuntasAbangare**	**7.07**	**121**	P	**P**	**22 28 58.9**	**+1.0**
	comp=N,0.9nm,0.3s,baz=315,slow=19,SNR=2.1						
JTS				S	**S**	**22 30 17.4**	**+0.1**
	comp=N,0.6nm,0.3s,baz=342,slow=19,SNR=1.8						
JTS	**JuntasAbangare**	**7.07**	**121**	Pn	**P**	**22 28 55.9**	**-1.9**
JTS				*e*S	**S**	**22 30 18.4**	**+1.0**
PPM	**Popocatepetl**	**8.78**	**306**	*e*P	**P**	**22 29 22.5**	**+1.3**
TXAR	**Lajitas Array**	**19.17**	**325**	P	**P**	**22 31 35.5**	**+0.6**
	comp=N,0.6nm,0.3s,baz=148,slow=12,SNR=12						
LRAL	**Lakeview Retre**	**19.30**	**11**	*e*P	**P**	**22 31 35.4**	**-0.9**
	comp=N,16nm,1.0s						
SDV	**Santo Domingo**	**20.70**	**102**	P	**P**	**22 31 49.4**	**-1.8**
	comp=N,0.8nm,0.3s,baz=286,slow=7.4,SNR=3.7						
SDV				LR	LR	22 40 18.4	
	comp=N,18nm,21.2s,baz=12,slow=38						
SDV	**Santo Domingo**	**20.70**	**102**	P	**P**	**22 31 47.2**	**-3.9**
	comp=N,3.4nm,0.8s						
GDL2	**Guadalupe Moun**	**21.78**	**328**	*e*P	**P**	**22 32 01.9**	**+0.1**
MYNC	**Murphy**	**21.89**	**16**	P	**P**	**22 32 02.6**	**-0.3**
	comp=N,9.1nm,0.8s,mb4.2						
MNTX	**Cornudas Mount**	**21.93**	**326**	*e*P	**P**	**22 32 02.7**	**-0.6**
	comp=N,4.7nm,0.8s,mb3.9						
MNTX				*e*pP		22 32 16.6	
WVT	**Waverly**	**22.21**	**7**	P	**P**	**22 32 08.3**	**+2.2**
	comp=N,4.4nm,0.7s,mb3.9						
CCM	**Cathedral Cave**	**23.94**	**360**	*e*P	**P**	**22 32 21.1**	**-1.7**
	comp=N,10nm,0.9s,mb4.2						
CCM				*e*pP		22 32 37.2	
SJG	**San Juan**	**24.32**	**77**	LR	LR	22 41 37.2	
	comp=N,85nm,20.7s,baz=79,slow=36						
TUC	**Tucson**	**25.58**	**319**	*e*P	**P**	**22 32 38.7**	**+0.1**
	comp=N,2.0nm,0.8s,mb3.6						
NEN	**Nelson**	**30.31**	**319**	*e*P	**P**	**22 33 21.1**	**-0.2**
NEN				*e*pP	pP	22 33 36.0	-3.6
ARUT	**Antelope Range**	**30.89**	**324**	*e*P	**P**	**22 33 26.8**	**+0.4**
SADO	**Sadowa**	**32.30**	**16**	LR	LR	22 47 27.1	
	comp=N,99nm,19.1s,baz=218,slow=38						
NVAR	**Mina Array Bea**	**34.20**	**320**	P	**P**	**22 33 56.0**	**+0.9**
	comp=N,3.8nm,0.8s,mb4.3,baz=125,slow=9.4,SNR=14						
MCMT	**McKenzie Canyo**	**35.84**	**333**	*e*P	**P**	**22 34 09.5**	**+0.5**
ULM	**Lac du Bonnet**	**36.34**	**355**	LR	LR	22 49 55.5	
	comp=N,60nm,21.3s,baz=289,slow=37						
SIV	**San Ignacio**	**42.08**	**134**	P	**P**	**22 34 60.0**	**-1.1**
	comp=N,2.9nm,0.8s,mb4.1,baz=314,slow=8.7,SNR=18						
SCHQ	**Schefferville**	**44.91**	**20**	LR	LR	22 55 06.7	
	comp=N,76nm,18.8s,baz=282,slow=37						
YKA	**Yellowknife Ar**	**51.21**	**346**	P	**P**	**22 36 10.5**	**-1.9**
	comp=N,1.4nm,0.7s,mb4.1,baz=151,slow=7.6,SNR=10						
ILAR	**Eielson Array**	**63.16**	**337**	P	**P**	**22 37 36.6**	**-0.3**
	comp=N,0.7nm,0.7s,mb3.7,baz=142,slow=4.2,SNR=6.5						
ILAR				LR	LR	23 08 04.6	
	comp=N,36nm,18.2s,baz=360,slow=39						
NOA	**NORSAR Array B**	**83.72**	**29**	LR	LR	23 14 24.7	
	comp=N,10nm,20.9s,baz=270,slow=34						
DBIC	**Dimbokro**	**84.79**	**84**	LR	LR	23 14 45.7	
	comp=N,57nm,19.0s,baz=162,slow=34						
ARCES	**ARCESS Array B**	**85.85**	**18**	LR	LR	23 14 60.0	
	comp=N,44nm,21.7s,baz=111,slow=33						
MKAR	**Makanchi Array**	**119.18**	**5**	PKP	PKPdf	22 45 54.8	-0.4
	comp=N,0.4nm,0.8s,baz=90,slow=1.4,SNR=3.8						

*ATH **26** 23:04:05.2, 36.07N×27.18E, h5km, MD3.2/4*
*NEIC **26** 23:04:05.5, 36.06N×27.22E, h4km, MD3.2(ATH), After ATH.*
*ISK **26** 23:04:05.7, 35.79N×27.22E, h33km, MD3.3*
*CSEM **26** 23:04:07.1±0.1, 35.91N×27.30E, h25km, MD3.3, Error ellipse: s-maj=5.7km s-min=2.5km az=137.0*

ISC 26 23:04:06.0±1.3,**35.97N**±0.05×**27.30E**±0.04,**h2**km±9km, **n15**,σ1§**09**/**24**,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.43**	**195**	*e*PB	**Pb**	**23 04 15.3**	**-0.8**
ARG	**Arkhangelos**	**0.71**	**70**	*e*PB	**Pb**	**23 04 20.3**	**-0.5**
ARG				*e*SB	**Sb**	**23 04 31.4**	**+0.5**
ARG	**Arkhangelos**	**0.71**	**70**	*e*Pb	**Pb**	**23 04 20.3**	**-0.5**
ARG				*e*Sg	**Sg**	**23 04 29.9**	**+0.1**
BODT	**Bodrum**	**1.09**	**1**	*e*PN	**Pn**	**23 04 28.3**	**+0.1**
BDRM	**Kayabasi**	**1.10**	**6**	*i* P	**Pb**	**23 04 29.7**	**+2.3**
BDRM				*i* S	**Sb**	**23 04 40.4**	**-1.6**
DALT	**Dalyan (Mudla)**	**1.34**	**53**	PN	**Pn**	**23 04 31.5**	**-0.3**
DALT				SN	**Sn**	**23 04 49.9**	**-0.6**
YER	**Yerkesik**	**1.41**	**34**	PN	**Pn**	**23 04 31.8**	**-0.9**
YER				SN	**Sn**	**23 04 51.5**	**-0.6**
SANT	**Santorini**	**1.54**	**286**	*i* P	**Pn**	**23 04 35.8**	**+1.2**
SANT				*i* S	**Sb**	**23 04 55.2**	**+0.4**
NPS	**Neapolis**	**1.54**	**243**	*e*PG	**Pn**	**23 04 33.2**	**-1.5**
XRY	**Khrisi**	**1.71**	**231**	*e*PN	**Pn**	**23 04 37.5**	**+0.5**
XRY	**Khrisi**	**1.71**	**231**	*e*Pb	**Pb**	**23 04 38.0**	**+0.2**
AKAS	**Kas**	**1.89**	**81**	*i* P	**Pn**	**23 04 40.1**	**+0.5**
AKAS				*i* S	**Sn**	**23 05 04.6**	**+0.3**
DNZL	**Cakiroluk**	**2.22**	**39**	*i* P	**Pn**	**23 04 50.1**	**+5.8**
DNZL				*i* S	**Sn**	**23 05 12.2**	**-0.4**
GOLH	**Golhisar**	**2.22**	**55**	*i* P	**Pn**	**23 04 47.3**	**+3.0**
GOLH				*i* S	**Sn**	**23 05 15.0**	**+2.3**
ELL	**Elmali**	**2.25**	**69**	*e*PN	**Pn**	**23 04 42.9**	**-1.8**

*IDC **26** 23:21:03.0±1.7, 20.11S×68.94W, h113km±16km, mb3.7/4, mb1 3.8/8, mb1mx3.6/19, mbtmp4.2/8, Error ellipse: s-maj=30.2km s-min=14.1km az=106.0*
*NEIC **26** 23:21:03.0±1.0, 20.07S×68.89W, h107km±9km, mb4.3/2, Error ellipse: s-maj=16.4km s-min=9.2km az=103.0*

ISC 26 23:21:02.6±0.9,**20.12S**±0.05×**68.9W**±0.1,**h119**km±8km, **n15**,σ0§**79**/**19**,**mb4.0**/2,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.48**	**181**	P	**P**	**23 21 42.8**	**0.0**
	23nm,0.3s,baz=356,slow=9.7,SNR=114						
LVC				S	**S**	**23 22 13.5**	**+0.3**
	21nm,0.3s,baz=4.3,slow=13,SNR=7.5						
LVC	**Limon Verde**	**2.48**	**181**	*e*Pn	**P**	**23 21 42.8**	**-0.1**
LVC				*e*		23 21 57.5	
LVC				*e*S	**S**	**23 22 12.1**	**-1.1**
LPAZ	**La Paz**	**3.87**	**10**	P	**P**	**23 22 02.2**	**+0.7**
	2.4nm,0.3s,baz=185,slow=8.5,SNR=134						
LPAZ				S	**S**	**23 22 49.1**	**+2.6**
	0.4nm,0.3s,baz=52,slow=19,SNR=2.9						
LPAZ	**La Paz**	**3.87**	**10**	*e*P	**P**	**23 22 01.4**	**-0.1**
LPAZ				*e*S	**S**	**23 22 46.0**	**-0.5**
SIV	**San Ignacio**	**8.47**	**62**	P	**P**	**23 23 02.5**	**-1.2**
	3.5nm,0.3s,baz=256,slow=11,SNR=171						
CPUP	**Villa Florida**	**12.27**	**122**	P	**P**	**23 23 55.9**	**+1.6**
	0.2nm,0.3s,baz=297,slow=14,SNR=9.6						
CPUP	**Villa Florida**	**12.27**	**122**	*e*P	**P**	**23 23 54.4**	**+0.1**
	5.0nm,0.9s						
BDFB	**Brasilia**	**20.33**	**81**	P	**P**	**23 25 31.5**	**+0.1**
	2.7nm,0.4s,baz=274,slow=10,SNR=6.0						
PLCA	**Paso Flores**	**20.60**	**184**	P	**P**	**23 25 33.9**	**-0.1**
	3.6nm,0.6s,baz=354,slow=11,SNR=14						
VNA3	**Neumayer Olymp**	**61.36**	**162**		**P**	**23 31 08.4**	**+0.6**
VNA2	**Neumayer--Watz**	**61.93**	**161**		**P**	**23 31 12.5**	**+0.8**
SNAA	**Sanae**	**63.56**	**161**		**P**	**23 31 22.4**	**0.0**
DBIC	**Dimbokro**	**68.30**	**74**	P	**P**	**23 31 52.7**	**-0.7**
	1.7nm,0.4s,mb4.2,baz=224,slow=8.6,SNR=8.2						
DBIC	**Dimbokro**	**68.30**	**74**	*e*P	**P**	**23 31 52.6**	**-0.9**
	4.0nm,0.8s,mb4.3						
YKA	**Yellowknife Ar**	**89.91**	**341**	P	**P**	**23 33 48.1**	**-0.8**
	0.5nm,0.6s,mb3.8,baz=131,slow=5.1,SNR=6.6						

*NEIC **26** 23:28:28.7±0.3, 45.40N×112.62W, h5km, ML3.2, Error ellipse: s-maj=5.5km s-min=3.8km az=61.0*
*IDC **26** 23:28:28.7±1.1, 45.46N×112.52W, mb1 3.5/5, mb1mx3.3/25, mbtmp3.2/5, ML3.3/4, Error ellipse: s-maj=19.4km s-min=8.0km az=50.0*

ISC 26 23:28:28.0±0.4,**45.41N**±0.03×**112.65W**±0.05,**h5**km,**n39**, σ1§**02**/**39**,**Montana**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCMT	**McKenzie Canyo**	**0.59**	**194**	*e*P	**Pg**	**23 28 39.1**	**-0.7**
BOZ	**Bozeman (W)**	**0.76**	**71**	*e*P	**Pg**	**23 28 42.9**	**-0.3**
QLMT	**Earthquake Lak**	**1.04**	**123**	*e*P	**Pb**	**23 28 47.0**	**-1.1**
YMR	**Madison River**	**1.41**	**121**	*e*P	**Pn**	**23 28 54.0**	**-0.3**
HRY	**Holter Researc**	**1.43**	**23**	*e*P	**Pn**	**23 28 55.5**	**+0.9**
YNR	**Norris Junctio**	**1.56**	**116**	*e*P	**Pn**	**23 28 56.1**	**-0.4**
CHMT	**Chamberlain Mo**	**1.57**	**345**	*e*P	**Pn**	**23 28 58.2**	**+1.6**
YFT	**Old Faithful**	**1.61**	**126**	*e*P	**Pn**	**23 28 58.0**	**+0.8**
MSO	**Missoula**	**1.68**	**328**	*e*Pn	**Pn**	**23 28 59.3**	**+1.0**
LKWY	**Lake**	**1.81**	**117**	Pn	**Pn**	**23 29 00.0**	**-0.1**
IMW	**Indian Meadow**	**1.94**	**140**	*e*Pn	**Pn**	**23 29 02.3**	**+0.3**
GCMT	**Greycliff**	**2.13**	**79**	*e*Pn	**Pn**	**23 29 05.0**	**+0.3**
MOOW	**Moose Ponds**	**2.15**	**140**	*e*Pn	**Pn**	**23 29 05.4**	**+0.5**
RRI2	**Red Ridge**	**2.27**	**155**	*e*Pn	**Pn**	**23 29 07.6**	**+1.0**
TPAW	**Teton Pass**	**2.27**	**147**	*e*Pn	**Pn**	**23 29 07.9**	**+1.2**
LOHW	**Long Hollow**	**2.32**	**140**	*e*Pn	**Pn**	**23 29 08.3**	**+0.9**
SNOW	**Snow King Moun**	**2.37**	**144**	*e*Pn	**Pn**	**23 29 08.5**	**+0.3**
REDW	**Red Top Meadow**	**2.42**	**147**	*e*Pn	**Pn**	**23 29 09.7**	**+0.9**
AHID	**Auburn Hatcher**	**2.87**	**156**	Pn	**Pn**	**23 29 15.3**	**+0.1**
BMO	**Blue Mountains**	**3.34**	**262**	*e*Pn	**Pn**	**23 29 21.3**	**-0.6**
PDAR	**Pinedale Array**	**3.45**	**139**	Pn	**Pn**	**23 29 27.4**	**+3.8**
	0.7nm,0.3s,baz=337,slow=14,SNR=22						
PDAR				Lg		23 30 14.8	
	1.0nm,0.3s,baz=335,slow=28,SNR=7.1						
HVU	**Hansel Valley**	**3.62**	**181**	Pn	**Pn**	**23 29 26.8**	**+0.8**
WALA	**Waterton Lakes**	**3.75**	**347**	*e*Pn	**Pn**	**23 29 27.5**	**-0.3**
HWUT	**Hardware Ranch**	**3.88**	**168**	Pn	**Pn**	**23 29 29.0**	**-0.6**
SPUT	**South Promonto**	**4.10**	**178**	Pn	**Pn**	**23 29 32.2**	**-0.5**
NEW	**Newport**	**4.19**	**315**	Pn	**Pn**	**23 29 34.4**	**+0.3**
	0.8nm,0.3s,baz=130,slow=12,SNR=6.6						
NEW				Lg		23 30 41.8	
	5.8nm,0.3s,baz=224,slow=23,SNR=12						
NEW	**Newport**	**4.19**	**315**	*e*Pn	**Pn**	**23 29 33.0**	**-1.1**
TCUT	**Toone Canyon**	**4.38**	**168**	*e*Pn	**Pn**	**23 29 35.5**	**-1.2**
LAO	**LASA Array**	**4.66**	**72**	Pn	**Pn**	**23 29 39.0**	**-1.7**
ELK	**Elko**	**5.03**	**203**	Pn	**Pn**	**23 29 48.8**	**+2.9**
	0.7nm,0.3s,baz=17,slow=13,SNR=16						
ELK				Lg		23 30 58.8	
	0.7nm,0.3s,baz=133,slow=18,SNR=2.7						
DAU	**Daniels Canyon**	**5.09**	**168**	Pn	**Pn**	**23 29 47.6**	**+0.8**
WVOR	**Wild Horse Val**	**5.24**	**238**	*e*Pn	**Pn**	**23 29 47.8**	**-1.2**
BMN	**Battle Mountai**	**6.00**	**216**	Pn	**Pn**	**23 29 58.3**	**-1.2**
RSSD	**Black Hills**	**6.27**	**99**	Pn	**Pn**	**23 30 02.0**	**-1.4**
DGMT	**Dagmar**	**6.55**	**59**	*e*Pn	**Pn**	**23 30 05.9**	**-1.5**
MOD	**Modoc**	**6.56**	**240**	Pn	**Pn**	**23 30 05.4**	**-2.1**
NVAR	**Mina Array Bea**	**8.14**	**213**	Pn	**P**	**23 30 31.1**	**+1.5**
	0.1nm,0.3s,baz=29,slow=13,SNR=5.6						
YKA	**Yellowknife Ar**	**17.16**	**357**	P	**P**	**23 32 30.6**	**+0.8**
	0.1nm,0.3s,baz=174,slow=12,SNR=3.8						
YKA	**Yellowknife Ar**	**17.16**	**357**	P	**P**	**23 32 30.6**	**+0.8**

*NEIC **26** 23:30:31.0±2.0, 25.80S×178.86W, h381km±10km, mb4.0/2, Error ellipse: s-maj=42.7km s-min=12.1km az=219.0*
*IDC **26** 23:30:31.5±4.4, 25.82S×178.93W, h376km±20km, mb3.5/5, mb1 3.6/7, mb1mx3.4/14, mbtmp4.3/7, Error ellipse: s-maj=91.1km s-min=19.5km az=41.0*

ISC 26 23:30:31.6±1.8,**26.0S**±0.2×**179.1W**±0.2,**h383**km±12km, **n19**,σ0§**80**/**20**,**mb3.7**/6,**3C**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.39**	**162**	P	**P**	**23 31 37.3**	**0.0**
	164nm,0.3s,baz=173,slow=21,SNR=5.7						
RAO	**Raoul Island**	**3.39**	**162**	*e*P	**P**	**23 31 37.1**	**-0.2**
URZ	**Urewera**	**12.61**	**194**	P	**P**	**23 33 21.1**	**0.0**
	2.1nm,0.3s,baz=231,slow=6.2,SNR=8.8						
URZ				S	**S**	**23 35 35.7**	**-0.2**
	2.7nm,0.3s,baz=82,slow=22,SNR=9.8						
DZM	**Mont Dzumac**	**13.76**	**284**	P	**P**	**23 33 34.1**	**+0.1**
	0.2nm,0.3s,baz=116,slow=17,SNR=3.9						
AFI	**Afiamalu**	**13.88**	**31**	S	**S**	**23 35 48.7**	**-13**
	2.3nm,0.3s,baz=241,slow=23,SNR=3.7						
CTA	**Charters Tower**	**32.34**	**273**	*e*P	**P**	**23 36 29.3**	**+0.9**
	3.1nm,0.4s,mb4.0						
CTA	**Charters Tower**	**32.34**	**273**	P	**P**	**23 36 29.5**	**+1.1**
	4.5nm,0.5s,mb4.0,baz=86,slow=11,SNR=8.5						
STKA	**Stephens Creek**	**34.73**	**251**	P	**P**	**23 36 48.8**	**+0.2**
	1.3nm,0.3s,mb3.7,baz=99,slow=16,SNR=7.7						
WB2	**Warramunga Arr**	**43.09**	**268**	*e*P	**P**	**23 37 56.9**	**-0.3**
WRAB	**Tennant Creek**	**43.09**	**268**	*e*P	**P**	**23 37 56.0**	**-1.2**
	5.0nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**43.10**	**268**	P	**P**	**23 37 57.5**	**+0.2**
	4.2nm,0.6s,mb3.9,baz=104,slow=7.8,SNR=14						
VNDA	**Vanda**	**52.34**	**185**	P	**P**	**23 39 07.7**	**+0.4**
	0.4nm,0.5s,mb3.0,baz=13,slow=7.1,SNR=7.6						
MAW	**Mawson**	**76.05**	**200**	P	**P**	**23 41 39.2**	**+0.4**
	1.1nm,0.5s,mb3.8,baz=140,slow=8.5,SNR=14						
SNAA	**Sanae**	**82.54**	**179**		**P**	**23 42 23.9**	**+11**
SNAA	**Sanae**	**82.54**	**179**	P	**P**	**23 42 11.9**	**-1.2**
SNAA				P		23 42 23.9	
VNA3	**Neumayer Olymp**	**82.72**	**177**⇑	*i*	**P**	**23 42 13.7**	**-0.3**
VNA2	**Neumayer--Watz**	**83.15**	**177**		**P**	**23 42 30.5**	**+14**
VNA2	**Neumayer--Watz**	**83.15**	**177**⇑	*i*P	**P**	**23 42 16.1**	**0.0**
VNA2				P		23 42 30.5	
VNA1	**Neumayer--Stat**	**83.38**	**177**⇑	*i*	**P**	**23 42 17.6**	**+0.3**

*IDC **26** 23:32:27.2±2.8, 33.41N×142.51E, mb3.5/3, mb1 3.7/5, mb1mx3.5/21, mbtmp3.6/5, ML3.9/2, Error ellipse: s-maj=58.6km s-min=30.9km az=173.0*
*JMA **26** 23:32:29.3±0.5, 33.39N×142.49E, h77km, M3.5*

ISC 26 23:32:30.0±2.4,**33.43N**±0.07×**142.42E**±0.09,**h30**km±20km, **n13**,σ0§**79**/**21**,**mb3.5**/3,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.71**	**316**	P	**Pn**	**23 32 58.6**	**+0.4**
BSO1				S	**Sn**	**23 33 21.3**	**+2.2**
BSO3	**Boso 3**	**2.09**	**311**	P	**Pn**	**23 33 03.8**	**+0.1**
JHJ2	**Mitsune**	**2.20**	**262**	P	**Pn**	**23 33 05.3**	**0.0**
JHJ2				*e*S	**Sn**	**23 33 32.0**	**+0.3**
JHJ	**Hachijo jima 2**	**2.23**	**263**	Pn	**Pn**	**23 33 05.5**	**-0.1**
	70nm,0.3s,baz=193,slow=20,SNR=18						
JHJ				Sn	**Sn**	**23 33 31.9**	**-0.4**
	124nm,0.3s,baz=226,slow=24,SNR=5.0						
BSO4	**Boso 4**	**2.32**	**313**	P	**Pn**	**23 33 07.8**	**+0.8**
JAG	**Ashikaga**	**3.85**	**322**	P	**Pn**	**23 33 28.2**	**-0.5**
JAG				S	**Sn**	**23 34 13.4**	**-0.1**
JRY	**Ryogami san**	**3.88**	**313**	P	**Pn**	**23 33 28.8**	**-0.3**
JRY				S	**Sn**	**23 34 14.3**	**+0.2**
MJAR	**Matsushiro Arr**	**4.64**	**313**	Pn	**Pn**	**23 33 39.4**	**-0.5**
	5.6nm,0.3s,baz=170,slow=15,SNR=18						
MJAR				Sn	**Sn**	**23 34 33.0**	**-0.6**
	2.0nm,0.3s,baz=138,slow=14,SNR=6.9						
MAT	**Matsushiro**	**4.64**	**313**	P	**Pn**	**23 33 39.6**	**-0.4**
MAT				S	**Sn**	**23 34 31.2**	**-2.4**
MAT	**Matsushiro**	**4.64**	**313**	P	**Pn**	**23 33 40.0**	**0.0**
MAT				*e*S	**Sn**	**23 34 32.4**	**-1.2**
SONM	**Songino Array**	**30.58**	**309**	P	**P**	**23 38 44.7**	**+1.5**
	1.1nm,0.8s,mb3.8,baz=108,slow=10,SNR=7.1						
MKAR	**Makanchi Array**	**46.79**	**305**	P	**P**	**23 40 58.3**	**-0.1**
	0.2nm,0.4s,mb3.4,baz=86,slow=9.5,SNR=3.2						
YKA	**Yellowknife Ar**	**66.52**	**30**	P	**P**	**23 43 17.9**	**-0.7**
	0.2nm,0.4s,mb3.5,baz=315,slow=7.0,SNR=3.7						

*NEIC **27** 00:02:24.0,21.69S×68.76W, h113km, mb3.9/1, MD3.3(GUC), After GUC.*

GUC 27 00:02:24.0±1.1,**21.69S**×**68.76W**,**h113**km±13km,**MD3.3, ML3.5**,**1D**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.93**	**189**	*e*P	**P**	**00 02 45.3**	**+0.3**
LVC				*i* S	S	**00 03 01.9**	**+1.2**
LVC				AMP		**00 03 03.2**	
	comp=E,923nm,0.4s						
SPCH	**San Pedro de A**	**1.32**	**157**⇓	*i*P	P	**00 02 49.8**	**+0.5**
SPCH				*i* S	S	**00 03 10.1**	**+1.6**
SPCH				AMP		**00 03 20.2**	
	comp=E,368nm,0.8s						
ANCH	**Antofagasta**	**2.50**	**217**	*e*P	P	**00 03 05.0**	**+0.7**
ANCH				*i* S	S	**00 03 35.4**	**+0.9**
ANCH				AMP		**00 03 47.4**	
	comp=N,373nm,0.5s						
CPN1	**Cerro Paranal**	**3.29**	**207**	*e*P	P	**00 03 15.6**	**+0.7**
CPN1				*i* S	S	**00 03 55.0**	**+1.5**
CPN1				AMP		**00 04 05.5**	
	comp=E,230nm,0.4s						
LPAZ	**La Paz**	**5.41**	**6**	*e*P	P	**00 03 42.6**	**-1.0**
	comp=E,4.9nm,0.6s						

*NEIC **27** 00:49:56.0±0.7, 26.87N×100.66E, h10km, mb4.2/2, Error ellipse: s-maj=25.3km s-min=9.3km az=59.0*
*IDC **27** 00:49:55.1±1.5, 27.38N×101.48E, mb4.0/4, mb1 4.2/4, mb1mx3.7/19, mbtmp4.1/4, MS3.2/1, Ms1 3.2/1, ms1mx2.8/23, Error ellipse: s-maj=74.9km s-min=25.1km az=63.0*
*BJI **27** 00:49:56.4, 27.25N×101.37E, h8km, mB4.6, mb4.4, ML3.8, Ms3.9, Msz3.5*

ISC 27 00:49:54.4±0.7,**27.21N**±0.05×**101.19E**±0.10,**h10**km,**n15**, σ1§**37**/**25**,**mb4.2**/**5**,**MS3.0**/1,**1C**,**Sichuan**

FINES	**FINESS Array B**	**48.85**	**339**	P		P	01 03 46.3	-2.6
	0.4nm,0.4s,baz=149,slow=11,SNR=4.1							
ARCES	**ARCESS Array B**	**54.91**	**346**	P		P	01 04 30.4	-4.0
	1.1nm,0.8s,baz=127,slow=9.0,SNR=6.9							

MEX 27 01:11:02.3±1.2, 16.89N×99.14W, h16km±88km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.74**	**269**	*i* P	Pb	01 11 13.5	-2.8
ACX				*i* S	Sb	01 11 23.8	-2.2
CAIG	**El Cayaco**	**1.09**	**279**	*i* P	Pb	01 11 19.9	-2.3
CAIG				*i* S	Sb	01 11 31.8	-4.2

MOS ***27*** *01:18:47.0±0.5, 6.04S×124.47E, h602km, mb3.9/5, Error ellipse: s-maj=34.2km s-min=13.3km az=126.4*
BJI ***27*** *01:18:47.0, 6.32S×124.73E, h638km, mB4.8, mb4.6*
NEIC ***27*** *01:18:49.8±0.6, 6.16S×124.46E, h620km±8km, mb4.8/16, Error ellipse: s-maj=7.6km s-min=5.2km az=68.0*
IDC ***27*** *01:18:49.3±1.6, 6.14S×124.48E, h614km±22km, mb3.8/16, mb1 3.9/17, mb1mx3.8/23, mbtmp4.8/17, Error ellipse: s-maj=14.3km s-min=8.1km az=71.0*

ISC 27 01:18:49.2±0.6, 6.15S±0.04×124.52E±0.07, h638km±10km, n78, σ0972/78, mb4.3/38, 2C-11D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**10.18**	**130**	*eP*	**P**	**01 21 12.6**	**+2.2**
	52nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.93**	**175**	⇓*iP*	**P**	**01 21 27.0**	**-0.2**
	170nm,0.3s						
FITZ				*eS*	**S**	**01 23 35.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**11.93**	**175**	P	**P**	**01 21 27.0**	**-0.2**
	49nm,0.3s,baz=5.4,slow=8.2,SNR=875						
FITZ				S	**S**	**01 23 34.9**	**+0.9**
	1.0nm,0.3s,baz=1.7,slow=19,SNR=9.5						
MATI	**Mati**	**13.12**	**8**	*eP*	**P**	**01 21 31.6**	**-7.2**
BUKP	**Musuan**	**13.95**	**2**	*eP*	**P**	**01 21 47.0**	**+0.1**
PAGZ	**Pagadian**	**13.95**	**355**	*eP*	**P**	**01 21 47.8**	**+0.9**
IPIL	**Ipil**	**13.98**	**352**	*eP*	**P**	**01 21 46.9**	**-0.3**
KKM	**Kota Kinabalu**	**14.68**	**325**	*eP*	**P**	**01 21 51.3**	**-2.5**
MBWA	**Marble Bar**	**15.62**	**197**	⇓*iP*	**P**	**01 22 02.3**	**-0.5**
	97nm,0.5s						
SCPH	**Surigao**	**15.86**	**4**	⇓*eP*	**P**	**01 22 06.0**	**+1.0**
KSM	**Kuching**	**16.08**	**298**	*eP*	**P**	**01 22 07.3**	**+0.2**
WRAB	**Tennant Creek**	**16.70**	**146**	⇓*eP*	**P**	**01 22 13.2**	**+0.4**
WRAB	**Tennant Creek**	**16.70**	**146**	*eP*	**P**	**01 22 12.8**	**0.0**
	26nm,0.4s						
WRA	**Warramunga Arr**	**16.71**	**146**	P	**P**	**01 22 12.4**	**-0.4**
	10nm,0.3s,baz=232,slow=6.3,SNR=154						
WRA				S	**S**	**01 24 55.4**	**-0.8**
	0.8nm,0.3s,baz=325,slow=16,SNR=18						
WB2	**Warramunga Arr**	**16.71**	**146**	*eP*	**P**	**01 22 12.8**	**-0.1**
WB2				*eS*	**S**	**01 24 55.5**	**-0.8**
PMG	**Port Moresby**	**22.66**	**100**	*iP*	**P**	**01 23 06.7**	**-0.5**
PMG	**Port Moresby**	**22.66**	**100**	P	**P**	**01 23 06.4**	**-0.9**
	36nm,0.8s,mb4.8,baz=285,slow=6.7,SNR=9.7						
CTA	**Charters Tower**	**25.25**	**125**	*eP*	**P**	**01 23 29.8**	**-0.1**
	9.9nm,0.4s,mb4.7						
CTA	**Charters Tower**	**25.25**	**125**	*eP*	**P**	**01 23 29.8**	**-0.1**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CTA	**Charters Tower**	**25.25**	**125**	P	**P**	**01 23 29.7**	**-0.2**
	comp=Z,15nm,0.5s,mb4.8,baz=306,slow=11,SNR=21						
CTAO	**Charters Tower**	**25.25**	**125**	*eP*	**P**	**01 23 29.7**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.7						
CTAO	**Charters Tower**	**25.25**	**125**	*eP*	**P**	**01 23 29.7**	**-0.2**
	comp=Z,22nm,0.8s,mb4.7						
KLBR	**Kellerberrin**	**26.09**	**193**	⇓*iP*	**P**	**01 23 36.2**	**-1.0**
	comp=Z,39nm,0.6s,mb5.1						
MUN	**Mundaring**	**26.84**	**196**	⇓*iP*	**P**	**01 23 42.9**	**-0.8**
	comp=Z,40nm,0.5s,mb5.2						
NWAO	**Narrogin (SRO)**	**27.49**	**193**	P	**P**	**01 23 48.8**	**-0.5**
	comp=Z,39nm,0.5s,mb5.2,baz=20,slow=8.2,SNR=43						
STKA	**Stephens Creek**	**30.17**	**150**	⇓*iP*	**P**	**01 24 12.5**	**+0.5**
	comp=Z,15nm,0.4s,mb4.9						
STKA				*eS*	**S**	**01 28 27.8**	**-2.3**
STKA	**Stephens Creek**	**30.17**	**150**	P	**P**	**01 24 12.6**	**+0.5**
	comp=Z,17nm,0.4s,mb4.9,baz=327,slow=8.7,SNR=70						
STKA				PcP	PcP	01 26 52.4	-0.2
	comp=Z,3.8nm,0.8s,baz=350,slow=4.3,SNR=3.1						
STKA				S	**S**	**01 28 28.4**	**-1.7**
	comp=Z,9.9nm,0.8s,baz=68,slow=21,SNR=11						
HNR	**Honiara**	**35.24**	**98**	P	**P**	**01 24 54.8**	**+0.3**
	comp=Z,117nm,0.8s,baz=208,slow=8.5,SNR=4.5						
WHN	**Wuhan**	**37.76**	**346**	P	**P**	**01 25 15.5**	**+0.5**
NJ2	**Nanjing**	**38.37**	**352**	*eP*	**P**	**01 25 20.0**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,40nm,0.9s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,532nm,4.2s						
ENH	**Enshi**	**38.98**	**339**	*eP*	**P**	**01 25 24.2**	**-0.6**
	comp=Z,14nm,0.7s,mb4.5						
XAN	**Xi'an**	**42.61**	**341**	P	**P**	**01 25 52.5**	**-1.1**
XAN				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.5						
DZM	**Mont Dzumac**	**43.45**	**116**	P	**P**	**01 26 01.1**	**+0.8**
	comp=Z,8.0nm,0.6s,mb4.3,baz=271,slow=12,SNR=12						
MJAR	**Matsushiro Arr**	**44.36**	**16**	P	**P**	**01 26 06.5**	**-0.6**
	comp=Z,12nm,0.7s,mb4.3,baz=192,slow=9.4,SNR=18						
LZH	**Lanzhou**	**46.28**	**337**	*eP*	**P**	**01 26 21.8**	**+0.1**
LZH				AMB	AMB		
	comp=Z,38nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,119nm,4.2s						
SNY	**Shenyang**	**47.75**	**359**	⇓P	**P**	**01 26 31.5**	**-1.2**
SNY				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.6						
LSA	**Lhasa**	**47.93**	**320**	*eP*	**P**	**01 26 35.4**	**+1.2**
	comp=Z,11nm,0.8s,mb4.2						
GUN	**Gumba**	**50.37**	**314**	*eP*	**P**	**01 26 51.9**	**-0.2**
	comp=Z,27nm,0.4s,mb4.9						
PKI	**Pulchoki**	**50.51**	**313**	*eP*	**P**	**01 26 52.8**	**-0.4**
	comp=Z,15nm,0.4s,mb4.6						
KKN	**Kakani**	**50.73**	**314**	*eP*	**P**	**01 26 54.6**	**-0.1**
	comp=Z,11nm,0.5s,mb4.3						
MDJ	**Mudanjiang**	**50.74**	**5**	P	**P**	**01 26 54.5**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,27nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,94nm,5.8s						
MDJ	**Mudanjiang**	**50.74**	**5**	*eP*	**P**	**01 26 54.6**	**0.0**
	comp=Z,25nm,1.0s,mb4.4						
DMN	**Daman**	**50.75**	**313**	*eP*	**P**	**01 26 54.7**	**-0.2**
GTA	**Gaotai**	**50.76**	**335**	P	**P**	**01 26 55.0**	**+0.2**
GTA				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.1						
GKN	**Gorkha**	**51.32**	**313**	*eP*	**P**	**01 26 58.6**	**-0.4**
	comp=Z,36nm,0.3s,mb5.1						
KOLN	**Koldanda**	**51.94**	**313**	*eP*	**P**	**01 27 03.2**	**-0.2**
	comp=Z,9.5nm,0.3s,mb4.5						
SONM	**Songino Array**	**56.08**	**345**	P	**P**	**01 27 31.9**	**0.0**
	comp=Z,4.5nm,0.6s,mb3.8,baz=165,slow=7.7,SNR=36						
SONM				PP	PP	01 29 48.0	+0.8
	comp=Z,0.6nm,1.0s,baz=166,slow=5.1,SNR=4.2						
ZAK	**Zakamensk**	**59.23**	**344**	*eP*	**P**	**01 27 52.7**	**-0.4**
ZAK				*e*		01 28 31.5	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CASY	**Casey**	**60.81**	**186**	⇓*iP*	**P**	**01 28 03.0**	**-0.3**
BOD	**Bodaibo**	**64.32**	**354**	⇑*iP*	**P**	**01 28 25.4**	**-0.3**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb3.9						
MKAR	**Makanchi Array**	**64.62**	**329**	*eP*	**P**	**01 28 27.9**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**64.62**	**329**	P	**P**	**01 28 27.9**	**+0.1**
	comp=Z,8.1nm,0.5s,mb4.3,baz=127,slow=7.7,SNR=106						
AAK	**Ala-Archa**	**66.44**	**322**	⇓*eP*	**P**	**01 28 38.9**	**-0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
ZAL	**Zalesovo**	**68.51**	**336**	P	**P**	**01 28 50.5**	**-0.9**
	comp=Z,2.2nm,0.4s,mb3.8,baz=356,slow=3.9,SNR=11						
ZAL	**Zalesovo**	**68.51**	**336**	P	**P**	**01 28 50.5**	**-0.9**
KURK	**Kurchatov**	**69.03**	**331**	*eP*	**P**	**01 28 54.0**	**-0.5**
KURK	**Kurchatov**	**69.03**	**331**	*eP*	**P**	**01 28 54.3**	**-0.2**
	comp=Z,12nm,1.2s,mb4.1						
SEY	**Seymchan**	**72.09**	**13**	*iP*	**P**	**01 29 13.1**	**+1.0**
MAW	**Mawson**	**73.78**	**201**	⇓*iP*	**P**	**01 29 22.2**	**+0.6**
	comp=Z,3.7nm,0.6s,mb4.1						
MAW	**Mawson**	**73.78**	**201**	P	**P**	**01 29 22.3**	**+0.7**
	comp=Z,5.0nm,0.6s,mb4.2,baz=78,slow=6.1,SNR=26						
VNDA	**Vanda**	**73.99**	**172**	P	**P**	**01 29 23.0**	**+0.5**
	comp=Z,3.2nm,0.7s,mb4.0,baz=321,slow=6.6,SNR=33						
VNDA				PP	PP	01 32 18.4	-1.3
	comp=Z,0.8nm,0.9s,baz=309,slow=7.2,SNR=3.8						
VNDA	**Vanda**	**73.99**	**172**	P	**P**	**01 29 23.0**	**+0.5**
VNDA				PP	PP	01 32 18.4	-1.3
VOSK	**Vostochnaya**	**74.04**	**329**	P	**P**	**01 29 23.3**	**0.0**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0						
BVA0	**Borovoye Array**	**74.50**	**329**	*iP*	**P**	**01 29 26.3**	**+0.5**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.5						
BVAR	**Borovoye Array**	**74.50**	**329**	P	**P**	**01 29 26.3**	**+0.4**
	comp=Z,3.2nm,0.5s,mb4.1,baz=124,slow=7.9,SNR=33						
BRVK	**Borovoye**	**74.58**	**329**	*eP*	**P**	**01 29 26.5**	**+0.2**
	comp=Z,6.8nm,1.2s,mb4.0						
OPO	**Ambohidratompo**	**76.08**	**252**	P	**P**	**01 29 35.5**	**+0.3**
	comp=Z,2.0nm,0.7s,mb3.8,baz=70,slow=4.9,SNR=6.0						
TIXI	**Tiksi**	**77.69**	**1**	*eP*	**P**	**01 29 42.6**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
AB31	**Akbulak array**	**78.50**	**323**	*iP*	**P**	**01 29 47.8**	**+0.3**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
KMBO	**Kilima Mbogo**	**87.16**	**269**	P	**P**	**01 30 32.9**	**+1.5**
	comp=Z,0.6nm,0.5s,mb3.5,baz=65,slow=14,SNR=4.7						
SNAA	**Sanae**	**95.16**	**195**	⇑*iP*	**P**	**01 31 08.0**	**+1.3**
SNAA				*e*		01 31 25.0	
BOSA	**Boshof**	**95.16**	**241**	P	**P**	**01 31 08.2**	**+0.5**
	comp=Z,2.2nm,0.7s,mb4.4,baz=131,slow=4.0,SNR=6.5						
TXAR	**Lajitas Array**	**129.11**	**57**	PKP	PKPdf	01 36 50.3	+3.2
	comp=Z,0.2nm,0.4s,baz=197,slow=3.1,SNR=4.5						
TXAR				SKPbc		01 39 14.9	
	comp=Z,2.1nm,0.7s,baz=275,slow=2.0,SNR=34						
DBIC	**Dimbokro**	**129.70**	**274**	PKP	PKPdf	01 36 51.4	+2.8
	comp=Z,2.6nm,0.7s,baz=157,slow=5.3,SNR=5.6						
DBIC				SKPbc		01 39 16.9	
	comp=Z,2.0nm,0.8s,baz=115,slow=12,SNR=4.5						
SCHQ	**Schefferville**	**130.60**	**9**	SKPbc		01 39 18.1	
	comp=Z,2.3nm,0.7s,baz=36,slow=8.1,SNR=4.9						
CPUP	**Villa Florida**	**147.66**	**177**	PKPbc	PKPdf	01 37 26.8	+6.5
	comp=Z,3.5nm,0.7s,baz=216,slow=3.6,SNR=6.3						
CPUP				PKPab	PKPab	01 37 31.1	-0.6
	comp=Z,3.5nm,0.7s,baz=166,slow=3.9,SNR=12						
LPAZ	**La Paz**	**154.43**	**151**	PKPab	PKPab	01 38 01.3	+1.3
	comp=Z,1.2nm,0.7s,baz=204,slow=6.7,SNR=4.9						
BDFB	**Brasilia**	**157.12**	**199**	PKPab	PKPab	01 38 11.4	-0.1
	comp=Z,1.4nm,0.4s,baz=182,slow=2.8,SNR=4.8						

CASC 27 01:22:44.2±1.5, 11.38N×86.34W, h62km±16km, MD3.5, 13C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APON	**Apoyo**	**0.60**	**26**	⇑*iP*	P	01 22 57.7	+0.2
CRUN	**El Crucero**	**0.60**	**3**	⇓*iP*	P	01 22 58.3	+0.7
MASN	**Masaya**	**0.63**	**17**	⇓*eP*	P	01 22 58.1	+0.2
TICN	**Ticuantepe**	**0.66**	**9**	⇑*eP*	P	01 22 58.6	+0.4
TICN				*eS*	S	01 23 09.8	+1.2
CONN	**Concepcion**	**0.72**	**75**	⇑*eP*	P	01 22 59.1	+0.1
XAVN	**Gruta Xavier**	**0.77**	**1**	⇑*eP*	P	01 22 59.9	+0.4
XAVN				*eS*	S	01 23 10.8	-0.1
MGAN	**Managua**	**0.77**	**7**	⇑*eP*	P	01 22 59.6	+0.1
MGAN				*eS*	S	01 23 11.0	+0.1
WILN	**Americas 2**	**0.79**	**11**	⇑*eP*	P	01 22 59.9	+0.1
WILN				*eS*	S	01 23 11.4	0.0
COPN	**Copaltepe**	**0.83**	**343**	⇓*eP*	P	01 23 00.5	+0.1
MOMJ	**Momotombo**	**1.04**	**349**	⇑*eP*	P	01 23 03.2	0.0
MOMJ				*eS*	S	01 23 17.0	-0.2
MIRN	**Miramar**	**1.12**	**341**	⇑*eP*	P	01 23 04.3	+0.2
MIRN				*eS*	S	01 23 19.3	+0.3
LEON	**Leon**	**1.17**	**332**	⇓*eP*	P	01 23 05.0	+0.3
LEON				*eS*	S	01 23 19.3	-0.9
CNGN	**Cerro Negro**	**1.17**	**342**	⇑*eP*	P	01 23 04.9	+0.1
CNGN				*eS*	S	01 23 19.0	-1.3
PYTN	**Playitas**	**1.19**	**13**	⇑*eP*	P	01 23 04.9	-0.2
LIM1	**Limonal**	**1.26**	**122**	*iP*	P	01 23 05.6	-0.5
LIM1				*iS*	S	01 23 22.9	+0.5
TEL3	**Telica 3**	**1.29**	**337**	⇑*eP*	P	01 23 06.8	+0.3
TELN	**Telica**	**1.31**	**338**	⇑*eP*	P	01 23 07.2	+0.2
CRIN	**San Cristobal**	**1.49**	**332**	⇑*eP*	P	01 23 09.5	+0.2
CRIN				*eS*	S	01 23 28.7	+0.8
PRS1	**Puriscal**	**2.43**	**125**	*eP*	P	01 23 22.2	-0.2
TRTC	**Tortuguero**	**2.70**	**107**	⇓*iP*	P	01 23 24.5	-1.7
LCR2	**La Lucha 2**	**2.81**	**125**	*eP*	P	01 23 27.2	-0.6
LCR2				*eS*	S	01 24 01.5	+0.8

MAN 27 01:26:07.1, 16.20N×119.73E, h27km, mb3.6, ML2.3, MS1.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.25**	**44**	*eP*	Pb	01 26 15.2	+1.7
BOLP				*eS*	Sb	01 26 21.4	+3.5
SCZP	**Santa Cruz**	**0.46**	**158**	*eP*	Pb	01 26 17.5	+0.8
SCZP				*eS*	Sb	01 26 25.2	+2.0
BCPH	**Baguio City Da**	**0.83**	**78**	⇑*eP*	Pb	01 26 21.9	-0.9
BCPH				*eS*	Sb	01 26 32.6	-1.2
ABRA	**Dolores**	**1.72**	**33**	*eP*	Pn	01 26 35.9	+0.1
ABRA				*eS*	Sn	01 26 56.9	-0.1
BALP	**Baler**	**1.83**	**104**	*eP*	Pn	01 26 37.5	+0.1
BALP				*eS*	Sn	01 27 01.4	+1.5
APYP	**Conner**	**2.19**	**41**	*eP*	Pn	01 26 38.6	-3.9
APYP				*eS*	Sn	01 27 09.6	+0.5

GUC 27 01:27:15.4±1.1, 30.38S×69.49W, MD3.8, ML3.6, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**1.16**	**280**	⇓*iP*	Pb	01 27 37.7	-0.4
TLL				*iS*	Sb	01 27 54.8	+1.3
CMCH	**Combarbala**	**1.53**	**238**	*iP*	Pn	01 27 42.9	-1.2
CMCH				*iS*	Sb	01 28 04.5	+0.3
CMCH				AMP		01 28 05.2	
	comp=N,2μm,0.5s						
LSCH	**La Serena**	**1.59**	**287**	*iP*	Pn	01 27 58.4	+13
LSCH				*iS*	Sb	01 28 20.9	+15
LSCH				AMP		01 28 22.8	
	comp=N,465nm,0.4s						
VACH	**Vallenar**	**2.11**	**328**	*iS*	Sn	01 28 20.8	+1.1
VACH				AMP		01 28 23.1	
	comp=E,2μm,0.1s						
JACH	**Jahuel**	**2.49**	**202**	*iP*	Pn	01 27 58.8	+1.1
JACH				*iS*	Sn	01 28 30.9	+1.7
ROCH	**El Roble**	**2.90**	**206**	*iS*	Sn	01 28 42.0	+2.3
FCH	**Farellones**	**3.02**	**193**	*eP*	Pn	01 28 06.5	+1.1
FCH				*eS*	Sn	01 28 45.1	+2.3
FCH				AMP		01 28 53.2	
	comp=E,66nm,0.7s						
CLCH	**Cerro Calan**	**3.14**	**196**	*iS*	Sn	01 28 47.3	+1.4
CLCH				AMP		01 28 58.5	
	comp=E,127nm,1.0s						

IDC ***27*** *01:33:43.2±2.3, 33.20N×142.46E, mb3.7/5, mb1 3.8/7, mb1mx3.6/22, mbtmp3.6/7, ML3.4/2, MS3.0/2, Ms1 3.0/2, ms1mx2.4/22, Error ellipse: s-maj=54.8km s-min=22.7km az=177.0*
JMA ***27*** *01:33:45.7±0.7, 33.36N×142.18E, M3.4*
NEIC ***27*** *01:33:47.1±1.1, 33.68N×142.53E, h10km, mb4.3/1, Error ellipse: s-maj=35.7km s-min=14.0km az=203.0*
BJI ***27*** *01:33:47.1, 33.70N×142.50E, h10km, mB4.7, mb4.2*

ISC 27 01:33:44.7±2.4, 33.28N±0.08×142.46E±0.07, h20km±17km, n24, σ0873/27, mb3.8/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.85**	**318**	P	**Pn**	**01 34 16.2**	**+0.4**
BSO3	**Boso 3**	**2.22**	**314**	P	**Pn**	**01 34 21.5**	**+0.3**
JHJ2	**Mitsune**	**2.23**	**267**	P	**Pn**	**01 34 21.5**	**+0.2**
JHJ2				S	**Sn**	**01 34 48.4**	**0.0**
JHJ	**Hachijo jima 2**	**2.25**	**267**	Pn	**Pn**	**01 34 21.6**	**0.0**
	22nm,0.3s,baz=229,slow=18,SNR=6.3						
JHJ				Sn	**Sn**	**01 34 48.5**	**-0.7**
	42nm,0.3s,baz=59,slow=22,SNR=5.3						
JHJ				LR	LR	01 35 00.8	
	comp=Z,302nm,18.6s,baz=293,slow=35						
BSO4	**Boso 4**	**2.46**	**315**	P	**Pn**	**01 34 25.2**	**+0.6**
JYN	**Shimob**	**3.93**	**305**	P	**Pn**	**01 34 45.4**	**0.0**
JAG	**Ashikaga**	**4.00**	**323**	P	**Pn**	**01 34 47.6**	**+1.1**
JRY	**Ryogami san**	**4.01**	**314**	P	**Pn**	**01 34 46.5**	**-0.2**
JRY				*eS*	**Sn**	**01 35 32.9**	**-0.8**
MJAR	**Matsushiro Arr**	**4.78**	**314**	Pn	**Pn**	**01 34 56.8**	**-0.8**
	1.6nm,0.3s,baz=139,slow=9.3,SNR=11						
MJAR				Sn	**Sn**	**01 35 54.4**	**+1.3**
	0.9nm,0.3s,baz=151,slow=18,SNR=3.8						
MJAR	**Matsushiro Arr**	**4.78**	**314**	Pn	**Pn**	**01 34 56.8**	**-0.8**
MJAR				Sn	**Sn**	**01 35 54.4**	**+1.3**
MAJO	**Matsushiro**	**4.78**	**314**	P	**Pn**	**01 34 56.1**	**-1.4**
MAT	**Matsushiro**	**4.78**	**314**	P	**Pn**	**01 34 58.2**	**+0.6**
JGM	**Miyama**	**5.33**	**299**	P	**Pn**	**01 35 05.8**	**+0.5**
JMK	**Ichinoseki**	**5.75**	**350**	P	**Pn**	**01 35 09.9**	**-1.4**
JMK				*eS*	**Sn**	**01 36 12.6**	**-4.9**
JNU	**Nakatsue**	**9.71**	**272**	LR	LR	01 39 22.3	
	comp=Z,78nm,18.8s,baz=44,slow=35						
CN2	**Changchun**	**16.93**	**313**	*eP*	**P**	**01 37 42.3**	**+0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
SONM	**Songino Array**	**30.71**	**309**	P	**P**	**01 40 01.0**	**+0.6**
	comp=Z,1.8nm,0.9s,mb3.9,baz=124,slow=8.9,SNR=11						
MKAR	**Makanchi Array**	**46.92**	**305**	P	**P**	**01 42 15.8**	**+0.2**
	comp=Z,1.2nm,0.8s,mb3.9,baz=82,slow=8.6,SNR=8.7						
KURK	**Kurchatov**	**48.98**	**311**	*eP*	**P**	**01 42 31.1**	**-0.5**
	comp=Z,3.3nm,1.0s,mb4.3						
KURK				*ep*	*pP*	01 42 39.2	+1.4
ILAR	**Eielson Array**	**52.24**	**31**	P	**P**	**01 42 55.7**	**-0.6**
	comp=Z,0.4nm,0.9s,mb3.4,baz=277,slow=6.8,SNR=5.4						
BVAR	**Borovoye Array**	**53.78**	**315**	P	**P**	**01 43 07.1**	**-0.7**
	comp=Z,0.2nm,0.5s,mb3.4,baz=108,slow=4.6,SNR=3.1						
TXAR	**Lajitas Array**	**91.71**	**53**	P	**P**	**01 46 53.4**	**+1.1**
	comp=Z,0.2nm,0.5s,mb3.7,baz=315,slow=3.5,SNR=4.1						
SNAA	**Sanae**	**137.39**	**195**	PKP	PKPdf	01 53 18.9	+8.5
PMSA	**Palmer Station**	**144.55**	**161**	PKP	PKPdf	01 53 24.3	+1.2

NEIC ***27*** *01:35:23.8, 28.34S×70.07W, h97km, MD3.3(GUC), After GUC.*

GUC 27 01:35:23.8±0.5, 28.34S×70.07W, h97km±8km, MD3.3, ML3.6, 2C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.65**	**248**	⇓*iP*	P	01 35 40.8	+0.1
VACH				*i* S	S	01 35 53.4	0.0
CPCH	**Copiapo**	**1.00**	**346**	⇓*iP*	P	01 35 44.4	+0.1
CPCH				*i* S	S	01 35 59.8	+0.1
LSCH	**La Serena**	**1.87**	**213**	⇓*iP*	P	01 36 08.9	+14
LSCH				*i* S	S	01 36 32.8	+15
LSCH				AMP		01 36 33.6	
	comp=E,612nm,0.2s						
TLL	**Tololo Astrono**	**1.93**	**199**	⇑*iP*	P	01 35 56.3	+0.4
TLL				*i* S	S	01 36 21.1	+1.5
TLL				AMP		01 36 24.7	
	comp=E,558nm,0.6s						
CRCH	**Chaqaral**	**2.04**	**346**	⇑*iP*	P	01 35 57.2	-0.1
CRCH				*i* S	S	01 36 22.1	0.0
CRCH				AMP		01 36 22.9	
	comp=E,432nm,0.4s						

NEIC ***27*** *01:48:08.6, 29.40S×71.77W, h35km, ML4.1(GUC), After GUC.*
GUC ***27*** *01:48:08.6±0.9, 29.40S×71.77W, h35km±4km, ML4.1*

ISC 27 01:48:08.1±1.2, 29.41S±0.04×71.9W±0.1, h42km±12km, n18, σ0958/26, 9C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.75**	**132**	⇓*iP*	**P**	**01 48 36.7**	**+14**
LSCH				*i* S	**S**	**01 48 46.4**	**+14**
LSCH				AMP		01 48 47.1	
	comp=E,15μm,0.3s						
TLL	**Tololo Astrono**	**1.21**	**129**	⇑*iP*	**P**	**01 48 29.8**	**+0.9**
TLL				*i* S	**S**	**01 48 44.9**	**+0.5**
TLL				AMP		01 48 48.7	
	comp=E,13μm,0.6s						
VACH	**Vallenar**	**1.29**	**50**	⇓*iP*	**P**	**01 48 30.0**	**-0.1**
VACH				*i* S	**S**	**01 48 45.7**	**-0.9**
VACH				AMP		01 48 53.0	
	comp=N,6μm

JRY S **S** **01 52 19.0 -0.9**
JAG Ashikaga 3.92 324 P **P** **01 51 33.5 -1.1**
JAG S **S** **01 52 19.1 -0.9**
MJAR Matsushiro Arr 4.68 315 Pn **P** **01 51 44.8 -0.6**
20nm,0.3s,baz=154,slow=10.0,SNR=78
MJAR Sn **S** **01 52 41.3 +2.0**
6.7nm,0.3s,baz=183,slow=22,SNR=3.3
MAJO Matsushiro 4.68 315 *e*P **P** **01 51 46.3 +0.8**
MAT Matsushiro 4.68 315 *e*P **P** **01 51 43.0 -2.5**
MAT *e*S **S** **01 52 40.0 +0.7**
MAT Matsushiro 4.68 315 P **P** **01 51 42.8 -2.7**
MAT S **S** **01 52 39.6 +0.3**
MAT Matsushiro 4.68 315 P **P** **01 51 45.4 -0.1**
MAT S **S** **01 52 39.6 +0.3**
JMM Marumori 4.74 346 P **P** **01 51 42.0 -4.4**
JMM S **S** **01 52 34.9 -6.0**
JIE Ise 4.78 285 P **P** **01 51 46.2 -0.7**
JNS Sasagawa 5.14 333 P **P** **01 51 50.7 -1.3**
JGM Miyama 5.20 299 P **P** **01 51 52.8 0.0**
JWZ Kozaga 5.51 274 P **P** **01 51 57.6 +0.6**
JWY Kouya 5.66 281 P **P** **01 51 59.3 +0.1**
JMK Ichinoseki 5.74 352 P **P** **01 51 55.3 -4.9**
JMK S **S** **01 52 57.5 -8.3**
JSD Sado 5.78 327 P **P** **01 51 58.8 -2.0**
JYK Kaneyama 5.85 345 P **P** **01 51 58.5 -3.3**
CBIJ Chichi jima 6.16 181 Pn **P** **01 52 01.4 -4.8**
90nm,0.3s,baz=71,slow=14,SNR=20
CBIJ Sn **S** **01 53 05.8 -11**
72nm,0.3s,baz=233,slow=20,SNR=3.3
JNU Nakatsue 9.56 272 Pn **P** **01 52 52.8 -0.8**
1.9nm,0.3s,baz=101,slow=12,SNR=8.2
ASAJ Asahikawa 10.83 1 P **P** **01 53 05.2 -5.8**
ASAJ pmax pmax
comp=Z,8.0nm,0.3s
ASAJ MLR MLR
comp=Z,505nm,19.3s
ASAJ Asahikawa 10.83 1 Pn **P** **01 53 05.2 -5.8**
comp=Z,7.7nm,0.3s,baz=184,slow=7.2,SNR=20
ASAJ LR LR 01 57 20.4
comp=Z,505nm,19.3s,baz=177,slow=38
KS15 Wonju Array Si 12.47 294 *e*P **P** **01 53 33.7 +0.6**
YSS Yuzh-Sakhalins 13.67 1 *e*P **P** **01 53 43.0 -5.9**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS MLR MLR
comp=N,800nm,13.0s
YSS MLR MLR
comp=Z,1μm,13.0s
YSS Yuzh-Sakhalins 13.67 1 *e*P **P** **01 53 43.0 -5.9**
comp=Z,54nm,1.0s
JOW Kunigami 13.72 246 Pn **P** **01 53 50.1 +0.4**
comp=Z,0.7nm,0.3s,baz=80,slow=12,SNR=8.2
JOW LR LR 01 58 41.2
comp=Z,531nm,19.1s,baz=6.1,slow=35
MDJ Mudanjiang 15.01 323 P **P** **01 54 05.8 -0.6**
MDJ XP 01 54 17.8
MDJ PP PP 01 54 19.3 +1.0
MDJ S **S** **01 56 53.0 +0.8**
MDJ SS SS 01 57 12.3 +2.4
MDJ SCP 02 02 44.5
MDJ PCS 02 02 48.3
MDJ AMB AMB
comp=Z,20nm,1.4s
MDJ AMB AMB
comp=Z,86nm,4.2s
MDJ LR LR
comp=N,711nm,18.2s
MDJ LR LR
comp=E,676nm,17.5s
MDJ LR LR
comp=Z,774nm,17.1s
MDJ Mudanjiang 15.01 323 *e*P **P** **01 54 04.7 -1.7**
CN2 Changchun 16.83 314 *e*P **P** **01 54 27.5 -2.1**
CN2 *e*XP 01 54 41.5
CN2 *e*S **S** **01 57 32.3 -2.0**
CN2 AMB AMB
comp=Z,40nm,1.2s
CN2 AMB AMB
comp=Z,310nm,3.0s
CN2 LR LR
comp=N,900nm,13.0s
CN2 LR LR
comp=E,700nm,13.0s
CN2 LR LR
comp=Z,670nm,13.0s
SNY Shenyang 17.10 305 ⇓P **P** **01 54 34.5 +1.5**
SNY S **S** **01 57 43.0 +2.5**
SNY AMB AMB
comp=Z,60nm,1.8s
SNY AMB AMB
comp=Z,370nm,7.2s
SNY LR LR
comp=N,460nm,12.6s
SNY LR LR
comp=E,500nm,16.2s
SNY LR LR
comp=Z,770nm,14.4s
DL2 Dalian 17.61 294 P **P** **01 54 39.5 0.0**
DL2 *e*S **S** **01 57 51.8 -0.3**
DL2 AMB AMB
comp=Z,30nm,0.7s
DL2 AMB AMB
comp=Z,350nm,5.9s
DL2 LR LR
comp=N,250nm,12.9s
DL2 LR LR
comp=E,670nm,14.9s
DL2 LR LR
comp=Z,800nm,14.8s
KLR Kul'dur 17.77 337 *e*P **P** **01 54 34.5 -7.0**
KLR MLR MLR
comp=N,1μm,13.5s
KLR MLR MLR
comp=E,500nm,13.5s
KLR MLR MLR
comp=Z,1μm,13.5s
SSE Sheshan 18.00 269 *e*P **P** **01 54 42.8 -1.5**
SSE AP 01 54 47.0
SSE S **S** **01 58 02.5 +1.6**
SSE XS 01 58 14.0
SSE AMB AMB
comp=Z,35nm,0.8s
SSE AMB AMB
comp=Z,212nm,9.0s
SSE LR LR
comp=N,470nm,13.2s
SSE LR LR
comp=E,1μm,13.2s
SSE LR LR
comp=Z,1μm,12.2s
SSE Sheshan 18.00 269 *e*P **P** **01 54 42.8 -1.5**
comp=Z,35nm,0.8s
SSE pP 01 54 47.1
SSE sP 01 54 48.4
SSE S **S** **01 58 02.5 +1.6**
SSE sS 01 58 14.0
SSE ScS ScS 02 06 40.0 +11
GUMO Guam 19.73 173 *e*P **P** **01 55 04.5 -0.3**
GUMO pmax pmax
comp=Z,449nm,1.4s
GUMO Guam 19.73 173 *e*P **P** **01 55 04.5 -0.3**
comp=Z,449nm,1.4s
NJ2 Nanjing 19.77 273 *e*P **P** **01 55 02.5 -2.6**
NJ2 AP 01 55 10.5
NJ2 XP 01 55 15.3
NJ2 PP PP 01 55 21.5 -2.4
NJ2 S **S** **01 58 37.0 -3.6**
NJ2 XS 01 58 50.0
NJ2 AMB AMB
comp=Z,540nm,1.2s
NJ2 AMB AMB
comp=Z,202nm,3.6s
NJ2 LR LR
comp=N,2μm,14.5s
NJ2 LR LR
comp=E,1μm,16.5s
NJ2 LR LR
comp=Z,11μm,13.2s
SKR Severo-Kuril's 20.15 26 *e*P **P** **01 55 05.0 -4.0**
SKR *e* 01 55 24.0
HIA Hailar 23.16 320 *e*P **P** **01 55 37.7 -1.6**
HIA pmax pmax
comp=Z,149nm,1.4s
HIA Hailar 23.16 320 *e*P **P** **01 55 37.7 -1.6**
comp=Z,149nm,1.4s,mb5.2

WHN Wuhan 23.85 271 ⇓P **P** **01 55 46.8 +0.7**
WHN AP 01 55 57.0
WHN S **S** **02 00 00.8 +4.3**
WHN LR LR
comp=Z,1μm,13.3s,MS4.6
HHC Hu-ho-hao-te 25.57 296 ⇓*i*P **P** **01 56 02.5 0.0**
HHC AP pP 01 56 12.3 -0.2
HHC XP sP 01 56 15.8 -0.9
HHC PP PP 01 56 44.3 +1.8
HHC PCP PcP 01 59 30.5 -3.3
HHC S **S** **02 00 28.5 +3.1**
HHC SCP 02 03 05.3
HHC AMB AMB
comp=Z,74nm,2.3s,mb4.8
HHC AMB AMB
comp=Z,870nm,13.1s
HHC LR LR
comp=N,465nm,16.6s,MS4.4
HHC LR LR
comp=E,760nm,15.4s,MS4.4
HHC LR LR
comp=Z,761nm,16.6s,MS4.3
BTO Baotou 26.70 295 *e*P **P** **01 56 14.0 +0.9**
BTO AMB AMB
comp=Z,78nm,2.2s,mb4.8
MA2 Magadan 26.91 10 *e*P **P** **01 56 12.6 -2.1**
MA2 *e*S **S** **02 00 43.6 -3.6**
MA2 *e*SSS SS 02 02 03.5 +1.8
MA2 pmax pmax
comp=Z,20nm,2.1s,mb4.3
MA2 MLR MLR
comp=Z,300nm,18.0s,MS3.9
XAN Xi'an 27.72 281 P **P** **01 56 20.8 -1.6**
XAN AMB AMB
comp=Z,12nm,1.5s,mb4.3
CIT Chita 27.97 321 *e*P **P** **01 56 25.5 +1.0**
CIT *e* pP 01 56 36.8 +2.2
CIT *e* 01 56 41.4
CIT pmax pmax
comp=Z,676nm,2.2s,mb5.9
ENH Enshi 27.99 273 *e*P **P** **01 56 22.8 -2.1**
comp=Z,259nm,1.3s,mb5.7
YAK Yakutsk 29.89 348 *e*P **P** **01 56 39.4 -2.1**
YAK *e*S **S** **02 01 37.6 +2.6**
YAK pmax pmax
comp=Z,12nm,1.4s,mb4.4
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK smax
comp=E,49nm,7.3s
YAK smax
comp=N,28nm,6.6s
YAK Yakutsk 29.89 348 *e*P **P** **01 56 40.1 -1.3**
SEY Seymchan 30.36 9 *e*P **P** **01 56 44.8 -0.9**
SEY *e* 01 57 48.7
SEY *e*PPP PPP 01 58 00.6 +0.6
SEY *e* 01 59 45.4
SEY *e*S **S** **02 01 41.6 -0.8**
SEY *e*SSS SSS 02 03 42.5 -2.1
SEY pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
SEY smax
comp=E,120nm,8.5s
SEY MLR MLR
comp=Z,400nm,11.0s,MS4.3
SEY MLR MLR
comp=N,240nm,10.0s
SEY MLR MLR
comp=E,100nm,9.0s
SONM Songino Array 30.60 309 P **P** **01 56 48.3 +0.3**
comp=E,16nm,0.8s,mb4.9,baz=108,slow=7.8,SNR=47
SONM PcP PcP 01 59 46.0 +0.1
comp=E,0.7nm,0.6s,baz=111,slow=3.0,SNR=4.6
SONM LR LR 02 10 11.7
comp=E,365nm,18.9s,MS4.0,baz=101,slow=38
BOD Bodaibo 31.12 331 *e*P **P** **01 56 51.0 -1.5**
BOD *e* 01 56 57.1
BOD pmax pmax
comp=Z,35nm,1.1s,mb5.1
GYA Guiyang 31.52 267 ⇑*i*P **P** **01 56 54.0 -2.3**
GYA PP PP 01 58 03.3 +2.2
GYA S **S** **02 01 59.8 -1.2**
GYA SS SS 02 03 52.5 +1.8
GYA AMB AMB
comp=Z,20nm,0.6s,mb5.1
GYA AMB AMB
comp=Z,180nm,4.2s
GYA LR LR
comp=N,1μm,14.7s,MS4.8
GYA LR LR
comp=E,1μm,12.7s,MS4.8
GYA LR LR
comp=Z,880nm,13.8s,MS4.6
LZH Lanzhou 31.61 286 ⇑P **P** **01 56 56.5 -0.5**
LZH AP pP 01 57 05.0 -2.2
LZH XP sP 01 57 11.5 -0.4
LZH PP PP 01 58 00.3 -1.7
LZH *e*S **S** **02 02 02.0 -0.2**
LZH XS 02 02 17.3
LZH *e*SS SS 02 03 48.0 -4.6
LZH AMB AMB
comp=Z,95nm,1.7s,mb5.3
LZH AMB AMB
comp=Z,410nm,4.8s
LZH LR LR
comp=E,1μm,12.2s
LZH LR LR
comp=Z,2μm,14.0s,MS4.9
LZH Lanzhou 31.61 286 ⇑P **P** **01 56 56.6 -0.4**
LZH *PP pP 01 57 04.9 -2.3
LZH *SP sP 01 57 11.4 -0.5
LZH 01 58 00.2
LZH *e*S **S** **02 02 02.0 -0.2**
LZH *SS 02 02 17.2
LZH *e*SS SS 02 03 48.0 -4.6
LZH pmax pmax
comp=Z,95nm,1.7s,mb5.3
LZH MLR MLR
comp=Z,2μm,14.0s,MS4.9
LZH Lanzhou 31.61 286 ⇑P **P** **01 56 56.6 -0.4**
comp=Z,95nm,1.7s,mb5.3
LZH pP pP 01 57 04.9 -2.3
LZH sP sP 01 57 11.4 -0.5
LZH PP PP 01 58 00.2 -1.8
LZH *e*S **S** **02 02 02.0 -0.2**
LZH sS 02 02 17.2
LZH *e*SS SS 02 03 48.0 -4.6
LZH LR LR
comp=Z,2μm,14.0s,MS4.9
QIZ Qiongzhong 32.24 252 *e*P **P** **01 57 02.5 -0.2**
QIZ PP PP 01 58 13.0 +2.5
QIZ S **S** **02 02 11.8 -0.5**
QIZ SS SS 02 04 09.0 +1.2
QIZ AMB AMB
comp=Z,9.0nm,1.4s,mb4.4
QIZ AMB AMB
comp=Z,110nm,6.5s
QIZ LR LR
comp=N,307nm,12.0s,MS4.3
QIZ LR LR
comp=E,294nm,15.3s,MS4.3
QIZ LR LR
comp=Z,311nm,12.2s,MS4.2
CD2 Chengdu 32.61 277 P **P** **01 57 04.0 -1.8**
CD2 S **S** **02 02 18.5 +0.6**
CD2 AMB AMB
comp=Z,40nm,0.6s,mb5.5
CD2 LR LR
comp=N,3μm,15.6s
CD2 LR LR
comp=Z,850nm,14.4s,MS4.6
IRK Irkutsk 33.24 316 *e*P **P** **01 57 10.7 -0.3**
IRK *e* 01 57 28.7
IRK pmax pmax
comp=Z,79nm,3.2s
ZAK Zakamensk 33.26 313 *e*P **P** **01 57 11.4 +0.2**
ZAK pmax pmax
comp=Z,10.0nm,1.6s,mb4.5
TLY Talaya 33.42 315 *e*P **P** **01 57 13.3 +0.7**
TLY *e* 01 58 28.1
TLY *e*S **S** **02 02 25.5 -4.8**
TLY *e*SS SS 02 05 01.9 +27
TLY pmax pmax
comp=Z,31nm,1.1s,mb5.2
TLY Talaya 33.42 315 *e*P **P** **01 57 12.3 -0.2**
comp=Z,16nm,0.8s,mb5.0
GTA Gaotai 34.52 293 P **P** **01 57 22.0 -0.1**
GTA AP pP 01 57 32.8 +0.3
GTA PP PP 01 58 40.8 +2.0
GTA PCP PcP 01 59 54.5 -2.3
GTA S **S** **02 02 48.0 +0.5**
GTA SCP 02 03 35.5
GTA SCS ScS 02 07 37.0 -2.3
GTA AMB AMB
comp=Z,15nm,0.8s,mb5.0
GTA AMB AMB
comp=Z,151nm,8.7s
GTA LR LR
comp=N,423nm,14.1s,MS4.5
GTA LR LR
comp=E,519nm,15.6s,MS4.5
GTA LR LR
comp=Z,635nm,14.8s,MS4.5
MOY Mondy 35.00 314 *e*P **P** **01 57 26.5 +0.4**
MOY pmax pmax
comp=Z,71nm,2.2s,mb5.2
KMI Kunming 35.30 267 P **P** **01 57 28.0 -1.0**
KMI AP pP 01 57 41.3 +1.9
KMI PP PP 01 58 48.0 -0.9
KMI PCP PcP 02 00 00.0 +0.8
KMI S **S** **02 02 56.8 -2.9**
KMI PCS 02 03 45.8
KMI SS SS 02 05 15.0 -3.1
KMI AMB AMB
comp=Z,15nm,1.0s,mb4.9
KMI AMB AMB
comp=Z,156nm,3.1s
KMI LR LR
comp=N,446nm,13.5s,MS4.7
KMI LR LR
comp=E,716nm,14.4s,MS4.7
KMI LR LR
comp=Z,750nm,15.2s,MS4.6
KMI Kunming 35.30 267 P **P** **01 57 27.9 -1.1**
KMI *PP pP 01 57 41.2 +1.8
KMI 01 58 47.9
KMI PPP PPP 01 59 07.5 0.0
KMI 01 59 59.9
KMI S **S** **02 02 56.8 -2.9**
KMI SS SS 02 05 15.1 -3.0
KMI pmax pmax
comp=Z,15nm,1.0s,mb4.9
KMI MLR MLR
comp=Z,750nm,15.2s,MS4.6
KMI Kunming 35.30 267 P **P** **01 57 27.9 -1.1**
comp=Z,15nm,1.0s,mb4.9
KMI pP pP 01 57 41.2 +1.8
KMI sP sP 01 57 47.5 +3.5
KMI PP PP 01 58 47.9 -1.0
KMI PPP PPP 01 59 07.5 0.0
KMI PcP PcP 01 59 59.9 +0.7
KMI S **S** **02 02 56.8 -2.9**
KMI sS 02 03 20.8
KMI PcS 02 03 45.7
KMI SS SS 02 05 15.1 -3.0
KMI LR LR
comp=Z,750nm,15.2s,MS4.6
BILL Bilibino 37.45 15 ⇓*e*P **P** **01 57 45.1 -1.6**
BILL *e* 01 59 15.9
BILL pmax pmax
comp=Z,20nm,2.0s,mb4.6
TIXI Tiksi 39.10 353 *e*P **P** **01 57 59.6 -0.8**
TIXI pmax pmax
comp=Z,21nm,1.6s,mb4.6
WMQ Urumqi 43.28 301 P **P** **01 58 36.3 +1.3**
WMQ AP pP 01 58 46.3 +0.7
WMQ XP sP 01 58 50.0 0.0
WMQ PP PP 02 00 19.3 +1.6
WMQ S **S** **02 05 01.0 +1.6**
WMQ AMB AMB
comp=Z,31nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,1μm,5.2s
WMQ LR LR
comp=N,354nm,13.2s,MS4.5
WMQ LR LR
comp=E,258nm,12.7s,MS4.5
WMQ LR LR
comp=Z,402nm,15.0s,MS4.4
LSA Lhasa 43.41 280 *e*P **P** **01 58 36.0 -0.3**
KSM Kuching 43.59 230 *e*P **P** **01 58 38.5 +0.5**
SHL Shillong 44.23 274 *e*P **P** **01 58 41.7 -1.3**
NVS Novosibirsk 46.01 316 *e*P **P** **01 58 55.6 -1.2**
NVS *e* 02 00 45.9
NVS *e*S **S** **02 05 35.5 -3.1**
NVS pmax pmax
comp=N,15nm,1.4s
NVS pmax pmax
comp=E,64nm,1.4s
NVS pmax pmax
comp=Z,71nm,1.4s,mb5.4
NVS pmax pmax
comp=Z,26nm,2.1s,mb4.8
NVS pmax pmax
comp=N,13nm,1.8s
NVS pmax pmax
comp=E,17nm,1.4s
NVS smax
comp=N,17nm,2.0s
NVS smax
comp=E,18nm,2.0s
KAKA Kakadu 46.68 193 *e*P **P** **01 59 05.5 +2.9**
comp=E,9.8nm,0.6s,mb4.9
MKAR Makanchi Array 46.80 305 P **P** **01 59 02.9 -0.2**
comp=E,11nm,0.8s,mb4.8,baz=90,slow=8.0,SNR=67
MKAR LR LR 02 19 12.0
comp=E,240nm,21.6s,MS4.1,baz=96,slow=37
MKAR Makanchi Array 46.80 305 P **P** **01 59 02.9 -0.2**
MKAR LR LR 02 19 12.0
GUN Gumba 48.36 279 *e*P **P** **01 59 16.3 +0.7**
PKI Pulchoki 48.87 279 *e*P **P** **01 59 18.9 -0.6**
comp=E,44nm,1.1s,mb5.4
KURK Kurchatov 48.88 311 *e*P **P** **01 59 18.4 -0.8**
KURK pmax pmax
comp=Z,81nm,0.8s,mb5.8
KURK Kurchatov 48.88 311 *e*P **P** **01 59 18.4 -0.8**
comp=Z,81nm,0.8s,mb5.8
KKN Kakani 48.90 280 *e*P **P** **01 59 19.9 +0.1**
comp=Z,65nm,1.0s,mb5.6
GKN Gorkha 49.35 280 *e*P **P** **01 59 23.1 -0.2**
comp=Z,210nm,1.5s,mb5.9
IMA Indian Mountai 49.60 29 *e*P **P** **01 59 23.9 -0.7**
IMA pmax pmax
comp=Z,56nm,1.5s,mb5.4
IMA Indian Mountai 49.60 29 *e*P **P** **01 59 23.9 -0.7**
comp=Z,56nm,1.5s,mb5.4
SPU Mount Spurr 49.84 35 *e*P **P** **01 59 27.2 +0.7**
KOLN Koldanda 50.30 280 *e*P **P** **01 59 30.2 -0.3**
comp=Z,30nm,0.8s,mb5.4
ILAR Eielson Array 52.32 31 P **P** **01 59 43.0 -2.2**
comp=Z,3.9nm,0.9s,mb4.3,baz=262,slow=5.9,SNR=25
LGTI Lohaghat 52.44 284 *e*P **P** **01 59 48.5 +1.9**
KSH Kashi 52.67 297 *e*P **P** **01 59 51.5 +3.3**
KSH *e*PCP PcP 02 01 00.3 +2.5
KSH *e*PP PP 02 01 52.3 +3.6
KSH *e*PCS 02 04 57.0
KSH *e*S **S** **02 07 14.5 +2.7**
KSH *e*SCS ScS 02 09 33.0 +1.3
KSH *e*SS SS 02 10 51.5 +2.3
KSH AMB AMB
comp=Z,50nm,0.4s,mb5.8
KSH AMB AMB
comp=Z,370nm,2.9s,mb5.8
KSH LR LR
comp=N,570nm,4.8s
KSH LR LR
comp=E,450nm,5.0s
FRU Bishkek 52.84 301 *e*P **P** **01 59 49.0 -0.4**
FRU pmax pmax
comp=Z,150nm,2.2s,mb5.5
AAK Ala-Archa 52.98 301 *e*P **P** **01 59 49.8 -0.7**
AAK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
AAK Ala-Archa 52.98 301 *e*P **P** **01 59 49.8 -0.7**
comp=Z,6.4nm,0.6s,mb4.7
CTAO Charters Tower 53.19 175 *e*P **P** **01 59 48.9 -3.4**
VOSK Vostochnaya 53.37 314 P **P** **01 59 52.0 -1.2**
VOSK pmax pmax

comp=Z,116nm,2.2s,mb5.4
WRAB Tennant Creek 53.45 189 *e*P **P** **01 59 53.5 -0.7**
WRAB Tennant Creek 53.45 189 *e*P **P** **01 59 51.9 -2.3**
comp=Z,11nm,0.6s,mb5.0
WB2 Warramunga Arr 53.45 189 *e*P **P** **01 59 52.2 -2.1**
WRA Warramunga Arr 53.46 189 P **P** **01 59 52.4 -1.9**
comp=Z,4.3nm,0.4s,mb4.7,baz=7.4,slow=7.7,SNR=31
WRA PcP PcP 02 01 01.4 +0.4
comp=Z,2.7nm,0.6s,baz=2.6,slow=4.2,SNR=4.8
FITZ Fitzroy Crossi 53.50 200 *e*P **P** **01 59 53.6 -1.1**
comp=Z,11nm,0.7s,mb4.9
FITZ *e* pP 02 00 03.5 -1.9
BVA0 Borovoye Array 53.68 315 *i* P **P** **01 59 54.4 -1.1**
BVA0 pmax pmax
comp=Z,16nm,2.0s,mb4.6
BRVK Borovoye 53.73 315 *e*P **P** **01 59 55.0 -0.9**
BRVK pmax pmax
comp=Z,15nm,1.2s,mb4.8
BRVK Borovoye 53.73 315 *e*P **P** **01 59 55.0 -0.9**
comp=Z,15nm,1.2s,mb4.8
KKAR Karatay Array 55.69 303 *i* P **P** **02 00 09.8 -0.5**
KKAR pmax pmax
comp=Z,362nm,2.1s,mb6.0
INK Inuvik 57.42 26 P **P** **02 00 21.0 -1.4**
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 57.42 26 P **P** **02 00 21.0 -1.3**
comp=Z,4.1nm,0.8s,mb4.5,baz=278,slow=6.2,SNR=8.5
INK Inuvik 57.42 26 *e*P **P** **02 00 20.4 -2.0**
comp=Z,15nm,1.2s,mb4.9
MBWA Marble Bar 58.25 205 P **P** **02 00 28.1 -0.6**
HYB Hyderabad 58.91 271 *e*P **P** **02 00 33.0 -0.4**
HYB Hyderabad 58.91 271 *i* P **P** **02 00 33.0 -0.4**
ARU Arti 59.68 320 ⇓*i*P **P** **02 00 36.8 -1.4**
ARU *e* 02 01 21.9
ARU *e* 02 02 46.3
ARU *e*S **S** **02 08 46.6 +2.1**
ARU *e* 02 10 23.5
ARU *e*SS SS 02 12 33.9 -7.8
ARU pmax pmax
comp=Z,18nm,1.4s,mb4.9
ARU MLR MLR
comp=Z,200nm,16.5s,MS4.3
ARU MLR MLR
comp=N,100nm,17.0s,MS4.4
ARU MLR MLR
comp=E,200nm,16.0s,MS4.4
ARU Arti 59.68 320 *e*P **P** **02 00 36.7 -1.5**
comp=E,43nm,1.4s,mb5.3
AB31 Akbulak array 60.95 312 *i* P **P** **02 00 45.5 -1.5**
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
STKA Stephens Creek 64.80 181 *e*P **P** **02 01 11.9 -0.8**
comp=Z,5.8nm,0.7s,mb4.7
STKA Stephens Creek 64.80 181 P **P** **02 01 12.2 -0.5**
comp=Z,8.4nm,0.9s,mb4.8,baz=334,slow=8.3,SNR=9.2
APA Apatity 66.41 337 *e*P **P** **02 01 22.0 -0.4**
APA pmax pmax
comp=Z,11nm,0.6s,mb5.1
YKW3 Yellowknife Ar 66.67 29 *e*P **P** **02 01 23.4 -0.7**
YKA Yellowknife Ar 66.71 29 P **P** **02 01 22.7 -1.6**
comp=Z,1.5nm,0.7s,mb4.1,baz=294,slow=5.9,SNR=11
ARCES ARCESS Array B 67.77 340 P **P** **02 01 30.6 -0.3**
comp=Z,3.0nm,0.7s,mb4.4,baz=69,slow=6.3,SNR=14
ARCES LR LR 02 36 08.6
comp=Z,111nm,18.6s,MS4.1,baz=205,slow=40
NWAO Narrogin (SRO) 69.95 202 *e*P **P** **02 01 44.1 -0.8**
MOS Moscow 70.71 325 *e*P **P** **02 01 44.0 -5.2**
MOS *e* 02 02 16.1
MOS *e*S S 02 10 53.2 -6.4
MOS pmax pmax
comp=Z,23nm,0.6s,mb5.3
OBN Obninsk 71.55 324*j* *i*P **P** **02 01 54.8 +0.6**
OBN *e* pP 02 02 04.8 -0.5
OBN 02 02 18.0
OBN pmax pmax
comp=Z,38nm,1.8s,mb5.0
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.5
EDM Edmonton 71.86 38 *e*P **P** **02 01 56.6 +0.5**
KAF Kangasniemi 71.98 334 *e*p **P** **02 01 55.8 -0.8**
comp=Z,4.5nm,0.6s,mb4.6,baz=50,slow=5.7
KAF Kangasniemi 71.98 334 *e*P **P** **02 01 55.8 -0.8**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
NEW Newport 72.34 44 *e*P **P** **02 01 59.1 +0.1**
NEW pmax pmax
comp=Z,5.0nm,1.1s
NEW Newport 72.34 44 *e*P **P** **02 01 59.1 +0.1**
comp=Z,5.3nm,1.1s,mb4.4
FINES FINESS Array B 72.48 333 P **P** **02 01 59.2 -0.4**
comp=Z,5.5nm,0.8s,mb4.5,baz=104,slow=7.9,SNR=16
FINES LR LR 02 36 20.4
comp=Z,109nm,19.3s,MS4.1,baz=160,slow=38
KIV Kislovodsk 73.94 312 *e*P **P** **02 02 08.2 -0.3**
KIV *e*S S 02 11 37.5 +0.9
KIV pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KIV pmax pmax
comp=E,9.0nm,1.0s
KIV Kislovodsk 73.94 312 *e*P **P** **02 02 07.5 -1.0**
comp=E,159nm,2.1s,mb5.6
VSU Vasula 74.06 330 *e*P **P** **02 02 07.8 -1.1**
ONI Oni 74.16 311 P **P** **02 02 08.7 -1.0**
WVOR Wild Horse Val 74.38 49 *e*P **P** **02 02 11.5 +0.4**
WVOR pmax pmax
comp=Z,33nm,1.8s,mb5.0
WVOR Wild Horse Val 74.38 49 *e*P **P** **02 02 11.5 +0.5**
comp=Z,33nm,1.8s,mb5.0
GNI Garni 74.55 308 ⇓*i*P **P** **02 02 11.6 -0.5**
GNI pmax pmax
comp=Z,35nm,2.7s
GNI Garni 74.55 308 LR LR 02 37 16.0
comp=Z,94nm,21.9s,MS4.0,baz=58,slow=38
CMB Columbia Colle 75.48 54 *e*P **P** **02 02 17.6 +0.1**
CMB pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CMB Columbia Colle 75.48 54 *e*P **P** **02 02 17.6 +0.1**
comp=Z,9.9nm,1.1s,mb4.7
SOC Sochi 75.96 313*c* *i*P **P** **02 02 18.1 -2.0**
SOC *e* 02 02 34.4
SOC *e* 02 05 17.1
SOC *e*PPP PPP 02 06 53.8 -5.7
SOC *e*S S 02 12 00.0 +0.9
SOC *e* 02 12 32.1
SOC *e*SS SS 02 16 54.7 -0.3
SOC *e*SSS SSS 02 20 11.4 +1.4
SOC pmax pmax
comp=N,18nm,1.2s
SOC pmax pmax
comp=Z,27nm,1.2s,mb5.0
SOC pmax pmax
comp=E,6.0nm,0.8s
MNK Minsk 76.04 327 *e*P **P** **02 02 17.0 -3.3**
HRY Holter Researc 76.20 43 *e*P **P** **02 02 19.8 -1.6**
MCMT McKenzie Canyo 76.66 45 *e*P **P** **02 02 24.9 +0.9**
ANN Anapa 76.67 315 *e*P **P** **02 02 19.7 -4.4**
ANN *e*S S 02 11 58.4 -8.5
ANN pmax pmax
comp=Z,117nm,5.9s
NVAR Mina Array Bea 76.68 53 P **P** **02 02 24.0 -0.3**
comp=Z,2.3nm,1.0s,mb4.1,baz=297,slow=4.0,SNR=16
BOZ Bozeman (W) 76.92 44 *e*P **P** **02 02 26.1 +0.6**
BOZ pmax pmax
comp=Z,21nm,1.7s,mb4.8
BOZ Bozeman (W) 76.92 44 *e*P **P** **02 02 26.1 +0.6**
comp=Z,21nm,1.7s,mb4.8
ELK Elko 77.44 49 *e*P **P** **02 02 29.4 +0.9**
ELK pmax pmax
comp=Z,20nm,1.8s
ELK Elko 77.44 49 *e*P **P** **02 02 29.4 +0.9**
comp=Z,20nm,1.8s,mb4.7
QLMT Earthquake Lak 77.50 44 *e*P **P** **02 02 29.8 +1.1**
TPH Tonopah 77.59 53 *e*P **P** **02 02 30.0 +0.6**
AKASG Malin Array Be 77.72 323 P **P** **02 02 29.1 -0.7**
comp=Z,3.2nm,0.6s,mb4.4,baz=48,slow=6.0,SNR=20
NB2 NORSAR Subarra 77.93 338 P **P** **02 02 30.2 -0.6**
comp=Z,28nm,1.2s,mb5.1,baz=40,slow=5.6
NB2 NORSAR Subarra 77.93 338 P **P** **02 02 30.2 -0.6**
NB2 pmax pmax
comp=Z,28nm,1.2s,mb5.1
NB2 NORSAR Subarra 77.93 338 P **P** **02 02 30.2 -0.6**
baz=40,slow=5.6
NOA NORSAR Array B 77.93 338 P **P** **02 02 30.2 -0.5**
comp=Z,6.6nm,0.8s,mb4.6,baz=39,slow=5.6,SNR=28
NOA LR LR 02 41 29.6
comp=Z,132nm,18.7s,MS4.3,baz=30,slow=39
GCMT Greycliff 77.96 43 P **P** **02 02 32.0 +0.8**
MIB Mutribah 78.04 298 *e*P **P** **02 02 31.6 -0.4**
MIB AMb AMB 02 02 32.8
comp=Z,26nm,0.6s,mb5.3
YFT Old Faithful 78.06 44 *e*P **P** **02 02 33.5 +1.7**
KBD Kabd 78.11 297 *e*P **P** **02 02 32.8 +0.3**
KBD AMb AMB 02 02 34.0
comp=Z,142nm,1.0s,mb5.9
QRN Al-Qurain 78.16 297 *e*P **P** **02 02 34.3 +1.6**
QRN AMb AMB 02 02 36.6
comp=Z,89nm,1.1s,mb5.6
IMW Indian Meadow 78.32 45 *e*P **P** **02 02 34.3 +1.0**
comp=Z,20nm,1.5s,mb4.8
RDF Al-Radifah 78.34 297 *e*P **P** **02 02 34.4 +0.6**
RDF AMb AMB 02 02 36.4
comp=Z,59nm,0.9s,mb5.5
RRI2 Red Ridge 78.40 46 *e*P **P** **02 02 35.3 +1.5**
comp=Z,30nm,1.7s,mb5.0
NAY Al-Naaiem 78.41 297 *e*P **P** **02 02 34.6 +0.5**
NAY AMb AMB 02 02 38.1
comp=Z,35nm,1.1s,mb5.2
HVU Hansel Valley 78.41 48 *e*P **P** **02 02 34.9 +1.1**
SUW Suwalki 78.45 328 *e*P **P** **02 02 33.0 -0.8**
SUW Suwalki 78.45 328 *e*P **P** **02 02 33.0 -0.8**
MOOW Moose Ponds 78.52 45 *e*P **P** **02 02 34.9 +0.6**
comp=Z,26nm,1.7s,mb4.9
SIM Simferopol' 78.53 316 *e*P **P** **02 02 33.9 -0.5**
SIM *e* pP 02 02 45.0 -0.5
SIM pmax pmax
comp=Z,12nm,0.8s,mb4.9
HWUT Hardware Ranch 79.25 47 *e*P **P** **02 02 38.8 +0.3**
comp=Z,57nm,1.8s,mb5.2
DGMT Dagmar 79.33 38 *e*P **P** **02 02 39.7 +0.9**
comp=Z,19nm,1.2s,mb4.9
LAO LASA Array 79.35 41 *e*P **P** **02 02 39.8 +1.0**
comp=Z,119nm,2.1s,mb5.5
NOQ North Oquirrh 79.45 48 P **P** **02 02 38.4 -1.2**
CTU Camp Tracy 79.66 48 *e*P **P** **02 02 42.5 +1.8**
PDAR Pinedale Array 79.79 45 P **P** **02 02 41.4 +0.1**
comp=Z,0.9nm,0.6s,mb3.9,baz=268,slow=2.3,SNR=8.8
JLU Jordanelle 79.90 48 *e*P **P** **02 02 40.5 -1.4**
DAU Daniels Canyon 80.13 48 *e*P **P** **02 02 44.4 +1.2**
DAU *e**PP pP 02 02 54.6 +0.3
NEN Nelson 80.51 54 *e*P **P** **02 02 45.5 +0.2**
MSU Marysvale 80.64 50 *e*P **P** **02 02 47.2 +1.2**
MSU *e**PP pP 02 02 57.9 +0.8
LDFC Landfair 80.65 54 *e*P **P** **02 02 46.6 +0.6**
LDFC *e*pP pP 02 02 56.6 -0.7
SRU San Rafael 81.35 49 *e*P **P** **02 02 49.5 -0.1**
KWP Kalwaria 81.61 325 *e*P **P** **02 02 50.9 +0.1**
KWP Kalwaria 81.61 325 *e*P **P** **02 02 50.9 +0.1**
BURAR Bucovina Array 81.72 322 ⇑P **P** **02 02 52.0 +0.7**
BURAR Bucovina Array 81.72 322 ⇑P **P** **02 02 52.0 +0.6**
BR131 Keskin Array S 81.90 312 *e*P **P** **02 02 53.2 +0.7**
comp=Z,4.8nm,0.8s,mb4.5
BRTR Keskin Array B 81.90 312 P **P** **02 02 53.1 +0.6**
comp=Z,4.7nm,0.8s,mb4.5,baz=104,slow=4.0,SNR=21
VRI Vrincioaia 82.07 320 ⇑P **P** **02 02 54.9 +1.7**
RSSD Black Hills 82.15 42 *e*P **P** **02 02 53.9 +0.2**
RSSD *e**PP pP 02 03 04.5 -0.4
RSSD pmax pmax
comp=Z,23nm,1.7s,mb4.8
RSSD Black Hills 82.15 42 *e*P **P** **02 02 53.9 +0.2**
comp=Z,23nm,1.7s,mb4.8
RSSD *e*pP pP 02 03 04.5 -0.4
ULM Lac du Bonnet 82.25 33 P **P** **02 02 54.1 +0.1**
comp=Z,1.0nm,0.5s,mb4.0,baz=308,slow=7.9,SNR=3.3
KOLS Kolonicke sedl 82.29 325 *e*P **P** **02 02 54.5 +0.2**
PPT Papeete 82.31 117 LR LR 02 31 10.0
comp=Z,171nm,20.4s,MS4.4,baz=332,slow=30
STHS Stebnicka Huta 82.45 326 *e*P **P** **02 02 56.3 +1.2**
OJC Ojcow 82.57 327 *e*P **P** **02 02 56.8 +1.1**
CRVS Cervenica-Dubn 82.71 325 *e*P **P** **02 03 02.0 +5.6**
MLR Muntele Rosu 82.73 321 ⇓P **P** **02 02 59.0 +2.4**
NIE Niedzica 82.89 326 *e*P **P** **02 02 57.9 +0.6**
PHWY Pilot Hill 83.11 45 *e*P **P** **02 02 58.8 +0.2**
PHWY *e*pP pP 02 03 09.2 -0.7
HILS Ha'il 83.45 298 P **P** **02 03 01.7 +1.1**
KECS Kecovo 83.46 325 *e*P **P** **02 03 01.9 +1.6**
SMCO Snowmass 83.51 47 *e*P **P** **02 03 00.8 0.0**
DRGR 83.54 323 ⇑P **P** **02 03 00.8 +0.1**
OKC Ostrava-Krasne 83.59 327 *e*P **P** **02 03 01.0 +0.2**
OKC *e*pP pP 02 03 12.5 +0.4
OKC AMS AMS 02 46 40.0
comp=Z,300nm,14.5s
KSP Ksiaz 83.68 329 *e*P **P** **02 03 01.4 +0.1**
BSEG Bad Segeberg 83.74 334 *e*P **P** **02 03 02.4 +0.9**
MORC Moravsky Berou 83.91 328 *e*P **P** **02 03 02.6 +0.1**
MORC pmax pmax
comp=Z,10.0nm,1.3s,mb4.8
MORC Moravsky Berou 83.91 328 *e*P **P** **02 03 02.6 +0.1**
comp=Z,10.0nm,1.3s,mb4.8
DPC Dobruska-Polom 84.03 329 AMS AMS 02 45 50.0
comp=Z,200nm,14.9s
UPC Upice 84.05 329 *e*P **P** **02 03 00.1 -3.1**
UPC *e*pP pP 02 03 14.4 0.0
PSZ Piszkesteto 84.14 325⇓*e*P **P** **02 03 04.2 +0.5**
VYHS Vyhne 84.23 326 *e*P **P** **02 03 04.9 +0.8**
QURS Qurayyt al Mil 84.38 304 P **P** **02 03 08.1 +2.8**
AFFS 'Afif 84.47 295 P **P** **02 03 06.8 +0.9**
PVCC Panska Ves 84.65 330 *e*P **P** **02 03 06.9 +0.7**
PVCC AMS AMS 02 45 50.0
comp=Z,300nm,13.6s
BRG Berggiesshubel 84.66 330 *i* P **P** **02 03 06.6 +0.4**
BRG pmax pmax
comp=Z,39nm,1.8s,mb5.2
BRG Berggiesshubel 84.66 330 *i* P **P** **02 03 06.6 +0.4**
comp=Z,39nm,1.8s,mb5.2
CLL Collm 84.72 331 *e*P **P** **02 03 07.0 +0.5**
CLL pmax pmax
comp=Z,20nm,1.2s,mb5.1
CLL Collm 84.72 331 *e*P **P** **02 03 07.0 +0.5**
comp=Z,20nm,1.2s,mb5.1
CLL Collm 84.72 331 P **P** **02 03 07.0 +0.5**
comp=Z,logA/T=1.2,mb5.1
SMOL Smolenice 84.87 327 *e*P **P** **02 03 07.2 -0.1**
PRU Pruhonice 85.07 329 *e*P **P** **02 03 08.7 +0.4**
PRU AMS AMS 02 48 00.0
comp=Z,200nm,14.5s
TUC Tucson 85.19 54 *e*P **P** **02 03 09.8 +0.5**
TUC pmax pmax
comp=Z,19nm,1.8s,mb4.9
TUC Tucson 85.19 54 *e*P **P** **02 03 09.8 +0.5**
comp=Z,19nm,1.8s,mb4.9
KAMS Al Khamasin 85.25 291 P **P** **02 03 09.9 +0.1**
ZST Bratislava 85.25 327 *e*P **P** **02 03 11.7 +2.5**
CLZ Clausthal 85.36 332 *e*P **P** **02 03 10.5 +0.9**
CLZ pmax pmax
comp=Z,34nm,1.5s,mb5.3
CLZ Clausthal 85.36 332 *e*P **P** **02 03 10.5 +0.9**
comp=Z,34nm,1.5s,mb5.3
NKC Novy Kostel 85.77 330 *e*P **P** **02 03 11.5 -0.2**
NKC AMS AMS 02 46 50.0
comp=Z,300nm,14.6s
MOX Moxa 85.79 331 *e*P **P** **02 03 14.4 +2.6**
MOX MLR MLR
comp=Z,100nm,18.0s,MS4.2
MOX Moxa 85.79 331 *i* P **P** **02 03 14.4 +2.6**
MOX L 02 46 32.0
PKSM Moragy 85.95 325 *e*P **P** **02 03 12.5 -0.2**
KHC Kasperske Hory 86.13 329 *e*P **P** **02 03 14.1 +0.6**
KHC *e*pP pP 02 03 29.5 +4.7
KHC AMS AMS 02 48 50.0
comp=Z,300nm,11.4s
GERES GERESS Array B 86.29 329 P **P** **02 03 15.0 +0.8**
comp=Z,0.4nm,0.4s,mb4.0,baz=45,slow=5.7,SNR=8.4
GERES PP PP 02 06 38.1 +0.8
comp=Z,0.4nm,0.9s,baz=68,slow=7.2,SNR=4.3
GERES LR LR 02 43 58.6
comp=Z,88nm,18.1s,MS4.2,baz=266,slow=37
WET Wettzell 86.42 329 *e*P **P** **02 03 16.4 +1.5**
WET pmax pmax
comp=Z,19nm,1.8s,mb5.0
WET Wettzell 86.42 329 *e*P **P** **02 03 16.4 +1.5**
comp=Z,19nm,1.8s,mb5.0
ANMO Albuquerque 86.45 50 *e*P **P** **02 03 16.4 +1.0**
ANMO *e**PP pP 02 03 26.7 0.0
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO Albuquerque 86.45 50 *e*P **P** **02 03 16.4 +1.0**
comp=Z,6.0nm,1.2s,mb4.7
ANMO *e*pP pP 02 03 26.7 0.0
TATS Tathlith 86.53 291 P **P** **02 03 16.1 0.0**
GRA1 Grafenberg Arr 86.69 331 *e*P **P** **02 03 17.0 +0.8**
comp=Z,26nm,1.4s,mb5.3
GRF Grafenberg Ar 86.69 331 *e*P **P** **02 03 17.0 +0.8**
GRF pmax pmax
comp=Z,26nm,1.4s,mb5.3
GRF Grafenberg Ar 86.69 331 *e*P **P** **02 03 17.0 +0.8**
GRF pmax pmax
comp=Z,26nm,1.4s,mb5.3
GRF Grafenberg Ar 86.69 331 *e*P **P** **02 03 17.0 +0.8**
comp=Z,26nm,1.4s,mb5.3
TBKS Tabuk 86.77 302 P **P** **02 03 18.8 +1.6**
JMOS Jabal al Moall 87.23 303 P **P** **02 03 19.2 -0.2**
TNS Taunus Mts 87.38 332 *e*P **P** **02 03 21.4 +1.8**
TNS pmax pmax
comp=Z,36nm,2.0s,mb5.3
TNS Taunus Mts 87.38 332 *e*P **P** **02 03 21.4 +1.8**
comp=Z,36nm,2.0s,mb5.3
HAQS Haql 87.42 303 P **P** **02 03 20.0 -0.3**
DJNS Zahran al Janu 87.50 289 P **P** **02 03 22.0 +1.2**
BDAS Al Bad' 87.68 303 P **P** **02 03 22.0 +0.5**
LEGS Legarje 87.73 326 *e*P **P** **02 03 20.9 -0.5**
PDKS Podkum 87.80 326 *e*P **P** **02 03 23.3 +1.6**
FUR Furstenfeldbru 87.85 330 *e*P **P** **02 03 23.0 +1.1**
FUR pmax pmax
comp=Z,40nm,1.8s,mb5.3
FUR Furstenfeldbru 87.85 330 *e*P **P** **02 03 23.0 +1.1**
comp=Z,40nm,1.8s,mb5.3
TXAR Lajitas Array 91.83 53 P **P** **02 03 41.4 +0.3**
comp=Z,1.7nm,0.6s,mb4.5,baz=305,slow=3.2,SNR=32
LPL La Plagne 91.85 330 *e*P **P** **02 03 41.2 +0.4**
comp=Z,5.9nm,0.8s,mb4.6
LPL La Plagne 91.85 330 *e*P **P** **02 03 41.2 +0.4**
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
SSF Saint Saulge 91.86 333 *e*P **P** **02 03 40.8 +0.1**
SSF pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
SSF Saint Saulge 91.86 333 *e*P **P** **02 03 40.8 +0.1**
comp=Z,2.2nm,0.8s,mb4.5
LPG La Plagne 91.86 330 *e*P **P** **02 03 41.3 +0.5**
comp=Z,6.5nm,0.7s,mb4.8
LPG La Plagne 91.86 330 *e*P **P** **02 03 41.3 +0.5**
LPG pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
AVF Avril sur Loir 92.14 333 *e*P **P** **02 03 42.2 +0.2**
comp=Z,15nm,0.9s,mb5.0
AVF Avril sur Loir 92.14 333 *e*P **P** **02 03 42.2 +0.2**
AVF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
MBDF Montbardon 92.47 330 *e*P **P** **02 03 43.3 -0.3**
comp=Z,9.1nm,0.8s,mb4.8
MBDF Montbardon 92.47 330 *e*P **P** **02 03 43.3 -0.3**
MBDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
ORIF Oris-en-Rattie 92.69 331 *e*P **P** **02 03 44.8 +0.2**
comp=Z,5.5nm,0.8s,mb4.7
ORIF *e*R
comp=Z,64nm,18.5s
SBF Sospel 92.89 329 *e*P **P** **02 03 44.8 -0.8**
comp=Z,19nm,0.8s,mb5.3
SBF Sospel 92.89 329 *e*P **P** **02 03 44.8 -0.8**
SBF pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
PGF Pioggiola 93.25 327 *e*P **P** **02 03 46.8 -0.4**
comp=Z,11nm,1.1s,mb4.9
PGF Pioggiola 93.25 327 *e*P **P** **02 03 46.8 -0.4**
PGF pmax pmax
comp=Z,6.0nm,1.1s,mb4.9
FRF La Foret Royal 93.47 329 *e*P **P** **02 03 47.7 -0.5**
comp=Z,6.0nm,0.9s,mb4.7
FRF La Foret Royal 93.47 329 *e*P **P** **02 03 47.7 -0.5**
FRF pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
LMR La Mourre 93.71 329 *e*P **P** **02 03 49.0 -0.3**
comp=Z,14nm,1.0s,mb5.0
LMR La Mourre 93.71 329 *e*P **P** **02 03 49.0 -0.3**
LMR pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
SNAA Sanae 137.34 195 *e* PKPdf 02 09 52.6 -1.7
SNAA Sanae 137.34 195 *e* PKPdf 02 09 58.2 +3.9
SNAA Sanae 137.34 195 ⇑*i*PKPdf PKPdf 02 09 43.9 -10
SNAA *e* 02 09 52.6
VNA2 Neumayer--Watz 138.89 195 *e* PKPdf 02 09 57.5 +0.4
VNA2 Neumayer--Watz 138.89 195 *e* PKPdf 02 10 01.9 +4.8
VNA2 Neumayer--Watz 138.89 195 ⇑*i*PKPdf PKPdf 02 09 48.8 -8.3
VNA2 *e* 02 09 57.5
VNA3 Neumayer Olymp 139.10 193 *e* PKPdf 02 09 57.4 -0.1
VNA3 Neumayer Olymp 139.10 193 *e* PKPdf 02 10 01.6 +4.1
VNA3 Neumayer Olymp 139.10 193 ⇑*i*PKPdf PKPdf 02 09 49.8 -7.7
VNA3 *e* 02 09 57.4
PMSA Palmer Station 144.60 161 *e*P PKPbc 02 10 07.1 +0.2
SAML Samuel 146.27 50 *e*PKPdf PKPdf 02 10 12.7 +1.1
LPAZ La Paz 147.78 66 PKPbc PKPdf 02 10 17.3 +3.4
comp=Z,1.2nm,0.5s,baz=347,slow=6.4,SNR=7.6
LPAZ La Paz 147.78 66 *e*PKPdf PKPdf 02 10 17.2 +3.2
LVC Limon Verde 150.56 77 *e*PKPbc PKPdf 02 10 26.3 +8.1
PLCA Paso Flores 152.85 115 PKPbc PKPdf 02 10 29.7 +8.7
comp=Z,1.7nm,0.9s,baz=21,slow=3.2,SNR=3.5
PLCA Paso Flores 152.85 115 PKPbc PKPdf 02 10 29.7 +8.7

*NDI **27** 02:06:33.7±2.5, 28.02N×87.10E, h90km±14km, MD2.8*
*IDC **27** 02:06:34.0±3.5, 27.53N×87.17E, mb3.8/2, mb1 3.8/3, mb1mx3.4/20, mbtmp3.6/3, Error ellipse: s-maj=103.3km s-min=34.3km az=75.0*
ISC 27 02:06:33.6±0.9, **27.62N**±0.08×**86.94E**±0.06, **h9**km, **n6,** σ1°**23**/9, **mb3.7**/2, **Nepal**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GTK	**Gangtok**	**1.52**	**100**	*e*P	N	**Pn**	**02 07 02.0**	**+0.9**
GTK				*e*SN		**Sn**	**02 07 23.0**	**+1.9**
GTK				*e*SG		**Sg**	**02 07 24.0**	**-0.3**
SHL	**Shillong**	**4.88**	**114**	*e*P	N	**Pn**	**02 07 46.7**	**-2.3**
SHL				*e*SN		**Sn**	**02 08 40.0**	**-6.2**
BLSP	**Bilaspur**	**6.99**	**220**	*e*S		**Sn**	**02 09 40.0**	**+0.7**
MKAR	**Makanchi Array**	**19.48**	**350**	P		**P**	**02 11 03.8**	**+0.3**
	0.1nm,0.3s,baz=172,slow=12,SNR=6.6							
SONM	**Songino Array**	**25.25**	**32**	P		**P**	**02 12 01.6**	**+0.2**
	0.8nm,0.3s,mb3.8,baz=218,slow=9.7,SNR=13							
WRA	**Warramunga Arr**	**65.88**	**131**	P		**P**	**02 17 20.4**	**-1.8**
	0.4nm,0.5s,mb3.7,baz=323,slow=6.5,SNR=2.6							

*IDC **27** 02:16:41.4±1.2, 33.15N×142.61E, mb3.5/5, mb1 3.8/7, mb1mx3.6/20, mbtmp3.5/7, ML3.7/2, Error ellipse: s-maj=28.5km s-min=25.8km az=21.0*
*JMA **27** 02:16:44.0±0.6, 33.30N×142.50E, h90km, M3.1*
ISC 27 02:16:43.0±2.3, **33.32N**±0.07×**142.51E**±0.08, **h19**km±18km, **n19**, σ0°**88**/25, **mb3.5**/6, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.84**	**317**	P		**Pn**	**02 17 14.8**	**+0.7**
BSO1				S		**Sn**	**02 17 38.2**	**+1.2**
BSO3	**Boso 3**	**2.22**	**312**	P		**Pn**	**02 17 19.9**	**+0.4**
JHJ2	**Mitsune**	**2.27**	**265**	P		**Pn**	**02 17 20.3**	**+0.1**
JHJ	**Hachijo jima 2**	**2.30**	**266**	Pn		**Pn**	**02 17 20.4**	**-0.2**
	64nm,0.3s,baz=59,slow=23,SNR=12							
JHJ				Sn		**Sn**	**02 17 48.2**	**-0.4**
	24nm,0.3s,baz=235,slow=23,SNR=6.5							
BSO4	**Boso 4**	**2.45**	**313**	P		**Pn**	**02 17 23.7**	**+0.9**
JIM2	**Oshima 3**	**2.91**	**299**	P		**Pn**	**02 17 29.4**	**0.0**
JYN	**Shimob**	**3.93**	**305**	P		**Pn**	**02 17 43.7**	**-0.2**
JAG	**Ashikaga**	**3.99**	**322**	P		**Pn**	**02 17 44.2**	**-0.5**
JAG				*e*S		**Sn**	**02 18 29.2**	**-2.2**
JRY	**Ryogami san**	**4.01**	**313**	P		**Pn**	**02 17 45.2**	**+0.2**
JRY				*e*S		**Sn**	**02 18 31.8**	**-0.2**
JMM	**Marumori**	**4.74**	**343**	P		**Pn**	**02 17 55.1**	**-0.3**
JMM				*e*S		**Sn**	**02 18 45.0**	**-5.6**
MJAR	**Matsushiro Arr**	**4.77**	**313**	Pn		**Pn**	**02 17 56.2**	**+0.3**
	1.9nm,0.3s,baz=173,slow=14,SNR=6.5							
MAT	**Matsushiro**	**4.78**	**313**	P		**Pn**	**02 17 55.5**	**-0.4**
JMK	**Ichinoseki**	**5.71**	**350**	P		**Pn**	**02 18 08.1**	**-1.0**
JMK				S		**Sn**	**02 19 08.1**	**-6.8**
SONM	**Songino Array**	**30.71**	**309**	P		**P**	**02 23 00.3**	**+1.4**
	0.6nm,0.8s,mb3.5,baz=117,slow=8.7,SNR=5.2							
MKAR	**Makanchi Array**	**46.92**	**305**	P		**P**	**02 25 15.0**	**+0.9**
	0.4nm,0.7s,mb3.5,baz=127,slow=7.2,SNR=3.5							
ILAR	**Eielson Array**	**52.18**	**31**	P		**P**	**02 25 53.6**	**-0.7**
	0.5nm,0.7s,mb3.5,baz=244,slow=6.0,SNR=5.6							
WRA	**Warramunga Arr**	**53.54**	**190**	P		**P**	**02 26 02.7**	**-2.2**
	0.2nm,0.4s,mb3.4,baz=6.2,slow=7.7,SNR=2.2							

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NB2	**NORSAR Subarra**	**77.95**	**338**	P	**P**	**02 28 52.1**	**+11**
	0.5nm,0.7s,mb3.5,baz=40,slow=5.6						
TXAR	**Lajitas Array**	**91.65**	**53**	P	**P**	**02 29 51.5**	**+1.1**
	0.3nm,0.7s,mb3.7,baz=296,slow=2.0,SNR=5.1						

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*IDC **27** 02:20:56.5±2.9, 33.06N×142.66E, mb3.6/4, mb1 3.8/6, mb1mx3.6/20, mbtmp3.6/6, ML3.6/2, Error ellipse: s-maj=77.1km s-min=26.8km az=177.0*

*JMA **27** 02:20:58.5±0.9, 33.41N×142.53E, h26km, M3.7*

ISC 27 02:20:59.9±2.8**, 33.34N**±0.09×**142.48E**±0.08**, h27**km±22km**, n14, σ1§15**/18**, mb3.5**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.24**	**265**	P	**Pn**	**02 21 35.7**	**-0.4**
JHJ2				*e*S	**Sn**	**02 22 02.8**	**-0.3**
JHJ	**Hachijo jima 2**	**2.27**	**265**	Pn	**Pn**	**02 21 35.9**	**-0.6**
	42nm,0.3s,baz=69,slow=23,SNR=9.8						
JHJ				Sn	**Sn**	**02 22 03.1**	**-0.7**
	46nm,0.3s,baz=85,slow=22,SNR=6.7						
JIM2	**Oshima 3**	**2.88**	**299**	P	**Pn**	**02 21 44.8**	**-0.4**
JYN	**Shimob**	**3.90**	**305**	P	**Pn**	**02 21 59.7**	**0.0**
JYN				S	**Sn**	**02 22 46.4**	**+1.3**
JAG	**Ashikaga**	**3.96**	**322**	*e*S	**Sn**	**02 22 44.9**	**-1.7**
JRY	**Ryogami san**	**3.98**	**313**	P	**Pn**	**02 22 02.3**	**+1.5**
JMM	**Marumori**	**4.72**	**344**	*e*S	**Sn**	**02 22 58.6**	**-7.3**
MJAR	**Matsushiro Arr**	**4.74**	**314**	Pn	**Pn**	**02 22 11.9**	**+0.2**
	1.4nm,0.3s,baz=155,slow=11,SNR=4.1						
MAT	**Matsushiro**	**4.75**	**314**	P	**Pn**	**02 22 13.3**	**+1.6**
JMK	**Ichinoseki**	**5.69**	**350**	P	**Pn**	**02 22 22.1**	**-2.9**
JMK				*e*S	**Sn**	**02 23 23.0**	**-7.3**
SONM	**Songino Array**	**30.68**	**309**	P	**P**	**02 27 17.5**	**+3.1**
	0.3nm,0.3s,mb3.6,baz=90,slow=7.2,SNR=3.9						
MKAR	**Makanchi Array**	**46.89**	**305**	P	**P**	**02 29 30.3**	**+0.7**
	0.5nm,0.8s,mb3.5,baz=101,slow=7.3,SNR=3.7						
ILAR	**Eielson Array**	**52.18**	**31**	P	**P**	**02 30 09.2**	**-0.9**
	0.4nm,0.7s,mb3.5,baz=262,slow=6.5,SNR=5.5						
TXAR	**Lajitas Array**	**91.66**	**53**	P	**P**	**02 34 06.5**	**+0.3**
	0.2nm,0.6s,mb3.6,baz=298,slow=2.2,SNR=4.7						

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*NIED **27** 02:30:00, 33.30N×142.40E, h8km, Mw4.9 Best double couple: $M_0$2.94×10^{16} NP1:ϕ_s181°, δ56°, λ-93°. NP2:ϕ_s7°, δ34°, λ-85°.*

*CSEM **27** 02:30:08.8, 33.34N×142.61E, h10km, mb5.6*

*IDC **27** 02:30:08.4±0.5, 33.25N×142.51E, mb5.0/20, mb1 5.1/26, mb1mx5.1/28, mbtmp5.0/26, ML4.5/6, MS4.2/4, Ms1 4.2/4, ms1mx3.7/29, Error ellipse: s-maj=14.4km s-min=14.1km az=52.0*

*JMA **27** 02:30:11.6±0.3, 33.29N×142.45E, h65km, M5.0*

*BJI **27** 02:30:11.2, 33.32N×142.11E, h14km, mB5.3, mb5.2, Ms4.9, Msz4.6*

*MOS **27** 02:30:14.1±0.8, 33.66N×142.42E, h33km, mb5.5/76, MS4.4/11, Error ellipse: s-maj=8.6km s-min=4.1km az=112.9*

*HRVD **27** 02:30:14.2±0.3, 33.27N×142.62E, h12km, MW5.0/58, Centroid moment Tensor Solution. LP body waves: s31,c44; Mantle waves: s58,c107; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.68±.10; $M_{\theta\theta}$-0.33±.09; $M_{\phi\phi}$3.01±.07; $M_{r\theta}$-0.95±.31; $M_{\theta\phi}$0.47±.07; $M_{\phi r}$-1.18±.23; Best double couple: $M_0$3.265×10^{16} NP1: ϕ_s172°, δ35°, λ-116°. NP2:ϕ_s23°, δ59°, λ-73°. Principal axes: T 3.362, Plg12°, Azm100°; N -.195, Plg14°, Azm194°; P -3.168, Plg71°, Azm331°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 02:30:14.2±0.1, 33.27N×142.34E, mb5.3/99, MW4.9(NIED) Error ellipse: s-maj=4.3km s-min=2.9km az=176.0*

ISC 27 02:30:13.0±0.1**, 33.31N**±0.03×**142.33E**±0.02**, h35**km**, h35**km±.8km**: pP-P, n513, σ0§92**/539**, mb5.2**/153**, MS4.7**/13**, 12C-54D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.75**	**320**	P	**P**	**02 30 41.4**	**0.0**
JHJ2	**Mitsune**	**2.12**	**265**	⇓P	**P**	**02 30 47.0**	**+0.3**
JHJ2				S	**S**	**02 31 13.2**	**+1.1**
BSO3	**Boso 3**	**2.12**	**315**	P	**P**	**02 30 47.0**	**+0.3**
JHJ	**Hachijo jima 2**	**2.15**	**266**	Pn	**P**	**02 30 47.1**	**0.0**
	321nm,0.3s,baz=156,slow=9.8,SNR=81						
JHJ				Sn	**S**	**02 31 12.8**	**+0.1**
	1µm,0.3s,baz=65,slow=22,SNR=12						
BSO4	**Boso 4**	**2.35**	**316**	⇓P	**P**	**02 30 50.9**	**+0.9**
BSO4				S	**S**	**02 31 20.2**	**+2.2**
KTR	**Katsuura**	**2.48**	**318**	P	**P**	**02 30 52.4**	**+0.6**
KTR				*e*S	**S**	**02 31 23.1**	**+1.9**
NJJJ	**Nii jima 2**	**2.76**	**294**	P	**P**	**02 30 56.2**	**+0.3**
JIM2	**Oshima 3**	**2.79**	**301**	⇓P	**P**	**02 30 55.6**	**-0.6**
JIM2				*e*S	**S**	**02 31 26.5**	**-2.5**
JIZS	**Izushimoda**	**3.19**	**297**	P	**P**	**02 31 01.8**	**-0.2**
JOD2	**Odawara 2**	**3.32**	**307**	P	**P**	**02 31 03.3**	**-0.5**
JOD2				*e*S	**S**	**02 31 43.0**	**+0.5**
JHO	**Hitachi**	**3.59**	**337**	⇓P	**P**	**02 31 05.7**	**-2.0**
JYN	**Shimob**	**3.81**	**306**	P	**P**	**02 31 10.4**	**-0.4**
SHZ3	**Shizuoka 3**	**3.84**	**298**	P	**P**	**02 31 11.7**	**+0.5**
JAG	**Ashikaga**	**3.90**	**323**	⇓P	**P**	**02 31 11.8**	**-0.3**
JAG				S	**S**	**02 31 55.7**	**-1.7**
JRY	**Ryogami san**	**3.91**	**315**	P	**P**	**02 31 12.2**	**+0.1**
JRY				S	**S**	**02 31 57.9**	**+0.4**
TK01	**Tokai 1**	**3.99**	**278**	P	**P**	**02 31 10.4**	**-2.9**
TK01				S	**S**	**02 32 11.1**	**+12**
HMMJ	**Hamamatsu 2**	**4.12**	**293**	P	**P**	**02 31 15.2**	**0.0**
JSB	**Shiboa**	**4.15**	**332**	P	**P**	**02 31 14.2**	**-1.4**
JFK	**Kawauchi**	**4.22**	**344**	P	**P**	**02 31 13.6**	**-2.9**
JNY	**Yasuok**	**4.22**	**300**	P	**P**	**02 31 17.3**	**+0.6**
JFT	**Otama**	**4.50**	**339**	⇓P	**P**	**02 31 18.9**	**-1.7**
JAO	**Obara**	**4.63**	**296**	P	**P**	**02 31 22.9**	**+0.5**
JNG	**Nsakai**	**4.65**	**313**	P	**P**	**02 31 22.7**	**0.0**
MJAR	**Matsushiro Arr**	**4.67**	**315**	Pn	**P**	**02 31 22.9**	**-0.1**
	32nm,0.3s,baz=140,slow=9.1,SNR=124						
MJAR				Sn	**S**	**02 32 17.1**	**+0.2**
	15nm,0.3s,baz=150,slow=17,SNR=8.2						
MAJO	**Matsushiro**	**4.67**	**315**	*e*P	**P**	**02 31 23.7**	**+0.6**
MAT	**Matsushiro**	**4.67**	**315**	*e*P	**P**	**02 31 22.0**	**-1.1**
MAT				*e*S	**S**	**02 32 17.0**	**+0.1**
MAT	**Matsushiro**	**4.67**	**315**	P	**P**	**02 31 22.3**	**-0.8**
MAT				S	**S**	**02 32 17.0**	**+0.1**
MAT	**Matsushiro**	**4.67**	**315**	P	**P**	**02 31 22.8**	**-0.3**
MAT				S	**S**	**02 32 16.4**	**-0.5**
JGF	**Kuroka**	**4.70**	**300**	P	**P**	**02 31 24.2**	**+0.8**
JMM	**Marumori**	**4.71**	**345**	P	**P**	**02 31 20.4**	**-3.2**
JMM				S	**S**	**02 32 11.2**	**-6.6**
JIE	**Ise**	**4.80**	**284**	P	**P**	**02 31 25.7**	**+0.8**
JIE				*e*S	**S**	**02 32 19.5**	**-0.6**
JGN	**Niukaw**	**5.05**	**307**	P	**P**	**02 31 29.1**	**+0.8**
JNS	**Sasagawa**	**5.12**	**332**	P	**P**	**02 31 28.2**	**-1.2**
JIZZ	**Izumozaki**	**5.14**	**326**	P	**P**	**02 31 30.2**	**+0.5**
JGM	**Miyama**	**5.21**	**299**	⇓P	**P**	**02 31 31.5**	**+0.9**
JYS	**Shirataka**	**5.23**	**340**	P	**P**	**02 31 29.0**	**-1.9**
JWZ	**Kozaga**	**5.54**	**274**	P	**P**	**02 31 34.9**	**-0.3**
JFM	**Mihama**	**5.69**	**295**	P	**P**	**02 31 38.1**	**+0.8**
JMK	**Ichinoseki**	**5.70**	**351**	P	**P**	**02 31 33.0**	**-4.4**
JMK				S	**S**	**02 32 34.8**	**-7.8**
JAW	**Awa shima**	**5.71**	**335**	S	**S**	**02 32 30.0**	**-13**
JSD	**Sado**	**5.76**	**326**	P	**P**	**02 31 36.6**	**-1.7**
JYK	**Kaneyama**	**5.82**	**345**	P	**P**	**02 31 36.3**	**-2.8**
CBIJ	**Chichi jima**	**6.20**	**181**	Pn	**P**	**02 31 38.7**	**-5.8**
	127nm,0.3s,baz=27,slow=6.0,SNR=22						
CBIJ				Sn	**S**	**02 32 44.8**	**-10**
	327nm,0.3s,baz=272,slow=21,SNR=9.5						
CBIJ	**Chichi jima**	**6.20**	**181**	P	**P**	**02 31 38.3**	**-6.2**
JNU	**Nakatsue**	**9.60**	**272**	Pn	**P**	**02 32 30.5**	**-1.3**
	1.9nm,0.3s,baz=96,slow=14,SNR=22						
JNU				LR	LR	02 36 01.3	
	comp=Z,2µm,21.9s,baz=92,slow=36						
JFA	**Akaike**	**9.64**	**276**	P	**P**	**02 32 32.5**	**+0.1**
ASAJ	**Asahikawa**	**10.79**	**1**	P	**P**	**02 32 43.3**	**-4.8**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,797nm,20.1s						
ASAJ	**Asahikawa**	**10.79**	**1**	Pn	**P**	**02 32 43.3**	**-4.8**
	comp=Z,8.4nm,0.3s,baz=215,slow=11,SNR=34						
ASAJ				LR	LR	02 36 50.4	
	comp=Z,797nm,20.1s,baz=187,slow=37						
JFU	**Fukue jima 2**	**11.43**	**270**	P	**P**	**02 32 58.8**	**+2.0**
JMZ	**Minamidaito 2**	**12.21**	**235**	P	**P**	**02 33 09.7**	**+2.3**
KS15	**Wonju Array Si**	**12.49**	**293**	*e*P	**P**	**02 33 12.8**	**+1.7**
KUR	**Kuril'sk**	**12.65**	**18**	*e*P	**P**	**02 33 04.0**	**-9.2**
KUR				pmax	pmax		
	comp=Z,170nm,1.0s						
KUR				MLR	MLR		
	comp=N,2µm,14.0s						
KUR				MLR	MLR		
	comp=E,4µm,14.0s						
KUR				MLR	MLR		
	comp=Z,2µm,14.0s						
INCN	**Inchon**	**13.46**	**292**	*e*P	**P**	**02 33 24.4**	**+0.5**
	comp=Z,46nm,0.9s						
YSS	**Yuzh-Sakhalins**	**13.63**	**1**	*i* P	**P**	**02 33 21.0**	**-5.1**
YSS				*e*S	**S**	**02 35 46.5**	**-11**
YSS				pmax	pmax		
	comp=Z,110nm,0.9s						
YSS				smax			
	comp=N,60nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1µm,13.0s						
YSS				MLR	MLR		
	comp=N,1µm,15.0s						
YSS	**Yuzh-Sakhalins**	**13.63**	**1**	*e*P	**P**	**02 33 21.2**	**-4.8**
	comp=N,158nm,0.9s						
JOW	**Kunigami**	**13.77**	**246**	Pn	**P**	**02 33 26.9**	**-1.2**
	comp=N,0.6nm,0.3s,baz=62,slow=11,SNR=12						
JOW				LR	LR	02 38 18.4	
	comp=N,718nm,18.7s,baz=93,slow=35						
MDJ	**Mudanjiang**	**15.00**	**323**	P	**P**	**02 33 43.8**	**-0.2**
MDJ				AP		02 33 48.3	
MDJ				S	**S**	**02 36 30.0**	**+0.4**
MDJ				XS		02 36 32.5	
MDJ				SS	SS	02 36 43.5	-3.8
MDJ				SCP		02 42 21.0	
MDJ				PCS		02 42 24.3	
MDJ				AMB	AMB		
	comp=Z,34nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,183nm,6.8s						
MDJ				LR	LR		
	comp=N,814nm,18.0s						
MDJ				LR	LR		
	comp=E,1µm,18.0s						
MDJ				LR	LR		
	comp=Z,1µm,17.1s						
MDJ	**Mudanjiang**	**15.00**	**323**	*e*P	**P**	**02 33 42.0**	**-2.0**
	comp=Z,40nm,0.9s						
UGL	**Uglegorsk**	**15.75**	**359**	*e*P	**P**	**02 33 54.0**	**+0.3**
UGL				pmax	pmax		
	comp=Z,134nm,1.0s						
UGL				pmax	pmax		
	comp=N,800nm,5.0s						
UGL				pmax	pmax		
	comp=E,400nm,5.0s						
UGL				pmax	pmax		
	comp=Z,1µm,5.0s						
UGL				MLR	MLR		
	comp=Z,2µm,16.0s						
UGL				MLR	MLR		
	comp=N,1µm,14.0s						
UGL				MLR	MLR		
	comp=E,800nm,14.0s						
CN2	**Changchun**	**16.82**	**313**	*e*P	**P**	**02 34 06.0**	**-1.3**
CN2				*e*XP		02 34 20.0	
CN2				*e*S	**S**	**02 37 16.5**	**+4.5**
CN2				AMB	AMB		
	comp=Z,50nm,1.1s						
CN2				AMB	AMB		
	comp=Z,520nm,4.0s						
CN2				LR	LR		
	comp=N,2µm,13.0s						
CN2				LR	LR		
	comp=E,800nm,13.0s						
CN2				LR	LR		
	comp=Z,1µm,13.0s						
SNY	**Shenyang**	**17.10**	**305**	⇓P	**P**	**02 34 10.3**	**-0.5**
SNY				S	**S**	**02 37 18.0**	**-0.4**
SNY				AMB	AMB		
	comp=Z,100nm,1.3s						
SNY				AMB	AMB		
	comp=Z,660nm,6.6s						
SNY				LR	LR		
	comp=N,1µm,12.0s						
SNY				LR	LR		
	comp=E,750nm,12.6s						
SNY				LR	LR		
	comp=Z,1µm,13.8s						
DL2	**Dalian**	**17.62**	**294**	P	**P**	**02 34 16.5**	**-0.9**
DL2				*e*S	**S**	**02 37 30.3**	**0.0**
DL2				AMB	AMB		
	comp=Z,40nm,0.6s						
DL2				AMB	AMB		
	comp=Z,290nm,4.4s						
DL2				LR	LR		
	comp=N,620nm,10.5s						
DL2				LR	LR		
	comp=E,1µm,11.8s						
DL2				LR	LR		
	comp=Z,1µm,14.0s						
KLR	**Kul'dur**	**17.75**	**337**	*e*P	**P**	**02 34 12.0**	**-6.9**
KLR				MLR	MLR		
	comp=N,1µm,13.5s						
KLR				MLR	MLR		
	comp=E,500nm,13.5s						
KLR				MLR	MLR		
	comp=Z,2µm,13.5s						
SSE	**Sheshan**	**18.03**	**269**	*e*P	**P**	**02 34 22.0**	**-0.5**
SSE				AP		02 34 32.0	
SSE				S	**S**	**02 37 42.5**	**+2.9**
SSE				AMB	AMB		
	comp=Z,56nm,1.4s						
SSE				AMB	AMB		
	comp=Z,409nm,7.2s						
SSE				LR	LR		
	comp=N,820nm,13.3s						
SSE				LR	LR		
	comp=E,1µm,13.4s						
SSE				LR	LR		
	comp=Z,2µm,13.5s						
SSE	**Sheshan**	**18.03**	**269**	*e*P	**P**	**02 34 21.9**	**-0.6**
	comp=Z,56nm,1.4s						
SSE				pP		02 34 32.1	
SSE				sP		02 34 36.4	
SSE				S	**S**	**02 37 42.5**	**+2.9**
SSE				sS		02 38 04.2	
JIJ	**Ishigaki jima**	**18.24**	**245**	P	**P**	**02 34 23.8**	**-1.4**
GUMO	**Guam**	**19.77**	**173**	*e*P	**P**	**02 34 41.0**	**-2.0**
GUMO				pmax	pmax		
	comp=Z,579nm,1.1s						
GUMO	**Guam**	**19.77**	**173**	*e*P	**P**	**02 34 41.0**	**-2.0**
	comp=Z,579nm,1.1s						
NJ2	**Nanjing**	**19.80**	**273**	*e*P	**P**	**02 34 41.0**	**-2.2**
NJ2				AP		02 34 51.0	
NJ2				XP		02 34 55.0	
NJ2				PP	PP	02 35 00.5	-1.6
NJ2				S	**S**	**02 38 19.0**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,150nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,240nm,8.0s						
NJ2				LR	LR		
	comp=N,2µm,11.4s						
NJ2				LR	LR		
	comp=E,3µm,14.2s						
NJ2				LR	LR		
	comp=Z,6µm,10.0s						
SKR	**Severo-Kuril's**	**20.09**	**26**	*e*P	**P**	**02 34 42.5**	**-3.8**
SKR				pmax	pmax		
	comp=Z,800nm,2.0s						
SKR				pmax	pmax		
	comp=Z,110nm,0.9s						
HIA	**Hailar**	**23.15**	**320**	*e*P	**P**	**02 35 16.7**	**-0.3**
HIA				pmax	pmax		
	comp=Z,339nm,1.5s						
HIA	**Hailar**	**23.15**	**320**	*e*P	**P**	**02 35 16.7**	**-0.3**
	comp=Z,339nm,1.5s,mb5.5						
WHN	**Wuhan**	**23.88**	**271**	⇓P	**P**	**02 35 23.3**	**-0.9**
HHC	**Hu-ho-hao-te**	**25.58**	**296**	⇓P	**P**	**02 35 39.0**	**-1.5**
HHC				AP	pP	02 35 48.3	-1.8
HHC				XP	sP	02 35 52.0	-2.2
HHC				PP	PP	02 36 21.8	+1.4
HHC				S	**S**	**02 40 07.0**	**+3.5**
HHC				AMB	AMB		
	comp=Z,53nm,1.7s,mb4.8						
HHC				AMB	AMB		
	comp=Z,1µm,8.3s						
HHC				LR	LR		
	comp=N,1µm,15.4s,MS4.7						
HHC				LR	LR		
	comp=E,1µm,14.3s,MS4.7						
HHC				LR	LR		
	comp=Z,1µm,15.4s,MS4.6						
BTO	**Baotou**	**26.72**	**295**	*e*P	**P**	**02 35 50.8**	**-0.2**
BTO				AMB	AMB		
	comp=Z,87nm,0.9s,mb5.3						
MA2	**Magadan**	**26.86**	**10**	*de*P	**P**	**02 35 51.1**	**-1.0**
MA2				*e*S	**S**	**02 40 23.5**	**-0.9**
MA2				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.6						
MA2				pmax	pmax		
	comp=N,20nm,1.3s						
MA2				MLR	MLR		
	comp=Z,600nm,20.0s,MS4.2						
MA2	**Magadan**	**26.86**	**10**	*e*P	**P**	**02 35 51.1**	**-1.0**
	comp=Z,22nm,0.8s,mb4.7						
XAN	**Xi'an**	**27.75**	**281**	P	**P**	**02 35 59.3**	**-1.2**
XAN				AMB	AMB		
	comp=Z,35nm,1.6s,mb4.7						
CIT	**Chita**	**27.96**	**321**	*e*P	**P**	**02 36 02.0**	**-0.2**
CIT				*e*	pP	02 36 10.8	-1.2
CIT				*e*		02 36 17.0	
CIT				pmax	pmax		
	comp=Z,936nm,1.8s,mb6.1						
ENH	**Enshi**	**28.02**	**273**	*e*P	**P**	**02 36 01.2**	**-1.8**
	comp=Z,332nm,1.4s,mb5.8						
FX1	**Attu Island--F**	**29.48**	**39**	*e*P	**P**	**02 36 16.1**	**+0.5**
YAK	**Yakutsk**	**29.86**	**348**	*e*P	**P**	**02 36 16.1**	**-2.9**
YAK				*e*		02 37 21.8	
YAK				*e*S	**S**	**02 41 14.2**	**+1.8**
YAK				*e*SS	SS	02 43 07.8	+19
YAK				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.3						
YAK				pmax	pmax		
	comp=N,45nm,1.3s						
YAK				pmax	pmax		
	comp=E,17nm,1.3s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,7.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
YAK				smax			
	comp=E,86nm,7.6s						
YAK				smax			
	comp=Z,40nm,0.9s						
YAK				smax			
	comp=N,34nm,7.0s						
YAK	**Yakutsk**	**29.86**	**348**	*e*P	**P**	**02 36 17.9**	**-1.1**
	comp=N,44nm,0.6s,mb5.4						
SEY	**Seymchan**	**30.31**	**9**	*i* P	**P**	**02 36 22.5**	**-0.6**
SEY	**Seymchan**	**30.31**	**9**	*i* P	**P**	**02 36 22.5**	**-0.6**
SONM	**Songino Array**	**30.60**	**309**	P	**P**	**02 36 26.7**	**+1.0**
	comp=N,27nm,0.7s,mb5.2,baz=113,slow=9.4,SNR=115						
BOD	**Bodaibo**	**31.10**	**331**	⇑*i*P	**P**	**02 36 29.1**	**-1.0**
BOD				*e*		02 36 35.5	
BOD				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.8						
BOD				pmax	pmax		
	comp=Z,58nm,1.0s,mb5.4						
GYA	**Guiyang**	**31.56**	**267**	⇑*i*P	**P**	**02 36 32.3**	**-2.2**
GYA				AP	pP	02 36 44.3	-0.1
GYA				PP	PP	02 37 37.5	-1.8
GYA				S	**S**	**02 41 35.8**	**-3.7**
GYA				XS		02 41 54.3	
GYA				SS	SS	02 43 25.0	-4.4
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.0						
GYA				AMB	AMB		
	comp=Z,180nm,4.4s						
GYA				LR	LR		
	comp=N,2µm,11.4s,MS4.9						
GYA				LR	LR		
	comp=E,340nm,14.1s,MS4.9						
GYA				LR	LR		
	comp=Z,2µm,14.1s,MS4.8						
LZH	**Lanzhou**	**31.63**	**286**	*e*P	**P**	**02 36 33.8**	**-1.2**
LZH				AP	pP	02 36 43.5	-1.4
LZH				XP	sP	02 36 48.0	-1.5
LZH				PP	PP	02 37 38.5	-1.6
LZH				*e*S	**S**	**02 41 39.0**	**-1.5**
LZH				XS		02 41 56.0	
LZH				*e*SS	SS	02 43 28.0	-2.9
LZH				AMB	AMB		
	comp=Z,94nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,500nm,4.5s						
LZH				LR	LR		
	comp=E,3µm,14.1s						
LZH				LR	LR		
	comp=Z,3µm,14.5s,MS5.1						
LZH	**Lanzhou**	**31.63**	**286**	*e*P	**P**	**02 36 33.8**	**-1.2**
	comp=Z,94nm,1.5s,mb5.4						
LZH				pP	pP	02 36 43.5	-1.4
LZH				sP	sP	02 36 48.0	-1.5
LZH				PP	PP	02 37 38.5	-1.6
LZH				*e*S	**S**	**02 41 39.0**	**-1.5**
LZH				sS		02 41 56.0	
LZH				*e*SS	SS	02 43 28.0	-2.9
LZH				LR	LR		
	comp=Z,3µm,14.5s,MS5.1						
QIZ	**Qiongzhong**	**32.29**	**252**	*e*P	**P**	**02 36 41.8**	**+0.9**
QIZ				S	**S**	**02 41 56.3**	**+5.3**
CD2	**Chengdu**	**32.64**	**276**	P	**P**	**02 36 42.0**	**-1.9**
CD2				S	**S**	**02 41 54.0**	**-2.3**
CD2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
CD2				LR	LR		
	comp=E,1µm,15.6s						
CD2				LR	LR		
	comp=Z,2µm,15.6s,MS4.8						
IRK	**Irkutsk**	**33.23**	**316**	*e*P	**P**	**02 36 47.1**	**-1.6**
IRK				*e*		02 38 04.8	
IRK				pmax	pmax		
	comp=Z,90nm,2.2s,mb5.3						
ZAK	**Zakamensk**	**33.25**	**313**	*e*P	**P**	**02 36 49.6**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.8						
TLY	**Talaya**	**33.41**	**315**	*e*P	**P**	**02 36 50.8**	**+0.5**
TLY				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.3						
TLY	**Talaya**	**33.41**	**315**	*e*P	**P**	**02 36 50.8**	**+0.5**
	comp=Z,36nm,0.9s,mb5.3						
GTA	**Gaotai**	**34.53**	**293**	⇓P	**P**	**02 36 59.5**	**-0.6**
GTA				AP	pP	02 37 10.8	+0.7
GTA				XP	sP	02 37 14.8	+0.2
GTA				PP	PP	02 38 17.5	+0.7
GTA				PCP	PcP	02 39 34.8	+0.1
GTA				S	**S**	**02 42 27.8**	**+2.2**
GTA				SCP		02 43 15.8	
GTA				PCS		02 43 20.0	
GTA				AMB	AMB		
	comp=Z,21nm,0.9s,mb5.1						
GTA				AMB	AMB		
	comp=Z,374nm,8.0s						
GTA				LR	LR		
	comp=N,789nm,14.8s,MS4.7						
GTA				LR	LR		
	comp=E,859nm,15.2s,MS4.7						
GTA				LR	LR		
	comp=Z,931nm,13.3s,MS4.7						
KMI	**Kunming**	**35.34**	**267**	⇑P	**P**	**02 37 06.0**	**-1.1**
KMI				AP	pP	02 37 17.3	+0.1
KMI				XP	sP	02 37 21.5	-0.2
KMI				PP	PP	02 38 25.5	-1.6
KMI				PCP	PcP	02 39 35.8	-1.4
KMI				S	**S**	**02 42 36.5**	**-1.7**
KMI				XS		02 42 55.0	
KMI				SS	SS	02 44 55.0	-1.7
KMI				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.2						
KMI				AMB	AMB		
	comp=Z,200nm,3.4s						
KMI				LR	LR		
	comp=N,780nm,13.3s,MS4.8						
KMI				LR	LR		
	comp=E,895nm,13.8s,MS4.8						
KMI				LR	LR		
	comp=Z,1µm,12.8s,MS4.8						
KMI	**Kunming**	**35.34**	**267**	⇑P	**P**	**02 37 05.9**	**-1.2**
KMI				*PP	pP	02 37 17.3	+0.1

KMI *SP sP 02 37 21.4 -0.3
KMI 02 38 25.5
KMI PPP PPP 02 38 46.4 +0.6
KMI 02 39 35.8
KMI S **S** **02 42 36.4 -1.8**
KMI *SS 02 42 54.9
KMI SS SS 02 44 55.1 -1.6
KMI 02 47 20.8
KMI pmax pmax
comp=Z,24nm,0.7s,mb5.2
KMI MLR MLR
comp=Z,1µm,12.8s,MS4.8
KMI Kunming 35.34 267 ⇑P **P 02 37 05.9 -1.2**
comp=Z,24nm,0.7s,mb5.2
KMI pP pP 02 37 17.3 +0.1
KMI sP sP 02 37 21.4 -0.3
KMI PP PP 02 38 25.5 -1.6
KMI PPP PPP 02 38 46.4 +0.6
KMI PcP PcP 02 39 35.8 -1.4
KMI S **S** **02 42 36.4 -1.8**
KMI sS 02 42 54.9
KMI SS SS 02 44 55.1 -1.6
KMI ScS ScS 02 47 20.8 -1.1
KMI LR LR
comp=Z,1µm,12.8s,MS4.8
BILL Bilibino 37.40 15*d* iP **P 02 37 22.7 -1.4**
BILL pmax pmax
comp=Z,34nm,1.0s,mb5.1
BILL MLR MLR
comp=Z,400nm,17.0s,MS4.3
BILL Bilibino 37.40 15 *eP* **P 02 37 22.8 -1.3**
comp=Z,37nm,1.1s,mb5.1
TIXI Tiksi 39.06 353 ⇓*iP* **P 02 37 37.2 -0.7**
WMQ Urumqi 43.28 301 P **P 02 38 14.3 +1.4**
WMQ AP pP 02 38 24.3 +1.1
WMQ XP sP 02 38 28.0 +0.5
WMQ PP PP 02 39 57.3 +1.7
WMQ S **S** **02 44 39.0 +1.5**
WMQ XS 02 44 55.3
WMQ AMB AMB
comp=Z,41nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,588nm,4.0s
WMQ LR LR
comp=N,813nm,12.4s,MS4.9
WMQ LR LR
comp=E,471nm,14.6s,MS4.9
WMQ LR LR
comp=Z,661nm,15.6s,MS4.6
LSA Lhasa 43.44 280 *eP* **P 02 38 15.5 +1.1**
LSA pmax pmax
comp=Z,65nm,1.4s,mb5.2
LSA Lhasa 43.44 280 *eP* **P 02 38 15.5 +1.1**
comp=Z,65nm,1.4s,mb5.2
KSM Kuching 43.64 230 *eP* **P 02 38 15.1 -1.1**
SHL Shillong 44.26 274 *eP* **P 02 38 19.7 -1.3**
NVS Novosibirsk 46.00 316 *eP* **P 02 38 33.5 -1.0**
NVS *eS* **S** **02 45 22.7 +6.3**
NVS pmax pmax
comp=N,20nm,1.4s
NVS pmax pmax
comp=E,88nm,1.4s
NVS pmax pmax
comp=Z,89nm,1.4s,mb5.5
NVS smax
comp=N,22nm,1.6s
NVS smax
comp=E,29nm,1.7s
KAKA Kakadu 46.73 193 *eP* **P 02 38 43.7 +2.9**
comp=E,21nm,0.7s,mb5.2
MKAR Makanchi Array 46.80 305 P **P 02 38 41.2 +0.3**
comp=E,22nm,0.8s,mb5.1,baz=90,slow=9.7,SNR=142
SVW2 Sparrevohn 48.07 35 *eP* **P 02 38 50.5 -0.2**
TTA Tatalina 48.09 33 *eP* **P 02 38 50.2 -0.6**
JIRN Jiri 48.22 279 *eP* **P 02 38 52.6 +0.2**
comp=E,568nm,1.4s
GUN Gumba 48.39 279 *eP* **P 02 38 53.7 +0.1**
comp=E,204nm,0.9s,mb6.2
KURK Kurchatov 48.87 311 *eP* **P 02 38 56.7 -0.3**
KURK pmax pmax
comp=Z,192nm,0.8s,mb6.2
KURK Kurchatov 48.87 311 *eP* **P 02 38 56.7 -0.4**
comp=Z,192nm,0.8s,mb6.2
PKI Pulchoki 48.90 279 *eP* **P 02 38 57.3 -0.3**
comp=Z,179nm,1.4s,mb5.9
KKN Kakani 48.93 280 *eP* **P 02 38 57.5 -0.3**
comp=Z,95nm,0.8s,mb5.9
DMN Daman 49.14 279 *eP* **P 02 38 59.1 -0.3**
comp=Z,115nm,1.1s,mb5.8
GKN Gorkha 49.38 280 *eP* **P 02 39 01.0 -0.3**
comp=Z,210nm,1.1s,mb6.1
RSO Redoubt South 49.40 36 *eP* **P 02 39 00.5 -0.5**
IMA Indian Mountai 49.54 29 *eP* **P 02 39 02.5 +0.5**
IMA pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
IMA Indian Mountai 49.54 29 *eP* **P 02 39 02.5 +0.5**
comp=Z,7.4nm,1.0s,mb4.7
SPU Mount Spurr 49.78 35 *eP* **P 02 39 03.5 -0.4**
BOK Bokaro 49.97 274 *eP* **P 02 39 05.1 -0.7**
BOK AMb AMB 02 39 06.4
comp=Z,150nm,0.7s,mb6.1
KOLN Koldanda 50.32 280 *eP* **P 02 39 08.2 -0.3**
comp=Z,92nm,1.0s,mb5.8
SLKM Skilak Lake 50.66 36 *eP* **P 02 39 08.9 -1.7**
PMR Palmer 51.20 35 *eP* **P 02 39 12.9 -1.8**
PMR pmax pmax
comp=Z,51nm,1.1s,mb5.4
PMR Palmer 51.20 35 *eP* **P 02 39 12.9 -1.8**
comp=Z,51nm,1.1s,mb5.4
ULHL Ulahol 51.82 300 P **P 02 39 20.1 +0.5**
SNR=9.9
TKM2 Tokmak 2 52.13 301 P **P 02 39 22.8 +0.9**
SNR=38
ILAR Eielson Array 52.26 31 P **P 02 39 20.8 -1.8**
comp=Z,17nm,0.9s,mb5.0,baz=267,slow=5.9,SNR=133
PTH Pithoragarh 52.45 284 *eP* **P 02 39 23.5 -1.0**
LGTI Lohaghat 52.46 284 *eP* **P 02 39 25.0 +0.4**
KZA Kyzart 52.58 300 P **P 02 39 26.6 +1.3**
SNR=9.0
KBK Karagaybulak 52.66 301 P **P 02 39 26.7 +0.8**
SNR=16
KSH Kashi 52.69 297 *i* PR 02 39 27.5
KSH *eA*P pP 02 39 37.3 +0.8
KSH *ePCP* PcP 02 40 38.3 +2.6
KSH *ePP* PP 02 41 28.3 +1.6
KSH *ePCS* 02 44 34.0
KSH *eS* **S** **02 46 50.3 +0.4**
KSH *eXS* 02 47 09.0
KSH AMB AMB
comp=Z,50nm,0.4s,mb5.8
KSH AMB AMB
comp=Z,580nm,4.3s
KSH LR LR
comp=N,680nm,5.5s
KSH LR LR
comp=E,890nm,6.6s
CHMS Chumysh 52.72 302 P **P 02 39 26.9 +0.6**
SNR=8.8
FRU Bishkek 52.85 301 *eP* **P 02 39 27.5 +0.2**
FRU pmax pmax
comp=Z,130nm,1.9s,mb5.5
AAK Ala-Archa 52.99 301 P **P 02 39 28.6 +0.3**
SNR=10
AAK Ala-Archa 52.99 301 P **P 02 39 28.5 +0.2**
AAK pmax pmax
comp=Z,12nm,0.7s,mb4.9
AAK Ala-Archa 52.99 301 *eP* **P 02 39 27.5 -0.9**
comp=Z,21nm,0.8s,mb5.1
VOSK Vostochnaya 53.36 314 *i* P **P 02 39 30.3 -0.7**
WRAB Tennant Creek 53.49 189 *eP* **P 02 39 30.2 -2.2**
WRAB Tennant Creek 53.49 189 *eP* **P 02 39 29.5 -2.9**
comp=Z,34nm,0.8s,mb5.3
WB2 Warramunga Arr 53.50 189 *eP* **P 02 39 31.0 -1.4**
WRA Warramunga Arr 53.50 189 P **P 02 39 29.9 -2.5**
comp=Z,4.9nm,0.4s,mb4.8,baz=7.6,slow=7.7,SNR=24
FITZ Fitzroy Crossi 53.55 200 *eP* **P 02 39 31.6 -1.3**
comp=Z,18nm,0.9s,mb5.0
FITZ *e* pP 02 39 42.3 -0.9
BVA0 Borovoye Array 53.67 315 *i* P **P 02 39 32.5 -0.8**
BVA0 pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
AML Almayashu 53.69 301 P **P 02 39 34.4 +0.9**
SNR=58
BRVK Borovoye 53.73 315 *eP* **P 02 39 33.1 -0.6**
BRVK pmax pmax
comp=Z,30nm,1.2s,mb5.1
BRVK Borovoye 53.73 315 *eP* **P 02 39 33.1 -0.6**
comp=Z,30nm,1.2s,mb5.1
SDNR Sundarnagar 54.38 287 *eP* **P 02 39 37.6 -1.2**
THN Thein Dam 55.05 289 *eP* **P 02 39 41.2 -2.5**
KKAR Karatay Array 55.70 303 *i* P **P 02 39 47.9 -0.3**
BHPL Bhopal 57.24 278 *eP* **P 02 39 58.2 -1.3**
BHPL AMb AMB 02 40 04.7
comp=Z,107nm,2.2s,mb5.5
INK Inuvik 57.37 26 *eP* **P 02 39 58.3 -1.5**
INK pmax pmax
comp=Z,34nm,1.1s
INK Inuvik 57.37 26 P **P 02 39 58.0 -1.9**
comp=Z,22nm,0.9s,mb5.2,baz=279,slow=7.0,SNR=33
INK Inuvik 57.37 26 *eP* **P 02 39 58.3 -1.5**
comp=Z,34nm,1.1s,mb5.3
AJM Ajmer 58.17 283 *eP* **P 02 40 05.2 -0.8**
AJM AMb AMB 02 40 11.6
comp=Z,61nm,1.0s,mb5.6
MBWA Marble Bar 58.30 205 *eP* **P 02 40 05.4 -1.6**
comp=Z,16nm,0.9s,mb5.0
HYB Hyderabad 58.95 271 *eP* **P 02 40 10.0 -1.5**
comp=Z,100nm,1.0s,mb5.8
HYB Hyderabad 58.95 271 *i* P **P 02 40 10.0 -1.5**
comp=Z,100nm,1.0s,mb5.8
ARU Arti 59.67 320 ⇓*iP* **P 02 40 14.9 -1.0**
ARU *e* 02 43 48.5
ARU *eS* **S** **02 48 25.5 +3.2**
ARU *eSS* SS 02 52 23.7 +4.3
ARU pmax pmax
comp=Z,71nm,1.5s,mb5.5
ARU Arti 59.67 320 *eP* **P 02 40 14.7 -1.2**
comp=Z,86nm,1.2s,mb5.7
AB31 Akbulak array 60.95 312 *i* P **P 02 40 23.8 -1.0**
DLBC Dease Lake 61.12 37 *eP* **P 02 40 26.0 +0.2**
POO Poona 62.35 275 *eP* **P 02 40 33.6 -0.9**
POO AMb AMB 02 40 36.3
comp=Z,274nm,1.4s,mb6.2
KAD Karad 62.65 273 *eP* **P 02 40 36.0 -0.6**
AFI Afiamalu 64.19 129 LR LR 03 03 38.2
comp=Z,275nm,20.9s,MS4.4,baz=280,slow=31
KBS Kingsbay 64.44 351 *eP* **P 02 40 47.8 +0.4**
STKA Stephens Creek 64.84 181 *eP* **P 02 40 49.9 -0.9**
comp=Z,12nm,1.0s,mb4.9
STKA *e* pP 02 41 00.3 -1.2
STKA Stephens Creek 64.84 181 P **P 02 40 49.1 -1.7**
comp=Z,12nm,0.9s,mb4.9,baz=355,slow=7.9,SNR=13
LVZ Lovozero 65.81 337 *eP* **P 02 40 55.4 -1.0**
LVZ pmax pmax
comp=Z,31nm,1.2s,mb5.2
LVZ pmax pmax
comp=N,6.0nm,0.8s
LVZ pmax pmax
comp=E,7.0nm,1.2s
RES Resolute Bay 66.01 14 *eP* **P 02 40 57.0 -0.6**
RES pmax pmax
comp=Z,61nm,1.1s,mb5.5
RES Resolute Bay 66.01 14 *eP* **P 02 40 57.0 -0.6**
comp=Z,61nm,1.1s,mb5.5
APA Apatity 66.39 337 ⇑*iP* **P 02 40 59.5 -0.5**
APA pmax pmax
comp=Z,20nm,0.7s,mb5.3
YKW3 Yellowknife Ar 66.62 29 *eP* **P 02 41 00.1 -1.5**
YKA Yellowknife Ar 66.66 30 P **P 02 41 00.4 -1.3**
comp=Z,12nm,0.9s,mb4.9,baz=295,slow=6.2,SNR=53
YKA Yellowknife Ar 66.66 30 P **P 02 41 00.4 -1.4**
KEV Kevo 67.18 340 *ep* **P 02 41 03.6 -1.4**
comp=Z,15nm,0.9s,mb5.0
KEV Kevo 67.18 340 *eP* **P 02 41 03.6 -1.4**
KEV pmax pmax
comp=Z,15nm,0.9s,mb5.0
ARCES ARCESS Array B 67.74 340 P **P 02 41 08.2 -0.3**
comp=Z,14nm,0.8s,mb5.0,baz=51,slow=7.8,SNR=47
ARE0 ARCESS Array S 67.74 340 *eP* **P 02 41 08.0 -0.5**
CMW Cultus Mountai 69.28 45 P **P 02 41 19.0 +0.6**
JCW Jim Creek 69.50 45 P **P 02 41 20.0 +0.3**
MOS Moscow 70.70 325 *eP* **P 02 41 25.3 -1.6**
MOS *e* 02 41 39.5
MOS *e* 02 44 01.8
MOS *e*PPP PPP 02 45 50.6 +4.1
MOS pmax pmax
comp=Z,200nm,2.0s,mb5.7
MOS pmax pmax
comp=Z,109nm,1.7s,mb5.5
EBG Ellensburg 70.92 46 P **P 02 41 28.7 +0.3**
OBN Obninsk 71.54 324*k* iP **P 02 41 31.4 -0.6**
OBN *i* 02 41 52.6
OBN *e* 02 44 16.9
OBN *e*PPP PPP 02 46 01.1 +6.8
OBN pmax pmax
comp=Z,98nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.7
OBN Obninsk 71.54 324 *eP* **P 02 41 31.4 -0.6**
comp=Z,160nm,1.8s,mb5.7
EDM Edmonton 71.81 38 *eP* **P 02 41 32.0 -1.6**
VOR Voronezh 71.96 320 *eP* **P 02 41 33.5 -1.0**
VOR pmax pmax
comp=Z,80nm,1.2s,mb5.5
VOR pmax pmax
comp=E,70nm,1.3s
KAF Kangasniemi 71.96 334 *ep* **P 02 41 32.7 -1.6**
comp=E,26nm,0.9s,mb5.2,baz=51,slow=5.7
KAF Kangasniemi 71.96 334 *eP* **P 02 41 32.7 -1.6**
KAF pmax pmax
comp=Z,26nm,0.9s,mb5.2
VIPM Ingram Point 72.04 48 P **P 02 41 35.4 +0.3**
NEW Newport 72.28 44 *eP* **P 02 41 36.2 -0.3**
NEW pmax pmax
comp=Z,13nm,1.0s
NEW Newport 72.28 44 *eP* **P 02 41 36.2 -0.3**
comp=Z,13nm,1.0s,mb4.8
FINES FINESS Array B 72.46 333 P **P 02 41 37.1 -0.2**
comp=Z,27nm,0.9s,mb5.2,baz=104,slow=7.9,SNR=66
WDC Whiskeytown Da 72.71 53 *eP* **P 02 41 38.8 -0.4**
WDC pmax pmax
comp=Z,15nm,1.2s,mb4.8
WDC Whiskeytown Da 72.71 53 *eP* **P 02 41 38.8 -0.4**
comp=Z,15nm,1.2s,mb4.8
LTIM Timbered Crate 73.11 52 P **P 02 41 41.8 +0.3**
GOF Gofitskoye 73.16 313 ⇑*iP* **P 02 41 41.6 -0.2**
GOF *i* S S 02 51 10.1 +4.2
GOF pmax pmax
comp=Z,44nm,1.0s,mb5.3
GOF smax
comp=E,54nm,1.0s
LBCM Butte Creek Ri 73.37 52 P **P 02 41 43.0 -0.1**
MOD Modoc 73.53 51 *eP* **P 02 41 42.6 -1.3**
WALA Waterton Lakes 73.70 42 P **P 02 41 44.7 -0.1**
comp=E,12nm,0.7s,mb4.9
TI2 Plekhanov 73.75 309 *eP* **P 02 41 42.0 -3.3**
ZEI Tsey 73.78 311 *eP* **P 02 41 43.2 -2.2**
ZEI *i* *PP pP 02 41 51.5 -4.6
ZEI pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BMO Blue Mountains 73.91 47 *eP* **P 02 41 45.9 -0.3**
KIV Kislovodsk 73.93 312*d* iP **P 02 41 47.2 +0.9**
KIV pmax pmax
comp=Z,69nm,1.5s,mb5.4
KIV Kislovodsk 73.93 312 *eP* **P 02 41 46.3 0.0**
comp=Z,36nm,0.9s,mb5.3
VSU Vasula 74.05 330 *i* P **P 02 41 46.6 0.0**
VSU Vasula 74.05 330 *i* P **P 02 41 46.6 0.0**
ONI Oni 74.16 311 P **P 02 41 43.6 -4.0**
WVOR Wild Horse Val 74.33 49 *eP* **P 02 41 48.4 -0.2**
WVOR pmax pmax
comp=Z,22nm,1.4s,mb4.9
WVOR Wild Horse Val 74.33 49 *eP* **P 02 41 48.4 -0.2**
comp=Z,22nm,1.4s,mb4.9
SUMG Summit 74.40 0 *eP* **P 02 41 49.4 +1.0**
comp=Z,12nm,0.8s,mb4.9
BEKR Beckwourth 74.51 52 *eP* **P 02 41 49.1 -0.6**
comp=Z,9.1nm,1.0s,mb4.7
GNI Garni 74.56 308*d* iP **P 02 41 51.2 +1.2**
GNI pmax pmax
comp=Z,44nm,1.4s
GNI Garni 74.56 308 *eP* **P 02 41 50.8 +0.8**
comp=Z,38nm,1.1s,mb5.2
PAHR Pah Rah Range 75.24 52 *eP* **P 02 41 56.1 +2.1**
comp=Z,105nm,0.7s,mb5.9
CMB Columbia Colle 75.43 54 *eP* **P 02 41 54.9 -0.1**
CMB pmax pmax
comp=Z,27nm,1.4s,mb5.0
CMB Columbia Colle 75.43 54 *eP* **P 02 41 54.9 -0.2**
comp=Z,27nm,1.4s,mb5.0
SOC Sochi 75.96 313*d* iP **P 02 41 57.8 -0.1**
SOC *e* 02 44 52.4
SOC *e*S S 02 51 37.5 +0.5
SOC *e*SS SS 02 56 30.4 -2.5
SOC pmax pmax
comp=Z,30nm,0.8s,mb5.3
SOC pmax pmax
comp=N,16nm,0.6s
SOC pmax pmax
comp=E,5.0nm,0.8s
SOC MLR MLR
comp=N,129nm,16.0s,MS4.4
SOC MLR MLR
comp=E,101nm,16.0s,MS4.4
SOC MLR MLR
comp=Z,203nm,16.0s,MS4.5
MNK Minsk 76.03 327 *eP* **P 02 41 53.0 -5.1**
HRY Holter Researc 76.15 43 *eP* **P 02 41 59.3 +0.3**
BMN Battle Mountai 76.28 51 *eP* **P 02 42 00.1 +0.3**
BMN pmax pmax
comp=Z,22nm,1.4s,mb4.9
BMN Battle Mountai 76.28 51 *eP* **P 02 42 00.1 +0.2**
comp=Z,22nm,1.4s,mb4.9
TVAN Van 76.28 307 *i* P **P 02 41 58.6 -1.2**
HLID Hailey 76.36 47 *eP* **P 02 41 59.8 -0.4**
FFC Flin Flon 76.43 33 *eP* **P 02 41 59.5 -0.8**
FFC pmax pmax
comp=Z,23nm,1.0s,mb5.1
FFC Flin Flon 76.43 33 *eP* **P 02 41 59.5 -0.8**
comp=Z,23nm,1.0s,mb5.1
HAKT HAKKARI 76.58 306 *i* P **P 02 42 01.3 -0.3**
NVAR Mina Array Bea 76.62 53 P **P 02 42 01.6 -0.2**
comp=Z,5.4nm,0.8s,mb4.5,baz=290,slow=3.9,SNR=39
ANN Anapa 76.67 315 *eP* **P 02 42 01.1 -0.8**
ANN pmax pmax
comp=Z,56nm,0.9s,mb5.5
BOZ Bozeman (W) 76.86 44 *eP* **P 02 42 02.7 -0.3**
ERZM Erzurum 76.89 309 *i* P **P 02 42 05.0 +1.7**
ELK Elko 77.38 49 *eP* **P 02 42 05.9 -0.1**
ELK pmax pmax
comp=Z,6.0nm,1.1s
ELK Elko 77.38 49 *eP* **P 02 42 05.9 -0.1**
comp=Z,5.8nm,1.1s,mb4.4
QLMT Earthquake Lak 77.44 44 *eP* **P 02 42 07.0 +0.7**
AKASG Malin Array Be 77.71 323 P **P 02 42 07.0 -0.6**
comp=Z,12nm,0.8s,mb4.9,baz=45,slow=5.8,SNR=78
YMR Madison River 77.81 44 *eP* **P 02 42 08.7 +0.4**
NB2 NORSAR Subarra 77.91 338 P **P 02 42 08.2 -0.3**
comp=Z,54nm,1.0s,mb5.4,baz=40,slow=5.6
NB2 NORSAR Subarra 77.91 338 P **P 02 42 08.2 -0.3**
NB2 pmax pmax
comp=Z,54nm,1.0s,mb5.4
NB2 NORSAR Subarra 77.91 338 P **P 02 42 08.2 -0.3**
baz=40,slow=5.6
NOA NORSAR Array B 77.91 338 P **P 02 42 08.4 -0.1**
comp=Z,28nm,0.8s,mb5.2,baz=39,slow=5.6,SNR=98
GCMT Greycliff 77.91 43 *eP* **P 02 42 09.0 +0.2**
YNR Norris Junctio 77.94 44 *eP* **P 02 42 10.7 +1.7**
YFT Old Faithful 78.00 44 *eP* **P 02 42 09.5 +0.1**
BEST Besiri 78.04 307 *i* P **P 02 42 10.6 +0.9**
MIB Mutribah 78.06 298 *eP* **P 02 42 09.7 -0.3**
MIB AMb AMB 02 42 10.7
comp=Z,97nm,0.8s,mb5.8
KBD Kabd 78.12 297 *eP* **P 02 42 10.2 -0.2**
KBD AMb AMB 02 42 12.6
comp=Z,348nm,1.5s,mb6.1
NAO01 NORSAR Array S 78.16 338 *eP* **P 02 42 09.8 -0.1**
comp=Z,33nm,1.0s,mb5.2
QRN Al-Qurain 78.17 297 *eP* **P 02 42 10.8 +0.2**
QRN AMb AMB 02 42 15.0
comp=Z,123nm,0.9s,mb5.8
LKWY Lake 78.19 44 *eP* **P 02 42 13.0 +2.6**
LKWY pmax pmax
comp=Z,22nm,1.2s,mb5.0
LKWY Lake 78.19 44 *eP* **P 02 42 13.0 +2.6**
comp=Z,22nm,1.2s,mb5.0
IMW Indian Meadow 78.26 45 *eP* **P 02 42 11.9 +1.1**
RRI2 Red Ridge 78.35 46 *eP* **P 02 42 12.4 +1.1**
comp=Z,45nm,1.7s,mb5.1
RDF Al-Radifah 78.36 297 *eP* **P 02 42 12.3 +0.6**
RDF AMb AMB 02 42 13.9
comp=Z,161nm,1.0s,mb5.9
NAY Al-Naaiem 78.42 297 *eP* **P 02 42 12.6 +0.6**
NAY AMb AMB 02 42 13.6
comp=Z,96nm,1.3s,mb5.6
SUW Suwalki 78.43 328‖ *eP* **P 02 42 11.3 -0.2**
SUW Suwalki 78.43 328‖ *eP* **P 02 42 11.3 -0.2**
MOOW Moose Ponds 78.46 45 *eP* **P 02 42 12.9 +1.0**
comp=Z,13nm,1.4s,mb4.7
TPAW Teton Pass 78.49 45 *eP* **P 02 42 13.3 +1.3**
comp=Z,24nm,1.3s,mb5.0
SIM Simferopol' 78.52 317*d* iP **P 02 42 12.4 +0.2**
SIM *e* pP 02 42 23.0 0.0
SIM pmax pmax
comp=Z,28nm,0.8s,mb5.2
REDW Red Top Meadow 78.62 45 *eP* **P 02 42 12.5 -0.3**
comp=Z,23nm,1.3s,mb5.0
LOHW Long Hollow 78.62 45 *eP* **P 02 42 13.2 +0.4**
MARD Mardin 78.68 307 *i* P **P 02 42 14.2 +0.9**
HWUT Hardware Ranch 79.20 47 *eP* **P 02 42 15.3 -0.7**
comp=Z,12nm,1.0s,mb4.8
DGMT Dagmar 79.28 38 *eP* **P 02 42 16.3 0.0**
comp=Z,53nm,1.2s,mb5.3
LAO LASA Array 79.30 41 *eP* **P 02 42 16.9 +0.5**
comp=Z,43nm,1.1s,mb5.3
KONO Kongsberg 79.49 338 *eP* **P 02 42 17.2 0.0**
KONO pmax pmax
comp=Z,27nm,1.0s,mb5.1
KONO Kongsberg 79.49 338 *eP* **P 02 42 17.2 0.0**
comp=Z,27nm,1.0s,mb5.1
TCUT Toone Canyon 79.58 48 *eP* **P 02 42 18.7 +0.7**
PDAR Pinedale Array 79.74 45 P **P 02 42 18.9 +0.1**
comp=Z,1.8nm,0.7s,mb4.1,baz=287,slow=2.0,SNR=14
JLU Jordanelle 79.85 48 *eP* **P 02 42 20.2 +0.7**
MPU Maple Canyon 80.07 49 *eP* **P 02 42 21.3 +0.6**
DAU Daniels Canyon 80.08 48 *eP* **P 02 42 21.7 +1.0**
BOYT Boyabat 80.12 313 *i* P **P 02 42 21.5 +0.6**
NEN Nelson 80.46 54 *eP* **P 02 42 22.5 -0.3**
PFO Pinyon Flat Ob 80.49 56 *eP* **P 02 42 23.0 -0.1**
PFO pmax pmax
comp=Z,12nm,1.1s,mb4.7
PFO Pinyon Flat Ob 80.49 56 *eP* **P 02 42 23.0 -0.1**
comp=Z,12nm,1.1s,mb4.7
MSU Marysvale 80.59 50 *eP* **P 02 42 24.3 +0.8**
WAR Warsaw 80.59 328 *eP* **P 02 42 24.2 +1.0**
LDFC Landfair 80.60 54 *eP* **P 02 42 23.4 -0.2**
CTKT Corum 80.65 313 *i* P **P 02 42 24.6 +0.8**
IAS Iasi 80.76 321 P **P 02 42 24.6 +0.4**
GZT Gaziantep 80.78 309 *i* P **P 02 42 25.9 +1.4**
BAR Barrett 80.85 57 *eP* **P 02 42 24.2 -0.8**
BALT Daday 80.97 314 *i* P **P 02 42 26.2 +0.8**
SRU San Rafael 81.29 49 *eP* **P 02 42 27.0 -0.2**
GKP Gorka Klasztor 81.50 330‖ *eP* **P 02 42 28.0 +0.1**
GKP Gorka Klasztor 81.50 330‖ *eP* **P 02 42 28.0 +0.1**
CDAG Cicekdag 81.50 312 *i* P **P 02 42 28.8 +0.5**
ELDT Eldivan 81.57 313 *i* P **P 02 42 29.4 +0.8**
KWP Kalwaria 81.60 325‖ *eP* **P 02 42 29.4 +0.9**
KWP Kalwaria 81.60 325‖ *eP* **P 02 42 29.4 +0.8**
AVNT Avonos 81.70 311 *i* P **P 02 42 29.6 +0.4**
BURAR Bucovina Array 81.70 323 ‖P **P 02 42 30.1 +1.0**
BURAR Bucovina Array 81.70 323 ‖P **P 02 42 30.1 +1.0**
CFR Carcaliu 81.74 319 ‖P **P 02 42 29.6 +0.2**
RWWY Rawlins 81.78 45 *eP* **P 02 42 29.6 -0.1**
comp=Z,23nm,1.1s,mb5.0
RWWY *e*pP pP 02 42 40.9 +0.4
BR131 Keskin Array S 81.89 312 *eP* **P 02 42 30.9 +0.6**
comp=Z,10.0nm,0.6s,mb4.8
BRTR Keskin Array B 81.89 312 P **P 02 42 30.9 +0.6**
comp=Z,11nm,0.7s,mb4.9,baz=107,slow=4.1,SNR=49
BRTR PP PP 02 45 41.3 +1.4
comp=Z,3.4nm,0.9s,baz=80,slow=7.5,SNR=6.5
TIRR Tirgusor 82.04 319 ⇑P **P 02 42 31.7 +0.7**
VRI Vrincioaia 82.06 320 ⇑P **P 02 42 32.4 +1.4**
RSSD Black Hills 82.10 42 *eP* **P 02 42 31.2 0.0**
RSSD pmax pmax
comp=Z,17nm,1.4s,mb4.8
RSSD Black Hills 82.10 42 *eP* **P 02 42 31.2 -0.1**
comp=Z,17nm,1.4s,mb4.8
COBT Iskenderun 82.12 309 *i* P **P 02 42 33.0 +1.5**
ULM Lac du Bonnet 82.19 33 P **P 02 42 31.2 -0.4**
comp=Z,15nm,1.3s,mb4.8,baz=341,slow=4.5,SNR=4.9
KOLS Kolonicke sedl 82.28 325 *eP* **P 02 42 32.4 +0.3**
KOLS *e*PP PP 02 45 42.4 -0.4
ANTO Ankara 82.33 313 P **P 02 42 33.8 +1.3**

SGKT Sivrigoynuk 82.35 314 *i* P **P** **02 42 32.7 +0.1**
STHS Stebnicka Huta 82.44 326 *i* P **P** **02 42 33.6 +0.7**
OJC Ojcow 82.55 327 *eP* P **P** **02 42 34.1 +0.7**
CRVS Cervenica-Dubn 82.69 325 *eP* P **P** **02 42 35.4 +1.2**
MLR Muntele Rosu 82.72 321 P P **02 42 35.1 +0.7**
comp=Z,13nm,1.0s,mb4.9,baz=350,slow=4.8,SNR=20
MLR Muntele Rosu 82.72 321 ⇓P **P** **02 42 35.3 +0.9**
MLR Muntele Rosu 82.72 321 ⇓P **P** **02 42 35.3 +0.9**
NIE Niedzica 82.88 326 ⇓*iP* **P** **02 42 36.2 +1.1**
PHWY Pilot Hill 83.05 45 *eP* **P** **02 42 36.3 +0.1**
VOIR 83.23 321 ⇑P **P** **02 42 38.2 +1.2**
RAC Raciborz 83.38 326 *eP* **P** **02 42 38.7 +1.1**
KECS Kecovo 83.45 325 *eP* **P** **02 42 38.6 +0.6**
MEST Erdemli 83.45 310 *iP* **P** **02 42 38.7 +0.4**
SMCO Snowmass 83.46 47 *eP* **P** **02 42 39.0 +0.7**
SMCO *ep*P pP 02 42 50.7 +1.5
HILS Ha'il 83.46 298 P **P** **02 42 39.3 +0.8**
DRGR 83.52 323 P **P** **02 42 39.6 +1.2**
DRGR 83.52 323 ⇓P **P** **02 42 39.4 +0.9**
DRGR 83.52 323 ⇓P **P** **02 42 39.3 +0.9**
KDHN Kadinhani 83.57 312 *iP* **P** **02 42 39.2 +0.4**
OKC Ostrava-Krasne 83.57 327 ⇓*iP* **P** **02 42 39.3 +0.7**
OKC *ep*P pP 02 42 49.8 +0.3
KSP Ksiaz 83.66 329 *eP* **P** **02 42 39.4 +0.4**
KSP *ep*P pP 02 42 51.0 +1.1
KSP Ksiaz 83.66 329⇓*eP* **P** **02 42 39.9 +0.9**
BSEG Bad Segeberg 83.72 334 *eP* **P** **02 42 39.1 -0.1**
BSEG *e* 02 45 53.5
ESKT Eskisehir 83.73 314 *iP* **P** **02 42 39.7 0.0**
MORC Moravsky Berou 83.89 328 *eP* **P** **02 42 40.7 +0.5**
MORC *e**PP pP 02 42 52.2 +1.1
MORC pmax pmax
comp=Z,25nm,1.1s,mb5.3
MORC Moravsky Berou 83.89 328 *eP* **P** **02 42 40.6 +0.5**
comp=Z,25nm,1.1s,mb5.2
MORC *ep*P pP 02 42 52.2 +1.1
DPC Dobruska-Polom 84.01 329⇓*iP* **P** **02 42 41.8 +1.0**
DPC *ep*P pP 02 42 53.2 +1.5
DPC *eP*P PP 02 45 53.3 -3.3
UPC Upice 84.03 329 *eP* **P** **02 42 41.6 +0.7**
UPC *ep*P pP 02 42 52.0 +0.2
UPC *eP*P PP 02 45 54.4 -2.3
UPC Upice 84.03 329⇓*eP* **P** **02 42 41.6 +0.7**
UPC *ep*P pP 02 42 52.0 +0.2
UPC *eP*P PP 02 45 54.4 -2.3
PSZ Piszkesteto 84.13 325 P **P** **02 42 42.7 +1.3**
PSZ Piszkesteto 84.13 325⇓*eP* **P** **02 42 42.5 +1.1**
VYHS Vyhne 84.22 326 *iP* **P** **02 42 42.9 +1.0**
VYHS *ep*P pP 02 42 53.6 +0.8
VYHS *eP*P PP 02 45 55.3 -3.0
ASF Jabal al Asfar 84.22 305 P **P** **02 42 43.6 +1.2**
comp=Z,35nm,0.9s,mb5.5,baz=280,slow=3.4,SNR=51
ASF PP PP 02 46 01.8 +3.1
comp=Z,4.6nm,1.0s,baz=64,slow=2.7,SNR=4.5
KOLL Kolacno 84.36 326 *iP* **P** **02 42 43.4 +0.8**
KOLL *ep*P pP 02 42 55.5 +2.0
ULDT Uludag 84.37 315 *iP* **P** **02 42 43.0 +0.2**
HRI Mount Hermon 84.38 306 P **P** **02 42 44.2 +1.1**
QURS Qurayyt al Mil 84.39 304 P **P** **02 42 44.5 +1.3**
KSDI Kefar Szold 84.47 306 P **P** **02 42 44.5 +1.0**
AFFS 'Afif 84.48 295 P **P** **02 42 44.4 +0.6**
KSHT Keshet 84.49 306 P **P** **02 42 44.7 +1.0**
PVCC Panska Ves 84.63 330⇓*iP* **P** **02 42 44.8 +0.9**
PVCC *ep*P pP 02 42 54.5 -0.3
PVCC *eP*P PP 02 45 57.3 -4.2
BRG Berggiesshubel 84.64 330 *iP* **P** **02 42 44.4 +0.5**
BRG *e* pP 02 42 55.1 +0.3
BRG pmax pmax
comp=Z,25nm,0.9s,mb5.3
BRG MLR MLR
comp=Z,300nm,10.9s,MS4.9
BRG Berggiesshubel 84.64 330 *iP* **P** **02 42 44.4 +0.5**
comp=Z,25nm,0.9s,mb5.3
BRG *e* pP 02 42 55.1 +0.2
BRG LR LR
comp=Z,300nm,10.9s,MS4.9
VRAC Vranov 84.66 328 P **P** **02 42 45.3 +1.2**
CLL Collm 84.70 331⇓*iP* **P** **02 42 44.4 +0.2**
CLL *e**PP pP 02 42 55.0 -0.1
CLL pmax pmax
comp=Z,68nm,1.1s,mb5.7
CLL Collm 84.70 331⇓*iP* **P** **02 42 44.4 +0.2**
comp=Z,68nm,1.1s,mb5.7
CLL *ep*P pP 02 42 55.0 -0.1
CLL Collm 84.70 331 ⇓P **P** **02 42 44.4 +0.2**
comp=Z,logA/T=1.8,mb5.7
CLL *e**PP pP 02 42 55.0 -0.1
CLL *eP*P PP 02 46 01.0 -1.0
CLL *eS* S 02 53 06.0 -1.8
GDZ Gediz 84.83 314 *iP* **P** **02 42 45.6 +0.4**
SMOL Smolenice 84.86 327 *iP* **P** **02 42 46.2 +1.1**
CSS Prodhromos 84.96 309 *eP* **P** **02 42 46.0 +0.1**
comp=Z,25nm,0.9s,mb5.3
TKTP Tekketepe 84.97 313 *iP* **P** **02 42 45.6 -0.4**
SRO1 Iza 85.02 326 *eP* **P** **02 42 46.9 +1.0**
PRU Pruhonice 85.05 329 *eP* **P** **02 42 46.3 +0.3**
PRU *ep*P pP 02 42 57.5 +0.6
PRU *eP*P PP 02 46 01.7 -3.2
PRU Pruhonice 85.05 329⇓*eP* **P** **02 42 46.3 +0.3**
PRU *ep*P pP 02 42 57.5 +0.6
PRU *eP*P PP 02 46 01.7 -3.2
MMLI Mount Malkishu 85.08 306 P **P** **02 42 47.6 +1.0**
TUC Tucson 85.13 54 *eP* **P** **02 42 47.4 +0.5**
TUC pmax pmax
comp=Z,8.0nm,1.4s,mb4.7
TUC Tucson 85.13 54 *eP* **P** **02 42 47.4 +0.5**
comp=Z,8.1nm,1.4s,mb4.7
PKS6 Bocsa 85.22 324 *eP* **P** **02 42 47.7 +0.8**
ZST Bratislava 85.23 327 *eP* **P** **02 42 48.2 +1.2**
ZST *eP*P PP 02 46 03.7 -2.7
KAMS Al Khamasin 85.26 291 P **P** **02 42 47.9 +0.1**
OFRI 'Ofer 85.26 306 P **P** **02 42 48.2 +0.7**
CLZ Clausthal 85.33 332 *eP* **P** **02 42 47.7 +0.3**
CLZ pmax pmax
comp=Z,67nm,1.3s,mb5.6
CLZ Clausthal 85.33 332 *eP* **P** **02 42 47.7 +0.3**
comp=Z,67nm,1.3s,mb5.6
SLTI Sal'it 85.45 306 P **P** **02 42 49.1 +0.7**
NKC Novy Kostel 85.75 330⇓*iP* **P** **02 42 50.0 +0.6**
NKC *ep*P pP 02 43 00.5 +0.2
MOX Moxa 85.77 331 *eP* **P** **02 42 49.8 +0.3**
MOX *e**PP pP 02 42 58.8 -1.7
MOX *e* 02 46 09.5
MOX pmax pmax
comp=Z,38nm,1.5s,mb5.4
MOX Moxa 85.77 331 *eP* **P** **02 42 49.8 +0.3**
comp=Z,38nm,1.5s,mb5.4
MOX *ep*P pP 02 42 58.8 -1.7
MOX *eP*P PP 02 46 09.5 -1.1
MOX Moxa 85.77 331 *iP* **P** **02 42 49.8 +0.3**
comp=Z,logA/T=1.4,mb5.4
MOX pP pP 02 42 59.0 -1.5
MOX PP PP 02 46 10.0 -0.6
RZN Rozhen 85.90 318 *eP* **P** **02 42 51.0 +0.6**
WIT Witteveen 85.94 335 *eP* **P** **02 42 51.4 +1.1**
comp=Z,206nm,1.1s,mb6.2
WIT ⇓*eP* 02 52 00.2
comp=Z,384nm,1.4s
PKSM Moragy 85.94 325⇓*eP* **P** **02 42 50.3 -0.2**
KHC Kasperske Hory 86.11 329⇓*eP* **P** **02 42 51.5 +0.3**
KHC *ep*P pP 02 43 01.6 -0.5
KHC *eP*P PP 02 46 10.7 -2.8
VTS Vitosha 86.12 320 P **P** **02 42 52.8 +1.3**
VTS Vitosha 86.12 320 P **P** **02 42 42.6 -8.9**
KBRS Khaybar 86.23 298 P **P** **02 42 53.3 +0.9**
GEC2 GERESS Array S 86.27 329 *eP* **P** **02 42 51.7 -0.3**
GEC2 *e* 02 46 14.0
GEC2 pmax pmax
comp=Z,37nm,1.8s,mb5.3
GEC2 GERESS Array S 86.27 329 *eP* **P** **02 42 51.7 -0.3**
comp=Z,37nm,1.8s,mb5.3
GEC2 *eP*P PP 02 46 14.0 -0.9
GERES GERESS Array B 86.27 329 P **P** **02 42 51.9 -0.1**
comp=Z,1.9nm,0.7s,mb4.5,baz=38,slow=5.2,SNR=26
GERES PP PP 02 46 05.3 -10
comp=Z,0.8nm,0.9s,baz=22,slow=7.2,SNR=3.6
ANMO Albuquerque 86.39 50 *eP* **P** **02 42 53.3 +0.3**
ANMO pmax pmax
comp=Z,8.0nm,1.1s
ANMO Albuquerque 86.39 50 *eP* **P** **02 42 53.3 +0.3**
comp=Z,7.9nm,1.1s,mb4.9
WET Wettzell 86.40 329 *eP* **P** **02 42 53.5 +0.9**
WET *e* 02 46 15.0
WET pmax pmax
comp=Z,24nm,1.5s,mb5.2
WET Wettzell 86.40 329 *eP* **P** **02 42 53.5 +0.9**
comp=Z,24nm,1.5s,mb5.2
WET *eP*P PP 02 46 15.0 -1.1
MMB Musomiste 86.52 319 *eP* **P** **02 42 53.8 +0.4**
TATS Tathlith 86.55 291 P **P** **02 42 54.7 +0.7**
WTSB Winterswijk 86.58 334 *eP* **P** **02 42 53.5 +0.1**
comp=Z,25nm,1.4s,mb5.3
WTSB ⇓*iP* 02 52 02.2
comp=Z,44nm,1.3s
PRNI Paran 86.60 304 P **P** **02 42 54.6 +0.5**
ARSA Arzberg 86.65 327⇓*iP* **P** **02 42 54.5 +0.6**
comp=Z,78nm,2.4s,mb5.5
GRA1 Grafenberg Arr 86.67 331 *eP* **P** **02 42 54.3 +0.4**
comp=Z,66nm,1.4s,mb5.7
GRA1 *ep*P pP 02 43 05.5 +0.6
GRA1 *eP*P PP 02 46 17.8 -0.7
GRF Grafenberg Arr 86.67 331 *eP* **P** **02 42 54.3 +0.4**
GRF *e**PP pP 02 43 05.5 +0.6
GRF *e* 02 46 17.8
GRF pmax pmax
comp=Z,66nm,1.4s,mb5.7
GRF Grafenberg Arr 86.67 331 *eP* **P** **02 42 54.3 +0.4**
comp=Z,66nm,1.4s,mb5.7
GRF *ep*P pP 02 43 05.5 +0.6
GRF *eP*P PP 02 46 17.8 -0.7
GRF *e* 02 46 17.8
GRF pmax pmax
comp=Z,66nm,1.4s,mb5.7
GRF Grafenberg Arr 86.67 331 *eP* **P** **02 42 54.3 +0.4**
comp=Z,66nm,1.4s,mb5.7
GRF *ep*P pP 02 43 05.5 +0.6
GRF *eP*P PP 02 46 17.8 -0.7
KKB Krupnik 86.68 319 *eP* **P** **02 42 54.0 -0.2**
KZIT Kziot 86.69 305 P **P** **02 42 54.8 +0.3**
HRFI Mount Harif 86.77 304 P **P** **02 42 55.0 +0.1**
DIVS Divcibare 86.77 322⇑*iP* **P** **02 42 54.4 -0.2**
MOA Molln 86.77 328⇓*iP* **P** **02 42 55.3 +0.8**
comp=Z,126nm,3.3s
TBKS Tabuk 86.78 302 P **P** **02 42 55.5 +0.5**
EIL Elat 87.05 304 P **P** **02 42 55.2 -1.1**
JMOS Jabal al Moall 87.24 303 P **P** **02 42 57.5 +0.3**
TNS Taunus Mts 87.36 332 *eP* **P** **02 42 56.7 -0.6**
TNS *e* 02 46 21.2
TNS pmax pmax
comp=Z,27nm,1.5s,mb5.3
TNS Taunus Mts 87.36 332 *eP* **P** **02 42 56.7 -0.6**
comp=Z,27nm,1.5s,mb5.3
TNS *eP*P PP 02 46 21.2 -3.1
HAQS Haql 87.43 303 P **P** **02 42 58.6 +0.5**
DOBS Dobrina 87.50 326 *eP* **P** **02 42 57.2 -0.8**
DJNS Zahran al Janu 87.52 289 P **P** **02 43 00.1 +1.3**
BDAS Al Bad' 87.68 303 P **P** **02 42 59.3 -0.1**
TOD Tromm 87.71 332 *eP* **P** **02 42 59.4 +0.4**
BLJS Baljurashi 87.82 292 P **P** **02 43 01.3 +1.1**
FUR Furstenfeldbru 87.83 330 *eP* **P** **02 42 59.8 +0.2**
FUR pmax pmax
comp=Z,20nm,0.8s,mb5.4
FUR Furstenfeldbru 87.83 330 *eP* **P** **02 42 59.8 +0.2**
comp=Z,20nm,0.8s,mb5.4
HGN Heimansgroeve 87.87 334 *eP* **P** **02 43 00.4 +0.6**
comp=Z,31nm,1.1s,mb5.5
HGN ⇓*eP* 02 52 08.3
comp=Z,51nm,1.4s
ABH Alteburg 87.98 333 *eP* **P** **02 43 00.8 +0.5**
CBKS Cedar Bluff 88.01 44 *eP* **P** **02 43 00.0 -0.7**
CBKS *e**PP pP 02 43 10.4 -1.3
CBKS pmax pmax
comp=Z,32nm,1.2s,mb5.4
CBKS Cedar Bluff 88.01 44 *eP* **P** **02 43 00.0 -0.6**
comp=Z,32nm,1.2s,mb5.4
CBKS *ep*P pP 02 43 10.4 -1.2
VISS Visnje 88.05 326 *eP* **P** **02 43 00.2 -0.5**
CEY Cerknica 88.29 326 *eP* **P** **02 43 01.4 -0.4**
RUP Ruppelstein 88.31 333 *eP* **P** **02 43 02.5 +0.6**
WLF Walferdange 88.69 333 *eP* **P** **02 43 04.7 +1.0**
WLF *e**PP pP 02 43 16.5 +1.8
WLF pmax pmax
comp=Z,62nm,1.8s,mb5.6
WLF Walferdange 88.69 333 *eP* **P** **02 43 04.7 +1.0**
comp=Z,62nm,1.8s,mb5.6
WLF *ep*P pP 02 43 16.5 +1.8
SCHQ Schefferville 88.69 16 P **P** **02 43 03.2 -0.4**
comp=Z,6.8nm,0.8s,mb5.0,baz=340,slow=5.8,SNR=7.8
BFO Black Forest 88.92 331 *eP* **P** **02 43 04.7 -0.1**
BFO pmax pmax
comp=Z,19nm,1.4s,mb5.2
BFO Black Forest 88.92 331 *eP* **P** **02 43 04.7 -0.1**
comp=Z,19nm,1.4s,mb5.2
DAVA Damuels 89.11 330⇓*iP* **P** **02 43 05.9 +0.2**
WLS Welschbruch 89.24 332 *eP* **P** **02 43 07.1 +0.8**
CDF Champ du Feu 89.27 332 *eP* **P** **02 43 06.4 -0.1**
comp=Z,10nm,0.9s,mb4.9
CDF Champ du Feu 89.27 332 *eP* **P** **02 43 06.4 -0.1**
CDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
FELD Feldberg 89.41 331 *eP* **P** **02 43 07.1 -0.1**
ECH Echery 89.47 332 *eP* **P** **02 43 07.6 +0.2**
MOF Molkenrain 89.78 332 *eP* **P** **02 43 09.0 +0.1**
BBS Basel-Blauen 89.94 331 *eP* **P** **02 43 07.9 -1.7**
CII Carovilli 91.36 324 *eP* **P** **02 43 17.0 +0.6**
comp=Z,46nm,1.6s,mb5.6
LOR Lormes 91.53 333 *eP* **P** **02 43 16.6 -0.5**
comp=Z,47nm,1.4s,mb5.3
LOR Lormes 91.53 333 *eP* **P** **02 43 16.6 -0.5**
LOR pmax pmax
comp=Z,24nm,1.4s,mb5.3
LTX Lajitas 91.78 53 *eP* **P** **02 43 19.2 +0.5**
LTX pmax pmax
comp=Z,16nm,1.3s,mb5.2
LTX Lajitas 91.78 53 *eP* **P** **02 43 19.2 +0.5**
comp=Z,16nm,1.3s,mb5.2
TXAR Lajitas Array 91.78 53 P **P** **02 43 18.8 +0.1**
comp=Z,3.4nm,0.8s,mb4.8,baz=304,slow=3.2,SNR=52
TXAR Lajitas Array 91.78 53 P **P** **02 43 18.8 +0.1**
FLN La Foliniere 91.81 336 *eP* **P** **02 43 18.0 -0.3**
comp=Z,9.0nm,0.9s,mb5.1
FLN La Foliniere 91.81 336 *eP* **P** **02 43 18.0 -0.3**
FLN pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
LPL La Plagne 91.83 331 *eP* **P** **02 43 18.8 +0.3**
comp=Z,22nm,0.9s,mb5.2
LPL La Plagne 91.83 331 *eP* **P** **02 43 18.8 +0.3**
LPL pmax pmax
comp=Z,11nm,0.9s,mb5.2
SSF Saint Saulge 91.83 333 *eP* **P** **02 43 18.0 -0.5**
SSF pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
SSF Saint Saulge 91.83 333 *eP* **P** **02 43 18.0 -0.5**
comp=Z,10nm,1.0s,mb5.1
LPG La Plagne 91.84 330 *eP* **P** **02 43 18.5 0.0**
comp=Z,29nm,0.9s,mb5.3
LPG La Plagne 91.84 330 *eP* **P** **02 43 18.5 0.0**
LPG pmax pmax
comp=Z,15nm,0.9s,mb5.3
SMF Signal de Mont 92.05 333 *eP* **P** **02 43 19.0 -0.5**
comp=Z,41nm,1.2s,mb5.3
SMF Signal de Mont 92.05 333 *eP* **P** **02 43 19.0 -0.5**
SMF pmax pmax
comp=Z,20nm,1.2s,mb5.3
AVF Avril sur Loir 92.12 333 *eP* **P** **02 43 19.4 -0.4**
comp=Z,42nm,0.9s,mb5.5
AVF Avril sur Loir 92.12 333 *eP* **P** **02 43 19.4 -0.4**
AVF pmax pmax
comp=Z,21nm,0.9s,mb5.5
BNI Bardonecchia 92.23 330 *eP* **P** **02 43 20.2 -0.1**
BNI pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
BNI Bardonecchia 92.23 330 *eP* **P** **02 43 20.1 -0.2**
comp=Z,10nm,1.0s,mb5.1
GRR Gorron 92.26 336 *eP* **P** **02 43 20.1 -0.3**
comp=Z,98nm,1.4s,mb5.7
GRR Gorron 92.26 336 *eP* **P** **02 43 20.1 -0.3**
GRR pmax pmax
comp=Z,49nm,1.4s,mb5.6
MBDF Montbardon 92.45 330 *eP* **P** **02 43 21.1 -0.3**
comp=Z,21nm,0.8s,mb5.2
MBDF Montbardon 92.45 330 *eP* **P** **02 43 21.1 -0.3**
MBDF pmax pmax
comp=Z,11nm,0.8s,mb5.2
ORIF Oris-en-Rattie 92.67 331 *eP* **P** **02 43 22.5 +0.1**
comp=Z,24nm,1.0s,mb5.3
ORIF Oris-en-Rattie 92.67 331 *eP* **P** **02 43 22.5 +0.1**
ORIF pmax pmax
comp=Z,12nm,1.0s,mb5.3
PLDF La Plantade 92.70 333 *eP* **P** **02 43 24.3 +1.8**
SAOF Saorge 92.72 329 *eP* **P** **02 43 21.9 -0.7**
AUTN L'Aution 92.77 329 *eP* **P** **02 43 21.3 -1.5**
TOUF Mont Tournerai 92.83 329 *eP* **P** **02 43 23.2 +0.1**
SBF Sospel 92.87 329 *eP* **P** **02 43 22.7 -0.6**
comp=Z,42nm,0.8s,mb5.6
SBF Sospel 92.87 329 *eP* **P** **02 43 22.7 -0.6**
SBF pmax pmax
comp=Z,21nm,0.8s,mb5.6
MVIF Mont Vial 92.96 329 *eP* **P** **02 43 23.6 -0.2**
REVF Revere 93.00 329 *eP* **P** **02 43 23.6 -0.3**
PYM Petit Puy Mans 93.12 333 *eP* **P** **02 43 26.2 +1.8**
CALN Calern 93.19 329 *eP* **P** **02 43 25.0 +0.2**
VIVF Saint-Julien-l 93.21 331 *eP* **P** **02 43 24.5 -0.3**
comp=Z,24nm,0.9s,mb5.3
VIVF Saint-Julien-l 93.21 331 *eP* **P** **02 43 24.5 -0.3**
VIVF pmax pmax
comp=Z,12nm,0.9s,mb5.3
PGF Pioggiola 93.23 327 *eP* **P** **02 43 24.5 -0.5**
comp=Z,5.1nm,0.8s,mb4.7
PGF Pioggiola 93.23 327 *eP* **P** **02 43 24.5 -0.5**
PGF pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
CCM Cathedral Cave 93.26 40 *eP* **P** **02 43 24.4 -0.9**
CCM *e**PP pP 02 43 35.7 -0.6
CCM pmax pmax
comp=Z,12nm,1.3s,mb5.2
CCM Cathedral Cave 93.26 40 *eP* **P** **02 43 24.4 -0.9**
comp=Z,12nm,1.3s,mb5.2
CCM *ep*P pP 02 43 35.7 -0.6
STOF St-Etienne Org 93.41 330 *eP* **P** **02 43 26.1 +0.3**
FRF La Foret Royal 93.45 329 *eP* **P** **02 43 25.3 -0.7**
comp=Z,21nm,0.9s,mb5.3
FRF La Foret Royal 93.45 329 *eP* **P** **02 43 25.3 -0.7**
FRF pmax pmax
comp=Z,11nm,0.9s,mb5.3
MFF Saint Martin d 93.56 335 *eP* **P** **02 43 26.1 -0.3**
comp=Z,30nm,1.1s,mb5.3
MFF Saint Martin d 93.56 335 *eP* **P** **02 43 26.1 -0.3**
MFF pmax pmax
comp=Z,15nm,1.1s,mb5.3
SMRF Simiane la Rot 93.56 330 *eP* **P** **02 43 26.1 -0.4**
comp=Z,24nm,1.1s,mb5.2
VILF Villemus 93.61 330 *eP* **P** **02 43 27.4 +0.7**
TAVF Tavernes 93.66 330 *eP* **P** **02 43 27.4 +0.5**
LMR La Mourre 93.69 329 *eP* **P** **02 43 26.2 -0.9**
comp=Z,38nm,1.0s,mb5.5
LMR La Mourre 93.69 329 *eP* **P** **02 43 26.2 -0.9**
LMR pmax pmax
comp=Z,19nm,1.0s,mb5.5
PUYF Puyloubier 93.87 330 *eP* **P** **02 43 28.3 +0.4**
CAF Calviac 94.17 333 *eP* **P** **02 43 28.7 -0.5**
comp=Z,30nm,1.3s,mb5.3
CAF Calviac 94.17 333 *eP* **P** **02 43 28.7 -0.5**
CAF pmax pmax
comp=Z,15nm,1.3s,mb5.3
LASF Ste Croix 94.18 331 *eP* **P** **02 43 29.1 -0.1**
comp=Z,29nm,1.1s,mb5.3
MTLF Montolieu 95.45 332 *eP* **P** **02 43 34.7 -0.4**
comp=Z,12nm,1.0s,mb5.0
MTLF Montolieu 95.45 332 *eP* **P** **02 43 34.7 -0.4**
MTLF pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
ESDC Sonseca Array 100.96 334 PP PP 02 48 08.5 -2.9
comp=Z,1.5nm,0.8s,baz=37,slow=8.6,SNR=5.3
VNDA Vanda 111.21 176 PP PP 02 49 23.9 -2.6
comp=Z,0.4nm,0.9s,baz=313,slow=8.5,SNR=3.4
SYO Syowa Base 125.20 205 ⇑P PKPdf 02 49 19.8 +11
BOSA Boshof 126.55 257 PP PP 02 51 12.4 -0.9
comp=Z,5.1nm,1.0s,baz=48,slow=8.6,SNR=3.0
SDV Santo Domingo 127.61 43 *eP*KPdf PKPdf 02 49 16.3 +0.8
SDV *ep*PKPdf 02 49 27.2
DBIC Dimbokro 129.49 316 PKP PKPdf 02 49 19.2 +0.2
comp=Z,5.6nm,1.1s,baz=4.6,slow=13,SNR=3.8
PMSA Palmer Station 144.62 161 *eP*KPdf PKPdf 02 49 44.4 -0.7
PMSA *ep*PKPdf 02 49 55.7
SAML Samuel 146.21 50 *eP*KPdf PKPdf 02 49 50.6 +1.3
SAML *ep*PKPdf 02 50 01.6
LPAZ La Paz 147.73 66 PKIKP PKPdf 02 49 53.3 +1.6
LPAZ pmax pmax
comp=Z,7.0nm,1.1s
LPAZ La Paz 147.73 66 PKPbc PKPdf 02 49 53.3 +1.6
comp=Z,6.7nm,1.1s,baz=7.2,slow=9.6,SNR=4.3
PLCA Paso Flores 152.84 115 PKPbc PKPdf 02 50 07.5 +8.7
comp=Z,2.8nm,1.0s,baz=272,slow=10,SNR=4.2
PLCA PKPab PKPab 02 50 18.0 -1.5
comp=Z,2.9nm,0.7s,baz=189,slow=2.6,SNR=6.5
PLCA Paso Flores 152.84 115 PKPbc PKPdf 02 50 07.5 +8.7
PLCA PKPab PKPab 02 50 18.0 -1.5
BDFB Brasilia 160.07 31 PKPab PKPab 02 50 49.1 -1.9
comp=Z,5.8nm,0.8s,baz=142,slow=3.0,SNR=8.9

NIED **27** *02:39:00,33.30N×142.40E,h5km,Mw5.3 Best double couple: M0 9.84×10^16 NP1:φs146°,δ67°,λ-94°. NP2: φs336°,δ23°,λ-81°.*
BJI **27** *02:39:19.5,33.37N×142.08E,h18km,mB5.5,mb5.2, Ms5.2,Msz5.0*
JMA **27** *02:39:20.3±0.4,33.31N×142.45E,h77km,M5.5*
IDC **27** *02:39:21.7±5.7,33.28N×142.43E,h26km±38km,mb4.9/24, mb1 5.0/29,mb1mx5.0/30,mbtmp5.1/29,ML4.4/4,MS4.6/21, Ms1 4.6/21,ms1mx4.5/27,Error ellipse: s-maj=13.8km s-min=11.0km az=77.0*
MOS **27** *02:39:22.9±0.8,33.55N×142.36E,h38km,mb5.7/93, MS4.9/44,Error ellipse: s-maj=8.0km s-min=4.1km az=113.5*
HRVD **27** *02:39:22.6±0.2,33.28N×142.64E,h12km,MW5.3/74, Centroid moment Tensor Solution. LP body waves: s39,c64;Mantle waves: s74,c154; Half duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr-0.87±.01; Mθθ0.08±.01; Mφφ0.79±.01; Mrθ0.10±.05; Mφθ-0.24±.01; Mφr-0.36±.04; Best double couple: M0.948×10^17 NP1: φs162°,δ33°,λ-91°. NP2:φs343°,δ57°,λ-89°. Principal axes: T .946, Plg12°, Azm73°; N .004, Plg1°, Azm163°; P -.951, Plg78°, Azm256°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC **27** *02:39:22.6±0.1,33.26N×142.32E,mb5.5/130,MS4.8/90, MW5.3(NIED) Error ellipse: s-maj=3.9km s-min=2.8km az=176.0*
ISC 27 02:39:21.3±0.1,33.30N±0.02×142.32E±0.02,h33km, h33km±.4km:pP-P,n734,s0795/680,mb5.4/186,MS4.8/129, 33C-89D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
BSO1	**Boso 1**	**1.75**	**321**	P	Pn	**02 39 50.0**	**+0.1**
JHJ2	**Mitsune**	**2.11**	**265**	⇓P	Pn	**02 39 56.0**	**+1.0**
JHJ2				*eS*	Sn	**02 40 22.8**	**+2.5**
BSO3	**Boso 3**	**2.12**	**315**	P	Pn	**02 39 55.7**	**+0.5**
JHJ	**Hachijo jima 2**	**2.13**	**266**	Pn	Pn	**02 39 55.8**	**+0.3**
	650nm,0.3s,baz=158,slow=8.5,SNR=58						
JHJ				Sn	Sn	**02 40 22.4**	**+1.3**
	538nm,0.3s,baz=62,slow=23,SNR=11						
BSO4	**Boso 4**	**2.35**	**316**	⇓P	Pn	**02 39 59.3**	**+0.8**
KTR	**Katsuura**	**2.48**	**318**	P	Pn	**02 40 00.6**	**+0.3**
KTR				S	Sn	**02 40 30.8**	**+1.0**
NJJJ	**Nii jima 2**	**2.75**	**294**	⇑P	Pn	**02 40 04.7**	**+0.4**
JIM2	**Oshima 3**	**2.78**	**301**	P	Pn	**02 40 03.9**	**-0.8**
JIM2				S	Sn	**02 40 37.6**	**+0.1**
JIZS	**Izushimoda**	**3.19**	**297**	P	Pn	**02 40 10.2**	**-0.2**
JOD2	**Odawara 2**	**3.31**	**307**	P	Pn	**02 40 11.3**	**-0.9**
JOD2				S	Sn	**02 40 52.0**	**+1.1**
JHO	**Hitachi**	**3.60**	**337**	⇓P	Pn	**02 40 14.2**	**-2.0**
JSG	**Sagara**	**3.70**	**293**	P	Pn	**02 40 18.8**	**+1.2**
JYN	**Shimob**	**3.81**	**306**	P	Pn	**02 40 18.4**	**-0.9**
JYN				*eS*	Sn	**02 41 04.0**	**+0.5**
SHZ3	**Shizuoka 3**	**3.83**	**298**	P	Pn	**02 40 20.2**	**+0.6**
JAG	**Ashikaga**	**3.91**	**324**	⇓P	Pn	**02 40 19.8**	**-0.8**
JAG				S	Sn	**02 41 04.4**	**-1.5**
JRY	**Ryogami san**	**3.91**	**315**	⇓P	Pn	**02 40 19.6**	**-1.0**
JRY				*eS*	Sn	**02 41 05.9**	**0.0**
HMMJ	**Hamamatsu 2**	**4.12**	**293**	⇓P	Pn	**02 40 23.7**	**+0.1**
JSB	**Shiboa**	**4.15**	**332**	P	Pn	**02 40 22.7**	**-1.4**
JNY	**Yasuok**	**4.22**	**300**	⇓P	Pn	**02 40 25.7**	**+0.6**
JFK	**Kawauchi**	**4.22**	**344**	⇓P	Pn	**02 40 21.9**	**-3.2**
JFT	**Otama**	**4.51**	**340**	⇓P	Pn	**02 40 27.3**	**-1.8**
JAO	**Obara**	**4.62**	**296**	⇓P	Pn	**02 40 31.3**	**+0.5**
JNG	**Nsakai**	**4.65**	**313**	⇓P	Pn	**02 40 30.9**	**-0.3**
MJAR	**Matsushiro Arr**	**4.67**	**315**	Pn	Pn	**02 40 31.4**	**-0.2**
	29nm,0.3s,baz=140,slow=9.4,SNR=125						

MJAR Sn Sn 02 41 25.8 +0.5
51nm,0.3s,baz=160,slow=21,SNR=8.6
MJAR Matsushiro Arr 4.67 315 Pn Pn 02 40 31.4 -0.2
MJAR Sn Sn 02 41 25.8 +0.5
MAJO Matsushiro 4.67 315 Pn Pn 02 40 32.4 +0.9
MAJO Matsushiro 4.67 315⇓*e*Pn Pn 02 40 31.9 +0.3
MAT Matsushiro 4.67 315 *eP* Pn 02 40 31.0 -0.5
MAT *eS* Sn 02 41 22.0 -3.4
MAT Matsushiro 4.67 315 P Pn 02 40 30.9 -0.6
MAT S Sn 02 41 22.0 -3.4
MAT Matsushiro 4.67 315 P Pn 02 40 31.7 +0.2
MAT S Sn 02 41 24.6 -0.8
JGF Kuroka 4.70 301 ⇓P Pn 02 40 32.6 +0.8
JMM Marumori 4.72 345 P Pn 02 40 27.9 -4.3
JMM S Sn 02 41 18.9 -7.6
JIE Ise 4.79 285 P Pn 02 40 33.2 0.0
JGN Niukaw 5.04 307 ⇓P Pn 02 40 37.3 +0.6
JNS Sasagawa 5.13 332 P Pn 02 40 36.8 -1.1
JNS S Sn 02 41 34.4 -2.3
JGM Miyama 5.21 299 P Pn 02 40 39.5 +0.5
JWZ Kozaga 5.53 274 P Pn 02 40 43.0 -0.5
JMK Ichinoseki 5.71 351 P Pn 02 40 41.8 -4.3
JMK S Sn 02 41 43.6 -7.6
JAW Awa shima 5.71 335 P Pn 02 40 44.4 -1.8
JSD Sado 5.76 326 ⇓P Pn 02 40 44.7 -2.2
JYK Kaneyama 5.82 345 P Pn 02 40 44.5 -3.2
JYK S Sn 02 41 49.2 -4.9
CBIJ Chichi jima 6.19 181 Pn Pn 02 40 48.9 -4.0
83nm,0.3s,baz=28,slow=2.8,SNR=14
CBIJ LR LR 02 43 33.6
comp=Z,2μm,18.0s,baz=343,slow=41
CBIJ Chichi jima 6.19 181 P Pn 02 40 48.5 -4.4
CBIJ S Sn 02 41 54.2 -9.0
JHM Kurahashi 8.20 279 P P 02 41 21.9 +0.9
JNU Nakatsue 9.59 272 Pn P 02 41 40.5 +0.3
JFA Akaike 9.63 276 P P 02 41 41.2 +0.4
JZO Okuchi 9.94 266 P P 02 41 46.9 +1.8
ASAJ Asahikawa 10.80 1 Pn P 02 41 50.7 -6.1
9.0nm,0.3s,baz=218,slow=9.7,SNR=18
ASAJ LR LR 02 46 03.7
comp=Z,3μm,21.8s,baz=189,slow=37
JMZ Minamidaito 2 12.20 235 P P 02 42 18.0 +2.2
KS15 Wonju Array Si 12.48 293⇑*eP* P 02 42 20.2 +0.6
KUR Kuril'sk 12.66 18 P P 02 42 16.5 -5.4
KUR pmax pmax
comp=N,80nm,1.0s
KUR pmax pmax
comp=E,40nm,1.0s
KUR pmax pmax
comp=Z,190nm,1.0s
KUR MLR MLR
comp=N,5μm,10.0s
KUR MLR MLR
comp=Z,10μm,10.0s
INCN Inchon 13.46 292 *eP* P 02 42 32.6 +0.2
comp=Z,64nm,0.8s
YSS Yuzh-Sakhalins 13.64 1α *iP* P 02 42 29.5 -5.2
YSS *eS* S 02 44 54.5 -12
YSS pmax pmax
comp=N,100nm,0.8s
YSS pmax pmax
comp=Z,130nm,0.8s
YSS smax
comp=N,140nm,1.1s
YSS MLR MLR
comp=Z,2μm,12.0s
YSS MLR MLR
comp=N,2μm,13.0s
YSS Yuzh-Sakhalins 13.64 1⇑*iP* P 02 42 29.4 -5.4
comp=N,179nm,0.9s
JOW Kunigami 13.76 246 Pn P 02 42 35.7 -0.8
comp=N,0.4nm,0.3s,baz=59,slow=10,SNR=23
JOW LR LR 02 47 28.8
comp=N,3μm,19.4s,baz=98,slow=35
JAGN Aguni-jima 14.68 247 P P 02 42 53.8 +5.3
MDJ Mudanjiang 15.00 323 P P 02 42 50.3 -2.3
MDJ AP 02 42 56.3
MDJ S S 02 45 34.5 -3.7
MDJ SCP 02 51 30.0
MDJ PCS 02 51 33.5
MDJ AMB AMB
comp=Z,42nm,1.0s
MDJ AMB AMB
comp=Z,1μm,14.5s
MDJ LR LR
comp=N,2μm,16.1s
MDJ LR LR
comp=E,3μm,16.3s
MDJ LR LR
comp=Z,3μm,16.1s
MDJ Mudanjiang 15.00 323 *eP* P 02 42 49.6 -2.9
comp=Z,62nm,0.9s
CN2 Changchun 16.82 313 *eP* P 02 43 13.5 -2.4
CN2 *eXP* 02 43 27.5
CN2 *eS* S 02 46 19.5 -1.0
CN2 AMB AMB
comp=Z,80nm,1.1s
CN2 AMB AMB
comp=Z,370nm,3.0s
CN2 LR LR
comp=N,5μm,14.0s
CN2 LR LR
comp=E,4μm,14.0s
CN2 LR LR
comp=Z,5μm,14.0s
SNY Shenyang 17.10 305 ⇑P P 02 43 19.5 +0.1
SNY S S 02 46 32.0 +5.2
SNY AMB AMB
comp=Z,100nm,1.2s
SNY AMB AMB
comp=Z,710nm,7.0s
SNY LR LR
comp=N,2μm,12.6s
SNY LR LR
comp=E,2μm,15.0s
SNY LR LR
comp=Z,4μm,14.4s
DL2 Dalian 17.62 294 P P 02 43 25.8 -0.1
DL2 *eS* S 02 46 39.8 +1.1
DL2 AMB AMB
comp=Z,70nm,1.0s
DL2 AMB AMB
comp=Z,900nm,3.0s
DL2 LR LR
comp=N,2μm,13.1s
DL2 LR LR
comp=E,3μm,13.5s
DL2 LR LR
comp=Z,3μm,14.0s
JTJ Tarama 17.65 245 P P 02 43 27.0 +0.6
KLR Kul'dur 17.76 337 *eP* P 02 43 20.8 -6.7
KLR MLR MLR
comp=N,4μm,13.5s
KLR MLR MLR
comp=E,2μm,13.5s
KLR MLR MLR
comp=Z,8μm,13.5s
SSE Sheshan 18.02 269 *eP* P 02 43 30.0 -1.0
SSE AP 02 43 38.3
SSE S S 02 46 50.0 +2.1
SSE AMB AMB
comp=Z,59nm,1.2s
SSE AMB AMB
comp=Z,2μm,11.9s
SSE LR LR
comp=N,2μm,13.9s
SSE LR LR
comp=E,4μm,13.9s
SSE LR LR
comp=Z,5μm,13.9s
SSE Sheshan 18.02 269 *eP* P 02 43 29.9 -1.1
comp=Z,59nm,1.2s
SSE pP 02 43 38.2
SSE sP 02 43 44.2
SSE S S 02 46 49.9 +2.0
SSE sS 02 47 03.9
JJJ Ishigaki jima 18.23 245 P P 02 43 32.9 -0.7
JKRS Kuro-shima 18.40 245 P P 02 43 35.2 -0.5
IRIF Iriomote-Funau 18.56 246 P P 02 43 35.8 -1.8
YOJ Yonaguni jima 19.04 247 P P 02 43 41.8 -1.6
GUMO Guam 19.76 173 *eP* P 02 43 50.2 -1.4
GUMO pmax pmax
comp=Z,688nm,1.2s
GUMO Guam 19.76 173 *eP* P 02 43 50.2 -1.4
comp=Z,688nm,1.2s
GUMO *ep*P 02 43 59.6
NJ2 Nanjing 19.79 273 *eP* P 02 43 49.5 -2.3
NJ2 AP 02 43 59.0
NJ2 XP 02 44 02.8
NJ2 PP PP 02 44 09.8 -0.6
NJ2 S S 02 47 24.0 -3.3
NJ2 XS 02 47 37.0
NJ2 AMB AMB
comp=Z,310nm,1.1s
NJ2 AMB AMB
comp=Z,2μm,10.4s
NJ2 LR LR
comp=N,6μm,12.2s
NJ2 LR LR
comp=E,4μm,12.1s
NJ2 LR LR
comp=Z,3μm,11.1s
TATO Taipei 19.98 251 *eP* P 02 43 50.5 -3.4
comp=Z,112nm,0.8s
SKR Severo-Kuril's 20.11 26 *eP* P 02 43 52.0 -3.0
SKR pmax pmax
comp=N,2μm,4.0s
SKR pmax pmax
comp=E,1μm,4.0s
SKR pmax pmax
comp=Z,2μm,4.0s
SKR pmax pmax
comp=Z,80nm,0.9s
OKH Okha 20.24 1 *iP* P 02 43 54.2 -2.2
OKH pmax pmax
comp=Z,2μm,10.0s
BBP Basco 22.17 240 *eP* P 02 44 14.9 -1.3
QZH Quanzhou 22.30 254 P P 02 44 14.0 -3.5
QZH S S 02 48 17.0 +1.2
QZH LR LR
comp=N,2μm,11.8s,MS5.1
QZH LR LR
comp=E,5μm,15.9s,MS5.1
QZH LR LR
comp=Z,7μm,16.2s,MS5.2
PET Petropavlovsk 22.93 26 *eP* P 02 44 22.3 -1.1
PET *eS* S 02 48 30.8 +4.0
PET pmax pmax
comp=Z,73nm,1.1s,mb5.0
PET smax
comp=E,2μm,33.8s
PET MLR MLR
comp=Z,2μm,16.0s,MS4.6
PET Petropavlovsk 22.93 26 PFAKE 02 44 30.0 +6.6
PET LR LR
comp=Z,2μm,19.0s,MS4.5
HIA Hailar 23.15 320 *eP* P 02 44 24.4 -1.1
HIA pmax pmax
comp=Z,482nm,1.5s
HIA Hailar 23.15 320 *eP* P 02 44 24.4 -1.1
comp=Z,482nm,1.5s,mb5.7
WHN Wuhan 23.87 271 ⇓P P 02 44 31.5 -1.2
WHN LR LR
comp=Z,5μm,13.2s,MS5.2
APYP Conner 24.38 236 *eP* P 02 44 32.7 -5.1
CAUP Cauayan 24.62 234 *eP* P 02 44 38.7 -1.4
ABRA Dolores 24.89 237 *eP* P 02 44 38.5 -4.2
HHC Hu-ho-hao-te 25.58 296 ⇓P P 02 44 47.5 -1.4
HHC AP pP 02 44 56.8 -1.7
HHC XP sP 02 45 00.8 -2.1
HHC S S 02 49 17.3 +5.3
HHC AMB AMB
comp=Z,188nm,2.0s,mb5.3
HHC AMB AMB
comp=Z,1μm,7.1s
HHC LR LR
comp=N,2μm,14.2s,MS5.1
HHC LR LR
comp=E,3μm,14.2s,MS5.1
HHC LR LR
comp=Z,4μm,15.1s,MS5.0
BALP Baler 25.64 232 *eP* P 02 44 46.8 -3.0
PVCP Virac 25.66 224 *eP* P 02 44 49.6 -0.3
BTO Baotou 26.71 295 *eP* P 02 44 59.5 +0.1
BTO AMB AMB
comp=Z,187nm,1.0s,mb5.6
BTO LR LR
comp=N,2μm,13.7s,MS5.1
BTO LR LR
comp=E,3μm,16.2s,MS5.1
MA2 Magadan 26.87 10*de*P P 02 44 59.6 -1.1
MA2 *e*PPP PPP 02 46 02.7 +4.4
MA2 *eS* S 02 49 31.5 -1.8
MA2 pmax pmax
comp=Z,70nm,2.5s,mb4.8
MA2 pmax pmax
comp=N,40nm,2.3s
MA2 MLR MLR
comp=Z,1μm,18.0s,MS4.6
MA2 Magadan 26.87 10 *eP* P 02 44 59.1 -1.6
comp=Z,40nm,1.0s,mb4.9
MA2 LR LR
comp=Z,629nm,19.0s,MS4.2
HKC Hong Kong 27.12 253⇑*eP* P 02 45 04.0 +0.7
XAN Xi'an 27.74 281 P P 02 45 07.5 -1.4
XAN PP PP 02 45 55.0 -2.9
XAN AMB AMB
comp=Z,46nm,1.1s,mb5.0
XAN AMB AMB
comp=Z,525nm,5.2s
XAN LR LR
comp=E,4μm,14.6s
XAN LR LR
comp=Z,5μm,14.5s,MS5.3
ENH Enshi 28.01 273 *eP* P 02 45 09.0 -2.3
comp=Z,282nm,1.2s,mb5.8
FX1 Attu Island--F 29.49 39 P P 02 45 25.0 +0.6
comp=Z,6.5nm,0.8s,mb4.4,baz=98,slow=15,SNR=4.6
FX1 LR LR 02 54 55.4
comp=Z,45nm,21.1s,baz=256,slow=32
FX1 Attu Island--F 29.49 39 *eP* P 02 45 23.9 -0.5
YAK Yakutsk 29.86 348*d iP* P 02 45 26.6 -1.1
YAK pmax pmax
comp=Z,158nm,1.3s,mb5.6
YAK Yakutsk 29.86 348 *eP* P 02 45 26.3 -1.4
comp=Z,130nm,1.0s,mb5.6
YAK LR LR
comp=Z,890nm,21.0s,MS4.4
BUKP Musuan 29.92 216 *eP* P 02 45 26.1 -2.5
SEY Seymchan 30.32 9 *iP* P 02 45 31.0 -0.7
SEY Seymchan 30.32 9 ⇓*iP* P 02 45 31.1 -0.6
SONM Songino Array 30.60 309 P P 02 45 35.2 +1.0
comp=Z,47nm,0.9s,mb5.3,baz=117,slow=8.3,SNR=106
SONM PcP PcP 02 48 32.3 -0.1
comp=Z,3.2nm,0.8s,baz=111,slow=3.1,SNR=5.1
SONM LR LR 02 57 55.0
comp=Z,1μm,20.3s,MS4.6,baz=109,slow=36
PAGZ Pagadian 30.80 219 *eP* P 02 45 32.7 -3.7
GYA Guiyang 31.55 267⇑*iP* P 02 45 39.5 -3.4
GYA AP pP 02 45 49.5 -3.1
GYA XP sP 02 45 52.8 -4.1
GYA PP PP 02 46 43.5 -4.1
GYA S S 02 50 43.8 -4.2
GYA XS 02 51 03.3
GYA SS SS 02 52 35.0 -2.6
GYA SCS ScS 02 56 08.0 -2.9
GYA AMB AMB
comp=Z,70nm,1.1s,mb5.4
GYA AMB AMB
comp=Z,240nm,5.4s
GYA LR LR
comp=N,2μm,16.7s,MS5.1
GYA LR LR
comp=E,2μm,12.4s,MS5.1
GYA LR LR
comp=Z,2μm,14.3s,MS5.0
LZH Lanzhou 31.62 286 ⇓P P 02 45 42.0 -1.4
LZH AP pP 02 45 50.8 -2.3
LZH XP sP 02 45 55.5 -1.9
LZH PP PP 02 46 47.0 -1.4
LZH *eS* S 02 50 47.5 -1.5
LZH XS 02 51 04.0
LZH *eSS* SS 02 52 37.0 -2.2
LZH AMB AMB
comp=Z,187nm,1.7s,mb5.6
LZH MLR MLR
comp=Z,9μm,13.7s,MS5.6
LZH Lanzhou 31.62 286 ⇓P P 02 45 42.0 -1.4
comp=Z,187nm,1.7s,mb5.6
LZH pP pP 02 45 50.7 -2.4
LZH sP sP 02 45 55.5 -1.9
LZH PP PP 02 46 47.0 -1.4
LZH PcP PcP 02 48 27.2 -8.0
LZH *eS* S 02 50 47.5 -1.5
LZH sS 02 51 03.9
LZH *eSS* SS 02 52 37.0 -2.2
LZH LR LR
comp=Z,9μm,13.7s,MS5.6
QIZ Qiongzhong 32.28 252 P P 02 45 50.0 +0.7
QIZ PP PP 02 46 57.5 +0.4
QIZ S S 02 51 01.0 +1.6
QIZ AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
QIZ AMB AMB
comp=Z,351nm,12.1s
QIZ LR LR
comp=E,1μm,23.0s
QIZ LR LR
comp=Z,2μm,26.0s,MS4.7
CD2 Chengdu 32.63 276 P P 02 45 50.5 -1.8
CD2 S S 02 50 58.3 -6.5
CD2 AMB AMB
comp=Z,80nm,1.0s,mb5.6
CD2 LR LR
comp=E,2μm,15.6s
CD2 LR LR
comp=Z,2μm,16.2s,MS4.8
TLY Talaya 33.41 315*d iP* P 02 45 59.6 +0.7
TLY *eS* S 02 51 24.4 +7.6
TLY pmax pmax
comp=Z,73nm,1.3s,mb5.5
TLY MLR MLR
comp=Z,1μm,14.0s,MS4.8
TLY Talaya 33.41 315⇓*iP* P 02 45 59.3 +0.4
comp=Z,36nm,0.8s,mb5.3
TLY LR LR
comp=Z,138nm,19.0s
GTA Gaotai 34.53 293⇓*iP* P 02 46 08.3 -0.3
GTA AP pP 02 46 17.3 -1.1
GTA XP sP 02 46 21.8 -0.8
GTA PP PP 02 47 26.5 +1.4
GTA PCP PcP 02 48 43.5 +0.3
GTA S S 02 51 37.3 +3.1
GTA SCP 02 52 21.3
GTA PCS 02 52 29.3
GTA AMB AMB
comp=Z,35nm,1.0s,mb5.2
GTA AMB AMB
comp=Z,558nm,10.6s
GTA LR LR
comp=N,2μm,16.0s,MS5.0
GTA LR LR
comp=E,2μm,15.2s,MS5.0
GTA LR LR
comp=Z,2μm,15.2s,MS5.0
MIDW Midway 34.86 87 PFAKE 02 46 20.0 +8.4
MIDW LR LR
comp=Z,2μm,19.0s,MS4.8
MOY Mondy 34.99 314 *eP* P 02 46 13.2 +0.7
MOY pmax pmax
comp=Z,179nm,3.2s
KMI Kunming 35.33 267 ⇑P P 02 46 14.5 -1.1
KMI AP pP 02 46 24.5 -0.9
KMI XP sP 02 46 28.5 -1.1
KMI PP PP 02 47 35.0 -0.4
KMI PCP PcP 02 48 47.0 +1.3
KMI S S 02 51 47.0 +0.2
KMI XS 02 52 01.5
KMI PCS 02 52 31.0
KMI SS SS 02 54 04.5 -0.5
KMI SCS ScS 02 56 33.0 +2.5
KMI AMB AMB
comp=Z,30nm,1.2s,mb5.1
KMI AMB AMB
comp=Z,423nm,5.9s
KMI LR LR
comp=N,2μm,16.0s,MS5.2
KMI LR LR
comp=E,3μm,14.2s,MS5.2
KMI LR LR
comp=Z,3μm,14.9s,MS5.2
KMI Kunming 35.33 267 ⇑P P 02 46 14.5 -1.1
KMI *PP pP 02 46 24.5 -0.9
KMI *SP sP 02 46 28.5 -1.1
KMI 02 47 34.9
KMI 02 48 46.9
KMI S S 02 51 47.0 +0.2
KMI *SS 02 52 01.5
KMI SS SS 02 54 04.6 -0.4
KMI 02 56 33.1
KMI pmax pmax
comp=Z,30nm,1.2s,mb5.1
KMI MLR MLR
comp=Z,3μm,14.9s,MS5.2
KMI Kunming 35.33 267 ⇑P P 02 46 14.5 -1.1
comp=Z,30nm,1.2s,mb5.1
KMI pP pP 02 46 24.5 -0.9
KMI sP sP 02 46 28.5 -1.1
KMI PP PP 02 47 34.9 -0.5
KMI PcP PcP 02 48 46.9 +1.2
KMI S S 02 51 47.0 +0.2
KMI sS 02 52 01.5
KMI PcS 02 52 30.9
KMI SS SS 02 54 04.6 -0.4
KMI ScS ScS 02 56 33.1 +2.6
KMI LR LR
comp=Z,3μm,14.9s,MS5.2
BILL Bilibino 37.42 15*d iP* P 02 46 31.3 -1.4
BILL *e* pP 02 46 42.4 -0.2
BILL pmax pmax
comp=Z,56nm,2.2s,mb5.0
BILL MLR MLR
comp=Z,500nm,14.0s,MS4.5
BILL Bilibino 37.42 15 *eP* P 02 46 30.5 -2.3
comp=Z,34nm,0.9s,mb5.2
BILL LR LR
comp=Z,572nm,20.0s,MS4.4
UBT Ubonrachathani 38.20 251 P P 02 46 39.3 -0.6
TIXI Tiksi 39.07 353 *eP* P 02 46 40.3 -6.3
TIXI *e* 02 48 18.1
TIXI *eS* S 02 52 39.5 -3.9
TIXI *eSS* SS 02 55 29.1 +0.5
TIXI pmax pmax
comp=Z,29nm,1.0s,mb5.0
TIXI MLR MLR
comp=Z,892nm,13.0s,MS4.8
TIXI Tiksi 39.07 353⇓*iP* P 02 46 45.7 -0.9
TIXI LR LR
comp=Z,469nm,20.0s,MS4.3
NANT Nan 39.81 259 ⇓P P 02 46 50.0 -3.3
comp=Z,340nm,1.0s,mb6.0
NST Nakhon Sawan 41.89 256 P P 02 47 10.0 -0.4
BDT Bhumibol Dam 41.99 259 P P 02 47 09.5 -1.7
PMG Port Moresby 42.72 173 PFAKE 02 47 30.0 +13
PMG LR LR
comp=Z,528nm,20.0s,MS4.4
WMQ Urumqi 43.28 301 P P 02 47 22.3 +0.9
WMQ AP pP 02 47 32.3 +1.0
WMQ XP sP 02 47 36.0 +0.6
WMQ PP PP 02 49 05.3 +1.3
WMQ S S 02 53 47.0 +1.0
WMQ AMB AMB
comp=Z,182nm,1.1s,mb5.7
WMQ AMB AMB
comp=Z,1μm,5.2s
WMQ LR LR
comp=N,2μm,13.6s,MS5.2
WMQ LR LR
comp=E,1μm,15.2s,MS5.2

WMQ LR LR
comp=Z,1μm,13.4s,MS5.0
LSA Lhasa 43.43 280 P **P** **02 47 24.0 +1.2**
LSA AMB AMB
comp=Z,20nm,1.0s,mb4.8
LSA AMB AMB
comp=Z,460nm,7.0s
LSA LR LR
comp=N,700nm,15.0s,MS4.9
LSA LR LR
comp=E,1μm,15.0s,MS4.9
LSA LR LR
comp=Z,1μm,13.0s,MS5.0
LSA Lhasa 43.43 280 *e*P **P** **02 47 23.4 +0.6**
LSA pmax pmax
comp=Z,17nm,0.8s,mb4.8
LSA Lhasa 43.43 280 *e*P **P** **02 47 23.4 +0.6**
comp=Z,17nm,0.8s,mb4.8
KSM Kuching 43.63 230 *e*P **P** **02 47 23.6 -1.0**
NNT Nongplab 43.92 252 P **P** **02 47 28.2 +1.3**
SHL Shillong 44.25 274 *e*P **P** **02 47 28.0 -1.5**
ZAL Zalesovo 45.04 315 PcP PcP 02 49 15.6 -0.8
comp=Z,11nm,0.7s,baz=12,slow=2.7,SNR=0.3
HNR Honiara 45.69 155 PFAKE 02 47 50.0 +8.9
HNR LR LR
comp=Z,622nm,19.0s,MS4.6
SNG Songkhla 46.51 245 P **P** **02 47 47.0 -0.6**
comp=Z,142nm,1.0s,mb5.8
KAKA Kakadu 46.72 193 *e*P **P** **02 47 50.8 +1.6**
comp=Z,42nm,0.9s,mb5.4
MKAR Makanchi Array 46.80 305 P **P** **02 47 49.8 +0.3**
comp=Z,37nm,0.9s,mb5.3,baz=90,slow=8.5,SNR=128
MKAR LR LR 03 07 48.7
comp=Z,793nm,19.8s,MS4.7,baz=87,slow=36
KULM Kulim 47.70 244 *e*P **P** **02 47 55.3 -1.8**
SVW2 Sparrevohn 48.08 35 *e*P **P** **02 47 59.4 0.0**
JIRN Jiri 48.22 279 *e*P **P** **02 48 01.3 +0.5**
comp=Z,299nm,1.0s,mb6.3
GUN Gumba 48.38 279 *e*P **P** **02 48 02.5 +0.4**
comp=Z,257nm,1.0s,mb6.2
KURK Kurchatov 48.87 311 *e*P **P** **02 48 05.2 -0.4**
KURK pmax pmax
comp=Z,200nm,0.8s,mb6.2
KURK Kurchatov 48.87 311 *e*P **P** **02 48 05.2 -0.4**
comp=Z,200nm,0.8s,mb6.2
PKI Pulchoki 48.89 279 *e*P **P** **02 48 05.8 -0.3**
comp=Z,203nm,1.3s,mb6.0
KKN Kakani 48.92 280 *e*P **P** **02 48 05.7 -0.6**
comp=Z,140nm,0.9s,mb6.0
DMN Daman 49.13 279 *e*P **P** **02 48 07.8 -0.1**
comp=Z,123nm,1.1s,mb5.8
GKN Gorkha 49.37 280 *e*P **P** **02 48 09.8 0.0**
comp=Z,280nm,1.0s,mb6.2
RSO Redoubt South 49.42 36 *e*P **P** **02 48 09.1 -0.6**
IMA Indian Mountai 49.56 29 *e*P **P** **02 48 10.7 0.0**
IMA pmax pmax
comp=Z,105nm,2.1s,mb5.5
IMA Indian Mountai 49.56 29 *e*P **P** **02 48 10.7 0.0**
comp=Z,104nm,2.1s,mb5.5
SPU Mount Spurr 49.80 35 *e*P **P** **02 48 12.1 -0.4**
KOLN Koldanda 50.31 280 *e*P **P** **02 48 16.0 -1.0**
comp=Z,235nm,1.3s,mb6.1
SLKM Skilak Lake 50.67 36 P **P** **02 48 18.2 -1.0**
SLKM Skilak Lake 50.67 36 P **P** **02 48 15.6 -3.6**
AAA Alma-Ata 51.09 301 *e*P **P** **02 48 23.0 +0.4**
AAA S **S** **02 55 50.0 +13**
AAA MLR MLR
comp=Z,1μm,16.0s,MS4.9
PMR Palmer 51.22 35 *e*P **P** **02 48 21.9 -1.4**
PMR pmax pmax
comp=Z,209nm,2.2s,mb5.7
PMR Palmer 51.22 35 *e*P **P** **02 48 21.9 -1.4**
comp=Z,209nm,2.2s,mb5.7
ULHL Ulahol 51.82 300 P **P** **02 48 28.9 +0.7**
SNR=11
COLA College 51.87 31 PFAKE 02 48 40.0 +12
COLA LR LR
comp=Z,1.0nm,19.0s
TKM2 Tokmak 2 52.13 301 P **P** **02 48 31.4 +0.9**
SNR=46
ILAR Eielson Array 52.28 31 P **P** **02 48 29.6 -1.8**
comp=Z,12nm,0.8s,mb4.8,baz=265,slow=6.1,SNR=76
ILAR LR LR 03 07 34.5
comp=Z,248nm,21.4s,MS4.2,baz=281,slow=32
PTH Pithoragarh 52.44 284 *e*P **P** **02 48 32.5 -0.6**
KZA Kyzart 52.57 300 P **P** **02 48 35.5 +1.7**
SNR=13
KBK Karagaybulak 52.65 301 P **P** **02 48 34.9 +0.5**
SNR=33
KSH Kashi 52.68 297 *i* PR 02 48 36.0
KSH *e*AP pP 02 48 46.5 +1.7
KSH *e*XP sP 02 48 50.5 +1.8
KSH *e*PCP PcP 02 49 46.0 +1.8
KSH *e*PP PP 02 50 36.0 +0.9
KSH *e*PCS 02 53 42.5
KSH *e*S **S** **02 56 00.0 +1.5**
KSH *e*SCS ScS 02 58 20.0 +1.6
KSH *e*SS SS 02 59 38.0 +2.1
KSH AMB AMB
comp=Z,170nm,1.4s,mb5.8
KSH AMB AMB
comp=Z,990nm,3.0s
KSH LR LR
comp=N,2μm,14.4s,MS5.5
KSH LR LR
comp=E,2μm,13.4s,MS5.5
CHMS Chumysh 52.71 302 P **P** **02 48 35.2 +0.3**
SNR=11
USP Ospenovka 52.83 302 P **P** **02 48 35.7 -0.1**
SNR=29
FRU Bishkek 52.85 301 ⇓*i*P **P** **02 48 36.1 +0.2**
FRU *i* 02 50 38.0
FRU *e*S **S** **02 56 08.0 +7.3**
FRU *e* 02 58 21.0
FRU pmax pmax
comp=Z,340nm,2.3s,mb5.9
FRU MLR MLR
comp=Z,1μm,15.0s,MS5.0
AAK Ala-Archa 52.98 301 P **P** **02 48 37.2 +0.3**
SNR=12
AAK Ala-Archa 52.98 301 *e*P **P** **02 48 35.9 -1.0**
AAK pmax pmax
comp=Z,31nm,0.9s,mb5.2
AAK MLR MLR
comp=Z,179nm,19.0s,MS4.1
AAK Ala-Archa 52.98 301 *e*P **P** **02 48 35.9 -1.0**
comp=Z,31nm,0.9s,mb5.2
AAK LR LR
comp=Z,179nm,19.0s,MS4.1
CTA Charters Tower 53.22 175 *e*P **P** **02 48 37.7 -1.3**
comp=Z,20nm,2.0s,mb4.7
CTA Charters Tower 53.22 175 P **P** **02 48 37.4 -1.6**
comp=Z,3.5nm,0.5s,mb4.6,baz=345,slow=9.9,SNR=8.0
CTA LR LR 03 10 24.3
comp=Z,237nm,19.7s,MS4.2,baz=119,slow=35
CTAO Charters Tower 53.22 175 *e*P **P** **02 48 35.7 -3.3**
CTAO pmax pmax
comp=Z,11nm,0.9s,mb4.8
CTAO MLR MLR
comp=Z,390nm,20.0s,MS4.5
CTAO Charters Tower 53.22 175 *e*P **P** **02 48 35.7 -3.3**
comp=Z,11nm,0.9s,mb4.8
CTAO LR LR
comp=Z,390nm,20.0s,MS4.5
VOSK Vostochnaya 53.36 314 P **P** **02 48 38.7 -0.9**
VOSK pmax pmax
comp=Z,65nm,1.1s,mb5.5
VOSK Vostochnaya 53.36 314 *i* P **P** **02 48 38.8 -0.8**
WRAB Tennant Creek 53.48 189 *e*P **P** **02 48 38.1 -2.8**
WRAB pmax pmax
comp=Z,62nm,1.0s,mb5.5
WRAB MLR MLR
comp=Z,198nm,19.0s,MS4.2
WRAB Tennant Creek 53.48 189 *e*P **P** **02 48 38.1 -2.8**
comp=Z,62nm,1.0s,mb5.5
WRAB LR LR
comp=Z,198nm,19.0s,MS4.2
WB2 Warramunga Arr 53.49 189 ⇓*i*P **P** **02 48 38.7 -2.2**
WRA Warramunga Arr 53.49 189 P **P** **02 48 38.7 -2.2**
comp=Z,33nm,1.0s,mb5.2,baz=7.9,slow=7.6,SNR=85
WRA PcP PcP 02 49 47.6 +0.2
comp=Z,12nm,0.7s,baz=2.5,slow=4.4,SNR=9.8
FITZ Fitzroy Crossi 53.54 200 ⇓*i*P **P** **02 48 40.2 -1.1**
comp=Z,56nm,1.1s,mb5.4
FITZ Fitzroy Crossi 53.54 200 LR LR 03 09 35.5
comp=Z,210nm,19.4s,MS4.2,baz=298,slow=34

KIP Kipapa 53.66 87 PFAKE 02 48 50.0 +7.8
KIP LR LR
comp=Z,1μm,22.0s,MS5.0
BVA0 Borovoye Array 53.67 315 *i* P **P** **02 48 41.2 -0.6**
BVA0 pmax pmax
comp=Z,13nm,1.3s,mb4.7
AML Almayashu 53.68 301 P **P** **02 48 43.4 +1.3**
SNR=56
BRVK Borovoye 53.73 315 *e*P **P** **02 48 41.7 -0.5**
BRVK pmax pmax
comp=Z,19nm,0.9s,mb5.0
BRVK MLR MLR
comp=Z,75nm,21.0s
BRVK Borovoye 53.73 315 *e*P **P** **02 48 41.7 -0.5**
comp=Z,19nm,0.9s,mb5.0
BRVK LR LR
comp=Z,75nm,21.0s
BLSP Bilaspur 53.79 274 *e*P **P** **02 48 42.0 -1.1**
DDI Dehra Dun 53.92 285 *e*P **P** **02 48 42.6 -1.3**
SDNR Sundarnagar 54.37 287 *e*P **P** **02 48 46.0 -1.3**
THN Thein Dam 55.05 289 *e*P **P** **02 48 50.6 -1.6**
KKAR Karatay Array 55.70 303 *i* P **P** **02 48 56.6 -0.1**
KKAR pmax pmax
comp=Z,134nm,1.1s,mb5.9
KKAR Karatay Array 55.70 303 *i* P **P** **02 48 56.7 0.0**
POHA Pohakuloa 56.49 87 PFAKE 02 49 10.0 +7.3
POHA LR LR
comp=Z,13μm,20.0s
INK Inuvik 57.38 26 P **P** **02 49 07.4 -1.1**
comp=Z,16nm,0.8s,mb5.1,baz=289,slow=6.2,SNR=34
INK LR LR 03 12 10.8
comp=Z,556nm,22.0s,MS4.6,baz=285,slow=34
INK Inuvik 57.38 26 *e*P **P** **02 49 07.3 -1.2**
comp=Z,32nm,0.9s,mb5.3
MBWA Marble Bar 58.29 205 *e*P **P** **02 49 14.2 -1.2**
comp=Z,39nm,1.0s,mb5.4
SIT Sitka 58.76 39 PFAKE 02 49 30.0 +12
SIT LR LR
comp=Z,1μm,22.0s,MS5.0
HYB Hyderabad 58.94 271 ⇓*e*P **P** **02 49 19.5 -0.5**
HYB pmax pmax
comp=Z,160nm,1.0s,mb6.0
HYB Hyderabad 58.94 271 ⇓*e*P **P** **02 49 19.5 -0.5**
comp=Z,160nm,1.0s,mb6.0
HYB Hyderabad 58.94 271 ⇓*i*P **P** **02 49 19.5 -0.5**
comp=Z,160nm,1.0s,mb6.0
ARU Arti 59.67 320 *e*P **P** **02 49 23.6 -0.9**
ARU *e**PP pP 02 49 34.7 -0.1
ARU pmax pmax
comp=Z,99nm,1.1s,mb5.8
ARU MLR MLR
comp=Z,93nm,19.0s,MS3.9
ARU Arti 59.67 320 *e*P **P** **02 49 23.6 -0.9**
comp=Z,100nm,1.1s,mb5.8
ARU *e*pP pP 02 49 34.7 -0.1
ARU LR LR
comp=Z,93nm,19.0s,MS3.9
DZM Mont Dzumac 59.68 154 *e*P **P** **02 49 24.8 -0.2**
DZM Mont Dzumac 59.68 154 P **P** **02 49 24.7 -0.3**
comp=Z,29nm,1.0s,mb5.3,baz=22,slow=8.7,SNR=13
AB31 Akbulak array 60.95 312 *i* P **P** **02 49 32.3 -1.0**
AB31 pmax pmax
comp=Z,18nm,0.7s,mb5.3
AB31 Akbulak array 60.95 312 *i* P **P** **02 49 32.4 -0.9**
DLBC Dease Lake 61.13 37 *e*P **P** **02 49 34.6 +0.2**
PALK Pallekele 62.38 260 *e*P **P** **02 49 43.2 -0.2**
comp=Z,108nm,1.4s,mb5.8
PALK LR LR
comp=Z,132nm,19.0s,MS4.1
KAD Karad 62.65 273 *i* P **P** **02 49 44.8 -0.3**
KBS Kingsbay 64.45 351 PFAKE 02 50 10.0 +14
KBS LR LR
comp=Z,289nm,20.0s,MS4.5
STKA Stephens Creek 64.83 181 *e*P **P** **02 49 57.8 -1.5**
comp=Z,27nm,0.9s,mb5.3
STKA *e* pP 02 50 08.7 -0.9
STKA Stephens Creek 64.83 181 P **P** **02 49 58.1 -1.2**
comp=Z,30nm,0.9s,mb5.3,baz=350,slow=7.4,SNR=38
STKA LR LR 03 17 55.0
comp=Z,363nm,18.9s,MS4.6,baz=139,slow=36
LVZ Lovozero 65.82 337 *d* iP **P** **02 50 03.0 -2.0**
LVZ *e*S S 02 58 51.8 +3.9
LVZ pmax pmax
comp=Z,32nm,1.0s,mb5.3
LVZ pmax pmax
comp=N,12nm,1.2s
LVZ pmax pmax
comp=E,7.0nm,1.1s
LVZ MLR MLR
comp=Z,839nm,17.0s,MS5.0
LVZ MLR MLR
comp=N,375nm,12.0s,MS5.0
LVZ MLR MLR
comp=E,628nm,17.0s,MS5.0
LVZ Lovozero 65.82 337 *i* P **P** **02 50 03.6 -1.4**
RES Resolute Bay 66.03 14 *e*P **P** **02 50 05.1 -1.2**
RES *e**PP pP 02 50 16.1 -0.4
RES pmax pmax
comp=Z,97nm,1.3s,mb5.7
RES Resolute Bay 66.03 14 *e*P **P** **02 50 05.1 -1.1**
comp=Z,97nm,1.3s,mb5.7
RES *e*pP pP 02 50 16.1 -0.4
YKW3 Yellowknife Ar 66.63 29 *e*P **P** **02 50 08.7 -1.6**
YKW3 *e*pP pP 02 50 19.2 -1.4
YKA Yellowknife Ar 66.67 30 P **P** **02 50 09.1 -1.4**
comp=Z,8.8nm,0.8s,mb4.9,baz=295,slow=6.2,SNR=49
YKA LR LR 03 17 23.1
comp=Z,333nm,21.2s,MS4.5,baz=260,slow=34
YKA PKPPKP 03 18 42.4
comp=Z,0.2nm,0.3s,baz=153,slow=2.8,SNR=3.9
YKA Yellowknife Ar 66.67 30 P **P** **02 50 09.2 -1.4**
YKA LR LR 03 17 23.1
YKA P'P' 03 18 42.4
KEV Kevo 67.19 340 *e*p **P** **02 50 12.1 -1.6**
comp=Z,19nm,0.9s,mb5.1
KEV Kevo 67.19 340 *e*P **P** **02 50 12.1 -1.6**
KEV pmax pmax
comp=Z,19nm,0.9s,mb5.1
ARCES ARCESS Array B 67.75 340 P **P** **02 50 16.9 -0.3**
comp=Z,17nm,0.8s,mb5.1,baz=56,slow=8.7,SNR=52
ARCES LR LR 03 26 20.3
comp=Z,620nm,18.1s,MS4.9,baz=61,slow=42
ARCES ARCESS Array B 67.75 340 P **P** **02 50 16.9 -0.3**
ARCES LR LR 03 26 20.3
ARE0 ARCESS Array S 67.75 340 *e*P **P** **02 50 16.7 -0.6**
OCWA Octopus Mounta 68.36 46 PFAKE 02 50 30.0 +8.6
OCWA LR LR
comp=Z,312nm,19.0s,MS4.6
PGC Sidney 68.40 45 *e*P **P** **02 50 21.4 -0.3**
comp=Z,62nm,1.3s,mb5.5
PGC *e*pP pP 02 50 31.2 -0.7
KLBR Kellerberrin 68.59 202 *e*P **P** **02 50 21.5 -1.6**
comp=Z,77nm,1.1s,mb5.5
JCW Jim Creek 69.51 45 P **P** **02 50 28.8 +0.2**
DAG Danmarks Havn 69.55 355 ⇑*i*P **P** **02 50 27.8 -0.5**
DAG pmax pmax
comp=Z,17nm,0.8s,mb5.0
DAG Danmarks Havn 69.55 355 ⇑*i*P **P** **02 50 27.8 -0.5**
comp=Z,17nm,0.8s,mb5.0
NWAO Narrogin (SRO) 69.98 202 *e*P **P** **02 50 30.6 -1.0**
NWAO pmax pmax
comp=Z,115nm,1.3s
NWAO Narrogin (SRO) 69.98 202 *e*P **P** **02 50 30.6 -1.1**
comp=Z,115nm,1.3s,mb5.7
TDL Tradedollar La 70.19 47 P **P** **02 50 33.1 +0.4**
COR Corvallis 70.33 49 PFAKE 02 50 40.0 +6.5
COR LR LR
comp=Z,147nm,20.0s,MS4.2
NLW Nelson Butte 70.51 45 P **P** **02 50 34.7 +0.1**
TWW Teanaway 70.64 46 P **P** **02 50 35.8 +0.4**
MOS Moscow 70.70 325 ⇖*i*P **P** **02 50 35.2 -0.4**
MOS *e* 02 50 54.6
MOS *e* 02 53 12.2
MOS *e*S S 02 59 46.6 +0.4
MOS pmax pmax
comp=Z,500nm,2.5s,mb6.0
MOS pmax pmax
comp=Z,175nm,1.5s,mb5.8
WTV Waterville 70.92 45 P **P** **02 50 36.5 -0.6**
EBG Ellensburg 70.93 46 P **P** **02 50 37.4 +0.2**
MAK Makhachkala 71.37 309 *e*P **P** **02 50 37.0 -2.9**
MAK *e* 02 53 26.0
MAK *e*PPP PPP 02 55 04.0 +2.5
MAK *e*S S 02 59 58.0 +3.8
MAK *e*PS PS 03 00 41.0 +14
MAK pmax pmax
comp=Z,900nm,5.0s
MAK smax
comp=E,600nm,7.0s
MAK MLR MLR
comp=N,3μm,13.0s,MS5.8
MAK MLR MLR
comp=E,2μm,13.0s,MS5.8
MAK MLR MLR
comp=Z,4μm,13.0s,MS5.8
OBN Obninsk 71.54 324 *be*P **P** **02 50 39.0 -1.7**
OBN *i* pP 02 50 50.8 -0.2
OBN *e* 02 51 00.0
OBN *e* 02 53 24.8
OBN *i* S S 02 59 58.7 +2.8
OBN *i* 03 00 45.0
OBN pmax pmax
comp=Z,122nm,1.5s,mb5.6
OBN MLR MLR
comp=Z,700nm,13.0s,MS5.1
OBN Obninsk 71.54 324 *e*P **P** **02 50 39.1 -1.6**
comp=Z,131nm,1.4s,mb5.7
OBN LR LR
comp=Z,135nm,19.0s,MS4.2
CROR Criterion Ridg 71.59 48 P **P** **02 50 41.3 +0.1**
KHMM Horse Mountain 71.79 53 *e*P **P** **02 50 43.1 +0.7**
OD2 Odessa Site #2 71.81 45 P **P** **02 50 41.9 -0.5**
EDM Edmonton 71.82 38 *e*P **P** **02 50 41.7 -0.7**
EDM *e**PP pP 02 50 51.8 -0.9
VOR Voronezh 71.96 320 *e*P **P** **02 50 42.5 -0.7**
VOR *e**PP pP 02 50 50.0 -3.6
VOR pmax pmax
comp=Z,100nm,1.8s,mb5.4
VOR pmax pmax
comp=N,50nm,1.3s
VOR pmax pmax
comp=E,90nm,1.3s
KAF Kangasniemi 71.97 334 *ep* **P** **02 50 41.0 -2.1**
baz=50,slow=5.7
YBH Yreka Blue Hor 72.06 52 *e*P **P** **02 50 43.8 -0.2**
YBH pmax pmax
comp=Z,86nm,1.6s
YBH MLR MLR
comp=Z,747nm,22.0s
YBH Yreka Blue Hor 72.06 52 *e*P **P** **02 50 43.8 -0.2**
comp=Z,86nm,1.6s,mb5.4
YBH LR LR
comp=Z,747nm,22.0s,MS4.9
NEW Newport 72.30 44 *e*P **P** **02 50 44.6 -0.7**
NEW *e**PP pP 02 50 55.7 +0.1
NEW pmax pmax
comp=Z,25nm,0.9s
NEW MLR MLR
comp=Z,382nm,21.0s
NEW Newport 72.30 44 *e*P **P** **02 50 44.6 -0.7**
comp=Z,25nm,0.9s,mb5.1
NEW *e*pP pP 02 50 55.7 0.0
NEW LR LR
comp=Z,382nm,21.0s,MS4.7
LHEM Herd Peak 72.43 52 P **P** **02 50 46.5 +0.3**
KCPM Cahto Peak 72.46 54 *e*P **P** **02 50 46.7 +0.3**
KCPM *e*pP pP 02 50 56.1 -0.6
FINES FINESS Array B 72.46 333 P **P** **02 50 45.8 -0.3**
comp=Z,36nm,0.9s,mb5.3,baz=104,slow=7.9,SNR=90
FINES LR LR 03 23 14.9
comp=Z,402nm,18.2s,MS4.7,baz=225,slow=36
WDC Whiskeytown Da 72.72 53 *e*P **P** **02 50 47.8 -0.2**
WDC pmax pmax
comp=Z,19nm,1.0s,mb5.0
WDC MLR MLR
comp=Z,651nm,22.0s,MS4.9
WDC Whiskeytown Da 72.72 53 *e*P **P** **02 50 47.8 -0.1**
comp=Z,19nm,1.0s,mb5.0
WDC LR LR
comp=Z,651nm,22.0s,MS4.9
LASM Arnica Sink 72.86 51 P **P** **02 50 49.1 +0.4**
HOPS Hopland 73.14 54 PFAKE 02 51 00.0 +10
HOPS LR LR
comp=Z,1μm,20.0s,MS5.2
GOF Gofitskoye 73.16 313 ⇑*i*P **P** **02 50 50.2 -0.2**
GOF pmax pmax
comp=Z,44nm,0.8s,mb5.4
MOD Modoc 73.54 51 *e*P **P** **02 50 52.7 0.0**
comp=Z,20nm,1.0s,mb5.0
WALA Waterton Lakes 73.71 42 *e*P **P** **02 50 53.4 -0.1**
comp=Z,17nm,0.9s,mb5.0
TI2 Plekhanov 73.75 309 *e*P **P** **02 50 53.0 -0.9**
TI2 *e* 03 00 24.0
TBLG Delisi 73.76 309 P **P** **02 50 52.5 -1.5**
ZEI Tsey 73.77 311 *e*P **P** **02 50 51.9 -2.1**
ZEI *i* *PP pP 02 51 00.9 -3.5
ZEI *i* 02 53 38.7
ZEI pmax pmax
comp=Z,11nm,1.1s,mb4.7
BMO Blue Mountains 73.93 47 *e*P **P** **02 50 54.7 -0.1**
comp=Z,17nm,1.1s,mb4.9
BMO LR LR
comp=Z,296nm,20.0s,MS4.6
KIV Kislovodsk 73.93 312 *d* iP **P** **02 50 55.5 +0.6**
KIV *e* 02 51 09.3
KIV *e*S S 03 00 27.0 +3.8
KIV *e*SS SS 03 05 11.3 +1.1
KIV pmax pmax
comp=E,24nm,0.9s
KIV pmax pmax
comp=Z,47nm,0.9s,mb5.4
KIV Kislovodsk 73.93 312 *e*P **P** **02 50 56.0 +1.1**
comp=Z,60nm,1.0s,mb5.5
KIV LR LR
comp=Z,113nm,19.0s,MS4.2
VSU Vasula 74.05 330 *i* P **P** **02 50 55.0 -0.3**
VSU Vasula 74.05 330 *i* P **P** **02 50 55.0 -0.3**
ONI Oni 74.16 311 P **P** **02 50 56.4 +0.1**
WVOR Wild Horse Val 74.34 49 *e*P **P** **02 50 56.9 -0.4**
WVOR pmax pmax
comp=Z,32nm,1.2s,mb5.1
WVOR MLR MLR
comp=Z,629nm,20.0s,MS4.9
WVOR Wild Horse Val 74.34 49 *e*P **P** **02 50 56.9 -0.4**
comp=Z,32nm,1.2s,mb5.1
WVOR LR LR
comp=Z,629nm,20.0s,MS4.9
SUMG Summit 74.41 0 *e*P **P** **02 50 57.8 +0.7**
comp=Z,45nm,0.9s,mb5.4
SUMG *e*pP pP 02 51 08.7 +1.2
BEKR Beckwourth 74.53 52 *e*P **P** **02 50 57.9 -0.5**
comp=Z,24nm,0.9s,mb5.1
BEKR *e*pP pP 02 51 08.7 -0.1
GNI Garni 74.55 308 *d* iP **P** **02 51 00.2 +1.6**
GNI pmax pmax
comp=Z,69nm,1.4s
GNI Garni 74.55 308 LR LR 03 24 52.1
comp=Z,363nm,19.1s,MS4.7,baz=59,slow=37
GNI Garni 74.55 308 *e*P **P** **02 50 59.9 +1.3**
comp=Z,61nm,1.1s,mb5.4
GNI LR LR
comp=Z,400nm,20.0s,MS4.7
MSO Missoula 74.89 44 *e*P **P** **02 50 59.8 -0.5**
comp=Z,9.6nm,1.1s,mb4.6
MSO LR LR
comp=Z,187nm,21.0s,MS4.4
CHMT Chamberlain Mo 75.24 43 *e*P **P** **02 51 01.9 -0.4**
SAO San Andreas Ge 75.37 56 P **P** **02 51 02.8 -0.5**
SAO MLR MLR
comp=Z,906nm,20.0s,MS5.1
CMB Columbia Colle 75.44 54 *e*P **P** **02 51 03.3 -0.4**
CMB pmax pmax
comp=Z,28nm,1.0s,mb5.2
CMB MLR MLR
comp=Z,1μm,22.0s,MS5.1
CMB Columbia Colle 75.44 54 *e*P **P** **02 51 03.3 -0.5**
comp=Z,28nm,1.0s,mb5.2
CMB LR LR
comp=Z,1μm,22.0s,MS5.1
SCO Scoresbysund 75.89 355 *i* P **P** **02 51 06.5 +0.9**
SCO pmax pmax
comp=Z,30nm,0.7s,mb5.3
SCO Scoresbysund 75.89 355 *i* P **P** **02 51 06.5 +0.9**
comp=Z,30nm,0.7s,mb5.3
IZAR Zarasai 75.96 328 *e*P **P** **02 51 06.4 +0.1**
IZAR AMb AMB 02 51 09.3
comp=Z,25nm,1.2s,mb5.0
SOC Sochi 75.96 313 *d* iP **P** **02 51 05.6 -0.9**
SOC *e* pP 02 51 16.9 -0.1
SOC *e* 02 53 52.1
SOC *i* S S 03 00 42.0 -3.7

SOC *e* 03 01 25.9
SOC pmax pmax
comp=Z,45nm,0.8s,mb5.5
SOC pmax pmax
comp=N,15nm,0.9s
SOC pmax pmax
comp=E,8.0nm,0.7s
SOC pmax pmax
comp=Z,61nm,0.8s,mb5.6
SOC MLR MLR
comp=N,362nm,21.0s,MS4.9
SOC MLR MLR
comp=E,545nm,21.0s,MS4.9
SOC MLR MLR
comp=Z,810nm,21.0s,MS5.0
IDID Didziasalis 76.02 328 *i* P **P** **02 51 06.9 +0.3**
IDID AMb AMB 02 51 09.7
comp=Z,16nm,1.4s,mb4.8
IDID *e*pP pP 02 51 17.4 +0.4
MNK Minsk 76.03 327 *e*P **P** **02 51 03.0 -3.7**
ISAL Salakas 76.12 328⇓ *i*P **P** **02 51 07.6 +0.4**
ISAL AMb AMB 02 51 10.4
comp=Z,31nm,1.5s,mb5.0
ISAL *e*pP pP 02 51 18.1 +0.5
HRY Holter Researc 76.16 43 *e*P **P** **02 51 07.9 +0.3**
HRY *e*pP pP 02 51 18.1 +0.1
IIGN Ignalina 76.22 328 *e*P **P** **02 51 08.2 +0.4**
TVAN Van 76.28 307 *i* P **P** **02 51 09.4 +1.0**
BMN Battle Mountai 76.29 51 *e*P **P** **02 51 09.0 +0.5**
BMN pmax pmax
comp=Z,27nm,1.1s,mb5.1
BMN MLR MLR
comp=Z,673nm,19.0s,MS5.0
BMN Battle Mountai 76.29 51 *e*P **P** **02 51 09.0 +0.5**
comp=Z,27nm,1.1s,mb5.1
BMN LR LR
comp=Z,673nm,19.0s,MS5.0
HLID Hailey 76.38 47 *e*P **P** **02 51 09.0 +0.1**
comp=Z,26nm,1.5s,mb5.0
FFC Flin Flon 76.44 33 *e*P **P** **02 51 08.9 -0.1**
FFC *e**PP pP 02 51 18.8 -0.6
FFC pmax pmax
comp=Z,34nm,1.0s,mb5.2
FFC MLR MLR
comp=Z,95nm,20.0s,MS4.1
FFC Flin Flon 76.44 33 *e*P **P** **02 51 08.9 -0.1**
comp=Z,34nm,1.0s,mb5.2
FFC *e*pP pP 02 51 18.8 -0.6
FFC LR LR
comp=Z,95nm,20.0s,MS4.1
HAKT HAKKARI 76.58 306 *i* P **P** **02 51 10.2 0.0**
OMM Old Mammoth Mi 76.60 54 *e*P **P** **02 51 10.6 +0.3**
OMM *e*pP pP 02 51 21.9 +1.2
MCMT McKenzie Canyo 76.62 45 *e*P **P** **02 51 10.2 0.0**
NVAR Mina Array Bea 76.64 53 P **P** **02 51 10.3 -0.2**
comp=Z,6.3nm,0.8s,mb4.6,baz=296,slow=4.0,SNR=50
ANN Anapa 76.67 315 *e*P **P** **02 51 09.0 -1.5**
ANN *e*S S 03 00 55.4 +2.0
ANN pmax pmax
comp=Z,103nm,1.1s,mb5.7
ANN MLR MLR
comp=N,425nm,15.0s,MS5.0
ANN MLR MLR
comp=E,340nm,15.0s,MS5.0
ANN MLR MLR
comp=Z,409nm,15.0s,MS4.9
PTRM Twissleman Ran 76.79 56 *e*P **P** **02 51 11.7 +0.3**
BOZ Bozeman (W) 76.88 44 *e*P **P** **02 51 11.7 +0.1**
BOZ pmax pmax
comp=Z,185nm,2.0s,mb5.7
BOZ MLR MLR
comp=Z,304nm,22.0s,MS4.6
BOZ Bozeman (W) 76.88 44 *e*P **P** **02 51 11.7 +0.1**
comp=Z,184nm,2.0s,mb5.7
BOZ LR LR
comp=Z,304nm,22.0s,MS4.6
MTUM Tungsten Hills 77.03 54 *e*P **P** **02 51 12.7 +0.1**
ELK Elko 77.40 49 *e*P **P** **02 51 14.8 +0.2**
ELK pmax pmax
comp=Z,11nm,0.9s
ELK MLR MLR
comp=Z,603nm,22.0s
ELK Elko 77.40 49 *e*P **P** **02 51 14.8 +0.2**
comp=Z,11nm,0.9s,mb4.8
ELK LR LR
comp=Z,603nm,22.0s,MS4.9
QLMT Earthquake Lak 77.45 44 *e*P **P** **02 51 15.8 +0.9**
TPH Tonopah 77.55 53 *e*P **P** **02 51 15.8 +0.3**
TPH pmax pmax
comp=Z,131nm,2.0s,mb5.5
TPH MLR MLR
comp=Z,957nm,20.0s,MS5.1
TPH Tonopah 77.55 53 *e*P **P** **02 51 15.8 +0.3**
comp=Z,131nm,2.0s,mb5.5
TPH LR LR
comp=Z,957nm,20.0s,MS5.1
AKASG Malin Array Be 77.71 323 P **P** **02 51 15.2 -0.9**
comp=Z,10.0nm,0.6s,mb4.9,baz=45,slow=5.8,SNR=5.5
YMR Madison River 77.82 44 *e*P **P** **02 51 18.2 +1.4**
NB2 NORSAR Subarra 77.91 338 P **P** **02 51 16.9 -0.1**
comp=Z,46nm,0.8s,mb5.5,baz=40,slow=5.6
NB2 NORSAR Subarra 77.91 338 P **P** **02 51 16.9 -0.1**
NB2 pmax pmax
comp=Z,46nm,0.8s,mb5.5
NB2 NORSAR Subarra 77.91 338 P **P** **02 51 16.9 -0.1**
baz=40,slow=5.6
NOA NORSAR Array B 77.91 338 P **P** **02 51 17.1 0.0**
comp=Z,41nm,0.8s,mb5.4,baz=39,slow=5.6,SNR=168
NOA LR LR 03 28 46.1
comp=Z,560nm,19.1s,MS4.9,baz=35,slow=38
YNR Norris Junctio 77.96 44 *e*P **P** **02 51 19.7 +2.0**
ISA Isabella 77.99 55 PFAKE 02 51 30.0 +12
ISA LR LR
comp=Z,239nm,19.0s,MS4.5
YFT Old Faithful 78.02 44 *e*P **P** **02 51 20.6 +2.6**
MIB Mutribah 78.05 298 *e*P **P** **02 51 18.2 -0.3**
MIB AMb AMB 02 51 19.4
comp=Z,142nm,0.7s,mb6.0
KBD Kabd 78.11 297 *e*P **P** **02 51 19.1 +0.3**
KBD AMb AMB 02 51 21.9
comp=Z,494nm,1.1s,mb6.4
NAO01 NORSAR Array S 78.17 338 *e*P **P** **02 51 18.3 -0.1**
comp=Z,72nm,1.1s,mb5.5
NAO01 *e*pP pP 02 51 28.6 -0.3
NAO01 LR LR
comp=Z,902nm,19.0s,MS5.1
QRN Al-Qurain 78.17 297 *e*P **P** **02 51 19.4 +0.3**
QRN AMb AMB 02 51 20.7
comp=Z,172nm,0.9s,mb6.0
LKWY Lake 78.21 44 *e*P **P** **02 51 20.9 +1.9**
LKWY pmax pmax
comp=Z,37nm,1.1s,mb5.2
LKWY MLR MLR
comp=Z,348nm,21.0s,MS4.7
LKWY Lake 78.21 44 *e*P **P** **02 51 20.9 +1.9**
comp=Z,37nm,1.1s,mb5.2
LKWY LR LR
comp=Z,348nm,21.0s,MS4.7
DAC Darwin (Calif) 78.26 54 *e*P **P** **02 51 19.2 -0.3**
DAC pmax pmax
comp=Z,16nm,1.1s,mb4.9
DAC MLR MLR
comp=Z,825nm,20.0s,MS5.1
DAC Darwin (Calif) 78.26 54 *e*P **P** **02 51 19.2 -0.2**
comp=Z,16nm,1.1s,mb4.9
DAC LR LR
comp=Z,825nm,20.0s,MS5.1
IMW Indian Meadow 78.28 45 *e*P **P** **02 51 20.4 +1.0**
comp=Z,186nm,2.0s,mb5.7
RDF Al-Radifah 78.35 297 *e*P **P** **02 51 20.8 +0.6**
RDF AMb AMB 02 51 22.7
comp=Z,247nm,1.2s,mb6.0
RRI2 Red Ridge 78.36 46 *e*P **P** **02 51 20.7 +0.8**
comp=Z,126nm,0.6s,mb6.0
HVU Hansel Valley 78.37 48 *e*P **P** **02 51 21.0 +1.1**
NAY Al-Naaiem 78.41 297 *e*P **P** **02 51 21.0 +0.5**
NAY AMb AMB 02 51 23.6
comp=Z,133nm,1.1s,mb5.8
SUW Suwalki 78.44 328⇓ *i*P **P** **02 51 20.1 +0.1**
SUW Suwalki 78.44 328⇓ *i*P **P** **02 51 20.1 +0.1**
comp=Z,300nm,1.4s,mb6.0
SUW *e*S S 03 01 15.5 +3.2
MOOW Moose Ponds 78.48 45 *e*P **P** **02 51 21.7 +1.2**
comp=Z,130nm,1.9s,mb5.5
TPAW Teton Pass 78.50 45 *e*P **P** **02 51 21.5 +0.8**
comp=Z,38nm,1.2s,mb5.2

SIM Simferopol' 78.52 317 *e*P **P** **02 51 19.4 -1.3**
SIM *e* pP 02 51 31.0 -0.2
SIM *e*S S 03 01 17.2 +3.8
SIM pmax pmax
comp=Z,42nm,0.7s,mb5.5
REDW Red Top Meadow 78.64 45 *e*P **P** **02 51 22.3 +0.9**
comp=Z,83nm,1.7s,mb5.4
SNOW Snow King Moun 78.64 45 *e*P **P** **02 51 22.6 +1.3**
comp=Z,26nm,1.1s,mb5.1
LOHW Long Hollow 78.64 45 *e*P **P** **02 51 22.2 +0.9**
comp=Z,65nm,1.8s,mb5.3
MARD Mardin 78.68 307 *i* P **P** **02 51 22.6 +0.8**
AHID Auburn Hatcher 78.83 46 *e*P **P** **02 51 22.5 +0.1**
comp=Z,100nm,1.9s,mb5.4
AHID LR LR
comp=Z,266nm,20.0s,MS4.6
SPUT South Promonto 78.84 48 *e*P **P** **02 51 23.4 +0.8**
MWC Mount Wilson 79.05 56 P **P** **02 51 23.4 -0.4**
MWC Mount Wilson 79.05 56 *e*P **P** **02 51 23.5 -0.3**
HWUT Hardware Ranch 79.21 47 *e*P **P** **02 51 25.3 +0.8**
comp=Z,187nm,2.0s,mb5.7
HWUT LR LR
comp=Z,416nm,21.0s,MS4.8
DGMT Dagmar 79.29 38 *e*P **P** **02 51 24.7 -0.1**
comp=Z,76nm,1.1s,mb5.5
LAO LASA Array 79.31 41 *e*P **P** **02 51 25.8 +0.8**
comp=Z,65nm,1.1s,mb5.5
LAO *e*pP pP 02 51 36.2 +0.7
LAO LR LR
comp=Z,462nm,21.0s,MS4.8
NOQ North Oquirrh 79.41 48 *e*P **P** **02 51 26.5 +0.8**
KONO Kongsberg 79.50 338 *e*P **P** **02 51 25.5 -0.2**
KONO *e**PP pP 02 51 35.7 -0.5
KONO pmax pmax
comp=Z,17nm,0.9s,mb5.0
KONO MLR MLR
comp=Z,683nm,19.0s,MS5.0
KONO Kongsberg 79.50 338 *e*P **P** **02 51 25.5 -0.2**
comp=Z,17nm,0.9s,mb5.0
KONO *e*pP pP 02 51 35.7 -0.5
KONO LR LR
comp=Z,683nm,19.0s,MS5.0
SFJD Kangerlussuaq 79.53 5⇓ *i*P **P** **02 51 25.7 -0.1**
SFJD *i* S S 03 01 27.1 +3.5
SFJD pmax pmax
comp=Z,27nm,0.9s,mb5.2
SFJD MLR MLR
comp=Z,250nm,18.0s,MS4.6
SFJD Kangerlussuaq 79.53 5⇓ *i*P **P** **02 51 25.7 -0.1**
comp=Z,27nm,0.9s,mb5.2
SFJD *i* S S 03 01 27.1 +3.5
SFJD LR LR
comp=Z,250nm,18.0s,MS4.6
SFJD Kangerlussuaq 79.53 5⇓ *i*P **P** **02 51 25.7 -0.1**
comp=Z,27nm,0.9s,mb5.2
SFJD Kangerlussuaq 79.53 5 *i* S S 03 01 27.1 +3.5
comp=Z,250nm,18.0s
TCUT Toone Canyon 79.59 48 *e*P **P** **02 51 27.4 +0.8**
CTU Camp Tracy 79.62 48 *e*P **P** **02 51 27.3 +0.5**
MALT Malatya 79.68 309 *e*P **P** **02 51 28.7 +1.6**
MALT pmax pmax
comp=Z,40nm,1.2s,mb5.2
MALT Malatya 79.68 309 *e*P **P** **02 51 28.7 +1.6**
comp=Z,40nm,1.2s,mb5.2
BW06 Boulder Array 79.75 45 PFAKE 02 51 40.0 +13
BW06 LR LR
comp=Z,361nm,19.0s,MS4.7
PDAR Pinedale Array 79.75 45 P **P** **02 51 27.4 0.0**
comp=Z,2.5nm,0.6s,baz=270,slow=2.6,SNR=20
PDAR LR LR 03 24 30.7
comp=Z,264nm,21.3s,MS4.5,baz=309,slow=34
PDAR Pinedale Array 79.75 45 P **P** **02 51 27.4 0.0**
PDAR LR LR 03 24 30.7
NLU North Lily Min 79.84 49 *e*P **P** **02 51 28.8 +0.8**
JLU Jordanelle 79.86 48 *e*P **P** **02 51 28.8 +0.7**
MPU Maple Canyon 80.08 49 *e*P **P** **02 51 29.7 +0.4**
DAU Daniels Canyon 80.09 48 *e*P **P** **02 51 30.0 +0.7**
BOYT Boyabat 80.12 313 *i* P **P** **02 51 30.2 +0.8**
ARUT Antelope Range 80.20 51 *e*P **P** **02 51 29.3 -0.6**
KIS Kishinev 80.22 320 *e*P **P** **02 51 28.0 -1.9**
KIS *e* 02 51 48.0
KIS *e*S S 03 01 32.0 +0.8
KIS *e* 03 02 14.0
NEN Nelson 80.47 54 *e*P **P** **02 51 31.1 -0.3**
PFO Pinyon Flat Ob 80.50 56 *e*P **P** **02 51 31.2 -0.4**
PFO pmax pmax
comp=Z,35nm,1.1s,mb5.2
PFO MLR MLR
comp=Z,302nm,20.0s,MS4.6
PFO Pinyon Flat Ob 80.50 56 *e*P **P** **02 51 31.2 -0.4**
comp=Z,35nm,1.1s,mb5.2
PFO LR LR
comp=Z,302nm,20.0s,MS4.6
WAR Warsaw 80.59 328 *e*P **P** **02 51 32.6 +0.9**
WAR *e*S S 03 01 41.5 +6.5
WAR Warsaw 80.59 328 *e*P **P** **02 51 32.6 +0.9**
WAR *e*S S 03 01 41.5 +6.6
MSU Marysvale 80.60 50 *e*P **P** **02 51 32.8 +0.7**
CTKT Corum 80.65 313 *i* P **P** **02 51 33.4 +1.1**
IAS Iasi 80.77 321 P **P** **02 51 32.2 +0.5**
TMUT Trail Mountain 80.77 49 *e*P **P** **02 51 31.8 -1.1**
GZT Gaziantep 80.78 309 *i* P **P** **02 51 34.5 +1.4**
BAR Barrett 80.86 57 *e*P **P** **02 51 32.7 -0.8**
BALT Daday 80.97 314 *i* P **P** **02 51 34.7 +0.8**
RPZ Rata Peaks 81.02 159 P **P** **02 51 33.3 -0.8**
comp=Z,14nm,0.8s,mb5.0,baz=9.8,slow=23,SNR=3.8
SRU San Rafael 81.31 49 *e*P **P** **02 51 35.8 +0.1**
GKP Gorka Klasztor 81.50 330⇓ *e*P **P** **02 51 36.9 +0.5**
comp=Z,0.2nm,2.0s
GKP *e*S S 03 01 47.1 +2.8
GKP Gorka Klasztor 81.50 330⇓ *e*P **P** **02 51 36.9 +0.4**
comp=Z,200nm,2.0s,mb5.7
GKP *e*S S 03 01 47.1 +2.8
CDAG Cicekdag 81.50 312 *i* P **P** **02 51 36.4 -0.4**
ELDT Eldivan 81.57 313 *i* P **P** **02 51 37.8 +0.7**
COP Copenhagen 81.59 334 *e*P **P** **02 51 37.2 +0.3**
COP pmax pmax
comp=Z,57nm,0.9s,mb5.5
COP Copenhagen 81.59 334 *e*P **P** **02 51 37.2 +0.3**
comp=Z,56nm,0.9s,mb5.5
COP Copenhagen 81.59 334 *i* P **P** **02 51 37.2 +0.3**
comp=Z,56nm,0.9s,mb5.5
KWP Kalwaria 81.60 325⇓ *i*P **P** **02 51 38.1 +1.1**
KWP Kalwaria 81.60 325⇓ *i*P **P** **02 51 38.1 +1.0**
comp=Z,400nm,1.4s,mb6.2
KWP *e*S S 03 01 50.0 +4.6
AVNT Avonos 81.70 311 *i* P **P** **02 51 38.5 +0.7**
BURAR Bucovina Array 81.71 323⇑ P **P** **02 51 39.1 +1.5**
BURAR Bucovina Array 81.71 323⇑ P **P** **02 51 39.1 +1.5**
CFR Carcaliu 81.74 319⇓ P **P** **02 51 38.1 +0.2**
RWWY Rawlins 81.79 45 *e*P **P** **02 51 38.3 +0.1**
comp=Z,43nm,1.1s,mb5.3
BR131 Keskin Array S 81.89 312 *e*P **P** **02 51 39.5 +0.7**
comp=Z,14nm,0.8s,mb5.0
BRTR Keskin Array B 81.89 312 P **P** **02 51 39.6 +0.8**
comp=Z,18nm,0.8s,mb5.0,baz=105,slow=3.7,SNR=83
TIRR Tirgusor 82.05 319⇓ P **P** **02 51 40.1 +0.6**
VRI Vrincioaia 82.06 320⇓ P **P** **02 51 41.5 +2.0**
RSSD Black Hills 82.11 42 *e*P **P** **02 51 39.9 +0.1**
RSSD pmax pmax
comp=Z,85nm,1.8s,mb5.4
RSSD MLR MLR
comp=Z,100nm,22.0s,MS4.1
RSSD Black Hills 82.11 42 *e*P **P** **02 51 39.9 0.0**
comp=Z,85nm,1.8s,mb5.4
RSSD LR LR
comp=Z,100nm,22.0s,MS4.1
COBT Iskenderun 82.12 309 *i* P **P** **02 51 41.3 +1.3**
MUD Monsted U'grnd 82.15 336⇓ *i*P **P** **02 51 40.0 +0.3**
comp=Z,37nm,0.9s,mb5.3
MUD *i* pP 02 51 51.0 +0.7
comp=Z,550nm,16.0s
HARR Harsova 82.16 319⇑ P **P** **02 51 41.3 +1.2**
ULM Lac du Bonnet 82.20 33 P **P** **02 51 40.0 -0.2**
comp=Z,8.0nm,0.8s,mb4.7,baz=306,slow=4.6,SNR=9.5
ULM LR LR 03 25 44.8
comp=Z,298nm,20.2s,MS4.7,baz=315,slow=34
ULM Lac du Bonnet 82.20 33 *e*P **P** **02 51 39.2 -0.9**
comp=Z,53nm,1.4s,mb5.3
ULM LR LR
comp=Z,707nm,22.0s,MS5.0
KOLS Kolonicke sedl 82.28 325 *i* P **P** **02 51 41.6 +1.0**
PPT Papeete 82.30 117 *e*LR LR 03 16 34.3
comp=Z,638nm,24.5s
PPT Papeete 82.30 117 LR LR 03 21 19.2

comp=Z,422nm,19.9s,MS4.8,baz=311,slow=31
ANTO Ankara 82.33 313 P **P** **02 51 42.1 +1.1**
SGKT Sivrigoynuk 82.35 314 *i* P **P** **02 51 42.1 +1.0**
STHS Stebnicka Huta 82.44 326 *i* P **P** **02 51 42.6 +1.2**
OJC Ojcow 82.56 327⇓ *i*P **P** **02 51 42.5 +0.5**
OJC *e*S S 03 01 56.8 +1.6
OJC MLR MLR 03 31 35.3
comp=Z,600nm,19.3s,MS5.0
CRVS Cervenica-Dubn 82.69 325 *e*P **P** **02 51 43.2 +0.5**
CRVS *e*S S 03 01 51.3 -5.3
MLR Muntele Rosu 82.72 321 P **P** **02 51 43.7 +0.8**
MLR pmax pmax
comp=Z,12nm,0.8s
MLR Muntele Rosu 82.72 321 P **P** **02 51 43.7 +0.7**
comp=Z,12nm,0.8s,mb5.0,baz=359,slow=4.6,SNR=25
MLR Muntele Rosu 82.72 321⇓ P **P** **02 51 43.9 +1.0**
MLR Muntele Rosu 82.72 321⇓ P **P** **02 51 43.9 +1.0**
NIE Niedzica 82.88 326⇓ *i*P **P** **02 51 44.9 +1.2**
PHWY Pilot Hill 83.07 45 *e*P **P** **02 51 45.1 +0.3**
VOIR 83.23 321⇓ P **P** **02 51 46.5 +0.9**
RAC Raciborz 83.38 328 *e*P **P** **02 51 47.5 +1.3**
RAC MLR MLR 03 35 29.1
comp=Z,800nm,15.4s,MS5.2
KECS Kecovo 83.45 325 *e*P **P** **02 51 47.4 +0.8**
HILS Ha'il 83.46 298 P **P** **02 51 48.0 +0.9**
SMCO Snowmass 83.47 47 *e*P **P** **02 51 47.9 +0.9**
RUE Ruedersdorf 83.50 331 *e*P **P** **02 51 46.7 -0.1**
comp=Z,39nm,1.0s,mb5.4
DRGR 83.53 323⇓ P **P** **02 51 48.2 +1.2**
KDHN Kadinhani 83.56 312 *i* P **P** **02 51 47.7 +0.3**
OKC Ostrava-Krasne 83.58 327⇓ *i*P **P** **02 51 47.9 +0.7**
OKC *e*S S 03 02 06.9 +1.5
OKC AMS AMS 03 35 30.0
comp=Z,800nm,16.0s
KSP Ksiaz 83.67 329⇓ *e*P **P** **02 51 48.6 +1.0**
KSP *e*pP pP 02 51 58.4 +0.2
KSP *e*PP PP 02 54 58.0 -4.3
KSP *e*S S 03 02 08.0 +1.7
KSP LR LR
comp=Z,2μm,15.3s,MS5.5
KSP Ksiaz 83.67 329⇓ *i*P **P** **02 51 48.5 +0.8**
comp=Z,300nm,1.4s,mb6.2
KSP *e*S S 03 02 08.3 +2.0
BSEG Bad Segeberg 83.72 334 *e*P **P** **02 51 48.2 +0.4**
ESKT Eskisehir 83.73 314 *i* P **P** **02 51 48.1 -0.1**
MORC Moravsky Berou 83.89 328 *e*P **P** **02 51 49.3 +0.5**
DPC Dobruska-Polom 84.02 329⇓ *i*P **P** **02 51 50.5 +1.1**
DPC *e*PP PP 02 55 02.0 -3.1
DPC *e*S S 03 02 10.6 +0.8
DPC AMS AMS 03 37 00.0
comp=Z,1μm,13.8s
UPC Upice 84.03 329⇓ *e*P **P** **02 51 49.4 -0.1**
UPC *e*PP PP 02 55 02.8 -2.4
PSZ Piszkesteto 84.13 325⇓ *i*P **P** **02 51 51.1 +1.1**
ERMK Ermenek 84.21 310 *i* P **P** **02 51 50.9 +0.1**
ASF Jabal al Asfar 84.22 305 P **P** **02 51 52.3 +1.4**
comp=Z,53nm,0.9s,mb5.7,baz=279,slow=2.8,SNR=69
VYHS Vyhne 84.22 326 *i* P **P** **02 51 51.4 +0.9**
VYHS *e*PP PP 02 55 04.1 -2.7
VYHS *e*S S 03 02 15.1 +3.2
KOLL Kolacno 84.36 326 *e*P **P** **02 51 52.3 +1.1**
ULDT Uludag 84.37 315 *i* P **P** **02 51 51.8 +0.4**
HRI Mount Hermon 84.37 306 P **P** **02 51 52.8 +1.2**
QURS Qurayyt al Mil 84.38 304 P **P** **02 51 53.3 +1.5**
KSDI Kefar Szold 84.47 306 P **P** **02 51 53.3 +1.2**
AFFS 'Afif 84.47 295 P **P** **02 51 53.2 +0.9**
KSHT Keshet 84.49 306 P **P** **02 51 53.4 +1.2**
TAOE Nuku Hiva Isla 84.54 104 *e*LR LR 03 17 39.0
comp=Z,4μm,28.9s
PVCC Panska Ves 84.64 330⇓ *i*P **P** **02 51 53.3 +0.8**
PVCC *e*S S 03 02 19.8 +3.9
PVCC AMS AMS 03 37 30.0
comp=Z,900nm,13.3s
BRG Berggiesshubel 84.64 330⇓ *i*P **P** **02 51 53.2 +0.7**
BRG *i* pP 02 52 03.5 +0.4
BRG *e* 02 55 08.2
BRG pmax pmax
comp=Z,40nm,0.9s,mb5.5
BRG Berggiesshubel 84.64 330⇓ *i*P **P** **02 51 53.2 +0.6**
comp=Z,40nm,0.9s,mb5.5
BRG *i* pP 02 52 03.5 +0.4
BRG *e* 02 55 08.2
VRAC Vranov 84.66 328 P **P** **02 51 54.0 +1.4**
CLL Collm 84.70 331⇓ *i*P **P** **02 51 53.1 +0.3**
CLL *e**PP pP 02 52 04.0 +0.6
CLL *e*S S 03 02 17.0 +0.4
CLL pmax pmax
comp=Z,97nm,1.0s,mb5.9
CLL Collm 84.70 331⇓ *i*P **P** **02 51 53.1 +0.3**
comp=Z,97nm,1.0s,mb5.9
CLL *e*pP pP 02 52 04.0 +0.6
CLL *e*S S 03 02 17.0 +0.4
CLL Collm 84.70 331⇓ P **P** **02 51 53.1 +0.3**
comp=Z,logA/T=2.0,mb5.9
CLL *e**PP pP 02 52 04.0 +0.6
CLL *e*PP PP 02 55 07.0 -3.6
CLL *e*S S 03 02 17.0 +0.4
GDZ Gediz 84.83 314 *i* P **P** **02 51 54.0 +0.3**
SMOL Smolenice 84.86 327 *e*P **P** **02 51 55.1 +1.4**
SMOL *e*pP pP 02 52 05.8 +1.6
HNTI Hanita 84.86 306 P **P** **02 51 54.9 +0.8**
SRO Srobarova 84.95 326 *e*P **P** **02 51 55.5 +1.4**
CSS Prodhromos 84.96 309 *e*P **P** **02 51 55.1 +0.6**
comp=Z,27nm,0.8s,mb5.4
TKTP Tekketepe 84.97 313 *i* P **P** **02 51 54.1 -0.4**
SRO1 Iza 85.03 326 *e*P **P** **02 51 55.9 +1.4**
PRU Pruhonice 85.05 329⇓ *i*P **P** **02 51 55.2 +0.6**
PRU *e*PP PP 02 55 11.0 -2.4
PRU *e*S S 03 02 23.6 +3.6
PRU AMS AMS 03 37 10.0
comp=Z,700nm,15.5s
MMLI Mount Malkishu 85.07 306 P **P** **02 51 56.3 +1.2**
TUC Tucson 85.15 54 *e*P **P** **02 51 55.9 +0.4**
TUC pmax pmax
comp=Z,15nm,1.1s,mb5.0
TUC MLR MLR
comp=Z,887nm,20.0s,MS5.2
TUC Tucson 85.15 54 *e*P **P** **02 51 55.9 +0.4**
comp=Z,15nm,1.1s,mb5.0
TUC LR LR
comp=Z,887nm,20.0s,MS5.2
ZST Bratislava 85.24 327 *i* P **P** **02 51 56.7 +1.1**
ZST *e*S S 03 02 26.8 +4.9
ZST *e*SS SS 03 08 02.8 +3.2
ZST Bratislava 85.24 327 *e*S S 03 02 26.8 +4.9
ZST *e*SS SS 03 08 02.8 +3.2
ZST *e*L 03 37 38.1
KAMS Al Khamasin 85.26 291 P **P** **02 51 56.4 +0.1**
OFRI 'Ofer 85.26 306 P **P** **02 51 56.7 +0.6**
SDCO Great Sand Dun 85.27 47 *e*P **P** **02 51 56.6 +0.6**
comp=Z,49nm,1.0s,mb5.6
SDCO *e*pP pP 02 52 07.8 +1.2
SDCO LR LR
comp=Z,489nm,21.0s,MS4.9
CLZ Clausthal 85.34 332 *e*P **P** **02 51 56.6 +0.6**
CLZ pmax pmax
comp=Z,136nm,1.5s,mb5.9
CLZ Clausthal 85.34 332 *e*P **P** **02 51 56.6 +0.6**
comp=Z,136nm,1.5s,mb5.9
MKRJ Makawir 85.45 305 P **P** **02 51 58.1 +1.1**
SLTI Sal'it 85.45 306 P **P** **02 51 57.5 +0.5**
NKC Novy Kostel 85.75 330⇓ *i*P **P** **02 51 58.5 +0.4**
NKC *e*S S 03 02 30.1 +3.3
NKC AMS AMS 03 35 40.0
comp=Z,1μm,15.1s
MOX Moxa 85.78 331⇓ *i*P **P** **02 51 58.9 +0.7**
MOX *e**PP pP 02 52 09.2 +0.4
MOX *e* 02 55 17.2
MOX pmax pmax
comp=Z,63nm,1.5s,mb5.6
MOX MLR MLR
comp=Z,500nm,17.0s,MS5.0
MOX Moxa 85.78 331⇓ *i*P **P** **02 51 58.9 +0.7**
comp=Z,63nm,1.5s,mb5.6
MOX *e*pP pP 02 52 09.2 +0.4
MOX *e*PP PP 02 55 17.2 -2.0
MOX LR LR
comp=Z,500nm,17.0s,MS5.0
MOX Moxa 85.78 331⇓ *i*P **P** **02 51 58.9 +0.7**
comp=Z,logA/T=1.6,mb5.6
MOX pP pP 02 52 09.0 +0.2
MOX PP PP 02 55 17.0 -2.2
MOX QM 03 33 09.0

MOX RM 03 34 25.0
PKSM Moragy 85.94 325⇓*e*P **P** **02 51 59.2 +0.1**
ZAPS Zavoj/Pirot 85.96 321⇓*i*P **P** **02 51 59.8 +0.5**
TBI Tubuai 85.97 121 *e*LR LR 03 18 15.4
comp=Z,642nm,25.0s
SVIS Svilajnac 86.00 322⇑*i*P **P** **02 51 58.3 -1.2**
KHC Kasperske Hory 86.11 329⇓*i*P **P** **02 52 00.3 +0.4**
KHC *e*PP PP 02 55 19.5 -2.5
KHC *e*S S 03 02 33.9 +3.6
KHC AMS AMS 03 36 10.0
comp=Z,900nm,15.7s
VTS Vitosha 86.12 320 *e*P **P** **02 52 01.0 +0.9**
VTS Vitosha 86.12 320 P **P** **02 52 01.2 +1.1**
KBRS Khaybar 86.22 298 P **P** **02 52 02.0 +1.0**
GEC2 GERESS Array S 86.28 329 *e*P **P** **02 52 00.9 +0.2**
GEC2 *e* 02 55 22.2
GEC2 pmax pmax
comp=Z,34nm,1.7s,mb5.3
GEC2 GERESS Array S 86.28 329 *e*P **P** **02 52 00.9 +0.2**
comp=Z,34nm,1.7s,mb5.3
GEC2 *e*PP PP 02 55 22.2 -1.3
GERES GERESS Array B 86.28 329 P **P** **02 52 01.1 +0.4**
comp=Z,2.0nm,0.5s,mb4.6,baz=63,slow=6.0,SNR=25
GERES PP PP 02 55 21.8 -1.6
comp=Z,1.2nm,0.8s,baz=63,slow=6.0,SNR=3.5
GERES PKKPbc 03 09 57.0
comp=Z,0.5nm,0.7s,baz=243,slow=3.0,SNR=4.2
GERES LR LR 03 30 48.7
comp=Z,299nm,18.8s,MS4.7,baz=216,slow=36
LAZ Ladron 86.31 51 *e*P **P** **02 52 01.9 +0.7**
ZFRI Zfri 86.36 304 P **P** **02 52 02.1 +0.5**
WET Wettzell 86.40 329 *e*P **P** **02 52 02.0 +0.7**
WET pmax pmax
comp=Z,72nm,1.9s,mb5.6
WET Wettzell 86.40 329 *e*P **P** **02 52 02.0 +0.7**
comp=Z,72nm,1.9s,mb5.6
ANMO Albuquerque 86.41 50*d i*P **P** **02 52 01.8 +0.1**
ANMO Albuquerque 86.41 50 *e*P **P** **02 52 02.5 +0.8**
comp=Z,19nm,1.1s,mb5.2
ANMO LR LR
comp=Z,822nm,20.0s,MS5.1
MMB Musomiste 86.52 319 *e*P **P** **02 52 02.2 +0.1**
TATS Tathlith 86.54 291 P **P** **02 52 03.5 +0.8**
LENM Lemitar 86.56 51 *e*P **P** **02 52 02.4 -0.1**
LENM *e*pP pP 02 52 11.2 -1.9
PRNI Paran 86.60 304 P **P** **02 52 03.3 +0.5**
ARSA Arzberg 86.66 327⇑*i*P **P** **02 52 03.2 +0.6**
comp=Z,130nm,2.4s,mb5.7
GRA1 Grafenberg Arr 86.67 331 *e*P **P** **02 52 03.4 +0.8**
comp=Z,137nm,1.5s,mb6.0
GRA1 *e*pP pP 02 52 14.2 +1.0
GRA1 *e*PP PP 02 55 25.4 -1.6
GRF Grafenberg Arr 86.67 331 *e*P **P** **02 52 03.4 +0.8**
GRF *e**PP pP 02 52 14.2 +1.0
GRF *e* 02 55 25.4
GRF pmax pmax
comp=Z,137nm,1.5s,mb6.0
GRF Grafenberg Arr 86.67 331 *e*P **P** **02 52 03.4 +0.8**
GRF *e**PP pP 02 52 14.2 +1.0
GRF *e* 02 55 25.4
GRF pmax pmax
comp=Z,137nm,1.5s,mb6.0
GRF Grafenberg Arr 86.67 331 *e*P **P** **02 52 03.4 +0.8**
comp=Z,137nm,1.5s,mb6.0
GRF *e*pP pP 02 52 14.2 +1.0
GRF *e*PP PP 02 55 25.4 -1.6
GRFO Grafenberg 86.67 331 P **P** **02 52 03.5 +0.9**
KKB Krupnik 86.69 319 *e*P **P** **02 52 03.0 +0.1**
KZIT Kziot 86.69 305 P **P** **02 52 03.5 +0.3**
HRFI Mount Harif 86.77 304 P **P** **02 52 04.9 +1.3**
DIVS Divcibare 86.77 322⇑*i*P **P** **02 52 03.4 +0.1**
TBKS Tabuk 86.78 302 P **P** **02 52 04.3 +0.6**
MOA Molln 86.78 328⇓*i*P **P** **02 52 03.7 +0.5**
comp=Z,178nm,3.1s
MOA *i* 03 24 55.1
ESK Eskdalemuir 86.92 341 PFAKE 02 52 20.0 +16
ESK LR LR
comp=Z,115nm,19.0s,MS4.3
AQBJ Aqaba 86.94 304 P **P** **02 52 04.7 +0.3**
MBH Mount Berech 87.00 304 P **P** **02 52 05.0 +0.3**
EIL Elat 87.05 304 P **P** **02 52 05.0 +0.1**
ALWS Ilw as Safayha 87.18 303 P **P** **02 52 05.7 +0.1**
JMOS Jabal al Moall 87.23 303 P **P** **02 52 06.0 +0.1**
TNS Taunus Mts 87.36 332 *e*P **P** **02 52 06.2 +0.2**
TNS *e* 02 55 30.9
TNS pmax pmax
comp=Z,27nm,1.2s,mb5.3
TNS Taunus Mts 87.36 332 *e*P **P** **02 52 06.2 +0.2**
comp=Z,27nm,1.2s,mb5.3
TNS *e*PP PP 02 55 30.9 -2.0
HAQS Haql 87.43 303 P **P** **02 52 07.0 +0.2**
SKO Skopje 87.50 320 *e*P **P** **02 52 07.5 +0.7**
SKO *i* pP 02 52 18.3 +0.9
DJNS Zahran al Janu 87.51 289 P **P** **02 52 08.3 +0.9**
GCIS Gornji Cirnik 87.63 326 *e*P **P** **02 52 07.4 0.0**
OBKA Obir 87.66 327⇓*i*P **P** **02 52 07.4 -0.1**
comp=Z,170nm,3.8s
BDAS Al Bad' 87.68 303 P **P** **02 52 08.0 0.0**
TOD Tromm 87.72 332 *e*P **P** **02 52 08.3 +0.6**
KBA Koelnbreinsper 87.77 328⇓*i*P **P** **02 52 08.1 +0.1**
comp=Z,131nm,2.5s,mb5.7
KBA Koelnbreinsper 87.77 328⇓*i*P **P** **02 52 08.1 +0.1**
KBA pmax pmax
comp=Z,131nm,2.5s,mb5.7
PDKS Podkum 87.78 326 *i*P **P** **02 52 07.9 -0.2**
BLJS Baljurashi 87.81 292 P **P** **02 52 09.8 +0.9**
FUR Furstenfeldbru 87.83 330 *e*P **P** **02 52 08.9 +0.6**
FUR pmax pmax
comp=Z,30nm,0.8s,mb5.6
FUR Furstenfeldbru 87.83 330 *e*P **P** **02 52 08.9 +0.6**
comp=Z,30nm,0.8s,mb5.6
ABH Alteburg 87.98 333 *e*P **P** **02 52 09.5 +0.6**
LJU Ljubljana 88.01 327 *e*P **P** **02 52 08.9 -0.3**
CBKS Cedar Bluff 88.02 44 *e*P **P** **02 52 09.1 -0.3**
CBKS pmax pmax
comp=Z,79nm,1.2s,mb5.8
CBKS MLR MLR
comp=Z,354nm,21.0s,MS4.8
CBKS Cedar Bluff 88.02 44 *e*P **P** **02 52 09.1 -0.3**
comp=Z,79nm,1.2s,mb5.8
CBKS LR LR
comp=Z,354nm,21.0s,MS4.8
BOJS Bojanci 88.08 326 *e*P **P** **02 52 09.4 -0.1**
BOJS *e*SKSac 03 02 37.5
BOJS *e*S S 03 02 53.4 +4.3
RUP Ruppelstein 88.32 333 *e*P **P** **02 52 10.9 +0.4**
JAVS Javornik 88.34 327 *e*P **P** **02 52 10.1 -0.6**
JAVS *e*PP PP 02 55 40.9 +0.1
MOTA Moosalm 88.55 329⇑*i*P **P** **02 52 11.6 -0.1**
comp=Z,46nm,2.1s,mb5.4
MOTA Moosalm 88.55 329⇑*i*P **P** **02 52 11.6 -0.1**
MOTA pmax pmax
comp=Z,46nm,2.1s,mb5.4
LANF Langenberg 88.61 332 *e*P **P** **02 52 12.5 +0.5**
SCHQ Schefferville 88.71 16 P **P** **02 52 12.4 +0.2**
comp=Z,13nm,0.8s,mb5.3,baz=355,slow=5.9,SNR=13
SCHQ LR LR 03 33 05.9
comp=Z,235nm,18.4s,MS4.6,baz=356,slow=36
BFO Black Forest 88.92 331 *e*P **P** **02 52 13.8 +0.3**
BFO pmax pmax
comp=Z,19nm,1.0s,mb5.4
BFO Black Forest 88.92 331 *e*P **P** **02 52 13.8 +0.3**
comp=Z,19nm,1.0s,mb5.4
BAIF Baives 89.08 335 *e*P **P** **02 52 14.3 +0.1**
DAVA Damuels 89.11 330⇓*i*P **P** **02 52 14.7 +0.3**
comp=Z,97nm,2.5s,mb5.7
MNTX Cornudas Mount 89.15 52⇑*e*P **P** **02 52 14.9 -0.1**
comp=Z,50nm,2.0s,mb5.5
MNTX *e*pP pP 02 52 24.3 -1.2
MNTX LR LR
comp=Z,487nm,20.0s,MS4.9
WLS Welschbruch 89.24 332 *e*P **P** **02 52 15.4 +0.4**
CDF Champ du Feu 89.27 332 *e*P **P** **02 52 15.3 +0.2**
comp=Z,40nm,1.2s,mb5.3
CDF Champ du Feu 89.27 332 *e*P **P** **02 52 15.3 +0.2**
CDF pmax pmax
comp=Z,20nm,1.2s,mb5.3
CPRX Cap Rock 89.29 50 *e*P **P** **02 52 15.2 -0.4**
FELD Feldberg 89.42 331 *e*P **P** **02 52 14.7 -1.1**
GDL2 Guadalupe Moun 89.50 51 *e*P **P** **02 52 16.7 +0.1**
KSU1 Kansas State U 89.60 42 *e*P **P** **02 52 16.7 -0.2**
DLF Lyons Farm 89.61 342⇑*i*P **P** **02 52 16.8 +0.2**
DLF Lyons Farm 89.61 342⇑*i*P **P** **02 52 25.8 +9.2**
DCN Croghan 89.76 342⇑*i*P **P** **02 52 17.6 +0.3**
DCN Croghan 89.76 342⇑*i*P **P** **02 52 26.8 +10**
HINF Hinteralfeld 89.92 332 *e*P **P** **02 52 18.4 +0.2**
HAU Haudompre 89.97 332 *e*P **P** **02 52 18.5 +0.1**
HAU *e*R
comp=Z,525nm,18.0s
CABF La Chapelle 91.21 332 *e*P **P** **02 52 24.4 +0.3**
comp=Z,21nm,1.0s,mb5.1
CABF La Chapelle 91.21 332 *e*P **P** **02 52 24.4 +0.3**
CABF pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
ORX Oropa 91.22 330 P **P** **02 52 23.4 -0.8**
GRAM 91.22 328 P **P** **02 52 24.3 +0.1**
VALM 91.26 328 P **P** **02 52 24.3 -0.1**
SARO Sassorosso 91.32 328 P **P** **02 52 24.5 -0.2**
CII Carovilli 91.36 324 *e*P **P** **02 52 24.7 -0.2**
comp=Z,60nm,1.5s,mb5.7
BACM 91.39 328 P **P** **02 52 24.7 -0.3**
CODM 91.40 328 P **P** **02 52 24.7 -0.3**
MAIM 91.49 327 P **P** **02 52 24.1 -1.3**
LOR Lormes 91.53 333 *e*P **P** **02 52 25.6 0.0**
comp=Z,111nm,1.6s,mb5.7
LOR *e*R
comp=Z,382nm,17.5s
LOR Lormes 91.53 333 *e*P **P** **02 52 25.6 0.0**
LOR pmax pmax
comp=Z,55nm,1.6s,mb5.6
LOR MLR MLR
comp=Z,380nm,17.5s,MS4.9
LSD Ceresole Reale 91.71 330 P **P** **02 52 26.5 0.0**
LTX Lajitas 91.79 53 *e*P **P** **02 52 26.8 -0.4**
LTX pmax pmax
comp=Z,77nm,1.6s,mb5.8
LTX MLR MLR
comp=Z,844nm,20.0s,MS5.2
LTX Lajitas 91.79 53 *e*P **P** **02 52 26.8 -0.4**
comp=Z,77nm,1.6s,mb5.8
LTX LR LR
comp=Z,844nm,20.0s,MS5.2
TXAR Lajitas Array 91.79 53 P **P** **02 52 27.4 +0.2**
comp=Z,6.1nm,0.6s,mb5.1,baz=305,slow=3.1,SNR=111
TXAR LR LR 03 28 51.8
comp=Z,716nm,19.8s,MS5.1,baz=265,slow=32
TXAR Lajitas Array 91.79 53 P **P** **02 52 27.4 +0.2**
TXAR LR LR 03 28 51.8
FLN La Foliniere 91.81 336 *e*P **P** **02 52 26.8 -0.1**
comp=Z,28nm,0.9s,mb5.3
FLN *e*R
comp=Z,549nm,22.2s
FLN La Foliniere 91.81 336 *e*P **P** **02 52 26.8 -0.1**
FLN pmax pmax
comp=Z,14nm,0.9s,mb5.3
FLN MLR MLR
comp=Z,550nm,22.3s,MS5.0
LPL La Plagne 91.83 331 *e*P **P** **02 52 27.5 +0.4**
comp=Z,43nm,1.0s,mb5.4
LPL La Plagne 91.83 331 *e*P **P** **02 52 27.5 +0.4**
LPL pmax pmax
comp=Z,22nm,1.0s,mb5.4
SSF Saint Saulge 91.84 333 *e*P **P** **02 52 27.0 0.0**
SSF pmax pmax
comp=Z,16nm,1.0s,mb5.3
SSF Saint Saulge 91.84 333 *e*P **P** **02 52 27.0 0.0**
comp=Z,16nm,1.0s,mb5.3
LPG La Plagne 91.84 330 *e*P **P** **02 52 27.7 +0.6**
comp=Z,36nm,0.8s,mb5.5
LPG La Plagne 91.84 330 *e*P **P** **02 52 27.7 +0.6**
LPG pmax pmax
comp=Z,18nm,0.8s,mb5.5
PCP Pian Castagno 91.85 329 P **P** **02 52 25.9 -1.3**
TIP Timpagrande 91.99 321 *e*P **P** **02 52 27.9 -0.1**
SMF Signal de Mont 92.06 333 *e*P **P** **02 52 28.0 0.0**
comp=Z,73nm,1.4s,mb5.5
SMF Signal de Mont 92.06 333 *e*P **P** **02 52 28.0 0.0**
SMF pmax pmax
comp=Z,37nm,1.4s,mb5.5
FENE Fenestrelle 92.09 330 P **P** **02 52 27.8 -0.5**
AVF Avril sur Loir 92.12 333 *e*P **P** **02 52 28.3 0.0**
comp=Z,58nm,0.8s,mb5.6
AVF Avril sur Loir 92.12 333 *e*P **P** **02 52 28.3 0.0**
AVF pmax pmax
comp=Z,29nm,0.8s,mb5.7
BHB Bricherasio 92.16 330 P **P** **02 52 27.7 -0.9**
BNI Bardonecchia 92.23 330 *e*P **P** **02 52 28.6 -0.3**
BNI pmax pmax
comp=Z,14nm,0.9s,mb5.3
BNI Bardonecchia 92.23 330 *e*P **P** **02 52 28.6 -0.3**
comp=Z,14nm,0.9s,mb5.3
FIN Finale Ligure 92.26 329 P **P** **02 52 27.4 -1.7**
GRR Gorron 92.26 336 *e*P **P** **02 52 29.2 +0.2**
comp=Z,93nm,1.2s,mb5.7
GRR Gorron 92.26 336 *e*P **P** **02 52 29.2 +0.2**
GRR pmax pmax
comp=Z,47nm,1.2s,mb5.7
RRL Cesana Torines 92.30 330 P **P** **02 52 28.9 -0.3**
ROB Roburent 92.34 329 P **P** **02 52 27.9 -1.5**
MBDF Montbardon 92.46 330 *e*P **P** **02 52 29.7 -0.2**
comp=Z,35nm,0.8s,mb5.5
MBDF Montbardon 92.46 330 *e*P **P** **02 52 29.7 -0.2**
MBDF pmax pmax
comp=Z,18nm,0.8s,mb5.5
BGF Bois d'Agland 92.51 333 *e*P **P** **02 52 30.3 +0.2**
comp=Z,19nm,0.9s,mb5.2
BGF Bois d'Agland 92.51 333 *e*P **P** **02 52 30.3 +0.2**
BGF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
MONE Monesi 92.56 329 P **P** **02 52 28.5 -2.0**
ENR Entracque 92.59 329 P **P** **02 52 28.7 -1.8**
STV2 Anna di Valdie 92.61 329 P **P** **02 52 28.2 -2.5**
STV Sta Anna Valdi 92.61 329 P **P** **02 52 28.7 -2.0**
IMI Imperia 92.64 329 P **P** **02 52 29.5 -1.3**
ORIF Oris-en-Rattie 92.67 331 *e*P **P** **02 52 31.1 +0.2**
comp=Z,20nm,0.7s,mb5.3
ORIF *e*R
comp=Z,484nm,20.8s
PLDF La Plantade 92.70 333 *e*P **P** **02 52 32.9 +1.9**
SAOF Saorge 92.72 329 *e*P **P** **02 52 29.6 -1.6**
AUTN L'Aution 92.77 329 *e*P **P** **02 52 30.5 -0.9**
NEGI Negi 92.77 329 P **P** **02 52 29.9 -1.5**
AGO Saint Agoulin 92.82 333 *e*P **P** **02 52 33.6 +2.0**
TOUF Mont Tournerai 92.83 329 *e*P **P** **02 52 31.6 -0.1**
SBF Sospel 92.87 329 *e*P **P** **02 52 31.2 -0.7**
comp=Z,72nm,0.8s,mb5.9
SBF Sospel 92.87 329 *e*P **P** **02 52 31.2 -0.7**
SBF pmax pmax
comp=Z,36nm,0.8s,mb5.8
MVIF Mont Vial 92.97 329 *e*P **P** **02 52 32.4 +0.1**
TCF Toulx Ste Croi 92.97 334 *e*P **P** **02 52 32.5 +0.2**
comp=Z,78nm,1.5s,mb5.6
TCF Toulx Ste Croi 92.97 334 *e*P **P** **02 52 32.5 +0.2**
TCF pmax pmax
comp=Z,39nm,1.5s,mb5.6
REVF Revere 93.00 329 *e*P **P** **02 52 32.3 -0.2**
PYM Petit Puy Mans 93.12 333 *e*P **P** **02 52 34.3 +1.3**
CALN Calern 93.20 329 *e*P **P** **02 52 33.2 -0.2**
VIVF Saint-Julien-l 93.21 331 *e*P **P** **02 52 33.7 +0.3**
comp=Z,47nm,0.9s,mb5.6
VIVF Saint-Julien-l 93.21 331 *e*P **P** **02 52 33.7 +0.3**
VIVF pmax pmax
comp=Z,24nm,0.9s,mb5.6
PGF Pioggiola 93.23 327 *e*P **P** **02 52 32.7 -0.9**
comp=Z,29nm,1.1s,mb5.3
PGF Pioggiola 93.23 327 *e*P **P** **02 52 32.7 -0.9**
PGF pmax pmax
comp=Z,14nm,1.1s,mb5.3
CCM Cathedral Cave 93.28 40 *e*P **P** **02 52 33.3 -0.6**
CCM pmax pmax
comp=Z,21nm,1.1s,mb5.5
CCM MLR MLR
comp=Z,80nm,22.0s,MS4.1
CCM Cathedral Cave 93.28 40 *e*P **P** **02 52 33.3 -0.6**
comp=Z,21nm,1.1s,mb5.5
CCM LR LR
comp=Z,80nm,22.0s,MS4.1
STOF St-Etienne Org 93.41 330 *e*P **P** **02 52 34.1 -0.2**
FRF La Foret Royal 93.45 329 *e*P **P** **02 52 33.9 -0.7**
comp=Z,28nm,0.9s,mb5.4
FRF La Foret Royal 93.45 329 *e*P **P** **02 52 33.9 -0.7**
FRF pmax pmax
comp=Z,14nm,0.9s,mb5.4
LBL Lubilhac 93.47 332 *e*P **P** **02 52 36.5 +1.9**
MFF Saint Martin d 93.56 335 *e*P **P** **02 52 35.2 +0.2**
comp=Z,48nm,1.0s,mb5.6
MFF Saint Martin d 93.56 335 *e*P **P** **02 52 35.2 +0.2**
MFF pmax pmax
comp=Z,24nm,1.0s,mb5.6
SMRF Simiane la Rot 93.57 330 *e*P **P** **02 52 35.2 +0.1**
comp=Z,38nm,1.1s,mb5.5
VILF Villemus 93.61 330 *e*P **P** **02 52 35.8 +0.5**
TAVF Tavernes 93.66 330 *e*P **P** **02 52 35.5 0.0**
LMR La Mourre 93.70 329 *e*P **P** **02 52 35.4 -0.3**
comp=Z,78nm,1.2s,mb5.7
LMR La Mourre 93.70 329 *e*P **P** **02 52 35.4 -0.3**
LMR pmax pmax
comp=Z,39nm,1.2s,mb5.7
PUYF Puyloubier 93.88 330 *e*P **P** **02 52 37.2 +0.7**
BERF Bertagne 94.06 330 *e*P **P** **02 52 37.9 +0.5**
RJF Les Rejaudoux 94.06 333 *e*P **P** **02 52 37.8 +0.5**
RJF *e*R
comp=Z,359nm,20.8s
GELF Grande-Etoile 94.11 330 *e*P **P** **02 52 38.1 +0.5**
CAF Calviac 94.18 333 *e*P **P** **02 52 38.4 +0.6**
comp=Z,40nm,1.1s,mb5.5
CAF Calviac 94.18 333 *e*P **P** **02 52 38.4 +0.6**
CAF pmax pmax
comp=Z,20nm,1.1s,mb5.5
LASF Ste Croix 94.19 331 *e*P **P** **02 52 38.1 +0.2**
comp=Z,31nm,1.1s,mb5.3
MTLF Montolieu 95.45 332 *e*P **P** **02 52 43.5 -0.3**
comp=Z,22nm,1.2s,mb5.2
MTLF Montolieu 95.45 332 *e*P **P** **02 52 43.5 -0.3**
MTLF pmax pmax
comp=Z,11nm,1.2s,mb5.2
WCI Wyandotte Cave 95.70 36 PFAKE 02 53 00.0 +15
WCI LR LR
comp=Z,71nm,21.0s,MS4.1
PQI Presque Isle 95.83 20 PFAKE 02 53 00.0 +15
PQI LR LR
comp=Z,3µm,22.0s,MS5.7
NATX Nacogdoches 95.88 46 PFAKE 02 53 00.0 +14
NATX LR LR
comp=Z,442nm,19.0s,MS5.0
NCB Newcomb 96.18 26 PFAKE 02 53 00.0 +13
NCB LR LR
comp=Z,322nm,19.0s,MS4.8
WVT Waverly 96.53 39 PFAKE 02 53 00.0 +11
WVT LR LR
comp=Z,296nm,21.0s,MS4.7
RKT Rikitea 96.63 113 *e*LR LR 03 23 13.2
comp=Z,635nm,30.5s
LBNH Lisbon 96.76 24 PFAKE 02 53 00.0 +10
LBNH LR LR
comp=Z,605nm,21.0s,MS5.1
OXF Oxford 96.90 41 PFAKE 02 53 00.0 +9.5
OXF LR LR
comp=Z,286nm,21.0s,MS4.7
WVL Waterville 97.22 22 PFAKE 02 53 00.0 +8.3
WVL LR LR
comp=Z,3µm,19.0s,MS5.7
PLAL Pickwick Lake 97.27 40 PFAKE 02 53 00.0 +7.8
PLAL LR LR
comp=Z,349nm,21.0s,MS4.8
EMMW East Machias 97.77 21 PFAKE 02 53 10.0 +16
EMMW LR LR
comp=Z,2µm,19.0s,MS5.7
HRV Harvard--Oak R 98.41 25 PFAKE 02 53 10.0 +13
HRV LR LR
comp=Z,285nm,19.0s,MS4.8
WES Weston 98.60 25 PFAKE 02 53 10.0 +12
WES LR LR
comp=Z,554nm,22.0s,MS5.0
BLA Blacksburg 99.32 33 PFAKE 02 53 10.0 +8.6
BLA LR LR
comp=Z,411nm,22.0s,MS4.9
LRAL Lakeview Retre 99.33 40 PFAKE 02 53 10.0 +8.5
LRAL LR LR
comp=Z,358nm,20.0s,MS4.9
CBN Corbin 99.85 31 PFAKE 02 53 20.0 +16
CBN LR LR
comp=Z,490nm,21.0s,MS5.0
ESDC Sonseca Array 100.96 334 PP PP 02 57 17.4 -2.6
comp=Z,1.1nm,0.7s,baz=34,slow=7.6,SNR=5.8
ESLA Sonseca Array 100.96 334 PFAKE 02 53 20.0 +11
ESLA LR LR
comp=Z,2µm,20.0s,MS5.7
CASY Casey 102.23 193 PFAKE 02 53 20.0 +6.3
CASY LR LR
comp=Z,252nm,19.0s,MS4.8
NHSC New Hope 102.78 36 PFAKE 02 53 30.0 +13
NHSC LR LR
comp=Z,426nm,21.0s,MS5.0
KMBO Kilima Mbogo 103.20 277 P Pdif 02 53 18.9 -0.3
KMBO 02 57 35.2
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO pmax pmax
comp=Z,2.0nm,1.0s
KMBO Kilima Mbogo 103.20 277 Pdiff Pdif 02 53 18.9 -0.3
comp=Z,0.6nm,0.5s,baz=305,slow=1.7,SNR=3.8
KMBO PP PP 02 57 35.1 -2.1
comp=Z,1.9nm,0.9s,baz=46,slow=15,SNR=3.7
KMBO Kilima Mbogo 103.20 277 Pdif Pdif 02 53 18.9 -0.3
KMBO PP PP 02 57 35.1 -2.1
EVO Evora 103.40 336 *e*P Pdif 02 53 19.3 -0.2
comp=Z,60nm,1.6s
EVO *e*R
comp=Z,476nm,17.0s
MBAR Mbarara 108.28 282 PFAKE 02 58 00.0
MBAR LR LR
comp=Z,63nm,21.0s,MS4.2
VNDA Vanda 111.20 176 P Pdif 02 53 50.4 -2.6
VNDA 02 58 31.9
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA Vanda 111.20 176 Pdiff Pdif 02 53 50.4 -2.6
comp=Z,1.0nm,0.9s,baz=192,slow=6.7,SNR=5.8
VNDA PP PP 02 58 31.9 -3.0
comp=Z,1.2nm,0.9s,baz=337,slow=7.8,SNR=4.7
MAW Mawson 116.49 205 PKP PKPdf 02 58 02.0 -4.5
comp=Z,2.9nm,0.8s,baz=303,slow=3.1,SNR=7.8
MAW PP PP 02 59 10.3 -2.7
comp=Z,2.8nm,1.1s,baz=36,slow=7.5,SNR=3.8
JTS JuntasAbangare 117.53 55 PFAKE 02 58 20.0 +10
JTS LR LR
comp=Z,85nm,20.0s,MS4.4
LSZ Lusaka 118.26 270 PFAKE 02 58 20.0 +8.9
LSZ LR LR
comp=Z,280nm,19.0s,MS4.9
PAYG Puerto Ayora 120.99 68 PFAKE 02 58 20.0 +3.5
PAYG LR LR
comp=Z,510nm,20.0s,MS5.2
SJG San Juan 122.09 32 PFAKE 02 58 30.0 +12
SJG LR LR
comp=Z,193nm,19.0s,MS4.8
QSPA South Pole Qui 123.05 180 *e*P PKPdf 02 58 14.3 -4.7
LBTB Lobatse 124.85 261 *e*PKPdf PKPdf 02 58 20.0 -3.7
LBTB *ep*PKPdf 02 58 30.8
SYO Syowa Base 125.19 205⇑PKPdf PKPdf 02 58 17.0 -6.2
SYO Syowa Base 125.19 205⇑pPKPdf 02 58 28.0
BOSA Boshof 126.54 257 PKP PKPdf 02 58 23.1 -3.7
comp=Z,3.6nm,0.7s,baz=91,slow=2.5,SNR=9.4
BOSA Boshof 126.54 257 PKP PKPdf 02 58 23.1 -3.7
BOSA LR LR
comp=Z,587nm,22.0s,MS5.2
SDV Santo Domingo 127.63 43 *e*PKPdf PKPdf 02 58 25.0 -4.4
SDV *ep*PKPdf 02 58 35.1
SDV LR LR
comp=Z,206nm,19.0s,MS4.8
ROSC El Rosal 128.58 50 PKP PKPdf 02 58 28.0 -3.2
comp=Z,4.8nm,0.4s,baz=94,slow=16,SNR=5.1
DBIC Dimbokro 129.50 316 PKP PKPdf 02 58 28.3 -4.7
comp=Z,4.2nm,0.7s,baz=326,slow=2.8,SNR=8.9
DBIC PP PP 03 00 38.1 -3.8
comp=Z,5.1nm,1.0s,baz=2.7,slow=7.3,SNR=3.0
DBIC Dimbokro 129.50 316 PKP PKPdf 02 58 28.3 -4.7
DBIC PP PP 03 00 38.1 -3.8
DBIC LR LR
comp=Z,290nm,21.0s,MS5.0
SNAA Sanae 137.38 195⇑*i*P PKPdf 02 58 33.0 -13
SNAA Sanae 137.38 195 *e* PKPdf 02 58 35.0 -11
SNAA Sanae 137.38 195 *e* PKPdf 02 58 42.1 -4.0
SNAA Sanae 137.38 195 *e* PKPdf 02 58 45.3 -0.8
SNAA Sanae 137.38 195 *e* PKPdf 02 58 48.7 +2.6
SNAA Sanae 137.38 195 *e*PKPpre 02 58 27.6
SNAA ⇑*i*PKPdf PKPdf 02 58 33.0 -13
SNAA *e* 02 58 35.0
SNAA *e* 02 58 42.1
SNAA *e*PKPdf PKPdf 02 58 42.3 -3.8
SNAA *e* 02 58 45.3

SNAA					*e*			02 58 48.7	
SNAA					*e*			03 01 18.5	
NNA	**Nana**	**138.43**	**69**		PFAKE			02 59 00.0	+10
NNA					LR	LR			
	comp=Z,97nm,22.0s,MS4.5								
VNA2	**Neumayer--Watz**	**138.93**	**195**		*e*		PKPdf	02 58 38.4	-11
VNA2	**Neumayer--Watz**	**138.93**	**195**		*e*		PKPdf	02 58 44.9	-4.1
VNA2	**Neumayer--Watz**	**138.93**	**195**		*e*		PKPdf	02 58 46.8	-2.2
VNA2	**Neumayer--Watz**	**138.93**	**195**		*e*		PKPdf	02 58 49.4	+0.4
VNA2	**Neumayer--Watz**	**138.93**	**195**		*e*		PKPdf	02 58 38.4	-11
VNA2					*e*			02 58 44.9	
VNA2					*e*			02 58 46.8	
VNA2					*e*			02 58 49.4	
VNA2					*e*			03 01 34.5	
VNA3	**Neumayer Olymp**	**139.14**	**193**		*e*		PKPdf	02 58 41.2	-8.1
VNA3	**Neumayer Olymp**	**139.14**	**193**		*e*		PKPdf	02 58 44.1	-5.2
VNA3	**Neumayer Olymp**	**139.14**	**193**		*e*		PKPdf	02 58 47.0	-2.3
VNA3	**Neumayer Olymp**	**139.14**	**193**	⇑	*i* PKPdf		PKPdf	02 58 32.2	-17
VNA3					*e*			02 58 35.8	
VNA3					*e*			02 58 41.2	
VNA3					*e*			02 58 44.1	
VNA3					*e*			02 58 47.0	
VNA3					*e*			03 01 32.4	
VNA1	**Neumayer--Stat**	**139.32**	**195**		*e*		PKPdf	02 58 45.9	-3.8
VNA1	**Neumayer--Stat**	**139.32**	**195**		*e*		PKPdf	02 58 48.3	-1.4
VNA1	**Neumayer--Stat**	**139.32**	**195**		*e*		PKPdf	02 58 51.6	+1.9
VNA1	**Neumayer--Stat**	**139.32**	**195**		*e*		PKPdf	02 58 45.9	-3.8
VNA1					*e*			02 58 48.3	
VNA1					*e*			02 58 51.6	
VNA1					*e*			03 01 32.9	
PMSA	**Palmer Station**	**144.62**	**161**		*e*PKPdf		PKPdf	02 58 53.0	-6.0
SAML	**Samuel**	**146.23**	**50**		PKPdf		PKPdf	02 58 59.2	-4.1
SAML					PKKPdf			03 06 43.6	
SAML	**Samuel**	**146.23**	**50**		*e*PKPdf		PKPdf	02 58 59.1	-4.2
SAML					*e*PKPdf		PKPdf	02 59 09.6	+6.3
SAML					LR	LR			
	comp=Z,347nm,22.0s,MS5.1								
LPAZ	**La Paz**	**147.74**	**66**		PKPbc		PKPdf	02 59 02.8	-2.8
	comp=Z,14nm,1.0s,baz=1.6,slow=4.2,SNR=26								
LPAZ	**La Paz**	**147.74**	**66**		*e*P		PKPdf	02 59 02.7	-2.9
LPAZ					LR	LR			
	comp=Z,332nm,21.0s,MS5.1								
LVC	**Limon Verde**	**150.53**	**77**		*e*PKPbc		PKPdf	02 59 12.0	+2.1
RCBR	**Riachuelo**	**152.61**	**356**		PFAKE			02 59 20.0	+6.7
RCBR					LR	LR			
	comp=Z,216nm,20.0s,MS5.0								
PLCA	**Paso Flores**	**152.84**	**115**		PKPbc		PKPdf	02 59 16.6	+3.8
	comp=Z,5.9nm,0.9s,baz=244,slow=4.6,SNR=11								
PLCA					PKPab		PKPab	02 59 26.6	-1.4
	comp=Z,8.2nm,1.0s,baz=312,slow=1.4,SNR=6.8								
PLCA	**Paso Flores**	**152.84**	**115**		*e*PKPbc		PKPdf	02 59 16.3	+3.6
TRQA	**Tornquist**	**159.72**	**110**		PFAKE			02 59 30.0	+8.2
TRQA					LR	LR			
	comp=Z,195nm,19.0s,MS5.0								
BDFB	**Brasilia**	**160.08**	**30**		PKP2		PKPab	02 59 58.7	-0.9
BDFB					pmax	pmax			
	comp=Z,6.0nm,0.8s								
BDFB	**Brasilia**	**160.08**	**30**		PKPab		PKPab	02 59 58.7	-0.9
	comp=Z,5.5nm,0.8s,baz=330,slow=2.3,SNR=8.7								
CPUP	**Villa Florida**	**161.60**	**73**		PFAKE			02 59 30.0	+6.0
CPUP					LR	LR			
	comp=Z,299nm,21.0s								

NIED ***27*** *02:47:00,33.30N×142.40E,h5km,Mw4.4 Best double couple: M₀4.36×10¹⁵ NP1:φs185°,δ58°,λ-91°. NP2:φs7°, δ32°,λ-88°.*

IDC ***27*** *02:47:01.3±0.5,33.27N×142.55E,mb4.5/21,mb1 4.6/25, mb1mx4.6/28,mbtmp4.5/25,ML4.3/4,Error ellipse: s-maj=16.7km s-min=13.3km az=94.0*

BJI ***27*** *02:47:02.6,33.42N×142.32E,h14km,mB5.3,mb4.7, Ms5.2,Msz4.6*

JMA ***27*** *02:47:05.1±0.3,33.31N×142.42E,h63km,M4.4*

MOS ***27*** *02:47:05.4±0.8,33.39N×142.44E,h33km,mb5.2/24,Error ellipse: s-maj=15.2km s-min=6.2km az=118.7*

HRVD ***27*** *02:47:06.1±1.3,33.21N×142.62E,h28km±2km,MW4.7/31, Centroid moment Tensor Solution.Mantle waves: s31,c45; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.37±.25; Mθθ0.28±.13; Mφφ1.08±.15; Mrθ-0.07±.32; Mθφ0.07±.08; Mφr-0.19±.20; Best double couple: M₀1.245×10¹⁶ NP1:φs183°,δ40°,λ-93°. NP2:φs7°,δ50°, λ-88°. Principal axes: T 1.102, Plg5°, Azm95°; N .278, Plg2°, Azm185°; P -1.388, Plg85°, Azm296°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***27*** *02:47:06.1±2.6,33.22N×142.46E,h34km±17km,mb5.0/21, MW4.4(NIED) Error ellipse: s-maj=9.3km s-min=7.6km az=100.0*

NEIC Felt in the Yokohama area.

ISC 27 02:47:04.7±0.3,33.32N±0.04×142.41E±0.04,h31km, h31km±3.6km:pP-P,n159,σ0s98/174,mb4.8/61,MS4.9/2, 7C-9D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.78**	**319**	P	**Pn**	**02 47 34.3**	**+0.4**
BSO1				S	**Sn**	**02 47 55.3**	**-0.5**
BSO2	**Boso 2**	**1.98**	**317**	*e*S	**Sn**	**02 48 02.3**	**+1.5**
BSO3	**Boso 3**	**2.16**	**314**	P	**Pn**	**02 47 40.2**	**+0.8**
BSO3				S	**Sn**	**02 48 06.5**	**+1.2**
JHJ2	**Mitsune**	**2.18**	**265**	P	**Pn**	**02 47 40.0**	**+0.3**
JHJ	**Hachijo jima 2**	**2.21**	**266**	Pn	**Pn**	**02 47 40.0**	**0.0**
	154nm,0.3s,baz=149,slow=8.9,SNR=60						
JHJ				Sn	**Sn**	**02 48 06.7**	**+0.1**
	212nm,0.3s,baz=245,slow=24,SNR=9.9						
BSO4	**Boso 4**	**2.39**	**315**	P	**Pn**	**02 47 43.5**	**+0.8**
BSO4				S	**Sn**	**02 48 12.2**	**+1.0**
KTR	**Katsuura**	**2.52**	**317**	S	**Sn**	**02 48 15.3**	**+0.9**
JIM2	**Oshima 3**	**2.84**	**300**	P	**Pn**	**02 47 48.1**	**-0.9**
JIM2				S	**Sn**	**02 48 22.3**	**-0.2**
JOD2	**Odawara 2**	**3.36**	**306**	P	**Pn**	**02 47 55.7**	**-0.8**
JYN	**Shimob**	**3.86**	**305**	P	**Pn**	**02 48 03.2**	**-0.4**
JYN				S	**Sn**	**02 48 47.2**	**-1.2**
JAG	**Ashikaga**	**3.94**	**323**	P	**Pn**	**02 48 04.3**	**-0.3**
JAG				S	**Sn**	**02 48 48.4**	**-1.9**
JRY	**Ryogami san**	**3.95**	**314**	P	**Pn**	**02 48 04.9**	**+0.1**
JRY				S	**Sn**	**02 48 51.4**	**+0.8**
MJAR	**Matsushiro Arr**	**4.71**	**314**	Pn	**Pn**	**02 48 15.7**	**+0.1**
	19nm,0.3s,baz=92,slow=30,SNR=52						
MJAR				Sn	**Sn**	**02 49 08.9**	**-1.1**
	10.0nm,0.3s,baz=123,slow=16,SNR=7.9						
MAJO	**Matsushiro**	**4.72**	**314**	*e*P	**Pn**	**02 48 17.2**	**+1.5**
MAT	**Matsushiro**	**4.72**	**314**	*e*P	**Pn**	**02 48 16.0**	**+0.3**
MAT				*e*S	**Sn**	**02 49 08.0**	**-2.0**
MAT	**Matsushiro**	**4.72**	**314**	P	**Pn**	**02 48 16.0**	**+0.3**
MAT				S	**Sn**	**02 49 07.7**	**-2.3**
MAT	**Matsushiro**	**4.72**	**314**	P	**Pn**	**02 48 15.9**	**+0.2**
MAT				S	**Sn**	**02 49 09.4**	**-0.6**
JMM	**Marumori**	**4.72**	**344**	P	**Pn**	**02 48 13.0**	**-2.8**
JMM				S	**Sn**	**02 49 04.2**	**-6.0**
JIE	**Ise**	**4.86**	**284**	P	**Pn**	**02 48 19.4**	**+1.7**
JNS	**Sasagawa**	**5.15**	**332**	P	**Pn**	**02 48 21.4**	**-0.3**
JGM	**Miyama**	**5.26**	**298**	P	**Pn**	**02 48 24.3**	**+0.9**
JGM				S	**Sn**	**02 49 23.7**	**-0.1**
JWZ	**Kozaga**	**5.60**	**274**	P	**Pn**	**02 48 27.7**	**-0.4**
JMK	**Ichinoseki**	**5.70**	**351**	P	**Pn**	**02 48 27.6**	**-2.0**
JMK				S	**Sn**	**02 49 26.7**	**-8.0**
JSD	**Sado**	**5.79**	**326**	P	**Pn**	**02 48 29.0**	**-1.8**
JYK	**Kaneyama**	**5.83**	**344**	P	**Pn**	**02 48 29.5**	**-1.8**
JYK				S	**Sn**	**02 49 32.8**	**-5.1**
CBIJ	**Chichi jima**	**6.21**	**182**	Pn	**Pn**	**02 48 31.9**	**-4.7**
	22nm,0.3s,baz=98,slow=22,SNR=8.4						
CBIJ				Sn	**Sn**	**02 49 38.5**	**-8.9**
	34nm,0.3s,baz=265,slow=23,SNR=5.8						
JNU	**Nakatsue**	**9.66**	**272**	Pn	**P**	**02 49 25.2**	**+0.4**
	1.6nm,0.3s,baz=84,slow=17,SNR=9.9						
ASAJ	**Asahikawa**	**10.78**	**1**	P	**P**	**02 49 34.8**	**-5.3**
ASAJ						02 51 30.4	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=E,2.0nm,0.3s						
ASAJ	**Asahikawa**	**10.78**	**1**	Pn	**P**	**02 49 34.8**	**-5.4**
	comp=E,4.1nm,0.3s,baz=182,slow=6.1,SNR=10						
ASAJ				Sn	**S**	**02 51 30.4**	**-10**
	comp=E,2.2nm,0.3s,baz=96,slow=32,SNR=3.9						
YSS	**Yuzh-Sakhalins**	**13.62**	**1**	*e*P	**P**	**02 50 13.6**	**-4.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**13.62**	**1**	*e*P	**P**	**02 50 13.0**	**-5.1**

SNY	**Shenyang**	**17.15**	**305**	⇑	P	**P**		**02 51 05.5**	**+1.9**
SNY					AMB	AMB			
	comp=Z,30nm,0.7s								
DL2	**Dalian**	**17.68**	**294**		P	**P**		**02 51 10.5**	**+0.2**
DL2					AMB	AMB			
	comp=Z,20nm,0.7s								
SSE	**Sheshan**	**18.09**	**269**	*e*	P	**P**		**02 51 14.8**	**-0.7**
SSE					AMB	AMB			
	comp=Z,30nm,0.7s								
SSE					AMB	AMB			
	comp=Z,2μm,12.0s								
SSE	**Sheshan**	**18.09**	**269**	*e*	P	**P**		**02 51 14.7**	**-0.8**
	comp=Z,30nm,0.7s								
NJ2	**Nanjing**	**19.86**	**273**	*e*	P	**P**		**02 51 33.3**	**-2.9**
NJ2					AP			02 51 41.3	
NJ2					XP			02 51 46.5	
NJ2					PP	PP		02 51 53.0	-2.0
NJ2					S	**S**		**02 55 09.0**	**-3.6**
NJ2					XS			02 55 23.0	
NJ2					AMB	AMB			
	comp=Z,40nm,1.1s								
NJ2					AMB	AMB			
	comp=Z,2μm,10.0s								
NJ2					LR	LR			
	comp=N,6μm,12.2s								
NJ2					LR	LR			
	comp=E,4μm,12.1s								
NJ2					LR	LR			
	comp=Z,9μm,11.1s								
HIA	**Hailar**	**23.19**	**320**	*e*	P	**P**		**02 52 08.4**	**-1.1**
WHN	**Wuhan**	**23.95**	**271**		P	**P**		**02 52 16.8**	**-0.3**
HHC	**Hu-ho-hao-te**	**25.64**	**296**	*e*	P	**P**		**02 52 33.8**	**+0.7**
HHC					XP	sP		02 52 47.5	+1.2
HHC					PP	PP		02 53 16.5	+3.4
HHC					PCP	PcP		02 55 59.5	-4.5
HHC					S	**S**		**02 57 02.8**	**+6.0**
HHC					XS			02 57 12.5	
HHC					SCS	ScS		03 03 24.5	-3.1
HHC					AMB	AMB			
	comp=Z,20nm,1.2s,mb4.5								
HHC					AMB	AMB			
	comp=Z,860nm,8.7s								
HHC					LR	LR			
	comp=N,662nm,13.1s,MS4.7								
HHC					LR	LR			
	comp=E,1μm,12.0s,MS4.7								
HHC					LR	LR			
	comp=Z,692nm,14.1s,MS4.3								
XAN	**Xi'an**	**27.81**	**281**		P	**P**		**02 52 51.5**	**-1.6**
XAN					AMB	AMB			
	comp=Z,15nm,1.4s,mb4.4								
CIT	**Chita**	**27.99**	**321**	*e*	P	**P**		**02 52 57.4**	**+2.8**
CIT				*e*				02 53 08.8	
ENH	**Enshi**	**28.08**	**273**	*e*	P	**P**		**02 52 53.8**	**-1.9**
	comp=Z,13nm,0.6s,mb4.8								
YAK	**Yakutsk**	**29.86**	**348**	*e*	P	**P**		**02 53 10.3**	**-1.0**
YAK					pmax	pmax			
	comp=Z,30nm,1.3s,mb4.9								
SEY	**Seymchan**	**30.30**	**9**	⇑	*i* P	**P**		**02 53 15.1**	**0.0**
SONM	**Songino Array**	**30.65**	**309**		P	**P**		**02 53 18.2**	**-0.1**
	comp=Z,9.3nm,0.8s,mb4.7,baz=108,slow=9.4,SNR=14								
SONM					PcP	PcP		02 56 15.9	-0.2
	comp=Z,0.6nm,0.5s,baz=96,slow=3.2,SNR=4.7								
BOD	**Bodaibo**	**31.13**	**330**	*e*	P	**P**		**02 53 20.6**	**-1.9**
BOD				*e*		pP		02 53 27.9	-3.7
BOD					pmax	pmax			
	comp=Z,12nm,1.4s,mb4.5								
ZAK	**Zakamensk**	**33.30**	**313**	*e*	P	**P**		**02 53 41.6**	**+0.1**
ZAK					pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3								
TLY	**Talaya**	**33.45**	**315**	*d*	*i* P	**P**		**02 53 43.0**	**+0.1**
TLY					pmax	pmax			
	comp=Z,17nm,1.6s,mb4.7								
GTA	**Gaotai**	**34.59**	**293**		P	**P**		**02 53 52.8**	**0.0**
GTA					AP	pP		02 53 55.5	-6.5
GTA					XP	sP		02 53 57.5	-8.5
GTA					AMB	AMB			
	comp=Z,7.0nm,0.8s,mb4.6								
BILL	**Bilibino**	**37.38**	**15**	⇓	*e*P	**P**		**02 54 14.8**	**-1.3**
BILL					pmax	pmax			
	comp=Z,16nm,1.9s,mb4.5								
TIXI	**Tiksi**	**39.07**	**353**	⇓	*i* P	**P**		**02 54 30.3**	**+0.1**
TIXI					pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.5								
WMQ	**Urumqi**	**43.34**	**301**	*e*	P	**P**		**02 55 07.0**	**+1.5**
MKAR	**Makanchi Array**	**46.85**	**305**		P	**P**		**02 55 33.8**	**+0.2**
	comp=Z,3.9nm,0.6s,mb4.5,baz=90,slow=9.7,SNR=12								
JIRN	**Jiri**	**48.28**	**279**	*e*	P	**P**		**02 55 45.6**	**+0.5**
	comp=Z,45nm,0.6s,mb5.7								
GUN	**Gumba**	**48.45**	**279**	*e*	P	**P**		**02 55 46.8**	**+0.5**
	comp=Z,46nm,0.7s,mb5.6								
KURK	**Kurchatov**	**48.92**	**311**	*e*	P	**P**		**02 55 49.0**	**-0.6**
KURK					pmax	pmax			
	comp=Z,33nm,0.6s,mb5.5								
KURK	**Kurchatov**	**48.92**	**311**	*e*	P	**P**		**02 55 49.0**	**-0.6**
	comp=Z,33nm,0.6s,mb5.5								
PKI	**Pulchoki**	**48.96**	**279**	*e*	P	**P**		**02 55 49.9**	**-0.4**
KKN	**Kakani**	**48.99**	**280**	*e*	P	**P**		**02 55 50.2**	**-0.3**
	comp=Z,31nm,0.8s,mb5.4								
GKN	**Gorkha**	**49.44**	**280**	*e*	P	**P**		**02 55 53.9**	**-0.1**
	comp=Z,28nm,0.6s,mb5.5								
SPU	**Mount Spurr**	**49.74**	**35**	*e*	P	**P**		**02 55 55.8**	**0.0**
KOLN	**Koldanda**	**50.38**	**280**	*e*	P	**P**		**02 56 01.1**	**-0.1**
	comp=Z,19nm,0.7s,mb5.2								
ILAR	**Eielson Array**	**52.23**	**31**		P	**P**		**02 56 13.2**	**-1.4**
	comp=Z,3.3nm,0.8s,mb4.3,baz=264,slow=6.0,SNR=24								
AAK	**Ala-Archa**	**53.04**	**301**	*d*	*i* P	**P**		**02 56 20.0**	**-1.0**
AAK					pmax	pmax			
	comp=Z,14nm,1.8s,mb4.6								
WB2	**Warramunga Arr**	**53.52**	**189**	*e*	P	**P**		**02 56 22.8**	**-2.0**
WRA	**Warramunga Arr**	**53.52**	**189**		P	**P**		**02 56 22.9**	**-1.9**
	comp=Z,2.7nm,0.7s,mb4.3,baz=7.3,slow=7.7,SNR=11								
WRA					PcP	PcP		02 57 31.4	+0.1
	comp=Z,2.0nm,0.6s,baz=5.2,slow=4.1,SNR=5.0								
FITZ	**Fitzroy Crossi**	**53.58**	**200**	*e*	P	**P**		**02 56 20.8**	**-4.5**
	comp=Z,11nm,1.1s,mb4.7								
FITZ	**Fitzroy Crossi**	**53.58**	**200**		P	**P**		**02 56 24.2**	**-1.1**
	comp=Z,5.0nm,0.5s,mb4.7,baz=0.5,slow=5.3,SNR=4.6								
BVAR	**Borovoye Array**	**53.71**	**315**		P	**P**		**02 56 25.2**	**-0.5**
	comp=Z,2.0nm,0.6s,mb4.2,baz=90,slow=5.8,SNR=3.9								
KKAR	**Karatay Array**	**55.75**	**303**	*i*	P	**P**		**02 56 40.6**	**-0.2**
KKAR					pmax	pmax			
	comp=Z,18nm,1.0s,mb5.1								
INK	**Inuvik**	**57.34**	**26**		P	**P**		**02 56 50.4**	**-1.4**
	comp=Z,6.5nm,0.9s,mb4.7,baz=285,slow=5.3,SNR=11								
INK	**Inuvik**	**57.34**	**26**		P	**P**		**02 56 50.4**	**-1.4**
HYB	**Hyderabad**	**59.01**	**271**	*e*	P	**P**		**02 57 04.0**	**-0.1**
HYB	**Hyderabad**	**59.01**	**271**	⇑	*i* P	**P**		**02 57 04.0**	**-0.1**
ARU	**Arti**	**59.70**	**320**	⇓	*i* P	**P**		**02 57 07.6**	**-0.8**
ARU				*e*	S	**S**		**03 05 14.8**	**-0.5**
ARU				*e*	SS	SS		03 09 14.8	+2.3
ARU					pmax	pmax			
	comp=Z,22nm,1.5s,mb5.0								
ARU	**Arti**	**59.70**	**320**	*e*	P	**P**		**02 57 08.0**	**-0.4**
	comp=Z,6.2nm,0.4s,mb5.0								
STKA	**Stephens Creek**	**64.85**	**181**		P	**P**		**02 57 42.1**	**-1.0**
	comp=Z,3.1nm,0.8s,mb4.4,baz=22,slow=4.3,SNR=5.6								
YKA	**Yellowknife Ar**	**66.62**	**30**		P	**P**		**02 57 53.2**	**-0.6**
	comp=Z,3.1nm,0.8s,mb4.4,baz=295,slow=6.1,SNR=15								
YKA	**Yellowknife Ar**	**66.62**	**30**		P	**P**		**02 57 53.2**	**-0.6**
ARCES	**ARCESS Array B**	**67.76**	**340**		P	**P**		**02 58 01.0**	**0.0**
	comp=Z,4.0nm,0.7s,mb4.5,baz=56,slow=8.7,SNR=14								
NWAO	**Narrogin (SRO)**	**70.03**	**202**		P	**P**		**02 58 14.8**	**-0.8**
	comp=Z,10.0nm,0.7s,mb4.8,baz=97,slow=1.9,SNR=6.2								
MOS	**Moscow**	**70.73**	**325**	*e*	P	**P**		**02 58 16.4**	**-3.0**
MOS					pmax	pmax			
	comp=Z,38nm,0.6s,mb5.5								
OBN	**Obninsk**	**71.57**	**324**	*e*	P	**P**		**02 58 24.0**	**-0.5**
OBN				*e*				02 58 46.7	
OBN					pmax	pmax			
	comp=Z,19nm,1.3s,mb4.9								
KAF	**Kangasniemi**	**71.98**	**334**	*e*	P	**P**		**02 58 25.5**	**-1.4**
	comp=Z,6.5nm,0.6s,mb4.7,baz=50,slow=5.7								
KAF	**Kangasniemi**	**71.98**	**334**	*e*	P	**P**		**02 58 25.5**	**-1.4**
KAF					pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.8								
FINES	**FINESS Array B**	**72.48**	**333**		P	**P**		**02 58 29.8**	**0.0**
	comp=Z,7.5nm,0.8s,mb4.7,baz=108,slow=6.0,SNR=19								
GOF	**Gofitskoye**	**73.20**	**313**	*e*	P	**P**		**02 58 34.0**	**-0.3**
KIV	**Kislovodsk**	**73.98**	**312**	*e*	P	**P**		**02 58 40.4**	**+1.6**
KIV					pmax	pmax			
	comp=N,10.0nm,0.9s								
KIV					pmax	pmax			
	comp=Z,13nm,0.9s,mb4.9								
KIV					pmax	pmax			

	comp=E,9.0nm,0.8s								
BOZ	**Bozeman (W)**	**76.81**	**44**	*e*	P	**P**		**02 58 55.6**	**+0.6**
AKASG	**Malin Array Be**	**77.74**	**323**		P	**P**		**02 58 59.9**	**-0.1**
	comp=E,2.7nm,0.6s,mb4.4,baz=46,slow=6.0,SNR=15								
NB2	**NORSAR Subarra**	**77.92**	**338**		P	**P**		**02 59 01.0**	**+0.2**
	comp=E,14nm,0.8s,mb4.9,baz=40,slow=5.6								
NB2	**NORSAR Subarra**	**77.92**	**338**		P	**P**		**02 59 01.0**	**+0.2**
NB2					pmax	pmax			
	comp=Z,14nm,0.8s,mb4.9								
NB2	**NORSAR Subarra**	**77.92**	**338**		P	**P**		**02 59 01.0**	**+0.2**
	baz=40,slow=5.6								
NOA	**NORSAR Array B**	**77.92**	**338**		P	**P**		**02 59 01.3**	**+0.5**
	comp=Z,9.6nm,0.8s,mb4.8,baz=39,slow=5.6,SNR=35								
NOA	**NORSAR Array B**	**77.92**	**338**		P	**P**		**02 59 01.3**	**+0.5**
MIB	**Mutribah**	**78.11**	**298**	*e*	P	**P**		**02 59 02.4**	**-0.1**
MIB					AMb	AMB		02 59 02.8	
	comp=Z,29nm,0.6s,mb5.4								
NAO01	**NORSAR Array S**	**78.18**	**338**	*e*	P	**P**		**02 59 02.3**	**+0.1**
	comp=Z,14nm,1.1s,mb4.8								
RDF	**Al-Radifah**	**78.41**	**297**	*e*	P	**P**		**02 59 04.8**	**+0.7**
RDF					AMb	AMB		02 59 06.3	
	comp=Z,39nm,0.9s,mb5.3								
SUW	**Suwalki**	**78.46**	**328**	*e*	P	**P**		**02 59 04.3**	**+0.5**
SUW	**Suwalki**	**78.46**	**328**	*e*	P	**P**		**02 59 04.3**	**+0.5**
NAY	**Al-Naaiem**	**78.47**	**297**	*e*	P	**P**		**02 59 04.9**	**+0.5**
NAY					AMb	AMB		02 59 07.9	
	comp=Z,24nm,1.1s,mb5.1								
SIM	**Simferopol'**	**78.56**	**317**	*e*	P	**P**		**02 59 03.9**	**-0.7**
SIM				*e*				02 59 16.0	
SIM					pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.8								
PDAR	**Pinedale Array**	**79.69**	**45**		P	**P**		**02 59 11.4**	**+0.6**
	comp=Z,0.9nm,0.7s,mb3.8,baz=300,slow=1.3,SNR=6.0								
NEN	**Nelson**	**80.40**	**54**	*e*	P	**P**		**02 59 14.3**	**-0.4**
MSU	**Marysvale**	**80.54**	**50**		P	**P**		**02 59 15.6**	**+0.2**
SRU	**San Rafael**	**81.24**	**49**	*e*	P	**P**		**02 59 19.5**	**+0.4**
KWP	**Kalwaria**	**81.63**	**325**	*e*	P	**P**		**02 59 21.4**	**+0.6**
BRTR	**Keskin Array B**	**81.94**	**312**		P	**P**		**02 59 23.8**	**+1.1**
	comp=Z,4.7nm,0.8s,mb4.5,baz=107,slow=4.3,SNR=18								
KOLS	**Kolonicke sedl**	**82.31**	**325**	*e*	P	**P**		**02 59 25.1**	**+0.7**
STHS	**Stebnicka Huta**	**82.47**	**326**	*e*	P	**P**		**02 59 26.6**	**+1.4**
STHS				*e*SP		sP		02 59 40.6	+2.2
OJC	**Ojcow**	**82.58**	**327**	*e*	P	**P**		**02 59 26.6**	**+0.8**
MLR	**Muntele Rosu**	**82.75**	**321**		P	**P**		**02 59 29.0**	**+2.2**
	comp=Z,0.8nm,0.4s,mb4.1,baz=151,slow=17,SNR=4.0								
KECS	**Kecovo**	**83.48**	**325**	*e*	P	**P**		**02 59 31.7**	**+1.2**
VYHS	**Vyhne**	**84.25**	**326**	*e*	P	**P**		**02 59 35.3**	**+1.0**
VYHS				*e*pP		pP		02 59 46.1	+1.9
ASF	**Jabal al Asfar**	**84.27**	**305**		P	**P**		**02 59 36.1**	**+1.2**
	comp=Z,12nm,0.8s,mb5.1,baz=275,slow=4.1,SNR=19								
BRG	**Berggiesshubel**	**84.67**	**330**	*i*	P	**P**		**02 59 36.6**	**+0.3**
BRG					pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.8								
BRG					MLR	MLR			
	comp=Z,950nm,14.9s,MS5.3								
BRG	**Berggiesshubel**	**84.67**	**330**	*i*	P	**P**		**02 59 36.6**	**+0.2**
	comp=Z,6.8nm,0.8s,mb4.8								
BRG					LR	LR			
	comp=Z,950nm,14.9s,MS5.3								
CLL	**Collm**	**84.72**	**331**	⇓	*i* P	**P**		**02 59 36.9**	**+0.3**
CLL				*e*		pP		02 59 48.0	+1.4
CLL					pmax	pmax			
	comp=Z,18nm,1.0s,mb5.2								
CLL	**Collm**	**84.72**	**331**	⇓	*i* P	**P**		**02 59 36.9**	**+0.3**
	comp=Z,18nm,1.0s,mb5.2								
CLL				*e*		pP		02 59 48.0	+1.4
CLL	**Collm**	**84

JHJ2	**Mitsune**	**2.25**	**265**	P		**Pn**	**02 52 52.8**	**+0.6**
JHJ2				*e*S		**Sn**	**02 53 19.0**	**-0.5**
JHJ	**Hachijo jima 2**	**2.28**	**266**	Pn		**Pn**	**02 52 52.4**	**-0.2**
	47nm,0.3s,baz=86,slow=14,SNR=3.7							
JHJ				Sn		**Sn**	**02 53 18.8**	**-1.5**
	90nm,0.3s,baz=63,slow=23,SNR=6.7							
BSO4	**Boso 4**	**2.44**	**313**	P		**Pn**	**02 52 55.9**	**+1.1**
BSO4				S		**Sn**	**02 53 25.2**	**+1.0**
JRY	**Ryogami san**	**4.00**	**313**	P		**Pn**	**02 53 19.2**	**+2.3**
JRY				*e*S		**Sn**	**02 54 03.0**	**-0.6**
MJAR	**Matsushiro Arr**	**4.76**	**314**	Pn		**Pn**	**02 53 27.9**	**+0.1**
	2.4nm,0.3s,baz=155,slow=13,SNR=5.4							
MJAR				Sn		**Sn**	**02 54 21.7**	**-1.3**
	3.2nm,0.3s,baz=331,slow=7.5,SNR=5.4							
MAT	**Matsushiro**	**4.76**	**314**	P		**Pn**	**02 53 27.8**	**0.0**
MAT				S		**Sn**	**02 54 21.6**	**-1.4**
JMK	**Ichinoseki**	**5.71**	**350**	P		**Pn**	**02 53 38.3**	**-2.8**
JMK				*e*S		**Sn**	**02 54 40.2**	**-6.5**
ASAJ	**Asahikawa**	**10.77**	**0**	Pn		**P**	**02 54 47.9**	**-3.7**
	1.4nm,0.3s,baz=243,slow=9.0,SNR=4.4							
BOAC	**Boac**	**27.29**	**228**	*e*P		**P**	**02 58 06.9**	**+6.4**
SONM	**Songino Array**	**30.70**	**309**	P		**P**	**02 58 31.2**	**+0.5**
	1.1nm,0.7s,mb3.8,baz=109,slow=7.9,SNR=4.5							
MKAR	**Makanchi Array**	**46.91**	**305**	P		**P**	**03 00 45.8**	**-0.1**
	0.4nm,0.5s,mb3.6,baz=71,slow=9.5,SNR=3.6							
ILAR	**Eielson Array**	**52.18**	**31**	P		**P**	**03 01 25.6**	**-0.7**
	0.5nm,0.6s,mb3.6,baz=261,slow=6.0,SNR=4.4							
INK	**Inuvik**	**57.30**	**26**	P		**P**	**03 02 03.6**	**+0.1**
	0.9nm,1.0s,mb3.8,baz=270,slow=11,SNR=3.2							
YKA	**Yellowknife Ar**	**66.58**	**30**	P		**P**	**03 03 04.3**	**-1.2**
	0.7nm,0.6s,mb3.9,baz=288,slow=5.8,SNR=3.6							
YKA	**Yellowknife Ar**	**66.58**	**30**	P		**P**	**03 03 04.3**	**-1.3**
FINES	**FINESS Array B**	**72.51**	**333**	P		**P**	**03 03 42.0**	**+0.1**
	1.2nm,0.7s,mb3.9,baz=23,slow=11,SNR=3.6							
NB2	**NORSAR Subarra**	**77.94**	**338**	P		**P**	**03 04 13.2**	**+0.3**
	0.7nm,0.5s,mb3.9,baz=40,slow=5.6							
NOA	**NORSAR Array B**	**77.94**	**338**	P		**P**	**03 04 13.3**	**+0.4**
	1.3nm,0.7s,mb4.0,baz=40,slow=5.6,SNR=5.1							
BRTR	**Keskin Array B**	**81.99**	**313**	P		**P**	**03 04 35.7**	**+0.8**
	0.7nm,0.5s,mb3.9,baz=135,slow=3.5,SNR=3.9							
TXAR	**Lajitas Array**	**91.66**	**53**	P		**P**	**03 05 23.7**	**+1.4**
	0.3nm,0.6s,mb3.8,baz=327,slow=3.7,SNR=6.0							

*CSEM **27** 02:52:48.3±0.7,38.58N×29.09W,ML1.6,Error ellipse: s-maj=15.6km s-min=8.4km az=16.0,After PDA*
*PDA **27** 02:52:48.3±0.7,38.58N×29.09W,MD3.4,ML1.6,Error ellipse: s-maj=15.6km s-min=8.4km az=16.0*
SVSA 27 02:52:48.3±0.7,38.58N×29.09W,MD3.4,ML1.6,Error ellipse: s-maj=15.6km s-min=8.4km az=16.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CALA	**Caldeira**	**0.30**	**90**	*e*P	Pg	02 52 54.0	-0.3
CALA				*e*S	Sg	02 52 58.4	+0.1
HOR	**Horta**	**0.36**	**98**	*e*P	Pg	02 52 55.0	-0.5
HOR				*e*S	Sg	02 52 59.9	-0.4
PICO	**Pico**	**0.52**	**98**	*e*P	Pg	02 52 57.9	-0.9
PICO				*e*S	Sg	02 53 05.4	-0.3
PMAN	**Manadas**	**0.78**	**86**	*e*S	Sg	02 53 11.8	-2.6
	11nm,0.2s						
PMAN	**Manadas**	**0.78**	**86**	*e*S	Sg	02 53 11.8	-2.6
	11nm,0.2s						

*BJI **27** 02:55:02.2,8.50N×126.10E,h104km,mb4.5*
*MAN **27** 02:55:03.5,8.59N×126.30E,h82km,mb4.7,ML3.6,MS3.6*
*IDC **27** 02:55:04.0±3.2,8.57N×126.05E,h91km±29km,mb4.0/15, mb1 4.1/16,mb1mx3.9/26,mbtmp4.4/16,Error ellipse: s-maj=28.8km s-min=11.0km az=70.0*
*NEIC **27** 02:55:05.2±3.6,8.53N×126.14E,h105km±34km,mb4.4/2, Error ellipse: s-maj=26.2km s-min=8.3km az=70.0*
ISC 27 02:55:03.2±0.4,8.61N±0.02×126.27E±0.04,h101km±3km, n62,σ1s03/77,mb4.5/22,11C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.43**	**168**	⇑*i*P	**P**	**02 55 18.4**	**-0.4**
BIPH				*i* S	**S**	**02 55 28.7**	**-1.7**
BUTP	**Butuan**	**0.73**	**300**	*e*P	**P**	**02 55 21.1**	**-0.2**
BUTP				*e*S	**S**	**02 55 35.2**	**+0.6**
BUKP	**Musuan**	**1.40**	**239**	*e*P	**P**	**02 55 28.8**	**+0.2**
BUKP				*e*S	**S**	**02 55 47.9**	**+0.3**
SCPH	**Surigao**	**1.40**	**327**	⇑*e*P	**P**	**02 55 28.9**	**+0.2**
SCPH				*e*S	**S**	**02 55 48.6**	**+0.9**
CGP	**Cagayan de Oro**	**1.56**	**265**	⇑*e*P	**P**	**02 55 30.3**	**-0.4**
CGP				*i* S	**S**	**02 55 49.5**	**-1.7**
MATI	**Mati**	**1.65**	**180**	*e*P	**P**	**02 55 32.8**	**+1.0**
MATI				*e*S	**S**	**02 55 53.6**	**+0.6**
DMPH	**Davao City--Mi**	**1.69**	**207**	⇑*i*P	**P**	**02 55 33.2**	**+0.9**
DMPH				*i* S	**S**	**02 55 55.3**	**+1.4**
KCP	**Kidapawan**	**1.97**	**216**	⇑*e*P	**P**	**02 55 34.1**	**-1.8**
KCP				*i* S	**S**	**02 56 00.2**	**+0.1**
MSLP	**Maasin**	**2.06**	**318**	*e*P	**P**	**02 55 37.7**	**+0.6**
MSLP				*e*S	**S**	**02 56 03.2**	**+0.9**
CTBH	**Cotabato--PC H**	**2.43**	**236**	⇑*i*P	**P**	**02 55 41.8**	**-0.4**
CTBH				*i* S	**S**	**02 56 10.7**	**-0.6**
TBP	**Tagbilaran**	**2.61**	**295**	*e*P	**P**	**02 55 45.3**	**+0.6**
TBP				*e*S	**S**	**02 56 15.6**	**0.0**
LLP	**Lapu-Lapu**	**2.84**	**307**	⇑*e*P	**P**	**02 55 48.2**	**+0.4**
LLP				*e*S	**S**	**02 56 21.1**	**-0.1**
PLP	**Palo**	**2.84**	**334**	*e*P	**P**	**02 55 48.5**	**+0.6**
PLP				*i* S	**S**	**02 56 22.2**	**+0.8**
PAGZ	**Pagadian**	**2.95**	**255**	*e*P	**P**	**02 55 49.5**	**+0.1**
PAGZ				*e*S	**S**	**02 56 20.8**	**-3.3**
SNPH	**Sibulan**	**3.08**	**284**	⇑*i*P	**P**	**02 55 50.9**	**-0.3**
SNPH				*i* S	**S**	**02 56 26.4**	**-0.8**
BESP	**Borongan**	**3.09**	**345**	*e*P	**P**	**02 55 50.5**	**-0.7**
BESP				*e*S	**S**	**02 56 25.6**	**-1.8**
IPIL	**Ipil**	**3.75**	**258**	*e*P	**P**	**02 56 00.7**	**+0.4**
IPIL				*e*S	**S**	**02 56 45.3**	**+1.7**
GUIM	**Jordan**	**4.15**	**299**	*e*P	**P**	**02 56 05.6**	**0.0**
GUIM				*e*S	**S**	**02 56 52.7**	**-0.6**
CNP	**Catarman**	**4.19**	**338**	*e*P	**P**	**02 56 04.7**	**-1.5**
CNP				*e*S	**S**	**02 56 53.2**	**-1.2**
RCP	**Roxas**	**4.54**	**311**	⇑*e*P	**P**	**02 56 12.2**	**+1.1**
PVCP	**Virac**	**5.38**	**337**	*e*P	**P**	**02 56 22.8**	**+0.4**
PVCP				*e*S	**S**	**02 57 19.3**	**-4.3**
OTRP	**Odiongan**	**5.60**	**312**	*e*P	**P**	**02 56 27.6**	**+2.1**
SJMP	**San Jose**	**6.35**	**308**	*e*P	**P**	**02 56 38.0**	**+2.2**
CAUP	**Cauayan**	**9.35**	**333**	*e*P	**P**	**02 57 14.6**	**-2.0**
JOW	**Kunigami**	**18.23**	**6**	P	**P**	**02 59 12.2**	**+1.2**
	1.0nm,0.3s,baz=196,slow=12,SNR=4.8						
QIZ	**Qiongzhong**	**19.00**	**305**	P	**P**	**02 59 20.0**	**+0.3**
NST	**Nakhon Sawan**	**26.48**	**288**	P	**P**	**03 00 32.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**26.54**	**181**	P	**P**	**03 00 34.1**	**+0.4**
	3.6nm,0.4s,mb4.3,baz=4.1,slow=8.2,SNR=8.0						
ENH	**Enshi**	**26.67**	**326**	P	**P**	**03 00 35.6**	**+0.9**
NANT	**Nan**	**26.79**	**295**	⇑P	**P**	**03 00 33.0**	**-3.0**
	125nm,1.0s,mb5.4						
WRAB	**Tennant Creek**	**29.45**	**164**	*e*P	**P**	**03 00 58.2**	**-1.7**
WRA	**Warramunga Arr**	**29.46**	**164**	P	**P**	**03 00 58.4**	**-1.6**
	1.7nm,0.5s,mb3.9,baz=346,slow=9.4,SNR=6.4						
WRA				ScP		03 07 36.5	
	0.3nm,0.5s,baz=344,slow=3.3,SNR=4.7						
CTA	**Charters Tower**	**34.64**	**146**	P	**P**	**03 01 45.6**	**+0.6**
	6.1nm,0.5s,mb4.7,baz=311,slow=9.3,SNR=8.8						
CTAO	**Charters Tower**	**34.64**	**146**	*e*P	**P**	**03 01 42.5**	**-2.5**
	6.1nm,0.8s,mb4.5						
CTAO				*e*		03 01 54.8	
SHL	**Shillong**	**36.78**	**302**	⇑*i*P	**P**	**03 02 03.2**	**+0.1**
GTA	**Gaotai**	**38.75**	**327**	P	**P**	**03 02 18.0**	**-1.3**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.3						
JIRN	**Jiri**	**42.28**	**302**	*e*P	**P**	**03 02 49.5**	**+0.9**
	comp=Z,38nm,0.4s,mb5.5						
SONM	**Songino Array**	**42.57**	**340**	P	**P**	**03 02 49.2**	**-1.5**
	comp=Z,0.5nm,0.4s,mb3.6,baz=149,slow=7.2,SNR=4.9						
GUN	**Gumba**	**42.63**	**302**	*e*P	**P**	**03 02 52.3**	**+0.9**
	comp=Z,69nm,0.9s,mb5.4						
STKA	**Stephens Creek**	**42.84**	**161**	P	**P**	**03 02 53.3**	**+0.2**
	comp=Z,4.2nm,0.4s,mb4.6,baz=344,slow=7.7,SNR=37						
STKA	**Stephens Creek**	**42.84**	**161**	*e*P	**P**	**03 02 53.1**	**0.0**
STKA				*e*		03 03 11.2	
PKI	**Pulchoki**	**42.91**	**301**	*e*P	**P**	**03 02 54.0**	**+0.2**
KKN	**Kakani**	**43.09**	**302**	*e*P	**P**	**03 02 55.6**	**+0.4**
DMN	**Daman**	**43.18**	**301**	*e*P	**P**	**03 02 55.6**	**-0.4**
GKN	**Gorkha**	**43.70**	**302**	*e*P	**P**	**03 03 00.1**	**0.0**
	comp=Z,13nm,0.5s,mb5.0						
KOLN	**Koldanda**	**44.50**	**301**	*e*P	**P**	**03 03 07.1**	**+0.5**
	comp=Z,76nm,0.6s,mb5.6						

DZM	**Mont Dzumac**	**49.81**	**128**	P		**P**	**03 03 48.5**	**+0.4**
	comp=Z,5.0nm,0.7s,mb4.6,baz=272,slow=6.9,SNR=8.0							
MKAR	**Makanchi Array**	**53.35**	**324**	P		**P**	**03 04 13.4**	**-1.0**
	comp=Z,1.7nm,0.5s,mb4.3,baz=120,slow=6.8,SNR=15							
MKAR				PcP	PcP		03 05 19.1	-1.3
	comp=Z,2.0nm,0.8s,baz=127,slow=6.1,SNR=3.6							
FX1	**Attu Island--F**	**58.15**	**31**	P		**P**	**03 04 49.6**	**+0.9**
	comp=Z,7.5nm,0.7s,mb4.9,baz=197,slow=2.8,SNR=5.4							
BVAR	**Borovoye Array**	**63.03**	**326**	P		**P**	**03 05 20.6**	**-1.3**
	comp=Z,1.3nm,0.4s,mb4.3,baz=127,slow=7.4,SNR=13							
BRVK	**Borovoye**	**63.10**	**326**	*e*P		**P**	**03 05 20.9**	**-1.5**
	comp=Z,2.5nm,0.7s,mb4.2							
RPZ	**Rata Peaks**	**66.01**	**146**	P		**P**	**03 05 41.4**	**+0.1**
	comp=Z,14nm,0.5s,mb5.0,baz=69,slow=5.3,SNR=8.5							
ILAR	**Eielson Array**	**80.93**	**26**	P		**P**	**03 07 08.1**	**+0.4**
	comp=Z,0.9nm,0.7s,mb3.7,baz=238,slow=5.3,SNR=9.5							
ARCES	**ARCESS Array B**	**85.75**	**340**	P		**P**	**03 07 33.0**	**+1.1**
	comp=Z,1.3nm,0.8s,mb3.9,baz=75,slow=6.9,SNR=12							
INK	**Inuvik**	**85.83**	**22**	P		**P**	**03 07 34.1**	**+1.8**
	comp=Z,0.9nm,0.6s,mb3.9,baz=284,slow=7.6,SNR=4.6							
PPT	**Papeete**	**87.05**	**108**	*e*LR	LR		03 07 10.5	
	comp=Z,323nm,25.0s							
FINES	**FINESS Array B**	**87.35**	**332**	P		**P**	**03 07 40.3**	**+0.5**
	comp=Z,1.1nm,0.4s,mb4.1,baz=87,slow=4.3,SNR=21							
TBI	**Tubuai**	**88.16**	**114**	*e*LR	LR		03 08 54.6	
	comp=Z,384nm,27.2s							
VNDA	**Vanda**	**88.29**	**173**	P		**P**	**03 07 44.8**	**+0.7**
	comp=Z,0.7nm,0.6s,mb3.9,baz=336,slow=5.7,SNR=10							
RKT	**Rikitea**	**101.34**	**112**	*e*LR	LR		03 13 49.9	
	comp=Z,302nm,29.2s							
PLCA	**Paso Flores**	**144.68**	**158**	PKP	PKPdf		03 14 30.4	+2.0
	comp=Z,4.0nm,0.9s,baz=233,slow=5.9,SNR=7.3							
LPAZ	**La Paz**	**164.01**	**120**	PKPab	PKPab		03 15 53.1	+2.0
	comp=Z,0.4nm,0.6s,baz=323,slow=0.6,SNR=3.6							

CASC 27 02:58:27.1±2.1,14.00N×91.21W,h26km±7km,MD3.6, 4C-4D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.57**	**38**	⇑*e*P	Pb	02 58 38.8	+0.2
PCG	**Pacaya**	**0.71**	**56**	*e*P	Pb	02 58 41.1	+0.4
PCG				*e*S	Sb	02 58 52.4	+2.3
IXG	**Ixpaco**	**0.76**	**76**	⇓*e*P	Pb	02 58 40.4	-1.1
IXG				*e*S	Sb	02 58 51.8	+0.4
TP2	**Tecpan 2**	**0.81**	**13**	⇓*e*P	Pb	02 58 42.6	+0.2
TP2				*e*S	Sb	02 58 56.0	+3.1
RTR	**El Retiro**	**1.52**	**93**	⇑*e*P	Pn	02 58 53.9	+0.8
RTR				*e*S	Sn	02 59 13.2	+1.0
SBLS	**San Blas**	**1.55**	**96**	⇓*e*P	Pn	02 58 54.0	+0.6
SBLS				*e*S	Sn	02 59 12.8	-0.1
MRL	**Marmol**	**1.82**	**54**	⇑*e*P	Pn	02 58 58.0	+0.7
MRL				*e*S	Sn	02 59 19.5	-0.2
BOQS	**Boqueron**	**1.89**	**98**	*e*P	Pn	02 58 58.8	+0.4
BOQS				*e*S	Sn	02 59 22.1	+0.5
LFRS	**El Faro**	**2.12**	**100**	⇑*e*P	Pn	02 59 01.9	+0.3
LFRS				*e*S	Sn	02 59 27.1	-0.4
LCBS	**La Ceiba**	**2.19**	**99**	⇓*e*P	Pn	02 59 03.2	+0.5
LCBS				*e*S	Sn	02 59 29.1	-0.2

IDC 27 03:07:34.4±6.7,24.72N×109.14W,mb1 3.8/3, mb1mx3.5/20,mbtmp3.3/3,ML3.5/3,Error ellipse: s-maj=80.2km s-min=28.9km az=166.0,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**6.70**	**46**	Pn	Pn	03 09 15.0	-1.5
	0.0nm,0.3s,baz=218,slow=15,SNR=4.0						
TXAR				Sn	Sn	03 10 29.7	-4.8
	0.3nm,0.3s,baz=225,slow=16,SNR=3.5						
TXAR				Lg		03 11 06.0	
	0.5nm,0.3s,baz=225,slow=28,SNR=4.4						
NVAR	**Mina Array Bea**	**15.72**	**333**	Pn	P	03 11 20.2	+1.3
	0.1nm,0.3s,baz=140,slow=14,SNR=4.4						
PDAR	**Pinedale Array**	**18.00**	**359**	P	P	03 11 47.4	-0.2
	0.1nm,0.3s,baz=176,slow=14,SNR=4.5						

*NEIC **27** 03:13:03.8,38.49S×178.15E,h30km,ML3.9(WEL),After WEL.*
WEL 27 03:13:03.3±0.1,38.52S×178.15E,h26km±1km,ML3.8/12, 3C,Error ellipse: s-maj=1.7km s-min=0.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**0.46**	**11**	P	Pb	03 13 12.7	-0.1
PUZ				S	Sb	03 13 21.0	+1.8
PUZ	**Puketiti**	**0.46**	**11**	⇑P*	Pb	03 13 12.7	-0.1
PUZ				S*	Sb	03 13 19.8	+0.6
MWZ	**Matawai**	**0.52**	**291**	P	Pb	03 13 13.5	-0.3
MWZ				S	Sb	03 13 21.5	+0.4
MWZ	**Matawai**	**0.52**	**291**	⇑P*	Pb	03 13 13.5	-0.4
MWZ				S*	Sb	03 13 21.5	+0.4
KNZ	**Kokohu**	**0.62**	**217**	P	Pb	03 13 15.4	-0.1
KNZ				S	Sb	03 13 26.3	+2.5
KNZ	**Kokohu**	**0.62**	**217**	P*	Pb	03 13 15.4	-0.1
KNZ				S*	Sb	03 13 25.4	+1.6
URZ	**Urewera**	**0.86**	**287**	P	Pb	03 13 18.8	-0.6
URZ	**Urewera**	**0.86**	**287**	⇑PN	Pn	03 13 18.8	-1.0
URZ				SN	Sn	03 13 31.3	-0.2
MXZ	**Matakaoa Point**	**0.96**	**7**	P	Pb	03 13 20.5	-0.7
MXZ	**Matakaoa Point**	**0.96**	**7**	PN	Pn	03 13 20.5	-0.7
MXZ				SN	Sn	03 13 33.9	-0.3
EDRZ	**Edgecumbe**	**1.19**	**290**	P	Pn	03 13 24.1	-0.3
EDRZ	**Edgecumbe**	**1.19**	**290**	PN	Pn	03 13 24.1	-0.3
WIZ	**White Island**	**1.25**	**322**	P	Pn	03 13 24.6	-0.7
WIZ	**White Island**	**1.25**	**322**	PN	Pn	03 13 24.6	-0.7
MARZ	**Manawahe**	**1.28**	**294**	P	Pn	03 13 25.0	-0.8
MARZ	**Manawahe**	**1.28**	**294**	PN	Pn	03 13 24.9	-0.8
TAZ	**Tarawera**	**1.32**	**282**	P	Pn	03 13 26.1	-0.3
TAZ	**Tarawera**	**1.32**	**282**	PN	Pn	03 13 26.1	-0.3
BKZ	**Black Stump Fm**	**1.45**	**243**	*e*P	Pn	03 13 27.4	-0.7
BKZ	**Black Stump Fm**	**1.45**	**243**	PN	Pn	03 13 27.4	-0.7
PATZ	**Paeroa**	**1.49**	**275**	P	Pn	03 13 28.5	-0.3
PATZ	**Paeroa**	**1.49**	**275**	PN	Pn	03 13 28.3	-0.5
PWZ	**Pawanui**	**1.81**	**213**	*e*P	Pn	03 13 30.8	-2.5
PWZ	**Pawanui**	**1.81**	**213**	PN	Pn	03 13 30.8	-2.5
PWZ				SN	Sn	03 13 53.6	-2.0
KRVZ	**Karewarewa**	**2.04**	**253**	PN	Pn	03 13 36.1	-0.6
OTVZ	**Oturere**	**2.04**	**251**	PN	Pn	03 13 35.6	-1.1
MOVZ	**Moawhango**	**2.07**	**244**	P	Pn	03 13 36.5	-0.5
MOVZ	**Moawhango**	**2.07**	**244**	PN	Pn	03 13 35.7	-1.4
TUVZ	**Tukino**	**2.08**	**248**	P	Pn	03 13 37.2	-0.1
TUVZ	**Tukino**	**2.08**	**248**	PN	Pn	03 13 37.8	+0.5
NGZ	**Ngauruhoe**	**2.09**	**251**	P	Pn	03 13 37.4	0.0
NGZ	**Ngauruhoe**	**2.09**	**251**	PN	Pn	03 13 37.4	-0.1
CNZ	**Chateau**	**2.14**	**251**	P	Pn	03 13 37.9	-0.2
CNZ	**Chateau**	**2.14**	**251**	PN	Pn	03 13 37.9	-0.2
WPVZ	**Whakapapa**	**2.14**	**251**	PN	Pn	03 13 38.3	+0.2
WNVZ	**Wahianoa**	**2.15**	**247**	P	Pn	03 13 37.6	-0.6
WNVZ	**Wahianoa**	**2.15**	**247**	PN	Pn	03 13 37.6	-0.6
FWVZ	**Far West T-bar**	**2.15**	**249**	P	Pn	03 13 38.0	-0.3
FWVZ	**Far West T-bar**	**2.15**	**249**	PN	Pn	03 13 38.0	-0.3
TRVZ	**Turoa**	**2.17**	**248**	PN	Pn	03 13 37.8	-0.7
MTVZ	**Mangateitei**	**2.26**	**247**	PN	Pn	03 13 39.3	-0.5
TSZ	**Takapari Road**	**2.29**	**227**	P	Pn	03 13 37.1	-3.1
WAZ	**Wanganui**	**2.75**	**242**	*e*P	Pn	03 13 46.2	-0.6
MRZ	**Mangatainoka R**	**2.92**	**222**	P	Pn	03 13 45.0	-4.2
MTW	**Mount Morrison**	**3.33**	**217**	P	Pn	03 13 50.4	-4.6
KIW	**Kapiti Island**	**3.42**	**226**	P	Pn	03 13 51.7	-4.6
MSWZ	**Moikau Station**	**3.65**	**217**	P	Pn	03 13 54.2	-5.4
TCW	**Tory Channel**	**4.01**	**227**	P	Pn	03 14 00.4	-4.3
LTZ	**Lake Taylor**	**6.17**	**225**	*e*P	Pn	03 14 30.2	-5.1

JMA 27 03:16:06.9±0.4,33.33N×142.26E,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.70**	**321**	P	Pn	03 16 37.9	-0.1
BSO1				*e*S	Sb	03 17 00.4	-0.1
BSO2	**Boso 2**	**1.89**	**319**	*e*S	Sn	03 17 05.9	+0.3
JHJ2	**Mitsune**	**2.06**	**265**	P	Pn	03 16 43.4	+0.2
JHJ2				*e*S	Sn	03 17 10.3	+0.4
BSO3	**Boso 3**	**2.06**	**316**	P	Pn	03 16 43.4	+0.2
BSO3				*e*S	Sn	03 17 10.9	+0.8
BSO4	**Boso 4**	**2.30**	**317**	P	Pn	03 16 47.9	+1.3
JHU	**Hanno**	**3.52**	**317**	*e*S	Sn	03 17 46.3	-0.6
JMM	**Marumori**	**4.68**	**346**	*e*S	Sn	03 18 09.4	-7.0

*IDC **27** 03:16:37.4±1.7,12.51N×48.20E,mb3.7/5,mb1 4.0/6, mb1mx3.7/20,mbtmp3.8/6,ML3.8/1,MS3.8/3,Ms1 3.8/3, ms1mx3.4/24,Error ellipse: s-maj=41.4km s-min=29.3km az=6.0*
*DHMR **27** 03:16:39.3±2.5,13.16N×47.97E,h12km±25km,ML3.6*
*CSEM **27** 03:16:39.3±0.3,13.16N×47.97E,h12km,ML3.6,Error ellipse: s-maj=10.1km s-min=3.4km az=161.0,After DHMR*
ISC 27 03:16:36.7±2.6,12.9N±0.1×48.12E±0.05,h1km±18km,n16, σ0s99/20,mb3.7/5,MS4.1/1,4C-1D,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MUKL	**Al Mukalla**	**1.80**	**30**	⇓*i*P	**Pn**	**03 17 09.4**	**+0.3**
MUKL				*i* S	**Sn**	**03 17 31.7**	**-1.1**
MUKL				AML	AML	03 17 37.3	
	comp=N,586nm,0.7s						
BDHA	**Al Bayda'**	**2.70**	**294**	⇑*i*P	**Pn**	**03 17 22.7**	**+0.8**
BDHA				*i* S	**Sn**	**03 17 55.0**	**-0.7**
BDHA				AML	AML	03 17 57.0	
	comp=N,2μm,0.7s						
BDHA	**Al Bayda'**	**2.70**	**294**	⇑*i*P	**Pn**	**03 17 22.7**	**+0.8**
BDHA				*i* S	**Sn**	**03 17 55.0**	**-0.7**
	comp=N,958nm,0.7s						
TRBA	**At Turbah**	**3.91**	**275**	⇑*i*P	**Pn**	**03 17 38.0**	**-1.2**
TRBA				*i* S	**Sn**	**03 18 27.8**	**+1.4**
TRBA				AML	AML	03 18 35.4	
	comp=Z,68nm,0.5s						
TRBA	**At Turbah**	**3.91**	**275**	⇑*i*P	**Pn**	**03 17 38.0**	**-1.2**
TRBA				*i* S	**Sn**	**03 18 27.8**	**+1.4**
	comp=Z,34nm,0.5s						
DHBB	**Dhamar BB**	**3.98**	**295**	*i* P	**Pn**	**03 17 40.3**	**+0.2**
DHBB				*i* S	**Sn**	**03 18 27.7**	**-0.5**
HAJJ	**Hajjah**	**5.19**	**303**	*i* S	**Sn**	**03 18 54.0**	**-4.5**
HAJJ	**Hajjah**	**5.19**	**303**	*i* S	**Sn**	**03 18 54.0**	**-4.6**
ATD	**Arta Tunnel**	**5.33**	**256**	Pn	**Pn**	**03 17 57.9**	**-1.4**
	comp=Z,3.2nm,0.3s,baz=47,slow=19,SNR=8.2						
ATD				LR	LR	03 19 33.1	
	comp=Z,572nm,20.0s,baz=200,slow=33						
KMBO	**Kilima Mbogo**	**17.62**	**219**	LR	LR	03 27 09.9	
	comp=Z,280nm,20.8s,baz=63,slow=36						
ASF	**Jabal al Asfar**	**21.77**	**334**	P	**P**	**03 21 36.3**	**+4.5**
	comp=Z,1.1nm,0.3s,mb3.8,baz=103,slow=3.8,SNR=4.7						
MKAR	**Makanchi Array**	**44.32**	**34**	P	**P**	**03 24 50.8**	**+0.9**
	comp=Z,0.9nm,0.9s,mb3.5,baz=230,slow=9.5,SNR=3.6						
GERES	**GERESS Array B**	**45.74**	**329**	P	**P**	**03 25 02.9**	**+1.7**
	comp=Z,0.5nm,0.6s,mb3.6,baz=108,slow=9.3,SNR=5.1						
BOSA	**Boshof**	**46.82**	**208**	LR	LR	03 46 23.3	
	comp=Z,236nm,20.4s,MS4.1,baz=45,slow=38						
SONM	**Songino Array**	**59.38**	**42**	P	**P**	**03 26 43.3**	**+0.4**
	comp=Z,0.2nm,0.4s,mb3.5,baz=259,slow=7.3,SNR=3.3						
WRA	**Warramunga Arr**	**90.85**	**110**	P	**P**	**03 29 42.9**	**-0.8**
	comp=Z,1.0nm,0.9s,mb4.2,baz=294,slow=4.1,SNR=4.6						

*NEIC **27** 03:17:31.1,39

PKE	**Pukeiti**	**1.80 283**	PN	P	03 18 00.5	+0.4
NRZ	**Ngariki Road**	**1.81 278**	P	P	03 18 00.7	+0.4
NRZ	**Ngariki Road**	**1.81 278**	PN	P	03 18 00.7	+0.4
TRWZ	**Traveller**	**1.83 193**	PN	P	03 17 58.7	-1.8
SNZO	**South Karori**	**2.06 214**	P	P	03 18 01.5	-2.2
TCW	**Tory Channel**	**2.19 223**	P	P	03 18 03.4	-2.2
MXZ	**Matakaoa Point**	**2.61 39**	P	P	03 18 10.1	-1.6
NNZ	**Nelson**	**2.71 233**	P	P	03 18 10.6	-2.4
BSWZ	**Blackbirch Sta**	**2.76 220**	P	P	03 18 10.9	-2.9
THZ	**Tophouse**	**3.32 229**	P	P	03 18 18.7	-3.0

IDC ***27*** *03:29:37.9±17.0, 36.06N×73.13E, mb3.7/4, mb1 3.8/5, mb1mx3.5/19, mbtmp3.7/5, ML3.7/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/27, Error ellipse: s-maj=316.6km s-min=84.5km az=132.0*

NNC ***27*** *03:30:11.6±6.9, 38.25N×71.77E, h247km±92km, mpv3.9, Error ellipse: s-maj=84.9km s-min=44.9km az=25.0*

ISC 27 03:30:00.1±1.5,**37.44N**±0.06×**71.8E**±0.2,**h83**km±20km, **n20,**σ1**913/25, mb3.5/4, 2C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.58**	**21**	⇓P	**P**	**03 31 25.1**	**+3.0**
	3.6nm,0.3s						
AAK				⇑S	**S**	**03 32 25.0**	**-0.7**
	9.2nm,0.5s						
KK31	**Karatay Array**	**5.75**	**350**	⇓P	**P**	**03 31 26.1**	**+1.7**
	8.9nm,0.3s,baz=175,slow=14,SNR=203						
KK31				⇓S	**S**	**03 32 27.0**	**-2.7**
	20nm,0.5s						
THN	**Thein Dam**	**5.93**	**146**	*eP*	**P**	**03 31 31.6**	**+4.6**
THN				*eS*	**S**	**03 32 35.8**	**+1.5**
DLH	**Dalhousie**	**5.96**	**144**	*eS*	**S**	**03 32 35.0**	**+0.1**
SDNR	**Sundarnagar**	**7.29**	**143**	*e*	**S**	**03 31 45.0**	**-0.9**
SDNR				*eS*	**S**	**03 33 06.6**	**-1.2**
DDI	**Dehra Dun**	**8.79**	**142**	*eS*	**S**	**03 33 40.0**	**-4.6**
KOLN	**Koldanda**	**13.83**	**131**	*eP*	**P**	**03 33 12.9**	**-0.7**
	6.5nm,0.5s						
KOLN				*eS*	**S**	**03 35 36.9**	**-8.5**
GKN	**Gorkha**	**14.31**	**127**	*eP*	**P**	**03 33 18.9**	**-0.8**
	20nm,0.8s						
GKN				*eS*	**S**	**03 35 46.5**	**-10**
AB31	**Akbulak array**	**14.61**	**328**	P	**P**	**03 33 21.6**	**-1.9**
	0.8nm,0.3s,baz=142,slow=12,SNR=45						
AB31				⇑S	**S**	**03 35 49.8**	**-14**
	1.1nm,0.5s,baz=155,slow=23,SNR=7.5						
KKN	**Kakani**	**14.86**	**126**	*eP*	**P**	**03 33 27.6**	**+0.7**
DMN	**Daman**	**14.88**	**127**	*eP*	**P**	**03 33 26.9**	**-0.2**
PKI	**Pulchoki**	**15.10**	**127**	*eP*	**P**	**03 33 30.4**	**+0.5**
BVAR	**Borovoye Array**	**15.62**	**357**	P	**P**	**03 33 37.6**	**+1.2**
	0.3nm,0.3s,baz=156,slow=9.6,SNR=5.6						
AKASG	**Malin Array Be**	**32.89**	**308**	P	**P**	**03 36 28.3**	**+0.4**
	0.1nm,0.3s,mb3.1,baz=107,slow=10.0,SNR=4.4						
FINES	**FINESS Array B**	**37.08**	**325**	P	**P**	**03 37 03.7**	**+0.2**
	0.4nm,0.3s,mb3.8,baz=117,slow=8.5,SNR=5.8						
ARCES	**ARCESS Array B**	**40.53**	**337**	P	**P**	**03 37 32.5**	**+0.4**
	1.1nm,0.8s,mb3.7,baz=108,slow=7.7,SNR=5.4						
NB2	**NORSAR Subarra**	**44.03**	**322**	P	**P**	**03 38 00.4**	**-0.3**
	0.4nm,0.4s,mb3.5,baz=96,slow=7.4						
NOA	**NORSAR Array B**	**44.03**	**322**	P	**P**	**03 38 00.3**	**-0.3**
	0.4nm,0.5s,mb3.4,baz=107,slow=8.3,SNR=3.4						
JNU	**Nakatsue**	**47.73**	**77**	LR	LR	04 00 05.6	
	comp=Z,100nm,19.2s,baz=33,slow=39						
JOW	**Kunigami**	**48.34**	**86**	LR	LR	04 02 13.4	
	comp=Z,85nm,20.3s,baz=269,slow=41						

NEIC ***27*** *03:46:05.4±1.1, 30.50S×178.10W, h96km±8km, mb4.3/1, Error ellipse: s-maj=23.9km s-min=12.6km az=120.0*

IDC ***27*** *03:46:05.7±1.5, 30.41S×178.25W, h89km±10km, mb4.0/2, mb1 4.1/3, mb1mx3.6/14, mbtmp4.2/3, Error ellipse: s-maj=43.5km s-min=15.0km az=114.0*

ISC 27 03:46:04.8±1.1,**30.32S**±0.08×**178.8W**±0.2,**h56**km±15km, **n15,**σ0**876/13, mb4.2/3, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.33**	**37**	P	**P**	**03 46 28.6**	**+1.0**
	242nm,0.3s,baz=52,slow=2.2,SNR=13						
RAO				S	**S**	**03 46 44.0**	**-0.6**
	340nm,0.3s,baz=89,slow=22,SNR=15						
RAO	**Raoul Island**	**1.33**	**37**	*eP*	**P**	**03 46 28.5**	**+0.9**
RAO				S	**S**	**03 46 44.0**	**-0.6**
URZ	**Urewera**	**8.60**	**202**	P	**P**	**03 48 08.1**	**-1.0**
	0.4nm,0.3s,baz=264,slow=10.0,SNR=3.2						
URZ				S	**S**	**03 49 46.1**	**+0.4**
	2.1nm,0.3s,baz=161,slow=22,SNR=12						
CTA	**Charters Tower**	**33.08**	**280**	P	**P**	**03 52 38.1**	**+0.8**
	3.5nm,0.6s,mb4.5,baz=166,slow=9.4,SNR=3.5						
CTAO	**Charters Tower**	**33.08**	**280**	*eP*	**P**	**03 52 37.9**	**+0.5**
STKA	**Stephens Creek**	**33.80**	**257**	*eP*	**P**	**03 52 44.5**	**+1.0**
WRAB	**Tennant Creek**	**43.37**	**273**	*eP*	**P**	**03 54 02.2**	**-1.2**
	4.6nm,0.8s,mb4.3						
WRA	**Warramunga Array**	**43.38**	**273**	P	**P**	**03 54 03.1**	**-0.4**
	2.4nm,0.8s,mb4.0,baz=111,slow=7.5,SNR=7.5						
VNA3	**Neumayer Olymp**	**78.43**	**176**		**P**	**03 58 00.9**	**+0.4**
VNA2	**Neumayer--Watz**	**78.86**	**77**		**P**	**03 58 02.5**	**-0.3**
KURK	**Kurchatov**	**120.48**	**314**	*eP*	PKPdf	04 04 45.4	-4.4
FINES	**FINESS Array B**	**144.82**	**339**	PKPbc	PKPbc	04 05 31.1	-3.6
	1.4nm,0.6s,baz=45,slow=2.7,SNR=5.4						
NOA	**NORSAR Array B**	**148.56**	**351**	PKPbc	PKPdf	04 05 40.4	-0.5
	0.6nm,0.7s,baz=17,slow=4.3,SNR=3.7						
HFS	**Hagfors**	**149.02**	**348**	PKPbc	PKPdf	04 05 43.1	+1.5
	2.6nm,0.8s,baz=90,slow=2.9,SNR=4.0						
AKASG	**Malin Array Be**	**150.80**	**322**	PKPbc	PKPdf	04 05 48.1	+3.4
	1.2nm,0.5s,baz=48,slow=2.5,SNR=7.5						

IDC ***27*** *03:51:22.2±1.9, 5.41N×127.14E, mb4.0/4, mb1 4.1/4, mb1mx3.8/18, mbtmp4.0/4, MS3.1/1, Ms1 3.1/1, ms1mx2.7/23, Error ellipse: s-maj=103.4km s-min=25.1km az=69.0*

ISC 27 03:51:33.2±1.5,**5.3N**±0.1×**127.1E**±0.2,**h110**km±18km,**n8,** σ0**93/10, mb3.9/4, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.84**	**332**	*eP*	**P**	**03 52 05.1**	**+0.5**
MATI				*eS*	**S**	**03 52 27.9**	**-0.2**
GSPH	**General Santos**	**2.31**	**289**	⇓*iP*	**P**	**03 52 10.5**	**-0.3**
GSPH				*i* S	**S**	**03 52 38.7**	**-0.3**
BUKP	**Musuan**	**3.27**	**321**	*eP*	**P**	**03 52 22.1**	**-1.8**
BUKP				*eS*	**S**	**03 53 04.1**	**+1.8**
FITZ	**Fitzroy Crossi**	**23.32**	**184**	P	**P**	**03 56 33.6**	**+1.2**
	2.5nm,0.6s,mb3.7,baz=9.3,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**26.09**	**164**	P	**P**	**03 56 58.2**	**-0.4**
	1.8nm,0.6s,mb3.7,baz=344,slow=10,SNR=12						
HNR	**Honiara**	**35.83**	**114**	LR	LR	04 11 05.0	
	comp=Z,29nm,19.3s,baz=318,slow=33						
STKA	**Stephens Creek**	**39.47**	**160**	P	**P**	**03 58 54.6**	**+0.1**
	1.5nm,0.6s,mb4.0,baz=336,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**56.50**	**324**	P	**P**	**04 01 05.7**	**-0.6**
	0.8nm,0.4s,mb4.1,baz=113,slow=7.2,SNR=6.2						

NIED ***27*** *03:52:00, 33.30N×142.30E, h5km, Mw4.0 Best double couple: M0 1.17×10^15 NP1:φs177°,δ60°,λ-89°. NP2: φs355°,δ30°,λ-92°.*

IDC ***27*** *03:52:43.6±0.6, 33.21N×142.43E, mb4.1/16, mb1 4.2/19, mb1mx4.2/25, mbtmp4.1/19, ML4.3/3, Error ellipse: s-maj=18.8km s-min=15.8km az=78.0*

JMA ***27*** *03:52:44.2±0.3, 33.28N×142.33E, M4.5*

MOS ***27*** *03:52:46.3±0.8, 33.16N×142.41E, h33km, mb4.5/3, Error ellipse: s-maj=27.9km s-min=9.8km az=121.9*

BJI ***27*** *03:52:46.8, 32.95N×141.95E, h21km, mB4.9, mb4.4, Ms4.1, Msz4.4*

NEIC ***27*** *03:52:50.1±1.6, 33.24N×142.39E, h45km±12km, mb4.5/3, MW4.0(NIED), Error ellipse: s-maj=15.1km s-min=12.4km az=114.0*

ISC 27 03:52:45.4±1.7,**33.19N**±0.04×**142.44E**±0.06,**h25**km±12km, **n50,**σ1**900/61, mb4.1/20, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.90**	**321**	P	**Pn**	**03 53 16.5**	**-0.4**
BSO1				S	**Sn**	**03 53 41.1**	**+0.8**
BSO2	**Boso 2**	**2.10**	**318**	*eS*	**Sn**	**03 53 45.9**	**+0.7**
JHJ2	**Mitsune**	**2.20**	**269**	P	**Pn**	**03 53 22.1**	**+0.8**
JHJ2				S	**Sn**	**03 53 49.1**	**+1.1**
JHJ	**Hachijo jima 2**	**2.23**	**269**	Pn	**Pn**	**03 53 21.9**	**+0.3**
	180nm,0.3s,baz=167,slow=10,SNR=59						
JHJ				Sn	**Sn**	**03 53 47.3**	**-1.4**
	296nm,0.3s,baz=36,slow=23,SNR=8.6						
BSO3	**Boso 3**	**2.27**	**316**	P	**Pn**	**03 53 22.3**	**+0.1**
BSO3				*eS*	**Sn**	**03 53 50.1**	**+0.4**
BSO4	**Boso 4**	**2.50**	**316**	P	**Pn**	**03 53 26.2**	**+0.7**
BSO4				S	**Sn**	**03 53 55.8**	**+0.2**
JIM2	**Oshima 3**	**2.93**	**302**	P	**Pn**	**03 53 30.7**	**-0.9**
JYT	**Yasato**	**3.55**	**329**	P	**Pn**	**03 53 40.1**	**-0.3**
JHJ	**Hanno**	**3.72**	**316**	P	**Pn**	**03 53 42.7**	**-0.1**
JHJ				S	**Sn**	**03 54 25.4**	**-1.0**
JAG	**Ashikaga**	**4.06**	**324**	P	**Pn**	**03 53 47.0**	**-0.6**
JFK	**Kawauchi**	**4.36**	**343**	P	**Pn**	**03 53 49.0**	**-2.9**
JNY	**Yasuok**	**4.37**	**301**	P	**Pn**	**03 53 53.1**	**+1.1**
MJAR	**Matsushiro Arr**	**4.83**	**315**	Pn	**Pn**	**03 53 58.1**	**-0.4**
	7.8nm,0.3s,baz=198,slow=8.9,SNR=45						
MJAR				Sn	**Sn**	**03 54 52.3**	**-2.1**
	7.7nm,0.3s,baz=163,slow=17,SNR=7.3						
MAJO	**Matsushiro**	**4.83**	**315**	*eP*	**Pn**	**03 53 59.8**	**+1.3**
MAT	**Matsushiro**	**4.83**	**315**	*eP*	**Pn**	**03 53 58.0**	**-0.5**
MAT				*eS*	**Sn**	**03 54 49.0**	**-5.4**
MAT	**Matsushiro**	**4.83**	**315**	P	**Pn**	**03 53 58.1**	**-0.4**
MAT				S	**Sn**	**03 54 51.0**	**-3.4**
MAT	**Matsushiro**	**4.83**	**315**	P	**Pn**	**03 53 58.6**	**+0.1**
MAT				S	**Sn**	**03 54 53.1**	**-1.3**
CBIJ	**Chichi jima**	**6.08**	**182**	Pn	**Pn**	**03 54 14.8**	**-1.4**
	22nm,0.3s,baz=96,slow=23,SNR=6.8						
CBIJ				Sn	**Sn**	**03 55 19.9**	**-5.9**
	34nm,0.3s,baz=278,slow=22,SNR=5.8						
JNU	**Nakatsue**	**9.70**	**273**	Pn	**P**	**03 55 08.0**	**+1.4**
	0.6nm,0.3s,baz=66,slow=22,SNR=6.7						
ASAJ	**Asahikawa**	**10.91**	**1**	P	**P**	**03 55 18.3**	**-4.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.91**	**1**	Pn	**P**	**03 55 18.2**	**-4.9**
	comp=Z,1.3nm,0.3s,baz=268,slow=24,SNR=5.5						
KS15	**Wonju Array Si**	**12.62**	**294**	*eP*	**P**	**03 55 47.3**	**+1.0**
CN2	**Changchun**	**16.97**	**314**	*eP*	**P**	**03 56 43.8**	**+1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
ENH	**Enshi**	**28.12**	**273**	*eP*	**P**	**03 58 36.0**	**-1.6**
	comp=Z,12nm,0.7s,mb4.6						
SONM	**Songino Array**	**30.75**	**309**	P	**P**	**03 59 01.9**	**+1.0**
	comp=Z,4.3nm,0.8s,mb4.3,baz=112,slow=8.9,SNR=17						
BOD	**Bodaibo**	**31.25**	**331**	*eP*	**P**	**03 59 03.8**	**-1.4**
BOD				*e*	pP	03 59 10.7	-1.8
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
ZAK	**Zakamensk**	**33.41**	**313**	*eP*	**P**	**03 59 26.6**	**+2.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
MKAR	**Makanchi Array**	**46.95**	**305**	P	**P**	**04 01 15.7**	**-0.2**
	comp=Z,2.7nm,0.7s,mb4.3,baz=90,slow=9.7,SNR=11						
KURK	**Kurchatov**	**49.02**	**311**	*eP*	**P**	**04 01 31.5**	**-0.6**
ILAR	**Eielson Array**	**52.32**	**31**	P	**P**	**04 01 56.2**	**-0.8**
	comp=Z,0.7nm,0.7s,mb4.7,baz=268,slow=6.8,SNR=8.7						
WRA	**Warramunga Arr**	**53.40**	**190**	P	**P**	**04 02 04.4**	**-1.2**
	comp=Z,1.2nm,0.4s,mb4.2,baz=6.3,slow=7.6,SNR=12						
WRA				PcP	PcP	04 03 13.1	+0.4
	comp=Z,1.0nm,0.6s,baz=4.2,slow=4.0,SNR=5.4						
FITZ	**Fitzroy Crossi**	**53.47**	**200**	P	**P**	**04 02 06.1**	**0.0**
	comp=Z,3.1nm,0.5s,mb4.5,baz=9.1,slow=7.5,SNR=8.3						
BVAR	**Borovoye Array**	**53.82**	**315**	P	**P**	**04 02 07.8**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.2,baz=127,slow=7.4,SNR=9.6						
BRVK	**Borovoye**	**53.88**	**315**	P	**P**	**04 02 08.4**	**-0.2**
YKA	**Yellowknife Ar**	**66.72**	**30**	P	**P**	**04 03 35.6**	**-0.6**
	comp=Z,0.3nm,0.5s,mb3.6,baz=297,slow=6.4,SNR=3.5						
ARCES	**ARCESS Array B**	**67.89**	**340**	P	**P**	**04 03 43.3**	**-0.2**
	comp=Z,1.1nm,0.7s,mb4.0,baz=68,slow=6.5,SNR=7.0						
KAF	**Kangasniemi**	**72.11**	**334**	*ep*	**P**	**04 04 08.8**	**-0.5**
	comp=Z,2.3nm,0.6s,mb4.3,baz=50,slow=5.7						
KAF	**Kangasniemi**	**72.11**	**334**	*eP*	**P**	**04 04 08.8**	**-0.5**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**72.61**	**333**	P	**P**	**04 04 12.1**	**-0.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=104,slow=7.9,SNR=7.9						
FINES	**FINESS Array B**	**72.61**	**333**	P	**P**	**04 04 12.1**	**-0.1**
NVAR	**Mina Array Bea**	**76.62**	**53**	P	**P**	**04 04 37.1**	**+1.4**
	comp=Z,0.5nm,0.7s,mb3.6,baz=294,slow=4.9,SNR=4.6						
AKASG	**Malin Array Be**	**77.86**	**323**	P	**P**	**04 04 42.1**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=46,slow=6.1,SNR=7.9						
HFS	**Hagfors**	**77.94**	**336**	P	**P**	**04 04 42.4**	**-0.1**
	comp=Z,1.8nm,0.6s,mb4.2,baz=63,slow=3.2,SNR=12						
NB2	**NORSAR Subarra**	**78.05**	**338**	P	**P**	**04 04 43.0**	**-0.2**
	comp=Z,3.6nm,0.8s,mb4.3,baz=40,slow=5.6						
NB2	**NORSAR Subarra**	**78.05**	**338**	P	**P**	**04 04 43.0**	**-0.2**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
NOA	**NORSAR Array B**	**78.05**	**338**	P	**P**	**04 04 43.7**	**+0.5**
	comp=Z,2.4nm,0.7s,mb4.2,baz=39,slow=5.6,SNR=11						
PDAR	**Pinedale Array**	**79.76**	**45**	P	**P**	**04 04 55.5**	**+2.6**
	comp=Z,0.3nm,0.4s,mb3.5,SNR=4.5						
BRTR	**Keskin Array B**	**82.05**	**313**	P	**P**	**04 05 06.1**	**+1.2**
	comp=Z,2.0nm,0.9s,mb4.1,baz=106,slow=3.6,SNR=8.3						
CLL	**Collm**	**84.85**	**331**	P	**P**	**04 05 19.0**	**+0.1**
TXAR	**Lajitas Array**	**91.78**	**53**	P	**P**	**04 05 53.7**	**+1.1**
	comp=Z,0.3nm,0.6s,mb3.8,baz=305,slow=4.0,SNR=6.3						

NEIC ***27*** *04:31:43.4, 18.81N×64.31W, h42km, MD3.5(RSPR), After RSPR.*

RSPR 27 04:31:43.4, 18.81N×64.31W, h42km, MD3.5/10, **MD3.5**/10, **7C-3D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.49**	**215**	*eS*	S	04 32 00.7	-0.8
TBVI	**Tortola**	**0.49**	**215**	⇑*eP*	P	04 31 53.2	-0.8
TBVI				*eS*	S	04 32 00.7	-0.8
STVI	**Saint Thomas**	**0.77**	**234**	⇓*eP*	P	04 31 56.9	-0.9
STVI				*eS*	S	04 32 07.0	-1.4
CDVI	**St. Croix**	**1.14**	**202**	⇓*eP*	P	04 32 03.1	+0.1
CDVI				*eS*	S	04 32 17.4	-0.3
HUMP	**Col San Antoni**	**1.60**	**246**	⇑*eP*	P	04 32 08.8	-1.0
HUMP				*eS*	S	04 32 27.4	-2.0
SJG	**San Juan**	**1.88**	**249**	⇑*eP*	P	04 32 12.8	-0.8
SJG				*eS*	S	04 32 34.7	-1.5
SJG	**San Juan**	**1.88**	**249**	⇑*eP*	P	04 32 12.5	-1.1
SJG				*eS*	S	04 32 34.0	-2.2
PORP	**Portuguez**	**2.33**	**252**	⇑*eP*	P	04 32 19.0	-1.1
PORP				*eS*	S	04 32 45.4	-2.3
LRS	**Lares**	**2.46**	**258**	⇑*eP*	P	04 32 21.1	-0.9
LSP	**Las Mesas**	**2.71**	**257**	⇓*eP*	P	04 32 25.0	-0.5
LSP				*eS*	S	04 32 55.6	-1.6
MGP	**Maguayo**	**2.75**	**254**	⇑*eP*	P	04 32 25.5	-0.6
MGP				*eS*	S	04 32 55.3	-3.1

NEIC ***27*** *04:48:25.7, 57.52N×152.60W, h45km, ML3.7(PMR), ML3.3(AEIC), After AEIC.*

IDC ***27*** *04:48:27.5±5.6, 57.98N×152.93W, h42km±49km, mb3.5/1, mb1 3.9/4, mb1mx3.4/21, mbtmp3.8/4, ML3.6/3, Error ellipse: s-maj=53.5km s-min=27.1km az=150.0*

ISC 27 04:48:22.8±0.6,**57.47N**±0.04×**152.46W**±0.04,**h45**km,**n72,** σ0**82/84, mb3.8/1, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**0.33**	**348**	P	**P**	**04 48 32.5**	**+0.7**
KDAK				S	**S**	**04 48 38.1**	**0.0**
SYI	**Shuyak Island**	**1.15**	**2**	P	**P**	**04 48 43.9**	**+1.3**
SYI				S	**S**	**04 48 57.3**	**-0.2**
KABR	**Katmai Barrier**	**1.50**	**297**	P	**P**	**04 48 47.8**	**0.0**
KAPH	**Katmai Pasha**	**1.52**	**319**	P	**P**	**04 48 48.7**	**+0.7**
KAPH				S	**S**	**04 49 05.8**	**-0.9**
KAHG	**Katmai Hook Gl**	**1.52**	**314**	P	**P**	**04 48 48.8**	**+0.8**
KAWH	**Katmai**	**1.55**	**307**	P	**P**	**04 48 49.1**	**+0.6**
KAWH				S	**S**	**04 49 06.8**	**-0.8**
KARR	**Katmai Rainbow**	**1.58**	**312**	P	**P**	**04 48 49.9**	**+1.0**
CAHL	**Cahill**	**1.64**	**292**	P	**P**	**04 48 49.7**	**+0.1**
CAHL				S	**S**	**04 49 08.7**	**-0.9**
ACHA	**Angle Creek He**	**1.71**	**297**	P	**P**	**04 48 51.2**	**+0.6**
ACHA				S	**S**	**04 49 10.6**	**-0.8**
KAIC	**Katmai Ikaglui**	**1.72**	**308**	P	**P**	**04 48 51.3**	**+0.5**
KJL	**Kejulik**	**1.77**	**291**	P	**P**	**04 48 51.7**	**+0.1**
KJL				S	**S**	**04 49 11.8**	**-1.2**
ANCK	**Angle Creek**	**1.78**	**296**	P	**P**	**04 48 52.3**	**+0.6**
KAHC	**Katmai Hardscr**	**1.80**	**312**	P	**P**	**04 48 52.6**	**+0.6**
AUI	**Augustine Isla**	**1.94**	**345**	P	**P**	**04 48 55.2**	**+1.2**
AUI				S	**S**	**04 49 17.7**	**+0.5**
AGU	**Augustine-Summ**	**1.97**	**345**	P	**P**	**04 48 55.9**	**+1.5**
AUW	**Augustine West**	**1.98**	**345**	P	**P**	**04 48 55.9**	**+1.3**
AUL	**Augustine Lava**	**1.99**	**345**	P	**P**	**04 48 56.0**	**+1.4**
MCNL	**McNeil River**	**1.99**	**331**	P	**P**	**04 48 55.2**	**+0.6**
XLV	**Seldovia**	**2.03**	**11**	P	**P**	**04 48 56.9**	**+1.6**
XLV				S	**S**	**04 49 20.2**	**+0.7**
CNPM	**China Poot**	**2.16**	**17**	P	**P**	**04 48 58.4**	**+1.3**
OPT	**Oil Point**	**2.23**	**350**	P	**P**	**04 48 59.3**	**+1.2**
OPT				S	**S**	**04 49 24.3**	**-0.3**
HOM	**Homer**	**2.24**	**11**	P	**P**	**04 48 59.7**	**+1.4**
BRLK	**Bradley Lake**	**2.45**	**19**	P	**P**	**04 49 01.9**	**+0.7**
ILW	**Iliamna West**	**2.62**	**353**	P	**P**	**04 49 04.3**	**+0.5**
ILIM	**Iliamna**	**2.63**	**355**	P	**P**	**04 49 04.4**	**+0.5**
RSO	**Redoubt South**	**3.01**	**357**	P	**P**	**04 49 09.8**	**+0.6**
SEW	**Seward**	**3.07**	**29**	P	**P**	**04 49 09.9**	**-0.2**
RDT	**Redoubt**	**3.12**	**0**	P	**P**	**04 49 11.1**	**+0.3**
RDT				S	**S**	**04 49 45.3**	**-1.7**
SLKM	**Skilak Lake**	**3.26**	**20**	*eP*	**P**	**04 49 12.6**	**-0.1**
MPA	**Moose Pass**	**3.43**	**27**	P	**P**	**04 49 15.3**	**+0.2**
CHGN	**Chignik**	**3.47**	**253**	*eP*	**P**	**04 49 15.3**	**-0.4**
LTI	**Latouche**	**3.52**	**41**	P	**P**	**04 49 16.1**	**-0.4**
SPU	**Mount Spurr**	**3.73**	**3**	*eP*	**P**	**04 49 18.8**	**-0.6**
CKL	**Chakachamna La**	**3.74**	**1**	P	**P**	**04 49 20.0**	**+0.4**
RC01	**Rabbit Creek A**	**3.89**	**20**	P	**P**	**04 49 21.5**	**-0.2**
SVW2	**Sparrevohn**	**3.98**	**338**	P	**P**	**04 49 22.1**	**-0.8**
HIN	**Hinchinbrook I**	**4.26**	**44**	P	**P**	**04 49 27.5**	**+0.6**
GLI	**Glacier Island**	**4.40**	**37**	P	**P**	**04 49 27.9**	**-0.9**
KNK	**Knik Glacier**	**4.45**	**26**	P	**P**	**04 49 29.2**	**-0.4**
PMR	**Palmer**	**4.47**	**21**	P	**P**	**04 49 30.1**	**+0.3**
FID	**Port Fidalgo**	**4.51**	**41**	P	**P**	**04 49 29.4**	**-1.0**
CVA	**Cordova**	**4.64**	**45**	P	**P**	**04 49 32.3**	**0.0**
EYAK	**Cordova Ski Ar**	**4.64**	**45**	P	**P**	**04 49 32.2**	**-0.1**
GHO	**Glory Hole Cre**	**4.68**	**21**	P	**P**	**04 49 32.1**	**-0.6**
JPK	**Jack Peak**	**4.69**	**37**	P	**P**	**04 49 32.5**	**-0.4**
SGAM	**Sherman Glacie**	**4.83**	**48**	P	**P**	**04 49 35.3**	**+0.4**
SML	**Sawmill**	**4.83**	**24**	P	**P**	**04 49 34.5**	**-0.5**
VLZ	**Valdez**	**4.83**	**38**	P	**P**	**04 49 34.8**	**-0.2**
RAGM	**Ragged Mountai**	**4.98**	**51**	P	**P**	**04 49 37.1**	**0.0**
DIV	**Divide**	**5.02**	**40**	P	**P**	**04 49 37.5**	**-0.1**
SCM	**Sheep Creek Mo**	**5.09**	**29**	P	**P**	**04 49 38.5**	**-0.1**
KLU	**Klutina**	**5.23**	**37**	P	**P**	**04 49 40.3**	**-0.3**
BMRM	**Bremner River**	**5.35**	**46**	P	**P**	**04 49 42.0**	**-0.1**
TT01	**Tatalina**	**5.74**	**343**	P	**P**	**04 49 46.5**	**-1.1**
WAX	**Waxell Ridge**	**5.80**	**55**	P	**P**	**04 49 48.4**	**0.0**
CRQM	**Cirque**	**5.82**	**52**	P	**P**	**04 49 48.9**	**+0.2**
GLB	**Gilahina Butte**	**5.94**	**44**	P	**P**	**04 49 50.0**	**-0.4**
TRF	**Thorofare Moun**	**6.10**	**9**	P	**P**	**04 49 51.9**	**-0.8**
SDG	**Sourdough**	**6.14**	**31**	P	**P**	**04 49 52.8**	**-0.5**
YAH	**Yahtse**	**6.26**	**58**	P	**P**	**04 49 55.3**	**+0.4**
BALM	**Baldy**	**6.30**	**51**	P	**P**	**04 49 55.5**	**0.0**
PNL	**Peninsula**	**7.18**	**67**	P	**P**	**04 50 07.4**	**-0.4**
WRH	**Wood River Hil**	**7.34**	**15**	P	**P**	**04 50 08.0**	**-2.1**
BCA3	**Beaver Creek A**	**7.72**	**39**	P	**P**	**04 50 15.3**	**0.0**
IL1	**Eielson Array**	**7.81**	**18**	P	**P**	**04 50 14.5**	**-2.0**
ILAR	**Eielson Array**	**7.81**	**18**	P	**P**	**04 50 14.5**	**-2.0**
	0.8nm,0.3s,baz=205,slow=14,SNR=23						
ILAR				S	**S**	**04 51 35.0**	**-10**
	1.6nm,0.3s,baz=211,slow=23,SNR=12						
IM3	**Indian Mountai**	**8.57**

ILCH	**Illapel**	**1.02**	**312**	⇓*iP*	**P**	**05 48 47.6**	**+0.2**
ILCH				*i* S	**S**	**05 49 04.1**	**-0.3**
ILCH				AMP		05 49 04.7	
	comp=N,2μm,0.4s						
CLCH	**Cerro Calan**	**1.10**	**192**	⇓*iP*	**P**	**05 48 48.2**	**+0.1**
CLCH				*i* S	**S**	**05 49 05.6**	**-0.1**
CLCH				AMP		05 49 07.3	
	comp=E,4μm,0.6s						
DSCH	**Colegio Aleman**	**1.10**	**193**	⇑*iP*	**P**	**05 48 48.4**	**+0.2**
DSCH				*i* S	**S**	**05 49 05.8**	**0.0**
DSCH				AMP		05 49 06.8	
	comp=N,4μm,0.6s						
STL	**Santa Lucia**	**1.16**	**196**	⇓*iP*	**P**	**05 48 47.9**	**-0.9**
STL				*i* S	**S**	**05 49 05.7**	**-1.0**
STL				AMP		05 49 06.6	
	comp=N,2μm,0.4s						
FSR	**Penalolen**	**1.18**	**191**	⇓*iP*	**P**	**05 48 49.1**	**+0.1**
FSR				*i* S	**S**	**05 49 07.2**	**+0.1**
FSR				AMP		05 49 08.3	
	comp=N,4μm,0.6s						
RCDM	**Rinconada Maip**	**1.25**	**201**	*eP*	**P**	**05 48 49.7**	**-0.1**
RCDM				*i* S	**S**	**05 49 08.7**	**+0.1**
RCDM				AMP		05 49 10.0	
	comp=E,5μm,0.1s						
ANTU	**Antumapu**	**1.28**	**194**	*eP*	**P**	**05 48 50.0**	**-0.2**
ANTU				*i* S	**S**	**05 49 09.0**	**-0.3**
ANTU				AMP		05 49 10.0	
	comp=N,6μm,0.4s						
CMCH	**Combarbala**	**1.30**	**331**	⇓*iP*	**P**	**05 48 50.5**	**+0.1**
CMCH				*i* S	**S**	**05 49 10.2**	**+0.3**
CMCH				AMP		05 49 12.1	
	comp=E,5μm,0.7s						
PCH	**Pirque**	**1.31**	**189**	*eP*	**P**	**05 48 50.7**	**+0.2**
PCH				*i* S	**S**	**05 49 10.1**	**0.0**
SJCH	**San Jose de Ma**	**1.32**	**183**	*eP*	**P**	**05 48 50.3**	**-0.3**
SJCH				*i* S	**S**	**05 49 10.2**	**0.0**
SJCH				AMP		05 49 14.0	
	comp=N,1μm,0.5s						
IHA	**Instituto Hidr**	**1.35**	**238**	*eP*	**P**	**05 48 50.9**	**-0.1**
LMEL	**Las Melosas**	**1.52**	**178**	⇑*iP*	**P**	**05 48 53.2**	**+0.3**
LMEL				*i* S	**S**	**05 49 14.8**	**+0.5**
LCCH	**Las Cruces**	**1.59**	**223**	⇑*iP*	**P**	**05 48 53.9**	**+0.3**
TLL	**Tololo Astrono**	**2.19**	**348**	*eP*	**P**	**05 49 01.6**	**+0.4**
TLL				*i* S	**S**	**05 49 28.8**	**0.0**
TLL				AMP		05 49 32.7	
	comp=N,1μm,0.8s						
LSCH	**La Serena**	**2.55**	**341**	*eP*	**P**	**05 49 22.8**	**+17**
LSCH				*i* S	**S**	**05 49 52.9**	**+16**
LSCH				AMP		05 49 56.7	
	comp=N,544nm,0.4s						
VACH	**Vallenar**	**3.76**	**353**	*eP*	**P**	**05 49 20.9**	**-1.1**
TRQA	**Tornquist**	**8.87**	**132**	*eP*	**P**	**05 50 26.8**	**-4.3**
	comp=N,6.0nm,0.6s						
VNA3	**Neumayer Olymp**	**50.36**	**159**	*e*	**P**	**05 57 19.5**	**+8.8**
VNA3	**Neumayer Olymp**	**50.36**	**159**	⇑*iP*	**P**	**05 57 11.6**	**+0.9**
VNA3				*e*		05 57 19.5	
VNA1	**Neumayer--Stat**	**50.65**	**158**	*e*	**P**	**05 57 20.6**	**+7.7**
VNA1	**Neumayer--Stat**	**50.65**	**158**	⇑*iP*	**P**	**05 57 12.1**	**-0.8**
VNA1				*e*		05 57 20.6	
VNA2	**Neumayer--Watz**	**50.99**	**158**	*e*	**P**	**05 57 23.8**	**+8.3**
VNA2	**Neumayer--Watz**	**50.99**	**158**	⇑*iP*	**P**	**05 57 15.8**	**+0.3**
VNA2				*e*		05 57 23.8	
SNAA	**Sanae**	**52.59**	**158**	*e*	**P**	**05 57 35.8**	**+8.3**
SNAA	**Sanae**	**52.59**	**158**	⇑*iP*	**P**	**05 57 27.3**	**-0.2**
SNAA				*e*		05 57 35.8	

*IDC **27** 06:04:49.5±1.5, 14.78N×119.94E, mb3.7/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=159.0km s-min=26.4km az=66.0*
*MAN **27** 06:04:51.3, 15.23N×120.35E, h11km, mb4.9, ML3.8, MS3.8*
MAN CLARK AIRBASE & SAN FERNANDO PAMPANGA - INTENSITY II.

ISC 27 06:04:50.6±0.7, 15.24N±0.03×120.40E±0.03, h5km±5km, n28, σ1§33/37, mb3.6/3, 5C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NBP	**Mount Natib**	**0.50**	**178**	*e*P	**Pg**	**06 05 01.6**	**+1.1**
SCZP	**Santa Cruz**	**0.71**	**319**	*e*P	**Pg**	**06 05 04.1**	**-0.6**
SCZP				*e*S	**Sg**	**06 05 15.3**	**+1.0**
PCPH	**Palayan**	**0.74**	**65**	⇓*i*P	**Pg**	**06 05 07.4**	**+1.9**
PCPH				*i* S	**Sg**	**06 05 15.0**	**-0.4**
NZB	**Bigte**	**0.78**	**119**	⇑*e*P	**Pg**	**06 05 05.8**	**-0.4**
QVPH	**Quezon City--P**	**0.87**	**133**	⇓*e*P	**Pb**	**06 05 08.2**	**+0.5**
ARP	**Angono**	**1.01**	**134**	⇓*e*P	**Pb**	**06 05 09.7**	**-0.5**
BCPH	**Baguio City Da**	**1.15**	**9**	⇑*i*P	**Pb**	**06 05 10.4**	**-2.1**
BCPH				*i* S	**Sb**	**06 05 24.8**	**-2.8**
BOLP	**Bolinao**	**1.23**	**338**	*e*P	**Pb**	**06 05 12.8**	**-1.1**
BOLP				*e*S	**Sb**	**06 05 32.5**	**+2.6**
BALP	**Baler**	**1.24**	**66**	*e*P	**Pb**	**06 05 12.5**	**-1.6**
BALP				*e*S	**Sb**	**06 05 28.3**	**-1.9**
LBPH	**Los Banos**	**1.32**	**145**	⇑*e*P	**Pb**	**06 05 14.8**	**-0.7**
LUBP	**Lubang**	**1.51**	**186**	*e*P	**Pn**	**06 05 17.7**	**-0.7**
POLP	**Polilio Island**	**1.57**	**109**	*e*P	**Pn**	**06 05 18.0**	**-1.3**
POLP				*e*S	**Sb**	**06 05 39.4**	**-0.6**
CAUP	**Cauayan**	**2.18**	**39**	*e*P	**Pn**	**06 05 27.9**	**-0.1**
CAUP				*e*S	**Sn**	**06 05 58.4**	**+2.8**
BOAC	**Boac**	**2.26**	**141**	*e*P	**Pn**	**06 05 30.2**	**+1.1**
BOAC				*e*S	**Sn**	**06 05 59.7**	**+2.0**
GQP	**Guinayangan**	**2.39**	**124**	*e*P	**Pn**	**06 05 30.9**	**-0.1**
GQP				*e*S	**Sn**	**06 06 03.0**	**+2.1**
ABRA	**Dolores**	**2.41**	**7**	*e*P	**Pn**	**06 05 32.7**	**+1.4**
APYP	**Conner**	**2.73**	**17**	*e*P	**Pn**	**06 05 37.2**	**+1.4**
CVP	**Callao Caves**	**2.80**	**29**	*e*P	**Pn**	**06 05 37.0**	**+0.1**
SJMP	**San Jose**	**2.85**	**166**	*e*P	**Pn**	**06 05 39.5**	**+1.9**
BUSP	**Coron**	**3.23**	**183**	*e*P	**Pn**	**06 05 42.1**	**-0.8**
BUSP				*e*S	**Sn**	**06 06 20.9**	**-1.3**
OTRP	**Odiongan**	**3.27**	**151**	*e*P	**Pn**	**06 05 49.3**	**+5.8**
PVCP	**Virac**	**3.99**	**114**	*e*P	**Pn**	**06 05 54.4**	**+0.6**
ENPP	**El Nido**	**4.12**	**193**	*e*P	**Pn**	**06 05 54.0**	**-1.7**
BATP	**Bataraza**	**6.89**	**202**	*e*P	**Pg**	**06 07 02.8**	**-5.4**
BUKP	**Musuan**	**8.63**	**148**	*e*P	Sx	06 09 36.3	
SONM	**Songino Array**	**34.50**	**343**	P	**P**	**06 11 42.1**	**+0.4**
	0.3nm,0.5s,mb3.5,baz=144,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**37.55**	**158**	P	**P**	**06 12 03.4**	**-4.4**
	1.2nm,0.7s,mb3.7,baz=338,slow=9.4,SNR=4.8						
MKAR	**Makanchi Array**	**44.63**	**323**	P	**P**	**06 13 04.4**	**-1.4**
	0.9nm,0.8s,mb3.6,baz=129,slow=7.8,SNR=7.4						

MAN 27 06:13:01.0, 16.18N×120.78E, h8km, mb4.5, ML3.4, MS3.3, 4C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	**0.27**	**317**	⇑*i*P	Pg	06 13 06.9	+0.3
BCPH				*i* S	Sg	06 13 11.3	+1.0
PCPH	**Palayan**	**0.69**	**153**	⇓*i*P	Pb	06 13 14.6	-0.2
PCPH				*i* S	Sg	06 13 25.1	+1.0
BOLP	**Bolinao**	**0.85**	**284**	*e*P	Pb	06 13 17.9	+0.4
BOLP				*e*S	Sb	06 13 30.8	+1.9
BALP	**Baler**	**0.89**	**120**	*e*P	Pb	06 13 17.4	-0.7
BALP				*e*S	Sb	06 13 29.9	0.0
CAUP	**Cauayan**	**1.26**	**53**	*e*P	Pb	06 13 23.6	-1.0
CAUP				*e*S	Sb	06 13 41.6	+0.9
NZB	**Bigte**	**1.35**	**166**	*e*P	Pn	06 13 29.3	+3.2
ABRA	**Dolores**	**1.46**	**358**	*e*P	Pn	06 13 23.8	-4.0
NBP	**Mount Natib**	**1.47**	**194**	⇑*e*P	Pn	06 13 26.5	-1.4
QVPH	**Quezon City--P**	**1.54**	**170**	*e*P	Pn	06 13 28.3	-0.6
ARP	**Angono**	**1.68**	**167**	⇑*e*P	Pn	06 13 38.9	+8.1
APYP	**Conner**	**1.73**	**15**	*e*P	Pn	06 13 30.2	-1.4
APYP				*e*S	Sn	06 13 50.7	-3.4
CVP	**Callao Caves**	**1.81**	**33**	*e*P	Pn	06 13 32.0	-0.8
CVP				*e*S	Sn	06 13 52.0	-4.2
POLP	**Polilio Island**	**1.83**	**142**	*e*P	Pn	06 13 33.9	+0.9
POLP				*e*S	Sn	06 13 59.6	+3.0
LBPH	**Los Banos**	**2.05**	**169**	⇑*e*P	Pn	06 13 32.2	-4.0
LUBP	**Lubang**	**2.49**	**192**	*e*P	Pn	06 13 42.1	-0.3
BOAC	**Boac**	**2.90**	**159**	*e*P	Pn	06 13 47.9	-0.4

*BER **27** 06:30:06.8±3.5, 75.32N×14.60E, h17km±48km, MD2.2, ML2.0(NAO)*
*NAO **27** 06:30:08.1±7.1, 75.41N×15.97E, h33km±96km, ML2.0*
*HEL **27** 06:30:08.8±0.5, 75.05N×14.75E, h10km, ML2.6, MD2.2(BER), ML2.0(NAO)*

ISC 27 06:30:02.1±1.1, 75.18N±0.04×15.1E±0.4, h10km, n9, σ1§49/17, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**1.84**	**3**	*e*P	**Pn**	**06 30 32.7**	**-1.4**
HSP				*e*S	**Sn**	**06 30 51.5**	**-6.1**
HOPEN	**Hopen**	**2.77**	**56**	*e*P	**Pn**	**06 30 50.0**	**+2.6**
HOPEN				*e*S	**Sn**	**06 31 21.1**	**-0.1**
SPA0	**Spitsbergen Ar**	**3.03**	**5**	Pn	**Pn**	**06 30 50.5**	**-0.6**
	baz=178,slow=18						
SPA0				Sn	**Sn**	**06 31 22.6**	**-5.2**
	baz=179,slow=22						
SPA0	**Spitsbergen Ar**	**3.03**	**5**	*e*	**Pn**	**06 30 50.5**	**-0.6**
SPA0				*e*		06 31 22.6	
KIF	**Kilpisjarvi**	**6.44**	**162**	*e*P	**Pn**	**06 31 41.4**	**+2.0**
KIF				*e*S	**Sn**	**06 32 51.7**	**-2.0**
ARA0	**ARCESS Array S**	**6.47**	**146**	Pn	**Pn**	**06 31 42.0**	**+2.2**
	baz=326,slow=12						
ARA0				Sn	**Sn**	**06 32 53.7**	**-0.8**
	baz=326,slow=22						
ARA0	**ARCESS Array S**	**6.47**	**146**	*e*P	**Pn**	**06 31 43.1**	**+3.3**
ARA0				*e*S	**Sn**	**06 32 53.7**	**-0.8**
KEV	**Kevo**	**6.50**	**141**	*e*P	**Pn**	**06 31 44.0**	**+3.8**
KEV				MPN		06 31 45.7	
	comp=Z,0.3nm,0.2s						
KEV				*e*S	**Sn**	**06 32 54.6**	**-0.7**
SGF	**Sodankyl**	**8.56**	**149**	*e*P	**P**	**06 32 09.7**	**+0.7**
SGF				MPN		06 32 16.9	
	comp=Z,0.3nm,0.2s						
SGF				*e*S	**Sn**	**06 33 42.5**	**-4.2**

*NEIC **27** 06:34:51.0, 41.86S×171.68E, h11km, ML4.2(WEL), After WEL.*
NEIC Felt in the Westport area.

WEL 27 06:34:51.0±0.1, 41.88S×171.70E, h9km, ML4.1/32, 1D, Error ellipse: s-maj=1.1km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DSZ	**Denniston Nort**	**0.15**	**29**	P	Pg	06 34 54.5	0.0
DSZ				S	Sg	06 34 57.1	+0.3
DSZ	**Denniston Nort**	**0.15**	**29**	⇓PG	Pg	06 34 54.5	0.0
DSZ				SG	Sg	06 34 57.0	+0.2
THZ	**Tophouse**	**0.91**	**83**	P*	Pb	06 35 07.8	-0.6
THZ				S*	Sb	06 35 20.6	+0.3
LTZ	**Lake Taylor**	**0.99**	**155**	P	Pb	06 35 09.6	-0.3
LTZ	**Lake Taylor**	**0.99**	**155**	P*	Pb	06 35 09.6	-0.3
LTZ				S*	Sb	06 35 22.3	-0.5
QRZ	**Quartz Range**	**1.22**	**31**	P	Pb	06 35 12.9	-0.9
QRZ	**Quartz Range**	**1.22**	**31**	P*	Pb	06 35 12.9	-0.9
QRZ				S*	Sb	06 35 29.6	+0.1
WVZ	**Waitaha Valley**	**1.39**	**211**	P	Pn	06 35 15.3	-1.3
NNZ	**Nelson**	**1.42**	**63**	P	Pn	06 35 16.1	-1.0
NNZ	**Nelson**	**1.42**	**63**	PN	Pn	06 35 16.1	-0.9
NNZ				SN	Sn	06 35 35.8	-0.2
KHZ	**Kahutara**	**1.47**	**112**	PN	Pn	06 35 17.5	-0.2
KHZ				SN	Sn	06 35 37.6	+0.5
BSWZ	**Blackbirch Sta**	**1.63**	**85**	P	Pn	06 35 20.1	0.0
BSWZ	**Blackbirch Sta**	**1.63**	**85**	PN	Pn	06 35 20.1	0.0
BSWZ				SN	Sn	06 35 41.5	+0.2
TUWZ	**Tuamarina**	**1.74**	**76**	PN	Pn	06 35 21.4	-0.2
TUWZ				SN	Sn	06 35 44.7	+0.7
CRLZ	**Canterbury Las**	**1.82**	**159**	*e*P	Pn	06 35 21.1	-1.7
CRLZ	**Canterbury Las**	**1.82**	**159**	PN	Pn	06 35 21.1	-1.8
RPZ	**Rata Peaks**	**1.89**	**194**	*e*P	Pn	06 35 22.4	-1.4
RPZ	**Rata Peaks**	**1.89**	**194**	PN	Pn	06 35 22.4	-1.4
MQZ	**McQueen's Vall**	**1.95**	**159**	P	Pn	06 35 22.5	-2.2
TCW	**Tory Channel**	**2.04**	**72**	P	Pn	06 35 25.8	-0.2
FOZ	**Fox Glacier**	**2.24**	**221**	*e*P	Pn	06 35 25.3	-3.5
SNZO	**South Karori**	**2.32**	**77**	P	Pn	06 35 29.7	-0.3
MRW	**Makara Radio**	**2.34**	**75**	P	Pn	06 35 30.0	-0.2
BHW	**Baring Head**	**2.42**	**80**	P	Pn	06 35 30.4	-1.0
KIW	**Kapiti Island**	**2.62**	**68**	P	Pn	06 35 34.0	-0.2
MSWZ	**Moikau Station**	**2.70**	**81**	P	Pn	06 35 33.5	-1.8
LBZ	**Lake Benmore**	**2.74**	**203**	*e*P	Pn	06 35 34.2	-1.7
MTW	**Mount Morrison**	**2.94**	**77**	P	Pn	06 35 36.7	-2.1
NRZ	**Ngariki Road**	**3.06**	**34**	P	Pn	06 35 39.8	-0.6
MRZ	**Mangatainoka R**	**3.17**	**69**	*e*P	Pn	06 35 40.2	-1.8
PKE	**Pukeiti**	**3.20**	**34**	P	Pn	06 35 41.9	-0.5
ODZ	**Otahua Downs**	**3.25**	**193**	*e*P	Pn	06 35 40.1	-3.1
WAZ	**Wanganui**	**3.27**	**51**	P	Pn	06 35 43.6	+0.1
WKZ	**Wanaka**	**3.54**	**213**	*e*P	Pn	06 35 44.4	-2.8
VRZ	**Vera Road**	**3.61**	**41**	P	Pn	06 35 47.0	-1.2
TSZ	**Takapari Road**	**3.70**	**62**	*e*P	Pn	06 35 47.7	-1.9
EAZ	**Earnscleugh**	**3.77**	**207**	*e*P	Pn	06 35 47.6	-3.0
WNVZ	**Wahianoa**	**3.91**	**51**	P	Pn	06 35 52.4	-0.1
FWVZ	**Far West T-bar**	**3.93**	**49**	*e*P	Pn	06 35 52.3	-0.6
HIZ	**Hauiti**	**4.14**	**37**	P	Pn	06 35 53.5	-2.3
TUZ	**Tuapeka**	**4.34**	**199**	*e*P	Pn	06 35 54.8	-3.8
BKZ	**Black Stump Fm**	**4.55**	**55**	*e*P	Pn	06 35 58.7	-2.9
WCZ	**Waipu Caves**	**6.28**	**20**	*e*P	Pn	06 36 23.2	-2.9

WEL 27 06:39:38.2±0.3, 38.53S×178.17E, h33km, ML3.5/5, 3C-1D, Error ellipse: s-maj=3.5km s-min=2.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**0.46**	**9**	⇑PN	Pn	06 39 47.6	-0.8
PUZ				SN	Sn	06 39 55.5	0.0
MWZ	**Matawai**	**0.54**	**291**	⇑PN	Pn	06 39 48.4	-1.1
MWZ				SN	Sn	06 39 56.4	-1.1
KNZ	**Kokohu**	**0.62**	**218**	⇓PN	Pn	06 39 50.3	-0.5
KNZ				SN	Sn	06 40 00.4	+0.8
URZ	**Urewera**	**0.87**	**288**	⇑PN	Pn	06 39 53.7	-0.6
URZ				SN	Sn	06 40 05.4	-0.6
MXZ	**Matakaoa Point**	**0.97**	**7**	PN	Pn	06 39 55.5	-0.2
MXZ				SN	Sn	06 40 09.2	+0.8
TAZ	**Tarawera**	**1.34**	**282**	PN	Pn	06 40 01.1	+0.2
BKZ	**Black Stump Fm**	**1.45**	**244**	PN	Pn	06 40 02.3	-0.3
PWZ	**Pawanui**	**1.81**	**214**	PN	Pn	06 40 05.4	-2.2
WNVZ	**Wahianoa**	**2.16**	**248**	PN	Pn	06 40 11.8	-0.8
TSZ	**Takapari Road**	**2.29**	**228**	PN	Pn	06 40 11.8	-2.8

JMA 27 06:42:19.8±0.3, 33.36N×142.27E, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.68**	**321**	P	Pn	06 42 50.9	+0.3
BSO1				S	Sb	06 43 12.9	0.0
BSO3	**Boso 3**	**2.05**	**315**	P	Pn	06 42 56.5	+0.6
BSO3				S	Sn	06 43 23.3	+0.7
JHJ2	**Mitsune**	**2.07**	**264**	P	Pn	06 42 56.7	+0.5
JHJ2				S	Sn	06 43 23.9	+0.8
BSO4	**Boso 4**	**2.28**	**316**	P	Pn	06 42 59.9	+0.7
JYN	**Shimob**	**3.75**	**306**	P	Pn	06 43 20.9	+0.8
JAG	**Ashikaga**	**3.83**	**324**	P	Pn	06 43 20.0	-1.4
JAG				S	Sn	06 44 05.2	-2.6
MAT	**Matsushiro**	**4.61**	**315**	P	Pn	06 43 33.3	+1.0
MAT				S	Sn	06 44 26.3	-1.0

*NIED **27** 06:50:00, 45.60N×151.10E, h23km, Mw4.0 Best double couple: M0 1.19×10^15 NP1:φs356°, δ71°, λ53°. NP2:φs243°, δ41°, λ151°.*
*IDC **27** 06:50:45.8±11.0, 44.83N×152.21E, mb3.8/7, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, ML4.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/25, Error ellipse: s-maj=269.9km s-min=41.5km az=156.0*
*MOS **27** 06:50:46.4±2.3, 44.47N×152.18E, h33km, mb4.5/3, Error ellipse: s-maj=22.3km s-min=14.4km az=133.7*
*NEIC **27** 06:50:53.1±10.0, 45.55N×151.49E, h10km, mb4.1/4, Error ellipse: s-maj=253.0km s-min=21.3km az=157.0*

ISC 27 06:50:54.3±4.4, 45.4N±0.6×151.4E±0.5, h33km, n24, σ1§19/24, mb4.0/10, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.48**	**267**	*e*PN	**Pn**	**06 51 29.8**	**-3.6**
KUR				pmax	pmax		
	comp=N,110nm,0.4s						
KUR				pmax	pmax		
	comp=E,30nm,0.4s						
KUR				pmax	pmax		
	comp=Z,110nm,0.4s						
SKR	**Severo-Kuril's**	**6.15**	**29**	*e*PN	**Pn**	**06 52 24.5**	**-0.9**
SKR				pmax	pmax		
	comp=Z,50nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.18**	**287**	*e*PN	**Pn**	**06 52 34.0**	**+8.3**
ASAJ	**Asahikawa**	**6.38**	**261**	PN	**Pn**	**06 52 27.4**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,260nm,18.6s						
ASAJ	**Asahikawa**	**6.38**	**261**	Pn	**Pn**	**06 52 27.4**	**-1.2**
	comp=Z,2.5nm,0.3s,baz=106,slow=26,SNR=5.3						
ASAJ				LR	LR	06 54 52.4	
	comp=Z,260nm,18.6s,baz=3.3,slow=36						
MDJ	**Mudanjiang**	**15.42**	**275**	P	**P**	**06 54 31.1**	**+0.2**
	comp=Z,4.6nm,0.7s						
SONM	**Songino Array**	**30.66**	**291**	P	**P**	**06 57 09.9**	**+2.3**
SONM	**Songino Array**	**30.66**	**291**	P	**P**	**06 57 10.0**	**+2.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=80,slow=7.1,SNR=4.2						
WMQ	**Urumqi**	**44.29**	**292**	*e*P	**P**	**06 59 06.5**	**+4.2**
MKAR	**Makanchi Array**	**46.48**	**298**	P	**P**	**06 59 19.9**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=72,slow=8.1,SNR=9.3						
KURK	**Kurchatov**	**47.10**	**304**	P	**P**	**06 59 24.0**	**-0.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
KURK	**Kurchatov**	**47.10**	**304**	P	**P**	**06 59 23.9**	**-0.6**
	comp=Z,1.6nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**50.77**	**310**	P	**P**	**06 59 54.1**	**+1.2**
	comp=Z,0.3nm,0.5s,mb3.4,baz=63,slow=13,SNR=2.7						
SUMG	**Summit**	**62.11**	**3**	*e*P	**P**	**07 01 14.2**	**+0.6**
	comp=Z,7.7nm,0.9s,mb4.8						
FINES	**FINESS Array B**	**64.72**	**334**	P	**P**	**07 01 29.1**	**-1.6**
	comp=Z,0.7nm,0.5s,mb3.9,baz=39,slow=8.9,SNR=3.4						
NB2	**NORSAR Subarra**	**69.09**	**341**	P	**P**	**07 01 58.2**	**-0.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=29,slow=6.5						
NB2	**NORSAR Subarra**	**69.09**	**341**	P	**P**	**07 01 58.2**	**-0.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**69.09**	**341**	P	**P**	**07 01 58.2**	**-0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=29,slow=6.6,SNR=4.9						
NOA	**NORSAR Array B**	**69.09**	**341**	P	**P**	**07 01 58.2**	**-0.1**
KIV	**Kislovodsk**	**70.85**	**314**	*i* P	**P**	**07 02 07.1**	**-2.2**
KIV				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
AKASG	**Malin Array Be**	**71.97**	**326**	P	**P**	**07 02 15.5**	**-0.4**
	comp=Z,0.3nm,0.3s,mb3.7,baz=36,slow=6.4,SNR=6.9						
BURAR	**Bucovina Array**	**76.02**	**326**	⇓P	**P**	**07 02 40.3**	**+0.9**
MLR	**Muntele Rosu**	**77.45**	**324**	⇓P	**P**	**07 02 49.1**	**+1.6**
GERES	**GERESS Array B**	**79.11**	**333**	P	**P**	**07 02 56.9**	**+0.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=27,slow=3.0,SNR=6.8						

*BJI **27** 06:52:27.9, 11.41N×95.86E, h39km, mB5.1, mb4.9, Ms4.6, Msz4.6*
*IDC **27** 06:52:29.9±0.6, 12.13N×95.04E, h22km±3km, mb4.0/12, mb1 4.2/12, mb1mx4.1/20, mbtmp4.2/12, MS3.4/3, Ms1 3.5/3, ms1mx3.1/19, Error ellipse: s-maj=19.9km s-min=13.7km az=60.0*
*NEIC **27** 06:52:30.1±0.4, 12.04N×94.99E, mb4.5/10, Error ellipse: s-maj=14.9km s-min=9.0km az=65.0*

ISC 27 06:52:29.5±0.4, 12.02N±0.06×95.34E±0.05, h26km, h26km±1.0km:pP-P, n68, σ1§33/56, mb4.4/28, MS4.0/5, 3C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNT	**Nongplab**	**4.33**	**82**	P	**Pn**	**06 53 36.2**	**+0.7**
NST	**Nakhon Sawan**	**5.90**	**52**	P	**Pn**	**06 53 57.0**	**-0.6**
BDT	**Bhumibol Dam**	**6.29**	**34**	P	**Pn**	**06 54 04.9**	**+1.8**
SNG	**Songkhla**	**7.09**	**132**	P	**Pn**	**06 54 21.0**	**+6.6**
	90nm,0.9s						
BWNR	**Bhubaneshwar**	**12.30**	**313**	*e*	**S**	**06 57 44.0**	**+0.5**
SHL	**Shillong**	**13.86**	**347**	*e*P	**P**	**06 55 45.0**	**-1.8**
HYB	**Hyderabad**	**17.09**	**290**	*e*P	**P**	**06 56 31.5**	**+2.9**
GYA	**Guiyang**	**17.88**	**35**	⇑*i*P	**P**	**06 56 40.5**	**+2.2**
GYA				AMB	AMB		
	comp=Z,20nm,1.2s						
LSA	**Lhasa**	**18.02**	**348**	*e*P	**P**	**06 56 38.6**	**-1.4**
	comp=Z,16nm,0.8s						
CD2	**Chengdu**	**20.34**	**21**	*e*P	**P**	**06 57 05.8**	**-1.0**
BHPL	**Bhopal**	**20.37**	**306**	*e*P	**P**	**06 57 04.5**	**-2.6**
BHPL				AMb	AMB	06 57 15.0	
	comp=Z,96nm,2.2s						
POO	**Poona**	**21.70**	**290**	*e*P	**P**	**06 57 21.5**	**+0.8**
POO				AMb	AMB	06 57 25.8	
	comp=Z,82nm,1.2s,mb5.0						
KALG	**Kalgarh**	**23.25**	**321**	AMb	AMB	06 57 20.0	
	comp=Z,35nm,1.5s,mb4.6						
ASOR	**Ausora**	**23.36**	**318**	*e*P	**P**	**06 57 38.7**	**+1.6**
**S

WRA				PcP	PcP	07 02 42.6	-0.9
	comp=Z,1.9nm,0.8s,baz=299,slow=6.4,SNR=5.0						
WRAB	**Tennant Creek**	**49.83**	**129**	*eP*	**P**	**07 01 23.0**	**+0.2**
	comp=Z,22nm,0.9s,mb5.2						
WRAB				*e*	pP	07 01 30.4	-0.2
WB2	**Warramunga Arr**	**49.84**	**129**	*eP*	**P**	**07 01 22.7**	**-0.1**
WB2				*i*	pP	07 01 30.4	-0.3
MALT	**Malatya**	**56.77**	**308**	P	**P**	**07 02 10.6**	**-3.4**
	comp=Z,2.0nm,0.7s,mb4.3						
BR131	**Keskin Array S**	**60.70**	**309**	P	**P**	**07 02 36.9**	**-4.3**
	comp=Z,1.7nm,0.6s,mb4.3						
BRTR	**Keskin Array B**	**60.70**	**309**	P	**P**	**07 02 36.9**	**-4.3**
	comp=Z,1.3nm,0.7s,mb4.2,baz=126,slow=8.6,SNR=7.0						
BRTR				pP	pP	07 02 44.1	-5.1
	comp=Z,3.1nm,0.8s,baz=90,slow=3.7,SNR=9.3						
MA2	**Magadan**	**62.57**	**28**	*eP*	**P**	**07 02 52.6**	**-1.0**
	comp=Z,8.4nm,0.9s,mb4.9						
AKASG	**Malin Array Be**	**65.69**	**320**	P	**P**	**07 03 09.6**	**-4.4**
	comp=Z,0.2nm,0.3s,mb3.7,baz=96,slow=4.1,SNR=4.2						
AKASG				pP	pP	07 03 17.6	-4.4
	comp=Z,0.3nm,0.2s,baz=87,slow=4.9,SNR=1.9						
VRI	**Vrincioaia**	**66.59**	**315**	⇓P	**P**	**07 03 25.1**	**+5.3**
SUW	**Suwalki**	**69.88**	**323**	P	**P**	**07 03 35.9**	**-4.2**
SUW				*e*pP	pP	07 03 45.2	-3.0
CRVS	**Cervenica-Dubn**	**70.44**	**318**	*eP*	**P**	**07 03 51.0**	**+7.3**
CRVS	**Cervenica-Dubn**	**70.44**	**318**	*es*P	sP	07 03 51.0	-3.6
OJC	**Ojcow**	**71.61**	**319**	*eP*	**P**	**07 03 55.0**	**+4.3**
ARCES	**ARCESS Array B**	**71.80**	**340**	LR	LR	07 38 42.8	
	comp=Z,57nm,21.0s,MS3.8,baz=279,slow=39						
FX1	**Attu Island--F**	**73.16**	**38**	P	**P**	**07 03 59.7**	**-0.1**
	comp=Z,4.0nm,0.5s,mb4.6,baz=265,slow=5.9,SNR=5.5						
BRG	**Berggiesshubel**	**75.35**	**320**	P	**P**	**07 04 17.6**	**+5.1**
	comp=Z,9.0nm,1.1s,mb4.6						
GERES	**GERESS Array B**	**75.56**	**318**	P	**P**	**07 04 11.5**	**-2.3**
	comp=Z,2.3nm,0.7s,mb4.2,baz=90,slow=4.9,SNR=17						
GERES				pP	pP	07 04 18.8	-3.0
	comp=Z,3.4nm,0.7s,baz=90,slow=5.3,SNR=10.0						
CLL	**Colim**	**75.94**	**320**	*e**PP	pP	07 04 22.0	-1.9
NB2	**NORSAR Subarra**	**76.73**	**330**	P	**P**	**07 04 24.8**	**+4.7**
	comp=Z,2.5nm,0.9s,mb4.1,baz=90,slow=5.8						
NOA	**NORSAR Array B**	**76.73**	**330**	pP	pP	07 04 24.1	-4.1
	comp=Z,2.3nm,1.0s,baz=92,slow=5.4,SNR=5.0						
NOA				LR	LR	07 42 45.2	
	comp=Z,20nm,19.4s,MS3.4,baz=90,slow=39						
MOX	**Moxa**	**76.84**	**319**	*eP*	**P**	**07 04 20.0**	**-0.9**
BOSA	**Boshof**	**78.79**	**237**	P	**P**	**07 04 30.9**	**-1.2**
	comp=Z,8.3nm,1.1s,mb4.6,baz=358,slow=3.9,SNR=6.0						
BOSA				pP	pP	07 04 38.8	-1.5
	comp=Z,4.8nm,0.7s,baz=64,slow=7.2,SNR=3.6						
BOSA	**Boshof**	**78.79**	**237**	P	**P**	**07 04 30.9**	**-1.2**
BOSA				pP	pP	07 04 38.8	-1.5
CASY	**Casey**	**78.89**	**174**	⇑*i*P	**P**	**07 04 31.8**	**-0.1**
CASY				*ep*P	pP	07 04 39.3	-0.7
MAW	**Mawson**	**82.81**	**192**	⇑*i*P	**P**	**07 04 53.3**	**+0.7**
	comp=Z,2.7nm,0.6s,mb4.5						
MAW	**Mawson**	**82.81**	**192**	P	**P**	**07 04 53.5**	**+0.9**
	comp=Z,2.9nm,0.7s,mb4.4,baz=15,slow=7.1,SNR=11						
SYO	**Syowa Base**	**89.69**	**197**	⇓P	**P**	**07 05 25.8**	**-0.5**
NVAR	**Mina Array Bea**	**120.77**	**30**	PKP	PKPdf	07 11 21.4	-3.2
	comp=Z,0.9nm,0.7s,baz=327,slow=1.2,SNR=9.6						
PDAR	**Pinedale Array**	**120.89**	**21**	PKP	PKPdf	07 11 20.1	-4.5
	comp=Z,0.5nm,0.7s,SNR=4.7						
TXAR	**Lajitas Array**	**134.98**	**24**	PKP	PKPdf	07 11 46.6	-5.4
	comp=Z,0.4nm,0.7s,baz=194,slow=5.2,SNR=4.3						
BDFB	**Brasilia**	**144.26**	**260**	PKP	PKPdf	07 12 02.5	-6.4
	comp=Z,0.9nm,0.4s,baz=90,slow=10,SNR=2.9						
PLCA	**Paso Flores**	**148.82**	**201**	PKPbc	PKPdf	07 12 16.9	+1.0
	comp=Z,1.7nm,0.8s,baz=146,slow=8.1,SNR=4.0						
CPUP	**Villa Florida**	**150.61**	**237**	PKPbc	PKPdf	07 12 19.8	+0.7
	comp=Z,1.9nm,0.9s,baz=162,slow=3.2,SNR=4.8						
LPAZ	**La Paz**	**163.42**	**253**	PKPab	PKPab	07 13 21.4	-2.6
	comp=Z,0.9nm,0.9s,baz=117,slow=2.3,SNR=2.8						
LPAZ				pPKPab		07 13 30.3	
	comp=Z,1.5nm,1.0s,baz=14,slow=5.2,SNR=4.9						

*NEIC **27** 06:54:40.3,61.55N×150.01W,h59km,ML3.7(PMR), ML3.5(AEIC),After AEIC.*
NEIC Felt [III] at Anchorage, Eagle River, Palmer and Wasilla; [II] at Chugiak.
*IDC **27** 06:54:44.9±5.3,61.93N×149.61W,h96km±43km,mb3.5/5, mb1 3.5/8,mb1mx3.4/20,mbtmp3.6/8,Error ellipse: s-maj=58.0km s-min=18.6km az=42.0*
ISC 27 06:54:38.6±0.2,61.57N±0.02×150.01W±0.04,h70km±4km, n83,σ0§73/99,mb3.6/5,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FIB	**Fire Island**	**0.41**	**191**	P	**P**	**06 54 51.2**	**+0.5**
FIB				S	**S**	**06 55 00.8**	**+1.1**
PMR	**Palmer**	**0.42**	**87**	P	**P**	**06 54 50.3**	**-0.4**
PMR				S	**S**	**06 54 58.8**	**-1.0**
RC01	**Rabbit Creek A**	**0.50**	**165**	P	**P**	**06 54 51.2**	**-0.3**
RC01				S	**S**	**06 55 00.2**	**-0.8**
GHO	**Glory Hole Cre**	**0.56**	**68**	P	**P**	**06 54 52.0**	**-0.1**
GHO				S	**S**	**06 55 02.1**	**+0.1**
VOGL	**Vogel Lake**	**0.61**	**200**	P	**P**	**06 54 53.7**	**+1.0**
KNK	**Knik Glacier**	**0.76**	**101**	P	**P**	**06 54 54.9**	**+0.5**
SML	**Sawmill**	**0.83**	**73**	P	**P**	**06 54 55.5**	**+0.3**
SML				S	**S**	**06 55 08.0**	**+0.4**
CUT	**Chulitna**	**0.85**	**352**	P	**P**	**06 54 55.5**	**+0.1**
SPU	**Mount Spurr**	**1.06**	**249**	*eP*	**P**	**06 54 58.2**	**+0.1**
SLKM	**Skilak Lake**	**1.07**	**186**	P	**P**	**06 54 58.2**	**0.0**
SLKM				S	**S**	**06 55 12.6**	**-0.3**
PWL	**Port Wells**	**1.08**	**131**	P	**P**	**06 54 58.6**	**+0.2**
PWL				S	**S**	**06 55 13.9**	**+0.9**
CKN	**Chakachatna No**	**1.10**	**253**	P	**P**	**06 54 59.0**	**+0.4**
MPA	**Moose Pass**	**1.13**	**163**	P	**P**	**06 54 58.9**	**-0.1**
MPA				S	**S**	**06 55 13.9**	**-0.4**
CFI	**College Fiord**	**1.15**	**109**	P	**P**	**06 54 59.8**	**+0.6**
SCM	**Sheep Creek Mo**	**1.30**	**77**	P	**P**	**06 55 02.0**	**+0.5**
HUR	**Hurricane**	**1.42**	**7**	P	**P**	**06 55 03.7**	**+0.7**
SEW	**Seward**	**1.50**	**169**	P	**P**	**06 55 03.3**	**-0.7**
RDT	**Redoubt**	**1.54**	**230**	P	**P**	**06 55 04.5**	**-0.1**
RDT				S	**S**	**06 55 23.8**	**0.0**
GLI	**Glacier Island**	**1.57**	**115**	P	**P**	**06 55 04.9**	**-0.1**
GLI				S	**S**	**06 55 24.6**	**+0.1**
NNL	**Ninilchik**	**1.66**	**203**	P	**P**	**06 55 07.0**	**+0.8**
JPK	**Jack Peak**	**1.73**	**106**	P	**P**	**06 55 07.3**	**+0.2**
JPK				S	**S**	**06 55 29.6**	**+1.5**
RSO	**Redoubt South**	**1.74**	**231**	P	**P**	**06 55 07.5**	**+0.2**
VLZ	**Valdez**	**1.83**	**102**	P	**P**	**06 55 08.4**	**-0.1**
VLZ				S	**S**	**06 55 31.5**	**+1.0**
BRLK	**Bradley Lake**	**1.86**	**194**	P	**P**	**06 55 08.6**	**-0.4**
LTI	**Latouche**	**1.86**	**145**	P	**P**	**06 55 07.8**	**-1.2**
TRF	**Thorofare Moun**	**1.89**	**356**	P	**P**	**06 55 10.2**	**+0.8**
FID	**Port Fidalgo**	**1.90**	**114**	P	**P**	**06 55 08.8**	**-0.6**
KLU	**Klutina**	**1.96**	**90**	P	**P**	**06 55 10.5**	**+0.2**
KLU				S	**S**	**06 55 34.3**	**+0.6**
KTH	**Kantishna Hill**	**2.03**	**348**	P	**P**	**06 55 12.1**	**+0.8**
HIN	**Hinchinbrook I**	**2.08**	**123**	P	**P**	**06 55 11.9**	**0.0**
ILIM	**Iliamna**	**2.08**	**225**	P	**P**	**06 55 12.2**	**+0.3**
ILIM				S	**S**	**06 55 37.7**	**+1.1**
DIV	**Divide**	**2.09**	**100**	P	**P**	**06 55 11.9**	**-0.2**
DIV				S	**S**	**06 55 37.9**	**+1.0**
CNPM	**China Poot**	**2.14**	**197**	P	**P**	**06 55 12.8**	**0.0**
ILW	**Iliamna West**	**2.15**	**227**	P	**P**	**06 55 13.4**	**+0.3**
ILW				S	**S**	**06 55 39.7**	**+1.2**
MCK	**McKinley**	**2.23**	**12**	P	**P**	**06 55 15.2**	**+1.2**
TZL	**Tazlina**	**2.23**	**76**	P	**P**	**06 55 15.3**	**+1.3**
EYAK	**Cordova Ski Ar**	**2.31**	**114**	P	**P**	**06 55 14.9**	**-0.4**
CVA	**Cordova**	**2.31**	**114**	P	**P**	**06 55 14.6**	**-0.6**
SDG	**Sourdough**	**2.31**	**64**	P	**P**	**06 55 16.1**	**+0.8**
OPT	**Oil Point**	**2.50**	**221**	P	**P**	**06 55 18.2**	**+0.4**
OPT				S	**S**	**06 55 47.6**	**+0.5**
PAX	**Paxson**	**2.55**	**55**	P	**P**	**06 55 19.3**	**+0.8**
SGAM	**Sherman Glacie**	**2.57**	**113**	P	**P**	**06 55 18.1**	**-0.8**
BMRM	**Bremner River**	**2.68**	**101**	P	**P**	**06 55 19.3**	**-1.1**
SVW2	**Sparrevohn**	**2.73**	**262**	P	**P**	**06 55 20.4**	**-0.7**
AUE	**Augustine Isla**	**2.77**	**218**	P	**P**	**06 55 21.5**	**-0.3**
AUL	**Augustine Lava**	**2.77**	**219**	P	**P**	**06 55 21.9**	**+0.1**
AUW	**Augustine West**	**2.79**	**219**	P	**P**	**06 55 22.1**	**+0.1**
MID	**Middleton Isla**	**2.81**	**138**	P	**P**	**06 55 22.1**	**-0.3**
RAGM	**Ragged Mountai**	**2.86**	**112**	P	**P**	**06 55 22.3**	**-0.7**
GLB	**Gilahina Butte**	**2.98**	**90**	P	**P**	**06 55 23.9**	**-0.7**
WRH	**Wood River Hil**	**3.04**	**16**	P	**P**	**06 55 25.3**	**-0.2**
TT01	**Tatalina**	**3.12**	**298**	P	**P**	**06 55 25.9**	**-0.7**
TTA	**Tatalina**	**3.12**	**299**	P	**P**	**06 55 26.0**	**-0.7**
MCNL	**McNeil River**	**3.22**	**224**	P	**P**	**06 55 27.3**	**-0.6**
CCB	**Clear Creek Bu**	**3.25**	**17**	P	**P**	**06 55 28.2**	**-0.2**
CRQM	**Cirque**	**3.43**	**101**	P	**P**	**06 55 30.7**	**-0.2**
MLY	**Manley**	**3.49**	**355**	P	**P**	**06 55 31.5**	**-0.3**
ILAR	**Eielson Array**	**3.51**	**22**	P	**P**	**06 55 31.7**	**-0.4**
	1.7nm,0.3s,baz=205,slow=14,SNR=49						
ILAR				Lg		06 56 30.4	
	11nm,0.3s,baz=210,slow=28,SNR=8.0						
IL1	**Eielson Array**	**3.51**	**22**	P	**P**	**06 55 32.0**	**-0.1**
WAX	**Waxell Ridge**	**3.66**	**105**	P	**P**	**06 55 33.0**	**-1.1**
BALM	**Baldy**	**3.74**	**95**	P	**P**	**06 55 34.1**	**-1.1**
KAHC	**Katmai Hardscr**	**3.85**	**223**	P	**P**	**06 55 36.0**	**-0.8**
KAWH	**Katmai**	**4.00**	**219**	P	**P**	**06 55 38.1**	**-0.8**
KDAK	**Kodiak Island**	**4.02**	**209**	P	**P**	**06 55 37.9**	**-1.2**
BCA3	**Beaver Creek A**	**4.12**	**65**	P	**P**	**06 55 40.5**	**-0.1**
CTGM	**Chitina Glacie**	**4.23**	**94**	P	**P**	**06 55 41.4**	**-0.7**
CAHL	**Cahill**	**4.42**	**219**	P	**P**	**06 55 44.3**	**-0.5**
IM3	**Indian Mountai**	**4.73**	**341**	P	**P**	**06 55 48.2**	**-0.8**
IMA	**Indian Mountai**	**4.80**	**342**	*eP*	**P**	**06 55 49.9**	**-0.1**
PNL	**Peninsula**	**5.56**	**105**	P	**P**	**06 55 59.6**	**-0.9**
COLD	**Coldfoot**	**5.68**	**359**	P	**P**	**06 56 01.5**	**-0.6**
BM3	**Burnt Mountain**	**6.32**	**19**	P	**P**	**06 56 11.1**	**+0.1**
INK	**Inuvik**	**9.70**	**39**	P	**P**	**06 56 56.5**	**-0.7**
	0.2nm,0.3s,baz=258,slow=14,SNR=4.4						
INK	**Inuvik**	**9.70**	**39**	*eP*	**P**	**06 56 53.7**	**-3.5**
DLBC	**Dease Lake**	**10.47**	**99**	P	**P**	**06 57 06.4**	**-1.4**
	0.2nm,0.3s,baz=204,slow=18,SNR=3.6						
YKA	**Yellowknife Ar**	**16.51**	**71**	P	**P**	**06 58 25.4**	**-1.1**
	0.1nm,0.3s,baz=286,slow=13,SNR=4.3						
ELK	**Elko**	**29.59**	**119**	P	**P**	**07 00 41.2**	**+2.5**
	1.0nm,0.8s,mb3.5,baz=299,slow=12,SNR=5.1						
PDAR	**Pinedale Array**	**30.43**	**109**	P	**P**	**07 00 47.5**	**+1.3**
	0.4nm,0.5s,mb3.3,baz=307,slow=6.1,SNR=5.1						
TXAR	**Lajitas Array**	**44.24**	**115**	P	**P**	**07 02 44.3**	**+2.0**
	0.4nm,0.6s,mb3.3,baz=321,slow=5.6,SNR=7.5						
SONM	**Songino Array**	**55.04**	**307**	P	**P**	**07 04 05.5**	**+0.9**
	1.0nm,0.7s,mb4.0,baz=22,slow=6.7,SNR=6.7						
SONM				pP	pP	07 04 21.2	-1.7
	1.1nm,0.8s,baz=34,slow=7.1,SNR=6.2						
MKAR	**Makanchi Array**	**64.09**	**323**	pP	pP	07 05 21.9	-3.5
	0.4nm,0.6s,baz=37,slow=8.2,SNR=4.1						
AKASG	**Malin Array Be**	**68.08**	**1**	P	**P**	**07 05 31.4**	**-0.6**
	2.3nm,0.6s,mb4.2,baz=2.1,slow=5.9,SNR=8.2						
AKASG				pP	pP	07 05 50.5	-0.4
	0.3nm,0.3s,baz=353,slow=5.3,SNR=2.5						
AKASG	**Malin Array Be**	**68.08**	**1**	P	**P**	**07 05 31.4**	**-0.6**
AKASG				pP	pP	07 05 50.5	-0.4

*NEIC **27** 07:00:18.0,60.82N×149.41W,h34km,mb4.0/1, ML4.0(PMR),ML3.8(AEIC),After AEIC.*
NEIC Felt [IV] at Seward; [III] at Anchorage, Chugiak, Girdwood and Palmer; [II] at Eagle River and Moose Pass. Felt at Hope, Indian, Soldotna, Sterling, Wasilla and Whittier.
*IDC **27** 07:00:19.7±2.8,60.97N×149.46W,h64km±24km,mb3.5/11, mb1 3.6/15,mb1mx3.6/25,mbtmp3.7/15,ML3.4/4,MS3.0/4, Ms1 3.0/4,ms1mx2.6/27,Error ellipse: s-maj=24.7km s-min=15.8km az=36.0*
ISC 27 07:00:16.5±0.2,60.82N±0.02×149.41W±0.03,h54km±3km, n101,σ0§87/114,mb3.8/12,Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RC01	**Rabbit Creek A**	**0.31**	**330**	P	**P**	**07 00 25.3**	**-0.8**
RC01				S	**S**	**07 00 31.4**	**-1.7**
MPA	**Moose Pass**	**0.33**	**176**	P	**P**	**07 00 25.6**	**-0.8**
SLKM	**Skilak Lake**	**0.51**	**232**	P	**P**	**07 00 27.8**	**-0.3**
FIB	**Fire Island**	**0.51**	**313**	P	**P**	**07 00 28.2**	**+0.1**
FIB				S	**S**	**07 00 37.1**	**+0.5**
VOGL	**Vogel Lake**	**0.53**	**290**	P	**P**	**07 00 28.8**	**+0.4**
PWL	**Port Wells**	**0.53**	**85**	P	**P**	**07 00 28.2**	**-0.2**
PWL				S	**S**	**07 00 36.3**	**-0.8**
SEW	**Seward**	**0.72**	**181**	P	**P**	**07 00 30.4**	**-0.3**
SEW				S	**S**	**07 00 40.9**	**-0.3**
KNK	**Knik Glacier**	**0.75**	**38**	P	**P**	**07 00 31.3**	**+0.2**
PMR	**Palmer**	**0.79**	**10**	P	**P**	**07 00 31.4**	**-0.2**
PMR				S	**S**	**07 00 42.2**	**-0.6**
CFI	**College Fiord**	**0.88**	**65**	P	**P**	**07 00 33.0**	**+0.2**
GHO	**Glory Hole Cre**	**0.98**	**14**	P	**P**	**07 00 34.6**	**+0.3**
LTI	**Latouche**	**1.10**	**135**	P	**P**	**07 00 35.6**	**-0.4**
SML	**Sawmill**	**1.12**	**27**	P	**P**	**07 00 36.6**	**+0.4**
GLI	**Glacier Island**	**1.14**	**86**	P	**P**	**07 00 36.3**	**-0.1**
GLI				S	**S**	**07 00 51.7**	**+0.5**
BRLK	**Bradley Lake**	**1.29**	**215**	P	**P**	**07 00 39.0**	**+0.4**
BRLK				S	**S**	**07 00 54.8**	**-0.2**
SPU	**Mount Spurr**	**1.34**	**287**	P	**P**	**07 00 39.6**	**+0.3**
JPK	**Jack Peak**	**1.40**	**79**	P	**P**	**07 00 40.4**	**+0.3**
JPK				S	**S**	**07 00 59.3**	**+1.6**
SCM	**Sheep Creek Mo**	**1.43**	**44**	P	**P**	**07 00 41.4**	**+0.8**
FID	**Port Fidalgo**	**1.44**	**92**	P	**P**	**07 00 41.2**	**-0.7**
FID				S	**S**	**07 00 58.7**	**-0.1**
CP2	**Crater Peak Tw**	**1.45**	**289**	P	**P**	**07 00 42.0**	**+1.2**
RDT	**Redoubt**	**1.49**	**262**	P	**P**	**07 00 42.0**	**+0.5**
HIN	**Hinchinbrook I**	**1.50**	**105**	P	**P**	**07 00 41.5**	**-0.1**
BGL	**Barrier Glacie**	**1.52**	**288**	P	**P**	**07 00 42.4**	**+0.6**
VLZ	**Valdez**	**1.54**	**77**	P	**P**	**07 00 42.3**	**+0.2**
VLZ				S	**S**	**07 01 02.5**	**+1.5**
CNPM	**China Poot**	**1.59**	**216**	P	**P**	**07 00 43.1**	**+0.3**
CNPM				S	**S**	**07 01 04.2**	**+1.9**
HOM	**Homer**	**1.61**	**225**	P	**P**	**07 00 44.0**	**+0.9**
RSO	**Redoubt South**	**1.69**	**259**	P	**P**	**07 00 44.7**	**+0.6**
XLV	**Seldovia**	**1.79**	**221**	P	**P**	**07 00 45.8**	**+0.2**
DIV	**Divide**	**1.80**	**79**	P	**P**	**07 00 46.1**	**+0.3**
DIV				S	**S**	**07 01 07.8**	**+0.3**
KLU	**Klutina**	**1.82**	**67**	P	**P**	**07 00 46.7**	**+0.7**
CVA	**Cordova**	**1.82**	**97**	P	**P**	**07 00 45.9**	**-0.2**
EYAK	**Cordova Ski Ar**	**1.82**	**97**	P	**P**	**07 00 45.8**	**-0.2**
ILIM	**Iliamna**	**1.91**	**249**	P	**P**	**07 00 47.6**	**+0.3**
ILIM				S	**S**	**07 01 10.7**	**+0.6**
INE	**Iliamna NE**	**1.96**	**249**	P	**P**	**07 00 48.5**	**+0.5**
ILW	**Iliamna West**	**2.00**	**249**	P	**P**	**07 00 48.7**	**+0.2**
ILW				S	**S**	**07 01 12.7**	**+0.4**
MID	**Middleton Isla**	**2.08**	**131**	P	**P**	**07 00 50.9**	**+1.2**
SGAM	**Sherman Glacie**	**2.10**	**97**	P	**P**	**07 00 49.3**	**-0.6**
OPT	**Oil Point**	**2.23**	**240**	P	**P**	**07 00 52.2**	**+0.4**
TZL	**Tazlina**	**2.28**	**56**	P	**P**	**07 00 53.9**	**+1.4**
BMRM	**Bremner River**	**2.36**	**84**	P	**P**	**07 00 53.2**	**-0.4**
RAGM	**Ragged Mountai**	**2.38**	**98**	P	**P**	**07 00 53.1**	**-0.8**
AUE	**Augustine Isla**	**2.47**	**235**	P	**P**	**07 00 55.7**	**+0.5**
AUL	**Augustine Lava**	**2.48**	**236**	P	**P**	**07 00 55.8**	**+0.5**
AGU	**Augustine-Summ**	**2.49**	**236**	P	**P**	**07 00 56.0**	**+0.4**
AUW	**Augustine West**	**2.50**	**236**	P	**P**	**07 00 56.2**	**+0.5**
AUI	**Augustine Isla**	**2.50**	**235**	P	**P**	**07 00 56.2**	**+0.5**
SDG	**Sourdough**	**2.52**	**45**	P	**P**	**07 00 58.3**	**+2.4**
TRF	**Thorofare Moun**	**2.67**	**352**	P	**P**	**07 00 59.5**	**+1.4**
GLB	**Gilahina Butte**	**2.79**	**75**	P	**P**	**07 00 59.8**	**0.0**
KTH	**Kantishna Hill**	**2.83**	**346**	P	**P**	**07 01 00.8**	**+0.4**
PAX	**Paxson**	**2.85**	**39**	P	**P**	**07 01 01.2**	**+0.5**
MCK	**McKinley**	**2.93**	**4**	P	**P**	**07 01 03.5**	**+1.7**
MCNL	**McNeil River**	**2.97**	**239**	P	**P**	**07 01 01.9**	**-0.4**
SVW2	**Sparrevohn**	**3.02**	**278**	P	**P**	**07 01 02.1**	**-1.0**
CRQM	**Cirque**	**3.08**	**88**	P	**P**	**07 01 03.3**	**-0.5**
TGL	**Tana Glacier**	**3.23**	**88**	P	**P**	**07 01 04.3**	**-1.7**
WAX	**Waxell Ridge**	**3.25**	**94**	P	**P**	**07 01 05.1**	**-1.2**
KDAK	**Kodiak Island**	**3.45**	**209**	P	**P**	**07 01 07.9**	**-1.3**
BALM	**Baldy**	**3.46**	**83**	P	**P**	**07 01 08.7**	**-0.5**
KAHG	**Katmai Hook Gl**	**3.50**	**230**	P	**P**	**07 01 09.6**	**-0.1**
CYK	**Cape Yakataga**	**3.51**	**99**	P	**P**	**07 01 08.7**	**-1.3**
KAHC	**Katmai Hardscr**	**3.57**	**235**	P	**P**	**07 01 10.1**	**-0.8**
KAWH	**Katmai**	**3.67**	**231**	P	**P**	**07 01 11.8**	**-0.4**
WRH	**Wood River Hil**	**3.71**	**9**	P	**P**	**07 01 13.4**	**+0.6**
TT01	**Tatalina**	**3.77**	**307**	P	**P**	**07 01 12.6**	**-0.9**
TTA	**Tatalina**	**3.77**	**307**	P	**P**	**07 01 12.4**	**-1.3**
CCB	**Clear Creek Bu**	**3.91**	**10**	P	**P**	**07 01 15.8**	**+0.3**
KABR	**Katmai Barrier**	**3.91**	**229**	P	**P**	**07 01 14.9**	**-0.7**
CTGM	**Chitina Glacie**	**3.95**	**84**	P	**P**	**07 01 16.0**	**-0.2**
MGLS	**Mageik LS**	**3.99**	**232**	P	**P**	**07 01 16.3**	**-0.4**
CAHL	**Cahill**	**4.09**	**230**	P	**P**	**07 01 17.7**	**-0.4**
COLA	**College**	**4.13**	**9**	P	**P**	**07 01 16.5**	**-2.2**
IL1	**Eielson Array**	**4.13**	**15**	P	**P**	**07 01 19.9**	**+1.1**
ILAR	**Eielson Array**	**4.13**	**15**	P	**P**	**07 01 19.4**	**+0.8**
	1.4nm,0.3s,baz=193,slow=13,SNR=30						
ILAR				Lg		07 02 13.5	
	10.0nm,0.3s,baz=201,slow=25,SNR=7.4						
ILAR				LR	LR	07 02 56.5	
	comp=Z,115nm,18.1s,baz=264,slow=39						
KJL	**Kejulik**	**4.19**	**231**	P	**P**	**07 01 19.7**	**+0.1**
BCA3	**Beaver Creek A**	**4.25**	**55**	P	**P**	**07 01 20.4**	**0.0**
MLY	**Manley**	**4.27**	**352**	P	**P**	**07 01 20.5**	**-0.1**
PNL	**Peninsula**	**5.12**	**99**	P	**P**	**07 01 31.1**	**-1.4**
IM3	**Indian Mountai**	**5.54**	**341**	P	**P**	**07 01 37.5**	**-0.8**
IMA	**Indian Mountai**	**5.60**	**342**	*eP*	**P**	**07 01 39.3**	**+0.1**
CHGN	**Chignik**	**6.53**	**230**	*eP*	**P**	**07 01 50.7**	**-1.6**
BM3	**Burnt Mountain**	**6.95**	**16**	P	**P**	**07 01 57.4**	**-0.7**
DLBC	**Dease Lake**	**10.10**	**95**	P	**P**	**07 02 40.4**	**-0.9**
	0.3nm,0.3s,baz=254,slow=15,SNR=3.1						
DLBC				LR	LR	07 06 55.5	
	comp=Z,115nm,20.5s,baz=301,slow=39						
INK	**Inuvik**	**10.12**	**35**	P	**P**	**07 02 41.9**	**+0.4**
	0.1nm,0.3s,baz=249,slow=14,SNR=1.9						
INK				LR	LR	07 06 58.9	
	comp=Z,104nm,19.9s,baz=227,slow=40						
BBB	**Bella Bella**	**14.54**	**117**	LR	LR	07 08 30.4	
	comp=Z,39nm,20.8s,baz=294,slow=34						
YKA	**Yellowknife Ar**	**16.49**	**69**	P	**P**	**07 04 04.3**	**-0.8**
	0.1nm,0.3s,baz=276,slow=11,SNR=6.7						
YKA				PcP	PcP	07 08 54.2	-1.0
	0.1nm,0.3s,baz=279,slow=1.2,SNR=8.4						
YKA	**Yellowknife Ar**	**16.49**	**69**	P	**P**	**07 04 04.3**	**-0.8**
YKA				PcP	PcP	07 08 54.2	-1.0
FX1	**Attu Island--F**	**21.68**	**265**	P	**P**	**07 05 04.3**	**+0.3**
	4.3nm,0.4s,mb4.3,baz=221,slow=19,SNR=6.5						
IMW	**Indian Meadow**	**28.40**	**109**	*eP*	**P**	**07 06 09.9**	**+2.4**
	3.8nm,1.0s,mb4.0						
ELK	**Elko**	**28.98**	**118**	P	**P**	**07 06 14.8**	**+2.1**
	0.4nm,0.7s,mb3.3,baz=262,slow=7.1,SNR=3.3						
PDAR	**Pinedale Array**	**29.91**	**109**	P	**P**	**07 06 22.4**	**+1.4**
	0.4nm,0.8s,mb3.2,baz=333,slow=3.3,SNR=4.1						
PDAR				PcP	PcP	07 09 22.2	-0.7
	0.3nm,0.6s,baz=307,slow=4.5,SNR=2.9						
TXAR	**Lajitas Array**	**43.66**	**115**	P	**P**	**07 08 18.2**	**+1.0**
	0.2nm,0.8s,mb2.9,baz=309,slow=5.8,SNR=3.7						
ARCES	**ARCESS Array B**	**49.88**	**2**	P	**P**	**07 09 04.7**	**-0.9**
	1.4nm,0.7s,mb4.1,slow=7.3,SNR=5.5						
ARCES				PcP	PcP	07 10 25.3	-0.4
	1.1nm,0.9s,slow=3.6,SNR=6.1						
ARCES	**ARCESS Array B**	**49.88**	**2**	P	**P**	**07 09 04.7**	**-0.9**
ARCES				PcP	PcP	07 10 25.3	-0.4
SONM	**Songino Array**	**55.72**	**308**	P	**P**	**07 09 49.3**	**0.0**
	1.8nm,0.7s,mb4.2,baz=34,slow=7.2,SNR=18						
NOA

RPZ				Sn	S	08 20 13.4	-16	
	1.2nm,0.3s,baz=143,slow=14,SNR=7.6							
CTA	Charters Tower	33.59	285	P	P	08 21 55.4	+0.3	
	1.7nm,0.4s,mb4.3,baz=110,slow=13,SNR=5.9							
CTA	Charters Tower	33.59	285	P	P	08 21 55.4	+0.3	
CTAO	Charters Tower	33.59	285	*e*P	P	08 21 54.7	-0.4	
WB2	Warramunga Arr	43.37	277	*e*P	P	08 23 15.8	-1.1	
WRA	Warramunga Arr	43.38	277	P	P	08 23 16.2	-0.8	
	1.1nm,0.4s,mb4.0,baz=117,slow=7.6,SNR=11							
VNDA	Vanda	44.41	186	LR	LR	08 38 12.2		
	comp=Z,47nm,19.3s,MS3.4,baz=293,slow=31							
FITZ	Fitzroy Crossi	51.46	273	LR	LR	08 46 32.8		
	comp=Z,77nm,21.0s,MS3.7,baz=80,slow=36							
QSPA	South Pole Qui	56.11	180	*e*P	P	08 24 54.6	+0.8	
	8.9nm,1.0s,mb4.8							
MAW	Mawson	68.59	201	P	P	08 26 16.9	-0.3	
	1.4nm,0.4s,mb4.3,baz=116,slow=6.5,SNR=26							
VNA3	Neumayer Olymp	74.78	176	*e*	P	08 27 01.8	+7.9	
VNA3	Neumayer Olymp	74.78	176	*e*	P	08 27 10.7	+17	
VNA3	Neumayer Olymp	74.78	176	⇓*i*P	P	08 26 54.8	+0.9	
VNA3				*e*		08 27 01.8		
VNA3				*e*		08 27 10.7		
VNA2	Neumayer--Watz	75.19	177	*e*	P	08 27 04.2	+7.8	
VNA2	Neumayer--Watz	75.19	177	*e*	P	08 27 13.0	+17	
VNA2	Neumayer--Watz	75.19	177	⇓*i*P	P	08 26 57.6	+1.2	
VNA2				*e*		08 27 04.2		
VNA2				*e*		08 27 13.0		
VNA1	Neumayer--Stat	75.43	177	*e*	P	08 27 05.9	+8.2	
VNA1	Neumayer--Stat	75.43	177	*e*	P	08 27 15.0	+17	
VNA1	Neumayer--Stat	75.43	177	⇓*i*P	P	08 26 58.6	+0.9	
VNA1				*e*		08 27 05.9		
VNA1				*e*		08 27 15.0		
ARCES	ARCESS Array B	141.88	346	PKP	PKPdf	08 34 43.8	-2.7	
	0.7nm,0.5s,baz=45,slow=2.6,SNR=9.5							
KAF	Kangasniemi	147.56	338	*e*p	PKPdf	08 34 56.1	-0.3	
	1.6nm,0.5s							
FINES	FINESS Array B	148.13	337	PKPbc	PKPdf	08 34 58.2	+0.9	
	1.6nm,0.4s,baz=52,slow=3.5,SNR=20							
NB2	NORSAR Subarra	152.13	349	PKPabc	PKPdf	08 35 07.6	+4.1	
	0.8nm,0.5s,baz=35,slow=2.5							
NOA	NORSAR Array B	152.13	349	PKPbc	PKPdf	08 35 08.3	+4.8	
	0.9nm,0.5s,baz=15,slow=4.1,SNR=6.1							

IDC 27 08:16:54.2±32.0, 0.07S×97.33E, mb3.9/4, mb1 4.0/4, mb1mx3.6/18, mbtmp3.9/4, Error ellipse: s-maj=634.1km s-min=129.2km az=168.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res ISC
SONM	Songino Array	48.36	8	P		P	08 25 37.9	-1.8
	0.6nm,0.5s,baz=183,slow=9.2,SNR=6.3							
MKAR	Makanchi Array	48.49	346	P		P	08 25 38.8	-2.0
	1.2nm,0.6s,baz=160,slow=8.1,SNR=15							
ZAL	Zalesovo	54.81	351	P		P	08 26 25.5	-2.7
	1.1nm,0.5s,baz=342,slow=7.4,SNR=2.9							
BVAR	Borovoye Array	57.48	341	P		P	08 26 45.1	-2.3
	0.4nm,0.3s,baz=146,slow=10,SNR=5.2							

*NIED **27** 08:34:00,33.30N×142.50E,h5km,Mw4.2 Best double couple: M0 1.91×10^15 NP1:φs155°,δ63°,λ-91°. NP2: φs336°,δ27°,λ-88°.*
*JMA **27** 08:34:59.0±0.4,33.26N×142.46E,h82km,M3.9*
*MOS **27** 08:34:59.5±0.8,33.18N×142.36E,h33km,mb4.6/16,Error ellipse: s-maj=16.5km s-min=7.0km az=119.2*
*NEIC **27** 08:35:01.1±0.3,33.20N×142.38E,mb4.6/11, MW4.1(NIED),Error ellipse: s-maj=7.7km s-min=6.3km az=53.0*
*IDC **27** 08:35:01.3±0.5,33.21N×142.37E,h31km±3km,mb4.0/19, mb1 4.2/23,mb1mx4.2/27,mbtmp4.2/23,ML4.0/4,MS3.4/1, Ms1 3.5/1,ms1mx2.6/29,Error ellipse: s-maj=13.6km s-min=13.1km az=33.0*
*BJI **27** 08:35:03.7,33.39N×141.70E,h30km,mB4.5,mb4.5, Ms4.0,Msz3.6*

ISC 27 08:34:59.1±0.3, 33.19N±0.04×142.37E±0.04, h30km, h30km±1.0km:pP-P,n106,σ1§03/117,mb4.3/39,MS3.4/1, 9C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res ISC
BSO1	Boso 1	1.86	322	P		Pn	08 35 29.3	-0.2
BSO2	Boso 2	2.06	320	*e*S		Sn	08 35 56.9	-0.2
JHJ2	Mitsune	2.14	269	P		Pn	08 35 34.7	+1.2
JHJ2				*e*S		Sn	08 36 02.1	+2.8
JHJ	Hachijo jima 2	2.17	269	Pn		Pn	08 35 34.7	+0.8
	63nm,0.3s,baz=231,slow=19,SNR=23							
JHJ				Sn		Sn	08 36 00.5	+0.5
	100nm,0.3s,baz=262,slow=23,SNR=7.6							
BSO3	Boso 3	2.23	317	P		Pn	08 35 35.0	+0.2
BSO3				*e*S		Sn	08 36 02.6	+1.1
BSO4	Boso 4	2.46	317	P		Pn	08 35 38.7	+0.6
JIM2	Oshima 3	2.88	303	P		Pn	08 35 43.3	-0.7
JOD2	Odawara 2	3.41	308	P		Pn	08 35 50.9	-0.7
JYN	Shimob	3.91	307	P		Pn	08 35 58.3	-0.4
JRY	Ryogami san	4.01	316	P		Pn	08 35 59.5	-0.7
JRY				*e*S		Sn	08 36 46.3	-0.5
JAG	Ashikaga	4.02	324	P		Pn	08 35 59.3	-1.0
MJAR	Matsushiro Arr	4.78	316	Pn		Pn	08 36 10.8	-0.2
	7.3nm,0.3s,baz=159,slow=13,SNR=34							
MJAR				Sn		Sn	08 37 04.4	-1.8
	3.1nm,0.3s,baz=271,slow=16,SNR=6.3							
MJAR	Matsushiro Arr	4.78	316	Pn		Pn	08 36 10.8	-0.2
MJAR				Sn		Sn	08 37 04.4	-1.8
MAJO	Matsushiro	4.78	316	*e*P		Pn	08 36 11.9	+0.8
MAT	Matsushiro	4.78	316	*e*P		Pn	08 36 10.0	-1.1
MAT				*e*S		Sn	08 37 03.0	-3.2
MAT	Matsushiro	4.78	316	P		Pn	08 36 10.4	-0.7
MAT				S		Sn	08 37 02.8	-3.4
MAT	Matsushiro	4.78	316	P		Pn	08 36 10.8	-0.3
CBIJ	Chichi jima	6.07	182	Pn		Pn	08 36 27.1	-2.2
	34nm,0.3s,baz=80,slow=20,SNR=10.0							
CBIJ				Sn		Sn	08 37 32.2	-6.3
	34nm,0.3s,baz=298,slow=20,SNR=4.6							
JNU	Nakatsue	9.63	273	Pn		P	08 37 19.9	+1.0
	0.4nm,0.3s,baz=81,slow=14,SNR=11							
ASAJ	Asahikawa	10.91	1	P		P	08 37 30.2	-6.2
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAJ	Asahikawa	10.91	1	Pn		P	08 37 30.2	-6.2
	comp=Z,1.3nm,0.3s,baz=189,slow=9.7,SNR=5.7							
YSS	Yuzh-Sakhalins	13.75	1	⇑*i*P		P	08 38 20.9	+6.6
YSS				pmax	pmax			
	comp=Z,30nm,0.9s							
MDJ	Mudanjiang	15.11	323	P		P	08 38 31.5	-0.7
MDJ				AMB	AMB			
	comp=Z,5.0nm,0.8s							
MDJ				AMB	AMB			
	comp=Z,55nm,4.0s							
CN2	Changchun	16.93	314	*e*P		P	08 38 54.5	-0.8
CN2				AMB	AMB			
	comp=Z,20nm,1.0s							
SSE	Sheshan	18.06	269	*e*P		P	08 39 04.5	-5.0
SSE				AP			08 39 12.5	
SSE				XP			08 39 16.8	
SSE				S		S	08 42 26.3	-0.6
SSE				AMB	AMB			
	comp=Z,24nm,0.6s							
SSE				AMB	AMB			
	comp=Z,66nm,3.7s							
SSE				LR	LR			
	comp=N,83nm,11.4s							
SSE				LR	LR			
	comp=E,167nm,11.4s							
SSE				LR	LR			
	comp=Z,189nm,13.6s							
SSE	Sheshan	18.06	269	*e*P		P	08 39 04.4	-5.1
	comp=Z,24nm,0.6s							
SSE				pP			08 39 12.5	
SSE				sP			08 39 16.7	
SSE				S		S	08 42 26.2	-0.7
SSE				sS			08 42 41.3	
NJ2	Nanjing	19.83	273	*e*P		P	08 39 28.0	-2.4
NJ2				AP			08 39 37.5	
NJ2				XP			08 39 41.0	
NJ2				PP		PP	08 39 48.3	-0.8
NJ2				S		S	08 43 07.0	+0.5
NJ2				AMB	AMB			
	comp=Z,30nm,1.0s							
NJ2				AMB	AMB			
	comp=Z,120nm,5.0s							
NJ2				LR	LR			
	comp=N,610nm,15.0s							
NJ2				LR	LR			
	comp=E,640nm,16.3s							
HIA	Hailar	23.27	320	*e*P		P	08 40 04.4	-0.4
HIA				pmax	pmax			
	comp=Z,25nm,1.1s							
HIA	Hailar	23.27	320	*e*P		P	08 40 04.4	-0.4
	comp=Z,25nm,1.1s,mb4.5							
WHN	Wuhan	23.91	271	P		P	08 40 12.5	+1.3
HHC	Hu-ho-hao-te	25.66	296	*e*P		P	08 40 29.8	+1.9
HHC				AP		pP	08 40 38.8	+2.1
HHC				XP		sP	08 40 41.5	+0.8
HHC				AMB	AMB			
	comp=Z,20nm,1.2s,mb4.5							
HHC				AMB	AMB			
	comp=Z,112nm,4.4s							
CLNS	Chul'man	26.52	338	*e*P		P	08 40 31.4	-4.2
CLNS				pmax	pmax			
	comp=Z,18nm,0.9s,mb4.6							
CLNS				pmax	pmax			
	comp=N,7.0nm,1.3s							
CLNS				pmax	pmax			
	comp=E,8.0nm,0.9s							
BTO	Baotou	26.80	295	*e*P		P	08 40 39.5	+1.1
BTO				AMB	AMB			
	comp=Z,20nm,0.4s,mb5.0							
XAN	Xi'an	27.80	281	P		P	08 40 46.0	-1.5
XAN				AMB	AMB			
	comp=Z,9.0nm,1.2s,mb4.3							
ENH	Enshi	28.05	273	*e*P		P	08 40 47.8	-2.0
	comp=Z,12nm,0.8s,mb4.6							
YAK	Yakutsk	29.98	348	*e*P		P	08 41 07.5	+0.6
YAK				pmax	pmax			
	comp=Z,11nm,0.7s,mb4.7							
ULN	Ulaanbaatar	30.28	309	*i* P		P	08 41 10.2	+0.5
SEY	Seymchan	30.43	9	⇑*i*P		P	08 41 10.6	-0.2
SONM	Songino Array	30.70	309	P		P	08 41 14.7	+1.3
	comp=Z,7.1nm,0.9s,mb4.5,baz=113,slow=9.4,SNR=6.2							
BOD	Bodaibo	31.23	331	*e*P		P	08 41 16.5	-1.4
BOD				*e*			08 41 22.3	
BOD				pmax	pmax			
	comp=Z,2.0nm,1.1s,mb3.9							
BOD				pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.3							
GYA	Guiyang	31.58	267	⇑*i*P		P	08 41 19.8	-1.5
GYA				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.8							
CD2	Chengdu	32.68	277	P		P	08 41 31.0	+0.1
ZAK	Zakamensk	33.36	313	*e*P		P	08 41 37.1	+0.5
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.1s,mb4.0							
TLY	Talaya	33.52	315	*c i*P		P	08 41 38.2	+0.2
TLY				pmax	pmax			
	comp=Z,6.0nm,1.2s,mb4.4							
GTA	Gaotai	34.61	293	P		P	08 41 47.5	0.0
GTA				AP		pP	08 41 55.0	-1.5
GTA				XP		sP	08 41 57.8	-2.5
GTA				AMB	AMB			
	comp=Z,4.0nm,0.8s,mb4.4							
TIXI	Tiksi	39.19	353	*e*P		P	08 42 23.0	-2.8
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.1s,mb3.9							
WMQ	Urumqi	43.37	301	*e*P		P	08 43 02.3	+2.0
ZAL	Zalesovo	45.15	315	P		P	08 43 14.8	+0.3
	comp=Z,1.5nm,0.6s,mb4.0,baz=59,slow=11,SNR=5.1							
ZAL				pP		pP	08 43 22.0	-1.6
	comp=Z,4.1nm,0.9s,baz=16,slow=8.1,SNR=6.5							
ZAL	Zalesovo	45.15	315	P		P	08 43 14.8	+0.3
ZAL				pP		pP	08 43 22.0	-1.6
NVS	Novosibirsk	46.11	316	*e*P		P	08 43 21.7	-0.4
NVS				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.5							
NVS				pmax	pmax			
	comp=N,6.0nm,0.8s							
MKAR	Makanchi Array	46.90	305	*i* P		P	08 43 29.3	+0.9
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.7s							
MKAR	Makanchi Array	46.90	305	P		P	08 43 29.0	+0.6
	comp=Z,4.8nm,0.7s,mb4.5,baz=91,slow=9.7,SNR=26							
KURK	Kurchatov	48.98	311	*e*P		P	08 43 44.4	-0.1
ILAR	Eielson Array	52.36	31	P		P	08 44 09.2	-1.0
	comp=Z,1.6nm,0.9s,mb4.0,baz=268,slow=6.4,SNR=13							
ILAR				pP		pP	08 44 18.9	-0.5
	comp=Z,2.0nm,0.9s,baz=264,slow=6.2,SNR=9.2							
ILAR				LR	LR		09 07 44.4	
	comp=Z,36nm,18.4s,MS3.4,baz=180,slow=38							
AAK	Ala-Archa	53.08	301	*c i*P		P	08 44 15.7	-0.1
AAK				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3							
WRAB	Tennant Creek	53.37	189	*e*P		P	08 44 17.4	-0.8
WRAB				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5							
WRAB	Tennant Creek	53.37	189	*e*P		P	08 44 17.4	-0.9
	comp=Z,6.6nm,1.0s,mb4.5							
WB2	Warramunga Arr	53.38	189	*e*P		P	08 44 17.5	-0.8
WRA	Warramunga Arr	53.38	189	P		P	08 44 17.3	-1.1
	comp=Z,1.8nm,0.6s,mb4.2,baz=7.2,slow=7.6,SNR=13							
WRA				PcP		PcP	08 45 26.3	+1.0
	comp=Z,1.0nm,0.6s,baz=360,slow=4.1,SNR=5.1							
WRA				pPcP			08 45 36.9	
	comp=Z,1.2nm,0.5s,baz=3.6,slow=4.4,SNR=5.3							
FITZ	Fitzroy Crossi	53.45	200	*e*P		P	08 44 19.0	+0.2
	comp=Z,12nm,1.7s,mb4.5							
FITZ	Fitzroy Crossi	53.45	200	P		P	08 44 18.7	-0.1
	comp=Z,4.1nm,0.5s,mb4.7,baz=10,slow=6.6,SNR=8.2							
BVAR	Borovoye Array	53.78	315	P		P	08 44 20.7	-0.1
	comp=Z,3.5nm,1.0s,mb4.2,baz=90,slow=7.4,SNR=10							
BRVK	Borovoye	53.84	315	*e*P		P	08 44 21.3	+0.1
INK	Inuvik	57.47	26	P		P	08 44 46.7	-0.5
	comp=Z,5.8nm,1.1s,mb4.5,baz=284,slow=3.2,SNR=3.9							
INK	Inuvik	57.47	26	P		P	08 44 46.7	-0.5
MBWA	Marble Bar	58.20	205	P		P	08 44 52.1	-0.8
ARU	Arti	59.78	320	⇓*i*P		P	08 45 02.8	-0.7
ARU				*e*			08 47 19.0	
ARU				*e*PPP		PPP	08 48 41.8	-1.1
ARU				*e*S		S	08 53 17.0	+6.1
ARU				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.6							
ARU	Arti	59.78	320	*e*P		P	08 45 02.9	-0.6
	comp=Z,3.9nm,0.3s,mb4.9							
STKA	Stephens Creek	64.72	181	P		P	08 45 36.7	0.0
	comp=Z,2.5nm,0.8s,mb4.3,baz=354,slow=7.5,SNR=4.2							
STKA	Stephens Creek	64.72	181	P		P	08 45 36.7	0.0
YKA	Yellowknife Ar	66.75	29	P		P	08 45 49.2	0.0
	comp=Z,1.0nm,0.6s,mb4.0,baz=296,slow=6.7,SNR=4.6							
YKA				pP		pP	08 45 58.8	+0.1
	comp=Z,1.7nm,0.8s,baz=293,slow=6.2,SNR=5.4							
YKA	Yellowknife Ar	66.75	29	P		P	08 45 49.2	0.0
YKA				pP		pP	08 45 58.8	+0.1
ARCES	ARCESS Array B	67.87	340	P		P	08 45 56.2	0.0
	comp=Z,1.4nm,0.7s,mb4.1,baz=74,slow=8.8,SNR=6.4							
NWAO	Narrogin (SRO)	69.89	202	*e*P		P	08 46 09.6	+0.3
OBN	Obninsk	71.65	324	P		P	08 46 21.0	+1.5
KAF	Kangasniemi	72.08	334	*e*p		P	08 46 21.4	-0.6
	comp=Z,1.5nm,0.5s,mb4.2,baz=50,slow=5.7							
KAF	Kangasniemi	72.08	334	*e*P		P	08 46 21.4	-0.6
KAF				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
NEW	Newport	72.36	44	*e*P		P	08 46 24.2	+0.4
NEW				*PP		pP	08 46 33.6	+0.2
NEW				pmax	pmax			
	comp=Z,1.0nm,0.8s							
NEW	Newport	72.36	44	P		P	08 46 23.6	-0.2
	comp=Z,1.6nm,0.8s,mb4.0,baz=309,slow=6.5,SNR=4.0							
NEW				pP		pP	08 46 33.5	+0.2
	comp=Z,2.0nm,0.8s,baz=291,slow=8.6,SNR=3.8							
NEW	Newport	72.36	44	*e*P		P	08 46 24.2	+0.4
	comp=Z,1.3nm,0.8s,mb3.9							
NEW				pP		pP	08 46 33.5	+0.2
FINES	FINESS Array B	72.58	333	P		P	08 46 24.4	-0.4
	comp=Z,4.4nm,0.9s,mb4.4,baz=90,slow=5.7,SNR=9.8							
GOF	Gofitskoye	73.26	313	*e*P		P	08 46 29.0	-0.2
NVAR	Mina Array Bea	76.68	53	P		P	08 46 50.6	+1.7
	comp=Z,1.0nm,0.8s,mb3.8,baz=272,slow=7.1,SNR=3.5							
NVAR				pP		pP	08 47 00.2	+1.7
	comp=Z,1.3nm,0.7s,baz=277,slow=7.7,SNR=5.0							
NVAR	Mina Array Bea	76.68	53	P		P	08 46 50.6	+1.7
NVAR				pP		pP	08 47 00.2	+1.7
ELK	Elko	77.44	49	*e*P		P	08 46 54.3	+1.2
ELK				*e*		pP	08 47 04.4	+1.7
AKASG	Malin Array Be	77.83	323	*i* P		P	08 46 55.1	+0.2
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	Malin Array Be	77.83	323	P		P	08 46 55.2	+0.2
	comp=Z,0.6nm,0.4s,mb3.9,baz=48,slow=6.0,SNR=11							
AKASG	Malin Array Be	77.83	323	P		P	08 46 55.2	+0.2
NB2	NORSAR Subarra	78.03	338	P		P	08 46 56.3	+0.4
	comp=Z,6.8nm,1.0s,mb4.5,baz=40,slow=5.6							
NB2	NORSAR Subarra	78.03	338	P		P	08 46 56.3	+0.4
NB2				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5							
NOA	NORSAR Array B	78.03	338	P		P	08 46 56.1	+0.2
	comp=Z,3.3nm,0.8s,mb4.3,baz=39,slow=5.6,SNR=13							
NOA				pP		pP	08 47 06.6	+1.1
	comp=Z,2.8nm,0.9s,baz=39,slow=5.6,SNR=7.2							
NOA	NORSAR Array B	78.03	338	P		P	08 46 56.1	+0.2
NOA				pP		pP	08 47 06.6	+1.1
PDAR	Pinedale Array	79.81	45	P		P	08 47 06.7	+0.8
	comp=Z,0.3nm,0.6s,mb3.4,baz=315,slow=2.6,SNR=2.8							
PDAR				pP		pP	08 47 16.9	+1.4
	comp=Z,0.4nm,0.6s,baz=304,slow=1.6,SNR=3.7							
BRTR	Keskin Array B	82.00	312	P		P	08 47 18.9	+1.4
	comp=Z,1.8nm,0.8s,mb4.1,baz=96,slow=4.5,SNR=9.6							
SMCO	Snowmass	83.52	47	*e*P		P	08 47 27.2	+1.9
BRG	Berggiesshubel	84.76	330	*i* P		P	08 47 31.9	+0.6
BRG				*i*			08 47 37.8	
BRG				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.8							
BRG	Berggiesshubel	84.76	330	*i* P		P	08 47 31.9	+0.6
	comp=Z,4.6nm,0.7s,mb4.7							
BRG				*i*			08 47 37.8	
CLL	Collm	84.82	331	⇑*i*P		P	08 47 32.7	+1.1
CLL				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.8							
CLL	Collm	84.82	331	⇑*i*P		P	08 47 32.7	+1.1
	comp=Z,8.0nm,0.9s,mb4.8							
CLL	Collm	84.82	331	⇑P		P	08 47 32.7	+1.1
	comp=Z,logA/T=0.9,mb4.8							
TUC	Tucson	85.19	54	P		P	08 47 32.8	-1.1
MOX	Moxa	85.89	331	*e*P		P	08 47 38.0	+1.0
ANMO	Albuquerque	86.45	50	⇑*i*P		P	08 47 37.0	-3.1
TXAR	Lajitas Array	91.83	53	P		P	08 48 07.0	+1.3
	comp=Z,0.4nm,0.6s,mb3.9,baz=305,slow=4.1,SNR=8.2							
TXAR				pP		pP	08 48 17.0	+1.6
	comp=Z,1.0nm,0.6s,baz=306,slow=3.2,SNR=12							
SAML	Samuel	146.27	50	*e*P		PKPbc	08 54 38.2	+0.9
SAML				*e*			08 54 48.7	
SIV	San Ignacio	152.77	57	PKP		PKPdf	08 54 48.7	-2.6
	comp=Z,0.6nm,0.8s,baz=300,slow=4.9,SNR=4.6							
SIV				PKPbc	PKPdf		08 54 55.5	+4.2
	comp=Z,1.3nm,0.9s,baz=233,slow=2.1,SNR=9.6							
SIV				pPKPbc			08 55 06.0	
	baz=286,slow=3.5							

*IDC **27** 08:38:58.7±0.9,33.19N×142.47E,mb4.1/15,mb1 4.3/18, mb1mx4.2/23,mbtmp4.1/18,ML3.6/3,MS3.4/5,Ms1 3.4/5, ms1mx3.0/27,Error ellipse: s-maj=23.9km s-min=16.8km az=175.0*
*NIED **27** 08:39:00,33.20N×142.60E,h5km,Mw4.3 Best double couple: M0 3.72×10^15 NP1:φs146°,δ82°,λ-102°. NP2: φs23°,δ15°,λ-34°.*
*JMA **27** 08:39:00.5±0.5,33.22N×142.58E,h55km,M4.2*
*MOS **27** 08:39:01.9±0.8,33.23N×142.41E,h33km,mb4.7/10,Error ellipse: s-maj=19.8km s-min=7.7km az=118.0*
*NEIC **27** 08:39:02.2±3.5,33.17N×142.37E,h23km±23km,mb4.6/5, MW4.3(NIED),Error ellipse: s-maj=13.3km s-min=10.6km az=104.0*
*BJI **27** 08:39:05.1,33.56N×141.85E,h23km,mB4.7,mb4.5, Ms4.0,Msz4.3*

ISC 27 08:38:58.7±1.5, 33.24N±0.05×142.47E±0.05, h10km±9km, n78,σ1§16/86,mb4.3/29,MS3.5/4,3C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res ISC
BSO1	Boso 1	1.88	319	P		Pn	08 39 31.8	+0.7
BSO1				*e*S		Sn	08 39 56.7	+1.7
JHJ2	Mitsune	2.23	267	P		Pn	08 39 37.4	+1.2
JHJ2				S		Sn	08 40 04.6	+0.6
JHJ	Hachijo jima 2	2.26	268	Pn		Pn	08 39 37.3	+0.7
	130nm,0.3s,baz=84,slow=12,SNR=17							
JHJ				Sn		Sn	08 40 04.5	-0.3
	149nm,0.3s,baz=228,slow=22,SNR=7.9							
BSO4	Boso 4	2.48	315	P		Pn	08 39 41.2	+1.4
JIM2	Oshima 3	2.92	301	P		Pn	08 39 45.8	-0.3
JAG	Ashikaga	4.03	323	P		Pn	08 40 01.7	-0.1
JRY	Ryogami san	4.04	314	P		Pn	08 40 02.8	+0.9
JRY				*e*S		Sn	08 40 49.5	-0.3
MJAR	Matsushiro Arr	4.80	314	Pn		Pn	08 40 13.1	+0.2
	5.1nm,0.3s,baz=160,slow=14,SNR=18							
MJAR				Sn		Sn	08 41 06.8	-2.4
	2.8nm,0.3s,baz=157,slow=19,SNR=5.3							
MAJO	Matsushiro	4.81	314	*e*P		Pn	08 40 14.1	+1.3
MAT	Matsushiro	4.81	314	*e*P		Pn	08 40 13.0	+0.2
MAT				*e*S		Sn	08 41 02.0	-7.3
MAT	Matsushiro	4.81	314	P		Pn	08 40 12.9	+0.1
MAT				S		Sn	08 41 03.1	-6.2
MAT	Matsushiro	4.81	314	P		Pn	08 40 13.3	+0.5
JMM	Marumori	4.81	344	P		Pn	08 40 10.8	-2.1
JNS	Sasagawa	5.24	331	P		Pn	08 40 19.0	+0.1
JGM	Miyama	5.34	299	P		Pn	08 40 21.6	+1.2
JMK	Ichinoseki	5.79	350	P		Pn	08 40 23.8	-2.9
JMK				S		Sn	08 41 27.0	-6.8
CBIJ	Chichi jima	6.13	182	Sn		Sn

comp=Z,89nm,2.3s,mb5.0
ENH Enshi 28.14 273 P P 08 44 50.1 -2.9
YAK Yakutsk 29.95 348 *i* P **P 08 45 08.7 -0.2**
YAK pmax pmax
comp=Z,17nm,1.0s,mb4.7
SEY Seymchan 30.36 9 *i* P **P 08 45 12.5 0.0**
SONM Songino Array 30.73 309 P P 08 45 17.2 +1.3
comp=Z,5.2nm,0.9s,mb4.3,baz=120,slow=10.0,SNR=12
SONM LR LR 08 57 46.0
comp=Z,82nm,19.4s,MS3.4,baz=266,slow=37
BOD Bodaibo 31.22 331 *eP* **P 08 45 18.0 -2.1**
BOD *e* 08 45 23.4
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
ZAK Zakamensk 33.39 313 *eP* **P 08 45 39.8 +0.7**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
TLY Talaya 33.55 315 *i* P **P 08 45 40.6 +0.1**
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GTA Gaotai 34.67 293 P P 08 45 52.0 +1.7
GTA AP pP 08 46 01.5 +8.1
GTA XP sP 08 46 05.8 +11
GTA AMB AMB
comp=Z,3.0nm,0.7s,mb4.3
TIXI Tiksi 39.15 353 *i* P **P 08 46 27.3 -0.5**
TIXI pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
WMQ Urumqi 43.42 301 *eP* **P 08 47 04.3 +1.2**
ZAL Zalesovo 45.17 315 *i* P **P 08 47 19.5 +2.4**
ZAL pmax pmax
comp=Z,2.0nm,0.6s
ZAL Zalesovo 45.17 315 P P 08 47 16.3 -0.8
comp=Z,1.5nm,0.6s,mb4.0,baz=337,slow=7.2,SNR=3.6
MKAR Makanchi Array 46.94 305 P P 08 47 31.7 +0.5
comp=Z,2.9nm,0.8s,mb4.3,baz=89,slow=9.2,SNR=12
MKAR LR LR 09 07 51.0
comp=Z,44nm,18.6s,MS3.4,baz=272,slow=37
MKAR Makanchi Array 46.94 305 P P 08 47 31.7 +0.5
MKAR LR LR 09 07 51.0
KURK Kurchatov 49.01 311 *eP* **P 08 47 46.8 -0.4**
ILAR Eielson Array 52.26 31 P P 08 48 11.3 -0.5
comp=Z,1.9nm,0.9s,mb4.0,baz=270,slow=6.7,SNR=12
AAK Ala-Archa 53.12 301 *i* P **P 08 48 17.9 -0.7**
AAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
WRAB Tennant Creek 53.44 190 eP P 08 48 20.3 -0.9
WRA Warramunga Arr 53.45 190 P P 08 48 20.4 -0.9
comp=Z,0.6nm,0.6s,mb3.7,baz=6.5,slow=7.7,SNR=9.3
BRVK Borovoye 53.86 315 *eP* **P 08 48 23.4 -0.4**
INK Inuvik 57.38 26 P P 08 48 49.2 +0.1
comp=Z,3.7nm,0.9s,mb4.4,baz=287,slow=4.5,SNR=3.5
INK Inuvik 57.38 26 *eP* **P 08 48 49.1 0.0**
ARU Arti 59.80 320⇓ *iP* **P 08 49 05.0 -1.0**
ARU *e* 08 49 49.2
ARU *e* 08 51 20.8
ARU *eS* **S 08 57 14.2 -1.3**
ARU *eSS* SS 09 01 07.5 -5.3
ARU pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
ARU Arti 59.80 320 *eP* **P 08 49 04.6 -1.5**
comp=Z,4.3nm,0.9s,mb4.5
YKA Yellowknife Ar 66.66 30 P P 08 49 51.0 -0.1
comp=Z,1.3nm,0.8s,mb4.0,baz=296,slow=6.2,SNR=6.0
YKA Yellowknife Ar 66.66 30 P P 08 49 51.0 -0.1
ARCES ARCESS Array B 67.84 340 P P 08 49 58.4 -0.2
comp=Z,2.2nm,0.9s,mb4.2,baz=45,slow=6.9,SNR=6.0
ARCES ARCESS Array B 67.84 340 P P 08 49 58.4 -0.2
OBN Obninsk 71.66 324⇑ *eP* **P 08 50 21.2 -0.9**
OBN 08 50 47.0
OBN S S 08 59 28.0 -12
OBN pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KAF Kangasniemi 72.07 334 *ep* **P 08 50 23.8 -0.7**
comp=Z,2.5nm,0.7s,mb4.2,baz=50,slow=5.7
KAF Kangasniemi 72.07 334 *eP* **P 08 50 23.8 -0.7**
KAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
FINES FINESS Array B 72.57 333 P P 08 50 27.6 +0.2
comp=Z,3.9nm,0.9s,mb4.3,baz=104,slow=7.9,SNR=8.2
GNI Garni 74.69 308 LR LR 09 27 20.5
comp=Z,34nm,19.6s,MS3.6,baz=170,slow=39
NVAR Mina Array Bea 76.57 53 P P 08 50 52.3 +1.4
comp=Z,0.6nm,0.8s,mb3.5,baz=255,slow=3.4,SNR=4.3
AKASG Malin Array Be 77.83 323 P P 08 50 57.8 +0.2
comp=Z,0.3nm,0.3s,mb3.7,baz=47,slow=5.9,SNR=9.0
HFS Hagfors 77.90 336 LR LR 09 28 00.5
comp=Z,32nm,20.0s,MS3.6,baz=203,slow=38
NB2 NORSAR Subarra 78.01 338 P P 08 50 58.1 -0.2
comp=Z,9.7nm,1.1s,mb4.7,baz=40,slow=5.6
NB2 NORSAR Subarra 78.01 338 P P 08 50 58.1 -0.2
NB2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
NOA NORSAR Array B 78.01 338 P P 08 50 58.5 +0.2
comp=Z,4.5nm,0.9s,mb4.4,baz=39,slow=5.7,SNR=13
BRTR Keskin Array B 82.03 313 P P 08 51 21.1 +0.8
comp=Z,1.9nm,0.9s,mb4.0,baz=90,slow=3.7,SNR=6.0
KECS Kecovo 83.57 325 *eP* **P 08 51 30.0 +2.0**
VYHS Vyhne 84.34 326 *eP* **P 08 51 32.9 +1.0**
CLL Collm 84.81 331⇑ *P* **P 08 51 34.9 +0.7**
comp=Z,logA/T=1.0,mb4.9
GERES GERESS Array B 86.39 329 P P 08 51 43.3 +1.2
comp=Z,0.3nm,0.2s,mb4.1,baz=27,slow=4.4,SNR=4.2
TXAR Lajitas Array 91.72 53 P P 08 52 09.2 +1.4
comp=Z,0.3nm,0.7s,mb3.8,baz=312,slow=2.8,SNR=4.5
LPAZ La Paz 147.65 66 PKPbc PKPdf 08 58 44.6 +0.4
comp=Z,0.8nm,0.9s,baz=7.1,slow=8.1,SNR=3.4

NEIC ***27*** *08:50:00.3±0.9, 17.72S×178.72W, h527km±10km, mb4.6/13, Error ellipse: s-maj=10.6km s-min=7.1km az=143.0*
BJI ***27*** *08:50:00.3, 17.70S×178.70W, h527km, mB4.4, mb4.7*
IDC ***27*** *08:50:00.9±1.1, 17.74S×178.69W, h532km±13km, mb3.8/18, mb1 3.9/20, mb1mx3.9/22, mbtmp4.7/20, Error ellipse: s-maj=12.7km s-min=10.1km az=137.0*
ISC 27 08:49:59.4±1.1, 17.76S±0.07×178.72W±0.07, h527km±14km, n105, σ0§98/57, mb4.3/31, 6C-14D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.70**	**61**	P	**P**	**08 51 54.1**	**-0.2**
	31nm,0.3s,baz=73,slow=7.3,SNR=32						
DZM	**Mont Dzumac**	**14.60**	**250**	*eP*	**P**	**08 53 06.0**	**+0.8**
DZM	**Mont Dzumac**	**14.60**	**250**	P	**P**	**08 53 06.7**	**+1.5**
	2.6nm,0.3s,baz=74,slow=17,SNR=39						
URZ	**Urewera**	**20.75**	**189**	P	**P**	**08 54 03.1**	**-1.2**
	3.0nm,0.3s,baz=312,slow=7.1,SNR=5.8						
RPZ	**Rata Peaks**	**27.29**	**196**	P	**P**	**08 55 02.1**	**-0.8**
	5.5nm,0.6s,mb4.3,baz=338,slow=5.4,SNR=3.9						
PPT	**Papeete**	**27.76**	**94**	P	**P**	**08 55 07.3**	**0.0**
	42nm,0.7s,mb5.2,baz=226,slow=4.0,SNR=8.8						
CTA	**Charters Tower**	**33.18**	**260**	⇓ *iP*	**P**	**08 55 53.8**	**+0.2**
	15nm,0.8s,mb4.6						
CTA	**Charters Tower**	**33.18**	**260**	P	**P**	**08 55 54.1**	**+0.5**
	17nm,0.6s,mb4.7,baz=82,slow=10.0,SNR=18						
CTAO	**Charters Tower**	**33.18**	**260**	*eP*	**P**	**08 55 53.4**	**-0.2**
	20nm,0.8s,mb4.7						
CNB	**Canberra Magne**	**33.29**	**232**	⇓ *iP*	**P**	**08 55 55.4**	**+1.1**
	51nm,0.7s,mb5.2						
PMG	**Port Moresby**	**34.15**	**280**	P	**P**	**08 56 02.9**	**+1.2**
	23nm,0.8s,mb4.7,baz=163,slow=6.6,SNR=5.0						
TOO	**Toolangi**	**37.04**	**230**	⇓ *iP*	**P**	**08 56 26.5**	**+1.1**
	36nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**38.45**	**241**	⇓ *iP*	**P**	**08 56 38.0**	**+1.1**
	16nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**08 56 38.0**	**+1.1**
	21nm,0.6s,mb4.8,baz=90,slow=9.4,SNR=39						
WB2	**Warramunga Arr**	**44.36**	**259**	⇓ *iP*	**P**	**08 57 23.3**	**-1.0**
WB2				*eS*	**S**	**09 03 14.4**	**-6.1**
WRAB	**Tennant Creek**	**44.36**	**259**	*eP*	**P**	**08 57 23.0**	**-1.2**
	13nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**44.37**	**259**	P	**P**	**08 57 23.8**	**-0.6**
	8.5nm,0.5s,mb4.5,baz=96,slow=7.2,SNR=31						
KAKA	**Kakadu**	**47.29**	**269**	⇓ *iP*	**P**	**08 57 49.4**	**+2.5**
	12nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**52.76**	**260**	⇓ *iP*	**P**	**08 58 26.7**	**-0.5**
	4.2nm,0.4s,mb4.1						
MBWA	**Marble Bar**	**57.83**	**256**	*eP*	**P**	**08 59 01.2**	**-1.2**
KLBR	**Kellerberrin**	**58.63**	**243**	⇓ *iP*	**P**	**08 59 06.4**	**-1.3**
	15nm,0.7s,mb4.3						
NWAO	**Narrogin (SRO)**	**59.02**	**242**	P	**P**	**08 59 09.3**	**-1.0**
VNDA	**Vanda**	**60.57**	**185**	P	**P**	**08 59 20.4**	**+0.5**
	1.2nm,0.7s,mb3.3,baz=345,slow=5.9,SNR=9.8						
JHJ	**Hachijo jima 2**	**64.27**	**322**	P	**P**	**08 59 44.0**	**-0.4**
	47nm,0.4s,mb5.3,baz=64,slow=15,SNR=5.3						
CASY	**Casey**	**66.15**	**205**	*eP*	**P**	**08 59 55.1**	**-0.5**
	3.3nm,0.6s,mb4.0						
MJAR	**Matsushiro Arr**	**67.61**	**323**	P	**P**	**09 00 04.3**	**-0.8**
	14nm,0.7s,mb4.6,baz=161,slow=6.8,SNR=27						
MAT	**Matsushiro**	**67.61**	**323**	*eP*	**P**	**09 00 04.0**	**-1.1**
MAT	**Matsushiro**	**67.61**	**323**	P	**P**	**09 00 04.2**	**-0.9**
FX1	**Attu Island--F**	**70.69**	**355**	P	**P**	**09 00 22.2**	**-0.9**
	22nm,0.6s,mb4.9,baz=202,slow=2.9,SNR=24						
FX1	**Attu Island--F**	**70.69**	**355**	*eP*	**P**	**09 00 21.8**	**-1.4**
ASAJ	**Asahikawa**	**71.00**	**332**	P	**P**	**09 00 25.9**	**+0.7**
	9.1nm,0.6s,mb4.5,baz=184,slow=4.1,SNR=7.7						
SSE	**Sheshan**	**75.42**	**310**	*eP*	**P**	**09 00 47.3**	**-3.2**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,80nm,6.7s						
SSE	**Sheshan**	**75.42**	**310**	*eP*	**P**	**09 00 47.3**	**-3.2**
	comp=Z,28nm,0.7s,mb4.8						
NJ2	**Nanjing**	**77.62**	**310**	*eP*	**P**	**09 01 04.3**	**+1.9**
NJ2				PP	PP	09 04 03.8	-3.6
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,620nm,5.2s						
MDJ	**Mudanjiang**	**77.89**	**325**	P	**P**	**09 01 04.0**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,94nm,5.2s						
MDJ	**Mudanjiang**	**77.89**	**325**	*eP*	**P**	**09 01 04.3**	**+0.7**
	comp=Z,10nm,0.8s,mb4.2						
NVAR	**Mina Array Bea**	**79.52**	**44**	P	**P**	**09 01 13.2**	**+0.8**
	comp=Z,1.3nm,0.7s,mb3.4,baz=214,slow=6.5,SNR=14						
CN2	**Changchun**	**79.72**	**322**	*eP*	**P**	**09 01 14.0**	**+0.7**
CN2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.3						
SLKM	**Skilak Lake**	**81.31**	**14**	*eP*	**P**	**09 01 20.4**	**-0.8**
SPU	**Mount Spurr**	**81.52**	**13**	*eP*	**P**	**09 01 21.2**	**-1.0**
ELK	**Elko**	**82.75**	**43**	P	**P**	**09 01 28.8**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.5						
MAW	**Mawson**	**83.90**	**200**	⇓ *iP*	**P**	**09 01 34.3**	**+0.4**
	comp=Z,1.9nm,0.5s,mb3.9						
MAW	**Mawson**	**83.90**	**200**	⇓ *iP*	**P**	**09 01 34.6**	**+0.7**
	comp=Z,2.7nm,0.6s,mb4.0,baz=118,slow=4.5,SNR=12						
HLID	**Hailey**	**84.71**	**41**	*eP*	**P**	**09 01 39.1**	**+0.6**
ILAR	**Eielson Array**	**85.81**	**13**	P	**P**	**09 01 42.0**	**-1.3**
	comp=Z,2.4nm,0.5s,mb4.1,baz=224,slow=5.1,SNR=28						
XAN	**Xi'an**	**85.94**	**308**	P	**P**	**09 01 45.5**	**+0.9**
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.5						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**09 01 47.7**	**+1.9**
	comp=Z,0.8nm,0.8s,mb3.4,baz=217,slow=6.3,SNR=9.6						
IMW	**Indian Meadow**	**87.07**	**42**	*eP*	**P**	**09 01 50.9**	**+1.2**
PDAR	**Pinedale Array**	**87.44**	**44**	P	**P**	**09 01 51.6**	**+0.1**
	comp=Z,0.9nm,0.5s,mb3.7,baz=220,slow=2.7,SNR=11						
SNAA	**Sanae**	**90.76**	**179**	⇑ *iP*	**P**	**09 02 05.9**	**-0.3**
SNAA				*e*		09 02 22.9	
SNAA				*e*		09 04 16.9	
VNA3	**Neumayer Olymp**	**90.91**	**176**	⇓ *iP*	**P**	**09 02 06.6**	**-0.3**
VNA3				*e*		09 02 23.5	
VNA3				*e*		09 04 11.3	
VNA2	**Neumayer--Watz**	**91.34**	**177**	⇓ *iP*	**P**	**09 02 08.9**	**-0.1**
VNA2				*e*		09 02 26.0	
VNA2				*e*		09 04 18.7	
VNA1	**Neumayer--Stat**	**91.57**	**177**	⇓ *iP*	**P**	**09 02 11.1**	**+1.1**
VNA1				*e*		09 02 28.2	
SONM	**Songino Array**	**93.25**	**319**	P	**P**	**09 02 18.2**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=134,slow=4.7,SNR=4.7						
YKA	**Yellowknife Ar**	**94.32**	**25**	P	**P**	**09 02 22.1**	**-0.7**
	comp=Z,0.8nm,0.7s,mb3.9,baz=246,slow=4.2,SNR=6.3						
YKA	**Yellowknife Ar**	**94.32**	**25**	P	**P**	**09 02 22.1**	**-0.7**
MKAR	**Makanchi Array**	**108.82**	**314**	PKiKP		09 07 28.1	
	comp=Z,0.5nm,0.5s,baz=208,slow=0.8,SNR=11						
ARCES	**ARCESS Array B**	**126.11**	**350**	PKP	PKPdf	09 08 00.2	-0.7
	comp=Z,3.0nm,1.1s,baz=45,slow=2.6,SNR=7.1						
FINES	**FINESS Array B**	**132.96**	**344**	PKP	PKPdf	09 08 12.7	-1.5
	comp=Z,0.5nm,0.5s,baz=108,slow=6.0,SNR=3.7						
FINES				SKPbc		09 10 52.4	
	comp=Z,3.6nm,0.8s,baz=135,slow=8.1,SNR=8.7						
AKASG	**Malin Array Be**	**140.29**	**332**	PKhKP		09 08 21.2	
	comp=Z,0.6nm,0.3s,baz=39,slow=3.8,SNR=5.5						
AKASG				PKP	PKPdf	09 08 30.2	+2.3
	comp=Z,0.7nm,0.5s,baz=20,slow=1.8,SNR=4.5						
AKASG				SKPbc		09 11 13.9	
	comp=Z,0.1nm,0.2s,baz=29,slow=2.9,SNR=18						
AKASG	**Malin Array Be**	**140.29**	**332**	PKP	PKPdf	09 08 21.2	-6.6
AKASG				PKP	PKPdf	09 08 30.2	+2.3
AKASG				SKPbc		09 11 13.9	
BSEG	**Bad Segeberg**	**143.22**	**351**	*e*PKPbc	PKPbc	09 08 32.2	+0.7
KWP	**Kalwaria**	**143.81**	**336**	*e*PKP	PKPdf	09 08 34.0	+0.2
KWP	**Kalwaria**	**143.81**	**336**	*e*PKP	PKPdf	09 08 34.0	+0.1
BURAR	**Bucovina Array**	**144.34**	**332**	⇑P	PKPdf	09 08 36.8	+1.9
BR131	**Keskin Array S**	**144.47**	**315**	*e*P	PKPdf	09 08 36.3	+1.0
BRTR	**Keskin Array B**	**144.47**	**315**	PKP	PKPdf	09 08 36.4	+1.0
	comp=Z,4.7nm,0.8s,baz=117,slow=8.3,SNR=22						
STHS	**Stebnicka Huta**	**144.54**	**337**	*e*PKP	PKPdf	09 08 36.3	+1.1
KOLS	**Kolonicke sedl**	**144.55**	**336**	*e*PKP	PKPdf	09 08 36.7	+1.5
KSP	**Ksiaz**	**144.88**	**343**	⇑ *i*PKP	PKPdf	09 08 37.8	+2.1
KSP	**Ksiaz**	**144.88**	**343**	*e*PKP	PKPdf	09 08 37.8	+2.1
CRVS	**Cervenica-Dubn**	**144.88**	**337**	*e*PKP	PKPdf	09 08 37.9	+2.1
TIRR	**Tirgusor**	**144.98**	**325**	⇓P	PKPdf	09 08 37.7	+1.6
CLZ	**Clausthal**	**145.24**	**350**	*e*PKPbc	PKPbc	09 08 38.6	+1.3
CLL	**Collm**	**145.25**	**347**	⇑ *i*PKP1	PKPbc	09 08 38.4	+1.0
UPC	**Upice**	**145.26**	**343**	*e*PKP	PKPdf	09 08 38.8	+2.4
DPC	**Dobruska-Polom**	**145.32**	**343**	*e*PKP	PKPdf	09 08 39.3	+2.8
BRG	**Berggiesshubel**	**145.45**	**346**	*i* PKP	PKPdf	09 08 39.1	+2.4
MLR	**Muntele Rosu**	**145.55**	**329**	⇑P	PKPdf	09 08 39.3	+2.2
KECS	**Kecovo**	**145.59**	**337**	*e*PKP	PKPdf	09 08 39.4	+2.4
PVCC	**Panska Ves**	**145.62**	**345**	*e*PKP	PKPdf	09 08 39.8	+2.8
VOIR		**146.03**	**329**	⇑P	PKPdf	09 08 43.3	+5.4
DRGR		**146.07**	**333**	⇓P	PKPdf	09 08 41.4	+3.5
PRU	**Pruhonice**	**146.12**	**345**	*e*PKP	PKPdf	09 08 40.5	+2.6
MOX	**Moxa**	**146.16**	**348**	*e*PKP	PKPdf	09 08 41.4	+3.5
VYHS	**Vyhne**	**146.17**	**339**	*e*PKP	PKPdf	09 08 40.8	+2.8
TNS	**Taunus Mts**	**147.10**	**352**	*e*PKPbc	PKPdf	09 08 43.8	+4.4
GRA1	**Grafenberg Arr**	**147.15**	**348**	*e*PKPbc	PKPdf	09 08 44.6	+5.1
GRF	**Grafenberg Arr**	**147.15**	**348**	*e*PKP	PKPdf	09 08 44.6	+5.1
KHC	**Kaspersky Hory**	**147.16**	**345**	*e*PKP	PKPdf	09 08 44.2	+4.7
KHC				*ex*	x	09 08 48.3	
GEC2	**GERESS Array S**	**147.39**	**345**	*e*PKPbc	PKPdf	09 08 44.6	+4.7
GERES	**GERESS Array B**	**147.39**	**345**	PKPbc	PKPdf	09 08 44.5	+4.6
	comp=Z,4.3nm,0.5s,slow=2.7,SNR=25						
BAIF	**Baives**	**147.69**	**356**	*e*PKP1	PKPdf	09 08 44.4	+4.0
BFO	**Black Forest**	**148.97**	**351**	*e*PKPbc	PKPdf	09 08 48.5	+6.0
CDF	**Champ du Feu**	**149.04**	**352**	*e*PKP1	PKPdf	09 08 47.7	+5.1
	comp=Z,5.1nm,0.5s						
FLN	**La Foliniere**	**149.04**	**2**	*e*PKP1	PKPdf	09 08 47.6	+5.0
	comp=Z,8.5nm,0.6s						
GRR	**Gorron**	**149.40**	**3**	*e*PKP1	PKPdf	09 08 48.7	+5.5
	comp=Z,8.8nm,0.4s						
HAU	**Haudompre**	**149.55**	**353**	*e*PKP1	PKPdf	09 08 48.9	+5.5
VOJS	**Vojsko**	**149.92**	**342**	*i* PKPbc	PKPdf	09 08 50.0	+6.0
BOJS	**Bojanci**	**149.98**	**340**	*i* PKPbc	PKPdf	09 08 51.0	+6.8
LOR	**Lormes**	**150.49**	**356**	*e*PKP1	PKPdf	09 08 51.2	+6.3
	comp=Z,9.7nm,0.4s						
SSF	**Saint Saulge**	**150.72**	**357**	*e*PKP1	PKPdf	09 08 51.7	+6.5
	comp=Z,10nm,0.4s						
MFF	**Saint Martin d**	**151.21**	**2**	*e*PKP1	PKPdf	09 08 52.6	+6.6
TCF	**Toulx Ste Croi**	**151.54**	**359**	*e*PKP1	PKPdf	09 08 53.3	+6.8
MBDF	**Montbardon**	**152.72**	**351**	*e*PKP1	PKPdf	09 08 56.5	+8.4
	comp=Z,7.0nm,0.6s						

NIED ***27*** *08:59:00, 33.30N×142.40E, h8km, Mw4.2 Best double couple: M0=2.04×10¹⁵ NP1:φs146°, δ74°, λ-95°. NP2: φs344°, δ16°, λ-73°.*
MOS ***27*** *08:59:54.9±1.2, 33.22N×142.54E, h33km, mb4.9/1, Error ellipse: s-maj=22.1km s-min=10.2km az=115.8*
BJI ***27*** *08:59:55.0, 33.20N×142.50E, h33km, mb4.8, Ms3.9*
JMA ***27*** *08:59:56.0±0.4, 33.25N×142.40E, h89km, M3.5*
NEIC ***27*** *08:59:57.6±0.6, 33.22N×142.51E, mb4.7/1, MW4.1(NIED), Error ellipse: s-maj=15.3km s-min=12.7km az=219.0*
IDC ***27*** *08:59:57.8±0.7, 33.19N×142.47E, h32km±4km, mb3.7/10, mb1 4.0/13, mb1mx3.9/22, mbtmp3.9/13, ML3.8/3, MS3.0/3, Ms1 3.0/3, ms1mx2.7/26, Error ellipse: s-maj=17.8km s-min=15.5km az=156.0*
ISC 27 08:59:55.7±0.5, 33.24N±0.05×142.45E±0.05, h33km, h33km±.3km: pP-P, n43, σ1§19/50, mb3.9/11, MS3.2/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.87**	**319**	P	**Pn**	**09 00 26.4**	**+0.5**
BSO1				*eS*	**Sn**	**09 00 49.9**	**+1.3**
JHJ2	**Mitsune**	**2.21**	**267**	P	**Pn**	**09 00 31.1**	**+0.2**
BSO3	**Boso 3**	**2.24**	**314**	P	**Pn**	**09 00 31.2**	**-0.1**
JHJ	**Hachijo jima 2**	**2.24**	**268**	Pn	**Pn**	**09 00 30.9**	**-0.4**
	86nm,0.3s,baz=157,slow=9.9,SNR=59						
JHJ				Sn	**Sn**	**09 00 57.6**	**-0.5**
	55nm,0.3s,baz=196,slow=23,SNR=6.0						
BSO4	**Boso 4**	**2.47**	**315**	P	**Pn**	**09 00 35.0**	**+0.4**
JIM2	**Oshima 3**	**2.91**	**301**	P	**Pn**	**09 00 39.6**	**-1.2**
JIM2				*eS*	**Sn**	**09 01 14.9**	**-0.2**
JYN	**Shimob**	**3.94**	**306**	P	**Pn**	**09 00 54.9**	**-0.5**
JYN				*eS*	**Sn**	**09 01 42.3**	**+1.2**
JAG	**Ashikaga**	**4.02**	**323**	P	**Pn**	**09 00 55.9**	**-0.7**
JRY	**Ryogami san**	**4.03**	**314**	P	**Pn**	**09 00 56.4**	**-0.3**
MJAR	**Matsushiro Arr**	**4.79**	**315**	Pn	**Pn**	**09 01 07.2**	**-0.4**
	3.1nm,0.3s,baz=157,slow=14,SNR=19						
MJAR				Sn	**Sn**	**09 02 01.6**	**-1.2**
	1.6nm,0.3s,baz=136,slow=39,SNR=3.3						
MAJO	**Matsushiro**	**4.80**	**315**	*eP*	**Pn**	**09 01 09.0**	**+1.4**
MAT	**Matsushiro**	**4.80**	**315**	*eP*	**Pn**	**09 01 07.0**	**-0.6**
MAT				*eS*	**Sn**	**09 01 57.0**	**-5.8**
MAT		**4.80**	**315**	P	**Pn**	**09 01 07.2**	**-0.4**
MAT	**Matsushiro**			S	**Sn**	**09 01 56.6**	**-6.2**
MAT	**Matsushiro**	**4.80**	**315**	P	**Pn**	**09 01 07.5**	**-0.1**
JMM	**Marumori**	**4.81**	**344**	P	**Pn**	**09 01 04.8**	**-3.0**
JMM				*eS*	**Sn**	**09 01 56.4**	**-6.6**
CBIJ	**Chichi jima**	**6.13**	**182**	Pn	**Pn**	**09 01 19.6**	**-6.9**
	11nm,0.3s,baz=88,slow=16,SNR=3.1						
CBIJ				Sn	**Sn**	**09 02 29.8**	**-6.4**
	28nm,0.3s,baz=272,slow=22,SNR=5.0						
JNU	**Nakatsue**	**9.70**	**272**	LR	LR	09 05 58.3	
	comp=Z,69nm,20.3s,baz=197,slow=37						
ASAJ	**Asahikawa**	**10.86**	**1**	P	**P**	**09 02 29.6**	**-2.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.86**	**1**	Pn	**P**	**09 02 29.6**	**-2.4**
	comp=Z,0.8nm,0.3s,baz=175,slow=11,SNR=3.9						
YSS	**Yuzh-Sakhalins**	**13.70**	**1**	*eP*	**P**	**09 03 16.0**	**+6.1**
JOW	**Kunigami**	**13.84**	**246**	LR	LR	09 07 54.0	
	comp=Z,61nm,20.9s,baz=316,slow=34						
WHN	**Wuhan**	**23.98**	**271**	P	**P**	**09 05 09.3**	**+1.1**
ENH	**Enshi**	**28.12**	**273**	P	**P**	**09 05 45.5**	**-1.2**
SONM	**Songino Array**	**30.72**	**309**	P	**P**	**09 06 10.6**	**+0.8**
	comp=Z,1.9nm,0.8s,mb4.0,baz=108,slow=8.8,SNR=11						
SONM				LR	LR	09 19 46.7	
	comp=Z,46nm,18.6s,MS3.2,baz=52,slow=39						
BOD	**Bodaibo**	**31.21**	**331**	*eP*	**P**	**09 06 14.2**	**+0.2**
ZAK	**Zakamensk**	**33.38**	**313**	*eP*	**P**	**09 06 31.8**	**-1.1**
KSM	**Kuching**	**43.67**	**230**	P	**P**	**09 08 01.3**	**+1.9**
MKAR	**Makanchi Array**	**46.93**	**305**	P	**P**	**09 08 25.9**	**+1.0**
	comp=Z,1.7nm,0.8s,mb4.1,baz=90,slow=8.5,SNR=13						
KURK	**Kurchatov**	**49.00**	**311**	*eP*	**P**	**09 08 41.6**	**+0.7**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
KURK	**Kurchatov**	**49.00**	**311**	*eP*	**P**	**09 08 41.6**	**+0.7**
	comp=Z,6.1nm,0.7s,mb4.7						
ILAR	**Eielson Array**	**52.27**	**31**	P	**P**	**09 09 05.0**	**-0.7**
	comp=Z,1.7nm,1.0s,mb3.9,baz=274,slow=6.2,SNR=11						
ILAR				pP	pP	09 09 15.1	-0.7
	comp=Z,1.5nm,0.7s,baz=278,slow=6.0,SNR=9.8						
WRAB	**Tennant Creek**	**53.44**	**190**	P	**P**	**09 09 12.9**	**-2.0**
WRA	**Warramunga Arr**	**53.45**	**190**	P	**P**	**09 09 13.7**	**-1.3**
	comp=Z,0.8nm,0.4s,mb4.0,baz=6.2,slow=7.8,SNR=14						
WRA				pP	pP	09 09 24.1	-1.0
	comp=Z,1.4nm,0.5s,baz=6.0,slow=7.9,SNR=7.7						
INK	**Inuvik**	**57.39**	**26**	*eP*	**P**	**09 09 39.8**	**-3.1**
YKA	**Yellowknife Ar**	**66.67**	**30**	P	**P**	**09 10 44.3**	**-0.5**
	comp=Z,1.1nm,0.8s,mb4.0,baz=298,slow=6.3,SNR=6.8						

comp=Z,1.0nm,0.3s,baz=101,slow=22,SNR=5.4
ASAJ LR LR 09 55 59.7
comp=Z,82nm,19.1s,baz=347,slow=43
SONM Songino Array 30.75 309 P **P 09 54 19.1 +1.4**
comp=Z,0.6nm,0.8s,mb3.5,baz=109,slow=8.3,SNR=4.7
MKAR Makanchi Array 46.95 305 P **P 09 56 33.9 +1.0**
comp=Z,0.8nm,0.9s,mb3.6,baz=104,slow=5.9,SNR=2.9
KURK Kurchatov 49.02 311 *e*P **P 09 56 48.7 -0.2**
KURK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
KURK Kurchatov 49.02 311 *e*P **P 09 56 48.7 -0.2**
comp=Z,2.8nm,0.9s,mb4.3
ILAR Eielson Array 52.29 31 P **P 09 57 12.3 -1.2**
comp=Z,1.3nm,0.8s,mb3.9,baz=270,slow=6.3,SNR=9.4
ILAR pP pP 09 57 22.4 -0.2
comp=Z,2.3nm,1.0s,baz=268,slow=5.9,SNR=7.5
WRA Warramunga Arr 53.42 190 P **P 09 57 21.3 -1.3**
comp=Z,1.0nm,0.8s,mb3.8,baz=11,slow=7.6,SNR=7.1
WRA pP pP 09 57 31.3 -0.4
comp=Z,1.3nm,0.8s,baz=7.7,slow=7.6,SNR=5.2
BRVK Borovoye 53.88 315 P **P 09 57 25.6 +0.2**
comp=Z,0.5nm,0.4s,mb3.8
YKA Yellowknife Ar 66.68 30 P **P 09 58 52.2 -0.5**
comp=Z,0.9nm,0.7s,mb3.9,baz=299,slow=6.6,SNR=7.9
YKA pP pP 09 59 02.1 +0.1
comp=Z,0.6nm,0.9s,baz=296,slow=6.2,SNR=3.8
YKA Yellowknife Ar 66.68 30 P **P 09 58 52.2 -0.5**
YKA pP pP 09 59 02.1 +0.1
FINES FINESS Array B 72.60 333 LR LR 10 35 51.3
comp=Z,25nm,19.9s,MS3.5,baz=164,slow=39
NB2 NORSAR Subarra 78.04 338 P **P 10 00 00.4 +0.5**
comp=Z,0.9nm,0.7s,mb3.8,baz=40,slow=5.6
NOA NORSAR Array B 78.04 338 P **P 10 00 00.6 +0.7**
comp=Z,1.1nm,0.7s,mb3.9,baz=40,slow=5.7,SNR=5.6
PDAR Pinedale Array 79.73 45 P **P 10 00 09.4 0.0**
comp=Z,0.3nm,0.7s,mb3.3,baz=315,slow=4.2,SNR=4.4
PDAR LR LR 10 37 14.9
comp=Z,16nm,18.0s,MS3.4,baz=250,slow=37
TXAR Lajitas Array 91.74 53 P **P 10 01 10.2 +0.9**
comp=Z,0.5nm,0.7s,mb4.0,baz=317,slow=4.2,SNR=4.5
SIV San Ignacio 152.68 57 PKPbc PKPdf 10 07 59.8 +4.7
comp=Z,0.7nm,0.8s,baz=270,slow=1.0,SNR=5.2
SIV pPKPbc 10 08 09.4
comp=Z,0.6nm,0.5s,baz=279,slow=19,SNR=3.0
PLCA Paso Flores 152.69 115 PKPbc PKPdf 10 07 57.8 +3.3
comp=Z,1.9nm,0.9s,baz=252,slow=3.2,SNR=3.4

*JMA **27** 09:54:52.1±0.6, 33.27N×142.36E, M3.4*
*IDC **27** 09:54:52.6±2.4, 33.08N×142.36E, mb3.3/2, mb1 3.4/4, mb1mx3.3/21, mbtmp3.3/4, ML3.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/13, Error ellipse: s-maj=49.6km s-min=29.0km az=48.0*
ISC 27 09:54:52.9±2.3, 33.22N±0.07×142.5E±0.1, h17km±20km, n16, σ0°82/20, mb3.5/3, 2C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BSO1	**Boso 1**	**1.89**	**320**	P		**Pn**	**Pn**	**09 55 24.7**	**-0.1**
BSO1				*e*S		Sn	**Sn**	**09 55 49.6**	**+1.3**
JHJ2	**Mitsune**	**2.21**	**268**	P		**Pn**	**Pn**	**09 55 30.2**	**+0.7**
JHJ	**Hachijo jima 2**	**2.24**	**268**	Pn		**Pn**	**Pn**	**09 55 29.9**	**+0.1**
	36nm,0.3s,baz=75,slow=19,SNR=11								
JHJ				Sn		**Sn**	**Sn**	**09 55 57.0**	**-0.4**
	15nm,0.3s,baz=45,slow=18,SNR=3.4								
BSO3	**Boso 3**	**2.26**	**315**	P		**Pn**	**Pn**	**09 55 30.5**	**+0.3**
BSO4	**Boso 4**	**2.49**	**316**	P		**Pn**	**Pn**	**09 55 34.0**	**+0.5**
JIM2	**Oshima 3**	**2.92**	**302**	P		**Pn**	**Pn**	**09 55 38.7**	**-0.9**
JIM2				*e*S		**Sn**	**Sn**	**09 56 14.7**	**0.0**
JYN	**Shimob**	**3.95**	**306**	P		**Pn**	**Pn**	**09 55 54.8**	**+0.5**
JYN				S		**Sn**	**Sn**	**09 56 40.7**	**0.0**
JAG	**Ashikaga**	**4.04**	**323**	P		**Pn**	**Pn**	**09 55 55.1**	**-0.4**
JAG				*e*S		**Sn**	**Sn**	**09 56 40.2**	**-2.8**
JRY	**Ryogami san**	**4.05**	**315**	P		**Pn**	**Pn**	**09 55 55.1**	**-0.5**
MJAR	**Matsushiro Arr**	**4.81**	**315**	Pn		**Pn**	**Pn**	**09 56 06.1**	**-0.4**
	1.1nm,0.3s,baz=155,slow=14,SNR=9.1								
MAT	**Matsushiro**	**4.81**	**315**	P		**Pn**		**09 56 06.8**	**+0.3**
JMM	**Marumori**	**4.83**	**344**	*e*S		**Sn**		**09 56 54.9**	**-8.1**
SONM	**Songino Array**	**30.74**	**309**	LR		LR		10 12 58.8	
	comp=Z,24nm,18.2s,baz=98,slow=35								
MKAR	**Makanchi Array**	**46.94**	**305**	P		**P**		**10 03 25.0**	**+0.6**
	0.3nm,0.7s,mb3.4,baz=90,slow=7.2,SNR=2.8								
WRA	**Warramunga Arr**	**53.42**	**190**	P		**P**		**10 04 13.0**	**-1.2**
	0.2nm,0.4s,mb3.4,baz=6.1,slow=7.6,SNR=4.6								
KK31	**Karatay Array**	**55.84**	**303**	||P		**P**		**10 04 32.9**	**+1.3**
	0.4nm,0.4s,mb3.8,baz=161,slow=12,SNR=5.1								
KK31				||S		PcP	10 05 37.4	+7.1
	0.7nm,0.3s,baz=176,slow=23								

*NEIC **27** 09:56:36.6±8.0, 33.20N×142.51E, h18km±49km, mb4.3/2, Error ellipse: s-maj=22.2km s-min=15.6km az=95.0*
*JMA **27** 09:56:37.2±0.3, 33.26N×142.43E, h93km, M3.3*
*IDC **27** 09:56:38.9±1.0, 33.22N×142.48E, h31km±6km, mb3.6/8, mb1 3.9/10, mb1mx3.7/20, mbtmp3.7/10, ML3.5/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/29, Error ellipse: s-maj=21.5km s-min=18.1km az=175.0*
ISC 27 09:56:36.2±2.1, 33.18N±0.04×142.44E±0.06, h28km±16km, h32km±2km: pP-P, n31, σ0°96/36, mb3.8/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BSO1	**Boso 1**	**1.91**	**321**	P		**Pn**	**Pn**	**09 57 08.0**	**+0.5**
BSO1				*e*S		**Sn**	**Sn**	**09 57 31.4**	**+0.6**
JHJ2	**Mitsune**	**2.20**	**269**	P		**Pn**	**Pn**	**09 57 12.5**	**+0.8**
JHJ2				*e*S		**Sn**	**Sn**	**09 57 39.7**	**+1.4**
JHJ	**Hachijo jima 2**	**2.23**	**269**	Pn		**Pn**	**Pn**	**09 57 12.6**	**+0.5**
	35nm,0.3s,baz=244,slow=22,SNR=6.6								
JHJ				Sn		**Sn**	**Sn**	**09 57 38.6**	**-0.3**
	61nm,0.3s,baz=200,slow=20,SNR=7.3								
JHJ				LR		LR	LR	09 57 43.6	
	comp=Z,530nm,21.3s,baz=14,slow=29								
BSO3	**Boso 3**	**2.28**	**316**	*e*S		**Sn**	**Sn**	**09 57 39.9**	**-0.3**
BSO4	**Boso 4**	**2.52**	**317**	P		**Pn**	**Pn**	**09 57 16.3**	**+0.2**
BSO4				*e*S		**Sn**	**Sn**	**09 57 47.3**	**+1.1**
JIM2	**Oshima 3**	**2.94**	**302**	P		**Pn**	**Pn**	**09 57 22.1**	**0.0**
JIZS	**Izushimoda**	**3.34**	**298**	*e*S		**Sn**	**Sn**	**09 58 05.4**	**-1.6**
JYN	**Shimob**	**3.97**	**307**	P		**Pn**	**Pn**	**09 57 37.5**	**+0.7**
JAG	**Ashikaga**	**4.07**	**324**	P		**Pn**	**Pn**	**09 57 37.1**	**-1.1**
JRY	**Ryogami san**	**4.07**	**315**	P		**Pn**	**Pn**	**09 57 38.2**	**0.0**
MJAR	**Matsushiro Arr**	**4.84**	**315**	Pn		**Pn**	**Pn**	**09 57 49.1**	**0.0**
	2.2nm,0.3s,baz=161,slow=13,SNR=12								
MJAR				Sn		**Sn**	**Sn**	**09 58 42.2**	**-2.6**
	2.3nm,0.3s,baz=131,slow=11,SNR=4.5								
MAJO	**Matsushiro**	**4.84**	**315**	*e*P		**Pn**		**09 57 48.0**	**-1.1**
MAT	**Matsushiro**	**4.84**	**315**	P		**Pn**		**09 57 49.0**	**-0.1**
MAT				*e*S		**Sn**		**09 58 40.0**	**-4.9**
MAT	**Matsushiro**	**4.84**	**315**	P		**Pn**		**09 57 48.9**	**-0.2**
MAT				S		**Sn**		**09 58 39.8**	**-5.1**
CBIJ	**Chichi jima**	**6.06**	**182**	Sn		**Sn**		**09 59 14.6**	**-1.1**
	7.0nm,0.3s,baz=287,slow=19,SNR=2.5								
ASAJ	**Asahikawa**	**10.93**	**1**	Pn		**P**		**09 59 08.6**	**-5.2**
	0.8nm,0.3s,baz=246,slow=10.0,SNR=5.1								
JOW	**Kunigami**	**13.80**	**246**	LR		LR		10 04 46.8	
	comp=Z,20nm,18.7s,baz=281,slow=35								
SONM	**Songino Array**	**30.76**	**309**	P		**P**		**10 02 52.7**	**+1.5**
	0.6nm,0.7s,mb3.6,baz=110,slow=7.8,SNR=5.0								
MKAR	**Makanchi Array**	**46.96**	**305**	P		**P**		**10 05 07.1**	**+0.9**
	0.2nm,0.5s,mb3.3,baz=85,slow=10,SNR=3.6								
KURK	**Kurchatov**	**49.03**	**311**	*e*P		**P**		**10 05 20.7**	**-1.6**
	1.3nm,0.7s,mb4.1								
ILAR	**Eielson Array**	**52.34**	**31**	P		**P**		**10 05 46.2**	**-1.1**
	0.9nm,0.7s,mb3.8,baz=262,slow=6.5,SNR=10								
ILAR				pP		pP		10 05 56.0	0.0
	1.2nm,0.8s,baz=266,slow=5.8,SNR=7.5								
WRAB	**Tennant Creek**	**53.37**	**190**	*e*P		**P**		**10 05 55.6**	**0.0**
	6.8nm,1.1s,mb4.5								
WRA	**Warramunga Arr**	**53.38**	**190**	P		**P**		**10 05 55.1**	**-0.6**
	1.1nm,0.7s,mb3.9,baz=6.9,slow=7.5,SNR=9.7								
WRA				PcP		PcP		10 07 04.0	+1.3
	0.8nm,0.7s,baz=3.2,slow=3.8,SNR=5.7								
YKA	**Yellowknife Ar**	**66.73**	**30**	P		**P**		**10 07 25.8**	**-0.6**
	0.8nm,0.7s,mb3.9,baz=294,slow=6.7,SNR=5.7								
YKA				pP		pP		10 07 36.0	+0.7
	0.8nm,0.8s,baz=300,slow=6.8,SNR=5.3								
YKA	**Yellowknife Ar**	**66.73**	**30**	P		**P**		**10 07 25.8**	**-0.6**
YKA				pP		pP		10 07 36.0	+0.7
NB2	**NORSAR Subarra**	**78.07**	**338**	P		**P**		**10 08 33.9**	**+0.5**
	0.5nm,0.5s,mb3.7,baz=39,slow=5.6								
NOA	**NORSAR Array B**	**78.07**	**338**	P		**P**		**10 08 33.9**	**+0.5**
	0.9nm,0.6s,mb3.9,baz=38,slow=5.5,SNR=5.2								
PDAR	**Pinedale Array**	**79.77**	**45**	P		**P**		**10 08 44.2**	**+1.2**
	0.3nm,0.7s,mb3.4,baz=318,slow=2.3,SNR=4.1								

TXAR	**Lajitas Array**	**91.78**	**53**	P		**P**		**10 09 44.1**	**+1.4**
	0.6nm,0.6s,mb4.1,baz=307,slow=2.7,SNR=6.6								
TXAR				pP		pP		10 09 54.5	+2.6
	0.4nm,0.6s,baz=270,slow=3.6,SNR=3.0								
TXAR	**Lajitas Array**	**91.78**	**53**	P		**P**		**10 09 44.1**	**+1.4**
TXAR				pP		pP		10 09 54.5	+2.6
LPAZ	**La Paz**	**147.70**	**66**	PKPbc		PKPdf		10 16 20.1	-0.7
	0.6nm,0.7s,baz=272,slow=3.5,SNR=3.9								

JMA 27 09:59:43.5±0.6, 33.35N×142.46E, h21km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JHJ2	**Mitsune**	**2.23**	**265**	P		Pn		10 00 20.5	+0.5
JHJ2				*e*S		Sn		10 00 47.8	+0.7
JHO	**Hitachi**	**3.60**	**335**	P		Pn		10 00 39.3	-0.3
JHO				*e*S		Sn		10 01 19.3	-2.7
JHU	**Hanno**	**3.62**	**314**	*e*S		Sn		10 01 21.9	-0.5
JYN	**Shimob**	**3.88**	**305**	S		Sn		10 01 30.5	+1.5
JAG	**Ashikaga**	**3.94**	**322**	P		Pn		10 00 45.6	+1.3

*KRSC **27** 10:07:48.0±1.1, 53.28N×169.79E, h32km±15km, ML4.2*
*IDC **27** 10:07:52.6±4.2, 51.40N×175.05E, mb3.4/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.4/3, Error ellipse: s-maj=80.7km s-min=15.3km az=28.0*
ISC 27 10:07:48.7±0.5, 53.33N±0.06×169.53E±0.04, h33km, n28, σ1°35/51, mb3.6/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
FX1	**Attu Island--F**	**2.24**	**100**	Pn		**Pn**	**Pn**	**10 08 23.7**	**-0.6**
	100nm,0.3s,baz=210,slow=1.9,SNR=762								
FX1				Sn		**Sn**		**10 08 49.5**	**-1.6**
	406nm,0.3s,baz=326,slow=23,SNR=26								
BKI	**Bering**	**2.81**	**313**	*e*P		**P**		**10 08 33.4**	**+1.1**
BKI				*e*S		**S**		**10 09 06.8**	**+1.4**
BKI				Smax					
	190nm,0.7s								
MKZ	**Mys Kozlova**	**4.77**	**288**	*i* P		**P**		**10 09 00.4**	**+0.2**
MKZ				*i* S		**S**		**10 09 52.9**	**-2.1**
KBTR	**Krutoberegovo**	**4.84**	**309**	*i* P		**P**		**10 09 00.9**	**-0.3**
KBTR				*e*S		**S**		**10 09 56.8**	**0.0**
SPN	**Mys Shipunski**	**5.72**	**272**	*e*S		**S**		**10 10 17.5**	**-1.4**
TUMR	**Tumrok**	**5.83**	**293**	*e*P		**P**		**10 09 16.7**	**+1.6**
TUMR				*e*S		**S**		**10 10 21.6**	**-0.1**
KMNR	**Kamenistaya**	**5.93**	**298**	*e*P		**P**		**10 09 18.5**	**+2.0**
KMNR				*e*S		**S**		**10 10 24.2**	**0.0**
KII	**Karymskiy**	**6.03**	**281**	*e*P		**P**		**10 09 18.6**	**+0.7**
KII				*e*S		**S**		**10 10 26.0**	**-0.8**
NLC	**Nalytchevo**	**6.12**	**273**	*i* P		**P**		**10 09 19.8**	**+0.7**
NLC				*i* S		**S**		**10 10 26.3**	**-2.5**
KOZ	**Kozyrevsk**	**6.23**	**300**	*e*P		**P**		**10 09 22.4**	**+1.7**
KOZ				*e*S		**S**		**10 10 31.1**	**-0.6**
SDLR	**Sedlovina**	**6.38**	**274**	*i* P		**P**		**10 09 24.1**	**+1.2**
SDLR				*e*S		**S**		**10 10 34.2**	**-1.3**
SRDR	**Sredinnyy**	**6.41**	**302**	*e*P		**P**		**10 09 23.6**	**+0.3**
SRDR				*e*S		**S**		**10 10 34.8**	**-1.4**
UGLR	**Uglovaya**	**6.43**	**273**	*e*P		**P**		**10 09 24.4**	**+0.9**
UGLR				*e*S		**S**		**10 10 35.4**	**-1.1**
SMAR	**Somma**	**6.43**	**274**	*e*P		**P**		**10 09 24.6**	**+1.0**
SMAR				*e*S		**S**		**10 10 35.8**	**-0.9**
AVH	**Avacha**	**6.47**	**274**	*i* P		**P**		**10 09 25.3**	**+1.2**
AVH				*e*S		**S**		**10 10 36.3**	**-1.4**
KOK	**Koryaka**	**6.53**	**274**	*e*P		**P**		**10 09 25.8**	**+0.9**
KOK				*e*S		**S**		**10 10 38.0**	**-1.1**
PET	**Petropavlovsk**	**6.55**	**272**	*i* P		**P**		**10 09 26.9**	**+1.7**
PET				*e*S		**S**		**10 10 38.6**	**-1.0**
RUS	**Russkaya**	**6.73**	**267**	*e*P		**P**		**10 09 28.5**	**+0.8**
RUS				*e*S		**S**		**10 10 40.4**	**-3.7**
ESO	**Esso**	**6.80**	**297**	*e*P		**P**		**10 09 31.1**	**+2.3**
ESO				*e*S		**S**		**10 10 45.5**	**-0.5**
GNL	**Ganaly**	**6.92**	**278**	*e*P		**P**		**10 09 31.8**	**+1.4**
GNL				*e*S		**S**		**10 10 47.1**	**-1.8**
GRL	**Gorelyy**	**6.97**	**268**	*e*P		**P**		**10 09 33.5**	**+2.4**
GRL				*e*S		**S**		**10 10 50.6**	**+0.5**
APC	**Apacha**	**7.46**	**272**	*e*P		**P**		**10 09 40.1**	**+2.2**
APC				*e*S		**S**		**10 11 01.9**	**-0.3**
PAU	**Pauzhetka**	**8.00**	**262**	*e*P		**P**		**10 09 47.5**	**+2.1**
PAU				*e*S		**S**		**10 11 14.8**	**-1.0**
ALID	**Alaid**	**8.95**	**260**	*e*P		**P**		**10 10 00.1**	**+1.4**
ALID				*e*S		**S**		**10 11 35.9**	**-3.5**
ILAR	**Eielson Array**	**24.61**	**45**	P		**P**		**10 13 04.8**	**-1.9**
	0.7nm,0.5s,mb3.4,baz=248,slow=7.2,SNR=12								
YKA	**Yellowknife Ar**	**39.04**	**46**	P		**P**		**10 15 11.5**	**-2.0**
	0.4nm,0.5s,mb3.4,baz=294,slow=8.2,SNR=4.3								
PDAR	**Pinedale Array**	**52.33**	**67**	pP		**P**		**10 16 58.0**	**-1.0**
	0.3nm,0.4s,mb3.6,baz=285,slow=2.7,SNR=5.1								
TXAR	**Lajitas Array**	**65.22**	**74**	pP		**P**		**10 18 26.0**	**-2.8**
	1.1nm,0.6s,mb4.1,baz=304,slow=5.1,SNR=8.9								

NEIC 27 10:09:10.6, 52.42N×170.05W, h17km, ML3.6(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
NIKO	**Nikolski**	**0.92**	**52**	P		Pb		10 09 24.9	-2.8
NIKO				S		Sb		10 09 35.7	-3.7
OKCE	**Okmok Cone E**	**1.53**	**48**	P		Pn		10 09 35.1	-2.3
OKCE				S		Sn		10 09 56.8	-0.2
OKCD	**Okmok Cone D**	**1.55**	**48**	P		Pn		10 09 35.7	-2.1
OKER	**East Rim**	**1.59**	**49**	P		Pn		10 09 36.4	-2.0
OKER				S		Sn		10 09 57.5	-1.2
MCIR	**Makushin Cirqu**	**2.44**	**50**	P		Pn		10 09 48.5	-2.1
MSW	**Makushin Switc**	**2.47**	**51**	P		Pn		10 09 48.7	-2.3
MNAT	**Makushin Natee**	**2.50**	**53**	P		Pn		10 09 49.0	-2.4
ATKA	**Atka Island**	**2.55**	**267**	P		Pn		10 09 49.3	-2.8
ATKA				S		Sn		10 10 18.5	-4.6
MTBL	**Makushin Table**	**2.56**	**51**	P		Pn		10 09 50.1	-2.1
UNV	**Unalaska Valle**	**2.57**	**55**	P		Pn		10 09 49.5	-2.9
UNV				S		Sn		10 10 19.5	-4.1
LVA	**Lava Point**	**2.98**	**52**	P		Pn		10 09 56.6	-1.6
AKGG	**Akutan Green G**	**3.02**	**52**	P		Pn		10 09 57.0	-1.8
AHB	**Akutan Harbor**	**3.06**	**55**	P		Pn		10 09 57.2	-2.1
AKUT	**Akutan**	**3.09**	**54**	P		Pn		10 09 57.8	-2.7
AKUT				S		Sn		10 10 35.1	-1.6
GSTR	**Great Sitkin T**	**3.71**	**267**	P		Pn		10 10 06.0	-2.5
GSMY	**Great Sitkin M**	**3.71**	**267**	P		Pn		10 10 06.1	-2.5
GSTD	**Great Sitkin T**	**3.77**	**267**	P		Pn		10 10 06.6	-2.8
GSTD				S		Sn		10 10 50.0	-3.8
WFAR	**Faris Peak**	**3.80**	**54**	P		Pn		10 10 07.8	-2.1
WESN	**West Dahl Nort**	**3.91**	**54**	P		Pn		10 10 09.5	-2.0
ADAG	**Mount Adagdak**	**4.05**	**266**	P		Pn		10 10 11.1	-2.4
WTUG	**Tugumak**	**4.16**	**52**	P		Pn		10 10 12.2	-2.8
KINC	**Kanaga Island**	**4.38**	**266**	P		Pn		10 10 15.5	-2.6
KIKV	**Kanaga Island**	**4.42**	**266**	P		Pn		10 10 16.0	-2.6
KIMD	**Kanaga Island**	**4.48**	**264**	P		Pn		10 10 17.1	-2.4
SPIA	**Saint Paul Isl**	**4.77**	**359**	P		Pn		10 10 20.6	-3.0
DTNA	**Dutton South F**	**5.37**	**56**	P		Pn		10 10 30.0	-2.1
DOL	**Dolgoi Island**	**5.57**	**57**	P		Pn		10 10 32.5	-2.4
SDPT	**Sand Point**	**6.38**	**59**	P		Pn		10 10 43.0	-3.2

*JMA **27** 10:11:07.1±0.5, 33.30N×142.29E, M3.2*
*IDC **27** 10:11:10.1±1.0, 33.16N×142.62E, h32km±7km, mb3.3/4, mb1 3.6/6, mb1mx3.4/20, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=26.3km s-min=20.4km az=122.0*
ISC 27 10:11:08.7±1.4, 33.26N±0.06×142.49E±0.08, h39km±15km, h33km±3km: pP-P, n18, σ0°99/27, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BSO1	**Boso 1**	**1.88**	**318**	P		**P**		**10 11 38.7**	**-0.2**
BSO1				*e*S		**S**		**10 12 02.2**	**+0.6**
BSO2	**Boso 2**	**2.07**	**316**	*e*S		**S**		**10 12 08.1**	**+1.5**
JHJ2	**Mitsune**	**2.25**	**267**	P		**P**		**10 11 44.2**	**-0.1**
JHJ2				*e*S		**S**		**10 12 11.4**	**+0.4**
BSO3	**Boso 3**	**2.25**	**314**	P		**P**		**10 11 44.5**	**+0.2**
BSO3				*e*S		**S**		**10 12 11.7**	**+0.6**
JHJ	**Hachijo jima 2**	**2.28**	**267**	Pn		**P**		**10 11 44.6**	**-0.1**
	21nm,0.3s,baz=95,slow=16,SNR=12								
JHJ				Sn		**S**		**10 12 10.7**	**-1.1**
	22nm,0.3s,baz=84,slow=21,SNR=4.2								
BSO4	**Boso 4**	**2.48**	**315**	P		**P**		**10 11 48.8**	**+1.1**
BSO4				*e*S		**S**		**10 12 15.7**	**-1.3**
JIM2	**Oshima 3**	**2.93**	**301**	*e*S		**S**		**10 12 29.0**	**+0.7**
JYN	**Shimob**	**3.96**	**305**	*e*S		**S**		**10 12 54.7**	**+0.4**
JAG	**Ashikaga**	**4.03**	**322**	P		**P**		**10 12 09.0**	**-0.6**

JAG				*e*S		**S**		**10 12 53.2**	**-3.0**
JRY	**Ryogami san**	**4.04**	**314**	P		**P**		**10 12 10.7**	**+0.9**
JRY				*e*S		**S**		**10 12 56.5**	**0.0**
JMM	**Marumori**	**4.80**	**344**	*e*S		**S**		**10 13 08.3**	**-7.3**
MJAR	**Matsushiro Arr**	**4.81**	**314**	Pn		**P**		**10 12 21.0**	**+0.3**
	1.3nm,0.3s,baz=198,slow=22,SNR=11								
MAT	**Matsushiro**	**4.81**	**314**	P		**P**		**10 12 21.0**	**+0.4**
MAT				*e*S		**S**		**10 13 13.8**	**-2.1**
JMK	**Ichinoseki**	**5.77**	**350**	P		**P**		**10 12 32.9**	**-1.2**
JMK				*e*S		**S**		**10 13 32.6**	**-7.4**
SONM	**Songino Array**	**30.74**	**309**	P		**P**		**10 17 25.2**	**+2.9**
	0.1nm,0.3s,mb3.1,baz=90,slow=10,SNR=3.1								
ILAR	**Eielson Array**	**52.24**	**31**	P		**P**		**10 20 18.0**	**+0.3**
	0.5nm,0.7s,mb3.6,baz=254,slow=7.2,SNR=5.2								
ILAR				pP		pP		10 20 28.0	-1.0
	0.7nm,0.8s,baz=271,slow=6.5,SNR=5.8								
WRA	**Warramunga Arr**	**53.47**	**190**	P		**P**		**10 20 26.7**	**-0.8**
	0.2nm,0.5s,mb3.3,baz=7.8,slow=7.6,SNR=5.3								
WRA				pP		pP		10 20 36.8	-2.1
	0.3nm,0.5s,baz=5.2,slow=7.5,SNR=3.0								
YKA	**Yellowknife Ar**	**66.64**	**30**	P		**P**		**10 21 56.8**	**-0.1**
	0.3nm,0.5s,mb3.6,baz=296,slow=6.4,SNR=3.8								
YKA				pP		pP		10 22 06.8	-1.8
	0.5nm,0.8s,baz=292,slow=6.7,SNR=3.6								

GUC 27 10:13:44.1±0.4, 31.21S×68.53W, h136km±21km, MD3.9, ML4.0, 2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
CMCH	**Combarbala**	**2.12**	**270**	||*i*P		P	10 14 20.3	0.0
CMCH				*i* S			S	10 14 48.1	+0.2
CMCH				AMP				10 14 50.1	
	comp=E,4μm,0.7s								
TLL	**Tololo Astrono**	**2.22**	**297**	*e*P		P		10 14 22.1	+0.5
TLL				*i* S		S		10 14 51.0	+0.8
TLL				AMP				10 14 56.7	
	comp=N,839nm,0.5s								
FCH	**Farellones**	**2.58**	**215**	*e*P		P		10 14 26.8	+0.5
FCH				*i* S		S		10 14 59.3	+0.9
CLCH	**Cerro Calan**	**2.76**	**217**	*e*P		P		10 14 28.8	+0.2
CLCH				*i* S		S		10 15 02.4	-0.1
CLCH				AMP				10 15 06.8	
	comp=E,117nm,0.5s								
RCDM	**Rinconada Maip**	**2.98**	**220**	||*i*P		P	10 14 31.4	-0.1
RCDM				*i* S			S	10 15 07.3	-0.1

*JMA **27** 10:14:38.8±0.4, 33.33N×142.55E, h40km, M3.6*
*IDC **27** 10:14:38.2±2.5, 32.97N×142.38E, mb3.5/2, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, ML3.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/15, Error ellipse: s-maj=53.9km s-min=28.3km az=48.0*
ISC 27 10:14:40.0±2.6, 33.4N±0.1×142.5E±0.2, h53km±32km, n7, σ0°74/10, mb3.5/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JHJ2	**Mitsune**	**2.27**	**264**	P		**P**		**10 15 15.6**	**-0.3**
JHJ2				*e*S		**S**		**10 15 42.8**	**+0.1**
JHJ	**Hachijo jima 2**	**2.29**	**265**	Pn		**P**		**10 15 15.5**	**-0.8**
	30nm,

NOA				Sn	Sn	10 32 37.5	-12
	comp=Z,0.3nm,0.3s,baz=139,slow=8.8,SNR=3.8						
NOA				Lg		10 33 18.6	
	comp=Z,0.5nm,0.3s,baz=80,slow=10,SNR=5.3						
HFS	**Hagfors**	**7.68**	**206**	Pn	Pn	10 31 24.4	-3.9
	baz=359,slow=16						
HFS				Sn	Sn	10 32 49.0	-8.0
	baz=18,slow=22						
HFS				Lg		10 33 32.6	
	baz=33,slow=28						
HFS	**Hagfors**	**7.68**	**206**	*e*P	Pn	10 31 24.4	-3.9
HFS				*e*S	Sn	10 32 49.0	-8.0
HFS				*e*		10 33 32.6	
HFS	**Hagfors**	**7.68**	**206**	Pn	Pn	10 31 24.4	-3.9
	comp=Z,0.1nm,0.3s,baz=36,slow=13,SNR=5.9						
HFS				Sn	Sn	10 32 49.2	-7.8
	comp=Z,0.1nm,0.3s,baz=30,slow=21,SNR=6.2						
HFS				Lg		10 33 32.8	
	comp=Z,0.1nm,0.3s,baz=39,slow=28,SNR=2.6						

IGQ 27 10:36:13.6, 1.27S×81.04W, h12km±21km, mb4.2, 1D, Error ellipse: s-maj=21.8km s-min=6.2km az=168.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QIL1	**Quilotoa**	**2.15**	**79**	P	Pn	10 36 50.6	+0.8
CUSU	**Cusua**	**2.56**	**94**	P	Pn	10 36 58.1	+2.4
JUIV	**Juive**	**2.58**	**93**	P	Pn	10 36 58.0	+2.0
ARRY	**Arrayan**	**2.59**	**95**	⇓P	Pn	10 36 56.4	+0.2
ARRY				S	Sn	10 37 29.1	+1.2
CAMI	**Rancho Maria**	**2.60**	**77**	P	Pn	10 36 59.3	+3.0
RUN5	**Runtun**	**2.62**	**93**	P	Pn	10 36 58.8	+2.3
ULBA	**Ulba**	**2.64**	**94**	P	Pn	10 36 57.9	+1.1
ULBA				S	Sn	10 37 35.6	+6.6
NAS1	**Nasa**	**2.64**	**76**	P	Pn	10 37 00.0	+3.2
PISA	**Pisayambo**	**2.66**	**86**	P	Pn	10 37 00.1	+2.9
TERV	**Terraza Guagua**	**2.67**	**66**	P	Pn	10 36 58.4	+1.2
PINO	**Pino**	**2.67**	**66**	P	Pn	10 36 59.3	+2.0
GGP	**Refugio Guagua**	**2.67**	**66**	P	Pn	10 36 59.1	+1.8
VC1	**Cotopaxi 1**	**2.71**	**77**	P	Pn	10 37 00.5	+2.7
JOR1	**San Jorge 1**	**2.71**	**62**	P	Pn	10 36 58.0	+0.1
YANA	**Yana**	**2.72**	**65**	P	Pn	10 36 59.4	+1.4
TAMB	**Tambo**	**2.73**	**78**	P	Pn	10 37 00.7	+2.6
CAYR	**Refugio Cayamb**	**3.29**	**67**	P	Pn	10 37 10.2	+4.1
CAYR				S	Sn	10 37 55.2	+10
LORE	**San Lorenzo**	**3.36**	**41**	P	Pn	10 37 13.9	+6.8
ECEN	**Cerro Negro**	**3.71**	**56**	P	Pn	10 37 15.6	+3.6

IDC ***27*** *10:37:03.1±1.1, 33.18N×142.62E, mb3.6/7, mb1 3.8/9, mb1mx3.7/20, mbtmp3.6/9, ML3.3/2, Error ellipse: s-maj=26.8km s-min=23.0km az=163.0*

JMA ***27*** *10:37:07.5±0.6, 33.33N×142.41E, h93km, M3.1*

ISC 27 10:37:06.8±0.8, 33.32N±0.07×142.49E±0.07, h33km, n19, σ0§89/22, mb3.5/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.83**	**317**	P	**P**	**10 37 37.4**	**+1.1**
BSO3	**Boso 3**	**2.21**	**313**	P	**P**	**10 37 42.2**	**+0.4**
JHJ2	**Mitsune**	**2.25**	**265**	P	**P**	**10 37 42.4**	**0.0**
JHJ2				*e*S	**S**	**10 38 09.2**	**0.0**
JHJ	**Hachijo jima 2**	**2.28**	**266**	Pn	**Pn**	**10 37 42.5**	**-0.4**
	12nm,0.3s,baz=244,slow=18,SNR=19						
JHJ				Sn	**Sn**	**10 38 09.8**	**-0.3**
	35nm,0.3s,baz=49,slow=19,SNR=6.1						
BSO4	**Boso 4**	**2.44**	**314**	P	**P**	**10 37 46.4**	**+1.3**
JIM2	**Oshima 3**	**2.90**	**300**	P	**P**	**10 37 51.4**	**-0.2**
JHO	**Hitachi**	**3.64**	**335**	P	**P**	**10 38 00.9**	**-1.3**
JHO				*e*S	**S**	**10 38 42.6**	**-2.0**
JHU	**Hanno**	**3.66**	**315**	P	**P**	**10 38 02.8**	**+0.4**
JAG	**Ashikaga**	**3.98**	**322**	P	**P**	**10 38 06.8**	**-0.2**
MJAR	**Matsushiro Arr**	**4.76**	**314**	Pn	**Pn**	**10 38 18.4**	**+0.2**
	1.4nm,0.3s,baz=162,slow=12,SNR=10						
ASAJ	**Asahikawa**	**10.78**	**0**	Pn	**P**	**10 39 37.0**	**-4.9**
	0.4nm,0.3s,baz=170,slow=17,SNR=2.3						
SONM	**Songino Array**	**30.70**	**309**	P	**P**	**10 43 22.0**	**+1.4**
	0.4nm,0.7s,mb3.4,baz=115,slow=8.3,SNR=4.0						
MKAR	**Makanchi Array**	**46.91**	**305**	P	**P**	**10 45 36.2**	**+0.5**
	0.2nm,0.7s,mb3.2,baz=90,slow=10,SNR=2.7						
ILAR	**Eielson Array**	**52.19**	**31**	P	**P**	**10 46 16.1**	**0.0**
	0.8nm,0.8s,mb3.7,baz=262,slow=6.0,SNR=8.3						
WRA	**Warramunga Arr**	**53.53**	**190**	P	**P**	**10 46 24.7**	**-1.9**
	0.6nm,0.8s,mb3.6,baz=5.7,slow=7.6,SNR=8.7						
YKA	**Yellowknife Ar**	**66.58**	**30**	P	**P**	**10 47 54.6**	**-0.7**
	0.3nm,0.7s,mb3.4,baz=292,slow=6.4,SNR=5.0						
NVAR	**Mina Array Bea**	**76.52**	**53**	P	**P**	**10 48 55.8**	**+0.6**
	0.4nm,0.7s,mb3.4,baz=307,slow=4.5,SNR=4.5						
NB2	**NORSAR Subarra**	**77.95**	**338**	P	**P**	**10 49 03.6**	**+0.9**
	0.6nm,0.7s,mb3.6,baz=40,slow=5.3						
NOA	**NORSAR Array B**	**77.95**	**338**	P	**P**	**10 49 03.6**	**+0.9**
	1.0nm,0.7s,mb3.8,baz=40,slow=5.5,SNR=4.4						

NIED ***27*** *10:54:00, 33.20N×142.50E, h5km, Mw4.9 Best double couple: M0 2.38×10^16 NP1:φs165°, δ70°, λ-102°. NP2: φs16°, δ23°, λ-60°.*

JMA ***27*** *10:54:47.2±0.3, 33.23N×142.55E, h68km, M4.7*

BJI ***27*** *10:54:48.5, 33.20N×142.21E, h26km, mB5.1, mb5.0, Ms4.7, Msz4.5*

MOS ***27*** *10:54:49.8±1.0, 33.27N×142.31E, h33km, mb5.3/58, MS4.4/11, Error ellipse: s-maj=9.7km s-min=4.8km az=115.0*

IDC ***27*** *10:54:50.5±0.7, 33.19N×142.43E, h34km±4km, mb4.5/21, mb1 4.7/26, mb1mx4.7/27, mbtmp4.7/26, ML4.3/4, MS4.1/3, Ms1 4.1/3, ms1mx3.7/16, Error ellipse: s-maj=13.8km s-min=12.6km az=14.0*

HRVD ***27*** *10:54:51.1±0.3, 33.22N×142.62E, h12km, MW4.9/53, Centroid moment Tensor Solution. LP body waves: s22,c26;Mantle waves: s53,c83; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.33±.09; Mθθ-0.33±.10; Mφφ2.66±.07; Mrθ0.05±.39; Mrφ-0.04±.08; Mθr-1.11±.28; Best double couple: M0 2.732×10^16 NP1:φs180°, δ33°, λ-88°. NP2:φs358°, δ57°, λ-91°. Principal axes: T 2.896, Plg12°, Azm89°; N -.326, Plg1°, Azm359°; P -2.567, Plg78°, Azm265°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***27*** *10:54:51.1±0.2, 33.16N×142.33E, mb5.0/66, MW4.9(NIED) Error ellipse: s-maj=5.5km s-min=4.2km az=170.0*

ISC 27 10:54:49.7±0.2, 33.22N±0.03×142.31E±0.03, h33km, h33km±1.0km:pP-P, n332, σ1§07/358, mb5.0/112, MS4.5/19, 20C-12D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.81**	**323**	P	**P**	**10 55 18.5**	**-0.4**
JHJ2	**Mitsune**	**2.09**	**268**	P	**P**	**10 55 23.4**	**+0.4**
JHJ2				*e*S	**S**	**10 55 51.7**	**+3.6**
JHJ	**Hachijo jima 2**	**2.12**	**268**	Pn	**P**	**10 55 23.4**	**0.0**
	193nm,0.3s,baz=154,slow=8.6,SNR=70						
JHJ				Sn	**S**	**10 55 51.4**	**+2.6**
	381nm,0.3s,baz=46,slow=22,SNR=12						
BSO3	**Boso 3**	**2.17**	**317**	P	**P**	**10 55 24.1**	**0.0**
BSO4	**Boso 4**	**2.40**	**318**	P	**P**	**10 55 27.8**	**+0.3**
JMY	**Miyakejima3**	**2.48**	**291**	P	**P**	**10 55 29.1**	**+0.5**
KTR	**Katsuura**	**2.53**	**320**	P	**P**	**10 55 29.4**	**+0.1**
KTR				*e*S	**S**	**10 56 00.7**	**+1.4**
JIM2	**Oshima 3**	**2.82**	**303**	P	**P**	**10 55 32.2**	**-1.2**
JOD2	**Odawara 2**	**3.35**	**308**	P	**P**	**10 55 40.0**	**-1.0**
JYN	**Shimob**	**3.85**	**307**	P	**P**	**10 55 47.4**	**-0.7**
JYN				*e*S	**S**	**10 56 34.6**	**+1.8**
JRY	**Ryogami san**	**3.96**	**316**	P	**P**	**10 55 48.6**	**-1.0**
JRY				*e*S	**S**	**10 56 36.1**	**+0.6**
JAG	**Ashikaga**	**3.96**	**324**	P	**P**	**10 55 48.3**	**-1.4**
MJAR	**Matsushiro Arr**	**4.72**	**316**	Pn	**P**	**10 55 59.6**	**-0.8**
	26nm,0.3s,baz=200,slow=9.3,SNR=85						
MJAR				Sn	**S**	**10 56 55.2**	**+0.4**
	14nm,0.3s,baz=193,slow=21,SNR=4.7						
MAJO	**Matsushiro**	**4.72**	**316**	*e*P	**P**	**10 56 01.4**	**+0.9**
MAT	**Matsushiro**	**4.72**	**316**	*e*P	**P**	**10 56 00.0**	**-0.5**
MAT				*e*S	**S**	**10 56 54.0**	**-0.8**
MAT	**Matsushiro**	**4.72**	**316**	P	**P**	**10 55 59.5**	**-1.0**
MAT				S	**S**	**10 56 53.9**	**-0.9**
MAT	**Matsushiro**	**4.72**	**316**	P	**P**	**10 56 00.4**	**-0.1**
MAT				*e*S	**S**	**10 56 55.4**	**+0.6**
JMM	**Marumori**	**4.79**	**345**	P	**P**	**10 55 57.9**	**-3.6**
JMM				*e*S	**S**	**10 56 48.6**	**-8.0**
JIE	**Ise**	**4.81**	**286**	P	**P**	**10 56 02.2**	**+0.6**
JNS	**Sasagawa**	**5.19**	**333**	P	**P**	**10 56 05.3**	**-1.8**
JNS				*e*S	**S**	**10 57 04.5**	**-2.1**
JGM	**Miyama**	**5.24**	**300**	P	**P**	**10 56 08.2**	**+0.5**
JWZ	**Kozaga**	**5.53**	**275**	P	**P**	**10 56 12.0**	**+0.3**
JMK	**Ichinoseki**	**5.78**	**352**	P	**P**	**10 56 10.8**	**-4.5**
JMK				*e*S	**S**	**10 57 12.9**	**-8.5**
JSD	**Sado**	**5.83**	**327**	P	**P**	**10 56 13.5**	**-2.4**
CBIJ	**Chichi jima**	**6.11**	**181**	Pn	**P**	**10 56 16.1**	**-3.8**
	56nm,0.3s,baz=282,slow=20,SNR=21						
CBIJ				Sn	**S**	**10 57 21.5**	**-8.0**
	138nm,0.3s,baz=357,slow=23,SNR=8.0						
JNU	**Nakatsue**	**9.58**	**273**	Pn	**P**	**10 57 08.7**	**+0.4**
	baz=82,slow=11						
ASAJ	**Asahikawa**	**10.88**	**1**	Pn	**P**	**10 57 19.4**	**-6.7**
	10.0nm,0.3s,baz=238,slow=7.4,SNR=30						
ASAJ				Sn	**S**	**10 59 10.2**	**-17**
	1.7nm,0.3s,baz=295,slow=14,SNR=2.1						
ASAJ				LR	LR	11 01 29.6	
	comp=Z,597nm,18.6s,baz=10,slow=37						
KS15	**Wonju Array Si**	**12.51**	**294**	*e*P	**P**	**10 57 47.6**	**-0.5**
KUR	**Kuril'sk**	**12.74**	**18**	P	**P**	**10 57 42.0**	**-9.1**
KUR				MLR	MLR		
	comp=N,4μm,11.0s						
KUR				MLR	MLR		
	comp=E,6μm,11.0s						
KUR				MLR	MLR		
	comp=Z,5μm,11.0s						
YSS	**Yuzh-Sakhalins**	**13.72**	**1**	⇓*i*P	**P**	**10 57 58.7**	**-5.3**
YSS				S	**S**	**11 00 30.3**	**-5.9**
YSS				pmax	pmax		
	comp=N,50nm,0.9s						
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
YSS				MLR	MLR		
	comp=Z,900nm,15.0s						
YSS	**Yuzh-Sakhalins**	**13.72**	**1**	*e*P	**P**	**10 57 58.9**	**-5.1**
	comp=Z,50nm,0.7s						
JOW	**Kunigami**	**13.72**	**246**	Pn	**P**	**10 58 03.2**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=68,slow=12,SNR=10.0						
MDJ	**Mudanjiang**	**15.06**	**323**	P	**P**	**10 58 21.3**	**-0.2**
MDJ				AP		10 58 27.3	
MDJ				S	**S**	**11 01 07.8**	**0.0**
MDJ				SS	SS	11 01 22.8	-2.7
MDJ				PCP	PcP	11 03 28.0	-1.1
MDJ				SCP		11 06 59.8	
MDJ				AMB	AMB		
	comp=Z,30nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,209nm,9.1s						
MDJ				LR	LR		
	comp=N,700nm,16.2s						
MDJ				LR	LR		
	comp=E,876nm,17.0s						
MDJ				LR	LR		
	comp=Z,874nm,16.5s						
MDJ	**Mudanjiang**	**15.06**	**323**	*e*P	**P**	**10 58 20.8**	**-0.8**
	comp=Z,27nm,0.8s						
UGL	**Uglegorsk**	**15.84**	**359**	*e*P	**P**	**10 58 32.0**	**+0.4**
UGL				pmax	pmax		
	comp=N,500nm,5.0s						
UGL				pmax	pmax		
	comp=Z,500nm,5.0s						
UGL				pmax	pmax		
	comp=Z,66nm,0.9s						
CN2	**Changchun**	**16.87**	**314**	*e*P	**P**	**10 58 43.5**	**-1.2**
CN2				*e*XP		10 58 59.0	
CN2				*e*S	**S**	**11 01 49.0**	**-0.9**
CN2				AMB	AMB		
	comp=Z,40nm,1.3s						
CN2				AMB	AMB		
	comp=Z,330nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,13.0s						
CN2				LR	LR		
	comp=E,1μm,13.0s						
CN2				LR	LR		
	comp=Z,920nm,13.0s						
SNY	**Shenyang**	**17.14**	**305**	⇓P	**P**	**10 58 49.5**	**+1.5**
SNY				AMB	AMB		
	comp=Z,50nm,0.6s						
DL2	**Dalian**	**17.64**	**295**	PR		10 58 52.8	
DL2				*e*S	**S**	**11 02 05.8**	**-1.7**
DL2				AMB	AMB		
	comp=Z,30nm,0.7s						
DL2				AMB	AMB		
	comp=Z,240nm,4.8s						
DL2				LR	LR		
	comp=N,390nm,11.0s						
DL2				LR	LR		
	comp=E,760nm,12.0s						
DL2				LR	LR		
	comp=Z,1μm,12.8s						
KLR	**Kul'dur**	**17.82**	**337**	*e*P	**P**	**10 58 50.0**	**-6.6**
KLR				MLR	MLR		
	comp=N,1μm,14.0s						
KLR				MLR	MLR		
	comp=Z,2μm,14.0s						
SSE	**Sheshan**	**18.01**	**269**	*e*P	**P**	**10 58 57.8**	**-1.2**
SSE				AP		10 59 06.8	
SSE				XP		10 59 11.3	
SSE				S	**S**	**11 02 19.3**	**+3.4**
SSE				AMB	AMB		
	comp=Z,38nm,0.8s						
SSE				AMB	AMB		
	comp=Z,226nm,3.9s						
SSE				LR	LR		
	comp=N,545nm,13.8s						
SSE				LR	LR		
	comp=E,1μm,13.9s						
SSE				LR	LR		
	comp=Z,1μm,13.8s						
SSE	**Sheshan**	**18.01**	**269**	*e*P	**P**	**10 58 57.8**	**-1.2**
	comp=Z,38nm,0.8s						
SSE				pP		10 59 06.8	
SSE				sP		10 59 11.3	
SSE				S	**S**	**11 02 19.2**	**+3.3**
SSE				sS		11 02 33.6	
GUMO	**Guam**	**19.68**	**173**	*e*P	**P**	**10 59 15.9**	**-3.0**
GUMO				pmax	pmax		
	comp=Z,428nm,1.2s						
GUMO	**Guam**	**19.68**	**173**	*e*P	**P**	**10 59 15.9**	**-3.0**
	comp=Z,428nm,1.2s						
NJ2	**Nanjing**	**19.78**	**273**	*e*P	**P**	**10 59 17.5**	**-2.3**
NJ2				AP		10 59 26.0	
NJ2				XP		10 59 30.0	
NJ2				PP	PP	10 59 36.5	-2.2
NJ2				S	**S**	**11 02 46.0**	**-10**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.3s						
NJ2				AMB	AMB		
	comp=Z,100nm,4.0s						
NJ2				LR	LR		
	comp=N,500nm,14.9s						
NJ2				LR	LR		
	comp=E,410nm,14.8s						
NJ2				LR	LR		
	comp=Z,1μm,12.1s						
TATO	**Taipei**	**19.94**	**251**	P	**P**	**10 59 18.6**	**-3.0**
YHNB	**Yeheng**	**20.18**	**250**	*e*P	**P**	**10 59 20.1**	**-4.0**
SKR	**Severo-Kuril's**	**20.18**	**26**	*e*P	**P**	**10 59 24.0**	**0.0**
SKR				*e*		10 59 36.5	
SKR				*e*		10 59 43.0	
SKR				*e*S	**S**	**11 03 07.0**	**+3.3**
SKR				pmax	pmax		
	comp=Z,50nm,0.7s						
SKR				MLR	MLR		
	comp=N,1μm,16.0s,MS4.5						
SKR				MLR	MLR		
	comp=E,1μm,16.0s,MS4.5						
SKR				MLR	MLR		
	comp=Z,1μm,16.0s,MS4.3						
QZH	**Quanzhou**	**22.27**	**254**	*e*P	**P**	**10 59 43.0**	**-2.3**
QZH				S	**S**	**11 03 44.0**	**+0.6**
QZH				LR	LR		
	comp=N,750nm,14.6s,MS4.7						
QZH				LR	LR		
	comp=E,2μm,16.9s,MS4.7						
QZH				LR	LR		
	comp=Z,2μm,14.5s,MS4.6						
PET	**Petropavlovsk**	**23.00**	**26**	*e*P	**P**	**10 59 53.6**	**+1.3**
PET				*e*S	**S**	**11 03 42.1**	**-14**
HIA	**Hailar**	**23.21**	**320**	*e*P	**P**	**10 59 53.6**	**-0.7**
HIA				pmax	pmax		
	comp=Z,115nm,1.3s						
HIA	**Hailar**	**23.21**	**320**	*e*P	**P**	**10 59 53.6**	**-0.7**
	comp=Z,115nm,1.3s,mb5.2						
WHN	**Wuhan**	**23.86**	**271**	P	**P**	**11 00 01.0**	**+0.1**
WHN				AP		11 00 11.5	
WHN				S	**S**	**11 04 18.3**	**+6.7**
WHN				LR	LR		
	comp=Z,2μm,13.2s,MS4.8						
HHC	**Hu-ho-hao-te**	**25.60**	**296**	*e*P	**P**	**11 00 17.8**	**+0.3**
HHC				AP	pP	11 00 27.0	+0.1
HHC				XP	sP	11 00 31.5	+0.7
HHC				PCP	PcP	11 03 43.0	-5.6
HHC				S	**S**	**11 04 47.8**	**+7.0**
HHC				AMB	AMB		
	comp=Z,53nm,1.7s,mb4.8						
HHC				AMB	AMB		
	comp=Z,903nm,11.4s						
HHC				LR	LR		
	comp=N,553nm,14.8s,MS4.5						
HHC				LR	LR		
	comp=E,823nm,15.9s,MS4.5						
HHC				LR	LR		
	comp=Z,940nm,15.9s,MS4.4						
CLNS	**Chul'man**	**26.47**	**338**	*c i*P	**P**	**11 00 26.5**	**+1.1**
CLNS				*e**PP	pP	11 00 33.2	-1.7
CLNS				*e*		11 01 13.3	
CLNS				*e*		11 11 11.7	
CLNS				pmax	pmax		
	comp=N,36nm,0.8s						
CLNS				pmax	pmax		
	comp=E,12nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.1						
CLNS				pmax	pmax		
	comp=Z,34nm,1.2s,mb4.8						
CLNS				pmax	pmax		
	comp=N,58nm,1.6s						
CLNS				pmax	pmax		
	comp=E,30nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,600nm,14.0s,MS4.3						
CLNS				MLR	MLR		
	comp=N,400nm,13.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,100nm,13.0s,MS4.2						
BTO	**Baotou**	**26.74**	**295**	*e*P	**P**	**11 00 28.0**	**0.0**
BTO				AMB	AMB		
	comp=Z,48nm,0.7s,mb5.1						
BTO				LR	LR		
	comp=N,761nm,13.7s,MS4.7						
BTO				LR	LR		
	comp=E,1μm,13.6s,MS4.7						
MA2	**Magadan**	**26.95**	**10**	*e*P	**P**	**11 00 28.6**	**-1.1**
MA2				*e*S	**S**	**11 05 00.6**	**-2.2**
MA2				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.3						
MA2				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.1						
MA2	**Magadan**	**26.95**	**10**	*e*P	**P**	**11 00 30.9**	**+1.1**
	comp=Z,13nm,0.8s,mb4.5						
XAN	**Xi'an**	**27.75**	**281**	P	**P**	**11 00 35.5**	**-1.8**
XAN				S	**S**	**11 05 20.8**	**+5.0**
XAN				AMB	AMB		
	comp=Z,44nm,1.4s,mb4.9						
XAN				AMB	AMB		
	comp=Z,178nm,8.0s						
XAN				LR	LR		
	comp=N,434nm,13.9s,MS4.5						
XAN				LR	LR		
	comp=E,743nm,15.2s,MS4.5						
XAN				LR	LR		
	comp=Z,1μm,15.2s,MS4.5						
ENH	**Enshi**	**28.00**	**273**	*e*P	**P**	**11 00 37.4**	**-2.2**
	comp=Z,88nm,0.8s,mb5.4						
CIT	**Chita**	**28.01**	**321**	*e*P	**P**	**11 00 39.7**	**+0.2**
CIT				*e*		11 00 53.0	
CIT				pmax	pmax		
	comp=Z,557nm,2.0s,mb5.8						
FX1	**Attu Island--F**	**29.56**	**39**	LR	LR	11 10 42.0	
	comp=Z,7.0nm,21.6s,baz=250,slow=32						
YAK	**Yakutsk**	**29.94**	**348**	*e*P	**P**	**11 00 54.2**	**-2.3**
YAK				*e*S	**S**	**11 05 49.7**	**-0.9**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK				smax			
	comp=E,36nm,11.2s						
YAK				smax			
	comp=N,27nm,6.3s						
YAK				MLR	MLR		
	comp=Z,251nm,13.0s,MS4.0						
YAK				MLR	MLR		
	comp=N,191nm,14.0s,MS4.1						
YAK				MLR	MLR		
	comp=E,280nm,14.0s,MS4.1						
YAK	**Yakutsk**	**29.94**	**348**	*e*P	**P**	**11 00 55.0**	**-1.5**
	comp=E,30nm,1.0s,mb5.0						
SONM	**Songino Array**	**30.64**	**309**	P	**P**	**11 01 03.5**	**+0.6**
	comp=E,19nm,0.7s,mb5.0,baz=105,slow=8.4,SNR=66						
SONM				LR	LR	11 13 55.9	
	comp=E,409nm,19.2s,MS4.1,baz=108,slow=37						
BOD	**Bodaibo**	**31.17**	**331**	*e*P	**P**	**11 01 05.8**	**-1.7**
BOD				*e*	pP	11 01 12.9	-4.3
BOD				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.6						
BOD				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.0						
GYA	**Guiyang**	**31.54**	**267**	⇓*i*P	**P**	**11 01 10.5**	**-0.6**
GYA				AP	pP	11 01 19.8	-1.0
GYA				XP	sP	11 01 23.5	-1.7
GYA				PP	PP	11 02 14.5	-1.2
GYA				S	**S**	**11 06 14.5**	**-1.5**
GYA				XS		11 06 30.5	
GYA				SCS	ScS	11 11 38.0	-1.1
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,10.0nm,2.8s,mb4.2						
GYA				LR	LR		
	comp=N,690nm,14.1s,MS4.8						
GYA				LR	LR		
	comp=E,1μm,12.9s,MS4.8						
GYA				LR	LR		
	comp=Z,980nm,13.7s,MS4.6						
LZH	**Lanzhou**	**31.63**	**286**	⇑P	**P**	**11 01 11.5**	**-0.3**
LZH				AP	pP	11 01 21.5	-0.1
LZH				XP	sP	11 01 26.0	0.0
LZH				PP	PP	11 02 16.3	-0.6
LZH				PCP	PcP	11 04 04.5	+1.0
LZH				S	**S**	**11 06 16.0**	**-1.5**
LZH				XS		11 06 31.0	
LZH				SS	SS	11 08 05.0	-2.9
LZH				AMB	AMB		
	comp=Z,101nm,1.7s,mb5.4						
LZH				AMB	AMB		
	comp=Z,440nm,4.1s						
LZH				LR	LR		
	comp=E,3μm,13.8s						
LZH				LR	LR		
	comp=Z,3μm,14.8s,MS5.0						
LZH	**Lanzhou**	**31.63**	**286**	⇑P	**P**	**11 01 11.4**	**-0.4**
LZH				*PP	pP	11 01 21.6	0.0
LZH				*SP	sP	11 01 26.0	0.0
LZH						11 02 16.3	
LZH						11 04 04.5	
LZH				S	**S**	**11 06 16.0**	**-1.5**
LZH				*SS		11 06 31.0	
LZH				SS	SS	11 08 05.0	-2.9
LZH				pmax	pmax		
	comp=Z,101nm,1.7s,mb5.4						
LZH				MLR	MLR		
	comp=Z,3μm,14.8s,MS5.0						
LZH	**Lanzhou**	**31.63**	**286**	⇑P	**P**	**11 01 11.4**	**-0.4**
	comp=Z,101nm,1.7s,mb5.4						
LZH				pP	pP	11 01 21.6	0.0
LZH				sP	sP	11 01 26.0	0.0
LZH				PP	PP	11 02 16.3	-0.6
LZH				PcP	PcP	11 04 04.5	+1.0
LZH				S	**S**	**11 06 16.0**	**-1.5**
LZH				sS		11 06 31.0	
LZH				S

LZH LR LR
comp=Z,3µm,14.8s,MS5.0
QIZ Qiongzhong 32.24 252 *e*P **P** **11 01 18.5 +1.2**
QIZ S **S** **11 06 29.5 +2.3**
QIZ LR LR
comp=E,392nm,22.0s
QIZ LR LR
comp=Z,513nm,31.8s
CD2 Chengdu 32.63 277 P **P** **11 01 20.0 -0.6**
CD2 AMB AMB
comp=Z,28nm,1.0s,mb5.2
IRK Irkutsk 33.28 316 *e*P **P** **11 01 21.1 -4.9**
IRK pmax pmax
comp=Z,69nm,3.0s
ZAK Zakamensk 33.30 313 *e*P **P** **11 01 26.4 +0.2**
ZAK pmax pmax
comp=Z,14nm,1.6s,mb4.6
TLY Talaya 33.46 315 *e*P **P** **11 01 29.2 +1.6**
TLY *e* 11 02 40.6
TLY *e* 11 11 52.0
TLY pmax pmax
comp=Z,41nm,1.1s,mb5.3
TLY Talaya 33.46 315 *e*P **P** **11 01 28.4 +0.8**
comp=Z,37nm,1.0s,mb5.3
GTA Gaotai 34.55 293 P **P** **11 01 37.5 +0.5**
GTA AP pP 11 01 48.3 +1.5
GTA XP sP 11 01 53.0 +1.8
GTA PP PP 11 02 54.5 +0.7
GTA PCP PcP 11 04 12.0 +0.4
GTA S **S** **11 07 08.3 +5.5**
GTA XS 11 07 22.5
GTA SCP 11 07 48.8
GTA SCS ScS 11 11 56.3 +1.8
GTA AMB AMB
comp=Z,24nm,0.8s,mb5.2
GTA AMB AMB
comp=Z,87nm,9.8s
GTA LR LR
comp=N,438nm,14.4s,MS4.5
GTA LR LR
comp=E,541nm,15.2s,MS4.5
GTA LR LR
comp=Z,820nm,14.4s,MS4.6
MOY Mondy 35.04 314 *e*P **P** **11 01 43.2 +2.1**
MOY pmax pmax
comp=Z,73nm,1.8s,mb5.3
KMI Kunming 35.32 267 P **P** **11 01 43.3 -0.4**
KMI AP pP 11 01 55.0 +1.5
KMI XP sP 11 01 59.5 +1.6
KMI PP PP 11 03 03.0 -0.5
KMI S **S** **11 07 18.8 +4.0**
KMI PCS 11 07 57.0
KMI AMB AMB
comp=Z,13nm,1.0s,mb4.8
KMI AMB AMB
comp=Z,106nm,3.9s
KMI LR LR
comp=N,519nm,13.6s,MS4.7
KMI LR LR
comp=E,848nm,13.0s,MS4.7
KMI LR LR
comp=Z,1µm,13.0s,MS4.8
KMI Kunming 35.32 267 P **P** **11 01 43.2 -0.5**
KMI *PP pP 11 01 55.0 +1.5
KMI *SP sP 11 01 59.4 +1.5
KMI 11 03 02.9
KMI S **S** **11 07 18.7 +3.9**
KMI *SS 11 07 38.2
KMI SS SS 11 09 39.7 +6.7
KMI pmax pmax
comp=Z,13nm,1.0s,mb4.8
KMI MLR MLR
comp=Z,1µm,13.0s,MS4.8
KMI Kunming 35.32 267 P **P** **11 01 43.2 -0.5**
comp=Z,13nm,1.0s,mb4.8
KMI pP pP 11 01 55.0 +1.5
KMI sP sP 11 01 59.4 +1.5
KMI PP PP 11 03 02.9 -0.6
KMI S **S** **11 07 18.7 +3.9**
KMI sS 11 07 38.2
KMI PcS 11 07 57.1
KMI SS SS 11 09 39.7 +6.7
KMI LR LR
comp=Z,1µm,13.0s,MS4.8
BILL Bilibino 37.50 15*c i*P **P** **11 02 00.1 -1.6**
BILL pmax pmax
comp=Z,11nm,0.8s,mb4.7
BILL Bilibino 37.50 15 *e*P **P** **11 02 00.2 -1.5**
comp=Z,9.1nm,0.8s,mb4.7
WMQ Urumqi 43.31 301 P **P** **11 02 50.3 +0.3**
WMQ AP pP 11 03 00.3 +0.3
WMQ XP sP 11 03 04.0 -0.1
WMQ PP PP 11 04 33.3 +0.6
WMQ S **S** **11 09 15.0 +0.2**
WMQ XS 11 09 31.3
WMQ AMB AMB
comp=Z,99nm,0.9s,mb5.5
WMQ AMB AMB
comp=Z,651nm,4.0s
WMQ LR LR
comp=N,523nm,12.8s,MS4.7
WMQ LR LR
comp=E,404nm,14.2s,MS4.7
WMQ LR LR
comp=Z,532nm,15.6s,MS4.5
LSA Lhasa 43.43 280 *e*P **P** **11 02 52.3 +1.2**
KSM Kuching 43.57 230 *e*P **P** **11 02 52.1 -0.3**
SHL Shillong 44.24 274 *e*P **P** **11 02 57.5 -0.2**
ZAL Zalesovo 45.09 315 P **P** **11 03 03.8 -0.3**
comp=Z,2.8nm,0.5s,mb4.3,baz=21,slow=9.8,SNR=11
NVS Novosibirsk 46.05 316 *e*P **P** **11 03 10.7 -1.1**
NVS *e* 11 04 56.7
NVS *e*S **S** **11 09 57.9 +3.9**
NVS pmax pmax
comp=Z,73nm,1.6s,mb5.4
NVS pmax pmax
comp=E,69nm,1.5s
NVS smax
comp=N,20nm,2.1s
NVS smax
comp=E,27nm,2.2s
KAKA Kakadu 46.64 193 *e*P **P** **11 03 18.0 +1.1**
comp=E,9.5nm,0.6s,mb4.9
MKAR Makanchi Array 46.84 305 *i*P **P** **11 03 18.1 +0.1**
MKAR pmax pmax
comp=Z,29nm,0.8s
MKAR Makanchi Array 46.84 305 P **P** **11 03 17.5 -0.5**
comp=Z,20nm,0.9s,mb5.0,baz=90,slow=9.5,SNR=109
MKAR LR LR 11 23 50.8
comp=Z,212nm,21.4s,MS4.1,baz=81,slow=37
MKAR Makanchi Array 46.84 305 P **P** **11 03 17.5 -0.5**
MKAR LR LR 11 23 50.8
SVW2 Sparrevohn 48.15 35 *e*P **P** **11 03 28.4 +0.2**
JIRN Jiri 48.22 279 *e*P **P** **11 03 29.8 +0.7**
comp=Z,152nm,0.9s,mb6.0
GUN Gumba 48.39 280 *e*P **P** **11 03 30.4 0.0**
comp=Z,94nm,0.8s,mb5.8
PKI Pulchoki 48.90 279 *e*P **P** **11 03 33.5 -0.9**
KKN Kakani 48.92 280 *e*P **P** **11 03 34.2 -0.4**
comp=Z,90nm,0.9s,mb5.8
DMN Daman 49.13 279 *e*P **P** **11 03 35.9 -0.3**
GKN Gorkha 49.38 280 *e*P **P** **11 03 37.8 -0.3**
comp=Z,126nm,1.0s,mb5.9
SPU Mount Spurr 49.87 35 *e*P **P** **11 03 40.3 -1.0**
KOLN Koldanda 50.32 280 *e*P **P** **11 03 45.3 0.0**
MCK McKinley 51.43 32 *e*P **P** **11 03 51.6 -1.6**
ULHL Ulahoi 51.85 300 P **P** **11 04 00.0 +3.4**
SNR=8.4
TKM2 Tokmak 2 52.16 301 P **P** **11 03 59.8 +0.8**
SNR=19
ILAR Eielson Array 52.35 31 P **P** **11 03 57.8 -2.3**
comp=Z,4.2nm,0.7s,mb4.5,baz=263,slow=6.0,SNR=35
LGTI Lohaghat 52.46 284 *e*P **P** **11 04 02.5 +1.1**
KZA Kyzart 52.60 300 P **P** **11 04 03.8 +1.5**
SNR=15
KBK Karagaybulak 52.69 301 P **P** **11 04 04.1 +1.2**
SNR=11
KSH Kashi 52.71 297 *e*P **P** **11 04 03.0 -0.1**
KSH *e*AP pP 11 04 12.0 -1.2
KSH *e*XP sP 11 04 16.5 -0.8
KSH *e*PCP PcP 11 05 12.0 -0.6
KSH *e*PP PP 11 06 02.0 -1.7
KSH *e*PCS 11 09 08.0
KSH *e*S **S** **11 11 26.5 -0.6**
KSH *e*XS 11 11 43.5
KSH *e*SCS ScS 11 13 46.5 -0.4
KSH *e*SS SS 11 15 00.0 -4.6
KSH AMB AMB
comp=Z,50nm,0.4s,mb5.8
KSH AMB AMB
comp=Z,640nm,4.4s
KSH LR LR
comp=N,670nm,5.3s
KSH LR LR
comp=E,460nm,4.7s
USP Ospenovka 52.87 302 P **P** **11 04 04.3 0.0**
SNR=12
FRU Bishkek 52.88 301⇑ *e*P **P** **11 04 05.2 +0.8**
FRU pmax pmax
comp=Z,150nm,2.2s,mb5.5
AAK Ala-Archa 53.02 301 P **P** **11 04 05.5 +0.1**
SNR=5.6
AAK Ala-Archa 53.02 301 *e*P **P** **11 04 04.6 -0.8**
AAK pmax pmax
comp=Z,16nm,0.9s,mb5.0
AAK Ala-Archa 53.02 301 *e*P **P** **11 04 04.6 -0.8**
comp=Z,16nm,0.9s,mb5.0
WRAB Tennant Creek 53.40 189 *i*P **P** **11 04 07.2 -1.3**
WRAB Tennant Creek 53.40 189 *e*P **P** **11 04 05.4 -3.1**
comp=Z,16nm,0.9s,mb5.0
WB2 Warramunga Arr 53.41 189 *e*P **P** **11 04 06.7 -1.9**
WRA Warramunga Arr 53.41 189 P **P** **11 04 06.2 -2.4**
comp=Z,8.2nm,0.8s,mb4.7,baz=6.6,slow=7.6,SNR=114
WRA PcP PcP 11 05 15.1 -0.4
comp=Z,3.0nm,0.6s,baz=2.7,slow=3.9,SNR=6.2
FITZ Fitzroy Crossi 53.46 200 *e*P **P** **11 04 07.5 -1.5**
comp=Z,9.6nm,0.7s,mb4.8
FITZ *e* 11 04 27.3
EKS2 Erkin-Say 53.52 301 P **P** **11 04 09.4 +0.3**
SNR=8.5
AML Almayashu 53.71 301 P **P** **11 04 11.1 +0.6**
SNR=42
BVA0 Borovoye Array 53.72 315 *i*P **P** **11 04 09.6 -0.8**
BVA0 pmax pmax
comp=Z,29nm,2.6s,mb4.8
BVAR Borovoye Array 53.72 315 P **P** **11 04 09.4 -1.0**
comp=Z,5.7nm,0.8s,mb4.6,baz=86,slow=6.9,SNR=26
BVAR PcP PcP 11 05 16.1 -0.1
comp=Z,5.1nm,0.8s,baz=90,slow=3.0,SNR=3.8
BRVK Borovoye 53.78 315 *e*P **P** **11 04 10.3 -0.6**
BRVK pmax pmax
comp=Z,40nm,1.5s,mb5.1
BRVK Borovoye 53.78 315 *e*P **P** **11 04 10.3 -0.5**
comp=Z,40nm,1.5s,mb5.1
BLSP Bilaspur 53.79 274 *e*P **P** **11 04 10.7 -0.6**
BLSP AMb AMB 11 04 11.8
DDI Dehra Dun 53.93 286 *e*P **P** **11 04 12.5 +0.2**
THN Thein Dam 55.06 289 *e*P **P** **11 04 18.8 -1.8**
NDI New Delhi 55.21 284 *e*P **P** **11 04 19.0 -2.7**
KKAR Karatay Array 55.73 303 *i*P **P** **11 04 25.0 -0.2**
KKAR pmax pmax
comp=Z,32nm,0.9s,mb5.3
BHPL Bhopal 57.23 278 *e*P **P** **11 04 37.2 +0.9**
BHPL AMb AMB 11 04 40.2
comp=Z,63nm,1.7s,mb5.4
INK Inuvik 57.46 26 *e*P **P** **11 04 35.8 -1.4**
INK pmax pmax
comp=Z,16nm,1.0s
INK Inuvik 57.46 26 P **P** **11 04 35.3 -2.0**
comp=Z,7.0nm,0.9s,mb4.7,baz=282,slow=5.3,SNR=11
INK Inuvik 57.46 26 *e*P **P** **11 04 35.8 -1.4**
comp=Z,16nm,1.0s,mb5.0
AJM Ajmer 58.17 283 *e*P **P** **11 04 42.2 -0.6**
AJM AMb AMB 11 04 45.1
comp=Z,31nm,0.9s,mb5.3
MBWA Marble Bar 58.21 205 *e*P **P** **11 04 41.8 -1.3**
comp=Z,24nm,1.2s,mb5.1
HYB Hyderabad 58.93 271 *e*P **P** **11 04 47.0 -1.2**
HYB Hyderabad 58.93 271 *i*P **P** **11 04 47.0 -1.2**
ARU Arti 59.73 320⇓ *i*P **P** **11 04 51.8 -1.3**
ARU *e* 11 05 34.0
ARU *e*S **S** **11 13 01.3 +1.3**
ARU *e* 11 14 39.9
ARU *e*SS SS 11 16 56.5 -0.7
ARU pmax pmax
comp=Z,23nm,0.9s,mb5.2
ARU Arti 59.73 320 *e*P **P** **11 04 51.9 -1.2**
comp=Z,37nm,1.1s,mb5.3
AB31 Akbulak array 60.99 312 *i*P **P** **11 05 00.8 -1.1**
AB31 pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
DLBC Dease Lake 61.20 37 *e*P **P** **11 05 01.8 -1.3**
POO Poona 62.34 275 *e*P **P** **11 05 13.5 +2.2**
POO AMb AMB 11 05 14.5
comp=Z,54nm,0.9s,mb5.7
KAD Karad 62.64 273 *e*P **P** **11 05 12.6 -0.8**
KAD AMb AMB 11 05 15.6
ARMA Armidale 63.91 171 *e*P **P** **11 05 15.3 -6.3**
STKA Stephens Creek 64.75 181 *e*P **P** **11 05 25.2 -1.8**
comp=Z,6.9nm,0.9s,mb4.7
STKA Stephens Creek 64.75 181 P **P** **11 05 25.3 -1.7**
comp=Z,9.3nm,0.9s,mb4.8,baz=342,slow=9.4,SNR=10
LVZ Lovozero 65.89 337 *i*P **P** **11 05 32.9 -0.8**
LVZ pmax pmax
comp=Z,11nm,0.8s,mb4.9
RES Resolute Bay 66.11 14 *e*P **P** **11 05 33.9 -1.1**
RES *e*PP pP 11 05 44.6 -0.8
RES pmax pmax
comp=Z,19nm,0.8s,mb5.2
RES Resolute Bay 66.11 14 *e*P **P** **11 05 33.9 -1.0**
comp=Z,19nm,0.8s,mb5.2
RES *e*pP pP 11 05 44.6 -0.8
APA Apatity 66.46 337⇓ *i*P **P** **11 05 37.0 -0.3**
APA *e*S S 11 14 28.0 +4.1
APA pmax pmax
comp=Z,20nm,0.8s,mb5.2
APA MLR MLR
comp=Z,500nm,16.0s,MS4.8
YKW3 Yellowknife Ar 66.71 29 *e*P **P** **11 05 37.4 -1.5**
YKA Yellowknife Ar 66.74 29 P **P** **11 05 37.4 -1.8**
comp=Z,3.9nm,0.8s,mb4.5,baz=296,slow=6.3,SNR=17
KEV Kevo 67.26 340 *e*p **P** **11 05 36.9 -5.4**
comp=Z,8.7nm,0.9s,mb4.8
KEV Kevo 67.26 340 *e*P **P** **11 05 36.9 -5.4**
KEV pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ARCES ARCESS Array B 67.82 340 P **P** **11 05 45.5 -0.4**
comp=Z,10.0nm,0.7s,mb4.9,baz=59,slow=7.1,SNR=29
DAG Danmarks Havn 69.62 355⇑ *e*P **P** **11 05 58.6 +1.7**
DAG pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
DAG Danmarks Havn 69.62 355⇑ *e*P **P** **11 05 58.6 +1.7**
comp=Z,4.7nm,0.6s,mb4.6
DAG Danmarks Havn 69.62 355⇑ *i*P **P** **11 05 58.6 +1.7**
comp=Z,4.7nm,0.6s,mb4.6
MOS Moscow 70.76 325 *e*P **P** **11 06 02.1 -2.0**
MOS *e* 11 06 25.8
MOS *e* 11 08 39.1
MOS *e*PPP PPP 11 10 20.5 -3.4
MOS *e*S S 11 15 13.9 -1.1
MOS pmax pmax
comp=Z,29nm,0.6s,mb5.4
OBN Obninsk 71.60 324⇓ *e*P **P** **11 06 08.4 -0.7**
OBN *i* pP 11 06 19.7 +0.1
OBN S S 11 15 27.0 +2.2
OBN pmax pmax
comp=Z,80nm,2.5s,mb5.2
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.5
KAF Kangasniemi 72.03 334 *e*p **P** **11 06 10.8 -0.8**
comp=Z,9.1nm,0.5s,mb5.0,baz=50,slow=5.7
KAF Kangasniemi 72.03 334 *e*P **P** **11 06 10.8 -0.8**
KAF pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
NEW Newport 72.36 44 *e*P **P** **11 06 13.2 -0.6**
NEW *e*PP pP 11 06 24.5 +0.3
NEW pmax pmax
comp=Z,15nm,1.4s
NEW Newport 72.36 44 *e*P **P** **11 06 13.2 -0.6**
comp=Z,16nm,1.4s,mb4.7
NEW *e*pP pP 11 06 24.4 +0.3
FINES FINESS Array B 72.53 333 P **P** **11 06 13.8 -0.6**
comp=Z,14nm,0.8s,mb5.0,baz=108,slow=6.0,SNR=27
FINES pP pP 11 06 25.0 +0.1
comp=Z,10nm,0.8s,baz=90,slow=3.8,SNR=7.1
KIV Kislovodsk 73.98 312 *e*P **P** **11 06 23.6 +0.2**
KIV *e* 11 06 38.6
KIV *e*S S 11 15 54.6 +2.6
KIV pmax pmax
comp=N,14nm,0.9s
KIV pmax pmax
comp=Z,18nm,0.9s,mb5.0
KIV pmax pmax
comp=E,12nm,0.8s
KIV Kislovodsk 73.98 312 *e*P **P** **11 06 23.9 +0.6**
comp=E,18nm,0.8s,mb5.1
BMO Blue Mountains 73.99 47 *e*P **P** **11 06 23.1 -0.3**
comp=E,7.1nm,1.2s,mb4.5
VSU Vasula 74.11 330 *i*P **P** **11 06 23.7 -0.1**
WVOR Wild Horse Val 74.40 49 *e*P **P** **11 06 25.7 -0.1**
WVOR pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
WVOR Wild Horse Val 74.40 49 *e*P **P** **11 06 25.7 -0.2**
comp=Z,9.1nm,1.1s,mb4.6
SUMG Summit 74.49 0 *e*P **P** **11 06 26.6 +0.8**
comp=Z,9.9nm,0.7s,mb4.8
BEKR Beckwourth 74.58 52 *e*P **P** **11 06 26.4 -0.6**
comp=Z,7.1nm,0.9s,mb4.6
GNI Garni 74.60 308 *i*P **P** **11 06 27.0 0.0**
GNI pmax pmax
comp=Z,53nm,2.5s
GNI Garni 74.60 308 *e*P **P** **11 06 27.5 +0.5**
comp=Z,21nm,0.9s,mb5.1
CMB Columbia Colle 75.50 54 *e*P **P** **11 06 32.4 +0.2**
CMB *e**PP pP 11 06 42.5 -0.2
CMB pmax pmax
comp=Z,11nm,1.0s,mb4.7
CMB Columbia Colle 75.50 54 *e*P **P** **11 06 32.4 +0.2**
comp=Z,11nm,1.0s,mb4.7
CMB *e*pP pP 11 06 42.5 -0.1
SOC Sochi 76.01 313 *e*P **P** **11 06 35.7 +0.7**
SOC *e* 11 06 55.2
SOC *e*S S 11 16 13.8 -0.7
SOC *e* 11 16 43.3
SOC pmax pmax
comp=N,18nm,0.8s
SOC pmax pmax
comp=E,16nm,0.8s
SOC pmax pmax
comp=Z,35nm,0.8s,mb5.3
MNK Minsk 76.09 327 *e*P **P** **11 06 33.0 -2.3**
HRY Holter Researc 76.23 43 *e*P **P** **11 06 36.2 -0.1**
HLID Hailey 76.44 47 *e*P **P** **11 06 37.3 -0.2**
comp=Z,11nm,1.5s,mb4.6
FFC Flin Flon 76.51 33 *e*P **P** **11 06 36.2 -1.5**
FFC *e**PP pP 11 06 48.2 +0.1
FFC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
FFC Flin Flon 76.51 33 *e*P **P** **11 06 36.2 -1.5**
comp=Z,9.8nm,0.9s,mb4.7
FFC *e*pP pP 11 06 48.2 +0.1
NVAR Mina Array Bea 76.69 53 P **P** **11 06 38.8 -0.3**
comp=Z,3.7nm,1.0s,mb4.3,baz=293,slow=3.4,SNR=24
NVAR pP pP 11 06 49.1 -0.4
comp=Z,4.4nm,0.9s,baz=313,slow=2.5,SNR=12
ANN Anapa 76.72 315 *e*P **P** **11 06 39.5 +0.5**
ANN *e*S S 11 16 24.6 +2.4
ANN pmax pmax
comp=Z,47nm,1.1s,mb5.3
PTRM Twissleman Ran 76.84 56 *e*P **P** **11 06 40.6 +0.6**
BOZ Bozeman (W) 76.94 44 *e*P **P** **11 06 41.8 +1.5**
BOZ pmax pmax
comp=Z,47nm,1.9s,mb5.1
BOZ Bozeman (W) 76.94 44 *e*P **P** **11 06 41.8 +1.5**
comp=Z,47nm,1.9s,mb5.1
ELK Elko 77.45 49 *e*P **P** **11 06 43.1 -0.2**
ELK pmax pmax
comp=Z,6.0nm,1.2s
ELK Elko 77.45 49 *e*P **P** **11 06 43.1 -0.1**
comp=Z,5.8nm,1.2s,mb4.4
QLMT Earthquake Lak 77.52 44 *e*P **P** **11 06 43.9 +0.4**
AKASG Malin Array Be 77.77 323 P **P** **11 06 44.2 -0.6**
comp=Z,6.0nm,0.7s,mb4.7,baz=47,slow=6.0,SNR=30
AKASG pP pP 11 06 55.1 -0.1
comp=Z,5.0nm,0.8s,baz=51,slow=5.6,SNR=5.2
AKASG Malin Array Be 77.77 323 P **P** **11 06 44.2 -0.6**
AKASG pP pP 11 06 55.1 -0.1
NB2 NORSAR Subarra 77.98 338 P **P** **11 06 45.3 -0.4**
comp=Z,33nm,1.0s,mb5.2,baz=39,slow=5.3
NB2 NORSAR Subarra 77.98 338 P **P** **11 06 45.3 -0.4**
NB2 pmax pmax
comp=Z,33nm,1.0s,mb5.2
NB2 NORSAR Subarra 77.98 338 P **P** **11 06 45.3 -0.4**
baz=39,slow=5.6
NOA NORSAR Array B 77.98 338 P **P** **11 06 45.1 -0.6**
comp=Z,17nm,0.8s,mb5.0,baz=39,slow=5.6,SNR=62
NOA pP pP 11 06 56.0 -0.1
comp=Z,12nm,0.9s,baz=38,slow=5.6,SNR=7.7
GCMT Greycliff 77.99 43 *e*P **P** **11 06 46.2 +0.1**
GCMT *e*pP pP 11 06 57.4 +0.9
NAO01 NORSAR Array S 78.24 338 *e*P **P** **11 06 46.6 -0.5**
comp=Z,16nm,0.9s,mb5.0
NAO01 *e*pP pP 11 06 57.2 -0.4
IMW Indian Meadow 78.34 45 *e*P **P** **11 06 49.1 +1.1**
comp=Z,40nm,1.7s,mb5.1
RRI2 Red Ridge 78.43 46 *e*P **P** **11 06 49.1 +0.6**
comp=Z,12nm,1.2s,mb4.7
RRI2 *e*pP pP 11 06 59.7 +0.7
MOOW Moose Ponds 78.54 45 *e*P **P** **11 06 49.5 +0.4**
comp=Z,17nm,1.5s,mb4.8
TPAW Teton Pass 78.56 45 *e*P **P** **11 06 50.2 +0.9**
comp=Z,22nm,1.4s,mb4.9
SIM Simferopol' 78.57 317 *e*P **P** **11 06 49.0 -0.3**
SIM *e* pP 11 06 59.0 -0.8
SIM pmax pmax
comp=Z,29nm,0.8s,mb5.3
LAO LASA Array 79.38 41 *e*P **P** **11 06 53.8 +0.2**
comp=Z,24nm,1.1s,mb5.0
LAO *e*pP pP 11 07 05.1 +1.0
PDAR Pinedale Array 79.81 45 P **P** **11 06 55.8 -0.3**
comp=Z,1.1nm,0.7s,mb3.9,baz=296,slow=4.0,SNR=12
JLU Jordanelle 79.92 48 *e*P **P** **11 06 57.7 +1.0**
DAU Daniels Canyon 80.15 48 *e*P **P** **11 06 58.4 +0.4**
DAU *e**PP pP 11 07 09.7 +1.2
ARUT Antelope Range 80.26 51 *e*P **P** **11 07 00.2 +1.6**
NEN Nelson 80.53 54 *e*P **P** **11 06 59.7 -0.3**
MSU Marysvale 80.66 50 *e*P **P** **11 07 01.7 +1.0**
LDFC Landfair 80.66 54 *e*P **P** **11 07 01.0 +0.2**
SRU San Rafael 81.37 49 *e*P **P** **11 07 04.2 -0.2**
KWP Kalwaria 81.66 325 *e*P **P** **11 07 06.4 +0.7**
KWP Kalwaria 81.66 325 *e*P **P** **11 07 06.3 +0.7**
BURAR Bucovina Array 81.76 323 ⇓P **P** **11 07 07.5 +1.2**
BURAR Bucovina Array 81.76 323 ⇓P **P** **11 07 07.5 +1.2**
CFR Carcaliu 81.80 319 ⇓P **P** **11 07 06.7 +0.2**
BR131 Keskin Array S 81.94 312 *e*P **P** **11 07 07.8 +0.4**
comp=Z,9.4nm,0.8s,mb4.8
BRTR Keskin Array B 81.94 312 P **P** **11 07 07.8 +0.5**
comp=Z,11nm,0.8s,mb4.9,baz=104,slow=4.4,SNR=37
BRTR PP PP 11 10 20.9 +3.8
comp=Z,1.4nm,0.6s,baz=80,slow=7.5,SNR=4.8
VRI Vrincioaia 82.11 320 P **P** **11 07 09.9 +1.8**
VRI Vrincioaia 82.11 320 ⇑P **P** **11 07 09.8 +1.7**
VRI Vrincioaia 82.11 320 ⇑P **P** **11 07 09.8 +1.7**
RSSD Black Hills 82.18 42 *e*P **P** **11 07 09.1 +0.6**
RSSD pmax pmax
comp=Z,14nm,1.5s,mb4.7
RSSD Black Hills 82.18 42 *e*P **P** **11 07 09.1 +0.6**
comp=Z,14nm,1.5s,mb4.7
PPT Papeete 82.27 117 *e*LR LR 11 32 03.3
comp=Z,261nm,25.5s
ULM Lac du Bonnet 82.28 33 P **P** **11 07 08.5 -0.3**
comp=Z,4.1nm,0.9s,mb4.4,baz=2.0,slow=2.3,SNR=3.4
KOLS Kolonicke sedl 82.34 325 *e*P **P** **11 07 09.7 +0.5**
STHS Stebnicka Huta 82.50 326 *i*P **P** **11 07 11.9 +1.9**
OJC Ojcow 82.62 327 *e*P **P** **11 07 12.0 +1.4**
CRVS Cervenica-Dubn 82.75 325 *e*P **P** **11 07 15.9 +4.6**
CRVS Cervenica-Dubn 82.75 325 *e* **P** **11 07 15.9 +4.6**
MLR Muntele Rosu 82.78 321 P **P** **11 07 14.5 +3.0**
MLR Muntele Rosu 82.78 321 P **P** **11 07 11.8 +0.3**
comp=Z,5.5nm,0.8s,mb4.6,baz=135,slow=15,SNR=12
MLR Muntele Rosu 82.78 321 ⇓P **P** **11 07 12.6 +1.1**
MLR Muntele Rosu 82.78 321 ⇓P **P** **11 07 12.6 +1.1**
NIE Niedzica 82.94 326 *e*P **P** **11 07 15.5 +3.3**
PHWY Pilot Hill 83.13 45 *e*P **P** **11 07 13.8 +0.4**
VOIR 83.29 321 ⇑P **P** **11 07 15.0 +0.9**
HILS Ha'il 83.49 298 P **P** **11 07 18.2 +2.7**
KECS Kecovo 83.51 325 *e*P **P** **11 07 15.9 +0.8**
KECS *e*pP pP 11 07 26.3 +0.6
SMCO Snowmass 83.53 47 *e*P **P** **11 07 16.3 +0.8**
DRGR 83.58 323 P **P** **11 07 18.5 +2.9**
OKC Ostrava-Krasne 83.64 327 *e*P **P** **11 07 16.4 +0.7**
KSP Ksiaz 83.73 329 *e*P **P** **11 07 16.6 +0.4**
KSP *e**PP pP 11 07 27.0 +0.2
KSP *e*S S 11 17 37.0 +1.9

MORC	**Moravsky Berou**	**83.95**	**328**	*e*P		**P**		**11 07 17.9**	**+0.5**
MORC				*e*				11 10 31.4	
MORC					pmax	pmax			
	comp=Z,13nm,1.0s,mb5.0								
MORC	**Moravsky Berou**	**83.95**	**328**	*e*P		**P**		**11 07 17.9**	**+0.5**
	comp=Z,13nm,1.0s,mb5.0								
MORC				*e*PP		PP		11 10 31.4	-1.6
DPC	**Dobruska-Polom**	**84.08**	**329**	*e*P		**P**		**11 07 16.8**	**-1.2**
UPC	**Upice**	**84.10**	**329**	*e*P		**P**		**11 07 18.7**	**+0.6**
PSZ	**Piszkesteto**	**84.19**	**325**	*e*P		**P**		**11 07 19.1**	**+0.5**
PSZ	**Piszkesteto**	**84.19**	**325**	*e*		**P**		**11 07 19.1**	**+0.5**
VYHS	**Vyhne**	**84.28**	**326**	*e*P		**P**		**11 07 19.6**	**+0.6**
QURS	**Qurayyt al Mil**	**84.42**	**304**	P		**P**		**11 07 22.6**	**+2.4**
AFFS	**'Afif**	**84.50**	**295**	P		**P**		**11 07 22.0**	**+1.2**
PVCC	**Panska Ves**	**84.70**	**330**	*e*P		**P**		**11 07 21.9**	**+0.8**
BRG	**Berggiesshubel**	**84.71**	**330**	*i* P		**P**		**11 07 21.3**	**+0.2**
BRG				*e*		pP		11 07 30.5	-1.2
BRG				S		S		11 17 47.0	+2.2
BRG					pmax	pmax			
	comp=Z,9.0nm,0.8s,mb5.0								
BRG					MLR	MLR			
	comp=Z,300nm,13.2s,MS4.9								
BRG	**Berggiesshubel**	**84.71**	**330**	*i* P		**P**		**11 07 21.3**	**+0.2**
	comp=Z,9.1nm,0.8s,mb5.0								
BRG				*e*		pP		11 07 30.5	-1.2
BRG				S		S		11 17 47.0	+2.2
BRG				LR		LR			
	comp=Z,300nm,13.2s,MS4.9								
VRAC	**Vranov**	**84.72**	**328**	P		**P**		**11 07 24.4**	**+3.2**
CLL	**Collm**	**84.77**	**331**	⇑*i*P		**P**		**11 07 21.6**	**+0.2**
CLL				*i* *PP		pP		11 07 32.0	0.0
CLL					pmax	pmax			
	comp=Z,29nm,1.0s,mb5.4								
CLL	**Collm**	**84.77**	**331**	⇑*i*P		**P**		**11 07 21.6**	**+0.2**
	comp=Z,29nm,1.0s,mb5.4								
CLL				*i* pP		pP		11 07 32.0	0.0
CLL	**Collm**	**84.77**	**331**	⇑P		**P**		**11 07 21.6**	**+0.2**
	comp=Z,logA/T=1.5,mb5.4								
CLL				*i* *PP		pP		11 07 32.0	0.0
SMOL	**Smolenice**	**84.92**	**327**	*e*P		**P**		**11 07 23.7**	**+1.5**
CSS	**Prodhromos**	**85.00**	**309**	P		**P**		**11 07 22.9**	**-0.1**
	comp=Z,19nm,0.8s,mb5.3								
PRU	**Pruhonice**	**85.12**	**329**	*e*P		**P**		**11 07 23.5**	**+0.3**
TUC	**Tucson**	**85.20**	**54**	*e*P		**P**		**11 07 25.3**	**+1.3**
TUC				*e*PP		pP		11 07 34.9	+0.2
TUC					pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.6								
TUC	**Tucson**	**85.20**	**54**	*e*P		**P**		**11 07 25.3**	**+1.3**
	comp=Z,5.4nm,1.1s,mb4.6								
TUC				*e*pP		pP		11 07 34.9	+0.2
KAMS	**Al Khamasin**	**85.28**	**291**	P		**P**		**11 07 24.9**	**+0.3**
ZST	**Bratislava**	**85.30**	**327**	*e*P		**P**		**11 07 26.8**	**+2.7**
SDCO	**Great Sand Dun**	**85.33**	**47**	*e*P		**P**		**11 07 25.1**	**+0.6**
	comp=Z,14nm,1.0s,mb5.0								
SDCO				*e*pP		pP		11 07 35.7	+0.5
NKC	**Novy Kostel**	**85.81**	**330**	*e*P		**P**		**11 07 29.0**	**+2.4**
MOX	**Moxa**	**85.84**	**331**	*e*P		**P**		**11 07 28.8**	**+2.1**
MOX				*e*PP		pP		11 07 36.0	-1.3
MOX					pmax	pmax			
	comp=Z,47nm,1.9s,mb5.4								
MOX	**Moxa**	**85.84**	**331**	⇓*i*P		**P**		**11 07 28.8**	**+2.1**
MOX					pP	pP		11 07 36.0	-1.3
MOX					PP	PP		11 10 44.0	-4.0
MOX					L			11 51 31.0	
TBI	**Tubuai**	**85.94**	**121**	*e*LR		LR		11 33 44.5	
	comp=Z,234nm,24.5s								
KHC	**Kasperske Hory**	**86.18**	**329**	*e*P		**P**		**11 07 28.7**	**+0.3**
GERES	**GERESS Array B**	**86.34**	**329**	P		**P**		**11 07 29.6**	**+0.4**
	comp=Z,2.3nm,0.7s,mb4.5,baz=34,slow=4.8,SNR=16								
ANMO	**Albuquerque**	**86.47**	**50**	*e*P		**P**		**11 07 30.4**	**+0.2**
ANMO				*e*PP		pP		11 07 41.4	+0.6
ANMO					pmax	pmax			
	comp=Z,8.0nm,1.1s								
ANMO	**Albuquerque**	**86.47**	**50**	*e*P		**P**		**11 07 30.4**	**+0.2**
	comp=Z,8.0nm,1.1s,mb4.9								
ANMO				*e*pP		pP		11 07 41.4	+0.6
TATS	**Tathlith**	**86.56**	**291**	P		**P**		**11 07 32.2**	**+1.2**
GRUS	**Gruza**	**86.61**	**322**	*i* P		**P**		**11 07 32.2**	**+1.6**
GRA1	**Grafenberg Arr**	**86.74**	**331**	*e*P		**P**		**11 07 32.5**	**+1.4**
	comp=Z,10.0nm,1.1s,mb5.0								
GRA1				*e*pP		pP		11 07 43.5	+1.7
GRF	**Grafenberg Arr**	**86.74**	**331**	*e*P		**P**		**11 07 32.5**	**+1.4**
GRF				*e*PP		pP		11 07 43.5	+1.7
GRF					pmax	pmax			
	comp=Z,10.0nm,1.1s,mb5.0								
GRF	**Grafenberg Arr**	**86.74**	**331**	*e*P		**P**		**11 07 32.5**	**+1.4**
GRF				*e*PP		pP		11 07 43.5	+1.7
GRF					pmax	pmax			
	comp=Z,10.0nm,1.1s,mb5.0								
GRF	**Grafenberg Arr**	**86.74**	**331**	*e*P		**P**		**11 07 32.5**	**+1.4**
	comp=Z,10.0nm,1.1s,mb5.0								
GRF				*e*pP		pP		11 07 43.5	+1.7
DIVS	**Divcibare**	**86.83**	**322**	⇑*i*P		**P**		**11 07 31.3**	**-0.4**
JMQS	**Jabal Moqyreh**	**86.90**	**303**	P		**P**		**11 07 32.9**	**+0.5**
HAQS	**Haql**	**87.46**	**303**	P		**P**		**11 07 35.3**	**+0.2**
BDAS	**Al Bad'**	**87.71**	**303**	P		**P**		**11 07 36.4**	**+0.1**
DBAS	**Duba**	**87.82**	**301**	P		**P**		**11 07 37.4**	**+0.5**
VISS	**Visnje**	**88.11**	**326**	*e*P		**P**		**11 07 37.7**	**-0.1**
JAVS	**Javornik**	**88.40**	**327**	*e*P		**P**		**11 07 38.2**	**-1.0**
SCHQ	**Schefferville**	**88.78**	**16**	P		**P**		**11 07 41.1**	**+0.3**
	comp=Z,4.6nm,0.8s,mb4.9,baz=5.7,slow=8.9,SNR=5.5								
CDF	**Champ du Feu**	**89.34**	**332**	*e*P		**P**		**11 07 43.7**	**+0.1**
LOR	**Lormes**	**91.60**	**333**	*e*P		**P**		**11 07 54.2**	**0.0**
TXAR	**Lajitas Array**	**91.84**	**53**	P		**P**		**11 07 55.8**	**0.0**
	comp=Z,2.5nm,0.8s,mb4.6,baz=297,slow=2.8,SNR=11								
FLN	**La Foliniere**	**91.88**	**336**	*e*P		**P**		**11 07 56.1**	**+0.6**
LPL	**La Plagne**	**91.90**	**331**	*e*P		**P**		**11 07 55.5**	**-0.1**
	comp=Z,16nm,0.8s,mb5.1								
LPL	**La Plagne**	**91.90**	**331**	*e*P		**P**		**11 07 55.5**	**-0.1**
LPL					pmax	pmax			
	comp=Z,8.0nm,0.8s,mb5.1								
SSF	**Saint Saulge**	**91.91**	**333**	*e*P		**P**		**11 07 55.7**	**+0.1**
SSF					pmax	pmax			
	comp=Z,9.0nm,1.0s,mb5.0								
SSF	**Saint Saulge**	**91.91**	**333**	*e*P		**P**		**11 07 55.7**	**+0.1**
	comp=Z,8.5nm,1.0s,mb5.0								
LPG	**La Plagne**	**91.91**	**330**	*e*P		**P**		**11 07 55.8**	**+0.1**
	comp=Z,19nm,0.8s,mb5.2								
LPG	**La Plagne**	**91.91**	**330**	*e*P		**P**		**11 07 55.8**	**+0.1**
LPG					pmax	pmax			
	comp=Z,9.0nm,0.8s,mb5.2								
AVF	**Avril sur Loir**	**92.19**	**333**	*e*P		**P**		**11 07 57.1**	**+0.2**
	comp=Z,22nm,0.8s,mb5.3								
AVF	**Avril sur Loir**	**92.19**	**333**	*e*P		**P**		**11 07 57.1**	**+0.2**
AVF					pmax	pmax			
	comp=Z,11nm,0.8s,mb5.2								
BNI	**Bardonecchia**	**92.30**	**330**	*e*P		**P**		**11 07 58.3**	**+0.8**
BNI					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb5.0								
BNI	**Bardonecchia**	**92.30**	**330**	*e*P		**P**		**11 07 58.3**	**+0.9**
	comp=Z,7.6nm,0.9s,mb5.0								
GRR	**Gorron**	**92.33**	**336**	*e*P		**P**		**11 07 58.0**	**+0.4**
	comp=Z,15nm,0.9s,mb5.0								
GRR	**Gorron**	**92.33**	**336**	*e*P		**P**		**11 07 58.0**	**+0.4**
GRR					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb5.0								
MBDF	**Montbardon**	**92.52**	**330**	*e*P		**P**		**11 07 58.2**	**-0.3**
	comp=Z,16nm,0.7s,mb5.2								
MBDF	**Montbardon**	**92.52**	**330**	*e*P		**P**		**11 07 58.2**	**-0.3**
MBDF					pmax	pmax			
	comp=Z,8.0nm,0.7s,mb5.3								
ORIF	**Oris-en-Rattie**	**92.74**	**331**	*e*P		**P**		**11 07 59.7**	**+0.2**
	comp=Z,19nm,0.8s,mb5.2								
ORIF	**Oris-en-Rattie**	**92.74**	**331**	*e*P		**P**		**11 07 59.7**	**+0.2**
ORIF					pmax	pmax			
	comp=Z,9.0nm,0.8s,mb5.2								
SBF	**Sospel**	**92.94**	**329**	*e*P		**P**		**11 07 59.9**	**-0.6**
	comp=Z,36nm,0.9s,mb5.5								
SBF	**Sospel**	**92.94**	**329**	*e*P		**P**		**11 07 59.9**	**-0.6**
SBF					pmax	pmax			
	comp=Z,18nm,0.9s,mb5.5								
TCF	**Toulx Ste Croi**	**93.04**	**334**	*e*P		**P**		**11 08 01.1**	**+0.2**
	comp=Z,7.0nm,0.7s,mb4.9								
TCF	**Toulx Ste Croi**	**93.04**	**334**	*e*P		**P**		**11 08 01.1**	**+0.2**
TCF					pmax	pmax			
	comp=Z,4.0nm,0.7s,mb5.0								
VIVF	**Saint-Julien-l**	**93.28**	**331**	*e*P		**P**		**11 08 01.5**	**-0.5**
	comp=Z,23nm,0.9s,mb5.3								
VIVF	**Saint-Julien-l**	**93.28**	**331**	*e*P		**P**		**11 08 01.5**	**-0.5**
VIVF					pmax	pmax			
	comp=Z,11nm,0.9s,mb5.3								
LMR	**La Mourre**	**93.76**	**329**	*e*P		**P**		**11 08 03.4**	**-0.8**
	comp=Z,25nm,0.8s,mb5.4								
LMR	**La Mourre**	**93.76**	**329**	*e*P		**P**		**11 08 03.4**	**-0.8**
LMR					pmax	pmax			
	comp=Z,13nm,0.8s,mb5.4								
RKT	**Rikitea**	**96.61**	**113**	*e*LR		LR		11 38 42.3	
	comp=Z,236nm,29.2s								
SDV	**Santo Domingo**	**127.69**	**43**	*e*P		PKPdf		11 13 53.2	+0.8
SDV				*e*pP				11 14 03.6	
DBIC	**Dimbokro**	**129.54**	**316**	PKP		PKPdf		11 13 57.0	+1.1
	comp=Z,3.7nm,1.0s,baz=70,slow=2.7,SNR=4.8								
SNAA	**Sanae**	**137.30**	**195**	⇑*i*PKPdf		PKPdf		11 14 01.1	-7.8
SNAA				*e*				11 14 12.4	
SNAA				*e*				11 14 16.2	
VNA2	**Neumayer--Watz**	**138.85**	**195**	⇑*i*PKPdf		PKPdf		11 14 02.7	-9.0
VNA2				*e*				11 14 13.7	
VNA2				*e*				11 14 17.1	
VNA3	**Neumayer Olymp**	**139.06**	**193**	⇑*i*PKPdf		PKPdf		11 14 03.2	-8.9
VNA3				*e*				11 14 14.4	
VNA3				*e*				11 14 18.9	
VNA1	**Neumayer--Stat**	**139.24**	**195**	⇑*i*PKPdf		PKPdf		11 14 04.3	-8.2
VNA1				*e*				11 14 15.5	
SAML	**Samuel**	**146.28**	**50**	*e*P		PKPdf		11 14 27.9	+1.6
SAML				*e*pP				11 14 38.8	
LPAZ	**La Paz**	**147.78**	**66**	PKPbc		PKPdf		11 14 31.0	+2.4
	comp=Z,3.2nm,0.9s,baz=284,slow=3.5,SNR=10								
LVC	**Limon Verde**	**150.56**	**77**	*e*PKPdf		PKPdf		11 14 36.4	+3.5
PLCA	**Paso Flores**	**152.81**	**116**	PKPbc		PKPdf		11 14 44.9	+9.3
	comp=Z,1.6nm,0.9s,baz=234,slow=8.7,SNR=3.2								
PLCA	**Paso Flores**	**152.81**	**116**	PKPbc		PKPdf		11 14 44.9	+9.3

ATH ***27*** *10:55:08.2,36.68N×27.94E,h3km,MD3.2/4*
ISK ***27*** *10:55:08.8,36.71N×28.06E,h27km,MD3.2*
CSEM ***27*** *10:55:08.5±0.1,36.68N×28.04E,h24km±1km,MD3.2,*
Error ellipse: s-maj=2.9km s-min=1.9km az=34.0
ISC 27 10:55:09.1±0.6,**36.62N**±0.04×**27.98E**±0.04,**h24**km**,n15,**
σ1§**22**/22,**1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.42**	**164**	⇑*i*PG	**Pb**	**10 55 17.5**	**-0.3**
DALT	**Dalyan (Mudla)**	**0.55**	**74**	PG	**Pb**	**10 55 19.4**	**-0.6**
DALT				SG	**Sb**	**10 55 26.4**	**-1.0**
YER	**Yerkesik**	**0.57**	**25**	*i* PG	**Pb**	**10 55 19.1**	**-1.2**
BDRM	**Kayabasi**	**0.62**	**316**	*i* P	**Pb**	**10 55 21.1**	**-0.1**
BDRM				*i* S	**Sb**	**10 55 30.2**	**+0.7**
NISR	**Nisiros**	**0.69**	**270**	*e*PG	**Pb**	**10 55 20.7**	**-1.6**
MLSB	**Milas**	**0.70**	**346**	PG	**Pb**	**10 55 22.2**	**-0.3**
MLSB				SG	**Sb**	**10 55 31.4**	**-0.2**
BODT	**Bodrum**	**0.70**	**310**	PG	**Pb**	**10 55 22.7**	**+0.2**
BODT				SG	**Sb**	**10 55 33.3**	**+1.6**
KARP	**Karpathos**	**1.26**	**212**	*e*PB	**Pb**	**10 55 32.6**	**+0.6**
AKAS	**Kas**	**1.36**	**106**	*i* P	**Pn**	**10 55 34.9**	**+1.9**
AKAS				*i* S	**Sn**	**10 55 55.3**	**+4.9**
DNZL	**Cakiroluk**	**1.37**	**38**	*i* P	**Pn**	**10 55 34.4**	**+1.3**
DNZL				*i* S	**Sn**	**10 55 53.9**	**+3.4**
GOLH	**Golhisar**	**1.41**	**64**	*i* P	**Pn**	**10 55 36.1**	**+2.5**
GOLH				*i* S	**Sn**	**10 55 56.1**	**+4.5**
DENT	**Denizli**	**1.41**	**36**	*e*PN	**Pn**	**10 55 32.0**	**-1.6**
SMG	**Samos**	**1.42**	**320**	*e*PB	**Pb**	**10 55 33.7**	**-1.1**
ELL	**Elmali**	**1.56**	**85**	*e*PN	**Pn**	**10 55 35.1**	**-0.6**
IZM	**Izmir**	**1.87**	**342**	*e*PN	**Pn**	**10 55 39.3**	**-0.9**

CSEM ***27*** *11:03:27.0±0.1,34.57N×53.17E,h16km,ML3.4,Error*
ellipse: s-maj=2.6km s-min=1.3km az=94.0
TEH ***27*** *11:03:28.1,34.57N×53.19E,h10km,Mn3.4*
THR ***27*** *11:03:28.9±1.2,34.45N×52.92E,h14km,ML3.0*
ISC 27 11:03:25.8±0.8,**34.54N**±0.03×**53.29E**±0.10,**h10**km**,n17,**
σ1§**43**/19,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAS	**Lasjerd**	**0.89**	**342**	Pg	**Pg**	**11 03 43.2**	**-0.5**
IANJ	**Anjiiloo**	**1.06**	**29**	Pg	**Pg**	**11 03 46.6**	**-0.5**
IFIR	**Firoozkooh**	**1.19**	**338**	Pg	**Pg**	**11 03 48.1**	**-1.5**
ISHM	**Shahmirzad**	**1.27**	**0**	Pg	**Pg**	**11 03 50.3**	**-0.9**
IVRN	**Varamin**	**1.36**	**290**	Pg	**Pg**	**11 03 50.6**	**-2.6**
IDMV	**Damavand**	**1.46**	**316**	Pg	**Pg**	**11 03 52.7**	**-2.4**
IKIA	**Kiasar**	**1.70**	**11**	Pn	**Pn**	**11 03 58.0**	**+2.2**
IGLO	**Galoogah**	**1.78**	**5**	Pn	**Pn**	**11 04 04.2**	**+7.3**
NASN	**Na'in**	**1.78**	**193**	*e*Pg	**Pg**	**11 03 59.9**	**-1.5**
NASN				*e*Sg	**Sg**	**11 04 24.1**	**-1.0**
NASN				AML	AML	11 04 33.5	
	comp=E,302nm,0.5s						
IZEF	**Zefreh**	**1.82**	**206**	Pn	**Pn**	**11 03 59.4**	**+1.8**
IKLH	**Kalahroud**	**1.87**	**230**	Pn	**Pn**	**11 03 58.8**	**+0.6**
IPRN	**Paran-Amol**	**1.91**	**334**	Pn	**Pn**	**11 04 00.1**	**+1.3**
THKV	**Tehran--Karaj**	**2.41**	**306**	*e*Pn	**Pn**	**11 04 07.9**	**+1.9**
IMHD	**Mahdasht**	**2.44**	**299**	Pn	**Pn**	**11 04 06.2**	**-0.2**
IGAR	**Garneh**	**2.46**	**202**	Pn	**Pn**	**11 04 06.7**	**0.0**
ASAO	**Ashtian**	**2.69**	**271**	*e*Pn	**Pn**	**11 04 11.1**	**+1.0**
ASAO				*e*Sg	**Sg**	**11 04 47.8**	**-7.8**
ASAO				AML	AML	11 04 51.6	
	comp=N,54nm,0.6s						
IRAZ	**Razeghan**	**2.89**	**288**	Pn	**Pn**	**11 04 14.9**	**+2.0**

NIED ***27*** *11:11:00,33.20N×142.40E,h8km,Mw5.0 Best double*
couple: M0 3.3×10^16 NP1:φs195°,δ55°,λ-79°. NP2:φs355°,
δ37°,λ-106°.
CSEM ***27*** *11:11:45.0,33.59N×142.44E,h10km,mb5.5*
BJI ***27*** *11:11:45.1,33.19N×142.26E,h24km,mB5.2,mb5.1,*
Ms4.8,Msz4.6
JMA ***27*** *11:11:46.2±0.3,33.24N×142.42E,h63km,M5.1*
MOS ***27*** *11:11:48.5±0.9,33.38N×142.39E,h42km,mb5.5/82,*
MS4.5/18,Error ellipse: s-maj=7.7km s-min=4.2km
az=111.0
HRVD ***27*** *11:11:48.6±0.2,33.22N×142.60E,h12km,MW5.0/65,*
Centroid moment Tensor Solution. LP body waves:
s42,c54;Mantle waves: s65,c128; Half duration: 0
Moment tensor: Scale 10^16Nm; Mrr-4.39±.10;
Mθθ0.01±.10; Mφφ4.38±.09; Mrθ0.24±.33; Mθφ0.50±.08;
Mφr0.14±.29; Best double couple: M0 4.422×10^16 NP1:φs3°,
δ44°,λ-94°. NP2:φs189°,δ46°,λ-86°. Principal axes: T
4.439, Plg1°, Azm276°; N -.029, Plg3°, Azm7°; P -4.405,
Plg87°, Azm167°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
IDC ***27*** *11:11:48.5±0.4,33.22N×142.43E,h37km±2km,mb4.8/18,*
mb1 5.0/22,mb1mx5.0/23,mbtmp5.0/22,ML4.4/4,MS4.2/12,
Ms1 4.2/12,ms1mx4.0/19 Error ellipse: s-maj=12.0km
s-min=11.5km az=93.0
NEIC ***27*** *11:11:48.6±0.1,33.19N×142.36E,mb5.3/119,*
MW4.9(NIED),Error ellipse: s-maj=3.6km s-min=2.6km
az=170.0
ISC 27 11:11:47.3±0.1,**33.23N**±0.02×**142.32E**±0.02,**h37**km,
h37km±.4km:**pP-P,n565,**σ0§**95**/591**,mb5.3**/163,**MS4.4**/34,
25C-64D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.81**	**322**	P	**P**	**11 12 16.1**	**-0.4**
BSO1				*e*S	**S**	**11 12 39.4**	**+1.0**
JHJ2	**Mitsune**	**2.10**	**268**	P	**P**	**11 12 21.2**	**+0.4**
JHJ2				*e*S	**S**	**11 12 47.8**	**+1.9**
JHJ	**Hachijo jima 2**	**2.13**	**268**	Pn	**P**	**11 12 21.2**	**+0.1**
	589nm,0.3s,baz=145,slow=9.6,SNR=172						
JHJ				Sn	**S**	**11 12 47.1**	**+0.5**
	2μm,0.3s,baz=243,slow=20,SNR=15						
BSO3	**Boso 3**	**2.17**	**317**	P	**P**	**11 12 21.9**	**+0.1**
BSO3				*e*S	**S**	**11 12 47.8**	**+0.1**
BSO4	**Boso 4**	**2.41**	**317**	⇓P	**P**	**11 12 25.6**	**+0.5**
BSO4				S	**S**	**11 12 56.3**	**+2.7**
JMY	**Miyakejima3**	**2.49**	**291**	P	**P**	**11 12 26.9**	**+0.6**
JMY				*e*S	**S**	**11 12 55.6**	**-0.1**
KTR	**Katsuura**	**2.53**	**320**	P	**P**	**11 12 27.3**	**+0.3**
KTR				*e*S	**S**	**11 12 58.1**	**+1.2**
JIM2	**Oshima 3**	**2.82**	**303**	⇓P	**P**	**11 12 30.0**	**-1.1**
JIM2				*e*S	**S**	**11 13 02.8**	**-1.4**
JOD2	**Odawara 2**	**3.36**	**308**	P	**P**	**11 12 37.8**	**-0.9**
JHO	**Hitachi**	**3.67**	**337**	⇑P	**P**	**11 12 40.6**	**-2.5**
JYN	**Shimob**	**3.86**	**307**	⇑P	**P**	**11 12 45.1**	**-0.6**
JRY	**Ryogami san**	**3.96**	**316**	P	**P**	**11 12 46.2**	**-1.0**
JRY				*e*S	**S**	**11 13 33.9**	**+0.8**
JAG	**Ashikaga**	**3.96**	**324**	P	**P**	**11 12 46.2**	**-1.1**
JAG				*e*S	**S**	**11 13 31.5**	**-1.7**
TK01	**Tokai 1**	**3.99**	**279**	P	**P**	**11 12 47.5**	**-0.1**
TK01				*e*S	**S**	**11 13 34.5**	**+0.7**
MJAR	**Matsushiro Arr**	**4.72**	**316**	Pn	**P**	**11 12 57.6**	**-0.5**
	68nm,0.3s,baz=161,slow=13,SNR=221						
MJAR				Sn	**S**	**11 13 51.5**	**-0.8**
	54nm,0.3s,baz=276,slow=30,SNR=9.3						
MAJO	**Matsushiro**	**4.73**	**316**	*e*P	**P**	**11 12 58.8**	**+0.7**
MAT	**Matsushiro**	**4.73**	**316**	*e*P	**P**	**11 12 57.0**	**-1.1**
MAT				*e*S	**S**	**11 13 50.0**	**-2.4**
MAT	**Matsushiro**	**4.73**	**316**	P	**P**	**11 12 56.7**	**-1.4**
MAT				S	**S**	**11 13 50.4**	**-2.0**
MAT	**Matsushiro**	**4.73**	**316**	P	**P**	**11 12 57.8**	**-0.3**
MAT				*e*S	**S**	**11 13 51.2**	**-1.2**
JMM	**Marumori**	**4.79**	**345**	P	**P**	**11 12 55.4**	**-3.6**
JMM				S	**S**	**11 13 47.0**	**-7.1**
JIE	**Ise**	**4.81**	**285**	P	**P**	**11 12 59.2**	**-0.1**
JNS	**Sasagawa**	**5.19**	**333**	P	**P**	**11 13 03.7**	**-0.9**
JNS				*e*S	**S**	**11 14 02.0**	**-2.1**
JGM	**Miyama**	**5.24**	**300**	P	**P**	**11 13 05.6**	**+0.3**
JGM				*e*S	**S**	**11 14 06.8**	**+1.4**
JWZ	**Kozaga**	**5.53**	**275**	P	**P**	**11 13 09.1**	**-0.3**
JWZ				*e*S	**S**	**11 14 12.1**	**-0.6**
JWY	**Kouya**	**5.69**	**282**	P	**P**	**11 13 11.8**	**+0.2**
JWY				S	**S**	**11 14 16.4**	**-0.2**
JMK	**Ichinoseki**	**5.78**	**351**	P	**P**	**11 13 08.9**	**-3.9**
JMK				*e*S	**S**	**11 14 10.2**	**-8.7**
JAW	**Awa shima**	**5.78**	**335**	P	**P**	**11 13 11.0**	**-1.9**
JKG	**Kaga**	**5.79**	**303**	P	**P**	**11 13 14.8**	**+1.8**
JSD	**Sado**	**5.83**	**327**	P	**P**	**11 13 11.2**	**-2.3**
JSD				*e*S	**S**	**11 14 18.4**	**-1.6**
CBIJ	**Chichi jima**	**6.11**	**181**	Pn	**P**	**11 13 11.8**	**-5.7**
	162nm,0.3s,baz=65,slow=4.5,SNR=38						
CBIJ				Sn	**S**	**11 14 17.6**	**-10**
	380nm,0.3s,baz=297,slow=22,SNR=12						
CBIJ	**Chichi jima**	**6.11**	**181**	P	**P**	**11 13 12.0**	**-5.5**
CBIJ				*e*S	**S**	**11 14 17.3**	**-10**
MRT2	**Murotomisaki 2**	**6.85**	**274**	P	**P**	**11 13 28.4**	**+0.5**
JNU	**Nakatsue**	**9.59**	**272**	Pn	**P**	**11 14 06.7**	**+0.8**
	4.2nm,0.3s,baz=76,slow=11,SNR=25						
ASAJ	**Asahikawa**	**10.87**	**1**	P	**P**	**11 14 17.0**	**-6.5**
ASAJ						11 16 12.4	
ASAJ				pmax	pmax		
	comp=Z,15nm,0.3s						
ASAJ				smax			
	comp=E,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,603nm,20.9s						
ASAJ	**Asahikawa**	**10.87**	**1**	Pn	**P**	**11 14 16.9**	**-6.6**
	comp=Z,15nm,0.3s,baz=189,slow=9.4,SNR=62						
ASAJ				Sn	**S**	**11 16 12.3**	**-13**
	comp=Z,3.4nm,0.3s,baz=78,slow=30,SNR=4.3						
ASAJ				LR	LR	11 18 26.3	
	comp=Z,603nm,20.9s,baz=185,slow=37						
JMZ	**Minamidaito 2**	**12.15**	**235**	P	**P**	**11 14 43.9**	**+3.0**
KS15	**Wonju Array Si**	**12.51**	**294**	*e*P	**P**	**11 14 46.8**	**+1.1**
KUR	**Kuril'sk**	**12.73**	**18**	*e*P	**P**	**11 14 40.0**	**-8.5**
KUR				pmax	pmax		
	comp=N,220nm,1.2s						
KUR				pmax	pmax		
	comp=E,160nm,1.2s						
KUR				pmax	pmax		
	comp=Z,320nm,1.2s						
KUR				MLR	MLR		
	comp=N,3μm,15.0s						
KUR				MLR	MLR		
	comp=E,6μm,15.0s						
KUR				MLR	MLR		
	comp=Z,3μm,15.0s						
INCN	**Inchon**	**13.49**	**293**	*e*P	**P**	**11 14 59.2**	**+0.7**
	comp=Z,27nm,0.8s						
YSS	**Yuzh-Sakhalins**	**13.71**	**1**⇑	*e*P	**P**	**11 14 56.0**	**-5.4**
YSS				*e*S	**S**	**11 17 22.4**	**-11**
YSS				smax			
	comp=N,90μm,1.2s						
YSS

SSE sS 11 19 30.8
JIJ Ishigaki jima 18.19 246 P **P** **11 15 58.2 -0.6**
IRIF Iriomote-Funau 18.53 246 P **P** **11 16 01.7 -1.2**
YOJ Yonaguni jima 19.01 248 P **P** **11 16 07.2 -1.5**
GUMO Guam 19.69 173 *e*P **P** **11 16 14.4 -1.8**
GUMO pmax pmax
comp=Z,481nm,1.0s
GUMO Guam 19.69 173 *e*P **P** **11 16 14.4 -1.8**
comp=Z,481nm,1.0s
NJ2 Nanjing 19.79 273 *e*P **P** **11 16 15.0 -2.2**
NJ2 AP 11 16 23.0
NJ2 XP 11 16 27.5
NJ2 PP PP 11 16 34.5 -1.7
NJ2 S **S** **11 19 51.0 -2.0**
NJ2 XS 11 20 04.0
NJ2 AMB AMB
comp=Z,230nm,1.4s
NJ2 AMB AMB
comp=Z,320nm,5.2s
NJ2 LR LR
comp=N,1μm,24.0s
NJ2 LR LR
comp=E,2μm,14.0s
NJ2 LR LR
comp=Z,4μm,18.0s
TATO Taipei 19.95 251 *e*P **P** **11 16 16.4 -2.6**
comp=Z,44nm,0.9s
SKR Severo-Kuril's 20.18 26 *e*P **P** **11 16 17.5 -3.7**
SKR pmax pmax
comp=E,70nm,1.0s
SKR pmax pmax
comp=Z,110nm,1.0s
YHNB Yeheng 20.19 250 *e*P **P** **11 16 18.3 -3.2**
QZH Quanzhou 22.28 254 *e*P **P** **11 16 41.0 -1.7**
QZH S **S** **11 20 39.0 -1.6**
QZH LR LR
comp=N,870nm,12.2s,MS4.8
QZH LR LR
comp=E,2μm,15.6s,MS4.8
QZH LR LR
comp=Z,3μm,15.3s,MS4.8
PET Petropavlovsk 23.00 26 *e*P **P** **11 16 48.2 -1.3**
HIA Hailar 23.21 320 *e*P **P** **11 16 51.2 -0.4**
HIA pmax pmax
comp=Z,95nm,1.2s
HIA Hailar 23.21 320 *e*P **P** **11 16 51.2 -0.4**
comp=Z,95nm,1.2s,mb5.1
WHN Wuhan 23.87 271 ⇓P **P** **11 16 57.5 -0.7**
WHN LR LR
comp=Z,3μm,14.6s,MS4.9
HHC Hu-ho-hao-te 25.61 296 ⇑P **P** **11 17 14.0 -0.8**
HHC AP pP 11 17 23.8 -1.1
HHC XP sP 11 17 27.5 -1.8
HHC PP PP 11 17 57.0 +2.0
HHC S **S** **11 21 41.3 +3.4**
HHC XS 11 21 54.3
HHC SCP 11 24 18.0
HHC SCS ScS 11 28 07.0 -1.6
HHC AMB AMB
comp=Z,50nm,1.8s,mb4.7
HHC LR LR
comp=N,731nm,16.6s,MS4.5
HHC LR LR
comp=E,832nm,15.4s,MS4.5
HHC LR LR
comp=Z,889nm,16.6s,MS4.4
CLNS Chul'man 26.47 338*d* *i*P **P** **11 17 22.0 -0.6**
CLNS *e* 11 18 09.8
CLNS *e*PPP PPP 11 18 20.7 +2.2
CLNS pmax pmax
comp=Z,96nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,68nm,1.2s
CLNS pmax pmax
comp=E,19nm,0.9s
CLNS pmax pmax
comp=N,61nm,1.0s
CLNS pmax pmax
comp=E,46nm,1.0s
CLNS pmax pmax
comp=Z,28nm,1.0s,mb4.8
CLNS MLR MLR
comp=Z,700nm,14.0s,MS4.4
CLNS MLR MLR
comp=N,500nm,13.0s,MS4.2
CLNS MLR MLR
comp=E,100nm,14.0s,MS4.2
BTO Baotou 26.75 295 *e*P **P** **11 17 25.0 -0.3**
BTO AMB AMB
comp=Z,93nm,1.0s,mb5.3
BTO LR LR
comp=N,1μm,15.3s,MS4.8
BTO LR LR
comp=E,1μm,13.9s,MS4.8
MA2 Magadan 26.95 10*de*P **P** **11 17 25.7 -1.3**
MA2 *e*S **S** **11 21 58.6 -1.1**
MA2 pmax pmax
comp=Z,40nm,1.8s,mb4.7
MA2 pmax pmax
comp=N,20nm,1.2s
MA2 MLR MLR
comp=Z,300nm,18.0s,MS3.9
MA2 Magadan 26.95 10 *e*P **P** **11 17 25.2 -1.8**
comp=Z,52nm,1.3s,mb4.9
XAN Xi'an 27.75 281 P **P** **11 17 33.0 -1.6**
XAN S **S** **11 22 11.0 -1.9**
XAN AMB AMB
comp=Z,53nm,1.3s,mb5.0
XAN AMB AMB
comp=Z,285nm,7.3s
XAN LR LR
comp=N,414nm,13.7s,MS4.5
XAN LR LR
comp=E,951nm,15.1s,MS4.5
XAN LR LR
comp=Z,1μm,14.6s,MS4.6
ENH Enshi 28.01 273 *e*P **P** **11 17 35.2 -1.7**
comp=Z,224nm,1.1s,mb5.7
ENH LR LR
comp=Z,880nm,19.0s,MS4.4
CIT Chita 28.01 321 *e*P **P** **11 17 36.6 -0.2**
CIT *e* 11 17 51.4
CIT pmax pmax
comp=Z,482nm,1.8s,mb5.8
FX1 Attu Island--F 29.55 39 PcP PcP 11 20 54.5 -0.5
comp=Z,4.0nm,0.5s,baz=252,slow=3.6,SNR=5.5
FX1 LR LR 11 29 08.1
comp=Z,5.3nm,19.1s,baz=251,slow=35
FX1 Attu Island--F 29.55 39 P **P** **11 17 48.5 -1.9**
YAK Yakutsk 29.94 348*d* *i*P **P** **11 17 52.6 -1.2**
YAK pmax pmax
comp=Z,33nm,1.1s,mb5.0
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK Yakutsk 29.94 348 *e*P **P** **11 17 52.7 -1.1**
comp=E,48nm,0.8s,mb5.3
SEY Seymchan 30.40 9 *e*P **P** **11 17 57.3 -0.6**
SEY pmax pmax
comp=Z,20nm,0.8s,mb4.9
SEY Seymchan 30.40 9 *i* P **P** **11 17 57.2 -0.7**
SONM Songino Array 30.64 309 P **P** **11 18 01.2 +0.9**
comp=Z,24nm,0.8s,mb5.1,baz=113,slow=9.4,SNR=118
SONM PcP PcP 11 20 57.8 -0.2
comp=Z,2.1nm,0.5s,baz=62,slow=1.4,SNR=6.8
SONM pPcP 11 21 09.4
comp=Z,3.1nm,0.9s,baz=110,slow=3.0,SNR=4.0
SONM LR LR 11 30 20.8
comp=Z,767nm,21.2s,MS4.3,baz=107,slow=36
BOD Bodaibo 31.17 331 *e*P **P** **11 18 03.6 -1.2**
BOD pmax pmax
comp=Z,14nm,1.1s,mb4.7
BOD pmax pmax
comp=Z,43nm,1.3s,mb5.1
GYA Guiyang 31.55 267⇑ *i*P **P** **11 18 06.8 -1.6**
GYA AP pP 11 18 18.3 -0.6
GYA XP sP 11 18 22.5 -1.2
GYA PP PP 11 19 11.3 -2.0
GYA S **S** **11 23 10.0 -3.2**
GYA XS 11 23 27.8
GYA SS SS 11 25 02.5 -0.6
GYA SCS ScS 11 28 33.8 -2.1
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.2
GYA AMB AMB
comp=Z,130nm,3.7s
GYA LR LR
comp=N,540nm,13.2s,MS4.8
GYA LR LR
comp=E,1μm,12.6s,MS4.8
GYA LR LR
comp=Z,1μm,12.6s,MS4.8
LZH Lanzhou 31.64 286 ⇓P **P** **11 18 08.0 -1.2**
LZH AP pP 11 18 17.5 -2.1
LZH XP sP 11 18 22.8 -1.7
LZH PP PP 11 19 13.0 -1.4
LZH PCP PcP 11 21 01.0 +0.3
LZH *e*S **S** **11 23 13.3 -1.3**
LZH XS 11 23 30.0
LZH SS SS 11 25 02.0 -3.3
LZH AMB AMB
comp=Z,83nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,360nm,4.2s
LZH LR LR
comp=E,2μm,13.8s
LZH LR LR
comp=Z,3μm,14.3s,MS5.1
LZH Lanzhou 31.64 286 ⇓P **P** **11 18 07.9 -1.3**
LZH *PP pP 11 18 17.5 -2.1
LZH *SP sP 11 18 22.7 -1.8
LZH 11 19 13.0
LZH 11 21 01.1
LZH *e*S **S** **11 23 13.2 -1.4**
LZH *SS 11 23 30.0
LZH SS SS 11 25 02.0 -3.3
LZH pmax pmax
comp=Z,83nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,3μm,14.3s,MS5.1
LZH Lanzhou 31.64 286 ⇓P **P** **11 18 07.9 -1.3**
comp=Z,83nm,1.5s,mb5.3
LZH pP pP 11 18 17.5 -2.1
LZH sP sP 11 18 22.7 -1.8
LZH PP PP 11 19 13.0 -1.4
LZH PcP PcP 11 21 01.1 +0.4
LZH *e*S **S** **11 23 13.2 -1.4**
LZH sS 11 23 30.0
LZH SS SS 11 25 02.0 -3.3
LZH LR LR
comp=Z,3μm,14.3s,MS5.1
CD2 Chengdu 32.64 277 P **P** **11 18 16.3 -1.6**
CD2 AMB AMB
comp=Z,36nm,0.8s,mb5.3
IRK Irkutsk 33.28 316 *e*P **P** **11 18 12.0 -11**
IRK pmax pmax
comp=Z,48nm,2.9s,mb4.9
ZAK Zakamensk 33.30 313 *e*P **P** **11 18 24.0 +0.5**
ZAK pmax pmax
comp=Z,14nm,1.1s,mb4.8
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
TLY Talaya 33.47 315*d* *i*P **P** **11 18 25.4 +0.5**
TLY pmax pmax
comp=Z,46nm,1.7s,mb5.1
TLY Talaya 33.47 315 *e*P **P** **11 18 25.5 +0.6**
comp=Z,35nm,1.0s,mb5.2
GTA Gaotai 34.55 293 ⇓P **P** **11 18 34.0 -0.4**
GTA AP pP 11 18 45.0 +0.1
GTA XP sP 11 18 49.8 +0.1
GTA PP PP 11 19 52.8 +1.5
GTA PCP PcP 11 21 09.3 +0.5
GTA S **S** **11 24 03.8 +3.9**
GTA XS 11 24 19.3
GTA SCP 11 24 48.3
GTA PCS 11 24 55.0
GTA SCS ScS 11 28 52.0 +0.7
GTA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GTA AMB AMB
comp=Z,844nm,7.2s
GTA LR LR
comp=N,566nm,15.6s,MS4.6
GTA LR LR
comp=E,663nm,13.7s,MS4.6
GTA LR LR
comp=Z,898nm,14.8s,MS4.6
MOY Mondy 35.04 314 *e*P **P** **11 18 39.2 +0.8**
MOY pmax pmax
comp=Z,69nm,2.2s,mb5.2
KMI Kunming 35.32 267 P **P** **11 18 40.3 -0.8**
KMI AP pP 11 18 51.8 +0.2
KMI XP sP 11 18 56.0 -0.4
KMI PP PP 11 20 01.0 -0.1
KMI PCP PcP 11 21 10.5 -0.7
KMI S **S** **11 24 11.0 -0.9**
KMI XS 11 24 30.0
KMI PCS 11 24 54.3
KMI SS SS 11 26 30.5 +0.1
KMI SCS ScS 11 28 54.5 -1.1
KMI AMB AMB
comp=Z,21nm,1.2s,mb4.9
KMI AMB AMB
comp=Z,514nm,11.1s
KMI LR LR
comp=N,596nm,12.5s,MS4.8
KMI LR LR
comp=E,990nm,13.1s,MS4.8
KMI LR LR
comp=Z,1μm,14.3s,MS4.8
KMI Kunming 35.32 267 P **P** **11 18 40.3 -0.8**
KMI *PP pP 11 18 51.7 +0.1
KMI *SP sP 11 18 56.0 -0.4
KMI 11 20 01.1
KMI 11 21 10.4
KMI S **S** **11 24 10.9 -1.0**
KMI *SS 11 24 30.1
KMI SS SS 11 26 30.6 +0.2
KMI 11 28 54.6
KMI pmax pmax
comp=Z,21nm,1.2s,mb4.9
KMI MLR MLR
comp=Z,1μm,14.3s,MS4.8
KMI Kunming 35.32 267 P **P** **11 18 40.3 -0.8**
comp=Z,21nm,1.2s,mb4.9
KMI pP pP 11 18 51.7 +0.1
KMI sP sP 11 18 56.0 -0.4
KMI PP PP 11 20 01.1 0.0
KMI PcP PcP 11 21 10.4 -0.8
KMI S **S** **11 24 10.9 -1.0**
KMI sS 11 24 30.1
KMI PcS 11 24 54.3
KMI SS SS 11 26 30.6 +0.2
KMI ScS ScS 11 28 54.6 -1.0
KMI LR LR
comp=Z,1μm,14.3s,MS4.8
BILL Bilibino 37.49 15*d* *i*P **P** **11 18 57.4 -1.5**
BILL *i* pP 11 19 05.7 -3.8
BILL pmax pmax
comp=Z,37nm,1.0s,mb5.2
BILL Bilibino 37.49 15 *e*P **P** **11 18 57.2 -1.7**
comp=Z,50nm,1.3s,mb5.2
NANT Nan 39.80 259 ⇑P **P** **11 19 16.0 -2.6**
comp=Z,228nm,0.9s,mb5.9
UNV Unalaska Valle 41.35 44 *e*P **P** **11 19 30.0 -1.1**
NST Nakhon Sawan 41.87 256 P **P** **11 19 35.5 -0.2**
BDT Bhumibol Dam 41.97 259 P **P** **11 19 32.0 -4.6**
WMQ Urumqi 43.32 301 P **P** **11 19 49.0 +1.7**
WMQ AP pP 11 19 59.0 +1.0
WMQ XP sP 11 20 03.0 +0.4
WMQ PP PP 11 21 32.3 +2.2
WMQ S **S** **11 26 14.5 +2.7**
WMQ XS 11 26 30.8
WMQ AMB AMB
comp=Z,41nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,588nm,4.0s
WMQ LR LR
comp=N,813nm,12.4s,MS4.9
WMQ LR LR
comp=E,471nm,14.6s,MS4.9
WMQ LR LR
comp=Z,661nm,15.6s,MS4.6
LSA Lhasa 43.44 280 P **P** **11 19 49.5 +1.1**
LSA AMB AMB
comp=Z,20nm,1.0s,mb4.8
LSA Lhasa 43.44 280 *e*P **P** **11 19 49.5 +1.1**
LSA pmax pmax
comp=Z,21nm,1.0s,mb4.8
LSA MLR MLR
comp=Z,337nm,20.0s,MS4.2
LSA Lhasa 43.44 280 *e*P **P** **11 19 49.5 +1.0**
comp=Z,21nm,1.0s,mb4.8
LSA LR LR
comp=Z,337nm,20.0s,MS4.2
KSM Kuching 43.58 230 *e*P **P** **11 19 49.5 -0.3**
SHL Shillong 44.25 274 *e*P **P** **11 19 54.0 -1.0**
NVS Novosibirsk 46.05 316⇓ *i*P **P** **11 20 08.4 -0.6**
NVS *i* 11 21 44.2
NVS *e*S **S** **11 27 02.2 +11**
NVS pmax pmax
comp=E,81nm,1.4s
NVS pmax pmax
comp=Z,73nm,1.4s,mb5.4
NVS smax
comp=N,30nm,1.9s
NVS smax
comp=E,56nm,2.2s
SNG Songkhla 46.48 246 P **P** **11 20 13.0 +0.1**
KAKA Kakadu 46.64 193 *e*P **P** **11 20 15.5 +1.3**
comp=E,27nm,0.9s,mb5.2
KAKA *i* pP 11 20 27.0 +2.1
MKAR Makanchi Array 46.84 305 P **P** **11 20 15.7 +0.3**
comp=E,22nm,0.7s,mb5.2,baz=90,slow=9.9,SNR=209
MKAR PcP PcP 11 21 48.1 -0.2
comp=E,3.5nm,0.6s,baz=76,slow=5.9,SNR=2.0
MKAR LR LR 11 40 47.8
comp=E,289nm,20.1s,MS4.2,baz=86,slow=37
KULM Kulim 47.67 244 *e*P **P** **11 20 20.5 -1.8**
SVW2 Sparrevohn 48.15 35 *e*P **P** **11 20 24.8 -0.6**
TTA Tatalina 48.17 33 *e*P **P** **11 20 25.1 -0.4**
TTA *e*pP pP 11 20 52.6 +16
JIRN Jiri 48.23 279 *e*P **P** **11 20 27.0 +0.6**
comp=E,192nm,0.6s,mb6.3
GUN Gumba 48.39 280 *e*P **P** **11 20 27.9 +0.2**
comp=E,159nm,0.8s,mb6.1
PKI Pulchoki 48.90 279 *e*P **P** **11 20 31.5 -0.2**
KURK Kurchatov 48.92 311 *e*P **P** **11 20 31.5 0.0**
KURK pmax pmax
comp=Z,96nm,0.8s,mb5.9
KURK Kurchatov 48.92 311 *e*P **P** **11 20 31.5 +0.1**
comp=Z,96nm,0.8s,mb5.9
KKN Kakani 48.93 280 *e*P **P** **11 20 31.9 0.0**
comp=Z,131nm,0.8s,mb6.0
DMN Daman 49.14 279 *e*P **P** **11 20 33.3 -0.2**
comp=Z,122nm,1.0s,mb5.9
GKN Gorkha 49.38 280 *e*P **P** **11 20 35.4 0.0**
RSO Redoubt South 49.48 36 *e*P **P** **11 20 34.6 -1.1**
IMA Indian Mountai 49.62 29 *e*P **P** **11 20 36.1 -0.6**
IMA pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
IMA Indian Mountai 49.62 29 *e*P **P** **11 20 36.1 -0.6**
comp=Z,8.8nm,1.0s,mb4.7
SPU Mount Spurr 49.86 35 *e*P **P** **11 20 37.8 -0.8**
KOLN Koldanda 50.33 280 *e*P **P** **11 20 42.7 +0.1**
SLKM Skilak Lake 50.73 36 *e*P **P** **11 20 43.6 -1.6**
SLKM *e**PP pP 11 20 54.3 -1.7
PMR Palmer 51.28 35 *e*P **P** **11 20 47.8 -1.5**
PMR pmax pmax
comp=Z,40nm,0.9s,mb5.3
PMR Palmer 51.28 35 *e*P **P** **11 20 47.8 -1.5**
comp=Z,40nm,0.9s,mb5.3
MCK McKinley 51.42 32 *e*P **P** **11 20 49.0 -1.4**
MCK pmax pmax
comp=Z,28nm,1.5s,mb5.0
MCK MLR MLR
comp=Z,111nm,19.0s,MS3.9
MCK McKinley 51.42 32 *e*P **P** **11 20 49.0 -1.4**
comp=Z,28nm,1.5s,mb5.0
MCK LR LR
comp=Z,111nm,19.0s,MS3.9
SML Sawmill 51.66 35 *e*P **P** **11 20 50.7 -1.5**
ULHL Ulahol 51.85 300 P **P** **11 20 54.5 +0.6**
SNR=15
TKM2 Tokmak 2 52.16 301 P **P** **11 20 57.2 +1.0**
SNR=35
ILAR Eielson Array 52.34 31 P **P** **11 20 55.4 -1.9**
comp=Z,21nm,1.0s,mb5.0,baz=266,slow=5.9,SNR=122
ILAR pP pP 11 21 07.2 -0.9
comp=Z,14nm,0.7s,baz=265,slow=6.4,SNR=11
LGTI Lohaghat 52.47 284 *e*P **P** **11 20 59.8 +1.1**
KZA Kyzart 52.61 300 P **P** **11 21 01.3 +1.7**
SNR=11
KBK Karagaybulak 52.69 301 P **P** **11 21 00.8 +0.6**
SNR=23
KSH Kashi 52.72 297 *e*P **P** **11 21 02.0 +1.6**
KSH *e*AP pP 11 21 12.0 +0.7
KSH *e*XP sP 11 21 16.3 +0.6
KSH *e*PCP PcP 11 22 11.5 +1.7
KSH *e*PP PP 11 23 02.3 +1.3
KSH *e*PCS 11 26 08.3
KSH *e*S **S** **11 28 26.3 +2.2**
KSH *e*XS 11 28 43.5
KSH *e*SCS ScS 11 30 46.5 +2.8
KSH *e*SS SS 11 32 05.0 +3.3
KSH AMB AMB
comp=Z,530nm,4.3s
KSH LR LR
comp=N,1μm,17.0s
KSH LR LR
comp=E,940nm,10.4s
CHMS Chumysh 52.75 302 P **P** **11 21 00.9 +0.3**
SNR=7.5
USP Ospenovka 52.87 302 P **P** **11 21 01.8 +0.3**
SNR=23
FRU Bishkek 52.89 301⇓ *e*P **P** **11 21 02.0 +0.4**
FRU pmax pmax
comp=Z,80nm,1.9s,mb5.3
DIV Divide 52.90 35 *e*P **P** **11 21 01.2 -0.3**
comp=Z,162nm,0.9s,mb6.0
EYAK Cordova Ski Ar 52.94 36 *e*P **P** **11 21 01.2 -0.6**
AAK Ala-Archa 53.02 301 P **P** **11 21 02.8 +0.1**
SNR=7.6
AAK Ala-Archa 53.02 301 *e*P **P** **11 21 02.0 -0.7**
AAK pmax pmax
comp=Z,16nm,0.8s,mb5.0
AAK Ala-Archa 53.02 301 *e*P **P** **11 21 02.0 -0.7**
comp=Z,16nm,0.8s,mb5.0
CTA Charters Tower 53.15 175 *e*P **P** **11 21 02.3 -1.6**
comp=Z,3.6nm,0.5s,mb4.6
CTA Charters Tower 53.15 175 *e*P **P** **11 21 02.3 -1.6**
CTA pmax pmax
comp=Z,4.0nm,0.5s
WRAB Tennant Creek 53.41 189 *e*P **P** **11 21 03.4 -2.4**
WRAB pmax pmax
comp=Z,33nm,0.8s,mb5.3
WRAB Tennant Creek 53.41 189 *e*P **P** **11 21 03.4 -2.4**
comp=Z,33nm,0.8s,mb5.3
WB2 Warramunga Arr 53.42 189⇓ *i*P **P** **11 21 03.6 -2.3**
WB2 *e* 11 22 12.8
WB2 *e* 11 22 23.8
WRA Warramunga Arr 53.42 189 P **P** **11 21 03.7 -2.2**
comp=Z,18nm,0.6s,mb5.2,baz=5.9,slow=7.6,SNR=316
WRA pP pP 11 21 15.0 -1.8
comp=Z,20nm,0.7s,baz=7.5,slow=7.7,SNR=8.3
WRA PcP PcP 11 22 12.6 -0.1
comp=Z,10nm,0.6s,baz=2.1,slow=4.2,SNR=11
WRA pPcP 11 22 23.9
comp=Z,8.1nm,0.6s,baz=1.1,slow=4.2,SNR=7.7
FITZ Fitzroy Crossi 53.47 200⇓ *i*P **P** **11 21 04.9 -1.4**
comp=Z,30nm,0.9s,mb5.2
AML Almayashu 53.72 301 P **P** **11 21 09.1 +1.3**
SNR=54
BVA0 Borovoye Array 53.72 315 *i* P **P** **11 21 07.4 -0.3**
BVA0 pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
BRVK Borovoye 53.78 315 *e*P **P** **11 21 07.6 -0.5**
BRVK pmax pmax
comp=Z,33nm,1.3s,mb5.1
BRVK MLR MLR
comp=Z,50nm,20.0s,MS3.6
BRVK Borovoye 53.78 315 *e*P **P** **11 21 07.6 -0.5**
comp=Z,33nm,1.3s,mb5.1
BRVK LR LR
comp=Z,50nm,20.0s,MS3.6
DDI Dehra Dun 53.94 286 *e* **P** **11 21 08.8 -0.8**
SDNR Sundarnagar 54.39 287 *e*P **P** **11 21 12.0 -0.9**
THN Thein Dam 55.07 289 *e*P **P** **11 21 16.4 -1.4**
NDI New Delhi 55.22 284 *e*P **P** **11 21 19.0 0.0**
AYAN Aya Nagar 55.37 284 *e*P **P** **11 21 18.2 -1.9**
BHGR Bahadurgarh 55.44 284 *e*P **P** **11 21 19.8 -0.8**
SONA Sohna 55.49 284 *e*P **P** **11 21 19.5 -1.5**
SONA AMb AMB 11 21 21.2
comp=Z,80nm,0.8s,mb5.8

KKAR Karatay Array 55.74 303 *i* P **P** 11 21 22.5 0.0
INK Inuvik 57.45 26 *e*P **P** 11 21 32.9 -1.5
INK *e**PP pP 11 21 44.5 -1.0
INK pmax pmax
comp=Z,28nm,0.9s
INK Inuvik 57.45 26 *e*P **P** 11 21 32.9 -1.5
comp=Z,28nm,0.9s,mb5.3
INK *e*pP pP 11 21 44.5 -1.0
AJM Ajmer 58.18 283⇓ *i*P **P** 11 21 39.0 -1.1
MBWA Marble Bar 58.22 205 *e*P **P** 11 21 38.9 -1.5
comp=Z,17nm,0.8s,mb5.1
HYB Hyderabad 58.94 271⇓ *e*P **P** 11 21 45.5 +0.1
HYB pmax pmax
comp=Z,120nm,1.0s,mb5.9
HYB Hyderabad 58.94 271⇓ *e*P **P** 11 21 45.5 +0.1
comp=Z,120nm,1.0s,mb5.9
HYB Hyderabad 58.94 271⇓ *i*P **P** 11 21 45.5 +0.1
comp=Z,120nm,1.0s,mb5.9
DZM Mont Dzumac 59.61 154 *e*P **P** 11 21 50.0 -0.1
ARU Arti 59.73 320⇓ *i*P **P** 11 21 49.6 -0.8
ARU *e* 11 22 34.2
ARU *e* 11 24 01.3
ARU *e*S **S** 11 30 00.4 +3.5
ARU *e* 11 31 39.1
ARU *e*SS SS 11 33 57.1 +2.9
ARU pmax pmax
comp=Z,76nm,1.3s,mb5.6
ARU Arti 59.73 320 *e*P **P** 11 21 49.2 -1.2
comp=Z,84nm,0.9s,mb5.8
ARU LR LR
comp=Z,44nm,19.0s,MS3.6
AB31 Akbulak array 60.99 312 *i*P **P** 11 21 58.3 -0.8
JASL Jaisalmer 61.04 285 *e*P **P** 11 21 59.4 -0.4
JASL AMb AMB 11 22 02.8
comp=Z,107nm,1.6s,mb5.7
DLBC Dease Lake 61.19 37 *e*P **P** 11 22 00.0 -0.3
DLBC *e*pP pP 11 22 11.4 0.0
ARMA Armidale 63.91 171 *e*P **P** 11 22 12.4 -6.4
ARMA *i* pP 11 22 23.7 -6.3
KBS Kingsbay 64.53 351 *e*P **P** 11 22 22.1 +0.1
KBS pmax pmax
comp=Z,37nm,1.4s,mb5.2
KBS Kingsbay 64.53 351 *e*P **P** 11 22 22.1 +0.1
comp=Z,37nm,1.4s,mb5.2
STKA Stephens Creek 64.76 181 *e*P **P** 11 22 22.9 -1.4
comp=Z,16nm,0.9s,mb5.1
STKA *e* pP 11 22 34.5 -1.0
STKA Stephens Creek 64.76 181 P **P** 11 22 23.4 -0.9
comp=Z,18nm,0.8s,mb5.2,baz=353,slow=7.5,SNR=27
STKA pP pP 11 22 34.5 -1.0
comp=Z,17nm,0.8s,baz=344,slow=8.1,SNR=9.2
LVZ Lovozero 65.89 337 *i*P **P** 11 22 29.7 -1.2
LVZ Lovozero 65.89 337 *i*P **P** 11 22 29.7 -1.2
RES Resolute Bay 66.10 14 *e*P **P** 11 22 31.0 -1.2
RES *e**PP pP 11 22 42.1 -1.3
RES pmax pmax
comp=Z,59nm,1.0s,mb5.6
RES Resolute Bay 66.10 14 *e*P **P** 11 22 31.0 -1.2
comp=Z,59nm,1.0s,mb5.6
RES *e*pP pP 11 22 42.1 -1.3
APA Apatity 66.46 337⇑ *i*P **P** 11 22 34.0 -0.6
APA *i* pP 11 22 45.5 -0.3
APA pmax pmax
comp=Z,38nm,0.8s,mb5.5
APA MLR MLR
comp=Z,500nm,18.0s,MS4.8
YKW3 Yellowknife Ar 66.70 29 *e*P **P** 11 22 34.2 -1.9
YKW3 *e*pP pP 11 22 45.8 -1.6
YKA Yellowknife Ar 66.73 29 P **P** 11 22 35.0 -1.4
comp=Z,14nm,0.9s,mb5.0,baz=295,slow=6.2,SNR=64
YKA pP pP 11 22 46.5 -1.1
comp=Z,14nm,0.7s,baz=299,slow=6.6,SNR=18
YKA LR LR 11 51 25.0
comp=Z,76nm,18.2s,MS4.0,baz=290,slow=36
YKA Yellowknife Ar 66.73 29 P **P** 11 22 35.0 -1.4
YKA pP pP 11 22 46.5 -1.1
YKA LR LR 11 51 25.0
KEV Kevo 67.26 340 *e*p **P** 11 22 38.1 -1.4
comp=Z,18nm,0.9s,mb5.1
KEV Kevo 67.26 340 *e*P **P** 11 22 38.1 -1.4
KEV pmax pmax
comp=Z,18nm,0.9s,mb5.1
ARCES ARCESS Array B 67.82 340 P **P** 11 22 43.0 -0.1
comp=Z,15nm,0.7s,mb5.1,baz=63,slow=8.1,SNR=62
ARCES pP pP 11 22 54.4 0.0
comp=Z,8.6nm,0.8s,baz=50,slow=9.5,SNR=7.6
ARCES LR LR 11 55 42.3
comp=Z,167nm,18.3s,MS4.3,baz=281,slow=39
ARCES ARCESS Array B 67.82 340 P **P** 11 22 43.0 -0.1
ARCES pP pP 11 22 54.4 0.0
ARCES LR LR 11 55 42.3
ARE0 ARCESS Array S 67.82 340 *e*P **P** 11 22 43.2 +0.1
CNB Canberra Magne 68.50 174 *e*P **P** 11 22 47.2 -0.7
comp=Z,19nm,1.1s,mb4.9
KLBR Kellerberrin 68.52 202 *e*P **P** 11 22 46.9 -1.2
comp=Z,42nm,1.1s,mb5.3
MUN Mundaring 69.38 204 *e*P **P** 11 22 52.6 -0.8
comp=Z,13nm,1.2s,mb4.7
MUN Mundaring 69.38 204 *e*P **P** 11 22 52.6 -0.8
MUN pmax pmax
comp=Z,13nm,1.2s,mb4.7
DAG Danmarks Havn 69.62 355⇑ *i*P **P** 11 22 53.5 -0.6
DAG pmax pmax
comp=Z,16nm,0.8s,mb5.0
DAG Danmarks Havn 69.62 355⇑ *i*P **P** 11 22 53.5 -0.6
comp=Z,16nm,0.8s,mb5.0
NWAO Narrogin (SRO) 69.92 202 *e*P **P** 11 22 56.2 -0.4
NWAO pmax pmax
comp=Z,83nm,1.4s
NWAO Narrogin (SRO) 69.92 202 *e*P **P** 11 22 56.2 -0.4
comp=Z,82nm,1.4s,mb5.5
TOO Toolangi 70.50 177⇑ *i*P **P** 11 23 00.2 +0.1
comp=Z,6.7nm,0.8s,mb4.6
TOO Toolangi 70.50 177⇑ *i*P **P** 11 23 00.2 +0.1
TOO pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
NLW Nelson Butte 70.57 45 P **P** 11 23 00.5 +0.2
TWW Teanaway 70.69 46 P **P** 11 23 01.6 +0.5
MOS Moscow 70.76 325 *e*P **P** 11 23 00.5 -0.8
MOS *e* pP 11 23 14.5 +1.9
MOS *e* 11 23 20.5
MOS *e* 11 25 33.6
MOS *e*PPP PPP 11 27 19.5 -1.7
MOS *e*S S 11 32 12.7 +0.7
MOS pmax pmax
comp=Z,152nm,1.6s,mb5.7
WTV Waterville 70.97 45 P **P** 11 23 02.4 -0.3
EBG Ellensburg 70.98 46 P **P** 11 23 03.2 +0.4
OBN Obninsk 71.60 324K *i*P **P** 11 23 06.1 -0.3
OBN *e* pP 11 23 18.0 +0.3
OBN *e* 11 23 24.0
OBN *e* 11 25 45.1
OBN pmax pmax
comp=Z,121nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.5
OBN Obninsk 71.60 324 *e*P **P** 11 23 06.5 +0.1
comp=Z,18nm,0.4s,mb5.4
OBN LR LR
comp=Z,53nm,20.0s,MS3.8
OD2 Odessa Site #2 71.86 45 P **P** 11 23 07.6 -0.4
EDM Edmonton 71.88 38 *e*P **P** 11 23 07.5 -0.6
EDM *e**PP pP 11 23 18.6 -0.7
VOR Voronezh 72.02 320 *e*P **P** 11 23 07.5 -1.4
VOR pmax pmax
comp=Z,160nm,1.3s,mb5.8
KAF Kangasniemi 72.03 334 *e*p **P** 11 23 07.4 -1.4
comp=Z,27nm,0.7s,mb5.3,baz=52,slow=5.7
KAF Kangasniemi 72.03 334 *e*P **P** 11 23 07.4 -1.4
KAF pmax pmax
comp=Z,27nm,0.7s,mb5.3
YBH Yreka Blue Hor 72.10 52 *e*P **P** 11 23 09.8 +0.2
YBH pmax pmax
comp=Z,13nm,1.0s
YBH Yreka Blue Hor 72.10 52 *e*P **P** 11 23 09.8 +0.2
comp=Z,13nm,1.0s,mb4.8
NEW Newport 72.35 44 *e*P **P** 11 23 10.5 -0.5
NEW *e**PP pP 11 23 21.9 -0.4
NEW pmax pmax
comp=Z,15nm,0.8s
NEW Newport 72.35 44 *e*P **P** 11 23 10.5 -0.4
comp=Z,16nm,0.8s,mb5.0
NEW *e*pP pP 11 23 21.9 -0.3
KCPM Cahto Peak 72.50 54 *e*P **P** 11 23 12.4 +0.4
KCPM *e*pP pP 11 23 23.4 +0.1

KIPM Iron Peak 72.51 54 *e*P **P** 11 23 12.5 +0.5
FINES FINESS Array B 72.53 333 P **P** 11 23 11.3 -0.3
comp=Z,37nm,0.9s,mb5.3,baz=104,slow=9.7,SNR=72
FINES pP pP 11 23 23.1 +0.1
comp=Z,15nm,0.9s,baz=101,slow=9.7,SNR=7.1
WDC Whiskeytown Da 72.77 53 *e*P **P** 11 23 13.6 0.0
WDC pmax pmax
comp=Z,22nm,1.2s,mb5.0
WDC Whiskeytown Da 72.77 53 *e*P **P** 11 23 13.6 0.0
comp=Z,22nm,1.2s,mb5.0
MELSS Ber_school_2 72.88 341 *e*P **P** 11 23 13.9 +0.2
MELSS *e*pP pP 11 23 25.2 +0.2
LASM Arnica Sink 72.91 51 P **P** 11 23 14.9 +0.5
MOR8 Moi Rana 73.19 340⇓ *i*P **P** 11 23 14.2 -1.4
comp=Z,91nm,1.2s,mb5.6
MOR8 Moi Rana 73.19 340⇓ *i*P **P** 11 23 14.2 -1.4
MOR8 AMb AMB 11 23 15.6
comp=Z,91nm,1.2s,mb5.6
MOR8 *e*pP pP 11 23 25.9 -0.9
GOF Gofitskoye 73.21 313 *e*P **P** 11 23 12.0 -4.1
GOF pmax pmax
comp=Z,55nm,0.8s,mb5.5
LBCM Butte Creek Ri 73.43 52 P **P** 11 23 17.7 +0.2
WALA Waterton Lakes 73.77 42 *e*P **P** 11 23 19.0 -0.2
comp=Z,20nm,0.8s,mb5.1
WALA *e*pP pP 11 23 30.4 -0.1
ZEI Tsey 73.82 311 *e*P **P** 11 23 18.4 -1.3
ZEI *i* *PP pP 11 23 33.4 +2.4
ZEI *i* 11 26 02.9
ZEI pmax pmax
comp=Z,11nm,0.6s,mb5.0
BMO Blue Mountains 73.98 47 *e*P **P** 11 23 20.3 -0.3
comp=Z,24nm,1.4s,mb4.9
KIV Kislovodsk 73.98 312 *d*i P **P** 11 23 21.5 +0.9
KIV *e* 11 26 07.3
KIV *e*S S 11 32 52.5 +3.6
KIV pmax pmax
comp=Z,44nm,0.8s,mb5.4
KIV Kislovodsk 73.98 312 *e*P **P** 11 23 21.3 +0.7
comp=Z,37nm,0.8s,mb5.4
VSU Vasula 74.11 330 *i*P **P** 11 23 21.3 +0.3
VSU Vasula 74.11 330 *i*P **P** 11 23 21.3 +0.3
ONI Oni 74.20 311 P **P** 11 23 22.5 +0.6
WVOR Wild Horse Val 74.39 49 *e*P **P** 11 23 23.0 0.0
WVOR pmax pmax
comp=Z,17nm,1.0s,mb4.9
WVOR Wild Horse Val 74.39 49 *e*P **P** 11 23 23.0 0.0
comp=Z,17nm,1.0s,mb4.9
SUMG Summit 74.48 0 *e*P **P** 11 23 23.3 +0.4
comp=Z,19nm,0.7s,mb5.1
SUMG *e*pP pP 11 23 35.0 +0.8
BEKR Beckwourth 74.58 52 *e*P **P** 11 23 23.4 -0.7
comp=Z,17nm,0.9s,mb5.0
BEKR *e*pP pP 11 23 34.9 -0.6
GNI Garni 74.60 308 *e*P **P** 11 23 26.3 +2.0
GNI pmax pmax
comp=Z,45nm,1.0s
GNI Garni 74.60 308 *e*P **P** 11 23 26.3 +2.0
comp=Z,46nm,1.0s,mb5.4
MSO Missoula 74.94 44 *e*P **P** 11 23 25.5 -0.6
comp=Z,12nm,1.2s,mb4.7
NSS Namsos 75.10 340⇓ *i*P **P** 11 23 25.2 -1.5
comp=Z,46nm,1.1s,mb5.3
NSS Namsos 75.10 340⇓ *i*P **P** 11 23 25.2 -1.5
NSS AMb AMB 11 23 26.7
comp=Z,46nm,1.1s,mb5.3
CHMT Chamberlain Mo 75.29 43 *e*P **P** 11 23 26.8 -1.3
CMB Columbia Colle 75.49 54 *e*P **P** 11 23 29.0 -0.4
CMB *e**PP pP 11 23 40.4 -0.3
CMB pmax pmax
comp=Z,26nm,0.9s,mb5.2
CMB Columbia Colle 75.49 54 *e*P **P** 11 23 29.0 -0.4
comp=Z,26nm,0.9s,mb5.2
CMB *e*pP pP 11 23 40.4 -0.3
LRV Little Rabbit 75.88 56 *e*P **P** 11 23 31.9 +0.3
SOC Sochi 76.01 313 *d*i P **P** 11 23 32.3 +0.1
SOC *e* pP 11 23 42.0 -1.6
SOC *e* 11 26 21.5
SOC *e*PPP PPP 11 28 07.2 -4.7
SOC *e*S S 11 33 14.8 +3.4
SOC *e* 11 33 49.2
SOC *e*SS SS 11 38 08.6 +1.1
SOC pmax pmax
comp=Z,39nm,0.8s,mb5.4
SOC pmax pmax
comp=N,13nm,0.7s
SOC pmax pmax
comp=E,10.0nm,0.8s
SOC MLR MLR
comp=Z,194nm,15.0s,MS4.5
SOC MLR MLR
comp=N,183nm,18.0s,MS4.6
SOC MLR MLR
comp=E,141nm,15.0s,MS4.6
BMN Battle Mountai 76.34 51 *e*P **P** 11 23 34.6 +0.4
BMN pmax pmax
comp=Z,31nm,1.4s,mb5.0
BMN Battle Mountai 76.34 51 *e*P **P** 11 23 34.6 +0.4
comp=Z,31nm,1.4s,mb5.0
HLID Hailey 76.43 47 *e*P **P** 11 23 34.7 +0.1
comp=Z,8.5nm,1.0s,mb4.6
FFC Flin Flon 76.50 33 *e*P **P** 11 23 33.9 -0.9
FFC pmax pmax
comp=Z,47nm,1.2s,mb5.3
FFC Flin Flon 76.50 33 *e*P **P** 11 23 33.9 -0.9
comp=Z,47nm,1.2s,mb5.3
OMM Old Mammoth Mi 76.65 54 P **P** 11 23 36.3 +0.3
NVAR Mina Array Bea 76.69 53 P **P** 11 23 36.0 -0.2
comp=Z,9.8nm,0.8s,mb4.8,baz=280,slow=7.3,SNR=67
NVAR pP pP 11 23 47.6 +0.1
comp=Z,13nm,0.8s,baz=280,slow=5.5,SNR=20
NVAR Mina Array Bea 76.69 53 P **P** 11 23 36.0 -0.2
NVAR pP pP 11 23 47.6 +0.1
ANN Anapa 76.72 315 *e*P **P** 11 23 35.6 -0.7
ANN *e*S S 11 33 21.7 +2.6
ANN pmax pmax
comp=Z,70nm,1.2s,mb5.5
ANN MLR MLR
comp=E,416nm,24.0s
ANN MLR MLR
comp=Z,372nm,24.0s,MS4.6
PTRM Twissleman Ran 76.84 56 *e*P **P** 11 23 37.4 +0.2
BOZ Bozeman (W) 76.93 44 *e*P **P** 11 23 37.6 +0.1
BOZ *e**PP pP 11 23 48.9 +0.1
BOZ pmax pmax
comp=Z,19nm,0.9s,mb5.0
BOZ Bozeman (W) 76.93 44 *e*P **P** 11 23 37.5 +0.1
comp=Z,19nm,0.9s,mb5.0
BOZ *e*pP pP 11 23 48.9 +0.1
ERZM Erzurum 76.94 309 *i*P **P** 11 23 38.7 +1.0
MTUM Tungsten Hills 77.08 54 *e*P **P** 11 23 38.3 -0.2
ELK Elko 77.44 49 *e*P **P** 11 23 40.5 +0.1
ELK *e**PP pP 11 23 52.0 +0.2
ELK pmax pmax
comp=Z,12nm,0.9s
ELK Elko 77.44 49 *e*P **P** 11 23 40.5 +0.1
comp=Z,12nm,0.9s,mb4.8
ELK *e*pP pP 11 23 52.0 +0.3
QLMT Earthquake Lak 77.51 44 *e*P **P** 11 23 41.5 +0.8
TPH Tonopah 77.59 53 *e*P **P** 11 23 40.6 -0.7
TPH pmax pmax
comp=Z,14nm,1.0s,mb4.8
TPH Tonopah 77.59 53 *e*P **P** 11 23 40.6 -0.7
comp=Z,14nm,1.0s,mb4.8
AKASG Malin Array Be 77.77 323 P **P** 11 23 41.4 -0.6
comp=Z,17nm,0.7s,mb5.1,baz=46,slow=5.8,SNR=77
AKASG pP pP 11 23 53.0 -0.3
comp=Z,3.9nm,0.5s,baz=47,slow=5.9,SNR=5.7
YMR Madison River 77.87 44 *e*P **P** 11 23 43.9 +1.2
NB2 NORSAR Subarra 77.98 338 P **P** 11 23 43.0 +0.1
comp=Z,75nm,1.0s,mb5.6,baz=40,slow=5.6
NB2 NORSAR Subarra 77.98 338 P **P** 11 23 43.0 +0.1
NB2 pmax pmax
comp=Z,75nm,1.0s,mb5.6
NB2 NORSAR Subarra 77.98 338 P **P** 11 23 43.0 +0.1
baz=40,slow=5.6
NOA NORSAR Array B 77.98 338 P **P** 11 23 42.9 0.0
comp=Z,36nm,0.8s,mb5.3,baz=39,slow=5.6,SNR=103
NOA pP pP 11 23 54.3 0.0
comp=Z,18nm,1.1s,baz=45,slow=4.9,SNR=6.9
NOA LR LR 12 02 40.7
comp=Z,140nm,18.4s,MS4.3,baz=25,slow=39
NOA NORSAR Array B 77.98 338 P **P** 11 23 42.9 0.0
NOA pP pP 11 23 54.3 0.0
NOA LR LR 12 02 40.7

YNR Norris Junctio 78.01 44 *e*P **P** 11 23 45.2 +1.8
YFT Old Faithful 78.07 44 *e*P **P** 11 23 46.2 +2.4
BEST Besiri 78.08 307 *i*P **P** 11 23 44.8 +0.8
KBD Kabd 78.15 297 *e*P **P** 11 23 45.0 +0.5
KBD AMb AMB 11 23 45.8
comp=Z,419nm,0.8s
QRN Al-Qurain 78.20 297 *e*P **P** 11 23 44.9 +0.1
QRN AMb AMB 11 23 45.9
comp=Z,198nm,0.8s,mb6.1
NAO01 NORSAR Array S 78.23 338 *e*P **P** 11 23 44.3 0.0
comp=Z,41nm,1.0s,mb5.3
NAO01 *e*pP pP 11 23 55.5 -0.1
LKWY Lake 78.26 44 *e*P **P** 11 23 47.5 +2.7
LKWY pmax pmax
comp=Z,62nm,1.4s,mb5.3
LKWY Lake 78.26 44 *e*P **P** 11 23 47.5 +2.6
comp=Z,62nm,1.4s,mb5.3
DAC Darwin (Calif) 78.31 54 *e*P **P** 11 23 44.7 -0.6
DAC *e**PP pP 11 23 55.9 -0.7
DAC pmax pmax
comp=Z,11nm,1.0s,mb4.7
DAC Darwin (Calif) 78.31 54 *e*P **P** 11 23 44.7 -0.5
comp=Z,11nm,1.0s,mb4.7
DAC *e*pP pP 11 23 55.9 -0.7
IMW Indian Meadow 78.33 45 *e*P **P** 11 23 46.0 +0.8
comp=Z,51nm,1.4s,mb5.3
RDF Al-Radifah 78.38 297 *e*P **P** 11 23 46.3 +0.5
RDF AMb AMB 11 23 48.2
comp=Z,248nm,0.8s,mb6.2
RRI2 Red Ridge 78.42 46 *e*P **P** 11 23 46.9 +1.2
comp=Z,20nm,1.0s,mb5.0
HVU Hansel Valley 78.42 48 *e*P **P** 11 23 46.1 +0.4
HVU *e**PP pP 11 23 57.2 +0.1
SUW Suwalki 78.50 328 *e*P **P** 11 23 46.1 +0.2
SUW Suwalki 78.50 328 *e*P **P** 11 23 46.1 +0.2
MOOW Moose Ponds 78.53 45 *e*P **P** 11 23 46.9 +0.6
comp=Z,46nm,1.6s,mb5.2
TPAW Teton Pass 78.56 45 *e*P **P** 11 23 47.4 +0.9
comp=Z,29nm,1.2s,mb5.1
SIM Simferopol' 78.58 317 *d*i P **P** 11 23 46.9 +0.4
SIM *e* pP 11 23 58.0 +0.1
SIM pmax pmax
comp=Z,43nm,0.9s,mb5.4
REDW Red Top Meadow 78.69 45 *e*P **P** 11 23 47.4 +0.2
comp=Z,39nm,1.3s,mb5.2
SNOW Snow King Moun 78.69 45 *e*P **P** 11 23 48.4 +1.2
comp=Z,23nm,1.3s,mb5.0
LOHW Long Hollow 78.69 45 *e*P **P** 11 23 47.8 +0.6
comp=Z,23nm,1.3s,mb5.0
MARD Mardin 78.72 307 *i*P **P** 11 23 48.6 +1.1
AHID Auburn Hatcher 78.88 46 *e*P **P** 11 23 48.7 +0.4
comp=Z,8.1nm,0.8s,mb4.7
SPUT South Promonto 78.89 48 *e*P **P** 11 23 48.1 -0.2
MWC Mount Wilson 79.09 56 *e*P **P** 11 23 48.8 -0.8
MWC *e**PP pP 11 24 00.7 -0.3
DGMT Dagmar 79.35 38 *e*P **P** 11 23 50.5 -0.2
comp=Z,96nm,1.3s,mb5.6
DGMT *e*pP pP 11 24 02.2 +0.2
LAO LASA Array 79.37 41 *e*P **P** 11 23 51.0 +0.1
comp=Z,61nm,1.1s,mb5.4
LAO *e*pP pP 11 24 02.4 +0.2
NOQ North Oquirrh 79.47 48 *e*P **P** 11 23 51.6 +0.1
KONO Kongsberg 79.57 338 *e*P **P** 11 23 51.8 +0.2
KONO pmax pmax
comp=Z,111nm,1.6s,mb5.5
KONO Kongsberg 79.57 338 *e*P **P** 11 23 51.8 +0.1
comp=Z,111nm,1.6s,mb5.5
TCUT Toone Canyon 79.64 48 *e*P **P** 11 23 53.1 +0.6
MALT Malatya 79.72 309 *e*P **P** 11 23 54.5 +1.6
MALT pmax pmax
comp=Z,40nm,1.3s,mb5.2
MALT Malatya 79.72 309 *e*P **P** 11 23 54.5 +1.5
comp=Z,40nm,1.3s,mb5.2
PDAR Pinedale Array 79.81 45 P **P** 11 23 53.0 -0.2
comp=Z,3.4nm,0.6s,mb4.4,baz=280,slow=2.1,SNR=34
PDAR pP pP 11 24 04.1 -0.6
comp=Z,4.2nm,0.6s,baz=287,slow=2.2,SNR=11
PDAR LR LR 11 59 07.4
comp=Z,59nm,18.3s,MS4.0,baz=156,slow=36
NLU North Lily Min 79.89 49 *e*P **P** 11 23 54.2 +0.4
JLU Jordanelle 79.91 48 *e*P **P** 11 23 54.2 +0.3
MPU Maple Canyon 80.14 49 *e*P **P** 11 23 55.4 +0.3
DAU Daniels Canyon 80.14 48 *e*P **P** 11 23 55.7 +0.6
BOYT Boyabat 80.17 313 *i*P **P** 11 23 56.1 +0.9
ARUT Antelope Range 80.25 51 *e*P **P** 11 23 55.8 +0.1
ODD1 Odda 80.28 339 *e*P **P** 11 23 54.9 -0.5
comp=Z,55nm,1.3s,mb5.3
ODD1 Odda 80.28 339 *e*P **P** 11 23 54.9 -0.5
ODD1 AMb AMB 11 23 56.5
comp=Z,55nm,1.3s,mb5.3
ODD1 *e*pP pP 11 24 06.4 -0.4
KIS Kishinev 80.28 320 P **P** 11 23 54.0 -1.7
NEN Nelson 80.52 54 *e*P **P** 11 23 56.7 -0.5
PFO Pinyon Flat Ob 80.54 56 *e*P **P** 11 23 57.3 -0.1
PFO pmax pmax
comp=Z,13nm,0.8s,mb4.9
PFO Pinyon Flat Ob 80.54 56 *e*P **P** 11 23 57.2 -0.2
comp=Z,13nm,0.8s,mb4.9
MSU Marysvale 80.65 50 *e*P **P** 11 23 58.4 +0.5
LDFC Landfair 80.66 54 *e*P **P** 11 23 57.3 -0.7
CTKT Corum 80.70 313 *i*P **P** 11 23 57.2 -0.9
TMUT Trail Mountain 80.82 49 *e*P **P** 11 23 59.0 +0.3
GZT Gaziantep 80.83 309 *i*P **P** 11 24 00.2 +1.4
BAR Barrett 80.91 57 *e*P **P** 11 23 59.0 -0.4
BALT Daday 81.02 314 *i*P **P** 11 24 01.0 +1.2
KAHT Ahir Dag 81.12 309 *i*P **P** 11 24 01.8 +1.4
SRU San Rafael 81.36 49 *e*P **P** 11 24 01.7 +0.1
ELDT Eldivan 81.62 313 *i*P **P** 11 24 03.6 +0.8
KWP Kalwaria 81.66 325 *e*P **P** 11 24 04.2 +1.3
AVNT Avonos 81.74 311 *i*P **P** 11 24 04.5 +0.9
BURAR Bucovina Array 81.76 323⇑ P **P** 11 24 04.8 +1.3
BURAR Bucovina Array 81.76 323⇑ P **P** 11 24 04.8 +1.3
CFR Carcaliu 81.80 319⇑ P **P** 11 24 04.4 +0.7
RWWY Rawlins 81.85 45 *e*P **P** 11 24 04.3 +0.3
comp=Z,29nm,1.0s,mb5.2
BR131 Keskin Array S 81.94 312 *e*P **P** 11 24 05.4 +0.8
comp=Z,14nm,0.8s,mb5.0
BRTR Keskin Array B 81.94 312 P **P** 11 24 05.2 +0.7
comp=Z,17nm,0.8s,mb5.0,baz=105,slow=4.0,SNR=56
BRTR PP PP 11 27 15.2 +0.9
comp=Z,2.5nm,1.1s,baz=56,slow=5.2,SNR=4.3
TIRR Tirgusor 82.10 319 P **P** 11 24 06.2 +0.9
TIRR Tirgusor 82.10 319⇓ P **P** 11 24 05.9 +0.6
TIRR Tirgusor 82.10 319⇓ P **P** 11 24 05.9 +0.6
VRI Vrincioaia 82.11 320⇓ P **P** 11 24 07.2 +1.9
COBT Iskenderun 82.17 309 *i*P **P** 11 24 06.9 +1.1
RSSD Black Hills 82.17 42 *e*P **P** 11 24 05.6 -0.1
RSSD pmax pmax
comp=Z,15nm,1.1s,mb4.8
RSSD Black Hills 82.17 42 *e*P **P** 11 24 05.6 -0.1
comp=Z,15nm,1.1s,mb4.8
HARR Harsova 82.22 319⇓ P **P** 11 24 07.4 +1.5
PPT Papeete 82.27 117 *e*LR LR 11 49 00.2
comp=Z,679nm,32.0s
PPT Papeete 82.27 117 LR LR 11 57 16.1
comp=Z,183nm,18.9s,MS4.5,baz=317,slow=33
ULM Lac du Bonnet 82.27 33 P **P** 11 24 05.0 -1.1
comp=Z,13nm,1.1s,mb4.8,baz=292,slow=6.4,SNR=9.2
ULM LR LR 11 59 17.6
comp=Z,102nm,19.8s,MS4.2,baz=277,slow=35
ULM Lac du Bonnet 82.27 33 *e*P **P** 11 24 05.0 -1.0
comp=Z,49nm,1.4s,mb5.2
KOLS Kolonicke sedl 82.34 325 *i*P **P** 11 24 07.0 +0.6
ANTO Ankara 82.38 313 P **P** 11 24 08.0 +1.2
SGKT Sivrigoynuk 82.40 314 *i*P **P** 11 24 07.2 +0.3
STHS Stebnicka Huta 82.50 326 *e*P **P** 11 24 08.1 +0.9
OJC Ojcow 82.62 327 *e*P **P** 11 24 08.5 +0.7
ISR Istrita 82.70 320⇓ P **P** 11 24 09.3 +1.0
CRVS Cervenica-Dubn 82.75 325 *e*P **P** 11 24 10.5 +2.0
MLR Muntele Rosu 82.78 321 P **P** 11 24 09.3 +0.5
comp=Z,10nm,0.6s,mb5.0,baz=9.9,slow=3.8,SNR=22
MLR Muntele Rosu 82.78 321⇑ P **P** 11 24 10.0 +1.3
MLR Muntele Rosu 82.78 321⇑ P **P** 11 24 10.0 +1.3
NIE Niedzica 82.94 326 *e*P **P** 11 24 10.7 +1.2
PHWY Pilot Hill 83.12 45 *e*P **P** 11 24 10.8 +0.3
VOIR 83.29 321⇓ P **P** 11 24 12.0 +0.7
HILS Ha'il 83.49 298 P **P** 11 24 13.7 +1.0
HILS Ha'il 83.49 298 P **P** 11 24 13.7 +1.0
MEST Erdemli 83.50 310 *i*P **P** 11 24 12.4 -0.2
KECS Kecovo 83.51 325 *e*P **P** 11 24 13.0 +0.7
SMCO Snowmass 83.53 47 *e*P **P** 11 24 13.4 +0.8
RUE Ruedersdorf 83.56 331 *e*P **P** 11 24 13.5 +1.0
DRGR 83.58 323 P **P** 11 24 14.1 +1.3
DRGR 83.58 323⇑ P **P** 11 24 13.8 +1.1

DRGR		**83.58**	**323**	⇑	P		**P**	**11 24 13.8**	**+1.0**
OKC	**Ostrava-Krasne**	**83.64**	**327**	⇓	*i*P		**P**	**11 24 13.6**	**+0.6**
OKC					AMS	AMS		12 07 50.0	
	comp=Z,400nm,14.1s								
KSP	**Ksiaz**	**83.73**	**329**	⇓	*i*P		**P**	**11 24 14.3**	**+0.9**
KSP					*e*pP	pP		11 24 25.3	+0.4
KSP	**Ksiaz**	**83.73**	**329**		*e*P		**P**	**11 24 14.2**	**+0.8**
ESKT	**Eskisehir**	**83.78**	**314**		*i* P		**P**	**11 24 14.1**	**+0.1**
BSEG	**Bad Segeberg**	**83.79**	**334**		*e*P		**P**	**11 24 14.7**	**+1.1**
MORC	**Moravsky Berou**	**83.95**	**328**		*e*P		**P**	**11 24 15.2**	**+0.6**
MORC					*e**PP	pP		11 24 26.0	-0.1
MORC						pmax	pmax		
	comp=Z,68nm,1.6s,mb5.5								
MORC	**Moravsky Berou**	**83.95**	**328**		*e*P		**P**	**11 24 15.2**	**+0.6**
	comp=Z,68nm,1.6s,mb5.5								
MORC					*e*pP	pP		11 24 26.0	-0.1
DPC	**Dobruska-Polom**	**84.08**	**329**	⇓	*i*P		**P**	**11 24 16.2**	**+1.0**
DPC						AMS	AMS	12 07 20.0	
	comp=Z,300nm,13.7s								
UPC	**Upice**	**84.10**	**329**	⇓	*i*P		**P**	**11 24 15.9**	**+0.6**
PSZ	**Piszkesteto**	**84.19**	**325**		P		**P**	**11 24 17.2**	**+1.4**
PSZ	**Piszkesteto**	**84.19**	**325**	⇓	*i*P		**P**	**11 24 17.0**	**+1.2**
VYHS	**Vyhne**	**84.28**	**326**		*i* P		**P**	**11 24 17.2**	**+0.9**
VYHS					*e*PP	PP		11 27 31.6	-1.2
ULDT	**Uludag**	**84.42**	**315**		*i* P		**P**	**11 24 17.9**	**+0.7**
QURS	**Qurayyt al Mil**	**84.42**	**304**		P		**P**	**11 24 19.1**	**+1.7**
QURS	**Qurayyt al Mil**	**84.42**	**304**		P		**P**	**11 24 19.1**	**+1.7**
KOLL	**Kolacno**	**84.42**	**326**		*e*P		**P**	**11 24 18.3**	**+1.3**
PVCC	**Panska Ves**	**84.70**	**330**	⇓	*i*P		**P**	**11 24 19.2**	**+0.9**
PVCC						AMS	AMS	12 07 10.0	
	comp=Z,300nm,17.1s								
BRG	**Berggiesshubel**	**84.71**	**330**	⇓	*i*P		**P**	**11 24 18.9**	**+0.6**
BRG					*i* *PP	pP		11 24 30.5	+0.7
BRG					*i* *SP	sP		11 24 39.7	+5.9
BRG					S	S		11 34 49.0	+7.3
BRG						pmax	pmax		
	comp=Z,29nm,0.8s,mb5.5								
BRG						MLR	MLR		
	comp=Z,340nm,15.4s,MS4.8								
BRG	**Berggiesshubel**	**84.71**	**330**	⇓	*i*P		**P**	**11 24 18.9**	**+0.6**
	comp=Z,29nm,0.8s,mb5.5								
BRG					*i* pP	pP		11 24 30.5	+0.6
BRG					*i* sP	sP		11 24 39.7	+5.9
BRG					S	S		11 34 49.0	+7.3
BRG					LR	LR			
	comp=Z,340nm,15.4s,MS4.8								
VRAC	**Vranov**	**84.72**	**328**		P		**P**	**11 24 19.7**	**+1.3**
CLL	**Collm**	**84.77**	**331**	⇓	*i*P		**P**	**11 24 19.1**	**+0.5**
CLL					*i* *PP	pP		11 24 30.6	+0.5
CLL					*e*S	S		11 34 49.0	+6.7
CLL						pmax	pmax		
	comp=Z,80nm,1.1s,mb5.8								
CLL	**Collm**	**84.77**	**331**	⇓	*i*P		**P**	**11 24 19.1**	**+0.5**
	comp=Z,80nm,1.1s,mb5.8								
CLL					*i* pP	pP		11 24 30.6	+0.5
CLL					*e*S	S		11 34 49.0	+6.7
CLL	**Collm**	**84.77**	**331**	⇓	P		**P**	**11 24 19.1**	**+0.5**
	comp=Z,logA/T=1.9,mb5.8								
CLL					*i* *PP	pP		11 24 30.6	+0.5
CLL					*e*			11 24 39.0	
CLL					*e*S	S		11 34 49.0	+6.7
SMOL	**Smolenice**	**84.92**	**327**		*e*P		**P**	**11 24 21.2**	**+1.8**
CSS	**Prodhromos**	**85.00**	**309**		*e*P		**P**	**11 24 19.6**	**-0.6**
	comp=Z,18nm,0.8s,mb5.2								
TKTP	**Tekketepe**	**85.02**	**313**		*i* P		**P**	**11 24 20.2**	**0.0**
ISP	**Isparta**	**85.03**	**312**		*i* P		**P**	**11 24 21.0**	**+0.7**
PRU	**Pruhonice**	**85.12**	**329**	⇓	*i*P		**P**	**11 24 20.8**	**+0.4**
PRU						AMS	AMS	12 09 40.0	
	comp=Z,300nm,13.5s								
TUC	**Tucson**	**85.19**	**54**		*e*P		**P**	**11 24 21.7**	**+0.5**
TUC						pmax	pmax		
	comp=Z,16nm,1.4s,mb5.0								
TUC	**Tucson**	**85.19**	**54**		*e*P		**P**	**11 24 21.7**	**+0.5**
	comp=Z,16nm,1.4s,mb5.0								
KAMS	**Al Khamasin**	**85.28**	**291**		P		**P**	**11 24 22.3**	**+0.4**
KAMS	**Al Khamasin**	**85.28**	**291**		P		**P**	**11 24 22.3**	**+0.4**
ZST	**Bratislava**	**85.30**	**327**		*e*P		**P**	**11 24 22.6**	**+1.3**
SDCO	**Great Sand Dun**	**85.32**	**47**		*e*P		**P**	**11 24 22.2**	**+0.6**
	comp=Z,20nm,0.8s,mb5.3								
SDCO					*e*pP	pP		11 24 33.8	+0.6
CLZ	**Clausthal**	**85.40**	**332**		*e*P		**P**	**11 24 23.0**	**+1.3**
CLZ					*e*			11 27 40.8	
CLZ						pmax	pmax		
	comp=Z,87nm,1.3s,mb5.7								
CLZ	**Clausthal**	**85.40**	**332**		*e*P		**P**	**11 24 23.0**	**+1.3**
	comp=Z,87nm,1.3s,mb5.7								
CLZ					*e*PP	PP		11 27 40.8	-0.9
NKC	**Novy Kostel**	**85.81**	**330**	⇓	*i*P		**P**	**11 24 24.6**	**+0.8**
NKC						AMS	AMS	12 08 00.0	
	comp=Z,300nm,16.2s								
MOX	**Moxa**	**85.84**	**331**		*e*P		**P**	**11 24 24.0**	**+0.1**
MOX					pP	pP		11 24 36.0	+0.6
MOX					PP	PP		11 27 42.0	-3.2
MOX					SSS	x		11 42 33.0	
TBI	**Tubuai**	**85.94**	**121**		*e*LR		LR	11 50 41.3	
	comp=Z,310nm,24.5s								
ZAPS	**Zavoj/Pirot**	**86.02**	**321**	⇓	*i*P		**P**	**11 24 25.5**	**+0.6**
KHC	**Kasperske Hory**	**86.17**	**329**	⇓	*i*P		**P**	**11 24 25.9**	**+0.3**
KHC						AMS	AMS	12 10 10.0	
	comp=Z,300nm,13.4s								
VTS	**Vitosha**	**86.18**	**320**		P		**P**	**11 24 27.1**	**+1.3**
KBRS	**Khaybar**	**86.26**	**298**		P		**P**	**11 24 27.8**	**+1.2**
KBRS	**Khaybar**	**86.26**	**298**		P		**P**	**11 24 27.8**	**+1.2**
GEC2	**GERESS Array S**	**86.34**	**329**		*e*P		**P**	**11 24 27.4**	**+1.0**
GEC2						pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0								
GEC2	**GERESS Array S**	**86.34**	**329**		*e*P		**P**	**11 24 27.4**	**+1.0**
	comp=Z,9.0nm,1.0s,mb5.0								
GERES	**GERESS Array B**	**86.34**	**329**		P		**P**	**11 24 26.8**	**+0.4**
	comp=Z,1.9nm,0.5s,mb4.6,baz=34,slow=4.8,SNR=22								
GERES						pP	pP		11 24 38.4	+0.5
	comp=Z,1.0nm,0.3s,baz=63,slow=6.0,SNR=4.0								
GERES						LR	LR		12 05 35.3	
	comp=Z,131nm,18.6s,MS4.4,baz=238,slow=37								
LAZ	**Ladron**	**86.36**	**51**		*e*P		**P**	**11 24 27.6**	**+0.8**
ANMO	**Albuquerque**	**86.46**	**50**		*e*P		**P**	**11 24 28.1**	**+0.8**
ANMO					*e**PP	pP		11 24 39.3	+0.4
ANMO						pmax	pmax		
	comp=Z,13nm,0.9s								
ANMO	**Albuquerque**	**86.46**	**50**		*e*P		**P**	**11 24 28.1**	**+0.8**
	comp=Z,13nm,0.9s,mb5.2								
ANMO					*e*pP	pP		11 24 39.3	+0.4
WET	**Wettzell**	**86.47**	**329**		*e*P		**P**	**11 24 28.4**	**+1.4**
WET					*e*			11 27 49.5	
WET						pmax	pmax		
	comp=Z,70nm,2.1s,mb5.5								
WET	**Wettzell**	**86.47**	**329**		*e*P		**P**	**11 24 28.4**	**+1.4**
	comp=Z,70nm,2.1s,mb5.5								
WET					*e*PP	PP		11 27 49.5	-1.2
TATS	**Tathlith**	**86.57**	**291**		P		**P**	**11 24 29.0**	**+0.8**
TATS	**Tathlith**	**86.57**	**291**		P		**P**	**11 24 29.0**	**+0.8**
LENM	**Lemitar**	**86.61**	**51**		*e*P		**P**	**11 24 28.7**	**+0.6**
WTSB	**Wilderswijk**	**86.65**	**334**	⇓	*e*P		**P**	**11 24 27.9**	**+0.1**
	comp=Z,42nm,1.9s,mb5.3								
ARSA	**Arzberg**	**86.72**	**327**	⇑	*i*P		**P**	**11 24 28.8**	**+0.5**
	comp=Z,117nm,2.4s,mb5.7								
GRA1	**Grafenberg Arr**	**86.74**	**331**		*e*P		**P**	**11 24 29.8**	**+1.5**
	comp=Z,96nm,1.4s,mb5.8								
GRA1					*e*pP	pP		11 24 40.4	+0.5
GRF	**Grafenberg Arr**	**86.74**	**331**		*e*P		**P**	**11 24 29.8**	**+1.5**
GRF					*e**PP	pP		11 24 40.4	+0.5
GRF						pmax	pmax		
	comp=Z,96nm,1.4s,mb5.8								
GRF	**Grafenberg Arr**	**86.74**	**331**		*e*P		**P**	**11 24 29.8**	**+1.5**
GRF					*e**PP	pP		11 24 40.4	+0.5
GRF						pmax	pmax		
	comp=Z,96nm,1.4s,mb5.8								
GRF	**Grafenberg Arr**	**86.74**	**331**		*e*P		**P**	**11 24 29.8**	**+1.5**
	comp=Z,96nm,1.4s,mb5.8								
GRF					*e*pP	pP		11 24 40.4	+0.5
TBKS	**Tabuk**	**86.81**	**302**		P		**P**	**11 24 30.2**	**+1.0**
TBKS	**Tabuk**	**86.81**	**302**		P		**P**	**11 24 30.2**	**+1.0**
DIVS	**Divcibare**	**86.83**	**322**	⇓	*i*P		**P**	**11 24 29.1**	**+0.2**
MOA	**Molln**	**86.84**	**328**	⇑	*i*P		**P**	**11 24 29.8**	**+0.9**
	comp=Z,86nm,2.2s,mb5.6								
BNM	**Barren Site**	**86.85**	**51**		*e*P		**P**	**11 24 29.8**	**+0.6**
JMQS	**Jabal Moqyreh**	**86.90**	**303**		P		**P**	**11 24 30.2**	**+0.6**
JMQS	**Jabal Moqyreh**	**86.90**	**303**		P		**P**	**11 24 30.2**	**+0.6**
ALWS	**Ilw as Safayha**	**87.22**	**303**		P		**P**	**11 24 31.6**	**+0.4**
ALWS	**Ilw as Safayha**	**87.22**	**303**		P		**P**	**11 24 31.6**	**+0.4**
JMOS	**Jabal al Moall**	**87.27**	**303**		P		**P**	**11 24 31.9**	**+0.5**
JMOS	**Jabal al Moall**	**87.27**	**303**		P		**P**	**11 24 31.9**	**+0.5**
TNS	**Taunus Mts**	**87.43**	**332**		*e*P		**P**	**11 24 32.7**	**+1.0**
TNS						pmax	pmax		
	comp=Z,37nm,1.6s,mb5.4								
TNS	**Taunus Mts**	**87.43**	**332**		*e*P		**P**	**11 24 32.7**	**+1.0**
	comp=Z,37nm,1.6s,mb5.4								
HAQS	**Haql**	**87.47**	**303**		P		**P**	**11 24 32.7**	**+0.3**
HAQS	**Haql**	**87.47**	**303**		P		**P**	**11 24 32.7**	**+0.3**
DJNS	**Zahran al Janu**	**87.54**	**289**		P		**P**	**11 24 34.6**	**+1.6**
DJNS	**Zahran al Janu**	**87.54**	**289**		P		**P**	**11 24 34.6**	**+1.6**
PLE	**Pljevlja**	**87.68**	**322**	⇓	*i*P		**P**	**11 24 33.9**	**+0.8**
BDAS	**Al Bad'**	**87.72**	**303**		P		**P**	**11 24 33.8**	**+0.2**
BDAS	**Al Bad'**	**87.72**	**303**		P		**P**	**11 24 33.8**	**+0.2**
IVA	**Berane**	**87.74**	**322**	⇓	*i*P		**P**	**11 24 34.1**	**+0.7**
LEGS	**Legarje**	**87.78**	**326**		*i* P		**P**	**11 24 33.2**	**-0.2**
DBAS	**Duba**	**87.82**	**301**		P		**P**	**11 24 34.3**	**+0.2**
DBAS	**Duba**	**87.82**	**301**		P		**P**	**11 24 34.3**	**+0.2**
KBA	**Koelnbreinsper**	**87.83**	**328**	⇑	*i*P		**P**	**11 24 35.3**	**+1.6**
	comp=Z,62nm,3.1s								
KBA	**Koelnbreinsper**	**87.83**	**328**	⇑	*i*P		**P**	**11 24 35.3**	**+1.6**
KBA						pmax	pmax		
	comp=Z,62nm,3.1s								
BLJS	**Baljurashi**	**87.84**	**292**		P		**P**	**11 24 35.5**	**+1.1**
BLJS	**Baljurashi**	**87.84**	**292**		P		**P**	**11 24 35.5**	**+1.1**
FUR	**Furstenfeldbru**	**87.90**	**330**		*e*P		**P**	**11 24 35.4**	**+1.4**
PVY	**Plav**	**87.90**	**321**	⇓	*i*P		**P**	**11 24 33.5**	**-0.6**
HGN	**Heimansgroeve**	**87.94**	**334**	⇓	*e*P		**P**	**11 24 34.4**	**+0.3**
	comp=Z,36nm,1.2s,mb5.5								
UMJS	**Umm Lajj**	**88.01**	**299**		P		**P**	**11 24 36.2**	**+1.1**
UMJS	**Umm Lajj**	**88.01**	**299**		P		**P**	**11 24 36.2**	**+1.1**
UPM	**Unac-Piva**	**88.02**	**322**	⇓	*i*P		**P**	**11 24 34.6**	**-0.1**
YNBS	**Yanbu' al Bahr**	**88.03**	**298**		P		**P**	**11 24 35.9**	**+0.8**
YNBS	**Yanbu' al Bahr**	**88.03**	**298**		P		**P**	**11 24 35.9**	**+0.8**
CBKS	**Cedar Bluff**	**88.08**	**44**		*e*P		**P**	**11 24 34.6**	**-0.5**
CBKS					*e**PP	pP		11 24 46.0	-0.6
CBKS						pmax	pmax		
	comp=Z,52nm,1.1s,mb5.7								
CBKS	**Cedar Bluff**	**88.08**	**44**		*e*P		**P**	**11 24 34.6**	**-0.4**
	comp=Z,52nm,1.1s,mb5.7								
CBKS					*e*pP	pP		11 24 46.0	-0.6
BOJS	**Bojanci**	**88.14**	**326**		*i* P		**P**	**11 24 35.3**	**+0.1**
NKY	**Niksic**	**88.25**	**322**		*e*P		**P**	**11 24 35.2**	**-0.6**
TTG	**Podgorica**	**88.39**	**322**	⇓	*i*P		**P**	**11 24 35.6**	**-0.9**
JAVS	**Javornik**	**88.40**	**327**		*i* P		**P**	**11 24 35.8**	**-0.7**
JAVS					*e*		pP	11 24 47.0	-1.0
BRY	**Bratogost**	**88.42**	**322**	⇓	*i*P		**P**	**11 24 35.5**	**-1.1**
MOTA	**Moosalm**	**88.61**	**329**	⇑	*i*P		**P**	**11 24 38.0**	**+0.6**
	comp=Z,16nm,1.4s,mb5.2								
MOTA	**Moosalm**	**88.61**	**329**	⇑	*i*P		**P**	**11 24 38.0**	**+0.6**
MOTA						pmax	pmax		
	comp=Z,16nm,1.4s,mb5.2								
BUM	**Brajici-Budva**	**88.67**	**322**	⇓	*i*P		**P**	**11 24 37.5**	**-0.3**
ULC	**Ulcinj**	**88.73**	**321**	⇓	*i*P		**P**	**11 24 38.0**	**-0.1**
HCY	**Herceg Novi**	**88.77**	**322**		*e*P		**P**	**11 24 37.5**	**-0.8**
SCHQ	**Schefferville**	**88.78**	**16**		P		**P**	**11 24 38.1**	**+0.1**
	comp=Z,10nm,0.8s,mb5.2,baz=353,slow=6.0,SNR=11								
SCHQ						pP	pP	11 24 49.5	-0.1
	comp=Z,7.4nm,0.7s,baz=6.3,slow=6.5,SNR=5.3								
SCHQ						LR	LR	12 07 04.4	
	comp=Z,109nm,19.1s,MS4.3,baz=297,slow=37								
BFO	**Black Forest**	**88.98**	**331**		*e*P		**P**	**11 24 39.4**	**+0.2**
BFO						pmax	pmax		
	comp=Z,17nm,1.0s,mb5.3								
BFO	**Black Forest**	**88.98**	**331**		*e*P		**P**	**11 24 39.4**	**+0.2**
	comp=Z,17nm,1.0s,mb5.3								
DAVA	**Damuels**	**89.17**	**330**	⇓	*i*P		**P**	**11 24 40.6**	**+0.5**
	comp=Z,98nm,3.3s								
MNTX	**Cornudas Mount**	**89.19**	**52**		*e*P		**P**	**11 24 40.2**	**-0.4**
	comp=Z,5.7nm,1.1s,mb4.8								
MNTX					*e*pP	pP		11 24 51.8	-0.4
CPRX	**Cap Rock**	**89.34**	**50**		*e*P		**P**	**11 24 40.2**	**-1.0**
CDF	**Champ du Feu**	**89.34**	**332**		*e*P		**P**	**11 24 41.0**	**+0.2**
	comp=Z,26nm,1.1s,mb5.2								
CDF	**Champ du Feu**	**89.34**	**332**		*e*P		**P**	**11 24 41.0**	**+0.2**
CDF						pmax	pmax		
	comp=Z,13nm,1.1s,mb5.2								
GDL2	**Guadalupe Moun**	**89.55**	**51**		*e*P		**P**	**11 24 42.3**	**+0.1**
KSU1	**Kansas State U**	**89.66**	**42**		*e*P		**P**	**11 24 41.9**	**-0.7**
KSU1					*e*pP	pP		11 24 53.1	-1.1
CLNB	**Carlsbad**	**89.82**	**51**		*e*P		**P**	**11 24 43.6**	**+0.1**
CLNB					*e*pP	pP		11 24 54.8	-0.3
HAU	**Haudompre**	**90.03**	**332**		*e*P		**P**	**11 24 44.1**	**0.0**
HAU					*e*R				
	comp=Z,134nm,18.5s								
LOR	**Lormes**	**91.60**	**333**		*e*P		**P**	**11 24 51.4**	**0.0**
LOR					*e*R				
	comp=Z,169nm,18.5s								
LTX	**Lajitas**	**91.84**	**53**		*e*P		**P**	**11 24 53.6**	**+0.6**
LTX					*e**PP	pP		11 25 04.2	-0.4
LTX						pmax	pmax		
	comp=Z,28nm,1.3s,mb5.4								
LTX	**Lajitas**	**91.84**	**53**		*e*P		**P**	**11 24 53.5**	**+0.6**
	comp=Z,28nm,1.3s,mb5.4								
LTX					*e*pP	pP		11 25 04.2	-0.4
TXAR	**Lajitas Array**	**91.84**	**53**		P		**P**	**11 24 53.1**	**+0.2**
	comp=Z,6.5nm,0.7s,mb5.0,baz=305,slow=3.1,SNR=37								
TXAR						pP	pP	11 25 04.6	0.0
	comp=Z,7.7nm,0.6s,baz=302,slow=3.2,SNR=15								
TXAR						LR	LR	12 00 45.8	
	comp=Z,157nm,20.4s,MS4.5,baz=5.0,slow=32								
FLN	**La Foliniere**	**91.88**	**336**		*e*P		**P**	**11 24 52.4**	**-0.3**
FLN					*e*R				
	comp=Z,224nm,20.8s								
LPL	**La Plagne**	**91.90**	**331**		*e*P		**P**	**11 24 53.3**	**+0.5**
	comp=Z,35nm,0.9s,mb5.4								
LPL	**La Plagne**	**91.90**	**331**		*e*P		**P**	**11 24 53.3**	**+0.5**
LPL						pmax	pmax		
	comp=Z,17nm,0.9s,mb5.4								
SSF	**Saint Saulge**	**91.90**	**333**		*e*P		**P**	**11 24 52.7**	**-0.1**
SSF						pmax	pmax		
	comp=Z,14nm,1.0s,mb5.2								
SSF	**Saint Saulge**	**91.90**	**333**		*e*P		**P**	**11 24 52.7**	**-0.1**
	comp=Z,14nm,1.0s,mb5.3								
LPG	**La Plagne**	**91.91**	**330**		*e*P		**P**	**11 24 53.3**	**+0.4**
	comp=Z,43nm,0.9s,mb5.5								
LPG	**La Plagne**	**91.91**	**330**		*e*P		**P**	**11 24 53.3**	**+0.4**
LPG						pmax	pmax		
	comp=Z,21nm,0.9s,mb5.5								
TIP	**Timpagrande**	**92.05**	**321**		*e*P		**P**	**11 24 54.1**	**+0.4**
SMF	**Signal de Mont**	**92.12**	**333**		*e*P		**P**	**11 24 53.8**	**0.0**
AVF	**Avril sur Loir**	**92.19**	**333**		*e*P		**P**	**11 24 54.1**	**0.0**
	comp=Z,51nm,0.9s,mb5.6								
AVF	**Avril sur Loir**	**92.19**	**333**		*e*P		**P**	**11 24 54.1**	**0.0**
AVF						pmax	pmax		
	comp=Z,25nm,0.9s,mb5.5								
BNI	**Bardonecchia**	**92.30**	**330**		*e*P		**P**	**11 24 54.8**	**+0.1**
BNI						pmax	pmax		
	comp=Z,11nm,1.0s,mb5.1								
BNI	**Bardonecchia**	**92.30**	**330**		*e*P		**P**	**11 24 54.8**	**+0.1**
	comp=Z,12nm,1.0s,mb5.2								
GRR	**Gorron**	**92.33**	**336**		*e*P		**P**	**11 24 54.7**	**-0.1**
	comp=Z,118nm,1.2s,mb5.8								
GRR	**Gorron**	**92.33**	**336**		*e*P		**P**	**11 24 54.7**	**-0.1**
GRR						pmax	pmax		
	comp=Z,59nm,1.2s,mb5.8								
MBDF	**Montbardon**	**92.52**	**330**		*e*P		**P**	**11 24 55.3**	**-0.4**
	comp=Z,28nm,0.7s,mb5.5								
MBDF	**Montbardon**	**92.52**	**330**		*e*P		**P**	**11 24 55.3**	**-0.4**
MBDF						pmax	pmax		
	comp=Z,14nm,0.7s,mb5.5								
ORIF	**Oris-en-Rattie**	**92.74**	**331**		*e*P		**P**	**11 24 56.6**	**-0.1**
	comp=Z,33nm,0.9s,mb5.4								
ORIF					*e*R				
	comp=Z,169nm,18.5s								
SBF	**Sospel**	**92.94**	**329**		*e*P		**P**	**11 24 57.6**	**-0.1**
	comp=Z,59nm,0.8s,mb5.8								
SBF	**Sospel**	**92.94**	**329**		*e*P		**P**	**11 24 57.6**	**-0.1**
SBF						pmax	pmax		
	comp=Z,30nm,0.8s,mb5.8								
TCF	**Toulx Ste Croi**	**93.04**	**334**		*e*P		**P**	**11 24 58.2**	**+0.1**
	comp=Z,44nm,1.3s,mb5.4								
TCF	**Toulx Ste Croi**	**93.04**	**334**		*e*P		**P**	**11 24 58.2**	**+0.1**
TCF						pmax	pmax		
	comp=Z,22nm,1.3s,mb5.4								
VIVF	**Saint-Julien-l**	**93.28**	**331**		*e*P		**P**	**11 24 59.2**	**0.0**
	comp=Z,37nm,0.9s,mb5.5								
VIVF	**Saint-Julien-l**	**93.28**	**331**		*e*P		**P**	**11 24 59.2**	**0.0**
VIVF						pmax	pmax		
	comp=Z,19nm,0.9s,mb5.5								
CCM	**Cathedral Cave**	**93.34**	**40**		*e*P		**P**	**11 24 59.4**	**-0.2**
CCM					*e**PP	pP		11 25 10.2	-1.1
CCM						pmax	pmax		
	comp=Z,34nm,1.4s,mb5.6								
CCM	**Cathedral Cave**	**93.34**	**40**		*e*P		**P**	**11 24 59.4**	**-0.3**
	comp=Z,34nm,1.4s,mb5.6								
CCM					*e*pP	pP		11 25 10.2	-1.1
FRF	**La Foret Royal**	**93.52**	**329**		*e*P		**P**	**11 25 00.2**	**-0.1**
MFF	**Saint Martin d**	**93.63**	**335**		*e*P		**P**	**11 25 00.7**	**0.0**
	comp=Z,69nm,1.3s,mb5.6								
MFF	**Saint Martin d**	**93.63**	**335**		*e*P		**P**	**11 25 00.7**	**0.0**
MFF						pmax	pmax		
	comp=Z,34nm,1.3s,mb5.6								
SMRF	**Simiane la Rot**	**93.63**	**330**		*e*P		**P**	**11 25 00.8**	**0.0**
	comp=Z,58nm,1.4s,mb5.5								
LMR	**La Mourre**	**93.76**	**329**		*e*P		**P**	**11 25 01.2**	**-0.2**
	comp=Z,40nm,1.0s,mb5.5								
LMR	**La Mourre**	**93.76**	**329**		*e*P		**P**	**11 25 01.2**	**-0.2**
LMR						pmax	pmax		
	comp=Z,20nm,1.0s,mb5.5								
RJF	**Les Rejaudoux**	**94.13**	**333**		*e*P		**P**	**11 25 02.9**	**-0.1**
	comp=Z,29nm,1.0s,mb5.4								
RJF					*e*R				
	comp=Z,146nm,21.2s								
RJF	**Les Rejaudoux**	**94.13**	**333**		*e*P		**P**	**11 25 02.9**	**-0.1**
RJF						pmax	pmax		
	comp=Z,15nm,1.0s,mb5.4								
RJF						MLR	MLR		
	comp=Z,150nm,21.3s,MS4.4								
CAF	**Calviac**	**94.24**	**333**		*e*P		**P**	**11 25 03.7**	**+0.2**
LASF	**Ste Croix**	**94.25**	**331**		*e*P		**P**	**11 25 03.8**	**+0.2**
MTLF	**Montolieu**	**95.52**	**332**		*e*P		**P**	**11 25 09.3**	**-0.1**
RKT	**Rikitea**	**96.60**	**113**		*e*LR		LR	11 55 39.1	
	comp=Z,394nm,30.2s								
SJPF	**Ste Jean**	**97.02**	**334**		*e*P		**P**	**11 25 16.0**	**-0.3**
ESDC	**Sonseca Array**	**101.03**	**334**		PP		PP	11 29 43.9	-2.1
	comp=Z,0.2nm,0.4s,baz=32,slow=7.1,SNR=4.2								
MAW	**Mawson**	**116.42**	**205**		PKP		PKPdf	11 30 27.6	+1.1
	comp=Z,1.8nm,0.8s,baz=90,slow=2.0,SNR=3.9								
QSPA	**South Pole Qui**	**122.98**	**180**	⇓	*i*P		PKPdf	11 30 39.6	+0.6
BOSA	**Boshof**	**126.52**	**257**		PKP		PKPdf	11 30 48.8	+1.8
	comp=Z,3.3nm,0.6s,baz=96,slow=7.4,SNR=6.8								
SDV	**Santo Domingo**	**127.69**	**43**		*e*P		PKPdf	11 30 50.7	+1.1
SDV					*e*pP			11 31 01.7	
DBIC	**Dimbokro**	**129.55**	**316**		PKIKP		PKPdf	11 30 54.4	+1.3
DBIC								11 31 05.4	
DBIC						pmax	pmax		
	comp=Z,5.0nm,0.7s								
DBIC						pmax	pmax		
	comp=Z,3.0nm,0.7s								
DBIC	**Dimbokro**	**129.55**	**316**		PKP		PKPdf	11 30 54.4	+1.2
	comp=Z,4.5nm,0.7s,baz=14,slow=3.0,SNR=9.5								
DBIC						pPKP		11 31 05.4	
	comp=Z,3.3nm,0.7s,baz=16,slow=1.6,SNR=3.1

comp=Z,22nm,0.2s
A54 Misere 2.88 44 PN Pn 11 25 17.1 -1.5
A54 SN Sn 11 25 50.4 -2.8
A54 Trac 11 26 04.0
comp=Z,31nm,0.2s
CRLO Chalk River 2.90 284 PN Pn 11 25 18.4 -0.5
CRLO SN Sn 11 25 51.7 -1.9
CRLO Trac 11 26 08.3
comp=Z,12nm,0.1s
LMQ La Malbaie 2.98 43 PN Pn 11 25 18.8 -1.3
LMQ SN Sn 11 25 53.9 -1.9
LMQ Trac 11 26 06.9
comp=Z,20nm,0.1s
PECO Prince Edward 3.00 242 PN Pn 11 25 19.2 -1.0
PECO SN Sn 11 25 53.3 -2.8
PECO Trac 11 26 08.5
comp=Z,21nm,0.1s
A16 Riviere Ouelle 3.09 47 PN Pn 11 25 21.0 -0.7
A16 SN Sn 11 25 55.8 -2.8
A16 Trac 11 26 08.1
comp=Z,13nm,0.1s
DELO Deloro Mine 3.17 255 PN Pn 11 25 21.4 -1.3
DELO SN Sn 11 25 57.4 -2.9
DELO Trac 11 26 10.7
comp=Z,16nm,0.1s
A61 Sainte Mathild 3.20 43 PN Pn 11 25 22.1 -1.1
A61 SN Sn 11 25 58.6 -2.7
A61 Trac 11 26 10.0
comp=Z,11nm,0.1s
BANO Bancroft 3.27 265 PN Pn 11 25 22.6 -1.4
BANO SN Sn 11 25 59.7 -3.2
BANO Trac 11 26 18.4
comp=Z,15nm,0.1s
ALGO Algonquin Park 3.35 281 PN Pn 11 25 23.8 -1.4
ALGO SN Sn 11 26 02.0 -3.0
ALGO Trac 11 26 22.0
comp=Z,47nm,0.1s
A64 Saint Simeon 3.39 43 PN Pn 11 25 25.1 -0.7
A64 SN Sn 11 26 03.2 -2.8
A64 Trac 11 26 20.9
comp=Z,9.6nm,0.1s
A21 Saint Andre 3.41 46 PN Pn 11 25 24.6 -1.5
A21 SN Sn 11 26 03.0 -3.5
A21 Trac 11 26 22.4
comp=Z,40nm,0.2s
WLVO Wesleyville 3.90 249 PN Pn 11 25 31.5 -1.6
WLVO SN Sn 11 26 14.8 -4.2
WLVO Trac 11 26 34.8
comp=Z,13nm,0.1s
VLDQ Val d'Or 3.91 315 PN Pn 11 25 34.3 +1.1
VLDQ SN Sn 11 26 19.9 +0.7
VLDQ Trac 11 26 41.8
comp=Z,21nm,0.3s
LINO Lindsay 4.01 257 PN Pn 11 25 32.3 -2.4
LINO SN Sn 11 26 16.9 -4.8
LINO Trac 11 26 42.0
comp=Z,25nm,0.2s
SADO Sadowa 4.16 263 PN Pn 11 25 34.4 -2.4
SADO SN Sn 11 26 21.6 -3.9
SADO Trac 11 26 47.0
comp=Z,24nm,0.3s
EEO Eldee 4.18 289 PN Pn 11 25 35.3 -1.8
EEO SN Sn 11 26 21.4 -4.6
EEO Trac 11 26 53.5
comp=Z,9.8nm,0.2s
BUKO Buck Lake 4.27 273 PN Pn 11 25 35.8 -2.5
BUKO SN Sn 11 26 22.6 -5.6
BUKO Trac 11 26 51.9
comp=Z,13nm,0.2s
MEDO Medina 4.30 240 PN Pn 11 25 36.6 -2.3
MEDO SN Sn 11 26 24.6 -4.6
MEDO Trac 11 26 48.1
comp=Z,12nm,0.2s
PKRO Pickering 4.33 253 PN Pn 11 25 36.3 -3.0
PKRO SN Sn 11 26 24.5 -5.4
PKRO Trac 11 26 48.9
comp=Z,47nm,0.2s
RSPO Restoule Provi 4.54 281 PN Pn 11 25 40.6 -1.7
RSPO SN Sn 11 26 31.1 -4.1
RSPO Trac 11 26 59.0
comp=Z,11nm,0.2s
GGN Saint George 4.60 91 PN Pn 11 25 42.3 -0.7
GGN SN Sn 11 26 32.2 -4.4
GGN Trac 11 27 03.6
comp=Z,4.9nm,0.2s
TORO Toronto--Lesli 4.65 249 PN Pn 11 25 39.0 -4.8
TORO SN Sn 11 26 32.4 -5.6
TORO Trac 11 27 04.0
comp=Z,39nm,0.1s
STCO Saint Catharin 4.73 244 PN Pn 11 25 41.6 -3.3
STCO SN Sn 11 26 34.1 -5.7
STCO Trac 11 27 02.5
comp=Z,21nm,0.2s
HSMO Haileybury Sch 4.80 296 PN Pn 11 25 43.6 -2.2
HSMO SN Sn 11 26 36.2 -5.4
HSMO Trac 11 27 05.8
comp=Z,12nm,0.2s
KLBO Killbear Provi 4.84 272 PN Pn 11 25 44.4 -2.1
KLBO SN Sn 11 26 37.2 -5.6
KLBO Trac 11 27 02.8
comp=Z,9.5nm,0.2s
CLWO Collingwood 5.04 261 PN Pn 11 25 45.8 -3.4
CLWO SN Sn 11 26 43.5 -4.2
CLWO Trac 11 27 12.1
comp=Z,20nm,0.2s
ACTO Acton 5.13 252 PN Pn 11 25 48.9 -1.7
ACTO Trac 11 27 12.1
comp=Z,20nm,0.2s
TYNO Tyneside 5.23 246 PN Pn 11 25 45.5 -6.4
TYNO Trac 11 27 17.5
comp=Z,17nm,0.2s
CNQ Baie Comeau 5.29 41 PN Pn 11 25 52.3 -0.5
CNQ SN Sn 11 26 48.4 -5.6
CNQ Trac 11 27 21.3
comp=Z,11nm,0.3s
KILO Kirkland Lake 5.35 308 PN Pn 11 25 51.9 -1.8
KILO Trac 11 27 25.4
comp=Z,5.1nm,0.1s
HGVO Hagersville 5.46 246 PN Pn 11 25 52.4 -2.8
HGVO SN Sn 11 26 51.4 -6.9
HGVO Trac 11 27 21.8
comp=Z,4.4nm,0.1s
GSQ Grosses Roches 5.50 48 PN Pn 11 25 53.7 -2.1
GSQ SN Sn 11 26 52.5 -6.9
GSQ Trac 11 27 29.2
comp=Z,2.1nm,0.1s
ICQ Pointe Anglais 5.82 43 PN Pn 11 25 57.4 -2.8
ICQ SN Sn 11 27 01.1 -6.1
ICQ Trac 11 27 43.7
comp=Z,2.4nm,0.1s
MNQ Manicouagan 5.97 29 PN Pn 11 25 59.8 -2.7
MNQ SN Sn 11 27 03.6 -7.5
MNQ Trac 11 27 42.0
comp=Z,6.2nm,0.2s
LMN Caledonia Moun 6.00 83 PN Pn 11 25 59.5 -3.3
LMN SN Sn 11 27 04.6 -7.2
LMN Trac 11 27 43.6
comp=Z,1.3nm,0.2s
ELFO Elginfield 6.14 252 PN Pn 11 26 00.3 -4.4
ELFO SN Sn 11 27 08.4 -6.9
ELFO Trac 11 27 44.0
comp=Z,18nm,0.3s
MALO McAlpine Lake 6.33 319 PN Pn 11 26 05.3 -2.2
MALO SN Sn 11 27 12.3 -7.8
MALO Trac 11 27 53.9
comp=Z,7.1nm,0.3s
SMQ Clarke City 6.57 40 PN Pn 11 26 07.5 -3.4
SMQ SN Sn 11 27 17.5 -8.5
SMQ Trac 11 27 21.8
comp=Z,1.9nm,0.1s
KAPO Kapuskasing 7.41 306 PN Pn 11 26 21.9 -0.8
KAPO SN Sn 11 27 36.7 -10
KAPO Trac 11 27 46.2
comp=Z,0.9nm,0.1s
PLIO Pelee Island, 7.67 245 PN Pn 11 26 21.3 -5.0
PLIO SN Sn 11 27 43.6 -10
PLIO Trac 11 28 31.7
comp=Z,3.0nm,0.2s
WEMQ Wemindji, Queb 8.23 340 PN P 11 26 28.6 -5.5
WEMQ SN Sn 11 27 57.5 -10
WEMQ Trac 11 28 54.2
comp=Z,2.9nm,0.2s
LG4Q La Grande 4 8.24 357 PN P 11 26 30.3 -4.0
LG4Q SN Sn 11 27 59.5 -8.3
LG4Q Trac 11 28 59.6
comp=Z,1.8nm,0.3s
VIMO Victor Mine 10.07 321 PN P 11 26 53.9 -5.5
VIMO SN S 11 28 40.4 -12
VIMO Trac 11 29 48.3
comp=Z,0.7nm,0.2s
SCHQ Schefferville 10.31 21 PN P 11 26 58.6 -4.0
SCHQ SN S 11 28 48.6 -10
SCHQ LG 11 29 52.5
SCHQ Trac 11 30 00.3
comp=Z,0.6nm,0.3s
SILO Sutton Inlier 11.73 325 PN P 11 27 17.9 -4.2
SILO SN S 11 29 20.5 -13
SILO Trac 11 30 33.9
comp=Z,0.4nm,0.3s

MAN 27 11:29:33.4,13.59N×120.57E,h76km,mb4.1,ML2.9, MS2.6,1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.35**	**294**	*eP*	P	11 29 47.5	+1.9
LUBP				*eS*	S	11 29 57.6	+2.8
PGP	**Puerto Galera**	**0.38**	**103**	*eP*	P	11 29 47.6	+1.7
TGY	**Tagaytay City**	**0.62**	**35**	⇑*iP*	P	11 29 49.8	+1.7
TGY				*i S*	S	11 30 01.7	+2.8
SJMP	**San Jose**	**1.24**	**154**	*eP*	S	11 29 57.0	+1.5
SJMP				*eS*	S	11 30 13.3	+1.2
BOAC	**Boac**	**1.25**	**96**	*eP*	P	11 29 55.8	+0.2
BOAC				*eS*	S	11 30 13.2	+0.9
BUSP	**Coron**	**1.62**	**193**	*eP*	P	11 30 01.2	+0.6
BUSP				*eS*	S	11 30 22.2	+1.5
OTRP	**Odiongan**	**1.87**	**131**	*eP*	P	11 30 04.3	+0.3
OTRP				*eS*	S	11 30 25.6	-0.9
BALP	**Baler**	**2.35**	**24**	*eP*	P	11 30 10.0	-0.6
BALP				*eS*	S	11 30 39.8	+1.4
ENPP	**El Nido**	**2.62**	**205**	*eP*	P	11 30 14.6	+0.1
CUYO	**Cuyo Island**	**2.76**	**171**	*eP*	P	11 30 15.8	-0.6
CUYO				*eS*	S	11 30 47.6	-1.0

*IDC **27** 11:45:40.4±0.7,6.87S×130.29E,mb4.3/8,mb1 4.5/10, mb1mx4.3/16,mbtmp4.4/10,ML4.4/2,MS2.9/1,Ms1 2.9/1, ms1mx2.6/23,Error ellipse: s-maj=32.7km s-min=16.9km az=70.0*

*NEIC **27** 11:45:46.1±2.0,6.86S×130.30E,h41km±18km,mb4.1/4, Error ellipse: s-maj=14.7km s-min=13.7km az=57.0*

ISC 27 11:45:40.3±3.9,7.03S±0.07×130.3E±0.1,h14km±25km, n28,σ1♦50/31,mb4.2/7,3C,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.02**	**160**	⇑*iP*	**Pn**	**11 47 16.4**	**+5.2**
	41nm,0.2s						
KAKA				*eS*	**Sn**	**11 48 19.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.92**	**202**	*eP*	**P**	**11 48 32.6**	**-0.4**
	15nm,0.3s						
FITZ				*eS*	**S**	**11 50 34.5**	**-12**
FITZ	**Fitzroy Crossi**	**11.92**	**202**	Pn	**P**	**11 48 32.4**	**-0.5**
	7.5nm,0.3s,baz=16,slow=9.2,SNR=94						
FITZ				Sn	**S**	**11 50 36.0**	**-11**
	26nm,0.3s,baz=158,slow=12,SNR=11						
FITZ				LR	LR	11 53 16.5	
	comp=Z,61nm,21.5s,baz=75,slow=38						
WRAB	**Tennant Creek**	**13.41**	**163**	*eP*	**P**	**11 48 48.5**	**-4.3**
	19nm,0.4s						
WRAB				*eS*	**S**	**11 51 11.8**	**-11**
WRA	**Warramunga Arr**	**13.42**	**164**	Pn	**P**	**11 48 50.3**	**-2.6**
	4.0nm,0.3s,baz=345,slow=13,SNR=151						
WRA				Sn	**S**	**11 51 09.6**	**-13**
	5.4nm,0.3s,baz=350,slow=22,SNR=53						
WB2	**Warramunga Arr**	**13.42**	**163**	*eP*	**P**	**11 48 50.1**	**-2.9**
WB2				*eS*	**S**	**11 51 10.0**	**-13**
PMG	**Port Moresby**	**16.82**	**99**	Pn	**P**	**11 49 38.3**	**+1.1**
	1.3nm,0.3s,baz=352,slow=7.1,SNR=5.3						
MBWA	**Marble Bar**	**17.39**	**215**	*eP*	**P**	**11 49 45.4**	**+1.0**
	17nm,0.9s						
CTA	**Charters Tower**	**20.18**	**132**	*eP*	**P**	**11 50 19.0**	**+1.6**
	3.6nm,0.4s						
CTA	**Charters Tower**	**20.18**	**132**	P	**P**	**11 50 18.5**	**+1.1**
	3.7nm,0.4s,baz=298,slow=13,SNR=8.1						
CTAO	**Charters Tower**	**20.18**	**132**	*eP*	**P**	**11 50 18.2**	**+0.8**
	7.2nm,0.7s						
STKA	**Stephens Creek**	**26.87**	**158**	⇑*iP*	**P**	**11 51 23.6**	**+1.0**
	6.0nm,0.3s,mb4.6						
STKA	**Stephens Creek**	**26.87**	**158**	P	**P**	**11 51 23.7**	**+1.1**
	7.7nm,0.3s,mb4.7,baz=332,slow=7.9,SNR=25						
NWAO	**Narrogin (SRO)**	**28.50**	**204**	P	**P**	**11 51 39.4**	**+2.0**
	10nm,1.1s,mb4.4,baz=34,slow=7.8,SNR=5.4						
SONM	**Songino Array**	**58.57**	**341**	P	**P**	**11 55 38.9**	**-0.1**
	0.7nm,0.5s,mb3.9,baz=166,slow=7.0,SNR=3.6						
MKAR	**Makanchi Array**	**68.42**	**327**	P	**P**	**11 56 43.7**	**-0.2**
	2.8nm,0.4s,mb4.7,baz=121,slow=7.3,SNR=20						
MKAR	**Makanchi Array**	**68.42**	**327**	P	**P**	**11 56 43.7**	**-0.2**
VNDA	**Vanda**	**72.38**	**173**	P	**P**	**11 57 08.4**	**+0.9**
	1.5nm,0.5s,mb4.2,baz=320,slow=7.0,SNR=33						
KURK	**Kurchatov**	**72.71**	**328**	P	**P**	**11 57 08.0**	**-1.8**
MAW	**Mawson**	**75.05**	**201**	P	**P**	**11 57 24.9**	**+1.9**
	1.0nm,0.6s,mb4.0,baz=92,slow=6.8,SNR=6.8						
BVAR	**Borovoye Array**	**78.26**	**328**	P	**P**	**11 57 39.6**	**-1.6**
	0.4nm,0.5s,mb3.6,baz=141,slow=9.2,SNR=3.0						
SNAA	**Sanae**	**95.72**	**193**	⇑*i*	**P**	**11 59 07.8**	**+1.2**
SNAA	**Sanae**	**95.72**	**193**	*e*	**P**	**11 59 13.1**	**+6.5**
VNA2	**Neumayer--Watz**	**97.28**	**193**		**P**	**11 59 10.8**	**-2.9**
VNA2	**Neumayer--Watz**	**97.28**	**193**	*e*	**P**	**11 59 16.7**	**+3.0**
LVC	**Limon Verde**	**145.04**	**148**	PKPbc	PKPbc	12 05 20.4	+2.0
	3.1nm,0.5s,baz=254,slow=6.2,SNR=5.5						
CPUP	**Villa Florida**	**146.02**	**168**	PKPbc	PKPbc	12 05 22.9	+2.2
	1.4nm,0.4s,baz=223,slow=3.5,SNR=5.8						
LPAZ	**La Paz**	**150.50**	**142**	PKPbc	PKPdf	12 05 36.0	+5.3
	2.5nm,0.9s,baz=244,slow=1.2,SNR=12						

*NIED **27** 11:46:00,33.30N×142.40E,h8km,Mw4.3 Best double couple: Mo3.16×10^15 NP1:φs190°,δ56°,λ-70°. NP2: φs336°,δ39°,λ-117°.*

*IDC **27** 11:46:10.1±0.8,33.25N×142.53E,mb4.1/16,mb1 4.3/21, mb1mx4.3/25,mbtmp4.2/21,ML4.1/5,MS3.5/6,Ms1 3.5/6, ms1mx3.2/31,Error ellipse: s-maj=20.9km s-min=16.7km az=174.0*

*JMA **27** 11:46:13.9±0.3,33.28N×142.38E,h75km,M4.3*

*BJI **27** 11:46:14.9,33.11N×142.23E,h41km,mB4.7,mb4.3, Ms4.4,Ms3.9*

*MOS **27** 11:46:15.6±0.9,33.50N×142.47E,h44km,mb4.6/5,Error ellipse: s-maj=18.7km s-min=8.4km az=118.4*

*NEIC **27** 11:46:16.9±1.3,33.35N×142.41E,h44km±10km,mb4.6/4, MW4.3(NIED),Error ellipse: s-maj=11.1km s-min=10.6km az=127.0*

ISC 27 11:46:14.2±1.1,33.29N±0.05×142.39E±0.06,h35km±8km, n68,σ0♦98/78,mb4.3/25,MS3.6/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.80**	**320**	P	**P**	**11 46 43.2**	**-0.1**
BSO1				S	**S**	**11 47 06.4**	**+1.3**
BSO2	**Boso 2**	**1.99**	**318**	S	**S**	**11 47 06.4**	**-3.6**
JHJ2	**Mitsune**	**2.16**	**266**	P	**P**	**11 46 48.7**	**+0.3**
JHJ2				*eS*	**S**	**11 47 14.9**	**+0.6**
BSO3	**Boso 3**	**2.17**	**315**	P	**P**	**11 46 49.1**	**+0.5**
BSO3				*eS*	**S**	**11 47 16.0**	**+1.5**
JHJ	**Hachijo jima 2**	**2.19**	**266**	Pn	**P**	**11 46 48.8**	**-0.1**
	249nm,0.3s,baz=146,slow=2.7,SNR=86						
JHJ				Sn	**S**	**11 47 15.6**	**+0.6**
	469nm,0.3s,baz=41,slow=23,SNR=21						
BSO4	**Boso 4**	**2.40**	**316**	P	**P**	**11 46 52.9**	**+1.0**
BSO4				S	**S**	**11 47 22.5**	**+2.1**
JMY	**Miyakejima3**	**2.52**	**289**	*eS*	**S**	**11 47 22.0**	**-1.4**
KTR	**Katsuura**	**2.53**	**318**	P	**P**	**11 46 53.6**	**-0.1**
KTR				*eS*	**S**	**11 47 24.5**	**+0.9**
JIM2	**Oshima 3**	**2.84**	**301**	P	**P**	**11 46 57.4**	**-0.8**
JIM2				*eS*	**S**	**11 47 30.6**	**-0.9**
JOD2	**Odawara 2**	**3.37**	**307**	P	**P**	**11 47 05.0**	**-0.7**
JOD2				*eS*	**S**	**11 47 42.2**	**-2.8**
JAG	**Ashikaga**	**3.95**	**323**	P	**P**	**11 47 13.3**	**-0.7**
JRY	**Ryogami san**	**3.96**	**314**	P	**P**	**11 47 13.7**	**-0.3**
MJAR	**Matsushiro Arr**	**4.72**	**315**	Pn	**P**	**11 47 24.8**	**-0.1**
	9.5nm,0.3s,baz=56,slow=25,SNR=67						
MJAR				Sn	**S**	**11 48 18.3**	**-1.0**
	12nm,0.3s,baz=136,slow=23,SNR=8.7						
MAJO	**Matsushiro**	**4.73**	**315**	*eP*	**P**	**11 47 26.4**	**+1.4**
MAT	**Matsushiro**	**4.73**	**315**	*eP*	**P**	**11 47 25.0**	**0.0**
MAT				*eS*	**S**	**11 48 18.0**	**-1.3**
MAT	**Matsushiro**	**4.73**	**315**	P	**P**	**11 47 24.5**	**-0.5**
MAT				S	**S**	**11 48 18.2**	**-1.1**
MAT	**Matsushiro**	**4.73**	**315**	P	**P**	**11 47 25.4**	**+0.4**
MAT				S	**S**	**11 48 18.7**	**-0.6**
CBIJ	**Chichi jima**	**6.17**	**182**	Pn	**P**	**11 47 41.2**	**-4.0**
	18nm,0.3s,baz=294,slow=20,SNR=7.5						
CBIJ				Sn	**S**	**11 48 45.9**	**-10**
	42nm,0.3s,baz=273,slow=20,SNR=4.7						
JNU	**Nakatsue**	**9.64**	**272**	Pn	**P**	**11 48 33.5**	**-0.1**
	0.4nm,0.3s,baz=114,slow=17,SNR=5.6						
JNU				LR	LR	11 52 02.5	
	comp=Z,235nm,21.7s,baz=14,slow=36						
ASAJ	**Asahikawa**	**10.82**	**1**	P	**P**	**11 48 44.7**	**-4.9**
ASAJ						11 50 37.4	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=E,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.82**	**1**	Pn	**P**	**11 48 44.7**	**-4.9**
	comp=E,3.8nm,0.3s,baz=245,slow=6.2,SNR=22						
ASAJ				Sn	**S**	**11 50 37.4**	**-13**
	comp=E,0.7nm,0.3s,baz=117,slow=18,SNR=2.9						
YSS	**Yuzh-Sakhalins**	**13.66**	**1**	*eP*	**P**	**11 49 23.9**	**-3.7**
JOW	**Kunigami**	**13.80**	**246**	LR	LR	11 53 20.4	
	comp=E,113nm,19.8s,baz=103,slow=31						
MDJ	**Mudanjiang**	**15.05**	**322**	P	**P**	**11 49 47.3**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,62nm,5.5s						
CN2	**Changchun**	**16.87**	**313**	*eP*	**P**	**11 50 08.5**	**-0.6**
HIA	**Hailar**	**23.20**	**320**	*eP*	**P**	**11 51 17.4**	**-1.2**
WHN	**Wuhan**	**23.93**	**271**	P	**P**	**11 51 26.0**	**+0.2**
HHC	**Hu-ho-hao-te**	**25.63**	**296**	*eP*	**P**	**11 51 45.0**	**+2.9**
HHC				AMB	AMB		
	comp=Z,16nm,0.6s,mb4.7						
SONM	**Songino Array**	**30.65**	**309**	P	**P**	**11 52 28.3**	**+1.0**
	comp=Z,2.9nm,0.6s,mb4.3,baz=113,slow=8.8,SNR=16						
SONM				LR	LR	12 05 58.1	
	comp=Z,87nm,18.6s,MS3.4,baz=183,slow=39						
BOD	**Bodaibo**	**31.15**	**331**	*eP*	**P**	**11 52 30.5**	**-1.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
ZAK	**Zakamensk**	**33.31**	**313**	*eP*	**P**	**11 52 49.5**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
NVS	**Novosibirsk**	**46.05**	**316**	*eP*	**P**	**11 54 37.6**	**+1.5**
MKAR	**Makanchi Array**	**46.86**	**305**	P	**P**	**11 54 42.8**	**+0.3**
	comp=Z,1.8nm,0.7s,mb4.1,baz=90,slow=10,SNR=14						
MKAR				LR	LR	12 13 18.1	
	comp=Z,50nm,18.1s,MS3.5,baz=290,slow=35						
JIRN	**Jiri**	**48.27**	**279**	*eP*	**P**	**11 54 54.2**	**+0.4**
	comp=Z,25nm,0.5s,mb5.5						
KURK	**Kurchatov**	**48.93**	**311**	*eP*	**P**	**11 54 58.5**	**-0.1**
KURK				*e*	pP	11 55 06.6	-2.3
KURK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
KURK	**Kurchatov**	**48.93**	**311**	*eP*	**P**	**11 54 58.5**	**-0.1**
	comp=Z,10nm,0.6s,mb5.0						
KURK				*e*	pP	11 55 06.6	-2.3
PKI	**Pulchoki**	**48.95**	**279**	*eP*	**P**	**11 54 58.1**	**-1.0**
KKN	**Kakani**	**48.98**	**280**	*eP*	**P**	**11 54 59.3**	**0.0**
GKN	**Gorkha**	**49.43**	**280**	*eP*	**P**	**11 55 02.7**	**-0.1**
	comp=Z,11nm,0.4s,mb5.2						
KOLN	**Koldanda**	**50.37**	**280**	*eP*	**P**	**11 55 09.9**	**-0.1**
	comp=Z,8.3nm,0.6s,mb5.0						
SML	**Sawmill**	**51.58**	**35**	*eP*	**P**	**11 55 17.9**	**-0.7**
ILAR	**Eielson Array**	**52.27**	**31**	P	**P**	**11 55 22.4**	**-1.3**
	comp=Z,1.5nm,0.7s,mb4.0,baz=263,slow=6.6,SNR=20						
WRAB	**Tennant Creek**	**53.47**	**189**	P	**P**	**11 55 34.1**	**+0.8**
WRA	**Warramunga Arr**	**53.48**	**189**	P	**P**	**11 55 31.8**	**-1.6**
	comp=Z,1.5nm,0.5s,mb4.2,baz=5.6,slow=7.7,SNR=3.0						
BVAR	**Borovoye Array**	**53.72**	**315**	P	**P**	**11 55 34.8**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.9,baz=91,slow=8.7,SNR=5.3						
INK	**Inuvik**	**57.38**	**26**	P	**P**	**11 56 00.0**	**-0.9**
	comp=Z,2.4nm,0.7s,mb4.3,baz=333,slow=6.0,SNR=5.5						
ARU	**Arti**	**59.72**	**320**	*eP*	**P**	**11 56 15.5**	**-1.9**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
ARU	**Arti**	**59.72**	**320**	*eP*	**P**	**11 56 15.5**	**-1.9**
	comp=Z,4.0nm,0.6s,mb4.6						
DLBC	**Dease Lake**	**61.11**	**37**	LR	LR	12 20 00.4	
	comp=Z,48nm,19.9s,MS3.6,baz=109,slow=33						
AFI	**Afiamalu**	**64.14**	**129**	LR	LR	12 20 57.5	
	comp=Z,76nm,20.4s,MS3.9,baz=107,slow=33						
YKA	**Yellowknife Ar**	**66.66**	**30**	P	**P**	**11 57 01.7**	**-1.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=295,slow=6.5,SNR=12						
ARCES	**ARCESS Array B**	**67.78**	**340**	P	**P**	**11 57 09.9**	**0.0**
	comp=Z,1.7nm,0.7s,mb4.2,baz=56,slow=8.7,SNR=4.5						
FINES	**FINESS Array B**	**72.50**	**333**	P	**P**	**11 57 38.2**	**-0.4**
	comp=Z,1.5nm,0.9s,mb3.9,baz=90,slow=1.4,SNR=7.9						
NVAR	**Mina Azul Lea**	**76.61**	**53**	P	**P**	**11 58 03.1**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=292,slow=5.5,SNR=8.8						
AKASG	**Malin Array Be**	**77.76**	**323**	P	**P**	**11 58 08.8**	**-0.2**
	comp=Z,0.5nm,0.3s,mb3.9,baz=46,slow=6.0,SNR=6.3						
AKASG	**Malin Array Be**	**77.76**	**323**	P	**P**	**11 58 08.8**	**-0.2**
NB2	**NORSAR Subarra**	**77.95**	**338**	P	**P**	**11 58 09.4**	**-0.4**
	comp=Z,2.9nm,0.7s,mb4.3,baz=40,slow=5.6						
NB2	**NORSAR Subarra**	**77.95**	**338**	P	**P**	**11 58 09.4**	**-0.4**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
NOA	**NORSAR Array B**	**77.95**	**338**	P	**P**	**11 58 10.0**	**+0.2**
	comp=Z,2.3nm,0.6s,mb4.3,baz=39,slow=5.7,SNR=14						
PDAR	**Pinedale Array**	**79.73**	**45**	P	**P**	**11 58 20.2**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=276,slow=1.9,SNR=6.8						
SRU	**San Rafael**	**81.28**	**49**	*eP*	**P**	**11 58 28.8**	**+0.6**
BRTR	**Keskin Array B**	**81.95**	**312**	P	**P**	**11 58 32.4**	**+0.7**
	comp=Z,1.4nm,0.7s,mb4.0,baz=97,slow=3.9,SNR=6.3						
SMCO	**Snowmass**	**83.45**	**47**	*eP*	**P**	**11 58 40.8**	**+1.4**
CLL	**Collm**	**84.75**	**331**	P	**P**	**11 58 46.0**	**+0.4**
SDCO	**Great Sand Dun**	**85.24**	**47**	*eP*	**P**	**11 58 49.5**	**+1.1**
	comp=Z,2.1nm,0.7s,mb4.4						
GERES	**GERESS Array B**	**86.32**	**329**	P	**P**	**11 58 54.5**	**+1.1**
	comp=Z,0.2nm,0.3s,mb3.8,baz=23,slow=7.5,SNR=3.8						
TXAR	**Lajitas Array**	**91.76**	**53**	P	**P**	**11 59 20.5**	**+0.8**
	comp=Z,1.0nm,0.6s,mb4.3,baz=316,slow=3.7,SNR=7.8						
SDV	**Santo Domingo**	**127.61**	**43**	PKP	PKPdf	12 05 18.1	+1.6
	comp=Z,2.2nm,0.6s,baz=321,slow=6.5						

*NEIC **27** 12:05:44.8±1.2,16.31S×73.97W,h54km±13km,mb3.9/1, Error ellipse: s-maj=18.4km s-min=10.3km az=57.0*

*IDC **27** 12:05:44.2±5.6,16.35S×74.10W,h46km±60km,mb3.4/3, mb1 3.7/7,mb1mx3.5/20,mbtmp3.6/7,ML3.9/2,MS3.0/1, Ms1 3.0/1,ms1mx2.4/13,Error ellipse: s-maj=68.3km s-min=28.8km az=90.0*

ISC 27 12:05:43.0±1.5,16.32S±0.10×74.03W±0.10,h55km±18km, n13,σ1♦03/14,mb3.6/4,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**2.44**	**94**	*eP*	**P**	**12 06 20.0**	**-1.4**
ARE				*i S*	**S**	**12 06 51.2**	**+1.1**
NNA	**Nana**	**5.10**	**327**	*eP*	**P**	**12 06 59.0**	**+0.2**
	23nm,0.5s						
LPAZ	**La Paz**	**5.67**	**90**	P	**P**	**12 07 08.7**	**+2.1**
	0.6nm,0.3s,baz=277,slow=9.7,SNR=26						
LPAZ	**La Paz**	**5.67**	**90**	*eP*	**P**	**12 07 08.1**	**+1.4**
LVC	**Limon Verde**	**7.90**	**143**	P	**P**	**12 07 36.7**	**-1.1**
	0.6nm,0.3s,baz=320,slow=11,SNR=6.2						
LVC				S	**S**	**12 08 57.3**	**-9.4**
	0.8nm,0.3s,baz=48,slow=21,SNR=6.8						
LVC				LR	LR	12 10 45.8	
	comp=Z,105nm,20.2s,baz=300,slow=38						
SIV	**San Ignacio**	**12.46**	**90**	P	**P**	**12 08 38.2**	**-1.7**
	0.5nm,0.3s,baz=275,slow=13,SNR=7.9						
CFAA	**Coronel Fontan**	**16.10**	**162**	P

s-maj=22.2km s-min=21.1km az=72.0
*JMA **27** 12:05:49.9±0.4, 33.25N×142.49E, h79km, M3.6*
*NEIC **27** 12:05:53.5±0.8, 33.24N×142.38E, h40km, mb4.6/1, Error ellipse: s-maj=23.2km s-min=14.3km az=49.0*
ISC 27 12:05:49.4±1.8, 33.28N±0.05×142.45E±0.06, h22km±14km, n27, σ1§04/40, mb3.9/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.83**	**319**	P		**Pn**	**Pn**	**12 06 20.6**	**+0.5**
BSO1				eS		**Sn**	**Sn**	**12 06 44.4**	**+1.5**
BSO3	**Boso 3**	**2.21**	**314**	P		**Pn**	**Pn**	**12 06 26.2**	**+0.7**
JHJ2	**Mitsune**	**2.21**	**266**	P		**Pn**	**Pn**	**12 06 25.9**	**+0.3**
JHJ2				eS		**Sn**	**Sn**	**12 06 52.5**	**0.0**
JHJ	**Hachijo jima 2**	**2.24**	**267**	Pn		**Pn**	**Pn**	**12 06 26.1**	**+0.1**
	110nm,0.3s,baz=244,slow=22,SNR=64								
JHJ				Sn		**Sn**	**Sn**	**12 06 52.9**	**-0.3**
	84nm,0.3s,baz=36,slow=22,SNR=7.9								
BSO4	**Boso 4**	**2.44**	**315**	P		**Pn**	**Pn**	**12 06 30.0**	**+1.1**
CHOJ	**Chosi**	**2.75**	**332**	P		**Pn**	**Pn**	**12 06 33.7**	**+0.5**
JIM2	**Oshima 3**	**2.88**	**301**	P		**Pn**	**Pn**	**12 06 34.6**	**-0.6**
JIM2				eS		**Sn**	**Sn**	**12 07 08.7**	**-0.9**
JYN	**Shimob**	**3.91**	**306**	P		**Pn**	**Pn**	**12 06 49.8**	**+0.1**
JYN				eS		**Sn**	**Sn**	**12 07 36.5**	**+1.0**
JAG	**Ashikaga**	**3.99**	**323**	P		**Pn**	**Pn**	**12 06 50.9**	**+0.1**
JAG				eS		**Sn**	**Sn**	**12 07 37.0**	**-0.4**
JRY	**Ryogami san**	**4.00**	**314**	P		**Pn**	**Pn**	**12 06 51.5**	**+0.5**
JRY				eS		**Sn**	**Sn**	**12 07 37.1**	**-0.6**
MJAR	**Matsushiro Arr**	**4.76**	**314**	Pn		**Pn**	**Pn**	**12 07 01.7**	**-0.1**
	3.8nm,0.3s,baz=197,slow=9.1,SNR=28								
MJAR				Sn		**Sn**	**Sn**	**12 07 56.6**	**-0.5**
	1.9nm,0.3s,baz=128,slow=19,SNR=6.8								
MAJO	**Matsushiro**	**4.77**	**314**	*eP*		**Pn**	**Pn**	**12 07 01.9**	**+0.1**
MAT	**Matsushiro**	**4.77**	**314**	*eP*		**Pn**	**Pn**	**12 07 01.0**	**-0.9**
MAT				*eS*		**Sn**	**Sn**	**12 07 55.0**	**-2.2**
MAT	**Matsushiro**	**4.77**	**314**	P		**Pn**	**Pn**	**12 07 01.3**	**-0.6**
MAT				S		**Sn**	**Sn**	**12 07 54.9**	**-2.3**
MAT	**Matsushiro**	**4.77**	**314**	P		**Pn**	**Pn**	**12 07 02.8**	**+0.9**
MAT				eS		**Sn**	**Sn**	**12 07 54.0**	**-3.2**
JMM	**Marumori**	**4.77**	**344**	P		**Pn**	**Pn**	**12 06 59.7**	**-2.2**
JMM				eS		**Sn**	**Sn**	**12 07 50.3**	**-7.0**
JGM	**Miyama**	**5.31**	**299**	P		**Pn**	**Pn**	**12 07 10.1**	**+0.6**
JMK	**Ichinoseki**	**5.75**	**350**	P		**Pn**	**Pn**	**12 07 12.8**	**-2.9**
JMK				eS		**Sn**	**Sn**	**12 08 14.4**	**-7.4**
SONM	**Songino Array**	**30.70**	**309**	P		**P**	**P**	**12 12 06.2**	**+1.5**
	0.8nm,0.6s,mb3.7,baz=107,slow=8.2,SNR=8.6								
MKAR	**Makanchi Array**	**46.90**	**305**	P		**P**	**P**	**12 14 20.4**	**+0.6**
	1.6nm,0.7s,mb4.1,baz=88,slow=9.6,SNR=11								
KURK	**Kurchatov**	**48.97**	**311**	P		**P**	**P**	**12 14 35.9**	**-0.1**
	4.7nm,0.7s,mb4.6								
KURK				*e*			pP	12 14 43.6	+0.9
ILAR	**Eielson Array**	**52.24**	**31**	P		**P**	**P**	**12 14 59.9**	**-0.9**
	0.6nm,0.6s,mb3.7,baz=271,slow=6.0,SNR=8.0								
WRA	**Warramunga Arr**	**53.49**	**190**	P		**P**	**P**	**12 15 08.3**	**-2.3**
	0.8nm,0.5s,mb3.9,baz=7.0,slow=7.7,SNR=32								
FITZ	**Fitzroy Crossi**	**53.55**	**200**	P		**P**	**P**	**12 15 09.9**	**-1.2**
	3.5nm,0.8s,mb4.3,baz=119,slow=19,SNR=6.1								
BVAR	**Borovoye Array**	**53.76**	**315**	P		**P**	**P**	**12 15 14.3**	**+2.2**
	0.2nm,0.3s,mb3.5,baz=74,slow=10,SNR=2.7								
NVAR	**Mina Array Bea**	**76.57**	**53**	P		**P**	**P**	**12 17 40.8**	**+0.9**
	0.5nm,0.7s,mb3.5,baz=295,slow=7.9,SNR=4.6								
TXAR	**Lajitas Array**	**91.72**	**53**	P		**P**	**P**	**12 18 57.5**	**+0.9**
	0.7nm,0.7s,mb4.1,baz=243,slow=2.8,SNR=5.1								

*IDC **27** 12:10:39.7±1.0, 33.07N×142.62E, mb3.8/8, mb1 4.1/10, mb1mx3.9/20, mbtmp3.8/10, ML3.5/2, Error ellipse: s-maj=25.6km s-min=21.8km az=172.0*
*NEIC **27** 12:10:41.9±0.6, 33.20N×142.58E, h10km, mb4.4/1, Error ellipse: s-maj=15.7km s-min=9.9km az=223.0*
ISC 27 12:10:43.5±0.7, 33.2N±0.1×142.5E±0.1, h33km, n20, σ1§07/20, mb3.8/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.25**	**269**	Pn		**Pn**	**Pn**	**12 11 18.9**	**-0.5**
	44nm,0.3s,baz=218,slow=20,SNR=21								
MJAR	**Matsushiro Arr**	**4.84**	**315**	Pn		**Pn**	**Pn**	**12 11 55.4**	**-0.8**
	1.4nm,0.3s,baz=160,slow=13,SNR=11								
MAJO	**Matsushiro**	**4.84**	**315**	*eP*		**P**	**P**	**12 11 56.1**	**0.0**
MAT	**Matsushiro**	**4.84**	**315**	P		**P**	**P**	**12 11 54.0**	**-2.0**
MAT	**Matsushiro**	**4.84**	**315**	P		**P**	**P**	**12 11 54.4**	**-1.6**
MDJ	**Mudanjiang**	**15.17**	**323**	P		**P**	**P**	**12 14 16.6**	**-0.3**
HIA	**Hailar**	**23.32**	**320**	P		**P**	**P**	**12 15 51.1**	**+1.7**
ENH	**Enshi**	**28.14**	**273**	*eP*		**P**	**P**	**12 16 35.2**	**+0.4**
SONM	**Songino Array**	**30.77**	**309**	P		**P**	**P**	**12 16 59.7**	**+1.8**
	0.8nm,0.8s,mb3.6,baz=121,slow=7.2,SNR=5.7								
MKAR	**Makanchi Array**	**46.97**	**305**	P		**P**	**P**	**12 19 14.0**	**+1.0**
	0.6nm,0.5s,mb3.8,baz=90,slow=11,SNR=6.1								
KURK	**Kurchatov**	**49.04**	**311**	P		**P**	**P**	**12 19 29.4**	**+0.3**
ILAR	**Eielson Array**	**52.32**	**31**	P		**P**	**P**	**12 19 52.2**	**-1.5**
	0.9nm,0.8s,mb3.8,baz=272,slow=5.9,SNR=8.7								
WRA	**Warramunga Arr**	**53.40**	**190**	P		**P**	**P**	**12 20 00.3**	**-2.1**
	1.3nm,0.7s,mb4.0,baz=9.6,slow=7.7,SNR=12								
BRVK	**Borovoye**	**53.90**	**315**	*eP*		**P**	**P**	**12 19 58.3**	**-7.4**
	2.7nm,0.7s,mb4.3								
STKA	**Stephens Creek**	**64.72**	**181**	*eP*		**P**	**P**	**12 21 21.3**	**+0.6**
YKA	**Yellowknife Ar**	**66.71**	**30**	P		**P**	**P**	**12 21 32.0**	**-0.9**
	0.8nm,0.7s,mb3.8,baz=299,slow=6.0,SNR=5.1								
NVAR	**Mina Array Bea**	**76.61**	**53**	P		**P**	**P**	**12 22 33.5**	**+1.0**
	0.7nm,0.8s,mb3.6,baz=279,slow=5.8,SNR=5.7								
NVAR	**Mina Array Bea**	**76.61**	**53**	P		**P**	**P**	**12 22 33.5**	**+1.0**
NOA	**NORSAR Array B**	**78.07**	**338**	P		**P**	**P**	**12 22 40.3**	**+0.2**
	0.9nm,0.8s,mb3.8,baz=39,slow=5.5,SNR=3.9								
TXAR	**Lajitas Array**	**91.76**	**53**	P		**P**	**P**	**12 23 49.9**	**+0.5**
	0.3nm,0.5s,mb3.9,baz=315,slow=3.5,SNR=3.9								

*NIED **27** 12:10:00, 33.30N×142.50E, h5km, Mw4.7 Best double couple: M0 1.3×10^16 NP1:φs169°, δ67°, λ-85°. NP2:φs337°, δ24°, λ-101°.*
*BJI **27** 12:10:52.9, 33.29N×142.20E, h13km, mB4.8, mb4.5, Ms4.4, Msz4.2*
*JMA **27** 12:10:54.2±0.4, 33.27N×142.45E, h88km, M4.2*
*HRVD **27** 12:10:56.9±0.4, 33.17N×142.61E, h12km, MW4.8/55, Centroid moment Tensor Solution. LP body waves: s11,c13;Mantle waves: s55,c79; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.69±.07; Mθθ 0.14±.07; Mφφ 1.56±.06; Mrθ-0.40±.35; Mθφ-0.28±.06; Mφr-0.15±.28; Best double couple: M0 1.699×10^16 NP1:φs157°, δ45°, λ-108°. NP2:φs2°, δ48°, λ-73°. Principal axes: T 1.614, Plg1°, Azm80°; N .176, Plg13°, Azm170°; P -1.785, Plg77°, Azm344°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **27** 12:10:56.5±0.5, 33.21N×142.50E, h33km±3km, mb4.3/23, mb1 4.4/27, mb1mx4.4/29, mbtmp4.5/27, ML3.9/3, MS3.7/2, Ms1 3.7/2, ms1mx3.5/6 Error ellipse: s-maj=12.6km s-min=11.5km az=146.0*
*NEIC **27** 12:10:56.9±0.2, 33.25N×142.45E, mb4.9/44, MW4.7(NIED), Error ellipse: s-maj=6.0km s-min=4.7km az=167.0*
*MOS **27** 12:10:57.8±0.9, 33.64N×142.48E, h39km, mb5.1/38, Error ellipse: s-maj=10.7km s-min=6.1km az=113.7*
ISC 27 12:10:55.4±0.2, 33.28N±0.03×142.40E±0.03, h33km, h33km±.8km: pP-P, n211, σ1§13/231, mb4.7/77, MS4.3/10, 10C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.81**	**320**	P		**Pn**	**Pn**	**12 11 24.8**	**-0.1**
BSO1				eS		**Sn**	**Sn**	**12 11 48.0**	**+1.0**
JHJ2	**Mitsune**	**2.17**	**266**	P		**Pn**	**Pn**	**12 11 30.0**	**-0.1**
JHJ2				eS		**Sn**	**Sn**	**12 11 57.5**	**+1.3**
BSO3	**Boso 3**	**2.19**	**315**	P		**Pn**	**Pn**	**12 11 30.3**	**0.0**
JHJ	**Hachijo jima 2**	**2.20**	**267**	Pn		**Pn**	**Pn**	**12 11 30.1**	**-0.4**
	84nm,0.3s,baz=204,slow=16,SNR=6.7								
JHJ				Sn		**Sn**	**Sn**	**12 11 56.7**	**-0.2**
	372nm,0.3s,baz=235,slow=23,SNR=8.7								
BSO4	**Boso 4**	**2.42**	**315**	P		**Pn**	**Pn**	**12 11 33.7**	**+0.1**
BSO4				eS		**Sn**	**Sn**	**12 12 04.0**	**+1.6**
KTR	**Katsuura**	**2.54**	**318**	P		**Pn**	**Pn**	**12 11 35.3**	**-0.1**
KTR				eS		**Sn**	**Sn**	**12 12 06.9**	**+1.3**
JIM2	**Oshima 2**	**2.86**	**301**	P		**Pn**	**Pn**	**12 11 38.6**	**-1.2**
JIM2				eS		**Sn**	**Sn**	**12 12 12.5**	**-1.0**
JOD2	**Odawara 2**	**3.38**	**307**	P		**Pn**	**Pn**	**12 11 46.3**	**-1.0**
JYN	**Shimob**	**3.88**	**306**	P		**Pn**	**Pn**	**12 11 52.5**	**-1.9**
JYN				eS		**Sn**	**Sn**	**12 12 40.2**	**+0.7**
JAG	**Ashikaga**	**3.97**	**323**	P		**Pn**	**Pn**	**12 11 54.7**	**-0.9**
JRY	**Ryogami san**	**3.97**	**314**	P		**Pn**	**Pn**	**12 11 55.2**	**-0.5**
MJAR	**Matsushiro Arr**	**4.74**	**315**	Pn		**Pn**	**Pn**	**12 12 05.4**	**-1.2**
	13nm,0.3s,baz=160,slow=13,SNR=49								
MJAR				Sn		**Sn**	**Sn**	**12 13 00.9**	**-0.3**
	7.5nm,0.3s,baz=129,slow=14,SNR=7.3								
MAJO	**Matsushiro**	**4.74**	**315**	*eP*		**Pn**	**Pn**	**12 12 07.9**	**+1.3**
MAT	**Matsushiro**	**4.74**	**315**	*eP*		**Pn**	**Pn**	**12 12 05.0**	**-1.6**
MAT				*eS*		**Sn**	**Sn**	**12 12 57.0**	**-4.2**
MAT	**Matsushiro**	**4.74**	**315**	P		**Pn**	**Pn**	**12 12 05.4**	**-1.2**
MAT				S		**Sn**	**Sn**	**12 12 57.1**	**-4.1**
MAT	**Matsushiro**	**4.74**	**315**	P		**Pn**	**Pn**	**12 12 06.2**	**-0.4**
MAT				eS		**Sn**	**Sn**	**12 12 58.4**	**-2.8**
JMM	**Marumori**	**4.76**	**344**	P		**Pn**	**Pn**	**12 12 03.5**	**-3.4**
JMM				eS		**Sn**	**Sn**	**12 12 54.6**	**-7.1**
JNS	**Sasagawa**	**5.18**	**332**	P		**Pn**	**Pn**	**12 12 11.7**	**-1.1**
CBIJ	**Chichi jima**	**6.17**	**182**	Pn		**Pn**	**Pn**	**12 12 21.2**	**-5.4**
	31nm,0.3s,baz=289,slow=15,SNR=11								
CBIJ				Sn		**Sn**	**Sn**	**12 13 29.6**	**-7.2**
	33nm,0.3s,baz=290,slow=21,SNR=5.2								
CBIJ				LR		LR	LR	12 14 49.1	
	comp=Z,306nm,19.7s,baz=76,slow=38								
JNU	**Nakatsue**	**9.66**	**272**	Pn		**P**	**P**	**12 13 16.1**	**+0.7**
	baz=98,slow=7.2								
JNU				LR		LR	LR	12 17 25.4	
	comp=Z,763nm,18.1s,baz=59,slow=40								
ASAJ	**Asahikawa**	**10.82**	**1**	P		**P**	**P**	**12 13 25.1**	**-6.1**
ASAJ				Sn			**S**	**12 15 20.2**	**-12**
	comp=E,1.5nm,0.3s,baz=40,slow=27,SNR=6.7								
YSS	**Yuzh-Sakhalins**	**13.66**	**1**	P		**P**	**P**	**12 14 04.6**	**-4.6**
YSS	**Yuzh-Sakhalins**	**13.66**	**1**	*eP*		**P**	**P**	**12 14 04.0**	**-5.2**
	comp=E,42nm,0.9s								
JOW	**Kunigami**	**13.81**	**246**	Pn		**P**	**P**	**12 14 10.7**	**-0.6**
	comp=E,0.6nm,0.3s,baz=27,slow=27,SNR=4.4								
MDJ	**Mudanjiang**	**15.06**	**322**	P		**P**	**P**	**12 14 27.5**	**-0.1**
MDJ				XP				12 14 39.3	
MDJ				S		**S**	**S**	**12 17 12.8**	**-1.1**
MDJ				SS		SS	SS	12 17 32.0	+0.6
MDJ				PCS				12 23 09.5	
MDJ				AMB		AMB			
	comp=Z,7.0nm,1.5s								
MDJ				AMB		AMB			
	comp=Z,96nm,8.5s								
MDJ				LR		LR			
	comp=N,303nm,14.8s								
MDJ				LR		LR			
	comp=E,374nm,15.8s								
MDJ				LR		LR			
	comp=Z,916nm,12.9s								
CN2	**Changchun**	**16.89**	**313**	*eP*		**P**	**P**	**12 14 49.5**	**-1.4**
CN2				*eXP*				12 15 03.0	
CN2				*eS*		**S**	**S**	**12 17 55.0**	**-1.2**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.8s								
CN2				AMB		AMB			
	comp=Z,300nm,3.0s								
CN2				LR		LR			
	comp=N,690nm,14.0s								
CN2				LR		LR			
	comp=E,610nm,14.0s								
CN2				LR		LR			
	comp=Z,510nm,14.0s								
SNY	**Shenyang**	**17.17**	**305**	⇓P		**P**	**P**	**12 14 56.0**	**+1.6**
SNY				S		**S**	**S**	**12 17 57.0**	**-5.6**
SNY				AMB		AMB			
	comp=Z,10.0nm,1.5s								
SNY				AMB		AMB			
	comp=Z,140nm,12.6s								
SNY				LR		LR			
	comp=N,400nm,14.3s								
SNY				LR		LR			
	comp=E,400nm,13.8s								
SNY				LR		LR			
	comp=Z,480nm,15.0s								
DL2	**Dalian**	**17.69**	**294**	*eP*		**P**	**P**	**12 14 58.8**	**-2.2**
DL2				*eS*		**S**	**S**	**12 18 12.8**	**-1.7**
DL2				AMB		AMB			
	comp=Z,130nm,4.0s								
DL2				LR		LR			
	comp=N,280nm,13.7s								
DL2				LR		LR			
	comp=E,520nm,14.6s								
DL2				LR		LR			
	comp=Z,630nm,14.5s								
KLR	**Kul'dur**	**17.81**	**337**	*eP*		**P**	**P**	**12 14 57.8**	**-4.5**
KLR				MLR		MLR			
	comp=E,500nm,13.5s								
KLR				MLR		MLR			
	comp=Z,1μm,13.5s								
SSE	**Sheshan**	**18.09**	**269**	*eP*		**P**	**P**	**12 15 05.5**	**-0.5**
SSE				AP				12 15 12.3	
SSE				S		**S**	**S**	**12 18 30.0**	**+6.4**
SSE				AMB		AMB			
	comp=Z,36nm,0.7s								
SSE				AMB		AMB			
	comp=Z,125nm,9.4s								
SSE				LR		LR			
	comp=N,320nm,14.1s								
SSE				LR		LR			
	comp=E,543nm,14.1s								
SSE				LR		LR			
	comp=Z,780nm,14.8s								
SSE	**Sheshan**	**18.09**	**269**	*eP*		**P**	**P**	**12 15 05.5**	**-0.5**
	comp=Z,36nm,0.7s								
SSE				pP				12 15 12.3	
SSE				S		**S**	**S**	**12 18 30.0**	**+6.4**
SSE				sS				12 18 43.4	
GUMO	**Guam**	**19.73**	**173**	*eP*		**P**	**P**	**12 15 23.6**	**-1.8**
GUMO				pmax		pmax			
	comp=Z,357nm,1.3s								
GUMO	**Guam**	**19.73**	**173**	*eP*		**P**	**P**	**12 15 23.6**	**-1.8**
	comp=Z,356nm,1.3s								
NJ2	**Nanjing**	**19.86**	**273**	*eP*		**P**	**P**	**12 15 24.0**	**-2.7**
NJ2				AP				12 15 32.0	
NJ2				XP				12 15 37.3	
NJ2				PP		PP	PP	12 15 43.0	-2.5
NJ2				S		**S**	**S**	**12 19 03.0**	**0.0**
NJ2				AMB		AMB			
	comp=Z,30nm,1.0s								
NJ2				AMB		AMB			
	comp=Z,220nm,4.2s								
NJ2				LR		LR			
	comp=N,560nm,16.0s								
NJ2				LR		LR			
	comp=E,660nm,20.0s								
NJ2				LR		LR			
	comp=Z,4μm,14.0s								
QZH	**Quanzhou**	**22.36**	**254**	*eP*		**P**	**P**	**12 15 53.8**	**+1.6**
QZH				S		**S**	**S**	**12 19 53.3**	**+2.3**
QZH				LR		LR			
	comp=N,780nm,16.9s								
QZH				LR		LR			
	comp=E,530nm,11.4s								
QZH				LR		LR			
	comp=Z,1μm,14.7s,MS4.4								
HIA	**Hailar**	**23.22**	**320**	*eP*		**P**	**P**	**12 15 58.9**	**-1.4**
HIA				pmax		pmax			
	comp=Z,42nm,1.4s								
HIA	**Hailar**	**23.22**	**320**	*eP*		**P**	**P**	**12 15 58.9**	**-1.4**
	comp=Z,42nm,1.4s,mb4.7								
WHN	**Wuhan**	**23.94**	**271**	P		**P**	**P**	**12 16 07.5**	**0.0**
HHC	**Hu-ho-hao-te**	**25.65**	**296**	*eP*		**P**	**P**	**12 16 24.8**	**+1.0**
HHC				AP		pP		12 16 33.8	+0.5
HHC				S		**S**	**S**	**12 20 55.0**	**+7.6**
HHC				SCP				12 23 27.5	
HHC				SCS		ScS	ScS	12 27 17.0	-0.9
HHC				AMB		AMB			
	comp=Z,18nm,1.5s,mb4.4								
HHC				AMB		AMB			
	comp=Z,141nm,8.9s								
HHC				LR		LR			
	comp=N,245nm,12.9s,MS4.2								
HHC				LR		LR			
	comp=E,444nm,14.8s,MS4.2								
HHC				LR		LR			
	comp=Z,484nm,13.8s,MS4.2								
CLNS	**Chul'man**	**26.45**	**338**	*eP*		**P**	**P**	**12 16 32.2**	**+1.2**
CLNS				*e*PP		pP		12 16 38.1	-2.4
CLNS				*e*PPP		PPP		12 17 19.7	-6.8
CLNS				*e*				12 19 52.2	
CLNS				*e*				12 27 21.1	
CLNS				pmax		pmax			
	comp=Z,22nm,1.1s,mb4.6								
CLNS				pmax		pmax			
	comp=N,29nm,1.5s								
CLNS				pmax		pmax			
	comp=E,4.0nm,0.9s								
CLNS				pmax		pmax			
	comp=Z,30nm,1.3s,mb4.7								
CLNS				pmax		pmax			
	comp=N,12nm,1.4s								
CLNS				pmax		pmax			
	comp=E,10.0nm,1.7s								
BTO	**Baotou**	**26.79**	**295**	*eP*		**P**	**P**	**12 16 35.0**	**+0.7**
BTO				AMB		AMB			
	comp=Z,10.0nm,0.5s,mb4.6								
MA2	**Magadan**	**26.89**	**9**	*eP*		**P**	**P**	**12 16 32.4**	**-2.5**
MA2				*eS*		**S**	**S**	**12 21 03.6**	**-4.0**
MA2				pmax		pmax			
	comp=Z,20nm,2.1s,mb4.3								
MA2				MLR		MLR			
	comp=Z,300nm,22.0s,MS3.8								
XAN	**Xi'an**	**27.81**	**281**	P		**P**	**P**	**12 16 38.8**	**-4.9**
CIT	**Chita**	**28.02**	**321**	*eP*		**P**	**P**	**12 16 46.8**	**+1.5**
CIT				*e*		pP		12 16 56.7	+1.8
CIT				pmax		pmax			
	comp=Z,119nm,3.3s								
ENH	**Enshi**	**28.08**	**273**	*eP*		**P**	**P**	**12 16 44.2**	**-1.9**
	comp=Z,12nm,0.7s,mb4.6								
YAK	**Yakutsk**	**29.90**	**348**	*eP*		**P**	**P**	**12 17 00.4**	**-1.8**
YAK				pmax		pmax			
	comp=Z,5.0nm,1.0s,mb4.2								
YAK				pmax		pmax			
	comp=N,4.0nm,1.3s								
YAK				pmax		pmax			
	comp=E,2.0nm,1.6s								
SEY	**Seymchan**	**30.34**	**9**	*eP*		**P**	**P**	**12 17 05.6**	**-0.4**
SEY				*e*				12 27 43.7	
SEY				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb4.3								
SONM	**Songino Array**	**30.67**	**309**	P		**P**	**P**	**12 17 09.7**	**+0.7**
	comp=Z,4.1nm,0.8s,mb4.3,baz=117,slow=8.3,SNR=24								
BOD	**Bodaibo**	**31.16**	**331**	*eP*		**P**	**P**	**12 17 08.1**	**-5.2**
BOD				*e*		pP		12 17 18.0	-4.9
BOD				pmax		pmax			
	comp=Z,12nm,1.1s,mb4.6								
GYA	**Guiyang**	**31.62**	**267**	⇑*iP*		**P**	**P**	**12 17 16.8**	**-0.8**
GYA				AP		pP		12 17 26.3	-1.0
GYA				PP		PP		12 18 21.0	-1.6
GYA				S		**S**	**S**	**12 22 19.5**	**-3.8**
GYA				XS				12 22 37.5	
GYA				SS		SS		12 24 09.3	-4.1
GYA				SCS		ScS		12 27 45.8	+0.4
GYA				AMB		AMB			
	comp=Z,20nm,1.0s,mb4.9								
GYA				AMB		AMB			
	comp=Z,110nm,3.0s								
GYA				LR		LR			
	comp=N,900nm,15.0s,MS4.6								
GYA				LR		LR			
	comp=E,390nm,16.2s,MS4.6								
GYA				LR		LR			
	comp=Z,730nm,14.5s,MS4.5								
LZH	**Lanzhou**	**31.70**	**286**	*eP*		**P**	**P**	**12 17 18.8**	**+0.6**
LZH				AP		pP		12 17 26.5	-1.4
LZH				XP		sP		12 17 31.8	-0.3
LZH				AMB		AMB			
	comp=Z,25nm,1.0s,mb5.0								
LZH				LR		LR			
	comp=E,2μm,14.6s								
LZH				LR		LR			
	comp=Z,2μm,15.0s,MS4.9								
LZH	**Lanzhou**	**31.70**	**286**	*eP*		**P**	**P**	**12 17 18.7**	**+0.5**
LZH				*SP		sP		12 17 31.7	-0.4
LZH				pmax		pmax			
	comp=Z,25nm,1.0s,mb5.0								
LZH				MLR		MLR			
	comp=Z,2μm,15.0s,MS4.9								
LZH	**Lanzhou**	**31.70**	**286**	*eP*		**P**	**P**	**12 17 18.7**	**+0.5**
	comp=Z,25nm,1.0s,mb5.0								
LZH				pP		pP		12 17 26.5	-1.4
LZH				sP		sP		12 17 31.7	-0.4
LZH				LR		LR			
	comp=Z,2μm,15.0s,MS4.9								
QIZ	**Qiongzhong**	**32.34**	**252**	P		**P**	**P**	**12 17 24.0**	**+0.1**
QIZ				S		**S**	**S**	**12 22 37.8**	**+3.3**
QIZ				LR		LR			
	comp=N,250nm,13.0s								
QIZ				LR		LR			
	comp=Z,321nm,29.4s								
ZAK	**Zakamensk**	**33.32**	**313**	*eP*		**P**	**P**	**12 17 33.6**	**+1.4**
ZAK				*e*				12 20 10.1	
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.4s,mb4.0								
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.2s,mb3.9								
TLY	**Talaya**	**33.48**	**315**	*eP*		**P**	**P**	**12 17 32.2**	**-1.4**
TLY				*e*				12 27 52.5	
TLY				pmax		pmax			
	comp=Z,16nm,1.6s,mb4.7								
TLY				MLR		MLR			
	comp=Z,197nm,15.0s,MS4.0								
GTA	**Gaotai**	**34.60**	**293**	P		**P**	**P**	**12 17 41.8**	**-1.6**
GTA				AP		pP		12 17 51.0	-2.1
GTA				XP		sP		12 17 55.3	-2.0
GTA				PP		PP		12 19 00.5	+0.3
GTA				PCP		PcP		12 20 17.5	-0.1
GTA				S		**S**	**S**	**12 23 11.5**	**+2.0**
GTA				SCP				12 23 56.0	
GTA				SCS		ScS		12 28 00.0	-0.7
GTA	

comp=Z,156nm,5.6s
WMQ LR LR
comp=N,333nm,10.4s,MS4.5
WMQ LR LR
comp=E,197nm,12.3s,MS4.5
WMQ LR LR
comp=Z,445nm,13.2s,MS4.5
KSM Kuching 43.66 230 *eP* **P 12 18 59.4 +0.3**
NVS Novosibirsk 46.07 316 ⇓*iP* **P 12 19 17.8 +0.1**
NVS *eS* **S 12 26 15.2 +15**
NVS pmax pmax
comp=Z,18nm,1.5s,mb4.8
NVS pmax pmax
comp=E,21nm,1.7s
NVS smax
comp=N,19nm,2.0s
NVS smax
comp=E,39nm,2.2s
KAKA Kakadu 46.71 193 *eP* **P 12 19 24.3 +1.0**
comp=E,9.9nm,0.8s,mb4.8
MKAR Makanchi Array 46.87 305 P **P 12 19 25.0 +0.8**
comp=E,6.9nm,0.8s,mb4.6,baz=83,slow=9.8,SNR=20
MKAR Makanchi Array 46.87 305 P **P 12 19 25.0 +0.8**
KURK Kurchatov 48.94 311 *eP* **P 12 19 37.2 -3.1**
KURK pmax pmax
comp=Z,23nm,0.8s,mb5.3
KURK Kurchatov 48.94 311 *eP* **P 12 19 37.2 -3.1**
comp=Z,23nm,0.8s,mb5.2
IMA Indian Mountai 49.54 29 *eP* **P 12 19 44.8 +0.1**
IMA pmax pmax
comp=E,65nm,1.7s,mb5.4
IMA Indian Mountai 49.54 29 *eP* **P 12 19 44.8 +0.1**
comp=E,66nm,1.7s,mb5.4
SPU Mount Spurr 49.78 35 *eP* **P 12 19 44.5 -2.1**
MCK McKinley 51.34 32 *eP* **P 12 19 57.0 -1.4**
MCK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MCK McKinley 51.34 32 *eP* **P 12 19 57.0 -1.4**
comp=Z,2.5nm,0.9s,mb4.1
ILAR Eielson Array 52.26 31 P **P 12 20 03.8 -1.6**
comp=Z,6.0nm,0.9s,mb4.5,baz=268,slow=6.3,SNR=34
ILAR pP pP 12 20 13.7 -1.7
comp=Z,3.7nm,0.7s,baz=262,slow=6.2,SNR=9.3
KSH Kashi 52.76 297 *eP* **P 12 20 09.0 -0.4**
KSH *e*AP pP 12 20 19.0 -0.4
KSH *e*XP sP 12 20 24.0 +0.7
KSH *e*PCP PcP 12 21 20.3 +1.7
KSH *e*PP PP 12 22 09.0 -1.0
KSH *e*PCS 12 25 16.0
KSH *e*S **S 12 27 31.0 -2.6**
KSH *e*XS 12 27 51.0
KSH *e*SCS ScS 12 29 53.0 -0.1
KSH *e*SS SS 12 31 07.0 -4.3
KSH AMB AMB
comp=Z,160nm,3.2s
KSH LR LR
comp=N,380nm,4.6s
KSH LR LR
comp=E,370nm,5.3s
DIV Divide 52.82 35 *eP* **P 12 20 08.9 -0.7**
comp=E,43nm,1.0s,mb5.3
FRU Bishkek 52.92 301 *eP* **P 12 20 11.0 +0.4**
AAK Ala-Archa 53.06 301 *d iP* **P 12 20 11.7 +0.1**
AAK pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
WRAB Tennant Creek 53.47 189 *eP* **P 12 20 12.2 -2.7**
WRAB *e**PP pP 12 20 24.7 -0.2
WRAB pmax pmax
comp=Z,13nm,0.8s,mb4.9
WRAB Tennant Creek 53.47 189 *eP* **P 12 20 12.2 -2.7**
comp=Z,13nm,0.8s,mb4.9
WRAB epP pP 12 20 24.7 -0.2
WB2 Warramunga Arr 53.48 189 *eP* **P 12 20 12.1 -2.9**
WRA Warramunga Arr 53.48 189 P **P 12 20 12.2 -2.8**
comp=Z,8.3nm,0.8s,mb4.7,baz=8.5,slow=7.8,SNR=37
FITZ Fitzroy Crossi 53.54 200 *eP* **P 12 20 13.6 -1.9**
comp=Z,10.0nm,0.8s,mb4.8
FITZ Fitzroy Crossi 53.54 200 P **P 12 20 13.7 -1.7**
comp=Z,13nm,0.8s,mb4.9,baz=15,slow=4.8,SNR=11
BVAR Borovoye Array 53.74 315 P **P 12 20 16.4 -0.1**
comp=Z,1.1nm,0.6s,mb4.0,baz=59,slow=8.4,SNR=6.7
BVAR pP pP 12 20 25.6 -0.8
comp=Z,1.7nm,0.4s,baz=80,slow=9.0,SNR=6.2
INK Inuvik 57.38 26 *eP* **P 12 20 40.5 -2.0**
INK *e**PP pP 12 20 52.3 -0.3
INK pmax pmax
comp=Z,13nm,1.1s
INK Inuvik 57.38 26 P **P 12 20 41.3 -1.2**
comp=Z,7.8nm,0.9s,mb4.7,baz=322,slow=7.0,SNR=9.5
INK Inuvik 57.38 26 *eP* **P 12 20 40.5 -2.1**
comp=Z,13nm,1.1s,mb4.9
INK epP pP 12 20 52.3 -0.4
ARU Arti 59.73 320 ⇑*iP* **P 12 20 58.6 -0.5**
ARU *e* 12 21 42.0
ARU *e* 12 23 08.7
ARU *e*PPP PPP 12 24 35.3 -3.1
ARU *e*S **S 12 29 08.8 +2.8**
ARU *e*SS SS 12 33 04.0 +0.8
ARU pmax pmax
comp=Z,11nm,0.9s,mb4.9
ARU Arti 59.73 320 *eP* **P 12 20 59.7 +0.6**
comp=Z,16nm,1.1s,mb5.0
DLBC Dease Lake 61.11 37 P **P 12 21 08.8 +0.4**
comp=Z,2.7nm,0.9s,mb4.4,baz=282,slow=8.6,SNR=5.1
DLBC Dease Lake 61.11 37 P **P 12 21 08.8 +0.4**
STKA Stephens Creek 64.81 181 ⇑*iP* **P 12 21 31.9 -1.4**
comp=Z,9.0nm,0.9s,mb4.8
STKA Stephens Creek 64.81 181 P **P 12 21 31.6 -1.7**
comp=Z,11nm,0.8s,mb4.9,baz=350,slow=7.2,SNR=14
YKA Yellowknife Ar 66.66 30 P **P 12 21 43.3 -1.2**
comp=Z,3.8nm,0.8s,mb4.5,baz=295,slow=6.4,SNR=18
YKA pP pP 12 21 53.4 -1.4
comp=Z,2.0nm,0.8s,baz=296,slow=6.1,SNR=6.6
YKA Yellowknife Ar 66.66 30 P **P 12 21 43.4 -1.2**
YKA pP pP 12 21 53.4 -1.4
ARCES ARCESS Array B 67.79 340 P **P 12 21 51.6 -0.1**
comp=Z,2.0nm,0.8s,mb4.2,baz=56,slow=4.4,SNR=8.4
NWAO Narrogin (SRO) 69.99 202 P **P 12 22 04.5 -1.3**
comp=Z,9.1nm,0.7s,mb4.8,baz=50,slow=12,SNR=6.9
NWAO Narrogin (SRO) 69.99 202 P **P 12 22 04.5 -1.3**
MOS Moscow 70.76 325 *eP* **P 12 22 06.5 -3.6**
MOS *e* 12 22 19.2
MOS *e* 12 22 29.9
OBN Obninsk 71.60 324 ⇑*eP* **P 12 22 15.9 +0.7**
OBN *e**PP pP 12 22 25.3 -0.1
OBN pmax pmax
comp=Z,33nm,1.7s,mb5.0
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.2
YBH Yreka Blue Hor 72.02 52 P **P 12 22 17.3 -0.6**
comp=Z,1.6nm,0.7s,mb4.1,baz=75,slow=20,SNR=4.0
KAF Kangasniemi 72.02 334 *ep* **P 12 22 12.5 -5.1**
comp=Z,3.1nm,0.5s,mb4.5
KAF Kangasniemi 72.02 334 *eP* **P 12 22 12.5 -5.1**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
NEW Newport 72.27 44 P **P 12 22 19.2 -0.1**
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 72.27 44 P **P 12 22 19.1 -0.1**
comp=Z,5.6nm,1.0s,mb4.5,baz=291,slow=6.2,SNR=7.6
NEW Newport 72.27 44 *eP* **P 12 22 19.1 -0.2**
comp=Z,7.6nm,1.0s,mb4.6
FINES FINESS Array B 72.52 333 P **P 12 22 20.3 -0.2**
comp=Z,4.2nm,0.8s,mb4.4,baz=127,slow=9.5,SNR=5.8
FINES pP pP 12 22 30.8 +0.1
comp=Z,6.3nm,0.9s,baz=90,slow=5.7,SNR=6.0
FINES FINESS Array B 72.52 333 P **P 12 22 20.3 -0.2**
FINES pP pP 12 22 30.8 +0.1
WALA Waterton Lakes 73.68 42 *eP* **P 12 22 27.8 +0.3**
comp=Z,4.8nm,1.0s,mb4.4
BMO Blue Mountains 73.89 47 *eP* **P 12 22 29.0 +0.2**
comp=Z,4.3nm,0.9s,mb4.4
KIV Kislovodsk 74.00 312 *c iP* **P 12 22 30.1 +0.7**
KIV pmax pmax
comp=Z,26nm,1.7s,mb4.9
VSU Vasula 74.11 330 *c iP* **P 12 22 29.7 0.0**
WVOR Wild Horse Val 74.30 49 *eP* **P 12 22 31.2 0.0**
WVOR pmax pmax
comp=Z,13nm,1.4s,mb4.7
WVOR Wild Horse Val 74.30 49 *eP* **P 12 22 31.1 -0.1**
comp=Z,13nm,1.4s,mb4.7
GNI Garni 74.62 308 *d iP* **P 12 22 33.6 +0.5**
GNI pmax pmax
comp=Z,28nm,1.7s
CMB Columbia Colle 75.40 54 *eP* **P 12 22 37.3 -0.3**
CMB pmax pmax
comp=Z,34nm,1.7s,mb5.0
CMB Columbia Colle 75.40 54 *eP* **P 12 22 37.3 -0.3**
comp=Z,34nm,1.7s,mb5.0
SOC Sochi 76.03 313 *eP* **P 12 22 39.5 -1.6**
SOC *e* 12 22 59.1
SOC *e* 12 25 27.1
SOC *e*PPP PPP 12 27 14.9 -5.7
SOC *e*S S 12 32 21.5 +0.9
SOC *e*SS SS 12 37 19.0 +2.3
SOC pmax pmax
comp=N,12nm,0.6s
SOC pmax pmax
comp=Z,12nm,0.6s,mb5.0
SOC pmax pmax
comp=E,8.0nm,0.5s
FFC Flin Flon 76.42 33 *eP* **P 12 22 42.1 -1.0**
FFC pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
FFC Flin Flon 76.42 33 *eP* **P 12 22 42.1 -1.0**
comp=Z,8.8nm,1.0s,mb4.6
OMM Old Mammoth Mi 76.56 54 *eP* **P 12 22 43.4 -0.8**
NVAR Mina Array Bea 76.60 53 P **P 12 22 44.4 0.0**
comp=Z,3.7nm,0.9s,mb4.3,baz=297,slow=3.6,SNR=25
NVAR pP pP 12 22 55.2 +0.5
comp=Z,2.3nm,0.9s,baz=291,slow=4.6,SNR=6.2
ANN Anapa 76.74 315 *eP* **P 12 22 43.0 -2.0**
ANN pmax pmax
comp=Z,26nm,1.1s,mb5.1
BOZ Bozeman (W) 76.85 44 *eP* **P 12 22 46.0 +0.4**
BOZ *PP pP 12 22 55.8 -0.2
BOZ pmax pmax
comp=Z,32nm,1.8s,mb5.0
BOZ Bozeman (W) 76.85 44 *eP* **P 12 22 46.0 +0.4**
comp=Z,32nm,1.8s,mb4.9
BOZ pP pP 12 22 55.8 -0.1
ELK Elko 77.36 50 *eP* **P 12 22 49.0 +0.4**
ELK *e**PP pP 12 22 59.1 +0.2
ELK pmax pmax
comp=Z,21nm,1.8s
ELK Elko 77.36 50 *eP* **P 12 22 49.0 +0.5**
comp=Z,22nm,1.8s,mb4.8
ELK epP pP 12 22 59.1 +0.2
QLMT Earthquake Lak 77.42 44 *eP* **P 12 22 49.0 +0.2**
AKASG Malin Array Be 77.77 323 P **P 12 22 50.4 -0.2**
comp=Z,0.6nm,0.4s,mb3.9,baz=44,slow=5.8,SNR=19
AKASG pP pP 12 23 00.6 -0.4
comp=Z,1.0nm,0.5s,baz=46,slow=5.6,SNR=4.2
GCMT Greycliff 77.89 43 *eP* **P 12 22 52.0 +0.6**
NB2 NORSAR Subarra 77.96 338 P **P 12 22 50.3 -1.1**
comp=Z,10.0nm,0.9s,mb4.8,baz=40,slow=5.6
NB2 NORSAR Subarra 77.96 338 P **P 12 22 50.3 -1.1**
NB2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
NOA NORSAR Array B 77.96 338 P **P 12 22 51.1 -0.3**
comp=Z,4.7nm,0.8s,mb4.5,baz=39,slow=5.7,SNR=12
NOA pP pP 12 23 01.6 -0.2
comp=Z,5.1nm,0.9s,baz=39,slow=5.6,SNR=8.2
YFT Old Faithful 77.99 45 P **P 12 22 51.4 -0.5**
IMW Indian Meadow 78.25 45 *eP* **P 12 22 54.8 +1.4**
comp=Z,34nm,1.7s,mb5.0
RRI2 Red Ridge 78.33 46 *eP* **P 12 22 54.9 +1.1**
comp=Z,71nm,2.1s,mb5.2
MOOW Moose Ponds 78.44 45 *eP* **P 12 22 55.3 +0.8**
comp=Z,47nm,1.9s,mb5.1
TPAW Teton Pass 78.47 45 *eP* **P 12 22 55.8 +1.2**
comp=Z,54nm,2.0s,mb5.1
LAO LASA Array 79.28 41 *eP* **P 12 22 59.5 +0.5**
comp=Z,120nm,1.9s,mb5.5
CTU Camp Tracy 79.59 48 *eP* **P 12 23 01.1 +0.4**
PDAR Pinedale Array 79.72 45 P **P 12 23 01.0 -0.4**
comp=Z,1.2nm,0.8s,mb3.9,baz=310,slow=2.2,SNR=9.8
MALT Malatya 79.75 309 P **P 12 23 03.3 +1.6**
MALT pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
MALT Malatya 79.75 309 P **P 12 23 03.2 +1.6**
comp=Z,1.3nm,0.6s,mb4.0
JLU Jordanelle 79.83 48 *eP* **P 12 23 02.8 +0.7**
DAU Daniels Canyon 80.06 48 *eP* **P 12 23 04.3 +1.0**
ARUT Antelope Range 80.16 51 *eP* **P 12 23 04.0 +0.1**
NEN Nelson 80.43 54 *eP* **P 12 23 05.4 0.0**
MSU Marysvale 80.57 50 *eP* **P 12 23 07.0 +1.0**
SRU San Rafael 81.27 49 *eP* **P 12 23 10.0 +0.3**
BR131 Keskin Array S 81.96 312 P **P 12 23 15.5 +2.2**
comp=Z,1.5nm,0.6s,mb4.1
BRTR Keskin Array B 81.96 312 P **P 12 23 14.2 +0.9**
comp=Z,3.2nm,0.8s,mb4.3,baz=87,slow=3.4,SNR=12
BRTR pP pP 12 23 25.1 +1.4
comp=Z,2.7nm,0.8s,baz=72,slow=3.9,SNR=7.0
RSSD Black Hills 82.08 42 *eP* **P 12 23 14.0 +0.2**
RSSD *e**PP pP 12 23 24.8 +0.5
RSSD pmax pmax
comp=Z,26nm,1.7s,mb4.9
RSSD Black Hills 82.08 42 *eP* **P 12 23 13.9 +0.1**
comp=Z,26nm,1.7s,mb4.9
RSSD epP pP 12 23 24.8 +0.5
ULM Lac du Bonnet 82.19 33 P **P 12 23 13.7 -0.6**
comp=Z,1.7nm,0.4s,mb4.3,baz=320,slow=8.5,SNR=3.5
STHS Stebnicka Huta 82.50 326 *eP* **P 12 23 17.2 +1.3**
OJC Ojcow 82.61 327 *eP* **P 12 23 16.9 +0.5**
NIE Niedzica 82.94 326 *eP* **P 12 23 20.0 +1.9**
PHWY Pilot Hill 83.04 45 *eP* **P 12 23 19.0 +0.2**
SMCO Snowmass 83.44 47 *eP* **P 12 23 21.3 +0.4**
KECS Kecovo 83.51 325 *eP* **P 12 23 21.1 +0.1**
HILS Ha'il 83.53 298 P **P 12 23 23.2 +1.6**
OKC Ostrava-Krasne 83.64 327 *eP* **P 12 23 22.8 +1.2**
MORC Moravsky Berou 83.95 328 *eP* **P 12 23 24.2 +1.0**
MORC pmax pmax
comp=Z,15nm,1.4s,mb4.9
MORC Moravsky Berou 83.95 328 *eP* **P 12 23 24.2 +1.0**
comp=Z,15nm,1.4s,mb4.9
DPC Dobruska-Polom 84.07 329 *eP* **P 12 23 25.1 +1.3**
UPC Upice 84.09 329 *eP* **P 12 23 24.7 +0.8**
PSZ Piszkesteto 84.19 325 *eP* **P 12 23 25.7 +1.2**
PSZ pmax pmax
comp=Z,38nm,1.5s,mb5.3
PSZ Piszkesteto 84.19 325 *eP* **P 12 23 25.7 +1.2**
comp=Z,38nm,1.5s,mb5.3
VYHS Vyhne 84.28 326 *i P* **P 12 23 25.8 +0.9**
QURS Qurayyt al Mil 84.45 304 P **P 12 23 28.0 +1.8**
AFFS 'Afif 84.55 295 P **P 12 23 29.3 +2.4**
PVCC Panska Ves 84.69 330 *eP* **P 12 23 27.6 +0.7**
BRG Berggiesshubel 84.70 330 *eP* **P 12 23 27.2 +0.2**
BRG pmax pmax
comp=Z,16nm,1.5s,mb4.9
BRG Berggiesshubel 84.70 330 *eP* **P 12 23 27.2 +0.3**
comp=Z,16nm,1.5s,mb4.9
CLL Collm 84.76 331 ⇑*iP* **P 12 23 27.5 +0.3**
CLL *e**PP pP 12 23 38.0 +0.3
CLL pmax pmax
comp=Z,14nm,1.0s,mb5.0
CLL Collm 84.76 331 ⇑*iP* **P 12 23 27.5 +0.3**
comp=Z,14nm,1.0s,mb5.0
CLL epP pP 12 23 38.0 +0.3
CLL Collm 84.76 331 ⇑P **P 12 23 27.5 +0.3**
comp=Z,logA/T=1.1,mb5.0
CLL *e**PP pP 12 23 38.0 +0.3
TUC Tucson 85.11 54 *eP* **P 12 23 29.8 +0.3**
TUC pmax pmax
comp=Z,10.0nm,1.5s,mb4.7
TUC Tucson 85.11 54 *eP* **P 12 23 29.8 +0.3**
comp=Z,9.6nm,1.5s,mb4.7
PRU Pruhonice 85.11 329 *eP* **P 12 23 30.4 +1.4**
SDCO Great Sand Dun 85.23 47 *eP* **P 12 23 30.8 +0.9**
comp=Z,4.6nm,1.4s,mb4.4
MOX Moxa 85.83 331 *eP* **P 12 23 33.8 +1.2**
MOX pmax pmax
comp=Z,24nm,1.8s,mb5.1
MOX Moxa 85.83 331 *eP* **P 12 23 33.8 +1.2**
comp=Z,24nm,1.8s,mb5.1
MOX Moxa 85.83 331 *i P* **P 12 23 33.8 +1.2**
comp=Z,logA/T=1.1,mb5.1
KHC Kasperske Hory 86.17 329 *d iP* **P 12 23 35.7 +1.4**
LAZ Ladron 86.27 51 *eP* **P 12 23 35.9 +0.7**
LAZ epP pP 12 23 46.7 +1.0
ANMO Albuquerque 86.37 50 *eP* **P 12 23 35.3 -0.4**
ANMO *e**PP pP 12 23 46.7 +0.5
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO Albuquerque 86.37 50 *eP* **P 12 23 35.3 -0.4**
comp=Z,6.2nm,1.1s,mb4.8
ANMO epP pP 12 23 46.7 +0.5
GRA1 Grafenberg Arr 86.73 331 *eP* **P 12 23 38.3 +1.2**
comp=Z,9.0nm,1.2s,mb4.9
GRF Grafenberg Arr 86.73 331 *eP* **P 12 23 38.3 +1.2**
GRF pmax pmax
comp=Z,9.0nm,1.2s,mb4.9
GRF Grafenberg Arr 86.73 331 *eP* **P 12 23 38.3 +1.2**
comp=Z,9.0nm,1.2s,mb4.9
SCHQ Schefferville 88.71 16 P **P 12 23 45.8 -0.6**
comp=Z,3.2nm,0.8s,mb4.7,baz=286,slow=6.8,SNR=3.5
TXAR Lajitas Array 91.75 53 P **P 12 24 00.9 -0.3**
comp=Z,2.4nm,0.8s,mb4.6,baz=304,slow=4.5,SNR=15
SDV Santo Domingo 127.60 43 PKP PKPdf 12 29 58.4 -5.0
comp=Z,6.1nm,0.8s,baz=277,slow=3.6,SNR=7.2
VNA2 Neumayer--Watz 138.92 195 PKPdf 12 30 20.5 -2.6
VNA2 Neumayer--Watz 138.92 195 PKPdf 12 30 29.3 +6.2
VNA2 Neumayer--Watz 138.92 195 PKPdf 12 30 31.6 +8.5
VNA2 Neumayer--Watz 138.92 195 PKPdf 12 30 33.6 +11
VNA2 Neumayer--Watz 138.92 195 PKPdf 12 30 36.1 +13
VNA3 Neumayer Olymp 139.13 193 PKPdf 12 30 28.2 +4.8
VNA3 Neumayer Olymp 139.13 193 PKPdf 12 30 39.8 +16
SAML Samuel 146.19 50 *e*PKPdf PKPdf 12 30 33.6 -3.7
LPAZ La Paz 147.69 66 PKPbc PKPdf 12 30 36.6 -3.1
comp=Z,1.4nm,0.4s,baz=355,slow=5.2,SNR=9.0
LPAZ La Paz 147.69 66 *e*PKPdf PKPdf 12 30 36.8 -2.9
USHA Ushuaia 149.50 144 PKPbc PKPdf 12 30 42.6 +1.1
comp=Z,11nm,0.9s,baz=307,slow=0.5,SNR=4.1
PLCA Paso Flores 152.77 115 PKIKP PKPdf 12 30 49.5 +2.7
PLCA 12 31 01.0
PLCA pmax pmax
comp=Z,2.0nm,0.9s
PLCA pmax pmax
comp=Z,3.0nm,1.0s
PLCA Paso Flores 152.77 115 PKPbc PKPdf 12 30 49.5 +2.7
comp=Z,1.9nm,0.9s,baz=278,slow=6.0,SNR=4.0
PLCA pPKPbc 12 31 01.0
comp=Z,3.4nm,1.0s,baz=355,slow=7.4,SNR=4.1

MAN 27 12:20:35.9, 17.09N×120.70E, h43km, mb3.6, ML2.4, MS1.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ABRA	**Dolores**	**0.55**	**2**	*eP*		P	12 20 48.8	+1.3
ABRA				*eS*		S	12 20 57.2	+1.4
BCPH	**Baguio City Da**	**0.72**	**189**	⇑*eP*		P	12 20 50.8	+1.1
BCPH				*eS*		S	12 21 00.8	+1.1
APYP	**Conner**	**0.93**	**34**	*eP*		P	12 20 53.5	+0.9
APYP				*eS*		S	12 21 04.9	-0.1
CAUP	**Cauayan**	**1.09**	**98**	*eP*		P	12 20 55.4	+0.5
BALP	**Baler**	**1.59**	**148**	*eP*		P	12 21 02.1	+0.1
BALP				*eS*		S	12 21 20.6	-0.9

WEL 27 12:23:07.0±0.4, 36.98S×177.20E, h183km±4km, ML3.5/12, 1D, Error ellipse: s-maj=5.5km s-min=4.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.06**	**124**	PN		P	12 23 34.9	-0.7
MXZ				SN		S	12 23 56.8	-1.0
URZ	**Urewera**	**1.28**	**183**	⇓PN		P	12 23 37.5	-0.1
URZ				SN		S	12 24 00.9	-0.3
PUZ	**Puketiti**	**1.38**	**143**	PN		P	12 23 38.3	-0.2
PUZ				SN		S	12 24 01.3	-1.5
MWZ	**Matawai**	**1.38**	**169**	PN		P	12 23 38.5	0.0
MWZ				SN		S	12 24 02.4	-0.4
KNZ	**Kokohu**	**2.08**	**170**	PN		P	12 23 45.2	-0.3
KNZ				SN		S	12 24 13.8	-1.3
BKZ	**Black Stump Fm**	**2.26**	**194**	PN		P	12 23 46.9	-0.7
WNVZ	**Wahianoa**	**2.67**	**208**	PN		P	12 23 52.0	-0.3
TSZ	**Takapari Road**	**3.23**	**197**	PN		P	12 23 57.4	-1.8
TSZ				SN		S	12 24 38.7	-0.7
BFZ	**Birch Farm**	**3.77**	**191**	PN		P	12 24 03.7	-2.3
MRZ	**Mangatainoka R**	**3.89**	**198**	PN		P	12 24 04.8	-2.8
MTW	**Mount Morrison**	**4.38**	**197**	PN		P	12 24 10.0	-3.7
CAW	**Cannon Point**	**4.45**	**201**	PN		P	12 24 11.2	-3.4
TCW	**Tory Channel**	**4.80**	**207**	PN		P	12 24 15.5	-3.7
TCW				SN		S	12 25 10.9	-4.2
TUWZ	**Tuamarina**	**5.12**	**209**	PN		P	12 24 19.2	-4.1
KHZ	**Kahutara**	**6.12**	**206**	PN		P	12 24 32.1	-4.3
MQZ	**McQueen's Vall**	**7.56**	**206**	SN		S	12 26 10.1	-10

JMA 27 12:35:28.0±0.6, 33.28N×142.33E, h109km, M3.2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**2.11**	**266**	P		P	12 36 02.8	-0.1
JHJ2				*eS*		S	12 36 29.1	0.0
BSO3	**Boso 3**	**2.14**	**316**	P		P	12 36 03.7	+0.4
BSO3				*eS*		S	12 36 28.5	-1.3
BSO4	**Boso 4**	**2.38**	**316**	P		P	12 36 06.9	+0.4
JHO	**Hitachi**	**3.62**	**337**	P		P	12 36 22.0	-1.4
JHO				*eS*		S	12 37 02.9	-2.6
JYN	**Shimob**	**3.83**	**306**	P		P	12 36 26.8	+0.6
JAG	**Ashikaga**	**3.93**	**324**	P		P	12 36 27.7	+0.2

IDC 27 12:35:54.5±1.5, 33.12N×142.50E, mb3.4/2, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=32.3km s-min=26.7km az=162.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.28**	**271**	Pn		Pn	12 36 33.5	-0.4
	18nm,0.3s,baz=250,slow=23,SNR=5.6							
JHJ				Sn		Sn	12 37 00.7	-2.5
	20nm,0.3s,baz=133,slow=23,SNR=2.6							
MJAR	**Matsushiro Arr**	**4.91**	**315**	Pn		Pn	12 37 09.7	-1.6
	0.7nm,0.3s,baz=154,slow=14,SNR=4.4							
MKAR	**Makanchi Array**	**47.03**	**305**	P		P	12 44 31.3	+2.1
	0.5nm,0.7s,baz=90,slow=9.7,SNR=4.8							
ILAR	**Eielson Array**	**52.35**	**31**	P		P	12 45 07.5	-2.4
	0.2nm,0.6s,baz=256,slow=7.4,SNR=3.4							
ILAR				pP		pP	12 45 18.1	+8.1
	0.3nm,0.6s,baz=257,slow=6.5,SNR=3.1							
WRA	**Warramunga Arr**	**53.34**	**190**	P		P	12 45 15.5	-2.4
	0.3nm,0.6s,baz=67,slow=7.6,SNR=5.1							
WRA				pP		pP	12 45 26.4	+8.6
	0.3nm,0.6s,baz=6.5,slow=7.6,SNR=2.4							

NIED ***27*** *12:46:00, 33.30N×142.40E, h11km, Mw4.1 Best double couple: M0 1.68×10^15 NP1:φs168°, δ70°, λ-101°. NP2: φs19°, δ23°, λ-62°.*
JMA ***27*** *12:46:03.7±0.4, 33.30N×142.41E, h11km, M4.3*
MOS ***27*** *12:46:05.4±0.9, 33.13N×142.36E, h34km, mb4.2/3, Error ellipse: s-maj=21.3km s-min=10.4km az=116.5*
NEIC ***27*** *12:46:07.7±0.3, 33.19N×142.44E, mb4.4/6, Error ellipse: s-maj=8.4km s-min=7.4km az=45.0*
IDC ***27*** *12:46:07.9±0.7, 33.21N×142.48E, h36km±4km, mb4.0/12, mb1 4.3/15, mb1mx4.1/22, mbtmp4.3/15, ML4.1/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/25, Error ellipse: s-maj=16.6km s-min=14.4km az=169.0*
BJI ***27*** *12:46:11.5, 33.69N×141.90E, h36km, mB4.5, mb4.3, Ms3.9, Msz4.1*
ISC 27 12:46:05.7±0.4, 33.21N±0.05×142.43E±0.05, h35km, h35km±1.5km:pP-P, n60, σ1°11/65, mb4.3/20, MS3.2/2, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**1.88**	**321**	P		**P**	**12 46 35.3**	**-0.7**
JHJ2	**Mitsune**	**2.19**	**268**	P		**P**	**12 46 41.0**	**+0.5**
JHJ2				*eS*		**S**	**12 47 07.9**	**+1.3**
JHJ	**Hachijo jima 2**	**2.22**	**268**	Pn		**P**	**12 46 41.0**	**+0.1**
	340nm,0.3s,baz=156,slow=10,SNR=184							
JHJ				Sn		**S**	**12 47 08.1**	**+0.7**
	174nm,0.3s,baz=38,slow=22,SNR=11							
JHJ				LR		LR	12 47 16.0	
	comp=Z,739nm,19.6s,baz=57,slow=30							
BSO3	**Boso 3**	**2.25**	**315**	P		**P**	**12 46 41.2**	**-0.1**
BSO4	**Boso 4**	**2.48**	**316**	P		**P**	**12 46 44.9**	**+0.3**
CHOJ	**Chosi**	**2.80**	**333**	P		**P**	**12 46 48.3**	**-0.9**
JIM2	**Oshima 3**	**2.91**	**302**	P		**P**	**12 46 49.7**	**-1.0**
JOD2	**Odawara 2**	**3.44**	**307**	P		**P**	**12 46 57.3**	**-1.0**
JYN	**Shimob**	**3.94**	**306**	P		**P**	**12 47 04.7**	**-0.7**
JAG	**Ashikaga**	**4.03**	**324**	P		**P**	**12 47 05.6**	**-1.1**
JRY	**Ryogami san**	**4.04**	**315**	P		**P**	**12 47 06.0**	**-0.7**
MJAR	**Matsushiro Arr**	**4.80**	**315**	Pn		**P**	**12 47 17.1**	**-0.6**

12nm,0.3s,baz=160,slow=14,SNR=59
MJAR Sn **S** **12 48 11.8 -1.0**
7.2nm,0.3s,baz=271,slow=8.0,SNR=7.2
MAJO Matsushiro 4.80 315 *eP* **P** **12 47 18.8 +1.2**
MAT Matsushiro 4.80 315 *eP* **P** **12 47 16.0 -1.6**
MAT *eS* **S** **12 48 09.0 -3.9**
MAT Matsushiro 4.80 315 P **P** **12 47 16.3 -1.3**
MAT S **S** **12 48 08.7 -4.2**
MAT Matsushiro 4.80 315 P **P** **12 47 17.4 -0.2**
CBIJ Chichi jima 6.10 182 Pn **P** **12 47 32.4 -3.4**
52nm,0.3s,baz=338,slow=5.5,SNR=14
CBIJ Sn **S** **12 48 38.7 -6.6**
20nm,0.3s,baz=326,slow=21,SNR=3.2
JNU Nakatsue 9.68 273 Pn **P** **12 48 25.9 +0.2**
0.9nm,0.3s,baz=110,slow=10,SNR=7.5
ASAJ Asahikawa 10.89 1 Pn **P** **12 48 37.6 -4.6**
2.7nm,0.3s,baz=279,slow=6.2,SNR=16
ASAJ Sn **S** **12 50 30.9 -13**
0.9nm,0.3s,baz=33,slow=25,SNR=3.5
YSS Yuzh-Sakhalins 13.73 1 *eP* **P** **12 49 17.0 -3.2**
CN2 Changchun 16.95 314 *eP* **P** **12 50 02.0 +0.3**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
WHN Wuhan 23.96 271 P **P** **12 51 18.5 +0.7**
HHC Hu-ho-hao-te 25.70 296 *eP* **P** **12 51 35.5 +1.2**
HHC AP pP 12 51 42.5 -1.5
HHC XP sP 12 51 45.5 -2.5
HHC AMB AMB
comp=Z,13nm,1.2s,mb4.3
HHC AMB AMB
comp=Z,54nm,3.1s
CIT Chita 28.09 321 *eP* **P** **12 51 59.3 +3.2**
CIT *e* pP 12 52 08.0 +2.1
CIT *e* 12 52 13.3
ENH Enshi 28.10 273 *eP* **P** **12 51 54.8 -1.7**
comp=Z,12nm,0.6s,mb4.7
SONM Songino Array 30.73 309 P **P** **12 52 20.8 +1.1**
comp=Z,3.1nm,0.7s,mb4.3,baz=106,slow=9.0,SNR=14
SONM LR LR 13 03 24.5
comp=Z,45nm,18.2s,MS3.2,baz=118,slow=34
BOD Bodaibo 31.23 331 *eP* **P** **12 52 26.9 +2.9**
BOD pmax pmax
comp=Z,4.0nm,1.2s,mb4.1
ZAK Zakamensk 33.38 313 *eP* **P** **12 52 46.4 +3.6**
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
GTA Gaotai 34.65 293 P **P** **12 52 54.8 +1.0**
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.4
NVS Novosibirsk 46.13 316 *eP* **P** **12 54 28.6 +0.3**
MKAR Makanchi Array 46.93 305 P **P** **12 54 35.5 +0.8**
comp=Z,5.4nm,0.7s,mb4.6,baz=91,slow=9.3,SNR=21
MKAR LR LR 13 15 37.6
comp=Z,29nm,18.3s,MS3.3,baz=280,slow=38
KURK Kurchatov 49.00 311 P **P** **12 54 50.9 +0.1**
comp=Z,20nm,0.7s,mb5.3
ILAR Eielson Array 52.31 31 P **P** **12 55 14.7 -1.1**
comp=Z,3.0nm,0.9s,mb4.2,baz=263,slow=6.2,SNR=21
ILAR pP pP 12 55 25.8 -0.3
comp=Z,1.5nm,0.8s,baz=263,slow=6.1,SNR=6.7
DIV Divide 52.87 35 P **P** **12 55 17.8 -2.1**
CTAO Charters Tower 53.12 176 P **P** **12 55 21.6 -0.8**
WRAB Tennant Creek 53.40 189 *eP* **P** **12 55 23.0 -1.5**
WB2 Warramunga Arr 53.41 189 *eP* **P** **12 55 23.3 -1.2**
WRA Warramunga Arr 53.41 189 P **P** **12 55 23.4 -1.2**
comp=Z,2.4nm,0.4s,mb4.4,baz=6.0,slow=7.6,SNR=116
WRA PcP PcP 12 56 32.2 +0.8
comp=Z,1.4nm,0.5s,baz=3.5,slow=4.2,SNR=9.7
INK Inuvik 57.43 26 P **P** **12 55 52.8 -0.2**
comp=Z,3.5nm,0.8s,mb4.4,baz=268,slow=8.0,SNR=5.5
MBWA Marble Bar 58.24 205 *eP* **P** **12 55 58.5 -0.7**
STKA Stephens Creek 64.74 181⇑ *iP* **P** **12 56 42.8 -0.1**
comp=Z,6.0nm,2.0s,mb4.3
STKA Stephens Creek 64.74 181 P **P** **12 56 42.5 -0.4**
comp=Z,3.5nm,0.8s,mb4.4,baz=353,slow=10,SNR=5.3
YKA Yellowknife Ar 66.71 30 P **P** **12 56 54.2 -0.6**
comp=Z,3.1nm,0.9s,mb4.3,baz=298,slow=6.4,SNR=11
YKA pP pP 12 57 05.4 -0.1
comp=Z,1.9nm,0.8s,baz=296,slow=6.3,SNR=11
YKA Yellowknife Ar 66.71 30 P **P** **12 56 54.2 -0.6**
YKA pP pP 12 57 05.5 -0.1
ARCES ARCESS Array B 67.86 340 P **P** **12 57 02.2 +0.2**
comp=Z,0.4nm,0.3s,mb3.9,baz=72,slow=7.7,SNR=5.3
ARCES ARCESS Array B 67.86 340 P **P** **12 57 02.2 +0.2**
MAK Makhachkala 71.50 110 *eP* **P** **12 57 30.0 +5.3**
NVAR Mina Array Bea 76.62 53 P **P** **12 57 55.4 +0.8**
comp=Z,1.3nm,0.8s,mb3.9,baz=281,slow=4.6,SNR=13
NVAR pP pP 12 58 06.5 +1.2
comp=Z,0.8nm,0.7s,baz=292,slow=4.9,SNR=7.9
BOZ Bozeman (W) 76.88 44 *eP* **P** **12 57 57.2 +1.3**
BOZ *e* pP 12 58 07.9 +1.3
BOZ pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
BOZ Bozeman (W) 76.88 44 *eP* **P** **12 57 57.2 +1.3**
comp=Z,1.1nm,0.6s,mb4.0
BOZ *e* pP 12 58 07.9 +1.3
NB2 NORSAR Subarra 78.03 338 P **P** **12 58 02.3 +0.4**
comp=Z,0.8nm,0.6s,mb3.8,baz=40,slow=5.6
NB2 NORSAR Subarra 78.03 338 P **P** **12 58 02.3 +0.4**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
NOA NORSAR Array B 78.03 338 P **P** **12 58 02.6 +0.7**
comp=Z,1.8nm,0.8s,mb4.0,baz=39,slow=5.7,SNR=4.6
NOA pP pP 12 58 14.2 +1.5
comp=Z,2.0nm,0.7s,baz=39,slow=5.6,SNR=6.4
PDAR Pinedale Array 79.76 45 P **P** **12 58 12.6 +0.9**
comp=Z,0.5nm,0.6s,mb3.6,baz=262,slow=2.7,SNR=6.7
PDAR pP pP 12 58 23.6 +1.0
comp=Z,0.5nm,0.7s,baz=296,slow=2.3,SNR=4.2
SRU San Rafael 81.30 49 *eP* **P** **12 58 21.1 +1.1**
SMCO Snowmass 83.47 47 *eP* **P** **12 58 32.8 +1.7**
CLL Collm 84.83 331 *e**PP pP 12 58 51.0 +2.5
SDCO Great Sand Dun 85.27 47 *eP* **P** **12 58 41.6 +1.4**
comp=Z,3.3nm,0.8s,mb4.5
SDCO *e* pP 12 58 52.9 +1.9
TXAR Lajitas Array 91.78 53 P **P** **12 59 12.8 +1.3**
comp=Z,1.0nm,0.6s,mb4.4,baz=338,slow=4.9,SNR=7.4
TXAR pP pP 12 59 23.6 +1.2
comp=Z,1.0nm,0.6s,baz=288,slow=4.0,SNR=4.8
LPAZ La Paz 147.70 66 PKPbc PKPdf 13 05 48.7 +4.3
comp=Z,1.0nm,0.4s,baz=357,slow=4.0,SNR=6.6

ISC 27 12:51:43.5±1.6, 38.46N±0.05×27.2E±0.1, h10km, n7, σ0s74/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAG	**Bornova**	**0.07**	**139**	*i* P	**Pg**	**12 51 45.7**	**0.0**
KDAG				*i* S	**Sg**	**12 51 47.4**	**+0.1**
IZM	**Izmir**	**0.07**	**144**	*i* PG	**Pg**	**12 51 45.8**	**0.0**
IZM				*i* SG	**Sg**	**12 51 47.1**	**-0.2**
AKS	**Akhisar**	**0.63**	**48**	PG	**Pg**	**12 51 54.9**	**-1.3**
AKS				SG	**Sg**	**12 52 05.8**	**+1.0**
AYDN	**Tasoluk**	**0.95**	**146**	*i* P	**Pb**	**12 52 00.5**	**-1.2**
AYDN				*i* S	**Sb**	**12 52 13.4**	**-0.7**
MANT	**Manisa**	**1.06**	**88**	*i* P	**Pb**	**12 52 03.8**	**+0.3**
MANT				*i* S	**Sb**	**12 52 17.3**	**+0.2**
BDRM	**Kayabasi**	**1.40**	**172**	*i* P	**Pn**	**12 52 09.7**	**+0.6**
BDRM				*i* S	**Sb**	**12 52 28.3**	**+1.2**
ULDT	**Uludag**	**2.25**	**41**	*i* P	**Pn**	**12 52 26.3**	**+4.9**
ULDT				*i* S	**Sn**	**12 52 57.4**	**+8.0**

*IDC **27** 13:01:58.5±1.6, 33.16N×142.63E, mb3.5/2, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=34.5km s-min=32.0km az=121.0*
*JMA **27** 13:01:59.0±0.5, 33.38N×142.45E, h3km, M3.8*
ISC 27 13:02:02.0±1.6, 33.34N±0.06×142.53E±0.09, h42km±19km, n13, σ0s76/20, mb3.5/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.28**	**265**	P	**P**	**13 02 37.7**	**-0.3**
JHJ2				*e*S	**S**	**13 03 06.0**	**+0.9**
JHJ	**Hachijo jima 2**	**2.31**	**265**	Pn	**P**	**13 02 38.0**	**-0.4**
	23nm,0.3s,baz=74,slow=23,SNR=6.6						
JHJ				Sn	**S**	**13 03 05.5**	**-0.2**
	34nm,0.3s,baz=240,slow=22,SNR=7.1						
JIM2	**Oshima 3**	**2.91**	**299**	P	**P**	**13 02 46.8**	**-0.2**
JIM2				*e*S	**S**	**13 03 19.9**	**-1.2**
JYN	**Shimob**	**3.93**	**304**	P	**P**	**13 03 02.3**	**+0.9**
JYN				*e*S	**S**	**13 03 47.2**	**+0.3**
JAG	**Ashikaga**	**3.98**	**322**	P	**P**	**13 03 02.2**	**+0.1**
JAG				*e*S	**S**	**13 03 47.4**	**-0.8**
JRY	**Ryogami san**	**4.01**	**313**	P	**P**	**13 03 03.0**	**+0.5**
JRY				*e*S	**S**	**13 03 49.9**	**+1.1**
JMM	**Marumori**	**4.73**	**343**	P	**P**	**13 03 11.6**	**-1.2**
JMM				*e*S	**S**	**13 04 01.4**	**-5.7**
MJAR	**Matsushiro Arr**	**4.77**	**313**	Pn	**P**	**13 03 14.4**	**+1.1**
	1.4nm,0.3s,baz=160,slow=13,SNR=7.5						
MJAR				Sn	**S**	**13 04 08.2**	**+0.1**
	1.8nm,0.3s,baz=271,slow=7.8,SNR=7.3						
MAT	**Matsushiro**	**4.77**	**313**	*e*S	**S**	**13 04 07.4**	**-0.7**
JMK	**Ichinoseki**	**5.70**	**350**	*e*S	**S**	**13 04 25.2**	**-6.2**
ILAR	**Eielson Array**	**52.16**	**31**	P	**P**	**13 11 10.9**	**+0.9**
	0.4nm,0.7s,mb3.5,baz=253,slow=5.5,SNR=4.5						
ILAR				pP	pP	13 11 21.0	-0.9
	0.7nm,0.8s,baz=260,slow=6.3,SNR=5.9						
WRA	**Warramunga Arr**	**53.55**	**190**	P	**P**	**13 11 20.1**	**-0.9**
	0.4nm,0.6s,mb3.6,baz=7.5,slow=7.8,SNR=4.8						
YKA	**Yellowknife Ar**	**66.55**	**30**	pP	pP	13 13 00.5	-1.1
	0.5nm,0.7s,baz=294,slow=5.9,SNR=3.9						

IDC 27 13:29:09.2±3.6, 1.60S×100.26E, mb3.8/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.8/4, Error ellipse: s-maj=151.6km s-min=27.5km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**37.97**	**121**	P	P	13 36 29.0	-1.7
	0.4nm,0.4s,baz=303,slow=9.3,SNR=6.8						
SONM	**Songino Array**	**49.52**	**5**	P	P	13 38 03.2	-0.5
	0.7nm,0.6s,baz=185,slow=10.0,SNR=4.4						
MKAR	**Makanchi Array**	**50.71**	**344**	P	P	13 38 10.7	-2.1
	0.9nm,0.5s,baz=151,slow=7.9,SNR=14						
ZAL	**Zalesovo**	**56.82**	**349**	P	P	13 38 54.2	-3.5
	1.2nm,0.4s,baz=304,slow=6.1,SNR=4.3						
TXAR	**Lajitas Array**	**144.22**	**37**	PKP	PKPdf	13 48 46.5	-3.2
	0.7nm,0.5s,baz=295,slow=1.5,SNR=4.1						

MAN 27 13:40:59.5, 9.56N×122.50E, h33km, mb3.7, ML2.4, MS1.9, 1C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.76**	**107**⇓	*i*P	P	13 41 14.3	+0.6
SNPH				*i* S	S	13 41 25.0	+0.8
GUIM	**Jordan**	**1.06**	**5**	*e*P	P	13 41 17.9	-0.1
GUIM				*e*S	S	13 41 32.1	+0.3
DCPH	**Dipolog City**	**1.29**	**139**⇑	*e*P	P	13 41 20.9	-0.4
DCPH				*e*S	S	13 41 36.9	-0.7
IPIL	**Ipil**	**1.77**	**178**	*e*P	P	13 41 28.2	0.0
IPIL				*e*S	S	13 41 49.8	+0.2
PAGZ	**Pagadian**	**1.92**	**153**	*e*P	P	13 41 31.6	+1.3
PAGZ				*e*S	S	13 41 56.8	+3.3
CUYO	**Cuyo Island**	**1.94**	**311**	*e*P	P	13 41 30.9	+0.2
CUYO				*e*S	S	13 41 53.5	-0.5

JMA 27 13:49:16.6±0.4, 33.28N×142.42E, h87km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.82**	**319**	P	P	13 49 46.6	-0.2
BSO1				*e*S	S	13 50 10.1	+1.0
JHJ2	**Mitsune**	**2.19**	**266**	P	P	13 49 52.0	+0.1
JHJ2				*e*S	S	13 50 18.9	+0.9
BSO3	**Boso 3**	**2.19**	**314**	P	P	13 49 52.4	+0.4
JIM2	**Oshima 3**	**2.87**	**301**	P	P	13 50 00.7	-0.6
JIM2				*e*S	S	13 50 34.0	-0.8
JYN	**Shimob**	**3.89**	**306**	P	P	13 50 16.4	+0.9
JAG	**Ashikaga**	**3.97**	**323**	P	P	13 50 16.7	+0.1
JAG				*e*S	S	13 51 02.3	0.0

CASC 27 13:52:36.1±2.2, 12.58N×89.12W, h63km±111km, MD3.8, ML4.0, 9C-4D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**1.04**	**3**⇑	*e*P	P	13 52 54.7	-0.4
SNVI	**San Vicente**	**1.06**	**15**⇓	*e*P	P	13 52 55.3	-0.1
SNVI				⇑*e*P		13 52 56.7	
LCBS	**La Ceiba**	**1.08**	**7**⇑	*e*P	P	13 52 55.2	-0.4
SNET	**Serv Nac Est T**	**1.11**	**354**	*e*P	P	13 52 55.6	-0.3
SNET				*i*		13 53 10.1	
	comp=Z,4μm,0.3s						
SNET				*e*S	S	13 53 10.2	-0.4
LBRS	**Las Brisas**	**1.16**	**4**⇑	*e*P	P	13 52 57.0	+0.4
BOQS	**Boqueron**	**1.16**	**352**⇓	*e*P	P	13 52 56.7	+0.1
BOQS				*e*S	S	13 53 13.3	+1.4
BLLM	**Bellamira**	**1.22**	**45**	*e*P	P	13 52 59.5	+2.1
BLLM				*e*S	S	13 53 13.9	+0.7
SBLS	**San Blas**	**1.35**	**339**⇓	*e*P	P	13 52 59.3	0.0
RTR	**El Retiro**	**1.41**	**339**⇓	*e*P	P	13 53 00.4	+0.2
RTR				*e*S	S	13 53 19.3	+1.4
RBDL	**Robledal**	**1.62**	**340**⇑	*e*P	P	13 53 03.5	+0.4
RBDL				*e*S	S	13 53 21.8	-1.2
CRIN	**San Cristobal**	**2.02**	**86**⇑	*e*P	P	13 53 08.1	-0.6
CRIN				*e*S	S	13 53 34.3	+1.6
LEON	**Leon**	**2.18**	**94**⇑	*e*P	P	13 53 09.4	-1.4
TEL3	**Telica 3**	**2.22**	**90**⇑	*e*P	P	13 53 10.4	-1.0
TELN	**Telica**	**2.23**	**89**⇑	*e*P	P	13 53 10.4	-1.2
MIRN	**Miramar**	**2.36**	**93**	*e*P	P	13 53 13.5	+0.1
COPN	**Copaltepe**	**2.50**	**99**	*e*P	P	13 53 15.7	+0.3
COPN				*e*S	S	13 53 43.2	-1.5
MOMJ	**Momotombo**	**2.53**	**94**	*e*P	P	13 53 14.6	-1.1

IDC 27 13:53:12.4±1.5, 1.36S×123.65E, mb3.5/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=122.9km s-min=25.7km az=68.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**16.76**	**173**	Pn	P	13 57 10.8	+0.5
	0.2nm,0.3s,baz=340,slow=9.9,SNR=3.4						
WRA	**Warramunga Arr**	**21.23**	**151**	P	P	13 57 59.2	-3.1
	0.9nm,0.8s,baz=325,slow=12,SNR=7.1						
SONM	**Songino Array**	**51.25**	**345**	P	P	14 02 17.7	-2.3
	0.8nm,0.7s,baz=168,slow=8.0,SNR=4.3						
MKAR	**Makanchi Array**	**60.10**	**328**	P	P	14 03 21.8	-2.1
	0.3nm,0.4s,baz=113,slow=9.3,SNR=4.9						

*BJI **27** 13:57:10.2,2.41N×96.16E, h33km, mB4.9, mb5.1, Ms4.7, Msz4.5*
*MOS **27** 13:57:12.2±0.8, 2.75N×96.11E, h33km, mb5.2/23, Error ellipse: s-maj=19.0km s-min=8.4km az=103.6*
*HRVD **27** 13:57:12.7±1.6, 2.52N×96.04E, h34km±1km, MW4.8/38, Centroid moment Tensor Solution. LP body waves: s19,c25;Mantle waves: s38,c50; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.19±.18; $M_{\theta\theta}$-1.14±.12; $M_{\phi\phi}$-0.04±.15; $M_{r\theta}$0.85±.12; $M_{r\phi}$1.21±.08; $M_{\theta\phi}$-0.54±.20; Best double couple: $M_0$1.851×10^{16} NP1:ϕs303°,δ29°,λ91°. NP2:ϕs122°,δ61°,λ90°. Principal axes: T 1.486, Plg74°, Azm32°; N .738, Plg0°, Azm123°; P -2.216, Plg16°, Azm213°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **27** 13:57:12.1±0.6, 2.65N×96.06E, h21km±3km, mb4.6/21, mb1 4.6/21, mb1mx4.5/25, mbtmp4.7/21, MS4.2/17, Ms1 4.2/17, ms1mx4.0/31 Error ellipse: s-maj=20.9km s-min=11.8km az=45.0*
*NEIC **27** 13:57:12.7±0.3, 2.64N×96.02E, mb5.0/23, Error ellipse: s-maj=8.0km s-min=5.2km az=214.0*
NEIC Felt [III] on Simeulue.
ISC 27 13:57:10.8±0.3, 2.66N±0.05×96.05E±0.04, h24km, h24km±6km: pP-P, n148, σ0s94/149, mb4.9/73, MS4.4/40, 15C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.29**	**60**	*e*P	Pn	**13 58 31.7**	**+1.3**
IPM	**Ipoh**	**5.32**	**69**	P	Pn	**13 58 32.2**	**+1.2**
KGM	**Kluang**	**7.29**	**95**	P	Pn	**13 58 59.4**	**+0.7**
NST	**Nakhon Sawan**	**13.55**	**17**	P	**P**	**14 00 29.0**	**+4.8**
KSM	**Kuching**	**14.30**	**94**	*e*P	**P**	**14 00 36.0**	**+1.9**
KKTK	**Khon Kaen**	**15.14**	**26**	P	**P**	**14 00 51.0**	**+5.8**
	1μm,0.8s						
NANT	**Nan**	**16.68**	**16**	⇓P	**P**	**14 01 04.0**	**-0.8**
	106nm,1.0s						
KKM	**Kota Kinabalu**	**20.39**	**80**	*e*P	**P**	**14 01 49.0**	**+0.1**
KKM	**Kota Kinabalu**	**20.39**	**80**	P	**P**	**14 01 49.5**	**+0.6**
QIZ	**Qiongzhong**	**21.15**	**39**	P	**P**	**14 01 56.5**	**-0.1**
QIZ				S	**S**	**14 05 50.5**	**+4.8**
QIZ				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.5						
QIZ				AMB	AMB		
	comp=Z,224nm,11.3s						
QIZ				LR	LR		
	comp=N,809nm,14.9s,MS4.5						
QIZ				LR	LR		
	comp=E,1μm,15.4s,MS4.5						
QIZ				LR	LR		
	comp=Z,1μm,13.1s,MS4.5						
TSM	**Tawau**	**21.85**	**85**	P	**P**	**14 02 06.9**	**+3.2**
HYB	**Hyderabad**	**22.59**	**312**	*e*P	**P**	**14 02 19.0**	**+7.8**
HYB	**Hyderabad**	**22.59**	**312**	*i* P	**P**	**14 02 19.0**	**+7.8**
SHL	**Shillong**	**23.13**	**350**	*e*P	**P**	**14 02 15.0**	**-1.4**
KMI	**Kunming**	**23.25**	**16**	P	**P**	**14 02 20.3**	**+2.7**
KMI				AP		14 02 29.5	
KMI				XP		14 02 33.0	
KMI				PP	PP	14 02 54.0	+5.3
KMI				S	**S**	**14 06 32.3**	**+8.1**
KMI				AMB	AMB		
	comp=Z,36nm,1.3s,mb4.6						
KMI				AMB	AMB		
	comp=Z,194nm,3.2s						
KMI				LR	LR		
	comp=N,1μm,16.6s,MS4.5						
KMI				LR	LR		
	comp=E,847nm,19.8s,MS4.5						
KMI				LR	LR		
	comp=Z,1μm,14.8s,MS4.5						
KMI	**Kunming**	**23.25**	**16**	P	**P**	**14 02 20.2**	**+2.6**
	comp=Z,36nm,1.3s,mb4.6						
KMI				pP		14 02 29.4	
KMI				sP		14 02 33.0	
KMI				PP	PP	14 02 53.9	+5.2
KMI				S	**S**	**14 06 32.2**	**+8.0**
KMI				sS		14 06 47.9	
KMI				SS	SS	14 07 25.0	+14
KMI				LR	LR		
	comp=Z,1μm,14.8s,MS4.5						
GYA	**Guiyang**	**25.77**	**22**⇑	*i*P	**P**	**14 02 41.5**	**-0.2**
GYA				AP	pP	14 02 50.5	+1.7
GYA				XP	sP	14 02 54.5	+2.5
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,2.8s,mb4.8						
GYA				LR	LR		
	comp=N,1μm,15.0s,MS4.6						
GYA				LR	LR		
	comp=E,550nm,14.4s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,15.0s,MS4.6						
JIRN	**Jiri**	**26.59**	**340**	*e*P	**P**	**14 02 50.7**	**+1.4**
	comp=Z,182nm,0.8s,mb5.6						
PKI	**Pulchoki**	**26.78**	**339**	*e*P	**P**	**14 02 52.1**	**+1.0**
GUN	**Gumba**	**26.93**	**340**	*e*P	**P**	**14 02 53.8**	**+1.4**
	comp=Z,171nm,0.9s,mb5.6						
DMN	**Daman**	**26.93**	**338**	*e*P	**P**	**14 02 53.3**	**+0.9**
	comp=Z,82nm,0.9s,mb5.2						
KKN	**Kakani**	**27.03**	**339**	*e*P	**P**	**14 02 54.2**	**+0.9**
	comp=Z,176nm,1.0s,mb5.5						
LSA	**Lhasa**	**27.30**	**351**	P	**P**	**14 02 57.3**	**+1.6**
LSA				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.1						
LSA				AMB	AMB		
	comp=Z,140nm,5.0s						
LSA				LR	LR		
	comp=N,220nm,17.8s,MS4.1						
LSA				LR	LR		
	comp=E,450nm,19.0s,MS4.1						
LSA				LR	LR		
	comp=Z,310nm,16.0s,MS4.0						
LSA	**Lhasa**	**27.30**	**351**	*e*P	**P**	**14 02 56.5**	**+0.7**
	comp=Z,55nm,0.9s,mb5.1						
GKN	**Gorkha**	**27.46**	**338**	*e*P	**P**	**14 02 58.4**	**+1.2**
	comp=Z,208nm,1.0s,mb5.6						
KOLN	**Koldanda**	**27.66**	**336**	*e*P	**P**	**14 02 59.8**	**+0.7**
	comp=Z,64nm,0.8s,mb5.3						
CD2	**Chengdu**	**29.03**	**14**	P	**P**	**14 03 10.5**	**-0.9**
CD2				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.7						
ENH	**Enshi**	**30.28**	**24**	*e*P	**P**	**14 03 20.9**	**-1.6**
	comp=Z,32nm,1.0s,mb5.0						
ENH				*e*pP	pP	14 03 28.2	-1.4
DDI	**Dehra Dun**	**32.37**	**330**	*e*	**P**	**14 03 40.0**	**-0.8**
WHN	**Wuhan**	**32.70**	**30**	P	**P**	**14 03 44.0**	**+0.2**
WHN				LR	LR		
	comp=Z,2μm,13.8s,MS4.9						
XAN	**Xi'an**	**33.46**	**20**	P	**P**	**14 03 49.5**	**-0.8**
XAN				AMB	AMB		
	comp=Z,65nm,1.1s,mb5.5						
XAN				AMB	AMB		
	comp=Z,111nm,5.8s						
XAN				LR	LR		
	comp=N,330nm,15.8s,MS4.3						
XAN				LR	LR		
	comp=E,365nm,15.4s,MS4.3						
XAN				LR	LR		
	comp=Z,767nm,15.3s,MS4.5						
LZH	**Lanzhou**	**34.04**	**11**	*e*P	**P**	**14 03 54.5**	**-0.8**
LZH				AP	pP	14 04 02.5	0.0
LZH				XP	sP	14 04 08.8	+3.2
LZH				AMB	AMB		
	comp=Z,86nm,1.2s,mb5.6						
LZH				AMB	AMB		
	comp=Z,310nm,4.0s						
LZH				LR	LR		
	comp=E,933nm,14.9s						
LZH				LR	LR		
	comp=Z,979nm,16.6s,MS4.6						
LZH	**Lanzhou**	**34.04**	**11**	*e*P	**P**	**14 03 54.5**	**-0.8**
	comp=Z,86nm,1.2s,mb5.6						
LZH				pP	pP	14 04 02.4	-0.1
LZH				sP	sP	14 04 08.8	+3.2
LZH				LR	LR		
	comp=Z,980nm,16.6s,MS4.6						
FITZ	**Fitzroy Crossi**	**35.71**	**126**⇑	*i*P	**P**	**14 04 08.4**	**-1.4**
	comp=Z,18nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**35.71**	**126**	P	**P**	**14 04 08.4**	**-1.4**
	comp=Z,26nm,0.8s,mb5.2,baz=316,slow=5.0,SNR=18						
FITZ				LR	LR	14 20 28.6	
	comp=Z,388nm,18.3s,MS4.2,baz=279,slow=39						
NJ2	**Nanjing**	**36.27**	**34**	*e*P	**P**	**14 04 14.0**	**-0.4**
NJ2				AP	pP	14 04 23.3	+1.7
NJ2				XP	sP	14 04 27.3	+2.7
NJ2				PP	PP	14 05 37.5	-0.1
NJ2				S	**S**	**14 09 52.0**	**-0.8**
NJ2				XS		14 10 07.0	
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,30nm,6.0s						
NJ2				LR	LR		
	comp=N,480nm,18.0s,MS4.7						
NJ2				LR	LR		
	comp=E,870nm,16.0s,MS4.7						
GTA	**Gaotai**	**36.74**	**5**	⇑P	**P**	**14 04 18.0**	**-0.3**
GTA				AP	pP	14 04 26.0	+0.5
GTA				XP	sP	14 04 32.0	+3.5
GTA				PP	PP	14 05 43.0	-0.7
GTA				PCP	PcP	14 06 41.8	+1.0
GTA				S	**S**	**14 09 59.5**	**-0.5**
GTA				XS		14 10 14.8	
GTA				SCP		14 10 18.8	
GTA				SS	SS	14 12 28.3	+0.3
GTA				AMB	AMB		
	comp=Z,66nm,1.0s

comp=Z,52nm,5.6s
SSE LR LR
comp=N,551nm,14.7s,MS4.5
SSE LR LR
comp=E,311nm,14.7s,MS4.5
SSE LR LR
comp=Z,524nm,20.4s
SSE Sheshan 36.93 37 *e*P **P 14 04 18.5 -1.4**
comp=Z,37nm,0.8s,mb5.3
SSE pP pP 14 04 26.0 -1.1
SSE S **S 14 10 03.2 +0.3**
SSE sS 14 10 15.0
SSE LR LR
comp=Z,520nm,20.4s,MS4.3
JOW Kunigami 39.13 49 P **P 14 04 37.8 -0.6**
comp=Z,6.5nm,0.6s,mb4.5,baz=205,slow=16,SNR=5.6
JOW LR LR 14 19 16.3
comp=Z,177nm,21.3s,MS3.9,baz=269,slow=34
KAKA Kakadu 39.23 114 *e*P **P 14 04 40.4 +1.0**
comp=Z,24nm,0.6s,mb5.1
BTO Baotou 39.84 17 *e*P **P 14 04 44.8 +0.7**
BTO AMB AMB
comp=Z,24nm,1.2s,mb4.8
HHC Hu-ho-hao-te 40.52 18 *e*P **P 14 04 51.0 +1.2**
HHC AP pP 14 05 00.0 +3.0
HHC XP sP 14 05 04.8 +4.8
HHC PP PP 14 06 25.5 -1.0
HHC S **S 14 10 50.0 -7.2**
HHC SCS ScS 14 14 54.5 +2.5
HHC AMB AMB
comp=Z,55nm,1.3s,mb5.0
HHC AMB AMB
comp=Z,165nm,11.9s
HHC LR LR
comp=N,787nm,15.4s,MS4.7
HHC LR LR
comp=E,479nm,17.8s,MS4.7
HHC LR LR
comp=Z,667nm,17.8s,MS4.5
NWAO Narrogin (SRO) 40.67 152 LR LR 14 21 55.0
comp=Z,413nm,20.1s,MS4.3,baz=154,slow=36
KSH Kashi 40.98 336 *e*P **P 14 04 55.5 +2.0**
KSH *e*AP pP 14 05 03.0 +2.2
KSH *e*XP sP 14 05 06.5 +2.7
KSH AMB AMB
comp=Z,50nm,1.2s,mb5.0
WMQ Urumqi 41.66 351 P **P 14 05 00.0 +0.9**
DL2 Dalian 42.96 30 P **P 14 05 10.8 +0.9**
DL2 *e*S **S 14 11 33.5 +0.2**
DL2 AMB AMB
comp=Z,30nm,0.9s,mb5.0
DL2 LR LR
comp=N,180nm,12.8s,MS4.4
DL2 LR LR
comp=E,210nm,12.1s,MS4.4
DL2 LR LR
comp=Z,340nm,19.2s
WRA Warramunga Arr 43.78 123 P **P 14 05 16.3 -0.4**
comp=Z,14nm,0.9s,mb4.7,baz=300,slow=9.2,SNR=50
WRAB Tennant Creek 43.79 123 *i*P **P 14 05 16.6 -0.2**
WRAB Tennant Creek 43.79 123 *e*P **P 14 05 15.9 -0.8**
comp=Z,36nm,1.1s,mb5.0
WB2 Warramunga Arr 43.79 123⇑*i*P **P 14 05 16.3 -0.5**
AAK Ala-Archa 44.22 337*c i*P **P 14 05 20.0 0.0**
AAK pmax pmax
comp=Z,16nm,1.3s,mb4.6
AAK Ala-Archa 44.22 337 *e*P **P 14 05 19.4 -0.5**
comp=Z,21nm,1.1s,mb4.8
FRU Bishkek 44.34 337 *e*P **P 14 05 21.2 +0.2**
FRU *i* 14 05 33.5
FRU pmax pmax
comp=Z,90nm,2.5s,mb5.1
MKAR Makanchi Array 45.56 347 *i* P **P 14 05 31.0 +0.3**
MKAR pmax pmax
comp=Z,48nm,0.9s
MKAR Makanchi Array 45.56 347 P **P 14 05 30.9 +0.2**
comp=Z,16nm,0.7s,mb5.1,baz=164,slow=7.6,SNR=136
MKAR pP pP 14 05 38.1 +0.1
comp=Z,45nm,0.9s,baz=158,slow=7.5,SNR=28
MKAR LR LR 14 29 54.7
comp=Z,161nm,18.7s,MS4.0,baz=172,slow=43
SONM Songino Array 45.89 10 P **P 14 05 33.6 +0.4**
comp=Z,20nm,0.8s,mb5.1,baz=190,slow=8.6,SNR=89
SONM PcP PcP 14 07 11.1 +0.4
comp=Z,5.0nm,0.7s,baz=202,slow=3.7,SNR=6.9
SONM ScP 14 11 02.5
comp=Z,0.3nm,0.3s,slow=1.2,SNR=3.6
SONM LR LR 14 27 13.5
comp=Z,408nm,19.8s,MS4.4,baz=49,slow=39
KKAR Karatay Array 46.25 334 *i* P **P 14 05 36.6 +0.4**
KKAR pmax pmax
comp=Z,18nm,1.0s,mb5.0
ZAK Zakamensk 47.95 6 *e*P **P 14 05 49.1 -0.4**
ZAK *e* 14 07 15.3
ZAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
CN2 Changchun 48.56 28 *e*P **P 14 05 53.5 -0.7**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
CN2 LR LR
comp=N,310nm,18.0s,MS4.5
CN2 LR LR
comp=E,300nm,18.0s,MS4.5
CN2 LR LR
comp=Z,380nm,18.0s,MS4.4
TLY Talaya 49.27 6 *e*P **P 14 06 00.1 +0.5**
TLY *e* 14 07 57.4
TLY pmax pmax
comp=Z,15nm,0.8s,mb5.1
TLY MLR MLR
comp=Z,239nm,16.0s,MS4.3
TLY Talaya 49.27 6 *e*P **P 14 06 00.6 +1.0**
comp=Z,14nm,0.8s,mb5.0
IRK Irkutsk 49.89 7 *e*P **P 14 06 04.5 +0.1**
IRK pmax pmax
comp=Z,49nm,4.0s
KURK Kurchatov 50.10 346 *e*P **P 14 06 06.0 0.0**
comp=Z,21nm,0.9s,mb5.2
KURK LR LR
comp=Z,77nm,21.0s,MS3.7
HIA Hailar 50.66 20 *e*P **P 14 06 10.1 -0.2**
comp=Z,18nm,1.0s,mb5.0
HIA LR LR
comp=Z,534nm,19.0s,MS4.6
MDJ Mudanjiang 51.19 30 P **P 14 06 14.5 +0.2**
MDJ AP pP 14 06 21.3 -0.4
MDJ AMB AMB
comp=Z,16nm,1.5s,mb4.7
MDJ AMB AMB
comp=Z,52nm,4.6s
MDJ LR LR
comp=N,180nm,17.1s,MS4.5
MDJ LR LR
comp=E,330nm,18.9s,MS4.5
MDJ LR LR
comp=Z,447nm,14.0s,MS4.6
CIT Chita 51.33 14 *e*P **P 14 06 14.3 -1.0**
CIT *e* 14 07 26.2
CIT pmax pmax
comp=Z,63nm,1.7s,mb5.3
MJAR Matsushiro Arr 51.42 44 PcP PcP 14 07 30.9 +0.1
comp=Z,4.0nm,0.9s,baz=232,slow=4.8,SNR=7.8
ZAL Zalesovo 51.95 352 P **P 14 06 19.2 -0.7**
comp=Z,12nm,0.7s,mb5.0,baz=294,slow=6.8,SNR=73
ZAL LR LR 14 33 35.7
comp=Z,249nm,20.4s,MS4.2,baz=292,slow=42
PMG Port Moresby 52.31 104 P **P 14 06 22.4 -0.9**
comp=Z,26nm,0.8s,mb5.2,baz=289,slow=20,SNR=4.4
NVS Novosibirsk 53.06 351⇑*i*P **P 14 06 26.5 -1.8**
NVS *e*S **S 14 14 03.7 +8.5**
NVS pmax pmax
comp=Z,14nm,1.0s,mb4.8
NVS pmax pmax
comp=N,21nm,1.5s
NVS pmax pmax
comp=E,10.0nm,1.2s
NVS smax
comp=N,34nm,2.0s
ATD Arta Tunnel 53.44 282 LR LR 14 24 59.1
comp=N,91nm,19.8s,MS3.8,baz=291,slow=31
VOSK Vostochnaya 54.06 341 P **P 14 06 34.9 -0.7**
VOSK pmax pmax
comp=Z,21nm,1.2s,mb4.9
CTA Charters Tower 54.18 117⇓*i*P **P 14 06 37.1 +0.1**
comp=Z,15nm,0.9s,mb4.9
CTA Charters Tower 54.18 117 P **P 14 06 36.5 -0.5**
comp=Z,20nm,0.8s,mb5.1,baz=290,slow=9.1,SNR=15
CTAO Charters Tower 54.18 117 *e*P **P 14 06 37.0 0.0**
comp=Z,33nm,1.3s,mb5.1
BVA0 Borovoye Array 54.51 341 P **P 14 06 38.2 -0.7**
BVA0 pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
BVAR Borovoye Array 54.51 341 P **P 14 06 38.1 -0.9**
comp=Z,7.6nm,0.8s,mb4.8,baz=143,slow=7.4,SNR=54
BVAR pP pP 14 06 46.4 +0.1
comp=Z,2.7nm,0.8s,baz=15,slow=29,SNR=7.3
BRVK Borovoye 54.57 341⇑*i*P **P 14 06 38.5 -0.9**
comp=Z,11nm,1.0s,mb4.8
STKA Stephens Creek 55.18 132 *e*P **P 14 06 43.6 -0.6**
comp=Z,7.7nm,0.7s,mb4.8
STKA Stephens Creek 55.18 132 P **P 14 06 43.4 -0.8**
comp=Z,9.8nm,0.7s,mb4.9,baz=314,slow=6.6,SNR=17
STKA LR LR 14 32 40.0
comp=Z,237nm,20.1s,MS4.3,baz=117,slow=39
KLR Kul'dur 55.49 28 *e*P **P 14 06 43.1 -3.1**
KLR pmax pmax
comp=Z,28nm,1.4s,mb5.1
KLR MLR MLR
comp=N,800nm,16.0s,MS5.0
KLR MLR MLR
comp=E,500nm,16.0s,MS5.0
KLR MLR MLR
comp=Z,1μm,16.0s,MS5.0
AB31 Akbulak array 55.70 332 P **P 14 06 46.8 -0.8**
AB31 pmax pmax
comp=Z,41nm,1.1s,mb5.4
BOD Bodaibo 56.81 11 *e*P **P 14 06 54.4 -1.1**
BOD *e* pP 14 07 00.5 -2.5
BOD pmax pmax
comp=Z,14nm,1.0s,mb5.0
BOD pmax pmax
comp=Z,12nm,1.2s,mb4.8
ASAJ Asahikawa 58.22 38 LR LR 14 31 37.0
comp=Z,210nm,19.7s,MS4.3,baz=317,slow=36
CLNS Chul'man 58.71 18 *e*P **P 14 07 08.4 -0.5**
CLNS pmax pmax
comp=Z,20nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS MLR MLR
comp=Z,700nm,14.0s,MS4.9
CLNS MLR MLR
comp=N,400nm,13.0s,MS4.7
CLNS MLR MLR
comp=E,100nm,13.0s,MS4.7
KMBO Kilima Mbogo 58.90 267 P **P 14 07 11.5 +0.8**
comp=E,2.7nm,0.9s,mb4.3,baz=57,slow=8.7,SNR=6.9
KMBO LR LR 14 29 50.0
comp=E,358nm,18.7s,MS4.5,baz=93,slow=33
KMBO Kilima Mbogo 58.90 267 P **P 14 07 11.5 +0.8**
KMBO LR LR 14 29 50.0
GNI Garni 59.45 316 *i* P **P 14 07 13.2 -1.0**
GNI pmax pmax
comp=Z,20nm,1.3s
YSS Yuzh-Sakhalins 59.82 35 P **P 14 07 17.0 +0.3**
ARU Arti 61.40 337⇑*i*P **P 14 07 26.2 -1.1**
ARU *e* 14 08 06.4
ARU *e* 14 09 41.2
ARU *e*PPP PPP 14 11 12.5 -0.7
ARU *e*S **S 14 15 47.5 +2.5**
ARU *e*SS SS 14 19 47.1 -0.3
ARU pmax pmax
comp=Z,21nm,0.9s,mb5.3
ARU MLR MLR
comp=N,100nm,19.0s,MS4.2
ARU MLR MLR
comp=Z,200nm,19.0s,MS4.3
ARU MLR MLR
comp=E,100nm,17.0s,MS4.2
ARU Arti 61.40 337 *e*P **P 14 07 26.2 -1.2**
comp=E,32nm,1.2s,mb5.3
ARU LR LR
comp=Z,60nm,20.0s,MS3.8
MALT Malatya 63.30 312 *e*P **P 14 07 40.2 0.0**
comp=Z,144nm,0.6s
MALT *e*pP pP 14 07 47.3 -0.4
SOC Sochi 64.27 318 *e*P **P 14 07 40.8 -5.8**
SOC *e*PPP PPP 14 11 42.9 +0.5
SOC *e*S **S 14 16 19.2 -2.0**
SOC *e* 14 17 31.0
SOC *e*SS SS 14 20 25.6 -6.9
SOC pmax pmax
comp=N,12nm,0.8s
SOC pmax pmax
comp=E,15nm,0.8s
SOC pmax pmax
comp=Z,18nm,0.8s,mb5.2
YAK Yakutsk 64.36 17*c i*P **P 14 07 45.8 -1.0**
YAK *e* 14 08 13.3
YAK *e* 14 10 16.6
YAK *e*S **S 14 16 32.3 +10**
YAK *e* 14 17 33.7
YAK pmax pmax
comp=Z,48nm,0.9s,mb5.5
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,13nm,1.1s
YAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
YAK pmax pmax
comp=N,2.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK smax
comp=N,4.0nm,1.2s
YAK smax
comp=E,3.0nm,1.0s
YAK Yakutsk 64.36 17 *e*P **P 14 07 45.9 -0.9**
comp=E,96nm,0.9s,mb5.8
YAK LR LR
comp=Z,225nm,22.0s,MS4.3
BRTR Keskin Array B 67.28 312 P **P 14 08 04.8 -1.2**
comp=Z,1.4nm,0.8s,mb4.0,baz=141,slow=7.9,SNR=6.9
BRTR pP pP 14 08 11.8 -1.7
comp=Z,2.5nm,0.8s,baz=117,slow=5.5,SNR=7.0
MOS Moscow 70.50 329 *e*P **P 14 08 34.9 +9.4**
MA2 Magadan 70.53 26 *e*P **P 14 08 25.4 -0.2**
MA2 *e* 14 17 32.6
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MA2 Magadan 70.53 26 *e*P **P 14 08 25.4 -0.2**
comp=Z,13nm,0.8s,mb4.9
OBN Obninsk 70.78 328*j e*P **P 14 08 26.3 -0.9**
OBN *e* pP 14 08 33.7 -1.1
OBN *e* 14 08 41.7
OBN *e* 14 08 48.3
OBN *e*S S 14 17 42.3 +3.2
OBN *e* 14 18 22.3
OBN pmax pmax
comp=Z,29nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
SEY Seymchan 72.89 23 *e*P **P 14 08 39.7 +0.1**
SEY *e* 14 11 18.2
SEY *e* 14 18 52.7
SEY *e* 14 22 36.9
SEY pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SEY pmax pmax
comp=E,2.0nm,0.7s
AKASG Malin Array Be 73.41 322 *i* P **P 14 08 42.1 -0.8**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 73.41 322 P **P 14 08 41.5 -1.4**
comp=Z,4.8nm,0.8s,mb4.5,baz=89,slow=4.7,SNR=18
AKASG pP pP 14 08 48.6 -1.8
comp=Z,5.3nm,0.7s,baz=88,slow=4.8,SNR=6.4
VRI Vrincioaia 73.77 317⇑P **P 14 08 46.3 +1.2**
VRI Vrincioaia 73.77 317⇑P **P 14 08 46.3 +1.2**
MLR Muntele Rosu 74.22 317 P **P 14 08 48.3 +0.6**
comp=Z,5.4nm,1.0s,mb4.5,baz=47,slow=3.6,SNR=7.3
MLR Muntele Rosu 74.22 317⇓P **P 14 08 48.6 +0.9**
MLR Muntele Rosu 74.22 317⇓P **P 14 08 48.6 +0.9**
BOSA Boshof 74.51 239 P **P 14 08 50.0 +0.2**
comp=Z,7.0nm,1.1s,mb4.5,baz=60,slow=18,SNR=3.1
BOSA LR LR 14 37 02.0
comp=Z,215nm,18.8s,MS4.5,baz=57,slow=32
BOSA Boshof 74.51 239 P **P 14 08 50.0 +0.2**
BOSA LR LR 14 37 02.0
BURAR Bucovina Array 75.18 319⇑P **P 14 08 54.8 +1.6**
BURAR Bucovina Array 75.18 319⇑P **P 14 08 54.8 +1.6**
LVZ Lovozero 77.08 340 *e*P **P 14 09 01.4 -2.1**
LVZ pmax pmax
comp=Z,13nm,1.3s,mb4.7
LVZ pmax pmax
comp=E,8.0nm,1.4s
LVZ MLR MLR
comp=Z,213nm,17.0s,MS4.5
LVZ MLR MLR
comp=N,54nm,15.0s,MS4.4
LVZ MLR MLR
comp=E,141nm,18.0s,MS4.4
APA Apatity 77.37 340⇑*i*P **P 14 09 05.6 +0.5**
APA pmax pmax
comp=Z,11nm,0.8s,mb4.8
KOLS Kolonicke sedl 77.37 320 *e*P **P 14 09 06.2 +0.7**
KOLS *e*pP pP 14 09 13.4 +0.3
SUW Suwalki 77.83 325 *e*P **P 14 09 07.6 -0.3**
SUW Suwalki 77.83 325 *e*P **P 14 09 07.6 -0.2**
CRVS Cervenica-Dubn 77.89 319 *e*sP sP 14 09 20.2 +1.6
STHS Stebnicka Huta 78.12 320 *e*P **P 14 09 10.8 +1.2**
FINES FINESS Array B 78.18 333 P **P 14 09 09.5 -0.2**
comp=Z,4.5nm,0.7s,mb4.5,baz=121,slow=11,SNR=15
FINES pP pP 14 09 16.6 -0.7
comp=Z,2.9nm,0.7s,baz=104,slow=7.9,SNR=5.2
KAF Kangasniemi 78.27 333 *e*p **P 14 09 09.1 -1.0**
comp=Z,9.0nm,0.9s,mb4.7,baz=103,slow=5.1
KAF Kangasniemi 78.27 333 *e*P **P 14 09 09.1 -1.0**
KAF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
KECS Kecovo 78.46 319 *e*P **P 14 09 11.6 +0.1**
KECS *e*pP pP 14 09 18.3 -0.8
KECS *e* 14 12 17.8
OJC Ojcow 79.17 321 *e*P **P 14 09 15.6 +0.3**
VYHS Vyhne 79.55 319 *e*P **P 14 09 17.2 -0.2**
BILL Bilibino 80.23 21 *e*P **P 14 09 20.1 -0.5**
BILL pmax pmax
comp=Z,10.0nm,1.6s,mb4.5
ZST Bratislava 80.66 318 *e* **P 14 09 30.0 +6.7**
ARCES ARCESS Array B 80.79 340 P **P 14 09 23.8 +0.2**
comp=Z,4.8nm,0.9s,mb4.4,baz=90,slow=3.6,SNR=15
ARCES LR LR 14 51 20.5
comp=Z,175nm,18.3s,MS4.5,baz=114,slow=40
RPZ Rata Peaks 81.04 135 LR LR 14 45 35.7
comp=Z,310nm,19.9s,MS4.7,baz=271,slow=36
BOJS Bojanci 81.66 315 *e*P **P 14 09 28.6 0.0**
GORS Gorjuse 82.59 316 *e*P **P 14 09 33.6 +0.2**
GORS *e* pP 14 09 40.5 -0.6
GERES GERESS Array B 82.97 319 P **P 14 09 36.1 +0.7**
comp=Z,4.6nm,0.9s,mb4.5,baz=104,slow=5.5,SNR=27
GERES pP pP 14 09 43.5 +0.4
comp=Z,2.9nm,0.8s,baz=90,slow=5.3,SNR=6.2
GERES LR LR 14 52 55.5
comp=Z,65nm,20.4s,MS4.0,baz=316,slow=40
KHC Kasperske Hory 83.07 319 *i* P **P 14 09 35.6 -0.2**
HFS Hagfors 83.89 330 P **P 14 09 40.2 +0.4**
comp=Z,8.2nm,1.0s,mb4.8,baz=124,slow=5.3,SNR=7.3
URZ Urewera 84.62 129 LR LR 14 47 30.9
comp=Z,168nm,19.1s,MS4.4,baz=181,slow=36
GRA1 Grafenberg Arr 84.63 319 *e*P **P 14 09 44.8 +1.0**
comp=Z,7.0nm,1.0s,mb4.8
GRA1 *e*pP pP 14 09 52.0 +0.5
GRF Grafenberg Arr 84.63 319 *e*P **P 14 09 44.8 +1.0**
GRF *e**PP pP 14 09 52.0 +0.5
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
GRF Grafenberg Arr 84.63 319 *e*P **P 14 09 44.8 +1.0**
comp=Z,7.0nm,1.0s,mb4.8
GRF *e*pP pP 14 09 52.0 +0.5
NB2 NORSAR Subarra 85.18 331 P **P 14 09 46.4 +0.2**
comp=Z,8.3nm,1.1s,mb4.8,baz=96,slow=4.8
NOA NORSAR Array B 85.18 331 P **P 14 09 46.6 +0.4**
comp=Z,3.1nm,0.9s,mb4.4,baz=95,slow=5.4,SNR=5.3
NOA pP pP 14 09 53.9 -0.1
comp=Z,2.1nm,0.8s,baz=91,slow=5.7,SNR=5.6
NOA LR LR 14 52 18.1
comp=Z,102nm,21.7s,MS4.2,baz=100,slow=39
DAVOX Davos 85.45 317 P **P 14 09 49.2 +1.3**
comp=Z,2.6nm,0.5s,mb4.6,baz=153,slow=4.5,SNR=5.3
DAVOX Davos 85.45 317 P **P 14 09 49.2 +1.3**
VNDA Vanda 87.47 169 LR LR 14 47 32.8
comp=Z,163nm,18.1s,MS4.5,baz=301,slow=34
ULM Lac du Bonnet 126.31 9 PKP PKPdf 14 16 13.3 -3.0
comp=Z,1.7nm,0.7s,baz=11,slow=2.3,SNR=3.0
PDAR Pinedale Array 129.22 24 PKP PKPdf 14 16 19.4 -2.8
comp=Z,0.7nm,0.7s,slow=3.0,SNR=7.4
MNTX Cornudas Mount 140.23 29 *e*P PKPdf 14 16 40.3 -2.6
CPUP Villa Florida 145.26 225 PKPbc PKPbc 14 16 49.0 +1.2
comp=Z,2.3nm,0.7s,baz=145,slow=4.1,SNR=7.9

IDC 27 14:03:07.3±3.2, 2.34N×95.56E, mb3.6/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=129.2km s-min=27.4km az=55.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.02**	**122**	P	P	14 11 17.0	-1.7
	0.2nm,0.6s,baz=301,slow=9.2,SNR=3.5						
MKAR	**Makanchi Array**	**45.76**	**347**	P	P	14 11 31.6	-0.8
	0.6nm,0.4s,baz=156,slow=9.3,SNR=11						
SONM	**Songino Array**	**46.28**	**10**	P	P	14 11 34.5	-1.9
	1.2nm,0.5s,baz=190,slow=9.3,SNR=4.8						
BVAR	**Borovoye Array**	**54.65**	**342**	P	P	14 12 36.7	-3.4
	0.2nm,0.4s,baz=127,slow=7.2,SNR=2.7						

*BJI **27** 14:05:23.5, 2.69N×93.81E, h38km, mB4.7, mb4.6, Ms4.6, Msz4.6*
*MOS **27** 14:05:26.9±1.0, 3.23N×93.61E, h33km, mb4.9/6, Error ellipse: s-maj=23.1km s-min=10.4km az=107.1*
*HRVD **27** 14:05:28.2±1.2, 3.28N×93.73E, h19km±2km, MW4.6/31, Centroid moment Tensor Solution. LP body waves: s4,c5; Mantle waves: s31,c43; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.04±.19; $M_{\theta\theta}$-0.37±.10; $M_{\phi\phi}$-0.66±.12; $M_{r\theta}$-0.46±.32; $M_{r\phi}$0.31±.06; $M_{\theta\phi}$0.19±.27; Best double couple: $M_0$1.067×10^{16} NP1:ϕ_s157°, δ34°, λ109°. NP2: ϕ_s314°, δ58°, λ77°. Principal axes: T 1.183, Plg74°, Azm190°; N -.226, Plg11°, Azm321°; P -.951, Plg12°, Azm53°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **27** 14:05:28.4±1.1, 3.24N×93.67E, h28km±5km, mb4.0/11, mb1 4.2/11, mb1mx4.0/21, mbtmp4.2/11, MS4.1/1, Ms1 4.1/1, ms1mx3.3/28 Error ellipse: s-maj=39.7km s-min=14.9km az=57.0*
*NEIC **27** 14:05:28.2±0.4, 3.22N×93.69E, mb5.0/4, Error ellipse: s-maj=11.8km s-min=7.9km az=220.0*
ISC 27 14:05:26.4±0.5, 3.26N±0.07×93.71E±0.07, h29km, h29km±.7km: pP-P, n42, σ0.98/44, mb4.4/21, MS4.3/2, 3C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**7.21**	**74**	*e*P	**Pn**	**14 07 11.1**	**-1.6**
KSM	**Kuching**	**16.68**	**96**	*e*P	**P**	**14 09 20.7**	**+0.7**
SHL	**Shillong**	**22.25**	**356**	*e*P	**P**	**14 10 21.2**	**-1.4**
LSA	**Lhasa**	**26.41**	**355**	P	**P**	**14 11 05.3**	**+2.8**
LSA				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
LSA	**Lhasa**	**26.41**	**355**	*e*P	**P**	**14 11 04.9**	**+2.4**
LSA				pmax	pmax		
	comp=Z,17nm,0.6s,mb4.8						
LSA	**Lhasa**	**26.41**	**355**	*e*P	**P**	**14 11 04.9**	**+2.4**
	comp=Z,17nm,0.6s,mb4.8						
GTA	**Gaotai**	**36.41**	**8**	P	**P**	**14 12 30.5**	**+0.1**
GTA				AP	pP	14 12 39.8	+0.7
GTA				XP	sP	14 12 45.5	+2.7
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.2						
NJ2	**Nanjing**	**37.13**	**37**	*e*P	**P**	**14 12 36.5**	**0.0**
NJ2				AP	pP	14 12 46.0	+0.8
NJ2				XP	sP	14 12 50.0	+1.1
NJ2				PP	PP	14 14 04.5	+0.9
NJ2				S	**S**	**14 18 20.0**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,50nm,11.0s						

NJ2					LR	LR			
	comp=N,620nm,18.0s								
NJ2					LR	LR			
	comp=E,150nm,12.0s								
SSE	**Sheshan**	**37.92**	**40**	*e*P	**P**		**14**	**12**	**42.3 -0.8**
SSE				AP	pP		14	12	51.3 -0.6
SSE				XP	sP		14	12	54.8 -0.8
SSE				S	**S**		**14**	**18**	**33.0 +0.5**
SSE				AMB	AMB				
	comp=Z,35nm,0.7s,mb5.2								
SSE				AMB	AMB				
	comp=Z,41nm,3.5s								
SSE				LR	LR				
	comp=N,150nm,11.4s,MS4.4								
SSE				LR	LR				
	comp=E,274nm,11.4s,MS4.4								
SSE				LR	LR				
	comp=Z,465nm,12.0s,MS4.5								
SSE	**Sheshan**	**37.92**	**40**	*e*P	**P**		**14**	**12**	**42.2 -0.9**
	comp=Z,35nm,0.7s,mb5.2								
SSE				pP	pP		14	12	51.2 -0.7
SSE				sP	sP		14	12	54.8 -0.8
SSE				S	**S**		**14**	**18**	**33.1 +0.6**
SSE				sS			14	18	49.1
SSE				LR	LR				
	comp=Z,470nm,12.0s,MS4.5								
WMQ	**Urumqi**	**40.74**	**353**	*e*P	**P**		**14**	**13**	**08.3 +1.9**
AAK	**Ala-Archa**	**42.79**	**339**	*i* P	**P**		**14**	**13**	**24.1 +0.8**
AAK				pmax	pmax				
	comp=Z,9.0nm,2.2s,mb4.1								
MKAR	**Makanchi Array**	**44.49**	**349**	P	**P**		**14**	**13**	**37.7 +0.7**
	comp=Z,2.6nm,0.7s,mb4.1,baz=165,slow=8.1,SNR=21								
MKAR				pP	pP		14	13	46.0 +0.2
	comp=Z,1.3nm,0.5s,baz=168,slow=8.1,SNR=7.8								
MKAR	**Makanchi Array**	**44.49**	**349**	P	**P**		**14**	**13**	**37.7 +0.7**
MKAR				pP	pP		14	13	46.0 +0.2
JNU	**Nakatsue**	**45.71**	**45**	LR	LR		14	34	04.2
	comp=Z,178nm,18.2s,MS4.0,baz=21,slow=38								
SONM	**Songino Array**	**45.74**	**12**	P	**P**		**14**	**13**	**47.4 +0.5**
	comp=Z,1.7nm,0.6s,mb4.1,baz=196,slow=9.0,SNR=10								
SONM				pP	pP		14	13	55.8 +0.1
	comp=Z,2.8nm,0.8s,baz=198,slow=7.8,SNR=8.1								
WRA	**Warramunga Ar**	**46.08**	**122**	P	**P**		**14**	**13**	**50.0 +0.1**
	comp=Z,8.9nm,1.0s,mb4.7,baz=300,slow=8.9,SNR=28								
WRA				pP	pP		14	13	58.8 0.0
	comp=Z,3.5nm,0.8s,baz=300,slow=8.9,SNR=7.4								
WRAB	**Tennant Creek**	**46.08**	**122**	*i* P	**P**		**14**	**13**	**50.6 +0.6**
WRAB	**Tennant Creek**	**46.08**	**122**	*e*P	**P**		**14**	**13**	**50.2 +0.2**
	comp=Z,36nm,1.4s,mb5.1								
WB2	**Warramunga Arr**	**46.09**	**122**	*e*P	**P**		**14**	**13**	**50.0 0.0**
KURK	**Kurchatov**	**48.97**	**347**	*e*P	**P**		**14**	**14**	**12.7 +0.5**
HIA	**Hailar**	**50.93**	**22**	*e*P	**P**		**14**	**14**	**27.6 +0.4**
ZAL	**Zalesovo**	**51.04**	**353**	P	**P**		**14**	**14**	**28.1 +0.1**
	comp=Z,2.8nm,0.4s,mb4.6,baz=297,slow=5.4,SNR=9.5								
ZAL				pP	pP		14	14	36.6 -0.3
	comp=Z,2.1nm,0.4s,baz=314,slow=5.4,SNR=2.8								
NVS	**Novosibirsk**	**52.12**	**352**⇑	*i* P	**P**		**14**	**14**	**34.7 -1.5**
BVAR	**Borovoye Array**	**53.22**	**343**	P	**P**		**14**	**14**	**44.1 -0.2**
	comp=Z,1.5nm,0.7s,mb4.1,baz=158,slow=8.0,SNR=10.0								
BRVK	**Borovoye**	**53.27**	**343**	*e*P	**P**		**14**	**14**	**44.0 -0.8**
BRVK				pmax	pmax				
	comp=Z,4.0nm,1.3s,mb4.2								
BRVK	**Borovoye**	**53.27**	**343**	*e*P	**P**		**14**	**14**	**44.0 -0.8**
	comp=Z,3.8nm,1.3s,mb4.2								
BOD	**Bodaibo**	**56.71**	**13**	*e*P	**P**		**14**	**15**	**02.7 -7.0**
STKA	**Stephens Creek**	**57.32**	**131**	P	**P**		**14**	**15**	**14.2 -0.1**
	comp=Z,1.6nm,0.7s,mb4.2,baz=286,slow=10,SNR=4.4								
GNI	**Garni**	**57.41**	**317**	*i* P	**P**		**14**	**15**	**13.8 -1.0**
GNI				pmax	pmax				
	comp=Z,19nm,1.7s								
ARU	**Arti**	**59.97**	**338**	*e*P	**P**		**14**	**15**	**31.7 -0.7**
ARU				*e*			14	17	40.6
ARU				*e*SS	**S**		**14**	**23**	**42.5 +1.5**
ARU				*e*SS	SS		14	27	40.5 +1.7
YAK	**Yakutsk**	**64.49**	**18**	*i* P	**P**		**14**	**16**	**01.9 -0.6**
YAK				pmax	pmax				
	comp=Z,14nm,1.3s,mb4.8								
BRTR	**Keskin Array B**	**65.16**	**313**	P	**P**		**14**	**16**	**07.1 -0.1**
	comp=Z,0.4nm,0.4s,mb3.8,baz=100,slow=7.5,SNR=4.2								
OBN	**Obninsk**	**69.06**	**329**⇗	*e*P	**P**		**14**	**16**	**32.1 +0.6**
OBN				pmax	pmax				
	comp=Z,7.0nm,0.5s,mb4.8								
AKASG	**Malin Array Be**	**71.51**	**323**	P	**P**		**14**	**16**	**45.6 -0.9**
	comp=Z,0.1nm,0.3s,mb3.3,baz=92,slow=4.8,SNR=4.5								
LBTB	**Lobatse**	**71.70**	**242**	*e*P	**P**		**14**	**16**	**46.7 -1.4**
BILL	**Bilibino**	**80.51**	**21**	*e*P	**P**		**14**	**17**	**37.3 +0.3**
BILL				pmax	pmax				
	comp=Z,9.0nm,1.6s,mb4.5								
GERES	**GERESS Array B**	**80.98**	**319**	P	**P**		**14**	**17**	**41.3 +1.5**
	comp=Z,1.5nm,0.7s,mb4.1,baz=90,slow=4.0,SNR=15								
KHC	**Kasperske Hory**	**81.08**	**319**	*i* P	**P**		**14**	**17**	**38.3 -2.1**
DAVOX	**Davos**	**83.41**	**317**	P	**P**		**14**	**17**	**52.7 +0.3**
	comp=Z,4.3nm,0.7s,mb4.6,baz=135,slow=8.6,SNR=4.8								
VNDA	**Vanda**	**88.52**	**168**	P	**P**		**14**	**18**	**18.8 +1.8**
	comp=Z,2.0nm,1.3s,mb4.3,baz=268,slow=3.1,SNR=3.4								
CPUP	**Villa Florida**	**143.98**	**228**	PKP	PKPdf		14	25	00.7 -4.2
	comp=Z,2.6nm,0.9s,baz=180,slow=4.0,SNR=5.2								

*NEIC **27** 14:23:58.4±5.9, 33.10N×142.50E, h1km±34km, mb4.5/3, Error ellipse: s-maj=18.8km s-min=12.8km az=88.0*
*IDC **27** 14:23:58.5±0.9, 33.15N×142.58E, mb4.1/11, mb1 4.2/15, mb1mx4.1/23, mbtmp4.1/15, ML4.0/4, Error ellipse: s-maj=24.4km s-min=19.3km az=90.0*
*BJI **27** 14:24:00.3, 33.50N×142.19E, h5km, mB4.3, mb4.4*
*MOS **27** 14:24:01.4±1.0, 33.14N×142.45E, h33km, mb4.5/3, Error ellipse: s-maj=24.8km s-min=9.4km az=119.5*
*JMA **27** 14:24:02.0±0.4, 33.20N×142.40E, h61km, M4.0*

ISC 27 14:24:01.2±0.5, 33.16N±0.04×142.44E±0.06, h33km, n49, σ1§11/59, mb4.1/16, MS4.2/1, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
BSO1	**Boso 1**	**1.92**	**321**	P		**P**	**14**	**24**	**32.2 +0.1**
BSO1				*e*S		**S**	**14**	**24**	**56.4 +1.0**
JHJ2	**Mitsune**	**2.20**	**270**	P		**P**	**14**	**24**	**36.9 +0.8**
JHJ	**Hachijo jima 2**	**2.23**	**270**	Pn		**Pn**	**14**	**24**	**37.0 +0.3**
	33nm,0.3s,baz=165,slow=11,SNR=33								
JHJ				Sn		**Sn**	**14**	**25**	**04.5 +1.1**
	173nm,0.3s,baz=61,slow=22,SNR=15								
BSO3	**Boso 3**	**2.29**	**316**	P		**P**	**14**	**24**	**37.7 +0.3**
BSO4	**Boso 4**	**2.52**	**317**	P		**P**	**14**	**24**	**41.7 +0.9**
JIM2	**Oshima 3**	**2.94**	**303**	P		**P**	**14**	**24**	**46.1 -0.6**
JIM2				*e*S		**S**	**14**	**25**	**19.2 -2.1**
JOD2	**Odawara 2**	**3.48**	**308**	P		**P**	**14**	**24**	**53.7 -0.7**
JYN	**Shimob**	**3.98**	**307**	P		**P**	**14**	**25**	**01.1 -0.3**
JRY	**Ryogami san**	**4.08**	**315**	P		**P**	**14**	**25**	**02.5 -0.4**
JRY				*e*S		**S**	**14**	**25**	**49.9 -0.2**
JAG	**Ashikaga**	**4.08**	**324**	P		**P**	**14**	**25**	**02.3 -0.6**
MJAR	**Matsushiro Arr**	**4.85**	**315**	Pn		**Pn**	**14**	**25**	**13.8 -0.1**
	4.0nm,0.3s,baz=6.7,slow=32,SNR=32								
MJAR				Sn		**Sn**	**14**	**26**	**08.8 -0.8**
	1.9nm,0.3s,baz=159,slow=20,SNR=6.3								
MAJO	**Matsushiro**	**4.85**	**315**	*e*P		**P**	**14**	**25**	**14.6 +0.8**
MAT	**Matsushiro**	**4.85**	**315**	*e*P		**P**	**14**	**25**	**13.0 -0.8**
MAT				*e*S		**S**	**14**	**26**	**04.0 -5.5**
MAT	**Matsushiro**	**4.85**	**315**	P		**P**	**14**	**25**	**12.7 -1.1**
MAT				S		**S**	**14**	**26**	**04.1 -5.4**
MAT	**Matsushiro**	**4.85**	**315**	P		**P**	**14**	**25**	**14.0 +0.2**
MAT				*e*S		**S**	**14**	**26**	**08.3 -1.2**
JMM	**Marumori**	**4.89**	**345**	P		**P**	**14**	**25**	**11.6 -2.7**
JMM				*e*S		**S**	**14**	**26**	**03.7 -6.8**
JNS	**Sasagawa**	**5.30**	**332**	P		**P**	**14**	**25**	**19.8 -0.3**
JGM	**Miyama**	**5.36**	**300**	P		**P**	**14**	**25**	**21.9 +0.9**
JWZ	**Kozaga**	**5.64**	**276**	P		**P**	**14**	**25**	**24.9 0.0**
JMK	**Ichinoseki**	**5.87**	**351**	P		**P**	**14**	**25**	**24.9 -3.1**
CBIJ	**Chichi jima**	**6.04**	**182**	Pn		**Pn**	**14**	**25**	**29.5 -1.3**
	14nm,0.3s,baz=250,slow=20,SNR=6.6								
CBIJ				Sn		**Sn**	**14**	**26**	**33.6 -6.0**
	32nm,0.3s,baz=265,slow=23,SNR=6.4								
CBIJ	**Chichi jima**	**6.04**	**182**	P		**P**	**14**	**25**	**28.7 -1.9**
ASAJ	**Asahikawa**	**10.94**	**1**	P		**P**	**14**	**26**	**34.6 -3.9**
ASAJ				pmax		pmax			
	comp=Z,2.0nm,0.3s								
ASAJ	**Asahikawa**	**10.94**	**1**	Pn		**P**	**14**	**26**	**34.5 -4.0**
	comp=Z,2.3nm,0.3s,baz=267,slow=2.6,SNR=14								
CN2	**Changchun**	**16.99**	**314**	*e*P		**P**	**14**	**27**	**55.5 -2.3**
HIA	**Hailar**	**23.33**	**320**	*e*P		**P**	**14**	**29**	**07.3 +0.2**
ENH	**Enshi**	**28.11**	**273**	*e*P		**P**	**14**	**29**	**51.3 -0.9**
	comp=Z,13nm,0.7s,mb4.7								
SONM	**Songino Array**	**30.77**	**309**	P		**P**	**14**	**30**	**17.4 +1.8**
	comp=Z,2.6nm,0.7s,mb4.2,baz=112,slow=8.5,SNR=9.8								

BOD	**Bodaibo**	**31.28**	**331**	*e*P		**P**	**14**	**30**	**18.5 -1.6**
BOD				*e*			14	30	24.2
BOD				pmax		pmax			
	comp=Z,3.0nm,1.1s,mb4.0								
BILL	**Bilibino**	**37.53**	**14**	*e*P		**P**	**14**	**31**	**13.5 -0.1**
BILL				pmax		pmax			
	comp=Z,7.0nm,1.3s,mb4.2								
BILL				MLR		MLR			
	comp=Z,300nm,17.0s,MS4.2								
ZAL	**Zalesovo**	**45.21**	**315**	P		**P**	**14**	**32**	**18.7 +2.0**
	comp=Z,1.6nm,0.8s,mb3.9,baz=80,slow=7.1,SNR=3.7								
MKAR	**Makanchi Array**	**46.97**	**305**	P		**P**	**14**	**32**	**31.9 +1.2**
	comp=Z,3.0nm,0.7s,mb4.3,baz=90,slow=10.0,SNR=34								
KURK	**Kurchatov**	**49.04**	**311**	*e*P		**P**	**14**	**32**	**47.3 +0.5**
KURK				*e**PP		pP	14	32	55.0 -1.7
KURK				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.4								
KURK	**Kurchatov**	**49.04**	**311**	*e*P		**P**	**14**	**32**	**47.3 +0.5**
	comp=Z,3.4nm,0.7s,mb4.5								
KURK				*e*pP		pP	14	32	55.0 -1.6
ILAR	**Eielson Array**	**52.35**	**31**	P		**P**	**14**	**33**	**11.6 -0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=268,slow=6.2,SNR=10								
WRAB	**Tennant Creek**	**53.35**	**189**	P		**P**	**14**	**33**	**19.1 -0.7**
WRA	**Warramunga Arr**	**53.36**	**190**	P		**P**	**14**	**33**	**19.5 -0.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=6.3,slow=7.6,SNR=43								
STKA	**Stephens Creek**	**64.69**	**181**	*e*P		**P**	**14**	**34**	**33.2 -5.0**
YKA	**Yellowknife Ar**	**66.75**	**30**	P		**P**	**14**	**34**	**51.3 +0.5**
	comp=Z,0.6nm,0.5s,mb3.9,baz=294,slow=6.0,SNR=3.7								
YKA	**Yellowknife Ar**	**66.75**	**30**	P		**P**	**14**	**34**	**51.3 +0.5**
ARCES	**ARCESS Array B**	**67.92**	**340**	P		**P**	**14**	**34**	**58.8 +0.8**
	comp=Z,1.0nm,0.7s,mb4.0,baz=63,slow=8.1,SNR=5.6								
FINES	**FINESS Array B**	**72.64**	**333**	P		**P**	**14**	**35**	**27.5 +0.8**
	comp=Z,2.4nm,0.9s,mb4.1,baz=90,slow=3.8,SNR=5.5								
AKASG	**Malin Array Be**	**77.89**	**323**	P		**P**	**14**	**35**	**57.5 +0.5**
	comp=Z,0.3nm,0.3s,mb3.8,baz=47,slow=6.0,SNR=8.3								
NB2	**NORSAR Subarra**	**78.08**	**338**	P		**P**	**14**	**35**	**58.9 +1.0**
	comp=Z,1.1nm,0.6s,mb4.0,baz=38,slow=5.6								
NB2	**NORSAR Subarra**	**78.08**	**338**	P		**P**	**14**	**35**	**58.9 +1.0**
NB2				pmax		pmax			
	comp=Z,1.0nm,0.6s,mb3.9								
NOA	**NORSAR Array B**	**78.08**	**338**	P		**P**	**14**	**35**	**59.2 +1.3**
	comp=Z,2.5nm,0.8s,mb4.2,baz=39,slow=5.5,SNR=7.7								
NOA	**NORSAR Array B**	**78.08**	**338**	P		**P**	**14**	**35**	**59.2 +1.3**
BRTR	**Keskin Array B**	**82.07**	**313**	P		**P**	**14**	**36**	**22.1 +2.5**
	comp=Z,1.3nm,0.8s,mb3.9,baz=72,slow=3.9,SNR=5.6								
CLL	**Collm**	**84.88**	**331**⇑	P		**P**	**14**	**36**	**35.0 +1.4**
	comp=Z,logA/T=0.9,mb4.8								

*IDC **27** 14:25:01.4±1.7, 33.06N×142.54E, mb4.0/4, mb1 4.1/7, mb1mx3.8/22, mbtmp4.0/7, ML3.9/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/29, Error ellipse: s-maj=42.6km s-min=25.6km az=74.0*
*JMA **27** 14:25:04.0±0.4, 33.32N×142.20E, h1km, M4.1*

ISC 27 14:25:04.5±1.0, 33.23N±0.08×142.45E±0.09, h33km, n20, σ1§01/23, mb3.8/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
BSO1	**Boso 1**	**1.87**	**320**	P		**P**	**14**	**25**	**34.6 -0.1**
JHJ2	**Mitsune**	**2.21**	**268**	P		**P**	**14**	**25**	**39.9 +0.4**
JHJ	**Hachijo jima 2**	**2.24**	**268**	Pn		**Pn**	**14**	**25**	**40.1 0.0**
	115nm,0.3s,baz=247,slow=22,SNR=9.4								
JHJ				Sn		**Sn**	**14**	**26**	**06.9 0.0**
	63nm,0.3s,baz=237,slow=21,SNR=2.3								
JHJ				LR		LR	14	26	31.2
	comp=Z,418nm,20.0s,baz=181,slow=39								
BSO3	**Boso 3**	**2.25**	**315**	P		**P**	**14**	**25**	**40.0 0.0**
BSO4	**Boso 4**	**2.48**	**316**	P		**P**	**14**	**25**	**43.8 +0.5**
KTR	**Katsuura**	**2.60**	**318**	P		**P**	**14**	**25**	**45.3 +0.2**
JIM2	**Oshima 3**	**2.91**	**301**	P		**P**	**14**	**25**	**49.5 -0.1**
JIM2				*e*S		**S**	**14**	**26**	**22.3 -1.5**
JYN	**Shimob**	**3.94**	**306**	P		**P**	**14**	**26**	**04.6 +0.4**
JYN				*e*S		**S**	**14**	**26**	**49.9 0.0**
MJAR	**Matsushiro Arr**	**4.80**	**315**	Pn		**Pn**	**14**	**26**	**16.0 -0.5**
	4.8nm,0.3s,baz=159,slow=13,SNR=7.6								
MAT	**Matsushiro**	**4.80**	**315**	P		**P**	**14**	**26**	**16.7 +0.3**
JMM	**Marumori**	**4.82**	**344**	*e*S		**S**	**14**	**27**	**04.0 -8.0**
JGM	**Miyama**	**5.33**	**299**	P		**P**	**14**	**26**	**24.2 +0.3**
JWZ	**Kozaga**	**5.64**	**275**	P		**P**	**14**	**26**	**27.6 -0.6**
JMK	**Ichinoseki**	**5.79**	**350**	*e*S		**S**	**14**	**27**	**28.2 -8.3**
CBIJ	**Chichi jima**	**6.12**	**182**	Sn		**Sn**	**14**	**27**	**38.8 -5.9**
	20nm,0.3s,baz=306,slow=21,SNR=2.8								
ASAJ	**Asahikawa**	**10.87**	**1**	Pn		**P**	**14**	**27**	**38.8 -2.0**
	1.0nm,0.3s,baz=316,slow=14,SNR=5.5								
SONM	**Songino Array**	**30.73**	**309**	P		**P**	**14**	**31**	**21.0 +2.4**
	1.1nm,0.6s,mb3.9,baz=114,slow=8.7,SNR=3.6								
MKAR	**Makanchi Array**	**46.93**	**305**	P		**P**	**14**	**33**	**34.8 +1.1**
	1.5nm,0.7s,mb4.0,baz=82,slow=10,SNR=3.6								
WRA	**Warramunga Arr**	**53.44**	**190**	P		**P**	**14**	**34**	**21.8 -1.9**
	0.7nm,0.4s,mb3.9,baz=6.4,slow=7.6,SNR=8.0								
NOA	**NORSAR Array B**	**78.02**	**338**	P		**P**	**14**	**37**	**03.0 +2.1**
	0.4nm,0.7s,mb3.5,baz=48,slow=4.9,SNR=3.3								

IDC 27 14:36:07.3±1.2, 30.61N×142.30E, mb3.6/4, mb1 3.9/6, mb1mx3.6/21, mbtmp3.6/6, ML3.1/2, Error ellipse: s-maj=34.1km s-min=22.4km az=67.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
JHJ	**Hachijo jima 2**	**3.30**	**320**	Pn		Pn	**14**	**37**	**02.0 +0.8**
	2.6nm,0.3s,baz=208,slow=16,SNR=4.3								
JHJ				Sn		Sn	14	37	41.1 -0.6
	8.3nm,0.3s,baz=253,slow=23,SNR=3.5								
MJAR	**Matsushiro Arr**	**6.83**	**331**	Pn		Pn	14	37	49.4 -1.9
	0.8nm,0.3s,baz=282,slow=3.2,SNR=6.9								
SONM	**Songino Array**	**32.34**	**312**	P		P	14	42	37.2 -3.1
	0.4nm,0.3s,baz=108,slow=4.6,SNR=5.5								
WRA	**Warramunga Arr**	**50.84**	**190**	P		P	14	45	10.0 -1.9
	0.7nm,0.6s,baz=5.2,slow=7.4,SNR=13								
ILAR	**Eielson Array**	**54.61**	**30**	P		P	14	45	37.1 -2.3
	0.3nm,0.6s,baz=268,slow=5.9,SNR=4.5								
NVAR	**Mina Array Bea**	**78.29**	**52**	P		P	14	48	09.6 -1.2
	0.3nm,0.5s,baz=304,slow=6.5,SNR=3.6								

*JMA **27** 14:40:26.4±0.2, 36.07N×141.94E, h72km±4km, M3.2*
*IDC **27** 14:40:35.9±7.0, 35.91N×141.25E, h69km±46km, mb3.3/3, mb1 3.4/5, mb1mx3.2/22, mbtmp3.6/5, ML3.1/2, Error ellipse: s-maj=82.4km s-min=17.4km az=76.0*

ISC 27 14:40:26.7±1.4, 36.06N±0.05×141.9E±0.1, h72km, n16, σ0§75/20, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
CHOJ	**Chosi**	**0.95**	**248**	P		**P**	**14**	**40**	**44.6 -0.3**
CHOJ				S		**S**	**14**	**40**	**58.3 -0.1**
JHO	**Hitachi**	**1.23**	**297**	P		**P**	**14**	**40**	**47.9 -0.7**
JFK	**Kawauchi**	**1.56**	**327**	P		**P**	**14**	**40**	**52.5 -0.5**
JFK				*e*S		**S**	**14**	**41**	**11.7 -0.8**
BSO3	**Boso 3**	**1.72**	**223**	P		**P**	**14**	**40**	**55.7 +0.6**
JFT	**Otama**	**1.94**	**319**	P		**P**	**14**	**40**	**58.6 +0.4**
JMM	**Marumori**	**2.02**	**333**	P		**P**	**14**	**40**	**58.9 -0.4**
JAG	**Ashikaga**	**2.04**	**281**	P		**P**	**14**	**40**	**59.5 -0.1**
JKT	**Katashina**	**2.28**	**289**	P		**P**	**14**	**41**	**03.6 +0.6**
JIM2	**Oshima 3**	**2.45**	**238**	P		**P**	**14**	**41**	**04.9 -0.5**
JRY	**Ryogami san**	**2.46**	**270**	P		**P**	**14**	**41**	**05.5 0.0**
MJAR	**Matsushiro Arr**	**3.05**	**280**	P		**P**	**14**	**41**	**14.8 +0.9**
	1.0nm,0.3s,baz=110,slow=7.2,SNR=33								
MAT	**Matsushiro**	**3.05**	**280**	P		**P**	**14**	**41**	**14.3 +0.5**
MAT				S		**S**	**14**	**41**	**49.8 +0.5**
JHJ	**Hachijo jima 2**	**3.43**	**212**	P		**P**	**14**	**41**	**20.6 +1.5**
	20nm,0.3s,baz=34,slow=23,SNR=7.4								
JHJ				S		**S**	**14**	**41**	**57.0 -1.8**
	33nm,0.3s,baz=230,slow=22,SNR=6.3								
SONM	**Songino Array**	**28.69**	**305**	P		**P**	**14**	**46**	**23.1 +4.4**
	0.8nm,0.6s,mb3.5,baz=100,slow=7.5,SNR=4.2								
MKAR	**Makanchi Array**	**45.00**	**303**	P		**P**	**14**	**48**	**41.0 +4.6**
	0.5nm,0.7s,mb3.4,baz=96,slow=10,SNR=5.3								
WRA	**Warramunga Arr**	**56.16**	**189**	P		**P**	**14**	**50**	**06.9 +5.5**
	0.1nm,0.3s,mb3.3,baz=4.6,slow=7.3,SNR=6.7								

*NIED **27** 14:57:00, 33.30N×142.40E, h8km, Mw4.1 Best double couple: M0 1.7×10^15 NP1:φs215°, δ65°, λ-61°. NP2:φs342°, δ38°, λ-137°.*
*MOS **27** 14:57:38.9±1.4, 33.34N×142.67E, h33km, mb4.9/2, Error ellipse: s-maj=19.5km s-min=8.5km az=112.5*
*BJI **27** 14:57:38.9, 33.24N×142.81E, h41km, mB4.3, mb4.2, Ms3.5*
*JMA **27** 14:57:40.0±0.2, 33.30N×142.43E, h68km, M4.3*

*NEIC **27** 14:57:40.9±3.2, 33.23N×142.54E, h30km±22km, mb4.6/3, MW4.1(NIED), Error ellipse: s-maj=12.6km s-min=7.5km az=98.0*
*IDC **27** 14:57:40.4±7.3, 33.23N×142.52E, h26km±49km, mb4.0/15, mb1 4.2/19, mb1mx4.1/25, mbtmp4.2/19, ML3.9/4, MS3.4/4, Ms1 3.4/4, ms1mx2.9/30, Error ellipse: s-maj=18.2km s-min=14.4km az=84.0*

ISC 27 14:57:39.7±0.4, 33.28N±0.04×142.44E±0.05, h33km, n56, σ1§09/70, mb4.2/19, MS3.7/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
BSO1	**Boso 1**	**1.83**	**319**	P		**P**	**14**	**58**	**09.5 +0.3**
BSO1				*e*S		**S**	**14**	**58**	**32.0 +0.5**
BSO2	**Boso 2**	**2.03**	**317**	*e*S		**S**	**14**	**58**	**40.6 +4.1**
BSO3	**Boso 3**	**2.21**	**314**	P		**P**	**14**	**58**	**15.3 +0.7**
BSO3				*e*S		**S**	**14**	**58**	**41.5 +0.5**
JHJ2	**Mitsune**	**2.21**	**266**	P		**P**	**14**	**58**	**15.4 +0.8**
JHJ2				*e*S		**S**	**14**	**58**	**41.8 +0.8**
JHJ	**Hachijo jima 2**	**2.23**	**267**	Pn		**Pn**	**14**	**58**	**15.7 +0.5**
	132nm,0.3s,baz=248,slow=20,SNR=143								
JHJ				Sn		**Sn**	**14**	**58**	**41.9 0.0**
	476nm,0.3s,baz=37,slow=22,SNR=18								
JHJ				LR		LR	14	58	45.9
	comp=Z,527nm,18.8s,baz=88,slow=29								
BSO4	**Boso 4**	**2.44**	**315**	P		**P**	**14**	**58**	**19.1 +1.2**
BSO4				*e*S		**S**	**14**	**58**	**49.3 +2.4**
KTR	**Katsuura**	**2.56**	**317**	P		**P**	**14**	**58**	**20.1 +0.4**
KTR				*e*S		**S**	**14**	**58**	**51.1 +1.1**
CHOJ	**Chosi**	**2.75**	**332**	P		**P**	**14**	**58**	**22.2 -0.1**
CHOJ				*e*S		**S**	**14**	**58**	**54.2 -0.5**
JIM2	**Oshima 3**	**2.88**	**301**	P		**P**	**14**	**58**	**23.7 -0.6**
JIM2				*e*S		**S**	**14**	**58**	**56.7 -1.4**
JOD2	**Odawara 2**	**3.41**	**306**	P		**P**	**14**	**58**	**31.7 -0.1**
JOD2				*e*S		**S**	**14**	**59**	**08.9 -2.6**
JYN	**Shimob**	**3.91**	**306**	P		**P**	**14**	**58**	**38.7 -0.1**
JYN				*e*S		**S**	**14**	**59**	**22.5 -1.7**
JAG	**Ashikaga**	**3.98**	**323**	P		**P**	**14**	**58**	**39.5 -0.4**
JAG				*e*S		**S**	**14**	**59**	**24.3 -1.8**
JRY	**Ryogami san**	**3.99**	**314**	P		**P**	**14**	**58**	**40.0 -0.1**
JRY				*e*S		**S**	**14**	**59**	**25.2 -1.2**
MJAR	**Matsushiro Arr**	**4.76**	**314**	Pn		**Pn**	**14**	**58**	**51.2 +0.1**
	5.3nm,0.3s,baz=102,slow=33,SNR=56								
MJAR				Sn		**Sn**	**14**	**59**	**45.3 -0.6**
	11nm,0.3s,baz=271,slow=30,SNR=12								
MJAR				LR		LR	15	01	03.7
	comp=Z,217nm,18.5s,baz=170,slow=42								
MAJO	**Matsushiro**	**4.76**	**314**	*e*P		**

MRW	**Makara Radio**	**1.82**	**73**	PN	P		15 00 09.5	-1.6
BHW	**Baring Head**	**1.90**	**79**	PN	P		15 00 10.0	-2.2
MQZ	**McQueen's Vall**	**1.93**	**174**	PN	P		15 00 10.7	-1.8
MQZ				*e*SN	S		15 00 31.4	-4.5
KIW	**Kapiti Island**	**2.11**	**65**	PN	P		15 00 13.3	-1.7
CAW	**Cannon Point**	**2.12**	**72**	PN	P		15 00 12.9	-2.3

MOS **27** *15:05:37.3±1.3,48.61N×153.05E,h160km,mb3.8/8,Error ellipse: s-maj=26.5km s-min=16.5km az=66.2*

IDC **27** *15:05:40.1±3.2,48.45N×153.08E,h173km±32km, mb3.5/12,mb1 3.7/14,mb1mx3.5/24,mbtmp4.0/14,MS3.5/1, Ms1 3.5/1,ms1mx2.5/30,Error ellipse: s-maj=22.7km s-min=14.2km az=177.0*

ISC 27 15:05:36.5±1.2,48.6N±0.1×153.2E±0.1,h151km±9km,n25, o0s89/26,mb3.8/12,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.81**	**41**	*e*PN	**P**	**15 06 21.8**	**-0.4**
SKR				*e*S	**S**	**15 06 57.4**	**+0.3**
SKR				pmax	pmax		
	comp=N,40nm,0.5s						
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				smax			
	comp=N,180nm,0.3s						
SKR				smax			
	comp=E,120nm,0.3s						
ASAJ	**Asahikawa**	**8.62**	**243**	PN	**P**	**15 07 39.4**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**8.62**	**243**	P	**P**	**15 07 39.4**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=48,slow=31,SNR=5.3						
FX1	**Attu Island--F**	**13.32**	**64**	P	**P**	**15 08 44.4**	**+4.0**
	comp=Z,0.3nm,0.3s,baz=329,slow=6.9,SNR=4.7						
FX1				S	**S**	**15 11 03.6**	**-1.6**
	comp=Z,1.6nm,0.3s,baz=72,slow=22,SNR=9.1						
JOW	**Kunigami**	**29.13**	**231**	LR	LR	15 22 40.2	
	comp=Z,100nm,21.8s,baz=142,slow=35						
ILAR	**Eielson Array**	**35.07**	**40**	P	**P**	**15 12 16.6**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.3,baz=250,slow=8.0,SNR=5.3						
ZAL	**Zalesovo**	**41.64**	**304**	P	**P**	**15 13 10.5**	**-0.4**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL	**Zalesovo**	**41.64**	**304**	P	**P**	**15 13 10.5**	**-0.4**
	comp=Z,1.6nm,0.3s,mb4.1,baz=57,slow=5.5,SNR=3.5						
MKAR	**Makanchi Array**	**46.19**	**296**	P	**P**	**15 13 47.5**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**46.19**	**296**	P	**P**	**15 13 47.5**	**+0.1**
	comp=Z,0.9nm,0.4s,mb3.8,baz=63,slow=8.1,SNR=17						
BVAR	**Borovoye Array**	**49.77**	**308**	P	**P**	**15 14 15.0**	**0.0**
	comp=Z,4.3nm,0.5s,mb4.3,baz=60,slow=8.3,SNR=23						
ARCES	**ARCESS Array B**	**56.14**	**340**	P	**P**	**15 15 01.4**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARCES	**ARCESS Array B**	**56.14**	**340**	P	**P**	**15 15 01.4**	**-0.5**
	comp=Z,2.3nm,1.0s,mb4.0,baz=39,slow=7.8,SNR=7.7						
NVAR	**Mina Array Bea**	**61.51**	**63**	P	**P**	**15 15 40.3**	**+0.9**
	comp=Z,0.8nm,0.6s,mb3.7,baz=311,slow=5.9,SNR=7.6						
FINES	**FINESS Array B**	**62.41**	**334**	P	**P**	**15 15 44.4**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**62.41**	**334**	P	**P**	**15 15 44.4**	**-0.6**
	comp=Z,0.9nm,0.4s,mb4.0,baz=32,slow=7.7,SNR=14						
PDAR	**Pinedale Array**	**63.60**	**55**	P	**P**	**15 15 54.2**	**+1.2**
	comp=Z,0.9nm,0.8s,mb3.7,baz=360,slow=1.2,SNR=7.6						
NOA	**NORSAR Array B**	**66.51**	**341**	P	**P**	**15 16 11.9**	**+0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**66.51**	**341**	P	**P**	**15 16 11.9**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.5,baz=46,slow=7.2,SNR=3.3						
HFS	**Hagfors**	**66.76**	**339**	P	**P**	**15 16 12.6**	**-0.4**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	**Hagfors**	**66.76**	**339**	P	**P**	**15 16 12.6**	**-0.4**
	comp=Z,0.9nm,0.3s,mb4.0,baz=72,slow=4.7,SNR=14						
WRA	**Warramunga Arr**	**70.28**	**199**	P	**P**	**15 16 32.9**	**-2.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**70.28**	**199**	P	**P**	**15 16 32.9**	**-2.4**
	comp=Z,0.5nm,0.7s,mb3.4,baz=18,slow=6.7,SNR=4.4						
TXAR	**Lajitas Array**	**76.52**	**61**	P	**P**	**15 17 12.2**	**+1.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**76.52**	**61**	P	**P**	**15 17 12.2**	**+1.0**
	comp=Z,0.6nm,0.5s,mb3.5,baz=288,slow=4.0,SNR=4.1						

NNC 27 15:05:53.0±5.1,38.09N×71.77E,h241km±72km,mpv3.3, 1C-2D,Error ellipse: s-maj=59.3km s-min=33.4km az=24.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**4.99**	**24**	⇑P	P	15 07 07.7	-1.2
	2.9nm,0.5s						
AAK				⇓S	S	15 08 09.4	+1.2
	12nm,0.5s						
KK31	**Karatay Array**	**5.10**	**350**	P	P	15 07 09.2	-1.0
	1.5nm,0.4s,baz=160,slow=11,SNR=19						
KK31				⇓S	S	15 08 11.2	+0.7
	19nm,0.5s,baz=170,slow=21,SNR=29						
THN	**Thein Dam**	**6.50**	**149**	*e*P	P	15 07 05.1	-23
THN				*e*S	S	15 08 08.8	-33
AB31	**Akbulak array**	**14.04**	**326**	P	P	15 09 05.8	+3.0
	0.6nm,0.3s,baz=136,slow=13,SNR=12						
AB31				S	S	15 11 33.9	+0.7
	1.8nm,0.5s,baz=133,slow=25,SNR=5.8						

NIED **27** *15:14:00,33.20N×142.50E,h8km,Mw4.1 Best double couple: Mo1.65×10¹⁵ NP1:φs161°,δ69°,λ-93°. NP2: φs350°,δ21°,λ-82°.*

JMA **27** *15:14:52.3±0.3,33.21N×142.49E,h63km,M4.1*

MOS **27** *15:14:52.7±1.8,33.40N×142.48E,h33km,mb4.4/2,Error ellipse: s-maj=27.8km s-min=11.6km az=95.9*

IDC **27** *15:14:54.9±0.7,33.14N×142.52E,h36km±6km,mb3.8/11, mb1 4.0/15,mb1mx3.9/24,mbtmp4.0/15,ML3.9/4,MS3.5/3, Ms1 3.5/3,ms1mx2.9/36,Error ellipse: s-maj=18.5km s-min=15.4km az=117.0*

NEIC **27** *15:14:55.2±0.5,33.20N×142.48E,mb4.3/2,Error ellipse: s-maj=12.4km s-min=9.9km az=203.0*

ISC 27 15:14:51.8±1.6,33.23N±0.05×142.48E±0.05,h27km±12km, h37km±.9km:pP-P,n47,σ1s12/61,mb4.0/12,MS3.9/2,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.89**	**319**	P	**Pn**	**15 15 23.0**	**+0.1**
BSO1				*e*S	**Sn**	**15 15 46.1**	**+0.1**
BSO2	**Boso 2**	**2.08**	**317**	*e*S	**Sn**	**15 15 52.1**	**+1.1**
JHJ2	**Mitsune**	**2.23**	**268**	P	**Pn**	**15 15 28.1**	**+0.3**
JHJ2				*e*S	**Sn**	**15 15 56.0**	**+1.2**
JHJ	**Hachijo jima 2**	**2.26**	**268**	Pn	**Pn**	**15 15 28.2**	**0.0**
	78nm,0.3s,baz=165,slow=9.0,SNR=157						
JHJ				Sn	**Sn**	**15 15 54.6**	**-0.8**
	72nm,0.3s,baz=64,slow=24,SNR=7.9						
BSO3	**Boso 3**	**2.26**	**314**	P	**Pn**	**15 15 28.9**	**+0.7**
BSO3				*e*S	**Sn**	**15 15 57.2**	**+1.7**
BSO4	**Boso 4**	**2.50**	**315**	P	**Pn**	**15 15 32.7**	**+1.1**
BSO4				*e*S	**Sn**	**15 16 02.5**	**+1.1**
KTR	**Katsuura**	**2.62**	**317**	*e*S	**Sn**	**15 16 04.7**	**+0.1**
JIM2	**Oshima 3**	**2.93**	**301**	P	**Pn**	**15 15 37.1**	**-0.7**
JIM2				*e*S	**Sn**	**15 16 10.5**	**-2.0**
JOD2	**Odawara 2**	**3.46**	**307**	P	**Pn**	**15 15 45.0**	**-0.3**
JOD2				*e*S	**Sn**	**15 16 26.0**	**+0.1**
JYN	**Shimob**	**3.96**	**306**	P	**Pn**	**15 15 53.0**	**+0.6**
JYN				*e*S	**Sn**	**15 16 38.3**	**-0.2**
JAG	**Ashikaga**	**4.04**	**323**	P	**Pn**	**15 15 53.1**	**-0.4**
JAG				*e*S	**Sn**	**15 16 38.1**	**-2.5**
JRY	**Ryogami san**	**4.05**	**314**	P	**Pn**	**15 15 53.6**	**-0.1**
JRY				*e*S	**Sn**	**15 16 39.5**	**-1.3**
MJAR	**Matsushiro Arr**	**4.82**	**314**	Pn	**Pn**	**15 16 04.9**	**+0.4**
	6.3nm,0.3s,baz=159,slow=13,SNR=49						
MJAR				Sn	**Sn**	**15 16 58.7**	**-1.4**
	6.6nm,0.3s,baz=284,slow=12,SNR=7.9						
MAJO	**Matsushiro**	**4.82**	**314**	*e*P	**Pn**	**15 16 06.5**	**+2.0**
MAT	**Matsushiro**	**4.82**	**314**	*e*P	**Pn**	**15 16 05.0**	**+0.4**
MAT				*e*S	**Sn**	**15 16 56.0**	**-4.2**
MAT	**Matsushiro**	**4.82**	**314**	P	**Pn**	**15 16 04.8**	**+0.2**
MAT				S	**Sn**	**15 16 56.2**	**-4.0**
MAT	**Matsushiro**	**4.82**	**314**	P	**Pn**	**15 16 05.2**	**+0.6**
MAT				*e*S	**Sn**	**15 16 58.6**	**-1.6**
JMM	**Marumori**	**4.82**	**344**	P	**Pn**	**15 16 02.1**	**-2.5**
JMM				*e*S	**Sn**	**15 16 53.0**	**-7.3**
JGM	**Miyama**	**5.36**	**299**	P	**Pn**	**15 16 12.9**	**+0.8**
CBIJ	**Chichi jima**	**6.12**	**182**	Pn	**Pn**	**15 16 19.6**	**-3.3**
	14nm,0.3s,baz=299,slow=23,SNR=8.8						
CBIJ				Sn	**Sn**	**15 17 24.5**	**-8.3**
	24nm,0.3s,baz=136,slow=24,SNR=4.3						
JNU	**Nakatsue**	**9.72**	**273**	Pn	**P**	**15 17 13.5**	**+0.4**
	0.4nm,0.3s,baz=73,slow=25,SNR=3.1						
ASAJ	**Asahikawa**	**10.87**	**0**	P	**P**	**15 17 24.1**	**-4.7**
ASAJ						15 19 20.5	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,81nm,19.6s						
ASAJ	**Asahikawa**	**10.87**	**0**	Pn	**P**	**15 17 24.1**	**-4.7**
	comp=Z,2.9nm,0.3s,baz=221,slow=15,SNR=19						
ASAJ				Sn	**S**	**15 19 20.4**	**-10**
	comp=Z,0.4nm,0.3s,baz=44,slow=22,SNR=2.8						
ASAJ				LR	LR	15 21 54.8	
	comp=Z,81nm,19.6s,baz=198,slow=38						
YSS	**Yuzh-Sakhalins**	**13.71**	**1**	*e*P	**P**	**15 18 03.3**	**-3.4**
ENH	**Enshi**	**28.14**	**273**	P	**P**	**15 20 41.5**	**-2.3**
SONM	**Songino Array**	**30.75**	**309**	P	**P**	**15 21 07.6**	**+0.8**
	comp=Z,0.8nm,0.5s,mb3.9,baz=104,slow=9.0,SNR=4.0						
BOD	**Bodaibo**	**31.23**	**331**	*e*P	**P**	**15 21 06.7**	**-4.4**
MKAR	**Makanchi Array**	**46.95**	**305**	P	**P**	**15 23 22.6**	**+0.6**
	comp=Z,1.6nm,0.7s,mb4.0,baz=86,slow=9.3,SNR=16						
KURK	**Kurchatov**	**49.02**	**311**	*e*P	**P**	**15 23 38.1**	**+0.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**49.02**	**311**	*e*P	**P**	**15 23 38.1**	**+0.1**
	comp=Z,5.3nm,0.8s,mb4.6						
ILAR	**Eielson Array**	**52.27**	**31**	P	**P**	**15 24 01.7**	**-0.9**
	comp=Z,1.7nm,0.7s,mb4.1,baz=266,slow=6.2,SNR=18						
ILAR				pP	pP	15 24 13.2	+2.4
	comp=Z,0.8nm,0.7s,baz=280,slow=6.5,SNR=4.0						
WRAB	**Tennant Creek**	**53.43**	**190**	P	**P**	**15 24 12.2**	**+0.4**
WRA	**Warramunga Arr**	**53.44**	**190**	P	**P**	**15 24 10.3**	**-1.6**
	comp=Z,0.8nm,0.4s,mb4.0,baz=6.0,slow=7.6,SNR=28						
WRA				pP	pP	15 24 21.4	+1.3
	comp=Z,0.9nm,0.4s,baz=5.7,slow=7.5,SNR=4.9						
WRA				PcP	PcP	15 25 18.9	+0.1
	comp=Z,0.4nm,0.6s,baz=3.8,slow=4.1,SNR=3.2						
WRA				pPcP		15 25 30.1	
	comp=Z,0.4nm,0.5s,baz=2.9,slow=4.3,SNR=5.2						
INK	**Inuvik**	**57.39**	**26**	P	**P**	**15 24 39.6**	**-0.2**
	comp=Z,2.5nm,0.6s,mb4.4,baz=234,slow=5.5,SNR=5.0						
YKA	**Yellowknife Ar**	**66.67**	**30**	P	**P**	**15 25 41.7**	**-0.2**
	comp=Z,0.5nm,0.4s,mb3.9,baz=297,slow=6.4,SNR=5.9						
YKA				pP	pP	15 25 52.9	+2.7
	comp=Z,1.0nm,0.7s,baz=297,slow=5.9,SNR=3.7						
YKA	**Yellowknife Ar**	**66.67**	**30**	P	**P**	**15 25 41.7**	**-0.2**
YKA				pP	pP	15 25 52.9	+2.7
AKASG	**Malin Array Be**	**77.85**	**323**	P	**P**	**15 26 50.2**	**+2.0**
AKASG	**Malin Array Be**	**77.85**	**323**	P	**P**	**15 26 50.1**	**+1.9**
	comp=Z,0.3nm,0.4s,mb3.6,baz=51,slow=6.2,SNR=5.4						
HFS	**Hagfors**	**77.91**	**336**	P	**P**	**15 26 48.9**	**+0.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=315,slow=2.1,SNR=5.5						
NB2	**NORSAR Subarra**	**78.03**	**338**	P	**P**	**15 26 49.6**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=40,slow=5.6						
NB2	**NORSAR Subarra**	**78.03**	**338**	P	**P**	**15 26 49.6**	**+0.6**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**78.03**	**338**	P	**P**	**15 26 49.9**	**+0.9**
	comp=Z,1.4nm,0.8s,mb4.0,baz=39,slow=5.6,SNR=5.1						
PDAR	**Pinedale Array**	**79.71**	**45**	P	**P**	**15 26 59.4**	**+0.8**
	comp=Z,0.4nm,0.6s,mb3.5,baz=288,slow=4.7,SNR=4.4						
BORG	**Borgarnes**	**81.52**	**353**	LR	LR	16 06 31.5	
	comp=Z,42nm,18.0s,MS3.8,baz=325,slow=38						
ANMO	**Albuquerque**	**86.35**	**50**	LR	LR	16 05 26.3	
	comp=Z,49nm,19.0s,MS3.9,slow=35						
TXAR	**Lajitas Array**	**91.73**	**53**	P	**P**	**15 27 59.1**	**+0.8**
	comp=Z,0.9nm,0.7s,mb4.2,baz=284,slow=5.2,SNR=4.8						
TXAR				pP	pP	15 28 11.6	+4.6
	comp=Z,1.0nm,0.7s,baz=315,slow=7.1,SNR=3.7						
VNDA	**Vanda**	**111.12**	**176**	*e*PKIKP	PKPdf	15 33 28.3	+1.6

IDC 27 15:23:42.5±5.1,27.11N×139.97E,h438km±45km,mb3.2/4, mb1 3.3/4,mb1mx2.8/20,mbtmp4.0/4,Error ellipse: s-maj=205.5km s-min=91.5km az=1.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.97**	**90**	P	P	15 24 42.1	-0.1
	15nm,0.3s,baz=280,slow=23,SNR=5.0						
CBIJ				S	S	15 25 30.0	+0.7
	13nm,0.3s,baz=266,slow=22,SNR=5.5						
BVAR	**Borovoye Array**	**56.70**	**317**	P	P	15 32 42.6	-1.9
	0.1nm,0.4s,baz=90,slow=5.8,SNR=4.4						
ARCES	**ARCESS Array B**	**72.87**	**340**	P	P	15 34 25.3	-1.0
	1.5nm,0.9s,baz=73,slow=9.4,SNR=12						
FINES	**FINESS Array B**	**77.05**	**333**	P	P	15 34 48.6	-1.2
	0.8nm,0.3s,baz=63,slow=6.2,SNR=8.5						
NOA	**NORSAR Array B**	**82.85**	**338**	P	P	15 35 19.4	-0.7
	0.2nm,0.3s,baz=51,slow=4.3,SNR=2.9						

NIED **27** *15:44:00,33.30N×142.50E,h5km,Mw4.6 Best double couple: Mo1.02×10¹⁶ NP1:φs150°,δ80°,λ-93°. NP2: φs346°,δ11°,λ-74°.*

JMA **27** *15:44:09.5±0.5,33.30N×142.53E,h86km,M3.8*

BJI **27** *15:44:10.1,33.47N×142.26E,h18km,mB4.7,mb4.5, Ms4.7,Ms24.5*

IDC **27** *15:44:12.8±0.4,33.22N×142.40E,h30km±2km,mb4.1/22, mb1 4.3/25,mb1mx4.3/28,mbtmp4.3/25,ML3.6/3,Error ellipse: s-maj=12.2km s-min=10.2km az=97.0*

MOS **27** *15:44:13.2±1.0,33.72N×142.46E,h28km,mb4.9/16,Error ellipse: s-maj=14.6km s-min=6.0km az=115.6*

NEIC **27** *15:44:13.1±0.3,33.24N×142.33E,mb4.8/16, MW4.6(NIED),Error ellipse: s-maj=8.0km s-min=7.2km az=49.0*

ISC 27 15:44:11.1±0.3,33.23N±0.04×142.36E±0.04,h31km, h31km±.7km:pP-P,n128,σ1s20/130,mb4.5/51,MS4.2/3, 3C-5D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.82**	**321**	P	**Pn**	**15 44 40.4**	**-0.5**
JHJ2	**Mitsune**	**2.14**	**267**	P	**Pn**	**15 44 46.1**	**+0.7**
JHJ	**Hachijo jima 2**	**2.17**	**268**	Pn	**Pn**	**15 44 46.2**	**+0.5**
	139nm,0.3s,baz=84,slow=21,SNR=69						
JHJ				Sn	**Sn**	**15 45 14.2**	**+2.4**
	81nm,0.3s,baz=80,slow=22,SNR=4.7						
BSO3	**Boso 3**	**2.19**	**316**	P	**Pn**	**15 44 45.8**	**-0.4**
BSO4	**Boso 4**	**2.43**	**317**	P	**Pn**	**15 44 49.6**	**+0.1**
KTR	**Katsuura**	**2.55**	**319**	P	**Pn**	**15 44 51.1**	**-0.3**
JIM2	**Oshima 3**	**2.85**	**302**	P	**Pn**	**15 44 54.5**	**-1.1**
JOD2	**Odawara 2**	**3.38**	**308**	P	**Pn**	**15 45 01.9**	**-1.2**
JYN	**Shimob**	**3.88**	**307**	P	**Pn**	**15 45 09.4**	**-0.8**
JRY	**Ryogami san**	**3.98**	**315**	P	**Pn**	**15 45 10.7**	**-0.9**
JAG	**Ashikaga**	**3.98**	**324**	P	**Pn**	**15 45 10.3**	**-1.3**
MJAR	**Matsushiro Arr**	**4.75**	**315**	Pn	**Pn**	**15 45 21.6**	**-0.9**
	4.1nm,0.3s,baz=140,slow=9.8,SNR=40						
MJAR				Sn	**Sn**	**15 46 18.6**	**+1.4**
	3.8nm,0.3s,baz=16,slow=23,SNR=6.3						
MAJO	**Matsushiro**	**4.75**	**315**	*e*P	**Pn**	**15 45 23.2**	**+0.7**
MAT	**Matsushiro**	**4.75**	**315**	*e*P	**Pn**	**15 45 21.0**	**-1.5**
MAT				*e*S	**Sn**	**15 46 16.0**	**-1.2**
MAT	**Matsushiro**	**4.75**	**315**	P	**Pn**	**15 45 21.0**	**-1.5**
MAT				S	**Sn**	**15 46 16.2**	**-1.0**
MAT	**Matsushiro**	**4.75**	**315**	P	**Pn**	**15 45 21.8**	**-0.7**
JMM	**Marumori**	**4.80**	**345**	P	**Pn**	**15 45 19.1**	**-4.1**
CBIJ	**Chichi jima**	**6.12**	**181**	Pn	**Pn**	**15 45 37.2**	**-4.6**
	37nm,0.3s,baz=286,slow=19,SNR=11						
CBIJ				Sn	**Sn**	**15 46 45.4**	**-6.2**
	31nm,0.3s,baz=293,slow=21,SNR=4.3						
CBIJ	**Chichi jima**	**6.12**	**181**	P	**Pn**	**15 45 38.8**	**-3.0**
JNU	**Nakatsue**	**9.63**	**272**	Pn	**P**	**15 46 28.4**	**-2.3**
	0.3nm,0.3s,baz=239,slow=38,SNR=3.3						
ASAJ	**Asahikawa**	**10.87**	**1**	P	**P**	**15 46 42.5**	**-5.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**10.87**	**1**	Pn	**P**	**15 46 42.5**	**-5.2**
	comp=Z,1.5nm,0.3s,baz=173,slow=20,SNR=8.2						
YSS	**Yuzh-Sakhalins**	**13.71**	**1**	⇑*i*P	**P**	**15 47 20.8**	**-4.8**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**13.71**	**1**	*e*P	**P**	**15 47 20.8**	**-4.8**
	comp=Z,44nm,0.8s						
CN2	**Changchun**	**16.89**	**314**	*e*P	**P**	**15 48 04.8**	**-2.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
SNY	**Shenyang**	**17.17**	**305**	⇓P	**P**	**15 48 11.0**	**+0.8**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.6s						
KLR	**Kul'dur**	**17.83**	**337**	*e*P	**P**	**15 48 12.0**	**-6.5**
SSE	**Sheshan**	**18.05**	**269**	*e*P	**P**	**15 48 21.8**	**+0.4**
SSE				AP		15 48 30.8	
SSE				XP		15 48 35.5	
SSE				S	**S**	**15 51 41.5**	**+2.7**
SSE				AMB	AMB		
	comp=Z,26nm,0.8s						
SSE				AMB	AMB		
	comp=Z,63nm,3.5s						
SSE				LR	LR		
	comp=N,214nm,16.3s						
SSE				LR	LR		
	comp=E,430nm,16.2s						
SSE				LR	LR		
	comp=Z,359nm,14.5s						
SSE	**Sheshan**	**18.05**	**269**	*e*P	**P**	**15 48 21.8**	**+0.4**
	comp=Z,26nm,0.8s						
SSE				pP		15 48 30.7	
SSE				sP		15 48 35.5	
SSE				S	**S**	**15 51 41.4**	**+2.6**
SSE				sS		15 52 02.8	
NJ2	**Nanjing**	**19.83**	**273**	*e*P	**P**	**15 48 42.0**	**-0.2**
NJ2				AP		15 48 49.5	
NJ2				XP		15 48 54.0	
NJ2				PP	PP	15 49 00.0	-0.9
NJ2				S	**S**	**15 52 16.0**	**-2.3**
NJ2				XS		15 52 30.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,520nm,4.0s						
NJ2				LR	LR		
	comp=N,40nm,10.0s						
NJ2				LR	LR		
	comp=E,220nm,12.0s						
NJ2				LR	LR		
	comp=Z,9μm,14.0s						
HIA	**Hailar**	**23.23**	**320**	*e*P	**P**	**15 49 15.0**	**-1.3**
HIA				pmax	pmax		
	comp=Z,37nm,1.4s						
HIA	**Hailar**	**23.23**	**320**	*e*P	**P**	**15 49 15.0**	**-1.3**
	comp=Z,37nm,1.4s,mb4.6						
WHN	**Wuhan**	**23.91**	**271**	⇑P	**P**	**15 49 23.5**	**+0.4**
HHC	**Hu-ho-hao-te**	**25.64**	**296**	⇓P	**P**	**15 49 39.8**	**+0.3**
HHC				AP	pP	15 49 49.5	+0.9
HHC				XP	sP	15 49 53.0	+0.3
HHC				PP	PP	15 50 22.8	+3.2
HHC				S	**S**	**15 54 11.8**	**+8.5**
HHC				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.5						
HHC				AMB	AMB		
	comp=Z,263nm,7.1s						
HHC				LR	LR		
	comp=N,673nm,14.2s,MS4.5						
HHC				LR	LR		
	comp=E,758nm,13.0s,MS4.5						
CLNS	**Chul'man**	**26.48**	**338**	*e*P	**P**	**15 49 46.1**	**-1.0**
CLNS				pmax	pmax		
	comp=N,10.0nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.5						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.9s						
BTO	**Baotou**	**26.77**	**295**	*e*P	**P**	**15 49 51.3**	**+1.3**
BTO				AMB	AMB		
	comp=Z,17nm,0.3s,mb5.0						
MA2	**Magadan**	**26.94**	**9**	*e*P	**P**	**15 49 50.6**	**-0.7**
MA2				*e*S	**S**	**15 54 19.5**	**-5.0**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.9s,mb4.0						
MA2				MLR	MLR		
	comp=Z,300nm,18.0s,MS3.9						
XAN	**Xi'an**	**27.79**	**281**	P	**P**	**15 49 57.3**	**-2.0**
XAN				AMB	AMB		
	comp=Z,10.0nm,2.0s,mb4.1						
CIT	**Chita**	**28.03**	**321**	*e*P	**P**	**15 50 02.5**	**+1.2**
CIT				*e*		15 50 16.9	
CIT				pmax	pmax		
	comp=Z,149nm,1.8s,mb5.3						
ENH	**Enshi**	**28.05**	**273**	*e*P	**P**	**15 49 60.0**	**-1.8**
	comp=Z,111nm,1.9s,mb5.2						
YAK	**Yakutsk**	**29.94**	**348**	*e*P	**P**	**15 50 16.4**	**-2.0**
YAK				*e**PP	pP	15 50 26.9	-0.6
YAK				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.8						
YAK	**Yakutsk**	**29.94**	**348**	*e*P	**P**	**15 50 16.4**	**-2.0**
	comp=Z,19nm,1.0s,mb4.8						
YAK				*e*pP	pP	15 50 26.9	-0.6
SEY	**Seymchan**	**30.39**	**9**	*i*P	**P**	**15 50 21.9**	**-0.4**
SONM	**Songino Array**	**30.67**	**309**	P	**P**	**15 50 25.7**	**+0.7**
	comp=Z,7.1nm,1.1s,mb4.4,baz=106,slow=9.0,SNR=12						
BOD	**Bodaibo**	**31.18**	**

FRU	**Bishkek**	**52.91**	**301**	*e*P		**P**	**15 53 27.0**	**+0.5**	
AAK	**Ala-Archa**	**53.05**	**301**	*i* P		**P**	**15 53 27.3**	**-0.2**	
AAK				pmax		pmax			
	comp=Z,7.0nm,1.7s,mb4.3								
WRAB	**Tennant Creek**	**53.42**	**189**	*e*P		**P**	**15 53 28.8**	**-1.6**	
WRAB				*e**PP		pP	15 53 38.7	-1.2	
WB2	**Warramunga Arr**	**53.43**	**189**	*e*P		**P**	**15 53 29.5**	**-1.0**	
WB2				*i*		pP	15 53 38.9	-1.1	
WRA	**Warramunga Arr**	**53.43**	**189**	P		**P**	**15 53 28.6**	**-1.9**	
	comp=Z,2.8nm,0.8s,mb4.3,baz=9.7,slow=7.7,SNR=36								
WRA				pP		pP	15 53 38.9	-1.1	
	comp=Z,3.9nm,0.6s,baz=6.4,slow=7.7,SNR=16								
WRA				PcP		PcP	15 54 37.4	0.0	
	comp=Z,1.2nm,0.6s,baz=2.7,slow=4.2,SNR=6.9								
WRA				pPcP			15 54 47.4		
	comp=Z,2.9nm,1.0s,baz=2.7,slow=3.8,SNR=3.8								
FITZ	**Fitzroy Crossi**	**53.49**	**200**	*e*P		**P**	**15 53 30.4**	**-0.6**	
	comp=Z,7.0nm,1.5s,mb4.4								
FITZ				*i*		pP	15 53 40.5	0.0	
FITZ	**Fitzroy Crossi**	**53.49**	**200**	P		**P**	**15 53 29.8**	**-1.2**	
	comp=Z,3.1nm,0.5s,mb4.5,baz=46,slow=5.7,SNR=9.9								
FITZ				pP		pP	15 53 39.9	-0.6	
	comp=Z,16nm,0.9s,baz=20,slow=5.6,SNR=7.2								
BVAR	**Borovoye Array**	**53.74**	**315**	P		**P**	**15 53 31.4**	**-1.0**	
	comp=Z,2.5nm,0.9s,mb4.1,baz=79,slow=7.6,SNR=15								
BVAR				pP		pP	15 53 41.8	0.0	
	comp=Z,2.4nm,0.8s,baz=90,slow=8.9,SNR=7.7								
BRVK	**Borovoye**	**53.80**	**315**	*e*P		**P**	**15 53 31.9**	**-0.9**	
BRVK				*e**PP		pP	15 53 43.5	+1.2	
BRVK				pmax		pmax			
	comp=Z,3.0nm,1.2s,mb4.1								
BRVK	**Borovoye**	**53.80**	**315**	*e*P		**P**	**15 53 31.9**	**-0.9**	
	comp=Z,2.6nm,1.2s,mb4.0								
BRVK				*e*pP		pP	15 53 43.5	+1.2	
INK	**Inuvik**	**57.43**	**26**	P		**P**	**15 53 56.7**	**-2.2**	
INK				*e**PP		pP	15 54 06.6	-1.8	
INK				*PP		pP	15 54 07.1	-1.3	
INK	**Inuvik**	**57.43**	**26**	P		**P**	**15 53 57.6**	**-1.2**	
	comp=Z,4.0nm,0.9s,mb4.5,baz=254,slow=7.1,SNR=6.4								
INK				pP		pP	15 54 07.0	-1.4	
	comp=Z,12nm,1.0s,baz=290,slow=7.3,SNR=12								
ARU	**Arti**	**59.75**	**320**	⇓P		**P**	**15 54 15.0**	**-0.1**	
ARU				*e*			15 55 00.8		
ARU				*e*			15 56 27.2		
ARU				*e*S		**S**	**16 02 23.5**	**+1.3**	
ARU				*e*SS		SS	16 06 19.8	+0.3	
ARU				pmax		pmax			
	comp=Z,9.0nm,1.0s,mb4.8								
ARU	**Arti**	**59.75**	**320**	*e*P		**P**	**15 54 13.7**	**-1.4**	
	comp=Z,8.7nm,1.1s,mb4.7								
ARU				*e*pP		pP	15 54 24.1	-0.6	
DLBC	**Dease Lake**	**61.17**	**37**	P		**P**	**15 54 25.2**	**+0.5**	
	comp=Z,1.7nm,0.9s,mb4.2,baz=268,slow=13,SNR=2.7								
DLBC				pP		pP	15 54 34.5	+0.1	
	comp=Z,2.7nm,0.8s,baz=286,slow=8.1,SNR=3.7								
STKA	**Stephens Creek**	**64.76**	**181**	*e*P		**P**	**15 54 48.3**	**-0.6**	
	comp=Z,2.9nm,0.7s,mb4.4								
STKA				*i*		pP	15 54 58.1	-0.5	
STKA	**Stephens Creek**	**64.76**	**181**	P		**P**	**15 54 47.8**	**-1.1**	
	comp=Z,3.3nm,0.7s,mb4.5,baz=313,slow=5.8,SNR=7.8								
STKA				pP		pP	15 54 58.0	-0.6	
	comp=Z,8.5nm,0.9s,baz=346,slow=6.7,SNR=8.9								
LVZ	**Lovozero**	**65.89**	**337**	*i* P		**P**	**15 54 53.9**	**-1.7**	
LVZ				pmax		pmax			
	comp=Z,8.0nm,1.7s,mb4.5								
RES	**Resolute Bay**	**66.08**	**14**	*e*P		**P**	**15 54 56.4**	**-0.3**	
RES				*e**PP		pP	15 55 05.6	-0.8	
RES				pmax		pmax			
	comp=Z,19nm,1.0s,mb5.1								
RES	**Resolute Bay**	**66.08**	**14**	*e*P		**P**	**15 54 56.4**	**-0.3**	
	comp=Z,19nm,1.0s,mb5.1								
RES				*e*pP		pP	15 55 05.6	-0.8	
YKA	**Yellowknife Ar**	**66.71**	**30**	P		**P**	**15 55 00.3**	**-0.6**	
	comp=Z,3.2nm,0.8s,mb4.4,baz=296,slow=6.3,SNR=12								
YKA				pP		pP	15 55 09.3	-1.2	
	comp=Z,8.3nm,0.9s,baz=295,slow=6.3,SNR=16								
YKA	**Yellowknife Ar**	**66.71**	**30**	P		**P**	**15 55 00.3**	**-0.6**	
YKA				pP		pP	15 55 09.3	-1.2	
ARCES	**ARCESS Array B**	**67.83**	**340**	P		**P**	**15 55 07.8**	**+0.1**	
	comp=Z,2.2nm,0.9s,mb4.2,baz=59,slow=7.1,SNR=7.4								
NWAO	**Narrogin (SRO)**	**69.93**	**202**	P		**P**	**15 55 21.5**	**+0.1**	
	comp=Z,9.3nm,0.7s,mb4.8,baz=65,slow=10,SNR=5.3								
MOS	**Moscow**	**70.78**	**325**	*e*P		**P**	**15 55 34.9**	**+8.8**	
MOS				pmax		pmax			
	comp=Z,42nm,0.6s,mb5.5								
OBN	**Obninsk**	**71.62**	**324**	*de*P		**P**	**15 55 31.3**	**+0.1**	
OBN				*e**PP		pP	15 55 41.6	+0.7	
OBN				pmax		pmax			
	comp=Z,34nm,2.5s,mb4.8								
OBN				MLR		MLR			
	comp=Z,100nm,16.0s,MS4.2								
KAF	**Kangasniemi**	**72.04**	**334**	*e*p		**P**	**15 55 30.0**	**-3.6**	
	comp=Z,4.7nm,1.0s,mb4.4								
KAF	**Kangasniemi**	**72.04**	**334**	*e*P		**P**	**15 55 30.0**	**-3.6**	
KAF				pmax		pmax			
	comp=Z,5.0nm,1.0s,mb4.4								
FINES	**FINESS Array B**	**72.54**	**333**	P		**P**	**15 55 36.3**	**-0.2**	
	comp=Z,5.3nm,0.9s,mb4.5,baz=108,slow=6.0,SNR=11								
FINES				pP		pP	15 55 46.1	-0.1	
	comp=Z,4.7nm,0.9s,baz=90,slow=7.6,SNR=6.2								
GOF	**Gofitskoye**	**73.23**	**313**	*e*P		**P**	**15 55 52.0**	**+11**	
VSU	**Vasula**	**74.13**	**330**	*i* P		**P**	**15 55 46.3**	**+0.5**	
SUMG	**Summit**	**74.48**	**0**	P		**P**	**15 55 49.2**	**+1.7**	
	comp=Z,12nm,1.0s,mb4.8								
SUMG				*e*pP		pP	15 55 58.1	+0.7	
NVAR	**Mina Array Bea**	**76.65**	**53**	P		**P**	**15 56 02.3**	**+1.7**	
	comp=Z,3.8nm,0.7s,mb4.4,baz=11,slow=11,SNR=3.7								
AKASG	**Malin Array Be**	**77.79**	**323**	P		**P**	**15 56 06.3**	**-0.3**	
	comp=Z,1.0nm,0.6s,mb3.9,baz=45,slow=5.8,SNR=13								
AKASG				pP		pP	15 56 16.3	-0.1	
	comp=Z,1.8nm,0.7s,baz=47,slow=6.1,SNR=5.0								
NB2	**NORSAR Subarra**	**77.99**	**338**	P		**P**	**15 56 07.4**	**-0.1**	
	comp=Z,9.5nm,1.0s,mb4.7,baz=39,slow=5.6								
NB2	**NORSAR Subarra**	**77.99**	**338**	P		**P**	**15 56 07.4**	**-0.1**	
NB2				pmax		pmax			
	comp=Z,10.0nm,1.0s,mb4.7								
NOA	**NORSAR Array B**	**77.99**	**338**	P		**P**	**15 56 07.5**	**0.0**	
	comp=Z,5.0nm,0.8s,mb4.5,baz=39,slow=5.6,SNR=16								
NOA				pP		pP	15 56 17.6	+0.3	
	comp=Z,7.1nm,0.9s,baz=39,slow=5.6,SNR=13								
KWP	**Kalwaria**	**81.68**	**325**	*e*P		**P**	**15 56 29.6**	**+2.1**	
KWP	**Kalwaria**	**81.68**	**325**	*e*P		**P**	**15 56 29.6**	**+2.1**	
BRTR	**Keskin Array B**	**81.97**	**312**	P		**P**	**15 56 31.0**	**+1.8**	
	comp=Z,1.2nm,0.3s,mb4.2,baz=68,slow=3.4,SNR=7.9								
BRTR				pP		pP	15 56 40.4	+1.3	
	comp=Z,3.0nm,0.8s,baz=108,slow=3.9,SNR=6.2								
KOLS	**Kolonicke sedl**	**82.36**	**325**	*e*P		**P**	**15 56 32.7**	**+1.6**	
STHS	**Stebnicka Huta**	**82.52**	**326**	*e*P		**P**	**15 56 33.8**	**+1.9**	
STHS				*e*pP		pP	15 56 43.7	+1.9	
CRVS	**Cervenica-Dubn**	**82.77**	**325**	*e*P		**P**	**15 56 33.2**	**0.0**	
MLR	**Muntele Rosu**	**82.80**	**321**	P		**P**	**15 56 35.5**	**+2.1**	
	comp=Z,2.2nm,0.9s,mb4.2,baz=147,slow=6.3,SNR=4.0								
KECS	**Kecovo**	**83.53**	**325**	*e*P		**P**	**15 56 38.2**	**+1.1**	
PSZ	**Piszkesteto**	**84.21**	**325**	*e*P		**P**	**15 56 42.2**	**+1.7**	
PSZ				pmax		pmax			
	comp=Z,28nm,1.5s,mb5.2								
PSZ	**Piszkesteto**	**84.21**	**325**	*e*P		**P**	**15 56 42.2**	**+1.7**	
	comp=Z,28nm,1.5s,mb5.2								
ASF	**Jabal al Asfar**	**84.29**	**305**	P		**P**	**15 56 43.5**	**+2.2**	
	baz=308,slow=5.0								
VYHS	**Vyhne**	**84.30**	**326**	*e*P		**P**	**15 56 42.8**	**+1.9**	
VYHS				*e*pP		pP	15 56 52.0	+1.1	
BRG	**Berggiesshubel**	**84.72**	**330**	*e*P		**P**	**15 56 44.5**	**+1.5**	
BRG				*e*		pP	15 56 53.6	+0.7	
BRG				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.6								
BRG	**Berggiesshubel**	**84.72**	**330**	*e*P		**P**	**15 56 44.5**	**+1.5**	
	comp=Z,4.8nm,0.9s,mb4.6								
BRG				*e*		pP	15 56 53.6	+0.7	
BRG				*e*			15 57 01.6		
CLL	**Collm**	**84.78**	**331**	P		**P**	**15 56 44.1**	**+0.8**	
	comp=Z,logA/T=1.0,mb4.9								
CLL				*e**PP		pP	15 56 54.0	+0.8	
CLL				*e*			15 57 02.0		
SMOL	**Smolenice**	**84.94**	**327**	*e*P		**P**	**15 56 43.0**	**-1.1**	
KHC	**Kasperske Hory**	**86.19**	**329**	*i* P		**P**	**15 56 52.5**	**+2.1**	
GERES	**GERESS Array B**	**86.35**	**329**	P		**P**	**15 56 52.1**	**+0.9**	
	comp=Z,0.2nm,0.4s,mb3.7,baz=37,slow=6.7,SNR=3.7								
ANMO	**Albuquerque**	**86.43**	**50**	P		**P**	**15 56 52.6**	**+0.7**	
	comp=Z,1.0nm,0.4s,mb4.4,baz=325,slow=11,SNR=3.8								
ANMO				pP		pP	15 57 02.1	+0.3	
	comp=Z,5.7nm,1.0s,baz=298,slow=4.1,SNR=5.6								
SCHQ	**Schefferville**	**88.76**	**16**	pP		pP	15 57 12.6	0.0	
	comp=Z,3.6nm,0.9s,baz=224,slow=6.5,SNR=4.0								
TXAR	**Lajitas Array**	**91.81**	**53**	P		**P**	**15 57 17.4**	**0.0**	
	comp=Z,1.2nm,0.6s,mb4.4,baz=293,slow=4.8,SNR=6.7								
TXAR				pP		pP	15 57 27.8	+0.4	
	comp=Z,3.4nm,0.8s,baz=270,slow=2.5,SNR=9.4								
TXAR	**Lajitas Array**	**91.81**	**53**	P		**P**	**15 57 17.4**	**0.0**	
TXAR				pP		pP	15 57 27.8	+0.4	
SDV	**Santo Domingo**	**127.66**	**43**	PKP		PKPdf	16 03 16.4	-2.9	
	comp=Z,3.6nm,0.7s,baz=360,slow=1.1,SNR=4.6								
SDV				pPKP			16 03 25.8		
	comp=Z,7.2nm,0.8s,baz=113,slow=3.4,SNR=3.7								
VNA2	**Neumayer--Watz**	**138.87**	**195**			PKPdf	16 03 38.9	+0.1	
VNA2	**Neumayer--Watz**	**138.87**	**195**			PKPdf	16 03 42.1	+3.3	
VNA2	**Neumayer--Watz**	**138.87**	**195**			PKPdf	16 03 44.6	+5.8	
VNA2	**Neumayer--Watz**	**138.87**	**195**			PKPdf	16 03 48.6	+10	
VNA2	**Neumayer--Watz**	**138.87**	**195**			PKPdf	16 03 50.4	+12	
VNA2	**Neumayer--Watz**	**138.87**	**195**			PKPdf	16 03 52.2	+13	
SAML	**Samuel**	**146.25**	**50**	*e*P		PKPbc	16 03 49.9	+0.8	
SAML				*e*pP			16 03 59.6		
LPAZ	**La Paz**	**147.74**	**66**	PKIKP		PKPdf	16 03 53.4	-2.2	

*IDC **27** 15:48:44.9±3.1,33.12N×142.47E,mb3.2/2,mb1 3.4/4, mb1mx3.3/21,mbtmp3.3/4,ML3.3/2,Error ellipse: s-maj=72.0km s-min=32.5km az=57.0*
*JMA **27** 15:48:48.8±0.5,33.29N×142.36E,h59km,M3.4*
ISC 27 15:48:48.2±1.7,33.29N±0.07×142.4E±0.1,h39km±19km, n10,σ1s09/16,mb3.2/2,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.18**	**266**	P		P	**P**	**15 49 22.9**	**+0.1**
JHJ2				*e*S			**S**	**15 49 48.3**	**-0.4**
JHJ	**Hachijo jima 2**	**2.21**	**266**	Pn		P	**P**	**15 49 23.1**	**0.0**
	26nm,0.3s,baz=94,slow=13,SNR=12								
JHJ				Sn			**S**	**15 49 49.6**	**+0.2**
	32nm,0.3s,baz=235,slow=23,SNR=7.5								
JIM2	**Oshima 3**	**2.85**	**301**	*e*S			**S**	**15 50 04.6**	**-1.2**
JYT	**Yasato**	**3.45**	**329**	P			**P**	**15 49 40.9**	**+0.1**
JYT				*e*S			**S**	**15 50 21.5**	**+0.5**
JHO	**Hitachi**	**3.64**	**336**	P		P	**P**	**15 49 41.4**	**-2.1**
JHO				*e*S			**S**	**15 50 21.0**	**-4.8**
JYN	**Shimob**	**3.88**	**306**	P		P	**P**	**15 49 48.9**	**+2.0**
JYN				*e*S			**S**	**15 50 32.5**	**+0.6**
JNY	**Yasuok**	**4.29**	**300**	P		P	**P**	**15 49 54.1**	**+1.3**
MJAR	**Matsushiro Arr**	**4.73**	**314**	Pn		P	**P**	**15 49 59.0**	**0.0**
	1.2nm,0.3s,baz=160,slow=14,SNR=6.0								
MJAR				Sn			**S**	**15 50 52.1**	**-1.3**
	0.9nm,0.3s,baz=279,slow=6.6,SNR=4.1								
MKAR	**Makanchi Array**	**46.87**	**305**	P		P	**P**	**15 57 17.8**	**+1.6**
	0.1nm,0.4s,mb3.1,baz=71,slow=6.7,SNR=3.1								
WRA	**Warramunga Arr**	**53.49**	**189**	P		P	**P**	**15 58 05.8**	**-1.4**
	0.2nm,0.5s,mb3.3,baz=6.0,slow=7.7,SNR=3.5								

*JMA **27** 15:50:09.3±0.3,33.23N×142.39E,h67km,M3.5*
*IDC **27** 15:50:11.2±8.1,33.05N×142.32E,h33km±60km,mb3.2/2, mb1 3.4/4,mb1mx3.2/21,mbtmp3.4/4,ML3.4/1,Error ellipse: s-maj=55.4km s-min=30.8km az=63.0*
ISC 27 15:50:08.6±1.4,33.22N±0.06×142.44E±0.09,h35km±16km, n13,σ0s92/23,mb3.5/2,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.88**	**320**	P		P	**P**	**15 50 39.2**	**+0.4**
BSO1				*e*S			**S**	**15 51 01.7**	**+0.1**
JHJ2	**Mitsune**	**2.21**	**268**	P		P	**P**	**15 50 44.0**	**+0.5**
JHJ2				*e*S			**S**	**15 51 09.7**	**-0.1**
JHJ	**Hachijo jima 2**	**2.23**	**268**	Pn		P	**P**	**15 50 44.1**	**+0.2**
	30nm,0.3s,baz=238,slow=20,SNR=7.1								
JHJ				Sn			**S**	**15 51 09.7**	**-0.8**
	19nm,0.3s,baz=71,slow=21,SNR=4.2								
BSO3	**Boso 3**	**2.25**	**315**	P			**P**	**15 50 44.6**	**+0.4**
BSO4	**Boso 4**	**2.48**	**316**	P			**P**	**15 50 48.1**	**+0.6**
BSO4				*e*S			**S**	**15 51 18.4**	**+1.5**
JIM2	**Oshima 3**	**2.92**	**302**	P			**P**	**15 50 52.6**	**-1.1**
JIM2				*e*S			**S**	**15 51 27.2**	**-0.7**
JYT	**Yasato**	**3.53**	**329**	P			**P**	**15 51 02.6**	**+0.3**
JYT				*e*S			**S**	**15 51 41.5**	**-1.9**
JHU	**Hanno**	**3.70**	**316**	P		P	**P**	**15 51 05.6**	**+0.8**
JHU				*e*S			**S**	**15 51 46.9**	**-1.0**
JHO	**Hitachi**	**3.72**	**336**	P		P	**P**	**15 51 03.5**	**-1.6**
JHO				*e*S			**S**	**15 51 43.8**	**-4.5**
JYN	**Shimob**	**3.94**	**306**	P		P	**P**	**15 51 08.9**	**+0.6**
JYN				*e*S			**S**	**15 51 55.3**	**+1.3**
MJAR	**Matsushiro Arr**	**4.81**	**315**	Pn		P	**P**	**15 51 20.6**	**+0.1**
	1.5nm,0.3s,baz=160,slow=13,SNR=6.8								
MJAR				Sn			**S**	**15 52 15.6**	**-0.1**
	1.3nm,0.3s,baz=291,slow=8.5,SNR=4.5								
MKAR	**Makanchi Array**	**46.94**	**305**	P		P	**P**	**15 58 39.0**	**+1.6**
	0.5nm,0.7s,mb3.5,baz=100,slow=8.8,SNR=3.7								
WRA	**Warramunga Arr**	**53.42**	**190**	P		P	**P**	**15 59 26.3**	**-1.1**
	0.2nm,0.4s,mb3.4,baz=6.8,slow=7.6,SNR=6.8								

*JMA **27** 15:51:35.3±0.4,33.26N×142.47E,h83km,M5.2*
*BJI **27** 15:51:35.4,33.38N×142.04E,h10km,mB5.0,mb4.8, Ms4.9,Msz4.7*
*MOS **27** 15:51:38.6±1.0,33.62N×142.47E,h33km,mb5.3/51, MS4.6/33,Error ellipse: s-maj=8.9km s-min=4.6km az=113.1*
*IDC **27** 15:51:38.3±0.4,33.28N×142.51E,h34km±2km,mb4.4/30, mb1 4.6/33,mb1mx4.6/34,mbtmp4.6/33,ML4.2/3,MS4.3/21, Ms1 4.3/21,ms1mx4.2/28,Error ellipse: s-maj=10.8km s-min=9.9km az=130.0*
*HRVD **27** 15:51:38.4±0.2,33.36N×142.53E,h12km,MW5.1/65, Centroid moment Tensor Solution. LP body waves: s41,c66;Mantle waves: s65,c127; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-4.46±.09; Mθθ0.25±.09; Mϕϕ4.21±.08; Mrθ0.49±.28; Mrϕ-0.79±.07; Mθϕ2.77±.26; Best double couple: M₀5.227×10¹⁶ NP1: ϕs339°,δ30°,λ-108° NP2:ϕs180°,δ61°,λ-80° Principal axes: T 5.098, Plg16°, Azm262°; N .257, Plg9°, Azm355°; P -5.356, Plg72°, Azm113°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 15:51:38.4±0.2,33.25N×142.43E,mb5.1/57,MS4.6/83 Error ellipse: s-maj=5.3km s-min=4.2km az=181.0*
ISC 27 15:51:37.0±0.2,33.27N±0.03×142.38E±0.03,h33km, h33km±.9km:pP-P,n362,σ1s10/312,mb4.9/102,MS4.5/116, 6C-16D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.81**	**320**	P		P	**P**	**15 52 06.2**	**0.0**
JHJ2	**Mitsune**	**2.15**	**267**	⇑P		P	**P**	**15 52 11.1**	**-0.1**
JHJ2				*e*S			**S**	**15 52 39.0**	**+2.0**
BSO3	**Boso 3**	**2.18**	**315**	*e*S			**S**	**15 52 36.8**	**-0.8**
JHJ	**Hachijo jima 2**	**2.18**	**267**	Pn		P	**P**	**15 52 11.2**	**-0.4**
	275nm,0.3s,baz=143,slow=9.3,SNR=34								
JHJ				Sn			**S**	**15 52 38.6**	**+1.0**
	315nm,0.3s,baz=81,slow=23,SNR=7.6								
JHJ				LR		LR		15 53 04.4	
	comp=Z,9μm,18.3s,baz=29,slow=38								
BSO4	**Boso 4**	**2.41**	**316**	P			**P**	**15 52 14.7**	**-0.1**
JMY	**Miyakejima3**	**2.52**	**289**	P			**P**	**15 52 16.9**	**+0.5**
KTR	**Katsuura**	**2.54**	**318**	P			**P**	**15 52 16.4**	**-0.3**
NJJJ	**Nii jima 2**	**2.81**	**295**	P			**P**	**15 52 20.9**	**+0.3**
JIM2	**Oshima 3**	**2.84**	**301**	P			**P**	**15 52 19.4**	**-1.6**
JOD2	**Odawara 2**	**3.37**	**307**	P			**P**	**15 52 27.8**	**-0.8**
JYN	**Shimob**	**3.87**	**306**	⇓P			**P**	**15 52 35.7**	**+0.1**
JAG	**Ashikaga**	**3.96**	**323**	P			**P**	**15 52 35.3**	**-1.6**
JRY	**Ryogami san**	**3.97**	**315**	P			**P**	**15 52 36.2**	**-0.8**
MJAR	**Matsushiro Arr**	**4.73**	**315**	Pn		P	**P**	**15 52 46.8**	**-1.1**
	18nm,0.3s,baz=104,slow=14,SNR=50								
MJAR				Sn			**S**	**15 53 42.8**	**+0.4**
	8.0nm,0.3s,baz=146,slow=14,SNR=5.3								
MAJO	**Matsushiro**	**4.74**	**315**	*e*P			**P**	**15 52 48.3**	**+0.4**
MAT	**Matsushiro**	**4.74**	**315**	*e*P			**P**	**15 52 46.0**	**-1.9**
MAT				*e*S			**S**	**15 53 40.0**	**-2.4**
MAT	**Matsushiro**	**4.74**	**315**	P			**P**	**15 52 46.4**	**-1.5**
MAT				S			**S**	**15 53 40.2**	**-2.2**
MAT	**Matsushiro**	**4.74**	**315**	P			**P**	**15 52 47.3**	**-0.6**
MAT				*e*S			**S**	**15 53 41.8**	**-0.6**
JGF	**Kuroka**	**4.76**	**301**	⇓P			**P**	**15 52 48.7**	**+0.5**
JGN	**Niukaw**	**5.11**	**307**	P			**P**	**15 52 54.1**	**+1.0**
JHE	**Heguri**	**5.73**	**286**	P			**P**	**15 53 02.8**	**+0.9**
CBIJ	**Chichi jima**	**6.16**	**182**	Pn		P	**P**	**15 53 04.0**	**-3.9**
	56nm,0.3s,baz=100,slow=6.0,SNR=13								
CBIJ				Sn			**S**	**15 54 10.8**	**-7.3**
	85nm,0.3s,baz=309,slow=20,SNR=5.7								
JAI	**Aioi**	**6.64**	**277**	P			**P**	**15 53 15.7**	**+1.0**
JNU	**Nakatsue**	**9.64**	**272**	Pn		P	**P**	**15 53 56.2**	**-0.2**
	1.2nm,0.3s,baz=57,slow=7.5,SNR=16								
ASAJ	**Asahikawa**	**10.83**	**1**	P		P	**P**	**15 54 06.3**	**-6.4**
ASAJ								15 56 01.5	
ASAJ				pmax		pmax			
	comp=Z,7.0nm,0.3s								
ASAJ				smax					
	comp=E,2.0nm,0.3s								
ASAJ				MLR		MLR			
	comp=Z,1μm,18.3s								
ASAJ	**Asahikawa**	**10.83**	**1**	Pn		P	**P**	**15 54 06.2**	**-6.5**
	comp=Z,6.7nm,0.3s,baz=218,slow=10,SNR=33								
ASAJ				Sn			**S**	**15 56 01.4**	**-12**
	comp=Z,2.3nm,0.3s,baz=41,slow=26,SNR=5.6								
ASAJ				LR		LR		15 58 17.3	
	comp=Z,1μm,18.3s,baz=187,slow=37								
KS15	**Wonju Array Si**	**12.54**	**293**	*e*P		P	**P**	**15 54 36.0**	**+0.1**
KUR	**Kuril'sk**	**12.68**	**18**	*e*P		P	**P**	**15 54 29.4**	**-8.2**
KUR				pmax		pmax			
	comp=N,160nm,1.2s								
KUR				pmax		pmax			
	comp=E,160nm,1.2s								
KUR				pmax		pmax			
	comp=Z,320nm,1.2s								
KUR				MLR		MLR			
	comp=N,5μm,12.0s								
KUR				MLR		MLR			
	comp=E,5μm,12.0s								
KUR				MLR		MLR			
	comp=Z,8μm,12.0s								
YSS	**Yuzh-Sakhalins**	**13.67**	**1**	*e*P		P	**P**	**15 54 45.5**	**-5.2**
YSS				*e*S			**S**	**15 57 06.0**	**-16**
YSS				pmax		pmax			
	comp=Z,50nm,0.9s								
YSS				MLR		MLR			
	comp=Z,2μm,13.0s								
YSS				MLR		MLR			
	comp=N,2μm,14.0s								
YSS	**Yuzh-Sakhalins**	**13.67**	**1**	*e*P		P	**P**	**15 54 44.5**	**-6.2**
	comp=N,105nm,0.9s								
JOW	**Kunigami**	**13.79**	**246**	Pn		P	**P**	**15 54 49.2**	**-3.1**
	baz=72,slow=9.7								
MDJ	**Mudanjiang**	**15.06**	**323**	P		P	**P**	**15 55 08.5**	**-0.3**
MDJ				XP				15 55 18.8	
MDJ				AMB		AMB			
	comp=Z,11nm,1.0s								
MDJ				AMB		AMB			
	comp=Z,267nm,7.1s								
MDJ				LR		LR			
	comp=N,995nm,13.6s								
MDJ				LR		LR			
	comp=E,2μm,15.1s								
MDJ				LR		LR			
	comp=Z,3μm,13.6s								
MDJ	**Mudanjiang**	**15.06**	**323**	*e*P		P	**P**	**15 55 08.0**	**-0.8**
	comp=Z,18nm,1.0s								
UGL	**Uglegorsk**	**15.80**	**359**	*e*P		P	**P**	**15 55 16.0**	**-2.4**
UGL				pmax		pmax			
	comp=Z,500nm,5.0s								
UGL				pmax		pmax			
	comp=Z,90nm,1.0s								
CN2	**Changchun**	**16.88**	**313**	*e*P		P	**P**	**15 55 30.8**	**-1.3**
CN2				AMB		AMB			
	comp=Z,20nm,1.3s								
CN2				LR		LR			
	comp=N,2μm,12.0s								
CN2				LR		LR			
	comp=E,2μm,12.0s								
CN2				LR

PET	**Petropavlovsk**	**22.94**	**26**	*e*P		**P**	**15 56 35.2**	**-3.8**
PET				pmax		pmax			
	comp=Z,400nm,6.1s								
PET				pmax		pmax			
	comp=Z,800nm,5.9s								
PET				pmax		pmax			
	comp=Z,43nm,1.2s,mb4.8								
PET				MLR		MLR			
	comp=Z,1μm,13.0s,MS4.5								
PET				MLR		MLR			
	comp=Z,1μm,14.0s								
PET	**Petropavlovsk**	**22.94**	**26**	P		**P**	**15 56 35.5**	**-3.5**
	comp=Z,42nm,1.1s,mb4.8								
PET				LR		LR			
	comp=Z,740nm,19.0s,MS4.2								
HIA	**Hailar**	**23.21**	**320**	*e*P		**P**	**15 56 41.1**	**-0.6**
HIA				pmax		pmax			
	comp=Z,635nm,2.5s								
HIA				MLR		MLR			
	comp=Z,1μm,22.0s								
HIA	**Hailar**	**23.21**	**320**	*e*P		**P**	**15 56 41.1**	**-0.5**
	comp=Z,635nm,2.5s,mb5.6								
HIA				LR		LR			
	comp=Z,1μm,22.0s,MS4.3								
WHN	**Wuhan**	**23.92**	**271**	⇑P		**P**	**15 56 48.3**	**-0.5**
WHN				S		**S**	**16 00 55.3**	**-4.7**
WHN				LR		LR			
	comp=Z,3μm,18.2s,MS4.8								
HHC	**Hu-ho-hao-te**	**25.64**	**296**	*e*P		**P**	**15 57 03.5**	**-1.6**
HHC				AP		pP	15 57 13.3	-1.2
HHC				PP		PP	15 57 42.8	-2.4
HHC				S		**S**	**16 01 28.3**	**-0.4**
HHC				AMB		AMB			
	comp=Z,78nm,1.4s,mb5.0								
HHC				AMB		AMB			
	comp=Z,522nm,9.5s								
HHC				LR		LR			
	comp=N,932nm,14.3s,MS4.6								
HHC				LR		LR			
	comp=E,1μm,17.8s,MS4.6								
HHC				LR		LR			
	comp=Z,1μm,15.4s,MS4.6								
CLNS	**Chul'man**	**26.45**	**338**	*c* *i*P		**P**	**15 57 13.5**	**+1.0**
CLNS				*e**PP		pP	15 57 18.5	-3.4
CLNS				*e*			15 57 55.3	
CLNS				*e*PPP		PPP	15 58 09.0	+0.9
CLNS				pmax		pmax			
	comp=Z,30nm,1.1s,mb4.7								
CLNS				pmax		pmax			
	comp=N,24nm,1.2s								
CLNS				pmax		pmax			
	comp=E,9.0nm,0.8s								
CLNS				pmax		pmax			
	comp=Z,24nm,0.9s,mb4.7								
CLNS				pmax		pmax			
	comp=N,52nm,1.0s								
CLNS				pmax		pmax			
	comp=E,21nm,1.0s								
CLNS				MLR		MLR			
	comp=Z,1μm,15.0s,MS4.6								
CLNS				MLR		MLR			
	comp=N,1μm,16.0s,MS4.6								
CLNS				MLR		MLR			
	comp=E,100nm,12.0s,MS4.6								
BTO	**Baotou**	**26.77**	**295**	*e*P		**P**	**15 57 17.0**	**+1.4**
BTO				S		**S**	**16 01 50.5**	**+3.1**
BTO				AMB		AMB			
	comp=Z,50nm,0.9s,mb5.0								
BTO				LR		LR			
	comp=N,1μm,14.7s,MS4.7								
BTO				LR		LR			
	comp=E,1μm,16.2s,MS4.7								
MA2	**Magadan**	**26.90**	**9**	*e*P		**P**	**15 57 15.3**	**-1.3**
MA2				*e*S		**S**	**16 01 48.6**	**-0.6**
MA2				pmax		pmax			
	comp=Z,20nm,1.8s,mb4.3								
MA2				MLR		MLR			
	comp=Z,500nm,20.0s,MS4.1								
MA2	**Magadan**	**26.90**	**9**	*e*P		**P**	**15 57 15.5**	**-1.0**
	comp=Z,81nm,1.6s,mb5.0								
MA2				LR		LR			
	comp=Z,334nm,19.0s,MS3.9								
XAN	**Xi'an**	**27.80**	**281**	P		**P**	**15 57 23.8**	**-1.2**
XAN				S		**S**	**16 02 10.0**	**+6.0**
XAN				AMB		AMB			
	comp=Z,25nm,1.9s,mb4.5								
XAN				LR		LR			
	comp=N,659nm,14.9s,MS4.8								
XAN				LR		LR			
	comp=E,2μm,15.3s,MS4.8								
XAN				LR		LR			
	comp=Z,2μm,15.3s,MS4.9								
CIT	**Chita**	**28.02**	**321**	*e*P		**P**	**15 57 26.4**	**-0.4**
CIT				*e*			15 57 40.8	
CIT				*e*			15 58 12.2	
CIT				*e*			15 58 21.3	
CIT				pmax		pmax			
	comp=Z,469nm,2.4s,mb5.7								
ENH	**Enshi**	**28.06**	**273**	*e*P		**P**	**15 57 25.0**	**-2.5**
	comp=Z,120nm,1.3s,mb5.4								
ENH				LR		LR			
	comp=Z,1μm,20.0s,MS4.5								
FX1	**Attu Island--F**	**29.48**	**39**	P		**P**	**15 57 39.0**	**-0.9**
FX1				pmax		pmax			
	comp=Z,5.0nm,0.6s								
FX1				MLR		MLR			
	comp=Z,31nm,18.9s								
FX1	**Attu Island--F**	**29.48**	**39**	P		**P**	**15 57 39.0**	**-0.8**
	comp=Z,4.6nm,0.6s,mb4.4,baz=277,slow=6.0,SNR=6.5								
FX1				LR		LR	16 08 24.9		
	comp=Z,31nm,18.9s,baz=268,slow=34								
YAK	**Yakutsk**	**29.91**	**348**	*c* *i*P		**P**	**15 57 43.0**	**-0.6**
YAK				*e**PP		pP	15 57 52.6	-0.6
YAK				*e*			15 58 39.0	
YAK				*e*PPP		PPP	15 58 48.0	-7.4
YAK				*e*			16 00 45.9	
YAK				*e*SS		SS	16 04 10.3	-4.2
YAK				*e*SSS		SSS	16 04 25.8	-10
YAK				*e*			16 08 20.4	
YAK				pmax		pmax			
	comp=N,6.0nm,1.0s								
YAK				pmax		pmax			
	comp=E,3.0nm,1.0s								
YAK				pmax		pmax			
	comp=Z,12nm,1.0s,mb4.6								
YAK				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.2								
YAK				pmax		pmax			
	comp=N,10.0nm,1.2s								
YAK				pmax		pmax			
	comp=E,6.0nm,1.1s								
YAK				MLR		MLR			
	comp=Z,370nm,15.0s,MS4.1								
YAK				MLR		MLR			
	comp=N,363nm,17.0s,MS4.4								
YAK				MLR		MLR			
	comp=E,539nm,14.0s,MS4.4								
YAK	**Yakutsk**	**29.91**	**348**	*e*P		**P**	**15 57 41.6**	**-2.0**
	comp=E,41nm,0.9s,mb5.2								
YAK				LR		LR			
	comp=Z,573nm,20.0s,MS4.2								
ULN	**Ulaanbaatar**	**30.24**	**309**	PFAKE			15 58 00.0	+13
ULN				LR		LR			
	comp=Z,724nm,21.0s,MS4.3								
SEY	**Seymchan**	**30.35**	**9**	*e*P		**P**	**15 57 46.7**	**-0.8**
SEY				PPP		PPP	15 59 01.8	+0.2
SEY							16 00 55.5	
SEY				*e*S		**S**	**16 02 40.1**	**-4.3**
SEY				*e*SS		SS	16 04 19.7	-5.0
SEY				pmax		pmax			
	comp=Z,20nm,1.1s,mb4.8								
SEY				smax					
	comp=N,280nm,17.7s								
SEY				smax					
	comp=E,220nm,16.6s								
SEY				MLR		MLR			
	comp=Z,660nm,19.0s,MS4.3								
SEY				MLR		MLR			
	comp=N,480nm,20.0s								
SEY				MLR		MLR			
	comp=E,280nm,14.0s								
SONM	**Songino Array**	**30.66**	**309**	P		**P**	**15 57 50.5**	**+0.1**
	comp=E,7.8nm,0.8s,mb4.6,baz=108,slow=7.8,SNR=21								
SONM				LR		LR	16 11 26.2		
	comp=E,952nm,18.0s,MS4.5,baz=80,slow=39								
BOD	**Bodaibo**	**31.16**	**331**	*e*P		**P**	**15 57 54.0**	**-0.7**
BOD				*e*		pP	15 58 00.7	-3.7
BOD				pmax		pmax			
	comp=Z,24nm,0.8s,mb5.1								
GYA	**Guiyang**	**31.60**	**267**	⇓*i*P		**P**	**15 57 57.0**	**-1.9**
GYA				AP		pP	15 58 09.8	+1.2
GYA				XP		sP	15 58 12.8	-0.2
GYA				PP		PP	15 59 01.5	-2.3
GYA				S		**S**	**16 03 01.8**	**-2.5**
GYA				XS			16 03 18.0	
GYA				SS		SS	16 04 52.5	-1.9
GYA				SCS		ScS	16 08 25.0	-1.7
GYA				AMB		AMB			
	comp=Z,20nm,1.0s,mb4.9								
GYA				AMB		AMB			
	comp=Z,120nm,3.2s								
GYA				LR		LR			
	comp=N,1μm,14.2s,MS4.8								
GYA				LR		LR			
	comp=E,670nm,14.8s,MS4.8								
GYA				LR		LR			
	comp=Z,1μm,15.0s,MS4.7								
LZH	**Lanzhou**	**31.68**	**286**	*e*P		**P**	**15 57 59.5**	**0.0**
LZH				AP		pP	15 58 08.5	-0.7
LZH				PP		PP	15 59 05.0	+0.2
LZH				*e*S		**S**	**16 03 04.3**	**-1.2**
LZH				*e*SS		SS	16 04 52.0	-4.2
LZH				AMB		AMB			
	comp=Z,70nm,1.5s,mb5.3								
LZH				AMB		AMB			
	comp=Z,350nm,4.0s								
LZH				LR		LR			
	comp=E,4μm,15.0s								
LZH				LR		LR			
	comp=Z,4μm,15.6s,MS5.2								
LZH	**Lanzhou**	**31.68**	**286**	*e*P		**P**	**15 57 59.5**	**0.0**
LZH				*PP		pP	15 58 08.6	-0.6
LZH				*SP		sP	15 58 14.0	+0.4
LZH							15 59 05.0	
LZH				*e*S		**S**	**16 03 04.2**	**-1.3**
LZH				*SS			16 03 22.0	
LZH				*e*SS		SS	16 04 52.0	-4.2
LZH				pmax		pmax			
	comp=Z,70nm,1.5s,mb5.3								
LZH				MLR		MLR			
	comp=Z,4μm,15.6s,MS5.2								
LZH	**Lanzhou**	**31.68**	**286**	*e*P		**P**	**15 57 59.5**	**0.0**
	comp=Z,70nm,1.5s,mb5.3								
LZH				pP		pP	15 58 08.6	-0.6
LZH				sP		sP	15 58 14.0	+0.4
LZH				PP		PP	15 59 05.0	+0.2
LZH				*e*S		**S**	**16 03 04.2**	**-1.3**
LZH				sS			16 03 22.0	
LZH				*e*SS		SS	16 04 52.0	-4.2
LZH				LR		LR			
	comp=Z,4μm,15.6s,MS5.2								
QIZ	**Qiongzhong**	**32.31**	**252**	P		**P**	**15 58 06.5**	**+1.2**
QIZ				S		**S**	**16 03 13.5**	**-2.1**
QIZ				LR		LR			
	comp=E,445nm,26.5s								
QIZ				LR		LR			
	comp=Z,792nm,33.0s								
QIZ	**Qiongzhong**	**32.31**	**252**	PFAKE			15 58 20.0	+15
QIZ				LR		LR			
	comp=Z,493nm,21.0s,MS4.2								
CD2	**Chengdu**	**32.68**	**277**	*e*P		**P**	**15 58 06.5**	**-1.9**
IRK	**Irkutsk**	**33.29**	**316**	*e*P		**P**	**15 58 14.2**	**+0.8**
IRK				*e*			16 00 56.8	
IRK				*e*			16 05 31.2	
IRK				pmax		pmax			
	comp=Z,84nm,2.6s,mb5.2								
ZAK	**Zakamensk**	**33.31**	**313**	⇓*i*P		**P**	**15 58 14.6**	**+1.0**
ZAK				pmax		pmax			
	comp=Z,7.0nm,1.4s,mb4.4								
TLY	**Talaya**	**33.47**	**315**	*e*P		**P**	**15 58 16.1**	**+1.1**
TLY				*e*			15 59 29.9	
TLY				*e*S		**S**	**16 03 40.2**	**+6.9**
TLY				*e*SS		SS	16 05 38.1	+0.4
TLY				*e*			16 06 06.9	
TLY				pmax		pmax			
	comp=Z,36nm,2.3s,mb4.9								
TLY				MLR		MLR			
	comp=Z,717nm,16.0s,MS4.5								
TLY	**Talaya**	**33.47**	**315**	*e*P		**P**	**15 58 10.7**	**-4.2**
	comp=Z,9.3nm,0.8s,mb4.8								
TLY				LR		LR			
	comp=Z,144nm,21.0s,MS3.7								
GTA	**Gaotai**	**34.59**	**293**	P		**P**	**15 58 25.3**	**+0.6**
GTA				AP		pP	15 58 35.5	+1.1
GTA				PP		PP	15 59 43.0	+1.4
GTA				PCP		PcP	16 00 57.5	-1.5
GTA				S		**S**	**16 03 52.8**	**+2.1**
GTA				PCS			16 04 45.8	
GTA				SCS		ScS	16 08 44.5	+2.5
GTA				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb4.7								
GTA				AMB		AMB			
	comp=Z,284nm,10.6s								
GTA				LR		LR			
	comp=N,898nm,13.7s,MS4.8								
GTA				LR		LR			
	comp=E,985nm,14.4s,MS4.8								
GTA				LR		LR			
	comp=Z,1μm,15.6s,MS4.7								
MIDW	**Midway**	**34.81**	**87**	PFAKE			15 58 40.0	+13
MIDW				LR		LR			
	comp=Z,1μm,22.0s,MS4.6								
MOY	**Mondy**	**35.05**	**314**	*e*P		**P**	**15 58 29.8**	**+1.3**
MOY				pmax		pmax			
	comp=Z,30nm,3.0s								
KMI	**Kunming**	**35.38**	**267**	P		**P**	**15 58 32.3**	**+0.7**
KMI				AMB		AMB			
	comp=Z,8.0nm,1.4s,mb4.5								
KMI	**Kunming**	**35.38**	**267**	P		**P**	**15 58 32.2**	**+0.6**
KMI				pmax		pmax			
	comp=Z,8.0nm,1.4s,mb4.5								
KMI	**Kunming**	**35.38**	**267**	P		**P**	**15 58 32.2**	**+0.6**
	comp=Z,8.0nm,1.4s,mb4.5								
BILL	**Bilibino**	**37.44**	**15**	*d* *i*P		**P**	**15 58 47.2**	**-1.3**
BILL				pmax		pmax			
	comp=Z,16nm,1.2s,mb4.7								
BILL				MLR		MLR			
	comp=Z,400nm,17.0s,MS4.3								
BILL	**Bilibino**	**37.44**	**15**	*e*P		**P**	**15 58 47.1**	**-1.4**
	comp=Z,36nm,1.5s,mb5.0								
BILL				LR		LR			
	comp=Z,517nm,21.0s,MS4.3								
TIXI	**Tiksi**	**39.11**	**353**	PFAKE			15 59 10.0	+7.6
TIXI				LR		LR			
	comp=Z,482nm,20.0s,MS4.3								
WMQ	**Urumqi**	**43.34**	**301**	P		**P**	**15 59 39.3**	**+1.8**
LSA	**Lhasa**	**43.48**	**280**	PFAKE			15 59 50.0	+11
LSA				LR		LR			
	comp=Z,581nm,22.0s,MS4.4								
KSM	**Kuching**	**43.64**	**230**	*e*P		**P**	**15 59 39.4**	**-0.9**
SHL	**Shillong**	**44.30**	**274**	*e*P		**P**	**15 59 44.2**	**-1.3**
ZAL	**Zalesovo**	**45.10**	**315**	*i*P		**P**	**15 59 52.2**	**+0.7**
ZAL				pmax		pmax			
	comp=Z,1.0nm,0.8s								
ZAL	**Zalesovo**	**45.10**	**315**	P		**P**	**15 59 50.5**	**-1.0**
	comp=Z,1.4nm,0.8s,mb3.9,baz=358,slow=7.9,SNR=7.9								
ZAL				LR		LR	16 20 35.7		
	comp=Z,470nm,18.4s,MS4.5,baz=18,slow=38								
NVS	**Novosibirsk**	**46.06**	**316**	⇑*i*P		**P**	**15 59 58.7**	**-0.4**
NVS				*e*S		**S**	**16 06 44.3**	**+2.8**
NVS				pmax		pmax			
	comp=Z,36nm,1.5s,mb5.1								
NVS				pmax		pmax			
	comp=E,41nm,1.8s								
NVS				smax					
	comp=E,71nm,2.6s								
KAKA	**Kakadu**	**46.70**	**193**	*e*P		**P**	**16 00 07.6**	**+3.0**
	comp=E,21nm,1.1s,mb5.0								
MKAR	**Makanchi Array**	**46.86**	**305**	P		**P**	**16 00 06.4**	**+0.9**
MKAR				pmax		pmax			
	comp=Z,34nm,0.9s								
MKAR	**Makanchi Array**	**46.86**	**305**	P		**P**	**16 00 05.3**	**-0.2**
	comp=Z,9.0nm,0.9s,mb4.7,baz=90,slow=8.0,SNR=34								
MKAR				LR		LR	16 21 28.6		
	comp=Z,446nm,18.2s,MS4.5,baz=83,slow=38								
SVW2	**Sparrevohn**	**48.08**	**35**	*e*P		**P**	**16 00 14.4**	**-0.5**
KURK	**Kurchatov**	**48.93**	**311**	*e*P		**P**	**16 00 20.7**	**-0.9**
KURK				pmax		pmax			
	comp=Z,48nm,0.8s,mb5.6								
KURK				MLR		MLR			
	comp=Z,186nm,19.0s,MS4.1								
KURK	**Kurchatov**	**48.93**	**311**	*e*P		**P**	**16 00 20.7**	**-0.9**
	comp=Z,48nm,0.8s,mb5.6								
KURK				LR		LR			
	comp=Z,186nm,19.0s,MS4.1								
IMA	**Indian Mountai**	**49.56**	**29**	*e*P		**P**	**16 00 26.6**	**+0.3**
IMA				pmax		pmax			
	comp=Z,18nm,1.5s,mb4.9								
IMA	**Indian Mountai**	**49.56**	**29**	*e*P		**P**	**16 00 26.6**	**+0.3**
	comp=Z,18nm,1.5s,mb4.9								
SPU	**Mount Spurr**	**49.80**	**35**	*e*P		**P**	**16 00 27.8**	**-0.4**
PMR	**Palmer**	**51.21**	**35**	*e*P		**P**	**16 00 37.3**	**-1.6**
PMR				pmax		pmax			
	comp=Z,38nm,1.0s,mb5.3								
PMR				MLR		MLR			
	comp=Z,332nm,22.0s,MS4.3								
PMR	**Palmer**	**51.21**	**35**	*e*P		**P**	**16 00 37.3**	**-1.6**
	comp=Z,38nm,1.0s,mb5.3								
PMR				LR		LR			
	comp=Z,332nm,22.0s,MS4.3								
ILAR	**Eielson Array**	**52.28**	**31**	P		**P**	**16 00 44.4**	**-2.5**
	comp=Z,11nm,0.8s,mb4.8,baz=262,slow=6.1,SNR=64								
ILAR				pP		pP	16 00 55.2	-1.7	
	comp=Z,8.7nm,0.9s,baz=260,slow=6.1,SNR=10								
ILAR				LR		LR	16 23 27.4		
	comp=Z,124nm,18.5s,MS4.0,baz=78,slow=37								
KSH	**Kashi**	**52.74**	**297**	*e*P		**P**	**16 00 53.5**	**+2.8**
KSH				*e*PCP		PcP	16 01 56.3	-3.7
KSH				AMB		AMB			
	comp=Z,10.0nm,0.2s,mb5.4								
FRU	**Bishkek**	**52.91**	**301**	⇓*e*P		**P**	**16 00 53.0**	**+1.1**
FRU				pmax		pmax			
	comp=Z,170nm,2.6s,mb5.5								
AAK	**Ala-Archa**	**53.04**	**301**	P		**P**	**16 00 53.7**	**+0.8**
AAK				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.6								
AAK	**Ala-Archa**	**53.04**	**301**	*e*P		**P**	**16 00 52.4**	**-0.5**
	comp=Z,9.3nm,0.8s,mb4.8								
AAK				LR		LR			
	comp=Z,74nm,21.0s,MS3.7								
CTA	**Charters Tower**	**53.19**	**175**	LR		LR	16 21 59.5		
	comp=Z,101nm,19.3s,MS3.9,baz=170,slow=34								
VOSK	**Vostochnaya**	**53.42**	**314**	P		**P**	**16 00 55.5**	**0.0**
VOSK				pmax		pmax			
	comp=Z,20nm,1.1s,mb5.0								
WRAB	**Tennant Creek**	**53.45**	**189**	*i*P		**P**	**16 00 53.1**	**-3.1**
WRAB	**Tennant Creek**	**53.45**	**189**	*e*P		**P**	**16 00 53.2**	**-3.0**
	comp=Z,65nm,1.4s,mb5.4								
WB2	**Warramunga Arr**	**53.46**	**189**	*e*P		**P**	**16 00 54.3**	**-2.0**
WRA	**Warramunga Arr**	**53.47**	**189**	P		**P**	**16 00 54.1**	**-2.2**
	comp=Z,5.8nm,0.6s,mb4.7,baz=6.6,slow=7.6,SNR=37								
WRA				pP		pP	16 01 05.5	-0.9	
	comp=Z,10nm,0.8s,baz=7.4,slow=7.6,SNR=8.8								
WRA				pPcP			16 02 13.6		
	comp=Z,3.8nm,0.7s,baz=3.8,slow=4.5,SNR=5.2								
FITZ	**Fitzroy Crossi**	**53.53**	**200**	*e*P		**P**	**16 00 56.7**	**-0.1**
	comp=Z,16nm,0.9s,mb4.9								
FITZ	**Fitzroy Crossi**	**53.53**	**200**	P		**P**	**16 00 55.4**	**-1.4**
	comp=Z,15nm,0.9s,mb4.9,baz=24,slow=3.8,SNR=12								
FITZ				pP		pP	16 01 07.3	+0.5	
	comp=Z,23nm,0.9s,baz=12,slow=7.0,SNR=6.9								
BVA0	**Borovoye Array**	**53.73**	**315**	*i*P		**P**	**16 00 58.1**	**+0.3**
BVA0				pmax		pmax			
	comp=Z,19nm,2.5s,mb4.6								
BVAR	**Borovoye Array**	**53.73**	**315**	P		**P**	**16 00 57.7**	**-0.2**
	comp=Z,4.7nm,1.1s,mb4.3,baz=76,slow=6.1,SNR=17								
BVAR				pP		pP	16 01 08.7	+0.8	
	comp=Z,6.8nm,0.8s,baz=81,slow=7.0,SNR=13								
BRVK	**Borovoye**	**53.79**	**315**	*e*P		**P**	**16 00 58.3**	**+0.1**
BRVK				pmax		pmax			
	comp=Z,10.0nm,1.0s,mb4.7								
BRVK				MLR		MLR			
	comp=Z,49nm,20.0s,MS3.6								
BRVK	**Borovoye**	**53.79**	**315**	*e*P		**P**	**16 00 58.3**	**+0.1**
	comp=Z,10nm,1.0s,mb4.7								
BRVK				LR		LR			
	comp=Z,49nm,20.0s,MS3.6								
KKAR	**Karatay Array**	**55.76**	**303**	*i*P		**P**	**16 01 12.3**	**-0.4**
KKAR				pmax		pmax			
	comp=Z,45nm,1.1s,mb5.4								
POHA	**Pohakuloa**	**56.44**	**87**	PFAKE			16 01 30.0	+12	
POHA				LR		LR			
	comp=Z,10μm,21.0s								
INK	**Inuvik**	**57.39**	**26**	P		**P**	**16 01 22.5**	**-1.6**
	comp=Z,9.7nm,0.7s,mb4.9,baz=269,slow=7.2,SNR=15								
INK				pP		pP	16 01 33.1	-1.2	
	comp=Z,11nm,1.0s,baz=305,slow=9.1,SNR=7.4								
INK				LR		LR	16 27 58.4		
	comp=Z,228nm,20.9s,MS4.3,baz=297,slow=38								
INK	**Inuvik**	**57.39**	**26**	P		**P**	**16 01 22.5**	**-1.6**
INK				pP		pP	16 01 33.1	-1.2	
INK				LR		LR	16 27 58.4		
MBWA	**Marble Bar**	**58.28**	**205**	*e*P		**P**	**16 01 30.7**	**-0.2**
	comp=Z,18nm,1.0s,mb5.1								
MBWA				LR		LR			
	comp=Z,287nm,19.0s,MS4.4								
SIT	**Sitka**	**58.76**	**39**	PFAKE			16 01 40.0	+6.3	
SIT				LR		LR			
	comp=Z,710nm,19.0s,MS4.8								
HYB	**Hyderabad**	**58.99**	**271**	*e*P		**P**	**16 01 36.0**	**+0.1**
HYB	**Hyderabad**	**58.99**	**271**	*i*P		**P**	**16 01 36.0**	**+0.1**
ARU	**Arti**	**59.73**	**320**	⇑*i*P		**P**	**16 01 39.5**	**-1.0**
ARU				*e*			16 02 21.7		
ARU				*e*			16 03 49.6		
ARU				*e*PPP		PPP	16 05 15.8	-4.0	
ARU				*i*S		**S**	**16 09 50.2**	**+2.9**
ARU				*e*			16 11 26.3		
ARU				*e*SS		SS	16 13 47.4	+2.8	
ARU				pmax		pmax			
	comp=Z,32nm,1.3s,mb5.2								
ARU				MLR		MLR			
	comp=Z,500nm,16.5s,MS4.7								
ARU				MLR		MLR			
	comp=N,100nm,12.0s,MS4.8								
ARU				MLR		MLR			
	comp=E,500nm,16.0s,MS4.8								
ARU	**Arti**	**59.73**	**320**	*e*P		**P**	**16 01 38.9**	**-1.6**
	comp=E,35nm,1.3s,mb5.2								
ARU				LR		LR			
	comp=Z,113nm,19.0s,MS4.0								
AB31	**Akbulak array**	**61.01**	**312**	*i*P		**P**	**16 01 47.9**	**-1.4**
AB31				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.6								
DLBC	**Dease Lake**	**61.13**	**37**	P		**P**	**16 01 50.1**	**+0.1**
	comp=Z,4.9nm,0.9s,mb4.7,baz=317,slow=20,SNR=4.9								
AFI	**Afiamalu**	**64.13**	**129**	LR		LR	16 25 15.3		
	comp=Z,318nm,18.7s,MS4.5,baz=275,slow=32								
BBB	**Bella Bella**	**64.24**	**43**	P		**P**	**16 02 09.8**	**-0.8**
	comp=Z,17nm,1.1s,mb5.0,baz=237,slow=2.0,SNR=4.3								
KBS	**Kingsbay**	**64.49**	**351**	PFAKE			16 02 20.0	+8.1	
KBS				LR		LR			
	comp=Z,167nm,19.0s,MS4.2								
STKA	**Stephens Creek**	**64.80**	**181**	*e*P		**P**	**16 02 14.2**	**-0.4**
	comp=Z,8.5nm,0.9s,mb4.8								
STKA	**Stephens Creek**	**64.80**	**181**	P		**P**	**16 02 14.1**	**-0.6**
	comp=Z,9.0nm,0.8s,mb4.8,baz=358,slow=6.8,SNR=15								
LVZ	**Lovozero**	**65.87**	**337**	*e*P		**P**	**16 02 19.6**	**-1.3**
LVZ				*e*S		S	16 11 05.5	+1.5	
LVZ				pmax		pmax			
	comp=Z,12nm,1.4s,mb4.7								
LVZ			

comp=Z,240nm,20.0s,MS4.4
ARCES ARCESS Array B 67.80 340 P **P** **16 02 32.6 -0.4**
comp=Z,2.5nm,0.8s,mb4.3,baz=56,slow=8.7,SNR=11
ARCES pP pP 16 02 43.5 +0.2
comp=Z,4.0nm,0.8s,baz=63,slow=8.1,SNR=6.1
ARCES LR LR 16 37 14.1
comp=Z,253nm,19.2s,MS4.5,baz=60,slow=40
OCWA Octopus Mounta 68.35 46 PFAKE 16 02 50.0 +13
OCWA LR LR
comp=Z,332nm,19.0s,MS4.6
DAG Danmarks Havn 69.58 355|| *e*P **P** **16 02 44.2 +0.2**
DAG pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
DAG Danmarks Havn 69.58 355|| *e*P **P** **16 02 44.2 +0.2**
comp=Z,2.1nm,0.5s,mb4.3
DAG Danmarks Havn 69.58 355|| *i*P **P** **16 02 44.2 +0.2**
comp=Z,2.1nm,0.5s,mb4.3
NWAO Narrogin (SRO) 69.97 202 P **P** **16 02 47.1 +0.1**
comp=Z,11nm,0.6s,mb5.0,baz=49,slow=5.8,SNR=10
MOS Moscow 70.76 325 *e*P **P** **16 02 50.1 -1.3**
MOS *e* 16 03 08.1
MOS pmax pmax
comp=Z,30nm,0.6s,mb5.4
OBN Obninsk 71.60 324K *i*P **P** **16 02 57.3 +0.9**
OBN *i* *PP pP 16 03 06.8 0.0
OBN *e* 16 03 14.3
OBN *e*S S 16 12 13.4 +1.3
OBN *e* 16 12 59.1
OBN *e*SS SS 16 16 48.0 -1.5
OBN pmax pmax
comp=Z,34nm,1.7s,mb5.0
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.7
OBN Obninsk 71.60 324 PFAKE 16 03 10.0 +14
OBN LR LR
comp=Z,93nm,20.0s,MS4.0
EDM Edmonton 71.82 38 *e*P **P** **16 02 57.2 -0.6**
KAF Kangasniemi 72.02 334 *e*p **P** **16 02 58.2 -0.6**
comp=Z,5.5nm,0.8s,mb4.5,baz=51,slow=5.8
KAF Kangasniemi 72.02 334 *e*P **P** **16 02 58.2 -0.6**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
YBH Yreka Blue Hor 72.04 52 P **P** **16 02 58.6 -0.7**
comp=Z,6.5nm,0.9s,mb4.5,baz=291,slow=2.3,SNR=8.3
YBH Yreka Blue Hor 72.04 52 P **P** **16 02 58.6 -0.7**
YBH LR LR
comp=Z,379nm,20.0s,MS4.7
NEW Newport 72.29 44 *e*P **P** **16 03 00.5 -0.2**
NEW MLR MLR
comp=Z,191nm,19.0s
FINES FINESS Array B 72.52 333 P **P** **16 03 01.1 -0.6**
comp=Z,5.0nm,0.8s,mb4.5,baz=72,slow=6.0,SNR=15
FINES pP pP 16 03 12.0 0.0
comp=Z,9.6nm,0.8s,baz=90,slow=7.6,SNR=10
FINES LR LR 16 34 26.8
comp=Z,113nm,18.2s,MS4.2,baz=20,slow=35
FINES FINESS Array B 72.52 333 P **P** **16 03 01.1 -0.6**
FINES pP pP 16 03 12.0 0.0
FINES LR LR 16 34 26.8
RAO Raoul Island 72.67 144 LR LR 16 30 31.6
comp=Z,147nm,18.5s,MS4.3,baz=90,slow=32
WDC Whiskeytown Da 72.70 53 *e*P **P** **16 03 03.7 +0.4**
WDC pmax pmax
comp=Z,24nm,1.4s,mb4.9
WDC MLR MLR
comp=Z,230nm,20.0s,MS4.5
WDC Whiskeytown Da 72.70 53 *e*P **P** **16 03 03.7 +0.4**
comp=Z,24nm,1.4s,mb4.9
WDC LR LR
comp=Z,230nm,20.0s,MS4.5
HOPS Hopland 73.12 54 PFAKE 16 03 20.0 +14
HOPS LR LR
comp=Z,879nm,20.0s,MS5.0
GOF Gofitskoye 73.22 313 *e*P **P** **16 03 00.5 -5.7**
WALA Waterton Lakes 73.70 42 *e*P **P** **16 03 08.6 -0.3**
TI2 Plekhanov 73.81 309 *e*P **P** **16 03 16.0 +6.2**
BMO Blue Mountains 73.92 47 *e*P **P** **16 03 10.2 -0.1**
BMO LR LR
comp=Z,228nm,21.0s,MS4.4
VSU Vasula 74.10 330 *i*P **P** **16 03 11.9 +0.8**
SUMG Summit 74.44 0 *e*P **P** **16 03 13.4 +0.6**
comp=Z,11nm,0.9s,mb4.8
SUMG *e* pP 16 03 24.8 +1.6
BEKR Beckwourth 74.51 52 *e*P **P** **16 03 12.8 -1.1**
comp=Z,20nm,1.1s,mb5.0
GNI Garni 74.61 308 *i*P **P** **16 03 15.7 +1.3**
GNI pmax pmax
comp=Z,27nm,2.5s
GNI Garni 74.61 308 PFAKE 16 03 30.0 +16
GNI LR LR
comp=Z,328nm,20.0s,MS4.6
MSO Missoula 74.88 44 PFAKE 16 03 30.0 +14
MSO LR LR
comp=Z,80nm,21.0s,MS4.0
SAO San Andreas Ge 75.34 56 PFAKE 16 03 30.0 +11
SAO LR LR
comp=Z,524nm,21.0s,MS4.8
CMB Columbia Colle 75.42 54 *e*P **P** **16 03 19.2 +0.1**
CMB pmax pmax
comp=Z,34nm,1.3s,mb5.1
CMB MLR MLR
comp=Z,503nm,21.0s,MS4.8
CMB Columbia Colle 75.42 54 *e*P **P** **16 03 19.2 +0.1**
comp=Z,34nm,1.3s,mb5.1
CMB LR LR
comp=Z,503nm,21.0s,MS4.8
SOC Sochi 76.02 313 *e*P **P** **16 03 23.5 +1.1**
SOC *e* 16 03 39.2
SOC *e* 16 06 08.0
SOC *e*S S 16 13 03.3 +1.3
SOC *e* 16 13 31.0
SOC *e*SS SS 16 18 02.1 +4.0
SOC pmax pmax
comp=N,11nm,0.8s
SOC pmax pmax
comp=Z,21nm,0.8s,mb5.1
SOC pmax pmax
comp=E,27nm,0.9s
SOC MLR MLR
comp=N,164nm,14.0s,MS4.5
SOC MLR MLR
comp=E,93nm,14.0s,MS4.5
SOC MLR MLR
comp=Z,153nm,14.0s,MS4.5
MNK Minsk 76.09 327 *e*P **P** **16 03 21.0 -1.5**
HRY Holter Researc 76.16 43 *e*P **P** **16 03 22.8 -0.3**
BMN Battle Mountai 76.27 51 *e*P **P** **16 03 23.9 0.0**
BMN pmax pmax
comp=Z,11nm,1.1s,mb4.7
BMN MLR MLR
comp=Z,417nm,19.0s,MS4.8
BMN Battle Mountai 76.27 51 *e*P **P** **16 03 23.9 0.0**
comp=Z,11nm,1.1s,mb4.7
BMN LR LR
comp=Z,417nm,19.0s,MS4.8
HLID Hailey 76.36 47 *e*P **P** **16 03 24.8 +0.4**
comp=Z,20nm,1.6s,mb4.8
HLID LR LR
comp=Z,225nm,20.0s,MS4.5
FFC Flin Flon 76.44 33 *e*P **P** **16 03 24.7 +0.1**
FFC *e* pP 16 03 35.2 +0.3
FFC pmax pmax
comp=Z,21nm,1.4s,mb4.9
FFC MLR MLR
comp=Z,70nm,19.0s,MS4.0
FFC Flin Flon 76.44 33 *e*P **P** **16 03 24.7 +0.1**
comp=Z,21nm,1.4s,mb4.9
FFC *e* pP 16 03 35.1 +0.2
FFC LR LR
comp=Z,70nm,19.0s,MS4.0
NVAR Mina Array Bea 76.62 53 P **P** **16 03 25.4 -0.5**
comp=Z,7.2nm,0.8s,mb4.7,baz=296,slow=3.9,SNR=51
NVAR pP pP 16 03 34.6 -1.7
comp=Z,5.6nm,0.9s,baz=292,slow=5.0,SNR=8.4
NVAR Mina Array Bea 76.62 53 P **P** **16 03 25.4 -0.5**
NVAR pP pP 16 03 34.6 -1.7
ANN Anapa 76.73 315 *e*P **P** **16 03 25.2 -1.2**
ANN pmax pmax
comp=Z,25nm,1.2s,mb5.0
BOZ Bozeman (W) 76.87 44 *e*P **P** **16 03 27.5 +0.3**
BOZ *e**PP pP 16 03 38.6 +1.0
BOZ pmax pmax
comp=Z,50nm,1.7s,mb5.2
BOZ MLR MLR
comp=Z,181nm,19.0s,MS4.4
BOZ Bozeman (W) 76.87 44 *e*P **P** **16 03 27.5 +0.3**
comp=Z,50nm,1.7s,mb5.2
BOZ *e*pP pP 16 03 38.6 +1.1
BOZ LR LR
comp=Z,181nm,19.0s,MS4.4
ELK Elko 77.38 50 *e*P **P** **16 03 30.0 -0.2**
ELK *e**PP pP 16 03 39.4 -1.2
ELK pmax pmax
comp=Z,23nm,0.5s
ELK MLR MLR
comp=Z,371nm,19.0s
ELK Elko 77.38 50 *e*P **P** **16 03 30.0 -0.2**
comp=Z,23nm,0.5s,mb5.4
ELK *e*pP pP 16 03 39.4 -1.2
ELK LR LR
comp=Z,371nm,19.0s,MS4.7
QLMT Earthquake Lak 77.44 44 *e*P **P** **16 03 30.9 +0.5**
TPH Tonopah 77.53 53 PFAKE 16 03 40.0 +9.0
TPH LR LR
comp=Z,537nm,21.0s,MS4.8
AKASG Malin Array Be 77.77 323 P **P** **16 03 31.7 -0.4**
comp=Z,0.3nm,0.3s,baz=43,slow=5.8,SNR=15
AKASG pP pP 16 03 42.6 +0.1
comp=Z,1.4nm,0.5s,baz=46,slow=6.0,SNR=5.7
AKASG Malin Array Be 77.77 323 P **P** **16 03 31.7 -0.4**
AKASG pP pP 16 03 42.6 +0.1
GCMT Greycliff 77.91 43 *e*P **P** **16 03 33.6 +0.6**
NB2 NORSAR Subarra 77.96 338 P **P** **16 03 32.1 -0.8**
comp=Z,11nm,0.8s,mb4.8,baz=40,slow=5.6
NB2 NORSAR Subarra 77.96 338 P **P** **16 03 32.1 -0.8**
NB2 pmax pmax
comp=Z,11nm,0.8s,mb4.8
NOA NORSAR Array B 77.96 338 P **P** **16 03 32.4 -0.5**
comp=Z,7.3nm,0.7s,mb4.7,baz=39,slow=5.6,SNR=35
NOA pP pP 16 03 43.5 +0.2
comp=Z,3.5nm,0.7s,baz=66,slow=4.1,SNR=9.7
NOA LR LR 16 42 53.7
comp=Z,241nm,18.3s,MS4.6,baz=35,slow=39
NOA NORSAR Array B 77.96 338 P **P** **16 03 32.4 -0.5**
NOA pP pP 16 03 43.5 +0.2
NOA LR LR 16 42 53.7
ISA Isabella 77.97 55 PFAKE 16 03 40.0 +6.5
ISA LR LR
comp=Z,118nm,20.0s,MS4.2
URZ Urewera 78.15 153 LR LR 16 32 12.4
comp=Z,160nm,21.5s,MS4.3,baz=250,slow=31
LKWY Lake 78.20 44 PFAKE 16 03 50.0 +15
LKWY LR LR
comp=Z,249nm,19.0s,MS4.6
DAC Darwin (Calif) 78.24 54 PFAKE 16 03 50.0 +15
DAC LR LR
comp=Z,437nm,21.0s,MS4.8
IMW Indian Meadow 78.27 45 *e*P **P** **16 03 36.1 +1.2**
RRI2 Red Ridge 78.35 46 *e*P **P** **16 03 36.6 +1.2**
comp=Z,111nm,1.9s,mb5.5
MOOW Moose Ponds 78.47 45 *e*P **P** **16 03 36.8 +0.8**
SUW Suwalki 78.49 328 *e*P **P** **16 03 36.8 +0.8**
SUW *e* pP 16 03 46.7 +0.3
SUW *e* 16 03 54.4
SUW Suwalki 78.49 328 *e*P **P** **16 03 36.8 +0.8**
SUW *e* pP 16 03 46.7 +0.3
SUW *e* 16 03 54.4
SNCC San Nicolas Is 78.52 58 PFAKE 16 03 50.0 +13
SNCC LR LR
comp=Z,484nm,20.0s,MS4.8
TPNV Topopah Spring 78.79 53 PFAKE 16 03 50.0 +12
TPNV LR LR
comp=Z,7.0nm,22.0s
AHID Auburn Hatcher 78.82 46 PFAKE 16 03 50.0 +12
AHID LR LR
comp=Z,178nm,20.0s,MS4.4
HWUT Hardware Ranch 79.20 47 PFAKE 16 03 50.0 +10
HWUT LR LR
comp=Z,198nm,20.0s,MS4.5
LAO LASA Array 79.30 41 PFAKE 16 03 50.0 +9.4
LAO LR LR
comp=Z,317nm,21.0s,MS4.6
KONO Kongsberg 79.55 338 *i*P **P** **16 03 37.6 -4.0**
KONO Kongsberg 79.55 338 PFAKE 16 03 50.0 +8.4
KONO LR LR
comp=Z,308nm,19.0s,MS4.7
TCUT Toone Canyon 79.58 48 *e*P **P** **16 03 43.0 +0.8**
MALT Malatya 79.74 309 *e*P **P** **16 03 44.8 +1.7**
MALT pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
MALT Malatya 79.74 309 *e*P **P** **16 03 44.8 +1.7**
comp=Z,1.1nm,0.3s,mb4.3
BW06 Boulder Array 79.74 45 PFAKE 16 03 50.0 +7.0
BW06 LR LR
comp=Z,198nm,20.0s,MS4.5
PDAR Pinedale Array 79.74 45 P **P** **16 03 42.2 -0.8**
comp=Z,2.1nm,0.7s,mb4.2,baz=291,slow=2.4,SNR=16
PDAR pP pP 16 03 53.8 +0.3
comp=Z,2.3nm,0.8s,baz=295,slow=3.4,SNR=5.6
PDAR LR LR 16 36 22.2
comp=Z,131nm,18.5s,MS4.3,baz=114,slow=34
JLU Jordanelle 79.85 48 *e*P **P** **16 03 44.3 +0.7**
DAU Daniels Canyon 80.08 48 *e*P **P** **16 03 45.4 +0.5**
ARUT Antelope Range 80.18 51 *e*P **P** **16 03 46.3 -5.2**
NEN Nelson 80.45 54 *e*P **P** **16 03 46.6 -0.4**
PFO Pinyon Flat Ob 80.48 56 *e*P **P** **16 03 47.0 -0.2**
PFO pmax pmax
comp=Z,49nm,1.7s,mb5.2
PFO MLR MLR
comp=Z,182nm,21.0s,MS4.4
PFO Pinyon Flat Ob 80.48 56 *e*P **P** **16 03 47.0 -0.2**
comp=Z,49nm,1.7s,mb5.2
PFO LR LR
comp=Z,182nm,21.0s,MS4.4
MSU Marysvale 80.59 50 *e*P **P** **16 03 48.1 +0.5**
BAR Barrett 80.84 57 *e*P **P** **16 03 48.5 -0.5**
SRU San Rafael 81.29 49 *e*P **P** **16 03 51.2 -0.1**
BORG Borgarnes 81.47 353 P **P** **16 03 52.3 +0.6**
comp=Z,11nm,1.1s,mb4.7,baz=16,slow=10,SNR=2.6
BURAR Bucovina Array 81.76 323|| P **P** **16 03 54.8 +1.2**
BR131 Keskin Array S 81.95 312 *e*P **P** **16 03 55.3 +0.5**
comp=Z,4.4nm,0.8s,mb4.4
BRTR Keskin Array B 81.95 312 P **P** **16 03 55.7 +0.9**
comp=Z,4.5nm,0.8s,mb4.5,baz=99,slow=3.9,SNR=16
BRTR pP pP 16 04 06.4 +1.2
comp=Z,4.6nm,0.8s,baz=117,slow=3.8,SNR=9.1
RSSD Black Hills 82.11 42 *e*P **P** **16 03 55.6 +0.2**
RSSD pmax pmax
comp=Z,64nm,1.9s,mb5.2
RSSD Black Hills 82.11 42 *e*P **P** **16 03 55.6 +0.2**
comp=Z,64nm,1.9s,mb5.2
VRI Vrincioaia 82.12 321|| P **P** **16 04 03.7 +8.3**
ULM Lac du Bonnet 82.20 33 P **P** **16 03 55.8 0.0**
comp=Z,1.2nm,0.5s,mb4.1,baz=321,slow=9.7,SNR=3.5
ULM LR LR 16 39 19.1
comp=Z,218nm,19.8s,MS4.5,baz=307,slow=35
PPT Papeete 82.24 117 *e*LR LR 16 28 47.8
comp=Z,581nm,30.2s
PPT Papeete 82.24 117 LR LR 16 38 06.8
comp=Z,198nm,18.8s,MS4.5,baz=312,slow=34
KOLS Kolonicke sedl 82.34 325 *e*P **P** **16 03 57.3 +0.8**
KOLS *e* 16 04 15.2
STHS Stebnicka Huta 82.50 326 *e*P **P** **16 03 59.4 +2.1**
STHS *e*pP pP 16 04 09.3 +1.5
OJC Ojcow 82.61 327 *e*P **P** **16 03 59.4 +1.5**
OJC *e*S S 16 14 14.1 +2.8
CRVS Cervenica-Dubn 82.75 325 *e*pP pP 16 04 08.1 -1.0
MLR Muntele Rosu 82.78 321 P **P** **16 03 59.7 +0.9**
MLR pmax pmax
comp=Z,2.0nm,0.6s
MLR Muntele Rosu 82.78 321 P **P** **16 03 59.7 +0.8**
comp=Z,1.7nm,0.6s,mb4.3,baz=145,slow=10.0,SNR=6.8
MLR Muntele Rosu 82.78 321|| P **P** **16 04 02.8 +4.0**
NIE Niedzica 82.93 326 *e*P **P** **16 04 02.5 +3.0**
PHWY Pilot Hill 83.06 45 *e*P **P** **16 04 00.8 +0.5**
VOIR 83.29 321|| P **P** **16 04 04.1 +2.7**
KECS Kecovo 83.51 325 *e*P **P** **16 04 04.9 +2.5**
KECS *e*pP pP 16 04 13.9 +1.0
OKC Ostrava-Krasne 83.63 327 *e*P **P** **16 04 04.6 +1.6**
OKC *e*pP pP 16 04 15.3 +1.7
OKC *e*S S 16 14 24.5 +3.0
OKC AMS AMS 16 48 40.0
comp=Z,500nm,14.9s
KSP Ksiaz 83.72 329 *e*P **P** **16 04 04.4 +0.9**
KSP *e*pP pP 16 04 15.0 +1.0
KSP Ksiaz 83.72 329 *e*P **P** **16 04 04.1 +0.7**
KSP *e* pP 16 04 15.2 +1.2
KSP *e* 16 04 24.2
MORC Moravsky Berou 83.95 328 *e*P **P** **16 04 05.6 +1.0**
MORC pmax pmax
comp=Z,11nm,1.2s,mb4.9
MORC Moravsky Berou 83.95 328 *e*P **P** **16 04 05.6 +1.0**
comp=Z,11nm,1.2s,mb4.9
DPC Dobruska-Polom 84.07 329 *e*P **P** **16 04 05.1 -0.1**
DPC *e*pP pP 16 04 17.0 +1.2
DPC *e*S S 16 14 28.5 +2.6
DPC AMS AMS 16 49 10.0
comp=Z,700nm,13.9s
UPC Upice 84.09 329 *e*P **P** **16 04 06.6 +1.3**
UPC *e*pP pP 16 04 16.0 +0.1
PSZ Piszkesteto 84.19 325 *e*P **P** **16 04 07.7 +1.8**
VYHS Vyhne 84.28 326 *e*P **P** **16 04 08.5 +2.2**
VYHS *e* pP 16 04 18.0 +1.1
VYHS *e* 16 04 24.9
VYHS *e*S S 16 14 29.8 +1.8
ASF Jabal al Asfar 84.28 305 P **P** **16 04 07.7 +0.9**
comp=Z,7.9nm,0.9s,mb4.8,baz=336,slow=2.1,SNR=13
ASF pP pP 16 04 18.7 +1.4
comp=Z,9.5nm,0.8s,baz=45,slow=1.5,SNR=6.1
PVCC Panska Ves 84.69 330 *e*P **P** **16 04 10.0 +1.6**
PVCC AMS AMS 16 48 40.0
comp=Z,600nm,15.1s
BRG Berggiesshubel 84.70 330 *e*P **P** **16 04 08.9 +0.5**
BRG *i* pP 16 04 19.8 +0.9
BRG S S 16 14 35.0 +2.9
BRG pmax pmax
comp=Z,21nm,1.4s,mb5.1
BRG Berggiesshubel 84.70 330 *e*P **P** **16 04 08.8 +0.5**
comp=Z,21nm,1.4s,mb5.1
BRG *i* pP 16 04 19.8 +0.9
BRG S S 16 14 35.0 +2.9
CLL Collm 84.76 331 *e*P **P** **16 04 09.0 +0.3**
CLL *e**PP pP 16 04 20.0 +0.8
CLL *e*S S 16 14 34.0 +1.3
CLL pmax pmax
comp=Z,12nm,0.8s,mb5.1
CLL Collm 84.76 331 *e*P **P** **16 04 09.0 +0.3**
comp=Z,12nm,0.8s,mb5.1
CLL *e*pP pP 16 04 20.0 +0.8
CLL *e*S S 16 14 34.0 +1.3
CLL Collm 84.76 331 P **P** **16 04 09.0 +0.3**
comp=Z,logA/T=1.2,mb5.1
CLL *e**PP pP 16 04 20.0 +0.8
CLL *e*S S 16 14 34.0 +1.3
SMOL Smolenice 84.91 327 *e*P **P** **16 04 11.3 +1.8**
SMOL *e* 16 04 29.3
PRU Pruhonice 85.11 329 *e*P **P** **16 04 11.8 +1.4**
PRU *e*pP pP 16 04 22.3 +1.3
PRU *e*S S 16 14 37.5 +1.4
PRU AMS AMS 16 49 30.0
comp=Z,500nm,14.7s
TUC Tucson 85.13 54 *e*P **P** **16 04 11.5 +0.5**
TUC pmax pmax
comp=Z,16nm,1.4s,mb5.0
TUC MLR MLR
comp=Z,489nm,20.0s,MS4.9
TUC Tucson 85.13 54 *e*P **P** **16 04 11.5 +0.5**
comp=Z,16nm,1.4s,mb5.0
TUC LR LR
comp=Z,489nm,20.0s,MS4.9
SDCO Great Sand Dun 85.25 47 *e*P **P** **16 04 11.5 +0.1**
comp=Z,61nm,1.4s,mb5.5
SDCO LR LR
comp=Z,297nm,20.0s,MS4.7
ZST Bratislava 85.29 327 *e*P **P** **16 04 14.1 +2.7**
ZST *e*S S 16 14 45.7 +7.7
NKC Novy Kostel 85.81 330 *e*P **P** **16 04 14.8 +0.9**
NKC *e*pP pP 16 04 25.1 +0.7
NKC *e*S S 16 14 39.4 -3.5
NKC AMS AMS 16 49 20.0
comp=Z,400nm,14.5s
MOX Moxa 85.83 331 *e*P **P** **16 04 16.7 +2.7**
MOX *e*S S 16 14 45.0 +1.9
MOX MLR MLR
comp=Z,300nm,15.0s,MS4.8
MOX Moxa 85.83 331 *i*P **P** **16 04 16.7 +2.7**
MOX S S 16 14 45.0 +1.9
MOX L 16 48 19.0
TBI Tubuai 85.91 121 *e*LR LR 16 30 29.3
comp=Z,314nm,24.8s
KHC Kasperske Hory 86.17 329 *e*P **P** **16 04 15.2 -0.4**
KHC *e*pP pP 16 04 27.4 +1.2
KHC *e*S S 16 14 49.2 +2.8
KHC AMS AMS 16 50 40.0
comp=Z,500nm,14.9s
LAZ Ladron 86.29 51 *e*P **P** **16 04 17.7 +1.1**
GERES GERESS Array B 86.33 329 P **P** **16 04 17.1 +0.6**
comp=Z,0.9nm,0.8s,mb4.1,baz=34,slow=4.8,SNR=6.3
GERES pP pP 16 04 26.9 -0.1
comp=Z,1.3nm,0.8s,baz=34,slow=4.8,SNR=5.5
GERES LR LR 16 43 36.2
comp=Z,116nm,19.2s,MS4.3,baz=52,slow=36
ANMO Albuquerque 86.39 50 P **P** **16 04 17.3 +0.2**
comp=Z,7.1nm,0.9s,mb4.9,baz=301,slow=4.9,SNR=16
ANMO Albuquerque 86.39 50 P **P** **16 04 17.3 +0.2**
ANMO LR LR
comp=Z,476nm,20.0s,MS4.9
GRA1 Grafenberg Arr 86.73 331 *e*P **P** **16 04 20.8 +2.4**
comp=Z,13nm,1.2s,mb5.0
GRA1 *e*pP pP 16 04 29.5 +0.5
GRF Grafenberg Arr 86.73 331 *e*P **P** **16 04 20.8 +2.4**
GRF *e**PP pP 16 04 29.5 +0.5
GRF pmax pmax
comp=Z,13nm,1.2s,mb5.0
GRF Grafenberg Arr 86.73 331 *e*P **P** **16 04 20.8 +2.4**
GRF *e**PP pP 16 04 29.5 +0.5
GRF pmax pmax
comp=Z,13nm,1.2s,mb5.0
GRF Grafenberg Arr 86.73 331 *e*P **P** **16 04 20.8 +2.4**
comp=Z,13nm,1.2s,mb5.0
GRF *e*pP pP 16 04 29.5 +0.5
ESK Eskdalemuir 86.97 341 PFAKE 16 04 30.0 +11
ESK LR LR
comp=Z,55nm,20.0s,MS4.0
PDKS Podkum 87.84 326 *e*P **P** **16 04 24.3 +0.5**
CBKS Cedar Bluff 88.01 44 PFAKE 16 04 40.0 +15
CBKS LR LR
comp=Z,267nm,19.0s,MS4.7
SCHQ Schefferville 88.72 16 P **P** **16 04 28.2 +0.4**
comp=Z,4.4nm,0.7s,mb4.9,baz=350,slow=5.6,SNR=4.9
SCHQ pP pP 16 04 38.5 0.0
comp=Z,6.1nm,0.9s,baz=330,slow=6.2,SNR=4.4
SCHQ LR LR 16 46 23.0
comp=Z,131nm,19.2s,MS4.4,baz=319,slow=37
MNTX Cornudas Mount 89.13 52 PFAKE 16 04 40.0 +10
MNTX LR LR
comp=Z,285nm,19.0s,MS4.7
CDF Champ du Feu 89.33 332 *e*P **P** **16 04 31.1 +0.2**
CABF La Chapelle 91.26 332 *e*P **P** **16 04 40.0 0.0**
comp=Z,13nm,1.0s,mb4.9
CABF La Chapelle 91.26 332 *e*P **P** **16 04 40.0 0.0**
CABF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
LOR Lormes 91.58 333 *e*P **P** **16 04 41.8 +0.3**
LOR *e*R
comp=Z,179nm,18.5s
LTX Lajitas 91.77 53 *e*P **P** **16 04 42.9 +0.1**
LTX pmax pmax
comp=Z,22nm,1.3s,mb5.3
LTX MLR MLR
comp=Z,564nm,20.0s,MS5.0
LTX Lajitas 91.77 53 *e*P **P** **16 04 42.9 +0.1**
comp=Z,22nm,1.3s,mb5.3
LTX LR LR
comp=Z,564nm,20.0s,MS5.0
TXAR Lajitas Array 91.77 53 P **P** **16 04 42.5 -0.3**
comp=Z,4.8nm,0.7s,mb4.9,baz=303,slow=3.0,SNR=23
TXAR pP pP 16 04 52.8 -0.7
comp=Z,4.2nm,0.7s,baz=293,slow=1.5,SNR=7.6
TXAR LR LR 16 40 44.3
comp=Z,432nm,20.7s,MS4.9,baz=10.0,slow=32
FLN La Foliniere 91.87 336 *e*P **P** **16 04 42.8 +0.1**
FLN *e*R
comp=Z,206nm,17.0s
LPL La Plagne 91.89 331 *e*P **P** **16 04 43.2 +0.3**
comp=Z,8.5nm,0.8s,mb4.8
LPL La Plagne 91.89 331 *e*P **P** **16 04 43.2 +0.3**
LPL pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
SSF Saint Saulge 91.89 333 *e*P **P** **16 04 43.0 +0.1**
LPG La Plagne 91.90 331 *e*P **P** **16 04 43.2 +0.2**
comp=Z,16nm,1.1s,mb5.0
LPG La Plagne 91.90 331 *e*P **P** **16 04 43.2 +0.2**
LPG pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
AVF Avril sur Loir 92.17 333 *e*P **P** **16 04 44.1 -0.1**

comp=Z,12nm,0.8s,mb5.0
AVF Avril sur Loir 92.17 333 *e*P **P** 16 04 44.1 -0.1
AVF pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
MBDF Montbardon 92.51 330 *e*P **P** 16 04 45.8 0.0
ORIF Oris-en-Rattie 92.73 331 *e*P **P** 16 04 47.1 +0.3
comp=Z,14nm,1.1s,mb5.0
ORIF *e*R
comp=Z,165nm,18.5s
SBF Sospel 92.93 329 *e*P **P** 16 04 47.5 -0.2
VIVF Saint-Julien-l 93.27 331 *e*P **P** 16 04 49.4 +0.1
comp=Z,26nm,1.2s,mb5.2
VIVF Saint-Julien-l 93.27 331 *e*P **P** 16 04 49.4 +0.1
VIVF pmax pmax
comp=Z,13nm,1.2s,mb5.2
CCM Cathedral Cave 93.27 40 PFAKE 16 05 00.0 +11
CCM LR LR
comp=Z,174nm,19.0s,MS4.5
FRF La Foret Royal 93.51 329 *e*P **P** 16 04 49.5 -0.9
comp=Z,35nm,1.2s,mb5.3
FRF La Foret Royal 93.51 329 *e*P **P** 16 04 49.5 -0.9
FRF pmax pmax
comp=Z,17nm,1.2s,mb5.3
LMR La Mourre 93.75 329 *e*P **P** 16 04 51.4 -0.1
comp=Z,23nm,0.9s,mb5.3
LMR La Mourre 93.75 329 *e*P **P** 16 04 51.4 -0.1
LMR pmax pmax
comp=Z,12nm,0.9s,mb5.3
WCI Wyandotte Cave 95.70 36 PFAKE 16 05 10.0 +10
WCI LR LR
comp=Z,188nm,21.0s,MS4.5
PQI Presque Isle 95.84 21 PFAKE 16 05 10.0 +9.1
PQI LR LR
comp=Z,2μm,21.0s,MS5.5
NATX Nacogdoches 95.87 46 PFAKE 16 05 10.0 +8.6
NATX LR LR
comp=Z,331nm,19.0s,MS4.8
WVT Waverly 96.52 39 PFAKE 16 05 20.0 +16
WVT LR LR
comp=Z,271nm,21.0s,MS4.7
RKT Rikitea 96.57 113 *e*LR LR 16 35 27.7
comp=Z,400nm,34.2s
LBNH Lisbon 96.77 24 PFAKE 16 05 20.0 +15
LBNH LR LR
comp=Z,274nm,19.0s,MS4.8
OXF Oxford 96.89 41 PFAKE 16 05 20.0 +14
OXF LR LR
comp=Z,216nm,19.0s,MS4.7
WVL Waterville 97.23 22 PFAKE 16 05 20.0 +13
WVL LR LR
comp=Z,2μm,21.0s,MS5.6
PLAL Pickwick Lake 97.26 40 PFAKE 16 05 20.0 +12
PLAL LR LR
comp=Z,229nm,19.0s,MS4.7
EMMW East Machias 97.78 21 PFAKE 16 05 20.0 +10
EMMW LR LR
comp=Z,2μm,20.0s,MS5.5
WES Weston 98.61 25 PFAKE 16 05 30.0 +16
WES LR LR
comp=Z,2μm,22.0s,MS5.5
MYNC Murphy 99.24 37 PFAKE 16 05 30.0 +13
MYNC LR LR
comp=Z,366nm,20.0s,MS4.9
LRAL Lakeview Retre 99.32 40 PFAKE 16 05 30.0 +13
LRAL LR LR
comp=Z,225nm,19.0s,MS4.7
BLA Blacksburg 99.32 33 PFAKE 16 05 30.0 +13
BLA LR LR
comp=Z,280nm,20.0s,MS4.8
CBN Corbin 99.86 31 PFAKE 16 05 30.0 +11
CBN LR LR
comp=Z,286nm,20.0s,MS4.8
ESLA Sonseca Array 101.01 334 PFAKE 16 05 40.0 +15
ESLA LR LR
comp=Z,1μm,19.0s,MS5.5
CASY Casey 102.20 193 PFAKE 16 05 40.0 +11
CASY LR LR
comp=Z,319nm,22.0s,MS4.8
NHSC New Hope 102.78 36 PFAKE 16 05 40.0 +7.4
NHSC LR LR
comp=Z,262nm,20.0s,MS4.8
DWPF Disney 106.15 40 PFAKE 16 10 10.0
DWPF LR LR
comp=Z,293nm,19.0s,MS4.8
MBAR Mbarara 108.34 282 PFAKE 16 10 20.0
MBAR LR LR
comp=Z,29nm,20.0s,MS3.8
JTS JuntasAbangare 117.51 55 PFAKE 16 10 30.0 +10
JTS LR LR
comp=Z,28nm,22.0s,MS3.8
SJG San Juan 122.10 32 PFAKE 16 10 40.0 +11
SJG LR LR
comp=Z,115nm,19.0s,MS4.5
QSPA South Pole Qui 123.02 180 *e*P PKPdf 16 10 29.6 +0.4
LBTB Lobatse 124.90 261 PKP PKPdf 16 10 35.2 +1.2
comp=Z,3.6nm,1.0s,baz=22,slow=5.4,SNR=2.6
LBTB pPKP 16 10 46.6
comp=Z,6.3nm,1.0s,baz=171,slow=6.8,SNR=4.0
SDV Santo Domingo 127.62 43 PKP PKPdf 16 10 40.9 +1.3
comp=Z,7.5nm,0.7s,baz=329,slow=2.1,SNR=9.0
SDV pPKP 16 10 51.4
comp=Z,11nm,1.0s,baz=37,slow=2.8,SNR=4.6
SDV Santo Domingo 127.62 43 PKP PKPdf 16 10 41.0 +1.4
SDV pPKP 16 10 51.5
SDV LR LR
comp=Z,104nm,20.0s,MS4.5
TSUM Tsumeb 129.07 272 PFAKE 16 11 00.0 +18
TSUM LR LR
comp=Z,245nm,19.0s,MS4.9
DBIC Dimbokro 129.55 316 PFAKE 16 11 00.0 +17
DBIC LR LR
comp=Z,156nm,19.0s,MS4.7
LIC Lamto 130.01 316 *e*P PKPdf 16 10 40.4 -3.8
comp=Z,49nm,1.5s
SNAA Sanae 137.36 195 PKPdf 16 11 05.0 +8.6
SNAA Sanae 137.36 195 P PKPdf 16 11 08.4 +12
NNA Nana 138.40 69 PFAKE 16 11 10.0 +10
NNA LR LR
comp=Z,45nm,20.0s,MS4.2
VNA2 Neumayer--Watz 138.91 195 PKPdf 16 11 00.7 +1.5
SAML Samuel 146.21 50 *e*PKPdf PKPdf 16 11 14.6 +1.1
SAML *ep*PKPdf 16 11 25.0
SAML LR LR
comp=Z,202nm,20.0s,MS4.9
LPAZ La Paz 147.71 66 PKPbc PKPdf 16 11 18.3 +2.5
comp=Z,6.8nm,1.0s,baz=302,slow=4.0,SNR=13
LPAZ La Paz 147.71 66 PKPbc PKPdf 16 11 18.3 +2.5
LPAZ LR LR
comp=Z,90nm,19.0s,MS4.6
PLCA Paso Flores 152.78 115 PKPbc PKPdf 16 11 31.4 +8.5
comp=Z,2.4nm,0.8s,baz=210,slow=2.4,SNR=4.7
PLCA pPKPbc 16 11 42.1
comp=Z,5.6nm,1.0s,baz=228,slow=4.1,SNR=6.4
BDFB Brasilia 160.09 31 PKP2 PKPab 16 12 14.1 -1.2
BDFB pmax pmax
comp=Z,4.0nm,0.8s
BDFB pmax pmax
comp=Z,4.0nm,0.9s
BDFB Brasilia 160.09 31 PKPab PKPab 16 12 14.1 -1.2
comp=Z,4.2nm,0.8s,baz=13,slow=2.6,SNR=3.8
BDFB pPKPab 16 12 25.2
comp=Z,3.9nm,0.9s,baz=37,slow=5.7,SNR=3.5
CPUP Villa Florida 161.56 73 PFAKE 16 11 50.0 +16
CPUP LR LR
comp=Z,213nm,22.0s

*BJI **27** 15:51:43.8, 45.40N×112.60W, h5km, mB4.4, mb4.6, Ms4.9, Msz4.6*
*NEIC **27** 15:51:45.9±0.3, 45.38N×112.60W, h5km, mb4.1/2, ML4.2, MW4.0(SLM), Error ellipse: s-maj=4.0km s-min=3.2km az=85.0*
NEIC Felt [IV] at Dillon; [III] at Butte, Bozeman and Twin Bridges; [II] at Anaconda and Helena. Felt at Boulder, Drummond, Stephensville and Virgina City.
*IDC **27** 15:51:45.5±0.6, 45.37N×112.65W, mb3.8/3, mb1 4.1/11, mb1mx3.9/28, mbtmp3.8/11, ML4.0/7, MS3.1/8, Ms1 3.1/8, ms1mx2.9/32, Error ellipse: s-maj=9.2km s-min=7.0km az=67.0*
ISC 27 15:51:44.4±1.1, 45.39N±0.03×112.64W±0.05, h2km±8km, n74, σ1°32/73, mb4.0/5, 1C-1D, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCMT	**McKenzie Canyo**	**0.58**	**195**	*e*P	**Pg**	**15 51 56.1**	**+0.1**
BOZ	**Bozeman (W)**	**0.76**	**70↑**	*e*P	**Pg**	**15 51 59.8**	**+0.3**
QLMT	**Earthquake Lak**	**1.02**	**123**	*e*P	**Pb**	**15 52 03.9**	**-0.5**
YMR	**Madison River**	**1.39**	**121**	*e*P	**Pb**	**15 52 11.0**	**+0.3**
HRY	**Holter Researc**	**1.44**	**23**	*e*P	**Pn**	**15 52 12.7**	**+1.2**
YNR	**Norris Junctio**	**1.54**	**115**	*e*P	**Pn**	**15 52 13.8**	**+0.8**
CHMT	**Chamberlain Mo**	**1.58**	**345**	*e*P	**Pn**	**15 52 15.2**	**+1.6**
YFT	**Old Faithful**	**1.59**	**126**	*e*P	**Pn**	**15 52 14.4**	**+0.8**
MSO	**Missoula**	**1.70**	**328**	*e*Pn	**Pn**	**15 52 16.5**	**+1.2**
IMW	**Indian Meadow**	**1.92**	**140↓**	*e*Pn	**Pn**	**15 52 19.4**	**+1.0**
GCMT	**Greycliff**	**2.12**	**78**	*e*Pn	**Pn**	**15 52 22.0**	**+0.7**
MOOW	**Moose Ponds**	**2.12**	**140**	*e*Pn	**Pn**	**15 52 22.3**	**+1.0**
HLID	**Hailey**	**2.22**	**215**	*e*Pn	**Pn**	**15 52 23.4**	**+0.7**
RRID	**Red Ridge**	**2.25**	**155**	*e*Pn	**Pn**	**15 52 24.5**	**+1.4**
TPAW	**Teton Pass**	**2.25**	**147**	*e*Pn	**Pn**	**15 52 24.6**	**+1.5**
LOHW	**Long Hollow**	**2.29**	**140**	*e*Pn	**Pn**	**15 52 25.4**	**+1.6**
SNOW	**Snow King Moun**	**2.35**	**144**	Pn	**Pn**	**15 52 24.9**	**+0.4**
REDW	**Red Top Meadow**	**2.40**	**147**	*e*Pn	**Pn**	**15 52 26.9**	**+1.7**
AHID	**Auburn Hatcher**	**2.85**	**157**	Pn	**Pn**	**15 52 32.4**	**+0.7**
BMO	**Blue Mountains**	**3.35**	**262**	*e*Pn	**Pn**	**15 52 38.1**	**-0.6**
BW06	**Boulder Array**	**3.43**	**139**	*e*Pn	**Pn**	**15 52 40.9**	**+1.0**
PDAR	**Pinedale Array**	**3.43**	**139**	Pn	**Pn**	**15 52 44.5**	**+4.5**
	4.9nm,0.3s,baz=338,slow=14,SNR=73						
PDAR				Lg		15 53 30.5	
	5.4nm,0.3s,baz=332,slow=38,SNR=5.0						
HVU	**Hansel Valley**	**3.61**	**182**	Pn	**Pn**	**15 52 42.1**	**-0.3**
WALA	**Waterton Lakes**	**3.77**	**347**	*e*Pn	**Pn**	**15 52 45.4**	**+0.6**
HWUT	**Hardware Ranch**	**3.86**	**168**	Pn	**Pn**	**15 52 46.8**	**+0.7**
SPUT	**South Promonto**	**4.08**	**178**	Pn	**Pn**	**15 52 48.1**	**-1.1**
NEW	**Newport**	**4.21**	**315**	Pn	**Pn**	**15 52 51.3**	**+0.2**
	5.8nm,0.3s,baz=134,slow=12,SNR=18						
NEW				Pg	**Pg**	**15 53 05.4**	**-3.1**
	24nm,0.3s,baz=125,slow=13,SNR=33						
NEW				Lg		15 53 58.5	
	98nm,0.3s,baz=59,slow=23,SNR=14						
NEW				LR	LR	15 54 56.2	
	comp=Z,186nm,19.1s,baz=123,slow=45						
NEW	**Newport**	**4.21**	**315**	*e*Pn	**Pn**	**15 52 51.0**	**0.0**
TCUT	**Tuone Canyon**	**4.36**	**168**	Pn	**Pn**	**15 52 53.0**	**-0.2**
BGU	**Big Grassy Mou**	**4.47**	**184**	*e*Pn	**Pn**	**15 52 52.4**	**-2.3**
LAO	**LASA Array**	**4.65**	**71**	*e*Pn	**Pn**	**15 52 56.4**	**-0.9**
CTU	**Camp Tracy**	**4.74**	**172**	*e*Pn	**Pn**	**15 52 55.4**	**-3.1**
NOQ	**North Oquirrh**	**4.75**	**175**	Pn	**Pn**	**15 52 58.8**	**+0.1**
JLU	**Jordanelle**	**4.86**	**169**	Pn	**Pn**	**15 53 00.7**	**+0.5**
ELK	**Elko**	**5.02**	**203**	Pn	**Pn**	**15 53 02.5**	**+0.1**
	1.1nm,0.3s,baz=11,slow=14,SNR=13						
ELK				Lg		15 54 23.6	
	12nm,0.3s,baz=288,slow=22,SNR=7.0						
ELK				LR	LR	15 55 19.9	
	comp=Z,175nm,18.4s,baz=13,slow=43						
ELK	**Elko**	**5.02**	**203**	*e*Pn	**Pn**	**15 53 02.4**	**-0.1**
DAU	**Daniels Canyon**	**5.08**	**168**	Pn	**Pn**	**15 53 02.1**	**-1.1**
RWWY	**Rawlins**	**5.41**	**131**	Pn	**Pn**	**15 53 05.9**	**-2.0**
MPU	**Maple Canyon**	**5.42**	**172**	Pn	**Pn**	**15 53 04.8**	**-3.4**
NLU	**North Lily Min**	**5.45**	**175**	*e*Pn	**Pn**	**15 53 03.7**	**-4.8**
BMN	**Battle Mountai**	**5.99**	**216**	*e*Pn	**Pn**	**15 53 15.4**	**-0.8**
TMUT	**Trail Mountain**	**6.18**	**170**	*e*Pn	**Pn**	**15 53 16.9**	**-2.0**
RSSD	**Black Hills**	**6.25**	**99**	*e*Pn	**Pn**	**15 53 16.6**	**-3.3**
SRU	**San Rafael**	**6.47**	**165**	Pn	**Pn**	**15 53 21.8**	**-1.1**
DGMT	**Dagmar**	**6.55**	**59**	*e*Pn	**Pn**	**15 53 23.1**	**-1.0**
PHWY	**Pilot Hill**	**6.64**	**125**	Pn	**Pn**	**15 53 23.1**	**-2.3**
MSU	**Marysvale**	**6.88**	**177**	Pn	**Pn**	**15 53 27.1**	**-1.6**
SMCO	**Snowmass**	**7.49**	**144**	Pn	**Pn**	**15 53 36.3**	**-1.0**
ARUT	**Antelope Range**	**7.62**	**185**	P	**Pn**	**15 53 43.0**	**+4.0**
EDM	**Edmonton**	**7.86**	**357**	*e*P	**Pn**	**15 53 39.2**	**-3.2**
BEKR	**Beckwourth**	**7.92**	**229**	P	**Pn**	**15 53 40.9**	**-2.5**
TPH	**Tonopah**	**8.07**	**207**	*e*P	**P**	**15 53 48.0**	**+2.6**
NVAR	**Mina Array Bea**	**8.13**	**215**	Pn	**P**	**15 53 47.8**	**+1.6**
	1.0nm,0.3s,baz=29,slow=13,SNR=67						
NVAR				Lg		15 56 01.6	
	0.9nm,0.3s,baz=35,slow=28,SNR=3.7						
YBH	**Yreka Blue Hor**	**8.18**	**247**	Pn	**P**	**15 53 47.5**	**+0.6**
	0.4nm,0.3s,baz=105,slow=8.5,SNR=5.1						
YBH				LR	LR	15 56 49.9	
	comp=Z,89nm,21.6s,baz=63,slow=37						
YBH	**Yreka Blue Hor**	**8.18**	**247**	P	**P**	**15 53 46.7**	**-0.2**
MTUM	**Tungsten Hills**	**9.18**	**211**	P	**P**	**15 54 02.4**	**+1.7**
SDCO	**Great Sand Dun**	**9.32**	**143**	*e*Pn	**P**	**15 54 03.0**	**+0.3**
NEN	**Nelson**	**9.87**	**191**	P	**P**	**15 54 12.8**	**+2.5**
BBB	**Bella Bella**	**12.25**	**309**	LR	LR	15 58 57.1	
	comp=Z,79nm,20.2s,baz=286,slow=35						
ULM	**Lac du Bonnet**	**12.27**	**61**	Pn	**P**	**15 54 37.8**	**-5.1**
	0.8nm,0.3s,baz=258,slow=13,SNR=4.4						
ULM				Lg		15 58 03.9	
	1.1nm,0.3s,baz=159,slow=20,SNR=5.3						
ULM				LR	LR	15 59 25.2	
	comp=Z,162nm,18.0s,baz=218,slow=37						
ULM	**Lac du Bonnet**	**12.27**	**61**	Pn	**P**	**15 54 37.8**	**-5.1**
ULM				Lg		15 58 03.9	
ULM				LR	LR	15 59 25.2	
MNTX	**Cornudas Mount**	**14.79**	**155**	P	**P**	**15 55 15.8**	**-0.5**
	11nm,1.4s						
DLBC	**Dease Lake**	**16.83**	**327**	LR	LR	16 02 25.5	
	comp=Z,53nm,18.0s,baz=124,slow=38						
YKA	**Yellowknife Ar**	**17.18**	**357**	Pn	**P**	**15 55 42.5**	**-4.2**
	0.3nm,0.3s,baz=175,slow=12,SNR=19						
YKA				Lg		16 00 36.8	
	0.2nm,0.3s,baz=170,slow=28,SNR=4.1						
YKA				LR	LR	16 02 40.4	
	comp=Z,99nm,19.7s,baz=155,slow=38						
YKA	**Yellowknife Ar**	**17.18**	**357**	Pn	**P**	**15 55 42.5**	**-4.2**
YKA				Lg		16 00 36.8	
YKA				LR	LR	16 02 40.4	
TXAR	**Lajitas Array**	**17.52**	**153**	Pn	**P**	**15 55 56.1**	**+4.8**
	0.1nm,0.3s,baz=346,slow=7.4,SNR=3.2						
TXAR				LR	LR	16 02 59.0	
	comp=Z,56nm,21.5s,baz=105,slow=38						
WVT	**Waverly**	**20.88**	**108**	P	**P**	**15 56 27.6**	**-2.4**
	3.1nm,0.7s						
LRAL	**Lakeview Retre**	**23.27**	**113**	P	**P**	**15 56 55.2**	**+1.2**
	11nm,0.9s,mb4.3						
ILAR	**Eielson Array**	**27.04**	**328**	P	**P**	**15 57 31.1**	**+1.7**
	1.1nm,0.9s,mb3.4,baz=128,slow=10,SNR=3.5						
NOA	**NORSAR Array B**	**64.61**	**27**	P	**P**	**16 02 24.4**	**-0.5**
	0.7nm,0.8s,mb3.8,baz=313,slow=6.6,SNR=3.3						
FINES	**FINESS Array B**	**68.42**	**20**	P	**P**	**16 02 48.4**	**-0.6**
	1.9nm,0.9s,mb4.1,slow=4.2,SNR=4.0						
CN2	**Changchun**	**77.31**	**321**	*e*P	**P**	**16 03 42.3**	**+0.7**
SSE	**Sheshan**	**89.55**	**316**	*e*P	**P**	**16 04 43.8**	**-0.6**
SSE				AMB	AMB		
	comp=Z,31nm,0.8s						
LZH	**Lanzhou**	**92.46**	**331**	*e*P	**P**	**16 04 55.8**	**-1.9**
LZH				AMB	AMB		
	comp=Z,4.0nm,1.5s,mb4.5						

*IDC **27** 16:01:12.2±2.6, 33.16N×142.46E, mb3.5/3, mb1 3.7/5, mb1mx3.5/21, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=28.0km s-min=24.4km az=35.0*
*JMA **27** 16:01:13.6±0.5, 33.20N×142.60E, h93km, M3.2*
ISC 27 16:01:13.2±2.6, 33.15N±0.06×142.52E±0.09, h24km±21km, n15, σ0°93/19, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.97**	**320**	P	**Pn**	**16 01 45.9**	**+0.1**
JHJ2	**Mitsune**	**2.27**	**270**	P	**Pn**	**16 01 51.0**	**+1.0**
JHJ	**Hachijo jima 2**	**2.30**	**270**	Pn	**Pn**	**16 01 50.7**	**+0.3**
	26nm,0.3s,baz=228,slow=22,SNR=21						
JHJ				Sn	**Sn**	**16 02 17.4**	**-0.8**
	31nm,0.3s,baz=50,slow=21,SNR=5.2						
BSO3	**Boso 3**	**2.35**	**315**	P	**Pn**	**16 01 51.5**	**+0.4**
BSO3				*e*S	**Sn**	**16 02 20.1**	**+0.6**
BSO4	**Boso 4**	**2.58**	**316**	P	**Pn**	**16 01 55.0**	**+0.5**
BSO4				*e*S	**Sn**	**16 02 26.1**	**+0.7**
JIM2	**Oshima 3**	**3.01**	**302**	P	**Pn**	**16 02 00.5**	**+0.1**
JHO	**Hitachi**	**3.81**	**336**	P	**Pn**	**16 02 10.3**	**-1.6**
JAG	**Ashikaga**	**4.13**	**323**	P	**Pn**	**16 02 15.9**	**-0.6**
MJAR	**Matsushiro Arr**	**4.90**	**315**	Pn	**Pn**	**16 02 27.5**	**+0.1**
	1.2nm,0.3s,baz=55,slow=26,SNR=9.2						
MJAR				Sn	**Sn**	**16 03 21.9**	**-2.2**
	1.3nm,0.3s,baz=80,slow=39,SNR=5.3						
CBIJ	**Chichi jima**	**6.04**	**183**	Sn	**Sn**	**16 03 49.0**	**-3.7**
	10nm,0.3s,baz=266,slow=21,SNR=2.9						
ASAJ	**Asahikawa**	**10.95**	**0**	Pn	**P**	**16 03 47.4**	**-4.2**
	0.7nm,0.3s,baz=290,slow=30,SNR=4.4						
NST	**Nakhon Sawan**	**42.01**	**256**	P	**P**	**16 09 05.5**	**+0.9**
MKAR	**Makanchi Array**	**47.03**	**305**	P	**P**	**16 09 45.3**	**+0.9**
	0.3nm,0.6s,mb3.4,baz=82,slow=10,SNR=3.2						
ILAR	**Eielson Array**	**52.32**	**31**	P	**P**	**16 10 24.9**	**0.0**
	0.5nm,0.6s,mb3.6,baz=264,slow=6.6,SNR=4.6						
WRA	**Warramunga Arr**	**53.37**	**190**	P	**P**	**16 10 33.3**	**+0.1**
	0.4nm,0.6s,mb3.5,baz=3.2,slow=7.6,SNR=11						

JMA 27 16:02:32.7±0.4, 33.29N×142.61E, h47km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.35**	**266**	P	P	16 03 10.0	+0.3
JHJ2				*e*S	S	16 03 37.6	+0.2
JHO	**Hitachi**	**3.71**	**334**	P	P	16 03 28.7	-0.3
JHO				*e*S	S	16 04 09.8	-2.2
JYN	**Shimob**	**4.02**	**304**	*e*S	S	16 04 20.3	+0.6

*NEIC **27** 16:05:04.4±0.5, 7.97N×92.01E, mb4.2/2, Error ellipse: s-maj=17.4km s-min=9.5km az=48.0*
*IDC **27** 16:05:04.5±0.8, 8.04N×92.01E, h27km±4km, mb3.8/10, mb1 4.0/10, mb1mx3.7/23, mbtmp3.9/10, Error ellipse: s-maj=25.7km s-min=15.4km az=56.0*
ISC 27 16:05:02.0±8.2, 8.0N±0.1×92.1E±0.2, h25km±60km, h28km±4km:pP-P, n16, σ0°74/16, mb4.1/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.96**	**107**	*e*P	**P**	**16 07 12.6**	**-0.3**
LSA	**Lhasa**	**21.61**	**358**	*e*P	**P**	**16 09 55.3**	**+3.0**
	10nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**39.55**	**349**	P	**P**	**16 12 32.2**	**-0.6**
	1.0nm,0.8s,mb3.6,baz=169,slow=7.2,SNR=4.3						
MKAR				pP	pP	16 12 40.6	+0.3
	1.0nm,0.7s,baz=172,slow=8.6,SNR=7.2						
MKAR	**Makanchi Array**	**39.55**	**349**	P	**P**	**16 12 32.2**	**-0.6**
MKAR				pP	pP	16 12 40.6	+0.3
SONM	**Songino Array**	**41.53**	**15**	P	**P**	**16 12 49.0**	**-0.1**
	2.4nm,0.8s,mb3.9,baz=193,slow=8.8,SNR=8.1						
SONM				pP	pP	16 12 57.6	+1.0
	1.7nm,0.6s,baz=200,slow=6.6,SNR=5.0						
FITZ	**Fitzroy Crossi**	**42.10**	**128**	P	**P**	**16 12 54.6**	**+0.6**
	2.7nm,0.8s,mb3.9,baz=326,slow=3.6,SNR=2.7						
KURK	**Kurchatov**	**44.02**	**348**	*e*P	**P**	**16 13 08.9**	**-0.4**
	3.6nm,1.1s,mb4.0						
ZAL	**Zalesovo**	**46.18**	**354**	P	**P**	**16 13 26.8**	**+0.3**
	0.6nm,0.4s,mb3.9,baz=285,slow=5.4,SNR=3.2						
ZAL				pP	pP	16 13 35.6	+1.5
	0.7nm,0.3s,baz=302,slow=4.9,SNR=2.4						
ZAL	**Zalesovo**	**46.18**	**354**	P	**P**	**16 13 26.8**	**+0.3**
ZAL				pP	pP	16 13 35.6	+1.5
BVAR	**Borovoye Array**	**48.23**	**343**	P	**P**	**16 13 42.7**	**0.0**
	0.6nm,0.8s,mb3.7,baz=149,slow=8.6,SNR=4.5						
BVAR				pP	pP	16 13 51.1	+0.8
	0.8nm,0.8s,baz=149,slow=8.6,SNR=3.5						
WRA	**Warramunga Arr**	**50.03**	**124**	P	**P**	**16 13 57.2**	**+0.3**
	1.6nm,0.8s,mb4.1,baz=306,slow=8.6,SNR=5.3						
WRA				pP	pP	16 14 05.7	+1.1
	1.9nm,0.8s,baz=303,slow=9.2,SNR=7.9						
WRAB	**Tennant Creek**	**50.03**	**124**	*e*P	**P**	**16 13 56.4**	**-0.6**
	109nm,1.4s,mb5.7						
OPO	**Ambohidratompo**	**51.52**	**239**	P	**P**	**16 14 08.8**	**+0.5**
	1.8nm,0.9s,mb4.0,baz=42,slow=12,SNR=2.7						
BRTR	**Keskin Array B**	**60.78**	**311**	P	**P**	**16 15 13.1**	**-1.3**
	0.7nm,0.8s,mb3.8,baz=124,slow=10,SNR=2.8						
BRTR				pP	pP	16 15 21.6	-0.6
	0.6nm,0.6s,baz=117,slow=6.4,SNR=2.1						
MLR	**Muntele Rosu**	**67.64**	**316**	P	**P**	**16 15 58.9**	**-0.2**
	0.7nm,0.3s,mb4.1,baz=131,slow=7.2,SNR=3.0						
GERES	**GERESS Array B**	**76.36**	**318**	P	**P**	**16 16 51.5**	**+0.6**
	0.3nm,0.2s,mb3.8,baz=90,slow=4.0,SNR=4.9						

*BJI **27** 16:05:50.5, 3.02N×93.80E, h43km, mB5.3, mb4.9, Ms4.9, Msz4.7*
*HRVD **27** 16:05:52.7±0.7, 3.43N×93.76E, h12km, MW4.8/50, Centroid moment Tensor Solution. LP body waves: s12,c16;Mantle waves: s50,c73; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.66±.08; $M_{\theta\theta}$-0.41±.06; $M_{\phi\phi}$-1.26±.08; $M_{r\theta}$-0.63±.32; $M_{r\phi}$0.60±.07; $M_{\theta\phi}$1.00±.27; Best double couple: $M_0$2×10^{16} NP1:ϕ_s155°, δ27°, λ95°, NP2:ϕ_s330°, δ63°, λ88°. Principal axes: T 2.049, Plg72°, Azm234°; N -.103, Plg2°, Azm331°; P -1.951, Plg18°, Azm62°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 16:05:52.7±0.2, 3.29N×93.77E, mb5.1/36 Error ellipse: s-maj=6.5km s-min=5.0km az=206.0*
*IDC **27** 16:05:52.9±0.5, 3.35N×93.73E, h28km±2km, mb4.4/21, mb1 4.5/21, mb1mx4.5/24, mbtmp4.6/21, MS3.6/2, Ms1 3.6/2, ms1mx3.2/21, Error ellipse: s-maj=15.4km s-min=12.3km az=67.0*
*MOS **27** 16:05:53.2±0.9, 3.69N×93.81E, h33km, mb5.2/31, Error ellipse: s-maj=16.9km s-min=7.1km az=111.7*
ISC 27 16:05:51.0±0.3, 3.33N±0.05×93.80E±0.04, h29km, h29km±4km:pP-P, n184, σ0°90/184, mb4.9/88, MS4.6/12, 18C-9D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.10**	**74**	*e*P	**Pn**	**16 07 35.5**	**-0.2**
IPM	**Ipoh**	**7.31**	**80**	P	**Pn**	**16 07 38.6**	**-0.1**
SNG	**Songkhla**	**7.79**	**60**	P	**Pn**	**16 07 45.0**	**-0.4**
	210nm,1.0s						
KGM	**Kluang**	**9.60**	**98**	P	**P**	**16 08 10.7**	**+0.1**
KKTK	**Khon Kaen**	**15.68**	**34**	P	**P**	**16 09 36.0**	**+4.2**
	617nm,0.8s						
KSM	**Kuching**	**16.59**	**96**	*e*P	**P**	**16 09 44.9**	**+1.4**
NANT	**Nan**	**16.79**	**23**	⇓P	**P**	**16 09 44.0**	**-2.0**
	275nm,0.8s						
HYB	**Hyderabad**	**20.49**	**314**	*e*P	**P**	**16 10 30.0**	**+0.5**
HYB	**Hyderabad**	**20.49**	**314**	*i* P	**P**	**16 10 30.0**	**+0.5**
SHL	**Shillong**	**22.19**	**355**	*e*P	**P**	**16 10 46.0**	**-0.6**
SHL				*e*S	**S**	**16 14 54.0**	**+10**
KKM	**Kota Kinabalu**	**22.50**	**82**	P	**P**	**16 10 59.8**	**+10**
KMI	**Kunming**	**23.32**	**21**	⇑P	**P**	**16 10 59.8**	**+2.0**
KMI				AP		16 11 08.5	
KMI				XP		16 11 12.5	
KMI				AMB	AMB		
	comp=Z,27nm,1.5s,mb4.5						
KMI				AMB	AMB		
	comp=Z,221nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,11.4s,MS4.7						
KMI				LR	LR		
	comp=E,991nm,12.1s,MS4.7						
KMI				LR	LR		
	comp=Z,1μm,10.2s,MS4.6						
KMI	**Kunming**	**23.32**	**21**	⇑P	**P**	**16 10 59.8**	**+2.0**
	comp=Z,27nm,1.5s,mb4.5						
KMI				pP		16 11 08.5	
KMI				sP		16 11 12.4	
KMI				S	**S**	**16 15 16.9**	**+12**
KMI				LR	LR		
	comp=Z,1μm,10.2s,MS4.6						
TSM	**Tawau**	**24.04**	**87**	P	**P**	**16

KUDL Kundal 29.69 328 *e*P **P** **16 11 56.9 0.0**
KUDL AMb AMB 16 11 58.6
comp=Z,16nm,1.0s,mb4.7

DDI Dehra Dun 30.70 333 *e*P **P** **16 12 04.8 -1.0**
KKR Kurukshetra 30.99 331 *e*P **P** **16 12 08.9 +0.5**
KLP Kalpa 31.65 334 *e*P **P** **16 12 14.7 +0.6**
KLP AMb AMB 16 12 18.5
comp=Z,14nm,0.9s,mb4.8

WHN Wuhan 33.32 33 ⇑P **P** **16 12 30.0 +1.3**
WHN LR LR
comp=Z,3μm,11.9s,MS5.2

XAN Xi'an 33.65 23 P **P** **16 12 30.5 -1.1**
XAN AMB AMB
comp=Z,34nm,1.0s,mb5.2

LZH Lanzhou 33.89 15 *e*P **P** **16 12 33.0 -0.6**
LZH AP pP 16 12 41.0 -1.1
LZH XP sP 16 12 45.5 -0.3
LZH AMB AMB
comp=Z,31nm,1.1s,mb5.2

LZH Lanzhou 33.89 15 *e*P **P** **16 12 33.0 -0.6**
comp=Z,31nm,1.1s,mb5.2
LZH pP pP 16 12 41.1 -1.0
LZH sP sP 16 12 45.5 -0.3

GTA Gaotai 36.33 8 P **P** **16 12 54.0 -0.4**
GTA AMB AMB
comp=Z,15nm,1.3s,mb4.8

NJ2 Nanjing 37.02 37 *e*P **P** **16 13 01.5 +1.3**
NJ2 AP pP 16 13 11.5 +2.7
NJ2 XP sP 16 13 15.8 +3.4
NJ2 PP PP 16 14 31.0 +4.0
NJ2 S **S** **16 18 50.0 +6.5**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.6

NJ2 AMB AMB
comp=Z,560nm,6.2s

NJ2 LR LR
comp=N,3μm,10.0s,MS5.5

NJ2 LR LR
comp=E,2μm,10.0s,MS5.5

NJ2 LR LR
comp=Z,3μm,10.0s,MS5.3

SSE Sheshan 37.81 40 *e*P **P** **16 13 06.3 -0.6**
SSE AP pP 16 13 15.5 +0.1
SSE S **S** **16 19 02.3 +6.7**
SSE SCS ScS 16 23 14.0 -1.2
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.1

SSE AMB AMB
comp=Z,542nm,12.0s

SSE LR LR
comp=N,556nm,12.0s,MS4.7

SSE LR LR
comp=E,572nm,12.0s,MS4.7

SSE LR LR
comp=Z,1μm,11.7s,MS4.9

SSE Sheshan 37.81 40 *e*P **P** **16 13 06.2 -0.7**
comp=Z,28nm,0.7s,mb5.1

SSE pP pP 16 13 15.4 0.0
SSE PcP PcP 16 15 14.9 -8.7
SSE S **S** **16 19 02.3 +6.7**
SSE sS 16 19 16.8
SSE ScS ScS 16 23 14.0 -1.2
SSE LR LR
comp=Z,1μm,11.7s,MS4.9

FITZ Fitzroy Crossi 37.92 125 PcP PcP 16 15 24.7 +0.7
comp=Z,9.3nm,0.8s,baz=178,slow=2.6,SNR=4.6

HHC Hu-ho-hao-te 40.64 21 *e*P **P** **16 13 31.0 +0.7**
HHC AP pP 16 13 40.3 +1.4
HHC XP sP 16 13 46.3 +3.8
HHC AMB AMB
comp=Z,21nm,1.4s,mb4.6

HHC AMB AMB
comp=Z,559nm,13.1s

HHC LR LR
comp=N,474nm,13.1s,MS4.8

HHC LR LR
comp=E,821nm,16.6s,MS4.8

HHC LR LR
comp=Z,396nm,16.6s,MS4.3

WMQ Urumqi 40.68 353 P **P** **16 13 32.5 +1.9**
KZA Kyzart 42.00 339 P **P** **16 13 42.6 +1.1**
SNR=10

AML Almayashu 42.62 338 P **P** **16 13 47.8 +1.3**
SNR=22

KBK Karagaybulak 42.62 339 P **P** **16 13 47.9 +1.3**
SNR=12

TKM2 Tokmak 2 42.63 340 P **P** **16 13 47.3 +0.7**
SNR=12

AAK Ala-Archa 42.76 339*c* *i*P **P** **16 13 47.2 -0.5**
AAK pmax pmax
comp=Z,27nm,1.7s,mb4.7

AAK Ala-Archa 42.76 339 *e*P **P** **16 13 47.5 -0.1**
comp=Z,27nm,1.4s,mb4.8

FRU Bishkek 42.89 339 *e*P **P** **16 13 49.0 +0.2**
FRU pmax pmax
comp=Z,50nm,1.9s,mb4.9

CHMS Chumysh 42.99 339 P **P** **16 13 49.6 +0.1**
SNR=5.3

EKS2 Erkin-Say 43.04 338 P **P** **16 13 51.1 +1.1**
SNR=10

USP Ospenovka 43.31 339 P **P** **16 13 52.6 +0.5**
SNR=23

MKAR Makanchi Array 44.44 349 *i* P **P** **16 14 01.6 +0.3**
MKAR pmax pmax
comp=Z,48nm,1.0s

MKAR Makanchi Array 44.44 349 P **P** **16 14 01.6 +0.3**
comp=Z,21nm,0.8s,mb4.9,baz=166,slow=8.6,SNR=64
MKAR pP pP 16 14 10.0 +0.1
comp=Z,17nm,0.8s,baz=165,slow=7.8,SNR=17

KKAR Karatay Array 44.69 336 *i* P **P** **16 14 03.0 -0.4**
KKAR pmax pmax
comp=Z,20nm,1.0s,mb4.9

SONM Songino Array 45.65 12 P **P** **16 14 11.0 +0.1**
comp=Z,14nm,0.8s,mb4.9,baz=196,slow=9.0,SNR=32
SONM PcP PcP 16 15 50.0 +0.8
comp=Z,3.5nm,0.8s,baz=180,slow=1.2,SNR=3.9
SONM LR LR 16 32 30.9
comp=Z,24nm,21.1s,baz=249,slow=35

WRA Warramunga Arr 46.03 122 P **P** **16 14 14.1 -0.2**
comp=Z,21nm,1.0s,mb5.0,baz=300,slow=8.8,SNR=21
WRA pP pP 16 14 24.1 +1.2
comp=Z,6.5nm,0.7s,baz=298,slow=8.9,SNR=6.2

WRAB Tennant Creek 46.04 122 *i* P **P** **16 14 06.6 -7.7**
WRAB Tennant Creek 46.04 122 *e*P **P** **16 14 14.1 -0.3**
WB2 Warramunga Arr 46.05 122 *e*P **P** **16 14 14.0 -0.4**
ZAK Zakamensk 47.57 8 *e*P **P** **16 14 25.0 -1.0**
ZAK *e* 16 15 55.9
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.3

ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3

TLY Talaya 48.89 8 *i* P **P** **16 14 36.5 +0.3**
TLY pmax pmax
comp=Z,15nm,1.7s,mb4.8

KURK Kurchatov 48.93 347 *e*P **P** **16 14 36.8 +0.3**
comp=Z,53nm,1.4s,mb5.4

CN2 Changchun 49.07 30 *e*P **P** **16 14 38.0 +0.3**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.7

OPO Ambohidratompo 50.78 243 P **P** **16 14 50.3 -0.8**
comp=Z,5.8nm,1.1s,mb4.4,baz=41,slow=9.3,SNR=3.6
OPO pP pP 16 14 60.0 +0.1
comp=Z,2.3nm,0.8s,baz=84,slow=12,SNR=2.8

HIA Hailar 50.83 22 *e*P **P** **16 14 51.1 0.0**
comp=Z,31nm,1.0s,mb5.2

ZAL Zalesovo 50.99 353 P **P** **16 14 51.7 -0.5**
comp=Z,10nm,0.5s,mb5.0,baz=302,slow=5.4,SNR=36
ZAL pP pP 16 15 00.5 -0.5
comp=Z,8.8nm,0.5s,baz=302,slow=4.7,SNR=12

ZAL Zalesovo 50.99 353 P **P** **16 14 51.7 -0.5**
ZAL pP pP 16 15 00.5 -0.5
CIT Chita 51.25 16 *e*P **P** **16 14 54.9 +0.7**
CIT *e* 16 16 09.7
CIT pmax pmax
comp=Z,52nm,1.6s,mb5.2

MDJ Mudanjiang 51.78 32 P **P** **16 14 59.0 +0.6**
MDJ AMB AMB
comp=Z,16nm,1.5s,mb4.7

MDJ AMB AMB
comp=Z,228nm,7.7s

NVS Novosibirsk 52.07 352 ⇑*i*P **P** **16 14 58.6 -1.8**
NVS *e*S **S** **16 22 19.0 -1.8**
NVS pmax pmax
comp=Z,35nm,1.2s,mb5.2

NVS pmax pmax
comp=N,28nm,1.4s

NVS pmax pmax
comp=E,15nm,1.3s

NVS smax
comp=E,19nm,2.2s

MJAR Matsushiro Arr 52.52 45 P **P** **16 15 04.1 0.0**
comp=E,2.4nm,0.9s,mb4.1,baz=241,slow=8.7,SNR=5.4
MJAR PcP PcP 16 16 15.5 +1.2
comp=E,2.2nm,0.8s,baz=230,slow=6.0,SNR=3.5

BVA0 Borovoye Array 53.18 343 P **P** **16 15 07.7 -1.0**
BVA0 pmax pmax
comp=Z,4.0nm,1.0s,mb4.3

BVAR Borovoye Array 53.18 343 P **P** **16 15 07.7 -1.0**
comp=Z,12nm,0.8s,mb4.9,baz=149,slow=8.6,SNR=54
BVAR pP pP 16 15 16.6 -0.9
comp=Z,8.7nm,0.9s,baz=154,slow=7.7,SNR=12

BRVK Borovoye 53.24 343 *e*P **P** **16 15 08.0 -1.1**
comp=Z,17nm,1.2s,mb4.9

AB31 Akbulak array 54.07 333 *i* P **P** **16 15 14.3 -1.0**
AB31 pmax pmax
comp=Z,18nm,1.0s,mb5.0

KLR Kul'dur 55.97 29 *e*P **P** **16 15 26.3 -2.8**
KLR pmax pmax
comp=Z,26nm,1.4s,mb5.1

BOD Bodaibo 56.62 13 *e*P **P** **16 15 32.6 -1.1**
BOD pmax pmax
comp=Z,13nm,1.4s,mb4.8

KMBO Kilima Mbogo 56.70 266 P **P** **16 15 34.8 -0.1**
comp=Z,3.4nm,0.9s,mb4.4,baz=44,slow=15,SNR=6.2
KMBO pP pP 16 15 43.8 +0.1
comp=Z,2.4nm,0.9s,baz=52,slow=10,SNR=3.9

STKA Stephens Creek 57.30 132 P **P** **16 15 38.6 -0.3**
comp=Z,4.9nm,0.9s,mb4.5,baz=284,slow=5.0,SNR=5.2

GNI Garni 57.42 317 *i* P **P** **16 15 36.2 -3.4**
GNI pmax pmax
comp=Z,29nm,1.3s

CLNS Chul'man 58.80 19 *e*P **P** **16 15 46.8 -2.2**
CLNS pmax pmax
comp=Z,18nm,1.0s,mb5.1

CLNS pmax pmax
comp=N,5.0nm,0.9s

CLNS pmax pmax
comp=E,5.0nm,0.7s

ARU Arti 59.94 338⇑ *i*P **P** **16 15 55.1 -1.8**
ARU *e* 16 18 07.3
ARU *e*PPP PPP 16 19 32.4 -4.5
ARU *e*S **S** **16 24 11.7 +6.3**
ARU pmax pmax
comp=Z,19nm,1.1s,mb5.0

ARU Arti 59.94 338 *e*P **P** **16 15 55.3 -1.6**
comp=Z,57nm,1.6s,mb5.3

ASF Jabal al Asfar 60.47 305 P **P** **16 16 01.0 +0.1**
comp=Z,2.3nm,0.3s,mb4.6,baz=323,slow=3.8,SNR=10.0

YSS Yuzh-Sakhalins 60.59 36 *e*P **P** **16 16 02.0 +0.6**
MALT Malatya 61.19 312 *e*P **P** **16 16 05.7 0.0**
comp=Z,30nm,1.4s,mb5.2

SOC Sochi 62.28 318 *e*P **P** **16 16 07.5 -5.4**
SOC *e* 16 18 25.7
SOC *e*PPP PPP 16 19 53.5 -8.1
SOC *e*S **S** **16 24 34.6 -0.7**
SOC *e*SS SS 16 28 39.2 -1.4
SOC pmax pmax
comp=Z,25nm,1.1s,mb5.3

SOC pmax pmax
comp=N,18nm,0.9s

SOC pmax pmax
comp=E,12nm,0.8s

SOC MLR MLR
comp=Z,335nm,16.0s,MS4.6

SOC MLR MLR
comp=N,76nm,13.0s,MS4.6

SOC MLR MLR
comp=E,284nm,16.0s,MS4.6

YAK Yakutsk 64.39 18*c* *i*P **P** **16 16 25.2 -1.3**
YAK pmax pmax
comp=Z,43nm,1.3s,mb5.3

YAK Yakutsk 64.39 18 *e*P **P** **16 16 25.5 -1.0**
comp=Z,50nm,1.3s,mb5.4

BR131 Keskin Array S 65.18 313 *e*P **P** **16 16 30.9 -1.1**
comp=Z,0.9nm,0.4s,mb4.2

BRTR Keskin Array B 65.18 313 P **P** **16 16 31.0 -1.0**
comp=Z,3.9nm,0.9s,mb4.4,baz=127,slow=6.2,SNR=18
BRTR pP pP 16 16 40.3 -0.7
comp=Z,1.9nm,0.8s,baz=143,slow=6.2,SNR=4.3

SIM Simferopol' 66.52 318 *e*P **P** **16 16 40.0 -0.5**
SIM pmax pmax
comp=Z,19nm,0.9s,mb5.1

SIM MLR MLR
comp=Z,230nm,19.2s,MS4.4

LSZ Lusaka 67.50 252 *e*P **P** **16 16 45.8 -1.3**
comp=Z,30nm,1.9s,mb5.0

MOS Moscow 68.79 330 *e*P **P** **16 16 52.1 -2.4**
MOS pmax pmax
comp=Z,40nm,0.7s,mb5.5

OBN Obninsk 69.05 329*c* *e*P **P** **16 16 54.5 -1.6**
OBN *e* pP 16 17 02.5 -2.6
OBN *e* 16 17 19.1
OBN pmax pmax
comp=Z,30nm,1.7s,mb5.0

OBN MLR MLR
comp=Z,100nm,12.0s,MS4.3

TIRR Tirgusor 70.25 316 ⇓P **P** **16 17 02.7 -0.9**
TIRR Tirgusor 70.25 316 ⇓P **P** **16 17 02.7 -0.9**
KIS Kishinev 70.67 319 *e*P **P** **16 17 04.0 -2.2**
MA2 Magadan 70.94 27 *e*P **P** **16 17 07.7 +0.1**
MA2 pmax pmax
comp=Z,10.0nm,1.4s,mb4.5

AKASG Malin Array Be 71.52 323 P **P** **16 17 09.5 -1.7**
comp=Z,3.9nm,0.8s,mb4.4,baz=89,slow=4.8,SNR=19
AKASG pP pP 16 17 17.8 -2.4
comp=Z,1.9nm,0.7s,baz=90,slow=4.7,SNR=5.2

AKASG Malin Array Be 71.52 323 P **P** **16 17 09.5 -1.7**
AKASG pP pP 16 17 17.8 -2.4
VRI Vrincioaia 71.76 317 ⇑P **P** **16 17 13.0 +0.2**
MLR Muntele Rosu 72.20 317 P **P** **16 17 16.0 +0.6**
comp=Z,12nm,0.8s,mb4.8,baz=81,slow=2.6,SNR=19
MLR pP pP 16 17 24.8 +0.4
comp=Z,4.7nm,0.5s,baz=144,slow=3.6,SNR=5.3

MLR Muntele Rosu 72.20 317 ⇓P **P** **16 17 15.9 +0.5**
MLR Muntele Rosu 72.20 317 ⇓P **P** **16 17 15.9 +0.5**
BOSA Boshof 72.93 239 P **P** **16 17 19.8 -0.3**
comp=Z,4.3nm,0.8s,mb4.4,baz=121,slow=5.7,SNR=3.6

SEY Seymchan 73.18 24 *e*P **P** **16 17 21.2 +0.4**
SEY pmax pmax
comp=E,6.0nm,1.1s

SEY pmax pmax
comp=Z,9.0nm,1.1s,mb4.6

BURAR Bucovina Array 73.20 319 ⇑P **P** **16 17 21.8 +0.6**
BURAR Bucovina Array 73.20 319 ⇑P **P** **16 17 21.8 +0.6**
MAW Mawson 74.04 192 P **P** **16 17 26.0 +0.2**
comp=Z,0.6nm,0.6s,baz=22,slow=7.8,SNR=5.2

DZM Mont Dzumac 75.24 114 LR LR 16 54 03.0
comp=Z,101nm,21.0s,MS4.1,baz=197,slow=38

VSU Vasula 75.31 330 *i* P **P** **16 17 32.4 -0.8**
KOLS Kolonicke sedl 75.41 320 *e*P **P** **16 17 34.5 +0.5**
KOLS *e*pP pP 16 17 43.6 +0.6
KOLS *e* 16 17 56.2
LVZ Lovozero 75.69 340 *e*P **P** **16 17 33.9 -1.3**
LVZ pmax pmax
comp=Z,12nm,1.4s,mb4.6

CRVS Cervenica-Dubn 75.93 320 *e*P **P** **16 17 39.1 +2.2**
APA Apatity 75.97 340 *e*P **P** **16 17 35.5 -1.3**
APA pmax pmax
comp=Z,13nm,1.0s,mb4.8

SUW Suwalki 75.99 325 *e*P **P** **16 17 36.4 -0.8**
SUW Suwalki 75.99 325 *e*P **P** **16 17 36.4 -0.8**
STHS Stebnicka Huta 76.17 320 *e*P **P** **16 17 38.7 +0.4**
KECS Kecovo 76.48 319 *e*P **P** **16 17 39.4 -0.7**
FINES FINESS Array B 76.56 333 *i* P **P** **16 17 39.9 -0.3**
FINES pmax pmax
comp=Z,3.0nm,0.7s

FINES FINESS Array B 76.56 333 P **P** **16 17 39.5 -0.8**
comp=Z,3.4nm,0.7s,mb4.4,baz=127,slow=9.5,SNR=12
FINES pP pP 16 17 48.2 -1.0
comp=Z,0.8nm,0.5s,baz=90,slow=5.7,SNR=2.7

KAF Kangasniemi 76.67 333 *e*p **P** **16 17 38.6 -2.2**
comp=Z,10.0nm,1.0s,mb4.7,baz=106,slow=5.2

KAF Kangasniemi 76.67 333 *e*P **P** **16 17 38.6 -2.2**
KAF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7

OJC Ojcow 77.24 321 *e*P **P** **16 17 44.6 +0.4**
VYHS Vyhne 77.56 319 *e*P **P** **16 17 46.2 +0.1**
VYHS *e*pP pP 16 17 54.5 -0.6
OKC Ostrava-Krasne 78.22 320 *e*P **P** **16 17 50.2 +0.6**
OKC *e*pP pP 16 17 58.9 +0.2
MORC Moravsky Berou 78.60 320 *e*P **P** **16 17 51.9 +0.2**
comp=Z,31nm,1.7s,mb5.0

ZST Bratislava 78.67 318 *e*P **P** **16 17 53.1 +1.0**
ZST *e*pP pP 16 18 02.1 +0.9
ZST *e*L 16 49 36.3
ARCES ARCESS Array B 79.41 341 P **P** **16 17 55.9 +0.1**
comp=Z,5.6nm,0.9s,mb4.5,baz=117,slow=8.1,SNR=19
ARCES pP pP 16 18 04.4 -0.4
comp=Z,2.9nm,0.8s,baz=153,slow=2.7,SNR=3.8

DPC Dobruska-Polom 79.46 320 *e*P **P** **16 17 57.2 +0.8**
DPC *e*pP pP 16 18 06.3 +0.8
KSP Ksiaz 79.54 321 *e*P **P** **16 17 57.6 +0.8**
KSP Ksiaz 79.54 321 *e*P **P** **16 17 57.2 +0.4**
ARSA Arzberg 79.61 317⇑ *i*P **P** **16 17 57.7 +0.4**
comp=Z,72nm,1.6s,mb5.4

UPC Upice 79.68 321 *e*P **P** **16 17 58.0 +0.5**
UPC *e*pP pP 16 18 06.4 -0.3
PDKS Podkum 79.84 316 *i* P **P** **16 17 58.9 +0.4**
comp=Z,42nm,1.2s,mb5.2

LJU Ljubljana 80.17 316 *e*P **P** **16 18 00.7 +0.4**
OBKA Obir 80.19 316⇑ *i*P **P** **16 18 01.0 +0.6**
comp=Z,67nm,1.8s,mb5.3

BILL Bilibino 80.41 21*d* *i*P **P** **16 18 01.3 +0.2**
BILL pmax pmax
comp=Z,15nm,1.6s,mb4.7

BILL MLR MLR
comp=Z,200nm,17.0s,MS4.5

MOA Molln 80.52 318⇑ *i*P **P** **16 18 02.3 +0.2**
comp=Z,16nm,1.6s,mb4.7

PRU Pruhonice 80.55 320 *e*P **P** **16 18 02.5 +0.3**
PRU *e*pP pP 16 18 11.6 +0.2
GORS Gorjuse 80.56 316 *i* P **P** **16 18 02.5 +0.2**
PVCC Panska Ves 80.59 321 *e*P **P** **16 18 03.3 +0.9**
FX1 Attu Island--F 80.94 37 P **P** **16 18 05.5 +1.3**
comp=Z,5.9nm,0.7s,mb4.6,baz=341,slow=1.0,SNR=5.3

GEC2 GERESS Array S 80.98 319 *e*P **P** **16 18 05.2 +0.7**
GEC2 pmax pmax
comp=Z,28nm,1.1s,mb5.1

GEC2 GERESS Array S 80.98 319 *e*P **P** **16 18 05.2 +0.7**
comp=Z,28nm,1.1s,mb5.1

GERES GERESS Array B 80.98 319 P **P** **16 18 05.6 +1.0**
comp=Z,8.9nm,0.8s,mb4.8,baz=90,slow=5.3,SNR=55
GERES pP pP 16 18 13.6 -0.1
comp=Z,4.9nm,0.7s,baz=104,slow=5.5,SNR=7.5

BRG Berggiesshubel 81.03 321 *i* P **P** **16 18 05.1 +0.4**
BRG *e* pP 16 18 14.4 +0.6
BRG pmax pmax
comp=Z,15nm,1.1s,mb4.8

BRG pmax pmax
comp=Z,11nm,1.4s,mb4.6

BRG MLR MLR
comp=Z,423nm,14.3s,MS4.9

BRG MLR MLR
comp=N,209nm,13.1s,MS4.8

BRG MLR MLR
comp=E,216nm,13.1s,MS4.8

BRG Berggiesshubel 81.03 321 *i* P **P** **16 18 05.1 +0.4**
comp=E,15nm,1.1s,mb4.8

BRG *e* pP 16 18 14.4 +0.5
BRG LR LR
comp=Z,420nm,14.3s,MS4.9

KBA Koelnbreinsper 81.07 317⇑ *i*P **P** **16 18 04.9 -0.1**
comp=Z,19nm,1.5s,mb4.8

KHC Kasperske Hory 81.09 319 *e*P **P** **16 18 05.8 +0.7**
KHC *e*pP pP 16 18 15.0 +0.8
WET Wettzell 81.55 319 *e*P **P** **16 18 08.0 +0.5**
WET pmax pmax
comp=Z,17nm,1.3s,mb4.8

WET Wettzell 81.55 319 *e*P **P** **16 18 08.0 +0.5**
comp=Z,17nm,1.3s,mb4.8

CLL Collm 81.66 321 *i* P **P** **16 18 08.2 +0.2**
CLL *e**PP pP 16 18 18.0 +0.9
CLL pmax pmax
comp=Z,14nm,1.3s,mb4.7

CLL Collm 81.66 321 *i* P **P** **16 18 08.2 +0.2**
comp=Z,14nm,1.3s,mb4.7

CLL *e*pP pP 16 18 18.0 +0.9
CLL Collm 81.66 321 P **P** **16 18 08.2 +0.2**
comp=Z,logA/T=1.0,mb4.7

CLL *e**PP pP 16 18 18.0 +0.9
NKC Novy Kostel 81.92 320 *e*P **P** **16 18 10.3 +0.9**
WTTA Wattenberg 82.25 317⇑ *i*P **P** **16 18 11.0 -0.1**
comp=Z,24nm,1.2s,mb5.0

WATA Walderalm 82.29 317⇑ *i*P **P** **16 18 11.1 -0.3**
comp=Z,13nm,1.2s,mb4.7

MOX Moxa 82.48 320 *e*P **P** **16 18 12.7 +0.4**
MOX Moxa 82.48 320 *i* P **P** **16 18 12.7 +0.4**
SQTA Sankt Quirin 82.53 317⇓ *i*P **P** **16 18 12.9 +0.3**
comp=Z,8.7nm,1.0s,mb4.7

MOTA Moosalm 82.61 317⇓ *i*P **P** **16 18 12.9 -0.1**
comp=Z,12nm,1.0s,mb4.9

GRA1 Grafenberg Arr 82.67 320 *e*P **P** **16 18 14.1 +0.8**
comp=Z,23nm,0.9s,mb5.2

GRF Grafenberg Arr 82.67 320 *e*P **P** **16 18 14.1 +0.8**
GRF pmax pmax
comp=Z,23nm,0.9s,mb5.2

GRF Grafenberg Arr 82.67 320 *e*P **P** **16 18 14.1 +0.8**
comp=Z,23nm,0.9s,mb5.2

CLZ Clausthal 83.33 322 *e*P **P** **16 18 17.0 +0.4**
CLZ pmax pmax
comp=Z,12nm,1.0s,mb4.9

CLZ Clausthal 83.33 322 *e*P **P** **16 18 17.0 +0.4**
comp=Z,12nm,1.0s,mb4.9

DAVA Damuels 83.44 317⇓ *i*P **P** **16 18 18.0 +0.7**
comp=Z,52nm,1.5s,mb5.3

BSEG Bad Segeberg 83.48 324 *e*P **P** **16 18 17.8 +0.4**
BSEG pmax pmax
comp=Z,16nm,1.2s,mb4.9

NB2 NORSAR Subarra 83.51 331 P **P** **16 18 16.5 -0.8**
comp=Z,6.2nm,0.9s,mb4.7,baz=98,slow=5.0

NOA NORSAR Array B 83.51 331 P **P** **16 18 16.6 -0.7**
comp=Z,4.5nm,1.0s,mb4.6,baz=94,slow=5.5,SNR=7.3
NOA pP pP 16 18 25.9 -0.6
comp=Z,1.8nm,0.9s,baz=95,slow=5.4,SNR=3.9

KONO Kongsberg 84.21 329 *i* P **P** **16 18 19.4 -1.5**
TNS Taunus Mts 84.48 320 *e*P **P** **16 18 23.0 +0.5**
TNS pmax pmax
comp=Z,14nm,1.0s,mb5.0

TNS Taunus Mts 84.48 320 *e*P **P** **16 18 23.0 +0.5**
comp=Z,14nm,1.0s,mb5.0

BFO Black Forest 84.52 318 *e*P **P** **16 18 23.0 +0.3**
BFO pmax pmax
comp=Z,9.0nm,1.0s,mb4.8

BFO Black Forest 84.52 318 *e*P **P** **16 18 23.0 +0.3**
comp=Z,9.0nm,1.0s,mb4.8

BNI Bardonecchia 85.63 315 *e*P **P** **16 18 28.8 +0.4**
comp=Z,5.8nm,0.9s,mb4.8

VNDA Vanda 88.57 168 P **P** **16 18 42.5 +0.5**
comp=Z,1.8nm,1.0s,mb4.3,baz=289,slow=4.9,SNR=7.5

NVAR Mina Array Bea 128.94 32 PKP PKPdf 16 24 59.6 -2.1
comp=Z,0.8nm,0.8s,baz=309,slow=2.3,SNR=5.6

PDAR Pinedale Array 129.49 22 PKP PKPdf 16 24 59.2 -3.4
comp=Z,1.3nm,1.0s,SNR=8.0

TXAR Lajitas Array 143.46 26 PKP PKPdf 16 25 23.6 -5.0
comp=Z,0.9nm,0.7s,baz=315,slow=1.8,SNR=7.4

CPUP Villa Florida 144.10 228 PKP PKPdf 16 25 24.4 -5.4
comp=Z,7.9nm,0.9s,baz=95,slow=5.2,SNR=11

SAML Samuel 156.45 255 *e*PKPab PKPab 16 26 14.3 -0.8
LPAZ La Paz 158.06 233 PKP PKPdf 16 25 48.6 -2.3
comp=Z,1.1nm,0.8s,baz=359,slow=2.2,SNR=5.0
LPAZ PKPab PKPab 16 26 22.0 +0.2
comp=Z,1.1nm,0.7s,baz=104,slow=7.6,SNR=4.9

WEL 27 16:08:37.5±0.3**,37.52S**×**176.49E,h185**km±2km**,ML3.7**/19**,**
Error ellipse: s-maj=4.1km s-min=3.2km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**0.89**	**147**	PN		P	16 09 05.1	0.0
URZ				SN		S	16 09 26.0	-0.6
MWZ	**Matawai**	**1.16**	**135**	PN		P	16 09 07.1	-0.1
MWZ				SN		S	16 09 30.0	-0.1
MXZ	**Matakaoa Point**	**1.44**	**92**	PN		P	16 09 09.5	-0.3
MXZ				SN		S	16 09 34.2	-0.4
PUZ	**Puketiti**	**1.50**	**112**	PN		P	16 09 09.8	-0.5
PUZ				SN		S	16 09 33.9	-1.7
BKZ	**Black Stump Fm**	**1.65**	**180**	PN		P	16 09 11.2	-0.5
BKZ				SN		S	16 09 37.3	-0.7
KNZ	**Kokohu**	**1.76**	**149**	PN		P	16 09 12.8	-0.1
NGZ	**Ngauruhoe**	**1.80**	**203**	PN		P	16 09 14.5	+1.3
FWVZ	**Far West T-bar**	**1.89**	**203**	PN		P	16 09 15.3	+1.3
WNVZ	**Wahianoa**	**1.94**	**201**	PN		P	16 09 14.8	+0.2
MOVZ	**Moawhango**	**1.97**	**197**	PN		P	16 09 14.9	-0.1
PWZ	**Pawanui**	**2.52**	**174**	PN		P	16 09 20.3	-1.0

PWZ SN S 16 09 52.8 -2.2
WAZ Wanganui 2.53 207 PN P 16 09 21.0 -0.4
WAZ SN S 16 09 55.4 +0.3
TSZ Takapari Road 2.57 189 PN P 16 09 20.6 -1.2
MRZ Mangatainoka R 3.22 192 PN P 16 09 27.3 -2.3

IDC 27 16:36:05.1±1.9, 8.06N×91.93E, mb3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=73.4km s-min=30.2km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.47**	**350**	P	P	16 43 36.6	-2.2
	0.4nm,0.6s,baz=170,slow=7.4,SNR=4.6						
SONM	**Songino Array**	**41.50**	**15**	P	P	16 43 54.4	-1.2
	1.5nm,0.8s,baz=180,slow=7.2,SNR=4.2						
WRA	**Warramunga Arr**	**50.16**	**124**	P	P	16 45 02.7	-2.1
	0.7nm,0.7s,baz=310,slow=8.6,SNR=6.3						
GERES	**GERESS Array B**	**76.23**	**318**	P	P	16 47 55.9	-1.3
	0.3nm,0.6s,baz=90,slow=2.7,SNR=3.5						

IDC 27 16:50:19.3±24.0, 24.43N×94.83E, h151km±221km, mb3.2/5, mb1 3.4/5, mb1mx3.1/20, mbtmp3.7/5, Error ellipse: s-maj=261.7km s-min=20.5km az=54.0

ISC 27 16:50:18.1±1.5, 24.6N±0.2×95.1E±0.2, h152km±14km, n13, σ0s72/15, mb3.5/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.08**	**280**	*eP*	**P**	**16 50 45.0**	**+1.0**
IMP				*eS*	**S**	**16 51 03.0**	**-1.0**
SHL	**Shillong**	**3.08**	**289**	*eP*	**P**	**16 51 07.5**	**+0.2**
SHL				*eSN*	**S**	**16 51 43.5**	**-1.4**
GUN	**Gumba**	**8.92**	**294**	*eP*	**P**	**16 52 25.6**	**+1.0**
	18nm,0.3s						
PKI	**Pulchoki**	**9.21**	**291**	*eP*	**P**	**16 52 29.1**	**+0.7**
	7.8nm,0.2s						
KKN	**Kakani**	**9.38**	**292**	*eP*	**P**	**16 52 30.7**	**0.0**
	20nm,0.3s						
DMN	**Daman**	**9.48**	**291**	*eP*	**P**	**16 52 32.3**	**+0.3**
	5.3nm,0.3s						
GKN	**Gorkha**	**9.99**	**292**	*eP*	**P**	**16 52 39.2**	**+0.4**
	14nm,0.3s						
KOLN	**Koldanda**	**10.81**	**289**	*eP*	**P**	**16 52 50.0**	**+0.5**
	7.3nm,0.2s						
MKAR	**Makanchi Array**	**24.41**	**338**	P	**P**	**16 55 24.2**	**+0.6**
	1.3nm,0.6s,mb3.7,baz=146,slow=9.5,SNR=22						
WRA	**Warramunga Arr**	**58.47**	**136**	P	**P**	**17 00 00.1**	**-0.4**
	0.4nm,0.5s,mb3.5,baz=323,slow=7.5,SNR=11						
FINES	**FINESS Array B**	**58.70**	**328**	P	**P**	**17 00 01.2**	**-0.4**
	0.5nm,0.7s,mb3.5,baz=112,slow=7.5,SNR=3.4						
ARCES	**ARCESS Array B**	**60.06**	**338**	P	**P**	**17 00 10.1**	**-0.8**
	1.0nm,0.9s,mb3.6,baz=101,slow=4.6,SNR=3.8						
NOA	**NORSAR Array B**	**65.88**	**328**	P	**P**	**17 00 48.4**	**-0.8**
	0.2nm,0.6s,mb3.2,baz=100,slow=6.5,SNR=3.1						

IDC 27 16:51:07.2±2.0, 32.99N×142.38E, mb3.8/3, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/25, Error ellipse: s-maj=46.1km s-min=25.4km az=55.0

JMA 27 16:51:09.5±0.7, 33.29N×142.42E, h79km

ISC 27 16:51:08.7±1.3, 33.22N±0.08×142.5E±0.1, h33km, n14, σ0s87/16, mb3.9/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.91**	**319**	P	**P**	**16 51 39.1**	**-0.3**
BSO1				*eS*	**S**	**16 52 02.7**	**+0.1**
JHJ2	**Mitsune**	**2.25**	**268**	P	**P**	**16 51 44.9**	**+0.6**
JHJ	**Hachijo jima 2**	**2.28**	**268**	Pn	**Pn**	**16 51 45.0**	**+0.1**
	45nm,0.3s,baz=217,slow=21,SNR=23						
JHJ				LR	LR	16 52 09.7	
	comp=Z,822nm,20.2s,baz=59,slow=29						
JHJ				Sn	**Sn**	**16 52 11.9**	**-0.2**
	43nm,0.3s,baz=65,slow=22,SNR=5.4						
BSO3	**Boso 3**	**2.29**	**314**	P	**P**	**16 51 44.7**	**-0.1**
BSO4	**Boso 4**	**2.52**	**315**	P	**P**	**16 51 48.5**	**+0.4**
KTR	**Katsuura**	**2.65**	**317**	P	**P**	**16 51 50.0**	**+0.1**
JIM2	**Oshima 3**	**2.96**	**301**	P	**P**	**16 51 53.3**	**-1.1**
JYN	**Shimob**	**3.99**	**306**	P	**P**	**16 52 09.9**	**+0.9**
JAG	**Ashikaga**	**4.07**	**323**	P	**P**	**16 52 09.0**	**-1.1**
JRY	**Ryogami san**	**4.08**	**314**	P	**P**	**16 52 10.1**	**-0.2**
MJAR	**Matsushiro Arr**	**4.84**	**314**	Pn	**Pn**	**16 52 20.3**	**-0.9**
	1.8nm,0.3s,baz=92,slow=30,SNR=15						
ZAL	**Zalesovo**	**45.21**	**315**	P	**P**	**16 59 25.9**	**+1.8**
	2.0nm,0.3s,mb4.4,baz=124,slow=1.7,SNR=4.4						
MKAR	**Makanchi Array**	**46.93**	**305**	P	**P**	**16 59 41.4**	**+3.3**
	0.8nm,0.8s,mb3.7,baz=100,slow=7.8,SNR=5.2						
WRA	**Warramunga Arr**	**53.43**	**190**	P	**P**	**17 00 26.8**	**-1.0**
	0.3nm,0.5s,mb3.5,baz=6.4,slow=7.6,SNR=12						

IDC 27 16:58:11.2±2.1, 32.96N×142.34E, mb3.6/3, mb1 3.6/5, mb1mx3.5/21, mbtmp3.6/5, Error ellipse: s-maj=49.2km s-min=25.2km az=53.0

JMA 27 16:58:13.2±0.3, 33.31N×142.39E, h73km, M3.3

ISC 27 16:58:12.9±1.7, 33.40N±0.08×142.5E±0.1, h64km±24km, n14, σ0s97/20, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.76**	**316**	P	**P**	**16 58 42.4**	**+0.6**
BSO1				*eS*	**S**	**16 59 04.8**	**+1.7**
BSO3	**Boso 3**	**2.15**	**311**	P	**P**	**16 58 47.6**	**+0.5**
JHJ2	**Mitsune**	**2.24**	**263**	P	**P**	**16 58 48.1**	**-0.4**
JHJ	**Hachijo jima 2**	**2.27**	**264**	Pn	**P**	**16 58 48.2**	**-0.6**
	34nm,0.3s,baz=65,slow=19,SNR=15						
JHJ				Sn	**S**	**16 59 15.2**	**-0.4**
	33nm,0.3s,baz=64,slow=22,SNR=4.5						
BSO4	**Boso 4**	**2.38**	**313**	P	**P**	**16 58 51.6**	**+1.2**
JIM2	**Oshima 3**	**2.84**	**298**	P	**P**	**16 58 56.9**	**-0.1**
JIM2				*eS*	**S**	**16 59 28.9**	**-1.3**
JYN	**Shimob**	**3.86**	**304**	P	**P**	**16 59 11.5**	**+0.2**
JAG	**Ashikaga**	**3.91**	**321**	P	**P**	**16 59 12.2**	**+0.3**
JAG				*eS*	**S**	**16 59 56.7**	**-0.2**
JMM	**Marumori**	**4.66**	**343**	P	**P**	**16 59 20.9**	**-1.6**
JMM				*eS*	**S**	**17 00 10.7**	**-5.1**
MJAR	**Matsushiro Arr**	**4.70**	**313**	Pn	**P**	**16 59 24.2**	**+1.3**
	1.0nm,0.3s,baz=167,slow=13,SNR=8.9						
JMK	**Ichinoseki**	**5.63**	**350**	P	**P**	**16 59 34.0**	**-1.9**
JMK				*eS*	**S**	**17 00 35.3**	**-4.8**
SONM	**Songino Array**	**30.64**	**309**	P	**P**	**17 04 29.0**	**+5.9**
	0.6nm,0.8s,mb3.5,baz=108,slow=4.6,SNR=2.5						
MKAR	**Makanchi Array**	**46.85**	**305**	P	**P**	**17 06 44.9**	**+6.8**
	0.8nm,0.7s,mb3.7,baz=88,slow=8.7,SNR=7.1						
WRA	**Warramunga Arr**	**53.60**	**190**	P	**P**	**17 07 30.7**	**+0.7**
	0.2nm,0.3s,mb3.5,baz=14,slow=7.5,SNR=12						

MAN 27 17:21:30.8, 8.43N×124.30E, h32km, mb3.7, ML2.4, MS1.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.39**	**87⇑**	*eP*	Pb	17 21 41.2	+1.5
CGP				*eS*	Sb	17 21 48.1	+2.3
BUKP	**Musuan**	**0.93**	**126**	*eP*	Pn	17 21 47.5	-0.3
PAGZ	**Pagadian**	**1.08**	**238**	*eP*	Pn	17 21 49.8	-0.1
PAGZ				*eS*	Sn	17 22 03.4	-0.4
IPIL	**Ipil**	**1.83**	**250**	*eP*	Pn	17 22 00.3	-0.3
IPIL				*eS*	Sn	17 22 26.1	+3.2

NNC 27 17:21:48.4±6.2, 37.37N×71.39E, h227km±93km, mpv3.4, 2C-1D, Error ellipse: s-maj=64.8km s-min=39.0km az=18.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.77**	**354**	P	P	17 23 12.4	-1.4
	0.9nm,0.2s,baz=176,slow=12,SNR=19						
KK31				⇑S	S	17 24 20.8	+0.5
	5.1nm,0.3s,baz=170,slow=20						
AAK	**Ala-Archa**	**5.77**	**23**	⇓P	P	17 23 13.2	-0.6
	2.6nm,0.6s						
AAK				⇑S	S	17 24 21.7	+1.3
	7.9nm,0.8s						
THN	**Thein Dam**	**6.07**	**143**	*eP*	P	17 23 01.5	-16
THN				*eS*	S	17 24 04.6	-23
AB31	**Akbulak array**	**14.49**	**329**	P	P	17 25 05.5	+1.3
	0.1nm,0.2s,slow=0.1,SNR=7.3						
AB31				S	S	17 27 42.5	+3.2
	0.7nm,0.7s,baz=154,slow=23,SNR=5.2						

JMA 27 17:28:19.5±0.6, 33.27N×142.59E, h58km, M3.5

IDC 27 17:28:19.2±2.1, 33.02N×142.39E, mb3.7/3, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=48.0km s-min=25.3km az=53.0

ISC 27 17:28:19.9±1.2, 33.33N±0.07×142.59E±0.09, h33km, n18, σ0s96/24, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.88**	**315**	P	**P**	**17 28 50.6**	**+0.4**
BSO3	**Boso 3**	**2.26**	**311**	P	**P**	**17 28 56.3**	**+0.6**
JHJ2	**Mitsune**	**2.33**	**265**	P	**P**	**17 28 56.6**	**-0.1**
JHJ2				*eS*	**S**	**17 29 25.0**	**+0.5**
JHJ	**Hachijo jima 2**	**2.36**	**266**	Pn	**Pn**	**17 28 56.7**	**-0.6**
	68nm,0.3s,baz=61,slow=18,SNR=34						
JHJ				Sn	**Sn**	**17 29 25.1**	**-0.4**
	48nm,0.3s,baz=61,slow=23,SNR=6.2						
BSO4	**Boso 4**	**2.49**	**312**	P	**P**	**17 29 00.2**	**+1.2**
JIM2	**Oshima 3**	**2.96**	**299**	P	**P**	**17 29 04.6**	**-1.1**
JYN	**Shimob**	**3.98**	**304**	P	**P**	**17 29 19.8**	**-0.3**
JAG	**Ashikaga**	**4.02**	**321**	P	**P**	**17 29 20.6**	**-0.1**
JRY	**Ryogami san**	**4.05**	**312**	P	**P**	**17 29 21.4**	**+0.3**
JMM	**Marumori**	**4.75**	**343**	P	**P**	**17 29 29.6**	**-1.5**
JMM				*eS*	**S**	**17 30 20.5**	**-5.3**
MJAR	**Matsushiro Arr**	**4.81**	**313**	Pn	**Pn**	**17 29 31.9**	**-0.2**
	2.2nm,0.3s,baz=157,slow=13,SNR=25						
MJAR				Sn	**Sn**	**17 30 28.2**	**+0.8**
	0.6nm,0.3s,baz=14,slow=24,SNR=4.8						
MAT	**Matsushiro**	**4.82**	**313**	P	**P**	**17 29 31.7**	**-0.3**
MAT				S	**S**	**17 30 25.5**	**-1.9**
MAT	**Matsushiro**	**4.82**	**313**	P	**P**	**17 29 32.5**	**+0.5**
MAT				*eS*	**S**	**17 30 26.1**	**-1.3**
JGM	**Miyama**	**5.39**	**298**	P	**P**	**17 29 40.7**	**+0.6**
JMK	**Ichinoseki**	**5.71**	**349**	*eS*	**S**	**17 30 44.5**	**-5.5**
SONM	**Songino Array**	**30.75**	**309**	P	**P**	**17 34 37.7**	**+3.5**
	0.5nm,0.4s,mb3.7,baz=101,slow=7.3,SNR=3.9						
MKAR	**Makanchi Array**	**46.97**	**305**	P	**P**	**17 36 52.3**	**+3.0**
	0.7nm,0.7s,mb3.7,baz=92,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**53.56**	**190**	P	**P**	**17 37 39.2**	**-0.8**
	0.4nm,0.5s,mb3.6,baz=7.0,slow=7.7,SNR=13						

BJI 27 17:35:02.4, 5.08N×94.47E, h41km, mB5.1, mb5.0, Ms4.2, Msz3.9

MOS 27 17:35:03.3±0.8, 5.42N×94.51E, h33km, mb5.0/19, Error ellipse: s-maj=17.1km s-min=6.7km az=115.9

NEIC 27 17:35:04.7±0.3, 5.35N×94.38E, h30km, mb4.7/20, Error ellipse: s-maj=12.0km s-min=6.0km az=212.0

IDC 27 17:35:06.2±0.8, 5.28N×94.38E, h49km±6km, mb4.4/15, mb1 4.5/15, mb1mx4.2/23, mbtmp4.7/15, MS3.8/10, Ms1 3.8/10, ms1mx3.5/33, Error ellipse: s-maj=25.4km s-min=12.2km az=49.0

ISC 27 17:35:04.3±0.4, 5.28N±0.06×94.41E±0.04, h45km, h45km±2.5km:pP-P, n145, σ0s96/148, mb4.8/61, MS3.9/15, 15C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.22**	**90**	*eP*	**P**	**17 36 35.9**	**0.0**
SNG	**Songkhla**	**6.46**	**73**	P	**P**	**17 36 40.0**	**+0.8**
	470nm,0.9s						
NNT	**Nongplab**	**8.97**	**36**	P	**P**	**17 37 15.8**	**+1.7**
NST	**Nakhon Sawan**	**11.76**	**28**	P	**P**	**17 37 53.1**	**+0.8**
BDT	**Bhumibol Dam**	**12.71**	**20**	P	**P**	**17 38 05.5**	**+0.4**
KKTK	**Khon Kaen**	**13.74**	**36**	P	**P**	**17 38 28.0**	**+9.3**
	432nm,0.7s						
NANT	**Nan**	**14.78**	**24**	⇑P	**P**	**17 38 37.0**	**+4.8**
	131nm,1.0s						
KSM	**Kuching**	**16.32**	**103**	*eP*	**P**	**17 38 53.5**	**+1.5**
HYB	**Hyderabad**	**19.65**	**309**	*eP*	**P**	**17 39 32.5**	**+0.2**
HYB				*eS*	**S**	**17 43 10.0**	**+3.8**
HYB	**Hyderabad**	**19.65**	**309**	*iP*	**P**	**17 39 32.5**	**+0.2**
HYB				*eS*	**S**	**17 43 10.0**	**+3.8**
SHL	**Shillong**	**20.32**	**353**	*eP*	**P**	**17 39 35.0**	**-4.4**
QIZ	**Qiongzhong**	**20.33**	**46**	P	**P**	**17 39 40.0**	**+0.5**
QIZ				S	**S**	**17 43 20.5**	**+0.5**
QIZ				AMB	AMB		
	comp=Z,26nm,1.4s						
QIZ				LR	LR		
	comp=N,318nm,18.9s,MS3.9						
QIZ				LR	LR		
	comp=E,357nm,15.1s,MS3.9						
QIZ				LR	LR		
	comp=Z,382nm,18.6s,MS3.8						
KMI	**Kunming**	**21.29**	**21**	P	**P**	**17 39 50.8**	**+1.5**
KMI				S	**S**	**17 43 43.0**	**+4.8**
KMI				AMB	AMB		
	comp=Z,26nm,1.3s,mb4.4						
KMI				AMB	AMB		
	comp=Z,145nm,3.1s						
KMI				LR	LR		
	comp=N,215nm,10.5s,MS3.9						
KMI				LR	LR		
	comp=E,216nm,12.0s,MS3.9						
KMI				LR	LR		
	comp=Z,243nm,16.7s,MS3.7						
KMI	**Kunming**	**21.29**	**21**	P	**P**	**17 39 50.7**	**+1.4**
KMI				*PP		17 40 02.9	
KMI				*SP		17 40 10.8	
KMI				S	**S**	**17 43 43.0**	**+4.8**
KMI				*SS		17 44 03.6	
KMI				SS	SS	17 44 20.6	+6.4
KMI				pmax	pmax		
	comp=Z,26nm,1.3s,mb4.4						
KMI				MLR	MLR		
	comp=Z,240nm,16.7s,MS3.7						
KMI	**Kunming**	**21.29**	**21**	P	**P**	**17 39 50.7**	**+1.4**
	comp=Z,26nm,1.3s,mb4.4						
KMI				pP		17 40 02.9	
KMI				sP		17 40 10.8	
KMI				S	**S**	**17 43 43.0**	**+4.8**
KMI				sS		17 44 03.6	
KMI				SS	SS	17 44 20.6	+6.4
KMI				LR	LR		
	comp=Z,240nm,16.7s,MS3.7						
PKI	**Pulchoki**	**23.77**	**340**	*eP*	**P**	**17 40 13.3**	**-0.4**
	comp=Z,30nm,0.5s,mb5.0						
DMN	**Daman**	**23.91**	**339**	*eP*	**P**	**17 40 14.8**	**-0.3**
GUN	**Gumba**	**23.92**	**341**	*eP*	**P**	**17 40 15.3**	**+0.1**
	comp=Z,61nm,0.5s,mb5.3						
KKN	**Kakani**	**24.01**	**340**	*eP*	**P**	**17 40 15.3**	**-0.8**
	comp=Z,43nm,0.7s,mb5.0						
GYA	**Guiyang**	**24.10**	**28⇑**	*iP*	**P**	**17 40 17.8**	**+0.8**
GYA				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.1						
GKN	**Gorkha**	**24.43**	**339**	*eP*	**P**	**17 40 20.3**	**+0.1**
	comp=Z,51nm,0.5s,mb5.2						
LSA	**Lhasa**	**24.48**	**353**	*eP*	**P**	**17 40 22.5**	**+1.8**
LSA	**Lhasa**	**24.48**	**353**	*eP*	**P**	**17 40 21.2**	**+0.5**
LSA				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.0						
LSA	**Lhasa**	**24.48**	**353**	*eP*	**P**	**17 40 21.1**	**+0.4**
	comp=Z,40nm,0.6s,mb5.0						
KOLN	**Koldanda**	**24.61**	**336**	*eP*	**P**	**17 40 23.2**	**+1.2**
	comp=Z,53nm,0.7s,mb5.2						
CD2	**Chengdu**	**26.97**	**18**	P	**P**	**17 40 43.0**	**-1.0**
LGTI	**Lohaghat**	**27.52**	**332**	*eP*	**P**	**17 40 53.5**	**+4.5**
ENH	**Enshi**	**28.64**	**28**	*eP*	**P**	**17 40 56.9**	**-2.1**
	comp=Z,14nm,0.6s,mb4.9						
WHN	**Wuhan**	**31.37**	**34**	*eP*	**P**	**17 41 23.0**	**-0.3**
XAN	**Xi'an**	**31.63**	**23**	P	**P**	**17 41 23.8**	**-1.7**
XAN				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.4						
LZH	**Lanzhou**	**31.86**	**15**	*eP*	**P**	**17 41 26.3**	**-1.3**
LZH				AP	pP	17 41 35.0	-4.5
LZH				XP	sP	17 41 40.0	-5.2
LZH				AMB	AMB		
	comp=Z,28nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,86nm,4.0s						
LZH	**Lanzhou**	**31.86**	**15**	*eP*	**P**	**17 41 26.2**	**-1.4**
LZH				*PP	pP	17 41 35.0	-4.5
LZH				*SP	sP	17 41 40.0	-5.2
LZH				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.0						
LZH	**Lanzhou**	**31.86**	**15**	*eP*	**P**	**17 41 26.2**	**-1.4**
	comp=Z,28nm,1.2s,mb5.0						
LZH				pP	pP	17 41 35.0	-4.5
LZH				sP	sP	17 41 40.0	-5.2
GTA	**Gaotai**	**34.33**	**7⇑**	*iP*	**P**	**17 41 48.0**	**-0.8**
GTA				AP	pP	17 42 00.8	-0.1
GTA				XP	sP	17 42 04.5	-2.1
GTA				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.0						
NJ2	**Nanjing**	**35.11**	**38**	*eP*	**P**	**17 41 56.0**	**+0.4**
NJ2				AP	pP	17 42 06.0	-1.7
NJ2				XP	sP	17 42 09.0	-4.4
NJ2				S	**S**	**17 47 27.0**	**+2.7**
NJ2				XS		17 47 43.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,160nm,3.6s						
NJ2				LR	LR		
	comp=N,350nm,12.0s,MS4.4						
NJ2				LR	LR		
	comp=E,290nm,14.0s,MS4.4						
SSE	**Sheshan**	**35.94**	**41**	*eP*	**P**	**17 42 12.3**	**+10**
	comp=E,30nm,0.8s,mb5.3						
SSE				pP	pP	17 42 21.4	+6.6
SSE				PcP	PcP	17 44 27.5	-1.7
SSE				S	S	17 48 02.2	+25
SSE				sS		17 48 18.8	
SSE				ScS	ScS	17 52 22.7	+8.3
SSE				LR	LR		
	comp=Z,260nm,15.3s,MS4.1						
KSH	**Kashi**	**37.93**	**337**	*eP*	**P**	**17 42 20.0**	**+0.7**
KSH				*eAP	pP	17 42 30.5	-1.0
KSH				*eXP	sP	17 42 34.8	-2.2
KSH				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
KSH				AMB	AMB		
	comp=Z,330nm,5.8s						
FITZ	**Fitzroy Crossi**	**38.59**	**128**	*eP*	**P**	**17 42 24.3**	**-0.7**
	comp=Z,9.2nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**38.59**	**128**	P	**P**	**17 42 24.6**	**-0.4**
	comp=Z,10nm,0.7s,mb4.7,baz=352,slow=21,SNR=13						
FITZ				pP	pP	17 42 38.2	+1.1
	comp=Z,12nm,0.7s,baz=315,slow=2.0,SNR=5.5						
FITZ				PcP	PcP	17 44 36.0	-1.3
	comp=Z,2.7nm,0.5s,baz=351,slow=9.2,SNR=3.9						
HHC	**Hu-ho-hao-te**	**38.61**	**21⇑**	*iP*	**P**	**17 42 25.3**	**+0.3**
HHC				XP	sP	17 42 39.5	-3.1
HHC				S	**S**	**17 48 20.0**	**+2.1**
HHC				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.6						
HHC				AMB	AMB		
	comp=Z,124nm,9.8s						
HHC				LR	LR		
	comp=N,165nm,17.4s,MS4.1						
HHC				LR	LR		
	comp=E,180nm,16.3s,MS4.1						
HHC				LR	LR		
	comp=Z,200nm,17.4s,MS4.0						
TKM2	**Tokmak 2**	**41.02**	**339**	P	**P**	**17 42 45.4**	**+0.5**
	SNR=12						
KBK	**Karagaybulak**	**41.03**	**338**	P	**P**	**17 42 46.3**	**+1.3**
	SNR=17						
AML	**Almayashu**	**41.06**	**336**	P	**P**	**17 42 46.5**	**+1.2**
	SNR=6.4						
AAK	**Ala-Archa**	**41.18**	**338**	*iP*	**P**	**17 42 46.5**	**+0.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb3.8						
AAK	**Ala-Archa**	**41.18**	**338**	*eP*	**P**	**17 42 44.4**	**-1.8**
	comp=Z,10nm,0.8s,mb4.5						
FRU	**Bishkek**	**41.31**	**338**	*eP*	**P**	**17 43 00.5**	**+13**
FRU				*e*	pP	17 43 10.0	+11
FRU				pmax	pmax		
	comp=Z,50nm,2.2s,mb4.8						
EKS2	**Erkin-Say**	**41.48**	**337**	P	**P**	**17 42 49.5**	**+0.8**
	SNR=12						
USP	**Ospenovka**	**41.72**	**338**	P	**P**	**17 42 50.9**	**+0.3**
	SNR=12						
KAKA	**Kakadu**	**41.81**	**116**	*eP*	**P**	**17 42 55.0**	**+3.3**
	comp=Z,12nm,1.0s,mb4.5						
MKAR	**Makanchi Array**	**42.66**	**348**	P	**P**	**17 42 58.4**	**+0.1**
	comp=Z,39nm,0.6s,mb5.3,baz=170,slow=7.8,SNR=314						
MKAR				LR	LR	18 03 23.4	
	comp=Z,65nm,21.6s,MS3.5,baz=166,slow=40						
MKAR	**Makanchi Array**	**42.66**	**348**	P	**P**	**17 42 58.4**	**+0.1**
MKAR				LR	LR	18 03 23.4	
KKAR	**Karatay Array**	**43.19**	**334**	P	**P**	**17 43 02.9**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
SONM	**Songino Array**	**43.63**	**12**	P	**P**	**17 43 05.7**	**-0.5**
	comp=Z,6.5nm,0.7s,mb4.5,baz=193,slow=8.7,SNR=22						
SONM				pP	pP	17 43 18.2	-0.3
	comp=Z,12nm,1.0s,baz=192,slow=8.8,SNR=11						
SONM				PcP	PcP	17 44 53.4	-0.1
	comp=Z,2.8nm,0.5s,baz=202,slow=3.1,SNR=5.2						
SONM				LR	LR	18 03 40.0	
	comp=Z,88nm,18.0s,MS3.7,baz=73,slow=39						
JNU	**Nakatsue**	**43.80**	**46**	P	**P**	**17 43 06.7**	**-1.1**
	comp=Z,6.4nm,0.7s,mb4.4,baz=180,slow=5.7,SNR=5.4						
SNY	**Shenyang**	**44.72**	**31**	⇑P	**P**	**17 43 14.5**	**-0.5**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
ZAK	**Zakamensk**	**45.56**	**8**	*eP*	**P**	**17 43 20.1**	**-1.6**
ZAK				*e*		17 44 59.5	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**46.58**	**124**	P	**P**	**17 43 30.0**	**-0.1**
	comp=Z,13nm,0.7s,mb5.0,baz=302,slow=9.3,SNR=105						
WRAB	**Tennant Creek**	**46.58**	**124**	*dP*	**P**	**17 43 30.4**	**+0.3**
WRAB	**Tennant Creek**	**46.58**	**124**	*eP*	**P**	**17 43 30.0**	**-0.1**
	comp=Z,20nm,0.7s,mb5.2						
WB2	**Warramunga Arr**	**46.59**	**124⇑**	*iP*	**P**	**17 43 30.0**	**-0.2**
TLY	**Talaya**	**46.88**	**8**	*iP*	**P**	**17 43 38.3**	**+6.3**
TLY				pmax	pmax		
	comp=Z,13nm,2.0s,mb4.5						
KURK	**Kurchatov**	**47.18**	**346**	*eP*	**P**	**17 43 34.3**	**-0.1**
KURK				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.2						
KURK	**Kurchatov**	**47.18**	**346**	*eP*	**P**	**17 43 34.3**	**-0.1**
	comp=Z,20nm,0.6s,mb5.2						
ZAL	**Zalesovo**	**49.14**	**353**	P	**P**	**17 43 49.0**	**-0.6**
	comp=Z,14nm,0.5s,mb5.2,baz=300,slow=5.8,SNR=60						

BOD				pmax	pmax			
	comp=Z,14nm,1.2s,mb4.9							
KMBO	**Kilima Mbogo**	**57.44**	**265**	LR	LR	18 05 17.1		
	comp=Z,149nm,20.1s,MS4.1,baz=94,slow=32							
STKA	**Stephens Creek**	**58.15**	**133**	*eP*	**P**	**17 44 55.8**	**-0.4**	
	comp=Z,2.9nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**58.15**	**133**	P	**P**	**17 44 54.6**	**-1.6**	
	comp=Z,3.8nm,0.9s,mb4.4,baz=339,slow=7.7,SNR=6.0							
ARU	**Arti**	**58.37**	**338**	*⇓iP*	**P**	**17 44 55.6**	**-1.8**	
ARU				*e*		17 45 45.2		
ARU				*e*		17 47 05.3		
ARU				*e*S	**S**	**17 53 00.3**	**+5.3**	
ARU				*e*SS	SS	17 56 55.0	+5.8	
ARU				pmax	pmax			
	comp=Z,26nm,1.1s,mb5.2							
ARU	**Arti**	**58.37**	**338**	*eP*	**P**	**17 44 55.1**	**-2.3**	
	comp=Z,3.9nm,0.7s,mb4.5							
ARU				*e*	pP	17 45 09.9	-0.2	
KIV	**Kislovodsk**	**59.42**	**319**	*eP*	**P**	**17 44 57.4**	**-7.5**	
KIV				pmax	pmax			
	comp=E,5.0nm,1.0s							
KIV				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.7							
YAK	**Yakutsk**	**62.36**	**18***d*	*iP*	**P**	**17 45 31.5**	**+6.9**	
YAK				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.8							
BR131	**Keskin Array S**	**64.33**	**312**	*eP*	**P**	**17 45 36.7**	**-1.1**	
	comp=Z,1.5nm,0.6s,mb4.2							
BRTR	**Keskin Array B**	**64.33**	**312**	P	**P**	**17 45 36.8**	**-1.1**	
	comp=Z,3.6nm,0.6s,mb4.6,baz=131,slow=7.6,SNR=20							
OBN	**Obninsk**	**67.70**	**328**	*oeP*	**P**	**17 45 57.6**	**-1.5**	
OBN				*e*	pP	17 46 08.5	-3.5	
OBN				*e*	pP	17 46 13.8	+1.8	
OBN				*e*		17 46 21.3		
OBN				pmax	pmax			
	comp=Z,12nm,0.7s,mb5.0							
MA2	**Magadan**	**68.94**	**27**	*eP*	**P**	**17 46 05.8**	**-0.8**	
MA2				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
AKASG	**Malin Array Be**	**70.34**	**322**	P	**P**	**17 46 13.7**	**-1.7**	
	comp=Z,3.5nm,0.5s,mb4.6,baz=85,slow=5.3,SNR=15							
VRI	**Vrincioaia**	**70.75**	**317**	*⇓*P	**P**	**17 46 18.8**	**+0.9**	
SEY	**Seymchan**	**71.17**	**24**	*iP*	**P**	**17 46 25.7**	**+5.6**	
MLR	**Muntele Rosu**	**71.21**	**316**	*⇑*P	**P**	**17 46 20.9**	**+0.2**	
VOIR		**71.81**	**316**	*⇑*P	**P**	**17 46 24.2**	**-0.1**	
VOIR		**71.81**	**316**	*⇑*P	**P**	**17 46 24.2**	**-0.1**	
BURAR	**Bucovina Array**	**72.14**	**318**	*⇑*P	**P**	**17 46 26.8**	**+0.6**	
BURAR	**Bucovina Array**	**72.14**	**318**	*⇑*P	**P**	**17 46 26.8**	**+0.6**	
LVZ	**Lovozero**	**74.07**	**340**	*diP*	**P**	**17 46 34.1**	**-3.1**	
LVZ				pmax	pmax			
	comp=Z,13nm,2.5s,mb4.4							
KWP	**Kalwaria**	**74.17**	**320**	*eP*	**P**	**17 46 38.1**	**0.0**	
KWP	**Kalwaria**	**74.17**	**320**	*eP*	**P**	**17 46 38.1**	**0.0**	
KOLS	**Kolonicke sedl**	**74.32**	**319**	*eP*	**P**	**17 46 39.8**	**+0.8**	
KOLS				*e*	pP	17 46 55.3	+3.2	
KOLS				*e*PP	PP	17 49 03.9	-23	
BOSA	**Boshof**	**74.45**	**239**	LR	LR	18 16 05.1		
	comp=Z,102nm,20.1s,MS4.1,baz=267,slow=33							
SUW	**Suwalki**	**74.75**	**325**	*eP*	**P**	**17 46 40.5**	**-0.9**	
SUW	**Suwalki**	**74.75**	**325**	*eP*	**P**	**17 46 40.5**	**-0.9**	
CRVS	**Cervenica-Dubn**	**74.85**	**319**	*eP*	**P**	**17 46 44.8**	**+2.8**	
STHS	**Stebnicka Huta**	**75.07**	**320**	*eP*	**P**	**17 46 43.9**	**+0.6**	
STHS				*ep*P	pP	17 46 56.3	-0.1	
FINES	**FINESS Array B**	**75.12**	**332**	P	**P**	**17 46 42.6**	**-0.7**	
	comp=Z,2.1nm,0.6s,mb4.2,baz=108,slow=6.0,SNR=9.0							
FINES				LR	LR	18 23 49.4		
	comp=Z,37nm,20.7s,MS3.7,baz=117,slow=39							
KAF	**Kangasniemi**	**75.21**	**333**	*ep*	**P**	**17 46 42.1**	**-1.7**	
	comp=Z,2.4nm,0.6s,mb4.3,baz=105,slow=5.5							
KAF	**Kangasniemi**	**75.21**	**333**	*eP*	**P**	**17 46 42.1**	**-1.7**	
KAF				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
KECS	**Kecovo**	**75.42**	**319**	*eP*	**P**	**17 46 45.0**	**-0.3**	
KECS				*e*	pP	17 47 01.0	+2.6	
OJC	**Ojcow**	**76.12**	**320**	*⇑eP*	**P**	**17 46 49.6**	**+0.3**	
VYHS	**Vyhne**	**76.51**	**319**	*eP*	**P**	**17 46 51.5**	**0.0**	
OKC	**Ostrava-Krasne**	**77.12**	**320**	*eP*	**P**	**17 46 54.9**	**-0.1**	
MORC	**Moravsky Berou**	**77.51**	**320**	*eP*	**P**	**17 46 57.4**	**+0.3**	
	comp=Z,11nm,1.2s,mb4.7							
MORC				*e*	pP	17 47 11.1	+0.9	
ZST	**Bratislava**	**77.62**	**318**	*eP*	**P**	**17 46 58.3**	**+0.6**	
ZST				*e*sP	sP	17 47 13.5	-2.3	
ARCES	**ARCESS Array B**	**77.78**	**340**	P	**P**	**17 46 58.0**	**-0.2**	
	comp=Z,1.6nm,0.5s,mb4.2,baz=97,slow=6.1,SNR=25							
ARCES				LR	LR	18 24 08.0		
	comp=Z,42nm,18.6s,MS3.8,baz=259,slow=38							
DPC	**Dobruska-Polom**	**78.35**	**320**	*eP*	**P**	**17 47 02.7**	**+1.0**	
BILL	**Bilibino**	**78.39**	**21**	*eP*	**P**	**17 46 58.1**	**-3.4**	
BILL				pmax	pmax			
	comp=Z,19nm,2.5s,mb4.6							
KSP	**Ksiaz**	**78.42**	**321**	*eP*	**P**	**17 47 02.3**	**+0.2**	
KSP	**Ksiaz**	**78.42**	**321**	*eP*	**P**	**17 47 03.2**	**+1.1**	
UPC	**Upice**	**78.56**	**320**	*eP*	**P**	**17 47 03.7**	**+0.8**	
BOJS	**Bojanci**	**78.65**	**315**	*iP*	**P**	**17 47 03.6**	**+0.2**	
FX1	**Attu Island--F**	**79.03**	**37**	*eP*	**P**	**17 47 05.4**	**0.0**	
	comp=Z,11nm,0.5s,mb5.0,baz=216,slow=2.5,SNR=22							
FX1	**Attu Island--F**	**79.03**	**37**	*eP*	**P**	**17 47 05.3**	**0.0**	
LJU	**Ljubljana**	**79.19**	**316**	*eP*	**P**	**17 47 07.0**	**+0.6**	
PRU	**Pruhonice**	**79.46**	**320**	*eP*	**P**	**17 47 08.2**	**+0.4**	
PVCC	**Panska Ves**	**79.48**	**320**	*eP*	**P**	**17 47 08.4**	**+0.5**	
GORS	**Gorjuse**	**79.58**	**316**	*iP*	**P**	**17 47 08.7**	**+0.2**	
BRG	**Berggiesshubel**	**79.91**	**321**	*iP*	**P**	**17 47 10.6**	**+0.5**	
BRG				*i*		17 47 13.4		
BRG				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7							
BRG				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.4							
BRG	**Berggiesshubel**	**79.91**	**321**	*iP*	**P**	**17 47 10.6**	**+0.5**	
	comp=Z,5.7nm,0.6s,mb4.7							
BRG				*i*		17 47 13.4		
GERES	**GERESS Array B**	**79.93**	**319**	P	**P**	**17 47 10.9**	**+0.6**	
	comp=Z,8.1nm,0.7s,mb4.8,baz=90,slow=5.3,SNR=83							
GERES				pP	pP	17 47 24.9	+1.4	
	comp=Z,3.4nm,0.6s,baz=100,slow=4.5,SNR=7.9							
KHC	**Kasperske Hory**	**80.03**	**319**	*eP*	**P**	**17 47 11.1**	**+0.3**	
KHC				*ep*P	pP	17 47 25.5	+1.5	
CLL	**Collm**	**80.53**	**321**	*eP*	**P**	**17 47 14.0**	**+0.6**	
CLL	**Collm**	**80.53**	**321**	P	**P**	**17 47 14.0**	**+0.6**	
NKC	**Novy Kostel**	**80.82**	**320**	*eP*	**P**	**17 47 15.3**	**+0.3**	
MOX	**Moxa**	**81.37**	**320**	*eP*	**P**	**17 47 18.0**	**+0.1**	
GRA1	**Grafenberg Arr**	**81.59**	**319**	*eP*	**P**	**17 47 20.2**	**+1.1**	
	comp=Z,8.0nm,0.7s,mb4.8							
GRF	**Grafenberg Arr**	**81.59**	**319**	*eP*	**P**	**17 47 20.2**	**+1.1**	
GRF				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.8							
GRF	**Grafenberg Arr**	**81.59**	**319**	*eP*	**P**	**17 47 20.2**	**+1.1**	
	comp=Z,8.0nm,0.7s,mb4.8							
NB2	**NORSAR Subarra**	**82.11**	**331**	P	**P**	**17 47 21.0**	**-0.5**	
	comp=Z,1.8nm,0.8s,mb4.0,baz=95,slow=5.6							
NB2	**NORSAR Subarra**	**82.11**	**331**	P	**P**	**17 47 21.0**	**-0.5**	
NB2				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
NOA	**NORSAR Array B**	**82.11**	**331**	LR	LR	18 26 42.0		
	comp=Z,30nm,21.0s,MS3.6,baz=65,slow=38							
VNDA	**Vanda**	**90.35**	**168**	LR	LR	18 25 03.3		
	comp=Z,79nm,18.7s,MS4.2,baz=320,slow=33							
DBIC	**Dimbokro**	**98.55**	**278**	LR	LR	18 29 39.8		
	comp=Z,53nm,18.7s,MS4.1,baz=93,slow=33							
PDAR	**Pinedale Array**	**127.47**	**22**	PKP	PKPdf	17 54 06.8	+1.8	
	comp=Z,1.5nm,1.0s,slow=1.5,SNR=7.8							
TXAR	**Lajitas Array**	**141.45**	**26**	PKP	PKPdf	17 54 31.0	-0.3	
	comp=Z,0.9nm,0.6s,baz=180,slow=1.3,SNR=4.7							

NEIC 27 17:37:25.0, 60.56N×151.31W, h56km, ML3.6 (PMR), ML3.3 (AEIC), After AEIC., Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNL	**Ninilchik**	**0.52**	**179**	P	P	17 37 37.4	+0.4
SLKM	**Skilak Lake**	**0.54**	**95**	P	P	17 37 36.4	-0.7
SLKM				S	S	17 37 46.1	+0.1
RDT	**Redoubt**	**0.54**	**272**	P	P	17 37 36.4	-0.8
RDT				S	S	17 37 45.6	-0.5
VOGL	**Vogel Lake**	**0.61**	**44**	P	P	17 37 38.5	+0.5
VOGL				S	S	17 37 49.4	+1.8
SPU	**Mount Spurr**	**0.72**	**330**	P	P	17 37 38.6	-0.7
SPU				S	S	17 37 49.4	-0.6
RSO	**Redoubt South**	**0.72**	**263**	P	P	17 37 38.6	-0.7
CKN	**Chakachatna No**	**0.79**	**328**	P	P	17 37 39.8	-0.5
CKN				S	S	17 37 51.5	-0.1
FIB	**Fire Island**	**0.82**	**42**	P	P	17 37 40.6	-0.1
BRLK	**Bradley Lake**	**0.83**	**165**	P	P	17 37 39.8	-0.9
BRLK				S	S	17 37 52.2	-0.3
HOM	**Homer**	**0.92**	**191**	P	P	17 37 41.5	-0.5
RC01	**Rabbit Creek A**	**0.93**	**55**	P	P	17 37 41.1	-1.1
RC01				S	S	17 37 54.5	-0.5
ILIM	**Iliamna**	**0.95**	**240**	P	P	17 37 41.4	-1.1
ILIM				S	S	17 37 54.8	-0.7
MPA	**Moose Pass**	**0.97**	**94**	P	P	17 37 41.6	-1.1
INE	**Iliamna NE**	**1.01**	**241**	P	P	17 37 42.2	-1.0
INE				S	S	17 37 56.1	-0.6
SEW	**Seward**	**1.03**	**116**	P	P	17 37 42.8	-0.8
ILW	**Iliamna West**	**1.04**	**242**	P	P	17 37 42.8	-0.9
ILW				S	S	17 37 56.7	-0.8
CNPM	**China Poot**	**1.04**	**178**	P	P	17 37 42.6	-1.1
IVS	**Iliamna South**	**1.04**	**239**	P	P	17 37 43.0	-0.7
IVS				S	S	17 37 57.1	-0.5
XLV	**Seldovia**	**1.13**	**191**	P	P	17 37 43.5	-1.4
XLV				S	S	17 37 59.6	-0.1
OPT	**Oil Point**	**1.33**	**227**	P	P	17 37 46.8	-1.0
PMR	**Palmer**	**1.48**	**45**	P	P	17 37 48.4	-1.5
PMR				S	S	17 38 09.0	+0.8
AUE	**Augustine Isla**	**1.59**	**222**	P	P	17 37 50.8	-0.6
AUL	**Augustine Lava**	**1.60**	**223**	P	P	17 37 50.8	-0.7
AUL				S	S	17 38 11.4	+0.4
AGU	**Augustine-Summ**	**1.61**	**222**	P	P	17 37 51.2	-0.5
AGU				S	S	17 38 12.4	+1.0
AUI	**Augustine Isla**	**1.63**	**222**	P	P	17 37 50.8	-1.2
KNK	**Knik Glacier**	**1.63**	**57**	P	P	17 37 50.8	-1.2
GHO	**Glory Hole Cre**	**1.68**	**43**	P	P	17 37 51.2	-1.4
CFI	**College Fiord**	**1.84**	**69**	P	P	17 37 52.8	-2.0
SML	**Sawmill**	**1.91**	**48**	P	P	17 37 54.4	-1.4
MCNL	**McNeil River**	**2.06**	**229**	P	P	17 37 56.2	-1.7
SVW2	**Sparrevohn**	**2.16**	**286**	P	P	17 37 56.9	-2.4
SCM	**Sheep Creek Mo**	**2.31**	**55**	P	P	17 37 59.8	-1.7
JPK	**Jack Peak**	**2.36**	**76**	P	P	17 37 59.5	-2.7
JPK				S	S	17 38 26.8	-3.2
FID	**Port Fidalgo**	**2.39**	**83**	P	P	17 37 58.9	-3.7
VLZ	**Valdez**	**2.50**	**75**	P	P	17 38 01.7	-2.5
VLZ				S	S	17 38 30.1	-3.5
KAPH	**Katmai Pasha**	**2.51**	**219**	P	P	17 38 02.9	-1.4
KAHC	**Katmai Hardscr**	**2.69**	**226**	P	P	17 38 05.0	-1.9
KAHC				S	S	17 38 35.4	-2.9
KARR	**Katmai Rainbow**	**2.70**	**221**	P	P	17 38 05.9	-1.1
MID	**Middleton Isla**	**2.74**	**112**	P	P	17 38 05.0	-2.7
EYAK	**Cordova Ski Ar**	**2.75**	**88**	P	P	17 38 06.5	-1.3
DIV	**Divide**	**2.77**	**76**	P	P	17 38 05.2	-2.8
KLU	**Klutina**	**2.78**	**68**	P	P	17 38 05.9	-2.3
KAWH	**Katmai**	**2.82**	**221**	P	P	17 38 07.5	-1.3
KDAK	**Kodiak Island**	**2.87**	**194**	P	P	17 38 06.7	-2.7
TRF	**Thorofare Moun**	**2.94**	**9**	P	P	17 38 09.6	-0.9
KTH	**Kantishna Hill**	**3.01**	**3**	P	P	17 38 10.5	-0.9
KABR	**Katmai Barrier**	**3.08**	**219**	P	P	17 38 10.8	-1.6
MGLS	**Magpik LS**	**3.13**	**223**	P	P	17 38 12.0	-1.1
CAHL	**Cahill**	**3.25**	**221**	P	P	17 38 12.8	-1.9
TT01	**Tatalina**	**3.25**	**318**	P	P	17 38 12.9	-1.9
TTA	**Tatalina**	**3.26**	**319**	P	P	17 38 13.2	-1.8
BMRM	**Bremner River**	**3.31**	**80**	P	P	17 38 12.0	-3.8
MCK	**McKinley**	**3.37**	**18**	P	P	17 38 16.1	-0.4
GLB	**Gilahina Butte**	**3.76**	**73**	P	P	17 38 18.5	-3.5
NEA	**Nenana**	**4.16**	**13**	P	P	17 38 25.8	-1.8
WAX	**Waxell Ridge**	**4.18**	**88**	P	P	17 38 25.1	-2.9
WRH	**Wood River Hil**	**4.20**	**19**	P	P	17 38 26.4	-1.8
CCB	**Clear Creek Bu**	**4.41**	**20**	P	P	17 38 29.2	-1.9
MLY	**Manley**	**4.49**	**3**	P	P	17 38 31.1	-1.2
COLA	**College**	**4.61**	**19**	P	P	17 38 32.2	-1.7
IL1	**Eielson Array**	**4.69**	**24**	P	P	17 38 33.0	-2.1
BCA3	**Beaver Creek A**	**5.17**	**57**	P	P	17 38 38.8	-2.9
IM3	**Indian Mountai**	**5.55**	**350**	P	P	17 38 44.4	-2.6
IMA	**Indian Mountai**	**5.63**	**350**	*eP*	P	17 38 47.2	-0.9
BM3	**Burnt Mountain**	**7.48**	**20**	P	P	17 39 10.7	-3.3

*JMA **27** 18:02:37.0±0.4, 33.34N×142.45E, h50km, M3.8*
*BJI **27** 18:02:37.2, 32.69N×142.25E, h41km, mB4.6, mb4.2, Ms4.1, Msz4.2*
*IDC **27** 18:02:38.8±0.8, 33.28N×142.54E, h33km±4km, mb3.8/11, mb1 4.0/14, mb1mx3.9/23, mbtmp4.0/14, ML3.6/3, Error ellipse: s-maj=18.5km s-min=15.6km az=173.0*
*NEIC **27** 18:02:39.2±0.5, 33.34N×142.55E, mb4.4/3, Error ellipse: s-maj=11.2km s-min=9.0km az=192.0*

ISC 27 18:02:36.9±2.0, 33.40N±0.06×142.45E±0.06, h29km±14km, h35km±1.9km: pP-P, n41, σ1$07/47, mb4.0/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.75**	**316**	P	**Pn**	**18 03 06.3**	**+0.5**
BSO3	**Boso 3**	**2.14**	**312**	P	**Pn**	**18 03 11.7**	**+0.4**
JHJ2	**Mitsune**	**2.23**	**263**	P	**Pn**	**18 03 12.6**	**0.0**
JHJ	**Hachijo jima 2**	**2.25**	**264**	Pn	**Pn**	**18 03 12.5**	**-0.5**
	74nm,0.3s,baz=84,slow=22,SNR=28						
JHJ				Sn	**Sn**	**18 03 39.9**	**-0.3**
	44nm,0.3s,baz=228,slow=24,SNR=4.0						
BSO4	**Boso 4**	**2.37**	**313**	P	**Pn**	**18 03 15.7**	**+1.1**
KTR	**Katsuura**	**2.49**	**315**	P	**Pn**	**18 03 17.2**	**+0.9**
JIM2	**Oshima 3**	**2.83**	**299**	P	**Pn**	**18 03 20.7**	**-0.6**
JIM2				*e*S	**Sn**	**18 03 54.9**	**+0.1**
JOD2	**Odawara 2**	**3.35**	**305**	P	**Pn**	**18 03 28.0**	**-0.6**
JYN	**Shimob**	**3.85**	**304**	P	**Pn**	**18 03 35.8**	**+0.1**
JAG	**Ashikaga**	**3.90**	**322**	P	**Pn**	**18 03 36.3**	**-0.1**
JAG				*e*S	**Sn**	**18 04 20.6**	**-1.2**
JMM	**Marumori**	**4.66**	**344**	P	**Pn**	**18 03 44.9**	**-2.3**
JMM				*e*S	**Sn**	**18 04 35.4**	**-5.6**
MJAR	**Matsushiro Arr**	**4.69**	**313**	Pn	**Pn**	**18 03 47.5**	**-0.2**
	2.7nm,0.3s,baz=328,slow=9.2,SNR=28						
MJAR				Sn	**Sn**	**18 04 45.5**	**+3.7**
	1.8nm,0.3s,baz=158,slow=14,SNR=6.1						
MAJO	**Matsushiro**	**4.69**	**313**	*eP*	**Pn**	**18 03 49.7**	**+2.1**
MAT	**Matsushiro**	**4.69**	**313**	*eP*	**Pn**	**18 03 48.0**	**+0.3**
MAT				*e*S	**Sn**	**18 04 40.0**	**-1.8**
MAT	**Matsushiro**	**4.69**	**313**	P	**Pn**	**18 03 47.9**	**+0.2**
MAT				S	**Sn**	**18 04 40.4**	**-1.4**
MAT	**Matsushiro**	**4.69**	**313**	P	**Pn**	**18 03 48.2**	**+0.6**
MAT				*e*S	**Sn**	**18 04 41.4**	**-0.4**
JGM	**Miyama**	**5.26**	**297**	P	**Pn**	**18 03 56.4**	**+0.7**
JMK	**Ichinoseki**	**5.63**	**350**	P	**Pn**	**18 03 57.9**	**-3.0**
JSD	**Sado**	**5.75**	**325**	P	**Pn**	**18 04 02.3**	**-0.3**
JNU	**Nakatsue**	**9.70**	**272**	Pn	**P**	**18 04 57.5**	**-0.2**
	0.4nm,0.3s,baz=145,slow=19,SNR=4.3						
YHNB	**Yeheng**	**20.35**	**250**	P	**P**	**18 07 15.6**	**+1.8**
WHN	**Wuhan**	**23.98**	**271**	P	**P**	**18 07 50.5**	**+0.7**
SONM	**Songino Array**	**30.63**	**309**	P	**P**	**18 08 52.3**	**+1.7**
	1.4nm,0.8s,mb3.9,baz=113,slow=9.4,SNR=4.8						
GTA	**Gaotai**	**34.59**	**292**	*eP*	**P**	**18 09 24.0**	**-1.3**
GTA				AP	pP	18 09 37.0	+3.0
GTA				XP	sP	18 09 42.5	+4.8
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb4.0						
KSM	**Kuching**	**43.77**	**230**	*eP*	**P**	**18 10 40.3**	**-1.6**
MKAR	**Makanchi Array**	**46.84**	**305**	P	**P**	**18 11 06.9**	**+1.0**
	comp=Z,1.7nm,0.8s,mb4.0,baz=83,slow=9.8,SNR=6.5						
KURK	**Kurchatov**	**48.90**	**311**	*eP*	**P**	**18 11 21.4**	**-0.4**
	comp=Z,5.0nm,0.7s,mb4.7						
ILAR	**Eielson Array**	**52.14**	**31**	P	**P**	**18 11 45.5**	**-0.9**
	comp=Z,2.7nm,0.9s,mb4.2,baz=264,slow=6.2,SNR=22						
ILAR				pP	pP	18 11 55.7	+0.3
	comp=Z,0.9nm,0.7s,baz=262,slow=5.9,SNR=5.9						
WRA	**Warramunga Arr**	**53.60**	**189**	P	**P**	**18 11 55.6**	**-2.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=6.5,slow=7.6,SNR=10.0						
BVAR	**Borovoye Array**	**53.69**	**315**	P	**P**	**18 11 59.0**	**+1.0**
	comp=Z,0.7nm,0.8s,mb3.6,baz=76,slow=6.1,SNR=5.3						
INK	**Inuvik**	**57.25**	**26**	P	**P**	**18 12 22.9**	**-0.7**
	comp=Z,2.0nm,0.7s,mb4.3,baz=228,slow=2.7,SNR=5.2						
STKA	**Stephens Creek**	**64.93**	**181**	P	**P**	**18 13 15.0**	**-1.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=3.1,slow=5.8,SNR=3.5						
YKA	**Yellowknife Ar**	**66.53**	**30**	P	**P**	**18 13 25.2**	**-0.5**
	comp=Z,1.4nm,0.8s,mb4.1,baz=294,slow=6.1,SNR=5.4						
YKA				pP	pP	18 13 35.6	+0.7
	comp=Z,1.2nm,0.8s,baz=296,slow=6.3,SNR=3.5						
NB2	**NORSAR Subarra**	**77.87**	**338**	P	**P**	**18 14 33.6**	**+0.7**
	comp=Z,0.4nm,0.5s,mb3.6,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**77.87**	**338**	P	**P**	**18 14 33.1**	**+0.3**
	comp=Z,1.5nm,0.9s,mb3.9,baz=38,slow=5.6,SNR=5.0						
NOA				pP	pP	18 14 43.9	+1.7
	comp=Z,1.2nm,0.7s,baz=39,slow=5.7,SNR=4.2						
PDAR	**Pinedale Array**	**79.61**	**45**	P	**P**	**18 14 42.5**	**-0.2**
	comp=Z,0.5nm,0.7s,mb3.5,baz=270,slow=1.5,SNR=5.3						
SRU	**San Rafael**	**81.16**	**49**	*eP*	**P**	**18 14 52.3**	**+1.2**
SDCO	**Great Sand Dun**	**85.12**	**48**	*eP*	**P**	**18 15 13.1**	**+1.7**
	comp=Z,2.4nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**91.64**	**53**	P	**P**	**18 15 43.9**	**+1.2**
	comp=Z,1.2nm,0.6s,mb4.4,baz=316,slow=4.2,SNR=7.0						
TXAR				pP	pP	18 15 54.9	+2.8
	comp=Z,0.6nm,0.6s,baz=326,slow=4.5,SNR=3.3						
LPAZ	**La Paz**	**147.60**	**66**	PKPbc	PKPdf	18 22 19.9	-1.3
	comp=Z,0.9nm,0.4s,baz=328,slow=4.3,SNR=5.8						
SIV	**San Ignacio**	**152.59**	**57**	PKPbc	PKPdf	18 22 32.9	+4.0
	comp=Z,0.5nm,0.3s,baz=155,slow=22,SNR=3.7						
SIV				pPKPbc		18 22 42.9	
	comp=Z,0.6nm,0.4s,baz=278,slow=13,SNR=2.4						

*NIED **27** 18:04:00, 33.30N×142.40E, h11km, Mw4.4 Best double couple: M0 4.51×10^15 NP1:φs152°, δ75°, λ-101°. NP2:φs9°, δ19°, λ-54°.*
*BJI **27** 18:04:31.2, 33.25N×142.24E, h26km, mB4.6, mb4.6, Ms4.1, Msz3.9*
*JMA **27** 18:04:32.0±0.3, 33.32N×142.35E, h96km, M4.2*
*MOS **27** 18:04:33.0±0.9, 33.45N×142.45E, h37km, mb4.8/26, Error ellipse: s-maj=11.5km s-min=6.5km az=117.3*
*IDC **27** 18:04:33.6±0.5, 33.26N×142.47E, h34km±3km, mb4.2/22, mb1 4.4/27, mb1mx4.4/31, mbtmp4.5/27, ML4.0/4, MS3.2/5, Ms1 3.2/5, ms1mx3.1/29, Error ellipse: s-maj=12.1km s-min=11.5km az=135.0*
*NEIC **27** 18:04:34.3±0.2, 33.33N×142.43E, mb4.6/27, MW4.4(NIED), Error ellipse: s-maj=6.3km s-min=4.9km az=179.0*

ISC 27 18:04:32.5±0.3, 33.34N±0.03×142.37E±0.03, h36km, h36km±1.1km: pP-P, n161, σ1$09/164, mb4.5/61, MS3.9/7, 5C-4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.75**	**319**	*eS*	**S**	**18 05 24.4**	**+2.3**
BSO3	**Boso 3**	**2.12**	**314**	P	**P**	**18 05 06.6**	**+0.4**
JHJ2	**Mitsune**	**2.15**	**265**	P	**P**	**18 05 06.9**	**+0.3**
JHJ2				*e*S	**S**	**18 05 33.0**	**+0.7**
JHJ	**Hachijo jima 2**	**2.18**	**265**	Pn	**P**	**18 05 07.1**	**+0.1**
	331nm,0.3s,baz=144,slow=8.8,SNR=18						
JHJ				Sn	**S**	**18 05 34.2**	**+1.2**
	233nm,0.3s,baz=216,slow=23,SNR=4.6						
BSO4	**Boso 4**	**2.35**	**315**	P	**P**	**18 05 10.4**	**+0.9**
KTR	**Katsuura**	**2.48**	**317**	P	**P**	**18 05 11.5**	**+0.2**
KTR				*e*S	**S**	**18 05 42.2**	**+1.6**
JMY	**Miyakejima3**	**2.49**	**288**	P	**P**	**18 05 11.4**	**-0.1**
JIM2	**Oshima 3**	**2.80**	**300**	P	**P**	**18 05 15.1**	**-0.8**
JIM2				*e*S	**S**	**18 05 48.5**	**-0.3**
JOD2	**Odawara 2**	**3.32**	**306**	P	**P**	**18 05 22.7**	**-0.6**
JYN	**Shimob**	**3.82**	**305**	P	**P**	**18 05 30.1**	**-0.3**
JAG	**Ashikaga**	**3.90**	**323**	P	**P**	**18 05 30.9**	**-0.6**
JAG				*e*S	**S**	**18 06 15.0**	**-1.7**
JRY	**Ryogami san**	**3.91**	**314**	P	**P**	**18 05 31.4**	**-0.2**
MJAR	**Matsushiro Arr**	**4.68**	**314**	Pn	**P**	**18 05 42.1**	**-0.4**
	15nm,0.3s,baz=178,slow=6.3,SNR=30						
MJAR				Sn	**S**	**18 06 36.2**	**-0.1**
	23nm,0.3s,baz=179

CLNS					pmax	pmax			
	comp=E,2.0nm,0.5s								
CLNS					MLR	MLR			
	comp=Z,200nm,15.0s,MS3.8								
CLNS					MLR	MLR			
	comp=N,100nm,14.0s,MS3.7								
CLNS					MLR	MLR			
	comp=E,100nm,14.0s,MS3.7								
BTO	**Baotou**	**26.73**	**295**	*e*P	**P**		**18 10 11.8**	**+1.3**	
BTO					AMB	AMB			
	comp=Z,22nm,0.6s,mb4.9								
XAN	**Xi'an**	**27.77**	**281**	P	**P**		**18 10 18.5**	**-1.5**	
XAN					AMB	AMB			
	comp=Z,13nm,0.9s,mb4.6								
CIT	**Chita**	**27.95**	**321**	*e*P	**P**		**18 10 24.1**	**+2.6**	
CIT				*e*			18 11 06.2		
CIT					pmax	pmax			
	comp=Z,103nm,1.6s,mb5.2								
ENH	**Enshi**	**28.05**	**273**	*e*P	**P**		**18 10 20.4**	**-2.1**	
	comp=Z,25nm,0.7s,mb5.0								
FX1	**Attu Island--F**	**29.43**	**39**	P	**P**		**18 10 33.6**	**-1.0**	
FX1					pmax	pmax			
	comp=Z,4.0nm,0.5s								
FX1					MLR	MLR			
	comp=Z,5.0nm,20.3s								
FX1	**Attu Island--F**	**29.43**	**39**	P	**P**		**18 10 33.6**	**-1.0**	
	comp=Z,4.4nm,0.5s,mb4.4,baz=245,slow=14,SNR=5.6								
FX1					LR	LR	18 20 39.2		
	comp=Z,5.3nm,20.3s,baz=305,slow=33								
YAK	**Yakutsk**	**29.84**	**348**	*d* /P	**P**		**18 10 36.8**	**-1.3**	
YAK					pmax	pmax			
	comp=Z,11nm,1.4s,mb4.4								
YAK	**Yakutsk**	**29.84**	**348**	*e*P	**P**		**18 10 37.3**	**-0.8**	
	comp=Z,16nm,0.8s,mb4.8								
SEY	**Seymchan**	**30.28**	**9**	*d* /P	**P**		**18 10 41.1**	**-1.0**	
SONM	**Songino Array**	**30.61**	**309**	P	**P**		**18 10 46.4**	**+1.3**	
	comp=Z,7.8nm,0.8s,mb4.6,baz=110,slow=8.2,SNR=16								
SONM					LR	LR	18 24 12.1		
	comp=Z,110nm,18.3s,MS3.5,baz=73,slow=38								
BOD	**Bodaibo**	**31.09**	**331**	*e*P	**P**		**18 10 45.4**	**-3.9**	
BOD				*e*	pP		18 10 54.8	-4.8	
BOD					pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.5								
GYA	**Guiyang**	**31.59**	**267**	/*i*P	**P**		**18 10 52.0**	**-2.1**	
GYA					AP	pP	18 11 04.3	0.0	
GYA					XP	sP	18 11 07.8	-1.3	
GYA					PP	PP	18 11 55.8	-3.3	
GYA					S	**S**	**18 15 59.0**	**-0.2**	
GYA					XS		18 16 14.8		
GYA					AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.8								
GYA					AMB	AMB			
	comp=Z,70nm,3.0s								
GYA					LR	LR			
	comp=N,610nm,14.0s,MS4.6								
GYA					LR	LR			
	comp=E,780nm,13.8s,MS4.6								
GYA					LR	LR			
	comp=Z,510nm,14.6s,MS4.3								
LZH	**Lanzhou**	**31.65**	**286**	*e*P	**P**		**18 10 53.8**	**-0.7**	
LZH					AP	pP	18 11 04.5	-0.2	
LZH					XP	sP	18 11 10.5	+1.0	
LZH					AMB	AMB			
	comp=Z,25nm,1.5s,mb4.8								
LZH					AMB	AMB			
	comp=Z,83nm,4.0s								
LZH					LR	LR			
	comp=E,715nm,16.0s								
LZH					LR	LR			
	comp=Z,938nm,17.2s,MS4.5								
LZH	**Lanzhou**	**31.65**	**286**	*e*P	**P**		**18 10 53.7**	**-0.8**	
LZH				*PP	pP		18 11 04.5	-0.2	
LZH				*SP	sP		18 11 10.5	+1.0	
LZH				pmax	pmax				
	comp=Z,25nm,1.5s,mb4.8								
LZH					MLR	MLR			
	comp=Z,940nm,17.2s,MS4.5								
LZH	**Lanzhou**	**31.65**	**286**	*e*P	**P**		**18 10 53.7**	**-0.8**	
	comp=Z,25nm,1.5s,mb4.8								
LZH					pP	pP	18 11 04.5	-0.2	
LZH					sP	sP	18 11 10.5	+1.0	
LZH					LR	LR			
	comp=Z,940nm,17.2s,MS4.5								
CD2	**Chengdu**	**32.67**	**276**	P	**P**		**18 11 02.8**	**-0.6**	
ZAK	**Zakamensk**	**33.26**	**313**	*e*P	**P**		**18 11 09.2**	**+0.9**	
ZAK					pmax	pmax			
	comp=Z,3.0nm,1.3s,mb4.1								
TLY	**Talaya**	**33.42**	**315**	*i* P	**P**		**18 11 09.7**	**0.0**	
TLY					pmax	pmax			
	comp=Z,10.0nm,1.7s,mb4.5								
GTA	**Gaotai**	**34.55**	**293**	P	**P**		**18 11 19.0**	**-0.6**	
GTA					AMB	AMB			
	comp=Z,7.0nm,0.8s,mb4.6								
BILL	**Bilibino**	**37.37**	**15**	/*e*P	**P**		**18 11 41.7**	**-1.4**	
BILL					pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.5								
WMQ	**Urumqi**	**43.30**	**301**	P	**P**		**18 12 34.0**	**+1.7**	
LSA	**Lhasa**	**43.46**	**280**	*e*P	**P**		**18 12 37.1**	**+3.2**	
LSA					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.3								
LSA	**Lhasa**	**43.46**	**280**	*e*P	**P**		**18 12 37.1**	**+3.3**	
	comp=Z,4.3nm,0.6s,mb4.4								
KSM	**Kuching**	**43.68**	**230**	*e*P	**P**		**18 12 36.1**	**+0.2**	
ZAL	**Zalesovo**	**45.04**	**315**	P	**P**		**18 12 47.5**	**+1.3**	
	comp=Z,1.4nm,0.3s,mb4.2,baz=32,slow=7.3,SNR=3.3								
ZAL					PcP	PcP	18 14 26.1	-1.0	
	comp=Z,2.0nm,0.3s,baz=81,slow=5.8,SNR=3.1								
NVS	**Novosibirsk**	**46.00**	**316**	/*i* P	**P**		**18 12 54.2**	**+0.3**	
NVS					pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.6								
NVS					pmax	pmax			
	comp=E,7.0nm,1.0s								
MKAR	**Makanchi Array**	**46.81**	**305**	P	**P**		**18 13 01.0**	**+0.7**	
	comp=E,5.8nm,0.8s,mb4.6,baz=92,slow=8.8,SNR=11								
MKAR					LR	LR	18 34 15.1		
	comp=E,33nm,20.7s,MS3.3,baz=99,slow=38								
KURK	**Kurchatov**	**48.88**	**311**	*e*P	**P**		**18 13 16.2**	**-0.2**	
KURK					pmax	pmax			
	comp=Z,28nm,0.8s,mb5.3								
KURK	**Kurchatov**	**48.88**	**311**	*e*P	**P**		**18 13 16.2**	**-0.2**	
	comp=Z,28nm,0.8s,mb5.3								
IMA	**Indian Mountai**	**49.50**	**29**	*e*P	**P**		**18 13 20.6**	**-0.4**	
IMA					pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.8								
IMA	**Indian Mountai**	**49.50**	**29**	*e*P	**P**		**18 13 20.6**	**-0.4**	
	comp=Z,8.5nm,0.9s,mb4.8								
SML	**Sawmill**	**51.54**	**35**	*e*P	**P**		**18 13 35.8**	**-0.7**	
ILAR	**Eielson Array**	**52.23**	**31**	P	**P**		**18 13 40.1**	**-1.5**	
	comp=Z,7.5nm,0.8s,mb4.7,baz=265,slow=6.3,SNR=34								
ILAR					pP	pP	18 13 51.5	-0.8	
	comp=Z,3.5nm,0.6s,baz=255,slow=6.3,SNR=7.3								
AAK	**Ala-Archa**	**53.00**	**301**	*e*P	**P**		**18 13 47.8**	**+0.1**	
AAK					pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5								
AAK	**Ala-Archa**	**53.00**	**301**	*e*P	**P**		**18 13 47.8**	**+0.1**	
	comp=Z,4.0nm,0.7s,mb4.5								
WRAB	**Tennant Creek**	**53.52**	**189**	*i* P	**P**		**18 13 51.8**	**-0.1**	
WB2	**Warramunga Arr**	**53.53**	**189**	*e*P	**P**		**18 13 51.1**	**-0.9**	
WRA	**Warramunga Arr**	**53.53**	**189**	P	**P**		**18 13 50.1**	**-1.9**	
	comp=Z,1.8nm,0.4s,mb4.4,baz=5.3,slow=7.6,SNR=16								
WRA					PcP	PcP	18 14 56.8	-1.6	
	comp=Z,1.4nm,0.8s,baz=0.3,slow=4.0,SNR=4.7								
WRA					pPcP		18 15 07.0		
	comp=Z,1.2nm,0.6s,baz=1.0,slow=4.0,SNR=4.7								
FITZ	**Fitzroy Crossi**	**53.59**	**200**	*e*P	**P**		**18 13 50.9**	**-1.5**	
	comp=Z,5.7nm,0.7s,mb4.6								
FITZ	**Fitzroy Crossi**	**53.59**	**200**	P	**P**		**18 13 51.2**	**-1.2**	
	comp=Z,6.3nm,0.6s,mb4.8,baz=7.3,slow=4.9,SNR=13								
BVAR	**Borovoye Array**	**53.67**	**315**	P	**P**		**18 13 52.8**	**+0.3**	
	comp=Z,1.1nm,0.6s,mb4.0,baz=90,slow=5.9,SNR=6.9								
BRVK	**Borovoye**	**53.73**	**315**	*e*P	**P**		**18 13 52.2**	**-0.8**	
BRVK					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3								
BRVK	**Borovoye**	**53.73**	**315**	*e*P	**P**		**18 13 52.2**	**-0.8**	
	comp=Z,3.0nm,0.8s,mb4.3								
THN	**Thein Dam**	**55.07**	**289**	*e*P	**P**		**18 14 00.0**	**-3.1**	
INK	**Inuvik**	**57.33**	**26**	P	**P**		**18 14 17.9**	**-0.9**	
INK				*PP	pP		18 14 29.2	-0.5	
INK					pmax	pmax			
	comp=Z,9.0nm,0.9s								
INK					pmax	pmax			
	comp=Z,2.0nm,0.5s								
INK	**Inuvik**	**57.33**	**26**	P	**P**		**18 14 17.9**	**-1.0**	
	comp=Z,8.9nm,0.9s,mb4.8,baz=287,slow=7.4,SNR=15								
INK					pP	pP	18 14 29.2	-0.5	
	comp=Z,2.3nm,0.5s,baz=133,slow=3.4,SNR=3.8								

INK	**Inuvik**	**57.33**	**26**	*e*P	**P**		**18 14 17.6**	**-1.2**	
INK					pP	pP	18 14 29.2	-0.5	
HYB	**Hyderabad**	**58.98**	**271**	*e*P	**P**		**18 14 31.0**	**0.0**	
HYB	**Hyderabad**	**58.98**	**271**	*i* P	**P**		**18 14 31.0**	**0.0**	
ARU	**Arti**	**59.67**	**320**	/*i*P	**P**		**18 14 35.1**	**-0.1**	
ARU				*e*			18 15 20.4		
ARU				*e*			18 16 45.4		
ARU				*e*PPP	PPP		18 18 14.3	-0.1	
ARU				*e*S	**S**		**18 22 45.1**	**+3.6**	
ARU				*e*SS	SS		18 26 40.2	+1.6	
ARU					pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.6								
ARU	**Arti**	**59.67**	**320**	*e*P	**P**		**18 14 34.6**	**-0.6**	
	comp=Z,5.8nm,0.9s,mb4.6								
DZM	**Mont Dzumac**	**59.70**	**154**	P	**P**		**18 14 33.5**	**-2.4**	
	comp=Z,12nm,1.0s,mb4.9,baz=17,slow=9.4,SNR=6.8								
DLBC	**Dease Lake**	**61.08**	**37**	P	**P**		**18 14 44.9**	**0.0**	
	comp=Z,1.8nm,0.5s,mb4.5,baz=273,slow=5.4,SNR=4.5								
STKA	**Stephens Creek**	**64.87**	**181**	P	**P**		**18 15 09.1**	**-1.2**	
	comp=Z,4.0nm,0.9s,mb4.4,baz=314,slow=3.1,SNR=4.3								
STKA	**Stephens Creek**	**64.87**	**181**	*e*P	**P**		**18 15 09.7**	**-0.6**	
YKA	**Yellowknife Ar**	**66.62**	**30**	P	**P**		**18 15 19.7**	**-1.1**	
	comp=Z,4.8nm,0.8s,mb4.6,baz=294,slow=6.1,SNR=15								
YKA					pP	pP	18 15 30.9	-1.0	
	comp=Z,1.5nm,0.7s,baz=298,slow=6.2,SNR=3.6								
YKA	**Yellowknife Ar**	**66.62**	**30**	P	**P**		**18 15 19.8**	**-1.1**	
YKA					pP	pP	18 15 30.9	-1.0	
ARCES	**ARCESS Array B**	**67.73**	**340**	P	**P**		**18 15 27.3**	**-0.4**	
	comp=Z,1.4nm,0.8s,mb4.0,baz=72,slow=7.7,SNR=7.1								
ARCES	**ARCESS Array B**	**67.73**	**340**	P	**P**		**18 15 27.3**	**-0.4**	
OBN	**Obninsk**	**71.53**	**324**	/*e*P	**P**		**18 15 52.5**	**+1.3**	
OBN				*e*	pP		18 16 00.9	-1.4	
OBN				*e*			18 16 07.2		
OBN				*e*			18 16 12.3		
OBN					pmax	pmax			
	comp=Z,16nm,1.2s,mb4.8								
OBN					MLR	MLR			
	comp=Z,100nm,15.0s,MS4.2								
KAF	**Kangasniemi**	**71.95**	**334**	*e*p	**P**		**18 15 53.0**	**-0.6**	
	comp=Z,1.6nm,0.5s,mb4.2								
KAF	**Kangasniemi**	**71.95**	**334**	*e*P	**P**		**18 15 53.0**	**-0.6**	
KAF					pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3								
YBH	**Yreka Blue Hor**	**72.00**	**52**	P	**P**		**18 15 54.4**	**+0.2**	
	comp=Z,8.1nm,1.2s,mb4.5,baz=209,slow=1.5,SNR=5.9								
NEW	**Newport**	**72.25**	**44**	P	**P**		**18 15 55.6**	**+0.1**	
	comp=Z,3.8nm,0.5s,mb4.6,baz=301,slow=3.8,SNR=6.4								
NEW	**Newport**	**72.25**	**44**	*e*P	**P**		**18 15 55.7**	**+0.2**	
FINES	**FINESS Array B**	**72.45**	**333**	P	**P**		**18 15 56.5**	**0.0**	
	comp=Z,1.0nm,0.6s,mb3.9,baz=57,slow=6.6,SNR=6.0								
FINES					pP	pP	18 16 07.7	+0.1	
	comp=Z,3.4nm,0.8s,baz=90,slow=5.7,SNR=6.3								
WALA	**Waterton Lakes**	**73.66**	**42**	*e*P	**P**		**18 16 03.9**	**0.0**	
	comp=Z,6.3nm,0.7s,mb4.7								
BMO	**Blue Mountains**	**73.87**	**47**	*e*P	**P**		**18 15 59.7**	**-5.5**	
	comp=Z,5.6nm,1.1s,mb4.4								
KIV	**Kislovodsk**	**73.94**	**312**	*e*P	**P**		**18 16 06.8**	**+1.2**	
KIV					pmax	pmax			
	comp=E,6.0nm,1.2s								
KIV					pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.6								
WVOR	**Wild Horse Val**	**74.28**	**49**	*e*P	**P**		**18 16 07.7**	**+0.1**	
WVOR					pmax	pmax			
	comp=Z,11nm,1.3s,mb4.6								
WVOR	**Wild Horse Val**	**74.28**	**49**	*e*P	**P**		**18 16 07.7**	**0.0**	
	comp=Z,10nm,1.3s,mb4.6								
BEKR	**Beckwourth**	**74.47**	**52**	*e*P	**P**		**18 16 08.8**	**0.0**	
	comp=Z,27nm,1.5s,mb5.0								
GNI	**Garni**	**74.56**	**308**	*i* P	**P**		**18 16 10.2**	**+0.9**	
GNI					pmax	pmax			
	comp=Z,13nm,1.4s								
CMB	**Columbia Colle**	**75.39**	**54**	*e*P	**P**		**18 16 14.3**	**+0.2**	
CMB					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
CMB	**Columbia Colle**	**75.39**	**54**	*e*P	**P**		**18 16 14.3**	**+0.2**	
	comp=Z,5.0nm,0.8s,mb4.5								
NVAR	**Mina Array Bea**	**76.58**	**53**	P	**P**		**18 16 20.4**	**-0.4**	
	comp=Z,4.8nm,0.7s,mb4.5,baz=292,slow=5.3,SNR=32								
NVAR					pP	pP	18 16 32.2	+0.2	
	comp=Z,2.1nm,0.7s,baz=300,slow=5.1,SNR=7.1								
ELK	**Elko**	**77.34**	**50**	*e*P	**P**		**18 16 25.6**	**+0.5**	
ELK					pmax	pmax			
	comp=Z,3.0nm,1.0s								
ELK	**Elko**	**77.34**	**50**	*e*P	**P**		**18 16 25.6**	**+0.5**	
	comp=Z,3.4nm,1.0s,mb4.2								
QLMT	**Earthquake Lak**	**77.40**	**44**	*e*P	**P**		**18 16 26.4**	**+1.1**	
AKASG	**Malin Array Be**	**77.71**	**323**	P	**P**		**18 16 27.1**	**+0.2**	
	comp=Z,1.3nm,0.7s,mb3.9,baz=45,slow=5.9,SNR=9.6								
NB2	**NORSAR Subarra**	**77.89**	**338**	P	**P**		**18 16 27.6**	**-0.1**	
	comp=Z,2.9nm,0.6s,mb4.4,baz=40,slow=5.3								
NB2	**NORSAR Subarra**	**77.89**	**338**	P	**P**		**18 16 27.6**	**-0.1**	
NB2					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4								
NOA	**NORSAR Array B**	**77.89**	**338**	P	**P**		**18 16 27.7**	**0.0**	
	comp=Z,3.1nm,0.8s,mb4.3,baz=39,slow=5.6,SNR=9.6								
NOA					pP	pP	18 16 38.5	-0.3	
	comp=Z,5.2nm,0.8s,baz=39,slow=5.7,SNR=13								
IMW	**Indian Meadow**	**78.22**	**45**	*e*P	**P**		**18 16 31.4**	**+1.6**	
	comp=Z,3.5nm,0.7s,mb4.4								
MOOW	**Moose Ponds**	**78.42**	**45**	*e*P	**P**		**18 16 31.9**	**+0.9**	
	comp=Z,25nm,1.9s,mb4.8								
LOHW	**Long Hollow**	**78.58**	**45**	*e*P	**P**		**18 16 32.7**	**+0.8**	
	comp=Z,3.5nm,1.1s,mb4.2								
PDAR	**PDAR Array**	**79.70**	**45**	P	**P**		**18 16 38.0**	**0.0**	
	comp=Z,1.4nm,0.7s,mb4.0,baz=278,slow=2.4,SNR=13								
PDAR					pP	pP	18 16 49.0	-0.1	
	comp=Z,1.0nm,0.6s,baz=297,slow=3.2,SNR=5.9								
DAU	**Daniels Canyon**	**80.04**	**48**	*e*P	**P**		**18 16 40.9**	**+1.1**	
DAU				*e*	*PP	pP	18 16 51.5	+0.5	
MSU	**Marysvale**	**80.55**	**50**	*e*P	**P**		**18 16 43.0**	**+0.4**	
SRU	**San Rafael**	**81.25**	**49**	*e*P	**P**		**18 16 45.9**	**-0.4**	
BRTR	**Keskin Array B**	**81.90**	**312**	pP	pP		18 17 01.9	+1.0	
	comp=Z,2.2nm,0.8s,baz=108,slow=3.9,SNR=6.3								
STHS	**Stebnicka Huta**	**82.43**	**326**	*e*P	**P**		**18 16 54.5**	**+2.4**	
SMCO	**Snowmass**	**83.42**	**47**	*e*P	**P**		**18 16 58.6**	**+1.3**	
SMCO				*e*	epP	pP	18 17 10.5	+1.9	
KECS	**Kecovo**	**83.44**	**325**	*e*P	**P**		**18 16 58.1**	**+0.8**	
PSZ	**Piszkesteto**	**84.12**	**325**	*e*P	**P**		**18 17 02.3**	**+1.6**	
PSZ					pmax	pmax			
	comp=Z,18nm,1.5s,mb5.0								
PSZ	**Piszkesteto**	**84.12**	**325**	*e*P	**P**		**18 17 02.3**	**+1.6**	
	comp=Z,18nm,1.5s,mb5.0								
VYHS	**Vyhne**	**84.21**	**326**	*e*P	**P**		**18 17 02.6**	**+1.4**	
BRG	**Berggiesshubel**	**84.63**	**330**	*e*P	**P**		**18 17 03.8**	**+0.6**	
BRG				*e*			18 17 11.5		
BRG					pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.4								
BRG	**Berggiesshubel**	**84.63**	**330**	*e*P	**P**		**18 17 03.8**	**+0.6**	
	comp=Z,2.9nm,0.9s,mb4.4								
BRG				*e*			18 17 11.5		
CLL	**Collm**	**84.69**	**331**	*e*P	**P**		**18 17 04.0**	**+0.5**	
CLL				*e*	pP		18 17 16.0	+1.3	
CLL					pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.6								
CLL	**Collm**	**84.69**	**331**	*e*P	**P**		**18 17 04.0**	**+0.5**	
	comp=Z,6.0nm,1.1s,mb4.6								
CLL				*e*	pP		18 17 16.0	+1.3	
CLL	**Collm**	**84.69**	**331**	P	**P**		**18 17 04.0**	**+0.5**	
	comp=Z,logA/T=0.7,mb4.6								
CLL				*e*PP	pP		18 17 16.0	+1.3	
CLL				*e*			18 17 23.0		
SDCO	**Great Sand Dun**	**85.21**	**47**	*e*P	**P**		**18 17 07.3**	**+0.9**	
	comp=Z,28nm,1.4s,mb5.2								
ANMO	**Albuquerque**	**86.35**	**50**	*e*P	**P**		**18 17 13.1**	**+1.0**	
ANMO				*e*	*PP	pP	18 17 23.9	+0.5	
ANMO					pmax	pmax			
	comp=Z,7.0nm,1.3s								
ANMO	**Albuquerque**	**86.35**	**50**	*e*P	**P**		**18 17 13.1**	**+1.1**	
	comp=Z,7.5nm,1.3s,mb4.8								
ANMO				*e*	pP	pP	18 17 23.9	+0.5	
TXAR	**Lajitas Array**	**91.74**	**53**	P	**P**		**18 17 38.5**	**+0.7**	
	comp=Z,3.0nm,0.6s,mb4.8,baz=304,slow=3.2,SNR=18								
TXAR					pP	pP	18 17 49.4	+0.3	
	comp=Z,2.1nm,0.6s,baz=304,slow=2.7,SNR=6.1								
TXAR	**Lajitas Array**	**91.74**	**53**	P	**P**		**18 17 38.5**	**+0.7**	
TXAR					pP	pP	18 17 49.4	+0.3	
SNAA	**Sanae**	**137.43**	**195**			PKPdf	18 24 03.2	+12	
SNAA	**Sanae**	**137.43**	**195**			PKPdf	18 24 05.4	+14	
VNA2	**Neumayer--Watz**	**138.97**	**195**			PKPdf	18 23 56.6	+2.2	
VNA2	**Neumayer--Watz**	**138.97**	**195**			PKPdf	18 23 59.1	+4.7	
VNA2	**Neumayer--Watz**	**138.97**	**195**			PKPdf	18 24 06.5	+12	
VNA2	**Neumayer--Watz**	**138.97**	**195**			PKPdf	18 24 10.5	+16	
VNA2	**Neumayer--Watz**	**138.97**	**195**			PKPdf	18 24 15.1	+21	
VNA2	**Neumayer--Watz**	**138.97**	**195**			PKPdf	18 24 21.7	+27	
VNA3	**Neumayer Olymp**	**139.18**	**193**			PKPdf	18 24 10.0	+15	

SAML	**Samuel**	**146.17**	**50**	*e*PKPdf	PKPdf		18 24 09.7	+1.2	
SAML				*ep*PKPdf			18 24 21.5		
LPAZ	**La Paz**	**147.69**	**66**	PKPbc	PKPdf		18 24 16.0	+5.1	
	comp=Z,2.7nm,0.6s,baz=19,slow=6.3,SNR=8.9								
USHA	**Ushuaia**	**149.56**	**144**	PKPbc	PKPdf		18 24 19.6	+6.8	
	comp=Z,11nm,1.1s,baz=278,slow=5.9,SNR=3.8								
SIV	**San Ignacio**	**152.68**	**56**	PKP	PKPdf		18 24 20.3	+1.8	
	comp=Z,0.8nm,0.6s,baz=210,slow=4.6,SNR=4.8								
SIV				PKPbc	PKPdf		18 24 26.8	+8.2	
	comp=Z,1.8nm,0.5s,baz=285,slow=1.6,SNR=9.3								
SIV				pPKPbc			18 24 37.1		
	comp=Z,5.8nm,0.9s,baz=222,slow=1.9,SNR=9.1								

*JMA **27** 18:08:00.3±0.4, 33.34N×142.51E, h34km, M4.0*
*NEIC **27** 18:08:03.4±0.7, 33.30N×142.50E, mb3.8/1, Error ellipse: s-maj=19.9km s-min=14.4km az=202.0*
*IDC **27** 18:08:03.2±0.9, 33.24N×142.50E, h31km±5km, mb3.8/10, mb1 4.1/13, mb1mx3.9/23, mbtmp4.0/13, ML4.0/3, Error ellipse: s-maj=20.5km s-min=17.0km az=167.0*

ISC 27 18:08:01.8±0.6, 33.43N±0.06×142.45E±0.05, h32km, h32km±.6km: pP-P, n23, σ1ŝ16/31, mb3.9/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHJ2	**Mitsune**	**2.23**	**263**	P		**Pn**	**18 08 37.0**	**-0.4**
JHJ2				S		**Sn**	**18 09 04.6**	**+0.5**
JHJ	**Hachijo jima 2**	**2.26**	**263**	Pn		**Pn**	**18 08 37.1**	**-0.7**
	94nm,0.3s,baz=241,slow=20,SNR=7.1							
JHJ				Sn		**Sn**	**18 09 04.1**	**-0.7**
	57nm,0.3s,baz=245,slow=23,SNR=6.5							
JYN	**Shimob**	**3.83**	**304**	P		**Pn**	**18 09 00.7**	**+0.5**
JAG	**Ashikaga**	**3.88**	**321**	P		**Pn**	**18 09 00.6**	**-0.2**
JAG				*e*S		**Sn**	**18 09 45.2**	**-0.6**
JMM	**Marumori**	**4.63**	**343**	P		**Pn**	**18 09 09.5**	**-2.0**
JMM				*e*S		**Sn**	**18 09 59.8**	**-5.1**
MJAR	**Matsushiro Arr**	**4.67**	**313**	Pn		**Pn**	**18 09 11.6**	**-0.5**
	2.7nm,0.3s,baz=348,slow=16,SNR=8.9							
MJAR				Sn		**Sn**	**18 10 07.3**	**+1.5**
	1.9nm,0.3s,baz=146,slow=24,SNR=3.1							
MAT	**Matsushiro**	**4.67**	**313**	P		**Pn**	**18 09 12.9**	**+0.8**
MAT				*e*S		**Sn**	**18 10 05.7**	**-0.2**
JMK	**Ichinoseki**	**5.61**	**350**	P		**Pn**	**18 09 22.7**	**-2.5**
JMK				*e*S		**Sn**	**18 10 23.5**	**-5.8**
CBIJ	**Chichi jima**	**6.31**	**182**	Pn		**Pn**	**18 09 30.6**	**-4.6**
	17nm,0.3s,baz=274,slow=19,SNR=7.5							
CBIJ				Sn		**Sn**	**18 10 35.9**	**-11**
	26nm,0.3s,baz=292,slow=23,SNR=6.1							
ASAJ	**Asahikawa**	**10.68**	**1**	Pn		**P**	**18 10 31.6**	**-4.0**
	1.1nm,0.3s,baz=180,slow=6.4,SNR=3.6							
ASAJ				Sn		**S**	**18 12 28.9**	**-6.2**
	0.6nm,0.3s,baz=191,slow=8.7,SNR=3.0							
SONM	**Songino Array**	**30.61**	**309**	P		**P**	**18 14 17.3**	**+2.3**
	0.4nm,0.5s,mb3.5,baz=270,slow=27,SNR=2.8							
MKAR	**Makanchi Array**	**46.82**	**305**	P		**P**	**18 16 31.9**	**+1.7**
	1.3nm,0.6s,mb4.1,baz=94,slow=8.5,SNR=3.5							
ILAR	**Eielson Array**	**52.12**	**31**	P	

LPAZ La Paz 13.95 15 P **P 18 13 23.1 +0.8**
comp=N,0.4nm,0.3s,baz=180,slow=10,SNR=12
LPAZ La Paz 13.95 15 *eP* **P 18 13 24.1 +1.9**
comp=N,4.1nm,0.7s
SIV San Ignacio 16.98 38 P **P 18 14 00.1 -0.9**
comp=N,0.7nm,0.3s,baz=224,slow=12,SNR=31
SAML Samuel 22.34 23 *eP* **P 18 15 01.7 +1.5**
comp=N,4.7nm,0.9s,mb3.9
USHA Ushuaia 25.04 175 P **P 18 15 26.4 +0.3**
comp=N,23nm,0.8s,mb4.8,baz=346,slow=7.6,SNR=12
BDFB Brasilia 26.05 62 P **P 18 15 34.5 -1.4**
comp=N,3.7nm,0.5s,mb4.2,baz=252,slow=9.6,SNR=6.0
BDFB LR LR 18 26 52.4
comp=N,90nm,21.3s,MS3.3,baz=278,slow=39
RPN Rapa Nui 33.00 265 P **P 18 16 37.7 0.0**
comp=N,51nm,0.8s,mb5.5,baz=38,slow=2.7,SNR=3.3
JTS JuntasAbangare 41.91 340 P **P 18 17 51.1 -1.5**
comp=N,3.9nm,0.4s,mb4.3,baz=260,slow=15,SNR=4.1
VNA3 Neumayer Olymp 53.10 159⇑ *i*P **P 18 19 19.9 +0.5**
VNA3 Neumayer Olymp 53.10 159 **P 18 19 23.4 +4.0**
VNA3 Neumayer Olymp 53.10 159 **P 18 19 27.9 +8.5**
VNA3 Neumayer Olymp 53.10 159 **P 18 19 38.7 +19**
VNA1 Neumayer--Stat 53.38 158⇑ *i*P **P 18 19 22.4 +0.9**
VNA1 Neumayer--Stat 53.38 158 **P 18 19 25.0 +3.5**
VNA1 Neumayer--Stat 53.38 158 **P 18 19 32.4 +11**
VNA2 Neumayer--Watz 53.73 158⇑ *i*P **P 18 19 24.5 +0.5**
VNA2 Neumayer--Watz 53.73 158 **P 18 19 27.3 +3.3**
VNA2 Neumayer--Watz 53.73 158 **P 18 19 33.0 +9.0**
VNA2 Neumayer--Watz 53.73 158 **P 18 19 40.5 +16**
SNAA Sanae 55.32 159⇑ *i*P **P 18 19 34.7 -0.9**
SNAA Sanae 55.32 159 **P 18 19 36.7 +1.1**
SNAA Sanae 55.32 159 **P 18 19 41.3 +5.7**
SNAA Sanae 55.32 159 **P 18 19 51.7 +16**
SNAA Sanae 55.32 159 P **P 18 19 34.8 -0.8**
comp=N,3.0nm,0.7s,mb4.4,baz=284,slow=6.6,SNR=77
TXAR Lajitas Array 66.27 330 P **P 18 20 51.4 +0.9**
comp=N,1.2nm,0.6s,mb4.1,baz=157,slow=9.5,SNR=6.0
VNDA Vanda 68.16 191 P **P 18 21 02.7 +1.1**
comp=N,0.8nm,0.8s,mb3.8,baz=135,slow=4.2,SNR=6.6
DBIC Dimbokro 73.70 72 P **P 18 21 35.5 -0.4**
comp=N,3.4nm,0.5s,mb4.6,baz=197,slow=6.1,SNR=13
DBIC LR LR 18 52 04.0
comp=N,44nm,18.6s,MS3.8,baz=118,slow=34
MAW Mawson 77.06 164 P **P 18 21 54.0 -0.1**
comp=N,3.3nm,0.8s,mb4.3,baz=215,slow=7.7,SNR=11
MAW LR LR 18 56 03.5
comp=N,46nm,18.5s,MS3.8,baz=63,slow=36
PDAR Pinedale Array 80.20 333 P **P 18 22 13.1 +1.4**
comp=N,0.5nm,0.5s,mb3.7,baz=129,slow=7.4,SNR=5.2
PDAR LR LR 18 54 38.8
comp=N,56nm,21.7s,MS3.9,baz=150,slow=33
BOSA Boshof 81.81 118 P **P 18 22 20.7 +0.2**
comp=N,5.1nm,0.8s,mb4.5,baz=229,slow=10.0,SNR=8.6
WRA Warramunga Arr 124.42 210 PKP PKPdf 18 29 00.4 +1.1
comp=N,0.2nm,0.5s,baz=157,slow=1.7,SNR=5.1
ZAL Zalesovo 150.59 29 PKPbc PKPdf 18 29 52.4 +7.0
comp=N,1.5nm,0.4s,baz=70,slow=4.0,SNR=5.3
MJAR Matsushiro Arr 154.10 293 PKPab PKPab 18 30 16.3 +1.0
comp=N,0.3nm,0.3s,baz=129,slow=2.4,SNR=4.0

IDC ***27*** *18:13:42.6±1.6,33.15N×142.47E,mb3.4/2,mb1 3.6/4, mb1mx3.4/20,mbtmp3.4/4,ML3.3/2,MS3.3/1,Ms1 3.3/1, ms1mx2.6/17,Error ellipse: s-maj=29.4km s-min=25.9km az=18.0*

JMA ***27*** *18:13:46.6±0.2,33.22N×142.44E,h75km,M3.2*

ISC 27 18:13:46.7±1.5,33.26N±0.06×142.46E±0.10,h52km±18km, n14,σ0s99/21,mb3.5/2,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSO1	**Boso 1**	**1.86**	**319**	P		**P**	**18 14 17.2**	**+0.5**
BSO1				*e*S		**S**	**18 14 40.6**	**+1.6**
JHJ2	**Mitsune**	**2.22**	**267**	P		**P**	**18 14 21.8**	**0.0**
JHJ2				*e*S		**S**	**18 14 49.4**	**+1.3**
BSO3	**Boso 3**	**2.23**	**314**	P		**P**	**18 14 22.3**	**+0.3**
JHJ	**Hachijo jima 2**	**2.25**	**267**	Pn		**P**	**18 14 21.7**	**-0.5**
	20nm,0.3s,baz=236,slow=22,SNR=14							
JHJ				LR		LR	18 14 47.2	
	comp=Z,565nm,18.1s,baz=314,slow=29							
JHJ				Sn		**S**	**18 14 48.0**	**-0.7**
	18nm,0.3s,baz=48,slow=23,SNR=6.2							
BSO4	**Boso 4**	**2.46**	**315**	P		**P**	**18 14 26.0**	**+0.7**
JIM2	**Oshima 3**	**2.90**	**301**	*e*S		**S**	**18 15 03.2**	**-2.3**
JYN	**Shimob**	**3.93**	**306**	P		**P**	**18 14 46.5**	**+0.4**
JAG	**Ashikaga**	**4.01**	**323**	P		**P**	**18 14 47.0**	**-0.2**
JAG				*e*S		**S**	**18 15 34.0**	**+0.6**
MJAR	**Matsushiro Arr**	**4.79**	**314**	Pn		**P**	**18 14 58.3**	**+0.2**
	1.0nm,0.3s,baz=160,slow=12,SNR=8.8							
MJAR				Sn		**S**	**18 15 53.0**	**+0.1**
	0.9nm,0.3s,baz=127,slow=18,SNR=5.6							
MAT	**Matsushiro**	**4.79**	**314**	P		**P**	**18 14 58.2**	**+0.1**
MAT				*e*S		**S**	**18 15 52.1**	**-0.9**
JMM	**Marumori**	**4.79**	**344**	P		**P**	**18 14 55.6**	**-2.6**
JMM				*e*S		**S**	**18 15 46.5**	**-6.6**
ASAJ	**Asahikawa**	**10.84**	**1**	Pn		**P**	**18 16 17.9**	**-3.9**
	0.7nm,0.3s,baz=154,slow=27,SNR=4.6							
ILAR	**Eielson Array**	**52.26**	**31**	P		**P**	**18 22 55.3**	**+0.9**
	0.4nm,0.6s,mb3.5,baz=269,slow=6.0,SNR=4.2							
WRA	**Warramunga Arr**	**53.47**	**190**	P		**P**	**18 23 03.8**	**-0.3**
	0.2nm,0.4s,mb3.4,baz=3.1,slow=7.8,SNR=6.5							

NIED ***27*** *18:15:00,33.30N×142.50E,h11km,Mw4.2 Best double couple: M0 1.91×10^15 NP1:φs176°,δ68°,λ-92°. NP2:φs1°, δ22°,λ-86°.*

BJI ***27*** *18:15:22.6,33.19N×142.31E,h25km,mB4.5,mb4.5, Ms3.6,Msz3.5*

JMA ***27*** *18:15:23.0±0.3,33.29N×142.48E,h93km,M3.7*

MOS ***27*** *18:15:25.4±1.1,33.68N×142.52E,h29km,mb4.8/21,Error ellipse: s-maj=13.0km s-min=6.3km az=114.6*

NEIC ***27*** *18:15:25.2±0.3,33.24N×142.38E,mb4.7/13, MW4.1(NIED),Error ellipse: s-maj=8.8km s-min=6.1km az=199.0*

IDC ***27*** *18:15:25.5±0.4,33.29N×142.48E,h30km±2km,mb4.0/23, mb1 4.2/25,mb1mx4.2/29,mbtmp4.2/25,ML3.8/2,MS3.4/5, Ms1 3.4/5,ms1mx3.0/27,Error ellipse: s-maj=12.1km s-min=11.7km az=67.0*

ISC 27 18:15:24.2±0.3,33.42N±0.05×142.44E±0.04,h30km, h30km±.3km:pP-P,n124,σ1s16/125,mb4.4/49,MS3.6/3, 3C-2D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSO1	**Boso 1**	**1.73**	**316**	P		**Pn**	**18 15 53.7**	**+0.9**
BSO1				*e*S		**Sn**	**18 16 17.4**	**+3.4**
BSO3	**Boso 3**	**2.11**	**311**	P		**Pn**	**18 15 58.7**	**+0.4**
JHJ2	**Mitsune**	**2.22**	**263**	P		**Pn**	**18 15 59.2**	**-0.6**
JHJ2				*e*S		**Sn**	**18 16 27.7**	**+1.2**
JHJ	**Hachijo jima 2**	**2.24**	**263**	Pn		**Pn**	**18 15 59.3**	**-0.9**
	84nm,0.3s,baz=163,slow=4.9,SNR=14							
JHJ				Sn		**Sn**	**18 16 26.9**	**-0.2**
	131nm,0.3s,baz=219,slow=22,SNR=7.9							
BSO4	**Boso 4**	**2.34**	**313**	P		**Pn**	**18 16 02.3**	**+0.7**
JIM2	**Oshima 3**	**2.81**	**298**	P		**Pn**	**18 16 07.5**	**-0.8**
JOD2	**Odawara 2**	**3.32**	**304**	P		**Pn**	**18 16 14.8**	**-0.8**
JYN	**Shimob**	**3.83**	**304**	P		**Pn**	**18 16 22.5**	**-0.2**
JAG	**Ashikaga**	**3.87**	**322**	P		**Pn**	**18 16 22.8**	**-0.5**
JAG				*e*S		**Sn**	**18 17 07.0**	**-1.4**
JRY	**Ryogami san**	**3.90**	**313**	P		**Pn**	**18 16 23.7**	**0.0**
JMM	**Marumori**	**4.63**	**344**	P		**Pn**	**18 16 31.5**	**-2.6**
JMM				*e*S		**Sn**	**18 17 21.1**	**-6.5**
MJAR	**Matsushiro Arr**	**4.66**	**313**	P		**Pn**	**18 16 34.6**	**0.0**
MJAR							18 17 28.9	
MJAR				pmax		pmax		
	comp=Z,3.0nm,0.3s							
MJAR				smax				
	comp=E,3.0nm,0.3s							
MJAR	**Matsushiro Arr**	**4.66**	**313**	Pn		**Pn**	**18 16 34.6**	**+0.1**
	comp=E,3.0nm,0.3s,baz=168,slow=13,SNR=14							
MJAR				Sn		**Sn**	**18 17 28.9**	**+0.5**
	comp=E,3.0nm,0.3s,baz=146,slow=33,SNR=6.1							
MAJO	**Matsushiro**	**4.66**	**313**	*e*P		**Pn**	**18 16 36.0**	**+1.4**
MAT	**Matsushiro**	**4.66**	**313**	*e*P		**Pn**	**18 16 34.0**	**-0.6**
MAT				*e*S		**Sn**	**18 17 27.0**	**-1.4**
MAT	**Matsushiro**	**4.66**	**313**	P		**Pn**	**18 16 33.7**	**-0.9**
MAT				S		**Sn**	**18 17 27.1**	**-1.3**
MAT	**Matsushiro**	**4.66**	**313**	P		**Pn**	**18 16 34.9**	**+0.3**
MAT				*e*S		**Sn**	**18 17 28.3**	**-0.1**
JMK	**Ichinoseki**	**5.61**	**350**	P		**Pn**	**18 16 44.9**	**-3.0**
JMK				*e*S		**Sn**	**18 17 45.3**	**-6.8**
CBIJ	**Chichi jima**	**6.31**	**182**	Pn		**Pn**	**18 16 51.6**	**-6.2**
	comp=E,22nm,0.3s,baz=287,slow=23,SNR=5.1							
CBIJ				Sn		**Sn**	**18 17 58.5**	**-11**
	comp=E,45nm,0.3s,baz=272,slow=20,SNR=7.0							
JNU	**Nakatsue 9.68 271**			Pn		**P**	**18 17 46.0**	**+1.3**
	comp=E,0.2nm,0.3s,baz=74,slow=17,SNR=4.7							
JNU				LR		LR	18 21 13.3	
	comp=E,211nm,21.9s,baz=184,slow=36							
ASAJ	**Asahikawa 10.68 1**			P		**P**	**18 17 54.2**	**-4.2**
ASAJ							18 19 48.7	
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,202nm,19.7s							
ASAJ	**Asahikawa 10.68 1**			Pn		**P**	**18 17 54.1**	**-4.2**
	comp=Z,1.0nm,0.3s,baz=172,slow=16,SNR=5.1							
ASAJ				Sn		**S**	**18 19 48.7**	**-9.3**
	comp=Z,0.2nm,0.3s,baz=6.8,slow=25,SNR=2.2							
ASAJ				LR		LR	18 22 12.3	
	comp=Z,202nm,19.7s,baz=162,slow=38							
YSS	**Yuzh-Sakhalins 13.52 1**			*i* P		**P**	**18 18 34.6**	**-1.8**
YSS				pmax		pmax		
	comp=Z,76nm,2.5s							
JOW	**Kunigami 13.90 246**			LR		LR	18 23 52.7	
	comp=Z,82nm,19.0s,baz=124,slow=37							
CN2	**Changchun 16.81 313**			*e*P		**P**	**18 19 22.3**	**+3.2**
CN2				AMB		AMB		
	comp=Z,10.0nm,1.3s							
SSE	**Sheshan 18.12 268**			*e*P		**P**	**18 19 33.0**	**-2.6**
SSE				AMB		AMB		
	comp=Z,32nm,0.7s							
SSE				AMB		AMB		
	comp=Z,246nm,12.0s							
SSE				LR		LR		
	comp=N,170nm,15.7s							
SSE				LR		LR		
	comp=E,36nm,15.7s							
SSE				LR		LR		
	comp=Z,195nm,16.5s							
SSE	**Sheshan 18.12 268**			*e*P		**P**	**18 19 33.0**	**-2.6**
	comp=Z,32nm,0.7s							
NJ2	**Nanjing 19.88 273**			*e*P		**P**	**18 19 53.3**	**-2.9**
NJ2				AP			18 20 03.0	
NJ2				XP			18 20 06.3	
NJ2				PP		PP	18 20 14.0	-1.0
NJ2				S		**S**	**18 23 33.0**	**+0.2**
NJ2				XS			18 23 45.0	
NJ2				AMB		AMB		
	comp=Z,20nm,1.1s							
NJ2				AMB		AMB		
	comp=Z,336nm,4.4s							
HIA	**Hailar 23.12 320**			*e*P		**P**	**18 20 27.5**	**-1.1**
HIA				pmax		pmax		
	comp=Z,13nm,0.9s							
HIA	**Hailar 23.12 320**			*e*P		**P**	**18 20 27.4**	**-1.2**
	comp=Z,13nm,0.9s,mb4.4							
WHN	**Wuhan 23.97 271**			P		**P**	**18 20 36.0**	**-1.0**
HHC	**Hu-ho-hao-te 25.61 296**			⇓P		**P**	**18 20 53.8**	**+1.2**
HHC				AP		pP	18 21 02.3	+1.1
HHC				XP		sP	18 21 07.8	+2.6
HHC				AMB		AMB		
	comp=Z,14nm,1.7s,mb4.2							
HHC				AMB		AMB		
	comp=Z,156nm,7.6s							
HHC				LR		LR		
	comp=N,127nm,15.2s,MS3.8							
HHC				LR		LR		
	comp=E,132nm,13.1s,MS3.8							
HHC				LR		LR		
	comp=E,142nm,13.1s,MS3.7							
CLNS	**Chul'man 26.33 338**			*e*P		**P**	**18 20 59.3**	**+0.2**
CLNS				pmax		pmax		
	comp=N,16nm,0.9s							
CLNS				pmax		pmax		
	comp=Z,19nm,0.9s,mb4.6							
CLNS				pmax		pmax		
	comp=E,4.0nm,0.8s							
BTO	**Baotou 26.75 295**			*e*P		**P**	**18 21 04.3**	**+1.1**
BTO				AMB		AMB		
	comp=Z,10.0nm,0.4s,mb4.7							
XAN	**Xi'an 27.81 281**			P		**P**	**18 21 11.0**	**-1.9**
XAN				AMB		AMB		
	comp=Z,7.0nm,4.0s							
CIT	**Chita 27.93 320**			*e*P		**P**	**18 21 17.0**	**+3.2**
CIT				*e*		pP	18 21 26.5	+4.1
CIT				pmax		pmax		
	comp=Z,88nm,1.9s,mb5.1							
ENH	**Enshi 28.10 273**			*e*P		**P**	**18 21 12.0**	**-3.5**
	comp=Z,100nm,1.8s,mb5.1							
YAK	**Yakutsk 29.77 348**			*c* *i*P		**P**	**18 21 29.4**	**-0.8**
YAK				pmax		pmax		
	comp=Z,15nm,1.3s,mb4.6							
SEY	**Seymchan 30.19 9**			*i* P		**P**	**18 21 33.1**	**-0.8**
SONM	**Songino Array 30.60 309**			P		**P**	**18 21 38.5**	**+0.8**
	comp=Z,2.7nm,0.8s,mb4.1,baz=100,slow=7.5,SNR=8.5							
SONM				LR		LR	18 35 04.5	
	comp=Z,77nm,18.5s,MS3.4,baz=258,slow=38							
BOD	**Bodaibo 31.05 330**			*e*P		**P**	**18 21 39.9**	**-1.7**
BOD				*e*		pP	18 21 47.5	-2.8
BOD				*e*			18 21 54.5	
BOD				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb3.9							
BOD				pmax		pmax		
	comp=Z,4.0nm,1.2s,mb4.1							
BOD				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.7							
ZAK	**Zakamensk 33.25 312**			*e*P		**P**	**18 22 01.9**	**+1.1**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.1s,mb4.0							
TLY	**Talaya 33.40 315**			*i* P		**P**	**18 22 04.1**	**+2.0**
TLY				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
GTA	**Gaotai 34.57 292**			P		**P**	**18 22 14.3**	**+1.9**
GTA				AP		pP	18 22 21.5	+0.3
GTA				XP		sP	18 22 24.0	-0.9
GTA				AMB		AMB		
	comp=Z,3.0nm,1.1s,mb4.1							
BILL	**Bilibino 37.28 15**			*e*P		**P**	**18 22 34.4**	**-0.6**
BILL				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.2							
WMQ	**Urumqi 43.30 300**			P		**P**	**18 23 25.5**	**+0.5**
ZAL	**Zalesovo 45.02 315**			P		**P**	**18 23 38.6**	**-0.1**
	comp=Z,0.8nm,0.3s,mb4.0,baz=41,slow=5.9,SNR=3.3							
ZAL				PcP		PcP	18 25 19.3	-0.5
	comp=Z,1.3nm,0.5s,baz=271,slow=2.3,SNR=5.4							
NVS	**Novosibirsk 45.98 316**⇑ *i*P					**P**	**18 23 46.2**	**-0.1**
NVS				*e*			18 25 21.1	
NVS				pmax		pmax		
	comp=Z,10.0nm,1.3s,mb4.6							
NVS				pmax		pmax		
	comp=E,7.0nm,1.4s							
MKAR	**Makanchi Array 46.81 305**			P		**P**	**18 23 52.7**	**-0.3**
	comp=E,2.0nm,0.8s,mb4.1,baz=83,slow=8.5,SNR=12							
MKAR	**Makanchi Array 46.81 305**			P		**P**	**18 23 52.7**	**-0.3**
KURK	**Kurchatov 48.87 311**			*e*P		**P**	**18 24 08.5**	**-0.5**
KURK				pmax		pmax		
	comp=Z,17nm,0.8s,mb5.1							
KURK	**Kurchatov 48.87 311**			*e*P		**P**	**18 24 08.4**	**-0.5**
	comp=Z,17nm,0.8s,mb5.1							
ILAR	**Eielson Array 52.13 31**			P		**P**	**18 24 31.9**	**-1.8**
	comp=Z,5.0nm,0.9s,mb4.4,baz=265,slow=6.2,SNR=29							
ILAR				pP		pP	18 24 41.6	-1.1
	comp=Z,3.0nm,0.8s,baz=267,slow=5.9,SNR=10							
AAK	**Ala-Archa 53.01 301**			*i* P		**P**	**18 24 39.7**	**-0.8**
AAK				pmax		pmax		
	comp=Z,7.0nm,1.7s,mb4.3							
WRAB	**Tennant Creek 53.61 189**			*i* P		**P**	**18 24 36.9**	**-8.3**
WRA	**Warramunga Arr 53.62 189**			P		**P**	**18 24 41.7**	**-3.6**
	comp=Z,0.8nm,0.4s,mb4.0,baz=6.2,slow=7.6,SNR=16							
WRA				PcP		PcP	18 25 50.6	-0.8
	comp=Z,0.9nm,0.5s,baz=1.8,slow=4.2,SNR=7.8							
WRA				pPcP			18 25 58.9	
	comp=Z,1.9nm,0.9s,baz=0.4,slow=3.9,SNR=3.5							
BVAR	**Borovoye Array 53.66 314**			P		**P**	**18 24 45.1**	**0.0**
	comp=Z,1.7nm,1.0s,mb3.9,baz=90,slow=7.4,SNR=9.2							
BVAR				pP		pP	18 24 54.7	+0.5
	comp=Z,1.3nm,0.6s,baz=90,slow=8.9,SNR=7.8							
BVAR				pPcP			18 26 00.4	
	comp=Z,1.1nm,0.8s,baz=90,slow=4.4,SNR=2.7							
BVAR	**Borovoye Array 53.66 314**			P		**P**	**18 24 45.1**	**0.0**
BVAR				pP		pP	18 24 54.7	+0.5
BVAR				pPcP			18 26 00.4	
FITZ	**Fitzroy Crossi 53.69 200**			P		**P**	**18 24 43.0**	**-2.8**
	comp=Z,3.2nm,0.5s,mb4.5,baz=7.9,slow=11,SNR=10							
BRVK	**Borovoye 53.72 315**			*e*P		**P**	**18 24 45.1**	**-0.4**
BRVK				pmax		pmax		
	comp=Z,4.0nm,1.3s,mb4.2							
BRVK	**Borovoye 53.72 315**			*e*P		**P**	**18 24 45.1**	**-0.4**
	comp=Z,4.5nm,1.3s,mb4.2							
INK	**Inuvik 57.24 26**			P		**P**	**18 25 09.8**	**-1.0**
	comp=Z,6.1nm,1.0s,mb4.6,baz=278,slow=7.6,SNR=9.4							
INK				pP		pP	18 25 19.9	0.0
	comp=Z,5.4nm,1.1s,baz=277,slow=8.6,SNR=5.7							
ARU	**Arti 59.64 320**⇓ *i*P					**P**	**18 25 27.4**	**-0.3**
ARU				*e*			18 26 10.4	
ARU				*e*			18 27 40.1	
ARU				*e*PPP		PPP	18 29 05.1	-1.6
ARU				*e*S		**S**	**18 33 40.2**	**+5.8**
ARU				*e*SS		SS	18 37 36.7	+5.3
ARU				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.8							
ARU	**Arti 59.64 320**			*e*P		**P**	**18 25 27.3**	**-0.5**
	comp=Z,17nm,1.6s,mb4.8							
ARU				*e*pP		pP	18 25 36.6	-0.4
DLBC	**Dease Lake 60.98 37**			P		**P**	**18 25 37.5**	**+0.7**
	comp=Z,2.1nm,0.8s,mb4.3,baz=303,slow=14,SNR=3.5							
STKA	**Stephens Creek 64.95 181**			P		**P**	**18 26 01.5**	**-2.0**
	comp=Z,3.9nm,0.9s,mb4.4,baz=326,slow=10,SNR=4.9							
STKA				pP		pP	18 26 10.8	-1.9
	comp=Z,7.0nm,0.9s,baz=351,slow=8.3,SNR=7.0							
LVZ	**Lovozero 65.75 337**			*i* P		**P**	**18 26 05.5**	**-2.5**
LVZ				pmax		pmax		
	comp=Z,17nm,2.5s,mb4.6							
YKA	**Yellowknife Ar 66.52 30**			P		**P**	**18 26 12.1**	**-0.9**
	comp=Z,3.8nm,0.9s,mb4.4,baz=295,slow=6.1,SNR=12							
YKA				pP		pP	18 26 21.6	-0.6
	comp=Z,3.8nm,0.9s,baz=296,slow=6.3,SNR=7.7							
YKA	**Yellowknife Ar 66.52 30**			P		**P**	**18 26 12.1**	**-0.9**
YKA				pP		pP	18 26 21.6	-0.6
ARCES	**ARCESS Array B 67.67 340**			P		**P**	**18 26 20.2**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=78,slow=8.3,SNR=4.0							
ARCES	**ARCESS Array B 67.67 340**			P		**P**	**18 26 20.2**	**0.0**
OBN	**Obninsk 71.50 324**⇑ *e*P					**P**	**18 26 44.9**	**+1.0**
OBN				*e**PP		pP	18 26 53.3	+0.2
OBN				*e*			18 27 04.4	
OBN				pmax		pmax		
	comp=Z,9.0nm,1.2s,mb4.6							
YBH	**Yreka Blue Hor 71.91 52**			P		**P**	**18 26 47.5**	**+0.9**
	comp=Z,3.5nm,0.8s,mb4.3,baz=268,slow=0.7,SNR=3.8							
YBH				LR		LR	18 53 20.2	
	comp=Z,49nm,20.4s,MS3.8,baz=346,slow=32							
NEW	**Newport 72.15 44**			P		**P**	**18 26 48.0**	**+0.1**
	comp=Z,3.8nm,0.8s,mb4.4,baz=26,slow=2.6,SNR=3.9							
NEW				pP		pP	18 26 57.2	+0.1
	comp=Z,2.8nm,0.6s,baz=314,slow=5.1,SNR=3.0							
FINES	**FINESS Array B 72.40 333**			P		**P**	**18 26 49.0**	**-0.1**
	comp=Z,4.4nm,1.0s,mb4.3,baz=51,slow=8.9,SNR=7.3							
FINES				pP		pP	18 26 58.4	0.0
	comp=Z,5.4nm,0.9s,baz=135,slow=8.1,SNR=6.2							
KIV	**Kislovodsk 73.92 312**			*e*P		**P**	**18 26 58.9**	**+0.6**
KIV				pmax		pmax		
	comp=N,3.0nm,1.2s							
KIV				pmax		pmax		
	comp=E,6.0nm,1.2s							
KIV				pmax		pmax		
	comp=Z,5.0nm,1.2s,mb4.3							
WVOR	**Wild Horse Val 74.19 49**			*e*P		**P**	**18 27 00.1**	**+0.2**
WVOR				*e**PP		pP	18 27 09.6	+0.5
WVOR				pmax		pmax		
	comp=Z,3.0nm,1.2s,mb4.1							
WVOR	**Wild Horse Val 74.19 49**			*e*P		**P**	**18 27 00.1**	**+0.2**
	comp=Z,3.0nm,1.2s,mb4.1							
WVOR				*e*pP		pP	18 27 09.6	+0.4
GNI	**Garni 74.56 308**			*i* P		**P**	**18 27 00.6**	**-1.4**
GNI				pmax		pmax		
	comp=Z,12nm,1.7s							
CMB	**Columbia Colle 75.30 54**			*e*P		**P**	**18 27 06.0**	**-0.3**
CMB				*e**PP		pP	18 27 15.5	-0.1
CMB				pmax		pmax		
	comp=Z,10.0nm,1.2s,mb4.6							
CMB	**Columbia Colle 75.30 54**			*e*P		**P**	**18 27 06.0**	**-0.4**
	comp=Z,9.7nm,1.2s,mb4.6							
CMB				*e*pP		pP	18 27 15.5	-0.1
HRY	**Holter Researc 76.01 43**			*e*P		**P**	**18 27 10.2**	**0.0**
BOZ	**Bozeman (W) 76.72 44**			*e*P		**P**	**18 27 15.1**	**+0.9**
BOZ				*e**PP		pP	18 27 24.4	+0.8
BOZ				pmax		pmax		
	comp=Z,14nm,1.6s,mb4.6							
BOZ	**Bozeman (W) 76.72 44**			*e*P		**P**	**18 27 15.1**	**+0.8**
	comp=Z,14nm,1.6s,mb4.6							
BOZ				*e*pP		pP	18 27 24.4	+0.9
AKASG	**Malin Array Be 77.67 323**			P		**P**	**18 27 19.8**	**+0.4**
	comp=Z,0.3nm,0.4s,mb3.6,baz=44,slow=5.8,SNR=11							
AKASG				pP		pP	18 27 28.9	+0.2
	comp=Z,1.8nm,0.9s,baz=48,slow=6.0,SNR=2.7							
HFS	**Hagfors 77.72 336**			P		**P**	**18 27 19.6**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.3,baz=153,slow=3.3,SNR=3.8							
HFS				pP		pP	18 27 28.9	+0.1
	comp=Z,3.9nm,0.9s,baz=124,slow=5.3,SNR=4.1							
NB2	**NORSAR Subarra 77.84 338**			P		**P**	**18 27 20.4**	**+0.4**
	comp=Z,7.1nm,1.0s,mb4.5,baz=37,slow=5.3							
NB2	**NORSAR Subarra 77.84 338**			P		**P**	**18 27 20.4**	**+0.4**
NB2				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.5							
NOA	**NORSAR Array B 77.84 338**			P		**P**	**18 27 20.

SNAA Sanee 137.52 195 PKIKP PKPdf 18 34 44.4 -5.1
SNAA 18 34 55.4
SNAA Sanae 137.52 195 PKP PKPdf 18 34 45.8 -3.7
comp=Z,0.2nm,0.8s,baz=180,slow=5.1,SNR=4.3
SNAA pPKP 18 34 55.1
comp=Z,0.7nm,1.2s,baz=34,slow=5.5,SNR=5.3
VNA2 Neumayer--Watz 139.06 195 PKPdf 18 34 54.7 +2.3
VNA2 Neumayer--Watz 139.06 195 PKPdf 18 34 59.1 +6.7
VNA2 Neumayer--Watz 139.06 195 PKPdf 18 35 01.8 +9.4
SAML Samuel 146.07 50 ePKPdf PKPdf 18 35 02.7 -3.5
SAML ePKPdf PKPdf 18 35 11.7 +5.6
LPAZ La Paz 147.61 66 PKPbc PKPdf 18 35 06.9 -1.7
comp=Z,1.9nm,0.6s,baz=342,slow=5.5,SNR=9.9
LPAZ pPKPbc 18 35 18.5
comp=Z,3.3nm,0.8s,baz=358,slow=2.7,SNR=5.3
USHA Ushuaia 149.59 144 PKPbc PKPdf 18 35 10.5 -0.1
comp=Z,1.9nm,0.4s,baz=181,slow=1.3,SNR=4.9
USHA pPKPbc 18 35 21.2
comp=Z,3.6nm,0.3s,baz=200,slow=4.6,SNR=3.9
LVC Limon Verde 150.41 77 PKPbc PKPdf 18 35 15.5 +2.6
comp=Z,3.3nm,0.9s,baz=252,slow=3.0,SNR=3.0
SIV San Ignacio 152.59 56 PKP PKPdf 18 35 13.0 -3.2
comp=Z,0.5nm,0.5s,baz=280,slow=5.7,SNR=5.0
SIV PKPbc PKPdf 18 35 19.7 +3.4
comp=Z,2.6nm,0.9s,baz=301,slow=7.3,SNR=7.9
SIV pPKPbc 18 35 29.2
comp=Z,4.3nm,0.9s,baz=293,slow=1.7,SNR=9.5

*JMA **27** 18:30:35.1±0.4,33.33N×142.53E,h78km,M3.5*
*BJI **27** 18:30:36.5,33.20N×142.20E,h28km,mB4.2,mb4.2*
*NEIC **27** 18:30:38.6±0.9,33.32N×142.51E,mb4.0/2,Error ellipse: s-maj=21.9km s-min=15.8km az=218.0*
*IDC **27** 18:30:38.1±0.9,33.29N×142.49E,h36km±7km,mb3.6/5, mb1 3.9/7,mb1mx3.6/19,mbtmp3.8/7,ML3.7/2,Error ellipse: s-maj=21.1km s-min=18.4km az=115.0*
ISC 27 18:30:35.9±0.8,33.38N±0.06×142.53E±0.06,h38km, h38km±.7km:pP-P,n28,σ1§18/39,mb3.9/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.81**	**315**	P	**P**	**18 31 05.2**	**0.0**
BSO1				*eS*	**S**	**18 31 28.8**	**+1.7**
BSO3	**Boso 3**	**2.20**	**311**	P	**P**	**18 31 10.8**	**+0.1**
JHJ2	**Mitsune**	**2.29**	**264**	P	**P**	**18 31 11.5**	**-0.6**
JHJ2				*eS*	**S**	**18 31 39.6**	**+0.3**
JHJ	**Hachijo jima 2**	**2.32**	**264**	Pn	**P**	**18 31 11.7**	**-0.8**
	38nm,0.3s,baz=55,slow=22,SNR=23						
JHJ				Sn	**S**	**18 31 39.9**	**-0.1**
	58nm,0.3s,baz=261,slow=22,SNR=8.2						
BSO4	**Boso 4**	**2.43**	**312**	P	**P**	**18 31 14.7**	**+0.7**
JIM2	**Oshima 3**	**2.90**	**298**	P	**P**	**18 31 19.7**	**-1.0**
JYN	**Shimob**	**3.92**	**304**	P	**P**	**18 31 34.7**	**-0.4**
JAG	**Ashikaga**	**3.95**	**321**	P	**P**	**18 31 35.2**	**-0.5**
JRY	**Ryogami san**	**3.98**	**312**	*eS*	**S**	**18 32 21.8**	**-0.4**
JMM	**Marumori**	**4.69**	**343**	P	**P**	**18 31 43.9**	**-2.3**
JMM				*eS*	**S**	**18 32 33.8**	**-6.3**
MJAR	**Matsushiro Arr**	**4.75**	**313**	Pn	**P**	**18 31 46.6**	**-0.3**
	4.4nm,0.3s,baz=61,slow=16,SNR=33						
MJAR				Sn	**S**	**18 32 41.6**	**+0.1**
	1.8nm,0.3s,baz=147,slow=25,SNR=4.9						
MAJO	**Matsushiro**	**4.75**	**313**	*eP*	**P**	**18 31 47.8**	**+0.8**
MAT	**Matsushiro**	**4.75**	**313**	*eP*	**P**	**18 31 47.0**	**0.0**
MAT				*eS*	**S**	**18 32 38.0**	**-3.5**
MAT	**Matsushiro**	**4.75**	**313**	P	**P**	**18 31 46.7**	**-0.3**
MAT				S	**S**	**18 32 37.8**	**-3.7**
MAT	**Matsushiro**	**4.75**	**313**	P	**P**	**18 31 47.1**	**+0.1**
MAT				*eS*	**S**	**18 32 41.4**	**-0.1**
JMK	**Ichinoseki**	**5.66**	**350**	P	**P**	**18 31 57.0**	**-2.7**
JMK				*eS*	**S**	**18 32 58.0**	**-6.4**
CBIJ	**Chichi jima**	**6.27**	**183**	Pn	**P**	**18 32 04.3**	**-4.0**
	8.3nm,0.3s,baz=297,slow=22,SNR=4.0						
CBIJ				Sn	**S**	**18 33 10.5**	**-9.1**
	22nm,0.3s,baz=288,slow=21,SNR=5.7						
ASAJ	**Asahikawa**	**10.72**	**0**	Pn	**P**	**18 33 06.1**	**-3.8**
	1.2nm,0.3s,baz=351,slow=3.7,SNR=7.6						
ASAJ				Sn	**S**	**18 35 02.9**	**-6.8**
	0.4nm,0.3s,baz=222,slow=28,SNR=2.8						
HHC	**Hu-ho-hao-te**	**25.70**	**296**	*eP*	**P**	**18 36 08.3**	**+4.2**
HHC				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.2						
HHC				AMB	AMB		
	comp=Z,77nm,3.0s						
ENH	**Enshi**	**28.18**	**273**	P	**P**	**18 36 27.0**	**0.0**
SONM	**Songino Array**	**30.69**	**309**	P	**P**	**18 36 52.4**	**+3.3**
	comp=Z,1.2nm,0.7s,mb3.8,baz=100,slow=7.5,SNR=5.4						
MKAR	**Makanchi Array**	**46.90**	**305**	P	**P**	**18 39 06.0**	**+1.8**
	comp=Z,0.8nm,0.7s,mb3.8,baz=92,slow=8.6,SNR=7.1						
KURK	**Kurchatov**	**48.96**	**311**	*eP*	**P**	**18 39 22.6**	**+2.4**
	comp=Z,3.1nm,0.8s,mb4.4						
ILAR	**Eielson Array**	**52.12**	**31**	P	**P**	**18 39 44.8**	**+0.7**
	comp=Z,1.0nm,0.7s,mb3.9,baz=267,slow=5.8,SNR=11						
ILAR				pP	pP	18 39 55.5	+0.4
	comp=Z,0.6nm,0.6s,baz=262,slow=6.1,SNR=3.7						
WRA	**Warramunga Arr**	**53.60**	**190**	P	**P**	**18 39 54.8**	**-0.8**
	comp=Z,0.4nm,0.4s,mb3.7,baz=6.4,slow=7.5,SNR=15						
WRA				pP	pP	18 40 06.0	-0.8
	comp=Z,1.3nm,0.8s,baz=7.6,slow=7.8,SNR=6.4						
YKA	**Yellowknife Ar**	**66.51**	**30**	P	**P**	**18 41 24.5**	**+1.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=297,slow=6.3,SNR=4.1						
NB2	**NORSAR Subarra**	**77.91**	**338**	P	**P**	**18 42 32.1**	**+1.2**
	comp=Z,0.6nm,0.8s,mb3.6,baz=40,slow=5.3						
NOA	**NORSAR Array B**	**77.91**	**338**	P	**P**	**18 42 31.9**	**+1.0**
	comp=Z,0.8nm,0.7s,mb3.7,baz=39,slow=5.8,SNR=3.6						
NOA				pP	pP	18 42 43.8	+1.3
	comp=Z,1.3nm,0.8s,baz=39,slow=5.6,SNR=5.2						

*JMA **27** 18:52:54.0±0.2,30.23N×139.13E,h455km,M3.8*
*NEIC **27** 18:52:54.4±1.1,30.15N×138.52E,h429km±17km,mb4.3/2, Error ellipse: s-maj=41.4km s-min=12.6km az=69.0*
*IDC **27** 18:52:54.1±0.9,30.15N×138.54E,h424km±12km,mb3.2/9, mb1 3.2/13,mb1mx3.1/24,mbtmp4.0/13,Error ellipse: s-maj=28.7km s-min=12.0km az=76.0*
ISC 27 18:52:53.2±0.5,30.14N±0.06×138.7E±0.2,h437km±8km, n28,σ0§96/37,mb3.5/9,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**3.11**	**17**	P	**P**	**18 54 01.7**	**+1.1**
	16nm,0.3s,baz=74,slow=21,SNR=9.3						
JHJ				S	**S**	**18 54 54.0**	**+0.3**
	54nm,0.3s,baz=79,slow=23,SNR=8.5						
JHJ2	**Mitsune**	**3.12**	**18**	P	**P**	**18 54 01.6**	**+1.0**
JHJ2				*eS*	**S**	**18 54 55.1**	**+1.3**
CBIJ	**Chichi jima**	**4.32**	**134**	P	**P**	**18 54 10.4**	**-0.6**
	27nm,0.3s,baz=301,slow=15,SNR=8.0						
CBIJ				S	**S**	**18 55 10.7**	**-1.7**
	49nm,0.3s,baz=268,slow=22,SNR=14						
CBIJ	**Chichi jima**	**4.32**	**134**	P	**P**	**18 54 10.8**	**-0.2**
CBIJ				*eS*	**S**	**18 55 11.2**	**-1.2**
JIE	**Ise**	**4.56**	**339**	P	**P**	**18 54 16.2**	**+2.8**
JIM2	**Oshima 3**	**4.61**	**8**	P	**P**	**18 54 15.0**	**+1.2**
JIM2				*eS*	**S**	**18 55 21.9**	**+4.6**
JHHJ	**Haha-jima-NKT**	**4.65**	**138**	*eS*	**S**	**18 55 18.0**	**-0.1**
BSO3	**Boso 3**	**4.90**	**18**	*eS*	**S**	**18 55 21.7**	**-0.6**
BSO1	**Boso 1**	**4.90**	**23**	P	**P**	**18 54 17.0**	**+0.3**
BSO1				*eS*	**S**	**18 55 21.6**	**-0.8**
JRY	**Ryogami san**	**5.87**	**2**	P	**P**	**18 54 26.6**	**+0.2**
JRY				*eS*	**S**	**18 55 38.6**	**-1.3**
MJAR	**Matsushiro Arr**	**6.40**	**357**	P	**P**	**18 54 31.8**	**-0.3**
	2.4nm,0.3s,baz=170,slow=11,SNR=23						
MAJO	**Matsushiro**	**6.40**	**357**	*eP*	**P**	**18 54 32.8**	**+0.7**
	11nm,0.3s						
MAT	**Matsushiro**	**6.40**	**357**	*eP*	**P**	**18 54 31.0**	**-1.1**
	27nm,1.0s						
MAT				S	**S**	**18 55 47.0**	**-3.2**
MAT	**Matsushiro**	**6.40**	**357**	P	**P**	**18 54 30.7**	**-1.4**
MAT				*eS*	**S**	**18 55 47.4**	**-2.8**
ASAJ	**Asahikawa**	**14.29**	**11**	P	**P**	**18 55 58.4**	**-0.2**
	0.8nm,0.3s,baz=221,slow=9.3,SNR=4.9						
SONM	**Songino Array**	**30.40**	**315**	P	**P**	**18 58 29.0**	**-0.1**
	0.7nm,0.5s,mb3.2,baz=135,slow=10,SNR=3.7						
FX1	**Attu Island--F**	**33.88**	**38**	P	**P**	**18 58 60.0**	**+1.3**
	2.6nm,0.6s,mb3.8,baz=274,slow=7.7,SNR=3.0						
ZAL	**Zalesovo**	**45.19**	**318**	P	**P**	**19 00 29.7**	**-0.9**
	0.7nm,0.3s,mb3.4,baz=57,slow=6.7,SNR=3.5						
MKAR	**Makanchi Array**	**46.18**	**308**	P	**P**	**19 00 38.1**	**-0.2**
	1.0nm,0.6s,mb3.3,baz=86,slow=9.5,SNR=10						
MKAR				PcP	PcP	19 02 05.5	-0.6
	0.2nm,0.4s,baz=45,slow=6.1,SNR=6.9						
KURK	**Kurchatov**	**48.67**	**313**	*eP*	**P**	**19 00 55.8**	**-1.4**
WRA	**Warramunga Arr**	**49.97**	**185**	P	**P**	**19 01 07.5**	**+0.1**
	1.0nm,0.5s,mb3.4,baz=2.0,slow=8.0,SNR=40						
WRA				PcP	PcP	19 02 21.1	+0.9
	0.2nm,0.4s,baz=1.7,slow=4.1,SNR=3.8						
BRVK	**Borovoye**	**53.79**	**316**	*eP*	**P**	**19 01 34.4**	**-0.6**
STKA	**Stephens Creek**	**61.74**	**177**	P	**P**	**19 02 29.6**	**+0.3**
	0.8nm,0.6s,mb3.4,baz=355,slow=12,SNR=3.9						
ARCES	**ARCESS Array B**	**69.65**	**340**	P	**P**	**19 03 18.8**	**+0.5**
	0.5nm,0.4s,mb3.4,baz=72,slow=8.4,SNR=14						
ARCES	**ARCESS Array B**	**69.65**	**340**	P	**P**	**19 03 18.8**	**+0.5**
FINES	**FINESS Array B**	**73.86**	**332**	P	**P**	**19 03 43.0**	**+0.1**
	0.6nm,0.4s,mb3.6,baz=72,slow=5.6,SNR=7.6						
FINES	**FINESS Array B**	**73.86**	**332**	P	**P**	**19 03 43.0**	**+0.1**
BRTR	**Keskin Array B**	**81.69**	**311**	P	**P**	**19 04 26.4**	**+0.9**
	1.3nm,0.7s,mb3.8,baz=90,slow=3.7,SNR=6.4						

*NEIC **27** 18:57:12.2,62.06N×151.10W,h66km,ML3.8(PMR), ML3.6(AEIC),After AEIC.*
*IDC **27** 18:57:14.6±4.8,62.38N×151.09W,h104km±42km,mb3.6/5, mb1 3.8/7,mb1mx3.5/20,mbtmp4.0/7,Error ellipse: s-maj=41.3km s-min=22.1km az=49.0*
ISC 27 18:57:09.9±0.3,62.07N±0.02×151.07W±0.06,h91km±4km, n72,σ0§73/89,mb3.8/5,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUT	**Chulitna**	**0.50**	**48**	P	**P**	**18 57 24.5**	**-0.4**
CP2	**Crater Peak Tw**	**0.99**	**215**	P	**P**	**18 57 29.6**	**-0.2**
CP2				S	**S**	**18 57 43.6**	**-1.0**
CKN	**Chakachatna No**	**1.00**	**212**	P	**P**	**18 57 29.8**	**-0.2**
FIB	**Fire Island**	**1.01**	**154**	P	**P**	**18 57 30.8**	**+0.8**
SPU	**Mount Spurr**	**1.01**	**208**	P	**P**	**18 57 29.5**	**-0.6**
SPU				S	**S**	**18 57 43.4**	**-1.8**
BGL	**Barrier Glacie**	**1.03**	**218**	P	**P**	**18 57 30.1**	**-0.2**
PMR	**Palmer**	**1.04**	**117**	P	**P**	**18 57 30.2**	**-0.2**
GHO	**Glory Hole Cre**	**1.06**	**106**	P	**P**	**18 57 31.1**	**+0.4**
CKL	**Chakachamna La**	**1.07**	**215**	P	**P**	**18 57 30.3**	**-0.4**
HUR	**Hurricane**	**1.12**	**36**	P	**P**	**18 57 31.8**	**+0.3**
HUR				S	**S**	**18 57 47.1**	**-0.5**
VOGL	**Vogel Lake**	**1.12**	**164**	P	**P**	**18 57 32.8**	**+1.3**
RC01	**Rabbit Creek A**	**1.18**	**147**	P	**P**	**18 57 31.8**	**-0.4**
RC01				S	**S**	**18 57 48.1**	**-0.6**
SML	**Sawmill**	**1.32**	**100**	P	**P**	**18 57 34.1**	**+0.1**
KNK	**Knik Glacier**	**1.41**	**117**	P	**P**	**18 57 35.1**	**0.0**
TRF	**Thorofare Moun**	**1.43**	**14**	P	**P**	**18 57 35.9**	**+0.6**
TRF				S	**S**	**18 57 54.2**	**+0.2**
KTH	**Kantishna Hill**	**1.49**	**3**	P	**P**	**18 57 36.8**	**+0.8**
KTH				S	**S**	**18 57 55.8**	**+0.5**
SLKM	**Skilak Lake**	**1.62**	**165**	P	**P**	**18 57 38.1**	**+0.4**
SLKM				S	**S**	**18 57 59.1**	**+0.8**
RDT	**Redoubt**	**1.64**	**204**	P	**P**	**18 57 37.8**	**-0.1**
RDT				S	**S**	**18 57 58.7**	**+0.1**
SCM	**Sheep Creek Mo**	**1.79**	**96**	P	**P**	**18 57 40.1**	**+0.2**
MPA	**Moose Pass**	**1.79**	**152**	P	**P**	**18 57 39.6**	**-0.3**
PWL	**Port Wells**	**1.79**	**132**	P	**P**	**18 57 39.3**	**-0.6**
PWL				S	**S**	**18 58 02.2**	**+0.2**
RSO	**Redoubt South**	**1.81**	**207**	P	**P**	**18 57 40.6**	**+0.4**
CFI	**College Fiord**	**1.81**	**118**	P	**P**	**18 57 40.7**	**+0.5**
MCK	**McKinley**	**1.93**	**29**	P	**P**	**18 57 42.5**	**+0.8**
MCK				S	**S**	**18 58 05.5**	**+0.3**
SEW	**Seward**	**2.13**	**158**	P	**P**	**18 57 46.3**	**+1.9**
SEW				S	**S**	**18 58 08.6**	**-1.4**
ILIM	**Iliamna**	**2.20**	**205**	P	**P**	**18 57 45.2**	**-0.2**
BWN	**Browne**	**2.23**	**18**	P	**P**	**18 57 46.4**	**+0.6**
GLI	**Glacier Island**	**2.25**	**120**	P	**P**	**18 57 45.0**	**-1.2**
ILW	**Iliamna West**	**2.26**	**207**	P	**P**	**18 57 45.8**	**-0.4**
BRLK	**Bradley Lake**	**2.32**	**178**	P	**P**	**18 57 47.2**	**+0.1**
SVW2	**Sparrevohn**	**2.37**	**248**	P	**P**	**18 57 47.0**	**-0.8**
JPK	**Jack Peak**	**2.37**	**114**	P	**P**	**18 57 48.5**	**+0.6**
HOM	**Homer**	**2.44**	**187**	P	**P**	**18 57 49.4**	**+0.6**
TTA	**Tatalina**	**2.45**	**293**	P	**P**	**18 57 48.5**	**-0.4**
VLZ	**Valdez**	**2.45**	**111**	P	**P**	**18 57 48.7**	**-0.3**
KLU	**Klutina**	**2.52**	**101**	P	**P**	**18 57 49.5**	**-0.3**
KLU				S	**S**	**18 58 19.0**	**-0.6**
FID	**Port Fidalgo**	**2.58**	**119**	P	**P**	**18 57 49.8**	**-0.9**
SDG	**Sourdough**	**2.62**	**78**	P	**P**	**18 57 51.8**	**+0.5**
XLV	**Seldovia**	**2.65**	**187**	P	**P**	**18 57 52.3**	**+0.6**
XLV				S	**S**	**18 58 22.6**	**-0.2**
OPT	**Oil Point**	**2.65**	**204**	P	**P**	**18 57 52.1**	**+0.4**
OPT				S	**S**	**18 58 23.4**	**+0.5**
TZL	**Tazlina**	**2.66**	**88**	P	**P**	**18 57 52.4**	**+0.5**
DIV	**Divide**	**2.70**	**108**	P	**P**	**18 57 52.1**	**-0.3**
PAX	**Paxson**	**2.75**	**68**	P	**P**	**18 57 53.8**	**+0.7**
WRH	**Wood River Hil**	**2.76**	**28**	P	**P**	**18 57 53.3**	**+0.1**
HIN	**Hinchinbrook I**	**2.78**	**125**	P	**P**	**18 57 54.8**	**+1.3**
AUL	**Augustine Lava**	**2.94**	**204**	P	**P**	**18 57 56.2**	**+0.5**
AGU	**Augustine-Summ**	**2.96**	**204**	P	**P**	**18 57 57.4**	**+1.4**
CCB	**Clear Creek Bu**	**2.97**	**28**	P	**P**	**18 57 56.0**	**-0.1**
MLY	**Manley**	**2.97**	**3**	P	**P**	**18 57 56.3**	**+0.2**
AUI	**Augustine Isla**	**2.98**	**204**	P	**P**	**18 57 57.5**	**+1.2**
EYAK	**Cordova Ski Ar**	**2.99**	**118**	*eP*	**P**	**18 57 56.8**	**+0.4**
COLA	**College**	**3.16**	**26**	P	**P**	**18 57 59.0**	**+0.2**
BMRM	**Bremner River**	**3.29**	**107**	P	**P**	**18 57 59.9**	**-0.7**
ILAR	**Eielson Array**	**3.30**	**33**	P	**P**	**18 58 00.5**	**-0.2**
	39nm,0.3s,baz=221,slow=14,SNR=873						
ILAR				S	**S**	**18 58 37.4**	**-1.5**
	26nm,0.3s,baz=220,slow=24,SNR=14						
IL1	**Eielson Array**	**3.30**	**33**	P	**P**	**18 58 00.8**	**+0.1**
MCNL	**McNeil River**	**3.31**	**210**	P	**P**	**18 58 00.9**	**0.0**
GLB	**Gilahina Butte**	**3.51**	**97**	P	**P**	**18 58 02.7**	**-0.9**
IM3	**Indian Mountai**	**4.10**	**344**	P	**P**	**18 58 11.4**	**-0.2**
IMA	**Indian Mountai**	**4.17**	**345**	*eP*	**P**	**18 58 13.2**	**+0.5**
WAX	**Waxell Ridge**	**4.29**	**109**	P	**P**	**18 58 14.5**	**+0.2**
BALM	**Baldy**	**4.30**	**100**	P	**P**	**18 58 13.9**	**-0.5**
KDAK	**Kodiak Island**	**4.37**	**191**	P	**P**	**18 58 14.5**	**-1.0**
BM3	**Burnt Mountain**	**6.03**	**24**	P	**P**	**18 58 38.3**	**+0.1**
INK	**Inuvik**	**9.64**	**42**	P	**P**	**18 59 26.7**	**-0.5**
	0.4nm,0.3s,baz=249,slow=14,SNR=7.6						
INK				S	**S**	**19 01 11.2**	**-3.3**
	0.4nm,0.3s,baz=227,slow=19,SNR=2.7						
INK	**Inuvik**	**9.64**	**42**	P	**P**	**18 59 26.7**	**-0.5**
INK				S	**S**	**19 01 11.2**	**-3.3**
NVAR	**Mina Array Bea**	**31.02**	**124**	P	**P**	**19 03 23.9**	**+3.2**
	0.4nm,0.6s,mb3.4,baz=329,slow=10,SNR=2.9						
SONM	**Songino Array**	**54.33**	**306**	P	**P**	**19 06 29.3**	**+0.6**
	1.0nm,0.6s,mb4.0,baz=37,slow=6.2,SNR=4.6						
ZAL	**Zalesovo**	**56.27**	**324**	P	**P**	**19 06 41.2**	**-1.4**
	1.9nm,0.3s,mb4.6,baz=77,slow=6.9,SNR=6.9						
ZAL	**Zalesovo**	**56.27**	**324**	P	**P**	**19 06 41.2**	**-1.4**
MKAR	**Makanchi Array**	**63.39**	**322**	P	**P**	**19 07 30.6**	**-0.8**
	0.6nm,0.5s,mb3.8,baz=33,slow=6.7,SNR=15						
AKASG	**Malin Array Be**	**67.57**	**360**	P	**P**	**19 07 57.4**	**-0.5**
	0.2nm,0.3s,mb3.5,baz=360,slow=5.7,SNR=4.1						
AKASG	**Malin Array Be**	**67.57**	**360**	P	**P**	**19 07 57.4**	**-0.5**

*IDC **27** 19:20:12.6±4.1,2.82S×138.74E,h57km±37km,mb3.9/8, mb1 4.0/11,mb1mx4.0/13,mbtmp4.2/11,ML4.2/2,MS3.5/5, Ms1 3.5/5,ms1mx3.2/16,Error ellipse: s-maj=29.2km s-min=17.5km az=70.0*
*NEIC **27** 19:20:14.3±0.6,2.98S×138.60E,mb4.5/2,Error ellipse: s-maj=18.2km s-min=11.3km az=87.0*
ISC 27 19:20:15.1±2.0,3.15S±0.07×138.71E±0.08,h105km±20km, n23,σ1§16/21,mb4.0/8,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**10.44**	**127**	P	**P**	**19 22 42.7**	**-0.4**
	0.3nm,0.3s,baz=213,slow=6.0,SNR=3.0						
PMG				S	**S**	**19 24 38.1**	**-0.6**
	0.5nm,0.3s,baz=169,slow=16,SNR=2.1						
KAKA	**Kakadu**	**11.34**	**213**	*eP*	**P**	**19 22 56.3**	**+1.2**
	43nm,0.6s						
WRAB	**Tennant Creek**	**17.21**	**194**	*eP*	**P**	**19 24 10.3**	**-0.1**
	27nm,0.6s						
WB2	**Warramunga Arr**	**17.22**	**194**	*eP*	**P**	**19 24 10.0**	**-0.6**
WB2				*eS*	**S**	**19 27 11.9**	**-4.9**
WRA	**Warramunga Arr**	**17.22**	**194**	P	**P**	**19 24 10.2**	**-0.4**
	1.0nm,0.3s,baz=15,slow=13,SNR=36						
WRA				S	**S**	**19 27 15.6**	**-1.2**
	1.0nm,0.3s,baz=8.4,slow=22,SNR=6.3						
CTA	**Charters Tower**	**18.37**	**157**	P	**P**	**19 24 27.9**	**+3.7**
	0.2nm,0.3s,baz=141,slow=22,SNR=3.0						
CTA				LR	LR	19 31 30.8	
	comp=Z,75nm,21.0s,baz=118,slow=36						
FITZ	**Fitzroy Crossi**	**19.61**	**220**	*eP*	**P**	**19 24 37.7**	**0.0**
	8.3nm,0.5s						
FITZ				*eS*	**S**	**19 28 07.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**19.61**	**220**	P	**P**	**19 24 39.5**	**+1.8**
	1.6nm,0.3s,baz=33,slow=7.2,SNR=13						
FITZ				S	**S**	**19 28 06.8**	**-1.4**
	1.7nm,0.3s,baz=175,slow=11,SNR=8.1						
FITZ				LR	LR	19 33 27.7	
	comp=Z,82nm,20.8s,baz=82,slow=40						
STKA	**Stephens Creek**	**28.70**	**175**	P	**P**	**19 26 06.5**	**+1.9**
	2.2nm,1.1s,mb3.7,baz=152,slow=22,SNR=2.6						
STKA				LR	LR	19 38 50.0	
	comp=Z,81nm,19.0s,baz=244,slow=38						
NWAO	**Narrogin (SRO)**	**35.80**	**212**	LR	LR	19 42 31.9	
	comp=Z,102nm,19.6s,baz=22,slow=37						
SONM	**Songino Array**	**58.12**	**335**	P	**P**	**19 29 59.2**	**-0.8**
	0.7nm,0.6s,mb3.9,baz=146,slow=4.5,SNR=4.0						
MKAR	**Makanchi Array**	**70.14**	**323**	P	**P**	**19 31 18.2**	**0.0**
	4.0nm,0.7s,mb4.4,baz=100,slow=8.7,SNR=56						
MKAR				pP	pP	19 31 38.6	-6.3
	2.3nm,0.7s,baz=111,slow=8.0,SNR=7.1						
ZAL	**Zalesovo**	**72.32**	**330**	P	**P**	**19 31 29.4**	**-1.7**
	0.9nm,0.5s,mb3.8,baz=4.1,slow=5.4,SNR=4.2						
VNDA	**Vanda**	**75.34**	**175**	P	**P**	**19 31 50.1**	**+1.9**
	0.5nm,0.5s,mb3.5,baz=306,slow=6.5,SNR=6.0						
VNDA				LR	LR	20 01 22.7	
	comp=Z,59nm,21.4s,baz=111,slow=33						
BVAR	**Borovoye Array**	**79.67**	**325**	P	**P**	**19 32 12.9**	**+0.3**
	5.6nm,0.7s,mb4.5,baz=112,slow=7.5,SNR=37						
BVAR				pP	pP	19 32 32.9	-7.0
	2.0nm,0.6s,baz=112,slow=7.6,SNR=5.5						
MAW	**Mawson**	**81.72**	**202**	P	**P**	**19 32 26.0**	**+2.9**
	3.2nm,1.1s,mb4.1,baz=79,slow=6.2,SNR=4.0						
ILAR	**Eielson Array**	**86.23**	**24**	P	**P**	**19 32 45.2**	**-0.5**
	2.1nm,0.7s,mb4.2,baz=258,slow=4.8,SNR=17						
ARCES	**ARCESS Array B**	**100.92**	**341**	P	P	19 33 52.5	-1.0
	1.2nm,0.7s,baz=72,slow=7.7,SNR=6.4						
DBIC	**Dimbokro**	**143.54**	**277**	PKP	PKPdf	19 39 39.9	+1.4
	2.3nm,0.6s,baz=90,slow=1.0,SNR=5.0						
CPUP	**Villa Florida**	**146.84**	**153**	PKPbc	PKPbc	19 39 50.7	+5.2
	5.4nm,0.9s,baz=242,slow=5.4,SNR=11						
CPUP	**Villa Florida**	**146.84**	**153**	PKPbc	PKPbc	19 39 50.7	+5.2
LPAZ	**La Paz**	**147.18**	**127**	PKPbc	PKPdf	19 39 52.4	+7.8
	4.9nm,0.7s,baz=244,slow=2.3,SNR=25						
LPAZ	**La Paz**	**147.18**	**127**	PKPbc	PKPdf	19 39 52.4	+7.8

*MDD **27** 19:51:46.3±5.4,36.56N×11.06W,mb3.8/3,Error ellipse: s-maj=52.8km s-min=39.7km az=32.0,PRXIMO*
*INMG **27** 19:51:46.6±1.0,36.30N×11.19W,h5km,ML2.2,Error ellipse: s-maj=13.6km s-min=5.4km az=90.0*
ISC 27 19:51:44.3±1.5,36.58N±0.06×11.15W±0.09,n22,σ1§14/39, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**2.16**	**63**	*eP*	**Pn**	**19 52 23.6**	**+1.5**
PTEO				*eS*	**Sn**	**19 52 51.8**	**+1.8**
	4.7nm,0.2s						
PLOU	**Loures**	**2.79**	**34**	*eS*	**Sn**	**19 53 09.0**	**+3.0**
	12nm,0.1s						
PBEJ	**Beja**	**2.99**	**60**	*eP*	**Pn**	**19 52 34.8**	**+1.0**
PBEJ				*eS*	**Sn**	**19 53 11.4**	**+0.5**
	2.8nm,0.1s						
EGRO	**El Granado**	**3.08**	**71**	Pn	**Pn**	**19 52 35.8**	**+0.7**
	1.1nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**19 53 14.5**	**+1.2**
	1.3nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.08**	**71**	Pn	**Pn**	**19 52 35.8**	**+0.6**
	1.1nm,0.1s,SNR=7.9						

VNDA	**Vanda**	**73.15**	**178**	*eP*		**P**	20	**14**	**15.1 +1.7**
MKAR	**Makanchi Array**	**79.38**	**319**	P		**P**	20	**14**	**48.8 +0.3**
	1.6nm,0.9s,mb3.8,baz=118,slow=6.5,SNR=8.7								
ZAL	**Zalesovo**	**80.31**	**327**	P		**P**	20	**14**	**52.3 -1.0**
	1.1nm,0.4s,mb4.0,baz=10,slow=3.3,SNR=4.7								
ILAR	**Eielson Array**	**82.33**	**22**	P		**P**	20	**15**	**03.3 -0.3**
	1.4nm,0.7s,mb3.8,baz=256,slow=5.2,SNR=13								
MAW	**Mawson**	**85.39**	**203**	*eP*		**P**	20	**15**	**19.5 +0.7**
SNAA	**Sanae**	**102.14**	**188**		Pdif		20	16	39.9 +4.0
VNA3	**Neumayer Olymp**	**102.38**	**186**		Pdif		20	16	38.0 -3.4
VNA2	**Neumayer--Watz**	**103.42**	**187**		Pdif		20	16	39.2 -2.3
GERES	**GERESS Array B**	**123.23**	**328**	PKP		PKPdf	20	21	37.8 +1.9
	0.7nm,0.7s,baz=90,slow=1.3,SNR=6.9								

NEIC ***27*** *20:04:32.5±3.6,31.24S×178.02W,h26km±25km,mb4.9/3, Error ellipse: s-maj=17.1km s-min=11.6km az=93.0*
IDC ***27*** *20:04:33.4±6.3,31.29S×178.00W,h31km±43km,mb4.4/5, mb1 4.5/7,mb1mx4.2/16,mbtmp4.5/7,ML3.9/1,MS3.8/3, Ms1 3.8/3,ms1mx3.0/33,Error ellipse: s-maj=30.3km s-min=19.6km az=103.0*

ISC 27 20:04:35.2±0.9,31.72S±0.07×178.6W±0.2,h33km,n44, σ1♀09/33,mb4.3/8,MS4.2/2,6C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.52**	**13**	Op P		**Pn**	**20 05 05.7**	**-9.2**
	98nm,0.3s,baz=116,slow=23,SNR=5.6							
RAO				Sn		**Sn**	**20 05 29.9**	**-15**
	489nm,0.3s,baz=32,slow=23,SNR=10.0							
RAO	**Raoul Island**	**2.52**	**13**	P		**P**	**20 05 04.8**	**-10**
RAO				Pn		**Pn**	**20 05 05.7**	**-9.2**
RAO				Sn		**Sn**	**20 05 29.9**	**-15**
PUZ	**Puketiti**	**6.86**	**202**	PN		**Pn**	**20 06 14.6**	**-1.6**
PUZ				SN		**Sn**	**20 07 34.6**	**+0.7**
MWZ	**Matawai**	**7.34**	**205**	PN		**Pn**	**20 06 20.7**	**-2.3**
URZ	**Urewera**	**7.43**	**207**	Pn		**Pn**	**20 06 26.6**	**+2.3**
	1.6nm,0.3s,baz=51,slow=1.3,SNR=12							
URZ				Sn		**Sn**	**20 07 52.1**	**+3.8**
	5.2nm,0.3s,baz=71,slow=20,SNR=12							
URZ	**Urewera**	**7.43**	**207**	PN		**Pn**	**20 06 22.6**	**-1.6**
URZ				SN		**Sn**	**20 07 49.2**	**+1.0**
MRZ	**Mangatainoka R**	**10.10**	**206**	SN		**S**	**20 08 49.2**	**-5.1**
TCW	**Tory Channel**	**11.09**	**209**	SN		**S**	**20 09 12.9**	**-5.5**
MQZ	**McQueen's Vall**	**13.83**	**208**	SN		**S**	**20 10 12.6**	**-12**
DZM	**Mont Dzumac**	**16.45**	**302**	LR		LR	20 12 32.2	
	comp=Z,105nm,19.7s,baz=146,slow=29							
CTA	**Charters Tower**	**33.56**	**282**	P		**P**	**20 11 15.1 +0.7**	
	4.7nm,0.5s,mb4.6,baz=103,slow=11,SNR=5.3							
CTAO	**Charters Tower**	**33.56**	**282**	*eP*		**P**	**20 11 14.9 +0.5**	
	25nm,1.4s,mb5.0							
STKA	**Stephens Creek**	**33.74**	**259**	*eP*		**P**	**20 11 17.1 +1.4**	
	3.2nm,1.0s,mb4.2							
STKA	**Stephens Creek**	**33.74**	**259**	P		**P**	**20 11 17.1 +1.4**	
	3.6nm,0.6s,mb4.5,baz=99,slow=12,SNR=8.6							
STKA	**Stephens Creek**	**33.74**	**259**	*eP*		**P**	**20 11 17.0 +1.2**	
STKA				*eP*			20 11 17.1	
WB2	**Warramunga Arr**	**43.68**	**274**	*eP*		**P**	**20 12 38.6**	**-0.3**
WRAB	**Tennant Creek**	**43.68**	**274**	*eP*		**P**	**20 12 38.3**	**-0.6**
WRA	**Warramunga Arr**	**43.69**	**274**	P		**P**	**20 12 38.7**	**-0.3**
	14nm,0.4s,mb5.1,baz=113,slow=7.9,SNR=110							
VNDA	**Vanda**	**46.74**	**186**	P		**P**	**20 13 07.2**	**+4.7**
	0.4nm,0.7s,mb3.5,baz=9.4,slow=7.9,SNR=6.2							
FITZ	**Fitzroy Crossi**	**51.89**	**271**	*eP*		**P**	**20 13 42.7**	**-0.2**
	4.8nm,0.8s,mb4.5							
FITZ	**Fitzroy Crossi**	**51.89**	**271**	P		**P**	**20 13 42.4**	**-0.5**
	4.6nm,0.6s,mb4.6,baz=137,slow=6.1,SNR=5.3							
QSPA	**South Pole Qui**	**58.40**	**180**	*eP*		**P**	**20 14 30.3**	**+1.0**
	9.8nm,0.6s,mb5.0							
MAW	**Mawson**	**70.91**	**201**	P		**P**	**20 15 51.9**	**+1.4**
	1.2nm,0.7s,mb3.9,baz=122,slow=6.9,SNR=3.6							
MAW	**Mawson**	**70.91**	**201**	*eP*		**P**	**20 15 49.6**	**-0.9**
MAW				P			20 15 51.9	
SNAA	**Sanae**	**76.86**	**179**	⇑*i*		P	**20 16 24.3**	**-0.7**
SNAA	**Sanae**	**76.86**	**179**	⇑*i*		pP	20 16 30.6	-4.7
SNAA	**Sanae**	**76.86**	**179**			PcP	20 16 33.2	-3.2
SNAA	**Sanae**	**76.86**	**179**	P		**P**	**20 16 24.1**	**-0.8**
	0.4nm,0.8s,mb3.4,baz=181,slow=11,SNR=9.0							
VNA3	**Neumayer Olymp**	**77.03**	**176**	⇑*i*		**P**	**20 16 26.4**	**+0.5**
VNA3	**Neumayer Olymp**	**77.03**	**176**	⇑*i*		pP	20 16 33.3	-3.0
VNA3	**Neumayer Olymp**	**77.03**	**176**			PcP	20 16 35.8	-1.3
VNA2	**Neumayer--Watz**	**77.45**	**177**	⇑*i*		**P**	**20 16 28.9**	**+0.6**
VNA2	**Neumayer--Watz**	**77.45**	**177**	⇑*i*		pP	20 16 35.3	-3.4
VNA2	**Neumayer--Watz**	**77.45**	**177**			PcP	20 16 37.6	-1.3
MJAR	**Matsushiro Arr**	**79.05**	**326**	LR		LR	20 46 35.4	
	comp=Z,373nm,19.2s,MS4.7,baz=125,slow=32							
JTS	**JuntasAbangare**	**98.37**	**83**	LR		LR	20 54 34.4	
	comp=Z,25nm,19.9s,MS3.7,baz=151,slow=31							
ARCES	**ARCESS Array B**	**139.77**	**347**	PKhKP			20 23 51.6	
	1.9nm,0.9s,baz=45,slow=1.3,SNR=4.6							
ARCES				PKP		PKPdf	20 23 56.7	-2.4
	0.9nm,0.6s,slow=1.2,SNR=4.3							
ARCES	**ARCESS Array B**	**139.77**	**347**	PKP			20 23 51.6	
ARCES				PKP		PKPdf	20 23 56.7	-2.4
KAF	**Kangasniemi**	**145.62**	**340**	*ep*		PKPdf	20 24 04.9	-4.4
	3.6nm,0.9s							
FINES	**FINESS Array B**	**146.21**	**339**	PKPbc		PKPbc	20 24 08.2	-3.2
	5.1nm,0.7s,baz=90,slow=1.9,SNR=18							
NB2	**NORSAR Subarra**	**149.97**	**350**	PKPabc		PKPdf	20 24 18.9	+2.4
	1.8nm,0.7s,baz=184,slow=4.1							
NOA	**NORSAR Array B**	**149.97**	**350**	PKPbc		PKPdf	20 24 19.1	+2.6
	1.8nm,0.7s,baz=14,slow=4.1,SNR=7.5							
AKASG	**Malin Array Be**	**152.04**	**321**	PKPbc		PKPdf	20 24 24.6	+4.7
	2.0nm,0.7s,baz=54,slow=2.2,SNR=10.0							
BRTR	**Keskin Array B**	**152.78**	**296**	PKPbc		PKPdf	20 24 27.1	+5.7
	0.5nm,0.5s,baz=76,slow=5.1,SNR=3.6							

NEIC ***27*** *20:10:42.9±3.1,5.98S×149.21E,h41km±25km,mb4.2/2, Error ellipse: s-maj=34.6km s-min=23.1km az=130.0*
IDC ***27*** *20:10:43.2±5.5,6.00S×149.26E,h44km±49km,mb3.7/5, mb1 4.0/6,mb1mx3.7/13,mbtmp4.0/6,ML3.2/1,MS3.3/2, Ms1 3.3/2,ms1mx2.8/30,Error ellipse: s-maj=50.4km s-min=35.9km az=116.0*

ISC 27 20:10:43.3±3.8,6.1S±0.2×149.1E±0.3,h57km±30km,n11, σ0♀73/11,mb3.8/4,MS3.5/1,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.81**	**210**	P		**P**	**20 11 41.4**	**+0.5**
	13nm,0.3s,baz=29,slow=7.3,SNR=31							
PMG				S		**S**	**20 12 24.3**	**-0.6**
	28nm,0.3s,baz=61,slow=17,SNR=19							
PMG				LR		LR	20 13 35.6	
	comp=Z,257nm,20.9s,baz=153,slow=43							
WRAB	**Tennant Creek**	**19.87**	**225**	*eP*		**P**	**20 15 11.4**	**-1.2**
	4.0nm,0.6s							
WB2	**Warramunga Arr**	**19.87**	**225**	*eP*		**P**	**20 15 12.6**	**0.0**
WRA	**Warramunga Arr**	**19.88**	**225**	P		**P**	**20 15 12.6**	**-0.1**
	2.5nm,0.6s,baz=51,slow=11,SNR=12							
FITZ	**Fitzroy Crossi**	**25.82**	**240**	*eP*		**P**	**20 16 12.7**	**+1.4**
	13nm,1.0s,mb4.4							
FITZ	**Fitzroy Crossi**	**25.82**	**240**	P		**P**	**20 16 12.3**	**+1.1**
	4.1nm,0.4s,mb4.3,baz=33,slow=4.4,SNR=9.3							
STKA	**Stephens Creek**	**26.59**	**194**	P		**P**	**20 16 19.2**	**+1.0**
	2.4nm,0.9s,mb3.7,baz=357,slow=13,SNR=3.6							
AFI	**Afiamalu**	**39.25**	**104**	LR		LR	20 31 38.4	
	comp=Z,86nm,21.2s,MS3.5,baz=117,slow=32							
VNDA	**Vanda**	**71.70**	**177**	P		**P**	**20 22 00.6**	**-0.2**
	0.3nm,0.6s,mb3.4,baz=340,slow=5.0,SNR=2.5							
VNDA	**Vanda**	**71.70**	**177**	P		**P**	**20 22 00.6**	**-0.2**
ILAR	**Eielson Array**	**84.75**	**23**	P		**P**	**20 23 11.7**	**-0.6**
	0.3nm,0.7s,mb3.5,baz=252,slow=5.6,SNR=4.8							

IDC ***27*** *20:17:59.1±1.6,33.16N×142.54E,mb3.4/2,mb1 3.6/4, mb1mx3.4/19,mbtmp3.4/4,ML3.2/2,MS3.3/2,Ms1 3.3/2, ms1mx2.7/18,Error ellipse: s-maj=28.3km s-min=25.7km az=29.0*
JMA ***27*** *20:18:02.8±0.6,33.23N×142.46E,h72km,M3.3*

ISC 27 20:18:01.9±1.5,33.25N±0.07×142.55E±0.09,h39km±19km, n16,σ1♀00/22,mb3.4/2,MS3.5/1,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.92**	**317**	P		**P**	**20 18 33.2**	**+0.5**
BSO1				*eS*		**S**	**20 18 57.2**	**+1.4**
BSO3	**Boso 3**	**2.30**	**313**	P		**P**	**20 18 39.1**	**+1.0**
JHJ2	**Mitsune**	**2.30**	**267**	P		**P**	**20 18 37.9**	**-0.3**
JHJ2				*eS*		**S**	**20 19 05.3**	**-0.2**
JHJ	**Hachijo jima 2**	**2.33**	**268**	Pn		**P**	**20 18 38.4**	**-0.2**
	12nm,0.3s,baz=86,slow=18,SNR=9.1							
JHJ				Sn		**S**	**20 19 05.8**	**-0.3**
	31nm,0.3s,baz=243,slow=23,SNR=10							
JHJ				LR		LR	20 19 06.6	
	comp=Z,488nm,21.1s,baz=43,slow=30							
BSO4	**Boso 4**	**2.53**	**314**	P		**P**	**20 18 42.1**	**+0.7**
JIM2	**Oshima 3**	**2.98**	**300**	P		**P**	**20 18 46.9**	**-0.9**
JYN	**Shimob**	**4.00**	**305**	P		**P**	**20 19 03.3**	**+0.9**
JAG	**Ashikaga**	**4.07**	**322**	P		**P**	**20 19 03.1**	**-0.2**
JMM	**Marumori**	**4.82**	**343**	P		**P**	**20 19 11.7**	**-2.3**
JMM				*eS*		**S**	**20 20 02.8**	**-6.6**
MJAR	**Matsushiro Arr**	**4.85**	**314**	Pn		**P**	**20 19 15.7**	**+1.4**
	1.3nm,0.3s,baz=222,slow=51,SNR=12							
MJAR				Sn		**S**	**20 20 09.9**	**-0.1**
	0.5nm,0.3s,baz=284,slow=34,SNR=3.3							
MAT	**Matsushiro**	**4.85**	**314**	P		**P**	**20 19 14.9**	**+0.5**
MAT				*eS*		**S**	**20 20 08.4**	**-1.7**
MAT	**Matsushiro**	**4.85**	**314**	P		**P**	**20 19 15.4**	**+1.0**
JMK	**Ichinoseki**	**5.79**	**350**	P		**P**	**20 19 25.8**	**-1.7**
JMK				*eS*		**S**	**20 20 26.9**	**-6.7**
ILAR	**Eielson Array**	**52.22**	**31**	P		**P**	**20 27 11.6**	**+0.9**
	0.4nm,0.9s,mb3.4,baz=273,slow=7.0,SNR=4.1							
WRA	**Warramunga Arr**	**53.47**	**190**	P		**P**	**20 27 20.4**	**-0.3**
	0.4nm,0.8s,mb3.4,baz=6.2,slow=7.5,SNR=3.6							
BBB	**Bella Bella**	**64.15**	**43**	LR		LR	20 52 43.5	
	comp=Z,33nm,20.1s,MS3.5,baz=300,slow=32							

NEIC ***27*** *20:26:20.1±1.1,19.34S×70.12W,h52km±12km,mb4.6/2, Error ellipse: s-maj=22.7km s-min=9.0km az=75.0*
IDC ***27*** *20:26:23.1±2.4,19.30S×69.78W,h86km±26km,mb3.6/4, mb1 4.2/8,mb1mx3.8/19,mbtmp4.2/8,MS3.4/5,Ms1 3.4/5, ms1mx2.9/29,Error ellipse: s-maj=32.7km s-min=13.5km az=102.0*

ISC 27 20:26:18.7±0.9,19.19S±0.05×69.85W±0.07,h57km±11km, n26,σ0♀89/24,mb4.2/5,MS3.5/4,1C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**3.13**	**330**	⇑*iP*		**P**	**20 27 06.4**	**-0.4**
ARE				*i*		**S**	**20 27 43.6**	**+0.4**
LPAZ	**La Paz**	**3.31**	**30**	P		**P**	**20 27 15.5**	**+6.0**
	22nm,0.3s,baz=230,slow=7.7,SNR=183							
LVC	**Limon Verde**	**3.52**	**166**	P		**P**	**20 27 12.2**	**-0.1**
	82nm,0.3s,baz=357,slow=11,SNR=256							
LVC				S		**S**	**20 27 54.9**	**+1.8**
	92nm,0.3s,baz=63,slow=23,SNR=16							
LVC	**Limon Verde**	**3.52**	**166**	*eP*		**P**	**20 27 12.1**	**-0.2**
LVC				P			20 27 12.2	
LVC				S		**S**	**20 27 54.9**	**+1.8**
SIV	**San Ignacio**	**8.95**	**71**	P		**P**	**20 28 27.7**	**-0.2**
	3.4nm,0.3s,baz=262,slow=11,SNR=67							
SIV				S		**S**	**20 30 09.2**	**+0.9**
	0.7nm,0.3s,baz=201,slow=21,SNR=3.3							
NNA	**Nana**	**9.82**	**316**	*eP*		**P**	**20 28 35.5**	**-4.4**
SAML	**Samuel**	**12.05**	**33**	*eP*		**P**	**20 29 08.5**	**-1.6**
	9.1nm,0.6s							
CPUP	**Villa Florida**	**13.56**	**124**	P		**P**	**20 29 29.7**	**-0.3**
	0.4nm,0.3s,baz=319,slow=12,SNR=19							
CPUP				LR		LR	20 35 24.9	
	comp=Z,68nm,19.9s,baz=124,slow=40							
CPUP	**Villa Florida**	**13.56**	**124**	*eP*		**P**	**20 29 29.4**	**-0.6**
CPUP				LR		LR	20 35 24.9	
TRQA	**Tornquist**	**20.02**	**162**	*eP*		**P**	**20 30 48.5**	**-0.9**
TRQA				*epP*			20 30 57.9	
BDFB	**Brasilia**	**21.13**	**84**	LR		LR	20 39 28.1	
	comp=Z,42nm,18.5s,MS2.9,baz=82,slow=37							
PLCA	**Paso Flores**	**21.48**	**181**	P		**P**	**20 31 02.6**	**-1.8**
	2.7nm,0.7s,mb3.7,baz=356,slow=13,SNR=5.3							
PLCA	**Paso Flores**	**21.48**	**181**	*eP*		**P**	**20 31 03.1**	**-1.3**
	12nm,1.0s,mb4.2							
SDV	**Santo Domingo**	**27.90**	**358**	LR		LR	20 42 29.5	
	comp=Z,70nm,21.2s,MS3.2,baz=221,slow=34							
SDV	**Santo Domingo**	**27.90**	**358**	P		**P**	**20 32 06.7**	**+0.9**
WVT	**Waverly**	**57.59**	**343**	*eP*		**P**	**20 36 00.6**	**-4.7**
	14nm,1.0s,mb5.0							
ARUT	**Antelope Range**	**69.94**	**324**	*eP*		**P**	**20 37 27.1**	**+1.0**
PDAR	**Pinedale Array**	**71.67**	**330**	P		**P**	**20 37 36.2**	**-0.3**
	0.2nm,0.4s,mb3.4,baz=127,slow=9.0,SNR=4.6							
ELK	**Elko**	**73.03**	**326**	*eP*		**P**	**20 37 44.9**	**+0.4**
NVAR	**Mina Array Bea**	**73.13**	**322**	P		**P**	**20 37 45.5**	**+0.4**
	1.4nm,0.8s,mb4.0,baz=135,slow=7.3,SNR=11							
TSUM	**Tsumeb**	**81.56**	**107**	LR		LR	21 10 10.2	
	comp=Z,50nm,18.9s,MS3.9,baz=318,slow=32							
MAW	**Mawson**	**86.79**	**164**	LR		LR	21 14 12.5	
	comp=Z,90nm,21.2s,MS4.1,baz=330,slow=33							
YKA	**Yellowknife Ar**	**88.72**	**341**	P		**P**	**20 39 06.8**	**0.0**
	1.9nm,0.8s,mb4.5,baz=133,slow=4.7,SNR=6.7							
YKA				pP		pP	20 39 21.6	-1.6
	1.2nm,0.5s,baz=132,slow=4.5,SNR=3.8							
YKA	**Yellowknife Ar**	**88.72**	**341**	P		**P**	**20 39 06.8**	**0.0**
YKA				pP		pP	20 39 21.6	-1.6
MKAR	**Makanchi Array**	**144.24**	**33**	PKP		PKPdf	20 45 48.2	0.0
	0.3nm,0.6s,baz=272,slow=4.2,SNR=4.3							
SONM	**Songino Array**	**151.26**	**5**	PKPbc		PKPdf	20 46 08.1	+8.5
	0.5nm,0.5s,baz=336,slow=2.1,SNR=2.6							
SONM				PKPab		PKPab	20 46 14.7	-1.4
	0.5nm,0.6s,slow=1.2,SNR=3.6							

NIED ***27*** *20:38:00,33.30N×142.60E,h5km,Mw4.0 Best double couple: M₀1.1×10¹⁵ NP1:φs142°,δ84°,λ-90°. NP2:φs318°, δ6°,λ-94°.*
IDC ***27*** *20:38:51.1±0.8,33.26N×142.53E,mb3.8/8,mb1 4.0/11, mb1mx3.8/25,mbtmp3.9/11,ML3.8/3,Error ellipse: s-maj=19.5km s-min=18.0km az=106.0*
JMA ***27*** *20:38:52.8±0.4,33.31N×142.56E,h56km,M3.7*
NEIC ***27*** *20:38:52.5±9.5,33.23N×142.47E,h10km±58km,mb4.4/1, Error ellipse: s-maj=24.2km s-min=17.5km az=114.0*

ISC 27 20:38:50.8±1.7,33.30N±0.05×142.54E±0.06,h13km±11km, n27,σ1♀04/38,mb3.9/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.87**	**317**	P		**Pn**	**20 39 23.2**	**+0.3**
BSO1				*eS*		**Sn**	**20 39 46.2**	**-0.3**
BSO3	**Boso 3**	**2.26**	**312**	P		**Pn**	**20 39 28.9**	**+0.6**
JHJ2	**Mitsune**	**2.29**	**266**	P		**Pn**	**20 39 29.4**	**+0.6**
JHJ2				S		**Sn**	**20 39 56.7**	**-0.3**
JHJ	**Hachijo jima 2**	**2.31**	**266**	Pn		**Pn**	**20 39 29.3**	**+0.1**
	61nm,0.3s,baz=149,slow=9.6,SNR=49							
JHJ				Sn		**Sn**	**20 39 57.7**	**0.0**
	70nm,0.3s,baz=250,slow=24,SNR=8.0							
BSO4	**Boso 4**	**2.49**	**313**	P		**Pn**	**20 39 32.7**	**+1.1**
BSO4				S		**Sn**	**20 40 02.1**	**0.0**
JIM2	**Oshima 3**	**2.94**	**300**	P		**Pn**	**20 39 36.0**	**+0.8**
JYN	**Shimob**	**3.96**	**305**	P		**Pn**	**20 39 53.6**	**+0.9**
JYN				S		**Sn**	**20 40 40.1**	**+0.6**
JAG	**Ashikaga**	**4.02**	**322**	P		**Pn**	**20 39 53.0**	**-0.5**
JRY	**Ryogami san**	**4.04**	**313**	P		**Pn**	**20 39 54.1**	**+0.3**
JMM	**Marumori**	**4.78**	**343**	P		**Pn**	**20 40 02.0**	**-2.2**
JMM				S		**Sn**	**20 40 52.1**	**-7.9**
MJAR	**Matsushiro Arr**	**4.81**	**314**	Pn		**Pn**	**20 40 05.0**	**+0.3**
	3.7nm,0.3s,baz=163,slow=14,SNR=19							
MJAR				Sn		**Sn**	**20 41 00.2**	**-0.7**
	2.2nm,0.3s,baz=78,slow=18,SNR=5.4							
MAJO	**Matsushiro**	**4.81**	**314**	*eP*		**Pn**	**20 40 05.8**	**+1.1**
MAT	**Matsushiro**	**4.81**	**314**	*eP*		**Pn**	**20 40 05.0**	**+0.3**
MAT				*eS*		**Sn**	**20 40 57.0**	**-3.9**
MAT	**Matsushiro**	**4.81**	**314**	P		**Pn**	**20 40 04.7**	**0.0**
MAT				S		**Sn**	**20 40 56.7**	**-4.2**
MAT	**Matsushiro**	**4.81**	**314**	P		**Pn**	**20 40 04.3**	**-0.4**
MAT				S		**Sn**	**20 40 58.4**	**-2.5**
JMK	**Ichinoseki**	**5.74**	**350**	P		**Pn**	**20 40 15.0**	**-2.8**
CBIJ	**Chichi jima**	**6.19**	**183**	Pn		**Pn**	**20 40 22.9**	**-1.2**
	7.3nm,0.3s,baz=268,slow=20,SNR=4.8							
CBIJ				Sn		**Sn**	**20 41 30.7**	**-4.7**
	19nm,0.3s,baz=283,slow=24,SNR=6.5							
ASAJ	**Asahikawa**	**10.80**	**0**	Pn		**P**	**20 41 24.2**	**-4.0**
	1.0nm,0.3s,baz=228,slow=12,SNR=4.9							
ENH	**Enshi**	**28.19**	**273**	P		**P**	**20 44 42.5**	**-2.5**
	3.9nm,0.6s,mb4.2							
SONM	**Songino Array**	**30.75**	**309**	P		**P**	**20 45 07.7**	**0.0**
	0.7nm,0.6s,mb3.7,baz=106,slow=10,SNR=2.6							
MKAR	**Makanchi Array**	**46.96**	**305**	P		**P**	**20 47 24.7**	**+1.8**
	0.7nm,0.7s,mb3.7,baz=82,slow=7.0,SNR=3.9							
ILAR	**Eielson Array**	**52.19**	**31**	P		**P**	**20 48 02.8**	**-0.2**
	1.0nm,0.6s,mb4.0,baz=262,slow=6.2,SNR=13							
WRA	**Warramunga Arr**	**53.51**	**190**	P		**P**	**20 48 12.8**	**-0.6**
	0.6nm,0.5s,mb3.8,baz=1.4,slow=7.7,SNR=18							
FITZ	**Fitzroy Crossi**	**53.60**	**200**	P		**P**	**20 48 14.2**	**+0.3**
	4.3nm,0.8s,mb4.4,baz=354,slow=7.7,SNR=4.5							
BVAR	**Borovoye Array**	**53.81**	**315**	P		**P**	**20 48 16.4**	**+1.3**
	0.4nm,0.7s,mb3.4,baz=108,slow=9.4,SNR=3.7							
INK	**Inuvik**	**57.31**	**26**	P		**P**	**20 48 40.4**	**+0.1**
	0.8nm,0.4s,mb4.1,baz=291,slow=7.4,SNR=3.2							
NVAR	**Mina Array Bea**	**76.50**	**53**	P		**P**	**20 50 43.9**	**+1.8**
	0.8nm,0.7s,mb3.7,baz=297,slow=8.1,SNR=4.8							

NIED ***27*** *20:41:00,33.30N×142.50E,h11km,Mw4.4 Best double couple: M₀3.76×10¹⁵ NP1:φs159°,δ73°,λ-104°. NP2: φs19°,δ21°,λ-52°.*
BJI ***27*** *20:41:35.6,32.93N×142.75E,h36km,mB4.5,mb4.6, Ms3.9,Msz3.6*
IDC ***27*** *20:41:35.9±0.5,33.29N×142.56E,mb4.2/21,mb1 4.4/25, mb1mx4.3/30,mbtmp4.2/25,ML4.1/4,MS3.6/7,Ms1 3.6/7, ms1mx3.3/24,Error ellipse: s-maj=14.4km s-min=13.4km az=3.0*
JMA ***27*** *20:41:38.2±0.5,33.32N×142.48E,h94km,M4.1*
NEIC ***27*** *20:41:40.1±3.6,33.31N×142.46E,h27km±24km,mb4.5/9, MW4.3(NIED),Error ellipse: s-maj=11.6km s-min=8.8km az=113.0*
MOS ***27*** *20:41:42.6±0.7,33.97N×142.66E,h32km,mb4.5/5,Error ellipse: s-maj=15.1km s-min=8.2km az=114.0*

ISC 27 20:41:34.6±1.4,33.32N±0.04×142.49E±0.04,h2km±8km, h29km±1.9km:pP-P,n89,σ1♀11/99,mb4.2/34,MS3.6/7,1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.25**	**265**	Op P		**Pn**	**20 42 14.3**	**+1.0**
JHJ2				S		**Sn**	**20 42 41.6**	**-0.4**
JHJ	**Hachijo jima 2**	**2.28**	**266**	Pn		**Pn**	**20 42 14.3**	**+0.6**
	151nm,0.3s,baz=151,slow=7.6,SNR=18							
JHJ				Sn		**Sn**	**20 42 44.2**	**+1.5**
	138nm,0.3s,baz=63,slow=23,SNR=7.9							
JHJ				LR		LR	20 43 08.8	
	comp=Z,698nm,20.6s,baz=108,slow=40							
BSO4	**Boso 4**	**2.44**	**314**	P		**Pn**	**20 42 17.5**	**+1.4**
KTR	**Katsuura**	**2.56**	**316**	P		**Pn**	**20 42 18.8**	**+1.0**
KTR				*eS*		**Sn**	**20 42 51.0**	**+1.0**
JIM2	**Oshima 3**	**2.90**	**300**	P		**Pn**	**20 42 22.2**	**-0.4**
JOD2	**Odawara 2**	**3.42**	**306**	P		**Pn**	**20 42 29.9**	**-0.1**
JYN	**Shimob**	**3.92**	**305**	P		**Pn**	**20 42 37.7**	**+0.6**
JAG	**Ashikaga**	**3.98**	**322**	P		**Pn**	**20 42 38.0**	**+0.1**
JRY	**Ryogami san**	**4.00**	**313**	P		**Pn**	**20 42 38.6**	**+0.4**
JRY				S		**Sn**	**20 43 25.2**	**-1.1**
JMM	**Marumori**	**4.74**	**344**	P		**Pn**	**20 42 46.9**	**-1.9**
JMM				S		**Sn**	**20 43 37.2**	**-8.0**
MJAR	**Matsushiro Arr**	**4.76**	**314**	Pn		**Pn**	**20 42 48.6**	**-0.5**
	9.9nm,0.3s,baz=62,slow=15,SNR=25							
MJAR				Sn		**Sn**	**20 43 44.9**	**-0.8**
	7.2nm,0.3s,baz=150,slow=25,SNR=6.0							
MJAR	**Matsushiro Arr**	**4.76**	**314**	Pn		**Pn**	**20 42 48.6**	**-0.5**
MJAR				Sn		**Sn**	**20 43 44.9**	**-0.8**
MAJO	**Matsushiro**	**4.77**	**314**	*eP*		**Pn**	**20 42 50.5**	**+1.4**
MAT	**Matsushiro**	**4.77**	**314**	*eP*		**Pn**	**20 42 50.0**	**+0.9**
MAT				*eS*		**Sn**	**20 43 43.0**	**-2.7**
MAT	**Matsushiro**	**4.77**	**314**	P		**Pn**	**20 42 49.6**	**+0.5**
MAT				S		**Sn**	**20 43 42.6**	**-3.1**
MAT	**Matsushiro**	**4.77**	**314**	P		**Pn**	**20 42 49.9**	**+0.8**
MAT				S		**Sn**	**20 43 43.8**	**-1.9**
JGM	**Miyama**	**5.32**	**298**	P		**Pn**	**20 42 58.2**	**+1.2**
JWZ	**Kozaga**	**5.67**	**274

BVAR	**Borovoye Array**	**53.76**	**315**	P		**P**	**20 51 01.1**	**+0.9**
	comp=Z,0.5nm,0.4s,mb3.8,baz=90,slow=7.4,SNR=8.1							
INK	**Inuvik**	**57.31**	**26**	P		**P**	**20 51 24.7**	**-1.1**
INK				pmax		pmax		
	comp=Z,4.0nm,0.7s							
INK				MLR		MLR		
	comp=Z,45nm,20.6s							
INK	**Inuvik**	**57.31**	**26**	P		**P**	**20 51 24.7**	**-1.1**
	comp=Z,4.0nm,0.7s,mb4.5,baz=303,slow=4.5,SNR=8.7							
INK				LR		LR	21 15 57.0	
	comp=Z,45nm,20.6s,MS3.6,baz=231,slow=36							
INK	**Inuvik**	**57.31**	**26**	*e*P		**P**	**20 51 24.5**	**-1.2**
	comp=Z,4.7nm,1.0s,mb4.5							
INK				LR		LR	21 15 57.0	
ARU	**Arti**	**59.75**	**320**	*e*P		**P**	**20 51 43.6**	**+0.7**
ARU	**Arti**	**59.75**	**320**	*e*P		**P**	**20 51 41.4**	**-1.5**
	comp=Z,2.0nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**64.85**	**181**	P		**P**	**20 52 17.0**	**-0.4**
	comp=Z,2.3nm,0.8s,mb4.2,baz=323,slow=19,SNR=4.5							
YKA	**Yellowknife Ar**	**66.59**	**30**	P		**P**	**20 52 27.4**	**-0.5**
	comp=Z,2.9nm,0.8s,mb4.4,baz=298,slow=6.2,SNR=7.6							
ARCES	**ARCESS Array B**	**67.78**	**340**	P		**P**	**20 52 35.0**	**-0.4**
	comp=Z,1.4nm,0.9s,mb4.0,baz=72,slow=7.7,SNR=4.3							
ARCES				LR		LR	21 29 09.0	
	comp=Z,40nm,18.7s,MS3.7,baz=76,slow=42							
YBH	**Yreka Blue Hor**	**71.94**	**52**	P		**P**	**20 53 02.1**	**+0.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=291,slow=1.5,SNR=3.8							
KAF	**Kangasniemi**	**72.02**	**334**	*e*p		**P**	**20 52 58.3**	**-3.0**
	comp=Z,2.5nm,0.7s,mb4.2							
KAF	**Kangasniemi**	**72.02**	**334**	*e*P		**P**	**20 52 58.3**	**-3.0**
KAF				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.3							
NEW	**Newport**	**72.19**	**44**	P		**P**	**20 53 03.0**	**+0.3**
	comp=Z,1.2nm,0.4s,mb4.2,baz=22,slow=3.0,SNR=4.5							
FINES	**FINESS Array B**	**72.51**	**333**	P		**P**	**20 53 04.1**	**-0.2**
	comp=Z,1.3nm,0.9s,mb3.9,baz=63,slow=4.3,SNR=4.6							
FINES	**FINESS Array B**	**72.51**	**333**	P		**P**	**20 53 04.1**	**-0.2**
WVOR	**Wild Horse Val**	**74.22**	**49**	*e*P		**P**	**20 53 15.0**	**+0.4**
CMB	**Columbia Colle**	**75.32**	**54**	*e*P		**P**	**20 53 21.0**	**0.0**
CMB				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
CMB	**Columbia Colle**	**75.32**	**54**	*e*P		**P**	**20 53 21.0**	**0.0**
	comp=Z,3.8nm,0.8s,mb4.4							
NVAR	**Mina Array Bea**	**76.52**	**53**	P		**P**	**20 53 29.0**	**+1.2**
	comp=Z,2.4nm,0.7s,mb4.2,baz=301,slow=4.0,SNR=18							
HFS	**Hagfors**	**77.84**	**336**	P		**P**	**20 53 35.2**	**+0.6**
	comp=Z,1.8nm,0.7s,mb4.1,baz=90,slow=4.3,SNR=6.8							
NB2	**NORSAR Subarra**	**77.95**	**338**	P		**P**	**20 53 35.2**	**0.0**
	comp=Z,1.1nm,0.6s,mb4.0,baz=39,slow=5.8							
NB2	**NORSAR Subarra**	**77.95**	**338**	P		**P**	**20 53 35.2**	**0.0**
NB2				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.9							
NOA	**NORSAR Array B**	**77.95**	**338**	P		**P**	**20 53 35.5**	**+0.3**
	comp=Z,1.8nm,0.7s,mb4.1,baz=39,slow=5.7,SNR=8.7							
IMW	**Indian Meadow**	**78.17**	**45**	*e*P		**P**	**20 53 38.8**	**+2.1**
	comp=Z,2.5nm,0.8s,mb4.2							
PDAR	**Pinedale Array**	**79.64**	**45**	P		**P**	**20 53 44.2**	**-0.7**
	comp=Z,0.8nm,0.7s,mb3.7,baz=300,slow=2.2,SNR=7.7							
NEN	**Nelson**	**80.35**	**54**	*e*P		**P**	**20 53 49.7**	**+0.9**
BRTR	**Keskin Array B**	**81.99**	**313**	P		**P**	**20 53 58.0**	**+0.7**
	comp=Z,0.8nm,0.7s,mb3.7,baz=166,slow=5.1,SNR=3.9							
CLL	**Collm**	**84.76**	**331**	P		**P**	**20 54 12.0**	**+0.9**
CLL				*e**PP		pP	20 54 20.0	+8.1
SDCO	**Great Sand Dun**	**85.15**	**48**	*e*P		**P**	**20 54 14.7**	**+1.3**
	comp=Z,3.7nm,0.8s,mb4.6							
ANMO	**Albuquerque**	**86.29**	**50**	P		**P**	**20 54 20.5**	**+1.3**
	comp=Z,1.7nm,0.7s,mb4.4,baz=304,slow=5.0,SNR=3.7							
TXAR	**Lajitas Array**	**91.67**	**53**	P		**P**	**20 54 44.8**	**0.0**
	comp=Z,2.1nm,0.7s,mb4.6,baz=317,slow=3.4,SNR=7.4							
TXAR				LR		LR	21 30 15.5	
	comp=Z,56nm,19.5s,MS4.0,baz=260,slow=32							
PMSA	**Palmer Station**	**144.59**	**161**	*e*P	PKPbc		21 01 17.2	+5.7
SAML	**Samuel**	**146.11**	**50**	*e*PKPdf	PKPdf		21 01 17.7	-0.4
LPAZ	**La Paz**	**147.61**	**66**	PKPbc	PKPdf		21 01 21.2	+0.8
	comp=Z,1.5nm,0.5s,baz=358,slow=9.6,SNR=9.4							
LVC	**Limon Verde**	**150.39**	**77**	PKPbc	PKPdf		21 01 30.3	+5.6
	comp=Z,0.6nm,0.4s,baz=264,slow=4.3,SNR=3.6							
SIV	**San Ignacio**	**152.61**	**57**	PKP	PKPdf		21 01 27.9	-0.2
	comp=Z,0.6nm,0.6s,baz=186,slow=6.1,SNR=4.5							
SIV				PKPbc	PKPdf		21 01 34.7	+6.6
	comp=Z,1.5nm,0.8s,baz=190,slow=2.2,SNR=8.0							
SIV				PKPab	PKPab		21 01 44.7	-1.2
	comp=Z,2.7nm,0.8s,baz=282,slow=2.2,SNR=10							
CFAA	**Coronel Fontan**	**154.06**	**95**	PKPab	PKPab		21 01 51.6	-0.1
	comp=Z,0.2nm,0.4s,baz=265,slow=3.3,SNR=6.5							

*IDC **27** 20:51:53.1±0.8,26.68N×54.88E,mb3.9/19,mb1 4.0/22, mb1mx4.0/29,mbtmp4.0/22,ML4.7/3,Error ellipse: s-maj=18.7km s-min=15.9km az=149.0*
*KISR **27** 20:51:55.3±1.1,26.84N×54.50E,h7km±999km,ML4.0*
*MOS **27** 20:51:56.3±1.4,26.69N×54.86E,h33km,mb4.5/1,Error ellipse: s-maj=15.0km s-min=9.6km az=115.9*
*CSEM **27** 20:51:56.1±0.1,26.74N×54.72E,h25km,ML3.9,Error ellipse: s-maj=3.3km s-min=2.3km az=150.0*
*NEIC **27** 20:51:57.9,26.84N×54.97E,h18km,mb3.8/2, ML3.9(THR),After THR.*
*THR **27** 20:51:57.9±1.0,26.84N×54.97E,h18km±14km,ML3.9*
*TEH **27** 20:52:03.0,27.14N×54.80E,h10km,Mn3.9*
ISC 27 20:51:57.0±0.9,**26.74N**±0.06×**54.75E**±0.04,**h38**km±8km, **n62,σ1ᵗ07/70,mb3.9**/20,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.43**	**62**	*e*Pg	**P**	**20 52 20.0**	**-0.9**
BNDS	**Bandar-Abbas**	**1.43**	**62**	*e*PG	**P**	**20 52 20.7**	**-0.2**
BNDS				AML	AML	20 52 49.0	
	comp=N,3μm,0.4s						
GHIR	**Ghir-Karzin**	**2.20**	**315**	*e*Pn	**P**	**20 52 36.0**	**+4.2**
GHIR	**Ghir-Karzin**	**2.20**	**315**	*e*PN	**P**	**20 52 36.7**	**+4.8**
GHIR				AML	AML	20 53 25.1	
	comp=N,822nm,0.5s						
IMOK	**Mook**	**2.92**	**322**	Pn	**P**	**20 52 45.4**	**+3.2**
ISRV	**Sarvestan**	**3.01**	**332**	Pn	**P**	**20 52 45.3**	**+1.9**
IPAR	**Pars**	**3.44**	**335**	Pn	**P**	**20 52 49.8**	**+0.3**
KRBR	**Kerman**	**3.69**	**28**	*e*Sg	**P**	**20 52 54.0**	**+1.0**
KRBR				*e*SG	**S**	**20 53 47.0**	**+11**
KRBR	**Kerman**	**3.69**	**28**	*e*PN	**P**	**20 52 54.3**	**+1.3**
KRBR				*e*SG	**S**	**20 53 47.1**	**+11**
KRBR				AML	AML	20 53 58.8	
	comp=N,180nm,0.6s						
KRBR	**Kerman**	**3.69**	**28**	*e*Pn	**P**	**20 52 54.0**	**+1.0**
KRBR				*e*Sg	**S**	**20 53 47.1**	**+11**
	SNR=91						
IMEH	**Mehriz**	**4.64**	**359**	Pn	**P**	**20 53 07.0**	**+0.5**
HASS	**Wahat al Ahsa'**	**4.80**	**252**	P	**P**	**20 53 08.9**	**+0.1**
IBAF	**Bafgh**	**4.89**	**8**	Pn	**P**	**20 53 09.9**	**-0.2**
ISAD	**Sadrabad**	**5.24**	**350**	Pn	**P**	**20 53 15.8**	**+0.8**
ICHK	**Chekchek**	**5.50**	**357**	Pn	**P**	**20 53 18.6**	**+0.1**
ZHSF	**Zahedan**	**6.04**	**60**	*e*Pn	**P**	**20 53 25.0**	**-1.1**
QRN	**Al-Qurain**	**6.38**	**290**	*e*P	**P**	**20 53 31.0**	**+0.1**
QRN				*e*S	**S**	**20 54 42.4**	**-1.0**
QRN				AML	AML	20 54 42.9	
	comp=Z,34nm,0.3s						
KBD	**Kabd**	**6.70**	**293**	*e*P	**P**	**20 53 35.5**	**+0.1**
KBD				AML	AML	20 54 49.1	
	comp=Z,57nm,0.3s						
KBD				*e*S	**S**	**20 54 50.7**	**-0.7**
KBD	**Kabd**	**6.70**	**293**	*e*P	**P**	**20 53 35.5**	**+0.1**
KBD				*e*S	**S**	**20 54 50.7**	**-0.7**
RDF	**Al-Radifah**	**6.74**	**291**	*e*P	**P**	**20 53 35.4**	**-0.6**
RDF				AML	AML	20 54 50.6	
	comp=Z,23nm,0.4s						
RDF				*e*S	**S**	**20 54 52.1**	**-0.3**
RDF	**Al-Radifah**	**6.74**	**291**	*e*P	**P**	**20 53 35.4**	**-0.6**
RDF				*e*S	**S**	**20 54 52.1**	**-0.3**
MIB	**Mutribah**	**7.21**	**297**	*e*P	**P**	**20 53 43.2**	**+0.6**
MIB				*e*S	**S**	**20 55 03.1**	**-1.1**
IVRN	**Varamin**	**8.63**	**343**	Pn	**P**	**20 54 01.6**	**-0.7**
IFIR	**Firoozkooh**	**9.04**	**350**	Pn	**P**	**20 54 07.0**	**-1.0**
IFIR	**Firoozkooh**	**9.04**	**350**	Lg		20 56 32.4	
IDMV	**Damavand**	**9.12**	**346**	Pn	**P**	**20 54 08.2**	**-0.8**
IRAZ	**Razeghan**	**9.58**	**336**	Pn	**P**	**20 54 13.0**	**-2.4**
YNBS	**Yanbu' al Bahr**	**15.31**	**265**	P	**P**	**20 55 29.6**	**-2.5**
GNI	**Garni**	**15.76**	**331**	Pn	**P**	**20 55 41.9**	**+4.2**
	comp=Z,0.2nm,0.3s,baz=190,slow=15,SNR=2.2						
GNI	**Garni**	**15.76**	**331**	*e*P	**P**	**20 55 40.3**	**+2.6**
TBKS	**Tabuk**	**16.22**	**279**	P	**P**	**20 55 43.3**	**-0.4**
ASF	**Jabal al Asfar**	**16.46**	**293**	Pn	**P**	**20 55 49.4**	**+2.7**
	comp=Z,0.6nm,0.3s,baz=338,slow=10,SNR=3.8						
BDAS	**Al Bad'**	**17.50**	**280**	P	**P**	**20 55 59.5**	**-0.3**
EIL	**Elat**	**17.70**	**284**	P	**P**	**20 56 04.2**	**+2.0**
	comp=Z,6.5nm,0.3s,baz=103,slow=22,SNR=4.6						
EIL	**Elat**	**17.70**	**284**	P	**P**	**20 56 04.2**	**+2.0**
MALT	**Malatya**	**17.93**	**314**	*e*P	**P**	**20 56 05.3**	**+0.2**
MALT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MALT	**Malatya**	**17.93**	**314**	*e*P	**P**	**20 56 05.3**	**+0.2**
	comp=Z,5.3nm,0.8s						
ATD	**Arta Tunnel**	**18.82**	**219**	P	**P**	**20 56 16.4**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=314,slow=12,SNR=3.8						
BR131	**Keskin Array S**	**21.84**	**312**	*e*P	**P**	**20 56 48.0**	**+0.2**
	comp=Z,1.9nm,0.5s,mb3.8						
BRTR	**Keskin Array B**	**21.84**	**312**	P	**P**	**20 56 48.7**	**+0.9**
	comp=Z,2.1nm,0.6s,mb3.8,baz=131,slow=14,SNR=8.8						
IDI	**Anoyia**	**26.90**	**296**	P	**P**	**20 57 37.2**	**+0.8**
	comp=Z,4.4nm,0.5s,mb4.3,baz=94,slow=15,SNR=7.9						
BRVK	**Borovoye**	**28.74**	**20**	*e*P	**P**	**20 57 52.2**	**-0.7**
BVAR	**Borovoye Array**	**28.74**	**20**	P	**P**	**20 57 52.1**	**-0.8**
	comp=Z,0.9nm,0.5s,mb3.7,baz=208,slow=6.6,SNR=7.6						
MKAR	**Makanchi Array**	**29.55**	**40**	P	**P**	**20 57 59.3**	**-0.9**
	comp=Z,0.4nm,0.4s,mb3.5,baz=219,slow=9.1,SNR=9.7						
MLR	**Mumtele Rosu**	**29.63**	**317**	P	**P**	**20 58 02.7**	**+1.8**
	comp=Z,0.6nm,0.5s,mb3.6,baz=226,slow=17,SNR=2.9						
AKASG	**Malin Array Be**	**30.85**	**328**	P	**P**	**20 58 11.2**	**-0.5**
	comp=Z,1.2nm,0.5s,mb4.0,baz=136,slow=8.2,SNR=6.1						
OBN	**Obninsk**	**31.31**	**340**	P	**P**	**20 58 20.0**	**+4.3**
LSA	**Lhasa**	**32.13**	**76**	P	**P**	**20 58 24.2**	**+1.0**
ZAL	**Zalesovo**	**35.06**	**31**	P	**P**	**20 58 46.7**	**-1.4**
	comp=Z,2.5nm,0.5s,mb4.4,baz=232,slow=6.0,SNR=11						
GERES	**GERESS Array B**	**38.61**	**316**	P	**P**	**20 59 17.8**	**-0.3**
	comp=Z,2.0nm,0.4s,mb3.2,baz=113,slow=10,SNR=4.8						
FINES	**FINESS Array B**	**39.70**	**339**	P	**P**	**20 59 26.9**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.6,baz=149,slow=11,SNR=5.6						
HFS	**Hagfors**	**43.54**	**331**	P	**P**	**20 59 58.1**	**-0.4**
	comp=Z,1.3nm,0.7s,mb3.8,baz=135,slow=13,SNR=4.3						
NOA	**NORSAR Array B**	**45.06**	**332**	P	**P**	**21 00 10.8**	**+0.1**
	comp=Z,0.3nm,0.5s,mb3.4,baz=120,slow=7.0,SNR=2.9						
SONM	**Songino Array**	**45.21**	**48**	P	**P**	**21 00 13.0**	**+0.9**
	comp=Z,1.9nm,0.8s,mb4.0,baz=297,slow=6.4,SNR=7.9						
ARCES	**ARCESS Array B**	**46.11**	**346**	P	**P**	**21 00 20.0**	**+1.0**
	comp=Z,3.8nm,1.2s,mb4.2,baz=146,slow=9.8,SNR=4.3						
ESDC	**Sonseca Array**	**49.99**	**301**	P	**P**	**21 00 51.7**	**+2.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=66,slow=7.1,SNR=4.8						
EKA	**Eskdalemuir Ar**	**50.31**	**321**	P	**P**	**21 00 52.3**	**+0.6**
	comp=Z,0.3nm,0.4s,mb3.6,baz=114,slow=7.0,SNR=2.8						
BOD	**Bodaibo**	**51.49**	**36**	*e*P	**P**	**21 00 57.6**	**-3.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
TSUM	**Tsumeb**	**58.18**	**222**	P	**P**	**21 01 49.6**	**-0.2**
	comp=Z,3.1nm,1.0s,mb4.3,baz=325,slow=6.5,SNR=3.7						
DBIC	**Dimbokro**	**59.93**	**262**	P	**P**	**21 02 01.1**	**-0.9**
	comp=Z,1.1nm,0.3s,mb4.4,baz=64,slow=9.4,SNR=11						
WRA	**Warramunga Arr**	**89.98**	**112**	P	**P**	**21 04 54.6**	**+0.4**
	comp=Z,0.2nm,0.6s,mb3.6,baz=314,slow=4.1,SNR=3.6						
MAW	**Mawson**	**94.25**	**177**	P	**P**	**21 05 12.3**	**-0.5**
	comp=Z,1.0nm,0.5s,mb4.5,baz=355,slow=13,SNR=6.1						

*IDC **27** 20:51:53.4±1.0,0.98N×127.03E,mb4.0/6,mb1 4.2/7, mb1mx3.9/17,mbtmp4.0/7,ML4.3/1,Error ellipse: s-maj=57.3km s-min=18.8km az=74.0*
*NEIC **27** 20:51:54.9±0.8,0.96N×126.99E,h10km,mb4.4/2,Error ellipse: s-maj=38.5km s-min=12.8km az=80.0*
ISC 27 20:51:56.4±0.7,**0.96N**±0.10×**127.0E**±0.3,**h33**km,**n10,** σ0**91**/10,**mb4.1**/8,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.99**	**184**	P	**P**	**20 56 18.7**	**+0.6**
	0.7nm,0.3s,baz=45,slow=6.1,SNR=3.8						
WRAB	**Tennant Creek**	**21.98**	**161**	*e*P	**P**	**20 56 50.3**	**+0.9**
	14nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**21.99**	**161**	P	**P**	**20 56 50.2**	**+0.8**
	3.4nm,0.4s,mb4.1,baz=337,slow=11,SNR=43						
MBWA	**Marble Bar**	**23.11**	**198**	*e*P	**P**	**20 56 59.5**	**-1.1**
	12nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**35.47**	**158**	P	**P**	**20 58 50.1**	**-1.9**
	1.2nm,0.7s,mb3.9,baz=346,slow=9.2,SNR=4.3						
STKA	**Stephens Creek**	**35.47**	**158**	*e*P	**P**	**20 58 50.0**	**-2.0**
STKA				P		20 58 50.1	
MJAR	**Matsushiro Arr**	**36.89**	**15**	P	**P**	**20 59 03.5**	**-0.5**
	0.9nm,0.4s,mb4.0,baz=174,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**59.98**	**326**	P	**P**	**21 02 02.1**	**0.0**
	1.3nm,0.4s,mb4.3,baz=117,slow=8.0,SNR=18						
BVAR	**Borovoye Array**	**69.78**	**327**	P	**P**	**21 03 05.4**	**0.0**
	0.6nm,0.6s,mb3.7,baz=135,slow=8.2,SNR=5.5						
ARCES	**ARCESS Array B**	**93.12**	**340**	P	**P**	**21 05 08.9**	**+0.9**
	1.3nm,1.0s,mb4.3,baz=74,slow=6.6,SNR=3.7						

*IDC **27** 21:03:47.0±17.0,43.51N×148.59E,mb3.8/6,mb1 3.8/7, mb1mx3.6/22,mbtmp3.8/7,ML3.1/1,Error ellipse: s-maj=382.3km s-min=43.4km az=159.0*
*JMA **27** 21:03:49.7±0.5,43.33N×148.11E,h26km,M3.4*
ISC 27 21:03:50.9±1.6,**43.1N**±0.1×**148.1E**±0.1,**h43**km±13km,**n19,** σ0**96**/26,**mb3.8**/6,**East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.75**	**278**	P	**P**	**21 04 19.1**	**-0.2**
NEM2				*e*S	**S**	**21 04 40.4**	**-0.1**
JRA	**Rausu**	**2.32**	**291**	P	**P**	**21 04 26.3**	**-1.1**
JAK	**Akkeshi**	**2.51**	**268**	P	**P**	**21 04 30.1**	**-0.1**
JAK				*e*S	**S**	**21 04 59.8**	**0.0**
JTKR	**Abashiri--Toko**	**3.17**	**287**	P	**P**	**21 04 39.5**	**-0.1**
JAR	**Ashorobuto**	**3.18**	**274**	P	**P**	**21 04 39.9**	**+0.2**
JAR				*e*S	**S**	**21 05 15.9**	**-0.9**
JCH	**Churui**	**3.54**	**263**	P	**P**	**21 04 45.3**	**+0.6**
JCH				*e*S	**S**	**21 05 26.3**	**+0.5**
JFR	**Furan**	**4.04**	**272**	P	**P**	**21 04 52.8**	**+0.9**
JNBK	**Urakawa-nobuka**	**4.05**	**260**	P	**P**	**21 04 52.4**	**+0.5**
JNBK				*e*S	**S**	**21 05 39.9**	**+1.2**
ASAJ	**Asahikawa**	**4.13**	**286**	Pn	**P**	**21 04 54.4**	**+1.3**
	0.9nm,0.3s,baz=146,slow=4.5,SNR=4.8						
JKB	**Kayabe**	**5.39**	**259**	P	**P**	**21 05 10.6**	**-0.1**
JKB				*e*S	**S**	**21 06 10.0**	**-2.3**
JOT	**Ohata**	**5.53**	**254**	P	**P**	**21 05 12.6**	**-0.2**
JANG	**Nango**	**5.66**	**243**	P	**P**	**21 05 13.6**	**-1.0**
JANG				*e*S	**S**	**21 06 14.3**	**-4.9**
SONM	**Songino Array**	**29.36**	**294**	P	**P**	**21 09 53.5**	**+1.8**
	1.0nm,0.7s,mb3.7,baz=83,slow=10.0,SNR=4.0						
MKAR	**Makanchi Array**	**45.49**	**298**	P	**P**	**21 12 08.2**	**+0.8**
	0.8nm,0.5s,mb3.8,baz=79,slow=8.7,SNR=9.4						
BVAR	**Borovoye Array**	**50.44**	**310**	P	**P**	**21 12 46.9**	**+1.1**
	0.3nm,0.3s,mb3.6,baz=45,slow=10,SNR=3.6						
ARCES	**ARCESS Array B**	**60.06**	**340**	P	**P**	**21 13 53.3**	**-2.0**
	0.7nm,0.7s,mb3.8,baz=45,slow=6.9,SNR=5.8						
FINES	**FINESS Array B**	**65.74**	**333**	P	**P**	**21 14 31.9**	**-0.8**
	1.1nm,0.8s,mb3.9,baz=45,slow=5.4,SNR=5.7						
NB2	**NORSAR Subarra**	**70.42**	**339**	P	**P**	**21 15 01.3**	**-0.6**
	0.5nm,0.6s,mb3.6,baz=31,slow=5.8						
NOA	**NORSAR Array B**	**70.42**	**339**	P	**P**	**21 15 01.6**	**-0.3**
	1.0nm,0.7s,mb3.9,baz=31,slow=6.3,SNR=4.3						

WEL 27 21:34:13.0±0.4,**38.73S**×**175.49E,h215**km±3km,**ML3.6**/10, **2C,Error ellipse: s-maj=7.1km s-min=5.3km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNZ	**Chateau**	**0.47**	**174**	PN	P	21 34 41.8	-0.2
TUVZ	**Tukino**	**0.55**	**167**	PN	P	21 34 42.5	+0.2
WNVZ	**Wahianoa**	**0.60**	**172**	PN	P	21 34 42.4	-0.1
WNVZ				SN	S	21 35 04.9	-0.5
MTVZ	**Mangateitei**	**0.66**	**181**	⇑PN	P	21 34 42.3	-0.4
MTVZ				SN	S	21 35 05.2	-0.6
MOVZ	**Moawhango**	**0.71**	**163**	⇑PN	P	21 34 42.5	-0.4
MOVZ				SN	S	21 35 04.9	-1.3
BKZ	**Black Stump Fm**	**0.90**	**119**	PN	P	21 34 44.4	+0.5
WAZ	**Wanganui**	**1.10**	**201**	PN	P	21 34 44.1	-1.0
URZ	**Urewera**	**1.36**	**70**	PN	P	21 34 46.8	-0.4
URZ				SN	S	21 35 13.2	-0.4
TSZ	**Takapari Road**	**1.38**	**165**	PN	P	21 34 46.9	-0.4
TSZ				SN	S	21 35 13.5	-0.5
MRZ	**Mangatainoka R**	**1.93**	**178**	PN	P	21 34 50.6	-1.7
MRZ				SN	S	21 35 20.0	-2.6
KIW	**Kapiti Island**	**2.17**	**192**	PN	P	21 34 52.1	-2.7
CAW	**Cannon Point**	**2.40**	**188**	PN	P	21 34 54.3	-2.8
DUWZ	**D'Urville Isla**	**2.40**	**210**	PN	P	21 34 53.4	-3.8
MTW	**Mount Morrison**	**2.43**	**180**	PN	P	21 34 54.7	-2.8
MRW	**Makara Radio**	**2.57**	**193**	PN	P	21 34 55.6	-3.4
TCW	**Tory Channel**	**2.65**	**200**	PN	P	21 34 56.3	-3.6
TUWZ	**Tuamarina**	**2.95**	**203**	PN	P	21 34 59.4	-3.8
NNZ	**Nelson**	**2.97**	**212**	PN	P	21 34 58.8	-4.7

*MAN **27** 21:35:40.2, 12.00N×126.13E,h1km,mb4.5,ML3.4,MS3.3*
*IDC **27** 21:35:43.1±1.4, 11.78N×125.65E,mb4.1/10,mb1 4.2/10, mb1mx4.0/20,mbtmp4.1/10,Error ellipse: s-maj=115.3km s-min=17.1km az=69.0*
ISC 27 21:35:41.2±1.8,**11.97N**±0.04×**126.02E**±0.06,**h1**km±11km, **n29,σ0᷊84/34,mb4.2**/10,**2C,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.68**	**237**	*e*P	**Pg**	**21 35 55.4**	**+0.7**
BESP				*e*S	**Sg**	**21 36 02.5**	**-1.3**
PLP	**Palo**	**1.30**	**232**	*i* P	**Pb**	**21 36 05.2**	**-0.9**
PLP				*i* S	**Sb**	**21 36 18.4**	**-4.7**
CNP	**Catarman**	**1.43**	**292**	*e*P	**Pn**	**21 36 08.7**	**+0.4**
CNP				*e*S	**Sb**	**21 36 26.6**	**-0.4**
MSLP	**Maasin**	**2.15**	**212**	*e*P	**Pn**	**21 36 20.0**	**+1.3**
MSLP				*e*S	**Sn**	**21 36 46.8**	**+0.4**
SCPH	**Surigao**	**2.24**	**193**	⇑*e*P	**Pn**	**21 36 20.2**	**+0.3**
PVCP	**Virac**	**2.43**	**312**	*e*P	**Pn**	**21 36 22.8**	**+0.1**
PVCP				*e*S	**Sn**	**21 37 03.6**	**+10**
LLP	**Lapu-Lapu**	**2.60**	**231**	*e*P	**Pn**	**21 36 26.3**	**+1.2**
BUTP	**Butuan**	**3.01**	**187**	*e*P	**Pn**	**21 36 30.8**	**-0.2**
RCP	**Roxas**	**3.23**	**263**	⇑*e*P	**Pn**	**21 36 35.1**	**+1.0**
GUIM	**Jordan**	**3.62**	**249**	*e*P	**Pn**	**21 36 38.9**	**-0.7**
OTRP	**Odiongan**	**3.93**	**276**	*e*P	**Pn**	**21 36 45.0**	**+1.0**
BUKP	**Musuan**	**4.17**	**193**	*e*P	**Pn**	**21 36 49.7**	**+2.2**
PAGZ	**Pagadian**	**4.85**	**213**	*e*P	**Pn**	**21 36 57.0**	**-0.1**
MATI	**Mati**	**5.00**	**177**	*e*P	**Sb**	**21 38 10.3**	**-0.3**
IPIL	**Ipil**	**5.37**	**220**	*e*P	**Pn**	**21 37 03.5**	**-0.9**
BUSP	**Coron**	**5.69**	**271**	*e*P	**Pn**	**21 37 09.6**	**+0.6**
BALP	**Baler**	**5.71**	**311**	*e*P	**Pn**	**21 37 08.7**	**-0.6**
CAUP	**Cauayan**	**6.40**	**321**	*e*P	**Pn**	**21 37 18.8**	**-0.2**
APYP	**Conner**	**7.46**	**322**	*e*P	**Pn**	**21 37 33.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**29.89**	**181**	P	**P**	**21 41 51.0**	**-1.9**
	3.1nm,0.7s,mb4.2,baz=8.1,slow=7.1,SNR=3.7						
WRA	**Warramunga Arr**	**32.75**	**165**	P	**P**	**21 42 17.0**	**-1.0**
	0.6nm,1.0s,mb3.5,baz=343,slow=9.4,SNR=4.4						
STKA	**Stephens Creek**	**46.08**	**162**	P	**P**	**21 44 08.5**	**-0.3**
	2.4nm,0.7s,mb4.3,baz=350,slow=8.4,SNR=4.6						
MKAR	**Makanchi Array**

comp=Z,52nm,4.0s
LZH LR LR
comp=E,485nm,15.2s
LZH LR LR
comp=Z,659nm,16.2s,MS4.4
LZH Lanzhou 31.65 286 *eP* **P 21 45 05.7 +0.2**
LZH *SP sP 21 45 16.1 -2.4
LZH pmax pmax
comp=Z,17nm,1.5s,mb4.7
LZH MLR MLR
comp=Z,660nm,16.2s,MS4.4
LZH Lanzhou 31.65 286 *eP* **P 21 45 05.7 +0.2**
comp=Z,17nm,1.5s,mb4.7
LZH pP pP 21 45 13.0 -1.5
LZH sP sP 21 45 16.1 -2.4
LZH LR LR
comp=Z,660nm,16.2s,MS4.4
ZAK Zakamensk 33.20 312 *eP* **P 21 45 17.9 -0.9**
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb3.9
WMQ Urumqi 43.27 300 P **P 21 46 44.5 +1.4**
ZAL Zalesovo 44.98 315 P **P 21 46 57.0 +0.2**
comp=Z,0.6nm,0.5s,mb3.7,baz=14,slow=8.2,SNR=3.7
NVS Novosibirsk 45.94 316 *eP* **P 21 47 03.5 -0.8**
NVS *eS* **S 21 54 04.1 +18**
NVS pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
NVS smax
comp=N,12nm,1.8s
MKAR Makanchi Array 46.77 305 P **P 21 47 11.2 +0.2**
comp=N,2.4nm,0.7s,mb4.2,baz=84,slow=9.7,SNR=7.2
MKAR LR LR 22 07 41.1
comp=N,62nm,19.6s,MS3.6,baz=91,slow=37
MKAR Makanchi Array 46.77 305 P **P 21 47 11.2 +0.2**
MKAR LR LR 22 07 41.1
ILAR Eielson Array 52.10 31 P **P 21 47 51.0 -0.9**
comp=N,0.9nm,0.6s,mb3.9,baz=267,slow=6.1,SNR=6.7
BVAR Borovoye Array 53.62 314 P **P 21 48 03.4 +0.2**
comp=N,0.8nm,0.8s,mb3.7,baz=101,slow=7.6,SNR=5.9
WRA Warramunga Arr 53.66 189 P **P 21 48 01.4 -2.6**
comp=N,0.9nm,0.4s,mb4.0,baz=7.0,slow=7.6,SNR=18
BRVK Borovoye 53.67 315 *eP* **P 21 48 03.6 0.0**
FITZ Fitzroy Crossi 53.71 200 P **P 21 48 02.9 -1.5**
comp=N,3.7nm,0.7s,mb4.5,baz=357,slow=8.2,SNR=7.0
ARU Arti 59.60 320 *eP* **P 21 48 44.7 -1.1**
STKA Stephens Creek 64.99 181 P **P 21 49 22.4 +0.2**
comp=N,2.3nm,0.9s,mb4.2,baz=331,slow=10,SNR=3.3
YKA Yellowknife Ar 66.50 30 P **P 21 49 31.3 +0.1**
comp=N,1.4nm,0.8s,mb4.1,baz=291,slow=6.0,SNR=4.7
YKA Yellowknife Ar 66.50 30 P **P 21 49 31.3 +0.1**
ARCES ARCESS Array B 67.62 340 P **P 21 49 39.1 +0.8**
comp=N,1.4nm,1.0s,mb4.0,baz=80,slow=7.4,SNR=3.9
OBN Obninsk 71.45 324|| *eP* **P 21 50 03.0 +1.0**
OBN pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
KAF Kangasniemi 71.86 334 *ep* **P 21 50 03.6 -0.7**
comp=Z,1.8nm,0.5s,mb4.3
KAF Kangasniemi 71.86 334 *eP* **P 21 50 03.6 -0.7**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
FINES FINESS Array B 72.36 333 P **P 21 50 07.5 +0.3**
comp=Z,2.2nm,1.0s,mb4.0,baz=72,slow=6.0,SNR=5.7
NVAR Mina Array Bea 76.48 53 P **P 21 50 32.2 +0.8**
comp=Z,0.3nm,0.4s,mb3.5,baz=279,slow=4.3,SNR=4.6
AKASG Malin Array Be 77.63 323 P **P 21 50 38.5 +1.0**
comp=Z,0.4nm,0.4s,mb3.7,baz=40,slow=5.5,SNR=10
NB2 NORSAR Subarra 77.80 338 P **P 21 50 38.4 +0.2**
comp=Z,0.5nm,0.5s,mb3.7,baz=40,slow=5.6
NB2 NORSAR Subarra 77.80 338 P **P 21 50 38.4 +0.2**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
NOA NORSAR Array B 77.80 338 P **P 21 50 38.5 +0.3**
comp=Z,0.9nm,0.6s,mb3.9,baz=38,slow=5.7,SNR=4.2
CLL Collm 84.60 331 *eP* **P 21 51 15.0 +0.9**
CLL *eSP pP 21 51 26.0 +2.0
CLL pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
CLL Collm 84.60 331 *eP* **P 21 51 15.0 +0.9**
comp=Z,9.0nm,1.2s,mb4.8
CLL *epP pP 21 51 26.0 +2.0
CLL Collm 84.60 331 P **P 21 51 15.0 +0.9**
comp=Z,logA/T=0.9,mb4.8
CLL *eSP sP 21 51 26.0 -1.2
GERES GERESS Array B 86.18 329 P **P 21 51 22.8 +0.7**
comp=Z,0.2nm,0.4s,mb3.7,baz=63,slow=6.0,SNR=4.2
TXAR Lajitas Array 91.64 53 P **P 21 51 49.3 +0.9**
comp=Z,0.5nm,0.5s,mb4.1,baz=350,slow=2.1,SNR=3.8
SAML Samuel 146.07 50 *e*PKPbc PKPbc 21 58 21.5 +1.1
LPAZ La Paz 147.61 66 PKPbc PKPdf 21 58 27.6 +0.5
comp=Z,0.8nm,0.5s,baz=11,slow=5.3,SNR=3.9

MAN 27 21:40:20.7, 11.90N×125.78E, h21km, mb4.2, ML3.0, MS2.7, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.07**	**227**	*i* P	Pb	21 40 39.9	-0.5
PLP				*i* S	Sb	21 40 54.9	+1.0
CNP	**Catarman**	**1.25**	**299**	*e*P	Pn	21 40 43.4	+0.2
CNP				*e*S	Sb	21 41 01.3	+2.1
MSLP	**Maasin**	**1.97**	**207**	*e*P	Pn	21 41 24.7	+31
SCPH	**Surigao**	**2.12**	**188**|| *e*P	Pn	21 40 55.5	-0.1
PVCP	**Virac**	**2.32**	**317**	*e*P	Pn	21 40 57.8	-0.7
PVCP				*e*S	Sn	21 41 41.0	+14
BUTP	**Butuan**	**2.91**	**183**	*e*P	Pn	21 41 14.7	+7.8

IDC 27 22:04:25.0±2.2, 3.29N×93.85E, mb3.6/2, mb1 3.9/2, mb1mx3.5/17, mbtmp3.6/2, Error ellipse: s-maj=114.0km s-min=31.2km az=50.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**44.48**	**349**	P	P	22 12 38.2	-1.7
	16nm,0.5s,baz=174,slow=9.1,SNR=49						
WRA	**Warramunga Arr**	**45.97**	**122**	P	P	22 12 50.2	-1.8
	0.7nm,0.7s,baz=302,slow=8.7,SNR=4.8						
GERES	**GERESS Array B**	**81.05**	**319**	P	P	22 16 41.9	-1.5
	0.1nm,0.3s,baz=80,slow=6.0,SNR=4.3						

*MOS **27** 22:05:26.7±1.0, 7.58N×94.88E, h265km, mb4.3/13, Error ellipse: s-maj=14.4km s-min=7.2km az=112.7*
*NEIC **27** 22:05:27.0±1.2, 7.60N×94.91E, h252km±13km, mb4.4/11, Error ellipse: s-maj=11.6km s-min=6.0km az=51.0*
*BJI **27** 22:05:26.9, 7.60N×94.90E, h252km, mB4.8, mb4.6*
*IDC **27** 22:05:26.4±1.7, 7.62N×94.96E, h247km±15km, mb4.0/21, mb1 4.1/21, mb1mx4.0/25, mbtmp4.6/21, Error ellipse: s-maj=12.3km s-min=8.4km az=61.0*
ISC 27 22:05:26.1±0.8, 7.54N±0.04×94.87E±0.05, h258km±7km, h237km±3.4km:pP-P, n120, σ1§04/118, mb4.2/47, 9C-9B, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNG	**Songkhla**	**5.72**	**93**	P	P	**22 06 51.0**	**-0.5**
	100nm,1.0s						
KULM	**Kulim**	**6.17**	**111**	*e*P	P	**22 06 56.3**	**-0.9**
IPM	**Ipoh**	**6.80**	**115**	P	P	**22 07 04.7**	**-0.2**
NNT	**Nongplab**	**6.94**	**43**	P	P	**22 07 07.0**	**+0.2**
NST	**Nakhon Sawan**	**9.58**	**32**	P	P	**22 07 39.8**	**-0.5**
KGM	**Kluang**	**10.05**	**123**	P	P	**22 07 46.7**	**+0.5**
BDT	**Bhumibol Dam**	**10.45**	**22**	P	P	**22 07 44.5**	**-6.7**
KKTK	**Khon Kaen**	**11.70**	**41**	P	P	**22 08 07.0**	**+0.1**
	617nm,0.5s						
NANT	**Nan**	**12.54**	**26**	||P	P	**22 08 20.0**	**+2.7**
	61nm,1.0s						
MDRS	**Chennai**	**15.39**	**292**	*e*	P	**22 09 02.1**	**+10**
KSM	**Kuching**	**16.53**	**111**	*e*P	P	**22 09 04.9**	**-0.1**
IMP	**Imphal**	**17.17**	**357**	*e*P	P	**22 09 10.0**	**-1.8**
IMP				*i*		22 09 25.0	
SHL	**Shillong**	**18.15**	**351**	*e*P	P	**22 09 19.0**	**-3.0**
QIZ	**Qiongzhong**	**18.50**	**50**	P	P	**22 09 27.0**	**+1.5**
HYB	**Hyderabad**	**18.69**	**303**⇑	*e*P	P	**22 09 27.5**	**0.0**
HYB				pmax	pmax		
	comp=E,80nm,1.0s						
HYB	**Hyderabad**	**18.69**	**303**⇑	*i* P	P	**22 09 27.5**	**0.0**
	comp=E,80nm,1.0s						
HYB				*e*		22 09 44.0	
HYB				*e*S	S	22 13 11.0	+29
BLSP	**Bilaspur**	**19.00**	**321**	*e*P	P	**22 09 29.6**	**-1.0**
BLSP				AMb	AMB	22 09 35.5	
	comp=Z,114nm,0.7s						
BLSP				*e*		22 13 03.8	
KMI	**Kunming**	**19.03**	**22**	⇑P	P	**22 09 33.0**	**+2.1**
KMI				AMB	AMB		
	comp=Z,15nm,1.3s						
GYA	**Guiyang**	**21.90**	**29**⇑	*i* P	P	**22 10 01.8**	**+2.6**
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.7						
LSA	**Lhasa**	**22.32**	**351**	P	P	**22 10 04.5**	**+1.3**
LSA	**Lhasa**	**22.32**	**351**	*e*P	P	**22 10 03.9**	**+0.7**
LSA				pmax	pmax		
	comp=Z,40nm,0.5s,mb5.0						
LSA	**Lhasa**	**22.32**	**351**	*e*P	P	**22 10 03.9**	**+0.7**
	comp=Z,40nm,0.5s,mb5.0						
KAD	**Karad**	**22.38**	**298**	*e*P	P	**22 10 05.5**	**+1.6**
BHPL	**Bhopal**	**22.90**	**315**	*e*P	P	**22 10 09.2**	**+0.3**
BHPL				AMb	AMB	22 10 13.1	
	comp=Z,40nm,1.0s,mb4.7						
BHPL				*e*		22 14 24.4	
TSM	**Tawau**	**23.11**	**97**	P	P	**22 10 12.3**	**+1.3**
CD2	**Chengdu**	**24.69**	**19**	P	P	**22 10 26.0**	**+0.5**
LGTI	**Lohaghat**	**25.77**	**330**	*e*P	P	**22 10 34.5**	**-0.9**
PTH	**Pithoragarh**	**25.87**	**330**	*e*P	P	**22 10 35.8**	**-0.5**
PTH				*e*	pP	22 11 20.1	-5.3
ENH	**Enshi**	**26.45**	**29**	*e*P	P	**22 10 41.4**	**-0.1**
DDI	**Dehra Dun**	**27.60**	**327**	*e*P	P	**22 10 49.8**	**-2.3**
XAN	**Xi'an**	**29.39**	**24**	P	P	**22 11 07.0**	**-0.8**
XAN				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.5						
THN	**Thein Dam**	**30.50**	**327**	*e*P	P	**22 11 15.4**	**-2.2**
GTA	**Gaotai**	**32.04**	**7**	⇑P	P	**22 11 31.0**	**+0.2**
GTA				PP	PP	22 12 43.3	-4.9
GTA				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.4						
NJ2	**Nanjing**	**33.06**	**39**	*e*P	P	**22 11 40.0**	**+0.3**
NJ2				XP	sP	22 13 04.0	+2.8
NJ2				S	**S**	**22 16 38.0**	**-0.6**
NJ2				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,460nm,4.2s						
NJ2				LR	LR		
	comp=N,20nm,16.0s						
NJ2				LR	LR		
	comp=E,40nm,14.0s						
NJ2				LR	LR		
	comp=Z,90nm,18.0s						
ULHL	**Ulahol**	**38.28**	**337**	P	P	**22 12 24.0**	**+0.6**
	SNR=5.9						
KZA	**Kyzart**	**38.52**	**336**	P	P	**22 12 26.4**	**+1.0**
	SNR=5.5						
UCH	**Uchtor**	**38.95**	**336**	P	P	**22 12 30.2**	**+1.3**
	SNR=5.9						
TKM2	**Tokmak 2**	**39.10**	**337**	P	P	**22 12 30.7**	**+0.5**
	SNR=25						
KBK	**Kagaybulak**	**39.13**	**337**	P	P	**22 12 31.7**	**+1.3**
	SNR=50						
AML	**Almayashu**	**39.20**	**335**	P	P	**22 12 32.2**	**+1.2**
	SNR=42						
AAK	**Ala-Archa**	**39.29**	**336**	P	P	**22 12 33.8**	**+2.0**
	SNR=15						
AAK	**Ala-Archa**	**39.29**	**336***c*	*i* P	P	**22 12 31.7**	**0.0**
AAK				pmax	pmax		
	comp=Z,36nm,1.0s,mb4.8						
AAK	**Ala-Archa**	**39.29**	**336**	*e*P	P	**22 12 31.4**	**-0.4**
	comp=Z,27nm,0.8s,mb4.7						
FRU	**Bishkek**	**39.41**	**336**||	*i* P	P	**22 12 33.8**	**+1.1**
CHMS	**Chumysh**	**39.50**	**337**	P	P	**22 12 33.9**	**+0.5**
	SNR=13						
FITZ	**Fitzroy Crossi**	**39.65**	**130**	*e*P	P	**22 12 33.7**	**-1.2**
	comp=Z,6.0nm,0.9s,mb3.9						
FITZ	**Fitzroy Crossi**	**39.65**	**130**	P	P	**22 12 33.6**	**-1.3**
	comp=Z,3.4nm,0.2s,mb4.2,baz=129,slow=1.7,SNR=31						
FITZ				ScP		22 18 00.4	
	comp=Z,3.1nm,0.5s,baz=337,slow=6.3,SNR=8.7						
USP	**Ospenovka**	**39.82**	**337**	P	P	**22 12 36.6**	**+0.5**
	SNR=42						
MKAR	**Makanchi Array**	**40.57**	**347**	*i* P	P	**22 12 42.1**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**40.57**	**347**	P	P	**22 12 41.6**	**-0.6**
	comp=Z,12nm,0.3s,mb4.5,baz=158,slow=9.1,SNR=101						
MKAR	**Makanchi Array**	**40.57**	**347**	P	P	**22 12 41.6**	**-0.6**
SONM	**Songino Array**	**41.33**	**12**	P	P	**22 12 48.1**	**-0.3**
	comp=Z,12nm,0.8s,mb4.2,baz=193,slow=8.8,SNR=58						
SONM				ScP		22 18 08.1	
	comp=Z,0.7nm,0.7s,baz=207,slow=2.8,SNR=5.2						
KKAR	**Karatay Array**	**41.38**	**333**	*i* P	P	**22 12 48.4**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.7						
ZAK	**Zakamensk**	**43.27**	**8**	*e*P	P	**22 13 03.2**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.4						
MUN	**Mundaring**	**44.27**	**154**	*e*P	P	**22 13 13.2**	**+1.0**
	comp=Z,18nm,0.8s,mb4.3						
MUN	**Mundaring**	**44.27**	**154**	*e*P	P	**22 13 13.2**	**+1.0**
MUN				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.3						
TLY	**Talaya**	**44.59**	**8**	*i* P	P	**22 13 15.1**	**+0.6**
TLY				pmax	pmax		
	comp=Z,11nm,1.7s,mb3.8						
KLBR	**Kellerberrin**	**44.65**	**152**	*e*P	P	**22 13 15.6**	**+0.4**
	comp=Z,28nm,1.0s,mb4.5						
NWAO	**Narrogin (SRO)**	**45.53**	**153**	P	P	**22 13 22.4**	**+0.3**
	comp=Z,14nm,0.7s,mb4.4,baz=144,slow=23,SNR=13						
CIT	**Chita**	**46.93**	**16**	*e*P	P	**22 13 33.5**	**+0.7**
ZAL	**Zalesovo**	**46.97**	**352**	P	P	**22 13 32.8**	**-0.3**
	comp=Z,21nm,0.3s,mb4.9,baz=313,slow=4.8						
ZAL				S	**S**	**22 20 04.8**	**+1.1**
WRA	**Warramunga Arr**	**47.49**	**126**	P	P	**22 13 35.8**	**-1.7**
	comp=Z,3.9nm,0.3s,mb4.2,baz=300,slow=9.9,SNR=108						
WRA				pP	pP	22 14 26.6	-6.0
	comp=Z,3.3nm,0.7s,baz=304,slow=9.1,SNR=4.2						
WRA				ScP		22 18 33.0	
	comp=Z,0.4nm,0.5s,baz=316,slow=3.7,SNR=6.5						
WRAB	**Tennant Creek**	**47.49**	**126**	*e*P	P	**22 13 36.3**	**-1.2**
WRAB				*e**PP	pP	22 14 29.1	-3.5
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**47.49**	**126**	*e*P	P	**22 13 36.3**	**-1.3**
	comp=Z,8.3nm,0.6s,mb4.2						
WRAB				*e*pP	pP	22 14 29.1	-3.5
WB2	**Warramunga Arr**	**47.50**	**126**	*e*P	P	**22 13 36.9**	**-0.7**
NVS	**Novosibirsk**	**48.08**	**351**⇑	*i* P	P	**22 13 40.5**	**-1.1**
NVS				*e*S	**S**	**22 20 18.9**	**-0.3**
NVS				*i* PS	**S**	**22 20 35.0**	**+16**
NVS				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.3						
NVS				pmax	pmax		
	comp=N,8.0nm,0.8s						
NVS				smax			
	comp=E,19nm,1.1s						
VOSK	**Vostochnaya**	**49.09**	**341**	P	P	**22 13 48.7**	**-0.6**
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.1						
BVAO	**Borovoye Array**	**49.53**	**341**	*i* P	P	**22 13 52.0**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.1						
BRVK	**Borovoye**	**49.59**	**341**	*e*P	P	**22 13 52.5**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.0						
BRVK	**Borovoye**	**49.59**	**341**	*e*P	P	**22 13 52.5**	**-0.6**
	comp=Z,7.9nm,0.9s,mb4.0						
BRVK				pP	pP	22 14 43.6	-5.2
AB31	**Akbulak array**	**50.86**	**331**	P	P	**22 14 02.7**	**+0.1**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb3.9						
ATD	**Arta Tunnel**	**51.40**	**279**	P	P	**22 14 08.3**	**+1.3**
	comp=Z,4.1nm,0.7s,mb3.9,baz=272,slow=17,SNR=4.4						
ATD	**Arta Tunnel**	**51.40**	**279**	P	P	**22 14 08.3**	**+1.3**
BOD	**Bodaibo**	**52.31**	**13**	*e*P	P	**22 14 12.7**	**-0.5**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.0						
OPO	**Ambohidratompo**	**53.70**	**240**	P	P	**22 14 25.4**	**+1.5**
	comp=Z,5.4nm,0.4s,mb4.2,baz=60,slow=5.7,SNR=52						
PMG	**Port Moresby**	**54.75**	**107**	P	P	**22 14 32.3**	**+0.8**
	comp=Z,24nm,0.7s,mb4.7,baz=234,slow=7.2,SNR=5.6						
GNI	**Garni**	**55.18**	**314**	*i* P	P	**22 14 32.3**	**-1.9**
GNI				pmax	pmax		
	comp=Z,8.0nm,1.7s						
ARU	**Arti**	**56.47**	**337**||	*i* P	P	**22 14 42.4**	**-0.8**
ARU				*e*	pP	22 15 36.1	-4.4
ARU				*e*S	S	22 22 33.1	+21
ARU				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.2						
ARU	**Arti**	**56.47**	**337**	*e*P	P	**22 14 42.3**	**-0.9**
	comp=Z,8.0nm,0.8s,mb4.2						
YSS	**Yuzh-Sakhalins**	**56.60**	**37**	*i* P	P	**22 14 43.1**	**-1.1**
YSS				pmax	pmax		
	comp=Z,79nm,2.5s,mb4.7						
KMBO	**Kilima Mbogo**	**58.10**	**264**	*i* P	P	**22 14 56.9**	**+1.7**
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KMBO	**Kilima Mbogo**	**58.10**	**264**	P	P	**22 14 55.9**	**+0.7**
	comp=Z,5.2nm,0.9s,mb4.0,baz=58,slow=10.0,SNR=13						
STKA	**Stephens Creek**	**59.36**	**134**	P	P	**22 15 02.9**	**-0.8**
	comp=Z,1.2nm,0.4s,mb3.7,baz=241,slow=4.7,SNR=5.2						
YAK	**Yakutsk**	**60.08**	**18**	*i* P	P	**22 15 07.3**	**-0.8**
YAK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.4						
BR131	**Keskin Array S**	**63.19**	**311**	P	P	**22 15 27.6**	**-1.4**
BRTR	**Keskin Array B**	**63.19**	**311**	P	P	**22 15 27.0**	**-1.9**
	comp=Z,1.7nm,0.6s,mb3.8,baz=122,slow=7.6,SNR=8.9						
OBN	**Obninsk**	**66.04**	**328**||	*eP*	P	**22 15 45.0**	**-2.0**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.3						
TIXI	**Tiksi**	**67.42**	**11**	*i* P	P	**22 15 54.9**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
TIRR	**Tirgusor**	**68.00**	**315**	⇑P	P	**22 15 58.7**	**-0.7**
CFR	**Carcaliu**	**68.33**	**316**	||P	P	**22 16 01.2**	**-0.3**
AKASG	**Malin Array Be**	**68.86**	**322**	P	P	**22 16 02.9**	**-1.7**
	comp=Z,1.9nm,0.5s,mb4.1,baz=88,slow=5.0,SNR=11						
SEY	**Seymchan**	**68.93**	**24**	*i* P	P	**22 16 05.6**	**+0.8**
IDI	**Anoyia**	**69.34**	**305**	P	P	**22 16 07.8**	**0.0**
	comp=Z,11nm,1.0s,mb4.5,baz=49,slow=7.0,SNR=3.6						
VRI	**Vrincioaia**	**69.44**	**316**	||P	P	**22 16 08.3**	**+0.1**
LSZ	**Lusaka**	**69.84**	**251**	P	P	**22 16 10.0**	**-1.1**
LSZ				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
LSZ	**Lusaka**	**69.84**	**251**	P	P	**22 16 10.0**	**-1.1**
	comp=Z,8.6nm,0.8s,mb4.5						
MLR	**Muntele Rosu**	**69.91**	**316**	||P	P	**22 16 11.4**	**+0.3**
BURAR	**Bucovina Array**	**70.77**	**318**	||P	P	**22 16 17.4**	**+1.2**
BURAR	**Bucovina Array**	**70.77**	**318**	||P	P	**22 16 17.4**	**+1.2**
DRGR		**72.33**	**317**	⇑P	P	**22 16 25.8**	**+0.2**
FINES	**FINESS Array B**	**73.34**	**332**	P	P	**22 16 30.4**	**-0.8**
	comp=Z,1.9nm,0.6s,mb3.8,baz=103,slow=6.0,SNR=11						
KAF	**Kangasniemi**	**73.41**	**333**	*ep*	P	**22 16 30.1**	**-1.5**
	comp=Z,3.2nm,1.0s,mb3.9						
KAF	**Kangasniemi**	**73.41**	**333**	*eP*	P	**22 16 30.1**	**-1.5**
KAF				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
OJC	**Ojcow**	**74.69**	**320**	*eP*	P	**22 16 39.3**	**+0.1**
ARCES	**ARCESS Array B**	**75.82**	**340**	P	P	**22 16 45.2**	**+0.1**
	comp=Z,1.1nm,0.5s,mb3.7,baz=87,slow=6.3,SNR=17						
ARCES	**ARCESS Array B**	**75.82**	**340**	P	P	**22 16 45.2**	**0.0**
BOSA	**Boshof**	**76.02**	**238**	P	P	**22 16 47.5**	**+0.4**
	comp=Z,6.5nm,0.4s,mb4.6,baz=143,slow=4.6,SNR=28						
BILL	**Bilibino**	**76.13**	**22**	*i* P	P	**22 16 48.6**	**+1.7**
MAW	**Mawson**	**78.36**	**192**	P	P	**22 16 60.0**	**+0.8**
	comp=Z,3.1nm,0.6s,mb4.2,baz=36,slow=5.3,SNR=8.1						
GERES	**GERESS Array B**	**78.55**	**318**	P	P	**22 17 01.0**	**+0.5**
	comp=Z,0.4nm,0.5s,mb3.4,baz=135,slow=3.8,SNR=5.8						
MOR8	**Moi Rana**	**79.27**	**336**	*e*	P	**22 16 58.6**	**-5.4**
NOA	**NORSAR Array B**	**80.37**	**331**	P	P	**22 17 11.6**	**+1.7**
	comp=Z,0.2nm,0.6s,mb3.1,baz=114,slow=6.7,SNR=3.0						
DBIC	**Dimbokro**	**98.70**	**278**	P	P	**22 18 39.5**	**+1.2**
	comp=Z,4.7nm,1.1s,mb4.7,baz=108,slow=3.2,SNR=3.3						
DBIC	**Dimbokro**	**98.70**	**278**	P	P	**22 18 39.5**	**+1.2**
PLCA	**Paso Flores**	**144.48**	**199**	PKP	PKPdf	22 24 32.0	+0.1
	comp=Z,4.8nm,0.8s,baz=134,slow=1.7,SNR=15						
PLCA	**Paso Flores**	**144.48**	**199**	*e*PKPdf	PKPdf	22 24 33.3	+1.4
CPUP	**Villa Florida**	**147.63**	**231**	PKPbc	PKPdf	22 24 42.3	+4.6
	comp=Z,2.8nm,0.6s,baz=154,slow=4.2,SNR=10						
CPUP	**Villa Florida**	**147.63**	**231**	*e*PKPbc	PKPdf	22 24 42.0	+4.3
LPAZ	**La Paz**	**161.24**	**241**	PKP	PKPdf	22 24 59.4	+3.2
	comp=Z,0.5nm,0.5s,baz=337,slow=7.7,SNR=2.8						
LPAZ				PKPab	PKPab	22 25 44.2	+0.5
	comp=Z,0.4nm,0.6s,baz=184,slow=5.5,SNR=4.8						
LPAZ	**La Paz**	**161.24**	**241**	PKP	PKPdf	22 24 59.4	+3.2
LPAZ				PKPab	PKPab	22 25 44.2	+0.5

*THR **27** 22:21:23.8±0.4, 34.61N×53.33E, h14km±3km, ML2.9*
*CSEM **27** 22:21:25.2±0.1, 34.59N×53.26E, h20km, ML3.0, Error ellipse: s-maj=3.5km s-min=2.2km az=61.0*
*TEH **27** 22:21:26.3, 34.56N×53.10E, h10km, Mn3.0*
ISC 27 22:21:24.8±0.6, 34.63N±0.04×53.25E±0.07, h10km, n20, σ1§02/20, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAS	**Lasjerd**	**0.79**	**343**	Pg	**Pg**	**22 21 41.5**	**+0.8**
IANJ	**Anjiloo**	**1.00**	**33**	Pg	**Pg**	**22 21 44.2**	**-0.7**
IFIR	**Firoozkooh**	**1.09**	**338**	Pg	**Pg**	**22 21 45.9**	**-0.7**
IFIR	**Firoozkooh**	**1.09**	**338**	Lg		22 22 01.6	
ISHM	**Shahmirzad**	**1.18**	**2**	Pn	**Pn**	**22 21 47.7**	**+0.4**
IDMV	**Damavand**	**1.37**	**314**	Pn	**Pn**	**22 21 50.5**	**+0.4**
DAMV	**Damavand**	**1.45**	**314**	*e*Pg	**Pg**	**22 21 51.7**	**-2.1**
DAMV				*e*Sg	**Sg**	**22 22 12.1**	**-1.0**
DAMV				AML	AML	22 22 23.5	
	comp=N,91nm,0.7s						
NASN	**Na'in**	**1.86**	**191**	*e*Pg	**Pg**	**22 21 57.8**	**-4.1**
IZEF	**Zefreh**	**1.89**	**204**	Pn	**Pn**	**22 21 56.9**	**-0.5**
IKLH	**Kalahroud**	**1.90**	**227**	Pn	**Pn**	**22 21 56.9**	**-0.8**
THKV	**Tehran--Karaj**	**2.32**	**304**	*e*Pn	**Pn**	**22 22 04.9**	**+1.2**
IMHD	**Mahdasht**	**2.36**	**297**	Pn	**Pn**	**22 22 05.2**	**+1.0**
IGAR	**Garneh**	**2.53**	**201**	Pn	**Pn**	**22 22 04.5**	**-2.2**
ICHK	**Chekchek**	**2.57**	**157**	Pn	**Pn**	**22 22 07.7**	**+0.5**
ASAO	**Ashtian**	**2.66**	**269**	*e*Pn	**Pn**	**22 22 09.6**	**+1.1**
ASAO				AML	AML	22 22 49.4	
	comp=N,72nm,0.6s						
ISAD	**Sadr

TLL	**Tololo Astrono**	**2.81**	**259**⇑	*i*P		P		22 37 37.5	+0.8
TLL				*i* S		S		22 38 12.2	+0.7
TLL				AMP				22 38 16.3	
	comp=N,478nm,0.5s								
CMCH	**Combarbala**	**3.29**	**242**⇑	*i*P		P		22 37 42.6	-0.2
CMCH				*i* S		S		22 38 22.4	-0.1
CMCH				AMP				22 38 24.6	
	comp=N,1μm,0.9s								
ILCH	**Illapel**	**3.64**	**236**	*i* S		S		22 38 29.8	-0.8
JACH	**Jahuel**	**3.95**	**219**	*i* P		P		22 37 52.1	+0.7
JACH				*i* S		S		22 38 38.2	+0.3
FCH	**Farellones**	**4.32**	**211**⇑	*i*P		P		22 37 57.3	+1.1
FCH				*i* S		S		22 38 46.9	+0.4
ROCH	**El Roble**	**4.40**	**220**⇑	*i*P		P		22 37 57.8	+0.5
ROCH				*i* S		S		22 38 48.5	+0.1
RCDM	**Rinconada Maip**	**4.69**	**215**	*i* P		P		22 38 01.2	0.0
RCDM				*i* S		S		22 38 55.4	0.0
TACH	**Talagante**	**4.89**	**214**⇑	*i*P		P		22 38 03.5	-0.3
TACH				*i* S		S		22 38 59.5	-0.6
CHCH	**Chadas Angostu**	**4.99**	**210**	*i* P		P		22 38 05.4	+0.2
CHCH				*i* S		S		22 39 01.8	-0.6

WEL 27 22:51:00.8±0.9, 36.73S×178.18E, h33km, ML3.5/5, Error ellipse: s-maj=8.2km s-min=6.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**1.34**	**178**	PN	Pn	22 51 23.1	-0.5
PUZ				SN	Sn	22 51 39.5	-1.0
MWZ	**Matawai**	**1.69**	**198**	P*	Pb	22 51 28.2	-3.0
MWZ				S*	Sb	22 51 47.8	-4.3
URZ	**Urewera**	**1.75**	**209**	P*	Pb	22 51 28.7	-3.5
URZ				S*	Sb	22 51 49.0	-4.9
KNZ	**Kokohu**	**2.32**	**190**	PN	Pn	22 51 35.3	-2.4
MOVZ	**Moawhango**	**3.29**	**215**	P*	Pb	22 51 49.8	-8.6
WNVZ	**Wahianoa**	**3.30**	**217**	P*	Pb	22 51 50.8	-7.7
MQZ	**McQueen's Vall**	**8.15**	**210**	*e*SN	Sn	22 54 14.5	-17

CASC 27 22:52:25.4±0.9, 8.82N×82.83W, h17km±5km, MD3.5, ML2.7, MW3.7, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTCR	**Cotoan**	**0.10**	**40**⇑	*i*P	Pb	22 52 29.1	+0.1
CTCR				eS	Sb	22 52 32.5	+1.0
PICA	**Picada**	**1.53**	**322**⇓	*i*P	Pn	22 52 51.9	-0.3
OCM	**Ochomogo**	**1.55**	**314**	*e*S	Sn	22 53 13.8	+1.5
OCM				AML	AML	22 53 14.7	
	comp=N,99nm,0.3s						

MEX 27 22:53:10.4±1.2, 17.57N×94.33W, h202km±14km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.72**	**228**	*i* P	P	22 53 37.7	-1.3
CMIG				*i* S	S	22 53 57.9	-3.3
OXX	**Oaxaca**	**2.34**	**258**	*i* P	P	22 53 53.0	-0.1
CCIG	**Comitan**	**2.46**	**121**	*i* P	P	22 53 53.3	-1.1
CCIG				*i* S	S	22 54 25.9	-2.5
HUIG	**Huatulco**	**2.48**	**224**	*i* P	P	22 53 51.9	-2.8
HUIG				*i* S	S	22 54 27.1	-1.7
PLIG	**Platanillo**	**4.99**	**280**	*i* S	S	22 55 22.2	-1.4

THR 27 22:59:20.9±1.2, 34.57N×53.23E, h14km±11km, ML2.7
CSEM 27 22:59:20.6±0.3, 34.59N×53.34E, h20km, ML3.0, Error ellipse: s-maj=10.0km s-min=2.3km az=80.0
TEH 27 22:59:21.9, 34.59N×53.26E, h10km, Mn3.0
ISC 27 22:59:21.5±2.2, 34.64N±0.10×53.4E±0.3, h19km±25km, n10, σ0⁰64/13, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IFIR	**Firoozkooh**	**1.14**	**331**	Pg	**Pb**	**22 59 42.1**	**-0.3**
IFIR				Sg	**Sb**	**22 59 57.4**	**+0.6**
IDMV	**Damavand**	**1.48**	**310**	Pg	**Pn**	**22 59 46.9**	**-0.5**
DAMV	**Damavand**	**1.55**	**310**	*e*Pg	**Pn**	**22 59 47.9**	**-0.5**
DAMV				*e*Sg	**Sn**	**23 00 07.9**	**-0.2**
NASN	**Na'in**	**1.91**	**196**	*e*Pg	**Pn**	**22 59 53.9**	**+0.4**
NASN				*e*Sg	**Sn**	**23 00 18.2**	**+1.0**
NASN				AML	AML	23 00 27.5	
	comp=E,100nm,0.5s						
IZEF	**Zefreh**	**1.97**	**208**	Pn	**Pn**	**22 59 53.6**	**-0.8**
IKLH	**Kalahroud**	**2.03**	**230**	Pn	**Pn**	**22 59 54.1**	**-1.1**
THKV	**Tehran--Karaj**	**2.45**	**302**	*e*Pn	**Pn**	**23 00 01.8**	**+0.7**
IMHD	**Mahdasht**	**2.49**	**295**	Pn	**Pn**	**23 00 02.0**	**+0.1**
ASAO	**Ashtian**	**2.81**	**269**	*e*Pn	**Pn**	**23 00 06.0**	**-0.4**
ASAO				AML	AML	23 00 45.5	
	comp=N,20nm,0.6s						
IRAZ	**Razeghan**	**2.97**	**286**	Pn	**Pn**	**23 00 09.7**	**+1.0**

IDC 27 23:04:39.9±8.9, 2.28N×96.41E, mb3.8/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.8/4, Error ellipse: s-maj=199.2km s-min=127.2km az=140.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**46.01**	**347**	P	P	23 13 05.3	-1.6
	1.2nm,0.8s,baz=159,slow=8.4,SNR=13						
SONM	**Songino Array**	**46.19**	**9**	P	P	23 13 06.8	-1.6
	0.5nm,0.6s,baz=198,slow=7.8,SNR=3.6						
ZAL	**Zalesovo**	**52.37**	**351**	P	P	23 13 52.9	-3.0
	0.7nm,0.3s,baz=277,slow=10,SNR=3.7						
ARCES	**ARCESS Array B**	**81.26**	**340**	P	P	23 16 57.7	-1.3
	1.0nm,0.9s,baz=90,slow=7.2,SNR=3.6						

IDC 27 23:06:37.4±1.7, 2.95N×126.13E, mb3.8/4, mb1 3.9/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=204.7km s-min=21.9km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.14**	**161**	P	P	23 11 56.2	0.0
	2.7nm,0.3s,baz=340,slow=11,SNR=25						
WB2	**Warramunga Arr**	**24.14**	**161**	*e*P	P	23 11 56.3	+0.1
STKA	**Stephens Creek**	**37.62**	**158**	P	P	23 13 53.4	-2.5
	1.3nm,0.5s,baz=330,slow=8.1,SNR=3.5						
MKAR	**Makanchi Array**	**57.86**	**326**	P	P	23 16 30.8	-2.5
	0.7nm,0.4s,baz=122,slow=7.5,SNR=10.0						
BVAR	**Borovoye Array**	**67.65**	**327**	P	P	23 17 36.1	-2.2
	0.4nm,0.4s,baz=124,slow=5.3,SNR=4.5						

MEX 27 23:08:19.7±0.7, 17.04N×99.90W, h49km±9km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.17**	**187**	*i* P	P	23 08 26.0	-1.7
ACX				*i* S	S	23 08 32.0	-1.4
CAIG	**El Cayaco**	**0.36**	**272**	*i* P	P	23 08 27.9	-1.5
CAIG				*i* S	S	23 08 34.3	-1.9
PLIG	**Platanillo**	**1.40**	**15**	*i* P	P	23 08 41.9	-1.4
PLIG				*i* S	S	23 08 58.3	-2.5

NIED 27 23:26:00, 21.60N×122.00E, h47km, Mw4.8 Best double couple: M₀1.77×10¹⁶ NP1:φ₅67°, δ74°, λ139°. NP2:φ₅169°, δ51°, λ20°.
IDC 27 23:26:30.0±1.0, 21.33N×121.97E, mb3.9/13, mb1 4.1/15, mb1mx4.1/21, mbtmp4.0/15, ML4.1/2, MS3.8/15, Ms1 3.8/15, ms1mx3.7/23, Error ellipse: s-maj=25.6km s-min=23.1km az=54.0
NEIC 27 23:26:31.5±0.6, 21.39N×122.11E, h10km, mb4.5/9, Error ellipse: s-maj=13.4km s-min=10.9km az=128.0
BJI 27 23:26:32.6, 21.41N×122.04E, h7km, mB4.6, mb4.4, ML4.1, Ms4.3, Msz4.1
JMA 27 23:26:34.8±0.3, 21.60N×121.96E, h95km, M4.1
ISC 27 23:26:32.9±1.9, 21.49N±0.06×122.05E±0.05, h27km±13km, n54, σ1⁰27/59, mb4.1/20, MS3.8/17, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**2.71**	**351**	*e*P	**Pn**	**23 27 13.1**	**-2.6**
HATJ	**Hateruma jima**	**3.03**	**32**	P	**Pn**	**23 27 21.1**	**+0.8**
HATJ				S	**Sn**	**23 27 56.1**	**0.0**
YOJ	**Yonaguni jima**	**3.09**	**17**	P	**Pn**	**23 27 21.4**	**+0.2**
YOJ				S	**Sn**	**23 27 57.6**	**-0.1**
YHNB	**Yeheng**	**3.23**	**349**	*e*P	**Pn**	**23 27 22.4**	**-0.8**
IRIF	**Iriomote-Funau**	**3.23**	**28**	P	**Pn**	**23 27 23.6**	**+0.4**
IRIF				S	**Sn**	**23 28 01.8**	**+0.6**
JKRS	**Kuro-shima**	**3.28**	**33**	P	**Pn**	**23 27 24.7**	**+0.8**
JKRS				S	**Sn**	**23 28 02.6**	**+0.1**
JIJ	**Ishigaki jima**	**3.45**	**34**	P	**Pn**	**23 27 26.5**	**+0.1**
JIJ				S	**Sn**	**23 28 05.6**	**-1.3**
TATO	**Taipei**	**3.51**	**352**	*e*P	**Pn**	**23 27 27.7**	**+0.6**
JTJ	**Tarama**	**3.98**	**37**	P	**Pn**	**23 27 34.6**	**+0.8**
JTJ				S	**Sn**	**23 28 19.6**	**-0.5**
JMJ	**Miyako jima 2**	**4.46**	**41**	eS	**Sn**	**23 28 31.9**	**-0.5**
JOGS	**Gusukube**	**4.49**	**43**	S	**Sn**	**23 28 33.3**	**+0.2**
QZH	**Quanzhou**	**4.68**	**318**	P	**Pn**	**23 27 45.0**	**+1.2**
QZH				S	**Sn**	**23 28 32.0**	**-5.9**
QZH				LR	LR		
	comp=N,2μm,8.1s						
QZH				LR	LR		
	comp=E,1μm,9.5s						
QZH				LR	LR		
	comp=Z,2μm,12.7s						
JOW	**Kunigami**	**7.79**	**46**	Pn	**Pn**	**23 28 24.9**	**-2.6**
	comp=Z,3.8nm,0.3s,baz=218,slow=15,SNR=13						
JOW				Sn	**Sn**	**23 29 48.4**	**-7.3**
	comp=Z,0.9nm,0.3s,baz=121,slow=25,SNR=2.7						
QIZ	**Qiongzhong**	**11.71**	**260**	*e*P	**P**	**23 29 25.0**	**+3.5**
QIZ				LR	LR		
	comp=N,674nm,13.7s						
QIZ				LR	LR		
	comp=E,477nm,12.9s						
QIZ				LR	LR		
	comp=Z,838nm,12.4s						
QIZ	**Qiongzhong**	**11.71**	**260**	*e*P	**P**	**23 29 19.6**	**-1.9**
JNU	**Nakatsue**	**13.99**	**32**	Pn	**P**	**23 29 50.4**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=248,slow=19,SNR=3.2						
JNU				LR	LR	23 35 47.2	
	comp=Z,506nm,18.3s,baz=25,slow=39						
GYA	**Guiyang**	**14.90**	**292**	P	**P**	**23 30 08.8**	**+5.1**
GYA				S	**S**	**23 32 47.0**	**-1.7**
GYA				AMB	AMB		
	comp=Z,20nm,0.6s						
GYA				AMB	AMB		
	comp=Z,70nm,2.6s						
GYA				LR	LR		
	comp=N,710nm,12.3s						
GYA				LR	LR		
	comp=E,310nm,11.7s						
GYA				LR	LR		
	comp=Z,340nm,12.0s						
KS15	**Wonju Array Si**	**16.68**	**16**	*e*P	**P**	**23 30 25.2**	**-1.4**
CD2	**Chengdu**	**18.88**	**304**	*e*P	**P**	**23 30 55.0**	**+1.2**
SNY	**Shenyang**	**20.32**	**3**⇑	P	**P**	**23 31 15.8**	**+6.1**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.2s						
SNY				AMB	AMB		
	comp=Z,110nm,10.2s						
SNY				LR	LR		
	comp=N,350nm,11.4s,MS4.1						
SNY				LR	LR		
	comp=E,390nm,13.8s,MS4.1						
SNY				LR	LR		
	comp=Z,370nm,12.3s,MS4.0						
MAJO	**Matsushiro**	**20.56**	**40**	*e*P	**P**	**23 31 16.8**	**+4.5**
	comp=Z,16nm,0.9s						
MAT	**Matsushiro**	**20.56**	**40**	*e*P	**P**	**23 31 14.0**	**+1.7**
	comp=Z,15nm,1.0s						
MAT	**Matsushiro**	**20.56**	**40**	P	**P**	**23 31 14.0**	**+1.7**
MAT				*e*S	**S**	**23 35 05.2**	**+9.3**
MJAR	**Matsushiro Arr**	**20.57**	**40**	P	**P**	**23 31 13.7**	**+1.4**
	comp=Z,7.0nm,0.9s,baz=232,slow=12,SNR=16						
LZH	**Lanzhou**	**21.53**	**316**	*e*P	**P**	**23 31 24.0**	**+1.8**
LZH				AP		23 31 31.5	
LZH				XP		23 31 35.5	
LZH				PP	PP	23 31 51.0	+4.3
LZH				*e*S	**S**	**23 35 22.5**	**+8.1**
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,210nm,5.5s						
LZH				LR	LR		
	comp=E,851nm,9.3s						
LZH				LR	LR		
	comp=Z,1μm,9.6s						
LZH	**Lanzhou**	**21.53**	**316**	*e*P	**P**	**23 31 24.0**	**+1.8**
	comp=Z,31nm,1.5s,mb4.5						
LZH				pP		23 31 31.6	
LZH				sP		23 31 35.5	
LZH				PP	PP	23 31 51.0	+4.3
LZH				*e*S	**S**	**23 35 22.5**	**+8.1**
LZH				sS		23 35 34.2	
LZH				SS	SS	23 36 03.0	+13
MDJ	**Mudanjiang**	**23.89**	**13**	P	**P**	**23 31 48.3**	**+3.0**
MDJ				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,38nm,3.8s						
MDJ				LR	LR		
	comp=N,276nm,14.7s,MS4.0						
MDJ				LR	LR		
	comp=E,168nm,13.3s,MS4.0						
MDJ				LR	LR		
	comp=Z,365nm,15.6s,MS4.0						
MDJ	**Mudanjiang**	**23.89**	**13**	*e*P	**P**	**23 31 46.4**	**+1.1**
	comp=Z,37nm,1.3s,mb4.7						
GTA	**Gaotai**	**26.08**	**318**	*e*P	**P**	**23 32 11.5**	**+5.3**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.8s,mb3.8						
GTA				AMB	AMB		
	comp=Z,100nm,11.1s						
GTA				LR	LR		
	comp=N,328nm,12.2s,MS4.2						
GTA				LR	LR		
	comp=E,245nm,11.8s,MS4.2						
GTA				LR	LR		
	comp=Z,400nm,10.7s,MS4.2						
ASAJ	**Asahikawa**	**28.27**	**32**	LR	LR	23 44 02.7	
	comp=Z,212nm,19.0s,MS3.8,baz=358,slow=37						
SONM	**Songino Array**	**29.15**	**338**	P	**P**	**23 32 32.6**	**-1.4**
	comp=Z,0.5nm,0.3s,mb3.7,baz=153,slow=8.3,SNR=3.9						
SONM				LR	LR	23 45 15.5	
	comp=Z,399nm,18.2s,MS4.1,baz=100,slow=38						
PMG	**Port Moresby**	**39.38**	**139**	LR	LR	23 48 28.1	
	comp=Z,52nm,20.3s,MS3.4,baz=272,slow=34						
MKAR	**Makanchi Array**	**40.84**	**318**	P	**P**	**23 34 13.6**	**-0.4**
	comp=Z,1.8nm,0.5s,mb4.0,baz=108,slow=8.9,SNR=20						
MKAR				LR	LR	23 52 13.7	
	comp=Z,79nm,21.5s,MS3.5,baz=250,slow=38						
WRAB	**Tennant Creek**	**42.89**	**163**	*e*P	**P**	**23 34 28.9**	**-2.2**
	comp=Z,12nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**42.90**	**163**	P	**P**	**23 34 28.3**	**-2.9**
	comp=Z,3.3nm,0.8s,mb4.1,baz=343,slow=9.1,SNR=9.9						
ZAL	**Zalesovo**	**42.94**	**328**	P	**P**	**23 34 29.7**	**-1.5**
	comp=Z,1.9nm,0.8s,mb3.9,baz=348,slow=7.7,SNR=3.6						
ZAL				LR	LR	23 54 55.5	
	comp=Z,88nm,18.8s,MS3.7,baz=344,slow=40						
ZAL	**Zalesovo**	**42.94**	**328**	P	**P**	**23 34 29.7**	**-1.5**
ZAL				LR	LR	23 54 55.5	
CTA	**Charters Tower**	**47.62**	**149**	LR	LR	23 52 32.7	
	comp=Z,120nm,21.5s,MS3.8,baz=32,slow=33						
HNR	**Honiara**	**48.26**	**126**	LR	LR	23 50 41.7	
	comp=Z,91nm,21.2s,MS3.7,baz=51,slow=30						
BVAR	**Borovoye Array**	**50.27**	**322**	P	**P**	**23 35 28.2**	**-0.7**
	comp=Z,1.0nm,0.7s,mb4.0,baz=101,slow=7.6,SNR=8.1						
BRVK	**Borovoye**	**50.34**	**322**	*e*P	**P**	**23 35 28.7**	**-0.8**
	comp=Z,3.3nm,0.8s,mb4.4						
ARU	**Arti**	**57.74**	**324**	*e*P	**P**	**23 36 22.0**	**-1.7**
	comp=Z,2.2nm,0.4s,mb4.5						
DZM	**Mont Dzumac**	**61.24**	**132**	LR	LR	23 58 35.2	
	comp=Z,98nm,19.0s,MS4.0,baz=198,slow=32						
ILAR	**Eielson Array**	**71.24**	**27**	P	**P**	**23 37 52.8**	**+1.3**
	comp=Z,0.3nm,0.8s,mb3.3,baz=288,slow=5.7,SNR=4.0						
ILAR				LR	LR	00 13 04.6	
	comp=Z,34nm,18.6s,MS3.6,baz=360,slow=39						
MALT	**Malatya**	**72.17**	**305**	*e*P	**P**	**23 38 00.2**	**+2.8**
	comp=Z,7.3nm,1.1s,mb4.5						
ARCES	**ARCESS Array B**	**72.33**	**338**	P	**P**	**23 37 56.9**	**-1.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=45,slow=8.6,SNR=5.0						
ARCES				LR	LR	00 10 41.2	
	comp=Z,42nm,19.7s,MS3.7,baz=66,slow=37						
FINES	**FINESS Array B**	**74.17**	**330**	P	**P**	**23 38 09.1**	**+0.5**
	comp=Z,2.3nm,0.7s,mb4.2,baz=146,slow=6.9,SNR=6.5						
FINES				LR	LR	00 12 42.0	
	comp=Z,53nm,20.9s,MS3.8,baz=77,slow=37						
AKASG	**Malin Array Be**	**75.41**	**319**	P	**P**	**23 38 17.6**	**+1.6**
	comp=Z,0.8nm,0.5s,mb3.9,baz=62,slow=5.4,SNR=11						
BRTR	**Keskin Array B**	**75.42**	**307**	P	**P**	**23 38 16.6**	**+0.3**
	comp=Z,2.1nm,1.1s,mb4.0,baz=225,slow=1.7,SNR=6.4						
KWP	**Kalwaria**	**79.72**	**319**	*e*P	**P**	**23 38 45.1**	**+5.2**
	comp=Z,16nm,1.3s,mb4.8						
NOA	**NORSAR Array B**	**80.97**	**333**	P	**P**	**23 38 46.7**	**+0.4**
	comp=Z,0.8nm,0.7s,mb3.8,baz=61,slow=5.2,SNR=3.3						
NOA				LR	LR	00 18 59.0	
	comp=Z,94nm,18.6s,MS4.2,baz=70,slow=39						
YKA	**Yellowknife Ar**	**85.13**	**23**	LR	LR	00 19 52.7	
	comp=Z,33nm,19.4s,MS3.7,baz=330,slow=38						
GERES	**GERESS Array B**	**85.42**	**321**	P	**P**	**23 39 11.3**	**+2.0**
	comp=Z,0.3nm,0.5s,mb3.7,baz=45,slow=3.8,SNR=3.7						
GERES				LR	LR	00 19 55.5	
	comp=Z,49nm,19.0s,MS3.9,baz=268,slow=38						
SDV	**Santo Domingo**	**147.35**	**24**	*e*PKPbc	PKPdf	23 46 15.9	-1.5

FUNV 27 23:44:32.4, 10.74N×62.41W, h61km, MW2.5
TRN 27 23:44:34.3, 10.86N×62.34W, h35km, MD3.1
ISC 27 23:44:31.5±0.5, 10.72N±0.06×62.50W±0.03, h61km, n14, σ1⁰19/25, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.28**	**105**	*i* P	**P**	**23 44 42.1**	**+0.5**
GUIV				eS	**S**	**23 44 49.1**	**+0.1**
GUNV	**Guanoco**	**0.71**	**218**⇑	*i*P	**P**	**23 44 47.2**	**+1.2**
GUNV				eS	**S**	**23 44 58.1**	**+1.3**
CRUV	**Carupano**	**0.73**	**267**	*e*P	**P**	**23 44 47.4**	**+1.2**
CRUV				eS	**S**	**23 44 58.8**	**+1.6**
ITEV	**Isla Los Testi**	**0.89**	**315**	*e*P	**P**	**23 44 48.9**	**+0.6**
ITEV				eS	**S**	**23 45 01.4**	**+0.6**
TRN	**Trinidad (W)**	**1.08**	**94**	*e*P	**P**	**23 44 50.8**	**-0.2**
TPP	**Pointe-a-Pierr**	**1.10**	**111**	*e*P	**P**	**23 44 52.0**	**+0.7**
TPP				eS	**S**	**23 45 05.9**	**0.0**
TBH	**Brigand Hill**	**1.43**	**99**	*e*P	**P**	**23 44 57.2**	**+1.4**
TBH				eS	**S**	**23 45 12.1**	**-1.6**
GRW	**Mount Saint Ca**	**1.65**	**30**	eS	**S**	**23 45 16.0**	**-3.0**
TPR	**Prospect**	**1.75**	**75**	eS	**S**	**23 45 21.4**	**-0.1**
PCRV	**Puerto La Cruz**	**2.17**	**256**	*e*P	**P**	**23 45 06.9**	**+0.8**
PCRV				eS	**S**	**23 45 31.5**	**-0.3**
CUPV	**Cœpira**	**3.30**	**259**	*e*P	**P**	**23 45 22.4**	**+0.3**
CUPV				eS	**S**	**23 45 58.7**	**-1.7**
MERV	**Las Mercedes**	**4.02**	**249**	*e*P	**P**	**23 45 31.3**	**-0.8**
MERV				eS	**S**	**23 46 15.2**	**-3.2**
CAOV	**Caicara del Or**	**5.06**	**229**	*e*P	**P**	**23 45 44.8**	**-1.9**
CAOV				eS	**S**	**23 46 38.7**	**-5.8**
BAUV	**El Baul**	**5.74**	**253**	*e*P	**P**	**23 45 54.2**	**-1.9**
BAUV				eS	**S**	**23 46 54.8**	**-6.6**

MAN 27 23:48:36.5, 8.36N×124.35E, h32km, mb3.8, ML2.5, MS2.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.36**	**74**⇑	*i*P	Pb	23 48 46.2	+1.2
CGP				*i* S	Sb	23 48 52.6	+1.9
BUKP	**Musuan**	**0.85**	**124**	*e*P	Pn	23 48 52.6	+0.2
PAGZ	**Pagadian**	**1.08**	**242**	*e*P	Pn	23 48 54.8	-0.8
PAGZ				eS	Sn	23 49 08.2	-1.4
IPIL	**Ipil**	**1.85**	**252**	*e*P	Pn	23 49 07.2	+0.6
IPIL				eS	Sn	23 49 31.2	+2.1

NIED 28 00:11:00, 34.90N×132.70E, h8km, Mw3.5 Best double couple: M₀2.12×10¹⁴ NP1:φ₅138°, δ88°, λ3°. NP2:φ₅48°, δ87°, λ178°.
JMA 28 00:11:11.3, 34.91N×132.72E, h8km, M3.4, 4D Broadband fault plane solution: P waves. NP1:φ₅130°, δ68°, λ17°. **NP2:**φ₅34°, δ74°, λ157°. **Principal axes:** T Plg27°, Azm351°; N Plg63°, Azm181°; P Plg4°, Azm83°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHS	**Saijyo**	**0.34**	**75**	⇓P	Pg	00 11 18.0	-0.2
JHS				S	Sg	00 11 22.7	-0.1
JGT	**Gotsu**	**0.34**	**291**	⇓P	Pg	00 11 18.0	-0.2
JGT				S	Sg	00 11 22.9	+0.1
JHT	**Toyohira**	**0.35**	**225**	⇓P	Pg	00 11 18.1	-0.3
JHT				S	Sg	00 11 22.9	-0.3
JJG	**Jouge**	**0.45**	**127**	⇓P	Pg	00 11 20.1	-0.2
JJG				S	Sg	00 11 26.3	-0.1

IDC 28 00:36:43.2±1.4, 8.04N×91.87E, h29km±6km, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.6/4, MS3.6/1, Ms1 3.6/1, ms1mx2.9/18 Error ellipse: s-maj=51.0km s-min=22.1km az=55.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.48**	**350**	P	P	00 44 11.1	-1.8
	0.2nm,0.5s,baz=158,slow=7.8,SNR=3.0						
SONM	**Songino Array**	**41.54**	**15**	P	P	00 44 27.7	-2.0
	1.2nm,0.7s,baz=205,slow=7.3,SNR=4.6						
SONM				pP	pP	00 44 37.0	-1.4
	1.2nm,0.7s,baz=203,slow=9.4,SNR=4.1						
FITZ	**Fitzroy Crossi**	**42.26**	**128**	LR	LR	01 04 27.0	
	comp=Z,78nm,21.3s,baz=267,slow=39						
WRA	**Warramunga Arr**	**50.19**	**124**	P	P	00 45 36.8	-2.0
	0.6nm,0.6s,baz=305,slow=8.6,SNR=3.5						
WRA				pP	pP	00 45 45.3	-2.4
	1.1nm,0.8s,baz=303,slow=8.9,SNR=4.1						
GERES	**GERESS Array B**	**76.21**	**318**	P	P	00 48 28.9	-1.8
	0.2nm,0.4s,baz=117,slow=6.0,SNR=3.9						
GERES				pP	pP	00 48 38.3	-1.5
	0.4nm,0.8s,baz=90,slow=6.2,SNR=3.2						

BJI 28 00:38:53.3, 2.08N×96.94E, h33km, mB4.8, mb4.7, Ms4.4, Msz4.3
IDC 28 00:38:54.4±0.8, 1.92N×96.39E, h27km±3km, mb4.1/14, mb1 4.2/14, mb1mx4.1/19, mbtmp4.3/14, Error ellipse: s-maj=31.4km s-min=17.5km az=56.0
NEIC 28 00:38:55.4±0.5, 2.25N×96.80E, mb4.5/10, Error ellipse: s-maj=13.6km s-min=11.0km az=52.0
ISC 28 00:38:53.3±0.4, 2.17N±0.06×96.87E±0.07, h29km, h29km±1.0km: pP-P, n55, σ1⁰28/58, mb4.5/34, MS4.1/4, 5C-3D, Northern Sumatera

| Code | Station Name | Δ° | AZ° | Phase ID | | Time | Res |
|---|---|---|---|---|---|---

GYA					AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.4								
GYA					AMB	AMB			
	comp=Z,80nm,2.8s,mb4.8								
GYA					LR	LR			
	comp=N,240nm,15.8s,MS4.0								
GYA					LR	LR			
	comp=E,260nm,15.0s,MS4.0								
GYA					LR	LR			
	comp=Z,310nm,15.7s,MS3.9								
PKI	**Pulchoki**	**27.54**	**338**	*e*P	**P**		**00 44 42.1**	**+2.2**	
DMN	**Daman**	**27.69**	**337**	*e*P	**P**		**00 44 44.1**	**+2.8**	
KKN	**Kakani**	**27.79**	**338**	*e*P	**P**		**00 44 42.5**	**+0.4**	
LSA	**Lhasa**	**27.92**	**349**	P	**P**		**00 44 43.8**	**+0.5**	
	comp=Z,8.6nm,0.9s,mb4.4								
GKN	**Gorkha**	**28.23**	**337**	*e*P	**P**		**00 44 44.6**	**-1.5**	
	comp=Z,25nm,0.9s,mb4.9								
KOLN	**Koldanda**	**28.45**	**335**	*e*P	**P**		**00 44 49.0**	**+0.9**	
	comp=Z,15nm,0.7s,mb4.7								
ENH	**Enshi**	**30.41**	**22**	*e*P	**P**		**00 45 03.2**	**-2.3**	
	comp=Z,22nm,0.8s,mb4.9								
XAN	**Xi'an**	**33.65**	**18**	P	**P**		**00 45 32.3**	**-1.6**	
XAN					AMB	AMB			
	comp=Z,21nm,0.9s,mb5.1								
LZH	**Lanzhou**	**34.37**	**10**	*e*P	**P**		**00 45 40.0**	**0.0**	
LZH					AP	pP	00 45 48.5	-0.1	
LZH					XP	sP	00 45 54.5	+2.3	
LZH					PP	PP	00 46 56.3	+0.5	
LZH					AMB	AMB			
	comp=Z,26nm,1.2s,mb5.0								
LZH					AMB	AMB			
	comp=Z,155nm,4.3s								
LZH	**Lanzhou**	**34.37**	**10**	*e*P	**P**		**00 45 40.0**	**0.0**	
	comp=Z,26nm,1.2s,mb5.0								
LZH					pP	pP	00 45 48.5	-0.1	
LZH					sP	sP	00 45 54.5	+2.3	
LZH					PP	PP	00 46 56.3	+0.5	
NJ2	**Nanjing**	**36.23**	**33**	*e*P	**P**		**00 45 56.0**	**+0.1**	
NJ2					AP	pP	00 46 06.0	+1.6	
NJ2					XP	sP	00 46 09.5	+1.4	
NJ2					PP	PP	00 47 21.0	+2.0	
NJ2					S	**S**	**00 51 32.0**	**-1.6**	
NJ2					XS		00 51 49.0		
NJ2					AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.9								
NJ2					AMB	AMB			
	comp=Z,200nm,4.9s								
NJ2					LR	LR			
	comp=N,340nm,19.4s,MS4.2								
NJ2					LR	LR			
	comp=E,250nm,23.8s,MS4.2								
NJ2					LR	LR			
	comp=Z,100nm,26.0s,MS3.5								
GTA	**Gaotai**	**37.17**	**4**	P	**P**		**00 46 04.5**	**+0.8**	
GTA					AP	pP	00 46 15.0	+2.7	
GTA					XP	sP	00 46 19.5	+3.6	
GTA					AMB	AMB			
	comp=Z,9.0nm,1.0s,mb4.5								
HHC	**Hu-ho-hao-te**	**40.73**	**17**	*e*P	**P**		**00 46 34.0**	**+0.6**	
HHC					AMB	AMB			
	comp=Z,15nm,1.3s,mb4.5								
HHC					AMB	AMB			
	comp=Z,135nm,4.3s								
WMQ	**Urumqi**	**42.27**	**350**	*e*P	**P**		**00 46 45.5**	**-0.5**	
WRA	**Warramunga Arr**	**42.82**	**123**	P	**P**		**00 46 51.3**	**+0.5**	
	comp=Z,2.4nm,0.6s,mb4.1,baz=302,slow=9.2,SNR=5.5								
WRAB	**Tennant Creek**	**42.83**	**123**	*e*P	**P**		**00 46 50.7**	**-0.2**	
	comp=Z,9.0nm,0.9s,mb4.5								
AAK	**Ala-Archa**	**44.99**	**337**	*e*P	**P**		**00 47 04.8**	**-3.2**	
	comp=Z,6.9nm,1.1s,mb4.4								
MKAR	**Makanchi Array**	**46.23**	**346**	P	**P**		**00 47 18.9**	**+1.0**	
	comp=Z,13nm,0.7s,mb5.0,baz=160,slow=7.5,SNR=109								
MKAR					pP	pP	00 47 27.8	+1.3	
	comp=Z,5.4nm,0.8s,baz=162,slow=7.7,SNR=7.1								
SONM	**Songino Array**	**46.23**	**9**	P	**P**		**00 47 18.7**	**+0.9**	
	comp=Z,8.4nm,0.7s,mb4.8,baz=190,slow=8.8,SNR=46								
SONM					pP	pP	00 47 29.4	+2.9	
	comp=Z,4.6nm,0.9s,baz=187,slow=10.0,SNR=5.7								
CN2	**Changchun**	**48.60**	**27**	*e*P	**P**		**00 47 39.3**	**+2.9**	
CN2					AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.9								
MDJ	**Mudanjiang**	**51.19**	**30**	P	**P**		**00 47 56.5**	**+0.2**	
MDJ					AP	pP	00 48 05.5	+0.4	
MDJ					XP	sP	00 48 09.0	+0.6	
MDJ					PCP	PcP	00 49 08.3	-3.2	
MDJ					PP	PP	00 49 55.0	+1.2	
MDJ					S	**S**	**00 55 13.8**	**+2.6**	
MDJ					SCS	ScS	00 57 42.5	+1.0	
MDJ					AMB	AMB			
	comp=Z,10.0nm,1.3s,mb4.6								
MDJ					AMB	AMB			
	comp=Z,81nm,7.1s								
MDJ					LR	LR			
	comp=N,408nm,18.3s,MS4.7								
MDJ					LR	LR			
	comp=E,525nm,17.8s,MS4.7								
MDJ					LR	LR			
	comp=Z,686nm,12.9s,MS4.9								
MJAR	**Matsushiro Arr**	**51.21**	**43**	P	**P**		**00 47 55.0**	**-1.5**	
	comp=Z,1.5nm,0.4s,mb4.3,baz=218,slow=7.7,SNR=7.2								
ZAL	**Zalesovo**	**52.55**	**351**	P	**P**		**00 48 06.4**	**0.0**	
	comp=Z,5.2nm,0.6s,mb4.6,baz=302,slow=6.8,SNR=37								
ZAL					pP	pP	00 48 14.7	-0.5	
	comp=Z,4.7nm,0.6s,baz=321,slow=6.1,SNR=7.0								
STKA	**Stephens Creek**	**54.24**	**132**	P	**P**		**00 48 20.7**	**+1.6**	
	comp=Z,3.0nm,1.0s,mb4.2,baz=328,slow=6.6,SNR=5.8								
STKA	**Stephens Creek**	**54.24**	**132**	*e*P	**P**		**00 48 19.9**	**+0.8**	
BRVK	**Borovoye**	**55.30**	**341**	*e*P	**P**		**00 48 25.1**	**-1.5**	
	comp=Z,3.0nm,0.7s,mb4.4								
BRTR	**Keskin Array B**	**68.22**	**312**	P	**P**		**00 49 52.2**	**-1.5**	
	comp=Z,1.2nm,0.6s,mb4.1,baz=125,slow=6.6,SNR=8.6								
BRTR					pP	pP	00 49 59.7	-2.9	
	comp=Z,1.4nm,0.7s,baz=119,slow=6.6,SNR=6.6								
CASY	**Casey**	**68.99**	**174**	*e*P	**P**		**00 49 57.5**	**-0.4**	
	comp=Z,4.4nm,0.9s,mb4.4								
MAW	**Mawson**	**73.57**	**193**	*e*P	**P**		**00 50 25.9**	**+0.6**	
	comp=Z,3.1nm,0.9s,mb4.2								
AKASG	**Malin Array Be**	**74.30**	**322**	P	**P**		**00 50 28.1**	**-1.8**	
	comp=Z,1.5nm,0.6s,mb4.1,baz=92,slow=4.4,SNR=8.3								
AKASG					pP	pP	00 50 36.9	-2.0	
	comp=Z,2.6nm,0.7s,baz=87,slow=5.0,SNR=6.6								
AKASG	**Malin Array Be**	**74.30**	**322**	P	**P**		**00 50 28.1**	**-1.8**	
AKASG					pP	pP	00 50 36.9	-2.0	
VRI	**Vrincioaia**	**74.69**	**317**	⇑P	**P**		**00 50 32.5**	**+0.3**	
VRI	**Vrincioaia**	**74.69**	**317**	⇑P	**P**		**00 50 32.5**	**+0.2**	
MLR	**Muntele Rosu**	**75.15**	**317**	P	**P**		**00 50 34.7**	**-0.2**	
	comp=Z,2.2nm,1.0s,mb4.0,baz=45,slow=6.3,SNR=4.9								
MLR					pP	pP	00 50 43.4	-0.6	
	comp=Z,3.7nm,0.8s,baz=164,slow=6.9,SNR=7.0								
MLR	**Muntele Rosu**	**75.15**	**317**	⇓P	**P**		**00 50 34.9**	**0.0**	
MLR	**Muntele Rosu**	**75.15**	**317**	⇓P	**P**		**00 50 34.9**	**0.0**	
BURAR	**Bucovina Array**	**76.09**	**319**	⇑P	**P**		**00 50 40.9**	**+0.7**	
BURAR	**Bucovina Array**	**76.09**	**319**	⇑P	**P**		**00 50 40.9**	**+0.7**	
FINES	**FINESS Array B**	**79.00**	**332**	P	**P**		**00 50 55.4**	**-0.6**	
	comp=Z,1.4nm,0.6s,mb4.0,baz=108,slow=6.0,SNR=6.5								
FINES					pP	pP	00 51 04.0	-1.1	
	comp=Z,1.2nm,0.6s,baz=104,slow=7.9,SNR=2.5								
SYO	**Syowa Base**	**80.81**	**198**	⇓PcP	PcP		00 51 15.5	+3.0	
ARCES	**ARCESS Array B**	**81.52**	**340**	P	**P**		**00 51 09.4**	**+0.2**	
	comp=Z,1.8nm,0.7s,mb4.1,baz=90,slow=3.6,SNR=7.9								
GERES	**GERESS Array B**	**83.88**	**319**	P	**P**		**00 51 21.6**	**-0.2**	
	comp=Z,1.0nm,0.8s,mb4.0,baz=104,slow=5.5,SNR=11								
GERES					pP	pP	00 51 29.0	-2.1	
	comp=Z,1.0nm,0.7s,baz=90,slow=4.0,SNR=7.5								
NB2	**NORSAR Subarra**	**86.01**	**331**	P	**P**		**00 51 30.1**	**-2.1**	
	comp=Z,1.1nm,0.7s,mb4.2,baz=93,slow=4.6								
NOA	**NORSAR Array B**	**86.01**	**331**	P	**P**		**00 51 31.6**	**-0.6**	
	comp=Z,1.1nm,0.8s,mb4.2,baz=92,slow=5.0,SNR=5.7								
NOA					pP	pP	00 51 39.8	-1.6	
	comp=Z,0.8nm,0.7s,baz=94,slow=5.0,SNR=4.7								
DAVOX	**Davos**	**86.37**	**317**	P	**P**		**00 51 33.9**	**-0.4**	
	comp=Z,2.3nm,0.8s,mb4.5,baz=144,slow=14,SNR=3.6								
DAVOX					pP	pP	00 51 42.8	-0.7	
	comp=Z,2.7nm,0.8s,baz=132,slow=6.4,SNR=3.6								
VNDA	**Vanda**	**86.83**	**169**	P	**P**		**00 51 35.8**	**-0.1**	
	comp=Z,1.1nm,1.2s,mb4.0,baz=282,slow=9.5,SNR=3.9								
CPUP	**Villa Florida**	**145.48**	**224**	*e*PKPdf	PKPdf		00 58 33.6	-0.9	

IDC ***28*** *00:59:51.0±6.3, 1.49N×96.78E, mb4.0/8, mb1 4.1/8, mb1mx3.9/19, mbtmp4.0/8, Error ellipse: s-maj=154.0km s-min=52.8km az=138.0*

NEIC ***28*** *00:59:55.7±0.7, 1.61N×97.06E, h30km, mb4.2/2, Error ellipse: s-maj=16.9km s-min=13.4km az=163.0*

ISC 28 00:59:54.2±1.0, 1.6N±0.1×97.1E±0.1, h33km, n12, σ0≤80/12, mb4.1/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.08**	**44**	*e*Pn		**Pn**	**01 01 10.5**	**+0.4**
KULM				*e*			01 01 24.2	
KKM	**Kota Kinabalu**	**19.56**	**76**	P		**P**	**01 04 21.3**	**-0.9**
LSA	**Lhasa**	**28.50**	**349**	P		**P**	**01 05 48.5**	**-0.3**
	6.2nm,0.8s,mb4.4							
SONM	**Songino Array**	**46.74**	**9**	P		**P**	**01 08 22.9**	**+0.8**
	6.8nm,1.0s,mb4.5,baz=189,slow=9.1,SNR=18							
MKAR	**Makanchi Array**	**46.82**	**346**	P		**P**	**01 08 23.3**	**+0.6**
	7.1nm,0.8s,mb4.6,baz=160,slow=7.8,SNR=47							
ZAL	**Zalesovo**	**53.13**	**351**	P		**P**	**01 09 10.8**	**-0.1**
	2.3nm,0.6s,mb4.3,baz=291,slow=7.2,SNR=16							
BVAR	**Borovoye Array**	**55.84**	**341**	P		**P**	**01 09 29.9**	**-0.8**
	1.2nm,0.7s,mb4.1,baz=158,slow=8.0,SNR=9.8							
BRTR	**Keskin Array B**	**68.77**	**312**	P		**P**	**01 10 56.4**	**-0.9**
	0.8nm,0.9s,mb3.7,baz=129,slow=7.9,SNR=4.4							
MAW	**Mawson**	**73.09**	**193**	*e*P		**P**	**01 11 23.2**	**+0.4**
	1.6nm,0.8s,mb4.0							
AKASG	**Malin Array Be**	**74.88**	**322**	P		**P**	**01 11 32.0**	**-1.4**
	0.3nm,0.5s,mb3.5,baz=277,slow=10,SNR=3.2							
ARCES	**ARCESS Array B**	**82.12**	**340**	P		**P**	**01 12 13.9**	**+1.2**
	2.5nm,0.9s,mb4.1,baz=56,slow=4.4,SNR=5.5							
GERES	**GERESS Array B**	**84.45**	**319**	P		**P**	**01 12 25.8**	**+0.9**
	0.2nm,0.6s,mb3.4,baz=63,slow=3.0,SNR=4.5							

NIED ***28*** *01:02:00,33.40N×142.40E,h8km,Mw4.7 Best double couple: M0 1.27×10^16 NP1:φs188°, δ59°, λ-87°. NP2:φs2°, δ31°, λ-95°.*

BJI ***28*** *01:02:11.5,33.41N×142.28E,h22km,mB4.7,mb4.9, Ms4.5,Msz4.2*

JMA ***28*** *01:02:12.6±0.3,33.41N×142.44E,h72km,M4.8*

MOS ***28*** *01:02:13.6±0.9,33.43N×142.37E,h33km,mb5.3/67, Error ellipse: s-maj=9.8km s-min=4.6km az=114.6*

HRVD ***28*** *01:02:15.2±0.4,33.32N×142.63E,h12km,MW4.8/50, Centroid moment Tensor Solution. LP body waves: s8,c10;Mantle waves: s50,c77; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.50±.07; Mθθ-0.08±.07; Mφφ1.58±.05; Mrθ-0.53±.31; Mrφ0.16±.05; Mθφ-0.60±.24; Best double couple: M0 1.743×10^16 NP1:φs170°,δ36°, λ-116°. NP2:φs21°,δ58°,λ-73°. Principal axes: T 1.729, Plg12°, Azm98°; N .027, Plg15°, Azm192°; P -1.756, Plg71°, Azm331°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***28*** *01:02:15.2±0.1,33.41N×142.37E,h35km,mb5.0/86, MS4.4/2,MW4.7(NIED) Error ellipse: s-maj=4.1km s-min=3.5km az=173.0*

IDC ***28*** *01:02:15.8±0.3,33.42N×142.38E,h37km±2km,mb4.5/29, mb1 4.6/33,mb1mx4.6/35,mbtmp4.7/33,ML4.0/4,MS3.7/14, Ms1 3.7/14,ms1mx3.6/29,Error ellipse: s-maj=10.8km s-min=9.1km az=100.0*

ISC 28 01:02:13.9±0.2, 33.38N±0.03×142.31E±0.02, h37km, h37km±.5km; pP-P, n373, σ0≤98/377, mb4.9/139, MS4.1/26, 13C-27D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.68**	**319**	P		**P**	**01 02 41.0**	**-0.3**
BSO1				*e*S		**S**	**01 03 03.3**	**+1.4**
BSO3	**Boso 3**	**2.06**	**314**	P		**P**	**01 02 46.8**	**+0.1**
BSO3				*e*S		**S**	**01 03 13.1**	**+1.7**
JHJ2	**Mitsune**	**2.11**	**263**	P		**P**	**01 02 48.2**	**+0.8**
JHJ2				S		**S**	**01 03 15.4**	**+2.8**
JHJ	**Hachijo jima 2**	**2.14**	**264**	Pn		**P**	**01 02 48.3**	**+0.5**
	366nm,0.3s,baz=112,slow=6.3,SNR=191							
JHJ				Sn		**S**	**01 03 13.3**	**0.0**
	1μm,0.3s,baz=235,slow=22,SNR=29							
BSO4	**Boso 4**	**2.29**	**315**	P		**P**	**01 02 50.6**	**+0.6**
BSO4				*e*S		**S**	**01 03 19.6**	**+2.3**
KTR	**Katsuura**	**2.42**	**317**	P		**P**	**01 02 51.8**	**0.0**
KTR				*e*S		**S**	**01 03 21.2**	**+0.8**
JIM2	**Oshima 3**	**2.74**	**300**	P		**P**	**01 02 55.5**	**-0.9**
JIM2				*e*S		**S**	**01 03 28.5**	**-0.1**
JIZS	**Izushimoda**	**3.15**	**296**	P		**P**	**01 03 01.9**	**-0.3**
JIZS				*e*S		**S**	**01 03 38.8**	**-0.2**
JOD2	**Odawara 2**	**3.26**	**306**	P		**P**	**01 03 03.0**	**-0.8**
JYN	**Shimob**	**3.76**	**305**	P		**P**	**01 03 10.5**	**-0.4**
JYN				*e*S		**S**	**01 03 55.5**	**+0.9**
JAG	**Ashikaga**	**3.84**	**323**	P		**P**	**01 03 10.8**	**-1.2**
JAG				*e*S		**S**	**01 03 54.0**	**-2.6**
JRY	**Ryogami san**	**3.85**	**314**	P		**P**	**01 03 11.6**	**-0.5**
JRY				*e*S		**S**	**01 03 57.0**	**+0.2**
MJAR	**Matsushiro Arr**	**4.61**	**314**	Pn		**P**	**01 03 22.7**	**-0.3**
	31nm,0.3s,baz=164,slow=15,SNR=116							
MJAR				Sn		**S**	**01 04 15.1**	**-1.1**
	30nm,0.3s,baz=19,slow=23,SNR=8.4							
MJAR				LR		LR	01 04 55.9	
	comp=Z,403nm,20.4s,baz=130,slow=35							
MAJO	**Matsushiro**	**4.62**	**314**	*e*P		**P**	**01 03 23.4**	**+0.3**
MAT	**Matsushiro**	**4.62**	**314**	*e*P		**P**	**01 03 23.0**	**-0.1**
MAT				*e*S		**S**	**01 04 15.0**	**-1.2**
MAT	**Matsushiro**	**4.62**	**314**	P		**P**	**01 03 22.9**	**-0.2**
MAT				S		**S**	**01 04 14.6**	**-1.6**
MAT	**Matsushiro**	**4.62**	**314**	P		**P**	**01 03 22.9**	**-0.2**
MAT				*e*S		**S**	**01 04 15.8**	**-0.4**
JMM	**Marumori**	**4.64**	**345**	P		**P**	**01 03 19.5**	**-3.9**
JMM				*e*S		**S**	**01 04 09.9**	**-6.9**
JIE	**Ise**	**4.77**	**284**	P		**P**	**01 03 25.0**	**-0.2**
JNS	**Sasagawa**	**5.05**	**332**	P		**P**	**01 03 28.1**	**-1.1**
JNS				*e*S		**S**	**01 04 24.1**	**-3.1**
JGM	**Miyama**	**5.16**	**298**	P		**P**	**01 03 31.4**	**+0.6**
JWZ	**Kozaga**	**5.52**	**273**	P		**P**	**01 03 35.3**	**-0.4**
JMK	**Ichinoseki**	**5.63**	**351**	P		**P**	**01 03 32.7**	**-4.5**
JMK				*e*S		**S**	**01 04 32.9**	**-8.7**
CBIJ	**Chichi jima**	**6.27**	**181**	Pn		**P**	**01 03 42.9**	**-3.4**
	35nm,0.3s,baz=101,slow=23,SNR=11							
CBIJ				Sn		**S**	**01 04 49.8**	**-7.8**
	88nm,0.3s,baz=32,slow=23,SNR=9.8							
JNU	**Nakatsue**	**9.58**	**272**	Pn		**P**	**01 04 32.9**	**+0.6**
	1.2nm,0.3s,baz=73,slow=15,SNR=17							
JNU				Sn		**S**	**01 06 19.8**	**-0.2**
	2.2nm,0.3s,baz=37,slow=40,SNR=4.4							
JNU				LR		LR	01 08 22.6	
	comp=Z,616nm,18.1s,baz=269,slow=38							
KS15	**Wonju Array Si**	**12.45**	**293**	*e*P		**P**	**01 05 12.6**	**+1.3**
YSS	**Yuzh-Sakhalins**	**13.56**	**1⇑**	*e*P		**P**	**01 05 20.1**	**-5.8**
YSS				pmax		pmax		
	comp=E,60nm,1.0s							
YSS				pmax		pmax		
	comp=Z,60nm,1.0s							
YSS	**Yuzh-Sakhalins**	**13.56**	**1**	*e*P		**P**	**01 05 20.2**	**-5.8**
	comp=Z,99nm,1.1s							
JOW	**Kunigami**	**13.79**	**245**	Pn		**P**	**01 05 28.2**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=56,slow=12,SNR=4.6							
MDJ	**Mudanjiang**	**14.93**	**322**	P		**P**	**01 05 43.3**	**-0.6**
MDJ				AMB		AMB		
	comp=Z,19nm,1.1s							
MDJ				AMB		AMB		
	comp=Z,92nm,6.3s							
MDJ	**Mudanjiang**	**14.93**	**322**	*e*P		**P**	**01 05 42.8**	**-1.1**
	comp=Z,9.4nm,0.6s							
CN2	**Changchun**	**16.76**	**313**	*e*P		**P**	**01 06 06.0**	**-1.3**
CN2				*e*XP			01 06 21.5	
CN2				*e*S		**S**	**01 09 08.8**	**-2.5**
CN2				AMB		AMB		
	comp=Z,20nm,1.3s							
CN2				AMB		AMB		
	comp=Z,200nm,8.0s							
CN2				LR		LR		
	comp=N,760nm,13.0s							
CN2				LR		LR		
	comp=E,500nm,13.0s							
CN2				LR		LR		
	comp=Z,480nm,14.0s							
SNY	**Shenyang**	**17.05**	**305**	⇑P		**P**	**01 06 11.0**	**+0.1**
SNY				AP			01 06 18.8	
SNY				XP			01 06 23.8	
SNY				S		**S**	**01 09 11.5**	**-6.3**
SNY				XS			01 09 24.5	
SNY				AMB		AMB		
	comp=Z,30nm,0.6s							
SNY				AMB		AMB		
	comp=Z,310nm,8.0s							
SNY				LR		LR		
	comp=N,590nm,13.5s							
SNY				LR		LR		
	comp=E,380nm,16.9s							
SNY				LR		LR		
	comp=Z,530nm,14.2s							

DL2	**Dalian**	**17.58**	**294**	P		**P**	**01 06 17.5**	**-0.1**	
DL2				*e*S		**S**	**01 09 30.5**	**+0.5**	
DL2				AMB		AMB			
	comp=Z,20nm,0.8s								
DL2				AMB		AMB			
	comp=Z,130nm,3.4s								
DL2				LR		LR			
	comp=N,520nm,12.9s								
DL2				LR		LR			
	comp=E,310nm,12.2s								
DL2				LR		LR			
	comp=Z,520nm,16.7s								
KLR	**Kul'dur**	**17.68**	**337**	*e*P		**P**	**01 06 11.8**	**-7.0**	
KLR				MLR		MLR			
	comp=E,700nm,15.0s								
SSE	**Sheshan**	**18.02**	**268**	P		**P**	**01 06 22.5**	**-0.6**	
SSE				AP			01 06 30.5		
SSE				XP			01 06 34.8		
SSE				S		**S**	**01 09 47.3**	**+7.4**	
SSE				AMB		AMB			
	comp=Z,32nm,0.9s								
SSE				AMB		AMB			
	comp=Z,165nm,6.5s								
SSE				LR		LR			
	comp=N,194nm,23.8s								
SSE				LR		LR			
	comp=E,199nm,23.8s								
SSE				LR		LR			
	comp=Z,247nm,23.5s								
SSE	**Sheshan**	**18.02**	**268**	P		**P**	**01 06 22.4**	**-0.7**	
	comp=Z,32nm,0.9s								
SSE				pP			01 06 30.4		
SSE				sP			01 06 34.8		
SSE				S		**S**	**01 09 47.2**	**+7.3**	
SSE				sS			01 10 04.7		
NJ2	**Nanjing**	**19.78**	**273**	*e*P		**P**	**01 06 41.5**	**-2.2**	
NJ2				AP			01 06 51.3		
NJ2				XP			01 06 53.5		
NJ2				PP		PP	01 07 00.0	-2.6	
NJ2				S		**S**	**01 10 23.0**	**+3.7**	
NJ2				XS			01 10 35.0		
NJ2				AMB		AMB			
	comp=Z,70nm,1.2s								
NJ2				AMB		AMB			
	comp=Z,100nm,3.6s								
NJ2				LR		LR			
	comp=N,840nm,14.3s								
NJ2				LR		LR			
	comp=E,920nm,15.9s								
NJ2				LR		LR			
	comp=Z,500nm,15.4s								
GUMO	**Guam**	**19.84**	**173**	*e*P		**P**	**01 06 44.5**	**0.0**	
GUMO				pmax		pmax			
	comp=Z,145nm,0.9s								
GUMO	**Guam**	**19.84**	**173**	*e*P		**P**	**01 06 44.5**	**0.0**	
	comp=Z,145nm,0.9s								
TATO	**Taipei**	**20.00**	**251**	P		**P**	**01 06 43.6**	**-2.4**	
	comp=Z,173nm,1.6s								
YHNB	**Yeheng**	**20.23**	**250**	*e*P		**P**	**01 06 45.3**	**-3.3**	
HIA	**Hailar**	**23.09**	**320**	*e*P		**P**	**01 07 16.3**	**-0.7**	
HIA				pmax		pmax			
	comp=Z,43nm,0.8s								
HIA	**Hailar**	**23.09**	**320**	*e*P		**P**	**01 07 16.3**	**-0.8**	
	comp=Z,43nm,0.8s,mb4.9								
WHN	**Wuhan**	**23.86**	**271**	⇑P		**P**	**01 07 24.5**	**-0.3**	
WHN				AMB		AMB			
	comp=Z,154nm,1.4s,mb5.2								
HHC	**Hu-ho-hao-te**	**25.54**	**296**	*e*P		**P**	**01 07 39.3**	**-1.4**	
HHC				AP		pP	01 07 48.5	-2.2	
HHC				XP		sP	01 07 52.5	-2.5	
HHC				PP		PP	01 08 24.3	+3.7	
HHC				S		**S**	**01 12 08.5**	**+5.2**	
HHC				SCP			01 14 43.0		
HHC				SCS		ScS	01 18 31.0	-4.0	
HHC				AMB		AMB			
	comp=Z,53nm,1.4s,mb4.9								
HHC				LR		LR			
	comp=N,415nm,14.4s,MS4.3								
HHC				LR		LR			
	comp=E,570nm,14.4s,MS4.3								
HHC				LR		LR			
	comp=Z,582nm,15.6s,MS4.2								
CLNS	**Chul'man**	**26.33**	**338**	*e*P		**P**	**01 07 48.5**	**+0.6**	
CLNS				pmax		pmax			
	comp=Z,21nm,0.9s,mb4.7								
CLNS				pmax		pmax			
	comp=N,24nm,0.8s								
CLNS				pmax		pmax			
	comp=E,15nm,0.9s								
BTO	**Baotou**	**26.68**	**295**	*e*P		**P**	**01 07 50.8**	**-0.5**	
MA2	**Magadan**	**26.80**	**10**	*e*P		**P**	**01 07 51.1**	**-1.1**	
MA2				pmax		pmax			
	comp=Z,6.0nm,1.2s,mb4.0								
XAN	**Xi'an**	**27.72**	**281**	P		**P**	**01 07 59.5**	**-1.4**	
XAN				S		**S**	**01 12 46.0**	**+7.0**	
XAN				AMB		AMB			
	comp=Z,25nm,1.4s,mb4.7								
XAN				AMB		AMB			
	comp=Z,151nm,9.4s								
XAN				LR		LR			
	comp=E,573nm,14.7s								
XAN				LR		LR			
	comp=Z,743nm,14.9s,MS4.4								
CIT	**Chita**	**27.89**	**321**	*e*P		**P**	**01 08 02.3**	**0.0**	
CIT				pmax		pmax			
	comp=

LZH eSS SS 01 15 30.3 -0.5
LZH AMB AMB
comp=Z,50nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,210nm,4.4s
LZH LR LR
comp=E,1μm,16.9s
LZH LR LR
comp=Z,2μm,18.1s,MS4.8
LZH Lanzhou 31.59 286 eP **P 01 08 35.0 -0.3**
LZH *PP pP 01 08 45.5 -0.2
LZH *SP sP 01 08 49.8 -0.6
LZH 01 09 40.2
LZH eS **S 01 13 40.0 -0.5**
LZH *SS 01 13 55.2
LZH eSS SS 01 15 30.2 -0.6
LZH pmax pmax
comp=Z,50nm,1.5s,mb5.1
LZH MLR MLR
comp=Z,2μm,18.1s,MS4.8
LZH Lanzhou 31.59 286 eP **P 01 08 35.0 -0.3**
comp=Z,50nm,1.5s,mb5.1
LZH pP pP 01 08 45.5 -0.2
LZH sP sP 01 08 49.8 -0.6
LZH PP PP 01 09 40.2 -0.2
LZH eS **S 01 13 40.0 -0.5**
LZH sS 01 13 55.2
LZH eSS SS 01 15 30.2 -0.6
LZH LR LR
comp=Z,2μm,18.1s,MS4.8
CD2 Chengdu 32.62 276⇑ *iP* **P 01 08 42.8 -1.5**
CD2 AMB AMB
comp=Z,14nm,0.4s,mb5.2
ZAK Zakamensk 33.20 313 eP **P 01 08 39.2 -10**
ZAK *e* pP 01 08 49.8 -10
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb3.9
TLY Talaya 33.35 315 eP **P 01 08 50.4 -0.1**
TLY pmax pmax
comp=Z,20nm,1.0s,mb5.0
TLY MLR MLR
comp=Z,194nm,15.0s,MS3.9
TLY Talaya 33.35 315 eP **P 01 08 50.0 -0.5**
comp=Z,26nm,1.1s,mb5.1
GTA Gaotai 34.49 292 P **P 01 09 00.0 -0.4**
GTA AP pP 01 09 06.8 -4.0
GTA XP sP 01 09 09.5 -6.1
GTA PP PP 01 10 18.3 +1.3
GTA PCP PcP 01 11 31.8 -3.4
GTA S **S 01 14 29.5 +4.0**
GTA SCP 01 15 13.8
GTA SS SS 01 16 38.8 +1.0
GTA SCS ScS 01 19 15.5 -2.1
GTA AMB AMB
comp=Z,12nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,115nm,9.9s
GTA LR LR
comp=N,297nm,16.3s,MS4.2
GTA LR LR
comp=E,248nm,20.5s,MS4.2
GTA LR LR
comp=Z,290nm,14.8s
MOY Mondy 34.93 314 eP **P 01 09 04.2 +0.2**
MOY pmax pmax
comp=Z,31nm,3.1s
KMI Kunming 35.33 267 P **P 01 09 06.8 -0.9**
KMI AMB AMB
comp=Z,15nm,0.5s,mb5.2
KMI Kunming 35.33 267 P **P 01 09 06.8 -0.9**
comp=Z,15nm,0.5s,mb5.2
BILL Bilibino 37.34 15 eP **P 01 09 22.5 -1.7**
BILL pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
BILL Bilibino 37.34 15 eP **P 01 09 22.5 -1.8**
comp=Z,9.3nm,0.9s,mb4.6
TIXI Tiksi 38.99 353 eP **P 01 09 34.9 -3.1**
TIXI pmax pmax
comp=Z,18nm,0.8s,mb4.8
TIXI MLR MLR
comp=Z,145nm,15.0s,MS3.9
WMQ Urumqi 43.24 301 P **P 01 10 13.5 +0.3**
WMQ AP pP 01 10 23.5 -0.3
WMQ XP sP 01 10 27.3 -1.0
WMQ PP PP 01 11 56.3 +0.5
WMQ S **S 01 16 37.5 +0.3**
WMQ AMB AMB
comp=Z,72nm,0.9s,mb5.4
WMQ AMB AMB
comp=Z,189nm,5.4s
WMQ LR LR
comp=N,221nm,12.6s,MS4.4
WMQ LR LR
comp=E,239nm,15.4s,MS4.4
WMQ LR LR
comp=Z,228nm,12.0s,MS4.3
LSA Lhasa 43.41 280 P **P 01 10 15.5 +0.7**
LSA Lhasa 43.41 280 eP **P 01 10 15.8 +1.0**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
LSA Lhasa 43.41 280 eP **P 01 10 15.8 +1.0**
comp=Z,6.6nm,0.6s,mb4.5
KSM Kuching 43.67 230 eP **P 01 10 16.2 -0.9**
ZAL Zalesovo 44.98 315 P **P 01 10 26.4 -0.7**
comp=Z,2.6nm,0.6s,mb4.2,baz=9.6,slow=8.4,SNR=7.0
ZAL PcP PcP 01 12 07.5 -0.7
comp=Z,5.1nm,0.7s,baz=26,slow=5.9,SNR=6.1
ZAL pPcP 01 12 17.6
comp=Z,3.6nm,0.8s,baz=348,slow=3.0,SNR=3.7
ZAL LR LR 01 30 59.0
comp=Z,88nm,18.4s,MS3.7,baz=17,slow=38
HNR Honiara 45.77 155 LR LR 01 29 29.3
comp=Z,84nm,18.9s,MS3.7,baz=350,slow=36
NVS Novosibirsk 45.94 316⇓ *iP* **P 01 10 34.2 -0.5**
NVS pmax pmax
comp=Z,33nm,1.2s,mb5.1
NVS pmax pmax
comp=E,33nm,1.3s
MKAR Makanchi Array 46.75 305 P **P 01 10 41.6 +0.4**
comp=E,9.9nm,0.8s,mb4.8,baz=88,slow=9.4,SNR=36
MKAR pP pP 01 10 49.4 -2.5
comp=E,29nm,0.7s,baz=88,slow=9.8,SNR=45
MKAR LR LR 01 31 22.0
comp=E,123nm,19.2s,MS3.9,baz=92,slow=37
KAKA Kakadu 46.79 193 eP **P 01 10 43.6 +1.7**
comp=E,16nm,0.8s,mb5.0
JIRN Jiri 48.20 279 eP **P 01 10 53.8 +1.0**
GUN Gumba 48.36 279 eP **P 01 10 54.7 +0.6**
PKI Pulchoki 48.87 279 eP **P 01 10 57.9 -0.1**
comp=E,31nm,0.8s,mb5.4
KKN Kakani 48.90 279 eP **P 01 10 58.4 +0.2**
comp=E,48nm,0.8s,mb5.6
DMN Daman 49.11 279 eP **P 01 10 59.8 -0.1**
comp=E,49nm,1.1s,mb5.5
GKN Gorkha 49.35 280 eP **P 01 11 01.9 +0.2**
comp=E,69nm,0.8s,mb5.7
KOLN Koldanda 50.29 280 eP **P 01 11 09.3 +0.4**
comp=E,30nm,0.7s,mb5.4
ILAR Eielson Array 52.21 31 P **P 01 11 21.4 -1.5**
comp=E,6.4nm,0.8s,mb4.6,baz=263,slow=5.7,SNR=7.5
KSH Kashi 52.64 297 eP **P 01 11 26.3 -0.1**
KSH eAP pP 01 11 36.5 -0.7
KSH eXP sP 01 11 41.3 -0.3
KSH ePCP PcP 01 12 37.3 +1.1
KSH ePP PP 01 13 26.5 -0.4
KSH ePCS 01 16 32.3
KSH eS **S 01 18 48.3 -1.5**
KSH eXS 01 19 07.0
KSH eSCS ScS 01 21 09.0 -0.9
KSH eSS SS 01 22 25.3 -1.8
KSH AMB AMB
comp=Z,50nm,0.4s,mb5.8
KSH AMB AMB
comp=Z,110nm,3.6s
KSH LR LR
comp=N,420nm,4.1s
KSH LR LR
comp=E,280nm,5.2s
FRU Bishkek 52.80 301⇓ *eP* **P 01 11 27.9 +0.3**
FRU pmax pmax
comp=Z,40nm,1.7s,mb5.1
AAK Ala-Archa 52.94 301 *d iP* **P 01 11 28.0 -0.6**
AAK pmax pmax
comp=Z,12nm,1.0s,mb4.8
AAK Ala-Archa 52.94 301 *eP* **P 01 11 27.7 -1.0**
comp=Z,10nm,0.8s,mb4.8
CTAO Charters Tower 53.30 175 *eP* **P 01 11 30.5 -1.1**
CTAO pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CTAO Charters Tower 53.30 175 *eP* **P 01 11 30.5 -1.2**
comp=Z,10nm,0.8s,mb4.8
WRAB Tennant Creek 53.56 189 *i* P **P 01 11 32.3 -1.2**
WRAB Tennant Creek 53.56 189 *eP* **P 01 11 31.8 -1.8**
comp=Z,16nm,0.7s,mb5.1
WB2 Warramunga Arr 53.57 189⇓ *iP* **P 01 11 32.1 -1.5**
WRA Warramunga Arr 53.57 189 P **P 01 11 32.2 -1.4**
comp=Z,9.2nm,0.8s,mb4.7,baz=10,slow=7.7,SNR=50
WRA pP pP 01 11 43.8 -0.6
comp=Z,7.7nm,0.6s,baz=8.2,slow=7.7,SNR=11
WRA PcP PcP 01 12 39.4 -0.5
comp=Z,3.7nm,0.6s,baz=0.5,slow=3.9,SNR=5.1
WRA pPcP 01 12 51.8
comp=Z,4.9nm,0.7s,baz=3.4,slow=4.2,SNR=5.1
BVA0 Borovoye Array 53.61 314 *i* P **P 01 11 32.8 -0.7**
BVA0 pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
BVAR Borovoye Array 53.61 314 P **P 01 11 33.1 -0.4**
comp=Z,4.7nm,0.7s,mb4.5,baz=90,slow=7.4,SNR=33
BVAR pP pP 01 11 44.1 -0.2
comp=Z,3.0nm,0.4s,baz=93,slow=8.5,SNR=6.9
FITZ Fitzroy Crossi 53.61 200⇓ *iP* **P 01 11 33.5 -0.5**
comp=Z,12nm,0.4s,mb5.2
FITZ Fitzroy Crossi 53.61 200 P **P 01 11 33.6 -0.4**
comp=Z,16nm,0.5s,mb5.2,baz=9.3,slow=7.3,SNR=38
FITZ pP pP 01 11 45.2 +0.4
comp=Z,27nm,0.8s,baz=0.3,slow=7.0,SNR=7.2
BRVK Borovoye 53.67 315 *eP* **P 01 11 31.6 -2.3**
BRVK pmax pmax
comp=Z,27nm,1.4s,mb5.0
BRVK Borovoye 53.67 315 *eP* **P 01 11 31.6 -2.3**
comp=Z,27nm,1.4s,mb5.0
DDI Dehra Dun 53.89 285 *e* **P 01 11 34.8 -1.1**
THN Thein Dam 55.02 289 *eP* **P 01 11 42.2 -1.8**
KKAR Karatay Array 55.65 303 *i* P **P 01 11 48.5 0.0**
KKAR pmax pmax
comp=Z,34nm,1.0s,mb5.3
INK Inuvik 57.32 26 P **P 01 11 58.7 -1.4**
INK *PP pP 01 12 10.6 -0.4
INK pmax pmax
comp=Z,7.0nm,0.7s
INK pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 57.32 26 P **P 01 11 58.7 -1.4**
comp=Z,7.2nm,0.7s,mb4.8,baz=304,slow=5.3,SNR=15
INK pP pP 01 12 10.6 -0.4
comp=Z,4.0nm,0.7s,baz=291,slow=7.9,SNR=4.8
INK Inuvik 57.32 26 *eP* **P 01 11 58.2 -1.8**
comp=Z,7.5nm,0.7s,mb4.8
MBWA Marble Bar 58.36 205 *eP* **P 01 12 06.9 -1.1**
comp=Z,29nm,1.3s,mb5.2
HYB Hyderabad 58.93 271 *eP* **P 01 12 12.0 0.0**
HYB *e* pP 01 12 24.0 +1.1
HYB pmax pmax
comp=Z,60nm,1.0s,mb5.6
HYB Hyderabad 58.93 271 *eP* **P 01 12 12.0 0.0**
comp=Z,60nm,1.0s,mb5.6
HYB *e* pP 01 12 24.0 +1.1
HYB Hyderabad 58.93 271 *i P* **P 01 12 12.0 0.0**
comp=Z,60nm,1.0s,mb5.6
HYB *e* pP 01 12 24.0 +1.1
ARU Arti 59.60 320⇓ *iP* **P 01 12 15.3 -0.9**
ARU *e* 01 13 01.1
ARU *e* 01 14 24.0
ARU eS **S 01 20 25.8 +3.8**
ARU eSS SS 01 24 18.3 -0.7
ARU pmax pmax
comp=Z,42nm,1.5s,mb5.2
ARU Arti 59.60 320 *eP* **P 01 12 15.0 -1.1**
comp=Z,56nm,1.1s,mb5.5
NOUC Port Laguerre 59.73 154 *eP* **P 01 12 14.8 -2.7**
DZM Mont Dzumac 59.75 154 *eP* **P 01 12 17.7 0.0**
DLBC Dease Lake 61.07 37 P **P 01 12 25.7 -0.4**
comp=Z,2.8nm,0.7s,mb4.5,baz=305,slow=13,SNR=4.5
DLBC pP pP 01 12 37.5 +0.5
comp=Z,4.9nm,1.0s,baz=283,slow=12,SNR=5.6
PALK Pallekele 62.38 260 *eP* **P 01 12 35.7 +0.2**
comp=Z,84nm,1.3s,mb5.7
STKA Stephens Creek 64.91 181 *eP* **P 01 12 51.6 -0.3**
comp=Z,7.8nm,0.8s,mb4.8
STKA *e* pP 01 13 02.9 -0.1
STKA Stephens Creek 64.91 181 P **P 01 12 51.7 -0.2**
comp=Z,9.0nm,0.8s,mb4.8,baz=347,slow=5.3,SNR=10
STKA pP pP 01 13 02.7 -0.3
comp=Z,20nm,0.8s,baz=338,slow=8.4,SNR=15
LVZ Lovozero 65.74 337 *eP* **P 01 12 55.6 -1.0**
LVZ pmax pmax
comp=Z,18nm,1.5s,mb4.9
RES Resolute Bay 65.95 14 *eP* **P 01 12 56.7 -1.1**
RES *e* pP 01 13 07.2 -1.8
RES pmax pmax
comp=Z,16nm,0.9s,mb5.0
RES Resolute Bay 65.95 14 *eP* **P 01 12 56.6 -1.2**
comp=Z,16nm,0.9s,mb5.1
RES *e* pP 01 13 07.2 -1.7
APA Apatity 66.32 337⇑ *iP* **P 01 12 59.5 -0.7**
APA pmax pmax
comp=Z,16nm,1.0s,mb5.0
YKW3 Yellowknife Ar 66.57 29 *eP* **P 01 13 00.2 -1.7**
YKA Yellowknife Ar 66.60 30 P **P 01 13 00.8 -1.3**
comp=Z,6.6nm,0.9s,mb4.7,baz=294,slow=6.4,SNR=14
YKA pP pP 01 13 12.3 -0.9
comp=Z,6.0nm,0.8s,baz=295,slow=6.4,SNR=8.1
YKA sP sP 01 13 21.6 +4.3
comp=Z,4.2nm,0.9s,baz=297,slow=6.6,SNR=3.1
KEV Kevo 67.11 340 *ep* **P 01 13 00.7 -4.5**
comp=Z,7.0nm,1.0s,mb4.7
KEV Kevo 67.11 340 *eP* **P 01 13 00.7 -4.5**
KEV pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
ARCES ARCESS Array B 67.67 340 P **P 01 13 08.4 -0.3**
comp=Z,4.3nm,0.8s,mb4.6,baz=59,slow=7.1,SNR=13
ARCES LR LR 01 49 18.2
comp=Z,89nm,18.7s,MS4.0,baz=77,slow=42
DAG Danmarks Havn 69.47 355⇓ *iP* **P 01 13 19.8 0.0**
DAG pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
DAG Danmarks Havn 69.47 355⇓ *iP* **P 01 13 19.8 0.0**
comp=Z,2.8nm,0.5s,mb4.5
NWAO Narrogin (SRO) 70.06 202 *eP* **P 01 13 24.1 0.0**
comp=Z,103nm,0.7s,mb5.9
NWAO Narrogin (SRO) 70.06 202 P **P 01 13 24.2 +0.1**
NWAO *PP pP 01 13 35.9 +0.7
NWAO pmax pmax
comp=Z,13nm,0.6s
NWAO pmax pmax
comp=Z,17nm,0.7s
NWAO Narrogin (SRO) 70.06 202 P **P 01 13 24.2 +0.1**
comp=Z,13nm,0.6s,mb5.0,baz=30,slow=5.5,SNR=13
NWAO pP pP 01 13 35.9 +0.7
comp=Z,17nm,0.7s,baz=36,slow=8.9,SNR=3.4
MOS Moscow 70.63 325 *eP* **P 01 13 22.7 -4.5**
MOS pmax pmax
comp=Z,61nm,1.5s,mb5.3
OBN Obninsk 71.47 324 *d iP* **P 01 13 31.8 -0.4**
OBN *e* 01 13 47.0
OBN *e* 01 16 14.5
OBN pmax pmax
comp=Z,50nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.4
OBN Obninsk 71.47 324 *eP* **P 01 13 31.5 -0.7**
comp=Z,43nm,1.1s,mb5.3
EDM Edmonton 71.76 38 *eP* **P 01 13 32.4 -1.6**
EDM *e* pP 01 13 44.6 -0.5
KAF Kangasniemi 71.89 334 *ep* **P 01 13 33.4 -1.2**
comp=Z,8.8nm,0.5s,mb5.0,baz=50,slow=5.7
KAF Kangasniemi 71.89 334 *eP* **P 01 13 33.4 -1.2**
KAF pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
YBH Yreka Blue Hor 72.01 52 P **P 01 13 35.4 -0.2**
YBH pmax pmax
comp=Z,4.0nm,0.8s
YBH Yreka Blue Hor 72.01 52 P **P 01 13 35.4 -0.3**
comp=Z,4.2nm,0.8s,mb4.4
NEW Newport 72.25 44 *eP* **P 01 13 36.3 -0.6**
NEW *e* pP 01 13 47.5 -0.6
NEW pmax pmax
comp=Z,9.0nm,0.9s
NEW Newport 72.25 44 *eP* **P 01 13 36.2 -0.7**
comp=Z,8.7nm,0.9s,mb4.7
NEW *e* pP 01 13 47.5 -0.6
FINES FINESS Array B 72.39 333 P **P 01 13 37.4 -0.1**
comp=Z,11nm,0.8s,mb4.8,baz=90,slow=7.6,SNR=29
FINES pP pP 01 13 48.2 -0.5
comp=Z,5.9nm,0.8s,baz=84,slow=4.6,SNR=5.0
FINES LR LR 01 49 24.5
comp=Z,62nm,18.7s,MS3.9,baz=49,slow=39
GOF Gofitskoye 73.10 313⇑ *iP* **P 01 13 39.0 -3.0**
GOF pmax pmax
comp=Z,40nm,1.7s,mb5.1
WALA Waterton Lakes 73.66 42 *eP* **P 01 13 44.8 -0.4**
comp=Z,7.8nm,0.8s,mb4.7
WALA *e* pP 01 13 56.0 -0.3
TI2 Plekhanov 73.69 309 *eP* **P 01 13 39.4 -6.2**
BMO Blue Mountains 73.88 47 *eP* **P 01 13 46.4 -0.1**
comp=Z,4.0nm,0.8s,mb4.4
BMO *e* pP 01 13 56.9 -0.9
VSU Vasula 73.98 330 *d iP* **P 01 13 46.7 -0.2**
WVOR Wild Horse Val 74.29 49 *eP* **P 01 13 49.1 +0.1**
WVOR pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
WVOR Wild Horse Val 74.29 49 *eP* **P 01 13 49.1 +0.1**
comp=Z,5.6nm,0.9s,mb4.5
SUMG Summit 74.33 0 *eP* **P 01 13 49.0 +0.3**
comp=Z,10nm,0.7s,mb4.9
BEKR Beckwourth 74.48 52 *eP* **P 01 13 50.2 0.0**
comp=Z,11nm,0.8s,mb4.8
BEKR *e* pP 01 14 01.1 -0.3
GNI Garni 74.50 308 P **P 01 13 51.9 +1.6**
comp=Z,1.6nm,0.4s,mb4.3,baz=263,slow=3.4,SNR=5.4
GNI Garni 74.50 308 P **P 01 13 51.9 +1.6**
CMB Columbia Colle 75.40 54 *eP* **P 01 13 55.5 0.0**
CMB *e* pP 01 14 06.1 -0.6
CMB pmax pmax
comp=Z,15nm,0.9s,mb4.9
CMB Columbia Colle 75.40 54 *eP* **P 01 13 55.5 -0.1**
comp=Z,15nm,0.9s,mb4.9
CMB *e* pP 01 14 06.1 -0.6
SOC Sochi 75.90 313 *eP* **P 01 13 56.6 -1.6**
SOC *e* pP 01 14 05.7 -3.7
SOC *e* 01 16 45.4
SOC ePPP PPP 01 18 32.9 -4.5
SOC eS S 01 23 35.7 -1.2
SOC *e* 01 24 26.8
SOC eSS SS 01 28 39.1 +6.6
SOC eSSS SSS 01 31 50.0 +2.6
SOC pmax pmax
comp=Z,21nm,0.9s,mb5.1
SOC pmax pmax
comp=N,8.0nm,0.6s
SOC pmax pmax
comp=E,17nm,0.9s
SOC MLR MLR
comp=N,71nm,17.0s,MS4.2
SOC MLR MLR
comp=E,65nm,17.0s,MS4.2
SOC MLR MLR
comp=Z,88nm,17.0s,MS4.1
TAU Tasmania Unive 76.06 176 P **P 01 14 02.0 +2.8**
comp=Z,4.3nm,0.6s,mb4.6
HRY Holter Researc 76.11 43 *eP* **P 01 13 59.3 0.0**
HRY *e* pP 01 14 10.4 -0.1
HLID Hailey 76.33 47 *eP* **P 01 14 00.0 -0.6**
comp=Z,3.4nm,0.9s,mb4.3
FFC Flin Flon 76.38 33 *eP* **P 01 14 00.1 -0.6**
FFC *e* pP 01 14 11.5 -0.4
FFC pmax pmax
comp=Z,13nm,0.8s,mb4.9
FFC Flin Flon 76.38 33 *eP* **P 01 14 00.1 -0.6**
comp=Z,13nm,0.8s,mb4.9
FFC *e* pP 01 14 11.5 -0.4
NVAR Mina Array Bea 76.59 53 P **P 01 14 02.8 +0.5**
baz=280,slow=5.5
NVAR pP pP 01 14 14.2 +0.7
comp=Z,7.6nm,0.8s,baz=294,slow=3.7,SNR=6.3
ANN Anapa 76.61 315 *eP* **P 01 14 01.7 -0.5**
ANN eS S 01 23 48.6 +4.0
ANN pmax pmax
comp=Z,30nm,1.6s,mb5.0
FCC Fort Churchill 76.93 26 *eP* **P 01 14 02.7 -1.1**
FCC pmax pmax
comp=Z,27nm,1.1s,mb5.1
FCC Fort Churchill 76.93 26 *eP* **P 01 14 02.7 -1.1**
comp=Z,27nm,1.1s,mb5.1
ELK Elko 77.35 49 *eP* **P 01 14 06.6 +0.1**
ELK *e* pP 01 14 18.0 +0.3
ELK pmax pmax
comp=Z,4.0nm,1.1s
ELK Elko 77.35 49 *eP* **P 01 14 06.6 +0.1**
comp=Z,4.4nm,1.1s,mb4.3
ELK *e* pP 01 14 18.0 +0.3
QLMT Earthquake Lak 77.40 44 *eP* **P 01 14 07.0 +0.4**
QLMT *e* pP 01 14 17.5 -0.4
AKASG Malin Array Be 77.64 323 P **P 01 14 07.7 -0.2**
comp=Z,6.8nm,0.8s,mb4.6,baz=45,slow=5.9,SNR=28
HFS Hagfors 77.72 336 P **P 01 14 08.1 0.0**
comp=Z,7.2nm,0.5s,mb4.8,baz=90,slow=3.0,SNR=47
HFS pP pP 01 14 19.6 +0.3
comp=Z,3.0nm,0.5s,baz=90,slow=4.4,SNR=3.9
NB2 NORSAR Subarra 77.84 338 P **P 01 14 08.5 -0.2**
comp=Z,11nm,0.6s,mb5.0,baz=40,slow=5.6
NB2 NORSAR Subarra 77.84 338 P **P 01 14 08.5 -0.2**
NB2 pmax pmax
comp=Z,11nm,0.6s,mb5.0
NB2 NORSAR Subarra 77.84 338 P **P 01 14 08.5 -0.2**
baz=40,slow=5.6
NOA NORSAR Array B 77.84 338 P **P 01 14 08.8 +0.1**
comp=Z,12nm,0.8s,mb4.9,baz=39,slow=5.6,SNR=52
NOA pP pP 01 14 20.9 +1.0
comp=Z,4.0nm,0.8s,baz=38,slow=5.7,SNR=6.4
NOA LR LR 01 53 22.3
comp=Z,80nm,18.2s,MS4.1,baz=60,slow=39
MIB Mutribah 78.01 298 *eP* **P 01 14 11.0 +0.7**
MIB AMb AMB 01 14 11.7
comp=Z,36nm,0.6s,mb5.5
KBD Kabd 78.07 297 *eP* **P 01 14 10.9 +0.2**
IMW Indian Meadow 78.22 45 *eP* **P 01 14 11.4 +0.2**
comp=Z,8.8nm,0.9s,mb4.7
RDF Al-Radifah 78.31 297 *eP* **P 01 14 12.3 +0.3**
RDF AMb AMB 01 14 13.4
comp=Z,73nm,0.8s,mb5.7
RRI2 Red Ridge 78.31 46 P **P 01 14 14.0 +2.2**
comp=Z,5.7nm,0.7s,mb4.6
SUW Suwalki 78.36 328 *eP* **P 01 14 11.6 -0.2**
SUW Suwalki 78.36 328 *eP* **P 01 14 11.6 -0.1**
NAY Al-Naaiem 78.37 297 *eP* **P 01 14 12.8 +0.5**
NAY AMb AMB 01 14 13.6
comp=Z,24nm,0.7s,mb5.2
MOOW Moose Ponds 78.42 45 *eP* **P 01 14 12.4 +0.1**
comp=Z,3.9nm,0.7s,mb4.5
MOOW *e* pP 01 14 24.0 +0.5
TPAW Teton Pass 78.45 45 *eP* **P 01 14 12.1 -0.4**
comp=Z,6.0nm,0.7s,mb4.6
TPAW *e* pP 01 14 24.6 +0.9
SIM Simferopol' 78.46 316 *d iP* **P 01 14 12.6 +0.1**
SIM pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LOHW Long Hollow 78.59 45 *eP* **P 01 14 13.9 +0.7**
comp=Z,8.3nm,1.2s,mb4.5
HASS Wahat al Ahsa' 78.63 293 P **P 01 14 14.6 +0.7**
PDAR Pinedale Array 79.70 45 P **P 01 14 19.1 -0.2**
comp=Z,1.2nm,0.6s,mb4.0,baz=281,slow=2.4,SNR=13
PDAR pP pP 01 14 30.4 -0.2
comp=Z,2.4nm,0.7s,baz=292,slow=2.0,SNR=14
PDAR LR LR 01 47 08.6
comp=Z,38nm,19.8s,MS3.7,baz=79,slow=34
DAU Daniels Canyon 80.04 48 *eP* **P 01 14 22.2 +1.0**
DAU *e* pP 01 14 33.4 +1.0
ARUT Antelope Range 80.15 51 P **P 01 14 21.8 0.0**
ARUT *e* pP 01 14 34.0 +0.9
NEN Nelson 80.43 54 *eP* **P 01 14 23.4 +0.1**
NEN *e* pP 01 14 34.4 -0.3
PFO Pinyon Flat Ob 80.46 56 *eP* **P 01 14 22.8 -0.8**
PFO *e* pP 01 14 34.4 -0.4
PFO pmax pmax
comp=Z,12nm,0.9s,mb4.8
PFO Pinyon Flat Ob 80.46 56 *eP* **P 01 14 22.8 -0.8**
comp=Z,12nm,0.9s,mb4.8
PFO *e* pP 01 14 34.4 -0.5
MSU Marysvale 80.56 50 *eP* **P 01 14 24.5 +0.5**

LDFC Landfair 80.57 54 *e*P P **01 14 23.6 -0.5**
LDFC *e* pP 01 14 34.7 -0.7
BSD Bornholm Skovb 81.01 332 *i* P P **01 14 26.0 0.0**
BSD pmax pmax
comp=Z,17nm,1.0s,mb4.9
BSD Bornholm Skovb 81.01 332 *i* P P **01 14 26.0 0.0**
comp=Z,17nm,1.0s,mb4.9
SRU San Rafael 81.26 49 *e*P P **01 14 27.8 +0.1**
GKP Gorka Klasztor 81.43 330 *e*P P **01 14 28.5 +0.3**
GKP Gorka Klasztor 81.43 330 *e*P P **01 14 28.6 +0.3**
COP Copenhagen 81.52 334 *e*P P **01 14 28.8 +0.2**
COP pmax pmax
comp=Z,25nm,0.8s,mb5.2
COP Copenhagen 81.52 334 *e*P P **01 14 28.8 +0.2**
comp=Z,25nm,0.8s,mb5.2
COP Copenhagen 81.52 334 *i* P P **01 14 28.8 +0.2**
comp=Z,25nm,0.8s,mb5.2
KWP Kalwaria 81.53 325 *e*P P **01 14 29.8 +1.0**
KWP Kalwaria 81.53 325 *e*P P **01 14 29.8 +1.0**
BURAR Bucovina Array 81.64 322 ⇑P P **01 14 30.8 +1.3**
BURAR Bucovina Array 81.64 322 ⇑P P **01 14 30.8 +1.4**
RWWY Rawlins 81.74 45 *e*P P **01 14 30.1 0.0**
comp=Z,17nm,1.1s,mb4.9
BR131 Keskin Array S 81.84 312 *e*P P **01 14 31.5 +0.9**
comp=Z,3.7nm,0.7s,mb4.4
BR131 *e* pP 01 14 43.7 +1.7
BRTR Keskin Array B 81.84 312 P P **01 14 31.4 +0.8**
comp=Z,4.9nm,0.7s,mb4.5,baz=109,slow=3.9,SNR=27
BRTR pP pP 01 14 43.5 +1.5
comp=Z,3.5nm,0.9s,baz=117,slow=5.5,SNR=5.8
VRI Vrincioaia 81.99 320 ⇓P P **01 14 33.6 +2.3**
MUD Monsted U'grnd 82.08 336 ⇓*i* P P **01 14 31.7 +0.2**
MUD pmax pmax
comp=Z,17nm,0.9s,mb5.0
MUD Monsted U'grnd 82.08 336 ⇓*i* P P **01 14 31.7 +0.2**
comp=Z,17nm,0.9s,mb5.0
ULM Lac du Bonnet 82.14 33 P P **01 14 32.9 +0.9**
comp=Z,2.5nm,0.6s,mb4.3,baz=325,slow=9.5,SNR=3.3
KOLS Kolonicke sedl 82.21 325 *e*P P **01 14 33.4 +1.0**
KOLS *e*pP pP 01 14 44.9 +1.2
PPT Papeete 82.34 117 *e*LR LR 01 39 31.0
comp=Z,169nm,24.8s
PPT Papeete 82.34 117 LR LR 01 48 26.2
comp=Z,135nm,19.5s,MS4.3,baz=340,slow=34
STHS Stebnicka Huta 82.37 326 *e*P P **01 14 34.6 +1.4**
OJC Ojcow 82.48 327 *e*P P **01 14 34.5 +0.8**
ISR Istrita 82.58 320 ⇑P P **01 14 36.3 +2.0**
CRVS Cervenica-Dubn 82.62 325 *e*P P **01 14 35.7 +1.2**
CRVS *e* 01 14 59.4
PV10 Paradox Valley 82.63 49 *e*P P **01 14 35.9 +1.2**
PV10 *e* pP 01 14 47.3 +1.2
MLR Muntele Rosu 82.66 321 P P **01 14 36.1 +1.4**
comp=Z,2.9nm,0.6s,mb4.5,baz=18,slow=5.1,SNR=9.4
MLR pP pP 01 14 47.3 +1.3
comp=Z,2.0nm,0.5s,baz=256,slow=14,SNR=5.1
MLR Muntele Rosu 82.66 321 ⇓P P **01 14 36.5 +1.8**
MLR Muntele Rosu 82.66 321 ⇓P P **01 14 36.5 +1.8**
NIE Niedzica 82.81 326 ⇓*e*P P **01 14 36.6 +1.2**
PHWY Pilot Hill 83.02 45 *e*P P **01 14 37.2 +0.6**
PV01 Paradox Valley 83.07 49 *e*P P **01 14 37.0 0.0**
PV01 *e* pP 01 14 47.9 -0.4
VOIR 83.16 321 ⇓P P **01 14 38.2 +0.9**
KECS Kecovo 83.38 325 *e*P P **01 14 38.9 +0.6**
KECS *e* pP 01 14 51.4 +1.7
KECS *e* 01 15 00.6
HILS Ha'il 83.41 298 P P **01 14 40.7 +1.7**
SMCO Snowmass 83.42 47 *e*P P **01 14 39.3 +0.5**
SMCO *e* pP 01 14 50.5 +0.4
DRGR 83.46 323 P P **01 14 40.2 +1.4**
DRGR 83.46 323 ⇓P P **01 14 39.9 +1.1**
OKC Ostrava-Krasne 83.51 327 *e*P P **01 14 39.5 +0.6**
OKC *e*pP pP 01 14 51.8 +1.6
OKC AMS AMS 01 57 00.0
comp=Z,100nm,19.6s
KSP Ksiaz 83.59 329 *e*P P **01 14 39.6 +0.3**
KSP Ksiaz 83.59 329 *e*P P **01 14 40.1 +0.8**
BSEG Bad Segeberg 83.65 334 *e*P P **01 14 39.7 +0.2**
MORC Moravsky Berou 83.82 328 P P **01 14 41.8 +1.3**
MORC Moravsky Berou 83.82 328 *e*P P **01 14 39.8 -0.7**
comp=Z,17nm,1.3s,mb5.0
DPC Dobruska-Polom 83.94 329 *e*P P **01 14 42.1 +1.0**
DPC *e*pP pP 01 14 53.9 +1.5
DPC AMS AMS 01 57 20.0
comp=Z,100nm,16.3s
UPC Upice 83.96 329 *e*P P **01 14 41.9 +0.7**
PSZ Piszkesteto 84.06 325 *e*P P **01 14 42.8 +1.1**
PSZ *e* pP 01 14 54.1 +1.0
PSZ pmax pmax
comp=Z,55nm,1.3s,mb5.5
PSZ Piszkesteto 84.06 325 P P **01 14 43.2 +1.4**
PSZ Piszkesteto 84.06 325 *e*P P **01 14 42.8 +1.0**
comp=Z,55nm,1.3s,mb5.5
PSZ *e* pP 01 14 54.1 +1.0
PSZ Piszkesteto 84.06 325 ⇓*e*P P **01 14 43.0 +1.2**
VYHS Vyhne 84.15 326 *e*P P **01 14 43.0 +0.8**
VYHS *e*pP pP 01 14 55.0 +1.5
VYHS *e* 01 15 03.5
ASF Jabal al Asfar 84.17 305 P P **01 14 44.2 +1.5**
comp=Z,10nm,0.7s,mb5.0,baz=286,slow=4.1,SNR=23
QURS Quravyt al Mil 84.33 304 P P **01 14 45.2 +1.6**
AFFS 'Afif 84.44 295 P P **01 14 45.3 +1.1**
PVCC Panska Ves 84.57 330 *e*P P **01 14 45.3 +1.1**
PVCC AMS AMS 01 58 20.0
comp=Z,200nm,13.0s
TAOE Nuku Hiva Isla 84.57 104 *e*LR LR 01 40 35.8
comp=Z,918nm,27.0s
BRG Berggiesshubel 84.57 330 ⇓*i* P P **01 14 44.9 +0.7**
BRG *i* pP 01 14 56.7 +1.1
BRG pmax pmax
comp=Z,14nm,0.6s,mb5.3
BRG Berggiesshubel 84.57 330 ⇓*i* P P **01 14 44.9 +0.7**
comp=Z,14nm,0.6s,mb5.3
BRG *i* pP 01 14 56.7 +1.1
VRAC Vranov 84.59 328 P P **01 14 45.5 +1.2**
comp=Z,10nm,0.8s,mb5.0,baz=61,slow=4.5,SNR=11
VRAC Vranov 84.59 328 P P **01 14 45.7 +1.3**
CLL Collm 84.63 331 ⇓*i* P P **01 14 44.9 +0.4**
CLL *i* *PP pP 01 14 56.4 +0.5
CLL pmax pmax
comp=Z,31nm,1.0s,mb5.4
CLL Collm 84.63 331 ⇓*i* P P **01 14 44.9 +0.4**
comp=Z,31nm,1.0s,mb5.4
CLL *i* pP pP 01 14 56.4 +0.5
CLL Collm 84.63 331 ⇓P P **01 14 44.9 +0.4**
comp=Z,logA/T=1.5,mb5.4
CLL *i* *PP pP 01 14 56.4 +0.5
SMOL Smolenice 84.79 327 *e*P P **01 14 47.0 +1.6**
SMOL *e* 01 14 53.1
SMOL *e* 01 15 07.5
SRO1 Iza 84.96 326 *e*P P **01 14 47.7 +1.5**
SRO1 *e*pP pP 01 14 59.7 +2.1
PRU Pruhonice 84.98 329 *e*P P **01 14 46.8 +0.5**
PRU *e*pP pP 01 14 58.2 +0.5
PRU AMS AMS 01 58 40.0
comp=Z,100nm,16.1s
TUC Tucson 85.11 54 *e*P P **01 14 46.5 -0.9**
TUC *e* pP 01 14 58.2 -0.5
TUC pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
TUC Tucson 85.11 54 *e*P P **01 14 46.5 -0.9**
comp=Z,4.0nm,0.9s,mb4.5
TUC *e* pP 01 14 58.2 -0.5
SDCO Great Sand Dun 85.22 47 *e*P P **01 14 48.6 +0.8**
comp=Z,14nm,0.8s,mb5.2
SDCO *e* pP 01 14 59.8 +0.6
KAMS Al Khamasin 85.22 291 P P **01 14 48.9 +0.7**
CLZ Clausthal 85.27 332 *e*P P **01 14 48.7 +1.0**
CLZ pmax pmax
comp=Z,39nm,1.4s,mb5.3
CLZ Clausthal 85.27 332 *e*P P **01 14 48.7 +1.0**
comp=Z,39nm,1.4s,mb5.3
NKC Novy Kostel 85.68 330 *e*P P **01 14 50.2 +0.5**
NKC *e*pP pP 01 14 58.9 -2.2
MOX Moxa 85.70 331 *e*P P **01 14 50.3 +0.5**
MOX *e* pP 01 15 02.2 +1.0
MOX pmax pmax
comp=Z,22nm,1.4s,mb5.2
MOX MLR MLR
comp=Z,100nm,16.0s,MS4.3
MOX Moxa 85.70 331 *e*P P **01 14 50.3 +0.5**
comp=Z,22nm,1.4s,mb5.2
MOX *e* pP 01 15 02.2 +1.0
MOX LR LR
comp=Z,100nm,16.0s,MS4.3
MOX Moxa 85.70 331 *i* P P **01 14 50.3 +0.5**
comp=Z,logA/T=1.2,mb5.2
MOX pP pP 01 15 02.0 +0.8
MOX L 01 59 29.0
TBI Tubuai 86.02 121 *e*LR LR 01 41 13.0
comp=Z,151nm,37.2s
KHC Kasperske Hory 86.04 329 *e*P P **01 14 52.3 +0.8**
KHC *e*pP pP 01 15 03.9 +1.0
KHC AMS AMS 02 00 10.0
comp=Z,200nm,11.9s
GEC2 GERESS Array S 86.20 329 *e*P P **01 14 53.2 +0.9**
GEC2 pmax pmax
comp=Z,13nm,1.6s,mb4.9
GEC2 GERESS Array S 86.20 329 *e*P P **01 14 53.2 +0.9**
comp=Z,13nm,1.6s,mb4.9
GERES GERESS Array B 86.20 329 P P **01 14 53.1 +0.8**
comp=Z,1.3nm,0.7s,mb4.3,baz=36,slow=5.6,SNR=19
GERES pP pP 01 15 05.0 +1.3
comp=Z,0.9nm,0.7s,baz=45,slow=3.8,SNR=5.7
GERES *e*PP pP 01 18 13.9 -1.1
comp=Z,0.4nm,0.7s,baz=45,slow=7.5,SNR=4.0
GERES LR LR 01 57 35.1
comp=Z,49nm,19.1s,MS3.9,baz=232,slow=38
ANMO Albuquerque 86.36 50 P P **01 14 54.7 +1.2**
ANMO *PP pP 01 15 06.0 +1.1
ANMO pmax pmax
comp=Z,9.0nm,1.1s
ANMO pmax pmax
comp=Z,7.0nm,0.8s
ANMO Albuquerque 86.36 50 P P **01 14 54.6 +1.2**
comp=Z,8.7nm,1.1s,mb4.9,baz=292,slow=3.8,SNR=13
ANMO pP pP 01 15 06.0 +1.1
comp=Z,6.5nm,0.8s,baz=296,slow=6.9,SNR=10
ANMO Albuquerque 86.36 50 *e*P P **01 14 54.1 +0.7**
comp=Z,7.6nm,0.9s,mb4.9
ANMO *e* pP 01 15 05.4 +0.6
TATS Tathlith 86.51 291 P P **01 14 55.7 +1.2**
GRA1 Grafenberg Arr 86.60 331 *e*P P **01 14 55.2 +1.0**
comp=Z,43nm,1.3s,mb5.5
GRA1 *e*pP pP 01 15 06.6 +0.9
GRF Grafenberg Arr 86.60 331 *e*P P **01 14 55.2 +1.0**
GRF *e**PP pP 01 15 06.6 +0.9
GRF pmax pmax
comp=Z,43nm,1.3s,mb5.5
GRF Grafenberg Arr 86.60 331 *e*P P **01 14 55.2 +1.0**
GRF *e**PP pP 01 15 06.6 +0.9
GRF pmax pmax
comp=Z,43nm,1.3s,mb5.5
GRF Grafenberg Arr 86.60 331 *e*P P **01 14 55.2 +1.0**
comp=Z,43nm,1.3s,mb5.5
GRF *e*pP pP 01 15 06.6 +0.9
EKA Eskdalemuir Ar 86.81 341 P P **01 14 56.2 +1.1**
comp=Z,2.4nm,0.6s,mb4.6,baz=27,slow=5.1,SNR=11
EKA pP pP 01 15 07.5 +0.9
comp=Z,3.7nm,1.0s,baz=31,slow=4.9,SNR=5.2
DJNS Zahran al Janu 87.48 289 P P **01 15 00.5 +1.3**
LEGS Legarje 87.65 326 *e*P P **01 14 59.2 -0.2**
UMJS Umm Lajj 87.93 299 P P **01 15 03.3 +2.0**
LJU Ljubljana 87.94 327 *e*P P **01 15 00.7 -0.2**
SCHQ Schefferville 88.63 16 P P **01 15 04.3 0.4**
comp=Z,3.3nm,0.9s,mb4.7,baz=328,slow=7.0,SNR=4.2
SCHQ pP pP 01 15 16.0 +0.7
comp=Z,3.8nm,1.0s,baz=56,slow=8.6,SNR=3.0
SCHQ Schefferville 88.63 16 P P **01 15 04.3 +0.4**
SCHQ *e* pP pP 01 15 16.0 +0.7
BFO Black Forest 88.85 331 *e*P P **01 15 05.6 +0.5**
BFO pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
BFO Black Forest 88.85 331 *e*P P **01 15 05.6 +0.5**
comp=Z,10.0nm,1.1s,mb5.1
MNTX Cornudas Mount 89.10 52 *e*P P **01 15 06.7 -0.1**
comp=Z,2.5nm,0.8s,mb4.6
MNTX *e* pP 01 15 16.7 -1.5
CDF Champ du Feu 89.20 332 *e*P P **01 15 07.3 +0.5**
CPRX Cap Rock 89.24 50 *e*P P **01 15 06.2 -1.2**
CPRX *e* pP 01 15 16.3 -2.5
DAVOX Davos 89.44 330 P P **01 15 10.0 +2.0**
comp=Z,2.3nm,0.6s,mb4.7,baz=28,slow=3.3,SNR=4.7
DAVOX pP pP 01 15 20.2 +0.8
comp=Z,4.2nm,0.8s,baz=139,slow=3.1,SNR=4.1
GDL2 Guadalupe Moun 89.45 51 *e*P P **01 15 07.9 -0.4**
GDL2 *e* pP 01 15 19.8 -0.1
LOR Lormes 91.46 333 *e*P P **01 15 17.7 +0.3**
comp=Z,9.2nm,0.8s,mb4.8
LOR *e*pP pP 01 15 28.2 -0.7
LOR *e*R
comp=Z,58nm,18.8s
LOR Lormes 91.46 333 *e*P P **01 15 17.7 +0.3**
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
LOR MLR MLR
comp=Z,60nm,18.8s,MS4.1
FLN La Foliniere 91.74 336 *e*P P **01 15 18.6 0.0**
comp=Z,23nm,0.9s,mb5.2
FLN *e*R
comp=Z,57nm,17.0s
FLN La Foliniere 91.74 336 *e*P P **01 15 18.6 0.0**
FLN pmax pmax
comp=Z,11nm,0.9s,mb5.2
FLN MLR MLR
comp=Z,60nm,17.0s,MS4.1
LTX Lajitas 91.75 53 *e*P P **01 15 16.6 -2.5**
comp=Z,7.5nm,0.9s,mb5.0
LTX *e* pP 01 15 30.7 +0.1
TXAR Lajitas Array 91.75 53 P P **01 15 19.6 +0.5**
comp=Z,3.2nm,0.6s,mb4.8,baz=309,slow=3.1,SNR=29
TXAR pP pP 01 15 31.4 +0.7
comp=Z,5.1nm,0.7s,baz=314,slow=3.0,SNR=12
TXAR LR LR 01 52 22.6
comp=Z,52nm,18.9s,MS4.0,baz=300,slow=33
LPL La Plagne 91.76 331 *e*P P **01 15 19.4 +0.6**
comp=Z,15nm,1.0s,mb5.0
LPL La Plagne 91.76 331 *e*P P **01 15 19.4 +0.6**
LPL pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
SSF Saint Saulge 91.76 333 *e*P P **01 15 18.9 +0.1**
SSF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
SSF Saint Saulge 91.76 333 *e*P P **01 15 18.9 +0.1**
comp=Z,7.3nm,1.0s,mb5.0
LPG La Plagne 91.77 330 *e*P P **01 15 19.5 +0.6**
comp=Z,15nm,0.8s,mb5.0
LPG La Plagne 91.77 330 *e*P P **01 15 19.5 +0.6**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
AVF Avril sur Loir 92.05 333 *e*P P **01 15 20.4 +0.3**
comp=Z,24nm,0.8s,mb5.3
AVF Avril sur Loir 92.05 333 *e*P P **01 15 20.4 +0.3**
AVF pmax pmax
comp=Z,12nm,0.8s,mb5.3
GRR Gorron 92.19 336 *e*P P **01 15 20.7 0.0**
comp=Z,46nm,1.1s,mb5.4
GRR Gorron 92.19 336 *e*P P **01 15 20.7 0.0**
GRR pmax pmax
comp=Z,23nm,1.1s,mb5.4
MBDF Montbardon 92.39 330 *e*P P **01 15 21.5 -0.2**
comp=Z,14nm,0.8s,mb5.1
MBDF Montbardon 92.39 330 *e*P P **01 15 21.5 -0.2**
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
ORIF Oris-en-Rattie 92.60 331 *e*P P **01 15 22.7 0.0**
comp=Z,6.1nm,0.7s,mb4.8
ORIF *e*pP pP 01 15 34.2 0.0
ORIF *e*R
comp=Z,54nm,17.2s
ORIF Oris-en-Rattie 92.60 331 *e*P P **01 15 22.7 0.0**
ORIF pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
SBF Sospel 92.80 329 *e*P P **01 15 23.2 -0.4**
comp=Z,27nm,0.8s,mb5.4
SBF Sospel 92.80 329 *e*P P **01 15 23.2 -0.4**
SBF pmax pmax
comp=Z,14nm,0.8s,mb5.4
TCF Toulx Ste Croi 92.90 334 *e*P P **01 15 24.4 +0.4**
comp=Z,8.2nm,0.8s,mb4.9
TCF Toulx Ste Croi 92.90 334 *e*P P **01 15 24.4 +0.4**
TCF pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
VIVF Saint-Julien-l 93.14 331 *e*P P **01 15 25.4 +0.2**
VIVF *e*pP pP 01 15 35.8 -0.9
PGF Pioggiola 93.16 327 *e*P P **01 15 24.9 -0.4**
comp=Z,8.1nm,1.0s,mb4.8
PGF *e*pP pP 01 15 35.9 -0.9
PGF Pioggiola 93.16 327 *e*P P **01 15 24.9 -0.4**
PGF pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
CCM Cathedral Cave 93.22 39 *e*P P **01 15 25.1 -0.6**
CCM pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
CCM Cathedral Cave 93.22 39 *e*P P **01 15 25.1 -0.6**
comp=Z,7.3nm,1.1s,mb5.0
FRF La Foret Royal 93.38 329 *e*P P **01 15 25.2 -1.1**
comp=Z,13nm,0.9s,mb5.1
FRF La Foret Royal 93.38 329 *e*P P **01 15 25.2 -1.1**
FRF pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
MFF Saint Martin d 93.48 335 *e*P P **01 15 26.7 0.0**
comp=Z,21nm,1.1s,mb5.2
MFF Saint Martin d 93.48 335 *e*P P **01 15 26.7 0.0**
MFF pmax pmax
comp=Z,11nm,1.1s,mb5.2
LMR La Mourre 93.63 329 *e*P P **01 15 27.2 -0.2**
comp=Z,17nm,1.0s,mb5.1
LMR La Mourre 93.63 329 *e*P P **01 15 27.2 -0.2**
LMR pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
RJF Les Rejaudoux 93.99 333 *e*P P **01 15 28.9 -0.1**
comp=Z,9.9nm,0.9s,mb4.9
RJF *e*R
comp=Z,84nm,17.8s
RJF Les Rejaudoux 93.99 333 *e*P P **01 15 28.9 -0.1**
RJF pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
RJF MLR MLR
comp=Z,80nm,17.8s,MS4.2
CAF Calviac 94.10 333 *e*P P **01 15 30.1 +0.6**
comp=Z,27nm,1.3s,mb5.2
CAF Calviac 94.10 333 *e*P P **01 15 30.1 +0.6**
CAF pmax pmax
comp=Z,14nm,1.3s,mb5.2
LASF Ste Croix 94.11 331 *e*P P **01 15 29.6 0.0**
comp=Z,20nm,1.1s,mb5.1
RKT Rikitea 96.67 113 *e*LR LR 01 46 10.3
comp=Z,182nm,33.8s
MAW Mawson 116.56 205 PKP PKPdf 01 20 54.7 +1.3
comp=Z,1.7nm,0.9s,baz=358,slow=6.9,SNR=2.5
QSPA South Pole Qui 123.13 180 ⇓*i* PKPdf PKPdf 01 21 06.8 +0.9
SDV Santo Domingo 127.58 43 *e*PKPdf PKPdf 01 21 14.9 -1.1
SDV *e* 01 21 28.4
DBIC Dimbokro 129.43 316 PKP PKPdf 01 21 21.9 +2.4
comp=Z,1.0nm,0.5s,baz=80,slow=6.8,SNR=4.4
DBIC Dimbokro 129.43 316 PKP PKPdf 01 21 21.9 +2.4
SNAA Sanae 137.46 196 *e* PKPdf 01 21 37.2 +4.2
SNAA Sanae 137.46 196 PKP PKPdf 01 21 35.4 +2.4
comp=Z,0.2nm,0.5s,baz=206,slow=9.2,SNR=10.0
SNAA Sanae 137.46 196 ⇑*i* PKPdf PKPdf 01 21 26.5 -6.5
SNAA PKP PKPdf 01 21 35.4 +2.4
SNAA *e* 01 21 37.2
SNAA *e* 01 24 22.9
VNA2 Neumayer--Watz 139.00 195 ⇑*i* PKPdf 01 21 29.3 -6.5
VNA2 Neumayer--Watz 139.00 195 *e* PKPdf 01 21 38.5 +2.7
VNA2 Neumayer--Watz 139.00 195 *e* PKPdf 01 21 41.7 +5.9
VNA2 Neumayer--Watz 139.00 195 *e* PKPdf 01 21 51.2 +15
VNA2 Neumayer--Watz 139.00 195 *e* PKPdf 01 21 53.7 +18
VNA2 Neumayer--Watz 139.00 195 *e*PKPdf PKPdf 01 21 27.2 -8.6
VNA2 *e* 01 21 38.5
VNA2 *e* 01 21 41.7
VNA2 *e* 01 21 51.2
VNA2 *e* 01 21 53.7
VNA2 *e* 01 24 32.6
VNA3 Neumayer Olymp 139.21 193 PKPdf PKPdf 01 21 32.8 -3.4
VNA3 *e* 01 21 46.9
VNA3 *e* 01 21 49.5
VNA3 *e* 01 21 57.5
VNA3 *e* 01 22 00.1
VNA1 Neumayer--Stat 139.40 195 *e* PKPdf 01 21 35.2 -1.3
VNA1 Neumayer--Stat 139.40 195 *e* PKPdf 01 21 45.3 +8.8
VNA1 Neumayer--Stat 139.40 195 *e* PKPdf 01 21 48.5 +12
VNA1 Neumayer--Stat 139.40 195 ⇑*i* PKPdf PKPdf 01 21 32.3 -4.2
VNA1 *e* 01 21 35.2
VNA1 *e* 01 21 45.3
VNA1 *e* 01 21 48.5
SAML Samuel 146.18 50 *e*PKPdf PKPdf 01 21 51.5 +1.6
SAML *e* 01 22 03.1
LPAZ La Paz 147.72 66 PKPbc PKPdf 01 21 55.7 +3.4
comp=Z,4.0nm,0.6s,baz=0.9,slow=7.3,SNR=21
LPAZ La Paz 147.72 66 *e*PKPdf PKPdf 01 21 55.1 +2.8
USHA Ushuaia 149.62 144 PKPbc PKPdf 01 22 01.2 +7.0
comp=Z,14nm,0.9s,baz=331,slow=1.7,SNR=8.2
USHA pPKPbc 01 22 12.2
comp=Z,22nm,0.9s,baz=227,slow=4.3,SNR=7.8
LVC Limon Verde 150.52 77 *e*PKPdf PKPdf 01 21 58.9 +2.3
LVC *e*PKPbc PKPdf 01 22 04.6 +8.0
LVC *e* 01 22 13.1
PLCA Paso Flores 152.88 115 PKPbc PKPdf 01 22 08.9 +9.4
comp=Z,1.2nm,0.6s,baz=228,slow=19,SNR=7.2
PLCA pPKPbc 01 22 20.3
comp=Z,2.5nm,0.7s,baz=260,slow=21,SNR=4.5

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*NEIC **28** 01:12:10.2, 36.65N×9.87W, h20km, MG3.6(MDD), After MDD.*
*MDD **28** 01:12:13.9±2.1, 36.89N×9.49W, h130km±13km, mb2.0/4, Error ellipse: s-maj=17.0km s-min=9.1km az=50.0, PRXIMO*
INMG 28 01:12:10.6±0.8, 36.61N×9.79W, h10km, ML2.1, 1C, Error ellipse: s-maj=5.0km s-min=2.9km az=61.0, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**1.27**	**42**	*e*P	Pb	01 12 33.0	-1.1
PTEO				*e*S	Sb	01 12 49.4	-0.9
	17nm,0.1s						
EGRO	**El Granado**	**2.06**	**63**	Pn	Pn	01 12 43.4	-2.3
EGRO				Sn	Sn	01 13 08.3	-3.4
EGRO	**El Granado**	**2.06**	**63**	⇑P	Pn	01 12 43.4	-2.4
	1.3nm,0.1s,SNR=18						
EGRO				S	Sn	01 13 08.3	-3.4
	5.7nm,0.1s,SNR=19						
EGRO	**El Granado**	**2.06**	**63**	Pn	Pn	01 12 43.4	-2.4
	1.6nm,0.1s,SNR=24						
EGRO				Sn	Sn	01 13 08.3	-3.4
	5.7nm,0.1s,SNR=19						
PBEJ	**Beja**	**2.09**	**47**	*e*P	Pn	01 12 43.8	-2.3
PBEJ				*e*S	Sn	01 13 09.0	-3.4
	5.2nm,0.2s						
PLOU	**Loures**	**2.33**	**12**	*e*P	Pn	01 12 47.4	-2.2
PLOU				*e*S	Sn	01 13 14.5	-4.1
	7.3nm,0.1s						
EMIN	**Mina Concepcio**	**2.74**	**64**	P	Pn	01 12 52.4	-3.1
	0.3nm,0.1s,SNR=11						
EMIN				S	Sn	01 13 24.4	-4.7
	2.0nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.74**	**64**	Pn	Pn	01 12 52.4	-3.1
	0.7nm,0.1s,SNR=11						
EMIN				Sn	Sn	01 13 24.4	-4.7
	2.0nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.07**	**45**	P	Pn	01 12 56.8	-3.4
	1.0nm,0.1s,SNR=8.4						
EBAD				S	Sn	01 13 31.8	-5.6
	2.7nm,0.0s,SNR=5.6						
EBAD	**Badajoz**	**3.07**	**45**	Pn	Pn	01 12 56.8	-3.4
	1.0nm,0.1s,SNR=8.4						
EBAD				Sn	Sn	01 13 31.8	-5.6
	2.7nm,0.0s,SNR=5.6						
ESPR	**Espera**	**3.17**	**84**	Pn	Pn	01 12 58.5	-3.1
ESPR				Sn	Sn	01 13 33.8	-6.0
ESPR	**Espera**	**3.17**	**84**	P	Pn	01 12 58.4	-3.1
	2.1nm,0.1s,SNR=6.1						
ESPR				S	Sn	01 13 33.8	-6.0
	15nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.17**	**84**	Pn	Pn	01 12 58.4	-3.1
	2.1nm,0.1s,SNR=6.1						
ESPR				Sn	Sn	01 13 33.8	-6.0
	15nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**3.20**	**19**	*e*S	Sn	01 13 35.2	-5.3
PCBR	**Castelo Branco**	**3.71**	**29**	*e*P	Pn	01 13 06.6	-2.6
PCBR				*e*S	Sn	01 13 47.6	-5.8
EMIJ	**Mijas**	**4.04**	**89**	P	Pn	01 13 11.5	-2.4
	0.2nm,0.1s,SNR=7.9						
EMIJ				S	Sn	01 13 55.2	-6.5
	1.1nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.04**	**89**	Pn	Pn	01 13 11.5	-2.4
	0.2nm,0.2s,SNR=7.9						
EMIJ				Sn	Sn	01 13 55.2	-6.5
	1.1nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**4.18**	**24**	*e*S	Sn	01 14 00.7	-4.6
EADA	**Adamuz**	**4.43**	**68**	Pn	Pn	01 13 16.1	-3.4
EADA				Sn	Sn	01 14 03.4	-8.4

EADA	**Adamuz**	**4.43**	**68**	P	Pn	01 13 15.7	-3.8
	0.3nm,0.1s,SNR=6.7							
EADA				S	Sn	01 14 03.4	-8.4
	3.9nm,0.1s,SNR=7.7							
EADA	**Adamuz**	**4.43**	**68**	Pn	Pn	01 13 16.1	-3.4
	0.3nm,0.1s,SNR=6.7							
EADA				Sn	Sn	01 14 03.4	-8.4
	3.9nm,0.1s,SNR=7.7							
PVRL	**Vila Real**	**4.93**	**18**	*e*S	Sn	01 14 16.2	-8.3
	3.0nm,0.2s							
EBAN	**Banos Encina**	**5.03**	**70**	P	Pn	01 13 24.0	-3.9
	0.4nm,0.1s,SNR=7.9							
EBAN				S	Sn	01 14 17.2	-10
	1.2nm,0.1s,SNR=7.9							
ECOG	**Cogollos-Vega**	**5.03**	**80**	P	Pn	01 13 26.2	-1.8
	0.4nm,0.2s,SNR=7.9							
ECOG				S	Sn	01 14 18.8	-8.1
	1.2nm,0.1s,SNR=4.0							
ECOG	**Cogollos-Vega**	**5.03**	**80**	Sn	Sn	01 14 18.8	-8.0
	1.2nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.42**	**14**	P	Pn	01 13 28.9	-4.6
	0.3nm,0.2s,SNR=7.9							
ELOB				S	Sn	01 14 26.6	-10
	0.9nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.42**	**14**	Pn	Pn	01 13 28.9	-4.6
	0.3nm,0.2s,SNR=7.9							
ELOB				Sn	Sn	01 14 26.6	-10
	0.9nm,0.1s,SNR=7.9							
EQES	**Quesada**	**5.49**	**75**	P	Pn	01 13 31.1	-3.4
	0.2nm,0.1s,SNR=7.9							
EQES				S	Sn	01 14 30.2	-8.3
	2.9nm,0.4s,SNR=12							
EQES	**Quesada**	**5.49**	**75**	Pn	Pn	01 13 31.1	-3.4
	0.2nm,0.2s,SNR=7.9							
EQES				Sn	Sn	01 14 30.2	-8.3
	2.9nm,0.4s,SNR=12							
ESDC	**Sonseca Array**	**5.52**	**55**	P	Pn	01 13 30.8	-4.0
	1.5nm,0.1s,baz=241,slow=13,SNR=11							
ESDC				S	Sn	01 14 29.8	-9.3
	2.3nm,0.2s,baz=240,slow=23,SNR=14							
ESDC	**Sonseca Array**	**5.52**	**55**	Pn	Pn	01 13 30.8	-4.1
	1.5nm,0.1s,baz=241,slow=13,SNR=11							
ESDC				Sn	Sn	01 14 29.8	-9.3
	2.3nm,0.2s,baz=240,slow=23,SNR=14							
EBER	**Berja**	**5.54**	**85**	S	Sn	01 14 32.0	-7.8
	2.4nm,0.4s,SNR=4.0							
EBER	**Berja**	**5.54**	**85**	Sn	Sn	01 14 32.0	-7.8
	2.4nm,0.4s							
EZAM	**Zamans**	**5.60**	**8**	P	Pn	01 13 30.7	-5.3
	0.7nm,0.2s,SNR=4.0							
EZAM				S	Sn	01 14 30.5	-11
	2.0nm,0.4s,SNR=4.0							
PBRG	**Braganca**	**5.70**	**24**	*e*S	Sn	01 14 35.6	-8.2
ECAL	**Calabor**	**5.83**	**23**	S	Sn	01 14 36.4	-11
	1.4nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**5.83**	**23**	Sn	Sn	01 14 36.4	-11
	1.4nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**6.85**	**70**	P	Pn	01 13 49.1	-4.5
	0.3nm,0.2s,SNR=4.0							
ETOB				S	Sn	01 15 02.4	-10
	0.5nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**6.85**	**70**	Pn	Pn	01 13 49.1	-4.5
	0.3nm,0.2s,SNR=7.9							
ETOB				Sn	Sn	01 15 02.4	-10
	0.5nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**7.01**	**16**	S	Sn	01 15 04.1	-12
	1.3nm,0.4s,SNR=4.0							
EPON	**Pontenova**	**7.01**	**16**	Sn	Sn	01 15 04.1	-12
	1.3nm,0.4s,SNR=7.9							
EMOS	**Mosqueruela**	**8.21**	**60**	S	Sn	01 15 34.7	-12
	0.6nm,0.3s,SNR=4.0							
EMOS	**Mosqueruela**	**8.21**	**60**	Sn	Sn	01 15 34.7	-12
	0.6nm,0.3s,SNR=7.9							

*JMA **28** 01:18:27.0±0.4,33.42N×142.31E,M3.7*
*IDC **28** 01:18:28.6±2.1,33.02N×142.18E,mb3.7/3,mb1 3.8/4,*
mb1mx3.5/19,mbtmp3.6/4,ML3.6/1,Error ellipse:
s-maj=46.4km s-min=25.0km az=55.0
ISC 28 01:18:28.3±2.1,33.33N±0.06×142.39E±0.09,h22km±20km,
n15,σ1°04/27,mb3.7/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.76**	**319**	P	**Pn**	**01 18 57.6**	**-0.4**
BSO1				S	**Sn**	**01 19 20.2**	**+0.2**
BSO3	**Boso 3**	**2.14**	**314**	P	**Pn**	**01 19 03.3**	**-0.1**
BSO3				*e*S	**Sn**	**01 19 29.3**	**-0.2**
JHJ2	**Mitsune**	**2.16**	**265**	P	**Pn**	**01 19 04.0**	**+0.2**
JHJ2				*e*S	**Sn**	**01 19 31.6**	**+1.4**
JHJ	**Hachijo jima 2**	**2.19**	**265**	Pn	**Pn**	**01 19 03.4**	**-0.8**
	30nm,0.3s,baz=239,slow=14,SNR=10						
JHJ				Sn	**Sn**	**01 19 30.1**	**-0.9**
	87nm,0.3s,baz=226,slow=22,SNR=12						
BSO4	**Boso 4**	**2.37**	**315**	P	**Pn**	**01 19 07.2**	**+0.5**
BSO4				*e*S	**Sn**	**01 19 36.9**	**+1.5**
JIM2	**Oshima 3**	**2.81**	**300**	P	**Pn**	**01 19 12.9**	**-0.2**
JIM2				*e*S	**Sn**	**01 19 45.5**	**-1.2**
JYN	**Shimob**	**3.84**	**305**	P	**Pn**	**01 19 28.9**	**+1.3**
JYN				*e*S	**Sn**	**01 20 13.3**	**+0.7**
JAG	**Ashikaga**	**3.91**	**323**	P	**Pn**	**01 19 27.6**	**-1.1**
JAG				*e*S	**Sn**	**01 20 13.2**	**-1.3**
JRY	**Ryogami san**	**3.92**	**314**	P	**Pn**	**01 19 29.1**	**+0.2**
JRY				*e*S	**Sn**	**01 20 15.2**	**+0.4**
MJAR	**Matsushiro Arr**	**4.69**	**314**	Pn	**Pn**	**01 19 40.1**	**+0.3**
	2.8nm,0.3s,baz=59,slow=17,SNR=7.3						
MJAR				Sn	**Sn**	**01 20 38.3**	**+4.1**
	1.6nm,0.3s,baz=98,slow=16,SNR=6.1						
MAT	**Matsushiro**	**4.69**	**314**	P	**Pn**	**01 19 40.0**	**+0.2**
MAT				S	**Sn**	**01 20 32.0**	**-2.2**
MAT	**Matsushiro**	**4.69**	**314**	P	**Pn**	**01 19 39.9**	**+0.1**
MAT				*e*S	**Sn**	**01 20 32.2**	**-2.0**
SONM	**Songino Array**	**30.62**	**309**	P	**P**	**01 24 46.2**	**+3.2**
	1.3nm,0.6s,mb3.9,baz=109,slow=8.8,SNR=7.0						
MKAR	**Makanchi Array**	**46.83**	**305**	P	**P**	**01 27 00.0**	**+1.7**
	0.4nm,0.5s,mb3.6,baz=98,slow=8.4,SNR=3.8						
WRA	**Warramunga Arr**	**53.53**	**189**	P	**P**	**01 27 48.3**	**-1.5**
	0.3nm,0.4s,mb3.6,baz=7.6,slow=7.6,SNR=5.6						

*ISK **28** 01:24:11.2,38.47N×39.49E,h11km,MD3.6*
*CSEM **28** 01:24:11.1±0.1,38.43N×39.47E,h10km,MD3.6,Error*
ellipse: s-maj=2.4km s-min=1.8km az=179.0
ISC 28 01:24:11.3±0.5,38.46N±0.03×39.47E±0.03,h9km±4km,
n28,σ1°02/45,3D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.38**	**276**	*i* P	**Pg**	**01 24 19.6**	**+0.5**
ELZG				*i* s	**Sg**	**01 24 23.1**	**-1.1**
PTK	**Pertek**	**0.44**	**352**	*i* PG	**Pg**	**01 24 19.7**	**-0.5**
DIY	**Diyarbakir**	**0.82**	**133**	*i* PG	**Pg**	**01 24 27.4**	**-0.4**
DIY				*i* SG	**Sg**	**01 24 39.0**	**+0.2**
MYA	**Malataya**	**0.83**	**261**	*i* PG	**Pg**	**01 24 27.6**	**-0.4**
MYA				*i* SG	**Sg**	**01 24 40.4**	**+1.4**
URFA	**Urfa**	**1.14**	**207**	*i* PN	**Pn**	**01 24 33.8**	**+0.4**
URFA				*i* SN	**Sn**	**01 24 50.5**	**+1.3**
ATAB	**Bozova**	**1.35**	**224**	*i* P	**Pg**	**01 24 38.8**	**+0.4**
ATAB				*i* s	**Sg**	**01 24 57.7**	**+1.2**
BNGL	**BINGOL**	**1.41**	**69**	*i* P	**Pn**	**01 24 39.1**	**+1.9**
BNGL				*i* s	**Sb**	**01 24 56.7**	**+1.4**
BEST	**Besiri**	**1.53**	**111**	*i* P	**Pn**	**01 24 39.1**	**0.0**
BEST				*i* s	**Sb**	**01 24 59.7**	**+0.8**
MARD	**Mardin**	**1.54**	**137**	*i* P	**Pn**	**01 24 38.7**	**-0.6**
MARD				*i* s	**Sb**	**01 24 58.3**	**-1.0**
BTMT	**Batman**	**1.61**	**99**	*i* PN	**Pn**	**01 24 38.7**	**-1.5**
KBSD	**Kabsdagh**	**1.69**	**149**	⇓*i* P	**Pn**	**01 24 41.9**	**+0.6**
KBSD				⇓*i* S	**Sn**	**01 25 02.1**	**-1.1**
GZT	**Gaziantep**	**1.86**	**234**	*i* P	**Pn**	**01 24 44.3**	**+0.4**
GZT				*i* s	**Sg**	**01 25 13.9**	**+0.5**
GUMT	**Gumushane**	**2.00**	**0**	PN	**Pn**	**01 24 46.3**	**+0.5**
EZM	**Erzurum**	**2.06**	**45**	PN	**Pn**	**01 24 46.5**	**-0.2**
ERZM	**Erzurum**	**2.07**	**45**	*i* P	**Pn**	**01 24 47.3**	**+0.6**
ERZM				*i* s	**Sn**	**01 25 11.1**	**-1.7**
SFNV	**Sufian**	**2.10**	**166**	⇑*i* P	**Pn**	**01 24 49.1**	**+1.9**
SFNV				⇑*i* S	**Sn**	**01 25 13.4**	**-0.3**
GAZ	**Gaziantep**	**2.20**	**235**	PN	**Pn**	**01 24 48.3**	**-0.3**
KAHT	**Ahir Dag**	**2.21**	**249**	*i* P	**Pg**	**01 24 52.5**	**-2.9**
KAHT				*i* s	**Sg**	**01 25 25.7**	**+0.8**
BNN	**Bunyan**	**2.86**	**279**	PN	**Pn**	**01 24 58.5**	**+0.4**
DRWC	**Darouich**	**2.88**	**231**	⇑*i* P	**Pn**	**01 24 59.6**	**+1.2**
DRWC				⇑*i* S	**Sn**	**01 25 33.1**	**-0.5**
COBT	**Iskenderun**	**3.20**	**234**	*i* P	**Pg**	**01 25 13.2**	**-2.1**
COBT				*i* s	**Sg**	**01 25 55.4**	**-2.7**
BTCH	**Batrach**	**3.41**	**226**	⇑*i* P	**Pn**	**01 25 06.4**	**+0.6**
BTCH				⇑*i* S	**Sn**	**01 25 45.6**	**-1.2**
BCA	**Borcka**	**3.41**	**28**	PN	**Pn**	**01 25 05.2**	**-0.7**
HAKT	**HAKKARI**	**3.47**	**104**	*i* P	**Pn**	**01 25 05.9**	**-0.8**
HAKT				*i* s	**Sb**	**01 25 58.8**	**+3.6**
HKR	**Hakkari**	**3.49**	**103**	PN	**Pn**	**01 25 06.9**	**-0.1**
HTY	**Hatay**	**3.53**	**230**	PN	**Pn**	**01 25 07.2**	**-0.4**
SLNF	**Slenfeh**	**3.86**	**223**	⇓*i* S	**Sn**	**01 25 58.0**	**-0.3**
KAMT	**Kaman**	**4.58**	**283**	*e*PN	**Pn**	**01 25 23.3**	**+0.8**

*NEIC **28** 01:43:59.4,37.32N×20.77E,h17km,MD3.3(ATH),After*
ATH.
*ATH **28** 01:44:01.6,37.33N×20.98E,h22km±1km,MD3.5/7*
*CSEM **28** 01:44:02.8±0.2,37.37N×20.98E,h10km,MD3.5,Error*
ellipse: s-maj=4.9km s-min=2.5km az=57.0
ISC 28 01:44:01.7±1.6,37.34N±0.05×20.97E±0.09,h6km±6km,
n10,σ0°59/18,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.78**	**102**	*e*Pb	**Pg**	**01 44 16.3**	**-0.9**
ITM				*e*Sn	**Sg**	**01 44 28.1**	**+0.5**
ITM				*e*Sn	**Sn**	**01 44 30.6**	**-0.3**
ITM	**Ithomi**	**0.78**	**102**	*e*PN	**Pg**	**01 44 16.4**	**-0.8**
ITM				*e*SN	**Sg**	**01 44 27.5**	**-0.1**
RLS	**Riolos of Patr**	**0.82**	**28**	*e*PN	**Pg**	**01 44 17.4**	**-0.6**
RLS				*e*SN	**Sg**	**01 44 29.9**	**+1.0**
VLI	**Veliai**	**1.69**	**111**	*e*PN	**Pn**	**01 44 32.5**	**+0.6**
VLI				*e*SN	**Sn**	**01 44 54.5**	**+0.4**
EVR	**Evrytania**	**1.71**	**22**	*e*Pn	**Pn**	**01 44 32.6**	**+0.4**
EVR				*e*Sn	**Sn**	**01 44 54.9**	**+0.4**
KYTH	**Kithira**	**1.96**	**122**	*e*Pn	**Pn**	**01 44 36.5**	**+0.6**
LKR	**Lokris**	**2.07**	**50**	*e*PN	**Pn**	**01 44 37.3**	**0.0**
LKR				*e*SN	**Sn**	**01 45 02.7**	**-1.0**
LKR	**Lokris**	**2.07**	**50**	*e*Pb	**Pn**	**01 44 37.2**	**-0.1**
LKR				*e*Sn	**Sn**	**01 45 02.7**	**-1.0**
KEK	**Kerkira**	**2.54**	**339**	*e*PN	**Pn**	**01 44 44.0**	**-0.2**
NEO	**Neokhori**	**2.64**	**41**	*e*PN	**Pn**	**01 44 45.0**	**-0.6**

MAN 28 01:51:32.8,18.35N×122.38E,h8km,mb4.4,ML3.3,MS3.1,
2D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**0.33**	**251**	*e*P	**Pg**	01 51 39.9	+0.3
SGCP				*e*S	**Sg**	01 51 46.4	+2.2
CVP	**Callao Caves**	**0.83**	**219**	⇓*i* P	**Pb**	01 51 48.0	-1.1
APYP	**Conner**	**1.18**	**246**	*e*P	**Pb**	01 51 54.1	-1.0
APYP				*e*S	**Sb**	01 52 10.3	-0.1
CAUP	**Cauayan**	**1.50**	**201**	*e*P	**Pn**	01 51 59.5	-0.6
CAUP				*e*S	**Sb**	01 52 33.9	+14
ABRA	**Dolores**	**1.73**	**246**	*e*P	**Pn**	01 52 02.5	-0.9
ABRA				*e*S	**Sn**	01 52 25.9	0.0
BBP	**Basco**	**2.12**	**349**	*e*P	**Pn**	01 52 08.7	-0.2
BBP				*e*S	**Sn**	01 52 32.4	-3.3
BCPH	**Baguio City Da**	**2.60**	**221**	⇓*e*P	**Pn**	01 52 16.3	+0.4
BCPH				*e*S	**Sn**	01 52 51.2	+3.1
BALP	**Baler**	**2.71**	**197**	*e*P	**Pn**	01 52 16.5	-0.9
BALP				*e*S	**Sn**	01 52 50.2	-0.5
PCPH	**Palayan**	**3.03**	**204**	*e*P	**Pn**	01 52 22.5	+0.4

*IDC **28** 01:56:00.9±2.8,7.24S×147.62E,h72km±26km,mb3.9/7,*
mb1 4.2/9,mb1mx4.0/15,mbtmp4.3/9,MS3.5/4,Ms1 3.5/4,
ms1mx3.3/14,Error ellipse: s-maj=37.2km s-min=20.2km
az=94.0
*NEIC **28** 01:56:01.4±1.3,7.26S×147.67E,h81km±12km,mb4.3/9,*
Error ellipse: s-maj=14.1km s-min=9.3km az=94.0
*BJI **28** 01:56:01.4,7.30S×147.70E,h80km,mB4.3,mb4.4,Ms4.5,*
Msz4.3
ISC 28 01:56:01.4±1.3,7.27S±0.07×147.47E±0.08,h90km±13km,
n34,σ1°11/38,mb4.2/12,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.15**	**188**	P	**P**	**01 56 35.2**	**-1.0**
	270nm,0.3s,baz=328,slow=6.8,SNR=363						
PMG				S	**S**	**01 57 02.4**	**+0.5**
	336nm,0.3s,baz=27,slow=22,SNR=4.5						
PMG				LR	LR	01 57 32.0	
	comp=Z,585nm,21.4s,baz=262,slow=41						
PMG	**Port Moresby**	**2.15**	**188**	*e*Pn	**P**	**01 56 35.1**	**-1.0**
PMG				*e*Sn	**S**	**01 57 03.7**	**+1.8**
CTA	**Charters Tower**	**12.80**	**185**	*e*P	**P**	**01 59 01.5**	**+0.2**
	5.9nm,0.4s						
CTA	**Charters Tower**	**12.80**	**185**	P	**P**	**01 59 00.9**	**-0.3**
	2.1nm,0.3s,baz=354,slow=13,SNR=16						
CTA				LR	LR	02 03 34.3	
	comp=Z,142nm,19.4s,baz=47,slow=35						
CTAO	**Charters Tower**	**12.80**	**185**	*e*P	**P**	**01 59 01.0**	**-0.3**
	10nm,0.6s						
KAKA	**Kakadu**	**15.76**	**249**	*e*P	**P**	**01 59 42.9**	**+3.5**
	18nm,0.4s						
KAKA				*e*S	**S**	**02 02 30.6**	**-0.6**
WRAB	**Tennant Creek**	**17.90**	**224**	*e*P	**P**	**02 00 06.0**	**0.0**
	12nm,0.7s						
WB2	**Warramunga Arr**	**17.91**	**224**	*e*P	**P**	**02 00 06.3**	**+0.2**
WB2				*e*S	**S**	**02 03 16.6**	**-3.0**
WRA	**Warramunga Arr**	**17.92**	**224**	P	**P**	**02 00 06.6**	**+0.4**
	2.4nm,0.3s,baz=49,slow=12,SNR=20						
WRA				S	**S**	**02 03 19.7**	**-0.1**
	0.5nm,0.3s,baz=50,slow=22,SNR=5.7						
GUMO	**Guam**	**20.88**	**353**	P	**P**	**02 00 37.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**23.83**	**241**	*e*P	**P**	**02 01 08.5**	**+1.3**
	9.7nm,0.7s,mb4.2						
FITZ	**Fitzroy Crossi**	**23.83**	**241**	P	**P**	**02 01 07.7**	**+0.5**
	8.5nm,0.4s,mb4.4,baz=36,slow=6.2,SNR=46						
STKA	**Stephens Creek**	**25.09**	**192**	*e*P	**P**	**02 01 19.0**	**-0.3**
	3.5nm,0.3s,mb4.3						
STKA	**Stephens Creek**	**25.09**	**192**	P	**P**	**02 01 18.9**	**-0.4**
	3.8nm,0.4s,mb4.2,baz=355,slow=9.4,SNR=14						
MBWA	**Marble Bar**	**30.15**	**240**	*e*P	**P**	**02 02 04.4**	**-0.9**
CBIJ	**Chichi jima**	**34.54**	**352**	LR	LR	02 13 25.5	
	comp=Z,197nm,20.6s,baz=231,slow=30						
MJAR	**Matsushiro Arr**	**44.43**	**349**	P	**P**	**02 04 04.1**	**-1.1**
	1.1nm,0.3s,mb4.0,baz=163,slow=8.0,SNR=5.1						
MJAR				LR	LR	02 19 33.9	
	comp=Z,61nm,20.6s,baz=25,slow=32						
MJAR	**Matsushiro Arr**	**44.43**	**349**	P	**P**	**02 04 04.1**	**-1.1**
MJAR				LR	LR	02 19 33.9	
QIZ	**Qiongzhong**	**45.36**	**306**	P	**P**	**02 04 13.8**	**+1.0**
NJ2	**Nanjing**	**47.69**	**327**	*e*P	**P**	**02 04 30.5**	**-0.4**
KULM	**Kulim**	**48.35**	**284**	*e*P	**P**	**02 04 36.2**	**-0.1**
CN2	**Changchun**	**54.60**	**341**	*e*P	**P**	**02 05 22.0**	**-0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
LZH	**Lanzhou**	**59.47**	**320**	*e*P	**P**	**02 06 00.3**	**+3.0**
LZH				AP	pP	02 06 20.8	+0.8
LZH				XP	sP	02 06 28.8	-1.5
LZH				PCP	PcP	02 06 46.0	+2.2
LZH				PP	PP	02 08 15.0	+3.6
LZH				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.5						
LZH	**Lanzhou**	**59.47**	**320**	*e*P	**P**	**02 06 00.2**	**+2.9**
LZH				pP	pP	02 06 20.7	+0.7
LZH				sP	sP	02 06 28.8	-1.5
LZH				PcP	PcP	02 06 46.0	+2.2
LZH				PP	PP	02 08 15.0	+3.6
CASY	**Casey**	**64.17**	**196**	P	**P**	**02 06 25.5**	**-2.9**
VNDA	**Vanda**	**70.63**	**177**	P	**P**	**02 07 08.8**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.6,baz=329,slow=5.1,SNR=7.0						
VNDA	**Vanda**	**70.63**	**177**	*e*P	**P**	**02 07 08.4**	**-0.3**
	comp=Z,1.2nm,0.8s,mb3.8						
SBA	**Scott Base**	**71.27**	**176**	*e*P	**P**	**02 07 12.9**	**+0.4**
MKAR	**Makanchi Array**	**78.76**	**321**	P	**P**	**02 07 57.3**	**+1.5**
	comp=Z,0.6nm,0.4s,mb3.7,baz=101,slow=8.1,SNR=8.0						
MAW	**Mawson**	**81.27**	**203**	P	**P**	**02 08 11.8**	**+3.1**
	comp=Z,6.6nm,1.4s,mb4.3						
KURK	**Kurchatov**	**82.50**	**323**	P	**P**	**02 08 15.8**	**+0.4**
	comp=Z,5.8nm,1.4s,mb4.2						
MCK	**McKinley**	**85.19**	**24**	*e*P	**P**	**02 08 28.0**	**-0.6**
	comp=Z,2.5nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**86.45**	**23**	P	**P**	**02 08 34.2**	**-0.6**
	comp=Z,2.3nm,0.7s,mb4.2,baz=252,slow=5.0,SNR=26						
BVAR	**Borovoye Array**	**88.06**	**324**	P	**P**	**02 08 44.2**	**+1.4**
	comp=Z,0.6nm,0.5s,mb3.9,baz=101,slow=7.6,SNR=4.4						

IDC 28 02:19:24.0±1.8,2.57N×126.60E,mb3.9/4,mb1 4.2/4,
mb1mx3.8/17,mbtmp4.0/4,Error ellipse:
s-maj=108.2km s-min=23.4km az=68.0,Northern
Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.57**	**183**	P	P	02 24 05.4	-1.8
	3.5nm,0.4s,baz=6.3,slow=9.1,SNR=10						
WRA	**Warramunga Arr**	**23.63**	**162**	P	P	02 24 35.8	-2.0
	1.3nm,0.4s,baz=339,slow=10,SNR=12						
STKA	**Stephens Creek**	**37.10**	**159**	P	P	02 26 36.8	-1.3
	2.7nm,0.4s,baz=4.8,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**58.43**	**326**	P	P	02 29 21.6	-2.3
	0.4nm,0.5s,baz=126,slow=7.2,SNR=8.8						

NEIC 28 02:29:28.6±0.2,45.37N×112.60W,h5km,ML3.5,
MW3.5(SLM),Error ellipse: s-maj=3.5km s-min=3.1km
az=69.0,Montana

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCMT	**McKenzie Canyo**	**0.57**	**198**	*e*Pg	Pg	02 29 39.8	-0.2
BOZ	**Bozeman (W)**	**0.74**	**68**	*e*Pg	Pg	02 29 42.7	-0.7
QLMT	**Earthquake Lak**	**0.99**	**123**	*e*Pg	Pg	02 29 46.8	-1.6
YMR	**Madison River**	**1.36**	**121**	*e*Pg	Pg	02 29 53.9	-1.8
HRY	**Holter Researc**	**1.44**	**22**	*e*Pn	Pn	02 29 55.5	0.0
YNR	**Norris Junctio**	**1.51**	**115**	*e*Pn	Pn	02 29 56.9	+0.3
YFT	**Old Faithful**	**1.56**	**126**	*e*Pn	Pn	02 29 57.5	+0.4
CHMT	**Chamberlain Mo**	**1.61**	**344**	*e*Pn	Pn	02 29 58.1	+0.2
MSO	**Missoula**	**1.73**	**328**	*e*Pn	Pn	02 29 59.6	-0.1
LKWY	**Lake**	**1.76**	**116**	*e*Pn	Pn	02 29 59.9	-0.1
IMW	**Indian Meadow**	**1.89**	**141**	*e*Pn	Pn	02 30 02.3	+0.4
MOOW	**Moose Ponds**	**2.10**	**140**	*e*Pn	Pn	02 30 05.3	+0.4
GCMT	**Greycliff**	**2.10**	**77**	*e*Pn	Pn	02 30 05.0	+0.1
TPAW	**Teton Pass**	**2.22**	**147**	*e*Pn	Pn	02 30 07.5	+0.9
RRI2	**Red Ridge**	**2.22**	**155**	*e*Pn	Pn	02 30 06.4	-0.2
HLID	**Hailey**	**2.23**	**216**	*e*Pn	Pn	02 30 06.9	+0.2
LOHW	**Long Hollow**	**2.27**	**140**	*e*Pn	Pn	02 30 07.5	+0.2
SNOW	**Snow King Moun**	**2.32**	**145**	Pn	Pn	02 30 08.1	0.0
REDW	**Red Top Meadow**	**2.37**	**147**	Pn	Pn	02 30 08.0	-0.8
BMO	**Blue Mountains**	**3.37**	**263**	Pn	Pn	02 30 22.2	-0.8
HVU	**Hansel Valley**	**3.59**	**182**	Pn	Pn	02 30 24.0	-2.2
WALA	**Waterton Lakes**	**3.80**	**347**	*e*Pn	Pn	02 30 27.8	-1.2
HWUT	**Hardware Ranch**	**3.84**	**168**	Pn	Pn	02 30 28.6	-1.0
SPUT	**South Promonto**	**4.06**	**178**	*e*Pn	Pn	02 30 32.0	-0.9
NEW	**Newport**	**4.24**	**315**	*e*Pn	Pn	02 30 33.4	-2.1
TCUT	**Toone Canyon**	**4.34**	**168**	Pn	Pn	02 30 35.3	-1.6
LAO	**LASA Array**	**4.63**	**71**	*e*Pn	Pn	02 30 39.3	-1.7
JLU	**Jordanelle**	**4.84**	**170**	Pn	Pn	02 30 41.6	-2.4
ELK	**Elko**	**5.01**	**204**	Pn	Pn	02 30 45.6	-0.8
DAU	**Daniels Canyon**	**5.05**	**168**	Pn	Pn	02 30 44.5	-2.4
WVOR	**Wild Horse Val**	**5.26**	**238**	*e*Pn	Pn	02 30 47.3	-2.4
RWWY	**Rawlins**	**5.38**	**131**	Pn	Pn	02 30 47.7	-3.8
NLU	**North Lily Min**	**5.43**	**176**	Pn	Pn	02 30 49.9	-2.3
BMN	**Battle Mountai**	**5.99**	**216**	Pn	Pn	02 30 56.2	-3.9
PV01	**Paradox Valley**	**7.83**	**156**	Pn	Pn	02 31 21.5	-4.5

MEX 28 02:43:13.2±1.0,18.41N×101.69W,h18km±999km,MD3.9,
Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOIG	**Morelia**	**1.35**	**20**	*i* P	Pn	02 43 34.3	-3.0
MOIG				*i* S	Sb	02 43 49.8	-4.6
CAIG	**El Cayaco**	**1.91**	**135**	*e*P	Pn	02 43 40.9	-4.5
CAIG				*e*S	Sn	02 44 04.4	-4.8
ACX	**Acapulco**	**2.28**	**132**	*e*P	Pn	02 43 50.0	-0.7

*IDC **28** 02:43:55.4±0.7,2.77N×95.65E,mb4.6/17,mb1 4.7/17,*
mb1mx4.5/23,mbtmp4.6/17,MS4.2/12,Ms1 4.2/12,
ms1mx4.1/16,Error ellipse: s-maj=22.7km s-min=13.9km
az=36.0
*BJI

KMI XS 02 53 26.5
KMI SS SS 02 54 04.8 +5.5
KMI SCP 02 56 30.0
KMI PCS 02 56 32.5
KMI AMB AMB
comp=Z,94nm,1.0s,mb5.2
KMI AMB AMB
comp=Z,289nm,5.0s
KMI LR LR
comp=N,2µm,13.0s,MS4.7
KMI LR LR
comp=E,712nm,15.0s,MS4.7
KMI LR LR
comp=Z,2µm,13.5s,MS4.8
KMI Kunming 23.33 16 P **P 02 49 07.4 +2.5**
KMI *SP 02 49 15.8
KMI 02 49 39.5
KMI PPP PPP 02 49 49.8 +3.4
KMI 02 52 54.4
KMI S **S 02 53 16.5 +4.3**
KMI *SS 02 53 26.6
KMI pmax pmax
comp=Z,94nm,1.0s,mb5.2
KMI MLR MLR
comp=Z,2µm,13.5s,MS4.8
KMI Kunming 23.33 16 P **P 02 49 07.4 +2.5**
comp=Z,94nm,1.0s,mb5.2
KMI pP 02 49 13.4
KMI sP 02 49 15.8
KMI PP PP 02 49 39.5 +3.1
KMI PPP PPP 02 49 49.8 +3.4
KMI PcP PcP 02 52 54.4 +1.1
KMI S **S 02 53 16.5 +4.3**
KMI sS 02 53 26.6
KMI SS SS 02 54 04.7 +5.4
KMI SSS SSS 02 54 20.3 +5.2
KMI ScP 02 56 29.9
KMI PcS 02 56 32.4
KMI LR LR
comp=Z,2µm,13.5s,MS4.8
BLSP Bilaspur 23.34 327 *eP* **P 02 49 05.9 +0.9**
BLSP *e* 02 49 07.2
BLSP AMb AMB 02 49 10.8
comp=Z,76nm,0.7s,mb5.2
GYA Guiyang 25.90 23⇑ *iP* **P 02 49 29.5 0.0**
GYA AP pP 02 49 38.8 +2.6
GYA XP sP 02 49 43.0 +3.7
GYA AMB AMB
comp=Z,50nm,1.1s,mb5.0
GYA AMB AMB
comp=Z,280nm,4.5s
GYA LR LR
comp=N,480nm,16.0s,MS4.2
GYA LR LR
comp=E,370nm,15.8s,MS4.2
GYA LR LR
comp=Z,470nm,16.4s,MS4.1
JIRN Jiri 26.41 341 *eP* **P 02 49 35.2 +1.0**
comp=Z,125nm,0.8s,mb5.5
POO Poona 26.50 308 *eP* **P 02 49 34.6 -0.5**
POO *i* P 02 50 04.1
POO AMb AMB 02 50 08.8
comp=Z,52nm,1.6s,mb4.8
GZH Guangzhou 26.57 39 P **P 02 49 36.0 +0.3**
GZH LR LR
comp=N,789nm,17.1s,MS4.4
GZH LR LR
comp=E,411nm,16.2s,MS4.4
GZH LR LR
comp=Z,1µm,15.5s,MS4.5
PKI Pulchoki 26.59 339 *eP* **P 02 49 37.0 +1.1**
comp=Z,46nm,0.9s,mb5.0
DMN Daman 26.74 339 *eP* **P 02 49 37.9 +0.7**
comp=Z,35nm,0.8s,mb5.0
GUN Gumba 26.75 341 *eP* **P 02 49 37.5 +0.2**
comp=Z,92nm,0.9s,mb5.3
KKN Kakani 26.84 339 *eP* **P 02 49 39.1 +1.0**
comp=Z,82nm,0.8s,mb5.3
BHPL Bhopal 26.98 321 *i* P **P 02 49 37.6 -1.9**
LSA Lhasa 27.19 351 P **P 02 49 42.3 +1.0**
LSA S **S 02 54 16.5 -0.4**
LSA AMB AMB
comp=Z,40nm,0.8s,mb5.0
LSA AMB AMB
comp=Z,160nm,6.0s
LSA LR LR
comp=N,310nm,20.0s,MS4.2
LSA LR LR
comp=E,570nm,20.0s,MS4.2
LSA LR LR
comp=Z,540nm,21.0s,MS4.1
LSA Lhasa 27.19 351 *eP* **P 02 49 41.9 +0.6**
LSA pmax pmax
comp=Z,37nm,0.8s,mb5.0
LSA Lhasa 27.19 351 *eP* **P 02 49 41.9 +0.6**
comp=Z,37nm,0.8s,mb5.0
GKN Gorkha 27.27 338 *eP* **P 02 49 42.5 +0.5**
comp=Z,206nm,1.0s,mb5.6
KOLN Koldanda 27.45 336 *eP* **P 02 49 44.4 +0.7**
comp=Z,147nm,1.0s,mb5.5
CD2 Chengdu 29.10 14⇓ *iP* **P 02 49 58.0 -0.6**
CD2 AMB AMB
comp=Z,43nm,0.8s,mb5.2
ENH Enshi 30.41 24 *eP* **P 02 50 09.0 -1.3**
comp=Z,41nm,1.0s,mb5.1
SONA Sohna 30.96 327 *eP* **P 02 50 12.6 -2.6**
SONA AMb AMB 02 50 16.1
comp=Z,16nm,1.4s,mb4.7
AJM Ajmer 31.05 322 *eP* **P 02 50 10.6 -5.4**
AJM AMb AMB 02 50 23.4
comp=Z,20nm,0.2s,mb5.6
AYAN Aya Nagar 31.12 327 *eP* **P 02 50 15.9 -0.6**
KUDL Kundal 31.21 326 *eP* **P 02 50 12.4 -4.9**
KUDL AMb AMB 02 50 17.9
comp=Z,8.4nm,0.9s,mb4.6
QZH Quanzhou 31.30 43⇑ *iP* **P 02 50 17.8 -0.3**
QZH S **S 02 55 23.0 +0.6**
QZH AMB AMB
comp=Z,60nm,0.9s,mb5.4
QZH LR LR
comp=N,1µm,15.1s,MS5.0
QZH LR LR
comp=E,2µm,18.6s,MS5.0
QZH LR LR
comp=Z,2µm,13.4s
WHN Wuhan 32.88 31 P **P 02 50 32.0 +0.1**
WHN AMB AMB
comp=Z,42nm,1.0s,mb5.3
NACB Ninganchiao 32.94 47 P **P 02 50 34.3 +1.8**
KLP Kalpa 33.03 332 *eP* **P 02 50 30.1 -3.1**
KLP AMb AMB 02 50 40.5
comp=Z,15nm,0.0s
MBWA Marble Bar 33.46 136 *eP* **P 02 50 37.4 +0.4**
comp=Z,18nm,1.1s,mb4.9
XAN Xi'an 33.56 20 P **P 02 50 37.0 -0.8**
XAN S **S 02 56 02.3 +4.7**
XAN SS SS 02 58 00.5 -1.7
XAN AMB AMB
comp=Z,127nm,0.8s,mb5.9
XAN LR LR
comp=N,425nm,13.2s,MS4.5
XAN LR LR
comp=E,469nm,12.7s,MS4.5
XAN LR LR
comp=Z,952nm,13.2s,MS4.7
LZH Lanzhou 34.09 12⇑ P **P 02 50 42.3 0.0**
LZH AP pP 02 50 49.0 -0.2
LZH XP sP 02 50 52.0 -0.2
LZH PP PP 02 51 58.0 +1.2
LZH *eS* **S 02 56 09.3 +3.6**
LZH XS 02 56 22.0
LZH *eSS* SS 02 58 16.0 +1.8
LZH AMB AMB
comp=Z,101nm,1.0s,mb5.7
LZH AMB AMB
comp=Z,240nm,4.0s
LZH LR LR
comp=E,1µm,16.0s
LZH LR LR
comp=Z,2µm,17.1s,MS4.9
LZH Lanzhou 34.09 12⇑ P **P 02 50 42.3 0.0**
LZH *SP sP 02 50 52.1 -0.1
LZH 02 51 58.0
LZH *eS* **S 02 56 09.2 +3.5**
LZH *SS 02 56 22.0
LZH *eSS SS 02 58 16.0 +1.8
LZH LR LR
comp=Z,2µm,17.1s,MS4.9
FITZ Fitzroy Crossi 36.08 126 *eP* **P 02 50 59.2 -0.2**
comp=Z,12nm,0.8s,mb4.9
FITZ Fitzroy Crossi 36.08 126 P **P 02 50 58.9 -0.5**
comp=Z,15nm,0.8s,mb5.0,baz=206,slow=3.5,SNR=13
NJ2 Nanjing 36.48 34 *eP* **P 02 51 02.5 -0.2**
NJ2 AP pP 02 51 10.3 +0.7
NJ2 XP sP 02 51 13.0 +0.5
NJ2 PP PP 02 52 28.0 +1.2
NJ2 S **S 02 56 44.0 +1.4**
NJ2 XS 02 56 57.0
NJ2 AMB AMB
comp=Z,50nm,1.1s,mb5.4
NJ2 AMB AMB
comp=Z,200nm,6.8s
NJ2 LR LR
comp=N,150nm,13.6s,MS4.2
NJ2 LR LR
comp=E,190nm,13.2s,MS4.2
NJ2 LR LR
comp=Z,80nm,10.3s,MS3.8
GTA Gaotai 36.74 5⇑ P **P 02 51 04.3 -0.5**
GTA AP pP 02 51 10.0 -1.8
GTA XP sP 02 51 13.5 -1.2
GTA PP PP 02 52 31.5 +1.2
GTA PCP PcP 02 53 28.0 +0.6
GTA S **S 02 56 46.0 -0.7**
GTA XS 02 56 58.8
GTA SCP 02 57 10.3
GTA PCS 02 57 13.8
GTA SS SS 02 59 14.5 0.0
GTA SCS ScS 03 01 18.8 +1.8
GTA AMB AMB
comp=Z,27nm,1.0s,mb5.0
GTA AMB AMB
comp=Z,130nm,11.0s
GTA LR LR
comp=N,428nm,14.8s,MS4.4
GTA LR LR
comp=E,277nm,14.8s,MS4.4
GTA LR LR
comp=Z,512nm,14.1s,MS4.5
SSE Sheshan 37.16 38 P **P 02 51 05.3 -3.1**
SSE AP pP 02 51 14.0 -1.3
SSE XP sP 02 51 18.0 -0.2
SSE S **S 02 56 48.5 -4.6**
SSE XS 02 57 03.0
SSE AMB AMB
comp=Z,31nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,76nm,4.0s
SSE LR LR
comp=N,194nm,16.1s,MS4.3
SSE LR LR
comp=E,320nm,16.1s,MS4.3
SSE LR LR
comp=Z,495nm,16.2s,MS4.4
SSE Sheshan 37.16 38 P **P 02 51 05.2 -3.2**
comp=Z,31nm,0.7s,mb5.2
SSE pP pP 02 51 14.1 -1.2
SSE sP sP 02 51 18.0 -0.2
SSE S **S 02 56 48.5 -4.6**
SSE sS 02 57 02.9
SSE SS SS 02 59 30.0 +6.2
SSE LR LR
comp=Z,500nm,16.2s,MS4.4
TIA Tai'an 38.82 28 *eP* **P 02 51 22.3 0.0**
JOW Kunigami 39.42 49 P **P 02 51 26.6 -0.9**
comp=Z,22nm,0.8s,mb5.0,baz=214,slow=18,SNR=6.2
KAKA Kakadu 39.64 114 *eP* **P 02 51 32.2 +2.9**
comp=Z,15nm,0.6s,mb4.9
BTO Baotou 39.92 17 *eP* **P 02 51 30.8 -0.6**
NWAO Narrogin (SRO) 40.91 152 *eP* **P 02 51 39.2 -0.4**
NWAO pmax pmax
comp=Z,28nm,1.3s
NWAO Narrogin (SRO) 40.91 152 *eP* **P 02 51 39.2 -0.3**
comp=Z,28nm,1.3s,mb4.7
WMQ Urumqi 41.55 351 P **P 02 51 47.0 +2.2**
WMQ AP pP 02 51 54.3 +2.5
WMQ XP sP 02 51 57.8 +3.1
WMQ PP PP 02 53 26.5 +2.5
WMQ S **S 02 58 01.5 +2.4**
WMQ XS 02 58 13.8
WMQ AMB AMB
comp=Z,29nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,209nm,4.0s
WMQ LR LR
comp=N,191nm,14.0s
WMQ LR LR
comp=E,409nm,22.4s
WMQ LR LR
comp=Z,264nm,14.8s,MS4.2
DL2 Dalian 43.14 30 P **P 02 51 57.8 -0.1**
DL2 AP pP 02 52 05.5 +0.7
DL2 S **S 02 58 25.3 +2.8**
DL2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
DL2 AMB AMB
comp=Z,160nm,4.6s
DL2 LR LR
comp=N,250nm,16.0s,MS4.3
DL2 LR LR
comp=E,110nm,14.7s,MS4.3
DL2 LR LR
comp=Z,250nm,14.7s,MS4.2
AAK Ala-Archa 44.02 337 *c iP* **P 02 52 05.5 +0.6**
AAK pmax pmax
comp=Z,13nm,1.3s,mb4.5
AAK Ala-Archa 44.02 337 *eP* **P 02 52 06.1 +1.1**
comp=Z,31nm,1.4s,mb4.8
FRU Bishkek 44.14 338 P **P 02 52 06.6 +0.7**
FRU *e* 02 52 18.0
WRA Warramunga Arr 44.16 122 P **P 02 52 06.9 +0.5**
comp=Z,11nm,0.7s,mb4.7,baz=300,slow=9.1,SNR=40
WRAB Tennant Creek 44.17 122 *i* P **P 02 52 07.1 +0.7**
WRAB Tennant Creek 44.17 122 *eP* **P 02 52 07.0 +0.5**
comp=Z,43nm,1.1s,mb5.1
WB2 Warramunga Arr 44.17 122 *eP* **P 02 52 07.1 +0.6**
JNU Nakatsue 44.77 43 P **P 02 52 10.1 -1.1**
comp=Z,8.0nm,0.6s,mb4.8,baz=256,slow=6.7,SNR=4.2
MKAR Makanchi Array 45.43 347 P **P 02 52 16.8 +0.6**
comp=Z,34nm,0.7s,mb5.3,baz=163,slow=8.0,SNR=266
MKAR LR LR 03 14 14.5
comp=Z,196nm,21.3s,MS4.0,slow=40
KS15 Wonju Array Si 45.53 37 *eP* **P 02 52 17.4 +0.3**
KS15 *epP* pP 02 52 23.6 -0.5
SONM Songino Array 45.92 10 P **P 02 52 19.3 -0.7**
comp=Z,15nm,1.0s,mb4.9,baz=198,slow=7.8,SNR=44
SONM PcP PcP 02 53 58.1 +0.8
comp=Z,6.5nm,0.9s,baz=194,slow=2.6,SNR=5.1
SONM LR LR 03 12 55.2
comp=Z,436nm,21.1s,MS4.4,baz=77,slow=38
KKAR Karatay Array 46.03 334 *i* P **P 02 52 21.5 +0.5**
KKAR pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SNY Shenyang 46.33 29⇓ P **P 02 52 23.3 -0.1**
SNY AP pP 02 52 29.8 -0.6
SNY AMB AMB
comp=Z,20nm,0.8s,mb5.1
SNY LR LR
comp=N,340nm,14.7s,MS4.7
SNY LR LR
comp=E,580nm,15.2s,MS4.7
SNY LR LR
comp=Z,680nm,14.9s,MS4.7
ZAK Zakamensk 47.96 7 *eP* **P 02 52 36.2 +0.1**
ZAK *e* 02 54 04.9
ZAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
CN2 Changchun 48.73 29 *eP* **P 02 52 41.5 -0.6**
CN2 *eAP* pP 02 52 49.0 -0.2
CN2 PCP PcP 02 54 06.8 -0.6
CN2 PP PP 02 54 34.3 -0.8
CN2 *eS* **S 02 59 43.0 +0.7**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,560nm,14.0s,MS4.9
CN2 LR LR
comp=E,580nm,14.0s,MS4.9
CN2 LR LR
comp=Z,530nm,13.0s,MS4.7
TLY Talaya 49.28 7 *eP* **P 02 52 46.9 +0.6**
TLY *e* 02 54 42.8
TLY *eS* **S 02 59 46.1 -3.8**
TLY *ePS* PS 03 00 01.3 +0.2
TLY pmax pmax
comp=Z,15nm,0.9s,mb5.0
TLY MLR MLR
comp=Z,305nm,17.0s,MS4.4
TLY Talaya 49.28 7 *eP* **P 02 52 46.6 +0.4**
comp=Z,14nm,0.9s,mb5.0
TLY *epP* pP 02 52 53.6 +0.3
IRK Irkutsk 49.91 7 *eP* **P 02 52 50.6 -0.5**
IRK pmax pmax
comp=Z,97nm,2.2s,mb5.4
KURK Kurchatov 49.96 346 *eP* **P 02 52 51.7 +0.2**
KURK *e*PP* pP 02 52 57.9 -0.7
KURK pmax pmax
comp=Z,55nm,1.2s,mb5.5
KURK Kurchatov 49.96 346 *eP* **P 02 52 51.7 +0.2**
comp=Z,55nm,1.2s,mb5.5
KURK *epP* pP 02 52 57.9 -0.7
MDJ Mudanjiang 51.37 31 P **P 02 53 03.0 +0.7**
MDJ AP pP 02 53 09.5 +0.1
MDJ XP sP 02 53 12.0 -0.1
MDJ PP PP 02 54 58.0 -2.2
MDJ S **S 03 00 19.0 +0.1**
MDJ AMB AMB
comp=Z,8.0nm,0.8s,mb4.7
MDJ AMB AMB
comp=Z,122nm,5.5s
MDJ LR LR
comp=N,192nm,16.1s,MS4.5
MDJ LR LR
comp=E,359nm,16.1s,MS4.5
MDJ LR LR
comp=Z,336nm,15.4s,MS4.5
CIT Chita 51.39 14 *eP* **P 02 53 02.6 +0.2**
CIT *e* pP 02 53 09.7 +0.2
CIT pmax pmax
comp=Z,48nm,2.8s,mb4.9
MJAR Matsushiro Arr 51.69 44 P **P 02 53 03.9 -0.9**
comp=Z,1.1nm,0.3s,mb4.2,baz=231,slow=8.0,SNR=5.0
MJAR PcP PcP 02 54 19.1 +0.8
comp=Z,2.2nm,0.7s,baz=242,slow=6.1,SNR=5.8
MJAR LR LR 03 17 55.3
comp=Z,161nm,18.3s,MS4.1,baz=235,slow=40
MJAR Matsushiro Arr 51.69 44 P **P 02 53 03.9 -0.9**
MJAR PcP PcP 02 54 19.1 +0.8
MJAR LR LR 03 17 55.3
ZAL Zalesovo 51.85 352 P **P 02 53 05.0 -0.7**
comp=Z,15nm,0.7s,mb5.0,baz=314,slow=5.7,SNR=69
PMG Port Moresby 52.74 104 *eP* **P 02 53 12.7 -0.3**
PMG *e*PP* pP 02 53 19.6 -0.5
PMG pmax pmax
comp=Z,18nm,0.7s
PMG Port Moresby 52.74 104 P **P 02 53 11.6 -1.4**
comp=Z,8.2nm,0.6s,mb4.8,baz=291,slow=12,SNR=5.1
PMG Port Moresby 52.74 104 *eP* **P 02 53 12.7 -0.4**
comp=Z,18nm,0.7s,mb5.1
PMG *epP* pP 02 53 19.6 -0.5
NVS Novosibirsk 52.95 351⇑ *iP* **P 02 53 12.5 -1.6**
NVS *eS* **S 03 00 40.6 +0.2**
NVS pmax pmax
comp=Z,25nm,1.0s,mb5.1
NVS pmax pmax
comp=N,16nm,0.9s
NVS pmax pmax
comp=E,9.0nm,0.9s
NVS smax
comp=N,22nm,1.6s
VOSK Vostochnaya 53.89 342 P **P 02 53 20.0 -1.0**
VOSK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BVA0 Borovoye Array 54.34 342 *i* P **P 02 53 23.8 -0.4**
BVA0 pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BRVK Borovoye 54.40 341 *eP* **P 02 53 24.0 -0.7**
BRVK *e*PP* pP 02 53 31.1 -0.7
BRVK pmax pmax
comp=Z,13nm,0.8s,mb4.9
BRVK Borovoye 54.40 341 *eP* **P 02 53 24.0 -0.7**
comp=Z,13nm,0.8s,mb4.9
BRVK *epP* pP 02 53 31.1 -0.7
CTA Charters Tower 54.58 117 *eP* **P 02 53 27.2 +0.7**
comp=Z,9.1nm,0.8s,mb4.9
CTA Charters Tower 54.58 117 *eP* **P 02 53 27.2 +0.7**
CTA pmax pmax
comp=Z,9.0nm,0.8s
CTAO Charters Tower 54.58 117 *eP* **P 02 53 26.6 +0.1**
CTAO *e*PP* pP 02 53 32.9 -0.7
CTAO pmax pmax
comp=Z,21nm,1.0s,mb5.1
CTAO Charters Tower 54.58 117 *eP* **P 02 53 26.6 +0.1**
comp=Z,21nm,1.0s,mb5.1
CTAO *epP* pP 02 53 32.9 -0.7
AB31 Akbulak array 55.46 332 P **P 02 53 31.8 -0.8**
AB31 pmax pmax
comp=Z,46nm,1.1s,mb5.4
STKA Stephens Creek 55.52 132 *eP* **P 02 53 33.8 +0.6**
comp=Z,4.8nm,0.8s,mb4.6
STKA Stephens Creek 55.52 132 P **P 02 53 33.0 -0.2**
comp=Z,2.6nm,0.6s,mb4.4,baz=308,slow=5.0,SNR=4.4
KLR Kul'dur 55.66 28 *eP* **P 02 53 31.0 -2.9**
KLR MLR MLR
comp=N,800nm,13.0s
BOD Bodaibo 56.85 12 *eP* **P 02 53 40.7 -1.7**
BOD pmax pmax
comp=Z,19nm,1.1s,mb5.0
KMBO Kilima Mbogo 58.48 267 P **P 02 53 55.3 +0.9**
comp=Z,5.9nm,1.1s,mb4.5,baz=58,slow=9.2,SNR=6.1
KMBO LR LR 03 16 35.3
comp=Z,386nm,18.5s,MS4.5,baz=94,slow=34
GNI Garni 59.13 316 *i* P **P 02 53 58.2 -0.4**
GNI pmax pmax
comp=Z,17nm,1.3s
YSS Yuzh-Sakhalins 60.03 35 *i* P **P 02 54 04.5 -0.2**
YSS pmax pmax
comp=Z,39nm,1.3s,mb5.3
ARU Arti 61.20 338⇑ *iP* **P 02 54 11.8 -0.7**
ARU *e* 02 54 54.0
ARU *e* 02 56 23.0
ARU *ePPP* PPP 02 57 53.7 -4.0
ARU *eS* **S 03 02 30.7 +1.6**
ARU *eSS* SS 03 06 30.0 -0.9
ARU pmax pmax
comp=Z,17nm,1.1s,mb5.1
ARU Arti 61.20 338 *eP* **P 02 54 11.6 -1.0**
comp=Z,20nm,1.0s,mb5.2
ARU *epP* pP 02 54 18.8 -1.0
ASF Jabal al Asfar 62.32 305 P **P 02 54 20.9 +0.5**
comp=Z,0.9nm,0.4s,mb4.2,baz=270,slow=3.0,SNR=2.1
MALT Malatya 62.96 312 *eP* **P 02 54 24.2 -0.3**
MALT *e*PP* pP 02 54 31.4 -0.4
MALT *e* 02 54 39.1
MALT pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
MALT Malatya 62.96 312 *eP* **P 02 54 24.2 -0.3**
comp=Z,3.7nm,1.0s,mb4.5
MALT *epP* pP 02 54 31.4 -0.5
MALT *e* 02 54 39.1
YAK Yakutsk 64.45 17 *eP* **P 02 54 32.6 -1.4**
YAK *e* pP 02 54 39.7 -1.5
YAK pmax pmax
comp=Z,36nm,0.9s,mb5.4
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax

	comp=Z,47nm,1.0s,mb5.5								
YAK					pmax	pmax			
	comp=N,20nm,1.1s								
YAK					pmax	pmax			
	comp=E,13nm,1.1s								
YAK					MLR	MLR			
	comp=N,265nm,16.0s,MS4.6								
YAK					MLR	MLR			
	comp=Z,388nm,16.0s,MS4.7								
YAK					MLR	MLR			
	comp=E,141nm,17.0s,MS4.6								
YAK	**Yakutsk**	**64.45**	**17**	*eP*	**P**		**02 54 33.1**	**-0.8**	
	comp=E,57nm,0.8s,mb5.7								
YAK				*e*pP	pP		02 54 39.9	-1.3	
MBAR	**Mbarara**	**64.94**	**268**	*eP*	**P**		**02 54 38.3**	**+0.3**	
MBAR				*e*PP	pP		02 54 45.3	0.0	
BRTR	**Keskin Array B**	**66.94**	**312**	P	**P**		**02 54 49.4**	**-1.0**	
	comp=E,0.6nm,0.7s,mb3.7,baz=45,slow=1.7,SNR=3.6								
SIM	**Simferopol'**	**68.20**	**318**	*eP*	**P**		**02 55 01.8**	**+3.6**	
SIM				*e*S	S		03 03 56.8	+1.2	
SIM				pmax	pmax				
	comp=Z,9.0nm,1.0s,mb4.8								
CASY	**Casey**	**69.65**	**174**	*eP*	**P**		**02 55 07.6**	**+0.9**	
	comp=Z,4.3nm,0.9s,mb4.4								
CASY				*e*pP	pP		02 55 14.6	+0.7	
MOS	**Moscow**	**70.25**	**329**	*eP*	pP		02 55 16.9	-0.9	
MOS				*e*			02 55 28.2		
MOS				pmax	pmax				
	comp=Z,66nm,1.4s,mb5.4								
OBN	**Obninsk**	**70.53**	**328**	*d iP*	**P**		**02 55 11.9**	**-0.3**	
OBN				*e*S	S		03 04 25.4	+2.6	
OBN				pmax	pmax				
	comp=Z,46nm,2.5s,mb5.0								
OBN	**Obninsk**	**70.53**	**328**	*eP*	**P**		**02 55 10.8**	**-1.5**	
MA2	**Magadan**	**70.69**	**26**	*eP*	**P**		**02 55 13.3**	**+0.2**	
MA2				*e*PPP	PPP		02 59 38.8	+6.3	
MA2				*e*S	S		03 04 23.7	-0.9	
MA2				*e*PS	PS		03 04 59.7	+4.4	
MA2				pmax	pmax				
	comp=Z,9.0nm,0.9s,mb4.7								
MA2	**Magadan**	**70.69**	**26**	*eP*	**P**		**02 55 12.9**	**-0.3**	
	comp=Z,12nm,0.8s,mb4.9								
MA2				*e*pP	pP		02 55 19.6	-0.8	
TIXI	**Tiksi**	**72.01**	**11**	*eP*	**P**		**02 55 18.4**	**-2.5**	
TIXI				*e*S	S		03 04 32.8	-6.8	
TIXI				pmax	pmax				
	comp=Z,25nm,1.1s,mb5.1								
TIXI				MLR	MLR				
	comp=Z,236nm,15.0s,MS4.6								
SEY	**Seymchan**	**73.02**	**24**	*eP*	**P**		**02 55 26.7**	**-0.3**	
SEY							02 55 42.6		
SEY							02 58 05.8		
SEY				*e*S	S		03 04 51.0	-0.3	
SEY				*e*			03 05 34.5		
SEY				*e*SS	SS		03 09 28.1	-6.7	
SEY				pmax	pmax				
	comp=N,10.0nm,1.1s								
SEY				pmax	pmax				
	comp=Z,20nm,1.1s,mb5.0								
SEY				smax					
	comp=N,90nm,20.0s								
SEY				smax					
	comp=E,50nm,20.0s								
SEY				MLR	MLR				
	comp=Z,410nm,24.0s,MS4.6								
SEY				MLR	MLR				
	comp=N,310nm,22.0s,MS4.7								
SEY				MLR	MLR				
	comp=E,290nm,23.0s,MS4.7								
AKASG	**Malin Array Be**	**73.12**	**322**	P	**P**		**02 55 26.1**	**-1.7**	
	comp=E,1.9nm,0.7s,mb4.1,baz=91,slow=4.7,SNR=8.6								
LBTB	**Lobatse**	**73.14**	**243**	*eP*	**P**		**02 55 28.2**	**-0.3**	
	comp=E,33nm,1.5s,mb5.0								
LBTB				*e*pP	pP		02 55 36.0	+0.2	
MAW	**Mawson**	**73.81**	**192**	LR	LR		03 24 17.7		
	comp=E,148nm,18.1s,MS4.3,baz=251,slow=33								
MLR	**Muntele Rosu**	**73.90**	**317**	P	**P**		**02 55 32.1**	**-0.4**	
	comp=E,1.0nm,0.7s,mb3.8,baz=272,slow=7.0,SNR=3.7								
BOSA	**Boshof**	**74.16**	**239**	LR	LR		03 25 27.1		
	comp=E,238nm,20.1s,MS4.5,baz=277,slow=34								
LVZ	**Lovozero**	**76.90**	**340**	*eP*	**P**		**02 55 48.0**	**-1.1**	
LVZ				*e*S	S		03 05 35.3	+1.2	
LVZ				pmax	pmax				
	comp=Z,26nm,1.7s,mb4.9								
LVZ				smax					
	comp=N,44nm,2.2s								
KWP	**Kalwaria**	**76.92**	**320**	*eP*	**P**		**02 55 49.7**	**+0.2**	
KOLS	**Kolonicke sedl**	**77.06**	**320**	*eP*	**P**		**02 55 51.3**	**+0.9**	
KOLS				*e*pP	pP		02 55 58.7	+1.0	
APA	**Apatity**	**77.18**	**340**	*eP*	**P**		**02 55 50.0**	**-0.7**	
APA				*e*S	S		03 05 38.0	+0.8	
APA				pmax	pmax				
	comp=Z,11nm,1.0s,mb4.7								
SUW	**Suwalki**	**77.55**	**325**	*eP*	**P**		**02 55 53.4**	**+0.5**	
SUW	**Suwalki**	**77.55**	**325**	*eP*	**P**		**02 55 53.4**	**+0.4**	
CRVS	**Cervenica-Dubn**	**77.58**	**319**	*eP*	**P**		**02 55 54.0**	**+0.8**	
STHS	**Stebnicka Huta**	**77.82**	**320**	*eP*	**P**		**02 55 56.3**	**+1.8**	
FINES	**FINESS Array B**	**77.95**	**333**	P	**P**		**02 55 53.8**	**-1.2**	
	comp=Z,4.9nm,1.1s,mb4.3,baz=162,slow=4.4,SNR=8.0								
FINES				LR	LR		03 35 34.1		
	comp=Z,126nm,20.8s,MS4.2,baz=121,slow=40								
KECS	**Kecovo**	**78.15**	**319**	*eP*	pP		02 56 03.9	+0.2	
KECS	**Kecovo**	**78.15**	**319**	*ep*P	pP		02 56 03.9	+0.2	
VYHS	**Vyhne**	**79.23**	**319**	*eP*	pP		02 56 10.1	+0.4	
VYHS	**Vyhne**	**79.23**	**319**	*ep*P	pP		02 56 10.1	+0.4	
MORC	**Moravsky Berou**	**80.25**	**320**	*eP*	**P**		**02 56 08.7**	**+1.0**	
	comp=Z,12nm,1.4s,mb4.6								
BILL	**Bilibino**	**80.34**	**21**	*i* P	**P**		**02 56 07.3**	**-0.5**	
BILL				pmax	pmax				
	comp=Z,22nm,2.5s,mb4.6								
BILL				MLR	MLR				
	comp=Z,400nm,16.0s,MS4.9								
ARCES	**ARCESS Array B**	**80.61**	**340**	P	**P**		**02 56 09.7**	**+0.5**	
	comp=Z,3.1nm,0.8s,mb4.3,baz=100,slow=7.0,SNR=13								
ARCES				LR	LR		03 37 33.9		
	comp=Z,216nm,20.9s,MS4.5,baz=209,slow=40								
AQU	**L'Aquila**	**82.44**	**312**	P	**P**		**02 56 19.8**	**+0.5**	
	comp=Z,9.3nm,0.9s,mb4.7								
GERES	**GERESS Array B**	**82.66**	**319**	P	**P**		**02 56 20.1**	**-0.2**	
	comp=Z,1.3nm,0.8s,mb4.0,baz=104,slow=5.5,SNR=13								
GERES				LR	LR		03 35 15.9		
	comp=Z,53nm,18.4s,MS3.9,baz=285,slow=37								
BRG	**Berggiesshubel**	**82.66**	**321**	*eP*	pP		02 56 31.0	+3.3	
BRG				pmax	pmax				
	comp=Z,9.0nm,1.5s,mb4.6								
KHC	**Kasperske Hory**	**82.76**	**319**	*i* P	**P**		**02 56 22.5**	**+1.7**	
GRA1	**Grafenberg Arr**	**84.33**	**319**	*eP*	**P**		**02 56 28.0**	**-0.8**	
	comp=Z,6.0nm,1.3s,mb4.6								
GRF	**Grafenberg Arr**	**84.33**	**319**	*eP*	**P**		**02 56 28.0**	**-0.8**	
GRF				pmax	pmax				
	comp=Z,6.0nm,1.3s,mb4.6								
GRF	**Grafenberg Arr**	**84.33**	**319**	*eP*	**P**		**02 56 28.0**	**-0.8**	
	comp=Z,6.0nm,1.3s,mb4.6								
NOA	**NORSAR Array B**	**84.94**	**331**	LR	LR		03 38 24.0		
	comp=Z,96nm,20.5s,MS4.2,baz=90,slow=38								
VNDA	**Vanda**	**87.59**	**169**	LR	LR		03 30 53.2		
	comp=Z,135nm,19.0s,MS4.4,baz=292,slow=32								
ILAR	**Eielson Array**	**98.94**	**23**	LR	LR		03 43 59.9		
	comp=Z,70nm,18.7s,MS4.2,baz=166,slow=36								
PPT	**Papeete**	**114.44**	**108**	*eLR*	LR		03 37 14.4		
	comp=Z,106nm,25.5s								
TXAR	**Lajitas Array**	**143.18**	**29**	PKP	PKPdf		03 03 29.4	-5.3	
	comp=Z,0.7nm,0.7s,baz=225,slow=1.8,SNR=7.2								
LRAL	**Lakeview Retre**	**144.38**	**4**	*e*PKPdf	PKPdf		03 03 32.4	-4.3	
CPUP	**Villa Florida**	**144.98**	**225**	PKP	PKPdf		03 03 35.0	-3.0	
	comp=Z,3.9nm,1.0s,baz=119,slow=5.2,SNR=8.8								
CPUP	**Villa Florida**	**144.98**	**225**	*e*PKPdf	PKPdf		03 03 35.1	-2.9	
CPUP				*ep*PKPdf			03 03 42.1		

*TIF **28** 02:51:55.5, 43.31N×46.00E, h4km±4km*
*MOS **28** 02:51:55.4±1.4, 43.03N×46.05E, h6km, mb3.8/1, Error ellipse: s-maj=19.5km s-min=9.4km az=10.8*
ISC 28 02:51:57.0±0.7, 43.06N±0.06×46.05E±0.05, h6km, n12, σ1§83/19, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.57**	**94**	*i* PG		**Pg**	**02 52 07.5**	**-1.0**
DBC				*i* S		**Sg**	**02 52 18.0**	**+1.8**
MAK	**Makhachkala**	**1.07**	**95**	*e*PG		**Pg**	**02 52 24.8**	**+6.3**
MAK				pmax	pmax			
	comp=N,330nm,1.0s							
MAK				pmax	pmax			
	comp=E,825nm,1.0s							

ARNR	**Ardon**	**1.30**	**276**	*e*PG		**Pg**	**02 52 21.1**	**-2.0**	
ARNR				*e*S		**Sb**	**02 52 40.4**	**+2.0**	
TI2	**Plekhanov**	**1.64**	**216**	*e*PN		**Pn**	**02 52 24.0**	**-2.6**	
TI2				*e*S		**Sb**	**02 52 47.6**	**-0.6**	
TI2				pmax	pmax				
	comp=Z,10.0nm,0.2s								
TI2				smax					
	comp=E,4.0nm,0.6s								
TBLG	**Delisi**	**1.65**	**217**	P		**Pn**	**02 52 28.3**	**+1.6**	
TBLG				S		**Sb**	**02 52 55.1**	**+6.8**	
DGRG	**David-gareji**	**1.69**	**198**	P		**Pn**	**02 52 32.4**	**+5.8**	
ONI	**Oni**	**1.97**	**257**	P		**Pn**	**02 52 32.2**	**+0.9**	
ONI				S		**Sn**	**02 52 58.9**	**+2.2**	
KUBR	**Kubataba**	**2.06**	**292**	*e*PN		**Pn**	**02 52 31.0**	**-1.6**	
KUBR				*e*S		**Sn**	**02 52 58.8**	**-0.1**	
SHAR	**Shatzhatmas**	**2.56**	**287**	*e*PN		**Pn**	**02 52 37.0**	**-2.7**	
KIV0	**Kislovodsk Arr**	**2.60**	**291**	*e*PN		**Pn**	**02 52 37.7**	**-2.6**	
KIV	**Kislovodsk**	**2.60**	**291**	*e*PN		**Pn**	**02 52 37.8**	**-2.6**	
GOF	**Gofitskoye**	**2.95**	**314**	⇓*i*PN		**Pn**	**02 52 53.5**	**+8.1**	
GOF				*i* S		**Sn**	**02 53 24.2**	**+2.7**	
GOF				pmax	pmax				
	comp=Z,20nm,0.6s								
GOF				smax					
	comp=N,130nm,0.7s								
GOF				smax					
	comp=E,100nm,0.7s								

IDC 28 02:56:46.7±1.4, 11.40N×95.48E, mb3.5/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=91.1km s-min=27.2km az=48.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.00**	**345**	P		P	03 03 57.8	-2.0
	0.4nm,0.4s,baz=125,slow=6.6,SNR=7.8							
WRA	**Warramunga Arr**	**49.33**	**129**	P		P	03 05 38.1	-1.9
	0.4nm,0.6s,baz=305,slow=8.8,SNR=3.0							
BRTR	**Keskin Array B**	**61.19**	**309**	P		P	03 07 04.8	-0.9
	0.7nm,0.8s,baz=112,slow=6.7,SNR=4.2							
GERES	**GERESS Array B**	**76.11**	**318**	P		P	03 08 35.6	-2.5
	0.2nm,0.7s,baz=104,slow=5.5,SNR=4.2							

MAN 28 03:14:51.9, 12.00N×125.77E, h4km, mb4.1, ML2.9, MS2.6, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.51**	**219**	*eP*		Pg	03 15 02.1	-0.1
BESP				*e*S		Sg	03 15 10.1	+1.1
PLP	**Palo**	**1.14**	**223**	⇑*iP*		Pb	03 15 12.0	-1.7
PLP				*i* S		Sb	03 15 25.5	-3.1
CNP	**Catarman**	**1.19**	**295**	*eP*		Pb	03 15 15.6	+0.9
CNP				*e*S		Sb	03 15 33.3	+3.0
MSLP	**Maasin**	**2.06**	**206**	*eP*		Pn	03 15 28.3	+0.6
MSLP				*e*S		Sn	03 15 56.0	+1.9
PVCP	**Virac**	**2.23**	**315**	*eP*		Pn	03 15 29.6	-0.6
PVCP				*e*S		Sn	03 16 03.5	+5.0

*IDC **28** 03:28:28.4±1.1, 40.69N×147.74E, mb4.0/9, mb1 4.1/9, mb1mx3.9/21, mbtmp4.0/9, Error ellipse: s-maj=32.2km s-min=24.3km az=104.0*
*JMA **28** 03:28:51.1±0.2, 43.41N×147.03E, h36km±3km, M4.1*
ISC 28 03:28:51.3±1.3, 43.4N±0.1×147.0E±0.1, h63km±11km, n21, σ0§68/29, mb4.0/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.94**	**267**	P		**P**	**03 29 08.2**	**-0.7**
NEM2				*e*S		**S**	**03 29 20.8**	**-1.3**
JRA	**Rausu**	**1.48**	**291**	P		**P**	**03 29 16.1**	**-0.2**
JRA				S		**S**	**03 29 34.4**	**-0.4**
JNK	**Nakash**	**1.69**	**276**	P		**P**	**03 29 18.8**	**-0.4**
JNK				*e*S		**S**	**03 29 38.8**	**-1.0**
JAK	**Akkeshi**	**1.76**	**257**	P		**P**	**03 29 20.1**	**-0.1**
JAK				*e*S		**S**	**03 29 41.0**	**-0.5**
JTKR	**Abashiri--Toko**	**2.33**	**285**	P		**P**	**03 29 29.0**	**+0.8**
JTKR				*e*S		**S**	**03 29 56.7**	**+1.0**
JAR	**Ashorobuto**	**2.38**	**268**	P		**P**	**03 29 29.2**	**+0.3**
JAR				*e*S		**S**	**03 29 57.4**	**+0.4**
JOB	**Onbets**	**2.40**	**259**	P		**P**	**03 29 29.5**	**+0.4**
JOB				*e*S		**S**	**03 29 57.6**	**+0.3**
JMP	**Maruseppu**	**2.73**	**284**	P		**P**	**03 29 34.5**	**+0.7**
JCH	**Churui**	**2.81**	**255**	P		**P**	**03 29 35.4**	**+0.4**
JCH				*e*S		**S**	**03 30 07.7**	**-0.1**
JKK2	**Kamakawa 2**	**3.14**	**280**	P		**P**	**03 29 40.6**	**+1.0**
JFR	**Furan**	**3.25**	**267**	P		**P**	**03 29 42.0**	**+0.8**
ZAL	**Zalesovo**	**41.14**	**307**	P		**P**	**03 36 31.5**	**+1.0**
	1.7nm,0.3s,mb4.2,baz=128,slow=3.9,SNR=3.0							
ILAR	**Eielson Array**	**41.80**	**36**	P		**P**	**03 36 36.6**	**+0.9**
	0.4nm,0.7s,mb3.2,baz=276,slow=8.1,SNR=5.3							
MKAR	**Makanchi Array**	**44.66**	**298**	P		**P**	**03 36 58.8**	**-0.4**
	1.5nm,0.8s,mb3.9,baz=76,slow=10.0,SNR=12							
INK	**Inuvik**	**46.73**	**30**	P		**P**	**03 37 15.1**	**-0.1**
	1.3nm,0.4s,mb4.2,baz=332,slow=14,SNR=9.6							
ARCES	**ARCESS Array B**	**59.52**	**340**	P		**P**	**03 38 49.8**	**0.0**
	0.3nm,0.4s,mb3.6,baz=39,slow=7.8,SNR=4.1							
KAF	**Kangasniemi**	**64.57**	**333**	*ep*		**P**	**03 39 22.3**	**-1.1**
	1.5nm,0.5s,mb4.3,baz=43,slow=6.2							
FINES	**FINESS Array B**	**65.13**	**333**	P		**P**	**03 39 26.4**	**-0.7**
	2.1nm,0.6s,mb4.3,baz=50,slow=6.9,SNR=16							
NB2	**NORSAR Subarra**	**69.88**	**339**	P		**P**	**03 39 55.8**	**-1.0**
	2.3nm,0.7s,mb4.2,baz=31,slow=6.2							
NOA	**NORSAR Array B**	**69.88**	**339**	P		**P**	**03 39 56.5**	**-0.2**
	2.2nm,0.8s,mb4.2,baz=33,slow=6.2,SNR=8.4							
AKASG	**Malin Array Be**	**71.79**	**324**	P		**P**	**03 40 08.1**	**-0.4**
	0.6nm,0.4s,mb3.8,baz=38,slow=6.1,SNR=9.2							

*FUNV **28** 03:53:04.1, 11.24N×60.57W, h60km, MW2.5*
*NEIC **28** 03:53:08.1, 11.03N×60.62W, h34km, MD3.1(TRN), After TRN.*
*TRN **28** 03:53:08.1, 11.03N×60.62W, h34km, MD3.1*
ISC 28 03:53:04.2±1.6, 11.23N±0.09×60.72W±0.09, h71km±9km, n11, σ0§91/19, 2C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BOT	**Bacolet**	**0.07**	**181**	⇑*iP*		**P**	**03 53 14.3**	**-0.1**
BOT				*e*S		**S**	**03 53 18.8**	**-3.2**
TPR	**Prospect**	**0.07**	**232**	⇑*iP*		**P**	**03 53 15.0**	**+0.5**
TPR				*e*S		**S**	**03 53 21.4**	**-0.6**
TBH	**Brigand Hill**	**0.82**	**205**	⇓*iP*		**P**	**03 53 21.4**	**+0.8**
TBH				*e*S		**S**	**03 53 32.9**	**0.0**
TRN	**Trinidad (W)**	**0.89**	**229**	*eP*		**P**	**03 53 23.1**	**+1.5**
TRN				*e*S		**S**	**03 53 34.6**	**+0.2**
GRW	**Mount Saint Ca**	**1.31**	**315**	*eP*		**P**	**03 53 33.7**	**+6.6**
GUIV	**Guiria**	**1.59**	**249**	*eP*		**P**	**03 53 31.5**	**+0.6**
GUIV				*e*S		**S**	**03 53 51.6**	**+1.0**
ITEV	**Isla Los Testi**	**2.37**	**273**	*eP*		**P**	**03 53 42.0**	**+0.2**
ITEV				*e*S		**S**	**03 54 09.6**	**-0.1**
GUNV	**Guanoco**	**2.43**	**244**	*eP*		**P**	**03 53 42.8**	**+0.2**
CRUV	**Carupano**	**2.54**	**258**	*eP*		**P**	**03 53 43.6**	**-0.5**
CRUV				*e*S		**S**	**03 54 12.7**	**-1.1**
GURV	**El Guri**	**4.17**	**214**	*eP*		**P**	**03 54 05.0**	**-1.8**
GURV				*e*S		**S**	**03 54 50.1**	**-4.5**
BAUV	**El Baul**	**7.56**	**253**	*e*S		**S**	**03 56 11.1**	**-7.8**

IDC 28 04:24:28.6±7.0, 49.20N×153.62E, mb4.1/2, mb1 4.2/3, mb1mx3.6/21, mbtmp4.1/3, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/19, Error ellipse: s-maj=155.7km s-min=49.0km az=118.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.91**	**227**	Pn		P	04 28 26.6	-1.5
	0.4nm,0.3s,baz=26,slow=12,SNR=6.2							
JHJ	**Hachijo jima 2**	**19.09**	**218**	LR		LR	04 35 34.0	
	comp=Z,74nm,21.5s,baz=240,slow=35							
MKAR	**Makanchi Array**	**46.16**	**296**	P		P	04 32 54.5	-1.7
	1.5nm,0.8s,baz=63,slow=7.6,SNR=14							
FINES	**FINESS Array B**	**61.98**	**334**	P		P	04 34 49.8	-2.4
	0.7nm,0.5s,baz=45,slow=5.4,SNR=7.2							

*NEIC **28** 04:24:43.7±0.6, 20.04S×68.99W, mb4.5/16, Error ellipse: s-maj=14.7km s-min=8.4km az=105.0*
NEIC Felt [III] at Alto Hospicio, Camina, Iquique, Mamina, Pisagua and Pozo Almonte; [II] at Huara, La Tirana and Pica.
*GUC **28** 04:24:43.1±0.7, 20.13S×69.51W, h101km±5km, MD4.4, ML4.7*
*IDC **28** 04:24:43.1±0.6, 20.01S×69.09W, h106km±5km, mb4.0/10, mb1 4.0/14, mb1mx3.9/22, mbtmp4.3/14, Error ellipse: s-maj=21.0km s-min=8.5km az=92.0*
ISC 28 04:24:40.4±1.0, 19.91S±0.06×69.2W±0.1, h99km±9km, h106km±4.2km:pP-P, n62, σ1§23/51, mb4.2/12, 1C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.70**	**175**	*eP*		**P**	**04 25 24.3**	**+1.2**
LVC				*i* S		**S**	**04 25 55.4**	**+0.3**
LVC	**Limon Verde**	**2.70**	**175**	P		**P**	**04 25 24.7**	**+1.6**
	42nm,0.3s,baz=357,slow=9.7,SNR=199							
LVC				S		**S**	**04 25 55.4**	**+0.3**
	689nm,0.3s,baz=353,slow=9.2,SNR=60							
LVC	**Limon Verde**	**2.70**	**175**	*eP*n		**P**	**04 25 24.4**	**+1.3**
SPCH	**San Pedro de A**	**3.12**	**163**	⇓*iP*		**P**	**04 25 31.2**	**+2.3**
SPCH	**San Pedro de A**	**3.12**	**163**	⇓*iP*		**P**	**04 25 31.1**	**+2.3**
SPCH				*i* S		**S**	**04 26 05.9**	**+0.6**
LPAZ	**La Paz**	**3.73**	**15**	P		**P**	**04 25 41.0**	**+3.8**
	9.1nm,0.3s,baz=192,slow=8.0,SNR=196							
LPAZ	**La Paz**	**3.73**	**15**	*eP*n		**P**	**04 25 43.5**	**+6.3**
ANCH	**Antofagasta**	**3.93**	**197**	⇓*iP*		**P**	**04 25 37.9**	**-2.0**
ANCH				*i* S		**S**	**04 26 17.4**	**-7.8**
ANCH	**Antofagasta**	**3.93**	**197**	⇓*iP*		**P**	**04 25 37.9**	**-2.0**
ANCH				*i* S		**S**	**04 26 17.4**	**-7.8**
CPN1	**Cerro Paranal**	**4.83**	**193**	*eP*		**P**	**04 25 49.3**	**-3.0**
CPN1				*i* S		**S**	**04 26 37.9**	**-10**
SIV	**San Ignacio**	**8.63**	**64**	P		**P**	**04 26 44.7**	**+0.5**
	12nm,0.3s,baz=256,slow=12,SNR=400							
SAML	**Samuel**	**12.34**	**29**	*eP*		**P**	**04 27 33.2**	**-0.6**
CPUP	**Villa Florida**	**12.63**	**123**	P		**P**	**04 27 36.8**	**-0.8**
	0.1nm,0.3s,baz=313,slow=18,SNR=6.4							
CPUP	**Villa Florida**	**12.63**	**123**	*eP*n		**P**	**04 27 36.4**	**-1.2**
	3.2nm,0.8s							
TRQA	**Tornquist**	**19.13**	**162**	*eP*		**P**	**04 28 56.7**	**-1.6**
	23nm,0.8s							
BDFB	**Brasilia**	**20.58**	**81**	P		**P**	**04 29 13.6**	**+0.1**
	11nm,0.4s,baz=260,slow=9.4,SNR=30							
BAO	**Brasilia Array**	**20.61**	**81**	P		**P**	**04 29 13.5**	**-0.2**
PLCA	**Paso Flores**	**20.79**	**183**	P		**P**	**04 29 14.4**	**-1.1**
	14nm,0.7s,baz=0.5,slow=10,SNR=18							
PLCA	**Paso Flores**	**20.79**	**183**	*eP*		**P**	**04 29 13.9**	**-1.5**
	12nm,0.7s							
SDV	**Santo Domingo**	**28.65**	**357**	P		**P**	**04 30 30.0**	**0.0**
	4.1nm,0.5s,mb4.3,baz=270,slow=11,SNR=4.2							
SDV	**Santo Domingo**	**28.65**	**357**	*eP*		**P**	**04 30 29.0**	**-1.0**
	8.7nm,0.9s,mb4.4							
RCBR	**Riachuelo**	**35.22**	**71**	*eP*		**P**	**04 31 25.6**	**-1.7**
	15nm,0.6s,mb5.0							
SJG	**San Juan**	**37.90**	**5**	P		**P**	**04 31 49.0**	**-0.7**
	11nm,0.7s,mb4.8,baz=189,slow=3.1,SNR=6.7							
VNA3	**Neumayer Olymp**	**61.66**	**162**	*e*		**P**	**04 34 51.1**	**+1.4**
VNA3	**Neumayer Olymp**	**61.66**	**162**	⇓*iP*		**P**	**04 34 49.5**	**-0.2**
VNA3				*e*			04 34 51.1	
VNA1	**Neumayer--Stat**	**61.86**	**161**	*e*		**P**	**04 34 53.2**	**+2.1**
VNA1	**Neumayer--Stat**	**61.86**	**161**	P		**P**	**04 34 51.5**	**+0.4**
VNA1				*e*			04 34 53.2	
VNA2	**Neumayer--Watz**	**62.23**	**161**	*e*		**P**	**04 34 54.6**	**+1.0**
VNA2	**Neumayer--Watz**	**62.23**	**161**	⇑*iP*		**P**	**04 34 53.3**	**-0.3**
VNA2				*e*			04 34 54.6	
SNAA	**Sanae**	**63.86**	**161**	*e*		**P**	**04 35 05.5**	**+1.3**
SNAA	**Sanae**	**63.86**	**161**	P		**P**	**04 35 03.9**	**-0.3**
	1.9nm,0.7s,mb4.1,baz=291,slow=6.0,SNR=54							
SNAA	**Sanae**	**63.86**	**161**	⇓*iP*		**P**	**04 35 03.8**	**-0.4**
SNAA				*e*			04 35 05.5	
DBIC	**Dimbokro**	**68.52**	**74**	P		**P**	**04 35 34.0**	**-0.8**
	3.2nm,0.4s,mb4.5,baz=213,slow=9.7,SNR=15							
DBIC				pP		pP	04 36 01.5	+1.5
	3.1nm,0.6s,baz=233,slow=9.8,SNR=2.4							
DBIC	**Dimbokro**	**68.52**	**74**	*eP*		**P**	**04 35 33.8**	**-0.9**
	6.1nm,0.7s,mb4.5							
SCHQ	**Schefferville**	**74.46**	**1**	P		**P**	**04 36 10.5**	**+1.1**
	2.8nm,0.8s,mb4.0,baz=229,slow=9.3,SNR=2.8							
SBA	**Scott Base**	**77.34**	**190**	P		**P**	**04 36 25.2**	**-0.1**
	3.2nm,1.0s,mb4.0							
VNDA	**Vanda**	**78.37**	**190**	P		**P**	**04 36 31.5**	**+0.5**
	0.7nm,0.9s,mb3.4,baz=146,slow=6.1,SNR=5.1							
VNDA				pP		p

JHJ2 S Sn 04 28 47.9 +1.6
JHJ Hachijo jima 2 2.17 268 Pn Pn 04 28 20.6 -0.3
63nm,0.3s,baz=152,slow=9.3,SNR=41
JHJ Sn Sn 04 28 46.5 -0.5
128nm,0.3s,baz=86,slow=22,SNR=5.2
BSO3 Boso 3 2.22 316 P Pn 04 28 22.0 +0.4
BSO3 S Sn 04 28 47.9 -0.4
BSO4 Boso 4 2.45 317 P Pn 04 28 25.8 +0.9
JIM2 Oshima 3 2.87 303 P Pn 04 28 30.2 -0.7
JIM2 S Sn 04 29 04.3 -0.5
JIZS Izushimoda 3.27 298 P Pn 04 28 36.7 +0.2
JIZS S Sn 04 29 14.5 -0.4
JOD2 Odawara 2 3.41 308 P Pn 04 28 38.1 -0.4
JYN Shimob 3.90 307 P Pn 04 28 45.6 +0.1
JYN S Sn 04 29 32.3 +1.4
JRY Ryogami san 4.00 315 P Pn 04 28 47.3 +0.3
JRY S Sn 04 29 34.0 +0.5
JAG Ashikaga 4.01 324 P Pn 04 28 46.6 -0.5
JAG S Sn 04 29 31.6 -2.0
MJAR Matsushiro Arr 4.77 315 Pn Pn 04 28 56.2 -1.7
9.7nm,0.3s,baz=142,slow=9.7,SNR=44
MJAR Sn Sn 04 29 52.2 -0.7
4.9nm,0.3s,baz=121,slow=17,SNR=7.3
MAJO Matsushiro 4.77 315 ePn Pn 04 28 58.7 +0.8
MAJO eSn Sn 04 29 53.0 +0.1
MAT Matsushiro 4.77 315 eP Pn 04 28 58.0 +0.1
MAT eS Sn 04 29 52.0 -0.9
MAT Matsushiro 4.77 315 P Pn 04 28 58.4 +0.5
MAT S Sn 04 29 52.3 -0.6
MAT Matsushiro 4.77 315 P Pn 04 28 58.3 +0.4
MAT S Sn 04 29 52.2 -0.7
JMM Marumori 4.83 345 P Pn 04 28 56.0 -2.6
JMM S Sn 04 29 46.9 -7.3
JIE Ise 4.86 286 P Pn 04 28 59.9 +0.8
JGM Miyama 5.29 300 P Pn 04 29 06.3 +1.1
JWZ Kozaga 5.58 275 P Pn 04 29 10.4 +1.2
CBIJ Chichi jima 6.09 182 Pn Pn 04 29 12.2 -4.3
19nm,0.3s,baz=248,slow=20,SNR=8.7
CBIJ Sn Sn 04 30 18.4 -7.5
18nm,0.3s,baz=294,slow=22,SNR=4.6
JNU Nakatsue 9.63 273 Pn P 04 30 03.8 -2.0
baz=169,slow=5.2
JNU Sn Sn 04 31 55.5 +1.5
1.3nm,0.3s,baz=88,slow=34,SNR=2.7
INCN Inchon 13.53 293 P P 04 31 04.7 +6.2
58nm,1.6s
YSS Yuzh-Sakhalins 13.74 1 eP P 04 30 58.0 -3.0
YSS Yuzh-Sakhalins 13.74 1 P P 04 30 55.4 -5.7
20nm,0.5s
JOW Kunigami 13.76 246 Pn P 04 31 11.2 +10
1.2nm,0.3s,baz=356,slow=14,SNR=6.7
JOW LR LR 04 35 42.8
comp=Z,57nm,20.9s,baz=196,slow=35
MDJ Mudanjiang 15.10 323 P P 04 31 19.0 0.0
MDJ AMB AMB
comp=Z,8.0nm,0.8s
MDJ AMB AMB
comp=Z,64nm,4.0s
MDJ Mudanjiang 15.10 323 P P 04 31 17.4 -1.5
comp=Z,11nm,0.9s
CN2 Changchun 16.92 314 eP P 04 31 41.3 -0.9
CN2 AMB AMB
comp=Z,10.0nm,1.1s
KLR Kul'dur 17.86 337 eP P 04 31 48.8 -5.1
SSE Sheshan 18.06 269 P P 04 31 54.3 -2.2
SSE AP 04 32 02.5
SSE XP 04 32 06.5
SSE S S 04 35 13.8 -0.2
SSE AMB AMB
comp=Z,26nm,0.7s
SSE AMB AMB
comp=Z,65nm,4.6s
SSE Sheshan 18.06 269 P P 04 31 54.3 -2.2
comp=Z,26nm,0.7s
SSE pP 04 32 02.5
SSE sP 04 32 06.5
SSE S S 04 35 13.7 -0.3
SSE sS 04 35 32.6
GUMO Guam 19.66 173 P P 04 32 06.9 -8.7
comp=Z,166nm,1.2s
NJ2 Nanjing 19.83 273 eP P 04 32 16.3 -1.1
NJ2 AP 04 32 25.5
NJ2 XP 04 32 31.0
NJ2 PP PP 04 32 34.3 -1.8
NJ2 S S 04 35 52.0 -1.5
NJ2 XS 04 36 07.0
NJ2 AMB AMB
comp=Z,20nm,0.9s
NJ2 AMB AMB
comp=Z,90nm,5.9s
NJ2 LR LR
comp=N,150nm,14.8s
NJ2 LR LR
comp=E,160nm,19.2s
NJ2 LR LR
comp=Z,130nm,20.6s
YHNB Yeheng 20.22 251 P P 04 32 17.6 -3.9
QZH Quanzhou 22.32 255 P P 04 32 38.5 -4.2
QZH S S 04 36 33.5 -7.8
HIA Hailar 23.25 320 eP P 04 32 51.4 -0.2
HIA pmax pmax
comp=Z,37nm,1.3s
HIA Hailar 23.25 320 eP P 04 32 51.4 -0.3
comp=Z,37nm,1.3s,mb4.7
WHN Wuhan 23.91 271 ⇑P P 04 32 59.0 +0.8
WHN AMB AMB
comp=Z,40nm,0.8s,mb4.9
HHC Hu-ho-hao-te 25.66 296 eP P 04 33 14.3 -0.5
HHC AP pP 04 33 23.3 -0.2
HHC XP sP 04 33 28.0 +0.5
HHC PCP PcP 04 36 42.3 -3.3
HHC AMB AMB
comp=Z,14nm,1.2s,mb4.4
HHC AMB AMB
comp=Z,173nm,13.2s
HHC LR LR
comp=N,131nm,16.8s,MS3.9
HHC LR LR
comp=E,254nm,15.6s,MS3.9
HHC LR LR
comp=Z,86nm,12.0s,MS3.5
ENH Enshi 28.05 273 eP P 04 33 35.4 -1.5
comp=Z,20nm,0.7s,mb4.8
CIT Chita 28.06 321 eP P 04 33 40.1 +3.4
CIT e 04 33 51.3
CIT pmax pmax
comp=Z,63nm,2.5s,mb4.8
YAK Yakutsk 29.97 348 i P P 04 33 52.2 -1.5
YAK pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
SEY Seymchan 30.42 9 i P P 04 33 57.6 0.0
SONM Songino Array 30.69 309 P P 04 34 00.7 +0.5
comp=Z,5.8nm,0.9s,mb4.4,baz=113,slow=9.4,SNR=14
SONM LR LR 04 47 30.6
comp=Z,44nm,18.8s,MS3.1,baz=93,slow=39
GYA Guiyang 31.59 267 ⇑iP P 04 34 08.0 -0.3
GYA AP pP 04 34 20.0 +2.8
GYA PP PP 04 35 13.5 +0.4
GYA S S 04 39 12.3 -1.7
GYA XS 04 39 30.3
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
GYA AMB AMB
comp=Z,90nm,2.8s,mb5.1
GYA LR LR
comp=N,310nm,14.2s,MS4.3
GYA LR LR
comp=E,380nm,14.0s,MS4.3
GYA LR LR
comp=Z,410nm,14.6s,MS4.2
LZH Lanzhou 31.69 286 eP P 04 34 09.0 -0.1
LZH AP pP 04 34 19.0 +1.1
LZH XP sP 04 34 25.0 +3.2
LZH PP PP 04 35 14.5 +0.2
LZH AMB AMB
comp=Z,18nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,87nm,5.0s
LZH LR LR
comp=E,365nm,13.5s
LZH LR LR
comp=Z,521nm,14.6s,MS4.3
LZH Lanzhou 31.69 286 eP P 04 34 09.0 -0.1
comp=Z,18nm,1.0s,mb4.9
LZH pP pP 04 34 19.1 +1.2
LZH sP sP 04 34 25.0 +3.2
LZH PP PP 04 35 14.5 +0.2
LZH LR LR
comp=Z,520nm,14.6s,MS4.3
ZAK Zakamensk 33.35 313 eP P 04 34 23.0 -0.5
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
TLY Talaya 33.51 315 i P P 04 34 25.5 +0.7
TLY pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
TLY Talaya 33.51 315 eP P 04 34 18.6 -6.2
comp=Z,14nm,1.2s,mb4.8
GTA Gaotai 34.60 293 P P 04 34 34.5 +0.1
GTA AP pP 04 34 39.8 -3.5
GTA XP sP 04 34 43.0 -4.1
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.4
KMI Kunming 35.36 267 P P 04 34 42.5 +1.5
KMI AMB AMB
comp=Z,8.0nm,0.6s,mb4.8
KMI Kunming 35.36 267 P P 04 34 42.4 +1.4
KMI pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
KMI Kunming 35.36 267 P P 04 34 42.4 +1.4
comp=Z,8.0nm,0.6s,mb4.8
BILL Bilibino 37.50 14 i P P 04 34 58.3 -0.3
BILL pmax pmax
comp=Z,9.0nm,1.6s,mb4.2
TIXI Tiksi 39.18 353 i P P 04 35 12.1 -0.5
WMQ Urumqi 43.37 301 eP P 04 35 48.3 +1.1
WMQ AP pP 04 35 58.3 +2.1
WMQ XP sP 04 36 02.0 +2.1
WMQ PP PP 04 37 31.3 +1.3
WMQ AMB AMB
comp=Z,91nm,1.2s,mb5.4
WMQ AMB AMB
comp=Z,85nm,5.7s
WMQ LR LR
comp=N,193nm,17.8s,MS4.1
WMQ LR LR
comp=E,111nm,17.4s,MS4.1
WMQ LR LR
comp=Z,321nm,17.6s,MS4.3
ZAL Zalesovo 45.14 315 P P 04 36 01.1 -0.2
comp=Z,1.3nm,0.4s,mb4.1,baz=45,slow=4.6,SNR=6.4
MKAR Makanchi Array 46.89 305 P P 04 36 15.3 -0.1
comp=Z,4.4nm,0.7s,mb4.5,baz=90,slow=8.5,SNR=18
MKAR Makanchi Array 46.89 305 P P 04 36 15.3 -0.1
JIRN Jiri 48.27 279 eP P 04 36 27.6 +1.2
GUN Gumba 48.44 280 eP P 04 36 28.8 +1.1
comp=Z,18nm,0.5s,mb5.3
PKI Pulchoki 48.95 279 eP P 04 36 32.1 +0.5
KURK Kurchatov 48.97 311 eP P 04 36 31.6 +0.1
KURK e pP 04 36 39.6 -1.0
KURK pmax pmax
comp=Z,25nm,0.8s,mb5.3
KURK Kurchatov 48.97 311 eP P 04 36 31.6 +0.2
comp=Z,25nm,0.8s,mb5.3
KURK e pP 04 36 39.6 -0.9
KKN Kakani 48.98 280 eP P 04 36 31.8 0.0
GKN Gorkha 49.43 280 eP P 04 36 35.7 +0.3
KOLN Koldanda 50.37 280 eP P 04 36 42.6 +0.1
comp=Z,5.8nm,0.5s,mb4.9
ILAR Eielson Array 52.34 31 P P 04 36 54.5 -2.5
comp=Z,1.8nm,0.8s,mb4.1,baz=261,slow=6.2,SNR=18
KSH Kashi 52.76 297 eP P 04 37 00.0 -0.5
KSH eAP pP 04 37 10.0 +0.4
KSH eXP sP 04 37 14.3 +1.1
KSH ePCP PcP 04 38 10.0 +0.3
KSH ePP PP 04 39 00.5 -0.6
KSH eS S 04 44 22.0 -3.0
KSH eXS 04 44 41.3
KSH eSCS ScS 04 46 46.0 +1.5
KSH eSS SS 04 48 01.5 -1.2
KSH AMB AMB
comp=Z,80nm,2.0s,mb5.3
AAK Ala-Archa 53.07 301 i P P 04 37 02.5 -0.2
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AAK Ala-Archa 53.07 301 eP P 04 37 02.2 -0.5
comp=Z,6.7nm,1.0s,mb4.5
WRAB Tennant Creek 53.39 189 P P 04 37 03.9 -1.4
WRAB pmax pmax
comp=Z,14nm,1.2s,mb4.8
WRAB Tennant Creek 53.39 189 P P 04 37 03.9 -1.5
comp=Z,14nm,1.2s,mb4.8
WRA Warramunga Arr 53.40 189 P P 04 37 03.2 -2.2
comp=Z,1.6nm,0.6s,mb4.1,baz=6.6,slow=7.7,SNR=10
WRA PcP PcP 04 38 11.9 -0.4
comp=Z,0.7nm,0.5s,baz=1.0,slow=4.1,SNR=5.4
BVAR Borovoye Array 53.77 315 P P 04 37 05.8 -1.8
comp=Z,0.8nm,0.4s,mb4.0,baz=79,slow=7.6,SNR=12
BRVK Borovoye 53.83 315 P P 04 37 07.9 -0.2
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BRVK Borovoye 53.83 315 P P 04 37 07.9 -0.2
comp=Z,1.8nm,0.8s,mb4.0
INK Inuvik 57.46 26 P P 04 37 33.3 -0.8
INK pmax pmax
comp=Z,1.0nm,0.7s
INK Inuvik 57.46 26 P P 04 37 33.3 -0.8
comp=Z,1.4nm,0.7s,mb4.1,baz=349,slow=3.3,SNR=3.5
INK Inuvik 57.46 26 eP P 04 37 32.3 -1.8
comp=Z,5.2nm,1.0s,mb4.5
ARU Arti 59.77 320 ⇑iP P 04 37 49.1 -1.2
ARU eS S 04 45 55.0 -2.7
ARU eSS SS 04 49 51.2 -3.8
ARU pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
ARU Arti 59.77 320 eP P 04 37 49.8 -0.5
RES Resolute Bay 66.11 14 eP P 04 38 27.9 -4.0
comp=Z,7.3nm,0.9s,mb4.7
ARCES ARCESS Array B 67.85 340 P P 04 38 42.0 -1.0
comp=Z,1.9nm,0.8s,mb4.2,baz=72,slow=7.7,SNR=7.4
OBN Obninsk 71.64 324 i P P 04 39 07.1 +0.7
OBN pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
KAF Kangasniemi 72.07 334 ep P 04 39 08.6 -0.3
comp=Z,4.0nm,0.7s,mb4.5,baz=49,slow=5.7
KAF Kangasniemi 72.07 334 eP P 04 39 08.6 -0.3
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
FINES FINESS Array B 72.57 333 P P 04 39 11.7 0.0
comp=Z,4.9nm,0.9s,mb4.4,baz=90,slow=9.5,SNR=9.6
WALA Waterton Lakes 73.76 42 eP P 04 39 19.3 +0.4
comp=Z,2.0nm,0.6s,mb4.2
KIV Kislovodsk 74.03 312 eP P 04 39 21.4 +0.8
KIV pmax pmax
comp=N,8.0nm,0.8s
KIV pmax pmax
comp=E,7.0nm,0.8s
KIV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KIV MLR MLR
comp=Z,23nm,18.0s,MS3.5
KIV MLR MLR
comp=N,18nm,16.0s,MS3.5
KIV MLR MLR
comp=E,12nm,16.0s,MS3.5
SUMG Summit 74.50 0 eP P 04 39 24.2 +1.4
comp=E,3.6nm,0.6s,mb4.5
CMB Columbia Colle 75.47 54 eP P 04 39 28.7 -0.4
CMB pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
CMB Columbia Colle 75.47 54 eP P 04 39 28.7 -0.3
comp=Z,2.1nm,0.8s,mb4.1
SOC Sochi 76.06 313 eP P 04 39 31.4 -0.9
SOC e 04 42 22.1
SOC eS S 04 49 13.9 +1.7
SOC pmax pmax
comp=Z,24nm,1.2s,mb5.0
SOC pmax pmax
comp=N,29nm,1.1s
SOC pmax pmax
comp=E,25nm,1.2s
NVAR Mina Array Bea 76.67 53 P P 04 39 36.0 +0.2
comp=E,0.7nm,0.8s,mb3.7,baz=285,slow=6.3,SNR=6.3
ANN Anapa 76.77 315 eP P 04 39 38.3 +2.1
ANN eS S 04 49 20.1 +0.2
ANN pmax pmax
comp=Z,32nm,1.3s,mb5.1
AKASG Malin Array Be 77.81 323 P P 04 39 42.0 +0.2
comp=Z,1.7nm,0.6s,mb4.2,baz=46,slow=5.8,SNR=12
NB2 NORSAR Subarra 78.02 338 P P 04 39 43.2 +0.4
comp=Z,4.7nm,0.8s,mb4.5,baz=40,slow=5.6
NB2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
NOA NORSAR Array B 78.02 338 P P 04 39 43.2 +0.4
comp=Z,4.5nm,0.9s,mb4.4,baz=39,slow=5.6,SNR=12
HWUT Hardware Ranch 79.25 47 P P 04 39 50.9 +0.9
comp=Z,6.5nm,1.3s,mb4.4
PDAR Pinedale Array 79.79 45 P P 04 39 53.0 +0.2
comp=Z,0.5nm,0.8s,mb3.5,baz=318,slow=1.4,SNR=4.8
BORG Borgarnes 81.54 353 eP P 04 39 58.8 -2.8
comp=Z,35nm,1.3s,mb5.1
KWP Kalwaria 81.70 325 eP P 04 40 04.5 +1.8
KWP Kalwaria 81.70 325 eP P 04 40 04.5 +1.8
BRTR Keskin Array B 81.99 312 P P 04 40 05.2 +0.7
comp=Z,1.8nm,0.6s,mb4.2,baz=90,slow=4.9,SNR=8.2
STHS Stebnicka Huta 82.55 326 eP P 04 40 09.8 +2.7
PV10 Paradox Valley 82.71 49 eP P 04 40 09.5 +1.3
PV01 Paradox Valley 83.15 49 eP P 04 40 11.1 +0.6
KECS Kecovo 83.55 325 eP P 04 40 11.5 -0.8
PSZ Piszkesteto 84.23 325 eP P 04 40 17.2 +1.5
PSZ pmax pmax
comp=Z,11nm,1.3s,mb4.8
PSZ Piszkesteto 84.23 325 eP P 04 40 17.2 +1.5
comp=Z,11nm,1.3s,mb4.8
VYHS Vyhne 84.33 326 eP P 04 40 18.0 +1.8
CLL Collm 84.81 331 ⇑iP P 04 40 19.3 +0.8
CLL pmax pmax
comp=Z,10.0nm,1.3s,mb4.8
CLL Collm 84.81 331 ⇑iP P 04 40 19.3 +0.8
comp=Z,10.0nm,1.3s,mb4.8
CLL Collm 84.81 331 ⇑P P 04 40 19.3 +0.8
comp=Z,logA/T=0.9,mb4.8
MOX Moxa 85.88 331 eP P 04 40 25.0 +1.1
GERES GERESS Array B 86.38 329 P P 04 40 25.8 -0.6
comp=Z,0.4nm,0.6s,mb3.8,baz=27,slow=3.0,SNR=3.8
ANMO Albuquerque 86.44 50 eP P 04 40 28.3 +1.2
TXAR Lajitas Array 91.82 53 P P 04 40 52.9 +0.4
comp=Z,0.7nm,0.7s,mb4.1,baz=327,slow=3.4,SNR=7.7
LPAZ La Paz 147.75 66 ePKIKP PKPdf 04 47 28.6 -2.0
LPAZ La Paz 147.75 66 PKPbc PKPdf 04 47 29.4 -1.2
comp=Z,0.7nm,0.5s,baz=347,slow=5.2,SNR=6.4

*KNET **28** 04:40:14.8±0.3, 42.43N×77.17E, h8km±2km, ml2.3, Error ellipse: s-maj=3.1km s-min=2.0km az=170.0*
*NNC **28** 04:40:14.0±6.4, 42.61N×77.38E, mpv2.6, Error ellipse: s-maj=100.1km s-min=16.7km az=156.0*
ISC 28 04:40:13.0±1.4, 42.3N±0.1×77.42E±0.07, h8km, n10, σ1§24/18, 12C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.88**	**268**	⇑P		**Pb**	**04 40 28.5**	**-1.6**
	19nm,0.1s,SNR=8.5							
ULHL				⇑S		**Sb**	**04 40 39.8**	**-2.0**
	130nm,0.2s							
TKM2	**Tokmak 2**	**1.49**	**296**	⇓P		**Pn**	**04 40 38.9**	**-1.4**
	9.5nm,0.1s,SNR=20							
TKM2				⇓S		**Sb**	**04 40 58.1**	**-1.6**
	42nm,0.1s							
KZA	**Kyzart**	**1.63**	**264**	⇑P		**Pn**	**04 40 42.9**	**+0.7**
	3.4nm,0.1s							
KBK	**Karagaybulak**	**1.87**	**282**	⇓P		**Pn**	**04 40 45.0**	**-0.7**
	10.0nm,0.1s,SNR=7.5							
KBK				⇑S		**Sn**	**04 41 09.9**	**+0.2**
	35nm,0.2s							
CHMS	**Chumysh**	**2.10**	**291**	⇑P		**Pn**	**04 40 49.4**	**+0.5**
	4.9nm,0.1s							
CHMS				⇑S		**Sn**	**04 41 16.0**	**+0.5**
	11nm,0.2s							
AAK	**Ala-Archa**	**2.19**	**280**	⇓P		**Pn**	**04 40 51.4**	**+1.1**
	8.4nm,0.2s							
AAK				⇑S		**Sn**	**04 41 19.6**	**+1.6**
	17nm,0.4s							
AAK	**Ala-Archa**	**2.19**	**280**	⇑Pn		**Pn**	**04 40 50.9**	**+0.6**
	2.0nm,0.2s,baz=143							
AAK				⇑Sn		**Sn**	**04 41 19.2**	**+1.2**
	14nm,0.6s,baz=141							
USP	**Ospenovka**	**2.37**	**296**	⇑P		**Pn**	**04 40 54.0**	**+1.2**
	21nm,0.3s,SNR=20							
USP				⇑S		**Sn**	**04 41 24.3**	**+1.9**
	12nm,0.2s							
KK31	**Karatay Array**	**5.16**	**282**	⇓Pg		**Pg**	**04 41 44.0**	**-12**
	0.6nm,0.5s,baz=91,slow=17,SNR=8.6							
KK31				⇓Lg			04 42 49.6	
	1.3nm,0.5s,baz=110,slow=24,SNR=6.8							
MK31	**Makanchi Array**	**5.70**	**36**	⇑Pn		**Pn**	**04 41 41.3**	**+1.3**
	0.1nm,0.2s,baz=218,slow=15,SNR=7.4							
MK31				⇓Sn		**Sn**	**04 42 45.0**	**-1.5**
	1.2nm,0.5s,baz=215,slow=24,SNR=4.8							

*NEIC **28** 04:51:32.3, 34.67S×71.15W, h92km, MD3.6(GUC), After GUC.*
GUC 28 04:51:32.3±0.6, 34.67S×71.15W, h92km±5km, MD3.6, ML3.3, 1C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.74**	**343**	⇑iP		P	04 51 49.8	+0.1
LNV				i S		S	04 52 02.6	+0.2
CHCH	**Chadas Angostu**	**0.84**	**29**	⇓iP		P	04 51 50.5	-0.2
CHCH				i S		S	04 52 04.3	0.0
TACH	**Talagante**	**1.03**	**10**	⇓iP		P	04 51 52.8	+0.1
TACH				i S		S	04 52 07.9	-0.1
LMEL	**Las Melosas**	**1.14**	**44**	⇓iP		P	04 51 54.4	+0.4
LMEL				i S		S	04 52 11.3	+1.0
LMEL					AMP		04 52 13.2	
	comp=N,1μm,0.2s							
PCH	**Pirque**	**1.17**	**27**	⇓iP		P	04 51 54.4	-0.1
RCDM	**Rinconada Maip**	**1.21**	**14**	eP		P	04 51 54.9	-0.1
RCDM				i S		S	04 52 11.7	-0.2
RCDM					AMP		04 52 12.2	
	comp=E,2μm,0.4s							
SJCH	**San Jose de Ma**	**1.22**	**33**	eP		P	04 51 55.1	-0.1
SJCH				i S		S	04 52 12.7	+0.6
SJCH					AMP		04 52 14.3	
	comp=N,460nm,1.2s							
SAN	**Santiago**	**1.28**	**19**	i P		P	04 51 55.6	-0.2
SAN				i S		S	04 52 13.3	-0.1
FSR	**Penalolen**	**1.30**	**24**	eP		P	04 51 56.1	0.0
FSR				i S		S	04 52 14.2	+0.4
FSR					AMP		04 52 16.1	
	comp=N,458nm,0.2s							
STL	**Santa Lucia**	**1.30**	**19**	eP		P	04 51 55.1	-1.0
STL				i S		S	04 52 13.0	-0.7
DSCH	**Colegio Aleman**	**1.36**	**21**	eP		P	04 51 56.8	+0.1
DSCH				i S		S	04 52 15.4	+0.4
DSCH					AMP		04 52 16.4	
	comp=E,1μm,0.3s							
CLCH	**Cerro Calan**	**1.37**	**22**	⇓iP		P	04 51 56.9	0.0
CLCH				i S		S	04 52 15.8	+0.7
CLCH					AMP		04 52 19.0	
	comp=E,590nm,0.2s							
FCH	**Farellones**	**1.52**	**28**	⇓iP		P	04 51 59.2	+0.4
FCH				i S		S	04 52 19.9	+1.5
FCH					AMP		04 52 21.0	
	comp=N,588nm,0.1s							
PEL	**Peldehue**	**1.57**	**14**	eP		P	04 51 59.9	+0.4
PEL				i S		S	04 52 20.8	+1.3
ROCH	**El Roble**	**1.70**	**4**	i P		P	04 52 01.7	+0.6
JACH	**Jahuel**	**2.04**	**13**	eP		P	04 52 05.7	+0.1
CMCH	**Combarbala**	**3.49**	**2**	⇓iP		P	04 52 24.5	-1.1

*NIED **28** 04:53:00, 33.30N×142.30E, h8km, Mw4.2 Best double couple: M0 2.15×10^15 NP1:φ=201°, δ=58°, λ=83°. NP2:φ=35°, δ=33°, λ=101°.*
*IDC **28** 04:53:45.0±0.6, 33.15N×142.53E, mb4.2/15, mb1 4.4/19, mb1mx4.3/24, mbtmp4.2/19, ML4.0/4, MS3.3/5, Ms1 3.3/5, ms1mx2.8/25, Error ellipse: s-maj=17.2km s-min=16.5km az=86.0*
*BJI **28** 04:53:46.0, 33.13N×142.24E, h13km, mB4.6, mb4.3, Ms4.2, Msz4.0*
*JMA **28** 04:53:47.5±0.4, 33.25N×142.32E, h10km, M4.3*
*MOS **28** 04:53:48.9±1.1, 33.19N×142.38E, h33km, mb4.8/31, Error ellipse: s-maj=12.9km s-min=6.7km az=116.8*
*NEIC **28** 04:53:49.0±0.3, 33.14N×142.40E, mb4.7/29, MW4.2(NIED), Error ellipse: s-maj=7.5km s-min=5.0km az=186.0*
ISC 28 04:53:47.1±1.3, 33.18N±0.04×142.40E±0.04, h20km±8km, h23km±2.8km: pP-P, n152, σ1§05/162, mb4.5/63, MS3.8/10,

3C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.89**	**322**	P	Pn	**04 54 18.8**	**+0.1**
BSO1				S	Sn	**04 54 42.4**	**+0.2**
BSO2	**Boso 2**	**2.08**	**319**	S	Sn	**04 54 48.5**	**+1.4**
JHJ2	**Mitsune**	**2.17**	**269**	P	Pn	**04 54 23.9**	**+1.2**
JHJ2				S	Sn	**04 54 50.9**	**+1.7**
JHJ	**Hachijo jima 2**	**2.19**	**269**	Pn	Pn	**04 54 23.4**	**+0.3**
	62nm,0.3s,baz=165,slow=9.1,SNR=52						
JHJ				Sn	Sn	**04 54 49.6**	**-0.3**
	190nm,0.3s,baz=70,slow=22,SNR=9.6						
BSO3	**Boso 3**	**2.26**	**316**	P	Pn	**04 54 24.9**	**+0.9**
BSO4	**Boso 4**	**2.49**	**317**	P	Pn	**04 54 28.4**	**+1.1**
KTR	**Katsuura**	**2.62**	**319**	S	Sn	**04 54 58.8**	**-1.9**
JIM2	**Oshima 3**	**2.91**	**303**	P	Pn	**04 54 33.3**	**0.0**
JIZS	**Izushimoda**	**3.31**	**299**	P	Pn	**04 54 39.6**	**+0.6**
JIZS				S	Sn	**04 55 16.9**	**-1.2**
JOD2	**Odawara 2**	**3.44**	**308**	P	Pn	**04 54 41.0**	**+0.1**
JOD2				S	Sn	**04 55 22.2**	**+0.6**
JYN	**Shimob**	**3.94**	**307**	P	Pn	**04 54 48.7**	**+0.7**
JRY	**Ryogami san**	**4.04**	**315**	P	Pn	**04 54 50.4**	**+1.0**
JAG	**Ashikaga**	**4.05**	**324**	P	Pn	**04 54 49.2**	**-0.3**
JAG				S	Sn	**04 55 35.8**	**-1.1**
MJAR	**Matsushiro Arr**	**4.81**	**315**	Pn	Pn	**04 55 00.5**	**+0.2**
	4.3nm,0.3s,baz=149,slow=13,SNR=25						
MJAR				Sn	Sn	**04 55 55.4**	**-0.7**
	4.2nm,0.3s,baz=177,slow=28,SNR=6.4						
MAJO	**Matsushiro**	**4.81**	**315**	*e*P	Pn	**04 55 01.4**	**+1.1**
MAT	**Matsushiro**	**4.81**	**315**	*e*P	Pn	**04 55 01.0**	**+0.7**
MAT				*e*S	Sn	**04 55 55.0**	**-1.2**
MAT	**Matsushiro**	**4.81**	**315**	P	Pn	**04 55 01.1**	**+0.8**
MAT				S	Sn	**04 55 54.7**	**-1.5**
MAT	**Matsushiro**	**4.81**	**315**	P	Pn	**04 55 01.3**	**+1.0**
MAT				S	Sn	**04 55 55.0**	**-1.2**
JMM	**Marumori**	**4.86**	**345**	P	Pn	**04 54 58.5**	**-2.5**
JMM				S	Sn	**04 55 51.0**	**-6.4**
JGM	**Miyama**	**5.33**	**300**	P	Pn	**04 55 09.3**	**+1.7**
JWZ	**Kozaga**	**5.61**	**275**	P	Pn	**04 55 12.8**	**+1.3**
CBIJ	**Chichi jima**	**6.06**	**182**	Pn	Pn	**04 55 14.8**	**-3.2**
	22nm,0.3s,baz=72,slow=22,SNR=19						
CBIJ				Sn	Sn	**04 56 18.4**	**-9.1**
	30nm,0.3s,baz=354,slow=23,SNR=3.7						
JNU	**Nakatsue**	**9.66**	**273**	Pn	P	**04 56 08.7**	**+0.5**
	0.6nm,0.3s,baz=93,slow=19,SNR=3.0						
KS15	**Wonju Array Si**	**12.60**	**294**	P	P	**04 56 45.5**	**-2.5**
YSS	**Yuzh-Sakhalins**	**13.77**	**1**	*i* P	P	**04 57 07.9**	**+4.5**
YSS				pmax	pmax		
	comp=Z,65nm,1.7s						
JOW	**Kunigami**	**13.77**	**246**	Pn	P	**04 57 12.2**	**+8.5**
	comp=Z,1.1nm,0.3s,baz=22,slow=30,SNR=6.2						
JOW				LR	LR	05 01 58.0	
	comp=Z,126nm,19.1s,baz=105,slow=36						
MDJ	**Mudanjiang**	**15.14**	**323**	P	P	**04 57 21.8**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.9s						
MDJ				AMB	AMB		
	comp=Z,58nm,3.4s						
MDJ	**Mudanjiang**	**15.14**	**323**	P	P	**04 57 17.7**	**-3.8**
CN2	**Changchun**	**16.96**	**314**	*e*P	P	**04 57 43.0**	**-1.7**
CN2				*e*XP		04 57 52.0	
CN2				*e*S	S	**05 00 50.8**	**-0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
				AMB	AMB		
CN2	comp=Z,200nm,3.0s						
				LR	LR		
CN2	comp=N,250nm,14.0s						
				LR	LR		
CN2	comp=E,380nm,14.0s						
				LR	LR		
CN2	comp=Z,330nm,12.0s						
SNY	**Shenyang**	**17.23**	**305**	⇓P	P	**04 57 49.8**	**+1.7**
SNY				XP		04 58 00.5	
SNY				AMB	AMB		
	comp=Z,20nm,3.0s						
SNY				AMB	AMB		
	comp=Z,100nm,3.4s						
SNY				LR	LR		
	comp=N,280nm,13.7s						
SNY				LR	LR		
	comp=Z,230nm,13.5s						
KLR	**Kul'dur**	**17.90**	**337**	*e*P	P	**04 57 54.8**	**-1.6**
SSE	**Sheshan**	**18.09**	**269**	P	P	**04 57 57.5**	**-1.4**
SSE				AP		04 58 05.8	
SSE				XP		04 58 10.0	
SSE				AMB	AMB		
	comp=Z,30nm,0.7s						
SSE				AMB	AMB		
	comp=Z,113nm,4.5s						
SSE				LR	LR		
	comp=N,41nm,14.5s						
SSE				LR	LR		
	comp=E,88nm,14.6s						
SSE				LR	LR		
	comp=Z,137nm,14.8s						
SSE	**Sheshan**	**18.09**	**269**	P	P	**04 57 57.6**	**-1.3**
	comp=Z,30nm,0.7s						
SSE				pP		04 58 05.8	
SSE				sP		04 58 09.9	
SSE				S	S	**05 01 25.0**	**+7.8**
SSE				sS		05 01 41.9	
NJ2	**Nanjing**	**19.86**	**273**	*e*P	P	**04 58 20.3**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,200nm,5.4s						
NJ2				LR	LR		
	comp=N,670nm,17.4s						
NJ2				LR	LR		
	comp=E,500nm,15.0s						
NJ2				LR	LR		
	comp=Z,200nm,14.2s						
HIA	**Hailar**	**23.29**	**320**	*e*P	P	**04 58 53.6**	**-0.7**
HIA				pmax	pmax		
	comp=Z,47nm,1.7s						
HIA	**Hailar**	**23.29**	**320**	*e*P	P	**04 58 53.6**	**-0.7**
	comp=Z,47nm,1.7s,mb4.6						
WHN	**Wuhan**	**23.94**	**271**	⇑P	P	**04 59 00.8**	**0.0**
WHN				AMB	AMB		
	comp=Z,42nm,0.9s,mb4.9						
HHC	**Hu-ho-hao-te**	**25.69**	**296**	*e*P	P	**04 59 20.5**	**+3.1**
HHC				PCP	PcP	05 02 43.8	-4.5
HHC				SCP		05 06 24.3	
HHC				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.4						
HHC				AMB	AMB		
	comp=Z,119nm,9.6s						
HHC				LR	LR		
	comp=N,163nm,14.4s,MS3.8						
HHC				LR	LR		
	comp=E,144nm,15.6s,MS3.8						
HHC				LR	LR		
	comp=Z,213nm,14.4s,MS3.8						
BTO	**Baotou**	**26.83**	**295**	*e*P	P	**04 59 27.5**	**-0.4**
XAN	**Xi'an**	**27.83**	**281**	P	P	**04 59 35.8**	**-1.3**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.0						
ENH	**Enshi**	**28.08**	**273**	*e*P	P	**04 59 37.6**	**-1.8**
	comp=Z,145nm,1.4s,mb5.4						
ENH				*e*		04 59 48.9	
CIT	**Chita**	**28.10**	**321**	*e*P	P	**04 59 41.5**	**+2.2**
CIT				*e*		04 59 53.8	
CIT				pmax	pmax		
	comp=Z,50nm,2.6s,mb4.7						
YAK	**Yakutsk**	**30.00**	**348**	*i* P	P	**04 59 55.2**	**-1.1**
YAK				pmax	pmax		
	comp=Z,12nm,0.4s,mb5.0						
SEY	**Seymchan**	**30.44**	**9**	*i* P	P	**04 59 59.0**	**-1.2**
SONM	**Songino Array**	**30.73**	**309**	P	P	**05 00 03.8**	**+0.9**
	comp=Z,4.6nm,0.9s,mb4.3,baz=104,slow=8.7,SNR=13						
SONM				LR	LR	05 12 57.8	
	comp=Z,70nm,18.9s,MS3.3,baz=80,slow=37						
BOD	**Bodaibo**	**31.25**	**331**	*e*P	P	**05 00 13.3**	**+5.9**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.5						
LZH	**Lanzhou**	**31.72**	**286**	*e*P	P	**05 00 11.0**	**-0.7**
LZH				AP	pP	05 00 17.0	-0.8
LZH				XP	sP	05 00 20.0	-0.4
LZH				PP	PP	05 01 16.5	-0.5
LZH				AMB	AMB		
	comp=Z,17nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,100nm,4.6s						
LZH				LR	LR		
	comp=E,672nm,13.5s						
LZH				LR	LR		
	comp=Z,795nm,13.7s,MS4.6						
LZH	**Lanzhou**	**31.72**	**286**	*e*P	P	**05 00 11.0**	**-0.7**
LZH				*SP	sP	05 00 20.0	-0.4
LZH						05 01 16.5	
LZH				PPP	PPP	05 01 30.5	-1.5
LZH				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.7						
LZH				MLR	MLR		
	comp=Z,800nm,13.7s,MS4.6						
LZH	**Lanzhou**	**31.72**	**286**	*e*P	P	**05 00 11.0**	**-0.7**
	comp=Z,17nm,1.5s,mb4.7						
LZH				pP	pP	05 00 17.0	-0.8
LZH				sP	sP	05 00 20.0	-0.4
LZH				PP	PP	05 01 16.5	-0.5
LZH				PPP	PPP	05 01 30.5	-1.5
LZH				LR	LR		
	comp=Z,800nm,13.7s,MS4.6						
ZAK	**Zakamensk**	**33.39**	**313**	*e*P	P	**05 00 25.9**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
TLY	**Talaya**	**33.55**	**315**	*e*P	P	**05 00 33.3**	**+5.8**
TLY				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
TLY				MLR	MLR		
	comp=Z,90nm,13.0s,MS3.7						
TLY	**Talaya**	**33.55**	**315**	*e*P	P	**05 00 26.9**	**-0.6**
	comp=Z,14nm,1.1s,mb4.8						
GTA	**Gaotai**	**34.64**	**293**	P	P	**05 00 36.5**	**-0.5**
GTA				PP	PP	05 01 55.5	+1.6
GTA				PCP	PcP	05 03 11.5	+0.2
GTA				S	S	**05 06 05.8**	**+1.3**
GTA				SCP		05 06 52.3	
GTA				SCS	ScS	05 10 51.0	-4.9
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,57nm,9.9s						
GTA				LR	LR		
	comp=N,165nm,18.6s,MS4.0						
GTA				LR	LR		
	comp=E,177nm,14.4s,MS4.0						
GTA				LR	LR		
	comp=Z,251nm,14.8s,MS4.1						
KMI	**Kunming**	**35.39**	**267**	P	P	**05 00 43.3**	**-0.3**
KMI				AP	pP	05 00 52.0	+2.3
KMI				XP	sP	05 00 54.8	+2.5
KMI				S	S	**05 06 17.8**	**+1.5**
KMI				SS	SS	05 08 32.5	-1.9
KMI				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.1						
KMI				AMB	AMB		
	comp=Z,68nm,3.9s						
KMI				LR	LR		
	comp=N,165nm,13.7s,MS4.2						
KMI				LR	LR		
	comp=E,201nm,12.6s,MS4.2						
KMI				LR	LR		
	comp=Z,207nm,13.7s,MS4.0						
KMI	**Kunming**	**35.39**	**267**	P	P	**05 00 43.2**	**-0.4**
KMI				*PP	pP	05 00 51.9	+2.2
KMI				*SP	sP	05 00 54.7	+2.4
KMI				S	S	**05 06 17.8**	**+1.5**
KMI				SS	SS	05 08 32.6	-1.8
KMI				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.1						
KMI				MLR	MLR		
	comp=Z,210nm,13.7s,MS4.1						
KMI	**Kunming**	**35.39**	**267**	P	P	**05 00 43.2**	**-0.4**
	comp=Z,13nm,0.5s,mb5.1						
KMI				pP	pP	05 00 51.9	+2.2
KMI				sP	sP	05 00 54.7	+2.4
KMI				S	S	**05 06 17.8**	**+1.5**
KMI				SS	SS	05 08 32.6	-1.8
KMI				LR	LR		
	comp=Z,210nm,13.7s,MS4.1						
BILL	**Bilibino**	**37.52**	**14**	*i* P	P	**05 00 59.2**	**-1.9**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
WMQ	**Urumqi**	**43.40**	**301**	P	P	**05 01 50.8**	**+0.9**
WMQ				AP	pP	05 01 56.8	+0.8
WMQ				XP	sP	05 01 59.5	+0.9
WMQ				AMB	AMB		
	comp=Z,1.0nm,0.9s,mb3.5						
WMQ				AMB	AMB		
	comp=Z,4.0nm,4.4s						
WMQ				LR	LR		
	comp=N,287nm,16.3s,MS4.3						
WMQ				LR	LR		
	comp=E,164nm,16.4s,MS4.3						
WMQ				LR	LR		
	comp=Z,368nm,16.8s,MS4.4						
ZAL	**Zalesovo**	**45.18**	**315**	LR	LR	05 22 20.7	
	comp=Z,39nm,20.4s,MS3.3,baz=169,slow=38						
NVS	**Novosibirsk**	**46.14**	**316**	*e*P	P	**05 02 06.8**	**-4.8**
NVS				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.8						
MKAR	**Makanchi Array**	**46.93**	**305**	*i* P	P	**05 02 18.5**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**46.93**	**305**	P	P	**05 02 18.0**	**0.0**
	comp=Z,4.2nm,0.8s,mb4.4,baz=90,slow=9.7,SNR=29						
MKAR				LR	LR	05 20 51.9	
	comp=Z,29nm,20.8s,MS3.2,baz=5.7,slow=35						
JIRN	**Jiri**	**48.30**	**279**	*e*P	P	**05 02 29.6**	**+0.6**
	comp=Z,28nm,0.7s,mb5.4						
GUN	**Gumba**	**48.47**	**280**	*e*P	P	**05 02 30.5**	**+0.2**
	comp=Z,27nm,0.8s,mb5.3						
PKI	**Pulchoki**	**48.98**	**279**	*e*P	P	**05 02 34.3**	**+0.1**
KURK	**Kurchatov**	**49.01**	**311**	*e*P	P	**05 02 34.2**	**+0.1**
KURK				*e*	pP	05 02 42.0	+1.6
KURK				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.3						
KURK	**Kurchatov**	**49.01**	**311**	*e*P	P	**05 02 34.2**	**0.0**
	comp=Z,28nm,0.8s,mb5.3						
KURK				*e*	pP	05 02 42.0	+1.6
KURK				*e*		05 02 54.2	
KKN	**Kakani**	**49.01**	**280**	*e*P	P	**05 02 34.6**	**+0.1**
	comp=Z,37nm,1.0s,mb5.4						
DMN	**Daman**	**49.22**	**280**	*e*P	P	**05 02 35.8**	**-0.3**
GKN	**Gorkha**	**49.46**	**280**	*e*P	P	**05 02 37.0**	**-1.0**
	comp=Z,72nm,1.2s,mb5.6						
KOLN	**Koldanda**	**50.40**	**280**	*e*P	P	**05 02 43.8**	**-1.4**
	comp=Z,19nm,0.9s,mb5.1						
ILAR	**Eielson Array**	**52.35**	**31**	P	P	**05 02 58.1**	**-1.3**
	comp=Z,2.5nm,1.0s,mb4.1,baz=266,slow=6.1,SNR=20						
AAK	**Ala-Archa**	**53.11**	**301**	*e*P	P	**05 03 04.7**	**-0.7**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
AAK	**Ala-Archa**	**53.11**	**301**	*e*P	P	**05 03 04.7**	**-0.6**
	comp=Z,6.7nm,1.1s,mb4.5						
WRAB	**Tennant Creek**	**53.37**	**189**	*e*P	P	**05 03 06.1**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**53.37**	**189**	*e*P	P	**05 03 06.1**	**-1.4**
	comp=Z,8.9nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**53.38**	**189**	P	P	**05 03 05.9**	**-1.8**
	comp=Z,3.8nm,0.8s,mb4.4,baz=5.7,slow=7.6,SNR=25						
WRA				PcP	PcP	05 04 14.9	0.0
	comp=Z,2.2nm,1.0s,baz=4.5,slow=7.6,SNR=5.3						
BRVK	**Borovoye**	**53.87**	**315**	*e*P	P	**05 03 10.6**	**-0.1**
BRVK				*e*		05 03 21.5	
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
BRVK	**Borovoye**	**53.87**	**315**	*e*P	P	**05 03 10.6**	**-0.1**
	comp=Z,0.8nm,0.5s,mb3.9						
BRVK				*e*		05 03 21.5	
KKAR	**Karatay Array**	**55.82**	**303**	*i* P	P	**05 03 24.9**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
INK	**Inuvik**	**57.47**	**26**	P	P	**05 03 36.4**	**-0.2**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**57.47**	**26**	P	P	**05 03 36.4**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.3,baz=266,slow=12,SNR=4.1						
INK	**Inuvik**	**57.47**	**26**	*e*P	P	**05 03 35.2**	**-1.4**
	comp=Z,8.8nm,1.2s,mb4.7						
MBWA	**Marble Bar**	**58.20**	**205**	*e*P	P	**05 03 40.6**	**-1.7**
	comp=Z,14nm,1.0s,mb5.0						
ARU	**Arti**	**59.81**	**320**	⇓*i* P	P	**05 03 52.2**	**-0.8**
ARU				*e*		05 06 04.3	
ARU				*e*S	S	**05 12 08.7**	**+7.2**
ARU				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
ARU	**Arti**	**59.81**	**320**	*e*P	P	**05 03 52.4**	**-0.6**
	comp=Z,6.6nm,0.2s,mb5.3						
ARU				*e*		05 04 04.2	
AB31	**Akbulak array**	**61.08**	**312**	*i* P	P	**05 04 00.9**	**-0.9**
AB31				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**64.71**	**181**	P	P	**05 04 25.2**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.2,baz=320,slow=16,SNR=2.9						
STKA	**Stephens Creek**	**64.71**	**181**	*e*P	P	**05 04 25.8**	**-0.3**
RES	**Resolute Bay**	**66.13**	**14**	*e*P	P	**05 04 34.1**	**-0.4**
RES				*e*		05 04 44.8	
RES				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
RES	**Resolute Bay**	**66.13**	**14**	*e*P	P	**05 04 34.1**	**-0.4**
	comp=Z,7.8nm,1.0s,mb4.7						
RES				*e*		05 04 44.8	
YKA	**Yellowknife Ar**	**66.75**	**29**	P	P	**05 04 37.0**	**-1.6**
	comp=Z,1.3nm,0.8s,mb4.0,baz=296,slow=6.7,SNR=5.3						
YKA	**Yellowknife Ar**	**66.75**	**29**	P	P	**05 04 37.0**	**-1.6**
ARCES	**ARCESS Array B**	**67.89**	**340**	P	P	**05 04 44.9**	**-0.9**
	comp=Z,1.3nm,0.8s,mb4.0,baz=63,slow=11,SNR=5.5						
NWAO	**Narrogin (SRO)**	**69.89**	**202**	*e*P	P	**05 04 54.8**	**-3.9**
	comp=Z,33nm,1.3s,mb5.1						
OBN	**Obninsk**	**71.68**	**324**	*i* P	P	**05 05 08.3**	**-0.8**
OBN				*e*		05 05 21.3	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb5.0						
YBH	**Yreka Blue Hor**	**72.08**	**52**	LR	LR	05 32 16.1	
	comp=Z,21nm,19.8s,MS3.4,baz=348,slow=32						
KAF	**Kangasniemi**	**72.11**	**334**	*e*P	P	**05 05 10.8**	**-0.8**
	comp=Z,4.5nm,0.9s,mb4.4,baz=50,slow=5.9						
KAF	**Kangasniemi**	**72.11**	**334**	*e*P	P	**05 05 10.8**	**-0.8**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
NEW	**Newport**	**72.35**	**44**	P	P	**05 05 12.9**	**-0.3**
NEW				pmax	pmax		
	comp=Z,5.0nm,1.2s						
NEW	**Newport**	**72.35**	**44**	P	P	**05 05 12.9**	**-0.3**
	comp=Z,4.9nm,1.2s,mb4.3						
FINES	**FINESS Array B**	**72.61**	**333**	P	P	**05 05 14.3**	**-0.1**
	comp=Z,5.0nm,0.9s,mb4.4,baz=135,slow=2.7,SNR=9.8						
FINES	**FINESS Array B**	**72.61**	**333**	P	P	**05 05 14.3**	**-0.2**
WALA	**Waterton Lakes**	**73.76**	**42**	*e*P	P	**05 05 22.3**	**+0.9**
	comp=Z,3.1nm,0.9s,mb4.2						
KIV	**Kislovodsk**	**74.07**	**312**	*e*P	P	**05 05 24.3**	**+1.0**
KIV				pmax	pmax		
	comp=N,8.0nm,0.8s						
KIV				pmax	pmax		
	comp=E,9.0nm,0.8s						
KIV				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
SUMG	**Summit**	**74.53**	**0**	P	P	**05 05 25.9**	**+0.5**
	comp=Z,5.2nm,1.0s,mb4.4						
GNI	**Garni**	**74.69**	**308**	*i* P	P	**05 05 27.5**	**+0.5**
GNI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
CMB	**Columbia Colle**	**75.46**	**54**	*e*P	P	**05 05 31.7**	**+0.2**
CMB				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
CMB	**Columbia Colle**	**75.46**	**54**	*e*P	P	**05 05 31.7**	**+0.2**
	comp=Z,5.0nm,1.1s,mb4.4						
NVAR	**Mina Array Bea**	**76.66**	**53**	P	P	**05 05 38.1**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=288,slow=5.7,SNR=4.3						
ANN	**Anapa**	**76.81**	**315**	*e*P	P	**05 05 43.5**	**+4.6**
ANN				*e*S	S	05 15 38.9	+15
ANN				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.1						
BOZ	**Bozeman (W)**	**76.92**	**44**	*e*P	P	**05 05 39.1**	**-0.4**
BOZ				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
BOZ	**Bozeman (W)**	**76.92**	**44**	*e*P	P	**05 05 39.1**	**-0.4**
	comp=Z,4.6nm,1.2s,mb4.3						
QLMT	**Earthquake Lak**	**77.50**	**44**	*e*P	P	**05 05 43.3**	**+0.5**
AKASG	**Malin Array Be**	**77.85**	**323**	P	P	**05 05 43.4**	**-1.1**
	comp=Z,1.7nm,0.6s,mb4.1,baz=48,slow=6.1,SNR=15						
NB2	**NORSAR Subarra**	**78.06**	**338**	P	P	**05 05 45.0**	**-0.4**
	comp=Z,0.4nm,0.8s,mb3.4,baz=47,slow=5.8						
NOA	**NORSAR Array B**	**78.06**	**338**	P	P	**05 05 45.3**	**-0.1**
	comp=Z,4.9nm,0.9s,mb4.4,baz=39,slow=5.6,SNR=13						
HWUT	**Hardware Ranch**	**79.25**	**47**	*e*P	P	**05 05 53.4**	**+1.0**
	comp=Z,4.5nm,1.2s,mb4.3						
DUG	**Dugway**	**79.27**	**49**	*e*P	P	**05 05 53.1**	**+0.6**
DUG				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
DUG	**Dugway**	**79.27**	**49**	*e*P	P	**05 05 53.0**	**+0.5**
	comp=Z,5.4nm,1.3s,mb4.3						
PDAR	**Pinedale Array**	**79.80**	**45**	P	P	**05 05 55.5**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=315,slow=4.2,SNR=4.6						
DAU	**Daniels Canyon**	**80.13**	**48**	*e*P	P	**05 05 58.4**	**+1.3**
SRU	**San Rafael**	**81.34**	**49**	*e*P	P	**05 06 04.6**	**+1.0**
SRU				*e*		05 06 16.0	
BRTR	**Keskin Array B**	**82.03**	**312**	P	P	**05 06 07.7**	**+0.6**
	comp=Z,2.3nm,0.8s,mb4.1,baz=102,slow=3.7,SNR=8.6						
RSSD	**Black Hills**	**82.16**	**42**	P	P	**05 06 09.6**	**+1.9**
RSSD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
RSSD	**Black Hills**	**82.16**	**42**	P	P	**05 06 09.6**	**+1.9**
	comp=Z,2.9nm,1.0s,mb4.2						
STHS	**Stebnicka Huta**	**82.58**	**326**	*e*P	P	**05 06 12.1**	**+2.3**
STHS				*e*sP	sP	05 06 23.5	+5.0
PV10	**Paradox Valley**	**82.71**	**49**	*e*P	P	**05 06 12.3**	**+1.6**
PV01	**Paradox Valley**	**83.15**	**49**	*e*P	P	**05 06 12.7**	**-0.3**
SMCO	**Snowmass**	**83.51**	**47**	*e*P	P	**05 06 15.3**	**+0.5**
KECS	**Kecovo**	**83.59**	**325**	*e*P	P	**05 06 15.8**	**+0.8**
PSZ	**Piszkesteto**	**84.27**	**325**	*e*P	P	**05 06 19.8**	**+1.4**
PSZ				*e*		05 06 31.7	
PSZ				pmax	pmax		
	comp=Z,23nm,1.4s,mb5.1						
PSZ	**Piszkesteto**	**84.27**	**325**	*e*P	P	**05 06 19.8**	**+1.4**
	comp=Z,23nm,1.4s,mb5.1						
PSZ				*e*		05 06 31.7	
VYHS	**Vyhne**	**84.36**	**326**	*e*P	P	**05 06 20.1**	**+1.3**
VYHS				*e*sP	sP	05 06 32.0	+4.5
BRG	**Berggiesshubel**	**84.79**	**330**	*e*P	P	**05 06 21.9**	**+1.0**
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
BRG	**Berggiesshubel**	**84.79**	**330**	*e*P	P	**05 06 21.9**	**+1.0**
	comp=Z,4.2nm,0.8s,mb4.6						
CLL	**Collm**	**84.85**	**331**	*i* P	P	**05 06 21.6**	**+0.4**
CLL				*e**PP	pP	05 06 28.0	+0.3
CLL				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
CLL	**Collm**	**84.85**	**331**	*i* P	P	**05 06 21.6**	**+0.4**
	comp=Z,10.0nm,0.9s,mb5.0						
CLL				*e*pP	pP	05 06 28.0	+0.3
CLL	**Collm**	**84.85**	**331**	P	P	**05 06 21.6**	**+0.4**
	comp=Z,logA/T=1.0,mb4.9						
CLL				*e**PP	pP	05 06 28.0	+0.3
CLL				*i*		05 06 33.1	
**

AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.00**	**77**	P	P	05 22 48.9	-1.3
KIKV	**Kanaga Island**	**2.06**	**74**	P	P	05 22 49.7	-1.4
ADAG	**Mount Adagdak**	**2.43**	**73**	P	P	05 22 54.5	-1.9
GSMY	**Great Sitkin M**	**2.77**	**74**	P	P	05 22 59.4	-1.8
GSTR	**Great Sitkin T**	**2.78**	**73**	*eP*	P	05 22 58.9	-2.5
ATKA	**Atka Island**	**3.93**	**75**	P	P	05 23 15.2	-2.4
ATKA				S	S	05 23 58.6	-4.3
FX1	**Attu Island--F**	**4.27**	**294**	*eP*	P	05 23 20.3	-2.2

MOS ***28*** *05:38:13.2± 1.0, 3.15S× 126.19E, h99km, mb4.4/12, Error ellipse: s-maj=24.8km s-min=9.5km az=121.8*
IDC ***28*** *05:38:15.0± 5.8, 2.97S× 126.30E, h96km± 55km, mb4.0/10, mb1 4.2/11, mb1mx4.0/20, mbtmp4.4/11, MS3.4/2, Ms1 3.4/2, ms1mx3.0/18, Error ellipse: s-maj=34.7km s-min=11.7km az=64.0*
BJI ***28*** *05:38:18.5, 2.94S× 126.22E, h130km, mB4.9, mb4.6*
NEIC ***28*** *05:38:19.9± 2.2, 3.10S× 126.35E, h146km± 23km, mb4.5/15, Error ellipse: s-maj=16.4km s-min=9.8km az=56.0*

ISC 28 05:38:13.5±3.5, 3.14S±0.08×126.29E±0.10, h99km±34km, n69, σ0°98/68, mb4.5/30, 1C-1D, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.29**	**148**	*eP*	**P**	**05 40 57.8**	**+4.8**
	22nm,0.8s						
FITZ	**Fitzroy Crossi**	**14.88**	**182**	*eP*	**P**	**05 41 45.1**	**+5.1**
	56nm,0.6s						
FITZ	**Fitzroy Crossi**	**14.88**	**182**	P	**P**	**05 41 44.2**	**+4.2**
	9.7nm,0.3s,baz=9.3,slow=9.1,SNR=122						
FITZ				LR	LR	05 47 19.4	
	comp=Z,113nm,19.8s,baz=22,slow=36						
WRAB	**Tennant Creek**	**18.45**	**155**	*eP*	**P**	**05 42 23.2**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,42nm,0.8s						
WRAB	**Tennant Creek**	**18.45**	**155**	*eP*	**P**	**05 42 23.2**	**-0.7**
	comp=Z,42nm,0.8s						
WRA	**Warramunga Arr**	**18.46**	**155**	P	**P**	**05 42 23.5**	**-0.5**
	comp=Z,2.6nm,0.3s,baz=336,slow=12,SNR=132						
WRA				S	**S**	**05 45 55.0**	**+12**
	baz=331,slow=14,SNR=4.5						
WB2	**Warramunga Arr**	**18.46**	**155**	*eP*	**P**	**05 42 23.4**	**-0.7**
MBWA	**Marble Bar**	**19.01**	**199**	*eP*	**P**	**05 42 30.6**	**+0.4**
PMG	**Port Moresby**	**21.65**	**108**	*eP*	**P**	**05 42 57.5**	**+0.2**
PMG				pmax	pmax		
	comp=Z,22nm,0.8s						
PMG	**Port Moresby**	**21.65**	**108**	P	**P**	**05 42 57.5**	**+0.2**
	comp=Z,16nm,0.8s,mb4.4,baz=341,slow=7.1,SNR=4.4						
PMG	**Port Moresby**	**21.65**	**108**	*eP*	**P**	**05 42 57.5**	**+0.2**
	comp=Z,22nm,0.8s,mb4.5						
CTA	**Charters Tower**	**25.75**	**132**	*eP*	**P**	**05 43 38.7**	**+1.9**
	comp=Z,7.3nm,0.8s,mb4.2						
CTA	**Charters Tower**	**25.75**	**132**	*eP*	**P**	**05 43 38.7**	**+1.9**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CTA	**Charters Tower**	**25.75**	**132**	P	**P**	**05 43 38.6**	**+1.8**
	comp=Z,8.8nm,0.7s,mb4.3,baz=310,slow=12,SNR=8.0						
CTAO	**Charters Tower**	**25.75**	**132**	*eP*	**P**	**05 43 38.1**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
CTAO	**Charters Tower**	**25.75**	**132**	*eP*	**P**	**05 43 38.1**	**+1.3**
	comp=Z,10nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**32.01**	**155**	*eP*	**P**	**05 44 33.1**	**+0.4**
	comp=Z,1.6nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**32.01**	**155**	P	**P**	**05 44 32.1**	**-0.6**
	comp=Z,4.4nm,0.7s,mb4.3,baz=326,slow=8.0,SNR=9.3						
HNR	**Honiara**	**34.02**	**102**	*eP*	**P**	**05 44 50.0**	**-0.2**
HNR				pmax	pmax		
	comp=Z,149nm,1.1s						
HNR	**Honiara**	**34.02**	**102**	*eP*	**P**	**05 44 50.0**	**-0.2**
	comp=Z,149nm,1.1s						
SSE	**Sheshan**	**34.39**	**352**	P	**P**	**05 44 51.3**	**-1.9**
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,103nm,4.4s						
SSE	**Sheshan**	**34.39**	**352**	P	**P**	**05 44 51.3**	**-1.9**
	comp=Z,29nm,0.7s,mb5.2						
NJ2	**Nanjing**	**35.70**	**349**	*eP*	**P**	**05 45 04.0**	**-0.3**
NJ2				PP	PP	05 46 24.0	-4.0
NJ2				S	**S**	**05 50 38.0**	**+5.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,520nm,5.4s						
NJ2				LR	LR		
	comp=N,220nm,12.2s						
NJ2				LR	LR		
	comp=E,150nm,16.2s						
NJ2				LR	LR		
	comp=Z,150nm,16.5s						
KMI	**Kunming**	**36.21**	**322**	P	**P**	**05 45 09.8**	**+1.1**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.8						
KMI				LR	LR		
	comp=Z,32nm,21.4s						
KMI	**Kunming**	**36.21**	**322**	P	**P**	**05 45 09.7**	**+1.0**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
KMI				MLR	MLR		
	comp=Z,30nm,21.4s						
KMI	**Kunming**	**36.21**	**322**	P	**P**	**05 45 09.7**	**+1.0**
	comp=Z,7.0nm,0.5s,mb4.8						
KMI				LR	LR		
	comp=Z,30nm,21.4s						
KS15	**Wonju Array Si**	**40.40**	**2**	*eP*	**P**	**05 45 40.0**	**-3.4**
MJAR	**Matsushiro Arr**	**41.01**	**15**	LR	LR	06 03 39.8	
	comp=Z,60nm,18.7s,baz=50,slow=37						
DZM	**Mont Dzumac**	**43.26**	**119**	P	**P**	**05 46 08.2**	**+1.1**
	comp=Z,4.4nm,0.9s,mb4.2,baz=281,slow=9.7,SNR=5.2						
LZH	**Lanzhou**	**44.30**	**334**	*eP*	**P**	**05 46 18.3**	**+3.0**
LZH				PP	PP	05 48 03.0	+1.5
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,90nm,5.0s						
LZH	**Lanzhou**	**44.30**	**334**	*eP*	**P**	**05 46 18.2**	**+2.9**
LZH						05 48 03.0	
LZH				PPP	PPP	05 48 42.0	+0.4
LZH				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.6						
LZH	**Lanzhou**	**44.30**	**334**	*eP*	**P**	**05 46 18.2**	**+2.9**
	comp=Z,19nm,1.5s,mb4.6						
LZH				pP	pP	05 46 28.0	-11
LZH				sP	sP	05 46 31.4	-19
LZH				PP	PP	05 48 03.0	+1.5
LZH				PPP	PPP	05 48 42.0	+0.4
HHC	**Hu-ho-hao-te**	**45.80**	**344**	*eP*	**P**	**05 46 28.5**	**+1.4**
HHC				PCP	PcP	05 48 03.8	+0.3
HHC				PP	PP	05 48 18.3	+2.0
HHC				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
HHC				LR	LR		
	comp=N,97nm,16.8s						
HHC				LR	LR		
	comp=E,163nm,15.6s						
HHC				LR	LR		
	comp=Z,75nm,15.6s						
CN2	**Changchun**	**46.73**	**359**	*eP*	**P**	**05 46 36.0**	**+1.5**
MDJ	**Mudanjiang**	**47.63**	**3**	P	**P**	**05 46 42.0**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,85nm,5.4s						
GTA	**Gaotai**	**48.85**	**333**	*eP*	**P**	**05 46 51.5**	**+0.5**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
GUN	**Gumba**	**49.64**	**311**	*eP*	**P**	**05 46 58.1**	**+0.9**
	comp=Z,22nm,0.7s,mb5.2						
KKN	**Kakani**	**50.03**	**311**	*eP*	**P**	**05 47 00.6**	**+0.4**
	comp=Z,20nm,1.0s,mb5.0						
DMN	**Daman**	**50.07**	**310**	*eP*	**P**	**05 47 01.4**	**+0.9**
	comp=Z,39nm,1.1s,mb5.2						
GKN	**Gorkha**	**50.63**	**311**	*eP*	**P**	**05 47 04.0**	**-0.8**
	comp=Z,14nm,0.7s,mb5.1						
KOLN	**Koldanda**	**51.30**	**310**	*eP*	**P**	**05 47 10.2**	**+0.3**
	comp=Z,28nm,0.9s,mb5.3						
SONM	**Songino Array**	**53.67**	**343**	P	**P**	**05 47 26.1**	**-1.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=164,slow=9.0,SNR=5.6						
WMQ	**Urumqi**	**58.17**	**328**	*eP*	**P**	**05 47 59.8**	**+0.4**
BOD	**Bodaibo**	**61.56**	**353**	*eP*	**P**	**05 48 20.5**	**-1.9**
MKAR	**Makanchi Array**	**63.00**	**328**	*i* P	**P**	**05 48 31.9**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**63.00**	**328**	P	**P**	**05 48 31.5**	**-0.7**
	comp=Z,3.7nm,0.7s,mb4.4,baz=127,slow=8.0,SNR=42						
MKAR	**Makanchi Array**	**63.00**	**328**	P	**P**	**05 48 31.5**	**-0.7**
YAK	**Yakutsk**	**65.04**	**2**	*i* P	**P**	**05 48 45.8**	**+0.6**
YAK				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.0						
AAK	**Ala-Archa**	**65.22**	**320**	*i* P	**P**	**05 48 46.5**	**-0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
ZAL	**Zalesovo**	**66.52**	**335**	P	**P**	**05 48 53.4**	**-1.4**
	comp=Z,2.4nm,0.4s,mb4.4,baz=52,slow=3.0,SNR=7.7						
KURK	**Kurchatov**	**67.32**	**329**	*eP*	**P**	**05 48 59.7**	**-0.2**
KURK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
KURK	**Kurchatov**	**67.32**	**329**	*eP*	**P**	**05 48 59.6**	**-0.2**
	comp=Z,11nm,0.9s,mb4.7						
NVS	**Novosibirsk**	**67.81**	**335**	*eP*	**P**	**05 49 01.3**	**-1.5**
SEY	**Seymchan**	**68.79**	**12**	*eP*	**P**	**05 49 09.7**	**+1.0**
VOSK	**Vostochnaya**	**72.39**	**328**	P	**P**	**05 49 30.3**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
BVA0	**Borovoye Array**	**72.85**	**328**	P	**P**	**05 49 33.4**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.5						
BVAR	**Borovoye Array**	**72.85**	**328**	P	**P**	**05 49 33.0**	**-0.3**
	comp=Z,2.9nm,0.9s,mb4.1,baz=143,slow=7.4,SNR=14						
BRVK	**Borovoye**	**72.92**	**328**	*eP*	**P**	**05 49 33.9**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3						
BRVK	**Borovoye**	**72.92**	**328**	*eP*	**P**	**05 49 33.9**	**+0.2**
	comp=Z,5.7nm,1.2s,mb4.3						
VNDA	**Vanda**	**76.72**	**173**	*eP*	**P**	**05 49 53.1**	**-1.9**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VNDA	**Vanda**	**76.72**	**173**	P	**P**	**05 49 54.8**	**-0.2**
	comp=Z,1.9nm,0.8s,mb3.9,baz=307,slow=5.1,SNR=13						
VNDA	**Vanda**	**76.72**	**173**	*eP*	**P**	**05 49 53.1**	**-1.9**
	comp=Z,3.2nm,0.9s,mb4.0						
SBA	**Scott Base**	**77.64**	**172**	*eP*	**P**	**05 50 00.8**	**+0.7**
SBA				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
SBA	**Scott Base**	**77.64**	**172**	*eP*	**P**	**05 50 00.8**	**+0.6**
	comp=Z,5.0nm,1.2s,mb4.1						
ARU	**Arti**	**80.50**	**329**	*i* P	**P**	**05 50 16.3**	**+0.3**
ARU				*e*		05 53 20.0	
ARU				*eS*	S	06 00 21.8	+9.0
ARU				*eSS*	SS	06 05 32.7	+3.2
ARU				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.1						
ARU	**Arti**	**80.50**	**329**	P	**P**	**05 50 15.8**	**-0.2**
	comp=Z,8.8nm,1.5s,mb4.4						
ILAR	**Eielson Array**	**91.46**	**25**	P	**P**	**05 51 08.9**	**-0.7**
	comp=Z,0.4nm,0.8s,mb3.6,baz=294,slow=3.6,SNR=5.0						
ANMO	**Albuquerque**	**121.84**	**50**	*i* PKIKP	PKPdf	05 57 01.6	+5.0
LPAZ	**La Paz**	**156.01**	**144**	*e*PKP2	PKPab	05 58 30.2	+3.3

IDC ***28*** *06:21:14.6± 1.9, 3.41S× 101.45E, mb4.3/8, mb1 4.5/8, mb1mx4.1/18, mbtmp4.3/8, Error ellipse: s-maj=70.8km s-min=17.4km az=55.0*
NEIC ***28*** *06:21:21.6± 1.5, 2.58S× 102.32E, h30km, mb4.5/3, Error ellipse: s-maj=71.3km s-min=10.4km az=55.0*

ISC 28 06:21:16.7±1.5, 3.4S±0.2×101.4E±0.3, h30km, n15, σ0°68/14, mb4.4/10, 1C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.65**	**355**	P	**P**	**06 23 14.6**	**-8.3**
FITZ	**Fitzroy Crossi**	**27.88**	**123**	*eP*	**P**	**06 27 06.3**	**0.0**
	3.8nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.88**	**123**	P	**P**	**06 27 06.3**	**0.0**
	4.7nm,0.3s,mb4.5,baz=303,slow=2.6,SNR=9.5						
WRA	**Warramunga Arr**	**36.09**	**120**	P	**P**	**06 28 17.7**	**-0.4**
	2.5nm,0.3s,mb4.5,baz=304,slow=8.8,SNR=65						
WRAB	**Tennant Creek**	**36.10**	**120**	*eP*	**P**	**06 28 17.7**	**-0.4**
	5.0nm,0.4s,mb4.8						
WB2	**Warramunga Arr**	**36.10**	**120**	*i*P	**P**	**06 28 18.7**	**+0.5**
CTA	**Charters Tower**	**46.75**	**114**	P	**P**	**06 29 45.3**	**-0.1**
	4.4nm,0.6s,mb4.5,baz=300,slow=10,SNR=8.0						
STKA	**Stephens Creek**	**47.19**	**132**	P	**P**	**06 29 49.3**	**+0.5**
	1.1nm,0.3s,mb4.2,baz=303,slow=5.4,SNR=4.4						
STKA	**Stephens Creek**	**47.19**	**132**	*eP*	**P**	**06 29 49.3**	**+0.5**
SONM	**Songino Array**	**51.20**	**4**	P	**P**	**06 30 21.0**	**+1.5**
	3.7nm,0.7s,mb4.5,baz=184,slow=9.5,SNR=15						
MJAR	**Matsushiro Arr**	**52.50**	**37**	P	**P**	**06 30 28.7**	**-0.7**
	0.8nm,0.3s,mb4.2,baz=227,slow=9.0,SNR=4.7						
MKAR	**Makanchi Array**	**52.74**	**344**	P	**P**	**06 30 31.8**	**+0.7**
	0.9nm,0.3s,mb4.1,baz=155,slow=9.3,SNR=20						
KURK	**Kurchatov**	**57.33**	**343**	*eP*	**P**	**06 31 03.5**	**-0.8**
	2.9nm,0.7s,mb4.4						
BVAR	**Borovoye Array**	**61.96**	**339**	P	**P**	**06 31 35.6**	**-0.7**
	0.6nm,0.4s,mb4.0,baz=144,slow=9.1,SNR=5.0						
TXAR	**Lajitas Array**	**144.91**	**40**	PKP	PKPdf	06 40 53.5	-3.2
	2.9nm,0.6s,baz=274,slow=1.6,SNR=34						

JMA ***28*** *06:25:09.1± 0.7, 33.41N× 142.40E, M3.6*
IDC ***28*** *06:25:10.0± 2.3, 33.26N× 142.39E, mb3.4/2, mb1 3.5/4, mb1mx3.4/21, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=46.7km s-min=28.4km az=48.0*

ISC 28 06:25:10.2±2.6, 33.36N±0.07×142.54E±0.10, h21km±23km, n11, σ0°87/17, mb3.4/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.83**	**315**	P	**Pn**	**06 25 40.5**	**-0.5**
BSO1				*eS*	**Sn**	**06 26 03.8**	**+0.1**
BSO3	**Boso 3**	**2.21**	**311**	P	**Pn**	**06 25 46.5**	**0.0**
JHJ2	**Mitsune**	**2.29**	**265**	P	**Pn**	**06 25 48.0**	**+0.4**
JHJ2				*eS*	**Sn**	**06 26 16.6**	**+1.1**
JHJ	**Hachijo jima 2**	**2.32**	**265**	Pn	**Pn**	**06 25 48.1**	**+0.1**
	21nm,0.3s,baz=77,slow=21,SNR=26						
JHJ				Sn	**Sn**	**06 26 14.2**	**-2.0**
	52nm,0.3s,baz=82,slow=19,SNR=9.2						
BSO4	**Boso 4**	**2.44**	**312**	P	**Pn**	**06 25 51.0**	**+1.2**
BSO4				*eS*	**Sn**	**06 26 19.6**	**+0.3**
CHOJ	**Chosi**	**2.72**	**330**	P	**Pn**	**06 25 53.7**	**0.0**
JIM2	**Oshima 3**	**2.91**	**299**	P	**Pn**	**06 25 57.0**	**+0.5**
JIM2				*eS*	**Sn**	**06 26 31.9**	**+0.7**
JAG	**Ashikaga**	**3.97**	**321**	P	**Pn**	**06 26 10.6**	**-0.9**
MJAR	**Matsushiro Arr**	**4.76**	**313**	Pn	**Pn**	**06 26 21.9**	**-0.8**
	1.6nm,0.3s,baz=145,slow=9.4,SNR=5.5						
MJAR				Sn	**Sn**	**06 27 14.8**	**-3.3**
	0.9nm,0.3s,baz=240,slow=30,SNR=4.4						
MKAR	**Makanchi Array**	**46.92**	**305**	P	**P**	**06 33 41.8**	**+0.8**
	0.3nm,0.8s,mb3.3,baz=100,slow=8.8,SNR=2.1						
WRA	**Warramunga Arr**	**53.58**	**190**	P	**P**	**06 34 31.8**	**-0.4**
	0.5nm,0.7s,mb3.6,baz=8.0,slow=7.7,SNR=7.6						

NIED ***28*** *06:41:00, 32.50N× 139.00E, h260km, Mw4.9 Best double couple: M0 2.63×10^16 NP1:φs 245°, δ71°, λ109°. NP2:φs 18°, δ27°, λ47°.*
MOS ***28*** *06:41:41.6± 0.8, 32.29N× 138.59E, h250km, mb4.8/58, Error ellipse: s-maj=9.1km s-min=4.6km az=104.3*
BJI ***28*** *06:41:41.2, 32.42N× 138.90E, h265km, mB4.6, mb5.1*
NEIC ***28*** *06:41:42.4± 0.1, 32.32N× 138.63E, mb4.7/70, MW4.9(NIED), Error ellipse: s-maj=3.5km s-min=3.2km az=139.0*
NEIC Recorded [1 JMA] in Fukushima and Tochigi Prefectures, Honshu.
JMA ***28*** *06:41:43.0± 0.4, 32.47N× 138.96E, h263km± 4km, M4.9*
JMA Felt I J1.
IDC ***28*** *06:41:43.3± 1.0, 32.33N× 138.62E, h251km± 8km, mb4.5/18, mb1 4.6/20, mb1mx4.5/23, mbtmp5.0/20, Error ellipse: s-maj=11.8km s-min=9.2km az=87.0*

ISC 28 06:41:41.6±0.2, 32.29N±0.03×138.70E±0.03, h246km, h246km±3.3km:pP-P, n356, σ1°07/360, mb4.6/106, 27C-17D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.24**	**47**	P	**P**	**06 42 19.6**	**+1.7**
	1μm,0.3s,baz=222,slow=18,SNR=433						
JHJ				S	**S**	**06 42 45.0**	**-1.2**
	923nm,0.3s,baz=65,slow=13,SNR=6.4						
JHJ2	**Mitsune**	**1.25**	**49**	⇑P	**P**	**06 42 19.5**	**+1.5**
TK01	**Tokai 1**	**1.75**	**328**	P	**P**	**06 42 24.0**	**+2.2**
JMY	**Miyakejima3**	**1.91**	**21**	⇑P	**P**	**06 42 24.3**	**+1.1**
JKO	**Kozu shima**	**1.93**	**11**	⇑P	**P**	**06 42 24.8**	**+1.4**
TK03	**Tokai 3**	**1.97**	**342**	⇑P	**P**	**06 42 26.4**	**+2.7**
NJJJ	**Nii jima 2**	**2.17**	**13**	⇑P	**P**	**06 42 27.1**	**+1.5**
TK04	**Tokai 4**	**2.21**	**342**	⇑P	**P**	**06 42 28.3**	**+2.3**
TK04				*eS*	**S**	**06 43 03.2**	**+2.8**
JIM2	**Oshima 3**	**2.50**	**14**	⇑P	**P**	**06 42 29.4**	**+0.4**
JIE	**Ise**	**2.68**	**322**	⇑P	**P**	**06 42 33.2**	**+2.4**
JIE				S	**S**	**06 43 11.2**	**+2.2**
JWZ	**Kozaga**	**2.80**	**297**	⇑P	**P**	**06 42 34.7**	**+2.6**
JWZ				S	**S**	**06 43 14.6**	**+3.3**
JOD2	**Odawara 2**	**2.99**	**6**	P	**P**	**06 42 34.6**	**+0.5**
JOD2				S	**S**	**06 43 13.3**	**-1.6**
BSO1	**Boso 1**	**3.03**	**38**	⇑P	**P**	**06 42 32.6**	**-2.0**
JYN	**Shimob**	**3.21**	**358**	⇑P	**P**	**06 42 37.8**	**+1.3**
JWY	**Kouya**	**3.24**	**307**	⇑P	**P**	**06 42 39.9**	**+3.0**
JWY				S	**S**	**06 43 23.5**	**+3.6**
JRY	**Ryogami san**	**3.73**	**3**	⇑P	**P**	**06 42 42.9**	**+0.4**
JRY				*eS*	**S**	**06 43 27.6**	**-2.2**
JGM	**Miyama**	**3.78**	**335**	⇓P	**P**	**06 42 45.1**	**+1.9**
JGM				*eS*	**S**	**06 43 33.0**	**+2.0**
JAI	**Aioi**	**3.87**	**294**	P	**P**	**06 42 46.9**	**+2.7**
JAI				S	**S**	**06 43 36.3**	**+3.4**
JWT	**Wachi**	**4.06**	**318**	⇓P	**P**	**06 42 48.8**	**+2.4**
JWT				S	**S**	**06 43 38.5**	**+1.7**
JAG	**Ashikaga**	**4.18**	**8**	⇑P	**P**	**06 42 45.9**	**-1.9**
JAG				*eS*	**S**	**06 43 32.9**	**-6.4**
MJAR	**Matsushiro Arr**	**4.27**	**355**	P	**P**	**06 42 49.0**	**+0.1**
	37nm,0.3s,baz=179,slow=12,SNR=161						
MJAR				S	**S**	**06 43 38.4**	**-2.9**
	37nm,0.3s,baz=151,slow=15,SNR=5.5						
MAJO	**Matsushiro**	**4.27**	**355**	*eP*	**P**	**06 42 49.7**	**+0.8**
MAT	**Matsushiro**	**4.27**	**355**	*eP*	**P**	**06 42 49.0**	**+0.1**
MAT				*eS*	**S**	**06 43 40.0**	**-1.3**
MAT	**Matsushiro**	**4.27**	**355**	P	**P**	**06 42 49.2**	**+0.3**
MAT				S	**S**	**06 43 39.6**	**-1.7**
MAT	**Matsushiro**	**4.27**	**355**	P	**P**	**06 42 49.0**	**+0.1**
MAT				S	**S**	**06 43 39.4**	**-1.9**
JMN	**Monobe**	**4.30**	**291**	⇓P	**P**	**06 42 52.3**	**+3.0**
JMN				*eS*	**S**	**06 43 46.4**	**+4.5**
JKG	**Kaga**	**4.44**	**334**	P	**P**	**06 42 52.4**	**+1.4**
CBIJ	**Chichi jima**	**5.99**	**149**	P	**P**	**06 43 06.5**	**-3.7**
	276nm,0.3s,baz=312,slow=2.7,SNR=66						
CBIJ				S	**S**	**06 44 14.9**	**-4.5**
	245nm,0.3s,baz=260,slow=23,SNR=8.1						
JNU	**Nakatsue**	**6.64**	**279**	P	**P**	**06 43 21.5**	**+3.1**
	2.1nm,0.3s,baz=83,slow=13,SNR=27						
JNU				S	**S**	**06 44 36.7**	**+2.6**
	0.6nm,0.3s,baz=163,slow=19,SNR=1.3						
JOW	**Kunigami**	**10.58**	**242**	P	**P**	**06 44 09.2**	**+0.8**
	1.7nm,0.3s,baz=92,slow=12,SNR=10.0						
INCN	**Inchon**	**11.18**	**301**	*eP*	**P**	**06 44 18.9**	**+2.9**
	84nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**13.01**	**24**	*eP*	**P**	**06 44 40.5**	**+1.9**
YUK				pmax	pmax		
	comp=N,190nm,0.5s						
YUK				pmax	pmax		
	comp=E,180nm,0.5s						
YUK				pmax	pmax		
	comp=Z,270nm,0.5s						
MDJ	**Mudanjiang**	**14.22**	**333**	P	**P**	**06 44 53.0**	**-0.6**
MDJ				S	**S**	**06 47 27.3**	**+1.8**
MDJ				PCP	PcP	06 49 52.8	-1.0
MDJ				PCS		06 53 22.8	
MDJ				SCS	ScS	06 56 38.3	-0.7
MDJ				AMB	AMB		
	comp=Z,222nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,270nm,5.4s						
MDJ	**Mudanjiang**	**14.22**	**333**	*eP*	**P**	**06 44 52.6**	**-1.0**
	comp=Z,121nm,0.6s						
SSE	**Sheshan**	**14.96**	**270**	P	**P**	**06 44 57.5**	**-5.3**
	comp=Z,31nm,0.7s						
SSE				S	**S**	**06 47 42.8**	**+0.7**
SSE				PcP	PcP	06 49 48.4	-6.5
YSS	**Yuzh-Sakhalins**	**14.98**	**11**	P	**P**	**06 45 00.0**	**-2.9**
YSS				*eS*	**S**	**06 47 35.0**	**-7.4**
YSS				pmax	pmax		
	comp=E,70nm,0.9s						
YSS				pmax	pmax		
	comp=Z,430nm,0.9s						
YSS				smax			
	comp=E,80μm,1.0s						
YSS	**Yuzh-Sakhalins**	**14.98**	**11**	*eP*	**P**	**06 45 01.5**	**-1.4**
	comp=E,331nm,0.7s						
SNY	**Shenyang**	**15.36**	**313**	⇓P	**P**	**06 45 06.5**	**-0.9**
SNY				XP		06 46 08.5	
SNY				S	**S**	**06 47 44.8**	**-6.2**
SNY				AMB	AMB		
	comp=Z,30nm,1.1s						
SNY				AMB	AMB		
	comp=Z,190nm,9.8s						
SNY				LR	LR		
	comp=E,260nm,13.2s						
SNY				LR	LR		
	comp=Z,220nm,10.5s						
DL2	**Dalian**	**15.37**	**300**	P	**P**	**06 45 09.5**	**+1.9**
DL2				XP		06 46 13.0	
DL2				S	**S**	**06 47 58.5**	**+7.2**
DL2				AMB	AMB		
	comp=Z,500nm,2.2s						
CN2	**Changchun**	**15.51**	**322**	*eP*	**P**	**06 45 06.5**	**-2.7**
CN2				*e*XP		06 46 10.8	
CN2				*eS*	**S**	**06 47 51.3**	**-3.0**
CN2				AMB	AMB		
	comp=Z,40nm,0.8s						
CN2				AMB	AMB		
	comp

CLNS **Chul'man** 26.34 343 *e*P P 06 46 56.7 +0.1
CLNS *e*S **S** 06 51 14.0 +4.2
CLNS pmax pmax
comp=N,79nm,0.8s
CLNS pmax pmax
comp=Z,137nm,0.8s,mb5.6
CLNS pmax pmax
comp=E,28nm,0.9s
CLNS pmax pmax
comp=N,35nm,0.9s
CLNS pmax pmax
comp=Z,23nm,0.9s,mb4.8
CLNS pmax pmax
comp=E,30nm,1.0s
CLNS smax
comp=N,20nm,1.1s
CLNS smax
comp=Z,11nm,1.0s
CLNS smax
comp=E,12nm,0.9s
CLNS MLR MLR
comp=Z,200nm,16.0s
CLNS MLR MLR
comp=N,7μm,11.0s
CLNS MLR MLR
comp=E,500nm,14.0s
CIT **Chita** 26.91 325 *e*P **P** 06 47 01.3 -0.5
CIT pmax pmax
comp=Z,98nm,1.7s,mb5.2
MA2 **Magadan** 28.46 13*d* *i*P **P** 06 47 14.7 -1.0
MA2 *i* S **S** 06 51 42.7 -1.0
MA2 pmax pmax
comp=N,30nm,0.7s
MA2 pmax pmax
comp=E,70nm,0.7s
MA2 pmax pmax
comp=Z,40nm,0.7s,mb5.2
MA2 **Magadan** 28.46 13 *e*P **P** 06 47 14.8 -0.9
comp=Z,63nm,0.8s,mb5.3
SONM **Songino Array** 28.94 312 P **P** 06 47 19.9 -0.1
comp=Z,41nm,0.8s,mb5.1,baz=114,slow=8.4,SNR=132
SONM ScP 06 53 37.7
comp=Z,1.9nm,0.6s,baz=153,slow=2.8,SNR=7.7
LZH **Lanzhou** 28.99 287 *e*P **P** 06 47 19.0 -1.6
LZH AP pP 06 48 08.5 -0.7
LZH SCP 06 53 39.8
LZH AMB AMB
comp=Z,24nm,1.5s,mb4.6
LZH AMB AMB
comp=Z,86nm,4.3s
LZH **Lanzhou** 28.99 287 *e*P **P** 06 47 19.0 -1.6
LZH *PP pP 06 48 08.5 -0.7
LZH *SP sP 06 48 35.0 -2.9
LZH pmax pmax
comp=Z,24nm,1.5s,mb4.6
LZH **Lanzhou** 28.99 287 *e*P **P** 06 47 19.0 -1.6
comp=Z,24nm,1.5s,mb4.6
LZH pP pP 06 48 08.5 -0.7
LZH sP sP 06 48 35.0 -2.9
LZH PcP PcP 06 50 07.0 -16
LZH ScP 06 53 39.8
YAK **Yakutsk** 30.32 352 *e*P **P** 06 47 30.4 -1.7
YAK pmax pmax
comp=Z,65nm,0.6s,mb5.4
YAK **Yakutsk** 30.32 352 *e*P **P** 06 47 30.4 -1.7
comp=Z,65nm,0.6s,mb5.4
BOD **Bodaibo** 30.59 334 *e*P **P** 06 47 32.2 -2.2
BOD pmax pmax
comp=Z,36nm,1.2s,mb4.9
ZAK **Zakamensk** 31.76 315 *i*P **P** 06 47 44.2 -0.4
ZAK pmax pmax
comp=Z,22nm,1.2s,mb4.6
SEY **Seymchan** 31.88 12⇓ *e*P **P** 06 47 44.8 -0.7
TLY **Talaya** 32.04 318 *e*P **P** 06 47 46.9 -0.2
TLY pmax pmax
comp=Z,27nm,0.6s,mb5.0
TLY **Talaya** 32.04 318 *e*P **P** 06 47 46.9 -0.2
comp=Z,27nm,0.6s,mb5.0
GTA **Gaotai** 32.12 294 P **P** 06 47 47.0 -0.9
GTA PCP PcP 06 50 29.3 -1.7
GTA S **S** 06 52 38.0 -3.1
GTA SCP 06 53 49.3
GTA PCS 06 54 15.8
GTA SS SS 06 54 51.8 -4.8
GTA SCS ScS 06 57 47.5 -0.2
GTA AMB AMB
comp=Z,8.0nm,0.7s,mb4.4
GTA AMB AMB
comp=Z,46nm,10.7s
GTA LR LR
comp=N,111nm,15.7s
GTA LR LR
comp=E,94nm,14.1s
GTA LR LR
comp=Z,112nm,19.1s
FX1 **Attu Island--F** 32.22 40 P **P** 06 47 48.9 +0.3
FX1 06 50 30.4
FX1 pmax pmax
comp=Z,25nm,0.5s
FX1 pmax pmax
comp=Z,11nm,0.4s
FX1 **Attu Island--F** 32.22 40 P **P** 06 47 48.9 +0.4
comp=Z,25nm,0.5s,mb5.0,baz=270,slow=1.6,SNR=13
FX1 PcP PcP 06 50 30.4 -0.6
comp=Z,11nm,0.4s,baz=276,slow=4.6,SNR=6.3
KMI **Kunming** 32.23 267 P **P** 06 47 48.0 -1.0
KMI AMB AMB
comp=Z,12nm,0.5s,mb4.7
KMI **Kunming** 32.23 267 P **P** 06 47 48.0 -1.0
comp=Z,12nm,0.5s,mb4.7
MOY **Mondy** 33.57 316 *e*P **P** 06 47 59.9 -0.2
MOY pmax pmax
comp=Z,31nm,1.8s,mb4.5
GSTR **Great Sitkin T** 38.16 45 *e*P **P** 06 48 38.3 -0.4
BILL **Bilibino** 39.20 16 *e*P **P** 06 48 47.4 +0.3
BILL pmax pmax
comp=Z,14nm,0.5s,mb4.8
BILL **Bilibino** 39.20 16 *e*P **P** 06 48 47.4 +0.3
comp=Z,14nm,0.5s,mb4.7
TIXI **Tiksi** 39.78 355*d* *i*P **P** 06 48 50.6 -1.2
TIXI pmax pmax
comp=Z,26nm,0.5s,mb4.9
KSM **Kuching** 40.67 227 *e*P **P** 06 49 00.8 +1.0
WMQ **Urumqi** 41.19 301 *e*P **P** 06 49 03.5 -0.2
NIKO **Nikolski** 42.65 45 *e*P **P** 06 49 13.9 -1.4
ZAL **Zalesovo** 43.63 316 P **P** 06 49 21.9 -1.3
comp=Z,14nm,0.4s,mb4.7,baz=12,slow=6.1,SNR=40
ZAL ScP 06 54 30.9
comp=Z,1.4nm,0.6s,baz=338,slow=6.0,SNR=3.7
NVS **Novosibirsk** 44.65 317⇓ *i*P **P** 06 49 29.7 -1.6
NVS *e*S **S** 06 55 43.3 -4.8
NVS *i* SS SS 06 58 56.0 -11
NVS pmax pmax
comp=E,22nm,1.0s
NVS pmax pmax
comp=Z,22nm,1.0s,mb4.4
NVS smax
comp=N,11nm,1.8s
MKAR **Makanchi Array** 44.91 306 P **P** 06 49 33.0 -0.4
comp=N,28nm,0.5s,mb4.9,baz=88,slow=10,SNR=415
MKAR ScP 06 54 37.0
comp=N,6.2nm,0.6s,baz=81,slow=5.4,SNR=18
JIRN **Jiri** 45.35 278 *e*P **P** 06 49 37.9 +0.7
comp=N,49nm,0.5s,mb5.1
GUN **Gumba** 45.53 279 *e*P **P** 06 49 38.8 +0.2
comp=N,48nm,0.9s,mb4.8
PKI **Pulchoki** 46.04 279 *e*P **P** 06 49 42.3 -0.2
comp=N,13nm,0.7s,mb4.4
KKN **Kakani** 46.07 279 *e*P **P** 06 49 42.5 -0.3
comp=N,29nm,0.8s,mb4.7
DMN **Daman** 46.28 279 *e*P **P** 06 49 44.3 -0.1
GKN **Gorkha** 46.54 279 *e*P **P** 06 49 46.1 -0.3
comp=N,31nm,0.8s,mb4.7
KURK **Kurchatov** 47.24 311 P **P** 06 49 50.5 -1.1
KURK pmax pmax
comp=Z,39nm,0.7s,mb4.8
KURK **Kurchatov** 47.24 311 *e*P **P** 06 49 50.2 -1.4
comp=Z,135nm,0.8s,mb5.3
KOLN **Koldanda** 47.48 280 *e*P **P** 06 49 53.5 -0.3
comp=Z,42nm,1.2s,mb4.7
ULHL **Ulahol** 49.69 300 P **P** 06 50 10.7 +0.2
SNR=9.1
TKM2 **Tokmak 2** 50.05 301 P **P** 06 50 13.2 +0.1
SNR=25
KSH **Kashi** 50.42 297 *e*P **P** 06 50 17.3 +1.4
KSH *e*PCP PcP 06 51 27.0 -3.8
KSH *e*PP PP 06 52 17.3 +2.7
KSH *e*S **S** 06 57 08.0 -1.1
KSH AMB AMB
comp=Z,110nm,2.8s,mb4.7
KSH LR LR
comp=N,220nm,5.8s
KSH LR LR
comp=E,350nm,5.1s
KZA **Kyzart** 50.45 300 P **P** 06 50 17.2 +1.1
SNR=7.5
KBK **Karagaybulak** 50.56 301 P **P** 06 50 17.0 +0.1
SNR=18
CHMS **Chumysh** 50.65 302 P **P** 06 50 17.0 -0.5
SNR=9.7
FRU **Bishkek** 50.77 301 P **P** 06 50 18.0 -0.5
FRU *e* 06 51 17.0
USP **Ospenovka** 50.78 302 P **P** 06 50 17.9 -0.6
SNR=24
AAK **Ala-Archa** 50.90 301 P **P** 06 50 19.1 -0.3
SNR=14
AAK **Ala-Archa** 50.90 301 *e*P **P** 06 50 17.6 -1.8
AAK pmax pmax
comp=Z,22nm,0.6s,mb4.8
AAK **Ala-Archa** 50.90 301 *e*P **P** 06 50 17.6 -1.8
comp=Z,22nm,0.6s,mb4.8
EKS2 **Erkin-Say** 51.41 301 P **P** 06 50 22.8 -0.4
SNR=14
AML **Almayashu** 51.58 301 P **P** 06 50 25.1 +0.7
SNR=34
FITZ **Fitzroy Crossi** 51.64 196⇑ *i*P **P** 06 50 24.7 -0.5
comp=Z,14nm,0.4s,mb4.8
FITZ **Fitzroy Crossi** 51.64 196 P **P** 06 50 24.7 -0.5
comp=Z,18nm,0.4s,mb4.8,baz=5.7,slow=7.4,SNR=40
VOSK **Vostochnaya** 51.88 314 P **P** 06 50 25.1 -1.4
VOSK pmax pmax
comp=Z,14nm,0.7s,mb4.5
RSO **Redoubt South** 52.03 36 *e*P **P** 06 50 26.9 -0.6
WRAB **Tennant Creek** 52.09 185*c* *i*P **P** 06 50 27.3 -1.2
WRAB **Tennant Creek** 52.09 185 *e*P **P** 06 50 27.0 -1.5
comp=Z,53nm,0.6s,mb5.2
WB2 **Warramunga Arr** 52.10 185⇑ *i*P **P** 06 50 27.3 -1.3
WB2 *e*S **S** 06 57 31.4 -0.7
WRA **Warramunga Arr** 52.10 185 P **P** 06 50 27.4 -1.2
comp=Z,40nm,0.6s,mb5.0,baz=1.9,slow=7.8,SNR=164
WRA PcP PcP 06 51 37.3 0.0
comp=Z,9.2nm,0.6s,baz=358,slow=4.1,SNR=6.7
BVA0 **Borovoye Array** 52.21 315 *i*P **P** 06 50 27.7 -1.3
BVA0 pmax pmax
comp=Z,2.0nm,0.7s,mb3.7
BRVK **Borovoye** 52.27 315 *e*P **P** 06 50 28.0 -1.4
BRVK pmax pmax
comp=Z,25nm,1.0s,mb4.6
BRVK **Borovoye** 52.27 315 *e*P **P** 06 50 28.0 -1.4
comp=Z,25nm,1.0s,mb4.6
CTA **Charters Tower** 52.58 171 *e*P **P** 06 50 31.2 -0.9
comp=Z,7.9nm,0.9s,mb4.1
CTA **Charters Tower** 52.58 171 *e*P **P** 06 50 31.2 -0.9
CTA pmax pmax
comp=Z,8.0nm,0.9s
CTAO **Charters Tower** 52.58 171 *e*P **P** 06 50 30.6 -1.5
CTAO pmax pmax
comp=Z,14nm,0.9s,mb4.4
CTAO **Charters Tower** 52.58 171 *e*P **P** 06 50 30.6 -1.5
comp=Z,14nm,0.9s,mb4.4
KKAR **Karatay Array** 53.67 302 *i*P **P** 06 50 39.1 -0.7
KKAR pmax pmax
comp=Z,19nm,0.4s,mb5.0
MCK **McKinley** 53.83 32 *e*P **P** 06 50 38.6 -2.0
MCK pmax pmax
comp=Z,10.0nm,1.2s,mb4.2
MCK **McKinley** 53.83 32 *e*P **P** 06 50 38.6 -2.0
comp=Z,9.7nm,1.2s,mb4.2
ILAR **Eielson Array** 54.70 30 P **P** 06 50 45.7 -1.2
comp=Z,2.6nm,0.7s,mb3.9,baz=286,slow=6.0,SNR=24
ILAR PcP PcP 06 51 44.8 -1.8
comp=Z,3.0nm,0.6s,baz=260,slow=3.6,SNR=10
MBWA **Marble Bar** 56.16 201 *e*P **P** 06 50 56.6 -1.2
comp=Z,34nm,0.6s,mb5.1
ARU **Arti** 58.49 320⇓ *i*P **P** 06 51 12.2 -1.6
ARU *e* 06 51 54.6
ARU *i* pP 06 52 12.5 +3.4
ARU *e*PPP PPP 06 54 48.0 -6.0
ARU *e*S **S** 06 58 56.7 +0.5
ARU *e*SS SS 07 02 54.2 -0.7
ARU pmax pmax
comp=Z,20nm,0.7s,mb4.9
ARU **Arti** 58.49 320 *e*P **P** 06 51 11.9 -1.8
comp=Z,16nm,0.7s,mb4.8
AB31 **Akbulak array** 59.35 312 *i*P **P** 06 51 18.5 -1.3
AB31 pmax pmax
comp=Z,3.0nm,0.3s,mb4.4
INK **Inuvik** 59.63 26 *e*P **P** 06 51 19.2 -2.2
INK pmax pmax
comp=Z,7.0nm,0.8s
INK **Inuvik** 59.63 26 *e*P **P** 06 51 19.2 -2.2
comp=Z,6.5nm,0.8s,mb4.3
NOUC **Port Laguerre** 60.18 150 *e*P **P** 06 51 26.8 +1.1
DZM **Mont Dzumac** 60.21 150 *e*P **P** 06 51 27.3 +1.3
DLBC **Dease Lake** 63.76 36 *e*P **P** 06 51 48.6 -0.2
STKA **Stephens Creek** 63.87 177⇑ *i*P **P** 06 51 49.4 -0.6
comp=Z,23nm,0.7s,mb4.9
STKA **Stephens Creek** 63.87 177 P **P** 06 51 49.8 -0.2
comp=Z,26nm,0.7s,mb5.0,baz=346,slow=6.3,SNR=52
LVZ **Lovozero** 65.53 336 *e*P **P** 06 51 58.8 -1.2
LVZ pmax pmax
comp=Z,25nm,1.3s,mb4.7
APA **Apatity** 66.10 336⇑ *i*P **P** 06 52 02.5 -1.1
APA pmax pmax
comp=Z,20nm,0.8s,mb4.8
KLBR **Kellerberrin** 66.55 199 *e*P **P** 06 52 06.4 -0.7
comp=Z,16nm,1.1s,mb4.6
KEV **Kevo** 67.09 339 *e*p **P** 06 52 08.2 -1.6
comp=Z,14nm,0.6s,mb4.8
KEV **Kevo** 67.09 339 *e*P **P** 06 52 08.2 -1.6
KEV pmax pmax
comp=Z,14nm,0.6s,mb4.8
ARCES **ARCESS Array B** 67.65 340 P **P** 06 52 12.7 -0.6
comp=Z,13nm,0.5s,mb4.8,baz=69,slow=8.5,SNR=146
ARCES PP PP 06 54 44.5 -2.7
comp=Z,1.9nm,0.7s,baz=74,slow=8.8,SNR=3.7
ARE0 **ARCESS Array S** 67.65 340 *e*P **P** 06 52 12.5 -0.8
RES **Resolute Bay** 67.74 13 *e*P **P** 06 52 11.1 -2.7
RES pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
RES **Resolute Bay** 67.74 13 *e*P **P** 06 52 11.1 -2.7
comp=Z,5.0nm,0.6s,mb4.3
NWAO **Narrogin (SRO)** 67.95 199 *e*P **P** 06 52 14.9 -0.9
YKA **Yellowknife Ar** 69.03 28 P **P** 06 52 21.3 -0.6
comp=Z,1.4nm,0.4s,mb4.0,baz=297,slow=6.6,SNR=6.3
MOS **Moscow** 69.73 324 *e*P **P** 06 52 21.8 -4.5
TOO **Toolangi** 69.78 174 *e*P **P** 06 52 27.2 +0.3
comp=Z,8.4nm,0.7s,mb4.5
TOO **Toolangi** 69.78 174 *e*P **P** 06 52 27.2 +0.3
TOO pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
DAG **Danmarks Havn** 70.29 355⇑ *e*P **P** 06 52 29.6 +0.2
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
DAG **Danmarks Havn** 70.29 355⇑ *e*P **P** 06 52 29.6 +0.2
comp=Z,5.2nm,0.8s,mb4.2
DAG **Danmarks Havn** 70.29 355⇑ *i*P **P** 06 52 29.6 +0.2
comp=Z,5.2nm,0.8s,mb4.2
OBN **Obninsk** 70.56 323 *e*P **P** 06 52 30.5 -0.8
OBN *e*S S 07 01 29.4 +5.8
OBN pmax pmax
comp=Z,20nm,0.9s,mb4.8
OBN MLR MLR
comp=Z,100nm,14.0s
KAF **Kangasniemi** 71.49 333 *e*p **P** 06 52 34.6 -2.2
comp=Z,11nm,0.6s,mb4.7,baz=54,slow=5.6
KAF **Kangasniemi** 71.49 333 *e*P **P** 06 52 34.6 -2.2
KAF pmax pmax
comp=Z,11nm,0.6s,mb4.7
OSR **Olympics--Salm** 71.50 45 P **P** 06 52 38.5 +1.5
GOF **Gofitskoye** 71.60 312 *e*P **P** 06 52 32.6 -5.1
FINES **FINESS Array B** 71.96 332 P **P** 06 52 38.7 -0.9
comp=Z,7.6nm,0.5s,mb4.6,baz=71,slow=5.7,SNR=52
FINES PP PP 06 55 20.1 -3.9
comp=Z,3.6nm,0.8s,baz=63,slow=11,SNR=4.1
KIV **Kislovodsk** 72.33 311 *e*P **P** 06 52 41.7 -0.4
KIV *e* 06 52 58.6
KIV *e**PP pP 06 53 38.2 -1.5
KIV *e*S S 07 01 44.3 +0.4
KIV pmax pmax
comp=Z,35nm,1.1s,mb4.9
KIV MLR MLR
comp=Z,36nm,17.0s
KIV MLR MLR
comp=N,19nm,15.0s
KIV MLR MLR
comp=E,19nm,17.0s
KIV **Kislovodsk** 72.33 311 *e*P **P** 06 52 42.1 0.0
comp=E,23nm,0.6s,mb5.0
GNI **Garni** 72.75 307 *i*P **P** 06 52 45.7 +1.1
GNI pmax pmax
comp=Z,20nm,1.0s
VSU **Vasula** 73.40 329*d* *i*P **P** 06 52 46.9 -1.1
KEBM **Edson Butte** 73.45 50 *e*P **P** 06 52 47.9 -0.8
TBM **Table Mountain** 73.66 44 P **P** 06 52 50.3 +0.5
EBG **Ellensburg** 73.81 45 P **P** 06 52 51.3 +0.6
VFP **Flag Point** 74.06 46 P **P** 06 52 52.8 +0.7
HBO **Huckleberry Mo** 74.26 48 P **P** 06 52 54.0 +0.7
EDM **Edmonton** 74.47 36 *e*P **P** 06 52 53.8 -0.5
KHMM **Horse Mountain** 74.82 51 *e*P **P** 06 52 57.0 +0.4
YBH **Yreka Blue Hor** 75.06 50 *e*P **P** 06 52 58.2 +0.3
YBH pmax pmax
comp=Z,6.0nm,0.8s
YBH **Yreka Blue Hor** 75.06 50 *e*P **P** 06 52 58.2 +0.3
comp=Z,5.8nm,0.8s,mb4.3
BUOR **Burton Butte** 75.09 49 P **P** 06 52 59.0 +1.0
NEW **Newport** 75.12 42 *e*P **P** 06 52 57.8 -0.3
NEW *e* pP 06 53 55.7 -0.3
NEW pmax pmax
comp=Z,15nm,1.3s
NEW **Newport** 75.12 42 *e*P **P** 06 52 57.8 -0.2
comp=Z,15nm,1.3s,mb4.5
NEW *e* pP 06 53 55.7 -0.3
ANN **Anapa** 75.20 314 *e*P **P** 06 52 57.6 -1.0
ANN *e**PP pP 06 53 59.7 +3.1
ANN *e*S S 07 02 11.9 -3.7
ANN pmax pmax
comp=Z,68nm,1.7s,mb5.0
TAU **Tasmania Unive** 75.25 173 P **P** 06 52 57.7 -1.2
SUMG **Summit** 75.41 359 *e*P **P** 06 52 59.8 +0.6
comp=Z,10nm,0.9s,mb4.5
WDC **Whiskeytown Da** 75.75 51 *e*P **P** 06 53 01.8 0.0
WDC pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
WDC **Whiskeytown Da** 75.75 51 *e*P **P** 06 53 01.8 +0.1
comp=Z,4.9nm,0.8s,mb4.2
WALA **Waterton Lakes** 76.48 40 *e*P **P** 06 53 06.0 +0.4
comp=Z,12nm,0.7s,mb4.6
AKASG **Malin Array Be** 76.67 322 P **P** 06 53 05.6 -1.0
comp=Z,9.5nm,0.4s,mb4.7,baz=50,slow=6.1,SNR=81
NSHM **Saint Helena R** 76.75 53 P **P** 06 53 06.8 -0.6
BMO **Blue Mountains** 76.83 45 *e*P **P** 06 53 07.6 0.0
SIM **Simferopol'** 77.13 315 *e*P **P** 06 53 09.2 -0.1
SIM pmax pmax
comp=Z,15nm,0.7s,mb4.7
WVOR **Wild Horse Val** 77.30 48 *e*P **P** 06 53 10.6 +0.3
WVOR pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
WVOR **Wild Horse Val** 77.30 48 *e*P **P** 06 53 10.6 +0.3
comp=Z,6.8nm,0.6s,mb4.5
BEKR **Beckwourth** 77.55 51 *e*P **P** 06 53 11.8 +0.1
comp=Z,18nm,0.9s,mb4.7
NB2 **NORSAR Subarra** 77.67 337 P **P** 06 53 11.2 -0.7
comp=Z,17nm,0.6s,mb4.9,baz=42,slow=5.3
NB2 **NORSAR Subarra** 77.67 337 P **P** 06 53 11.2 -0.7
NB2 pmax pmax
comp=Z,17nm,0.6s,mb4.8
NB2 **NORSAR Subarra** 77.67 337 P **P** 06 53 11.2 -0.7
baz=42,slow=5.6
NOA **NORSAR Array B** 77.67 337 P **P** 06 53 11.2 -0.7
comp=Z,17nm,0.7s,mb4.8,baz=44,slow=5.6,SNR=78
NOA PP PP 06 56 07.7 -4.4
comp=Z,3.3nm,0.6s,baz=46,slow=8.5,SNR=7.7
MSO **Missoula** 77.71 42 *e*P **P** 06 53 11.6 -0.8
MALT **Malatya** 77.92 308 *e*P **P** 06 53 13.8 0.0
MALT pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
MALT **Malatya** 77.92 308 *e*P **P** 06 53 13.8 +0.1
comp=Z,7.3nm,0.9s,mb4.3
CHMT **Chamberlain Mo** 78.05 42 *e*P **P** 06 53 14.1 -0.2
SAO **San Andreas Ge** 78.44 54 *e*P **P** 06 53 15.8 -0.9
SAO pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
SAO **San Andreas Ge** 78.44 54 *e*P **P** 06 53 15.8 -0.8
comp=Z,8.1nm,0.9s,mb4.3
CMB **Columbia Colle** 78.49 52 *e*P **P** 06 53 17.0 +0.1
CMB pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
CMB **Columbia Colle** 78.49 52 *e*P **P** 06 53 17.0 +0.1
comp=Z,5.1nm,0.5s,mb4.4
LRV **Little Rabbit** 78.91 54 *e*P **P** 06 53 19.5 +0.3
HRY **Holter Researc** 78.96 41 *e*P **P** 06 53 19.6 +0.3
FCC **Fort Churchill** 79.24 25 *e*P **P** 06 53 19.8 -0.6
HLID **Hailey** 79.27 45 *e*P **P** 06 53 21.5 +0.6
BMN **Battle Mountai** 79.27 49 *e*P **P** 06 53 21.7 +0.7
BMN pmax pmax
comp=Z,18nm,1.1s,mb4.6
BMN **Battle Mountai** 79.27 49 *e*P **P** 06 53 21.7 +0.7
comp=Z,18nm,1.1s,mb4.6
MCMT **McKenzie Canyo** 79.47 43 *e*P **P** 06 53 22.0 0.0
OMM **Old Mammoth Mi** 79.65 52 *e*P **P** 06 53 23.2 +0.2
NVAR **Mina Array Bea** 79.67 51 P **P** 06 53 24.0 +0.9
comp=Z,8.8nm,0.7s,mb4.5,baz=300,slow=4.1,SNR=89
BOZ **Bozeman (W)** 79.70 42 *e*P **P** 06 53 23.4 +0.3
BOZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
BOZ **Bozeman (W)** 79.70 42 *e*P **P** 06 53 23.4 +0.2
comp=Z,8.1nm,0.8s,mb4.4
PTRM **Twissleman Ran** 79.88 54 *e*P **P** 06 53 24.4 +0.1
MTUM **Tungsten Hills** 80.08 52 *e*P **P** 06 53 25.1 -0.3
BR131 **Keskin Array S** 80.29 311 *e*P **P** 06 53 26.6 +0.2
comp=Z,3.3nm,0.6s,mb4.1
BRTR **Keskin Array B** 80.29 311 P **P** 06 53 26.5 +0.1
comp=Z,7.0nm,0.7s,mb4.4,baz=104,slow=4.3,SNR=30
QLMT **Earthquake Lak** 80.29 43 *e*P **P** 06 53 27.7 +1.5
ELK **Elko** 80.36 48 *e*P **P** 06 53 27.1 +0.4
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK **Elko** 80.36 48 *e*P **P** 06 53 27.1 +0.4
comp=Z,7.4nm,0.9s,mb4.3
TPH **Tonopah** 80.57 51 *e*P **P** 06 53 28.2 +0.3
TPH pmax pmax
comp=Z,13nm,1.0s,mb4.5
TPH **Tonopah** 80.57 51 *e*P **P** 06 53 28.2 +0.3
comp=Z,13nm,1.0s,mb4.5
BURAR **Bucovina Array** 80.62 321 ⇑P **P** 06 53 28.4 +0.5
BURAR **Bucovina Array** 80.62 321 ⇑P **P** 06 53 28.4 +0.5
YMR **Madison River** 80.66 43 *e*P **P** 06 53 28.9 +0.8
GCMT **Greycliff** 80.72 41 *e*P **P** 06 53 29.0 +0.5
YFT **Old Faithful** 80.86 43 *e*P **P** 06 53 30.1 +0.8
VRI **Vrincioaia** 80.86 319 ⇓P **P** 06 53 28.5 -0.8
IMW **Indian Meadow** 81.13 43 *e*P **P** 06 53 32.0 +1.3
comp=Z,16nm,1.0s,mb4.6
HILS **Ha'il** 81.22 297 P **P** 06 53 32.1 +0.6
RRI2 **Red Ridge** 81.23 44 *e*P **P** 06 53 32.1 +0.8
comp=Z,176nm,1.2s,mb5.6
HVU **Hansel Valley** 81.28 46 *e*P **P** 06 53 32.5 +1.0
KOLS **Kolonicke sedl** 81.31 323 *e*P **P** 06 53 31.7 +0.2
KOLS *e*PP PP 06 56 41.1 -1.5
DAC **Darwin (Calif)** 81.32 53 *e*P **P** 06 53 32.0 +0.2
DAC pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
DAC **Darwin (Calif)** 81.32 53 *e*P **P** 06 53 32.0 +0.2
comp=Z,8.3nm,0.9s,mb4.4
MOOW **Moose Ponds** 81.33 43 *e*P **P** 06 53 32.8 +1.1
TPAW **Teton Pass** 81.36 44 *e*P **P** 06 53 32.9 +0.9
LOHW **Long Hollow** 81.49 43 *e*P **P** 06 53 33.6 +1.0
SNOW **Snow King Moun** 81.50 44 *e*P **P** 06 53 33.9 +1.3
comp=Z,16nm,1.0s,mb4.6
STHS **Stebnicka Huta** 81.52 324 *e*P **P** 06 53 32.9 +0.3
MLR **Muntele Rosu** 81.53 319 ⇑P **P** 06 53 33.0 +0.3
OJC **Ojcow** 81.70 325 *e*P **P** 06 53 33.6 +0.1
CRVS **Cervenica-Dubn** 81.74 324 *e*P **P** 06 53 36.0 +2.3
SPUT **South Promonto** 81.76 46 *e*P **P** 06 53 33.4 -0.6
NIE **Niedzica** 81.98 325 *e*P **P** 06 53 36.0 +1.1
LAO **LASA Array** 82.04 39 *e*P **P** 06 53 35.7 +0.3
comp=Z,19nm,0.9s,mb4.7
HWUT **Hardware Ranch** 82.12 45 *e*P **P** 06 53 36.8 +0.9
comp=Z,8.0nm,0.8s,mb4.4
NOQ **North Oquirrh** 82.34 46 *e*P **P** 06 53 37.9 +0.9
TCUT **Toone Canyon** 82.50 46 *e*P **P** 06 53 39.0 +1.1
PDAR **Pinedale Array** 82.61 44 P **P** 06 53 38.8 +0.4
comp=Z,4.3nm,0.8s,mb4.3,baz=295,slow=3.8,SNR=39
OKC **Ostrava-Krasne** 82.74 326 *e*P **P** 06 53 39.2 +0.3
NLU **North Lily Min** 82.78 47 *e*P **P** 06 53 39.4 +0.1
JLU **Jordanelle** 82.78 46 *e*P **P** 06 53 40.3 +1.0
KSP **Ksiaz** 82.92 327⇓ *e*P **P** 06 53 39.9 +0.1

DAU	Daniels Canyon	83.02	46	eP		P	06 53 41.5	+1.0			
MPU	Maple Canyon	83.02	47	eP		P	06 53 41.2	+0.7			
MORC	Moravsky Berou	83.07	326	eP		P	06 53 40.6	0.0			
MORC					pmax	pmax					
	comp=Z,4.0nm,0.8s,mb4.2										
MORC	Moravsky Berou	83.07	326	eP		P	06 53 40.6	+0.1			
	comp=Z,3.8nm,0.8s,mb4.2										
ARUT	Antelope Range	83.19	49	eP		P	06 53 41.7	+0.3			
BSEG	Bad Segeberg	83.24	332	eP		P	06 53 41.3	0.0			
DPC	Dobruska-Polom	83.25	327	eP		P	06 53 41.8	+0.4			
UPC	Upice	83.28	327	eP		P	06 53 41.7	+0.1			
VYHS	Vyhne	83.32	324	i P		P	06 53 42.2	+0.4			
NEN	Nelson	83.51	52	eP		P	06 53 43.4	+0.3			
MSU	Marysvale	83.57	48	eP		P	06 53 44.5	+1.2			
PFO	Pinyon Flat Ob	83.58	54	eP		P	06 53 43.8	+0.3			
PFO					pmax	pmax					
	comp=Z,16nm,0.8s,mb4.8										
PFO	Pinyon Flat Ob	83.58	54	eP		P	06 53 43.8	+0.2			
	comp=Z,16nm,0.8s,mb4.8										
PVCC	Panska Ves	83.92	328	eP		P	06 53 44.7	0.0			
BRG	Berggiesshubel	83.96	328	i P		P	06 53 44.8	-0.1			
BRG					pmax	pmax					
	comp=Z,8.0nm,0.8s,mb4.5										
BRG	Berggiesshubel	83.96	328	i P		P	06 53 44.8	-0.1			
	comp=Z,7.8nm,0.8s,mb4.5										
BAR	Barrett	83.96	55	eP		P	06 53 45.5	+0.1			
TATS	Tathlith	84.03	289	P		P	06 53 47.1	+1.1			
SRO2	Moca	84.03	324	eP		P	06 53 42.5	-2.9			
CLL	Collm	84.06	329	‖ i P		P	06 53 44.9	-0.5			
CLL					e*PP	pP	06 54 46.0	+1.4			
CLL					pmax	pmax					
	comp=Z,24nm,1.2s,mb4.8										
CLL	Collm	84.06	329	‖ i P		P	06 53 44.9	-0.5			
	comp=Z,24nm,1.2s,mb4.8										
CLL					epP	pP	06 54 46.0	+1.4			
CLL	Collm	84.06	329	‖ P		P	06 53 44.9	-0.5			
	comp=Z,logA/T=1.3,mb4.8										
CLL					e		06 53 56.0				
CLL					e*PP	pP	06 54 46.0	+1.4			
CLL					ePP	PP	06 57 02.0	-2.2			
CLL					eS	S	07 03 42.0	-5.3			
SRU	San Rafael	84.25	47	eP		P	06 53 47.5	+0.8			
PRU	Pruhonice	84.32	328	eP		P	06 53 46.6	-0.1			
PRU					AMS	AMS	07 35 50.0				
	comp=Z,100nm,10.3s										
PPT	Papeete	84.61	115	eLR		LR	06 53 58.6				
	comp=Z,209nm,22.2s,baz=230										
RWWY	Rawlins	84.65	43	eP		P	06 53 49.2	+0.6			
	comp=Z,23nm,0.9s,mb4.9										
CLZ	Clausthal	84.78	331	eP		P	06 53 49.2	+0.2			
CLZ				e			06 57 09.2				
CLZ					pmax	pmax					
	comp=Z,23nm,1.2s,mb4.8										
CLZ	Clausthal	84.78	331	eP		P	06 53 49.2	+0.2			
	comp=Z,23nm,1.2s,mb4.8										
CLZ					ePP	PP	06 57 09.2	-0.7			
JMQS	Jabal Moqyreh	84.80	301	P		P	06 53 50.1	+0.4			
RSSD	Black Hills	84.88	40	eP		P	06 53 48.6	-1.1			
RSSD					pmax	pmax					
	comp=Z,8.0nm,0.6s,mb4.6										
RSSD	Black Hills	84.88	40	eP		P	06 53 48.6	-1.1			
	comp=Z,7.8nm,0.6s,mb4.6										
DJNS	Zahran al Janu	84.94	288	P		P	06 53 52.2	+1.6			
NKC	Novy Kostel	85.08	329	eP		P	06 53 50.7	+0.2			
MOX	Moxa	85.14	329	eP		P	06 53 50.0	-0.8			
MOX				e			06 57 12.2				
MOX					pmax	pmax					
	comp=Z,31nm,1.6s,mb4.8										
MOX	Moxa	85.14	329	eP		P	06 53 50.0	-0.8			
	comp=Z,31nm,1.6s,mb4.8										
MOX					ePP	PP	06 57 12.2	-0.5			
MOX	Moxa	85.14	329	eP		P	06 53 50.0	-0.8			
	comp=Z,logA/T=1.3,mb4.8										
MOX					PP	PP	06 57 12.0	-0.7			
KHC	Kasperske Hory	85.37	327	eP		P	06 53 51.6	-0.4			
KHC					AMS	AMS	07 35 50.0				
	comp=Z,100nm,11.1s										
GEC2	GERESS Array S	85.52	327	eP		P	06 53 52.2	-0.5			
GEC2				e			06 57 15.6				
GEC2					pmax	pmax					
	comp=Z,4.0nm,0.9s,mb4.2										
GEC2	GERESS Array S	85.52	327	eP		P	06 53 52.2	-0.5			
	comp=Z,4.0nm,0.9s,mb4.2										
GEC2					ePP	PP	06 57 15.6	-0.2			
GERES	GERESS Array B	85.52	327	P		P	06 53 52.2	-0.6			
	comp=Z,2.2nm,0.7s,mb4.0,baz=45,slow=5.7,SNR=19										
GERES					PP	PP	06 57 13.8	-2.0			
	comp=Z,0.4nm,0.2s,baz=45,slow=9.4,SNR=3.8										
PV10	Paradox Valley	85.62	47	eP		P	06 53 54.5	+1.0			
PV01	Paradox Valley	86.06	47	eP		P	06 53 56.2	+0.5			
SMCO	Snowmass	86.38	45	eP		P	06 53 58.1	+1.0			
PDKS	Podkum	86.89	325	i P		P	06 53 58.6	-0.8			
JAVS	Javornik	87.47	325	i P		P	06 54 00.7	-1.5			
SDCO	Great Sand Dun	88.18	46	eP		P	06 54 06.7	+1.0			
	comp=Z,4.8nm,0.6s,mb4.5										
CDF	Champ du Feu	88.68	330	eP		P	06 54 07.7	-0.1			
ANMO	Albuquerque	89.38	48	‖ eP		P	06 54 12.7	+1.3			
ANMO	Albuquerque	89.38	48	eP		P	06 54 12.5	+1.1			
	comp=Z,0.9nm,0.6s,mb3.8										
LPL	La Plagne	91.16	328	eP		P	06 54 19.3	-0.1			
	comp=Z,8.3nm,0.7s,mb4.5										
LPL	La Plagne	91.16	328	eP		P	06 54 19.3	-0.1			
LPL					pmax	pmax					
	comp=Z,4.0nm,0.7s,mb4.5										
LPG	La Plagne	91.17	328	eP		P	06 54 19.2	-0.3			
	comp=Z,8.1nm,0.7s,mb4.5										
LPG	La Plagne	91.17	328	eP		P	06 54 19.2	-0.3			
LPG					pmax	pmax					
	comp=Z,4.0nm,0.7s,mb4.5										
SSF	Saint Saulge	91.31	331	eP		P	06 54 19.7	-0.4			
SSF					e*PP	pP	06 55 18.2	-1.9			
SSF					pmax	pmax					
	comp=Z,3.0nm,0.7s,mb4.3										
SSF	Saint Saulge	91.31	331	eP		P	06 54 19.7	-0.4			
	comp=Z,3.0nm,0.7s,mb4.3										
SSF					epP	pP	06 55 18.2	-1.9			
AVF	Avril sur Loir	91.59	331	eP		P	06 54 21.1	-0.3			
	comp=Z,7.7nm,0.7s,mb4.5										
AVF					epP	pP	06 55 20.1	-1.3			
AVF	Avril sur Loir	91.59	331	eP		P	06 54 21.1	-0.3			
AVF					e*PP	pP	06 55 20.1	-1.3			
AVF					pmax	pmax					
	comp=Z,4.0nm,0.7s,mb4.5										
MBDF	Montbardon	91.76	328	eP		P	06 54 21.2	-1.0			
	comp=Z,5.7nm,0.7s,mb4.3										
MBDF					epP	pP	06 55 20.3	-1.9			
MBDF	Montbardon	91.76	328	eP		P	06 54 21.2	-1.0			
MBDF					e*PP	pP	06 55 20.3	-1.9			
MBDF					pmax	pmax					
	comp=Z,3.0nm,0.7s,mb4.3										
GRR	Gorron	91.92	334	eP		P	06 54 22.5	-0.4			
	comp=Z,19nm,0.7s,mb4.8										
GRR					epP	pP	06 55 21.5	-1.4			
GRR	Gorron	91.92	334	eP		P	06 54 22.5	-0.4			
GRR					e*PP	pP	06 55 21.5	-1.4			
GRR					pmax	pmax					
	comp=Z,9.0nm,0.7s,mb4.8										
ORIF	Oris-en-Rattie	92.00	329	eP		P	06 54 22.9	-0.5			
MNTX	Cornudas Mount	92.16	50	eP		P	06 54 24.4	-0.1			
	comp=Z,9.6nm,1.4s,mb4.5										
KSU1	Kansas State U	92.36	40	eP		P	06 54 24.7	-0.5			
GDL2	Guadalupe Moun	92.49	49	eP		P	06 54 26.7	+0.7			
VIVF	Saint-Julien-l	92.58	329	eP		P	06 54 25.5	-0.6			
	comp=Z,9.6nm,0.8s,mb4.6										
VIVF	Saint-Julien-l	92.58	329	eP		P	06 54 25.5	-0.6			
VIVF					pmax	pmax					
	comp=Z,5.0nm,0.8s,mb4.6										
LMR	La Mourre	92.96	327	eP		P	06 54 27.4	-0.4			
LMR					epP	pP	06 55 26.3	-1.6			
MFF	Saint Martin d	93.14	333	eP		P	06 54 28.3	-0.3			
RJF	Les Rejaudoux	93.55	331	eP		P	06 54 29.9	-0.6			
	comp=Z,7.6nm,0.5s,mb4.7										
RJF	Les Rejaudoux	93.55	331	eP		P	06 54 29.9	-0.6			
RJF					pmax	pmax					
	comp=Z,4.0nm,0.5s,mb4.7										
LASF	Ste Croix	93.56	329	eP		P	06 54 29.9	-0.6			
CAF	Calviac	93.63	331	eP		P	06 54 30.4	-0.5			
TXAR	Lajitas Array	94.82	51	P		P	06 54 37.5	+0.8			
	comp=Z,8.5nm,0.7s,mb5.0,baz=293,slow=3.1,SNR=121										
MTLF	Montolieu	94.85	330	eP		P	06 54 36.0	-0.5			
RKT	Rikitea	99.07	112	eLR		LR	06 59 33.0				
	comp=Z,205nm,31.8s										
SNAA	Sanae	135.57	196	e		PKPdf	07 00 25.6	-6.0			
SNAA	Sanae	135.57	196	e		PKPdf	07 00 27.8	-3.8			
SNAA	Sanae	135.57	196	e		PKPdf	07 00 30.8	-0.8			
VNA2	Neumayer--Watz	137.15	196	‖ iP		PKPdf	07 00 24.6	-10			
VNA2	Neumayer--Watz	137.15	196	e		PKPdf	07 00 27.9	-6.6			
VNA2	Neumayer--Watz	137.15	196	e		PKPdf	07 00 34.3	-0.2			
VNA2	Neumayer--Watz	137.15	196	e		PKPdf	07 00 35.9	+1.4			
VNA2	Neumayer--Watz	137.15	196	e		PKPdf	07 00 38.2	+3.7			
VNA3	Neumayer Olymp	137.42	195	P		PKPdf	07 00 26.2	-8.8			
VNA3	Neumayer Olymp	137.42	195	e		PKPdf	07 00 30.1	-4.9			
VNA3	Neumayer Olymp	137.42	195	e		PKPdf	07 00 36.3	+1.3			
VNA3	Neumayer Olymp	137.42	195	e		PKPdf	07 00 37.6	+2.6			
VNA3	Neumayer Olymp	137.42	195	e		PKPdf	07 00 40.6	+5.6			
VNA1	Neumayer--Stat	137.55	196	‖ iP		PKPdf	07 00 26.2	-9.0			
VNA1	Neumayer--Stat	137.55	196	e		PKPdf	07 00 30.3	-4.9			
VNA1	Neumayer--Stat	137.55	196	e		PKPdf	07 00 34.9	-0.3			
VNA1	Neumayer--Stat	137.55	196	e		PKPdf	07 00 36.5	+1.3			
VNA1	Neumayer--Stat	137.55	196	e		PKPdf	07 00 39.0	+3.8			
SAML	Samuel	149.17	46	e	PKPdf	PKPdf	07 00 58.0	+1.2			
SAML					ePKPbc	PKPdf	07 01 02.4	+5.6			
LPAZ	La Paz	150.93	63	PKPbc		PKPdf	07 01 08.2	+8.8			
	comp=Z,16nm,0.8s,baz=5.9,slow=2.1,SNR=18										
LPAZ	La Paz	150.93	63	e	PKPdf	PKPdf	07 01 01.8	+2.4			
LPAZ					ePKPbc	PKPdf	07 01 08.0	+8.6			
LPAZ					PKPbc	PKPdf	07 01 08.2	+8.8			
PLCA	Paso Flores	155.11	118	PKIKP		PKPdf	07 01 14.8	+10			
PLCA					pmax	pmax					
	comp=Z,1.0nm,0.4s										
PLCA					pmax	pmax					
	comp=Z,3.0nm,0.6s										
PLCA	Paso Flores	155.11	118	PKPbc		PKPdf	07 01 14.8	+10			
	comp=Z,0.8nm,0.4s,baz=208,slow=5.3,SNR=4.7										
PLCA					PKPab	PKPab	07 01 33.3	+0.3			
	comp=Z,2.9nm,0.6s,baz=222,slow=2.0,SNR=11										
PLCA	Paso Flores	155.11	118	PKPbc		PKPdf	07 01 14.8	+10			
PLCA					PKPab	PKPab	07 01 33.3	+0.3			
BDFB	Brasilia	162.34	22	PKP2		PKPab	07 02 03.6	-1.2			
BDFB					pmax	pmax					
	comp=Z,2.0nm,0.7s										
BDFB	Brasilia	162.34	22	PKPab		PKPab	07 02 03.6	-1.2			
	comp=Z,2.0nm,0.7s,baz=222,slow=2.9,SNR=5.5										
CPUP	Villa Florida	164.82	71	PKP2		PKPab	07 02 14.1	-1.2			
CPUP					pmax	pmax					
	comp=Z,5.0nm,1.0s										
CPUP	Villa Florida	164.82	71	PKPab		PKPab	07 02 14.1	-1.2			
	comp=Z,4.9nm,1.0s,baz=309,slow=7.5,SNR=8.9										

IDC 28 06:49:51.7±8.7, 19.76N×145.57E, h172km±82km, mb3.3/6, mb1 3.6/7, mb1mx3.4/19, mbtmp3.8/7, Error ellipse: s-maj=35.4km s-min=21.5km az=91.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	17.93	340	P	P	P	06 53 48.3	-2.9
	0.6nm,0.3s,baz=171,slow=7.1,SNR=4.2							
WRA	Warramunga Arr	40.96	196	P	P	P	06 57 17.5	-1.7
	0.5nm,0.7s,baz=19,slow=8.3,SNR=7.6							
MKAR	Makanchi Array	57.65	313	P	P	P	06 59 24.3	-1.7
	1.1nm,0.6s,baz=89,slow=8.8,SNR=9.5							
ILAR	Eielson Array	62.76	26	P	P	P	06 59 57.8	-2.7
	0.3nm,0.9s,baz=248,slow=4.9,SNR=4.2							
ARCES	ARCESS Array B	81.45	342	P	P	P	07 01 49.3	-1.2
	0.9nm,0.7s,baz=59,slow=7.1,SNR=5.1							
NVAR	Mina Array Bea	82.59	52	P	P	P	07 01 56.8	-0.2
	0.6nm,0.8s,baz=265,slow=4.9,SNR=5.4							
FINES	FINESS Array B	85.88	335	P	P	P	07 02 11.1	-1.8
	0.4nm,0.3s,baz=63,slow=4.3,SNR=4.5							
BRTR	Keskin Array B	93.29	314	P	P	P	07 02 42.3	-5.8
	0.6nm,0.4s,baz=63,slow=3.2,SNR=4.5							

*IDC **28** 07:11:50.7±0.8, 1.36N×97.09E, mb4.2/15, mb1 4.3/15, mb1mx4.2/20, mbtmp4.2/15, MS3.9/4, Ms1 3.9/4, ms1mx3.3/22, Error ellipse: s-maj=35.6km s-min=15.0km az=54.0*

*MOS **28** 07:11:54.4±1.1, 1.47N×97.20E, h33km, mb4.7/14, Error ellipse: s-maj=16.7km s-min=8.1km az=102.5*

*BJI **28** 07:11:54.0, 1.22N×97.14E, h38km, mB5.0, mb4.8, Ms4.6, Msz4.3*

*NEIC **28** 07:11:55.7±0.4, 1.39N×97.05E, h30km, mb4.7/13, Error ellipse: s-maj=12.0km s-min=8.0km az=52.0*

ISC 28 07:11:54.1±0.4, 1.32N±0.05×97.07E±0.05, h33km, h33km±2.5km: pP-P, n88, σ1919/95, mb4.6/53, MS4.1/13, 4C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.11	51	P	P	Pn	07 13 10.3	-0.2
KULM	Kulim	5.32	42	e	Pn	Pn	07 13 12.8	-0.7
KGM	Kluang	6.29	84	P	P	Pn	07 13 27.9	+0.8
SNG	Songkhla	6.81	31	P	P	Pn	07 13 42.0	+7.6
	12nm,1.7s							
KSM	Kuching	13.24	89	P	P	P	07 15 04.3	+1.7
BDT	Bhumibol Dam	15.94	7	P	P	P	07 15 39.0	+1.1
NANT	Nan	17.73	11	P	P	P	07 16 00.0	-0.4
KKM	Kota Kinabalu	19.67	76	eP	P	P	07 16 21.4	-2.3
QIZ	Qiongzhong	21.60	35	eP	P	P	07 16 43.8	+0.3
	16nm,0.9s,mb4.5							
KMI	Kunming	24.29	13	P	P	P	07 17 11.8	+1.9
KMI				AP			07 17 15.3	
KMI				PP	PP	P	07 17 49.0	+3.8
KMI				PCP	PcP	P	07 20 48.5	-2.2
KMI				S	S	P	07 21 32.3	+8.6
KMI				XS			07 21 38.5	
KMI				SCP			07 24 25.5	
KMI				PCS			07 24 27.0	
KMI				AMB	AMB			
	comp=Z,28nm,1.2s,mb4.6							
KMI				LR	LR			
	comp=N,582nm,14.7s,MS4.3							
KMI				LR	LR			
	comp=E,417nm,13.5s,MS4.3							
KMI				LR	LR			
	comp=Z,624nm,14.1s,MS4.2							
KMI	Kunming	24.29	13	P	P	P	07 17 11.7	+1.8
KMI				*SP			07 17 16.9	
KMI							07 17 49.0	
KMI							07 20 48.4	
KMI				SS	SS	P	07 22 29.9	+12
KMI				pmax	pmax			
	comp=Z,28nm,1.2s,mb4.6							
KMI				MLR	MLR			
	comp=Z,620nm,14.1s,MS4.2							
KMI	Kunming	24.29	13	P	P	P	07 17 11.7	+1.8
	comp=Z,28nm,1.2s,mb4.6							
KMI				pP			07 17 15.3	
KMI				sP			07 17 16.9	
KMI				PP	PP	P	07 17 49.0	+3.8
KMI				PPP	PPP	P	07 17 59.9	+4.4
KMI				PcP	PcP	P	07 20 48.4	-2.3
KMI				S	S	P	07 21 32.3	+8.6
KMI				sS			07 21 38.4	
KMI				SS	SS	P	07 22 29.9	+12
KMI				SSS	SSS	P	07 22 46.3	+12
KMI				ScP			07 24 25.6	
KMI				PcS			07 24 27.1	
KMI				LR	LR			
	comp=Z,620nm,14.1s,MS4.2							
SHL	Shillong	24.62	349	eP	P	P	07 17 13.0	-0.1
GYA	Guiyang	26.64	19	‖ iP	P	P	07 17 31.3	-0.7
GYA				AP	pP	P	07 17 40.3	-1.2
GYA				XP	sP	P	07 17 44.5	-1.3
GYA				PP	PP	P	07 18 15.5	-1.0
GYA				S	S	P	07 21 59.8	-3.1
GYA				AMB	AMB			
	comp=Z,20nm,0.8s,mb4.7							
GYA				AMB	AMB			
	comp=Z,90nm,2.8s,mb4.8							
GYA				LR	LR			
	comp=N,670nm,13.4s,MS4.6							
GYA				LR	LR			
	comp=E,830nm,13.1s,MS4.6							
GYA				LR	LR			
	comp=Z,180nm,14.4s,MS3.8							
JIRN	Jiri	28.19	339	eP	P	P	07 17 47.2	+1.2
	comp=Z,59nm,1.0s,mb5.2							
PKI	Pulchoki	28.39	338	eP	P	P	07 17 48.8	+0.9
GUN	Gumba	28.53	339	eP	P	P	07 17 50.3	+1.2
	comp=Z,50nm,0.9s,mb5.3							
DMN	Daman	28.54	337	eP	P	P	07 17 50.1	+0.9
	comp=Z,25nm,0.9s,mb5.0							
KKN	Kakani	28.64	338	eP	P	P	07 17 50.5	+0.4
	comp=Z,27nm,0.9s,mb5.0							
LSA	Lhasa	28.78	349	P	P	P	07 17 52.2	+0.9
GKN	Gorkha	29.08	337	eP		P	07 17 54.6	+0.6
	comp=Z,76nm,1.2s,mb5.3							
KOLN	Koldanda	29.29	335	eP		P	07 17 56.7	+0.7
	comp=Z,28nm,0.7s,mb5.1							
ENH	Enshi	31.11	21	eP		P	07 18 09.9	-2.2
	comp=Z,32nm,0.7s,mb5.3							
MBWA	Marble Bar	31.47	136	eP		P	07 18 16.4	+1.1
	comp=Z,12nm,1.1s,mb4.7							
NACB	Ninganchiao	32.86	44	eP		P	07 18 21.3	-6.1
FITZ	Fitzroy Crossi	34.11	126	eP		P	07 18 37.5	-0.8
	comp=Z,6.0nm,1.1s,mb4.4							
FITZ	Fitzroy Crossi	34.11	126	P		P	07 18 36.5	-1.8
	comp=Z,7.4nm,0.9s,mb4.6,baz=349,slow=19,SNR=7.4							
XAN	Xi'an	34.39	18	P		P	07 18 39.0	-1.5
XAN				S		S	07 24 13.0	+7.8
XAN				AMB	AMB			
	comp=Z,21nm,1.0s,mb5.0							
XAN				LR	LR			
	comp=N,190nm,14.0s,MS4.1							
XAN				LR	LR			
	comp=E,198nm,15.0s,MS4.1							
XAN				LR	LR			
	comp=Z,338nm,13.7s,MS4.2							
LZH	Lanzhou	35.16	10	eP		P	07 18 47.0	-0.1
LZH				AP	pP		07 18 54.0	-2.8
LZH				XP	sP		07 18 57.8	-3.1
LZH				PP	PP		07 20 06.5	+0.2
LZH				AMB	AMB			
	comp=Z,28nm,1.5s,mb5.0							
LZH				AMB	AMB			
	comp=Z,86nm,4.3s							
LZH				LR	LR			
	comp=E,795nm,16.0s							
LZH				LR	LR			
	comp=Z,956nm,17.3s,MS4.6							
LZH	Lanzhou	35.16	10	eP		P	07 18 47.0	-0.1
LZH				*SP		sP	07 18 57.8	-3.1
LZH							07 20 06.4	
LZH				PPP	PPP		07 20 24.8	+0.2
LZH				pmax	pmax			
	comp=Z,28nm,1.5s,mb5.0							
LZH				MLR	MLR			
	comp=Z,960nm,17.3s,MS4.6							
LZH	Lanzhou	35.16	10	eP		P	07 18 47.0	-0.1
	comp=Z,28nm,1.5s,mb5.0							
LZH				pP	pP		07 18 54.0	-2.8
LZH				sP	sP		07 18 57.8	-3.1
LZH				PP	PP		07 20 06.4	+0.1
LZH				PPP	PPP		07 20 24.8	+0.2
LZH				LR	LR			
	comp=Z,960nm,17.3s,MS4.6							
NJ2	Nanjing	36.83	32	eP		P	07 19 01.5	+0.2
NJ2				AP	pP		07 19 11.5	+0.5
NJ2				XP	sP		07 19 14.0	-1.1
NJ2				PP	PP		07 20 28.0	+0.8
NJ2				S	S		07 24 45.0	+2.1
NJ2				XS			07 25 01.0	
NJ2				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.6							
NJ2				AMB	AMB			
	comp=Z,130nm,4.8s							
NJ2				LR	LR			
	comp=N,460nm,11.9s,MS4.6							
NJ2				LR	LR			
	comp=E,230nm,10.4s,MS4.6							
NJ2				LR	LR			
	comp=Z,220nm,15.1s,MS4.1							
SSE	Sheshan	37.39	35	P		P	07 19 05.3	-0.7
SSE				AP	pP		07 19 14.3	-1.4
SSE				XP	sP		07 19 18.0	-1.8
SSE				PCP	PcP		07 21 23.0	-1.9
SSE				S	S		07 24 53.0	+1.5
SSE				XS			07 25 08.0	
SSE				AMB	AMB			
	comp=Z,28nm,0.7s,mb5.2							
SSE				AMB	AMB			
	comp=Z,80nm,4.9s							
SSE				LR	LR			
	comp=N,71nm,19.1s,MS3.6							
SSE				LR	LR			
	comp=E,47nm,19.0s,MS3.6							
SSE				LR	LR			
	comp=Z,100nm,16.3s,MS3.7							
SSE	Sheshan	37.39	35	P		P	07 19 05.3	-0.7
	comp=Z,28nm,0.7s,mb5.2							
SSE				pP	pP		07 19 14.2	-1.5
SSE				sP	sP		07 19 17.9	-1.9
SSE				PcP	PcP		07 21 23.0	-1.9
SSE				S	S		07 24 53.1	+1.6
SSE				sS			07 25 08.0	
SSE				LR	LR			
	comp=Z,100nm,16.3s,MS3.7							
KAKA	Kakadu	37.77	113	eP		P	07 19 11.8	+2.5
	comp=Z,7.6nm,0.6s,mb4.6							
GTA	Gaotai	37.99	3	P		P	07 19 10.8	-0.1
GTA				AP	pP		07 19 23.5	+2.8
GTA				XP	sP		07 19 28.5	+3.7
GTA				AMB	AMB			
	comp=Z,8.0nm,1.1s,mb4.4							
HHC	Hu-ho-hao-te	41.48	17	eP		P	07 19 41.0	+1.2
HHC				AP	pP		07 19 50.5	+0.9
HHC				XP	sP		07 19 55.3	+1.7
HHC				PP	PP		07 21 24.0	+5.4
HHC				PCP

KURK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KURK Kurchatov 51.64 345 *e*P **P 07 20 59.3 -0.5**
comp=Z,5.8nm,0.8s,mb4.6
MJAR Matsushiro Arr 51.69 42 P **P 07 20 58.9 -1.6**
comp=Z,0.9nm,0.3s,mb4.2,baz=225,slow=11,SNR=4.1
MDJ Mudanjiang 51.83 29 P **P 07 21 02.5 +1.1**
MDJ AMB AMB
comp=Z,11nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,47nm,3.0s
CTA Charters Tower 52.67 117 LR LR 07 45 29.6
comp=Z,115nm,20.5s,MS3.9,baz=65,slow=38
ZAL Zalesovo 53.41 351 P **P 07 21 12.2 -0.8**
comp=Z,1.7nm,0.3s,mb4.4,baz=320,slow=5.3,SNR=19
STKA Stephens Creek 53.53 132 P **P 07 21 14.2 0.0**
comp=Z,1.2nm,0.3s,mb4.3,baz=328,slow=9.3,SNR=4.3
STKA LR LR 07 46 13.1
comp=Z,114nm,19.3s,MS3.9,baz=26,slow=38
STKA Stephens Creek 53.53 132 *e*P **P 07 21 14.0 -0.2**
NVS Novosibirsk 54.53 350 *e*P **P 07 21 19.8 -1.4**
VOSK Vostochnaya 55.64 341 P **P 07 21 28.1 -1.3**
VOSK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
BVA0 Borovoye Array 56.09 341 P **P 07 21 31.1 -1.5**
BVA0 pmax pmax
comp=Z,1.0nm,1.1s,mb3.8
BVAR Borovoye Array 56.09 341 P **P 07 21 31.1 -1.4**
comp=Z,2.9nm,0.7s,mb4.5,baz=141,slow=9.5,SNR=19
KLR Kul'dur 56.20 27 *e*P **P 07 21 30.5 -2.9**
AB31 Akbulak array 57.34 332 *i*P **P 07 21 40.2 -1.4**
AB31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
BOD Bodaibo 57.91 11 *e*P **P 07 21 42.7 -2.7**
BOD pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
YSS Yuzh-Sakhalins 60.32 34 *i*P **P 07 22 03.1 +0.9**
YSS pmax pmax
comp=Z,40nm,1.4s,mb5.3
ARU Arti 63.02 337⇓*i*P **P 07 22 19.3 -0.9**
ARU *e* 07 22 51.0
ARU *e* 07 24 39.5
ARU *e*S **S 07 30 49.1 +2.4**
ARU *e*SS SS 07 34 55.5 +1.0
ARU pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
KIV Kislovodsk 64.13 319 *e*P **P 07 22 20.8 -6.9**
KIV pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
KIV pmax pmax
comp=N,4.0nm,0.7s
YAK Yakutsk 65.34 16⇓*e*P **P 07 22 34.5 -0.8**
YAK pmax pmax
comp=Z,17nm,0.4s,mb5.4
BRTR Keskin Array B 68.93 312 P **P 07 22 56.7 -1.7**
comp=Z,0.4nm,0.4s,mb3.7,baz=72,slow=4.6,SNR=2.7
MA2 Magadan 71.28 26*ce*P **P 07 23 12.0 -0.2**
MA2 *e* 07 23 38.9
MA2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
OBN Obninsk 72.45 328 *i*P **P 07 23 18.7 -0.6**
OBN pmax pmax
comp=Z,15nm,0.7s,mb5.0
MAW Mawson 72.80 193 *e*P **P 07 23 23.4 +2.3**
MAW pmax pmax
comp=Z,7.0nm,1.4s
MAW Mawson 72.80 193 *e*P **P 07 23 23.4 +2.3**
comp=Z,6.5nm,1.4s,mb4.4
SEY Seymchan 73.70 23⇑*e*P **P 07 23 26.2 -0.2**
AKASG Malin Array Be 75.08 322 P **P 07 23 34.3 -0.3**
comp=Z,0.5nm,0.3s,mb3.9,baz=86,slow=5.1,SNR=5.4
FINES FINESS Array B 79.83 333 P **P 07 23 59.9 -0.8**
comp=Z,3.2nm,0.9s,mb4.2,baz=153,slow=8.5,SNR=5.5
BILL Bilibino 81.10 21⇑*e*P **P 07 24 05.3 -2.0**
BILL pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
ARCES ARCESS Array B 82.38 340 P **P 07 24 14.5 +0.6**
comp=Z,1.7nm,0.5s,mb4.2,baz=95,slow=4.9,SNR=18
GERES GERESS Array B 84.64 319 P **P 07 24 27.2 +1.4**
comp=Z,0.3nm,0.3s,mb4.0,baz=153,slow=3.0,SNR=4.5
HFS Hagfors 85.55 330 P **P 07 24 29.6 -0.5**
comp=Z,0.6nm,0.3s,mb4.2,baz=84,slow=14,SNR=5.1
VNDA Vanda 85.97 169 P **P 07 24 34.1 +2.2**
comp=Z,0.4nm,0.5s,mb3.9,baz=311,slow=9.3,SNR=2.5
NB2 NORSAR Subarra 86.83 331 P **P 07 24 37.0 +0.5**
comp=Z,1.4nm,0.8s,mb4.2,baz=94,slow=4.6
NB2 NORSAR Subarra 86.83 331 P **P 07 24 37.0 +0.5**
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb4.1
NOA NORSAR Array B 86.83 331 P **P 07 24 36.6 +0.1**
comp=Z,1.3nm,0.8s,mb4.2,baz=94,slow=5.0,SNR=4.2
TXAR Lajitas Array 143.63 31 PKP PKPdf 07 31 25.9 -5.9
comp=Z,0.4nm,0.7s,baz=71,slow=0.2,SNR=5.6
LRAL Lakeview Retre 145.61 6 *e*P PKPbc 07 31 30.3 -0.2

*NEIC **28** 07:36:16.1±2.2,22.39S×179.34W,h609km±21km,mb4.3/4, Error ellipse: s-maj=24.6km s-min=14.6km az=51.0*
*IDC **28** 07:36:16.3±7.2,22.53S×179.28W,h610km±74km,mb3.4/5, mb1 3.5/7,mb1mx3.3/17,mbtmp4.4/7,Error ellipse: s-maj=62.6km s-min=23.1km az=48.0*
ISC 28 07:36:10.0±9.8,21.9S±0.8×178.7W±0.9,h622km±51km, n21,σ0$41/15,mb4.3/7,2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
DZM	**Mont Dzumac**	**13.83**	**266**	P		**P**	**07 39 06.8**	**+0.3**
	0.4nm,0.3s,baz=60,slow=22,SNR=6.2							
URZ	**Urewera**	**16.75**	**192**	P		**P**	**07 39 34.2**	**0.0**
	1.3nm,0.3s,baz=248,slow=5.9,SNR=7.0							
CTA	**Charters Tower**	**32.77**	**267**	P		**P**	**07 41 55.8**	**+0.3**
	7.0nm,0.4s,mb4.6,baz=87,slow=10,SNR=13							
CTAO	**Charters Tower**	**32.77**	**267**	*e*P		**P**	**07 41 55.5**	**-0.1**
STKA	**Stephens Creek**	**36.66**	**246**	P		**P**	**07 42 27.7**	**+0.1**
	1.0nm,0.4s,mb3.7,baz=96,slow=10,SNR=6.6							
STKA	**Stephens Creek**	**36.66**	**246**	*e*P		**P**	**07 42 27.4**	**-0.2**
WB2	**Warramunga Arr**	**43.81**	**264**	⇓*i*P		**P**	**07 43 24.3**	**-0.5**
WRAB	**Tennant Creek**	**43.82**	**264**	*e*P		**P**	**07 43 24.1**	**-0.7**
	20nm,1.2s,mb4.5							
WRA	**Warramunga Arr**	**43.83**	**264**	P		**P**	**07 43 24.4**	**-0.5**
	3.2nm,0.3s,mb4.3,baz=95,slow=7.6,SNR=94							
FITZ	**Fitzroy Crossi**	**52.26**	**264**	*e*P		**P**	**07 44 28.0**	**+0.5**
	3.9nm,0.3s,mb4.2							
FITZ	**Fitzroy Crossi**	**52.26**	**264**	P		**P**	**07 44 28.3**	**+0.8**
	4.8nm,0.3s,mb4.2,baz=98,slow=5.4,SNR=39							
VNDA	**Vanda**	**56.51**	**185**	P		**P**	**07 44 55.9**	**-0.4**
	0.3nm,0.5s,baz=87,slow=6.1,SNR=4.7							
VNDA	**Vanda**	**56.51**	**185**	*e*P		**P**	**07 44 56.6**	**+0.3**
	0.3nm,0.6s							
KLBR	**Kellerberrin**	**56.94**	**246**	*e*P		**P**	**07 45 00.3**	**+0.5**
	27nm,1.3s,mb4.3							
MBWA	**Marble Bar**	**56.97**	**258**	*e*P		**P**	**07 45 00.5**	**+0.3**
	6.3nm,0.4s,mb4.2							
ARCES	**ARCESS Array B**	**130.13**	**349**	PKP		PKPdf	07 54 17.9	+7.8
	1.6nm,0.9s,baz=45,slow=1.3,SNR=6.3							
AKASG	**Malin Array Be**	**143.88**	**330**	PKP		PKPdf	07 54 42.3	+7.0
	1.3nm,0.3s,baz=42,slow=4.1,SNR=10							
MALT	**Malatya**	**144.24**	**306**	*e*PKPdf		PKPdf	07 54 43.7	+7.3
BRTR	**Keskin Array B**	**147.27**	**310**	PKPbc		PKPdf	07 54 52.5	+11
	1.0nm,0.6s,baz=72,slow=4.6,SNR=5.3							
CLL	**Collm**	**149.23**	**346**	⇓*i*PKP1		PKPdf	07 54 58.8	+15
GERES	**GERESS Array B**	**151.32**	**343**	PKPbc		PKPdf	07 55 03.4	+16
	0.3nm,0.3s,baz=45,slow=1.4,SNR=3.5							

MAN 28 07:59:35.9,11.65N×125.56E,h51km,mb4.4,ML3.3, MS3.1,Samar

*IDC **28** 08:02:52.8±1.0, 11.00N×140.85E,mb4.3/10,mb1 4.5/10, mb1mx4.2/22,mbtmp4.3/10,MS2.9/1,Ms1 2.9/1, ms1mx2.5/28,Error ellipse: s-maj=39.8km s-min=28.3km az=106.0*
*NEIC **28** 08:03:00.3±0.7, 10.92N×141.04E,h55km,mb4.7/1,Error ellipse: s-maj=29.0km s-min=16.0km az=120.0*
ISC 28 08:02:56.2±0.6,10.9N±0.1×140.9E±0.2,h33km,n15, σ1$18/14,mb4.3/11,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
GUMO	**Guam**	**4.70**	**55**	*e*Pn		**Pn**	**08 04 05.3**	**-1.4**
PMG	**Port Moresby**	**21.10**	**163**	LR		LR	08 14 54.8	
	comp=Z,32nm,18.6s,baz=110,slow=34							
WRAB	**Tennant Creek**	**31.31**	**192**	P		**P**	**08 09 15.4**	**-0.4**
	20nm,1.4s,mb4.8							
WRA	**Warramunga Arr**	**31.32**	**192**	P		**P**	**08 09 15.4**	**-0.6**
	1.6nm,0.9s,mb3.8,baz=11,slow=9.4,SNR=6.6							
BVAR	**Borovoye Array**	**69.68**	**323**	P		**P**	**08 14 04.4**	**0.0**
	2.7nm,0.5s,mb4.4,baz=106,slow=8.1,SNR=10							
ILAR	**Eielson Array**	**72.64**	**25**	P		**P**	**08 14 20.6**	**-1.4**
	1.7nm,0.6s,mb4.1,baz=248,slow=6.1,SNR=24							
INK	**Inuvik**	**78.31**	**22**	P		**P**	**08 14 53.0**	**-1.4**
	2.1nm,0.8s,mb4.1,baz=278,slow=7.9,SNR=4.1							
YKA	**Yellowknife Ar**	**87.00**	**27**	P		**P**	**08 15 40.2**	**+1.1**
	1.5nm,0.5s,mb4.5,baz=288,slow=5.3,SNR=5.8							
YKA	**Yellowknife Ar**	**87.00**	**27**	P		**P**	**08 15 40.2**	**+1.1**
YBH	**Yreka Blue Hor**	**87.54**	**48**	P		**P**	**08 15 43.8**	**+1.6**
	0.8nm,0.4s,mb4.3,baz=232,slow=1.8,SNR=4.0							
ARCES	**ARCESS Array B**	**88.43**	**341**	P		**P**	**08 15 46.0**	**+0.2**
	2.0nm,0.7s,mb4.5,baz=59,slow=7.1,SNR=10							
NVAR	**Mina Array Bea**	**91.60**	**51**	P		**P**	**08 16 03.4**	**+1.9**
	1.7nm,0.8s,mb4.4,baz=263,slow=4.2,SNR=12							
FINES	**FINESS Array B**	**91.93**	**334**	P		**P**	**08 16 01.5**	**-0.9**
	1.9nm,0.6s,mb4.6,baz=45,slow=2.7,SNR=7.4							
ELK	**Elko**	**93.23**	**48**	P		**P**	**08 16 10.5**	**+1.6**
	0.8nm,0.7s,mb4.2,baz=208,slow=9.3,SNR=3.8							
ELK	**Elko**	**93.23**	**48**	P		**P**	**08 16 10.5**	**+1.6**

*NEIC **28** 08:03:02.8, 34.90N×25.01E,h12km,MD3.6(ATH),After ATH.*
*CSEM **28** 08:03:02.8, 34.90N×25.01E,h12km,MD3.5/2,After ATH*
ATH 28 08:03:02.9,34.90N×25.00E,h13km±1km,MD3.6/6,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
XRY	**Khrisi**	**0.57**	**92**	*e*PB		Pb	08 03 14.0	-0.2
NPS	**Neapolis**	**0.62**	**54**	*e*PG		Pg	08 03 14.6	-0.9
NPS				*e*SB		Sb	08 03 22.8	-0.6
NPS	**Neapolis**	**0.62**	**54**	*e*Pb		Pb	08 03 13.4	-1.7
NPS				*e*Sb		Sb	08 03 22.8	-0.6
GVD	**Gavdhos**	**0.75**	**266**	*e*Pg		Pg	08 03 19.0	+0.9
VAM	**Vamos**	**0.83**	**308**	*e*PG		Pg	08 03 18.7	-0.9
VAM				*e*SB		Sb	08 03 30.8	+1.4
KARP	**Karpathos**	**1.88**	**69**	*e*PN		Pn	08 03 37.3	+2.1
KYTH	**Kithira**	**2.11**	**311**	*e*PN		Pn	08 03 40.0	+1.6
VLI	**Veliai**	**2.47**	**318**	*e*PN		Pn	08 03 45.0	+1.4

*BJI **28** 08:06:25.8, 47.54N×82.66E,h8km,ML3.4*
*NNC **28** 08:06:29.6±0.3, 47.29N×82.40E,h17km±6km,mpv3.1, Error ellipse: s-maj=9.0km s-min=3.2km az=108.0*
ISC 28 08:06:28.8±1.4,47.35N±0.09×82.5E±0.1,h32km±13km, n13,σ0$28/25,3C-3D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
MK05	**Makanchi Array**	**0.58**	**196**	P		**Pb**	**08 06 40.8**	**+0.2**
MK05				S		**Sb**	**08 06 48.6**	**-0.1**
MK31	**Makanchi Array**	**0.58**	**196**	⇓P		**Pb**	**08 06 40.8**	**+0.2**
	12nm,0.2s,baz=257,slow=6.0,SNR=4696							
MK31				⇑S		**Sb**	**08 06 48.6**	**-0.1**
	217nm,0.3s,baz=268,slow=60,SNR=5.0							
MK06	**Makanchi Array**	**0.59**	**194**	P		**Pb**	**08 06 40.9**	**+0.1**
MK06				S		**Sb**	**08 06 48.9**	**-0.2**
MK02	**Makanchi Array**	**0.60**	**195**	P		**Pb**	**08 06 41.0**	**+0.1**
MK02				S		**Sb**	**08 06 48.9**	**-0.3**
MK04	**Makanchi Array**	**0.60**	**195**	P		**Pb**	**08 06 41.0**	**+0.1**
MK04				S		**Sb**	**08 06 49.1**	**-0.1**
MK01	**Makanchi Array**	**0.60**	**195**	P		**Pb**	**08 06 41.1**	**+0.1**
MK01				S		**Sb**	**08 06 49.4**	**+0.1**
MK09	**Makanchi Array**	**0.60**	**197**	P		**Pb**	**08 06 41.1**	**+0.2**
MK09				S		**Sb**	**08 06 49.3**	**0.0**
MK03	**Makanchi Array**	**0.61**	**195**	P		**Pb**	**08 06 41.1**	**+0.1**
MK03				S		**Sb**	**08 06 49.2**	**-0.1**
MK07	**Makanchi Array**	**0.61**	**194**	P		**Pb**	**08 06 41.2**	**0.0**
MK07				S		**Sb**	**08 06 49.2**	**-0.4**
MK08	**Makanchi Array**	**0.62**	**196**	P		**Pb**	**08 06 41.4**	**+0.2**
MK08				S		**Sb**	**08 06 49.8**	**+0.1**
KURK	**Kurchatov**	**4.24**	**324**	⇑Pn		**Pn**	**08 07 32.1**	**-0.7**
	2.4nm,0.5s							
KURK				⇓Lg			08 08 43.5	
	32nm,0.7s							
WMQ	**Urumqi**	**5.06**	**132**	*e*P		**Pn**	**08 07 45.0**	**+0.5**
WMQ				S		**Sn**	**08 08 41.8**	**-0.8**
WMQ				SG		**Sn**	**08 09 02.5**	**+20**
WMQ				Smax				
	comp=N,21nm,0.5s							
WMQ				Smax				
	comp=E,21nm,0.5s							
KK31	**Karatay Array**	**9.48**	**248**	⇑Pn		**P**	**08 08 46.7**	**+0.4**
	comp=E,0.2nm,0.2s							
KK31				⇓Lg			08 11 29.4	
	comp=E,1.7nm,0.6s							

*NIED **28** 08:07:00, 33.40N×142.50E,h11km,Mw3.9 Best double couple: M0 9.05×10^14 NP1:φs162°,δ65°,λ-117°. NP2: φs32°,δ36°,λ-46°.*
*IDC **28** 08:07:07.5±0.8, 33.39N×142.43E,mb4.0/11,mb1 4.1/14, mb1mx4.0/25,mbtmp4.0/14,ML4.1/3,MS3.5/3,Ms1 3.5/3, ms1mx2.8/30,Error ellipse: s-maj=19.4km s-min=17.3km az=80.0*
*JMA **28** 08:07:10.6±0.2, 33.44N×142.46E,h58km,M4.0*
*MOS **28** 08:07:10.1±0.9, 33.30N×142.35E,h33km,mb4.5/4,Error ellipse: s-maj=30.4km s-min=11.4km az=123.1*
*NEIC **28** 08:07:12.7±2.1, 33.28N×142.26E,h38km±17km,mb4.6/6, MW3.9(NIED),Error ellipse: s-maj=21.1km s-min=13.8km az=90.0*
*BJI **28** 08:07:12.6, 33.30N×142.30E,h37km,mB4.7,mb4.4*
ISC 28 08:07:10.1±1.7,33.44N±0.05×142.46E±0.05,h32km±12km, n50,σ1$09/61,mb4.2/18,MS3.8/2,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
BSO1	**Boso 1**	**1.72**	**315**	P		**Pn**	**08 07 38.8**	**+0.3**
BSO1				S		**Sn**	**08 08 00.2**	**+0.6**
BSO3	**Boso 3**	**2.11**	**310**	P		**Pn**	**08 07 44.7**	**+0.7**
BSO3				S		**Sn**	**08 08 09.7**	**+0.2**
JHJ2	**Mitsune**	**2.24**	**262**	P		**Pn**	**08 07 46.4**	**+0.5**
JHJ2				S		**Sn**	**08 08 12.8**	**0.0**
JHJ	**Hachijo jima 2**	**2.27**	**263**	Pn		**Pn**	**08 07 46.5**	**+0.2**
	59nm,0.3s,baz=156,slow=6.7,SNR=35							
JHJ				Sn		**Sn**	**08 08 12.7**	**-0.7**
	235nm,0.3s,baz=76,slow=13,SNR=12							
BSO4	**Boso 4**	**2.34**	**312**	P		**Pn**	**08 07 48.4**	**+1.1**
BSO4				S		**Sn**	**08 08 15.7**	**+0.4**
CHOJ	**Chosi**	**2.61**	**330**	P		**Pn**	**08 07 51.0**	**-0.2**
CHOJ				S		**Sn**	**08 08 21.7**	**-0.5**
JIM2	**Oshima 3**	**2.82**	**298**	P		**Pn**	**08 07 53.7**	**-0.4**
JOD2	**Odawara 2**	**3.33**	**304**	P		**Pn**	**08 08 01.2**	**-0.2**
JYN	**Shimob**	**3.83**	**303**	P		**Pn**	**08 08 08.7**	**+0.2**
JYN				S		**Sn**	**08 08 53.4**	**+0.4**
JAG	**Ashikaga**	**3.87**	**321**	P		**Pn**	**08 08 08.6**	**-0.4**
JRY	**Ryogami san**	**3.90**	**312**	P		**Pn**	**08 08 09.9**	**+0.5**
JRY				S		**Sn**	**08 08 54.6**	**-0.1**
JMM	**Marumori**	**4.62**	**343**	P		**Pn**	**08 08 17.2**	**-2.5**
JMM				S		**Sn**	**08 09 06.2**	**-6.7**
MJAR	**Matsushiro Arr**	**4.66**	**313**	Pn		**Pn**	**08 08 19.5**	**-0.8**
	6.5nm,0.3s,baz=16,slow=9.3,SNR=20							
MJAR				Sn		**Sn**	**08 09 12.0**	**-2.0**
	6.8nm,0.3s,baz=120,slow=8.0,SNR=7.0							
MAJO	**Matsushiro**	**4.66**	**313**	*e*P		**Pn**	**08 08 21.1**	**+0.8**
MAT	**Matsushiro**	**4.66**	**313**	*e*P		**Pn**	**08 08 21.0**	**+0.7**
MAT				*e*S		**Sn**	**08 09 13.0**	**-1.1**
MAT	**Matsushiro**	**4.66**	**313**	P		**Pn**	**08 08 20.6**	**+0.3**
MAT				S		**Sn**	**08 09 12.5**	**-1.6**
MAT	**Matsushiro**	**4.66**	**313**	P		**Pn**	**08 08 21.3**	**+1.0**
MAT				S		**Sn**	**08 09 12.8**	**-1.3**
JGM	**Miyama**	**5.25**	**297**	P		**Pn**	**08 08 30.0**	**+1.5**
JMK	**Ichinoseki**	**5.59**	**350**	P		**Pn**	**08 08 30.5**	**-2.8**
CBIJ	**Chichi jima**	**6.33**	**182**	Pn		**Pn**	**08 08 39.8**	**-4.0**
	15nm,0.3s,baz=233,slow=20,SNR=8.1							
CBIJ				Sn		**Sn**	**08 09 48.9**	**-7.0**
	17nm,0.3s,baz=342,slow=22,SNR=5.3							
JOW	**Kunigami**	**13.93**	**245**	LR		LR	08 14 56.1	
	comp=Z,51nm,18.9s,baz=131,slow=34							
HHC	**Hu-ho-hao-te**	**25.62**	**296**	*e*P		**P**	**08 12 40.0**	**+1.6**
HHC				AP		pP	08 12 49.0	+1.4
HHC				XP		sP	08 12 54.0	+2.2
HHC				AMB		AMB		
	comp=Z,10.0nm,1.3s,mb4.2							
HHC				AMB		AMB		
	comp=Z,69nm,3.0s							
ENH	**Enshi**	**28.12**	**273**	P		**P**	**08 12 57.8**	**-3.6**
	comp=Z,12nm,0.9s,mb4.5							
SONM	**Songino Array**	**30.60**	**309**	P		**P**	**08 13 24.3**	**+0.9**
	comp=Z,0.7nm,0.4s,mb3.8,baz=124,slow=8.9,SNR=4.2							
BOD	**Bodaibo**	**31.04**	**330**	*e*P		**P**	**08 13 32.0**	**+4.9**
BOD				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.1							
MKAR	**Makanchi Array**	**46.82**	**305**	P		**P**	**08 15 39.6**	**+0.9**
	comp=Z,4.4nm,0.7s,mb4.5,baz=92,slow=9.8,SNR=7.3							
KURK	**Kurchatov**	**48.87**	**311**	*e*P		**P**	**08 15 54.5**	**-0.1**
KURK				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.7							
KURK	**Kurchatov**	**48.87**	**311**	*e*P		**P**	**08 15 54.5**	**-0.1**
	comp=Z,6.1nm,0.8s,mb4.7							
ILAR	**Eielson Array**	**52.10**	**31**	P		**P**	**08 16 18.9**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=262,slow=5.8,SNR=5.9							
WRAB	**Tennant Creek**	**53.64**	**189**	*e*P		**P**	**08 16 29.1**	**-1.9**
WRAB				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.5							
WRAB	**Tennant Creek**	**53.64**	**189**	*e*P		**P**	**08 16 29.1**	**-1.9**
	comp=Z,6.4nm,1.0s,mb4.5							
WRA	**Warramunga Arr**	**53.65**	**189**	P		**P**	**08 16 30.0**	**-1.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=6.3,slow=7.6,SNR=24							
BVAR	**Borovoye Array**	**53.66**	**314**	P		**P**	**08 16 30.5**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=90,slow=7.4,SNR=3.7							
FITZ	**Fitzroy Crossi**	**53.71**	**200**	P		**P**	**08 16 31.2**	**-0.4**
	comp=Z,4.2nm,0.7s,mb4.5,baz=12,slow=13,SNR=6.2							
MBWA	**Marble Bar**	**58.47**	**205**	P		**P**	**08 17 00.8**	**-4.9**
	comp=Z,12nm,1.2s,mb4.8							
DZM	**Mont Dzumac**	**59.76**	**154**	LR		LR	08 37 48.4	
	comp=Z,132nm,19.8s,MS4.1,baz=198,slow=31							
STKA	**Stephens Creek**	**64.98**	**181**	P		**P**	**08 17 55.6**	**+6.3**
RES	**Resolute Bay**	**65.86**	**14**	*e*P		**P**	**08 17 49.7**	**-4.5**
	comp=Z,4.0nm,0.9s,mb4.5							
FINES	**FINESS Array B**	**72.39**	**333**	P		**P**	**08 18 34.6**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.0,baz=53,slow=6.9,SNR=3.6							
NVAR	**Mina Array Bea**	**76.46**	**53**	P		**P**	**08 19 00.6**	**+2.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=287,slow=7.0,SNR=5.2							
HFS	**Hagfors**	**77.71**	**336**	P		**P**	**08 19 05.8**	**+0.8**
	comp=Z,0.8nm,0.4s,mb4.0,baz=108,slow=4.7,SNR=6.3							
NB2	**NORSAR Subarra**	**77.83**	**338**	P		**P**	**08 19 06.4**	**+0.8**
	comp=Z,0.8nm,0.6s,mb3.8,baz=40,slow=5.6							
NB2	**NORSAR Subarra**	**77.83**	**338**	P		**P**	**08 19 06.4**	**+0.8**
NB2				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.9							
NB2	**NORSAR Subarra**	**77.83**	**338**	P		**P**	**08 19 06.4**	**+0.8**
	comp=Z,0.8nm,0.6s,mb3.8							
NOA	**NORSAR Array B**	**77.83**	**338**	P		**P**	**08 19 05.8**	**+0.2**
	comp=Z,1.4nm,0.7s,mb4.0,baz=39,slow=5.5,SNR=6.9							
NOA	**NORSAR Array B**	**77.83**	**338**	P		**P**	**08 19 05.8**	**+0.2**
PV10	**Paradox Valley**	**82.50**	**49**	*e*P		**P**	**08 19 28.0**	**-3.0**
PV10				*e*			08 19 44.8	
MLR	**Muntele Rosu**	**82.69**	**321**	LR		LR	09 01 33.2	
	comp=Z,22nm,19.7s,MS3.5,baz=314,slow=40							
TXAR	**Lajitas Array**	**91.61**	**53**	P		**P**	**08 20 17.8**	**+2.3**
	comp=Z,0.3nm,0.6s,mb3.8,baz=305,slow=3.4,SNR=6.7							
TXAR	**Lajitas Array**	**91.61**	**53**	P		**P**	**08 20 17.8**	**+2.3**

*IDC **28** 08:13:24.9±1.3,56.11N×164.67E,mb3.5/4,mb1 3.8/5, mb1mx3.6/22,mbtmp3.6/5,ML3.7/1,MS2.9/2,Ms1 2.9/2, ms1mx2.4/34,Error ellipse: s-maj=43.2km s-min=13.5km az=33.0*
*KRSC **28** 08:13:26.4±0.6,56.14N×164.85E,h58km±15km,ML4.2*
*MOS **28** 08:13:26.1±1.5,55.98N×164.67E,h14km,mb4.2/1,Error ellipse: s-maj=20.1km s-min=12.7km az=50.3*
ISC 28 08:13:27.8±0.6,55.99N±0.04×164.76E±0.05,h40km±10km, n44,σ1$12/80,mb3.5/4,MS2.8/2,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
BKI	**Bering**	**1.04**	**138**	*i*P		**P**	**08 13 46.7**	**+0.5**
BKI				*i*S		**S**	**08 14 01.3**	**+1.5**
BKI				Smax				
	950nm,0.9s							
KBTR	**Krutoberegovo**	**1.11**	**282**	P		**P**	**08 13 44.9**	**-2.2**
KBTR				S		**S**	**08 13 58.7**	**-2.7**
KBTR	**Krutoberegovo**	**1.11**	**282**	*i*P		**P**	**08 13 44.9**	**-2.2**
KBTR				*i*S		**S**	**08 13 58.8**	**-2.6**
ZLN	**Zelenaya**	**2.22**	**272**	*e*P		**P**	**08 14 02.3**	**-0.7**
ZLN				*e*S		**S**	**08 14 28.0**	**-1.4**
MKZ	**Mys Kozlova**	**2.25**	**232**	P		**P**	**08 14 03.3**	**-0.1**
MKZ				S		**S**	**08 14 30.1**	**0.0**
MKZ	**Mys Kozlova**	**2.25**	**232**	*e*P		**P**	**08 14 03.5**	**+0.1**
MKZ				*i*S		**S**	**08 14 30.2**	**+0.1**
CIRR	**Tsirk**	**2.25**	**275**	*e*P		**P**	**08 14 03.2**	**-0.2**
CIRR				*e*S		**S**	**08 14 29.9**	**-0.3**
LGNR	**Loginova**	**2.28**	**274**	*e*P		**P**	**08 14 03.7**	**-0.2**
LGNR				*e*S		**S**	**08 14 30.6**	**-0.4**
KLY	**Klyuchi**	**2.32**	**280**	P		**P**	**08 14 02.7**	**-1.7**
KLY				S		**S**	**08 14 29.3**	**-2.6**
KLY	**Klyuchi**	**2.32**	**280**	*i*P		**P**	**08 14 02.4**	**-2.0**
KLY				*i*S		**S**	**08 14 29.3**	**-2.6**
KRSR	**Krestovskiy**	**2.36**	**277**	*i*P		**P**	**08 14 05.0**	**0.0**
KRSR				*e*S		**S**	**08 14 33.5**	**+0.6**
KPT	**Kopyto**	**2.55**	**271**	*i*P		**P**	**08 14 08.3**	**+0.6**
KPT				*e*S		**S**	**08 14 39.5**	**+1.

JHJ	**Hachijo jima 2**	**28.68**	**228**	LR	LR			08 29 26.3	
	comp=E,54nm,22.0s,MS3.1,baz=342,slow=34								
MKAR	**Makanchi Array**	**49.34**	**296**	P	**P**			**08 22 14.0**	**-0.6**
	comp=E,0.2nm,0.4s,mb3.5,baz=52,slow=7.5,SNR=4.3								
BVAR	**Borovoye Array**	**50.70**	**309**	P	**P**			**08 22 24.9**	**0.0**
	comp=E,1.2nm,0.6s,mb4.0,baz=53,slow=7.5,SNR=7.3								
PDAR	**Pinedale Array**	**53.79**	**66**	P	**P**			**08 22 49.7**	**+1.5**
	comp=E,0.2nm,0.5s,mb3.3,baz=297,slow=6.0,SNR=2.7								

*CSEM **28** 08:19:20.4±0.0,34.65N×24.90E,h2km,MD3.5,Error ellipse: s-maj=1.7km s-min=0.9km az=71.0*
*ATH **28** 08:19:22.6,34.91N×25.00E,h19km±1km,MD3.5/6*
*HLW **28** 08:19:22.0,34.90N×24.48E,h30km,Mb3.0*
*NEIC **28** 08:19:22.6,34.91N×25.00E,h19km,MD3.5(ATH),After ATH.*

ISC 28 08:19:20.9±1.0,34.78N±0.06×25.01E±0.05,h9km±11km, n10,σ1°§28/13,2C,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.57**	**80**	*e*PN	**Pg**	**08 19 34.0**	**+1.6**
NPS	**Neapolis**	**0.69**	**45**	*e*PN	**Pg**	**08 19 34.2**	**-0.6**
NPS				*e*SN	**Sg**	**08 19 43.0**	**-1.1**
GVD	**Gavdhos**	**0.76**	**275**	*e*Pg	**Pg**	**08 19 38.6**	**+2.4**
VAM	**Vamos**	**0.92**	**314**	*e*PN	**Pg**	**08 19 38.6**	**-0.7**
VAM				*e*SN	**Sg**	**08 19 50.2**	**-1.3**
KARP	**Karpathos**	**1.92**	**66**	*e*PN	**Pn**	**08 19 56.0**	**+1.8**
KYTH	**Kithira**	**2.20**	**314**	*e*PN	**Pn**	**08 19 59.5**	**+1.3**
VLI	**Veliai**	**2.57**	**320**	*e*PN	**Pn**	**08 20 03.4**	**0.0**
HMAT	**Matruh**	**4.07**	**154**	P	**Pn**	**08 20 25.7**	**+0.9**
HMAT				S	**Sn**	**08 21 12.3**	**-0.8**
SWA1		**5.53**	**174**⇑	*e*P	**Pn**	**08 20 44.1**	**-1.3**
SWA2		**5.53**	**176**⇑	*e*P	**Pn**	**08 20 44.0**	**-1.5**

IDC 28 08:23:43.6±1.2,11.51N×141.12E,mb3.8/4,mb1 4.1/4, mb1mx3.7/19,mbtmp3.8/4,MS3.1/1,Ms1 3.1/1, ms1mx2.4/23,Error ellipse: s-maj=55.4km s-min=29.8km az=101.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**15.53**	**4**	LR	LR	08 31 58.3	
	comp=Z,73nm,22.0s,baz=171,slow=32						
WRA	**Warramunga Arr**	**31.96**	**192**	P	P	08 30 11.2	-2.5
	0.6nm,1.1s,baz=15,slow=9.4,SNR=2.8						
BVAR	**Borovoye Array**	**69.31**	**322**	P	P	08 34 53.1	-1.7
	1.1nm,0.6s,baz=100,slow=8.8,SNR=6.7						
ILAR	**Eielson Array**	**72.00**	**25**	P	P	08 35 07.9	-3.0
	0.4nm,0.7s,baz=254,slow=5.8,SNR=6.7						
NVAR	**Mina Array Bea**	**91.06**	**51**	P	P	08 36 52.2	+0.7
	0.1nm,0.5s,baz=270,slow=5.4,SNR=4.5						

*IDC **28** 08:31:36.0±1.1,23.73S×179.75W,h493km±11km, mb4.1/15,mb1 4.3/16,mb1mx4.1/19,mbtmp5.0/16,Error ellipse: s-maj=13.2km s-min=11.5km az=174.0*
*HRVD **28** 08:31:36.1±1.1,24.37S×179.52W,h486km±7km, MW5.1/23,Centroid moment Tensor Solution. LP body waves: s23,c26; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-2.54±.36; Mθθ-1.26±.69; Mφφ3.80±.66; Mrθ2.90±.76; Mθφ-0.40±.61; Mφr-2.34±.72; Best double couple: Mo5.023×1016 NP1:φs205°,δ34°,λ-32°. NP2: φs323°,δ73°,λ-120°. Principal axes: T 4.883, Plg22°, Azm75°; N .28, Plg28°, Azm333°; P -5.162, Plg53°, Azm198°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **28** 08:31:36.1±0.2,23.86S×179.75W,mb4.9/28 Error ellipse: s-maj=8.3km s-min=5.9km az=103.0*
*BJI **28** 08:31:36.0,23.90S×179.80W,h498km,mB4.8,mb4.4*
*MOS **28** 08:31:40.4±3.5,24.06S×179.71E,h515km,mb4.9/9,Error ellipse: s-maj=14.5km s-min=12.9km az=30.3*

ISC 28 08:31:33.9±0.8,23.83S±0.04×179.80W±0.07, h479km±9km,n198,σ1°§10/130,mb4.6/37,11C-26D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.66**	**163**	P	**P**	**08 33 10.5**	**+3.7**
	116nm,0.3s,baz=99,slow=22,SNR=7.8						
RAO				S	**S**	**08 34 20.3**	**0.0**
	101nm,0.3s,baz=90,slow=20,SNR=4.1						
AFI	**Afiamalu**	**12.45**	**39**	P	**P**	**08 34 15.3**	**-3.3**
	15nm,0.3s,baz=0.2,slow=5.5,SNR=30						
AFI				S	**S**	**08 36 23.7**	**-7.2**
	31nm,0.3s,baz=73,slow=20,SNR=7.5						
AFI	**Afiamalu**	**12.45**	**39**	*e*P	**P**	**08 34 14.9**	**-3.7**
	114nm,0.5s						
AFI				*e*S	**S**	**08 36 19.0**	**-12**
DZM	**Mont Dzumac**	**12.80**	**275**	*e*P	**P**	**08 34 25.0**	**+2.8**
DZM	**Mont Dzumac**	**12.80**	**275**	P	**P**	**08 34 26.3**	**+4.0**
	2.6nm,0.3s,baz=64,slow=18,SNR=26						
PUZ	**Puketiti**	**14.29**	**186**	P	**P**	**08 34 40.4**	**+2.6**
PUZ	**Puketiti**	**14.29**	**186**	PN	**P**	**08 34 37.3**	**-0.4**
PUZ				SN	**S**	**08 37 05.7**	**-0.4**
URZ	**Urewera**	**14.62**	**190**	P	**P**	**08 34 40.0**	**-1.2**
	13nm,0.3s,baz=26,slow=4.5,SNR=30						
URZ				S	**S**	**08 37 12.5**	**+0.2**
	5.7nm,0.3s,baz=209,slow=22,SNR=13						
URZ	**Urewera**	**14.62**	**190**	P	**P**	**08 34 39.8**	**-1.3**
URZ	**Urewera**	**14.62**	**190**	PN	**P**	**08 34 39.8**	**-1.3**
URZ				SN	**S**	**08 37 14.4**	**+2.0**
MWZ	**Matawai**	**14.64**	**188**	P	**P**	**08 34 42.3**	**+1.0**
MWZ	**Matawai**	**14.64**	**188**	PN	**P**	**08 34 40.8**	**-0.4**
HIZ	**Hauiti**	**15.33**	**196**	PN	**P**	**08 34 50.9**	**+2.6**
BKZ	**Black Stump Fm**	**15.61**	**191**	*e*P	**P**	**08 34 50.4**	**-0.7**
BKZ	**Black Stump Fm**	**15.61**	**191**	PN	**P**	**08 34 50.4**	**-0.7**
BKZ				SN	**S**	**08 37 34.3**	**+3.6**
PWZ	**Pawanui**	**16.39**	**189**	P	**P**	**08 34 59.4**	**+0.4**
PWZ	**Pawanui**	**16.39**	**189**	PN	**P**	**08 34 56.9**	**-2.1**
TSZ	**Takapari Road**	**16.57**	**191**	P	**P**	**08 35 01.1**	**+0.3**
TSZ	**Takapari Road**	**16.57**	**191**	PN	**P**	**08 35 00.2**	**-0.6**
MRZ	**Mangatainoka R**	**17.23**	**192**	P	**P**	**08 35 05.6**	**-1.7**
MRZ	**Mangatainoka R**	**17.23**	**192**	SN	**S**	**08 38 00.4**	**+0.6**
CAW	**Cannon Point**	**17.76**	**193**	PN	**P**	**08 35 11.2**	**-1.4**
SNZO	**South Karori**	**18.03**	**193**	*e*P	**P**	**08 35 15.1**	**0.0**
	225nm,0.8s						
SNZO				*e*S	**S**	**08 38 13.0**	**-0.9**
TCW	**Tory Channel**	**18.03**	**195**	PN	**P**	**08 35 15.1**	**-0.1**
QRZ	**Quartz Range**	**18.13**	**199**	P	**P**	**08 35 18.1**	**+1.9**
QRZ	**Quartz Range**	**18.13**	**199**	PN	**P**	**08 35 17.8**	**+1.7**
TUWZ	**Tuamarina**	**18.32**	**195**	PN	**P**	**08 35 17.6**	**-0.4**
THZ	**Tophouse**	**18.89**	**197**	P	**P**	**08 35 24.2**	**+0.6**
THZ	**Tophouse**	**18.89**	**197**	PN	**P**	**08 35 23.6**	**+0.1**
DSZ	**Denniston Nort**	**19.19**	**199**	P	**P**	**08 35 27.6**	**+1.2**
KHZ	**Kahutara**	**19.34**	**195**	P	**P**	**08 35 27.9**	**0.0**
LTZ	**Lake Taylor**	**20.01**	**197**	P	**P**	**08 35 33.7**	**-0.5**
LTZ	**Lake Taylor**	**20.01**	**197**	PN	**P**	**08 35 33.8**	**-0.4**
WVZ	**Waitaha Valley**	**20.73**	**200**	P	**P**	**08 35 40.4**	**-0.5**
RPZ	**Rata Peaks**	**21.21**	**199**	P	**P**	**08 35 44.8**	**-0.6**
	90nm,0.6s,mb5.5,baz=316,slow=1.7,SNR=73						
RPZ				S	**S**	**08 39 05.1**	**-2.9**
	7.7nm,0.6s,baz=144,slow=12,SNR=3.5						
RPZ	**Rata Peaks**	**21.21**	**199**	P	**P**	**08 35 44.8**	**-0.7**
RPZ	**Rata Peaks**	**21.21**	**199**	*e*PN	**P**	**08 35 44.5**	**-1.0**
FOZ	**Fox Glacier**	**21.50**	**201**	P	**P**	**08 35 47.2**	**-1.0**
JCZ	**Jackson Bay**	**22.27**	**202**	P	**P**	**08 35 54.9**	**-0.3**
JCZ	**Jackson Bay**	**22.27**	**202**	*e*PN	**P**	**08 35 54.6**	**-0.6**
HNR	**Honiara**	**24.07**	**303**	P	**P**	**08 36 09.2**	**-2.6**
HNR				pmax	pmax		
	comp=Z,67nm,0.9s,mb5.1						
HNR	**Honiara**	**24.07**	**303**	P	**P**	**08 36 09.2**	**-2.6**
	comp=Z,67nm,0.9s,mb5.1						
PPT	**Papeete**	**28.91**	**83**	P	**P**	**08 36 54.0**	**-0.6**
	comp=Z,28nm,0.7s,mb4.8,baz=325,slow=5.1,SNR=4.4						
CNB	**Canberra Magne**	**29.05**	**240**	⇓*i*P	**P**	**08 36 57.3**	**+1.7**
	comp=Z,67nm,0.8s,mb5.1						
CTA	**Charters Tower**	**31.66**	**270**	⇓*i*P	**P**	**08 37 19.3**	**+1.1**
	comp=Z,36nm,0.3s,mb5.3						
CTA	**Charters Tower**	**31.66**	**270**	⇓*i*P	**P**	**08 37 19.3**	**+1.1**
CTA				pmax	pmax		
	comp=Z,36nm,0.3s						
CTA	**Charters Tower**	**31.66**	**270**	P	**P**	**08 37 19.4**	**+1.1**
	comp=Z,47nm,0.4s,mb5.3,baz=95,slow=11,SNR=135						
CTAO	**Charters Tower**	**31.66**	**270**	*e*P	**P**	**08 37 19.0**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,64nm,0.6s,mb5.2						
CTAO	**Charters Tower**	**31.66**	**270**	*e*P	**P**	**08 37 18.9**	**+0.7**
	comp=Z,64nm,0.6s,mb5.2						
TOO	**Toolangi**	**32.64**	**237**	⇓*i*P	**P**	**08 37 27.7**	**+1.4**
	comp=Z,30nm,0.5s,mb5.0						
TOO	**Toolangi**	**32.64**	**237**	⇓*i*P	**P**	**08 37 27.7**	**+1.4**
TOO				pmax	pmax		
	comp=Z,31nm,0.5s,mb5.0						
TAU	**Tasmania Unive**	**33.12**	**227**	*e*P	**P**	**08 37 31.5**	**+1.3**
	comp=Z,36nm,0.6s,mb5.0						
PMG	**Port Moresby**	**34.65**	**289**	*e*P	**P**	**08 37 43.4**	**0.0**
PMG				pmax	pmax		
	comp=Z,67nm,1.0s						
PMG	**Port Moresby**	**34.65**	**289**	P	**P**	**08 37 44.1**	**+0.7**
	comp=Z,43nm,0.7s,mb5.0,baz=90,slow=4.4,SNR=14						
PMG	**Port Moresby**	**34.65**	**289**	*e*P	**P**	**08 37 43.4**	**0.0**
	comp=Z,67nm,1.0s,mb5.0						
STKA	**Stephens Creek**	**34.92**	**248**	⇓*i*P	**P**	**08 37 46.6**	**+1.1**
	comp=Z,25nm,1.1s,mb4.6						
STKA	**Stephens Creek**	**34.92**	**248**	P	**P**	**08 37 46.6**	**+1.1**
	comp=Z,22nm,0.7s,mb4.7,baz=93,slow=8.9,SNR=33						
STKA				PcP	PcP	08 40 04.3	-1.5
	comp=Z,1.6nm,0.6s,baz=227,slow=5.7,SNR=3.2						
WB2	**Warramunga Arr**	**42.59**	**266**	⇓*i*P	**P**	**08 38 47.8**	**-0.4**
WB2				*e*S	**S**	**08 44 30.6**	**-5.4**
WRAB	**Tennant Creek**	**42.59**	**266**	*e*P	**P**	**08 38 47.3**	**-0.9**
WRAB				*e*S	**S**	**08 44 30.5**	**-5.6**
WRAB				pmax	pmax		
	comp=Z,67nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**42.59**	**266**	*e*P	**P**	**08 38 47.3**	**-0.9**
	comp=Z,67nm,0.8s,mb5.1						
WRAB				*e*S	**S**	**08 44 30.5**	**-5.6**
WRA	**Warramunga Arr**	**42.60**	**266**	P	**P**	**08 38 47.8**	**-0.5**
WRA						08 40 29.3	
WRA				S	**S**	**08 44 30.3**	**-5.9**
WRA	**Warramunga Arr**	**42.60**	**266**	P	**P**	**08 38 47.8**	**-0.5**
	comp=Z,20nm,0.4s,mb4.9,baz=92,slow=8.4,SNR=462						
WRA				PcP	PcP	08 40 29.3	-1.1
	comp=Z,8.2nm,1.0s,baz=100,slow=3.5,SNR=8.1						
WRA				ScP		08 43 34.5	
	comp=Z,3.0nm,0.9s,baz=97,slow=4.1,SNR=6.9						
WRA				S	**S**	**08 44 30.3**	**-5.9**
	comp=Z,5.1nm,0.8s,baz=100,slow=14,SNR=14						
KAKA	**Kakadu**	**46.49**	**275**	⇓*i*P	**P**	**08 39 21.2**	**+2.5**
	comp=Z,26nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**51.02**	**265**	⇓*i*P	**P**	**08 39 52.2**	**-0.5**
	comp=Z,51nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**51.02**	**265**	P	**P**	**08 39 52.3**	**-0.4**
	comp=Z,52nm,0.7s,mb4.9,baz=152,slow=3.9,SNR=38						
MIDW	**Midway**	**51.80**	**3**	*e*P	**P**	**08 40 00.1**	**+1.9**
	comp=Z,59nm,0.7s,mb5.0						
VNDA	**Vanda**	**54.46**	**185**	*e*P	**P**	**08 40 17.3**	**+0.6**
VNDA				*e*		08 41 12.1	
VNDA				pmax	pmax		
	comp=Z,14nm,0.8s						
VNDA	**Vanda**	**54.46**	**185**	P	**P**	**08 40 17.6**	**+0.9**
	comp=Z,11nm,0.7s,mb4.3,baz=357,slow=7.9,SNR=82						
VNDA	**Vanda**	**54.46**	**185**	*e*P	**P**	**08 40 17.3**	**+0.6**
	comp=Z,14nm,0.8s,mb4.4						
VNDA				*e*PcP	PcP	08 41 12.1	-0.9
KLBR	**Kellerberrin**	**55.19**	**247**	⇓*i*P	**P**	**08 40 21.3**	**-1.1**
	comp=Z,48nm,0.8s,mb4.9						
NWAO	**Narrogin (SRO)**	**55.43**	**245**	*e*P	**P**	**08 40 22.8**	**-1.3**
NWAO				pmax	pmax		
	comp=Z,31nm,1.0s						
NWAO	**Narrogin (SRO)**	**55.43**	**245**	*e*P	**P**	**08 40 22.8**	**-1.3**
	comp=Z,31nm,1.0s,mb4.6						
MBWA	**Marble Bar**	**55.57**	**260**	*e*P	**P**	**08 40 23.3**	**-1.9**
	comp=Z,48nm,1.1s,mb4.7						
MBWA				*e*ScP		08 44 56.8	
CASY	**Casey**	**60.25**	**206**	⇓*i*P	**P**	**08 40 55.5**	**-0.8**
QSPA	**South Pole Qui**	**66.25**	**180**	⇓*i*P	**P**	**08 41 35.7**	**+1.2**
	comp=Z,72nm,0.9s,mb5.3						
MIR	**Mirnyy**	**67.28**	**206**	*d i*P	**P**	**08 41 40.4**	**-0.7**
MIR				pmax	pmax		
	comp=Z,39nm,1.2s,mb4.9						
JOW	**Kunigami**	**71.08**	**312**	P	**P**	**08 42 04.2**	**-0.3**
	comp=Z,14nm,0.5s,mb4.8,baz=140,slow=7.8,SNR=7.2						
MJAR	**Matsushiro Arr**	**71.94**	**325**	P	**P**	**08 42 08.1**	**-1.2**
	comp=Z,2.6nm,0.9s,mb3.8,baz=163,slow=5.0,SNR=4.9						
MAJO	**Matsushiro**	**71.95**	**325**	P	**P**	**08 42 08.3**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.2						
MAJO	**Matsushiro**	**71.95**	**325**	P	**P**	**08 42 08.3**	**-1.1**
	comp=Z,8.3nm,1.1s,mb4.2						
KSM	**Kuching**	**72.28**	**280**	*e*P	**P**	**08 42 10.7**	**-0.9**
MAW	**Mawson**	**77.88**	**200**	⇓*i*P	**P**	**08 42 42.5**	**+0.6**
	comp=Z,22nm,0.7s,mb4.7						
MAW	**Mawson**	**77.88**	**200**	⇓*i*P	**P**	**08 42 42.5**	**+0.6**
MAW				pmax	pmax		
	comp=Z,22nm,0.7s						
MAW	**Mawson**	**77.88**	**200**	P	**P**	**08 42 42.5**	**+0.6**
	comp=Z,25nm,0.7s,mb4.8,baz=127,slow=6.2,SNR=86						
YSS	**Yuzh-Sakhalins**	**78.15**	**335**	*i* P	**P**	**08 42 43.9**	**+0.2**
SSE	**Sheshan**	**78.58**	**311**	P	**P**	**08 42 52.0**	**+5.6**
SSE				AMB	AMB		
	comp=Z,23nm,0.9s,mb4.7						
SSE				AMB	AMB		
	comp=Z,73nm,5.2s						
SSE	**Sheshan**	**78.58**	**311**	P	**P**	**08 42 52.0**	**+5.6**
	comp=Z,23nm,0.9s,mb4.7						
PMSA	**Palmer Station**	**78.90**	**157**	*e*P	**P**	**08 42 47.2**	**-0.1**
	comp=Z,13nm,0.8s,mb4.5						
NJ2	**Nanjing**	**80.75**	**311**	*e*P	**P**	**08 42 58.0**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,470nm,7.0s						
MDJ	**Mudanjiang**	**82.31**	**326**	P	**P**	**08 43 06.5**	**+1.1**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,130nm,6.2s						
CMB	**Columbia Colle**	**83.02**	**43**	*e*P	**P**	**08 43 08.9**	**-0.2**
CMB				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
CMB	**Columbia Colle**	**83.02**	**43**	*e*P	**P**	**08 43 08.9**	**-0.1**
	comp=Z,5.3nm,1.1s,mb4.0						
SYO	**Syowa Base**	**83.12**	**193**	⇑P	**P**	**08 43 07.2**	**-1.7**
SYO	**Syowa Base**	**83.12**	**193**	⇓PcP	PcP	08 43 09.2	-3.5
CN2	**Changchun**	**83.94**	**324**	*e*P	**P**	**08 43 13.0**	**-0.5**
CN2				*e*S	S	08 52 59.5	+3.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
CN2				AMB	AMB		
	comp=Z,400nm,4.0s						
NVAR	**Mina Array Bea**	**84.57**	**44**	P	**P**	**08 43 17.4**	**+0.7**
	comp=Z,2.3nm,1.1s,mb3.7,baz=230,slow=7.0						
SNAA	**Sanae**	**84.73**	**179**	*e*	**P**	**08 43 18.7**	**+1.9**
SNAA	**Sanae**	**84.73**	**179**⇓	*e*P	**P**	**08 43 16.3**	**-0.5**
SNAA	**Sanae**	**84.73**	**179**⇓	*i*P	**P**	**08 43 16.3**	**-0.5**
SNAA				*e*		08 43 18.7	
VNA3	**Neumayer Olymp**	**84.93**	**177**	*e*	**P**	**08 43 19.7**	**+1.9**
VNA3	**Neumayer Olymp**	**84.93**	**177**	⇓*i*P	**P**	**08 43 17.6**	**-0.2**
VNA3				*e*		08 43 19.7	
MAIT	**Maitri**	**85.30**	**184**	*e*P	**P**	**08 43 19.5**	**-0.1**
VNA2	**Neumayer--Watz**	**85.35**	**178**	*e*	**P**	**08 43 22.0**	**+2.2**
VNA2	**Neumayer--Watz**	**85.35**	**178**	⇓*i*P	**P**	**08 43 19.8**	**0.0**
VNA2				*e*		08 43 22.0	
VNA1	**Neumayer--Stat**	**85.59**	**177**	*e*	**P**	**08 43 23.4**	**+2.5**
VNA1	**Neumayer--Stat**	**85.59**	**177**	⇓*i*P	**P**	**08 43 21.2**	**+0.3**
VNA1				*e*		08 43 23.4	
ENH	**Enshi**	**86.55**	**305**	*e*P	**P**	**08 43 26.5**	**0.0**
	comp=Z,17nm,0.9s,mb4.8						
KMI	**Kunming**	**89.39**	**298**	P	**P**	**08 43 40.5**	**+0.5**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
KMI	**Kunming**	**89.39**	**298**	P	**P**	**08 43 40.5**	**+0.5**
	comp=Z,10.0nm,0.9s,mb4.7						
TXAR	**Lajitas Array**	**90.24**	**58**	P	**P**	**08 43 43.5**	**-0.3**
	comp=Z,1.2nm,0.8s,mb3.8,baz=206,slow=6.9,SNR=13						
TXAR				pP	pP	08 45 35.4	+3.3
	comp=Z,1.6nm,1.1s,baz=211,slow=7.3,SNR=7.6						
TXAR				PKKPbc		09 01 11.4	
	comp=Z,0.5nm,0.8s,baz=90,slow=3.8,SNR=6.0						
PV10	**Paradox Valley**	**90.64**	**48**	*e*P	**P**	**08 43 45.3**	**-0.1**
ANMO	**Albuquerque**	**90.77**	**52**⇑	*e*P	**P**	**08 43 46.4**	**+0.3**
ANMO	**Albuquerque**	**90.77**	**52**	P	**P**	**08 43 46.3**	**+0.2**
	comp=Z,2.1nm,1.0s,mb4.0,baz=233,slow=7.2,SNR=5.0						
ANMO	**Albuquerque**	**90.77**	**52**	*e*P	**P**	**08 43 46.6**	**+0.5**
	comp=Z,1.6nm,1.0s,mb3.9						
BILL	**Bilibino**	**92.17**	**355**	*e*P	**P**	**08 43 54.0**	**+2.3**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
PDAR	**Pinedale Array**	**92.51**	**44**	P	**P**	**08 43 53.8**	**-0.1**
	comp=Z,0.8nm,0.9s,mb3.8,baz=207,slow=3.3,SNR=6.3						
PDAR				pP	pP	08 45 46.0	+3.5
	comp=Z,1.1nm,1.1s,baz=198,slow=2.9,SNR=3.2						
SDCO	**Great Sand Dun**	**92.78**	**50**	*e*P	**P**	**08 43 54.7**	**-0.5**
	comp=Z,2.2nm,1.1s,mb4.1						
MKAR	**Makanchi Array**	**112.24**	**313**	PKiKP		08 49 13.3	
	comp=Z,0.7nm,0.5s,baz=63,slow=1.6,SNR=11						
MKAR				PKKPbc		09 00 06.9	
	comp=Z,0.1nm,0.4s,baz=270,slow=7.3,SNR=3.6						
MKAR				PKKPab		09 00 16.1	
	comp=Z,0.4nm,0.7s,baz=258,slow=5.9,SNR=4.0						
MKAR	**Makanchi Array**	**112.24**	**313**	PKPdf	PKPdf	08 49 13.3	-0.6
MKAR				PKKPbc		09 00 06.9	
MKAR				PKKPab		09 00 16.1	
AAK	**Ala-Archa**	**117.01**	**307**	*i* PKIKP	PKPdf	08 49 22.4	-0.9
BDFB	**Brasilia**	**118.70**	**125**	PKP	PKPdf	08 49 27.5	+0.3
	comp=Z,1.0nm,0.4s,baz=246,slow=8.7,SNR=3.2						
BOSA	**Boshof**	**122.55**	**206**	PKP	PKPdf	08 49 35.5	+1.0
	comp=Z,5.2nm,0.8s,baz=165,slow=12,SNR=4.9						
BOSA	**Boshof**	**122.55**	**206**	PKP	PKPdf	08 49 35.5	+1.0
ARU	**Arti**	**126.94**	**324**	*i* PKIKP	PKPdf	08 49 41.7	-0.4
ARU				*e*		08 51 48.3	
ARU	**Arti**	**126.94**	**324**	*e*PKPdf	PKPdf	08 49 41.8	-0.4
ARCES	**ARCESS Array B**	**131.86**	**348**	PKP	PKPdf	08 49 50.7	-0.5
	comp=Z,4.9nm,0.9s,baz=71,slow=2.1,SNR=14						
ARCES				SKPbc		08 52 30.9	
	comp=Z,3.5nm,0.8s,baz=45,slow=3.4,SNR=8.8						
KMBO	**Kilima Mbogo**	**136.29**	**241**	*i* PKIKP	PKPdf	08 50 04.7	+3.8
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KMBO	**Kilima Mbogo**	**136.29**	**241**	PKP	PKPdf	08 50 04.0	+3.1
	comp=Z,2.8nm,0.9s,baz=46,slow=5.5,SNR=5.6						
KMBO				SKPbc		08 52 48.0	
	comp=Z,1.9nm,0.7s,baz=319,slow=1.3,SNR=5.2						
FINES	**FINESS Array B**	**138.44**	**342**	PKHKP		08 49 54.7	
	comp=Z,0.5nm,0.4s,baz=45,slow=5.4,SNR=4.1						
FINES				PKP	PKPdf	08 50 04.7	+1.2
	comp=Z,0.9nm,0.4s,baz=95,slow=3.1,SNR=6.9						
FINES				SKPbc		08 52 50.7	
	comp=Z,3.5nm,0.8s,baz=117,slow=4.3,SNR=7.7						
FINES	**FINESS Array B**	**138.44**	**342**	PKP		08 49 54.7	
FINES				PKP	PKPdf	08 50 04.7	+1.2
FINES				SKPbc		08 52 50.7	
NB2	**NORSAR Subarra1**	**142.04**	**351**	PKPabc	PKPdf	08 50 05.9	-3.9
	comp=Z,1.0nm,0.6s,baz=12,slow=2.9						
NB2	**NORSAR Subarra1**	**142.04**	**351**	PKPab	PKPdf	08 50 05.9	-3.9
NOA	**NORSAR Array B**	**142.04**	**351**	PKhKP		08 50 05.9	
	comp=Z,1.7nm,0.7s,baz=16,slow=4.6,SNR=6.2						
HFS	**Hagfors**	**142.51**	**349**	PKhKP		08 50 07.3	
	comp=Z,8.8nm,0.3s,baz=62,slow=3.3,SNR=88						
ELZG	**Elazig**	**144.02**	**303**	*i* P	PKPbc	08 50 14.8	+1.2
KBRS	**Khaybar**	**144.58**	**281**	P	PKPdf	08 50 17.5	+2.2
AKASG	**Malin Array Be**	**145.01**	**327**	PKP	PKPdf	08 50 15.5	+0.2
	comp=Z,2.3nm,0.3s,baz=42,slow=4.3,SNR=42						
AKASG				SKPbc		08 53 07.8	
	comp=Z,1.4nm,0.6s,baz=51,slow=2.5,SNR=5.4						
AKASG	**Malin Array Be**	**145.01**	**327**	PKP	PKPdf	08 50 15.5	+0.2
AKASG				SKPbc		08 53 07.8	
SUW	**Suwalki**	**145.28**	**336**	*e*PKP	PKPdf	08 50 16.9	+1.3
SUW	**Suwalki**	**145.28**	**336**	*e*PKP	PKPdf	08 50 16.9	+1.3
GZT	**Gaziantep**	**145.36**	**302**	*i* P	PKPdf	08 50 18.5	+2.1
YNBS	**Yanbu' al Bahr**	**145.56**	**279**	P	PKPdf	08 50 20.4	+3.3
BOYT	**Boyabat**	**146.20**	**310**	*i* P	PKPdf	08 50 20.8	+3.2
UMJS	**Umm Lajj**	**146.28**	**280**	P	PKPdf	08 50 22.3	+4.1
COBT	**Iskenderun**	**146.56**	**301**	*i* P	PKPdf	08 50 21.9	+3.6
ASF	**Jabal al Asfar**	**146.68**	**293**	PKPbc	PKPbc	08 50 22.5

SDLR	**Sedlovina**	**5.77**	**263**	*e*P	Pn	09 19 36.6	-0.4
SDLR				*e*S	Sn	09 20 40.1	-3.4
ESO	**Esso**	**5.82**	**290**	*e*P	Pn	09 19 36.8	-0.9
ESO				*e*S	Sn	09 20 40.4	-4.3
SMAR	**Somma**	**5.83**	**263**	*e*P	Pn	09 19 38.1	+0.3
SMAR				*e*S	Sn	09 20 41.8	-3.0
UGLR	**Uglovaya**	**5.83**	**263**	*e*P	Pn	09 19 37.7	-0.1
UGLR				*e*S	Sn	09 20 41.7	-3.1
AVH	**Avacha**	**5.86**	**263**	*e*P	Pn	09 19 37.9	-0.4
AVH				*e*S	Sn	09 20 41.6	-4.1
KOK	**Koryaka**	**5.91**	**264**	*e*P	Pn	09 19 38.9	-0.1
KOK				*e*S	Sn	09 20 43.9	-3.1
GNL	**Ganaly**	**6.24**	**268**	*e*P	Pn	09 19 43.8	+0.2
GNL				*e*S	Sn	09 20 51.8	-3.2
RUS	**Russkaya**	**6.25**	**256**	*e*P	Pn	09 19 43.1	-0.7
RUS				*e*S	Sn	09 20 50.7	-4.7
APC	**Apacha**	**6.87**	**263**	*e*P	Pn	09 19 53.3	+0.8
APC				*e*S	Sn	09 21 08.6	-2.3

IDC ***28*** *09:22:53.4±0.9,56.07S×139.43W,mb3.9/7,mb1 4.1/7, mb1mx4.0/15,mbtmp3.9/7,MS4.0/10,Ms1 3.9/10, ms1mx3.7/17,Error ellipse: s-maj=32.8km s-min=21.9km az=159.0*

NEIC ***28*** *09:22:54.4±0.6,56.06S×139.27W,h10km,mb4.6/11, Error ellipse: s-maj=18.1km s-min=13.0km az=168.0*

ISC 28 09:22:52.5±0.6,56.0S±0.1×139.4W±0.2,h10km, (h5km±.3km:pP-P),n49,σ1§02/37,mb4.2/13,MS4.0/10,5C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**28.50**	**201**	P	**P**	**09 28 49.0**	**-0.5**
	9.1nm,1.5s,mb4.3						
VNDA	**Vanda**	**29.43**	**202**	P	**P**	**09 28 59.4**	**+1.6**
	0.9nm,1.1s,mb3.4,baz=124,slow=7.3,SNR=3.4						
VNDA	**Vanda**	**29.43**	**202**	P	**P**	**09 28 59.4**	**+1.6**
RKT	**Rikitea**	**33.01**	**7**	*e*LQ		09 36 54.7	
RKT				*e*LR	LR	09 38 06.9	
	244nm,24.5s,baz=184						
TBI	**Tubuai**	**33.46**	**343**	*e*LR	LR	09 38 08.3	
	568nm,27.8s,baz=173						
RPZ	**Rata Peaks**	**33.49**	**270**	LR	LR	09 39 14.5	
	comp=Z,242nm,19.8s,MS3.9,baz=226,slow=29						
RPN	**Rapa Nui**	**36.05**	**49**	LR	LR	09 41 05.1	
	comp=Z,218nm,20.4s,MS3.9,baz=278,slow=30						
PPT	**Papeete**	**39.15**	**345**	*e*LR	LR	09 40 44.1	
	531nm,25.5s,baz=180						
PPT	**Papeete**	**39.15**	**345**	LR	LR	09 41 51.2	
	comp=Z,363nm,18.7s,MS4.2,baz=265,slow=29						
PLCA	**Paso Flores**	**46.22**	**101**	LR	LR	09 46 21.3	
	comp=Z,76nm,18.6s,MS3.7,baz=45,slow=30						
PLCA	**Paso Flores**	**46.22**	**101**	P	**P**	**09 31 16.3**	**-2.8**
	5.9nm,1.2s,mb4.4						
VNA3	**Neumayer Olymp**	**48.18**	**160**	*e*	**P**	**09 31 34.4**	**+0.2**
VNA3	**Neumayer Olymp**	**48.18**	**160**	*e*	**P**	**09 31 38.5**	**+4.3**
VNA3	**Neumayer Olymp**	**48.18**	**160**	*e*	**P**	**09 31 51.0**	**+17**
VNA3	**Neumayer Olymp**	**48.18**	**160**	⇑*i*P	**P**	**09 31 33.1**	**-1.1**
VNA3				*e*	pP	09 31 34.4	-2.8
VNA3				*e*		09 31 38.5	
VNA3				*e*		09 31 51.0	
VNA2	**Neumayer--Watz**	**48.87**	**161**	*e*	**P**	**09 31 40.2**	**+0.8**
VNA2	**Neumayer--Watz**	**48.87**	**161**	*e*	**P**	**09 31 44.0**	**+4.6**
VNA2	**Neumayer--Watz**	**48.87**	**161**	*e*	**P**	**09 31 56.9**	**+17**
VNA2	**Neumayer--Watz**	**48.87**	**161**	⇑*i*P	**P**	**09 31 38.5**	**-0.9**
VNA2				*e*	pP	09 31 40.2	-2.3
VNA2				*e*		09 31 44.0	
VNA2				*e*		09 31 56.9	
VNA1	**Neumayer--Stat**	**48.94**	**161**	*e*	**P**	**09 31 40.3**	**+0.3**
VNA1	**Neumayer--Stat**	**48.94**	**161**	*e*	**P**	**09 31 44.8**	**+4.8**
VNA1	**Neumayer--Stat**	**48.94**	**161**	*e*	**P**	**09 31 55.2**	**+15**
VNA1	**Neumayer--Stat**	**48.94**	**161**	⇑*i*P	**P**	**09 31 39.4**	**-0.6**
VNA1				*e*		09 31 40.3	
VNA1				*e*		09 31 44.8	
VNA1				*e*		09 31 55.2	
SNAA	**Sanae**	**49.02**	**163**	⇑*i*	**P**	**09 31 39.3**	**-1.3**
SNAA	**Sanae**	**49.02**	**163**	*e*	**P**	**09 31 40.6**	**0.0**
SNAA	**Sanae**	**49.02**	**163**	*e*	**P**	**09 31 44.6**	**+4.0**
SNAA	**Sanae**	**49.02**	**163**	*e*	**P**	**09 31 56.5**	**+16**
SNAA	**Sanae**	**49.02**	**163**	P	**P**	**09 31 39.4**	**-1.2**
	0.9nm,0.7s,mb3.9,baz=235,slow=6.1,SNR=32						
SNAA	**Sanae**	**49.02**	**163**	*e*P	**P**	**09 31 39.0**	**-1.6**
	7.7nm,1.2s,mb4.6						
SNAA				⇑*i*P		09 31 39.3	
SNAA				*e*	pP	09 31 40.6	-3.0
SNAA				*e*		09 31 44.6	
SNAA				*e*		09 31 56.5	
TRQA	**Tornquist**	**52.80**	**105**	*e*P	**P**	**09 32 10.3**	**+0.4**
	7.4nm,1.1s,mb4.5						
MAW	**Mawson**	**55.60**	**190**	P	**P**	**09 32 29.9**	**0.0**
	0.7nm,0.7s,mb3.8,baz=140,slow=12,SNR=3.5						
MAW				LR	LR	09 53 59.6	
	comp=Z,82nm,21.3s,MS3.8,baz=58,slow=34						
MAW	**Mawson**	**55.60**	**190**	*e*P	**P**	**09 32 29.5**	**-0.4**
	3.4nm,1.0s,mb4.3						
MAW				LR	LR	09 53 59.6	
STKA	**Stephens Creek**	**58.27**	**259**	LR	LR	09 53 13.9	
	comp=Z,152nm,18.7s,MS4.1,baz=206,slow=31						
STKA	**Stephens Creek**	**58.27**	**259**	P	**P**	**09 32 48.5**	**-0.8**
LVC	**Limon Verde**	**60.68**	**87**	P	**P**	**09 33 07.5**	**+1.4**
	1.9nm,0.6s,mb4.4,baz=244,slow=13,SNR=3.9						
LVC	**Limon Verde**	**60.68**	**87**	*e*P	**P**	**09 33 06.6**	**+0.5**
	4.8nm,1.0s,mb4.6						
CPUP	**Villa Florida**	**64.24**	**99**	P	**P**	**09 33 29.2**	**-0.5**
	1.7nm,0.8s,mb4.1,baz=206,slow=6.6,SNR=4.8						
CPUP				LR	LR	09 58 20.8	
	comp=Z,55nm,18.5s,MS3.8,baz=277,slow=33						
CPUP	**Villa Florida**	**64.24**	**99**	*e*P	**P**	**09 33 29.3**	**-0.4**
	11nm,1.4s,mb4.7						
CPUP				LR	LR	09 58 20.8	
CTAO	**Charters Tower**	**64.86**	**271**	*e*P	**P**	**09 33 34.2**	**+0.4**
	10nm,1.0s,mb4.8						
LPAZ	**La Paz**	**66.18**	**84**	P	**P**	**09 33 44.5**	**+2.1**
	0.8nm,0.8s,mb3.8,baz=191,slow=4.5,SNR=5.4						
LPAZ				LR	LR	09 55 15.7	
	comp=Z,78nm,20.6s,MS3.9,baz=22,slow=29						
LPAZ	**La Paz**	**66.18**	**84**	*e*P	**P**	**09 33 44.0**	**+1.7**
	5.0nm,1.3s,mb4.4						
LPAZ				LR	LR	09 55 15.7	
WRA	**Warramunga Arr**	**71.65**	**262**	P	**P**	**09 34 16.5**	**+0.3**
	0.9nm,0.7s,mb3.8,baz=150,slow=5.5,SNR=10						
WRAB	**Tennant Creek**	**71.65**	**262**	*e*P	**P**	**09 34 15.9**	**-0.2**
	7.4nm,1.1s,mb4.5						
SAML	**Samuel**	**74.92**	**84**	P	**P**	**09 34 35.4**	**0.0**
	2.4nm,1.2s,mb4.0						
FITZ	**Fitzroy Crossi**	**77.92**	**256**	LR	LR	10 04 35.4	
	comp=Z,167nm,20.1s,MS4.4,baz=106,slow=32						
SDV	**Santo Domingo**	**85.75**	**67**	*e*P	**P**	**09 35 31.7**	**-1.4**
BOSA	**Boshof**	**94.70**	**166**	LR	LR	10 18 58.3	
	comp=Z,113nm,19.4s,MS4.3,baz=91,slow=36						
ILAR	**Eielson Array**	**120.59**	**356**	PKP	PKPdf	09 41 46.1	-0.3
	0.6nm,0.9s,baz=180,slow=1.8,SNR=5.0						
MKAR	**Makanchi Array**	**152.79**	**268**	PKPbc	PKPdf	09 42 49.8	+5.5
	0.5nm,0.8s,baz=90,slow=4.3,SNR=5.6						

IDC ***28*** *09:30:45.1±0.8,55.71N×162.96E,mb3.9/8,mb1 4.0/9, mb1mx3.8/24,mbtmp3.9/9,ML3.9/1,Error ellipse: s-maj=22.4km s-min=14.4km az=24.0*

NEIC ***28*** *09:30:46.7±0.5,55.77N×163.05E,h10km,mb4.3/3,Error ellipse: s-maj=12.6km s-min=10.2km az=159.0*

KRSC ***28*** *09:30:47.8±1.0,55.57N×163.28E,h13km±2km,ML4.5*

MOS ***28*** *09:30:47.4±1.7,55.57N×163.46E,h32km,mb4.3/6,Error ellipse: s-maj=13.8km s-min=9.1km az=78.1*

ISC 28 09:30:47.8±0.4,55.57N±0.02×163.56E±0.05,h33km,n58, σ1§30/97,mb4.0/14,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.77**	**327**	*i* P	**P**	**09 31 01.9**	**-0.2**
KBTR				*i* S	**S**	**09 31 11.4**	**-1.2**
BKI	**Bering**	**1.42**	**104**	*i* P	**P**	**09 31 16.1**	**+4.6**
BKI				*i* S	**S**	**09 31 35.2**	**+5.9**
BKI				Smax			
	1μm,0.3s						
MKZ	**Mys Kozlova**	**1.46**	**227**	P	**P**	**09 31 12.4**	**+0.4**
MKZ				S	**S**	**09 31 29.9**	**-0.3**
MKZ	**Mys Kozlova**	**1.46**	**227**	*i* P	**P**	**09 31 12.4**	**+0.4**
MKZ				*i* S	**S**	**09 31 30.1**	**-0.1**
ZLN	**Zelenaya**	**1.62**	**287**	*i* P	**P**	**09 31 14.9**	**+0.6**
ZLN				*i* S	**S**	**09 31 35.5**	**+1.3**
CIRR	**Tsirk**	**1.68**	**290**	*i* P	**P**	**09 31 15.7**	**+0.5**
CIRR				*i* S	**S**	**09 31 36.4**	**+0.7**
LGNR	**Loginova**	**1.70**	**289**	*e*P	**P**	**09 31 16.4**	**+0.9**
LGNR				*i* S	**S**	**09 31 37.6**	**+1.3**
KLY	**Klyuchi**	**1.80**	**296**	P	**P**	**09 31 15.1**	**-1.8**
KLY				S	**S**	**09 31 35.4**	**-3.4**
KLY	**Klyuchi**	**1.80**	**296**	*i* P	**P**	**09 31 15.1**	**-1.8**
KLY				*i* S	**S**	**09 31 35.6**	**-3.2**
KRSR	**Krestovskiy**	**1.81**	**292**	*i* P	**P**	**09 31 16.6**	**-0.4**
KRSR				*i* S	**S**	**09 31 38.0**	**-1.0**
KMNR	**Kamenistaya**	**1.89**	**277**	*i* P	**P**	**09 31 19.2**	**+1.0**
KMNR				*i* S	**S**	**09 31 42.4**	**+1.3**
KPT	**Kopyto**	**1.93**	**283**	*i* P	**P**	**09 31 19.2**	**+0.5**
KPT				*i* S	**S**	**09 31 43.1**	**+1.1**
TUMR	**Tumrok**	**1.97**	**263**	*i* P	**P**	**09 31 20.5**	**+1.2**
TUMR				*e*S	**S**	**09 31 44.7**	**+1.7**
KOZR	**Kozyr**	**2.13**	**285**	PN	**Pn**	**09 31 22.7**	**+0.9**
KOZR				S	**S**	**09 31 48.3**	**+1.2**
KOZ	**Kozyrevsk**	**2.14**	**285**	*i* P	**P**	**09 31 22.7**	**+1.0**
KOZ				*i* S	**S**	**09 31 48.3**	**+0.9**
SRDR	**Sredinnyy**	**2.29**	**291**	*i* P	**P**	**09 31 24.3**	**+0.4**
SRDR				*e*S	**S**	**09 31 51.9**	**+0.7**
ESO	**Esso**	**2.77**	**279**	*i* P	**P**	**09 31 30.4**	**-0.4**
ESO				*e*S	**S**	**09 32 01.3**	**-2.1**
ESO				Smax			
	410nm,0.8s						
KII	**Karymskiy**	**2.83**	**239**	P	**P**	**09 31 32.6**	**+1.0**
KII				S	**S**	**09 32 05.0**	**+0.1**
KII	**Karymskiy**	**2.83**	**239**	*i* P	**P**	**09 31 32.7**	**+1.1**
KII				*e*S	**S**	**09 32 05.1**	**+0.2**
SPN	**Mys Shipunski**	**3.22**	**221**	P	**P**	**09 31 36.7**	**-0.5**
SPN				S	**S**	**09 32 11.7**	**-3.3**
SPN	**Mys Shipunski**	**3.22**	**221**	*e*P	**P**	**09 31 37.3**	**+0.1**
SPN				*e*S	**S**	**09 32 13.6**	**-1.4**
NLC	**Nalytchevo**	**3.44**	**228**	P	**P**	**09 31 40.6**	**+0.3**
NLC				S	**S**	**09 32 18.4**	**-2.0**
NLC	**Nalytchevo**	**3.44**	**228**	*i* P	**P**	**09 31 40.5**	**+0.2**
NLC				*i* S	**S**	**09 32 18.4**	**-2.0**
SDLR	**Sedlovina**	**3.56**	**232**	*i* P	**P**	**09 31 42.9**	**+0.8**
SDLR				*e*S	**S**	**09 32 23.2**	**-0.4**
SMAR	**Somma**	**3.61**	**232**	*i* P	**P**	**09 31 43.9**	**+1.2**
SMAR				*e*S	**S**	**09 32 24.2**	**-0.6**
UGLR	**Uglovaya**	**3.64**	**231**	*e*P	**P**	**09 31 44.2**	**+1.1**
UGLR				*e*S	**S**	**09 32 24.9**	**-0.6**
AVH	**Avacha**	**3.64**	**233**	*i* P	**P**	**09 31 44.3**	**+1.2**
AVH				*e*S	**S**	**09 32 26.1**	**+0.6**
KOK	**Koryaka**	**3.67**	**234**	*e*P	**P**	**09 31 44.6**	**+1.1**
KOK				*e*S	**S**	**09 32 25.4**	**-0.8**
OSSR	**Ossora**	**3.71**	**356**	*e*S	**S**	**09 32 26.5**	**-0.7**
GNL	**Ganaly**	**3.76**	**242**	*e*P	**P**	**09 31 45.7**	**+0.8**
GNL				*e*S	**S**	**09 32 28.3**	**-0.4**
PET	**Petropavlovsk**	**3.84**	**230**	P	**P**	**09 31 46.1**	**+0.1**
PET				S	**S**	**09 32 28.4**	**-2.2**
PET	**Petropavlovsk**	**3.84**	**230**	*e*Pn	**P**	**09 31 46.0**	**0.0**
PET				*e*Sn	**Sn**	**09 32 24.8**	**-5.8**
PET	**Petropavlovsk**	**3.84**	**230**	*e*P	**P**	**09 31 46.0**	**0.0**
PET				*e*S	**S**	**09 32 28.3**	**-2.3**
KRMR	**Karymshinskiy**	**4.20**	**232**	*e*P	**P**	**09 31 53.3**	**+2.1**
KRMR				*e*S	**S**	**09 32 40.5**	**+0.7**
RUS	**Russkaya**	**4.33**	**226**	P	**P**	**09 31 53.5**	**+0.6**
RUS				S	**S**	**09 32 40.4**	**-2.5**
RUS	**Russkaya**	**4.33**	**226**	*i* P	**P**	**09 31 53.6**	**+0.7**
RUS				*e*S	**S**	**09 32 40.9**	**-2.0**
GRL	**Gorelyy**	**4.42**	**229**	*e*P	**P**	**09 31 55.6**	**+1.3**
GRL				*e*S	**S**	**09 32 44.2**	**-1.1**
APC	**Apacha**	**4.59**	**237**	*e*P	**P**	**09 31 57.0**	**+0.3**
APC				*e*S	**S**	**09 32 47.2**	**-2.4**
APC				Smax			
	40nm,0.8s						
FX1	**Attu Island--F**	**6.24**	**112**	Pn	**Pn**	**09 32 22.5**	**+2.5**
	7.9nm,0.3s,baz=318,slow=4.7,SNR=76						
FX1				Sn	**Sn**	**09 33 30.6**	**-0.4**
	12nm,0.3s,baz=163,slow=17,SNR=8.2						
FX1	**Attu Island--F**	**6.24**	**112**	*e*Pn	**Pn**	**09 32 22.3**	**+2.2**
FX1				*e*Sn	**Sn**	**09 33 26.9**	**-4.1**
ILAR	**Eielson Array**	**25.64**	**49**	P	**P**	**09 36 16.9**	**+1.5**
	0.3nm,0.8s,mb2.9,baz=278,slow=6.4,SNR=3.5						
MJAR	**Matsushiro Arr**	**25.67**	**233**	P	**P**	**09 36 15.2**	**-0.9**
	1.2nm,0.6s,mb3.6,baz=23,slow=6.9,SNR=5.0						
INK	**Inuvik**	**30.67**	**40**	*e*P	**P**	**09 37 01.2**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**30.67**	**40**	*e*P	**P**	**09 37 01.2**	**+0.3**
	comp=Z,0.9nm,0.6s,mb3.8						
KURK	**Kurchatov**	**48.15**	**302**	P	**P**	**09 39 22.9**	**-3.2**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
KURK	**Kurchatov**	**48.15**	**302**	P	**P**	**09 39 22.9**	**-3.3**
	comp=Z,7.8nm,1.0s,mb4.7						
VOSK	**Vostochnaya**	**50.38**	**308**	P	**P**	**09 39 40.4**	**-2.8**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BVA0	**Borovoye Array**	**50.44**	**309**	*i* P	**P**	**09 39 40.8**	**-2.9**
BVAR	**Borovoye Array**	**50.44**	**309**	P	**P**	**09 39 40.6**	**-3.1**
	comp=Z,2.1nm,0.5s,mb4.4,baz=53,slow=7.4,SNR=13						
BRVK	**Borovoye**	**50.46**	**309**	*e*P	**P**	**09 39 41.1**	**-2.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
BRVK	**Borovoye**	**50.46**	**309**	*e*P	**P**	**09 39 41.1**	**-2.8**
	comp=Z,3.0nm,0.7s,mb4.4						
KKAR	**Karatay Array**	**57.44**	**300**	*i* P	**P**	**09 40 32.8**	**-2.4**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
AB31	**Akbulak array**	**57.72**	**311**	P	**P**	**09 40 34.7**	**-2.4**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**58.63**	**338**	P	**P**	**09 40 41.5**	**-1.8**
	comp=Z,1.2nm,0.8s,mb4.0,baz=45,slow=5.9,SNR=4.4						
HFS	**Hagfors**	**62.19**	**343**	P	**P**	**09 41 05.8**	**-1.7**
	comp=Z,1.4nm,0.7s,mb4.2,baz=27,slow=3.2,SNR=2.8						
AKASG	**Malin Array Be**	**67.50**	**331**	P	**P**	**09 41 40.8**	**-1.1**
	comp=Z,0.9nm,0.4s,mb4.1,baz=26,slow=6.0,SNR=4.5						
TXAR	**Lajitas Array**	**67.85**	**70**	P	**P**	**09 41 48.1**	**+3.7**
	comp=Z,0.3nm,0.6s,mb3.5,baz=287,slow=4.8,SNR=5.1						
WRA	**Warramunga Arr**	**79.20**	**208**	P	**P**	**09 42 51.6**	**+0.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=1.6,slow=6.1,SNR=13						

MOS ***28*** *09:39:14.3±1.4,86.23N×34.90E,h10km,mb4.5/8,Error ellipse: s-maj=99.9km s-min=7.9km az=90.3*

IDC ***28*** *09:39:14.9±0.6,86.30N×37.15E,mb3.7/14,mb1 4.0/15, mb1mx3.9/25,mbtmp3.8/15,ML4.1/1,MS3.7/19,Ms1 3.7/19, ms1mx3.5/32,Error ellipse: s-maj=21.1km s-min=13.0km az=82.0*

NEIC ***28*** *09:39:16.0±0.4,86.25N×34.00E,h10km,mb4.4/15,Error ellipse: s-maj=11.3km s-min=7.4km az=76.0*

BJI ***28*** *09:39:15.1,86.20N×34.00E,h10km,mB4.9,mb4.6,Ms4.6, Msz4.2*

ISC 28 09:39:14.1±2.8,86.17N±0.05×3 3E± ,h9km±18km,n61, σ1§18/57,mb4.0/24,MS3.7/19,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**7.67**	**211**	*e*P	**Pn**	**09 41 06.9**	**-1.8**
KBS				*e*S	**Sn**	**09 42 33.4**	**-3.2**
KBS				AML	AML	09 42 41.7	
	comp=Z,7.7nm,0.7s						
DAG	**Danmarks Havn**	**11.31**	**247**	*e*P	**P**	**09 42 00.0**	**+1.3**
DAG	**Danmarks Havn**	**11.31**	**247**	*i* P	**P**	**09 42 00.0**	**+1.3**
KEV	**Kevo**	**16.54**	**187**	*e*P	**P**	**09 43 07.2**	**-0.1**
KEV				pmax	pmax		
	comp=Z,73nm,1.6s						
KEV	**Kevo**	**16.54**	**187**	*e*P	**P**	**09 43 07.2**	**-0.1**
	comp=Z,73nm,1.6s						
SUMG	**Summit**	**16.68**	**263**	*e*P	**P**	**09 43 08.7**	**-0.4**
	comp=Z,58nm,1.6s						
ARCES	**ARCESS Array B**	**16.77**	**189**	Pn	**P**	**09 43 11.1**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=2.3,slow=9.1,SNR=31						
ARCES				Sn	**S**	**09 46 04.9**	**-11**
	comp=Z,0.2nm,0.3s,baz=13,slow=20,SNR=3.8						
ARCES				LR	LR	09 49 15.9	
	comp=Z,114nm,19.8s,baz=261,slow=35						
RES	**Resolute Bay**	**18.02**	**317**	*e*P	**P**	**09 43 24.6**	**-1.3**
RES				pmax	pmax		
	comp=Z,20nm,1.0s						
RES	**Resolute Bay**	**18.02**	**317**	*e*P	**P**	**09 43 24.6**	**-1.3**
	comp=Z,20nm,1.0s						
LVZ	**Lovozero**	**18.39**	**178**	*e*P	**P**	**09 43 29.3**	**-1.2**
LVZ				pmax	pmax		
	comp=Z,34nm,1.2s						
LVZ				pmax	pmax		
	comp=N,25nm,1.3s						
FINES	**FINESS Array B**	**24.89**	**188**	P	**P**	**09 44 39.2**	**+1.4**
	comp=N,1.2nm,0.8s,mb3.5,baz=18,slow=8.8,SNR=3.4						
FINES				LR	LR	09 54 20.7	
	comp=N,80nm,19.1s,MS3.2,baz=336,slow=36						
NB2	**NORSAR Subarra**	**25.57**	**204**	P	**P**	**09 44 46.8**	**+2.5**
	comp=N,8.6nm,1.1s,mb4.2,baz=3.0,slow=9.3						
NB2	**NORSAR Subarra**	**25.57**	**204**	P	**P**	**09 44 46.8**	**+2.5**
NB2				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.2						
NOA	**NORSAR Array B**	**25.57**	**204**	P	**P**	**09 44 47.5**	**+3.3**
	comp=Z,1.1nm,0.7s,mb3.5,baz=348,slow=9.2,SNR=4.1						
INK	**Inuvik**	**25.59**	**348**	P	**P**	**09 44 44.6**	**+0.3**
INK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
INK	**Inuvik**	**25.59**	**348**	P	**P**	**09 44 44.5**	**+0.2**
	comp=Z,4.5nm,1.1s,mb3.9,baz=353,slow=11,SNR=3.2						
INK	**Inuvik**	**25.59**	**348**	*e*P	**P**	**09 44 42.6**	**-1.7**
	comp=Z,19nm,1.6s,mb4.4						
HFS	**Hagfors**	**26.42**	**202**	P	**P**	**09 44 55.3**	**+3.2**
	comp=Z,2.4nm,0.9s,mb3.7,slow=4.4,SNR=3.7						
HFS				LR	LR	09 54 37.3	
	comp=Z,69nm,21.0s,MS3.2,baz=266,slow=35						
ILAR	**Eielson Array**	**29.23**	**360**	P	**P**	**09 45 17.6**	**-0.1**
	comp=Z,1.1nm,0.9s,mb3.6,baz=350,slow=8.3,SNR=8.9						
ILAR				LR	LR	09 56 00.7	
	comp=Z,63nm,18.4s,MS3.3,baz=4.1,slow=35						
DAWY	**Dawson**	**29.91**	**353**	P	**P**	**09 45 21.9**	**-1.8**
ARU	**Arti**	**30.32**	**151**	P	**P**	**09 45 27.3**	**-0.1**
ARU				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.3						
ARU	**Arti**	**30.32**	**151**	P	**P**	**09 45 27.3**	**-0.1**
	comp=Z,12nm,1.7s,mb4.3						
YKA	**Yellowknife Ar**	**30.98**	**331**	LR	LR	09 58 43.4	
	comp=Z,238nm,18.3s,MS3.9,baz=25,slow=38						
BRVK	**Borovoye**	**34.14**	**139**	*e*P	**P**	**09 46 01.1**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.6						
BRVK	**Borovoye**	**34.14**	**139**	*e*P	**P**	**09 46 01.1**	**+0.3**
	comp=Z,11nm,1.5s,mb4.5						
BVAR	**Borovoye Array**	**34.18**	**139**	P	**P**	**09 46 01.3**	**+0.2**
	comp=Z,1.2nm,0.5s,mb4.0,slow=7.4,SNR=8.5						
DLBC	**Dease Lake**	**35.43**	**344**	P	**P**	**09 46 12.9**	**+1.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=84,slow=4.2,SNR=3.7						
DLBC				LR	LR	10 01 44.1	
	comp=Z,81nm,20.8s,MS3.5,baz=318,slow=38						
SCHQ	**Schefferville**	**36.16**	**285**	LR	LR	10 00 11.4	
	comp=Z,120nm,18.3s,MS3.7,baz=150,slow=34						
GERES	**GERESS Array B**	**37.72**	**201**	P	**P**	**09 46 35.1**	**+3.9**
	comp=Z,0.2nm,0.3s,mb3.3,slow=3.9,SNR=2.4						
GERES				LR	LR	10 01 02.2	
	comp=Z,56nm,20.7s,MS3.4,baz=354,slow=34						
DAVOX	**Davos**	**39.88**	**205**	LR	LR	10 04 42.7	
	comp=Z,34nm,21.8s,MS3.2,baz=9.7,slow=38						
EDM	**Edmonton**	**40.21**	**329**	*e*P	**P**	**09 46 52.6**	**+0.7**
MLR	**Muntele Rosu**	**40.88**	**187**	LR	LR	10 04 34.3	
	comp=Z,125nm,18.6s,MS3.8,baz=199,slow=37						
MKAR	**Makanchi Array**	**40.98**	**127**	P	**P**	**09 46 57.0**	**-1.3**
	comp=Z,0.4nm,0.5s,mb3.3,baz=15,slow=5.0,SNR=7.9						
MKAR				LR	LR	10 06 35.7	
	comp=Z,149nm,21.1s,MS3.8,baz=357,slow=40						
SONM	**Songino Array**	**41.41**	**102**	P	**P**	**09 47 01.1**	**-0.7**
	comp=Z,0.2nm,0.4s,mb3.1,slow=5.8,SNR=2.4						
SONM				LR	LR	10 05 14.5	
	comp=Z,76nm,18.5s,MS3.6,baz=263,slow=38						
ULM	**Lac du Bonnet**	**42.44**	**312**	LR	LR	10 04 32.9	
	comp=Z,141nm,18.2s,MS3.9,baz=70,slow=36						
WALA	**Waterton Lakes**	**44.39**	**329**	P	**P**	**09 47 26.5**	**+0.6**
	comp=Z,5.2nm,1.2s,mb4.1						
AAK	**Ala-Archa**	**44.74**	**136**	*e*P	**P**	**09 47 28.9**	**+0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
AAK	**Ala-Archa**	**44.74**	**136**	*e*P	**P**	**09 47 28.9**	**0.0**
	comp=Z,3.1nm,0.7s,mb4.2						
NEW	**

MKAR	**Makanchi Array**	**59.87**	**336**	P		P		10 08 29.4	-2.0
	0.1nm,0.5s,baz=143,slow=7.2,SNR=2.6								

*LDG **28** 10:04:14.5±1.2, 14.26S×167.92E, h122km±13km, Error ellipse: s-maj=123.2km s-min=24.7km az=101.0*
*IDC **28** 10:04:18.8±4.0, 14.59S×167.33E, h172km±33km, mb3.7/9, mb1 3.8/10, mb1mx3.8/18, mbtmp4.2/10, Error ellipse: s-maj=27.9km s-min=20.5km az=42.0*
*NEIC **28** 10:04:21.4±2.5, 14.74S×167.17E, h190km±21km, mb4.1/6, Error ellipse: s-maj=18.6km s-min=14.9km az=207.0*

ISC 28 10:04:19.2±3.1, **14.6S**±0.2×**167.2E**±0.1, **h191**km±24km, **n36**, σ1§**01**/**21**, **mb4.0**/11, **2C**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.43**	**185**	*e*P		**P**		**10 06 05.4**	**-0.5**
DZM					*e*S		**S**	**10 07 22.4**	**-6.7**
DZM	**Mont Dzumac**	**7.43**	**185**	P		**P**		**10 06 06.3**	**+0.4**
	1.6nm,0.3s,baz=46,slow=19,SNR=13								
DZM					S		**S**	**10 07 29.4**	**+0.3**
	0.9nm,0.3s,baz=350,slow=19,SNR=2.7								
CTA	**Charters Tower**	**20.71**	**252**	P		**P**		**10 08 47.3**	**+1.4**
	3.0nm,0.7s,baz=136,slow=13,SNR=5.5								
CTAO	**Charters Tower**	**20.71**	**252**	*e*P		**P**		**10 08 46.2**	**+0.2**
	6.0nm,0.8s								
STKA	**Stephens Creek**	**29.01**	**229**	P		**P**		**10 10 04.2**	**+0.7**
	2.6nm,0.5s,mb4.2,baz=45,slow=9.2,SNR=9.2								
WRAB	**Tennant Creek**	**31.78**	**256**	*e*P		**P**		**10 10 26.1**	**-1.7**
	4.4nm,0.9s,mb4.2								
WRA	**Warramunga Arr**	**31.79**	**256**	P		**P**		**10 10 27.0**	**-1.0**
	1.0nm,0.6s,mb3.7,baz=85,slow=8.8,SNR=24								
FITZ	**Fitzroy Crossi**	**39.97**	**259**	P		**P**		**10 11 38.1**	**+1.3**
	11nm,1.0s,mb4.5,baz=113,slow=4.8,SNR=9.2								
MBWA	**Marble Bar**	**45.51**	**255**	P		**P**		**10 12 20.4**	**-1.2**
	6.6nm,1.1s,mb4.2								
VNDA	**Vanda**	**62.95**	**181**	P		**P**		**10 14 26.9**	**-0.3**
	1.6nm,0.7s,mb4.0,baz=357,slow=6.4,SNR=18								
VNDA	**Vanda**	**62.95**	**181**	*e*P		**P**		**10 14 26.2**	**-1.0**
	1.6nm,0.6s,mb4.0								
SBA	**Scott Base**	**63.23**	**180**	*e*P		**P**		**10 14 29.1**	**+0.1**
	4.3nm,0.8s,mb4.3								
MAW	**Mawson**	**81.95**	**202**	P		**P**		**10 16 19.8**	**+1.4**
	1.1nm,0.6s,mb3.7,baz=106,slow=4.7,SNR=7.0								
ILAR	**Eielson Array**	**86.45**	**18**	P		**P**		**10 16 40.2**	**-0.8**
	0.5nm,0.8s,mb3.3,baz=231,slow=6.8,SNR=5.1								
SNAA	**Sanae**	**93.64**	**183**	P		**P**		**10 17 14.4**	**0.0**
	0.6nm,0.8s,mb3.8,baz=101,slow=5.2,SNR=16								
SNAA	**Sanae**	**93.64**	**183**	P		**P**		**10 17 14.4**	**0.0**
VNA3	**Neumayer Olymp**	**94.31**	**181**	↑*i*		**P**		**10 17 16.9**	**-0.5**
VNA2	**Neumayer--Watz**	**94.57**	**182**	↑*i*		**P**		**10 17 18.6**	**-0.1**
MKAR	**Makanchi Array**	**97.09**	**316**	P		**P**		**10 17 32.8**	**+2.1**
	0.6nm,0.7s,mb4.0,baz=98,slow=6.9,SNR=4.1								
ARCES	**ARCESS Array B**	**120.14**	**345**	PKP		PKPdf		10 22 48.5	+1.6
	1.2nm,0.8s,baz=135,slow=1.7,SNR=7.8								
LOR	**Lormes**	**144.63**	**340**	*e*PKP1		PKPbc		10 23 34.8	+1.9
	14nm,0.9s								
SSF	**Saint Saulge**	**144.92**	**340**	*e*PKP1		PKPbc		10 23 36.0	+2.2
	12nm,0.7s								
LPL	**La Plagne**	**145.08**	**336**	*e*PKP1		PKPbc		10 23 37.0	+2.8
	3.7nm,0.6s								
LPG	**La Plagne**	**145.09**	**336**	*e*PKP1		PKPbc		10 23 37.0	+2.7
	5.6nm,0.6s								
SMF	**Signal de Mont**	**145.18**	**340**	*e*PKP1		PKPbc		10 23 36.6	+2.2
AVF	**Avril sur Loir**	**145.21**	**340**	*e*PKP1		PKPbc		10 23 36.7	+2.2
	9.5nm,0.9s								
BGF	**Bois d'Agland**	**145.58**	**341**	*e*PKP1		PKPbc		10 23 38.0	+2.5
ORIF	**Oris-en-Rattie**	**145.91**	**336**	*e*PKP1		PKPbc		10 23 39.2	+2.9
	9.4nm,0.7s								
TCF	**Toulx Ste Croi**	**146.02**	**341**	*e*PKP1		PKPbc		10 23 39.3	+2.7
	9.8nm,0.8s								
SBF	**Sospel**	**146.13**	**333**	*e*PKP1		PKPbc		10 23 39.2	+2.3
	21nm,0.8s								
PGF	**Pioggiola**	**146.44**	**330**	*e*PKP1		PKPbc		10 23 39.9	+2.2
	20nm,1.0s								
RJF	**Les Rejaudoux**	**147.12**	**341**	*e*PKP1		PKPdf		10 23 42.4	+5.3
LFF	**La Frestale**	**147.69**	**342**	*e*PKP1		PKPdf		10 23 43.8	+5.7
MTLF	**Montolieu**	**148.63**	**339**	*e*PKP1		PKPdf		10 23 46.3	+6.6
	5.1nm,0.6s								
EPF	**Esparros**	**149.53**	**341**	*e*PKP1		PKPdf		10 23 49.2	+8.1
ETSF	**Etsaut**	**149.93**	**342**	*e*PKP1		PKPdf		10 23 50.2	+8.4
	4.7nm,0.6s								

*NIED **28** 10:04:00, 33.40N×142.40E, h5km, Mw4.4 Best double couple: M₀4.17×10¹⁵ NP1:φs151°, δ67°, λ-89°. NP2: φs330°, δ23°, λ-92°.*
*JMA **28** 10:04:38.9±0.8, 33.38N×142.42E, h6km, M4.2*
*IDC **28** 10:04:42.0±0.5, 33.05N×142.25E, mb4.1/20, mb1 4.3/22, mb1mx4.2/28, mbtmp4.1/22, ML3.6/1, Error ellipse: s-maj=16.1km s-min=13.1km az=106.0*
*MOS **28** 10:04:47.1±1.6, 33.35N×142.12E, h33km, mb4.7/11, Error ellipse: s-maj=16.6km s-min=8.3km az=114.1*
*BJI **28** 10:04:47.4, 33.37N×141.97E, h21km, mB4.8, mb4.3, Ms4.1, Msz4.0*
*NEIC **28** 10:04:49.2±0.4, 33.28N×142.10E, h40km, mb4.6/13, MW4.3(NIED), Error ellipse: s-maj=11.5km s-min=10.4km az=65.0*

ISC 28 10:04:46.6±0.4, **33.33N**±0.05×**142.01E**±0.06, **h33**km, **n93**, σ1§**44**/**94**, **mb4.2**/**36**, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.57**	**327**	P		**P**		**10 05 10.3**	**-2.3**
BSO2	**Boso 2**	**1.76**	**324**	*e*S		**S**		**10 05 37.0**	**+0.3**
JHJ2	**Mitsune**	**1.85**	**264**	P		**P**		**10 05 17.1**	**+0.6**
JHJ	**Hachijo jima 2**	**1.87**	**264**	Pn		**Pn**		**10 05 16.3**	**-0.7**
	72nm,0.3s,baz=93,slow=9.5,SNR=39								
JHJ					Sn		**Sn**	**10 05 44.2**	**+4.5**
	190nm,0.3s,baz=236,slow=23,SNR=8.6								
BSO3	**Boso 3**	**1.93**	**320**	P		**P**		**10 05 15.9**	**-1.7**
BSO4	**Boso 4**	**2.16**	**321**	P		**P**		**10 05 19.8**	**-1.1**
JIM2	**Oshima 3**	**2.55**	**304**	P		**P**		**10 05 24.6**	**-1.9**
JYN	**Shimob**	**3.59**	**308**	P		**P**		**10 05 40.2**	**-1.1**
JRY	**Ryogami san**	**3.71**	**317**	P		**P**		**10 05 41.7**	**-1.3**
JAG	**Ashikaga**	**3.74**	**327**	P		**P**		**10 05 40.2**	**-3.2**
MJAR	**Matsushiro Arr**	**4.47**	**317**	P		**P**		**10 05 52.4**	**-1.5**
MJAR								10 06 51.5	
MJAR					pmax		pmax		
	comp=Z,3.0nm,0.3s								
MJAR					smax				
	comp=N,6.0nm,0.3s								
MJAR	**Matsushiro Arr**	**4.47**	**317**	Pn		**Pn**		**10 05 52.4**	**-1.7**
	comp=N,2.6nm,0.3s,baz=163,slow=14,SNR=13								
MJAR					Sn		**Sn**	**10 06 51.5**	**+5.9**
	comp=N,6.2nm,0.3s,baz=140,slow=19,SNR=5.6								
MAJO	**Matsushiro**	**4.48**	**317**	*e*P		**P**		**10 05 53.4**	**-0.5**
MAT	**Matsushiro**	**4.48**	**317**	*e*P		**P**		**10 05 53.0**	**-0.9**
MAT					*e*S		**S**	**10 06 52.0**	**+6.5**
MAT	**Matsushiro**	**4.48**	**317**	P		**P**		**10 05 52.7**	**-1.2**
MAT					*e*S		**S**	**10 06 46.1**	**+0.6**
MAT	**Matsushiro**	**4.48**	**317**	P		**P**		**10 05 52.6**	**-1.3**
JMM	**Marumori**	**4.64**	**348**	P		**P**		**10 05 49.1**	**-7.1**
JMK	**Ichinoseki**	**5.65**	**354**	P		**P**		**10 06 02.2**	**-8.2**
CBIJ	**Chichi jima**	**6.21**	**179**	Pn		**Pn**		**10 06 11.2**	**-7.4**
	comp=N,4.2nm,0.3s,baz=302,slow=20,SNR=6.5								
CBIJ					Sn		**Sn**	**10 07 20.9**	**-8.2**
	comp=N,16nm,0.3s,baz=288,slow=20,SNR=3.2								
JNU	**Nakatsue**	**9.32**	**272**	Pn		**P**		**10 07 07.8**	**+6.1**
	comp=N,0.4nm,0.3s,baz=46,slow=7.9,SNR=3.8								
YSS	**Yuzh-Sakhalins**	**13.62**	**2**	*e*P		**P**		**10 07 57.0**	**-2.7**
YSS	**Yuzh-Sakhalins**	**13.62**	**2**	P		**P**		**10 08 04.2**	**+4.5**
	comp=N,23nm,0.8s								
MDJ	**Mudanjiang**	**14.82**	**323**	P		**P**		**10 08 16.0**	**+0.5**
MDJ					AMB		AMB		
	comp=Z,6.0nm,1.4s								
MDJ					AMB		AMB		
	comp=Z,56nm,3.5s								
CN2	**Changchun**	**16.61**	**314**	*e*P		**P**		**10 08 41.0**	**+2.5**
HIA	**Hailar**	**22.97**	**321**	P		**P**		**10 09 50.0**	**+1.0**
	comp=Z,5.8nm,0.6s,mb4.2								
PET	**Petropavlovsk**	**23.02**	**26**	P		**P**		**10 09 54.1**	**+4.6**
	comp=Z,26nm,1.1s,mb4.6								
WHN	**Wuhan**	**23.61**	**271**	P		**P**		**10 09 59.5**	**+4.1**
ENH	**Enshi**	**27.75**	**273**	*e*P		**P**		**10 10 33.8**	**-0.5**
	comp=Z,16nm,0.9s,mb4.6								
CIT	**Chita**	**27.77**	**321**	*e*P		**P**		**10 10 37.6**	**+3.3**
CIT				*e*				10 17 00.6	
CIT					pmax		pmax		
	comp=Z,72nm,3.5s								
SONM	**Songino Array**	**30.38**	**309**	P		**P**		**10 10 59.8**	**+2.2**
	comp=Z,3.3nm,0.6s,mb4.2,baz=102,slow=7.7,SNR=12								
BOD	**Bodaibo**	**30.96**	**331**	*e*P		**P**		**10 11 03.9**	**+1.3**
BOD					pmax		pmax		
	comp=Z,3.0nm,1.1s,mb4.0								
ZAK	**Zakamensk**	**33.05**	**313**	*e*P		**P**		**10 11 21.0**	**0.0**
ZAK					pmax		pmax		
	comp=Z,1.0nm,1.4s,mb3.5								
TLY	**Talaya**	**33.21**	**315**	P		**P**		**10 11 24.3**	**+1.9**
TLY					pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.5								
TLY	**Talaya**	**33.21**	**315**	P		**P**		**10 11 24.3**	**+1.9**
	comp=Z,7.4nm,1.0s,mb4.6								
GTA	**Gaotai**	**34.28**	**293**	P		**P**		**10 11 35.3**	**+3.6**
GTA					AP		pP	10 11 45.0	+3.6
GTA					XP		sP	10 11 48.5	+2.8
GTA					AMB		AMB		
	comp=Z,3.0nm,0.7s,mb4.3								
KMI	**Kunming**	**35.07**	**267**	P		**P**		**10 11 40.5**	**+1.9**
KMI					AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8								
KMI	**Kunming**	**35.07**	**267**	P		**P**		**10 11 40.5**	**+1.9**
	comp=Z,10.0nm,0.8s,mb4.8								
PMG	**Port Moresby**	**42.78**	**173**	P		**P**		**10 12 41.8**	**-1.2**
PMG					*e*			10 12 48.1	
PMG					pmax		pmax		
	comp=Z,31nm,1.0s								
PMG	**Port Moresby**	**42.78**	**173**	P		**P**		**10 12 41.8**	**-1.2**
	comp=Z,31nm,1.0s,mb5.0								
PMG					*e*			10 12 48.1	
ZAL	**Zalesovo**	**44.84**	**315**	P		**P**		**10 13 01.7**	**+2.6**
	comp=Z,1.1nm,0.4s,mb4.0,baz=174,slow=12,SNR=2.0								
ZAL	**Zalesovo**	**44.84**	**315**	P		**P**		**10 13 01.7**	**+2.6**
NVS	**Novosibirsk**	**45.80**	**316**	*e*P		**P**		**10 13 08.6**	**+1.8**
MKAR	**Makanchi Array**	**46.58**	**305**	*i* P		**P**		**10 13 21.9**	**+8.9**
MKAR	**Makanchi Array**	**46.58**	**305**	P		**P**		**10 13 13.3**	**+0.3**
	comp=Z,0.6nm,0.3s,mb4.0,baz=90,slow=9.7,SNR=4.2								
KURK	**Kurchatov**	**48.66**	**311**	P		**P**		**10 13 27.7**	**-1.5**
KURK					pmax		pmax		
	comp=Z,9.0nm,0.6s,mb5.0								
KURK	**Kurchatov**	**48.66**	**311**	P		**P**		**10 13 27.7**	**-1.5**
	comp=Z,9.3nm,0.6s,mb5.0								
ILAR	**Eielson Array**	**52.39**	**31**	P		**P**		**10 13 57.1**	**-0.3**
	comp=Z,1.6nm,0.8s,mb4.0,baz=262,slow=6.0,SNR=15								
WRAB	**Tennant Creek**	**53.46**	**189**	*e*P		**P**		**10 14 06.2**	**+0.2**
WRAB					pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.7								
WRAB	**Tennant Creek**	**53.46**	**189**	*e*P		**P**		**10 14 06.2**	**+0.2**
	comp=Z,6.5nm,0.7s,mb4.7								
WB2	**Warramunga Arr**	**53.47**	**189**	*e*P		**P**		**10 14 04.0**	**-2.0**
WRA	**Warramunga Arr**	**53.47**	**189**	P		**P**		**10 14 00.8**	**-5.3**
WRA								10 15 11.5	
WRA					pmax		pmax		
	comp=Z,1.0nm,0.6s								
WRA					pmax		pmax		
	comp=Z,1.0nm,0.7s								
WRA	**Warramunga Arr**	**53.47**	**189**	P		**P**		**10 14 00.8**	**-5.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=8.4,slow=7.7,SNR=12								
WRA					PcP		PcP	10 15 11.5	-1.2
	comp=Z,1.3nm,0.7s,baz=4.1,slow=4.1,SNR=4.6								
FITZ	**Fitzroy Crossi**	**53.47**	**199**	P		**P**		**10 14 00.6**	**-5.5**
	comp=Z,10nm,1.2s,mb4.6,baz=174,slow=9.2,SNR=3.1								
KKAR	**Karatay Array**	**55.46**	**303**	*i* P		**P**		**10 14 23.7**	**+3.4**
KKAR					pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3								
INK	**Inuvik**	**57.48**	**26**	P		**P**		**10 14 32.5**	**-1.9**
	comp=Z,1.5nm,0.9s,mb4.0,baz=27,slow=6.8,SNR=2.4								
MBWA	**Marble Bar**	**58.20**	**205**	P		**P**		**10 14 39.9**	**-0.2**
ARU	**Arti**	**59.48**	**320**	P		**P**		**10 14 50.0**	**+1.5**
ARU					pmax		pmax		
	comp=Z,8.0nm,1.4s,mb4.6								
ARU	**Arti**	**59.48**	**320**	P		**P**		**10 14 50.0**	**+1.5**
	comp=Z,8.4nm,1.4s,mb4.6								
DLBC	**Dease Lake**	**61.27**	**37**	P		**P**		**10 14 59.6**	**-1.1**
	comp=Z,0.9nm,0.7s,mb4.0,baz=262,slow=14,SNR=2.0								
STKA	**Stephens Creek**	**64.85**	**180**	P		**P**		**10 15 21.9**	**-2.8**
	comp=Z,3.2nm,0.8s,mb4.4,baz=4.3,slow=5.0,SNR=6.0								
STKA	**Stephens Creek**	**64.85**	**180**	*e*P		**P**		**10 15 23.4**	**-1.2**
RES	**Resolute Bay**	**66.07**	**14**	*e*P		**P**		**10 15 32.2**	**+0.4**
RES					pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.5								
RES	**Resolute Bay**	**66.07**	**14**	*e*P		**P**		**10 15 32.2**	**+0.5**
	comp=Z,4.1nm,0.9s,mb4.5								
YKA	**Yellowknife Ar**	**66.78**	**29**	P		**P**		**10 15 36.2**	**-0.2**
	comp=Z,0.5nm,0.3s,mb4.0,baz=312,slow=7.4,SNR=4.4								
YKA	**Yellowknife Ar**	**66.78**	**29**	P		**P**		**10 15 36.2**	**-0.2**
NWAO	**Narrogin (SRO)**	**69.91**	**202**	P		**P**		**10 15 55.4**	**-1.0**
	comp=Z,7.7nm,0.7s,mb4.8,baz=92,slow=3.0,SNR=5.6								
NWAO	**Narrogin (SRO)**	**69.91**	**202**	P		**P**		**10 15 55.4**	**-1.0**
NWAO					*e*P			10 15 58.6	
FINES	**FINESS Array B**	**72.32**	**333**	P		**P**		**10 16 12.4**	**+2.1**
	comp=Z,1.9nm,0.8s,mb4.1,baz=27,slow=13,SNR=5.5								
NVAR	**Mina Array Bea**	**76.83**	**53**	P		**P**		**10 16 35.7**	**-1.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=292,slow=4.6,SNR=8.7								
NVAR	**Mina Array Bea**	**76.83**	**53**	P		**P**		**10 16 35.7**	**-1.2**
BOZ	**Bozeman (W)**	**77.04**	**44**	*e*P		**P**		**10 16 38.6**	**+0.7**
BOZ					pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0								
BOZ	**Bozeman (W)**	**77.04**	**44**	*e*P		**P**		**10 16 38.6**	**+0.7**
	comp=Z,2.3nm,0.9s,mb4.1								
HFS	**Hagfors**	**77.67**	**336**	P		**P**		**10 16 41.2**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=270,slow=1.5,SNR=4.2								
NB2	**NORSAR Subarra**	**77.79**	**338**	P		**P**		**10 16 43.9**	**+2.2**
	comp=Z,1.6nm,0.7s,mb4.1,baz=40,slow=5.6								
NB2	**NORSAR Subarra**	**77.79**	**338**	P		**P**		**10 16 43.9**	**+2.2**
NB2					pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.2								
NOA	**NORSAR Array B**	**77.79**	**338**	P		**P**		**10 16 41.7**	**0.0**
	comp=Z,1.8nm,0.7s,mb4.1,baz=39,slow=5.6,SNR=9.7								
NOA	**NORSAR Array B**	**77.79**	**338**	P		**P**		**10 16 41.7**	**0.0**
PDAR	**Pinedale Array**	**79.92**	**45**	P		**P**		**10 16 51.5**	**-2.2**
	comp=Z,0.2nm,0.7s,mb3.2,baz=333,slow=4.0,SNR=2.4								
SRU	**San Rafael**	**81.49**	**49**	*e*P		**P**		**10 17 04.7**	**+2.6**
BRTR	**Keskin Array B**	**81.69**	**312**	P		**P**		**10 17 05.7**	**+2.7**
	comp=Z,1.5nm,0.7s,mb4.0,baz=111,slow=5.5,SNR=6.2								
MLR	**Muntele Rosu**	**82.53**	**320**	P		**P**		**10 17 06.7**	**-0.6**
	comp=Z,0.9nm,0.4s,mb4.2,baz=146,slow=18,SNR=2.8								
PV10	**Paradox Valley**	**82.86**	**49**	*e*P		**P**		**10 17 05.3**	**-3.8**
PV01	**Paradox Valley**	**83.30**	**48**	*e*P		**P**		**10 17 11.7**	**+0.3**
SMCO	**Snowmass**	**83.65**	**47**	*e*P		**P**		**10 17 14.5**	**+1.4**
CLL	**Collm**	**84.55**	**331**	P		**P**		**10 17 18.0**	**+0.6**
SDCO	**Great Sand Dun**	**85.44**	**47**	*e*P		**P**		**10 17 21.9**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.4								
ANMO	**Albuquerque**	**86.59**	**50**	P		**P**		**10 17 29.0**	**+1.2**
	comp=Z,0.8nm,0.6s,mb4.1,baz=304,slow=7.8,SNR=4.5								
ANMO	**Albuquerque**	**86.59**	**50**	P		**P**		**10 17 29.0**	**+1.2**
TXAR	**Lajitas Array**	**91.99**	**53**	P		**P**		**10 17 53.5**	**+0.1**
	comp=Z,0.6nm,0.6s,mb4.1,baz=297,slow=3.0,SNR=9.4								
SAML	**Samuel**	**146.41**	**49**	*e*PKPdf		PKPdf		10 24 22.3	-1.2
LPAZ	**La Paz**	**147.97**	**65**	PKP2		PKPab		10 24 31.3	-2.5
LPAZ					pmax		pmax		
	comp=Z,2.0nm,0.8s								
LPAZ	**La Paz**	**147.97**	**65**	PKPbc		PKPdf		10 24 31.3	+5.3
	comp=Z,2.0nm,0.8s,baz=20,slow=7.6,SNR=10								
LPAZ	**La Paz**	**147.97**	**65**	*e*PKPdf		PKPdf		10 24 30.0	+4.0

*NIED **28** 10:15:00, 36.20N×139.80E, h56km, Mw4.9 Best double couple: M₀2.28×10¹⁸ NP1:φs49°, δ68°, λ86°. NP2:φs239°, δ22°, λ99°.*
*BJI **28** 10:15:30.5, 36.04N×140.45E, h88km, mB4.6, mb4.9, Ms4.2, Msz4.0*
*MOS **28** 10:15:34.6±0.9, 36.08N×139.70E, h68km, mb5.1/55, Error ellipse: s-maj=8.4km s-min=4.9km az=112.6*
*JMA **28** 10:15:35.0±0.1, 36.13N×139.85E, h51km±1km, M5.0 Broadband fault plane solution: P waves. NP1:φs252°, δ26°, λ102°. NP2:φs59°, δ64°, λ84°. Principal axes: T Plg70°, Azm317°; N Plg5°, Azm61°; P Plg19°, Azm153°;*
JMA Felt IV J1.
*IDC **28** 10:15:36.0±1.2, 36.01N×139.75E, h66km±11km, mb4.4/22, mb1 4.6/24, mb1mx4.5/28, mbtmp4.7/24, MS3.9/17, Ms1 3.9/17, ms1mx3.7/26 Error ellipse: s-maj=15.8km s-min=7.1km az=62.0*
*NEIC **28** 10:15:38.4±0.2, 36.10N×139.61E, mb4.7/75, MW4.8(NIED), Error ellipse: s-maj=5.1km s-min=3.8km az=170.0*
NEIC Felt in much of east-central Honshu. Recorded [4 JMA] in Gumma, Ibaraki, Saitama and Tochigi; [3 JMA] in Chiba, Fukushima, Kanagawa and Tokyo; [2 JMA] in Nagano, Shizuoka and Yamanashi; [1 JMA] in Miyagi Prefectures. Also recorded [1 JMA] on Miyake-jima and O-shima.

ISC 28 10:15:33.1±0.1, **36.10N**±0.02×**139.83E**±0.03, **h50**km, **h50**km±3.6km:**pP-P**, **n358**, σ1§**15**/**349**, **mb4.8**/**113**, **MS4.1**/**28**, **21C-24D**, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.32**	**67**	↑↑P		**P**		**10 15 44.2**	**+1.8**
JYT					S		**S**	**10 15 50.6**	**+1.5**
TOK	**Tokyo**	**0.42**	**188**	↑↑P		**P**		**10 15 46.6**	**+3.2**
JAG	**Ashikaga**	**0.44**	**317**	↓↓P		**P**		**10 15 45.7**	**+2.0**
JAG					*e*S		**S**	**10 15 53.1**	**+1.8**
JHU	**Hanno**	**0.51**	**241**	↑↑P		**P**		**10 15 46.6**	**+2.2**
JHU					*e*S		**S**	**10 15 54.7**	**+2.1**
JRY	**Ryogami san**	**0.75**	**264**	↓↓P		**P**		**10 15 49.8**	**+2.2**
JRY					*e*S		**S**	**10 16 00.2**	**+2.0**
JKT	**Katashina**	**0.81**	**325**	↓↓P		**P**		**10 15 49.9**	**+1.6**
JKT					*e*S		**S**	**10 16 01.3**	**+1.7**
JOD2	**Odawara 2**	**1.03**	**216**	↓↓P		**P**		**10 15 53.7**	**+2.3**
JOD2					*e*S		**S**	**10 16 08.3**	**+3.3**
BSO4	**Boso 4**	**1.18**	**159**	↓↓P		**P**		**10 15 55.7**	**+2.2**
JYN	**Shimob**	**1.20**	**240**	↓↓P		**P**		**10 15 57.1**	**+3.3**
ONAJ	**Iwakimizuishiy**	**1.27**	**38**	↓↓P		**P**		**10 15 55.9**	**+1.1**
JFY	**Yanaizu**	**1.31**	**356**	↓↓P		**P**		**10 15 56.9**	**+1.5**
JHK	**Hiroka**	**1.32**	**331**	↓↓P		**P**		**10 15 57.1**	**+1.5**
MJAR	**Matsushiro Arr**	**1.38**	**289**	P		**P**		**10 15 58.2**	**+1.8**
	881nm,0.3s,baz=83,slow=13,SNR=1909								
MJAR					S		**S**	**10 16 15.3**	**+1.6**
	562nm,0.3s,baz=101,slow=24,SNR=12								
MJAR					LR		LR	10 16 44.1	
	comp=Z,6μm,21.6s,baz=155,slow=52								
MJAR	**Matsushiro Arr**	**1.38**	**289**	P		**P**		**10 15 58.2**	**+1.8**
MJAR					S		**S**	**10 16 15.3**	**+1.6**
MJAR					LR		LR	10 16 44.1	
MAJO	**Matsushiro**	**1.38**	**289**	↓↓*e*P		**P**		**10 15 58.2**	**+1.8**
MAT	**Matsushiro**	**1.38**	**289**	*e*P		**P**		**10 15 58.0**	**+1.6**
MAT					*e*S		**S**	**10 16 16.0**	**+2.2**
MAT	**Matsushiro**	**1.38**	**289**	P		**P**		**10 15 57.9**	**+1.5**
MAT					S		**S**	**10 16 16.3**	**+2.5**
BSO3	**Boso 3**	**1.41**	**156**	↓↓P		**P**		**10 15 58.2**	**+1.3**
JIM2	**Oshima 3**	**1.42**	**193**	↓↓P		**P**		**10 15 58.2**	**+1.2**
JFT	**Otama**	**1.47**	**16**	↓↓P		**P**		**10 15 59.3**	**+1.6**
JFK	**Kawauchi**	**1.52**	**33**	↓↓P		**P**		**10 15 59.4**	**+1.0**
JIZS	**Izushimoda**	**1.58**	**210**	↓↓P		**P**		**10 16 01.2**	**+2.0**
SHZ3	**Shizuoka 3**	**1.67**	**232**	P		**P**		**10 16 03.8**	**+3.3**
NJJJ	**Nii jima 2**	**1.75**	**195**	↓↓P		**P**		**10 16 03.5**	**+1.9**
JNY	**Yasuok**	**1.76**	**246**	↑↑P		**P**		**10 16 05.0**	**+3.3**
JMM	**Marumori**	**1.93**	**23**	↓↓P		**P**		**10 16 05.5**	**+1.5**
JSG	**Sagara**	**1.96**	**224**	P		**P**		**10 16 07.9**	**+3.5**
HMMJ	**Hamamatsu 2**	**2.12**	**235**	↑↑P		**P**		**10 16 09.6**	**+2.8**
JYS	**Shirataka**	**2.12**	**5**	↓↓P		**P**		**10 16 08.8**	**+1.9**

HHC AMB AMB
comp=Z,19nm,1.2s,mb4.4
HHC LR LR
comp=Z,122nm,10.8s
HHC LR LR
comp=N,146nm,18.0s,MS3.8
HHC LR LR
comp=E,278nm,16.8s,MS3.8
HHC LR LR
comp=Z,301nm,16.8s,MS3.8
GUMO Guam 22.87 167 *e*P **P** **10 20 32.9 -0.2**
CLNS Chul'man 23.05 339 *e*P **P** **10 20 34.8 +0.3**
CLNS pmax pmax
comp=Z,26nm,1.0s,mb4.6
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CIT Chita 24.50 319 *e*P **P** **10 20 45.8 -2.8**
CIT *e* 10 21 26.9
CIT pmax pmax
comp=Z,30nm,1.3s,mb4.7
MA2 Magadan 24.54 13*ce*P **P** **10 20 48.8 -0.2**
MA2 pmax pmax
comp=N,9.0nm,0.8s
MA2 pmax pmax
comp=Z,20nm,0.8s,mb4.7
MA2 Magadan 24.54 13 *e*P **P** **10 20 45.1 -3.8**
comp=Z,28nm,0.8s,mb4.8
ENH Enshi 25.98 266 *e*P **P** **10 21 00.4 -2.5**
comp=Z,55nm,0.8s,mb5.1
YAK Yakutsk 26.73 349 *e*P **P** **10 21 07.2 -2.2**
YAK *e* 10 21 56.8
YAK *e*PPP PPP 10 22 08.1 +0.8
YAK *e*SS SS 10 27 14.0 +20
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=Z,17nm,1.0s,mb4.5
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK MLR MLR
comp=Z,212nm,18.0s,MS3.7
YAK MLR MLR
comp=N,127nm,13.0s,MS3.7
YAK MLR MLR
comp=E,43nm,10.0s,MS3.7
YAK Yakutsk 26.73 349 *e*P **P** **10 21 07.1 -2.3**
comp=E,41nm,0.8s,mb5.0
SONM Songino Array 27.27 306 P **P** **10 21 13.8 -0.7**
comp=E,8.1nm,0.8s,mb4.3,baz=113,slow=9.4,SNR=6.0
SONM LR LR 10 32 34.0
comp=E,256nm,19.6s,MS3.8,baz=85,slow=37
BOD Bodaibo 27.66 330 *e*P **P** **10 21 16.1 -1.9**
BOD pmax pmax
comp=Z,11nm,1.3s,mb4.3
SEY Seymchan 27.96 12 *e*P **P** **10 21 20.5 -0.2**
SEY *e* 10 22 21.6
SEY pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
FX1 Attu Island--F 28.76 44 LR LR 10 30 53.2
comp=Z,4.2nm,20.8s,baz=73,slow=32
LZH Lanzhou 28.97 281 *e*P **P** **10 21 28.0 -2.0**
LZH PP PP 10 22 23.0 -1.9
LZH PCP PcP 10 24 36.5 -1.4
LZH AMB AMB
comp=Z,25nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,123nm,4.0s
LZH LR LR
comp=E,592nm,15.0s
LZH LR LR
comp=Z,795nm,16.3s,MS4.4
LZH Lanzhou 28.97 281 *e*P **P** **10 21 28.0 -2.0**
LZH *PP pP 10 21 42.2 -0.6
LZH *SP sP 10 21 49.0 +0.1
LZH 10 22 23.0
LZH 10 24 36.5
LZH pmax pmax
comp=Z,25nm,1.0s,mb4.9
LZH MLR MLR
comp=Z,800nm,16.3s,MS4.4
LZH Lanzhou 28.97 281 *e*P **P** **10 21 28.0 -2.0**
comp=Z,25nm,1.0s,mb4.9
LZH pP pP 10 21 42.2 -0.6
LZH sP sP 10 21 49.0 +0.1
LZH PP PP 10 22 23.0 -1.9
LZH PcP PcP 10 24 36.5 -1.4
LZH LR LR
comp=Z,800nm,16.3s,MS4.4
GYA Guiyang 29.81 261⇓ *i*P **P** **10 21 35.0 -2.5**
GYA PP PP 10 22 39.8 +4.0
GYA XS 10 26 59.0
GYA AMB AMB
comp=Z,40nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,120nm,2.9s,mb5.1
GYA LR LR
comp=N,340nm,14.2s,MS4.3
GYA LR LR
comp=E,310nm,14.0s,MS4.3
GYA LR LR
comp=Z,270nm,14.8s,MS4.0
ZAK Zakamensk 29.87 310 *e*P **P** **10 21 37.1 -0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
TLY Talaya 30.00 313 *e*P **P** **10 21 38.9 0.0**
TLY *e* 10 26 25.6
TLY pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
TLY MLR MLR
comp=Z,181nm,16.0s,MS3.8
TLY Talaya 30.00 313 *e*P **P** **10 21 37.0 -1.9**
comp=Z,7.7nm,1.0s,mb4.4
GTA Gaotai 31.63 288 P **P** **10 21 52.0 -1.4**
GTA PP PP 10 22 59.5 +0.3
GTA S **S** **10 26 57.3 -0.5**
GTA PCS 10 28 25.8
GTA SS SS 10 28 50.3 +0.8
GTA AMB AMB
comp=Z,9.0nm,0.7s,mb4.7
GTA AMB AMB
comp=Z,83nm,10.6s
GTA LR LR
comp=N,135nm,20.2s,MS3.9
GTA LR LR
comp=E,175nm,18.6s,MS3.9
GTA LR LR
comp=Z,312nm,27.8s
KMI Kunming 33.56 261 P **P** **10 22 08.8 -1.6**
KMI PP PP 10 23 21.5 -2.3
KMI S **S** **10 27 24.0 -4.0**
KMI AMB AMB
comp=Z,26nm,1.0s,mb5.1
KMI LR LR
comp=N,195nm,17.3s,MS4.1
KMI LR LR
comp=E,221nm,15.3s,MS4.1
KMI LR LR
comp=Z,208nm,20.7s
KMI Kunming 33.56 261 P **P** **10 22 08.8 -1.6**
KMI *PP pP 10 22 22.9 -0.5
KMI *SP sP 10 22 29.1 -0.6
KMI 10 23 21.4
KMI PPP PPP 10 23 38.7 -2.4
KMI 10 24 50.2
KMI S **S** **10 27 23.9 -4.1**
KMI *SS 10 27 48.3
KMI SS SS 10 29 28.3 -6.1
KMI SSS SSS 10 29 54.0 -6.4
KMI 10 32 27.9
KMI pmax pmax
comp=Z,26nm,1.0s,mb5.1
KMI MLR MLR
comp=Z,210nm,20.7s,MS3.8
KMI Kunming 33.56 261 P **P** **10 22 08.8 -1.6**
comp=Z,26nm,1.0s,mb5.1
KMI pP pP 10 22 22.9 -0.5
KMI sP sP 10 22 29.1 -0.6
KMI PP PP 10 23 21.4 -2.4
KMI PPP PPP 10 23 38.7 -2.4
KMI PcP PcP 10 24 50.2 0.0
KMI S **S** **10 27 23.9 -4.1**
KMI sS 10 27 48.3
KMI ScP 10 28 28.9
KMI PcS 10 28 34.8
KMI SS SS 10 29 28.3 -6.1
KMI SSS SSS 10 29 54.0 -6.4
KMI ScS ScS 10 32 27.9 -1.2
KMI LR LR
comp=Z,210nm,20.7s,MS3.8
BILL Bilibino 35.28 17 *i* P **P** **10 22 23.9 -0.8**
BILL pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BILL MLR MLR
comp=Z,200nm,18.0s,MS3.9
WMQ Urumqi 40.13 298 P **P** **10 23 04.8 -0.7**
WMQ AP pP 10 23 20.0 +1.3
WMQ AMB AMB
comp=Z,6.0nm,5.8s
WMQ LR LR
comp=N,387nm,16.8s,MS4.4
WMQ LR LR
comp=E,264nm,16.6s,MS4.4
WMQ LR LR
comp=Z,511nm,16.8s,MS4.4
LSA Lhasa 41.02 275 *e*P **P** **10 23 13.8 +0.8**
LSA pmax pmax
comp=Z,30nm,0.8s,mb5.0
LSA Lhasa 41.02 275 *e*P **P** **10 23 13.8 +0.8**
comp=Z,30nm,0.8s,mb5.0
LSA *e*pP pP 10 23 22.6 -3.7
ZAL Zalesovo 41.62 313 P **P** **10 23 16.8 -0.7**
comp=Z,20nm,0.7s,mb4.8,baz=21,slow=9.2,SNR=8.8
ZAL PcP PcP 10 25 12.4 -2.1
comp=Z,5.7nm,0.4s,baz=352,slow=0.9,SNR=3.1
ZAL LR LR 10 41 29.7
comp=Z,125nm,20.3s,MS3.8,baz=32,slow=37
SHL Shillong 42.12 269 *e*P **P** **10 23 21.0 -1.1**
NVS Novosibirsk 42.57 314 *e*P **P** **10 23 18.6 -6.8**
MKAR Makanchi Array 43.54 303 P **P** **10 23 32.6 -0.7**
comp=Z,17nm,0.8s,mb4.9,baz=84,slow=11,SNR=7.0
MKAR PcP PcP 10 25 20.3 -0.7
comp=Z,3.2nm,0.9s,baz=90,slow=2.9,SNR=3.7
MKAR LR LR 10 42 19.4
comp=Z,185nm,18.4s,MS4.0,baz=360,slow=37
KSM Kuching 43.99 225 *e*P **P** **10 23 35.8 -1.7**
KURK Kurchatov 45.51 309 *e*P **P** **10 23 46.9 -2.2**
KURK pmax pmax
comp=Z,119nm,1.1s,mb5.7
KURK Kurchatov 45.51 309 *e*P **P** **10 23 46.9 -2.2**
comp=Z,119nm,1.1s,mb5.7
JIRN Jiri 45.83 275 *e*P **P** **10 23 52.0 0.0**
comp=Z,170nm,0.8s
GUN Gumba 45.98 276 *e*P **P** **10 23 52.3 -0.8**
comp=Z,108nm,0.8s,mb5.8
PKI Pulchoki 46.50 276 *e*P **P** **10 23 56.6 -0.6**
comp=Z,78nm,0.8s,mb5.7
KKN Kakani 46.51 276 *e*P **P** **10 23 56.8 -0.5**
comp=Z,98nm,0.8s,mb5.8
DMN Daman 46.72 276 *e*P **P** **10 23 58.4 -0.6**
comp=Z,52nm,0.8s,mb5.5
GKN Gorkha 46.94 276 *e*P **P** **10 24 00.2 -0.5**
comp=Z,353nm,0.8s
KOLN Koldanda 47.87 277 *e*P **P** **10 24 07.4 -0.6**
comp=Z,178nm,1.1s
IMA Indian Mountai 48.14 30 P **P** **10 24 08.1 -1.5**
IMA pmax pmax
comp=Z,32nm,1.2s,mb5.2
IMA Indian Mountai 48.14 30 P **P** **10 24 08.1 -1.5**
comp=Z,32nm,1.2s,mb5.2
ULHL Ulahol 48.66 298 P **P** **10 24 14.2 +0.2**
SNR=7.6
SPU Mount Spurr 48.75 37 P **P** **10 24 13.6 -0.7**
TKM2 Tokmak 2 48.95 299 P **P** **10 24 16.5 +0.3**
SNR=30
KAKA Kakadu 49.05 190 *e*P **P** **10 24 20.1 +2.9**
comp=Z,29nm,0.7s,mb5.4
HNR Honiara 49.10 153 LR LR 10 44 21.5
comp=Z,89nm,18.9s,MS3.8,baz=57,slow=35
KZA Kyzart 49.42 298 P **P** **10 24 20.9 +1.0**
SNR=19
KBK Karagaybulak 49.48 299 P **P** **10 24 20.3 0.0**
SNR=29
CHMS Chumysh 49.53 299 P **P** **10 24 20.6 -0.1**
SNR=10
USP Ospenovka 49.64 299 P **P** **10 24 20.9 -0.6**
SNR=18
FRU Bishkek 49.67 299 *e*P **P** **10 24 21.0 -0.7**
FRU *e* 10 24 48.6
FRU pmax pmax
comp=Z,70nm,1.4s,mb5.5
AAK Ala-Archa 49.81 299 P **P** **10 24 22.5 -0.3**
SNR=8.2
AAK Ala-Archa 49.81 299 P **P** **10 24 22.2 -0.6**
AAK pmax pmax
comp=Z,21nm,0.9s,mb5.2
AAK Ala-Archa 49.81 299 *e*P **P** **10 24 20.6 -2.3**
comp=Z,29nm,0.9s,mb5.3
VOSK Vostochnaya 49.95 312 P **P** **10 24 21.8 -2.0**
VOSK pmax pmax
comp=Z,21nm,0.9s,mb5.2
MCK McKinley 50.12 33 P **P** **10 24 24.6 -0.2**
MCK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
MCK McKinley 50.12 33 P **P** **10 24 24.6 -0.2**
comp=Z,5.0nm,0.9s,mb4.5
PMR Palmer 50.13 36 *e*P **P** **10 24 29.5 +4.5**
comp=Z,5.5nm,0.7s,mb4.7
BVA0 Borovoye Array 50.26 313 *e*P **P** **10 24 24.8 -1.3**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
BVAR Borovoye Array 50.26 313 P **P** **10 24 25.3 -0.8**
comp=Z,4.4nm,0.3s,mb4.9,baz=108,slow=12,SNR=23
EKS2 Erkin-Say 50.31 299 P **P** **10 24 26.1 -0.5**
SNR=14
BRVK Borovoye 50.32 313 *e*P **P** **10 24 25.0 -1.5**
BRVK pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
BRVK Borovoye 50.32 313 *e*P **P** **10 24 25.0 -1.5**
comp=Z,3.5nm,0.5s,mb4.7
SML Sawmill 50.50 36 *e*P **P** **10 24 27.8 0.0**
AML Almayashu 50.52 298 P **P** **10 24 28.8 +0.6**
SNR=63
ILAR Eielson Array 50.96 32 P **P** **10 24 30.6 -0.7**
comp=Z,4.0nm,0.5s,mb4.6,baz=268,slow=5.7,SNR=46
ILAR LR LR 10 45 42.6
comp=Z,35nm,19.4s,MS3.4,baz=346,slow=35
THN Thein Dam 52.26 286 *e*P **P** **10 24 38.8 -2.6**
KKAR Karatay Array 52.49 300 *i* P **P** **10 24 42.0 -1.0**
KKAR pmax pmax
comp=Z,26nm,0.8s,mb5.2
FITZ Fitzroy Crossi 55.55 196⇓ *i*P **P** **10 25 04.9 -0.9**
comp=Z,16nm,0.5s,mb5.3
INK Inuvik 55.80 27 P **P** **10 25 06.5 -0.4**
INK pmax pmax
comp=Z,6.0nm,0.5s
INK Inuvik 55.80 27 P **P** **10 25 06.5 -0.5**
comp=Z,6.2nm,0.5s,mb4.9,baz=287,slow=6.4,SNR=19
INK Inuvik 55.80 27 *e*P **P** **10 25 06.1 -0.8**
comp=Z,7.4nm,0.6s,mb4.9
WRAB Tennant Creek 55.97 186 *i* P **P** **10 25 06.9 -1.9**
WRAB Tennant Creek 55.97 186 *e*P **P** **10 25 06.8 -2.0**
comp=Z,65nm,0.9s,mb5.7
WRAB *e* pP 10 25 19.2 -3.3
WB2 Warramunga Arr 55.98 186 *e*P **P** **10 25 07.3 -1.6**
WB2 *e*S **S** **10 32 50.1 -1.4**
WRA Warramunga Arr 55.98 186 P **P** **10 25 07.1 -1.8**
comp=Z,10.0nm,0.4s,mb5.2,baz=1.4,slow=7.6,SNR=203
CTA Charters Tower 56.21 173 P **P** **10 25 08.3 -2.3**
comp=Z,1.6nm,0.3s,mb4.5,baz=280,slow=12,SNR=2.4
CTA LR LR 10 46 47.5
comp=Z,148nm,18.9s,MS4.1,baz=22,slow=33
CTA Charters Tower 56.21 173 P **P** **10 25 08.3 -2.3**
CTA LR LR 10 46 47.5
ARU Arti 56.21 319⇑ *i*P **P** **10 25 08.5 -1.6**
ARU *e* 10 26 04.9
ARU *e* 10 27 11.0
ARU *e*S **S** **10 32 55.1 +0.9**
ARU *e*SS SS 10 36 38.2 -3.2
ARU pmax pmax
comp=Z,27nm,0.9s,mb5.3
ARU Arti 56.21 319 *e*P **P** **10 25 08.1 -1.9**
comp=Z,21nm,0.7s,mb5.3
HYB Hyderabad 56.90 268 *e*P **P** **10 25 14.0 -1.5**
HYB Hyderabad 56.90 268 *i* P **P** **10 25 14.0 -1.5**
AB31 Akbulak array 57.56 310 *e*P **P** **10 25 18.0 -1.8**
AB31 pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
MBWA Marble Bar 60.04 202 *e*P **P** **10 25 35.4 -1.9**
comp=Z,11nm,0.7s,mb5.0
POO Poona 60.12 272⇑ *i*P **P** **10 25 36.5 -1.4**
comp=Z,75nm,1.0s,mb5.7
DLBC Dease Lake 60.15 37 *e*P **P** **10 25 37.5 -0.1**
PALK Palkekele 60.92 257 *e*P **P** **10 25 42.2 -1.2**
comp=Z,70nm,1.4s,mb5.6
DZM Mont Dzumac 63.10 152 LR LR 10 48 41.5
comp=Z,185nm,18.9s,MS4.3,baz=200,slow=32
RES Resolute Bay 63.82 14 *e*P **P** **10 26 00.8 -1.0**
RES pmax pmax
comp=Z,20nm,1.1s,mb5.1
RES Resolute Bay 63.82 14 *e*P **P** **10 26 00.8 -0.9**
comp=Z,20nm,1.1s,mb5.1
ARCES ARCESS Array B 64.42 339 P **P** **10 26 05.0 -0.8**
comp=Z,2.3nm,0.4s,mb4.6,baz=52,slow=8.0,SNR=28
ARCES LR LR 10 57 28.3
comp=Z,140nm,18.3s,MS4.2,baz=68,slow=39
ARCES ARCESS Array B 64.42 339 P **P** **10 26 05.0 -0.8**
ARCES LR LR 10 57 28.2
ARE0 ARCESS Array S 64.42 339 *e*P **P** **10 26 04.1 -1.6**
YKA Yellowknife Ar 65.25 30 P **P** **10 26 10.5 -0.7**
comp=Z,1.4nm,0.7s,mb4.1,baz=295,slow=5.8,SNR=4.6
DAG Danmarks Havn 66.59 355⇑ *i*P **P** **10 26 18.8 -0.7**
DAG pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
DAG Danmarks Havn 66.59 355⇑ *i*P **P** **10 26 18.8 -0.7**
comp=Z,4.1nm,0.7s,mb4.6
MOS Moscow 67.23 323 *e*P **P** **10 26 20.5 -3.4**
MOS *e* 10 26 40.2
STKA Stephens Creek 67.64 178 *e*P **P** **10 26 26.6 -0.3**
comp=Z,4.5nm,0.8s,mb4.5
STKA Stephens Creek 67.64 178 P **P** **10 26 26.1 -0.7**
comp=Z,5.6nm,0.8s,mb4.7,baz=334,slow=6.4,SNR=8.7
STKA LR LR 10 57 35.5
comp=Z,136nm,19.9s,MS4.2,baz=26,slow=37
OBN Obninsk 68.07 323 *e*P **P** **10 26 27.7 -1.4**
OBN *e* 10 26 47.6
OBN *e* 10 28 59.5
OBN pmax pmax
comp=Z,32nm,1.0s,mb5.3
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
OBN Obninsk 68.07 323 *e*P **P** **10 26 27.0 -2.2**
KAF Kangasniemi 68.55 332 *ep* **P** **10 26 29.9 -2.1**
comp=Z,11nm,0.9s,mb4.8,baz=51,slow=5.8
KAF Kangasniemi 68.55 332 *e*P **P** **10 26 29.9 -2.1**
KAF pmax pmax
comp=Z,11nm,0.9s,mb4.8
FINES FINESS Array B 69.04 332 P **P** **10 26 34.0 -1.0**
comp=Z,17nm,0.9s,mb5.0,baz=72,slow=6.0,SNR=39
FINES LR LR 11 00 07.0
comp=Z,85nm,19.0s,MS4.0,baz=147,slow=39
GOF Gofitskoye 69.76 311 *e*P **P** **10 26 33.8 -5.9**
GOF pmax pmax
comp=Z,40nm,1.1s,mb5.3
KLBR Kellerberrin 70.45 200 *e*P **P** **10 26 43.5 -0.6**
comp=Z,16nm,0.9s,mb5.0
KIV Kislovodsk 70.55 311 *e*P **P** **10 26 44.5 0.0**
KIV pmax pmax
comp=Z,66nm,0.9s,mb5.6
KIV Kislovodsk 70.55 311 *e*P **P** **10 26 44.5 0.0**
comp=Z,66nm,0.9s,mb5.6
VSU Vasula 70.61 329*c i*P **P** **10 26 43.7 -0.9**
EDM Edmonton 70.87 38 *e*P **P** **10 26 46.3 0.0**
EDM *e* pP 10 26 58.9 -1.6
GNI Garni 71.23 306 P **P** **10 26 48.9 +0.2**
GNI pmax pmax
comp=Z,6.0nm,0.4s
GNI Garni 71.23 306 P **P** **10 26 48.9 +0.2**
comp=Z,5.8nm,0.4s,mb4.8,baz=281,slow=14,SNR=5.1
GNI Garni 71.23 306 *e*P **P** **10 26 48.1 -0.6**
comp=Z,23nm,1.0s,mb5.1
SUMG Summit 71.61 359 *e*P **P** **10 26 50.5 0.0**
comp=Z,25nm,0.8s,mb5.2
NEW Newport 71.69 43 *e*P **P** **10 26 51.6 +0.3**
NEW pmax pmax
comp=Z,6.0nm,1.1s
NEW Newport 71.69 43 *e*P **P** **10 26 51.6 +0.3**
comp=Z,5.8nm,1.1s,mb4.4
NWAO Narrogin (SRO) 71.85 200 *e*P **P** **10 26 51.4 -1.1**
NWAO pmax pmax
comp=Z,14nm,0.8s
NWAO Narrogin (SRO) 71.85 200 LR LR 10 56 13.5
comp=Z,96nm,19.6s,MS4.1,baz=239,slow=34
NWAO Narrogin (SRO) 71.85 200 *e*P **P** **10 26 51.4 -1.1**
comp=Z,14nm,0.8s,mb5.0
YBH Yreka Blue Hor 71.92 51 P **P** **10 26 53.5 +0.7**
comp=Z,3.7nm,1.1s,mb4.2,baz=222,slow=5.2,SNR=4.1
SOC Sochi 72.56 311 *e*P **P** **10 26 53.3 -3.2**
SOC *e*PPP PPP 10 31 18.7 -4.2
SOC *e*S S 10 36 21.7 +5.6
SOC pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
SOC pmax pmax
comp=N,9.0nm,0.6s
SOC pmax pmax
comp=E,3.0nm,0.6s
ANN Anapa 73.25 313 *e*P **P** **10 26 53.6 -6.9**
ANN pmax pmax
comp=Z,50nm,1.3s,mb5.3
BMO Blue Mountains 73.50 46 *e*P **P** **10 27 02.1 +0.1**
comp=Z,8.3nm,1.2s,mb4.5
WVOR Wild Horse Val 74.07 49 *e*P **P** **10 27 05.8 +0.4**
WVOR pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
WVOR Wild Horse Val 74.07 49 *e*P **P** **10 27 05.8 +0.4**
comp=Z,4.3nm,1.0s,mb4.3
AKASG Malin Array Be 74.25 322 P **P** **10 27 05.0 -1.2**
comp=Z,18nm,0.7s,mb5.1,baz=47,slow=6.1,SNR=76
AKASG PP PP 10 29 52.5 -1.7
comp=Z,0.2nm,0.3s,baz=44,slow=7.5,SNR=5.0
MSO Missoula 74.28 43 *e*P **P** **10 27 06.3 -0.2**
comp=Z,2.2nm,0.9s,mb4.1
BEKR Beckwourth 74.44 52 *e*P **P** **10 27 07.6 +0.1**
comp=Z,9.0nm,0.9s,mb4.7
NB2 NORSAR Subarra 74.55 337 P **P** **10 27 06.7 -1.0**
comp=Z,32nm,1.1s,mb5.2,baz=41,slow=5.6
NB2 NORSAR Subarra 74.55 337 P **P** **10 27 06.7 -1.0**
NB2 pmax pmax
comp=Z,32nm,1.1s,mb5.2
NB2 NORSAR Subarra 74.55 337 P **P** **10 27 06.7 -1.0**
baz=41,slow=5.9
NOA NORSAR Array B 74.55 337 P **P** **10 27 07.0 -0.7**
comp=Z,14nm,0.9s,mb4.9,baz=40,slow=5.8,SNR=32
NOA PP PP 10 29 53.5 -3.2
comp=Z,3.3nm,0.9s,baz=42,slow=8.7,SNR=4.2
NOA LR LR 11 02 51.3
comp=Z,144nm,19.4s,MS4.3,baz=75,slow=38
NOA NORSAR Array B 74.55 337 P **P** **10 27 07.0 -0.8**
NOA PP PP 10 29 53.5 -3.2
NOA LR LR 11 02 51.3
NAO01 NORSAR Array S 74.80 337 *e*P **P** **10 27 07.8 -1.4**
comp=Z,1.9nm,0.5s,mb4.3
SUW Suwalki 74.98 327 *e*P **P** **10 27 10.1 -0.2**
SUW Suwalki 74.98 327 *e*P **P** **10 27 10.1 -0.3**
SIM Simferopol' 75.09 315*d i*P **P** **10 27 10.9 -0.3**
SIM pmax pmax
comp=Z,26nm,0.7s,mb5.3
FFC Flin Flon 75.18 32 *e*P **P** **10 27 10.9 -0.6**
comp=Z,6.5nm,1.0s,mb4.5
FCC Fort Churchill 75.40 26 P **P** **10 27 13.9 +1.2**
CMB Columbia Colle 75.45 54 *e*P **P** **10 27 14.0 +0.6**
CMB pmax pmax
comp=Z,12nm,1.1s,mb4.7
CMB Columbia Colle 75.45 54 *e*P **P** **10 27 13.9 +0.5**
comp=Z,12nm,1.1s,mb4.8
HRY Holter Researc 75.51 42 *e*P **P** **10 27 13.9 +0.4**
HLID Hailey 75.94 46 *e*P **P** **10 27 16.8 +0.7**
comp=Z,8.9nm,1.5s,mb4.5
BMN Battle Mountai 76.09 50 *e*P **P** **10 27 17.4 +0.4**
BMN pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BMN Battle Mountai 76.09 50 *e*P **P** **10 27 17.4 +0.4**
comp=Z,4.6nm,0.8s,mb4.5
BOZ Bozeman (W) 76.27 43 *e*P **P** **10 27 16.9 -1.0**
BOZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BOZ Bozeman (W) 76.27 43 *e*P **P** **10 27 16.9 -1.0**
comp=Z,4.7nm,0.9s,mb4.4
QLMT Earthquake Lak 76.88 44 *e*P **P** **10 27 22.7 +1.3**
PTRM Twissleman Ran 76.92 55 *e*P **P** **10 27 20.6 -1.2**
ELK Elko 77.13 49 *e*P **P** **10 27 22.8 0.0**

ELK					pmax	pmax			
	comp=Z,4.0nm,0.8s								
ELK	**Elko**	**77.13**	**49**	*eP*	**P**		**10 27 22.8**	**0.0**	
	comp=Z,3.8nm,0.8s,mb4.4								
TPH	**Tonopah**	**77.47**	**52**	*eP*	**P**		**10 27 26.1**	**+1.3**	
IMW	**Indian Meadow**	**77.73**	**44**	*eP*	**P**		**10 27 27.4**	**+1.3**	
	comp=Z,7.4nm,1.0s,mb4.6								
MOOW	**Moose Ponds**	**77.94**	**44**	*eP*	**P**		**10 27 28.0**	**+0.7**	
	comp=Z,7.8nm,1.4s,mb4.5								
TPAW	**Teton Pass**	**77.98**	**45**	*eP*	**P**		**10 27 28.3**	**+0.8**	
	comp=Z,6.2nm,1.0s,mb4.5								
ISA	**Isabella**	**78.07**	**55**	*eP*	**P**		**10 27 26.7**	**-1.4**	
LOHW	**Long Hollow**	**78.10**	**44**	*eP*	**P**		**10 27 28.1**	**0.0**	
	comp=Z,3.4nm,1.0s,mb4.2								
SNOW	**Snow King Moun**	**78.11**	**45**	*eP*	**P**		**10 27 29.3**	**+1.1**	
	comp=Z,6.1nm,1.1s,mb4.4								
KWP	**Kalwaria**	**78.13**	**324**	*eP*	**P**		**10 27 28.4**	**+0.2**	
KWP	**Kalwaria**	**78.13**	**324**	*eP*	**P**		**10 27 28.4**	**+0.2**	
BORG	**Borgarnes**	**78.40**	**352**	P	**P**		**10 27 31.1**	**+1.8**	
	comp=Z,13nm,0.9s,mb4.9,baz=83,slow=2.9,SNR=4.3								
BORG	**Borgarnes**	**78.40**	**352**	P	**P**		**10 27 30.8**	**+1.4**	
	comp=Z,38nm,1.1s,mb5.2								
BR131	**Keskin Array S**	**78.50**	**311**	*eP*	**P**		**10 27 30.1**	**-0.3**	
	comp=Z,9.0nm,0.9s,mb4.7								
BRTR	**Keskin Array B**	**78.50**	**311**	P	**P**		**10 27 30.6**	**+0.2**	
	comp=Z,9.6nm,1.0s,mb4.7,baz=108,slow=3.9,SNR=26								
BRTR					PP	PP	10 30 28.9	-1.3	
	comp=Z,0.9nm,0.5s,baz=72,slow=7.8,SNR=3.7								
HWUT	**Hardware Ranch**	**78.80**	**46**	*eP*	**P**		**10 27 32.7**	**+0.7**	
	comp=Z,9.7nm,1.1s,mb4.7								
KOLS	**Kolonicke sedl**	**78.82**	**323**	*eP*	**P**		**10 27 31.1**	**-0.9**	
KOLS				*e*PP	PP		10 30 30.9	-1.6	
STHS	**Stebnicka Huta**	**78.98**	**324**	*eP*	**P**		**10 27 32.9**	**+0.1**	
OJC	**Ojcow**	**79.09**	**326**	*eP*	**P**		**10 27 33.3**	**-0.1**	
CRVS	**Cervenica-Dubn**	**79.23**	**324**	*eP*	**P**		**10 27 36.2**	**+2.0**	
PDAR	**Pinedale Array**	**79.23**	**45**	P	**P**		**10 27 34.9**	**+0.5**	
	comp=Z,2.3nm,0.9s,mb4.1,baz=300,slow=3.3,SNR=18								
NIE	**Niedzica**	**79.41**	**325**	*eP*	**P**		**10 27 36.0**	**+0.8**	
DAU	**Daniels Canyon**	**79.73**	**47**	*eP*	**P**		**10 27 35.8**	**-1.3**	
KECS	**Kecovo**	**79.98**	**324**	*eP*	**P**		**10 27 38.3**	**0.0**	
OKC	**Ostrava-Krasne**	**80.12**	**326**	*eP*	**P**		**10 27 39.3**	**+0.3**	
KSP	**Ksiaz**	**80.21**	**328**	*eP*	**P**		**10 27 39.1**	**-0.4**	
KSP	**Ksiaz**	**80.21**	**328**	*eP*	**P**		**10 27 39.8**	**+0.3**	
BSEG	**Bad Segeberg**	**80.30**	**332**	*eP*	**P**		**10 27 39.6**	**-0.3**	
HILS	**Ha'il**	**80.34**	**297**	P	**P**		**10 27 40.8**	**+0.1**	
MSU	**Marysvale**	**80.36**	**49**	*eP*	**P**		**10 27 42.1**	**+1.6**	
MORC	**Moravsky Berou**	**80.43**	**326**	*eP*	**P**		**10 27 40.1**	**-0.6**	
MORC					pmax	pmax			
	comp=Z,15nm,0.9s,mb4.9								
MORC	**Moravsky Berou**	**80.43**	**326**	*eP*	**P**		**10 27 40.1**	**-0.5**	
	comp=Z,14nm,0.9s,mb4.9								
NEN	**Nelson**	**80.45**	**53**	*eP*	**P**		**10 27 41.5**	**+0.5**	
PFO	**Pinyon Flat Ob**	**80.62**	**55**	*eP*	**P**		**10 27 42.8**	**+0.8**	
PFO					pmax	pmax			
	comp=Z,11nm,1.1s,mb4.7								
PFO	**Pinyon Flat Ob**	**80.62**	**55**	*eP*	**P**		**10 27 42.8**	**+0.8**	
	comp=Z,11nm,1.1s,mb4.7								
PSZ	**Piszkesteto**	**80.66**	**324**	*eP*	**P**		**10 27 41.5**	**-0.4**	
PSZ					pmax	pmax			
	comp=Z,25nm,1.3s,mb5.0								
PSZ	**Piszkesteto**	**80.66**	**324**	*eP*	**P**		**10 27 41.5**	**-0.4**	
	comp=Z,25nm,1.3s,mb5.0								
VYHS	**Vyhne**	**80.76**	**325**	*i* P	**P**		**10 27 42.6**	**+0.2**	
VYHS				*e*PP	PP		10 30 48.1	-0.6	
SRU	**San Rafael**	**80.99**	**48**	*eP*	**P**		**10 27 44.6**	**+0.8**	
BAR	**Barrett**	**81.04**	**56**	*eP*	**P**		**10 27 44.6**	**+0.4**	
PVCC	**Panska Ves**	**81.19**	**328**	*eP*	**P**		**10 27 45.0**	**+0.4**	
BRG	**Berggiesshubel**	**81.19**	**329**	*i* P	**P**		**10 27 44.7**	**+0.1**	
BRG					pmax	pmax			
	comp=Z,13nm,1.1s,mb4.8								
BRG	**Berggiesshubel**	**81.19**	**329**	*i* P	**P**		**10 27 44.7**	**+0.1**	
	comp=Z,13nm,1.1s,mb4.8								
CLL	**Collm**	**81.26**	**329**	⇑*i* P	**P**		**10 27 44.3**	**-0.7**	
CLL					pmax	pmax			
	comp=Z,28nm,1.0s,mb5.2								
CLL	**Collm**	**81.26**	**329**	⇑*i* P	**P**		**10 27 44.3**	**-0.7**	
	comp=Z,28nm,1.0s,mb5.2								
CLL	**Collm**	**81.26**	**329**	⇑P	**P**		**10 27 44.3**	**-0.7**	
	comp=Z,logA/T=1.4,mb5.1								
CLL				*e*			10 27 53.0		
CLL				*e*PP	PP		10 30 49.0	-3.9	
RSSD	**Black Hills**	**81.37**	**41**	*eP*	**P**		**10 27 46.1**	**+0.4**	
RSSD					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3								
RSSD	**Black Hills**	**81.37**	**41**	*eP*	**P**		**10 27 46.1**	**+0.4**	
	comp=Z,2.9nm,0.8s,mb4.3								
PRU	**Pruhonice**	**81.60**	**328**	*eP*	**P**		**10 27 47.0**	**+0.2**	
PRU					AMS	AMS	11 07 40.0		
	comp=Z,200nm,11.3s								
CLZ	**Clausthal**	**81.91**	**331**	*eP*	**P**		**10 27 48.0**	**-0.3**	
CLZ					pmax	pmax			
	comp=Z,28nm,1.2s,mb5.1								
CLZ	**Clausthal**	**81.91**	**331**	*eP*	**P**		**10 27 48.0**	**-0.3**	
	comp=Z,28nm,1.2s,mb5.1								
NKC	**Novy Kostel**	**82.30**	**329**	*eP*	**P**		**10 27 50.0**	**-0.4**	
MOX	**Moxa**	**82.33**	**330**	*eP*	**P**		**10 27 50.0**	**-0.5**	
PV10	**Paradox Valley**	**82.35**	**48**	*eP*	**P**		**10 27 52.3**	**+1.4**	
KAMS	**Al Khamasin**	**82.36**	**289**	P	**P**		**10 27 50.7**	**-0.6**	
KHC	**Kasperske Hory**	**82.66**	**328**	*eP*	**P**		**10 27 52.0**	**-0.2**	
KHC					MLR	MLR			
	comp=Z,100nm,14.3s,MS4.3								
KHC	**Kasperske Hory**	**82.66**	**328**	*eP*	**P**		**10 27 52.0**	**-0.2**	
KHC					PCP	PcP	10 27 55.5	-2.0	
KHC					AMS	AMS	11 08 50.0		
	comp=Z,100nm,14.3s								
PV01	**Paradox Valley**	**82.79**	**48**	*eP*	**P**		**10 27 54.0**	**+0.9**	
GEC2	**GERESS Array S**	**82.82**	**327**	*eP*	**P**		**10 27 52.7**	**-0.4**	
GEC2					pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.7								
GEC2	**GERESS Array S**	**82.82**	**327**	*eP*	**P**		**10 27 52.7**	**-0.4**	
	comp=Z,7.0nm,1.0s,mb4.7								
GERES	**GERESS Array B**	**82.82**	**327**	P	**P**		**10 27 52.5**	**-0.5**	
	comp=Z,1.4nm,0.4s,mb4.4,baz=45,slow=3.8,SNR=24								
GERES					LR	LR	11 07 05.4		
	comp=Z,108nm,18.3s,MS4.2,baz=232,slow=37								
WET	**Wettzell**	**82.95**	**328**	*eP*	**P**		**10 27 53.6**	**-0.1**	
WET					pmax	pmax			
	comp=Z,12nm,1.2s,mb4.8								
WET	**Wettzell**	**82.95**	**328**	*eP*	**P**		**10 27 53.6**	**-0.1**	
	comp=Z,12nm,1.2s,mb4.8								
SMCO	**Snowmass**	**83.05**	**46**	*eP*	**P**		**10 27 55.0**	**+0.6**	
GRA1	**Grafenberg Arr**	**83.23**	**329**	*eP*	**P**		**10 27 55.3**	**+0.2**	
	comp=Z,35nm,1.0s,mb5.3								
GRF	**Grafenberg Arr**	**83.23**	**329**	*eP*	**P**		**10 27 55.3**	**+0.2**	
GRF					pmax	pmax			
	comp=Z,35nm,1.0s,mb5.3								
GRF	**Grafenberg Arr**	**83.23**	**329**	*eP*	**P**		**10 27 55.3**	**+0.2**	
GRF					pmax	pmax			
	comp=Z,35nm,1.0s,mb5.3								
GRF	**Grafenberg Arr**	**83.23**	**329**	*eP*	**P**		**10 27 55.3**	**+0.2**	
	comp=Z,35nm,1.0s,mb5.3								
JMQS	**Jabal Moqyreh**	**83.84**	**301**	P	**P**		**10 27 57.8**	**+0.1**	
TATS	**Tathlith**	**83.65**	**289**	P	**P**		**10 27 58.1**	**+0.2**	
PERS	**Pernice**	**83.84**	**325**	*i* P	**P**		**10 27 58.2**	**0.0**	
TNS	**Taunus Mts**	**83.93**	**331**	*eP*	**P**		**10 27 58.5**	**-0.1**	
TNS					pmax	pmax			
	comp=Z,18nm,1.4s,mb5.0								
TNS	**Taunus Mts**	**83.93**	**331**	*eP*	**P**		**10 27 58.5**	**-0.1**	
	comp=Z,18nm,1.4s,mb5.0								
ALWS	**Ilw as Safayha**	**83.94**	**302**	P	**P**		**10 27 59.4**	**+0.2**	
JMOS	**Jabal al Moall**	**84.00**	**302**	P	**P**		**10 27 59.6**	**+0.1**	
HAQS	**Haql**	**84.19**	**302**	P	**P**		**10 28 00.6**	**+0.1**	
RPZ	**Rata Peaks**	**84.37**	**158**	LR	LR		10 59 08.3		
	comp=Z,267nm,20.1s,MS4.6,baz=14,slow=31								
FUR	**Furstenfeldbru**	**84.38**	**328**	*eP*	**P**		**10 28 01.2**	**+0.3**	
FUR					pmax	pmax			
	comp=Z,34nm,1.1s,mb5.4								
FUR	**Furstenfeldbru**	**84.38**	**328**	*eP*	**P**		**10 28 01.2**	**+0.3**	
	comp=Z,34nm,1.1s,mb5.4								
BDAS	**Al Bad'**	**84.46**	**301**	P	**P**		**10 28 01.7**	**-0.1**	
TAYS	**Tayyib Ism**	**84.55**	**301**	P	**P**		**10 28 02.0**	**-0.2**	
BOJS	**Bojanci**	**84.61**	**324**	*i* P	**P**		**10 28 01.8**	**-0.3**	
DJNS	**Zahran al Janu**	**84.67**	**288**	P	**P**		**10 28 03.9**	**+0.8**	
UMJS	**Umm Lajj**	**84.85**	**297**	P	**P**		**10 28 04.2**	**+0.4**	
SDCO	**Great Sand Dun**	**84.86**	**46**	*eP*	**P**		**10 28 04.8**	**+1.2**	
	comp=Z,5.6nm,1.0s,mb4.7								
SDCO				*e*		*e*P	10 28 18.3	+0.2	
JAVS	**Javornik**	**84.88**	**325**	*i* P	**P**		**10 28 02.4**	**-1.0**	
BLJS	**Baljurashi**	**84.88**	**291**	P	**P**		**10 28 05.1**	**+1.0**	
YNBS	**Yanbu' al Bahr**	**84.90**	**296**	P	**P**		**10 28 04.5**	**+0.5**	
TUC	**Tucson**	**85.16**	**53**	*eP*	**P**		**10 28 05.9**	**+0.7**	
TUC					pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.7								
TUC	**Tucson**	**85.16**	**53**	*eP*	**P**		**10 28 05.9**	**+0.7**	
	comp=Z,6.0nm,1.0s,mb4.7								
PPT	**Papeete**	**85.37**	**115**	*e*LR	LR		10 54 15.1		
	comp=Z,396nm,31.8s								
PPT	**Papeete**	**85.37**	**115**	LR	LR		11 06 52.3		
	comp=Z,102nm,18.1s,MS4.3,baz=308,slow=36								
BFO	**Black Forest**	**85.48**	**330**	*eP*	**P**		**10 28 06.2**	**-0.2**	
BFO					pmax	pmax			
	comp=Z,27nm,1.6s,mb5.1								
BFO	**Black Forest**	**85.48**	**330**	*eP*	**P**		**10 28 06.2**	**-0.2**	
	comp=Z,27nm,1.6s,mb5.1								
CDF	**Champ du Feu**	**85.84**	**331**	*eP*	**P**		**10 28 07.3**	**-0.8**	
	comp=Z,17nm,0.9s,mb5.0								
CDF	**Champ du Feu**	**85.84**	**331**	*eP*	**P**		**10 28 07.3**	**-0.8**	
CDF					pmax	pmax			
	comp=Z,9.0nm,0.9s,mb5.0								
ANMO	**Albuquerque**	**86.16**	**49**	P	**P**		**10 28 11.4**	**+1.4**	
ANMO					pmax	pmax			
	comp=Z,4.0nm,1.0s								
ANMO	**Albuquerque**	**86.16**	**49**	P	**P**		**10 28 11.4**	**+1.4**	
	comp=Z,3.7nm,1.0s,mb4.6,baz=299,slow=4.9,SNR=10								
ANMO	**Albuquerque**	**86.16**	**49**	*eP*	**P**		**10 28 10.9**	**+0.9**	
	comp=Z,6.0nm,1.1s,mb4.7								
ANMO				*e*	pP		10 28 27.7	+3.1	
HAU	**Haudompre**	**86.53**	**331**	*eP*	**P**		**10 28 12.1**	**+0.6**	
HAU				*e*pP	pP		10 28 34.5	+8.4	
HAU				*e*R					
	comp=Z,129nm,21.8s								
SCHQ	**Schefferville**	**86.58**	**15**	LR	LR		11 11 21.7		
	comp=Z,52nm,19.7s,MS3.9,baz=124,slow=39								
TAOE	**Nuku Hiva Isla**	**87.20**	**103**	*e*LR	LR		10 55 06.7		
	comp=Z,680nm,29.3s								
LOR	**Lormes**	**88.11**	**332**	*eP*	**P**		**10 28 19.0**	**-0.1**	
	comp=Z,10nm,0.8s,mb4.8								
LOR				*e*R					
	comp=Z,110nm,20.2s								
LOR	**Lormes**	**88.11**	**332**	*eP*	**P**		**10 28 19.0**	**-0.1**	
LOR					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.8								
LOR					MLR	MLR			
	comp=Z,110nm,20.3s,MS4.3								
LPL	**La Plagne**	**88.39**	**329**	*eP*	**P**		**10 28 19.8**	**-0.7**	
	comp=Z,2.1nm,0.3s,mb4.5								
LPG	**La Plagne**	**88.40**	**329**	*eP*	**P**		**10 28 20.7**	**+0.1**	
	comp=Z,3.0nm,0.4s,mb4.6								
SSF	**Saint Saulge**	**88.41**	**332**	*eP*	**P**		**10 28 20.4**	**-0.2**	
SSF					pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.7								
SSF	**Saint Saulge**	**88.41**	**332**	*eP*	**P**		**10 28 20.4**	**-0.2**	
	comp=Z,4.3nm,0.9s,mb4.7								
SMF	**Signal de Mont**	**88.63**	**331**	*eP*	**P**		**10 28 21.1**	**-0.6**	
AVF	**Avril sur Loir**	**88.70**	**332**	*eP*	**P**		**10 28 21.3**	**-0.7**	
AVF				*e*pP	pP		10 28 46.6	+10	
KSU1	**Kansas State U**	**88.85**	**40**	*eP*	**P**		**10 28 22.8**	**-0.1**	
TBI	**Tubuai**	**89.16**	**120**	*e*LR	LR		10 56 02.4		
	comp=Z,212nm,28.0s								
ORIF	**Oris-en-Rattie**	**89.23**	**329**	*eP*	**P**		**10 28 24.0**	**-0.5**	
ORIF				*e*R					
	comp=Z,82nm,22.5s								
PGF	**Pioggiola**	**89.77**	**326**	*eP*	**P**		**10 28 26.6**	**-0.6**	
VIVF	**Saint-Julien-l**	**89.77**	**330**	*eP*	**P**		**10 28 26.7**	**-0.4**	
	comp=Z,4.8nm,0.5s,mb4.8								
VIVF	**Saint-Julien-l**	**89.77**	**330**	*eP*	**P**		**10 28 26.7**	**-0.4**	
VIVF					pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.7								
FRF	**La Foret Royal**	**90.00**	**328**	*eP*	**P**		**10 28 27.6**	**-0.6**	
	comp=Z,18nm,1.0s,mb5.1								
FRF				*e*pP	pP		10 28 51.6	+8.7	
FRF	**La Foret Royal**	**90.00**	**328**	*eP*	**P**		**10 28 27.6**	**-0.6**	
FRF				*e**PP	pP		10 28 51.6	+8.7	
FRF					pmax	pmax			
	comp=Z,9.0nm,1.0s,mb5.0								
MFF	**Saint Martin d**	**90.16**	**334**	*eP*	**P**		**10 28 28.4**	**-0.4**	
MFF				*e*pP	pP		10 28 51.7	+8.1	
RJF	**Les Rejaudoux**	**90.64**	**332**	*eP*	**P**		**10 28 30.5**	**-0.7**	
RJF				*e*R					
	comp=Z,133nm,22.2s								
LASF	**Ste Croix**	**90.75**	**330**	*eP*	**P**		**10 28 31.2**	**-0.5**	
	comp=Z,10nm,0.7s,mb5.0								
CAF	**Calviac**	**90.75**	**331**	*eP*	**P**		**10 28 31.6**	**-0.1**	
LFF	**La Frestale**	**91.24**	**332**	*eP*	**P**		**10 28 33.7**	**-0.3**	
TXAR	**Lajitas Array**	**91.70**	**51**	P	**P**		**10 28 37.5**	**+1.1**	
	comp=Z,2.2nm,0.8s,mb4.5,baz=300,slow=3.5,SNR=20								
MTLF	**Montolieu**	**92.02**	**331**	*eP*	**P**		**10 28 37.1**	**-0.5**	
MTLF				*e*pP	pP		10 29 01.4	+9.1	
RKT	**Rikitea**	**99.59**	**112**	*e*LR	LR		11 00 49.4		
	comp=Z,242nm,34.2s								
DBIC	**Dimbokro**	**126.07**	**315**	PKIKP	PKPdf		10 34 31.1	+0.6	
DBIC					pmax	pmax			
	comp=Z,1.0nm,0.4s								
DBIC	**Dimbokro**	**126.07**	**315**	PKP	PKPdf		10 34 31.1	+0.6	
	comp=Z,0.8nm,0.3s,baz=74,slow=7.7,SNR=4.6								
SDV	**Santo Domingo**	**126.86**	**39**	*e*PKPdf	PKPdf		10 34 32.5	+0.5	
SNAA	**Sanae**	**139.48**	**197**	⇑*i* P	PKPdf		10 34 48.3	-5.8	
SNAA	**Sanae**	**139.48**	**197**	*e*	PKPdf		10 35 03.9	+10	
VNA2	**Neumayer--Watz**	**141.06**	**196**	⇑*i* P	PKPdf		10 34 54.2	-2.6	
VNA2	**Neumayer--Watz**	**141.06**	**196**	*e*	PKPdf		10 35 08.5	+12	
VNA3	**Neumayer Olymp**	**141.33**	**195**	⇑*i* P	PKPdf		10 34 53.0	-4.3	
VNA3	**Neumayer Olymp**	**141.33**	**195**	*e*	PKPdf		10 35 08.9	+12	
VNA1	**Neumayer--Stat**	**141.46**	**196**	P	PKPdf		10 34 53.7	-3.8	
VNA1	**Neumayer--Stat**	**141.46**	**196**	*e*	PKPdf		10 35 09.9	+12	
SAML	**Samuel**	**145.81**	**43**	*e*PKPdf	PKPdf		10 35 08.1	+1.4	
LPAZ	**La Paz**	**148.27**	**59**	*e*PKIKP	PKPdf		10 35 12.9	+2.3	
LPAZ	**La Paz**	**148.27**	**59**	PKPbc	PKPdf		10 35 13.8	+3.2	
	comp=Z,1.5nm,0.4s,baz=344,slow=3.2,SNR=14								
LVC	**Limon Verde**	**151.70**	**70**	PKPbc	PKPdf		10 35 24.6	+8.8	
	comp=Z,6.7nm,0.9s,baz=280,slow=2.0,SNR=7.2								
LVC	**Limon Verde**	**151.70**	**70**	P	PKPdf		10 35 18.2	+2.4	
SIV	**San Ignacio**	**152.66**	**48**	PKPbc	PKPdf		10 35 25.9	+8.6	
PLCA	**Paso Flores**	**155.82**	**110**	PKIKP	PKPdf		10 35 20.8	-0.1	
PLCA					pmax	pmax			
	comp=Z,2.0nm,0.9s								
PLCA	**Paso Flores**	**155.82**	**110**	PKP	PKPdf		10 35 20.8	-0.1	
	comp=Z,1.8nm,0.9s,baz=97,slow=6.6,SNR=2.9								
CFAA	**Coronel Fontan**	**156.31**	**87**	PKPab	PKPab		10 35 52.3	-0.3	
	comp=Z,0.3nm,0.4s,baz=273,slow=3.6,SNR=6.2								
BDFB	**Brasilia**	**158.46**	**21**	PKP2	PKPab		10 36 02.0	-0.3	
BDFB					pmax	pmax			
	comp=Z,1.0nm,0.4s								
BDFB	**Brasilia**	**158.46**	**21**	PKPab	PKPab		10 36 02.0	-0.2	
	comp=Z,1.3nm,0.4s,baz=177,slow=2.4,SNR=3.1								

*IDC **28** 10:35:51.7±2.1,33.02N×142.43E,mb3.7/3,mb1 3.7/6, mb1mx3.6/22,mbtmp3.8/6,ML3.7/2, Error ellipse: s-maj=46.4km s-min=22.1km az=59.0*
*JMA **28** 10:35:54.4±0.3,33.25N×142.48E,h74km,M3.6*
ISC 28 10:35:54.3±1.1,33.22N±0.06×142.48E±0.10,h33km,n20, σ0$85/26,mb3.7/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BSO1	**Boso 1**	**1.90**	**319**	P	**P**		**10 36 25.0**	**+0.1**
BSO1				*e*S	**S**		**10 36 48.4**	**+0.5**
BSO2	**Boso 2**	**2.10**	**317**	*e*S	**S**		**10 36 53.8**	**+0.9**
JHJ2	**Mitsune**	**2.24**	**268**	P	**P**		**10 36 30.2**	**+0.5**
JHJ	**Hachijo jima 2**	**2.27**	**268**	Pn	**Pn**		**10 36 30.4**	**+0.2**
	25nm,0.3s,baz=143,slow=12,SNR=34							
JHJ				Sn	**Sn**		**10 36 56.8**	**-0.6**
	63nm,0.3s,baz=249,slow=21,SNR=15							
BSO3	**Boso 3**	**2.28**	**315**	P	**P**		**10 36 30.8**	**+0.5**
BSO4	**Boso 4**	**2.51**	**315**	P	**P**		**10 36 34.6**	**+1.0**
JIM2	**Oshima 3**	**2.94**	**301**	P	**P**		**10 36 39.2**	**-0.6**
JYT	**Yasato**	**3.55**	**329**	P	**P**		**10 36 48.5**	**+0.1**
JHU	**Hanno**	**3.73**	**316**	P	**P**		**10 36 50.7**	**-0.2**
JHU				*e*S	**S**		**10 37 34.4**	**+0.1**
JHO	**Hitachi**	**3.73**	**336**	P	**P**		**10 36 49.5**	**-1.5**
JYN	**Shimob**	**3.97**	**306**	P	**P**		**10 36 54.8**	**+0.4**
JAG	**Ashikaga**	**4.06**	**323**	P	**P**		**10 36 55.0**	**-0.6**
JRY	**Ryogami san**	**4.06**	**314**	P	**P**		**10 36 55.8**	**+0.1**
JNY	**Yasuok**	**4.38**	**300**	P	**P**		**10 37 01.6**	**+1.4**
MJAR	**Matsushiro Arr**	**4.83**	**315**	Pn	**Pn**		**10 37 06.1**	**-0.6**
	2.4nm,0.3s,baz=160,slow=10,SNR=17							
MJAR				Sn	**Sn**		**10 37 59.3**	**-2.9**
	1.7nm,0.3s,baz=150,slow=20,SNR=6.7							
MAT	**Matsushiro**	**4.83**	**315**	P	**P**		**10 37 06.8**	**+0.2**
MAT				S	**S**		**10 38 00.6**	**-1.6**
CBIJ	**Chichi jima**	**6.11**	**182**	Pn	**Pn**		**10 37 19.1**	**-5.6**
	5.0nm,0.3s,baz=279,slow=14,SNR=6.6							
CBIJ				Sn	**Sn**		**10 38 26.6**	**-7.6**
	7.9nm,0.3s,baz=296,slow=20,SNR=4.4							
SONM	**Songino Array**	**30.76**	**309**	P	**P**		**10 42 09.3**	**+0.7**
	0.7nm,0.5s,mb3.8,baz=118,slow=9.3,SNR=2.8							
MKAR	**Makanchi Array**	**46.96**	**305**	P	**P**		**10 44 24.7**	**+1.0**
	0.7nm,0.7s,mb3.7,baz=89,slow=9.7,SNR=5.9							
WRA	**Warramunga Arr**	**53.43**	**190**	P	**P**		**10 45 12.2**	**-1.2**
	0.4nm,0.5s,mb3.6,baz=6.6,slow=7.7,SNR=8.3							

*IDC **28** 10:49:14.9±0.6,4.53N×94.94E,mb4.4/15,mb1 4.5/15, mb1mx4.3/23,mbtmp4.4/15,MS3.3/3,Ms1 3.3/3, ms1mx3.1/18,Error ellipse: s-maj=22.9km s-min=15.8km az=45.0*
*MOS **28** 10:49:18.9±0.9,4.68N×95.13E,h33km,mb4.6/9,Error ellipse: s-maj=24.8km s-min=8.8km az=115.0*
*NEIC **28** 10:49:20.6±0.5,4.52N×94.91E,h35km,mb4.6/10,Error ellipse: s-maj=13.3km s-min=8.1km az=209.0*
*BJI **28** 10:49:20.6,4.50N×94.90E,h35km,mB5.1,mb4.7,Ms4.4, Msz4.2*
ISC 28 10:49:17.6±3.1,4.44N±0.08×94.95E±0.07,h28km±22km, n73,σ1$10/71,mb4.5/32,MS3.4/4,3C-5D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KULM	**Kulim**	**5.74**	**81**	*e*Pn	**Pn**		**10 50 43.3**	**0.0**
KULM				*e*Sn	**Sn**		**10 51 42.3**	**-6.8**
PALK	**Pallekele**	**14.45**	**282**	P	**P**		**10 52 37.3**	**-5.3**
PALK				*e*S	**S**		**10 55 11.9**	**-11**
KSM	**Kuching**	**15.62**	**100**	*eP*	**P**		**10 53 01.9**	**+4.1**
QIZ	**Qiongzhong**	**20.53**	**44**	P	**P**		**10 53 55.9**	**-0.8**
	52nm,1.5s							
KMI	**Kunming**	**21.88**	**19**	P	**P**		**10 54 12.5**	**+2.1**
KMI				AP			10 54 22.5	
KMI				XP			10 54 27.3	
KMI				AMB	AMB			
	comp=Z,11nm,1.1s,mb4.2							
KMI	**Kunming**	**21.88**	**19**	P	**P**		**10 54 12.6**	**+2.2**
KMI				*PP			10 54 22.4	
KMI				*SP			10 54 27.2	
KMI				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.2							
KMI	**Kunming**	**21.88**	**19**	P	**P**		**10 54 12.6**	**+2.2**
	comp=Z,11nm,1.1s,mb4.2							
KMI				pP			10 54 22.4	
KMI				sP			10 54 27.2	
JIRN	**Jiri**	**24.55**	**341**	*eP*	**P**		**10 54 37.9**	**+1.4**
	comp=Z,29nm,0.5s,mb5.0							
PKI	**Pulchoki**	**24.73**	**339**	*eP*	**P**		**10 54 38.5**	**+0.2**
	comp=Z,9.1nm,0.5s,mb4.5							
DMN	**Daman**	**24

BR131 Keskin Array S 65.28 312 *e*P **P** **10 59 58.7 -0.7**
comp=Z,1.8nm,0.5s,mb4.4
BRTR Keskin Array B 65.28 312 P **P** **10 59 59.1 -0.3**
comp=Z,2.7nm,0.6s,mb4.5,baz=134,slow=7.6,SNR=14
TIRR Tirgusor 70.25 316 ⇓P **P** **11 00 30.7 +0.3**
CFR Carcaliu 70.61 316 ⇓P **P** **11 00 32.8 +0.2**
HARR Harsova 70.64 316 ⇑P **P** **11 00 33.1 +0.3**
AKASG Malin Array Be 71.33 322 P **P** **11 00 35.7 -1.2**
comp=Z,3.2nm,0.5s,mb4.5,baz=88,slow=5.3,SNR=11
AKASG Malin Array Be 71.33 322 P **P** **11 00 35.7 -1.2**
VRI Vrincioaia 71.73 317 ⇑P **P** **11 00 39.9 +0.5**
MLR Muntele Rosu 72.18 316 ⇓P **P** **11 00 43.1 +1.0**
BURAR Bucovina Array 73.12 318 ⇓P **P** **11 00 48.6 +1.1**
BURAR Bucovina Array 73.12 318 ⇓P **P** **11 00 48.7 +1.1**
FINES FINESS Array B 76.10 333 P **P** **11 01 03.9 -0.5**
comp=Z,3.7nm,0.7s,mb4.5,baz=103,slow=5.3,SNR=13
FINES FINESS Array B 76.10 333 P **P** **11 01 03.9 -0.5**
KAF Kangasniemi 76.19 333 *e*p **P** **11 01 04.1 -0.8**
comp=Z,3.8nm,0.6s,mb4.5,baz=102,slow=5.3
KAF Kangasniemi 76.19 333 *e*P **P** **11 01 04.1 -0.8**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ARCES ARCESS Array B 78.75 340 P **P** **11 01 18.7 -0.2**
comp=Z,2.2nm,0.4s,mb4.4,baz=96,slow=6.2,SNR=36
GERES GERESS Array B 80.91 319 P **P** **11 01 32.3 +1.4**
comp=Z,1.3nm,0.5s,mb4.1,baz=101,slow=5.0,SNR=5.0
NOA NORSAR Array B 83.10 331 P **P** **11 01 41.5 -0.5**
comp=Z,1.3nm,0.9s,mb4.0,baz=95,slow=4.9,SNR=3.3
ULM Lac du Bonnet 124.73 8 PKP PKPdf 11 08 15.8 -4.1
comp=Z,2.4nm,0.7s,baz=51,slow=6.5,SNR=2.7
NVAR Mina Array Bea 127.39 33 PKP PKPdf 11 08 22.7 -2.7
comp=Z,0.2nm,0.5s,baz=274,slow=3.0,SNR=4.2
PDAR Pinedale Array 128.03 23 PKP PKPdf 11 08 23.1 -3.4
comp=Z,0.4nm,0.5s,baz=80,slow=2.8,SNR=4.8
TXAR Lajitas Array 141.96 27 PKhKP 11 08 43.8
comp=Z,0.1nm,0.4s,baz=326,slow=3.3,SNR=4.8
TXAR PKP PKPdf 11 08 51.4 -1.3
comp=Z,0.4nm,0.6s,baz=54,slow=0.9,SNR=5.9
LPAZ La Paz 159.64 233 PKP PKPdf 11 09 16.6 -2.9
comp=Z,0.7nm,0.4s,baz=27,slow=11,SNR=5.6

IDC ***28*** *10:52:25.0±1.1,33.23N×142.51E,mb3.7/6,mb1 3.9/8, mb1mx3.7/22,mbtmp3.7/8,ML3.5/2,MS2.8/1,Ms1 2.8/1, ms1mx2.4/20,Error ellipse: s-maj=26.3km s-min=23.1km az=80.0*
JMA ***28*** *10:52:26.9±0.3,33.32N×142.52E,h63km,M3.5*
NEIC ***28*** *10:52:30.6±0.8,33.49N×141.82E,h45km,MG3.5(JMA), Error ellipse: s-maj=22.6km s-min=15.8km az=77.0*
ISC 28 10:52:26.5±1.9,33.29N±0.05×142.46E±0.06,h25km±15km, n26,σ0s88/36,mb4.0/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.83**	**318**	P		**Pn**	**10 52 56.7**	**-0.3**
BSO1					*e*S	**Sn**	**10 53 20.9**	**+1.3**
BSO3	**Boso 3**	**2.21**	**314**	P		**Pn**	**10 53 02.5**	**+0.1**
JHJ2	**Mitsune**	**2.22**	**266**	P		**Pn**	**10 53 03.0**	**+0.5**
JHJ2					*e*S	**Sn**	**10 53 29.5**	**+0.1**
JHJ	**Hachijo jima 2**	**2.25**	**266**	Pn		**Pn**	**10 53 03.2**	**+0.3**
	32nm,0.3s,baz=162,slow=7.3,SNR=33							
JHJ					Sn	**Sn**	**10 53 29.9**	**-0.3**
	31nm,0.3s,baz=63,slow=22,SNR=6.6							
BSO4	**Boso 4**	**2.44**	**315**	P		**Pn**	**10 53 06.2**	**+0.5**
BSO4					*e*S	**Sn**	**10 53 36.3**	**+1.3**
JIM2	**Oshima 3**	**2.89**	**300**	P		**Pn**	**10 53 11.1**	**-0.9**
JIM2					*e*S	**Sn**	**10 53 46.1**	**-0.3**
JHU	**Hanno**	**3.66**	**315**	P		**Pn**	**10 53 22.9**	**-0.1**
JHU					*e*S	**Sn**	**10 54 04.3**	**-1.5**
JYN	**Shimob**	**3.91**	**305**	P		**Pn**	**10 53 26.7**	**+0.1**
JYN					*e*S	**Sn**	**10 54 13.3**	**+1.0**
JAG	**Ashikaga**	**3.98**	**323**	P		**Pn**	**10 53 26.8**	**-0.8**
JRY	**Ryogami san**	**4.00**	**314**	P		**Pn**	**10 53 27.4**	**-0.4**
JRY					*e*S	**Sn**	**10 54 14.1**	**-0.3**
JNY	**Yasuok**	**4.33**	**300**	P		**Pn**	**10 53 33.5**	**+1.0**
MJAR	**Matsushiro Arr**	**4.76**	**314**	Pn		**Pn**	**10 53 38.3**	**-0.3**
	1.9nm,0.3s,baz=167,slow=14,SNR=23							
MJAR					Sn	**Sn**	**10 54 32.3**	**-1.5**
	1.4nm,0.3s,baz=193,slow=8.8,SNR=5.9							
MAJO	**Matsushiro**	**4.77**	**314**	*e*Pn		**Pn**	**10 53 31.8**	**-6.9**
MAT	**Matsushiro**	**4.77**	**314**	*e*P		**Pn**	**10 53 39.0**	**+0.3**
MAT					*e*S	**Sn**	**10 54 34.0**	**+0.1**
MAT	**Matsushiro**	**4.77**	**314**	P		**Pn**	**10 53 38.5**	**-0.2**
MAT					S	**Sn**	**10 54 33.7**	**-0.2**
MAT	**Matsushiro**	**4.77**	**314**	P		**Pn**	**10 53 39.1**	**+0.4**
JOW	**Kunigami**	**13.86**	**246**	LR		LR	11 00 04.1	
	comp=Z,45nm,21.8s,baz=86,slow=33							
SONM	**Songino Array**	**30.70**	**309**	P		**P**	**10 58 42.6**	**+1.2**
	0.8nm,0.6s,mb3.7,baz=106,slow=10,SNR=3.2							
SONM	**Songino Array**	**30.70**	**309**	P		**P**	**10 58 42.6**	**+1.2**
MKAR	**Makanchi Array**	**46.90**	**305**	P		**P**	**11 00 57.4**	**+0.8**
	0.7nm,0.7s,mb3.7,baz=90,slow=9.7,SNR=3.9							
KURK	**Kurchatov**	**48.97**	**311**	P		**P**	**11 01 09.9**	**-2.8**
	5.9nm,0.8s,mb4.7							
ILAR	**Eielson Array**	**52.23**	**31**	P		**P**	**11 01 37.0**	**-0.2**
	0.4nm,0.6s,mb3.5,baz=261,slow=6.6,SNR=5.9							
WRA	**Warramunga Arr**	**53.50**	**190**	P		**P**	**11 01 46.8**	**-0.5**
	0.3nm,0.6s,mb3.4,baz=10,slow=8.0,SNR=5.2							
FITZ	**Fitzroy Crossi**	**53.57**	**200**	P		**P**	**11 01 47.2**	**-0.6**
	2.9nm,0.8s,mb4.2,baz=90,slow=6.1,SNR=2.9							
RES	**Resolute Bay**	**66.01**	**14**	P		**P**	**11 03 11.8**	**-0.7**
	12nm,1.4s,mb4.7							
TXAR	**Lajitas Array**	**91.71**	**53**	P		**P**	**11 05 35.3**	**+2.1**
	0.3nm,0.7s,mb3.8,baz=307,slow=4.5,SNR=4.1							

MAN ***28*** *11:26:50.8, 11.99N×125.90E,h10km,mb5.1,ML4.0, MS4.2*
MOS ***28*** *11:26:52.7±1.0, 11.76N×125.91E,h37km,mb5.0/23,Error ellipse: s-maj=20.5km s-min=6.9km az=118.9*
BJI ***28*** *11:26:54.8, 11.86N×125.82E,h50km,mB5.0,mb4.7, Ms4.2,Msz3.9*
IDC ***28*** *11:26:54.9±3.5, 11.79N×125.78E,h35km±27km,mb4.3/17, mb1 4.4/18,mb1mx4.3/23,mbtmp4.5/18,ML4.0/1,MS3.9/8, Ms1 3.9/8,ms1mx3.5/31,Error ellipse: s-maj=32.4km s-min=11.4km az=71.0*
NEIC ***28*** *11:26:57.1±1.1, 11.77N×125.86E,h60km±9km,mb4.8/27, Error ellipse: s-maj=10.4km s-min=5.0km az=76.0*
ISC 28 11:26:49.4±0.3,11.90N±0.02×126.00E±0.03,h10km, (h47km±4.0km:pP-P),n172,σ1s09/188,mb4.8/60,MS4.0/18, 12C-11D,Samar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.62**	**242**	*e*P		**Pb**	**11 27 02.5**	**+0.6**
BESP					*e*S	**Sg**	**11 27 08.9**	**-1.4**
PLP	**Palo**	**1.24**	**234**	*i* P		**Pb**	**11 27 12.2**	**-0.2**
PLP					*i* S	**Sb**	**11 27 26.9**	**-1.3**
SCPH	**Surigao**	**2.16**	**193**	⇑*e*P		**Pn**	**11 27 27.4**	**+1.5**
SCPH					*e*S	**Sn**	**11 27 50.0**	**-3.0**
LLP	**Lapu-Lapu**	**2.54**	**232**	⇓*i*P		**Pn**	**11 27 32.7**	**+1.4**
LLP					*e*S	**Sn**	**11 28 04.0**	**+1.3**
BUTP	**Butuan**	**2.93**	**187**	*e*P		**Pn**	**11 27 40.4**	**+3.4**
TBP	**Tagbilaran**	**3.04**	**224**	⇓*e*P		**Pn**	**11 27 39.1**	**+0.7**
TBP					*e*S	**Sn**	**11 28 20.1**	**+4.9**
RCP	**Roxas**	**3.21**	**264**	⇑*e*P		**Pn**	**11 27 41.6**	**+0.8**
AUQP	**San Andres**	**3.54**	**294**	*e*P		**Pn**	**11 27 48.9**	**+3.3**
GUIM	**Jordan**	**3.58**	**250**	*e*P		**Pn**	**11 27 46.6**	**+0.5**
GUIM					*e*S	**Sn**	**11 28 23.3**	**-5.6**
KALP	**Kalibo**	**3.59**	**267**	*e*P		**Pn**	**11 27 50.0**	**+3.7**
CGP	**Cagayan de Oro**	**3.66**	**201**	⇓*e*P			11 28 00.2	
CGP					*e*S	**Sn**	**11 28 31.6**	**+0.8**
SNPH	**Sibulan**	**3.72**	**227**	⇑*i*P		**Pn**	**11 27 49.3**	**+1.2**
GQP	**Guinayangan**	**4.00**	**300**	⇓*e*P		**Pn**	**11 27 53.1**	**+1.1**
GQP					*e*S	**Sn**	**11 28 41.6**	**+2.1**
BUKP	**Musuan**	**4.10**	**193**	*e*P		**Pn**	**11 27 56.1**	**+2.6**
DCPH	**Dipolog City**	**4.20**	**219**	*e*P		**Pn**	**11 27 55.9**	**+0.9**
BOAC	**Boac**	**4.34**	**291**	*e*P		**Pn**	**11 27 57.6**	**+0.6**
BOAC					*e*S	**Sn**	**11 28 48.8**	**+0.5**
POLP	**Polilio Island**	**4.85**	**306**	*e*P		**Pn**	**11 28 08.0**	**+3.8**
LBPH	**Los Banos**	**5.20**	**296**	⇑*e*P		**Pn**	**11 28 08.6**	**-0.6**
IPIL	**Ipil**	**5.30**	**220**	*e*P		**Pn**	**11 28 10.4**	**-0.1**
IPIL					*e*S	**Sn**	**11 29 08.4**	**-4.0**
NZB	**Bigte**	**5.60**	**302**	⇑*e*P		**Pn**	**11 28 13.7**	**-1.1**
BUSP	**Coron**	**5.68**	**272**	*e*P		**Pn**	**11 28 15.7**	**-0.2**
BALP	**Baler**	**5.75**	**312**	*e*P		**Pn**	**11 28 15.8**	**-1.0**
BALP					*e*S	**Sn**	**11 29 13.6**	**-10**
LUBP	**Lubang**	**5.90**	**289**	*e*P		**Pn**	**11 28 17.7**	**-1.3**
PCPH	**Palayan**	**6.00**	**308**	⇓*e*P		**Pn**	**11 28 20.3**	**-0.1**
PCPH					*e*S	**Sn**	**11 29 21.3**	**-8.6**
NBP	**Mount Natib**	**6.13**	**298**	⇑*e*P		**Pn**	**11 28 22.4**	**+0.2**
CAUP	**Cauayan**	**6.44**	**322**	*e*P		**Pn**	**11 28 26.1**	**-0.6**
CAUP					*e*S	**Sn**	**11 29 26.7**	**-14**
BCPH	**Baguio City Da**	**6.89**	**311**	⇓*i*P		**Pn**	**11 28 33.6**	**+0.6**
CVP	**Callao Caves**	**7.04**	**326**	*e*P		**Pn**	**11 28 35.0**	**-0.1**
APYP	**Conner**	**7.50**	**323**	*e*P		**Pn**	**11 28 40.1**	**-1.4**
APYP					*e*S	**Sn**	**11 30 00.4**	**-7.2**
ABRA	**Dolores**	**7.67**	**319**	*e*P		**Pn**	**11 28 43.2**	**-0.7**
YHNB	**Yeheng**	**13.44**	**342**	P		**P**	**11 30 05.6**	**+2.9**
JOW	**Kunigami**	**15.01**	**8**	Pn		**P**	**11 30 28.3**	**+4.9**
	1.1nm,0.3s,baz=213,slow=20,SNR=8.4							
QIZ	**Qiongzhong**	**17.10**	**296**	P		**P**	**11 30 52.5**	**+2.2**
QIZ					S	**S**	**11 34 01.0**	**+1.8**
QIZ					LR	LR		
	comp=E,329nm,19.0s							
QIZ					LR	LR		
	comp=Z,490nm,17.7s							
QIZ	**Qiongzhong**	**17.10**	**296**	*e*P		**P**	**11 30 51.0**	**+0.7**
	comp=Z,77nm,1.6s							
KSM	**Kuching**	**18.69**	**238**	*e*P		**P**	**11 31 09.6**	**-0.5**
SSE	**Sheshan**	**19.62**	**348**	P		**P**	**11 31 23.0**	**+2.1**
SSE					AP		11 31 31.0	
SSE					XP		11 31 35.3	
SSE					AMB	AMB		
	comp=Z,32nm,0.9s							
SSE					AMB	AMB		
	comp=Z,98nm,4.3s							
SSE					LR	LR		
	comp=N,61nm,17.6s							
SSE					LR	LR		
	comp=E,160nm,17.6s							
SSE					LR	LR		
	comp=Z,126nm,19.4s							
SSE	**Sheshan**	**19.62**	**348**	P		**P**	**11 31 23.1**	**+2.2**
	comp=Z,32nm,0.9s							
SSE					pP		11 31 31.0	
SSE					sP		11 31 35.2	
SSE					S	**S**	**11 35 07.1**	**+11**
SSE					sS		11 35 20.5	
NJ2	**Nanjing**	**21.11**	**343**	*e*P		**P**	**11 31 37.3**	**+0.7**
NJ2					AP		11 31 46.5	
NJ2					XP		11 31 50.3	
NJ2					PP	PP	11 32 01.0	+1.3
NJ2					S	**S**	**11 35 29.0**	**+2.5**
NJ2					XS		11 35 45.0	
NJ2					AMB	AMB		
	comp=Z,20nm,0.8s,mb4.5							
NJ2					AMB	AMB		
	comp=Z,110nm,4.8s							
NJ2					LR	LR		
	comp=N,420nm,13.6s,MS4.2							
NJ2					LR	LR		
	comp=E,540nm,11.3s,MS4.2							
NJ2					LR	LR		
	comp=Z,280nm,18.9s							
WHN	**Wuhan**	**21.47**	**332**	⇓P		**P**	**11 31 42.0**	**+1.8**
WHN					AMB	AMB		
	comp=Z,54nm,1.3s,mb4.7							
ENH	**Enshi**	**23.85**	**323**	*e*P		**P**	**11 32 04.3**	**+0.5**
	comp=Z,45nm,1.1s,mb4.8							
KAKA	**Kakadu**	**25.27**	**165**	*e*P		**P**	**11 32 21.2**	**+3.6**
	comp=Z,12nm,0.6s,mb4.6							
KMI	**Kunming**	**25.62**	**304**	P		**P**	**11 32 21.0**	**+0.2**
KMI					AP	pP	11 32 35.0	+11
KMI					XP	sP	11 32 41.5	+16
KMI					PP	PP	11 33 03.5	+3.0
KMI					PCP	PcP	11 35 49.8	-2.6
KMI					S	**S**	**11 36 44.5**	**-1.9**
KMI					XS		11 37 08.8	
KMI					SCP		11 39 22.8	
KMI					PCS		11 39 29.0	
KMI					AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.3							
KMI					LR	LR		
	comp=N,176nm,10.4s,MS4.0							
KMI					LR	LR		
	comp=E,205nm,13.8s,MS4.0							
KMI					LR	LR		
	comp=Z,254nm,16.3s,MS3.8							
KMI	**Kunming**	**25.62**	**304**	P		**P**	**11 32 20.9**	**+0.1**
KMI					*PP	pP	11 32 34.9	+11
KMI							11 33 03.6	
KMI					PPP	PPP	11 33 15.5	+3.3
KMI							11 35 49.7	
KMI					S	**S**	**11 36 44.4**	**-2.0**
KMI					SS	SS	11 37 52.6	+2.8
KMI					SSS	SSS	11 38 10.6	+4.0
KMI					pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.3							
KMI					MLR	MLR		
	comp=Z,250nm,16.3s,MS3.8							
KMI	**Kunming**	**25.62**	**304**	P		**P**	**11 32 20.9**	**+0.1**
	comp=Z,9.0nm,0.8s,mb4.3							
KMI					pP	pP	11 32 34.9	+11
KMI					sP	sP	11 32 41.5	+16
KMI					PP	PP	11 33 03.6	+3.1
KMI					PPP	PPP	11 33 15.5	+3.3
KMI					PcP	PcP	11 35 49.7	-2.7
KMI					S	**S**	**11 36 44.4**	**-2.0**
KMI					sS		11 37 08.7	
KMI					SS	SS	11 37 52.6	+2.8
KMI					SSS	SSS	11 38 10.6	+4.0
KMI					ScP		11 39 22.8	
KMI					PcS		11 39 29.0	
KMI					LR	LR		
	comp=Z,250nm,16.3s,MS3.8							
MJAR	**Matsushiro Arr**	**26.89**	**22**	LR		LR	11 41 19.8	
	comp=Z,150nm,19.2s,MS3.6,baz=225,slow=32							
XAN	**Xi'an**	**26.99**	**327**	P		**P**	**11 32 32.8**	**-0.6**
XAN					AMB	AMB		
	comp=Z,21nm,1.2s,mb4.5							
FITZ	**Fitzroy Crossi**	**29.81**	**181**	*e*P		**P**	**11 32 57.9**	**-1.1**
	comp=Z,13nm,0.9s,mb4.7							
FITZ	**Fitzroy Crossi**	**29.81**	**181**	P		**P**	**11 32 57.7**	**-1.3**
	comp=Z,16nm,0.7s,mb4.9,baz=6.0,slow=7.3,SNR=20							
SNY	**Shenyang**	**29.89**	**356**	⇓P		**P**	**11 33 00.8**	**+1.3**
SNY					S	**S**	**11 37 48.3**	**-7.0**
SNY					AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8							
SNY					AMB	AMB		
	comp=Z,180nm,3.3s							
SNY					LR	LR		
	comp=E,360nm,11.8s							
SNY					LR	LR		
	comp=Z,190nm,8.4s							
LZH	**Lanzhou**	**31.30**	**324**	*e*P		**P**	**11 33 12.5**	**+0.5**
LZH					AP	pP	11 33 23.5	+8.5
LZH					XP	sP	11 33 27.8	+12
LZH					PP	PP	11 34 18.3	+3.0
LZH					eS	**S**	**11 38 13.0**	**-4.6**
LZH					XS		11 38 33.3	
LZH					eSS	SS	11 40 06.0	+2.0
LZH					AMB	AMB		
	comp=Z,16nm,1.2s,mb4.7							
LZH					AMB	AMB		
	comp=Z,72nm,4.0s							
LZH					LR	LR		
	comp=N,577nm,13.0s							
LZH					LR	LR		
	comp=Z,841nm,14.4s,MS4.5							
LZH	**Lanzhou**	**31.30**	**324**	*e*P		**P**	**11 33 12.5**	**+0.5**
LZH					*PP	pP	11 33 23.6	+8.6
LZH					*SP	sP	11 33 27.7	+11
LZH							11 34 18.2	
LZH					eS	**S**	**11 38 13.0**	**-4.6**
LZH					*SS		11 38 33.2	
LZH					eSS	SS	11 40 06.0	+2.0
LZH					pmax	pmax		
	comp=Z,16nm,1.2s,mb4.7							
LZH					MLR	MLR		
	comp=Z,840nm,14.4s,MS4.5							
LZH	**Lanzhou**	**31.30**	**324**	*e*P		**P**	**11 33 12.5**	**+0.5**
	comp=Z,16nm,1.2s,mb4.7							
LZH					pP	pP	11 33 23.6	+8.6
LZH					sP	sP	11 33 27.7	+11
LZH					PP	PP	11 34 18.2	+2.9
LZH					eS	**S**	**11 38 13.0**	**-4.6**
LZH					sS		11 38 33.2	
LZH					eSS	SS	11 40 06.0	+2.0
LZH					LR	LR		
	comp=Z,840nm,14.4s,MS4.5							
HHC	**Hu-ho-hao-te**	**31.51**	**339**	*e*P		**P**	**11 33 11.0**	**-2.8**
HHC					AP	pP	11 33 25.5	+8.8
HHC					XP	sP	11 33 33.8	+16
HHC					PCP	PcP	11 36 01.8	-5.0
HHC					S	**S**	**11 38 14.5**	**-6.3**
HHC					XS		11 38 38.0	
HHC					SS	SS	11 40 05.8	-3.1
HHC					SCS	ScS	11 43 35.5	-10
HHC					AMB	AMB		
	comp=Z,12nm,0.9s,mb4.7							
HHC					AMB	AMB		
	comp=Z,146nm,9.5s							
HHC					LR	LR		
	comp=N,156nm,15.4s,MS4.0							
HHC					LR	LR		
	comp=E,174nm,15.4s,MS4.0							
HHC					LR	LR		
	comp=Z,186nm,11.9s,MS4.0							
WRAB	**Tennant Creek**	**32.68**	**165**	*e*P		**P**	**11 33 22.8**	**-1.4**
WRA	**Warramunga Arr**	**32.69**	**165**	P		**P**	**11 33 22.9**	**-1.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=347,slow=9.4,SNR=17							
WRA					PcP	PcP	11 36 09.7	-0.4
	comp=Z,2.7nm,0.8s,baz=341,slow=3.2,SNR=9.6							
WRA					ScP		11 39 50.4	
	comp=Z,0.8nm,0.7s,baz=345,slow=3.6,SNR=5.1							
WB2	**Warramunga Arr**	**32.69**	**165**	*e*P		**P**	**11 33 23.5**	**-0.8**
MDJ	**Mudanjiang**	**32.75**	**5**	P		**P**	**11 33 26.0**	**+1.5**
MDJ					AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5							
MDJ					AMB	AMB		
	comp=Z,124nm,4.5s							
MBWA	**Marble Bar**	**33.42**	**191**	*e*P		**P**	**11 33 27.0**	**-3.7**
	comp=Z,5.8nm,0.8s,mb4.6							
SHL	**Shilong**	**34.93**	**298**	*e*P		**P**	**11 33 42.0**	**-1.6**
GTA	**Gaotai**	**35.91**	**324**	P		**P**	**11 33 52.5**	**+0.7**
GTA					AP	pP	11 34 07.0	+12
GTA					XP	sP	11 34 13.3	+17
GTA					PP	PP	11 35 12.8	-0.3
GTA					PCP	PcP	11 36 19.3	+0.2
GTA					S	**S**	**11 39 25.8**	**-3.3**
GTA					SS	SS	11 41 44.0	-6.5
GTA					AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7							
GTA					AMB	AMB		
	comp=Z,71nm,9.9s							
GTA					LR	LR		
	comp=N,115nm,19.8s,MS3.9							
GTA					LR	LR		
	comp=E,132nm,16.7s,MS3.9							
GTA					LR	LR		
	comp=Z,147nm,15.6s,MS3.9							
LSA	**Lhasa**	**36.88**	**304**	*e*P		**P**	**11 34 01.0**	**+0.9**
LSA	**Lhasa**	**36.88**	**304**	*e*P		**P**	**11 34 00.6**	**+0.5**
LSA					pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7							
LSA	**Lhasa**	**36.88**	**304**	*e*P		**P**	**11 34 00.6**	**+0.5**
	comp=Z,7.2nm,0.6s,mb4.7							
CTA	**Charters Tower**	**37.52**	**148**	P		**P**	**11 34 04.5**	**-1.0**
	comp=Z,3.4nm,1.0s,mb4.0,baz=315,slow=10.0,SNR=2.1							
CTAO	**Charters Tower**	**37.52**	**148**	*e*P		**P**	**11 34 02.1**	**-3.4**
CTAO					pmax	pmax		
	comp=Z,18nm,1.3s,mb4.6							
CTAO	**Charters Tower**	**37.52**	**148**	*e*P		**P**	**11 34 02.1**	**-3.4**
	comp=Z,18nm,1.3s,mb4.6							
HIA	**Hailar**	**37.62**	**353**	P		**P**	**11 34 06.2**	**+0.2**
HIA					pmax	pmax		
	comp=Z,12nm,1.1s							
HIA	**Hailar**	**37.62**	**353**	P		**P**	**11 34 06.2**	**+0.1**
	comp=Z,12nm,1.1s,mb4.5							
SONM	**Songino Array**	**39.41**	**339**	P		**P**	**11 34 21.9**	**+0.8**
	comp=Z,1.3nm,0.5s,mb4.0,baz=157,slow=9.9,SNR=9.5							
SONM					LR	LR	11 52 05.9	
	comp=Z,114nm,18.2s,MS3.7,baz=79,slow=38							
JIRN	**Jiri**	**40.40**	**299**	*e*P		**P**	**11 34 29.1**	**-0.4**
	comp=Z,51nm,0.5s,mb5.5							
JIRN	**Jiri**	**40.40**	**299**	*e*P		**P**	**11 34 28.0**	**-1.5**
	comp=Z,51nm,0.5s,mb5.5							
GUN	**Gumba**	**40.73**	**299**	*e*P		**P**	**11 34 31.6**	**-0.6**
GUN	**Gumba**	**40.73**	**299**	*e*P		**P**	**11 34 31.5**	**-0.7**
PKI	**Pulchoki**	**41.05**	**298**	*e*P		**P**	**11 34 33.5**	**-1.3**
	comp=Z,54nm,1.0s,mb5.1							
PKI	**Pulchoki**	**41.05**	**298**	*e*P		**P**	**11 34 33.5**	**-1.3**
	comp=Z,54nm,1.0s,mb5.1							
KKN	**Kakani**	**41.22**	**299**	*e*P		**P**	**11 34 35.1**	**-1.0**
	comp=Z,62nm,0.9s,mb5.2							
KKN	**Kakani**	**41.22**	**299**	*e*P		**P**	**11 34 34.0**	**-2.1**
	comp=Z,62nm,0.9s,mb5.2							
DMN	**Daman**	**41.32**	**298**	*e*P		**P**	**11 34 36.0**	**-1.0**
	comp=Z,94nm,1.1s,mb5.3							
DMN	**Daman**	**41.32**	**298**	*e*P		**P**	**11 34 36.0**	**-1.0**
	comp=Z,94nm,1.1s,mb5.3							
GKN	**Gorkha**	**41.82**	**299**	*e*P		**P**	**11 34 39.7**	**-1.5**
	comp=Z,43nm,0.8s,mb5.1							
GKN	**Gorkha**	**41.82**	**299**	*e*P		**P**	**11 34 39.8**	**-1.4**
	comp=Z,43nm,0.8s,mb5.1							
KOLN	**Koldanda**	**42.66**	**298**	*e*P		**P**	**11 34 46.8**	**-1.3**
	comp=Z,59nm,0.9s,mb5.3							
KOLN	**Koldanda**	**42.66**	**298**	*e*P		**P**	**11 34 46.8**	**-1.3**
	comp=Z,59nm,0.9s,mb5.3							
ZAK	**Zakamensk**	**42.66**	**339**	*e*P		**P**	**11 34 47.4**	**-0.4**
ZAK					pmax	pmax		
	comp=Z,1.0nm,1.4s							
ZAK					pmax	pmax		
	comp=Z,1.0nm,0.9s							
TLY	**Talaya**	**43.62**	**340**	*e*P		**P**	**11 34 55.7**	**+0.1**
TLY					*e*		11 44 31.4	
TLY					pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4							
TLY					MLR	MLR		
	comp=Z,74nm,20.0s,MS3.6							
TLY	**Talaya**	**43.62**	**340**	*e*P		**P**	**11 34 56.2**	**+0.6**
	comp=Z,13nm,1.1s,mb4.6							
NWAO	**Narrogin (SRO)**	**45.35**	**190**	*e*P

comp=Z,12nm,1.4s,mb4.6
AAK Ala-Archa 54.00 314 *e*P P **11 36 14.9 -1.0**
comp=Z,12nm,1.4s,mb4.6
SEY Seymchan 54.32 14⇓*e*P P **11 36 19.9 +1.9**
NVS Novosibirsk 54.35 331 *e*P P **11 36 23.8 +5.4**
NVS *e* 11 37 22.3
AML Almayashu 54.40 314 P P **11 36 19.2 +0.3**
SNR=14
KURK Kurchatov 54.59 325 *e*P P **11 36 19.4 -0.7**
KURK pmax pmax
comp=Z,55nm,1.0s,mb5.5
KURK Kurchatov 54.59 325 *e*P P **11 36 19.4 -0.7**
comp=Z,55nm,1.0s,mb5.5
KKAR Karatay Array 56.93 314 *i*P P **11 36 36.3 -0.9**
KKAR pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
VOSK Vostochnaya 59.74 325 P P **11 36 55.7 -1.0**
VOSK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BVA0 Borovoye Array 60.19 325 *i*P P **11 36 59.0 -0.7**
BVAR Borovoye Array 60.19 325 P P **11 36 59.5 -0.2**
comp=Z,6.3nm,0.8s,mb4.7,baz=127,slow=7.4,SNR=43
BVAR PcP PcP 11 37 43.3 -1.7
comp=Z,1.9nm,0.8s,baz=90,slow=3.0,SNR=3.6
BRVK Borovoye 60.26 325 *e*P P **11 36 59.3 -0.9**
BRVK pmax pmax
comp=Z,20nm,1.3s,mb5.0
BRVK Borovoye 60.26 325 *e*P P **11 36 59.3 -0.9**
comp=Z,20nm,1.3s,mb5.0
BILL Bilibino 61.92 16 *i*P P **11 37 19.6 +8.3**
BILL pmax pmax
comp=Z,16nm,1.8s,mb4.8
AB31 Akbulak array 65.48 319 P P **11 37 34.0 -0.9**
AB31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ARU Arti 67.73 326 *e*P P **11 37 48.3 -0.8**
ARU *e* 11 38 15.6
ARU *e* 11 40 20.6
ARU *e*S S 11 46 43.3 -1.9
ARU *e*SS SS 11 51 05.5 -2.3
ARU Arti 67.73 326 *e*P P **11 37 43.7 -5.4**
comp=Z,16nm,0.8s,mb5.1
IMA Indian Mountai 75.28 25 P P **11 38 36.7 +2.7**
IMA pmax pmax
comp=Z,32nm,1.2s,mb5.1
IMA Indian Mountai 75.28 25 P P **11 38 36.7 +2.7**
comp=Z,32nm,1.2s,mb5.1
GNI Garni 75.78 309 *i*P P **11 38 37.4 -0.1**
GNI pmax pmax
comp=Z,34nm,2.1s
ZEI Tsey 76.25 311 *e*P P **11 38 36.6 -3.5**
ZEI pmax pmax
comp=Z,18nm,0.9s,mb5.0
GOF Gofitskoye 76.73 314 *e*P P **11 38 37.2 -5.5**
KIV Kislovodsk 77.06 313 *e*P P **11 38 44.2 -0.3**
KIV pmax pmax
comp=Z,21nm,1.0s,mb5.0
KIV pmax pmax
comp=N,18nm,1.2s
KIV pmax pmax
comp=E,9.0nm,0.9s
KIV MLR MLR
comp=E,43nm,15.0s
KIV MLR MLR
comp=Z,46nm,15.0s,MS3.9
KIV Kislovodsk 77.06 313 *e*P P **11 38 44.0 -0.5**
comp=Z,12nm,0.8s,mb4.9
MCK McKinley 77.24 27 *e*P P **11 38 44.5 -0.6**
MCK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
MCK McKinley 77.24 27 *e*P P **11 38 44.5 -0.6**
comp=Z,4.2nm,1.0s,mb4.3
ILAR Eielson Array 78.10 26 P P **11 38 50.1 +0.3**
comp=Z,0.8nm,0.7s,mb3.7,baz=246,slow=6.2,SNR=9.4
OBN Obninsk 80.02 324 *i*P P **11 39 00.1 -0.4**
OBN pmax pmax
comp=Z,18nm,1.0s,mb5.0
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.2
APA Apatity 80.09 337 *e*P P **11 39 00.0 -0.6**
APA pmax pmax
comp=Z,58nm,1.5s,mb5.3
ANN Anapa 80.72 314 *e*P P **11 39 02.3 -2.1**
ANN *e*S S 11 49 09.4 -1.3
ANN pmax pmax
comp=Z,79nm,1.2s,mb5.5
ARCES ARCESS Array B 82.58 340 P P **11 39 14.5 +0.9**
comp=Z,7.0nm,0.8s,mb4.7,baz=82,slow=6.0,SNR=18
ARCES ARCESS Array B 82.58 340 P P **11 39 14.5 +0.9**
ARE0 ARCESS Array S 82.58 340 *e*P P **11 39 13.6 0.0**
INK Inuvik 82.88 22 P P **11 39 10.7 -4.5**
INK pmax pmax
comp=Z,6.0nm,1.2s
INK Inuvik 82.88 22 P P **11 39 10.7 -4.5**
comp=Z,6.4nm,1.2s,mb4.5
SIM Simferopol' 83.03 314 *e*P P **11 39 16.2 -0.2**
SIM pmax pmax
comp=Z,16nm,0.6s,mb5.2
OPO Ambohidratompo 83.38 250 P P **11 39 17.1 -1.6**
comp=Z,1.3nm,0.6s,mb4.2,baz=9.5,slow=6.1,SNR=3.3
KAF Kangasniemi 84.07 332 *e*p P **11 39 20.9 -0.4**
comp=Z,8.2nm,0.8s,mb4.9,baz=71,slow=4.7
KAF Kangasniemi 84.07 332 *e*P P **11 39 20.9 -0.4**
KAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
BR131 Keskin Array S 84.30 309 *e*P P **11 39 21.2 -1.9**
comp=Z,4.2nm,0.6s,mb4.8
BR131 *e* 11 39 30.7
BRTR Keskin Array B 84.30 309 P P **11 39 22.6 -0.4**
comp=Z,4.4nm,0.7s,mb4.7,baz=102,slow=4.5,SNR=23
FINES FINESS Array B 84.34 332 P P **11 39 23.3 +0.6**
comp=Z,11nm,0.9s,mb5.0,baz=90,slow=7.6,SNR=18
VSU Vasula 84.75 329*c i*P P **11 39 24.7 -0.1**
AKASG Malin Array Be 85.14 321 *p* P **11 39 26.9 -0.1**
comp=Z,7.8nm,0.6s,mb5.0,baz=64,slow=5.0,SNR=28
CSS Prodhromos 85.44 305 *e*P P **11 39 28.4 -0.5**
comp=Z,30nm,1.0s,mb5.4
TIRR Tirgusor 87.11 315 ⇓P P **11 39 36.9 +0.1**
CFR Carcaliu 87.13 315 ⇓P P **11 39 37.1 +0.2**
HARR Harsova 87.39 315 ⇓P P **11 39 39.0 +0.8**
SUW Suwalki 87.87 325 *e*P P **11 39 40.4 +0.2**
VRI Vrincioaia 87.92 316 ⇑P P **11 39 41.7 +1.0**
PPT Papeete 88.32 108 LR LR 12 12 40.4
comp=Z,62nm,21.3s,MS4.0,baz=275,slow=31
BURAR Bucovina Array 88.46 318 ⇑P P **11 39 44.3 +1.1**
BURAR Bucovina Array 88.46 318 ⇑P P **11 39 44.3 +1.1**
MLR Muntele Rosu 88.55 316 ⇑P P **11 39 44.4 +0.7**
KMBO Kilima Mbogo 89.00 269 LR LR 12 21 49.4
comp=Z,94nm,18.1s,MS4.2,baz=90,slow=37
KWP Kalwaria 89.47 321 *e*P P **11 39 48.2 +0.2**
KWP Kalwaria 89.47 321 *e*P P **11 39 48.2 +0.2**
HFS Hagfors 90.49 332 LR LR 12 24 48.1
comp=Z,88nm,18.4s,MS4.2,baz=289,slow=38
NB2 NORSAR Subarra 91.19 334 P P **11 39 54.2 -1.5**
comp=Z,0.7nm,0.7s,mb4.1,baz=67,slow=4.6
NB2 NORSAR Subarra 91.19 334 P P **11 39 54.2 -1.5**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
NOA NORSAR Array B 91.19 334 P P **11 39 55.1 -0.6**
comp=Z,1.2nm,0.9s,mb4.2,baz=66,slow=4.5,SNR=4.5
VNDA Vanda 91.57 173 P P **11 39 57.5 +0.4**
comp=Z,1.3nm,0.8s,mb4.3,baz=317,slow=6.5,SNR=8.2
GERES GERESS Array B 95.25 322 P P **11 40 13.7 -1.0**
comp=Z,0.3nm,0.3s,mb4.2,baz=63,slow=3.0,SNR=5.4
PDKS Podkum 95.58 319 *i*P P **11 40 16.5 +0.3**
VISS Visnje 95.78 319 *i*P P **11 40 17.2 0.0**
CEY Cerknica 96.08 319 *i*P P **11 40 18.5 0.0**
DAVOX Davos 98.47 321 LR LR 12 27 35.7
comp=Z,58nm,21.2s,MS4.0,baz=89,slow=37
PLCA Paso Flores 147.79 156 PKPbc PKPdf 11 46 37.2 +2.3
comp=Z,3.8nm,0.7s,baz=197,slow=6.3,SNR=6.6
CPUP Villa Florida 165.30 168 PKP PKPdf 11 46 56.7 -0.9
comp=Z,1.3nm,0.7s,baz=346,slow=4.2,SNR=4.2
LPAZ La Paz 165.62 109 PKP PKPdf 11 46 57.0 -1.1
comp=Z,1.8nm,1.0s,baz=352,slow=4.7,SNR=5.3

MAN 28 11:58:29.0,13.78N×122.27E,h1km,mb4.5,ML3.3,MS3.2, 2D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GQP	**Guinayangan**	**0.21**	**54**	⇓*i*P		Pg	11 58 32.9	-0.2
GQP				*i* S		Sg	11 58 36.4	+0.6
BOAC	**Boac**	**0.53**	**232**	*e*P		Pg	11 58 39.6	+0.1
BOAC				*e*S		Sg	11 58 48.9	+2.3
AUQP	**San Andres**	**0.60**	**140**	*e*P		Pg	11 58 40.9	-0.1
AUQP				*e*S		Sg	11 58 52.1	+3.1
POLP	**Polilio Island**	**0.99**	**341**	*e*P		Pb	11 58 48.4	-0.2
POLP				*e*S		Sg	11 59 03.8	+1.8
LUBP	**Lubang**	**1.97**	**269**	*e*P		Pn	11 59 03.9	+0.1
LUBP				*e*S		Sn	11 59 31.9	+2.4
BALP	**Baler**	**2.06**	**341**	*e*P		Pn	11 59 04.2	-0.9
BALP				*e*S		Sn	11 59 35.4	+3.6
PCPH	**Palayan**	**2.10**	**327**⇓	*e*P		Pn	11 59 05.2	-0.6
PCPH				*i* S		Sn	11 59 05.2	-28
BUSP	**Coron**	**2.69**	**229**	*e*P		Pn	11 59 14.3	+0.2
CAUP	**Cauayan**	**3.17**	**352**	*e*P		Pn	11 59 21.1	+0.1
ABRA	**Dolores**	**4.13**	**339**	*e*P			11 58 01.0	
APYP	**Conner**	**4.17**	**346**	*e*P		Pn	11 59 35.6	+0.3
APYP				*e*S		Sn	12 00 23.7	-1.7

MAN 28 12:08:18.2,13.76N×122.33E,h6km,mb4.2,ML3.1,MS2.8, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GQP	**Guinayangan**	**0.18**	**39**	⇓*i*P		Pg	12 08 22.4	+0.5
GQP				*i* S		Sg	12 08 25.6	+1.1
AUQP	**San Andres**	**0.55**	**142**	*e*P		Pg	12 08 29.8	+0.5
AUQP				*e*S		Sg	12 08 41.8	+5.1
BOAC	**Boac**	**0.56**	**237**	*e*P		Pg	12 08 29.3	-0.2
BOAC				*e*S		Sg	12 08 38.2	+1.2
POLP	**Polilio Island**	**1.03**	**339**	*e*P		Pb	12 08 37.8	-0.2
POLP				*e*S		Sb	12 08 53.5	+1.9
BALP	**Baler**	**2.10**	**340**	*e*P		Pn	12 08 55.6	+1.2
BALP				*e*S		Sn	12 09 25.0	+3.9
PCPH	**Palayan**	**2.15**	**326**⇑	*e*P		Pn	12 08 54.9	-0.2
PCPH				*i* S		Sn	12 09 26.9	+4.5

*JMA **28** 12:10:14.6±0.4,33.26N×142.39E,h80km,M3.2*
*IDC **28** 12:10:17.3±6.1,32.65N×140.97E,mb3.7/2,mb1 3.8/3, mb1mx3.5/20,mbtmp3.6/3,ML3.3/1, Error ellipse: s-maj=229.5km s-min=24.9km az=69.0*
ISC 28 12:10:14.1±1.0,33.30N±0.06×142.46E±0.08,h33km,n15, σ1§13/25,mb3.7/2,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.83**	**318**	S		**S**	**12 11 06.9**	**+1.1**
BSO3	**Boso 3**	**2.21**	**313**	P		**P**	**12 10 49.5**	**+0.5**
BSO3				S		**S**	**12 11 18.0**	**+2.6**
JHJ2	**Mitsune**	**2.22**	**266**	P		**P**	**12 10 49.6**	**+0.3**
JHJ2				*e*S		**S**	**12 11 15.1**	**-0.7**
BSO4	**Boso 4**	**2.44**	**314**	P		**P**	**12 10 53.7**	**+1.4**
BSO4				*e*S		**S**	**12 11 22.1**	**+0.8**
JIM2	**Oshima 3**	**2.88**	**300**	P		**P**	**12 10 57.8**	**-0.9**
JIM2				S		**S**	**12 11 30.7**	**-2.0**
JYN	**Shimob**	**3.91**	**305**	P		**P**	**12 11 13.3**	**0.0**
JYN				S		**S**	**12 11 59.3**	**+0.6**
JAG	**Ashikaga**	**3.98**	**322**	P		**P**	**12 11 14.5**	**+0.2**
JRY	**Ryogami san**	**3.99**	**314**	P		**P**	**12 11 15.5**	**+1.0**
JRY				*e*S		**S**	**12 12 00.5**	**-0.3**
JMM	**Marumori**	**4.75**	**344**	P		**P**	**12 11 23.8**	**-1.5**
JMM				S		**S**	**12 12 14.5**	**-5.5**
MJAR	**Matsushiro Arr**	**4.76**	**314**	Pn		**Pn**	**12 11 26.1**	**+0.6**
	1.6nm,0.3s,baz=161,slow=13,SNR=13							
MJAR				Sn		**Sn**	**12 12 18.7**	**-1.6**
	1.1nm,0.3s,baz=124,slow=16,SNR=7.8							
MAT	**Matsushiro**	**4.76**	**314**	P		**P**	**12 11 25.9**	**+0.5**
MAT				S		**S**	**12 12 19.0**	**-1.2**
MAT	**Matsushiro**	**4.76**	**314**	P		**P**	**12 11 25.6**	**+0.2**
MAT				S		**S**	**12 12 19.0**	**-1.2**
JMK	**Ichinoseki**	**5.73**	**350**	P		**P**	**12 11 37.1**	**-1.9**
MKAR	**Makanchi Array**	**46.90**	**305**	P		**P**	**12 18 44.6**	**+1.6**
	1.0nm,0.7s,mb3.9,baz=91,slow=11,SNR=9.7							
WRA	**Warramunga Arr**	**53.51**	**190**	P		**P**	**12 19 33.3**	**-0.5**
	0.3nm,0.4s,mb3.6,baz=5.5,slow=7.5,SNR=12							

*IDC **28** 13:01:49.7±1.1,12.82N×50.80E,mb4.2/14,mb1 4.2/15, mb1mx4.1/24,mbtmp4.2/15,MS3.2/1,Ms1 3.2/1, ms1mx2.5/28,Error ellipse: s-maj=24.7km s-min=22.1km az=123.0*
*NEIC **28** 13:01:50.8±0.7,12.80N×50.84E,h10km,mb4.2/7,Error ellipse: s-maj=15.9km s-min=13.7km az=149.0*
*CSEM **28** 13:01:56.2±0.6,12.89N×50.72E,h63km±6km,mb4.2/7, Error ellipse: s-maj=13.7km s-min=8.4km az=116.0*
ISC 28 13:01:49.0±9.5,12.8N±0.1×50.8E±0.2,h9km±60km,n37, σ1§10/39,mb4.2/19,MS3.1/1,2D,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**5.17**	**283**	⇓*i*P		**Pn**	**13 03 07.4**	**-1.1**
BDHA				AML		AML	13 03 26.8	
	comp=E,55nm,0.3s							
BDHA				*i* S		**Sn**	**13 03 59.4**	**-10**
BDHA	**Al Bayda'**	**5.17**	**283**	⇓*i*P		**Pn**	**13 03 07.4**	**-1.1**
BDHA				*i* S		**Sn**	**13 03 59.4**	**-10**
ATD	**Arta Tunnel**	**7.84**	**261**	Pn		**Pn**	**13 03 46.2**	**+0.3**
	comp=E,2.9nm,0.3s,baz=252,slow=20,SNR=4.8							
ATD	**Arta Tunnel**	**7.84**	**261**	Pn		**Pn**	**13 03 46.2**	**+0.2**
MALT	**Malatya**	**27.65**	**339**	*e*P		**P**	**13 07 40.6**	**+1.5**
	comp=E,5.2nm,1.1s,mb4.1							
MALT	**Malatya**	**27.65**	**339**	*e*P		**P**	**13 07 40.6**	**+1.5**
	comp=E,5.2nm,1.1s,mb4.1							
GNI	**Garni**	**27.73**	**350**	P		**P**	**13 07 41.3**	**+1.5**
	comp=E,3.7nm,0.3s,mb4.4,baz=52,slow=19,SNR=2.8							
GNI				LR		LR	13 20 21.6	
	comp=E,49nm,19.1s,MS3.1,baz=162,slow=40							
GNI	**Garni**	**27.73**	**350**	*e*P		**P**	**13 07 41.5**	**+1.8**
	comp=E,11nm,0.8s,mb4.5							
BRTR	**Keskin Array B**	**30.76**	**334**	P		**P**	**13 08 08.1**	**+1.2**
	comp=E,1.2nm,0.8s,mb3.8,baz=153,slow=8.3,SNR=6.5							
BR131	**Keskin Array S**	**30.76**	**334**	*e*P		**P**	**13 08 01.5**	**-5.4**
IDI	**Anoyia**	**32.34**	**318**	P		**P**	**13 08 22.9**	**+2.0**
	comp=E,9.3nm,0.8s,mb4.7,baz=247,slow=18,SNR=2.0							
SANT	**Santorini**	**32.65**	**320**	P		**P**	**13 08 23.7**	**+0.1**
SANT	**Santorini**	**32.65**	**320**	P		**P**	**13 08 23.7**	**+0.2**
AKASG	**Malin Array Be**	**41.65**	**339**	P		**P**	**13 09 40.2**	**+1.0**
	comp=E,0.3nm,0.3s,mb3.5,baz=151,slow=7.3,SNR=4.4							
AKASG	**Malin Array Be**	**41.65**	**339**	P		**P**	**13 09 40.2**	**+1.0**
BRVK	**Borovoye**	**43.05**	**17**	*e*P		**P**	**13 09 50.6**	**-0.1**
	comp=E,2.0nm,0.7s,mb4.0							
BRVK	**Borovoye**	**43.05**	**17**	*e*P		**P**	**13 09 50.6**	**-0.1**
	comp=E,2.0nm,0.7s,mb4.0							
BVAR	**Borovoye Array**	**43.05**	**17**	P		**P**	**13 09 51.3**	**+0.6**
	comp=E,1.7nm,0.6s,mb4.0,baz=202,slow=7.4,SNR=13							
PSZ	**Piszkesteto**	**43.41**	**330**	P		**P**	**13 09 52.1**	**-1.5**
	comp=E,2.7nm,0.7s,mb4.1							
PSZ	**Piszkesteto**	**43.41**	**330**	P		**P**	**13 09 52.1**	**-1.6**
	comp=E,2.7nm,0.7s,mb4.1							
ARU	**Arti**	**43.93**	**6**	*e*P		**P**	**13 09 57.1**	**-0.6**
	comp=E,4.7nm,1.1s,mb4.1							
ARU	**Arti**	**43.93**	**6**	*e*P		**P**	**13 09 57.1**	**-0.6**
	comp=E,4.7nm,1.1s,mb4.1							
TSUM	**Tsumeb**	**45.62**	**226**	P		**P**	**13 10 12.5**	**+0.7**
	comp=E,1.2nm,0.3s,mb4.4,baz=121,slow=8.0,SNR=7.2							
TSUM	**Tsumeb**	**45.62**	**226**	P		**P**	**13 10 12.4**	**+0.6**
ZAL	**Zalesovo**	**49.02**	**26**	P		**P**	**13 10 36.3**	**-1.7**
	comp=E,1.0nm,0.5s,mb4.1,baz=68,slow=9.3,SNR=4.0							
FINES	**FINESS Array B**	**51.73**	**345**	P		**P**	**13 10 58.0**	**-0.5**
	comp=E,3.7nm,0.7s,mb4.4,baz=149,slow=11,SNR=12							
FINES	**FINESS Array B**	**51.73**	**345**	P		**P**	**13 10 58.0**	**-0.6**
HFS	**Hagfors**	**54.51**	**338**	P		**P**	**13 11 18.1**	**-1.1**
	comp=E,2.8nm,0.7s,mb4.4,baz=135,slow=8.4,SNR=5.7							
NB2	**NORSAR Subarra**	**56.03**	**338**	P		**P**	**13 11 28.4**	**-1.8**
	comp=E,0.6nm,0.6s,mb3.8,baz=131,slow=7.4							
NOA	**NORSAR Array B**	**56.03**	**338**	P		**P**	**13 11 28.8**	**-1.4**
	comp=E,0.9nm,0.7s,mb3.9,baz=129,slow=7.3,SNR=3.9							
NOA	**NORSAR Array B**	**56.03**	**338**	P		**P**	**13 11 28.8**	**-1.4**
SONM	**Songino Array**	**57.73**	**41**	P		**P**	**13 11 43.1**	**+0.6**
	comp=E,1.7nm,0.8s,mb4.2,baz=238,slow=7.2,SNR=9.3							
ARCES	**ARCESS Array B**	**58.88**	**350**	P		**P**	**13 11 51.1**	**+0.9**
	comp=E,7.1nm,1.2s,mb4.6,baz=108,slow=2.9,SNR=4.1							
EKA	**Eskdalemuir Ar**	**59.38**	**328**	P		**P**	**13 11 52.5**	**-1.5**
	comp=E,1.4nm,0.6s,mb4.1,baz=120,slow=6.7,SNR=6.3							
WRA	**Warramunga Arr**	**88.41**	**111**	P		**P**	**13 14 44.1**	**+0.7**
	comp=E,0.6nm,0.5s,mb4.1,baz=300,slow=3.7,SNR=10							
WRAB	**Tennant Creek**	**88.42**	**111**	P		**P**	**13 14 42.6**	**-0.8**
	comp=E,8.1nm,1.1s,mb4.9							
WRAB	**Tennant Creek**	**88.42**	**111**	P		**P**	**13 14 42.6**	**-0.8**
	comp=E,8.1nm,1.1s,mb4.9							

*IDC **28** 13:08:52.6±0.8,13.72N×122.65E,mb4.0/11,mb1 4.1/11, mb1mx4.0/21,mbtmp4.0/11,MS3.2/2,Ms1 3.3/2,*
ms1mx2.7/26,Error ellipse: s-maj=53.0km s-min=15.1km az=73.0
*MAN **28** 13:08:55.1,13.71N×122.37E,h5km,mb4.7,ML3.6,MS3.6*
MAN CATANAUAN & MACELON QUEZON - INTENSITY IV GUINAYANGAN QUEZON - INTENSITY III TAGKAWAYAN QUEZON - INTENSITY II.
*NEIC **28** 13:08:57.6±0.4,13.69N×122.59E,h35km,mb4.6/4,Error ellipse: s-maj=29.7km s-min=7.1km az=70.0*
NEIC Felt [IV PIVS] at Catanauan and Macalelon; [III PIVS] at Guinayangan; [II PIVS] at Tagkawayan.
ISC 28 13:08:53.0±0.9,13.63N±0.03×122.56E±0.04,h13km±5km, n37,σ0§96/48,mb4.1/15,MS3.2/2,3C-3D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GQP	**Guinayangan**	**0.29**	**339**	⇓*i*P		**Pg**	**13 08 59.8**	**+0.5**
GQP				*i* S		**Sg**	**13 09 03.1**	**-0.4**
BOAC	**Boac**	**0.71**	**256**	*e*P		**Pb**	**13 09 06.6**	**-0.2**
BOAC				*e*S		**Sb**	**13 09 15.7**	**-0.6**
POLP	**Polilio Island**	**1.25**	**331**	*e*P		**Pb**	**13 09 14.9**	**-0.9**
POLP				*e*S		**Sb**	**13 09 30.8**	**-0.9**
LBPH	**Los Banos**	**1.44**	**291**⇑	*e*P		**Pn**	**13 09 17.4**	**-1.4**
ARP	**Angono**	**1.63**	**304**	*e*P		**Pn**	**13 09 20.9**	**-0.8**
TGY	**Tagaytay City**	**1.64**	**287**⇓	*e*P		**Pn**	**13 09 22.3**	**+0.5**
TGY				*e*S		**Sn**	**13 09 35.8**	**-7.1**
NZB	**Bigte**	**1.87**	**311**	*e*P		**Pn**	**13 09 25.2**	**+0.1**
KALP	**Kalibo**	**1.95**	**186**	*e*P		**Pn**	**13 09 34.0**	**+7.7**
RCP	**Roxas**	**2.07**	**175**⇑	*e*P		**Pn**	**13 09 32.2**	**+4.3**
LUBP	**Lubang**	**2.25**	**273**	*e*P		**Pn**	**13 09 29.7**	**-0.9**
LUBP				*e*S		**Sn**	**13 09 58.0**	**-0.3**
BALP	**Baler**	**2.30**	**336**	*e*P		**Pn**	**13 09 32.1**	**+0.8**
BALP				*e*S		**Sn**	**13 10 00.8**	**+1.1**
PCPH	**Palayan**	**2.38**	**324**⇑	*e*P		**Pn**	**13 09 32.9**	**+0.4**
PCPH				*i* S		**Sn**	**13 10 03.5**	**+1.8**
BUSP	**Coron**	**2.81**	**235**	*e*P		**Pn**	**13 09 38.6**	**+0.1**
BUSP				*e*S		**Sn**	**13 10 14.1**	**+1.5**
GUIM	**Jordan**	**2.99**	**179**	*e*P		**Pn**	**13 09 45.2**	**+4.9**
GUIM				*e*S		**Sn**	**13 10 22.6**	**+3.6**
BCPH	**Baguio City Da**	**3.33**	**325**⇓	*i*P		**Pn**	**13 09 47.8**	**+1.8**
BCPH				*i* S		**Sn**	**13 10 29.1**	**+3.2**
CAUP	**Cauayan**	**3.37**	**348**	*e*P		**Pn**	**13 09 47.8**	**+1.3**
CAUP				*e*S		**Sn**	**13 10 27.2**	**+0.5**
CVP	**Callao Caves**	**4.11**	**350**	*e*P		**Pn**	**13 09 58.0**	**+1.0**
ABRA	**Dolores**	**4.37**	**336**	*e*P		**Pn**	**13 10 01.1**	**+0.4**
APYP	**Conner**	**4.39**	**343**	*e*P		**Pn**	**13 10 01.4**	**+0.4**
APYP				*e*S		**Sn**	**13 10 51.7**	**-0.9**
IPIL	**Ipil**	**5.81**	**180**	*e*P		**Pn**	**13 10 23.1**	**+2.1**
CBIJ	**Chichi jima**	**22.72**	**51**	LR		LR	13 21 14.7	
	comp=Z,32nm,19.2s,MS2.8,baz=348,slow=33							
FITZ	**Fitzroy Crossi**	**31.68**	**174**	P		**P**	**13 15 18.6**	**-0.1**
	6.8nm,1.0s,mb4.4,baz=334,slow=8.6,SNR=2.7							
WRAB	**Tennant Creek**	**35.31**	**161**	P		**P**	**13 15 49.2**	**-0.9**
	13nm,1.2s,mb4.7							
WRA	**Warramunga Arr**	**35.32**	**161**	P		**P**	**13 15 50.0**	**-0.1**
	1.1nm,0.7s,mb3.9,baz=341,slow=9.6,SNR=14							
SONM	**Songino Array**	**36.66**	**342**	P		**P**	**13 16 00.4**	**-0.8**
	0.4nm,0.5s,mb3.5,baz=153,slow=8.3,SNR=4.3							
NWAO	**Narrogin (SRO)**	**46.57**	**186**	P		**P**	**13 17 22.9**	**+0.4**
	5.7nm,0.6s,mb4.7,baz=2.3,slow=6.9,SNR=5.5							
MKAR	**Makanchi Array**	**47.17**	**323**	P		**P**	**13 17 27.3**	**+0.2**
	1.3nm,0.8s,mb3.9,baz=127,slow=8.5,SNR=9.9							
STKA	**Stephens Creek**	**48.79**	**158**	P		**P**	**13 17 40.4**	**+0.4**
	2.1nm,0.8s,mb4.2,baz=335,slow=14,SNR=3.4							
ZAL	**Zalesovo**	**49.96**	**332**	P		**P**	**13 17 47.3**	**-1.4**
	0.6nm,0.3s,mb4.1,baz=25,slow=6.9,SNR=3.4							
KURK	**Kurchatov**	**51.26**	**326**	*e*P		**P**	**13 17 58.1**	**-0.4**
	7.3nm,0.9s,mb4.6							
BVAR	**Borovoye Array**	**56.85**	**325**	P		**P**	**13 18 39.0**	**-0.7**
	0.8nm,0.6s,mb4.0,baz=108,slow=9.4,SNR=8.3							
BRVK	**Borovoye**	**56.92**	**325**	*e*P		**P**	**13 18 38.5**	**-1.7**
	5.9nm,1.2s,mb4.5							
ARU	**Arti**	**64.44**	**326**	P		**P**	**13 19 29.1**	**-2.1**
	2.8nm,0.8s,mb4.3							
ILAR	**Eielson Array**	**78.02**	**26**	P		**P**	**13 20 52.3**	**-0.3**
	0.2nm,0.6s,mb3.2,baz=244,slow=4.5,SNR=6.3							
ARCES	**ARCESS Array B**	**79.79**	**339**	P		**P**	**13 21 02.3**	**+0.1**
	1.2nm,0.5s,mb4.1,baz=68,slow=7.1,SNR=9.6							
NB2	**NORSAR Subarra**	**88.15**	**333**	P		**P**	**13 21 44.2**	**-0.3**
	0.1nm,0.6s,mb3.2,baz=70,slow=5.6							
NOA	**NORSAR Array B**	**88.15**	**333**	P		**P**	**13 21 44.5**	**-0.1**
	0.8nm,0.6s,mb4.1,baz=64,slow=5.0,SNR=4.2							
NOA				LR		LR	14 04 02.7	
	comp=Z,20nm,19.2s,MS3.5,baz=95,slow=38							

*IDC **28** 13:25:20.3±1.3,33.19N×142.58E,mb3.4/4,mb1 3.7/7, mb1mx3.6/22,mbtmp3.6/7,ML3.7/3,Error ellipse: s-maj=29.6km s-min=22.4km az=75.0*
*JMA **28** 13:25:22.5±0.5,33.32N×142.27E,M3.5*
ISC 28 13:25:22.6±0.8,33.22N±0.05×142.55E±0.07,h33km,n18, σ1§14/27,mb3.5/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.93**	**318**	P		**P**	**13 25 53.7**	**+0.1**
BSO1				*e*S		**S**	**13 26 17.8**	**+0.8**
JHJ2	**Mitsune**	**2.29**	**268**	P		**P**	**13 25 59.3**	**+0.5**
JHJ2				*e*S		**S**	**13 26 26.0**	**-0.1**
BSO3	**Boso 3**	**2.31**	**314**	P		**P**	**13 26 00.0**	**+0.9**
BSO3				*e*S		**S**	**13 26 26.6**	**0.0**
JHJ	**Hachijo jima 2**	**2.32**	**268**	Pn		**Pn**	**13 25 59.4**	**0.0**
	24nm,0.3s,baz=308,slow=6.8,SNR=25							
JHJ				Sn		**Sn**	**13 26 26.2**	**-0.8**
	39nm,0.3s,baz=240,slow=23,

TP2	**Tecpan 2**	**1.87**	**329**⇑	*e*P	Pn	13 27 04.3	+0.7
TP2				*e*S	Sn	13 27 29.4	+2.5
MRL	**Marmol**	**1.91**	**10**⇓	*e*P	Pn	13 27 04.5	+0.4
MRL				*e*S	Sn	13 27 28.8	+1.0

*IDC **28** 13:32:14.4±1.6, 19.84S×68.98W, h89km±15km, mb4.0/15, mb1 4.2/18, mb1mx4.1/23, mbtmp4.4/18, MS3.0/2, Ms1 3.0/2, ms1mx2.5/17, Error ellipse: s-maj=16.8km s-min=11.4km az=100.0*
*NEIC **28** 13:32:15.3±0.7, 19.88S×68.89W, h101km±6km, mb4.4/15, Error ellipse: s-maj=8.2km s-min=5.5km az=68.0*
*BJI **28** 13:32:15.3, 19.90S×68.90W, h101km, mB4.6*
*GUC **28** 13:32:15.4±0.5, 20.01S×69.29W, h102km±3km, MD4.3, ML4.4*

ISC 28 13:32:14.2±0.6, **19.87S**±0.04×**68.92W**±0.05, **h106**km±6km, **n83**, σ1$**01**/71, **mb4.3**/23, **21C**, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**2.73**	**180**⇑	*e*P		**P**	**13 32 57.7**	**+0.3**
LVC				*i* S		**S**	**13 33 29.6**	**-0.2**
LVC				AMP			13 33 38.0	
	comp=E,4μm,0.5s							
LVC	**Limon Verde**	**2.73**	**180**	P		**P**	**13 32 57.9**	**+0.5**
	comp=E,84nm,0.3s,baz=344,slow=9.4,SNR=220							
LVC				S		**S**	**13 33 29.9**	**+0.1**
	comp=E,75nm,0.3s,baz=321,slow=18,SNR=14							
LVC	**Limon Verde**	**2.73**	**180**	*e*Pn		**P**	**13 32 57.6**	**+0.2**
LPAZ	**La Paz**	**3.64**	**12**	P		**P**	**13 33 14.5**	**+4.8**
	comp=E,19nm,0.3s,baz=204,slow=6.5,SNR=116							
LPAZ				S		**S**	**13 33 54.8**	**+2.8**
	comp=E,3.3nm,0.3s,baz=228,slow=6.5,SNR=3.5							
LPAZ	**La Paz**	**3.64**	**12**	*e*Pn		**P**	**13 33 14.8**	**+5.0**
ARE	**Arequipa**	**4.18**	**324**	*e*P		**P**	**13 33 18.0**	**+1.0**
ARE				*i* S		**S**	**13 34 03.4**	**-1.7**
SIV	**San Ignacio**	**8.40**	**64**	P		**P**	**13 34 15.5**	**+0.8**
	comp=E,8.3nm,0.3s,baz=257,slow=11,SNR=222							
SIV				S		**S**	**13 35 47.8**	**-0.7**
	comp=E,0.1nm,0.3s,baz=333,slow=21,SNR=6.2							
CFAA	**Coronel Fontan**	**11.70**	**177**	P		**P**	**13 34 53.4**	**-5.5**
	comp=E,0.1nm,0.3s,baz=25,slow=14,SNR=2.1							
SAML	**Samuel**	**12.19**	**28**	*e*P		**P**	**13 35 04.7**	**-0.6**
	comp=E,3.8nm,0.7s							
CPUP	**Villa Florida**	**12.45**	**123**	P		**P**	**13 35 09.2**	**+0.4**
	comp=E,0.6nm,0.3s,baz=316,slow=15,SNR=59							
CPUP				LR		LR	13 39 54.4	
	comp=E,50nm,21.7s,baz=164,slow=37							
CPUP	**Villa Florida**	**12.45**	**123**	*e*P		**P**	**13 35 08.5**	**-0.3**
	comp=E,38nm,1.0s							
TRQA	**Tornquist**	**19.10**	**163**	*e*P		**P**	**13 36 29.3**	**-1.8**
	comp=E,6.3nm,0.8s							
BDFB	**Brasilia**	**20.34**	**81**	P		**P**	**13 36 45.2**	**+0.9**
	comp=E,5.3nm,0.5s,baz=251,slow=14,SNR=9.0							
BDFB				LR		LR	13 45 58.5	
	comp=E,69nm,18.7s,baz=288,slow=40							
BAO	**Brasilia Array**	**20.37**	**81**	P		**P**	**13 36 42.0**	**-2.5**
PLCA	**Paso Flores**	**20.84**	**183**	P		**P**	**13 36 48.7**	**-0.4**
	comp=E,6.5nm,0.8s,baz=0.8,slow=12,SNR=17							
PLCA	**Paso Flores**	**20.84**	**183**	*e*P		**P**	**13 36 48.4**	**-0.8**
	comp=E,8.5nm,0.8s							
SDV	**Santo Domingo**	**28.62**	**356**	P		**P**	**13 38 02.3**	**-0.7**
	comp=E,4.5nm,0.6s,mb4.3,baz=207,slow=14,SNR=5.1							
SDV	**Santo Domingo**	**28.62**	**356**	*e*P		**P**	**13 38 01.9**	**-1.1**
	comp=E,4.7nm,0.6s,mb4.3							
SJG	**San Juan**	**37.84**	**4**	P		**P**	**13 39 21.2**	**-1.2**
	comp=E,11nm,0.3s,mb5.1,baz=336,slow=10.0,SNR=5.3							
COW	**Cow Castle Cre**	**54.13**	**348**	*e*P		**P**	**13 41 30.6**	**-0.1**
JSC	**Jenkinsville**	**55.11**	**348**	*e*P		**P**	**13 41 37.6**	**-0.3**
LRAL	**Lakeview Retre**	**55.37**	**342**	*e*P		**P**	**13 41 38.4**	**-1.3**
	comp=E,8.0nm,1.1s,mb4.7							
ELN	**Prospectdale**	**57.87**	**349**	*e*P		**P**	**13 41 57.4**	**+0.1**
WVT	**Waverly**	**58.50**	**342**	*e*P		**P**	**13 41 59.9**	**-1.9**
	comp=E,16nm,0.9s,mb5.1							
TXAR	**Lajitas Array**	**59.29**	**325**	P		**P**	**13 42 06.5**	**-0.8**
	comp=E,1.3nm,0.9s,mb4.0,baz=141,slow=8.0,SNR=7.5							
FVM	**French Village**	**60.99**	**341**	*e*P		**P**	**13 42 17.8**	**-1.0**
	comp=E,21nm,0.8s,mb5.2							
CCM	**Cathedral Cave**	**61.32**	**340**	*e*P		**P**	**13 42 19.4**	**-1.6**
	comp=E,13nm,1.3s,mb4.8							
VNA3	**Neumayer Olymp**	**61.62**	**162**	⇑		**P**	**13 42 25.1**	**+2.6**
VNA3	**Neumayer Olymp**	**61.62**	**162**	⇑		**P**	**13 42 30.5**	**+8.0**
VNA3	**Neumayer Olymp**	**61.62**	**162**	⇑		**P**	**13 42 38.7**	**+16**
VNA3	**Neumayer Olymp**	**61.62**	**162**	⇑		**P**	**13 42 42.5**	**+20**
VNA3	**Neumayer Olymp**	**61.62**	**162**	⇑		pP	13 42 51.3	+2.6
VNA3	**Neumayer Olymp**	**61.62**	**162**	⇑		PcP	13 43 04.2	+1.4
GDL2	**Guadalupe Moun**	**61.91**	**326**	*e*P		**P**	**13 42 24.8**	**-0.2**
MNTX	**Cornudas Mount**	**62.06**	**325**	*e*P		**P**	**13 42 24.7**	**-1.3**
	comp=E,2.0nm,0.9s,mb4.2							
VNA2	**Neumayer--Watz**	**62.19**	**161**	⇑		**P**	**13 42 28.7**	**+2.4**
VNA2	**Neumayer--Watz**	**62.19**	**161**	⇑		**P**	**13 42 42.3**	**+16**
VNA2	**Neumayer--Watz**	**62.19**	**161**	⇑		**P**	**13 42 45.4**	**+19**
VNA2	**Neumayer--Watz**	**62.19**	**161**	⇑		pP	13 42 55.3	+2.7
VNA2	**Neumayer--Watz**	**62.19**	**161**	⇑		sP	13 43 02.8	-1.5
VNA2	**Neumayer--Watz**	**62.19**	**161**	⇑		PcP	13 43 09.3	+4.2
SNAA	**Sanae**	**63.82**	**161**	⇑		**P**	**13 42 37.0**	**0.0**
SNAA	**Sanae**	**63.82**	**161**	⇑		**P**	**13 42 43.0**	**+6.0**
SNAA	**Sanae**	**63.82**	**161**	⇑		**P**	**13 42 54.6**	**+18**
SNAA	**Sanae**	**63.82**	**161**	⇑		pP	13 43 03.5	+0.2
SNAA	**Sanae**	**63.82**	**161**	⇑		sP	13 43 10.6	-4.4
SNAA	**Sanae**	**63.82**	**161**	⇑		PcP	13 43 14.8	+3.1
SNAA	**Sanae**	**63.82**	**161**	P		**P**	**13 42 37.2**	**+0.2**
	comp=E,0.9nm,0.8s,mb3.6,baz=287,slow=6.4,SNR=18							
SNAA	**Sanae**	**63.82**	**161**	⇑P		**P**	**13 42 37.0**	**0.0**
ANMO	**Albuquerque**	**65.14**	**327**	P		**P**	**13 42 45.9**	**-0.3**
	comp=E,0.7nm,0.4s,mb3.8,baz=151,slow=10,SNR=3.2							
SDCO	**Great Sand Dun**	**66.84**	**329**	*e*P		**P**	**13 42 57.2**	**+0.2**
	comp=E,8.0nm,1.2s,mb4.4							
DBIC	**Dimbokro**	**68.29**	**74**	P		**P**	**13 43 06.5**	**+0.2**
	comp=E,4.6nm,0.7s,mb4.4,baz=194,slow=8.3,SNR=11							
SMCO	**Snowmass**	**68.68**	**329**	*e*P		**P**	**13 43 09.4**	**+1.1**
SRU	**San Rafael**	**70.41**	**327**	*e*P		**P**	**13 43 19.2**	**+0.3**
MSU	**Marysvale**	**70.84**	**325**	*e*P		**P**	**13 43 22.7**	**+1.3**
RSSD	**Black Hills**	**71.33**	**334**	*e*P		**P**	**13 43 25.1**	**+0.9**
	comp=E,2.0nm,0.4s,mb4.3							
PDAR	**Pinedale Array**	**72.70**	**330**	P		**P**	**13 43 33.0**	**+0.5**
	comp=E,0.8nm,0.8s,mb3.6,baz=153,slow=3.3,SNR=6.9							
BW06	**Boulder Array**	**72.70**	**330**	*e*P		**P**	**13 43 31.8**	**-0.6**
HWUT	**Hardware Ranch**	**72.80**	**328**	*e*P		**P**	**13 43 33.3**	**+0.2**
	comp=E,3.7nm,0.8s,mb4.3							
ULM	**Lac du Bonnet**	**73.77**	**342**	P		**P**	**13 43 38.2**	**-0.3**
	comp=E,6.9nm,0.7s,mb4.5,baz=150,slow=5.8,SNR=7.3							
ULM	**Lac du Bonnet**	**73.77**	**342**	P		**P**	**13 43 38.2**	**-0.3**
OMM	**Old Mammoth Mi**	**74.08**	**321**	*e*P		**P**	**13 43 41.2**	**+0.6**
NVAR	**Mina Array Bea**	**74.21**	**322**	P		**P**	**13 43 42.6**	**+1.2**
	comp=E,2.2nm,0.8s,mb3.9,baz=150,slow=7.3,SNR=10							
IMW	**Indian Meadow**	**74.21**	**330**	*e*P		**P**	**13 43 42.3**	**+1.1**
	comp=E,5.7nm,1.0s,mb4.3							
SCHQ	**Schefferville**	**74.42**	**1**	P		**P**	**13 43 42.4**	**+0.2**
	comp=E,3.2nm,0.6s,mb4.2,baz=156,slow=4.2,SNR=4.4							
LRV	**Little Rabbit**	**74.54**	**319**	*e*P		**P**	**13 43 42.9**	**-0.4**
HLID	**Hailey**	**75.66**	**328**	*e*P		**P**	**13 43 51.0**	**+1.5**
	comp=E,6.0nm,1.1s,mb4.2							
MCMT	**McKenzie Canyo**	**75.82**	**329**	*e*P		**P**	**13 43 50.9**	**+0.6**
HRY	**Holter Researc**	**76.75**	**331**	*e*P		**P**	**13 43 56.9**	**+1.4**
SYO	**Syowa Base**	**78.03**	**160**	⇑P		**P**	**13 44 01.8**	**-0.3**
YBH	**Yreka Blue Hor**	**78.92**	**322**	P		**P**	**13 44 07.6**	**0.0**
	comp=E,1.2nm,0.6s,mb3.9,baz=135,slow=2.9,SNR=3.1							
EDM	**Edmonton**	**82.29**	**335**	*e*P		**P**	**13 44 24.3**	**-0.8**
MAW	**Mawson**	**85.89**	**163**	P		**P**	**13 44 44.2**	**+1.4**
	comp=E,0.9nm,0.6s,mb3.9,baz=285,slow=6.6,SNR=5.7							
YKA	**Yellowknife Ar**	**89.65**	**341**	P		**P**	**13 45 01.9**	**+1.1**
	comp=E,8.7nm,0.7s,mb5.0,baz=133,slow=4.7,SNR=30							
WRA	**Warramunga Ar**	**134.34**	**211**	PKP	PKPdf		13 51 22.3	+1.7
	comp=E,1.2nm,0.6s,baz=156,slow=1.7,SNR=22							
FITZ	**Fitzroy Crossi**	**139.65**	**202**	PKP	PKPdf		13 51 31.8	+1.5
	comp=E,3.5nm,1.0s,baz=40,slow=23,SNR=3.0							
MKAR	**Makanchi Array**	**144.31**	**35**	PKP	PKPdf		13 51 39.0	+1.3
	comp=E,0.8nm,0.4s,baz=298,slow=3.1,SNR=14							
MAJO	**Matsushiro**	**151.03**	**311**	*e*PKPbc	PKPdf		13 51 55.1	+6.2
MJAR	**Matsushiro Arr**	**151.03**	**311**	PKPbc	PKPdf		13 51 57.3	+8.4
	comp=E,3.6nm,0.8s,baz=86,slow=1.5,SNR=11							
SONM	**Songino Array**	**151.84**	**7**	PKP	PKPdf		13 51 53.2	+3.4
	comp=E,0.8nm,0.6s,slow=1.2,SNR=6.5							
SONM				PKPbc	PKPdf		13 51 59.3	+10
	comp=E,3.3nm,0.4s,baz=302,slow=1.3,SNR=26							
ULN	**Ulaanbaatar**	**151.88**	**6**	*e*PKP	PKPdf		13 51 45.3	-4.5
LZH	**Lanzhou**	**162.63**	**20**	*e*PKP	PKPdf		13 52 05.5	+2.1
LZH				APKP			13 52 34.5	
LZH				XPKP			13 52 46.8	
LZH	**Lanzhou**	**162.63**	**20**	*e*PKP	PKPdf		13 52 05.6	+2.2
LZH				pPKP			13 52 34.5	
LZH				sPKP			13 52 46.8	

IDC 28 13:32:27.8±4.3, **7.88N**×**92.32E**, **mb3.5**/3, **mb1 3.7**/3, **mb1mx3.5**/19, **mbtmp3.5**/3, **Error ellipse: s-maj=155.6km s-min=31.7km az=62.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.71**	**349**	P		P	13 40 01.8	-1.8
	0.4nm,0.5s,baz=168,slow=9.8,SNR=6.4							
SONM	**Songino Array**	**41.58**	**14**	P		P	13 40 17.3	-1.6
	0.5nm,0.6s,baz=199,slow=5.9,SNR=4.7							
WRA	**Warramunga Arr**	**49.75**	**124**	P		P	13 41 22.3	-2.0
	0.4nm,0.7s,baz=303,slow=8.7,SNR=4.9							

*IDC **28** 13:56:46.3±1.6, 33.21N×142.57E, mb3.4/2, mb1 3.6/4, mb1mx3.4/20, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=33.8km s-min=31.0km az=110.0*
*JMA **28** 13:56:49.8±0.6, 33.32N×142.47E, h80km, M2.8*

ISC 28 13:56:49.6±1.4, **33.31N**±0.06×**142.50E**±0.09, **h43**km±18km, **n14**, σ0$**97**/22, **mb3.4**/2, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**1.84**	**317**	P		**P**	**13 57 19.6**	**+0.2**
BSO2	**Boso 2**	**2.04**	**315**	*e*S		**S**	**13 57 48.8**	**+2.1**
BSO3	**Boso 3**	**2.23**	**313**	P		**P**	**13 57 25.3**	**+0.4**
BSO3				*e*S		**S**	**13 57 51.1**	**-0.2**
JHJ2	**Mitsune**	**2.26**	**266**	P		**P**	**13 57 25.4**	**0.0**
JHJ2				*e*S		**S**	**13 57 52.6**	**+0.4**
JHJ	**Hachijo jima 2**	**2.29**	**266**	Pn		**P**	**13 57 25.3**	**-0.5**
	9.4nm,0.3s,baz=54,slow=23,SNR=11							
JHJ				Sn		**S**	**13 57 51.6**	**-1.3**
	20nm,0.3s,baz=236,slow=22,SNR=8.8							
BSO4	**Boso 4**	**2.46**	**314**	P		**P**	**13 57 29.0**	**+0.8**
JYN	**Shimob**	**3.93**	**305**	P		**P**	**13 57 50.3**	**+1.2**
JYN				*e*S		**S**	**13 58 35.2**	**+0.6**
JAG	**Ashikaga**	**3.99**	**322**	P		**P**	**13 57 49.9**	**-0.1**
JAG				*e*S		**S**	**13 58 35.2**	**-0.9**
JRY	**Ryogami san**	**4.01**	**313**	P		**P**	**13 57 51.1**	**+0.9**
JRY				*e*S		**S**	**13 58 36.1**	**-0.5**
JMM	**Marumori**	**4.75**	**343**	P		**P**	**13 57 58.5**	**-2.2**
JMM				*e*S		**S**	**13 58 49.6**	**-5.7**
MJAR	**Matsushiro Arr**	**4.78**	**314**	Pn		**P**	**13 58 01.3**	**+0.2**
	0.8nm,0.3s,baz=285,slow=9.2,SNR=6.6							
MJAR				Sn		**S**	**13 58 55.1**	**-0.8**
	0.6nm,0.3s,baz=144,slow=21,SNR=5.4							
JMK	**Ichinoseki**	**5.73**	**350**	P		**P**	**13 58 10.9**	**-3.4**
ILAR	**Eielson Array**	**52.19**	**31**	P		**P**	**14 05 58.6**	**+0.8**
	0.3nm,0.9s,mb3.2,baz=281,slow=7.3,SNR=4.1							
WRA	**Warramunga Arr**	**53.52**	**190**	P		**P**	**14 06 08.1**	**-0.3**
	0.6nm,0.9s,mb3.5,baz=6.2,slow=7.6,SNR=3.9							

*IDC **28** 14:00:27.6±7.6, 36.79N×57.38E, mb3.6/3, mb1 3.8/4, mb1mx3.5/20, mbtmp3.7/4, Error ellipse: s-maj=154.2km s-min=34.5km az=176.0*
*NEIC **28** 14:00:29.6±3.1, 36.84N×57.34E, h10km, mb3.8/3, Error ellipse: s-maj=59.7km s-min=21.1km az=177.0*
*MOS **28** 14:00:33.1±0.7, 37.10N×57.39E, h33km, mb4.2/2, Error ellipse: s-maj=63.1km s-min=28.3km az=65.3*

ISC 28 14:00:32.3±2.8, **37.0N**±0.3×**57.5E**±0.2, **h33**km, **n11**, σ0$**61**/11, **mb3.8**/3, **Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRVK	**Borovoye**	**18.39**	**25**	*e*P		**P**	**14 04 46.2**	**-0.1**
BRVK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
BRVK	**Borovoye**	**18.39**	**25**	*e*P		**P**	**14 04 46.2**	**-0.2**
	comp=Z,1.9nm,1.0s							
BVAR	**Borovoye Array**	**18.40**	**25**	P		**P**	**14 04 46.0**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=203,slow=10,SNR=21							
KURK	**Kurchatov**	**20.42**	**41**	*e*P		**P**	**14 05 10.4**	**+1.3**
KURK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
KURK	**Kurchatov**	**20.42**	**41**	*e*P		**P**	**14 05 10.4**	**+1.3**
	comp=Z,4.2nm,0.8s							
MKAR	**Makanchi Array**	**20.84**	**54**	P		**P**	**14 05 12.8**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=243,slow=11,SNR=13							
MKAR	**Makanchi Array**	**20.84**	**54**	P		**P**	**14 05 12.8**	**-0.7**
AKASG	**Malin Array Be**	**24.35**	**313**	P		**P**	**14 05 48.0**	**0.0**
	comp=Z,0.5nm,0.3s,mb3.4,baz=111,slow=8.5,SNR=6.1							
ZAL	**Zalesovo**	**25.35**	**39**	P		**P**	**14 05 58.0**	**+0.4**
	comp=Z,1.2nm,0.3s,mb3.9,baz=256,slow=14,SNR=4.9							
TLY	**Talaya**	**35.52**	**51**	P		**P**	**14 07 27.5**	**-0.3**
TLY				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
TLY	**Talaya**	**35.52**	**51**	P		**P**	**14 07 27.5**	**-0.3**
	comp=Z,2.9nm,0.8s,mb4.3							

*JMA **28** 14:05:18.6±0.6, 33.01N×142.92E, h89km, M3.5*

ISC 28 14:05:19.6±1.7, **33.1N**±0.1×**142.8E**±0.2, **h116**km±37km, **n14**, σ0$**92**/18, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**2.21**	**317**	P		**P**	**14 05 55.8**	**-0.3**
JHJ2	**Mitsune**	**2.52**	**272**	P		**P**	**14 05 59.7**	**-0.6**
BSO3	**Boso 3**	**2.59**	**313**	P		**P**	**14 06 00.7**	**-0.5**
BSO4	**Boso 4**	**2.82**	**314**	P		**P**	**14 06 03.0**	**-1.3**
BSO4				S		**S**	**14 06 39.5**	**+1.4**
JYT	**Yasato**	**3.83**	**326**	P		**P**	**14 06 18.3**	**+0.4**
JYT				S		**S**	**14 07 02.8**	**+0.3**
JHO	**Hitachi**	**4.00**	**333**	P		**P**	**14 06 19.8**	**-0.4**
JHU	**Hanno**	**4.04**	**315**	P		**P**	**14 06 21.2**	**+0.5**
JYN	**Shimob**	**4.30**	**306**	P		**P**	**14 06 24.5**	**+0.3**
JYN				S		**S**	**14 07 13.0**	**-0.7**
JAG	**Ashikaga**	**4.36**	**321**	P		**P**	**14 06 25.2**	**+0.2**
JFK	**Kawauchi**	**4.59**	**340**	P		**P**	**14 06 26.8**	**-1.3**
JNY	**Yasuok**	**4.71**	**301**	P		**P**	**14 06 30.8**	**+1.1**
JMM	**Marumori**	**5.08**	**342**	P		**P**	**14 06 35.1**	**+0.4**
MAT	**Matsushiro**	**5.15**	**314**	P		**P**	**14 06 37.4**	**+1.7**
MAT				S		**S**	**14 07 31.3**	**-3.1**
JMK	**Ichinoseki**	**6.03**	**348**	P		**P**	**14 06 47.5**	**0.0**

*MAN **28** 14:13:37.0, 13.73N×122.31E, h5km, mb4.6, ML3.5, MS3.4*
MAN GUINAYANGAN QUEZON - INTENSITY II.
*NEIC **28** 14:13:39.4±0.5, 13.56N×122.31E, h35km, mb4.6/7, Error ellipse: s-maj=27.1km s-min=9.8km az=72.0*
NEIC Felt [II PIVS] at Guinayangan.
*IDC **28** 14:13:43.0±11.0, 13.68N×122.55E, h67km±105km, mb3.8/10, mb1 3.9/10, mb1mx3.7/20, mbtmp4.1/10, Error ellipse: s-maj=84.0km s-min=17.0km az=70.0*

ISC 28 14:13:34.5±0.4, **13.64N**±0.03×**122.51E**±0.04, **h10**km, **n41**, σ1$**08**/50, **mb4.3**/15, **1C-4D, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GQP	**Guinayangan**	**0.28**	**347**⇓	*i* P		**Pg**	**14 13 41.0**	**+0.7**
GQP				*i* S		**Sg**	**14 13 44.6**	**+0.4**
AUQP	**San Andres**	**0.35**	**153**	*e*P		**Sg**	**14 13 48.5**	**+2.0**
BOAC	**Boac**	**0.67**	**255**	*e*P		**Pb**	**14 13 47.6**	**-0.2**
BOAC				*e*S		**Sb**	**14 13 56.8**	**-0.1**
POLP	**Polilio Island**	**1.22**	**333**	*e*P		**Pb**	**14 13 56.3**	**-0.9**
POLP				*e*S		**Sb**	**14 14 11.6**	**-1.3**
LBPH	**Los Banos**	**1.39**	**292**	*e*P		**Pn**	**14 13 58.8**	**-1.3**
PGP	**Puerto Galera**	**1.52**	**265**	*e*P		**Pn**	**14 13 56.7**	**-5.3**
ARP	**Angono**	**1.59**	**304**	*e*P		**Pn**	**14 14 02.3**	**-0.7**
QVPH	**Quezon City--P**	**1.73**	**306**	*e*P		**Pn**	**14 14 05.7**	**+0.7**
NZB	**Bigte**	**1.83**	**312**	*e*P		**Pn**	**14 14 06.6**	**+0.2**
KALP	**Kalibo**	**1.95**	**185**	*e*P		**Pn**	**14 14 16.0**	**+7.9**
RCP	**Roxas**	**2.08**	**174**⇓	*e*P		**Pn**	**14 14 13.2**	**+3.3**
LUBP	**Lubang**	**2.20**	**273**	*e*P		**Pn**	**14 14 11.4**	**-0.3**
LUBP				*e*S		**Sn**	**14 14 40.2**	**+0.9**
BALP	**Baler**	**2.28**	**337**	*e*P		**Pn**	**14 14 13.5**	**+0.7**
BALP				*e*S		**Sn**	**14 14 43.6**	**+2.3**
NBP	**Mount Natib**	**2.31**	**299**⇑	*e*P		**Pn**	**14 14 13.4**	**+0.2**
PCPH	**Palayan**	**2.35**	**325**⇓	*e*P		**Pn**	**14 14 14.3**	**+0.4**
PCPH				*i* S		**Sn**	**14 14 44.5**	**+1.4**
BUSP	**Coron**	**2.78**	**235**	*e*P		**Pn**	**14 14 20.6**	**+0.7**
GUIM	**Jordan**	**2.99**	**179**	*e*P		**Pn**	**14 14 27.8**	**+4.9**
BCPH	**Baguio City Da**	**3.31**	**326**⇓	*i* P		**Pn**	**14 14 29.3**	**+1.8**
BCPH				*e*S		**Sn**	**14 15 10.4**	**+3.2**
CAUP	**Cauayan**	**3.36**	**349**	*e*P		**Pn**	**14 14 29.5**	**+1.4**
CAUP				*e*S		**Sn**	**14 15 08.8**	**+0.3**
CVP	**Callao Caves**	**4.10**	**351**	*e*P		**Pn**	**14 14 40.0**	**+1.3**
ABRA	**Dolores**	**4.35**	**337**	*e*P		**Pn**	**14 14 40.6**	**-1.7**
APYP	**Conner**	**4.38**	**344**	*e*P		**Pn**	**14 14 43.0**	**+0.3**
APYP				*e*S		**Sn**	**14 15 32.6**	**-1.7**
WRA	**Warramunga Arr**	**35.34**	**161**	P		**P**	**14 20 31.6**	**-0.7**
	1.4nm,0.7s,mb4.0,baz=339,slow=9.7,SNR=2.0							
SONM	**Songino Array**	**36.64**	**342**	P		**P**	**14 20 42.8**	**-0.2**
	1.0nm,0.8s,mb3.7,baz=162,slow=12,SNR=5.6							
NWAO	**Narrogin (SRO)**	**46.57**	**186**	P		**P**	**14 22 04.6**	**+0.1**
	4.1nm,0.7s,mb4.5,baz=357,slow=1.6,SNR=7.8							
NWAO	**Narrogin (SRO)**	**46.57**	**186**	P		**P**	**14 22 02.7**	**-1.8**
	55nm,1.5s,mb5.3							
MKAR	**Makanchi Array**	**47.14**	**323**	P		**P**	**14 22 08.5**	**-0.4**
	1.1nm,0.7s,mb3.9,baz=126,slow=8.0,SNR=10							
YAK	**Yakutsk**	**48.60**	**4**	*e*P		**P**	**14 22 18.9**	**-1.1**
	8.6nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**48.81**	**158**	P		**P**	**14 22 22.4**	**+0.3**
	4.0nm,1.1s,mb4.4,baz=329,slow=17,SNR=3.4							
STKA	**Stephens Creek**	**48.81**	**158**	P		**P**	**14 22 21.5**	**-0.6**
MA2	**Magadan**	**50.40**	**18**	*e*P		**P**	**14 22 35.0**	**+1.1**
	5.5nm,0.8s,mb4.6							
KURK	**Kurchatov**	**51.23**	**326**	*e*P		**P**	**14 22 39.0**	**-1.3**
	7.6nm,0.9s,mb4.6							
KURK				*e*			14 22 46.5	
BVAR	**Borovoye Array**	**56.82**	**325**	P		**P**	**14 23 20.4**	**-1.1**
	1.3nm,0.7s,mb4.1,baz=112,slow=8.0,SNR=11							
BRVK	**Borovoye**	**56.89**	**325**	*e*P		**P**	**14 23 21.0**	**-1.0**
	5.2nm,1.1s,mb4.5							
ARU	**Arti**	**64.41**	**326**	P		**P**	**14 24 09.6**	**-3.4**
	5.2nm,0.9s,mb4.6							
KIV	**Kislovodsk**	**73.38**	**312**	P		**P**	**14 25 08.5**	**-0.2**
ARCES	**ARCESS Array B**	**79.77**	**339**	P		**P**	**14 25 43.9**	**-0.1**
	1.7nm,0.5s,mb4.2,baz=78,slow=6.5,SNR=9.0							
FINES	**FINESS Array B**	**81.19**	**331**	P		**P**	**14 25 50.5**	**-1.1**
	2.5nm,0.9s,mb4.1,baz=90,slow=5.7,SNR=3.5							
NB2	**NORSAR Subarra**	**88.12**	**333**	P		**P**	**14 26 26.1**	**-0.3**
	0.8nm,0.6s,mb4.1,baz=64,slow=5.3							
NOA	**NORSAR Array B**	**88.12**	**333**	P		**P**	**14 26 25.9**	**-0.5**
	1.0nm,0.6s,mb4.2,baz=69,slow=4.5,SNR=4.9							
GERES	**GERESS Array B**	**91.79**	**321**	P		**P**	**14 26 43.5**	**-0.4**
	0.3nm,0.3s,mb4.1,baz=45,slow=7.5,SNR=3.5							

*IDC **28** 14:14:09.5±3.0, 33.03N×142.64E, mb3.6/4, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, ML3.3/2, Error ellipse: s-maj=78.7km s-min=26.3km az

mb1 3.8/16,mb1mx3.7/29,mbtmp3.8/16,ML3.7/5,MS3.0/6, Ms1 3.0/6,ms1mx2.8/29,Error ellipse: s-maj=16.5km s-min=14.3km az=160.0

CSEM ***28*** *14:38:22.1±0.1,41.04N×20.33E,h32km,Ms2.8,Error ellipse: s-maj=2.1km s-min=1.1km az=57.0*

ISC 28 14:38:19.7±0.2**,40.98N**±0.01×**20.33E**±0.02**,h10**km**,n197,** σ1§**42**/265**,mb3.9**/12**,MS2.8**/1**,27C-9D,Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHR	**Ohrid**	**0.38**	**69**	⇓*i*	Pg	**Pg**	**14 38 27.5**	**+0.1**
OHR				⇓*i*	Sg	**Sg**	**14 38 32.9**	**+0.3**
KBN	**Korca**	**0.49**	**136**	*i*	Pg	**Pg**	**14 38 29.2**	**-0.5**
KBN				*i*	Sg	**Sg**	**14 38 36.5**	**+0.1**
TIR	**Tirane**	**0.51**	**316**	*i*	Pg	**Pg**	**14 38 31.4**	**+1.4**
TIR				*i*	Sg	**Sg**	**14 38 41.6**	**+4.6**
QSH	**Qafa e Shtames**	**0.63**	**329**	*i*	Pg	**Pg**	**14 38 33.0**	**+0.6**
PRZA	**Preza**	**0.67**	**312**	*i*	pg?	**Pg**	**14 38 32.8**	**-0.5**
PHP	**Peshkopia**	**0.71**	**7**	*i*	pg?	**Pg**	**14 38 35.8**	**+1.8**
TPE	**Tepelena**	**0.72**	**200**	*i*	Pg	**Pg**	**14 38 33.6**	**-0.7**
TPE				*i*	Sg	**Sg**	**14 38 46.0**	**+2.0**
LACI	**Lac**	**0.81**	**325**	*i*	Pg	**Pg**	**14 38 37.0**	**+1.1**
LACI				*i*	Sg	**Sg**	**14 38 49.8**	**+3.0**
LACI	**Lac**	**0.81**	**325**	*e*	Pg	**Pg**	**14 38 37.0**	**+1.1**
LACI				*i*	Sg	**Sg**	**14 38 49.8**	**+3.0**
LSK	**Leskovik**	**0.85**	**166**	*i*	Pg	**Pg**	**14 38 35.6**	**-1.2**
LSK				*i*	Sg	**Sg**	**14 38 49.3**	**+1.1**
LSK	**Leskovik**	**0.85**	**166**	*e*	Pg	**Pg**	**14 38 35.6**	**-1.2**
LSK				*i*	Sg	**Sg**	**14 38 49.3**	**+1.1**
KKS	**Kukesi**	**1.10**	**3**	*i*	Pn	**Pn**	**14 38 41.8**	**+0.7**
KKS				*i*	Sn	**Sn**	**14 38 58.8**	**+2.5**
KKS	**Kukesi**	**1.10**	**3**	*e*	Pn	**Pn**	**14 38 41.8**	**+0.7**
KKS				*i*	Sn	**Sn**	**14 38 58.8**	**+2.5**
SRN	**Sarande**	**1.13**	**193**	*i*	Pn	**Pn**	**14 38 42.5**	**+1.1**
SRN				*i*	Sn	**Sg**	**14 39 02.3**	**+5.0**
SDA	**Shkodra**	**1.24**	**330**	*i*	Pn	**Pn**	**14 38 45.5**	**+2.4**
SDA				*i*	Sn	**Sg**	**14 39 05.3**	**+4.1**
SDA	**Shkodra**	**1.24**	**330**	*e*	Pn	**Pn**	**14 38 45.5**	**+2.4**
SDA				*i*	Sn	**Sg**	**14 39 05.3**	**+4.1**
ULC	**Ulcinj**	**1.28**	**321**	⇑*i*	Pg	**Pg**	**14 38 45.6**	**+0.3**
ULC				*e*	Sg	**Sg**	**14 39 07.1**	**+4.8**
ULC	**Ulcinj**	**1.28**	**321**	*i*	P	**Pb**	**14 38 45.6**	**+2.2**
KZN	**Kozani**	**1.28**	**121**	*e*	PN	**Pn**	**14 38 42.5**	**-1.2**
KZN				*e*	SN	**Sn**	**14 38 57.8**	**-3.2**
KZN	**Kozani**	**1.28**	**121**	*e*	Pb	**Pb**	**14 38 42.7**	**-0.8**
KZN				*e*	S	**Sb**	**14 38 57.4**	**-2.5**
SKO	**Skopje**	**1.29**	**40**	*i*	Pn	**Pn**	**14 38 44.0**	**+0.1**
SKO				*i*	Sn	**Sn**	**14 39 01.6**	**+0.3**
SKO				Lg			14 39 05.0	
	comp=Z,0.7nm,0.5s							
KEK	**Kerkira**	**1.33**	**198**	*e*	PN	**Pn**	**14 38 45.9**	**+1.6**
KEK				*e*	SN	**Sn**	**14 39 04.6**	**+2.4**
KEK	**Kerkira**	**1.33**	**198**	*e*	Pg	**Pg**	**14 38 45.8**	**-0.4**
KEK				*e*	Sb	**Sn**	**14 39 04.6**	**+2.4**
MEV	**Metsovon**	**1.37**	**150**	*e*	Pg	**Pg**	**14 38 45.8**	**-1.4**
MEV				*e*	Sg	**Sg**	**14 39 05.9**	**+0.4**
JAN	**Janina**	**1.38**	**163**	*e*	PN	**Pn**	**14 38 45.4**	**+0.3**
JAN	**Janina**	**1.38**	**163**	*e*	Pb	**Pb**	**14 38 46.2**	**+1.1**
BCI	**Bajram Curri**	**1.40**	**352**	*i*	Pn	**Pn**	**14 38 48.5**	**+3.1**
BCI				*i*	Sn	**Sn**	**14 39 10.3**	**+6.3**
IGT	**Igoumenitsa**	**1.44**	**180**	*e*	Pg	**Pg**	**14 38 47.8**	**-0.7**
IGT				*e*	Sg	**Sg**	**14 39 08.7**	**+0.8**
GRG	**Griva**	**1.57**	**90**	*e*	Pg	**Pg**	**14 38 47.8**	**-3.2**
GRG				*e*	Sg	**Sg**	**14 39 08.7**	**-2.2**
PVY	**Plav**	**1.64**	**351**	⇑*i*	Pn	**Pn**	**14 38 51.5**	**+2.8**
PVY				*e*	Sn	**Sn**	**14 39 17.3**	**+7.3**
TTG	**Podgorica**	**1.66**	**331**	⇑*i*	Pn	**Pn**	**14 38 52.2**	**+3.2**
TTG				*e*	Sn	**Sn**	**14 39 16.8**	**+6.3**
TTG	**Podgorica**	**1.66**	**331**	*i*	P	**Pn**	**14 38 52.2**	**+3.1**
BUM	**Brajici-Budva**	**1.70**	**321**	⇑*i*	Pn	**Pn**	**14 38 52.8**	**+3.0**
BUM				*e*	Sn	**Sn**	**14 39 17.8**	**+6.1**
VAY	**Valandovo**	**1.72**	**78**	*i*	Pn	**Pn**	**14 38 51.5**	**+1.5**
VAY				*i*	Sn	**Sn**	**14 39 13.2**	**+1.0**
LIT	**Litokhoron**	**1.86**	**117**	*e*	Pb	**Pb**	**14 38 51.7**	**-1.7**
LIT				*e*	Sb	**Sb**	**14 39 17.0**	**+0.3**
IVA	**Berane**	**1.92**	**350**	⇑*i*	Pn	**Pn**	**14 38 56.3**	**+3.5**
IVA				*e*	Sn	**Sn**	**14 39 23.6**	**+6.3**
HCY	**Herceg Novi**	**2.01**	**318**	⇑*i*	Pn	**Pn**	**14 38 56.2**	**+2.1**
HCY				*e*	Sn	**Sn**	**14 39 24.1**	**+4.5**
HCY	**Herceg Novi**	**2.01**	**318**	*i*	P	**Pn**	**14 38 56.2**	**+2.1**
THE	**Thessaloniki**	**2.03**	**99**	*e*	Pb	**Pb**	**14 38 53.7**	**-2.5**
NKY	**Niksic**	**2.09**	**332**	⇑*i*	Pn	**Pn**	**14 38 58.4**	**+3.2**
NKY				*e*	Sn	**Sn**	**14 39 27.5**	**+6.1**
TREB	**Trebinje**	**2.28**	**320**	Pn		**Sn**	**14 39 00.1**	**+2.1**
BRY	**Bratogost**	**2.34**	**326**	⇑*i*	Pn	**Pn**	**14 39 01.4**	**+2.6**
BRY				*e*	Sn	**Sn**	**14 39 33.6**	**+5.7**
BRY	**Bratogost**	**2.34**	**326**	*i*	P	**Pn**	**14 39 01.4**	**+2.6**
EVR	**Evrytania**	**2.35**	**151**	*e*	Pg	**Pg**	**14 39 02.3**	**-4.3**
EVR				*e*	Sn	**Sn**	**14 39 29.6**	**+1.4**
EVR	**Evrytania**	**2.35**	**151**	*e*	PN	**Pn**	**14 39 00.5**	**+1.5**
PLG	**Polygyros**	**2.44**	**103**	*e*	PN	**Pn**	**14 38 59.7**	**-0.6**
PLG	**Polygyros**	**2.44**	**103**	*e*	Pn	**Pn**	**14 38 59.9**	**-0.4**
PLG				*e*	Sn	**Sn**	**14 39 29.8**	**-0.7**
PLE	**Pljevlja**	**2.45**	**344**	⇑*i*	Pn	**Pn**	**14 39 04.4**	**+4.0**
PLE				*e*	Sn	**Sn**	**14 39 36.8**	**+6.0**
UPM	**Unac-Piva**	**2.46**	**335**	⇑*i*	Pn	**Pn**	**14 39 04.0**	**+3.5**
UPM				*e*	Sn	**Sn**	**14 39 37.5**	**+6.4**
AGG	**Agios Georgios**	**2.48**	**141**	*e*	Pn	**Pn**	**14 39 01.8**	**+0.4**
AGG				*e*	Sn	**Sn**	**14 39 34.2**	**+2.7**
NVSS	**Nova Varos 2**	**2.57**	**350**	⇑*i*	Pn	**Pn**	**14 39 03.9**	**+1.7**
NVSS					Sn	**Sn**	**14 39 37.1**	**+3.3**
BAI	**Bari**	**2.62**	**274**	*e*	Pn	**Pn**	**14 39 03.6**	**+0.8**
NVR	**Nevrokopi**	**2.69**	**81**	*e*	PB	**Pb**	**14 39 04.5**	**-3.0**
NVR	**Nevrokopi**	**2.69**	**81**	*e*	Pn	**Pn**	**14 39 05.1**	**+1.3**
STON	**Ston**	**2.73**	**315**	*i*	Pn	**Pn**	**14 39 05.9**	**+1.6**
STON				*i*	Sn	**Sn**	**14 39 38.8**	**+1.1**
STON				*i*	Sg	**Sg**	**14 39 47.5**	**-3.0**
SG1	**Sgolgore (BA)**	**2.77**	**268**	*e*	Pn	**Pn**	**14 39 05.3**	**+0.3**
NEO	**Neokhori**	**2.77**	**126**	*e*	PN	**Pn**	**14 39 04.3**	**-0.7**
VLS	**Valsamata**	**2.80**	**176**	*e*	PN	**Pn**	**14 39 05.6**	**+0.1**
VLS				*e*	SN	**Sn**	**14 39 40.3**	**+0.6**
VLS	**Valsamata**	**2.80**	**176**	*e*	P	**Pn**	**14 39 06.0**	**+0.5**
ZAPS	**Zavoj/Pirot**	**2.87**	**35**	⇑*i*	Pn	**Pn**	**14 39 07.2**	**+0.7**
ZAPS				*e*	Sn	**Sn**	**14 39 41.7**	**+0.3**
GRUS	**Gruza**	**2.92**	**5**	*i*	Pn	**Pn**	**14 39 08.1**	**+0.9**
GRUS				*e*	Sn	**Sn**	**14 39 47.3**	**+4.6**
BBLS	**Bajina Basta -**	**2.97**	**347**	*i*	Pn	**Pn**	**14 39 12.5**	**+4.7**
BBLS				*e*	Sn	**Sn**	**14 39 57.2**	**+13**
RLS	**Riolos of Patr**	**3.04**	**163**	*e*	Pb	**Pb**	**14 39 11.3**	**-2.3**
RLS	**Riolos of Patr**	**3.04**	**163**	*e*	PB	**Pb**	**14 39 11.2**	**-2.4**
CDT	**Castel del Mon**	**3.07**	**273**	*e*	Pn	**Pn**	**14 39 05.3**	**-4.0**
BOLS	**Boljevac**	**3.10**	**22**	*i*	Pn	**Pn**	**14 39 09.6**	**0.0**
BOLS				*e*	Sn	**Sn**	**14 39 49.9**	**+2.9**
LKR	**Lokris**	**3.10**	**138**	*e*	PN	**Pn**	**14 39 09.1**	**-0.6**
DIVS	**Divcibare**	**3.13**	**355**	⇓*i*	Pn	**Pn**	**14 39 11.5**	**+1.4**
DIVS				*e*	Sn	**Sn**	**14 39 52.5**	**+4.6**
AOS	**Alonnisos**	**3.27**	**122**	*e*	Pn	**Pn**	**14 39 12.1**	**+0.1**
TIP	**Timpagrande**	**3.28**	**238**	*e*	Pn	**Pn**	**14 39 12.4**	**+0.2**
TIP	**Timpagrande**	**3.28**	**238**	*e*	Pn	**Pn**	**14 39 12.4**	**+0.2**
SVIS	**Svilajnac**	**3.38**	**11**	⇑*i*	Pn	**Pn**	**14 39 10.9**	**-2.7**
SVIS				*e*	Sn	**Sn**	**14 39 50.3**	**-4.0**
MS1	**Monte Sant'Ang**	**3.38**	**284**	*e*	Pn	**Pn**	**14 39 14.1**	**+0.4**
MGER	**Gerania Oros**	**3.75**	**142**	*e*	PN	**Pn**	**14 39 19.0**	**+0.1**
NSAL	**Nisos Salamina**	**3.91**	**141**	*e*	PN	**Pn**	**14 39 21.0**	**-0.1**
RDO	**Rodhopi**	**3.94**	**86**	*e*	Pn	**Pn**	**14 39 22.9**	**+1.3**
RDO				*e*	Sn	**Sn**	**14 40 06.3**	**-2.1**
RDO	**Rodhopi**	**3.94**	**86**	*e*	PN	**Pn**	**14 39 22.4**	**+0.8**
ATH	**Athens Observa**	**3.98**	**138**	*e*	PN	**Pn**	**14 39 23.0**	**+0.8**
ITM	**Ithomi**	**3.99**	**161**	*e*	Pn	**Pn**	**14 39 24.2**	**+1.9**
ITM				*e*	Sn	**Sn**	**14 40 10.2**	**+0.5**
ITM	**Ithomi**	**3.99**	**161**	*e*	PN	**Pn**	**14 39 24.0**	**+1.7**
DJES	**Djerdap**	**3.99**	**23**	*i*	Pn	**Pn**	**14 39 25.8**	**+3.5**
DJES					Sn	**Sn**	**14 40 13.5**	**+3.8**
NAIG	**Nisos Aigina**	**4.04**	**142**	*e*	PN	**Pn**	**14 39 22.5**	**-0.5**
NAIG	**Nisos Aigina**	**4.04**	**142**	*e*	Pn	**Pn**	**14 39 25.0**	**+2.0**
BLY	**Banja Luka**	**4.42**	**329**	*e*	P	**Pn**	**14 39 30.2**	**+1.7**
BLY				*e*	S	**Sn**	**14 40 22.4**	**+1.8**
CII	**Carovilli**	**4.60**	**281**	*e*	Pn	**Pn**	**14 39 31.1**	**+0.2**
CII	**Carovilli**	**4.60**	**281**	*e*	Pn	**Pn**	**14 39 31.1**	**+0.2**
VLI	**Veliai**	**4.71**	**154**	*e*	PN	**Pn**	**14 39 32.2**	**-0.4**
VLI	**Veliai**	**4.71**	**154**	*e*	Pn	**Pn**	**14 39 32.8**	**+0.2**
AQU	**L'Aquila**	**5.37**	**287**	P		**Pn**	**14 39 39.8**	**-2.1**
AQU					pmax	pmax		
	comp=Z,75nm,0.9s							
AQU	**L'Aquila**	**5.37**	**287**	Pn		**Pn**	**14 39 39.8**	**-2.1**
	comp=Z,76nm,0.9s							
NVLJ	**Novalja**	**5.38**	**314**	*i*	Pn	**Pn**	**14 39 42.3**	**+0.2**
VOIR		**5.63**	**36**	⇓	P	**Pn**	**14 39 48.8**	**+3.2**
VAE	**Valguarnera**	**5.77**	**235**	LR		LR	14 42 07.8	
	comp=Z,144nm,19.1s,baz=342,slow=39							
BOJS	**Bojanci**	**5.85**	**322**	⇑*i*	Pn	**Pn**	**14 39 48.8**	**+0.1**
BOJS				*e*	Sn	**Sn**	**14 40 53.9**	**-2.7**
BOJS	**Bojanci**	**5.85**	**322**	Pn		**Pn**	**14 39 48.8**	**+0.2**
BOJS				*e*	Sn	**Sn**	**14 40 53.8**	**-2.8**
MLR	**Muntele Rosu**	**6.09**	**40**	P		**Pn**	**14 39 53.2**	**+1.1**
MLR							14 41 00.9	
MLR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MLR					smax			
	comp=N,1.0nm,0.3s							
MLR					MLR	MLR		
	comp=Z,117nm,20.2s							
MLR	**Muntele Rosu**	**6.09**	**40**	Pn		**Pn**	**14 39 53.2**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=232,slow=8.7,SNR=10							
MLR					Sn	**Sn**	**14 41 00.9**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=290,slow=21,SNR=3.3							
MLR					Lg		14 41 43.4	
	comp=Z,0.7nm,0.3s,baz=102,slow=22,SNR=3.0							
MLR					LR	LR	14 42 30.9	
	comp=Z,117nm,20.2s,baz=240,slow=41							
MLR	**Muntele Rosu**	**6.09**	**40**	⇓P		**Pn**	**14 39 54.8**	**+2.7**
MLR					S	**Sn**	**14 41 00.9**	**-1.7**
	comp=Z,117nm,20.2s							
LEGS	**Legarje**	**6.16**	**325**	⇑*i*	Pn	**Pn**	**14 39 52.9**	**-0.2**
VISS	**Visnje**	**6.27**	**322**	⇑*i*	Pn	**Pn**	**14 39 54.3**	**-0.2**
CEY	**Cerknica**	**6.42**	**320**	⇑*e*	Pn	**Pn**	**14 39 56.4**	**-0.2**
	comp=Z,140nm,1.1s							
CEY				*e*	Sn	**Sn**	**14 41 09.2**	**-1.4**
CEY	**Cerknica**	**6.42**	**320**	⇑*e*	Pn	**Pn**	**14 39 56.4**	**-0.2**
CEY				*e*	Sn	**Sn**	**14 41 09.2**	**-1.4**
	comp=Z,140nm,1.1s							
CEY	**Cerknica**	**6.42**	**320**	⇑*e*	Pn	**Pn**	**14 39 56.4**	**-0.2**
	comp=Z,140nm,1.1s							
CEY				*e*	Sn	**Sn**	**14 41 09.2**	**-1.5**
	comp=Z,140nm,1.1s							
LJU	**Ljubljana**	**6.59**	**322**	*e*	Pn	**Pn**	**14 39 58.4**	**-0.7**
LJU				*e*			14 41 17.3	
JAVS	**Javornik**	**6.70**	**319**	*i*	Pn	**Pn**	**14 39 59.9**	**-0.8**
JAVS				*e*	Sn	**Sn**	**14 41 15.5**	**-2.4**
IDI	**Anoyia**	**6.72**	**146**	Pn		**Pn**	**14 39 59.7**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=192,slow=12,SNR=3.2							
IDI					Sn	**Sn**	**14 41 11.9**	**-6.4**
	comp=Z,1.2nm,0.3s,baz=139,slow=22,SNR=3.8							
IDI					LR	LR	14 42 46.3	
	comp=Z,121nm,18.5s,baz=10,slow=40							
VRI	**Vrincioaia**	**6.75**	**41**	⇓P		**Pn**	**14 40 01.9**	**+0.6**
GVD	**Gavdhos**	**6.81**	**153**	*e*	Pn	**Pn**	**14 39 58.7**	**-3.4**
VOY	**Vojsko**	**6.89**	**319**	*e*	Pn	**Pn**	**14 40 02.7**	**-0.5**
VOY				*e*	Sn	**Sn**	**14 41 21.3**	**-1.1**
OBKA	**Obir**	**6.94**	**325**	⇑*i*	Pn	**Pn**	**14 40 03.7**	**-0.2**
OBKA				*i*	SN	**Sn**	**14 41 23.3**	**-0.4**
PSZ	**Piszkesteto**	**6.95**	**358**	*e*	P	**Pn**	**14 40 04.9**	**+0.8**
PSZ				*e*	S	**Sn**	**14 41 20.1**	**-3.9**
ARSA	**Arzberg**	**7.16**	**333**	⇓*i*	PN	**Pn**	**14 40 06.7**	**-0.4**
ARSA				*i*	SN	**Sn**	**14 41 29.3**	**0.0**
BURAR	**Bucovina Array**	**7.50**	**26**	⇑P		**Pn**	**14 40 12.3**	**+0.5**
BURAR	**Bucovina Array**	**7.50**	**26**	⇑P		**Pn**	**14 40 12.3**	**+0.4**
KECS	**Kecovo**	**7.51**	**1**	*e*	PN	**Pn**	**14 40 12.2**	**+0.3**
KECS				*e*	SN	**Sn**	**14 41 36.0**	**-1.9**
VYHS	**Vyhne**	**7.59**	**352**	*e*	PN	**Pn**	**14 40 14.0**	**+0.9**
VYHS				*e*	SN	**Sn**	**14 41 40.5**	**+0.4**
UZH	**Uzhgorod**	**7.78**	**10**	*e*	P	**Pn**	**14 40 18.0**	**+2.3**
KBA	**Koelnbreinsper**	**7.91**	**323**	⇑*i*	PN	**Pn**	**14 40 16.8**	**-0.7**
KBA				*i*	SN	**Sn**	**14 41 46.7**	**-1.2**
KOLS	**Kolonicke sedl**	**8.07**	**9**	*e*	Pn	**P**	**14 40 19.4**	**-0.4**
KOLS				*e*	Sn	**Sn**	**14 41 52.4**	**+0.3**
MOA	**Molln**	**8.12**	**330**	⇓*i*	PN	**P**	**14 40 19.9**	**-0.7**
MOA				*i*	SN	**Sn**	**14 41 52.7**	**-0.7**
STHS	**Stebnicka Huta**	**8.46**	**4**	*e*	PN	**P**	**14 40 28.4**	**+3.1**
PGF	**Pioggiola**	**8.62**	**284**	*e*	P	**P**	**14 40 21.8**	**-5.6**
	comp=Z,30nm,0.9s							
WTTA	**Wattenberg**	**8.86**	**318**	⇑*i*	PN	**P**	**14 40 29.9**	**-0.9**
WTTA				*i*	SN	**Sn**	**14 42 10.6**	**-1.2**
WATA	**Walderalm**	**8.94**	**318**	⇑*i*	PN	**P**	**14 40 30.3**	**-1.6**
WATA				*i*	SN	**Sn**	**14 42 12.3**	**-1.4**
MORC	**Moravsky Berou**	**9.02**	**348**	P		**P**	**14 40 35.8**	**+2.9**
MORC					pmax	pmax		
	comp=Z,4.0nm,1.0s							
MORC	**Moravsky Berou**	**9.02**	**348**	P		**P**	**14 40 35.8**	**+2.9**
	comp=Z,4.4nm,1.0s							
SQTA	**Sankt Quirin**	**9.05**	**317**	⇓*i*	PN	**P**	**14 40 32.9**	**-0.5**
SQTA				*i*	SN	**Sn**	**14 42 15.0**	**-1.5**
GERES	**GERESS Array B**	**9.16**	**331**	Pn		**P**	**14 40 34.1**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=149,slow=16,SNR=11							
GERES					LR	LR	14 44 42.2	
	comp=Z,134nm,19.0s,baz=142,slow=41							
MOTA	**Moosalm**	**9.19**	**317**	⇑*i*	PN	**P**	**14 40 34.5**	**-0.8**
MOTA				*i*	SN	**Sn**	**14 42 18.0**	**-1.8**
KHC	**Kasperske Hory**	**9.45**	**332**	*e*	PN	**P**	**14 40 38.0**	**-0.9**
KHC				*e*	SN	**Sn**	**14 42 24.9**	**-1.3**
DAVOX	**Davos**	**9.52**	**311**	Pn		**P**	**14 40 39.2**	**-0.6**
	comp=Z,3.5nm,0.3s,baz=130,slow=16,SNR=17							
DAVOX					LR	LR	14 44 25.0	
	comp=Z,76nm,18.6s,baz=91,slow=38							
DAVA	**Damuels**	**9.80**	**314**	⇑*i*	PN	**P**	**14 40 43.0**	**-0.8**
DAVA				*i*	SN	**Sn**	**14 42 31.9**	**-3.1**
SBF	**Sospel**	**9.96**	**291**	*e*	P	**P**	**14 40 40.8**	**-5.2**
	comp=Z,12nm,0.6s							
BRTR	**Keskin Array B**	**10.23**	**93**	Pn		**P**	**14 40 46.9**	**-2.8**
	baz=285,slow=14,SNR=2.1							
MBDF	**Montbardon**	**10.64**	**295**	*e*	P	**P**	**14 40 50.8**	**-4.4**
	comp=Z,7.6nm,0.7s							
MBDF	**Montbardon**	**10.64**	**295**	*e*	P	**P**	**14 40 50.8**	**-4.4**
MBDF					pmax	pmax		
	comp=Z,4.0nm,0.7s							
LPG	**La Plagne**	**10.89**	**299**	*e*	P	**P**	**14 40 54.7**	**-3.9**
	comp=Z,9.7nm,0.5s							
LPG	**La Plagne**	**10.89**	**299**	*e*	P	**P**	**14 40 54.7**	**-3.9**
LPG					pmax	pmax		
	comp=Z,5.0nm,0.5s							
LPL	**La Plagne**	**10.91**	**299**	*e*	P	**P**	**14 40 54.7**	**-4.1**
	comp=Z,6.8nm,0.3s							
LPL	**La Plagne**	**10.91**	**299**	*e*	P	**P**	**14 40 54.7**	**-4.1**
LPL					pmax	pmax		
	comp=Z,3.0nm,0.3s							
STU	**Stuttgart**	**11.09**	**318**	P		**P**	**14 40 59.1**	**-2.2**
STU					pmax	pmax		
	comp=Z,29nm,0.8s							
STU	**Stuttgart**	**11.09**	**318**	P		**P**	**14 40 59.0**	**-2.3**
	comp=Z,29nm,0.8s							
STU	**Stuttgart**	**11.09**	**318**	P		**P**	**14 40 59.1**	**-2.2**
	comp=Z,29nm,0.8s							
ORIF	**Oris-en-Rattie**	**11.30**	**295**	*e*	P	**P**	**14 40 59.3**	**-4.9**
	comp=Z,6.0nm,0.6s							
ORIF					eR			
	comp=Z,124nm,19.8s							
MOX	**Moxa**	**11.41**	**331**	*e*	P	**P**	**14 41 08.0**	**+2.3**
MOX					L		14 46 08.0	
CLL	**Collm**	**11.51**	**336**	*e*	PP	PP	14 41 14.0	-2.0
AKASG	**Malin Array Be**	**11.52**	**29**	*i*	P	**P**	**14 41 11.1**	**+3.9**
AKASG	**Malin Array Be**	**11.52**	**29**	Pn		**P**	**14 41 08.1**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=218,slow=13,SNR=5.0							
AKASG	**Malin Array Be**	**11.52**	**29**	Pn		**P**	**14 41 08.1**	**+0.8**
CABF	**La Chapelle**	**11.73**	**303**	*e*	P	**P**	**14 41 06.1**	**-3.9**
	comp=Z,11nm,0.5s							
CABF	**La Chapelle**	**11.73**	**303**	*e*	P	**P**	**14 41 06.1**	**-3.9**
CABF					pmax	pmax		
	comp=Z,6.0nm,0.5s							
HINF	**Hinteralfeld**	**11.81**	**310**	*e*	P	**P**	**14 41 07.2**	**-4.0**
	comp=Z,21nm,0.7s							
HINF	**Hinteralfeld**	**11.81**	**310**	*e*	P	**P**	**14 41 07.2**	**-4.0**
HINF					pmax	pmax		
	comp=Z,10.0nm,0.7s							
CDF	**Champ du Feu**	**11.89**	**313**	*e*	P	**P**	**14 41 08.2**	**-4.0**
	comp=Z,17nm,0.8s							
CDF	**Champ du Feu**	**11.89**	**313**	*e*	P	**P**	**14 41 08.2**	**-4.0**
CDF					pmax	pmax		
	comp=Z,9.0nm,0.8s							
VIVF	**Saint-Julien-l**	**12.12**	**294**	*e*	P	**P**	**14 41 10.8**	**-4.5**
	comp=Z,4.0nm,0.5s							
VIVF	**Saint-Julien-l**	**12.12**	**294**	*e*	P	**P**	**14 41 10.8**	**-4.5**
VIVF					pmax	pmax		
	comp=Z,2.0nm,0.5s							
HAU	**Haudompre**	**12.20**	**310**	*e*	P	**P**	**14 41 13.1**	**-3.3**
	comp=Z,26nm,0.6s							
HAU					eR			
	comp=Z,86nm,21.8s							
LOR	**Lormes**	**13.39**	**303**	*e*	P	**P**	**14 41 28.5**	**-3.8**
	comp=Z,5.3nm,0.4s							
LOR					eR			
	comp=Z,110nm,19.0s							
SSF	**Saint Saulge**	**13.54**	**302**	*e*	P	**P**	**14 41 30.1**	**-4.1**
SSF					pmax	pmax		
	comp=Z,3.0nm,0.5s							
SSF	**Saint Saulge**	**13.54**	**302**	*e*	P	**P**	**14 41 30.1**	**-4.1**
	comp=Z,2.5nm,0.5s							
AVF	**Avril sur Loir**	**13.55**	**301**	*e*	P	**P**	**14 41 30.5**	**-3.7**
MTLF	**Montolieu**	**13.65**	**286**	*e*	P	**P**	**14 41 30.9**	**-4.7**
BGF	**Bois d'Agland**	**13.80**	**300**	*e*	P	**P**	**14 41 33.7**	**-3.9**
MALT	**Malatya**	**14.20**	**95**	P			14 41 50.1	
MALT					pmax	pmax		
	comp=Z,3.0nm,1.0s							
MALT	**Malatya**	**14.20**	**95**	P			14 41 50.1	
	comp=Z,2.7nm,1.0s							
GOF	**Gofitskoye**	**17.08**	**69**	*e*	P	**P**	**14 42 15.2**	**-4.8**
OBN	**Obninsk**	**17.76**	**32**	*i*	P	**P**	**14 42 29.1**	**+0.7**
OBN					pmax	pmax		
	comp=Z,6.0nm,1.1s							
OBN	**Obninsk**	**17.76**	**32**	P			14 42 34.6	
OBN	**Obninsk**	**17.76**	**32**	*i*	P	**P**	**14 42 29.1**	**+0.7**
	comp=Z,6.0nm,1.1s							
HFS	**Hagfors**	**19.62**	**350**	P		**P**	**14 42 49.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=164,slow=11,SNR=7.5							
FINES	**FINESS Array B**	**20.79**	**8**	P		**P**	**14 43 02.3**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=143,slow=19,SNR=3.5							
NB2	**NORSAR Subarra**	**20.85**	**347**	P		**P**	**14 43 02.9**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=164,slow=10							
NB2	**NORSAR Subarra**	**20.85**	**347**	P		**P**	**14 43 02.9**	**-1.0**
NB2					pmax	pmax		
	comp=Z,3.0nm,0.8s							
NOA	**NORSAR Array B**	**20.85**	**347**	P		**P**	**14 43 02.8**	**-1.1**
	comp=Z,2.9nm,0.7s,baz=165,slow=10,SNR=8.7							
NOA					LR	LR	14 51 38.1	
	comp=Z,39nm,20.8s,MS2.8,baz=165,slow=38							
EKA	**Eskdalemuir Ar**	**21.11**	**321**	P		**P**	**14 43 06.8**	**+0.3**
	comp=Z,1.7nm,0.7s,mb3.5,baz=114,slow=8.2,SNR=4.8			

PVY			*e*Sn		**Sn**	14 49 35.6 +6.9
PVY	**Plav**	**1.65 347**	⇑*i*Pn		**Pn**	14 49 08.9 +1.6
TTG	**Podgorica**	**1.70 328**	⇑*i*Pn		**Pn**	14 49 08.6 +0.5
TTG			*e*Sn		**Sn**	14 49 35.3 +5.2
TTG	**Podgorica**	**1.70 328**	⇑*i*Pn		**Pn**	14 49 08.6 +0.5
BUM	**Brajici-Budva**	**1.77 318**	⇑*i*Pn		**Pn**	14 49 08.7 -0.3
BUM			*e*Sn		**Sn**	14 49 35.4 +3.7
BUM	**Brajici-Budva**	**1.77 318**	⇑*i*Pn		**Pn**	14 49 08.7 -0.3
LIT	**Litokhoron**	**1.77 119**	*e*Pn		**Pn**	14 49 08.2 -0.9
LIT			*e*Sn		**Sn**	14 49 36.2 +4.5
IVA	**Berane**	**1.93 347**	⇑*i*Pn		**Pn**	14 49 12.5 +1.2
IVA			*e*Sn		**Sn**	14 49 42.2 +6.4
IVA	**Berane**	**1.93 347**	⇑*i*Pn		**Pn**	14 49 12.5 +1.2
HCY	**Herceg Novi**	**2.08 315**	⇑*i*Pn		**Pn**	14 49 12.3 -1.2
HCY			*e*Sn		**Sn**	14 49 43.1 +3.5
NKY	**Niksic**	**2.13 329**	⇑*i*Pn		**Pn**	14 49 14.8 +0.6
NKY			*e*Sn		**Sn**	14 49 45.3 +4.3
NKY	**Niksic**	**2.13 329**	⇑*i*Pn		**Pn**	14 49 14.8 +0.6
LKD	**Levkas**	**2.28 177**	*e*Pn		**Pn**	14 49 15.3 -1.1
EVR	**Evrytania**	**2.31 153**	*e*PN		**Pn**	14 49 17.8 +1.1
EVR			*e*SN		**Sn**	14 49 49.1 +3.6
PLG	**Polygyros**	**2.34 104**	*e*PN		**Pn**	14 49 15.9 -1.2
TREB	**Trebinje**	**2.35 318**	Pn		**Pn**	14 49 16.3 -1.0
TREB			Sn		**Sn**	14 49 48.5 +2.1
SRS	**Serrai**	**2.36 86**	*e*Pn		**Pn**	14 49 16.4 -1.0
SRS			*e*Sn		**Sn**	14 49 48.7 +2.1
BRY	**Bratogost**	**2.39 324**	⇑*i*Pn		**Pn**	14 49 17.8 -0.2
BRY			*e*Sn		**Sn**	14 49 50.9 +3.3
BRY	**Bratogost**	**2.39 324**	⇑*i*Pn		**Pn**	14 49 17.8 -0.2
AGG	**Agios Georgios**	**2.42 144**	*e*Pn		**Pn**	14 49 17.4 -1.0
AGG			*e*Sn		**Sn**	14 49 52.5 +4.1
PLE	**Pljevlja**	**2.47 341**	⇓*i*Pn		**Pn**	14 49 20.6 +1.5
PLE			*e*Sn		**Sn**	14 49 54.5 +4.9
PLE	**Pljevlja**	**2.47 341**	⇓*i*Pn		**Pn**	14 49 20.6 +1.5
UPM	**Unac-Piva**	**2.50 333**	⇑*i*Pn		**Pn**	14 49 20.1 +0.7
UPM			*e*Sn		**Sn**	14 49 54.5 +4.1
UPM	**Unac-Piva**	**2.50 333**	⇑*i*Pn		**Pn**	14 49 20.1 +0.6
NVR	**Nevrokopi**	**2.58 81**	*e*PN		**Pn**	14 49 20.5 -0.1
XOR	**Xorichti**	**2.63 127**	*e*Pn		**Pn**	14 49 20.4 -1.0
NEO	**Neokhori**	**2.69 128**	*e*PN		**Pn**	14 49 22.3 +0.1
OUR	**Ouranopolis**	**2.74 103**	*e*Pn		**Pn**	14 49 21.6 -1.4
STON	**Ston**	**2.80 313**	*i* Pn		**Pn**	14 49 23.7 -0.1
STON			*i* Sn		**Sn**	14 49 56.7 -1.2
STON			*i* Sg		**Sg**	14 50 05.6 -5.7
SG1	**Sgolgore (BA)**	**2.88 268**	*e*Pn		**Pn**	14 49 21.7 -3.3
BBLS	**Bajina Basta -**	**2.98 345**	*i* Pn		**Pn**	14 49 31.6 +5.3
BBLS			Sn		**Sg**	14 50 16.5 -0.9
RLS	**Riolos of Patr**	**3.03 165**	*e*PN		**Pn**	14 49 28.0 +1.0
BOLS	**Boljevac**	**3.04 21**	*i* Pn		**Pn**	14 49 28.7 +1.5
BOLS			Sn		**Sn**	14 50 03.5 -0.5
DIVS	**Divcibare**	**3.13 354**	⇑*i*Pn		**Pn**	14 49 27.2 -1.2
DIVS			Sn		**Sn**	14 50 07.0 +0.8
DIVS	**Divcibare**	**3.13 354**	Pn		**Pn**	14 49 27.2 -1.2
DIVS			Sn		**Sn**	14 50 07.0 +0.8
CDT	**Castel del Mon**	**3.18 273**	*e*Pn		**Pn**	14 49 25.8 -3.4
MS1	**Monte Sant'Ang**	**3.49 283**	*e*PN		**Pn**	14 49 30.1 -3.5
ITM	**Ithomi**	**3.97 163**	*e*PN		**Pn**	14 49 40.0 -0.4
VLI	**Veliai**	**4.68 155**	*e*PN		**Pn**	14 49 50.0 -0.4
NVLJ	**Novalja**	**5.46 313**	*i* Pn		**Pn**	14 49 58.1 -3.3
BOJS	**Bojanci**	**5.91 321**	*e*Pn		**Pn**	14 50 04.8 -3.0
CEY	**Cerknica**	**6.48 319**	*e*Pn		**Pn**	14 50 12.6 -3.3
JAVS	**Javornik**	**6.77 319**	*e*Pn		**Pn**	14 50 16.0 -3.9
PSZ	**Piszkesteto**	**6.94 357**	P		**Pn**	14 50 24.0 +1.6
	comp=Z,5.0nm,0.7s					
PSZ	**Piszkesteto**	**6.94 357**	P		**Pn**	14 50 24.0 +1.7
	comp=Z,5.0nm,0.7s					
VOY	**Vojsko**	**6.95 319**	*e*Pn		**Pn**	14 50 20.5 -2.0
VOY			*e*Sn		**Sn**	14 51 37.6 -4.8
NB2	**NORSAR Subarra**	**20.86 347**	P		**P**	14 53 24.0 +1.6
	comp=Z,0.6nm,0.6s,baz=156,slow=12					

IDC 28 14:55:46.0±3.2, 1.18N×97.55E, mb3.8/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.8/5, Error ellipse: s-maj=129.1km s-min=28.1km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.72**	**122**	P	P	15 03 36.8	-1.9
	0.3nm,0.5s,baz=305,slow=8.5,SNR=5.0						
SONM	**Songino Array**	**47.10**	**8**	P	P	15 04 20.6	-1.0
	0.9nm,0.4s,baz=184,slow=9.7,SNR=6.0						
MKAR	**Makanchi Array**	**47.35**	**346**	P	P	15 04 22.1	-1.5
	1.0nm,0.7s,baz=166,slow=8.5,SNR=8.4						
ZAL	**Zalesovo**	**53.63**	**351**	P	P	15 05 08.3	-3.0
	1.0nm,0.5s,baz=298,slow=8.6,SNR=4.5						
BVAR	**Borovoye Array**	**56.39**	**341**	P	P	15 05 28.5	-2.9
	0.5nm,0.6s,baz=135,slow=10,SNR=3.9						

MEX 28 15:26:40.1±1.3, 16.87N×94.99W, h118km±14km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.24**	**24**	*i* P	P	15 26 55.6	-1.0
CMIG				*i* S	S	15 27 06.8	-2.4
HUIG	**Huatulco**	**1.54**	**225**	*i* P	P	15 27 06.0	-2.3
HUIG				*i* S	S	15 27 27.6	-1.9
EVV	**El Vigia**	**1.62**	**348**	*e*P	P	15 27 06.5	-2.7
EVV				*e*S	S	15 27 29.5	-1.7
OXX	**Oaxaca**	**1.68**	**278**	*i* P	P	15 27 09.0	-0.9
OXX				*i* S	S	15 27 29.5	-2.9

MAN 28 15:38:09.9, 7.07N×125.12E, h115km, mb4.3, ML3.2, MS3.0, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.07**	**210**	⇓*e*P	P	15 38 25.8	0.0
KCP				*i* S	S	15 38 56.8	+19
BUKP	**Musuan**	**0.81**	**356**	*e*P	P	15 38 40.3	+10
BUKP				*e*S	S	15 39 13.1	+28
GSPH	**General Santos**	**0.99**	**190**	⇓*i*P	P	15 38 32.0	+0.3
GSPH				*i* S	S	15 39 37.7	-10
BUTP	**Butuan**	**1.95**	**15**	*e*P	P	15 39 43.1	+60
BUTP				*e*S	S	15 40 16.4	+69
IPIL	**Ipil**	**2.63**	**286**	*e*P	P	15 38 52.6	+0.6
IPIL				*e*S	S	15 39 42.0	+18

JMA 28 15:40:47.6±0.1, 43.18N×146.61E, h62km±2km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.66**	**287**	P	P	15 41 01.6	0.0
NEM2				*e*S	S	15 41 11.8	-0.2
JRA	**Rausu**	**1.32**	**306**	P	P	15 41 10.2	-0.3
JRA				*e*S	S	15 41 27.4	0.0
JAK	**Akkeshi**	**1.41**	**263**	P	P	15 41 11.4	-0.3
JAK				*e*S	S	15 41 29.1	-0.5
JNK	**Nakash**	**1.44**	**287**	P	P	15 41 11.4	-0.6
JNK				*e*S	S	15 41 29.3	-0.8
JOB	**Onbets**	**2.05**	**263**	P	P	15 41 20.3	-0.2
JOB				*e*S	S	15 41 44.4	-0.5
JAR	**Ashorobuto**	**2.08**	**274**	P	P	15 41 20.8	-0.1
JAR				*e*S	S	15 41 45.9	+0.4
JTKR	**Abashiri--Toko**	**2.12**	**293**	P	P	15 41 21.6	+0.2
JCH	**Churui**	**2.45**	**258**	P	P	15 41 25.4	-0.8
JCH				*e*S	S	15 41 54.3	-0.7
JMP	**Maruseppu**	**2.50**	**290**	P	P	15 41 27.1	+0.2
JEM	**Erimo**	**2.80**	**247**	*e*S	S	15 42 04.3	+0.5

IDC 28 15:51:19.6±3.5, 1.03N×97.69E, mb3.8/4, mb1 3.9/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=149.5km s-min=25.2km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.53**	**122**	P	P	15 59 08.8	-2.0
	0.2nm,0.5s,baz=300,slow=9.3,SNR=5.1						
SONM	**Songino Array**	**47.23**	**8**	P	P	15 59 54.8	-1.5
	0.8nm,0.5s,baz=188,slow=8.7,SNR=4.5						
MKAR	**Makanchi Array**	**47.52**	**346**	P	P	15 59 56.4	-2.3
	1.2nm,0.6s,baz=159,slow=8.8,SNR=11						
STKA	**Stephens Creek**	**52.88**	**132**	P	P	16 00 37.9	-2.0
	1.6nm,0.8s,baz=316,slow=14,SNR=4.0						

*THR **28** 15:59:08.5±0.3, 25.39N×55.77E, h14km±6km, ML3.8*
*KISR **28** 15:59:29.6±1.2, 27.21N×54.90E, h43km±999km, ML3.7*
*CSEM **28** 15:59:32.2±0.5, 27.11N×54.78E, h35km, ML3.7, Error ellipse: s-maj=31.5km s-min=5.1km az=1.0*

ISC 28 15:59:31.2±1.3, 27.4N±0.2×54.78E±0.04, h10km, n9, σ0§59/15, 1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.24**	**89**	*e*PG	**Pg**	**15 59 45.6**	**-10**
BNDS				*e*SG	**Sg**	**16 00 12.8**	**+0.1**
BNDS				AML	AML	16 00 24.9	
	comp=N,611nm,0.6s						
GHIR	**Ghir-Karzin**	**1.82**	**300**	*e*PN	**Pg**	**16 00 08.9**	**+1.4**
GHIR				AML	AML	16 00 59.7	
	comp=N,298nm,0.5s						
KRBR	**Kerman**	**3.11**	**34**	*e*PN	**Pn**	**16 00 20.9**	**-0.5**
KRBR				AML	AML	16 01 15.4	
	comp=N,48nm,0.5s						
QRN	**Al-Qurain**	**6.21**	**284**	*e*P	**Pn**	**16 01 04.5**	**-0.7**
QRN				AML	AML	16 02 16.8	
	comp=Z,17nm,0.2s						
KBD	**Kabd**	**6.49**	**288**	⇓*e*P	**Pn**	**16 01 09.6**	**+0.4**
KBD				*e*S	**Sn**	**16 02 24.2**	**0.0**
KBD				AML	AML	16 02 26.3	
	comp=Z,25nm,0.3s						
RDF	**Al-Radifah**	**6.56**	**285**	*e*P	**Pn**	**16 01 09.9**	**-0.3**
RDF				*e*S	**Sn**	**16 02 25.6**	**-0.3**
RDF				AML	AML	16 02 25.8	
	comp=Z,10nm,0.4s						
RDF	**Al-Radifah**	**6.56**	**285**	*e*P	**Pn**	**16 01 09.9**	**-0.3**
RDF				*e*S	**Sn**	**16 02 25.5**	**-0.3**
MIB	**Mutribah**	**6.96**	**292**	*e*P	**Pn**	**16 01 16.4**	**+0.5**
MIB				AML	AML	16 02 30.2	
	comp=Z,11nm,0.5s						
MIB				*e*S	**Sn**	**16 02 35.4**	**-0.5**
MIB	**Mutribah**	**6.96**	**292**	*e*P	**Pn**	**16 01 16.4**	**+0.5**
MIB				*e*S	**Sn**	**16 02 35.4**	**-0.5**

MAN 28 16:25:22.5, 16.87N×120.36E, h19km, mb4.2, ML3.0, MS2.7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.53**	**156**	⇑*e*P	Pb	16 25 32.5	-0.6
BCPH				*i* S	Sb	16 25 42.4	+2.2
BOLP	**Bolinao**	**0.65**	**221**	*e*P	Pb	16 25 36.0	+0.9
BOLP				*e*S	Sb	16 25 47.0	+3.4
ABRA	**Dolores**	**0.84**	**24**	*e*P	Pb	16 25 38.4	+0.1
APYP	**Conner**	**1.30**	**41**	*e*P	Pn	16 25 45.1	-0.7
APYP				*e*S	Sb	16 26 02.5	+0.2
CAUP	**Cauayan**	**1.40**	**87**	*e*P	Pn	16 25 49.5	+2.1
CAUP				*e*S	Sb	16 26 38.6	+33
BALP	**Baler**	**1.62**	**134**	*e*P	Pn	16 25 50.8	+0.2
BALP				*e*S	Sn	16 26 13.3	+2.3

*IDC **28** 16:30:27.8±1.1, 0.12S×125.42E, mb4.1/5, mb1 4.2/5, mb1mx3.9/16, mbtmp4.1/5, MS3.4/2, Ms1 3.4/2, ms1mx3.0/28, Error ellipse: s-maj=139.7km s-min=20.5km az=65.0*
*NEIC **28** 16:30:30.9±6.7, 0.37S×125.05E, h24km±50km, mb4.6/4, Error ellipse: s-maj=42.5km s-min=9.3km az=61.0*

ISC 28 16:30:29.5±0.7, 0.2S±0.1×125.4E±0.2, h33km, n14, σ1§32/13, mb4.3/9, MS3.5/1, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.11**	**304**	*e*P	**P**	**16 33 05.6**	**-3.6**
KSM	**Kuching**	**15.22**	**276**	*e*P	**P**	**16 34 08.8**	**+4.8**
FITZ	**Fitzroy Crossi**	**17.78**	**179**	LR	LR	16 41 53.7	
	comp=Z,110nm,19.7s,baz=85,slow=38						
WRAB	**Tennant Creek**	**21.46**	**157**	*e*P	**P**	**16 35 17.5**	**+0.2**
	23nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**21.46**	**157**	P	**P**	**16 35 17.9**	**+0.6**
	3.7nm,0.5s,mb4.0,baz=335,slow=11,SNR=5.5						
MBWA	**Marble Bar**	**21.56**	**195**	*e*P	**P**	**16 35 15.7**	**-2.5**
	11nm,1.0s,mb4.3						
PMG	**Port Moresby**	**23.47**	**114**	P	**P**	**16 35 35.5**	**-1.8**
	21nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**35.01**	**156**	P	**P**	**16 37 23.6**	**+2.5**
	3.0nm,0.7s,mb4.3,baz=351,slow=5.4,SNR=7.1						
STKA	**Stephens Creek**	**35.01**	**156**	*e*P	**P**	**16 37 22.8**	**+1.7**
SONM	**Songino Array**	**50.64**	**343**	P	**P**	**16 39 28.1**	**+0.5**
	0.6nm,0.5s,mb3.8,baz=160,slow=9.1,SNR=5.8						
SONM				LR	LR	17 00 22.0	
	comp=Z,50nm,20.7s,MS3.5,baz=251,slow=36						
MKAR	**Makanchi Array**	**60.09**	**327**	P	**P**	**16 40 35.9**	**-0.1**
	2.2nm,0.5s,mb4.5,baz=121,slow=7.2,SNR=47						
MKAR	**Makanchi Array**	**60.09**	**327**	P	**P**	**16 40 35.9**	**-0.1**
KURK	**Kurchatov**	**64.39**	**329**	*e*P	**P**	**16 41 03.6**	**-1.0**
	4.6nm,0.5s,mb4.8						
BVAR	**Borovoye Array**	**69.93**	**328**	P	**P**	**16 41 40.6**	**+1.3**
	0.9nm,0.5s,mb4.0,baz=135,slow=10,SNR=6.3						

*NEIC **28** 16:38:28.7, 35.19S×70.30W, h15km, mb4.3/3, ML4.0(GUC), After GUC.*
NEIC Felt [III] at Los Quenes; [II] at Curico and Romeral, Chile.
*GUC **28** 16:38:28.7±0.7, 35.19S×70.30W, h15km±4km, MD4.1, ML4.0*
*IDC **28** 16:38:33.7±1.2, 35.05S×70.94W, mb3.5/3, mb1 3.7/6, mb1mx3.7/18, mbtmp3.5/6, ML3.8/2, MS3.6/8, Ms1 3.6/8, ms1mx3.3/28, Error ellipse: s-maj=41.5km s-min=24.2km az=97.0*

ISC 28 16:38:31.8±0.8, 35.25S±0.04×70.46W±0.06, h33km, n47, σ1§33/43, mb4.1/3, MS3.6/5, 2C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.68**	**291**	*i* P	**P**	**16 38 43.1**	**-1.8**
NICH				*i* S	**S**	**16 38 54.1**	**-0.3**
CHCH	**Chadas Angostu**	**1.33**	**353**	⇓*i*P	**P**	**16 38 52.0**	**-2.2**
CHCH				*i* S	**S**	**16 39 10.2**	**-0.7**
LMEL	**Las Melosas**	**1.42**	**9**	*e*P	**P**	**16 38 53.4**	**-2.1**
LMEL				*i* S	**S**	**16 39 11.8**	**-1.3**
LNV	**Longovilo**	**1.52**	**328**	⇑*i*P	**P**	**16 38 55.2**	**-1.7**
LNV				*i* S	**S**	**16 39 15.9**	**+0.3**
SJCH	**San Jose de Ma**	**1.61**	**3**	AMP		16 39 24.6	
	comp=N,946nm,0.3s						
PCH	**Pirque**	**1.63**	**358**	*e*P	**P**	**16 38 57.2**	**-1.3**
PCH				*i* S	**S**	**16 39 18.4**	**-0.1**
TACH	**Talagante**	**1.65**	**346**	⇓*i*P	**P**	**16 38 57.2**	**-1.5**
TACH				*i* S	**S**	**16 39 19.6**	**+0.6**
ANTU	**Antumapu**	**1.69**	**355**	AMP		16 39 22.6	
	comp=E,3μm,0.4s						
CNCO	**Chanco**	**1.76**	**254**	*i* P	**P**	**16 39 02.3**	**+1.9**
CNCO				*i* S	**S**	**16 39 28.1**	**+6.3**
CNCO				AMP		16 39 34.1	
	comp=E,4μm,0.4s						
RCDM	**Rinconada Maip**	**1.78**	**351**	⇓*i*P	**P**	**16 38 59.8**	**-0.9**
RCDM				*i* S	**S**	**16 39 23.3**	**+0.9**
RCDM				AMP		16 39 29.4	
	comp=E,3μm,0.1s						
SAN	**Santiago**	**1.81**	**355**	⇑*i*P	**P**	**16 39 00.1**	**-0.9**
SAN				*e*S	**S**	**16 39 23.7**	**+0.8**
STL	**Santa Lucia**	**1.82**	**355**	AMP		16 39 25.4	
	comp=E,633nm,0.3s						
DSCH	**Colegio Aleman**	**1.85**	**357**	*i* P	**P**	**16 39 00.8**	**-0.9**
DSCH				*i* S	**S**	**16 39 24.9**	**+0.7**
DSCH				AMP		16 39 30.2	
	comp=N,4μm,0.5s						
CLCH	**Cerro Calan**	**1.85**	**358**	*i* P	**P**	**16 39 00.9**	**-0.9**
CLCH				*i* S	**S**	**16 39 25.2**	**+1.0**
CLCH				AMP		16 39 31.2	
	comp=E,3μm,0.6s						
CLCH				AMP		16 39 35.1	
	comp=E,4μm,0.6s						
CCHI	**Chillan**	**1.88**	**224**	AMP		16 39 40.5	
	comp=N,1μm,0.8s						
FCH	**Farellones**	**1.93**	**4**	*i* P	**P**	**16 39 02.4**	**-0.3**
FCH				*i* S	**S**	**16 39 27.9**	**+1.9**
FCH				AMP		16 39 31.3	
	comp=E,2μm,0.5s						
LCCH	**Las Cruces**	**2.00**	**332**	*i* P	**P**	**16 39 03.1**	**-0.7**
LCCH				*i* S	**S**	**16 39 30.0**	**+2.1**
PEL	**Peldehue**	**2.11**	**355**	*i* P	**P**	**16 39 05.5**	**+0.1**
JACH	**Jahuel**	**2.57**	**357**	*i* P	**P**	**16 39 12.6**	**+0.6**
JACH				*i* S	**S**	**16 39 46.8**	**+4.5**

CHNG	**Los Chungos**	**3.47**	**345**	AMP		16 40 20.2
	comp=E,380nm,0.7s					
CFAA	**Coronel Fontan**	**4.08**	**28**	Pn	**Pn**	**16 39 38.7 +5.0**
	comp=E,0.3nm,0.3s,baz=210,slow=13,SNR=28					
CFAA				Lg		16 40 36.9
	comp=E,1.0nm,0.3s,baz=292,slow=7.1,SNR=7.2					
CFAA	**Coronel Fontan**	**4.08**	**28**	Pn	**Pn**	**16 39 38.7 +5.0**
CFAA				Lg		16 40 36.9
PLCA	**Paso Flores**	**5.47**	**181**	Pn	**Pn**	**16 40 02.4 +9.2**
	comp=E,0.4nm,0.3s,baz=339,slow=16,SNR=8.9					
PLCA				Lg		16 41 37.5
	comp=E,0.8nm,0.3s,baz=111,slow=17,SNR=4.3					
PLCA				LR	LR	16 42 25.0
	comp=E,349nm,18.2s,baz=359,slow=41					
PLCA	**Paso Flores**	**5.47**	**181**	*e*Pn	**Pn**	**16 40 01.9 +8.7**
PLCA				Lg		16 41 37.5
PLCA				LR	LR	16 42 25.0
TRQA	**Tornquist**	**7.37**	**115**	*e*Pn	**Pn**	**16 40 20.6 +0.7**
	comp=E,11nm,0.6s					
LVC	**Limon Verde**	**12.67**	**7**	LR	LR	16 46 42.6
	comp=E,400nm,18.4s,baz=182,slow=39					
CPUP	**Villa Florida**	**14.35**	**55**	Pn	**P**	**16 42 00.9 +6.3**
	comp=E,0.1nm,0.3s,baz=260,slow=16,SNR=3.4					
CPUP				LR	LR	16 47 55.2
	comp=E,141nm,21.3s,baz=297,slow=38					
LPAZ	**La Paz**	**19.00**	**7**	P	**P**	**16 42 56.5 +3.0**
	comp=E,0.2nm,0.3s,baz=171,slow=9.3,SNR=9.5					
LPAZ	**La Paz**	**19.00**	**7**	*e*P	**P**	**16 42 55.1 +1.7**
	comp=E,2.9nm,0.9s					
SIV	**San Ignacio**	**20.94**	**26**	P	**P**	**16 43 17.8 +3.6**
	comp=E,2.4nm,1.0s,baz=215,slow=15,SNR=6.7					
BDFB	**Brasilia**	**28.02**	**52**	LR	LR	16 56 40.9
	comp=E,198nm,19.8s,MS3.7,baz=46,slow=38					
ROSC	**El Rosal**	**40.06**	**354**	LR	LR	17 01 44.6
	comp=E,50nm,19.1s,MS3.4,baz=206,slow=35					
VNA3	**Neumayer Olymp**	**47.71**	**158**		Px	16 47 14.8
VNA3	**Neumayer Olymp**	**47.71**	**158**		Px	16 47 18.6
VNA3	**Neumayer Olymp**	**47.71**	**158**		Px	16 47 20.3
VNA2	**Neumayer--Watz**	**48.35**	**157**		Px	16 47 21.1
VNA2	**Neumayer--Watz**	**48.35**	**157**		Px	16 47 23.0
SNAA	**Sanae**	**49.93**	**158**		Px	16 47 31.4
SNAA	**Sanae**	**49.93**	**158**		**P**	**16 47 36.1 +12**
SNAA	**Sanae**	**49.93**	**158**		Px	16 47 39.8
SNAA	**Sanae**	**49.93**	**158**	P	**P**	**16 47 30.7 +6.8**
	comp=E,0.5nm,0.9s,mb3.6,baz=265,slow=10,SNR=5.6					
SNAA	**Sanae**	**49.93**	**158**	*e*P	**P**	**16 47 29.2 +5.3**
	comp=E,4.5nm,1.1s,mb4.4					
SJG	**San Juan**	**53.23**	**5**	LR	LR	17 10 59.5
	comp=E,30nm,18.2s,MS3.4,baz=74,slow=37					
SJG	**San Juan**	**53.23**	**5**	P	**P**	**16 47 42.8 -6.6**
	comp=E,12nm,0.9s,mb4.8					
TXAR	**Lajitas Array**	**71.47**	**330**	P	**P**	**16 49 53.4 +2.4**
	comp=E,0.3nm,0.6s,mb3.4,baz=165,slow=10,SNR=2.8					
TXAR				LR	LR	17 14 09.9
	comp=E,32nm,21.5s,MS3.5,baz=175,slow=30					
MAW	**Mawson**	**71.61**	**163**	LR	LR	17 21 55.2
	comp=E,98nm,18.8s,MS4.1,baz=74,slow=36					
WRA	**Warramunga Arr**	**120.28**	**207**	PKP	PKPdf	16 57 28.5 +8.5
	comp=E,0.4nm,0.8s,baz=172,slow=1.6,SNR=6.0					

*THR **28** 17:04:38.8±0.5, 31.95N×48.82E, h15km, ML3.3*
*TEH **28** 17:04:41.9, 32.12N×48.95E, h10km, Mn3.4*
*CSEM **28** 17:04:41.6±0.1, 32.25N×49.07E, h10km, ML3.4, Error ellipse: s-maj=4.5km s-min=2.0km az=121.0*
*KISR **28** 17:04:43.1±0.6, 32.09N×49.33E, h33km±325km, ML3.3*

ISC 28 17:04:41.7±1.8, 32.20N±0.04×49.12E±0.06, h8km±14km, n24, σ1§24/28, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKLH	**Kalahroud**	**2.36**	**61**	Pn	**Pn**	**17 05 22.2**	**+0.9**
IKOM	**Komasi**	**2.39**	**326**	Pn	**Pn**	**17 05 21.8**	**0.0**
ASAO	**Ashtian**	**2.47**	**18**	*e*PN	**Pn**	**17 05 25.1**	**+2.2**
ASAO				AML	AML	17 06 09.1	
	comp=N,231nm,0.6s						
IGAR	**Garneh**	**2.61**	**88**	Pn	**Pn**	**17 05 21.3**	**-3.7**
IZEF	**Zefreh**	**2.80**	**75**	Pn	**Pn**	**17 05 26.8**	**-0.9**
MIB	**Mutribah**	**2.83**	**213**	*e*P	**Pn**	**17 05 29.2**	**+1.1**
MIB				*e*S	**Sn**	**17 06 04.0**	**+1.2**
MIB				AML	AML	17 06 16.0	
	comp=Z,94nm,0.5s						
IGHG	**Ghaleghazi**	**3.01**	**316**	Pn	**Pn**	**17 05 28.7**	**-2.0**
NASN	**Na'in**	**3.18**	**78**	*e*PN	**Pn**	**17 05 34.4**	**+1.3**
NASN	**Na'in**	**3.18**	**78**	*e*Pn	**Pn**	**17 05 34.3**	**+1.3**
	SNR=52						
SNGE	**Sanandaj**	**3.24**	**333**	*e*PN	**Pn**	**17 05 32.8**	**-1.1**
SNGE				AML	AML	17 06 21.1	
	comp=N,51nm,0.6s						
KBD	**Kabd**	**3.25**	**203**	*e*P	**Pn**	**17 05 35.1**	**+1.0**
KBD				*e*S	**Sn**	**17 06 13.5**	**+0.1**
KBD				AML	AML	17 06 15.6	
	comp=Z,124nm,0.2s						
IRAZ	**Razeghan**	**3.27**	**12**	Pn	**Pg**	**17 05 47.4**	**+0.4**
IDHR	**Dehrash**	**3.38**	**318**	Pn	**Pn**	**17 05 34.0**	**-1.9**
RDF	**Al-Radifah**	**3.53**	**203**	*e*P	**Pn**	**17 05 38.7**	**+0.7**
RDF				*e*S	**Sn**	**17 06 20.5**	**+0.1**

149nm,0.3s,baz=174,slow=7.7,SNR=68
JHJ Sn **Sn** **18 14 10.6 -1.7**
139nm,0.3s,baz=274,slow=23,SNR=12
BSO4 Boso 4 2.37 313 P **P** **18 13 47.8 +0.6**
BSO4 *e*S **S** **18 14 16.6 +1.3**
KTR Katsuura 2.49 316 P **P** **18 13 49.1 +0.2**
KTR *e*S **S** **18 14 18.6 +0.2**
CHOJ Chosi 2.66 331 P **P** **18 13 50.5 -0.8**
CHOJ *e*S **S** **18 14 23.7 +1.0**
JIM2 Oshima 3 2.83 299 P **P** **18 13 52.9 -0.9**
JOD2 Odawara 2 3.35 305 P **P** **18 14 00.3 -0.8**
JYN Shimob 3.85 304 P **P** **18 14 08.5 +0.3**
JYN *e*S **S** **18 14 53.1 +0.1**
JAG Ashikaga 3.91 322 P **P** **18 14 08.0 -1.0**
JRY Ryogami san 3.92 313 P **P** **18 14 09.2 -0.1**
JRY *e*S **S** **18 14 54.7 -0.2**
JMM Marumori 4.67 344 P **P** **18 14 16.8 -3.2**
MJAR Matsushiro Arr 4.69 313 Pn **Pn** **18 14 19.5 -0.8**
5.2nm,0.3s,baz=145,slow=11,SNR=46
MJAR Sn **Sn** **18 15 12.0 -2.3**
3.3nm,0.3s,baz=126,slow=11,SNR=7.0
MJAR Matsushiro Arr 4.69 313 Pn **Pn** **18 14 19.5 -0.8**
MJAR Sn **Sn** **18 15 12.0 -2.3**
MAJO Matsushiro 4.69 313 *e*P **P** **18 14 20.6 +0.4**
MAT Matsushiro 4.69 313 *e*P **P** **18 14 20.0 -0.2**
MAT *e*S **S** **18 15 14.0 -0.3**
MAT Matsushiro 4.69 313 P **P** **18 14 19.9 -0.3**
MAT S **S** **18 15 13.5 -0.8**
MAT Matsushiro 4.69 313 P **P** **18 14 20.6 +0.4**
MAT *e*S **S** **18 15 13.5 -0.8**
JMK Ichinoseki 5.65 350 P **P** **18 14 30.1 -3.5**
JSD Sado 5.76 325 P **P** **18 14 33.2 -2.0**
JYK Kaneyama 5.78 344 P **P** **18 14 33.0 -2.5**
CBIJ Chichi jima 6.26 182 Pn **Pn** **18 14 40.5 -2.0**
15nm,0.3s,baz=275,slow=18,SNR=9.3
CBIJ Sn **Sn** **18 15 46.7 -7.0**
10nm,0.3s,baz=48,slow=24,SNR=3.8
JNU Nakatsue 9.68 272 Pn **P** **18 15 31.2 +1.3**
0.4nm,0.3s,baz=96,slow=12,SNR=6.0
JNU LR LR 18 19 10.1
comp=Z,153nm,20.5s,baz=116,slow=37
JNU Nakatsue 9.68 272 Pn **P** **18 15 31.2 +1.3**
JNU LR LR 18 19 10.1
YSS Yuzh-Sakhalins 13.56 1 *e*P **P** **18 16 16.0 -6.2**
YSS Yuzh-Sakhalins 13.56 1 P **P** **18 16 14.8 -7.3**
14nm,0.8s
SSE Sheshan 18.12 269 P **P** **18 17 19.5 -1.2**
SSE S **S** **18 20 39.3 +0.7**
SSE AMB AMB
comp=Z,32nm,0.7s
SSE AMB AMB
comp=Z,115nm,3.9s
SSE Sheshan 18.12 269 P **P** **18 17 19.6 -1.1**
comp=Z,32nm,0.7s
SSE pP 18 17 30.7
SSE sP 18 17 37.5
SSE S **S** **18 20 39.3 +0.7**
SSE sS 18 21 02.5
PET Petropavlovsk 22.82 26 P **P** **18 18 09.4 -1.3**
PET pmax pmax
comp=Z,51nm,1.3s,mb4.8
PET Petropavlovsk 22.82 26 P **P** **18 18 09.4 -1.4**
comp=Z,51nm,1.3s,mb4.8
HIA Hailar 23.16 320 *e*P **P** **18 18 15.4 +1.3**
HIA pmax pmax
comp=Z,10.0nm,0.8s
HIA Hailar 23.16 320 *e*P **P** **18 18 15.4 +1.4**
comp=Z,10nm,0.8s,mb4.3
WHN Wuhan 23.97 271 P **P** **18 18 23.3 +1.2**
HHC Hu-ho-hao-te 25.63 296 ⇑P **P** **18 18 39.3 +1.3**
HHC S **S** **18 23 07.3 +5.7**
HHC AMB AMB
comp=Z,14nm,1.0s,mb4.5
HHC AMB AMB
comp=Z,66nm,9.5s
HHC LR LR
comp=N,108nm,15.4s,MS3.7
HHC LR LR
comp=E,129nm,15.4s,MS3.7
HHC LR LR
comp=Z,105nm,15.4s,MS3.5
BTO Baotou 26.77 295 *e*P **P** **18 18 48.3 -0.2**
CIT Chita 27.96 320 *e*P **P** **18 19 02.2 +2.9**
ENH Enshi 28.10 273 *e*P **P** **18 18 59.2 -1.6**
comp=Z,16nm,1.1s,mb4.6
YAK Yakutsk 29.81 348⇑ *e*P **P** **18 19 14.6 -1.0**
YAK pmax pmax
comp=Z,13nm,1.2s,mb4.5
YAK MLR MLR
comp=Z,100nm,21.0s,MS3.4
YAK Yakutsk 29.81 348 P **P** **18 19 13.2 -2.4**
comp=Z,13nm,1.0s,mb4.6
SEY Seymchan 30.24 9 *i*P **P** **18 19 19.2 -0.2**
SONM Songjino Array 30.63 309 P **P** **18 19 24.4 +1.3**
comp=Z,2.4nm,0.8s,mb4.1,baz=120,slow=10.0,SNR=10
BOD Bodaibo 31.09 330 *e*P **P** **18 19 25.8 -1.2**
BOD *e* 18 19 32.8
BOD pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
ZAK Zakamensk 33.27 313 *e*P **P** **18 19 46.6 +0.4**
ZAK *e* 18 22 26.6
ZAK pmax pmax
comp=Z,1.0nm,1.4s,mb3.5
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
TLY Talaya 33.43 315 *e*P **P** **18 19 48.6 +1.1**
TLY *e* 18 21 04.9
TLY pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
TLY MLR MLR
comp=Z,32nm,11.0s,MS3.3
TLY Talaya 33.43 315 P **P** **18 19 45.1 -2.4**
comp=Z,7.8nm,1.2s,mb4.5
KMI Kunming 35.43 267 P **P** **18 20 05.8 +0.8**
KMI AMB AMB
comp=Z,5.0nm,0.9s,mb4.4
KMI Kunming 35.43 267 P **P** **18 20 05.8 +0.8**
comp=Z,5.0nm,0.9s,mb4.4
WMQ Urumqi 43.33 301 P **P** **18 21 11.5 +1.2**
WMQ AP pP 18 21 21.5 +1.3
WMQ AMB AMB
comp=Z,3.0nm,1.6s,mb3.8
WMQ AMB AMB
comp=Z,9.0nm,5.8s
WMQ LR LR
comp=N,493nm,17.6s,MS4.5
WMQ LR LR
comp=E,355nm,17.7s,MS4.5
WMQ LR LR
comp=Z,622nm,17.8s,MS4.6
NVS Novosibirsk 46.01 316 *e*P **P** **18 21 29.7 -2.0**
MKAR Makanchi Array 46.84 305 *i*P **P** **18 21 38.5 +0.2**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 46.84 305 P **P** **18 21 39.0 +0.7**
comp=Z,2.8nm,1.0s,mb4.2,baz=90,slow=9.0,SNR=14
MKAR LR LR 18 40 58.7
comp=Z,33nm,19.6s,MS3.3,baz=150,slow=36
KURK Kurchatov 48.90 311 *e*P **P** **18 21 53.8 -0.5**
KURK pmax pmax
comp=Z,15nm,0.9s,mb5.0
KURK Kurchatov 48.90 311 *e*P **P** **18 21 53.8 -0.5**
comp=Z,15nm,0.9s,mb5.0
SML Sawmill 51.48 35 *e*P **P** **18 22 13.2 -0.6**
SML *e* pP 18 22 24.8 +1.0
ILAR Eielson Array 52.16 31 P **P** **18 22 18.1 -0.8**
comp=Z,1.3nm,0.7s,mb4.0,baz=270,slow=6.1,SNR=15
AAK Ala-Archa 53.03 301 *i*P **P** **18 22 25.1 -0.6**
AAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
AAK Ala-Archa 53.03 301 P **P** **18 22 22.6 -3.1**
comp=Z,5.7nm,1.1s,mb4.4
WRAB Tennant Creek 53.57 189 *e*P **P** **18 22 29.4 -0.6**
WRAB pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
WRAB Tennant Creek 53.57 189 *e*P **P** **18 22 29.4 -0.7**
comp=Z,6.2nm,0.8s,mb4.6
WB2 Warramunga Arr 53.58 189⇑ *i*P **P** **18 22 29.4 -0.7**
WRA Warramunga Arr 53.58 189 P **P** **18 22 29.6 -0.5**
comp=Z,3.5nm,0.6s,mb4.4,baz=8.4,slow=7.7,SNR=49
FITZ Fitzroy Crossi 53.64 200⇑ *i*P **P** **18 22 30.9 +0.3**
comp=Z,5.2nm,0.6s,mb4.6
BRVK Borovoye 53.75 315 *e*P **P** **18 22 30.5 -0.4**
BRVK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BRVK Borovoye 53.75 315 *e*P **P** **18 22 30.5 -0.4**
comp=Z,1.8nm,0.9s,mb4.0
KKAR Karatay Array 55.74 303 *i*P **P** **18 22 45.7 +0.2**
KKAR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
INK Inuvik 57.27 26 *e*P **P** **18 22 55.6 -0.6**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 57.27 26 P **P** **18 22 56.1 0.0**
comp=Z,1.9nm,0.7s,mb4.2,baz=231,slow=5.9,SNR=3.4
INK Inuvik 57.27 26 *e*P **P** **18 22 55.6 -0.6**
comp=Z,3.7nm,0.9s,mb4.4
MBWA Marble Bar 58.40 205 *e*P **P** **18 23 03.9 -0.7**
comp=Z,5.9nm,0.8s,mb4.7
ARU Arti 59.67 320⇓ *i*P **P** **18 23 12.2 -0.9**
ARU *e* 18 25 26.2
ARU *e*S **S** **18 31 18.4 -1.2**
ARU *e*SS SS 18 35 12.5 -4.2
ARU pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ARU Arti 59.67 320 *e*P **P** **18 23 12.4 -0.7**
comp=Z,2.5nm,0.6s,mb4.4
AB31 Akbulak array 60.97 312 *i*P **P** **18 23 20.7 -1.3**
DLBC Dease Lake 61.01 37 *e*P **P** **18 23 22.6 +0.4**
STKA Stephens Creek 64.91 181 P **P** **18 23 47.7 -0.6**
comp=Z,3.7nm,0.8s,mb4.4,baz=43,slow=9.8,SNR=5.4
STKA Stephens Creek 64.91 181 P **P** **18 23 47.2 -1.0**
RES Resolute Bay 65.93 14 *e*P **P** **18 23 54.1 0.0**
RES pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
RES Resolute Bay 65.93 14 *e*P **P** **18 23 54.1 0.0**
comp=Z,6.1nm,0.8s,mb4.7
YKA Yellowknife Ar 66.56 30 P **P** **18 23 58.0 -0.2**
comp=Z,1.9nm,0.9s,mb4.1,baz=296,slow=6.3,SNR=5.8
YKA Yellowknife Ar 66.56 30 P **P** **18 23 58.0 -0.2**
OBN Obninsk 71.53 324 *e*P **P** **18 24 28.6 -0.4**
OBN pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
OBN Obninsk 71.53 324 P **P** **18 24 29.4 +0.4**
FINES FINESS Array B 72.44 333 P **P** **18 24 34.0 -0.3**
comp=Z,3.5nm,0.9s,mb4.3,baz=72,slow=6.0,SNR=7.9
FINES FINESS Array B 72.44 333 P **P** **18 24 34.0 -0.3**
CMB Columbia Colle 75.32 54 P **P** **18 24 50.8 -0.7**
NVAR Mina Array Bea 76.52 53 P **P** **18 24 59.9 +1.6**
comp=Z,1.1nm,0.7s,mb3.9,baz=302,slow=3.9,SNR=9.1
NVAR Mina Array Bea 76.52 53 P **P** **18 24 59.9 +1.6**
ELK Elko 77.27 50 P **P** **18 25 02.8 +0.3**
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 77.27 50 P **P** **18 25 02.8 +0.3**
comp=Z,2.0nm,0.9s,mb4.0
AKASG Malin Array Be 77.71 323 P **P** **18 25 05.1 +0.4**
comp=Z,1.2nm,0.7s,mb3.9,baz=45,slow=5.9,SNR=12
NB2 NORSAR Subarra 77.88 338 P **P** **18 25 05.8 +0.4**
comp=Z,3.4nm,0.8s,mb4.3,baz=39,slow=5.6
NB2 NORSAR Subarra 77.88 338 P **P** **18 25 05.8 +0.4**
NB2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
NOA NORSAR Array B 77.88 338 P **P** **18 25 06.1 +0.7**
comp=Z,2.9nm,0.8s,mb4.2,baz=39,slow=5.6,SNR=12
NOA LR LR 19 00 20.3
comp=Z,16nm,19.1s,MS3.4,baz=95,slow=36
PDAR Pinedale Array 79.63 45 P **P** **18 25 16.5 +1.1**
comp=Z,0.2nm,0.5s,mb3.4,baz=342,slow=2.9,SNR=3.5
BRTR Keskin Array B 81.92 312 P **P** **18 25 29.3 +1.8**
comp=Z,1.5nm,0.8s,mb4.0,baz=135,slow=5.2,SNR=5.9
PV10 Paradox Valley 82.55 49 P **P** **18 25 32.6 +1.8**
PV01 Paradox Valley 83.00 49 *e*P **P** **18 25 33.8 +0.8**
CLL Collm 84.69 331 *i*P **P** **18 25 42.3 +1.1**
CLL *i* *PP pP 18 25 53.7 +2.0
CLL pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
CLL Collm 84.69 331 *i*P **P** **18 25 42.3 +1.1**
comp=Z,9.0nm,1.0s,mb4.8
CLL *i* pP pP 18 25 53.7 +2.0
CLL Collm 84.69 331 P **P** **18 25 42.3 +1.1**
comp=Z,logA/T=1.0,mb4.9
CLL *i* pP 18 25 53.7 +2.0
SDCO Great Sand Dun 85.14 48 *e*P **P** **18 25 45.2 +1.3**
comp=Z,3.1nm,1.0s,mb4.4
GERES GERESS Array B 86.26 329 P **P** **18 25 50.9 +1.8**
comp=Z,0.3nm,0.6s,mb3.7,baz=56,slow=4.8,SNR=3.9
ANMO Albuquerque 86.29 50 *i*P **P** **18 25 51.1 +1.6**
TXAR Lajitas Array 91.67 53 P **P** **18 26 17.4 +2.2**
comp=Z,0.8nm,0.6s,mb4.2,baz=321,slow=3.2,SNR=5.9
TXAR LR LR 19 04 11.0
comp=Z,28nm,21.8s,MS3.7,baz=335,slow=33
TXAR Lajitas Array 91.67 53 P **P** **18 26 17.4 +2.2**
TXAR LR LR 19 04 11.0
SAML Samuel 146.10 50 *e*PKPdf PKPdf 18 32 48.5 +2.3
LPAZ La Paz 147.62 66 *e*PKP2 PKPdf 18 32 51.7 +3.1
LPAZ La Paz 147.62 66 PKPbc PKPdf 18 32 53.0 +4.3
comp=Z,2.4nm,0.8s,baz=346,slow=4.0,SNR=13
LVC Limon Verde 150.42 77 *e*PKPbc PKPdf 18 33 01.3 +8.3

MAN 28 18:13:10.3, 10.01N×124.89E, h66km, mb3.9, ML2.7, MS2.3, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.63**	**111**	⇓*e*P	P	18 13 26.6	+2.4
BUTP	**Butuan**	**1.26**	**145**	*e*P	P	18 13 32.3	0.0
BUTP				*e*S	S	18 13 50.0	+1.3
BUTP	**Butuan**	**1.26**	**145**	*e*P	P	18 13 32.4	0.0
BUTP				*e*S	S	18 13 50.3	+1.6
BESP	**Borongan**	**1.68**	**19**	*e*P	P	18 13 39.0	+1.0
BESP				*e*S	S	18 13 58.0	-0.5
BESP	**Borongan**	**1.68**	**19**	*e*P	P	18 13 39.6	+1.5
BESP				*e*S	S	18 13 59.1	+0.6

*ROM **28** 18:13:10.2±0.2, 45.74N×7.10E, h8km, Md2.4/4, Ml1.7/2, Error ellipse: s-maj=3.4km s-min=2.8km az=79.0*
*CSEM **28** 18:13:10.6±0.1, 45.72N×7.14E, h5km, ML2.4/15, Error ellipse: s-maj=1.3km s-min=1.0km az=69.0*
*NEIC **28** 18:13:11.2, 45.73N×7.07E, h3km, ML2.5(GEN), ML2.5(LDG), ML1.9(ZUR), After GEN.*
*GEN **28** 18:13:11.2, 45.73N×7.07E, h3km, ML2.0*
*LDG **28** 18:13:12.1±0.1, 45.72N×7.04E, h5km, Md2.4/3, Ml2.5/15, Error ellipse: s-maj=1.8km s-min=1.0km az=86.0*
*ZUR **28** 18:13:12.2, 45.76N×7.10E, h2km±2km, ML1.9/12*
*STR **28** 18:13:12.2±0.6, 45.73N×7.01E, h5km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 28 18:13:10.2±0.2, 45.72N±0.01×7.02E±0.02, h3km±4km, n62, σ1§14/103, 10C-5D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSD	**Ceresole Reale**	**0.28**	**160**	P	**Pg**	**18 13 17.2**	**+1.5**
LSD	**Ceresole Reale**	**0.28**	**160**	P	**Pg**	**18 13 17.2**	**+1.5**
RSL	**Roselend**	**0.28**	**264**	Pg	**Pg**	**18 13 17.7**	**+1.9**
RSL				Sg	**Sg**	**18 13 21.6**	**+2.1**
LPL	**La Plagne**	**0.28**	**225**	*e*Pg	**Pg**	**18 13 17.8**	**+1.9**
LPL				*e*Sg	**Sg**	**18 13 22.1**	**+2.4**
	40nm,0.2s						
EMV	**Vieux Emosson**	**0.36**	**346**	⇑*i*P	**Pg**	**18 13 18.5**	**+1.2**
EMV				*i* S	**Sg**	**18 13 23.0**	**+0.9**
EMV	**Vieux Emosson**	**0.36**	**346**	⇑*i*Pg	**Pg**	**18 13 18.5**	**+1.2**
EMV				Sg	**Sg**	**18 13 23.1**	**+1.0**
SALAN	**Lac Salanfe**	**0.43**	**356**	*i* S	**Sg**	**18 13 25.0**	**+0.5**
SALAN	**Lac Salanfe**	**0.43**	**356**	⇑*i*P	**Pg**	**18 13 19.7**	**+0.9**
SALAN	**Lac Salanfe**	**0.43**	**356**	⇑*i*P	**Pg**	**18 13 19.7**	**+0.9**
DIX	**Grande Dixence**	**0.46**	**37**	⇑*i*Pg	**Pg**	**18 13 19.8**	**+0.5**
DIX				Sg	**Sg**	**18 13 25.5**	**+0.1**
DIX	**Grande Dixence**	**0.46**	**37**	⇓*i*P	**Pg**	**18 13 19.8**	**+0.5**
GRYON	**Gryon**	**0.54**	**7**	*i* S	**Sg**	**18 13 28.2**	**+0.1**
GRYON	**Gryon**	**0.54**	**7**	⇑*i*P	**Pg**	**18 13 21.6**	**+0.7**
GRYON	**Gryon**	**0.54**	**7**	⇑*i*P	**Pg**	**18 13 21.6**	**+0.7**
TRAV		**0.55**	**112**	P	**Pg**	**18 13 21.6**	**+0.4**
TRAV		**0.55**	**112**	P	**Pg**	**18 13 21.6**	**+0.4**
RSP	**Reno Superiore**	**0.59**	**163**	P	**Pg**	**18 13 23.0**	**+1.1**
RSP	**Reno Superiore**	**0.59**	**163**	P	**Pg**	**18 13 23.0**	**+1.0**
AIGLE	**Aigle**	**0.63**	**356**	*e*S	**Sg**	**18 13 31.1**	**0.0**
AIGLE	**Aigle**	**0.63**	**356**	⇓*i*P	**Pg**	**18 13 23.5**	**+0.8**
AIGLE	**Aigle**	**0.63**	**356**	⇓*i*P	**Pg**	**18 13 23.5**	**+0.8**
OG01	**Vacheresse**	**0.66**	**339**	Pg	**Pg**	**18 13 24.3**	**+1.0**
OG01				Sg	**Sg**	**18 13 33.4**	**+1.3**
SENIN	**Lac Senin**	**0.68**	**17**	*e*P	**Pg**	**18 13 23.9**	**+0.2**
SENIN				*i* S	**Sg**	**18 13 32.8**	**+0.1**
ORX	**Oropa**	**0.68**	**97**	P	**Pg**	**18 13 23.8**	**0.0**
ORX				S	**Sg**	**18 13 32.2**	**-0.6**
ORX	**Oropa**	**0.68**	**97**	P	**Pg**	**18 13 23.8**	**0.0**
ORX				S	**Sg**	**18 13 32.2**	**-0.6**
ORO	**Oropa**	**0.68**	**97**	Pg	**Pg**	**18 13 23.8**	**0.0**
ORO				Sg	**Sg**	**18 13 32.5**	**-0.3**
	38nm,0.2s						
FENE	**Fenestrelle**	**0.69**	**177**	P	**Pg**	**18 13 24.9**	**+1.0**
FENE				S	**Sg**	**18 13 33.3**	**+0.2**
FENE	**Fenestrelle**	**0.69**	**177**	P	**Pg**	**18 13 24.9**	**+1.0**
FENE				S	**Sg**	**18 13 33.3**	**+0.2**
BNI	**Bardonecchia**	**0.71**	**200**	*e*Pg	**Pg**	**18 13 25.2**	**+0.9**
BNI	**Bardonecchia**	**0.71**	**200**⇑	*e*Pg	**Pg**	**18 13 25.2**	**+0.9**
	16nm,0.2s						
MMK	**Mattmark**	**0.74**	**63**	Pg	**Pg**	**18 13 24.6**	**-0.4**
MMK				Sg	**Sg**	**18 13 34.1**	**-0.8**
MMK	**Mattmark**	**0.74**	**63**	*e*P	**Pg**	**18 13 24.5**	**-0.5**
MMK				*e*S	**Sg**	**18 13 33.5**	**-1.4**
MMK	**Mattmark**	**0.74**	**63**	Pg	**Pg**	**18 13 24.6**	**-0.4**
MMK				*e*S	**Sg**	**18 13 33.5**	**-1.4**
MMK				Sg	**Sg**	**18 13 34.1**	**-0.8**
RRL	**Cesana Torines**	**0.81**	**192**	P	**Pg**	**18 13 26.6**	**+0.1**
RRL				S	**Sg**	**18 13 37.7**	**+0.4**
RRL	**Cesana Torines**	**0.81**	**192**	P	**Pg**	**18 13 26.6**	**+0.2**
RRL				S	**Sg**	**18 13 37.7**	**+0.4**
BHB	**Bricherasio**	**0.89**	**169**	P	**Pb**	**18 13 28.8**	**+0.8**
BHB	**Bricherasio**	**0.89**	**169**	P	**Pb**	**18 13 28.8**	**+0.8**
GIMEL	**Gimel**	**0.97**	**328**⇑	*i*P	**Pb**	**18 13 30.3**	**+1.0**
MBDF	**Montbardon**	**1.00**	**190**	*e*Pg	**Pg**	**18 13 30.8**	**+0.5**
MBDF				*e*Pn	**Pn**	**18 13 31.6**	**+0.5**
MBDF				*e*Sg	**Sg**	**18 13 43.7**	**0.0**
	16nm,0.3s						
WIMIS	**Wimmis**	**1.04**	**24**	*e*P	**Pb**	**18 13 30.8**	**+0.3**
CABF	**La Chapelle**	**1.10**	**324**	*e*Pn	**Pn**	**18 13 33.2**	**+0.7**
CABF				*e*Sg	**Sg**	**18 13 47.9**	**+0.9**
	32nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.13**	**226**	*e*Pn	**Pn**	**18 13 33.3**	**+0.4**
ORIF				*e*Pg	**Pg**	**18 13 34.0**	**+1.2**
ORIF				*e*Sg	**Sg**	**18 13 48.3**	**+0.4**
	12nm,0.2s						
OG05	**Jujurieux**	**1.14**	**287**	Pg	**Pg**	**18 13 34.0**	**+1.1**
OG05				Sg	**Sg**	**18 13 49.2**	**+1.1**
DOI	**San Damiano**	**1.22**	**172**	Pn	**Pn**	**18 13 34.5**	**+0.3**
	16nm,0.5s						
BRANT	**Les Verrieres**	**1.28**	**343**⇑	*i*P	**Pb**	**18 13 36.5**	**+1.9**
FUSIO	**Fusio**	**1.36**	**57**⇓	*i*P	**Pb**	**18 13 36.3**	**+0.3**
MUGIO	**Muggio**	**1.43**	**81**⇓	*i*P	**Pn**	**18 13 37.3**	**+0.2**
ENR	**Entracque**	**1.52**	**169**	P	**Pn**	**18 13 37.5**	**-0.9**
VIVF	**Saint-Julien-I**	**1.87**	**243**	*e*Pn	**Pn**	**18 13 43.7**	**+0.3**
VIVF				*e*Pg	**Pg**	**18 13 47.5**	**0.0**
VIVF				*e*Sg	**Sg**	**18 14 11.5**	**-0.9**
	8.8nm,0.2s						
SBF	**Sospel**	**1.88**	**171**	*e*Pg	**Pg**	**18 13 46.8**	**-0.9**
SBF				*e*Sg	**Sg**	**18 14 11.7**	**-1.0**
	11nm,0.4s						
SMRF	**Simiane la Rot**	**2.02**	**211**	*e*Pg	**Pg**	**18 13 50.1**	**-0.5**
SMRF				*e*Sg	**Sg**	**18 14 15.5**	**-2.0**
	2.0nm,0.3s						
HINF	**Hinteralfeld**	**2.10**	**357**	*e*Pn	**Pn**	**18 13 46.2**	**-0.6**
HINF				*e*Pg	**Pg**	**18 13 50.9**	**-1.3**
HINF				*e*Sg	**Sg**	**18 14 17.0**	**-3.3**
	9.2nm,0.3s						
FRF	**La Foret Royal**	**2.17**	**187**	*e*Pg	**Pg**	**18 13 52.7**	**-0.9**
FRF				*e*Sg	**Sg**	**18 14 21.1**	**-1.4**
	2.9nm,0.3s						
SMF	**Signal de Mont**	**2.40**	**294**	*e*Pg	**Pg**	**18 13 56.8**	**-1.2**
SMF				*e*Sg	**Sg**	**18 14 27.4**	**-2.6**
	5.7nm,0.3s						
LMR	**La Mourre**	**2.41**	**189**	*e*Sg	**Sg**	**18 14 28.8**	**-1.6**
	1.0nm,0.2s						
LOR	**Lormes**	**2.68**	**307**	*e*Pn	**Pn**	**18 13 54.9**	**-0.1**
LOR				*e*Pg	**Pg**	**18 14 01.6**	**-2.1**
LOR				*e*Sg	**Sg**	**18 14 35.8**	**-3.6**
	4.4nm,0.4s						
CDF	**Champ du Feu**	**2.70**	**4**	*e*Pn	**Pn**	**18 13 54.6**	**-0.8**
CDF				*e*Pg	**Pg**	**18 14 02.2**	**-2.0**
CDF				*e*Sg	**Sg**	**18 14 36.6**	**-3.6**
	3.8nm,0.3s						
AVF	**Avril sur Loir**	**2.76**	**294**	*e*Pg	**Pg**	**18 14 03.4**	**-1.9**
AVF				*e*Sg	**Sg**	**18 14 38.3**	**-3.9**
	3.5nm,0.4s						
SSF	**Saint Saulge**	**2.78**	**300**	*e*Pn	**Pn**	**18 13 56.2**	**-0.2**
SSF				*e*Pg	**Pg**	**18 14 03.8**	**-1.9**
SSF				*e*Sg	**Sg**	**18 14 39.0**	**-3.7**
	3.2nm,0.4s						
SSF	**Saint Saulge**	**2.78**	**300**	*e*Pg	**Pg**	**18 14 03.8**	**-1.9**
SSF				*e*Sg	**Sg**	**18 14 39.0**	**-3.7**
	1.6nm,0.4s						
BGF	**Bois d'Agland**	**3.02**	**288**	*e*Pg	**Pg**	**18 14 08.5**	**-2.0**
BGF				*e*Sg	**Sg**	**18 14 47.5**	**-3.3**
	6.6nm,0.3s						
MEZF	**Maizieres J'vi**	**3.09**	**335**	*e*Pn	**Pn**	**18 13 59.7**	**-1.2**

*LDG **28** 18:32:19.8±0.2, 36.97N×5.28W, h10km, Md3.6/1, Ml2.8/4, Error ellipse: s-maj=4.5km s-min=2.1km az=174.0*
*CSEM **28** 18:32:19.8±0.1, 37.00N×5.34W, h10km, ML3.1/5, Error ellipse: s-maj=1.5km s-min=0.8km az=8.0*
*INMG **28** 18:32:20.2±1.4, 36.93N×5.32W, h20km±5km, ML2.5, Error ellipse: s-maj=3.8km s-min=2.9km az=170.0*
*SFS **28** 18:32:20.0, 36.90N×5.30W*

MDD 28 18:32:20.6±0.4, 37.01N×5.28W, h26km±6km, mbLg2.4/20, 1C-5D, Error ellipse: s-maj=4.0km s-min=2.9km az=163.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESPR	**Espera**	**0.48**	**253**	⇓Pg	Pb	18 32 29.1	-1.4
	93nm,0.2s,SNR=18						
ESPR				Lg		18 32 37.4	
	234nm,0.2s,SNR=7.9						
ESPR	**Espera**	**0.48**	**253**	Pg	Pb	18 32 29.1	-1.4
	93nm,0.2s,SNR=61						
ESPR				Lg		18 32 37.4	
	234nm,0.2s,SNR=7.9						
REAL	**Reales**	**0.53**	**173**	⇓Pg	Pb	18 32 29.4	-1.9
REAL				S	Sb	18 32 38.2	-0.3
REAL	**Reales**	**0.53**	**173**	*i*P	Pb	18 32 29.4	-1.9
REAL				eS	Sb	18 32 38.2	-0.3
ALJ	**Aljibe**	**0.56**	**212**	P	Pb	18 32 22.1	-10
ALJ	**Aljibe**	**0.56**	**212**	*e*P	Pb	18 32 22.1	-10
GIBL	**Gibalbin**	**0.57**	**252**	⇓P	Pb	18 32 31.6	-0.5
GIBL				S	Sb	18 32 41.5	+1.6
GIBL	**Gibalbin**	**0.57**	**252**	*i*P	Pb	18 32 31.6	-0.5
GIBL				eS	Sb	18 32 41.5	+1.6
EMIJ	**Mijas**	**0.60**	**137**	Pg	Pb	18 32 29.9	-2.6
	36nm,0.3s,SNR=41						
EMIJ				Lg		18 32 41.8	
	189nm,0.4s,SNR=14						
EMIJ	**Mijas**	**0.60**	**137**	Pg	Pb	18 32 29.9	-2.6
	36nm,0.3s,SNR=41						
EMIJ				Lg		18 32 38.2	
	110nm,0.4s,SNR=14						
MOMI	**Momias**	**0.76**	**208**	P	Pb	18 32 35.9	+0.8
MOMI				S	Sb	18 32 50.6	+5.4
MOMI	**Momias**	**0.76**	**208**	*e*P	Pb	18 32 35.9	+0.7
MOMI				*e*S	Sb	18 32 50.6	+5.4
CNIL	**Conil**	**0.89**	**224**	⇓P	Pb	18 32 22.4	-15
CNIL				S	Sb	18 32 58.9	+10
CNIL	**Conil**	**0.89**	**224**	*i*P	Pb	18 32 22.4	-15
CNIL				*e*S	Sb	18 32 58.9	+10
ELOJ	**Sierra Loja**	**0.92**	**81**	Pg	Pb	18 32 38.0	+0.2
	15nm,0.2s,SNR=9.6						
ELOJ				Lg		18 32 50.9	
	10nm,0.2s,SNR=5.7						
ELOJ	**Sierra Loja**	**0.92**	**81**	Pg	Pb	18 32 37.6	-0.2
	15nm,0.2s,SNR=9.6						
ELOJ				Lg		18 32 50.9	
	10nm,0.2s,SNR=5.7						
ELUQ	**Luque**	**0.98**	**55**	Pg	Pn	18 32 38.9	+0.1
	27nm,0.2s,SNR=7.9						
ELUQ				Lg		18 32 54.3	
	36nm,

	94nm,0.2s,SNR=7.9									
ERON	**Agron**	**1.18**	**89**	Pg	Pn	18 32 42.5	+0.8			
	14nm,0.3s,SNR=20									
ERON				Lg		18 32 58.6				
	14nm,0.4s,SNR=7.9									
EADA	**Adamuz**	**1.29**	**26**	⇑Pn	Pn	18 32 43.1	-0.1			
	0.9nm,0.1s,SNR=18									
EADA				Pg	Pn	18 32 44.4	+1.2			
	4.6nm,0.1s,SNR=7.9									
EADA				Sn	Sn	18 33 00.5	+0.8			
	18nm,0.2s,SNR=26									
EADA				Lg		18 33 02.4				
	126nm,0.2s,SNR=7.9									
EADA	**Adamuz**	**1.29**	**26**	Pn	Pn	18 32 43.1	-0.1			
	1.4nm,0.2s,SNR=32									
EADA				Sn	Sn	18 33 00.5	+0.8			
	18nm,0.2s,SNR=26									
EADA				Lg		18 33 02.4				
	126nm,0.2s,SNR=7.9									
EMIN	**Mina Concepcio**	**1.34**	**305**	⇓Pn	Pn	18 32 42.7	-1.3			
	13nm,0.2s,SNR=18									
EMIN				Pg	Pn	18 32 43.9	0.0			
	18nm,0.2s,SNR=7.9									
EMIN				Lg		18 33 02.0				
	30nm,0.2s,SNR=16									
EMIN	**Mina Concepcio**	**1.34**	**305**	Pn	Pn	18 32 42.7	-1.3			
	13nm,0.2s,SNR=79									
EMIN				Lg		18 33 02.0				
	30nm,0.2s,SNR=16									
EGUA	**Guajares**	**1.39**	**97**	Pg	Pn	18 32 46.1	+1.5			
	1.9nm,0.2s,SNR=7.9									
EGUA				Lg		18 33 04.7				
	1.9nm,0.2s,SNR=7.9									
ECOG	**Cogollos-Vega**	**1.40**	**78**	Pn	Pn	18 32 44.4	-0.4			
	1.4nm,0.1s,SNR=7.9									
ECOG				Pg	Pn	18 32 47.0	+2.3			
	6.2nm,0.2s,SNR=8.4									
ECOG				Lg		18 33 07.7				
	9.8nm,0.2s,SNR=7.9									
ECOG	**Cogollos-Vega**	**1.40**	**78**	Pg	Pn	18 32 47.0	+2.2			
	6.2nm,0.2s,SNR=8.4									
ECOG				Lg		18 33 07.7				
	SNR=7.9									
EBAN	**Banos Encina**	**1.66**	**45**	Pn	Pn	18 32 48.1	-0.4			
	1.3nm,0.1s,SNR=7.9									
EBAN				Pg	Pn	18 32 50.7	+2.2			
	3.7nm,0.1s,SNR=8.2									
EBAN				Sn	Sn	18 33 09.8	+0.7			
	5.4nm,0.2s,SNR=7.9									
EBAN				Lg		18 33 13.2				
	20nm,0.2s,SNR=7.9									
EGRO	**El Granado**	**1.83**	**287**	Pn	Pn	18 32 49.3	-1.7			
	4.8nm,0.2s,SNR=10									
EGRO				Pg	Pn	18 32 52.7	+1.7			
	13nm,0.2s,SNR=7.9									
EGRO				Sn	Sn	18 33 11.2	-2.3			
	9.6nm,0.2s,SNR=7.9									
EGRO				Lg		18 33 17.6				
	6.8nm,0.2s,SNR=6.8									
EGRO	**El Granado**	**1.83**	**287**	Pn	Pn	18 32 49.3	-1.7			
	4.8nm,0.2s,SNR=10									
EGRO	**El Granado**	**1.83**	**287**	Pg	Pn	18 32 53.1	+2.1			
	13nm,0.2s,SNR=7.9									
EGRO				Sn	Sn	18 33 11.2	-2.3			
	9.6nm,0.2s,SNR=7.9									
EGRO				Lg		18 33 17.6				
	6.8nm,0.2s,SNR=6.8									
EBER	**Berja**	**1.92**	**93**	Pg	Pn	18 32 56.1	+3.9			
	12nm,0.5s,SNR=8.2									
EBER	**Berja**	**1.92**	**93**	Pg	Pn	18 32 56.1	+3.8			
	12nm,0.5s,SNR=8.2									
EQES	**Quesada**	**1.93**	**65**	Pn	Pn	18 32 52.8	+0.4			
	0.4nm,0.1s,SNR=7.9									
EQES				Pg	Pn	18 32 55.9	+3.5			
	2.4nm,0.1s,SNR=7.9									
EQES				Sn	Sn	18 33 17.7	+1.6			
	3.6nm,0.2s,SNR=7.9									
EQES				Lg		18 33 22.9				
	40nm,0.6s,SNR=7.9									
EQES	**Quesada**	**1.93**	**65**	Pn	Pn	18 32 53.7	+1.3			
	SNR=7.9									
EQES	**Quesada**	**1.93**	**65**	Pg	Pn	18 32 55.9	+3.5			
	2.4nm,0.1s,SNR=7.9									
EQES				Sn	Sn	18 33 17.7	+1.6			
	3.6nm,0.2s,SNR=7.9									
EQES				Lg		18 33 23.3				
	40nm,0.6s,SNR=7.9									
EBAD	**Badajoz**	**2.22**	**322**	Pn	Pn	18 32 55.0	-1.5			
	1.3nm,0.1s,SNR=5.4									
EBAD				Pg	Pn	18 32 59.2	+2.7			
	4.9nm,0.2s,SNR=7.9									
EBAD				Sn	Sn	18 33 21.9	-1.5			
	24nm,0.2s,SNR=7.9									
EBAD				Lg		18 33 28.8				
	9.5nm,0.3s,SNR=11									
EBAD	**Badajoz**	**2.22**	**322**	Pn	Pn	18 32 55.0	-1.5			
	1.3nm,0.1s,SNR=5.4									
EBAD	**Badajoz**	**2.22**	**322**	Pg	Pn	18 32 59.9	+3.4			
	4.9nm,0.2s,SNR=7.9									
EBAD				Sn	Sn	18 33 21.9	-1.4			
	SNR=7.9									
EBAD				Lg		18 33 28.9				
	9.5nm,0.3s,SNR=11									
EHUE	**Huescar**	**2.29**	**69**	Pn	Pn	18 32 57.0	-0.5			
	0.5nm,0.2s,SNR=6.3									
EHUE				Pg	Pn	18 33 03.0	+5.4			
	1.9nm,0.2s,SNR=7.9									
EHUE				Lg		18 33 34.4				
	5.3nm,0.4s,SNR=6.3									
EHUE	**Huescar**	**2.29**	**69**	Pg	Pn	18 33 02.3	+4.8			
	1.9nm,0.2s,SNR=7.9									
EHUE				Lg		18 33 33.8				
	5.3nm,0.4s,SNR=6.3									
PBEJ	**Beja**	**2.29**	**297**	*e*Pn	Pn	18 32 55.8	-1.8			
PBEJ				*e*Sn	Sn	18 33 23.5	-1.7			
	14nm,0.4s									
EVO	**Evora**	**2.64**	**306**	*e*Pn	Pn	18 33 01.0	-1.6			
EVO				*e*Pg	Pn	18 33 10.0	+7.4			
EVO				*e*Sn	Sn	18 33 34.5	+0.3			
EVO				*e*Sg	Sn	18 33 45.4	+11			
	18nm,0.3s									
EVIA	**Vianos**	**2.74**	**53**	Pg	Pn	18 33 11.3	+7.4			
	2.1nm,0.2s,SNR=4.0									
EVIA				Lg		18 33 45.8				
	24nm,0.8s,SNR=4.0									
EVIA	**Vianos**	**2.74**	**53**	Lg		18 33 43.6				
	SNR=7.9									
PTEO	**Sao Teotonio**	**2.80**	**282**	*e*Pn	Pn	18 33 02.7	-2.1			
PTEO				*e*Sn	Sn	18 33 36.2	-1.8			
ESDC	**Sonseca Array**	**2.86**	**21**	Pn	Pn	18 33 05.4	-0.3			
	0.4nm,0.3s,baz=204,slow=11,SNR=5.6									
ESDC				Pg	Pn	18 33 14.0	+8.3			
	0.9nm,0.2s,baz=205,slow=16,SNR=7.9									
ESDC				Sn	Sn	18 33 39.0	-0.6			
	1.4nm,0.1s,baz=202,slow=23,SNR=7.9									
ESDC				Lg		18 33 49.3				
	17nm,0.4s,baz=208,slow=29,SNR=7.9									
ESDC	**Sonseca Array**	**2.86**	**21**	Pn	Pn	18 33 05.4	-0.2			
	0.4nm,0.3s,SNR=5.6									
PCBR	**Castelo Branco**	**3.31**	**329**	*e*Pn	Pn	18 33 10.2	-1.9			
PCBR				*e*Sn	Sn	18 33 47.6	-3.4			
	8.0nm,0.5s									
ETOB	**Tobarra**	**3.38**	**60**	Pn	Pn	18 33 12.5	-0.5			
	0.1nm,0.1s,SNR=7.9									
ETOB				Sn	Sn	18 33 50.8	-1.9			
	0.9nm,0.2s,SNR=7.9									
ETOB				Lg		18 34 08.0				
	12nm,0.6s,SNR=7.9									
PTOM	**Tomar**	**3.58**	**318**	*e*Sn	Sn	18 33 55.2	-2.7			
	11nm,0.4s									
MTE	**Manteigas**	**3.82**	**333**	*e*Sn	Sn	18 34 01.1	-2.8			
	15nm,0.3s									
PVRL	**Vila Real**	**4.66**	**337**	*e*Sn	Sn	18 34 20.5	-4.7			
	11nm,0.1s									
PBRG	**Braganca**	**4.92**	**347**	*e*Sn	Sn	18 34 26.1	-5.7			
ECAL	**Calabor**	**5.05**	**348**	Sn	Sn	18 34 30.6	-4.4			
	7.1nm,0.4s,SNR=7.9									
ECAL				Lg		18 35 01.0				
	4.5nm,0.4s,SNR=7.9									
ELOB	**Lobios**	**5.31**	**337**	Sn	Sn	18 34 34.8	-6.7			
	1.4nm,0.1s,SNR=7.9									
ELOB				Lg		18 35 08.3				
	2.7nm,0.2s,SNR=4.0									
SJPF	**Ste Jean**	**6.85**	**26**	*e*Pn	Pn	18 33 58.6	-3.4			
SJPF				*e*Sn	Sn	18 35 11.7	-8.2			
	0.8nm,0.3s									
ETSF	**Etsaut**	**6.91**	**30**	*e*Pn	Pn	18 33 59.2	-3.8			
ETSF				*e*Sn	Sn	18 35 13.5	-8.1			
	1.1nm,0.5s									
EPF	**Esparros**	**7.40**	**34**	*e*Pn	Pn	18 34 06.3	-3.5			
EPF				*e*Sn	Sn	18 35 25.1	-8.7			
	1.3nm,0.4s									
PGF	**Pioggiola**	**12.30**	**59**	*e*Pn	P	18 35 12.2	-4.8			

PRU ***28*** *18:39:54.8, 46.62N×6.03E*
MOS ***28*** *18:39:54.0±2.0, 45.71N×6.99E, h10km, mb3.8/1, Error ellipse: s-maj=7.1km s-min=3.8km az=92.8*
ROM ***28*** *18:39:54.5±0.2, 45.71N×7.10E, h10km, Md2.7/6, Ml2.1/1, Error ellipse: s-maj=1.0km s-min=0.9km az=103.0*
NEIC ***28*** *18:39:55.1, 45.73N×7.07E, h0km, ML3.1(LDG), ML2.8(GEN), ML2.8(STR), ML2.4(ZUR), After GEN.*
CSEM ***28*** *18:39:55.0±0.1, 45.69N×7.12E, h2km, ML3.1/19, Error ellipse: s-maj=1.2km s-min=0.8km az=90.0*
GEN ***28*** *18:39:55.1, 45.73N×7.07E, h0km, ML2.0*
LDG ***28*** *18:39:56.1±0.1, 45.73N×7.06E, h5km, Md2.9/3, Ml3.1/24, Error ellipse: s-maj=1.7km s-min=1.1km az=101.0*
STR ***28*** *18:39:56.5±0.4, 45.76N×7.00E, h10km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ZUR ***28*** *18:39:56.1, 45.75N×7.09E, h2km±3km, ML2.4/11*

ISC 28 18:39:54.2±0.2, 45.725N±0.009×7.02E±0.02, h8km±2km, n108, σ1°25/195, 10C-3D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
RSL	**Roselend**	**0.28**	**263**	Pg	**Pg**	**18 40 01.7**	**+1.8**	
RSL				Sg	**Sg**	**18 40 05.5**	**+1.8**	
LSD	**Ceresole Reale**	**0.28**	**160**	P	**Pg**	**18 40 01.3**	**+1.3**	
LSD				S	**Sg**	**18 40 04.9**	**+1.0**	
LPL	**La Plagne**	**0.29**	**224**	*e*Pg	**Pg**	**18 40 01.8**	**+1.6**	
LPL				*e*Sg	**Sg**	**18 40 06.4**	**+2.3**	
	228nm,0.4s							
EMV	**Vieux Emosson**	**0.35**	**346**	⇑*i*P	**Pg**	**18 40 02.5**	**+1.2**	
EMV				*i* S	**Sg**	**18 40 07.1**	**+1.1**	
SALAN	**Lac Salanfe**	**0.42**	**356**	*i* S	**Sg**	**18 40 09.1**	**+0.7**	
SALAN	**Lac Salanfe**	**0.42**	**356**	⇑*i*P	**Pg**	**18 40 03.8**	**+1.1**	
SALAN	**Lac Salanfe**	**0.42**	**356**	⇑*i*P	**Pg**	**18 40 03.8**	**+1.1**	
DIX	**Grande Dixence**	**0.45**	**37**	⇓*i*Pg	**Pg**	**18 40 03.8**	**+0.5**	
DIX				Sg	**Sg**	**18 40 09.6**	**+0.3**	
DIX	**Grande Dixence**	**0.45**	**37**	⇓*i*P	**Pg**	**18 40 03.8**	**+0.5**	
GRYON	**Gryon**	**0.53**	**7**	⇑*i*P	**Pg**	**18 40 05.7**	**+0.8**	
GRYON				*i* S	**Sg**	**18 40 12.3**	**+0.3**	
TRAV		**0.55**	**112**	P	**Pg**	**18 40 05.5**	**+0.1**	
TRAV				S	**Sg**	**18 40 12.2**	**-0.6**	
TRAV		**0.55**	**112**	P	**Pg**	**18 40 05.5**	**+0.1**	
TRAV				S	**Sg**	**18 40 12.2**	**-0.6**	
RSP	**Reno Superiore**	**0.60**	**164**	P	**Pg**	**18 40 06.9**	**+0.7**	
RSP				S	**Sg**	**18 40 15.1**	**+0.9**	
AIGLE	**Aigle**	**0.62**	**356**	*e*S	**Sg**	**18 40 15.2**	**+0.3**	
AIGLE	**Aigle**	**0.62**	**356**	*e*P	**Pg**	**18 40 07.5**	**+0.9**	
AIGLE	**Aigle**	**0.62**	**356**	*e*P	**Pg**	**18 40 07.5**	**+0.9**	
OG01	**Vacheresse**	**0.65**	**339**	Pg	**Pg**	**18 40 08.3**	**+1.1**	
OG01				Sg	**Sg**	**18 40 17.4**	**+1.5**	
SENIN	**Lac Senin**	**0.67**	**17**	*e*P	**Pg**	**18 40 08.0**	**+0.4**	
SENIN				*e*S	**Sg**	**18 40 16.8**	**+0.2**	
ORX	**Oropa**	**0.68**	**97**	P	**Pg**	**18 40 07.8**	**-0.1**	
ORX				S	**Sg**	**18 40 16.0**	**-1.0**	
ORO	**Oropa**	**0.68**	**98**	⇑*i*Pg	**Pg**	**18 40 07.9**	**0.0**	
ORO				Sg	**Sg**	**18 40 16.6**	**-0.4**	
	159nm,0.3s							
FENE	**Fenestrelle**	**0.69**	**177**	P	**Pg**	**18 40 09.0**	**+0.8**	
FENE				S	**Sg**	**18 40 18.0**	**+0.5**	
FENE	**Fenestrelle**	**0.69**	**177**	P	**Pg**	**18 40 09.0**	**+0.8**	
FENE				S	**Sg**	**18 40 18.0**	**+0.5**	
BNI	**Bardonecchia**	**0.71**	**200**	*e*Pg	**Pg**	**18 40 09.0**	**+0.5**	
BNI				*e*Sg	**Sg**	**18 40 18.3**	**+0.2**	
BNI	**Bardonecchia**	**0.71**	**200**	Pg	**Pg**	**18 40 09.2**	**+0.7**	
BNI				Sg	**Sg**	**18 40 18.9**	**+0.8**	
	69nm,0.2s							
BNI	**Bardonecchia**	**0.71**	**200**	*e*Pg	**Pg**	**18 40 09.0**	**+0.5**	
BNI				Sg	**Sg**	**18 40 18.9**	**+0.8**	
	69nm,0.2s							
MMK	**Mattmark**	**0.74**	**63**	Pg	**Pg**	**18 40 08.4**	**-0.6**	
MMK				Sg	**Sg**	**18 40 17.6**	**-1.3**	
MMK	**Mattmark**	**0.74**	**63**	*e*P	**Pb**	**18 40 08.5**	**-0.4**	
LKBD	**Leukerbad**	**0.79**	**32**	*e*P	**Pb**	**18 40 09.9**	**+0.2**	
RRL	**Cesana Torines**	**0.82**	**192**	P	**Pb**	**18 40 11.2**	**+0.9**	
RRL				S	**Sb**	**18 40 22.2**	**+0.8**	
RRL	**Cesana Torines**	**0.82**	**192**	P	**Pb**	**18 40 11.2**	**+0.9**	
RRL				S	**Sb**	**18 40 22.1**	**+0.7**	
BHB	**Bricherasio**	**0.90**	**169**	P	**Pb**	**18 40 12.6**	**+0.9**	
BHB				S	**Sb**	**18 40 23.8**	**+0.1**	
BHB	**Bricherasio**	**0.90**	**169**	P	**Pb**	**18 40 12.6**	**+0.9**	
BHB				S	**Sb**	**18 40 23.8**	**+0.2**	
OG22	**Abries**	**0.90**	**183**	Pg	**Pg**	**18 40 12.8**	**+0.5**	
OG22				Sg	**Sg**	**18 40 23.9**	**-0.5**	
GIMEL	**Gimel**	**0.96**	**327**	⇑*i*P	**Pb**	**18 40 14.4**	**+1.6**	
MBDF	**Montbardon**	**1.01**	**190**	*e*Pg	**Pg**	**18 40 14.9**	**+0.4**	
MBDF				*e*Pn	**Pn**	**18 40 15.6**	**+0.9**	
MBDF				*e*Sg	**Sg**	**18 40 28.0**	**0.0**	
	67nm,0.3s							
MBDF	**Montbardon**	**1.01**	**190**	*e*P	**Pg**	**18 40 14.9**	**+0.4**	
MBDF				*e*		18 40 28.0		
GRN	**Grenoble**	**1.02**	**242**	Pg	**Pg**	**18 40 16.4**	**+1.8**	
CABF	**La Chapelle**	**1.10**	**324**	*e*Pn	**Pn**	**18 40 16.7**	**+0.8**	
CABF				*e*Sg	**Sg**	**18 40 31.9**	**+1.1**	
	114nm,0.3s							
OG05	**Jujurieux**	**1.14**	**287**	Pg	**Pg**	**18 40 18.1**	**+1.2**	
OG05				Sg	**Sg**	**18 40 33.2**	**+1.1**	
ORIF	**Oris-en-Rattie**	**1.14**	**225**	*e*Pn	**Pn**	**18 40 17.3**	**+0.9**	
ORIF				*e*Pg	**Pg**	**18 40 17.9**	**+0.9**	
ORIF				*e*Sg	**Sg**	**18 40 32.5**	**+0.3**	
	53nm,0.3s							
ORIF	**Oris-en-Rattie**	**1.14**	**225**	*e*P	**Pn**	**18 40 17.3**	**+0.9**	
ORIF				*e*		18 40 32.5		
ORIF	**Oris-en-Rattie**	**1.14**	**225**	*e*Pg	**Pg**	**18 40 17.9**	**+0.9**	
ORIF				*e*Sg	**Sg**	**18 40 32.5**	**+0.3**	
	26nm,0.3s							
DOI	**San Damiano**	**1.23**	**172**	⇓*i*Pn	**Pn**	**18 40 18.2**	**+0.4**	
	31nm,0.3s							
VAI	**Varese**	**1.23**	**83**	⇓*i*Pn	**Pn**	**18 40 18.1**	**+0.3**	
VAI				Sn	**Sn**	**18 40 33.3**	**-1.5**	
	68nm,0.5s							
SURF	**Saint Ours**	**1.25**	**187**	Pg	**Pg**	**18 40 19.8**	**+0.5**	
BRANT	**Les Verrieres**	**1.27**	**343**	*e*P	**Pb**	**18 40 20.3**	**+2.3**	
HASLI	**Hasliberg**	**1.30**	**37**	*e*P	**Pb**	**18 40 19.6**	**+1.1**	
MUGIO	**Muggio**	**1.43**	**81**	Pn	**Pn**	**18 40 21.3**	**+0.7**	
STV2	**Anna di Valdie**	**1.50**	**172**	P	**Pn**	**18 40 21.6**	**0.0**	
STV2				S	**Sb**	**18 40 39.4**	**-1.5**	
STV2	**Anna di Valdie**	**1.50**	**172**	P	**Pn**	**18 40 21.6**	**+0.1**	
STV2				S	**Sb**	**18 40 39.4**	**-1.5**	
STV	**Sta Anna Valdi**	**1.50**	**172**	P	**Pn**	**18 40 21.5**	**-0.1**	
STV				S	**Sb**	**18 40 39.3**	**-1.6**	
ENR	**Entracque**	**1.52**	**169**	P	**Pn**	**18 40 22.3**	**+0.3**	
ENR				S	**Sb**	**18 40 40.0**	**-1.8**	
ROB	**Roburent**	**1.55**	**157**	P	**Pn**	**18 40 23.1**	**+0.7**	
ROB				S	**Sb**	**18 40 41.8**	**-0.8**	
ROB	**Roburent**	**1.55**	**157**	P	**Pn**	**18 40 23.0**	**+0.6**	
ROB				S	**Sb**	**18 40 41.8**	**-0.8**	
PCP	**Pian Castagno**	**1.60**	**137**	P	**Pn**	**18 40 23.2**	**+0.1**	
PCP				S	**Sb**	**18 40 41.6**	**-2.4**	
LOMF	**Lomont**	**1.63**	**355**	Pg	**Pg**	**18 40 27.2**	**+0.4**	
LOMF				Sg	**Sg**	**18 40 48.8**	**+0.2**	
TOUF	**Mont Tournerai**	**1.72**	**174**	Pn	**Pn**	**18 40 28.5**	**+3.8**	
FIN	**Finale Ligure**	**1.73**	**150**	P	**Pn**	**18 40 26.4**	**+1.4**	
BBS	**Basel-Blauen**	**1.77**	**11**	Pg	**Pg**	**18 40 29.7**	**+0.1**	
BBS				Sg	**Sg**	**18 40 52.5**	**-0.8**	
SAOF	**Saorge**	**1.78**	**167**	Pn	**Pn**	**18 40 27.6**	**+2.0**	
MVIF	**Mont Vial**	**1.83**	**177**	Pg	**Pg**	**18 40 32.8**	**+2.0**	
VIVF	**Saint-Julien-l**	**1.87**	**243**	*e*Pn	**Pn**	**18 40 27.6**	**+0.7**	
VIVF				*e*Pg	**Pg**	**18 40 31.6**	**0.0**	
VIVF				*e*Sg	**Sg**	**18 40 55.7**	**-0.8**	
	30nm,0.2s							
VIVF	**Saint-Julien-l**	**1.87**	**243**	*e*P	**Pn**	**18 40 27.6**	**+0.7**	
VIVF				*e*		18 40 55.7		
SBF	**Sospel**	**1.89**	**171**	*e*Pn	**Pn**	**18 40 27.7**	**+0.6**	
SBF				*e*Pg	**Pg**	**18 40 31.0**	**-0.9**	
SBF				*e*Sg	**Sg**	**18 40 55.8**	**-1.2**	
	59nm,0.4s							
SBF	**Sospel**	**1.89**	**171**	*e*P	**Pn**	**18 40 27.7**	**+0.6**	
SBF				*e*		18 40 55.8		
IMI	**Imperia**	**1.92**	**161**	P	**Pn**	**18 40 28.9**	**+1.4**	
IMI				S	**Sn**	**18 40 49.8**	**-2.3**	
IMI	**Imperia**	**1.92**	**161**	Pn	**Pn**	**18 40 29.5**	**+1.9**	
	7.0nm,0.3s							
IMI				S	**Sn**	**18 40 49.8**	**-2.4**	
NEGI	**Negi**	**1.94**	**165**	P	**Pn**	**18 40 29.5**	**+1.6**	
NEGI	**Negi**	**1.94**	**165**	P	**Pn**	**18 40 29.5**	**+1.6**	
CALN	**Calern**	**1.98**	**183**	Pg	**Pg**	**18 40 35.0**	**+1.3**	
SMRF	**Simiane la Rot**	**2.03**	**211**	*e*Pn	**Pn**	**18 40 29.4**	**+0.2**	
SMRF				*e*Pg	**Pg**	**18 40 34.3**	**-0.4**	
SMRF				*e*Sg	**Sg**	**18 40 59.9**	**-1.9**	
	9.6nm,0.5s							
HINF	**Hinteralfeld**	**2.10**	**357**	*e*Pn	**Pn**	**18 40 30.3**	**+0.2**	
HINF				*e*Pg	**Pg**	**18 40 34.8**	**-1.3**	
HINF				*e*Sg	**Sg**	**18 41 00.7**	**-3.3**	
	34nm,0.3s							
HINF	**Hinteralfeld**	**2.10**	**357**	*e*P	**Pn**	**18 40 30.3**	**+0.2**	
HINF				*e*		18 41 00.7		
MOF	**Molkenrain**	**2.13**	**2**	Pg	**Pg**	**18 40 35.7**	**-1.0**	
FRF	**La Foret Royal**	**2.18**	**187**	*e*Pg	**Pg**	**18 40 36.7**	**-1.1**	
FRF				*e*Sg	**Sg**	**18 41 05.1**	**-1.7**	
	20nm,0.5s							
FELD	**Feldberg**	**2.26**	**17**	Pg	**Pg**	**18 40 37.9**	**-1.4**	
FELD				Sg	**Sg**	**18 41 07.0**	**-2.4**	
HAU	**Haudompre**	**2.33**	**349**	*e*Pn	**Pn**	**18 40 33.4**	**-0.1**	
HAU				*e*Pg	**Pg**	**18 40 39.2**	**-1.5**	
HAU				*e*Sg	**Sg**	**18 41 08.4**	**-3.3**	
	27nm,0.3s							
HAU	**Haudompre**	**2.33**	**349**	*e*P	**Pn**	**18 40 33.4**	**-0.1**	
HAU				*e*		18 41 08.4		
COLF	**Collangettes**	**2.34**	**266**	Pn	**Pn**	**18 40 35.6**	**+1.9**	
COLF				Sg	**Sg**	**18 41 10.2**	**-2.1**	
PLDF	**La Plantade**	**2.39**	**277**	Pg	**Pg**	**18 40 42.3**	**+0.4**	
PLDF	**La Plantade**	**2.39**	**277**	Pn	**Pn**	**18 40 37.7**	**+3.4**	
PLDF				Pg	**Pg**	**18 40 42.3**	**+0.4**	
PLDF	**La Plantade**	**2.39**	**277**	Pg	**Pg**	**18 40 42.3**	**+0.4**	
SMF	**Signal de Mont**	**2.39**	**294**	*e*Pg	**Pg**	**18 40 40.9**	**-1.1**	
SMF				*e*Sg	**Sg**	**18 41 11.1**	**-2.8**	
	17nm,0.2s							
LMR	**La Mourre**	**2.42**	**189**	*e*Pg	**Pg**	**18 40 41.2**	**-1.3**	
LMR				*e*Sg	**Sg**	**18 41 12.7**	**-2.1**	
	12nm,0.4s							
DAVA	**Damuels**	**2.52**	**51**	⇑*i*PN	**Pn**	**18 40 41.0**	**+4.8**	
DAVA				*i* SN	**Sn**	**18 41 16.2**	**+8.7**	
LOR	**Lormes**	**2.67**	**306**	*e*Pn	**Pn**	**18 40 38.8**	**+0.4**	
	baz=128							
LOR				*e*Pg	**Pg**	**18 40 45.5**	**-2.1**	
	baz=122							
LOR				*e*Sg	**Sg**	**18 41 19.4**	**-3.9**	
	14nm,0.3s							
LOR	**Lormes**	**2.67**	**306**	*e*P	**Pn**	**18 40 38.8**	**+0.4**	
LOR				*e*		18 41 19.4		
LOR	**Lormes**	**2.67**	**306**	*e*Pg	**Pg**	**18 40 45.5**	**-2.1**	
LOR				*e*Sg	**Sg**	**18 41 19.4**	**-3.9**	
	6.9nm,0.3s							
CDF	**Champ du Feu**	**2.69**	**4**	*e*Pn	**Pn**	**18 40 38.9**	**+0.2**	
CDF				*e*Pg	**Pg**	**18 40 45.7**	**-2.3**	
CDF				*e*Sg	**Sg**	**18 41 20.2**	**-3.8**	
	18nm,0.4s							
CDF	**Champ du Feu**	**2.69**	**4**	*e*P	**Pn**	**18 40 38.9**	**+0.2**	
CDF				*e*		18 41 20.2		
LBL	**Lubilhac**	**2.70**	**261**	Pn	**Pn**	**18 40 42.2**	**+3.4**	
AVF	**Avril sur Loir**	**2.76**	**294**	*e*Pn	**Pn**	**18 40 39.8**	**+0.2**	
AVF				*e*Pg	**Pg**	**18 40 47.6**	**-1.7**	
AVF				*e*Sg	**Sg**	**18 41 21.8**	**-4.3**	
	8.6nm,0.3s							
AVF	**Avril sur Loir**	**2.76**	**294**	*e*P	**Pn**	**18 40 39.8**	**+0.2**	
AVF				*e*		18 41 21.8		
SSF	**Saint Saulge**	**2.77**	**300**	*e*Pn	**Pn**	**18 40 40.4**	**+0.6**	
SSF				*e*Pg	**Pg**	**18 40 47.9**	**-1.7**	
SSF				*e*Sg	**Sg**	**18 41 23.6**	**-3.0**	
	9.8nm,0.3s							
SSF	**Saint Saulge**	**2.77**	**300**	*e*Pg

0.8nm,0.3s,baz=15,slow=9.7,SNR=11
FITZ LR LR 19 23 57.4
comp=Z,92nm,19.0s,baz=80,slow=38
MBWA Marble Bar 21.46 194 *e*P **P 19 17 33.4 -2.1**
17nm,1.1s,mb4.3
WRAB Tennant Creek 21.52 156 *i* P **P 19 17 35.2 -0.8**
WRAB Tennant Creek 21.52 156 *e*P **P 19 17 34.6 -1.4**
22nm,0.7s,mb4.7
WRA Warramunga Arr 21.52 156 P **P 19 17 34.5 -1.6**
3.5nm,0.5s,mb4.0,baz=333,slow=9.4,SNR=48
WB2 Warramunga Arr 21.53 156 *e*P **P 19 17 34.7 -1.4**
YHNB Yeheng 25.05 352 P **P 19 18 09.2 -1.4**
KULM Kulim 25.13 283 P **P 19 18 10.3 -1.2**
JOW Kunigami 27.08 6 P **P 19 18 32.4 +2.9**
28nm,0.9s,mb4.8,baz=186,slow=7.5,SNR=5.3
SSE Sheshan 31.40 353 P **P 19 19 08.3 +0.3**
SSE AP pP 19 19 17.0 -3.7
SSE PP PP 19 20 20.0 +7.3
SSE S **S 19 24 16.8 +6.0**
SSE AMB AMB
comp=Z,42nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,102nm,3.8s
SSE Sheshan 31.40 353 P **P 19 19 08.2 +0.2**
comp=Z,42nm,0.7s,mb5.4
SSE pP pP 19 19 16.9 -3.8
SSE sP sP 19 19 20.8 -6.1
SSE PP PP 19 20 20.0 +7.3
SSE S **S 19 24 16.8 +6.0**
SSE sS 19 24 31.9
SSE LR LR
comp=Z,60nm,21.5s,MS3.2
NJ2 Nanjing 32.68 350 *e*P **P 19 19 20.3 +1.2**
NJ2 PP PP 19 20 35.0 +5.8
NJ2 S **S 19 24 29.0 -1.8**
NJ2 AMB AMB
comp=Z,80nm,8.0s
NJ2 LR LR
comp=N,280nm,21.8s
NJ2 LR LR
comp=E,240nm,27.8s
NJ2 LR LR
comp=Z,220nm,24.0s,MS3.8
ENH Enshi 33.84 335 P **P 19 19 29.3 +0.2**
comp=Z,13nm,1.0s,mb4.8
STKA Stephens Creek 35.07 155⇑ *i*P **P 19 19 40.3 +0.6**
comp=Z,2.9nm,0.4s,mb4.6
STKA Stephens Creek 35.07 155 P **P 19 19 40.3 +0.6**
comp=Z,3.4nm,0.4s,mb4.6,baz=324,slow=7.8,SNR=14
STKA Stephens Creek 35.07 155 *e*P **P 19 19 39.8 +0.1**
KS15 Wonju Array Si 37.58 3 P **P 19 20 00.3 -0.5**
MAJO Matsushiro 38.54 17 *e*P **P 19 20 08.9 +0.1**
MAJO pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
MAJO Matsushiro 38.54 17 *e*P **P 19 20 08.9 +0.1**
comp=Z,8.6nm,0.6s,mb4.7
MAT Matsushiro 38.54 17 *e*P **P 19 20 09.0 +0.2**
MAT Matsushiro 38.54 17 P **P 19 20 08.7 -0.1**
MJAR Matsushiro Arr 38.54 17 P **P 19 20 09.0 +0.2**
comp=Z,3.2nm,0.6s,mb4.2,baz=193,slow=8.8,SNR=12
LSA Lhasa 44.05 316 *e*P **P 19 20 56.0 +1.8**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
LSA Lhasa 44.05 316 *e*P **P 19 20 56.0 +1.7**
comp=Z,6.7nm,0.6s,mb4.5
GTA Gaotai 45.80 332 P **P 19 21 09.8 +1.7**
GTA AP pP 19 21 19.0 -2.3
GTA AMB AMB
comp=Z,9.0nm,0.7s,mb4.8
GUN Gumba 46.95 310 *e*P **P 19 21 17.7 +0.4**
PKI Pulchoki 47.15 309 *e*P **P 19 21 18.1 -0.8**
KKN Kakani 47.36 309 *e*P **P 19 21 20.3 -0.2**
comp=Z,6.0nm,0.5s,mb4.8
DMN Daman 47.40 309 *e*P **P 19 21 19.8 -1.1**
GKN Gorkha 47.96 309 *e*P **P 19 21 24.5 -0.7**
comp=Z,14nm,0.6s,mb5.2
KOLN Koldanda 48.66 308 *e*P **P 19 21 29.8 -0.8**
comp=Z,24nm,0.7s,mb5.4
HIA Hailar 49.55 355 *e*P **P 19 21 36.9 -0.2**
HIA pmax pmax
comp=Z,5.0nm,0.5s
HIA Hailar 49.55 355 *e*P **P 19 21 36.9 -0.3**
comp=Z,4.5nm,0.5s,mb4.8
SONM Songino Array 50.61 344 P **P 19 21 44.9 -0.4**
comp=Z,2.3nm,0.7s,mb4.2,baz=161,slow=8.9,SNR=11
ZAK Zakamensk 53.80 343 *e*P **P 19 22 08.2 -0.9**
ZAK *e* 19 23 08.8
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
ZAK pmax pmax
comp=Z,1.0nm,1.2s,mb3.6
TLY Talaya 54.85 344⇓ *e*P **P 19 22 18.7 +1.9**
TLY pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
TLY Talaya 54.85 344 *e*P **P 19 22 15.8 -1.0**
comp=Z,6.9nm,1.0s,mb4.6
BOD Bodaibo 58.58 353 *e*P **P 19 22 42.4 -0.8**
BOD pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
MKAR Makanchi Array 59.99 327 *i* P **P 19 22 52.8 -0.4**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 59.99 327 P **P 19 22 52.0 -1.2**
comp=Z,5.6nm,0.6s,mb4.8,baz=121,slow=8.0,SNR=53
MKAR LR LR 19 49 20.7
comp=Z,41nm,18.2s,MS3.6,baz=267,slow=37
YAK Yakutsk 62.21 2 *e*P **P 19 23 07.6 -0.3**
YAK pmax pmax
comp=Z,27nm,0.8s,mb5.4
YAK Yakutsk 62.21 2 *e*P **P 19 23 07.6 -0.3**
comp=Z,27nm,0.8s,mb5.4
AAK Ala-Archa 62.33 320⇑ *e*P **P 19 23 09.0 +0.1**
AAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.5
AAK Ala-Archa 62.33 320 *e*P **P 19 23 08.8 -0.1**
comp=Z,3.1nm,0.6s,mb4.6
MA2 Magadan 62.91 14 *e*P **P 19 23 13.9 +1.3**
MA2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
MA2 Magadan 62.91 14 *e*P **P 19 23 13.6 +1.0**
comp=Z,7.9nm,0.7s,mb5.0
MA2 *e* pP 19 23 29.1 +2.8
ZAL Zalesovo 63.46 335 *i* P **P 19 23 17.0 +0.7**
ZAL pmax pmax
comp=Z,1.0nm,0.7s
ZAL Zalesovo 63.46 335 P **P 19 23 15.0 -1.3**
comp=Z,1.0nm,0.7s,mb4.1,baz=7.3,slow=5.2,SNR=7.9
ZAL Zalesovo 63.46 335 P **P 19 23 15.0 -1.3**
KURK Kurchatov 64.30 329 P **P 19 23 20.6 -1.2**
KURK pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
KURK Kurchatov 64.30 329 *e*P **P 19 23 20.2 -1.6**
comp=Z,11nm,0.6s,mb5.1
NVS Novosibirsk 64.75 335 *e*P **P 19 23 22.0 -2.7**
KKAR Karatay Array 65.14 319 *i* P **P 19 23 27.7 +0.3**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
SEY Seymchan 66.22 13 *i* P **P 19 23 35.8 +1.8**
CASY Casey 66.72 186 *e*P **P 19 23 37.9 +0.8**
comp=Z,4.7nm,0.9s,mb4.5
VOSK Vostochnaya 69.38 328 P **P 19 23 51.9 -1.9**
VOSK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BVA0 Borovoye Array 69.84 328 P **P 19 23 55.8 -0.8**
BVA0 pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
BVAR Borovoye Array 69.84 328 P **P 19 23 56.0 -0.6**
comp=Z,3.1nm,0.7s,mb4.4,baz=121,slow=8.6,SNR=22
BRVK Borovoye 69.91 328 *e*P **P 19 23 56.5 -0.6**
BRVK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BRVK Borovoye 69.91 328 *e*P **P 19 23 56.5 -0.6**
comp=Z,5.2nm,0.9s,mb4.5
AB31 Akbulak array 74.28 322 P **P 19 24 23.0 -0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ARU Arti 77.48 329⇑ *i*P **P 19 24 40.8 -0.3**
ARU *e* 19 27 35.0
ARU *e*S S 19 34 29.2 +2.3
ARU *e*SS SS 19 39 24.2 -5.2
ARU pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
ARU Arti 77.48 329 *e*P **P 19 24 40.3 -0.8**
comp=Z,8.1nm,1.0s,mb4.6
OPO Ambohidratompo 78.56 251 P **P 19 24 49.4 +1.6**
comp=Z,2.9nm,0.8s,mb4.2,baz=73,slow=10,SNR=5.6
VNDA Vanda 79.70 172 P **P 19 24 54.5 +1.5**
comp=Z,0.4nm,0.9s,baz=304,slow=5.7,SNR=2.2
GNI Garni 82.86 310 P **P 19 25 14.5 +4.4**
comp=Z,1.8nm,0.4s,mb4.5,baz=160,slow=12,SNR=2.8
GNI Garni 82.86 310 P **P 19 25 14.5 +4.4**
GOF Gofitskoye 84.63 315 *e*P **P 19 25 11.2 -7.8**
KIV Kislovodsk 84.78 314 *e*P **P 19 25 20.9 +1.2**
KIV pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
KIV pmax pmax
comp=N,3.0nm,0.9s
KIV pmax pmax
comp=E,3.0nm,0.7s
KIV Kislovodsk 84.78 314 *e*P **P 19 25 20.4 +0.7**
comp=E,6.0nm,0.6s,mb4.9
SOC Sochi 86.89 313 *e*P **P 19 25 29.1 -1.0**
SOC pmax pmax
comp=Z,19nm,0.8s,mb5.4
MALT Malatya 87.62 308 *e*P **P 19 25 35.6 +1.8**
MALT pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
MALT Malatya 87.62 308 *e*P **P 19 25 35.5 +1.8**
comp=Z,3.2nm,0.9s,mb4.5
KMBO Kilima Mbogo 87.95 269 P **P 19 25 38.2 +2.3**
comp=Z,1.8nm,0.5s,mb4.5,baz=60,slow=8.9,SNR=7.1
KMBO Kilima Mbogo 87.95 269 P **P 19 25 38.2 +2.3**
ANN Anapa 88.59 315 *e*P **P 19 25 37.7 -0.5**
ANN *e* 19 36 04.7
ANN pmax pmax
comp=Z,46nm,1.0s
ASF Jabal al Asfar 88.69 302 P **P 19 25 40.9 +1.8**
comp=Z,8.1nm,0.8s,mb5.1,baz=335,slow=1.6,SNR=12
ILAR Eielson Array 89.33 25 P **P 19 25 42.0 +0.8**
comp=Z,0.6nm,0.6s,mb4.1,baz=241,slow=5.2,SNR=5.9
OBN Obninsk 89.42 325 *e*P **P 19 25 42.0 +0.1**
OBN pmax pmax
comp=Z,9.0nm,0.5s,mb5.4
BRTR Keskin Array B 91.36 310 P **P 19 25 51.8 +0.4**
comp=Z,1.2nm,0.8s,mb4.3,baz=113,slow=4.4,SNR=6.4
AKASG Malin Array Be 93.99 321 *i* P **P 19 26 03.0 -0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 93.99 321 P **P 19 26 02.8 -0.3**
comp=Z,1.7nm,0.7s,mb4.6,baz=65,slow=5.2,SNR=7.0
MLR Muntele Rosu 96.67 316 P **P 19 26 16.1 +0.7**
comp=Z,2.0nm,0.7s,mb4.7,baz=139,slow=2.2,SNR=8.3
LSZ Lusaka 96.71 255 *e*P **P 19 26 17.2 +0.9**
LSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
LSZ Lusaka 96.71 255 *e*P **P 19 26 17.2 +0.9**
comp=Z,3.3nm,0.8s,mb4.8

*LDG **28** 19:46:44.7±0.1,46.63N×2.00W,h2km,Md2.8/3,Ml2.6/10, Error ellipse: s-maj=1.9km s-min=0.8km az=51.0*
*CSEM **28** 19:46:44.6±0.1,46.63N×1.99W,h10km,ML2.7/9,Error ellipse: s-maj=2.8km s-min=1.1km az=47.0*
*STR **28** 19:46:45.3±0.4,46.61N×1.94W,h5km±1km,Ml2.6,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **28** 19:46:45.3,46.61N×1.94W,h5km,ML2.6(LDG), ML2.4(STR),After STR.*
ISC 28 19:46:41.8±0.8,46.61N±0.04×2.03W±0.06,h14km±6km, n14,σ1°§16/28,Bay of Biscay

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LRYF	**La Roche-sur-Y**	**0.33**	**95**	Pg	**Pg**	**P**	**19 46 50.7**	**+1.7**
LRYF				Sg	**Sg**	**P**	**19 46 55.0**	**+1.2**
LCHF	**La Chataignera**	**0.89**	**86**	Pg	**Pg**	**P**	**19 47 01.1**	**+1.3**
LCHF				Sg	**Sg**	**P**	**19 47 12.2**	**+0.5**
CHIF	**Chize**	**1.22**	**112**	Pg	**Pg**	**P**	**19 47 07.1**	**+0.8**
CHIF				Sg	**Sg**	**P**	**19 47 23.6**	**+0.9**
MFF	**Saint Martin d**	**1.30**	**90**	*e*Pg	**Pg**	**P**	**19 47 08.5**	**+0.6**
MFF				*e*Sg	**Sg**	**P**	**19 47 24.4**	**-0.9**
	10nm,0.2s							
QUIF	**Quistinic**	**1.52**	**330**	*e*Pg	**Pg**	**P**	**19 47 13.0**	**+0.7**
QUIF				*e*Sg	**Sg**	**P**	**19 47 32.6**	**0.0**
	15nm,0.2s							
SGMF	**Saint Gilles**	**1.68**	**348**	*e*Pg	**Pg**	**P**	**19 47 16.1**	**+0.6**
SGMF				*e*Sg	**Sg**	**P**	**19 47 37.8**	**-0.2**
	16nm,0.3s							
ROSF	**Rostrenen**	**1.92**	**334**	*e*Pg	**Pg**	**P**	**19 47 19.9**	**-0.4**
ROSF				*e*Sg	**Sg**	**P**	**19 47 45.2**	**-0.8**
	4.0nm,0.2s							
GRR	**Gorron**	**1.95**	**24**	*e*Pn	**Pn**	**P**	**19 47 16.7**	**+1.8**
GRR				*e*Pg	**Pg**	**P**	**19 47 20.4**	**-0.4**
GRR				*e*Sg	**Sg**	**P**	**19 47 45.1**	**-1.7**
	6.2nm,0.2s							
FLN	**La Foliniere**	**2.39**	**25**	*e*Pg	**Pg**	**P**	**19 47 28.8**	**-0.9**
FLN				*e*Sg	**Sg**	**P**	**19 47 58.4**	**-3.2**
	10nm,0.5s							
LFF	**La Frestale**	**2.56**	**130**	*e*Pg	**Pg**	**P**	**19 47 31.9**	**-1.1**
LFF				*e*Sg	**Sg**	**P**	**19 48 05.0**	**-2.1**
	6.2nm,0.3s							
RJF	**Les Rejaudoux**	**2.80**	**117**	*e*Pg	**Pg**	**P**	**19 47 36.0**	**-1.7**
RJF				*e*Sn	**Sn**	**P**	**19 48 00.4**	**-0.4**
RJF				*e*Sg	**Sg**	**P**	**19 48 11.5**	**-3.5**
	5.0nm,0.2s							
CAF	**Calviac**	**3.32**	**119**	*e*Pn	**Pn**	**P**	**19 47 35.5**	**+1.0**
AVF	**Avril sur Loir**	**3.71**	**85**	*e*Pn	**Pn**	**P**	**19 47 40.7**	**+0.8**
EPF	**Esparros**	**3.96**	**154**	*e*Pn	**Pn**	**P**	**19 47 44.6**	**+1.1**
EPF				*e*Sn	**Sn**	**P**	**19 48 28.7**	**-1.4**
	4.2nm,0.7s							

*IDC **28** 19:47:21.9±0.4,0.13S×125.17E,mb4.9/26,mb1 4.9/27, mb1mx4.9/30,mbtmp4.9/27,ML4.5/1,MS4.0/12,Ms1 4.0/12, ms1mx3.7/27,Error ellipse: s-maj=19.8km s-min=10.6km az=65.0*
*BJI **28** 19:47:24.8,0.34S×125.28E,h39km,mB5.1,mb5.1,Ms4.3, Msz4.0*
*MOS **28** 19:47:26.5±1.2,0.25S×125.19E,h49km,mb5.2/26,Error ellipse: s-maj=13.6km s-min=5.9km az=115.4*
*HRVD **28** 19:47:26.8±0.3,0.41S×125.10E,h31km±1km,MW4.9/41, Centroid moment Tensor Solution. LP body waves: s29,c46;Mantle waves: s41,c75; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.14±.18; Mθθ-1.53±.11; Mφφ-0.60±.14; Mrθ0.81±.15; Mrφ-1.51±.08; Mθφ1.19±.20; Best double couple: M0:2.806×10^16^ NP1:φs247°,δ32°, λ112°. NP2:φs42°,δ61°,λ77°. Principal axes: T:2.6, Plg71°, Azm282°; N :.414, Plg11°, Azm48°; P :-3.013, Plg15°, Azm141°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 19:47:26.8±0.2,0.26S×125.17E,mb5.1/40 Error ellipse: s-maj=8.8km s-min=5.2km az=70.0*
*CSEM **28** 19:47:29.0,0.31S×125.33E,h80km,mb5.5*
ISC 28 19:47:25.9±0.2,0.28S±0.03×125.22E±0.05,h41km, h41km±3.6km:pP-P,n245,σ1°§21/232,mb5.1/87,MS4.0/18, 11C-6D,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**6.33**	**358**⇑	*i*P		**P**	**19 49 01.4**	**+2.3**
BUKP	**Musuan**	**8.11**	**359**	*e*P		**P**	**19 49 26.0**	**+2.1**
BUKP				*e*S		**S**	**19 50 59.4**	**+4.1**
IPIL	**Ipil**	**8.44**	**342**	*e*P		**P**	**19 49 28.9**	**+0.5**
IPIL				*e*S		**S**	**19 51 02.2**	**-1.3**
BUTP	**Butuan**	**9.20**	**2**	*e*P		**P**	**19 49 41.5**	**+2.5**
KKM	**Kota Kinabalu**	**10.97**	**305**	*e*Pn		**P**	**19 50 03.7**	**+0.4**
GUIM	**Jordan**	**11.15**	**346**	*e*P		**P**	**19 50 09.7**	**+3.9**
BATP	**Bataraza**	**11.66**	**321**	*e*P		**P**	**19 50 16.6**	**+3.9**
KAKA	**Kakadu**	**14.27**	**150**	*e*P		**P**	**19 50 50.1**	**+2.7**
	38nm,0.6s							
LUBP	**Lubang**	**14.77**	**341**	*e*P		**P**	**19 51 00.3**	**+6.4**
KSM	**Kuching**	**15.01**	**277**	*e*P		**P**	**19 50 56.9**	**-0.2**
POLP	**Polilio Island**	**15.26**	**348**	*e*P		**P**	**19 51 02.0**	**+1.7**
BALP	**Baler**	**16.32**	**347**	*e*P		**P**	**19 51 15.8**	**+2.0**
CAUP	**Cauayan**	**17.44**	**349**	*e*P		**P**	**19 51 29.7**	**+1.8**
FITZ	**Fitzroy Crossi**	**17.71**	**179**	*e*P		**P**	**19 51 31.4**	**+0.1**
	23nm,0.7s							
FITZ	**Fitzroy Crossi**	**17.71**	**179**	P		**P**	**19 51 31.2**	**-0.1**
	1.3nm,0.3s,baz=8.7,slow=8.1,SNR=20							
FITZ				LR		LR	19 58 36.9	
	comp=Z,264nm,20.4s,baz=2.6,slow=38							
ABRA	**Dolores**	**18.36**	**346**	*e*P		**P**	**19 51 38.7**	**-0.7**
APYP	**Conner**	**18.45**	**348**	*e*P		**P**	**19 51 39.9**	**-0.6**
MBWA	**Marble Bar**	**21.43**	**194**	*e*P		**P**	**19 52 13.0**	**+0.4**
	41nm,1.2s,mb4.6							
WRAB	**Tennant Creek**	**21.48**	**156**	*c i*P		**P**	**19 52 12.5**	**-0.6**
WRAB	**Tennant Creek**	**21.48**	**156**	*e*P		**P**	**19 52 11.4**	**-1.7**
	42nm,0.7s,mb4.9							
WRA	**Warramunga Arr**	**21.48**	**156**	P		**P**	**19 52 12.2**	**-0.9**
	17nm,0.9s,mb4.4,baz=333,slow=11,SNR=65							
WRA				S		**S**	**19 56 09.3**	**+5.4**
	5.8nm,1.1s,baz=335,slow=16,SNR=4.9							
WB2	**Warramunga Arr**	**21.49**	**156**	*e*P		**P**	**19 52 12.0**	**-1.2**
WB2				*e*S		**S**	**19 56 03.5**	**-0.5**
PMG	**Port Moresby**	**23.64**	**113**	*e*P		**P**	**19 52 33.2**	**-1.3**
PMG	**Port Moresby**	**23.64**	**113**	P		**P**	**19 52 34.2**	**-0.3**
	18nm,0.9s,mb4.5,baz=302,slow=14,SNR=3.1							
QIZ	**Qiongzhong**	**24.42**	**323**	*e*P		**P**	**19 52 42.3**	**+0.2**
QIZ	**Qiongzhong**	**24.42**	**323**	*e*P		**P**	**19 52 42.0**	**-0.1**
	68nm,1.3s,mb4.9							
YHNB	**Yeheng**	**25.08**	**352**	*e*P		**P**	**19 52 46.4**	**-2.0**
KULM	**Kulim**	**25.16**	**283**	*e*P		**P**	**19 52 47.7**	**-1.5**
JOW	**Kunigami**	**27.12**	**6**	P		**P**	**19 53 08.7**	**+1.4**
	50nm,0.5s,mb5.3,baz=195,slow=7.6,SNR=21							
JOW				LR		LR	20 03 04.2	
	comp=Z,270nm,21.4s,MS3.8,baz=82,slow=35							
CTA	**Charters Tower**	**28.48**	**135**	P		**P**	**19 53 21.1**	**+1.4**
	7.7nm,0.7s,mb4.4,baz=329,slow=7.5,SNR=5.0							
CTAO	**Charters Tower**	**28.48**	**135**	*e*P		**P**	**19 53 18.9**	**-0.7**
CTAO				pmax		pmax		
	comp=Z,18nm,1.1s,mb4.6							
CTAO	**Charters Tower**	**28.48**	**135**	*e*P		**P**	**19 53 18.9**	**-0.7**
	comp=Z,18nm,1.1s,mb4.6							
BDT	**Bhumibol Dam**	**31.15**	**305**	P		**P**	**19 53 42.0**	**-1.4**
SSE	**Sheshan**	**31.44**	**353**	P		**P**	**19 53 45.0**	**-0.8**
SSE				AP		pP	19 53 53.8	-3.2
SSE				XP		sP	19 53 57.5	-4.8
SSE				PCP		PcP	19 56 35.8	-2.7
SSE				S		**S**	**19 58 53.5**	**+4.0**
SSE				XS			19 59 08.5	
SSE				AMB		AMB		
	comp=Z,28nm,0.8s,mb5.1							
SSE				AMB		AMB		
	comp=Z,122nm,5.2s							
SSE				LR		LR		
	comp=N,152nm,22.4s,MS3.6							
SSE				LR		LR		
	comp=E,61nm,22.4s,MS3.6							
SSE				LR		LR		
	comp=Z,233nm,22.9s,MS3.8							
SSE	**Sheshan**	**31.44**	**353**	P		**P**	**19 53 45.0**	**-0.8**
	comp=Z,28nm,0.8s,mb5.1							
SSE				pP		pP	19 53 53.7	-3.4
SSE				sP		sP	19 53 57.6	-4.7
SSE				PcP		PcP	19 56 35.8	-2.7
SSE				S		**S**	**19 58 53.5**	**+4.0**
SSE				sS			19 59 08.6	
SSE				LR		LR		
	comp=Z,230nm,22.9s,MS3.8							
CBIJ	**Chichi jima**	**31.74**	**30**	P		**P**	**19 53 47.5**	**-0.9**
	comp=Z,35nm,0.5s,mb5.4,baz=272,slow=18,SNR=5.9							
KLBR	**Kellerberrin**	**31.93**	**192**	*e*P		**P**	**19 53 50.5**	**+0.4**
	comp=Z,44nm,1.4s,mb5.1							
GYA	**Guiyang**	**32.04**	**327**	P		**P**	**19 53 51.0**	**-0.1**
GYA				PCP		PcP	19 56 41.0	+0.8
GYA				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.8							
NJ2	**Nanjing**	**32.72**	**350**	*e*P		**P**	**19 53 55.8**	**-1.2**
NJ2				PP		PP	19 55 08.8	+1.8
NJ2				S		**S**	**19 59 06.0**	**-3.5**
NJ2				AMB		AMB		
	comp=Z,20nm,0.5s,mb5.3							
NJ2				AMB		AMB		
	comp=Z,130nm,5.2s							
NJ2				LR		LR		
	comp=N,170nm,19.2s							
NJ2				LR		LR		
	comp=E,290nm,13.2s							
NJ2				LR		LR		
	comp=Z,100nm,21.1s,MS3.5							
KMI	**Kunming**	**33.33**	**321**	P		**P**	**19 54 02.5**	**+0.2**
KMI				AP		pP	19 54 14.5	+0.9
KMI				XP		sP	19 54 19.3	+0.4
KMI				PP		PP	19 55 16.0	+1.3
KMI				PCP		PcP	19 56 42.3	-1.4
KMI				S		**S**	**19 59 21.0**	**+1.9**
KMI				XS			19 59 41.3	
KMI				SCP			20 00 22.3	
KMI				PCS			20 00 27.0	
KMI				SS		SS	20 01 27.0	+4.0
KMI				SCS		ScS	20 04 21.8	-1.1
KMI				AMB		AMB		
	comp=Z,12nm,1.4s,mb4.6							
KMI				LR		LR		
	comp=N,179nm,13.5s,MS4.1							
KMI				LR		LR		
	comp=E,163nm,13.8s,MS4.1							
KMI				LR		LR		
	comp=Z,211nm,17.6s,MS3.9							
KMI	**Kunming**	**33.33**	**321**	P		**P**	**19 54 02.5**	**+0.2**
KMI				*PP		pP	19 54 14.4	+0.8
KMI				*SP		sP	19 54 19.2	+0.3
KMI							19 55 16.1	
KMI				PPP		PPP	19 55 33.5	+2.1
KMI							19 56 42.2	
KMI				S		**S**	**19 59 21.1**	**+2.0**
KMI				*SS			19 59 41.2	
KMI				SS		SS	20 01 27.0	+4.0
KMI				SSS		SSS	20 01 52.8	+4.7
KMI							20 04 21.8	
KMI				pmax		pmax		
	comp=Z,12nm,1.4s,mb4.6							
KMI				MLR		MLR		
	comp=Z,210nm,17.6s,MS3.9							
KMI	**Kunming**	**33.33**	**321**	P		**P**	**19 54 02.5**	**+0.2**
	comp=Z,12nm,1.4s,mb4.6							
KMI				pP		pP	19 54 14.4	+0.8
KMI				sP		sP	19 54 19.2	+0.3
KMI				PP		PP	19 55 16.1	+1.4
KMI				PPP		PPP	19 55 33.5	+2.1
KMI				PcP		PcP	19 56 42.2	-1.5
KMI				S		**S**	**19 59 21.1**	**+2.0**
KMI				sS			19 59 41.2	
KMI				ScP			20 00 22.2	
KMI				PcS			20 00 27.1	
KMI				SS		SS	20 01 27.0	+4.0
KMI				SSS		SSS	20 01 52.8	+4.7
KMI				ScS		ScS	20 04 21.8	-1.1
KMI				LR		LR		
	comp=Z,210nm,17.6s,MS3.9							
NWAO	**Narrogin (SRO)**	**33.33**	**192**	P		**P**	**19 54 01.8**	**-0.5**
NWAO	**Narrogin (SRO)**	**33.33**	**192**	P		**P**	**19 54 02.5**	**+0.2**
	comp=Z,5.1nm,0.7s,mb4.5,baz=20,slow=12,SNR=2.6							
NWAO				LR		LR	20 09 41.5	
	comp=Z,143nm,19.2s,MS3.7,baz=128,slow=40							
JNU	**Nakatsue**	**33.65**	**9**	P		**P**	**19 54 05.1**	**+0.1**
	comp=Z,17nm,0.9s,mb5.0,baz=266,slow=2.8,SNR=7.9							
ENH	**Enshi**	**33.88**	**335**	*e*P		**P**	**19 54 04.5**	**-2.5**
	comp=Z,10nm,0.4s,mb5.1							
STKA	**Stephens Creek**	**35.03**	**155**⇑	*i*P		**P**	**19 54 17.7**	**+0.8**
	comp=Z,13nm,0.8s,mb4.9							
STKA	**Stephens Creek**	**35.03**	**155**	P		**P**	**19 54 17.7**	**+0.8**
	comp=Z,21nm,0.9s,mb5.0,baz=333,slow=9.2,SNR=20							
STKA	**Stephens Creek**	**35.03**	**155**	*e*P		**P**	**19 54 14.7**	**-2.2**
JHJ	**Hachijo jima 2**	**35.95**	**21**	LR		LR	20 08 45.0	
	comp=Z,63nm,18.9s,MS3.4,baz=41,slow=36							
XAN	**Xi'an**	**37.41**	**337**	P		**P**	**19 54 35.3**	**-1.7**
XAN				AMB		AMB		
	comp=Z,13nm,1.1s,mb4.7							
KS15	**Wonju Array Si**	**37.62**	**3**	*e*P		**P**	**19 54 39.0**	**+0.4**
MAJO	**Matsushiro**	**38.57**	**17**	*e*P		**P**	**19 54 46.9**	**+0.3**
MAJO				pmax		pmax		
	comp=Z,20nm,0.6s,mb5.0							
MAJO	**Matsushiro**	**38.57**	**17**	*e*P		**P**	**19 54 46.9**	**+0.3**
	comp=Z,20nm,0.6s,mb5.0							
MAT	**Matsushiro**	**38.57**	**17**	*e*P		**P**	**19 54 46.0**	**-0.6**
MAT				*e*S		PcP	19 57 03.0	+3.9
MAT				pmax		pmax		
	comp=Z,16nm,0.9s,mb4.8							
MAT	**Matsushiro**	**38.57**	**17**	*e*P		**P**	**19 54 46.0**	**-0.6**
	comp=Z,16nm,0.9s,mb4.8							
MAT				*e*S		PcP	19 57 03.0	+3.9
MAT	**Matsushiro**	**38.57**	**17**	P		**P**	**19 54 46.4**	**-0.2**
MJAR	**Matsushiro Arr**	**38.57**	**17**	P		**P**	**19 54 46.4**	**-0.2**
	comp=Z,12nm,0.6s,mb4.8,baz=193,slow=9.0,SNR=37							
MJAR				PcP		PcP	19 56 59.6	+0.4
	comp=Z,4.1nm,0.8s,baz=185,slow=3.3,SNR=6.4							
SHL	**Shillong**	**41.20**	**311**	*e*P		**P**	**19 55 10.0**	**+1.6**

comp=Z,39nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,120nm,4.4s
LZH LR LR
comp=E,490nm,15.0s
LZH LR LR
comp=Z,540nm,15.8s,MS4.5
LZH Lanzhou 41.29 333 *eP* **P 19 55 10.9 +1.8**
LZH *SP sP 19 55 24.0 -1.6
LZH pmax pmax
comp=Z,39nm,1.2s,mb4.9
LZH MLR MLR
comp=Z,540nm,15.8s,MS4.5
LZH Lanzhou 41.29 333 *eP* **P 19 55 10.9 +1.8**
comp=Z,39nm,1.2s,mb4.9
LZH pP pP 19 55 20.5 -0.1
LZH sP sP 19 55 24.0 -1.6
LZH PP PP 19 56 16.5 -31
LZH LR LR
comp=Z,540nm,15.8s,MS4.5
TOO Toolangi 41.55 155 *eP* **P 19 55 14.2 +2.9**
comp=Z,8.4nm,0.7s,mb4.5
TOO Toolangi 41.55 155 *eP* **P 19 55 14.2 +2.9**
TOO pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
SNY Shenyang 41.94 358 ⇓P **P 19 55 14.0 -0.4**
SNY XP sP 19 55 26.5 -4.5
SNY AMB AMB
comp=Z,20nm,0.5s,mb5.0
SNY AMB AMB
comp=Z,100nm,9.0s
SNY LR LR
comp=E,280nm,19.0s
SNY LR LR
comp=Z,180nm,21.5s,MS3.9
HHC Hu-ho-hao-te 42.78 345 *eP* **P 19 55 23.8 +2.5**
HHC AP pP 19 55 36.5 +3.6
HHC XP sP 19 55 41.0 +3.1
HHC PP PP 19 57 07.5 +4.2
HHC PCP PcP 19 57 12.3 -0.5
HHC SCP 20 00 59.8
HHC PCS 20 01 05.8
HHC S **S 20 01 47.3 +5.2**
HHC SCS ScS 20 05 18.0 +1.5
HHC AMB AMB
comp=Z,10.0nm,1.2s,mb4.4
HHC LR LR
comp=N,149nm,21.3s,MS4.0
HHC LR LR
comp=E,142nm,18.9s,MS4.0
HHC LR LR
comp=Z,160nm,21.3s,MS3.9
CN2 Changchun 43.89 0 *eP* **P 19 55 29.5 -0.8**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
LSA Lhasa 44.09 316 *eP* **P 19 55 31.0 -1.1**
LSA pmax pmax
comp=Z,32nm,0.6s,mb5.2
LSA Lhasa 44.09 316 *eP* **P 19 55 31.0 -1.1**
comp=Z,32nm,0.6s,mb5.2
MDJ Mudanjiang 44.87 4 P **P 19 55 38.3 +0.1**
MDJ AMB AMB
comp=Z,19nm,0.7s,mb5.0
MDJ AMB AMB
comp=Z,102nm,4.0s
MDJ Mudanjiang 44.87 4 *eP* **P 19 55 37.4 -0.8**
comp=Z,14nm,0.6s,mb5.0
DZM Mont Dzumac 45.61 121 P **P 19 55 44.7 +0.3**
comp=Z,11nm,1.0s,mb4.7,baz=347,slow=19,SNR=4.0
JIRN Jiri 46.63 310 *eP* **P 19 55 51.9 -0.4**
comp=Z,51nm,0.4s,mb5.8
GUN Gumba 46.99 310 *eP* **P 19 55 54.5 -0.6**
PKI Pulchoki 47.19 309 *eP* **P 19 55 55.7 -1.0**
comp=Z,28nm,0.5s,mb5.4
KKN Kakani 47.39 309 *eP* **P 19 55 57.2 -1.1**
comp=Z,30nm,0.4s,mb5.6
DMN Daman 47.44 309 *eP* **P 19 55 58.1 -0.6**
comp=Z,40nm,0.6s,mb5.5
GKN Gorkha 47.99 309 *eP* **P 19 56 02.8 -0.2**
comp=Z,48nm,0.3s,mb6.0
KOLN Koldanda 48.69 308 *eP* **P 19 56 07.4 -1.0**
comp=Z,80nm,0.6s,mb6.0
HYB Hyderabad 49.18 293 *eP* **P 19 56 10.5 -1.8**
HYB Hyderabad 49.18 293 *i* P **P 19 56 10.5 -1.8**
YSS Yuzh-Sakhalins 49.49 16 P **P 19 56 14.2 -0.1**
YSS pmax pmax
comp=Z,13nm,0.8s,mb5.0
YSS Yuzh-Sakhalins 49.49 16 P **P 19 56 14.2 -0.1**
comp=Z,13nm,0.8s,mb5.0
HIA Hailar 49.58 355 *eP* **P 19 56 15.2 +0.2**
HIA pmax pmax
comp=Z,18nm,0.8s
HIA Hailar 49.58 355 *eP* **P 19 56 15.2 +0.2**
comp=Z,18nm,0.8s,mb5.2
SONM Songino Array 50.65 344 P **P 19 56 21.8 -1.3**
comp=Z,7.1nm,0.6s,mb4.8,baz=156,slow=8.5,SNR=29
SONM PcP PcP 19 57 39.2 -1.2
comp=Z,2.4nm,0.7s,baz=160,slow=5.3,SNR=2.6
SONM LR LR 20 18 39.8
comp=Z,150nm,19.3s,MS4.0,baz=76,slow=37
LGTI Lohaghat 52.08 309 *eP* **P 19 56 33.0 -1.2**
CIT Chita 53.04 351 *eP* **P 19 56 41.6 +0.6**
CIT *e* pP 19 56 54.5 +1.7
CIT *e* 19 57 49.2
CIT pmax pmax
comp=Z,29nm,1.2s,mb5.1
ZAK Zakamensk 53.84 343 *eP* **P 19 56 45.3 -1.7**
ZAK *e* 19 57 51.8
ZAK *e* 19 59 57.2
ZAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ZAK pmax pmax
comp=Z,1.0nm,1.0s
ZAK pmax pmax
comp=Z,1.0nm,1.0s
DDI Dehra Dun 54.17 309 *eP* **P 19 56 43.0 -6.7**
TLY Talaya 54.89 344 *eP* **P 19 56 53.2 -1.5**
TLY pmax pmax
comp=Z,15nm,0.9s,mb5.0
TLY MLR MLR
comp=Z,121nm,20.0s,MS4.0
TLY Talaya 54.89 344 *eP* **P 19 56 53.9 -0.8**
comp=Z,18nm,0.9s,mb5.1
WMQ Urumqi 55.20 328 P **P 19 56 57.5 +0.5**
WMQ AP pP 19 57 10.3 +1.4
WMQ XP sP 19 57 15.5 +1.8
WMQ PP PP 19 59 02.8 +0.7
WMQ S **S 20 04 36.0 +0.3**
WMQ XS 20 04 57.3
WMQ AMB AMB
comp=Z,17nm,0.9s,mb5.1
WMQ AMB AMB
comp=Z,133nm,5.4s
WMQ LR LR
comp=N,183nm,15.0s,MS4.4
WMQ LR LR
comp=E,177nm,15.4s,MS4.4
WMQ LR LR
comp=Z,205nm,8.2s
IRK Irkutsk 55.22 344 *eP* **P 19 56 56.6 -0.5**
IRK *e* 19 57 59.1
IRK pmax pmax
comp=Z,16nm,1.3s,mb4.9
MOY Mondy 55.66 342 *eP* **P 19 57 00.6 +0.4**
MOY pmax pmax
comp=Z,21nm,1.2s,mb5.0
THN Thein Dam 56.87 310 *eP* **P 19 57 06.0 -3.2**
CLNS Chul'man 56.94 360 *eP* **P 19 57 07.3 -2.0**
CLNS pmax pmax
comp=Z,20nm,0.6s,mb5.3
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.6s
RPZ Rata Peaks 59.43 143 P **P 19 57 27.1 +0.2**
comp=E,5.1nm,0.5s,mb4.8,baz=261,slow=7.0
RPZ LR LR 20 23 09.9
comp=E,291nm,21.7s,MS4.4,baz=9.0,slow=36
KSH Kashi 59.88 317 *eP* **P 19 57 32.0 +1.9**
KSH *eAP* pP 19 57 42.0 0.0
KSH *eXP* sP 19 57 46.5 -0.3
KSH *ePCP* PcP 19 58 17.5 +1.6
KSH *ePP* PP 19 59 47.0 +2.7
KSH *ePCS* 20 02 17.3
KSH *eS* **S 20 05 40.3 +3.2**
KSH *eXS* 20 05 58.0
KSH AMB AMB
comp=Z,110nm,6.0s
MKAR Makanchi Array 60.03 327 P **P 19 57 29.0 -2.0**
comp=Z,21nm,0.5s,mb5.4,baz=121,slow=8.7,SNR=100
MKAR PcP PcP 19 58 16.0 -0.5
comp=Z,5.4nm,0.9s,baz=135,slow=6.9,SNR=3.7
MKAR LR LR 20 25 01.9
comp=Z,205nm,20.0s,MS4.3,baz=169,slow=38
ULHL Ulahol 61.05 320 P **P 19 57 38.7 +0.7**
SNR=7.2
KZA Kyzart 61.61 320 P **P 19 57 43.0 +1.3**
SNR=21
TKM2 Tokmak 2 61.80 321 P **P 19 57 41.9 -1.1**
SNR=31
KBK Karagaybulak 62.09 320 P **P 19 57 46.5 +1.6**
SNR=13
YAK Yakutsk 62.24 2 *eP* **P 19 57 45.2 -0.5**
YAK *e**PP pP 19 58 09.0 +11
YAK *e* 19 58 21.1
YAK *e* 20 00 00.6
YAK *eS* **S 20 06 08.3 +1.4**
YAK *e* 20 06 46.0
YAK *e* 20 07 30.8
YAK *eSS SS 20 10 05.7 -6.6
YAK pmax pmax
comp=Z,19nm,0.8s,mb5.3
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK smax
comp=N,7.0nm,1.2s
YAK smax
comp=E,5.0nm,1.3s
YAK Yakutsk 62.24 2 *eP* **P 19 57 45.0 -0.7**
comp=E,64nm,0.6s,mb5.9
AAK Ala-Archa 62.37 320 P **P 19 57 47.5 +0.7**
SNR=8.9
AAK Ala-Archa 62.37 320 P **P 19 57 47.3 +0.5**
AAK pmax pmax
comp=Z,12nm,0.8s,mb5.1
AAK Ala-Archa 62.37 320 *eP* **P 19 57 45.9 -0.9**
comp=Z,10nm,0.6s,mb5.1
CHMS Chumysh 62.38 320 P **P 19 57 46.4 -0.5**
SNR=6.7
AML Almayashu 62.65 319 P **P 19 57 50.7 +2.0**
SNR=5.3
USP Ospenovka 62.67 320 P **P 19 57 47.4 -1.4**
SNR=28
EKS2 Erkin-Say 62.84 320 P **P 19 57 50.1 +0.1**
SNR=20
MA2 Magadan 62.94 14 *eP* **P 19 57 51.1 +0.7**
MA2 *e* 19 58 07.8
MA2 pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
MA2 pmax pmax
comp=N,5.0nm,0.7s
MA2 Magadan 62.94 14 *eP* **P 19 57 50.7 +0.3**
comp=N,19nm,0.6s,mb5.4
ZAL Zalesovo 63.50 335 *i* P **P 19 57 53.1 -1.1**
ZAL pmax pmax
comp=Z,4.0nm,0.4s
ZAL Zalesovo 63.50 335 P **P 19 57 51.9 -2.3**
comp=Z,3.7nm,0.4s,mb4.8,baz=348,slow=7.0,SNR=25
KURK Kurchatov 64.34 329 P **P 19 57 57.5 -2.2**
KURK pmax pmax
comp=Z,15nm,0.7s,mb5.1
KURK Kurchatov 64.34 329 *eP* **P 19 57 57.2 -2.5**
comp=Z,42nm,0.6s,mb5.7
NVS Novosibirsk 64.79 335⇑ *iP* **P 19 57 59.0 -3.5**
NVS *eS* **S 20 06 33.7 -5.0**
NVS pmax pmax
comp=Z,24nm,1.5s,mb5.0
NVS pmax pmax
comp=E,16nm,1.3s
NVS smax
comp=E,11nm,1.5s
KKAR Karatay Array 65.18 319 *i* P **P 19 58 03.1 -2.2**
SEY Seymchan 66.25 13 *eP* **P 19 58 12.9 +1.1**
SEY *e* pP 19 58 27.1 +3.2
SEY *e* 20 07 26.1
SEY pmax pmax
comp=E,4.0nm,0.8s
SEY pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
SEY Seymchan 66.25 13⇑ *eP* **P 19 58 12.6 +0.8**
CASY Casey 66.68 186 P **P 19 58 13.2 -1.2**
comp=Z,9.2nm,1.0s,mb4.8
VOSK Vostochnaya 69.42 328 *i* P **P 19 58 29.6 -2.1**
BVA0 Borovoye Array 69.88 328 *i* P **P 19 58 32.2 -2.3**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BVAR Borovoye Array 69.88 328 P **P 19 58 32.6 -1.8**
comp=Z,7.2nm,0.5s,mb4.9,baz=135,slow=8.4,SNR=50
BRVK Borovoye 69.95 328 *eP* **P 19 58 33.1 -1.8**
BRVK pmax pmax
comp=Z,39nm,1.1s,mb5.2
BRVK Borovoye 69.95 328 *eP* **P 19 58 33.1 -1.8**
comp=Z,39nm,1.1s,mb5.2
AB31 Akbulak array 74.32 322 *i* P **P 19 58 59.5 -1.4**
ARU Arti 77.53 329⇓ *iP* **P 19 59 18.4 -0.6**
ARU *e* 19 59 26.0
ARU *e* 20 02 13.4
ARU *eS S 20 09 07.9 +2.2
ARU *eSS SS 20 14 07.9 -0.3
ARU pmax pmax
comp=Z,20nm,1.1s,mb5.0
ARU Arti 77.53 329 *eP* **P 19 59 17.3 -1.7**
comp=Z,26nm,1.0s,mb5.1
UNV Unalaska Valle 77.56 34 *eP* **P 19 59 20.4 +1.1**
comp=Z,257nm,1.5s,mb5.9
MAW Mawson 79.49 200 LR LR 20 31 24.8
comp=Z,92nm,18.7s,MS4.2,baz=251,slow=33
VNDA Vanda 79.67 172 *eP* **P 19 59 31.3 +0.9**
VNDA pmax pmax
comp=Z,3.0nm,1.0s
VNDA Vanda 79.67 172 P **P 19 59 31.8 +1.4**
comp=Z,1.1nm,0.7s,baz=305,slow=7.0,SNR=7.0
VNDA LR LR 20 33 16.5
comp=Z,87nm,21.8s,baz=326,slow=34
VNDA Vanda 79.67 172 *eP* **P 19 59 31.3 +0.9**
comp=Z,3.2nm,1.0s,mb4.2
SBA Scott Base 80.60 172 *eP* **P 19 59 33.5 -1.8**
SBA pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
SBA Scott Base 80.60 172 *eP* **P 19 59 33.5 -1.9**
comp=Z,9.4nm,1.4s,mb4.5
DJNS Zahran al Janu 82.16 288 P **P 19 59 45.5 +0.9**
TATS Tathlith 82.31 290 P **P 19 59 46.1 +0.7**
DGRG David-gareji 82.57 312 P **P 19 59 47.8 +1.5**
ATD Arta Tunnel 82.58 282 P **P 19 59 48.8 +2.0**
comp=Z,5.9nm,0.4s,mb4.9,baz=123,slow=23,SNR=6.5
GNI Garni 82.90 310 *iP* **P 19 59 49.3 +1.4**
GNI Garni 82.90 310 P **P 19 59 49.6 +1.6**
comp=Z,3.9nm,0.4s,mb4.8,baz=247,slow=6.6,SNR=5.2
GNI LR LR 20 43 00.5
comp=Z,41nm,20.7s,MS3.8,baz=252,slow=40
GNI Garni 82.90 310 *eP* **P 19 59 49.1 +1.2**
comp=Z,28nm,0.8s,mb5.3
TBLG Delisi 83.08 312 P **P 19 59 49.9 +1.0**
BLJS Baljurashi 84.10 290 P **P 19 59 55.9 +1.4**
ONI Oni 84.12 313 P **P 19 59 55.3 +1.1**
HILS Ha'il 84.29 297 P **P 19 59 56.1 +0.7**
GOF Gofitskoye 84.67 315⇑ *iP* **P 19 59 56.5 -0.3**
GOF pmax pmax
comp=Z,60nm,2.7s,mb5.2
KIV Kislovodsk 84.81 314 *eP* **P 19 59 58.3 +0.7**
KIV pmax pmax
comp=Z,22nm,0.7s,mb5.4
KIV Kislovodsk 84.81 314 *eP* **P 19 59 58.3 +0.7**
comp=Z,22nm,0.7s,mb5.4
LTHS Al Lith 85.23 290 P **P 20 00 01.7 +1.5**
KBRS Khaybar 86.48 296 P **P 20 00 08.1 +1.9**
IMA Indian Mountai 86.64 24 *eP* **P 20 00 07.5 +1.5**
IMA pmax pmax
comp=Z,35nm,0.8s,mb5.6
IMA Indian Mountai 86.64 24 *eP* **P 20 00 07.5 +1.5**
comp=Z,35nm,0.8s,mb5.6
SOC Sochi 86.93 313 *eP* **P 20 00 07.1 -0.9**
SOC *eS* S 20 10 33.8 -7.8
SOC pmax pmax
comp=Z,52nm,1.1s,mb5.7
SOC pmax pmax
comp=N,9.0nm,0.7s
SOC pmax pmax
comp=E,6.0nm,0.9s
SLKM Skilak Lake 87.55 30 *eP* **P 20 00 10.7 +0.1**
YNBS Yanbu' al Bahr 87.59 294 P **P 20 00 13.1 +1.5**
MALT Malatya 87.65 308 *eP* **P 20 00 13.1 +1.5**
MALT pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
MALT Malatya 87.65 308 *eP* **P 20 00 13.1 +1.5**
comp=Z,8.2nm,0.8s,mb5.0
VOR Voronezh 87.75 322 *eP* **P 20 00 11.0 -0.7**
VOR pmax pmax
comp=E,60nm,1.3s
VOR pmax pmax
comp=Z,90nm,1.3s,mb5.8
KMBO Kilima Mbogo 87.97 269 *i* P **P 20 00 15.9 +2.2**
KMBO pmax pmax
comp=Z,10.0nm,0.6s
KMBO Kilima Mbogo 87.97 269 P **P 20 00 15.6 +2.0**
comp=Z,9.9nm,0.6s,mb5.2,baz=58,slow=7.8,SNR=28
KMBO LR LR 20 33 46.3
comp=Z,146nm,20.7s,MS4.4,baz=97,slow=32
SYO Syowa Base 88.17 201⇑P **P 20 00 13.5 +0.2**
UMJS Umm Lajj 88.23 295 P **P 20 00 15.9 +1.2**
QURS Qurayyt al Mil 88.35 301 P **P 20 00 16.6 +1.5**
MCK McKinley 88.40 26 *eP* **P 20 00 14.1 -0.4**
MCK pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
MCK McKinley 88.40 26 *eP* **P 20 00 14.1 -0.5**
comp=Z,5.3nm,0.9s,mb4.8
SML Sawmill 88.56 28 *eP* **P 20 00 15.5 +0.2**
ANN Anapa 88.62 315 *eP* **P 20 00 14.8 -1.3**
ANN *e* 20 10 37.2
ANN pmax pmax
comp=Z,127nm,0.8s
ASF Jabal al Asfar 88.73 302 P **P 20 00 18.1 +1.2**
comp=Z,28nm,0.8s,mb5.6,baz=324,slow=1.9,SNR=36
MOS Moscow 88.87 326 *eP* **P 20 00 15.3 -1.7**
MOS pmax pmax
comp=Z,51nm,0.8s,mb5.9
TBKS Tabuk 88.96 298 P **P 20 00 19.4 +1.3**
ILAR Eielson Array 89.35 25 P **P 20 00 18.3 -0.7**
comp=Z,1.9nm,0.6s,mb4.6,baz=244,slow=5.2,SNR=21
OBN Obninsk 89.46 325*c* *iP* **P 20 00 19.2 -0.6**
OBN pmax pmax
comp=Z,92nm,1.5s,mb5.9
OBN Obninsk 89.46 325 *eP* **P 20 00 19.0 -0.7**
comp=Z,42nm,0.8s,mb5.8
JMQS Jabal Moqyreh 89.56 299 P **P 20 00 22.0 +1.1**
KSHT Keshet 89.66 303 P **P 20 00 22.2 +0.9**
MKRJ Makawir 89.79 301 P **P 20 00 23.4 +1.5**
MMLI Mount Malkishu 89.98 302 P **P 20 00 23.6 +0.8**
ZFRI Zfri 90.18 300 P **P 20 00 24.3 +0.5**
HNTI Hanita 90.19 303 P **P 20 00 24.3 +0.5**
SLTI Sal'it 90.30 302 P **P 20 00 24.8 +0.5**
PRNI Paran 90.33 300 P **P 20 00 25.1 +0.6**
OFRI 'Ofer 90.35 302 P **P 20 00 24.8 +0.3**
EIL Elat 90.37 300 P **P 20 00 25.0 +0.3**
MBH Mount Berech 90.41 300 P **P 20 00 25.3 +0.5**
KMTI Karmit 90.57 300 P **P 20 00 25.9 +0.3**
KZIT Kziot 90.85 301 P **P 20 00 27.0 +0.1**
SIM Simferopol' 90.98 315 *eP* **P 20 00 26.9 -0.3**
SIM pmax pmax
comp=Z,26nm,0.7s,mb5.7
BRTR Keskin Array B 91.40 310 P **P 20 00 28.9 -0.4**
comp=Z,3.9nm,0.7s,mb4.9,baz=124,slow=4.5,SNR=17
CSS Prodhromos 91.71 305 *eP* **P 20 00 28.5 -2.3**
comp=Z,37nm,0.9s,mb5.7
ARCES ARCESS Array B 93.67 340 P **P 20 00 38.0 -0.9**
comp=Z,2.2nm,0.5s,mb4.9,baz=79,slow=6.2,SNR=9.3
AKASG Malin Array Be 94.03 321 P **P 20 00 40.1 -0.8**
comp=Z,5.7nm,0.7s,mb5.1,baz=68,slow=4.5,SNR=37
INK Inuvik 94.42 21 *eP* **P 20 00 42.8 +0.4**
comp=Z,14nm,1.1s,mb5.3
KAF Kangasniemi 94.43 332 *ep* **P 20 00 39.3 -3.2**
comp=Z,1.8nm,0.5s,mb4.8
KAF Kangasniemi 94.43 332 *eP* **P 20 00 39.3 -3.2**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.8
FINES FINESS Array B 94.63 332 P **P 20 00 42.1 -1.3**
comp=Z,1.8nm,0.7s,mb4.6,baz=45,slow=5.8,SNR=6.1
TIRR Tirgusor 95.07 314 ⇓P **P 20 00 45.0 -0.9**
VRI Vrincioaia 96.13 316 ⇓P **P 20 00 50.9 +0.3**
MLR Muntele Rosu 96.71 316 P **P 20 00 52.4 -0.9**
comp=Z,9.0nm,0.7s,mb5.3,baz=230,slow=0.4,SNR=24
MLR Muntele Rosu 96.71 316⇑P **P 20 00 54.0 +0.7**
MLR Muntele Rosu 96.71 316⇑P **P 20 00 54.0 +0.7**
LSZ Lusaka 96.71 255 *eP* **P 20 00 53.7 -0.3**
LSZ pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
LSZ Lusaka 96.71 255 *eP* **P 20 00 53.6 -0.3**
comp=Z,7.9nm,0.8s,mb5.2
BURAR Bucovina Array 96.96 318 ⇓P **P 20 00 55.1 +0.7**
BURAR Bucovina Array 96.96 318 ⇓P **P 20 00 55.1 +0.7**
SUW Suwalki 97.30 324 *eP* **P 20 00 55.7 -0.1**
SUW Suwalki 97.30 324 *eP* **P 20 00 55.7 0.0**
KWP Kalwaria 98.32 320 *eP* **P 20 01 01.4 +0.9**
KWP Kalwaria 98.32 320 *eP* **P 20 01 01.4 +1.0**
IDI Anoyia 98.60 306 P **P 20 01 01.8 -0.3**
comp=Z,6.5nm,0.5s,mb5.4,baz=232,slow=18,SNR=8.4
BOSA Boshof 98.62 241 LR LR 20 39 18.5
comp=Z,141nm,21.5s,MS4.4,baz=41,slow=32
KOLS Kolonicke sedl 98.71 319 *eP* **P 20 01 01.0 -1.3**
KOLS *e* 20 05 10.0
KOLS Kolonicke sedl 98.71 319 PDIF **P 20 01 01.0 -1.3**
KOLS *e* 20 05 10.0
DRGR 98.77 317⇑P **P 20 01 03.6 +1.0**
KECS Kecovo 99.96 319 *eP* **P 20 01 00.9 -7.1**
KECS Kecovo 99.96 319 *e* **P 20 01 00.9 -7.1**
OJC Ojcow 100.06 321 *eP* P 20 01 08.3 -0.1
HFS Hagfors 100.83 332 P P 20 01 10.3 -1.4
comp=Z,0.6nm,0.4s,baz=108,slow=4.7,SNR=6.6
NB2 NORSAR Subarra101.67 333 P P 20 01 13.3 -2.1
comp=Z,0.5nm,0.7s,baz=66,slow=4.6
NB2 NORSAR Subarra101.67 333 P P 20 01 13.3 -2.1
NB2 pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 101.67 333 P P 20 01 12.5 -2.8
comp=Z,0.9nm,0.8s,baz=78,slow=4.5,SNR=3.6
BRG Berggiesshubel 103.52 323 *eP* Pdif 20 01 24.5 +0.7
BRG pmax pmax
comp=Z,7.0nm,1.2s
BRG Berggiesshubel 103.52 323 *eP* Pdif 20 01 24.5 +0.7
comp=Z,6.6nm,1.2s
GERES GERESS Array B 104.24 321 Pdiff Pdif 20 01 27.2 +0.2
comp=Z,0.8nm,0.8s,baz=76,slow=5.5,SNR=7.6
GERES PKiKP 20 05 44.7
comp=Z,0.5nm,0.6s,baz=45,slow=1.9,SNR=5.2
DAVOX Davos 107.32 319 Pdiff Pdif 20 01 40.4 -0.2
comp=Z,3.1nm,0.7s,baz=21,slow=8.6,SNR=4.0
PDAR Pinedale Array 115.34 42 PKKPab 20 16 44.5
comp=Z,0.6nm,0.8s,baz=106,slow=6.6,SNR=3.5
MNTX Cornudas Mount 122.93 52 *e*PKPdf PKPdf 20 06 21.8 +3.3
SCHQ Schefferville 124.74 8 PKP PKPdf 20 06 23.8 +2.4
comp=Z,5.3nm,0.5s,baz=5.9,slow=2.1,SNR=9.8
TXAR Lajitas Array 125.21 54 PKP PKPdf 20 06 25.6 +2.7
comp=Z,0.5nm,0.3s,baz=270,slow=3.6,SNR=5.1
DBIC Dimbokro 129.80 278 PKP PKPdf 20 06 35.0 +2.8
comp=Z,3.9nm,0.5s,baz=57,slow=3.0,SNR=18
DBIC Dimbokro 129.80 278 *e*PKPdf PKPdf 20 06 34.7 +2.5
PLCA Paso Flores 136.73 162 PKP PKPdf 20 06 47.4 +3.0
comp=Z,3.3nm,1.0s,baz=251,slow=5.2,SNR=4.6
PLCA Paso Flores 136.73 162 PKP PKPdf 20 06 47.4 +3.0
JTS JuntasAbangare 148.39 71 *e*PKPdf PKPdf 20 07 05.7 +0.2
LVC Limon Verde 153.40 150 PKPbc PKPdf 20 07 24.4 +12
comp=Z,4.0nm,0.6s,baz=242,slow=2.4,SNR=8.1
LVC Limon Verde 153.40 150 *e*PKPbc PKPdf 20 07 23.7 +11
CPUP Villa Florida 153.43 175 PKP PKPdf 20 07 16.7 +3.9
comp=Z,2.2nm,1.0s,baz=133,slow=5.2,SNR=3.4
CPUP PKPbc PKPdf 20 07 24.0 +11
comp=Z,3.4nm,0.6s,baz=156,slow=4.0,SNR=10
CPUP Villa Florida 153.43 175 *e*PKPdf PKPdf 20 07 15.6 +2.9
CPUP *e*PKPbc PKPdf 20 07 23.7 +11
LPAZ La Paz 158.91 142 PKP PKPdf 20 07 24.8 +4.7
comp=Z,1.6nm,1.0s,baz=344,slow=5.6,SNR=3.7
LPAZ PKPab PKPab 20 08 02.0 +3.2
comp=Z,2.1nm,0.8s,baz=198,slow=4.7,SNR=6.7
LPAZ La Paz 158.91 142 *e*PKPdf PKPdf 20 07 24.2 +4.0
SIV San Ignacio 162.68 159 PKP PKPdf 20 07 27.5 +3.4
comp=Z,1.5nm,0.8s,baz=229,slow=4.2,SNR=8.3

*NEIC **28** 20:06:10.9*S *0.5, 43.75*N*× 105.29*W*, ML 3.4, Error ellipse: s-maj=6.6km s-min=6.0km az=143.0, Suspected Mining explosion.*

NEIC 60 km [40 miles] SSE of Gillette.
*IDC **28** 20:06:11.7±0.9, 44.13N×105.87W, mb4.4/1, mb1 4.0/7, mb1mx3.7/26, mbtmp3.8/7, ML3.4/5, MS3.5/4, Ms1 3.5/4, ms1mx2.8/33, Error ellipse: s-maj=22.3km s-min=8.9km az=143.0*

ISC 28 20:06:09.1±0.5, **43.76N**±0.04×**105.26W**±0.06, **n40, σ0§93/36, mb4.6/1, MS3.8/3, Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.96**	**67**	*eP*	**Pg**	**20 06 30.1**	**+1.9**
PHWY	**Pilot Hill**	**2.46**	**183**	*eP*	**Pn**	**20 06 51.6**	**+0.6**
RWWY	**Rawlins**	**2.52**	**215**	*eP*	**Pn**	**20 06 53.6**	**+1.7**
LAO	**LASA Array**	**3.01**	**347**	P	**Pn**	**20 07 00.7**	**+1.7**
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**20 07 02.4**	**-0.6**
	1.6nm,0.3s,baz=59,slow=31,SNR=24						
PDAR				Pg	**Pg**	**20 07 09.9**	**-4.9**
	12nm,0.3s,baz=66,slow=20,SNR=42						
PDAR				Lg		20 07 48.9	
	16nm,0.3s,baz=257,slow=9.5,SNR=13						
BW06	**Boulder Array**	**3.29**	**254**	P	**Pn**	**20 07 04.2**	**+1.3**
GCMT	**Greycliff**	**3.74**	**304**	P	**Pn**	**20 07 07.4**	**-2.0**
LKWY	**Lake**	**3.79**	**284**	P	**Pn**	**20 07 10.4**	**+0.5**
LOHW	**Long Hollow**	**3.88**	**270**	*eP*	**Pn**	**20 07 12.1**	**+0.8**
MOOW	**Moose Ponds**	**3.97**	**272**	*eP*	**Pn**	**20 07 13.3**	**+0.7**
SNOW	**Snow King Moun**	**4.00**	**268**	P	**Pn**	**20 07 13.1**	**+0.1**
YNR	**Norris Junctio**	**4.01**	**286**	P	**Pn**	**20 07 14.3**	**+1.2**
YFT	**Old Faithful**	**4.08**	**282**	P	**Pn**	**20 07 14.3**	**+0.3**
REDW	**Red Top Meadow**	**4.08**	**266**	*eP*	**Pn**	**20 07 14.6**	**+0.4**
IMW	**Indian Meadow**	**4.11**	**274**	*eP*	**Pn**	**20 07 15.0**	**+0.4**
TPAW	**Teton Pass**	**4.14**	**268**	*eP*	**Pn**	**20 07 15.2**	**+0.2**
RRI2	**Red Ridge**	**4.42**	**267**	*eP*	**Pn**	**20 07 18.7**	**-0.3**
QLMT	**Earthquake Lak**	**4.56**	**286**	P	**Pn**	**20 07 21.2**	**+0.3**
SMCO	**Snowmass**	**4.75**	**196**	P	**Pn**	**20 07 23.1**	**-0.6**
DGMT	**Dagmar**	**4.77**	**9**	P	**Pn**	**20 07 23.7**	**-0.3**
BOZ	**Bozeman (W)**	**4.92**	**295**	*eP*	**Pn**	**20 07 25.2**	**-0.8**
HWUT	**Hardware Ranch**	**5.12**	**247**	*eP*	**Pn**	**20 07 28.4**	**-0.5**
HRY	**Holter Researc**	**5.50**	**305**	P	**Pn**	**20 07 34.0**	**-0.3**
SDCO	**Great Sand Dun**	**6.01**	**182**	*eP*	**Pn**	**20 07 41.2**	**-0.2**
	19nm,0.4s						
PV10	**Paradox Valley**	**6.08**	**209**	P	**Pn**	**20 07 41.6**	**-0.9**
PV01	**Paradox Valley**	**6.15**	**205**	P	**Pn**	**20 07 43.5**	**+0.1**
TMUT	**Trail Mountain**	**6.30**	**227**	*eP*	**Pn**	**20 07 44.0**	**-1.6**
CHMT	**Chamberlain Mo**	**6.46**	**302**	*eP*	**Pn**	**20 07 47.7**	**-0.1**
HLID	**Hailey**	**6.64**	**271**	P	**Pn**	**20 07 49.5**	**-0.9**
ELK	**Elko**	**7.99**	**251**	Pn	**Pn**	**20 08 09.2**	**0.0**
	0.2nm,0.3s,baz=40,slow=12,SNR=5.8						
ANMO	**Albuquerque**	**8.84**	**186**	Pn	**P**	**20 08 26.8**	**+5.7**
	baz=57,slow=14,SNR=12						
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**P**	**20 08 23.0**	**-2.0**
	2.3nm,0.3s,baz=235,slow=11,SNR=9.6						
ULM				Lg		20 10 52.5	
	0.6nm,0.3s,baz=284,slow=19,SNR=2.2						
NEW	**Newport**	**9.40**	**303**	Lg		20 10 40.2	
	1.5nm,0.3s,baz=134,slow=22,SNR=7.2						
NVAR	**Mina Array Bea**	**11.18**	**246**	Pn	**P**	**20 08 53.4**	**+0.1**
	0.2nm,0.3s,baz=68,slow=9.7,SNR=3.5						
YBH	**Yreka Blue Hor**	**12.99**	**267**	LR	LR	20 14 34.2	
	comp=Z,36nm,20.3s,baz=130,slow=40						
TXAR	**Lajitas Array**	**14.45**	**174**	Pn	**P**	**20 09 44.0**	**+7.1**
	0.1nm,0.3s,baz=13,slow=12,SNR=2.3						
TXAR				Pg	P	20 10 42.4	+65
	0.0nm,0.3s,baz=14,slow=15,SNR=4.3						
ARCES	**ARCESS Array B**	**61.40**	**18**	P	**P**	**20 16 27.6**	**-1.1**
	4.9nm,1.0s,mb4.6,baz=328,slow=8.5,SNR=4.2						
FINES	**FINESS Array B**	**68.01**	**23**	LR	LR	20 46 25.7	
	comp=Z,53nm,18.2s,MS3.8,baz=318,slow=36						
CBIJ	**Chichi jima**	**86.31**	**304**	LR	LR	20 54 22.8	
	comp=Z,28nm,18.8s,MS3.7,baz=293,slow=34						
DBIC	**Dimbokro**	**92.89**	**78**	LR	LR	21 04 11.6	
	comp=Z,52nm,18.6s,MS4.0,baz=62,slow=37						

*BJI **28** 20:09:50.4, 5.96S×155.02E, h124km, mB5.0, mb4.5*
*NEIC **28** 20:09:52.3±0.4, 5.85S×154.68E, mb4.8/9, Error ellipse: s-maj=9.4km s-min=9.1km az=46.0*
*IDC **28** 20:09:52.3±0.6, 5.87S×154.60E, h111km±4km, mb4.1/13, mb1 4.2/16, mb1mx4.1/20, mbtmp4.5/16, MS3.6/5, Ms1 3.6/5, ms1mx3.3/19, Error ellipse: s-maj=15.6km s-min=13.8km az=76.0*

ISC 28 20:09:51.2±0.4, **5.88S**±0.06×**154.69E**±0.07, **h114**km, **h114**km±4.2km:**pP-P, n45**, **σ1§03/44, mb4.5**/19, **2C, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.29**	**124**	P	**P**	**20 11 24.1**	**+1.2**
	4.1nm,0.3s,baz=262,slow=4.4,SNR=3.9						
HNR				S	**S**	**20 12 40.2**	**+6.4**
	5.9nm,0.3s,baz=10.0,slow=23,SNR=3.9						
HNR				LR	LR	20 13 14.9	
	comp=Z,200nm,21.0s,baz=303,slow=32						
HNR	**Honiara**	**6.29**	**124**	*e*Pn	**P**	**20 11 23.3**	**+0.5**
	70nm,0.8s						
PMG	**Port Moresby**	**8.25**	**244**	P	**P**	**20 11 51.6**	**+2.2**
	30nm,0.3s,baz=31,slow=8.4,SNR=56						
PMG				S	**S**	**20 13 26.1**	**+4.7**
	11nm,0.3s,baz=176,slow=20,SNR=6.4						
PMG				LR	LR	20 14 43.4	
	comp=Z,144nm,20.5s,baz=42,slow=36						
PMG	**Port Moresby**	**8.25**	**244**	*e*Pn	**P**	**20 11 50.8**	**+1.5**
	289nm,0.8s						
CTA	**Charters Tower**	**16.33**	**209**	P	**P**	**20 13 36.6**	**+1.5**
	0.3nm,0.3s,baz=23,slow=12,SNR=6.6						
CTA				LR	LR	20 18 49.6	
	comp=Z,125nm,18.4s,baz=28,slow=33						
CTAO	**Charters Tower**	**16.33**	**209**	*e*Pn	**P**	**20 13 36.1**	**+0.9**
NOUC	**Port Laguerre**	**19.65**	**146**	*eP*	**P**	**20 14 12.4**	**-1.0**
DZM	**Mont Dzumac**	**19.71**	**146**	*eP*	**P**	**20 14 13.5**	**-0.4**
DZM	**Mont Dzumac**	**19.71**	**146**	P	**P**	**20 14 13.4**	**-0.6**
	3.6nm,0.3s,baz=347,slow=11,SNR=44						
WRAB	**Tennant Creek**	**24.21**	**233**	*eP*	**P**	**20 14 59.4**	**+0.9**
	54nm,0.7s,mb5.0						
WB2	**Warramunga Arr**	**24.21**	**233**	*eP*	**P**	**20 14 59.0**	**+0.5**
WRA	**Warramunga Arr**	**24.22**	**233**	P	**P**	**20 14 59.2**	**+0.6**
	35nm,0.7s,mb4.8,baz=54,slow=9.5,SNR=183						
WRA				ScP		20 22 03.5	
	0.9nm,0.8s,baz=61,slow=2.9,SNR=5.3						
STKA	**Stephens Creek**	**28.62**	**204**	*eP*	**P**	**20 15 37.7**	**-1.4**
	4.0nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**28.62**	**204**	P	**P**	**20 15 37.6**	**-1.4**
	6.3nm,0.9s,mb4.2,baz=21,slow=11,SNR=8.1						
FITZ	**Fitzroy Crossi**	**30.85**	**244**	⇑*iP*	**P**	**20 15 57.6**	**-1.3**
	28nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**30.85**	**244**	P	**P**	**20 15 56.2**	**-2.7**
	38nm,0.8s,mb5.2,baz=90,slow=3.8,SNR=32						
FITZ				pP	pP	20 16 23.5	-0.7
	22nm,0.8s,baz=91,slow=5.3,SNR=2.5						
AFI	**Afiamalu**	**33.95**	**106**	P	**P**	**20 16 26.7**	**+0.9**
	18nm,0.7s,mb5.0,baz=321,slow=14,SNR=3.4						
MBWA	**Marble Bar**	**37.11**	**242**	*eP*	**P**	**20 16 51.3**	**-1.1**
	12nm,0.8s,mb4.9						
KKM	**Kota Kinabalu**	**40.19**	**286**	*eP*	**P**	**20 17 18.1**	**+0.1**
RPZ	**Rata Peaks**	**40.34**	**162**	P	**P**	**20 17 18.6**	**-0.5**
	17nm,0.9s,mb4.9,baz=105,slow=3.5,SNR=6.7						
JHJ	**Hachijo jima 2**	**41.28**	**341**	LR	LR	20 30 37.9	
	comp=Z,544nm,21.7s,baz=274,slow=30						
KLBR	**Kellerberrin**	**42.98**	**229**	⇑*iP*	**P**	**20 17 39.6**	**-1.2**
	24nm,1.0s,mb4.9						
YHNB	**Yeheng**	**44.43**	**314**	P	**P**	**20 17 50.6**	**-2.0**
KSM	**Kuching**	**44.92**	**278**	*eP*	**P**	**20 17 56.5**	**-0.2**
NJ2	**Nanjing**	**50.87**	**320**	*eP*	**P**	**20 18 42.5**	**-0.1**
NJ2				AP	pP	20 19 11.5	+1.8
NJ2				XP	sP	20 19 25.5	+3.2
NJ2				PCP	PcP	20 19 57.0	-0.8
NJ2				S	**S**	**20 25 48.0**	**-0.4**
NJ2				XS		20 26 39.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,150nm,4.6s						
NJ2				LR	LR		
	comp=N,170nm,9.8s						
NJ2				LR	LR		
	comp=E,160nm,13.8s						
NJ2				LR	LR		
	comp=Z,80nm,13.0s						
KMI	**Kunming**	**59.15**	**304**	P	**P**	**20 19 44.3**	**+1.8**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.6						
KMI	**Kunming**	**59.15**	**304**	P	**P**	**20 19 44.2**	**+1.7**
	comp=Z,7.0nm,1.1s,mb4.6						
KMI				pP	pP	20 20 07.3	-3.1
HHC	**Hu-ho-hao-te**	**61.02**	**324**	*eP*	**P**	**20 19 56.3**	**+1.2**
HHC				AP	pP	20 20 26.5	+3.4
HHC				PCP	PcP	20 20 32.5	-4.3
HHC				XP	sP	20 20 40.8	+5.0
HHC				SCP		20 24 20.0	
HHC				SCS	ScS	20 29 30.3	-0.8
HHC				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.6						
HHC				AMB	AMB		
	comp=Z,117nm,11.8s						
HHC				LR	LR		
	comp=N,152nm,16.6s						
HHC				LR	LR		
	comp=E,145nm,17.8s						
HHC				LR	LR		
	comp=Z,78nm,17.8s						
HIA	**Hailar**	**62.79**	**335**	P	**P**	**20 20 06.7**	**-0.1**
	comp=Z,3.3nm,0.5s,mb4.5						
SONM	**Songino Array**	**68.24**	**327**	P	**P**	**20 20 41.8**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.7,baz=117,slow=4.2,SNR=5.4						
SONM				pP	pP	20 21 09.8	-0.3
	comp=Z,1.1nm,0.9s,baz=101,slow=6.3,SNR=3.7						
SONM				sP	sP	20 21 20.7	-1.9
	comp=Z,1.0nm,0.7s,baz=149,slow=7.2,SNR=2.8						
VNDA	**Vanda**	**71.70**	**178**	P	**P**	**20 21 01.5**	**-0.6**
	comp=Z,1.7nm,1.1s,mb3.8,baz=337,slow=7.2,SNR=5.2						
VNDA	**Vanda**	**71.70**	**178**	*eP*	**P**	**20 21 01.6**	**-0.6**
	comp=Z,3.7nm,1.2s,mb4.1						
WMQ	**Urumqi**	**77.81**	**317**	*eP*	**P**	**20 21 38.0**	**+0.4**
MKAR	**Makanchi Array**	**82.37**	**319**	P	**P**	**20 22 02.0**	**+0.2**
	comp=Z,0.7nm,0.7s,mb3.6,baz=102,slow=5.9,SNR=7.4						
MKAR				pP	pP	20 22 29.9	-1.5
	comp=Z,1.3nm,0.9s,baz=101,slow=6.2,SNR=4.2						
MKAR				sP	sP	20 22 41.5	-2.5
	comp=Z,2.0nm,0.8s,baz=101,slow=6.2,SNR=5.6						
MKAR	**Makanchi Array**	**82.37**	**319**	P	**P**	**20 22 02.0**	**+0.2**
MKAR				pP	pP	20 22 29.9	-1.5
MKAR				sP	sP	20 22 41.5	-2.5
ILAR	**Eielson Array**	**82.45**	**22**	P	**P**	**20 22 01.1**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=260,slow=6.2,SNR=4.0						
ILAR				pP	pP	20 22 29.2	-2.2
	comp=Z,0.3nm,0.7s,baz=239,slow=5.3,SNR=1.8						
ILAR				LR	LR	20 55 34.8	
	comp=Z,38nm,19.9s,baz=180,slow=33						
ZAL	**Zalesovo**	**83.10**	**326**	P	**P**	**20 22 05.0**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.7,baz=17,slow=7.4,SNR=3.6						
ZAL				sP	sP	20 22 46.5	-1.1
	comp=Z,1.1nm,0.9s,baz=16,slow=6.0,SNR=3.3						
ZAL	**Zalesovo**	**83.10**	**326**	P	**P**	**20 22 05.0**	**-0.4**
ZAL				sP	sP	20 22 46.5	-1.1
MAW	**Mawson**	**85.31**	**203**	P	**P**	**20 22 16.4**	**+0.3**
	comp=Z,3.4nm,0.7s,mb4.4,baz=109,slow=8.5,SNR=6.2						
BVAR	**Borovoye Array**	**91.23**	**323**	P	**P**	**20 22 43.6**	**-1.1**
	comp=Z,1.7nm,1.0s,mb4.1,baz=127,slow=7.4,SNR=5.0						
NVAR	**Mina Array Bea**	**91.27**	**52**	P	**P**	**20 22 47.7**	**+2.4**
	comp=Z,1.6nm,0.8s,mb4.2,baz=245,slow=5.9,SNR=8.4						
NVAR	**Mina Array Bea**	**91.27**	**52**	P	**P**	**20 22 47.7**	**+2.4**
NOA	**NORSAR Array B**	**118.55**	**341**	PP	PP	20 29 39.8	-9.1
	comp=Z,0.6nm,0.8s,baz=46,slow=7.8,SNR=3.4						
ESLA	**Sonseca Array**	**141.24**	**333**	*e*PKPdf	PKPdf	20 29 12.4	+3.7
BDFB	**Brasilia**	**148.97**	**134**	PKPbc	PKPdf	20 29 27.8	+5.3
	comp=Z,1.6nm,0.4s,baz=170,slow=7.5,SNR=4.4						

*CSEM **28** 20:17:28.1, 36.92N×8.83E, h10km, MD2.9, After SBS*
*TUN **28** 20:17:28.1, 36.92N×8.83E, h10km, MD2.9*

CRAAG 28 20:18:07.8, 36.77N×7.29E, MI2.2, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAH	**Djebel Manchou**	**0.18**	**144**	P	Pg	20 18 12.0	+0.7
CAEH	**'Ain El Ouahch**	**0.35**	**272**	P	Pg	20 18 16.5	+1.6
ABSA	**Djebel Ababsia**	**0.52**	**163**	P	Pg	20 18 20.1	+2.0
GHAT	**Ghardimaou**	**0.86**	**108**	*i* P	Pg	20 17 44.0	-41
BLIT	**Baltah**	**1.33**	**92**	*i* P	Pb	20 17 34.5	-59
KRIT	**Krib**	**1.50**	**106**	*i* P	Pn	20 17 44.6	-51

*MOS **28** 20:26:39.6±1.0, 36.36N×70.67E, h181km, mb4.7/20, Error ellipse: s-maj=9.8km s-min=5.6km az=84.5*
*BJI **28** 20:26:44.2, 36.76N×70.63E, h220km, mB4.4, mb4.6*
*NEIC **28** 20:26:45.4±0.3, 36.48N×70.73E, mb4.6/31, Error ellipse: s-maj=7.1km s-min=6.2km az=153.0*
*IDC **28** 20:26:45.9±0.6, 36.48N×70.79E, h227km±4km, mb3.9/17, mb1 4.1/19, mb1mx4.0/22, mbtmp4.6/19, Error ellipse: s-maj=11.6km s-min=9.7km az=2.0*
*NNC **28** 20:26:50.7±2.6, 37.09N×70.54E, h224km±17km, mpv4.7, Error ellipse: s-maj=20.6km s-min=18.2km az=4.0*

ISC 28 20:26:43.2±0.3, **36.45N**±0.02×**70.74E**±0.03, **h215**km±3km, **h224**km±2.0km:**pP-P, n177**, **σ1§14**/205, **mb4.4**/48, **20C-6D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.79**	**160**	⇓P	**P**	**20 27 38.7**	**+6.9**
CHCP	**Chirah Chowk**	**3.47**	**143**	⇑P	**P**	**20 27 41.8**	**+2.0**
THW	**Thamme Wali**	**3.74**	**167**	⇑P	**P**	**20 27 44.2**	**+1.2**
SBDP	**Sheikh Budin**	**4.14**	**179**	P	**P**	**20 27 48.0**	**+0.1**
SBDP	**Sheikh Budin**	**4.14**	**179**	⇑P	**P**	**20 27 55.7**	**+7.8**
DRP	**Derazinda**	**4.72**	**186**	⇑P	**P**	**20 27 55.7**	**+0.6**
SARP	**Sargodha**	**4.80**	**160**	⇑P	**P**	**20 27 56.8**	**+0.7**
SARP				S	**S**	**20 28 51.0**	**-1.7**
JMU	**Jammu**	**5.07**	**136**	*e*	**P**	**20 28 17.5**	**+18**
JMU				*eS*	**S**	**20 28 58.0**	**-0.8**
KSH	**Kashi**	**5.14**	**52**	⇓*iP*	**P**	**20 28 02.3**	**+1.9**
KSH				S	**S**	**20 29 00.5**	**0.0**
KSH				Smax			
	comp=N,1μm,0.8s						
KSH				Smax			
	comp=E,2μm,0.4s						
THN	**Thein Dam**	**5.74**	**133**	*eP*	**P**	**20 28 08.9**	**+0.8**
THN				*eS*	**S**	**20 29 14.0**	**-0.2**
DLH	**Dalhousie**	**5.82**	**131**	*eP*	**P**	**20 28 09.0**	**-0.1**
DLH				*eS*	**S**	**20 29 15.0**	**-0.9**
AML	**Almayashu**	**6.11**	**21**	P	**P**	**20 28 13.2**	**+0.3**
	SNR=677						
PONG	**Pong**	**6.23**	**135**	*eP*	**P**	**20 28 16.0**	**+1.7**
PONG				*e*		20 29 26.0	
UCH	**Uchtor**	**6.46**	**26**	P	**P**	**20 28 18.0**	**+0.7**
	SNR=30						
KZA	**Kyzart**	**6.62**	**31**	P	**P**	**20 28 19.6**	**+0.2**
	SNR=56						
EKS2	**Erkin-Say**	**6.63**	**20**	P	**P**	**20 28 19.6**	**+0.1**
	SNR=47						
KK31	**Karatay Array**	**6.64**	**359**	P	**P**	**20 28 18.9**	**-0.8**
	comp=E,19nm,0.3s,baz=201,slow=14,SNR=602						
KK31				⇑S	**S**	**20 29 28.4**	**-6.5**
	comp=E,140nm,0.5s,baz=189,slow=18,SNR=16						
KKAR	**Karatay Array**	**6.64**	**359**	PN	**P**	**20 28 18.9**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.2s						
AAK	**Ala-Archa**	**6.82**	**24**	P	**P**	**20 28 22.4**	**+0.4**
	SNR=46						
AAK	**Ala-Archa**	**6.82**	**24**	⇑P	**P**	**20 28 22.3**	**+0.4**
	comp=Z,47nm,0.5s						
AAK				⇑S	**S**	**20 29 36.1**	**-2.9**
	comp=Z,534nm,1.0s						
AAK	**Ala-Archa**	**6.82**	**24**	*e*PN	**P**	**20 28 21.0**	**-0.9**
AAK				pmax	pmax		
	comp=Z,69nm,0.5s						
AAK	**Ala-Archa**	**6.82**	**24**	*e*Pn	**P**	**20 28 21.0**	**-0.9**
	comp=Z,69nm,0.5s						
AAK				*e*Sn		20 29 19.9	
KBK	**Karagaybulak**	**6.99**	**26**	P	**P**	**20 28 24.7**	**+0.5**
	SNR=30						
FRU	**Bishkek**	**7.04**	**24**	*e*PN	**P**	**20 28 24.8**	**0.0**
FRU				pmax	pmax		
	comp=Z,50nm,1.6s						
SDNR	**Sundarnagar**	**7.15**	**132**	*eP*	**P**	**20 28 26.0**	**-0.3**
SDNR				*eS*	**S**	**20 29 43.6**	**-3.2**
ULHL	**Ulahol**	**7.18**	**35**	P	**P**	**20 28 26.6**	**0.0**
	SNR=31						
CHMS	**Chumysh**	**7.23**	**24**	P	**P**	**20 28 27.1**	**-0.1**
	SNR=17						
USP	**Ospenovka**	**7.39**	**22**	P	**P**	**20 28 29.5**	**+0.1**
	SNR=66						
TKM2	**Tokmak 2**	**7.46**	**29**	P	**P**	**20 28 30.5**	**+0.2**
	SNR=120						
SMLA	**Simla**	**7.54**	**133**	⇓*iP*	**P**	**20 28 30.3**	**-0.9**
SMLA				*i* S	**S**	**20 29 52.8**	**-2.9**
KLP	**Kalpa**	**7.93**	**126**	*eP*	**P**	**20 28 37.9**	**+1.5**
KLP				AMb	AMB	20 28 40.6	
	comp=Z,323nm,0.4s						
KLP				*eS*	**S**	**20 30 00.5**	**-4.4**
DDI	**Dehra Dun**	**8.65**	**133**	*e*	**S**	**20 30 23.4**	**+2.1**
RTK	**Rohtak**	**8.81**	**146**	*eP*	**P**	**20 28 47.2**	**-0.5**
RTK				AMb	AMB	20 28 50.5	
	comp=Z,111nm,0.4s						
NDI	**New Delhi**	**9.48**	**143**	*eP*	**P**	**20 28 55.2**	**-1.1**
	comp=Z,18nm,0.5s						
NDI				*eP*		20 28 57.2	
NDI				AMb	AMB	20 28 58.0	
	comp=Z,127nm,0.3s						
NDI				*eS*	**S**	**20 30 35.0**	**-5.5**
JASL	**Jaisalmer**	**9.50**	**179**	*eP*	**P**	**20 28 55.7**	**-1.0**
AYAN	**Aya Nagar**	**9.60**	**144**	*eP*	**P**	**20 28 58.1**	**+0.1**
AYAN				AMb	AMB	20 28 59.5	
	comp=Z,14nm,0.7s						
SONA	**Sohna**	**9.78**	**145**	*eP*	**P**	**20 28 60.0**	**-0.3**
SONA				AMb	AMB	20 29 01.3	
	comp=Z,31nm,0.1s						
SONA				*eS*	**S**	**20 30 42.5**	**-5.0**
AJM	**Ajmer**	**10.49**	**160**	*eP*	**P**	**20 29 09.3**	**-0.1**
AJM				AMb	AMB	20 29 11.6	
	comp=Z,174nm,0.1s						
AJM				*eS*	**S**	**20 30 59.8**	**-4.1**
PTH	**Pithoragarh**	**10.52**	**128**	*eP*	**P**	**20 29 09.8**	**+0.1**
PTH				*eS*	**S**	**20 31 01.8**	**-2.8**
LGTI	**Lohaghat**	**10.60**	**128**	*eS*	**S**	**20 31 03.0**	**-3.6**
MK31	**Makanchi Array**	**13.45**	**36**	P	**P**	**20 29 46.1**	**-0.5**
	comp=Z,46nm,0.9s,baz=232,slow=7.6,SNR=221						
MK31				⇑S	**S**	**20 32 13.3**	**+1.7**
	comp=Z,26nm,1.2s						
MKAR	**Makanchi Array**	**13.45**	**36**	*i* P	**P**	**20 29 46.1**	**-0.5**
MKAR				S	**S**	**20 32 13.3**	**+1.7**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MKAR				smax			
	comp=E,133nm,1.7s						
MKAR	**Makanchi Array**	**13.45**	**36**	P	**P**	**20 29 45.9**	**-0.7**
	comp=E,1.9nm,0.3s,baz=225,slow=14,SNR=86						
MKAR	**Makanchi Array**	**13.45**	**36**	P	**P**	**20 29 45.9**	**-0.7**
KOLN	**Koldanda**	**13.91**	**125**	*eP*	**P**	**20 29 53.2**	**+0.8**
	comp=E,44nm,0.3s						
KOLN				*eS*	**S**	**20 32 21.7**	**-0.2**
BHPL	**Bhopal**	**14.38**	**154**	*eP*	**P**	**20 30 02.5**	**+4.2**
BHPL				AMb	AMB	20 30 04.2	
	comp=Z,63nm,0.9s						
GKN	**Gorkha**	**14.46**	**122**	*eP*	**P**	**20 30 00.2**	**+1.0**
	comp=Z,114nm,0.3s						
GKN				*eS*	**S**	**20 32 31.0**	**-3.2**
WMQ	**Urumqi**	**14.89**	**55**	P	**P**	**20 30 04.5**	**0.0**
WMQ				S	**S**	**20 32 44.5**	**+0.6**
WMQ				PCP	PcP	20 35 03.3	+3.3
WMQ				SCP		20 38 16.5	
WMQ				SCS	ScS	20 41 53.3	+4.5
WMQ				AMB	AMB		
	comp=Z,28nm,0.9s						
AB31	**Akbulak array**	**15.02**	**332**	⇑P	**P**	**20 30 03.9**	**-2.1**
	comp=Z,6.7nm,0.4s						
AB31				⇓S	**S**	**20 32 41.3**	**-5.4**
	comp=Z,9.6nm,0.8s						
AB31	**Akbulak array**	**15.02**	**332**	P	**P**	**20 30 03.9**	**-2.1**
AB31				S	**S**	**20 32 41.3**	**-5.5**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AB31				smax			
	comp=E,1.0nm,0.3s						
DMN	**Daman**	**15.03**	**122**	*eP*	**P**	**20 30 07.4**	**+1.2**
	comp=E,65nm,0.3s						
DMN				*eS*	**S**	**20 32 46.1**	**-0.9**
KKN	**Kakani**	**15.03**	**121**	*eP*	**P**	**20 30 07.3**	**+1.0**
	comp=E,235nm,0.5s						
KKN				*eS*	**S**	**20 32 45.8**	**-1.3**
PKI	**Pulchoki**	**15.26**	**121**	*eP*	**P**	**20 30 10.0**	**+0.9**
	comp=E,137nm,0.6s						
PKI				*eS*	**S**	**20 32 50.5**	**-1.7**
KURK	**Kurchatov**	**15.34**	**19**	⇑P	**P**	**20 30 08.4**	**-1.5**
	comp=E,18nm,0.9s						
KURK				⇑S	**S**	**20 32 51.7**	**-2.1**
	comp=E,18nm,1.1s						
KURK	**Kurchatov**	**15.34**	**19**	P	**P**	**20 30 08.3**	**-1.6**
KURK				pmax	pmax		
	comp=Z,16nm,0.9s						
KURK	**Kurchatov**	**15.34**	**19**	*eP*	**P**	**20 30 07.8**	**-2.1**
	comp=Z,31nm,0.9s						
GUN	**Gumba**	**15.38**	**119**	*eP*	**P**	**20 30 11.6**	**+1.1**
VOSK	**Vostochnaya**	**16.27**	**1**	⇑P	**P**	**20 30 19.7**	**-1.4**
	comp=Z,69nm,0.7s						
VOSK				⇓S	**S**	**20 33 13.9**	**-0.5**
	comp=Z,11nm,0.9s						
VOSK	**Vostochnaya**	**16.27**	**1**	P	**P**	**20 30 19.6**	**-1.5**
VOSK				S	**S**	**20 33 13

KIV	**Kislovodsk**	**22.62**	**298**	*e*P		**P**	**20 31 25.5**	**-0.9**
KIV				*e**PP			20 32 02.0	
KIV				*e*S		**S**	**20 35 18.9**	**+4.2**
KIV					pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9							
KIV					pmax	pmax		
	comp=N,6.0nm,1.3s							
KIV					pmax	pmax		
	comp=E,5.0nm,1.3s							
KIV	**Kislovodsk**	**22.62**	**298**	*e*P		**P**	**20 31 36.0**	**+10**
	comp=E,17nm,0.8s,mb4.6							
GTA	**Gaotai**	**23.08**	**74**	P		**P**	**20 31 34.0**	**+3.2**
GTA				AP			20 32 12.5	
GTA				PP	PP		20 32 17.3	+8.0
GTA				PCP	PcP		20 35 10.3	-4.0
GTA				SCP			20 38 30.5	
GTA				PCS			20 38 50.3	
GTA				SCS	ScS		20 42 15.3	+0.1
GTA				AMB	AMB			
	comp=Z,18nm,1.3s,mb4.4							
GTA				AMB	AMB			
	comp=Z,88nm,11.5s							
GTA				LR	LR			
	comp=N,75nm,13.8s							
GTA				LR	LR			
	comp=E,68nm,9.6s							
GTA				LR	LR			
	comp=Z,147nm,8.0s							
MOY	**Mondy**	**26.29**	**45**	*e*P		**P**	**20 32 02.3**	**+1.9**
MOY					pmax	pmax		
	comp=Z,17nm,1.8s,mb4.4							
ZAK	**Zakamensk**	**27.18**	**49**⇑	*i*P		**P**	**20 32 09.7**	**+1.1**
ZAK					pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0							
ZAK					pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1							
ZAK					pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0							
TLY	**Talaya**	**27.82**	**46**	*e*P		**P**	**20 32 16.2**	**+1.8**
TLY					pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2							
TLY					MLR	MLR		
	comp=Z,34nm,15.0s							
TLY	**Talaya**	**27.82**	**46**	*e*P		**P**	**20 32 15.8**	**+1.5**
	comp=Z,3.1nm,0.8s,mb4.0							
SONM	**Songino Array**	**28.53**	**55**	P		**P**	**20 32 21.9**	**+1.1**
	comp=Z,5.8nm,0.9s,mb4.2,baz=256,slow=10,SNR=33							
SONM					pP	pP	20 33 05.7	+1.8
	comp=Z,1.8nm,0.8s,baz=256,slow=10,SNR=3.3							
BR131	**Keskin Array S**	**29.25**	**288**	*e*P		**P**	**20 32 26.6**	**-0.6**
	comp=Z,1.7nm,0.7s,mb3.8							
BRTR	**Keskin Array B**	**29.25**	**288**	P		**P**	**20 32 27.3**	**+0.1**
	comp=Z,1.2nm,0.6s,mb3.7,baz=101,slow=9.6,SNR=6.6							
BRTR					pP	pP	20 33 12.3	+1.8
	comp=Z,1.7nm,0.9s,baz=90,slow=7.4,SNR=3.3							
KMI	**Kunming**	**29.59**	**103**	P		**P**	**20 32 30.8**	**+0.5**
KMI					AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.1							
KMI	**Kunming**	**29.59**	**103**	P		**P**	**20 32 30.8**	**+0.5**
	comp=Z,5.0nm,0.9s,mb4.1							
OBN	**Obninsk**	**29.84**	**320***c*	*i*P		**P**	**20 32 31.7**	**-0.5**
OBN					pmax	pmax		
	comp=Z,21nm,0.7s,mb4.9							
OBN	**Obninsk**	**29.84**	**320**	*e*P		**P**	**20 32 30.9**	**-1.3**
	comp=Z,14nm,0.6s,mb4.8							
PALK	**Pallekele**	**30.44**	**160**	*e*P		**P**	**20 32 36.2**	**-1.6**
HHC	**Hu-ho-hao-te**	**31.98**	**69**	*e*P		**P**	**20 32 51.8**	**+0.8**
HHC				AP		pP	20 33 32.5	-2.6
HHC				PCP		PcP	20 35 33.3	-2.4
HHC				SCP			20 38 56.0	
HHC				XS			20 39 01.8	
HHC				SCS		ScS	20 42 57.5	+2.6
HHC				AMB	AMB			
	comp=Z,89nm,9.5s							
HHC				LR	LR			
	comp=N,141nm,14.2s							
HHC				LR	LR			
	comp=E,112nm,14.2s							
HHC				LR	LR			
	comp=Z,46nm,13.0s							
GYA	**Guiyang**	**32.06**	**98**	P		**P**	**20 32 53.5**	**+1.6**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.4							
AKASG	**Malin Array Be**	**32.81**	**309**	P		**P**	**20 32 56.3**	**-1.8**
	comp=Z,1.1nm,0.4s,mb3.7,baz=84,slow=6.6,SNR=13							
AKASG					pP	pP	20 33 43.7	+1.3
	comp=Z,1.4nm,0.5s,baz=81,slow=7.0,SNR=2.9							
AKASG	**Malin Array Be**	**32.81**	**309**	P		**P**	**20 32 56.3**	**-1.8**
AKASG					pP	pP	20 33 43.7	+1.3
CIT	**Chita**	**33.84**	**49**	*e*P		**P**	**20 33 07.9**	**+1.1**
CIT					pmax	pmax		
	comp=Z,40nm,1.3s,mb4.8							
MLR	**Muntele Rosu**	**34.62**	**299**	P		**P**	**20 33 14.6**	**+1.1**
	comp=Z,4.4nm,0.8s,mb4.0,baz=226,slow=3.4,SNR=11							
MLR					pP	pP	20 34 00.5	+2.3
	comp=Z,5.2nm,0.9s,baz=217,slow=13,SNR=3.8							
IDI	**Anoyia**	**36.91**	**282**	P		**P**	**20 33 32.3**	**-0.6**
	comp=Z,3.4nm,0.7s,mb4.0,baz=50,slow=15,SNR=2.7							
FINES	**FINESS Array B**	**37.41**	**326**	P		**P**	**20 33 36.6**	**-0.1**
	comp=Z,12nm,0.7s,mb4.5,baz=118,slow=9.5,SNR=57							
FINES					pP	pP	20 34 23.3	+1.4
	comp=Z,2.3nm,0.8s,baz=101,slow=7.1,SNR=1.7							
LVZ	**Lovozero**	**37.42**	**338**	*i*P		**P**	**20 33 36.1**	**-0.7**
LVZ					pmax	pmax		
	comp=Z,82nm,2.2s,mb4.9							
HIA	**Hailar**	**37.49**	**54**	P		**P**	**20 33 36.5**	**-1.1**
KAF	**Kangasniemi**	**37.55**	**327**	*ep*		**P**	**20 33 37.4**	**-0.5**
	comp=Z,7.6nm,0.7s,mb4.3,baz=112,slow=8.5							
KAF	**Kangasniemi**	**37.55**	**327**	*e*P		**P**	**20 33 37.4**	**-0.5**
KAF					pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.4							
NJ2	**Nanjing**	**39.69**	**82**	*e*P		**P**	**20 33 57.3**	**+1.4**
NJ2				PP		PP	20 35 34.3	+0.7
NJ2				S		**S**	**20 39 48.0**	**+5.1**
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.5s,mb4.5							
NJ2				AMB	AMB			
	comp=Z,70nm,8.9s							
NJ2				LR	LR			
	comp=N,250nm,21.8s							
NJ2				LR	LR			
	comp=E,270nm,28.4s							
NJ2				LR	LR			
	comp=Z,130nm,23.6s							
MORC	**Moravsky Berou**	**40.22**	**306**	*e*P		**P**	**20 33 58.2**	**-1.9**
KEV	**Kevo**	**40.77**	**338**	*ep*		**P**	**20 34 03.4**	**-1.0**
	comp=Z,16nm,0.8s,mb4.5							
KEV	**Kevo**	**40.77**	**338**	*e*P		**P**	**20 34 03.4**	**-1.0**
KEV					pmax	pmax		
	comp=Z,16nm,0.8s,mb4.5							
ARCES	**ARCESS Array B**	**41.11**	**338**	P		**P**	**20 34 07.6**	**+0.4**
	comp=Z,25nm,0.8s,mb4.7,baz=111,slow=8.1,SNR=49							
ARE0	**ARCESS Array S**	**41.11**	**338**	*e*P		**P**	**20 34 07.5**	**+0.3**
SSE	**Sheshan**	**41.89**	**82**	P		**P**	**20 34 11.3**	**-2.6**
SSE				AMB	AMB			
	comp=Z,30nm,0.7s,mb4.8							
SSE				AMB	AMB			
	comp=Z,67nm,3.8s							
SSE	**Sheshan**	**41.89**	**82**	P		**P**	**20 34 11.3**	**-2.6**
	comp=Z,30nm,0.7s,mb4.8							
TIP	**Timpagrande**	**42.21**	**291**	P		**P**	**20 34 15.5**	**-0.9**
GERES	**GERESS Array B**	**42.79**	**305**	pP		pP	20 35 10.9	+3.9
	comp=Z,0.3nm,0.6s,baz=69,slow=8.4,SNR=2.6							
HFS	**Hagfors**	**42.97**	**322**	P		**P**	**20 34 21.9**	**-0.4**
	comp=Z,11nm,0.6s,mb4.4,baz=90,slow=8.9,SNR=23							
HFS					pP	pP	20 35 09.4	+1.0
	comp=Z,2.4nm,0.5s,baz=98,slow=10,SNR=2.1							
HFS					sP	sP	20 35 33.4	+0.1
	comp=Z,6.2nm,0.7s,baz=97,slow=12,SNR=4.3							
CLL	**Collm**	**43.06**	**309**	*e*P		**P**	**20 34 30.0**	**+6.9**
YAK	**Yakutsk**	**44.12**	**35***c*	*i*P		**P**	**20 34 31.8**	**+0.3**
YAK					pmax	pmax		
	comp=Z,61nm,0.7s,mb5.0							
YAK	**Yakutsk**	**44.12**	**35**	*e*P		**P**	**20 34 31.4**	**0.0**
	comp=Z,68nm,0.7s,mb5.1							
NB2	**NORSAR Subarra**	**44.29**	**323**	P		**P**	**20 34 32.1**	**-0.7**
	comp=Z,8.4nm,0.6s,mb4.2,baz=94,slow=7.4							
NB2	**NORSAR Subarra**	**44.29**	**323**	P		**P**	**20 34 32.1**	**-0.7**
NB2					pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.2							
NOA	**NORSAR Array B**	**44.29**	**323**	P		**P**	**20 34 32.1**	**-0.7**
	comp=Z,8.3nm,0.7s,mb4.2,baz=96,slow=7.8,SNR=17							
NOA					pP	pP	20 35 21.1	+2.0
	comp=Z,0.7nm,0.6s,baz=105,slow=7.8,SNR=1.7							
NOA					sP	sP	20 35 43.5	-0.4
	comp=Z,0.9nm,0.7s,baz=106,slow=7.6,SNR=1.9							

NAO01	**NORSAR Array S**	**44.43**	**323**	*e*P		**P**	**20 34 32.7**	**-1.2**
MDJ	**Mudanjiang**	**44.61**	**61**	P		**P**	**20 34 34.4**	**-1.1**
	comp=Z,16nm,1.2s,mb4.2							
KLR	**Kul'dur**	**45.34**	**54**	*e*P		**P**	**20 34 39.7**	**-1.6**
KMBO	**Kilima Mbogo**	**48.65**	**227**	P		**P**	**20 35 08.8**	**+1.4**
	comp=Z,5.5nm,0.6s,mb4.0,baz=35,slow=12,SNR=18							
MBAR	**Mbarara**	**52.31**	**234**	*e*P		**P**	**20 35 33.6**	**-1.3**
MBAR					pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7							
MBAR	**Mbarara**	**52.31**	**234**	*e*P		**P**	**20 35 33.6**	**-1.3**
	comp=Z,2.2nm,0.6s,mb3.8							
YSS	**Yuzh-Sakhalins**	**53.02**	**55**	*i* P		**P**	**20 35 40.2**	**+0.5**
YSS					pmax	pmax		
	comp=Z,55nm,1.9s,mb4.7							
YSS	**Yuzh-Sakhalins**	**53.02**	**55**	*e*P		**P**	**20 35 40.2**	**+0.5**
	comp=Z,66nm,1.2s,mb4.9							
MJAR	**Matsushiro Arr**	**53.16**	**68**	P		**P**	**20 35 40.8**	**-0.2**
	comp=Z,3.7nm,1.0s,mb3.8,baz=278,slow=11,SNR=7.6							
MA2	**Magadan**	**54.53**	**38**	*e*P		**P**	**20 35 50.8**	**+0.3**
MA2					pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1							
MA2	**Magadan**	**54.53**	**38**	*e*P		**P**	**20 35 50.6**	**+0.1**
	comp=Z,16nm,1.4s,mb4.4							
SEY	**Seymchan**	**54.57**	**34**	*e*P		**P**	**20 35 51.5**	**+0.7**
SEY					pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1							
ESDC	**Sonseca Array**	**57.29**	**298**	pP		pP	20 37 00.6	+1.4
	comp=Z,0.8nm,0.6s,baz=55,slow=7.4,SNR=2.8							
BILL	**Bilibino**	**58.74**	**26***c*	*i*P		**P**	**20 36 20.7**	**+0.6**
BILL					pmax	pmax		
	comp=Z,12nm,0.6s,mb4.7							
BILL	**Bilibino**	**58.74**	**26**	*e*P		**P**	**20 36 20.2**	**+0.1**
	comp=Z,23nm,0.9s,mb4.8							
SUMG	**Summit**	**61.04**	**341**	*e*P		**P**	**20 36 36.3**	**+0.6**
	comp=Z,6.0nm,0.8s,mb4.3							
SUMG				*e*		pP	20 37 26.9	+1.8
LSZ	**Lusaka**	**65.27**	**226**	*e*P		**P**	**20 37 03.5**	**-0.6**
LSZ					pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2							
LSZ	**Lusaka**	**65.27**	**226**	*e*P		**P**	**20 37 03.5**	**-0.6**
	comp=Z,4.2nm,0.7s,mb4.2							
IMA	**Indian Mountai**	**72.23**	**17**	*e*P		**P**	**20 37 46.2**	**+0.2**
IMA					pmax	pmax		
	comp=Z,56nm,0.8s,mb5.2							
IMA	**Indian Mountai**	**72.23**	**17**	*e*P		**P**	**20 37 46.1**	**+0.2**
	comp=Z,56nm,0.8s,mb5.2							
INK	**Inuvik**	**73.98**	**9**	*e*P		**P**	**20 37 56.3**	**+0.2**
INK					pmax	pmax		
	comp=Z,5.0nm,0.5s							
INK	**Inuvik**	**73.98**	**9**	*e*P		**P**	**20 37 56.3**	**+0.2**
	comp=Z,5.3nm,0.5s,mb4.4							
DBIC	**Dimbokro**	**74.49**	**267**	P		**P**	**20 37 59.8**	**-0.3**
DBIC					pmax	pmax		
	comp=Z,2.0nm,0.8s							
DBIC	**Dimbokro**	**74.49**	**267**	P		**P**	**20 37 59.8**	**-0.3**
	comp=Z,1.9nm,0.8s,mb3.8,baz=56,slow=5.8,SNR=4.0							
DBIC	**Dimbokro**	**74.49**	**267**	P		**P**	**20 37 58.9**	**-1.1**
LBTB	**Lobatse**	**74.50**	**222**	*e*P		**P**	**20 37 59.7**	**-0.2**
LBTB					pmax	pmax		
	comp=Z,26nm,1.5s,mb4.6							
LBTB	**Lobatse**	**74.50**	**222**	*e*P		**P**	**20 37 59.7**	**-0.2**
	comp=Z,26nm,1.5s,mb4.6							
TSUM	**Tsumeb**	**74.72**	**232**	*e*P		**P**	**20 38 01.4**	**+0.1**
	comp=Z,3.0nm,0.6s,mb4.1							
ILAR	**Eielson Array**	**74.88**	**16**	P		**P**	**20 38 00.9**	**-0.4**
	comp=Z,7.3nm,1.1s,mb4.2,baz=318,slow=4.8,SNR=36							
ILAR					sP	sP	20 39 17.3	+2.0
	comp=Z,2.7nm,1.1s,baz=310,slow=5.0,SNR=3.5							
MCK	**McKinley**	**75.31**	**17**	*e*P		**P**	**20 38 04.4**	**+0.7**
MCK					pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1							
MCK	**McKinley**	**75.31**	**17**	*e*P		**P**	**20 38 04.3**	**+0.7**
	comp=Z,2.8nm,0.6s,mb4.1							
SML	**Sawmill**	**77.09**	**18**	*e*P		**P**	**20 38 13.5**	**-0.1**
BOSA	**Boshof**	**77.58**	**220**	P		**P**	**20 38 17.2**	**+0.2**
BOSA					pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.3							
BOSA					pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0							
BOSA	**Boshof**	**77.58**	**220**	P		**P**	**20 38 17.1**	**+0.2**
	comp=Z,2.5nm,0.4s,mb4.2,baz=47,slow=3.5,SNR=15							
BOSA					pP	pP	20 39 12.3	+3.7
	comp=Z,3.3nm,0.8s,baz=62,slow=7.9,SNR=2.6							
BOSA	**Boshof**	**77.58**	**220**	*e*P		**P**	**20 38 16.8**	**-0.2**
	comp=Z,7.9nm,0.9s,mb4.3							
YKA	**Yellowknife Ar**	**81.30**	**3**	P		**P**	**20 38 36.5**	**+0.3**
	comp=Z,4.0nm,0.8s,mb4.1,baz=349,slow=5.2,SNR=19							
YKA					pP	pP	20 39 30.6	+2.2
	comp=Z,0.8nm,0.7s,baz=350,slow=5.6,SNR=2.3							
YKA	**Yellowknife Ar**	**81.30**	**3**	P		**P**	**20 38 36.5**	**+0.3**
YKA					pP	pP	20 39 30.6	+2.3
NWAO	**Narrogin (SRO)**	**81.56**	**142**	*e*P		**P**	**20 38 34.5**	**-3.6**
	comp=Z,53nm,1.4s,mb5.0							
WRA	**Warramunga Arr**	**82.14**	**122**	P		**P**	**20 38 41.0**	**-0.3**
	comp=Z,5.0nm,0.7s,mb4.2,baz=324,slow=5.0,SNR=76							
WRA					pP	pP	20 39 34.9	+1.3
	comp=Z,0.8nm,0.6s,baz=324,slow=5.0,SNR=2.1							
WRAB	**Tennant Creek**	**82.14**	**122**	*e*P		**P**	**20 38 41.0**	**-0.3**
WRAB					pmax	pmax		
	comp=Z,15nm,1.1s,mb4.5							
WRAB	**Tennant Creek**	**82.14**	**122**	*e*P		**P**	**20 38 41.0**	**-0.3**
	comp=Z,15nm,1.1s,mb4.5							
WB2	**Warramunga Arr**	**82.15**	**122**⇑	*i*P		**P**	**20 38 41.1**	**-0.3**
VNDA	**Vanda**	**125.51**	**165**	PKP		PKPdf	20 45 17.0	-0.7
	comp=Z,0.5nm,1.0s,baz=320,slow=5.0,SNR=3.5							
CPUP	**Villa Florida**	**135.00**	**268**	PKP		PKPdf	20 45 38.4	+1.5
	comp=Z,1.1nm,0.7s,baz=93,slow=7.0,SNR=4.8							
PLCA	**Paso Flores**	**149.61**	**250**	PKPbc		PKPdf	20 46 07.5	+5.6
	comp=Z,6.0nm,0.9s,baz=152,slow=2.7,SNR=8.3							
PLCA	**Paso Flores**	**149.61**	**250**	PKPbc		PKPdf	20 46 07.5	+5.6

*NAO **28** 20:29:55.3±3.8,59.88N×5.13E,ML2.5*
*CSEM **28** 20:29:56.2±0.1,59.82N×5.14E,h12km,ML2.6,Error ellipse: s-maj=3.0km s-min=1.8km az=77.0*
*NEIC **28** 20:29:57.6,59.82N×5.11E,ML2.6(BER),After BER.*
NEIC Felt at Haugesund and Stord.

BER 28 20:29:58.4±2.9,59.81N×5.14E,h14km,ML2.6,MW2.8, ML2.5(NAO),4C-4D,Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EGD	**Espegrend**	**0.47**	**5**⇑	*i*P		Pb	20 30 06.3	-1.5
BER	**Bergen**	**0.58**	**10**⇑	*i*P		Pb	20 30 08.4	-1.4
KMY	**Karmoy**	**0.60**	**175**	*e*P		Pb	20 30 09.0	-1.2
KMY				*e*S		Sb	20 30 17.2	-1.0
KMY				AML		AML	20 30 17.4	
	comp=Z,386nm,0.1s							
ASK	**Askoy**	**0.68**	**2**	*e*P		Pb	20 30 09.8	-1.6
ASK				*e*S		Sb	20 30 18.8	-1.6
ODD1	**Odda**	**0.76**	**82**⇓	*i*P		Pb	20 30 10.6	-2.3
ODD1				*e*S		Sb	20 30 20.1	-2.7
BLS5	**Blasjo**	**0.77**	**120**⇓	*i*P		Pb	20 30 13.0	-0.1
BLS5				*e*S		Sb	20 30 23.1	-0.1
BLS5	**Blasjo**	**0.77**	**120**⇓	*i*P		Pb	20 30 13.0	-0.1
BLS5				*e*S		Sb	20 30 23.3	+0.1
BLS5				AML		AML	20 30 23.4	
	comp=Z,183nm,0.2s							
BLS5	**Blasjo**	**0.77**	**120**⇓	*i*P		Pb	20 30 13.0	-0.1
	SNR=92							
BLS5				*e*S		Sb	20 30 23.3	+0.1
	comp=Z,183nm,0.2s,SNR=92							
STAV	**Stavanger**	**0.92**	**162**⇑	*i*P		Pb	20 30 14.6	-1.1
STAV				*e*S		Sb	20 30 26.5	-1.1
STAV				AML		AML	20 30 27.6	
	comp=Z,208nm,0.2s							
STAV	**Stavanger**	**0.92**	**162**⇑	*i*P		Pb	20 30 14.6	-1.1
	SNR=92							
STAV				*e*S		Sb	20 30 26.5	-1.1
	comp=Z,208nm,0.2s,SNR=92							
HYA	**Hoyanger**	**1.46**	**20**	*e*P		Pn	20 30 22.9	-1.6
HYA				*e*Pg		Pg	20 30 24.1	-3.5
HYA				*e*S		Sb	20 30 43.0	0.0
HYA	**Hoyanger**	**1.46**	**20**	*e*Pg		Pg	20 30 24.1	-3.5
	SNR=91							
HYA				*e*S		Sb	20 30 43.0	0.0
	SNR=55							
FOO	**Floro**	**1.79**	**359**	*e*P		Pn	20 30 26.5	-2.8
FOO				*e*Pg		Pg	20 30 28.6	-5.7
FOO				*e*S		Sn	20 30 48.9	-3.0
FOO				AML		AML	20 30 52.7	
	comp=Z,99nm,0.4s							
SNART	**Snartemo**	**1.82**	**143**	*e*P		Pn	20 30 27.6	-2.1
SNART				*e*Pg		Pg	20 30 29.5	-5.4
SNART				*e*Sg		Sg	20 30 53.0	-6.2
SNART				AML		AML	20 30 53.5	
	comp=Z,260nm,0.3s							
KONO	**Kongsberg**	**2.26**	**92**	*e*P		Pn	20 30 34.1	-1.9
KONO				*e*Pg		Pg	20 30 37.0	-6.7
KONO				*e*S		Sn	20 31 02.9	-1.1
KONO	**Kongsberg**	**2.26**	**92**	*e*P		Pn	20 30 34.1	-1.9
KONO				*e*Pg		Pg	20 30 37.0	-6.7
KONO				*e*S		Sn	20 31 02.2	-1.8
KONO				*e*Sg		Sg	20 31 06.4	-7.5
KONO	**Kongsberg**	**2.26**	**92**	*e*Pg		Pg	20 30 37.0	-6.7
	SNR=91							
KONO				*e*S		Sn	20 31 02.2	-1.7
	SNR=55							
KONO				*e*Sg		Sg	20 31 06.4	-7.5
	SNR=91							
DOMB	**Dombas**	**2.95**	**39**	*e*P		Pn	20 30 43.6	-2.2
DOMB				*e*Sg		Sg	20 31 27.0	-10
DOMB				AML		AML	20 31 30.2	
	comp=Z,50nm,0.3s							
MOL	**Molde**	**3.00**	**22**	*e*P		Pn	20 30 49.7	+3.1
MOL				*e*S		Sn	20 31 24.8	+2.1
MOL				AML		AML	20 31 37.8	
	comp=Z,18nm,0.3s							
NAO01	**NORSAR Array S**	**3.04**	**68**	*e*Pn		Pn	20 30 44.7	-2.4
NAO01				*e*P			20 30 50.1	
NAO01				*e*S		Sn	20 31 28.2	+4.6
NAO01	**NORSAR Array S**	**3.04**	**68**	*e*Pn		Pn	20 30 44.7	-2.4
NB2	**NORSAR Subarra**	**3.25**	**65**	Pn		Pn	20 30 47.2	-2.9
	baz=249,slow=12							
NB2				Pg		Pg	20 30 53.4	-10
	baz=250,slow=18							
NB2				Lg			20 31 36.4	
NB2	**NORSAR Subarra**	**3.25**	**65**	Pn		Pn	20 30 47.2	-2.9
	SNR=1.5							
NB2	**NORSAR Subarra**	**3.25**	**65**	Pg		Pg	20 30 53.4	-10
HFS	**Hagfors**	**4.31**	**82**	Pn		Pn	20 31 01.4	-3.8
	baz=261,slow=12							
HFS				Pg		Pg	20 31 14.5	-10
	baz=260,slow=16							
HFS				Sn		Sn	20 31 49.1	-6.7
HFS				Lg			20 32 10.7	
	baz=274,slow=37							
HFS	**Hagfors**	**4.31**	**82**	Pg		Pg	20 31 14.5	-10
	SNR=5.2							
HFS				Sn		Sn	20 31 49.1	-6.7

*IDC **28** 20:47:55.8±1.4,33.04N×142.35E,mb3.4/3,mb1 3.6/5, mb1mx3.5/20,mbtmp3.4/5,ML3.5/1,Error ellipse: s-maj=28.0km s-min=25.4km az=10.0*
*JMA **28** 20:47:58.2±0.4,33.31N×142.9E,h5km,M3.5*
*NEIC **28** 20:48:00.5±3.5,33.13N×142.34E,h38km±29km,mb4.5/2, Error ellipse: s-maj=36.8km s-min=26.9km az=99.0*

ISC 28 20:47:59.2±1.3,33.27N±0.06×142.39E±0.08,h42km±12km, n21,σ1°01/33,mb3.7/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**1.81**	**320**	P		**P**	**20 48 28.7**	**+0.1**
BSO1				*e*S		**S**	**20 48 49.7**	**-0.8**
JHJ2	**Mitsune**	**2.17**	**267**	P		**P**	**20 48 33.7**	**+0.1**
JHJ2				*e*S		**S**	**20 48 58.7**	**-0.6**
BSO3	**Boso 3**	**2.19**	**315**	P		**P**	**20 48 34.4**	**+0.5**
JHJ	**Hachijo jima 2**	**2.19**	**267**	Pn		**P**	**20 48 33.8**	**-0.2**
	13nm,0.3s,baz=181,slow=7.2,SNR=16							
JHJ				Sn		**S**	**20 49 00.3**	**+0.3**
	30nm,0.3s,baz=267,slow=23,SNR=8.7							
BSO4	**Boso 4**	**2.42**	**316**	P		**P**	**20 48 38.1**	**+0.9**
JIM2	**Oshima 3**	**2.85**	**301**	P		**P**	**20 48 42.5**	**-0.9**
JIM2				*e*S		**S**	**20 49 16.2**	**-0.6**
JYN	**Shimob**	**3.88**	**306**	P		**P**	**20 48 59.7**	**+1.8**
JYN				*e*S		**S**	**20 49 44.1**	**+1.2**
JAG	**Ashikaga**	**3.97**	**323**	P		**P**	**20 48 58.8**	**-0.4**
JAG				*e*S		**S**	**20 49 43.4**	**-1.7**
JRY	**Ryogami san**	**3.97**	**315**	P		**P**	**20 48 59.9**	**+0.7**
JRY				*e*S		**S**	**20 49 46.4**	**+1.2**
MJAR	**Matsushiro Arr**	**4.74**	**315**	Pn		**P**	**20 49 09.4**	**-0.7**
	1.8nm,0.3s,baz=161,slow=13,SNR=16							
MJAR				Sn		**S**	**20 50 04.2**	**-0.3**
	2.1nm,0.3s,baz=153,slow=22,SNR=7.4							
MAJO	**Matsushiro**	**4.74**	**315**	*e*Pn		**P**	**20 49 10.6**	**+0.5**
MAT	**Matsushiro**	**4.74**	**315**	*e*P		**P**	**20 49 11.0**	**+0.9**
MAT				*e*S		**S**	**20 50 04.0**	**-0.6**
MAT	**Matsushiro**	**4.74**	**315**	P		**P**	**20 49 10.5**	**+0.4**
MAT				S		**S**	**20 50 04.0**	**-0.6**
MAT	**Matsushiro**	**4.74**	**315**	P		**P**	**20 49 10.9**	**+0.8**

Baja California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**0.31**	**174**	*e*P		Pg	21 11 57.6	-0.5
SPX				*e*S		Sg	21 12 02.5	+0.2
SPX				⇑*e*			21 12 03.3	
	comp=E,8μm,0.4s							
ECBX	**El Chinero**	**0.40**	**73**⇓	*e*P		Pg	21 11 59.0	-1.0
ECBX				*e*S		Sg	21 12 04.3	-1.1
EMX	**El Mayor**	**0.67**	**19**⇓	*e*P		Pg	21 12 03.8	-1.5
EMX				*e*S		Sg	21 12 13.0	-1.2
RDX	**Rancho Dowling**	**0.69**	**327**	*e*P		Pg	21 12 04.7	-1.0
RDX				*e*S		Sg	21 12 13.9	-1.1
RDX				⇓*e*			21 12 18.5	
	comp=N,4μm,0.5s							
RDX				⇓*e*			21 12 18.6	
	comp=E,7μm,0.4s							
ECNX	**Esteban Cantu**	**0.98**	**288**⇑	*e*P		Pb	21 12 09.9	-0.8
ECNX				⇑*e*P			21 12 12.0	
ECNX				*e*S		Sb	21 12 23.2	-0.5
ECNX				*e*S		Sb	21 12 26.9	+3.2
PBX	**Punta Banda**	**1.11**	**291**⇑	*e*P		Pb	21 12 12.0	-1.0
PBX				*e*S		Sb	21 12 26.8	-0.7
ENX	**Ensenada**	**1.12**	**298**⇑	*e*P		Pb	21 12 12.1	-1.0
ENX				*e*S		Sb	21 12 27.1	-0.7
CBX	**Cerro Bola**	**1.38**	**314**	*e*P		Pb	21 12 15.7	-1.7
CBX				*e*S		Sb	21 12 34.0	-1.2
BAR	**Barrett**	**1.66**	**323**	*e*P		Pn	21 12 20.1	-1.4
PFO	**Pinyon Flat Ob**	**2.39**	**341**	*e*P		Pn	21 12 29.8	-2.2
MWC	**Mount Wilson**	**3.58**	**324**	*e*Pn		Pn	21 12 49.4	+0.4
LDFC	**Landfair**	**3.73**	**5**	*e*Pn		Pn	21 12 50.1	-0.9
TUC	**Tucson**	**4.13**	**75**	*e*Pn		Pn	21 12 52.8	-3.9
NEN	**Nelson**	**4.32**	**7**	*e*Pn		Pn	21 12 56.1	-3.4
DAC	**Darwin (Calif)**	**5.21**	**341**	*e*Pn		Pn	21 13 09.8	-2.3

*CSEM **28** 21:29:58.8±0.5, 38.59N×28.59W, h11km±3km, ML2.1, Error ellipse: s-maj=13.0km s-min=7.5km az=55.0, After PDA*
*PDA **28** 21:29:58.8±0.9, 38.59N×28.59W, h11km±4km, MD2.8, ML2.1, Error ellipse: s-maj=4.6km s-min=3.4km az=45.0*
SVSA 28 21:29:58.8±0.9, 38.59N×28.59W, h11km±4km, MD2.8, ML2.1, Error ellipse: s-maj=4.6km s-min=3.4km az=45.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.07**	**206**	*e*P		Pg	21 30 00.4	-0.7
HOR				*i* S		Sg	21 30 02.4	-0.3
CALA	**Caldeira**	**0.09**	**267**	*e*P		Pg	21 30 01.1	-0.3
CALA				*e*S		Sg	21 30 03.1	0.0
PICO	**Pico**	**0.16**	**123**	*e*P		Pg	21 30 02.0	-0.5
PICO				*e*S		Sg	21 30 04.7	-0.2
PMAN	**Manadas**	**0.40**	**83**	*e*P		Pg	21 30 05.5	-1.5
PMAN				*e*S		Sg	21 30 10.6	-1.8
	212nm,0.1s							
PMAN	**Manadas**	**0.40**	**83**	*e*P		Pg	21 30 05.5	-1.5
PMAN				*e*S		Sg	21 30 10.6	-1.8
	212nm,0.1s							
PIED	**Piedade**	**0.46**	**111**	*e*P		Pg	21 30 06.5	-1.6
PIED				*e*S		Sg	21 30 12.5	-1.8
PGRA	**Graciosa**	**0.65**	**47**	*e*P		Pb	21 30 09.2	-2.5
PGRA				*e*S		Sb	21 30 17.3	-3.2
	68nm,0.3s							
PGRA	**Graciosa**	**0.65**	**47**	*e*P		Pb	21 30 09.2	-2.5
PGRA				*e*S		Sb	21 30 17.3	-3.2
	68nm,0.3s							
STGR	**Santa Cruz**	**0.68**	**43**	*e*S		Sb	21 30 20.6	-0.6
	23nm,0.3s							
STGR	**Santa Cruz**	**0.68**	**43**	*e*S		Sb	21 30 20.6	-0.6
	23nm,0.3s							
ASBA	**Santa Barbara**	**1.00**	**82**	*e*P		Pb	21 30 14.2	-3.5
ASBA				*e*S		Sb	21 30 25.9	-4.8
	25nm,0.1s							
ASBA	**Santa Barbara**	**1.00**	**82**	*e*P		Pb	21 30 14.2	-3.5
ASBA				*e*S		Sb	21 30 25.9	-4.8
	25nm,0.1s							
PSBA	**Serra de Santa**	**1.01**	**79**	*e*P		Pb	21 30 14.0	-3.8
PSBA				*e*S		Sb	21 30 26.0	-4.9
	19nm,0.2s							
PSBA	**Serra de Santa**	**1.01**	**79**	*e*P		Pb	21 30 14.0	-3.8
PSBA				*e*S		Sb	21 30 26.0	-4.9
	19nm,0.2s							
PPAD	**Pico dos Padre**	**1.03**	**83**	*e*S		Sb	21 30 26.1	-5.4
	16nm,0.2s							
PBIS	**Biscoitos**	**1.06**	**80**	*e*S		Sb	21 30 26.8	-5.7
	12nm,0.2s							
PSCM	**Serra do Cume**	**1.16**	**84**	*e*P		Pb	21 30 16.4	-4.0
PSCM				*e*S		Sb	21 30 29.8	-5.5
	26nm,0.2s							

MAN 28 21:57:56.0, 13.67N×122.46E, h8km, mb3.5, ML2.2, MS1.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.23**	**357**⇓	*i*P		Pg	21 58 01.5	+0.7
GQP				*i* S		Sg	21 58 05.5	+1.4
BOAC	**Boac**	**0.63**	**251**	*e*P		Pg	21 58 08.3	-0.4
BOAC				*e*S		Sg	21 58 16.9	-0.4
POLP	**Polilio Island**	**1.16**	**334**	*e*P		Pb	21 58 17.3	-0.6
POLP				*e*S		Sb	21 58 32.2	-0.8

*IDC **28** 22:00:58.1±2.6, 21.90N×143.38E, h204km±24km, mb3.8/13, mb1 3.9/15, mb1mx3.7/27, mbtmp4.3/15, Error ellipse: s-maj=18.4km s-min=12.5km az=96.0*
*NEIC **28** 22:01:01.8±2.3, 21.88N×143.38E, h241km±22km, mb4.0/4, Error ellipse: s-maj=16.4km s-min=9.6km az=96.0*
ISC 28 22:00:57.9±1.7, 21.86N±0.09×143.4E±0.1, h220km±15km, n25, σ1°02/25, mb3.9/17, 2D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.34**	**348**	P		**P**	**22 02 16.1**	**-1.6**
	5.7nm,0.3s,baz=278,slow=19,SNR=3.9							
CBIJ				S		**S**	**22 03 14.1**	**-5.7**
	14nm,0.3s,baz=290,slow=23,SNR=7.5							
JOW	**Kunigami**	**14.67**	**293**	P		**P**	**22 04 18.8**	**+2.3**
	1.1nm,0.3s,baz=98,slow=6.7,SNR=3.7							
MJAR	**Matsushiro Arr**	**15.32**	**344**	P		**P**	**22 04 24.3**	**-0.1**
	1.0nm,0.3s,baz=38,slow=3.8,SNR=11							
MAJO	**Matsushiro**	**15.32**	**344**	*e*P		**P**	**22 04 24.9**	**+0.5**
	12nm,0.5s							
MAT	**Matsushiro**	**15.32**	**344**	*e*P		**P**	**22 04 25.0**	**+0.6**
MAT	**Matsushiro**	**15.32**	**344**	P		**P**	**22 04 24.5**	**+0.1**
KS15	**Wonju Array Si**	**20.54**	**323**	*e*P		**P**	**22 05 23.1**	**+2.5**
SONM	**Songino Array**	**39.36**	**320**	P		**P**	**22 08 07.7**	**+0.2**
	0.7nm,0.3s,mb3.7,baz=124,slow=8.9,SNR=6.2							
WRAB	**Tennant Creek**	**42.47**	**193**	*e*P		**P**	**22 08 32.8**	**-0.5**
	6.6nm,1.0s,mb4.0							
WRA	**Warramunga Arr**	**42.48**	**193**	P		**P**	**22 08 33.2**	**-0.1**
	0.8nm,0.3s,mb3.6,baz=15,slow=9.2,SNR=20							
WRA				PcP		PcP	22 10 22.0	-0.3
	0.8nm,0.9s,baz=7.5,slow=3.0,SNR=5.2							
FITZ	**Fitzroy Crossi**	**43.36**	**205**	P		**P**	**22 08 40.3**	**-0.2**
	4.3nm,0.7s,mb4.0,baz=13,slow=14,SNR=3.5							
ZAL	**Zalesovo**	**54.24**	**322**	P		**P**	**22 10 02.5**	**-0.5**
	1.7nm,0.5s,mb3.9,baz=6.2,slow=7.1,SNR=7.6							
MKAR	**Makanchi Array**	**54.76**	**313**	P		**P**	**22 10 06.4**	**-0.4**
	1.0nm,0.7s,mb3.5,baz=88,slow=9.4,SNR=11							
MKAR				PcP		PcP	22 11 05.9	-0.5
	0.2nm,0.3s,baz=83,slow=4.3,SNR=6.0							
ILAR	**Eielson Array**	**61.80**	**27**	P		**P**	**22 10 53.9**	**-1.3**
	2.1nm,0.7s,mb3.9,baz=260,slow=5.4,SNR=4.8							
BVAR	**Borovoye Array**	**62.70**	**319**	P		**P**	**22 11 00.7**	**-0.6**
	5.7nm,0.4s,mb4.5,baz=92,slow=7.0,SNR=76							
BRVK	**Borovoye**	**62.76**	**319**	*e*P		**P**	**22 11 01.2**	**-0.5**
	3.1nm,0.8s,mb4.0							
KK31	**Karatay Array**	**63.13**	**308**	⇓Pn		**P**	**22 11 03.9**	**-0.5**
	1.4nm,0.8s,mb3.6,baz=133,slow=16,SNR=14							
KK31				⇓Lg			22 11 38.3	
	0.2nm,0.3s,baz=137,slow=28,SNR=4.4							
INK	**Inuvik**	**67.33**	**24**	P		**P**	**22 11 29.8**	**-0.9**
	1.1nm,0.4s,mb3.9,baz=270,slow=3.8,SNR=5.0							
ARU	**Arti**	**69.27**	**324**	P		**P**	**22 11 41.7**	**-1.1**
	1.9nm,0.7s,mb3.8							
YKA	**Yellowknife Ar**	**76.21**	**28**	P		**P**	**22 12 23.4**	**+0.1**
	4.5nm,0.5s,mb4.4,baz=292,slow=5.8,SNR=17							
NEW	**Newport**	**80.01**	**42**	P		**P**	**22 12 45.1**	**+1.0**
	0.9nm,0.4s,mb3.8,baz=301,slow=12,SNR=3.8							
NVAR	**Mina Array Bea**	**82.87**	**52**	P		**P**	**22 13 00.9**	**+1.7**
	1.9nm,0.7s,mb4.0,baz=276,slow=5.8,SNR=6.9							

FINES	**FINESS Array B**	**83.14**	**335**	P		**P**	**22 12 59.5**	**-0.6**
	0.8nm,0.4s,mb3.8,baz=73,slow=5.2,SNR=18							
ELK	**Elko**	**84.15**	**48**	P		**P**	**22 13 07.4**	**+1.8**
	1.0nm,0.5s,mb3.8,baz=275,slow=6.4,SNR=6.0							
PLCA	**Paso Flores**	**145.69**	**131**	PKPbc	PKPbc		22 20 14.2	+3.2
	1.4nm,0.5s,baz=315,slow=7.1,SNR=4.0							

*TIR **28** 22:39:29.9, 42.46N×19.85E, h48km*
*BEO **28** 22:39:31.6±0.4, 42.41N×19.77E, h10km±1km*
*CSEM **28** 22:39:31.4±0.1, 42.41N×19.82E, h2km, MD2.5, Error ellipse: s-maj=2.3km s-min=2.0km az=110.0*
*NEIC **28** 22:39:32.2, 42.41N×19.77E, h10km, MD2.5(PDG), After PDG.*
ISC 28 22:39:31.8±0.3, 42.42N±0.02×19.79E±0.02, h2km, n34, σ1°10/66, 14C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.21**	**104**	*i* Pg		**Pg**	**22 39 36.3**	**+0.2**
BCI				*i* Sg		**Sg**	**22 39 38.4**	**-0.6**
PVY	**Plav**	**0.23**	**38**⇑	*i*Pg		**Pg**	**22 39 36.0**	**-0.3**
PVY				*e*Sg		**Sg**	**22 39 40.2**	**+0.9**
PVY	**Plav**	**0.23**	**38**⇑	*i*Pg		**Pg**	**22 39 36.0**	**-0.3**
PVY				*e*Sg		**Sg**	**22 39 40.2**	**+0.9**
TTG	**Podgorica**	**0.39**	**272**⇑	*i*Pg		**Pg**	**22 39 39.0**	**-0.6**
TTG				*e*Sg		**Sg**	**22 39 45.1**	**+0.3**
TTG	**Podgorica**	**0.39**	**272**⇑	*i*Pg		**Pg**	**22 39 39.0**	**-0.6**
TTG				*e*Sg		**Sg**	**22 39 45.1**	**+0.3**
SDA	**Shkodra**	**0.42**	**210**	*i* Pg		**Pg**	**22 39 39.5**	**-0.8**
SDA				*i* Sg		**Sg**	**22 39 47.0**	**+1.1**
IVA	**Berane**	**0.46**	**10**⇑	*i*Pg		**Pg**	**22 39 41.0**	**0.0**
IVA				*e*Sg		**Sg**	**22 39 48.1**	**+1.0**
IVA	**Berane**	**0.46**	**10**⇑	*i*Pg		**Pg**	**22 39 41.0**	**0.0**
IVA				*e*Sg		**Sg**	**22 39 48.1**	**+0.9**
KKS	**Kukesi**	**0.58**	**126**	*i* Pg		**Pg**	**22 39 42.1**	**-1.2**
KKS				*i* Sg		**Sg**	**22 39 51.6**	**+0.6**
ULC	**Ulcinj**	**0.60**	**221**⇑	*i*Pg		**Pg**	**22 39 43.2**	**-0.7**
ULC				*e*Sg		**Sg**	**22 39 52.2**	**+0.3**
BUM	**Brajici-Budva**	**0.67**	**260**⇑	*i*Pg		**Pg**	**22 39 44.0**	**-1.1**
BUM				*e*Sg		**Sg**	**22 39 54.7**	**+0.7**
BUM	**Brajici-Budva**	**0.67**	**260**⇑	*i*Pg		**Pg**	**22 39 44.0**	**-1.1**
BUM				*e*Sg		**Sg**	**22 39 54.7**	**+0.6**
NKY	**Niksic**	**0.70**	**304**⇑	*i*Pg		**Pg**	**22 39 44.7**	**-1.1**
NKY				*e*Sg		**Sg**	**22 39 55.8**	**+0.6**
NKY	**Niksic**	**0.70**	**304**⇑	*i*Pg		**Pg**	**22 39 44.7**	**-1.1**
NKY				*e*Sg		**Sg**	**22 39 55.8**	**+0.6**
LACI	**Lac**	**0.78**	**184**	*i* Pg		**Pg**	**22 39 46.6**	**-0.8**
LACI				*i* Sg		**Sg**	**22 39 58.5**	**+0.6**
HCY	**Herceg Novi**	**0.95**	**272**⇑	*i*Pg		**Pg**	**22 39 49.8**	**-1.1**
HCY				*e*Sg		**Sg**	**22 40 04.3**	**+0.8**
HCY	**Herceg Novi**	**0.95**	**272**⇑	*i*Pg		**Pg**	**22 39 49.8**	**-1.0**
HCY				*e*Sg		**Sg**	**22 40 04.3**	**+0.7**
PLE	**Pljevlja**	**0.96**	**343**	*e*Pg		**Pg**	**22 39 50.1**	**-0.7**
PLE				*e*Sg		**Sg**	**22 40 05.1**	**+1.4**
PLE	**Pljevlja**	**0.96**	**343**	*e*Pg		**Pg**	**22 39 50.2**	**-0.7**
PLE				*e*Sg		**Sg**	**22 40 05.1**	**+1.5**
UPM	**Unac-Piva**	**1.01**	**321**	*e*Pg		**Pg**	**22 39 51.7**	**-0.4**
UPM				*e*Sg		**Sg**	**22 40 07.1**	**+1.5**
UPM	**Unac-Piva**	**1.01**	**321**	*e*Pg		**Pg**	**22 39 51.7**	**-0.4**
UPM				*e*Sg		**Sg**	**22 40 07.1**	**+1.5**
BRY	**Bratogost**	**1.04**	**298**	*e*Pg		**Pg**	**22 39 51.5**	**-1.0**
BRY				*e*Sg		**Sg**	**22 40 07.3**	**+1.0**
BRY	**Bratogost**	**1.04**	**298**	*e*Pg		**Pg**	**22 39 51.5**	**-1.0**
BRY				*e*Sg		**Sg**	**22 40 07.3**	**+1.0**
TIR	**Tirane**	**1.07**	**177**	*i* pg?		**Sg**	**22 40 09.4**	**+1.9**
NVSS	**Nova Varos 2**	**1.09**	**357**	*i* Pg		**Pg**	**22 39 52.0**	**-1.6**
NVSS					Sg	**Sg**	**22 40 05.3**	**-2.8**
NVSS	**Nova Varos 2**	**1.09**	**357**	Pg		**Pg**	**22 39 52.0**	**-1.6**
NVSS					Sg	**Sg**	**22 40 05.3**	**-2.8**
BBLS	**Bajina Basta -**	**1.48**	**349**	*i* Pn		**Pn**	**22 40 00.0**	**+0.5**
BBLS					Sn	**Sn**	**22 40 21.0**	**+1.4**
BARS	**Barje**	**1.56**	**74**⇓	*i*Pg		**Pg**	**22 40 02.9**	**-0.1**
BARS					Sg	**Sg**	**22 40 25.2**	**+1.5**
STON	**Ston**	**1.60**	**287**	*i* Pn		**Pn**	**22 40 01.5**	**+0.2**
STON				*i* Sg		**Sg**	**22 40 26.4**	**+1.2**
GRUS	**Gruza**	**1.62**	**25**	*i* Pn		**Pn**	**22 40 02.0**	**+0.5**
GRUS					Sn	**Sn**	**22 40 27.8**	**+4.6**
DIVS	**Divcibare**	**1.69**	**5**⇑	*i*Pg		**Pg**	**22 40 03.5**	**-2.0**
DIVS					Sg	**Sg**	**22 40 24.9**	**-3.0**
SVIS	**Svilajnac**	**2.15**	**29**	*e*Pn		**Pn**	**22 40 12.2**	**+3.1**
CII	**Carovilli**	**4.14**	**262**	*e*Pn		**Pn**	**22 40 36.0**	**-1.5**
CII				*e*Sn		**Sn**	**22 41 25.8**	**-1.3**
CII	**Carovilli**	**4.14**	**262**	*e*Pn		**Pn**	**22 40 36.0**	**-1.5**
CII				*e*Sn		**Sn**	**22 41 25.8**	**-1.3**

*LDG **28** 22:45:34.9±0.2, 44.70N×10.03E, h10km, Md2.5/3, Ml2.4/11, Error ellipse: s-maj=4.3km s-min=2.2km az=93.0*
*ROM **28** 22:45:35.2±0.1, 44.74N×9.64E, h28km±2km, Md2.5/9, Ml2.0/4, Error ellipse: s-maj=4.6km s-min=2.1km az=172.0*
ISC 28 22:45:37.1±0.4, 44.71N±0.02×9.64E±0.03, h25km±4km, n27, σ1°29/47, 4C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	**0.15**	**292**⇑	*i*Pg		**Pb**	**22 45 41.3**	**-0.9**
BOB					Sg	**Sb**	**22 45 45.6**	**0.0**
	304nm,0.3s							
ERBM	**Eremo**	**0.62**	**118**	Pg		**Pb**	**22 45 49.1**	**-0.2**
ERBM					Sg	**Sb**	**22 45 58.9**	**+1.2**
	55nm,0.7s							
GSCL	**Gusciola**	**0.77**	**118**⇓	*i*Pg		**Pb**	**22 45 51.1**	**-0.6**
GSCL					Sg	**Sb**	**22 46 04.1**	**+2.3**
	10.0nm,0.5s							
VLC	**Villacollemand**	**0.77**	**136**	Pg		**Pb**	**22 45 50.7**	**-1.1**
VLC					Sg	**Sb**	**22 46 03.2**	**+1.4**
	24nm,0.7s							
BDI	**Bagni Di Lucca**	**0.94**	**133**	Pg		**Pb**	**22 45 53.5**	**-1.2**
	7.0nm,0.2s							
ZCCA	**Zocca**	**1.02**	**110**	Pg		**Pn**	**22 45 56.7**	**+0.7**
	5.0nm,0.2s							
MDI	**Monti di Nese**	**1.07**	**3**	Pg		**Pn**	**22 45 55.6**	**-1.0**
MDI					Sg	**Sb**	**22 46 11.6**	**+1.3**
	63nm,0.4s							
PII	**Pisa**	**1.18**	**147**	Pg		**Pn**	**22 45 57.7**	**-0.5**
	10.0nm,0.2s							
MUGIO	**Muggio**	**1.28**	**341**	Pg		**Pn**	**22 45 58.6**	**-1.1**
VAI	**Vaie**	**1.31**	**332**	Pg		**Pn**	**22 45 59.3**	**-0.8**
	12nm,0.5s							
IMI	**Imperia**	**1.49**	**238**	Pg		**Pn**	**22 46 02.4**	**-0.3**
	3.0nm,0.2s							
SBF	**Sospel**	**1.80**	**243**	*e*Pn		**Pn**	**22 46 07.5**	**+0.4**
SBF				*e*Sn		**Sn**	**22 46 31.2**	**+1.9**
	12nm,0.3s							
MBDF	**Montbardon**	**2.04**	**271**	*e*Pn		**Pn**	**22 46 12.0**	**+1.4**
MBDF				*e*Sn		**Sn**	**22 46 37.9**	**+2.3**
	2.1nm,0.3s							
LPL	**La Plagne**	**2.21**	**292**	*e*Pn		**Pn**	**22 46 14.0**	**+1.0**
LPL				*e*Sn		**Sn**	**22 46 42.0**	**+2.2**
	4.8nm,0.4s							
PGF	**Pioggiola**	**2.21**	**192**	*e*Pn		**Pn**	**22 46 10.8**	**-2.2**
PGF				*e*Sn		**Sn**	**22 46 37.2**	**-2.7**
	1.8nm,0.3s							
FRF	**La Foret Royal**	**2.44**	**243**	*e*Pn		**Pn**	**22 46 16.2**	**-0.1**
FRF				*e*Sn		**Sn**	**22 46 45.3**	**-0.4**
	2.7nm,0.3s							
DAVA	**Damuels**	**2.58**	**4**⇑	*i*PN		**Pn**	**22 46 18.2**	**-0.1**
DAVA				*i* SN		**Sn**	**22 46 50.6**	**+1.4**
DAVA				*i* SG		**Sn**	**22 47 02.0**	**+13**
	3.4nm,0.6s							
LMR	**La Mourre**	**2.65**	**240**	*e*Pn		**Pn**	**22 46 18.8**	**-0.4**
LMR				*e*Sn		**Sn**	**22 46 49.4**	**-1.5**
	2.1nm,0.3s							
ORIF	**Oris-en-Rattie**	**2.68**	**276**	*e*Pn		**Pn**	**22 46 20.8**	**+1.0**
ORIF				*e*Sn		**Sn**	**22 46 53.7**	**+1.9**
	2.6nm,0.3s							
SQTA	**Sankt Quirin**	**2.74**	**23**⇑	*i*PN		**Pn**	**22 46 20.4**	**-0.1**
SQTA				*i* SN		**Sn**	**22 46 54.4**	**+1.2**
MOTA	**Moosalm**	**2.82**	**21**⇑	*i*PN		**Pn**	**22 46 21.5**	**-0.2**
MOTA				*i* SN		**Sn**	**22 46 57.0**	**+1.7**
SMRF	**Simiane la Rot**	**3.01**	**257**	*e*Pn		**Pn**	**22 46 24.7**	**+0.3**
SMRF				*e*Sn		**Sn**	**22 47 01.2**	**+1.2**
	1.4nm,0.3s							
CABF	**La Chapelle**	**3.13**	**309**	*e*Pn		**Pn**	**22 46 25.8**	**-0.3**
VIVF	**Saint-Julien-l**	**3.54**	**274**	*e*Pn		**Pn**	**22 46 32.0**	**+0.1**
HINF	**Hinteralfeld**	**3.66**	**329**	*e*Pn		**Pn**	**22 46 31.8**	**-1.8**
HINF				*e*Sn		**Sn**	**22 47 14.3**	**-2.1**
	1.7nm,0.2s							
HAU	**Haudompre**	**4.00**	**326**	*e*Pn		**Pn**	**22 46 36.8**	**-1.7**
HAU				*e*Sn		**Sn**	**22 47 22.0**	**-3.3**
	6.5nm,0.4s							

CDF	**Champ du Feu**	**4.04**	**337**	*e*Pn		**Pn**	**22 46 36.6**	**-2.5**
CDF				*e*Sn		**Sn**	**22 47 21.7**	**-4.6**
	2.9nm,0.3s							

IDC 28 22:49:27.5±4.2, 8.98N×92.73E, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=154.6km s-min=29.3km az=64.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.72**	**349**	P		P	22 56 53.2	-1.8
	0.4nm,0.5s,baz=158,slow=6.5,SNR=3.7							
SONM	**Songino Array**	**40.42**	**14**	P		P	22 57 07.2	-1.9
	0.8nm,0.7s,baz=194,slow=5.9,SNR=4.5							
WRA	**Warramunga Arr**	**50.04**	**125**	P		P	22 58 24.3	-1.9
	0.5nm,0.4s,baz=302,slow=9.9,SNR=16							

*CSEM **28** 23:51:44.6±0.5, 38.93N×28.93W, h8km, ML2.1, Error ellipse: s-maj=10.0km s-min=3.9km az=130.0, After PDA*
*PDA **28** 23:51:44.6±0.9, 38.93N×28.93W, h8km±10km, MD3.5, ML2.1, Error ellipse: s-maj=9.0km s-min=5.6km az=76.0*
SVSA 28 23:51:44.6±0.9, 38.93N×28.93W, h8km±10km, MD3.5, ML2.1, Error ellipse: s-maj=9.0km s-min=5.6km az=76.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.39**	**152**	*e*P		Pg	23 51 51.3	-1.3
CALA				*e*S		Sg	23 51 56.6	-1.3
HOR	**Horta**	**0.47**	**149**	*e*P		Pg	23 51 52.3	-1.7
HOR				*e*S		Sg	23 51 58.1	-2.3
PICO	**Pico**	**0.58**	**137**	*i* P		Pg	23 51 54.4	-2.0
PICO				*e*S		Sg	23 52 01.9	-2.3
PMAN	**Manadas**	**0.72**	**114**	*e*P		Pg	23 51 56.4	-2.6
PMAN				*e*S		Sg	23 52 05.3	-3.5
STGR	**Santa Cruz**	**0.74**	**78**	*e*S		Sb	23 52 07.8	-1.5
	22nm,0.2s							
PGRA	**Graciosa**	**0.75**	**82**	*e*S		Sb	23 52 05.7	-3.9
	23nm,0.3s							
PSBA	**Serra de Santa**	**1.27**	**97**	*e*S		Sb	23 52 18.3	-6.3
ASBA	**Santa Barbara**	**1.27**	**99**	*e*S		Sb	23 52 18.2	-6.6
	9.0nm,0.1s							
PPAD	**Pico dos Padre**	**1.31**	**100**	*e*S		Sb	23 52 19.1	-6.6
	7.1nm,0.1s							
PBIS	**Biscoitos**	**1.32**	**97**	*e*S		Sb	23 52 19.3	-6.9
	10nm,0.2s							

CASC 29 00:02:27.5±2.2, 6.46N×82.73W, h35km±999km, MD4.3, MW5.0, 4C-5D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PTP1	**Petroterminal**	**1.75**	**10**⇑	*i*P		P	00 02 54.9	-1.1
PTP1				*e*S		S	00 03 15.5	-1.9
DVD	**David**	**1.98**	**8**⇓	*e*P		P	00 02 58.0	-1.2
DVD				*e*S		S	00 03 25.1	+2.1
SFX2	**San Felix**	**2.01**	**25**⇓	*e*P		P	00 02 58.8	-0.8
SFX2				*e*S		S	00 03 23.7	0.0
ACR	**Cerro Adams**	**2.22**	**349**	*e*P		P	00 03 01.4	-1.2
ACR				*e*S		S	00 03 28.6	-0.5
BRU2	**Volcan**	**2.32**	**1**	*e*P		P	00 03 03.8	-0.3
BRU2				*e*S		S	00 03 32.2	+0.7
BRU	**Baru**	**2.33**	**4**	*e*P		P	00 03 04.0	-0.3
BRU				*e*S		S	00 03 34.0	+2.0
AZU	**Azuero**	**2.77**	**61**⇓	*e*P		P	00 03 09.4	-1.1
AZU				*e*S		S	00 03 41.1	-1.9
CNI	**Changuinola**	**2.94**	**4**⇑	*e*P		P	00 03 13.3	+0.3
CNI				*e*S		S	00 03 47.1	-0.4
BUS	**Buena Vista**	**3.24**	**342**⇑	*e*P		P	00 03 17.1	-0.1
BUS				*e*S		S	00 03 54.8	-0.2
LCR2	**La Lucha 2**	**3.50**	**339**⇑	*i*P		P	00 03 20.4	-0.4

NLC	**Nalytchevo**	**3.91**	**246**	*i* P	**Pn**	**00 31 07.5**	**+0.6**
NLC				*i* S	**Sn**	**00 31 51.5**	**-1.9**
SDLR	**Sedlovina**	**4.11**	**249**	*e*P	**Pn**	**00 31 10.7**	**+1.0**
SDLR				*e*S	**Sn**	**00 31 57.3**	**-1.1**
SMAR	**Somma**	**4.16**	**249**	*i* P	**Pn**	**00 31 12.0**	**+1.6**
SMAR				*i* S	**Sn**	**00 31 58.4**	**-1.3**
UGLR	**Uglovaya**	**4.17**	**249**	*e*P	**Pn**	**00 31 11.7**	**+1.1**
UGLR				*i* S	**Sn**	**00 31 59.1**	**-0.9**
AVH	**Avacha**	**4.19**	**250**	*i* P	**Pn**	**00 31 12.4**	**+1.5**
AVH				*i* S	**Sn**	**00 31 59.1**	**-1.4**
KOK	**Koryaka**	**4.24**	**250**	*i* P	**Pn**	**00 31 13.2**	**+1.7**
KOK				*e*S	**Sn**	**00 31 59.3**	**-2.3**
PET	**Petropavlovsk**	**4.35**	**247**	P	**Pn**	**00 31 14.1**	**+1.0**
PET				S	**Sn**	**00 32 02.3**	**-2.2**
PET	**Petropavlovsk**	**4.35**	**247**	*e*Pn	**Pn**	**00 31 13.8**	**+0.7**
PET	**Petropavlovsk**	**4.35**	**247**	*i* P	**Pn**	**00 31 14.1**	**+1.0**
PET				*i* S	**Sn**	**00 32 02.2**	**-2.3**
GNL	**Ganaly**	**4.47**	**257**	*i* P	**Pn**	**00 31 16.6**	**+1.7**
GNL				*e*S	**Sn**	**00 32 07.4**	**-0.2**
KRMR	**Karymshinskiy**	**4.72**	**247**	*e*P	**Pn**	**00 31 20.0**	**+1.6**
KRMR				*e*S	**Sn**	**00 32 12.5**	**-1.3**
RUS	**Russkaya**	**4.73**	**241**	P	**Pn**	**00 31 18.4**	**-0.1**
RUS				S	**Sn**	**00 32 10.5**	**-3.6**
RUS	**Russkaya**	**4.73**	**241**	*e*P	**Pn**	**00 31 18.3**	**-0.2**
RUS				*i* S	**Sn**	**00 32 10.5**	**-3.6**
GRL	**Gorelyy**	**4.89**	**244**	*e*P	**Pn**	**00 31 22.2**	**+1.4**
GRL				*i* S	**Sn**	**00 32 17.7**	**-0.4**
FX1	**Attu Island--F**	**5.08**	**110**	PN	**Pn**	**00 31 23.8**	**+0.4**
FX1						00 32 22.8	
FX1				pmax	pmax		
	comp=Z,7.0nm,0.3s						
FX1				smax			
	comp=E,6.0nm,0.3s						
FX1	**Attu Island--F**	**5.08**	**110**	Pn	**Pn**	**00 31 23.8**	**+0.4**
	comp=E,7.0nm,0.3s,baz=337,slow=9.0,SNR=17						
FX1				Sn	**Sn**	**00 32 22.8**	**0.0**
	comp=E,6.4nm,0.3s,baz=111,slow=21,SNR=10						
FX1	**Attu Island--F**	**5.08**	**110**	*e*Pn	**Pn**	**00 31 24.0**	**+0.6**
APC	**Apacha**	**5.20**	**251**	*i* P	**Pn**	**00 31 27.6**	**+2.5**
APC				*e*S	**Sn**	**00 32 25.2**	**-0.7**
APC				Smax			
	comp=E,60nm,0.9s						
MIPR	**Malaya Ipel'ka**	**5.72**	**246**	*e*P	**Pn**	**00 31 34.2**	**+1.7**
PAU	**Pauzhetka**	**6.15**	**239**	*e*P	**Pn**	**00 31 38.5**	**0.0**
PAU				*e*S	**Sn**	**00 32 44.3**	**-5.4**
SKR	**Severo-Kuril's**	**6.98**	**237**	*e*PN	**Pn**	**00 31 46.8**	**-3.5**
IMA	**Indian Mountai**	**22.62**	**44**	*e*P	**P**	**00 35 07.4**	**+0.3**
IMA				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.6						
IMA	**Indian Mountai**	**22.62**	**44**	*e*P	**P**	**00 35 07.4**	**+0.4**
	comp=Z,21nm,0.9s,mb4.6						
ILAR	**Eielson Array**	**25.34**	**48**	P	**P**	**00 35 31.2**	**-2.2**
	comp=Z,2.1nm,0.8s,mb3.7,baz=261,slow=9.0,SNR=19						
MJAR	**Matsushiro Arr**	**26.09**	**236**	P	**P**	**00 35 42.7**	**+2.0**
	comp=Z,0.7nm,0.3s,mb3.6,baz=50,slow=19,SNR=3.0						
INK	**Inuvik**	**30.54**	**40**	P	**P**	**00 36 18.6**	**-1.9**
	comp=Z,1.4nm,0.7s,mb3.9,baz=5.0,slow=5.9,SNR=3.0						
SONM	**Songino Array**	**36.46**	**284**	P	**P**	**00 37 11.7**	**-0.3**
	comp=Z,0.6nm,0.3s,mb3.9,baz=56,slow=7.6,SNR=7.1						
YKA	**Yellowknife Ar**	**39.73**	**46**	P	**P**	**00 37 37.8**	**-1.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**39.73**	**46**	P	**P**	**00 37 37.8**	**-1.3**
	comp=Z,0.6nm,0.6s,mb3.5,baz=297,slow=8.0,SNR=4.4						
MKAR	**Makanchi Array**	**50.10**	**297**	P	**P**	**00 39 00.4**	**-1.7**
	comp=Z,0.4nm,0.7s,mb3.6,baz=59,slow=7.1,SNR=5.2						
PDAR	**Pinedale Array**	**53.97**	**65**	P	**P**	**00 39 31.6**	**+0.4**
	comp=Z,0.4nm,0.8s,mb3.4,baz=315,slow=4.2,SNR=3.5						
NAO01	**NORSAR Array S**	**62.83**	**346**	P	**P**	**00 40 30.1**	**-2.8**
	comp=Z,3.4nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	**67.13**	**71**	P	**P**	**00 40 59.0**	**-2.1**
	comp=Z,0.2nm,0.5s,mb3.4,baz=297,slow=2.8,SNR=4.4						

CASC 29 00:59:35.7±2.9, 14.05N×91.84W, h11km±25km, MD3.8, ML3.9, 6C-5D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.04**	**68**⇓	*e*P	Pb	00 59 54.7	-0.6
FUG				*e*S	Sb	01 00 11.4	+2.7
TP2	**Tecpan 2**	**1.08**	**47**	*e*P	Pb	00 59 55.5	-0.3
TP2				*e*S	Sb	01 00 11.3	+1.6
TP2				AML	AML	01 00 14.5	
	comp=E,3μm,0.4s						
PCG	**Pacaya**	**1.24**	**74**	*e*P	Pb	00 59 57.9	-0.7
PCG				*e*S	Sb	01 00 15.3	+0.8
IXG	**Ixpaco**	**1.35**	**85**⇑	*e*P	Pb	00 59 59.1	-1.3
IXG				*e*S	Sb	01 00 18.1	+0.5
RBDL	**Robledal**	**2.09**	**88**⇓	*e*P	Pn	01 00 31.8	+21
RBDL				*e*S	Sn	01 00 58.9	+22
RTR	**El Retiro**	**2.13**	**94**⇑	*e*P	Pn	01 00 32.2	+21
RTR				*e*S	Sn	01 00 59.6	+21
SBLS	**San Blas**	**2.16**	**95**⇑	*e*P	Pn	01 00 32.3	+20
SBLS				*e*S	Sn	01 01 00.2	+21
SNJE	**San Jose**	**2.17**	**94**⇓	*e*P	Pn	01 00 32.7	+20
SNJE				*e*S	Sn	01 01 00.7	+21
MRL	**Marmol**	**2.31**	**64**⇑	*e*P	Pn	01 00 12.9	-1.4
MRL				*e*S	Sn	01 00 46.0	+3.1
BOQS	**Boqueron**	**2.50**	**97**⇑	*e*P	Pn	01 00 37.3	+20
BOQS				*e*S	Sn	01 01 07.8	+20
LFU	**La Fuente**	**2.66**	**96**	*e*P	Pn	01 00 40.1	+21
LFU				*e*S	Sn	01 01 12.5	+21
LFRS	**El Faro**	**2.73**	**99**⇓	*e*P	Pn	01 00 40.5	+20
LFRS				*e*S	Sn	01 01 13.2	+20
LCBS	**La Ceiba**	**2.80**	**98**⇑	*e*P	Pn	01 00 41.9	+21
LCBS				*e*S	Sn	01 01 16.1	+21
SNVI	**San Vicente**	**2.94**	**98**⇓	*e*P	Pn	01 00 44.0	+21
SNVI				*e*S	Sn	01 01 20.2	+21

*IDC **29** 01:01:29.3±4.2, 7.73N×91.97E, mb3.8/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=155.6km s-min=24.1km az=64.0*

ISC 29 01:01:40.9±1.4, 8.3N±0.2×93.8E±0.3, h33km, n12, σ0°44/12, mb4.2/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**17.26**	**354**	*e*P	**P**	**01 05 41.0**	**0.0**
JIRN	**Jiri**	**20.54**	**341**	*e*P	**P**	**01 06 19.7**	**+0.4**
	29nm,0.8s						
PKI	**Pulchoki**	**20.73**	**339**	*e*P	**P**	**01 06 21.3**	**+0.1**
DMN	**Daman**	**20.88**	**338**	*e*P	**P**	**01 06 23.0**	**+0.3**
GUN	**Gumba**	**20.88**	**340**	*e*P	**P**	**01 06 22.3**	**-0.4**
KKN	**Kakani**	**20.98**	**339**	*e*P	**P**	**01 06 23.9**	**+0.2**
GKN	**Gorkha**	**21.41**	**337**	*e*P	**P**	**01 06 28.3**	**+0.2**
	45nm,0.6s,mb5.0						
KOLN	**Koldanda**	**21.62**	**335**	*e*P	**P**	**01 06 29.5**	**-0.7**
	59nm,0.7s,mb5.1						
MKAR	**Makanchi Array**	**39.59**	**348**	P	**P**	**01 09 04.0**	**-6.7**
	0.5nm,0.6s,mb3.5,baz=166,slow=8.4,SNR=5.4						
SONM	**Songino Array**	**40.82**	**13**	P	**P**	**01 09 20.8**	**-0.2**
	1.3nm,0.7s,mb3.7,baz=196,slow=8.6,SNR=9.6						
FITZ	**Fitzroy Crossi**	**40.97**	**130**	P	**P**	**01 09 21.7**	**-0.7**
	5.4nm,0.9s,mb4.2,baz=242,slow=4.6,SNR=3.7						
WRA	**Warramunga Arr**	**48.80**	**126**	P	**P**	**01 10 26.0**	**+0.8**
	0.2nm,0.4s,mb3.5,baz=312,slow=7.9,SNR=4.9						

*NEIC **29** 01:07:03.4, 45.08S×167.40E, h86km, ML4.0(WEL), After WEL.*

WEL 29 01:07:03.1±0.2, 45.07S×167.38E, h88km±1km, ML4.0/10, 4C-2D, Error ellipse: s-maj=2.0km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.44**	**201**	P	P	01 07 16.9	-0.4
DCZ				S	S	01 07 27.4	-0.7
DCZ	**Deep Cove**	**0.44**	**201**	⇑PN	P	01 07 16.9	-0.4
DCZ				SN	S	01 07 27.4	-0.7
MSZ	**Milford Sound**	**0.55**	**45**	P	P	01 07 18.2	-0.1
MSZ				S	S	01 07 28.8	-0.8
MSZ	**Milford Sound**	**0.55**	**45**	⇑PN	P	01 07 18.2	-0.1
MSZ				SN	S	01 07 28.8	-0.8
MLZ	**Mavora Lakes**	**0.63**	**117**	P	P	01 07 18.5	-0.5
MLZ	**Mavora Lakes**	**0.63**	**117**	⇑PN	P	01 07 18.5	-0.5
MLZ				SN	S	01 07 29.9	-0.9
WHZ	**Wether Hill Ro**	**0.92**	**155**	P	P	01 07 21.7	-0.3
WHZ				S	S	01 07 35.0	-1.2
WHZ	**Wether Hill Ro**	**0.92**	**155**	⇓PN	P	01 07 21.7	-0.3
WHZ				SN	S	01 07 35.0	-1.2
WKZ	**Wanaka**	**1.19**	**79**	P	P	01 07 25.0	-0.3
WKZ	**Wanaka**	**1.19**	**79**	PN	P	01 07 25.0	-0.3
WKZ				SN	S	01 07 40.7	-1.1
EAZ	**Earnscleugh**	**1.38**	**98**	P	P	01 07 27.1	-0.6
EAZ	**Earnscleugh**	**1.38**	**98**	PN	P	01 07 27.1	-0.6
EAZ				SN	S	01 07 44.7	-1.1
JCZ	**Jackson Bay**	**1.40**	**45**	P	P	01 07 27.0	-0.9
JCZ	**Jackson Bay**	**1.40**	**45**	⇑PN	P	01 07 27.0	-0.9
JCZ				SN	S	01 07 44.4	-1.9
TUZ	**Tuapeka**	**1.82**	**120**	PN	P	01 07 32.5	-0.9
LBZ	**Lake Benmore**	**2.11**	**72**	*e*P	P	01 07 35.2	-2.1
LBZ	**Lake Benmore**	**2.11**	**72**	PN	P	01 07 35.2	-2.1
FOZ	**Fox Glacier**	**2.23**	**49**	*e*P	P	01 07 37.8	-1.2
FOZ	**Fox Glacier**	**2.23**	**49**	PN	P	01 07 37.9	-1.2
ODZ	**Otahua Downs**	**2.31**	**91**	P	P	01 07 38.3	-1.8
ODZ	**Otahua Downs**	**2.31**	**91**	⇓PN	P	01 07 38.3	-1.8
RPZ	**Rata Peaks**	**2.96**	**64**	*e*P	P	01 07 45.9	-3.2
LTZ	**Lake Taylor**	**4.21**	**59**	*e*P	P	01 08 01.9	-4.4

*NEIC **29** 01:09:09.3±0.8, 16.66S×73.95W, h43km±7km, mb4.5/27, Error ellipse: s-maj=9.3km s-min=5.2km az=57.0*
*BJI **29** 01:09:09.3, 16.70S×74.00W, h43km, mB5.5, Ms5.2, Msz4.7*
*IDC **29** 01:09:09.3±2.7, 16.61S×73.92W, h43km±25km, mb4.1/14, mb1 4.2/19, mb1mx4.2/22, mbtmp4.2/19, ML4.4/3, MS3.6/13, Ms1 3.5/13, ms1mx3.4/30, Error ellipse: s-maj=23.7km s-min=14.9km az=70.0*

ISC 29 01:09:07.0±1.3, 16.63S±0.06×74.00W±0.07, h37km±12km, n81, σ0°88/67, mb4.5/38, MS3.6/9, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.41**	**86**⇑	*i* P	**P**	**01 09 45.9**	**+1.0**
ARE				*i* S	**S**	**01 10 13.9**	**+0.4**
NNA	**Nana**	**5.37**	**329**	*e*Pn	**P**	**01 10 27.1**	**+0.3**
	62nm,0.6s						
LPAZ	**La Paz**	**5.64**	**87**	P	**P**	**01 10 31.9**	**+1.3**
	6.4nm,0.3s,baz=285,slow=9.5,SNR=210						
LPAZ				LR	LR	01 13 13.5	
	comp=Z,560nm,19.0s,baz=263,slow=44						
LPAZ	**La Paz**	**5.64**	**87**	*e*Pn	**P**	**01 10 33.1**	**+2.5**
	46nm,0.9s						
LVC	**Limon Verde**	**7.64**	**142**	P	**P**	**01 10 56.8**	**-1.9**
	3.3nm,0.3s,baz=316,slow=9.4,SNR=49						
LVC				S	**S**	**01 12 17.0**	**-8.0**
	5.8nm,0.3s,baz=95,slow=20,SNR=13						
LVC				LR	LR	01 13 46.3	
	comp=Z,293nm,19.1s,baz=327,slow=36						
LVC	**Limon Verde**	**7.64**	**142**	*e*Pn	**P**	**01 10 56.3**	**-2.3**
	25nm,0.8s						
LVC				*e*Sn	**S**	**01 12 16.5**	**-8.5**
SIV	**San Ignacio**	**12.43**	**89**	P	**P**	**01 12 01.5**	**-2.9**
	1.3nm,0.3s,baz=285,slow=9.8,SNR=22						
SAML	**Samuel**	**13.01**	**55**	*e*Pn	**P**	**01 12 11.7**	**-0.5**
	7.1nm,0.6s						
CFAA	**Coronel Fontan**	**15.81**	**162**	P	**P**	**01 12 48.6**	**0.0**
	0.0nm,0.3s,baz=340,slow=10.0,SNR=4.0						
CFAA				LR	LR	01 18 01.7	
	comp=Z,320nm,20.9s,baz=340,slow=34						
CPUP	**Villa Florida**	**18.25**	**125**	P	**P**	**01 13 19.8**	**+0.4**
	0.1nm,0.3s,baz=329,slow=14,SNR=4.0						
CPUP				LR	LR	01 20 58.9	
	comp=Z,85nm,21.8s,baz=303,slow=39						
ROSC	**El Rosal**	**21.35**	**359**	P	**P**	**01 13 54.1**	**+0.8**
	4.1nm,0.7s,mb3.9,baz=99,slow=23,SNR=2.0						
ROSC				LR	LR	01 23 04.4	
	comp=Z,226nm,20.6s,MS3.5,baz=223,slow=39						
PLCA	**Paso Flores**	**24.21**	**174**	P	**P**	**01 14 22.0**	**+0.7**
	5.9nm,0.8s,mb4.0,baz=346,slow=10,SNR=10.0						
PLCA				LR	LR	01 21 54.2	
	comp=Z,147nm,21.8s,MS3.4,baz=360,slow=32						
PLCA	**Paso Flores**	**24.21**	**174**	*e*P	**P**	**01 14 21.8**	**+0.5**
	6.8nm,0.8s,mb4.1						
BDFB	**Brasilia**	**24.98**	**91**	P	**P**	**01 14 28.4**	**-0.6**
	1.9nm,0.5s,mb3.9,baz=248,slow=11,SNR=4.4						
BDFB				LR	LR	01 26 27.1	
	comp=Z,67nm,18.4s,MS3.2,baz=282,slow=42						
BAO	**Brasilia Array**	**25.00**	**91**	P	**P**	**01 14 29.5**	**+0.3**
SDV	**Santo Domingo**	**25.57**	**8**	P	**P**	**01 14 32.7**	**-1.8**
	4.7nm,0.7s,mb4.1,baz=90,slow=1.0,SNR=3.6						
SDV				LR	LR	01 25 30.0	
	comp=Z,206nm,20.5s,MS3.6,baz=224,slow=38						
SDV	**Santo Domingo**	**25.57**	**8**	*e*P	**P**	**01 14 34.0**	**-0.6**
	5.4nm,0.8s,mb4.1						
JTS	**JuntasAbangare**	**28.86**	**337**	LR	LR	01 25 50.2	
	comp=Z,142nm,18.5s,MS3.6,baz=354,slow=35						
LTX	**Lajitas**	**53.93**	**328**	*e*P	**P**	**01 18 28.9**	**-0.6**
	9.4nm,0.9s,mb4.7						
TXAR	**Lajitas Array**	**53.93**	**328**	P	**P**	**01 18 29.4**	**-0.1**
	7.3nm,0.8s,mb4.7,baz=147,slow=8.9,SNR=76						
TXAR				LR	LR	01 40 52.1	
	comp=Z,54nm,18.4s,MS3.6,baz=140,slow=35						
ELN	**Prospectdale**	**53.94**	**353**	*e*P	**P**	**01 18 28.7**	**-0.8**
WVT	**Waverly**	**54.08**	**346**	*e*P	**P**	**01 18 28.8**	**-1.7**
	4.0nm,0.9s,mb4.3						
WCI	**Wyandotte Cave**	**55.77**	**348**	*e*P	**P**	**01 18 40.8**	**-1.9**
	32nm,1.0s,mb5.3						
MNTX	**Cornudas Mount**	**56.70**	**328**	*e*P	**P**	**01 18 48.1**	**-1.4**
	10nm,1.0s,mb4.8						
ANMO	**Albuquerque**	**59.84**	**329**	*e*P	**P**	**01 19 11.2**	**-0.3**
	6.6nm,1.0s,mb4.6						
TUC	**Tucson**	**60.07**	**324**	*e*P	**P**	**01 19 12.6**	**-0.5**
	6.1nm,1.0s,mb4.6						
SDCO	**Great Sand Dun**	**61.66**	**332**	*e*P	**P**	**01 19 24.2**	**+0.4**
	23nm,1.2s,mb5.2						
PV01	**Paradox Valley**	**63.41**	**330**	*e*P	**P**	**01 19 35.4**	**0.0**
SMCO	**Snowmass**	**63.50**	**332**	*e*P	**P**	**01 19 36.3**	**+0.4**
PV10	**Paradox Valley**	**63.82**	**330**	*e*P	**P**	**01 19 37.8**	**-0.3**
NEN	**Nelson**	**64.81**	**324**	*e*P	**P**	**01 19 45.0**	**+0.4**
RSSD	**Black Hills**	**66.39**	**337**	*e*P	**P**	**01 19 54.4**	**-0.1**
	2.2nm,0.8s,mb4.2						
DUG	**Dugway**	**67.08**	**329**	*e*P	**P**	**01 19 59.8**	**+0.9**
	20nm,1.1s,mb5.1						
BW06	**Boulder Array**	**67.55**	**332**	*e*P	**P**	**01 20 01.6**	**-0.1**
	4.4nm,1.2s,mb4.4						
PDAR	**Pinedale Array**	**67.55**	**332**	P	**P**	**01 20 00.9**	**-0.8**
	1.2nm,0.8s,mb4.0,baz=146,slow=5.3,SNR=11						
HWUT	**Hardware Ranch**	**67.56**	**330**	*e*P	**P**	**01 20 01.9**	**0.0**
	7.0nm,0.8s,mb4.7						
MTUM	**Tungsten Hills**	**68.13**	**323**	*e*P	**P**	**01 20 06.7**	**+1.2**
SNAA	**Sanae**	**68.43**	**161**	*e*P	**P**	**01 20 06.5**	**-0.3**
	1.2nm,0.7s,mb4.0						
OMM	**Old Mammoth Mi**	**68.56**	**323**	*e*P	**P**	**01 20 09.4**	**+1.2**
LOHW	**Long Hollow**	**68.68**	**332**	*e*P	**P**	**01 20 08.9**	**0.0**
	2.8nm,0.6s,mb4.4						
ELK	**Elko**	**68.72**	**327**	*e*P	**P**	**01 20 10.1**	**+0.9**
	4.6nm,1.1s,mb4.3						
NVAR	**Mina Array Bea**	**68.72**	**324**	P	**P**	**01 20 09.9**	**+0.7**
	3.5nm,0.9s,mb4.3,baz=135,slow=6.8,SNR=17						
TPAW	**Teton Pass**	**68.74**	**332**	*e*P	**P**	**01 20 09.5**	**+0.3**
	3.8nm,0.7s,mb4.4						
RRI2	**Red Ridge**	**68.80**	**332**	*e*P	**P**	**01 20 10.0**	**+0.4**
	22nm,0.8s,mb5.1						
IMW	**Indian Meadow**	**69.06**	**332**	*e*P	**P**	**01 20 11.6**	**+0.4**
	6.3nm,0.9s,mb4.5						
ULM	**Lac du Bonnet**	**69.32**	**345**	P	**P**	**01 20 11.1**	**-1.6**
	4.5nm,0.6s,mb4.6,baz=146,slow=7.8,SNR=4.9						
ULM				LR	LR	01 51 05.2	
	comp=Z,44nm,18.1s,MS3.7,baz=41,slow=36						
HLID	**Hailey**	**70.41**	**330**	*e*P	**P**	**01 20 20.3**	**+0.9**
	5.2nm,1.0s,mb4.4						
MCMT	**McKenzie Canyo**	**70.64**	**332**	*e*P	**P**	**01 20 21.7**	**+0.9**
SCHQ	**Schefferville**	**71.43**	**4**	P	**P**	**01 20 24.8**	**-0.6**
	6.4nm,0.8s,mb4.6,baz=170,slow=4.6,SNR=6.8						
WVOR	**Wild Horse Val**	**71.71**	**327**	*e*P	**P**	**01 20 26.8**	**-0.4**
	4.7nm,1.1s,mb4.3						
DBIC	**Dimbokro**	**72.17**	**77**	P	**P**	**01 20 29.0**	**-1.4**
	12nm,0.9s,mb4.8,baz=221,slow=5.2,SNR=14						
DBIC				LR	LR	01 53 08.2	
	comp=Z,78nm,18.1s,MS4.0,baz=318,slow=37						
DBIC	**Dimbokro**	**72.17**	**77**	P	**P**	**01 20 29.0**	**-1.4**
DBIC				LR	LR	01 53 08.2	
BMO	**Blue Mountains**	**72.76**	**329**	*e*P	**P**	**01 20 33.9**	**+0.5**
	5.3nm,1.0s,mb4.4						
FFC	**Flin Flon**	**74.96**	**344**	*e*P	**P**	**01 20 45.6**	**-0.5**
	5.9nm,1.0s,mb4.5						
NEW	**Newport**	**75.17**	**332**	*e*P	**P**	**01 20 47.7**	**+0.3**
	3.8nm,1.0s,mb4.3						
EDM	**Edmonton**	**77.38**	**337**	*e*P	**P**	**01 20 59.6**	**-0.2**
VNDA	**Vanda**	**80.77**	**191**	P	**P**	**01 21 17.0**	**-0.8**
	0.5nm,0.8s,mb3.5,baz=180,slow=1.0,SNR=3.1						
VNDA	**Vanda**	**80.77**	**191**	*e*P	**P**	**01 21 17.0**	**-0.8**
	0.7nm,0.9s,mb3.6						
YKA	**Yellowknife Ar**	**85.06**	**342**	P	**P**	**01 21 39.8**	**-0.1**
	14nm,0.9s,mb5.1,baz=137,slow=4.9,SNR=88						
YKA	**Yellowknife Ar**	**85.06**	**342**	P	**P**	**01 21 39.8**	**-0.1**
YKW3	**Yellowknife Ar**	**85.12**	**342**	*e*P	**P**	**01 21 40.3**	**+0.1**
ESDC	**Sonseca Array**	**85.88**	**47**	P	**P**	**01 21 45.4**	**+0.9**
	1.2nm,0.6s,mb4.3,baz=255,slow=5.0,SNR=11						
ESLA	**Sonseca Array**	**85.88**	**47**	*e*P	**P**	**01 21 45.4**	**+0.9**
	0.2nm,0.5s,mb3.6						
MAW	**Mawson**	**90.31**	**165**	P	**P**	**01 22 06.2**	**+1.2**
	0.4nm,0.5s,mb4.0,baz=263,slow=8.1,SNR=3.9						
SUMG	**Summit**	**92.07**	**10**	*e*P	**P**	**01 22 14.6**	**+1.5**
	16nm,1.0s,mb5.3						
JMIC	**Jan Mayen**	**97.95**	**18**	LR	LR	02 03 31.0	
	comp=Z,39nm,18.1s,MS3.9,baz=240,slow=33						
GERES	**GERESS Array B**	**100.84**	**42**	P	P	01 22 53.2	-0.3
	0.1nm,0.4s,baz=252,slow=4.2,SNR=3.4						
WRA	**Warramunga Arr**	**134.22**	**219**	PKP	PKPdf	01 28 23.8	+1.8
	1.2nm,0.7s,baz=149,slow=1.7,SNR=12						
MKAR	**Makanchi Array**	**144.07**	**28**	PKP	PKPdf	01 28 38.4	-0.5
	1.1nm,0.7s,baz=322,slow=4.3,SNR=11						
TLY	**Talaya**	**144.98**	**3**	*e*PKPdf	PKPdf	01 28 42.3	+2.0
MJAR	**Matsushiro Arr**	**145.27**	**311**	PKPbc	PKPbc	01 28 41.3	-0.4
	3.2nm,0.5s,baz=168,slow=2.6,SNR=9.1						
MAJO	**Matsushiro**	**145.27**	**311**	*e*PKPdf	PKPdf	01 28 43.1	+1.8
HIA	**Hailar**	**145.58**	**344**	*e*PKPdf	PKPdf	01 28 42.7	+1.4
MDJ	**Mudanjiang**	**145.74**	**329**	PKP	PKPdf	01 28 43.5	+1.7
WMQ	**Urumqi**	**148.76**	**26**	*e*PKP	PKPdf	01 28 48.3	+1.5
SONM	**Songino Array**	**148.88**	**359**	PKP	PKPdf	01 28 46.3	-0.6
	0.1nm,0.3s,baz=16,slow=15,SNR=2.4						
SONM				PKPbc	PKPdf	01 28 53.6	+6.7
	8.0nm,0.7s,baz=334,slow=1.6,SNR=42						
LZH	**Lanzhou**	**160.52**	**5**	*e*PKP	PKPdf	01 29 04.8	+1.8
LZH				APKP		01 29 17.0	
LZH				XPKP		01 29 20.8	
LZH	**Lanzhou**	**160.52**	**5**	*e*PKP	PKPdf	01 29 04.8	+1.8
LZH				pPKP		01 29 17.0	
LZH				sPKP		01 29 20.7	
NJ2	**Nanjing**	**160.72**	**325**	*e*PKP	PKPdf	01 29 05.5	+2.2
KMI	**Kunming**	**171.01**	**19**	PKP	PKPdf	01 29 10.8	-0.9
KMI				LR	LR		
	comp=Z,24nm,26.5s						
KMI	**Kunming**	**171.01**	**19**	PKP	PKPdf	01 29 10.7	-1.1
KMI				pPKP		01 29 18.4	

*ATH **29** 01:33:39.4, 40.65N×23.51E, h20km±1km, MD3.1/5*
*THE **29** 01:33:39.9, 40.67N×23.47E, h1km, ML2.3*
*NEIC **29** 01:33:39.4, 40.65N×23.51E, h20km, MD3.1(ATH), After ATH.*
*CSEM **29** 01:33:39.9±0.1, 40.67N×23.48E, h7km±1km, ML2.3, Error ellipse: s-maj=1.6km s-min=1.4km az=93.0*

ISC 29 01:33:39.0±0.6, 40.67N±0.03×23.48E±0.05, h11km±6km, n13, σ0°87/19, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.30**	**184**⇑	*i* PB	**Pb**	**01 33 45.6**	**-0.2**
PLG				*e*SB	**Sb**	**01 33 49.6**	**-0.8**
THE	**Thessaloniki**	**0.39**	**264**	*e*Pg	**Pg**	**01 33 47.2**	**+0.1**
THE				*e*Sg	**Sg**	**01 33 52.6**	**+0.1**
SRS	**Serrai**	**0.45**	**11**	*e*Pg	**Pg**	**01 33 48.5**	**+0.3**
OUR	**Ouranopolis**	**0.51**	**131**	*e*Pg	**Pg**	**01 33 49.6**	**+0.2**
NVR	**Nevrokopi**	**0.74**	**23**	*e*PN	**Pn**	**01 33 53.8**	**-1.2**
NVR				*e*SN	**Sn**	**01 34 04.3**	**-1.9**
PAIG	**Pa

RAO	**Raoul Island**	**5.41**	**8**	P		**P**	**01 41 36.1**	**+0.5**
	66nm,0.3s,baz=265,slow=23,SNR=3.9							
RAO				S		**S**	**01 42 35.8**	**-1.3**
	179nm,0.3s,baz=201,slow=20,SNR=4.2							
PATZ	**Paeroa**	**5.50**	**226**	P		**P**	**01 41 38.6**	**+1.8**
PATZ	**Paeroa**	**5.50**	**226**	PN		**P**	**01 41 37.3**	**+0.5**
TOZ	**Tahuroa Road**	**5.59**	**235**	P		**P**	**01 41 39.8**	**+1.7**
TOZ	**Tahuroa Road**	**5.59**	**235**	PN		**P**	**01 41 38.8**	**+0.7**
BKZ	**Black Stump Fm**	**5.92**	**219**	P		**P**	**01 41 42.6**	**0.0**
BKZ	**Black Stump Fm**	**5.92**	**219**	PN		**P**	**01 41 42.3**	**-0.3**
KRVZ	**Karewarewa**	**6.34**	**224**	PN		**P**	**01 41 47.9**	**-0.4**
OTVZ	**Oturere**	**6.37**	**223**	PN		**P**	**01 41 48.4**	**-0.4**
WTVZ	**West Tongariro**	**6.38**	**224**	P		**P**	**01 41 51.1**	**+2.1**
NGZ	**Ngauruhoe**	**6.41**	**223**	P		**P**	**01 41 49.4**	**0.0**
NGZ	**Ngauruhoe**	**6.41**	**223**	PN		**P**	**01 41 48.8**	**-0.6**
PWZ	**Pawanui**	**6.43**	**212**	*e*P		**P**	**01 41 49.8**	**+0.2**
TWVZ	**Taurewa**	**6.44**	**225**	P		**P**	**01 41 49.8**	**0.0**
TWVZ	**Taurewa**	**6.44**	**225**	PN		**P**	**01 41 49.8**	**0.0**
HIZ	**Hauiti**	**6.45**	**231**	*e*P		**P**	**01 41 50.5**	**+0.6**
HIZ	**Hauiti**	**6.45**	**231**	PN		**P**	**01 41 50.5**	**+0.5**
TUVZ	**Tukino**	**6.45**	**222**	PN		**P**	**01 41 49.6**	**-0.3**
CNZ	**Chateau**	**6.46**	**223**	P		**P**	**01 41 50.1**	**0.0**
CNZ	**Chateau**	**6.46**	**223**	PN		**P**	**01 41 50.1**	**0.0**
WPVZ	**Whakapapa**	**6.46**	**223**	P		**P**	**01 41 50.3**	**+0.2**
MOVZ	**Moawhango**	**6.49**	**221**	P		**P**	**01 41 49.2**	**-1.3**
WNVZ	**Wahianoa**	**6.52**	**222**	P		**P**	**01 41 50.6**	**-0.3**
TSZ	**Takapari Road**	**6.87**	**216**	*e*P		**P**	**01 41 54.2**	**-1.5**
WAZ	**Wanganui**	**7.16**	**223**	*e*P		**P**	**01 41 59.2**	**-0.5**
BFZ	**Birch Farm**	**7.23**	**212**	*e*P		**P**	**01 41 59.3**	**-1.4**
MRZ	**Mangatainoka R**	**7.52**	**215**	*e*P		**P**	**01 42 02.1**	**-2.5**
MTW	**Mount Morrison**	**7.95**	**213**	P		**P**	**01 42 07.8**	**-2.6**
KIW	**Kapiti Island**	**8.00**	**217**	P		**P**	**01 42 07.8**	**-3.3**
MSWZ	**Moikau Station**	**8.27**	**213**	P		**P**	**01 42 12.0**	**-2.7**
MRW	**Makara Radio**	**8.38**	**216**	P		**P**	**01 42 13.0**	**-3.3**
BHW	**Baring Head**	**8.44**	**215**	P		**P**	**01 42 14.2**	**-2.8**
SNZO	**South Karori**	**8.44**	**216**	P		**P**	**01 42 12.8**	**-4.3**
TCW	**Tory Channel**	**8.58**	**218**	P		**P**	**01 42 14.8**	**-4.1**
NNZ	**Nelson**	**9.05**	**221**	P		**P**	**01 42 21.7**	**-3.6**
QRZ	**Quartz Range**	**9.28**	**226**	*e*P		**P**	**01 42 23.9**	**-4.4**
THZ	**Tophouse**	**9.69**	**220**	*e*P		**P**	**01 42 29.9**	**-4.0**
KHZ	**Kahutara**	**9.85**	**216**	*e*P		**P**	**01 42 32.3**	**-3.7**
LTZ	**Lake Taylor**	**10.75**	**218**	*e*P		**P**	**01 42 42.8**	**-5.3**
RPZ	**Rata Peaks**	**12.03**	**218**	P		**P**	**01 43 04.9**	**-0.3**
	2.6nm,0.3s,baz=13,slow=1.8,SNR=8.0							
RPZ				S		**S**	**01 45 04.5**	**-13**
	6.7nm,0.3s,baz=335,slow=19,SNR=17							
RPZ	**Rata Peaks**	**12.03**	**218**	*e*PN		**P**	**01 43 00.8**	**-4.4**
RPZ				SN		**S**	**01 45 04.8**	**-13**
FOZ	**Fox Glacier**	**12.65**	**222**	*e*PN		**P**	**01 43 09.0**	**-4.4**
FOZ				SN		**S**	**01 45 14.6**	**-18**
LBZ	**Lake Benmore**	**12.95**	**218**	*e*PN		**P**	**01 43 13.0**	**-4.3**
LBZ				SN		**S**	**01 45 25.4**	**-14**
ODZ	**Otahua Downs**	**13.21**	**215**	*e*PN		**P**	**01 43 14.7**	**-5.9**
ODZ				SN		**S**	**01 45 32.5**	**-13**
JCZ	**Jackson Bay**	**13.50**	**222**	*e*PN		**P**	**01 43 20.6**	**-3.7**
JCZ				SN		**S**	**01 45 35.6**	**-17**
WKZ	**Wanaka**	**13.86**	**219**	*e*PN		**P**	**01 43 26.7**	**-2.3**
TUZ	**Tuapeka**	**14.36**	**215**	*e*PN		**P**	**01 43 31.4**	**-4.1**
TUZ				SN		**S**	**01 46 01.6**	**-11**
DZM	**Mont Dzumac**	**18.05**	**310**	P		**P**	**01 44 18.5**	**-3.1**
	0.4nm,0.3s,baz=116,slow=18,SNR=6.1							
DZM				LR		LR	01 49 00.3	
	comp=Z,172nm,20.2s,baz=28,slow=30							
AFI	**Afiamalu**	**21.57**	**19**	P		**P**	**01 45 04.8**	**+6.0**
	13nm,0.4s,mb4.6,baz=61,slow=19,SNR=3.2							
PPT	**Papeete**	**31.06**	**64**	LR		LR	01 55 13.9	
	comp=Z,113nm,20.5s,baz=192,slow=28							
STKA	**Stephens Creek**	**33.14**	**263**	P		**P**	**01 46 45.7**	**+0.9**
	5.3nm,0.8s,mb4.4,baz=90,slow=9.2,SNR=7.2							
STKA				PcP		PcP	01 49 29.6	+3.8
	4.8nm,0.9s,baz=99,slow=3.7,SNR=4.5							
STKA	**Stephens Creek**	**33.14**	**263**	*e*P		**P**	**01 46 45.4**	**+0.6**
CTA	**Charters Tower**	**34.11**	**286**	*e*P		**P**	**01 46 54.4**	**+1.2**
	10nm,0.6s,mb4.8							
CTA	**Charters Tower**	**34.11**	**286**	P		**P**	**01 46 53.4**	**+0.2**
	9.4nm,0.5s,mb4.9,baz=108,slow=10.0,SNR=18							
CTAO	**Charters Tower**	**34.11**	**286**	*e*P		**P**	**01 46 53.7**	**+0.5**
	13nm,0.6s,mb4.9							
PMG	**Port Moresby**	**40.04**	**301**	P		**P**	**01 47 43.8**	**+0.9**
	20nm,0.9s,mb5.0,baz=106,slow=7.4,SNR=4.0							
WB2	**Warramunga Arr**	**43.80**	**277**	⇓*i*P		**P**	**01 48 14.1**	**+0.4**
WRAB	**Tennant Creek**	**43.80**	**277**	*e*P		**P**	**01 48 13.8**	**0.0**
	35nm,0.7s,mb5.2							
WRA	**Warramunga Arr**	**43.81**	**277**	P		**P**	**01 48 14.2**	**+0.4**
	20nm,0.6s,mb5.0,baz=120,slow=7.5,SNR=64							
WRA				PcP		PcP	01 50 02.5	+3.3
	1.8nm,0.6s,baz=123,slow=3.4,SNR=5.2							
WRA				S		**S**	**01 54 31.1**	**-5.3**
	1.0nm,0.9s,baz=112,slow=13,SNR=3.8							
WRA				PKiKP			01 57 07.3	
	0.4nm,0.4s,baz=103,slow=0.2,SNR=10							
WRA	**Warramunga Arr**	**43.81**	**277**	P		**P**	**01 48 14.2**	**+0.4**
WRA				PcP		PcP	01 50 02.5	+3.3
WRA				S		**S**	**01 54 31.1**	**-5.4**
VNDA	**Vanda**	**43.84**	**186**	P		**P**	**01 48 23.6**	**+10**
	0.5nm,0.9s,mb3.3,baz=283,slow=2.5,SNR=3.8							
CASY	**Casey**	**51.14**	**209**	*e*P		**P**	**01 49 16.9**	**+6.6**
CASY	**Casey**	**51.14**	**209**	*e*P		**P**	**01 49 16.6**	**+6.3**
	7.4nm,0.6s,mb4.9							
FITZ	**Fitzroy Crossi**	**51.86**	**274**	⇓*i*P		**P**	**01 49 17.2**	**+0.8**
	17nm,0.6s,mb5.3							
FITZ	**Fitzroy Crossi**	**51.86**	**274**	P		**P**	**01 49 16.6**	**+0.2**
	28nm,0.8s,mb5.3,baz=161,slow=6.4,SNR=30							
KLBR	**Kellerberrin**	**52.50**	**254**	*e*P		**P**	**01 49 21.6**	**+0.6**
	39nm,1.3s,mb5.3							
MBWA	**Marble Bar**	**55.26**	**267**	*e*P		**P**	**01 49 40.9**	**-0.5**
	7.2nm,0.6s,mb4.9							
QSPA	**South Pole Qui**	**55.49**	**180**	*e*P		**P**	**01 49 56.7**	**+14**
	17nm,0.7s,mb5.2							
MAW	**Mawson**	**68.14**	**201**	*e*P		**P**	**01 51 15.0**	**+8.1**
	3.2nm,0.4s,mb4.5							
MAW	**Mawson**	**68.14**	**201**	P		**P**	**01 51 14.3**	**+7.5**
	4.2nm,0.4s,mb4.6,baz=120,slow=6.9,SNR=38							
SYO	**Syowa Base**	**72.87**	**194**	⇓X		**P**	**01 51 45.0**	**+10**
KKM	**Kota Kinabalu**	**73.33**	**290**	*e*P		**P**	**01 51 39.7**	**+0.7**
SNAA	**Sanae**	**73.95**	**179**	P		**P**	**01 51 52.6**	**+11**
	1.2nm,0.8s,mb3.7,baz=200,slow=9.0,SNR=15							
SNAA	**Sanae**	**73.95**	**179**	*e*P		**P**	**01 51 52.3**	**+11**
	15nm,1.3s,mb4.5							
PLCA	**Paso Flores**	**80.09**	**133**	P		**P**	**01 52 29.9**	**+14**
	0.7nm,0.5s,mb3.8,baz=223,slow=21,SNR=3.9							
PLCA	**Paso Flores**	**80.09**	**133**	P		**P**	**01 52 29.9**	**+14**
CPUP	**Villa Florida**	**97.82**	**129**	LR		LR	02 30 35.2	
	comp=Z,27nm,19.6s,baz=204,slow=30							
ILAR	**Eielson Array**	**102.17**	**13**	PKiKP			01 58 30.1	
	0.6nm,0.7s,baz=301,slow=2.9,SNR=7.2							
YKA	**Yellowknife Ar**	**109.51**	**26**	PKiKP			01 58 44.8	
	0.4nm,0.4s,baz=264,slow=2.1,SNR=3.8							
YKA	**Yellowknife Ar**	**109.51**	**26**	PKPdf			01 58 44.8	
BOSA	**Boshof**	**113.13**	**203**	PKiKP			01 58 51.0	
	1.5nm,0.6s,baz=300,slow=5.6,SNR=6.3							
MKAR	**Makanchi Array**	**119.96**	**308**	PKP		PKPdf	01 59 00.8	+6.2
	2.9nm,0.8s,baz=123,slow=0.6,SNR=23							
KURK	**Kurchatov**	**123.46**	**312**	*e*PKPdf		PKPdf	01 59 07.4	+6.1
LSZ	**Lusaka**	**124.16**	**212**	*e*PKPdf		PKPdf	01 59 13.3	+10
BVAR	**Borovoye Array**	**128.92**	**313**	PKP		PKPdf	01 59 17.9	+6.2
	4.6nm,0.6s,baz=135,slow=2.1,SNR=30							
BRVK	**Borovoye**	**128.99**	**314**	*e*PKPdf		PKPdf	01 59 18.6	+6.8
KMBO	**Kilima Mbogo**	**131.00**	**231**	PKP		PKPdf	01 59 24.9	+8.1
	1.2nm,0.7s,baz=33,slow=8.7,SNR=4.0							
ARU	**Arti**	**135.88**	**318**	*e*PKPdf		PKPdf	01 59 33.4	+8.7
KEV	**Kevo**	**142.08**	**346**	*e*pkp		PKPdf	01 59 56.0	+21
ARCES	**ARCESS Array B**	**142.56**	**346**	PKP		PKPdf	01 59 41.5	+5.3
	2.5nm,0.6s,baz=72,slow=3.8,SNR=8.5							
ARCES				SKPbc			02 03 13.6	
	6.0nm,0.9s,baz=27,slow=5.4,SNR=4.0							
ARCES	**ARCESS Array B**	**142.56**	**346**	PKP		PKPdf	01 59 41.5	+5.3
ARCES				SKPbc			02 03 13.6	
OBN	**Obninsk**	**148.17**	**321**	*e*PKPbc		PKPdf	01 59 56.3	+10
KAF	**Kangasniemi**	**148.27**	**338**	*e*pkp		PKPdf	01 59 57.7	+12
	baz=47,slow=2.6							
FINES	**FINESS Array B**	**148.84**	**337**	PKPbc		PKPdf	01 59 58.0	+11
	13nm,0.6s,baz=41,slow=4.4,SNR=48							
MALT	**Malatya**	**150.02**	**288**	*e*PKPbc		PKPdf	02 00 01.1	+11
EIL	**Elat**	**151.13**	**270**	P		PKPdf	02 00 04.9	+13
PRNI	**Paran**	**151.30**	**271**	P		PKPdf	02 00 05.3	+14
KSHT	**Keshet**	**151.32**	**277**	P		PKPdf	02 00 05.7	+14
MMLI	**Mount Malkishu**	**151.52**	**275**	P		PKPdf	02 00 06.1	+14
DBIC	**Dimbokro**	**151.61**	**167**	PKPbc		PKPdf	02 00 07.9	+15
	4.1nm,0.7s,baz=100,slow=2.5,SNR=7.2							
SLTI	**Sal'it**	**151.78**	**275**	P		PKPdf	02 00 06.3	+14
KZIT	**Kziot**	**151.96**	**272**	P		PKPdf	02 00 06.7	+14
NB2	**NORSAR Subarra**	**152.81**	**349**	PKPabc		PKPdf	02 00 08.5	+16
	6.7nm,0.6s,baz=16,slow=2.5							
NOA	**NORSAR Array B**	**152.81**	**349**	PKPbc		PKPdf	02 00 08.6	+16
	4.8nm,0.6s,baz=13,slow=4.0,SNR=32							
NOA				PKPab		PKPab	02 00 19.3	+5.3
	3.5nm,0.7s,baz=25,slow=3.4,SNR=12							
NOA	**NORSAR Array B**	**152.81**	**349**	PKPbc		PKPdf	02 00 08.6	+16
NOA				PKPab		PKPab	02 00 19.3	+5.3
CSS	**Prodhromos**	**153.72**	**280**	*e*PKPbc		PKPdf	02 00 09.1	+14
BR131	**Keskin Array S**	**153.79**	**291**	*e*PKPbc		PKPdf	02 00 09.3	+14
BRTR	**Keskin Array B**	**153.79**	**291**	PKPbc		PKPdf	02 00 09.5	+15
	9.1nm,0.8s,baz=148,slow=3.6,SNR=34							
BRTR				PKPab		PKPab	02 00 21.1	+2.3
	2.1nm,0.8s,baz=169,slow=6.3,SNR=5.3							
AKASG	**Malin Array Be**	**154.12**	**317**	PKP		PKPdf	02 00 02.6	+7.6
	2.3nm,0.7s,baz=49,slow=1.7,SNR=4.0							
AKASG				PKPbc		PKPdf	02 00 10.0	+15
	7.7nm,0.6s,baz=59,slow=2.3,SNR=36							
AKASG				PKPab		PKPab	02 00 22.7	+2.9
	1.8nm,0.6s,baz=53,slow=5.0,SNR=6.0							
CLL	**Collm**	**161.29**	**337**	*i* PKP2		PKPab	02 00 55.7	+5.2
GERES	**GERESS Array B**	**163.07**	**331**	PKP		PKPdf	02 00 13.5	+7.9
	0.2nm,0.4s,baz=90,slow=2.7,SNR=5.3							
GERES				PKPab		PKPab	02 01 01.7	+3.4
	1.1nm,0.7s,baz=72,slow=4.2,SNR=8.2							
GRA1	**Grafenberg Arr**	**163.26**	**337**	*e*PKIKP		PKPdf	02 01 05.0	+59
ESDC	**Sonseca Array**	**173.46**	**38**	PKP		PKPdf	02 00 23.6	+10
	0.1nm,0.3s,baz=37,slow=21,SNR=3.5							

SKO ***29*** *01:58:24.0,41.82N×21.87E,h15km,ML3.1*
SOF ***29*** *01:58:24.1,41.87N×21.91E,h9km,MD2.9*
BEO ***29*** *01:58:24.1±0.4,41.95N×22.03E,h13km±1km*
THE ***29*** *01:58:26.0,41.80N×21.99E,h10km,ML3.1*
NEIC ***29*** *01:58:25.2±0.8,41.88N×22.03E,h10km,MD3.5(ATH), MD2.9(PDG),Error ellipse: s-maj=13.9km s-min=4.9km az=59.0*
ATH ***29*** *01:58:26.6,41.68N×21.90E,h17km±1km,MD3.5/5*
CSEM ***29*** *01:58:26.3±0.1,41.87N×22.06E,h10km,MD2.9,Error ellipse: s-maj=1.8km s-min=1.2km az=37.0*

ISC 29 01:58:24.9±0.2,41.87N±0.02×22.00E±0.03,h10km,n59, σ1§18/95,5C-17D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.43**	**284**	⇑*i*Pg	**Pg**	**01 58 31.5**	**-2.2**
SKO				*i* Sg	**Sg**	**01 58 36.3**	**-3.3**
SKO				Smax		01 58 37.0	
	comp=Z,1.4nm,0.3s						
VAY	**Valandovo**	**0.69**	**142**	⇑*i*Pg	**Pg**	**01 58 37.9**	**-1.0**
VAY				*i* Sg	**Sg**	**01 58 48.0**	**-0.2**
KKB	**Krupnik**	**0.81**	**90**	*i* Pg	**Pg**	**01 58 42.3**	**+1.1**
GRG	**Griva**	**0.96**	**161**	*e*Pg	**Pg**	**01 58 42.7**	**-1.4**
GRG				*e*Sg	**Sg**	**01 58 56.2**	**-0.7**
VTS	**Vitosha**	**1.15**	**51**	*i* P	**Pb**	**01 58 48.0**	**+1.5**
OHR	**Ohrid**	**1.18**	**230**	⇓*i*Pn	**Pn**	**01 58 44.8**	**-2.6**
OHR				*i* Sg	**Sn**	**01 58 59.5**	**-4.0**
MMB	**Musomiste**	**1.32**	**102**	*i* P	**Pb**	**01 58 51.0**	**+1.8**
SRS	**Serrai**	**1.41**	**122**	*e*Pg	**Pg**	**01 58 51.8**	**+1.3**
SRS				*e*Sg	**Sg**	**01 59 12.0**	**0.0**
THE	**Thessaloniki**	**1.43**	**149**	*e*Pg	**Pg**	**01 58 51.2**	**-2.4**
ZAPS	**Zavoj/Pirot**	**1.50**	**17**	⇓*i*Pn	**Pn**	**01 58 52.9**	**+0.8**
ZAPS				Sn	**Sn**	**01 59 13.8**	**+2.0**
BCI	**Bajram Curri**	**1.52**	**290**	*i* Pg	**Pn**	**01 58 51.5**	**-0.9**
BCI				*i* Sg	**Sn**	**01 59 12.3**	**0.0**
KZN	**Kozani**	**1.57**	**186**	*e*PN	**Pn**	**01 58 52.7**	**-0.3**
PVY	**Plav**	**1.67**	**296**	⇓*i*Pn	**Pn**	**01 58 54.5**	**0.0**
PVY				*e*Sn	**Sn**	**01 59 17.8**	**+1.7**
PVY	**Plav**	**1.67**	**296**	⇓*i*Pn	**Pn**	**01 58 54.5**	**0.0**
PVY				*e*Sn	**Sn**	**01 59 17.8**	**+1.7**
TIR	**Tirane**	**1.68**	**253**	*i* Pg	**Pg**	**01 59 04.4**	**+5.8**
LIT	**Litokhoron**	**1.80**	**168**	*e*Pb	**Pb**	**01 58 56.6**	**-1.0**
PLG	**Polygyros**	**1.85**	**143**	*e*PN	**Pn**	**01 58 57.8**	**+0.8**
IVA	**Berane**	**1.85**	**304**	⇓*i*Pn	**Pn**	**01 58 56.7**	**-0.4**
IVA				*e*Sn	**Sn**	**01 59 22.0**	**+1.2**
IVA	**Berane**	**1.85**	**304**	⇓*i*Pn	**Pn**	**01 58 56.7**	**-0.4**
IVA				*e*Sn	**Sn**	**01 59 22.0**	**+1.2**
BOLS	**Boljevac**	**1.96**	**359**	*e*Pn	**Pn**	**01 58 58.6**	**-0.1**
BOLS				Sn	**Sn**	**01 59 22.6**	**-1.0**
BOLS	**Boljevac**	**1.96**	**359**	Pn	**Pn**	**01 58 58.6**	**-0.1**
BOLS				Sn	**Sn**	**01 59 22.5**	**-1.0**
RZN	**Rozhen**	**2.04**	**94**	*i* P	**Pn**	**01 59 02.0**	**+2.2**
ULC	**Ulcinj**	**2.06**	**274**	⇓*i*Pn	**Pn**	**01 59 00.7**	**+0.7**
ULC				*e*Sn	**Sn**	**01 59 28.4**	**+2.5**
ULC	**Ulcinj**	**2.06**	**274**	⇓*i*Pn	**Pn**	**01 59 00.7**	**+0.7**
ULC				*e*Sn	**Sn**	**01 59 28.4**	**+2.5**
TTG	**Podgorica**	**2.11**	**286**	⇓*i*Pn	**Pn**	**01 59 00.6**	**-0.2**
TTG				*e*Sn	**Sn**	**01 59 29.3**	**+2.0**
TTG	**Podgorica**	**2.11**	**286**	⇓*i*Pn	**Pn**	**01 59 00.6**	**-0.2**
TTG				*e*Sn	**Sn**	**01 59 29.3**	**+1.9**
OUR	**Ouranopolis**	**2.14**	**135**	*e*Pn	**Pn**	**01 59 02.1**	**+0.9**
MEV	**Metsovon**	**2.16**	**196**	*e*Pn	**Pn**	**01 59 02.1**	**+0.6**
MEV				*e*Sn	**Sn**	**01 59 29.6**	**+1.0**
GRUS	**Gruza**	**2.23**	**335**	*i* Pn	**Pn**	**01 59 01.4**	**-1.1**
GRUS				Sn	**Sn**	**01 59 30.0**	**-0.3**
PAIG	**Paliouri**	**2.32**	**146**	*e*Pn	**Pn**	**01 59 03.8**	**+0.1**
PAIG				*e*Sn	**Sn**	**01 59 33.9**	**+1.4**
BUM	**Brajici-Budva**	**2.35**	**282**	*e*Pn	**Pn**	**01 59 05.0**	**+0.8**
BUM				*e*Sn	**Sn**	**01 59 34.7**	**+1.3**
BUM	**Brajici-Budva**	**2.35**	**282**	*e*Pn	**Pn**	**01 59 05.0**	**+0.8**
BUM				*e*Sn	**Sn**	**01 59 34.7**	**+1.4**
NVSS	**Nova Varos 2**	**2.36**	**315**	⇑*i*Pn	**Pn**	**01 59 03.0**	**-1.3**
NVSS				Sn	**Sn**	**01 59 31.6**	**-2.0**
NVSS	**Nova Varos 2**	**2.36**	**315**	Pn	**Pn**	**01 59 03.0**	**-1.3**
NVSS				Sn	**Sn**	**01 59 31.6**	**-2.0**
JAN	**Janina**	**2.37**	**202**	*e*PN	**Pn**	**01 59 04.1**	**-0.4**
PLE	**Pljevlja**	**2.42**	**308**	⇓*i*Pn	**Pn**	**01 59 04.8**	**-0.3**
PLE				*e*Sn	**Sn**	**01 59 35.8**	**+0.7**
PLE	**Pljevlja**	**2.42**	**308**	⇓*i*Pn	**Pn**	**01 59 04.8**	**-0.4**
PLE				*e*Sn	**Sn**	**01 59 35.8**	**+0.7**
NKY	**Niksic**	**2.42**	**294**	⇓*i*Pn	**Pn**	**01 59 05.1**	**-0.1**
NKY				*e*Sn	**Sn**	**01 59 36.4**	**+1.3**
NKY	**Niksic**	**2.42**	**294**	⇓*i*Pn	**Pn**	**01 59 05.1**	**-0.1**
NKY				*e*Sn	**Sn**	**01 59 36.4**	**+1.3**
SVIS	**Svilajnac**	**2.50**	**347**	⇓*i*Pn	**Pn**	**01 59 02.9**	**-3.3**
KDZ	**Kurdzhali**	**2.56**	**94**	P	**Pn**	**01 59 08.0**	**+0.7**
UPM	**Unac-Piva**	**2.65**	**301**	*e*Pn	**Pn**	**01 59 07.9**	**-0.5**
UPM				*e*Sn	**Sn**	**01 59 41.1**	**+0.2**
UPM	**Unac-Piva**	**2.65**	**301**	*e*Pn	**Pn**	**01 59 07.9**	**-0.5**
UPM				*e*Sn	**Sn**	**01 59 41.1**	**+0.2**
IGT	**Igoumenitsa**	**2.65**	**209**	*e*Pn	**Pn**	**01 59 09.1**	**+0.5**
XOR	**Xorichti**	**2.66**	**160**	*e*Pn	**Pn**	**01 59 08.8**	**+0.2**
HCY	**Herceg Novi**	**2.67**	**284**	*e*Pn	**Pn**	**01 59 09.2**	**+0.5**
HCY				*e*Sn	**Sn**	**01 59 42.1**	**+0.7**
HCY	**Herceg Novi**	**2.67**	**284**	*e*Pn	**Pn**	**01 59 09.2**	**+0.5**
HCY				*e*Sn	**Sn**	**01 59 42.1**	**+0.7**
DIVS	**Divcibare**	**2.67**	**327**	⇑*i*Pn	**Pn**	**01 59 07.6**	**-1.2**
DIVS				Sn	**Sn**	**01 59 40.5**	**-1.1**
KEK	**Kerkira**	**2.72**	**219**	*e*PN	**Pn**	**01 59 09.3**	**-0.2**
BRY	**Bratogost**	**2.76**	**293**	⇓*i*Pn	**Pn**	**01 59 10.6**	**+0.5**
BRY				*e*Sn	**Sn**	**01 59 44.6**	**+0.8**
BRY	**Bratogost**	**2.76**	**293**	⇓*i*Pn	**Pn**	**01 59 10.6**	**+0.5**
BRY				*e*Sn	**Sn**	**01 59 44.6**	**+0.8**
PVL	**Pavlikeni**	**2.81**	**60**	P	**Pg**	**01 59 18.0**	**-3.0**
TREB	**Trebinje**	**2.84**	**289**	Pn	**Pn**	**01 59 12.7**	**+1.5**
AGG	**Agios Georgios**	**2.85**	**175**	*e*Pn	**Pn**	**01 59 11.0**	**-0.4**
EVR	**Evrytania**	**2.95**	**183**	*e*PN	**Pn**	**01 59 12.4**	**-0.4**
ALN	**Alexandroupoli**	**3.19**	**106**	*e*Pn	**Pn**	**01 59 17.2**	**+1.0**
LKD	**Levkas**	**3.32**	**199**	*e*Pn	**Pn**	**01 59 17.6**	**-0.4**
JAVS	**Javornik**	**7.00**	**308**	*i* Pn	**Pn**	**02 00 09.0**	**-1.1**
ARSA	**Arzberg**	**7.10**	**322**	⇑*i*PN	**Pn**	**02 00 08.8**	**-2.6**
ARSA				*i* SN	**Sn**	**02 01 31.0**	**-1.9**

NEIC ***29*** *02:29:27.5, 14.60N×93.74W,h43km,MD4.1(MEX),After MEX.*
CASC ***29*** *02:29:28.9±5.4, 14.63N×93.59W,h20km±999km,MD4.3*

MEX 29 02:29:30.5±0.6,14.99N×93.81W,h10km±17km,MD4.2, 1C-3D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.06**	**51**	*i* P	Pn	02 30 01.9	-3.7
CCIG				*i* S	Sn	02 30 26.8	-4.7
SCX	**San Cristobal**	**2.07**	**33**	*i* P	Pn	02 30 02.5	-3.2
SCX				*i* S	Sn	02 30 32.0	+0.2
SCX	**San Cristobal**	**2.07**	**33**	*i* P	Pn	02 30 02.5	-3.2
SCX				*i* S	Sn	02 30 27.0	-4.8
CMIG	**Matias Romero**	**2.33**	**334**	*i* P	Pn	02 30 06.1	-3.4
CMIG				*i* S	Sn	02 30 33.1	-5.3
HUIG	**Huatulco**	**2.35**	**289**	*i* P	Pn	02 30 04.4	-5.4
HUIG				*i* S	Sn	02 30 34.8	-4.2
TP2	**Tecpan 2**	**2.70**	**94**	⇓*e*P	Pn	02 30 09.3	-5.5
TP2				*e*S	Sn	02 30 40.1	-7.8
IXG	**Ixpaco**	**3.35**	**104**	*e*P	Pn	02 30 16.8	-7.2
IXG				*e*S	Sn	02 30 54.2	-10
EVV	**El Vigia**	**3.75**	**337**	*i* P	Pn	02 30 28.0	-1.7
EVV				*i* S	Sn	02 31 12.5	-1.8
EVV	**El Vigia**	**3.75**	**337**	*i* P	Pn	02 30 28.0	-1.7
EVV				*i* S	Sn	02 31 09.5	-4.8
MRL	**Marmol**	**3.98**	**88**	⇓*e*P	Pn	02 30 26.5	-6.5
RBDL	**Robledal**	**4.08**	**102**	*e*P	Pn	02 30 50.3	+16
RBDL				*e*S	Sn	02 31 35.4	+13
RTR	**El Retiro**	**4.18**	**105**	*e*P	Pn	02 30 50.5	+15
RTR				*e*S	Sn	02 31 39.2	+14
SBLS	**San Blas**	**4.21**	**105**	⇑*e*P	Pn	02 30 52.4	+16
SBLS				*e*S	Sn	02 31 37.9	+12
SNJE	**San Jose**	**4.22**	**105**	⇓*e*P	Pn	02 30 52.4	+16
SNJE				*e*S	Sn	02 31 33.6	+7.2
LFRS	**El Faro**	**4.80**	**106**	*e*P	Pn	02 31 00.7	+16
LFRS				*e*S	Sn	02 31 50.6	+10
LCBS	**La Ceiba**	**4.87**	**105**	*e*P	Pn	02 30 59.9	+14
LCBS				*e*S	Sn	02 31 54.4	+12
SNVI	**San Vicente**	**5.01**	**105**	*e*P	Pn	02 30 53.4	+5.8
SNVI				*e*S	Sn	02 31 50.0	+3.8

**WEL 29 02:39:

STKA Stephens Creek 28.20 154 P **P** 03 30 40.7 +0.1
22nm,0.5s,mb4.6,baz=325,slow=8.9,SNR=58
JOW Kunigami 33.41 1 P **P** 03 31 25.4 -0.3
85nm,0.8s,mb5.0,baz=195,slow=5.6,SNR=12
GYA Guiyang 38.76 329 ⇑*iP* **P** 03 32 11.3 +1.0
GYA PCP PcP 03 34 15.8 +1.5
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.1
GYA AMB AMB
comp=Z,130nm,4.8s
NJ2 Nanjing 39.49 348 *e*P **P** 03 32 17.0 +0.7
NJ2 AMB AMB
comp=Z,90nm,1.3s,mb4.8
MJAR Matsushiro Arr 44.23 12 P **P** 03 32 52.8 -1.6
comp=Z,22nm,0.5s,mb4.5,baz=196,slow=9.9,SNR=3.8
XAN Xi'an 44.27 338 P **P** 03 32 53.8 -0.9
XAN AMB AMB
comp=Z,35nm,0.9s,mb4.5
DL2 Dalian 45.78 354 P **P** 03 33 06.5 -0.1
DL2 AMB AMB
comp=Z,20nm,0.5s,mb4.5
CN2 Changchun 50.38 358 *e*P **P** 03 33 40.0 -1.5
CN2 AMB AMB
comp=Z,20nm,0.6s,mb4.5
CN2 LR LR
comp=N,990nm,12.0s
CN2 LR LR
comp=E,1μm,12.0s
CN2 LR LR
comp=Z,810nm,14.0s
LSA Lhasa 50.39 318 *e*P **P** 03 33 41.7 -0.1
comp=Z,8.7nm,0.5s,mb4.2
MDJ Mudanjiang 51.19 2 P **P** 03 33 45.8 -1.6
MDJ AMB AMB
comp=Z,23nm,1.3s,mb4.2
MDJ AMB AMB
comp=Z,185nm,7.5s
JIRN Jiri 52.64 312 *e*P **P** 03 33 58.5 +0.1
comp=Z,14nm,0.6s,mb4.5
GTA Gaotai 52.65 333 P **P** 03 33 58.8 +0.5
GTA AMB AMB
comp=Z,33nm,0.7s,mb4.8
GUN Gumba 53.01 313 *e*P **P** 03 34 00.9 -0.1
comp=Z,41nm,0.7s,mb4.9
PKI Pulchoki 53.16 312 *e*P **P** 03 34 01.9 -0.3
comp=Z,17nm,0.7s,mb4.5
KKN Kakani 53.38 312 *e*P **P** 03 34 03.7 0.0
comp=Z,22nm,0.7s,mb4.6
DMN Daman 53.41 312 *e*P **P** 03 34 04.1 +0.1
comp=Z,14nm,0.8s,mb4.4
GKN Gorkha 53.97 312 *e*P **P** 03 34 07.8 -0.2
comp=Z,42nm,0.7s,mb4.9
KOLN Koldanda 54.62 311 *e*P **P** 03 34 12.7 +0.1
comp=Z,20nm,0.7s,mb4.6
RAO Raoul Island 55.89 121 P **P** 03 34 21.6 0.0
comp=Z,102nm,0.3s,baz=52,slow=19,SNR=3.4
SONM Songino Array 57.50 343 P **P** 03 34 32.7 +0.2
comp=Z,13nm,0.7s,mb4.3,baz=169,slow=7.1,SNR=15
CASY Casey 60.57 188 *e*P **P** 03 34 53.6 +0.6
comp=Z,2.2nm,0.6s,mb3.8
TLY Talaya 61.74 343 *e*P **P** 03 35 00.5 -0.3
comp=Z,10nm,0.7s,mb4.5
PET Petropavlovsk 65.14 20 *e*P **P** 03 35 22.6 -0.1
comp=Z,17nm,0.4s,mb5.0
MKAR Makanchi Array 66.73 328 P **P** 03 35 32.9 0.0
comp=Z,14nm,0.6s,mb4.8,baz=122,slow=8.0,SNR=16
MKAR Makanchi Array 66.73 328 P **P** 03 35 32.9 0.0
YAK Yakutsk 68.62 1 *e*P **P** 03 35 44.2 0.0
comp=Z,78nm,1.0s,mb5.4
MA2 Magadan 68.67 12 *e*P **P** 03 35 45.0 +0.5
comp=Z,31nm,0.8s,mb5.1
ZAL Zalesovo 70.33 335 P **P** 03 35 54.5 -0.3
comp=Z,13nm,0.6s,mb4.8,baz=334,slow=4.5,SNR=15
FX1 Attu Island--F 70.86 27 P **P** 03 35 59.0 +1.1
comp=Z,37nm,0.6s,mb5.3,baz=244,slow=2.0,SNR=11
VNDA Vanda 72.97 173 P **P** 03 36 10.5 +0.6
comp=Z,0.4nm,0.6s,baz=309,slow=8.6,SNR=7.5
MAW Mawson 74.28 201 P **P** 03 36 17.7 +0.1
comp=Z,0.6nm,0.6s,mb3.5,baz=80,slow=11,SNR=2.8
BVAR Borovoye Array 76.60 329 P **P** 03 36 31.2 +0.4
comp=Z,4.6nm,0.5s,mb4.5,baz=120,slow=9.5,SNR=7.1
BILL Bilibino 79.46 14 *e*P **P** 03 36 46.0 +0.1
comp=Z,4.6nm,0.4s,mb4.6
UNV Unalaska Valle 81.63 33 *e*P **P** 03 36 58.1 +0.7
comp=Z,25nm,0.5s,mb5.3
ARU Arti 84.25 329 *e*P **P** 03 37 10.6 -0.1
comp=Z,7.1nm,0.6s,mb4.7
SPU Mount Spurr 91.27 29 *e*P **P** 03 37 43.4 -0.3
IMA Indian Mountai 91.61 24 *e*P **P** 03 37 45.7 +0.5
comp=Z,26nm,0.8s,mb5.2
SML Sawmill 93.13 28 *e*P **P** 03 37 52.3 -0.1
MCK McKinley 93.15 26 *e*P **P** 03 37 51.7 -0.7
comp=Z,3.9nm,0.9s,mb4.4
MALT Malatya 93.48 308 P **P** 03 37 55.6 +1.1
comp=Z,1.6nm,0.7s,mb4.2
ILAR Eielson Array 94.18 25 P **P** 03 37 55.8 -1.2
comp=Z,2.3nm,0.6s,mb4.4,baz=234,slow=5.3,SNR=11
DIV Divide 94.27 29 *e*P **P** 03 37 58.4 +0.9
comp=Z,20nm,0.6s,mb5.3
INK Inuvik 99.56 22 P **P** 03 38 21.4 -0.1
comp=Z,4.2nm,0.8s,mb4.9,baz=318,slow=3.7,SNR=4.1
INK Inuvik 99.56 22 P **P** 03 38 21.4 -0.1
MOR8 Moi Rana 105.40 337 *e*P 03 42 35.7
STOK Stokkvaagen 105.89 338 *i* P 03 42 56.4
TIP Timpagrande 110.36 309 *e*PKP Pdif 03 39 10.2 +0.5
GRA1 Grafenberg Arr 112.05 321 *e*PKP PKPdf 03 43 14.3 +3.8
GRF Grafenberg Ar 112.05 321 *e*PKP PKPdf 03 43 14.3 +3.8
HLID Hailey 114.81 45 *e*PKP PKPdf 03 43 18.5 +2.4
ELK Elko 114.90 48 *e*PKPdf PKPdf 03 43 18.8 +2.4
RRI2 Red Ridge 117.03 45 *e*PKPdf PKPdf 03 43 22.7 +2.3
TPAW Teton Pass 117.25 44 *e*PKPdf PKPdf 03 43 23.9 +3.1
HWUT Hardware Ranch 117.36 46 *e*PKPdf PKPdf 03 43 23.2 +2.2
SNOW Snow King Moun 117.39 44 *e*PKPdf PKPdf 03 43 24.1 +3.0
LOHW Long Hollow 117.45 44 *e*PKPdf PKPdf 03 43 23.1 +1.8
FFC Flin Flon 117.99 30 *e*PKPdf PKPdf 03 43 23.6 +1.7
BW06 Boulder Array 118.44 45 *e*PKPdf PKPdf 03 43 25.4 +2.2
PDAR Pinedale Array 118.44 45 PKP PKPdf 03 43 25.4 +2.3
comp=Z,1.5nm,0.8s,baz=308,slow=0.4,SNR=9.2
FCC Fort Churchill 119.13 23 *e*PKPdf PKPdf 03 43 25.3 +1.3
PV10 Paradox Valley 120.14 49 *e*PKPdf PKPdf 03 43 29.4 +2.9
TUC Tucson 120.24 57 *e*PKPdf PKPdf 03 43 29.6 +2.8
RSSD Black Hills 121.71 42 *e*PKPdf PKPdf 03 43 31.4 +1.9
SDCO Great Sand Dun 122.99 49 *e*PKPdf PKPdf 03 43 35.4 +3.3
ANMO Albuquerque 123.10 53 *e*PKPdf PKPdf 03 43 35.6 +3.2
ULM Lac du Bonnet 123.56 32 PKP PKPdf 03 43 34.0 +1.2
comp=Z,3.7nm,0.6s,baz=354,slow=2.7,SNR=5.0
MNTX Cornudas Mount 124.84 56 *e*PKPdf PKPdf 03 43 38.8 +2.9
ESDC Sonseca Array 125.64 315 PKP PKPdf 03 43 38.7 +1.5
comp=Z,0.1nm,0.3s,baz=116,slow=2.6,SNR=4.5
TXAR Lajitas Array 126.88 58 PKP PKPdf 03 43 42.5 +2.6
comp=Z,0.9nm,0.6s,baz=201,slow=2.5,SNR=7.4
SCHQ Schefferville 130.70 11 PKP PKPdf 03 43 49.0 +2.5
comp=Z,2.5nm,0.5s,baz=20,slow=7.6,SNR=8.8
DBIC Dimbokro 132.77 273 PKP PKPdf 03 43 53.9 +2.4
comp=Z,3.9nm,1.0s,baz=30,slow=13,SNR=5.2
WVT Waverly 136.40 43 *e*PKPdf PKPdf 03 44 00.3 +2.8
LRAL Lakeview Retre 138.64 46 *e*PKPdf PKPdf 03 44 04.1 +2.3
DWPF Disney 145.31 49 *e*PKPbc PKPbc 03 44 15.8 +1.4
LVC Limon Verde 146.63 152 *e*PKPbc PKPbc 03 44 20.4 +2.6
CPUP Villa Florida 146.75 172 PKPbc PKPbc 03 44 21.1 +3.2
comp=Z,6.2nm,0.8s,baz=205,slow=2.6,SNR=20
JTS JuntasAbangare 147.66 82 PKPbc PKPdf 03 44 23.9 +6.1
comp=Z,29nm,0.7s,baz=313,slow=3.0,SNR=22
JTS JuntasAbangare 147.66 82 *e*PKPbc PKPdf 03 44 23.6 +5.8
NNA Nana 149.39 127 *e*PKPbc PKPdf 03 44 27.9 +7.2
LPAZ La Paz 152.31 146 PKP PKPdf 03 44 28.1 +3.2
comp=Z,0.9nm,0.7s,baz=326,slow=5.1,SNR=4.6
LPAZ PKPbc PKPdf 03 44 35.8 +11
comp=Z,1.7nm,0.4s,baz=77,slow=2.3,SNR=15
SAML Samuel 161.06 145 *e*PKPdf PKPdf 03 44 38.6 +2.7
SDV Santo Domingo 161.85 82 *e*PKPdf PKPdf 03 44 39.5 +2.8

NIED ***29*** *03:25:00, 33.20N×142.50E, h5km, Mw5.0 Best double couple: M0 3.33×10^16 NP1:φs154°, δ73°, λ-88°. NP2: φs329°, δ17°, λ-95°.*

BJI ***29*** *03:25:57.6, 33.29N×142.25E, h8km, mB5.2, mb5.0, Ms4.8, Msz4.6*

IDC ***29*** *03:25:57.8±0.5, 33.27N×142.44E, mb4.6/25, mb1 4.8/28, mb1mx4.8/29, mbtmp4.6/28, ML4.2/4, MS4.1/15, Ms1 4.1/15, ms1mx3.9/27, Error ellipse: s-maj=13.5km s-min=12.6km az=137.0*

JMA ***29*** *03:25:59.2±0.3, 33.24N×142.51E, h87km, M4.5*

HRVD ***29*** *03:26:00.2±0.4, 33.22N×142.61E, h12km, MW4.8/49,*

2005 JUL

Centroid moment Tensor Solution. LP body waves: s18,c24;Mantle waves: s49,c81; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.46±.11; Mθθ-0.92±.11; Mφφ2.38±.07; Mrθ-0.37±.43; Mθφ-0.39±.09; Mφr-0.73±.27; Best double couple: M0 2.176×10^16 NP1:φs146°, δ42°, λ-132°. NP2:φs17°, δ60°, λ-59°. Principal axes: T 2.544, Plg10°, Azm85°; N -.732, Plg27°, Azm180°; P -1.808, Plg61°, Azm336°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC ***29*** *03:26:00.2±2.6, 33.31N×142.32E, h12km±15km, mb5.0/78, MW4.9(NIED) Error ellipse: s-maj=6.0km s-min=5.3km az=143.0*

MOS ***29*** *03:26:04.1±1.1, 33.56N×142.30E, h40km, mb5.3/66, MS4.5/18, Error ellipse: s-maj=10.7km s-min=4.9km az=116.0*

ISC 29 03:25:59.6±0.2, 33.24N±0.03×142.34E±0.03, h19km, h19km±2.9km: pP-P, n355, σ1§07/348, mb5.0/129, MS4.3/34, 17C-14D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
BSO1	**Boso 1**	**1.81**	**322**	P	**Pn**	**03 26 30.6**	**+0.4**
BSO1				*e*S	**Sn**	**03 26 54.8**	**+2.0**
JHJ2	**Mitsune**	**2.12**	**267**	P	**Pn**	**03 26 35.5**	**+0.7**
JHJ2				*e*S	**Sn**	**03 27 03.5**	**+2.7**
JHJ	**Hachijo jima 2**	**2.15**	**267**	Pn	**Pn**	**03 26 35.5**	**+0.4**
	342nm,0.3s,baz=160,slow=10,SNR=62						
JHJ				Sn	**Sn**	**03 27 03.2**	**+1.7**
	391nm,0.3s,baz=228,slow=23,SNR=12						
BSO3	**Boso 3**	**2.17**	**316**	P	**Pn**	**03 26 35.8**	**+0.3**
BSO4	**Boso 4**	**2.41**	**317**	P	**Pn**	**03 26 39.5**	**+0.7**
BSO4				*e*S	**Sn**	**03 27 10.0**	**+1.9**
KTR	**Katsuura**	**2.54**	**319**	P	**Pn**	**03 26 41.6**	**+0.9**
KTR				*e*S	**Sn**	**03 27 12.6**	**+1.3**
JIM2	**Oshima 3**	**2.83**	**302**	P	**Pn**	**03 26 44.2**	**-0.7**
JIZS	**Izushimoda**	**3.23**	**298**	P	**Pn**	**03 26 50.4**	**-0.2**
JIZS				*e*S	**Sn**	**03 27 28.6**	**-0.4**
JOD2	**Odawara 2**	**3.37**	**308**	P	**Pn**	**03 26 51.7**	**-0.8**
JOD2				*e*S	**Sn**	**03 27 32.0**	**-0.3**
JYN	**Shimob**	**3.86**	**307**	P	**Pn**	**03 26 59.2**	**-0.3**
SHZ3	**Shizuoka 3**	**3.88**	**299**	P	**Pn**	**03 27 00.4**	**+0.7**
SHZ3				*e*S	**Sn**	**03 27 46.1**	**+0.8**
JRY	**Ryogami san**	**3.96**	**315**	P	**Pn**	**03 27 00.7**	**-0.2**
JRY				*e*S	**Sn**	**03 27 48.0**	**+0.6**
JAG	**Ashikaga**	**3.96**	**324**	P	**Pn**	**03 26 59.9**	**-1.1**
MJAR	**Matsushiro Arr**	**4.73**	**315**	Pn	**Pn**	**03 27 11.7**	**-0.1**
	42nm,0.3s,baz=160,slow=14,SNR=194						
MJAR				Sn	**Sn**	**03 28 06.5**	**-0.4**
	11nm,0.3s,baz=145,slow=18,SNR=3.6						
MAJO	**Matsushiro**	**4.73**	**315**	*e*Pn	**Pn**	**03 27 03.0**	**-8.8**
MAT	**Matsushiro**	**4.73**	**315**	*e*P	**Pn**	**03 27 12.0**	**+0.1**
MAT				*e*S	**Sn**	**03 28 07.0**	**+0.1**
MAT	**Matsushiro**	**4.73**	**315**	P	**Pn**	**03 27 11.9**	**0.0**
MAT				S	**Sn**	**03 28 06.6**	**-0.3**
MAT	**Matsushiro**	**4.73**	**315**	P	**Pn**	**03 27 12.1**	**+0.2**
JMM	**Marumori**	**4.78**	**345**	P	**Pn**	**03 27 09.0**	**-3.6**
JMM				*e*S	**Sn**	**03 28 01.2**	**-7.0**
JIE	**Ise**	**4.83**	**285**	P	**Pn**	**03 27 13.6**	**+0.4**
CBIJ	**Chichi jima**	**6.13**	**181**	Pn	**Pn**	**03 27 27.2**	**-4.3**
	59nm,0.3s,baz=32,slow=5.5,SNR=31						
CBIJ				Sn	**Sn**	**03 28 34.9**	**-7.0**
	101nm,0.3s,baz=278,slow=22,SNR=6.2						
JNU	**Nakatsue**	**9.61**	**272**	Pn	**P**	**03 28 19.8**	**-0.4**
	1.8nm,0.3s,baz=81,slow=15,SNR=18						
KS15	**Wonju Array Si**	**12.52**	**294**	Pn	**P**	**03 28 58.3**	**-1.5**
INCN	**Inchon**	**13.50**	**293**	Pn	**P**	**03 29 16.5**	**+3.8**
	34nm,0.8s						
YSS	**Yuzh-Sakhalins**	**13.70**	**1**	⇑*iP*	**P**	**03 29 11.0**	**-4.2**
YSS				*e*S	**S**	**03 31 36.7**	**-11**
YSS				pmax	pmax		
	comp=N,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax			
	comp=N,80nm,1.2s						
YSS				MLR	MLR		
	comp=Z,1μm,13.0s						
YSS				MLR	MLR		
	comp=N,1μm,15.0s						
YSS				MLR	MLR		
	comp=E,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**13.70**	**1**	*e*P	**P**	**03 29 10.1**	**-5.2**
	comp=E,77nm,0.8s						
JOW	**Kunigami**	**13.75**	**246**	Pn	**P**	**03 29 16.3**	**+0.2**
	comp=E,0.8nm,0.3s,baz=87,slow=14,SNR=3.8						
JOW				LR	LR	03 34 09.0	
	comp=E,780nm,19.2s,baz=119,slow=36						
MDJ	**Mudanjiang**	**15.06**	**323**	P	**P**	**03 29 31.0**	**-2.1**
MDJ				S	**S**	**03 32 16.0**	**-4.1**
MDJ				AMB	AMB		
	comp=Z,23nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,240nm,6.3s						
MDJ				LR	LR		
	comp=N,950nm,17.9s						
MDJ				LR	LR		
	comp=E,891nm,16.8s						
MDJ				LR	LR		
	comp=Z,1μm,16.8s						
MDJ	**Mudanjiang**	**15.06**	**323**	*e*Pn	**P**	**03 29 31.2**	**-1.9**
	comp=Z,33nm,1.0s						
UGL	**Uglegorsk**	**15.82**	**359**	*e*P	**P**	**03 29 48.0**	**+5.0**
UGL				pmax	pmax		
	comp=Z,46nm,0.7s						
UGL				pmax	pmax		
	comp=Z,900nm,4.0s						
CN2	**Changchun**	**16.88**	**314**	*e*P	**P**	**03 29 55.8**	**-0.6**
CN2				*e*XP		03 30 03.0	
CN2				*e*S	**S**	**03 33 01.0**	**-1.4**
CN2				AMB	AMB		
	comp=Z,60nm,1.1s						
CN2				AMB	AMB		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=N,1μm,11.0s						
CN2				LR	LR		
	comp=E,910nm,11.0s						
CN2				LR	LR		
	comp=Z,2μm,12.0s						
SNY	**Shenyang**	**17.15**	**305**	PR		03 29 57.5	
SNY				AMB	AMB		
	comp=Z,450nm,9.0s						
SNY				LR	LR		
	comp=N,770nm,13.5s						
SNY				LR	LR		
	comp=Z,1μm,14.7s						
DL2	**Dalian**	**17.66**	**295**	P	**P**	**03 30 06.8**	**+0.6**
DL2				AMB	AMB		
	comp=Z,30nm,0.9s						
DL2				AMB	AMB		
	comp=Z,170nm,4.0s						
DL2				LR	LR		
	comp=N,350nm,12.3s						
DL2				LR	LR		
	comp=E,870nm,14.7s						
DL2				LR	LR		
	comp=Z,1μm,14.7s						
KLR	**Kul'dur**	**17.82**	**337**	*e*P	**P**	**03 30 02.8**	**-5.3**
KLR				MLR	MLR		
	comp=N,1μm,14.0s						
KLR				MLR	MLR		
	comp=Z,2μm,14.0s						
SSE	**Sheshan**	**18.04**	**269**	P	**P**	**03 30 08.5**	**-2.5**
SSE				AP		03 30 17.5	
SSE				XP		03 30 21.8	
SSE				S	**S**	**03 33 23.5**	**-5.4**
SSE				AMB	AMB		
	comp=Z,20nm,0.8s						
SSE				AMB	AMB		
	comp=Z,294nm,6.4s						
SSE				LR	LR		
	comp=N,297nm,23.1s						
SSE				LR	LR		
	comp=E,377nm,23.3s						
SSE				LR	LR		
	comp=Z,480nm,24.4s						
SSE	**Sheshan**	**18.04**	**269**	P	**P**	**03 30 08.6**	**-2.4**
	comp=Z,20nm,0.8s						
SSE				pP		03 30 17.5	
SSE				sP		03 30 21.7	
SSE				S	**S**	**03 33 23.6**	**-5.3**
SSE				sS		03 33 43.9	
GUMO	**Guam**	**19.70**	**173**	*e*P	**P**	**03 30 32.1**	**+1.2**
GUMO				pmax	pmax		
	comp=Z,251nm,1.1s						
GUMO	**Guam**	**19.70**	**173**	*e*P	**P**	**03 30 32.1**	**+1.2**
	comp=Z,251nm,1.1s						
NJ2	**Nanjing**	**19.81**	**273**	*e*P	**P**	**03 30 30.0**	**-2.0**
NJ2				AP		03 30 35.0	
NJ2				XP		03 30 38.0	
NJ2				PP	PP	03 30 48.5	-2.2
NJ2				AMB	AMB		
	comp=Z,90nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,310nm,6.6s						
NJ2				LR	LR		
	comp=N,2μm,13.6s						
NJ2				LR	LR		
	comp=E,2μm,15.8s						
NJ2				LR	LR		
	comp=Z,710nm,13.7s						
YHNB	**Yeheng**	**20.21**	**250**	*e*P	**P**	**03 30 32.9**	**-3.5**
TIA	**Tai'an**	**20.92**	**285**	*e*P	**P**	**03 30 41.3**	**-2.3**
PET	**Petropavlovsk**	**22.98**	**26**	*e*P	**P**	**03 30 56.3**	**-7.6**
PET				*e*S	**S**	**03 34 58.8**	**-10**
PET				smax			
	comp=E,300nm,12.0s						
PET				MLR	MLR		
	comp=Z,400nm,13.0s,MS4.0						
HIA	**Hailar**	**23.21**	**320**	*e*P	**P**	**03 31 05.5**	**-0.7**
HIA				pmax	pmax		
	comp=Z,125nm,1.2s						
HIA	**Hailar**	**23.21**	**320**	*e*P	**P**	**03 31 05.5**	**-0.7**
	comp=Z,125nm,1.2s,mb5.2						
WHN	**Wuhan**	**23.89**	**271**	⇑P	**P**	**03 31 13.5**	**+0.5**
WHN				LR	LR		
	comp=N,1μm,13.2s,MS4.7						
WHN				LR	LR		
	comp=E,1μm,12.4s,MS4.7						
WHN				LR	LR		
	comp=Z,2μm,14.8s,MS4.8						
HHC	**Hu-ho-hao-te**	**25.62**	**296**	*e*P	**P**	**03 31 30.5**	**+1.0**
HHC				AP	pP	03 31 35.5	+0.6
HHC				XP	sP	03 31 37.5	+0.1
HHC				PCP	PcP	03 34 56.3	-4.6
HHC				AMB	AMB		
	comp=Z,78nm,1.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,253nm,9.5s						
HHC				LR	LR		
	comp=N,661nm,15.4s,MS4.5						
HHC				LR	LR		
	comp=E,1μm,15.4s,MS4.5						
HHC				LR	LR		
	comp=Z,1μm,14.2s,MS4.6						
CLNS	**Chul'man**	**26.46**	**338**	*e*P	**P**	**03 31 37.3**	**+0.2**
CLNS				*e**PP	pP	03 31 43.8	+1.2
CLNS				*e*PPP	PPP	03 32 13.8	-19
CLNS				*e*S	**S**	**03 35 55.5**	**-12**
CLNS				pmax	pmax		
	comp=Z,89nm,1.1s,mb5.2						
CLNS				pmax	pmax		
	comp=N,49nm,0.9s						
CLNS				pmax	pmax		
	comp=E,13nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,26nm,0.8s,mb4.8						
CLNS				pmax	pmax		
	comp=N,28nm,0.9s						
CLNS				pmax	pmax		
	comp=E,20nm,0.8s						
CLNS				smax			
	comp=E,125nm,11.1s						
CLNS				smax			
	comp=Z,56nm,9.8s						
CLNS				smax			
	comp=N,51nm,9.6s						
CLNS				MLR	MLR		
	comp=Z,600nm,15.0s,MS4.3						
CLNS				MLR	MLR		
	comp=N,500nm,16.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,50nm,11.0s,MS4.2						
BTO	**Baotou**	**26.76**	**295**	*e*P	**P**	**03 31 39.5**	**-0.5**
MA2	**Magadan**	**26.93**	**9**	*de*P	**P**	**03 31 41.3**	**-0.1**
MA2				*e*S	**S**	**03 36 09.6**	**-6.0**
MA2				pmax	pmax		
	comp=Z,30nm,1.9s,mb4.5						
MA2				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.0						
MA2	**Magadan**	**26.93**	**9**	*e*P	**P**	**03 31 38.8**	**-2.6**
	comp=Z,12nm,0.8s,mb4.5						
XAN	**Xi'an**	**27.77**	**281**	P	**P**	**03 31 47.8**	**-1.5**
XAN				AMB	AMB		
	comp=Z,28nm,1.4s,mb4.7						
XAN				AMB	AMB		
	comp=Z,200nm,5.7s						
XAN				LR	LR		
	comp=N,464nm,13.5s,MS4.5						
XAN				LR	LR		
	comp=E,816nm,15.0s,MS4.5						
XAN				LR	LR		
	comp=Z,1μm,14.8s,MS4.6						
CIT	**Cnita**	**28.02**	**321**	*e*P	**P**	**03 31 52.6**	**+1.3**
ENH	**Enshi**	**28.03**	**273**	*e*P	**P**	**03 31 49.1**	**-2.6**
	comp=Z,44nm,0.8s,mb5.1						
ENH				LR	LR		
	comp=Z,521nm,20.0s,MS4.1						
YAK	**Yakutsk**	**29.93**	**348**	*d*P	**P**	**03 32 08.1**	**-0.3**
YAK				*e*		03 32 26.6	
YAK				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.9						
YAK				pmax	pmax		
	comp=N,14nm,1.2s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,15nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.7						
YAK	**Yakutsk**	**29.93**	**348**	P	**P**	**03 32 06.0**	**-2.4**
	comp=Z,32nm,0.7s,mb5.2						
SEY	**Seymchan**	**30.38**	**9**	*e*P	**P**	**03 32 11.2**	**-1.2**
SEY				*e*		03 33 15.9	
SEY				*e*S	**S**	**03 37 02.4**	**-8.4**
SEY				*e*SSS	SSS	03 39 00.5	-12
SEY				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
SONM	**Songino Array**	**30.65**	**309**	P	**P**	**03 32 15.7**	**+0.8**
	comp=Z,18nm,0.9s,mb4.9,baz=109,slow=8.5,SNR=45						
BOD	**Bodaibo**	**31.17**	**331**	*e*P	**P**	**03 32 18.1**	**-1.3**
BOD				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.3						
LZH	**Lanzhou**	**31.66**	**286**	*e*P	**P**	**03 32 22.5**	**-1.4**
LZH				AP	pP	03 32 26.0	-3.4
LZH				XP	sP	03 32 31.8	0.0
LZH				PP	PP	03 33 25.0	-3.9
LZH				PCP	PcP	03 35 17.3	+1.4
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,192nm,4.0s						
LZH				LR	LR		
	comp=E,3μm,13.0s						
LZH				LR	LR		
	comp=Z,3μm,13.8s,MS5.1						
LZH	**Lanzhou**	**31.66**	**286**	*e*P	**P**	**03 32 22.5**	**-1.4**
LZH				*SP	sP	03 32 31.8	0.0
LZH						03 33 25.0	
LZH				PPP	PPP	03 33 40.2	-3.7
LZH						03 35 17.2	
LZH				*e*S	**S**	**03 37 28.3**	**-2.7**
LZH				SS	SS	03 39 15.0	-6.0
LZH				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.0						
LZH				MLR	MLR		
	comp=Z,3μm,13.8s,MS5.1						
LZH	**Lanzhou**	**31.66**	**286**	*e*P	**P**	**03 32 22.5**	**-1.4**
	comp=Z,42nm,1.5s,mb5.0						
LZH				pP	pP	03 32 26.1	-3.3
LZH				sP	sP	03 32 31.8	0.0
LZH				PP	PP	03 33 25.0	-3.9
LZH				PPP	PPP	03 33 40.2	-3.7
LZH				PcP	PcP	03 35 17.2	+1.3
LZH				*e*S	**S**	**03 37 28.3**	**-2.7**
LZH				sS		03 37 35.3	
LZH				SS	SS	03 39 15.0	-6.0

LZH LR LR
comp=Z,3µm,13.8s,MS5.1
CD2 Chengdu 32.66 277 P **P** **03 32 32.5 -0.2**
CD2 AMB AMB
comp=Z,26nm,1.2s,mb5.0
TLY Talaya 33.47 315 *e*P **P** **03 32 40.8 +1.2**
TLY *e* 03 33 52.0
TLY *e*S **S** **03 37 51.2 -7.9**
TLY pmax pmax
comp=Z,25nm,0.9s,mb5.1
TLY Talaya 33.47 315 *e*P **P** **03 32 39.5 -0.1**
comp=Z,27nm,1.0s,mb5.1
GTA Gaotai 34.57 293 P **P** **03 32 47.0 -2.2**
GTA AP pP 03 32 49.5 -5.2
GTA XP sP 03 32 51.8 -5.3
GTA AMB AMB
comp=Z,13nm,1.0s,mb4.8
GTA AMB AMB
comp=Z,230nm,5.7s
GTA LR LR
comp=N,443nm,12.9s,MS4.6
GTA LR LR
comp=E,634nm,15.6s,MS4.6
GTA LR LR
comp=Z,949nm,15.3s,MS4.7
KMI Kunming 35.34 267 P **P** **03 32 55.8 -0.2**
KMI AP pP 03 33 00.0 -1.5
KMI XP sP 03 33 02.0 -1.9
KMI PP PP 03 34 15.0 -0.6
KMI PCP PcP 03 35 26.5 +0.2
KMI S **S** **03 38 28.3 -0.2**
KMI XS 03 38 35.5
KMI SCP 03 39 10.5
KMI PCS 03 39 12.3
KMI SS SS 03 40 44.3 -1.9
KMI SCS ScS 03 43 13.5 +0.7
KMI AMB AMB
comp=Z,13nm,0.7s,mb5.0
KMI AMB AMB
comp=Z,145nm,5.6s
KMI LR LR
comp=N,528nm,10.2s,MS4.8
KMI LR LR
comp=E,923nm,12.6s,MS4.8
KMI LR LR
comp=Z,949nm,13.3s,MS4.7
KMI Kunming 35.34 267 P **P** **03 32 55.7 -0.3**
KMI 03 34 14.9
KMI PPP PPP 03 34 33.6 -0.7
KMI 03 35 26.6
KMI S **S** **03 38 28.2 -0.3**
KMI SS SS 03 40 44.3 -1.9
KMI SSS SSS 03 41 12.0 -1.6
KMI 03 43 13.4
KMI pmax pmax
comp=Z,13nm,0.7s,mb5.0
KMI MLR MLR
comp=Z,950nm,13.3s,MS4.7
KMI Kunming 35.34 267 P **P** **03 32 55.7 -0.3**
comp=Z,13nm,0.7s,mb5.0
KMI pP pP 03 33 00.1 -1.4
KMI sP sP 03 33 01.9 -2.0
KMI PP PP 03 34 14.9 -0.7
KMI PPP PPP 03 34 33.6 -0.7
KMI PcP PcP 03 35 26.6 +0.3
KMI S **S** **03 38 28.2 -0.3**
KMI sS 03 38 35.5
KMI ScP 03 39 10.6
KMI PcS 03 39 12.3
KMI SS SS 03 40 44.3 -1.9
KMI SSS SSS 03 41 12.0 -1.6
KMI ScS ScS 03 43 13.4 +0.6
KMI LR LR
comp=Z,950nm,13.3s,MS4.7
BILL Bilibino 37.47 15*d* *i*P **P** **03 33 13.0 -0.4**
BILL *e* 03 34 37.4
BILL *e* 03 35 31.7
BILL pmax pmax
comp=Z,22nm,1.1s,mb4.9
BILL Bilibino 37.47 15 *e*P **P** **03 33 12.8 -0.7**
comp=Z,25nm,1.3s,mb4.9
TIXI Tiksi 39.13 353 *e*P **P** **03 33 25.6 -1.8**
TIXI pmax pmax
comp=Z,27nm,1.3s,mb4.8
TIXI MLR MLR
comp=Z,445nm,14.0s,MS4.5
PMG Port Moresby 42.66 173 LR LR 03 49 34.9
comp=Z,112nm,18.5s,MS3.8,baz=59,slow=33
WMQ Urumqi 43.33 301 P **P** **03 34 02.0 0.0**
WMQ AP pP 03 34 06.5 -1.1
WMQ XP sP 03 34 09.0 -1.0
WMQ PP PP 03 35 45.0 +0.1
WMQ AMB AMB
comp=Z,71nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,1µm,5.6s
WMQ LR LR
comp=N,615nm,15.7s,MS4.7
WMQ LR LR
comp=E,405nm,13.0s,MS4.7
WMQ LR LR
comp=Z,466nm,13.2s,MS4.6
KSM Kuching 43.60 230 *e*P **P** **03 34 04.7 0.0**
ZAL Zalesovo 45.09 315 P **P** **03 34 15.2 -1.0**
comp=Z,2.2nm,0.8s,mb4.0,baz=18,slow=8.3,SNR=14
ZAL LR LR 03 54 23.0
comp=Z,284nm,19.6s,MS4.2,baz=192,slow=38
HNR Honiara 45.63 155 LR LR 03 52 26.5
comp=Z,237nm,18.2s,MS4.2,baz=324,slow=35
NVS Novosibirsk 46.06 316 *e*P **P** **03 34 22.9 -0.8**
NVS *e* 03 35 59.3
NVS pmax pmax
comp=Z,42nm,1.3s,mb5.2
NVS pmax pmax
comp=E,50nm,1.4s
MKAR Makanchi Array 46.85 305 *i* P **P** **03 34 29.8 -0.4**
MKAR pmax pmax
comp=Z,12nm,0.6s
MKAR Makanchi Array 46.85 305 P **P** **03 34 29.9 -0.2**
comp=Z,17nm,0.9s,mb5.0,baz=90,slow=9.1,SNR=50
MKAR LR LR 03 55 01.8
comp=Z,267nm,20.2s,MS4.2,baz=0.5,slow=37
MKAR Makanchi Array 46.85 305 P **P** **03 34 29.9 -0.2**
MKAR LR LR 03 55 01.8
KULM Kulim 47.69 244 *e*P **P** **03 34 36.4 -0.9**
JIRN Jiri 48.24 279 *e*P **P** **03 34 41.6 +0.3**
comp=Z,72nm,0.8s,mb5.8
GUN Gumba 48.41 280 *e*P **P** **03 34 43.2 +0.6**
comp=Z,88nm,0.9s,mb5.8
PKI Pulchoki 48.92 279 *e*P **P** **03 34 46.7 +0.1**
comp=Z,39nm,0.9s,mb5.5
KURK Kurchatov 48.93 311 *e*P **P** **03 34 44.6 -1.7**
KURK *e**PP pP 03 34 54.2 +2.2
KURK pmax pmax
comp=Z,106nm,1.0s,mb5.8
KURK Kurchatov 48.93 311 *e*P **P** **03 34 44.6 -1.6**
comp=Z,106nm,1.0s,mb5.8
KURK *e*pP pP 03 34 54.2 +2.3
KURK *e*PcP PcP 03 35 59.6 -11
KKN Kakani 48.95 280 *e*P **P** **03 34 46.8 0.0**
comp=Z,70nm,1.0s,mb5.7
DMN Daman 49.16 279 *e*P **P** **03 34 47.9 -0.5**
comp=Z,25nm,0.8s,mb5.3
GKN Gorkha 49.40 280 *e*P **P** **03 34 49.8 -0.5**
comp=Z,70nm,0.9s,mb5.7
RSO Redoubt South 49.45 36 *e*P **P** **03 34 49.6 -0.7**
SPU Mount Spurr 49.83 35 *e*P **P** **03 34 53.0 -0.1**
KOLN Koldanda 50.34 280 *e*P **P** **03 34 56.9 -0.6**
MCK McKinley 51.40 32 *e*P **P** **03 35 04.1 -0.9**
MCK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
MCK MLR MLR
comp=Z,95nm,19.0s,MS3.8
MCK McKinley 51.40 32 *e*P **P** **03 35 04.1 -0.9**
comp=Z,2.4nm,0.7s,mb4.2
MCK LR LR
comp=Z,95nm,19.0s,MS3.8
SML Sawmill 51.63 35 *e*P **P** **03 35 05.4 -1.4**
TKM2 Tokmak 2 52.17 301 P **P** **03 35 11.0 -0.2**
SNR=11
ILAR Eielson Array 52.32 31 P **P** **03 35 09.9 -2.0**
comp=Z,7.4nm,0.9s,mb4.6,baz=263,slow=6.4,SNR=44
ILAR LR LR 03 56 40.8
comp=Z,72nm,18.2s,MS3.8,baz=358,slow=35
PTH Pithoragarh 52.47 284 *e*P **P** **03 35 09.9 -3.7**

KZA Kyzart 52.62 300 P **P** **03 35 15.9 +1.4**
SNR=9.7
KSH Kashi 52.73 297 PR 03 35 18.0
KSH *e*PCP PcP 03 36 29.5 +4.5
KSH *e*PP PP 03 37 17.3 +1.3
KSH *e*PCS 03 40 26.3
KSH *e*S **S** **03 42 39.3 -1.4**
KSH *e*XS 03 42 55.0
KSH *e*SCS ScS 03 45 02.0 +1.1
KSH *e*SS SS 03 46 15.3 -3.1
KSH AMB AMB
comp=Z,510nm,7.3s
KSH LR LR
comp=N,390nm,6.1s
KSH LR LR
comp=E,330nm,5.6s
DIV Divide 52.88 35 *e*P **P** **03 35 15.3 -0.9**
comp=E,93nm,1.0s,mb5.7
USP Ospenovka 52.88 302 P **P** **03 35 18.1 +1.6**
SNR=7.5
FRU Bishkek 52.90 301 *e*P **P** **03 35 18.0 +1.4**
FRU pmax pmax
comp=Z,80nm,2.0s,mb5.3
EYAK Cordova Ski Ar 52.92 36 *e*P **P** **03 35 16.2 -0.3**
AAK Ala-Archa 53.03 301 P **P** **03 35 17.7 +0.1**
SNR=5.2
AAK Ala-Archa 53.03 301*d* *i*P **P** **03 35 16.0 -1.6**
AAK pmax pmax
comp=Z,14nm,1.0s,mb4.8
AAK Ala-Archa 53.03 301 *e*P **P** **03 35 15.7 -1.9**
comp=Z,14nm,1.0s,mb4.8
AAK LR LR
comp=Z,61nm,21.0s,MS3.6
CTA Charters Tower 53.16 175 P **P** **03 35 18.1 -0.8**
comp=Z,6.0nm,0.9s,mb4.5,baz=252,slow=11,SNR=3.2
VOSK Vostochnaya 53.42 314 P **P** **03 35 18.6 -1.7**
VOSK pmax pmax
comp=Z,39nm,1.2s,mb5.2
WRA Warramunga Arr 53.44 189 P **P** **03 35 18.2 -2.7**
comp=Z,3.5nm,0.4s,mb4.6,baz=5.5,slow=7.5,SNR=5.4
WRA ScP 03 40 26.2
comp=Z,1.6nm,0.5s,baz=2.4,slow=4.2,SNR=5.1
FITZ Fitzroy Crossi 53.49 200 P **P** **03 35 20.9 -0.4**
comp=Z,12nm,0.7s,mb5.0,baz=350,slow=8.4,SNR=4.4
EKS2 Erkin-Say 53.54 301 P **P** **03 35 19.9 -1.4**
SNR=5.8
BVA0 Borovoye Array 53.73 315 P **P** **03 35 19.5 -3.0**
BVA0 pmax pmax
comp=Z,83nm,2.7s,mb5.2
BVAR Borovoye Array 53.73 315 P **P** **03 35 20.8 -1.7**
comp=Z,13nm,1.0s,mb4.8,baz=90,slow=5.9,SNR=39
AML Almayashu 53.73 301 P **P** **03 35 23.4 +0.7**
SNR=51
BRVK Borovoye 53.78 315 *e*P **P** **03 35 22.1 -0.8**
BRVK *e**PP pP 03 35 29.5 +0.9
BRVK *e* 03 36 31.4
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BRVK Borovoye 53.78 315 *e*P **P** **03 35 22.1 -0.8**
comp=Z,9.1nm,0.9s,mb4.7
BRVK *e*pP pP 03 35 29.5 +0.9
BRVK *e*PcP PcP 03 36 31.4 +2.6
DDI Dehra Dun 53.95 286 *e*P **P** **03 35 22.0 -2.5**
THN Thein Dam 55.08 289 *e*P **P** **03 35 29.8 -3.0**
KKAR Karatay Array 55.74 303 P **P** **03 35 36.6 -0.8**
KKAR pmax pmax
comp=Z,38nm,1.0s,mb5.4
INK Inuvik 57.43 26 *e*P **P** **03 35 47.7 -1.4**
INK pmax pmax
comp=Z,15nm,1.0s
INK Inuvik 57.43 26 P **P** **03 35 47.4 -1.8**
comp=Z,9.9nm,0.8s,mb4.9,baz=291,slow=7.0,SNR=15
INK Inuvik 57.43 26 *e*P **P** **03 35 47.7 -1.4**
comp=Z,15nm,1.0s,mb5.0
MBWA Marble Bar 58.24 205 *e*P **P** **03 35 54.8 -0.6**
comp=Z,6.1nm,0.6s,mb4.8
HYB Hyderabad 58.96 271 *e*P **P** **03 36 00.0 -0.4**
HYB Hyderabad 58.96 271 *i* P **P** **03 36 00.0 -0.4**
ARU Arti 59.73 320⇓ *i*P **P** **03 36 03.7 -1.5**
ARU *e* 03 36 50.2
ARU *e* 03 38 12.0
ARU *e*S **S** **03 44 08.8 -4.6**
ARU *e*SS SS 03 48 02.9 -7.8
ARU pmax pmax
comp=Z,41nm,1.3s,mb5.3
ARU MLR MLR
comp=Z,300nm,16.0s,MS4.5
ARU MLR MLR
comp=N,200nm,17.0s,MS4.5
ARU MLR MLR
comp=E,200nm,15.0s,MS4.5
ARU Arti 59.73 320 *e*P **P** **03 36 03.6 -1.6**
comp=E,31nm,1.0s,mb5.3
ARU LR LR
comp=Z,50nm,19.0s,MS3.7
AB31 Akbulak array 61.00 312 P **P** **03 36 12.3 -1.7**
AB31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
DLBC Dease Lake 61.17 37 P **P** **03 36 14.9 -0.1**
comp=Z,2.2nm,0.8s,mb4.3,baz=242,slow=6.3,SNR=5.5
STKA Stephens Creek 64.77 181 P **P** **03 36 37.9 -1.4**
comp=Z,5.9nm,0.8s,mb4.7,baz=274,slow=14,SNR=3.6
RES Resolute Bay 66.08 14 *e*P **P** **03 36 46.1 -0.9**
RES pmax pmax
comp=Z,41nm,1.3s,mb5.3
RES Resolute Bay 66.08 14 *e*P **P** **03 36 46.1 -0.8**
comp=Z,42nm,1.3s,mb5.3
APA Apatity 66.46 337⇓ *i*P **P** **03 36 49.0 -0.4**
APA *i* 03 37 14.5
YKW3 Yellowknife Ar 66.68 29 *e*P **P** **03 36 49.1 -1.8**
YKA Yellowknife Ar 66.71 30 P **P** **03 36 49.6 -1.5**
comp=Z,5.4nm,0.8s,mb4.6,baz=296,slow=6.2,SNR=22
YKA LR LR 04 08 12.2
comp=Z,70nm,18.1s,MS3.9,baz=270,slow=38
KEV Kevo 67.25 340 *e*p **P** **03 36 53.3 -1.2**
comp=E,15nm,0.9s,mb5.0
KEV Kevo 67.25 340 *e*P **P** **03 36 53.3 -1.2**
KEV pmax pmax
comp=Z,15nm,0.9s,mb5.0
ARCES ARCESS Array B 67.81 340 P **P** **03 36 57.9 -0.1**
comp=Z,11nm,0.8s,mb4.9,baz=40,slow=9.5,SNR=8.8
DAG Danmarks Havn 69.61 355⇑ *e*P **P** **03 37 08.2 -0.8**
DAG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
DAG Danmarks Havn 69.61 355⇑ *e*P **P** **03 37 08.2 -0.8**
comp=Z,6.7nm,0.9s,mb4.6
DAG Danmarks Havn 69.61 355⇑ *i*P **P** **03 37 08.2 -0.8**
comp=Z,6.7nm,0.9s,mb4.6
NWAO Narrogin (SRO) 69.94 202 P **P** **03 37 11.9 +0.2**
comp=Z,11nm,0.5s,mb5.0,baz=6.3,slow=8.3,SNR=11
MOS Moscow 70.76 325 *e*P **P** **03 37 15.5 -0.8**
MOS *e* 03 37 25.5
MOS pmax pmax
comp=Z,56nm,1.2s,mb5.4
OBN Obninsk 71.60 324⇓ *i*P **P** **03 37 22.4 +1.0**
OBN *e* 03 37 33.3
OBN 03 37 45.0
OBN S S 03 46 40.0 +1.6
OBN pmax pmax
comp=Z,26nm,0.9s,mb5.2
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.6
KAF Kangasniemi 72.03 334 *e*p **P** **03 37 22.0 -1.8**
comp=Z,7.9nm,0.5s,mb4.9,baz=51,slow=5.7
KAF Kangasniemi 72.03 334 *e*P **P** **03 37 22.0 -1.8**
KAF pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
YBH Yreka Blue Hor 72.08 52 P **P** **03 37 25.1 +0.6**
comp=Z,3.1nm,0.9s,mb4.2,baz=291,slow=5.9,SNR=3.7
NEW Newport 72.33 44 *e*P **P** **03 37 25.6 -0.3**
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW Newport 72.33 44 *e*P **P** **03 37 25.6 -0.3**
comp=Z,5.3nm,0.9s,mb4.5
FINES FINESS Array B 72.53 333 P **P** **03 37 26.1 -0.6**
comp=Z,17nm,0.9s,mb5.0,baz=90,slow=5.7,SNR=37
FINES PP PP 03 40 06.4 -3.5
comp=Z,5.2nm,1.0s,baz=101,slow=9.7,SNR=4.2
FINES LR LR 04 11 57.3
comp=Z,157nm,18.2s,MS4.3,baz=46,slow=38
GOF Gofitskoye 73.21 313⇓ *i*P **P** **03 37 30.3 -0.8**
GOF pmax pmax
comp=Z,30nm,1.7s,mb5.0
BMO Blue Mountains 73.95 47 *e*P **P** **03 37 36.1 +0.8**
comp=Z,5.6nm,1.1s,mb4.4
BMO LR LR
comp=Z,140nm,22.0s,MS4.2
KIV Kislovodsk 73.99 312*k**e*P **P** **03 37 37.0 +1.4**
KIV *e* 03 37 46.4
KIV *e* 03 42 00.0
KIV S S 03 47 06.0 +0.4
KIV pmax pmax
comp=Z,39nm,1.2s,mb5.2
KIV Kislovodsk 73.99 312 *e*P **P** **03 37 36.7 +1.1**
comp=Z,16nm,0.8s,mb5.0
VSU Vasula 74.11 330*d* *i*P **P** **03 37 37.1 +1.1**
WVOR Wild Horse Val 74.36 49 *e*P **P** **03 37 37.5 -0.3**
WVOR pmax pmax
comp=Z,16nm,1.5s,mb4.7
WVOR Wild Horse Val 74.36 49 *e*P **P** **03 37 37.5 -0.3**
comp=Z,16nm,1.5s,mb4.7
SUMG Summit 74.47 0 *e*P **P** **03 37 37.8 -0.1**
comp=Z,23nm,1.0s,mb5.1
BEKR Beckwourth 74.55 52 *e*P **P** **03 37 39.0 +0.1**
comp=Z,7.9nm,1.0s,mb4.6
GNI Garni 74.61 308 *e*P **P** **03 37 40.6 +1.3**
GNI pmax pmax
comp=Z,28nm,1.1s
GNI MLR MLR
comp=Z,255nm,20.0s
GNI Garni 74.61 308 LR LR 04 12 55.1
comp=Z,121nm,21.5s,MS4.2,baz=78,slow=38
GNI Garni 74.61 308 *e*P **P** **03 37 40.6 +1.4**
comp=Z,28nm,1.1s,mb5.1
GNI LR LR
comp=Z,255nm,20.0s,MS4.5
CMB Columbia Colle 75.46 54 *e*P **P** **03 37 43.5 -0.7**
CMB pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CMB Columbia Colle 75.46 54 *e*P **P** **03 37 43.5 -0.7**
comp=Z,7.6nm,1.0s,mb4.6
SOC Sochi 76.01 313 *e*P **P** **03 37 46.6 -0.6**
SOC *e* 03 37 59.4
SOC *e* 03 40 35.6
SOC *e*PPP PPP 03 42 21.8 -4.9
SOC *e*S S 03 47 20.3 -7.8
SOC *e* 03 47 50.7
SOC *e*SS SS 03 52 17.2 -6.9
SOC *e*SSS SSS 03 55 33.0 -6.1
SOC pmax pmax
comp=N,8.0nm,0.6s
SOC pmax pmax
comp=E,4.0nm,0.6s
SOC pmax pmax
comp=Z,16nm,0.6s,mb5.1
SOC MLR MLR
comp=N,166nm,15.0s,MS4.5
SOC MLR MLR
comp=E,80nm,15.0s,MS4.5
SOC MLR MLR
comp=Z,125nm,15.0s,MS4.3
HLID Hailey 76.40 47 *e*P **P** **03 37 50.2 +0.7**
comp=Z,10nm,1.6s,mb4.5
HLID LR LR
comp=Z,148nm,20.0s,MS4.3
FFC Flin Flon 76.48 33 *e*P **P** **03 37 48.9 -0.7**
FFC pmax pmax
comp=Z,14nm,1.0s,mb4.8
FFC Flin Flon 76.48 33 *e*P **P** **03 37 48.9 -0.7**
comp=Z,14nm,1.0s,mb4.9
NVAR Mina Array Bea 76.66 53 P **P** **03 37 49.5 -1.5**
comp=Z,2.0nm,0.8s,mb4.1,baz=287,slow=3.5,SNR=18
ANN Anapa 76.72 315⇓ *i*P **P** **03 38 00.4 +9.2**
ANN *i* 03 38 10.7
ANN *i* PPP PPP 03 42 38.2 +5.1
ANN *e* 03 47 59.6
ANN *e*SS SS 03 52 35.8 +1.0
ANN pmax pmax
comp=Z,68nm,1.4s,mb5.4
BOZ Bozeman (W) 76.91 44 *e*P **P** **03 37 53.2 +1.0**
BOZ pmax pmax
comp=Z,13nm,1.4s,mb4.7
BOZ Bozeman (W) 76.91 44 *e*P **P** **03 37 53.2 +1.0**
comp=Z,13nm,1.4s,mb4.7
ELK Elko 77.42 49 *e*P **P** **03 37 55.4 +0.2**
ELK pmax pmax
comp=Z,24nm,1.8s
ELK Elko 77.42 49 *e*P **P** **03 37 55.4 +0.3**
comp=Z,24nm,1.8s,mb4.8
QLMT Earthquake Lak 77.48 44 *e*P **P** **03 37 57.0 +1.6**
AKASG Malin Array Be 77.77 323 P **P** **03 37 56.1 -0.7**
AKASG Malin Array Be 77.77 323 P **P** **03 37 56.0 -0.8**
comp=Z,3.4nm,0.5s,mb4.5,baz=44,slow=5.7,SNR=39
NB2 NORSAR Subarra 77.97 338 P **P** **03 37 57.1 -0.6**
comp=Z,42nm,1.1s,mb5.3,baz=40,slow=5.6
NB2 NORSAR Subarra 77.97 338 P **P** **03 37 57.1 -0.6**
NB2 pmax pmax
comp=Z,42nm,1.1s,mb5.3
NB2 NORSAR Subarra 77.97 338 P **P** **03 37 57.1 -0.6**
baz=40,slow=5.6
NOA NORSAR Array B 77.97 338 P **P** **03 37 57.2 -0.5**
comp=Z,21nm,0.9s,mb5.1,baz=39,slow=5.6,SNR=57
NOA LR LR 04 16 57.3
comp=Z,145nm,18.1s,MS4.3,baz=60,slow=39
NOA NORSAR Array B 77.97 338 P **P** **03 37 57.2 -0.5**
NOA LR LR 04 16 57.3
MIB Mutribah 78.10 298 *e*P **P** **03 37 59.6 +0.5**
MIB AMb AMB 03 38 01.7
comp=Z,50nm,0.7s,mb5.6
KBD Kabd 78.16 297 *e*P **P** **03 37 59.6 +0.2**
KBD AMb AMB 03 38 02.2
comp=Z,147nm,1.0s,mb5.9
QRN Al-Qurain 78.21 297 *e*P **P** **03 37 59.5 -0.2**
QRN AMb AMB 03 38 01.9
comp=Z,64nm,0.8s,mb5.6
NAO01 NORSAR Array S 78.23 338 *e*P **P** **03 37 58.2 -0.9**
comp=Z,18nm,1.0s,mb5.0
IMW Indian Meadow 78.31 45 *e*P **P** **03 38 00.8 +0.8**
comp=Z,18nm,1.4s,mb4.8
RRI2 Red Ridge 78.39 46 *e*P **P** **03 38 02.1 +1.7**
comp=Z,16nm,1.4s,mb4.8
RDF Al-Radifah 78.39 297 *e*P **P** **03 38 01.2 +0.4**
RDF AMb AMB 03 38 04.1
comp=Z,94nm,1.1s,mb5.6
NAY Al-Naaiem 78.46 297 *e*P **P** **03 38 01.4 +0.4**
NAY AMb AMB 03 38 05.0
comp=Z,49nm,1.2s,mb5.3
SUW Suwalki 78.50 328 *e*P **P** **03 38 00.6 -0.2**
SUW *e* 03 38 02.4
SUW Suwalki 78.50 328 *e*P **P** **03 38 00.6 -0.2**
SUW *e* 03 38 02.4
RST Umm Al-Ruwaisa 78.51 298 *e*P **P** **03 38 01.1 -0.3**
RST AMb AMB 03 38 03.4
comp=Z,43nm,0.8s,mb5.5
TPAW Teton Pass 78.53 45 *e*P **P** **03 38 03.1 +1.9**
comp=Z,11nm,1.1s,mb4.7
SIM Simferopol' 78.58 317 P **P** **03 38 02.8 +1.4**
SIM pmax pmax
comp=Z,19nm,0.8s,mb5.1
LOHW Long Hollow 78.67 45 *e*P **P** **03 38 02.7 +0.7**
comp=Z,7.3nm,1.3s,mb4.5
HWUT Hardware Ranch 79.24 47 *e*P **P** **03 38 05.3 +0.2**
comp=Z,17nm,1.3s,mb4.8
KONO Kongsberg 79.56 338 *e*P **P** **03 38 05.4 -1.1**
KONO pmax pmax
comp=Z,12nm,1.1s,mb4.7
KONO Kongsberg 79.56 338 *e*P **P** **03 38 05.4 -1.1**
comp=Z,12nm,1.1s,mb4.7
MALT Malatya 79.73 309 *e*P **P** **03 38 08.5 +0.7**
MALT pmax pmax
comp=Z,13nm,1.0s,mb4.8
MALT Malatya 79.73 309 *e*P **P** **03 38 08.4 +0.6**
comp=Z,13nm,1.0s,mb4.8
BW06 Boulder Array 79.78 45 *e*P **P** **03 38 07.5 -0.5**
comp=Z,15nm,1.8s,mb4.6
PDAR Pinedale Array 79.78 45 P **P** **03 38 07.8 -0.2**
comp=Z,1.1nm,0.7s,mb3.9,baz=292,slow=3.9,SNR=10
PDAR LR LR 04 11 11.0
comp=Z,63nm,20.5s,MS3.9,baz=59,slow=34
NEN Nelson 80.49 54 *e*P **P** **03 38 12.3 +0.4**
KWP Kalwaria 81.66 325 *e*P **P** **03 38 18.7 +1.0**
KWP *e* 03 38 20.3
KWP Kalwaria 81.66 325 *e*P **P** **03 38 18.7 +1.0**
KWP *e* 03 38 20.3
BURAR Bucovina Array 81.76 323⇓ P **P** **03 38 19.2 +0.9**
BR131 Keskin Array S 81.95 312 *e*P **P** **03 38 20.1 +0.6**
comp=Z,16nm,1.0s,mb4.9
BRTR Keskin Array B 81.95 312 P **P** **03 38 20.1 +0.6**
comp=Z,10nm,0.9s,mb4.8,baz=107,slow=3.3,SNR=35
VRI Vrincioaia 82.12 320⇑ P **P** **03 38 21.3 +1.1**
RSSD Black Hills 82.14 42 *e*P **P** **03 38 21.5 +1.1**
RSSD pmax pmax

comp=Z,22nm,1.6s,mb4.8
RSSD Black Hills 82.14 42 *e*P P **03 38 21.5 +1.1**
comp=Z,22nm,1.6s,mb4.8
ULM Lac du Bonnet 82.24 33 P P **03 38 20.9 +0.1**
comp=Z,1.1nm,0.5s,mb4.1,baz=279,slow=10,SNR=4.1
PPT Papeete 82.26 117 *e*LR LR 04 03 10.6
comp=Z,204nm,24.8s
PPT Papeete 82.26 117 LR LR 04 11 31.1
comp=Z,107nm,18.7s,MS4.2,baz=217,slow=33
KOLS Kolonicke sedl 82.34 325 *e*P P **03 38 21.6 +0.3**
KOLS *e*PP PcP 03 38 33.4 +6.3
STHS Stebnicka Huta 82.50 326 *e*P P **03 38 23.2 +1.1**
STHS *e* 03 38 34.6
STHS *e* 03 41 47.7
OJC Ojcow 82.61 327 *e*P P **03 38 24.5 +1.8**
PV10 Paradox Valley 82.70 49 *e*P P **03 38 24.0 +0.6**
CRVS Cervenica-Dubn 82.75 325 *e*P pP 03 38 32.1 +2.7
CRVS Cervenica-Dubn 82.75 325 *e*PP pP 03 38 32.1 +2.7
MLR Muntele Rosu 82.78 321 ⇓P P **03 38 25.2 +1.6**
NIE Niedzica 82.94 326 *e*P P **03 38 25.3 +0.9**
PV01 Paradox Valley 83.14 49 P P **03 38 25.5 -0.2**
SMCO Snowmass 83.50 47 *e*P P **03 38 27.8 +0.3**
HILS Ha'il 83.50 298 P P **03 38 29.5 +1.7**
KECS Kecovo 83.51 325 *e*P P **03 38 27.0 -0.3**
KECS *e* 03 38 39.8
KECS *e* 03 38 45.4
KECS *e* 03 41 52.6
DRGR 83.58 323 ⇓P P **03 38 28.0 +0.3**
OKC Ostrava-Krasne 83.64 327 *e*P P **03 38 27.1 -0.8**
OKC AMS AMS 04 22 10.0
comp=Z,300nm,14.6s
KSP Ksiaz 83.73 329 *e*P P **03 38 29.7 +1.4**
KSP *e*pP pP 03 38 40.0 +5.7
KSP *e*SKS SKS 03 48 48.0 -4.9
KSP Ksiaz 83.73 329 *e*P P **03 38 28.6 +0.3**
KSP *e* 03 38 30.2
BSEG Bad Segeberg 83.78 334 *e*P P **03 38 30.5 +1.9**
MORC Moravsky Berou 83.95 328 *e*P P **03 38 29.6 +0.1**
MORC pmax pmax
comp=Z,18nm,1.1s,mb5.1
MORC Moravsky Berou 83.95 328 *e*P P **03 38 29.6 +0.1**
comp=Z,18nm,1.1s,mb5.1
DPC Dobruska-Polom 84.08 329 *e*P P **03 38 30.4 +0.3**
DPC AMS AMS 04 21 50.0
comp=Z,400nm,13.0s
UPC Upice 84.09 329 *e*P P **03 38 30.5 +0.3**
PSZ Piszkesteto 84.19 325⇑ *e*P P **03 38 31.8 +1.0**
PSZ Piszkesteto 84.19 325⇑ *e*PcP PcP 03 38 31.8 -3.3
VYHS Vyhne 84.28 326 *e*P P **03 38 31.6 +0.4**
VYHS *e* 03 41 45.6
VYHS Vyhne 84.28 326 *e*P P **03 38 31.6 +0.4**
VYHS *e* pP 03 38 37.0 -0.2
VYHS *e* 03 41 45.6
QURS Qurayyt al Mil 84.43 304 P P **03 38 35.3 +2.9**
TAOE Nuku Hiva Isla 84.51 104 *e*LR LR 04 04 15.8
comp=Z,893nm,24.9s
PVCC Panska Ves 84.70 330 *e*P P **03 38 33.3 +0.1**
PVCC AMS AMS 04 21 10.0
comp=Z,400nm,16.4s
BRG Berggiesshubel 84.70 330 *e*P P **03 38 33.3 0.0**
BRG *e* 03 38 45.6
BRG *e* 03 41 47.4
VRAC Vranov 84.72 328 P P **03 38 35.9 +2.5**
CLL Collm 84.76 331⇑ *i*P P **03 38 33.6 +0.1**
CLL *i* 03 38 45.7
CLL pmax pmax
comp=Z,40nm,1.0s,mb5.5
CLL Collm 84.76 331⇑ *i*P P **03 38 33.6 +0.1**
comp=Z,40nm,1.0s,mb5.5
CLL *i* 03 38 45.7
CLL Collm 84.76 331 ⇑P P **03 38 33.6 +0.1**
comp=Z,logA/T=1.6,mb5.5
CLL *i* 03 38 45.7
CLL *e*SS SS 03 54 30.0 -4.2
PRU Pruhonice 85.11 329 *e*P P **03 38 35.6 +0.3**
PRU AMS AMS 04 24 20.0
comp=Z,300nm,13.4s
TUC Tucson 85.17 54 *e*P P **03 38 36.9 +0.9**
TUC pmax pmax
comp=Z,8.0nm,1.5s,mb4.6
TUC Tucson 85.17 54 *e*P P **03 38 36.9 +0.8**
comp=Z,7.7nm,1.5s,mb4.6
SDCO Great Sand Dun 85.29 47 *e*P P **03 38 36.9 +0.3**
comp=Z,20nm,1.4s,mb5.0
ZST Bratislava 85.30 327 *e*P P **03 38 37.6 +1.3**
ZST *e* 03 38 49.2
ZST *e*S S 03 49 01.5 -2.8
ZST Bratislava 85.30 327 *e*S S 03 49 01.5 -2.8
ZST *e*L 04 24 31.2
CLZ Clausthal 85.40 332 *e*P P **03 38 38.9 +2.2**
CLZ pmax pmax
comp=Z,42nm,1.3s,mb5.4
CLZ Clausthal 85.40 332 *e*P P **03 38 38.9 +2.2**
comp=Z,42nm,1.3s,mb5.4
NKC Novy Kostel 85.81 330 *e*P P **03 38 39.9 +1.1**
NKC AMS AMS 04 22 20.0
comp=Z,400nm,15.2s
MOX Moxa 85.84 331 *e*P P **03 38 40.6 +1.7**
MOX pmax pmax
comp=Z,29nm,1.4s,mb5.3
MOX MLR MLR
comp=Z,100nm,18.0s,MS4.2
MOX Moxa 85.84 331 *e*P P **03 38 40.6 +1.7**
comp=Z,29nm,1.4s,mb5.3
MOX LR LR
comp=Z,100nm,18.0s,MS4.2
MOX Moxa 85.84 331 *i* P P **03 38 40.6 +1.7**
comp=Z,logA/T=1.3,mb5.3
MOX PP PP 03 42 10.0 +10
MOX S S 03 49 15.0 +5.5
MOX L 04 21 45.0
KHC Kasperske Hory 86.17 329 *e*P P **03 38 40.7 +0.1**
KHC AMS AMS 04 24 30.0
comp=Z,300nm,14.6s
KBRS Khaybar 86.27 298 P P **03 38 45.1 +3.5**
GEC2 GERESS Array S 86.34 329 *e*P P **03 38 43.0 +1.6**
GEC2 pmax pmax
comp=Z,26nm,2.0s,mb5.1
GEC2 GERESS Array S 86.34 329 *e*P P **03 38 43.0 +1.6**
comp=Z,26nm,2.0s,mb5.1
GERES GERESS Array B 86.34 329 P P **03 38 41.4 0.0**
comp=Z,1.1nm,0.6s,mb4.3,baz=35,slow=5.4,SNR=15
GERES LR LR 04 20 42.1
comp=Z,108nm,18.4s,MS4.3,baz=141,slow=38
GERES GERESS Array B 86.34 329 P P **03 38 41.4 0.0**
GERES LR LR 04 20 42.1
ANMO Albuquerque 86.43 50 *e*P P **03 38 43.0 +0.7**
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO Albuquerque 86.43 50 *e*P P **03 38 43.0 +0.7**
comp=Z,5.6nm,1.2s,mb4.7
WET Wettzell 86.46 329 *e*P P **03 38 43.9 +1.9**
WET pmax pmax
comp=Z,26nm,2.0s,mb5.1
WET Wettzell 86.46 329 *e*P P **03 38 43.9 +1.9**
comp=Z,26nm,2.0s,mb5.1
TATS Tathlith 86.58 291 P P **03 38 46.2 +2.9**
GRA1 Grafenberg Arr 86.73 331 *e*P P **03 38 45.7 +2.3**
comp=Z,44nm,1.3s,mb5.5
GRA1 *e*PP PP 03 42 07.6 -0.5
GRF Grafenberg Arr 86.73 331 *e*P P **03 38 45.7 +2.3**
GRF *e* 03 42 07.6
GRF pmax pmax
comp=Z,44nm,1.3s,mb5.5
GRF Grafenberg Arr 86.73 331 *e*P P **03 38 45.7 +2.3**
GRF *e* 03 42 07.6
GRF pmax pmax
comp=Z,44nm,1.3s,mb5.5
GRF Grafenberg Arr 86.73 331 *e*P P **03 38 45.7 +2.3**
comp=Z,44nm,1.3s,mb5.5
GRF *e*PP PP 03 42 07.6 -0.5
PERS Pernice 87.36 327 *i* P P **03 38 47.9 +1.5**
PERS Pernice 87.36 327 *e*P P **03 38 47.4 +0.9**
TNS Taunus Mts 87.42 332 *e*P P **03 38 48.4 +1.7**
TNS pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
TNS Taunus Mts 87.42 332 *e*P P **03 38 48.4 +1.7**
comp=Z,9.0nm,1.0s,mb5.0
HAQS Haql 87.48 303 P P **03 38 48.2 +0.7**
DJNS Zahran al Janu 87.55 289 P P **03 38 49.0 +1.0**
BLJS Baljurashi 87.86 292 P P **03 38 49.9 +0.5**
FUR Furstenfeldbru 87.89 330 *e*P P **03 38 51.3 +2.3**
FUR pmax pmax
comp=Z,17nm,0.9s,mb5.3
FUR Furstenfeldbru 87.89 330 *e*P P **03 38 51.3 +2.3**
comp=Z,17nm,0.9s,mb5.3
LJU Ljubljana 88.07 327 *e*P P **03 38 51.1 +1.2**
LJU *e*PP PP 03 42 15.7 -3.4
BOJS Bojanci 88.14 326 *e*P P **03 38 51.2 +1.0**
SCHQ Schefferville 88.76 16 P P **03 38 53.9 +0.9**
comp=Z,5.1nm,0.8s,mb4.9,baz=43,slow=4.3,SNR=6.6
SCHQ LR LR 04 26 30.3
comp=Z,68nm,19.1s,MS4.1,baz=360,slow=41
MNTX Cornudas Mount 89.17 52 *e*P P **03 38 57.4 +1.9**
comp=Z,4.1nm,1.3s,mb4.6
CDF Champ du Feu 89.34 332 *e*P P **03 38 56.0 +0.1**
CABF La Chapelle 91.27 332 *e*P P **03 39 04.5 -0.4**
AQU L'Aquila 91.39 325 P P **03 39 06.2 +0.7**
AQU pmax pmax
comp=Z,12nm,0.9s,mb5.2
AQU L'Aquila 91.39 325 P P **03 39 06.2 +0.7**
comp=Z,12nm,0.9s,mb5.2
LOR Lormes 91.59 333 *e*P P **03 39 06.1 -0.2**
LOR *e*R
comp=Z,137nm,17.0s
LTX Lajitas 91.81 53 *e*P P **03 39 09.6 +1.8**
LTX pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
LTX Lajitas 91.81 53 *e*P P **03 39 09.6 +1.8**
comp=Z,4.6nm,0.9s,mb4.8
TXAR Lajitas Array 91.81 53 P P **03 39 07.5 -0.2**
comp=Z,1.2nm,0.7s,mb4.3,baz=304,slow=4.5,SNR=15
TXAR LR LR 04 15 33.4
comp=Z,146nm,21.0s,MS4.4,baz=225,slow=32
FLN La Foliniere 91.88 336 *e*P P **03 39 07.1 -0.5**
FLN *e*R
comp=Z,209nm,21.0s
LPL La Plagne 91.90 331 *e*P P **03 39 07.9 +0.1**
comp=Z,22nm,1.0s,mb5.1
LPL La Plagne 91.90 331 *e*P P **03 39 07.9 +0.1**
LPL pmax pmax
comp=Z,11nm,1.0s,mb5.1
SSF Saint Saulge 91.90 333 *e*P P **03 39 07.4 -0.3**
SSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
SSF Saint Saulge 91.90 333 *e*P P **03 39 07.4 -0.3**
comp=Z,4.1nm,0.9s,mb4.8
AVF Avril sur Loir 92.18 333 *e*P P **03 39 08.7 -0.4**
comp=Z,78nm,1.4s,mb5.5
AVF Avril sur Loir 92.18 333 *e*P P **03 39 08.7 -0.4**
AVF pmax pmax
comp=Z,39nm,1.4s,mb5.5
BNI Bardonecchia 92.29 330 *e*P P **03 39 10.4 +0.8**
BNI pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
BNI Bardonecchia 92.29 330 *e*P P **03 39 10.4 +0.8**
comp=Z,6.4nm,1.0s,mb4.9
GRR Gorron 92.33 336 *e*P P **03 39 09.5 -0.2**
comp=Z,42nm,1.2s,mb5.3
GRR Gorron 92.33 336 *e*P P **03 39 09.5 -0.2**
GRR pmax pmax
comp=Z,21nm,1.2s,mb5.3
MBDF Montbardon 92.52 330 *e*P P **03 39 09.8 -0.9**
comp=Z,19nm,0.9s,mb5.2
MBDF Montbardon 92.52 330 *e*P P **03 39 09.8 -0.9**
MBDF pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
ORIF Oris-en-Rattie 92.73 331 *e*P P **03 39 11.2 -0.4**
comp=Z,11nm,0.8s,mb5.0
ORIF *e*R
comp=Z,216nm,18.5s
SBF Sospel 92.93 329 *e*P P **03 39 11.5 -1.1**
comp=Z,30nm,0.9s,mb5.4
SBF Sospel 92.93 329 *e*P P **03 39 11.5 -1.1**
SBF pmax pmax
comp=Z,15nm,0.9s,mb5.4
SGMF Saint Gilles 93.00 337 *e*P P **03 39 12.3 -0.5**
TCF Toulx Ste Croi 93.03 334 *e*P P **03 39 12.9 -0.1**
comp=Z,19nm,1.2s,mb5.1
TCF Toulx Ste Croi 93.03 334 *e*P P **03 39 12.9 -0.1**
TCF pmax pmax
comp=Z,9.0nm,1.2s,mb5.1
VIVF Saint-Julien-l 93.28 331 *e*P P **03 39 13.8 -0.3**
comp=Z,18nm,0.9s,mb5.2
VIVF Saint-Julien-l 93.28 331 *e*P P **03 39 13.8 -0.3**
VIVF pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
PGF Pioggiola 93.29 327 *e*P P **03 39 14.3 0.0**
comp=Z,9.8nm,1.1s,mb4.8
PGF Pioggiola 93.29 327 *e*P P **03 39 14.3 0.0**
PGF pmax pmax
comp=Z,5.0nm,1.1s,mb4.9
FRF La Foret Royal 93.52 329 *e*P P **03 39 14.4 -0.9**
comp=Z,29nm,1.3s,mb5.2
FRF La Foret Royal 93.52 329 *e*P P **03 39 14.4 -0.9**
FRF pmax pmax
comp=Z,15nm,1.3s,mb5.3
MFF Saint Martin d 93.62 335 *e*P P **03 39 15.7 0.0**
comp=Z,38nm,1.2s,mb5.4
MFF Saint Martin d 93.62 335 *e*P P **03 39 15.7 0.0**
MFF pmax pmax
comp=Z,19nm,1.2s,mb5.4
SMRF Simiane la Rot 93.63 330 *e*P P **03 39 15.5 -0.3**
comp=Z,44nm,1.4s,mb5.4
LMR La Mourre 93.76 329 *e*P P **03 39 15.6 -0.8**
comp=Z,25nm,1.1s,mb5.3
LMR La Mourre 93.76 329 *e*P P **03 39 15.6 -0.8**
LMR pmax pmax
comp=Z,13nm,1.1s,mb5.3
CAF Calviac 94.24 333 *e*P P **03 39 18.6 0.0**
comp=Z,27nm,1.3s,mb5.2
LASF Ste Croix 94.25 331 *e*P P **03 39 18.4 -0.2**
SDV Santo Domingo 127.66 43 *e*PKPdf PKPd 03 45 05.5 -3.1
SNAA Sanae 137.33 195 *e* PKPd 03 45 28.0 +2.9
SNAA Sanae 137.33 195 *e* PKPd 03 45 35.5 +10
SNAA Sanae 137.33 195 *e* PKPd 03 45 37.5 +12
SNAA Sanae 137.33 195 *e* PKPd 03 45 41.0 +16
SNAA Sanae 137.33 195 *e* PKPd 03 45 44.2 +19
SNAA Sanae 137.33 195⇑ *i*PKIKP PKPd 03 45 24.3 -0.8
SNAA *e* 03 45 35.5
SNAA *e* 03 45 37.5
SNAA *e* 03 48 08.3
SNAA Sanae 137.33 195⇑ *i*PKPdf PKPd 03 45 24.3 -0.8
SNAA *e* 03 45 28.0
SNAA *e* 03 45 35.5
SNAA *e* 03 45 37.5
SNAA *e* 03 45 41.0
SNAA *e* 03 45 44.2
SNAA *e* 03 48 08.3
VNA2 Neumayer--Watz 138.87 195 *e* PKPd 03 45 28.5 +0.5
VNA2 Neumayer--Watz 138.87 195 *e* PKPd 03 45 37.5 +9.5
VNA2 Neumayer--Watz 138.87 195 *e* PKPd 03 45 39.2 +11
VNA2 Neumayer--Watz 138.87 195 *e* PKPd 03 45 42.1 +14
VNA2 Neumayer--Watz 138.87 195 *e* PKPd 03 45 44.1 +16
VNA2 Neumayer--Watz 138.87 195⇑ *i*PKPdf PKPd 03 45 26.4 -1.6
VNA2 *e* 03 45 28.5
VNA2 *e* 03 45 37.5
VNA2 *e* 03 45 39.2
VNA2 *e* 03 45 42.1
VNA2 *e* 03 45 44.1
VNA2 *e* 03 48 13.2
VNA3 Neumayer Olymp 139.08 193 *e* PKPd 03 45 28.2 -0.2
VNA3 Neumayer Olymp 139.08 193 *e* PKPd 03 45 37.4 +9.0
VNA3 Neumayer Olymp 139.08 193 *e* PKPd 03 45 39.3 +11
VNA3 Neumayer Olymp 139.08 193 *e* PKPd 03 45 41.8 +13
VNA3 Neumayer Olymp 139.08 193⇑ *i*PKPdf PKPd 03 45 26.3 -2.1
VNA3 *e* 03 45 28.2
VNA3 *e* 03 45 37.4
VNA3 *e* 03 45 39.3
VNA3 *e* 03 45 41.8
VNA3 *e* 03 48 11.4
VNA1 Neumayer--Stat 139.27 195 *e* PKPd 03 45 30.5 +1.8
VNA1 Neumayer--Stat 139.27 195 *e* PKPd 03 45 40.2 +11
VNA1 Neumayer--Stat 139.27 195 *e* PKPd 03 45 42.3 +14
VNA1 Neumayer--Stat 139.27 195 PKPdf PKPd 03 45 28.3 -0.4
VNA1 *e* 03 45 30.5
VNA1 *e* 03 45 40.2
VNA1 *e* 03 45 42.3
SAML Samuel 146.25 50 *e*PKPdf PKPd 03 45 39.3 -3.2
LPAZ La Paz 147.75 66 PKPbc PKPd 03 45 44.5 -0.3
comp=Z,3.8nm,1.0s,baz=344,slow=7.1,SNR=8.0
LPAZ La Paz 147.75 66 *e*PKPdf PKPd 03 45 44.1 -0.7
LPAZ *e*PKPbc PKPd 03 45 46.2 +1.4

*IDC **29** 03:29:56.6±0.7,33.18N×142.48E,mb4.3/16,mb1 4.5/20, mb1mx4.4/25,mbtmp4.4/20,ML4.3/4, Error ellipse:*
s-maj=17.3km s-min=16.2km az=69.0
*JMA **29** 03:29:59.4±0.3,33.30N×142.49E,h46km,M4.2*
*BJI **29** 03:29:59.8,33.13N×142.47E,h38km,mB4.5,mb4.7, Ms4.7,Msz4.3*
*MOS **29** 03:30:00.2±0.8,33.14N×142.39E,h33km,mb5.0/20,Error ellipse: s-maj=15.3km s-min=7.5km az=118.0*
*NEIC **29** 03:30:01.7±0.2,33.16N×142.36E,mb4.8/30,Error ellipse: s-maj=6.4km s-min=5.0km az=176.0*
ISC 29 03:30:00.6±0.3,33.26N±0.04×142.35E±0.04,h31km, h31km±1.0km:pP-P,n145,σ0s94/155,mb4.7/58,MS4.4/2, 1C-6D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.13**	**267**	P		**Pn**	**Sn**	**03 30 35.5**	**+0.6**
JHJ2				*e*S		**Sn**	**Sn**	**03 31 01.7**	**+1.2**
JHJ	**Hachijo jima 2**	**2.16**	**267**	Pn		**Pn**	**Pn**	**03 30 35.1**	**-0.1**
	148nm,0.3s,baz=156,slow=10,SNR=6.4								
JHJ				Sn		**Sn**	**Sn**	**03 31 02.2**	**+1.0**
	159nm,0.3s,baz=198,slow=20,SNR=6.1								
JIZS	**Izushimoda**	**3.23**	**298**	P		**Pn**	**Pn**	**03 30 49.4**	**-1.1**
JOD2	**Odawara 2**	**3.36**	**307**	P		**Pn**	**Pn**	**03 30 52.1**	**-0.2**
JOD2				*e*S		**Sn**	**Sn**	**03 31 31.2**	**-0.4**
JYN	**Shimob**	**3.86**	**306**	P		**Pn**	**Pn**	**03 30 59.2**	**-0.2**
JYN				*e*S		**Sn**	**Sn**	**03 31 45.4**	**+1.2**
JAG	**Ashikaga**	**3.96**	**324**	P		**Pn**	**Pn**	**03 31 00.5**	**-0.3**
JAG				*e*S		**Sn**	**Sn**	**03 31 45.4**	**-1.3**
JRY	**Ryogami san**	**3.96**	**315**	P		**Pn**	**Pn**	**03 31 00.3**	**-0.5**
JRY				*e*S		**Sn**	**Sn**	**03 31 46.0**	**-0.7**
MJAR	**Matsushiro Arr**	**4.72**	**315**	Pn		**Pn**	**Pn**	**03 31 11.6**	**-0.1**
	12nm,0.3s,baz=159,slow=13,SNR=88								
MJAR				Sn		**Sn**	**Sn**	**03 32 06.7**	**+0.6**
	8.0nm,0.3s,baz=149,slow=27,SNR=5.2								
MAJO	**Matsushiro**	**4.72**	**315**	*e*Pn		**Pn**	**Pn**	**03 31 03.2**	**-8.5**
MAT	**Matsushiro**	**4.72**	**315**	*e*P		**Pn**	**Pn**	**03 31 12.0**	**+0.3**
MAT				*e*S		**Sn**	**Sn**	**03 32 06.0**	**-0.1**
MAT	**Matsushiro**	**4.72**	**315**	P		**Pn**	**Pn**	**03 31 12.0**	**+0.3**
MAT				S		**Sn**	**Sn**	**03 32 05.9**	**-0.2**
MAT	**Matsushiro**	**4.72**	**315**	P		**Pn**	**Pn**	**03 31 12.0**	**+0.3**
MAT				*e*S		**Sn**	**Sn**	**03 32 04.7**	**-1.4**
JMM	**Marumori**	**4.77**	**345**	P		**Pn**	**Pn**	**03 31 07.9**	**-4.4**
JMM				*e*S		**Sn**	**Sn**	**03 32 00.4**	**-6.8**
JNS	**Sasagawa**	**5.18**	**332**	P		**Pn**	**Pn**	**03 31 16.6**	**-1.5**
JGM	**Miyama**	**5.25**	**299**	P		**Pn**	**Pn**	**03 31 20.1**	**+1.0**
JWT	**Wachi**	**6.10**	**291**	P		**Pn**	**Pn**	**03 31 31.5**	**+0.4**
JWT				*e*S		**Sn**	**Sn**	**03 32 40.4**	**-0.1**
CBIJ	**Chichi jima**	**6.15**	**181**	Pn		**Pn**	**Pn**	**03 31 26.8**	**-5.0**
	24nm,0.3s,baz=287,slow=21,SNR=6.4								
CBIJ				Sn		**Sn**	**Sn**	**03 32 32.8**	**-8.9**
	31nm,0.3s,baz=180,slow=20,SNR=3.7								
JNU	**Nakatsue**	**9.62**	**272**	Pn		**P**	**P**	**03 32 18.1**	**-2.0**
	1.6nm,0.3s,baz=230,slow=5.7,SNR=5.7								
KS15	**Wonju Array Si**	**12.53**	**294**	*e*Pn		**P**	**P**	**03 32 52.6**	**-7.0**
YSS	**Yuzh-Sakhalins**	**13.68**	**1**⇓	*e*P		**P**	**P**	**03 33 10.0**	**-4.8**
YSS	**Yuzh-Sakhalins**	**13.68**	**1**	*e*Pn		**P**	**P**	**03 33 10.3**	**-4.5**
MDJ	**Mudanjiang**	**15.05**	**323**	Pn		**P**	**P**	**03 33 27.0**	**-5.8**
	68nm,1.6s								
DL2	**Dalian**	**17.66**	**294**	*e*P		**P**	**P**	**03 34 11.0**	**+5.1**
DL2				AMB		AMB	AMB		
	comp=Z,20nm,0.7s								
NJ2	**Nanjing**	**19.82**	**273**	*e*P		**P**	**P**	**03 34 29.0**	**-2.7**
NJ2				AMB		AMB	AMB		
	comp=Z,30nm,0.8s								
YHNB	**Yeheng**	**20.23**	**250**	*e*P		**P**	**P**	**03 34 32.6**	**-3.3**
HIA	**Hailar**	**23.20**	**320**	*e*P		**P**	**P**	**03 35 04.1**	**-1.5**
	comp=Z,31nm,1.1s,mb4.7								
WHN	**Wuhan**	**23.90**	**271**	⇓P		**P**	**P**	**03 35 13.0**	**+0.4**
HHC	**Hu-ho-hao-te**	**25.62**	**296**	*e*P		**P**	**P**	**03 35 28.0**	**-0.9**
HHC				AP	pP	03 35 37.3	-0.7		
HHC				XP	sP	03 35 41.0	-1.2		
HHC				AMB	AMB				
	comp=Z,24nm,1.2s,mb4.6								
HHC				AMB	AMB				
	comp=Z,62nm,2.7s,mb4.7								
MA2	**Magadan**	**26.91**	**9**	*e*P		**P**	**P**	**03 35 45.2**	**+4.6**
MA2				pmax	pmax				
	comp=Z,20nm,0.8s,mb4.7								
MA2	**Magadan**	**26.91**	**9**	*e*P		**P**	**P**	**03 35 40.0**	**-0.6**
	comp=Z,34nm,0.9s,mb4.9								
CIT	**Chita**	**28.01**	**321**	*e*P		**P**	**P**	**03 35 53.8**	**+3.2**
ENH	**Enshi**	**28.04**	**273**	*e*P		**P**	**P**	**03 35 48.9**	**-2.3**
	comp=Z,22nm,0.8s,mb4.8								
FX1	**Attu Island--F**	**29.50**	**39**	*e*P		**P**	**P**	**03 35 58.4**	**-5.7**
YAK	**Yakutsk**	**29.91**	**348**	*i* P		**P**	**P**	**03 36 04.5**	**-3.2**
YAK				pmax	pmax				
	comp=Z,21nm,0.5s,mb5.1								
SEY	**Seymchan**	**30.36**	**9**⇓	*e*P		**P**	**P**	**03 36 05.4**	**-6.2**
SONM	**Songino Array**	**30.65**	**309**	P		**P**	**P**	**03 36 14.5**	**+0.2**
	comp=Z,8.1nm,0.8s,mb4.6,baz=108,slow=8.2,SNR=7.8								
LZH	**Lanzhou**	**31.66**	**286**	*e*P		**P**	**P**	**03 36 24.5**	**+1.2**
LZH				AP	pP	03 36 31.5	-1.1		
LZH				XP	sP	03 36 34.0	-2.6		
LZH				AMB	AMB				
	comp=Z,28nm,1.5s,mb4.9								
LZH				AMB	AMB				
	comp=Z,86nm,4.0s								
LZH	**Lanzhou**	**31.66**	**286**	*e*P		**P**	**P**	**03 36 24.6**	**+1.3**
LZH				*SP	sP	03 36 34.0	-2.6		
LZH				pmax	pmax				
	comp=Z,28nm,1.5s,mb4.9								
LZH	**Lanzhou**	**31.66**	**286**	*e*P		**P**	**P**	**03 36 24.6**	**+1.3**
	comp=Z,28nm,1.5s,mb4.9								
LZH				pP	pP	03 36 31.6	-1.0		
LZH				sP	sP	03 36 34.0	-2.6		
TLY	**Talaya**	**33.46**	**315**	*i* P		**P**	**P**	**03 36 40.4**	**+1.5**
TLY				pmax	pmax				
	comp=Z,9.0nm,0.9s,mb4.7								
GTA	**Gaotai**	**34.57**	**293**	P		**P**	**P**	**03 36 48.5**	**-0.1**
GTA				AP	pP	03 36 55.0	-2.8		
GTA				XP	sP	03 36 59.0	-2.8		
GTA				AMB	AMB				
	comp=Z,6.0nm,0.8s,mb4.6								
TIXI	**Tiksi**	**39.12**	**353**⇓	*e*P		**P**	**P**	**03 37 26.5**	**-0.1**
WMQ	**Urumqi**	**43.33**	**301**	P		**P**	**P**	**03 38 03.0**	**+1.7**
NVS	**Novosibirsk**	**46.05**	**316**	*e*P		**P**	**P**	**03 38 22.4**	**-0.6**
MKAR	**Makanchi Array**	**46.85**	**305**	P		**P**	**P**	**03 38 29.9**	**+0.4**
	comp=Z,9.1nm,0.8s,mb4.7,baz=88,slow=10,SNR=5.8								
JIRN	**Jiri**	**48.25**	**279**	*e*P		**P**	**P**	**03 38 41.6**	**+0.9**
	comp=Z,27nm,0.5s,mb5.5								
GUN	**Gumba**	**48.42**	**279**	*e*P		**P**	**P**	**03 38 42.6**	**+0.6**
KURK	**Kurchatov**	**48.92**	**311**	*e*P		**P**	**P**	**03 38 45.5**	**0.0**
KURK				*e*PP	pP	03 38 53.5	-1.6		
PKI	**Pulchoki**	**48.93**	**279**	*e*P		**P**	**P**	**03 38 46.0**	**+0.1**
KKN	**Kakani**	**48.95**	**280**	*e*P		**P**	**P**	**03 38 46.5**	**+0.4**
DMN	**Daman**	**49.16**	**279**	*e*P		**P**	**P**	**03 38 47.8**	**+0.1**
	comp=Z,4.7nm,0.4s,mb4.9								
GKN	**Gorkha**	**49.41**	**280**	*e*P		**P**	**P**	**03 38 49.7**	**+0.1**
	comp=Z,19nm,0.6s,mb5.3								
KOLN	**Koldanda**	**50.35**	**280**	*e*P		**P**	**P**	**03 38 57.0**	**+0.2**
	comp=Z,18nm,0.9s,mb5.1								
SML	**Sawmill**	**51.61**	**35**	*e*P		**P**	**P**	**03 39 05.3**	**-0.6**
SML				*e*PP	pP	03 39 15.2	-0.3		
ILAR	**Eielson Array**	**52.30**	**31**	P		**P**	**P**	**03 39 09.8**	**-1.2**
	comp=Z,2.4nm,1.0s,mb4.1,baz=264,slow=6.4,SNR=5.0								
AAK	**Ala-Archa**	**53.03**	**301**	*de*P		**P**	**P**	**03 39 16.1**	**-0.7**
AAK				pmax	pmax				
	comp=Z,6.0nm,1.1s,mb4.4								
WRAB	**Tennant Creek**	**53.44**	**189**	*e*P		**P**	**P**	**03 39 17.2**	**-3.0**
WRAB				pmax	pmax				
	comp=Z,6.0nm,0.7s,mb4.6								
WRAB	**Tennant Creek**	**53.44**	**189**	*e*P		**P**	**P**	**03 39 17.2**	**-3.0**
	comp=Z,5.6nm,0.7s,mb4.6								
WRA	**Warramunga Arr**	**53.45**	**189**	P		**P**	**P**	**03 39 18.1**	**-2.1**
	comp=Z,1.9nm,0.5s,mb4.3,baz=6.4,slow=7.6,SNR=8.2								
BVAR	**Borovoye Array**	**53.72**	**315**	P		**P**	**P**	**03 39 21.2**	**-0.5**
	comp=Z,4.9nm,1.0s,mb4.4,baz=104,slow=6.1,SNR=4.9								
BRVK	**Borovoye**	**53.78**	**315**	*e*P		**P**	**P**	**03 39 21.5**	**-0.6**
BRVK				*e*PP	pP	03 39 31.9	+0.2		
BRVK				pmax	pmax				
	comp=Z,8.0nm,1.2s,mb4.5								
BRVK	**Borovoye**	**53.78**	**315**	*e*P		**P**	**P**	**03 39 21.5**	**-0.7**
	comp=Z,8.3nm,1.2s,mb4.5								
BRVK				*e*pP	pP	03 39 31.9	+0.2		
INK	**Inuvik**	**57.41**	**26**	P		**P**	**P**	**03 39 46.5**	**-1.7**
	comp=Z,1.6nm,0.6s,mb4.2,baz=221,slow=2.8,SNR=3.1								
HYB	**Hyderabad**	**58.96**	**271**	*e*P		**P**	**P**	**03 39 59.0**	**-0.7**
HYB	**Hyderabad**	**58.96**	**271**	*i* P		**P**	**P**	**03 39 59.0**	**-0.7**
ARU	**Arti**	**59.72**	**320**	*e*P		**P**	**P**	**03 40 03.5**	**-0.9**
ARU	**Arti**	**59.72**	**320**	*e*P		**P**	**P**	**03 40 03.5**	**-0.9**
	comp=

YKA Yellowknife Ar 66.69 30 P **P** 03 40 49.2 -1.0
comp=Z,1.4nm,0.8s,mb4.1,baz=298,slow=6.5,SNR=4.3
YKA Yellowknife Ar 66.69 30 P **P** 03 40 49.2 -1.0
NWAO Narrogin (SRO) 69.96 202 P **P** 03 41 09.2 -1.9
comp=Z,12nn,0.9s,mb4.9,baz=47,slow=8.5,SNR=3.3
OBN Obninsk 71.59 324⇓ *e*P **P** 03 41 21.8 +1.2
OBN SS SS 03 55 17.0 +3.5
OBN pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.2
FINES FINESS Array B 72.51 333 P **P** 03 41 24.5 -1.3
comp=Z,5.9nm,0.9s,mb4.5,baz=90,slow=3.8,SNR=9.9
FINES FINESS Array B 72.51 333 P **P** 03 41 24.5 -1.3
KIV Kislovodsk 73.98 312⇓ *e*P **P** 03 41 31.4 -3.4
KIV *e* 03 41 47.5
KIV pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KIV MLR MLR
comp=Z,200nm,14.0s,MS4.6
VSU Vasula 74.10 330 *i* P **P** 03 41 35.7 +0.6
SUMG Summit 74.45 0 *e*P **P** 03 41 37.5 +0.6
comp=Z,7.6nm,1.0s,mb4.6
SUMG *e*pP pP 03 41 48.8 +2.0
CMB Columbia Colle 75.44 54 *e*P **P** 03 41 42.9 -0.4
CMB *e**PP pP 03 41 54.0 +0.8
BOZ Bozeman (W) 76.89 44 *e*P **P** 03 41 51.9 +0.6
BOZ *e**PP pP 03 42 02.2 +1.0
BOZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BOZ Bozeman (W) 76.89 44 *e*P **P** 03 41 51.9 +0.6
comp=Z,1.8nm,0.8s,mb4.0
BOZ *e*pP pP 03 42 02.2 +1.0
ELK Elko 77.40 49 *e*P **P** 03 41 53.9 -0.3
ELK pmax pmax
comp=Z,1.0nm,0.8s
ELK Elko 77.40 49 *e*P **P** 03 41 53.9 -0.4
comp=Z,1.3nm,0.8s,mb3.9
AKASG Malin Array Be 77.76 323 P **P** 03 41 55.7 -0.3
AKASG Malin Array Be 77.76 323 P **P** 03 41 55.6 -0.3
comp=Z,2.0nm,0.6s,mb4.2,baz=43,slow=5.8,SNR=8.4
NB2 NORSAR Subarra 77.96 338 P **P** 03 41 57.1 +0.2
comp=Z,8.5nm,0.9s,mb4.7,baz=39,slow=5.6
NB2 NORSAR Subarra 77.96 338 P **P** 03 41 57.1 +0.2
NB2 pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
NOA NORSAR Array B 77.96 338 P **P** 03 41 57.1 +0.3
comp=Z,5.8nm,0.8s,mb4.5,baz=39,slow=5.6,SNR=18
QRN Al-Qurain 78.21 297 *e*P **P** 03 41 59.0 +0.1
QRN AMb AMB 03 41 59.7
comp=Z,29nm,0.8s,mb5.3
RDF Al-Radifah 78.39 297 *e*P **P** 03 42 00.5 +0.6
RDF AMb AMB 03 42 02.1
comp=Z,34nm,0.8s,mb5.3
NAY Al-Naaiem 78.46 297 *e*P **P** 03 42 00.8 +0.5
NAY AMb AMB 03 42 03.6
comp=Z,18nm,0.9s,mb5.0
RST Umm Al-Ruwaisa 78.51 298 *e*P **P** 03 42 00.5 0.0
RST AMb AMB 03 42 02.0
comp=Z,21nm,0.9s,mb5.1
HWUT Hardware Ranch 79.22 47 *e*P **P** 03 42 05.5 +1.3
comp=Z,1.2nm,0.6s,mb4.0
MALT Malatya 79.72 309 *e*P **P** 03 42 07.6 +0.6
MALT pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
MALT Malatya 79.72 309 *e*P **P** 03 42 07.6 +0.6
comp=Z,3.9nm,1.0s,mb4.3
PDAR Pinedale Array 79.76 45 P **P** 03 42 06.7 -0.4
comp=Z,0.4nm,0.6s,mb3.5,baz=40,slow=7.0,SNR=3.7
NEN Nelson 80.47 54 *e*P **P** 03 42 11.3 +0.3
KWP Kalwaria 81.65 325 *e*P **P** 03 42 18.0 +1.1
KWP pmax pmax
comp=Z,15nm,1.0s,mb4.9
KWP Kalwaria 81.65 325 *e*P **P** 03 42 18.0 +1.1
comp=Z,15nn,1.0s,mb4.9
BR131 Keskin Array S 81.94 312 *e*P **P** 03 42 19.6 +1.0
comp=Z,1.3nm,0.6s,mb4.0
BRTR Keskin Array B 81.94 312 P **P** 03 42 19.8 +1.1
comp=Z,2.6nm,0.7s,mb4.3,baz=110,slow=4.6,SNR=7.2
STHS Stebnicka Huta 82.49 326 *e*P **P** 03 42 22.5 +1.2
STHS *e*pP pP 03 42 33.2 +1.9
STHS Stebnicka Huta 82.49 326 *e* **P** 03 42 22.5 +1.2
STHS *e* pP 03 42 33.2 +1.9
PV10 Paradox Valley 82.68 49 *e*P **P** 03 42 23.2 +0.7
PV10 *e*pP pP 03 42 34.0 +1.5
PV01 Paradox Valley 83.12 49 *e*P **P** 03 42 25.6 +0.8
PV01 *e*pP pP 03 42 35.7 +0.9
SMCO Snowmass 83.48 47 *e*P **P** 03 42 27.8 +1.2
SMCO *e*pP pP 03 42 38.0 +1.3
MORC Moravsky Berou 83.94 328 *e*P **P** 03 42 29.1 +0.5
MORC pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
MORC Moravsky Berou 83.94 328 *e*P **P** 03 42 29.1 +0.4
comp=Z,3.2nm,0.9s,mb4.5
PSZ Piszkesteto 84.18 325 *e*P **P** 03 42 31.1 +1.2
PSZ *e**PP pP 03 42 40.9 +1.0
PSZ pmax pmax
comp=Z,12nn,1.2s,mb4.9
PSZ Piszkesteto 84.18 325 *e*P **P** 03 42 31.1 +1.2
comp=Z,12nn,1.2s,mb4.9
PSZ *e*pP pP 03 42 40.9 +0.9
VYHS Vyhne 84.27 326 *e*P **P** 03 42 31.8 +1.5
VYHS *e*pP pP 03 42 41.3 +0.9
VYHS Vyhne 84.27 326 *e* **P** 03 42 31.8 +1.5
VYHS *e* pP 03 42 41.3 +0.9
BRG Berggiesshubel 84.69 330 *i* P **P** 03 42 33.4 +1.0
BRG pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
BRG Berggiesshubel 84.69 330 *i* P **P** 03 42 33.4 +1.0
comp=Z,3.9nm,0.7s,mb4.7
CLL Collm 84.75 331 *i* P **P** 03 42 33.4 +0.7
CLL pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
CLL Collm 84.75 331 *i* P **P** 03 42 33.4 +0.7
comp=Z,8.0nm,1.0s,mb4.8
CLL Collm 84.75 331 P **P** 03 42 33.4 +0.7
comp=Z,logA/T=0.9,mb4.8
CLL *i* *PP pP 03 42 44.0 +1.3
SDCO Great Sand Dun 85.28 47 *e*P **P** 03 42 37.0 +1.4
comp=Z,3.3nm,0.7s,mb4.6
SDCO *e*pP pP 03 42 46.8 +1.2
GERES GERESS Array B 86.33 329 P **P** 03 42 40.8 +0.2
comp=Z,0.3nm,0.5s,mb3.8,baz=37,slow=6.7,SNR=4.5
LOR Lormes 91.58 333 *e*P **P** 03 43 05.4 0.0
TXAR Lajitas Array 91.79 53 P **P** 03 43 07.6 +0.7
comp=Z,0.6nm,0.6s,mb4.1,baz=302,slow=2.8,SNR=6.3
FLN La Foliniere 91.86 336 *e*P **P** 03 43 06.1 -0.6
LPL La Plagne 91.88 331 *e*P **P** 03 43 07.2 +0.3
comp=Z,4.8nm,0.8s,mb4.6
LPL La Plagne 91.88 331 *e*P **P** 03 43 07.2 +0.3
LPL pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
AVF Avril sur Loir 92.17 333 *e*P **P** 03 43 08.0 -0.2
comp=Z,14nm,0.9s,mb5.0
AVF Avril sur Loir 92.17 333 *e*P **P** 03 43 08.0 -0.2
AVF pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
MBDF Montbardon 92.51 330 *e*P **P** 03 43 09.9 +0.1
comp=Z,5.5nm,0.8s,mb4.7
MBDF Montbardon 92.51 330 *e*P **P** 03 43 09.9 +0.1
MBDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
ORIF Oris-en-Rattie 92.72 331 *e*P **P** 03 43 11.1 +0.4
comp=Z,8.8nm,1.0s,mb4.8
ORIF Oris-en-Rattie 92.72 331 *e*P **P** 03 43 11.1 +0.4
ORIF pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
SBF Sospel 92.92 329 *e*P **P** 03 43 11.6 -0.1
comp=Z,6.2nm,0.6s,mb4.9
SBF Sospel 92.92 329 *e*P **P** 03 43 11.6 -0.1
SBF pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
VIVF Saint-Julien-l 93.26 331 *e*P **P** 03 43 13.5 +0.3
PGF Pioggiola 93.28 327 *e*P **P** 03 43 13.4 0.0
FRF La Foret Royal 93.50 329 *e*P **P** 03 43 14.3 -0.1
comp=Z,32nn,1.4s,mb5.2
FRF La Foret Royal 93.50 329 *e*P **P** 03 43 14.3 -0.1
FRF pmax pmax
comp=Z,16nn,1.4s,mb5.3
SMRF Simiane la Rot 93.62 330 *e*P **P** 03 43 14.9 0.0
LMR La Mourre 93.75 329 *e*P **P** 03 43 15.1 -0.4
comp=Z,9.6nm,0.9s,mb4.9
LMR La Mourre 93.75 329 *e*P **P** 03 43 15.1 -0.4
LMR pmax pmax
comp=Z,5.0nm,0.9s,mb4.9

CAF Calviac 94.23 333 *e*P **P** 03 43 17.7 0.0
ETSF Etsaut 96.94 333 *e*P **P** 03 43 30.4 +0.3
comp=Z,9.1nm,0.8s,mb4.9
SJPF Ste Jean 97.01 334 *e*P **P** 03 43 30.5 +0.1
comp=Z,54nm,1.5s,mb5.5
SAML Samuel 146.23 50 *e*PKPdf PKPdf 03 49 39.0 -3.7
SAML *ep*PKPdf 03 49 50.0
LPAZ La Paz 147.74 66 *e*PKIKP PKPdf 03 49 41.2 -3.9
LPAZ La Paz 147.74 66 PKPbc PKPdf 03 49 42.1 -3.0
comp=Z,1.0nm,0.7s,baz=18,slow=8.2,SNR=3.0

NIED ***29*** *03:32:00,33.30N×142.30E,h5km,Mw4.5 Best double couple: M0 7.35×10^15 NP1:φs185°,δ59°,λ-87°. NP2: φs359°,δ31°,λ-96°.*
JMA ***29*** *03:32:24.7±0.7,33.32N×142.31E,M4.5*
IDC ***29*** *03:32:24.2±0.5,33.22N×142.50E,mb4.4/21,mb1 4.6/26, mb1mx4.6/28,mbtmp4.5/26,ML4.2/4,MS3.8/2,Ms1 3.8/2, ms1mx3.2/25,Error ellipse: s-maj=15.3km s-min=11.8km az=75.0*
BJI ***29*** *03:32:26.3,33.37N×142.29E,h20km,mB4.7,mb4.7, Ms4.8,Msz4.3*
NEIC ***29*** *03:32:29.5±0.2,33.18N×142.39E,mb4.8/40, MW4.5(NIED),Error ellipse: s-maj=5.3km s-min=5.1km az=222.0*
MOS ***29*** *03:32:30.1±0.8,33.60N×142.40E,h33km,mb5.0/35,Error ellipse: s-maj=14.5km s-min=5.5km az=117.4*
ISC 29 03:32:28.0±0.2,33.23N±0.03×142.33E±0.03,h31km, h31km±2.9km:pP-P,n207,σ1s03/208,mb4.8/76,MS4.5/6, 11C-11D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.11**	**268**	P	**Pn**	**03 33 02.7**	**+0.8**
JHJ2				*e*S	**Sn**	**03 33 29.5**	**+2.2**
JHJ	**Hachijo jima 2**	**2.14**	**268**	Pn	**Pn**	**03 33 03.1**	**+0.8**
	165nn,0.3s,baz=118,slow=9.7,SNR=5.6						
JHJ				Sn	**Sn**	**03 33 29.1**	**+1.1**
	208nn,0.3s,baz=67,slow=23,SNR=7.2						
JHJ				LR	LR	03 33 31.2	
	comp=Z,2μm,20.8s,baz=261,slow=30						
BSO4	**Boso 4**	**2.41**	**317**	P	**Pn**	**03 33 04.6**	**-1.6**
JIM2	**Oshima 3**	**2.83**	**302**	P	**Pn**	**03 33 11.7**	**-0.4**
JIZS	**Izushimoda**	**3.23**	**298**	P	**Pn**	**03 33 17.9**	**+0.1**
JIZS				*e*S	**Sn**	**03 33 55.6**	**-0.1**
JOD2	**Odawara 2**	**3.37**	**308**	P	**Pn**	**03 33 19.3**	**-0.4**
JYN	**Shimob**	**3.86**	**307**	P	**Pn**	**03 33 27.2**	**+0.4**
JYN				*e*S	**Sn**	**03 34 11.4**	**-0.3**
JRY	**Ryogami san**	**3.96**	**316**	P	**Pn**	**03 33 28.6**	**+0.3**
JRY				*e*S	**Sn**	**03 34 12.9**	**-1.4**
JAG	**Ashikaga**	**3.97**	**324**	P	**Pn**	**03 33 27.7**	**-0.6**
JAG				*e*S	**Sn**	**03 34 13.2**	**-1.2**
MJAR	**Matsushiro Arr**	**4.73**	**315**	Pn	**Pn**	**03 33 39.1**	**-0.1**
	11nm,0.3s,baz=86,slow=27,SNR=12						
MJAR				Sn	**Sn**	**03 34 31.2**	**-2.5**
	4.1nm,0.3s,baz=320,slow=9.4,SNR=3.9						
MAJO	**Matsushiro**	**4.73**	**315**	*e*Pn	**Pn**	**03 33 29.9**	**-9.3**
MAT	**Matsushiro**	**4.73**	**315**	*e*P	**Pn**	**03 33 39.0**	**-0.2**
MAT				*e*S	**Sn**	**03 34 34.0**	**+0.3**
MAT	**Matsushiro**	**4.73**	**315**	P	**Pn**	**03 33 39.2**	**0.0**
MAT				S	**Sn**	**03 34 33.5**	**-0.2**
MAT	**Matsushiro**	**4.73**	**315**	P	**Pn**	**03 33 38.3**	**-0.9**
MAT				*e*S	**Sn**	**03 34 31.2**	**-2.5**
JMM	**Marumori**	**4.79**	**345**	P	**Pn**	**03 33 36.7**	**-3.3**
JMM				*e*S	**Sn**	**03 34 29.1**	**-6.1**
JNS	**Sasagawa**	**5.20**	**333**	P	**Pn**	**03 33 44.1**	**-1.6**
JGM	**Miyama**	**5.25**	**300**	P	**Pn**	**03 33 47.1**	**+0.7**
JMK	**Ichinoseki**	**5.78**	**351**	*e*S	**Sn**	**03 34 53.2**	**-6.8**
CBIJ	**Chichi jima**	**6.11**	**181**	Pn	**Pn**	**03 33 55.6**	**-3.0**
	42nm,0.3s,baz=276,slow=24,SNR=8.8						
CBIJ				Sn	**Sn**	**03 34 59.1**	**-9.2**
	25nm,0.3s,baz=262,slow=22,SNR=5.3						
JNU	**Nakatsue**	**9.60**	**272**	Pn	**P**	**03 34 46.9**	**-0.3**
	baz=117,slow=9.3						
JNU				LR	LR	03 38 28.4	
	comp=Z,665nm,19.0s,baz=61,slow=37						
YSS	**Yuzh-Sakhalins**	**13.71**	**1**⇑	*e*P	**P**	**03 35 37.4**	**-5.2**
YSS				*e*S	**S**	**03 38 04.6**	**-10**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS	**Yuzh-Sakhalins**	**13.71**	**1**	*e*Pn	**P**	**03 35 37.8**	**-4.8**
	comp=Z,41nn,0.9s						
JOW	**Kunigami**	**13.73**	**246**	Pn	**P**	**03 35 42.0**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=73,slow=17,SNR=2.4						
CN2	**Changchun**	**16.88**	**314**	*e*P	**P**	**03 36 20.5**	**-3.0**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s						
CN2				LR	LR		
	comp=N,640nm,11.0s						
CN2				LR	LR		
	comp=E,510nm,11.0s						
CN2				LR	LR		
	comp=Z,720nm,12.0s						
DL2	**Dalian**	**17.66**	**295**	P	**P**	**03 36 33.5**	**+0.3**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s						
KLR	**Kul'dur**	**17.83**	**337**	*e*P	**P**	**03 36 31.2**	**-4.1**
SSE	**Sheshan**	**18.03**	**269**	P	**P**	**03 36 37.3**	**-0.6**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s						
SSE				AMB	AMB		
	comp=Z,450nm,12.0s						
SSE	**Sheshan**	**18.03**	**269**	P	**P**	**03 36 37.3**	**-0.6**
	comp=Z,28nm,0.7s						
NJ2	**Nanjing**	**19.80**	**273**	*e*P	**P**	**03 36 56.8**	**-2.0**
NJ2				AP		03 37 04.5	
NJ2				XP		03 37 09.0	
NJ2				S	**S**	**03 40 34.0**	**-0.6**
NJ2				XS		03 40 45.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,310nm,8.0s						
NJ2				LR	LR		
	comp=N,1μm,10.3s						
NJ2				LR	LR		
	comp=E,1μm,11.8s						
NJ2				LR	LR		
	comp=Z,400nm,12.2s						
YHNB	**Yeheng**	**20.20**	**250**	*e*P	**P**	**03 36 58.5**	**-4.5**
HIA	**Hailar**	**23.21**	**320**	*e*P	**P**	**03 37 32.9**	**-0.2**
HIA				pmax	pmax		
	comp=Z,78nm,1.3s						
HIA	**Hailar**	**23.21**	**320**	*e*P	**P**	**03 37 32.9**	**-0.2**
	comp=Z,78nm,1.3s,mb5.0						
WHN	**Wuhan**	**23.88**	**271**	⇓P	**P**	**03 37 40.0**	**+0.3**
HHC	**Hu-ho-hao-te**	**25.61**	**296**	⇑P	**P**	**03 37 57.3**	**+1.1**
HHC				AP	pP	03 38 06.5	+1.2
HHC				XP	sP	03 38 10.5	+1.1
HHC				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.6						
HHC				AMB	AMB		
	comp=Z,179nm,10.7s						
CLNS	**Chul'man**	**26.47**	**338**	*e*P	**P**	**03 38 03.9**	**-0.1**
CLNS				*e**PP	pP	03 38 09.6	-3.4
CLNS				*e*		03 38 44.3	
CLNS				*e*PPP	PPP	03 38 50.6	-9.0
CLNS				*e*		03 41 27.6	
CLNS				*e*S	**S**	**03 42 35.3**	**+1.5**
CLNS				*e*SS	SS	03 43 59.9	+15
CLNS				pmax	pmax		
	comp=Z,26nn,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=N,16nm,0.7s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,15nn,1.1s,mb4.4						
CLNS				pmax	pmax		
	comp=N,13nm,0.8s						
CLNS				pmax	pmax		
	comp=E,11nm,0.8s						
CLNS				smax			
	comp=E,3.0nm,0.9s						
CLNS				smax			
	comp=Z,5.0nm,0.9s						
CLNS				smax			
	comp=N,10.0nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,700nm,12.0s,MS4.4						
CLNS				MLR	MLR		
	comp=N,500nm,13.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,100nm,14.0s,MS4.2						
MA2	**Magadan**	**26.95**	**9**	*e*P	**P**	**03 38 07.5**	**-0.8**
MA2				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.1						
MA2	**Magadan**	**26.95**	**9**	P	**P**	**03 38 07.7**	**-0.6**
	comp=Z,4.6nm,0.5s,mb4.3						
XAN	**Xi'an**	**27.76**	**281**	P	**P**	**03 38 14.5**	**-1.5**
XAN				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.6						
ENH	**Enshi**	**28.02**	**273**	*e*P	**P**	**03 38 16.3**	**-2.0**
	comp=Z,39nm,0.8s,mb5.1						
CIT	**Chita**	**28.02**	**321**	*e*P	**P**	**03 38 21.0**	**+2.9**
CIT				pmax	pmax		
	comp=Z,267nm,2.6s,mb5.4						
YAK	**Yakutsk**	**29.94**	**348**	*i* P	**P**	**03 38 34.8**	**-0.5**
SEY	**Seymchan**	**30.40**	**9**	*i* P	**P**	**03 38 37.7**	**-1.6**
SONM	**Songino Array**	**30.65**	**309**	P	**P**	**03 38 42.6**	**+0.9**
	comp=Z,14nm,0.9s,mb4.8,baz=111,slow=8.2,SNR=12						
BOD	**Bodaibo**	**31.18**	**331**	*e*P	**P**	**03 38 44.4**	**-1.8**
BOD				pmax	pmax		
	comp=Z,17nn,1.0s,mb4.8						
GYA	**Guiyang**	**31.55**	**267**⇑	*i*P	**P**	**03 38 49.5**	**-0.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
GYA				AMB	AMB		
	comp=Z,150nm,5.0s						
GYA				LR	LR		
	comp=N,790nm,13.2s,MS4.8						
GYA				LR	LR		
	comp=E,1μm,13.5s,MS4.8						
GYA				LR	LR		
	comp=Z,1μm,13.4s,MS4.7						
ZAK	**Zakamensk**	**33.31**	**313**	*e*P	**P**	**03 39 05.6**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
TLY	**Talaya**	**33.47**	**315**	*d i*P	**P**	**03 39 06.9**	**+0.6**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
TLY	**Talaya**	**33.47**	**315**	*e*P	**P**	**03 39 06.2**	**-0.1**
	comp=Z,16nm,0.9s,mb5.0						
GTA	**Gaotai**	**34.56**	**293**	P	**P**	**03 39 16.0**	**+0.2**
GTA				AP	pP	03 39 21.8	-3.3
GTA				XP	sP	03 39 26.5	-2.5
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
BILL	**Bilibino**	**37.49**	**15**⇑	*e*P	**P**	**03 39 39.5**	**-0.8**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.5						
WMQ	**Urumqi**	**43.33**	**301**	P	**P**	**03 40 30.3**	**+1.6**
KSM	**Kuching**	**43.58**	**230**	P	**P**	**03 40 30.3**	**-0.9**
ZAL	**Zalesovo**	**45.10**	**315**	P	**P**	**03 40 42.6**	**-0.2**
	comp=Z,2.9nm,0.6s,mb4.3,baz=14,slow=4.3,SNR=5.1						
ZAL				PcP	PcP	03 42 21.8	-1.8
	comp=Z,2.9nm,0.8s,baz=18,slow=4.8,SNR=3.5						
HNR	**Honiara**	**45.62**	**155**	P	**P**	**03 40 46.1**	**-1.4**
	comp=Z,226nm,0.9s,baz=189,slow=3.1,SNR=2.7						
NVS	**Novosibirsk**	**46.06**	**316**	*e*P	**P**	**03 40 50.1**	**-0.3**
NVS				pmax	pmax		
	comp=E,31nm,1.5s						
NVS				pmax	pmax		
	comp=Z,28nn,1.5s,mb5.0						
MKAR	**Makanchi Array**	**46.85**	**305**	P	**P**	**03 40 56.6**	**-0.2**
	comp=Z,12nn,0.7s,mb4.9,baz=90,slow=9.5,SNR=10						
JIRN	**Jiri**	**48.23**	**279**	*e*P	**P**	**03 41 08.2**	**+0.3**
	comp=Z,70nn,0.9s,mb5.7						
GUN	**Gumba**	**48.40**	**280**	*e*P	**P**	**03 41 09.6**	**+0.4**
PKI	**Pulchoki**	**48.91**	**279**	*e*P	**P**	**03 41 13.1**	**0.0**
	comp=Z,22nn,0.8s,mb5.2						
KURK	**Kurchatov**	**48.93**	**311**	*e*P	**P**	**03 41 12.5**	**-0.4**
KURK				*e**PP	pP	03 41 20.8	-1.6
KURK				pmax	pmax		
	comp=Z,61nn,0.8s,mb5.7						
KURK	**Kurchatov**	**48.93**	**311**	*e*P	**P**	**03 41 12.5**	**-0.4**
	comp=Z,61nn,0.8s,mb5.7						
KURK				*ep*P	pP	03 41 20.8	-1.6
KKN	**Kakani**	**48.94**	**280**	*e*P	**P**	**03 41 13.1**	**-0.3**
	comp=Z,38nn,0.8s,mb5.5						
DMN	**Daman**	**49.15**	**279**	*e*P	**P**	**03 41 13.7**	**-1.3**
GKN	**Gorkha**	**49.39**	**280**	*e*P	**P**	**03 41 16.7**	**-0.2**
	comp=Z,38nn,0.8s,mb5.5						
KOLN	**Koldanda**	**50.33**	**280**	*e*P	**P**	**03 41 23.9**	**-0.2**
	comp=Z,78nn,1.2s,mb5.6						
SML	**Sawmill**	**51.65**	**35**	*e*P	**P**	**03 41 32.5**	**-1.1**
ILAR	**Eielson Array**	**52.34**	**31**	P	**P**	**03 41 36.7**	**-2.0**
	comp=Z,4.1nm,0.9s,mb4.3,baz=267,slow=6.7,SNR=8.1						
FRU	**Bishkek**	**52.89**	**301**	*e*P	**P**	**03 41 44.0**	**+0.8**
FRU				pmax	pmax		
	comp=Z,60nn,2.0s,mb5.2						
AAK	**Ala-Archa**	**53.03**	**301**⇓	*e*P	**P**	**03 41 43.3**	**-0.9**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
AAK	**Ala-Archa**	**53.03**	**301**	*e*P	**P**	**03 41 43.0**	**-1.1**
	comp=Z,5.8nm,0.8s,mb4.6						
CTA	**Charters Tower**	**53.15**	**175**	P	**P**	**03 41 44.1**	**-1.3**
	comp=Z,2.7nm,0.7s,mb4.3,baz=16,slow=1.6,SNR=2.4						
WRAB	**Tennant Creek**	**53.41**	**189**⇑	*e*P	**P**	**03 41 46.3**	**-1.0**
WRAB	**Tennant Creek**	**53.41**	**189**	*e*P	**P**	**03 41 45.3**	**-1.9**
	comp=Z,9.4nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**53.42**	**189**	P	**P**	**03 41 45.0**	**-2.3**
	comp=Z,3.1nm,0.6s,mb4.4,baz=5.4,slow=7.1,SNR=11						
WRA				PcP	PcP	03 42 52.8	-1.4
	comp=Z,2.1nm,0.7s,baz=4.7,slow=4.0,SNR=3.7						
FITZ	**Fitzroy Crossi**	**53.47**	**200**	P	**P**	**03 41 46.5**	**-1.3**
	comp=Z,6.3nm,0.7s,mb4.7,baz=350,slow=5.5,SNR=6.0						
BVAR	**Borovoye Array**	**53.73**	**315**	P	**P**	**03 41 48.1**	**-1.1**
	comp=Z,5.5nm,0.9s,mb4.5,baz=90,slow=5.9,SNR=8.5						
BRVK	**Borovoye**	**53.79**	**315**	*e*P	**P**	**03 41 48.8**	**-0.8**
BRVK				*PP	pP	03 41 59.4	+0.3
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
BRVK	**Borovoye**	**53.79**	**315**	*e*P	**P**	**03 41 48.8**	**-0.8**
	comp=Z,8.9nm,1.2s,mb4.6						
BRVK				pP	pP	03 41 59.4	+0.3
INK	**Inuvik**	**57.45**	**26**	*e*P	**P**	**03 42 14.8**	**-1.1**
INK				*e**PP	pP	03 42 25.3	-0.1
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**57.45**	**26**	P	**P**	**03 42 14.4**	**-1.4**
	comp=Z,3.0nm,0.6s,mb4.5,baz=292,slow=8.9,SNR=6.3						
INK	**Inuvik**	**57.45**	**26**	*e*P	**P**	**03 42 14.8**	**-1.1**
	comp=Z,2.6nm,0.6s,mb4.4						
INK				*ep*P	pP	03 42 25.3	-0.2
MBWA	**Marble Bar**	**58.22**	**205**	*e*P	**P**	**03 42 20.4**	**-1.5**
	comp=Z,5.8nm,0.7s,mb4.7						
HYB	**Hyderabad**	**58.94**	**271**	*e*P	**P**	**03 42 27.0**	**0.0**
HYB	**Hyderabad**	**58.94**	**271**	*i* P	**P**	**03 42 27.0**	**0.0**
ARU	**Arti**	**59.73**	**320**	*e*P	**P**	**03 42 31.0**	**-0.9**
ARU				*e**PP	pP	03 42 45.0	+3.5
ARU				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ARU	**Arti**	**59.73**	**320**	*e*P	**P**	**03 42 31.0**	**-0.9**
	comp=Z,10nm,0.9s,mb4.9						
ARU				*ep*P	pP	03 42 45.0	+3.5
STKA	**Stephens Creek**	**64.76**	**181**	P	**P**	**03 43 05.3**	**-0.5**
	comp=Z,7.3nm,1.0s,mb4.7,baz=357,slow=7.9,SNR=4.2						
STKA	**Stephens Creek**	**64.76**	**181**	P	**P**	**03 43 05.3**	**-0.5**
YKA	**Yellowknife Ar**	**66.73**	**29**	P	**P**	**03 43 16.7**	**-1.2**
	comp=Z,1.7nm,0.7s,mb4.2,baz=294,slow=6.1,SNR=8.2						
YKA				PcP	PcP	03 43 45.6	-1.0
	comp=Z,1.5nm,0.8s,baz=297,slow=5.7,SNR=3.6						
ARCES	**ARCESS Array B**	**67.82**	**340**	P	**P**	**03 43 24.2**	**-0.4**
	comp=Z,3.4nm,0.8s,mb4.4,baz=72,slow=7.7,SNR=4.7						
OBN	**Obninsk**	**71.60**	**324**⇓	*e*P	**P**	**03 43 47.8**	**-0.2**
OBN				*e*		03 44 08.7	
OBN				pmax	pmax		

comp=Z,100nm,15.0s,MS4.2
VSU Vasula 74.12 330 *d i*P **P 03 44 02.8 +0.2**
SUMG Summit 74.48 0 *e*P **P 03 44 05.7 +1.2**
comp=Z,4.3nm,0.6s,mb4.6
SUMG *e*pP pP 03 44 16.3 +2.1
GNI Garni 74.61 308 *i* P **P 03 44 08.0 +2.2**
GNI pmax pmax
comp=Z,21nm,1.6s
GNI Garni 74.61 308 *e*P **P 03 44 06.0 +0.2**
comp=Z,6.2nm,0.6s,mb4.7
SOC Sochi 76.02 313 *e*P **P 03 44 14.4 +0.6**
SOC *e* 03 44 29.1
SOC *e* 03 47 05.9
SOC *e*PPP PPP 03 48 56.6 +3.3
SOC *e*S S 03 53 54.1 +0.7
SOC *e* 03 54 22.9
SOC pmax pmax
comp=Z,15nm,0.8s,mb5.0
SOC pmax pmax
comp=N,12nm,0.9s
SOC pmax pmax
comp=E,6.0nm,0.8s
SOC MLR MLR
comp=N,158nm,16.0s,MS4.5
SOC MLR MLR
comp=E,132nm,16.0s,MS4.5
SOC MLR MLR
comp=Z,257nm,16.0s,MS4.6
NVAR Mina Array Bea 76.68 53 P **P 03 44 17.5 -0.2**
comp=Z,2.1nm,0.8s,mb4.1,baz=280,slow=5.5,SNR=9.4
ANN Anapa 76.73 315 *e*P **P 03 44 19.9 +2.1**
ELK Elko 77.44 49 *e*P **P 03 44 22.3 +0.5**
ELK pmax pmax
comp=Z,2.0nm,1.0s
ELK Elko 77.44 49 *e*P **P 03 44 22.3 +0.5**
comp=Z,2.2nm,1.0s,mb4.0
AKASG Malin Array Be 77.78 323 P **P 03 44 23.3 -0.1**
comp=Z,3.6nm,0.6s,mb4.5,baz=46,slow=6.2,SNR=6.3
NB2 NORSAR Subarra 77.98 338 P **P 03 44 24.5 +0.2**
comp=Z,10nm,0.8s,mb4.8,baz=40,slow=5.6
NB2 NORSAR Subarra 77.98 338 P **P 03 44 24.5 +0.2**
NB2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
NOA NORSAR Array B 77.98 338 P **P 03 44 24.6 +0.2**
comp=Z,8.8nm,0.8s,mb4.7,baz=39,slow=5.6,SNR=20
MIB Mutribah 78.09 298 *e*P **P 03 44 26.4 +0.8**
KBD Kabd 78.15 297 *e*P **P 03 44 26.6 +0.7**
NAO01 NORSAR Array S 78.24 338 *e*P **P 03 44 22.6 -3.2**
comp=Z,2.1nm,0.7s,mb4.2
RDF Al-Radifah 78.39 297 *e*P **P 03 44 28.0 +0.7**
RDF AMb AMB 03 44 29.4
comp=Z,54nm,0.8s,mb5.5
NAY Al-Naaiem 78.45 297 *e*P **P 03 44 28.1 +0.5**
NAY AMb AMB 03 44 29.8
comp=Z,25nm,1.0s,mb5.1
RST Umm Al-Ruwaisa 78.50 298 *e*P **P 03 44 27.6 -0.3**
RST AMb AMB 03 44 28.6
comp=Z,23nm,0.7s,mb5.2
MALT Malatya 79.73 309 *e*P **P 03 44 36.2 +1.8**
MALT pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
MALT Malatya 79.73 309 *e*P **P 03 44 36.2 +1.9**
comp=Z,6.3nm,1.2s,mb4.4
PDAR Pinedale Array 79.80 45 P **P 03 44 33.6 -1.0**
comp=Z,0.4nm,0.6s,baz=315,slow=1.3,SNR=3.5
KWP Kalwaria 81.66 325 *e*P **P 03 44 45.6 +1.3**
KWP Kalwaria 81.66 325 *e*P **P 03 44 45.6 +1.3**
BURAR Bucovina Array 81.77 323 ⇑P **P 03 44 46.2 +1.3**
BURAR Bucovina Array 81.77 323 ⇑P **P 03 44 46.2 +1.3**
BR131 Keskin Array S 81.95 312 *e*P **P 03 44 46.5 +0.5**
comp=Z,3.1nm,0.8s,mb4.3
BRTR Keskin Array B 81.95 312 P **P 03 44 46.9 +0.9**
comp=Z,4.1nm,0.8s,mb4.4,baz=105,slow=4.3,SNR=14
VRI Vrincioaia 82.12 320 ⇓P **P 03 44 48.7 +1.9**
KOLS Kolonicke sedl 82.35 325 *e*P **P 03 44 48.7 +0.8**
STHS Stebnicka Huta 82.51 326 *e*P **P 03 44 50.1 +1.4**
PV10 Paradox Valley 82.72 49 *e*P **P 03 44 51.1 +1.1**
MLR Muntele Rosu 82.78 321 ⇓P **P 03 44 51.7 +1.5**
KECS Kecovo 83.52 325 *e*P **P 03 44 55.0 +1.1**
DRGR 83.59 323 ⇑P **P 03 44 55.1 +0.8**
OKC Ostrava-Krasne 83.64 327 *e*P **P 03 44 55.4 +0.9**
BSEG Bad Segeberg 83.79 334 *e*P **P 03 44 56.1 +1.0**
MORC Moravsky Berou 83.96 328 *e*P **P 03 44 56.9 +0.8**
MORC pmax pmax
comp=Z,7.0nm,1.2s,mb4.7
MORC Moravsky Berou 83.96 328 *e*P **P 03 44 56.9 +0.8**
comp=Z,6.9nm,1.2s,mb4.7
DPC Dobruska-Polom 84.08 329 *e*P **P 03 44 57.7 +1.0**
UPC Upice 84.10 329 *e*P **P 03 44 57.4 +0.6**
VYHS Vyhne 84.29 326 *e*P **P 03 44 58.6 +0.8**
PVCC Panska Ves 84.71 330 *e*P **P 03 45 00.5 +0.7**
BRG Berggiesshubel 84.71 330 *e*P **P 03 45 00.7 +0.9**
BRG pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
BRG MLR MLR
comp=Z,310nm,17.1s,MS4.8
BRG Berggiesshubel 84.71 330 *e*P **P 03 45 00.7 +0.9**
comp=Z,6.2nm,0.8s,mb4.8
BRG LR LR
comp=Z,310nm,17.1s,MS4.8
CLL Collm 84.77 331 ⇓ *i*P **P 03 45 00.5 +0.4**
CLL pmax pmax
comp=Z,13nm,0.9s,mb5.1
CLL Collm 84.77 331 ⇓ *i*P **P 03 45 00.5 +0.4**
comp=Z,13nm,0.9s,mb5.1
CLL Collm 84.77 331 ⇓P **P 03 45 00.5 +0.4**
comp=Z,logA/T=1.2,mb5.1
SMOL Smolenice 84.92 327 *e*P **P 03 45 02.4 +1.5**
PRU Pruhonice 85.12 329 *e*P **P 03 45 02.8 +0.9**
SDCO Great Sand Dun 85.31 47 *e*P **P 03 45 04.2 +1.1**
comp=Z,3.5nm,0.8s,mb4.5
SDCO *e*pP pP 03 45 15.1 +2.0
CLZ Clausthal 85.41 332 *e*P **P 03 45 04.1 +0.8**
CLZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
CLZ Clausthal 85.41 332 *e*P **P 03 45 04.1 +0.8**
comp=Z,10.0nm,1.0s,mb4.9
NKC Novy Kostel 85.82 330 *e*P **P 03 45 06.1 +0.7**
MOX Moxa 85.84 331 *e*P **P 03 45 03.0 -2.5**
KHC Kasperske Hory 86.18 329 *e*P **P 03 45 08.1 +0.9**
GEC2 GERESS Array S 86.34 329 *e*P **P 03 45 08.8 +0.8**
GEC2 pmax pmax
comp=Z,2.0nm,0.9s,mb4.3
GEC2 GERESS Array S 86.34 329 *e*P **P 03 45 08.8 +0.8**
comp=Z,2.0nm,0.9s,mb4.3
GERES GERESS Array B 86.34 329 P **P 03 45 08.1 +0.1**
comp=Z,0.8nm,0.7s,mb4.0,baz=37,slow=6.7,SNR=6.6
ANMO Albuquerque 86.45 50 *e*P **P 03 45 09.1 +0.2**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 86.45 50 *e*P **P 03 45 09.1 +0.2**
comp=Z,1.7nm,0.9s,mb4.3
WET Wettzell 86.47 329 *e*P **P 03 45 09.2 +0.6**
WET pmax pmax
comp=Z,4.0nm,1.4s,mb4.5
WET Wettzell 86.47 329 *e*P **P 03 45 09.2 +0.6**
comp=Z,4.0nm,1.4s,mb4.5
GRA1 Grafenberg Arr 86.74 331 *e*P **P 03 45 11.2 +1.3**
comp=Z,16nm,1.4s,mb5.1
GRF Grafenberg Arr 86.74 331 *e*P **P 03 45 11.2 +1.3**
GRF pmax pmax
comp=Z,16nm,1.4s,mb5.1
GRF Grafenberg Arr 86.74 331 *e*P **P 03 45 11.2 +1.3**
GRF pmax pmax
comp=Z,16nm,1.4s,mb5.1
GRF Grafenberg Arr 86.74 331 *e*P **P 03 45 11.2 +1.3**
comp=Z,16nm,1.4s,mb5.1
SCHQ Schefferville 88.78 16 P **P 03 45 20.0 +0.4**
comp=Z,3.2nm,0.8s,mb4.7,baz=353,slow=3.4,SNR=4.1
BFO Black Forest 88.99 331 *e*P **P 03 45 21.8 +1.0**
BFO pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
BFO Black Forest 88.99 331 *e*P **P 03 45 21.8 +1.0**
comp=Z,5.0nm,1.2s,mb4.7
CDF Champ du Feu 89.34 332 *e*P **P 03 45 22.5 +0.1**
CABF La Chapelle 91.28 332 *e*P **P 03 45 31.9 +0.5**
LOR Lormes 91.60 333 *e*P **P 03 45 33.4 +0.5**
TXAR Lajitas Array 91.83 53 P **P 03 45 34.4 0.0**
comp=Z,1.3nm,0.6s,mb4.4,baz=298,slow=3.8,SNR=9.4
TXAR Lajitas Array 91.83 53 P **P 03 45 34.4 0.0**
LPL La Plagne 91.90 331 *e*P **P 03 45 35.2 +0.9**
comp=Z,7.8nm,0.9s,mb4.7
LPL La Plagne 91.90 331 *e*P **P 03 45 35.2 +0.9**
LPL pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
SSF Saint Saulge 91.91 333 *e*P **P 03 45 34.4 +0.1**
SSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
SSF Saint Saulge 91.91 333 *e*P **P 03 45 34.4 +0.1**
comp=Z,3.6nm,0.8s,mb4.8
AVF Avril sur Loir 92.19 333 *e*P **P 03 45 35.9 +0.3**
comp=Z,22nm,1.0s,mb5.1
AVF Avril sur Loir 92.19 333 *e*P **P 03 45 35.9 +0.3**
AVF pmax pmax
comp=Z,11nm,1.0s,mb5.1
GRR Gorron 92.34 336 *e*P **P 03 45 36.9 +0.7**
MBDF Montbardon 92.53 330 *e*P **P 03 45 37.4 +0.2**
comp=Z,6.2nm,0.7s,mb4.8
MBDF Montbardon 92.53 330 *e*P **P 03 45 37.4 +0.2**
MBDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
ORIF Oris-en-Rattie 92.74 331 *e*P **P 03 45 38.6 +0.4**
comp=Z,8.8nm,0.9s,mb4.9
ORIF Oris-en-Rattie 92.74 331 *e*P **P 03 45 38.6 +0.4**
ORIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
SBF Sospel 92.94 329 *e*P **P 03 45 38.8 -0.3**
comp=Z,19nm,0.9s,mb5.2
SBF Sospel 92.94 329 *e*P **P 03 45 38.8 -0.3**
SBF pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
TCF Toulx Ste Croi 93.04 334 *e*P **P 03 45 39.9 +0.4**
comp=Z,5.2nm,0.8s,mb4.7
TCF Toulx Ste Croi 93.04 334 *e*P **P 03 45 39.9 +0.4**
TCF pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
VIVF Saint-Julien-l 93.28 331 *e*P **P 03 45 41.2 +0.5**
comp=Z,12nm,0.9s,mb5.0
VIVF Saint-Julien-l 93.28 331 *e*P **P 03 45 41.2 +0.5**
VIVF pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
FRF La Foret Royal 93.52 329 *e*P **P 03 45 41.2 -0.6**
LMR La Mourre 93.77 329 *e*P **P 03 45 43.0 +0.1**
LFF La Frestale 94.73 334 *e*P **P 03 45 47.6 +0.2**
SDV Santo Domingo 127.68 43 *e*PKPdf PKPdf 03 51 31.6 -4.6
VNA2 Neumayer--Watz 138.85 195 *e* PKPdf 03 51 59.2 +3.6
VNA2 Neumayer--Watz 138.85 195 *e* PKPdf 03 51 02.1 +5.5
VNA2 Neumayer--Watz 138.85 195 ⇑ *i*PKPdf PKPdf 03 51 52.0 -3.6
VNA2 *e* 03 51 59.2
VNA2 *e* 03 52 01.1
VNA3 Neumayer Olymp 139.07 193 *e* PKPdf 03 52 14.3 +18
VNA3 Neumayer Olymp 139.07 193 *e* PKPdf 03 52 16.1 +20
VNA3 Neumayer Olymp 139.07 193 ⇑ *i*PKPdf PKPdf 03 52 07.0 +11
VNA3 *e* 03 52 14.3
VNA3 *e* 03 52 16.1
VNA1 Neumayer--Stat 139.25 195 *e* PKPdf 03 52 03.5 +7.2
VNA1 Neumayer--Stat 139.25 195 *e* PKPdf 03 52 06.1 +10
VNA1 Neumayer--Stat 139.25 195 ⇑ *i*PKPdf PKPdf 03 51 56.5 +0.2
VNA1 *e* 03 52 03.5
VNA1 *e* 03 52 06.1
SAML Samuel 146.27 50 *e*PKPbc PKPbc 03 52 06.5 +0.4
SAML *e*pPKPdf 03 52 17.4
LPAZ La Paz 147.77 66 PKIKP PKPdf 03 52 10.9 -1.6
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 147.77 66 PKPbc PKPdf 03 52 10.8 -1.6
comp=Z,2.6nm,0.8s,baz=352,slow=8.5,SNR=5.8
LPAZ La Paz 147.77 66 *e*PKPbc PKPdf 03 52 10.1 -2.4

NIED **29** *03:39:00,33.30N×142.50E,h5km,Mw4.2 Best double couple: M₀2.13×10¹⁵ NP1:φs163°,δ80°,λ-95°. NP2:φs10°,δ12°,λ-83°.*
NEIC **29** *03:39:12.8±5.9,33.12N×142.59E,h5km±36km,mb4.4/4, Error ellipse: s-maj=15.3km s-min=10.1km az=94.0*
IDC **29** *03:39:12.2±0.7,33.09N×142.64E,mb4.1/10,mb1 4.3/14, mb1mx4.1/24,mbtmp4.1/14,ML4.0/4,Error ellipse: s-maj=18.7km s-min=17.2km az=63.0*
JMA **29** *03:39:15.9±0.4,33.28N×142.48E,h60km,M3.9*
ISC 29 03:39:15.1±0.5,33.20N±0.05×142.49E±0.06,h33km,n37, σ1§13/42,**mb4.2**/13,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BSO1	**Boso 1**	**1.92**	**319**	P	**P**	**P**	**03 39 46.0**	**+0.1**
JHJ2	**Mitsune**	**2.25**	**268**	P	**P**	**S**	**03 39 51.6**	**+1.0**
JHJ2				S		**S**	**03 40 19.2**	**+1.7**
JHJ	**Hachijo jima 2**	**2.27**	**269**	Pn	**Pn**	**Pn**	**03 39 51.6**	**+0.4**
	186nm,0.3s,baz=170,slow=14,SNR=68							
JHJ				Sn		**Sn**	**03 40 18.4**	**+0.1**
	121nm,0.3s,baz=75,slow=23,SNR=6.6							
BSO3	**Boso 3**	**2.29**	**315**	P	**P**	**P**	**03 39 51.7**	**+0.4**
BSO4	**Boso 4**	**2.52**	**316**	P	**P**	**P**	**03 39 55.7**	**+1.1**
JIM2	**Oshima 3**	**2.96**	**302**	P	**P**	**P**	**03 40 00.1**	**-0.7**
JIM2				S		**S**	**03 40 34.1**	**-1.5**
JIZS	**Izushimoda**	**3.36**	**298**	P	**P**	**P**	**03 40 06.6**	**0.0**
JOD2	**Odawara 2**	**3.49**	**307**	P	**P**	**P**	**03 40 07.8**	**-0.6**
JYN	**Shimob**	**3.99**	**306**	P	**P**	**P**	**03 40 15.3**	**-0.1**
JAG	**Ashikaga**	**4.07**	**323**	P	**P**	**P**	**03 40 16.2**	**-0.4**
JRY	**Ryogami san**	**4.08**	**314**	P	**P**	**P**	**03 40 16.7**	**-0.1**
MJAR	**Matsushiro Arr**	**4.85**	**315**	Pn	**Pn**	**Pn**	**03 40 27.6**	**-0.2**
	6.2nm,0.3s,baz=161,slow=13,SNR=37							
MJAR				Sn		**Sn**	**03 41 22.0**	**-1.5**
	2.6nm,0.3s,baz=268,slow=30,SNR=7.9							
MAJO	**Matsushiro**	**4.85**	**315**	*e*Pn		**Pn**	**03 40 19.1**	**-8.7**
MAT	**Matsushiro**	**4.85**	**315**	*e*P		**P**	**03 40 28.0**	**+0.3**
MAT				*e*S		**S**	**03 41 20.0**	**-3.4**
MAT	**Matsushiro**	**4.85**	**315**	P		**P**	**03 40 27.9**	**+0.2**
MAT				S		**S**	**03 41 20.4**	**-3.0**
MAT	**Matsushiro**	**4.85**	**315**	P		**P**	**03 40 27.8**	**+0.1**
JMM	**Marumori**	**4.86**	**344**	P		**P**	**03 40 25.2**	**-2.6**
JGM	**Miyama**	**5.38**	**299**	P		**P**	**03 40 36.0**	**+0.9**
CBIJ	**Chichi jima**	**6.05**	**183**	Pn		**Pn**	**03 40 42.4**	**-2.9**
	12nm,0.3s,baz=287,slow=23,SNR=12							
CBIJ				Sn		**Sn**	**03 41 49.0**	**-5.6**
	25nm,0.3s,baz=303,slow=21,SNR=6.9							
JNU	**Nakatsue**	**9.74**	**273**	Pn		**P**	**03 41 35.8**	**-0.2**
	0.8nm,0.3s,baz=162,slow=18,SNR=4.7							
ENH	**Enshi**	**28.16**	**273**	*e*P		**P**	**03 45 05.8**	**-0.7**
	7.5nm,0.7s,mb4.4							
SONM	**Songino Array**	**30.77**	**309**	P		**P**	**03 45 30.5**	**+0.9**
	2.3nm,0.6s,mb4.2,baz=114,slow=8.5,SNR=14							
ZAL	**Zalesovo**	**45.21**	**315**	P		**P**	**03 47 33.6**	**+3.0**
	1.0nm,0.4s,mb4.0,baz=25,slow=14,SNR=2.1							
MKAR	**Makanchi Array**	**46.98**	**305**	P		**P**	**03 47 45.5**	**+0.9**
	3.8nm,0.8s,mb4.4,baz=90,slow=9.1,SNR=15							
KURK	**Kurchatov**	**49.05**	**311**	*e*P		**P**	**03 48 01.3**	**+0.6**
	16nm,0.8s,mb5.1							
KURK				*e*pP		pP	03 48 08.1	-2.4
ILAR	**Eielson Array**	**52.29**	**31**	P		**P**	**03 48 24.6**	**-0.6**
	1.7nm,0.9s,mb4.0,baz=273,slow=7.0,SNR=10							
CTA	**Charters Tower**	**53.11**	**176**	P		**P**	**03 48 29.4**	**-2.5**
	1.0nm,0.3s,mb4.2,baz=297,slow=4.5,SNR=2.5							
WRAB	**Tennant Creek**	**53.40**	**190**	*e*P		**P**	**03 48 33.5**	**-0.5**
	1.8nm,0.8s,mb4.0							
WRA	**Warramunga Arr**	**53.41**	**190**	P		**P**	**03 48 33.7**	**-0.4**
	1.6nm,0.7s,mb4.0,baz=5.7,slow=7.6,SNR=17							
YKA	**Yellowknife Ar**	**66.69**	**30**	P		**P**	**03 50 04.3**	**+0.1**
	1.1nm,0.7s,mb4.0,baz=294,slow=6.3,SNR=5.2							
YKA	**Yellowknife Ar**	**66.69**	**30**	P		**P**	**03 50 04.3**	**0.0**
NVAR	**Mina Array Bea**	**76.58**	**53**	P		**P**	**03 51 04.6**	**+0.7**
	1.0nm,0.8s,mb3.8,baz=296,slow=4.7,SNR=7.2							
NB2	**NORSAR Subarra**	**78.06**	**338**	P		**P**	**03 51 13.2**	**+1.6**
	1.6nm,0.8s,mb4.0,baz=39,slow=5.6							
NOA	**NORSAR Array B**	**78.06**	**338**	P		**P**	**03 51 13.2**	**+1.5**
	0.7nm,0.7s,mb3.7,baz=39,slow=5.7,SNR=4.1							
TXAR	**Lajitas Array**	**91.74**	**53**	P		**P**	**03 52 22.9**	**+2.1**
	0.9nm,0.7s,mb4.2,baz=305,slow=3.3,SNR=16							
SAML	**Samuel**	**146.18**	**50**	*e*PKPbc		PKPbc	03 58 54.8	+2.2
LPAZ	**La Paz**	**147.65**	**66**	PKPbc		PKPdf	03 58 59.6	+5.7
	0.5nm,0.4s,baz=317,slow=4.2,SNR=6.3							

JMA **29** *03:49:40.2±0.1,36.13N×137.09E,h276km±2km,M3.1*
NEIC **29** *03:49:40.2±0.6,36.12N×137.12E,h278km±6km, MG3.1(JMA),Error ellipse: s-maj=19.8km s-min=14.1km az=138.0*
IDC **29** *03:49:40.2±0.7,36.08N×137.10E,h273km±8km,mb3.7/3, mb1 3.9/4,mb1mx3.2/20,mbtmp4.2/4,Error ellipse: s-maj=24.5km s-min=21.2km az=76.0*
ISC 29 03:49:39.4±0.5,36.11N±0.07×137.1E±0.1,h280km±3km, n23,σ0§53/32,**mb3.4**/4,**1C,Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JGN	**Niukaw**	**0.20**	**56**	P	**P**	**P**	**03 50 15.6**	**+0.2**
JGN				S		**S**	**03 50 42.8**	**-0.6**
JGM	**Miyama**	**0.52**	**218**	P	**P**	**P**	**03 50 16.2**	**+0.2**
JGM				S		**S**	**03 50 43.9**	**-0.7**
JKG	**Kaga**	**0.65**	**285**	P	**P**	**P**	**03 50 16.7**	**+0.3**
MAJO	**Matsushiro**	**0.99**	**64**	*e*Pn		**P**	**03 50 09.5**	**-8.3**
MAT	**Matsushiro**	**0.99**	**64**	*e*P		**P**	**03 50 18.0**	**+0.3**
MAT				*e*S		**S**	**03 50 48.0**	**+0.3**
MAT	**Matsushiro**	**0.99**	**64**	P		**P**	**03 50 18.2**	**+0.5**
MAT				S		**S**	**03 50 47.6**	**-0.1**
MAT	**Matsushiro**	**0.99**	**64**	P		**P**	**03 50 18.2**	**+0.5**
MAT				S		**S**	**03 50 47.8**	**+0.1**
MJAR	**Matsushiro Arr**	**0.99**	**64**	P		**P**	**03 50 18.1**	**+0.3**
	4.2nm,0.3s,baz=250,slow=6.7,SNR=32							
MJAR				S		**S**	**03 50 47.9**	**+0.2**
	1.1nm,0.3s,baz=258,slow=13,SNR=12							
JWT	**Wachi**	**1.62**	**240**	P		**P**	**03 50 21.7**	**0.0**
JWT				S		**S**	**03 50 54.1**	**-0.5**
JHG	**Hegura jima**	**1.74**	**355**	P		**P**	**03 50 22.9**	**+0.3**
JIE	**Ise**	**1.75**	**191**	P		**P**	**03 50 23.6**	**+0.9**
JIE				S		**S**	**03 50 57.1**	**+0.8**
JAG	**Ashikaga**	**1.92**	**80**	P		**P**	**03 50 24.4**	**+0.4**
JAG				S		**S**	**03 50 58.0**	**-0.7**
JSD	**Sado**	**2.13**	**25**	P		**P**	**03 50 26.0**	**+0.2**
JSD				S		**S**	**03 51 01.2**	**-0.7**
JWY	**Kouya**	**2.26**	**214**	S		**S**	**03 51 03.8**	**-0.2**
JWZ	**Kozaga**	**2.82**	**204**	P		**P**	**03 50 32.4**	**+0.1**
JNU	**Nakatsue**	**5.94**	**242**	P		**P**	**03 51 08.4**	**+0.4**
	1.4nm,0.3s,baz=90,slow=2.0,SNR=6.5							
MKAR	**Makanchi Array**	**41.68**	**302**	P		**P**	**03 57 02.1**	**-0.1**
	0.1nm,0.6s,mb2.3,baz=117,slow=3.2,SNR=3.3							
FITZ	**Fitzroy Crossi**	**55.00**	**193**	P		**P**	**03 58 43.5**	**-0.5**
	5.6nm,0.9s,mb4.0,baz=201,slow=8.8,SNR=3.3							
WB2	**Warramunga Arr**	**55.81**	**183**	⇑ *i*P		**P**	**03 58 49.2**	**-0.6**
WRA	**Warramunga Arr**	**55.81**	**183**	P		**P**	**03 58 48.9**	**-0.9**
	2.5nm,0.3s,mb4.0,baz=358,slow=7.7,SNR=46							
TXAR	**Lajitas Array**	**93.40**	**50**	P		**P**	**04 02 25.3**	**+1.1**
	0.3nm,0.6s,mb3.4,baz=292,slow=2.9,SNR=7.3							
TXAR	**Lajitas Array**	**93.40**	**50**	P		**P**	**04 02 25.3**	**+1.1**
SAML	**Samuel**	**147.25**	**39**	*e*PKPbc		PKPdf	04 08 50.4	+2.7

NIED **29** *04:36:00,33.20N×142.40E,h8km,Mw4.1 Best double couple: M₀1.57×10¹⁵ NP1:φs192°,δ59°,λ-108°. NP2: φs44°,δ35°,λ-63°.*
IDC **29** *04:36:08.4±0.6,33.16N×142.45E,mb4.2/14,mb1 4.4/17, mb1mx4.3/22,mbtmp4.2/17,ML4.1/3,MS3.3/2,Ms1 3.3/2, ms1mx2.9/29,Error ellipse: s-maj=19.1km s-min=16.4km az=95.0*
BJI **29** *04:36:10.3,33.43N×142.33E,h14km,mB4.6,mb4.3*
JMA **29** *04:36:11.5±0.3,33.21N×142.43E,h73km,M3.9*
NEIC **29** *04:36:12.7±3.5,33.13N×142.32E,h28km±23km,mb4.4/13, Error ellipse: s-maj=10.4km s-min=9.1km az=101.0*
ISC 29 04:36:09.9±1.6,33.13N±0.04×142.36E±0.05,h20km±11km, n61,σ1§00/68,**mb4.3**/27,**MS3.3**/1,**1D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BSO1	**Boso 1**	**1.91**	**323**	P		**Pn**	**04 36 42.0**	**+0.2**
BSO1				*e*S		**Sn**	**04 37 05.0**	**-0.5**
BSO2	**Boso 2**	**2.10**	**321**	*e*S		**Sn**	**04 37 11.0**	**+0.7**
JHJ2	**Mitsune**	**2.13**	**270**	P		**Pn**	**04 36 46.8**	**+1.7**
JHJ2				*e*S		**Sn**	**04 37 12.7**	**+1.4**
JHJ	**Hachijo jima 2**	**2.16**	**270**	Pn		**Pn**	**04 36 45.9**	**+0.4**
	40nm,0.3s,baz=148,slow=11,SNR=13							
JHJ				Sn		**Sn**	**04 37 12.4**	**+0.4**
	129nm,0.3s,baz=244,slow=19,SNR=11							
BSO3	**Boso 3**	**2.27**	**318**	P		**Pn**	**04 36 47.6**	**+0.6**
BSO3				*e*S		**Sn**	**04 37 15.1**	**+0.4**
BSO4	**Boso 4**	**2.50**	**318**	P		**Pn**	**04 36 51.6**	**+1.2**
BSO4				*e*S		**Sn**	**04 37 21.6**	**+1.0**
JIM2	**Oshima 3**	**2.91**	**304**	P		**Pn**	**04 36 55.9**	**-0.2**
JIM2				*e*S		**Sn**	**04 37 28.9**	**-1.9**
JIZS	**Izushimoda**	**3.30**	**300**	P		**Pn**	**04 37 02.0**	**+0.3**
JIZS				*e*S		**Sn**	**04 37 40.4**	**-0.4**
JOD2	**Odawara 2**	**3.45**	**309**	P		**Pn**	**04 37 03.3**	**-0.5**
JYN	**Shimob**	**3.94**	**308**	P		**Pn**	**04 37 11.0**	**+0.2**
JRY	**Ryogami san**	**4.05**	**316**	P		**Pn**	**04 37 12.2**	**-0.2**
JRY				*e*S		**Sn**	**04 38 00.2**	**+0.3**
JAG	**Ashikaga**	**4.07**	**325**	P		**Pn**	**04 37 12.4**	**-0.2**
MJAR	**Matsushiro Arr**	**4.82**	**316**	Pn		**Pn**	**04 37 22.9**	**-0.4**
	8.8nm,0.3s,baz=144,slow=12,SNR=29							
MJAR				Sn		**Sn**	**04 38 16.4**	**-2.9**
	4.9nm,0.3s,baz=262,slow=30,SNR=10.0							
MJAR	**Matsushiro Arr**	**4.82**	**316**	Pn		**Pn**	**04 37 22.9**	**-0.4**
MJAR				Sn		**Sn**	**04 38 16.4**	**-2.9**
MAJO	**Matsushiro**	**4.82**	**316**	*e*Pn		**Pn**	**04 37 15.1**	**-8.3**
MAT	**Matsushiro**	**4.82**	**316**	*e*P		**Pn**	**04 37 24.0**	**+0.7**
MAT				*e*S		**Sn**	**04 38 18.0**	**-1.3**
MAT	**Matsushiro**	**4.82**	**316**	P		**Pn**	**04 37 23.8**	**+0.5**
MAT				S		**Sn**	**04 38 17.8**	**-1.5**
MAT	**Matsushiro**	**4.82**	**316**	P		**Pn**	**04 37 23.4**	**+0.1**
MAT				S		**Sn**	**04 38 18.1**	**-1.2**
JMM	**Marumori**	**4.90**	**345**	P		**Pn**	**04 37 21.6**	**-2.8**
JGM	**Miyama**	**5.32**	**300**	P		**Pn**	**04 37 31.7**	**+1.3**
CBIJ	**Chichi jima**	**6.01**	**181**	Pn		**Pn**	**04 37 38.3**	**-1.8**
	22nm,0.3s,baz=287,slow=20,SNR=17							
CBIJ				Sn		**Sn**	**04 38 43.0**	**-6.3**
	30nm,0.3s,baz=266,slow=22,SNR=6.9							
JNU	**Nakatsue**	**9.63**	**273**	LR		LR	04 42 01.2	
	comp=Z,145nm,21.0s,baz=175,slow=36							
HIA	**Hailar**	**23.31**	**320**	*e*P		**P**	**04 41 16.9**	**-0.4**
	13nm,1.0s,mb4.3							
ENH	**Enshi**	**28.05**	**273**	*e*P		**P**	**04 41 59.8**	**-2.2**
	15nm,0.8s,mb4.7							
SONM	**Songino Array**	**30.73**	**309**	P		**P**	**04 42 26.9**	**+1.1**
	2.5nm,0.6s,mb4.2,baz=109,slow=9.0,SNR=15							
SONM				LR		LR	04 54 32.6	
	comp=Z,65nm,18.2s,MS3.3,baz=82,slow=36							
GTA	**Gaotai**	**34.63**	**293**	P		**P**	**04 43 00.0**	**+0.2**
GTA				AP		pP	04 43 07.8	+2.2
GTA				XP		sP	04 43 11.0	+2.8
GTA				AMB		AMB		
	comp=Z,3.0nm,0.7s,mb4.3							
MKAR	**Makanchi Array**	**46.93**	**305**	P		**P**	**04 44 41.3**	**+0.4**
	comp=Z,4.7nm,0.6s,mb4.6,baz=90,slow=9.8,SNR=46							
MKAR				PcP		PcP	04 46 13.9	+0.1
	comp=Z,0.9nm,0.8s,baz=90,slow=2.9,SNR=2.2							
KURK	**Kurchatov**	**49.01**	**311**	*e*P		**P**	**04 44 56.7**	**-0.4**
	comp=Z,16nm,0.8s,mb5.1							
KURK				*e*pP		pP	04 45 05.4	+2

CLL	**Collm**	**84.87**	**331**	⇓P		**P**	**04 48 44.5**	**+0.3**
	comp=Z,logA/T=0.9,mb4.8								
SDCO	**Great Sand Dun**	**85.36**	**47**	*e*P		**P**	**04 48 48.6**	**+1.6**
	comp=Z,4.4nm,1.5s,mb4.4								
GERES	**GERESS Array B**	**86.44**	**329**	P		**P**	**04 48 52.6**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.8,slow=4.0,SNR=5.0								
TXAR	**Lajitas Array**	**91.87**	**53**	P		**P**	**04 49 19.1**	**+0.9**
	comp=Z,0.6nm,0.7s,mb4.0,baz=312,slow=3.3,SNR=7.9								
VNA2	**Neumayer--Watz**	**138.77**	**195**			PKPdf	04 55 52.8	+15	
VNA3	**Neumayer Olymp**	**138.98**	**193**			PKPdf	04 55 50.2	+12	
VNA1	**Neumayer--Stat**	**139.16**	**194**			PKPdf	04 55 52.3	+14	
SAML	**Samuel**	**146.31**	**50**	*e*PKPbc		PKPbc	04 55 50.6	+0.7	
LPAZ	**La Paz**	**147.78**	**66**	PKPbc		PKPdf	04 55 56.5	+1.4	
	comp=Z,0.9nm,0.5s,baz=13,slow=7.4,SNR=9.2								
LPAZ	**La Paz**	**147.78**	**66**	*e*PKPbc		PKPdf	04 55 56.0	+1.0	

MAN 29 04:38:31.1, 12.34N×124.94E, h7km, mb4.0, ML2.7, MS2.4, 2D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.89**	**146**	*e*P	Pb	04 38 48.3	0.0
BESP				*e*S	Sb	04 39 00.2	0.0
PLP	**Palo**	**1.17**	**178**	*e*P	Pb	04 38 52.0	-1.3
PLP				*i* S	Sb	04 39 06.0	-2.5
RCP	**Roxas**	**2.28**	**250**⇓	*e*P	Pn	04 39 09.8	0.0
SCPH	**Surigao**	**2.60**	**168**⇓	*e*P	Pn	04 39 14.8	+0.4
GUIM	**Jordan**	**2.86**	**234**	*e*P	Pn	04 39 17.3	-0.8
GUIM				*e*S	Sn	04 39 53.5	+0.3
BUTP	**Butuan**	**3.42**	**169**	*e*P	Pn	04 39 27.2	+1.3

NIED ***29*** *04:42:00, 33.20N× 142.50E, h5km, Mw4.1 Best double couple: M0 1.51×10^15 NP1:φs155°, δ70°, λ-81°. NP2: φs311°, δ22°, λ-113°.*
JMA ***29*** *04:42:47.0± 0.5, 33.20N× 142.49E, h63km, M3.6*
IDC ***29*** *04:42:48.3± 1.0, 32.71N× 141.63E, mb3.9/6, mb1 4.2/8, mb1mx3.9/20, mbtmp4.0/8, ML4.2/2, Error ellipse: s-maj=23.5km s-min=17.0km az=62.0*
NEIC ***29*** *04:42:54.2± 0.8, 32.81N× 141.35E, h40km, MG3.6(JMA), Error ellipse: s-maj=24.8km s-min=13.7km az=68.0*
ISC 29 04:42:48.3± 0.8, 32.96N± 0.06× 142.0E± 0.1, h33km, n22, σ1§05/31, mb3.9/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.86**	**275**	P	**P**	**04 43 22.8**	**+4.5**
JHJ2				*e*S	**S**	**04 43 50.5**	**+10**
JHJ	**Hachijo jima 2**	**1.89**	**275**	Pn	**Pn**	**04 43 19.2**	**+0.3**
	45nm,0.3s,baz=156,slow=11,SNR=12						
JHJ				Sn	**Sn**	**04 43 41.0**	**-0.8**
	41nm,0.3s,baz=63,slow=21,SNR=4.9						
BSO1	**Boso 1**	**1.90**	**333**	P	**P**	**04 43 17.9**	**-0.9**
BSO3	**Boso 3**	**2.23**	**326**	P	**P**	**04 43 23.5**	**0.0**
BSO4	**Boso 4**	**2.46**	**326**	P	**P**	**04 43 27.4**	**+0.5**
JIM2	**Oshima 3**	**2.78**	**310**	P	**P**	**04 43 31.9**	**+0.5**
JOD2	**Odawara 2**	**3.35**	**314**	P	**P**	**04 43 39.4**	**-0.1**
JYN	**Shimob**	**3.83**	**312**	P	**P**	**04 43 47.0**	**+0.6**
JYN				*e*S	**S**	**04 44 34.0**	**+3.0**
JRY	**Ryogami san**	**3.99**	**321**	P	**P**	**04 43 49.1**	**+0.5**
JRY				*e*S	**S**	**04 44 36.0**	**+1.1**
JAG	**Ashikaga**	**4.05**	**329**	P	**P**	**04 43 48.0**	**-1.5**
JAG				*e*S	**S**	**04 44 33.4**	**-3.1**
MJAR	**Matsushiro Arr**	**4.75**	**320**	Pn	**Pn**	**04 43 59.4**	**-0.2**
	4.9nm,0.3s,baz=164,slow=13,SNR=24						
MJAR				Sn	**Sn**	**04 44 53.1**	**-1.2**
	1.1nm,0.3s,baz=132,slow=16,SNR=3.4						
MAJO	**Matsushiro**	**4.76**	**320**	*e*Pn	**Pn**	**04 43 51.3**	**-8.3**
MAT	**Matsushiro**	**4.76**	**320**	*e*P	**P**	**04 44 00.0**	**+0.5**
MAT				S	**S**	**04 44 53.0**	**-1.2**
MAT	**Matsushiro**	**4.76**	**320**	P	**P**	**04 43 59.8**	**+0.3**
MAT				*e*S	**S**	**04 44 53.1**	**-1.1**
CBIJ	**Chichi jima**	**5.85**	**179**	Pn	**Pn**	**04 44 13.5**	**-1.5**
	22nm,0.3s,baz=274,slow=19,SNR=16						
CBIJ				Sn	**Sn**	**04 45 17.1**	**-4.7**
	5.4nm,0.3s,baz=283,slow=20,SNR=1.8						
SONM	**Songino Array**	**30.62**	**310**	P	**P**	**04 49 02.6**	**+1.2**
	1.3nm,0.7s,mb3.9,baz=115,slow=7.7,SNR=8.6						
MKAR	**Makanchi Array**	**46.80**	**306**	P	**P**	**04 51 17.5**	**+1.2**
	1.9nm,0.7s,mb4.1,baz=92,slow=8.9,SNR=9.7						
ILAR	**Eielson Array**	**52.70**	**31**	P	**P**	**04 52 07.0**	**+5.8**
	0.6nm,0.8s,mb3.6,baz=264,slow=6.2,SNR=6.8						
WRA	**Warramunga Arr**	**53.12**	**189**	P	**P**	**04 52 04.6**	**-0.5**
	0.6nm,0.3s,mb4.0,baz=117,slow=8.2,SNR=43						
FITZ	**Fitzroy Crossi**	**53.14**	**200**	P	**P**	**04 52 06.3**	**+1.1**
	2.9nm,0.9s,mb4.2,slow=6.1,SNR=4.7						
TXAR	**Lajitas Array**	**92.19**	**53**	P	**P**	**04 56 03.5**	**+7.4**
	0.3nm,0.6s,mb3.8,baz=304,slow=3.3,SNR=6.0						
TXAR	**Lajitas Array**	**92.19**	**53**	P	**P**	**04 56 03.5**	**+7.4**

IDC ***29*** *04:57:07.3± 2.4, 32.93N× 142.27E, mb3.4/2, mb1 3.6/5, mb1mx3.4/21, mbtmp3.6/5, ML3.5/3, MS2.7/1, Ms1 2.7/1, ms1mx2.4/20, Error ellipse: s-maj=49.1km s-min=20.1km az=58.0*
JMA ***29*** *04:57:08.1± 0.5, 33.29N× 142.25E, M3.5*
ISC 29 04:57:07.4± 2.3, 33.10N± 0.06× 142.5E± 0.1, h33km± 23km, n14, σ1§02/20, mb3.5/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.02**	**321**	P	**Pn**	**04 57 39.6**	**-0.3**
BSO1				*e*S	**Sn**	**04 58 03.3**	**-0.9**
JHJ2	**Mitsune**	**2.28**	**271**	P	**Pn**	**04 57 44.8**	**+1.3**
JHJ2				*e*S	**Sn**	**04 58 11.9**	**+1.2**
JHJ	**Hachijo jima 2**	**2.30**	**271**	Pn	**Pn**	**04 57 44.5**	**+0.5**
	7.6nm,0.3s,baz=245,slow=22,SNR=11						
JHJ				Sn	**Sn**	**04 58 10.1**	**-1.4**
	20nm,0.3s,baz=92,slow=21,SNR=6.3						
BSO3	**Boso 3**	**2.39**	**316**	P	**Pn**	**04 57 45.4**	**+0.2**
BSO4	**Boso 4**	**2.62**	**317**	P	**Pn**	**04 57 49.2**	**+0.7**
JOD2	**Odawara 2**	**3.58**	**308**	P	**Pn**	**04 58 01.3**	**-0.7**
JYN	**Shimob**	**4.08**	**307**	P	**Pn**	**04 58 09.1**	**0.0**
JYN				*e*S	**Sn**	**04 58 57.2**	**+0.9**
JRY	**Ryogami san**	**4.18**	**315**	P	**Pn**	**04 58 10.9**	**+0.3**
JRY				*e*S	**Sn**	**04 58 57.6**	**-1.3**
MJAR	**Matsushiro Arr**	**4.94**	**315**	Pn	**Pn**	**04 58 20.5**	**-1.0**
	1.3nm,0.3s,baz=164,slow=13,SNR=6.6						
MJAR				Sn	**Sn**	**04 59 17.8**	**-0.4**
	0.6nm,0.3s,baz=141,slow=26,SNR=3.2						
MAT	**Matsushiro**	**4.95**	**315**	P	**Pn**	**04 58 22.0**	**+0.6**
CBIJ	**Chichi jima**	**5.99**	**183**	Pn	**Pn**	**04 58 34.8**	**-1.3**
	7.7nm,0.3s,baz=88,slow=21,SNR=14						
CBIJ				Sn	**Sn**	**04 59 40.6**	**-3.7**
	4.1nm,0.3s,baz=251,slow=22,SNR=3.1						
JNU	**Nakatsue**	**9.77**	**273**	LR	LR	05 02 33.4	
	comp=Z,46nm,18.4s,baz=215,slow=34						
MKAR	**Makanchi Array**	**47.06**	**305**	P	**P**	**05 05 40.6**	**+2.9**
	0.2nm,0.4s,mb3.4,baz=90,slow=8.5,SNR=3.7						
WRA	**Warramunga Arr**	**53.31**	**190**	P	**P**	**05 06 26.5**	**+0.8**
	0.3nm,0.4s,mb3.5,baz=6.0,slow=7.5,SNR=9.4						

BJI ***29*** *05:00:27.6, 53.23N× 168.92W, h35km, mB5.4, mb5.6, Ms5.2, Msz4.9*
MOS ***29*** *05:00:28.1± 1.0, 52.91N× 168.56W, h46km, mb5.7/115, MS4.8/63, Error ellipse: s-maj=7.3km s-min=3.7km az=88.2*
BGS ***29*** *05:00:30.1, 52.91N× 168.65W, h50km, mb5.3*
IDC ***29*** *05:00:30.4± 0.5, 53.04N× 168.52W, h50km± 3km, mb5.0/26, mb1 5.2/27, mb1mx5.2/27, mbtmp5.3/27, MS4.8/29, Ms1 4.8/29, ms1mx4.8/33, Error ellipse: s-maj=12.2km s-min=7.8km az=152.0*
HRVD ***29*** *05:00:30.1± 0.1, 52.95N× 168.47W, h60km, MW5.5/76, Centroid moment Tensor Solution. LP body waves: s72, c156; Mantle waves: s76, c181; Half duration: 1§5 Moment tensor: Scale 10^17 Nm; Mrr 2.17±.04; Mθθ -1.54±.04; Mφφ -0.63±.04; Mrθ -1.41±.03; Mθφ 0.89±.03; Mφr 0.58±.03; Best double couple: M0 2.616×10^17 NP1: φs126°, δ27°, λ99°. NP2: φs296°, δ63°, λ86°. Principal axes: T 2.669, Plg72°, Azm196°; N -.106, Plg4°, Azm298°; P -2.563, Plg18°, Azm30°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***29*** *05:00:30.1± 0.1, 52.91N× 168.65W, mb5.5/208, ME5.5, MW5.6, ML5.7(AEIC) Error ellipse: s-maj=3.5km s-min=2.2km az=179.0 Broadband fault plane solution: P waves. NP1:φs300°, δ60°, λ100°. NP2:φs101°, δ31°, λ73°. Principal axes: T Plg73°, Azm235°; N Plg0°, Azm0°; P Plg14°, Azm23°; Moment Tension Solution. s47 Moment tensor: Scale 10^17 Nm; Mrr 2.37; Mθθ -2.44; Mφφ 0.07; Mrθ -1.79; Mθφ -0.05; Mφr 0.50; Best double couple: M0 3×10^17 NP1:φs79°, δ27°, λ72°. NP2:φs279°, δ64°, λ99°. Principal axes: T 3.04, Plg70°, Azm208°; N -.01, Plg8°, Azm95°; P -3.04, Plg19°, Azm2°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Dutch Harbor, Nikolski and Unalaska.
ISC 29 05:00:28.5± 0.1, 52.88N± 0.02× 168.63W± 0.02, h50km, h50km±.7km: pP-P, n867, σ1§07/822, mb5.5/291, MS4.9/181, 86C-27D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.17**	**305**	P	**P**	**05 00 40.7**	**+4.2**
NIKO				S	**S**	**05 00 48.2**	**+5.9**
OKCE	**Okmok Cone E**	**0.61**	**27**	P	**P**	**05 00 44.2**	**+3.0**
OKCE				S	**S**	**05 00 54.3**	**+3.8**
OKCD	**Okmok Cone D**	**0.63**	**29**	P	**P**	**05 00 44.5**	**+3.1**
OKCD				S	**S**	**05 00 54.9**	**+4.0**
MNAT	**Makushin Natee**	**1.54**	**48**	P	**P**	**05 00 55.8**	**+1.7**
MTBL	**Makushin Table**	**1.60**	**46**	P	**P**	**05 00 56.8**	**+1.9**
UNV	**Unalaska Valle**	**1.60**	**52**	P	**P**	**05 00 56.3**	**+1.3**
UNV				S	**S**	**05 01 15.4**	**+0.8**
AKLV	**Akutan Long Va**	**2.05**	**50**	P	**P**	**05 01 02.9**	**+1.6**
AKLV				S	**S**	**05 01 28.5**	**+2.8**
AKGG	**Akutan Green G**	**2.05**	**49**	P	**P**	**05 01 03.2**	**+1.8**
AKGG				S	**S**	**05 01 28.4**	**+2.6**
AKUT	**Akutan**	**2.12**	**52**	P	**P**	**05 01 04.1**	**+1.8**
AKUT				S	**S**	**05 01 31.3**	**+3.9**
AKA	**Akutan**	**2.12**	**52**	P	**P**	**05 01 04.2**	**+1.9**
WESS	**West Dahl Sout**	**2.82**	**54**	P	**P**	**05 01 13.9**	**+1.6**
WESE	**West Dahl East**	**2.88**	**55**	P	**P**	**05 01 15.0**	**+1.8**
WESN	**West Dahl Nort**	**2.94**	**53**	P	**P**	**05 01 15.3**	**+1.4**
ATKA	**Atka Island**	**3.47**	**261**	P	**P**	**05 01 25.6**	**+4.2**
BALA	**Baldy Mountain**	**4.15**	**54**	P	**P**	**05 01 33.0**	**+1.9**
DT1	**Dutton Round H**	**4.36**	**57**	P	**P**	**05 01 34.7**	**+0.7**
DTNA	**Dutton South F**	**4.39**	**56**	P	**P**	**05 01 35.0**	**+0.6**
SPIA	**Saint Paul Isl**	**4.41**	**348**	P	**P**	**05 01 37.4**	**+2.8**
SPIA				S	**S**	**05 02 25.3**	**0.0**
DOL	**Dolgoi Island**	**4.59**	**58**	P	**P**	**05 01 37.7**	**+0.5**
GSTR	**Great Sitkin T**	**4.61**	**263**	P	**P**	**05 01 42.6**	**+5.1**
GSMY	**Great Sitkin M**	**4.62**	**263**	P	**P**	**05 01 41.6**	**+3.9**
HAG	**Hague Volcano**	**4.65**	**56**	P	**P**	**05 01 38.9**	**+0.8**
GSTD	**Great Sitkin T**	**4.67**	**263**	P	**P**	**05 01 42.9**	**+4.5**
PVV	**Pavlof Volcano**	**4.73**	**55**	P	**P**	**05 01 39.8**	**+0.6**
BLHA	**Black Hill**	**4.77**	**51**	P	**P**	**05 01 40.3**	**+0.6**
ADAG	**Mount Adagdak**	**4.96**	**263**	P	**P**	**05 01 47.1**	**+4.6**
KIWB	**Kanaga Island**	**5.32**	**262**	*e*P	**P**	**05 01 44.2**	**-3.2**
KIKV	**Kanaga Island**	**5.33**	**263**	P	**P**	**05 01 51.8**	**+4.2**
SDPT	**Sand Point**	**5.39**	**59**	P	**P**	**05 01 47.7**	**-0.7**
KIMD	**Kanaga Island**	**5.40**	**261**	P	**P**	**05 01 52.6**	**+4.2**
CHGN	**Chignik**	**6.85**	**56**	*e*P	**P**	**05 02 07.6**	**-1.3**
KJL	**Kejulik**	**9.04**	**50**	P	**P**	**05 02 38.1**	**-1.0**
CAHL	**Cahill**	**9.17**	**50**	P	**P**	**05 02 39.6**	**-1.3**
KAHC	**Katmai Hardscr**	**9.60**	**48**	P	**P**	**05 02 46.5**	**-0.2**
MCNL	**McNeil River**	**10.18**	**46**	P	**P**	**05 02 54.4**	**-0.2**
KDAK	**Kodiak Island**	**10.37**	**55**	P	**P**	**05 02 53.5**	**-3.7**
SVW2	**Sparrevohn**	**10.86**	**36**	*e*P	**P**	**05 03 03.4**	**-0.5**
FX1	**Attu Island--F**	**11.01**	**277**	P	**P**	**05 03 08.5**	**+2.6**
FX1				S	**S**	**05 05 13.5**	**+5.0**
FX1				pmax	pmax		
	comp=Z,35nm,0.3s						
FX1				smax			
	comp=E,11nm,0.3s						
FX1				MLR	MLR		
	comp=Z,217nm,19.2s						
FX1	**Attu Island--F**	**11.01**	**277**	P	**P**	**05 03 08.5**	**+2.6**
	comp=Z,35nm,0.3s,baz=93,slow=7.2,SNR=82						
FX1				S	**S**	**05 05 13.5**	**+5.1**
	comp=Z,11nm,0.3s,baz=102,slow=23,SNR=2.3						
FX1				LR	LR	05 06 51.9	
	comp=Z,217nm,19.2s,baz=100,slow=34						
FX1	**Attu Island--F**	**11.01**	**277**	*e*P	**P**	**05 03 08.6**	**+2.8**
RSO	**Redoubt South**	**11.55**	**43**	*e*P	**P**	**05 03 12.2**	**-1.0**
SPU	**Mount Spurr**	**12.24**	**41**	*e*P	**P**	**05 03 21.7**	**-0.7**
SLKM	**Skilak Lake**	**12.64**	**46**	*e*P	**P**	**05 03 25.3**	**-2.5**
TNA	**Tin City**	**12.73**	**1**	*e*P	**P**	**05 03 29.1**	**+0.2**
	comp=Z,602nm,1.1s						
FIB	**Fire Island**	**12.99**	**43**	*e*P	**P**	**05 03 33.0**	**+0.5**
PMR	**Palmer**	**13.64**	**43**	*e*P	**P**	**05 03 41.1**	**+0.3**
	comp=Z,8.1nm,0.3s						
SML	**Sawmill**	**14.08**	**43**	*e*P	**P**	**05 03 43.6**	**-2.9**
EYAK	**Cordova Ski Ar**	**14.66**	**49**	*e*P	**P**	**05 03 49.7**	**-4.5**
DIV	**Divide**	**14.87**	**47**	*e*P	**P**	**05 03 52.6**	**-4.2**
	comp=Z,2μm,1.2s						
MCK	**McKinley**	**14.93**	**36**	*e*P	**P**	**05 03 57.3**	**-0.3**
MCK				pmax	pmax		
	comp=Z,330nm,1.3s						
MCK	**McKinley**	**14.93**	**36**	*e*P	**P**	**05 03 57.3**	**-0.3**
	comp=Z,331nm,1.4s						
IMA	**Indian Mountai**	**15.18**	**24**	*e*P	**P**	**05 04 01.5**	**+0.6**
IMA				pmax	pmax		
	comp=Z,2μm,1.2s						
IMA	**Indian Mountai**	**15.18**	**24**	*e*P	**P**	**05 04 02.7**	**+1.8**
	comp=Z,89nm,0.8s						
ILAR	**Eielson Array**	**16.27**	**35**	P	**P**	**05 04 11.1**	**-3.7**
	comp=Z,1.1nm,0.3s,baz=231,slow=10,SNR=117						
ILAR				S	**S**	**05 07 12.1**	**-1.2**
	baz=252,slow=26,SNR=2.6						
ILAR				PcP	PcP	05 09 06.5	-1.0
	comp=Z,0.3nm,0.3s,baz=243,slow=3.5,SNR=4.8						
ILAR				LR	LR	05 11 01.6	
	comp=Z,6μm,18.8s,baz=245,slow=39						
ILAR				ScP		05 12 35.1	
	comp=Z,0.3nm,0.3s,baz=283,slow=3.1,SNR=21						
MENT	**Mentasta**	**16.51**	**43**	*e*P	**P**	**05 04 17.0**	**-0.8**
BILL	**Bilibino**	**19.36**	**331**	*c i*P	**P**	**05 04 53.0**	**+0.6**
BILL				pmax	pmax		
	comp=Z,170nm,1.3s						
BILL				MLR	MLR		
	comp=Z,2μm,18.0s						
BILL	**Bilibino**	**19.36**	**331**⇑	*e*P	**P**	**05 04 52.9**	**+0.5**
	comp=Z,251nm,1.1s						
SIT	**Sitka**	**19.45**	**64**	*e*P	**P**	**05 04 53.5**	**+0.2**
SIT				pmax	pmax		
	comp=Z,649nm,1.5s						
SIT	**Sitka**	**19.45**	**64**	*e*P	**P**	**05 04 53.5**	**+0.2**
	comp=Z,649nm,1.5s						
PET	**Petropavlovsk**	**19.63**	**284**	*e*P	**P**	**05 04 57.1**	**+1.8**
PET				*e*S	**S**	**05 08 34.8**	**+6.1**
PET				pmax	pmax		
	comp=Z,900nm,3.3s						
PET				pmax	pmax		
	comp=Z,238nm,1.5s						
PET				pmax	pmax		
	comp=Z,700nm,11.6s						
PET				pmax	pmax		
	comp=Z,1μm,14.9s						
PET				pmax	pmax		
	comp=N,600nm,11.7s						
PET				pmax	pmax		
	comp=E,2μm,14.6s						
PET				pmax	pmax		
	comp=Z,2μm,3.4s						
PET				smax			
	comp=N,1μm,11.2s						
PET				smax			
	comp=N,2μm,10.8s						
PET				MLR	MLR		
	comp=Z,800nm,15.0s						
PET				MLR	MLR		
	comp=Z,1μm,12.0s						
PET	**Petropavlovsk**	**19.63**	**284**⇑	*e*P	**P**	**05 04 54.8**	**-0.6**
	comp=Z,824nm,1.4s						
PET				*e*		05 05 11.3	
CRAG	**Craig**	**20.80**	**69**	*e*P	**P**	**05 05 08.7**	**+1.0**
	comp=Z,295nm,1.1s						
SKR	**Severo-Kuril's**	**21.79**	**278**	*e*P	**P**	**05 05 16.5**	**-1.1**
SKR				*e*		05 05 39.0	
SKR				*e*S	**S**	**05 09 12.0**	**+1.5**
SKR				pmax	pmax		
	comp=Z,230nm,0.9s,mb5.6						
SKR				smax			
	comp=N,4μm,14.0s						
SKR				smax			
	comp=E,3μm,14.0s						
SKR				MLR	MLR		
	comp=N,4μm,16.0s,MS5.0						
SKR				MLR	MLR		
	comp=E,2μm,16.0s,MS5.0						
SKR				MLR	MLR		
	comp=Z,2μm,16.0s,MS4.7						
DLBC	**Dease Lake**	**22.24**	**60**	P	**P**	**05 05 21.3**	**-0.7**
	comp=Z,39nm,0.8s,mb4.9,baz=270,slow=11,SNR=22						
DLBC				S	**S**	**05 09 22.1**	**+3.5**
	comp=Z,16nm,1.1s,baz=260,slow=15,SNR=2.5						
DLBC				LR	LR	05 14 57.1	
	comp=Z,1μm,18.4s,MS4.4,baz=296,slow=39						
DLBC	**Dease Lake**	**22.24**	**60**	*e*P	**P**	**05 05 21.0**	**-0.9**
DLBC				*e*		05 05 38.5	
SEY	**Seymchan**	**22.66**	**312**	*i* P	**P**	**05 05 27.4**	**+1.4**
SEY				*e*PP		05 05 42.3	
SEY				*e*SP		05 05 51.7	
SEY				*e*		05 06 08.1	
SEY						05 09 15.8	
SEY				*e*S	**S**	**05 09 34.5**	**+8.5**
SEY				*e*SS	SS	05 10 34.3	+23
SEY				pmax	pmax		
	comp=E,160nm,1.1s						
SEY				pmax	pmax		
	comp=Z,230nm,1.1s,mb5.5						
SEY				pmax	pmax		
	comp=N,60nm,1.2s						
SEY				MLR	MLR		
	comp=Z,4μm,21.0s,MS4.8						
SEY				MLR	MLR		
	comp=N,530nm,16.0s						
SEY				MLR	MLR		
	comp=E,2μm,22.0s						
SEY	**Seymchan**	**22.66**	**312**⇑	*i* P	**P**	**05 05 27.0**	**+1.1**
INK	**Inuvik**	**22.67**	**34**	P	**P**	**05 05 23.6**	**-2.4**
INK				S	**S**	**05 09 19.5**	**-6.6**
INK				pmax	pmax		
	comp=Z,209nm,1.0s						
INK				smax			
	comp=E,76nm,1.1s						
INK				pmax	pmax		
	comp=E,28nm,1.0s						
INK				MLR	MLR		
	comp=Z,7μm,18.2s						
INK	**Inuvik**	**22.67**	**34**	P	**P**	**05 05 23.6**	**-2.4**
	comp=Z,209nm,1.0s,mb5.5,baz=236,slow=12,SNR=109						
INK				S	**S**	**05 09 19.5**	**-6.6**
	comp=Z,76nm,1.1s,baz=313,slow=19,SNR=6.1						
INK				ScP		05 12 49.7	
	comp=Z,28nm,1.0s,baz=232,slow=1.4,SNR=9.6						
INK				LR	LR	05 15 14.5	
	comp=Z,7μm,18.2s,MS5.1,baz=236,slow=39						
INK	**Inuvik**	**22.67**	**34**	*e*P	**P**	**05 05 23.2**	**-2.7**
	comp=Z,183nm,0.9s,mb5.5						
MA2	**Magadan**	**23.24**	**303**⇑	*i*P	**P**	**05 05 33.2**	**+1.6**
MA2				*e*		05 05 47.5	
MA2				pmax	pmax		
	comp=Z,142nm,1.0s,mb5.3						
MA2				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.5						
MA2	**Magadan**	**23.24**	**303**⇑	*i*P	**P**	**05 05 33.1**	**+1.6**
	comp=Z,142nm,1.0s,mb5.3						
MA2				*e*		05 05 47.5	
MA2				LR	LR		
	comp=Z,2μm,20.0s,MS4.5						
BBB	**Bella Bella**	**24.43**	**75**	P	**P**	**05 05 43.7**	**+0.4**
	comp=Z,21nm,1.0s,mb4.5,baz=266,slow=11,SNR=5.2						
BBB				PcP	PcP	05 09 22.5	0.0
	comp=Z,32nm,0.9s,baz=288,slow=2.1,SNR=5.9						
BBB				ScP		05 12 55.4	
	comp=Z,24nm,1.0s,baz=193,slow=3.2,SNR=4.2						
BBB				LR	LR	05 13 13.6	
	comp=Z,1μm,20.0s,MS4.3,baz=280,slow=31						
OCWA	**Octopus Mounta**	**28.48**	**82**	*e*P	**P**	**05 06 22.4**	**+1.6**
	comp=Z,155nm,1.8s,mb5.3						
OCWA				LR	LR		
	comp=Z,3μm,22.0s,MS4.8						
YKW3	**Yellowknife Ar**	**29.55**	**49**	*e*P	**P**	**05 06 28.5**	**-1.6**
YKA	**Yellowknife Ar**	**29.57**	**50**	P	**P**	**05 06 28.6**	**-1.7**
YKA						05 09 33.0	
YKA				S	**S**	**05 11 19.4**	**-1.0**
YKA						05 13 10.4	
YKA	**Yellowknife Ar**	**29.57**	**50**	P	**P**	**05 06 28.6**	**-1.7**
	comp=Z,7.0nm,0.4s,mb4.7,baz=273,slow=8.2,SNR=40						
YKA				PcP	PcP	05 09 33.0	-1.5
	comp=Z,19nm,0.7s,baz=286,slow=2.3,SNR=13						
YKA				pPcP		05 09 49.0	
	comp=Z,25nm,0.7s,baz=284,slow=2.4,SNR=14						
YKA				S	**S**	**05 11 19.4**	**-1.1**
	comp=Z,3.8nm,1.0s,baz=268,slow=16,SNR=2.2						
YKA				ScP		05 13 10.3	
	comp=Z,9.3nm,0.8s,baz=286,slow=3.3,SNR=13						
YKA				LR	LR	05 19 35.0	
	comp=Z,4μm,18.1s,MS5.1,baz=280,slow=39						
YKA	**Yellowknife Ar**	**29.57**	**50**	P	**P**	**05 06 28.6**	**-1.7**
YKA				PcP	PcP	05 09 33.0	-1.5
YKA				pPcP		05 09 49.0	
YKA				S	**S**	**05 11 19.4**	**-1.1**
YKA				ScP		05 13 10.3	
YKA				LR	LR	05 19 35.0	
COR	**Corvallis**	**30.58**	**87**	PFAKE		05 06 50.0	+11
COR				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
EBG	**Ellensburg**	**31.05**	**81**	P	**P**	**05 06 44.8**	**+1.2**
BROR	**Big Rock Loono**	**31.26**	**87**	P	**P**	**05 06 46.9**	**+1.4**
YSS	**Yuzh-Sakhalins**	**31.36**	**279**⇑	*e*P	**P**	**05 06 46.0**	**-0.3**
YSS				*e*SP	sP	05 07 07.0	+1.5
YSS				*e*PPP	PPP	05 08 02.0	-4.1
YSS				*i*		05 09 39.2	
YSS				*e*S	**S**	**05 11 47.0**	**-1.8**
YSS				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.2						
YSS				MLR	MLR		
	comp=Z,900nm,18.0s,MS4.5						
YSS				MLR	MLR		
	comp=E,800nm,19.0s						

comp=Z,43nm,1.1s
YBH Yreka Blue Hor 32.53 91 *e*P **P 05 06 57.4 +0.8**
comp=Z,43nm,1.2s,mb5.3
YBH LR LR
comp=Z,2µm,21.0s,MS4.8
LHEM Herd Peak 32.89 91 P **P 05 07 01.3 +1.6**
YAK Yakutsk 33.18 311 *c i*P **P 05 07 00.5 -1.5**
YAK *e* pP 05 07 14.3 -0.7
YAK *e*PPP sP 05 07 21.9 +0.6
YAK *e* 05 09 42.9
YAK *e*S **S 05 12 09.8 -7.2**
YAK *e* 05 17 20.2
YAK pmax pmax
comp=Z,55nm,0.9s,mb5.5
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,21nm,1.1s
YAK pmax pmax
comp=Z,55nm,0.9s,mb5.5
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,25nm,1.0s
YAK smax
comp=E,5.0nm,1.1s
YAK smax
comp=Z,7.0nm,1.0s
YAK smax
comp=N,4.0nm,0.9s
YAK MLR MLR
comp=Z,1µm,19.0s,MS4.6
YAK MLR MLR
comp=N,428nm,16.0s,MS4.6
YAK MLR MLR
comp=E,976nm,19.0s,MS4.6
YAK Yakutsk 33.18 311 *e*P **P 05 07 00.1 -2.0**
comp=E,80nm,0.8s,mb5.7
YAK LR LR
comp=Z,2µm,20.0s,MS4.9
KIPM Iron Peak 33.23 95 *e*P **P 05 07 03.8 +1.1**
KCPM Cahto Peak 33.24 95 *e*P **P 05 07 04.0 +1.2**
WDC Whiskeytown Da 33.32 93 *e*P **P 05 07 04.3 +0.8**
WDC *e* 05 09 43.9
WDC pmax pmax
comp=Z,53nm,1.2s,mb5.3
WDC MLR MLR
comp=Z,1µm,21.0s,MS4.6
WDC Whiskeytown Da 33.32 93 *e*P **P 05 07 04.3 +0.9**
comp=Z,53nm,1.2s,mb5.3
WDC *e*PcP PcP 05 09 43.9 -0.8
WDC *e*ScP 05 13 22.4
WDC LR LR
comp=Z,1µm,21.0s,MS4.6
MOD Modoc 33.89 89 *e*P **P 05 07 09.3 +1.0**
comp=Z,53nm,1.1s,mb5.4
MOD *e*PcP PcP 05 09 45.9 -0.4
MOD *e*ScP 05 13 25.3
MOD LR LR
comp=Z,2µm,20.0s,MS4.8
WALA Waterton Lakes 33.96 74 *e*P **P 05 07 08.7 -0.2**
comp=Z,111nm,1.1s,mb5.7
WALA *e*ScP 05 13 25.8
HOPS Hopland 33.98 96 *e*P **P 05 07 09.8 +0.7**
comp=Z,116nm,1.2s,mb5.7
HOPS *e*PcP PcP 05 09 46.0 -0.6
HOPS LR LR
comp=Z,1µm,19.0s,MS4.6
BMO Blue Mountains 34.05 83 *e*P **P 05 07 09.4 -0.3**
comp=Z,79nm,1.5s,mb5.4
BMO *e*ScP 05 13 24.6
BMO LR LR
comp=Z,1µm,21.0s,MS4.7
NSHM Saint Helena R 34.57 96 *e*P **P 05 07 15.4 +1.2**
NSHM *e* pP 05 07 29.4 +2.1
POHA Pohakuloa 34.59 158 PFAKE 05 07 30.0 +15
POHA LR LR
comp=Z,23µm,21.0s,MS5.9
WVOR Wild Horse Val 34.59 87 *e*P **P 05 07 14.6 +0.2**
WVOR *e**PP pP 05 07 28.4 +0.9
WVOR pmax pmax
comp=Z,244nm,1.6s,mb5.9
WVOR MLR MLR
comp=Z,2µm,21.0s,MS4.9
WVOR Wild Horse Val 34.59 87 *e*P **P 05 07 14.6 +0.3**
comp=Z,244nm,1.6s,mb5.9
WVOR *e*pP pP 05 07 28.4 +0.9
WVOR LR LR
comp=Z,2µm,21.0s,MS4.9
MSO Missoula 35.03 77 *e*P **P 05 07 17.5 -0.6**
comp=Z,92nm,1.3s,mb5.5
MSO *e*pP pP 05 07 31.1 -0.1
MSO *e*PcP PcP 05 09 48.1 -1.4
MSO LR LR
comp=Z,530nm,19.0s,MS4.3
BEKR Beckwourth 35.08 92 *e*P **P 05 07 18.7 +0.2**
comp=Z,35nm,1.1s,mb5.2
BEKR *e*PcP PcP 05 09 49.2 -0.5
BEKR *e*ScP 05 13 29.1
CHMT Chamberlain Mo 35.40 77 *e*P **P 05 07 20.5 -0.7**
CHMT *e*ScP 05 13 30.1
PAHR Pah Rah Range 35.77 91 *e*P **P 05 07 25.6 +1.1**
comp=Z,58nm,1.2s,mb5.4
CMB Columbia Colle 36.22 95 *e*P **P 05 07 28.7 +0.5**
CMB *e* 05 09 51.9
CMB pmax pmax
comp=Z,40nm,1.2s,mb5.2
CMB MLR MLR
comp=Z,2µm,20.0s,MS4.8
CMB Columbia Colle 36.22 95 *e*P **P 05 07 28.7 +0.5**
comp=Z,40nm,1.2s,mb5.2
CMB *e*PcP PcP 05 09 51.9 -1.2
CMB *e*ScP 05 13 32.5
CMB LR LR
comp=Z,2µm,20.0s,MS4.8
HRY Holter Researc 36.34 76 *e*P **P 05 07 28.9 -0.3**
SAO San Andreas Ge 36.41 97 *e*P **P 05 07 30.4 +0.6**
SAO *e* 05 09 52.6
SAO pmax pmax
comp=Z,95nm,1.5s,mb5.5
SAO MLR MLR
comp=Z,1µm,20.0s,MS4.8
SAO San Andreas Ge 36.41 97 *e*P **P 05 07 30.4 +0.6**
comp=Z,95nm,1.5s,mb5.5
SAO *e*PcP PcP 05 09 52.6 -1.0
SAO *e*ScP 05 13 33.4
SAO LR LR
comp=Z,1µm,20.0s,MS4.8
HLID Hailey 36.50 82 *e*P **P 05 07 31.0 +0.4**
comp=Z,87nm,1.5s,mb5.4
BMN Battle Mountai 36.64 89 *e*P **P 05 07 32.5 +0.8**
BMN *e* 05 09 53.7
BMN pmax pmax
comp=Z,32nm,1.0s,mb5.1
BMN MLR MLR
comp=Z,2µm,22.0s,MS4.9
BMN Battle Mountai 36.64 89 *e*P **P 05 07 32.5 +0.8**
comp=Z,32nm,1.0s,mb5.1
BMN *e*PcP PcP 05 09 53.7 -0.6
BMN *e*ScP 05 13 34.7
BMN LR LR
comp=Z,2µm,22.0s,MS4.9
KLR Kul'dur 36.72 289 *e*P **P 05 07 29.5 -2.8**
KLR *e* 05 16 10.5
KLR MLR MLR
comp=E,800nm,17.0s
KLR MLR MLR
comp=Z,1µm,17.0s,MS4.8
MCMT McKenzie Canyo 36.74 80 *e*P **P 05 07 32.2 -0.3**
LRV Little Rabbit 36.89 97 *e*P **P 05 07 34.9 +1.0**
BOZ Bozeman (W) 37.02 78 *e*P **P 05 07 34.6 -0.3**
BOZ pmax pmax
comp=Z,75nm,1.2s,mb5.4
BOZ MLR MLR
comp=Z,840nm,21.0s,MS4.5
BOZ Bozeman (W) 37.02 78 *e*P **P 05 07 34.5 -0.3**
comp=Z,75nm,1.2s,mb5.4
BOZ *e*ScP 05 13 36.1
BOZ LR LR
comp=Z,840nm,21.0s,MS4.5
CLNS Chul'man 37.12 303 *e*P **P 05 07 31.9 -3.7**
CLNS *e* 05 09 54.6
CLNS *e*S **S 05 13 11.0 -6.8**
CLNS pmax pmax
comp=Z,32nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=E,25nm,1.0s
CLNS pmax pmax
comp=N,6.0nm,0.7s
CLNS pmax pmax
comp=Z,12nm,0.7s,mb4.8
CLNS pmax pmax
comp=E,20nm,0.8s
CLNS smax
comp=N,19nm,1.0s
CLNS smax
comp=E,17nm,0.9s
CLNS smax
comp=Z,7.0nm,0.9s
CLNS MLR MLR
comp=Z,800nm,13.0s,MS4.7
CLNS MLR MLR
comp=N,1µm,14.0s,MS4.9
CLNS MLR MLR
comp=E,800nm,16.0s,MS4.9
NVAR Mina Array Bea 37.23 92 ScP 05 13 37.4
baz=288,slow=2.4
OMM Old Mammoth Mi 37.33 94 *e*P **P 05 07 38.5 +1.0**
OMM *e*PcP PcP 05 09 56.2 -0.3
OMM *e*ScP 05 13 37.7
QLMT Earthquake Lak 37.58 79 *e*P **P 05 07 39.4 -0.1**
QLMT *e*pP pP 05 07 53.9 +1.2
QLMT *e*PcP PcP 05 09 56.3 -0.8
QLMT *e*ScP 05 13 39.2
ELK Elko 37.65 87 *e*P **P 05 07 40.5 +0.3**
ELK *e* 05 09 57.1
ELK pmax pmax
comp=Z,37nm,0.9s
ELK MLR MLR
comp=Z,3µm,22.0s
ELK Elko 37.65 87 *e*P **P 05 07 40.5 +0.3**
comp=Z,37nm,0.9s,mb5.1
ELK *e*PcP PcP 05 09 57.1 -0.3
ELK *e*ScP 05 13 38.9
ELK LR LR
comp=Z,3µm,22.0s,MS5.0
MTUM Tungsten Hills 37.76 94 *e*P **P 05 07 43.0 +1.8**
MTUM *e*PcP PcP 05 09 58.0 +0.2
MTUM *e*ScP 05 13 39.0
PTRM Twissleman Ran 37.89 97 *e*P **P 05 07 43.6 +1.4**
PTRM *e*PcP PcP 05 09 58.2 -0.1
PTRM *e*ScP 05 13 39.3
FFC Flin Flon 38.07 60 *e*P **P 05 07 42.4 -1.2**
FFC *e**PP pP 05 07 56.5 -0.3
FFC *e* 05 13 39.5
FFC pmax pmax
comp=Z,118nm,1.0s,mb5.6
FFC MLR MLR
comp=Z,468nm,20.0s,MS4.3
FFC Flin Flon 38.07 60 *e*P **P 05 07 42.4 -1.1**
comp=Z,118nm,1.0s,mb5.6
FFC *e*pP pP 05 07 56.5 -0.3
FFC *e*ScP 05 13 39.5
FFC LR LR
comp=Z,468nm,20.0s,MS4.3
YNR Norris Junctio 38.09 78 *e*P **P 05 07 44.6 +0.8**
YNR *e*ScP 05 13 41.4
GCMT Greycliff 38.10 76 *e*P **P 05 07 44.2 +0.3**
TPH Tonopah 38.11 92 *e*P **P 05 07 45.1 +1.1**
TPH *e* 05 09 58.2
TPH *e* 05 13 40.3
TPH pmax pmax
comp=Z,77nm,1.1s,mb5.3
TPH MLR MLR
comp=Z,1µm,21.0s,MS4.7
TPH Tonopah 38.11 92 *e*P **P 05 07 45.1 +1.0**
comp=Z,77nm,1.1s,mb5.3
TPH *e*PcP PcP 05 09 58.2 -0.6
TPH *e*ScP 05 13 40.3
TPH LR LR
comp=Z,1µm,21.0s,MS4.7
YFT Old Faithful 38.14 79 *e*P **P 05 07 45.4 +1.1**
YFT *e*PcP PcP 05 09 59.8 +0.9
YFT *e*ScP 05 13 42.5
LKWY Lake 38.34 78 *e*P **P 05 07 46.6 +0.7**
LKWY *e* 05 13 42.9
LKWY pmax pmax
comp=Z,35nm,0.6s,mb5.3
LKWY MLR MLR
comp=Z,572nm,20.0s,MS4.4
LKWY Lake 38.34 78 *e*P **P 05 07 46.6 +0.7**
comp=Z,35nm,0.6s,mb5.3
LKWY *e*ScP 05 13 42.9
LKWY LR LR
comp=Z,572nm,20.0s,MS4.4
IMW Indian Meadow 38.39 80 *e*P **P 05 07 46.8 +0.5**
comp=Z,48nm,1.1s,mb5.1
IMW *e*ScP 05 13 41.5
RRI2 Red Ridge 38.48 81 *e*P **P 05 07 47.8 +0.7**
comp=Z,46nm,0.9s,mb5.2
RRI2 *e*ScP 05 13 41.6
TPAW Teton Pass 38.62 80 *e*P **P 05 07 49.0 +0.8**
comp=Z,109nm,1.5s,mb5.4
TPAW *e*pP pP 05 08 03.0 +1.6
TPAW *e*ScP 05 13 41.8
WAKE Wake Island 38.64 219 PFAKE 05 08 00.0 +11
WAKE LR LR
comp=Z,4µm,21.0s,MS5.2
REDW Red Top Meadow 38.75 80 *e*P **P 05 07 49.2 -0.1**
comp=Z,124nm,1.4s,mb5.5
REDW *e*ScP 05 13 42.7
SNOW Snow King Moun 38.75 80 *e*P **P 05 07 50.1 +0.7**
comp=Z,64nm,1.3s,mb5.2
SNOW *e*PcP PcP 05 09 60.0 -0.8
SNOW *e*ScP 05 13 44.0
LOHW Long Hollow 38.75 80 *e*P **P 05 07 49.5 +0.2**
comp=Z,77nm,1.5s,mb5.2
LOHW *e*ScP 05 13 42.7
ISA Isabella 38.93 96 PFAKE 05 08 00.0 +9.1
ISA LR LR
comp=Z,332nm,20.0s,MS4.2
AHID Auburn Hatcher 38.95 81 *e*P **P 05 07 51.5 +0.6**
comp=Z,60nm,1.1s,mb5.2
AHID *e*ScP 05 13 43.6
AHID LR LR
comp=Z,2µm,21.0s,MS4.8
HWUT Hardware Ranch 39.35 83 *e*P **P 05 07 54.2 -0.1**
comp=Z,916nm,0.5s
NOQ North Oquirrh 39.59 85 *e*P **P 05 07 56.2 -0.1**
NOQ *e*ScP 05 13 46.1
LAO LASA Array 39.63 73 *e*P **P 05 07 56.3 -0.3**
comp=Z,51nm,0.6s,mb5.4
LAO *e*PcP PcP 05 10 02.6 -1.0
LAO *e*ScP 05 13 46.2
LAO LR LR
comp=Z,1µm,22.0s,MS4.8
DGMT Dagmar 39.85 70 *e*P **P 05 07 57.7 -0.7**
comp=Z,57nm,0.7s,mb5.4
DGMT *e*ScP 05 13 46.4
DGMT LR LR
comp=Z,2µm,21.0s,MS4.8
BW06 Boulder Array 39.87 80 *e*P **P 05 07 58.3 -0.3**
comp=Z,72nm,1.1s,mb5.3
BW06 LR LR
comp=Z,1µm,21.0s,MS4.7
PDAR Pinedale Array 39.87 80 P **P 05 07 58.8 +0.2**
comp=Z,9.4nm,0.7s,mb4.6,baz=299,slow=4.5,SNR=93
PDAR ScP 05 13 47.0
comp=Z,14nm,1.0s,baz=270,slow=1.5,SNR=16
PDAR LR LR 05 22 13.4
comp=Z,928nm,20.9s,MS4.6,baz=310,slow=33
SNCC San Nicolas Is 39.95 99 PFAKE 05 08 10.0 +11
SNCC LR LR
comp=Z,675nm,20.0s,MS4.5
MWC Mount Wilson 40.16 97 *e*P **P 05 08 02.3 +1.2**
MWC *e*ScP 05 13 48.0
MAJO Matsushiro 40.17 268 PFAKE 05 08 10.0 +8.8
MAJO LR LR
comp=Z,2µm,22.0s,MS5.0
MAT Matsushiro 40.17 268 *e*P **P 05 08 02.0 +0.8**
MAT *e*S **S 05 14 03.0 -1.1**
MAT pmax pmax
comp=Z,192nm,1.0s,mb5.8
MAT MLR MLR
comp=Z,1µm,20.0s,MS4.7
MAT Matsushiro 40.17 268 *e*P **P 05 08 02.0 +0.8**
comp=Z,192nm,1.0s,mb5.8
MAT *e*S **S 05 14 03.0 -1.1**
MAT LR LR
comp=Z,1µm,20.0s,MS4.7
MAT Matsushiro 40.17 268 P **P 05 08 02.2 +1.0**
MAT S **S 05 14 03.0 -1.1**
MJAR Matsushiro Arr 40.17 268 P **P 05 08 01.7 +0.5**
comp=Z,53nm,0.6s,mb5.5,baz=44,slow=6.1,SNR=120
MJAR PcP PcP 05 10 05.9 +0.5
comp=Z,37nm,0.9s,baz=143,slow=0.4,SNR=11
MJAR ScP 05 13 48.7
comp=Z,16nm,0.9s,baz=41,slow=1.8,SNR=18
MJAR LR LR 05 22 42.1
comp=Z,2µm,21.6s,MS4.9,baz=65,slow=33
FCC Fort Churchill 40.27 51 *e*P **P 05 08 01.0 -0.8**
FCC *e**PP pP 05 08 14.9 -0.1
FCC pmax pmax
comp=Z,293nm,1.1s,mb5.9
FCC Fort Churchill 40.27 51 *e*P **P 05 08 00.9 -0.8**
comp=Z,293nm,1.1s,mb5.9
FCC *e*pP pP 05 08 14.9 -0.1
MDJ Mudanjiang 40.41 284 P **P 05 08 01.5 -1.6**
MDJ AP pP 05 08 14.0 -2.4
MDJ XP sP 05 08 19.8 -2.6
MDJ PCP PcP 05 10 04.3 -1.8
MDJ SCP 05 13 48.8
MDJ PCS 05 13 55.0
MDJ S **S 05 14 05.5 -2.2**
MDJ SCS ScS 05 18 03.5 +1.0
MDJ AMB AMB
comp=Z,24nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,146nm,4.0s
MDJ LR LR
comp=N,568nm,17.4s,MS4.8
MDJ LR LR
comp=E,1µm,20.7s,MS4.8
MDJ LR LR
comp=Z,1µm,24.8s,MS4.7
MDJ Mudanjiang 40.41 284 *e*P **P 05 08 00.8 -2.3**
comp=Z,19nm,0.9s,mb4.8
MDJ LR LR
comp=Z,1µm,22.0s,MS4.8
TMUT Trail Mountain 40.98 86 *e*P **P 05 08 08.6 +0.8**
NEN Nelson 41.13 93⇑ *e*P **P 05 08 09.5 +0.4**
NEN *e*PcP PcP 05 10 08.1 -0.5
NEN *e*ScP 05 13 51.6
LDFC Landfair 41.36 94 *e*P **P 05 08 11.2 +0.2**
JHJ Hachijo jima 2 41.54 263 LR LR 05 22 56.4
comp=Z,1µm,21.2s,MS4.7,baz=17,slow=32
PFO Pinyon Flat Ob 41.55 96 *e*P **P 05 08 12.6 +0.1**
PFO pmax pmax
comp=Z,59nm,1.3s,mb5.1
PFO MLR MLR
comp=Z,393nm,21.0s,MS4.3
PFO Pinyon Flat Ob 41.55 96 *e*P **P 05 08 12.6 +0.1**
comp=Z,59nm,1.3s,mb5.1
PFO *e*ScP 05 13 53.5
PFO LR LR
comp=Z,393nm,21.0s,MS4.3
RWWY Rawlins 41.91 80 *e*P **P 05 08 15.0 -0.4**
comp=Z,125nm,1.2s,mb5.4
RWWY *e*ScP 05 13 53.3
BOD Bodaibo 42.03 309⇓ *i*P **P 05 08 15.1 -1.0**
BAR Barrett 42.06 98 *e*P **P 05 08 17.3 +0.5**
RSSD Black Hills 42.34 75 *e*P **P 05 08 18.1 -0.8**
RSSD *e* 05 10 11.1
RSSD pmax pmax
comp=Z,30nm,0.7s,mb5.0
RSSD MLR MLR
comp=Z,1µm,19.0s,MS4.7
RSSD Black Hills 42.34 75 *e*P **P 05 08 18.1 -0.8**
comp=Z,30nm,0.7s,mb5.0
RSSD *e*PcP PcP 05 10 11.1 -1.2
RSSD *e*ScP 05 13 56.5
RSSD LR LR
comp=Z,1µm,19.0s,MS4.7
PV10 Paradox Valley 42.87 85 *e*P **P 05 08 23.5 +0.2**
PHWY Pilot Hill 43.19 79 *e*P **P 05 08 25.3 -0.6**
PHWY *e*ScP 05 13 58.7
PV01 Paradox Valley 43.31 85 *e*P **P 05 08 26.5 -0.4**
PV01 *e*ScP 05 14 00.7
CN2 Changchun 43.31 285 *e*P **P 05 08 26.5 -0.3**
CN2 *e*AP pP 05 08 40.5 +0.4
CN2 PP PP 05 10 09.3 -0.7
CN2 S **S 05 14 48.5 -1.8**
CN2 AMB AMB
comp=Z,100nm,0.7s,mb5.7
CN2 AMB AMB
comp=Z,380nm,5.0s
CN2 LR LR
comp=N,1µm,15.0s,MS5.0
CN2 LR LR
comp=E,690nm,15.0s,MS5.0
CN2 LR LR
comp=Z,1µm,18.0s,MS4.8
HIA Hailar 43.44 295 *e*P **P 05 08 26.5 -1.3**
HIA *e* 05 10 15.5
HIA pmax pmax
comp=Z,33nm,0.8s
HIA MLR MLR
comp=Z,1µm,20.0s
HIA Hailar 43.44 295 *e*P **P 05 08 26.5 -1.3**
comp=Z,33nm,0.8s,mb5.1
HIA *e*PcP PcP 05 10 15.5 -0.4
HIA LR LR
comp=Z,1µm,20.0s,MS4.9
ULM Lac du Bonnet 43.51 63 P **P 05 08 27.3 -1.0**
comp=Z,12nm,0.6s,mb4.8,baz=304,slow=9.3,SNR=14
ULM PcP PcP 05 10 14.7 -1.4
comp=Z,26nm,0.6s,baz=287,slow=4.8,SNR=7.1
ULM ScP 05 14 00.5
comp=Z,24nm,1.0s,baz=326,slow=5.2,SNR=10
ULM LR LR 05 27 10.8
comp=Z,1µm,20.3s,MS4.8,baz=320,slow=37
ULM Lac du Bonnet 43.51 63 *e*P **P 05 08 27.0 -1.4**
comp=Z,28nm,1.1s,mb4.9
ULM LR LR
comp=Z,1µm,19.0s,MS4.9
SMCO Snowmass 43.60 83 *e*P **P 05 08 28.8 -0.5**
SMCO *e*PcP PcP 05 10 17.0 +0.4
CIT Chita 45.22 302 *e*P **P 05 08 41.2 -0.8**
CIT *e* 05 10 20.8
CIT *e* 05 18 31.7
CIT pmax pmax
comp=Z,81nm,1.3s,mb5.4
SDCO Great Sand Dun 45.41 83 *e*P **P 05 08 43.6 -0.2**
comp=Z,69nm,1.3s,mb5.3
SDCO *e*ScP 05 14 09.2
SDCO LR LR
comp=Z,994nm,21.0s,MS4.7
SNY Shenyang 45.60 284⇑P **P 05 08 46.0 +0.8**
SNY S **S 05 15 22.3 -1.1**
SNY SS SS 05 18 35.5 -3.8
SNY AMB AMB
comp=Z,40nm,0.8s,mb5.4
SNY LR LR
comp=N,560nm,18.3s,MS4.8
SNY LR LR
comp=E,720nm,17.7s,MS4.8
SNY LR LR
comp=Z,1µm,16.8s,MS4.9
KS15 Wonju Array Si 45.83 277 *e*P **P 05 08 47.6 +0.6**
TUC Tucson 45.87 93 *e*P **P 05 08 47.7 +0.2**
TUC pmax pmax
comp=Z,62nm,0.9s,mb5.5
TUC MLR MLR
comp=Z,551nm,20.0s,MS4.5
TUC Tucson 45.87 93 *e*P **P 05 08 47.7 +0.1**
comp=Z,62nm,0.9s,mb5.5
TUC LR LR
comp=Z,551nm,20.0s,MS4.5
INCN Inchon 46.55 278 *e*P **P 05 08 52.8 +0.1**
comp=Z,79nm,0.9s,mb5.6
ANMO Albuquerque 46.68 87 *e*P **P 05 08 53.6 -0.2**
ANMO *e**PP pP 05 09 07.9 +0.7
ANMO *e* 05 10 27.4
ANMO pmax pmax
comp=Z,76nm,1.5s
ANMO MLR MLR
comp=Z,2µm,21.0s
ANMO Albuquerque 46.68 87 *e*P **P 05 08 53.6 -0.2**
comp=Z,76nm,1.5s,mb5.4
ANMO *e*pP pP 05 09 07.9 +0.7
ANMO *e*PcP PcP 05 10 27.4 +0.1
ANMO *e*ScP 05 14 15.1
ANMO LR LR

comp=Z,2µm,21.0s,MS4.9
JNU Nakatsue 46.92 270 P **P** **05 08 56.2 +0.5**
comp=Z,143nm,1.0s,mb5.9,baz=50,slow=13,SNR=33
JNU LR LR 05 26 35.9
comp=Z,2µm,22.0s,MS5.0,baz=44,slow=33
KWAJ Kwajalein Atol 48.00 212 PFAKE
KWAJ LR LR
comp=Z,553nm,19.0s,MS4.5
CBKS Cedar Bluff 48.16 78 *e*P **P** **05 09 04.6 -0.8**
CBKS *e**PP pP 05 09 18.5 -0.3
CBKS pmax pmax
comp=Z,232nm,1.2s,mb6.1
CBKS MLR MLR
comp=Z,804nm,21.0s,MS4.7
CBKS Cedar Bluff 48.16 78 *e*P **P** **05 09 04.5 -0.8**
comp=Z,232nm,1.2s,mb6.1
CBKS *epP* pP 05 09 18.5 -0.3
CBKS LR LR
comp=Z,804nm,21.0s,MS4.7
KBS Kingsbay 48.45 360 PFAKE
KBS LR LR 05 09 20.0 +13
comp=Z,1µm,20.0s,MS4.8
KBS Kingsbay 48.45 360 *e*P **P** **05 09 08.3 +1.1**
KBS *e*S **S** **05 16 02.2 -1.1**
KBS AMS AMS 05 31 08.6
comp=Z,599nm,23.2s,MS4.5
DL2 Dalian 48.61 283 P **P** **05 09 08.5 -0.3**
DL2 PCP PcP 05 10 33.3 -0.9
DL2 PP PP 05 11 00.3 -1.5
DL2 S **S** **05 16 07.0 +1.1**
DL2 SCS ScS 05 18 52.8 -1.2
DL2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
DL2 LR LR
comp=N,290nm,16.6s,MS4.6
DL2 LR LR
comp=E,440nm,18.2s,MS4.6
DL2 LR LR
comp=Z,780nm,33.3s
DAG Danmarks Havn 49.22 9⇑ *i*P **P** **05 09 12.3 -0.8**
DAG pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
DAG Danmarks Havn 49.22 9⇑ *i*P **P** **05 09 12.3 -0.8**
comp=Z,9.2nm,0.9s,mb4.8
MNTX Cornudas Mount 49.57 89 *e*P **P** **05 09 16.1 -0.3**
comp=Z,59nm,0.7s,mb5.7
MNTX LR LR
comp=Z,827nm,21.0s,MS4.7
IRK Irkutsk 49.75 306 *e*P **P** **05 09 16.3 -1.1**
IRK *e* 05 09 35.9
IRK *e* 05 10 37.0
IRK pmax pmax
comp=Z,103nm,1.0s,mb5.8
KSU1 Kansas State U 49.82 76 *e*P **P** **05 09 16.4 -1.8**
KSU1 *e*PcP PcP 05 10 37.6 -0.9
KSU1 *e*ScP 05 14 27.2
SUMG Summit 50.16 17 *e*P **P** **05 09 19.2 -1.1**
comp=Z,103nm,1.2s,mb5.7
TLY Talaya 50.40 306 *e*P **P** **05 09 21.7 -0.7**
TLY *e* 05 11 16.1
TLY *e*S **S** **05 16 29.9 -0.8**
TLY pmax pmax
comp=Z,78nm,0.9s,mb5.7
TLY Talaya 50.40 306 *e*P **P** **05 09 21.9 -0.5**
comp=Z,73nm,0.9s,mb5.7
TLY *e*PcP PcP 05 10 40.7 +0.2
TLY *e*ScP 05 14 30.1
TLY LR LR
comp=Z,159nm,19.0s,MS4.0
ULN Ulaanbaatar 51.06 301 PFAKE
ULN LR LR 05 09 40.0 +12
comp=Z,1µm,21.0s,MS4.8
ZAK Zakamensk 51.40 305 *e*P **P** **05 09 29.6 -0.4**
ZAK *e* 05 10 45.0
ZAK pmax pmax
comp=Z,25nm,1.1s,mb5.1
ZAK pmax pmax
comp=Z,129nm,0.9s,mb5.9
SONM Songino Array 51.43 301 P **P** **05 09 30.0 -0.2**
comp=Z,56nm,1.0s,mb5.4,baz=63,slow=4.7,SNR=129
SONM PcP PcP 05 10 44.5 +0.1
comp=Z,126nm,0.8s,baz=59,slow=2.6,SNR=36
SONM ScP 05 14 35.2
comp=Z,24nm,1.0s,baz=63,slow=2.8,SNR=19
SONM LR LR 05 33 55.2
comp=Z,973nm,18.6s,MS4.9,baz=45,slow=39
MOY Mondy 51.70 307 *e*P **P** **05 09 32.0 -0.2**
MOY pmax pmax
comp=Z,53nm,2.0s,mb5.1
SFJD Kangerlussuaq 51.72 26 *e*P **P** **05 09 33.6 +1.4**
SFJD *i* 05 10 42.6
SFJD *i* S **S** **05 16 45.5 -3.1**
SFJD pmax pmax
comp=Z,46nm,1.2s,mb5.3
SFJD MLR MLR
comp=Z,2µm,20.0s,MS5.1
SFJD Kangerlussuaq 51.72 26 *e*P **P** **05 09 33.6 +1.4**
comp=Z,46nm,1.2s,mb5.3
SFJD *i* 05 10 42.6
SFJD *i* S **S** **05 16 45.5 -3.1**
SFJD LR LR
comp=Z,2µm,20.0s,MS5.1
SFJD Kangerlussuaq 51.72 26 *i* P **P** **05 09 33.6 +1.4**
comp=Z,46nm,1.2s,mb5.3
SFJD *i* 05 10 42.6
SFJD *i* S **S** **05 16 45.5 -3.1**
comp=Z,2µm,20.0s
LTX Lajitas 52.29 90 *e*P **P** **05 09 36.3 -0.7**
LTX pmax pmax
comp=Z,117nm,0.8s,mb5.9
LTX MLR MLR
comp=Z,891nm,19.0s,MS4.8
LTX Lajitas 52.29 90 *e*P **P** **05 09 36.3 -0.6**
comp=Z,117nm,0.8s,mb5.9
LTX LR LR
comp=Z,891nm,19.0s,MS4.8
TXAR Lajitas Array 52.29 90 P **P** **05 09 36.6 -0.4**
comp=Z,100nm,0.7s,mb5.8,baz=298,slow=5.2,SNR=1075
TXAR PcP PcP 05 10 47.5 -0.2
comp=Z,23nm,0.8s,baz=270,slow=2.5,SNR=3.6
TXAR ScP 05 14 37.7
comp=Z,8.4nm,1.1s,baz=270,slow=3.8,SNR=7.8
TXAR LR LR 05 31 14.8
comp=Z,742nm,19.6s,MS4.7,baz=295,slow=35
JOW Kunigami 52.98 266 P **P** **05 09 42.7 +0.5**
comp=Z,494nm,0.9s,baz=55,slow=4.5,SNR=61
JOW LR LR 05 32 29.1
comp=Z,274nm,18.9s,baz=126,slow=36
TIA Tai'an 53.07 283 P **P** **05 09 42.0 -0.7**
TIA AMB AMB
comp=Z,41nm,1.1s,mb5.3
CCM Cathedral Cave 53.65 73 P **P** **05 09 44.3 -2.6**
CCM pmax pmax
comp=Z,160nm,1.7s,mb5.7
CCM Cathedral Cave 53.65 73 *e*P **P** **05 09 43.7 -3.2**
comp=Z,164nm,1.8s,mb5.7
CCM *epP* pP 05 09 58.1 -2.5
CCM LR LR
comp=Z,633nm,20.0s,MS4.7
GUMO Guam 53.75 241 *e*P **P** **05 09 45.9 -2.1**
GUMO pmax pmax
comp=Z,385nm,0.8s
GUMO MLR MLR
comp=Z,1µm,20.0s
GUMO Guam 53.75 241 *e*P **P** **05 09 45.9 -2.1**
comp=Z,385nm,0.8s,mb6.4
GUMO LR LR
comp=Z,1µm,20.0s,MS4.9
SLM Saint Louis 53.84 72 *e*P **P** **05 09 46.7 -1.6**
SLM *e* pP 05 10 00.5 -1.5
SLM pmax pmax
comp=Z,25nm,0.6s,mb5.3
SLM Saint Louis 53.84 72 *e*P **P** **05 09 46.6 -1.7**
comp=Z,25nm,0.6s,mb5.3
SLM *e* pP 05 10 00.5 -1.5
FVM French Village 54.17 73 *e*P **P** **05 09 48.1 -2.7**
FVM pmax pmax
comp=Z,84nm,1.1s,mb5.6
FVM French Village 54.17 73 *e*P **P** **05 09 48.1 -2.7**
comp=Z,84nm,1.1s,mb5.6
BTO Baotou 54.19 292 *e*P **P** **05 09 50.8 -0.1**
BTO S **S** **05 17 21.8 -0.9**
BTO AMB AMB
comp=Z,152nm,1.0s,mb5.9
SSE Sheshan 54.20 276 P **P** **05 09 50.8 -0.3**
SSE S **S** **05 17 22.8 0.0**
SSE SS SS 05 21 06.5 +1.9
SSE AMB AMB
comp=Z,101nm,1.2s,mb5.6
SSE AMB AMB
comp=Z,364nm,6.1s
SSE LR LR
comp=N,521nm,20.0s,MS4.8
SSE LR LR
comp=E,610nm,20.0s,MS4.8
SSE LR LR
comp=Z,1µm,20.0s,MS4.9
SSE Sheshan 54.20 276 P **P** **05 09 50.7 -0.4**
comp=Z,101nm,1.2s,mb5.6
SSE pP pP 05 10 08.2 +3.4
SSE sP sP 05 10 16.7 +6.2
SSE S **S** **05 17 22.7 -0.1**
SSE sS 05 17 53.8
SSE SS SS 05 21 06.4 +1.8
SSE LR LR
comp=Z,1µm,20.0s,MS4.9
SCO Scoresbysund 54.62 13 *i* P **P** **05 09 52.6 -1.1**
SCO pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
SCO Scoresbysund 54.62 13 *i* P **P** **05 09 52.6 -1.1**
comp=Z,6.6nm,0.7s,mb4.8
SCHQ Schefferville 54.75 44 P **P** **05 09 53.4 -1.4**
comp=Z,28nm,0.9s,mb5.3,baz=318,slow=7.4,SNR=28
SCHQ LR LR 05 34 22.8
comp=Z,1µm,18.0s,MS5.1,baz=314,slow=37
SCHQ Schefferville 54.75 44 *e*P **P** **05 09 52.7 -2.1**
comp=Z,26nm,0.9s,mb5.3
SCHQ LR LR
comp=Z,2µm,22.0s,MS5.1
NJ2 Nanjing 54.92 278 *e*P **P** **05 09 56.0 -0.4**
NJ2 AP pP 05 10 08.0 -2.1
NJ2 XP sP 05 10 14.5 -1.3
NJ2 PCP PcP 05 10 57.3 -0.4
NJ2 S **S** **05 17 28.0 -4.6**
NJ2 XS 05 17 48.0
NJ2 AMB AMB
comp=Z,40nm,0.8s,mb5.5
NJ2 AMB AMB
comp=Z,290nm,10.7s
NJ2 LR LR
comp=N,1µm,19.6s
NJ2 LR LR
comp=E,2µm,33.6s
NJ2 LR LR
comp=Z,1µm,28.0s
MAIG Mazatlaan 55.15 97 *i* P **P** **05 09 56.9 -1.1**
UALR University of 55.26 77 *e*P **P** **05 09 57.1 -1.6**
comp=Z,20nm,1.0s,mb5.1
UALR *e* pP 05 10 09.7 -2.7
BLO Bloomington 55.59 69 *e*P **P** **05 09 58.5 -2.6**
BLO pmax pmax
comp=Z,95nm,1.1s,mb5.7
BLO Bloomington 55.59 69 *e*P **P** **05 09 58.5 -2.6**
comp=Z,95nm,1.1s,mb5.7
JMIC Jan Mayen 55.62 8 *e*pP pP 05 10 14.3 -0.3
JMIC *e*S **S** **05 17 43.7 +2.4**
JMIC AMS AMS 05 32 26.2
comp=Z,980nm,24.6s,MS4.8
HBAR Harrisburg 55.70 75 *e*P **P** **05 09 58.4 -3.6**
HBAR *epP* pP 05 10 12.6 -3.1
NATX Nacogdoches 56.00 81 *e*P **P** **05 10 02.9 -1.2**
comp=Z,179nm,1.3s,mb5.9
NATX LR LR
comp=Z,1µm,20.0s,MS4.9
GLAT Glass 56.01 73 *e*P **P** **05 10 02.2 -1.9**
GLAT *e* pP 05 10 14.4 -3.5
UTMT University of 56.20 73 *e*P **P** **05 10 04.1 -1.4**
comp=Z,211nm,1.1s,mb6.1
WCI Wyandotte Cave 56.37 70 *e*P **P** **05 10 04.0 -2.7**
WCI *e**PP pP 05 10 18.0 -2.5
WCI pmax pmax
comp=Z,30nm,0.7s,mb5.4
WCI MLR MLR
comp=Z,1µm,22.0s,MS5.0
WCI Wyandotte Cave 56.37 70 *e*P **P** **05 10 04.0 -2.7**
comp=Z,30nm,0.7s,mb5.4
WCI *epP* pP 05 10 18.0 -2.5
WCI LR LR
comp=Z,1µm,22.0s,MS5.0
WVT Waverly 56.95 72 *e*P **P** **05 10 08.3 -2.6**
WVT *e**PP pP 05 10 22.5 -2.1
WVT pmax pmax
comp=Z,82nm,1.2s,mb5.6
WVT MLR MLR
comp=Z,617nm,19.0s,MS4.7
WVT Waverly 56.95 72 *e*P **P** **05 10 08.3 -2.6**
comp=Z,82nm,1.2s,mb5.6
WVT *epP* pP 05 10 22.5 -2.2
WVT LR LR
comp=Z,617nm,19.0s,MS4.7
KEV Kevo 57.15 354 *e*P **P** **05 10 10.1 -1.7**
KEV pmax pmax
comp=Z,19nm,0.8s,mb5.2
KEV MLR MLR
comp=Z,1µm,22.0s,MS5.0
KEV Kevo 57.15 354 *e*P **P** **05 10 10.1 -1.7**
comp=Z,19nm,0.8s,mb5.2
KEV LR LR
comp=Z,1µm,22.0s,MS5.0
OXF Oxford 57.16 75 *e*P **P** **05 10 10.0 -2.4**
OXF *e**PP pP 05 10 24.6 -1.6
OXF pmax pmax
comp=Z,282nm,1.0s,mb6.2
OXF MLR MLR
comp=Z,666nm,20.0s,MS4.7
OXF Oxford 57.16 75 *e*P **P** **05 10 10.0 -2.4**
comp=Z,282nm,1.0s,mb6.2
OXF *epP* pP 05 10 24.6 -1.6
OXF LR LR
comp=Z,666nm,20.0s,MS4.7
ERPA Erie 57.17 62 *e*P **P** **05 10 10.3 -2.0**
comp=Z,91nm,1.3s,mb5.7
ERPA *epP* pP 05 10 23.2 -3.0
ERPA LR LR
comp=Z,1µm,20.0s,MS5.0
NVS Novosibirsk 57.34 319⇑ *i*P **P** **05 10 10.7 -2.7**
NVS *i* 05 11 03.1
NVS *e* 05 12 23.0
NVS *i* S **S** **05 18 05.0 +0.7**
NVS *i* 05 19 53.6
NVS pmax pmax
comp=Z,35nm,1.8s,mb5.1
NVS pmax pmax
comp=N,17nm,1.4s
NVS pmax pmax
comp=E,18nm,1.0s
NVS pmax pmax
comp=Z,59nm,2.0s,mb5.3
NVS pmax pmax
comp=N,38nm,1.9s
NVS pmax pmax
comp=E,40nm,1.9s
NVS smax
comp=N,29nm,2.0s
ZAL Zalesovo 57.37 318 P **P** **05 10 11.7 -1.9**
comp=N,6.4nm,1.0s,mb4.6,baz=85,slow=5.9,SNR=22
ZAL PcP PcP 05 11 05.5 -1.4
comp=N,13nm,0.5s,baz=52,slow=4.7,SNR=11
ZAL ScP 05 15 00.8
comp=N,6.8nm,0.8s,baz=58,slow=3.8,SNR=9.6
ZAL LR LR 05 36 41.5
comp=N,2µm,21.3s,MS5.2,baz=73,slow=38
ARCES ARCESS Array B 57.46 354 P **P** **05 10 12.2 -1.9**
comp=N,12nm,0.7s,mb5.0,baz=18,slow=7.7,SNR=12
ARCES PcP PcP 05 11 05.6 -1.4
comp=N,38nm,0.7s,baz=15,slow=4.8,SNR=18
ARCES ScP 05 15 00.5
comp=N,42nm,0.9s,slow=4.9,SNR=22
ARCES LR LR 05 36 12.4
comp=N,1µm,21.0s,MS4.9,baz=60,slow=37
PLAL Pickwick Lake 57.61 74 PFAKE
PLAL LR LR 05 10 30.0 +14
comp=Z,848nm,22.0s,MS4.8
TRO Tromso 57.68 357 *e*P **P** **05 10 14.0 -1.5**
TRO *e*S **S** **05 18 08.7 +0.2**
TRO *e*SS SS 05 22 02.1 +1.4
TRO AMS AMS 05 34 45.5
comp=Z,713nm,21.9s,MS4.7
MSNY Massena 57.84 57 *e*P **P** **05 10 14.8 -2.2**
MSNY *epP* pP 05 10 29.0 -1.8
GENY Geneseo 57.87 60 *e*P **P** **05 10 16.6 -0.6**
LVZ Lovozero 58.30 350 *i* P **P** **05 10 19.2 -0.7**
LVZ Lovozero 58.30 350 *i* P **P** **05 10 19.2 -0.7**
TATO Taipei 58.46 270 PFAKE **05 10 30.0 +8.4**
TATO LR LR
comp=Z,1µm,22.0s,MS4.9
WHN Wuhan 58.69 280⇑ P **P** **05 10 22.8 -0.3**
WHN LR LR
comp=Z,2µm,26.3s,MS5.1
YHNB Yeheng 58.75 270 *e*P **P** **05 10 22.5 -1.1**
NCB Newcomb 58.89 57 *e*P **P** **05 10 22.4 -1.9**
comp=Z,224nm,1.3s,mb6.0
NCB *epP* pP 05 10 36.8 -1.3
NCB LR LR
comp=Z,2µm,19.0s,MS5.2
MCWV Mont Chateau 58.97 64 *e*P **P** **05 10 22.7 -2.2**
comp=Z,139nm,1.2s,mb5.9
MCWV LR LR
comp=Z,2µm,20.0s,MS5.2
NACB Ninganchiao 58.99 270 *e*P **P** **05 10 24.3 -0.9**
TZTN Tazewell 59.11 69 *e*P **P** **05 10 23.6 -2.3**
TZTN *epP* pP 05 10 37.0 -2.7
MIV Mineville/With 59.16 57 *e*P **P** **05 10 23.6 -2.6**
BINY Binghamton 59.23 60 *e*P **P** **05 10 24.3 -2.4**
comp=Z,238nm,1.1s,mb6.1
BINY LR LR
comp=Z,1µm,21.0s,MS5.1
XAN Xi'an 59.38 287 P **P** **05 10 27.0 -0.9**
XAN AP pP 05 10 41.0 -0.7
XAN S **S** **05 18 29.3 -2.0**
XAN AMB AMB
comp=Z,60nm,1.0s,mb5.6
XAN LR LR
comp=N,304nm,16.4s,MS4.9
XAN LR LR
comp=E,675nm,17.3s,MS4.9
XAN LR LR
comp=Z,937nm,23.6s
ACCN Adirondack Com 59.59 57 *e*P **P** **05 10 26.9 -2.2**
ACCN *epP* pP 05 10 40.6 -2.4
LRAL Lakeview Retre 59.62 74 *e*P **P** **05 10 26.9 -2.6**
comp=Z,32nm,1.0s,mb5.3
LRAL LR LR
comp=Z,769nm,20.0s,MS4.8
MYNC Murphy 59.82 71 PFAKE **05 10 40.0 +9.1**
MYNC LR LR
comp=Z,1µm,19.0s,MS5.1
LBNH Lisbon 59.86 56 P **P** **05 10 29.5 -1.5**
LBNH pmax pmax
comp=Z,95nm,1.0s,mb5.8
LBNH Lisbon 59.86 56 *e*P **P** **05 10 28.7 -2.3**
comp=Z,95nm,1.0s,mb5.8
LBNH *epP* pP 05 10 40.8 -4.0
LBNH LR LR
comp=Z,3µm,19.0s,MS5.4
FWV Forest Hill 59.91 67 *e*P **P** **05 10 29.8 -1.7**
PQI Presque Isle 60.01 51 PFAKE **05 10 40.0 +8.0**
PQI LR LR
comp=Z,12µm,19.0s
BORG Borgarnes 60.02 16 PKPPKP 05 39 56.1
comp=Z,14nm,1.1s,baz=248,slow=5.1,SNR=3.2
BORG Borgarnes 60.02 16 PFAKE **05 10 40.0 +8.2**
BORG LR LR
comp=Z,335nm,21.0s,MS4.5
HNH Hanover 60.06 56 *e*P **P** **05 10 30.6 -1.8**
comp=Z,3.7nm,1.3s
HNH *epP* pP 05 10 43.8 -2.5
ELN Prospectdale 60.19 67 *e*P **P** **05 10 31.4 -2.0**
ELN *epP* pP 05 10 44.5 -2.8
QZH Quanzhou 60.23 273⇑ *i*P **P** **05 10 34.0 +0.1**
QZH AMB AMB
comp=Z,300nm,1.0s,mb6.3
QZH LR LR
comp=Z,2µm,27.0s,MS5.1
BLA Blacksburg 60.39 67 *e*P **P** **05 10 33.1 -1.6**
BLA pmax pmax
comp=Z,106nm,0.9s,mb5.9
BLA MLR MLR
comp=Z,1µm,20.0s,MS5.0
BLA Blacksburg 60.39 67 *e*P **P** **05 10 33.1 -1.6**
comp=Z,106nm,0.9s,mb5.9
BLA LR LR
comp=Z,1µm,20.0s,MS5.0
FFD Franklin Falls 60.55 56 *e*P **P** **05 10 33.8 -1.9**
comp=Z,20nm,0.8s,mb5.3
FFD *epP* pP 05 10 47.3 -2.3
GTA Gaotai 60.65 297 P **P** **05 10 35.3 -1.2**
GTA AP pP 05 10 48.0 -2.3
GTA XP sP 05 10 54.0 -2.1
GTA PCP PcP 05 11 20.0 -0.1
GTA PP PP 05 12 50.0 -2.5
GTA SCP 05 15 15.8
GTA PCS 05 15 23.5
GTA S **S** **05 18 44.3 -3.1**
GTA SCS ScS 05 20 18.0 -1.2
GTA SS SS 05 22 44.0 -3.7
GTA AMB AMB
comp=Z,52nm,1.0s,mb5.6
GTA AMB AMB
comp=Z,258nm,11.8s
GTA LR LR
comp=N,853nm,17.6s,MS5.1
GTA LR LR
comp=E,1µm,19.5s,MS5.1
GTA LR LR
comp=Z,1µm,19.5s,MS5.1
WVL Waterville 60.74 54 *e*P **P** **05 10 35.2 -1.9**
comp=Z,286nm,1.4s,mb6.2
WVL *epP* pP 05 10 48.5 -2.4
WVL LR LR
comp=Z,7µm,20.0s,MS5.8
LZH Lanzhou 60.82 292⇑ P **P** **05 10 37.5 -0.2**
LZH AP pP 05 10 50.0 -1.5
LZH XP sP 05 10 54.5 -2.8
LZH PCP PcP 05 11 21.5 +0.7
LZH PP PP 05 12 54.0 0.0
LZH SCP 05 15 17.5
LZH PCS 05 15 24.0
LZH *eS* **S** **05 18 49.0 -0.6**
LZH XS 05 19 10.0
LZH SCS ScS 05 20 20.0 -0.5
LZH *eSS* SS 05 22 48.0 -2.4
LZH AMB AMB
comp=Z,117nm,1.0s,mb6.0
LZH AMB AMB
comp=Z,590nm,4.0s
LZH LR LR
comp=E,2µm,17.8s
LZH LR LR
comp=Z,3µm,19.0s,MS5.4
LZH Lanzhou 60.82 292⇑ P **P** **05 10 37.6 -0.1**
LZH *PP pP 05 10 50.0 -1.5
LZH *SP sP 05 10 54.5 -2.8
LZH 05 11 21.5
LZH 05 12 54.0
LZH *eS* **S** **05 18 49.0 -0.6**
LZH *SS 05 19 10.0
LZH 05 20 20.0
LZH *eSS SS 05 22 48.0 -2.4
LZH pmax pmax
comp=Z,117nm,1.0s,mb6.0
LZH MLR MLR
comp=Z,3µm,19.0s,MS5.4
LZH Lanzhou 60.82 292⇑ P **P** **05 10 37.6 -0.1**
comp=Z,117nm,1.0s,mb6.0
LZH pP pP 05 10 50.0 -1.5
LZH sP sP 05 10 54.5 -2.8
LZH PcP PcP 05 11 21.5 +0.7
LZH PP PP 05 12 54.0 0.0
LZH ScP 05 15 17.4
LZH PcS 05 15 24.0
LZH *eS* **S** **05 18 49.0 -0.6**
LZH sS 05 19 10.0
LZH ScS ScS 05 20 20.0 -0.5
LZH *eSS SS 05 22 48.0 -2.4
LZH LR LR
comp=Z,3µm,19.0s,MS5.4
MOIG Morelia 60.96 96 *i* P **P** **05 10 38.1 -0.7**
QUA2 Belchertown 61.05 57 *e*P **P** **05 10 36.9 -2.3**
comp=Z,124nm,1.1s,mb6.0
QUA2 *epP* pP 05 10 50.4 -2.6
PAL Palisades 61.17 59 *e*P **P** **05 10 38.1 -1.9**
PAL *e**PP pP 05 10 52.7 -1.2
PAL pmax pmax
comp=Z,90nm,1.2s,mb5.8
PAL Palisades 61.17 59 *e*P **P** **05 10 38.0 -2.0**

comp=Z,90nm,1.2s,mb5.8
PAL ePP PP 05 10 52.7 -1.2
MOR8 Moi Rana 61.26 359 eP **P** **05 10 37.1 -3.1**
MOR8 AMb AMB 05 10 41.2
comp=Z,25nm,1.3s,mb5.2
HRV Harvard--Oak R 61.29 57 eP **P** **05 10 38.7 -2.1**
HRV e*PP pP 05 10 52.4 -2.3
HRV pmax pmax
comp=Z,171nm,1.4s,mb6.0
HRV MLR MLR
comp=Z,1μm,21.0s,MS5.0
HRV Harvard--Oak R 61.29 57 eP **P** **05 10 38.7 -2.0**
comp=Z,171nm,1.4s,mb6.0
HRV epP pP 05 10 52.4 -2.3
HRV LR LR
comp=Z,1μm,21.0s,MS5.0
CPNY Central Park 61.30 60 eP **P** **05 10 39.2 -1.6**
CPNY epP pP 05 10 52.8 -2.0
CBN Corbin 61.35 64 PFAKE 05 10 50.0 +8.8
CBN LR LR
comp=Z,2μm,20.0s,MS5.3
WES Weston 61.50 57 eP **P** **05 10 40.4 -1.8**
WES e*PP pP 05 10 53.8 -2.3
WES pmax pmax
comp=Z,205nm,0.9s,mb6.3
WES MLR MLR
comp=Z,3μm,19.0s,MS5.4
WES Weston 61.50 57 eP **P** **05 10 40.4 -1.8**
comp=Z,205nm,0.9s,mb6.3
WES epP pP 05 10 53.8 -2.3
WES LR LR
comp=Z,3μm,19.0s,MS5.4
EMMW East Machias 61.71 53 eP **P** **05 10 40.5 -3.0**
comp=Z,589nm,1.1s
EMMW epP pP 05 10 54.8 -2.6
EMMW LR LR
comp=Z,8μm,21.0s
ENH Enshi 61.77 284 eP **P** **05 10 43.4 -0.7**
comp=Z,38nm,0.6s,mb5.7
ENH LR LR
comp=Z,617nm,21.0s,MS4.7
JSC Jenkinsville 62.03 69 eP **P** **05 10 43.7 -2.1**
KURK Kurchatov 62.29 319 eP **P** **05 10 45.8 -1.5**
KURK pmax pmax
comp=Z,26nm,0.9s,mb5.4
KURK MLR MLR
comp=Z,503nm,21.0s,MS4.7
KURK Kurchatov 62.29 319 eP **P** **05 10 45.8 -1.6**
comp=Z,26nm,0.9s,mb5.4
KURK LR LR
comp=Z,503nm,21.0s,MS4.7
NSS Namsos 62.93 360 eP **P** **05 10 49.1 -2.3**
NSS AMb AMB 05 10 54.9
comp=Z,37nm,1.8s,mb5.2
PLIG Platanillo 62.97 95 *i* P **P** **05 10 49.4 -2.9**
COW Cow Castle Cre 63.00 70 eP **P** **05 10 51.1 -1.2**
NHSC New Hope 63.50 70 eP **P** **05 10 53.7 -1.9**
comp=Z,256nm,0.9s,mb6.2
NHSC LR LR
comp=Z,2μm,22.0s,MS5.2
CAIG El Cayaco 63.54 97 *i* P **P** **05 10 54.3 -1.8**
BVAR Borovoye Array 63.55 325 ScP 05 15 29.0
comp=Z,11nm,0.8s,baz=63,slow=3.3,SNR=8.9
BVAR PKPPKP 05 39 49.6
comp=Z,4.1nm,1.0s,baz=180,slow=1.5,SNR=6.7
BRVK Borovoye 63.56 325 eP **P** **05 10 54.6 -1.0**
BRVK pmax pmax
comp=Z,30nm,0.8s,mb5.4
BRVK MLR MLR
comp=Z,286nm,19.0s,MS4.5
BRVK Borovoye 63.56 325 eP **P** **05 10 54.6 -1.0**
comp=Z,30nm,0.8s,mb5.4
BRVK eScP 05 15 28.3
BRVK LR LR
comp=Z,286nm,19.0s,MS4.5
WMQ Urumqi 63.57 308 P **P** **05 10 56.8 +0.9**
WMQ PP PP 05 13 18.3 +0.7
WMQ S **S** **05 19 23.3 -0.8**
WMQ AMB AMB
comp=Z,22nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,131nm,4.2s
WMQ LR LR
comp=N,776nm,19.0s,MS5.1
WMQ LR LR
comp=E,1μm,21.0s,MS5.1
WMQ LR LR
comp=Z,885nm,19.0s,MS5.0
MKAR Makanchi Array 63.78 314 P **P** **05 10 55.8 -1.4**
comp=Z,17nm,0.8s,mb5.1,baz=52,slow=6.0,SNR=111
MKAR PcP PcP 05 11 31.9 -0.6
comp=Z,9.0nm,0.7s,baz=46,slow=5.0,SNR=7.2
MKAR LR LR 05 39 23.6
comp=Z,918nm,20.1s,MS5.0,baz=11,slow=37
MKAR PKPPKP 05 39 48.6
comp=Z,2.1nm,1.0s,baz=180,slow=1.2,SNR=4.9
MKAR Makanchi Array 63.78 314 P **P** **05 10 55.8 -1.4**
MKAR PcP PcP 05 11 31.9 -0.6
MKAR LR LR 05 39 23.6
MKAR P'P' 05 39 48.6
ARU Arti 64.37 333⇑ *i* P **P** **05 10 59.7 -1.1**
ARU *i* pP 05 11 15.0 +0.2
ARU *e* 05 11 31.6
ARU *e* 05 19 21.8
ARU eS **S** **05 19 33.7 -0.1**
ARU *e* 05 20 44.8
ARU eSS SS 05 23 43.4 -2.5
ARU pmax pmax
comp=Z,27nm,0.6s,mb5.5
ARU MLR MLR
comp=N,900nm,23.0s,MS5.0
ARU MLR MLR
comp=Z,1μm,23.0s,MS5.0
ARU MLR MLR
comp=E,600nm,22.0s,MS5.0
ARU Arti 64.37 333 eP **P** **05 10 59.8 -1.0**
comp=E,31nm,0.6s,mb5.5
ARU LR LR
comp=Z,178nm,19.0s,MS4.3
CD2 Chengdu 64.64 288 P **P** **05 11 03.0 0.0**
CD2 PP PP 05 13 25.8 -1.7
CD2 S **S** **05 19 32.0 -5.6**
CD2 SS SS 05 23 42.8 -7.9
CD2 AMB AMB
comp=Z,80nm,0.6s,mb5.9
CD2 AMB AMB
comp=Z,200nm,6.7s
CD2 LR LR
comp=E,380nm,18.0s
CD2 LR LR
comp=Z,490nm,21.7s,MS4.7
KAF Kangasniemi 64.75 352 *ep* **P** **05 11 00.8 -2.3**
comp=Z,18nm,0.6s,mb5.3,baz=6.0,slow=6.0
KAF Kangasniemi 64.75 352 *eP* **P** **05 11 00.8 -2.3**
KAF pmax pmax
comp=Z,18nm,0.6s,mb5.3
GZH Guangzhou 64.79 275 P **P** **05 10 59.5 -4.6**
MOL Molde 64.86 2 eP **P** **05 11 13.6 +10**
MOL AMb AMB 05 11 29.4
comp=Z,62nm,1.7s,mb5.4
DOMB Dombas 65.41 1 eP **P** **05 11 06.2 -1.3**
DOMB AMb AMB 05 11 09.7
comp=Z,31nm,1.8s,mb5.0
DOMB epP pP 05 11 21.5 0.0
FINES FINESS Array B 65.43 352 P **P** **05 11 06.0 -1.5**
comp=Z,17nm,0.7s,mb5.2,baz=27,slow=4.3,SNR=44
FINES ScP 05 15 35.7
comp=Z,7.6nm,0.9s,baz=90,slow=1.9,SNR=6.9
FINES PKPPKP 05 39 44.7
comp=Z,7.5nm,0.8s,baz=153,slow=4.3,SNR=8.6
FINES LR LR 05 40 10.0
comp=Z,823nm,21.7s,MS4.9,baz=7.1,slow=36
FINES FINESS Array B 65.43 352 P **P** **05 11 06.0 -1.5**
FINES ScP 05 15 35.7
FINES P'P' 05 39 44.7
FINES LR LR 05 40 10.0
TAOE Nuku Hiva Isla 66.12 149 eS S 05 20 03.8 +7.9
TAOE eSS SS 05 24 21.2 +7.7
TAOE eLR LR 05 30 30.9
comp=Z,7μm,27.7s
GYA Guiyang 66.26 283⇑ *i* P **P** **05 11 14.0 +0.5**
GYA S S 05 19 59.0 +1.6
GYA SCS ScS 05 21 01.5 -0.4
GYA AMB AMB
comp=Z,140nm,1.2s,mb5.9
GYA AMB AMB
comp=Z,380nm,4.8s
GYA LR LR
comp=N,740nm,26.6s,MS5.0
GYA LR LR
comp=E,1μm,25.2s,MS5.0
GYA LR LR
comp=Z,970nm,26.3s,MS4.9
NB2 NORSAR Subarra 66.43 0 P **P** **05 11 12.6 -1.3**
comp=Z,27nm,1.2s,mb5.2,baz=359,slow=6.2
NB2 NORSAR Subarra 66.43 0 P **P** **05 11 12.6 -1.3**
NB2 pmax pmax
comp=Z,27nm,1.2s,mb5.2
NB2 NORSAR Subarra 66.43 0 P **P** **05 11 12.6 -1.3**
comp=Z,27nm,1.2s,mb5.2
NB2 NORSAR Subarra 66.43 0 P **P** **05 11 12.6 -1.3**
baz=359,slow=6.5
NOA NORSAR Array B 66.43 0 P **P** **05 11 12.7 -1.3**
comp=Z,7.8nm,0.8s,mb4.8,baz=360,slow=6.2,SNR=36
NOA ScP 05 15 40.7
comp=Z,12nm,1.0s,baz=357,slow=5.1,SNR=6.9
NOA LR LR 05 38 09.1
comp=Z,497nm,21.7s,MS4.7,baz=5.0,slow=34
NOA PKPPKP 05 39 43.0
comp=Z,6.0nm,0.9s,baz=175,slow=3.5,SNR=9.5
DWPF Disney 66.48 74 P **P** **05 11 13.5 -1.3**
DWPF pP pP 05 11 28.7 -0.3
DWPF Disney 66.48 74 *eP* **P** **05 11 13.4 -1.4**
comp=Z,75nm,0.9s,mb5.7
DWPF LR LR
comp=Z,466nm,19.0s,MS4.7
AFI Afiamalu 66.57 183 P **P** **05 11 14.5 -1.0**
comp=Z,40nm,0.7s,mb5.5,baz=219,slow=6.1,SNR=6.7
AFI LR LR 05 33 43.9
comp=Z,471nm,20.5s,MS4.7,baz=344,slow=30
AFI Afiamalu 66.57 183 *eP* **P** **05 11 15.2 -0.4**
comp=Z,50nm,0.8s,mb5.6
AFI LR LR
comp=Z,1μm,20.0s,MS5.1
NAO01 NORSAR Array S 66.63 0 PFAKE 05 11 30.0 +15
NAO01 LR LR
comp=Z,823nm,22.0s,MS4.9
BER Bergen 66.98 3 *eP* **P** **05 11 21.0 +3.6**
HNR Honiara 67.62 214 PFAKE 05 11 30.0 +7.8
HNR LR LR
comp=Z,612nm,22.0s,MS4.8
KONO Kongsberg 67.82 1 *eP* **P** **05 11 21.7 -0.9**
KONO pmax pmax
comp=Z,24nm,1.0s,mb5.2
KONO MLR MLR
comp=Z,669nm,22.0s,MS4.8
KONO Kongsberg 67.82 1 *eP* **P** **05 11 21.7 -0.9**
comp=Z,24nm,1.0s,mb5.2
KONO LR LR
comp=Z,669nm,22.0s,MS4.8
KONO Kongsberg 67.82 1 *eP* **P** **05 11 22.1 -0.6**
KONO *eS* S 05 20 15.9 +0.4
VSU Vasula 68.32 351 *i P* **P** **05 11 25.1 -0.7**
VSU Vasula 68.32 351 *i P* **P** **05 11 25.1 -0.7**
CCIG Comitan 69.05 91 *i* P **P** **05 11 30.6 -0.4**
SNPH Sibulan 69.45 258⇑ *eP* **P** **05 11 31.2 -2.3**
SOR Soroa 69.57 79 *eP* **P** **05 11 32.8 -1.3**
KMI Kunming 69.58 285⇑ P **P** **05 11 34.3 +0.2**
KMI AP pP 05 11 48.3 0.0
KMI XP sP 05 11 53.5 -0.2
KMI PCP PcP 05 11 57.5 +0.4
KMI PP PP 05 14 09.8 -0.6
KMI SCP 05 15 56.0
KMI PCS 05 16 01.5
KMI S S 05 20 35.8 -1.3
KMI XS 05 20 59.0
KMI SKS SKS 05 21 26.0 0.0
KMI SCS ScS 05 21 27.5 -0.2
KMI SS SS 05 25 05.0 -2.1
KMI AMB AMB
comp=Z,105nm,1.3s,mb5.6
KMI AMB AMB
comp=Z,535nm,3.5s
KMI LR LR
comp=N,510nm,21.6s,MS4.8
KMI LR LR
comp=E,378nm,21.6s,MS4.8
KMI LR LR
comp=Z,525nm,39.4s
KMI Kunming 69.58 285⇑ P **P** **05 11 34.2 +0.1**
KMI *PP pP 05 11 48.3 0.0
KMI *SP sP 05 11 53.5 -0.2
KMI 05 11 57.6
KMI 05 14 09.8
KMI PPP PPP 05 15 49.2 -0.4
KMI S S 05 20 35.7 -1.4
KMI *SS 05 20 59.1
KMI PS PS 05 21 08.5 -1.6
KMI 05 21 25.9
KMI 05 21 27.4
KMI SS SS 05 25 05.0 -2.1
KMI SSS SSS 05 28 08.7 -2.4
KMI pmax pmax
comp=Z,105nm,1.3s,mb5.6
KMI MLR MLR
comp=Z,520nm,39.4s,MS4.5
KMI Kunming 69.58 285⇑ P **P** **05 11 34.2 +0.1**
comp=Z,105nm,1.3s,mb5.6
KMI pP pP 05 11 48.3 0.0
KMI sP sP 05 11 53.5 -0.2
KMI PcP PcP 05 11 57.6 +0.5
KMI PP PP 05 14 09.8 -0.6
KMI PPP PPP 05 15 49.2 -0.4
KMI ScP 05 15 56.0
KMI PcS 05 16 01.4
KMI S S 05 20 35.7 -1.4
KMI sS 05 20 59.1
KMI PS PS 05 21 08.5 -1.6
KMI SKS SKS 05 21 25.9 -0.1
KMI ScS ScS 05 21 27.4 -0.3
KMI SS SS 05 25 05.0 -2.1
KMI SSS SSS 05 28 08.7 -2.4
KMI LR LR
comp=Z,520nm,39.4s,MS4.5
MOS Moscow 69.60 345 *eP* **P** **05 11 31.1 -2.6**
MOS *e* pP 05 11 42.2 -5.7
MOS *e* pP 05 11 48.4 +0.5
MOS *e* 05 21 24.9
TKM2 Tokmak 2 69.75 315 P **P** **05 11 34.9 0.0**
SNR=16
USP Ospenovka 69.94 316 P **P** **05 11 36.1 +0.1**
SNR=18
QIZ Qiongzhong 69.99 275 P **P** **05 11 37.5 +0.8**
QIZ AMB AMB
comp=Z,341nm,1.1s,mb6.2
QIZ Qiongzhong 69.99 275 *eP* **P** **05 11 37.6 +0.9**
comp=Z,300nm,1.0s,mb6.2
ULHL Ulahol 70.02 314 P **P** **05 11 36.7 +0.1**
SNR=11
CHMS Chumysh 70.05 316 P **P** **05 11 36.8 +0.1**
SNR=11
FRU Bishkek 70.24 316 *eP* **P** **05 11 37.0 -0.9**
FRU *e* pP 05 11 51.0 -1.0
FRU pmax pmax
comp=Z,60nm,1.8s,mb5.2
FRU MLR MLR
comp=Z,600nm,16.0s,MS4.9
KBK Karagaybulak 70.24 315 P **P** **05 11 38.4 +0.6**
SNR=12
OBN Obninsk 70.37 345⇓ *i P* **P** **05 11 37.2 -1.2**
OBN *e*PP pP 05 11 51.6 -1.0
OBN *e* 05 15 57.9
OBN *eS* S 05 20 38.5 -7.3
OBN *e* 05 21 33.1
OBN eSS SS 05 25 21.5 +2.6
OBN pmax pmax
comp=Z,103nm,2.0s,mb5.4
OBN MLR MLR
comp=Z,600nm,18.0s,MS4.9
OBN Obninsk 70.37 345⇑ *i* P **P** **05 11 36.1 -2.3**
OBN LR LR
comp=Z,169nm,19.0s,MS4.3
AAK Ala-Archa 70.45 316 P **P** **05 11 39.7 +0.5**
SNR=18
AAK Ala-Archa 70.45 316 *eP* **P** **05 11 37.9 -1.3**
AAK pmax pmax
comp=Z,25nm,0.7s,mb5.2
AAK MLR MLR
comp=Z,162nm,20.0s,MS4.3
AAK Ala-Archa 70.45 316 *eP* **P** **05 11 37.9 -1.3**
comp=Z,25nm,0.7s,mb5.2
AAK LR LR
comp=Z,162nm,20.0s,MS4.3
KZA Kyzart 70.59 315 P **P** **05 11 40.9 +0.9**
SNR=21
EKS2 Erkin-Say 70.73 316 P **P** **05 11 28.6 -12**
SNR=5.3
EAU Auchinoon 70.95 9 eP **P** **05 11 41.3 -0.6**
EAU AMb AMB 05 11 46.2
comp=Z,190nm,1.8s,mb5.7
MUD Monsted U'grnd 71.02 1 *eP* **P** **05 11 42.4 +0.1**
MUD *i* pP 05 11 55.6 -0.9
MUD *i* 05 20 59.6
MUD pmax pmax
comp=Z,14nm,0.7s,mb5.0
MUD Monsted U'grnd 71.02 1 *eP* **P** **05 11 42.4 +0.1**
comp=Z,14nm,0.7s,mb5.0
MUD *i* pP 05 11 55.6 -0.9
MUD *i* 05 20 59.6
MUD *i* 05 27 40.2
MUD Monsted U'grnd 71.02 1 *i P* **P** **05 11 42.4 +0.1**
comp=Z,14nm,0.7s,mb5.0
MUD *i* pP 05 11 55.6 -0.9
MUD *i* 05 20 59.6
MUD *i* 05 27 40.2
comp=Z,550nm,22.0s
AML Almayashu 71.21 316 P **P** **05 11 44.9 +1.2**
SNR=21
ESK Eskdalemuir 71.50 9 PFAKE 05 12 00.0 +15
ESK LR LR
comp=Z,252nm,21.0s,MS4.5
COP Copenhagen 71.80 359 *i* P **P** **05 12 01.6 +15**
COP *i* S S 05 20 55.4 -6.9
comp=Z,220nm,19.0s
MGV Manicaragua 71.89 77 eP **P** **05 11 44.3 -3.8**
PPT Papeete 72.07 161 eS S 05 21 12.6 +6.5
PPT eSS SS 05 25 56.7 +11
PPT eLQ 05 30 39.9
PPT eLR LR 05 33 12.0
comp=Z,4μm,30.0s,baz=351
PPT Papeete 72.07 161 P **P** **05 11 48.6 -0.6**
comp=Z,15nm,0.6s,mb5.1,baz=309,slow=3.5,SNR=3.9
PPT LR LR 05 35 19.4
comp=Z,1μm,21.0s,MS5.1,baz=321,slow=29
BSD Bornholm Skovb 72.33 358⇑ *i* P **P** **05 11 58.9 +8.7**
BSD pmax pmax
comp=Z,40nm,0.8s,mb5.4
BSD Bornholm Skovb 72.33 358⇑ *i* P **P** **05 11 58.9 +8.7**
comp=Z,40nm,0.8s,mb5.4
KSH Kashi 72.36 313 eP **P** **05 11 51.5 +0.9**
KSH eS S 05 21 07.5 -1.6
KSH eSKS SKS 05 21 45.3 -1.0
KSH eSS SS 05 25 48.3 -1.7
KSH AMB AMB
comp=Z,560nm,1.4s,mb6.3
KSH AMB AMB
comp=Z,280nm,2.6s,mb5.7
KSH LR LR
comp=N,3μm,22.6s
KSH LR LR
comp=E,1μm,15.8s
DMUB Kingscourt 72.51 11⇑ *i* P **P** **05 11 50.7 -0.4**
BBSR BB Station 72.52 59 eP **P** **05 11 50.5 -1.1**
comp=E,190nm,1.5s,mb5.8
BBSR LR LR
comp=Z,645nm,21.0s,MS4.9
PMG Port Moresby 72.57 226 eP **P** **05 11 52.7 +0.4**
PMG pmax pmax
comp=Z,202nm,1.0s
PMG MLR MLR
comp=Z,1μm,21.0s
PMG Port Moresby 72.57 226 P **P** **05 11 53.2 +1.0**
comp=Z,161nm,0.8s,mb6.0,baz=32,slow=5.2,SNR=34
PMG LR LR 05 39 45.4
comp=Z,813nm,18.8s,MS5.0,baz=48,slow=32
PMG Port Moresby 72.57 226 *eP* **P** **05 11 52.7 +0.5**
comp=Z,202nm,1.0s,mb6.0
PMG LR LR
comp=Z,1μm,21.0s,MS5.2
LSA Lhasa 72.63 296 P **P** **05 11 53.8 +1.5**
LSA S S 05 21 04.8 -7.5
LSA AMB AMB
comp=Z,470nm,0.9s,mb6.4
LSA AMB AMB
comp=Z,210nm,5.5s
LSA LR LR
comp=N,260nm,18.0s
LSA LR LR
comp=E,500nm,24.0s
LSA LR LR
comp=Z,380nm,24.0s
LSA Lhasa 72.63 296 *eP* **P** **05 11 53.4 +1.1**
LSA pmax pmax
comp=Z,89nm,0.8s,mb5.8
LSA MLR MLR
comp=Z,506nm,22.0s,MS4.8
LSA Lhasa 72.63 296 *eP* **P** **05 11 53.4 +1.0**
comp=Z,89nm,0.8s,mb5.8
LSA LR LR
comp=Z,506nm,22.0s,MS4.8
DCN Croghan 73.01 12⇑ *i* P **P** **05 11 53.7 -0.3**
SUW Suwalki 73.03 353 eP **P** **05 11 52.8 -1.3**
SUW ePcP PcP 05 12 06.7 -4.3
SUW epP pP 05 12 09.2 +0.8
SUW eS S 05 21 09.7 -6.5
SUW Suwalki 73.03 353 eP **P** **05 11 52.8 -1.4**
SUW ePcP PcP 05 12 06.7 -4.3
SUW epP pP 05 12 09.2 +0.8
SUW eS S 05 21 09.7 -6.5
SUW MLR MLR 05 39 26.7
comp=Z,1μm,29.3s,MS5.0
DLF Lyons Farm 73.14 11⇑ *i* P **P** **05 11 52.0 -2.8**
LHO Holmfirth 73.37 8 eP **P** **05 11 55.6 -0.6**
BSEG Bad Segeberg 73.55 1 eP **P** **05 11 57.2 0.0**
KBI1 Birley Grange 73.69 8 eP **P** **05 11 58.2 +0.2**
SBD1 Bryn Du 73.88 9 eP **P** **05 11 58.8 -0.4**
SBD1 AMb AMB 05 12 03.7
comp=Z,115nm,2.0s,mb5.5
GKP Gorka Klasztor 74.11 356 eP **P** **05 11 59.6 -0.9**
GKP eS S 05 21 21.8 -6.5
GKP LR LR
comp=Z,1μm,28.1s,MS5.1
GKP Gorka Klasztor 74.11 356 eP **P** **05 11 59.6 -0.9**
GKP eS S 05 21 21.8 -6.5
GKP MLR MLR 05 40 04.7
comp=Z,1μm,28.1s,MS5.1
HLM1 Long Mynd 74.30 9 eP **P** **05 12 01.0 -0.6**
HLM1 AMb AMB 05 12 02.3
comp=Z,46nm,1.9s,mb5.1
SSP1 Stoney Pound 74.38 9 eP **P** **05 12 01.9 -0.1**
SSP1 AMb AMB 05 12 05.0
comp=Z,65nm,1.3s,mb5.4
HTR Trewern Hill 74.69 9 eP **P** **05 12 03.4 -0.4**
HTR AMb AMB 05 12 06.7
comp=Z,80nm,1.4s,mb5.5
MCH1 Michaelchurch 74.80 9 eP **P** **05 12 04.2 -0.3**
IMP Imphal 74.92 291 eP **P** **05 12 06.0 +0.3**
WAR Warsaw 74.94 354 eP **P** **05 12 05.7 +0.4**
WAR epP pP 05 12 21.1 +1.5
WAR eS S 05 21 31.8 -5.8
WAR LR LR
comp=Z,1μm,26.7s,MS5.1
WAR Warsaw 74.94 354 eP **P** **05 12 05.7 +0.4**
WAR epP pP 05 12 21.1 +1.5
WAR eS S 05 21 31.8 -5.8
WAR MLR MLR 05 42 49.6
comp=Z,1μm,26.7s,MS5.1
HLGC Holguin 75.13 75 eP **P** **05 12 05.2 -1.8**
HGH Gray Hill 75.18 9 eP **P** **05 12 06.1 -0.5**
HGH AMb AMB 05 12 06.7
comp=Z,82nm,1.2s,mb5.5
CHRT Chiangrai 75.35 283⇑ P **P** **05 12 08.5 +0.2**
comp=Z,1μm,1.0s
SHL Shillong 75.46 293 eP **P** **05 12 08.0 -0.8**
SHL *e* 05 12 48.5
WTSB Winterswijk 75.46 3 eP **P** **05 12 07.8 -0.5**
comp=Z,21nm,1.8s,mb4.8
WTSB *ex* x 05 12 21.8
CLZ Clausthal 75.65 1 eP **P** **05 12 09.6 +0.2**
CLZ pmax pmax
comp=Z,43nm,1.1s,mb5.3
CLZ Clausthal 75.65 1 *eP* **P** **05 12 09.6 +0.2**
comp=Z,43nm,1.1s,mb5.3
AKASG Malin Array Be 75.70 348 P **P** **05 12 08.3 -1.4**

comp=Z,5.4nm,0.4s,mb4.8,baz=12,slow=5.5,SNR=82
AKASG pP pP 05 12 22.6 -1.4
comp=Z,6.5nm,0.4s,baz=13,slow=5.5,SNR=10
AKASG PKPPKP 05 39 27.2
comp=Z,0.2nm,0.3s,baz=225,slow=1.3,SNR=5.0
MOAC Moa 75.95 74 *eP* **P 05 12 10.5 -1.2**
CLL Collm 76.18 359⇑*iP* **P 05 12 11.8 -0.6**
CLL *e**PP pP 05 12 26.0 -0.7
CLL *eS* S 05 21 47.0 -4.2
CLL pmax pmax
comp=Z,16nm,0.8s,mb5.0
CLL Collm 76.18 359⇑*iP* **P 05 12 11.8 -0.6**
comp=Z,16nm,0.8s,mb5.0
CLL *ep*P pP 05 12 26.0 -0.7
CLL *eS* S 05 21 47.0 -4.2
CLL Collm 76.18 359 ⇑P **P 05 12 11.8 -0.6**
comp=Z,logA/T=1.3,mb5.0
CLL *e**PP pP 05 12 26.0 -0.7
CLL *eS* S 05 21 47.0 -4.2
CLL *ePS* PS 05 22 33.0 -3.0
CLL *eSS* SS 05 26 42.0 -6.4
CLL *e* 05 39 26.0
KKM Kota Kinabalu 76.26 262 *eP* **P 05 12 14.8 +1.2**
KKM Kota Kinabalu 76.26 262 P **P 05 12 15.1 +1.6**
KKTK Khon Kaen 76.29 279 ⇑P **P 05 12 14.0 +0.3**
comp=Z,7μm,0.5s
KSP Ksiaz 76.57 357 *eP* **P 05 12 14.5 -0.1**
KSP *e**PP pP 05 12 28.2 -0.7
KSP *eS* S 05 21 50.0 -5.5
KSP MLR MLR
comp=Z,2μm,30.3s,MS5.3
KSP Ksiaz 76.57 357 *eP* **P 05 12 14.5 -0.1**
KSP *ep*P pP 05 12 28.2 -0.7
KSP *eS* S 05 21 50.0 -5.5
KSP *eSS* SS 05 26 45.0 -9.3
KSP LR LR
comp=Z,2μm,30.3s,MS5.3
KSP Ksiaz 76.57 357 *eP* **P 05 12 14.6 0.0**
comp=Z,200nm,2.4s,mb5.6
KSP *ep*P pP 05 12 29.1 +0.2
KSP MLR MLR 05 40 58.3
comp=Z,2μm,30.3s,MS5.2
BRG Berggiesshubel 76.60 358 *i* P **P 05 12 14.3 -0.5**
BRG *i* *PP pP 05 12 29.3 +0.2
BRG S S 05 21 52.0 -3.9
BRG pmax pmax
comp=Z,17nm,1.0s,mb4.9
BRG MLR MLR
comp=Z,670nm,24.1s,MS4.9
BRG Berggiesshubel 76.60 358 *i* P **P 05 12 14.3 -0.5**
comp=Z,17nm,1.0s,mb4.9
BRG *i* pP pP 05 12 29.3 +0.2
BRG S S 05 21 52.0 -3.9
BRG SS SS 05 26 46.0 -8.7
BRG LR LR
comp=Z,670nm,24.1s,MS4.9
HGN Heimansgroeve 76.63 4⇑*iP* **P 05 12 14.0 -0.9**
comp=Z,46nm,0.9s,mb5.4
HGN *ex* x 05 12 29.9
HGN *eS* S 05 21 53.9 -2.2
HGN *eSS* SS 05 27 09.8 +15
TSM Tawau 76.66 259 P **P 05 12 17.2 +1.3**
MOX Moxa 76.85 360 *eP* **P 05 12 16.2 0.0**
MOX *e* pP 05 12 26.7 -3.8
MOX pmax pmax
comp=Z,31nm,1.1s,mb5.2
MOX MLR MLR
comp=Z,200nm,22.0s,MS4.4
MOX Moxa 76.85 360 *eP* **P 05 12 16.2 0.0**
comp=Z,31nm,1.1s,mb5.2
MOX *e* pP 05 12 26.7 -3.8
MOX LR LR
comp=Z,200nm,22.0s,MS4.4
MOX Moxa 76.85 360 *i* P **P 05 12 16.2 0.0**
comp=Z,logA/T=1.4,mb5.1
MOX pP pP 05 12 27.0 -3.5
MOX S S 05 21 54.0 -4.6
MOX LQ 05 32 39.0
MOX L 05 57 10.0
GUN Gumba 76.88 299 *eP* **P 05 12 17.2 +0.4**
comp=Z,111nm,0.5s,mb6.0
JIRN Jiri 76.91 298 *eP* **P 05 12 17.3 +0.3**
comp=Z,214nm,0.7s,mb6.2
UPC Upice 76.92 357⇑*iP* **P 05 12 15.9 -0.7**
UPC *ep*P pP 05 12 27.2 -3.7
PVCC Panska Ves 76.93 358⇑*iP* **P 05 12 16.2 -0.5**
PVCC *ep*P pP 05 12 27.8 -3.2
PVCC AMS AMS 05 44 10.0
comp=Z,600nm,21.3s
OJC Ojcow 77.03 354⇑*eP* **P 05 12 17.0 -0.2**
OJC *ePcP* PcP 05 12 28.1 -0.2
OJC *eS* S 05 21 58.0 -2.6
OJC MLR MLR 05 46 07.9
comp=Z,1μm,23.1s,MS5.1
DPC Dobruska-Polom 77.06 357⇑*iP* **P 05 12 17.1 -0.3**
DPC *ep*P pP 05 12 30.7 -1.0
DPC *eS* S 05 21 57.8 -3.1
DPC AMS AMS 05 41 20.0
comp=Z,1μm,27.6s
TNS Taunus Mts 77.24 2 *eP* **P 05 12 18.3 -0.1**
TNS pmax pmax
comp=Z,24nm,1.1s,mb5.0
TNS Taunus Mts 77.24 2 *eP* **P 05 12 18.3 -0.1**
comp=Z,24nm,1.1s,mb5.0
GIVF Givet 77.25 4 *eP* **P 05 12 17.9 -0.5**
BAIF Baives 77.26 5 *eP* **P 05 12 17.9 -0.6**
comp=Z,43nm,0.8s,mb5.1
BAIF Baives 77.26 5 *eP* **P 05 12 17.9 -0.6**
BAIF pmax pmax
comp=Z,21nm,0.8s,mb5.1
NKC Novy Kostel 77.26 359⇑*iP* **P 05 12 18.2 -0.3**
NKC *ep*P pP 05 12 31.6 -1.2
NKC AMS AMS 05 53 00.0
comp=Z,600nm,19.6s
KKN Kakani 77.29 299 *eP* **P 05 12 19.0 -0.1**
comp=Z,129nm,0.7s,mb6.0
PKI Pulchoki 77.40 299 *eP* **P 05 12 19.6 -0.1**
comp=Z,178nm,1.1s,mb5.9
KWP Kalwaria 77.42 352 *eP* **P 05 12 19.2 -0.2**
KWP *ep*P pP 05 12 34.3 +0.6
KWP *eS* S 05 22 03.7 -1.0
KWP Kalwaria 77.42 352 *eP* **P 05 12 19.2 -0.2**
comp=Z,100nm,1.0s,mb5.7
KWP *ep*P pP 05 12 34.3 +0.6
KWP *eS* S 05 22 03.7 -1.0
KWP MLR MLR 05 45 23.4
comp=Z,1μm,24.8s,MS5.2
GKN Gorkha 77.46 300 *eP* **P 05 12 19.8 -0.3**
comp=Z,213nm,0.9s,mb6.0
PRU Pruhonice 77.47 358⇑*iP* **P 05 12 18.8 -0.9**
PRU *ep*P pP 05 12 33.3 -0.7
PRU *eS* S 05 22 02.0 -3.4
PRU AMS AMS 05 44 30.0
comp=Z,600nm,22.3s
OKC Ostrava-Krasne 77.50 356⇑*iP* **P 05 12 19.3 -0.5**
OKC *ep*P pP 05 12 32.9 -1.2
OKC AMS AMS 05 45 50.0
comp=Z,800nm,22.1s
DMN Daman 77.53 299 *eP* **P 05 12 20.5 +0.1**
comp=Z,90nm,0.8s,mb5.8
ABH Alteburg 77.56 3 *eP* **P 05 12 20.2 0.0**
ABH Alteburg 77.56 3⇓*eP* **P 05 12 20.4 +0.2**
MORC Moravsky Berou 77.59 356 *eP* **P 05 12 19.7 -0.6**
MORC pmax pmax
comp=Z,21nm,1.0s,mb5.0
MORC Moravsky Berou 77.59 356 *eP* **P 05 12 19.7 -0.6**
comp=Z,21nm,1.0s,mb5.0
TBI Tubuai 77.72 162 *eSS* SS 05 27 12.5 +0.4
TBI *eLR* LR 05 35 54.5
comp=Z,2μm,32.2s,baz=345
DZM Mont Dzumac 77.72 204 *eP* **P 05 12 22.9 +1.3**
DZM Mont Dzumac 77.72 204 LR LR 05 39 46.9
comp=Z,2μm,21.6s,MS5.3,baz=50,slow=30
WLF Walferdange 77.74 3 *eP* **P 05 12 20.8 -0.3**
WLF *e* 05 12 30.0
WLF pmax pmax
comp=Z,19nm,0.9s,mb5.0
WLF Walferdange 77.74 3 *eP* **P 05 12 20.8 -0.3**
comp=Z,19nm,0.9s,mb5.0
WLF *ePcP* PcP 05 12 30.0 -1.4
STHS Stebnicka Huta 77.74 353 *i* P **P 05 12 22.0 +0.9**
STHS *ep*P pP 05 12 36.5 +1.0
NOUC Port Laguerre 77.78 204 *eP* **P 05 12 23.3 +1.3**
NIE Niedzica 77.80 354 *eP* **P 05 12 22.1 +0.6**

GRA1 Grafenberg Arr 77.81 0 *eP* **P 05 12 22.0 +0.5**
comp=Z,56nm,1.1s,mb5.4
GRA1 *ep*P pP 05 12 36.1 +0.3
GRA1 LR LR
comp=Z,500nm,21.9s,MS4.8
GRF Grafenberg Arr 77.81 0 *eP* **P 05 12 22.0 +0.5**
GRF *e**PP pP 05 12 36.1 +0.3
GRF pmax pmax
comp=Z,56nm,1.1s,mb5.4
GRF MLR MLR
comp=Z,500nm,21.9s,MS4.8
GRF Grafenberg Arr 77.81 0 *eP* **P 05 12 22.0 +0.5**
GRF *e**PP pP 05 12 36.1 +0.3
GRF pmax pmax
comp=Z,56nm,1.1s,mb5.4
GRF MLR MLR
comp=Z,500nm,21.9s,MS4.8
GRF Grafenberg Arr 77.81 0 *eP* **P 05 12 22.0 +0.5**
comp=Z,56nm,1.1s,mb5.4
GRF *ep*P pP 05 12 36.1 +0.3
GRF LR LR
comp=Z,500nm,21.9s,MS4.8
BDT Bhumibol Dam 77.86 282 ⇑P **P 05 12 23.0 +0.6**
comp=Z,162nm,0.8s,mb6.0
TOD Tromm 77.87 2 *eP* **P 05 12 21.9 +0.1**
TOD Tromm 77.87 2⇓*eP* **P 05 12 22.0 +0.2**
SWS Schriesheim 77.99 2⇓*eP* **P 05 12 22.8 +0.3**
JTS JuntasAbangare 78.06 89 PFAKE 05 12 40.0 +16
JTS LR LR
comp=Z,96nm,21.0s,MS4.1
VRAC Vranov 78.09 357 P **P 05 12 23.8 +0.7**
SIND Sindeldorf 78.14 1⇓*eP* **P 05 12 23.5 +0.2**
KTD Kalmit 78.14 2 *eP* **P 05 12 23.9 +0.6**
KOLS Kolonicke sedl 78.14 353 *eP* **P 05 12 23.8 +0.4**
KOLN Koldanda 78.19 300 *eP* **P 05 12 24.0 -0.1**
comp=Z,97nm,0.8s,mb5.8
CRVS Cervenica-Dubn 78.23 353 *eP* **P 05 12 24.7 +0.8**
CRVS *eS* S 05 22 09.6 -3.9
FLN La Foliniere 78.24 8 *eP* **P 05 12 23.0 -0.9**
comp=Z,48nm,0.9s,mb5.1
FLN *eR*
comp=Z,1μm,19.5s
FLN La Foliniere 78.24 8 *eP* **P 05 12 23.0 -0.9**
FLN pmax pmax
comp=Z,24nm,0.9s,mb5.1
FLN MLR MLR
comp=Z,1μm,19.5s,MS5.2
THN Thein Dam 78.31 309 *eP* **P 05 12 23.0 -1.6**
WET Wettzell 78.35 359 *eP* **P 05 12 24.9 +0.4**
WET pmax pmax
comp=Z,48nm,1.6s,mb5.2
WET Wettzell 78.35 359 *eP* **P 05 12 24.9 +0.4**
comp=Z,48nm,1.6s,mb5.2
KHC Kasperske Hory 78.35 359⇑*iP* **P 05 12 24.5 0.0**
KHC *e**PP pP 05 12 37.9 -0.9
KHC MLR MLR
comp=Z,700nm,24.7s,MS4.9
KHC Kasperske Hory 78.35 359⇑*iP* **P 05 12 24.4 -0.1**
KHC Kasperske Hory 78.35 359⇑*iP* **P 05 12 24.5 0.0**
KHC *ePCP* PcP 05 12 30.0 -4.0
KHC *ep*P pP 05 12 37.9 -0.9
KHC AMS AMS 05 44 40.0
comp=Z,700nm,24.7s
ROSF Rostrenen 78.39 10 *eP* **P 05 12 24.4 -0.4**
NST Nakhon Sawan 78.41 281⇓P **P 05 12 26.5 +1.0**
comp=Z,192nm,1.2s,mb5.9
LANF Langenberg 78.47 2 *eP* **P 05 12 25.4 +0.2**
LGTI Lohaghat 78.55 304 *eP* **P 05 12 28.0 +2.0**
SGMF Saint Gilles 78.55 9 *eP* **P 05 12 25.1 -0.5**
comp=Z,153nm,1.5s,mb5.4
SGMF Saint Gilles 78.55 9 *eP* **P 05 12 25.1 -0.5**
SGMF pmax pmax
comp=Z,77nm,1.5s,mb5.4
GRR Gorron 78.58 8 *eP* **P 05 12 25.0 -0.8**
comp=Z,73nm,1.1s,mb5.2
GRR Gorron 78.58 8 *eP* **P 05 12 25.0 -0.8**
GRR pmax pmax
comp=Z,37nm,1.1s,mb5.2
GEC2 GERESS Array S 78.63 358 *eP* **P 05 12 26.3 +0.2**
GERES GERESS Array B 78.63 358 P **P 05 12 26.0 -0.1**
comp=Z,8.6nm,0.8s,mb4.7,slow=4.0,SNR=64
GERES PKKPbc 05 31 19.1
comp=Z,1.2nm,0.7s,baz=180,slow=1.3,SNR=11
GERES PKPPKP 05 39 18.7
comp=Z,2.1nm,0.9s,baz=270,slow=1.3,SNR=7.7
GERES LR LR 05 47 49.7
comp=Z,405nm,21.8s,MS4.7,baz=18,slow=36
KECS Kecovo 78.72 354 *eP* **P 05 12 26.9 +0.4**
KECS *ep*P pP 05 12 41.3 +0.4
GOF Gofitskoye 78.73 338⇓*iP* **P 05 12 21.5 -5.2**
GOF *i* S S 05 22 19.9 +1.0
GOF pmax pmax
comp=Z,20nm,1.0s,mb5.0
GOF pmax pmax
comp=Z,200nm,1.1s,mb6.0
GOF pmax pmax
comp=Z,270nm,1.2s,mb6.0
GOF smax
comp=N,530nm,2.5s
KOLL Kolacno 78.74 355 *eP* **P 05 12 27.5 +0.8**
KOLL *ep*P pP 05 12 41.9 +0.9
VYHS Vyhne 78.81 355 *i* P **P 05 12 27.1 +0.1**
VYHS *e* 05 12 36.3
QUIF Quistinic 78.82 10 *eP* **P 05 12 26.6 -0.5**
SMOL Smolenice 78.85 356 *eP* **P 05 12 28.5 +1.2**
HDH Heidenheim 78.91 1⇓*eP* **P 05 12 27.8 +0.2**
CDF Champ du Feu 79.03 3 *eP* **P 05 12 28.0 -0.2**
comp=N,39nm,0.9s,mb5.0
CDF Champ du Feu 79.03 3 *eP* **P 05 12 28.0 -0.2**
CDF pmax pmax
comp=Z,19nm,0.9s,mb5.0
WLS Welschbruch 79.03 3 *eP* **P 05 12 28.6 +0.4**
BFO Black Forest 79.14 2 *eP* **P 05 12 28.8 0.0**
BFO pmax pmax
comp=Z,36nm,1.1s,mb5.2
BFO Black Forest 79.14 2 *eP* **P 05 12 28.8 0.0**
comp=Z,36nm,1.1s,mb5.2
THEF They Montfort 79.17 4 *eP* **P 05 12 29.3 +0.3**
ZST Bratislava 79.19 356 *eP* **P 05 12 29.8 +0.7**
ZST *ep*P pP 05 12 43.9 +0.4
ZST *eS* S 05 22 21.8 -1.8
ZST *eL* 05 45 58.6
BURAR Bucovina Array 79.19 351⇑P **P 05 12 29.1 0.0**
BURAR Bucovina Array 79.19 351⇑P **P 05 12 29.1 -0.1**
ECH Echery 79.22 3 *eP* **P 05 12 29.3 0.0**
LIBD Limburg 79.30 3 *eP* **P 05 12 30.1 +0.4**
PSZ Piszkesteto 79.32 354 P **P 05 12 30.8 +1.0**
PSZ pmax pmax
comp=Z,60nm,1.2s,mb5.4
PSZ Piszkesteto 79.32 354⇓*i* **P 05 12 30.6 +0.8**
FUR Furstenfeldbru 79.33 0 *eP* **P 05 12 30.2 +0.3**
FUR pmax pmax
comp=Z,23nm,0.6s,mb5.3
FUR Furstenfeldbru 79.33 0 *eP* **P 05 12 30.2 +0.3**
comp=Z,23nm,0.6s,mb5.3
SPAK Spaichingen 79.37 2⇓*eP* **P 05 12 30.6 +0.5**
KIS Kishinev 79.39 348 *eP* **P 05 12 28.0 -2.3**
KIS *e* 05 15 30.0
KIS *e* 05 22 36.0
KIS *e* 05 23 04.0
KIS MLR MLR
comp=N,400nm,20.0s,MS5.0
KIS MLR MLR
comp=E,600nm,20.0s,MS5.0
KIS MLR MLR
comp=Z,700nm,20.0s,MS5.0
KIS MLR MLR
comp=Z,800nm,20.0s
HAU Haudompre 79.40 3 *eP* **P 05 12 30.0 -0.3**
comp=Z,57nm,1.0s,mb5.2
HAU *eR*
comp=Z,742nm,21.2s
GUT Gutenstein 79.41 2⇓*eP* **P 05 12 30.9 +0.6**
KIZ Kirchzarten 79.50 2⇓*eP* **P 05 12 30.8 0.0**
SRO Srobarova 79.51 355 *eP* **P 05 12 32.0 +1.1**
FELD Feldberg 79.58 2⇓*eP* **P 05 12 31.5 +0.2**
MOF Molkenrain 79.58 3 *eP* **P 05 12 31.4 +0.1**
MAK Makhachkala 79.59 334 *eP* **P 05 12 32.0 +0.6**
MAK *e* pP 05 12 46.0 +0.2
MAK *eS* S 05 22 34.0 +6.0
MAK pmax pmax
comp=Z,660nm,1.2s,mb6.4
MAK pmax pmax
comp=Z,300nm,2.0s,mb5.9

MAK pmax pmax
comp=Z,600nm,4.0s
HINF Hinteralfeld 79.61 3 *eP* **P 05 12 30.9 -0.5**
comp=Z,47nm,0.9s,mb5.1
HINF Hinteralfeld 79.61 3 *eP* **P 05 12 30.9 -0.5**
HINF pmax pmax
comp=Z,23nm,0.9s,mb5.1
MOA Molln 79.62 358⇓*iP* **P 05 12 31.2 -0.3**
comp=Z,77nm,2.9s,mb5.1
SOP Sopron 79.72 356⇑*eP* **P 05 12 32.7 +0.7**
SOP Sopron 79.72 356⇑*eP* **P 05 12 32.8 +0.8**
UBR Uberruh 79.81 1⇓*eP* **P 05 12 33.0 +0.5**
KIV Kislovodsk 79.85 338*α iP* **P 05 12 33.3 +0.5**
KIV *i* 05 12 39.0
KIV *e* pP 05 12 49.2 +2.0
KIV *i* S S 05 22 32.1 +1.4
KIV *ePS* PS 05 23 10.5 -12
KIV pmax pmax
comp=Z,53nm,0.9s,mb5.5
KIV MLR MLR
comp=Z,700nm,20.0s,MS5.0
KIV Kislovodsk 79.85 338 *eP* **P 05 12 33.0 +0.2**
comp=Z,52nm,1.0s,mb5.4
KIV LR LR
comp=Z,192nm,21.0s,MS4.4
PKSG 79.93 355⇓*eP* **P 05 12 34.1 +1.0**
BBS Basel-Blauen 79.98 3 *eP* **P 05 12 33.8 +0.4**
BBS Basel-Blauen 79.98 3⇓*eP* **P 05 12 33.7 +0.3**
LOR Lormes 80.03 5 *eP* **P 05 12 33.3 -0.4**
comp=Z,118nm,1.1s,mb5.4
LOR *eR*
comp=Z,834nm,21.2s
LOR Lormes 80.03 5 *eP* **P 05 12 33.3 -0.4**
LOR pmax pmax
comp=Z,59nm,1.1s,mb5.4
LOR MLR MLR
comp=Z,830nm,21.3s,MS5.0
LOMF Lomont 80.07 3 *eP* **P 05 12 34.3 +0.4**
MOTA Moosalm 80.15 0⇓*iP* **P 05 12 34.6 +0.3**
comp=Z,57nm,1.2s,mb5.4
MOTA Moosalm 80.15 0⇓*iP* **P 05 12 34.6 +0.3**
MOTA pmax pmax
comp=Z,57nm,1.2s,mb5.4
ANN Anapa 80.16 341⇑*eP* **P 05 12 34.1 -0.3**
ANN *i* S S 05 22 31.9 -2.0
ANN pmax pmax
comp=Z,77nm,1.0s,mb5.6
ANN MLR MLR
comp=N,1μm,21.0s,MS5.2
ANN MLR MLR
comp=E,210nm,21.0s,MS5.2
ANN MLR MLR
comp=Z,545nm,21.0s,MS4.9
WATA Walderalm 80.16 360⇑*iP* **P 05 12 34.6 +0.2**
comp=Z,52nm,1.3s,mb5.3
WATA Walderalm 80.16 360⇑*iP* **P 05 12 34.6 +0.2**
WATA pmax pmax
comp=Z,52nm,1.3s,mb5.3
ARSA Arzberg 80.19 357⇑*iP* **P 05 12 35.1 +0.6**
comp=Z,154nm,2.4s,mb5.5
DAVA Damuels 80.20 1⇑*iP* **P 05 12 34.8 +0.2**
comp=Z,49nm,2.0s,mb5.1
SSF Saint Saulge 80.21 5 *eP* **P 05 12 34.4 -0.3**
SSF pmax pmax
comp=Z,40nm,0.8s,mb5.4
SSF Saint Saulge 80.21 5 *eP* **P 05 12 34.4 -0.3**
comp=Z,40nm,0.8s,mb5.4
WTTA Wattenberg 80.23 360⇑*iP* **P 05 12 35.3 +0.5**
comp=Z,207nm,2.2s,mb5.7
WTTA Wattenberg 80.23 360⇑*iP* **P 05 12 35.3 +0.5**
WTTA pmax pmax
comp=Z,207nm,2.2s,mb5.7
DRGR 80.24 352⇓P **P 05 12 34.7 -0.1**
SQTA Sankt Quirin 80.28 0⇑*iP* **P 05 12 35.5 +0.5**
comp=Z,53nm,1.2s,mb5.3
SQTA Sankt Quirin 80.28 0⇑*iP* **P 05 12 35.5 +0.5**
SQTA pmax pmax
comp=Z,53nm,1.2s,mb5.3
ASOR Ausora 80.35 305 *eP* **P 05 12 37.0 +1.2**
KBA Koelnbreinsper 80.41 359⇑*iP* **P 05 12 36.6 +0.9**
comp=Z,192nm,1.6s,mb5.8
KBA Koelnbreinsper 80.41 359⇑*iP* **P 05 12 36.6 +0.9**
KBA pmax pmax
comp=Z,192nm,1.6s,mb5.8
MFF Saint Martin d 80.41 8 *eP* **P 05 12 35.6 -0.1**
comp=Z,73nm,0.9s,mb5.3
MFF Saint Martin d 80.41 8 *eP* **P 05 12 35.6 -0.1**
MFF pmax pmax
comp=Z,36nm,0.9s,mb5.3
PKS8 Sarbogard 80.42 355⇓*eP* **P 05 12 36.3 +0.5**
AVF Avril sur Loir 80.47 6 *eP* **P 05 12 35.7 -0.4**
comp=Z,81nm,0.9s,mb5.4
AVF Avril sur Loir 80.47 6 *eP* **P 05 12 35.7 -0.4**
AVF pmax pmax
comp=Z,40nm,0.9s,mb5.3
SIM Simferopol' 80.61 344*ceP* **P 05 12 37.2 +0.4**
SIM *e* pP 05 12 53.0 +1.8
SIM *eS* S 05 22 37.0 -1.6
SIM pmax pmax
comp=Z,24nm,0.9s,mb5.1
SIM MLR MLR
comp=Z,2μm,22.0s,MS5.4
SMF Signal de Mont 80.64 5 *eP* **P 05 12 36.6 -0.4**
comp=Z,184nm,1.2s,mb5.6
SMF Signal de Mont 80.64 5 *eP* **P 05 12 36.6 -0.4**
SMF pmax pmax
comp=Z,92nm,1.2s,mb5.6
NDI New Delhi 80.69 306 *eP* **P 05 12 35.0 -2.6**
ZEI Tsey 80.69 336 *eP* **P 05 12 35.7 -1.6**
ZEI *i* *PP pP 05 12 50.7 -1.0
ZEI *i* 05 15 37.1
ZEI pmax pmax
comp=Z,35nm,1.1s,mb5.2
DAVOX Davos 80.71 1 LR LR 05 47 22.3
comp=Z,546nm,21.8s,MS4.9,baz=16,slow=35
PKS9 Tamasi 80.74 355 *eP* **P 05 12 38.0 +0.5**
VRI Vrincioaia 80.76 349 ⇑P **P 05 12 37.8 +0.2**
CABF La Chapelle 80.78 4 *eP* **P 05 12 38.0 +0.3**
comp=Z,146nm,1.0s,mb5.5
CABF La Chapelle 80.78 4 *eP* **P 05 12 38.0 +0.3**
CABF pmax pmax
comp=Z,73nm,1.0s,mb5.6
PERS Pernice 80.81 357⇑*eP* **P 05 12 38.1 +0.2**
PERS *ep*P pP 05 12 53.0 +0.7
PERS *eS* S 05 22 39.1 -1.6
BHGR Bahadurgarh 80.82 306 *eP* **P 05 12 36.1 -2.2**
BHGR AMb AMB 05 12 40.8
comp=Z,153nm,0.5s,mb6.2
SOC Sochi 80.86 340*c iP* **P 05 12 38.4 +0.2**
SOC *e* pP 05 12 50.6 -2.0
SOC *e* 05 15 42.5
SOC *ePPP* PPP 05 17 29.8 -6.4
SOC *i* S S 05 22 37.5 -3.8
SOC *e* 05 27 53.1
SOC pmax pmax
comp=N,33nm,1.1s
SOC pmax pmax
comp=Z,95nm,1.1s,mb5.6
SOC pmax pmax
comp=E,12nm,0.8s
SOC MLR MLR
comp=N,645nm,20.0s,MS5.0
SOC MLR MLR
comp=E,185nm,20.0s,MS5.0
SOC MLR MLR
comp=Z,1μm,20.0s,MS5.2
AYAN Aya Nagar 80.90 306 *eP* **P 05 12 38.0 -0.6**
TCF Toulx Ste Croi 80.90 6 *eP* **P 05 12 37.8 -0.5**
comp=Z,71nm,1.1s,mb5.2
TCF Toulx Ste Croi 80.90 6 *eP* **P 05 12 37.8 -0.5**
TCF pmax pmax
comp=Z,36nm,1.1s,mb5.2
OBKA Obir 80.95 358⇑*iP* **P 05 12 38.5 -0.1**
comp=Z,198nm,2.2s,mb5.7
SONA Sohna 81.11 306 *eP* **P 05 12 39.4 -0.5**
SONA AMb AMB 05 12 41.2
comp=Z,41nm,0.8s,mb5.4
AGO Saint Agoulin 81.19 6 *eP* **P 05 12 41.5 +1.6**
MLR Muntele Rosu 81.22 350 P **P 05 12 41.2 +1.2**
MLR Muntele Rosu 81.22 350⇓P **P 05 12 41.5 +1.5**
MLR Muntele Rosu 81.22 350⇓P **P 05 12 41.5 +1.5**
ROBS Robic 81.24 359 *i* P **P 05 12 38.9 -1.2**
PLDF La Plantade 81.31 5 *eP* **P 05 12 42.4 +1.9**
LJU Ljubljana 81.42 358⇑*eP* **P 05 12 40.5 -0.5**
LJU *i* pP pP 05 12 55.6 +0.1

VOY Vojsko 81.44 358 *eP* **P** **05 12 40.8 -0.4**
PYM Petit Puy Mans 81.49 6 *eP* **P** **05 12 42.9 +1.5**
ORX Oropa 81.82 2 P **P** **05 12 44.0 +0.8**
RJF Les Rejaudoux 81.83 7 *eP* **P** **05 12 42.7 -0.5**
comp=Z,32nm,0.8s,mb5.0
RJF *eR*
comp=Z,1µm,21.5s
RJF Les Rejaudoux 81.83 7 *eP* **P** **05 12 42.7 -0.5**
RJF pmax pmax
comp=Z,16nm,0.8s,mb5.0
RJF MLR MLR
comp=Z,1µm,21.5s,MS5.3
LPL La Plagne 81.90 3 *eP* **P** **05 12 44.7 +1.1**
TRAV 81.94 3 P **P** **05 12 44.0 +0.2**
BOJS Bojanci 81.94 357⇑ *eP* **P** **05 12 43.6 -0.1**
BOJS *e* pP 05 12 58.3 +0.1
BOJS *eS* S 05 22 52.1 -0.2
TIRR Tirgusor 81.94 348 P **P** **05 12 44.1 +0.3**
LSD Ceresole Reale 81.97 3 P **P** **05 12 45.7 +1.8**
LBL Lubilhac 82.02 6 *eP* **P** **05 12 46.1 +1.9**
LFF La Frestale 82.13 8 *eP* **P** **05 12 44.7 -0.1**
comp=Z,93nm,0.8s,mb5.5
LFF La Frestale 82.13 8 *eP* **P** **05 12 44.7 -0.1**
LFF pmax pmax
comp=Z,47nm,0.8s,mb5.5
GRN Grenoble 82.14 4 *eP* **P** **05 12 46.0 +1.2**
RAO Raoul Island 82.18 188 PFAKE 05 13 00.0 +15
RAO LR LR
comp=Z,1µm,21.0s,MS5.3
GDM Grand'Maison 82.19 4 *eP* **P** **05 12 46.5 +1.4**
CAF Calviac 82.25 7 *eP* **P** **05 12 45.3 0.0**
comp=Z,133nm,1.3s,mb5.4
CAF Calviac 82.25 7 *eP* **P** **05 12 45.3 0.0**
CAF pmax pmax
comp=Z,66nm,1.3s,mb5.4
RSP Reno Superiore 82.28 3 P **P** **05 12 46.4 +0.9**
BNI Bardonecchia 82.36 3 *eP* **P** **05 12 46.9 +1.0**
BNI pmax pmax
comp=Z,88nm,0.9s,mb5.7
BNI Bardonecchia 82.36 3 *eP* **P** **05 12 46.9 +0.9**
comp=Z,88nm,0.9s,mb5.7
FENE Fenestrelle 82.40 3 P **P** **05 12 46.5 +0.4**
KAKA Kakadu 82.46 237⇑ *iP* **P** **05 12 51.4 +4.4**
comp=Z,294nm,0.8s,mb6.3
ORIF Oris-en-Rattie 82.47 4 *eP* **P** **05 12 47.2 +0.7**
comp=Z,41nm,0.7s,mb5.2
ORIF *eR*
comp=Z,770nm,20.0s
VIVF Saint-Julien-I 82.47 5 *eP* **P** **05 12 46.9 +0.4**
comp=Z,46nm,0.8s,mb5.1
VIVF Saint-Julien-I 82.47 5 *eP* **P** **05 12 46.9 +0.4**
VIVF pmax pmax
comp=Z,23nm,0.8s,mb5.2
RRL Cesana Torines 82.50 3 P **P** **05 12 48.7 +2.1**
CTA Charters Tower 82.51 222⇑ *iP* **P** **05 12 48.1 +0.9**
comp=Z,84nm,0.9s,mb5.8
CTA Charters Tower 82.51 222⇑ *iP* **P** **05 12 48.1 +0.9**
CTA pmax pmax
comp=Z,85nm,0.9s
CTA Charters Tower 82.51 222 P **P** **05 12 48.2 +1.1**
comp=Z,98nm,0.8s,mb5.9,baz=26,slow=6.1,SNR=63
CTAO Charters Tower 82.51 222 *eP* **P** **05 12 47.3 +0.1**
CTAO pmax pmax
comp=Z,142nm,0.9s,mb6.0
CTAO MLR MLR
comp=Z,885nm,20.0s,MS5.1
CTAO Charters Tower 82.51 222 *eP* **P** **05 12 47.3 +0.1**
comp=Z,142nm,0.9s,mb6.0
CTAO LR LR
comp=Z,885nm,20.0s,MS5.1
BHB Bricherasio 82.59 3 P **P** **05 12 46.8 -0.3**
MBDF Montbardon 82.69 3 *eP* **P** **05 12 49.0 +1.4**
comp=Z,122nm,0.7s,mb5.7
MBDF Montbardon 82.69 3 *eP* **P** **05 12 49.0 +1.4**
MBDF pmax pmax
comp=Z,61nm,0.7s,mb5.7
EPON Pontenova 82.85 14 P **P** **05 12 48.6 +0.2**
comp=Z,339nm,2.1s,mb6.0
PCP Pian Castagno 82.93 2 P **P** **05 12 47.9 -0.9**
SURF Saint Ours 82.94 3 *eP* **P** **05 12 51.1 +2.2**
GNI Garni 82.94 335 *c iP* **P** **05 12 50.3 +1.3**
GNI pmax pmax
comp=Z,77nm,2.5s
GNI Garni 82.94 335 LR LR 05 55 04.2
comp=Z,908nm,21.1s,MS5.1,baz=18,slow=40
GNI Garni 82.94 335 *eP* **P** **05 12 50.0 +1.0**
comp=Z,27nm,0.9s,mb5.3
GNI LR LR
comp=Z,902nm,22.0s,MS5.1
EMAZ Mazaricos 82.95 15 P **P** **05 12 48.1 -0.9**
comp=Z,147nm,2.4s,mb5.6
SJG San Juan 83.04 69 PFAKE 05 13 00.0 +10
SJG LR LR
comp=Z,749nm,22.0s,MS5.0
STS Santiago 83.08 15 P **P** **05 12 49.6 0.0**
STS pmax pmax
comp=Z,35nm,1.4s,mb5.2
STS Santiago 83.08 15 P **P** **05 12 49.6 -0.1**
comp=Z,35nm,1.4s,mb5.2
CODM 83.10 1 P **P** **05 12 49.1 -0.6**
DIVS Divcibare 83.12 354⇓ *iP* **P** **05 12 49.1 -0.6**
EARI Arriondas 83.14 12 P **P** **05 12 50.2 +0.2**
comp=Z,109nm,1.8s,mb5.6
ROB Roburent 83.16 3 P **P** **05 12 50.2 +0.2**
STV2 Anna di Valdie 83.19 3 P **P** **05 12 49.9 -0.3**
STV Sta Anna Valdi 83.19 3 P **P** **05 12 49.7 -0.5**
LASF Ste Croix 83.21 5 *eP* **P** **05 12 50.3 +0.1**
ENR Entracque 83.21 3 P **P** **05 12 49.6 -0.7**
BACM 83.22 1 P **P** **05 12 50.4 +0.1**
FIN Finale Ligure 83.25 2 P **P** **05 12 50.4 -0.1**
GRUS Gruza 83.28 353 *i* P **P** **05 12 50.4 -0.2**
SARO Sassorosso 83.31 1 P **P** **05 12 51.0 +0.3**
VLC Villacollemand 83.34 1 *eP* **P** **05 12 51.0 +0.1**
comp=Z,30nm,0.8s,mb5.4
VINC Vinca 83.35 1 P **P** **05 12 49.1 -1.9**
MONE Monesi 83.37 3 P **P** **05 12 50.6 -0.5**
BBLS Bajina Basta - 83.38 354 *i* P **P** **05 12 52.4 +1.2**
SMRF Simiane la Rot 83.39 4 *eP* **P** **05 12 52.2 +1.0**
comp=Z,24nm,0.6s,mb5.1
ELAN Lanestosa 83.42 11 P **P** **05 12 51.7 +0.4**
comp=Z,146nm,1.2s,mb5.9
TOUF Mont Tournerai 83.42 3 *eP* **P** **05 12 52.7 +1.4**
KSM Kuching 83.43 264 *eP* **P** **05 12 53.5 +1.5**
AUTN L'Aution 83.44 3 *eP* **P** **05 12 52.7 +1.2**
SAOF Saorge 83.46 3 *eP* **P** **05 12 52.4 +0.9**
PAYG Puerto Ayora 83.50 100 PFAKE 05 13 00.0 +7.6
PAYG LR LR
comp=Z,506nm,20.0s,MS4.9
VILF Villemus 83.52 4 *eP* **P** **05 12 53.8 +2.0**
PVL Pavlikeni 83.53 350 *eP* **P** **05 12 52.0 +0.2**
MVIF Mont Vial 83.53 3 *eP* **P** **05 12 53.2 +1.4**
IMI Imperia 83.54 3 P **P** **05 12 51.2 -0.7**
PRAF Pradon 83.55 5 *eP* **P** **05 12 52.5 +0.6**
SBF Sospel 83.58 3 *eP* **P** **05 12 52.5 +0.5**
comp=Z,70nm,0.7s,mb5.6
MAIM 83.58 1 P **P** **05 12 51.4 -0.7**
NEGI Negi 83.60 3 P **P** **05 12 52.6 +0.5**
EALK Alkurruntz 83.64 9 P **P** **05 12 52.9 +0.5**
comp=Z,163nm,2.1s,mb5.8
REVF Revere 83.70 3 *eP* **P** **05 12 53.7 +1.1**
ZAPS Zavoj/Pirot 83.71 352⇑ *iP* **P** **05 12 52.2 -0.5**
ERUA La Rua 83.77 14 P **P** **05 12 53.5 +0.5**
comp=Z,31nm,0.8s,mb5.5
SJPF Ste Jean 83.77 9 *eP* **P** **05 12 53.8 +0.8**
comp=Z,30nm,0.9s,mb5.1
SJPF Ste Jean 83.77 9 *eP* **P** **05 12 53.8 +0.8**
SJPF pmax pmax
comp=Z,15nm,0.9s,mb5.1
TAVF Tavernes 83.77 4 *eP* **P** **05 12 54.7 +1.7**
EZAM Zamans 83.78 15 P **P** **05 12 53.5 +0.5**
comp=Z,22nm,0.9s,mb5.3
AJM Ajmer 83.78 306 *eP* **P** **05 12 52.6 -0.9**
AJM AMb AMB 05 12 56.1
comp=Z,44nm,0.8s,mb5.6
MTLF Montolieu 83.83 7 *eP* **P** **05 12 53.7 +0.4**
comp=Z,87nm,1.1s,mb5.5
MTLF Montolieu 83.83 7 *eP* **P** **05 12 53.7 +0.4**
MTLF pmax pmax
comp=Z,44nm,1.1s,mb5.5
PUYF Puyloubier 83.84 4 *eP* **P** **05 12 55.1 +1.7**
FRF La Foret Royal 83.85 3 *eP* **P** **05 12 54.0 +0.6**
LARF Larrau 83.87 9 *eP* **P** **05 12 54.9 +1.4**
LABF Labassere 83.96 8 *eP* **P** **05 12 53.9 -0.1**
GELF Grande-Etoile 83.98 4 *eP* **P** **05 12 55.8 +1.7**

ETSF Etsaut 84.05 9 *eP* **P** **05 12 55.3 +0.9**
comp=Z,71nm,0.8s,mb5.6
ETSF Etsaut 84.05 9 *eP* **P** **05 12 55.3 +0.9**
ETSF pmax pmax
comp=Z,35nm,0.8s,mb5.5
BERF Bertagne 84.06 4 *eP* **P** **05 12 54.7 +0.2**
LMR La Mourre 84.07 4 *eP* **P** **05 12 55.1 +0.5**
comp=Z,129nm,1.3s,mb5.6
LMR La Mourre 84.07 4 *eP* **P** **05 12 55.1 +0.5**
LMR pmax pmax
comp=Z,65nm,1.3s,mb5.6
VIEF Viey 84.11 8 *eP* **P** **05 12 56.1 +1.3**
MLS Moulis 84.13 8 *eP* **P** **05 12 55.6 +0.8**
ECRI Cripan 84.14 10 P **P** **05 12 55.8 +0.9**
ECRI pmax pmax
comp=Z,28nm,0.7s,mb5.5
ECRI Cripan 84.14 10 P **P** **05 12 55.8 +0.9**
comp=Z,28nm,0.7s,mb5.5
ELOB Lobios 84.15 14 P **P** **05 12 55.1 +0.1**
comp=Z,101nm,1.5s,mb5.7
LPEF Le Peyrat 84.20 7 *eP* **P** **05 12 56.4 +1.2**
CMLA Cha da Macela 84.21 29 PFAKE 05 13 10.0 +15
CMLA LR LR
comp=Z,3µm,20.0s,MS5.7
RESF Ens 84.22 8 *eP* **P** **05 12 56.9 +1.6**
LRDF Laroque-de-Fa 84.26 7 *eP* **P** **05 12 56.9 +1.4**
ECAL Calabor 84.27 13 P **P** **05 12 56.0 +0.5**
comp=Z,175nm,2.2s,mb5.8
PGB Panagyurishte 84.31 351 *eP* **P** **05 12 56.0 +0.2**
EBIE Bielsa 84.32 8 P **P** **05 12 56.8 +1.0**
comp=Z,51nm,0.8s,mb5.7
SALF Salau 84.33 8 *eP* **P** **05 12 57.3 +1.4**
VTS Vitosha 84.36 351 *eP* **P** **05 12 56.0 0.0**
VTS Vitosha 84.36 351 P **P** **05 12 56.1 +0.1**
PBRG Braganca 84.40 14 *eP* **P** **05 12 56.8 +0.6**
comp=Z,64nm,2.0s,mb5.4
PBRG *epP* pP 05 13 11.9 +1.1
STON Ston 84.47 355 *i* P **P** **05 12 55.6 -1.0**
FILF Fillols 84.64 7 *eP* **P** **05 12 58.3 +0.9**
VALF Valcebollere 84.75 7 *eP* **P** **05 12 59.4 +1.4**
EJON La Jonquera 84.77 6 P **P** **05 12 58.8 +0.8**
comp=Z,77nm,1.4s,mb5.6
PVRL Vila Real 84.78 14 *eP* **P** **05 12 59.1 +1.0**
comp=Z,46nm,2.2s,mb5.2
PVRL *epP* pP 05 13 14.1 +1.4
SNG Songkhla 84.79 275 P **P** **05 13 01.0 +2.2**
EGRA Graus 84.82 8 P **P** **05 12 59.1 +0.8**
comp=Z,40nm,0.8s,mb5.6
PGF Pioggiola 84.93 2 *eP* **P** **05 12 59.3 +0.5**
comp=Z,234nm,0.9s,mb6.0
PGF Pioggiola 84.93 2 *eP* **P** **05 12 59.3 +0.5**
PGF pmax pmax
comp=Z,117nm,0.9s,mb6.0
BHPL Bhopal 85.08 302 *eP* **P** **05 12 59.4 -0.7**
BHPL AMb AMB 05 13 02.3
comp=Z,139nm,0.9s,mb6.1
KKB Krupnik 85.09 351 *eP* **P** **05 13 00.2 +0.5**
RZN Rozhen 85.11 350 *eP* **P** **05 13 00.0 +0.2**
SKO Skopje 85.13 352 *i* P **P** **05 13 00.5 +0.7**
AQU L'Aquila 85.13 358 *eP* **P** **05 12 59.9 +0.1**
AQU pmax pmax
comp=Z,71nm,0.9s,mb5.8
AQU L'Aquila 85.13 358 *eP* **P** **05 12 59.9 +0.1**
comp=Z,71nm,0.9s,mb5.8
EMIR Miracle 85.20 7 P **P** **05 13 01.0 +0.8**
comp=Z,175nm,1.6s,mb5.9
ESAC San Caprasio 85.22 9 P **P** **05 13 00.8 +0.5**
comp=Z,126nm,0.7s,mb6.2
MMB Musomiste 85.30 351 *eP* **P** **05 13 01.5 +0.8**
MTE Manteigas 85.66 14 *eP* **P** **05 13 03.5 +1.0**
comp=Z,33nm,2.0s,mb5.2
MTE *epP* pP 05 13 17.4 +0.3
MTE Manteigas 85.66 14 *eS* S 05 23 25.0 -4.4
MTE *eSS* SS 05 29 04.3 -5.4
MTE *eLQ* 05 36 54.4
MTE *eLR* LR 05 41 34.9
comp=Z,708nm,24.0s
VAY Valandovo 85.68 352⇑ *iP* **P** **05 13 03.1 +0.5**
EPOB Poblet 85.72 8 P **P** **05 13 03.3 +0.5**
comp=Z,178nm,1.5s,mb6.1
CII Carovilli 85.74 358 *eP* **P** **05 13 03.6 +0.8**
comp=Z,72nm,0.8s,mb6.0
BR131 Keskin Array S 85.77 343 *eP* **P** **05 13 04.1 +1.0**
comp=Z,36nm,0.8s,mb5.7
BRTR Keskin Array B 85.77 343 P **P** **05 13 04.5 +1.4**
comp=Z,51nm,0.9s,mb5.8,baz=47,slow=2.4,SNR=137
BRTR pP pP 05 13 16.4 -1.3
comp=Z,11nm,0.6s,baz=22,slow=2.1,SNR=4.1
BRTR PKPPKP 05 39 03.1
comp=Z,3.0nm,0.9s,baz=166,slow=5.1,SNR=3.9
ANTO Ankara 85.78 344 P **P** **05 13 04.9 +1.8**
MALT Malatya 86.19 339 *eP* **P** **05 13 06.2 +1.1**
MALT pmax pmax
comp=Z,25nm,1.1s,mb5.4
MALT Malatya 86.19 339 *eP* **P** **05 13 06.2 +1.1**
comp=Z,25nm,1.1s,mb5.4
EBR Ebro Roquetas 86.20 8 *eP* **P** **05 13 05.2 +0.1**
PCBR Castelo Branco 86.22 14 *eP* **P** **05 13 05.8 +0.5**
comp=Z,31nm,1.7s,mb5.3
KULM Kulim 86.26 274 *eP* **P** **05 13 07.2 +1.2**
PTOM Tomar 86.29 15 *eP* **P** **05 13 07.0 +1.4**
comp=Z,43nm,2.1s,mb5.3
PTOM *epP* pP 05 13 21.6 +1.4
EMOS Mosqueruela 86.57 9 P **P** **05 13 07.6 +0.7**
comp=Z,92nm,1.7s,mb5.7
IPM Ipoh 86.59 273 P **P** **05 13 09.6 +1.9**
ESDC Sonseca Array 86.87 12 P **P** **05 13 08.6 +0.2**
comp=Z,8.0nm,0.5s,mb5.2,baz=346,slow=4.5,SNR=54
ESDC pP pP 05 13 23.0 0.0
comp=Z,7.6nm,0.6s,baz=346,slow=4.8,SNR=7.5
ESDC PKKPbc 05 31 00.5
comp=Z,3.0nm,0.8s,baz=182,slow=1.1,SNR=13
ESDC PKPPKP 05 39 02.0
comp=Z,0.9nm,0.4s,baz=153,slow=3.3,SNR=6.2
ESDC Sonseca Array 86.87 12 P **P** **05 13 08.9 +0.4**
comp=Z,6.4nm,0.6s,mb5.0
ESLA Sonseca Array 86.87 12 *eP* **P** **05 13 08.2 -0.2**
comp=Z,2.4nm,0.6s,mb4.6
ESLA LR LR
comp=Z,3µm,19.0s,MS5.7
PLOU Loures 86.89 16 *eP* **P** **05 13 09.0 +0.4**
comp=Z,44nm,1.2s,mb5.6
PLOU *epP* pP 05 13 24.5 +1.3
KGM Kluang 87.23 270 P **P** **05 13 13.1 +2.3**
ECHE Chera 87.28 10 P **P** **05 13 10.5 0.0**
ECHE pmax pmax
comp=Z,15nm,0.8s,mb5.3
ECHE Chera 87.28 10 P **P** **05 13 10.5 0.0**
comp=Z,15nm,0.8s,mb5.3
EBAD Badajoz 87.35 14 P **P** **05 13 09.8 -1.1**
comp=Z,21nm,1.0s,mb5.3
EVO Evora 87.42 15 *eP* **P** **05 13 10.4 -0.7**
comp=Z,26nm,1.2s,mb5.1
EVO *eR*
comp=Z,455nm,21.5s
ETOS Mallorca 87.43 7 P **P** **05 13 10.8 -0.3**
comp=Z,149nm,2.3s,mb5.8
WRAB Tennant Creek 87.66 232 *eP* **P** **05 13 13.1 +0.4**
WRAB pmax pmax
comp=Z,289nm,0.9s,mb6.5
WRAB MLR MLR
comp=Z,381nm,22.0s,MS4.8
WRAB Tennant Creek 87.66 232 *eP* **P** **05 13 13.1 +0.3**
comp=Z,289nm,0.9s,mb6.5
WRAB LR LR
comp=Z,381nm,22.0s,MS4.8
WB2 Warramunga Arr 87.67 232⇑ *iP* **P** **05 13 13.4 +0.7**
WRA Warramunga Arr 87.67 232 P **P** **05 13 13.5 +0.8**
comp=Z,164nm,0.8s,mb6.3,baz=32,slow=6.0,SNR=383
WRA PP PP 05 16 41.1 +0.1
comp=Z,12nm,1.0s,baz=32,slow=8.1,SNR=5.1
WRA PKKPbc 05 31 07.9
comp=Z,0.3nm,0.3s,baz=224,slow=2.4,SNR=5.0
SDV Santo Domingo 87.78 78 *eP* **P** **05 13 13.2 -0.2**
comp=Z,126nm,1.7s,mb5.9
SDV *epP* pP 05 13 27.5 -0.5
SDV LR LR
comp=Z,425nm,22.0s,MS4.8
PBEJ Beja 87.94 15 *eP* **P** **05 13 12.6 -1.0**
comp=Z,30nm,1.4s,mb5.3
PBEJ *epP* pP 05 13 29.5 +1.2
EIBI Ibiza 88.06 8 P **P** **05 13 12.6 -1.5**
comp=Z,73nm,1.5s,mb5.7
EVIA Vianos 88.06 11 P **P** **05 13 14.1 -0.1**
EVIA pmax pmax
comp=Z,25nm,0.8s,mb5.5

EVIA Vianos 88.06 11 P **P** **05 13 14.1 -0.1**
comp=Z,24nm,0.8s,mb5.5
ETOB Tobarra 88.16 10 P **P** **05 13 14.5 -0.2**
comp=Z,106nm,2.5s,mb5.6
TIP Timpagrande 88.20 356 *eP* **P** **05 13 14.3 -0.5**
EBEN Beniarda 88.24 9 P **P** **05 13 15.4 +0.4**
comp=Z,54nm,1.6s,mb5.5
ECAB El Cabril 88.25 13 P **P** **05 13 15.3 +0.2**
comp=Z,32nm,1.4s,mb5.4
EADA Adamuz 88.27 13 P **P** **05 13 14.5 -0.7**
comp=Z,72nm,1.7s,mb5.6
EMIN Mina Concepcio 88.37 14 P **P** **05 13 14.9 -0.8**
comp=Z,29nm,0.9s,mb5.5
EBAN Banos Encina 88.38 12 P **P** **05 13 15.7 0.0**
EBAN pmax pmax
comp=Z,20nm,1.2s,mb5.2
EBAN Banos Encina 88.38 12 P **P** **05 13 15.7 0.0**
comp=Z,20nm,1.2s,mb5.2
EGRO El Granado 88.48 15 P **P** **05 13 15.7 -0.5**
comp=Z,43nm,1.5s,mb5.5
FDF Fort de France 88.57 67 *eP* **P** **05 13 17.9 +0.7**
CRM Caravelle 88.69 67 *eP* **P** **05 13 19.2 +1.5**
ROSC El Rosal 88.76 84 P **P** **05 13 19.5 +1.4**
comp=Z,14nm,0.8s,mb5.3,baz=131,slow=8.1,SNR=9.1
ROSC LR LR 05 51 53.6
comp=Z,159nm,21.2s,MS4.4,baz=218,slow=35
EQES Quesada 88.82 11 P **P** **05 13 18.2 +0.3**
comp=Z,37nm,1.3s,mb5.5
HYB Hyderabad 89.30 298 *eP* **P** **05 13 20.5 -0.1**
HYB pmax pmax
comp=Z,160nm,1.0s,mb6.3
HYB Hyderabad 89.30 298 *eP* **P** **05 13 20.5 -0.1**
comp=Z,160nm,1.0s,mb6.3
HYB Hyderabad 89.30 298⇑ *iP* **P** **05 13 20.5 -0.1**
comp=Z,160nm,1.0s,mb6.3
HYB *epP* pP 05 13 35.0 -0.2
ELOJ Sierra Loja 89.33 12 P **P** **05 13 20.8 +0.5**
ELOJ pmax pmax
comp=Z,23nm,1.0s,mb5.5
ELOJ Sierra Loja 89.33 12 P **P** **05 13 20.8 +0.5**
comp=Z,23nm,1.0s,mb5.5
ESPR Espera 89.37 14 P **P** **05 13 20.9 +0.4**
comp=Z,69nm,2.3s,mb5.6
ERON Agron 89.50 12 P **P** **05 13 21.3 +0.2**
comp=Z,8.4nm,0.9s,mb5.1
VAE Valguarnera 89.98 358 LR LR 06 00 33.8
comp=Z,407nm,18.7s,MS4.9,baz=75,slow=40
CSS Prodhromos 90.46 342 *eP* **P** **05 13 25.2 -0.4**
comp=Z,40nm,0.8s,mb5.8
FITZ Fitzroy Crossi 90.50 240⇑ *iP* **P** **05 13 27.2 +1.0**
comp=Z,139nm,1.4s,mb6.1
FITZ Fitzroy Crossi 90.50 240 P **P** **05 13 27.4 +1.2**
comp=Z,157nm,1.0s,mb6.3,baz=15,slow=4.0,SNR=77
POO Poona 90.83 303 *eP* **P** **05 13 25.8 -1.9**
PMPS Porto Santo 91.08 23 *eP* **P** **05 13 29.0 +0.4**
comp=Z,125nm,1.8s,mb5.9
URZ Urewera 91.61 191 P **P** **05 13 29.8 -1.1**
comp=Z,19nm,0.8s,mb5.5,baz=15,slow=1.3,SNR=5.4
KAD Karad 91.68 302 *eP* **P** **05 13 31.8 +0.1**
KAD AMb AMB 05 13 34.5
comp=Z,62nm,1.4s,mb5.7
MIB Mutribah 91.89 329 *eP* **P** **05 13 33.0 +0.6**
MIB AMb AMB 05 13 34.7
comp=Z,156nm,0.7s,mb6.5
KBD Kabd 92.37 329 *eP* **P** **05 13 35.1 +0.5**
RDF Al-Radifah 92.64 329 *eP* **P** **05 13 36.2 +0.3**
RDF AMb AMB 05 13 37.3
comp=Z,55nm,0.7s,mb6.1
QURS Qurayyt al Mil 93.09 338 P **P** **05 13 39.3 +1.4**
STKA Stephens Creek 94.88 221⇑ *iP* **P** **05 13 47.2 +1.2**
comp=Z,22nm,0.9s,mb5.6
STKA Stephens Creek 94.88 221 P **P** **05 13 46.8 +0.8**
comp=Z,28nm,0.9s,mb5.7,baz=4.8,slow=5.1,SNR=29
STKA LR LR 05 52 18.9
comp=Z,922nm,20.3s,MS5.2,baz=21,slow=33
SNZO South Karori 94.92 193 PFAKE 05 14 00.0 +14
SNZO LR LR
comp=Z,2µm,21.0s,MS5.5
JMOS Jabal al Moall 95.71 339 P **P** **05 13 50.8 +1.0**
HILS Ha'il 95.79 333 P **P** **05 13 51.5 +1.3**
JMQS Jabal Moqyreh 95.82 339 P **P** **05 13 51.6 +1.3**
HAQS Haql 95.86 339 P **P** **05 13 51.3 +0.8**
MBWA Marble Bar 96.16 243 *eP* **P** **05 13 51.8 -0.2**
comp=Z,26nm,1.1s,mb5.6
MBWA LR LR
comp=Z,471nm,20.0s,MS5.0
TBKS Tabuk 96.31 338 P **P** **05 13 53.4 +0.9**
TAYS Tayyib Ism 96.36 339 P **P** **05 13 53.7 +0.9**
PALK Pallekele 96.44 291 *eP* **P** **05 13 54.1 +0.6**
comp=Z,216nm,1.1s
PALK LR LR
comp=Z,108nm,22.0s
UMJS Umm Lajj 99.00 336 P **P** **05 14 06.2 +1.4**
NNA Nana 100.52 96 PFAKE 05 14 20.0 +8.0
NNA LR LR
comp=Z,58nm,19.0s,MS4.1
SAML Samuel 106.40 83 PFAKE 05 19 00.0
SAML LR LR
comp=Z,429nm,21.0s,MS5.0
NWAO Narrogin (SRO) 106.92 238 PFAKE 05 19 00.0
NWAO LR LR
comp=Z,849nm,19.0s,MS5.3
LPAZ La Paz 109.13 92 Pdiff Pdif 05 14 55.5 +5.5
comp=Z,0.8nm,0.6s,baz=355,slow=2.9,SNR=5.1
LPAZ PKiKP 05 18 54.6
comp=Z,1.9nm,1.0s,baz=1.1,slow=7.4,SNR=6.8
LPAZ PKKPbc 05 30 01.7
comp=Z,1.5nm,0.8s,baz=78,slow=3.5,SNR=6.9
LPAZ La Paz 109.13 92 Pdif Pdif 05 14 55.5 +5.5
LPAZ PKPdf 05 18 54.6
LPAZ PKKPbc 05 30 01.7
LPAZ LR LR
comp=Z,262nm,20.0s,MS4.8
SIV San Ignacio 113.18 86 PKKPbc 05 29 45.3
comp=Z,1.7nm,0.7s,baz=114,slow=6.6,SNR=9.7
LVC Limon Verde 113.49 97 PFAKE 05 19 10.0 +9.1
LVC LR LR
comp=Z,185nm,21.0s,MS4.7
DBIC Dimbokro 119.09 19 PKP PKPdf 05 19 12.8 +0.8
comp=Z,6.1nm,0.7s,baz=312,slow=7.3,SNR=12
DBIC PKKPbc 05 29 26.2
comp=Z,6.5nm,0.6s,baz=163,slow=4.9,SNR=16
DBIC Dimbokro 119.09 19 PKP PKPdf 05 19 12.8 +0.7
DBIC PKKPbc 05 29 26.2
DBIC LR LR
comp=Z,758nm,22.0s,MS5.3
RCBR Riachuelo 119.30 57 PFAKE 05 19 30.0 +18
RCBR LR LR
comp=Z,417nm,21.0s,MS5.0
CFAA Coronel Fontan 120.53 103 PKKPbc
comp=Z,0.5nm,0.6s,baz=147,slow=3.3,SNR=8.7
BDFB Brasilia 120.69 75 PKP PKPdf 05 19 16.3 +1.2
comp=Z,25nm,0.9s,baz=246,slow=2.8,SNR=30
BDFB PKKPbc 05 29 20.3
comp=Z,2.5nm,0.6s,baz=116,slow=8.8,SNR=5.6
BAO Brasilia Array 120.70 75 PKPdf PKPdf 05 19 17.0 +1.9
CPUP Villa Florida 123.26 91 PKP PKPdf 05 19 20.7 +0.9
comp=Z,13nm,0.9s,baz=338,slow=3.3,SNR=34
CPUP Villa Florida 123.26 91 *e*PKP PKPdf 05 19 20.6 +0.8
CPUP LR LR
comp=Z,301nm,21.0s,MS4.9
KMBO Kilima Mbogo 124.11 328 PKP PKPdf 05 19 23.5 +1.7
comp=Z,23nm,0.9s,baz=9.8,slow=3.8,SNR=47
KMBO pPKP 05 19 39.6
comp=Z,28nm,0.9s,baz=24,slow=4.4,SNR=18
MBAR Mbarara 125.45 336 PFAKE 05 19 40.0 +16
MBAR LR LR
comp=Z,82nm,19.0s,MS4.4
PLCA Paso Flores 125.57 112 PKP PKPdf 05 19 25.3 +1.5
comp=Z,27nm,0.8s,baz=315,slow=2.2,SNR=40
PLCA Paso Flores 125.57 112 *e*PKP PKPdf 05 19 25.1 +1.3
PLCA LR LR
comp=Z,441nm,22.0s,MS5.1
TRQA Tornquist 128.71 104 *e*PKP PKPdf 05 19 30.6 +0.6
TRQA LR LR
comp=Z,385nm,21.0s,MS5.1
SBA Scott Base 131.35 187 *e*PKP PKPdf 05 19 35.1 +1.1
SBA LR LR
comp=Z,634nm,19.0s,MS5.3
VNDA Vanda 131.42 188 PKhKP 05 19 18.8
comp=Z,2.4nm,1.0s,baz=334,slow=5.3,SNR=10
VNDA PKP PKPdf 05 19 35.5 +1.4
comp=Z,7.0nm,1.0s,baz=324,slow=5.5,SNR=5.0
VNDA SKPbc 05 22 54.8
comp=Z,3.6nm,1.0s,baz=11,slow=3.9,SNR=5.1
VNDA Vanda 131.42 188 *e*PKPdf PKPdf 05 19 35.4 +1.3

VNDA				LR	LR			
	comp=Z,805nm,20.0s,MS5.4							
CASY	**Casey**	**133.50**	**213**	*e*PKPdf	PKPdf	05 19 39.6	+1.3	
CASY				LR	LR			
	comp=Z,684nm,19.0s,MS5.4							
OPO	**Ambohidratompo**	**135.89**	**307**	SKPbc		05 23 11.4		
	comp=Z,9.0nm,1.0s,baz=50,slow=4.9,SNR=5.6							
LSZ	**Lusaka**	**140.19**	**334**	*e*PKP	PKPdf	05 19 45.0	-6.8	
LSZ				LR	LR			
	comp=Z,507nm,20.0s,MS5.3							
PMSA	**Palmer Station**	**141.63**	**138**	PKP	PKPdf	05 19 49.2	-3.7	
PMSA				LR	LR			
	comp=Z,430nm,20.0s,MS5.2							
QSPA	**South Pole Qui**	**142.64**	**180**	PKPdf	PKPdf	05 19 51.2	-3.0	
QSPA	**South Pole Qui**	**142.64**	**180**	*e*P	PKPdf	05 19 51.8	-2.4	
MATP	**Matopo**	**145.00**	**331**	PKP	PKPdf	05 20 01.1	+1.1	
	comp=Z,202nm,0.9s,baz=6.9,slow=3.3,SNR=272							
MATP				pPKP		05 20 16.2		
	comp=Z,31nm,0.6s,baz=197,slow=2.0,SNR=4.6							
MATP				SKPbc		05 23 36.1		
	comp=Z,20nm,1.0s,baz=2.7,slow=4.0,SNR=3.9							
TSUM	**Tsumeb**	**146.04**	**349**	PKPdf	PKPdf	05 20 04.5	+2.6	
TSUM	**Tsumeb**	**146.04**	**349**	PKPbc	PKPbc	05 20 04.5	+1.6	
	comp=Z,134nm,0.9s,baz=347,slow=5.5,SNR=194							
TSUM				pPKPbc		05 20 18.5		
	comp=Z,31nm,0.5s,baz=78,slow=8.5,SNR=6.7							
TSUM				SKPbc		05 23 39.1		
	comp=Z,16nm,0.9s,baz=144,slow=0.5,SNR=4.6							
TSUM	**Tsumeb**	**146.04**	**349**	*e*PKP	PKPdf	05 20 04.3	+2.4	
TSUM				LR	LR			
	comp=Z,774nm,20.0s,MS5.5							
LBTB	**Lobatse**	**150.17**	**333**	PKPdf	PKPdf	05 20 10.7	+2.3	
LBTB				PKPbc	PKPdf	05 20 15.6	+7.2	
LBTB				pPKPbc		05 20 32.1		
LBTB	**Lobatse**	**150.17**	**333**	PKP	PKPdf	05 20 10.4	+2.0	
	comp=Z,19nm,1.1s,baz=225,slow=2.9,SNR=10.0							
LBTB				PKPbc	PKPdf	05 20 15.9	+7.5	
	comp=Z,162nm,0.5s,baz=11,slow=1.5,SNR=65							
LBTB				pPKPbc		05 20 30.8		
	comp=Z,228nm,0.7s,baz=45,slow=2.0,SNR=18							
LBTB	**Lobatse**	**150.17**	**333**	*e*PKPdf	PKPdf	05 20 10.3	+1.9	
LBTB				*e*PKPbc	PKPdf	05 20 15.4	+7.0	
LBTB				LR	LR			
	comp=Z,654nm,21.0s,MS5.4							
MAW	**Mawson**	**151.56**	**219**	*e*PKP	PKPdf	05 20 10.6	+1.4	
	comp=Z,11nm,0.6s							
MAW				*i*		05 20 18.2		
MAW				*i*		05 20 27.6		
MAW	**Mawson**	**151.56**	**219**	PKP	PKPdf	05 20 10.7	+1.5	
	comp=Z,9.4nm,0.9s,baz=52,slow=1.1,SNR=20							
MAW				PKPbc	PKPdf	05 20 17.7	+8.5	
	comp=Z,116nm,0.8s,baz=95,slow=1.9,SNR=211							
BOSA	**Boshof**	**153.67**	**332**	PKPdf	PKPdf	05 20 15.5	+2.1	
BOSA				PKPbc	PKPdf	05 20 23.6	+10	
BOSA				sPKPdf		05 20 39.5		
BOSA	**Boshof**	**153.67**	**332**	PKP	PKPdf	05 20 14.3	+0.9	
	comp=Z,17nm,1.0s,baz=62,slow=1.7,SNR=12							
BOSA				PKPbc	PKPdf	05 20 22.6	+9.2	
	comp=Z,30nm,0.8s,baz=26,slow=2.4,SNR=37							
BOSA	**Boshof**	**153.67**	**332**	*e*PKPdf	PKPdf	05 20 15.0	+1.7	
BOSA				*e*PKPbc	PKPdf	05 20 22.9	+10	
BOSA				LR	LR			
	comp=Z,973nm,20.0s,MS5.6							
SUR	**Sutherland**	**158.40**	**338**	PKPab	PKPab	05 20 56.5	-0.1	
	comp=Z,13nm,0.7s,baz=0.8,slow=6.7,SNR=5.3							
SUR	**Sutherland**	**158.40**	**338**	PFAKE		05 20 30.0	+11	
SUR				LR	LR			
	comp=Z,269nm,19.0s,MS5.1							
SYO	**Syowa Base**	**159.13**	**209**	⇓P	PKPdf	05 20 18.5	-0.7	
SYO	**Syowa Base**	**159.13**	**209**	⇓PKPdf	PKPdf	05 20 21.4	+2.2	
SYO	**Syowa Base**	**159.13**	**209**	⇑P	PKPab	05 20 57.2	-1.4	
VNA3	**Neumayer Olymp**	**159.33**	**161**	⇑*i*PKPdf	PKPdf	05 20 18.8	-0.6	
VNA3				*e*		05 20 33.0		
VNA3				*e*		05 20 35.9		
VNA3				*e*		05 20 42.1		
VNA3				*e*		05 20 58.6		
VNA3				*e*		05 21 08.5		
VNA3				*e*		05 21 17.5		
VNA3				*e*		05 21 26.4		
VNA3				*e*		05 23 49.2		
VNA3				*e*		05 23 54.4		
VNA3				*e*		05 24 40.6		
VNA2	**Neumayer--Watz**	**160.03**	**162**	⇑*i*PKPdf	PKPdf	05 20 20.1	0.0	
VNA2				*e*		05 20 33.6		
VNA2				*e*		05 20 37.1		
VNA2				*e*		05 20 43.4		
VNA2				*e*		05 21 01.9		
VNA2				*e*		05 21 11.8		
VNA2				*e*		05 21 21.0		
VNA2				*e*		05 21 30.6		
VNA2				*e*		05 23 49.8		
VNA2				*e*		05 23 55.0		
VNA2				*e*		05 24 45.5		
VNA1	**Neumayer--Stat**	**160.08**	**161**	⇑*i*PKPdf	PKPdf	05 20 20.2	0.0	
VNA1				*e*		05 20 34.8		
VNA1				*e*		05 20 38.2		
VNA1				*e*		05 20 43.3		
VNA1				*e*		05 21 02.2		
VNA1				*e*		05 21 15.1		
VNA1				*e*		05 21 20.9		
VNA1				*e*		05 21 32.2		
VNA1				*e*		05 23 50.3		
VNA1				*e*		05 24 46.7		
SNAA	**Sanae**	**160.12**	**167**	*e*	PKPdf	05 20 33.2	+13	
SNAA	**Sanae**	**160.12**	**167**	*e*	PKPdf	05 20 36.4	+16	
SNAA	**Sanae**	**160.12**	**167**	*e*	PKPdf	05 20 42.3	+22	
SNAA	**Sanae**	**160.12**	**167**	*e*	PKPab	05 21 01.9	-0.9	
SNAA	**Sanae**	**160.12**	**167**	*e*		05 21 13.8		
SNAA	**Sanae**	**160.12**	**167**	*e*		05 21 19.3		
SNAA	**Sanae**	**160.12**	**167**	PKP	PKPdf	05 20 20.7	+0.5	
	comp=Z,2.8nm,0.8s,baz=196,slow=1.8,SNR=25							
SNAA				PP	PP	05 24 42.4	-3.1	
	comp=Z,1.7nm,1.0s,baz=226,slow=3.4,SNR=3.7							
SNAA	**Sanae**	**160.12**	**167**	⇑*i*PKPdf	PKPdf	05 20 20.3	+0.1	
SNAA				*e*		05 20 33.2		
SNAA				*e*		05 20 36.4		
SNAA				*e*		05 20 42.3		
SNAA				*e*		05 21 01.9		
SNAA				*e*		05 21 13.8		
SNAA				*e*		05 21 19.3		
SNAA				*e*		05 21 29.7		
SNAA				*e*		05 23 44.5		
SNAA				*e*		05 24 44.1		
MAIT	**Maitri**	**162.04**	**180**	*e*PKPdf	PKPdf	05 20 23.4	+1.2	

NEIC ***29*** *05:16:51.8±2.5,5.68S×154.52E,h131km±20km,mb4.3/1, Error ellipse: s-maj=19.0km s-min=16.2km az=202.0*
IDC ***29*** *05:16:52.0±4.1,5.68S×154.51E,h133km±35km,mb3.7/7, mb1 4.0/9,mb1mx3.8/16,mbtmp4.3/9, Error ellipse: s-maj=25.4km s-min=23.6km az=36.0*

ISC 29 05:16:51.0±3.5,5.7S±0.2×154.6E±0.1,h138km±30km,n13, σ0s85/15,mb3.9/8,1C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**8.21**	**243**	P		**P**	**05 18 48.8**	**+0.5**
	10nm,0.3s,baz=58,slow=8.6,SNR=28							
PMG				S		**S**	**05 20 20.3**	**+0.5**
	1.1nm,0.3s,slow=21,SNR=2.3							
PMG	**Port Moresby**	**8.21**	**243**	*e*P		**P**	**05 18 48.2**	**-0.1**
	151nm,0.9s							
PMG				S		**S**	**05 20 20.3**	**+0.5**
DZM	**Mont Dzumac**	**19.91**	**146**	*e*P		**P**	**05 21 13.8**	**-0.1**
DZM	**Mont Dzumac**	**19.91**	**146**	P		**P**	**05 21 13.6**	**-0.3**
	2.8nm,0.3s,baz=311,slow=9.3,SNR=33							
WRAB	**Tennant Creek**	**24.21**	**232**	*e*P		**P**	**05 21 56.5**	**+0.3**
	6.3nm,0.6s,mb4.3							
WB2	**Warramunga Arr**	**24.21**	**232**	⇑*i*P		**P**	**05 21 56.6**	**+0.4**
WRA	**Warramunga Arr**	**24.23**	**232**	P		**P**	**05 21 55.8**	**-0.5**
	4.0nm,0.7s,mb4.1,baz=56,slow=9.8,SNR=38							
STKA	**Stephens Creek**	**28.72**	**203**	P		**P**	**05 22 36.2**	**-1.3**
	2.2nm,0.6s,mb4.1,baz=48,slow=11,SNR=6.5							
FITZ	**Fitzroy Crossi**	**30.81**	**244**	P		**P**	**05 22 54.3**	**-1.9**
	3.3nm,0.6s,mb4.2,baz=96,slow=3.8,SNR=5.6							
VNDA	**Vanda**	**71.86**	**178**	P		**P**	**05 28 01.5**	**+1.2**
	1.0nm,0.8s,mb3.6,baz=4.1,slow=6.4,SNR=3.7							
MKAR	**Makanchi Array**	**82.17**	**319**	P		**P**	**05 28 58.3**	**+0.4**
	0.5nm,0.8s,mb3.2,baz=90,slow=7.3,SNR=3.8							
ILAR	**Eielson Array**	**82.35**	**22**	P		**P**	**05 28 58.1**	**-0.3**
	0.6nm,0.8s,mb3.3,baz=245,slow=5.4,SNR=6.1							
MAW	**Mawson**	**85.41**	**203**	P		**P**	**05 29 14.7**	**+1.1**
	2.3nm,0.6s,mb4.1,baz=79,slow=5.8,SNR=14							

MAN 29 05:17:03.5,9.58N×123.01E,h82km,mb3.9,ML2.7,MS2.3, 2C,Negros

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SNPH	**Sibulan**	**0.33**	**136**	⇑*e*P		P	05 17 18.3	+2.1
SNPH				*i* S		S	05 17 27.7	+1.9
GUIM	**Jordan**	**1.12**	**339**	*e*P		P	05 17 25.4	+1.0
GUIM				*e*S		S	05 17 40.7	+0.7
LLP	**Lapu-Lapu**	**1.20**	**52**	*e*P		P	05 17 30.4	+5.1
LLP				*e*S		S	05 17 52.5	+11
IPIL	**Ipil**	**1.83**	**194**	*e*P		P	05 17 33.9	+0.2
IPIL				*e*S		S	05 17 53.7	-2.3
RCP	**Roxas**	**1.99**	**353**	⇑*e*P		P	05 17 41.0	+5.3
RCP				*e*S		S	05 18 07.3	+7.7

IDC ***29*** *05:28:34.0±2.2,33.06N×142.40E,mb3.6/3,mb1 3.7/6, mb1mx3.5/21,mbtmp3.7/6,ML3.9/2,MS3.4/1,Ms1 3.4/1, ms1mx2.7/31,Error ellipse: s-maj=46.9km s-min=21.7km az=59.0*
JMA ***29*** *05:28:36.4±0.5,33.20N×142.49E,h77km,M3.5*

ISC 29 05:28:34.6±2.2,33.14N±0.06×142.51E±0.09,h24km±20km, n15,σ0s86/22,mb3.5/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSO1	**Boso 1**	**1.97**	**320**	P		**Pn**	**05 29 07.4**	**+0.2**
BSO1				*e*S		**Sn**	**05 29 31.8**	**+0.4**
JHJ2	**Mitsune**	**2.26**	**270**	P		**Pn**	**05 29 12.4**	**+1.1**
JHJ2				*e*S		**Sn**	**05 29 38.8**	**+0.1**
JHJ	**Hachijo jima 2**	**2.29**	**270**	Pn		**Pn**	**05 29 11.7**	**-0.1**
	20nm,0.3s,baz=78,slow=21,SNR=7.3							
JHJ				Sn		**Sn**	**05 29 40.0**	**+0.6**
	26nm,0.3s,baz=243,slow=24,SNR=9.6							
BSO3	**Boso 3**	**2.35**	**315**	P		**Pn**	**05 29 13.0**	**+0.5**
BSO4	**Boso 4**	**2.58**	**316**	P		**Pn**	**05 29 16.9**	**+1.0**
JOD2	**Odawara 2**	**3.54**	**308**	P		**Pn**	**05 29 29.1**	**-0.4**
JYN	**Shimob**	**4.04**	**307**	P		**Pn**	**05 29 36.2**	**-0.4**
JYN				*e*S		**Sn**	**05 30 22.1**	**-1.6**
JAG	**Ashikaga**	**4.13**	**323**	P		**Pn**	**05 29 37.4**	**-0.5**
JRY	**Ryogami san**	**4.13**	**315**	P		**Pn**	**05 29 38.5**	**+0.5**
MJAR	**Matsushiro Arr**	**4.90**	**315**	Pn		**Pn**	**05 29 48.1**	**-0.8**
	2.3nm,0.3s,baz=161,slow=12,SNR=12							
MJAR				Sn		**Sn**	**05 30 45.4**	**-0.1**
	0.8nm,0.3s,baz=63,slow=12,SNR=4.8							
MAT	**Matsushiro**	**4.90**	**315**	P		**Pn**	**05 29 49.2**	**+0.4**
MAT				*e*S		**Sn**	**05 30 42.7**	**-2.9**
CBIJ	**Chichi jima**	**6.03**	**183**	Pn		**Pn**	**05 30 03.2**	**-1.5**
	10nm,0.3s,baz=285,slow=21,SNR=17							
CBIJ				Sn		**Sn**	**05 31 07.7**	**-6.2**
	4.4nm,0.3s,baz=311,slow=22,SNR=3.2							
CBIJ				LR		LR	05 32 18.3	
	comp=Z,321nm,18.8s,baz=103,slow=38							
SONM	**Songino Array**	**30.82**	**309**	P		**P**	**05 34 51.7**	**+0.9**
	0.5nm,0.6s,mb3.5,baz=109,slow=9.0,SNR=4.1							
MKAR	**Makanchi Array**	**47.03**	**305**	P		**P**	**05 37 07.0**	**+1.1**
	0.5nm,0.7s,mb3.5,baz=80,slow=8.8,SNR=3.6							
WRA	**Warramunga Arr**	**53.36**	**190**	P		**P**	**05 37 54.3**	**-0.3**
	0.3nm,0.4s,mb3.5,baz=6.0,slow=7.5,SNR=4.8							

NEIC ***29*** *06:01:45.6±0.5,31.89S×67.04W,h126km±8km,mb4.1/2, Error ellipse: s-maj=10.2km s-min=5.8km az=100.0*
GUC ***29*** *06:01:45.7±0.8,31.88S×67.19W,h150km,ML4.3*
IDC ***29*** *06:01:45.4±1.4,31.86S×67.08W,h123km±20km,mb3.5/4, mb1 3.5/8,mb1mx3.4/19,mbtmp3.8/8,Error ellipse: s-maj=40.9km s-min=16.3km az=102.0*

ISC 29 06:01:44.6±0.7,31.91S±0.06×67.0W±0.1,h125km±11km, n27,σ0s58/29,mb3.8/4,5C-1D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CFAA	**Coronel Fontan**	**1.08**	**286**	P		**P**	**06 02 08.6**	**+0.5**
	6.9nm,0.3s,baz=100,slow=10,SNR=94							
CFAA				S		**S**	**06 02 25.2**	**-0.6**
	45nm,0.3s,baz=77,slow=10,SNR=281							
FCH	**Farellones**	**3.10**	**242**	⇑*i*P		**P**	**06 02 33.9**	**+0.6**
FCH				*i* S		**S**	**06 03 11.4**	**+1.1**
FCH				AMP			06 03 13.1	
	comp=N,284nm,0.7s							
JACH	**Jahuel**	**3.12**	**255**	⇑*i*P		**P**	**06 02 34.1**	**+0.5**
CLCH	**Cerro Calan**	**3.32**	**242**	⇑*i*P		**P**	**06 02 36.4**	**+0.2**
CLCH				*i* S		**S**	**06 03 14.7**	**-0.8**
CLCH				AMP			06 03 19.3	
	comp=N,401nm,0.6s							
PEL	**Peldehue**	**3.33**	**247**	⇑*i*P		**P**	**06 02 36.7**	**+0.3**
DSCH	**Colegio Aleman**	**3.34**	**243**	AMP			06 03 21.8	
	comp=E,521nm,0.6s							
PCH	**Pirque**	**3.41**	**239**	*i* P		**P**	**06 02 37.6**	**+0.3**
PCH				*i* S		**S**	**06 03 17.0**	**-0.5**
ANTU	**Antumapu**	**3.47**	**240**	AMP			06 03 26.4	
	comp=E,157nm,0.4s							
CMCH	**Combarbala**	**3.48**	**281**	⇓*i*P		**P**	**06 02 38.0**	**-0.3**
CMCH				AMP			06 03 20.4	
	comp=E,2μm,0.9s							
RCDM	**Rinconada Maip**	**3.56**	**243**	*i* P		**P**	**06 02 39.2**	**-0.2**
RCDM				*i* S		**S**	**06 03 20.9**	**-0.4**
RCDM				AMP			06 03 23.4	
	comp=N,338nm,0.6s							
CHCH	**Chadas Angostu**	**3.67**	**236**	⇑*i*P		**P**	**06 02 41.4**	**+0.6**
CACH	**El Canelo**	**3.73**	**233**	*i* P		**P**	**06 02 42.5**	**+0.8**
TACH	**Talagante**	**3.73**	**241**	*i* P		**P**	**06 02 41.3**	**-0.5**
CHNG	**Los Chungos**	**3.81**	**269**	AMP			06 03 29.2	
	comp=E,127nm,0.4s							
LSCH	**La Serena**	**4.14**	**298**	AMP			06 04 05.5	
	comp=E,372nm,0.2s							
TRQA	**Torquist**	**7.40**	**147**	*e*Pn		**P**	**06 03 31.5**	**+0.3**
	comp=E,3.3nm,0.4s							
PLCA	**Paso Flores**	**9.26**	**197**	P		**P**	**06 03 54.5**	**-1.6**
	comp=E,0.1nm,0.3s,baz=355,slow=15,SNR=3.3							
LVC	**Limon Verde**	**9.41**	**349**	P		**P**	**06 03 57.5**	**-0.7**
	comp=E,2.4nm,0.3s,baz=160,slow=9.1,SNR=19							
LVC				S		**S**	**06 05 36.3**	**-6.2**
	comp=E,0.9nm,0.3s,baz=171,slow=23,SNR=4.3							
LVC	**Limon Verde**	**9.41**	**349**	*e*Pn		**P**	**06 03 57.6**	**-0.5**
LVC				S		**S**	**06 05 36.4**	**-6.2**
LPAZ	**La Paz**	**15.58**	**356**	P		**P**	**06 05 19.1**	**+0.5**
	comp=E,0.2nm,0.3s,baz=166,slow=11,SNR=8.0							
SIV	**San Ignacio**	**16.74**	**20**	P		**P**	**06 05 32.7**	**-0.3**
	comp=E,0.2nm,0.3s,baz=205,slow=9.5,SNR=9.7							
USHA	**Ushuaia**	**22.94**	**182**	P		**P**	**06 06 38.7**	**+0.5**
	comp=E,4.5nm,0.5s,mb4.0,baz=334,slow=9.8,SNR=9.1							
BDFB	**Brasilia**	**23.70**	**51**	P		**P**	**06 06 46.0**	**0.0**
	comp=E,1.2nm,0.6s,mb3.4,baz=220,slow=5.2,SNR=3.1							
SNAA	**Sanae**	**51.97**	**159**	P		**P**	**06 10 42.2**	**-0.3**
	comp=E,0.4nm,0.7s,mb3.6,baz=272,slow=5.9,SNR=10.0							
SNAA	**Sanae**	**51.97**	**159**	*e*P		**P**	**06 10 41.8**	**-0.7**
	comp=E,1.0nm,0.5s,mb4.1							
MAW	**Mawson**	**73.93**	**162**	P		**P**	**06 13 07.3**	**+0.1**
	comp=E,0.9nm,0.5s,mb3.8,baz=245,slow=8.8,SNR=3.7							
WRA	**Warramunga Arr**	**124.53**	**205**	PKP		PKPdf	06 20 29.8	+0.1
	comp=E,0.4nm,0.4s,baz=159,slow=1.8,SNR=5.2							

MOS ***29*** *06:01:55.6±1.0,0.30N×97.34E,h31km,mb5.0/23,Error ellipse: s-maj=13.5km s-min=6.9km az=107.6*
BJI ***29*** *06:01:56.2,0.14N×97.35E,h39km,mB5.0,mb4.9,Ms4.7, Msz4.5*
NEIC ***29*** *06:01:57.7±0.2,0.28N×97.27E,mb4.8/24,Error ellipse: s-maj=8.1km s-min=6.1km az=218.0*
IDC ***29*** *06:01:57.2±0.6,0.19N×97.17E,h32km±3km,mb4.5/18, mb1 4.6/18,mb1mx4.5/22,mbtmp4.7/18,MS3.9/1, Ms1 3.9/1,ms1mx3.1/24,Error ellipse: s-maj=19.4km s-min=11.1km az=44.0*

ISC 29 06:01:56.1±0.4,0.30N±0.05×97.31E±0.05,h32km, h32km±.5km:pP-P,n141,σ1s02/127,mb4.7/58,MS4.4/10, 5C-5D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IPM	**Ipoh**	**5.64**	**41**	P		**Pn**	**06 03 20.2**	**+0.2**
KULM	**Kulim**	**5.97**	**34**	*e*Pn		**Pn**	**06 03 23.5**	**-1.1**
KGM	**Kluang**	**6.24**	**74**	P		**Pn**	**06 03 29.0**	**+0.6**
KKM	**Kota Kinabalu**	**19.71**	**73**	*e*P		**P**	**06 06 25.5**	**-0.5**
KKM	**Kota Kinabalu**	**19.71**	**73**	P		**P**	**06 06 26.6**	**+0.6**
TSM	**Tawau**	**20.92**	**79**	P		**P**	**06 06 41.1**	**+2.5**
KMI	**Kunming**	**25.23**	**12**	P		**P**	**06 07 22.8**	**+1.9**
KMI					AP	pP	06 07 32.0	+1.7
KMI					XP	sP	06 07 36.0	+1.4
KMI						PP	06 07 59.3	-0.1
KMI					S	**S**	**06 11 38.8**	**-2.7**
KMI					AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7							
KMI					AMB	AMB		
	comp=Z,168nm,4.4s							
KMI					LR	LR		
	comp=N,329nm,13.2s,MS4.2							
KMI					LR	LR		
	comp=E,326nm,12.2s,MS4.2							
KMI					LR	LR		
	comp=Z,352nm,13.6s,MS4.0							
KMI	**Kunming**	**25.23**	**12**	P		**P**	**06 07 22.7**	**+1.8**
KMI					*PP	pP	06 07 32.1	+1.8
KMI					*SP	sP	06 07 35.9	+1.3
KMI							06 07 59.2	
KMI					PPP	PPP	06 08 10.0	-0.7
KMI							06 11 01.5	
KMI					S	**S**	**06 11 38.8**	**-2.7**
KMI					*SS		06 11 54.5	
KMI					SS	SS	06 12 35.0	-7.9
KMI					pmax	pmax		
	comp=Z,20nm,0.9s,mb4.7							
KMI					MLR	MLR		
	comp=Z,350nm,13.6s,MS4.0							
KMI	**Kunming**	**25.23**	**12**	P		**P**	**06 07 22.7**	**+1.8**
	comp=Z,20nm,0.9s,mb4.7							
KMI					pP	pP	06 07 32.1	+1.8
KMI					sP	sP	06 07 35.9	+1.3
KMI					PP	PP	06 07 59.2	-0.2
KMI					PPP	PPP	06 08 10.0	-0.7
KMI					PcP	PcP	06 11 01.5	+6.8
KMI					S	**S**	**06 11 38.8**	**-2.7**
KMI					sS		06 11 54.5	
KMI					SS	SS	06 12 35.0	-7.9
KMI					SSS	SSS	06 12 51.4	-8.2
KMI					ScP		06 14 36.2	
KMI					PcS		06 14 40.1	
KMI					LR	LR		
	comp=Z,350nm,13.6s,MS4.0							
SHL	**Shillong**	**25.66**	**349**	*e*P		**P**	**06 07 24.5**	**-0.4**
GYA	**Guiyang**	**27.52**	**18**	P		**P**	**06 07 42.0**	**0.0**
GYA					AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5							
JIRN	**Jiri**	**29.22**	**339**	*e*P		**P**	**06 07 57.9**	**+0.6**
	comp=Z,27nm,0.7s,mb5.1							
PKI	**Pulchoki**	**29.42**	**338**	*e*P		**P**	**06 08 00.5**	**+1.3**
	comp=Z,9.4nm,0.5s,mb4.8							
GUN	**Gumba**	**29.56**	**339**	*e*P		**P**	**06 08 01.0**	**+0.6**
DMN	**Daman**	**29.57**	**338**	*e*P		**P**	**06 08 01.9**	**+1.4**
KKN	**Kakani**	**29.67**	**338**	*e*P		**P**	**06 08 01.6**	**+0.2**
LSA	**Lhasa**	**29.82**	**349**	*e*P		**P**	**06 08 05.0**	**+2.3**
LSA	**Lhasa**	**29.82**	**349**	*e*P		**P**	**06 08 03.6**	**+0.9**
LSA					pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.7							
LSA	**Lhasa**	**29.82**	**349**	*e*P		**P**	**06 08 03.6**	**+0.9**
	comp=Z,8.2nm,0.5s,mb4.7							
GKN	**Gorkha**	**30.10**	**337**	*e*P		**P**	**06 08 05.5**	**+0.3**
	comp=Z,14nm,0.5s,mb5.0							
KOLN	**Koldanda**	**30.31**	**335**	*e*P		**P**	**06 08 07.7**	**+0.6**
	comp=Z,36nm,0.7s,mb5.2							
ENH	**Enshi**	**31.97**	**20**	*e*P		**P**	**06 08 20.5**	**-1.2**
	comp=Z,28nm,0.8s,mb5.1							
FITZ	**Fitzroy Crossi**	**33.32**	**125**	*e*P		**P**	**06 08 33.2**	**-0.3**
	comp=Z,11nm,0.6s,mb5.0							
FITZ	**Fitzroy Crossi**	**33.32**	**125**	P		**P**	**06 08 32.7**	**-0.8**
	comp=Z,14nm,0.7s,mb5.0,baz=311,slow=3.5,SNR=6.2							
YHNB	**Yeheng**	**33.60**	**42**	*e*P		**P**	**06 08 36.1**	**+0.3**
XAN	**Xi'an**	**35.28**	**17**	P		**P**	**06 08 49.5**	**-0.7**
XAN					AMB	AMB		
	comp=Z,21nm,0.9s,mb5.1							
LZH	**Lanzhou**	**36.12**	**9**	*e*P		**P**	**06 08 58.0**	**+0.8**
LZH					AP	pP	06 09 06.3	-0.5
LZH					XP	sP	06 09 09.0	-1.9
LZH					AMB	AMB		
	comp=Z,25nm,1.5s,mb4.9							
LZH					AMB	AMB		
	comp=Z,150nm,4.9s							
LZH					LR	LR		
	comp=E,685nm,16.3s							
LZH					LR	LR		
	comp=Z,968nm,17.5s,MS4.6							
LZH	**Lanzhou**	**36.12**	**9**	*e*P		**P**	**06 08 58.0**	**+0.8**
LZH					*PP	pP	06 09 06.2	-0.6
LZH					*SP	sP	06 09 09.0	-1.9
LZH					pmax	pmax		
	comp=Z,25nm,1.5s,mb4.9							
LZH					MLR	MLR		
	comp=Z,970nm,17.5s,MS4.6							
LZH	**Lanzhou**	**36.12**	**9**	*e*P		**P**	**06 08 58.0**	**+0.8**
	comp=Z,25nm,1.5s,mb4.9							
LZH					pP	pP	06 09 06.2	-0.6
LZH					sP	sP	06 09 09.0	-1.9

WRAB Tennant Creek 41.48 121 eP P 06 09 42.1 +0.1
WRAB pmax pmax
comp=Z,12nm,0.6s,mb4.7
WRAB Tennant Creek 41.48 121 eP P 06 09 42.1 +0.1
comp=Z,12nm,0.6s,mb4.7
WB2 Warramunga Arr 41.48 121 eP P 06 09 42.4 +0.4
WMQ Urumqi 44.17 350 eP P 06 10 04.5 +0.7
WMQ AP pP 06 10 14.5 +1.0
WMQ XP sP 06 10 18.5 +1.0
WMQ PP PP 06 11 49.3 +1.2
WMQ LR LR
comp=N,393nm,17.3s,MS4.5
WMQ LR LR
comp=E,255nm,17.4s,MS4.5
WMQ LR LR
comp=Z,489nm,16.7s,MS4.5
JNU Nakatsue 45.40 41 P P 06 10 13.8 0.0
comp=Z,7.2nm,0.8s,mb4.6,baz=179,slow=9.4,SNR=4.7
JNU pP pP 06 10 23.2 -0.3
comp=Z,18nm,0.8s,baz=352,slow=4.3,SNR=4.7
KS15 Wonju Array Si 46.49 34 eP P 06 10 22.5 +0.1
KS15 epP pP 06 10 32.1 +0.1
AAK Ala-Archa 46.86 337 d iP P 06 10 24.9 -0.3
AAK pmax pmax
comp=Z,8.0nm,1.6s,mb4.4
AAK Ala-Archa 46.86 337 P P 06 10 25.1 -0.1
comp=Z,3.4nm,0.6s,mb4.5
SONM Songino Array 47.99 8 P P 06 10 34.2 +0.2
comp=Z,3.9nm,0.4s,mb4.8,baz=188,slow=8.7,SNR=33
SONM pP pP 06 10 43.7 -0.2
comp=Z,7.5nm,0.8s,baz=189,slow=7.7,SNR=12
SONM PcP PcP 06 12 01.9 -0.2
comp=Z,2.8nm,0.7s,baz=186,slow=4.5,SNR=4.6
MKAR Makanchi Array 48.13 346 P P 06 10 35.1 0.0
comp=Z,15nm,0.8s,mb5.1,baz=157,slow=8.0,SNR=128
MKAR pP pP 06 10 44.9 0.0
comp=Z,16nm,0.7s,baz=159,slow=8.4,SNR=22
KKAR Karatay Array 48.91 334 i P P 06 10 40.3 -0.8
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
CN2 Changchun 50.05 26 eP P 06 10 49.8 -0.1
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
ZAK Zakamensk 50.15 5 eP P 06 10 50.3 -0.3
ZAK e pP 06 11 00.4 0.0
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
PMG Port Moresby 50.55 102 P P 06 10 53.8 -0.3
comp=Z,8.5nm,0.6s,mb4.9,baz=233,slow=15,SNR=4.4
PMG pP pP 06 11 03.1 -0.8
comp=Z,16nm,0.7s,baz=322,slow=4.7,SNR=2.8
TLY Talaya 51.47 5 P P 06 11 00.9 +0.3
TLY pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TLY Talaya 51.47 5 P P 06 11 00.9 +0.4
comp=Z,9.4nm,0.8s,mb4.8
CTA Charters Tower 52.01 116 P P 06 11 04.5 -0.5
comp=Z,7.2nm,0.9s,mb4.6,baz=253,slow=11,SNR=3.9
MJAR Matsushiro Arr 52.27 42 P P 06 11 05.8 -1.1
comp=Z,3.1nm,0.7s,mb4.4,baz=216,slow=6.6,SNR=7.8
HIA Hailar 52.45 18 eP P 06 11 07.4 -0.6
HIA e*PP pP 06 11 17.9 0.0
HIA pmax pmax
comp=Z,9.0nm,0.8s
HIA Hailar 52.45 18 eP P 06 11 07.4 -0.6
comp=Z,8.8nm,0.8s,mb4.7
HIA epP pP 06 11 17.9 0.0
MDJ Mudanjiang 52.59 29 P P 06 11 09.8 +0.7
MDJ AP pP 06 11 19.0 0.0
MDJ XP sP 06 11 22.8 0.0
MDJ PCP PcP 06 12 18.5 -0.5
MDJ PP PP 06 13 07.5 -1.8
MDJ PCS 06 16 18.0
MDJ S S **06 18 36.3 +3.9**
MDJ SCS ScS 06 20 56.5 +3.5
MDJ AMB AMB
comp=Z,9.0nm,1.8s,mb4.4
MDJ AMB AMB
comp=Z,58nm,3.7s
MDJ LR LR
comp=E,467nm,21.5s,MS4.6
MDJ LR LR
comp=N,348nm,24.1s,MS4.6
MDJ LR LR
comp=Z,347nm,20.7s,MS4.4
STKA Stephens Creek 52.68 132 eP P 06 11 10.7 +0.7
comp=Z,12nm,0.6s,mb5.0
STKA Stephens Creek 52.68 132 P P 06 11 09.6 -0.3
comp=Z,16nm,0.6s,mb5.1,baz=302,slow=7.6,SNR=33
KURK Kurchatov 52.68 345 eP P 06 11 09.1 -0.6
KURK e*PP pP 06 11 18.2 -1.4
KURK pmax pmax
comp=Z,13nm,0.9s,mb4.9
KURK Kurchatov 52.68 345 eP P 06 11 09.1 -0.6
comp=Z,12nm,0.9s,mb4.8
KURK epP pP 06 11 18.2 -1.4
CIT Chita 53.31 12 eP P 06 11 14.0 -0.4
CIT e pP 06 11 25.4 +1.2
ZAL Zalesovo 54.45 351 P P 06 11 21.9 -0.7
comp=Z,10nm,0.5s,mb5.0,baz=314,slow=4.8,SNR=26
ZAL pP pP 06 11 31.5 -1.0
comp=Z,10nm,0.6s,baz=302,slow=7.0,SNR=9.2
ZAL Zalesovo 54.45 351 P P 06 11 21.9 -0.7
ZAL pP pP 06 11 31.5 -1.0
NVS Novosibirsk 55.57 350 ⇓ iP P 06 11 29.5 -1.3
NVS pmax pmax
comp=Z,17nm,1.1s,mb5.0
NVS pmax pmax
comp=N,17nm,1.4s
VOSK Vostochnaya 56.68 341 P P 06 11 37.0 -1.8
VOSK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KLR Kul'dur 57.00 26 eP P 06 11 38.8 -2.4
KLR MLR MLR
comp=N,500nm,14.0s
KLR MLR MLR
comp=Z,600nm,14.0s,MS4.8
BVA0 Borovoye Array 57.13 341 i P P 06 11 40.6 -1.4
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BRVK Borovoye 57.19 341 eP P 06 11 40.8 -1.6
BRVK e*PP pP 06 11 50.2 -2.2
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BRVK Borovoye 57.19 341 eP P 06 11 40.8 -1.7
comp=Z,5.5nm,0.8s,mb4.6
BRVK epP pP 06 11 50.2 -2.2
AB31 Akbulak array 58.35 332 P P 06 11 49.2 -1.4
AB31 pmax pmax
comp=Z,11nm,0.9s,mb4.9
BOD Bodaibo 58.86 10 eP P 06 11 53.2 -0.9
BOD e pP 06 12 03.1 -1.0
ARMA Armidale 59.92 126 eP P 06 11 56.9 -4.8
YSS Yuzh-Sakhalins 61.02 34 eP P 06 12 09.1 +0.1
YSS pmax pmax
comp=Z,13nm,0.4s,mb5.4
YSS Yuzh-Sakhalins 61.02 34 eP P 06 12 09.1 +0.1
comp=Z,13nm,0.4s,mb5.4
ARU Arti 64.05 337 i iP P 06 12 27.6 -1.4
ARU e 06 12 58.5
ARU e 06 14 46.2
ARU ePPP PPP 06 16 22.6 -1.1
ARU eS S **06 21 03.6 +2.0**
ARU eSS SS 06 25 12.7 +0.7
ARU pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
ARU Arti 64.05 337 eP P 06 12 27.5 -1.5
comp=Z,6.1nm,0.8s,mb4.7
KIV Kislovodsk 65.06 319 ⇓ eP P 06 12 36.0 +0.2
KIV e pP 06 12 48.0 +2.2
KIV pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
MALT Malatya 65.81 312 eP P 06 12 40.5 -0.2
MALT pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
MALT Malatya 65.81 312 eP P 06 12 40.5 -0.2
comp=Z,1.3nm,0.6s,mb4.1
YAK Yakutsk 66.24 16 eP P 06 12 41.4 -1.6
YAK e 06 12 54.9
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=Z,23nm,0.9s,mb5.2
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK pmax pmax
comp=Z,20nm,0.8s,mb5.2
YAK pmax pmax
comp=N,7.0nm,1.1s
BRTR Keskin Array B 69.80 313 P P 06 13 04.0 -1.6
comp=N,2.2nm,0.7s,mb4.2,baz=121,slow=7.2,SNR=10
BRTR pP pP 06 13 14.3 -1.4
comp=N,2.5nm,0.7s,baz=127,slow=8.3,SNR=6.7
OBN Obninsk 73.44 328 ⇓ eP P 06 13 26.5 -0.6
OBN e pP 06 13 34.9 -2.3
OBN pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
TIXI Tiksi 74.04 10 i P P 06 13 29.0 -1.3
TIXI pmax pmax
comp=Z,20nm,0.8s,mb5.1
BOSA Boshof 74.43 240 P P 06 13 31.2 -2.2
comp=Z,3.7nm,1.0s,mb4.3,baz=117,slow=2.3,SNR=2.0
SEY Seymchan 74.54 23 eP P 06 13 33.7 +0.4
KIS Kishinev 75.24 319 eP P 06 13 30.0 -7.7
AKASG Malin Array Be 76.03 323 P P 06 13 40.5 -1.5
comp=Z,6.2nm,0.6s,mb4.7,baz=89,slow=4.7,SNR=29
AKASG pP pP 06 13 51.2 -1.1
comp=Z,6.6nm,0.6s,baz=90,slow=4.7,SNR=13
VRI Vrincioaia 76.35 317 ⇓ P P 06 13 44.5 +0.5
MLR Muntele Rosu 76.79 317 ⇑ P P 06 13 46.8 +0.3
BURAR Bucovina Array 77.77 319 ⇑ P P 06 13 53.0 +1.2
KOLS Kolonicke sedl 79.97 320 eP P 06 14 04.9 +1.1
KOLS epP pP 06 14 15.7 +1.7
SUW Suwalki 80.47 325 eP P 06 14 06.5 +0.2
CRVS Cervenica-Dubn 80.49 320 eP pP 06 14 16.6 -0.2
CRVS Cervenica-Dubn 80.49 320 epP pP 06 14 16.6 -0.2
STHS Stebnicka Huta 80.72 320 eP P 06 14 08.9 +1.2
STHS epP pP 06 14 19.2 +1.2
FINES FINESS Array B 80.84 333 P P 06 14 08.0 -0.1
comp=Z,3.9nm,0.5s,mb4.6,baz=109,slow=6.4,SNR=21
FINES pP pP 06 14 18.3 -0.1
comp=Z,3.8nm,0.6s,baz=124,slow=6.9,SNR=7.8
FINES FINESS Array B 80.84 333 P P 06 14 08.0 -0.1
FINES pP pP 06 14 18.3 -0.1
KAF Kangasniemi 80.93 333 ep P 06 14 08.2 -0.4
comp=Z,6.2nm,0.6s,mb4.7,baz=103,slow=5.0
KAF Kangasniemi 80.93 333 eP P 06 14 08.2 -0.4
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
KECS Kecovo 81.05 319 eP P 06 14 09.1 -0.4
KECS epP pP 06 14 20.4 +0.6
FX1 Attu Island--F 81.24 36 P P 06 14 11.5 +1.1
comp=Z,8.3nm,0.5s,mb5.0,baz=242,slow=20,SNR=5.8
OJC Ojcow 81.78 321 eP P 06 14 14.1 +0.8
VYHS Vyhne 82.14 319 eP P 06 14 15.3 +0.2
VYHS e pP 06 14 26.5 +1.1
MORC Moravsky Berou 83.16 320 eP P 06 14 20.9 +0.5
comp=Z,4.4nm,0.9s,mb4.5
ARCES ARCESS Array B 83.41 340 P P 06 14 22.2 +0.9
comp=Z,3.8nm,0.4s,mb4.8,baz=105,slow=4.6,SNR=29
ARCES pP pP 06 14 32.2 +0.6
comp=Z,9.1nm,0.8s,baz=63,slow=5.4,SNR=5.4
BOJS Bojanci 84.21 316 eP P 06 14 26.7 +0.9
PERS Pernice 84.41 317 eP P 06 14 26.9 0.0
GERES GERESS Array B 85.56 319 P P 06 14 32.4 -0.1
comp=Z,3.2nm,0.9s,mb4.5,baz=104,slow=5.5,SNR=17
BRG Berggiesshubel 85.57 321 eP P 06 14 33.7 +1.2
BRG pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
BRG MLR MLR
comp=Z,220nm,13.3s,MS4.7
BRG Berggiesshubel 85.57 321 eP P 06 14 33.7 +1.1
comp=Z,6.7nm,1.0s,mb4.8
BRG LR LR
comp=Z,220nm,13.3s,MS4.7
KBA Koelnbreinsper 85.66 317 ⇑ iP P 06 14 33.5 +0.4
comp=Z,3.4nm,1.1s,mb4.5
KBA Koelnbreinsper 85.66 317 ⇑ iP P 06 14 33.5 +0.4
KBA pmax pmax
comp=Z,3.0nm,1.1s,mb4.4
GRA1 Grafenberg Arr 87.23 320 eP P 06 14 42.3 +1.6
comp=Z,4.0nm,0.7s,mb4.8
GRF Grafenberg Arr 87.23 320 eP P 06 14 42.3 +1.6
GRF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
GRF Grafenberg Arr 87.23 320 eP P 06 14 42.3 +1.6
GRF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
GRF Grafenberg Arr 87.23 320 eP P 06 14 42.3 +1.6
comp=Z,4.0nm,0.7s,mb4.8
NB2 NORSAR Subarra 87.84 331 P P 06 14 43.6 +0.3
comp=Z,5.9nm,1.1s,mb4.7,baz=95,slow=4.6
NB2 NORSAR Subarra 87.84 331 P P 06 14 43.6 +0.3
NB2 pmax pmax
comp=Z,6.0nm,1.1s,mb4.7
NB2 NORSAR Subarra 87.84 331 P P 06 14 43.6 +0.3
baz=95,slow=4.6
NOA NORSAR Array B 87.84 331 P P 06 14 43.3 -0.1
comp=Z,3.1nm,0.9s,mb4.5,baz=95,slow=4.9,SNR=6.8
NOA pP pP 06 14 53.1 -0.6
comp=Z,1.6nm,0.8s,baz=94,slow=4.8,SNR=5.2
ILAR Eielson Array 100.47 23 PP PP 06 19 48.5 -2.3
comp=Z,0.4nm,0.8s,baz=291,slow=7.6,SNR=4.9
BOZ Bozeman (W) 127.60 25 ePKPdf PKPdf 06 21 00.2 -3.6
HLID Hailey 127.93 29 ePKPdf PKPdf 06 21 01.6 -2.9
ELK Elko 129.57 32 ePKPdf PKPdf 06 21 04.6 -3.2
LOHW Long Hollow 129.66 26 ePKPdf PKPdf 06 21 04.6 -3.2
SNOW Snow King Moun 129.71 26 ePKPdf PKPdf 06 21 05.2 -2.7
PDAR Pinedale Array 130.79 26 PKP PKPdf 06 21 06.1 -3.9
comp=Z,0.7nm,0.6s,baz=236,slow=0.7,SNR=7.2
NEN Nelson 133.35 37 ePKPdf PKPdf 06 21 12.9 -2.1
PV10 Paradox Valley 134.51 29 ePKPdf PKPdf 06 21 14.9 -2.2
ANMO Albuquerque 138.48 30 PKP PKPdf 06 21 22.1 -2.4
comp=Z,0.3nm,0.3s,baz=274,slow=7.9,SNR=4.2
MNTX Cornudas Mount 141.59 32 ePKPdf PKPdf 06 21 26.2 -4.1
WVT Waverly 143.44 7 ePKPdf PKPdf 06 21 27.9 -5.3
LTX Lajitas 144.36 32 ePKPdf PKPdf 06 21 31.0 -4.1
TXAR Lajitas Array 144.36 32 PKP PKPdf 06 21 30.9 -4.1
comp=Z,3.5nm,0.5s,baz=182,slow=0.7,SNR=115
CPUP Villa Florida 144.42 221 PKP PKPdf 06 21 30.3 -4.9
comp=Z,8.7nm,0.9s,baz=131,slow=4.9,SNR=25
CPUP Villa Florida 144.42 221 ePKPdf PKPdf 06 21 30.4 -4.8
PLAL Pickwick Lake 144.54 8 ePKPdf PKPdf 06 21 29.5 -5.7
JSC Jenkinsville 145.57 358 ePKPdf PKPdf 06 21 33.0 -4.0
SIV San Ignacio 153.58 233 PKPbc PKPdf 06 21 53.3 +3.4
comp=Z,0.5nm,0.7s,baz=119,slow=3.7,SNR=4.0
SAML Samuel 158.76 246 ePKPab PKPab 06 22 29.3 -0.2

NEIC ***29*** *06:14:08.5±0.6, 1.80N×104.12E, h100km, mb4.2/4, Error ellipse: s-maj=35.0km s-min=7.6km az=73.0*
IDC ***29*** *06:14:08.5±16.0, 1.76N×127.98E, h94km±161km, mb4.0/5, mb1 4.0/6, mb1mx3.6/17, mbtmp4.3/6, ML3.8/1, Error ellipse: s-maj=91.4km s-min=28.2km az=63.0*

ISC 29 06:14:07.0±0.8, 1.8N±0.1×128.0E±0.3, h100km, n12, σ0s45/12, mb4.2/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FITZ	**Fitzroy Crossi**	**19.93**	**187**	P	**P**		**06 18 32.7**	**-0.6**
	0.2nm,0.3s,baz=18,slow=6.6,SNR=4.1							
WRAB	**Tennant Creek**	**22.50**	**164**	eP	**P**		**06 18 58.9**	**-0.1**
	7.5nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**22.50**	**164**	P	**P**		**06 18 59.5**	**+0.3**
	4.2nm,0.7s,mb3.9,baz=342,slow=10,SNR=48							
WB2	**Warramunga Arr**	**22.51**	**164**	eP	**P**		**06 18 59.5**	**+0.3**
MBWA	**Marble Bar**	**24.23**	**199**	eP	**P**		**06 19 16.3**	**+0.5**
	2.8nm,0.6s,mb3.8							
STKA	**Stephens Creek**	**35.91**	**160**	P	**P**		**06 20 59.2**	**-0.3**
	1.7nm,0.4s,mb4.4,baz=341,slow=8.9,SNR=10							
STKA	**Stephens Creek**	**35.91**	**160**	eP	**P**		**06 20 59.2**	**-0.3**
SONM	**Songino Array**	**49.50**	**341**	P	**P**		**06 22 49.7**	**+0.4**
	2.0nm,0.6s,mb4.2,baz=151,slow=7.7,SNR=8.8							
MKAR	**Makanchi Array**	**59.84**	**325**	P	**P**		**06 24 04.8**	**+0.5**
	6.7nm,0.4s,mb5.0,baz=116,slow=8.2,SNR=119							
KURK	**Kurchatov**	**64.02**	**328**	eP	**P**		**06 24 32.0**	**-0.2**
	7.1nm,0.6s,mb4.7							
BVAR	**Borovoye Array**	**69.60**	**327**	P	**P**		**06 25 07.3**	**0.0**
	1.3nm,0.6s,mb3.9,baz=135,slow=8.2,SNR=8.4							
BRVK	**Borovoye**	**69.67**	**327**	eP	**P**		**06 25 06.9**	**-0.8**
	2.0nm,0.5s,mb4.2							

NEIC ***29*** *06:23:42.1±2.5, 7.33S×128.84E, h99km±20km, mb3.6/2, Error ellipse: s-maj=28.1km s-min=17.8km az=224.0*
IDC ***29*** *06:23:42.0±5.2, 7.35S×128.83E, h96km±43km, mb3.8/4, mb1 4.0/6, mb1mx3.8/15, mbtmp4.2/6, Error ellipse: s-maj=57.4km s-min=23.1km az=66.0*

ISC 29 06:23:45.2±1.8, 7.8S±0.1×128.7E±0.1, h100km, n16, σ1s41/18, mb3.9/4, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KAKA	**Kakadu**	**6.08**	**143**	⇓ iP	**P**		**06 25 23.3**	**+9.3**
	94nm,0.1s							
KAKA				eS	**S**		**06 26 30.4**	**+7.6**
FITZ	**Fitzroy Crossi**	**10.64**	**196**	eP	**P**		**06 26 18.6**	**+2.5**
	4.6nm,0.2s							
FITZ				eS	**S**		**06 28 12.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**10.64**	**196**	P	**P**		**06 26 18.3**	**+2.2**
	2.1nm,0.3s,baz=16,slow=10,SNR=41							
FITZ				S	**S**		**06 28 13.8**	**0.0**
	3.5nm,0.3s,baz=156,slow=22,SNR=5.5							
WRAB	**Tennant Creek**	**13.21**	**156**	ePn	**P**		**06 26 51.1**	**+1.0**
WRA	**Warramunga Arr**	**13.22**	**156**	P	**P**		**06 26 50.8**	**+0.7**
	1.9nm,0.3s,baz=325,slow=13,SNR=81							
WRA				S	**S**		**06 29 13.4**	**-1.6**
	3.8nm,0.3s,baz=334,slow=22,SNR=15							
WB2	**Warramunga Arr**	**13.22**	**156**	eP	**P**		**06 26 51.8**	**+1.7**
WB2				eS	**S**		**06 29 10.5**	**-4.6**
STKA	**Stephens Creek**	**26.76**	**155**	eP	**P**		**06 29 17.2**	**-0.5**
	3.2nm,1.4s,mb3.7							
STKA	**Stephens Creek**	**26.76**	**155**	P	**P**		**06 29 16.6**	**-1.0**
	1.5nm,0.6s,mb3.7,baz=323,slow=12,SNR=5.2							
NWAO	**Narrogin (SRO)**	**27.15**	**202**	P	**P**		**06 29 20.9**	**-0.3**
	3.2nm,0.3s,mb4.4,baz=44,slow=9.1,SNR=6.8							
MKAR	**Makanchi Array**	**68.23**	**328**	P	**P**		**06 34 30.2**	**-7.0**
	0.6nm,0.4s,mb3.8,baz=114,slow=7.5,SNR=14							
MKAR				pP	pP		06 34 51.2	-11
	0.4nm,0.6s,baz=125,slow=7.0,SNR=2.7							
MKAR	**Makanchi Array**	**68.23**	**328**	P	**P**		**06 34 30.2**	**-7.0**
MKAR				pP	pP		06 34 51.2	-11
VNDA	**Vanda**	**71.79**	**173**	P	**P**		**06 34 55.8**	**-2.5**
	0.4nm,0.4s,mb3.6,baz=326,slow=9.6,SNR=7.0							
VNDA	**Vanda**	**71.79**	**173**	eP	**P**		**06 34 55.9**	**-2.4**
	0.5nm,0.6s,mb3.5							
CPUP	**Villa Florida**	**145.54**	**170**	PKPbc	PKPbc		06 43 10.6	-2.5
	1.1nm,0.6s,baz=200,slow=2.2,SNR=7.6							
CPUP	**Villa Florida**	**145.54**	**170**	PKPbc	PKPbc		06 43 10.6	-2.5
LPAZ	**La Paz**	**150.81**	**145**	PKPbc	PKPdf		06 43 25.9	+4.9
	0.6nm,0.4s,baz=315,slow=2.9,SNR=13							

NIED ***29*** *06:30:00,24.00N×122.60E, h35km, Mw4.8 Best double couple: M0 1.78×10^16 NP1:φs41°, δ83°, λ54°. NP2:φs301°, δ37°, λ167°.*
IDC ***29*** *06:30:35.1±0.6,24.02N×122.60E, mb4.3/19, mb1 4.4/23, mb1mx4.4/27, mbtmp4.3/23, ML4.1/4, MS4.1/10, Ms1 4.2/10, ms1mx4.0/19, Error ellipse: s-maj=18.9km s-min=14.3km az=62.0*
JMA ***29*** *06:30:40.2±0.3, 23.96N×122.62E, h30km, M5.1*
NEIC ***29*** *06:30:40.5±0.3, 24.06N×122.66E, mb4.6/18, Error ellipse: s-maj=7.9km s-min=6.3km az=57.0*
BJI ***29*** *06:30:41.1, 24.06N×122.67E, h37km, mB4.8, mb4.5, ML4.6, Ms4.5, Msz4.4*

ISC 29 06:30:39.2±0.3, 24.00N±0.04×122.59E±0.02, h33km, (h41km±4.0km:pP-P), n97, σ1s29/99, mb4.5/40, MS4.4/9, 4C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
YOJ	**Yonaguni jima**	**0.60**	**40**	P	**P**		**06 30 52.2**	**+1.0**
YOJ				S	**S**		**06 31 00.3**	**+0.4**
NACB	**Ninganchiao**	**0.92**	**281**	ePn	**Pn**		**06 30 57.4**	**+1.4**
IRIF	**Iriomote-Funau**	**1.10**	**72**	P	**P**		**06 30 59.1**	**+0.8**
IRIF				eS	**S**		**06 31 13.2**	**+0.8**
HATJ	**Hateruma jima**	**1.12**	**87**	P	**P**		**06 30 59.4**	**+0.9**
HATJ				S	**S**		**06 31 14.1**	**+1.2**
YHNB	**Yeheng**	**1.29**	**302**	ePn	**Pn**		**06 31 03.8**	**+2.5**
JKRS	**Kuro-shima**	**1.32**	**79**	P	**P**		**06 31 02.8**	**+1.3**
JKRS				eS	**S**		**06 31 20.9**	**+2.8**
TATO	**Taipei**	**1.40**	**315**	ePn	**Pn**		**06 31 05.3**	**+2.5**
JIJ	**Ishigaki jima**	**1.47**	**75**	P	**P**		**06 31 04.5**	**+0.9**
JIJ				eS	**S**		**06 31 23.5**	**+1.7**
JTJ	**Tarama**	**2.04**	**71**	P	**P**		**06 31 12.7**	**+1.0**
JMJ	**Miyako jima 2**	**2.60**	**71**	P	**P**		**06 31 22.7**	**+2.9**
JOGS	**Gusukube**	**2.68**	**73**	P	**P**		**06 31 22.9**	**+1.9**
QZH	**Quanzhou**	**3.76**	**285**	eP	**P**		**06 31 36.8**	**+0.5**
QZH				S	**S**		**06 32 19.3**	**-0.7**
QZH				Smax				
	comp=N,900nm,1.0s							
QZH				Smax				
	comp=E,2μm,1.3s							
JKE	**Kume jima 2**	**4.46**	**58**	P	**P**		**06 31 45.8**	**-0.4**
JIH	**Iheya**	**5.73**	**57**	P	**P**		**06 32 02.6**	**-1.4**
JOW	**Kunigami**	**5.87**	**60**	Pn	**Pn**		**06 32 04.0**	**-2.2**
	comp=E,17nm,0.3s,baz=223,slow=12,SNR=26							
JOW				Sn	**Sn**		**06 33 25.6**	**+13**
	baz=167,slow=23,SNR=4.6							
JOW	**Kunigami**	**5.87**	**60**	P	**P**		**06 32 03.9**	**-2.1**
JTK	**Tokunoshima**	**6.86**	**55**	P	**P**		**06 32 16.9**	**-3.2**
JAM	**Amami Oshima**	**7.69**	**54**	P	**P**		**06 32 28.2**	**-3.3**
JMZ	**Minamidaito 2**	**8.05**	**75**	P	**P**		**06 32 33.1**	**-3.4**
JMZ				eS	**S**		**06 33 55.0**	**-12**
NJ2	**Nanjing**	**8.68**	**339**	eP	**P**		**06 32 45.0**	**-0.3**
NJ2				S	**S**		**06 34 23.3**	**+0.3**
NJ2				AMB	AMB			
	comp=Z,30nm,0.9s							
NJ2				Smax				
	comp=N,260nm,1.1s							
NJ2				Smax				
	comp=E,170nm,1.0s							
NJ2				LR	LR			
	comp=N,3μm,10.7s							
NJ2				LR	LR			
	comp=E,3μm,13.7s							
NJ2				LR	LR			
	comp=Z,2μm,12.0s							
JNU	**Nakatsue**	**11.65**	**37**	LR	LR		06 37 59.9	
	comp=Z,434nm,20.4s,baz=38,slow=38							
KS15	**Wonju Array Si**	**14.15**	**17**	ePn	**P**		**06 34 04.3**	**+4.9**
GYA	**Guiyang**	**14.62**	**283**	P	**P**		**06 34 08.5**	**+3.0**
GYA				AMB	AMB			
	comp=Z,200nm,4.0s							
GYA				LR	LR			
	comp=N,1μm,11.4s							
GYA				LR	LR			
	comp=E,2μm,14.1s							
GYA				LR	LR			
	comp=Z,2μm,15.3s							
XAN	**Xi'an**	**15.57**	**313**	P	**P**		**06 34 24.3**	**+6.4**
XAN				AMB	AMB			
	comp=Z,9.0nm,1.3s							
XAN				LR	LR			
	comp=E,914nm,15.0s							
XAN				LR	LR			
	comp=Z,1μm,15.7s							
JHJ	**Hachijo jima 2**	**17.61**	**55**	P	**P**		**06 34 44.1**	**+0.4**
	comp=Z,3.9nm,0.3s,baz=217,slow=18,SNR=1.8							
JHJ				LR	LR		06 41 21.0	
	comp=Z,193nm,18.1s,baz=90,slow=37							
CBIJ	**Chichi jima**	**17.95**	**76**	P	**P**		**06 34 46.8**	**-1.1**
	comp=Z,2.1nm,0.3s,baz=358,slow=22,SNR=2.1							
CBIJ				LR	LR		06 40 58.9	
	comp=Z,380nm,20.0s,baz=269,slow=35							
MJAR	**Matsushiro Arr**	**18.37**	**44**	P	**P**		**06 34 52.2**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=195,slow=4.0,SNR=2.8							
KKM	**Kota Kinabalu**	**18.87**	**200**	P	**P**		**06 35 01.4**	**+2.0**
BTO	**Baotou**	**19.64**	**330**	eP	**P**		**06 35 12.5**	**+4.7**
BTO				S	**S**		**06 38 38.3**	**-3.8**
BTO				LR	LR			
	comp=N,2μm,14.3s							
BTO				LR	LR			
	comp=E,867nm,14.4s							
LZH	**Lanzhou**	**20.17**	**311**	eP	**P**		**06 35 15.5**	**+2.0**
LZH				AP			06 35 23.0	
LZH				XP			06 35 26.5	
LZH				PP	PP		06 35 35.5	+1.9
LZH				eS	**S**		**06 38 56.0**	**+2.8**
LZH				XS			06 39 05.5	
LZH				AMB	AMB			
	comp=Z,42nm,1.5s							
LZH				AMB	AMB			
	comp=Z,180nm,4.0s							
LZH				LR	LR			
	comp=E,2μm,13.6s							
LZH				LR	LR			
	comp=Z,3μm,16.4s,MS4.7							
LZH	**Lanzhou**	**20.17**	**311**	eP	**P**		**06 35 15.5**	**+2.0**
	comp=Z,42nm,1.5s							
LZH				pP			06 35 23.0	

LZH				sP		06 35 26.5	
LZH				PP	PP	06 35 35.5	+1.9
LZH				*e*S	**S**	**06 38 56.0**	**+2.8**
LZH				sS		06 39 05.4	
LZH				SS	SS	06 39 34.5	+12
LZH				LR	LR		
	comp=Z,3µm,16.4s,MS4.7						
GTA	**Gaotai**	**24.63**	**314**	P	**P**	**06 35 58.8**	**+0.9**
GTA				AP		06 36 13.0	
GTA				XP		06 36 17.8	
GTA				PP	PP	06 36 40.5	+6.1
GTA				PCP	PcP	06 39 36.5	+0.4
GTA				S	**S**	**06 40 20.0**	**+5.7**
GTA				SCP		06 43 12.5	
GTA				SCS	ScS	06 46 58.5	+1.0
GTA				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.4						
GTA				AMB	AMB		
	comp=Z,146nm,10.7s						
GTA				LR	LR		
	comp=N,441nm,14.1s,MS4.4						
GTA				LR	LR		
	comp=E,707nm,14.1s,MS4.4						
GTA				LR	LR		
	comp=Z,955nm,15.3s,MS4.4						
KSM	**Kuching**	**25.35**	**210**	*e*P	**P**	**06 36 05.7**	**+0.7**
KSM				*e*pP	pP	06 36 18.6	+4.3
SONM	**Songino Array**	**27.05**	**336**	P	**P**	**06 36 19.1**	**-1.3**
	comp=Z,3.4nm,0.7s,mb4.0,baz=140,slow=9.6,SNR=13						
SONM				LR	LR	06 48 16.1	
	comp=Z,722nm,21.1s,MS4.2,baz=76,slow=39						
LSA	**Lhasa**	**28.56**	**288**	P	**P**	**06 36 34.0**	**-0.3**
	comp=Z,4.8nm,0.7s,mb4.3						
TLY	**Talaya**	**31.24**	**337**	*e*P	**P**	**06 36 55.7**	**-2.1**
	comp=Z,2.6nm,0.6s,mb4.2						
JIRN	**Jiri**	**32.89**	**284**	*e*P	**P**	**06 37 13.7**	**+1.2**
	comp=Z,34nm,1.1s,mb5.2						
GUN	**Gumba**	**33.16**	**285**	*e*P	**P**	**06 37 16.3**	**+1.5**
KKN	**Kakani**	**33.69**	**285**	*e*P	**P**	**06 37 20.3**	**+0.9**
	comp=Z,22nm,0.8s,mb5.1						
DMN	**Daman**	**33.85**	**284**	*e*P	**P**	**06 37 22.1**	**+1.3**
GKN	**Gorkha**	**34.25**	**285**	*e*P	**P**	**06 37 25.0**	**+0.8**
	comp=Z,10nm,0.5s,mb5.0						
KOLN	**Koldanda**	**35.18**	**285**	*e*P	**P**	**06 37 32.8**	**+0.6**
	comp=Z,21nm,0.9s,mb5.1						
MKAR	**Makanchi Array**	**39.37**	**316**	P	**P**	**06 38 06.7**	**-0.4**
	comp=Z,2.8nm,0.7s,mb4.1,baz=104,slow=10,SNR=20						
MKAR				PcP	PcP	06 40 14.4	-1.3
	comp=Z,1.9nm,0.7s,baz=98,slow=3.4,SNR=5.1						
MKAR				LR	LR	06 57 25.2	
	comp=Z,96nm,19.5s,MS3.6,baz=269,slow=41						
ZAL	**Zalesovo**	**41.11**	**327**	P	**P**	**06 38 20.0**	**-1.5**
	comp=Z,1.7nm,0.7s,mb3.8,baz=15,slow=6.7,SNR=6.9						
ZAL				LR	LR	06 57 25.6	
	comp=Z,726nm,18.4s,MS4.6,baz=348,slow=39						
FITZ	**Fitzroy Crossi**	**41.95**	**176**	*e*P	**P**	**06 38 27.5**	**-1.3**
	comp=Z,16nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**41.95**	**176**	P	**P**	**06 38 27.4**	**-1.4**
	comp=Z,6.9nm,0.6s,mb4.5,baz=349,slow=7.4,SNR=10						
KSH	**Kashi**	**42.08**	**303**	*e*P	**P**	**06 38 33.0**	**+3.4**
KSH				*e*AP	pP	06 38 43.0	+3.6
KSH				*e*XP	sP	06 38 48.0	+4.4
KSH				AMB	AMB		
	comp=Z,150nm,2.4s,mb5.2						
KURK	**Kurchatov**	**43.06**	**320**	*e*P	**P**	**06 38 36.8**	**-0.7**
	comp=Z,3.2nm,0.6s,mb4.2						
MBWA	**Marble Bar**	**44.97**	**184**	*e*P	**P**	**06 38 53.0**	**-0.3**
	comp=Z,8.8nm,0.8s,mb4.6						
MBWA				*e*pP	pP	06 39 02.9	-0.2
WRAB	**Tennant Creek**	**45.14**	**164**	*e*P	**P**	**06 38 53.9**	**-0.8**
	comp=Z,35nm,1.4s,mb5.0						
WRA	**Warramunga Arr**	**45.15**	**164**	P	**P**	**06 38 53.8**	**-0.9**
	comp=Z,7.0nm,0.6s,mb4.7,baz=346,slow=8.7,SNR=84						
WB2	**Warramunga Arr**	**45.15**	**164**	*e*P	**P**	**06 38 53.7**	**-1.0**
BVAR	**Borovoye Array**	**48.63**	**321**	P	**P**	**06 39 20.8**	**-0.9**
	comp=Z,0.9nm,0.6s,mb4.0,baz=90,slow=8.9,SNR=4.9						
BVAR				PcP	PcP	06 40 45.9	-1.2
	comp=Z,4.1nm,0.7s,baz=108,slow=4.5,SNR=12						
STKA	**Stephens Creek**	**58.45**	**161**	*e*P	**P**	**06 40 33.7**	**-0.7**
	comp=Z,5.1nm,0.6s,mb4.7						
STKA				*i*		06 40 47.0	
STKA	**Stephens Creek**	**58.45**	**161**	P	**P**	**06 40 32.7**	**-1.7**
	comp=Z,2.5nm,0.6s,mb4.4,baz=351,slow=6.3,SNR=7.2						
STKA	**Stephens Creek**	**58.45**	**161**	*e*P	**P**	**06 40 33.8**	**-0.6**
STKA				*e*pP	pP	06 40 46.5	+2.1
ILAR	**Eielson Array**	**68.79**	**27**	P	**P**	**06 41 40.0**	**-1.6**
	comp=Z,7.0nm,0.6s,mb4.5,baz=277,slow=5.5,SNR=7.5						
ARCES	**ARCESS Array B**	**70.19**	**338**	P	**P**	**06 41 48.2**	**-2.0**
	comp=Z,5.1nm,0.9s,mb4.5,baz=69,slow=7.7,SNR=3.1						
ARCES				LR	LR	07 17 52.3	
	comp=Z,182nm,18.0s,MS4.4,baz=62,slow=40						
ARCES	**ARCESS Array B**	**70.19**	**338**	P	**P**	**06 41 48.2**	**-2.0**
ARCES				LR	LR	07 17 52.3	
MALT	**Malatya**	**71.16**	**304**	*e*P	**P**	**06 41 57.5**	**+0.9**
	comp=Z,5.3nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**72.25**	**330**	P	**P**	**06 42 01.1**	**-1.5**
	comp=Z,1.2nm,0.5s,mb4.1,baz=63,slow=4.3,SNR=8.0						
FINES				LR	LR	07 17 07.4	
	comp=Z,322nm,18.7s,MS4.6,baz=118,slow=39						
INK	**Inuvik**	**72.92**	**22**	*e*P	**P**	**06 42 06.0**	**-0.4**
	comp=Z,2.4nm,0.7s,mb4.2						
AKASG	**Malin Array Be**	**73.86**	**319**	P	**P**	**06 42 10.7**	**-1.6**
	comp=Z,1.4nm,0.7s,mb4.0,baz=57,slow=6.2,SNR=4.6						
ASF	**Jabal al Asfar**	**74.18**	**298**	P	**P**	**06 42 15.5**	**+0.9**
	comp=Z,5.0nm,0.9s,mb4.4,baz=12,slow=2.3,SNR=5.6						
BRTR	**Keskin Array B**	**74.31**	**307**	P	**P**	**06 42 15.7**	**+0.6**
	comp=Z,2.5nm,0.8s,mb4.2,baz=90,slow=6.2,SNR=9.4						
HFS	**Hagfors**	**78.35**	**331**	P	**P**	**06 42 37.1**	**-0.4**
	comp=Z,5.0nm,0.8s,mb4.5,baz=80,slow=9.0,SNR=12						
NB2	**NORSAR Subarra**	**78.99**	**332**	P	**P**	**06 42 40.3**	**-0.7**
	comp=Z,2.7nm,0.8s,mb4.2,baz=56,slow=5.3						
NOA	**NORSAR Array B**	**78.99**	**332**	P	**P**	**06 42 40.2**	**-0.7**
	comp=Z,2.7nm,0.8s,mb4.2,baz=57,slow=5.5,SNR=17						
NOA				LR	LR	07 21 12.6	
	comp=Z,215nm,18.5s,MS4.5,baz=75,slow=38						
NAO01	**NORSAR Array S**	**79.22**	**332**	*e*P	**P**	**06 42 43.0**	**+0.8**
	comp=Z,2.7nm,0.7s,mb4.3						
YKW3	**Yellowknife Ar**	**82.60**	**23**	*e*P	**P**	**06 42 59.5**	**-0.5**
YKA	**Yellowknife Ar**	**82.64**	**23**	P	**P**	**06 42 59.7**	**-0.5**
	comp=Z,2.5nm,0.7s,mb4.4,baz=314,slow=5.1,SNR=22						
YKA	**Yellowknife Ar**	**82.64**	**23**	P	**P**	**06 42 59.7**	**-0.5**
CLL	**Collm**	**82.97**	**323**	P	**P**	**06 43 06.0**	**+3.9**
GERES	**GERESS Array B**	**83.80**	**321**	P	**P**	**06 43 06.9**	**+0.5**
	comp=Z,1.5nm,0.8s,mb4.2,baz=45,slow=5.7,SNR=11						
GERES				LR	LR	07 24 36.8	
	comp=Z,117nm,18.9s,MS4.3,baz=338,slow=39						
MOA	**Molln**	**83.96**	**320**	⇑*i*P	**P**	**06 43 08.9**	**+1.7**
	comp=Z,4.1nm,0.8s,mb4.6						
KMBO	**Kilima Mbogo**	**86.19**	**267**	P	**P**	**06 43 20.1**	**+1.1**
	comp=Z,3.1nm,0.9s,mb4.5,baz=31,slow=6.5,SNR=7.1						
LPG	**La Plagne**	**89.59**	**321**	*e*P	**P**	**06 43 33.9**	**-0.8**
	comp=Z,7.6nm,0.7s,mb4.8						
LPL	**La Plagne**	**89.59**	**321**	*e*P	**P**	**06 43 34.2**	**-0.5**
	comp=Z,9.9nm,0.9s,mb4.8						
PGF	**Pioggiola**	**89.89**	**317**	*e*P	**P**	**06 43 35.1**	**-1.0**
	comp=Z,8.2nm,0.8s,mb4.8						
SBF	**Sospel**	**90.11**	**319**	*e*P	**P**	**06 43 36.1**	**-1.0**
SSF	**Saint Saulge**	**90.50**	**323**	*e*P	**P**	**06 43 37.9**	**-1.0**
AVF	**Avril sur Loir**	**90.75**	**323**	*e*P	**P**	**06 43 38.9**	**-1.2**
FLN	**La Foliniere**	**91.55**	**326**	*e*P	**P**	**06 43 42.8**	**-0.9**
FLN				*e*R			
	comp=Z,367nm,21.5s						
RJF	**Les Rejaudoux**	**92.67**	**323**	*e*P	**P**	**06 43 47.8**	**-1.2**
	comp=Z,20nm,1.1s,mb5.2						
RJF				*e*R			
	comp=Z,168nm,20.8s						
SGMF	**Saint Gilles**	**92.92**	**327**	*e*P	**P**	**06 43 48.4**	**-1.7**
	comp=Z,32nm,1.1s,mb5.4						
ROSF	**Rostrenen**	**93.23**	**327**	*e*P	**P**	**06 43 49.8**	**-1.6**
	comp=Z,65nm,1.3s,mb5.6						
NVAR	**Mina Array Bea**	**95.69**	**44**	P	**P**	**06 44 03.5**	**+0.6**
	comp=Z,0.2nm,0.4s,mb3.9,baz=315,slow=5.1,SNR=2.1						
EVO	**Evora**	**102.47**	**322**	*e*P	Pdif	06 44 32.7	-0.8
EVO				*e*R			
	comp=Z,180nm,22.0s						
VNA2	**Neumayer--Watz**	**125.11**	**198**	*e*	PKPdf	06 49 43.4	+7.7
VNA2	**Neumayer--Watz**	**125.11**	**198**	*e*	PKPdf	06 49 53.5	+18
VNA2	**Neumayer--Watz**	**125.11**	**198**	⇑*i*P	PKPdf	06 49 37.7	+2.0
VNA2				*e*		06 49 43.4	
VNA2				*e*		06 49 53.5	
VNA1	**Neumayer--Stat**	**125.50**	**198**	*e*	PKPdf	06 49 44.3	+7.9
VNA1	**Neumayer--Stat**	**125.50**	**198**	*e*	PKPdf	06 49 55.3	+19
VNA1	**Neumayer--Stat**	**125.50**	**198**	⇑*i*P	PKPdf	06 49 38.3	+1.9
VNA1				*e*		06 49 44.3	
VNA1				*e*		06 49 55.3	
VNA3	**Neumayer Olymp**	**125.56**	**197**	*e*	PKPdf	06 49 43.5	+6.9
VNA3	**Neumayer Olymp**	**125.56**	**197**	*e*	PKPdf	06 49 54.1	+18
VNA3	**Neumayer Olymp**	**125.56**	**197**	⇑*i*P	PKPdf	06 49 38.2	+1.6
VNA3				*e*		06 49 43.5	
VNA3				*e*		06 49 54.1	

JMA 29 06:37:08.7±0.6, 33.20N×142.58E, h47km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.97**	**318**	P	P	06 37 40.6	+0.3
BSO1				*e*S	S	06 38 05.4	+1.6
JHJ2	**Mitsune**	**2.32**	**269**	P	P	06 37 45.8	+0.5
JHJ2				*e*S	S	06 38 13.1	+0.4
BSO3	**Boso 3**	**2.35**	**313**	P	P	06 37 46.3	+0.6
JHO	**Hitachi**	**3.78**	**335**	P	P	06 38 05.2	-0.8
JHO				*e*S	S	06 38 48.2	-1.6
JRY	**Ryogami san**	**4.13**	**314**	P	P	06 38 12.2	+1.2

*ATH **29** 06:50:51.8, 40.15N×19.76E, h19km±3km, MD3.4/4*
*NEIC **29** 06:50:51.8, 40.15N×19.76E, h19km, MD3.4(ATH), After ATH.*
*THE **29** 06:50:52.0, 39.98N×19.56E, h8km, ML3.2*
*CSEM **29** 06:50:56.0±0.1, 39.97N×19.93E, h12km, MD3.4, Error ellipse: s-maj=3.8km s-min=2.6km az=28.0*

ISC 29 06:50:54.9±0.7, 40.05N±0.04×19.93E±0.05, h12km, n16, σ1§23/25, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**0.18**	**162**	*i* Pg	**Pg**	**06 50 57.7**	**-1.3**
SRN				*i* Sg	**Sg**	**06 51 02.9**	**+1.1**
TPE	**Tepelena**	**0.25**	**14**	*i* Pg	**Pg**	**06 50 55.4**	**-5.0**
TPE				*i* Sg	**Sg**	**06 50 59.2**	**-4.9**
KEK	**Kerkira**	**0.35**	**197**	*e*PB	**Pb**	**06 51 00.3**	**-2.2**
KEK				*e*SB	**Sb**	**06 51 07.4**	**-0.3**
LSK	**Leskovik**	**0.52**	**79**	*i* Pg	**Pg**	**06 51 02.3**	**-3.3**
LSK				*i* Sg	**Sg**	**06 51 12.3**	**-0.4**
IGT	**Igoumenitsa**	**0.60**	**149**	*e*Pg	**Pg**	**06 51 05.9**	**-1.2**
IGT				*e*Sg	**Sg**	**06 51 17.1**	**+1.9**
JAN	**Janina**	**0.81**	**119**	*e*PN	**Pn**	**06 51 10.6**	**-1.3**
JAN				*e*SN	**Sn**	**06 51 23.4**	**-0.4**
MEV	**Metsovon**	**1.03**	**104**	*e*Pg	**Pg**	**06 51 15.4**	**-0.2**
MEV				*e*Sg	**Sg**	**06 51 33.9**	**+4.4**
LKD	**Levkas**	**1.45**	**157**	*e*Pg	**Pg**	**06 51 18.6**	**-5.3**
EVR	**Evrytania**	**1.84**	**127**	*e*PN	**Pn**	**06 51 27.0**	**+0.3**
VLS	**Valsamata**	**1.94**	**164**	*e*PN	**Pn**	**06 51 28.0**	**-0.1**
LIT	**Litokhoron**	**1.96**	**88**	*e*Pn	**Pn**	**06 51 29.3**	**+0.9**
PE1	**Pezze di Greco**	**2.06**	**292**	*e*Pn	**Pn**	**06 51 30.3**	**+0.5**
GRG	**Griva**	**2.09**	**64**	*e*Pn	**Pn**	**06 51 30.6**	**+0.4**
GRG				*e*Sn	**Sn**	**06 52 01.0**	**+4.7**
GRG	**Griva**	**2.09**	**64**	*e*Pn	**Pn**	**06 51 30.6**	**+0.4**
AGG	**Agios Georgios**	**2.12**	**118**	*e*Pn	**Pn**	**06 51 30.9**	**+0.2**
AGG				*e*Sn	**Sn**	**06 52 00.3**	**+3.1**
SG1	**Sgolgore (BA)**	**2.60**	**289**	*e*Pn	**Pn**	**06 51 39.4**	**+1.8**

*MAN **29** 07:17:27.2, 12.82N×125.09E, h38km, mb4.6, ML3.5, MS3.4*
*IDC **29** 07:17:28.7±2.3, 12.05N×125.11E, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=242.6km s-min=24.6km az=65.0*

ISC 29 07:17:27.0±1.6, 12.83N±0.09×125.1E±0.1, h47km±22km, n10, σ0§92/11, mb3.8/2, 2C, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCP	**Roxas**	**2.63**	**242**	⇑*e*P	**P**	**07 18 08.2**	**+0.2**
RCP				*e*S	**S**	**07 18 38.7**	**-0.1**
GQP	**Guinayangan**	**2.80**	**293**	*e*P	**P**	**07 18 09.2**	**-1.1**
SCPH	**Surigao**	**3.05**	**173**	⇑*e*P	**P**	**07 18 13.9**	**-0.1**
GUIM	**Jordan**	**3.29**	**229**	*e*P	**P**	**07 18 17.8**	**+0.4**
GUIM				*e*S	**S**	**07 18 55.8**	**+0.1**
POLP	**Polilio Island**	**3.60**	**302**	*e*P	**P**	**07 18 26.9**	**+5.1**
BALP	**Baler**	**4.48**	**311**	*e*P	**P**	**07 18 35.0**	**+0.8**
BALP				*e*S	**S**	**07 19 20.9**	**-4.7**
WRA	**Warramunga Arr**	**33.81**	**164**	P	**P**	**07 24 05.1**	**-1.9**
	0.3nm,0.5s,mb3.5,baz=343,slow=9.2,SNR=5.0						
STKA	**Stephens Creek**	**47.18**	**161**	P	**P**	**07 25 58.5**	**+1.5**
	2.9nm,1.0s,mb4.2,baz=333,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**49.31**	**322**	P	pP	07 26 25.5	-0.8
	0.4nm,0.7s,baz=110,slow=7.4,SNR=4.5						
ZAL	**Zalesovo**	**51.85**	**331**	P	pP	07 26 42.2	-3.3
	1.2nm,0.4s,baz=17,slow=9.1,SNR=3.2						

IDC 29 07:17:27.9±4.3, 8.38S×119.68E, h556km±69km, mb3.0/2, mb1 3.2/4, mb1mx2.9/17, mbtmp4.0/4, 2D, Error ellipse: s-maj=169.9km s-min=27.6km az=52.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.27**	**150**	⇓*i*P	P	07 19 59.2	-0.3
	2.1nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.27**	**150**	P	P	07 19 59.1	-0.4
	0.9nm,0.3s,baz=340,slow=11,SNR=14						
FITZ				S	S	07 22 03.2	+2.0
	0.2nm,0.3s,baz=315,slow=5.7,SNR=2.5						
WRA	**Warramunga Arr**	**18.26**	**131**	P	P	07 21 08.0	-0.4
	0.7nm,0.3s,baz=306,slow=11,SNR=36						
WB2	**Warramunga Arr**	**18.27**	**131**	*e*P	P	07 21 08.2	-0.3
STKA	**Stephens Creek**	**31.01**	**142**	⇓*i*P	P	07 23 00.4	-1.7
	2.2nm,0.2s						
STKA	**Stephens Creek**	**31.01**	**142**	P	P	07 23 00.6	-1.4
	2.8nm,0.3s,baz=319,slow=9.4,SNR=21						
MKAR	**Makanchi Array**	**64.22**	**332**	P	P	07 27 08.5	-1.7
	0.2nm,0.4s,baz=129,slow=8.1,SNR=5.4						

MOS 29 07:42:05.8±1.9, 42.86N×46.69E, h9km, mb3.7/1, 1C-2D, Error ellipse: s-maj=17.0km s-min=13.4km az=87.8, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRNR	**Karanay**	**0.16**	**102**	⇓*i*PG	Pg	07 42 09.6	+0.2
KRNR				pmax	pmax		
	comp=Z,279nm,0.1s						
KRNR	**Karanay**	**0.16**	**102**	*i* Pg	Pg	07 42 09.6	+0.2
	comp=Z,279nm,0.1s						
UNCR	**Uncukul**	**0.17**	**152**	⇑*i*PG	Pg	07 42 06.8	-2.7
UNCR				pmax	pmax		
	comp=Z,615nm,0.3s						
UNCR	**Uncukul**	**0.17**	**152**	*i* Pg	Pg	07 42 06.8	-2.7
	comp=Z,615nm,0.3s						
DBC	**Dubki**	**0.19**	**33**	*i* PG	Pg	07 42 10.0	+0.1
DBC				*e*S	Sg	07 42 14.5	+1.8
DLMR	**Dylym**	**0.21**	**348**	*e*PG	Pg	07 42 11.8	+1.4
DLMR				*i* S	Sg	07 42 18.0	+4.6
DLMR				pmax	pmax		
	comp=Z,210nm,0.2s						
DLMR	**Dylym**	**0.21**	**348**	*e*Pg	Pg	07 42 11.8	+1.4
	comp=Z,210nm,0.2s						
DLMR				*i* Sg	Sg	07 42 18.0	+4.6
BUJR	**Buynaksk**	**0.31**	**96**	*i* PG	Pg	07 42 13.5	+1.3
BUJR				*i* S	Sg	07 42 18.2	+1.7
BUJR				pmax	pmax		
	comp=Z,195nm,0.2s						
BUJR	**Buynaksk**	**0.31**	**96**	*i* Pg	Pg	07 42 13.5	+1.3
	comp=Z,195nm,0.2s						
BUJR				*i* Sg	Sg	07 42 18.2	+1.7
XNZR	**Khunzakh**	**0.32**	**178**	*e*PG	Pg	07 42 13.0	+0.6
XNZR				*e*S	Sg	07 42 18.0	+1.3
XNZR				pmax	pmax		
	comp=Z,73nm,0.2s						
XNZR	**Khunzakh**	**0.32**	**178**	*e*Pg	Pg	07 42 13.0	+0.6
	comp=Z,73nm,0.2s						
XNZR				*e*Sg	Sg	07 42 18.0	+1.3
BTLR	**Botlikh**	**0.40**	**241**	⇓*i*PG	Pg	07 42 13.5	-0.4
BTLR				*e*S	Sg	07 42 23.0	+3.7
BTLR				pmax	pmax		
	comp=Z,57nm,0.2s						
BTLR	**Botlikh**	**0.40**	**241**	*i* Pg	Pg	07 42 13.5	-0.4
	comp=Z,57nm,0.2s						
BTLR				*e*Sg	Sg	07 42 23.0	+3.7
MAK	**Makhachkala**	**0.61**	**80**	*e*PG	Pg	07 42 34.0	+16

*IDC **29** 07:53:14.0±1.0, 0.75N×27.69W, mb3.9/12, mb1 4.1/12, mb1mx4.0/22, mbtmp3.9/12, MS3.6/10, Ms1 3.7/10, ms1mx3.5/21, Error ellipse: s-maj=37.8km s-min=17.7km az=144.0*
*NEIC **29** 07:53:15.6±0.6, 0.73N×27.65W, h10km, mb4.3/4, Error ellipse: s-maj=22.5km s-min=9.9km az=149.0*

ISC 29 07:53:14.3±0.8, 0.8N±0.2×27.7W±0.1, h10km, n21, σ0§94/17, mb3.9/15, MS3.6/10, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**23.47**	**75**	P	**P**	**07 58 26.4**	**+1.1**
	6.6nm,0.8s,mb4.1,baz=253,slow=11,SNR=4.9						
DBIC				LR	LR	08 05 56.1	
	comp=Z,256nm,18.2s,MS3.7,baz=326,slow=32						
BDFB	**Brasilia**	**25.92**	**230**	LR	LR	08 08 10.7	
	comp=Z,279nm,19.2s,MS3.8,baz=13,slow=35						
SAML	**Samuel**	**36.70**	**254**	*e*P	**P**	**08 00 24.6**	**+0.8**
	17nm,1.9s,mb4.5						
CPUP	**Villa Florida**	**39.34**	**225**	P	**P**	**08 00 43.6**	**-2.1**
	2.6nm,1.1s,mb3.9,baz=42,slow=12,SNR=2.2						
CPUP				LR	LR	08 16 35.5	
	comp=Z,178nm,18.6s,MS3.9,baz=255,slow=36						
LPAZ	**La Paz**	**43.41**	**245**	P	**P**	**08 01 20.3**	**+1.0**
	0.9nm,0.7s,mb3.6,baz=73,slow=0.9,SNR=5.2						
LPAZ				LR	LR	08 19 06.3	
	comp=Z,189nm,18.8s,MS4.0,baz=69,slow=36						
LPAZ	**La Paz**	**43.41**	**245**	*e*P	**P**	**08 01 19.7**	**+0.4**
	6.6nm,1.6s,mb4.1						
LPAZ				LR	LR	08 19 06.3	
ESDC	**Sonseca Array**	**44.30**	**26**	P	**P**	**08 01 26.8**	**+0.5**
	0.1nm,0.3s,mb3.0,baz=207,slow=5.7,SNR=2.9						
CFAA	**Coronel Fontan**	**50.16**	**226**	LR	LR	08 23 50.5	
	comp=Z,24nm,18.3s,MS3.2,baz=53,slow=37						
PLCA	**Paso Flores**	**56.80**	**218**	LR	LR	08 27 01.6	
	comp=Z,69nm,19.9s,MS3.8,baz=356,slow=36						
GERES	**GERESS Array B**	**59.58**	**30**	P	**P**	**08 03 19.5**	**-1.1**
	0.7nm,0.3s,mb4.1,baz=225,slow=7.5,SNR=11						
GERES				LR	LR	08 28 17.7	
	comp=Z,20nm,20.7s,MS3.2,baz=154,slow=35						
SCHQ	**Schefferville**	**62.62**	**336**	P	**P**	**08 03 39.7**	**-1.4**
	2.1nm,0.8s,mb4.3,baz=126,slow=8.7,SNR=3.1						
SCHQ	**Schefferville**	**62.62**	**336**	P	**P**	**08 03 39.7**	**-1.4**
KMBO	**Kilima Mbogo**	**64.93**	**92**	LR	LR	08 28 53.0	
	comp=Z,40nm,18.6s,MS3.6,baz=133,slow=33						
NOA	**NORSAR Array B**	**66.97**	**19**	P	**P**	**08 04 09.6**	**+0.3**
	0.3nm,0.8s,mb3.4,baz=254,slow=12,SNR=2.4						
NOA				LR	LR	08 28 57.3	
	comp=Z,17nm,19.1s,MS3.3,baz=195,slow=32						
BRTR	**Keskin Array B**	**67.70**	**47**	P	**P**	**08 04 14.2**	**-0.1**
	1.1nm,0.7s,mb4.0,baz=243,slow=5.5,SNR=4.6						
AKASG	**Malin Array Be**	**69.00**	**35**	P	**P**	**08 04 20.9**	**-1.2**
	3.7nm,0.8s,mb4.4,baz=243,slow=6.4,SNR=5.1						
FINES	**FINESS Array B**	**72.75**	**24**	P	**P**	**08 04 44.6**	**+0.1**
	1.6nm,0.8s,mb4.0,baz=236,slow=6.9,SNR=5.5						
TXAR	**Lajitas Array**	**77.42**	**300**	P	**P**	**08 05 11.8**	**-0.1**
	0.6nm,0.9s,mb3.5,baz=135,slow=7.1,SNR=5.8						
PDAR	**Pinedale Array**	**83.50**	**313**	P	**P**	**08 05 44.1**	**+0.2**
	0.3nm,0.7s,mb3.5,baz=90,slow=4.4,SNR=3.8						
PDAR				LR	LR	08 36 47.0	
	comp=Z,44nm,21.3s,MS3.8,baz=346,slow=31						
HLID	**Hailey**	**87.09**	**313**	*e*P	**P**	**08 06 03.1**	**+1.3**
	2.3nm,1.0s,mb4.4						
ELK	**Elko**	**87.64**	**311**	*e*P	**P**	**08 06 05.1**	**+0.5**
	0.9nm,0.7s,mb4.1						

*NEIC **29** 08:05:53.7±0.5, 30.80S×179.84W, h418km±7km, mb4.1/6, Error ellipse: s-maj=12.2km s-min=6.7km az=104.0*
*IDC **29** 08:05:53.2±0.7, 30.76S×179.81W, h408km±8km, mb4.0/4, mb1 3.9/8, mb1mx3.5/18, mbtmp4.7/8, Error ellipse: s-maj=24.3km s-min=13.5km az=133.0*

ISC 29 08:05:52.4±0.5, 30.76S±0.04×179.89E±0.09, h400km, n102, σ1§36/101, mb4.2/7, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.42**	**52**	P	**P**	**08 06 52.6**	**+1.1**
	125nm,0.3s,baz=276,slow=22,SNR=8.1						
RAO				S	**S**	**08 07 38.2**	**+0.1**
	252nm,0.3s,baz=55,slow=22,SNR=6.6						
MXZ	**Matakaoa Point**	**6.92**	**190**	*e*P	**P**	**08 07 37.9**	**+2.1**
MXZ	**Matakaoa Point**	**6.92

DSZ	**Denniston Nort**	**12.75**	**208**	PN	**P**		**08 08 41.4**	**-1.5**
LTZ	**Lake Taylor**	**13.46**	**205**	PN	**P**		**08 08 48.8**	**-1.9**
RPZ	**Rata Peaks**	**14.71**	**206**	P	**P**		**08 09 02.8**	**-1.1**
	0.8nm,0.3s,baz=5.9,slow=11,SNR=7.1							
DZM	**Mont Dzumac**	**14.82**	**303**	P	**P**		**08 09 05.6**	**+0.3**
	0.2nm,0.3s,baz=178,slow=18,SNR=2.8							
AFI	**Afiamalu**	**18.44**	**26**	P	**P**		**08 09 42.0**	**+0.1**
	3.7nm,0.3s,baz=49,slow=7.3,SNR=6.6							
CTA	**Charters Tower**	**32.07**	**281**	*e*P	**P**		**08 11 47.2**	**+1.7**
	4.1nm,0.6s,mb3.9							
CTA	**Charters Tower**	**32.07**	**281**	P	**P**		**08 11 47.2**	**+1.7**
	4.7nm,0.6s,mb4.0,baz=112,slow=11,SNR=10							
CTAO	**Charters Tower**	**32.07**	**281**	*e*P	**P**		**08 11 47.2**	**+1.6**
	5.8nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**32.62**	**258**	*e*P	**P**		**08 11 52.0**	**+1.9**
	3.3nm,0.6s,mb3.8							
STKA	**Stephens Creek**	**32.62**	**258**	P	**P**		**08 11 52.3**	**+2.2**
	2.6nm,0.3s,mb4.0,baz=96,slow=8.9,SNR=20							
STKA	**Stephens Creek**	**32.62**	**258**	*e*P	**P**		**08 11 51.6**	**+1.5**
PMG	**Port Moresby**	**37.14**	**298**	*e*P	**P**		**08 12 29.0**	**+0.8**
	4.5nm,0.4s,mb4.2							
WB2	**Warramunga Arr**	**42.29**	**274**	⇓*i*P	**P**		**08 13 10.2**	**0.0**
WRAB	**Tennant Creek**	**42.29**	**274**	*e*P	**P**		**08 13 10.2**	**0.0**
	13nm,0.5s,mb4.5							
WRA	**Warramunga Arr**	**42.30**	**274**	P	**P**		**08 13 10.4**	**+0.1**
	9.8nm,0.4s,mb4.5,baz=111,slow=8.1,SNR=374							
FITZ	**Fitzroy Crossi**	**50.54**	**271**	*e*P	**P**		**08 14 13.8**	**-0.2**
	9.3nm,0.7s,mb4.1							
FITZ	**Fitzroy Crossi**	**50.54**	**271**	P	**P**		**08 14 14.2**	**+0.2**
	10nm,0.6s,mb4.2,baz=165,slow=4.6,SNR=18							
MBWA	**Marble Bar**	**54.38**	**265**	*e*P	**P**		**08 14 40.6**	**-1.3**
	3.8nm,0.6s,mb3.8							
MKAR	**Makanchi Array**	**116.61**	**310**	PKP	PKPdf		08 23 48.6	-0.7
	0.2nm,0.5s,baz=194,slow=1.7,SNR=4.8							
BVAR	**Borovoye Array**	**125.39**	**316**	PKP	PKPdf		08 24 06.4	+0.3
	0.6nm,0.5s,baz=90,slow=3.0,SNR=4.8							
KAF	**Kangasniemi**	**144.25**	**339**	*e*pkp	PKPdf		08 24 39.0	-1.3
	baz=40,slow=3.1							
FINES	**FINESS Array B**	**144.83**	**338**	PKP	PKPdf		08 24 41.5	+0.2
	3.3nm,0.5s,baz=71,slow=4.3,SNR=21							
NB2	**NORSAR Subarra**	**148.80**	**349**	PKPbc	PKPdf		08 24 52.3	+4.4
	0.8nm,0.6s,baz=15,slow=2.5							
NOA	**NORSAR Array B**	**148.80**	**349**	PKPbc	PKPdf		08 24 52.4	+4.5
	1.2nm,0.7s,baz=16,slow=4.2,SNR=6.1							
NOA	**NORSAR Array B**	**148.80**	**349**	PKPbc	PKPdf		08 24 52.4	+4.5
BRTR	**Keskin Array B**	**151.16**	**297**	PKPbc	PKPdf		08 24 59.4	+7.1
	1.1nm,0.6s,baz=139,slow=3.1,SNR=4.4							
BRTR				PKPab	PKPab		08 25 08.9	-1.6
	0.9nm,0.6s,baz=108,slow=5.5,SNR=3.0							

*NNC **29** 08:41:08.6±4.4, 40.45N×71.46E, mpv3.4, Error ellipse: s-maj=42.7km s-min=24.9km az=30.0*

ISC 29 08:41:02.6±2.6, 39.7N±0.2×71.2E±0.1, h33km, n11, σ0.95/13, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.07**	**37**	P	**P**	**08 41 50.0**	**+0.2**
	SNR=33						
KK31	**Karatay Array**	**3.43**	**351**	Pn	**Pn**	**08 41 56.2**	**+1.1**
	1.5nm,0.3s,baz=185,slow=17,SNR=180						
KK31				⇑Pg	**P**	**08 42 02.2**	**+7.2**
	9.8nm,0.3s,baz=161,slow=14,SNR=6.5						
KK31				⇑Sn	**Sn**	**08 42 34.9**	**-0.3**
	3.8nm,0.2s,baz=164,slow=31,SNR=3.3						
KK31				⇓Lg		08 42 43.6	
	68nm,0.5s						
EKS2	**Erkin-Say**	**3.53**	**32**	P	**P**	**08 41 57.1**	**+0.7**
	SNR=7.6						
UCH	**Uchtor**	**3.55**	**44**	P	**P**	**08 42 00.1**	**+3.4**
	SNR=6.3						
AAK	**Ala-Archa**	**3.83**	**39**	P	**P**	**08 42 08.3**	**+7.6**
	SNR=5.1						
AAK	**Ala-Archa**	**3.83**	**39**	⇓Pn	**Pn**	**08 42 00.6**	**-0.3**
	15nm,0.5s						
AAK				Lg		08 42 46.4	
	120nm,0.7s						
KZA	**Kyzart**	**3.87**	**51**	P	**P**	**08 42 01.7**	**+0.5**
	SNR=5.6						
CHMS	**Chumysh**	**4.23**	**38**	P	**P**	**08 42 06.3**	**-0.1**
	SNR=6.2						
USP	**Ospenovka**	**4.33**	**34**	P	**P**	**08 42 07.3**	**-0.5**
	SNR=7.0						
TKM2	**Tokmak 2**	**4.61**	**44**	P	**P**	**08 42 09.6**	**-2.1**
	SNR=10.0						
AB31	**Akbulak array**	**12.47**	**324**	⇑Pn	**P**	**08 43 59.8**	**-0.6**
	0.8nm,0.4s						
AB31				⇑Lg		08 46 08.6	
	2.0nm,0.5s						

IDC 29 08:49:32.3±2.8, 7.25S×68.18E, mb4.0/3, mb1 4.1/3, mb1mx3.7/18, mbtmp4.0/3, MS3.2/5, Ms1 3.2/5, ms1mx3.0/25, Error ellipse: s-maj=94.8km s-min=37.8km az=64.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**31.42**	**280**	LR	LR	09 05 58.2	
	comp=Z,56nm,18.1s,baz=114,slow=31						
BOSA	**Boshof**	**45.69**	**237**	LR	LR	09 15 22.4	
	comp=Z,61nm,19.4s,baz=158,slow=34						
GNI	**Garni**	**51.89**	**337**	LR	LR	09 19 16.2	
	comp=Z,18nm,21.7s,baz=187,slow=34						
MKAR	**Makanchi Array**	**55.26**	**12**	P	P	08 59 06.4	-3.3
	1.0nm,0.7s,baz=191,slow=6.4,SNR=9.0						
MAW	**Mawson**	**60.37**	**182**	LR	LR	09 18 36.9	
	comp=Z,9.0nm,18.8s,baz=228,slow=29						
SONM	**Songino Array**	**64.38**	**28**	P	P	09 00 11.0	-1.4
	1.6nm,0.8s,baz=220,slow=7.0,SNR=8.3						
WRA	**Warramunga Arr**	**65.18**	**109**	P	P	09 00 15.8	-2.3
	1.5nm,0.8s,baz=281,slow=6.4,SNR=8.9						
FINES	**FINESS Array B**	**75.89**	**341**	LR	LR	09 32 40.9	
	comp=Z,20nm,18.2s,baz=290,slow=34						
HNR	**Honiara**	**90.56**	**100**	LR	LR	09 35 53.0	
	comp=Z,501nm,21.1s,baz=173,slow=31						
PDAR	**Pinedale Array**	**144.57**	**357**	PKP	PKPdf	09 09 10.5	-2.4
	0.1nm,0.5s,baz=23,slow=6.9,SNR=2.2						
NVAR	**Mina Array Bea**	**148.42**	**10**	PKPbc	PKPdf	09 09 21.4	+2.0
	0.5nm,0.7s,baz=283,slow=3.3,SNR=4.4						

MAN 29 09:11:35.2, 16.76N×120.02E, h3km, mb3.6, ML2.3, MS1.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.39**	**195**	*e*P	Pg	09 11 43.2	+0.2
BOLP				*e*S	Sg	09 11 50.8	+2.6
BCPH	**Baguio City Da**	**0.66**	**125**	⇑*i*P	Pg	09 11 48.8	+0.4
BCPH				*i*S	Sg	09 12 00.5	+3.4
ABBA	**Dolores**	**1.10**	**37**	*e*P	Pn	09 11 56.5	-0.2
APYP	**Conner**	**1.60**	**47**	*e*P	Pn	09 12 19.1	+14
CAUP	**Cauayan**	**1.73**	**84**	*e*P	Pn	09 12 08.8	+2.3
BALP	**Baler**	**1.80**	**124**	*e*P	Pn	09 12 08.8	+1.3

*MAN **29** 09:27:06.0, 18.52N×120.77E, h55km, mb4.3, ML3.1, MS2.8*
MAN PASUQUIN ILOCOS NORTE - INTENSITY II.
*NEIC **29** 09:27:06.1±2.4, 18.31N×121.04E, h78km±25km, mb4.3/5, Error ellipse: s-maj=35.9km s-min=8.8km az=67.0*
*IDC **29** 09:27:10.6±6.9, 18.42N×121.33E, h122km±70km, mb3.7/6, mb1 3.8/7, mb1mx3.5/21, mbtmp4.2/7, Error ellipse: s-maj=67.9km s-min=15.4km az=70.0*

ISC 29 09:27:06.4±0.6, 18.39N±0.05×121.0E±0.1, h96km±5km, n21, σ0.99/25, mb4.1/9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.56**	**159**	*e*P	**P**	**09 27 22.5**	**+0.1**
APYP				*e*S	**S**	**09 27 34.5**	**+0.3**
ABRA	**Dolores**	**0.80**	**203**	*e*P	**P**	**09 27 23.7**	**-0.9**
ABRA				*e*S	**S**	**09 27 37.3**	**-0.7**
CAUP	**Cauayan**	**1.62**	**152**	*e*P	**P**	**09 27 37.5**	**+3.2**
BCPH	**Baguio City Da**	**2.04**	**192**	⇓*i*P	**P**	**09 27 39.7**	**-0.1**
BCPH				*e*S	**S**	**09 28 05.2**	**+0.7**
BOLP	**Bolinao**	**2.27**	**208**	*e*P	**P**	**09 27 41.4**	**-1.5**
BALP	**Baler**	**2.68**	**169**	*e*P	**P**	**09 27 50.6**	**+1.9**
PCPH	**Palayan**	**2.81**	**179**	*e*P	**P**	**09 27 51.4**	**+1.0**
YHNB	**Yeheng**	**6.26**	**3**	*e*Pn	**P**	**09 28 36.3**	**-1.3**
YHNB				*e*Sn	**S**	**09 29 44.1**	**-4.3**
JOW	**Kunigami**	**10.74**	**37**	P	**P**	**09 29 38.5**	**-0.1**
	2.0nm,0.3s,baz=199,slow=6.8,SNR=9.5						
FITZ	**Fitzroy Crossi**	**36.54**	**173**	*e*P	**P**	**09 34 03.5**	**-1.2**
	2.8nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**36.54**	**173**	P	**P**	**09 34 03.9**	**-0.9**
	3.3nm,0.5s,mb4.5,baz=351,slow=5.3,SNR=9.5						
WRAB	**Tennant Creek**	**40.26**	**160**	*e*P	**P**	**09 34 34.7**	**-0.9**
	2.5nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**40.27**	**160**	P	**P**	**09 34 34.8**	**-0.9**
	1.0nm,0.4s,mb4.0,baz=343,slow=9.2,SNR=28						
WB2	**Warramunga Arr**	**40.27**	**160**	*e*P	**P**	**09 34 34.9**	**-0.8**
MKAR	**Makanchi Array**	**42.55**	**321**	P	**P**	**09 34 55.6**	**+1.5**
	2.2nm,0.6s,mb4.1,baz=113,slow=9.2,SNR=24						
KURK	**Kurchatov**	**46.55**	**324**	*e*P	**P**	**09 35 27.0**	**+1.0**
	5.4nm,0.9s,mb4.3						
BRVK	**Borovoye**	**52.22**	**324**	*e*P	**P**	**09 36 10.1**	**+0.6**
	1.4nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**53.73**	**158**	P	**P**	**09 36 20.6**	**-0.4**
	1.6nm,0.7s,mb4.2,baz=342,slow=12,SNR=5.8						
HFS	**Hagfors**	**82.54**	**331**	P	**P**	**09 39 20.1**	**+0.4**
	1.3nm,0.7s,mb3.9,baz=104,slow=5.9,SNR=4.0						
NB2	**NORSAR Subarra**	**83.27**	**333**	P	**P**	**09 39 24.0**	**+0.7**
	0.4nm,0.6s,mb3.4,baz=65,slow=4.8						
NOA	**NORSAR Array B**	**83.27**	**333**	P	**P**	**09 39 23.4**	**0.0**
	0.4nm,0.6s,mb3.4,baz=64,slow=4.6,SNR=4.1						

*IDC **29** 09:35:38.9±0.7, 8.05N×91.64E, h30km±4km, mb3.8/12, mb1 4.0/12, mb1mx3.8/21, mbtmp4.0/12, MS3.6/4, Ms1 3.6/4, ms1mx3.3/19, Error ellipse: s-maj=29.8km s-min=15.0km az=56.0*
*NEIC **29** 09:35:39.0±0.6, 7.94N×91.74E, mb4.4/6, Error ellipse: s-maj=21.0km s-min=10.7km az=53.0*
*BJI **29** 09:35:39.0, 7.90N×91.70E, h31km, mb4.4*

ISC 29 09:35:35.9±0.6, 7.82N±0.10×91.40E±0.09, h29km, h29km±1.6km: pP-P, n42, σ1s20/38, mb4.2/20, MS3.5/5, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.53**	**105**	Pn	**P**	**09 37 47.6**	**-6.9**
HYB	**Hyderabad**	**15.74**	**309**	*e*P	**P**	**09 39 16.0**	**-1.5**
HYB				*e*S	**S**	**09 42 10.0**	**-1.1**
HYB	**Hyderabad**	**15.74**	**309**	*i*P	**P**	**09 39 16.0**	**-1.5**
HYB				*e*S	**S**	**09 42 10.0**	**-1.1**
SHL	**Shillong**	**17.66**	**1**	*e*P	**P**	**09 39 41.0**	**-0.6**
KMI	**Kunming**	**20.33**	**31**	P	**P**	**09 40 11.8**	**-0.9**
KMI				LR	LR		
	comp=Z,100nm,20.8s,MS3.1						
JIRN	**Jiri**	**20.34**	**347**	*e*P	**P**	**09 40 19.0**	**+6.2**
PKI	**Pulchoki**	**20.45**	**345**	*e*P	**P**	**09 40 19.0**	**+5.1**
	comp=Z,5.2nm,0.3s						
DMN	**Daman**	**20.57**	**344**	*e*P	**P**	**09 40 19.7**	**+4.6**
KKN	**Kakani**	**20.69**	**345**	*e*P	**P**	**09 40 22.0**	**+5.6**
GKN	**Gorkha**	**21.07**	**343**	*e*P	**P**	**09 40 24.9**	**+4.6**
	comp=Z,23nm,0.3s,mb5.0						
KOLN	**Koldanda**	**21.17**	**341**	*e*P	**P**	**09 40 24.1**	**+2.8**
LSA	**Lhasa**	**21.77**	**359**	P	**P**	**09 40 30.3**	**+3.0**
LSA	**Lhasa**	**21.77**	**359**	*e*P	**P**	**09 40 29.1**	**+1.8**
	comp=Z,24nm,0.6s,mb4.8						
LSA				*e*pP		09 40 38.7	
CD2	**Chengdu**	**25.72**	**25**	⇑*i*P	**P**	**09 41 04.5**	**-1.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
GTA	**Gaotai**	**32.35**	**12**	P	**P**	**09 42 11.8**	**+6.7**
GTA				AP	pP	09 42 17.8	+4.2
GTA				XP	sP	09 42 21.5	+4.1
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**37.74**	**339**	*e*P	**P**	**09 42 53.7**	**+2.7**
	comp=Z,4.1nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**39.61**	**350**	P	**P**	**09 43 06.8**	**+0.1**
	comp=Z,0.8nm,0.4s,mb3.8,baz=167,slow=8.0,SNR=7.3						
MKAR				pP	pP	09 43 15.7	+0.3
	comp=Z,4.2nm,0.5s,baz=166,slow=8.2,SNR=16						
SONM	**Songino Array**	**41.87**	**15**	P	**P**	**09 43 24.4**	**-0.8**
	comp=Z,1.0nm,0.5s,mb3.7,baz=202,slow=6.7,SNR=7.7						
SONM				pP	pP	09 43 33.4	-0.5
	comp=Z,2.4nm,0.8s,baz=207,slow=8.3,SNR=7.4						
SONM				LR	LR	10 02 51.2	
	comp=Z,71nm,18.9s,MS3.6,baz=193,slow=39						
FITZ	**Fitzroy Crossi**	**42.50**	**128**	P	**P**	**09 43 30.5**	**-0.2**
	comp=Z,3.6nm,0.7s,mb4.1,baz=225,slow=5.6,SNR=4.6						
KURK	**Kurchatov**	**44.06**	**348**	*e*P	**P**	**09 43 43.6**	**+0.6**
	comp=Z,8.4nm,0.9s,mb4.5						
KURK				*e*pP	pP	09 43 51.7	0.0
ZAL	**Zalesovo**	**46.29**	**355**	P	**P**	**09 43 59.4**	**-1.3**
	comp=Z,1.7nm,0.3s,mb4.4,baz=11,slow=4.6,SNR=3.4						
ZAL				pP	pP	09 44 09.6	+0.1
	comp=Z,2.7nm,0.3s,baz=287,slow=7.4,SNR=3.8						
ZAL	**Zalesovo**	**46.29**	**355**	P	**P**	**09 43 59.4**	**-1.3**
ZAL				P	pP	09 44 09.6	+0.1
BVAR	**Borovoye Array**	**48.21**	**343**	P	**P**	**09 44 15.7**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.7,baz=124,slow=5.3,SNR=4.6						
BVAR				pP	pP	09 44 24.8	+0.2
	comp=Z,1.9nm,0.5s,baz=149,slow=8.6,SNR=10.0						
BRVK	**Borovoye**	**48.27**	**343**	*e*P	**P**	**09 44 18.1**	**+1.8**
	comp=Z,2.2nm,0.8s,mb4.2						
BRVK				*e*pP	pP	09 44 24.1	-1.0
WRA	**Warramunga Arr**	**50.47**	**124**	P	**P**	**09 44 33.2**	**-0.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=305,slow=8.4,SNR=14						
WRAB	**Tennant Creek**	**50.47**	**124**	*e*P	**P**	**09 44 33.2**	**-0.4**
	comp=Z,3.4nm,0.7s,mb4.5						
KMBO	**Kilima Mbogo**	**54.72**	**263**	LR	LR	10 03 35.3	
	comp=Z,63nm,20.3s,MS3.7,baz=90,slow=30						
BRTR	**Keskin Array B**	**60.42**	**311**	P	**P**	**09 45 45.2**	**-0.1**
	comp=Z,0.4nm,0.4s,mb3.8,baz=108,slow=4.6,SNR=3.4						
BRTR				pP	pP	09 45 55.1	+0.8
	comp=Z,1.4nm,0.7s,baz=132,slow=7.2,SNR=6.3						
STKA	**Stephens Creek**	**62.06**	**132**	P	**P**	**09 45 57.0**	**+0.5**
	comp=Z,5.2nm,0.8s,mb4.7,baz=331,slow=8.4,SNR=14						
MLR	**Muntele Rosu**	**67.32**	**316**	pP	pP	09 46 40.7	+1.2
	comp=Z,2.5nm,0.7s,baz=69,slow=5.0,SNR=3.2						
FINES	**FINESS Array B**	**71.50**	**333**	P	**P**	**09 46 55.9**	**+0.1**
	comp=Z,1.9nm,1.0s,mb4.0,baz=78,slow=12,SNR=2.7						
FINES				pP	pP	09 47 05.0	+0.1
	comp=Z,2.1nm,0.7s,baz=135,slow=8.1,SNR=4.7						
ARCES	**ARCESS Array B**	**74.40**	**341**	P	**P**	**09 47 11.1**	**-1.5**
	comp=Z,3.3nm,0.8s,mb4.3,baz=16,slow=22,SNR=3.5						
ARCES				pP	pP	09 47 22.2	+0.4
	comp=Z,2.9nm,0.9s,baz=166,slow=5.0,SNR=2.3						
ARCES				LR	LR	10 21 37.5	
	comp=Z,49nm,19.4s,MS3.8,baz=74,slow=37						
ARCES	**ARCESS Array B**	**74.40**	**341**	P	**P**	**09 47 11.1**	**-1.5**
ARCES				pP	pP	09 47 22.2	+0.4
ARCES				LR	LR	10 21 37.5	
GERES	**GERESS Array B**	**76.06**	**318**	P	**P**	**09 47 23.2**	**+0.6**
	comp=Z,0.2nm,0.2s,mb3.6,baz=108,slow=4.2,SNR=4.0						
GERES				pP	pP	09 47 33.5	+1.8
	comp=Z,0.6nm,0.4s,baz=117,slow=6.0,SNR=3.1						
GERES	**GERESS Array B**	**76.06**	**318**	P	**P**	**09 47 23.2**	**+0.6**
GERES				pP	pP	09 47 33.5	+1.8
NB2	**NORSAR Subarra**	**78.45**	**331**	P	**P**	**09 47 44.2**	**+8.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=94,slow=5.8						
NOA	**NORSAR Array B**	**78.45**	**331**	P	**P**	**09 47 36.7**	**+1.2**
	comp=Z,0.7nm,0.8s,mb3.6,baz=98,slow=5.8,SNR=2.7						
NOA				pP	pP	09 47 45.0	+0.3
	comp=Z,0.8nm,0.6s,baz=94,slow=5.7,SNR=3.6						
NOA				LR	LR	10 26 37.2	
	comp=Z,20nm,18.4s,MS3.5,baz=65,slow=39						
NOA	**NORSAR Array B**	**78.45**	**331**	P	**P**	**09 47 36.7**	**+1.2**
NOA				pP	pP	09 47 45.0	+0.3
NOA				LR	LR	10 26 37.2	
DAVOX	**Davos**	**78.54**	**316**	pP	pP	09 47 48.3	+2.7
	comp=Z,1.0nm,0.4s,baz=313,slow=18,SNR=3.8						
EKA	**Eskdalemuir Ar**	**86.22**	**325**	pP	pP	09 48 27.1	+1.8
	comp=Z,0.9nm,0.5s,baz=89,slow=5.6,SNR=2.1						
CPUP	**Villa Florida**	**145.05**	**234**	PKPbc	PKPbc	09 55 15.5	+4.0
	comp=Z,1.5nm,0.9s,baz=72,slow=6.4,SNR=3.2						
CFAA	**Coronel Fontan**	**149.66**	**216**	PKPbc	PKPdf	09 55 28.1	+4.3
	comp=Z,0.1nm,0.5s,baz=224,slow=2.0,SNR=4.7						

*IDC **29** 10:16:16.3±1.0, 12.80N×144.58E, mb3.7/6, mb1 4.0/6, mb1mx3.9/19, mbtmp3.7/6, MS3.6/7, Ms1 3.6/7, ms1mx3.3/26, Error ellipse: s-maj=38.4km s-min=24.7km az=89.0*
*NEIC **29** 10:16:22.9±1.6, 12.77N×144.49E, h48km±16km, mb4.1/3, Error ellipse: s-maj=28.0km s-min=14.3km az=101.0*

ISC 29 10:16:21.3±1.6, 12.75N±0.10×144.5E±0.2, h48km±17km, n19, σ1s03/14, mb3.8/9, MS3.5/7, 1C, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.93**	**26**	*e*Pn	**P**	**10 16 37.8**	**-0.5**
GUMO				*e*Sn	**S**	**10 16 50.5**	**-0.3**
SAPN	**Saipan**	**2.76**	**27**	*e*P	**P**	**10 17 04.2**	**+0.1**
SAPN				*e*S	**S**	**10 17 36.3**	**-0.2**
SARN	**Sarigan**	**4.13**	**18**	⇑*e*P	**P**	**10 17 24.9**	**+1.3**
JOW	**Kunigami**	**20.65**	**315**	LR	LR	10 27 16.6	
	comp=Z,155nm,19.7s,MS3.4,baz=80,slow=32						
JHJ	**Hachijo jima 2**	**20.72**	**349**	LR	LR	10 28 03.6	
	comp=Z,160nm,20.1s,MS3.4,baz=127,slow=34						
JNU	**Nakatsue**	**23.77**	**331**	LR	LR	10 28 45.3	
	comp=Z,52nm,21.4s,MS3.0,baz=148,slow=32						
MJAR	**Matsushiro Arr**	**24.35**	**348**	P	**P**	**10 21 36.6**	**+0.7**
	2.6nm,0.8s,mb3.7,baz=167,slow=9.8,SNR=5.5						
MJAR				LR	LR	10 29 57.3	
	comp=Z,109nm,21.9s,MS3.3,baz=180,slow=34						
WRAB	**Tennant Creek**	**33.96**	**197**	*e*P	**P**	**10 23 01.9**	**-0.6**
	4.4nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**33.97**	**197**	P	**P**	**10 23 02.0**	**-0.5**
	0.8nm,0.7s,mb3.8,baz=22,slow=9.5,SNR=11						
MBWA	**Marble Bar**	**41.53**	**216**	*e*P	**P**	**10 24 07.0**	**+1.0**
	1.2nm,0.4s,mb3.9						
SONM	**Songino Array**	**47.18**	**326**	P	**P**	**10 24 50.2**	**-0.8**
	0.2nm,0.4s,mb3.4,baz=127,slow=7.2,SNR=2.9						
SONM				LR	LR	10 43 43.8	
	comp=Z,87nm,19.0s,MS3.7,baz=76,slow=35						
MKAR	**Makanchi Array**	**61.81**	**316**	P	**P**	**10 26 38.5**	**+0.9**
	0.3nm,0.5s,mb3.7,baz=90,slow=8.5,SNR=4.1						
KURK	**Kurchatov**	**64.96**	**320**	*e*P	**P**	**10 26 57.2**	**-1.1**
	0.7nm,0.4s,mb4.0						
ILAR	**Eielson Array**	**69.50**	**25**	P	**P**	**10 27 24.2**	**-2.3**
	0.7nm,0.7s,mb3.7,baz=254,slow=5.5,SNR=9.6						
PPT	**Papeete**	**71.75**	**113**	LR	LR	10 51 06.5	
	comp=Z,83nm,20.9s,MS4.0,baz=298,slow=29						
NVAR	**Mina Array Bea**	**87.76**	**51**	P	**P**	**10 29 08.6**	**+1.9**
	0.7nm,0.8s,mb3.9,baz=265,slow=5.2,SNR=5.8						
FINES	**FINESS Array B**	**91.75**	**335**	LR	LR	11 14 06.7	
	comp=Z,41nm,19.9s,MS3.9,baz=156,slow=38						
DBIC	**Dimbokro**	**143.91**	**301**	PKP	PKPdf	10 35 52.8	+0.4
LPAZ	**La Paz**	**148.28**	**100**	PKPbc	PKPdf	10 36 06.4	+6.7
	0.5nm,0.6s,baz=304,slow=3.6,SNR=4.2						

*ROM **29** 10:16:53.8±0.2, 38.91N×15.74E, h93km±4km, Ml3.5/10, Error ellipse: s-maj=4.4km s-min=2.5km az=105.0*
*CSEM **29** 10:16:54.6±0.2, 38.97N±15.80E, h62km±3km, ML4.2/4, Error ellipse: s-maj=3.1km s-min=2.4km az=93.0*
*NEIC **29** 10:17:00.9±6.0, 39.60N×16.14E, h10km, MD3.9(PDG), Error ellipse: s-maj=82.0km s-min=8.9km az=74.0*

ISC 29 10:16:53.2±0.6, 38.96N±0.04×15.77E±0.05, h103km±7km, n59, σ0.93/85, 26C-5D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STR5	**Stromboli 5**	**0.47**	**250**	Pg	**P**	**10 17 09.7**	**+0.5**
STR5				Sg	**S**	**10 17 20.3**	**-1.0**
GRI	**Girifalco**	**0.53**	**105**	*i*Pg	**P**	**10 17 10.3**	**+0.7**
GRI				Sg	**S**	**10 17 22.5**	**+0.5**
	1μm,0.4s						
SCLL	**Scilla**	**0.70**	**183**	⇓*i*Pg	**P**	**10 17 11.2**	**+0.2**
CEL	**Celeste**	**0.70**	**172**	⇓*i*Pg	**P**	**10 17 11.2**	**+0.1**
CEL				Sg	**S**	**10 17 23.8**	**-0.7**
	814nm,0.3s						
MSRU	**Castanea**	**0.72**	**196**	⇓*i*Pg	**P**	**10 17 11.1**	**-0.2**
MSRU				Sg	**S**	**10 17 23.8**	**-1.0**
	2μm,0.3s						
MSI	**Messina ING**	**0.77**	**193**	Pg	**P**	**10 17 11.8**	**+0.1**
	942nm,0.3s						
TIP	**Timpagrande**	**0.80**	**74**	*e*Pg	**P**	**10 17 13.2**	**+1.1**
TIP	**Timpagrande**	**0.80**	**74**	Pg	**P**	**10 17 13.3**	**+1.2**
	519nm,0.6s						
TIP	**Timpagrande**	**0.80**	**74**	*e*Pg	**P**	**10 17 13.2**	**+1.1**
LLI	**Lipari**	**0.82**	**232**	⇑*i*Pg	**P**	**10 17 12.7**	**+0.5**
	2μm,0.7s						
**SLNA

NEIC Felt at Blenheim.

WEL 29 10:56:57.5±0.2**,41.00S×173.83E,h69**km±2km**,ML4.1**/17**, 1C-4D,Error ellipse: s-maj=1.3km s-min=1.2km az=0.0, MM 4.,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.21	19	⇓PN	P	10 57 07.8	-0.3
DUWZ				SN	S	10 57 15.6	-0.3
TCW	Tory Channel	0.40	122	P	P	10 57 09.4	0.0
TCW				S	S	10 57 17.7	-0.5
TCW	Tory Channel	0.40	122	PN	P	10 57 09.4	0.0
TCW				SN	S	10 57 17.6	-0.6
NNZ	Nelson	0.40	238	P	P	10 57 08.8	-0.7
NNZ				S	S	10 57 17.5	-0.8
NNZ	Nelson	0.40	238	PN	P	10 57 08.9	-0.6
NNZ				SN	S	10 57 17.4	-1.0
TUWZ	Tuamarina	0.43	169	⇑PN	P	10 57 09.2	-0.5
TUWZ				SN	S	10 57 17.3	-1.4
MRW	Makara Radio	0.69	109	P	P	10 57 12.3	-0.1
MRW	Makara Radio	0.69	109	PN	P	10 57 12.3	-0.1
MRW				SN	S	10 57 23.0	-0.5
BSWZ	Blackbirch Sta	0.71	177	P	P	10 57 12.6	0.0
BSWZ	Blackbirch Sta	0.71	177	PN	P	10 57 12.7	0.0
BSWZ				SN	S	10 57 23.8	-0.1
SNZO	South Karori	0.73	115	P	P	10 57 12.8	0.0
SNZO	South Karori	0.73	115	PN	P	10 57 12.5	-0.3
SNZO				SN	S	10 57 24.2	-0.1
WEL	Wellington	0.76	112	P	P	10 57 13.1	-0.1
WEL	Wellington	0.76	112	PN	P	10 57 13.0	-0.3
WEL				SN	S	10 57 25.1	+0.2
CMWZ	Cape Campbell	0.80	159	PN	P	10 57 14.5	+0.8
CMWZ				SN	S	10 57 27.0	+1.3
KIW	Kapiti Island	0.83	81	P	P	10 57 14.1	+0.1
KIW	Kapiti Island	0.83	81	⇓PN	P	10 57 14.1	0.0
KIW				SN	S	10 57 26.5	+0.2
BHW	Baring Head	0.88	118	P	P	10 57 14.2	-0.5
BHW	Baring Head	0.88	118	PN	P	10 57 14.1	-0.7
BHW				SN	S	10 57 26.3	-1.2
CAW	Cannon Point	0.94	97	P	P	10 57 14.9	-0.6
CAW	Cannon Point	0.94	97	⇓PN	P	10 57 15.0	-0.5
CAW				SN	S	10 57 28.1	-0.7
QRZ	Quartz Range	1.00	280	P	P	10 57 15.5	-0.8
QRZ	Quartz Range	1.00	280	PN	P	10 57 15.4	-0.9
QRZ				SN	S	10 57 29.2	-1.0
THZ	Tophouse	1.03	222	P	P	10 57 16.3	-0.4
THZ	Tophouse	1.03	222	⇓PN	P	10 57 16.4	-0.3
THZ				SN	S	10 57 30.5	-0.3
MSWZ	Moikau Station	1.15	112	P	P	10 57 17.5	-0.6
MSWZ	Moikau Station	1.15	112	PN	P	10 57 17.2	-1.0
PAWZ	Paruwai Farm	1.26	108	PN	P	10 57 18.6	-1.1
MTW	Mount Morrison	1.27	98	P	P	10 57 18.6	-1.3
MTW	Mount Morrison	1.27	98	PN	P	10 57 18.3	-1.6
MRZ	Mangatainoka R	1.37	76	P	P	10 57 19.9	-1.4
MRZ	Mangatainoka R	1.37	76	PN	P	10 57 19.8	-1.5
KHZ	Kahutara	1.43	189	*e*P	P	10 57 21.2	-0.9
WAZ	Wanganui	1.53	36	P	P	10 57 23.7	+0.3
WAZ	Wanganui	1.53	36	PN	P	10 57 23.5	+0.1
NRZ	Ngariki Road	1.67	3	P	P	10 57 25.4	+0.1
NRZ	Ngariki Road	1.67	3	PN	P	10 57 25.3	0.0
DSZ	Denniston Nort	1.70	243	P	P	10 57 24.4	-1.3
DSZ	Denniston Nort	1.70	243	PN	P	10 57 24.2	-1.5
NWEZ	Newall Road	1.73	1	P	P	10 57 26.3	+0.2
NWEZ	Newall Road	1.73	1	PN	P	10 57 26.3	+0.2
NEZ	North Egmont	1.74	7	P	P	10 57 26.4	+0.1
NEZ	North Egmont	1.74	7	PN	P	10 57 26.1	-0.2
PKE	Pukeiti	1.81	4	P	P	10 57 27.4	+0.2
PKE	Pukeiti	1.81	4	PN	P	10 57 27.2	0.0
BFZ	Birch Farm	1.86	81	P	P	10 57 25.7	-2.2
BFZ	Birch Farm	1.86	81	PN	P	10 57 25.8	-2.1
TSZ	Takapari Road	1.88	61	P	P	10 57 26.3	-1.8
TSZ	Takapari Road	1.88	61	PN	P	10 57 26.3	-1.8
VRZ	Vera Road	2.01	21	*e*PN	P	10 57 29.2	-0.7
MTVZ	Mangateitei	2.05	38	PN	P	10 57 30.1	-0.4
LTZ	Lake Taylor	2.13	213	P	P	10 57 30.1	-1.5
WNVZ	Wahianoa	2.15	40	P	P	10 57 31.6	-0.3
MOVZ	Moawhango	2.17	43	P	P	10 57 30.9	-1.3
FWVZ	Far West T-bar	2.19	38	PN	P	10 57 32.2	-0.2
TUVZ	Tukino	2.23	39	PN	P	10 57 32.6	-0.4
WPVZ	Whakapapa	2.23	37	P	P	10 57 32.6	-0.4
WPVZ	Whakapapa	2.23	37	PN	P	10 57 32.6	-0.4
CNZ	Chateau	2.23	37	P	P	10 57 32.6	-0.5
NGZ	Ngauruhoe	2.27	37	P	P	10 57 33.1	-0.6
TWVZ	Taurewa	2.29	33	P	P	10 57 33.4	-0.5
WTVZ	West Tongariro	2.32	36	P	P	10 57 35.7	+1.4
KRVZ	Karewarewa	2.36	37	PN	P	10 57 34.1	-0.7
KATZ	Kakaramea	2.48	36	P	P	10 57 36.9	+0.3
PWZ	Pawanui	2.51	68	*e*P	P	10 57 33.9	-3.1
RATZ	Rangitukua	2.60	36	P	P	10 57 38.2	-0.1
HIZ	Hauiti	2.61	18	P	P	10 57 37.8	-0.6
CRLZ	Canterbury Las	2.72	199	*e*P	P	10 57 37.3	-2.7
BKZ	Black Stump Fm	2.74	49	P	P	10 57 37.7	-2.6
MQZ	McQueen's Vall	2.84	198	*e*P	P	10 57 38.4	-3.3
WVZ	Waitaha Valley	3.10	227	P	P	10 57 42.8	-2.5
RPZ	Rata Peaks	3.40	216	*e*P	P	10 57 46.9	-2.7
TOZ	Tahuroa Road	3.52	22	*e*P	P	10 57 50.2	-0.9
KNZ	Kokohu	3.55	57	*e*P	P	10 57 46.9	-4.7
URZ	Urewera	3.73	44	P	P	10 57 49.7	-4.4
MWZ	Matawai	3.90	48	P	P	10 57 51.7	-4.8
FOZ	Fox Glacier	4.00	229	P	P	10 57 53.2	-4.7
MKAZ	Moumakai	4.02	15	P	P	10 57 57.0	-1.2
WTAZ	Waiatarua	4.11	8	P	P	10 57 58.4	-0.9
OTAZ	Otara	4.13	12	P	P	10 57 58.8	-1.0
KAAZ	Kauri Point	4.23	10	P	P	10 57 58.3	-2.8
MTAZ	Motutapu	4.29	12	P	P	10 58 00.8	-1.2
LBZ	Lake Benmore	4.32	217	*e*P	P	10 57 58.0	-4.3
KUZ	Kuaotunu	4.50	20	*e*P	P	10 58 03.1	-1.7
PUZ	Puketiti	4.50	51	*e*P	P	10 57 59.4	-5.5
ODZ	Otahua Downs	4.67	209	*e*P	P	10 58 03.5	-3.7
MXZ	Matakaoa Point	4.88	47	*e*P	P	10 58 05.0	-5.2
WCZ	Waipu Caves	5.07	5	*e*P	P	10 58 08.9	-3.9
WKZ	Wanaka	5.21	221	*e*P	P	10 58 08.7	-5.9
EAZ	Earnscleugh	5.37	217	*e*P	P	10 58 11.8	-5.0
OUZ	Omahuta	5.78	358	*e*P	P	10 58 21.5	-1.0
TUZ	Tuapeka	5.82	210	*e*P	P	10 58 18.8	-4.2

MAN 29 12:13:54.5,8.46N×127.52E,h2km**,mb4.1,ML3.0,MS2.7, 1C-1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	1.18	257	⇑*i*P	Pb	12 14 15.0	-2.2
BIPH				*i* S	Sb	12 14 56.3	+24
BUTP	Butuan	1.94	285	*e*P	Pn	12 14 29.2	+0.4
BUTP				*e*S	Sn	12 14 54.0	-0.1
SCPH	Surigao	2.40	304	⇓*e*P	Pn	12 14 34.9	-0.4
BUKP	Musuan	2.50	257	*e*P	Pn	12 14 36.5	-0.3
BUKP				*e*S	Sn	12 15 08.2	-0.1

*IDC **29** 12:25:44.9±0.8, 19.57S×173.86W, mb4.1/9, mb1 4.3/10, mb1mx4.2/18, mbtmp4.2/10, MS3.6/3, Ms1 3.6/3, ms1mx3.2/30, Error ellipse: s-maj=32.1km s-min=17.7km az=126.0*

*NEIC **29** 12:25:46.4±0.5, 19.42S×173.92W, h10km, mb4.5/7, Error ellipse: s-maj=17.2km s-min=9.2km az=132.0*

ISC 29 12:25:48.4±0.7**,19.4S**±0.1×**174.0W**±0.1**,h33**km**,n27, σ0s94**/18**,mb4.2**/10**,MS3.5**/3**,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.89	21	Pn	Pn	12 27 14.5	-1.2
	17nm,0.3s,baz=85,slow=6.4,SNR=18						
AFI	Afiamalu	5.89	21	*e*Pn	Pn	12 27 13.0	-2.7
URZ	Urewera	20.29	201	P	P	12 30 19.5	-4.6
	17nm,0.9s,baz=76,slow=12,SNR=12						
TBI	Tubuai	23.16	104	*e*LR	LR	12 35 49.3	
	218nm,31.0s						
PPT	Papeete	23.23	89	*e*LR	LR	12 35 48.1	
	212nm,28.2s						
PPT	Papeete	23.23	89	LR	LR	12 36 17.1	
	comp=Z,93nm,21.7s,MS3.2,baz=148,slow=27						
HNR	Honiara	27.09	288	LR	LR	12 41 07.8	
	comp=Z,55nm,18.1s,MS3.2,baz=126,slow=34						
RPZ	Rata Peaks	27.27	204	P	P	12 31 32.0	+0.3
	5.3nm,0.5s,mb4.3,baz=3.8,slow=4.1,SNR=8.0						
CTA	Charters Tower	37.36	262	*e*P	P	12 33 01.3	+1.4
	2.8nm,0.4s,mb4.5						
CTA	Charters Tower	37.36	262	P	P	12 33 01.2	+1.3
	3.4nm,0.4s,mb4.5,baz=78,slow=11,SNR=13						
CTAO	Charters Tower	37.36	262	*e*P	P	12 33 00.5	+0.6
	4.1nm,0.5s,mb4.5						
STKA	Stephens Creek	41.64	244	*e*P	P	12 33 35.1	-0.3
	3.7nm,1.1s,mb3.9						
STKA	Stephens Creek	41.64	244	P	P	12 33 34.6	-0.7
	2.1nm,0.7s,mb3.9,baz=100,slow=14,SNR=6.1						
WB2	Warramunga Arr	48.48	260	*e*P	P	12 34 30.2	+0.1
WRAB	Tennant Creek	48.48	260	*e*P	P	12 34 29.8	-0.4
	5.1nm,0.8s,mb4.6						
WRA	Warramunga Arr	48.49	260	P	P	12 34 29.7	-0.5
	4.7nm,1.1s,mb4.4,baz=98,slow=8.0,SNR=32						
VNDA	Vanda	59.33	186	P	P	12 35 47.1	-2.0
	1.6nm,0.9s,mb4.0,baz=343,slow=12,SNR=2.6						
VNDA	Vanda	59.33	186	P	P	12 35 47.7	-1.4
	1.9nm,1.0s,mb4.1						
TXAR	Lajitas Array	83.32	56	P	P	12 38 14.6	+1.0
	0.8nm,0.7s,mb3.9,baz=221,slow=12,SNR=3.8						
PDAR	Pinedale Array	85.63	42	P	P	12 38 24.9	-0.1
	0.3nm,0.6s,mb3.7,baz=225,slow=4.2,SNR=3.9						
ILAR	Eielson Array	86.49	11	P	P	12 38 29.8	+1.2
	1.3nm,1.1s,mb4.1,baz=224,slow=5.3,SNR=5.5						
SNAA	Sanae	88.93	177	*e*P	P	12 38 40.9	+0.7
	6.6nm,1.4s,mb4.8						
LVC	Limon Verde	95.77	116	LR	LR	13 11 48.2	
	comp=Z,70nm,19.4s,MS4.2,baz=48,slow=29						
AKASG	Malin Array Be	143.78	335	PKP	PKPdf	12 45 20.4	+0.5
	0.5nm,0.4s,baz=32,slow=4.1,SNR=6.6						
CLL	Collm	147.72	352	*e*PKP1	PKPdf	12 45 32.0	+5.4
BRTR	Keskin Array B	148.80	316	PKPbc	PKPdf	12 45 35.4	+6.6
	0.8nm,0.3s,baz=162,slow=4.6,SNR=5.3						
GERES	GERESS Array B	150.01	350	PKPbc	PKPdf	12 45 37.6	+7.2
	0.5nm,0.5s,baz=101,slow=5.0,SNR=2.8						

*MOS **29** 12:26:59.9±1.6, 8.42N×92.50E, h30km, mb5.3/33, MS4.6/6, Error ellipse: s-maj=10.6km s-min=5.8km az=107.9*

*BJI **29** 12:26:59.7, 8.24N×92.38E, h40km, mB5.1, mb5.1, Ms4.8, Msz4.5*

*HRVD **29** 12:27:01.5±0.2, 8.49N×92.27E, h27km±1km, MW5.3/64, Centroid moment Tensor Solution. LP body waves: s53,c90;Mantle waves: s64,c120; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.04±.02; $M_{\theta\theta}$-0.78±.02; $M_{\phi\phi}$0.81±.02; $M_{r\theta}$0.11±.04; $M_{\theta\phi}$-0.51±.02; $M_{\phi r}$-0.20±.05; Best double couple: M_0.972×10^{17} NP1: ϕ_s209°,δ79°,λ6°. NP2:ϕ_s118°,δ84°,λ169°. Principal axes: T 1.015, Plg12°, Azm73°; N -.085, Plg78°, Azm270°; P -.93, Plg3°, Azm164°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **29** 12:27:01.5±0.2, 8.38N×92.33E, mb5.1/38 Error ellipse: s-maj=7.5km s-min=6.0km az=222.0*

*IDC **29** 12:27:02.1±0.3, 8.46N×92.28E, h36km±2km, mb4.3/27, mb1 4.4/27, mb1mx4.3/30, mbtmp4.5/27, MS4.4/18, Ms1 4.4/18, ms1mx4.3/34, Error ellipse: s-maj=12.2km s-min=9.4km az=60.0*

ISC 29 12:27:00.1±0.2**,8.37N**±0.03×**92.31E**±0.03**,h34**km±1.1km**:pP-P,n229,σ1s17**/222**,mb4.9**/93**,MS4.5**/38**, 11C-11D,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	3.29	7	*e*P	P	12 27 51.3	+0.7
PBA				*e*S	S	12 28 28.3	-0.7
NNT	Nongplab	8.42	60	P	P	12 29 04.5	+1.8
KULM	Kulim	8.83	110	*e*Pn	P	12 29 04.7	-3.7
KULM				*e*Sn	S	12 30 36.1	-12
IPM	Ipoh	9.45	113	P	P	12 29 17.3	+0.4
BDT	Bhumibol Dam	10.97	36	P	P	12 29 37.5	-0.4
	13nm,0.9s						
PALK	Pallekele	11.55	265	*e*Pn	P	12 29 44.0	-1.8
	42nm,0.4s						
PALK				*e*Sn	S	12 31 38.0	-16
KGM	Kluang	12.65	119	P	P	12 30 00.8	+0.3
KKTK	Khon Kaen	12.97	51	P	P	12 30 08.0	+3.3
BWNR	Bhubaneshwar	13.42	333	*e*P	P	12 30 14.6	+3.9
BWNR				*e*S	S	12 32 29.1	-10
TRD	Trivandrum	15.18	272	*e*P	P	12 30 32.8	-1.1
TRD				AMb	AMB	12 30 35.5	
	comp=Z,234nm,1.3s						
TRD				*e*		12 33 04.3	
HYB	Hyderabad	16.13	305	*e*P	P	12 30 46.0	0.0
HYB				*e*S	S	12 33 41.0	-2.5
HYB				pmax	pmax		
	comp=Z,140nm,1.0s						
HYB	Hyderabad	16.13	305	*e*P	P	12 30 46.0	0.0
	comp=Z,140nm,1.0s						
HYB				*e*S	S	12 33 41.0	-2.5
HYB	Hyderabad	16.13	305	*i* P	P	12 30 46.0	0.0
	comp=Z,140nm,1.0s						
HYB				*e*		12 31 00.0	
HYB				*e*		12 33 26.0	
HYB				*e*S	S	12 33 42.0	-1.5
IMP	Imphal	16.39	5	*e*P	P	12 30 50.0	+0.7
IMP				*e*		12 33 44.0	
BOK	Bokaro	16.52	339	*e*	P	12 30 47.7	-3.3
BOK				⇓*i*P		12 30 49.6	
BOK				*e*		12 33 37.5	
BOK				*i*		12 33 37.6	
BLSP	Bilaspur	16.82	326	*e*P	P	12 30 53.9	-0.9
BLSP				*e*		12 33 47.2	
SHL	Shillong	17.11	359	*e*	P	12 30 55.0	-3.3
SHL				*e*		12 33 54.0	
KSM	Kuching	19.19	110	P	P	12 31 20.6	-3.3
KMI	Kunming	19.41	30	P	P	12 31 27.3	+1.0
KMI				AP		12 31 35.8	
KMI				XP		12 31 40.0	
KMI				PP	PP	12 31 45.5	+1.6
KMI				S	S	12 34 59.3	+1.3
KMI				XS		12 35 12.5	
KMI				SS	SS	12 35 26.3	+1.8
KMI				PCP	PcP	12 35 46.5	-0.2
KMI				AMB	AMB		
	comp=Z,98nm,1.4s						
KMI				AMB	AMB		
	comp=Z,425nm,3.1s						
KMI				LR	LR		
	comp=N,2μm,20.7s						
KMI				LR	LR		
	comp=E,1μm,18.9s						
KMI				LR	LR		
	comp=Z,2μm,21.8s						
KMI	Kunming	19.41	30	P	P	12 31 27.2	+0.9
KMI				S	S	12 34 59.3	+1.3
KMI				pmax	pmax		
	comp=Z,98nm,1.4s						
KMI	Kunming	19.41	30	P	P	12 31 27.2	+0.9
	comp=Z,98nm,1.4s						
KMI				pP		12 31 35.7	
KMI				sP		12 31 40.1	
KMI				PP	PP	12 31 45.5	+1.6
KMI				PPP	PPP	12 31 54.4	+1.4
KMI				S	S	12 34 59.3	+1.3
KMI				sS		12 35 12.5	
KMI				SS	SS	12 35 26.3	+1.8
KMI				SSS	SSS	12 35 39.8	+1.4
KMI				PcP	PcP	12 35 46.4	-0.3
KAD	Karad	19.76	298	*e*P	P	12 31 29.4	-0.8
KAD				AMb	AMB	12 31 35.9	
	comp=Z,56nm,0.8s						
KAD				*e*		12 34 51.2	
JIRN	Jiri	20.04	344	*e*P	P	12 31 33.9	+0.8
	comp=Z,214nm,0.3s						
QIZ	Qiongzhong	20.04	56	P	P	12 31 33.3	+0.1
QIZ				S	S	12 35 15.0	+3.3
QIZ				AMB	AMB		
	comp=Z,75nm,1.1s						
QIZ				LR	LR		
	comp=N,3μm,17.5s						
QIZ				LR	LR		
	comp=Z,2μm,17.4s,MS4.5						
PKI	Pulchoki	20.18	342	*e*P	P	12 31 35.0	+0.4
	comp=Z,2μm,1.0s						
DMN	Daman	20.31	341	*e*P	P	12 31 36.4	+0.4
	comp=Z,1μm,0.8s						
GUN	Gumba	20.36	343	*e*P	P	12 31 37.2	+0.7
KKN	Kakani	20.43	342	*e*P	P	12 31 37.5	+0.3
	comp=Z,790nm,1.0s						
BHPL	Bhopal	20.55	318	*e*P	P	12 31 39.6	+1.1
BHPL				AMb	AMB	12 31 50.4	
	comp=Z,225nm,1.2s						
BHPL				*e*		12 35 12.3	
POO	Poona	20.57	301	*e*P	P	12 31 38.6	-0.2
POO				AMb	AMB	12 31 55.2	
	comp=Z,117nm,1.0s						
POO				*e*		12 35 10.1	
GKN	Gorkha	20.83	341	*e*P	P	12 31 41.7	+0.3
	comp=Z,432nm,0.3s						
KOLN	Koldanda	20.98	338	*e*P	P	12 31 43.5	+0.6
LSA	Lhasa	21.25	357	P	P	12 31 46.0	+0.4
LSA				AP		12 32 00.3	
LSA				S	S	12 35 34.8	0.0
LSA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
LSA				AMB	AMB		
	comp=Z,120nm,10.0s						
LSA				LR	LR		
	comp=N,620nm,21.0s,MS4.3						
LSA				LR	LR		
	comp=E,1μm,20.0s,MS4.3						
LSA				LR	LR		
	comp=Z,1μm,21.0s,MS4.3						
LSA	Lhasa	21.25	357	*e*P	P	12 31 46.8	+1.2
LSA				pmax	pmax		
	comp=Z,449nm,1.3s,mb5.6						
LSA	Lhasa	21.25	357	*e*P	P	12 31 46.8	+1.2
	comp=Z,449nm,1.3s,mb5.6						
BOM	Bombay	21.61	301	*e*P	P	12 31 51.8	+2.5
BOM				*e*		12 35 38.4	
GYA	Guiyang	22.57	35	⇓*i*P	P	12 31 58.8	-0.1
GYA				AP		12 32 07.5	
GYA				XP		12 32 12.0	
GYA				S	S	12 36 02.3	+2.9
GYA				AMB	AMB		
	comp=Z,50nm,1.1s,mb4.9						
GYA				AMB	AMB		
	comp=Z,330nm,5.4s						
GYA				LR	LR		
	comp=N,1μm,18.3s,MS4.6						
GYA				LR	LR		
	comp=E,1μm,17.1s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,17.4s,MS4.3						
KKM	Kota Kinabalu	23.83	94	*e*P	P	12 32 07.8	-3.5
KKM				*e*pP		12 32 13.2	
KKM	Kota Kinabalu	23.83	94	P	P	12 32 13.7	+2.4
LGTI	Lohaghat	23.83	333	*e*		12 32 23.8	
LGTI				*e*		12 36 35.5	
PTH	Pithoragarh	23.93	333	*e*		12 32 25.1	
PTH				*e*		12 36 36.2	
AJM	Ajmer	24.61	319	*i* P	P	12 32 21.0	+2.3
NDI	New Delhi	24.70	327	*e*P	P	12 32 19.0	-0.6
NDI				*e*		12 36 47.0	
CD2	Chengdu	24.84	24	⇑*i*P	P	12 32 21.0	0.0
CD2				PP	PP	12 32 55.0	-3.3
CD2				S	S	12 36 35.0	-3.9
CD2				AMB	AMB		
	comp=Z,50nm,1.6s,mb4.8						
CD2				AMB	AMB		
	comp=Z,210nm,4.9s						
CD2				LR	LR		
	comp=E,620nm,14.4s						
CD2				LR	LR		
	comp=Z,550nm,19.8s						
DDI	Dehra Dun	25.59	330	*e*P	P	12 32 30.3	+2.3
DDI				*e*		12 37 11.3	
TSM	Tawau	25.73	97	P	P	12 32 30.2	+0.7
ENH	Enshi	27.08	34	*e*P	P	12 32 40.2	-1.7
	comp=Z,166nm,1.3s,mb5.4						
THN	Thein Dam	28.46	330	*e*	P	12 33 04.1	+10
THN				*e*		12 38 28.9	
LZH	Lanzhou	29.53	19	⇑P	P	12 33 03.0	-0.7
LZH				AP	pP	12 33 11.5	-2.0
LZH				XP	sP	12 33 16.5	-1.4
LZH				PP	PP	12 34 01.3	+1.2
LZH				*e*S	S	12 37 53.3	-1.6
LZH				*e*SS	SS	12 39 26.0	-2.9
LZH				SCP		12 39 45.5	
LZH				AMB	AMB		
	comp=Z,69nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,280nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,17.2s						
LZH				LR	LR		
	comp=Z,3μm,18.4s,MS4.9						
LZH	Lanzhou	29.53	19	⇑P	P	12 33 03.1	-0.6
LZH				*PP	pP	12 33 11.5	-2.0
LZH				*SP	sP	12 33 16.4	-1.5
LZH						12 34 01.2	
LZH				*e*S	S	12 37 53.3	-1.6
LZH				*e**SS		12 38 08.0	
LZH				*e*SS	SS	12 39 26.0	-2.9
LZH						12 39 45.4	
LZH				pmax	pmax		
	comp=Z,69nm,1.3s,mb5.2						
LZH				MLR	MLR		
	comp=Z,3μm,18.4s,MS4.9						
LZH	Lanzhou	29.53	19	⇑P	P	12 33 03.1	-0.6
	comp=Z,69nm,1.3s,mb5.2						
LZH				pP	pP	12 33 11.5	-2.0
LZH				sP	sP	12 33 16.4	-1.5
LZH				PP	PP	12 34 01.2	+1.1
LZH				*e*S	S	12 37 53.3	-1.6
LZH				*e*sS		12 38 08.0	
LZH				*e*SS	SS	12 39 26.0	-2.9
LZH				ScP		12 39 45.4	
LZH				LR	LR		
	comp=Z,3μm,18.4s,MS4.9						
XAN	Xi'an	29.78	29	P	P	12 33 03.8	-2.2
XAN				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.8						
XAN				LR	LR		
	comp=N,781nm,20.9s,MS4.5						
XAN				LR	LR		
	comp=E,886nm,18.2s,MS4.5						
XAN				LR	LR		
	comp=Z,1μm,23.6s						
QZH	Quanzhou	30.00	54	⇑*i*P	P	12 33 08.5	+0.5
QZH				*e*S	S	12 38 02.0	-0.5
QZH				AMB	AMB		
	comp=Z,160nm,1.3s,mb5.6						
QZH				LR	LR		
	comp=N,950nm,15.7s						
QZH				LR	LR		
	comp=E,1μm,9.6s						
QZH				LR	LR		
	comp=Z,2μm,13.2s,MS4.9						
WHN	Wuhan	30.19	40	⇓P	P	12 33 09.5	-0.2
WHN				AMB	AMB		
	comp=Z,480nm,1.6s,mb6.0						
GTA	Gaotai	31.63	11	⇑*i*P	P	12 33 22.5	+0.1
GTA				AP	pP	12 33 32.8	+0.7
GTA				XP	sP	12 33 36.5	-0.1
GTA				PP	PP	12 34 26.0	-1.4
GTA				PCP	PcP	12 36 16.0	+1.9
GTA				S	S	12 38 25.8	-2.2
GTA				XS		12 38 42.8	
GTA				SCP		12 39 53.5	
GTA				PCS		12 39 58.0	
GTA				SS	SS	12 40 14.8	-3.5
GTA				SCS	ScS	12 43 50.5	+0.6
GTA				AMB	AMB		
	comp=Z,65nm,0.9s,mb5.5						
GTA				AMB	AMB		
	comp=Z,214nm,11.5s						
GTA				LR	LR		
	comp=N,544nm,24.8s,MS4.3						
GTA				LR	LR		
	comp=E,463nm,21.8s,MS4.3						
GTA				LR	LR		
	comp=Z,664nm,24.1s,MS4.2						
NJ2	Nanjing	34.10	43	*e*P	P	12 33 43.3	-0.6
NJ2				AP	pP	12 33 52.8	-0.9
NJ2				XP	sP	12 33 56.8	-1.3
NJ2				PP	PP	12 34 57.5	-1.1
NJ2				S	S	12 39 07.0	+0.5
NJ2				XS		12 39 24.0	
NJ2				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,230nm,4.4s						
NJ2				LR	LR		
	comp=N,2μm,20.8s,MS4.8						
NJ2				LR	LR		
	comp=E,920nm,17.8s,MS4.8						

NJ2 LR LR
comp=Z,670nm,21.8s,MS4.3
KSH Kashi 34.29 337 *e*P **P** **12 33 46.3 +0.9**
KSH *e*AP pP 12 33 56.0 +0.8
KSH *e*XP sP 12 34 00.3 +0.7
KSH AMB AMB
comp=Z,110nm,1.1s,mb5.7
KSH AMB AMB
comp=Z,240nm,4.0s
KSH LR LR
comp=N,530nm,10.4s,MS4.8
KSH LR LR
comp=E,930nm,14.7s,MS4.8
SSE Sheshan 35.16 46 P **P** **12 33 51.0 -1.9**
SSE AP pP 12 33 59.5 -3.3
SSE XP sP 12 34 03.5 -3.7
SSE S **S** **12 39 23.5 +0.7**
SSE XS 12 39 38.5
SSE AMB AMB
comp=Z,55nm,0.9s,mb5.5
SSE AMB AMB
comp=Z,125nm,4.1s
SSE LR LR
comp=N,627nm,18.9s,MS4.4
SSE LR LR
comp=E,202nm,18.7s,MS4.4
SSE LR LR
comp=Z,450nm,19.9s,MS4.2
SSE Sheshan 35.16 46 P **P** **12 33 50.9 -2.0**
comp=Z,55nm,0.9s,mb5.5
SSE pP pP 12 33 59.4 -3.4
SSE sP sP 12 34 03.6 -3.6
SSE S **S** **12 39 23.4 +0.6**
SSE sS 12 39 38.6
SSE SS SS 12 41 57.9 +18
SSE LR LR
comp=Z,450nm,19.9s,MS4.2
WMQ Urumqi 35.54 354 P **P** **12 33 56.3 +0.2**
WMQ AP pP 12 34 06.0 +0.1
WMQ XP sP 12 34 09.8 -0.5
WMQ PP PP 12 35 17.3 +0.6
WMQ S **S** **12 39 30.0 +1.4**
WMQ XS 12 39 46.0
WMQ AMB AMB
comp=Z,22nm,1.1s,mb5.0
WMQ AMB AMB
comp=Z,349nm,4.4s
WMQ LR LR
comp=N,501nm,24.4s,MS4.4
WMQ LR LR
comp=E,722nm,25.8s,MS4.4
WMQ LR LR
comp=Z,457nm,15.4s
TIA Tai'an 35.77 36 *e*P **P** **12 33 57.0 -1.1**
TIA AMB AMB
comp=Z,33nm,1.1s,mb5.2
AAK Ala-Archa 37.55 338 *i* P **P** **12 34 14.2 +1.2**
AAK pmax pmax
comp=Z,34nm,1.3s,mb4.9
AAK Ala-Archa 37.55 338 *e*P **P** **12 34 13.6 +0.7**
comp=Z,91nm,1.3s,mb5.3
FRU Bishkek 37.68 339 *e*P **P** **12 34 15.0 +0.9**
FRU *i* pP 12 34 25.0 +1.0
FRU pmax pmax
comp=Z,160nm,2.0s,mb5.4
JOW Kunigami 38.69 57 P **P** **12 34 23.4 +0.8**
comp=Z,15nm,0.5s,mb5.0,baz=252,slow=5.8,SNR=14
MKAR Makanchi Array 39.23 349 P **P** **12 34 27.2 +0.3**
comp=Z,6.7nm,0.5s,mb4.6,baz=168,slow=8.6,SNR=69
MKAR pP pP 12 34 36.7 -0.2
comp=Z,25nm,0.9s,baz=162,slow=9.1,SNR=19
MKAR ScP 12 40 20.3
comp=Z,0.2nm,0.3s,baz=135,slow=4.1,SNR=4.0
MKAR LR LR 12 54 03.4
comp=Z,426nm,20.5s,MS4.3,baz=176,slow=41
MKAR Makanchi Array 39.23 349 P **P** **12 34 27.2 +0.3**
MKAR pP pP 12 34 36.7 -0.2
MKAR ScP 12 40 20.3
MKAR LR LR 12 54 03.4
KKAR Karatay Array 39.52 335 *i* P **P** **12 34 30.1 +0.7**
KKAR pmax pmax
comp=Z,35nm,0.9s,mb5.1
DL2 Dalian 40.22 36 P **P** **12 34 36.3 +1.1**
DL2 XP sP 12 34 50.5 +1.1
DL2 S **S** **12 40 40.5 +0.7**
DL2 AMB AMB
comp=Z,30nm,0.9s,mb5.0
DL2 AMB AMB
comp=Z,90nm,4.4s
DL2 LR LR
comp=N,170nm,18.5s,MS4.2
DL2 LR LR
comp=E,260nm,16.4s,MS4.2
DL2 LR LR
comp=Z,320nm,15.6s,MS4.3
SONM Songino Array 41.11 14 P **P** **12 34 41.9 -0.6**
comp=Z,24nm,0.9s,mb4.8,baz=198,slow=8.0,SNR=133
SONM pP pP 12 34 52.2 -0.3
comp=Z,8.6nm,0.8s,baz=199,slow=8.8,SNR=7.7
SONM LR LR 12 54 24.4
comp=Z,1μm,20.6s,MS4.8,baz=193,slow=40
FITZ Fitzroy Crossi 42.13 129 *e*P **P** **12 34 50.7 -0.6**
comp=Z,11nm,1.0s,mb4.4
FITZ Fitzroy Crossi 42.13 129 P **P** **12 34 50.9 -0.3**
comp=Z,8.3nm,0.7s,mb4.5,baz=292,slow=2.9,SNR=17
FITZ LR LR 12 54 25.1
comp=Z,781nm,20.4s,MS4.6,baz=287,slow=39
ZAK Zakamensk 42.86 10 *e*P **P** **12 34 52.8 -4.0**
ZAK *e* 12 36 46.8
ZAK pmax pmax
comp=Z,8.0nm,1.4s,mb4.3
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
SNY Shenyang 43.27 34 ⇑P **P** **12 34 59.5 -0.8**
SNY S **S** **12 41 22.3 -2.5**
SNY AMB AMB
comp=Z,10.0nm,1.3s,mb4.4
SNY LR LR
comp=N,790nm,17.7s,MS4.7
SNY LR LR
comp=E,410nm,15.6s,MS4.7
SNY LR LR
comp=Z,500nm,18.9s,MS4.4
JNU Nakatsue 43.29 50 P **P** **12 35 01.1 +0.4**
comp=Z,41nm,1.0s,mb5.1,baz=276,slow=0.9,SNR=14
KURK Kurchatov 43.71 347 *e*P **P** **12 35 04.0 +0.3**
KURK *e**PP pP 12 35 13.9 +0.1
KURK pmax pmax
comp=Z,110nm,1.4s,mb5.4
KURK Kurchatov 43.71 347 *e*P **P** **12 35 04.0 +0.2**
comp=Z,110nm,1.4s,mb5.4
KURK *e*pP pP 12 35 13.9 +0.1
MOY Mondy 43.75 8 *e*P **P** **12 35 05.2 +1.1**
MOY pmax pmax
comp=Z,30nm,2.0s,mb4.7
TLY Talaya 44.17 10 ⇑*i*P **P** **12 35 07.5 +0.1**
TLY *e* pP 12 35 16.7 -0.8
TLY eS **S** **12 41 39.1 +1.3**
TLY eSS SS 12 44 42.3 -5.4
TLY pmax pmax
comp=Z,28nm,1.5s,mb4.8
TLY MLR MLR
comp=Z,284nm,18.0s,MS4.2
TLY Talaya 44.17 10 *e*P **P** **12 35 08.2 +0.7**
comp=Z,31nm,1.4s,mb4.8
IRK Irkutsk 44.83 10 *e*P **P** **12 35 12.6 0.0**
IRK pmax pmax
comp=Z,41nm,2.4s,mb4.8
CN2 Changchun 45.60 34 *e*P **P** **12 35 19.0 0.0**
CN2 XP sP 12 35 32.8 -0.4
CN2 PP PP 12 37 08.5 +2.3
CN2 eS **S** **12 41 59.5 +1.1**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CN2 LR LR
comp=N,3μm,13.0s,MS5.5
CN2 LR LR
comp=E,3μm,13.0s,MS5.5
CN2 LR LR
comp=Z,3μm,13.0s,MS5.4
ZAL Zalesovo 45.84 354 P **P** **12 35 20.2 -0.6**
comp=Z,3.0nm,0.5s,mb4.5,baz=309,slow=9.2,SNR=18
ZAL pP pP 12 35 30.5 -0.3
comp=Z,6.3nm,0.8s,baz=292,slow=10,SNR=8.3
ZAL Zalesovo 45.84 354 P **P** **12 35 20.2 -0.6**
ZAL pP pP 12 35 30.5 -0.3

MUN Mundaring 46.17 151 *e*P **P** **12 35 25.4 +1.8**
comp=Z,24nm,1.0s,mb5.1
MUN Mundaring 46.17 151 *e*P **P** **12 35 25.4 +1.8**
MUN pmax pmax
comp=Z,24nm,1.0s,mb5.1
KLBR Kellerberrin 46.60 150 *e*P **P** **12 35 27.7 +0.7**
comp=Z,34nm,1.3s,mb5.1
HIA Hailar 46.80 24 *e*P **P** **12 35 27.7 -0.6**
HIA *e**PP pP 12 35 37.8 -0.6
HIA pmax pmax
comp=Z,24nm,1.0s
HIA Hailar 46.80 24 *e*P **P** **12 35 27.7 -0.6**
comp=Z,24nm,1.0s,mb5.1
HIA *e*pP pP 12 35 37.8 -0.6
CIT Chita 46.88 18 *e*P **P** **12 35 28.4 -0.5**
CIT *e* pP 12 35 39.0 +0.1
CIT *e* 12 45 33.0
CIT pmax pmax
comp=Z,52nm,2.6s,mb5.0
NVS Novosibirsk 46.91 353 *e*P **P** **12 35 28.2 -0.9**
NVS pmax pmax
comp=Z,57nm,1.9s,mb5.2
NVS pmax pmax
comp=N,52nm,1.7s
NWAO Narrogin (SRO) 47.44 151 P **P** **12 35 34.1 +0.5**
comp=N,12nm,0.8s,mb4.9,baz=42,slow=3.4,SNR=3.7
VOSK Vostochnaya 47.51 343 P **P** **12 35 33.3 -0.6**
VOSK pmax pmax
comp=Z,27nm,1.0s,mb5.2
BVA0 Borovoye Array 47.95 342 *i* P **P** **12 35 36.7 -0.6**
BVA0 pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
BVAR Borovoye Array 47.95 342 P **P** **12 35 37.2 -0.2**
comp=Z,5.4nm,1.0s,mb4.5,baz=153,slow=6.6,SNR=19
BVAR pP pP 12 35 47.0 -0.4
comp=Z,9.8nm,0.9s,baz=153,slow=6.6,SNR=19
BRVK Borovoye 48.01 342 *e*P **P** **12 35 37.3 -0.5**
BRVK *e**PP pP 12 35 47.5 -0.4
BRVK pmax pmax
comp=Z,14nm,1.0s,mb5.0
BRVK Borovoye 48.01 342 *e*P **P** **12 35 37.3 -0.5**
comp=Z,14nm,1.0s,mb4.9
BRVK *e*pP pP 12 35 47.5 -0.3
MDJ Mudanjiang 48.44 35 P **P** **12 35 39.3 -1.9**
MDJ AP pP 12 35 48.5 -2.7
MDJ XP sP 12 35 52.0 -3.4
MDJ PCP PcP 12 37 01.8 -5.7
MDJ PP PP 12 37 38.0 +4.5
MDJ SCP 12 40 54.5
MDJ PCS 12 40 58.5
MDJ S **S** **12 42 39.5 +0.9**
MDJ SCS ScS 12 45 29.8 +1.5
MDJ AMB AMB
comp=Z,10.0nm,1.6s,mb4.6
MDJ AMB AMB
comp=Z,104nm,3.4s
MDJ LR LR
comp=N,990nm,20.3s,MS5.0
MDJ LR LR
comp=E,1μm,19.3s,MS5.0
MDJ LR LR
comp=Z,1μm,16.6s,MS5.0
AB31 Akbulak array 48.94 332 P **P** **12 35 45.2 +0.2**
AB31 pmax pmax
comp=Z,137nm,1.4s,mb5.8
WRA Warramunga Arr 50.03 125 P **P** **12 35 52.8 -1.0**
comp=Z,3.6nm,0.3s,mb4.8,baz=300,slow=9.9,SNR=56
WRA pP pP 12 36 04.6 +0.7
comp=Z,6.8nm,0.8s,baz=306,slow=8.4,SNR=9.7
WRAB Tennant Creek 50.03 125 *e*P **P** **12 35 49.8 -4.0**
WRAB pmax pmax
comp=Z,27nm,1.0s,mb5.2
WRAB Tennant Creek 50.03 125 *e*P **P** **12 35 49.8 -4.1**
comp=Z,28nm,1.0s,mb5.2
WRAB *e*pP pP 12 35 53.1 -11
WB2 Warramunga Arr 50.04 125 *e*P **P** **12 35 52.6 -1.3**
MAJO Matsushiro 50.19 49 *e*P **P** **12 35 53.5 -1.3**
MAJO pmax pmax
comp=Z,44nm,1.4s,mb5.3
MAJO Matsushiro 50.19 49 *e*P **P** **12 35 53.5 -1.3**
comp=Z,44nm,1.4s,mb5.3
MAT Matsushiro 50.19 49 *e*P **P** **12 35 53.0 -1.8**
MAT *e*S **S** **12 43 01.0 -2.1**
MAT Matsushiro 50.19 49 P **P** **12 35 53.3 -1.5**
MAT S **S** **12 43 01.0 -2.1**
MJAR Matsushiro Arr 50.19 49 P **P** **12 35 55.0 +0.2**
comp=Z,7.0nm,1.1s,mb4.6,baz=239,slow=9.8,SNR=12
MJAR PcP PcP 12 37 12.8 -1.2
comp=Z,3.3nm,1.0s,baz=248,slow=0.5,SNR=3.4
MJAR pPcP 12 37 25.1
comp=Z,4.6nm,0.9s,baz=214,slow=2.6,SNR=4.3
BOD Bodaibo 52.11 15 *e*P **P** **12 36 07.7 -1.3**
BOD pmax pmax
comp=Z,25nm,1.0s,mb5.1
KLR Kul'dur 52.40 32 *e*P **P** **12 36 17.2 +5.9**
GNI Garni 52.80 315 *e*P **P** **12 36 15.7 +1.3**
GNI pmax pmax
comp=Z,45nm,1.1s
GNI Garni 52.80 315 LR LR 13 03 27.4
comp=Z,213nm,20.1s,MS4.2,baz=252,slow=42
GNI Garni 52.80 315 *e*P **P** **12 36 15.7 +1.3**
comp=Z,45nm,1.1s,mb5.3
ZEI Tsey 54.44 317 *e*P **P** **12 36 37.9 +11**
ZEI *i* *PP pP 12 36 46.0 +9.3
ZEI *i* 12 38 35.6
ZEI pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ARU Arti 54.74 338 ⇑*i*P **P** **12 36 31.4 +2.9**
ARU *e* 12 38 33.9
ARU eS **S** **12 43 59.4 -5.5**
ARU eSS SS 12 47 41.3 -6.4
ARU pmax pmax
comp=Z,57nm,1.0s,mb5.6
ARU MLR MLR
comp=Z,700nm,22.5s,MS4.7
ARU MLR MLR
comp=N,500nm,21.0s,MS4.6
ARU MLR MLR
comp=E,300nm,22.0s,MS4.6
ARU Arti 54.74 338 *e*P **P** **12 36 28.6 +0.2**
comp=E,60nm,1.1s,mb5.5
ARU *e*pP pP 12 36 38.7 0.0
UMJS Umm Lajj 54.87 295 P sP 12 36 44.0 -0.1
KMBO Kilima Mbogo 55.68 263 P **P** **12 36 37.1 +1.3**
comp=E,2.1nm,0.8s,mb4.2,baz=43,slow=14,SNR=5.2
KMBO LR LR 12 58 36.6
comp=E,617nm,18.7s,MS4.7,baz=92,slow=34
KIV Kislovodsk 55.74 318 *e*P **P** **12 36 35.5 -0.4**
KIV pmax pmax
comp=Z,27nm,0.8s,mb5.3
KIV Kislovodsk 55.74 318 *e*P **P** **12 36 35.5 -0.3**
comp=Z,27nm,0.8s,mb5.3
TBKS Tabuk 55.99 298 P sP 12 36 50.9 -1.3
JMQS Jabal Moqyreh 56.68 299 P sP 12 36 57.1 0.0
MALT Malatya 56.76 311 *e*P **P** **12 36 43.1 -0.2**
comp=Z,19nm,1.1s,mb5.0
MALT *e*pP pP 12 36 53.4 -0.2
BDAS Al Bad' 57.28 298 P sP 12 37 01.2 -0.2
JMOS Jabal al Moall 57.39 299 P sP 12 37 01.7 -0.5
PMG Port Moresby 57.41 107 P **P** **12 36 48.2 -0.1**
comp=Z,11nm,0.8s,mb5.0,baz=278,slow=7.1,SNR=2.7
ALWS Ilw as Safayha 57.45 299 P sP 12 37 02.1 -0.5
YSS Yuzh-Sakhalins 57.52 39⇑ *e*P **P** **12 36 48.0 -0.6**
YSS *e* pP 12 37 01.2 +2.3
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
HAQS Haql 57.52 299 P sP 12 37 02.9 -0.2
SOC Sochi 57.58 317 *e*P **P** **12 36 58.8 +10**
SOC *e* 12 37 43.9
SOC *e*PPP PPP 12 40 22.8 +2.7
SOC *e*S **S** **12 44 50.7 +8.0**
SOC *e* 12 46 36.8
SOC eSS SS 12 48 36.0 +1.7
SOC eSSS SSS 12 50 48.7 -3.1
SOC pmax pmax
comp=N,13nm,0.7s
SOC pmax pmax
comp=Z,13nm,0.7s,mb5.1
SOC pmax pmax
comp=E,10.0nm,0.8s
SOC MLR MLR
comp=N,80nm,18.0s,MS4.3
SOC MLR MLR
comp=Z,275nm,18.0s,MS4.4
SOC MLR MLR

comp=E,188nm,17.0s,MS4.3
ANN Anapa 59.54 318⇓ *i*P **P** **12 36 57.8 -4.9**
ANN pmax pmax
comp=Z,36nm,1.2s,mb5.3
ANN MLR MLR
comp=Z,323nm,24.0s,MS4.4
YAK Yakutsk 60.12 19 *e*P **P** **12 37 03.4 -3.0**
YAK pmax pmax
comp=Z,14nm,1.0s,mb5.0
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK pmax pmax
comp=Z,16nm,0.9s,mb5.0
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK Yakutsk 60.12 19 *e*P **P** **12 37 03.1 -3.3**
comp=E,18nm,0.6s,mb5.3
CTA Charters Tower 60.14 119 P **P** **12 37 07.8 +0.7**
comp=E,5.1nm,0.9s,mb4.5,baz=314,slow=8.8,SNR=2.9
BRTR Keskin Array B 60.73 311 P **P** **12 37 09.8 -1.1**
comp=E,1.8nm,0.9s,mb4.2,baz=121,slow=7.2,SNR=6.9
BRTR pP pP 12 37 20.4 -0.7
comp=E,11nm,0.9s,baz=121,slow=7.2,SNR=18
STKA Stephens Creek 61.77 133⇓ *i*P **P** **12 37 17.3 -0.7**
comp=E,4.8nm,0.6s,mb4.8
STKA Stephens Creek 61.77 133 P **P** **12 37 17.6 -0.3**
comp=E,6.1nm,0.7s,mb4.9,baz=306,slow=9.2,SNR=14
STKA LR LR 13 08 05.1
comp=E,174nm,20.4s,MS4.2,baz=294,slow=40
SIM Simferopol' 61.82 317 P pP 12 37 28.2 -0.3
SIM pmax pmax
comp=Z,20μm,0.9s
SIM pmax pmax
comp=Z,200nm,21.0s
MOS Moscow 63.72 329 *e*P **P** **12 37 32.4 +1.8**
MOS *e* 12 39 55.1
MOS pmax pmax
comp=Z,56nm,0.8s,mb5.7
OBN Obninsk 64.00 328⇓ *e*P **P** **12 37 35.1 +2.7**
OBN pmax pmax
comp=Z,17nm,1.2s,mb5.0
TIRR Tirgusor 65.62 315 ⇓P **P** **12 37 42.4 -0.7**
KIS Kishinev 65.94 318 *e*P pP 12 37 54.0 -1.5
AKASG Malin Array Be 66.64 322 P **P** **12 37 47.1 -2.3**
comp=Z,0.1nm,0.3s,baz=85,slow=5.7,SNR=6.8
AKASG pP pP 12 37 58.1 -1.8
comp=Z,5.9nm,0.9s,baz=89,slow=4.6,SNR=6.1
VRI Vrincioaia 67.09 316 ⇓P **P** **12 37 52.1 -0.2**
VRI Vrincioaia 67.09 316 ⇓P **P** **12 37 52.2 -0.1**
TIXI Tiksi 67.11 12 *e*P **P** **12 37 50.8 -1.3**
TIXI pmax pmax
comp=Z,59nm,1.5s,mb5.4
MLR Muntele Rosu 67.55 316 ⇓P **P** **12 37 55.2 0.0**
MLR Muntele Rosu 67.55 316 ⇓P **P** **12 37 55.2 0.0**
LSZ Lusaka 67.73 250 P **P** **12 37 54.4 -2.4**
comp=Z,26nm,1.5s,mb5.0
ARMA Armidale 68.70 127 *e*P **P** **12 37 57.4 -5.3**
MATP Matopo 68.93 244 P **P** **12 38 03.6 -0.6**
comp=Z,1.6nm,0.7s,mb4.1,baz=0.6,slow=7.1,SNR=3.7
MATP pP pP 12 38 16.6 +1.9
comp=Z,4.5nm,0.9s,baz=59,slow=9.2,SNR=5.1
MATP LR LR 13 06 12.5
comp=Z,242nm,18.6s,MS4.5,baz=86,slow=34
SEY Seymchan 69.24 25 *e*P **P** **12 38 04.2 -1.3**
SEY *e* 12 38 27.6
SEY *e* 12 40 32.9
SEY eS S 12 47 04.6 -3.3
SEY 12 48 04.1
SEY eSS SS 12 51 33.9 -2.6
SEY SSS SSS 12 54 30.8 -8.4
SEY pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
SEY pmax pmax
comp=E,9.0nm,1.3s
SEY smax
comp=N,120nm,16.6s
SEY smax
comp=E,10.0nm,13.6s
SEY MLR MLR
comp=Z,870nm,17.0s,MS5.1
SEY MLR MLR
comp=N,1μm,21.0s
SEY MLR MLR
comp=E,360nm,14.0s
KOLS Kolonicke sedl 70.64 319 *e*P **P** **12 38 13.9 -0.3**
KOLS eSP sP 12 38 26.3 -2.1
SUW Suwalki 71.04 324 *e*P pP 12 38 28.1 +1.1
SUW Suwalki 71.04 324 *e*P pP 12 38 28.1 +1.1
CRVS Cervenica-Dubn 71.16 319 eSP sP 12 38 31.0 -0.6
FINES FINESS Array B 71.43 332 P **P** **12 38 18.2 -0.5**
comp=E,2.5nm,0.8s,mb4.2,baz=127,slow=9.5,SNR=7.4
FINES pP pP 12 38 29.7 +0.5
comp=E,4.5nm,0.7s,baz=90,slow=1.9,SNR=7.4
FINES LR LR 13 12 40.9
comp=E,251nm,21.9s,MS4.4,baz=116,slow=38
KAF Kangasniemi 71.53 333 *e*p pP 12 38 30.1 +0.3
comp=E,12nm,1.0s,baz=106,slow=5.6
KECS Kecovo 71.74 318 *e*P **P** **12 38 16.7 -4.1**
KECS *e* 12 38 32.5
KECS Kecovo 71.74 318 *e* P **P** **12 38 16.7 -4.1**
KECS *e*pP pP 12 38 32.5 +1.2
VYHS Vyhne 72.83 318 *e*pP pP 12 38 39.0 +1.2
LBTB Lobatse 72.89 241 P **P** **12 38 28.0 -0.1**
comp=E,12nm,1.0s,mb4.8
OKC Ostrava-Krasne 73.44 319 *e*pP pP 12 38 43.0 +1.7
KEV Kevo 73.77 341 *e*p pP 12 38 43.1 +0.2
comp=E,26nm,0.9s
MORC Moravsky Berou 73.82 319 *e*P **P** **12 38 32.8 -0.2**
comp=E,50nm,2.3s,mb5.0
ZST Bratislava 73.94 318 *e*P **P** **12 38 37.2 +3.4**
ZST *e* pP 12 38 46.0 +1.7
ZST Bratislava 73.94 318 *e* P **P** **12 38 37.2 +3.4**
ZST *e*pP pP 12 38 46.0 +1.7
ARCES ARCESS Array B 74.19 340 P **P** **12 38 32.8 -2.0**
comp=E,1.6nm,0.9s,mb4.0,baz=170,slow=34,SNR=3.4
ARCES pP pP 12 38 46.4 +1.2
comp=E,13nm,0.9s,baz=93,slow=4.5,SNR=7.4
ARCES LR LR 13 16 48.1
comp=E,281nm,19.7s,MS4.6,baz=250,slow=40
BOSA Boshof 74.31 237 P **P** **12 38 35.9 -0.5**
comp=E,9.8nm,1.2s,mb4.6,baz=107,slow=7.1,SNR=3.9
BOSA pP pP 12 38 48.4 +1.6
comp=E,9.4nm,1.0s,baz=96,slow=9.5,SNR=5.9
BOSA LR LR 13 05 35.6
comp=E,363nm,20.7s,MS4.7,baz=74,slow=31
BOSA Boshof 74.31 237 *e*P **P** **12 38 35.8 -0.6**
comp=E,48nm,1.6s,mb5.2
DPC Dobruska-Polom 74.66 320 *e*P **P** **12 38 38.4 +0.5**
DPC *e*pP pP 12 38 49.2 +0.8
KSP Ksiaz 74.72 320 *e*P pP 12 38 49.8 +1.1
MIR Mirnyy 74.73 180 *e*P **P** **12 38 37.0 -1.0**
MIR pmax pmax
comp=Z,34nm,1.6s,mb5.0
UPC Upice 74.87 320 *e*P **P** **12 38 42.5 +3.4**
UPC *e*pP pP 12 38 50.4 +0.8
BOJS Bojanci 75.01 315 *i* P pP 12 38 50.0 -0.5
LJU Ljubljana 75.54 315 *e*P pP 12 38 55.2 +1.6
CASY Casey 75.64 172 *e*P **P** **12 38 44.1 +0.9**
PRU Pruhonice 75.77 319 *e*P **P** **12 38 45.4 +1.1**
PRU *e*pP pP 12 38 56.9 +2.1
PVCC Panska Ves 75.79 320 *e*P **P** **12 38 47.9 +3.5**
PVCC *e*pP pP 12 38 57.2 +2.3
GORS Gorjuse 75.92 316 *e*P pP 12 38 57.2 +1.5
BRG Berggiesshubel 76.21 320 *e*P **P** **12 38 51.4 +4.6**
BRG *i* pP 12 38 59.4 +2.1
BRG pmax pmax
comp=Z,15nm,1.6s,mb4.7
BRG pmax pmax
comp=Z,29nm,1.5s,mb5.0
BRG Berggiesshubel 76.21 320 *e*P **P** **12 38 51.4 +4.6**
comp=Z,15nm,1.6s,mb4.7
BRG *i* pP 12 38 59.4 +2.1
GEC2 GERESS Array S 76.25 318 *e*P **P** **12 38 50.2 +3.2**
GEC2 pmax pmax
comp=Z,27nm,1.4s,mb5.0
GEC2 GERESS Array S 76.25 318 *e*P **P** **12 38 50.2 +3.2**
comp=Z,27nm,1.4s,mb5.0
GERES GERESS Array B 76.25 318 P **P** **12 38 47.3 +0.3**
comp=Z,1.1nm,0.5s,mb4.0,baz=104,slow=5.5,SNR=12
GERES pP pP 12 38 57.2 -0.3
comp=Z,5.5nm,0.8s,baz=90,slow=2.7,SNR=11

GERES LR LR 13 16 45.3
comp=Z,150nm,19.0s,MS4.3,baz=72,slow=39
BILL Bilibino 76.30 22 *i* P **P 12 38 44.8 -2.2**
BILL *e* 12 38 58.3
BILL pmax pmax
comp=Z,16nm,1.7s,mb4.7
KHC Kasperske Hory 76.34 318 *e*P **P 12 38 47.5 -0.1**
KHC *e*pP pP 12 39 00.0 +1.9
WET Wettzell 76.80 318 *e*P **P 12 38 54.0 +3.8**
WET pmax pmax
comp=Z,16nm,1.4s,mb4.8
WET Wettzell 76.80 318 *e*P **P 12 38 54.0 +3.8**
comp=Z,16nm,1.4s,mb4.8
CLL Collm 76.83 321 *e*P pP 12 39 02.0 +1.2
CLL Collm 76.83 321 *e**SP sP 12 39 03.0 -1.5
NKC Novy Kostel 77.13 320 *e*P **P 12 38 52.0 0.0**
MOX Moxa 77.68 320 *e*P **P 12 38 58.3 +3.3**
comp=Z,17nm,1.4s,mb4.8
MOX *e*pP pP 12 39 07.5 +2.0
MOX Moxa 77.68 320 *i* P **P 12 38 58.3 +3.3**
MOX pP pP 12 39 08.0 +2.5
FX1 Attu Island--F 77.86 38 P **P 12 38 56.1 +0.2**
comp=Z,22nm,0.8s,mb5.1,baz=297,slow=2.3,SNR=3.7
GRA1 Grafenberg Arr 77.90 319 *e*P **P 12 39 00.1 +3.8**
comp=Z,41nm,1.4s,mb5.2
GRA1 *e*pP pP 12 39 09.5 +2.7
GRF Grafenberg Arr 77.90 319 *e*P **P 12 39 00.1 +3.8**
GRF *e**PP pP 12 39 09.5 +2.7
GRF pmax pmax
comp=Z,41nm,1.4s,mb5.2
GRF pmax pmax
comp=Z,17nm,1.1s,mb4.9
GRF Grafenberg Arr 77.90 319 *e*P **P 12 39 00.1 +3.8**
comp=Z,41nm,1.4s,mb5.2
GRF *e*pP pP 12 39 09.5 +2.7
NB2 NORSAR Subarra 78.41 331 P **P 12 38 58.1 -0.7**
comp=Z,0.7nm,0.6s,baz=97,slow=5.3
NB2 NORSAR Subarra 78.41 331 P **P 12 38 58.1 -0.7**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
NOA NORSAR Array B 78.41 331 P **P 12 38 57.0 -1.8**
comp=Z,1.7nm,0.9s,mb4.0,baz=95,slow=5.4,SNR=4.9
NOA pP pP 12 39 09.1 -0.3
comp=Z,4.7nm,0.9s,baz=94,slow=5.6,SNR=11
NOA LR LR 13 17 59.9
comp=Z,160nm,21.8s,MS4.3,baz=105,slow=39
NOA NORSAR Array B 78.41 331 P **P 12 38 57.0 -1.8**
NOA pP pP 12 39 09.1 -0.3
NOA LR LR 13 17 59.9
CLZ Clausthal 78.49 321 *e*P **P 12 39 03.1 +3.7**
CLZ pmax pmax
comp=Z,19nm,1.0s,mb5.0
CLZ Clausthal 78.49 321 *e*P **P 12 39 03.1 +3.7**
comp=Z,19nm,1.0s,mb5.0
BSEG Bad Segeberg 78.57 323 *e*P **P 12 39 03.6 +3.8**
BSEG pmax pmax
comp=Z,64nm,2.1s,mb5.2
MAW Mawson 78.66 191 LR LR 13 06 51.2
comp=Z,159nm,21.9s,MS4.3,baz=222,slow=30
DAVOX Davos 78.77 316 P **P 12 39 02.0 +0.9**
comp=Z,2.2nm,0.6s,mb4.3,baz=146,slow=21,SNR=5.2
DAVOX pP pP 12 39 12.3 +0.7
comp=Z,6.0nm,0.7s,baz=149,slow=6.8,SNR=4.9
TNS Taunus Mts 79.70 320 *e*P **P 12 39 09.9 +3.8**
comp=Z,9.0nm,1.0s,mb4.7
BFO Black Forest 79.80 318 *e*P **P 12 39 10.0 +3.3**
comp=Z,9.0nm,0.9s,mb4.7
BNI Bardonecchia 81.05 314 P **P 12 39 13.2 -0.2**
comp=Z,14nm,0.9s,mb4.9
SYO Syowa Base 85.35 197 ⇑P **P 12 39 35.4 +0.7**
JMIC Jan Mayen 85.66 341 LR LR 13 20 06.6
comp=Z,146nm,21.7s,MS4.3,baz=87,slow=37
RPZ Rata Peaks 87.69 135 P **P 12 39 48.2 +1.5**
comp=Z,19nm,0.8s,mb5.4,baz=37,slow=1.8,SNR=9.6
RPZ LR LR 13 16 54.5
comp=Z,597nm,21.4s,MS5.0,baz=84,slow=34
URZ Urewera 91.07 128 LR LR 13 22 35.4
comp=Z,314nm,19.3s,MS4.8,baz=286,slow=37
IMA Indian Mountai 91.85 22 P **P 12 40 05.9 +0.2**
comp=Z,30nm,1.0s,mb5.6
BORG Borgarnes 92.26 337 LR LR 13 25 20.2
comp=Z,162nm,18.6s,MS4.5,baz=193,slow=38
VNDA Vanda 93.78 168 P **P 12 40 15.6 +1.2**
comp=Z,0.7nm,0.6s,mb4.3,baz=290,slow=11,SNR=3.6
MCK McKinley 94.72 23 P **P 12 40 19.0 +0.1**
comp=Z,9.2nm,1.4s,mb5.0
ILAR Eielson Array 94.97 22 P **P 12 40 19.4 -0.6**
comp=Z,0.4nm,0.8s,mb3.9,baz=284,slow=3.7,SNR=3.0
ILAR pP pP 12 40 29.9 -0.8
comp=Z,1.1nm,0.8s,baz=301,slow=4.6,SNR=7.0
ILAR PP PP 12 44 10.0 -1.5
comp=Z,0.7nm,0.8s,baz=304,slow=8.0,SNR=4.5
ILAR LR LR 13 28 31.3
comp=Z,303nm,18.8s,MS4.8,baz=156,slow=39
YKA Yellowknife Ar 106.36 13 PP PP 12 45 32.5 -6.1
comp=Z,1.0nm,0.9s,baz=338,slow=8.4,SNR=4.2
PDAR Pinedale Array 125.34 20 PKP PKPdf 12 45 57.5 -0.4
comp=Z,0.3nm,0.5s,baz=90,slow=3.6,SNR=2.5
PDAR pPKP 12 46 11.7
comp=Z,1.5nm,0.8s,SNR=9.0
TXAR Lajitas Array 139.48 22 PKP PKPdf 12 46 26.4 +1.5
comp=Z,0.3nm,0.3s,baz=93,slow=21,SNR=2.6
TXAR pPKP 12 46 36.0
comp=Z,0.5nm,0.4s,baz=117,slow=2.0,SNR=2.8
PLCA Paso Flores 144.34 203 PKP PKPdf 12 46 33.5 +0.5
comp=Z,2.3nm,0.9s,baz=122,slow=7.0,SNR=3.8
PLCA pPKP 12 46 48.1
comp=Z,3.1nm,0.9s,baz=153,slow=2.3,SNR=3.6
CPUP Villa Florida 146.10 234 PKPbc PKPbc 12 46 37.2 -0.4
comp=Z,3.0nm,0.8s,baz=120,slow=6.0,SNR=10.0
CPUP pPKPbc 12 46 51.0
comp=Z,2.8nm,0.5s,baz=112,slow=6.0,SNR=3.9
CPUP Villa Florida 146.10 234 PKPbc PKPbc 12 46 37.2 -0.4
CPUP pPKPbc 12 46 51.0
CFAA Coronel Fontan 150.63 215 PKPbc PKPdf 12 46 51.9 +8.2
comp=Z,1.3nm,0.9s,baz=138,slow=1.8,SNR=12
CFAA PKPab PKPab 12 46 58.2 -0.1
comp=Z,1.1nm,0.9s,baz=236,slow=0.5,SNR=9.0
CFAA pPKPbc 12 47 02.6
comp=Z,1.3nm,0.9s,baz=134,slow=2.1,SNR=5.7
CFAA Coronel Fontan 150.63 215 PKPbc PKPdf 12 46 51.9 +8.2
CFAA PKPab PKPab 12 46 58.2 -0.1
CFAA pPKPbc 12 47 02.6
SIV San Ignacio 152.92 251 PKPbc PKPdf 12 46 55.7 +8.3
comp=Z,0.9nm,0.6s,baz=150,slow=5.9,SNR=5.7
ROSC El Rosal 161.28 314 PKP PKPdf 12 47 01.8 +3.9
comp=Z,6.7nm,0.5s,baz=103,slow=19,SNR=2.6

NIED ***29*** *12:51:00.33.20N×142.70E,h8km,Mw5.1 Best double couple: M₀5×10¹⁶ NP1:φs171°,δ68°,λ-93°. NP2:φs360°, δ23°,λ-82°.*
IDC ***29*** *12:51:00.3±0.4,33.20N×142.55E,mb4.9/25,mb1 5.0/30, mb1mx5.0/32,mbtmp4.9/30,ML4.7/4,MS4.6/11,Ms1 4.6/11, ms1mx4.3/23,Error ellipse: s-maj=13.2km s-min=11.4km az=83.0*
JMA ***29*** *12:51:01.1±0.4,33.24N×142.66E,h68km,M5.2*
BJI ***29*** *12:51:02.5,33.27N×142.25E,h16km,mB5.4,mb5.0, Ms5.1,Msz4.9*
CSEM ***29*** *12:51:05.0,32.99N×142.82E,h33km,mb5.6*
HRVD ***29*** *12:51:06.6±0.2,33.27N×142.58E,h12km,MW5.2/71, Centroid moment Tensor Solution. LP body waves: s45,c64;Mantle waves: s71,c136; Half duration: 1s0 Moment tensor: Scale 10¹⁶Nm; Mrr-6.16±.14; Mθθ-0.11±.14; Mφφ6.27±.11; Mrθ-0.10±.42; Mθφ-1.33±.10; Mφr3.70±.34; Best double couple: M₀7.35×10¹⁶ NP1: φs343°,δ30°,λ-99°. NP2:φs174°,δ60°,λ-85°. Principal axes: T 7.513, Plg15°, Azm260°; N -.322, Plg5°, Azm351°; P -7.187, Plg74°, Azm98°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***29*** *12:51:06.6±0.2,33.25N×142.43E,mb5.3/114,MS4.8/16, MW5.1(NIED) Error ellipse: s-maj=4.8km s-min=3.8km az=169.0*
MOS ***29*** *12:51:07.5±1.1,33.81N×142.53E,h33km,mb5.6/80, MS4.7/27,Error ellipse: s-maj=8.5km s-min=4.4km az=110.5*
ISC 29 12:51:05.7±0.2,33.38N±0.03×142.38E±0.02,h35km, h35km±.6km:pP-P,n472,σ1s34/471,mb5.2/156,MS4.8/52, 33C-15D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.73**	**318**	⇑P	**P**	**12 51 33.1**	**-0.7**
BSO3	**Boso 3**	**2.10**	**313**	⇑P	**P**	**12 51 38.7**	**-0.5**
JHJ2	**Mitsune**	**2.17**	**264**	⇑P	**P**	**12 51 38.8**	**-1.3**
JHJ2				*e*S	**S**	**12 52 06.6**	**+0.6**
JHJ	**Hachijo jima 2**	**2.19**	**264**	Pn	**P**	**12 51 38.9**	**-1.6**
	877nm,0.3s,baz=149,slow=9.3,SNR=302						
JHJ				Sn	**S**	**12 52 06.8**	**+0.1**
	431nm,0.3s,baz=72,slow=23,SNR=6.8						
JHJ				LR	LR	12 52 23.4	
	comp=Z,5μm,20.4s,baz=235,slow=36						
BSO4	**Boso 4**	**2.33**	**314**	⇑P	**P**	**12 51 42.5**	**0.0**
BSO4				*e*S	**S**	**12 52 13.9**	**+3.6**
KTR	**Katsuura**	**2.46**	**316**	*e*S	**S**	**12 52 16.7**	**+3.3**
JIZS	**Izushimoda**	**3.20**	**296**	P	**P**	**12 51 53.5**	**-1.4**
JOD2	**Odawara 2**	**3.31**	**305**	P	**P**	**12 51 54.6**	**-1.8**
JHO	**Hitachi**	**3.55**	**336**	⇑P	**P**	**12 51 57.3**	**-2.5**
JYN	**Shimob**	**3.81**	**305**	P	**P**	**12 52 02.1**	**-1.4**
SHZ3	**Shizuoka 3**	**3.84**	**297**	P	**P**	**12 52 03.3**	**-0.7**
JAG	**Ashikaga**	**3.88**	**322**	⇑P	**P**	**12 52 02.9**	**-1.5**
ONAJ	**Iwakimizuishiy**	**3.93**	**341**	⇑P	**P**	**12 52 02.0**	**-3.3**
TK01	**Tokai 1**	**4.02**	**277**	*e*S	**S**	**12 52 54.0**	**+0.9**
HMMJ	**Hamamatsu 2**	**4.14**	**292**	P	**P**	**12 52 06.9**	**-1.3**
JFK	**Kawauchi**	**4.16**	**343**	⇑P	**P**	**12 52 05.1**	**-3.4**
JNY	**Yasuok**	**4.23**	**299**	⇑P	**P**	**12 52 08.8**	**-0.7**
JAO	**Obara**	**4.64**	**295**	P	**P**	**12 52 14.7**	**-0.6**
MJAR	**Matsushiro Arr**	**4.66**	**314**	Pn	**P**	**12 52 14.5**	**-1.0**
	50nm,0.3s,baz=92,slow=30,SNR=225						
MJAR				Sn	**S**	**12 53 06.8**	**-2.3**
	12nm,0.3s,baz=142,slow=14,SNR=4.5						
MAJO	**Matsushiro**	**4.66**	**314**	*e*P	**P**	**12 52 14.4**	**-1.2**
MAT	**Matsushiro**	**4.66**	**314**	*e*P	**P**	**12 52 14.0**	**-1.6**
MAT				*e*S	**S**	**12 53 10.0**	**+0.8**
MAT	**Matsushiro**	**4.66**	**314**	P	**P**	**12 52 14.0**	**-1.6**
MAT				S	**S**	**12 53 09.8**	**+0.6**
MAT	**Matsushiro**	**4.66**	**314**	P	**P**	**12 52 14.6**	**-1.0**
MAT				*e*S	**S**	**12 53 11.3**	**+2.1**
JGF	**Kuroka**	**4.70**	**299**	⇑P	**P**	**12 52 15.9**	**-0.3**
JKN2	**Miekihoku**	**5.16**	**281**	P	**P**	**12 52 20.9**	**-1.7**
JGM	**Miyama**	**5.22**	**298**	P	**P**	**12 52 23.0**	**-0.4**
JYA	**Atsumi**	**5.63**	**338**	P	**P**	**12 52 26.9**	**-2.3**
JMK	**Ichinoseki**	**5.64**	**351**	P	**P**	**12 52 24.9**	**-4.4**
OFUJ	**Ofunato**	**5.72**	**354**	⇑P	**P**	**12 52 25.3**	**-5.1**
JRG	**Rokugo**	**6.17**	**347**	P	**P**	**12 52 33.2**	**-3.6**
CBIJ	**Chichi jima**	**6.27**	**182**	Pn	**P**	**12 52 29.9**	**-8.3**
	56nm,0.3s,baz=12,slow=6.4,SNR=42						
CBIJ				Sn	**S**	**12 53 37.1**	**-12**
	102nm,0.3s,baz=282,slow=20,SNR=3.6						
JNU	**Nakatsue**	**9.64**	**272**	Pn	**P**	**12 53 23.8**	**-1.4**
	3.8nm,0.3s,baz=87,slow=14,SNR=21						
YUK	**Yuzh-Kuril'sk**	**10.98**	**13**	*e*P	**P**	**12 53 35.0**	**-8.4**
YUK				*e*S	**S**	**12 55 31.7**	**-14**
YUK				pmax	pmax		
	comp=Z,210nm,0.5s						
YUK				pmax	pmax		
	comp=N,180nm,0.6s						
YUK				pmax	pmax		
	comp=Z,2μm,1.3s						
YUK				smax			
	comp=N,2μm,0.7s						
YUK				smax			
	comp=E,2μm,0.7s						
YUK				smax			
	comp=E,940nm,0.6s						
YUK				smax			
	comp=N,350nm,0.4s						
YUK				MLR	MLR		
	comp=N,5μm,10.0s						
YUK				MLR	MLR		
	comp=E,4μm,10.0s						
YUK				MLR	MLR		
	comp=Z,5μm,10.0s						
KS15	**Wonju Array Si**	**12.50**	**293**	*e*Pn	**P**	**12 54 04.4**	**+0.4**
KUR	**Kuril'sk**	**12.57**	**18**	*e*P	**P**	**12 53 55.7**	**-9.2**
KUR				*e*S	**S**	**12 56 08.6**	**-16**
KUR				pmax	pmax		
	comp=N,190nm,0.6s						
KUR				pmax	pmax		
	comp=E,340nm,0.6s						
KUR				pmax	pmax		
	comp=Z,550nm,0.6s						
KUR				smax			
	comp=N,190nm,0.5s						
KUR				smax			
	comp=E,190nm,0.5s						
KUR				MLR	MLR		
	comp=E,5μm,12.0s						
KUR				MLR	MLR		
	comp=Z,5μm,12.0s						
YSS	**Yuzh-Sakhalins**	**13.56**	**1**	⇑*i*P	**P**	**12 54 13.0**	**-4.9**
YSS				*e*S	**S**	**12 56 38.0**	**-10**
YSS				pmax	pmax		
	comp=N,90nm,0.8s						
YSS				pmax	pmax		
	comp=Z,80nm,0.8s						
YSS				pmax	pmax		
	comp=N,250nm,0.9s						
YSS				pmax	pmax		
	comp=Z,240nm,0.9s						
YSS				smax			
	comp=N,100nm,1.2s						
YSS				smax			
	comp=E,60nm,1.2s						
YSS				MLR	MLR		
	comp=N,4μm,15.0s						
YSS				MLR	MLR		
	comp=Z,3μm,15.0s						
YSS				MLR	MLR		
	comp=E,2μm,17.0s						
YSS	**Yuzh-Sakhalins**	**13.56**	**1**	*e*Pn	**P**	**12 54 12.8**	**-5.1**
	comp=E,206nm,0.8s						
JOW	**Kunigami**	**13.84**	**246**	Pn	**P**	**12 54 18.6**	**-3.1**
MDJ	**Mudanjiang**	**14.97**	**322**	P	**P**	**12 54 36.0**	**-0.4**
MDJ				S	**S**	**12 57 21.5**	**-0.3**
MDJ				PCP	PcP	12 59 42.5	-2.4
MDJ				SCP		13 03 14.3	
MDJ				PCS		13 03 19.0	
MDJ				SCS	ScS	13 06 52.5	+1.0
MDJ				AMB	AMB		
	comp=Z,27nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,262nm,8.7s						
MDJ				LR	LR		
	comp=N,2μm,15.0s						
MDJ				LR	LR		
	comp=E,2μm,12.4s						
MDJ				LR	LR		
	comp=Z,4μm,14.2s						
MDJ	**Mudanjiang**	**14.97**	**322**	*e*P	**P**	**12 54 34.9**	**-1.5**
	comp=Z,28nm,0.9s						
UGL	**Uglegorsk**	**15.69**	**359**	*e*P	**P**	**12 54 47.0**	**+1.4**
UGL				pmax	pmax		
	comp=Z,101nm,1.0s						
UGL				pmax	pmax		
	comp=Z,600nm,4.0s						
CN2	**Changchun**	**16.81**	**313**	*e*P	**P**	**12 54 57.5**	**-2.4**
CN2				*e*XP		12 55 12.5	
CN2				*e*S	**S**	**12 58 01.5**	**-2.9**
CN2				AMB	AMB		
	comp=Z,50nm,1.1s						
CN2				AMB	AMB		
	comp=Z,830nm,10.0s						
CN2				LR	LR		
	comp=N,4μm,12.0s						
CN2				LR	LR		
	comp=E,2μm,12.0s						
CN2				LR	LR		
	comp=Z,2μm,16.0s						
SNY	**Shenyang**	**17.10**	**305**	⇓P	**P**	**12 55 02.8**	**-0.7**
SNY				AMB	AMB		
	comp=Z,50nm,0.6s						
SNY				LR	LR		
	comp=N,1μm,12.3s						
SNY				LR	LR		
	comp=E,2μm,15.3s						
SNY				LR	LR		
	comp=Z,2μm,16.2s						
DL2	**Dalian**	**17.64**	**294**	⇑P	**P**	**12 55 08.5**	**-1.8**
DL2				*e*S	**S**	**12 58 22.5**	**-0.8**
DL2				AMB	AMB		
	comp=Z,30nm,0.8s						
DL2				AMB	AMB		
	comp=Z,430nm,6.0s						
DL2				LR	LR		
	comp=N,1μm,12.2s						
DL2				LR	LR		
	comp=E,2μm,14.3s						
DL2				LR	LR		
	comp=Z,3μm,14.9s						
KLR	**Kul'dur**	**17.71**	**337**	*e*P	**P**	**12 55 06.0**	**-5.1**
KLR				MLR	MLR		
	comp=N,3μm,14.0s						
KLR				MLR	MLR		
	comp=E,3μm,14.0s						
KLR				MLR	MLR		
	comp=Z,4μm,14.0s						
SSE	**Sheshan**	**18.07**	**269**	P	**P**	**12 55 14.5**	**-1.3**
SSE				AP		12 55 23.0	
SSE				XP		12 55 27.0	
SSE				S	**S**	**12 58 35.5**	**+2.2**
SSE				AMB	AMB		
	comp=Z,45nm,1.0s						
SSE				AMB	AMB		
	comp=Z,125nm,4.1s						
SSE				LR	LR		
	comp=N,649nm,15.2s						
SSE				LR	LR		
	comp=E,3μm,15.2s						
SSE				LR	LR		
	comp=Z,4μm,14.9s						
SSE	**Sheshan**	**18.07**	**269**	P	**P**	**12 55 14.6**	**-1.2**
	comp=Z,45nm,1.0s						
SSE				pP		12 55 22.9	
SSE				sP		12 55 27.0	
SSE				S	**S**	**12 58 35.6**	**+2.3**
SSE				sS		12 58 54.0	
IRIF	**Iriomote-Funau**	**18.64**	**246**	P	**P**	**12 55 19.4**	**-3.5**
GUMO	**Guam**	**19.83**	**173**	*e*P	**P**	**12 55 32.9**	**-3.5**
GUMO				pmax	pmax		
	comp=Z,618nm,1.0s						
GUMO	**Guam**	**19.83**	**173**	*e*P	**P**	**12 55 32.9**	**-3.5**
	comp=Z,618nm,1.0s						
NJ2	**Nanjing**	**19.84**	**273**	*e*P	**P**	**12 55 33.0**	**-3.4**
NJ2				AP		12 55 38.5	
NJ2				XP		12 55 45.0	
NJ2				PP	PP	12 55 53.5	-1.9
NJ2				S	**S**	**12 59 08.0**	**-4.7**
NJ2				XS		12 59 24.0	
NJ2				AMB	AMB		
	comp=Z,140nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,740nm,7.8s						
NJ2				LR	LR		
	comp=N,3μm,14.0s						
NJ2				LR	LR		
	comp=E,6μm,16.2s						
NJ2				LR	LR		
	comp=Z,3μm,15.5s						
SKR	**Severo-Kuril's**	**20.02**	**26**	*e*P	**P**	**12 55 35.6**	**-2.6**
SKR				pmax	pmax		
	comp=Z,250nm,1.0s						
SKR				MLR	MLR		
	comp=Z,8μm,16.0s,MS5.2						
SKR				MLR	MLR		
	comp=N,8μm,14.0s,MS5.3						
SKR				MLR	MLR		
	comp=E,8μm,16.0s,MS5.3						
YHNB	**Yeheng**	**20.29**	**250**	*e*P	**P**	**12 55 34.5**	**-6.7**
TIA	**Tai'an**	**20.92**	**285**	*e*P	**P**	**12 55 44.5**	**-3.2**
TIA				LR	LR		
	comp=N,2μm,13.0s,MS5.2						
TIA				LR	LR		
	comp=E,6μm,13.0s,MS5.2						
QZH	**Quanzhou**	**22.38**	**254**	⇑*i*P	**P**	**12 55 57.5**	**-4.8**
QZH				S	**S**	**13 00 00.5**	**-0.6**
QZH				LR	LR		
	comp=N,3μm,13.1s,MS5.0						
QZH				LR	LR		
	comp=E,2μm,10.7s,MS5.0						
QZH				LR	LR		
	comp=Z,4μm,16.8s						
PET	**Petropavlovsk**	**22.84**	**26**	*e*P	**P**	**12 56 01.9**	**-4.7**
PET				*e*S	**S**	**13 00 08.9**	**-0.3**
PET				*e*SS	SS	13 00 59.1	+5.5
PET				pmax	pmax		
	comp=Z,200nm,11.0s						
PET				smax			
	comp=N,700nm,15.1s						
PET				smax			
	comp=E,1μm,21.6s						
PET				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.4						
HIA	**Hailar**	**23.13**	**320**	*e*P	**P**	**12 56 07.9**	**-1.6**
HIA				pmax	pmax		
	comp=Z,210nm,1.5s						
HIA	**Hailar**	**23.13**	**320**	*e*P	**P**	**12 56 07.9**	**-1.6**
	comp=Z,210nm,1.5s,mb5.3						
WHN	**Wuhan**	**23.92**	**271**	⇓P	**P**	**12 56 15.5**	**-1.9**
WHN				S	**S**	**13 00 30.0**	**+1.5**
WHN				LR	LR		
	comp=N,4μm,14.6s,MS5.2						
WHN				LR	LR		
	comp=E,4μm,11.4s,MS5.2						
WHN				LR	LR		
	comp=Z,5μm,15.0s,MS5.1						
CLNS	**Chul'man**	**26.35**	**338**	*e*P	**P**	**12 56 41.5**	**+1.3**
CLNS				*e**PP	pP	12 56 48.6	-1.3
CLNS				*e*PPP	PPP	12 57 24.2	-11
CLNS				*e*		13 00 09.8	
CLNS				*e*S	**S**	**13 01 06.9**	**-1.9**
CLNS				pmax	pmax		
	comp=Z,92nm,1.0s,mb5.3						
CLNS				pmax	pmax		
	comp=N,47nm,0.8s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.5s						
CLNS				pmax	pmax		
	comp=Z,73nm,1.0s,mb5.2						
CLNS				pmax	pmax		
	comp=N,54nm,0.8s						
CLNS				pmax	pmax		
	comp=E,27nm,0.9s						
CLNS				smax			
	comp=E,86nm,11.5s						
CLNS				smax			
	comp=Z,50nm,11.1s						
CLNS				smax			
	comp=N,54nm,9.0s						
CLNS				MLR	MLR		
	comp=Z,2μm,15.0s,MS4.8						
CLNS				MLR	MLR		
	comp=N,2μm,16.0s,MS4.8						
CLNS				MLR	MLR		
	comp=E,200nm,13.0s,MS4.8						
BTO	**Baotou**	**26.73**	**295**	*e*P	**P**	**12 56 42.3**	**-1.5**
BTO				S	**S**	**13 01 22.3**	**+7.1**
BTO				AMB	AMB		
	comp=Z,116nm,0.9s,mb5.4						
BTO				LR	LR		
	comp=N,2μm,14.3s,MS5.0						
BTO				LR	LR		
	comp=E,2μm,16.2s,MS5.0						
MA2	**Magadan**	**26.79**	**9**	*e*P	**P**	**12 56 40.2**	**-4.0**
MA2				*e*S	**S**	**13 01 10.6**	**-5.3**
MA2				*e*SSS	SSS	13 02 35.5	-12
MA2				pmax	pmax		
	comp=Z,30nm,1.4s,mb4.6						
MA2				MLR	MLR		
	comp=Z,2μm,22.0s,MS4.5						
MA2	**Magadan**	**26.79**	**9**	*e*P	**P**	**12 56 44.1**	**-0.1**
	comp=Z,27nm,1.0s,mb4.7						
XAN	**Xi'an**	**27.78**	**281**	P	**P**	**12 56 50.5**	**-3.0**
XAN				S	**S**	**13 01 34.8**	**+2.6**
XAN				AMB	AMB		
	comp=Z,55nm,1.3s,mb5.0						
XAN				AMB	AMB		
	comp=Z,62nm,7.6s						
XAN				LR	LR		
	comp=N,1μm,15.2s,MS5.0						
XAN				LR	LR		
	comp=E,3μm,15.5s,MS5.0						
XAN				LR	LR		
	comp=Z,4μm,15.2s,MS5.1						
CIT	**Chita**	**27.93**	**320**	*e*P	**P**	**12 56 56.2**	**+1.5**
CIT				pmax	pmax		
	comp=Z,781nm,2.1s,mb6.0						
ENH	**Enshi**	**28.06**	**273**	*e*P	**P**	**12 56 52.7**	**-3.4**
	comp=Z,293nm,1.5s,mb5.7						
ENH				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
YAK	**Yakutsk**	**29.80**	**348**	*e*P	**P**	**12 57 10.4**	**-0.8**
YAK				*e**PP	pP	12 57 20.4	-0.7

YAK e 12 57 29.1
YAK ePPP PPP 12 58 13.8 -8.8
YAK e 13 00 13.7
YAK eS **S** **13 02 06.9 +2.7**
YAK e 13 03 56.4
YAK e 13 07 49.4
YAK pmax pmax
comp=Z,27nm,0.9s,mb5.0
YAK pmax pmax
comp=N,14nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.6s
YAK pmax pmax
comp=Z,24nm,1.2s,mb4.8
YAK pmax pmax
comp=N,14nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK smax
comp=N,3.0nm,0.9s
YAK smax
comp=Z,3.0nm,0.9s
YAK smax
comp=E,3.0nm,1.0s
YAK MLR MLR
comp=N,483nm,15.0s,MS4.6
YAK MLR MLR
comp=Z,644nm,15.0s,MS4.4
YAK MLR MLR
comp=E,769nm,13.0s,MS4.6
YAK Yakutsk 29.80 348 eP **P** **12 57 09.6 -1.6**
comp=E,94nm,0.8s,mb5.6
YAK epP pP 12 57 20.8 -0.4
SEY Seymchan 30.24 9 *i* P **P** **12 57 14.2 -0.9**
SONM Songino Array 30.59 309 P **P** **12 57 18.2 -0.2**
comp=E,19nm,0.8s,mb5.0,baz=117,slow=8.3,SNR=44
SONM PcP PcP 13 00 15.1 -1.4
comp=E,2.0nm,0.6s,baz=110,slow=2.1,SNR=4.8
SONM LR LR 13 10 54.9
comp=E,1μm,18.3s,MS4.6,baz=83,slow=39
BOD Bodaibo 31.07 330 eP **P** **12 57 20.9 -1.6**
BOD pmax pmax
comp=Z,53nm,1.0s,mb5.3
GYA Guiyang 31.61 267⇑ *i*P **P** **12 57 25.0 -2.6**
GYA S **S** **13 02 31.3 -1.7**
GYA AMB AMB
comp=Z,40nm,1.1s,mb5.2
GYA AMB AMB
comp=Z,450nm,5.1s
GYA LR LR
comp=N,1μm,14.9s,MS4.8
GYA LR LR
comp=E,690nm,15.2s,MS4.8
GYA LR LR
comp=Z,1μm,16.4s,MS4.6
LZH Lanzhou 31.65 286 eP **P** **12 57 25.5 -2.4**
LZH AP pP 12 57 34.0 -3.9
LZH XP sP 12 57 38.0 -4.4
LZH PP PP 12 58 31.0 -2.1
LZH S **S** **13 02 31.0 -2.6**
LZH XS 13 02 49.3
LZH AMB AMB
comp=Z,83nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,310nm,4.3s
LZH LR LR
comp=E,6μm,14.8s
LZH LR LR
comp=Z,7μm,15.6s,MS5.5
LZH Lanzhou 31.65 286 eP **P** **12 57 25.5 -2.4**
LZH *PP pP 12 57 34.0 -3.9
LZH *SP sP 12 57 38.0 -4.4
LZH 12 58 31.0
LZH S **S** **13 02 31.0 -2.6**
LZH *SS 13 02 49.2
LZH pmax pmax
comp=Z,83nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,7μm,15.6s,MS5.5
LZH Lanzhou 31.65 286 eP **P** **12 57 25.5 -2.4**
comp=Z,83nm,1.5s,mb5.3
LZH pP pP 12 57 34.0 -3.9
LZH sP sP 12 57 38.0 -4.4
LZH PP PP 12 58 31.0 -2.1
LZH S **S** **13 02 31.0 -2.6**
LZH sS 13 02 49.2
LZH SS SS 13 04 18.5 -5.7
LZH LR LR
comp=Z,7μm,15.6s,MS5.5
QIZ Qiongzhong 32.35 252 eP **P** **12 57 33.5 -0.7**
QIZ eS **S** **13 02 46.3 +1.6**
IRK Irkutsk 33.21 316 eP **P** **12 57 42.0 +0.7**
IRK pmax pmax
comp=Z,101nm,2.5s,mb5.3
ZAK Zakamensk 33.24 313 eP **P** **12 57 40.3 -1.3**
ZAK pmax pmax
comp=Z,12nm,1.4s,mb4.6
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
TLY Talaya 33.40 315⇓ *i*P **P** **12 57 41.9 -1.0**
TLY *e* 12 59 03.9
TLY eS **S** **13 03 03.1 +2.5**
TLY eSS SS 13 04 54.4 -10
TLY pmax pmax
comp=Z,54nm,1.8s,mb5.2
TLY MLR MLR
comp=Z,1μm,16.0s,MS4.7
TLY Talaya 33.40 315 eP **P** **12 57 42.5 -0.5**
comp=Z,26nm,1.0s,mb5.1
GTA Gaotai 34.55 292 P **P** **12 57 51.3 -1.6**
GTA AP pP 12 58 03.8 +0.8
GTA PP PP 12 59 10.5 +0.8
GTA PCP PcP 13 00 28.3 +0.8
GTA S **S** **13 03 18.5 -0.1**
GTA SCP 13 04 11.3
GTA PCS 13 04 14.8
GTA SS SS 13 05 33.8 +2.7
GTA SCS ScS 13 08 08.3 -1.9
GTA AMB AMB
comp=Z,13nm,0.9s,mb4.9
GTA AMB AMB
comp=Z,447nm,7.6s
GTA LR LR
comp=N,1μm,15.7s,MS5.0
GTA LR LR
comp=E,2μm,15.3s,MS5.0
GTA LR LR
comp=Z,2μm,16.1s,MS4.9
MOY Mondy 34.98 314 eP **P** **12 57 57.7 +1.2**
MOY pmax pmax
comp=Z,86nm,2.0s,mb5.3
KMI Kunming 35.38 267 P **P** **12 57 58.3 -2.0**
KMI AP pP 12 58 08.5 -1.8
KMI XP sP 12 58 12.8 -2.0
KMI PP PP 12 59 20.5 +0.1
KMI PCP PcP 13 00 25.3 -4.8
KMI S **S** **13 03 33.0 +1.3**
KMI SCP 13 04 07.3
KMI PCS 13 04 11.5
KMI SCS ScS 13 08 11.3 -3.6
KMI AMB AMB
comp=Z,16nm,0.9s,mb5.0
KMI AMB AMB
comp=Z,218nm,4.8s
KMI LR LR
comp=N,683nm,12.8s,MS5.2
KMI LR LR
comp=E,3μm,15.5s,MS5.2
KMI LR LR
comp=Z,3μm,14.8s,MS5.1
KMI Kunming 35.38 267 P **P** **12 57 58.2 -2.1**
KMI *PP pP 12 58 08.5 -1.8
KMI *SP sP 12 58 12.7 -2.1
KMI 12 59 20.5
KMI PPP PPP 12 59 40.1 +1.0
KMI 13 00 25.2
KMI S **S** **13 03 33.0 +1.3**
KMI *SS 13 03 50.5
KMI SS SS 13 05 55.2 +4.7
KMI SSS SSS 13 06 24.2 +6.2
KMI 13 08 11.2
KMI pmax pmax
comp=Z,16nm,0.9s,mb5.0
KMI MLR MLR
comp=Z,3μm,14.8s,MS5.1
KMI Kunming 35.38 267 P **P** **12 57 58.2 -2.1**
comp=Z,16nm,0.9s,mb5.0
KMI pP pP 12 58 08.5 -1.8
KMI sP sP 12 58 12.7 -2.1
KMI PP PP 12 59 20.5 +0.1
KMI PPP PPP 12 59 40.1 +1.0
KMI PcP PcP 13 00 25.2 -4.9
KMI S **S** **13 03 33.0 +1.3**
KMI sS 13 03 50.5
KMI ScP 13 04 07.3
KMI PcS 13 04 11.4
KMI SS SS 13 05 55.2 +4.7
KMI SSS SSS 13 06 24.2 +6.2
KMI ScS ScS 13 08 11.2 -3.7
KMI LR LR
comp=Z,3μm,14.8s,MS5.1
KKM Kota Kinabalu 36.47 228 eP **P** **12 58 07.3 -2.3**
BILL Bilibino 37.33 15 *i* P **P** **12 58 14.7 -1.5**
BILL *i* pP 12 58 24.4 -1.9
BILL eS **S** **13 04 05.1 +4.0**
BILL pmax pmax
comp=Z,12nm,0.8s,mb4.8
BILL MLR MLR
comp=Z,1μm,20.0s,MS4.6
BILL Bilibino 37.33 15 eP **P** **12 58 14.6 -1.6**
comp=Z,34nm,1.1s,mb5.1
BILL epP pP 12 58 25.1 -1.2
TIXI Tiksi 39.00 353 eP **P** **12 58 25.2 -4.9**
TIXI eS **S** **13 04 22.6 -3.9**
TIXI pmax pmax
comp=Z,38nm,0.9s,mb5.1
TIXI Tiksi 39.00 353 *i* P **P** **12 58 29.8 -0.3**
NIKO Nikolski 39.67 45 eP **P** **12 58 33.1 -2.7**
NIKO epP pP 12 58 44.2 -1.8
UNV Unalaska Valle 41.20 44 eP **P** **12 58 48.1 -0.5**
comp=Z,53nm,0.9s,mb5.2
WMQ Urumqi 43.29 301 P **P** **12 59 07.0 +1.3**
WMQ AP pP 12 59 17.0 +1.1
WMQ XP sP 12 59 21.0 +0.8
WMQ PP PP 13 00 50.3 +1.9
WMQ S **S** **13 05 32.5 +2.3**
WMQ XS 13 05 48.8
WMQ AMB AMB
comp=Z,81nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,988nm,4.0s
WMQ LR LR
comp=N,1μm,12.4s,MS5.1
WMQ LR LR
comp=E,871nm,14.6s,MS5.1
WMQ LR LR
comp=Z,1μm,15.6s,MS4.8
LSA Lhasa 43.47 280 P **P** **12 59 04.8 -2.5**
LSA AP pP 12 59 15.0 -2.6
LSA S **S** **13 05 31.0 -2.0**
LSA AMB AMB
comp=Z,60nm,1.0s,mb5.3
LSA AMB AMB
comp=Z,360nm,7.0s
LSA LR LR
comp=N,470nm,14.0s,MS4.8
LSA LR LR
comp=E,770nm,15.0s,MS4.8
LSA LR LR
comp=Z,1μm,15.0s,MS4.9
LSA Lhasa 43.47 280 eP **P** **12 59 07.5 +0.2**
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
LSA Lhasa 43.47 280 eP **P** **12 59 07.5 +0.2**
comp=Z,6.1nm,0.6s,mb4.5
KSM Kuching 43.72 230 eP **P** **12 59 08.1 -1.5**
KSM epP pP 12 59 18.9 -0.9
ZAL Zalesovo 45.02 315 P **P** **12 59 19.7 +0.2**
comp=Z,4.8nm,0.3s,mb4.8,baz=309,slow=3.2,SNR=4.6
ZAL PcP PcP 13 01 01.0 +0.4
comp=Z,8.9nm,0.9s,baz=335,slow=3.1,SNR=5.1
HNR Honiara 45.74 155 LR LR 13 18 13.5
comp=Z,667nm,18.3s,MS4.6,baz=222,slow=36
NVS Novosibirsk 45.98 316 *i* P **P** **12 59 26.1 -1.0**
NVS eS **S** **13 06 24.8 +16**
NVS pmax pmax
comp=Z,111nm,1.8s,mb5.5
NVS pmax pmax
comp=E,81nm,1.5s
NVS smax
comp=E,149nm,2.9s
MKAR Makanchi Array 46.80 305 P **P** **12 59 32.9 -0.8**
comp=E,25nm,0.9s,mb5.1,baz=86,slow=8.5,SNR=25
MKAR LR LR 13 19 44.1
comp=E,491nm,19.0s,MS4.5,baz=84,slow=37
KAKA Kakadu 46.80 193 eP **P** **12 59 33.8 -0.3**
comp=E,18nm,0.7s,mb5.1
KAKA *e* pP 12 59 45.5 +1.2
KULM Kulim 47.78 244 eP **P** **12 59 40.4 -1.5**
SVW2 Sparrevohn 47.99 35 eP **P** **12 59 42.2 -0.6**
TTA Tatalina 48.01 33 eP **P** **12 59 42.0 -1.0**
KURK Kurchatov 48.86 311 eP **P** **12 59 48.3 -1.4**
KURK pmax pmax
comp=Z,107nm,0.9s,mb5.9
KURK Kurchatov 48.86 311 eP **P** **12 59 48.3 -1.4**
comp=Z,107nm,0.9s,mb5.9
RSO Redoubt South 49.32 36 eP **P** **12 59 52.1 -1.0**
IMA Indian Mountai 49.46 29 eP **P** **12 59 54.3 +0.2**
IMA pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
IMA Indian Mountai 49.46 29 eP **P** **12 59 54.3 +0.2**
comp=Z,6.0nm,1.1s,mb4.5
SPU Mount Spurr 49.70 35 eP **P** **12 59 55.7 -0.4**
SPU epP pP 13 00 05.8 -0.5
SLKM Skilak Lake 50.58 36 eP **P** **13 00 01.3 -1.4**
SLKM e*PP pP 13 00 11.6 -1.4
PMR Palmer 51.12 35 eP **P** **13 00 05.5 -1.3**
PMR pmax pmax
comp=Z,50nm,1.0s,mb5.4
PMR Palmer 51.12 35 eP **P** **13 00 05.5 -1.3**
comp=Z,50nm,1.0s,mb5.4
MCK McKinley 51.26 32 eP **P** **13 00 06.6 -1.2**
MCK e*PP pP 13 00 16.9 -1.2
MCK pmax pmax
comp=Z,43nm,1.4s,mb5.2
MCK MLR MLR
comp=Z,276nm,19.0s,MS4.3
MCK McKinley 51.26 32 eP **P** **13 00 06.6 -1.2**
comp=Z,43nm,1.4s,mb5.2
MCK epP pP 13 00 16.9 -1.3
MCK LR LR
comp=Z,276nm,19.0s,MS4.3
SML Sawmill 51.50 35 eP **P** **13 00 08.1 -1.6**
SML e*PP pP 13 00 19.5 -0.5
ILAR Eielson Array 52.19 31 P **P** **13 00 12.7 -2.1**
comp=Z,19nm,0.9s,mb5.0,baz=264,slow=5.9,SNR=80
KSH Kashi 52.69 297 eP **P** **13 00 21.0 +2.1**
KSH eAP pP 13 00 31.3 +2.0
KSH AMB AMB
comp=Z,590nm,2.9s,mb6.0
DIV Divide 52.75 35 eP **P** **13 00 18.4 -0.7**
comp=Z,383nm,1.0s,mb6.3
EYAK Cordova Ski Ar 52.79 36 eP **P** **13 00 18.2 -1.1**
EYAK epP pP 13 00 29.4 -0.3
FRU Bishkek 52.85 301 *i* P **P** **13 00 21.0 +0.9**
FRU pmax pmax
comp=Z,120nm,2.0s,mb5.5
AAK Ala-Archa 52.99 301 *i* P **P** **13 00 19.6 -1.5**
AAK pmax pmax
comp=Z,36nm,1.8s,mb5.0
AAK Ala-Archa 52.99 301 eP **P** **13 00 18.5 -2.6**
AAK LR LR
comp=Z,144nm,19.0s,MS4.0
CTA Charters Tower 53.30 175 eP **P** **13 00 20.3 -3.4**
comp=Z,7.0nm,0.9s,mb4.6
CTA Charters Tower 53.30 175 eP **P** **13 00 20.3 -3.4**
CTA pmax pmax
comp=Z,7.0nm,0.9s
CTAO Charters Tower 53.30 175 eP **P** **13 00 20.2 -3.5**
CTAO pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
CTAO Charters Tower 53.30 175 eP **P** **13 00 20.2 -3.4**
comp=Z,4.9nm,0.6s,mb4.6
WRAB Tennant Creek 53.56 189 eP **P** **13 00 21.7 -4.0**
WRAB e*PP pP 13 00 33.2 -2.8
WRAB *e* 13 01 31.2
WRAB pmax pmax
comp=Z,48nm,0.8s,mb5.5
WRAB Tennant Creek 53.56 189 eP **P** **13 00 21.7 -3.9**
comp=Z,48nm,0.8s,mb5.5
WRAB epP pP 13 00 33.2 -2.9
WRAB ePcP PcP 13 01 31.1 -0.8
WB2 Warramunga Arr 53.57 189⇓ *i*P **P** **13 00 21.5 -4.2**
WB2 *i* pP 13 00 33.1 -3.0
WRA Warramunga Arr 53.58 189 P **P** **13 00 21.6 -4.1**
comp=Z,17nm,0.8s,mb5.0,baz=6.3,slow=7.6,SNR=187
WRA PcP PcP 13 01 30.2 -1.8
comp=Z,7.7nm,0.6s,baz=1.4,slow=4.0,SNR=8.4
MENT Mentasta 53.62 33 eP **P** **13 00 24.9 -0.6**
FITZ Fitzroy Crossi 53.63 200⇓ *i*P **P** **13 00 23.1 -3.1**
comp=Z,28nm,0.9s,mb5.2
FITZ *i* pP 13 00 34.1 -2.5
FITZ Fitzroy Crossi 53.63 200 P **P** **13 00 22.6 -3.6**
comp=Z,34nm,0.8s,mb5.3,baz=11,slow=5.9,SNR=33
BVAR Borovoye Array 53.66 315 P **P** **13 00 24.4 -1.5**
comp=Z,9.2nm,0.9s,mb4.7,baz=90,slow=4.4,SNR=21
BVAR PcP PcP 13 01 32.5 +0.7
comp=Z,6.7nm,0.8s,baz=72,slow=4.7,SNR=3.9
BRVK Borovoye 53.71 315 eP **P** **13 00 25.4 -0.9**
BRVK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BRVK Borovoye 53.71 315 eP **P** **13 00 25.4 -0.9**
comp=Z,10nm,0.9s,mb4.8
DDI Dehra Dun 53.95 285 *e* **P** **13 00 29.8 +1.4**
THN Thein Dam 55.07 289 eP **P** **13 00 33.3 -3.2**
INK Inuvik 57.29 26 eP **P** **13 00 50.6 -1.4**
INK e*PP pP 13 01 01.4 -1.1
INK pmax pmax
comp=Z,83nm,1.2s
INK Inuvik 57.29 26 P **P** **13 00 50.5 -1.5**
comp=Z,18nm,0.9s,mb5.1,baz=299,slow=6.3,SNR=15
INK Inuvik 57.29 26 eP **P** **13 00 50.6 -1.4**
comp=Z,83nm,1.2s,mb5.6
INK epP pP 13 01 01.4 -1.1
MBWA Marble Bar 58.38 205 eP **P** **13 00 57.1 -3.1**
comp=Z,16nm,0.8s,mb5.1
HYB Hyderabad 58.99 271⇓ eP **P** **13 01 03.5 -1.0**
HYB Hyderabad 58.99 271⇓ *i*P **P** **13 01 03.5 -1.0**
ARU Arti 59.64 320⇑ *i*P **P** **13 01 06.6 -1.9**
ARU *e* 13 01 52.6
ARU *e* 13 03 17.8
ARU eS **S** **13 09 16.9 +2.2**
ARU *e* 13 10 53.2
ARU eSS SS 13 13 14.6 +2.8
ARU pmax pmax
comp=Z,40nm,1.0s,mb5.4
ARU MLR MLR
comp=Z,800nm,17.0s,MS4.9
ARU MLR MLR
comp=N,200nm,14.0s,MS5.0
ARU MLR MLR
comp=E,800nm,17.0s,MS5.0
ARU Arti 59.64 320 eP **P** **13 01 06.4 -2.1**
comp=E,46nm,1.1s,mb5.4
DZM Mont Dzumac 59.73 154 P **P** **13 01 05.1 -4.4**
comp=E,16nm,1.0s,mb5.0,baz=331,slow=12,SNR=2.7
DLBC Dease Lake 61.04 37 P **P** **13 01 17.3 -0.7**
comp=E,7.0nm,0.9s,mb4.8,baz=296,slow=9.2,SNR=5.3
DLBC Dease Lake 61.04 37 eP **P** **13 01 17.3 -0.7**
DLBC epP pP 13 01 28.3 -0.2
ARMA Armidale 64.05 171 eP **P** **13 01 29.1 -9.3**
ARMA *i* pP 13 01 40.7 -8.3
STKA Stephens Creek 64.91 181 eP **P** **13 01 40.9 -3.1**
comp=E,15nm,0.9s,mb5.0
STKA *e* pP 13 01 51.8 -2.8
STKA Stephens Creek 64.91 181 P **P** **13 01 39.5 -4.4**
comp=E,15nm,0.8s,mb5.1,baz=347,slow=7.4,SNR=18
RES Resolute Bay 65.94 14 eP **P** **13 01 50.5 +0.7**
RES e*PP pP 13 01 59.8 -0.7
RES pmax pmax
comp=Z,88nm,1.0s,mb5.7
RES Resolute Bay 65.94 14 eP **P** **13 01 50.5 +0.6**
comp=Z,88nm,1.0s,mb5.7
RES epP pP 13 01 59.8 -0.7
YKW3 Yellowknife Ar 66.54 29 eP **P** **13 01 52.3 -1.5**
YKW3 epP pP 13 02 03.0 -1.5
YKA Yellowknife Ar 66.58 30 P **P** **13 01 52.0 -2.0**
comp=Z,14nm,0.8s,mb5.0,baz=296,slow=6.2,SNR=30
YKA Yellowknife Ar 66.58 30 P **P** **13 01 52.0 -2.0**
ARCES ARCESS Array B 67.69 340 P **P** **13 01 59.3 -1.7**
comp=Z,12nm,0.8s,mb5.0,baz=41,slow=11,SNR=9.9
ARCES LR LR 13 36 32.4
comp=Z,540nm,19.2s,MS4.8,baz=64,slow=40
KLBR Kellerberrin 68.68 202 eP **P** **13 02 07.0 -0.7**
comp=Z,40nm,1.0s,mb5.3
KLBR *e* pP 13 02 15.9 -2.5
DAG Danmarks Havn 69.47 355⇑ *i*P **P** **13 02 13.1 +1.2**
DAG pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
DAG Danmarks Havn 69.47 355⇑ *i*P **P** **13 02 13.1 +1.2**
comp=Z,4.9nm,0.5s,mb4.7
MOS Moscow 70.67 325 eP **P** **13 02 18.3 -1.2**
MOS *e* 13 02 38.1
MOS pmax pmax
comp=Z,96nm,1.6s,mb5.5
MAK Makhachkala 71.36 309 eP **P** **13 02 13.0 -11**
MAK *e* 13 02 41.0
MAK *e* 13 12 12.0
MAK pmax pmax
comp=Z,500nm,5.0s
MAK MLR MLR
comp=N,1μm,14.0s,MS5.5
MAK MLR MLR
comp=Z,2μm,14.0s,MS5.5
MAK MLR MLR
comp=E,2μm,17.0s,MS5.5
OBN Obninsk 71.51 324 P **P** **13 02 24.0 -0.5**
OBN *i* pP 13 02 35.4 +0.2
OBN *i* 13 02 43.5
OBN eS S 13 11 44.0 +4.5
OBN *e* 13 12 26.6
OBN pmax pmax
comp=Z,73nm,1.6s,mb5.4
OBN MLR MLR
comp=Z,600nm,14.0s,MS5.0
OBN Obninsk 71.51 324 *i* P **P** **13 02 23.7 -0.8**
EDM Edmonton 71.73 38 eP **P** **13 02 24.4 -1.4**
EDM e*PP pP 13 02 35.3 -1.2
KAF Kangasniemi 71.92 334 *ep* **P** **13 02 26.6 -0.2**
comp=Z,22nm,0.9s,mb5.1,baz=50,slow=5.7
KAF Kangasniemi 71.92 334 eP **P** **13 02 26.6 -0.2**
KAF pmax pmax
comp=Z,22nm,0.9s,mb5.1
VOR Voronezh 71.93 320 P **P** **13 02 27.0 -0.1**
VOR pmax pmax
comp=Z,90nm,1.8s,mb5.4
YBH Yreka Blue Hor 71.97 52 eP **P** **13 02 26.8 -0.7**
YBH e*PP pP 13 02 38.2 0.0
YBH pmax pmax
comp=Z,34nm,1.1s
YBH Yreka Blue Hor 71.97 52 P **P** **13 02 26.8 -0.7**
comp=Z,10nm,0.9s,mb4.7,baz=290,slow=3.3,SNR=4.2
YBH Yreka Blue Hor 71.97 52 eP **P** **13 02 26.8 -0.6**
comp=Z,34nm,1.1s,mb5.2
YBH epP pP 13 02 38.2 0.0
NEW Newport 72.21 44 eP **P** **13 02 27.7 -1.1**
NEW e*PP pP 13 02 38.8 -0.7
NEW pmax pmax
comp=Z,43nm,1.1s
NEW MLR MLR
comp=Z,309nm,20.0s
NEW Newport 72.21 44 P **P** **13 02 27.7 -1.1**
comp=Z,14nm,0.8s,mb4.9,baz=292,slow=5.6,SNR=5.1
NEW Newport 72.21 44 eP **P** **13 02 27.7 -1.1**
comp=Z,44nm,1.1s,mb5.3
NEW epP pP 13 02 38.8 -0.7
NEW LR LR
comp=Z,309nm,20.0s,MS4.6
KCPM Cahto Peak 72.37 54 eP **P** **13 02 29.6 -0.3**
KCPM epP pP 13 02 40.4 -0.2
KIPM Iron Peak 72.38 54 eP **P** **13 02 29.6 -0.4**
KIPM epP pP 13 02 40.6 -0.1
FINES FINESS Array B 72.42 333 P **P** **13 02 28.6 -1.2**
comp=Z,19nm,0.8s,mb5.1,baz=76,slow=7.9,SNR=36
WDC Whiskeytown Da 72.64 53 eP **P** **13 02 30.5 -1.0**
WDC e*PP pP 13 02 41.8 -0.4
WDC pmax pmax
comp=Z,40nm,1.1s,mb5.3
WDC MLR MLR
comp=Z,457nm,21.0s,MS4.7
WDC Whiskeytown Da 72.64 53 eP **P** **13 02 30.5 -0.9**
comp=Z,40nm,1.1s,mb5.3
WDC epP pP 13 02 41.8 -0.4
WDC LR LR
comp=Z,457nm,21.0s,MS4.7

GOF Gofitskoye 73.14 313⇑ *i*P **P 13 02 34.9 +0.5**
GOF pmax pmax
comp=Z,40nm,1.7s,mb5.1
MOD Modoc 73.45 51 *e*P **P 13 02 35.2 -1.0**
comp=Z,34nm,1.0s,mb5.2
MOD *e*pP pP 13 02 46.7 -0.3
WALA Waterton Lakes 73.62 42 *e*P **P 13 02 36.3 -0.7**
comp=Z,40nm,1.1s,mb5.3
WALA *e*pP pP 13 02 47.5 -0.3
BMO Blue Mountains 73.84 47 *e*P **P 13 02 37.4 -1.0**
comp=Z,42nm,1.3s,mb5.2
BMO *e*pP pP 13 02 48.9 -0.3
BMO LR LR
comp=Z,343nm,19.0s,MS4.7
KIV Kislovodsk 73.92 312 P **P 13 02 38.0 -0.9**
KIV *i* pP 13 02 50.9 +1.3
KIV *i* 13 02 59.0
KIV *i* S S 13 12 12.6 +5.5
KIV pmax pmax
comp=Z,87nm,1.8s,mb5.4
KIV Kislovodsk 73.92 312 *e*P **P 13 02 37.9 -1.0**
comp=Z,31nm,0.9s,mb5.2
VSU Vasula 74.01 330 *i* P **P 13 02 39.2 +0.1**
SUMG Summit 74.33 0 *e*P **P 13 02 41.8 +1.0**
comp=Z,27nm,0.9s,mb5.2
SUMG *e*pP pP 13 02 52.6 +1.2
BEKR Beckwourth 74.44 52 *e*P **P 13 02 41.0 -1.1**
comp=Z,45nm,1.1s,mb5.3
BEKR *e*pP pP 13 02 52.2 -0.5
GNI Garni 74.55 308 *e*P **P 13 02 42.1 -0.6**
MSO Missoula 74.79 44 *e*P **P 13 02 43.3 -0.7**
comp=Z,19nm,1.2s,mb4.9
MSO *e*pP pP 13 02 54.1 -0.5
CHMT Chamberlain Mo 75.15 43 *e*P **P 13 02 45.3 -0.6**
CHMT *e*pP pP 13 02 55.9 -0.8
SAO San Andreas Ge 75.28 56 *e*P **P 13 02 46.8 -0.1**
SAO pmax pmax
comp=Z,24nm,1.3s,mb5.0
SAO San Andreas Ge 75.28 56 *e*P **P 13 02 46.8 -0.2**
comp=Z,24nm,1.3s,mb5.0
CMB Columbia Colle 75.36 54 *e*P **P 13 02 45.9 -1.5**
CMB *e**PP pP 13 02 57.6 -0.5
CMB pmax pmax
comp=Z,63nm,1.1s,mb5.5
CMB MLR MLR
comp=Z,867nm,21.0s,MS5.0
CMB Columbia Colle 75.36 54 *e*P **P 13 02 45.9 -1.5**
comp=Z,64nm,1.1s,mb5.5
CMB *e*pP pP 13 02 57.6 -0.5
CMB LR LR
comp=Z,867nm,21.0s,MS5.0
SOC Sochi 75.94 313*c i*P **P 13 02 49.9 -0.7**
SOC *e* pP 13 02 57.7 -3.6
SOC *e* 13 05 37.2
SOC *e*PPP PPP 13 07 27.8 -2.1
SOC *e*S S 13 12 31.3 +1.7
SOC *e* 13 13 02.2
SOC *e*SSS SSS 13 20 35.5 -4.9
SOC pmax pmax
comp=N,14nm,1.2s
SOC pmax pmax
comp=E,25nm,1.2s
SOC pmax pmax
comp=Z,30nm,1.2s,mb5.1
SOC MLR MLR
comp=Z,421nm,16.0s,MS4.8
SOC MLR MLR
comp=N,434nm,17.0s,MS4.9
SOC MLR MLR
comp=E,311nm,16.0s,MS4.9
HRY Holter Researc 76.07 43 *e*P **P 13 02 50.9 -0.4**
HRY *e*pP pP 13 03 01.6 -0.3
BMN Battle Mountai 76.20 51 *e*P **P 13 02 52.1 0.0**
BMN *e**PP pP 13 03 02.8 0.0
BMN pmax pmax
comp=Z,45nm,1.2s,mb5.3
BMN Battle Mountai 76.20 51 *e*P **P 13 02 52.1 0.0**
comp=Z,45nm,1.2s,mb5.3
BMN *e*pP pP 13 03 02.8 0.0
HLID Hailey 76.28 47 *e*P **P 13 02 51.6 -0.9**
comp=Z,20nm,1.2s,mb4.9
FFC Flin Flon 76.35 33 *e*P **P 13 02 51.8 -0.8**
FFC *e**PP pP 13 03 02.5 -0.8
FFC pmax pmax
comp=Z,47nm,1.0s,mb5.4
FFC Flin Flon 76.35 33 *e*P **P 13 02 51.8 -0.8**
comp=Z,47nm,1.0s,mb5.4
FFC *e*pP pP 13 03 02.5 -0.8
OMM Old Mammoth Mi 76.51 54 *e*P **P 13 02 54.5 +0.5**
OMM *e*pP pP 13 03 04.6 -0.1
MCMT McKenzie Canyo 76.53 45 *e*P **P 13 02 53.3 -0.5**
ANN Anapa 76.65 315 *e*P **P 13 03 03.6 +9.0**
ANN *e*S S 13 12 57.1 +20
ANN pmax pmax
comp=Z,49nm,0.9s,mb5.4
ANN MLR MLR
comp=N,1μm,20.0s,MS5.2
ANN MLR MLR
comp=E,376nm,20.0s,MS5.2
ANN MLR MLR
comp=Z,631nm,20.0s,MS4.9
PTRM Twissleman Ran 76.71 56 *e*P **P 13 02 54.6 -0.5**
PTRM *e*pP pP 13 03 05.3 -0.5
BOZ Bozeman (W) 76.78 44 *e*P **P 13 02 54.5 -0.8**
BOZ *e**PP pP 13 03 06.1 +0.1
BOZ pmax pmax
comp=Z,88nm,1.6s,mb5.4
BOZ Bozeman (W) 76.78 44 *e*P **P 13 02 54.5 -0.9**
comp=Z,88nm,1.6s,mb5.4
BOZ *e*pP pP 13 03 06.1 0.0
FCC Fort Churchill 76.91 26 *e*P **P 13 02 55.0 -0.7**
FCC pmax pmax
comp=Z,88nm,1.3s,mb5.5
FCC Fort Churchill 76.91 26 *e*P **P 13 02 55.0 -0.7**
comp=Z,88nm,1.3s,mb5.5
ELK Elko 77.31 50 *e*P **P 13 02 57.8 -0.6**
ELK *e**PP pP 13 03 09.3 +0.2
ELK pmax pmax
comp=Z,27nm,1.1s
ELK MLR MLR
comp=Z,516nm,20.0s
ELK Elko 77.31 50 *e*P **P 13 02 57.8 -0.6**
comp=Z,27nm,1.1s,mb5.1
ELK *e*pP pP 13 03 09.3 +0.2
ELK LR LR
comp=Z,516nm,20.0s,MS4.8
QLMT Earthquake Lak 77.36 44 *e*P **P 13 02 58.9 +0.3**
TPH Tonopah 77.46 53 *e*P **P 13 02 59.0 -0.3**
TPH pmax pmax
comp=Z,52nm,1.3s,mb5.3
TPH Tonopah 77.46 53 *e*P **P 13 02 59.0 -0.3**
comp=Z,52nm,1.3s,mb5.3
AKASG Malin Array Be 77.68 323 P **P 13 02 59.2 -0.9**
comp=Z,7.2nm,0.7s,mb4.7,baz=45,slow=5.9,SNR=32
NB2 NORSAR Subarra 77.86 338 P **P 13 03 00.1 -0.9**
comp=Z,39nm,0.8s,mb5.4,baz=39,slow=5.6
NB2 NORSAR Subarra 77.86 338 P **P 13 03 00.1 -0.9**
NB2 pmax pmax
comp=Z,39nm,0.8s,mb5.4
NB2 NORSAR Subarra 77.86 338 P **P 13 03 00.1 -0.9**
baz=39,slow=5.6
NOA NORSAR Array B 77.86 338 P **P 13 03 00.2 -0.8**
comp=Z,23nm,0.8s,mb5.2,baz=39,slow=5.6,SNR=63
NOA LR LR 13 42 12.9
comp=Z,456nm,18.3s,MS4.8,baz=65,slow=39
YNR Norris Junctio 77.87 44 *e*P **P 13 03 02.9 +1.6**
YNR *e*pP pP 13 03 13.8 +1.7
YFT Old Faithful 77.93 45 *e*P **P 13 03 02.6 +1.0**
NAO01 NORSAR Array S 78.11 338 *e*P **P 13 03 02.6 +0.2**
comp=Z,14nm,0.8s,mb4.9
NAO01 *e*pP pP 13 03 12.7 -0.4
LKWY Lake 78.12 44 *e*P **P 13 03 04.3 +1.6**
LKWY pmax pmax
comp=Z,51nm,1.1s,mb5.4
LKWY Lake 78.12 44 *e*P **P 13 03 04.3 +1.5**
comp=Z,51nm,1.1s,mb5.4
KBD Kabd 78.13 297 *e*P **P 13 03 04.8 +1.7**
KBD AMb AMB 13 03 05.7
comp=Z,197nm,0.9s,mb6.0
QRN Al-Qurain 78.18 297 *e*P **P 13 03 04.5 +1.1**
QRN AMb AMB 13 03 05.4
comp=Z,102nm,0.8s,mb5.8
IMW Indian Meadow 78.18 45 *e*P **P 13 03 03.4 +0.3**
comp=Z,63nm,1.3s,mb5.4
RRI2 Red Ridge 78.27 46 *e*P **P 13 03 03.6 0.0**
comp=Z,34nm,1.2s,mb5.2
RDF Al-Radifah 78.36 297 *e*P **P 13 03 06.2 +1.8**
RDF AMb AMB 13 03 07.1
comp=Z,120nm,0.8s,mb5.9
SUW Suwalki 78.40 328 *e*P **P 13 03 04.0 0.0**
SUW *e* 13 03 06.0
SUW Suwalki 78.40 328 *e*P **P 13 03 04.0 0.0**
SUW *e* 13 03 06.0
TPAW Teton Pass 78.41 45 *e*P **P 13 03 04.4 0.0**
comp=Z,29nm,1.1s,mb5.1
TPAW *e*pP pP 13 03 15.3 +0.2
SIM Simferopol' 78.50 317 P **P 13 03 06.6 +1.8**
SIM *e*S S 13 13 01.0 +3.7
SIM pmax pmax
comp=Z,15nm,0.7s,mb5.0
SIM MLR MLR
comp=Z,200nm,17.0s,MS4.5
REDW Red Top Meadow 78.54 45 *e*P **P 13 03 06.0 +0.9**
comp=Z,57nm,1.4s,mb5.3
SNOW Snow King Moun 78.54 45 *e*P **P 13 03 06.8 +1.7**
comp=Z,34nm,1.2s,mb5.2
LOHW Long Hollow 78.55 45 *e*P **P 13 03 05.1 0.0**
comp=Z,28nm,1.3s,mb5.0
HWUT Hardware Ranch 79.12 47 P **P 13 03 07.4 -0.9**
comp=Z,57nm,1.2s,mb5.4
HWUT LR LR
comp=Z,464nm,22.0s,MS4.8
DGMT Dagmar 79.20 38 *e*P **P 13 03 08.4 -0.2**
comp=Z,128nm,1.2s,mb5.7
DGMT *e*pP pP 13 03 18.8 -0.5
LAO LASA Array 79.22 41 *e*P **P 13 03 07.8 -0.9**
comp=Z,113nm,1.1s,mb5.7
LAO *e*pP pP 13 03 19.4 -0.1
NOQ North Oquirrh 79.32 48 *e*P **P 13 03 10.1 +0.6**
KONO Kongsberg 79.45 338 *e*P **P 13 03 09.9 +0.2**
KONO *e**PP pP 13 03 20.1 -0.4
KONO pmax pmax
comp=Z,19nm,0.9s,mb5.0
KONO Kongsberg 79.45 338 *e*P **P 13 03 09.9 +0.3**
comp=Z,19nm,0.9s,mb5.0
KONO *e*pP pP 13 03 20.1 -0.4
BW06 Boulder Array 79.66 45 *e*P **P 13 03 09.8 -1.4**
comp=Z,11nm,1.1s,mb4.7
BW06 *e*pP pP 13 03 21.2 -0.7
PDAR Pinedale Array 79.66 45 P **P 13 03 10.2 -1.0**
comp=Z,4.2nm,0.7s,mb4.5,baz=288,slow=2.0,SNR=35
MALT Malatya 79.67 309 *e*P **P 13 03 11.0 -0.3**
MALT pmax pmax
comp=Z,23nm,1.4s,mb4.9
MALT Malatya 79.67 309 *e*P **P 13 03 11.0 -0.3**
comp=Z,23nm,1.4s,mb4.9
KIS Kishinev 80.20 320*c i*P **P 13 03 13.0 -1.0**
KIS *e* 13 13 19.0
KIS *e* 13 13 32.0
KIS *e* 13 14 00.0
KIS pmax pmax
comp=Z,500nm,4.0s
NEN Nelson 80.38 54 *e*P **P 13 03 14.4 -0.8**
NEN *e*pP pP 13 03 25.4 -0.6
PFO Pinyon Flat Ob 80.41 56 *e*P **P 13 03 14.2 -1.2**
PFO pmax pmax
comp=Z,45nm,1.2s,mb5.3
PFO Pinyon Flat Ob 80.41 56 *e*P **P 13 03 14.2 -1.2**
comp=Z,44nm,1.2s,mb5.3
LDFC Landfair 80.52 54 *e*P **P 13 03 14.8 -1.2**
LDFC *e*pP pP 13 03 25.9 -0.9
TMUT Trail Mountain 80.68 49 P **P 13 03 17.5 +0.8**
BAR Barrett 80.78 57 *e*P **P 13 03 18.2 +0.8**
LVV L'vov 80.80 325*d i*P **P 13 03 19.1 +2.0**
LVV *e*S S 13 13 26.0 +4.7
RPZ Rata Peaks 81.07 159 P **P 13 03 15.7 -3.0**
comp=Z,5.0nm,0.6s,mb4.6,baz=343,slow=18,SNR=3.2
COP Copenhagen 81.54 334 *e*P **P 13 03 22.1 +1.2**
COP *i* pP 13 03 31.6 -0.1
COP pmax pmax
comp=Z,37nm,0.9s,mb5.3
COP MLR MLR
comp=Z,270nm,17.0s,MS4.7
COP Copenhagen 81.54 334 *e*P **P 13 03 22.1 +1.2**
comp=Z,37nm,0.9s,mb5.3
COP *i* pP 13 03 31.6 -0.1
COP LR LR
comp=Z,270nm,17.0s,MS4.7
COP Copenhagen 81.54 334 *i* P **P 13 03 22.1 +1.2**
comp=Z,37nm,0.9s,mb5.3
COP *i* pP 13 03 31.6 -0.1
comp=Z,270nm,17.0s
KWP Kalwaria 81.57 325 *e*P **P 13 03 21.3 +0.2**
KWP *e* 13 03 24.0
KWP Kalwaria 81.57 325 *e*P **P 13 03 21.3 +0.2**
KWP *e* 13 03 24.0
BURAR Bucovina Array 81.68 323⇑P **P 13 03 22.0 +0.3**
BURAR Bucovina Array 81.68 323⇑P **P 13 03 22.0 +0.3**
RWWY Rawlins 81.70 45 *e*P **P 13 03 21.8 -0.2**
comp=Z,67nm,1.2s,mb5.4
RWWY *e*pP pP 13 03 32.9 0.0
BRTR Keskin Array B 81.88 312 P **P 13 03 22.9 -0.1**
comp=Z,10.0nm,0.8s,mb4.8,baz=104,slow=5.1,SNR=36
RSSD Black Hills 82.02 42 *e*P **P 13 03 22.5 -1.1**
RSSD pmax pmax
comp=Z,54nm,1.4s,mb5.3
RSSD Black Hills 82.02 42 *e*P **P 13 03 22.5 -1.1**
comp=Z,54nm,1.4s,mb5.3
VRI Vrincioaia 82.03 321 P **P 13 03 25.1 +1.5**
VRI Vrincioaia 82.03 321⇑P **P 13 03 24.1 +0.5**
VRI Vrincioaia 82.03 321⇑P **P 13 03 24.1 +0.5**
MUD Monsted U'grnd 82.10 336 *i* P **P 13 03 25.7 +2.0**
MUD *i* pP 13 03 34.7 +0.1
MUD *i* S S 13 13 37.0 +2.5
MUD pmax pmax
comp=Z,13nm,0.5s,mb5.1
MUD Monsted U'grnd 82.10 336 *i* P **P 13 03 25.7 +2.0**
comp=Z,13nm,0.5s,mb5.1
MUD *i* pP 13 03 34.7 +0.1
MUD *i* S S 13 13 37.0 +2.5
MUD *i* 13 15 45.6
MUD Monsted U'grnd 82.10 336 *i* S S 13 13 37.0 +2.5
MUD *i* 13 15 45.6
comp=Z,480nm,17.0s
ULM Lac du Bonnet 82.11 33 P **P 13 03 22.5 -1.4**
comp=Z,1.7nm,0.4s,mb4.3,baz=318,slow=4.5,SNR=5.0
ULM LR LR 13 42 24.9
comp=Z,350nm,19.4s,MS4.7,baz=68,slow=38
KOLS Kolonicke sedl 82.25 325 *e*P **P 13 03 26.2 +1.5**
KOLS *e*pP pP 13 03 36.2 +0.7
PPT Papeete 82.29 117 LR LR 13 37 41.3
comp=Z,290nm,19.3s,MS4.7,baz=322,slow=34
ANTO Ankara 82.31 313 P **P 13 03 27.6 +2.4**
UZH Uzhgorod 82.45 325 *e*P **P 13 03 27.0 +1.3**
UZH *e*S S 13 13 39.0 +0.8
OJC Ojcow 82.52 327 *e*P **P 13 03 26.5 +0.5**
PV10 Paradox Valley 82.59 49 *e*P **P 13 03 26.7 +0.1**
CRVS Cervenica-Dubn 82.66 325 *e*P **P 13 03 30.1 +3.3**
CRVS *e* pP 13 03 42.6 +5.0
CRVS *e*S S 13 13 43.7 +3.4
CRVS Cervenica-Dubn 82.66 325 *e*P **P 13 03 30.1 +3.3**
CRVS *e* 13 03 35.0
CRVS *e* pP 13 03 42.6 +5.0
CRVS *e*S S 13 13 43.7 +3.4
CRVS Cervenica-Dubn 82.66 325 *e*P **P 13 03 30.1 +3.3**
CRVS *e* 13 03 35.0
CRVS *e*sP sP 13 03 42.6 +1.3
CRVS Cervenica-Dubn 82.66 325 *e*S S 13 13 43.7 +3.4
MLR Muntele Rosu 82.69 321 P **P 13 03 29.8 +2.8**
MLR Muntele Rosu 82.69 321⇑P **P 13 03 27.6 +0.6**
MLR Muntele Rosu 82.69 321⇑P **P 13 03 27.6 +0.6**
NIE Niedzica 82.84 326 *e*P **P 13 03 30.3 +2.6**
PHWY Pilot Hill 82.98 45 *e*P **P 13 03 28.4 -0.1**
PHWY *e*pP pP 13 03 39.4 0.0
PV01 Paradox Valley 83.03 49 *e*P **P 13 03 28.4 -0.5**
PV01 *e*pP pP 13 03 39.7 0.0
VOIR 83.20 321⇓P **P 13 03 30.7 +1.1**
SMCO Snowmass 83.38 47 *e*P **P 13 03 30.5 -0.2**
SMCO *e*pP pP 13 03 42.0 +0.5
KECS Kecovo 83.42 325 *e*P **P 13 03 31.5 +0.9**
KECS *e*pP pP 13 03 41.7 +0.2
KECS *e* 13 03 49.9
HILS Ha'il 83.47 298 P **P 13 03 33.7 +2.4**
DRGR 83.50 323⇑P **P 13 03 32.9 +1.8**
OKC Ostrava-Krasne 83.54 327 *e*P **P 13 03 31.7 +0.5**
OKC *e*pP pP 13 03 41.1 -0.9
OKC AMS AMS 13 48 10.0
comp=Z,600nm,14.3s
KSP Ksiaz 83.63 329 *e*P **P 13 03 32.4 +0.8**
KSP *e*pP pP 13 03 43.1 +0.6
KSP *e* 13 03 51.2
KSP *e*S S 13 13 51.0 +1.1
KSP Ksiaz 83.63 329 *e*P **P 13 03 32.7 +1.1**
KSP *e* 13 03 34.4
BSEG Bad Segeberg 83.68 334 *e*P **P 13 03 32.1 +0.4**
MORC Moravsky Berou 83.86 328 *e*P **P 13 03 33.4 +0.6**
MORC *e**PP pP 13 03 43.9 +0.3
MORC pmax pmax
comp=Z,21nm,1.0s,mb5.2
MORC Moravsky Berou 83.86 328 *e*P **P 13 03 33.4 +0.7**
comp=Z,21nm,1.0s,mb5.2
MORC *e*pP pP 13 03 43.9 +0.2
DPC Dobruska-Polom 83.98 329 *e*P **P 13 03 34.3 +0.9**
DPC *e*pP pP 13 03 44.8 +0.5
DPC *e*S S 13 13 55.8 +2.4
UPC Upice 84.00 329 *e*P **P 13 03 35.7 +2.2**
UPC *e*pP pP 13 03 43.3 -1.0
PSZ Piszkesteto 84.09 325⇓*e*P **P 13 03 36.6 +2.6**
VYHS Vyhne 84.19 326 *e*P **P 13 03 35.7 +1.2**
VYHS *e*pP pP 13 03 45.8 +0.4
VYHS *e* 13 03 53.6
VYHS *e*PP PP 13 06 49.7 -1.0
VYHS *e*S S 13 13 59.8 +4.3
QURS Qurayyt al Mil 84.38 304 P **P 13 03 38.2 +2.3**
AFFS 'Afif 84.49 295 P **P 13 03 39.0 +2.4**
PVCC Panska Ves 84.60 330 *e*P **P 13 03 38.7 +2.2**
PVCC *e*pP pP 13 03 47.4 0.0
BRG Berggiesshubel 84.60 330 *i* P **P 13 03 38.4 +1.9**
BRG *i* pP 13 03 47.7 +0.3
BRG *i* 13 03 56.1
BRG pmax pmax
comp=Z,32nm,1.1s,mb5.4
BRG MLR MLR
comp=Z,540nm,15.0s,MS5.1
BRG Berggiesshubel 84.60 330 *i* P **P 13 03 38.4 +1.9**
comp=Z,32nm,1.1s,mb5.4
BRG *i* pP 13 03 47.7 +0.3
BRG *i* 13 03 56.1
BRG LR LR
comp=Z,540nm,15.0s,MS5.1
VRAC Vranov 84.62 328 P **P 13 03 38.1 +1.5**
CLL Collm 84.66 331 *e*P **P 13 03 36.0 -0.8**
CLL *e**PP pP 13 03 48.0 +0.3
CLL *e*S S 13 14 01.0 +0.8
CLL pmax pmax
comp=Z,54nm,1.0s,mb5.6
CLL MLR MLR
comp=Z,1μm,15.8s,MS5.3
CLL Collm 84.66 331 *e*P **P 13 03 36.0 -0.8**
comp=Z,54nm,1.0s,mb5.6
CLL *e*pP pP 13 03 48.0 +0.3
CLL *e*S S 13 14 01.0 +0.8
CLL LR LR
comp=Z,1μm,15.8s,MS5.3
CLL Collm 84.66 331 P **P 13 03 36.0 -0.8**
comp=Z,logA/T=1.2,mb5.1
CLL *i* 13 03 38.6
CLL *i* *PP pP 13 03 47.8 +0.1
CLL *i* 13 03 56.1
CLL *e*PP PP 13 06 53.0 -1.5
CLL *e*S S 13 14 01.0 +0.8
SMOL Smolenice 84.82 327 *e*P **P 13 03 48.7 +0.1**
SMOL Smolenice 84.82 327 *e*pP pP 13 03 48.7 +0.1
CSS Prodhromos 84.95 309 *e*P **P 13 03 40.1 +1.5**
comp=Z,18nm,0.8s,mb5.3
PRU Pruhonice 85.01 329 *e*P **P 13 03 39.1 +0.5**
PRU *e*pP pP 13 03 49.6 +0.1
PRU *e*S S 13 14 05.7 +2.0
PRU AMS AMS 13 48 50.0
comp=Z,700nm,15.7s
TUC Tucson 85.06 54 *e*P **P 13 03 38.0 -1.2**
TUC *e**PP pP 13 03 49.9 -0.3
TUC pmax pmax
comp=Z,32nm,1.3s,mb5.3
TUC Tucson 85.06 54 *e*P **P 13 03 38.0 -1.3**
comp=Z,32nm,1.3s,mb5.3
TUC *e*pP pP 13 03 49.9 -0.3
SDCO Great Sand Dun 85.18 47 *e*P **P 13 03 39.6 0.0**
comp=Z,79nm,1.1s,mb5.8
SDCO *e*pP pP 13 03 50.8 +0.2
SDCO LR LR
comp=Z,438nm,19.0s,MS4.9
ZST Bratislava 85.20 327 *e*P **P 13 03 41.9 +2.4**
ZST *e* pP 13 03 51.9 +1.4
ZST *e*S S 13 14 11.1 +5.5
ZST Bratislava 85.20 327 *e*S S 13 14 11.1 +5.5
ZST *e*L 13 49 04.8
KAMS Al Khamasin 85.28 291 P **P 13 03 42.2 +1.7**
CLZ Clausthal 85.29 332 *e*P **P 13 03 40.5 +0.6**
CLZ *e* 13 07 00.1
CLZ pmax pmax
comp=Z,52nm,1.1s,mb5.6
CLZ Clausthal 85.29 332 *e*P **P 13 03 40.5 +0.6**
comp=Z,52nm,1.1s,mb5.6
CLZ *e*PP PP 13 07 00.1 +0.6
NKC Novy Kostel 85.71 330 *e*P **P 13 03 43.2 +1.2**
NKC AMS AMS 13 48 40.0
comp=Z,700nm,15.1s
MOX Moxa 85.73 331 *e*P **P 13 03 44.1 +2.0**
MOX *e* pP 13 03 53.1 +0.1
MOX *e* 13 04 01.7
MOX pmax pmax
comp=Z,53nm,1.6s,mb5.5
MOX Moxa 85.73 331 *e*P **P 13 03 44.1 +2.0**
comp=Z,53nm,1.6s,mb5.5
MOX *e* pP 13 03 53.1 +0.1
MOX *e* 13 04 01.7
MOX Moxa 85.73 331 *i* P **P 13 03 44.1 +2.0**
comp=Z,logA/T=1.5,mb5.5
MOX pP pP 13 03 53.0 0.0
MOX *e* 13 04 02.0
MOX PP PP 13 07 04.0 +0.9
MOX L 13 50 20.0
KHC Kasperske Hory 86.07 329 *i* P **P 13 03 42.3 -1.5**
KHC Kasperske Hory 86.07 329 *e*P **P 13 03 43.8 0.0**
KHC *e*pP pP 13 03 54.1 -0.6
KHC *e*S S 13 14 16.6 +2.6
KHC AMS AMS 13 50 10.0
comp=Z,900nm,13.5s
KBRS Khaybar 86.23 298 P **P 13 03 46.6 +1.5**
GEC2 GERESS Array S 86.24 329 *e*P **P 13 03 44.9 +0.3**
GEC2 *e* 13 07 06.7
GEC2 pmax pmax
comp=Z,15nm,1.3s,mb5.1
GEC2 GERESS Array S 86.24 329 *e*P **P 13 03 44.9 +0.3**
comp=Z,15nm,1.3s,mb5.1
GEC2 *e*PP PP 13 07 06.7 -0.7
GERES GERESS Array B 86.24 329 P **P 13 03 45.5 +0.9**
comp=Z,2.4nm,0.7s,mb4.5,baz=34,slow=4.8,SNR=14
GERES LR LR 13 45 03.2
comp=Z,332nm,18.2s,MS4.8,baz=255,slow=38
GERES GERESS Array B 86.24 329 P **P 13 03 45.5 +0.9**
GERES LR LR 13 45 03.2
ANMO Albuquerque 86.32 50 *e*P **P 13 03 45.3 0.0**
ANMO *e**PP pP 13 03 56.4 +0.1
ANMO pmax pmax
comp=Z,34nm,1.1s
ANMO MLR MLR
comp=Z,781nm,20.0s
ANMO Albuquerque 86.32 50 *e*P **P 13 03 45.2 -0.1**
comp=Z,34nm,1.1s,mb5.5
ANMO *e*pP pP 13 03 56.4 +0.1
ANMO LR LR
comp=Z,781nm,20.0s,MS5.1
WET Wettzell 86.36 329 *e*P **P 13 03 45.9 +0.7**
WET *e* 13 07 08.5
WET pmax pmax
comp=Z,16nm,0.3s,mb5.7
WET Wettzell 86.36 329 *e*P **P 13 03 45.9 +0.7**
comp=Z,16nm,0.3s,mb5.7
WET *e*PP PP 13 07 08.5 0.0
WTSB Winterswijk 86.53 334⇓*e*P **P 13 03 47.5 +1.5**
comp=Z,22nm,1.2s,mb5.3
WTSB *ex* x 13 03 56.3
TATS Tathlith 86.56 291 P **P 13 03 49.1 +2.2**
ARSA Arzberg 86.62 327⇑*i*P **P 13 03 47.7 +1.2**
comp=Z,15nm,1.5s,mb5.0
GRA1 Grafenberg Arr 86.63 331 *e*P **P 13 03 47.3 +0.8**
comp=Z,71nm,1.4s,mb5.7
GRA1 *e*pP pP 13 03 58.5 +1.1
GRA1 *e* 13 04 06.8

GRA1				*e*PP	PP	13 07 09.4	-1.5		
GRA1				LR	LR				
	comp=Z,300nm,18.1s,MS4.7								
GRF	**Grafenberg Arr**	**86.63**	**331**	*e*P	**P**	**13 03 47.3**	**+0.8**		
GRF				*e**PP	pP	13 03 58.5	+1.1		
GRF				*e*		13 07 09.4			
GRF				pmax	pmax				
	comp=Z,71nm,1.4s,mb5.7								
GRF				MLR	MLR				
	comp=Z,300nm,18.1s,MS4.7								
GRF	**Grafenberg Arr**	**86.63**	**331**	*e*P	**P**	**13 03 47.3**	**+0.8**		
	comp=Z,71nm,1.4s,mb5.7								
GRF				*e*pP	pP	13 03 58.5	+1.1		
GRF				*e*		13 04 06.8			
GRF				*e*PP	PP	13 07 09.4	-1.5		
GRF				LR	LR				
	comp=Z,300nm,18.1s,MS4.7								
MOA	**Molln**	**86.74**	**328**⇑	*i*P	**P**	**13 03 49.2**	**+2.1**		
	comp=Z,9.4nm,1.1s,mb4.9								
DIVS	**Divcibare**	**86.74**	**322**⇑	*i*P	**P**	**13 03 44.3**	**-2.9**		
TBKS	**Tabuk**	**86.78**	**302**	P	**P**	**13 03 49.6**	**+1.8**		
JMQS	**Jabal Moqyreh**	**86.86**	**303**	P	**P**	**13 03 50.1**	**+2.0**		
PERS	**Pernice**	**87.27**	**327**	*e*P	**P**	**13 03 50.3**	**+0.6**		
PERS				*e*		13 14 27.6			
TNS	**Taunus Mts**	**87.32**	**332**	*e*P	**P**	**13 03 50.1**	**+0.3**		
TNS				pmax	pmax				
	comp=Z,23nm,1.3s,mb5.2								
TNS	**Taunus Mts**	**87.32**	**332**	*e*P	**P**	**13 03 50.1**	**+0.3**		
	comp=Z,23nm,1.3s,mb5.2								
HAQS	**Haql**	**87.43**	**303**	P	**P**	**13 03 52.6**	**+1.7**		
DJNS	**Zahran al Janu**	**87.54**	**289**	P	**P**	**13 03 54.3**	**+2.6**		
BDAS	**Al Bad'**	**87.68**	**303**	P	**P**	**13 03 53.7**	**+1.5**		
KBA	**Koelnbreinsper**	**87.73**	**328**⇑	*i*P	**P**	**13 03 53.0**	**+1.1**		
	comp=Z,5.6nm,0.8s,mb4.8								
KBA	**Koelnbreinsper**	**87.73**	**328**⇑	*i*P	**P**	**13 03 53.0**	**+1.1**		
KBA				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.9								
PDKS	**Podkum**	**87.75**	**326**	*e*P	**P**	**13 03 52.4**	**+0.4**		
PDKS				*e*PP	PP	13 07 18.8	-1.5		
FUR	**Furstenfeldbru**	**87.79**	**330**	*e*P	**P**	**13 03 52.8**	**+0.6**		
FUR				pmax	pmax				
	comp=Z,24nm,1.1s,mb5.3								
FUR	**Furstenfeldbru**	**87.79**	**330**	*e*P	**P**	**13 03 52.8**	**+0.6**		
	comp=Z,24nm,1.1s,mb5.3								
HGN	**Heimansgroeve**	**87.83**	**334**⇓	*e*P	**P**	**13 03 53.8**	**+1.6**		
	comp=Z,32nm,1.2s,mb5.4								
HGN				*ex*	x	13 04 03.2			
BLJS	**Baljurashi**	**87.83**	**292**	P	**P**	**13 03 55.6**	**+2.6**		
CBKS	**Cedar Bluff**	**87.93**	**44**	*e*P	**P**	**13 03 52.4**	**-0.6**		
CBKS				*e**PP	pP	13 04 03.2	-0.8		
CBKS				pmax	pmax				
	comp=Z,38nm,1.2s,mb5.5								
CBKS	**Cedar Bluff**	**87.93**	**44**	*e*P	**P**	**13 03 52.4**	**-0.6**		
	comp=Z,38nm,1.2s,mb5.5								
CBKS				*e*pP	pP	13 04 03.2	-0.8		
LJU	**Ljubljana**	**87.98**	**327**	*e*P	**P**	**13 03 53.3**	**+0.2**		
UMJS	**Umm Lajj**	**87.99**	**299**	P	**P**	**13 03 56.1**	**+2.4**		
BOJS	**Bojanci**	**88.05**	**326**	*e*P	**P**	**13 03 55.0**	**+1.5**		
JAVS	**Javornik**	**88.31**	**327**	*i* P	**P**	**13 03 54.2**	**-0.5**		
MOTA	**Moosalm**	**88.50**	**329**⇓	*i*P	**P**	**13 03 58.2**	**+2.6**		
	comp=Z,2.8nm,0.5s,mb4.8								
MOTA	**Moosalm**	**88.50**	**329**⇓	*i*P	**P**	**13 03 58.2**	**+2.6**		
MOTA				pmax	pmax				
	comp=Z,3.0nm,0.5s,mb4.9								
SCHQ	**Schefferville**	**88.62**	**16**	P	**P**	**13 03 56.0**	**+0.1**		
	comp=Z,7.7nm,0.8s,mb5.1,baz=2.7,slow=5.8,SNR=12								
WLF	**Walferdange**	**88.65**	**333**	*e*P	**P**	**13 03 55.5**	**-0.7**		
WLF				*e**PP	pP	13 04 07.2	0.0		
WLF				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.8								
WLF	**Walferdange**	**88.65**	**333**	*e*P	**P**	**13 03 55.5**	**-0.7**		
	comp=Z,4.4nm,0.8s,mb4.8								
WLF				*e*pP	pP	13 04 07.2	0.0		
GIVF	**Givet**	**88.78**	**334**	*e*P	**P**	**13 03 58.2**	**+1.4**		
BFO	**Black Forest**	**88.88**	**331**	*e*P	**P**	**13 03 57.2**	**-0.2**		
BFO				pmax	pmax				
	comp=Z,10.0nm,0.9s,mb5.2								
BFO	**Black Forest**	**88.88**	**331**	*e*P	**P**	**13 03 57.2**	**-0.2**		
	comp=Z,10.0nm,0.9s,mb5.2								
BAIF	**Baives**	**89.04**	**335**	*e*P	**P**	**13 03 59.6**	**+1.5**		
MNTX	**Cornudas Mount**	**89.06**	**52**	*e*P	**P**	**13 03 57.3**	**-1.3**		
	comp=Z,18nm,1.4s,mb5.2								
DAVA	**Damuels**	**89.07**	**330**⇑	*i*P	**P**	**13 04 00.5**	**+2.2**		
	comp=Z,13nm,0.9s,mb5.3								
CDF	**Champ du Feu**	**89.23**	**332**	*e*P	**P**	**13 04 00.5**	**+1.5**		
KSU1	**Kansas State U**	**89.51**	**42**	*e*P	**P**	**13 04 01.6**	**+1.0**		
HINF	**Hinteralfeld**	**89.88**	**332**	*e*P	**P**	**13 04 03.4**	**+1.3**		
HAU	**Haudompre**	**89.92**	**332**	*e*P	**P**	**13 04 03.6**	**+1.3**		
HAU				*e*R					
	comp=Z,250nm,18.5s								
MEZF	**Maizieres J'vi**	**90.02**	**333**	*e*P	**P**	**13 04 04.1**	**+1.4**		
CABF	**La Chapelle**	**91.16**	**332**	*e*P	**P**	**13 04 09.4**	**+1.3**		
LOR	**Lormes**	**91.49**	**333**	*e*P	**P**	**13 04 10.8**	**+1.2**		
	comp=Z,28nm,1.2s,mb5.2								
LOR				*e*R					
	comp=Z,470nm,18.0s								
LOR	**Lormes**	**91.49**	**333**	*e*P	**P**	**13 04 10.8**	**+1.2**		
LOR				pmax	pmax				
	comp=Z,14nm,1.2s,mb5.2								
LOR				MLR	MLR				
	comp=Z,470nm,18.0s,MS5.0								
ATD	**Arta Tunnel**	**91.55**	**285**	LR	LR	13 45 03.5			
	comp=Z,172nm,20.4s,MS4.5,baz=278,slow=35								
LTX	**Lajitas**	**91.70**	**53**	*e*P	**P**	**13 04 10.8**	**-0.3**		
LTX				*e**PP	pP	13 04 21.9	-0.2		
LTX				pmax	pmax				
	comp=Z,52nm,1.3s,mb5.7								
LTX	**Lajitas**	**91.70**	**53**	*e*P	**P**	**13 04 10.8**	**-0.3**		
	comp=Z,52nm,1.3s,mb5.7								
LTX				*e*pP	pP	13 04 21.9	-0.2		
TXAR	**Lajitas Array**	**91.70**	**53**	P	**P**	**13 04 10.7**	**-0.4**		
	comp=Z,6.2nm,0.6s,mb5.1,baz=301,slow=3.1,SNR=29								
TXAR				LR	LR	13 40 34.1			
	comp=Z,709nm,20.2s,MS5.1,slow=32								
TXAR	**Lajitas Array**	**91.70**	**53**	P	**P**	**13 04 10.7**	**-0.4**		
TXAR				LR	LR	13 40 34.1			
FLN	**La Foliniere**	**91.77**	**336**	*e*P	**P**	**13 04 12.2**	**+1.3**		
	comp=Z,22nm,0.8s,mb5.3								
FLN				*e*R					
	comp=Z,483nm,18.0s								
FLN	**La Foliniere**	**91.77**	**336**	*e*P	**P**	**13 04 12.2**	**+1.3**		
FLN				pmax	pmax				
	comp=Z,11nm,0.8s,mb5.2								
FLN				MLR	MLR				
	comp=Z,480nm,18.0s,MS5.0								
SSF	**Saint Saulge**	**91.79**	**333**	*e*P	**P**	**13 04 12.4**	**+1.4**		
SSF				pmax	pmax				
	comp=Z,7.0nm,0.9s,mb5.0								
SSF	**Saint Saulge**	**91.79**	**333**	*e*P	**P**	**13 04 12.4**	**+1.4**		
	comp=Z,6.8nm,0.9s,mb5.0								
LPL	**La Plagne**	**91.79**	**331**	*e*P	**P**	**13 04 12.6**	**+1.5**		
	comp=Z,28nm,0.9s,mb5.3								
LPL	**La Plagne**	**91.79**	**331**	*e*P	**P**	**13 04 12.6**	**+1.5**		
LPL				pmax	pmax				
	comp=Z,14nm,0.9s,mb5.3								
LPG	**La Plagne**	**91.80**	**331**	*e*P	**P**	**13 04 12.7**	**+1.6**		
	comp=Z,35nm,0.9s,mb5.4								
LPG	**La Plagne**	**91.80**	**331**	*e*P	**P**	**13 04 12.7**	**+1.6**		
LPG				pmax	pmax				
	comp=Z,18nm,0.9s,mb5.4								
TIP	**Timpagrande**	**91.96**	**321**	*e*P	**P**	**13 04 11.8**	**-0.3**		
SMF	**Signal de Mont**	**92.01**	**333**	*e*P	**P**	**13 04 13.4**	**+1.4**		
AVF	**Avril sur Loir**	**92.08**	**333**	*e*P	**P**	**13 04 13.7**	**+1.4**		
	comp=Z,44nm,0.9s,mb5.5								
AVF	**Avril sur Loir**	**92.08**	**333**	*e*P	**P**	**13 04 13.7**	**+1.4**		
AVF				pmax	pmax				
	comp=Z,22nm,0.9s,mb5.5								
BNI	**Bardonecchia**	**92.19**	**330**	*e*P	**P**	**13 04 13.6**	**+0.7**		
BNI				pmax	pmax				
	comp=Z,11nm,0.9s,mb5.2								
BNI	**Bardonecchia**	**92.19**	**330**	*e*P	**P**	**13 04 13.6**	**+0.6**		
	comp=Z,11nm,0.9s,mb5.2								
GRR	**Gorron**	**92.22**	**336**	*e*P	**P**	**13 04 14.3**	**+1.4**		
	comp=Z,59nm,1.1s,mb5.5								
GRR	**Gorron**	**92.22**	**336**	*e*P	**P**	**13 04 14.3**	**+1.4**		
GRR				pmax	pmax				
	comp=Z,30nm,1.1s,mb5.5								
MBDF	**Montbardon**	**92.42**	**330**	*e*P	**P**	**13 04 14.8**	**+0.8**		
	comp=Z,19nm,0.7s,mb5.2								
MBDF	**Montbardon**	**92.42**	**330**	*e*P	**P**	**13 04 14.8**	**+0.8**		
MBDF				pmax	pmax				
	comp=Z,10.0nm,0.7s,mb5.2								
ORIF	**Oris-en-Rattie**	**92.63**	**331**	*e*P	**P**	**13 04 16.2**	**+1.3**		
	comp=Z,17nm,0.8s,mb5.2								
ORIF				*e*R					
	comp=Z,310nm,21.2s								
SBF	**Sospel**	**92.83**	**329**	*e*P	**P**	**13 04 16.7**	**+0.8**		
	comp=Z,48nm,0.8s,mb5.7								
SBF	**Sospel**	**92.83**	**329**	*e*P	**P**	**13 04 16.7**	**+0.8**		
SBF				pmax	pmax				
	comp=Z,24nm,0.8s,mb5.7								
TCF	**Toulx Ste Croi**	**92.93**	**334**	*e*P	**P**	**13 04 17.7**	**+1.4**		
	comp=Z,34nm,1.2s,mb5.3								
TCF	**Toulx Ste Croi**	**92.93**	**334**	*e*P	**P**	**13 04 17.7**	**+1.4**		
TCF				pmax	pmax				
	comp=Z,17nm,1.2s,mb5.3								
ROSF	**Rostrenen**	**93.04**	**338**	*e*P	**P**	**13 04 18.0**	**+1.3**		
VIVF	**Saint-Julien-l**	**93.17**	**331**	*e*P	**P**	**13 04 19.1**	**+1.7**		
	comp=Z,41nm,1.0s,mb5.5								
VIVF	**Saint-Julien-l**	**93.17**	**331**	*e*P	**P**	**13 04 19.1**	**+1.7**		
VIVF				pmax	pmax				
	comp=Z,20nm,1.0s,mb5.5								
CCM	**Cathedral Cave**	**93.19**	**40**	*e*P	**P**	**13 04 18.8**	**+1.2**		
CCM				*e**PP	pP	13 04 27.6	-1.1		
CCM				pmax	pmax				
	comp=Z,27nm,1.0s,mb5.6								
CCM	**Cathedral Cave**	**93.19**	**40**	*e*P	**P**	**13 04 18.8**	**+1.2**		
	comp=Z,27nm,1.0s,mb5.6								
CCM				*e*pP	pP	13 04 27.6	-1.0		
PGF	**Pioggiola**	**93.20**	**327**	*e*P	**P**	**13 04 18.5**	**+0.9**		
QUIF	**Quistinic**	**93.38**	**338**	*e*P	**P**	**13 04 19.6**	**+1.3**		
FRF	**La Foret Royal**	**93.42**	**329**	*e*P	**P**	**13 04 19.3**	**+0.8**		
MFF	**Saint Martin d**	**93.51**	**335**	*e*P	**P**	**13 04 20.6**	**+1.7**		
	comp=Z,36nm,1.1s,mb5.4								
MFF	**Saint Martin d**	**93.51**	**335**	*e*P	**P**	**13 04 20.6**	**+1.7**		
MFF				pmax	pmax				
	comp=Z,18nm,1.1s,mb5.4								
LMR	**La Mourre**	**93.66**	**329**	*e*P	**P**	**13 04 20.5**	**+0.9**		
	comp=Z,65nm,1.1s,mb5.7								
LMR	**La Mourre**	**93.66**	**329**	*e*P	**P**	**13 04 20.5**	**+0.9**		
LMR				pmax	pmax				
	comp=Z,33nm,1.1s,mb5.7								
RJF	**Les Rejaudoux**	**94.02**	**333**	*e*P	**P**	**13 04 22.7**	**+1.5**		
	comp=Z,22nm,1.0s,mb5.3								
RJF				*e*R					
	comp=Z,192nm,17.2s								
RJF	**Les Rejaudoux**	**94.02**	**333**	*e*P	**P**	**13 04 22.7**	**+1.5**		
RJF				pmax	pmax				
	comp=Z,11nm,1.0s,mb5.2								
RJF				MLR	MLR				
	comp=Z,190nm,17.3s,MS4.6								
CAF	**Calviac**	**94.13**	**333**	*e*P	**P**	**13 04 23.3**	**+1.6**		
	comp=Z,53nm,1.3s,mb5.5								
CAF	**Calviac**	**94.13**	**333**	*e*P	**P**	**13 04 23.3**	**+1.6**		
CAF				pmax	pmax				
	comp=Z,27nm,1.3s,mb5.5								
LASF	**Ste Croix**	**94.14**	**331**	*e*P	**P**	**13 04 22.9**	**+1.1**		
	comp=Z,46nm,1.3s,mb5.5								
EVO	**Evora**	**103.35**	**337**	*e*P	Pdif	13 05 04.7	+1.2		
	comp=Z,3.3nm,0.5s								
EVO				*e*R					
	comp=Z,273nm,18.0s								
MATP	**Matopo**	**120.51**	**265**	PKP	PKPdf	13 09 56.3	+2.1		
	comp=Z,3.4nm,0.9s,baz=153,slow=4.5,SNR=3.9								
LBTB	**Lobatse**	**124.92**	**261**	*e*PKIKP	PKPdf	13 10 05.2	+2.5		
SYO	**Syowa Base**	**125.28**	**205**	⇑PKPdf	PKPdf	13 10 02.8	+0.6		
SYO	**Syowa Base**	**125.28**	**205**	⇓X		13 10 11.8			
BOSA	**Boshof**	**126.61**	**257**	PKP	PKPdf	13 10 07.0	+1.1		
	comp=Z,2.2nm,0.7s,baz=116,slow=12,SNR=3.0								
BOSA	**Boshof**	**126.61**	**257**	*e*PKPdf	PKPdf	13 10 07.1	+1.3		
SDV	**Santo Domingo**	**127.54**	**43**	*e*PKPdf	PKPdf	13 10 09.8	+1.8		
SDV				*e*		13 10 19.3			
DBIC	**Dimbokro**	**129.48**	**316**	PKP	PKPdf	13 10 12.8	+1.1		
	comp=Z,4.2nm,0.8s,baz=84,slow=1.7,SNR=4.5								
DBIC	**Dimbokro**	**129.48**	**316**	PKP	PKPdf	13 10 12.8	+1.1		
SNAA	**Sanae**	**137.47**	**195**		PKPdf	13 10 31.8	+6.7		
SNAA	**Sanae**	**137.47**	**195**		PKPdf	13 10 37.8	+13		
VNA2	**Neumayer--Watz**	**139.01**	**195**		PKPdf	13 10 31.3	+3.4		
VNA2	**Neumayer--Watz**	**139.01**	**195**		PKPdf	13 10 33.7	+5.8		
VNA2	**Neumayer--Watz**	**139.01**	**195**		PKPdf	13 10 37.7	+10		
VNA2	**Neumayer--Watz**	**139.01**	**195**		PKPdf	13 10 42.4	+14		
VNA3	**Neumayer Olymp**	**139.22**	**193**		PKPdf	13 10 30.4	+2.1		
VNA3	**Neumayer Olymp**	**139.22**	**193**		PKPdf	13 10 34.1	+5.8		
VNA3	**Neumayer Olymp**	**139.22**	**193**		PKPdf	13 10 36.9	+8.6		
VNA3	**Neumayer Olymp**	**139.22**	**193**		PKPdf	13 10 42.8	+14		
VNA1	**Neumayer--Stat**	**139.41**	**195**		PKPdf	13 10 32.6	+3.9		
VNA1	**Neumayer--Stat**	**139.41**	**195**		PKPdf	13 10 39.1	+10		
VNA1	**Neumayer--Stat**	**139.41**	**195**		PKPdf	13 10 43.8	+15		
SAML	**Samuel**	**146.14**	**50**	*e*PKPdf	PKPdf	13 10 42.4	+0.5		
SAML				*e*PKPbc	PKPbc	13 10 44.9	+1.9		
SAML				*e*		13 10 53.9			
LPAZ	**La Paz**	**147.66**	**66**	PKPbc	PKPdf	13 10 45.2	+0.9		
	comp=Z,4.6nm,0.5s,baz=203,slow=0.8,SNR=19								
LPAZ	**La Paz**	**147.66**	**66**	*e*PKPdf	PKPdf	13 10 46.0	+1.7		
LPAZ				*e*PKPbc	PKPdf	13 10 48.5	+4.1		
LVC	**Limon Verde**	**150.46**	**77**	PKPbc	PKPdf	13 10 53.1	+4.5		
	comp=Z,8.7nm,0.8s,baz=252,slow=2.8,SNR=12								
LVC	**Limon Verde**	**150.46**	**77**	*e*PKPbc	PKPdf	13 10 54.8	+6.1		
PLCA	**Paso Flores**	**152.83**	**115**	PKPbc	PKPdf	13 10 59.1	+7.5		
	comp=Z,4.2nm,0.9s,baz=70,slow=1.4,SNR=7.3								
PLCA				PKPab	PKPab	13 11 10.2	-2.0		
	comp=Z,10nm,0.9s,baz=260,slow=4.0,SNR=10								
PLCA	**Paso Flores**	**152.83**	**115**	*e*PKPbc	PKPdf	13 11 00.2	+8.6		
PLCA				*e*PKPab	PKPab	13 11 10.3	-1.9		
BDFB	**Brasilia**	**159.99**	**31**	PKP2	PKPab	13 11 39.1	-4.3		
BDFB				pmax	pmax				
	comp=Z,3.0nm,0.5s								
BDFB	**Brasilia**	**159.99**	**31**	PKPab	PKPab	13 11 39.1	-4.4		
	comp=Z,3.4nm,0.5s,baz=337,slow=3.6,SNR=3.0								
CPUP	**Villa Florida**	**161.53**	**73**	PKP	PKPdf	13 11 03.6	+0.8		
	comp=Z,1.8nm,0.9s,baz=215,slow=2.8,SNR=3.7								
CPUP	**Villa Florida**	**161.53**	**73**	*e*PKPdf	PKPdf	13 11 04.0	+1.2		

*MOS **29** 12:53:39.5±1.1,36.80N×71.64E,h121km,mb4.2/2,Error ellipse: s-maj=18.3km s-min=8.3km az=94.1*
*BJI **29** 12:53:39.7,36.65N×71.64E,h149km*
*IDC **29** 12:53:39.8±9.3,36.87N×71.52E,h91km±85km,mb3.6/4, mb1 3.9/7,mb1mx3.6/21,mbtmp4.1/7,ML3.7/2,Error ellipse: s-maj=123.5km s-min=45.1km az=148.0*
*NEIC **29** 12:53:41.0±2.3,36.81N×71.71E,h119km±22km, mb4.1/5, Error ellipse: s-maj=20.3km s-min=13.6km az=204.0*
*NNC **29** 12:53:42.2±8.1,36.95N×70.77E,h98km±108km, mpv4.8, Error ellipse: s-maj=62.1km s-min=59.3km az=67.0*

ISC 29 12:53:38.5±0.5,36.55N±0.02×71.74E±0.06,h134km±8km, n69,σ1§28/91,mb3.9/5,8C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.72**	**177**	P		**P**	**12 54 23.3**	**+0.9**
CHCP	**Chirah Chowk**	**3.14**	**156**	P		**P**	**12 54 30.2**	**+2.3**
CHCP				S		**S**	**12 55 05.0**	**-0.6**
THW	**Thamme Wali**	**3.75**	**180**	P		**P**	**12 54 35.8**	**-0.1**
SBDP	**Sheikh Budin**	**4.31**	**191**	P		**P**	**12 54 41.7**	**-1.7**
SBDP	**Sheikh Budin**	**4.31**	**191**	P		**P**	**12 54 51.8**	**+8.4**
KSH	**Kashi**	**4.47**	**47**	P		**P**	**12 54 48.8**	**+3.3**
KSH				S		**S**	**12 55 39.3**	**+2.2**
KSH				Smax				
	comp=N,690nm,0.4s							
KSH				Smax				
	comp=E,500nm,0.6s							
JMU	**Jammu**	**4.63**	**145**	*e*S		**S**	**12 55 41.5**	**+0.6**
SARP	**Sargodha**	**4.68**	**170**	P		**P**	**12 54 47.9**	**-0.4**
DRP	**Derazinda**	**4.96**	**195**	P		**P**	**12 54 51.8**	**-0.3**
THN	**Thein Dam**	**5.26**	**140**	*e*P		**P**	**12 54 56.6**	**+0.5**
THN				*e*S		**S**	**12 55 55.6**	**-0.5**
DLH	**Dalhousie**	**5.31**	**138**	*e*P		**P**	**12 54 59.0**	**+2.3**
DLH				*e*S		**S**	**12 55 58.0**	**+0.8**
PONG	**Pong**	**5.76**	**142**	*e*P		**P**	**12 55 04.0**	**+1.2**
PONG				*e*S		**S**	**12 56 09.0**	**+0.8**
AML	**Almayashu**	**5.78**	**15**	P		**P**	**12 55 02.7**	**-0.3**
	SNR=196							
UCH	**Uchtor**	**6.07**	**20**	P		**P**	**12 55 07.6**	**+0.7**
	SNR=13							
KZA	**Kyzart**	**6.16**	**25**	P		**P**	**12 55 08.2**	**+0.1**
	SNR=57							
EKS2	**Erkin-Say**	**6.30**	**14**	P		**P**	**12 55 09.7**	**-0.4**
	SNR=92							
AAK	**Ala-Archa**	**6.44**	**18**	P		**P**	**12 55 12.1**	**+0.1**
	SNR=58							
AAK	**Ala-Archa**	**6.44**	**18**	⇑P		**P**	**12 55 12.2**	**+0.2**
	comp=E,42nm,0.4s							
AAK				⇑S		**S**	**12 56 24.1**	**-0.5**
	comp=E,78nm,0.7s							
AAK	**Ala-Archa**	**6.44**	**18**	*e*PN		**P**	**12 55 10.7**	**-1.3**
AAK				*e*			12 56 21.1	
AAK				pmax	pmax			
	comp=Z,87nm,0.6s							
AAK	**Ala-Archa**	**6.44**	**18**	*e*Pn		**P**	**12 55 10.7**	**-1.3**
	comp=Z,87nm,0.6s							
AAK				*e*Sn		**S**	**12 56 21.1**	**-3.5**
KBK	**Karagaybulak**	**6.58**	**21**	P		**P**	**12 55 14.6**	**+0.7**
	SNR=14							
KK31	**Karatay Array**	**6.61**	**352**	⇑P		**P**	**12 55 12.3**	**-2.0**
	comp=Z,13nm,0.2s,baz=191,slow=16,SNR=498							
KK31				⇓S		**S**	**12 56 19.9**	**-9.0**
	comp=Z,59nm,0.5s							
KKAR	**Karatay Array**	**6.61**	**352**	PN		**P**	**12 55 12.4**	**-2.0**
KKAR				pmax	pmax			
	comp=Z,10.0nm,0.2s							
SDNR	**Sundarnagar**	**6.65**	**138**	*e*P		**P**	**12 55 15.0**	**+0.1**
SDNR				*e*			12 56 25.4	
ULHL	**Ulahol**	**6.67**	**30**	P		**P**	**12 55 16.0**	**+0.8**
	SNR=7.0							
CHMS	**Chumysh**	**6.85**	**19**	P		**P**	**12 55 17.2**	**-0.3**
	SNR=59							
TKM2	**Tokmak 2**	**7.02**	**24**	P		**P**	**12 55 20.4**	**+0.5**
	SNR=79							
USP	**Ospenovka**	**7.04**	**17**	P		**P**	**12 55 19.4**	**-0.7**
	SNR=49							
SMLA	**Simla**	**7.04**	**139**	*i* P		**P**	**12 55 17.1**	**-3.2**
SMLA				*i* S		**S**	**12 56 33.3**	**-6.0**
DDI	**Dehra Dun**	**8.15**	**138**	*e*P		**P**	**12 55 35.2**	**+0.2**
DDI				*e*S		**S**	**12 57 03.0**	**-2.9**
ASOR	**Ausora**	**9.29**	**145**	*e*P		**P**	**12 55 54.0**	**+3.8**
BISR	**Bishrakh**	**9.29**	**147**	*e*S		**S**	**12 57 27.7**	**-5.7**
SONA	**Sohna**	**9.43**	**150**	*e*S		**S**	**12 57 30.9**	**-5.6**
SONA				AML	AML		12 57 34.5	
	comp=E,109nm,0.4s							
SONA				AML	AML		12 57 37.6	
	comp=N,57nm,0.4s							
PTH	**Pithoragarh**	**9.96**	**132**	*e*P		**P**	**12 55 59.9**	**+0.7**
PTH				*e*S		**S**	**12 57 45.3**	**-4.0**
LGTI	**Lohaghat**	**10.05**	**132**	*e*P		**P**	**12 56 00.3**	**-0.1**
LGTI				*e*S		**S**	**12 57 48.5**	**-2.9**
MK31	**Makanchi Array**	**12.91**	**34**	⇑P		**P**	**12 56 37.4**	**-0.4**
	comp=N,5.3nm,0.8s,baz=197,slow=9.5,SNR=36							
MK31				S		S	12 59 32.7	+34
	comp=N,51nm,0.9s,baz=96,slow=7.1,SNR=100							
MKAR	**Makanchi Array**	**12.91**	**34**	*i* P		**P**	**12 56 37.4**	**-0.4**
MKAR				pmax	pmax			
	comp=Z,14nm,1.1s							
MKAR	**Makanchi Array**	**12.91**	**34**	P		**P**	**12 56 37.0**	**-0.8**
	comp=Z,2.0nm,0.3s,baz=226,slow=12,SNR=36							
KOLN	**Koldanda**	**13.32**	**128**	*e*P		**P**	**12 56 42.8**	**-0.3**
	comp=Z,27nm,0.3s							
KOLN				*e*S		**S**	**12 59 03.7**	**-4.6**
GKN	**Gorkha**	**13.84**	**124**	*e*P		**P**	**12 56 49.6**	**-0.2**
	comp=Z,54nm,0.4s							
GKN				*e*S		**S**	**12 59 14.8**	**-5.6**
KKN	**Kakani**	**14.40**	**123**	*e*P		**P**	**12 56 56.2**	**-0.8**
	comp=Z,37nm,0.5s							
DMN	**Daman**	**14.41**	**124**	*e*P		**P**	**12 56 57.0**	**-0.1**
	comp=Z,34nm,0.4s							
PKI	**Pulchoki**	**14.63**	**124**	*e*P		**P**	**12 56 59.5**	**-0.4**
	comp=Z,37nm,0.4s							
GUN	**Gumba**	**14.73**	**122**	*e*P		**P**	**12 57 00.6**	**-0.6**
KURK	**Kurchatov**	**15.00**	**17**	*e*P		**P**	**12 57 07.1**	**+2.7**
	comp=Z,9.2nm,0.8s							
JIRN	**Ji

1.5nm,0.9s,mb3.9,baz=303,slow=4.5,SNR=6.0
NVAR Mina Array Bea 76.56 53 P **P 13 07 52.7 +1.1**
ELK Elko 77.32 50 P **P 13 07 56.4 +0.5**
0.7nm,0.5s,mb3.9
NB2 NORSAR Subarra 78.00 338 P **P 13 08 00.0 +0.8**
2.1nm,0.8s,mb4.1,baz=40,slow=5.6
NOA NORSAR Array B 78.00 338 P **P 13 07 59.8 +0.6**
1.2nm,0.7s,mb3.9,baz=39,slow=5.6,SNR=3.4
PV10 Paradox Valley 82.61 49 *eP* **P 13 08 25.1 +0.9**
PV10 *epP* *pP* 13 08 35.8 +1.1
CLL Collm 84.80 331 *i* *PP pP 13 08 45.2 -0.2
SDCO Great Sand Dun 85.20 48 *eP* **P 13 08 38.5 +1.2**
SDCO *epP* *pP* 13 08 48.7 +0.9

BJI ***29*** *12:57:18.7,33.29N×142.40E,h3km,mB5.1,mb4.8,Ms4.9, Msz4.6*
IDC ***29*** *12:57:20.0±0.6,33.31N×142.57E,mb4.4/18,mb1 4.5/22, mb1mx4.5/25,mbtmp4.4/22,ML4.3/4,Error ellipse: s-maj=18.2km s-min=14.2km az=82.0*
NEIC ***29*** *12:57:21.1±3.3,33.28N×142.53E,h8km±20km,mb4.8/17, Error ellipse: s-maj=8.9km s-min=6.2km az=100.0*
JMA ***29*** *12:57:23.3±0.3,33.28N×142.46E,h77km,M4.2*
MOS ***29*** *12:57:23.2±0.9,33.21N×142.42E,h33km,mb4.9/12,Error ellipse: s-maj=19.8km s-min=7.7km az=122.1*

ISC 29 12:57:21.4±1.5,33.23N±0.03×142.49E±0.05,h21km±10km, n100,σ1§06/114,mb4.6/43,2C-1D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.89**	**319**	P	**P**	**Pn**	**12 57 53.9**	**+0.8**
BSO1				*eS*		**Sn**	**12 58 16.2**	**-0.3**
BSO2	**Boso 2**	**2.09**	**317**	*eS*	**Sn**	**Sn**	**12 58 22.2**	**+0.7**
JHJ2	**Mitsune**	**2.24**	**268**	P	**Pn**	**Pn**	**12 57 59.1**	**+1.0**
JHJ2				*eS*		**Sn**	**12 58 05.0**	**+0.6**
BSO3	**Boso 3**	**2.27**	**314**	P	**Pn**	**Pn**	**12 58 00.9**	**+2.4**
BSO3				*eS*		**Sn**	**12 58 27.2**	**+1.1**
JHJ	**Hachijo jima 2**	**2.27**	**268**	Pn	**Pn**	**Pn**	**12 57 59.2**	**+0.7**
	244nm,0.3s,baz=245,slow=20,SNR=12							
JHJ				Sn		**Sn**	**12 58 25.9**	**-0.3**
	316nm,0.3s,baz=252,slow=23,SNR=10							
BSO4	**Boso 4**	**2.50**	**315**	P	**Pn**	**Pn**	**12 58 02.6**	**+0.8**
BSO4				*eS*		**Sn**	**12 58 34.2**	**+2.2**
KTR	**Katsuura**	**2.62**	**317**	P	**Pn**	**Pn**	**12 58 04.3**	**+0.8**
KTR				*eS*		**Sn**	**12 58 36.0**	**+0.9**
CHOJ	**Chosi**	**2.81**	**332**	P	**Pn**	**Pn**	**12 58 05.7**	**-0.5**
CHOJ				*eS*		**Sn**	**12 58 37.2**	**-2.5**
JIM2	**Oshima 3**	**2.94**	**301**	P	**Pn**	**Pn**	**12 58 07.5**	**-0.5**
JIM2				*eS*		**Sn**	**12 58 41.4**	**-1.7**
JOD2	**Odawara 2**	**3.47**	**307**	S	**Sn**	**Pn**	**12 58 52.5**	**-3.9**
JYN	**Shimob**	**3.97**	**306**	P	**Pn**	**Pn**	**12 58 23.2**	**+0.6**
JYN				*eS*		**Sn**	**12 59 10.0**	**+0.9**
JAG	**Ashikaga**	**4.04**	**323**	P	**Pn**	**Pn**	**12 58 23.4**	**-0.3**
JAG				*eS*		**Sn**	**12 59 10.5**	**-0.6**
JRY	**Ryogami san**	**4.05**	**314**	*eS*	**Sn**	**Sn**	**12 59 09.4**	**-1.9**
MJAR	**Matsushiro Arr**	**4.82**	**314**	Pn	**Pn**	**Pn**	**12 58 33.7**	**-1.1**
	15nm,0.3s,baz=92,slow=30,SNR=16							
MJAR				Sn		**Sn**	**12 59 28.0**	**-2.7**
	8.2nm,0.3s,baz=142,slow=18,SNR=5.6							
MAJO	**Matsushiro**	**4.82**	**314**	*eP*	**Pn**	**Pn**	**12 58 35.4**	**+0.6**
MAT	**Matsushiro**	**4.82**	**314**	*eP*	**Pn**	**Pn**	**12 58 35.0**	**+0.2**
MAT				*eS*		**Sn**	**12 59 27.0**	**-3.8**
MAT	**Matsushiro**	**4.82**	**314**	P	**Pn**	**Pn**	**12 58 34.8**	**0.0**
MAT				S		**Sn**	**12 59 26.5**	**-4.3**
MAT	**Matsushiro**	**4.82**	**314**	P	**Pn**	**Pn**	**12 58 35.4**	**+0.6**
JMM	**Marumori**	**4.82**	**344**	P	**Pn**	**Pn**	**12 58 32.1**	**-2.7**
JMM				*eS*		**Sn**	**12 59 22.4**	**-8.4**
JIE	**Ise**	**4.95**	**285**	P	**Pn**	**Pn**	**12 58 39.4**	**+2.9**
JNS	**Sasagawa**	**5.25**	**331**	*eS*	**Sn**	**Sn**	**12 59 37.9**	**-3.7**
JGM	**Miyama**	**5.36**	**299**	P	**Pn**	**Pn**	**12 58 42.9**	**+0.5**
CBIJ	**Chichi jima**	**6.12**	**183**	Pn	**Pn**	**Pn**	**12 58 51.5**	**-1.7**
	38nm,0.3s,baz=112,slow=22,SNR=14							
CBIJ				Sn		**Sn**	**12 59 57.4**	**-6.0**
	51nm,0.3s,baz=286,slow=21,SNR=5.2							
JNU	**Nakatsue**	**9.73**	**273**	Pn		**P**	**12 59 42.9**	**-0.5**
	0.8nm,0.3s,baz=99,slow=15,SNR=6.9							
YUK	**Yuzh-Kuril'sk**	**11.10**	**13**	*eP*		**P**	**12 59 57.0**	**-5.2**
YUK				pmax		pmax		
	comp=Z,120nm,0.4s							
YUK				MLR		MLR		
	comp=Z,5μm,11.0s							
YSS	**Yuzh-Sakhalins**	**13.71**	**1⇑**	*eP*		**P**	**13 00 33.0**	**-3.9**
YSS	**Yuzh-Sakhalins**	**13.71**	**1**	*ePn*		**P**	**13 00 33.3**	**-3.7**
CN2	**Changchun**	**16.97**	**313**	*eP*		**P**	**13 01 17.8**	**-1.4**
CN2				AMB		AMB		
	comp=Z,10.0nm,1.2s							
DL2	**Dalian**	**17.77**	**294**	P		**P**	**13 01 29.8**	**+0.6**
DL2				AMB		AMB		
	comp=Z,10.0nm,0.6s							
YHNB	**Yeheng**	**20.32**	**251**	*eP*		**P**	**13 01 55.8**	**-3.2**
HIA	**Hailar**	**23.30**	**320**	*eP*		**P**	**13 02 28.2**	**-0.4**
WHN	**Wuhan**	**24.01**	**271**	*eP*		**P**	**13 02 35.0**	**-0.8**
CIT	**Chita**	**28.10**	**321**	*eP*		**P**	**13 03 16.9**	**+3.3**
CIT				pmax		pmax		
	comp=Z,68nm,1.7s,mb5.0							
ENH	**Enshi**	**28.15**	**273**	*eP*		**P**	**13 03 12.5**	**-1.9**
	comp=Z,44nm,1.1s,mb5.0							
SONM	**Songino Array**	**30.75**	**309**	P		**P**	**13 03 38.3**	**+0.9**
	comp=Z,5.1nm,0.7s,mb4.5,baz=108,slow=8.8,SNR=11							
SONM				PcP		PcP	13 06 34.7	-0.1
	comp=Z,0.4nm,0.4s,baz=145,slow=2.6,SNR=4.4							
BOD	**Bodaibo**	**31.24**	**331**	*eP*		**P**	**13 03 40.7**	**-0.8**
BOD				pmax		pmax		
	comp=Z,8.0nm,1.3s,mb4.4							
LZH	**Lanzhou**	**31.77**	**286**	*eP*		**P**	**13 03 46.0**	**-0.5**
LZH				AP		pP	13 03 52.0	-0.6
LZH				XP		sP	13 03 55.0	-0.3
LZH				AMB		AMB		
	comp=Z,34nm,1.0s,mb5.1							
LZH				AMB		AMB		
	comp=Z,160nm,4.2s							
LZH	**Lanzhou**	**31.77**	**286**	*eP*		**P**	**13 03 46.0**	**-0.5**
LZH				*SP		sP	13 03 55.0	-0.3
LZH				pmax		pmax		
	comp=Z,34nm,1.0s,mb5.1							
LZH	**Lanzhou**	**31.77**	**286**	*eP*		**P**	**13 03 46.0**	**-0.5**
	comp=Z,34nm,1.0s,mb5.1							
LZH				pP		pP	13 03 52.0	-0.6
LZH				sP		sP	13 03 55.0	-0.3
ZAK	**Zakamensk**	**33.40**	**313**	*eP*		**P**	**13 04 00.3**	**-0.2**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.0							
TLY	**Talaya**	**33.56**	**315**	*eP*		**P**	**13 04 02.9**	**+1.0**
TLY				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.5							
KSM	**Kuching**	**43.69**	**230**	*eP*		**P**	**13 05 27.4**	**+0.5**
ZAL	**Zalesovo**	**45.19**	**315**	P		**P**	**13 05 38.0**	**-0.4**
	comp=Z,1.7nm,0.4s,mb4.2,baz=11,slow=6.9,SNR=3.3							
MKAR	**Makanchi Array**	**46.96**	**305**	P		**P**	**13 05 52.6**	**+0.2**
	comp=Z,5.7nm,0.7s,mb4.6,baz=90,slow=9.7,SNR=7.9							
KULM	**Kulim**	**47.80**	**244**	*eP*		**P**	**13 05 59.7**	**+0.1**
JIRN	**Jiri**	**48.36**	**279**	*eP*		**P**	**13 06 04.6**	**+0.8**
	comp=Z,51nm,0.6s,mb5.8							
GUN	**Gumba**	**48.53**	**280**	*eP*		**P**	**13 06 05.5**	**+0.4**
KURK	**Kurchatov**	**49.02**	**311**	*eP*		**P**	**13 06 07.9**	**-0.6**
KURK				*ePP		pP	13 06 15.9	+1.0
KURK				pmax		pmax		
	comp=Z,33nm,0.7s,mb5.5							
KURK	**Kurchatov**	**49.02**	**311**	*eP*		**P**	**13 06 07.9**	**-0.6**
	comp=Z,33nm,0.7s,mb5.5							
KURK				*epP		pP	13 06 15.8	+1.0
PKI	**Pulchoki**	**49.04**	**279**	*eP*		**P**	**13 06 09.1**	**+0.1**
	comp=Z,12nm,0.5s,mb5.2							
KKN	**Kakani**	**49.07**	**280**	*eP*		**P**	**13 06 09.5**	**+0.3**
	comp=Z,25nm,0.7s,mb5.3							
GKN	**Gorkha**	**49.52**	**280**	*eP*		**P**	**13 06 12.9**	**+0.2**
	comp=Z,26nm,0.6s,mb5.5							
KOLN	**Koldanda**	**50.46**	**280**	*eP*		**P**	**13 06 19.0**	**-0.9**
	comp=Z,22nm,0.8s,mb5.2							
ILAR	**Eielson Array**	**52.27**	**31**	P		**P**	**13 06 32.4**	**-0.7**
	comp=Z,1.3nm,1.0s,mb3.8,baz=0.1,slow=2.1,SNR=5.3							
CTAO	**Charters Tower**	**53.14**	**176**	*eP*		**P**	**13 06 40.0**	**-0.2**
CTAO				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.3							
CTAO	**Charters Tower**	**53.14**	**176**	*eP*		**P**	**13 06 40.0**	**-0.2**
	comp=Z,2.1nm,0.5s,mb4.3							
WRAB	**Tennant Creek**	**53.43**	**190**	*eP*		**P**	**13 06 41.0**	**-1.3**
WRAB				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
WRAB	**Tennant Creek**	**53.43**	**190**	*eP*		**P**	**13 06 41.0**	**-1.3**
	comp=Z,7.4nm,0.8s,mb4.7							
WB2	**Warramunga Arr**	**53.44**	**190**	*eP*		**P**	**13 06 41.6**	**-0.8**
WRA	**Warramunga Arr**	**53.45**	**190**	P		**P**	**13 06 41.7**	**-0.7**
	comp=Z,4.7nm,0.5s,mb4.7,baz=5.6,slow=7.7,SNR=17							
WRA				PcP		PcP	13 07 50.2	+0.9
	comp=Z,2.2nm,0.6s,baz=0.6,slow=4.1,SNR=6.9							
FITZ	**Fitzroy Crossi**	**53.52**	**200**	*iP*		**P**	**13 06 43.1**	**+0.1**
	comp=Z,8.1nm,0.5s,mb4.9							
FITZ	**Fitzroy Crossi**	**53.52**	**200**	P		**P**	**13 06 43.3**	**+0.3**
	comp=Z,11nm,0.5s,mb5.0,baz=8.0,slow=5.9,SNR=24							
BVAR	**Borovoye Array**	**53.82**	**315**	P		**P**	**13 06 44.0**	**-0.7**
	comp=Z,1.8nm,0.8s,mb4.1,baz=90,slow=7.4,SNR=4.7							
MBWA	**Marble Bar**	**58.28**	**205**	*eP*		**P**	**13 07 16.8**	**-0.4**
	comp=Z,9.1nm,0.9s,mb4.8							
ARU	**Arti**	**59.81**	**320**	*eP*		**P**	**13 07 26.5**	**-0.8**
ARU				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.7							
ARU	**Arti**	**59.81**	**320**	*eP*		**P**	**13 07 26.5**	**-0.8**
	comp=Z,4.7nm,0.7s,mb4.6							
STKA	**Stephens Creek**	**64.77**	**181**	P		**P**	**13 08 00.7**	**0.0**
	comp=Z,4.9nm,0.8s,mb4.6,baz=334,slow=5.0,SNR=6.5							
YKA	**Yellowknife Ar**	**66.66**	**30**	P		**P**	**13 08 11.6**	**-0.7**
	comp=Z,0.6nm,0.5s,mb3.9,baz=302,slow=6.4,SNR=4.0							
ARCES	**ARCESS Array B**	**67.86**	**340**	P		**P**	**13 08 17.6**	**-2.2**
	comp=Z,4.1nm,0.8s,mb4.5,baz=63,slow=8.1,SNR=4.3							
OBN	**Obninsk**	**71.68**	**324**	*iP*		**P**	**13 08 43.8**	**+0.4**
OBN				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.8							
KAF	**Kangasniemi**	**72.09**	**334**	*ep*		**P**	**13 08 44.9**	**-0.8**
	comp=Z,3.2nm,0.4s,mb4.6,baz=50,slow=5.6							
KAF	**Kangasniemi**	**72.09**	**334**	*eP*		**P**	**13 08 44.9**	**-0.8**
KAF				pmax		pmax		
	comp=Z,3.0nm,0.4s,mb4.6							
FINES	**FINESS Array B**	**72.59**	**333**	P		**P**	**13 08 48.8**	**+0.2**
	comp=Z,4.5nm,0.8s,mb4.4,baz=72,slow=6.0,SNR=11							
KIV	**Kislovodsk**	**74.08**	**312**	P		**P**	**13 08 59.0**	**+1.3**
NVAR	**Mina Array Bea**	**76.57**	**53**	P		**P**	**13 09 11.8**	**-0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=308,slow=4.2,SNR=5.7							
NVAR	**Mina Array Bea**	**76.57**	**53**	P		**P**	**13 09 11.8**	**-0.2**
BOZ	**Bozeman (W)**	**76.83**	**44**	*eP*		**P**	**13 09 13.1**	**-0.2**
BOZ				pmax		pmax		
	comp=Z,10.0nm,1.6s,mb4.5							
BOZ	**Bozeman (W)**	**76.83**	**44**	*eP*		**P**	**13 09 13.1**	**-0.2**
	comp=Z,9.6nm,1.6s,mb4.5							
ELK	**Elko**	**77.33**	**50**	P		**P**	**13 09 16.8**	**+0.6**
ELK				pmax		pmax		
	comp=Z,2.0nm,1.1s							
ELK	**Elko**	**77.33**	**50**	P		**P**	**13 09 16.8**	**+0.6**
	comp=Z,2.2nm,1.1s,mb4.0							
AKASG	**Malin Array Be**	**77.85**	**323**	P		**P**	**13 09 19.0**	**+0.2**
	comp=Z,1.6nm,0.5s,mb4.2,baz=45,slow=6.1,SNR=5.7							
NB2	**NORSAR Subarra**	**78.03**	**338**	P		**P**	**13 09 19.7**	**+0.2**
	comp=Z,4.9nm,0.6s,mb4.6,baz=40,slow=5.6							
NB2	**NORSAR Subarra**	**78.03**	**338**	P		**P**	**13 09 19.7**	**+0.2**
NB2				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.6							
NOA	**NORSAR Array B**	**78.03**	**338**	P		**P**	**13 09 20.1**	**+0.6**
	comp=Z,6.0nm,0.8s,mb4.6,baz=39,slow=5.6,SNR=17							
NAO01	**NORSAR Array S**	**78.28**	**338**	*eP*		**P**	**13 09 21.4**	**+0.5**
	comp=Z,4.8nm,0.8s,mb4.5							
BRTR	**Keskin Array B**	**82.05**	**313**	P		**P**	**13 09 42.8**	**+1.3**
	comp=Z,2.2nm,0.5s,mb4.3,baz=115,slow=3.4,SNR=7.3							
PV10	**Paradox Valley**	**82.62**	**49**	*eP*		**P**	**13 09 45.7**	**+1.3**
MORC	**Moravsky Berou**	**84.03**	**328**	*eP*		**P**	**13 09 52.0**	**+0.6**
MORC				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.4							
MORC	**Moravsky Berou**	**84.03**	**328**	*eP*		**P**	**13 09 52.0**	**+0.6**
	comp=Z,2.1nm,0.7s,mb4.4							
PSZ	**Piszkesteto**	**84.27**	**325**	*eP*		**P**	**13 09 53.6**	**+1.0**
PSZ				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.8							
PSZ	**Piszkesteto**	**84.27**	**325**	*eP*		**P**	**13 09 53.6**	**+1.0**
	comp=Z,6.7nm,1.0s,mb4.7							
CLL	**Collm**	**84.83**	**331**	*i* P		**P**	**13 09 56.3**	**+0.9**
CLL				pmax		pmax		
	comp=Z,11nm,0.9s,mb5.0							
CLL	**Collm**	**84.83**	**331**	*i* P		**P**	**13 09 56.3**	**+0.9**
	comp=Z,11nm,0.9s,mb5.0							
CLL	**Collm**	**84.83**	**331**	P		**P**	**13 09 56.3**	**+0.9**
	comp=Z,logA/T=1.1,mb5.0							
CLL				*e*			13 10 07.0	
SDCO	**Great Sand Dun**	**85.21**	**48**	*eP*		**P**	**13 09 59.3**	**+1.7**
	comp=Z,5.6nm,1.2s,mb4.6							
GERES	**GERESS Array B**	**86.41**	**329**	P		**P**	**13 10 04.0**	**+0.7**
	comp=Z,0.4nm,0.4s,mb4.0,baz=76,slow=5.5,SNR=3.8							
SCHQ	**Schefferville**	**88.73**	**16**	P		**P**	**13 10 13.8**	**-0.5**
	comp=Z,2.3nm,0.9s,mb4.5,baz=243,slow=14,SNR=2.3							
TXAR	**Lajitas Array**	**91.72**	**53**	P		**P**	**13 10 30.8**	**+1.9**
	comp=Z,0.3nm,0.3s,mb4.1,baz=307,slow=4.5,SNR=3.6							
TXAR	**Lajitas Array**	**91.72**	**53**	P		**P**	**13 10 30.8**	**+1.9**
SIV	**San Ignacio**	**152.66**	**57**	PKPbc		PKPdf	13 17 19.9	+5.8
	comp=Z,2.3nm,0.8s,baz=280,slow=1.7,SNR=4.8							

JMA ***29*** *13:04:35.7±0.6,33.34N×142.54E,h20km,M3.7*
IDC ***29*** *13:04:36.8±2.5,32.91N×142.23E,mb3.4/2,mb1 3.5/5, mb1mx3.4/21,mbtmp3.5/5,ML3.5/1,Error ellipse: s-maj=49.5km s-min=21.9km az=58.0*

ISC 29 13:04:35.9±1.1,33.22N±0.06×142.57E±0.10,h33km,n9, σ0§80/16,mb3.5/2,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.31**	**268**	P	**P**	**P**	**13 05 13.3**	**+1.0**
JHJ2				S		**S**	**13 05 41.2**	**+1.3**
JHJ	**Hachijo jima 2**	**2.34**	**268**	Pn	**Pn**	**Pn**	**13 05 12.5**	**-0.4**
	30nm,0.3s,baz=245,slow=21,SNR=14							
JHJ				Sn		**Sn**	**13 05 39.8**	**-1.0**
	18nm,0.3s,baz=76,slow=23,SNR=6.0							
JYN	**Shimob**	**4.03**	**305**	P	**P**	**P**	**13 05 37.4**	**+0.5**
JYN				S		**S**	**13 06 23.4**	**-0.2**
JAG	**Ashikaga**	**4.10**	**322**	P	**P**	**P**	**13 05 38.3**	**+0.5**
JAG				S		**S**	**13 06 24.6**	**-0.7**
JRY	**Ryogami san**	**4.12**	**314**	P	**P**	**P**	**13 05 38.8**	**+0.7**
JRY				S		**S**	**13 06 25.6**	**-0.1**
MJAR	**Matsushiro Arr**	**4.88**	**314**	Pn	**Pn**	**Pn**	**13 05 49.6**	**+0.6**
	1.1nm,0.3s,baz=198,slow=8.6,SNR=9.2							
MJAR				Sn		**Sn**	**13 06 44.1**	**-1.1**
	0.9nm,0.3s,baz=127,slow=18,SNR=4.8							
CBIJ	**Chichi jima**	**6.11**	**183**	Pn	**Pn**	**Pn**	**13 06 05.1**	**-1.2**
	3.3nm,0.3s,baz=291,slow=23,SNR=7.5							
CBIJ				Sn		**Sn**	**13 07 11.3**	**-4.5**
	5.1nm,0.3s,baz=291,slow=22,SNR=4.2							
MKAR	**Makanchi Array**	**47.02**	**305**	P	**P**	**P**	**13 13 10.4**	**+4.6**
	0.4nm,0.7s,mb3.5,baz=80,slow=8.8,SNR=3.7							
WRA	**Warramunga Arr**	**53.44**	**190**	P	**P**	**P**	**13 13 55.4**	**+0.4**
	0.5nm,0.9s,mb3.5,baz=5.7,slow=7.5,SNR=5.1							

IDC ***29*** *13:09:49.4±1.0,30.18N×41.96W,mb4.0/13,mb1 4.3/13, mb1mx4.1/26,mbtmp4.0/13,MS3.8/2,Ms1 3.8/2, ms1mx3.3/30,Error ellipse: s-maj=27.6km s-min=17.6km az=160.0*
NEIC ***29*** *13:09:51.0±0.5,30.19N×41.96W,h10km,Error ellipse: s-maj=15.2km s-min=9.7km az=154.0*

ISC 29 13:09:49.2±0.8,30.2N±0.1×42.0W±0.1,h10km,n18, σ0§54/16,mb4.1/14,MS3.8/2,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SJG	**San Juan**	**25.08**	**247**	LR	LR	LR	13 21 40.1	
	comp=Z,76nm,18.5s,MS3.2,baz=48,slow=28							
SCHQ	**Schefferville**	**30.35**	**331**	P		**P**	**13 16 03.0**	**-0.1**
	4.8nm,0.8s,mb4.2,baz=125,slow=8.6,SNR=6.5							
SDV	**Santo Domingo**	**34.17**	**238**	P		**P**	**13 16 37.8**	**+0.9**
	6.1nm,0.2s,mb5.2,baz=23,slow=7.7,SNR=3.6							
GERES	**GERESS Array B**	**45.70**	**50**	P		**P**	**13 18 12.1**	**+0.1**
	0.5nm,0.6s,mb3.6,baz=270,slow=11,SNR=4.6							
LPAZ	**La Paz**	**52.66**	**212**	P		**P**	**13 19 05.3**	**-0.8**
	1.9nm,0.8s,mb4.0,baz=359,slow=4.0,SNR=4.7							
TXAR	**Lajitas Array**	**52.95**	**286**	P		**P**	**13 19 08.1**	**0.0**
	0.9nm,0.9s,mb3.7,baz=90,slow=8.8,SNR=4.2							
FINES	**FINESS Array B**	**53.51**	**34**	P		**P**	**13 19 11.8**	**0.0**
	1.2nm,0.8s,mb3.9,baz=239,slow=11,SNR=4.8							
PDAR	**Pinedale Array**	**54.41**	**303**	P		**P**	**13 19 18.6**	**0.0**
	4.3nm,0.8s,mb4.4,baz=79,slow=7.9,SNR=32							
AKASG	**Malin Array Be**	**55.67**	**47**	P		**P**	**13 19 27.1**	**-0.6**
	0.7nm,0.3s,mb4.2,baz=275,slow=6.4,SNR=5.1							
YKA	**Yellowknife Ar**	**55.69**	**328**	P		**P**	**13 19 27.2**	**-0.5**
	0.5nm,0.7s,mb3.7,baz=90,slow=7.1,SNR=5.8							
YKA	**Yellowknife Ar**	**55.69**	**328**	P		**P**	**13 19 27.2**	**-0.5**
NEW	**Newport**	**58.60**	**311**	P		**P**	**13 19 47.9**	**-0.6**
	7.5nm,0.9s,mb4.7,baz=72,slow=5.8,SNR=11							
BRTR	**Keskin Array B**	**61.01**	**59**	P		**P**	**13 20 05.1**	**-0.1**
	1.9nm,0.8s,mb4.3,baz=270,slow=4.8,SNR=8.1							
NVAR	**Mina Array Bea**	**61.91**	**300**	P		**P**	**13 20 11.3**	**-0.1**
	1.0nm,0.9s,mb4.0,baz=74,slow=6.6,SNR=9.0							
NVAR	**Mina Array Bea**	**61.91**	**300**	P		**P**	**13 20 11.3**	**-0.1**
ILAR	**Eielson Array**	**69.07**	**334**	P		**P**	**13 20 57.6**	**+0.8**
	2.9nm,0.9s,mb4.2,baz=59,slow=4.2,SNR=25							
MATP	**Matopo**	**84.41**	**117**	LR	LR		13 55 07.6	
	comp=Z,127nm,19.6s,MS4.3,baz=20,slow=32							
MKAR	**Makanchi Array**	**88.33**	**35**	P		**P**	**13 22 43.1**	**+1.0**
	0.8nm,0.9s,mb3.9,baz=270,slow=4.9,SNR=6.3							

IDC 29 13:14:38.4±2.4,36.47N×34.08W,mb3.8/7,mb1 4.1/7, mb1mx3.8/25,mbtmp3.8/7,Error ellipse: s-maj=74.4km s-min=23.3km az=172.0,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**23.87**	**73**	P		P	13 19 55.0	+0.8
	0.6nm,0.4s,baz=272,slow=36,SNR=7.6							
NOA	**NORSAR Array B**	**37.54**	**35**	P		P	13 21 54.4	-1.2
	0.5nm,0.8s,baz=253,slow=9.1,SNR=3.3							
ARCES	**ARCESS Array B**	**45.77**	**25**	P		P	13 22 59.9	-3.0
	6.5nm,0.9s,baz=297,slow=5.4,SNR=5.2							
PDAR	**Pinedale Array**	**56.68**	**301**	P		P	13 24 24.5	-1.3
	0.5nm,0.7s,baz=62,slow=7.8,SNR=5.6							
TXAR	**Lajitas Array**	**57.73**	**285**	P		P	13 24 30.6	-2.9
	0.4nm,0.3s,baz=90,slow=7.2,SNR=5.0							
ILAR	**Eielson Array**	**66.37**	**334**	P		P	13 25 29.9	-0.8
	0.5nm,0.7s,baz=44,slow=5.3,SNR=5.7							
MKAR	**Makanchi Array**	**79.40**	**39**	P		P	13 26 45.2	-2.4
	1.0nm,0.8s,baz=315,slow=5.1,SNR=9.6							

NEIC ***29*** *13:16:12.1,34.19S×70.90W,h75km,mb3.9/3, MD4.1(GUC),After GUC.*
NEIC Felt [III] at Granero, Rancagua and San Francisco de Mostazal; [II] at Santiago and Talca.
GUC ***29*** *13:16:12.1±0.7,34.19S×70.90W,h75km±3km,MD4.1, ML4.3*

ISC 29 13:16:11.5±0.5,34.20S±0.03×70.89W±0.06,h83km±4km, n27,σ0§45/46,mb4.1/2,11C-11D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CACH	**El Canelo**	**0.25**	**71⇓**	*iP*		**P**	**13 16 24.2**	**+0.2**
CACH				*i* S		**S**	**13 16 33.4**	**0.0**
CHCH	**Chadas Angostu**	**0.33**	**36⇑**	*iP*		**P**	**13 16 24.2**	**-0.2**
CHCH				*i* S		**S**	**13 16 33.4**	**-0.8**
CICH	**Cipreses**	**0.41**	**107⇑**	*iP*		**P**	**13 16 25.4**	**+0.5**
CICH				*i* S		**S**	**13 16 35.2**	**+0.2**
SFDO	**San Fernando**	**0.43**	**194⇑**	*iP*		**P**	**13 16 24.9**	**-0.2**
LNV	**Longovilo**	**0.50**	**299⇑**	*iP*		**P**	**13 16 25.2**	**-0.5**
TACH	**Talagante**	**0.55**	**356⇓**	*iP*		**P**	**13 16 25.9**	**-0.3**
TACH				*i* S		**S**	**13 16 36.6**	**-0.5**
PCH	**Pirque**	**0.66**	**28⇓**	*iP*		**P**	**13 16 27.3**	**0.0**
PCH				*eS*		**S**	**13 16 38.4**	**-0.5**
ANTU	**Antumapu**	**0.66**	**19⇑**	*iP*		**P**	**13 16 27.3**

MIPR					*e*S		Sn	13 21 38.7	-0.3
RUS	**Russkaya**	**2.13**	**23**	*e*P			Pn	13 21 20.6	-1.1
RUS				*e*S			Sn	13 21 44.9	-2.4
GRL	**Gorelyy**	**2.15**	**16**	*e*P			Pn	13 21 22.0	0.0
GRL				*i* S			Sn	13 21 47.6	-0.2
KRMR	**Karymshinskiy**	**2.42**	**14**	*e*P			Pn	13 21 27.9	+1.9
KRMR				*e*S			Sn	13 21 57.1	+2.3
APC	**Apacha**	**2.44**	**0**	*i* P			Pn	13 21 26.5	+0.3
APC				*e*S			Sn	13 21 54.8	-0.4
APC				Smax					
	20nm,0.8s								
PET	**Petropavlovsk**	**2.71**	**20**	*e*P			Pn	13 21 30.3	+0.3
PET				*e*S			Sn	13 22 00.3	-1.7
UGLR	**Uglovaya**	**2.92**	**20**	*e*P			Pn	13 21 33.9	+0.9
UGLR				*e*S			Sn	13 22 07.5	+0.2
AVH	**Avacha**	**2.95**	**19**	*i* P			Pn	13 21 34.5	+1.0
AVH				*e*S			Sn	13 22 08.6	+0.4
KOK	**Koryaka**	**2.96**	**18**	*e*P			Pn	13 21 34.3	+0.8
KOK				*e*S			Sn	13 22 08.6	+0.3
SMAR	**Somma**	**2.96**	**20**	*e*P			Pn	13 21 35.2	+1.6
SMAR				*e*S			Sn	13 22 09.7	+1.2
SDLR	**Sedlovina**	**3.00**	**21**	*e*P			Pn	13 21 34.0	-0.1
SDLR				*e*S			Sn	13 22 08.8	-0.5
NLC	**Nalytchevo**	**3.02**	**26**	*e*P			Pn	13 21 35.7	+1.3
NLC				*e*S			Sn	13 22 11.3	+1.5
SPN	**Mys Shipunski**	**3.17**	**33**	*e*P			Pn	13 21 35.7	-0.8
SPN				*e*S			Sn	13 22 10.5	-3.2
GNL	**Ganaly**	**3.25**	**9**	*e*P			Pn	13 21 38.5	+0.8
GNL				*e*S			Sn	13 22 15.9	+0.2
MKZ	**Mys Kozlova**	**4.95**	**33**	*e*P			Pn	13 22 00.9	-0.8
MKZ				*e*S			Sn	13 22 55.1	-3.5
TUMR	**Tumrok**	**5.14**	**20**	*e*P			Pn	13 22 04.4	0.0
TUMR				*e*S			Sn	13 22 59.9	-3.4
LGNR	**Loginova**	**6.00**	**19**	*e*P			Pn	13 22 14.4	-2.1
LGNR				*e*S			Sn	13 23 19.1	-5.8
KBTR	**Krutoberegovo**	**6.66**	**29**	*e*P			Pn	13 22 24.6	-1.3
KBTR				*e*S			Sn	13 23 35.7	-5.8

JMA 29 13:22:14.4±0.4, 44.14N×148.24E, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
NEM2	**Nemuro 2**	**1.97**	**248**	P		Pn	13	22 49.3	0.0
NEM2				*e*S		Sn	13	23 15.2	+0.1
JRA	**Rausu**	**2.26**	**266**	*e*S		Sn	13	23 22.6	+0.1
JNK	**Nakash**	**2.61**	**259**	P		Pn	13	22 58.7	+0.2
JNK				*e*S		Sn	13	23 31.3	0.0
JAK	**Akkeshi**	**2.82**	**247**	P		Pn	13	23 01.7	+0.2
JAK				*e*S		Sn	13	23 36.1	-0.6
JAR	**Ashorobuto**	**3.35**	**257**	P		Pn	13	23 09.7	+0.6
JAR				*e*S		Sn	13	23 50.1	0.0
JCH	**Churui**	**3.87**	**248**	P		Pn	13	23 17.2	+0.8
JCH				*e*S		Sn	13	24 03.0	-0.3
JNBK	**Urakawa-nobuka**	**4.42**	**247**	P		Pn	13	23 23.5	-0.8
JKB	**Kayabe**	**5.74**	**249**	P		Pn	13	23 41.6	-1.4
JKB				*e*S		Sn	13	24 45.9	-4.7
JOT	**Ohata**	**5.97**	**245**	P		Pn	13	23 44.1	-2.0
JOT				*e*S		Sn	13	24 50.1	-6.1
JANG	**Nango**	**6.25**	**235**	P		Pn	13	23 47.9	-2.2
JANG				*e*S		Sn	13	24 56.9	-6.3

*BJI **29** 13:32:16.6, 1.47N×96.46E, h46km, mb4.8*
*IDC **29** 13:32:16.9±1.4, 2.04N×96.18E, mb4.2/9, mb1 4.3/9, mb1mx4.1/19, mbtmp4.2/9, Error ellipse: s-maj=66.5km s-min=17.0km az=55.0*
*NEIC **29** 13:32:21.6±0.6, 2.06N×96.19E, h30km, mb4.5/4, Error ellipse: s-maj=14.1km s-min=8.1km az=222.0*
ISC 29 13:32:20.4±0.8, 2.1N±0.1×96.2E±0.1, h33km, n20, σ0§79/20, mb4.3/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
KULM	**Kulim**	**5.42**	**54**	*e*Pn		**Pn**	**13**	**33 41.0**	**-0.1**
KULM				*ep*Pn			13	33 48.2	
KSM	**Kuching**	**14.07**	**92**	Pn		**P**	**13**	**35 39.8**	**+0.1**
KSM				*ep*Pn			13	35 48.1	
KKM	**Kota Kinabalu**	**20.30**	**78**	*e*P		**P**	**13**	**36 56.7**	**+0.4**
LSA	**Lhasa**	**27.88**	**350**	*e*P		**P**	**13**	**38 09.7**	**+0.2**
	17nm,1.1s,mb4.6								
ENH	**Enshi**	**30.71**	**23**	*e*P		**P**	**13**	**38 33.4**	**-1.3**
	5.8nm,0.3s,mb4.9								
FITZ	**Fitzroy Crossi**	**35.22**	**126**	P		**P**	**13**	**39 12.8**	**-1.1**
	4.7nm,0.9s,mb4.4,baz=191,slow=5.4,SNR=4.6								
GTA	**Gaotai**	**37.28**	**5**	P		**P**	**13**	**39 30.5**	**-0.6**
GTA				AMB		AMB			
	comp=Z,6.0nm,1.3s,mb4.3								
WRA	**Warramunga Arr**	**43.32**	**122**	P		**P**	**13**	**40 22.3**	**+1.0**
	comp=Z,1.4nm,0.6s,mb3.9,baz=302,slow=8.9,SNR=16								
WRAB	**Tennant Creek**	**43.32**	**122**	*e*P		**P**	**13**	**40 22.1**	**+0.8**
	comp=Z,1.7nm,0.4s,mb4.1								
WRAB				*ep*P		pP	13	40 30.8	-0.5
KS15	**Wonju Array Si**	**45.64**	**36**	*e*P		**P**	**13**	**40 41.4**	**+1.6**
MKAR	**Makanchi Array**	**46.15**	**347**	P		**P**	**13**	**40 43.5**	**-0.2**
	comp=Z,6.5nm,0.8s,mb4.6,baz=163,slow=7.4,SNR=39								
SONM	**Songino Array**	**46.40**	**9**	P		**P**	**13**	**40 45.4**	**-0.2**
	comp=Z,2.5nm,0.6s,mb4.3,baz=189,slow=8.9,SNR=16								
KURK	**Kurchatov**	**50.69**	**346**	*e*P		**P**	**13**	**41 18.2**	**-0.6**
	comp=Z,5.8nm,1.2s,mb4.4								
ZAL	**Zalesovo**	**52.52**	**351**	P		**P**	**13**	**41 32.2**	**-0.3**
	comp=Z,4.2nm,0.4s,mb4.7,baz=308,slow=6.6,SNR=18								
ZAL	**Zalesovo**	**52.52**	**351**	P		**P**	**13**	**41 32.2**	**-0.3**
STKA	**Stephens Creek**	**54.66**	**132**	P		**P**	**13**	**41 47.2**	**-1.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=282,slow=20,SNR=2.5								
STKA	**Stephens Creek**	**54.66**	**132**	P		**P**	**13**	**41 47.2**	**-1.4**
FINES	**FINESS Array B**	**78.77**	**333**	P		**P**	**13**	**44 21.5**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=76,slow=7.9,SNR=4.4								
ARCES	**ARCESS Array B**	**81.38**	**340**	P		**P**	**13**	**44 35.9**	**+0.9**
	comp=Z,5.2nm,1.0s,mb4.4,baz=101,slow=6.2,SNR=6.7								
GERES	**GERESS Array B**	**83.51**	**319**	P		**P**	**13**	**44 46.9**	**+0.6**
	comp=Z,0.3nm,0.3s,mb3.9,baz=157,slow=7.5,SNR=4.3								

*NEIC **29** 13:35:42.6±0.2, 19.31N×145.63E, mb4.3/18, Error ellipse: s-maj=8.1km s-min=4.7km az=92.0*
*IDC **29** 13:35:42.3±0.7, 19.31N×145.52E, h157km±6km, mb4.0/18, mb1 4.2/22, mb1mx4.1/30, mbtmp4.5/22, MS4.5/2, Ms1 4.4/2, ms1mx3.3/26, Error ellipse: s-maj=15.5km s-min=8.1km az=83.0*
ISC 29 13:35:41.2±0.3, 19.30N±0.03×145.62E±0.07, h158km, h158km±2.8km, pP-P, n68, σ1§19/75, mb4.2/29, 3C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
SARN	**Sarigan**	**2.59**	**177**	⇑*i*P		**P**	**13**	**36 26.4**	**+2.0**
SARN				*e*S		**S**	**13**	**37 01.9**	**+4.5**
SAPN	**Saipan**	**4.06**	**178**	*e*P		**P**	**13**	**36 44.2**	**+1.0**
GUMO	**Guam**	**5.72**	**187**	*e*Pn		**P**	**13**	**37 07.2**	**+2.1**
	108nm,0.7s								
GUMO				*e*Sn		**S**	**13**	**38 11.1**	**+0.8**
JHHJ	**Haha-jima-NKT**	**7.96**	**337**	P		**P**	**13**	**37 35.1**	**+0.2**
JHHJ				S		**S**	**13**	**39 00.2**	**-3.4**
CBIJ	**Chichi jima**	**8.38**	**338**	P		**P**	**13**	**37 40.4**	**-0.2**
	22nm,0.3s,baz=130,slow=23,SNR=21								
CBIJ				S		**S**	**13**	**39 09.3**	**-4.3**
	20nm,0.3s,baz=279,slow=22,SNR=9.0								
CBIJ	**Chichi jima**	**8.38**	**338**	P		**P**	**13**	**37 40.3**	**-0.2**
CBIJ				S		**S**	**13**	**39 11.6**	**-2.1**
JHJ	**Hachijo jima 2**	**14.72**	**340**	P		**P**	**13**	**39 02.6**	**-0.2**
	3.2nm,0.3s,baz=63,slow=17,SNR=2.6								
BSO1	**Boso 1**	**15.84**	**346**	P		**P**	**13**	**39 20.2**	**+3.5**
JOD2	**Odawara 2**	**16.92**	**341**	P		**P**	**13**	**39 30.0**	**+0.1**
HMMJ	**Hamamatsu 2**	**17.01**	**337**	P		**P**	**13**	**39 31.9**	**+1.0**
JNY	**Yasuok**	**17.41**	**338**	P		**P**	**13**	**39 36.1**	**+0.4**
JHU	**Hanno**	**17.41**	**343**	P		**P**	**13**	**39 34.9**	**-0.9**
JHU				S		**S**	**13**	**42 46.9**	**+4.6**
JAO	**Obara**	**17.54**	**337**	P		**P**	**13**	**39 38.3**	**+1.0**
JOW	**Kunigami**	**17.62**	**298**	P		**P**	**13**	**39 39.4**	**+1.0**
	0.8nm,0.3s,baz=344,slow=3.1,SNR=4.9								
JRY	**Ryogami san**	**17.68**	**342**	P		**P**	**13**	**39 38.5**	**-0.3**
JHO	**Hitachi**	**17.81**	**347**	P		**P**	**13**	**39 40.2**	**-0.1**
JHO				S		**S**	**13**	**42 52.3**	**+1.3**
JAG	**Ashikaga**	**17.90**	**344**	P		**P**	**13**	**39 40.5**	**-0.9**
MJAR	**Matsushiro Arr**	**18.37**	**341**	P		**P**	**13**	**39 45.8**	**-0.6**
	2.8nm,0.3s,baz=137,slow=28,SNR=25								
MJAR				S		**S**	**13**	**43 05.3**	**+2.5**
	0.3nm,0.3s,baz=324,slow=32,SNR=6.5								
MAJO	**Matsushiro**	**18.37**	**341**	*e*P		**P**	**13**	**39 45.6**	**-0.8**
	18nm,0.4s								
MAJO				*e*S		**S**	**13**	**43 05.4**	**+2.5**
MAT	**Matsushiro**	**18.37**	**341**	*e*P		**P**	**13**	**39 45.0**	**-1.4**
	14nm,0.5s								
MAT				*e*S		**S**	**13**	**43 05.0**	**+2.1**
MAT	**Matsushiro**	**18.37**	**341**	P		**P**	**13**	**39 45.8**	**-0.6**
MAT				S		**S**	**13**	**43 04.8**	**+1.9**
JNU	**Nakatsue**	**19.06**	**319**	P		**P**	**13**	**39 52.9**	**-0.7**
	0.4nm,0.3s,baz=103,slow=14,SNR=2.8								
JMK	**Ichinoseki**	**19.95**	**350**	P		**P**	**13**	**40 04.1**	**+1.3**
YHNB	**Yeheng**	**23.10**	**288**	*e*P		**P**	**13**	**40 35.4**	**+1.5**
PMG	**Port Moresby**	**28.56**	**177**	*e*P		**P**	**13**	**41 24.3**	**-0.3**
	8.9nm,0.6s,mb4.7								
KKM	**Kota Kinabalu**	**31.50**	**249**	*e*P		**P**	**13**	**41 50.1**	**-0.4**
KAKA	**Kakadu**	**34.36**	**203**	*e*P		**P**	**13**	**42 18.4**	**+3.4**
	10nm,0.5s,mb4.8								
CTA	**Charters Tower**	**39.15**	**179**	P		**P**	**13**	**42 54.6**	**-0.5**
	1.3nm,0.4s,mb3.9,baz=52,slow=17,SNR=5.8								
CTAO	**Charters Tower**	**39.15**	**179**	*e*P		**P**	**13**	**42 55.5**	**+0.4**
	2.8nm,0.5s,mb4.2								
WRAB	**Tennant Creek**	**40.52**	**196**	*e*P		**P**	**13**	**43 06.1**	**-0.3**
	24nm,0.6s,mb5.0								
WB2	**Warramunga Arr**	**40.53**	**196**	⇑*i*P		**P**	**13**	**43 06.2**	**-0.3**
WRA	**Warramunga Arr**	**40.54**	**196**	P		**P**	**13**	**43 06.3**	**-0.3**
	11nm,0.7s,mb4.6,baz=1.7,slow=9.1,SNR=70								
FITZ	**Fitzroy Crossi**	**42.03**	**209**	⇑*i*P		**P**	**13**	**43 18.5**	**-0.4**
	10nm,0.2s,mb5.1								
FITZ	**Fitzroy Crossi**	**42.03**	**209**	P		**P**	**13**	**43 18.6**	**-0.3**
	17nm,0.3s,mb5.2,baz=16,slow=7.9,SNR=90								
SONM	**Songino Array**	**42.63**	**321**	P		**P**	**13**	**43 23.4**	**0.0**
	2.9nm,0.5s,mb4.2,baz=134,slow=7.8,SNR=16								
DZM	**Mont Dzumac**	**45.88**	**153**	P		**P**	**13**	**43 49.2**	**-0.4**
	7.6nm,0.5s,mb4.5,baz=351,slow=9.8,SNR=15								
KULM	**Kulim**	**45.94**	**258**	*e*P		**P**	**13**	**43 51.3**	**+1.0**
MBWA	**Marble Bar**	**47.53**	**214**	*e*P		**P**	**13**	**44 01.5**	**-1.0**
	3.5nm,0.5s,mb4.2								
NIKO	**Nikolski**	**48.56**	**35**	*e*P		**P**	**13**	**44 09.6**	**-0.5**
STKA	**Stephens Creek**	**51.03**	**184**	⇓*i*P		**P**	**13**	**44 27.1**	**-2.1**
	3.7nm,1.4s,mb3.8								
STKA	**Stephens Creek**	**51.03**	**184**	P		**P**	**13**	**44 27.3**	**-1.9**
	1.6nm,0.4s,mb4.0,baz=337,slow=10,SNR=8.1								
ZAL	**Zalesovo**	**57.51**	**322**	LR		LR	14	08 58.6	
	comp=Z,150nm,20.5s,baz=298,slow=35								
MKAR	**Makanchi Array**	**58.00**	**314**	P		**P**	**13**	**45 18.5**	**-1.0**
	1.1nm,0.6s,mb3.8,baz=93,slow=8.3,SNR=9.4								
MKAR				pP		pP	13	45 54.0	-2.5
	0.5nm,0.7s,baz=68,slow=7.8,SNR=1.6								
NWAO	**Narrogin (SRO)**	**58.59**	**208**	P		**P**	**13**	**45 22.1**	**-1.7**
	21nm,1.0s,mb4.9,baz=9.5,slow=6.1,SNR=5.6								
KURK	**Kurchatov**	**60.78**	**318**	*e*P		**P**	**13**	**45 36.4**	**-2.2**
	1.9nm,0.6s,mb4.1								
SML	**Sawmill**	**61.88**	**29**	*e*P		**P**	**13**	**45 44.6**	**-1.2**
MCK	**McKinley**	**62.04**	**27**	*e*P		**P**	**13**	**45 46.0**	**-0.8**
	1.5nm,0.8s,mb3.9								
ILAR	**Eielson Array**	**63.14**	**26**	P		**P**	**13**	**45 52.7**	**-1.4**
	3.5nm,0.8s,mb4.2,baz=257,slow=5.2,SNR=29								
ILAR				pP		pP	13	46 30.6	-1.0
	0.5nm,0.8s,baz=253,slow=5.9,SNR=2.3								
BVAR	**Borovoye Array**	**65.97**	**320**	P		**P**	**13**	**46 11.0**	**-1.4**
	3.4nm,0.5s,mb4.5,baz=101,slow=7.6,SNR=11								
BVAR				pP		pP	13	46 48.3	-2.0
	1.5nm,0.7s,baz=80,slow=8.8,SNR=2.0								
BRVK	**Borovoye**	**66.03**	**320**	*e*P		**P**	**13**	**46 10.8**	**-2.0**
	1.1nm,0.6s,mb3.9								
INK	**Inuvik**	**68.85**	**23**	P		**P**	**13**	**46 30.0**	**-0.1**
	2.9nm,0.9s,mb4.0,baz=215,slow=5.7,SNR=3.5								
INK	**Inuvik**	**68.85**	**23**	*e*P		**P**	**13**	**46 29.4**	**-0.7**
	4.6nm,0.9s,mb4.2								
DLBC	**Dease Lake**	**70.83**	**34**	P		**P**	**13**	**46 41.6**	**-0.7**
	0.8nm,0.4s,mb3.8,baz=292,slow=9.8,SNR=4.3								
PPT	**Papeete**	**73.44**	**116**	LR		LR	14	11 41.2	
	comp=Z,745nm,20.4s,baz=309,slow=29								
YKW3	**Yellowknife Ar**	**77.47**	**28**	*e*P		**P**	**13**	**47 20.3**	**0.0**
YKA	**Yellowknife Ar**	**77.49**	**28**	P		**P**	**13**	**47 20.7**	**+0.3**
	1.2nm,0.5s,mb3.8,baz=288,slow=5.2,SNR=4.4								
YKA	**Yellowknife Ar**	**77.49**	**28**	P		**P**	**13**	**47 20.7**	**+0.3**
NEW	**Newport**	**80.52**	**42**	P		**P**	**13**	**47 37.5**	**+0.5**
	0.8nm,0.3s,mb3.8,baz=66,slow=12,SNR=3.5								
ARCES	**ARCESS Array B**	**81.90**	**342**	P		**P**	**13**	**47 43.8**	**-0.1**
	6.5nm,1.0s,mb4.2,baz=51,slow=7.8,SNR=5.6								
NVAR	**Mina Array Bea**	**82.83**	**52**	P		**P**	**13**	**47 51.1**	**+1.9**
	2.4nm,0.7s,mb4.0,baz=273,slow=3.4,SNR=25								
ELK	**Elko**	**84.28**	**49**	*e*P		**P**	**13**	**47 57.4**	**+0.9**
	2.1nm,0.9s,mb3.9								
BOZ	**Bozeman (W)**	**84.95**	**43**	*e*P		**P**	**13**	**48 01.0**	**+1.3**
	1.4nm,0.7s,mb3.8								
KAF	**Kangasniemi**	**85.84**	**336**	*e*p		**P**	**13**	**48 00.4**	**-3.3**
	0.3nm,0.2s,mb3.7								
FINES	**FINESS Array B**	**86.31**	**335**	P		**P**	**13**	**48 04.4**	**-1.6**
	0.9nm,0.5s,mb3.8,baz=77,slow=4.7,SNR=13								
FINES				pP		pP	13	48 45.9	0.0
	1.1nm,0.6s,baz=72,slow=6.0,SNR=2.5								
BW06	**Boulder Array**	**87.46**	**45**	*e*P		**P**	**13**	**48 12.8**	**+0.8**
	0.5nm,0.5s,mb3.6								
PDAR	**Pinedale Array**	**87.46**	**45**	P		**P**	**13**	**48 13.7**	**+1.7**
	0.4nm,0.6s,mb3.4,baz=233,slow=1.8,SNR=5.7								
LVC	**Limon Verde**	**147.62**	**102**	*e*PKPbc		PKPdf	13	55 09.8	+5.2
LPAZ	**La Paz**	**147.75**	**90**	PKPbc		PKPdf	13	55 09.1	+4.2
	0.4nm,0.3s,baz=336,slow=6.0,SNR=4.0								

IDC 29 14:05:40.8±3.7, 0.45N×97.63E, mb3.6/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=148.3km s-min=25.3km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
WRA	**Warramunga Arr**	**41.27**	**122**	P		P	14	13 28.1	-1.6
	0.4nm,0.6s,baz=302,slow=8.9,SNR=8.3								
SONM	**Songino Array**	**47.80**	**8**	P		P	14	14 20.5	-1.4
	0.5nm,0.8s,baz=180,slow=8.6,SNR=3.5								
MKAR	**Makanchi Array**	**48.07**	**346**	P		P	14	14 21.5	-2.5
	0.5nm,0.6s,baz=149,slow=7.1,SNR=4.9								
STKA	**Stephens Creek**	**52.54**	**132**	P		P	14	14 56.0	-2.4
	2.2nm,0.9s,baz=278,slow=12,SNR=3.5								

*NEIC **29** 14:07:17.9±0.3, 45.41N×112.61W, h5km, ML3.8, MW3.5(SLM), Error ellipse: s-maj=4.4km s-min=3.9km az=69.0*
NEIC Felt [V] at Twin Bridges; [III] at Bozeman; [II] at Anaconda, Butte, Dillon and Helena.
*IDC **29** 14:07:17.3±0.9, 45.46N×112.54W, mb1 3.6/5, mb1mx3.5/25, mbtmp3.3/5, ML3.8/4, Error ellipse: s-maj=13.6km s-min=6.8km az=57.0*
ISC 29 14:07:17.2±1.2, 45.45N±0.03×112.64W±0.06, h6km±10km, n38, σ1§36/41, 2C, Montana

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
MCMT	**McKenzie Canyo**	**0.64**	**193**	*e*P		**Pg**	**14**	**07 29.1**	**-0.9**
BOZ	**Bozeman (W)**	**0.74**	**74**	⇑*e*P		**Pg**	**14**	**07 31.7**	**-0.2**
QLMT	**Earthquake Lak**	**1.06**	**125**	*e*P		**Pb**	**14**	**07 36.2**	**-1.3**
HRY	**Holter Researc**	**1.38**	**24**	*e*P		**Pb**	**14**	**07 44.4**	**+1.3**
CHMT	**Chamberlain Mo**	**1.52**	**344**	*e*P		**Pn**	**14**	**07 47.0**	**+2.0**
YNR	**Norris Junctio**	**1.57**	**117**	*e*P		**Pn**	**14**	**07 45.9**	**+0.1**
YFT	**Old Faithful**	**1.63**	**127**	*e*P		**Pn**	**14**	**07 46.9**	**+0.3**
MSO	**Missoula**	**1.65**	**327**	*e*P		**Pn**	**14**	**07 48.5**	**+1.6**
LKWY	**Lake**	**1.82**	**118**	*e*P		**Pn**	**14**	**07 50.6**	**+1.3**
IMW	**Indian Meadow**	**1.97**	**141**	*e*Pn		**Pn**	**14**	**07 51.9**	**+0.4**
GCMT	**Greycliff**	**2.12**	**80**	P		**Pn**	**14**	**07 54.4**	**+0.8**
HLID	**Hailey**	**2.27**	**215**	⇑*e*Pn		**Pn**	**14**	**07 56.1**	**+0.3**
TPAW	**Teton Pass**	**2.30**	**148**	*e*Pn		**Pn**	**14**	**07 57.6**	**+1.3**
RRI2	**Red Ridge**	**2.31**	**155**	*e*Pn		**Pn**	**14**	**07 56.7**	**+0.4**
LOHW	**Long Hollow**	**2.35**	**141**	*e*Pn		**Pn**	**14**	**07 58.0**	**+1.1**
SNOW	**Snow King Moun**	**2.40**	**145**	*e*Pn		**Pn**	**14**	**07 58.4**	**+0.7**
REDW	**Red Top Meadow**	**2.45**	**148**	*e*Pn		**Pn**	**14**	**07 59.7**	**+1.4**
AHID	**Auburn Hatcher**	**2.91**	**157**	*e*Pn		**Pn**	**14**	**08 05.2**	**+0.4**
BMO	**Blue Mountains**	**3.35**	**261**	*e*Pn		**Pn**	**14**	**08 09.7**	**-1.5**
PDAR	**Pinedale Array**	**3.48**	**139**	Pn		**Pn**	**14**	**08 16.0**	**+2.9**
	1.4nm,0.3s,baz=333,slow=14,SNR=46								
PDAR				Lg			14	09 02.5	
	3.4nm,0.3s,baz=338,slow=28,SNR=10								
WALA	**Waterton Lakes**	**3.71**	**347**	*e*Pn		**Pn**	**14**	**08 17.4**	**+1.1**
HWUT	**Hardware Ranch**	**3.92**	**168**	Pn		**Pn**	**14**	**08 20.1**	**+0.8**
NEW	**Newport**	**4.17**	**314**	Pn		**Pn**	**14**	**08 23.5**	**+0.7**
	4.9nm,0.3s,baz=134,slow=12,SNR=24								
NEW				Sn		**Sn**	**14**	**09 10.9**	**-1.5**
	7.9nm,0.3s,baz=106,slow=14,SNR=4.2								
NEW				Lg			14	09 28.6	
	47nm,0.3s,baz=62,slow=22,SNR=18								
NEW	**Newport**	**4.17**	**314**	*e*Pn		**Pn**	**14**	**08 22.9**	**+0.1**
LAO	**LASA Array**	**4.64**	**72**	*e*Pn		**Pn**	**14**	**08 27.6**	**-1.9**
ELK	**Elko**	**5.07**	**203**	Pn		**Pn**	**14**	**08 37.9**	**+2.3**
	0.1nm,0.3s,baz=21,slow=18,SNR=3.7								
ELK				Lg			14	09 57.2	
	5.7nm,0.3s,baz=122,slow=19,SNR=6.5								
ELK	**Elko**	**5.07**	**203**	*e*Pn		**Pn**	**14**	**08 33.4**	**-2.2**
ELK				Pn		**Pn**	**14**	**08 37.9**	**+2.3**
ELK				Lg			14	09 57.2	
RWWY	**Rawlins**	**5.45**	**132**	Pn		**Pn**	**14**	**08 39.5**	**-1.4**
BMN	**Battle Mountai**	**6.04**	**215**	Pn		**Pn**	**14**	**08 48.8**	**-0.5**
TMUT	**Trail Mountain**	**6.24**	**170**	Pn		**Pn**	**14**	**08 50.0**	**-2.1**
RSSD	**Black Hills**	**6.27**	**99**	*e*Pn		**Pn**	**14**	**08 49.8**	**-2.7**
DGMT	**Dagmar**	**6.52**	**59**	*e*Pn		**Pn**	**14**	**08 53.9**	**-2.2**
PHWY	**Pilot Hill**	**6.68**	**126**	Pn		**Pn**	**14**	**08 58.7**	**+0.5**
SMCO	**Snowmass**	**7.54**	**144**	*e*Pn		**Pn**	**14**	**09 09.0**	**-1.4**
EDM	**Edmonton**	**7.79**	**357**	*e*Pn		**Pn**	**14**	**09 11.1**	**-2.8**
PV01	**Paradox Valley**	**7.92**	**156**	Pn		**Pn**	**14**	**09 13.8**	**-1.9**
NVAR	**Mina Array Bea**	**8.19**	**213**	Pn		**P**	**14**	**09 20.7**	**+1.3**
	0.2nm,0.3s,baz=25,slow=13,SNR=8.5								
NVAR				Pg		**P**	**14**	**09 38.5**	**+19**
	0.2nm,0.3s,baz=29,slow=14,SNR=6.6								
NVAR				Lg			14	11 35.3	
	0.5nm,0.3s,baz=43,slow=40,SNR=4.8								
YKA	**Yellowknife Ar**	**17.11**	**357**	Pn		**P**	**14**	**11 14.4**	**-3.9**
	0.1nm,0.3s,baz=173,slow=12,SNR=4.5								

*MAN **29** 14:35:15.3, 5.77N×126.56E, h93km, mb4.7, ML3.5, MS3.5*
*IDC **29** 14:35:15.2±1.8, 6.21N×126.66E, mb3.9/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.9/3, Error ellipse: s-maj=168.2km s-min=24.1km az=65.0*
ISC 29 14:35:19.4±0.9, 5.83N±0.08×126.29E±0.08, h33km, n8, σ1§47/13, mb3.8/3, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
GSPH	**General Santos**	**1.36**	**281**	⇓*i*P		**P**	**14**	**35 40.5**	**-1.9**
GSPH				*i* S		**S**	**14**	**35 59.1**	**-0.3**
KCP	**Kidapawan**	**1.68**	**315**	⇓*e*P		**P**	**14**	**35 48.0**	**+1.2**
KCP				*e*S		**S**	**14**	**36 09.6**	**+2.2**
BIPH	**Bislig**	**2.34**	**2**	⇑*i*P		**P**	**14**	**35 54.5**	**-1.9**

h32km±.3km**:pP-P,n26,**σ0$68/20**,mb4.2**/15**,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.89**	**34**	*e*Pn	**Pn**	**15 15 55.5**	**0.0**
KKM	**Kota Kinabalu**	**19.65**	**73**	*e*P	**P**	**15 18 57.7**	**+0.2**
ENH	**Enshi**	**31.89**	**20**	*e*P	**P**	**15 20 52.3**	**-0.7**
	6.7nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.34**	**125**	*e*P	**P**	**15 21 05.0**	**-0.7**
	4.5nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**33.34**	**125**	P	**P**	**15 21 04.7**	**-1.0**
	5.1nm,0.8s,mb4.5,baz=312,slow=3.2,SNR=7.5						
FITZ				pP	pP	15 21 14.6	-0.6
	6.4nm,0.8s,baz=198,slow=6.0,SNR=3.7						
WRA	**Warramunga Arr**	**41.48**	**121**	P	**P**	**15 22 14.1**	**0.0**
	2.3nm,0.7s,mb3.9,baz=299,slow=8.9,SNR=28						
WRA				pP	pP	15 22 23.7	-0.1
	1.7nm,0.5s,baz=302,slow=8.9,SNR=7.8						
WRAB	**Tennant Creek**	**41.48**	**121**	*e*P	**P**	**15 22 14.2**	**+0.1**
	3.8nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**41.49**	**121**	*e*P	**P**	**15 22 14.6**	**+0.4**
SONM	**Songino Array**	**47.91**	**8**	P	**P**	**15 23 07.0**	**+1.4**
	0.7nm,0.4s,mb4.0,baz=186,slow=9.8,SNR=11						
SONM				pP	pP	15 23 16.6	+1.3
	2.4nm,0.7s,baz=190,slow=7.7,SNR=11						
MKAR	**Makanchi Array**	**48.07**	**346**	P	**P**	**15 23 07.5**	**+0.9**
	2.4nm,0.7s,mb4.4,baz=158,slow=7.9,SNR=25						
MKAR				pP	pP	15 23 17.5	+1.0
	5.0nm,0.7s,baz=148,slow=6.4,SNR=16						
MJAR	**Matsushiro Arr**	**52.20**	**42**	pP	pP	15 23 48.4	+0.2
	1.6nm,0.8s,baz=225,slow=6.3,SNR=3.7						
KURK	**Kurchatov**	**52.62**	**345**	*e*P	**P**	**15 23 41.2**	**-0.1**
	4.8nm,1.1s,mb4.3						
KURK				*e*pP	pP	15 23 51.5	+0.3
STKA	**Stephens Creek**	**52.70**	**132**	P	**P**	**15 23 42.7**	**+0.5**
	3.7nm,0.6s,mb4.5,baz=314,slow=5.9,SNR=13						
STKA	**Stephens Creek**	**52.70**	**132**	*e*P	**P**	**15 23 42.3**	**0.0**
ZAL	**Zalesovo**	**54.38**	**351**	P	**P**	**15 23 54.2**	**0.0**
	1.9nm,0.5s,mb4.3,baz=324,slow=7.7,SNR=9.8						
ZAL				pP	pP	15 24 04.3	+0.2
	3.0nm,0.4s,baz=314,slow=5.6,SNR=5.8						
BVAR	**Borovoye Array**	**57.07**	**341**	P	**P**	**15 24 12.9**	**-0.7**
	0.9nm,0.6s,mb4.0,baz=141,slow=9.5,SNR=7.6						
BVAR				pP	pP	15 24 22.8	-0.8
	3.6nm,0.8s,baz=140,slow=12,SNR=11						
BRVK	**Borovoye**	**57.13**	**341**	*e*P	**P**	**15 24 13.2**	**-0.9**
	1.2nm,0.8s,mb4.0						
BRVK				*e*pP	pP	15 24 22.5	-1.5
YAK	**Yakutsk**	**66.16**	**16**	*e*P	**P**	**15 25 13.7**	**-0.9**
	5.2nm,0.6s,mb4.7						
YAK				*e*pP	pP	15 25 23.8	-0.9
BRTR	**Keskin Array B**	**69.77**	**313**	pP	pP	15 25 46.1	-1.5
	0.8nm,0.6s,baz=129,slow=7.9,SNR=3.2						
AKASG	**Malin Array Be**	**76.00**	**323**	P	**P**	**15 26 13.4**	**-0.6**
	0.2nm,0.2s,mb3.6,baz=83,slow=4.6,SNR=2.1						
AKASG				pP	pP	15 26 23.4	-0.7
	1.2nm,0.4s,baz=89,slow=4.6,SNR=2.8						
MLR	**Muntele Rosu**	**76.76**	**317**	pP	pP	15 26 28.8	+0.2
	2.0nm,0.8s,baz=200,slow=8.9,SNR=2.7						
FINES	**FINESS Array B**	**80.79**	**333**	P	**P**	**15 26 40.4**	**+0.5**
	0.7nm,0.5s,mb3.9,baz=108,slow=6.0,SNR=5.5						
FINES				pP	pP	15 26 50.8	+0.6
	1.1nm,0.5s,baz=104,slow=7.9,SNR=3.3						
ARCES	**ARCESS Array B**	**83.35**	**340**	P	**P**	**15 26 54.2**	**+1.1**
	3.0nm,0.8s,mb4.4,baz=63,slow=2.7,SNR=7.6						
ARCES				pP	pP	15 27 04.4	+1.0
	10nm,1.1s,baz=80,slow=7.4,SNR=2.7						
HFS	**Hagfors**	**86.50**	**330**	pP	pP	15 27 20.0	+0.7
	0.5nm,0.5s,baz=90,slow=5.9,SNR=1.7						
TXAR	**Lajitas Array**	**144.28**	**32**	PKP	PKPdf	15 34 02.8	-4.2
	0.6nm,0.3s,baz=225,slow=1.8,SNR=5.3						
TXAR				pPKP		15 34 13.3	
	0.6nm,0.4s,baz=164,slow=0.3,SNR=3.1						
CPUP	**Villa Florida**	**144.50**	**221**	PKP	PKPdf	15 34 03.2	-4.3
	0.7nm,0.6s,baz=194,slow=8.3,SNR=2.7						
CPUP				pPKP		15 34 13.4	
	1.5nm,0.6s,baz=151,slow=4.9,SNR=4.1						

WAR ***29*** *15:22:30.9,50.35N×18.96E,h0km,ML2.5,Mining Induced*
PRU ***29*** *15:22:31.0,50.37N×18.91E*
NEIC ***29*** *15:22:31.9±1.1,50.27N×18.91E,h5km,MG2.5(WAR), Error ellipse: s-maj=15.4km s-min=9.4km az=187.0*
ISC 29 15:22:29.7±0.7,**50.35N**±0.05×**18.87E**±0.04,**n15,**σ1$**00/22,**
Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.61**	**102**	*e*Pg	**Pg**	**15 22 41.4**	**-0.4**
OJC				*e*Sg	**Sg**	**15 22 49.4**	**-0.5**
OKC	**Ostrava-Krasne**	**0.69**	**223**	*e*PG	**Pg**	**15 22 44.5**	**+1.0**
MORC	**Moravsky Berou**	**1.03**	**237**	*e*Pg	**Pg**	**15 22 50.4**	**+0.1**
MORC				*e*Sg	**Sg**	**15 23 04.7**	**+0.7**
LIKS	**Likavka**	**1.31**	**173**	*e*PN	**Pn**	**15 22 55.1**	**-0.1**
NIE	**Niedzica**	**1.32**	**135**	*e*Pg	**Pg**	**15 22 55.7**	**-0.3**
NIE				*e*Sg	**Sg**	**15 23 13.4**	**-0.2**
NIE				*e*		15 23 14.2	
DPC	**Dobruska-Polom**	**1.63**	**271**	*e*PG	**Pg**	**15 23 00.2**	**-2.1**
DPC				*e*SG	**Sg**	**15 23 23.3**	**-0.8**
	7.7nm,0.2s						
KSP	**Ksiaz**	**1.72**	**288**	*e*Pg	**Pg**	**15 23 03.6**	**-0.3**
KSP				*e*Sg	**Sg**	**15 23 27.4**	**+0.6**
KSP	**Ksiaz**	**1.72**	**288**	*e*PG	**Pg**	**15 23 04.0**	**+0.1**
KSP				*e*SG	**Sg**	**15 23 27.0**	**+0.2**
UPC	**Upice**	**1.84**	**276**	*e*SG	**Sg**	**15 23 29.7**	**-1.1**
VYHS	**Vyhne**	**1.86**	**181**	*e*PN	**Pn**	**15 23 02.8**	**-0.2**
VYHS				*e*SN	**Sn**	**15 23 26.8**	**-0.8**
KECS	**Kecovo**	**2.15**	**150**	*e*PN	**Pn**	**15 23 08.3**	**+1.1**
CRVS	**Cervenica-Dubn**	**2.22**	**130**	*e*PN	**Pn**	**15 23 09.9**	**+1.7**
PRU	**Pruhonice**	**2.81**	**264**	*e*SG	**Sg**	**15 23 58.9**	**-4.3**
KHC	**Kasperske Hory**	**3.65**	**252**	*e*SG	**Sg**	**15 24 27.0**	**-4.0**
CLL	**Collm**	**3.84**	**287**	*e*SG	**Sg**	**15 24 40.0**	**+2.4**

NEIC ***29*** *15:43:39.1,35.96S×70.66W,h24km,ML3.1(GUC),After GUC.*
GUC 29 15:43:39.1±0.6,**35.96S×70.66W,h24**km±3km**,MD3.6,**
ML3.1,2C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**1.31**	**240**	*i*P	Pn	15 44 01.8	-0.4
CCHI				*i*S	Sn	15 44 18.8	-0.2
CCHI				AMP		15 44 19.3	
	comp=E,530nm,0.2s						
CICH	**Cipreses**	**1.65**	**7**	⇓*i*P	Pn	15 44 07.3	+0.3
CICH				*i*S	Sn	15 44 28.4	+0.9
CACH	**El Canelo**	**1.84**	**2**	⇑*i*P	Pn	15 44 10.3	+0.6
CACH				*i*S	Sn	15 44 34.1	+1.7
CHCH	**Chadas Angostu**	**2.02**	**0**	⇑*i*P	Pn	15 44 13.1	+0.8
CHCH				*i*S	Sn	15 44 38.8	+1.7
LMEL	**Las Melosas**	**2.14**	**10**	*i*P	Pn	15 44 16.4	+2.4
LMEL				*i*S	Sn	15 44 43.8	+3.7
LMEL				AMP		15 44 52.1	
	comp=N,143nm,0.2s						
TACH	**Talagante**	**2.31**	**354**	*i*P	Pn	15 44 16.9	+0.4
TACH				*i*S	Sn	15 44 45.5	+1.1
RCDM	**Rinconada Maip**	**2.46**	**357**	AMP		15 44 53.1	
	comp=E,188nm,0.4s						
FCH	**Farellones**	**2.64**	**7**	AMP		15 45 01.6	
	comp=N,88nm,0.3s						

IDC 29 15:45:51.8±3.2,**0.75N×98.01E,h35**km±8km**,mb3.6/3,**
mb1 3.7/3,mb1mx3.4/18,mbtmp3.8/3,Error ellipse:
s-maj=170.2km s-min=19.2km az=56.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.11**	**122**	P	P	15 53 33.2	-1.2
	0.6nm,0.6s,baz=300,slow=8.9,SNR=13						
WRA				pP	pP	15 53 43.1	-1.6
	0.7nm,0.7s,baz=302,slow=8.9,SNR=7.5						
MKAR	**Makanchi Array**	**47.88**	**345**	P	P	15 54 26.7	-1.7
	0.6nm,0.6s,baz=156,slow=8.2,SNR=10						
MKAR				pP	pP	15 54 36.4	-2.3
	1.2nm,0.6s,baz=160,slow=7.0,SNR=11						
STKA	**Stephens Creek**	**52.45**	**132**	P	P	15 55 00.1	-3.4
	2.8nm,0.9s,baz=293,slow=7.7,SNR=4.7						
STKA				pP	pP	15 55 12.1	-1.9
	2.6nm,0.9s,baz=318,slow=8.6,SNR=3.1						

IDC ***29*** *15:58:21.1±1.3,50.30N×87.95E,mb3.6/4,mb1 3.9/7, mb1mx3.7/22,mbtmp3.8/7,ML3.9/2,MS2.9/1,Ms1 3.0/1, ms1mx2.3/21,Error ellipse: s-maj=17.6km s-min=10.5km az=92.0*
MOS ***29*** *15:58:22.6±2.0,50.24N×87.70E,h15km,mb4.2/2,Error ellipse: s-maj=17.0km s-min=10.1km az=111.3*
NEIC ***29*** *15:58:22.6±1.1,50.12N×87.70E,h10km,Error ellipse: s-maj=23.8km s-min=16.0km az=31.0*
NNC ***29*** *15:58:24.0±6.2,50.25N×87.60E,h21km±40km,mpv4.2, Error ellipse: s-maj=48.9km s-min=30.9km az=66.0*
BJI ***29*** *15:58:32.2,49.47N×87.43E,h11km,ML3.8*
ISC 29 15:58:20.2±1.0,**50.10N**±0.04×**87.55E**±0.07,**h2**km±6km**,**
n25,σ1$**12/41,mb3.5/4,MS2.9/1,8C-5D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.22**	**11**	*i* PG	**Pg**	**15 58 24.5**	**-0.1**
UKR	**Ust'-Kan**	**1.96**	**296**	*e*PN	**Pg**	**15 58 59.4**	**0.0**
UKR				*e*S	**Sg**	**15 59 25.8**	**+0.3**
TASR	**Tashtagol**	**2.67**	**4**	*e*PN	**Pn**	**15 59 07.7**	**+2.8**
TASR				*e*S	**Sn**	**15 59 42.3**	**+4.1**
CERR	**Cheremushki**	**3.66**	**40**	*e*PN	**Pn**	**15 59 20.0**	**+1.0**
CERR				*e*		15 59 27.3	
CERR				*i* S	**Sg**	**16 00 11.6**	**-11**
ZAL	**Zalesovo**	**4.20**	**337**	Pn	**Pn**	**15 59 27.1**	**+0.4**
	10nm,0.3s,baz=327,slow=10,SNR=37						
ZAL				Sn	**Sn**	**16 00 17.1**	**+0.1**
	10nm,0.3s,baz=180,slow=20,SNR=8.2						
ZAL				Lg		16 00 30.5	
	12nm,0.3s,baz=281,slow=17,SNR=4.7						
MK31	**Makanchi Array**	**4.82**	**229**	⇑Pn	**Pn**	**15 59 41.0**	**+5.5**
	32nm,0.6s,baz=54,slow=13,SNR=865						
MK31				⇑Pg	**Pg**	**15 59 56.1**	**-0.3**
	32nm,0.8s,slow=0.1,SNR=5.3						
MK31				⇑Sn	**Sn**	**16 00 40.5**	**+7.8**
	15nm,0.5s,baz=56,slow=20,SNR=5.6						
MK31				⇑Lg		16 01 01.6	
	25nm,0.4s,baz=59,slow=32,SNR=5.4						
MKAR	**Makanchi Array**	**4.82**	**229**	PN	**Pn**	**15 59 40.9**	**+5.4**
MKAR						16 00 40.4	
MKAR						16 00 59.1	
MKAR				pmax	pmax		
	comp=Z,15nm,0.3s						
MKAR				smax			
	comp=E,12nm,0.3s						
MKAR	**Makanchi Array**	**4.82**	**229**	Pn	**Pn**	**15 59 40.9**	**+5.4**
	comp=E,15nm,0.3s,baz=49,slow=13,SNR=642						
MKAR				Sn	**Sn**	**16 00 40.4**	**+7.7**
	comp=E,12nm,0.3s,baz=340,slow=11,SNR=8.6						
MKAR				Lg		16 00 59.1	
	comp=E,20nm,0.3s,baz=50,slow=32,SNR=9.1						
NVS	**Novosibirsk**	**5.43**	**333**	PN	**Pn**	**15 59 43.7**	**-0.4**
NVS				*e*P		16 00 01.9	
NVS				*e*S	**Sn**	**16 00 45.1**	**-2.9**
NVS				*e*S	**Sg**	**16 01 09.0**	**-12**
KURK	**Kurchatov**	**5.75**	**280**	⇑Pn	**Pn**	**15 59 50.6**	**+2.1**
	comp=E,5.4nm,0.4s						
KURK				⇓Sn	**Sn**	**16 00 57.6**	**+1.6**
	comp=E,7.5nm,0.5s						
KURK				⇓Lg		16 01 24.6	
	comp=E,32nm,0.6s						
KURK	**Kurchatov**	**5.75**	**280**	*e*PN	**Pn**	**15 59 50.1**	**+1.6**
KURK				*e*	**Sg**	**16 01 22.2**	**-9.3**
KURK				pmax	pmax		
	comp=Z,19nm,0.3s						
KURK	**Kurchatov**	**5.75**	**280**	*e*Pn	**Pn**	**15 59 50.1**	**+1.6**
	comp=Z,19nm,0.3s						
KURK				*e*Sg	**Sg**	**16 01 22.2**	**-9.2**
WMQ	**Urumqi**	**6.29**	**179**	*e*P	**Pn**	**15 59 56.5**	**+0.3**
WMQ				S	**Sn**	**16 01 06.0**	**-3.5**
WMQ				Smax			
	comp=N,42nm,0.7s						
WMQ				Smax			
	comp=E,47nm,0.7s						
VOSK	**Vostochnaya**	**10.68**	**291**	Pn	**P**	**16 00 55.2**	**-1.9**
	comp=E,2.1nm,0.7s						
VOSK				⇓Sn	**S**	**16 02 52.7**	**-5.8**
	comp=E,2.7nm,0.5s						
BVA0	**Borovoye Array**	**11.08**	**292**	⇓Sn	**S**	**16 03 02.5**	**-5.7**
	comp=E,0.7nm,0.6s,baz=96,slow=24,SNR=8.3						
BVAR	**Borovoye Array**	**11.08**	**292**	Pn	**P**	**16 01 01.3**	**-1.3**
	comp=E,1.7nm,0.3s,baz=104,slow=14,SNR=26						
BVAR				Sn	**S**	**16 03 02.6**	**-5.6**
	comp=E,1.6nm,0.3s,baz=86,slow=24,SNR=8.3						
BVAR				Lg		16 04 30.0	
	baz=105,slow=23,SNR=3.6						
BRVK	**Borovoye**	**11.14**	**292**	Pn	**P**	**16 01 02.8**	**-0.7**
	comp=E,0.7nm,0.5s						
BRVK				⇓Sn	**S**	**16 03 03.7**	**-6.1**
	comp=E,2.4nm,0.7s						
BRVK	**Borovoye**	**11.14**	**292**	*e*Pn	**P**	**16 01 02.3**	**-1.2**
SONM	**Songino Array**	**12.59**	**93**	Lg		16 04 59.7	
	comp=E,0.1nm,0.3s,baz=280,slow=29,SNR=7.9						
KK31	**Karatay Array**	**13.63**	**246**	Pn	**P**	**16 01 35.7**	**-1.1**
	comp=E,0.5nm,0.3s,baz=43,slow=16,SNR=20						
KK31				⇑Sn	**S**	**16 04 10.6**	**+0.6**
	comp=E,0.4nm,0.4s,baz=59,slow=19,SNR=4.4						
KK31				⇑Lg		16 05 40.7	
	comp=E,2.6nm,0.6s						
AB31	**Akbulak array**	**17.85**	**278**	⇑Pn	**P**	**16 02 31.1**	**0.0**
	comp=E,0.8nm,0.5s						
FINES	**FINESS Array B**	**35.04**	**313**	P	**P**	**16 05 17.1**	**+1.2**
	comp=E,1.3nm,0.8s,mb3.9,baz=85,slow=17,SNR=3.1						
BRTR	**Keskin Array B**	**38.78**	**276**	P	**P**	**16 05 48.3**	**+0.7**
	comp=E,0.6nm,0.5s,mb3.6,baz=71,slow=6.5,SNR=3.6						
NOA	**NORSAR Array B**	**42.07**	**315**	P	**P**	**16 06 13.9**	**-0.4**
	comp=E,0.4nm,0.6s,mb3.2,baz=66,slow=7.8,SNR=3.2						
NOA				LR	LR	16 26 50.9	
	comp=E,16nm,19.2s,MS2.9,baz=5.0,slow=41						
WRA	**Warramunga Arr**	**81.06**	**136**	P	**P**	**16 10 37.2**	**-0.9**
	comp=E,0.2nm,0.6s,mb3.2,baz=341,slow=5.9,SNR=5.3						

IDC ***29*** *16:04:34.3±1.9,22.85N×144.15E,mb4.0/8,mb1 4.1/10, mb1mx3.9/24,mbtmp4.0/10,ML3.5/2,Error ellipse: s-maj=88.2km s-min=15.6km az=76.0*
NEIC ***29*** *16:04:38.1±4.2,22.87N×144.17E,h25km±30km,mb4.2/2, Error ellipse: s-maj=48.1km s-min=8.9km az=78.0*
ISC 29 16:04:37.2±1.6,**22.9N**±0.1×**144.2E**±0.5,**h33**km**,n16,**
σ0$**34/16,mb4.0/8,Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.57**	**337**	Pn	**Pn**	**16 05 45.5**	**-0.5**
	4.4nm,0.3s,baz=97,slow=23,SNR=11						
CBIJ				Sn	**Sn**	**16 06 33.9**	**-4.7**
	12nm,0.3s,baz=257,slow=22,SNR=6.5						
MJAR	**Matsushiro Arr**	**14.57**	**341**	Pn	**P**	**16 08 02.8**	**+0.1**
	0.2nm,0.3s,baz=153,slow=13,SNR=3.2						
SONM	**Songino Array**	**39.03**	**319**	P	**P**	**16 12 02.9**	**+0.6**
	0.4nm,0.5s,mb3.4,baz=149,slow=8.4,SNR=2.9						
CTA	**Charters Tower**	**42.74**	**177**	P	**P**	**16 12 33.4**	**+0.1**
	5.1nm,1.0s,mb4.2,baz=17,slow=11,SNR=3.9						
WB2	**Warramunga Arr**	**43.61**	**193**	*e*P	**P**	**16 12 40.4**	**0.0**
WRA	**Warramunga Arr**	**43.62**	**193**	P	**P**	**16 12 40.5**	**+0.1**
	0.5nm,0.3s,mb3.7,baz=16,slow=8.9,SNR=32						
FITZ	**Fitzroy Crossi**	**44.56**	**206**	*e*P	**P**	**16 12 48.2**	**+0.2**
	5.0nm,1.1s,mb4.3						
FITZ	**Fitzroy Crossi**	**44.56**	**206**	P	**P**	**16 12 47.7**	**-0.3**
	4.5nm,0.9s,mb4.3,baz=13,slow=12,SNR=7.7						
STKA	**Stephens Creek**	**54.49**	**183**	*e*P	**P**	**16 14 03.7**	**-0.4**
	2.4nm,1.4s,mb3.9						
STKA	**Stephens Creek**	**54.49**	**183**	P	**P**	**16 14 03.5**	**-0.5**
	0.8nm,0.4s,mb4.0,baz=344,slow=12,SNR=7.2						
MKAR	**Makanchi Array**	**54.58**	**312**	P	**P**	**16 14 04.3**	**-0.2**
	0.6nm,0.6s,mb3.8,baz=82,slow=9.1,SNR=8.3						
MKAR	**Makanchi Array**	**54.58**	**312**	P	**P**	**16 14 04.3**	**-0.2**
BVAR	**Borovoye Array**	**62.38**	**319**	P	**P**	**16 14 58.8**	**0.0**
	3.3nm,0.4s,mb4.6,baz=84,slow=7.0,SNR=20						
FINES	**FINESS Array B**	**82.52**	**335**	P	**P**	**16 16 58.0**	**+0.4**
	0.7nm,0.6s,mb3.9,baz=56,slow=6.9,SNR=3.3						
FINES	**FINESS Array B**	**82.52**	**335**	P	**P**	**16 16 58.0**	**+0.4**
BOSA	**Boshof**	**125.17**	**250**	PKP	PKPdf	16 23 37.6	+2.6
	2.6nm,0.9s,baz=143,slow=10,SNR=3.3						

IDC 29 16:07:42.3±3.1,**8.09N×91.61E,h27**km±7km**,mb3.4/3,**
mb1 3.5/3,mb1mx3.3/19,mbtmp3.5/3,MS3.9/1,Ms1 3.9/1,
ms1mx2.9/13,Error ellipse: s-maj=106.9km
s-min=21.9km az=64.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.38**	**350**	P	P	16 15 09.7	-1.7
	0.3nm,0.4s,baz=175,slow=8.6,SNR=5.9						
MKAR				pP	pP	16 15 17.6	-1.9
	0.4nm,0.5s,baz=170,slow=7.4,SNR=3.8						
SONM	**Songino Array**	**41.55**	**15**	P	P	16 15 27.2	-2.1
	0.4nm,0.6s,baz=202,slow=7.8,SNR=3.6						
SONM				pP	pP	16 15 35.9	-1.5
	1.2nm,0.8s,baz=198,slow=7.8,SNR=6.3						
WRA	**Warramunga Arr**	**50.44**	**124**	P	P	16 16 37.9	-2.1
	0.5nm,0.9s,baz=302,slow=8.7,SNR=5.6						
WRA				pP	pP	16 16 46.3	-2.1
	0.3nm,0.5s,baz=302,slow=8.9,SNR=6.0						
MJAR	**Matsushiro Arr**	**50.89**	**49**	LR	LR	16 37 46.5	
	comp=Z,127nm,20.5s,baz=105,slow=35						

NIED ***29*** *16:34:00,39.70N×142.70E,h26km,Mw3.9 Best double couple: M0 8.19×10^14 NP1:φs252°,δ71°,λ139°. NP2: φs357°,δ52°,λ24°.*
JMA ***29*** *16:34:26.7±0.1,39.72N×142.65E,h33km±1km,M4.1*
IDC ***29*** *16:34:31.8±7.3,39.58N×142.43E,h70km±55km,mb3.5/4, mb1 3.7/6,mb1mx3.4/22,mbtmp3.9/6,ML3.8/2,Error ellipse: s-maj=84.3km s-min=22.7km az=68.0*
NEIC ***29*** *16:34:35.2±7.9,39.51N×142.26E,h95km±55km,mb4.1/1, Error ellipse: s-maj=96.7km s-min=24.3km az=67.0*
ISC 29 16:34:26.6±1.4,**39.70N**±0.04×**142.7E**±0.1,**h40**km±12km**,**
n22,σ0$**99/34,mb3.8/5,3C-6D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.68**	**291**	⇓P	**P**	**16 34 39.3**	**-0.5**
JTH				S	**S**	**16 34 48.7**	**-0.7**
MIYJ	**Miyakonagasawa**	**0.69**	**260**	P	**P**	**16 34 39.3**	**-0.5**
MIYJ				*e*S	**S**	**16 34 48.0**	**-1.5**
OFUJ	**Ofunato**	**1.01**	**232**	⇑P	**P**	**16 34 44.3**	**-0.1**
OFUJ				*e*S	**S**	**16 34 57.0**	**-0.6**
JKZ	**Kuzumaki**	**1.09**	**286**	⇓P	**P**	**16 34 45.8**	**+0.3**
JKZ				S	**S**	**16 34 59.1**	**-0.5**
JOM	**Ohasama**	**1.11**	**259**	⇓P	**P**	**16 34 46.2**	**+0.4**
JOM				S	**S**	**16 35 00.1**	**0.0**
JANG	**Nango**	**1.13**	**307**	⇓P	**P**	**16 34 45.4**	**-0.7**
JMK	**Ichinoseki**	**1.36**	**237**	⇑P	**P**	**16 34 49.9**	**+0.3**
JMK				S	**S**	**16 35 06.7**	**0.0**
JIO	**Ouri**	**1.62**	**221**	⇑P	**P**	**16 34 53.4**	**+0.1**
JIO				S	**S**	**16 35 13.1**	**-0.1**
JTM	**Tenmabayashi**	**1.65**	**312**	⇓P	**P**	**16 34 53.7**	**+0.1**
JTM				S	**S**	**16 35 13.7**	**-0.1**
JAH	**Hinai**	**1.66**	**288**	⇓P	**P**	**16 34 54.3**	**+0.6**
JAH				S	**S**	**16 35 15.6**	**+1.7**
MJAR	**Matsushiro Arr**	**4.74**	**230**	P	**P**	**16 35 39.1**	**+1.6**
	4.2nm,0.3s,baz=44,slow=11,SNR=62						
MAJO	**Matsushiro**	**4.74**	**230**	*e*Pn	**P**	**16 35 39.6**	**+2.1**
MAT	**Matsushiro**	**4.74**	**230**	*e*P	**P**	**16 35 39.0**	**+1.5**
MAT				S	**S**	**16 36 44.0**	**+12**
MAT	**Matsushiro**	**4.74**	**230**	P	**P**	**16 35 39.0**	**+1.5**
MAT				*e*S	**S**	**16 36 27.0**	**-4.9**
JHJ	**Hachijo jima 2**	**6.97**	**201**	P	**P**	**16 36 07.0**	**-1.9**
	8.1nm,0.3s,baz=58,slow=19,SNR=4.8						
JHJ				S	**S**	**16 37 20.6**	**-7.1**
	1.4nm,0.3s,baz=52,slow=19,SNR=2.4						
SONM	**Songino Array**	**27.24**	**299**	P	**P**	**16 40 07.2**	**-1.6**
	0.5nm,0.7s,mb3.1,baz=100,slow=8.8,SNR=3.6						
SONM	**Songino Array**	**27.24**	**299**	P	**P**	**16 40 07.2**	**-1.6**
MKAR	**Makanchi Array**	**43.61**	**300**	P	**P**	**16 42 28.4**	**-0.2**
	0.7nm,0.7s,mb3.5,baz=86,slow=11,SNR=8.2						
KURK	**Kurchatov**	**45.13**	**306**	*e*P	**P**	**16 42 42.5**	**+1.9**
	2.4nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**59.84**	**189**	P	P	**16 44 29.0**	**-1.6**
	2.4nm,0.7s,mb4.3,baz=6.2,slow=6.9,SNR=26						
FINES	**FINESS Array B**	**66.93**	**332**	P	**P**	**16 45 16.7**	**+0.2**
	1.5nm,1.0s,mb4.0,slow=6.9,SNR=2.4						
FINES	**FINESS Array B**	**66.93**	**332**	P	**P**	**16 45 16.7**	**+0.2**

ISC 29 16:35:40.3±0.8,**7.23N**±0.08×**125.84E**±0.07,**h83**km±11km**,**
n9,σ1$**00/15,mb3.8/1,3C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.77**	**254**	⇑*i*P	**P**	**16 35 57.8**	**+0.5**
KCP				*i* S	**S**	**16 36 10.2**	**+0.5**
BUKP	**Musuan**	**1.00**	**310**	*e*P	**P**	**16 35 59.9**	**0.0**
BUKP				*e*S	**S**	**16 36 14.2**	**-0.3**
BIPH	**Bislig**	**1.08**	**29**	⇑*i*P	**P**	**16 36 00.5**	**-0.3**
BIPH				*i* S	**S**

comp=Z,32nm,1.1s,mb4.7,baz=316,slow=11,SNR=10
CTA LR LR 17 07 42.5
comp=Z,198nm,18.8s,MS3.6,baz=313,slow=38
CTAO Charters Tower 23.29 135 *e*P **P** **16 58 06.3 +1.0**
CTAO *e**PP 16 58 13.9
CTAO pmax pmax
comp=Z,62nm,0.9s,mb5.0
CTAO Charters Tower 23.29 135 *e*P **P** **16 58 06.3 +0.9**
comp=Z,62nm,0.9s,mb5.0
CTAO *e*pP 16 58 13.9
KGM Kluang 26.24 283 P **P** **16 58 34.9 +1.3**
IPM Ipoh 29.11 287 P **P** **16 58 60.0 +0.4**
KLBR Kellerberrin 29.37 200 *e*P **P** **16 59 01.7 -0.1**
comp=Z,59nm,1.0s,mb5.3
KULM Kulim 29.67 288 *e*P **P** **16 59 04.4 -0.3**
KULM *e*pP pP 16 59 13.3 +0.9
STKA Stephens Creek 30.19 158 *e*P **P** **16 59 09.4 +0.3**
comp=Z,5.6nm,0.7s,mb4.4
STKA Stephens Creek 30.19 158 P **P** **16 59 09.2 +0.1**
comp=Z,4.6nm,1.0s,mb4.2,baz=352,slow=7.8,SNR=11
STKA LR LR 17 13 09.7
comp=Z,148nm,18.8s,MS3.6,baz=272,slow=40
MUN Mundaring 30.27 202 *e*P **P** **16 59 08.4 -1.4**
comp=Z,22nm,0.8s,mb5.0
MUN Mundaring 30.27 202 *e*P **P** **16 59 08.4 -1.4**
MUN pmax pmax
comp=Z,22nm,0.8s,mb4.9
JOW Kunigami 30.66 359 P **P** **16 59 12.6 -0.7**
comp=Z,45nm,0.9s,mb5.3,baz=173,slow=6.8,SNR=8.5
JOW LR LR 17 10 26.4
comp=Z,103nm,18.2s,MS3.5,baz=293,slow=34
NWAO Narrogin (SRO) 30.77 199 P **P** **16 59 15.2 +1.1**
comp=Z,14nm,1.0s,mb4.7,baz=357,slow=14,SNR=2.6
NWAO LR LR 17 10 36.5
comp=Z,268nm,20.2s,MS3.9,baz=342,slow=34
HNR Honiara 31.31 102 *e*P **P** **16 59 19.2 +0.1**
HNR pmax pmax
comp=Z,75nm,1.0s,mb5.5
HNR Honiara 31.31 102 P **P** **16 59 19.4 +0.3**
comp=Z,46nm,0.8s,mb5.4,baz=240,slow=4.2,SNR=4.7
HNR Honiara 31.31 102 *e*P **P** **16 59 19.1 0.0**
comp=Z,75nm,1.0s,mb5.5
ADE Adelaide 32.13 165 P **P** **16 59 28.0 +1.9**
CBIJ Chichi jima 33.48 22 P **P** **16 59 37.9 -0.1**
comp=Z,19nm,0.6s,mb5.2,baz=146,slow=15,SNR=4.1
SSE Sheshan 35.67 349 P **P** **16 59 58.5 +1.8**
SSE AP pP 17 00 07.3 +2.9
SSE XP sP 17 00 11.3 +3.5
SSE S **S** **17 05 35.0 +4.2**
SSE XS 17 05 50.0
SSE AMB AMB
comp=Z,57nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,146nm,4.4s
SSE LR LR
comp=N,85nm,18.2s,MS3.6
SSE LR LR
comp=E,57nm,18.2s,MS3.6
SSE LR LR
comp=Z,126nm,14.5s,MS3.8
SSE Sheshan 35.67 349 P **P** **16 59 58.6 +1.9**
comp=Z,57nm,0.7s,mb5.6
SSE pP pP 17 00 07.3 +2.9
SSE sP sP 17 00 11.2 +3.4
SSE S **S** **17 05 35.1 +4.3**
SSE sS 17 05 50.0
SSE SS SS 17 08 12.6 +21
SSE LR LR
comp=Z,130nm,14.5s,MS3.8
BDT Bhumibol Dam 36.28 306 P **P** **17 00 02.0 +0.1**
JNU Nakatsue 36.97 3 P **P** **17 00 07.2 -0.4**
comp=Z,28nm,1.0s,mb5.0,baz=160,slow=6.0,SNR=7.8
NJ2 Nanjing 37.10 346 *e*P **P** **17 00 09.5 +0.8**
NJ2 AP pP 17 00 18.5 +2.0
NJ2 XP sP 17 00 23.5 +3.7
NJ2 PP PP 17 01 34.3 -1.4
NJ2 S **S** **17 05 53.0 +0.2**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
NJ2 AMB AMB
comp=Z,180nm,10.8s
NJ2 LR LR
comp=N,450nm,10.8s,MS4.6
NJ2 LR LR
comp=E,410nm,14.6s,MS4.6
NJ2 LR LR
comp=Z,310nm,16.6s,MS4.2
GYA Guiyang 37.14 326 ⇑*i*P **P** **17 00 10.0 +0.9**
GYA AP pP 17 00 17.3 +0.4
GYA XP sP 17 00 21.5 +1.3
GYA PP PP 17 01 36.8 +0.6
GYA S **S** **17 05 53.8 +0.4**
GYA ScS ScS 17 10 22.5 +2.8
GYA AMB AMB
comp=Z,20nm,1.1s,mb4.9
GYA AMB AMB
comp=Z,120nm,3.0s
GYA LR LR
comp=N,670nm,17.2s,MS4.7
GYA LR LR
comp=E,860nm,17.6s,MS4.7
GYA LR LR
comp=Z,920nm,17.0s,MS4.6
CHRT Chiangrai 37.16 311 ⇑P **P** **17 00 10.5 +1.2**
comp=Z,105nm,1.1s,mb5.6
KMI Kunming 38.51 320 P **P** **17 00 22.5 +1.9**
KMI AP pP 17 00 31.0 +2.6
KMI XP sP 17 00 33.3 +1.6
KMI PP PP 17 01 52.3 -0.2
KMI S **S** **17 06 19.5 +5.3**
KMI XS 17 06 31.8
KMI AMB AMB
comp=Z,23nm,1.4s,mb4.7
KMI AMB AMB
comp=Z,285nm,3.7s
KMI LR LR
comp=N,539nm,13.3s,MS4.6
KMI LR LR
comp=E,397nm,13.7s,MS4.6
KMI LR LR
comp=Z,626nm,15.7s,MS4.5
KMI Kunming 38.51 320 P **P** **17 00 22.5 +1.9**
KMI *PP pP 17 00 31.0 +2.6
KMI *SP sP 17 00 33.3 +1.6
KMI 17 01 52.2
KMI PPP PPP 17 02 07.8 -7.4
KMI S **S** **17 06 19.6 +5.4**
KMI *SS 17 06 31.7
KMI SSS SSS 17 09 28.5 +0.3
KMI pmax pmax
comp=Z,23nm,1.4s,mb4.7
KMI MLR MLR
comp=Z,630nm,15.7s,MS4.5
KMI Kunming 38.51 320 P **P** **17 00 22.5 +1.9**
comp=Z,23nm,1.4s,mb4.7
KMI pP pP 17 00 31.0 +2.6
KMI sP sP 17 00 33.3 +1.6
KMI PP PP 17 01 52.2 -0.3
KMI PPP PPP 17 02 07.8 -7.4
KMI S **S** **17 06 19.6 +5.4**
KMI sS 17 06 31.7
KMI SS SS 17 09 05.6 +10
KMI SSS SSS 17 09 28.5 +0.3
KMI LR LR
comp=Z,630nm,15.7s,MS4.5
ENH Enshi 38.80 333 *e*P **P** **17 00 23.3 +0.2**
comp=Z,42nm,1.4s,mb5.0
DZM Mont Dzumac 40.59 120 P **P** **17 00 38.4 +0.6**
comp=Z,4.5nm,0.6s,mb4.3,baz=340,slow=19,SNR=6.5
KS15 Wonju Array Si 41.24 359 *e*P **P** **17 00 44.5 +1.4**
MAJO Matsushiro 41.27 11 *e*P **P** **17 00 43.3 0.0**
MAJO pmax pmax
comp=Z,19nm,0.9s,mb4.7
MAJO Matsushiro 41.27 11 *e*P **P** **17 00 43.3 0.0**
comp=Z,19nm,0.9s,mb4.7
MAT Matsushiro 41.27 11 *e*P **P** **17 00 43.0 -0.3**
MAT pmax pmax
comp=Z,20nm,1.0s,mb4.7
MAT Matsushiro 41.27 11 *e*P **P** **17 00 43.0 -0.3**
comp=Z,20nm,1.0s,mb4.7
MAT Matsushiro 41.27 11 P **P** **17 00 43.0 -0.3**
MJAR Matsushiro Arr 41.27 11 P **P** **17 00 43.0 -0.3**
comp=Z,15nm,0.9s,mb4.6,baz=190,slow=11,SNR=20
MJAR LR LR 17 15 13.9
comp=Z,90nm,19.4s,MS3.6,baz=225,slow=32

INCN Inchon 41.33 357 *e*P **P** **17 00 45.1 +1.3**
comp=Z,18nm,0.7s,mb4.8
CD2 Chengdu 42.19 327 P **P** **17 00 51.5 +0.4**
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
XAN Xi'an 42.27 335 P **P** **17 00 51.0 -0.6**
XAN AMB AMB
comp=Z,13nm,1.2s,mb4.4
LZH Lanzhou 46.25 332 ⇓P **P** **17 01 24.5 +0.8**
LZH AP pP 17 01 32.0 +0.5
LZH XP sP 17 01 35.3 +0.6
LZH PP PP 17 03 13.5 +1.2
LZH AMB AMB
comp=Z,58nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,190nm,4.0s
LZH LR LR
comp=E,615nm,15.2s
LZH LR LR
comp=Z,935nm,16.3s,MS4.8
LZH Lanzhou 46.25 332 ⇓P **P** **17 01 24.6 +0.9**
LZH *PP pP 17 01 32.0 +0.5
LZH *SP sP 17 01 35.2 +0.5
LZH 17 03 13.5
LZH pmax pmax
comp=Z,58nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,940nm,16.3s,MS4.8
LZH Lanzhou 46.25 332 ⇓P **P** **17 01 24.6 +0.9**
comp=Z,58nm,1.5s,mb5.3
LZH pP pP 17 01 32.0 +0.5
LZH sP sP 17 01 35.2 +0.5
LZH PP PP 17 03 13.5 +1.2
LZH LR LR
comp=Z,940nm,16.3s,MS4.8
SHL Shillong 46.38 311 *e*P **P** **17 01 24.8 0.0**
CN2 Changchun 47.69 357 *e*P **P** **17 01 34.3 -0.6**
CN2 *e*AP pP 17 01 41.8 -1.0
CN2 *e*S **S** **17 08 29.3 +1.2**
CN2 AMB AMB
comp=Z,20nm,1.4s,mb5.0
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,330nm,13.0s,MS4.5
CN2 LR LR
comp=E,170nm,13.0s,MS4.5
CN2 LR LR
comp=Z,340nm,14.0s,MS4.5
MDJ Mudanjiang 48.40 1 *e*P **P** **17 01 40.6 +0.2**
comp=Z,13nm,0.9s,mb5.0
LSA Lhasa 49.28 315 *e*P **P** **17 01 48.2 +0.8**
LSA pmax pmax
comp=Z,12nm,0.7s,mb5.0
LSA Lhasa 49.28 315 *e*P **P** **17 01 48.2 +0.8**
comp=Z,12nm,0.7s,mb5.0
GTA Gaotai 50.83 331 ⇑P **P** **17 01 59.0 -0.1**
GTA AP pP 17 02 06.0 -1.1
GTA XP sP 17 02 09.8 -0.3
GTA PCP PcP 17 03 16.0 +0.2
GTA PP PP 17 03 56.0 -0.2
GTA SCP 17 07 09.0
GTA PCS 17 07 11.5
GTA S **S** **17 09 13.5 +1.5**
GTA AMB AMB
comp=Z,15nm,1.1s,mb4.8
GTA AMB AMB
comp=Z,89nm,11.5s
GTA LR LR
comp=N,111nm,23.7s,MS4.0
GTA LR LR
comp=E,139nm,23.7s,MS4.0
GTA LR LR
comp=Z,121nm,26.4s,MS3.8
JIRN Jiri 51.80 310 *e*P **P** **17 02 06.6 0.0**
YSS Yuzh-Sakhalins 52.20 12 *e*P **P** **17 02 08.9 -0.4**
YSS Yuzh-Sakhalins 52.20 12 *e*P **P** **17 02 09.3 0.0**
comp=Z,7.6nm,0.5s,mb4.9
PKI Pulchoki 52.36 310 *e*P **P** **17 02 10.3 -0.5**
comp=Z,34nm,1.1s,mb5.2
KKN Kakani 52.56 310 *e*P **P** **17 02 11.9 -0.5**
DMN Daman 52.61 309 *e*P **P** **17 02 12.1 -0.6**
comp=E,61nm,1.1s,mb5.5
KLR Kul'dur 53.07 2 *e*P **P** **17 02 13.1 -2.7**
GKN Gorkha 53.16 310 *e*P **P** **17 02 16.3 -0.5**
comp=Z,54nm,0.9s,mb5.5
KOLN Koldanda 53.85 309 *e*P **P** **17 02 21.2 -0.6**
comp=Z,80nm,1.0s,mb5.6
SONM Songino Array 55.26 342 P **P** **17 02 31.7 -0.2**
comp=Z,7.0nm,1.0s,mb4.6,baz=162,slow=7.8,SNR=33
CIT Chita 57.32 349 *e*P **P** **17 02 47.5 +0.9**
CIT *e* pP 17 02 55.4 +0.8
CIT *e* 17 06 12.6
CIT pmax pmax
comp=Z,38nm,1.4s,mb5.2
ZAK Zakamensk 58.49 341 ⇑*i*P **P** **17 02 54.2 -0.5**
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
TLY Talaya 59.50 342 *e*P **P** **17 03 00.7 -1.1**
TLY *e*S **S** **17 11 03.0 -4.9**
TLY *e*PS PS 17 11 24.6 -1.5
TLY *e*SS SS 17 15 03.0 -1.6
TLY pmax pmax
comp=Z,14nm,1.2s,mb4.9
TLY Talaya 59.50 342 *e*P **P** **17 03 01.5 -0.3**
comp=Z,8.9nm,0.9s,mb4.8
IRK Irkutsk 59.80 343 *e*P **P** **17 03 03.4 -0.4**
IRK pmax pmax
comp=Z,46nm,3.4s
WMQ Urumqi 60.29 327 P **P** **17 03 09.0 +1.7**
WMQ AP pP 17 03 16.8 +1.3
WMQ XP sP 17 03 20.0 +1.6
WMQ PP PP 17 05 23.8 +1.5
WMQ AMB AMB
comp=Z,3.0nm,1.9s,mb4.0
WMQ LR LR
comp=N,287nm,19.3s,MS4.6
WMQ LR LR
comp=E,264nm,19.4s,MS4.6
WMQ LR LR
comp=Z,426nm,19.8s,MS4.6
MOY Mondy 60.34 340 *e*P **P** **17 03 07.8 +0.3**
MOY pmax pmax
comp=Z,36nm,1.8s,mb5.1
CLNS Chul'man 60.72 357 *e*P **P** **17 03 08.3 -1.8**
CLNS pmax pmax
comp=Z,23nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,18nm,1.1s
CLNS pmax pmax
comp=E,4.0nm,0.7s
PET Petropavlovsk 62.11 20 *e*P **P** **17 03 18.9 -0.6**
PET pmax pmax
comp=Z,38nm,1.1s,mb5.4
PET Petropavlovsk 62.11 20 *e*P **P** **17 03 18.9 -0.6**
comp=Z,38nm,1.1s,mb5.4
BOD Bodaibo 62.78 351 *e*P **P** **17 03 22.8 -1.1**
BOD pmax pmax
comp=Z,18nm,1.2s,mb5.1
KSH Kashi 65.07 317 *e*P **P** **17 03 37.3 -1.9**
KSH *e*AP pP 17 03 48.0 +0.7
KSH *e*XP sP 17 03 51.0 +0.7
KSH *e*S S 17 12 13.5 -4.8
KSH *e*SCS ScS 17 13 28.0 -0.6
KSH AMB AMB
comp=Z,110nm,1.1s,mb5.8
KSH AMB AMB
comp=Z,990nm,11.6s
KSH LR LR
comp=N,4μm,31.8s,MS5.4
KSH LR LR
comp=E,850nm,28.2s,MS5.4
MKAR Makanchi Array 65.12 327 P **P** **17 03 38.8 -0.6**
comp=E,12nm,0.7s,mb5.0,baz=125,slow=7.9,SNR=137
YAK Yakutsk 65.85 0 *e*P **P** **17 03 43.8 +0.1**
YAK *e**PP pP 17 03 50.8 -1.1
YAK pmax pmax
comp=Z,132nm,0.8s,mb6.0
YAK Yakutsk 65.85 0 *e*P **P** **17 03 43.8 0.0**
comp=Z,132nm,0.8s,mb6.0
YAK *e*pP pP 17 03 50.8 -1.1
KZA Kyzart 66.79 319 P **P** **17 03 50.7 +0.6**
SNR=12
TKM2 Tokmak 2 66.98 320 P **P** **17 03 51.2 -0.1**
SNR=14

AAK Ala-Archa 67.55 320 *e*P **P** **17 03 53.7 -1.2**
AAK pmax pmax
comp=Z,11nm,1.0s,mb4.8
AAK Ala-Archa 67.55 320 *e*P **P** **17 03 53.7 -1.2**
comp=Z,11nm,1.0s,mb4.8
AML Almayashu 67.83 319 P **P** **17 03 57.0 +0.3**
SNR=26
USP Ospenovka 67.85 320 P **P** **17 03 55.7 -1.1**
SNR=24
EKS2 Erkin-Say 68.03 319 P **P** **17 03 58.2 +0.3**
SNR=9.9
ZAL Zalesovo 68.42 334 P **P** **17 03 58.5 -1.6**
comp=Z,10nm,1.0s,mb4.8,baz=353,slow=5.6,SNR=50
SEY Seymchan 69.09 11 *e*P **P** **17 04 05.1 +1.0**
SEY *e* 17 04 33.0
SEY *e* 17 06 40.5
SEY *e*PPP PPP 17 08 17.4 +0.1
SEY *e*S S 17 13 09.8 +3.5
SEY *e* 17 13 41.5
SEY *e*SSS SSS 17 20 36.1 -0.6
SEY pmax pmax
comp=E,10.0nm,1.3s
SEY pmax pmax
comp=Z,60nm,1.3s,mb5.4
SEY pmax pmax
comp=N,20nm,1.2s
SEY smax
comp=N,40nm,17.3s
SEY smax
comp=E,50nm,22.6s
SEY MLR MLR
comp=Z,50nm,16.0s,MS3.9
SEY MLR MLR
comp=N,30nm,22.0s
SEY MLR MLR
comp=E,40nm,18.0s
KURK Kurchatov 69.40 329 *e*P **P** **17 04 05.5 -0.7**
KURK pmax pmax
comp=Z,48nm,1.0s,mb5.4
KURK Kurchatov 69.40 329 *e*P **P** **17 04 05.5 -0.7**
comp=Z,48nm,1.0s,mb5.4
NVS Novosibirsk 69.70 334 ⇑*i*P **P** **17 04 06.4 -1.6**
NVS pmax pmax
comp=Z,39nm,1.3s,mb5.2
NVS pmax pmax
comp=N,19nm,1.4s
NVS pmax pmax
comp=E,26nm,1.4s
BVAR Borovoye Array 74.95 328 P **P** **17 04 38.7 -0.4**
comp=E,15nm,0.9s,mb4.9,baz=127,slow=7.4,SNR=52
BRVK Borovoye 75.02 328 *e*P **P** **17 04 38.8 -0.7**
BRVK *e**PP pP 17 04 45.5 -2.3
BRVK pmax pmax
comp=Z,14nm,0.9s,mb4.9
BRVK Borovoye 75.02 328 *e*P **P** **17 04 38.8 -0.8**
comp=Z,14nm,0.9s,mb4.9
BRVK *e*pP pP 17 04 45.5 -2.2
VNDA Vanda 75.54 173 *e*P **P** **17 04 41.4 -0.7**
VNDA *e**PP pP 17 04 48.2 -2.1
VNDA pmax pmax
comp=Z,6.0nm,0.7s
VNDA Vanda 75.54 173 P **P** **17 04 41.5 -0.5**
comp=Z,1.3nm,0.5s,mb4.1,baz=309,slow=5.7,SNR=3.7
VNDA LR LR 17 36 42.8
comp=Z,86nm,19.3s,MS4.1,baz=342,slow=35
VNDA Vanda 75.54 173 *e*P **P** **17 04 41.4 -0.7**
comp=Z,6.1nm,0.7s,mb4.6
VNDA *e*pP pP 17 04 48.2 -2.1
SBA Scott Base 76.43 172 *e*P **P** **17 04 47.9 +0.8**
SBA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
SBA Scott Base 76.43 172 *e*P **P** **17 04 47.9 +0.8**
comp=Z,7.7nm,0.9s,mb4.6
MAW Mawson 77.32 201 LR LR 17 36 24.0
comp=Z,68nm,20.3s,MS4.0,baz=351,slow=34
HASS Wahat al Ahsa' 81.94 296 P **P** **17 05 17.9 0.0**
ARU Arti 82.59 328 *e*P **P** **17 05 20.4 -0.2**
ARU pmax pmax
comp=Z,30nm,1.0s,mb5.3
ARU Arti 82.59 328 *e*P **P** **17 05 20.4 -0.2**
comp=Z,30nm,1.0s,mb5.3
QSPA South Pole Qui 85.95 180 *e*P **P** **17 05 37.1 0.0**
comp=Z,8.3nm,0.9s,mb5.0
SYO Syowa Base 86.03 201 ⇓P **P** **17 05 38.5 +0.8**
SYO Syowa Base 86.03 201 ⇓sP sP 17 05 53.2 +4.5
KAMS Al Khamasin 86.04 291 P **P** **17 05 38.7 -0.1**
MAK Makhachkala 86.40 313 *e*P **P** **17 05 42.0 +1.9**
TATS Tathlith 87.00 290 P **P** **17 05 44.8 +1.3**
RSO Redoubt South 87.74 29 *e*P **P** **17 05 46.5 +0.4**
DGRG David-gareji 87.76 312 P **P** **17 05 48.5 +1.8**
SLKM Skilak Lake 88.98 29 *e*P **P** **17 05 52.6 +0.5**
ZEI Tsey 89.01 313 *e*P **P** **17 05 51.7 -0.9**
ZEI *i* *PP pP 17 06 00.7 -0.3
ZEI *i* 17 09 18.1
ZEI pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
GOF Gofitskoye 89.87 315 ⇑*i*P **P** **17 05 55.8 -0.8**
GOF pmax pmax
comp=Z,30nm,1.7s,mb5.3
KIV Kislovodsk 90.01 314 P **P** **17 06 03.0 +5.7**
KIV *e* 17 06 14.7
KIV pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
ILAR Eielson Array 91.13 25 P **P** **17 06 01.0 -1.0**
comp=Z,2.4nm,0.7s,mb4.6,baz=269,slow=4.4,SNR=21
ILAR PP PP 17 09 33.7 -7.6
comp=Z,1.2nm,1.0s,baz=281,slow=4.6,SNR=8.1
ILAR LR LR 17 41 24.3
comp=Z,79nm,20.6s,MS4.1,baz=203,slow=32
SOC Sochi 92.12 313 *e*P **P** **17 06 05.8 -1.2**
SOC *e* 17 09 49.1
SOC *e*S SKS 17 16 36.5 -8.0
SOC *e* 17 17 13.0
SOC *e*PS PS 17 18 19.5 -4.4
SOC *e*SS SS 17 23 17.4 -0.9
SOC *e*SSS SSS 17 26 56.9 +0.5
SOC pmax pmax
comp=N,8.0nm,0.8s
SOC pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
SOC pmax pmax
comp=E,8.0nm,0.7s
ASF Jabal al Asfar 93.79 302 P **P** **17 06 13.5 -1.5**
comp=E,2.6nm,0.8s,mb4.7,baz=88,slow=6.1,SNR=4.1
OBN Obninsk 94.58 325 P **P** **17 06 18.0 -0.1**
OBN *e* 17 06 23.3
OBN pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
INK Inuvik 96.51 22 P **P** **17 06 26.4 -0.2**
comp=Z,6.2nm,1.0s,mb5.0,baz=254,slow=5.0,SNR=6.5
INK Inuvik 96.51 22 *e*P **P** **17 06 26.7 +0.1**
comp=Z,11nm,1.2s,mb5.2
BRTR Keskin Array B 96.57 309 P **P** **17 06 27.4 -0.1**
comp=Z,1.0nm,0.6s,mb4.4,baz=135,slow=5.2,SNR=5.8
SNAA Sanae 98.29 194 *e*P **P** **17 06 35.5 +1.0**
comp=Z,7.1nm,1.4s,mb5.0
ARCES ARCESS Array B 98.40 340 P **P** **17 06 34.2 -0.9**
comp=Z,6.9nm,0.9s,mb5.2,baz=72,slow=5.7,SNR=3.4
ARCES LR LR 18 01 22.0
comp=Z,36nm,18.4s,MS3.9,baz=5.3,slow=42
NB2 NORSAR Subarra106.62 333 Pdif Pdif 17 07 16.9 +5.1
comp=Z,1.0nm,0.8s,baz=67,slow=4.5
GERES GERESS Array B 109.42 321 PKiKP 17 11 28.2
comp=Z,0.5nm,0.5s,SNR=4.6
PDAR Pinedale Array 115.56 44 PKhKP 17 11 37.5
comp=Z,0.5nm,0.9s,baz=333,slow=2.0,SNR=2.6
PDAR PKP PKPdf 17 11 41.3 -2.0
comp=Z,0.2nm,0.8s,baz=243,slow=3.3,SNR=3.7
MNTX Cornudas Mount 122.20 55 *e*PKPdf PKPdf 17 11 54.0 -2.4
TXAR Lajitas Array 124.30 57 PKP PKPdf 17 11 58.6 -1.9
comp=Z,0.8nm,0.9s,baz=315,slow=1.8,SNR=3.5
JTS JuntasAbangare 145.88 78 PKPbc PKPbc 17 12 39.3 +2.3
baz=298,slow=7.2
JTS JuntasAbangare 145.88 78 *e*PKPbc PKPbc 17 12 39.2 +2.3
CPUP Villa Florida 149.25 169 PKPbc PKPdf 17 12 47.2 +1.3
comp=Z,8.5nm,1.1s,baz=234,slow=3.0,SNR=12
CPUP Villa Florida 149.25 169 *e*PKPdf PKPdf 17 12 43.6 -2.4
CPUP PKPbc PKPdf 17 12 47.2 +1.3
CPUP *e*PKPbc PKPdf 17 12 47.8 +1.8
NNA Nana 149.89 122 *e*PKPbc PKPdf 17 12 50.1 +2.8
LPAZ La Paz 153.74 141 PKP PKPdf 17 12 51.5 -1.3
comp=Z,1.5nm,1.1s,baz=9.5,slow=4.6,SNR=3.9
LPAZ PKPbc PKPdf 17 12 59.7 +6.8
comp=Z,1.9nm,0.9s,baz=73,slow=4.8,SNR=6.3
LPAZ La Paz 153.74 141 *e*PKPdf PKPdf 17 12 51.7 -1.1
SIV San Ignacio 157.83 154 PKP PKPdf 17 12 56.6 -1.7

comp=Z,0.7nm,0.7s,baz=252,slow=6.4,SNR=4.3
SIV PKPab PKPab 17 13 28.4 -0.4
comp=Z,1.6nm,0.8s,baz=213,slow=6.5,SNR=6.0
SDV Santo Domingo 160.02 75 PKP PKPdf 17 12 58.1 -2.8
comp=Z,1.9nm,0.3s,baz=318,slow=4.0,SNR=4.9
SDV PKPab PKPab 17 13 39.3 +1.1
comp=Z,2.0nm,0.3s,baz=276,slow=9.2,SNR=2.7
SAML Samuel 162.39 137 *e*PKPdf PKPdf 17 13 01.0 -2.3
SAML *e*PKPab PKPab 17 13 47.9 -0.6

BJI ***29*** *17:03:26.7, 0.61N×97.59E, h39km, mB4.8, mb4.6, Ms4.4, Msz4.4*
IDC ***29*** *17:03:26.0±0.9, 1.07N×97.51E, mb4.2/10, mb1 4.3/10, mb1mx4.1/20, mbtmp4.2/10, MS4.0/5, Ms1 4.0/5, ms1mx3.5/25, Error ellipse: s-maj=47.2km s-min=16.7km az=56.0*
NEIC ***29*** *17:03:30.4±0.5, 1.00N×97.41E, h30km, mb4.4/6, Error ellipse: s-maj=14.0km s-min=8.3km az=58.0*
ISC 29 17:03:30.9±2.3, 1.03N±0.09×97.5E±0.1, h49km±17km, n33, σ0s95/31, mb4.3/18, MS4.1/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
IPM	**Ipoh**	**5.01**	**45**	P		**P**	**17 04 45.7**	**+0.3**
KULM	**Kulim**	**5.29**	**37**	*e*Pn		**P**	**17 04 48.6**	**-0.8**
KGM	**Kluang**	**5.94**	**80**	P		**P**	**17 04 58.9**	**+0.5**
KKM	**Kota Kinabalu**	**19.37**	**75**	*e*P		**P**	**17 07 55.3**	**-0.1**
KKM	**Kota Kinabalu**	**19.37**	**75**	P		**P**	**17 07 57.4**	**+1.9**
TSM	**Tawau**	**20.65**	**81**	P		**P**	**17 08 09.1**	**+0.2**
KMI	**Kunming**	**24.49**	**12**	P		**P**	**17 08 48.5**	**+1.6**
KMI				AP			17 08 56.8	
KMI				XP			17 09 00.0	
KMI				PP		PP	17 09 23.0	-0.7
KMI				S		**S**	**17 13 01.0**	**+0.1**
KMI				AMB		AMB		
	comp=Z,16nm,1.6s,mb4.2							
KMI				LR		LR		
	comp=N,539nm,13.0s,MS4.3							
KMI				LR		LR		
	comp=E,402nm,13.1s,MS4.3							
KMI				LR		LR		
	comp=Z,627nm,16.1s,MS4.2							
KMI	**Kunming**	**24.49**	**12**	P		**P**	**17 08 48.4**	**+1.5**
	comp=Z,16nm,1.6s,mb4.2							
KMI				pP			17 08 56.7	
KMI				sP			17 09 00.0	
KMI				PP		PP	17 09 23.0	-0.7
KMI				PPP		PPP	17 09 33.6	-0.9
KMI				PcP		PcP	17 12 30.8	+5.1
KMI				S		**S**	**17 13 01.1**	**+0.2**
KMI				sS			17 13 15.1	
KMI				SS		SS	17 13 54.0	-4.3
KMI				SSS		SSS	17 14 10.0	-5.5
KMI				ScP			17 16 05.7	
KMI				PcS			17 16 09.1	
KMI				LR		LR		
	comp=Z,630nm,16.1s,MS4.2							
LSA	**Lhasa**	**29.13**	**349**	*e*P		**P**	**17 09 30.0**	**+0.5**
	comp=Z,3.0nm,0.4s,mb4.4							
ENH	**Enshi**	**31.24**	**20**	*e*P		**P**	**17 09 46.8**	**-1.5**
	comp=Z,12nm,0.9s,mb4.7							
FITZ	**Fitzroy Crossi**	**33.62**	**126**	P		**P**	**17 10 07.0**	**-2.0**
	comp=Z,2.0nm,0.5s,mb4.3,baz=356,slow=13,SNR=6.1							
XAN	**Xi'an**	**34.54**	**17**	P		**P**	**17 10 15.8**	**-1.0**
XAN				AMB		AMB		
	comp=Z,14nm,1.2s,mb4.8							
GTA	**Gaotai**	**38.25**	**3**	P		**P**	**17 10 48.8**	**+0.8**
GTA				AP		pP	17 10 58.8	-2.3
GTA				XP		sP	17 11 03.8	-3.4
GTA				AMB		AMB		
	comp=Z,8.0nm,1.0s,mb4.4							
WRA	**Warramunga Arr**	**41.73**	**122**	P		**P**	**17 11 16.6**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.5,baz=298,slow=10,SNR=32							
WRAB	**Tennant Creek**	**41.74**	**122**	*e*P		**P**	**17 11 17.2**	**+0.1**
	comp=Z,1nm,0.5s,mb4.0							
WB2	**Warramunga Arr**	**41.74**	**122**	*e*P		**P**	**17 11 17.8**	**+0.6**
WMQ	**Urumqi**	**43.48**	**350**	P		**P**	**17 11 32.5**	**+1.4**
SONM	**Songimo Array**	**47.26**	**8**	P		**P**	**17 12 01.6**	**+0.5**
	comp=Z,2.1nm,0.6s,mb4.3,baz=190,slow=10.0,SNR=18							
MKAR	**Makanchi Array**	**47.46**	**346**	P		**P**	**17 12 02.9**	**+0.2**
	comp=Z,3.9nm,0.5s,mb4.6,baz=162,slow=8.5,SNR=55							
MKAR				LR		LR	17 35 47.1	
	comp=Z,88nm,18.5s,MS3.8,baz=180,slow=41							
MKAR	**Makanchi Array**	**47.46**	**346**	P		**P**	**17 12 02.9**	**+0.2**
MKAR				LR		LR	17 35 47.1	
CN2	**Changchun**	**49.34**	**27**	*e*P		**P**	**17 12 17.0**	**-0.3**
STKA	**Stephens Creek**	**53.06**	**132**	P		**P**	**17 12 46.5**	**+0.9**
	comp=Z,2.3nm,0.9s,mb4.1,baz=314,slow=16,SNR=4.0							
STKA				LR		LR	17 38 06.2	
	comp=Z,187nm,21.0s,MS4.1,baz=296,slow=39							
ZAL	**Zalesovo**	**53.75**	**351**	P		**P**	**17 12 49.8**	**-0.6**
	comp=Z,4.1nm,0.4s,mb4.7,baz=312,slow=6.1,SNR=18							
BVAR	**Borovoye Array**	**56.49**	**341**	P		**P**	**17 13 08.9**	**-1.4**
	comp=Z,1.2nm,0.5s,mb4.2,baz=135,slow=8.4,SNR=10							
BRVK	**Borovoye**	**56.55**	**341**	*e*P		**P**	**17 13 09.3**	**-1.4**
	comp=Z,1.8nm,0.8s,mb4.2							
YAK	**Yakutsk**	**65.51**	**16**	*e*P		**P**	**17 14 10.2**	**-0.9**
	comp=Z,4.2nm,0.4s,mb4.8							
MATP	**Matopo**	**70.70**	**248**	LR		LR	17 41 07.7	
	comp=Z,98nm,19.2s,MS4.1,baz=117,slow=32							
RPZ	**Rata Peaks**	**78.91**	**135**	LR		LR	17 50 57.8	
	comp=Z,135nm,18.6s,MS4.3,baz=166,slow=36							
FINES	**FINESS Array B**	**80.26**	**332**	P		**P**	**17 15 37.9**	**0.0**
	comp=Z,0.8nm,0.9s,mb3.7,baz=117,slow=6.2,SNR=2.6							
ARCES	**ARCESS Array B**	**82.78**	**340**	P		**P**	**17 15 50.9**	**+0.1**
	comp=Z,5.6nm,1.1s,mb4.5,baz=90,slow=6.3,SNR=3.1							
GERES	**GERESS Array B**	**85.11**	**319**	P		**P**	**17 16 04.6**	**+1.7**
	comp=Z,0.6nm,0.5s,mb4.0,baz=76,slow=5.5,SNR=9.9							
NOA	**NORSAR Array B**	**87.27**	**331**	LR		LR	18 02 42.9	
	comp=Z,46nm,19.0s,MS3.9,baz=50,slow=41							
CPUP	**Villa Florida**	**145.06**	**222**	PKPbc		PKPbc	17 23 05.7	+1.8
	comp=Z,0.5nm,0.4s,baz=180,slow=8.1,SNR=3.1							

NEIC ***29*** *17:10:49.0±0.8, 28.83S×67.40W, h132km±10km, mb4.0/1, Error ellipse: s-maj=27.6km s-min=9.4km az=89.0*
IDC ***29*** *17:10:49.8±0.7, 28.85S×67.67W, h138km±7km, mb3.8/1, mb1 3.5/4, mb1mx3.3/17, mbtmp3.9/4, Error ellipse: s-maj=40.3km s-min=9.6km az=96.0*
ISC 29 17:10:48.2±0.8, 28.84S±0.06×67.5W±0.3, h146km±23km, n12, σ0s78/11, mb3.7/1, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CFAA	**Coronel Fontan**	**2.82**	**192**	P		**P**	**17 11 34.6**	**+0.9**
	2.6nm,0.3s,baz=7.1,slow=12,SNR=263							
CFAA				S		**S**	**17 12 08.4**	**-0.2**
	10nm,0.3s,baz=274,slow=20,SNR=42							
LVC	**Limon Verde**	**6.33**	**348**	P		**P**	**17 12 20.2**	**+0.1**
	1.9nm,0.3s,baz=195,slow=8.9,SNR=16							
LVC				S		**S**	**17 13 31.3**	**-0.2**
	2.9nm,0.3s,baz=248,slow=21,SNR=3.3							
LVC	**Limon Verde**	**6.33**	**348**	*e*Pn		**P**	**17 12 19.8**	**-0.3**
LVC				S		**S**	**17 13 31.4**	**-0.2**
TRQA	**Tornquist**	**10.29**	**155**	*e*Pn		**P**	**17 13 11.7**	**-1.2**
SIV	**San Ignacio**	**14.11**	**26**	P		**P**	**17 14 03.6**	**+1.0**
	0.4nm,0.3s,baz=204,slow=9.1,SNR=4.3							
SAML	**Samuel**	**20.21**	**13**	*e*P		**P**	**17 15 12.4**	**-1.0**
	7.5nm,1.0s							
BOSA	**Boshof**	**78.99**	**117**	P		**P**	**17 22 38.2**	**+0.8**
	1.3nm,0.6s,mb3.7,baz=230,slow=2.4,SNR=3.5							
BOSA	**Boshof**	**78.99**	**117**	P		**P**	**17 22 38.2**	**+0.8**
WRA	**Warramunga Arr**	**127.10**	**206**	PKP		PKPdf	17 29 38.4	+2.8
	0.8nm,0.6s,baz=169,slow=1.7,SNR=17							
WRA				pPKP			17 30 13.3	
	0.2nm,0.6s,baz=162,slow=1.8,SNR=1.9							
ZAL	**Zalesovo**	**147.83**	**31**	PKPbc		PKPdf	17 30 18.2	+6.0
	0.6nm,0.3s,baz=148,slow=4.3,SNR=4.5							
ZAL				pPKPbc			17 30 55.1	
	0.8nm,0.3s,baz=32,slow=1.9,SNR=1.6							
ZAL	**Zalesovo**	**147.83**	**31**	PKPbc		PKPdf	17 30 18.2	+6.0
ZAL				pPKPbc			17 30 55.1	
MKAR	**Makanchi Array**	**150.44**	**44**	PKPbc		PKPdf	17 30 24.8	+8.4
	0.8nm,0.7s,baz=305,slow=2.2,SNR=8.8							
MKAR				PKPab		PKPab	17 30 32.1	+0.9
	0.6nm,0.5s,baz=320,slow=2.7,SNR=10							
MKAR				pPKPbc			17 31 01.4	
	0.4nm,0.6s,baz=270,slow=2.4,SNR=3.3							

IDC ***29*** *17:15:18.8±0.9, 3.93S×129.11E, mb3.9/6, mb1 4.1/8, mb1mx4.0/17, mbtmp4.0/8, ML3.9/2, Error ellipse:*
s-maj=59.0km s-min=18.2km az=65.0
NEIC ***29*** *17:15:20.1±0.5, 4.03S×129.00E, h10km, mb4.4/4, Error ellipse: s-maj=23.6km s-min=9.3km az=71.0*
ISC 29 17:15:21.7±0.6, 4.07S±0.09×128.8E±0.2, h33km, n13, σ0s99/13, mb4.0/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.30**	**192**	Pn		**P**	**17 18 43.0**	**-0.9**
	0.6nm,0.3s,baz=356,slow=19,SNR=8.2							
WRAB	**Tennant Creek**	**16.66**	**162**	*e*P		**P**	**17 19 17.2**	**+2.8**
	22nm,1.4s							
WRAB				*e*pP			17 19 30.3	
WRA	**Warramunga Arr**	**16.66**	**162**	Pn		**P**	**17 19 13.2**	**-1.2**
	0.3nm,0.3s,baz=348,slow=12,SNR=11							
CTA	**Charters Tower**	**23.27**	**135**	P		**P**	**17 20 27.1**	**-0.3**
	9.5nm,1.0s,mb4.2,baz=315,slow=13,SNR=2.9							
CTAO	**Charters Tower**	**23.27**	**135**	*e*P		**P**	**17 20 27.4**	**-0.1**
	9.8nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**30.15**	**158**	P		**P**	**17 21 32.1**	**+1.1**
	2.1nm,1.0s,mb3.8,baz=334,slow=12,SNR=3.3							
SONM	**Songino Array**	**55.31**	**342**	P		**P**	**17 24 55.0**	**+0.6**
	0.3nm,0.8s,mb3.4,baz=149,slow=8.4,SNR=3.9							
MKAR	**Makanchi Array**	**65.16**	**327**	P		**P**	**17 26 02.2**	**+0.5**
	1.1nm,0.7s,mb4.0,baz=126,slow=8.2,SNR=14							
MKAR	**Makanchi Array**	**65.16**	**327**	P		**P**	**17 26 02.2**	**+0.4**
YAK	**Yakutsk**	**65.91**	**0**	*e*P		**P**	**17 26 05.7**	**-0.6**
	9.2nm,0.9s,mb4.8							
ZAL	**Zalesovo**	**68.46**	**334**	P		**P**	**17 26 22.0**	**-0.5**
	0.9nm,0.3s,mb4.2,baz=4.3,slow=8.3,SNR=3.5							
KURK	**Kurchatov**	**69.43**	**329**	*e*P		**P**	**17 26 29.2**	**+0.8**
	3.1nm,0.9s,mb4.2							
KURK				*e*pP		pP	17 26 39.0	+0.2
ILAR	**Eielson Array**	**91.20**	**25**	P		**P**	**17 28 23.5**	**-1.0**
	0.3nm,0.9s,mb3.6,baz=306,slow=4.9,SNR=4.7							

NEIC ***29*** *17:16:08.9, 17.46N×100.97W, h20km, MD3.9(MEX), After MEX.*
MEX 29 17:16:08.7±1.0, 17.46N×100.98W, h20km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CAIG	**El Cayaco**	**0.79**	**121**	*i* P		Pb	17 16 20.8	-2.8
CAIG				*i* S		Sb	17 16 31.3	-2.6
ACX	**Acapulco**	**1.17**	**120**	*i* P		Pb	17 16 26.8	-3.3
ACX				*i* S		Sb	17 16 42.0	-2.9
PLIG	**Platanillo**	**1.68**	**56**	*e*P		Pn	17 16 34.2	-3.2
PLIG				*i* S		Sn	17 16 55.5	-3.0
MOIG	**Morelia**	**2.21**	**355**	*i* P		Pn	17 16 43.5	-1.5
MOIG				*i* S		Sn	17 17 07.0	-5.1
YAIG	**Yautepec**	**2.29**	**52**	*i* P		Pn	17 16 42.7	-3.4
YAIG				*i* S		Sn	17 17 11.2	-2.8
PPM	**Popocatepetl**	**2.74**	**54**	*e*P		Pn	17 16 47.0	-5.6
IISM	**Ciudad Serdan**	**3.74**	**66**	*e*P		Pn	17 17 08.5	+1.7

NEIC ***29*** *17:29:38.9, 31.84N×115.75W, h1km, MD3.8(ECX), ML3.9(PAS), After ECX.*
ECX 29 17:29:38.9±0.7, 31.86N×115.74W, h3km±2km, MD3.8, ML3.8, 9C-6D, Fault plane solution: NP1:φ±0°, δ15°, λ90°., Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RDX	**Rancho Dowling**	**0.19**	**291**	↑*e*P		Pg	17 29 42.8	0.0
RDX				*e*S		Sg	17 29 46.0	+0.7
RDX				↓*e*			17 29 46.5	
	comp=N,23μm,0.4s							
RDX				*e*			17 29 47.0	
	comp=E,16μm,0.4s							
EMX	**El Mayor**	**0.44**	**73**	↑*e*P		Pg	17 29 46.9	-0.8
EMX				*e*S		Sg	17 29 53.3	-0.3
CPBX	**Cerro Prieto**	**0.67**	**34**	*e*P		Pg	17 29 51.1	-1.1
CPBX				*e*S		Sg	17 30 00.5	-0.5
ECBX	**El Chinero**	**0.70**	**123**	↑*e*P		Pg	17 29 51.5	-1.4
ECBX				*e*S		Sg	17 30 01.3	-1.0
ECNX	**Esteban Cantu**	**0.76**	**255**	↑*e*P		Pg	17 29 52.5	-1.5
ECNX				↑*e*P			17 29 53.2	
ECNX				*e*S		Sg	17 30 03.0	-1.2
ECNX				*e*S		Sg	17 30 03.8	-0.4
SGL	**Mount Signal**	**0.78**	**1**	↓*e*P		Pg	17 29 52.8	-1.8
ENX	**Ensenada**	**0.79**	**272**	↑*e*P		Pg	17 29 53.2	-1.4
ENX				*e*S		Sg	17 30 03.8	-1.4
ENX				↓*e*			17 30 04.4	
	comp=E,6μm,0.5s							
ENX				*e*			17 30 04.7	
	comp=N,4μm,0.2s							
YUH	**Yuha Desert**	**0.80**	**349**	↓*e*P		Pg	17 29 52.7	-2.1
PBX	**Punta Banda**	**0.85**	**262**	↑*e*P		Pg	17 29 54.2	-1.6
SPX	**San Pedro Mart**	**0.85**	**164**	↓*e*P		Pg	17 29 53.6	-2.2
SPX				*e*S		Sg	17 30 04.8	-2.4
SPX				↓*e*			17 30 08.9	
	comp=N,2μm,0.8s							
CBX	**Cerro Bola**	**0.90**	**300**	↑*e*P		Pb	17 29 54.8	-2.1
CBX				*e*S		Sg	17 30 07.2	-1.8
BAR	**Barrett**	**1.14**	**316**	↑*i*P		Pb	17 29 58.2	-2.7
BAR	**Barrett**	**1.14**	**316**	*e*P		Pb	17 29 58.1	-2.7
BAR				*e*S		Sb	17 30 12.7	-3.2
PFO	**Pinyon Flat Ob**	**1.84**	**341**	*e*Pn		Pn	17 30 08.3	-3.4
MWC	**Mount Wilson**	**3.06**	**321**	Pn		Pn	17 30 27.9	-1.2
LDFC	**Landfair**	**3.25**	**9**	Pn		Pn	17 30 29.7	-2.1
NEN	**Nelson**	**3.85**	**11**	*e*Pn		Pn	17 30 36.9	-3.4
TUC	**Tucson**	**4.23**	**83**	Pn		Pn	17 30 41.8	-3.9
DAC	**Darwin (Calif)**	**4.66**	**341**	*e*Pn		Pn	17 30 47.9	-4.0

NEIC 29 17:33:11.2, 60.67N×151.46W, h65km, ML3.8(PMR), ML2.9(AEIC), After AEIC., Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RDT	**Redoubt**	**0.48**	**259**	P		P	17 33 22.5	-1.0
RDT				S		S	17 33 31.7	-0.7
SPU	**Mount Spurr**	**0.59**	**331**	*e*P		P	17 33 23.1	-1.1
VOGL	**Vogel Lake**	**0.60**	**56**	P		P	17 33 25.5	+0.7
SLKM	**Skilak Lake**	**0.63**	**104**	P		P	17 33 24.8	-0.3
SLKM				S		S	17 33 35.6	+0.2
RSO	**Redoubt South**	**0.67**	**253**	*e*P		P	17 33 24.6	-1.0
CRP	**Crater Peak**	**0.69**	**331**	P		P	17 33 25.3	-0.5
CRP				S		S	17 33 36.5	-0.1
FIB	**Fire Island**	**0.80**	**51**	P		P	17 33 27.4	+0.3
RC01	**Rabbit Creek A**	**0.94**	**63**	P		P	17 33 28.2	-0.8
RC01				S		S	17 33 42.4	+0.3
BRLK	**Bradley Lake**	**0.95**	**162**	P		P	17 33 28.3	-0.8
ILIM	**Iliamna**	**0.95**	**232**	P		P	17 33 28.0	-1.1
ILIM				S		S	17 33 41.2	-1.1
HOM	**Homer**	**1.02**	**185**	P		P	17 33 29.4	-0.6
ILW	**Iliamna West**	**1.03**	**235**	P		P	17 33 29.3	-0.9
MPA	**Moose Pass**	**1.05**	**99**	P		P	17 33 30.0	-0.4
SEW	**Seward**	**1.15**	**119**	P		P	17 33 31.8	+0.1
CNPM	**China Poot**	**1.15**	**174**	P		P	17 33 30.9	-0.8
KLV	**Seldovia**	**1.23**	**186**	P		P	17 33 31.7	-1.1
OPT	**Oil Point**	**1.35**	**222**	P		P	17 33 33.8	-0.8
PMR	**Palmer**	**1.46**	**50**	P		P	17 33 35.8	-0.2
PMR				S		S	17 33 53.2	-1.2
PWL	**Port Wells**	**1.54**	**82**	P		P	17 33 35.8	-1.4
AUL	**Augustine Lava**	**1.63**	**218**	P		P	17 33 37.5	-0.8
KNK	**Knik Glacier**	**1.64**	**62**	P		P	17 33 37.3	-1.2
AGU	**Augustine-Summ**	**1.65**	**218**	P		P	17 33 37.9	-0.7
GHO	**Glory Hole Cre**	**1.65**	**47**	P		P	17 33 37.5	-1.2
CUT	**Chulitna**	**1.83**	**18**	P		P	17 33 40.4	-0.7
CFI	**College Fiord**	**1.87**	**72**	P		P	17 33 39.8	-1.9
SML	**Sawmill**	**1.89**	**52**	P		P	17 33 40.6	-1.4
SML				S		S	17 34 03.5	-1.1
LTI	**Latouche**	**1.90**	**108**	P		P	17 33 39.7	-2.4
SVW2	**Sparrevohn**	**2.06**	**284**	P		P	17 33 41.4	-2.9
MCNL	**McNeil River**	**2.08**	**226**	P		P	17 33 42.7	-1.8
GLI	**Glacier Island**	**2.15**	**82**	P		P	17 33 42.6	-2.9
SCM	**Sheep Creek Mo**	**2.31**	**58**	P		P	17 33 42.1	-1.6
KAPH	**Katmai Pasha**	**2.54**	**216**	P		P	17 33 49.6	-1.6
VLZ	**Valdez**	**2.55**	**77**	P		P	17 33 48.8	-2.4
KAHC	**Katmai Hardscr**	**2.71**	**223**	P		P	17 33 51.5	-2.0
KLU	**Klutina**	**2.81**	**71**	P		P	17 33 52.6	-2.3
DIV	**Divide**	**2.82**	**78**	P		P	17 33 52.2	-2.7
TRF	**Thorofare Moun**	**2.85**	**11**	P		P	17 33 54.6	-0.8
KTH	**Kantishna Hill**	**2.91**	**5**	P		P	17 33 55.1	-1.2
KDAK	**Kodiak Island**	**2.95**	**192**	P		P	17 33 53.7	-3.2
TT01	**Tatalina**	**3.12**	**318**	P		P	17 33 57.0	-2.3
TTA	**Tatalina**	**3.13**	**318**	*e*P		P	17 33 56.9	-2.6
CAHL	**Cahill**	**3.28**	**219**	P		P	17 34 00.1	-1.4
MCK	**McKinley**	**3.29**	**20**	P		P	17 34 00.1	-1.6
BMRM	**Bremner River**	**3.37**	**82**	P		P	17 33 59.2	-3.6
PAX	**Paxson**	**3.66**	**48**	P		P	17 34 05.5	-1.3
GLB	**Gilahina Butte**	**3.80**	**75**	P		P	17 34 05.7	-3.1
WRH	**Wood River Hil**	**4.12**	**21**	P		P	17 34 11.8	-1.4
CCB	**Clear Creek Bu**	**4.33**	**21**	P		P	17 34 13.6	-2.6
MLY	**Manley**	**4.39**	**4**	P		P	17 34 14.8	-2.2
BALM	**Baldy**	**4.47**	**81**	P		P	17 34 14.7	-3.5
IL02	**Eielson Array**	**4.64**	**25**	P		P	17 34 18.5	-2.0
BCA3	**Beaver Creek A**	**5.17**	**58**	P		P	17 34 25.2	-2.6
IM3	**Indian Mountai**	**5.43**	**350**	P		P	17 34 28.6	-2.8
IMA	**Indian Mountai**	**5.51**	**351**	*e*P		P	17 34 31.1	-1.5
BM3	**Burnt Mountain**	**7.41**	**21**	P		P	17 34 55.7	-3.3

BJI ***29*** *17:36:22.0, 7.19S×113.73E, h594km, mB4.7, mb4.8*
MOS ***29*** *17:36:26.8±0.8, 6.10S×113.48E, h563km, mb4.5/17, Error ellipse: s-maj=15.5km s-min=9.2km az=105.5*
IDC ***29*** *17:36:29.8±1.3, 6.13S×113.47E, h581km±15km, mb3.9/21, mb1 3.9/22, mb1mx3.8/26, mbtmp4.8/22, Error ellipse: s-maj=13.0km s-min=8.6km az=64.0*
NEIC ***29*** *17:36:30.6±0.5, 6.19S×113.51E, h594km±6km, mb4.6/26, Error ellipse: s-maj=7.6km s-min=4.6km az=70.0*
ISC 29 17:36:30.5±0.7, 6.19S±0.04×113.57E±0.06, h613km±9km, n136, σ0s94/116, mb4.4/49, 5C-9D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KSM	**Kuching**	**8.28**	**337**	↑*i*Pn		**P**	**17 38 32.5**	**-0.6**
TSM	**Tawau**	**11.26**	**23**	P		**P**	**17 39 03.5**	**+1.6**
KKM	**Kota Kinabalu**	**12.43**	**12**	*e*Pn		**P**	**17 39 13.0**	**-0.4**
KKM	**Kota Kinabalu**	**12.43**	**12**	P		**P**	**17 39 13.2**	**-0.3**
KGM	**Kluang**	**13.09**	**308**	P		**P**	**17 39 20.8**	**+0.9**
MBWA	**Marble Bar**	**16.03**	**159**	*e*P		**P**	**17 39 47.8**	**-0.5**
	20nm,0.4s							
IPM	**Ipoh**	**16.47**	**310**	P		**P**	**17 39 52.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**16.70**	**136**	↑*i*P		**P**	**17 39 55.0**	**+0.5**
	37nm,0.3s							
FITZ				*e*S		**S**	**17 42 40.2**	**+1.6**
FITZ	**Fitzroy Crossi**	**16.70**	**136**	P		**P**	**17 39 55.1**	**+0.5**
	15nm,0.3s,baz=343,slow=6.7,SNR=251							
KULM	**Kulim**	**17.22**	**311**	*e*P		**P**	**17 39 58.7**	**-0.7**
KAKA	**Kakadu**	**19.70**	**111**	*e*P		**P**	**17 40 26.3**	**+3.9**
	13nm,0.5s							
WRA	**Warramunga Arr**	**24.37**	**126**	P		**P**	**17 41 04.0**	**-0.5**
	3.8nm,0.3s,mb4.5,baz=302,slow=11,SNR=246							
WRA				PcP		PcP	17 44 22.2	+0.2
	1.5nm,0.4s,baz=306,slow=2.1,SNR=6.5							
WRA				S		**S**	**17 44 40.3**	**-3.1**
	1.7nm,0.8s,baz=291,slow=17,SNR=6.2							
WRA				ScP			17 47 05.7	
	3.9nm,0.5s,baz=319,slow=2.0,SNR=28							
WRAB	**Tennant Creek**	**24.38**	**126**	*e*P		**P**	**17 41 04.0**	**-0.5**
WRAB				pmax		pmax		
	comp=Z,20nm,0.9s,mb4.8							
WRAB	**Tennant Creek**	**24.38**	**126**	*e*P		**P**	**17 41 04.0**	**-0.5**
	comp=Z,20nm,0.9s,mb4.8							
WB2	**Warramunga Arr**	**24.38**	**126**	↑*i*P		**P**	**17 41 04.1**	**-0.5**
WB2				*e*S		**S**	**17 44 41.0**	**-2.6**
KLBR	**Kellerberrin**	**25.57**	**172**	↑*i*P		**P**	**17 41 13.9**	**-1.0**
	comp=Z,30nm,0.6s,mb5.1							
MUN	**Mundaring**	**25.78**	**175**	*e*P		**P**	**17 41 15.5**	**-1.2**
	comp=Z,15nm,0.5s,mb4.9							
MUN	**Mundaring**	**25.78**	**175**	*e*P		**P**	**17 41 15.5**	**-1.2**
MUN				pmax		pmax		
	comp=Z,15nm,0.5s,mb4.9							
NWAO	**Narrogin (SRO)**	**26.82**	**173**	P		**P**	**17 41 25.1**	**-0.7**
	comp=Z,14nm,0.5s,mb4.9,baz=3.9,slow=7.8,SNR=22							
KMI	**Kunming**	**32.86**	**342**	P		**P**	**17 42 19.5**	**+2.3**
KMI				AMB		AMB		
	comp=Z,14nm,0.9s,mb4.6							
KMI	**Kunming**	**32.86**	**342**	P		**P**	**17 42 19.5**	**+2.3**
KMI				*SP		sP	17 44 53.6	-13
KMI				pmax		pmax		
	comp=Z,14nm,0.9s,mb4.6							
KMI	**Kunming**	**32.86**	**342**	P		**P**	**17 42 19.5**

GTA XP sP 17 47 07.0 +0.5
GTA AMB AMB
comp=Z,7.0nm,0.9s,mb4.2
LGTI Lohaghat 47.76 320 *e*P **P 17 44 14.5 -1.2**
MAJO Matsushiro 48.37 27 *e*P **P 17 44 18.7 -1.5**
MAJO pmax pmax
comp=Z,8.0nm,0.6s,mb4.4
MAJO Matsushiro 48.37 27 *e*P **P 17 44 18.7 -1.4**
comp=Z,7.9nm,0.6s,mb4.4
MAT Matsushiro 48.37 27 *e*P **P 17 44 19.0 -1.2**
MAT Matsushiro 48.37 27 P **P 17 44 18.8 -1.4**
MJAR Matsushiro Arr 48.37 27 P **P 17 44 19.0 -1.2**
comp=Z,9.9nm,0.7s,mb4.4,baz=206,slow=8.8,SNR=19
CN2 Changchun 50.90 11 *e*P **P 17 44 40.0 +1.4**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.2
MDJ Mudanjiang 52.59 14 P **P 17 44 50.5 -0.1**
MDJ AMB AMB
comp=Z,7.0nm,1.0s,mb4.0
MDJ AMB AMB
comp=Z,69nm,3.7s
THN Thein Dam 52.65 319 *e*P **P 17 44 48.1 -3.1**
SONM Songino Array 54.16 354 P **P 17 45 01.7 +0.1**
comp=Z,10nm,0.4s,mb4.5,baz=173,slow=8.7,SNR=85
SONM PcP PcP 17 45 56.7 +0.3
comp=Z,1.8nm,0.6s,baz=166,slow=5.1,SNR=4.9
ZAK Zakamensk 57.04 352 *e*P **P 17 45 21.0 -0.4**
TLY Talaya 58.27 353 *i*P **P 17 45 29.5 -0.2**
MOY Mondy 58.63 351 *e*P **P 17 45 31.8 -0.3**
YSS Yuzh-Sakhalins 58.89 23⇓*i*P **P 17 45 33.8 -0.1**
YSS pmax pmax
comp=Z,20nm,0.3s,mb4.7
YSS Yuzh-Sakhalins 58.89 23⇓*i*P **P 17 45 33.9 -0.1**
comp=Z,15nm,0.4s,mb4.5
KZA Kyzart 59.39 328 P **P 17 45 37.7 +0.4**
SNR=13
MKAR Makanchi Array 59.60 336 P **P 17 45 38.2 -0.4**
comp=Z,15nm,0.3s,mb4.7,baz=144,slow=7.1,SNR=353
MKAR PcP PcP 17 46 18.1 +0.2
comp=Z,2.3nm,0.7s,baz=169,slow=6.2,SNR=4.9
MKAR Makanchi Array 59.60 336 P **P 17 45 38.2 -0.4**
MKAR PcP PcP 17 46 18.1 +0.2
TKM2 Tokmak 2 59.80 328 P **P 17 45 39.9 -0.1**
SNR=10
KBK Karagaybulak 59.95 328 P **P 17 45 41.3 +0.3**
SNR=12
CASY Casey 60.03 181 *e*P **P 17 45 40.5 -0.6**
comp=Z,6.1nm,0.6s,mb4.0
AAK Ala-Archa 60.18 328*d i*P **P 17 45 38.9 -3.6**
AAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.0
AAK Ala-Archa 60.18 328 *e*P **P 17 45 41.3 -1.2**
comp=Z,9.4nm,1.0s,mb4.0
AML Almayashu 60.26 327 P **P 17 45 43.4 +0.4**
SNR=17
EKS2 Erkin-Say 60.58 327 P **P 17 45 45.5 +0.4**
SNR=16
BOD Bodaibo 63.79 0 *e*P **P 17 46 01.6 -3.9**
BOD pmax pmax
comp=Z,8.0nm,0.9s,mb4.0
KURK Kurchatov 64.19 336 *e*P **P 17 46 07.2 -0.9**
KURK pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
KURK Kurchatov 64.19 336 *e*P **P 17 46 07.2 -0.9**
comp=Z,4.7nm,0.7s,mb3.9
ZAL Zalesovo 64.60 342 P **P 17 46 09.4 -1.2**
comp=Z,10nm,0.3s,mb4.7,baz=338,slow=4.3,SNR=32
OPO Ambohidratompo 65.69 252 P **P 17 46 18.0 0.0**
comp=Z,3.8nm,1.0s,mb3.8,baz=72,slow=13,SNR=5.1
NVS Novosibirsk 65.86 341 *e*P **P 17 46 16.1 -2.3**
YAK Yakutsk 69.15 8⇓*i*P **P 17 46 37.9 -0.3**
YAK pmax pmax
comp=Z,43nm,0.9s,mb4.9
YAK Yakutsk 69.15 8⇓*i*P **P 17 46 37.9 -0.3**
comp=Z,43nm,0.9s,mb4.9
BVAR Borovoye Array 69.35 334 P **P 17 46 39.2 -0.3**
comp=Z,10nm,0.6s,mb4.4,baz=142,slow=8.6,SNR=86
BRVK Borovoye 69.42 334⇓*i*P **P 17 46 39.6 -0.3**
BRVK pmax pmax
comp=Z,8.0nm,1.0s,mb4.1
BRVK Borovoye 69.42 334⇓*i*P **P 17 46 39.6 -0.3**
comp=Z,8.2nm,1.0s,mb4.1
MA2 Magadan 71.89 19 *e*P **P 17 46 54.8 +0.7**
MA2 pmax pmax
comp=Z,15nm,0.8s,mb4.6
MA2 Magadan 71.89 19 *e*P **P 17 46 54.8 +0.7**
comp=Z,15nm,0.8s,mb4.6
SEY Seymchan 74.98 17*d i*P **P 17 47 12.4 +0.9**
KMBO Kilima Mbogo 76.28 270 P **P 17 47 20.6 +0.9**
comp=Z,2.0nm,0.6s,mb3.7,baz=60,slow=6.9,SNR=7.6
ARU Arti 76.84 332⇓*i*P **P 17 47 21.5 -0.2**
ARU pmax pmax
comp=Z,17nm,1.4s,mb4.3
ARU Arti 76.84 332 *e*P **P 17 47 21.4 -0.3**
comp=Z,20nm,1.3s,mb4.4
KIV Kislovodsk 80.73 316⇑*e*P **P 17 47 44.5 +2.1**
KIV pmax pmax
comp=Z,3.0nm,0.5s,mb4.0
BILL Bilibino 82.68 18 *i*P **P 17 47 56.9 +5.1**
MBAR Mbarara 82.81 270 *e*P **P 17 47 53.4 -0.2**
MBAR pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
MBAR Mbarara 82.81 270 *e*P **P 17 47 53.4 -0.1**
comp=Z,4.7nm,0.7s,mb4.1
MATP Matopo 83.27 250 P **P 17 47 56.3 +0.6**
comp=Z,4.7nm,0.4s,mb4.3,baz=109,slow=4.6,SNR=21
LSZ Lusaka 83.96 255 *e*P **P 17 47 59.7 +0.5**
LSZ pmax pmax
comp=Z,12nm,0.6s,mb4.6
LSZ Lusaka 83.96 255 *e*P **P 17 47 59.7 +0.5**
comp=Z,12nm,0.6s,mb4.6
BOSA Boshof 85.60 242 *e*P **P 17 48 07.3 +0.3**
BOSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
BOSA Boshof 85.60 242 P **P 17 48 07.7 +0.7**
comp=Z,3.3nm,0.7s,mb4.1,baz=109,slow=3.2,SNR=12
BOSA Boshof 85.60 242 *e*P **P 17 48 07.3 +0.3**
comp=Z,3.3nm,0.6s,mb4.1
BRTR Keskin Array B 86.22 310 P **P 17 48 09.9 +0.2**
comp=Z,5.7nm,0.8s,mb4.3,baz=120,slow=5.9,SNR=25
SUR Sutherland 89.05 238 P **P 17 48 25.0 +1.9**
comp=Z,2.9nm,0.6s,mb4.3,baz=80,slow=7.7,SNR=4.6
AKASG Malin Array Be 91.17 321 P **P 17 48 32.0 -0.4**
comp=Z,1.2nm,0.5s,mb4.1,baz=80,slow=4.5,SNR=7.5
SNAA Sanae 92.20 196 *e*P **P 17 48 37.8 +1.2**
SNAA pmax pmax
comp=Z,1.0nm,0.5s
SNAA Sanae 92.20 196 P **P 17 48 38.1 +1.6**
comp=Z,0.2nm,0.5s,mb3.5,baz=188,slow=10,SNR=10
SNAA Sanae 92.20 196 *e*P **P 17 48 37.8 +1.2**
comp=Z,0.5nm,0.5s,mb3.8
KAF Kangasniemi 94.14 332 *e*p **P 17 48 44.8 -0.8**
comp=Z,2.1nm,0.6s,mb4.4,baz=106,slow=5.6
KAF Kangasniemi 94.14 332 *e*P **P 17 48 44.8 -0.8**
KAF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
FINES FINESS Array B 94.19 331 P **P 17 48 46.0 +0.2**
comp=Z,2.2nm,0.6s,mb4.5,baz=124,slow=6.9,SNR=14
FINES FINESS Array B 94.19 331 P **P 17 48 46.0 +0.2**
KEV Kevo 94.57 340 *e*p **P 17 48 57.1 +10**
ARCES ARCESS Array B 95.07 339 P **P 17 48 49.0 -0.6**
comp=Z,5.7nm,1.0s,mb4.7,baz=36,slow=10,SNR=3.9
YKA Yellowknife Ar 113.75 22 PKiKP 17 54 01.3
comp=Z,1.1nm,0.5s,baz=322,slow=1.8,SNR=5.1
DBIC Dimbokro 118.85 274 PKP PKPdf 17 54 12.1 +1.0
comp=Z,2.0nm,0.5s,baz=131,slow=11,SNR=4.1
NVAR Mina Array Bea 123.26 48 PKP PKPdf 17 54 23.1 +3.9
comp=Z,1.2nm,0.7s,baz=254,slow=1.9,SNR=8.8
FFC Flin Flon 123.81 24 *e*PKPdf PKPdf 17 54 21.9 +2.1
HLID Hailey 123.87 41 *e*PKPdf PKPdf 17 54 22.8 +2.7
ELK Elko 124.55 44 *e*PKPdf PKPdf 17 54 25.2 +3.6
BOZ Bozeman (W) 124.59 37 *e*PKPdf PKPdf 17 54 23.2 +1.7
LOHW Long Hollow 126.27 39 *e*PKPdf PKPdf 17 54 27.7 +2.9
HWUT Hardware Ranch 126.64 41 *e*PKPdf PKPdf 17 54 27.8 +2.1
BW06 Boulder Array 127.36 39 *e*PKPdf PKPdf 17 54 29.8 +2.8
PDAR Pinedale Array 127.36 39 PKP PKPdf 17 54 30.2 +3.2
comp=Z,0.6nm,0.5s,baz=134,slow=0.9,SNR=9.0
SCHQ Schefferville 131.50 0 PKP PKPdf 17 54 37.3 +2.9
comp=Z,1.0nm,0.4s,baz=270,slow=2.0,SNR=5.6
TXAR Lajitas Array 138.02 52 PKhKP 17 54 43.5
comp=Z,0.5nm,0.3s,baz=225,slow=1.3,SNR=3.7
TXAR PKP PKPdf 17 54 51.1 +3.9
comp=Z,0.4nm,0.4s,baz=315,slow=2.6,SNR=2.7
WCI Wyandotte Cave 143.36 27 *e*PKPdf PKPdf 17 54 57.1 +0.7
WVT Waverly 144.32 30 *e*PKPdf PKPdf 17 55 00.2 +2.2
OXF Oxford 144.71 34 *e*PKPdf PKPdf 17 55 01.7 +2.9
TZTN Tazewell 145.96 25 *e*PKPbc PKPbc 17 55 05.2 +2.7
ELN Prospectdale 146.45 21 *e*PKPbc PKPbc 17 55 06.3 +2.6
CPUP Villa Florida 146.49 195 PKPbc PKPbc 17 55 07.5 +3.4
comp=Z,5.0nm,0.6s,baz=185,slow=2.3,SNR=17
CPUP Villa Florida 146.49 195 *e*PKPbc PKPbc 17 55 07.0 +2.9
LRAL Lakeview Retre 147.14 33 *e*PKPbc PKPdf 17 55 07.8 +4.8
LVC Limon Verde 151.27 175 *e*PKPbc PKPdf 17 55 19.1 +10
BDFB Brasilia 151.66 220 PKPbc PKPdf 17 55 20.3 +10
comp=Z,8.0nm,0.5s,baz=112,slow=0.9,SNR=13
LPAZ La Paz 157.61 176 PKPab PKPab 17 55 57.2 +0.4
comp=Z,0.8nm,0.4s,baz=166,slow=12,SNR=4.0
NNA Nana 159.19 150 *e*PKPdf PKPdf 17 55 22.9 +2.8
SAML Samuel 164.62 192 *e*PKPdf PKPdf 17 55 27.5 +1.9

NIED ***29*** *17:37:00,33.20N×142.50E,h11km,Mw3.7 Best double couple: M₀4.06×10¹⁴ NP1:φs223°,δ66°,λ-71°. NP2:φs3°, δ30°,λ-126°.*
IDC ***29*** *17:37:57.4±2.1,32.91N×142.33E,mb3.9/3,mb1 4.0/6, mb1mx3.7/22,mbtmp4.0/6,ML4.0/3,Error ellipse: s-maj=46.1km s-min=20.5km az=63.0*
JMA ***29*** *17:37:59.2±0.6,33.23N×142.50E,h74km,M3.6*
NEIC ***29*** *17:38:16.4±1.6,33.09N×140.06E,h35km,mb4.3/2, Error ellipse: s-maj=28.5km s-min=22.3km az=91.0*
ISC 29 17:38:00.1±1.2,33.25N±0.07×142.43E±0.10,h33km,n24, σ1§11/29,mb4.0/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.85**	**320**	P	**P**	**17 38 30.2**	**+0.3**
JHJ2	**Mitsune**	**2.19**	**267**	P	**P**	**17 38 35.2**	**+0.4**
JHJ2				*e*S	**S**	**17 39 03.3**	**+2.2**
JHJ	**Hachijo jima 2**	**2.22**	**267**	Pn	**Pn**	**17 38 35.1**	**-0.3**
	39nm,0.3s,baz=168,slow=8.9,SNR=41						
JHJ				Sn	**Sn**	**17 39 00.9**	**-1.1**
	71nm,0.3s,baz=256,slow=22,SNR=6.9						
BSO3	**Boso 3**	**2.22**	**315**	P	**P**	**17 38 35.8**	**+0.5**
BSO4	**Boso 4**	**2.46**	**316**	P	**P**	**17 38 39.6**	**+1.0**
JIM2	**Oshima 3**	**2.89**	**301**	P	**P**	**17 38 44.1**	**-0.7**
JOD2	**Odawara 2**	**3.42**	**307**	P	**P**	**17 38 51.6**	**-0.7**
JYN	**Shimob**	**3.92**	**306**	P	**P**	**17 38 59.2**	**-0.2**
JAG	**Ashikaga**	**4.00**	**323**	P	**P**	**17 39 00.2**	**-0.4**
JAG				*e*S	**S**	**17 39 47.4**	**+0.3**
JRY	**Ryogami san**	**4.01**	**315**	P	**P**	**17 39 00.7**	**0.0**
MJAR	**Matsushiro Arr**	**4.78**	**315**	Pn	**Pn**	**17 39 11.6**	**-0.2**
	4.6nm,0.3s,baz=156,slow=13,SNR=44						
MJAR				Sn	**Sn**	**17 40 04.5**	**-2.2**
	baz=196,slow=40,SNR=2.9						
MAJO	**Matsushiro**	**4.78**	**315**	*e*Pn	**Pn**	**17 39 12.2**	**+0.5**
MAT	**Matsushiro**	**4.78**	**315**	*e*P	**P**	**17 39 12.0**	**+0.3**
MAT				*e*S	**S**	**17 40 05.0**	**-1.6**
MAT	**Matsushiro**	**4.78**	**315**	P	**P**	**17 39 11.9**	**+0.2**
MAT				S	**S**	**17 40 05.2**	**-1.4**
MAT	**Matsushiro**	**4.78**	**315**	P	**P**	**17 39 12.2**	**+0.5**
JGM	**Miyama**	**5.31**	**299**	P	**P**	**17 39 20.0**	**+0.9**
CBIJ	**Chichi jima**	**6.13**	**182**	Pn	**Pn**	**17 39 25.2**	**-5.6**
	23nm,0.3s,baz=92,slow=21,SNR=33						
CBIJ				Sn	**Sn**	**17 40 30.6**	**-10**
	17nm,0.3s,baz=274,slow=21,SNR=6.0						
MA2	**Magadan**	**26.91**	**9**	P	sP	17 43 58.5	+5.1
	6.3nm,0.8s						
SONM	**Songino Array**	**30.70**	**309**	P	**P**	**17 44 15.2**	**+1.3**
	1.1nm,0.7s,mb3.8,baz=109,slow=8.4,SNR=11						
MKAR	**Makanchi Array**	**46.91**	**305**	P	**P**	**17 46 30.7**	**+1.7**
	1.3nm,0.7s,mb4.0,baz=90,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**46.91**	**305**	P	**P**	**17 46 30.7**	**+1.7**
KURK	**Kurchatov**	**48.98**	**311**	P	**P**	**17 46 49.2**	**+4.1**
	1.1nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**53.45**	**189**	P	**P**	**17 47 16.6**	**-2.7**
	0.8nm,0.5s,mb3.9,baz=6.9,slow=7.8,SNR=4.7						
NB2	**NORSAR Subarra**	**78.00**	**338**	P	pP	17 50 07.5	+0.9
	0.1nm,0.6s,baz=47,slow=5.8						

IDC 29 17:45:57.8±1.7,8.26S×121.68E,mb3.6/2,mb1 3.8/4, mb1mx3.7/17,mbtmp3.6/4,ML3.5/2,Error ellipse: s-maj=134.1km s-min=28.2km az=62.0,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.52**	**159**	Pn	P	17 48 31.3	-1.6
	0.5nm,0.3s,baz=309,slow=15,SNR=5.6						
FITZ				Sn	S	17 50 22.9	-10
	0.2nm,0.3s,baz=68,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**16.89**	**135**	Pn	P	17 49 54.0	-3.3
	0.1nm,0.3s,baz=311,slow=14,SNR=5.6						
WRA				Sn	S	17 52 56.5	-8.4
	0.1nm,0.3s,baz=296,slow=23,SNR=3.6						
SONM	**Songino Array**	**57.46**	**348**	P	P	17 55 49.3	-1.6
	0.5nm,0.6s,baz=172,slow=5.6,SNR=7.2						
MKAR	**Makanchi Array**	**65.04**	**331**	P	P	17 56 39.3	-2.8
	0.2nm,0.4s,baz=145,slow=6.9,SNR=8.7						

JMA 29 17:49:50.8±0.5,27.22N×126.16E,h179km,M3.7, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**1.05**	**148**	P	P	17 50 19.0	0.0
JKE				S	S	17 50 41.1	+0.3
JAGN	**Aguni-jima**	**1.15**	**123**	P	P	17 50 19.9	0.0
JAGN				S	S	17 50 41.5	-0.8
JIH	**Iheya**	**1.62**	**96**	P	P	17 50 24.1	-0.1
JIH				S	S	17 50 48.3	-1.7
NAH1	**Naha**	**1.70**	**126**	P	P	17 50 25.1	+0.1
NAH1				S	S	17 50 49.5	-1.9
JJT2	**Tamagusuku 2**	**1.78**	**127**	P	P	17 50 26.4	+0.5
JOW	**Kunigami**	**1.93**	**101**	P	P	17 50 26.9	-0.4
JOW				S	S	17 50 53.1	-2.4
JMJ	**Miyako jima 2**	**2.52**	**198**	P	P	17 50 33.3	-0.9
JMJ				*e*S	S	17 51 05.9	-1.7
JOGS	**Gusukube**	**2.54**	**196**	P	P	17 50 33.8	-0.7
JOGS				S	S	17 51 07.2	-0.9
JTK	**Tokunoshima**	**2.54**	**77**	P	P	17 50 33.1	-1.4
JTJ	**Tarama**	**2.88**	**207**	P	P	17 50 37.2	-1.4
JTJ				S	S	17 51 12.3	-3.0
JAM	**Amami Oshima**	**3.27**	**68**	P	P	17 50 42.2	-1.2
JAM				S	S	17 51 20.2	-3.7
JIJ	**Ishigaki jima**	**3.38**	**213**	P	P	17 50 42.4	-2.3
JIJ				S	S	17 51 22.1	-4.1
JKRS	**Kuro-shima**	**3.55**	**214**	P	P	17 50 44.5	-2.3
JZK	**Kikaishima**	**3.55**	**71**	S	S	17 51 27.6	-2.5
IRIF	**Iriomote-Funau**	**3.61**	**218**	P	P	17 50 45.4	-2.3
HATJ	**Hateruma jima**	**3.80**	**215**	P	P	17 50 47.9	-2.1
YOJ	**Yonaguni jima**	**3.95**	**227**	P	P	17 50 50.8	-1.1
JMZ	**Minamidaito 2**	**4.74**	**106**	P	P	17 51 00.3	-1.9
JMZ				*e*S	S	17 51 53.7	-3.7

NIED ***29*** *17:55:00,33.20N×142.50E,h11km,Mw4.0 Best double couple: M₀9.87×10¹⁴ NP1:φs225°,δ65°,λ-80°. NP2:φs22°, δ27°,λ-111°.*
JMA ***29*** *17:55:55.8±0.5,33.22N×142.52E,h86km,M3.5*
MOS ***29*** *17:55:58.1±2.5,33.15N×142.43E,h33km,mb4.3/2, Error ellipse: s-maj=30.3km s-min=10.9km az=120.8*
NEIC ***29*** *17:55:58.5±0.6,33.14N×142.42E,mb4.2/2, Error ellipse: s-maj=17.0km s-min=10.4km az=52.0*
IDC ***29*** *17:55:58.5±0.8,33.09N×142.48E,h31km±6km,mb3.7/7, mb1 3.9/10,mb1mx3.8/19,mbtmp3.9/10,ML4.1/3,MS3.2/1, Ms1 3.2/1,ms1mx2.5/24,Error ellipse: s-maj=19.6km s-min=17.2km az=55.0*
ISC 29 17:55:56.0±0.6,33.16N±0.05×142.46E±0.06,h30km, h30km±1.9km:pP-P,n36,σ0§95/41,mb3.9/10,MS3.1/1,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.94**	**321**	P	**Pn**	**17 56 27.2**	**-0.3**
BSO1				*e*S	**Sn**	**17 56 50.8**	**-0.3**
JHJ2	**Mitsune**	**2.22**	**270**	P	**Pn**	**17 56 32.4**	**+0.8**
JHJ2				*e*S	**Sn**	**17 56 59.7**	**+1.4**
JHJ	**Hachijo jima 2**	**2.25**	**270**	Pn	**Pn**	**17 56 32.1**	**+0.1**
	48nm,0.3s,baz=252,slow=22,SNR=19						
JHJ				Sn	**Sn**	**17 56 59.1**	**+0.1**
	85nm,0.3s,baz=276,slow=22,SNR=12						
BSO3	**Boso 3**	**2.31**	**316**	P	**Pn**	**17 56 32.9**	**0.0**
BSO4	**Boso 4**	**2.54**	**317**	P	**Pn**	**17 56 36.7**	**+0.5**
BSO4				*e*S	**Sn**	**17 57 07.4**	**+1.0**
JIM2	**Oshima 3**	**2.96**	**303**	P	**Pn**	**17 56 41.3**	**-0.9**
JOD2	**Odawara 2**	**3.50**	**308**	P	**Pn**	**17 56 48.8**	**-1.0**
JYN	**Shimob**	**4.00**	**307**	P	**Pn**	**17 56 56.3**	**-0.5**
JAG	**Ashikaga**	**4.09**	**324**	P	**Pn**	**17 56 57.2**	**-1.1**
JRY	**Ryogami san**	**4.10**	**315**	P	**Pn**	**17 56 57.7**	**-0.6**
MJAR	**Matsushiro Arr**	**4.86**	**315**	Pn	**Pn**	**17 57 08.6**	**-0.5**
	4.6nm,0.3s,baz=159,slow=13,SNR=45						
MJAR				Sn	**Sn**	**17 58 05.2**	**+0.1**
	1.8nm,0.3s,baz=235,slow=20,SNR=6.2						
MAJO	**Matsushiro**	**4.87**	**315**	*e*P	**Pn**	**17 57 09.6**	**+0.4**
MAT	**Matsushiro**	**4.87**	**315**	*e*P	**Pn**	**17 57 09.0**	**-0.2**
MAT				*e*S	**Sn**	**17 58 03.0**	**-2.2**
MAT	**Matsushiro**	**4.87**	**315**	P	**Pn**	**17 57 09.0**	**-0.2**
MAT				S	**Sn**	**17 58 02.5**	**-2.7**
CBIJ	**Chichi jima**	**6.04**	**182**	Pn	**Pn**	**17 57 23.1**	**-2.7**
	25nm,0.3s,baz=278,slow=23,SNR=29						
CBIJ				Sn	**Sn**	**17 58 28.2**	**-6.5**
	31nm,0.3s,baz=292,slow=19,SNR=7.0						
YSS	**Yuzh-Sakhalins**	**13.78**	**1**	P	**P**	**17 59 18.0**	**+6.4**
ENH	**Enshi**	**28.14**	**273**	*e*P	**P**	**18 01 46.7**	**-0.8**
	4.7nm,0.7s,mb4.2						
SONM	**Songino Array**	**30.79**	**309**	P	**P**	**18 02 12.7**	**+1.7**
	1.0nm,0.6s,mb3.8,baz=107,slow=9.4,SNR=9.1						
SONM				LR	LR	18 14 08.6	
	comp=Z,42nm,18.4s,MS3.1,baz=251,slow=35						
SONM	**Songino Array**	**30.79**	**309**	P	**P**	**18 02 12.7**	**+1.7**
SONM				LR	LR	18 14 08.6	
BOD	**Bodaibo**	**31.30**	**331**	*e*P	**P**	**18 02 20.3**	**+4.9**
ZAK	**Zakamensk**	**33.44**	**313**	*e*P	**P**	**18 02 38.7**	**+4.5**
ZAL	**Zalesovo**	**45.23**	**315**	P	**P**	**18 04 17.9**	**+5.9**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**45.23**	**315**	P	**P**	**18 04 17.9**	**+5.9**
	comp=Z,0.8nm,0.3s,mb4.0,baz=37,slow=7.8,SNR=6.6						
ZAL	**Zalesovo**	**45.23**	**315**	P	**P**	**18 04 17.9**	**+5.9**
MKAR	**Makanchi Array**	**46.99**	**305**	P	**P**	**18 04 27.2**	**+1.2**
	comp=Z,1.0nm,0.8s,mb3.8,baz=86,slow=9.6,SNR=9.2						
KURK	**Kurchatov**	**49.06**	**311**	*e*P	**P**	**18 04 42.4**	**+0.3**
KURK				*e**PP	pP	18 04 50.2	-1.2
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
KURK	**Kurchatov**	**49.06**	**311**	*e*P	**P**	**18 04 42.4**	**+0.3**
	comp=Z,1.1nm,0.6s,mb4.1						
KURK				*e*pP	pP	18 04 50.2	-1.2
ILAR	**Eielson Array**	**52.34**	**31**	P	**P**	**18 05 06.8**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=265,slow=6.2,SNR=9.2						
ILAR				pP	pP	18 05 16.7	+0.5
	comp=Z,0.9nm,0.7s,baz=270,slow=6.3,SNR=5.2						
WRA	**Warramunga Arr**	**53.37**	**190**	P	**P**	**18 05 14.4**	**-0.7**
	comp=Z,1.3nm,0.7s,mb4.0,baz=6.2,slow=7.6,SNR=20						
STKA	**Stephens Creek**	**64.69**	**181**	P	**P**	**18 06 33.9**	**+0.4**
	comp=Z,2.3nm,0.9s,mb4.2,baz=20,slow=12,SNR=3.3						
STKA	**Stephens Creek**	**64.69**	**181**	P	**P**	**18 06 33.9**	**+0.4**
FINES	**FINESS Array B**	**72.65**	**333**	pP	pP	18 07 33.5	+1.8
	comp=Z,1.8nm,0.8s,baz=112,slow=10,SNR=4.1						
NVAR	**Mina Array Bea**	**76.63**	**53**	P	**P**	**18 07 46.7**	**+1.2**
	comp=Z,0.5nm,0.8s,mb3.5,baz=281,slow=9.2,SNR=3.7						
NVAR				pP	pP	18 07 56.4	+1.2
	baz=280,slow=5.5						
AKASG	**Malin Array Be**	**77.90**	**323**	pP	pP	18 08 03.1	+1.2
	comp=Z,0.3nm,0.4s,baz=41,slow=6.1,SNR=2.8						
NB2	**NORSAR Subarra**	**78.09**	**338**	P	pP	18 08 04.5	+1.8
	comp=Z,1.0nm,0.7s,baz=39,slow=5.6						
NOA	**NORSAR Array B**	**78.09**	**338**	P	**P**	**18 07 54.5**	**+1.4**
	comp=Z,0.8nm,0.8s,mb3.7,baz=38,slow=5.7,SNR=3.5						
NOA				pP	pP	18 08 04.9	+2.1
	comp=Z,1.6nm,0.8s,baz=39,slow=5.7,SNR=6.5						

JMA ***29*** *18:01:31.3±0.3,34.23N×127.17E,M4.0*
KMA ***29*** *18:01:37.6,34.16N×127.44E,ML3.1*
ISC 29 18:01:37.8±0.5,34.18N±0.04×127.45E±0.04,h10km,n20, σ0§89/23,South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSWAN	**Wando**	**0.65**	**289**	P	**Pb**	**18 01 50.9**	**+0.1**
KSKWJ	**Gwangju**	**1.05**	**339**	P	**Pb**	**18 01 57.7**	**+0.1**
KSJJU	**Jeju**	**1.05**	**225**	P	**Pb**	**18 01 57.6**	**-0.1**
KSMOP	**Mokpo**	**1.08**	**306**	P	**Pb**	**18 01 58.6**	**+0.4**
KSSGP	**Seogwipo**	**1.21**	**221**	P	**Pb**	**18 01 60.0**	**-0.3**
KSJEU	**Jeongeup**	**1.38**	**342**	P	**Pn**	**18 02 02.9**	**-0.4**
JTU	**Tsushima**	**1.65**	**77**	P	**Pn**	**18 02 05.6**	**-1.5**
JTU				S	**Sn**	**18 02 28.4**	**-0.1**
KSCHO	**Jeonju**	**1.66**	**352**	P	**Pn**	**18 02 07.7**	**+0.6**
KSHUK	**Heuksando**	**1.72**	**288**	P	**Pn**	**18 02 08.8**	**+0.7**
KSBUS	**Busan**	**1.74**	**52**	P	**Pn**	**18 02 08.6**	**+0.3**
JFU	**Fukue jima 2**	**1.87**	**144**	S	**Sn**	**18 02 34.3**	**+0.3**
KSKUS	**Gunsan**	**1.90**	**345**	P	**Pn**	**18 02 11.9**	**+1.2**
JII	**Iki**	**1.94**	**101**	P	**Pn**	**18 02 09.4**	**-1.8**
JII				S	**Sn**	**18 02 36.6**	**+0.8**
KSDAG	**Daegu**	**1.99**	**36**	P	**Pn**	**18 02 12.8**	**+0.9**
KSULS	**Ulsan**	**2.07**	**48**	P	**Pn**	**18 02 13.9**	**+0.9**
JUR	**Ureshino**	**2.35**	**117**	P	**Pn**	**18 02 15.6**	**-1.5**
JUR				S	**Sn**	**18 02 48.0**	**+1.7**
KSSES	**Seosan**	**2.73**	**343**	P	**Pn**	**18 02 21.8**	**-0.7**
KSULJ	**Uljin**	**2.99**	**32**	P	**Pn**	**18 02 26.5**	**+0.4**
KSCHC	**Chuncheon**	**3.61**	**5**	P	**Pn**	**18 02 33.7**	**-1.2**
KSDGY	**Daegwallyeong**	**3.65**	**16**	P	**Pn**	**18 02 34.6**	**-0.9**

LDG ***29*** *18:09:03.3±0.2,42.43N×8.01W,h14km,Ml2.8/4,Error ellipse: s-maj=6.8km s-min=2.5km az=103.0*
NEIC ***29*** *18:09:03.5,42.44N×8.07W,h24km,ML2.8(LDG), MN2.9(MDD),After MDD.*
INMG ***29*** *18:09:03.6±1.5,42.44N×8.05W,h21km±4km,ML2.5,Error ellipse: s-maj=2.9km s-min=2.2km az=97.0*
CSEM 29 18:09:03.5±0.1,42.42N×8.11W,h25km,ML2.9/8,2C-5D, Error ellipse: s-maj=1.8km s-min=1.4km az=82.0,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZAM	**Zamans**	**0.51**	**239**	⇓Pg	Pb	18 09 14.2	+0.3
EZAM				Lg		18 09

	9.4nm,0.3s							
ELAN	**Lanestosa**	**3.53**	**75**	Pn	Pn	18 09 56.4	-1.8	
ELAN				Pg	Pn	18 10 02.7	+4.5	
ELAN				Sn	Sn	18 10 35.5	-4.2	
ELAN				Lg		18 10 52.9		
ELAN	**Lanestosa**	**3.53**	**75**	Pn	Pn	18 09 56.4	-1.8	
	1.7nm,0.1s,SNR=14							
ELAN	**Lanestosa**	**3.53**	**75**	Pg	Pn	18 10 02.7	+4.5	
	0.5nm,0.1s,SNR=7.9							
ELAN				Sn	Sn	18 10 35.5	-4.2	
	2.0nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**3.75**	**167**	Pn	Pn	18 09 58.4	-2.8	
EBAD				Sn	Sn	18 10 40.1	-5.1	
EBAD				Lg		18 11 01.1		
EBAD	**Badajoz**	**3.75**	**167**	Pn	Pn	18 09 58.4	-2.9	
	2.4nm,0.1s,SNR=10							
EBAD				Sn	Sn	18 10 40.1	-5.1	
	1.7nm,0.1s,SNR=7.9							
EVO	**Evora**	**3.88**	**179**	*e*Pn	Pn	18 10 00.9	-2.2	
EVO				*e*Sn	Sn	18 10 41.9	-6.6	
EVO				*e*Sg	Sn	18 11 04.0	+16	
	14nm,0.5s							
ESDC	**Sonseca Array**	**4.16**	**130**	Sn	Sn	18 10 49.8	-5.8	
	1.0nm,0.1s,SNR=4.0							
EMIN	**Mina Concepcio**	**4.77**	**166**	Pn	Pn	18 10 13.3	-2.5	
EMIN				Sn	Sn	18 11 04.4	-6.6	
EMIN				Lg		18 11 34.8		
EMIN	**Mina Concepcio**	**4.77**	**166**	Pn	Pn	18 10 13.3	-2.5	
	0.8nm,0.1s,SNR=11							
EMIN				Sn	Sn	18 11 04.4	-6.6	
	0.3nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**4.80**	**154**	Pn	Pn	18 10 13.6	-2.5	
ECAB				Sn	Sn	18 11 06.9	-4.8	
ECAB				Lg		18 11 35.3		
ECAB	**El Cabril**	**4.80**	**154**	Pn	Pn	18 10 13.6	-2.6	
	0.2nm,0.1s,SNR=7.9							
ECAB				Sn	Sn	18 11 06.9	-4.8	
	1.8nm,0.2s,SNR=8.3							
EGRO	**El Granado**	**4.90**	**174**	Pn	Pn	18 10 14.9	-2.7	
EGRO				Sn	Sn	18 11 06.8	-7.4	
EGRO				Lg		18 11 38.2		
EGRO	**El Granado**	**4.90**	**174**	Pn	Pn	18 10 14.9	-2.7	
EGRO				Sn	Sn	18 11 06.8	-7.4	
EADA	**Adamuz**	**5.03**	**146**	Pn	Pn	18 10 16.7	-2.7	
EADA				Sn	Sn	18 11 11.8	-5.6	
EADA				Lg		18 11 39.6		
EADA	**Adamuz**	**5.03**	**146**	Pn	Pn	18 10 16.7	-2.7	
EADA				Sn	Sn	18 11 11.8	-5.7	
SJPF	**Ste Jean**	**5.11**	**80**	*e*Pn	Pn	18 10 17.9	-2.7	
ETSF	**Etsaut**	**5.59**	**83**	*e*Pn	Pn	18 10 24.4	-2.9	
ETSF				*e*Sn	Sn	18 11 22.7	-8.8	
	1.2nm,0.3s							
EBIE	**Bielsa**	**6.10**	**85**	Pn	Pn	18 10 31.3	-3.2	
EBIE				Sn	Sn	18 11 36.0	-8.3	
EBIE				Lg		18 12 10.2		
EBIE	**Bielsa**	**6.10**	**85**	Pn	Pn	18 10 31.3	-3.2	
EBIE				Sn	Sn	18 11 36.0	-8.3	
QUIF	**Quistinic**	**6.51**	**31**	*e*Pn	Pn	18 10 36.5	-3.9	
QUIF				*e*Sn	Sn	18 11 43.4	-11	
	1.0nm,0.2s							
ROSF	**Rostrenen**	**6.83**	**28**	*e*Pn	Pn	18 10 39.7	-5.1	
SGMF	**Saint Gilles**	**7.03**	**32**	*e*Pn	Pn	18 10 43.1	-4.4	
MFF	**Saint Martin d**	**7.06**	**51**	*e*Pn	Pn	18 10 43.0	-5.1	
RJF	**Les Rejaudoux**	**7.53**	**64**	*e*Sn	Sn	18 12 08.5	-12	
	0.8nm,0.2s							
MTLF	**Montolieu**	**7.64**	**80**	*e*Pn	Pn	18 10 51.1	-5.0	
CAF	**Calviac**	**7.79**	**68**	*e*Pn	Pn	18 10 51.9	-6.3	

*BJI **29** 18:09:58.3,0.58S×97.62E,h25km,mB5.1,mb4.8,Ms4.6, Msz4.3*
*MOS **29** 18:10:06.8±1.4,0.32N×97.76E,h33km,mb4.8/9,Error ellipse: s-maj=26.3km s-min=10.1km az=97.6*
*NEIC **29** 18:10:07.1±0.4,0.24N×97.71E,mb4.6/8,Error ellipse: s-maj=10.3km s-min=6.9km az=53.0*
*IDC **29** 18:10:07.2±0.5,0.27N×97.74E,h25km±3km,mb4.1/14, mb1 4.2/14,mb1mx4.1/19,mbtmp4.2/14,MS3.8/7, Ms1 3.8/7,ms1mx3.5/26,Error ellipse: s-maj=24.2km s-min=11.9km az=45.0*

ISC 29 18:10:05.3±0.5,0.27N±0.07×97.70E±0.07,h26km, h26km±1.5km:pP-P,n59,σ1$03/54,mb4.4/27,MS4.0/9,1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.42**	**38**	P	**Pn**	**18 11 27.1**	**+0.5**
KULM	**Kulim**	**5.79**	**30**	*e*Pn	**Pn**	**18 11 31.3**	**-0.6**
KGM	**Kluang**	**5.88**	**73**	P	**Pn**	**18 11 34.3**	**+1.2**
KKM	**Kota Kinabalu**	**19.35**	**72**	*e*P	**P**	**18 14 31.5**	**-0.5**
KKM				*e*pP		18 14 41.2	
KKM	**Kota Kinabalu**	**19.35**	**72**	P	**P**	**18 14 33.0**	**+1.1**
KMI	**Kunming**	**25.19**	**11**	P	**P**	**18 15 32.0**	**+1.4**
KMI				AP	pP	18 15 43.3	+5.3
KMI				XP	sP	18 15 48.0	+6.6
KMI				AMB	AMB		
	comp=Z,21nm,1.1s,mb4.6						
KMI				LR	LR		
	comp=N,828nm,14.1s,MS4.5						
KMI				LR	LR		
	comp=E,315nm,11.8s,MS4.5						
KMI				LR	LR		
	comp=Z,739nm,16.4s,MS4.3						
KMI	**Kunming**	**25.19**	**11**	P	**P**	**18 15 32.1**	**+1.5**
KMI				*PP	pP	18 15 43.2	+5.2
KMI						18 16 26.6	
KMI				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.6						
KMI				MLR	MLR		
	comp=Z,740nm,16.4s,MS4.3						
SHL	**Shillong**	**25.77**	**348**	*e*P	**P**	**18 15 36.0**	**-0.1**
LSA	**Lhasa**	**29.93**	**349**	*e*P	**P**	**18 16 14.8**	**+1.1**
LSA	**Lhasa**	**29.93**	**349**	*e*P	**P**	**18 16 14.6**	**+0.9**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
LSA	**Lhasa**	**29.93**	**349**	*e*P	**P**	**18 16 14.6**	**+0.8**
	comp=Z,9.4nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**32.98**	**125**	*e*P	**P**	**18 16 39.5**	**-1.1**
	comp=Z,4.7nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**32.98**	**125**	P	**P**	**18 16 39.6**	**-1.0**
	comp=Z,7.7nm,0.9s,mb4.6,baz=312,slow=3.1,SNR=5.4						
XAN	**Xi'an**	**35.21**	**16**	P	**P**	**18 16 58.8**	**-0.8**
XAN				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.1						
GTA	**Gaotai**	**39.01**	**3**	P	**P**	**18 17 32.5**	**+1.0**
GTA				AP	pP	18 17 39.0	-0.2
GTA				XP	sP	18 17 42.0	-0.4
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.2						
WRA	**Warramunga Arr**	**41.12**	**121**	P	**P**	**18 17 49.0**	**-0.2**
WRA				*SP	sP	18 17 59.5	-0.5
WRA	**Warramunga Arr**	**41.12**	**121**	P	**P**	**18 17 49.0**	**-0.2**
	comp=Z,2.8nm,0.4s,mb4.2,baz=304,slow=8.8,SNR=62						
WRA				pP	pP	18 17 55.4	-1.5
	comp=Z,2.5nm,0.8s,baz=301,slow=8.9,SNR=5.8						
WRA				sP	sP	18 17 59.5	-0.5
	comp=Z,4.1nm,1.1s,baz=300,slow=9.1,SNR=9.1						
WRAB	**Tennant Creek**	**41.13**	**121**	*e*P	**P**	**18 17 49.1**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.4						
WRAB	**Tennant Creek**	**41.13**	**121**	*e*P	**P**	**18 17 49.1**	**-0.1**
	comp=Z,3.4nm,0.3s,mb4.5						
WB2	**Warramunga Arr**	**41.13**	**121**	∥*e*P	**P**	**18 17 49.1**	**-0.1**
KS15	**Wonju Array Si**	**46.31**	**34**	*e*P	**P**	**18 18 30.7**	**-0.3**
AAK	**Ala-Archa**	**47.05**	**337**	*e*P	**P**	**18 18 39.9**	**+3.1**
SONM	**Songino Array**	**47.98**	**8**	P	**P**	**18 18 44.7**	**+0.7**
	comp=Z,3.9nm,0.5s,mb4.7,baz=189,slow=10,SNR=46						
MKAR	**Makanchi Array**	**48.26**	**346**	P	**P**	**18 18 46.6**	**+0.4**
	comp=Z,4.7nm,0.6s,mb4.7,baz=158,slow=8.3,SNR=71						
MKAR				LR	LR	18 41 04.5	
	comp=Z,67nm,19.1s,MS3.6,baz=180,slow=38						
CN2	**Changchun**	**49.91**	**26**	*e*P	**P**	**18 18 57.5**	**-1.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
ZAK	**Zakamensk**	**50.16**	**5**	*e*P	**P**	**18 19 01.0**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
PMG	**Port Moresby**	**50.16**	**102**	P	**P**	**18 19 01.1**	**-0.1**
	comp=Z,10nm,0.8s,mb4.9,baz=264,slow=7.8,SNR=5.7						
TLY	**Talaya**	**51.48**	**5**	*e*P	**P**	**18 19 11.7**	**+1.0**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TLY				MLR	MLR		
	comp=Z,141nm,14.0s,MS4.1						
TLY	**Talaya**	**51.48**	**5**	*e*P	**P**	**18 19 11.8**	**+1.1**
	comp=Z,5.0nm,0.8s,mb4.5						
MJAR	**Matsushiro Arr**	**52.05**	**42**	P	**P**	**18 19 13.8**	**-1.5**
	comp=Z,2.1nm,1.0s,mb4.0,baz=202,slow=5.9,SNR=4.3						
MJAR	**Matsushiro Arr**	**52.05**	**42**	P	**P**	**18 19 13.8**	**-1.5**
STKA	**Stephens Creek**	**52.36**	**132**	P	**P**	**18 19 19.0**	**+1.3**
	comp=Z,2.0nm,1.1s,mb4.0,baz=335,slow=13,SNR=4.8						
STKA				pP	pP	18 19 25.6	+0.1
	comp=Z,7.3nm,1.1s,baz=319,slow=8.9,SNR=5.3						
KURK	**Kurchatov**	**52.82**	**345**	*e*P	**P**	**18 19 20.5**	**-0.3**
KURK				*e*PP	pP	18 19 28.5	-0.1
KURK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
KURK	**Kurchatov**	**52.82**	**345**	*e*P	**P**	**18 19 20.5**	**-0.4**
	comp=Z,8.5nm,1.0s,mb4.6						
KURK				*e*pP	pP	18 19 28.5	-0.1
CIT	**Chita**	**53.27**	**12**	*e*P	**P**	**18 19 24.9**	**+0.8**
ZAL	**Zalesovo**	**54.55**	**351**	P	**P**	**18 19 33.1**	**-0.3**
	comp=Z,9.5nm,0.4s,mb5.2,baz=315,slow=4.2,SNR=36						
ZAL				pP	pP	18 19 41.3	+0.1
	comp=Z,4.0nm,0.4s,baz=297,slow=5.1,SNR=6.2						
ZAL				LR	LR	18 45 19.4	
	comp=Z,98nm,18.5s,MS3.9,baz=192,slow=39						
NVS	**Novosibirsk**	**55.68**	**350**	*e*P	**P**	**18 19 40.2**	**-1.5**
NVS				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
NVS				pmax	pmax		
	comp=N,8.0nm,1.3s						
BRVK	**Borovoye**	**57.35**	**341**	*e*P	**P**	**18 19 52.5**	**-1.2**
BRVK				*e*PP	pP	18 20 00.2	-1.4
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
BRVK	**Borovoye**	**57.35**	**341**	*e*P	**P**	**18 19 52.5**	**-1.2**
	comp=Z,3.4nm,1.0s,mb4.3						
BRVK				*e*pP	pP	18 20 00.2	-1.4
BOD	**Bodaibo**	**58.83**	**10**	*e*P	**P**	**18 20 01.2**	**-2.8**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
KMBO	**Kilima Mbogo**	**60.46**	**269**	LR	LR	18 44 04.2	
	comp=Z,90nm,18.4s,MS4.0,baz=93,slow=34						
YSS	**Yuzh-Sakhalins**	**60.84**	**34**	*e*P	**P**	**18 20 18.1**	**+0.2**
ARU	**Arti**	**64.23**	**337**	*e*P	**P**	**18 20 38.2**	**-2.1**
KIV	**Kislovodsk**	**65.34**	**319**	P	**P**	**18 20 47.0**	**-0.7**
KIV				*e*	pP	18 20 55.1	-0.6
KIV						18 21 04.0	
YAK	**Yakutsk**	**66.17**	**16**	*e*P	**P**	**18 20 51.9**	**-0.8**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
YAK	**Yakutsk**	**66.17**	**16**	*e*P	**P**	**18 20 51.9**	**-0.9**
	comp=Z,13nm,0.9s,mb5.0						
BRTR	**Keskin Array B**	**70.11**	**312**	P	**P**	**18 21 17.2**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=143,slow=3.0,SNR=2.4						
BRTR				pP	pP	18 21 25.0	-0.6
	comp=Z,1.2nm,0.8s,baz=135,slow=5.2,SNR=3.9						
MATP	**Matopo**	**70.64**	**248**	P	**P**	**18 21 21.6**	**+0.4**
	comp=Z,1.9nm,0.9s,mb4.0,baz=74,slow=7.4,SNR=2.9						
MATP				pP	pP	18 21 30.2	+1.0
	comp=Z,2.9nm,0.9s,baz=78,slow=7.0,SNR=4.0						
MAW	**Mawson**	**71.92**	**193**	pP	pP	18 21 37.4	+1.3
	comp=Z,1.2nm,0.8s,baz=20,slow=7.8,SNR=6.4						
MAW				LR	LR	18 48 04.5	
	comp=Z,78nm,19.7s,MS4.0,baz=246,slow=32						
OBN	**Obninsk**	**73.67**	**328**	P	**P**	**18 21 41.0**	**+2.4**
OBN				*e*		18 21 58.3	
BOSA	**Boshof**	**74.75**	**240**	LR	LR	18 53 57.1	
	comp=Z,86nm,18.1s,MS4.1,baz=76,slow=35						
AKASG	**Malin Array Be**	**76.30**	**322**	P	**P**	**18 21 53.1**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.6,baz=86,slow=5.3,SNR=7.5						
AKASG				pP	pP	18 22 01.1	-0.7
	comp=Z,0.7nm,0.6s,baz=91,slow=4.2,SNR=2.5						
AKASG				sP	sP	18 22 06.5	+1.9
	comp=Z,2.0nm,0.7s,baz=86,slow=5.0,SNR=5.0						
AKASG	**Malin Array Be**	**76.30**	**322**	P	**P**	**18 21 53.1**	**-0.6**
AKASG				pP	pP	18 22 01.1	-0.7
AKASG				sP	sP	18 22 06.5	+1.9
FINES	**FINESS Array B**	**81.05**	**333**	P	**P**	**18 22 19.5**	**+0.1**
	comp=Z,1.1nm,0.9s,mb3.8,baz=63,slow=4.3,SNR=4.5						
FINES	**FINESS Array B**	**81.05**	**333**	P	**P**	**18 22 19.5**	**+0.1**
ARCES	**ARCESS Array B**	**83.58**	**340**	P	**P**	**18 22 33.1**	**+0.8**
	comp=Z,4.0nm,0.8s,mb4.6,baz=45,slow=6.9,SNR=5.9						
ARCES				LR	LR	19 06 35.7	
	comp=Z,41nm,18.8s,MS3.8,baz=284,slow=40						
GERES	**GERESS Array B**	**85.84**	**319**	P	**P**	**18 22 45.5**	**+1.4**
	comp=Z,0.6nm,0.8s,mb3.9,baz=108,slow=4.2,SNR=4.7						
GERES				pP	pP	18 22 53.7	+1.4
	comp=Z,0.8nm,0.9s,baz=104,slow=5.5,SNR=3.8						
NOA	**NORSAR Array B**	**88.06**	**331**	LR	LR	19 06 01.5	
	comp=Z,41nm,21.0s,MS3.8,baz=90,slow=38						
CPUP	**Villa Florida**	**144.64**	**221**	PKP	PKPdf	18 29 42.2	-3.0
	comp=Z,2.2nm,0.8s,baz=90,slow=2.0,SNR=5.9						
CPUP				pPKP		18 29 49.5	
	comp=Z,4.5nm,0.8s,baz=142,slow=4.8,SNR=10.0						

*IDC **29** 18:40:59.2±0.8,11.43N×144.22E,mb4.3/9,mb1 4.4/10, mb1mx4.2/22,mbtmp4.4/10,ML4.1/1,MS3.1/3,Ms1 3.1/3, ms1mx2.8/22,Error ellipse: s-maj=36.2km s-min=15.0km az=78.0*
*NEIC **29** 18:41:03.9±0.5,11.44N×144.13E,h35km,mb4.5/6,Error ellipse: s-maj=21.9km s-min=8.6km az=86.0*

ISC 29 18:41:01.9±2.4,11.40N±0.07×144.0E±0.2,h34km±24km, n22,σ0$97/22,mb4.3/15,MS3.1/2,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.33**	**21**	*e*Pn	**P**	**18 41 38.5**	**-0.1**
CBIJ	**Chichi jima**	**15.71**	**354**	Pn	**P**	**18 44 44.1**	**+1.6**
	2.9nm,0.3s,baz=139,slow=18,SNR=3.6						
CBIJ				LR	LR	18 50 38.1	
	comp=Z,35nm,18.3s,baz=220,slow=37						
JOW	**Kunigami**	**21.35**	**318**	P	**P**	**18 45 47.6**	**-0.8**
	9.9nm,0.7s,mb4.3,baz=111,slow=8.6,SNR=2.2						
JNU	**Nakatsue**	**24.76**	**333**	P	**P**	**18 46 20.8**	**-1.3**
	7.4nm,0.8s,mb4.3,baz=66,slow=6.6,SNR=4.4						
JNU				LR	LR	18 55 30.5	
	comp=Z,28nm,18.1s,MS2.8,baz=31,slow=35						
MJAR	**Matsushiro Arr**	**25.58**	**349**	P	**P**	**18 46 28.4**	**-1.3**
	2.3nm,0.5s,mb4.0,baz=171,slow=10,SNR=9.2						
MJAR				LR	LR	18 55 41.4	
	comp=Z,90nm,18.1s,MS3.3,baz=170,slow=34						
MJAR	**Matsushiro Arr**	**25.58**	**349**	P	**P**	**18 46 28.4**	**-1.3**
MJAR				LR	LR	18 55 41.4	
MAJO	**Matsushiro**	**25.58**	**349**	*e*P	**P**	**18 46 29.1**	**-0.6**
	8.7nm,0.6s,mb4.5						
MAT	**Matsushiro**	**25.58**	**349**	*e*P	**P**	**18 46 29.0**	**-0.7**
	8.2nm,0.7s,mb4.4						
MAT	**Matsushiro**	**25.58**	**349**	P	**P**	**18 46 29.2**	**-0.5**
KAKA	**Kakadu**	**26.57**	**206**	*e*P	**P**	**18 46 45.0**	**+5.9**
	8.4nm,0.6s,mb4.5						
CTA	**Charters Tower**	**31.36**	**176**	P	**P**	**18 47 22.1**	**+0.1**
	3.8nm,0.6s,mb4.4,baz=353,slow=12,SNR=6.1						
WRAB	**Tennant Creek**	**32.56**	**197**	*e*P	**P**	**18 47 32.0**	**-0.5**
	5.9nm,0.5s,mb4.8						
WB2	**Warramunga Arr**	**32.57**	**197**	*e*P	**P**	**18 47 32.4**	**-0.2**
WRA	**Warramunga Arr**	**32.57**	**197**	P	**P**	**18 47 32.5**	**-0.1**
	5.9nm,0.6s,mb4.7,baz=20,slow=9.7,SNR=76						
DZM	**Mont Dzumac**	**39.87**	**147**	P	**P**	**18 48 35.2**	**+0.9**
	11nm,1.0s,mb4.5,baz=321,slow=6.5,SNR=6.3						
STKA	**Stephens Creek**	**43.09**	**183**	*e*P	**P**	**18 49 00.0**	**-0.8**
	2.9nm,1.1s,mb3.9						
STKA	**Stephens Creek**	**43.09**	**183**	P	**P**	**18 49 00.6**	**-0.3**
	2.8nm,0.9s,mb4.0,baz=325,slow=5.9,SNR=3.9						
SONM	**Songino Array**	**48.07**	**326**	P	**P**	**18 49 42.4**	**+2.3**
	1.6nm,0.5s,mb4.3,baz=144,slow=7.6,SNR=19						
MKAR	**Makanchi Array**	**62.51**	**317**	P	**P**	**18 51 26.2**	**+1.6**
	1.0nm,0.7s,mb4.1,baz=89,slow=8.9,SNR=10						
MKAR	**Makanchi Array**	**62.51**	**317**	P	**P**	**18 51 26.2**	**+1.6**
KURK	**Kurchatov**	**65.73**	**321**	*e*P	**P**	**18 51 46.3**	**+0.7**
	3.0nm,0.8s,mb4.4						
ILAR	**Eielson Array**	**70.89**	**25**	P	**P**	**18 52 16.8**	**-0.5**
	1.3nm,0.5s,mb4.1,baz=256,slow=5.4,SNR=15						

*JMA **29** 19:02:45.5±0.4,33.30N×142.55E,h72km,M3.7*
*IDC **29** 19:02:49.0±2.1,33.29N×141.98E,mb3.4/3,mb1 3.5/4, mb1mx3.3/20,mbtmp3.4/4,ML3.3/1,Error ellipse: s-maj=40.5km s-min=25.6km az=56.0*

ISC 29 19:02:47.9±1.1,33.40N±0.06×142.42E±0.09,h33km,n14, σ1$43/23,mb3.4/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.73**	**317**	P	**P**	**19 03 16.1**	**0.0**
BSO1				S	**S**	**19 03 39.5**	**+2.2**
BSO3	**Boso 3**	**2.12**	**312**	P	**P**	**19 03 21.8**	**+0.2**
BSO3				S	**S**	**19 03 48.9**	**+2.0**
JHJ2	**Mitsune**	**2.20**	**263**	P	**P**	**19 03 21.7**	**-1.0**
JHJ2				*e*S	**S**	**19 03 48.7**	**-0.3**
JHJ	**Hachijo jima 2**	**2.23**	**264**	Pn	**Pn**	**19 03 21.9**	**-1.5**
	12nm,0.3s,baz=114,slow=19,SNR=12						
JHJ				Sn	**Sn**	**19 03 45.9**	**-4.0**
	46nm,0.3s,baz=244,slow=22,SNR=7.2						
JYT	**Yasato**	**3.37**	**328**	P	**P**	**19 03 39.5**	**+0.1**
JYT				*e*S	**S**	**19 04 20.2**	**+1.5**
JHO	**Hitachi**	**3.55**	**335**	P	**P**	**19 03 40.6**	**-1.4**
JAG	**Ashikaga**	**3.88**	**322**	P	**P**	**19 03 46.2**	**-0.5**
JFK	**Kawauchi**	**4.16**	**343**	P	**P**	**19 03 48.3**	**-2.4**
JFK				*e*S	**S**	**19 04 33.1**	**-5.7**
JMM	**Marumori**	**4.65**	**344**	P	**P**	**19 03 55.0**	**-2.7**
JMM				S	**S**	**19 04 45.7**	**-5.6**
MJAR	**Matsushiro Arr**	**4.67**	**313**	Pn	**Pn**	**19 03 57.5**	**-0.6**
	1.6nm,0.3s,baz=351,slow=17,SNR=15						
MJAR				Sn	**Sn**	**19 04 51.1**	**-0.7**
	2.3nm,0.3s,baz=273,slow=30,SNR=9.0						
MAT	**Matsushiro**	**4.67**	**313**	P	**P**	**19 03 58.3**	**+0.4**
MAT				S	**S**	**19 04 51.0**	**-0.7**
SONM	**Songino Array**	**30.61**	**309**	P	**P**	**19 09 03.6**	**+2.8**
	0.5nm,0.7s,mb3.4,baz=109,slow=7.7,SNR=4.7						
MKAR	**Makanchi Array**	**46.82**	**305**	P	**P**	**19 11 18.0**	**+1.9**
	0.4nm,0.8s,mb3.4,baz=95,slow=9.8,SNR=5.0						
WRA	**Warramunga Arr**	**53.59**	**189**	P	**P**	**19 12 10.5**	**+2.2**
	0.2nm,0.4s,mb3.4,baz=5.5,slow=7.0,SNR=5.5						

*CSEM **29** 19:53:57.8±0.1,37.05N×28.53E,h12km,MD3.4, Error ellipse: s-maj=1.9km s-min=1.7km az=175.0*
*ATH **29** 19:53:58.5,37.07N×28.39E,h8km±1km,MD3.6/5*
*NEIC **29** 19:53:58.7,37.05N×28.38E,h12km,MD3.6(ATH), ML3.5(ISK),After ATH.*
*ISK **29** 19:53:58.2,37.03N×28.50E,h18km,MD3.4*
*HLW **29** 19:54:04.2,36.66N×28.70E,h16km,Mb3.5*

ISC 29 19:53:58.3±0.5,37.02N±0.02×28.49E±0.03,h14km±4km, n52,σ1$04/71,7C-1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.20**	**305**	*i* PG	**Pg**	**19 54 03.3**	**+0.3**
DALT	**Dalyan (Mudla)**	**0.28**	**155**	*i* PG	**Pg**	**19 54 04.3**	**-0.1**
DALT				*i* SG	**Sg**	**19 54 09.8**	**+1.4**
MLSB	**Milas**	**0.63**	**296**	PG	**Pg**	**19 54 10.9**	**-0.2**
MLSB				SG	**Sg**	**19 54 20.8**	**+1.1**
AYDN	**Tasoluk**	**0.80**	**323**	*i* P	**Pb**	**19 54 13.8**	**+0.3**
AYDN				*i* S	**Sb**	**19 54 23.9**	**0.0**
DNZL	**Cakiroluk**	**0.80**	**33**	*i* P	**Pb**	**19 54 12.2**	**-1.3**
DNZL				*i* S	**Sb**	**19 54 24.1**	**+0.2**
ARG	**Arkhangelos**	**0.85**	**200**	*e*PB	**Pb**	**19 54 15.5**	**+1.2**
ARG				*e*SB	**Sb**	**19 54 27.1**	**+1.7**
GOLH	**Golhisar**	**0.88**	**75**	*i* P	**Pb**	**19 54 14.3**	**-0.6**
GOLH				*i* S	**Sb**	**19 54 30.4**	**+4.1**
BODT	**Bodrum**	**0.94**	**273**	PG	**Pg**	**19 54 17.0**	**-0.3**
ELL	**Elmali**	**1.17**	**103**	PN	**Pn**	**19 54 20.3**	**+0.1**
AKAS	**Kas**	**1.19**	**131**	*i* P	**Pb**	**19 54 21.2**	**+1.1**
AKAS				*i* S	**Sb**	**19 54 41.8**	**+6.5**
KSL	**Kastellorizon**	**1.24**	**134**	*e*PG	**Pg**	**19 54 23.0**	**-0.1**
KSL				*e*SB	**Sb**	**19 54 42.0**	**+5.5**
MANT	**Manisa**	**1.47**	**2**	*i* P	**Pn**	**19 54 24.2**	**-0.3**
MANT				*i* S	**Sb**	**19 54 43.7**	**+0.4**
SMG	**Samos**	**1.48**	**298**	*e*PB	**Pb**	**19 54 25.0**	**-0.1**
SMG				*e*SB	**Sb**	**19 54 43.8**	**+0.1**
KHL	**Karahalli**	**1.54**	**32**	PN	**Pn**	**19 54 25.1**	**-0.4**
IZM	**Izmir**	**1.69**	**325**	PN	**Pn**	**19 54 27.6**	**0.0**
KDAG	**Bornova**	**1.69**	**325**	*i* P	**Pn**	**19 54 27.7**	**+0.1**
KDAG				*i* S	**Sn**	**19 54 53.6**	**+4.6**
ANTB	**Antalya**	**1.74**	**93**	*e*PN	**Pn**	**19 54 29.0**	**+0.7**
TKTP	**Tekketepe**	**1.78**	**54**	*i* P	**Pn**	**19 54 29.2**	**+0.3**
TKTP				*i* S	**Sn**	**19 55 02.6**	**+11**
BLCB	**Balcova**	**1.78**	**320**	PN	**Pn**	**19 54 28.7**	**-0.3**
ISP	**Isparta**	**1.81**	**62**	PN	**Pn**	**19 54 28.4**	**-0.9**
ISP	**Isparta**	**1.81**	**62**	*e*Pn	**

seismograms. Energy computed from CMT mechanism.
MOS ***29*** *20:25:02.2±0.8, 33.32N×142.35E, h33km, mb5.6/93, MS5.1/32 Error ellipse: s-maj=8.4km s-min=3.8km az=113.3*
IDC ***29*** *20:25:04.5±0.5, 33.36N×142.42E, h40km±3km, mb4.8/19, mb1 4.9/23, mb1mx4.9/25, mbtmp5.0/23, ML4.3/4, MS4.8/14, Ms1 4.8/14, ms1mx4.7/23, Error ellipse: s-maj=12.5km s-min=12.3km az=12.0*
ISC 29 20:25:02.9±0.1, 33.31N±0.02×142.30E±0.02, h39km, **h39**km±1.5km**:pP-P, n616,** σ0**94**/604**, mb5.3**/179**, MS5.1**/62**, 33C-60D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
BSO1	**Boso 1**	**1.73**	**321**	⇓P	**P**		**20 25 29.9**	**-1.1**
JHJ2	**Mitsune**	**2.09**	**265**	⇓P	**P**		**20 25 36.3**	**+0.1**
BSO3	**Boso 3**	**2.10**	**316**	P	**P**		**20 25 35.7**	**-0.6**
BSO3				eS	**S**		**20 26 03.7**	**+2.3**
JHJ	**Hachijo jima 2**	**2.12**	**265**	Pn	**P**		**20 25 36.5**	**0.0**
	780nm,0.3s,baz=140,slow=6.4,SNR=258							
JHJ				Sn	**S**		**20 26 06.0**	**+4.2**
	1μm,0.3s,baz=273,slow=22,SNR=7.6							
BSO4	**Boso 4**	**2.33**	**316**	⇓P	**P**		**20 25 39.6**	**-0.1**
BSO4				eS	**S**		**20 26 09.3**	**+2.0**
JMY	**Miyakejima3**	**2.44**	**289**	P	**P**		**20 25 41.2**	**0.0**
KTR	**Katsuura**	**2.46**	**319**	P	**P**		**20 25 41.2**	**-0.3**
KTR				S	**S**		**20 26 11.7**	**+1.1**
JIM2	**Oshima 3**	**2.76**	**301**	P	**P**		**20 25 45.0**	**-0.8**
JIM2				S	**S**		**20 26 20.5**	**+2.2**
JOD2	**Odawara 2**	**3.29**	**307**	P	**P**		**20 25 52.4**	**-0.9**
JHO	**Hitachi**	**3.58**	**337**	⇓P	**P**		**20 25 54.1**	**-3.4**
JYN	**Shimob**	**3.79**	**306**	P	**P**		**20 26 00.0**	**-0.4**
JYN				S	**S**		**20 26 45.7**	**+1.3**
JAG	**Ashikaga**	**3.89**	**324**	⇓P	**P**		**20 26 00.2**	**-1.5**
JAG				S	**S**		**20 26 44.7**	**-2.1**
JRY	**Ryogami san**	**3.89**	**315**	P	**P**		**20 26 00.8**	**-0.9**
JRY				eS	**S**		**20 26 47.6**	**+0.8**
JNY	**Yasuok**	**4.20**	**300**	P	**P**		**20 26 06.0**	**-0.2**
JFK	**Kawauchi**	**4.21**	**344**	P	**P**		**20 26 02.0**	**-4.3**
JNG	**Nsakai**	**4.63**	**313**	⇓P	**P**		**20 26 11.0**	**-1.3**
MJAR	**Matsushiro Arr**	**4.65**	**315**	Pn	**P**		**20 26 11.0**	**-1.7**
	34nm,0.3s,baz=139,slow=9.1,SNR=198							
MJAR				Sn	**S**		**20 27 05.5**	**-0.6**
	37nm,0.3s,baz=5.6,slow=20,SNR=6.5							
MAJO	**Matsushiro**	**4.66**	**315**	Pn	**P**		**20 26 11.7**	**-0.9**
MAJO	**Matsushiro**	**4.66**	**315**	eP	**P**		**20 26 11.5**	**-1.1**
MAT	**Matsushiro**	**4.66**	**315**	eP	**P**		**20 26 11.0**	**-1.6**
MAT				eS	**S**		**20 27 05.0**	**-1.2**
MAT	**Matsushiro**	**4.66**	**315**	P	**P**		**20 26 11.2**	**-1.4**
MAT				S	**S**		**20 27 05.3**	**-0.9**
MAT	**Matsushiro**	**4.66**	**315**	P	**P**		**20 26 11.9**	**-0.7**
MAT				S	**S**		**20 27 05.3**	**-0.9**
JMM	**Marumori**	**4.71**	**345**	P	**P**		**20 26 08.9**	**-4.5**
JIE	**Ise**	**4.78**	**285**	P	**P**		**20 26 13.9**	**-0.4**
JJN	**Nakama**	**5.08**	**319**	P	**P**		**20 26 17.8**	**-0.7**
JNS	**Sasagawa**	**5.11**	**332**	P	**P**		**20 26 16.8**	**-2.2**
JIZZ	**Izumozaki**	**5.13**	**326**	P	**P**		**20 26 18.6**	**-0.7**
JGM	**Miyama**	**5.19**	**299**	P	**P**		**20 26 20.7**	**+0.6**
JFM	**Mihama**	**5.67**	**295**	P	**P**		**20 26 26.8**	**0.0**
JAW	**Awa shima**	**5.70**	**335**	P	**P**		**20 26 24.7**	**-2.5**
JSD	**Sado**	**5.75**	**326**	P	**P**		**20 26 25.7**	**-2.2**
CBIJ	**Chichi jima**	**6.20**	**181**	Pn	**P**		**20 26 29.8**	**-4.5**
	38nm,0.3s,baz=54,slow=5.2,SNR=83							
CBIJ				Sn	**S**		**20 27 37.7**	**-7.1**
	162nm,0.3s,baz=252,slow=23,SNR=8.2							
CBIJ				LR	LR		20 28 55.5	
	comp=Z,1μm,19.2s,baz=358,slow=37							
JNU	**Nakatsue**	**9.57**	**272**	Pn	**P**		**20 27 20.5**	**-0.7**
	2.2nm,0.3s,baz=78,slow=13,SNR=25							
JNU				LR	LR		20 31 03.2	
	comp=Z,10μm,20.9s,baz=66,slow=37							
YUK	**Yuzh-Kuril'sk**	**11.06**	**14**	eP	**P**		**20 27 32.0**	**-10**
YUK				pmax	pmax			
	comp=Z,180nm,0.5s							
YUK				MLR	MLR			
	comp=N,5μm,10.0s							
YUK				MLR	MLR			
	comp=E,8μm,10.0s							
YUK				MLR	MLR			
	comp=Z,8μm,10.0s							
KS15	**Wonju Array Si**	**12.46**	**293**	P	**P**		**20 27 59.7**	**-0.7**
KUR	**Kuril'sk**	**12.66**	**18**	eP	**P**		**20 27 52.8**	**-10**
KUR				pmax	pmax			
	comp=N,150nm,1.0s							
KUR				pmax	pmax			
	comp=Z,190nm,1.0s							
KUR				MLR	MLR			
	comp=N,3μm,11.0s							
KUR				MLR	MLR			
	comp=E,5μm,11.0s							
KUR				MLR	MLR			
	comp=Z,9μm,11.0s							
INCN	**Inchon**	**13.44**	**292**	P	**P**		**20 28 10.5**	**-2.8**
	comp=Z,46nm,0.9s							
YSS	**Yuzh-Sakhalins**	**13.63**	**1**	⇑iP	**P**		**20 28 09.9**	**-5.9**
YSS				pmax	pmax			
	comp=N,220nm,0.8s							
YSS				pmax	pmax			
	comp=E,70nm,0.8s							
YSS				pmax	pmax			
	comp=Z,210nm,0.8s							
YSS				pmax	pmax			
	comp=N,200nm,0.9s							
YSS				pmax	pmax			
	comp=Z,200nm,0.9s							
YSS				MLR	MLR			
	comp=Z,3μm,13.0s							
YSS				MLR	MLR			
	comp=N,4μm,15.0s							
YSS				MLR	MLR			
	comp=E,5μm,15.0s							
YSS	**Yuzh-Sakhalins**	**13.63**	**1**	eP	**P**		**20 28 09.6**	**-6.2**
	comp=E,181nm,0.8s							
JOW	**Kunigami**	**13.75**	**246**	Pn	**P**		**20 28 16.9**	**-0.5**
	comp=E,1.3nm,0.3s,baz=82,slow=10,SNR=12							
JOW				LR	LR		20 33 10.9	
	comp=E,5μm,19.1s,baz=113,slow=35							
JAGN	**Aguni-jima**	**14.66**	**247**	P	**P**		**20 28 36.0**	**+6.5**
MDJ	**Mudanjiang**	**14.98**	**323**	P	**P**		**20 28 32.3**	**-1.2**
MDJ				S	**S**		**20 31 06.5**	**-12**
MDJ				AMB	AMB			
	comp=Z,47nm,0.8s							
MDJ				AMB	AMB			
	comp=Z,630nm,9.9s							
MDJ				LR	LR			
	comp=N,4μm,17.6s							
MDJ				LR	LR			
	comp=E,5μm,16.6s							
MDJ				LR	LR			
	comp=Z,8μm,12.9s							
MDJ	**Mudanjiang**	**14.98**	**323**	eP	**P**		**20 28 32.0**	**-1.5**
	comp=Z,64nm,0.9s							
UGL	**Uglegorsk**	**15.75**	**359**	eP	**P**		**20 28 40.0**	**-3.4**
UGL				pmax	pmax			
	comp=Z,158nm,1.2s							
UGL				pmax	pmax			
	comp=N,600nm,5.0s							
UGL				pmax	pmax			
	comp=E,400nm,5.0s							
UGL				pmax	pmax			
	comp=Z,800nm,5.0s							
SNY	**Shenyang**	**17.08**	**305**	⇑P	**P**		**20 29 00.3**	**+0.1**
SNY				S	**S**		**20 32 13.8**	**+6.4**
SNY				AMB	AMB			
	comp=Z,90nm,0.9s							
SNY				LR	LR			
	comp=N,9μm,12.9s							
SNY				LR	LR			
	comp=E,6μm,13.8s							
SNY				LR	LR			
	comp=Z,7μm,14.5s							
DL2	**Dalian**	**17.60**	**294**	PR			20 29 03.5	
DL2				S	**S**		**20 32 16.5**	**-2.7**
DL2				AMB	AMB			
	comp=Z,80nm,0.9s							
DL2				AMB	AMB			
	comp=Z,710nm,7.5s							
DL2				LR	LR			
	comp=N,2μm,12.7s							
DL2				LR	LR			
	comp=E,6μm,14.7s							
DL2				LR	LR			
	comp=Z,6μm,15.3s							
KLR	**Kul'dur**	**17.74**	**337**	eP	**P**		**20 29 00.0**	**-8.4**
KLR				MLR	MLR			
	comp=N,7μm,13.5s							
KLR				MLR	MLR			
	comp=E,3μm,13.5s							
KLR				MLR	MLR			
	comp=Z,13μm,13.5s							
SSE	**Sheshan**	**18.00**	**269**	P	**P**		**20 29 11.0**	**-0.8**
SSE				AP			20 29 19.0	
SSE				S	**S**		**20 32 31.5**	**+3.1**
SSE				AMB	AMB			
	comp=Z,64nm,1.1s							
SSE				AMB	AMB			
	comp=Z,1μm,9.3s							
SSE				LR	LR			
	comp=N,2μm,19.9s							
SSE				LR	LR			
	comp=E,2μm,20.0s							
SSE				LR	LR			
	comp=Z,4μm,18.1s							
SSE	**Sheshan**	**18.00**	**269**	P	**P**		**20 29 10.9**	**-0.9**
	comp=Z,64nm,1.1s							
SSE				pP			20 29 19.0	
SSE				sP			20 29 23.3	
SSE				S	**S**		**20 32 31.6**	**+3.2**
SSE				sS			20 32 50.0	
JIJ	**Ishigaki jima**	**18.21**	**245**	P	**P**		**20 29 14.1**	**-0.4**
IRIF	**Iriomote-Funau**	**18.54**	**246**	P	**P**		**20 29 17.2**	**-1.4**
YOJ	**Yonaguni jima**	**19.03**	**247**	P	**P**		**20 29 22.9**	**-1.4**
NJ2	**Nanjing**	**19.77**	**273**	eP	**P**		**20 29 30.5**	**-2.0**
NJ2				AP			20 29 35.0	
NJ2				XP			20 29 37.3	
NJ2				PP	PP		20 29 47.5	-3.9
NJ2				S	**S**		**20 33 07.0**	**-0.9**
NJ2				XS			20 33 14.0	
NJ2				AMB	AMB			
	comp=Z,220nm,1.1s							
NJ2				AMB	AMB			
	comp=Z,1μm,9.0s							
NJ2				LR	LR			
	comp=N,4μm,14.0s							
NJ2				LR	LR			
	comp=E,9μm,15.0s							
NJ2				LR	LR			
	comp=Z,4μm,16.8s							
GUMO	**Guam**	**19.77**	**173**	eP	**P**		**20 29 31.4**	**-1.2**
GUMO				pmax	pmax			
	comp=Z,607nm,1.1s							
GUMO	**Guam**	**19.77**	**173**	eP	**P**		**20 29 31.4**	**-1.2**
	comp=Z,607nm,1.1s							
TATO	**Taipei**	**19.96**	**251**	eP	**P**		**20 29 31.7**	**-2.8**
	comp=Z,120nm,1.0s							
SKR	**Severo-Kuril's**	**20.11**	**26**	eP	**P**		**20 29 28.5**	**-7.5**
SKR				e			20 29 41.5	
SKR				eS	**S**		**20 33 12.0**	**-2.8**
SKR				pmax	pmax			
	comp=Z,3.0nm,4.0s							
SKR				pmax	pmax			
	comp=N,2μm,4.0s							
SKR				smax				
	comp=Z,5.0nm,6.0s							
SKR				MLR	MLR			
	comp=N,3μm,12.0s,MS5.0							
SKR				MLR	MLR			
	comp=E,3μm,12.0s,MS5.0							
SKR				MLR	MLR			
	comp=Z,5μm,12.0s,MS5.1							
YHNB	**Yeheng**	**20.20**	**250**	eP	**P**		**20 29 33.5**	**-3.6**
TIA	**Tai'an**	**20.87**	**285**	P	**P**		**20 29 42.0**	**-1.9**
TIA				AMB	AMB			
	comp=Z,46nm,1.3s							
TIA				LR	LR			
	comp=N,5μm,13.0s,MS5.7							
TIA				LR	LR			
	comp=E,20μm,14.0s,MS5.7							
QZH	**Quanzhou**	**22.29**	**254**	⇑iP	**P**		**20 29 58.0**	**-0.2**
QZH				S	**S**		**20 33 53.3**	**-2.7**
QZH				AMB	AMB			
	comp=Z,120nm,1.1s,mb5.2							
QZH				LR	LR			
	comp=N,5μm,15.2s,MS5.3							
QZH				LR	LR			
	comp=E,6μm,13.2s,MS5.3							
QZH				LR	LR			
	comp=Z,12μm,16.4s,MS5.4							
PET	**Petropavlovsk**	**22.93**	**26**	iP	**P**		**20 30 04.3**	**0.0**
PET				eS	**S**		**20 34 00.3**	**-7.0**
PET				pmax	pmax			
	comp=Z,1μm,5.0s							
PET				pmax	pmax			
	comp=Z,300nm,12.5s							
PET				pmax	pmax			
	comp=N,100nm,13.3s							
PET				pmax	pmax			
	comp=E,100nm,12.7s							
PET				pmax	pmax			
	comp=Z,2μm,5.1s							
PET				pmax	pmax			
	comp=Z,700nm,18.1s							
PET				pmax	pmax			
	comp=N,600nm,18.8s							
PET				pmax	pmax			
	comp=E,300nm,17.4s							
PET				smax				
	comp=E,1μm,18.7s							
PET				smax				
	comp=E,1μm,10.4s							
PET				smax				
	comp=N,2μm,11.5s							
PET				smax				
	comp=N,2μm,12.5s							
PET				MLR	MLR			
	comp=Z,2μm,12.0s,MS4.8							
PET				MLR	MLR			
	comp=Z,2μm,14.0s							
PET	**Petropavlovsk**	**22.93**	**26**	iP	**P**		**20 30 03.3**	**-1.0**
HIA	**Hailar**	**23.14**	**320**	eP	**P**		**20 30 05.5**	**-0.8**
HIA				pmax	pmax			
	comp=Z,310nm,1.4s							
HIA				MLR	MLR			
	comp=Z,2μm,19.0s							
HIA	**Hailar**	**23.14**	**320**	eP	**P**		**20 30 05.5**	**-0.8**
	comp=Z,310nm,1.4s,mb5.5							
HIA				LR	LR			
	comp=Z,2μm,19.0s,MS4.5							
WHN	**Wuhan**	**23.85**	**271**	⇓P	**P**		**20 30 12.8**	**-0.7**
WHN				S	**S**		**20 34 21.0**	**-2.7**
WHN				LR	LR			
	comp=N,4μm,12.6s,MS5.5							
WHN				LR	LR			
	comp=E,12μm,13.9s,MS5.5							
WHN				LR	LR			
	comp=Z,12μm,13.2s,MS5.5							
CLNS	**Chul'man**	**26.39**	**338**	eP	**P**		**20 30 36.9**	**-0.4**
CLNS				e*PP	pP		20 30 43.9	-3.9
CLNS				ePPP	PP		20 31 16.4	-4.4
CLNS				e			20 34 09.5	
CLNS				eS	**S**		**20 34 58.6**	**-7.3**
CLNS				eSS	SS		20 36 18.9	+2.3
CLNS				pmax	pmax			
	comp=Z,114nm,0.8s,mb5.5							
CLNS				pmax	pmax			
	comp=N,79nm,1.1s							
CLNS				pmax	pmax			
	comp=E,26nm,0.8s							
CLNS				pmax	pmax			
	comp=Z,66nm,1.1s,mb5.1							
CLNS				pmax	pmax			
	comp=N,79nm,0.9s							
CLNS				pmax	pmax			
	comp=E,39nm,0.8s							
CLNS				smax				
	comp=N,1μm,12.2s							
CLNS				smax				
	comp=Z,676nm,12.8s							
CLNS				smax				
	comp=E,123nm,12.2s							
BTO	**Baotou**	**26.69**	**295**	eP	**P**		**20 30 40.5**	**+0.2**
BTO				AMB	AMB			
	comp=Z,95nm,0.9s,mb5.3							
BTO				LR	LR			
	comp=N,5μm,14.2s,MS5.4							
BTO				LR	LR			
	comp=E,6μm,15.7s,MS5.4							
MA2	**Magadan**	**26.87**	**10**	eP	**P**		**20 30 40.9**	**-0.8**
MA2				e			20 31 21.4	
MA2				ePPP	PPP		20 31 37.0	-2.6
MA2				e			20 34 00.9	
MA2				eS	**S**		**20 35 11.7**	**-2.0**
MA2				eSSS	SSS		20 36 42.9	-3.6
MA2				pmax	pmax			
	comp=Z,40nm,1.6s,mb4.7							
MA2				pmax	pmax			
	comp=N,40nm,1.8s							
MA2				MLR	MLR			
	comp=Z,1μm,18.0s,MS4.5							
MA2	**Magadan**	**26.87**	**10**	iP	**P**		**20 30 40.0**	**-1.7**
GZH	**Guangzhou**	**27.39**	**256**	eP	**P**		**20 30 44.5**	**-2.4**
GZH				LR	LR			
	comp=N,3μm,16.5s,MS5.1							
GZH				LR	LR			
	comp=E,2μm,16.2s,MS5.1							
GZH				LR	LR			
	comp=Z,4μm,14.0s,MS5.1							
XAN	**Xi'an**	**27.72**	**281**	P	**P**		**20 30 47.8**	**-1.9**
XAN				AMB	AMB			
	comp=Z,91nm,1.1s,mb5.3							
XAN				LR	LR			
	comp=E,7μm,14.7s							
XAN				LR	LR			
	comp=Z,10μm,14.9s,MS5.5							
CIT	**Chita**	**27.94**	**321**	eP	**P**		**20 30 51.4**	**-0.1**
CIT				e			20 34 06.6	
CIT				pmax	pmax			
	comp=Z,800nm,1.6s,mb6.1							
ENH	**Enshi**	**27.99**	**273**	eP	**P**		**20 30 50.0**	**-2.2**
	comp=Z,251nm,1.0s,mb5.8							
YAK	**Yakutsk**	**29.85**	**348**	iP	**P**		**20 31 07.3**	**-1.2**
YAK				e*PP	pP		20 31 12.3	-6.9
YAK				eS	**S**		**20 36 03.3**	**+1.8**
YAK				e			20 37 58.9	
YAK				pmax	pmax			
	comp=Z,46nm,0.9s,mb5.2							
YAK				pmax	pmax			
	comp=N,27nm,1.2s							
YAK				pmax	pmax			
	comp=E,12nm,1.0s							
YAK				pmax	pmax			
	comp=N,16nm,0.9s							
YAK				pmax	pmax			
	comp=Z,45nm,0.9s,mb5.2							
YAK				pmax	pmax			
	comp=E,9.0nm,0.7s							
YAK				smax				
	comp=N,14nm,4.2s							
YAK				smax				
	comp=E,4.0nm,1.0s							
YAK				smax				
	comp=Z,2.0nm,1.0s							
YAK	**Yakutsk**	**29.85**	**348**	eP	**P**		**20 31 06.6**	**-1.8**
	comp=Z,98nm,0.8s,mb5.6							
SEY	**Seymchan**	**30.32**	**9**	eP	**P**		**20 31 11.8**	**-0.8**
SEY							20 32 15.2	
SEY				eS	**S**		**20 36 10.6**	**+1.8**
SEY				SS	SS		20 38 06.9	+17
SEY				pmax	pmax			
	comp=N,10.0nm,0.8s							
SEY				pmax	pmax			
	comp=Z,20nm,0.8s,mb4.9							
SEY				pmax	pmax			
	comp=E,50nm,1.0s							
SEY				smax				
	comp=N,910nm,10.8s							
SEY				smax				
	comp=E,360nm,9.9s							
SEY	**Seymchan**	**30.32**	**9**	⇑iP	**P**		**20 31 11.7**	**-0.9**
SONM	**Songino Array**	**30.58**	**309**	P	**P**		**20 31 15.8**	**+0.7**
	comp=E,30nm,0.8s,mb5.2,baz=121,slow=7.2,SNR=137							
SONM				PcP	PcP		20 34 13.2	0.0
	comp=E,2.0nm,0.6s,baz=127,slow=2.5,SNR=7.0							
SONM				LR	LR		20 43 36.6	
	comp=E,2μm,21.6s,MS4.8,baz=108,slow=36							
BOD	**Bodaibo**	**31.09**	**331**	eP	**P**		**20 31 17.9**	**-1.6**
BOD				pmax	pmax			
	comp=Z,87nm,0.9s,mb5.6							
GYA	**Guiyang**	**31.53**	**267**	⇑iP	**P**		**20 31 22.3**	**-1.4**
GYA				AP	pP		20 31 26.8	-7.7
GYA				XP	sP		20 31 29.8	-10
GYA				PP	PP		20 32 24.5	-4.1
GYA				PCP	PcP		20 34 16.5	+0.6
GYA				S	**S**		**20 36 29.0**	**+0.7**
GYA				SS	SS		20 38 09.3	-8.9
GYA				AMB	AMB			
	comp=Z,50nm,1.3s,mb5.2							
GYA				AMB	AMB			
	comp=Z,560nm,7.0s							
GYA				LR	LR			
	comp=N,2μm,17.3s,MS5.1							
GYA				LR	LR			
	comp=E,2μm,17.3s,MS5.1							
GYA				LR	LR			
	comp=Z,3μm,13.8s,MS5.2							
LZH	**Lanzhou**	**31.60**	**286**	⇓P	**P**		**20 31 23.0**	**-1.2**
LZH				AP	pP		20 31 27.5	-7.5
LZH				XP	sP		20 31 30.5	-9.5
LZH				PP	PP		20 32 25.5	-3.9
LZH				eS	**S**		**20 36 29.0**	**-0.2**
LZH				XS			20 36 36.0	
LZH				SS	SS		20 38 17.0	-2.8
LZH				AMB	AMB			
	comp=Z,125nm,1.5s,mb5.5							
LZH				AMB	AMB			
	comp=Z,450nm,6.1s							
LZH				LR	LR			
	comp=E,14μm,14.1s							
LZH				LR	LR			
	comp=Z,16μm,14.8s,MS5.8							
LZH	**Lanzhou**	**31.60**	**286**	⇓P	**P**		**20 31 23.0**	**-1.2**
LZH				*SP	sP		20 31 30.6	-9.4
LZH							20 32 25.5	
LZH				eS	**S**		**20 36 29.0**	**-0.2**
LZH				SS	SS		20 38 17.0	-2.8
LZH				pmax	pmax			
	comp=Z,125nm,1.5s,mb5.5							
LZH				MLR	MLR			
	comp=Z,16μm,14.8s,MS5.8							
LZH	**Lanzhou**	**31.60**	**286**	⇓P	**P**		**20 31 23.0**	**-1.2**
	comp=Z,125nm,1.5s,mb5.5							
LZH				pP	pP		20 31 27.5	-7.5
LZH				sP	sP		20 31 30.6	-9.4
LZH				PP	PP		20 32 25.5	-3.9
LZH				eS	**S**		**20 36 29.0**	**-0.2**
LZH				sS			20 36 36.1	
LZH				SS	SS		20 38 17.0	-2.8
LZH				LR	LR			
	comp=Z,16μm,14.8s,MS5.8							
QIZ	**Qiongzhong**	**32.26**	**252**	eP	**P**		**20 31 30.0**	**-0.2**
QIZ				S	**S**		**20 36 41.5**	**+1.8**
IRK	**Irkutsk**	**33.21**	**316**	eP	**P**		**20 31 37.8**	**-0.3**
IRK				pmax	pmax			
	comp=Z,70nm,3.8s							
ZAK	**Zakamensk**	**33.23**	**313**	⇓iP	**P**		**20 31 38.6**	**+0.3**
ZAK				pmax	pmax			
	comp=Z,21nm,1.4s,mb4.9							
TLY	**Talaya**	**33.40**	**315**	diP	**P**		**20 31 39.9**	**+0.2**
TLY				eS	**S**		**20 37 01.3**	**+4.3**
TLY				eSS	SS		20 39 00.3	-1.0
TLY				eSSS	SSS		20 39 26.7	+0.3
TLY				pmax	pmax			
	comp=Z,104nm,1.9s,mb5.4							
TLY				MLR	MLR			
	comp=Z,3μm,15.0s,MS5.1							
TLY	**Talaya**	**33.40**	**315**	eP	**P**		**20 31 39.6**	**0.0**
	comp=Z,33nm,0.8s,mb5.3							
GTA	**Gaotai**	**34.51**	**293**	⇓P	**P**		**20 31 49.0**	**-0.4**
GTA				AP	pP		20 31 52.3	-7.9
GTA				XP	sP		20 31 55.3	-10
GTA				PP	PP		20 33 06.3	+0.2
GTA				PCP	PcP		20 34 24.5	+0.5
GTA				S	**S**		**20 37 18.8**	**+4.4**
GTA				XS			20 37 24.8	
GTA				SCP			20 38 08.8	
GTA				PCS			20 38 10.3	
GTA				AMB	AMB			
	comp=Z,24nm,1.1s,mb5.0							
GTA				AMB	AMB			
	comp=Z,758nm,7.3s							
GTA				LR	LR			
	comp=N,3μm,16.1s,MS5.3							
GTA				LR	LR			
	comp=E,3μm,14.9s,MS5.3							
GTA				LR	LR			

comp=Z,4μm,14.9s,MS5.3
MOY Mondy 34.97 314 *e*P **P** **20 31 53.4 +0.2**
MOY pmax pmax
comp=Z,77nm,1.8s,mb5.3
KMI Kunming 35.31 267 P **P** **20 31 55.5 -0.9**
KMI AP pP 20 31 59.8 -7.4
KMI XP sP 20 32 01.5 -11
KMI PP PP 20 33 15.5 -0.9
KMI PCP PcP 20 34 25.0 -1.5
KMI S **S** **20 37 29.5 +2.5**
KMI XS 20 37 36.8
KMI SCP 20 38 09.3
KMI PCS 20 38 11.0
KMI AMB AMB
comp=Z,30nm,0.8s,mb5.3
KMI AMB AMB
comp=Z,509nm,7.9s
KMI LR LR
comp=N,2μm,16.3s,MS5.4
KMI LR LR
comp=E,6μm,16.4s,MS5.4
KMI LR LR
comp=Z,3μm,14.5s,MS5.2
KMI Kunming 35.31 267 P **P** **20 31 55.4 -1.0**
KMI *SP sP 20 32 01.6 -11
KMI 20 33 15.5
KMI PPP PPP 20 33 34.5 -0.5
KMI 20 34 25.0
KMI S **S** **20 37 29.6 +2.6**
KMI SS SS 20 39 47.4 +1.9
KMI SSS SSS 20 40 15.4 +2.2
KMI 20 42 12.3
KMI pmax pmax
comp=Z,30nm,0.8s,mb5.3
KMI MLR MLR
comp=Z,3μm,14.5s,MS5.2
KMI Kunming 35.31 267 P **P** **20 31 55.4 -1.0**
comp=Z,30nm,0.8s,mb5.3
KMI pP pP 20 31 59.8 -7.4
KMI sP sP 20 32 01.6 -11
KMI PP PP 20 33 15.5 -0.9
KMI PPP PPP 20 33 34.5 -0.5
KMI PcP PcP 20 34 25.0 -1.5
KMI S **S** **20 37 29.6 +2.6**
KMI sS 20 37 36.8
KMI ScP 20 38 09.2
KMI PcS 20 38 10.9
KMI SS SS 20 39 47.4 +1.9
KMI SSS SSS 20 40 15.4 +2.2
KMI ScS ScS 20 42 12.3 +1.6
KMI LR LR
comp=Z,3μm,14.5s,MS5.2
KKM Kota Kinabalu 36.37 228 *e*P **P** **20 32 05.2 -0.3**
KKM Kota Kinabalu 36.37 228 P **P** **20 32 05.9 +0.4**
TSM Tawau 36.77 224 P **P** **20 32 09.0 +0.1**
BILL Bilibino 37.41 15 *i* P **P** **20 32 12.2 -1.5**
BILL pmax pmax
comp=Z,12nm,0.8s,mb4.8
BILL MLR MLR
comp=Z,1μm,16.0s,MS4.8
BILL Bilibino 37.41 15 *e*P **P** **20 32 11.6 -2.1**
comp=Z,11nm,0.8s,mb4.7
BILL LR LR
comp=Z,1μm,21.0s,MS4.7
KKTK Khon Kaen 39.34 254 P **P** **20 32 29.0 -1.2**
CHRT Chiangrai 40.04 261 ⇓P **P** **20 32 35.5 -0.5**
comp=Z,195nm,1.4s,mb5.6
NST Nakhon Sawan 41.87 256 P **P** **20 32 50.0 -1.2**
BDT Bhumibol Dam 41.97 258 P **P** **20 32 52.0 0.0**
WMQ Urumqi 43.26 301 P **P** **20 33 04.0 +1.8**
WMQ AP pP 20 33 08.5 -4.8
WMQ XP sP 20 33 11.0 -7.0
WMQ PP PP 20 34 46.8 +1.8
WMQ S **S** **20 39 30.5 +4.2**
WMQ XS 20 39 38.0
WMQ AMB AMB
comp=Z,195nm,0.8s,mb5.9
WMQ AMB AMB
comp=Z,471nm,4.2s
WMQ LR LR
comp=N,3μm,15.0s,MS5.5
WMQ LR LR
comp=E,2μm,13.2s,MS5.5
WMQ LR LR
comp=Z,2μm,14.0s,MS5.2
LSA Lhasa 43.41 280 *e*P **P** **20 33 04.8 +1.2**
LSA Lhasa 43.41 280 *e*P **P** **20 33 04.6 +1.0**
LSA pmax pmax
comp=Z,26nm,1.0s,mb4.9
LSA MLR MLR
comp=Z,4μm,19.0s,MS5.4
LSA Lhasa 43.41 280 *e*P **P** **20 33 04.6 +1.0**
comp=Z,26nm,1.0s,mb4.9
LSA LR LR
comp=Z,4μm,19.0s,MS5.4
KSM Kuching 43.62 230 *e*P **P** **20 33 05.3 -0.2**
NNT Nongplab 43.90 252 P **P** **20 33 09.0 +1.2**
SHL Shillong 44.23 274 *e*P **P** **20 33 09.5 -0.8**
ZAL Zalesovo 45.02 315 P **P** **20 33 15.9 -0.3**
comp=Z,8.8nm,0.9s,mb4.6,baz=20,slow=8.2,SNR=39
ZAL PcP PcP 20 34 56.3 -0.9
comp=Z,11nm,0.8s,baz=28,slow=4.4,SNR=5.0
NVS Novosibirsk 45.98 316 ⇓*i*P **P** **20 33 23.1 -0.8**
NVS *e* 20 34 58.9
NVS *e*S **S** **20 40 07.6 +2.3**
NVS pmax pmax
comp=Z,93nm,1.3s,mb5.5
NVS pmax pmax
comp=E,102nm,1.4s
NVS smax
comp=E,26nm,1.7s
KAKA Kakadu 46.72 193 ⇓*i*P **P** **20 33 32.5 +2.3**
comp=E,40nm,0.8s,mb5.4
MKAR Makanchi Array 46.78 305 P **P** **20 33 30.4 +0.1**
comp=E,20nm,0.9s,mb5.0,baz=90,slow=8.5,SNR=135
MKAR LR LR 20 53 53.0
comp=E,1μm,21.6s,MS4.9,baz=156,slow=37
KULM Kulim 47.69 243 *e*P **P** **20 33 37.5 -0.4**
KGM Kluang 47.96 238 P **P** **20 33 41.7 +1.7**
SVW2 Sparrevohn 48.09 35 *e*P **P** **20 33 39.8 -0.5**
JIRN Jiri 48.20 279 *e*P **P** **20 33 42.2 +0.6**
comp=E,261nm,0.9s,mb6.3
KURK Kurchatov 48.85 311 *e*P **P** **20 33 45.8 -0.6**
KURK *e**PP pP 20 33 53.9 -3.5
KURK pmax pmax
comp=Z,145nm,0.8s,mb6.1
KURK Kurchatov 48.85 311 *e*P **P** **20 33 45.8 -0.6**
comp=Z,145nm,0.8s,mb6.1
KURK *e*pP pP 20 33 53.9 -3.5
PKI Pulchoki 48.87 279 *e*P **P** **20 33 46.5 -0.3**
comp=Z,165nm,1.2s,mb6.0
KKN Kakani 48.90 280 *e*P **P** **20 33 46.9 -0.1**
comp=Z,165nm,0.8s,mb6.1
DMN Daman 49.11 279 *e*P **P** **20 33 48.5 -0.2**
comp=Z,77nm,0.8s,mb5.8
GKN Gorkha 49.35 280 *e*P **P** **20 33 50.2 -0.3**
comp=Z,247nm,1.0s,mb6.2
RSO Redoubt South 49.42 36 *e*P **P** **20 33 49.4 -1.2**
IMA Indian Mountai 49.56 29 *e*P **P** **20 33 51.5 -0.1**
IMA pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
IMA Indian Mountai 49.56 29 *e*P **P** **20 33 51.5 -0.1**
comp=Z,2.8nm,0.6s,mb4.5
SPU Mount Spurr 49.80 35 *e*P **P** **20 33 52.3 -1.2**
KOLN Koldanda 50.29 280 *e*P **P** **20 33 57.7 -0.1**
comp=Z,175nm,1.1s,mb6.0
SLKM Skilak Lake 50.68 36 *e*P **P** **20 33 58.3 -1.9**
AAA Alma-Ata 51.07 301 *e*P **P** **20 34 05.0 +1.6**
AAA *e*S **S** **20 41 31.0 +14**
AAA pmax pmax
comp=Z,750nm,7.0s
AAA MLR MLR
comp=Z,2μm,16.0s,MS5.3
PMR Palmer 51.22 35 *e*P **P** **20 34 02.6 -1.7**
PMR pmax pmax
comp=Z,41nm,1.0s,mb5.3
PMR Palmer 51.22 35 *e*P **P** **20 34 02.6 -1.7**
comp=Z,41nm,1.0s,mb5.3
ULHL Ulahol 51.80 300 P **P** **20 34 09.5 +0.6**
SNR=26
TKM2 Tokmak 2 52.11 301 P **P** **20 34 11.7 +0.5**
SNR=60
ILAR Eielson Array 52.28 31 P **P** **20 34 10.0 -2.2**
comp=Z,9.2nm,0.7s,mb4.8,baz=265,slow=6.1,SNR=103
ILAR pP pP 20 34 22.8 -0.6
comp=Z,10.0nm,0.7s,baz=260,slow=5.5,SNR=10
ILAR LR LR 20 53 37.2
comp=Z,408nm,20.1s,MS4.5,baz=272,slow=33
PTH Pithoragarh 52.42 284 *e*P **P** **20 34 13.5 -0.3**
LGTI Lohaghat 52.43 284 *e*P **P** **20 34 15.8 +2.0**
KZA Kyzart 52.55 300 P **P** **20 34 15.8 +1.2**
SNR=44
KBK Karagaybulak 52.63 301 P **P** **20 34 15.7 +0.5**
SNR=41
KSH Kashi 52.66 297 *i* PR 20 34 17.0
KSH *e*AP pP 20 34 22.0 -4.6
KSH *e*XP sP 20 34 24.3 -6.9
KSH *e*PCP PcP 20 35 26.0 +1.0
KSH *e*PP PP 20 36 17.0 +1.1
KSH *e*PCS 20 39 24.0
KSH AMB AMB
comp=Z,40nm,0.7s,mb5.5
CHMS Chumysh 52.69 302 P **P** **20 34 15.6 0.0**
SNR=18
USP Ospenovka 52.81 302 P **P** **20 34 16.4 -0.1**
FRU Bishkek 52.83 301 *i* P **P** **20 34 17.0 +0.4**
FRU *e* pP 20 34 27.0 -0.8
FRU pmax pmax
comp=Z,140nm,1.6s,mb5.6
AAK Ala-Archa 52.96 301 P **P** **20 34 17.6 0.0**
SNR=12
AAK Ala-Archa 52.96 301 *d* *i*P **P** **20 34 16.8 -0.8**
AAK pmax pmax
comp=Z,30nm,1.0s,mb5.2
AAK Ala-Archa 52.96 301 *e*P **P** **20 34 16.4 -1.2**
comp=Z,34nm,0.8s,mb5.3
AAK LR LR
comp=Z,489nm,21.0s,MS4.5
CTA Charters Tower 53.23 175 *e*P **P** **20 34 18.9 -1.0**
comp=Z,7.4nm,0.7s,mb4.7
CTA *e*S **S** **20 41 50.9 +4.2**
CTA Charters Tower 53.23 175 *e*P **P** **20 34 18.9 -1.0**
CTA *e*S **S** **20 41 50.9 +4.2**
CTA pmax pmax
comp=Z,7.0nm,0.7s
CTAO Charters Tower 53.23 175 *e*P **P** **20 34 19.0 -0.9**
CTAO pmax pmax
comp=Z,44nm,1.4s,mb5.2
CTAO MLR MLR
comp=Z,710nm,19.0s,MS4.7
CTAO Charters Tower 53.23 175 *e*P **P** **20 34 19.0 -0.9**
comp=Z,44nm,1.4s,mb5.2
CTAO LR LR
comp=Z,710nm,19.0s,MS4.7
EKS2 Erkin-Say 53.47 301 P **P** **20 34 21.6 +0.2**
SNR=22
WRAB Tennant Creek 53.48 189 *e*P **P** **20 34 19.9 -1.9**
WRAB *e* 20 35 28.1
WRAB pmax pmax
comp=Z,106nm,1.3s,mb5.6
WRAB Tennant Creek 53.48 189 *e*P **P** **20 34 19.9 -1.9**
comp=Z,106nm,1.3s,mb5.6
WRAB *e*PcP PcP 20 35 28.1 -0.2
WB2 Warramunga Arr 53.49 189 ⇓*i*P **P** **20 34 19.9 -2.0**
WB2 *i* 20 35 28.7
WRA Warramunga Arr 53.50 189 P **P** **20 34 20.0 -1.9**
comp=Z,19nm,0.6s,mb5.2,baz=8.9,slow=7.7,SNR=281
WRA PcP PcP 20 35 28.8 +0.4
comp=Z,11nm,0.6s,baz=1.7,slow=4.0,SNR=9.6
FITZ Fitzroy Crossi 53.54 200 ⇓*i*P **P** **20 34 21.3 -0.9**
comp=Z,32nm,0.6s,mb5.4
BVAR Borovoye Array 53.65 315 P **P** **20 34 22.0 -0.6**
comp=Z,14nm,0.9s,mb4.9,baz=90,slow=7.4,SNR=63
BVAR pP pP 20 34 34.0 +0.1
comp=Z,20nm,0.8s,baz=105,slow=7.3,SNR=10
BVAR PcP PcP 20 35 28.0 -0.5
comp=Z,8.2nm,0.8s,baz=104,slow=6.1,SNR=3.6
AML Almayashu 53.66 301 P **P** **20 34 23.9 +1.1**
SNR=89
BRVK Borovoye 53.71 315 *e*P **P** **20 34 21.9 -1.1**
BRVK pmax pmax
comp=Z,29nm,1.1s,mb5.1
BRVK Borovoye 53.71 315 *e*P **P** **20 34 21.9 -1.1**
comp=Z,29nm,1.1s,mb5.1
DLH Dalhousie 54.79 289 *e*P **P** **20 34 31.0 -0.2**
PONG Pong 55.01 288 *e*P **P** **20 34 33.0 +0.2**
THN Thein Dam 55.03 289 *e*P **P** **20 34 31.0 -1.9**
NDI New Delhi 55.18 284 *e*P **P** **20 34 33.3 -0.8**
NDI AMb AMB 20 34 38.8
comp=Z,209nm,1.3s,mb6.0
BHPL Bhopal 57.21 278 *e*P **P** **20 34 47.6 -1.1**
BHPL AMb AMB 20 34 51.4
comp=Z,87nm,1.6s,mb5.5
INK Inuvik 57.39 26 *e*P **P** **20 34 47.6 -1.8**
INK pmax pmax
comp=Z,21nm,0.8s
INK Inuvik 57.39 26 P **P** **20 34 47.7 -1.6**
comp=Z,15nm,0.7s,mb5.1,baz=292,slow=6.0,SNR=18
INK LR LR 20 59 51.4
comp=Z,720nm,20.8s,MS4.8,baz=284,slow=36
INK Inuvik 57.39 26 *e*P **P** **20 34 47.6 -1.7**
comp=Z,21nm,0.8s,mb5.2
AJM Ajmer 58.15 283 *e*P **P** **20 34 53.8 -1.4**
AJM AMb AMB 20 34 55.9
comp=Z,104nm,1.1s,mb5.8
MBWA Marble Bar 58.29 205 *e*P **P** **20 34 55.5 -0.8**
comp=Z,35nm,0.9s,mb5.4
AKL Akola 58.67 275 *e*P **P** **20 35 01.4 +2.4**
AKL AMb AMB 20 35 07.2
comp=Z,211nm,1.3s,mb6.0
HYB Hyderabad 58.92 271 *e*P **P** **20 35 00.5 -0.2**
HYB pmax pmax
comp=Z,120nm,1.0s,mb5.9
HYB Hyderabad 58.92 271 *e*P **P** **20 35 00.5 -0.2**
comp=Z,120nm,1.0s,mb5.9
HYB Hyderabad 58.92 271 *i* P **P** **20 35 00.5 -0.2**
comp=Z,120nm,1.0s,mb5.9
ARU Arti 59.65 320 ⇓*i*P **P** **20 35 04.2 -1.1**
ARU *e* 20 35 50.6
ARU *e* 20 37 17.0
ARU *e*PPP PPP 20 38 38.6 -5.9
ARU *i* S **S** **20 43 14.6 +3.4**
ARU *e* 20 44 52.4
ARU *e*SS SS 20 47 08.3 -0.1
ARU pmax pmax
comp=Z,89nm,1.4s,mb5.6
ARU MLR MLR
comp=Z,1μm,16.0s,MS5.1
ARU MLR MLR
comp=N,700nm,15.0s,MS5.1
ARU MLR MLR
comp=E,900nm,16.0s,MS5.1
ARU Arti 59.65 320 *e*P **P** **20 35 04.0 -1.3**
comp=E,81nm,1.1s,mb5.7
ARU LR LR
comp=Z,164nm,22.0s,MS4.1
DLBC Dease Lake 61.14 37 LR LR 20 58 07.5
comp=Z,535nm,20.3s,MS4.7,baz=291,slow=32
DLBC Dease Lake 61.14 37 *e*P **P** **20 35 14.6 -0.8**
POO Poona 62.32 275 *e* **P** **20 35 23.6 -0.2**
POO AMb AMB 20 35 26.0
comp=Z,85nm,1.4s,mb5.7
PALK Pallekele 62.36 260 *e*P **P** **20 35 24.3 +0.1**
comp=Z,133nm,1.3s,mb5.9
KAD Karad 62.62 273 *e*P **P** **20 35 24.6 -1.3**
KAD AMb AMB 20 35 28.2
comp=Z,144nm,1.6s,mb5.9
ARMA Armidale 64.00 171 *e*P **P** **20 35 27.6 -7.2**
KBS Kingsbay 64.44 351 *e*P **P** **20 35 36.5 -0.4**
KBS pmax pmax
comp=Z,19nm,0.8s,mb5.2
KBS MLR MLR
comp=Z,516nm,20.0s,MS4.7
KBS Kingsbay 64.44 351 *e*P **P** **20 35 36.5 -0.4**
comp=Z,19nm,0.8s,mb5.2
KBS LR LR
comp=Z,516nm,20.0s,MS4.7
KBS Kingsbay 64.44 351 *e*P **P** **20 35 39.6 +2.7**
KBS *e*S **S** **20 44 15.5 +4.2**
KBS AMS AMS 21 28 29.9
comp=Z,442nm,21.7s,MS4.6
STKA Stephens Creek 64.84 181 ⇓*i*P **P** **20 35 39.0 -1.2**
comp=Z,25nm,0.8s,mb5.3
STKA Stephens Creek 64.84 181 P **P** **20 35 39.4 -0.8**
comp=Z,29nm,0.8s,mb5.3,baz=345,slow=7.7,SNR=49
STKA pP pP 20 35 52.4 +0.6
comp=Z,15nm,0.8s,baz=34,slow=15,SNR=5.6
LVZ Lovozero 65.80 337 *e*P **P** **20 35 44.8 -1.0**
LVZ *e*S S 20 44 32.5 +4.5
LVZ pmax pmax
comp=Z,130nm,2.1s,mb5.6
LVZ pmax pmax
comp=N,95nm,2.2s
LVZ smax
comp=N,353nm,2.5s
LVZ smax
comp=E,370nm,2.6s
LVZ MLR MLR
comp=Z,2μm,18.0s,MS5.4
LVZ MLR MLR
comp=N,767nm,14.0s,MS5.3
LVZ MLR MLR
comp=E,2μm,19.0s,MS5.3
RES Resolute Bay 66.02 14 *e*P **P** **20 35 46.2 -0.9**
RES pmax pmax
comp=Z,33nm,0.8s,mb5.4
RES Resolute Bay 66.02 14 *e*P **P** **20 35 46.2 -0.9**
comp=Z,33nm,0.8s,mb5.4
APA Apatity 66.38 337 ⇓*i*P **P** **20 35 49.5 +0.1**
APA *i* 20 36 17.5
APA *e*S 20 45 20.0
APA pmax pmax
comp=Z,34nm,0.8s,mb5.4
APA MLR MLR
comp=Z,2μm,16.0s,MS5.4
YKW3 Yellowknife Ar 66.64 29 *e*P **P** **20 35 49.5 -1.6**
YKA Yellowknife Ar 66.67 30 P **P** **20 35 50.1 -1.2**
comp=Z,12nm,0.8s,mb5.0,baz=294,slow=6.2,SNR=20
YKA pP pP 20 36 01.4 -1.5
comp=Z,15nm,0.9s,baz=295,slow=6.1,SNR=8.3
KEV Kevo 67.18 340 *e*p **P** **20 35 53.1 -1.3**
comp=Z,38nm,1.2s,mb5.3
KEV Kevo 67.18 340 *e*P **P** **20 35 53.1 -1.3**
KEV pmax pmax
comp=Z,39nm,1.2s,mb5.3
PECR Pechory 67.22 323 *i* P **P** **20 35 54.4 -0.5**
PECR *e* 20 36 19.0
PECR *e*S S 20 44 49.4 +4.1
PECR *e* 20 45 51.3
PECR pmax pmax
comp=Z,1.0nm,1.6s
PECR pmax pmax
comp=Z,300nm,3.0s
PECR smax
comp=N,700nm,7.0s
PECR smax
comp=E,500nm,7.0s
PECR MLR MLR
comp=Z,3μm,15.0s,MS5.6
PECR MLR MLR
comp=N,1μm,14.0s,MS5.5
PECR MLR MLR
comp=E,2μm,14.0s,MS5.5
ARCES ARCESS Array B 67.73 340 P **P** **20 35 57.8 -0.1**
comp=E,17nm,0.8s,mb5.1,baz=49,slow=6.1,SNR=15
ARCES pP pP 20 36 09.2 -0.3
comp=E,11nm,0.8s,baz=51,slow=7.8,SNR=3.3
KLBR Kellerberrin 68.59 202 *e*P **P** **20 36 02.8 -1.1**
comp=E,51nm,0.9s,mb5.5
KTK1 Kautokeino 68.69 340 *e*P **P** **20 36 03.9 0.0**
MBW Mount Baker 69.27 45 P **P** **20 36 07.7 -0.1**
MUN Mundaring 69.45 204 ⇑*i*P **P** **20 36 08.7 -0.5**
comp=E,20nm,1.1s,mb5.0
MUN Mundaring 69.45 204 ⇑*i*P **P** **20 36 08.7 -0.5**
MUN pmax pmax
comp=Z,20nm,1.1s,mb5.0
TRO Tromso 69.47 342 *e*P **P** **20 36 07.2 -1.5**
TRO *e*S S 20 45 15.1 +3.1
TRO *e*SS SS 20 49 41.6 +0.2
TRO AMS AMS 21 13 46.0
comp=Z,1μm,15.9s,MS5.3
JCW Jim Creek 69.52 45 P **P** **20 36 09.4 +0.1**
DAG Danmarks Havn 69.54 355 ⇑*i*P **P** **20 36 08.0 -1.0**
DAG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
DAG Danmarks Havn 69.54 355 ⇑*i*P **P** **20 36 08.0 -1.0**
comp=Z,9.0nm,0.8s,mb4.8
NWAO Narrogin (SRO) 69.99 202 *e*P **P** **20 36 11.8 -0.6**
NWAO pmax pmax
comp=Z,83nm,1.0s
NWAO Narrogin (SRO) 69.99 202 *e*P **P** **20 36 11.8 -0.6**
comp=Z,83nm,1.0s,mb5.6
TDL Tradedollar La 70.20 47 P **P** **20 36 13.8 +0.3**
MPOR Mary's Peak 70.22 49 P **P** **20 36 17.9 +4.2**
TOO Toolangi 70.58 177 *e*P **P** **20 36 16.4 +0.4**
comp=Z,14nm,0.9s,mb4.9
TOO Toolangi 70.58 177 *e*P **P** **20 36 16.4 +0.4**
TOO pmax pmax
comp=Z,14nm,0.9s,mb4.9
MOS Moscow 70.68 325 *e*P **P** **20 36 15.8 -0.5**
MOS *e* 20 36 36.6
MOS pmax pmax
comp=Z,142nm,1.6s,mb5.7
MOS pmax pmax
comp=Z,400nm,2.9s,mb5.8
MOS MLR MLR
comp=Z,2μm,15.4s,MS5.5
BROR Big Rock Looko 71.03 49 P **P** **20 36 18.5 -0.1**
MAK Makhachkala 71.35 309 *e*P **P** **20 36 21.0 +0.5**
MAK *e* 20 36 42.0
MAK *e* 20 39 06.0
MAK *e*PPP PPP 20 40 50.0 +7.6
MAK *e*S S 20 45 41.0 +6.7
MAK *e*PS PS 20 46 10.0 +1.6
MAK *e* 20 46 24.0
MAK pmax pmax
comp=Z,600nm,6.0s
MAK pmax pmax
comp=Z,500nm,8.0s
MAK smax
comp=N,500nm,8.0s
MAK smax
comp=E,700nm,8.0s
MAK MLR MLR
comp=N,4μm,14.0s,MS6.0
MAK MLR MLR
comp=E,4μm,14.0s,MS6.0
MAK MLR MLR
comp=Z,6μm,14.0s,MS6.0
OBN Obninsk 71.52 324κ *i*P **P** **20 36 20.7 -0.6**
OBN *e* pP 20 36 31.4 -1.5
OBN *i* 20 36 40.8
OBN *i* 20 38 59.6
OBN *i* S S 20 45 35.3 -0.8
OBN *e* 20 46 29.2
OBN SS SS 20 50 20.0 +6.6
OBN pmax pmax
comp=Z,123nm,1.6s,mb5.6
OBN MLR MLR
comp=Z,2μm,14.0s,MS5.5
OBN Obninsk 71.52 324 *e*P **P** **20 36 20.4 -1.0**
comp=Z,106nm,1.4s,mb5.6
OBN LR LR
comp=Z,312nm,20.0s,MS4.6
PUL Pulkovo 71.77 330 *e*P **P** **20 36 23.1 +0.4**
PUL *e*S S 20 45 41.4 +2.5
PUL pmax pmax
comp=Z,135nm,0.6s,mb6.0
PUL pmax pmax
comp=N,156nm,1.0s
PUL pmax pmax
comp=E,104nm,0.7s
OD2 Odessa Site #2 71.81 45 P **P** **20 36 22.7 -0.4**
EDM Edmonton 71.83 38 *e*P **P** **20 36 22.2 -0.9**
VOR Voronezh 71.94 320 *e*P **P** **20 36 23.0 -0.8**
VOR pmax pmax
comp=E,70nm,1.4s
VOR pmax pmax
comp=Z,80nm,1.4s,mb5.5
KAF Kangasniemi 71.95 334 *e*p **P** **20 36 22.3 -1.4**
comp=Z,33nm,0.7s,mb5.4,baz=50,slow=5.7
KAF Kangasniemi 71.95 334 *e*P **P** **20 36 22.3 -1.4**
KAF pmax pmax
comp=Z,33nm,0.7s,mb5.4
VIPM Ingram Point 72.06 48 P **P** **20 36 25.0 +0.3**
YBH Yreka Blue Hor 72.07 52 *e*P **P** **20 36 25.2 +0.4**
YBH pmax pmax
comp=Z,20nm,1.2s
YBH Yreka Blue Hor 72.07 52 *e*P **P** **20 36 25.1 +0.4**
comp=Z,20nm,1.2s,mb4.9
NEW Newport 72.31 44 *e*P **P** **20 36 25.8 -0.3**
NEW pmax pmax
comp=Z,17nm,1.0s
NEW MLR MLR
comp=Z,490nm,22.0s
NEW Newport 72.31 44 *e*P **P** **20 36 25.8 -0.3**

comp=Z,17nm,1.0s,mb4.9
NEW LR LR
comp=Z,490nm,22.0s,MS4.7
FINES FINESS Array B 72.45 333 P **P** **20 36 26.3 -0.4**
comp=Z,29nm,0.8s,mb5.3,baz=90,slow=5.7,SNR=91
FINES pP pP 20 36 37.8 -0.5
comp=Z,17nm,0.8s,baz=90,slow=3.8,SNR=6.0
FINES FINESS Array B 72.45 333 P **P** **20 36 26.3 -0.4**
FINES pP pP 20 36 37.8 -0.5
KIPM Iron Peak 72.48 54 *eP* **P** **20 36 27.8 +0.5**
WDC Whiskeytown Da 72.73 53 *eP* **P** **20 36 28.2 -0.6**
WDC pmax pmax
comp=Z,13nm,0.9s,mb4.9
WDC MLR MLR
comp=Z,665nm,20.0s,MS4.9
WDC Whiskeytown Da 72.73 53 *eP* **P** **20 36 28.2 -0.5**
comp=Z,13nm,0.9s,mb4.9
WDC LR LR
comp=Z,665nm,20.0s,MS4.9
MOR8 Moi Rana 73.10 340 *eP* **P** **20 36 28.9 -1.5**
MOR8 AMb AMB 20 36 31.8
comp=Z,66nm,1.1s,mb5.5
LTIM Timbered Crate 73.14 52 P **P** **20 36 31.3 +0.1**
GOF Gofitskoye 73.14 313⇑ *iP* **P** **20 36 28.8 -2.3**
GOF *eS* S 20 45 57.8 +3.1
GOF pmax pmax
comp=Z,80nm,1.7s,mb5.4
DGRG David-gareji 73.47 309 P **P** **20 36 33.6 +0.5**
MOD Modoc 73.55 51 *eP* **P** **20 36 33.2 -0.3**
comp=Z,522nm,0.2s
WALA Waterton Lakes 73.72 42 *eP* **P** **20 36 33.8 -0.6**
comp=Z,16nm,0.8s,mb5.0
TI2 Plekhanov 73.73 309 *eP* **P** **20 36 25.0 -10**
ZEI Tsey 73.75 311 *eP* **P** **20 36 33.1 -1.6**
ZEI pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
KIV Kislovodsk 73.91 312k *iP* **P** **20 36 36.3 +0.7**
KIV *e* 20 36 43.3
KIV *i* 20 36 58.5
KIV *e*PPP PPP 20 41 09.3 +2.0
KIV *i* S S 20 46 05.5 +2.1
KIV *e* 20 46 50.7
KIV pmax pmax
comp=Z,85nm,1.4s,mb5.5
KIV MLR MLR
comp=Z,900nm,18.0s,MS5.1
KIV Kislovodsk 73.91 312 *eP* **P** **20 36 36.2 +0.6**
comp=Z,62nm,1.0s,mb5.5
BMO Blue Mountains 73.94 47 *eP* **P** **20 36 35.5 -0.3**
comp=Z,17nm,1.1s,mb4.9
VSU Vasula 74.03 330 *iP* **P** **20 36 36.0 0.0**
VSU Vasula 74.03 330 *iP* **P** **20 36 36.0 0.0**
ONI Oni 74.14 311 P **P** **20 36 37.4 +0.4**
WVOR Wild Horse Val 74.35 49 *eP* **P** **20 36 38.0 -0.2**
WVOR pmax pmax
comp=Z,13nm,0.8s,mb4.9
WVOR MLR MLR
comp=Z,1μm,22.0s,MS5.1
WVOR Wild Horse Val 74.35 49 *eP* **P** **20 36 38.0 -0.2**
comp=Z,13nm,0.8s,mb4.9
WVOR LR LR
comp=Z,1μm,22.0s,MS5.1
SUMG Summit 74.40 0 *eP* **P** **20 36 38.1 +0.2**
comp=Z,30nm,1.0s,mb5.2
GNI Garni 74.53 308*d iP* **P** **20 36 40.5 +1.2**
GNI pmax pmax
comp=Z,67nm,1.5s
GNI Garni 74.53 308 *eP* **P** **20 36 40.4 +1.1**
comp=Z,38nm,1.0s,mb5.3
BEKR Beckwourth 74.54 52 *eP* **P** **20 36 38.4 -0.9**
comp=Z,16nm,0.8s,mb5.0
MSO Missoula 74.89 44 *eP* **P** **20 36 39.8 -1.4**
comp=Z,13nm,1.4s,mb4.7
NSS Namsos 75.02 340 AMS AMS 21 16 04.6
comp=Z,998nm,15.6s,MS5.2
CMB Columbia Colle 75.45 54 *eP* **P** **20 36 44.1 -0.5**
CMB pmax pmax
comp=Z,21nm,1.0s,mb5.0
CMB MLR MLR
comp=Z,2μm,22.0s,MS5.3
CMB Columbia Colle 75.45 54 *eP* **P** **20 36 44.1 -0.5**
comp=Z,20nm,1.0s,mb5.0
CMB LR LR
comp=Z,2μm,22.0s,MS5.3
SCO Scoresbysund 75.88 355 *iP* **P** **20 36 47.2 +0.8**
SCO pmax pmax
comp=Z,24nm,0.8s,mb5.2
SCO Scoresbysund 75.88 355 *iP* **P** **20 36 47.2 +0.8**
comp=Z,24nm,0.8s,mb5.2
SOC Sochi 75.94 313*d iP* **P** **20 36 46.9 -0.4**
SOC *e* 20 37 04.6
SOC *e*PPP PPP 20 41 21.3 -5.3
SOC *i* S S 20 46 30.8 +4.9
SOC *e* 20 47 02.2
SOC *e*SS SS 20 51 19.0 -2.7
SOC pmax pmax
comp=Z,36nm,0.8s,mb5.3
SOC pmax pmax
comp=N,7.0nm,0.9s
SOC pmax pmax
comp=E,8.0nm,0.9s
SOC pmax pmax
comp=Z,45nm,0.7s,mb5.5
SOC MLR MLR
comp=N,811nm,16.0s,MS5.2
SOC MLR MLR
comp=E,696nm,16.0s,MS5.2
SOC MLR MLR
comp=Z,930nm,16.0s,MS5.2
MNK Minsk 76.01 327 *eP* **P** **20 36 42.0 -5.4**
HRY Holter Researc 76.17 43 *eP* **P** **20 36 48.1 -0.4**
BMN Battle Mountai 76.30 51 *eP* **P** **20 36 48.9 -0.5**
BMN pmax pmax
comp=Z,18nm,1.1s,mb4.9
BMN Battle Mountai 76.30 51 *eP* **P** **20 36 48.9 -0.5**
comp=Z,18nm,1.1s,mb4.9
HLID Hailey 76.38 47 *eP* **P** **20 36 49.6 -0.2**
comp=Z,8.5nm,1.0s,mb4.6
HLID LR LR
comp=Z,632nm,22.0s,MS4.9
FFC Flin Flon 76.44 33 *eP* **P** **20 36 48.4 -1.5**
FFC pmax pmax
comp=Z,23nm,1.0s,mb5.1
FFC MLR MLR
comp=Z,128nm,21.0s,MS4.2
FFC Flin Flon 76.44 33 *eP* **P** **20 36 48.4 -1.5**
comp=Z,23nm,1.0s,mb5.1
FFC LR LR
comp=Z,128nm,21.0s,MS4.2
OMM Old Mammoth Mi 76.61 54 *eP* **P** **20 36 51.2 0.0**
ANN Anapa 76.65 315 *eP* **P** **20 36 48.5 -2.8**
ANN *i* pP 20 37 01.4 -1.5
ANN *i* 20 39 38.5
ANN *e*S S 20 46 32.0 -1.6
ANN pmax pmax
comp=Z,50nm,1.2s,mb5.3
ANN MLR MLR
comp=N,1μm,20.0s,MS5.3
ANN MLR MLR
comp=E,813nm,20.0s,MS5.3
ANN MLR MLR
comp=Z,1μm,20.0s,MS5.2
BOZ Bozeman (W) 76.88 44 *eP* **P** **20 36 52.5 -0.1**
BOZ pmax pmax
comp=Z,13nm,0.8s,mb4.9
BOZ Bozeman (W) 76.88 44 *eP* **P** **20 36 52.5 -0.1**
comp=Z,13nm,0.8s,mb4.9
FCC Fort Churchill 77.00 26 *eP* **P** **20 36 51.6 -1.4**
FCC pmax pmax
comp=Z,68nm,1.4s,mb5.4
FCC Fort Churchill 77.00 26 *eP* **P** **20 36 51.6 -1.3**
comp=Z,68nm,1.4s,mb5.4
MTUM Tungsten Hills 77.04 54 *eP* **P** **20 36 53.5 -0.1**
ELK Elko 77.41 49 *eP* **P** **20 36 55.6 0.0**
ELK pmax pmax
comp=Z,16nm,1.2s
ELK MLR MLR
comp=Z,771nm,21.0s
ELK Elko 77.41 49 *eP* **P** **20 36 55.6 0.0**
comp=Z,16nm,1.2s,mb4.8
ELK LR LR
comp=Z,771nm,21.0s,MS5.0
QLMT Earthquake Lak 77.46 44 *eP* **P** **20 36 55.4 -0.4**
TPH Tonopah 77.56 53 *eP* **P** **20 36 55.9 -0.6**
TPH pmax pmax
comp=Z,28nm,1.3s,mb5.0
TPH Tonopah 77.56 53 *eP* **P** **20 36 55.9 -0.6**
comp=Z,28nm,1.3s,mb5.0
AKASG Malin Array Be 77.69 323 P **P** **20 36 56.5 -0.5**
AKASG *PP pP 20 37 09.2 +0.6
AKASG 20 39 52.5
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 77.69 323 P **P** **20 36 56.5 -0.4**
comp=Z,9.8nm,0.7s,mb4.9,baz=43,slow=5.7,SNR=78
AKASG pP pP 20 37 09.2 +0.6
comp=Z,4.3nm,0.6s,baz=47,slow=6.2,SNR=5.3
AKASG PP PP 20 39 52.5 -1.7
comp=Z,0.3nm,0.3s,baz=48,slow=8.7,SNR=4.1
MOL Molde 77.79 340 *eP* **P** **20 36 59.9 +2.6**
MOL AMb AMB 20 37 06.3
comp=Z,79nm,2.1s,mb5.3
NB2 NORSAR Subarra 77.90 338 P **P** **20 36 57.8 -0.1**
comp=Z,38nm,0.8s,mb5.4,baz=40,slow=5.6
NB2 NORSAR Subarra 77.90 338 P **P** **20 36 57.8 -0.1**
NB2 pmax pmax
comp=Z,39nm,0.8s,mb5.4
NB2 NORSAR Subarra 77.90 338 P **P** **20 36 57.8 -0.1**
baz=40,slow=5.6
NOA NORSAR Array B 77.90 338 P **P** **20 36 57.7 -0.2**
comp=Z,31nm,0.7s,mb5.3,baz=39,slow=5.6,SNR=152
NOA pP pP 20 37 10.4 +0.9
comp=Z,20nm,0.8s,baz=39,slow=5.6,SNR=8.8
NOA PP PP 20 39 52.7 -3.1
comp=Z,2.0nm,0.8s,baz=35,slow=8.5,SNR=4.0
NOA LR LR 21 16 39.7
comp=Z,884nm,19.1s,MS5.1,baz=50,slow=40
NOA NORSAR Array B 77.90 338 P **P** **20 36 57.7 -0.2**
NOA pP pP 20 37 10.4 +0.9
NOA PP PP 20 39 52.7 -3.1
NOA LR LR 21 16 39.7
YNR Norris Junctio 77.97 44 *eP* **P** **20 36 58.5 -0.1**
YFT Old Faithful 78.03 44 *eP* **P** **20 37 00.1 +1.2**
KBD Kabd 78.09 297 *iP* **P** **20 36 59.9 +0.2**
KBD AMb AMB 20 37 02.1
comp=Z,409nm,0.8s,mb6.4
QRN Al-Qurain 78.15 297 *eP* **P** **20 36 59.7 -0.2**
QRN AMb AMB 20 37 02.0
comp=Z,164nm,1.0s,mb5.9
NAO01 NORSAR Array S 78.15 338 *eP* **P** **20 36 58.8 -0.5**
comp=Z,21nm,0.8s,mb5.1
DAC Darwin (Calif) 78.27 54 *eP* **P** **20 36 59.7 -0.8**
DAC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
DAC Darwin (Calif) 78.27 54 *eP* **P** **20 36 59.7 -0.8**
comp=Z,10.0nm,0.9s,mb4.8
IMW Indian Meadow 78.28 45 *eP* **P** **20 37 01.1 +0.8**
comp=Z,18nm,0.9s,mb5.0
RDF Al-Radifah 78.33 297 *eP* **P** **20 37 01.3 +0.4**
RDF AMb AMB 20 37 03.6
comp=Z,168nm,0.9s,mb6.0
RRI2 Red Ridge 78.37 46 *eP* **P** **20 37 01.6 +0.8**
comp=Z,16nm,1.0s,mb4.9
NAY Al-Naaiem 78.39 297 *eP* **P** **20 37 01.5 +0.3**
NAY AMb AMB 20 37 03.8
comp=Z,118nm,0.9s,mb5.8
SUW Suwalki 78.42 328⇓ *eP* **P** **20 37 00.7 -0.2**
SUW Suwalki 78.42 328⇓ *eP* **P** **20 37 00.7 -0.1**
SIM Simferopol' 78.50 316*de*P **P** **20 37 01.7 +0.2**
SIM *e*S S 20 46 53.0 -0.6
SIM pmax pmax
comp=Z,42nm,0.8s,mb5.4
SIM MLR MLR
comp=Z,800nm,17.0s,MS5.1
TPAW Teton Pass 78.51 45 *eP* **P** **20 37 02.2 +0.6**
comp=Z,17nm,1.1s,mb4.9
LOHW Long Hollow 78.65 45 *eP* **P** **20 37 02.4 +0.1**
HWUT Hardware Ranch 79.22 47 *eP* **P** **20 37 05.8 +0.3**
comp=Z,21nm,1.1s,mb5.0
HWUT LR LR
comp=Z,551nm,20.0s,MS4.9
DGMT Dagmar 79.30 38 *eP* **P** **20 37 05.4 -0.4**
comp=Z,50nm,1.1s,mb5.4
LAO LASA Array 79.32 41 *eP* **P** **20 37 05.9 0.0**
KONO Kongsberg 79.49 338 *eP* **P** **20 37 06.5 -0.1**
KONO pmax pmax
comp=Z,15nm,0.8s,mb5.0
KONO Kongsberg 79.49 338 *eP* **P** **20 37 06.5 -0.1**
comp=Z,15nm,0.8s,mb5.0
KONO Kongsberg 79.49 338 *eP* **P** **20 37 05.5 -1.1**
KONO *e*S S 20 47 10.0 +6.3
SFJD Kangerlussuaq 79.52 5 *iP* sP 20 37 20.5 -2.1
SFJD *i* S S 20 47 08.5 +4.6
comp=Z,380nm,22.0s
MALT Malatya 79.66 309 *eP* **P** **20 37 08.6 +0.6**
MALT *e* 20 40 09.6
MALT pmax pmax
comp=Z,39nm,1.4s,mb5.1
MALT Malatya 79.66 309 *eP* **P** **20 37 08.6 +0.6**
comp=Z,39nm,1.4s,mb5.1
MALT *e*PP PP 20 40 09.6 -0.9
BW06 Boulder Array 79.76 45 *eP* **P** **20 37 08.2 -0.3**
comp=Z,3.5nm,0.7s,mb4.4
BW06 LR LR
comp=Z,507nm,22.0s,MS4.8
PDAR Pinedale Array 79.76 45 P **P** **20 37 08.3 -0.1**
comp=Z,2.1nm,0.7s,baz=287,slow=1.8,SNR=8.5
PDAR LR LR 21 10 12.3
comp=Z,371nm,20.4s,MS4.7,baz=119,slow=34
BER Bergen 80.19 340 *eP* **P** **20 37 10.9 +0.6**
BER *e*S S 20 47 15.2 +4.3
BER AMS AMS 21 22 12.4
comp=Z,795nm,16.0s,MS5.2
KIS Kishinev 80.20 320 *eP* **P** **20 37 10.0 -0.7**
KIS *e* 20 40 10.0
NEN Nelson 80.48 54 *eP* **P** **20 37 12.0 -0.4**
PFO Pinyon Flat Ob 80.51 56 *eP* **P** **20 37 11.8 -0.8**
PFO pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
PFO Pinyon Flat Ob 80.51 56 *eP* **P** **20 37 11.8 -0.8**
comp=Z,9.9nm,0.8s,mb4.8
LDFC Landfair 80.62 54 *eP* **P** **20 37 12.4 -0.8**
IAS Iasi 80.75 321 P **P** **20 37 14.3 +0.7**
BSD Bornholm Skovb 81.07 332 *eP* **P** **20 37 13.7 -1.4**
BSD Bornholm Skovb 81.07 332 *iP* **P** **20 37 13.7 -1.4**
GKP Gorka Klasztor 81.48 330⇓ *eP* **P** **20 37 17.1 -0.2**
GKP Gorka Klasztor 81.48 330⇓ *eP* **P** **20 37 17.1 -0.2**
COP Copenhagen 81.58 334⇓ *iP* **P** **20 37 17.9 +0.2**
COP *i* S S 20 47 28.1 +2.7
COP pmax pmax
comp=Z,46nm,0.8s,mb5.5
COP MLR MLR
comp=Z,500nm,17.0s,MS4.9
COP Copenhagen 81.58 334⇓ *iP* **P** **20 37 17.9 +0.2**
comp=Z,46nm,0.8s,mb5.5
COP *i* S S 20 47 28.1 +2.7
COP LR LR
comp=Z,500nm,17.0s,MS4.9
COP Copenhagen 81.58 334⇓ *iP* **P** **20 37 17.9 +0.2**
comp=Z,46nm,0.8s,mb5.5
COP Copenhagen 81.58 334 *iS* S 20 47 28.1 +2.7
comp=Z,490nm,17.0s
KWP Kalwaria 81.58 325 *eP* **P** **20 37 18.5 +0.7**
KWP Kalwaria 81.58 325⇓ *eP* **P** **20 37 18.9 +1.0**
BURAR Bucovina Array 81.69 322⇓ *P* **P** **20 37 20.1 +1.6**
BURAR Bucovina Array 81.69 322⇓ *P* **P** **20 37 20.1 +1.6**
CFR Carcaliu 81.72 319⇓ *P* **P** **20 37 19.2 +0.5**
RWWY Rawlins 81.80 45 *eP* **P** **20 37 19.2 -0.1**
comp=Z,36nm,1.1s,mb5.2
BRTR Keskin Array B 81.88 312 P **P** **20 37 20.3 +0.7**
comp=Z,18nm,0.7s,mb5.1,baz=109,slow=3.6,SNR=50
BRTR pP pP 20 37 32.6 +1.2
comp=Z,11nm,0.8s,baz=53,slow=6.2,SNR=5.9
BRTR PP PP 20 40 30.7 +1.5
comp=Z,3.3nm,0.9s,baz=80,slow=7.5,SNR=4.5
TIRR Tirgusor 82.03 319⇓ *P* **P** **20 37 20.4 +0.1**
VRI Vrincioaia 82.04 320 P **P** **20 37 22.0 +1.7**
RSSD Black Hills 82.12 42 *eP* **P** **20 37 20.5 -0.3**
RSSD MLR MLR
comp=Z,563nm,19.0s,MS5.0
MUD Monsted U'grnd 82.14 336 *eP* **P** **20 37 20.9 +0.3**
MUD *i* S S 20 47 37.2 +6.0
MUD Monsted U'grnd 82.14 336 *iP* **P** **20 37 20.9 +0.3**
MUD Monsted U'grnd 82.14 336 *iS* S 20 47 37.2 +6.0
comp=Z,930nm,16.0s
HARR Harsova 82.14 319⇓ *P* **P** **20 37 22.1 +1.2**
ULM Lac du Bonnet 82.21 33 P **P** **20 37 20.6 -0.5**
comp=Z,3.8nm,0.6s,mb4.5,baz=317,slow=8.5,SNR=7.6
ULM pP pP 20 37 32.6 -0.3
comp=Z,6.6nm,0.9s,baz=324,slow=8.3,SNR=3.2
ULM LR LR 21 10 34.3
comp=Z,588nm,21.9s,MS4.9,baz=194,slow=33
KOLS Kolonicke sedl 82.27 325 *iP* **P** **20 37 22.3 +0.9**
KOLS *e* 20 37 38.5
ANTO Ankara 82.31 313 P **P** **20 37 23.3 +1.4**
PPT Papeete 82.32 117 *eS* S 20 47 33.2 -0.6
PPT *e*LR LR 21 01 38.4
comp=Z,1μm,25.2s,baz=320
PPT Papeete 82.32 117 LR LR 21 06 01.6
comp=Z,490nm,20.8s,MS4.8,baz=327,slow=30
OJC Ojcow 82.54 327 *eP* **P** **20 37 23.2 +0.4**
OJC *e*S S 20 47 42.0 +6.6
OJC Ojcow 82.54 327 *eP* **P** **20 37 23.2 +0.4**
OJC *e*S S 20 47 42.0 +6.6
CRVS Cervenica-Dubn 82.68 325 *eS* S 20 47 41.0 +4.2
PV10 Paradox Valley 82.69 49 *eP* **P** **20 37 24.6 +0.8**
MLR Muntele Rosu 82.70 321 P **P** **20 37 24.9 +1.2**
MLR Muntele Rosu 82.70 321⇑ *P* **P** **20 37 24.8 +1.1**
MLR Muntele Rosu 82.70 321⇑ *P* **P** **20 37 24.8 +1.1**
NIE Niedzica 82.86 326⇓ *eP* **P** **20 37 25.4 +0.9**
PHWY Pilot Hill 83.08 45 *eP* **P** **20 37 26.0 +0.2**
PHWY *e* pP 20 37 37.8 +0.2
PV01 Paradox Valley 83.13 49 *eP* **P** **20 37 26.1 +0.1**
VOIR 83.21 321⇑ P **P** **20 37 27.6 +1.3**
RAC Raciborz 83.36 328 *eP* **P** **20 37 28.2 +1.2**
KECS Kecovo 83.43 325 *iP* **P** **20 37 27.9 +0.5**
KECS *e* pP 20 37 40.2 +1.0
KECS *e*PP PP 20 40 42.9 +1.4
HILS Ha'il 83.44 298 P **P** **20 37 28.7 +0.9**
SMCO Snowmass 83.48 47 *eP* **P** **20 37 29.0 +1.2**
DRGR 83.51 323⇑ P **P** **20 37 28.8 +1.0**
OKC Ostrava-Krasne 83.56 327 *eP* **P** **20 37 28.4 +0.5**
KSP Ksiaz 83.65 329 *eP* **P** **20 37 28.9 +0.5**
KSP *e* pP 20 37 40.9 +0.7
KSP *e*S S 20 47 49.0 +2.5
KSP Ksiaz 83.65 329⇓ *eP* **P** **20 37 29.2 +0.8**
BSEG Bad Segeberg 83.71 334 *eP* **P** **20 37 29.3 +0.7**
MORC Moravsky Berou 83.88 328 *eP* **P** **20 37 30.2 +0.6**
MORC pmax pmax
comp=Z,81nm,1.5s,mb5.6
MORC Moravsky Berou 83.88 328 *eP* **P** **20 37 30.2 +0.6**
comp=Z,81nm,1.5s,mb5.6
DPC Dobruska-Polom 84.00 329 *eP* **P** **20 37 31.0 +0.8**
DPC *e*S S 20 47 52.8 +2.8
UPC Upice 84.02 329 *eP* **P** **20 37 30.6 +0.3**
PSZ Piszkesteto 84.11 325⇓ *eP* **P** **20 37 31.9 +1.1**
PSZ Piszkesteto 84.11 325⇓ *e*PcP PcP 20 37 31.9 -3.1
VYHS Vyhne 84.20 326 *iP* **P** **20 37 32.0 +0.8**
VYHS *e*PP PP 20 40 47.6 0.0
VYHS *e* 20 40 55.5
VYHS *e*S S 20 47 57.3 +5.3
KOLL Kolacno 84.34 326 *eP* **P** **20 37 33.4 +1.4**
QURS Qurayyt al Mil 84.36 304 P **P** **20 37 34.0 +1.5**
KSDI Kefar Szold 84.45 306 P **P** **20 37 33.8 +0.9**
KSHT Keshet 84.47 306 P **P** **20 37 34.2 +1.2**
PVIC Panska Ves 84.62 330 *eP* **P** **20 37 33.8 +0.5**
BRG Berggiesshubel 84.63 330 *iP* **P** **20 37 34.0 +0.7**
BRG *i* pP 20 37 46.5 +1.3
BRG *e* 20 40 50.0
BRG pmax pmax
comp=Z,33nm,0.9s,mb5.5
BRG Berggiesshubel 84.63 330 *iP* **P** **20 37 34.0 +0.7**
comp=Z,33nm,0.9s,mb5.5
BRG *i* pP 20 37 46.5 +1.3
BRG *e* 20 40 50.0
VRAC Vranov 84.64 328 P **P** **20 37 34.4 +1.0**
CLL Collm 84.69 331⇓ *iP* **P** **20 37 33.5 -0.1**
CLL *e*S S 20 48 01.0 +4.3
CLL pmax pmax
comp=Z,83nm,1.0s,mb5.8
CLL MLR MLR
comp=Z,700nm,20.8s,MS5.0
CLL Collm 84.69 331⇓ *iP* **P** **20 37 33.5 -0.1**
comp=Z,83nm,1.0s,mb5.8
CLL *e*S S 20 48 01.0 +4.3
CLL LR LR
comp=Z,700nm,20.8s,MS5.0
CLL Collm 84.69 331⇓ *P* **P** **20 37 33.5 -0.1**
comp=Z,logA/T=1.9,mb5.8
CLL *e* pP 20 37 46.0 +0.6
CLL *e*PP PP 20 40 49.0 -2.4
CLL *e*S S 20 48 01.0 +4.3
MMC2 Mount Meron ar 84.71 306 P **P** **20 37 35.0 +0.8**
MMC1 Mount Meron ar 84.72 306 P **P** **20 37 35.0 +0.8**
MMB1 Mount Meron ar 84.72 306 P **P** **20 37 35.0 +0.8**
MMC4 Mount Meron ar 84.72 306 P **P** **20 37 35.0 +0.8**
MMA1 Mount Meron ar 84.72 306 P **P** **20 37 35.0 +0.8**
MMB4 Mount Meron ar 84.72 306 P **P** **20 37 35.0 +0.8**
MMC5 Mount Meron ar 84.72 306 P **P** **20 37 35.0 +0.8**
MMA0 Mount Meron ar 84.72 306 P **P** **20 37 35.0 +0.8**
MMA2 Mount Meron ar 84.72 306 P **P** **20 37 35.0 +0.8**
MMC7 Mount Meron ar 84.73 306 P **P** **20 37 35.0 +0.7**
MMA3 Mount Meron ar 84.73 306 P **P** **20 37 35.0 +0.7**
MMA4 Mount Meron ar 84.73 306 P **P** **20 37 35.0 +0.7**
MMB2 Mount Meron ar 84.73 306 P **P** **20 37 35.0 +0.7**
MMC6 Mount Meron ar 84.73 306 P **P** **20 37 35.0 +0.7**
HNTI Hanita 84.84 306 P **P** **20 37 35.8 +1.0**
SMOL Smolenice 84.84 327 *iP* **P** **20 37 35.7 +1.3**
SMOL *e* pP 20 37 46.9 +0.6
CSS Prodhromos 84.94 309 *eP* **P** **20 37 35.3 0.0**
comp=Z,22nm,0.7s,mb5.4
ISP Isparta 84.96 312 *iP* **P** **20 37 35.2 -0.1**
SRO1 Iza 85.01 326 *eP* **P** **20 37 36.7 +1.4**
PRU Pruhonice 85.04 329 *eP* **P** **20 37 35.5 +0.1**
PRU *e*S S 20 48 07.2 +7.0
MMLI Mount Malkishu 85.05 306 P **P** **20 37 37.1 +1.2**
TUC Tucson 85.16 54 *eP* **P** **20 37 36.5 +0.1**
TUC pmax pmax
comp=Z,21nm,1.4s,mb5.1
TUC Tucson 85.16 54 *eP* **P** **20 37 36.5 0.0**
comp=Z,21nm,1.4s,mb5.1
ZST Bratislava 85.22 327 *eP* **P** **20 37 37.7 +1.4**
ZST *e*S S 20 48 10.0 +7.9
KAMS Al Khamasin 85.24 291 P **P** **20 37 37.4 +0.3**
SDCO Great Sand Dun 85.28 47 *eP* **P** **20 37 37.6 +0.8**
comp=Z,36nm,1.0s,mb5.5
SDCO *e*pP pP 20 37 49.4 +0.7
SDCO LR LR
comp=Z,708nm,21.0s,MS5.0
CLZ Clausthal 85.32 332 *eP* **P** **20 37 37.7 +1.0**
CLZ *e* 20 40 54.5
SLTI Sal'it 85.43 306 P **P** **20 37 38.7 +0.9**
MOX Moxa 85.76 331⇑ *iP* **P** **20 37 39.5 +0.6**
MOX *e* 20 40 58.6
MOX pmax pmax
comp=Z,63nm,1.5s,mb5.6
MOX Moxa 85.76 331⇑ *iP* **P** **20 37 39.5 +0.6**
comp=Z,63nm,1.5s,mb5.6
MOX *e* 20 40 58.6
MOX *e* 20 41 21.0
MOX Moxa 85.76 331⇓ *iP* **P** **20 37 39.5 +0.6**
comp=Z,logA/T=1.6,mb5.6
MOX pP pP 20 38 14.0 +23
MOX PP PP 20 40 59.0 -1.0
MOX *e* 20 41 21.0
MOX S S 20 48 18.0 +11
SOP Sopron 85.85 327⇑ *eP* **P** **20 37 40.8 +1.4**
SOP Sopron 85.85 327⇑ *e*PcP PcP 20 37 40.8 -1.9
WIT Witteveen 85.93 335⇑ *eP* **P** **20 37 41.2 +1.6**
comp=Z,322nm,1.5s,mb6.3
WIT ⇓ *eP* 20 46 17.1
comp=Z,371nm,1.4s
WIT *ex* x 20 46 26.7
ZAPS Zavoj/Pirot 85.94 321⇓ *iP* **P** **20 37 40.3 +0.4**
TBI Tubuai 85.99 121 *eS* S 20 48 09.6 -0.5
TBI *e*LR LR 21 03 29.0
comp=Z,1μm,24.8s,baz=309
KHC Kasperske Hory 86.10 329 *eP* **P** **20 37 40.8 +0.2**
KHC *e* 20 48 15.1
KHC Kasperske Hory 86.10 329 *eP* **P** **20 37 40.8 +0.2**
KHC x x 20 40 50.0
KHC *e*S S 20 48 15.1 +4.6
VTS Vitosha 86.11 320 P **P** **20 37 42.5 +1.7**
KBRS Khaybar 86.20 298 P **P** **20 37 42.8 +1.2**
GEC2 GERESS Array S 86.26 329 *eP* **P** **20 37 42.0 +0.6**
GEC2 *e* 20 41 03.0
GERES GERESS Array B 86.26 329 P **P** **20 37 42.0 +0.6**
comp=Z,4.2nm,0.8s,mb4.7,baz=14,slow=5.5,SNR=7.4
ZFRI Zfri 86.34 304 P **P** **20 37 42.8 +0.6**
WET Wettzell 86.39 329 *eP* **P** **20 37 43.1 +1.1**
WET *e* 20 41 03.9

ANMO	**Albuquerque**	**86.42**	**50**	*eP*		**P**	**20 37 42.9**	**+0.4**
ANMO	comp=Z,20nm,1.2s			pmax		pmax			
ANMO	comp=Z,1μm,20.0s			MLR		MLR			
ANMO	**Albuquerque**	**86.42**	**50**	*eP*		**P**	**20 37 42.9**	**+0.4**
ANMO	comp=Z,20nm,1.2s,mb5.2			LR		LR			
	comp=Z,1μm,20.0s,MS5.2								
TATS	**Tathlith**	**86.52**	**291**	P		**P**	**20 37 44.3**	**+1.0**
WTSB	**Winterswijk**	**86.57**	**334**	⇓*eP*		**P**	**20 37 42.8**	**0.0**
	comp=Z,28nm,1.0s,mb5.4								
WTSB	comp=Z,101nm,1.4s			⇓*eP*			20 46 15.4		
WTSB				*ex*		x	20 46 25.8		
PRNI	**Paran**	**86.58**	**304**	P		**P**	**20 37 43.9**	**+0.5**
ARSA	**Arzberg**	**86.64**	**327**	⇑*iP*		**P**	**20 37 43.9**	**+0.6**
	comp=Z,82nm,2.6s,mb5.5								
GRA1	**Grafenberg Arr**	**86.66**	**331**	*eP*		**P**	**20 37 44.5**	**+1.2**
GRA1				*ePP*		PP	20 41 06.1	-1.8	
GRA1	comp=Z,800nm,18.6s,MS5.2			LR		LR			
GRF	**Grafenberg Arr**	**86.66**	**331**	*eP*		**P**	**20 37 44.5**	**+1.2**
GRF				*e*			20 41 06.1		
GRF	comp=Z,800nm,18.6s,MS5.2			MLR		MLR			
KZIT	**Kziot**	**86.67**	**305**	P		**P**	**20 37 44.2**	**+0.4**
HRFI	**Mount Harif**	**86.75**	**304**	P		**P**	**20 37 41.3**	**-2.9**
DIVS	**Divcibare**	**86.75**	**322**	⇑*iP*		**P**	**20 37 43.9**	**0.0**
TBKS	**Tabuk**	**86.76**	**302**	P		**P**	**20 37 44.8**	**+0.4**
MOA	**Molln**	**86.76**	**328**	⇓*iP*		**P**	**20 37 44.3**	**+0.4**
	comp=Z,50nm,1.8s,mb5.4								
JMQS	**Jabal Moqyreh**	**86.84**	**303**	P		**P**	**20 37 45.3**	**+0.6**
ESK	**Eskdalemuir**	**86.91**	**341**	*eP*		**P**	**20 37 44.1**	**-0.3**
ESK	comp=Z,125nm,1.5s,mb5.9			pmax		pmax			
ESK	**Eskdalemuir**	**86.91**	**341**	*eP*		**P**	**20 37 44.1**	**-0.3**
	comp=Z,125nm,1.5s,mb5.9								
EIL	**Elat**	**87.03**	**304**	P		**P**	**20 37 45.8**	**+0.2**
ALWS	**Ilw as Safayha**	**87.16**	**303**	P		**P**	**20 37 47.0**	**+0.7**
JMOS	**Jabal al Moall**	**87.21**	**303**	P		**P**	**20 37 47.0**	**+0.4**
PERS	**Pernice**	**87.28**	**327**	*eP*		**P**	**20 37 46.5**	**0.0**
PERS				*e*			20 41 16.1		
TNS	**Taunus Mts**	**87.35**	**332**	*eP*		**P**	**20 37 47.4**	**+0.7**
HAQS	**Haql**	**87.41**	**303**	P		**P**	**20 37 47.8**	**+0.3**
DJNS	**Zahran al Janu**	**87.49**	**289**	P		**P**	**20 37 49.0**	**+0.9**
OBKA	**Obir**	**87.64**	**327**	⇓*iP*		**P**	**20 37 47.9**	**-0.3**
	comp=Z,59nm,2.7s,mb5.3								
BDAS	**Al Bad'**	**87.66**	**303**	P		**P**	**20 37 48.7**	**0.0**
TOD	**Tromm**	**87.70**	**332**	*eP*		**P**	**20 37 48.7**	**+0.3**
KBA	**Koelnbreinsper**	**87.75**	**328**	⇑*iP*		**P**	**20 37 49.6**	**+0.9**
	comp=Z,64nm,2.3s,mb5.5								
KBA	**Koelnbreinsper**	**87.75**	**328**	⇑*iP*		**P**	**20 37 49.6**	**+0.9**
KBA	comp=Z,64nm,2.3s,mb5.4			pmax		pmax			
BLJS	**Baljurashi**	**87.80**	**292**	P		**P**	**20 37 50.4**	**+0.9**
FUR	**Furstenfeldbru**	**87.82**	**330**	*eP*		**P**	**20 37 50.0**	**+1.0**
HGN	**Heimansgroeve**	**87.86**	**334**	⇑*iP*		**P**	**20 37 48.3**	**-0.8**
	comp=Z,45nm,1.5s,mb5.5								
HGN	comp=Z,46nm,1.1s			⇓*eP*			20 46 18.4		
HGN				*ex*		x	20 46 27.7		
HGN				*eS*		S	20 48 31.1	+3.8	
UMJS	**Umm Lajj**	**87.96**	**299**	P		**P**	**20 37 51.1**	**+0.9**
ABH	**Alteburg**	**87.97**	**333**	*eP*		**P**	**20 37 50.1**	**+0.5**
YNBS	**Yanbu' al Bahr**	**87.98**	**298**	P		**P**	**20 37 51.3**	**+1.0**
LJU	**Ljubljana**	**88.00**	**327**	*iP*		**P**	**20 37 49.7**	**-0.2**
BOJS	**Bojanci**	**88.06**	**326**	*eP*		**P**	**20 37 50.3**	**+0.1**
STU	**Stuttgart**	**88.20**	**331**	*eP*		**P**	**20 37 50.8**	**0.0**
RUP	**Ruppelstein**	**88.30**	**333**	*eP*		**P**	**20 37 51.9**	**+0.7**
JAVS	**Javornik**	**88.32**	**327**	*iP*		**P**	**20 37 51.2**	**-0.2**
WATA	**Walderalm**	**88.33**	**329**	⇑*iP*		**P**	**20 37 52.0**	**+0.6**
	comp=Z,29nm,1.9s,mb5.2								
WATA	**Walderalm**	**88.33**	**329**	⇑*iP*		**P**	**20 37 52.0**	**+0.6**
WATA	comp=Z,29nm,1.9s,mb5.2			pmax		pmax			
WTTA	**Wattenberg**	**88.36**	**329**	⇓*iP*		**P**	**20 37 54.1**	**+2.5**
	comp=Z,76nm,2.5s,mb5.5								
WTTA	**Wattenberg**	**88.36**	**329**	⇓*iP*		**P**	**20 37 54.1**	**+2.5**
WTTA	comp=Z,76nm,2.5s,mb5.5			pmax		pmax			
MOTA	**Moosalm**	**88.53**	**329**	⇑*iP*		**P**	**20 37 52.8**	**+0.4**
	comp=Z,16nm,1.3s,mb5.2								
MOTA	**Moosalm**	**88.53**	**329**	⇑*iP*		**P**	**20 37 52.8**	**+0.4**
MOTA	comp=Z,16nm,1.3s,mb5.2			pmax		pmax			
LANF	**Langenberg**	**88.59**	**332**	*eP*		**P**	**20 37 53.2**	**+0.5**
WLF	**Walferdange**	**88.68**	**333**	*eP*		**P**	**20 37 53.5**	**+0.5**
WLF	comp=Z,91nm,1.8s,mb5.8			pmax		pmax			
WLF	**Walferdange**	**88.68**	**333**	*eP*		**P**	**20 37 53.5**	**+0.5**
	comp=Z,91nm,1.8s,mb5.8								
SCHQ	**Schefferville**	**88.70**	**16**	P		**P**	**20 37 53.5**	**+0.4**
	comp=Z,12nm,0.8s,mb5.3,baz=315,slow=5.9,SNR=18								
SCHQ	comp=Z,13nm,0.9s,baz=331,slow=5.8,SNR=7.3			pP		pP	20 38 05.3	+0.3	
SCHQ				LR		LR	21 18 38.3		
	comp=Z,357nm,20.3s,MS4.8,baz=97,slow=36								
SCHQ	**Schefferville**	**88.70**	**16**	*eP*		**P**	**20 37 53.1**	**+0.1**
	comp=Z,4.6nm,0.8s,mb4.9								
SCHQ				*ep*	P		pP	20 38 05.2	+0.2
GIVF	**Givet**	**88.81**	**334**	*eP*		**P**	**20 37 54.2**	**+0.5**
BFO	**Black Forest**	**88.91**	**331**	*eP*		**P**	**20 37 54.8**	**+0.6**
BFO				*e*	*PP*	pP	20 38 08.7	+2.6	
BFO				*e*			20 41 23.4		
BAIF	**Baives**	**89.07**	**334**	*eP*		**P**	**20 37 55.3**	**+0.4**
	comp=Z,19nm,1.0s,mb5.1								
BAIF	**Baives**	**89.07**	**334**	*eP*		**P**	**20 37 55.3**	**+0.4**
BAIF	comp=Z,9.0nm,1.0s,mb5.0			pmax		pmax			
DAVA	**Damuels**	**89.09**	**330**	⇓*iP*		**P**	**20 37 55.3**	**+0.2**
	comp=Z,77nm,2.3s,mb5.6								
MNTX	**Cornudas Mount**	**89.16**	**52**	*eP*		**P**	**20 37 55.6**	**-0.2**
	comp=Z,6.9nm,1.1s,mb4.9								
CDF	**Champ du Feu**	**89.26**	**332**	*eP*		**P**	**20 37 56.3**	**+0.5**
	comp=Z,34nm,1.0s,mb5.3								
CDF	**Champ du Feu**	**89.26**	**332**	*eP*		**P**	**20 37 56.3**	**+0.5**
CDF	comp=Z,17nm,1.0s,mb5.3			pmax		pmax			
LIBD	**Limburg**	**89.34**	**332**	*eP*		**P**	**20 37 57.9**	**+1.7**
ECH	**Echery**	**89.46**	**332**	*eP*		**P**	**20 37 56.5**	**-0.3**
DLF	**Lyons Farm**	**89.59**	**342**	⇑*iP*		**P**	**20 37 52.6**	**-4.7**
DCN	**Croghan**	**89.74**	**342**	⇑*iP*		**P**	**20 37 54.4**	**-3.6**
MOF	**Molkenrain**	**89.77**	**332**	*eP*		**P**	**20 37 58.2**	**0.0**
HINF	**Hinteralfeld**	**89.91**	**332**	*eP*		**P**	**20 37 58.9**	**0.0**
THEF	**They Montfort**	**89.91**	**332**	*eP*		**P**	**20 37 59.1**	**+0.2**
BBS	**Basel-Blauen**	**89.93**	**331**	*eP*		**P**	**20 37 59.0**	**0.0**
HAU	**Haudompre**	**89.95**	**332**	*eP*		**P**	**20 37 59.6**	**+0.5**
	comp=Z,13nm,0.8s,mb5.0								
HAU	**Haudompre**	**89.95**	**332**	*eP*		**P**	**20 37 59.6**	**+0.5**
HAU	comp=Z,6.0nm,0.8s,mb5.0			pmax		pmax			
MEZF	**Maizieres J'vi**	**90.04**	**333**	*eP*		**P**	**20 38 00.3**	**+0.8**
	comp=Z,54nm,1.2s,mb5.4								
AQU	**L'Aquila**	**91.31**	**325**	*eP*		**P**	**20 38 05.8**	**+0.2**
AQU	comp=Z,16nm,0.9s,mb5.3			pmax		pmax			
AQU	**L'Aquila**	**91.31**	**325**	*eP*		**P**	**20 38 05.8**	**+0.2**
	comp=Z,16nm,0.9s,mb5.3								
CII	**Carovilli**	**91.34**	**324**	*eP*		**P**	**20 38 05.9**	**+0.2**
	comp=Z,63nm,1.5s,mb5.7								
LOR	**Lormes**	**91.52**	**333**	*eP*		**P**	**20 38 06.8**	**+0.4**
	comp=Z,39nm,1.0s,mb5.4								
LOR	**Lormes**	**91.52**	**333**	*eP*		**P**	**20 38 06.8**	**+0.4**
LOR	comp=Z,19nm,1.0s,mb5.4			pmax		pmax			
RSL	**Roselend**	**91.72**	**331**	*eP*		**P**	**20 38 07.6**	**+0.2**
FLN	**La Foliniere**	**91.80**	**336**	*eP*		**P**	**20 38 06.9**	**-0.8**
	comp=Z,42nm,0.9s,mb5.5								
FLN	**La Foliniere**	**91.80**	**336**	*eP*		**P**	**20 38 06.9**	**-0.8**
FLN	comp=Z,21nm,0.9s,mb5.5			pmax		pmax			
LTX	**Lajitas**	**91.80**	**53**	*eP*		**P**	**20 38 08.3**	**+0.1**
LTX	comp=Z,21nm,1.1s,mb5.4			pmax		pmax			
LTX	**Lajitas**	**91.80**	**53**	*eP*		**P**	**20 38 08.3**	**+0.1**
	comp=Z,22nm,1.1s,mb5.4								
TXAR	**Lajitas Array**	**91.80**	**53**	P		**P**	**20 38 08.7**	**+0.5**
	comp=Z,6.7nm,0.6s,mb5.1,baz=305,slow=3.1,SNR=51								
TXAR	comp=Z,7.6nm,0.8s,baz=298,slow=3.0,SNR=7.1			pP		pP	20 38 19.7	-0.5	
TXAR	comp=Z,1μm,20.1s,MS5.3,baz=265,slow=32			LR		LR	21 14 33.7		
LPL	**La Plagne**	**91.82**	**330**	*eP*		**P**	**20 38 08.2**	**+0.3**
	comp=Z,28nm,0.8s,mb5.3								
LPL	**La Plagne**	**91.82**	**330**	*eP*		**P**	**20 38 08.2**	**+0.3**
LPL	comp=Z,14nm,0.8s,mb5.3			pmax		pmax			
SSF	**Saint Saulge**	**91.82**	**333**	*eP*		**P**	**20 38 07.9**	**+0.1**
SSF	comp=Z,17nm,1.1s,mb5.3			pmax		pmax			
SSF	**Saint Saulge**	**91.82**	**333**	*eP*		**P**	**20 38 07.9**	**+0.1**
	comp=Z,16nm,1.1s,mb5.3								
LPG	**La Plagne**	**91.83**	**330**	*eP*		**P**	**20 38 08.3**	**+0.4**
	comp=Z,41nm,0.8s,mb5.5								
LPG	**La Plagne**	**91.83**	**330**	*eP*		**P**	**20 38 08.3**	**+0.4**
LPG	comp=Z,20nm,0.8s,mb5.5			pmax		pmax			
TIP	**Timpagrande**	**91.97**	**321**	*eP*		**P**	**20 38 07.9**	**-0.8**
HYF	**Humbligny**	**91.97**	**334**	*eP*		**P**	**20 38 08.8**	**+0.3**
AVF	**Avril sur Loir**	**92.11**	**333**	*eP*		**P**	**20 38 09.1**	**0.0**
	comp=Z,68nm,0.9s,mb5.7								
AVF	**Avril sur Loir**	**92.11**	**333**	*eP*		**P**	**20 38 09.1**	**0.0**
AVF	comp=Z,34nm,0.9s,mb5.7			pmax		pmax			
BNI	**Bardonecchia**	**92.22**	**330**	*eP*		**P**	**20 38 09.3**	**-0.4**
BNI	comp=Z,11nm,0.8s,mb5.2			pmax		pmax			
BNI	**Bardonecchia**	**92.22**	**330**	*eP*		**P**	**20 38 09.3**	**-0.4**
	comp=Z,11nm,0.8s,mb5.2								
GRR	**Gorron**	**92.25**	**336**	*eP*		**P**	**20 38 09.8**	**0.0**
	comp=Z,84nm,1.1s,mb5.7								
GRR	**Gorron**	**92.25**	**336**	*eP*		**P**	**20 38 09.8**	**0.0**
GRR	comp=Z,42nm,1.1s,mb5.7			pmax		pmax			
MBDF	**Montbardon**	**92.44**	**330**	*eP*		**P**	**20 38 10.6**	**-0.1**
	comp=Z,32nm,0.8s,mb5.4								
MBDF	**Montbardon**	**92.44**	**330**	*eP*		**P**	**20 38 10.6**	**-0.1**
MBDF	comp=Z,16nm,0.8s,mb5.4			pmax		pmax			
ORIF	**Oris-en-Rattie**	**92.66**	**331**	*eP*		**P**	**20 38 11.9**	**+0.2**
	comp=Z,33nm,0.8s,mb5.5								
ORIF	**Oris-en-Rattie**	**92.66**	**331**	*eP*		**P**	**20 38 11.9**	**+0.2**
ORIF	comp=Z,17nm,0.8s,mb5.5			pmax		pmax			
PLDF	**La Plantade**	**92.69**	**333**	*eP*		**P**	**20 38 13.4**	**+1.6**
SAOF	**Saorge**	**92.71**	**329**	*eP*		**P**	**20 38 11.5**	**-0.5**
AUTN	**L'Aution**	**92.75**	**329**	*eP*		**P**	**20 38 12.2**	**0.0**
AGO	**Saint Agoulin**	**92.81**	**333**	*eP*		**P**	**20 38 13.8**	**+1.4**
TOUF	**Mont Tournerai**	**92.82**	**329**	*eP*		**P**	**20 38 12.2**	**-0.3**
SBF	**Sospel**	**92.86**	**329**	*eP*		**P**	**20 38 12.2**	**-0.5**
	comp=Z,59nm,0.8s,mb5.8								
SBF	**Sospel**	**92.86**	**329**	*eP*		**P**	**20 38 12.2**	**-0.5**
SBF	comp=Z,30nm,0.8s,mb5.8			pmax		pmax			
SGMF	**Saint Gilles**	**92.92**	**337**	*eP*		**P**	**20 38 12.4**	**-0.5**
	comp=Z,31nm,1.1s,mb5.4								
SGMF	**Saint Gilles**	**92.92**	**337**	*eP*		**P**	**20 38 12.4**	**-0.5**
SGMF	comp=Z,16nm,1.1s,mb5.4			pmax		pmax			
MVIF	**Mont Vial**	**92.95**	**329**	*eP*		**P**	**20 38 12.8**	**-0.3**
TCF	**Toulx Ste Croi**	**92.96**	**334**	*eP*		**P**	**20 38 13.4**	**+0.3**
	comp=Z,21nm,0.9s,mb5.3								
TCF	**Toulx Ste Croi**	**92.96**	**334**	*eP*		**P**	**20 38 13.4**	**+0.3**
TCF	comp=Z,10.0nm,0.9s,mb5.2			pmax		pmax			
COLF	**Collangettes**	**93.04**	**332**	*eP*		**P**	**20 38 13.9**	**+0.4**
ROSF	**Rostrenen**	**93.08**	**338**	*eP*		**P**	**20 38 13.5**	**-0.1**
PYM	**Petit Puy Mans**	**93.11**	**333**	*eP*		**P**	**20 38 14.8**	**+1.0**
CALN	**Salern**	**93.18**	**329**	*eP*		**P**	**20 38 15.4**	**+1.2**
VIVF	**Saint-Julien-l**	**93.20**	**331**	*eP*		**P**	**20 38 14.5**	**+0.3**
	comp=Z,45nm,0.9s,mb5.6								
VIVF	**Saint-Julien-l**	**93.20**	**331**	*eP*		**P**	**20 38 14.5**	**+0.3**
VIVF	comp=Z,22nm,0.9s,mb5.6			pmax		pmax			
PGF	**Pioggiola**	**93.22**	**327**	*eP*		**P**	**20 38 14.1**	**-0.3**
	comp=Z,9.5nm,0.7s,mb5.0								
PGF	**Pioggiola**	**93.22**	**327**	*eP*		**P**	**20 38 14.1**	**-0.3**
PGF	comp=Z,5.0nm,0.7s,mb5.0			pmax		pmax			
STOF	**St-Etienne Org**	**93.39**	**330**	*eP*		**P**	**20 38 15.6**	**+0.5**
QUIF	**Quistinic**	**93.42**	**338**	*eP*		**P**	**20 38 15.0**	**-0.1**
FRF	**La Foret Royal**	**93.44**	**329**	*eP*		**P**	**20 38 14.7**	**-0.6**
	comp=Z,29nm,0.9s,mb5.4								
FRF	**La Foret Royal**	**93.44**	**329**	*eP*		**P**	**20 38 14.7**	**-0.6**
FRF	comp=Z,14nm,0.9s,mb5.4			pmax		pmax			
LBL	**Lubilhac**	**93.45**	**332**	*eP*		**P**	**20 38 16.4**	**+1.1**
MFF	**Saint Martin d**	**93.55**	**335**	*eP*		**P**	**20 38 15.7**	**0.0**
	comp=Z,40nm,1.2s,mb5.4								
MFF	**Saint Martin d**	**93.55**	**335**	*eP*		**P**	**20 38 15.7**	**0.0**
MFF	comp=Z,20nm,1.2s,mb5.4			pmax		pmax			
SMRF	**Simiane la Rot**	**93.55**	**330**	*eP*		**P**	**20 38 15.8**	**0.0**
	comp=Z,20nm,0.9s,mb5.2								
VILF	**Villemus**	**93.59**	**330**	*eP*		**P**	**20 38 16.8**	**+0.8**
TAVF	**Tavernes**	**93.64**	**330**	*eP*		**P**	**20 38 16.8**	**+0.6**
LMR	**La Mourre**	**93.68**	**329**	*eP*		**P**	**20 38 16.0**	**-0.4**
	comp=Z,60nm,1.1s,mb5.6								
LMR	**La Mourre**	**93.68**	**329**	*eP*		**P**	**20 38 16.0**	**-0.4**
LMR	comp=Z,30nm,1.1s,mb5.6			pmax		pmax			
PRAF	**Pradon**	**93.86**	**330**	*eP*		**P**	**20 38 18.4**	**+1.2**
BERF	**Bertagne**	**94.05**	**330**	*eP*		**P**	**20 38 18.7**	**+0.6**
RJF	**Les Rejaudoux**	**94.05**	**333**	*eP*		**P**	**20 38 18.6**	**+0.6**
	comp=Z,32nm,1.0s,mb5.4								
RJF	**Les Rejaudoux**	**94.05**	**333**	*eP*		**P**	**20 38 18.6**	**+0.6**
RJF	comp=Z,16nm,1.0s,mb5.4			pmax		pmax			
GELF	**Grande-Etoile**	**94.10**	**330**	*eP*		**P**	**20 38 18.7**	**+0.4**
CAF	**Calviac**	**94.16**	**333**	*eP*		**P**	**20 38 19.1**	**+0.6**
LASF	**Ste Croix**	**94.17**	**331**	*eP*		**P**	**20 38 19.1**	**+0.5**
	comp=Z,17nm,0.9s,mb5.2								
LFF	**La Frestale**	**94.65**	**334**	*eP*		**P**	**20 38 21.0**	**+0.2**
	comp=Z,22nm,0.9s,mb5.3								
LFF	**La Frestale**	**94.65**	**334**	*eP*		**P**	**20 38 21.0**	**+0.2**
LFF	comp=Z,11nm,0.9s,mb5.3			pmax		pmax			
MTLF	**Montolieu**	**95.44**	**332**	*eP*		**P**	**20 38 24.9**	**+0.5**
EPF	**Esparros**	**96.43**	**333**	*eP*		**P**	**20 38 29.3**	**+0.4**
ETSF	**Etsaut**	**96.88**	**333**	*eP*		**P**	**20 38 31.4**	**+0.4**
	comp=Z,21nm,1.1s,mb5.2								
ETSF	**Etsaut**	**96.88**	**333**	*eP*		**P**	**20 38 31.4**	**+0.4**
ETSF	comp=Z,11nm,1.1s,mb5.2			pmax		pmax			
ESDC	**Sonseca Array**	**100.95**	**334**	PP		PP	20 42 58.1	-2.7	
	comp=Z,1.6nm,0.8s,baz=18,slow=7.5,SNR=4.2								
PCNG	**Congro**	**108.36**	**350**	*eS*		SKS	20 50 01.5	+3.7	
	comp=Z,68nm,0.2s								
VIF	**Vila Franca**	**108.39**	**350**	*eS*		SKS	20 50 01.2	+3.3	
	comp=Z,7.5nm,0.1s								
VNDA	**Vanda**	**111.21**	**176**	PP		PP	20 44 14.9	-1.0	
	comp=Z,0.9nm,0.5s,baz=344,slow=7.2,SNR=3.4								
MAW	**Mawson**	**116.49**	**205**	PP		PP	20 44 55.0	+1.0	
	comp=Z,3.9nm,1.1s,baz=71,slow=6.6,SNR=5.1								
LSZ	**Lusaka**	**118.25**	**270**	*e*PKPdf		PKPdf	20 43 48.5	+2.0	
QSPA	**South Pole Qui**	**123.06**	**180**	*eP*		PKPdf	20 43 55.3	+0.8	
LBTB	**Lobatse**	**124.84**	**261**	PKPdf		PKPdf	20 44 01.1	+1.9	
LBTB	**Lobatse**	**124.84**	**261**	*e*PKPdf		PKPdf	20 44 00.7	+1.5	
BOSA	**Boshof**	**126.52**	**257**	*e*PKIKP		PKPdf	20 44 03.6	+1.2	
BOSA	**Boshof**	**126.52**	**257**	PKP		PKPdf	20 44 04.2	+1.9	
	comp=Z,4.0nm,0.6s,baz=24,slow=3.3,SNR=11								
SDV	**Santo Domingo**	**127.64**	**43**	*e*PKPdf		PKPdf	20 44 05.8	+1.0	
SDV				*ep*P			20 44 18.3		
DBIC	**Dimbokro**	**129.48**	**316**	PKP		PKPdf	20 44 09.2	+0.8	
	comp=Z,6.5nm,0.9s,baz=276,slow=14,SNR=4.3								
SNAA	**Sanae**	**137.38**	**195**			PKPdf	20 44 14.2	-7.4	
SNAA	**Sanae**	**137.38**	**195**			PKPdf	20 44 20.8	-0.8	
SNAA	**Sanae**	**137.38**	**195**			PKPdf	20 44 24.5	+2.9	
SNAA	**Sanae**	**137.38**	**195**			PKPdf	20 44 30.4	+8.8	
SNAA	**Sanae**	**137.38**	**195**			PKPdf	20 44 44.7	+23	
SNAA	**Sanae**	**137.38**	**195**	P		PKPdf	20 44 20.8	-0.8	
VNA2	**Neumayer--Watz**	**138.93**	**195**			PKPdf	20 44 19.7	-4.7	
VNA2	**Neumayer--Watz**	**138.93**	**195**			PKPdf	20 44 23.7	-0.7	
VNA2	**Neumayer--Watz**	**138.93**	**195**			PKPdf	20 44 27.3	+2.9	
VNA2	**Neumayer--Watz**	**138.93**	**195**			PKPdf	20 44 29.1	+4.7	
VNA2	**Neumayer--Watz**	**138.93**	**195**			PKPdf	20 44 31.9	+7.5	
VNA2	**Neumayer--Watz**	**138.93**	**195**			PKPdf	20 44 41.6	+17	
VNA2	**Neumayer--Watz**	**138.93**	**195**			PKPdf	20 44 44.9	+20	
VNA2	**Neumayer--Watz**	**138.93**	**195**			PKPdf	20 44 52.5	+28	
VNA2	**Neumayer--Watz**	**138.93**	**195**	P		PKPdf	20 44 27.3	+2.9	
VNA3	**Neumayer Olymp**	**139.14**	**193**			PKPdf	20 44 20.0	-4.8	
VNA3	**Neumayer Olymp**	**139.14**	**193**			PKPdf	20 44 23.7	-1.1	
VNA3	**Neumayer Olymp**	**139.14**	**193**			PKPdf	20 44 28.6	+3.8	
VNA3	**Neumayer Olymp**	**139.14**	**193**			PKPdf	20 44 32.8	+8.0	
VNA3	**Neumayer Olymp**	**139.14**	**193**	P		PKPdf	20 44 28.6	+3.8	
VNA1	**Neumayer--Stat**	**139.32**	**195**			PKPdf	20 44 30.5	+5.3	
SAML	**Samuel**	**146.24**	**50**	*e*PKPbc		PKPbc	20 44 40.3	+0.4	
SAML				*ep*PKPdf			20 44 53.2		
LPAZ	**La Paz**	**147.76**	**66**	PKPdf		PKPdf	20 44 43.8	+2.6	
LPAZ				PKKPdf			20 53 45.1		
LPAZ	**La Paz**	**147.76**	**66**	PKPbc		PKPdf	20 44 43.8	+2.6	
	comp=Z,13nm,0.8s,baz=10,slow=3.2,SNR=28								
LPAZ	**La Paz**	**147.76**	**66**	*e*PKPbc		PKPdf	20 44 43.7	+2.6	
LVC	**Limon Verde**	**150.55**	**77**	PKPdf		PKPdf	20 44 48.9	+3.4	
LVC				pPKPdf			20 44 53.1		
LVC				PKKPdf			20 53 38.3		
LVC	**Limon Verde**	**150.55**	**77**	*e*PKPdf		PKPdf	20 44 48.1	+2.7	
LVC				*e*PKPbc		PKPdf	20 44 52.9	+7.5	
TLL	**Tololo Astrono**	**151.74**	**93**	⇑*iP*		PKPdf	20 44 55.0	+8.0	
PLCA	**Paso Flores**	**152.86**	**115**	PKPbc		PKPdf	20 44 57.5	+9.3	
	comp=Z,3.9nm,0.6s,baz=220,slow=2.1,SNR=11								
PLCA	**Paso Flores**	**152.86**	**115**	*e*PKPbc		PKPdf	20 44 57.2	+8.9	

ATH **29** *20:25:36.8,37.09N×28.42E,h8km±2km,MD3.5/5*
NEIC **29** *20:25:36.9,37.09N×28.41E,h9km,MD3.5(ATH), MD3.4(ISK),After ATH.*
ISK **29** *20:25:36.3,37.09N×28.57E,h12km,MD3.4*
CSEM **29** *20:25:36.2±0.1,37.02N×28.53E,h20km,MD3.4, Error ellipse: s-maj=1.8km s-min=1.5km az=9.0*
HLW **29** *20:25:39.5,36.89N×28.64E,h17km,Mb3.5*

ISC 29 20:25:36.7±0.3,36.99N±0.02×28.52E±0.03,h24km±4km, n48,σ1°§13/64,2C-1D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.24**	**308**	*i* PG	**Pb**	**20 25 41.4**	**-1.2**
YER				*i* SG	**Sb**	**20 25 45.9**	**-0.8**
DALT	**Dalyan (Mudla)**	**0.24**	**157**	*i* PG	**Pb**	**20 25 42.6**	**-0.1**
DALT				*i* SG	**Sb**	**20 25 48.6**	**+1.8**
MLSB	**Milas**	**0.67**	**297**	*i* PG	**Pb**	**20 25 49.5**	**0.0**
MLSB				*i* SG	**Sb**	**20 25 59.5**	**+1.1**
DNZL	**Cakiroluk**	**0.81**	**31**	*i* P	**Pb**	**20 25 50.4**	**-1.7**
DNZL				*i* S	**Sb**	**20 26 01.8**	**-0.9**
ARG	**Arkhangelos**	**0.83**	**202**	*e*Pg	**Pb**	**20 25 53.4**	**+1.0**
ARG				*e*Sb	**Sb**	**20 26 06.9**	**+3.7**
ARG	**Arkhangelos**	**0.83**	**202**	*e*PG	**Pb**	**20 25 53.6**	**+1.2**
ARG				*e*SB	**Sb**	**20 26 06.9**	**+3.7**
AYDN	**Tasoluk**	**0.84**	**323**	*i* P	**Pb**	**20 25 52.0**	**-0.4**
AYDN				*i* S	**Sb**	**20 26 02.0**	**-1.4**
BDRM	**Kayabasi**	**0.86**	**275**	*i* P	**Pb**	**20 25 53.5**	**+0.6**
BDRM				*i* S	**Sb**	**20 26 05.7**	**+1.7**
DENT	**Denizli**	**0.87**	**28**	*i* PG	**Pb**	**20 25 50.9**	**-2.0**
GOLH	**Golhisar**	**0.87**	**73**	*i* P	**Pb**	**20 25 53.0**	**+0.1**
GOLH				*i* S	**Sb**	**20 26 05.2**	**+1.0**
BODT	**Bodrum**	**0.97**	**275**	PG	**Pb**	**20 25 55.8**	**+1.2**
ELL	**El

IMP *e* 20 42 26.0
BOK Bokaro 22.09 341 ⇓*i*P P 20 38 32.8 0.0
BOK *i* S S 20 42 36.8 +7.4
BLSP Bilaspur 22.14 331 *e*P P 20 38 33.3 +0.1
BLSP *e*S S 20 42 37.0 +6.8
QIZ Qiongzhong 22.63 44 P P 20 38 39.8 +1.6
QIZ S S 20 42 40.0 +0.8
QIZ AMB AMB
comp=Z,56nm,1.0s,mb5.0
QIZ AMB AMB
comp=Z,1μm,5.5s
QIZ LR LR
comp=N,6μm,18.7s,MS5.3
QIZ LR LR
comp=E,9μm,18.7s,MS5.3
QIZ LR LR
comp=Z,5μm,16.9s,MS5.0
SHL Shillong 22.63 356 *e*P P 20 38 37.0 -1.2
comp=Z,790nm,1.0s,mb6.1
SHL *e*S S 20 42 46.0 +6.7
KKM Kota Kinabalu 22.80 81 ⇑*i*P P 20 38 41.1 +1.1
KKM Kota Kinabalu 22.80 81 P P 20 38 43.5 +3.5
SHBG Sahibganj 22.94 346 *e*P P 20 38 45.0 +3.8
DGAR Diego Garcia 23.41 244 PFAKE 20 39 00.0 +14
DGAR LR LR
comp=Z,2μm,21.0s,MS4.4
KAD Karad 23.83 308 *e*P P 20 38 50.9 +1.0
KAD AMb AMB 20 38 54.4
comp=Z,364nm,2.1s,mb5.4
KAD *e* 20 42 58.3
KMI Kunming 23.84 21 P P 20 38 52.0 +2.1
KMI AP 20 39 01.8
KMI XP 20 39 05.8
KMI PP PP 20 39 27.0 +3.4
KMI PCP PcP 20 42 33.8 -0.3
KMI S S 20 43 04.8 +4.4
KMI XS 20 43 21.3
KMI SS SS 20 43 58.5 +7.5
KMI SCP 20 46 08.0
KMI PCS 20 46 12.0
KMI AMB AMB
comp=Z,170nm,1.4s,mb5.3
KMI AMB AMB
comp=Z,1μm,3.1s
KMI LR LR
comp=N,6μm,13.5s,MS5.3
KMI LR LR
comp=E,4μm,11.9s,MS5.3
KMI LR LR
comp=Z,8μm,15.8s,MS5.3
KMI Kunming 23.84 21 P P 20 38 52.0 +2.1
KMI *PP 20 39 01.7
KMI *SP 20 39 05.8
KMI 20 39 27.0
KMI PPP PPP 20 39 37.7 +4.1
KMI 20 42 33.8
KMI S S 20 43 04.7 +4.3
KMI *SS 20 43 21.3
KMI pmax pmax
comp=Z,170nm,1.4s,mb5.3
KMI MLR MLR
comp=Z,8μm,15.8s,MS5.3
KMI Kunming 23.84 21 P P 20 38 52.0 +2.1
comp=Z,170nm,1.4s,mb5.3
KMI pP 20 39 01.7
KMI sP 20 39 05.8
KMI PP PP 20 39 27.0 +3.4
KMI PPP PPP 20 39 37.7 +4.1
KMI PcP PcP 20 42 33.8 -0.3
KMI S S 20 43 04.7 +4.3
KMI sS 20 43 21.3
KMI SS SS 20 43 58.4 +7.4
KMI SSS SSS 20 44 14.5 +7.1
KMI ScP 20 46 08.1
KMI PcS 20 46 12.1
KMI LR LR
comp=Z,8μm,15.8s,MS5.3
AKL Akola 23.97 319 *i* P 20 38 58.0 +6.7
AKL *i* 20 43 21.5
comp=Z,342nm,1.6s
TSM Tawau 24.30 86 P P 20 38 56.1 +1.5
GTK Gangtok 24.79 349 *e*P P 20 39 00.0 +0.8
POO Poona 24.80 310 ⇓*i*P P 20 39 00.0 +0.6
comp=Z,70nm,0.0s
POO *i* 20 43 40.0
POO *i* 20 44 56.0
BHPL Bhopal 25.59 324 *e*P P 20 39 08.2 +1.5
BHPL *e* 20 44 28.7
JIRN Jiri 25.65 345 *e*P P 20 39 08.2 +1.0
comp=Z,611nm,0.9s,mb6.1
PKI Pulchoki 25.78 343 *e*P P 20 39 08.8 +0.3
DMN Daman 25.90 343 *e*P P 20 39 10.0 +0.4
comp=Z,255nm,0.8s,mb5.8
KKN Kakani 26.02 343 *e*P P 20 39 11.0 +0.3
comp=Z,540nm,1.1s,mb6.0
GKN Gorkha 26.41 342 *e*P P 20 39 14.8 +0.5
comp=Z,838nm,0.9s,mb6.3
KOLN Koldanda 26.54 340 *e*P P 20 39 16.0 +0.6
comp=Z,656nm,0.9s,mb6.2
GYA Guiyang 26.62 27 ⇓*i*P P 20 39 16.5 +0.3
GYA AP pP 20 39 26.0 +0.4
GYA XP sP 20 39 29.8 0.0
GYA PP PP 20 39 59.8 -0.8
GYA S S 20 43 51.5 +4.5
GYA SS SS 20 44 56.0 -2.8
GYA AMB AMB
comp=Z,100nm,1.1s,mb5.3
GYA AMB AMB
comp=Z,1μm,13.4s
GYA LR LR
comp=N,4μm,15.3s,MS5.2
GYA LR LR
comp=E,4μm,15.3s,MS5.2
GYA LR LR
comp=Z,5μm,13.2s,MS5.2
LSA Lhasa 26.79 355 P P 20 39 19.8 +2.0
LSA AP pP 20 39 31.5 +4.4
LSA S S 20 43 49.8 0.0
LSA AMB AMB
comp=Z,980nm,1.1s,mb6.2
LSA AMB AMB
comp=Z,780nm,6.6s
LSA LR LR
comp=N,2μm,16.0s,MS5.0
LSA LR LR
comp=E,3μm,16.0s,MS5.0
LSA LR LR
comp=Z,3μm,15.0s,MS5.0
LSA Lhasa 26.79 355 ⇓*i*P P 20 39 19.8 +2.0
LGTI Lohaghat 29.31 336 ⇓*i*P P 20 39 40.5 -0.1
LGTI *e* 20 41 01.8
PTH Pithoragarh 29.41 336 *e*P P 20 39 41.2 -0.3
PTH *e* 20 45 32.5
CD2 Chengdu 29.52 18 ⇓*i*P P 20 39 41.3 -1.1
CD2 AMB AMB
comp=Z,100nm,0.9s,mb5.5
SONA Sohna 29.74 330 *e* pP 20 39 54.3 +0.4
AYAN Aya Nagar 29.91 330 *e*P P 20 39 45.9 0.0
NDI New Delhi 30.03 330 *e*P P 20 39 44.5 -2.5
NDI *e* 20 44 36.0
RCP Roxas 30.19 72 ⇑*e*P P 20 39 49.6 +1.2
JOSI Joshimath 30.57 336 *e* pP 20 40 01.8 +0.7
BHJ Bhuj 30.77 313 ‖*e* pP 20 40 04.6 +1.7
comp=Z,927nm,0.1s
BHJ *e* 20 44 27.2
DDI Dehra Dun 31.01 333 *e*P P 20 39 54.8 -0.8
DDI *e* 20 46 11.6
ENH Enshi 31.16 27 ⇓*i*P P 20 39 55.7 -1.2
comp=Z,113nm,0.8s,mb5.8
SMLA Simla 32.09 333 *i* P P 20 40 02.4 -2.7
JASL Jaisalmer 32.30 320 *e*P P 20 40 08.3 +1.3
QZH Quanzhou 32.61 45 ⇑*i*P P 20 40 09.8 +0.1
QZH S S 20 45 19.5 -2.7
QZH AMB AMB
comp=Z,130nm,0.9s,mb5.9
QZH LR LR
comp=N,7μm,12.5s,MS5.6
QZH LR LR
comp=E,4μm,14.9s,MS5.6
QZH LR LR
comp=Z,9μm,13.0s,MS5.7
PONG Pong 33.35 332 *e*P P 20 40 16.0 0.0
WHN Wuhan 33.84 33 *e*P P 20 40 21.0 +0.7
XAN Xi'an 34.17 23 P P 20 40 22.0 -1.1
XAN AMB AMB
comp=Z,276nm,0.9s,mb6.2
NACB Ninganchiao 34.37 49 ⇑*e*P P 20 40 24.5 -0.5
LZH Lanzhou 34.40 15 ⇓P P 20 40 24.5 -0.6
LZH AP pP 20 40 34.0 -0.6
LZH XP sP 20 40 37.0 -1.7
LZH PP PP 20 41 41.5 +0.5
LZH *e*S S 20 45 51.0 +1.1
LZH *e*XS 20 46 08.0
LZH SS SS 20 48 02.0 +0.9
LZH AMB AMB
comp=Z,197nm,1.5s,mb5.8
LZH AMB AMB
comp=Z,440nm,4.0s
LZH LR LR
comp=E,6μm,12.0s
LZH LR LR
comp=Z,7μm,15.3s,MS5.5
LZH Lanzhou 34.40 15 ⇓P P 20 40 24.5 -0.6
comp=Z,197nm,1.5s,mb5.8
LZH pP pP 20 40 34.0 -0.6
LZH sP sP 20 40 37.0 -1.7
LZH PP PP 20 41 41.5 +0.5
LZH *e*S S 20 45 51.0 +1.1
LZH *e*sS 20 46 08.0
LZH SS SS 20 48 02.0 +0.9
LZH LR LR
comp=Z,7μm,15.3s,MS5.5
YHNB Yeheng 34.49 49 *e*P P 20 40 26.3 +0.4
TATO Taipei 34.74 48 PFAKE 20 40 40.0 +12
TATO LR LR
comp=Z,3μm,21.0s,MS5.0
MBWA Marble Bar 35.02 134 ⇓*e*P P 20 40 29.4 -1.2
comp=Z,152nm,0.9s,mb5.9
MBWA LR LR
comp=Z,2μm,19.0s,MS4.9
GTA Gaotai 36.82 8 ⇓*i*P P 20 40 46.0 +0.4
GTA AP pP 20 40 56.5 +1.4
GTA XP sP 20 41 01.3 +2.1
GTA PP PP 20 42 13.5 +2.0
GTA PCP PcP 20 43 08.3 +0.8
GTA S S 20 46 29.0 +1.9
GTA XS 20 46 45.5
GTA SCP 20 46 47.0
GTA PCS 20 46 50.5
GTA SS SS 20 48 56.3 +0.4
GTA SCS ScS 20 50 59.5 +3.3
GTA AMB AMB
comp=Z,155nm,0.8s,mb5.9
GTA AMB AMB
comp=Z,572nm,10.7s
GTA LR LR
comp=N,1μm,19.1s
GTA LR LR
comp=E,2μm,14.1s
GTA LR LR
comp=Z,1μm,17.2s,MS4.8
NJ2 Nanjing 37.53 37 *e*P P 20 40 52.5 +0.9
NJ2 AP pP 20 41 01.5 +0.3
NJ2 PP PP 20 42 21.0 +0.8
NJ2 S S 20 46 39.0 +0.9
NJ2 AMB AMB
comp=Z,80nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,2μm,8.0s
NJ2 LR LR
comp=N,10μm,15.4s
NJ2 LR LR
comp=E,14μm,22.2s
NJ2 LR LR
comp=Z,3μm,19.3s,MS5.1
FITZ Fitzroy Crossi 37.85 125 *e*P P 20 40 52.9 -1.5
comp=Z,41nm,0.7s,mb5.3
FITZ *e*pP pP 20 41 02.6 -1.4
FITZ Fitzroy Crossi 37.85 125 P P 20 40 53.1 -1.3
comp=Z,57nm,0.7s,mb5.4,baz=320,slow=3.2,SNR=40
FITZ pP pP 20 41 02.7 -1.3
comp=Z,123nm,0.8s,baz=320,slow=3.9,SNR=19
SSE Sheshan 38.32 40 P P 20 40 59.0 +0.8
SSE AP pP 20 41 08.0 +0.2
SSE XP sP 20 41 11.8 0.0
SSE S S 20 46 52.8 +2.8
SSE XS 20 47 08.0
SSE AMB AMB
comp=Z,39nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,4μm,12.5s
SSE LR LR
comp=N,3μm,17.4s,MS5.2
SSE LR LR
comp=E,2μm,17.3s,MS5.2
SSE LR LR
comp=Z,2μm,18.7s,MS5.0
SSE Sheshan 38.32 40 P P 20 40 59.0 +0.8
comp=Z,39nm,0.8s,mb5.2
SSE pP pP 20 41 07.9 +0.1
SSE sP sP 20 41 11.8 0.0
SSE S S 20 46 52.7 +2.7
SSE sS 20 47 07.9
SSE SS SS 20 49 42.3 +12
SSE LR LR
comp=Z,2μm,18.7s,MS5.0
TIA Tai'an 39.69 30 *e*P P 20 41 09.8 +0.2
TIA AMB AMB
comp=Z,65nm,1.1s,mb5.3
KSH Kashi 39.84 339 *i* PR 20 41 10.0
KSH *e*AP pP 20 41 21.0 +0.6
KSH *e*XP sP 20 41 26.5 +2.1
KSH *e*PCP PcP 20 43 17.3 +0.4
KSH *e*S S 20 47 10.0 -2.8
KSH *e*XS 20 47 29.5
KSH *e*SS SS 20 50 03.0 -0.2
KSH *e*SCS ScS 20 51 14.0 +0.5
KSH AMB AMB
comp=Z,110nm,1.1s,mb5.5
KSH AMB AMB
comp=Z,1μm,11.8s
KSH LR LR
comp=N,34μm,37.4s
KSH LR LR
comp=E,45μm,59.8s
BTO Baotou 40.41 19 *e*P P 20 41 15.5 0.0
BTO AMB AMB
comp=Z,81nm,0.8s,mb5.5
MUN Mundaring 40.78 150 *e*P P 20 41 18.8 +0.2
comp=Z,24nm,0.8s,mb4.9
MUN *e*pP pP 20 41 28.4 +0.2
MUN Mundaring 40.78 150 *e*P P 20 41 18.8 +0.2
MUN *e**PP pP 20 41 28.4 +0.2
MUN pmax pmax
comp=Z,24nm,0.8s,mb4.9
JOW Kunigami 40.90 51 P P 20 41 18.6 -1.0
comp=Z,59nm,1.2s,mb5.1,baz=214,slow=7.4,SNR=6.0
JOW LR LR 20 57 16.2
comp=Z,3μm,21.3s,MS5.1,baz=120,slow=35
WMQ Urumqi 41.12 354 P P 20 41 22.3 +1.1
WMQ AP pP 20 41 32.0 +1.1
WMQ XP sP 20 41 36.0 +1.2
WMQ PP PP 20 43 00.8 +1.8
WMQ S S 20 47 32.8 +0.9
WMQ AMB AMB
comp=Z,258nm,0.8s,mb5.9
WMQ AMB AMB
comp=Z,2μm,4.8s
WMQ LR LR
comp=N,3μm,15.0s,MS5.4
WMQ LR LR
comp=E,2μm,14.6s,MS5.4
WMQ LR LR
comp=Z,2μm,14.6s,MS5.2
KLBR Kellerberrin 41.27 148 *e*P P 20 41 22.6 0.0
comp=Z,26nm,0.8s,mb4.9
KLBR *e*pP pP 20 41 31.8 -0.4
KAKA Kakadu 41.59 113 *e*P P 20 41 28.1 +2.6
comp=Z,28nm,0.9s,mb4.9
KAKA *i* 20 41 37.7
KAKA *e* 20 43 36.4
NWAO Narrogin (SRO) 42.05 150 P P 20 41 28.7 -0.4
NWAO *PP pP 20 41 38.2 -0.5
NWAO pmax pmax
comp=Z,21nm,0.8s
NWAO pmax pmax
comp=Z,52nm,0.8s
NWAO Narrogin (SRO) 42.05 150 P P 20 41 28.6 -0.5
comp=Z,21nm,0.8s,mb4.8,baz=308,slow=9.4,SNR=5.2
NWAO pP pP 20 41 38.1 -0.6
comp=Z,52nm,0.8s,baz=327,slow=9.9,SNR=11
NWAO Narrogin (SRO) 42.05 150 *e*P P 20 41 28.2 -0.9
comp=Z,52nm,0.8s,mb5.2
NWAO *e*pP pP 20 41 37.8 -0.9
ULHL Ulahol 42.17 341 P P 20 41 30.6 +0.7
SNR=7.0
KZA Kyzart 42.35 340 P P 20 41 32.4 +0.9
SNR=69
UCH Uchtor 42.74 339 P P 20 41 35.8 +1.2
SNR=27
AML Almayashu 42.96 338 P P 20 41 37.4 +1.0
SNR=14
KBK Karagaybulak 42.97 340 P P 20 41 37.6 +1.1
SNR=110
TKM2 Tokmak 2 42.98 341 P P 20 41 37.2 +0.6
SNR=115
AAK Ala-Archa 43.11 339 P P 20 41 38.5 +0.9
SNR=31
AAK Ala-Archa 43.11 339 *d*iP P 20 41 37.4 -0.2
AAK pmax pmax
comp=Z,3μm,17.0s
AAK Ala-Archa 43.11 339 ⇓*i*P P 20 41 37.0 -0.6
comp=Z,72nm,0.9s,mb5.4
FRU Bishkek 43.24 340 *i* P P 20 41 39.0 +0.3
FRU *e* 20 41 57.0
FRU pmax pmax
comp=Z,340nm,2.0s,mb5.7
CHMS Chumysh 43.34 340 P P 20 41 39.2 -0.2
SNR=30
EKS2 Erkin-Say 43.39 339 P P 20 41 40.5 +0.6
SNR=134
USP Ospenovka 43.66 340 P P 20 41 42.3 +0.3
SNR=12
DL2 Dalian 44.06 32 P P 20 41 46.5 +1.1
DL2 *e*S S 20 48 16.0 +1.0
DL2 AMB AMB
comp=Z,130nm,0.9s,mb5.7
DL2 LR LR
comp=N,1μm,16.0s,MS5.1
DL2 LR LR
comp=E,1μm,18.8s,MS5.1
DL2 LR LR
comp=Z,1μm,18.9s,MS4.9
MKAR Makanchi Array 44.84 349 P P 20 41 51.9 +0.3
comp=Z,178nm,0.8s,mb6.0,baz=164,slow=7.9,SNR=474
MKAR pP 20 42 01.8 +0.6
comp=Z,55nm,0.7s,baz=167,slow=8.6,SNR=11
WRA Warramunga Arr 45.99 121 P P 20 42 00.3 -0.7
comp=Z,125nm,0.8s,mb5.9,baz=299,slow=8.7,SNR=361
WRA pP pP 20 42 10.2 -0.5
comp=Z,325nm,0.8s,baz=299,slow=8.9,SNR=47
WRA PKPPKP 21 13 28.2
comp=Z,0.8nm,1.1s,baz=82,slow=8.7,SNR=4.7
WRAB Tennant Creek 46.00 121 ⇓*i*P P 20 42 00.5 -0.6
WRAB *i* *PP pP 20 42 10.3 -0.4
WRAB pmax pmax
comp=Z,549nm,0.8s,mb6.5
WRAB Tennant Creek 46.00 121 ⇓*i*P P 20 42 00.5 -0.6
comp=Z,549nm,0.8s,mb6.5
WRAB ⇑*i*pP pP 20 42 10.3 -0.5
WB2 Warramunga Arr 46.01 121 ⇓*i*P P 20 42 00.4 -0.7
WB2 *i* pP pP 20 42 10.2 -0.6
JNU Nakatsue 46.09 45 P P 20 42 01.8 +0.1
comp=Z,40nm,0.9s,mb5.3,baz=315,slow=1.4,SNR=6.0
JNU LR LR 21 00 50.2
comp=Z,3μm,21.0s,MS5.2,baz=46,slow=35
SONM Songino Array 46.15 12 P P 20 42 02.5 +0.6
comp=Z,162nm,0.8s,mb6.0,baz=192,slow=8.6,SNR=871
SONM pP pP 20 42 12.7 +1.1
comp=Z,23nm,0.9s,baz=188,slow=10.0,SNR=3.3
KS15 Wonju Array Si 46.64 38 *e*P P 20 42 05.5 -0.5
SNY Shenyang 47.21 31 ⇓P P 20 42 10.3 -0.1
SNY AMB AMB
comp=Z,190nm,0.9s,mb6.0
ZAK Zakamensk 48.06 8 ⇑*i*P P 20 42 17.1 +0.2
ZAK pmax pmax
comp=Z,54nm,0.9s,mb5.6
ZAK pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
MOY Mondy 49.03 6 *e*P P 20 42 24.5 +0.1
MOY pmax pmax
comp=Z,109nm,2.4s,mb5.5
KURK Kurchatov 49.33 348 ⇓*i*P P 20 42 26.8 +0.1
TLY Talaya 49.38 8 ⇓*i*P P 20 42 27.9 +0.8
TLY pmax pmax
comp=Z,99nm,0.9s,mb5.8
TLY Talaya 49.38 8 ⇓*i*P P 20 42 27.9 +0.8
comp=Z,99nm,0.9s,mb5.8
CN2 Changchun 49.59 30 *e*P P 20 42 29.0 +0.2
CN2 AP pP 20 42 40.0 +1.4
CN2 *e*S S 20 49 34.3 +0.8
CN2 AMB AMB
comp=Z,120nm,0.8s,mb6.0
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,2μm,13.0s,MS5.4
CN2 LR LR
comp=E,2μm,13.0s,MS5.4
CN2 LR LR
comp=Z,3μm,13.0s,MS5.4
RYDS Riyadh 49.97 299 P P 20 42 33.1 +1.1
IRK Irkutsk 50.02 9 *e*P P 20 42 32.1 +0.1
IRK pmax pmax
comp=Z,210nm,2.1s,mb5.8
QRN Al-Qurain 50.44 305 *e*P P 20 42 35.4 -0.1
QRN AMb AMB 20 42 36.3
comp=Z,387nm,0.7s,mb6.5
KAMS Al Khamasin 50.78 294 P P 20 42 37.0 -1.1
KBD Kabd 50.78 306 *e*P P 20 42 38.6 +0.5
KBD AMb AMB 20 42 39.4
comp=Z,940nm,0.8s
RDF Al-Radifah 50.81 306 *e*P P 20 42 38.9 +0.6
RDF AMb AMB 20 42 39.8
comp=Z,548nm,0.8s,mb6.5
NAY Al-Naaiem 51.18 306 *e*P P 20 42 41.6 +0.5
NAY AMb AMB 20 42 42.5
comp=Z,242nm,0.7s,mb6.2
DJNS Zahran al Janu 51.19 290 P P 20 42 41.8 +0.5
HIA Hailar 51.35 22 ⇓*i*P P 20 42 42.4 +0.3
HIA pmax pmax
comp=Z,222nm,0.8s
HIA MLR MLR
comp=Z,3μm,19.0s
HIA Hailar 51.35 22 ⇓*i*P P 20 42 42.4 +0.3
comp=Z,222nm,0.8s,mb6.1
HIA LR LR
comp=Z,3μm,19.0s,MS5.3
ZAL Zalesovo 51.42 353 P P 20 42 42.4 -0.2
comp=Z,75nm,0.7s,mb5.7,baz=300,slow=6.1,SNR=262
ZAL LR LR 21 06 56.5
comp=Z,2μm,19.0s,MS5.0,baz=290,slow=39
TATS Tathlith 51.62 293 P P 20 42 43.8 -0.7
CIT Chita 51.76 16 *e*P P 20 42 45.4 +0.2
CIT pmax pmax
comp=Z,402nm,1.2s,mb6.2
MDJ Mudanjiang 52.30 32 P P 20 42 50.5 +1.2
MDJ AP pP 20 42 59.8 +0.6
MDJ XP sP 20 43 03.3 +0.3
MDJ PP PP 20 44 50.0 +1.2
MDJ S S 20 50 15.3 +4.5
MDJ AMB AMB
comp=Z,105nm,1.5s,mb5.5
MDJ AMB AMB
comp=Z,2μm,11.3s
MDJ LR LR
comp=N,1μm,19.4s,MS5.1
MDJ LR LR
comp=E,1μm,20.2s,MS5.1
MDJ LR LR
comp=Z,1μm,21.7s,MS5.0
MDJ Mudanjiang 52.30 32 ⇓*e*P P 20 42 50.0 +0.6
comp=Z,193nm,1.3s,mb5.9
MDJ LR LR
comp=Z,2μm,21.0s,MS5.1
NVS Novosibirsk 52.50 352 ⇓*i*P P 20 42 49.5 -1.2
NVS *i* S S 20 50 14.5 +1.1
NVS pmax pmax
comp=Z,282nm,1.1s,mb6.1
NVS pmax pmax
comp=N,349nm,1.7s
NVS pmax pmax
comp=E,116nm,1.4s
NVS smax
comp=E,116nm,2.0s

NVS smax
comp=N,92nm,2.4s
MAJO Matsushiro 53.01 45 *e*P P 20 42 54.5 -0.3
MAJO pmax pmax
comp=Z,113nm,1.9s,mb5.5
MAJO Matsushiro 53.01 45 *e*P P 20 42 54.5 -0.3
comp=Z,113nm,1.9s,mb5.5
MAT Matsushiro 53.01 45 *e*P P 20 42 54.0 -0.8
MAT pmax pmax
comp=Z,67nm,1.5s,mb5.3
MAT MLR MLR
comp=Z,2μm,20.0s,MS5.2
MAT Matsushiro 53.01 45 *e*P P 20 42 54.0 -0.8
comp=Z,67nm,1.5s,mb5.3
MAT LR LR
comp=Z,2μm,20.0s,MS5.2
MAT Matsushiro 53.01 45 P P 20 42 53.8 -1.0
MJAR Matsushiro Arr 53.01 45 P P 20 42 54.0 -0.8
comp=Z,6.9nm,0.9s,mb4.6,baz=236,slow=7.7,SNR=21
MJAR PcP PcP 20 44 03.4 +0.3
comp=Z,18nm,0.9s,baz=246,slow=4.3,SNR=8.8
MJAR pPcP 20 44 13.3
comp=Z,14nm,0.9s,baz=250,slow=4.8,SNR=5.2
MJAR LR LR 21 06 10.3
comp=Z,2μm,18.6s,MS5.2,baz=245,slow=37
BLJS Baljurashi 53.42 293 P P 20 42 58.7 +0.7
BVAR Borovoye Array 53.55 343 P P 20 42 57.2 -1.3
comp=Z,93nm,0.7s,mb5.8,baz=145,slow=8.3,SNR=225
BVAR pP pP 20 43 07.1 -1.2
comp=Z,11nm,0.7s,baz=12,slow=27,SNR=6.1
BVAR PcP PcP 20 44 04.8 0.0
comp=Z,19nm,0.9s,baz=124,slow=5.3,SNR=3.5
BRVK Borovoye 53.61 343⇓*i*P P 20 42 57.6 -1.3
BRVK pmax pmax
comp=Z,80nm,0.9s,mb5.7
BRVK Borovoye 53.61 343⇓*i*P P 20 42 57.6 -1.3
comp=Z,80nm,0.9s,mb5.7
BRVK ⇑*e*pP pP 20 43 07.6 -1.1
LTHS Al Lith 54.59 293 P P 20 43 06.6 0.0
PMG Port Moresby 54.77 104 *e*P P 20 43 06.5 -1.5
PMG *e**PP pP 20 43 16.8 -1.0
PMG pmax pmax
comp=Z,64nm,0.9s
PMG MLR MLR
comp=Z,692nm,19.0s
PMG Port Moresby 54.77 104 P P 20 43 06.1 -1.9
comp=Z,21nm,0.7s,mb5.3,baz=334,slow=4.3,SNR=3.6
PMG Port Moresby 54.77 104 *e*P P 20 43 06.5 -1.5
comp=Z,64nm,0.9s,mb5.7
PMG *e*pP pP 20 43 16.8 -1.0
PMG LR LR
comp=Z,692nm,19.0s,MS4.8
HILS Ha'il 55.09 302 P P 20 43 10.6 +0.5
KMBO Kilima Mbogo 56.43 267 P P 20 43 20.3 +0.3
comp=Z,40nm,1.0s,mb5.4,baz=63,slow=8.9,SNR=58
KMBO LR LR 21 04 28.9
comp=Z,1μm,18.5s,MS5.1,baz=203,slow=33
KMBO Kilima Mbogo 56.43 267 P P 20 43 20.3 +0.3
KMBO LR LR 21 04 28.9
CTA Charters Tower 56.49 116 *e*P P 20 43 18.7 -1.6
comp=Z,20nm,0.9s,mb5.1
CTA *i* pP pP 20 43 29.0 -1.2
CTA Charters Tower 56.49 116 *e*P P 20 43 18.7 -1.6
CTA *i* *PP pP 20 43 29.0 -1.2
CTA pmax pmax
comp=Z,20nm,0.9s
CTAO Charters Tower 56.49 116 *e*P P 20 43 18.5 -1.8
CTAO *e**PP pP 20 43 29.0 -1.2
CTAO pmax pmax
comp=Z,68nm,1.0s,mb5.6
CTAO Charters Tower 56.49 116 *e*P P 20 43 18.5 -1.8
comp=Z,68nm,1.0s,mb5.6
CTAO *e*pP pP 20 43 29.0 -1.2
KLR Kul'dur 56.49 29⇑*i*P P 20 43 17.7 -2.2
KLR *e*S 20 51 22.5
KLR pmax pmax
comp=N,110nm,2.0s
KLR pmax pmax
comp=E,190nm,2.0s
KLR pmax pmax
comp=Z,230nm,2.0s,mb5.9
ADE Adelaide 56.62 136 *e*P P 20 43 20.5 -0.5
KBRS Khaybar 56.85 299 P P 20 43 23.3 +0.5
BOD Bodaibo 57.13 13⇑*i*P P 20 43 23.8 -0.6
BOD pmax pmax
comp=Z,180nm,1.0s,mb6.1
MAK Makhachkala 57.15 321⇑*i*P P 20 43 24.0 -0.7
MAK pmax pmax
comp=Z,198nm,1.0s,mb6.1
MAK pmax pmax
comp=Z,900nm,3.0s
STKA Stephens Creek 57.17 131⇓*i*P P 20 43 23.6 -1.4
comp=Z,24nm,0.8s,mb5.3
STKA *i* pP pP 20 43 33.6 -1.3
STKA Stephens Creek 57.17 131 P P 20 43 23.6 -1.4
comp=Z,27nm,0.8s,mb5.4,baz=304,slow=7.3,SNR=45
STKA pP pP 20 43 33.6 -1.3
comp=Z,50nm,0.8s,baz=314,slow=6.8,SNR=22
STKA LR LR 21 09 17.8
comp=Z,956nm,18.9s,MS4.9,baz=130,slow=37
HKR Hakkari 57.17 314 P P 20 43 24.4 -0.6
HAKT HAKKARI 57.19 314 *i* P P 20 43 24.1 -1.0
GNI Garni 57.59 317⇓*i*P P 20 43 27.6 -0.3
GNI pmax pmax
comp=Z,174nm,1.1s
GNI Garni 57.59 317⇓*i*P P 20 43 27.6 -0.3
comp=Z,174nm,1.1s,mb6.0
YNBS Yanbu' al Bahr 57.63 297 P P 20 43 28.3 0.0
CLDR Caldiran 57.72 315 *i* P P 20 43 28.6 -0.2
MTA Mtatsminda 58.27 319 P P 20 43 32.0 -0.6
TI2 Plekhanov 58.32 319α*i*P P 20 43 23.0 -10
TI2 *e* 20 45 39.0
TI2 pmax pmax
comp=E,40nm,0.8s
TI2 MLR MLR
comp=E,4μm,15.0s
UMJS Umm Lajj 58.43 298 P P 20 43 34.6 +0.7
DUS Dusheti 58.52 319 P P 20 43 33.3 -1.1
BTMT Batman 59.05 314 P P 20 43 37.6 -0.5
BEST Besiri 59.09 313 *i* P P 20 43 37.6 -0.8
MARD Mardin 59.23 312 *i* P P 20 43 38.5 -0.8
CLNS Chul'man 59.32 19 *e*P P 20 43 38.1 -1.5
CLNS *e**PP pP 20 43 43.6 -6.0
CLNS *e* 20 44 26.6
CLNS *e* 20 45 47.2
CLNS *e*S S 20 51 45.2 +1.1
CLNS *e* 20 53 22.6
CLNS pmax pmax
comp=N,88nm,1.1s
CLNS pmax pmax
comp=Z,159nm,1.1s,mb6.0
CLNS pmax pmax
comp=E,70nm,1.2s
CLNS pmax pmax
comp=Z,16nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,23nm,1.0s
CLNS pmax pmax
comp=E,20nm,1.0s
CLNS smax
comp=N,6.0nm,0.8s
CLNS smax
comp=E,10.0nm,0.8s
CLNS smax
comp=Z,7.0nm,0.8s
CLNS MLR MLR
comp=Z,2μm,13.0s,MS5.3
CLNS MLR MLR
comp=N,1μm,14.0s,MS5.2
CLNS MLR MLR
comp=E,200nm,13.0s,MS5.2
ZEI Tsey 59.36 319 *e*P P 20 43 36.9 -3.3
ZEI pmax pmax
comp=Z,89nm,0.9s,mb5.8
ONI Oni 59.57 319 P P 20 43 39.5 -2.1
BNGL BINGOL 59.60 314 *i* P P 20 43 41.4 -0.4
TBKS Tabuk 59.79 301 P P 20 43 44.1 +0.8
ERZM Erzurum 59.83 315 *i* P P 20 43 43.3 -0.1
EZM Erzurum 59.83 315 P P 20 43 43.6 +0.2
DIY Diyarbakir 59.86 313 *e*P P 20 43 43.7 +0.1
QURS Qurayyt al Mil 59.97 305 P P 20 43 45.1 +0.6
ARU Arti 60.28 338⇓*i*P P 20 43 44.3 -2.0
ARU *e* 20 44 28.0
ARU *e* 20 45 59.9
ARU *e*PPP PPP 20 47 24.9 -2.8
ARU *e*S S 20 51 58.5 +2.0
ARU *e* 20 53 34.4
ARU *e*SS SS 20 55 58.6 +3.4
ARU pmax pmax
comp=Z,111nm,1.0s,mb5.8
ARU Arti 60.28 338⇓*i*P P 20 43 44.2 -2.1
comp=Z,110nm,1.0s,mb5.8
ARU LR LR
comp=Z,246nm,19.0s,MS4.4
BCA Borcka 60.29 317 P P 20 43 45.5 -1.1
JMQS Jabal Moqyreh 60.52 302 P P 20 43 48.6 +0.3
KIV Kislovodsk 60.70 320κ*i*P P 20 43 48.4 -0.9
KIV *i* 20 43 58.2
KIV *i* 20 44 03.8
KIV *e* 20 44 32.7
KIV *e* 20 46 04.3
KIV S S 20 51 53.9 -8.1
KIV pmax pmax
comp=Z,268nm,1.2s,mb6.2
KIV Kislovodsk 60.70 320⇓*i*P P 20 43 48.1 -1.1
comp=Z,5.5nm,0.6s,mb4.9
URFA Urfa 60.73 312 P P 20 43 49.5 0.0
PTK Pertek 60.84 314 P P 20 43 49.8 -0.5
GOF Gofitskoye 60.99 321⇑*i*P P 20 43 46.7 -4.5
GOF pmax pmax
comp=Z,170nm,1.7s,mb5.9
BDAS Al Bad'i 61.08 301 P P 20 43 52.4 +0.3
YSS Yuzh-Sakhalins 61.10 36 P P 20 43 52.5 +0.5
YSS pmax pmax
comp=Z,130nm,1.1s,mb6.0
YSS Yuzh-Sakhalins 61.10 36⇓*i*P P 20 43 51.8 -0.1
comp=Z,132nm,1.1s,mb6.0
JMOS Jabal al Moall 61.24 302 P P 20 43 53.5 +0.3
ALWS Ilw as Safayha 61.32 302 P P 20 43 54.0 +0.3
MALT Malatya 61.33 313 P P 20 43 52.5 -1.2
MALT Malatya 61.33 313⇓*i*P P 20 43 53.8 +0.1
MALT pmax pmax
comp=Z,143nm,1.0s,mb6.1
MALT Malatya 61.33 313⇓*i*P P 20 43 53.8 +0.1
comp=Z,143nm,1.0s,mb6.1
MYA Malataya 61.34 313 P P 20 43 53.9 +0.2
HAQS Haql 61.37 302 P P 20 43 54.4 +0.3
GUMT Gumushane 61.37 315 P P 20 43 53.8 -0.1
GZT Gaziantep 61.64 311 *i* P P 20 43 55.8 0.0
GAZ Gaziantep 61.84 311 P P 20 43 57.5 +0.3
COBT Iskenderun 62.36 310 *i* P P 20 44 01.5 +0.9
SOC Sochi 62.47 319*d*i*P P 20 43 59.5 -1.7
SOC *e* 20 44 41.9
SOC *e* 20 46 13.0
SOC *e*PPP PPP 20 47 47.6 -2.9
SOC *e*S S 20 52 26.1 +1.7
SOC pmax pmax
comp=N,46nm,1.2s
SOC pmax pmax
comp=E,32nm,1.2s
SOC pmax pmax
comp=Z,205nm,1.2s,mb6.1
SOC pmax pmax
comp=Z,326nm,1.2s,mb6.3
SOC MLR MLR
comp=N,924nm,17.0s,MS5.1
SOC MLR MLR
comp=E,792nm,17.0s,MS5.1
SOC MLR MLR
comp=Z,1μm,17.0s,MS5.1
TOO Toolangi 62.66 135 *e*P P 20 44 02.6 0.0
comp=Z,17nm,0.9s,mb5.2
TOO *i* pP pP 20 44 12.4 -0.2
TOO Toolangi 62.66 135 *e*P P 20 44 02.6 0.0
TOO *i* *PP pP 20 44 12.4 -0.2
TOO pmax pmax
comp=Z,17nm,0.9s,mb5.2
MBAR Mbarara 62.89 268⇓*i*P P 20 44 03.7 -0.7
MBAR pmax pmax
comp=Z,106nm,1.3s,mb5.8
MBAR Mbarara 62.89 268⇓*i*P P 20 44 03.7 -0.7
comp=Z,106nm,1.3s,mb5.8
CEYT Ceyhan 62.90 310 *e*P P 20 44 04.6 +0.5
TOKT Tokat 63.41 314 P P 20 44 07.3 -0.1
BNN Bunyan 63.42 312 P P 20 44 07.0 -0.6
CSS Prodhromos 64.18 308⇓P P 20 44 12.3 -0.4
comp=Z,2.8nm,1.0s
CSS Prodhromos 64.18 308⇓*e*P P 20 44 12.3 -0.4
IKL Isikli 64.25 309 P P 20 44 11.9 -1.2
MAMC Mammari 64.32 308⇓P P 20 44 13.9 +0.3
MAMC Mammari 64.32 308⇓*e*P P 20 44 13.9 +0.3
ARMA Armidale 64.44 126⇓*i*P P 20 44 07.9 -6.6
ARMA *i* pP pP 20 44 17.8 -6.7
ARMA *e*sP sP 20 44 23.7 -4.4
ANN Anapa 64.46 319⇓*i*P P 20 44 11.6 -2.7
ANN *i* 20 44 44.5
ANN *i* 20 46 36.1
ANN *i* S S 20 52 52.2 +2.9
ANN *e*SS SS 20 57 10.0 +8.7
ANN pmax pmax
comp=Z,109nm,1.4s,mb5.7
SZAC Souni-Zanaja 64.48 307 P P 20 44 14.5 -0.1
CNB Canberra Magne 64.50 131 *e*P P 20 44 14.2 -0.5
comp=Z,47nm,1.2s,mb5.4
CNB *e*pP pP 20 44 24.0 -0.7
LEF Lefka 64.57 308 P P 20 44 15.1 -0.1
CORM Corum 64.74 313 P P 20 44 15.6 -0.6
CDAG Cicekdag 64.75 313 *i* P P 20 44 14.9 -1.3
ALFC Alevga 64.81 308⇓P P 20 44 16.3 -0.4
comp=Z,2.2nm,0.8s
ALFC Alevga 64.81 308⇓*e*P P 20 44 16.3 -0.4
YAK Yakutsk 64.91 18⇓*i*P P 20 44 15.8 -1.1
YAK *e**PP pP 20 44 26.1 -0.8
YAK *e**SP sP 20 44 30.2 -0.3
YAK pmax pmax
comp=Z,383nm,0.9s,mb6.4
YAK Yakutsk 64.91 18⇓*i*P P 20 44 15.8 -1.1
comp=Z,382nm,0.9s,mb6.4
YAK *e*pP pP 20 44 26.1 -0.8
YAK *e*sP sP 20 44 30.2 -0.3
BYBT Boyabat 65.06 315 P P 20 44 17.1 -1.2
KAMT Kaman 65.15 312 *e*P P 20 44 17.5 -1.4
BRTR Keskin Array B 65.32 313 P P 20 44 18.9 -1.1
comp=Z,41nm,0.8s,mb5.5,baz=129,slow=7.3,SNR=158
BRTR pP pP 20 44 29.1 -0.9
comp=Z,16nm,0.8s,baz=135,slow=7.0,SNR=8.4
HDMB Hadim 65.38 310 P P 20 44 19.7 -0.7
TOS Tosya 65.45 314 P P 20 44 19.9 -0.9
CANT Cankiri 65.61 314 P P 20 44 21.2 -0.6
KONT Konya--Tatoy 65.75 311 P P 20 44 22.3 -0.4
BZK Bozkurt 65.77 315 P P 20 44 22.0 -0.7
ANTO Ankara 65.98 313 P P 20 44 22.9 -1.3
LOD Lodumlu 66.01 313 P P 20 44 23.5 -0.8
BALT Daday 66.07 315 *i* P P 20 44 22.6 -2.1
PECR Pechory 66.25 332α*i*P P 20 44 23.6 -2.0
PECR pmax pmax
comp=Z,1μm,1.6s,mb6.7
PECR pmax pmax
comp=Z,500nm,4.0s
PECR MLR MLR
comp=Z,1μm,14.0s,MS5.2
KIZT Kizilcal 66.37 311 P P 20 44 25.3 -1.4
VOR Voronezh 66.38 327 *e*P P 20 44 24.0 -2.5
VOR *e* 20 44 34.0
VOR *e* 20 44 41.0
VOR 20 46 48.0
VOR pmax pmax
comp=N,90nm,1.4s
VOR pmax pmax
comp=E,170nm,1.4s
VOR pmax pmax
comp=Z,220nm,1.4s,mb6.0
VOR pmax pmax
comp=N,50nm,2.0s
VOR pmax pmax
comp=E,70nm,2.0s
VOR pmax pmax
comp=Z,70nm,2.0s,mb5.3
TAU Tasmania Unive 66.41 140 P P 20 44 27.1 +0.2
TAU pmax pmax
comp=Z,110nm,1.4s,mb5.7
TAU Tasmania Unive 66.41 140 *e*P P 20 44 26.7 -0.2
comp=Z,107nm,1.4s,mb5.7
TAU *e*pP pP 20 44 36.4 -0.5
SAFT Safranbolu 66.47 314 P P 20 44 26.6 -0.7
SIM Simferopol' 66.71 318*de*P P 20 44 27.8 -0.9
SIM pmax pmax
comp=Z,221nm,0.8s,mb6.2
SGKT Sivrigoynuk 66.73 313 *i* P P 20 44 27.4 -1.5
ANTB Antalya 66.78 309 P P 20 44 33.6 +4.3
LSZ Lusaka 67.13 252⇓*i*P P 20 44 31.4 -0.5
LSZ pmax pmax
comp=Z,85nm,1.4s,mb5.6
LSZ MLR MLR
comp=Z,2μm,22.0s,MS5.2
LSZ Lusaka 67.13 252⇓*i*P P 20 44 31.4 -0.5
comp=Z,85nm,1.4s,mb5.6
LSZ LR LR
comp=Z,2μm,22.0s,MS5.2
ISP Isparta 67.13 310 P P 20 44 29.7 -1.8
ISP Isparta 67.13 310 *e*P P 20 44 32.0 +0.4
ISP Isparta 67.13 310⇓*e*P P 20 44 30.4 -1.2
HNR Honiara 67.25 101 *e*P P 20 44 32.2 -0.5
HNR pmax pmax
comp=Z,280nm,1.0s,mb6.2
HNR Honiara 67.25 101 P P 20 44 32.1 -0.6
comp=Z,101nm,0.7s,mb5.9,baz=215,slow=3.6,SNR=11
HNR Honiara 67.25 101 *e*P P 20 44 31.4 -1.3
comp=Z,284nm,0.9s,mb6.3
HNR *e*pP pP 20 44 42.2 -0.4
ESKT Eskisehir 67.32 312 P P 20 44 31.9 -0.8
ELL Elmali 67.32 309 P P 20 44 32.6 -0.2
AKAS Kas 67.44 308 *i* P P 20 44 32.2 -1.3
ALT Altintas 67.75 311 P P 20 44 34.7 -0.7
DALT Dalyan (Mudla) 68.32 308 *e*P P 20 44 38.3 -0.7
HRT Hereke 68.54 313 *e*P P 20 44 38.7 -1.7
YLV Yalova 68.69 313 P P 20 44 39.7 -1.5
ISK Istanbul-Kandi 69.05 313 *e*P P 20 44 42.2 -1.3
MOS Moscow 69.07 330κ*i*P P 20 44 41.8 -1.5
MOS *e* 20 45 04.9
MOS *e* 20 47 14.6
MOS pmax pmax
comp=Z,700nm,1.9s,mb6.3
MOS pmax pmax
comp=Z,359nm,1.5s,mb6.1
MIR Mirnyy 69.25 180 *e*P P 20 44 43.0 -1.2
MIR *i* 20 44 54.0
MIR pmax pmax
comp=Z,70nm,1.8s,mb5.3
OBN Obninsk 69.32 329κ*i*P P 20 44 43.1 -1.7
OBN *i* *PP pP 20 44 52.8 -2.0
OBN *i* 20 45 07.3
OBN 20 47 16.0
OBN *e*S S 20 53 48.3 +0.6
OBN pmax pmax
comp=Z,237nm,1.7s,mb5.8
OBN Obninsk 69.32 329⇓*i*P P 20 44 43.0 -1.8
comp=Z,196nm,1.3s,mb5.9
OBN *e*pP pP 20 44 53.0 -1.9
IZM Izmir 69.75 310 *e*P P 20 44 47.2 -0.6
BLCB Balcova 69.92 310 P P 20 44 48.5 -0.3
CASY Casey 70.06 173⇓*i*P P 20 44 48.8 -0.3
CASY *e*pP pP 20 44 58.8 -0.3
CASY Casey 70.06 173 *e*P P 20 44 48.6 -0.6
comp=Z,46nm,0.9s,mb5.4
CASY *e*pP pP 20 44 58.8 -0.3
CANB Canakkale 70.27 312 *e*P P 20 44 54.3 +3.4
PSN Preselentsi 70.37 316 P P 20 44 51.0 -0.4
TIRR Tirgusor 70.42 316 ⇓P P 20 44 51.7 0.0
SANT Santorini 70.74 308⇓*i*P P 20 44 52.5 -1.3
comp=Z,232nm,1.3s,mb6.0
PRD Provadia 70.79 315 P P 20 44 53.8 -0.2
HARR Harsova 70.81 317⇑P P 20 44 54.0 -0.1
KIS Kishinev 70.86 319α*i*P P 20 44 51.0 -3.4
KIS *e* 20 45 08.0
KIS *e* 20 54 50.0
KIS pmax pmax
comp=Z,400nm,1.0s,mb6.3
KIS pmax pmax
comp=Z,1μm,3.0s
KIS MLR MLR
comp=Z,2μm,15.0s,MS5.6
KIS MLR MLR
comp=N,2μm,16.0s
KIS MLR MLR
comp=Z,2μm,16.0s
EDRB Edirne 70.93 313 *e*P P 20 44 52.4 -2.5
LBTB Lobatse 71.39 243 P P 20 44 57.5 -0.5
LBTB Lobatse 71.39 243 *e*P P 20 44 57.6 -0.3
LBTB pmax pmax
comp=Z,55nm,0.9s,mb5.5
LBTB Lobatse 71.39 243⇓*e*P P 20 44 57.5 -0.5
comp=Z,55nm,0.9s,mb5.5
MA2 Magadan 71.46 27*de*P P 20 44 57.7 -0.1
MA2 *e*S S 20 54 14.7 +2.0
MA2 *e*PS PS 20 54 50.7 +4.8
MA2 pmax pmax
comp=Z,40nm,0.9s,mb5.3
MA2 pmax pmax
comp=E,30nm,1.3s
MA2 MLR MLR
comp=Z,2μm,21.0s,MS5.4
MA2 Magadan 71.46 27⇓*i*P P 20 44 57.6 -0.2
comp=Z,37nm,0.8s,mb5.4
MA2 *e*pP pP 20 45 07.0 -0.8
GVD Gavdhos 71.56 306⇓*i*P P 20 44 58.1 -0.7
comp=Z,298nm,1.4s,mb6.0
GVD *e*pP pP 20 45 07.5 -1.4
AKASG Malin Array Be 71.74 323 P P 20 44 58.0 -1.6
comp=Z,58nm,0.8s,mb5.6,baz=90,slow=4.5,SNR=197
AKASG PP PP 20 47 34.7 -5.9
comp=Z,6.0nm,0.9s,baz=102,slow=6.6,SNR=4.7
AKASG Malin Array Be 71.74 323 P P 20 44 58.0 -1.6
AKASG PP PP 20 47 34.7 -5.9
IAS Iasi 71.74 319 P P 20 44 59.0 -0.7
SZH Strazhica 71.85 315 *e*P P 20 45 00.0 -0.4
KDZ Kurdzhali 71.85 313 *e*P P 20 45 00.0 -0.4
DIM Dimitrovgrad 71.86 313 *e*P P 20 45 00.0 -0.4
VRI Vrincioaia 71.94 317 ⇓P P 20 45 01.6 +0.7
BUC1 Bucharest 72.04 316 P P 20 45 01.8 +0.3
PVL Pavlikeni 72.26 315 *e*P P 20 45 03.0 +0.2
RZN Rozhen 72.37 313 P P 20 45 03.0 -0.5
MLR Muntele Rosu 72.38 317 P P 20 45 03.5 0.0
MLR Muntele Rosu 72.38 317 ⇓P P 20 45 03.3 -0.1
MLR Muntele Rosu 72.38 317 ⇓P P 20 45 03.3 -0.2
PLD Plovdiv 72.47 313 *e*P P 20 45 03.4 -0.7
BOSA Boshof 72.48 239 P P 20 45 03.7 -0.7
BOSA pmax pmax
comp=Z,30nm,0.9s,mb5.2
BOSA Boshof 72.48 239 P P 20 45 03.5 -0.9
comp=Z,30nm,0.8s,mb5.2,baz=88,slow=6.7,SNR=27
BOSA pP pP 20 45 13.6 -0.9
comp=Z,12nm,0.7s,baz=119,slow=5.9,SNR=6.0
BOSA LR LR 21 14 39.5
comp=Z,1μm,18.5s,MS5.2,baz=68,slow=34
BOSA Boshof 72.48 239⇓*i*P P 20 45 03.5 -0.9
comp=Z,30nm,0.9s,mb5.2
BOSA *e*pP pP 20 45 13.3 -1.2
PET Petropavlovsk 72.93 35 *e*P P 20 45 15.8 +9.2
PET *e* 20 54 36.4
PET MLR MLR
comp=Z,900nm,18.0s,MS5.1
PET Petropavlovsk 72.93 35 *e*P P 20 45 04.5 -2.1
comp=Z,49nm,1.3s,mb5.3
PGB Panagyurishte 72.95 314 P P 20 45 06.0 -1.0
VOIR 72.97 317⇑P P 20 45 05.9 -1.1
MMB Musomiste 73.08 313 P P 20 45 06.0 -1.7
BURAR Bucovina Array 73.39 319 ⇓P P 20 45 10.3 +0.9
BURAR Bucovina Array 73.39 319 ⇓P P 20 45 10.3 +0.9
MAW Mawson 73.54 192⇓*i*P P 20 45 09.9 0.0
comp=Z,13nm,0.9s,mb4.9
MAW *i* pP pP 20 45 19.9 0.0
MAW Mawson 73.54 192 P P 20 45 10.2 +0.3
MAW *PP pP 20 45 20.4 +0.5
MAW pmax pmax
comp=Z,16nm,0.9s
MAW pmax pmax
comp=Z,15nm,0.8s
MAW MLR MLR
comp=Z,400nm,18.1s
MAW Mawson 73.54 192 P P 20 45 10.2 +0.3
comp=Z,16nm,0.9s,mb4.9,baz=23,slow=6.0,SNR=19
MAW pP pP 20 45 20.4 +0.5
comp=Z,15nm,0.8s,baz=12,slow=7.5,SNR=9.9
MAW LR LR 21 14 06.5
comp=Z,400nm,18.1s,MS4.7,baz=29,slow=33
CRAR CRAIOVA 73.59 315 P P 20 45 10.9 +0.3
VTS Vitosha 73.66 314 P P 20 45 10.4 -0.6
VTS Vitosha 73.66 314 P P 20 45 10.0 -1.0
SEY Seymchan 73.70 24 *i* P P 20 45 10.5 -0.4
SEY Seymchan 73.70 24 *i* P P 20 45 10.5 -0.4
MNK Minsk 73.75 326 *e*P P 20 45 04.0 -7.3
ZAPS Zavoj/Pirot 74.22 314⇓*i*P P 20 45 13.2 -1.1

PUL Pulkovo 74.32 332 *i* P P 20 45 13.9 -0.6
DJES Djerdap 74.55 316 P P 20 45 15.5 -0.7
SKO Skopje 74.83 313 *e*Pn P 20 45 16.0 -1.9
DRGR 74.86 318 ⇑P P 20 45 18.1 +0.2
NOUC Port Laguerre 75.15 114 *e*P P 20 45 20.4 +0.3
DZM Mont Dzumac 75.28 114 *e*P P 20 45 21.8 +1.0
SVIS Svilajnac 75.40 315⇑*i*P P 20 45 20.0 -1.0
KWP Kalwaria 75.48 321⇓*e*P P 20 45 21.5 +0.1
KWP Kalwaria 75.48 321⇓*e*P P 20 45 21.5 +0.1
VSU Vasula 75.60 330 *i* P P 20 45 20.9 -1.0
VSU Vasula 75.60 330 *i* P P 20 45 20.9 -1.0
KOLS Kolonicke sedl 75.61 320 *i* P P 20 45 22.5 +0.4
KOLS *e* 20 45 29.6
PVY Plav 76.01 313⇓*i*P P 20 45 23.1 -1.4
BEO Belgrade 76.03 315⇑*i*P P 20 45 23.6 -1.0
LVZ Lovozero 76.05 340 *e*P P 20 45 23.1 -1.2
LVZ pmax pmax
comp=Z,67nm,0.8s,mb5.6
IVA Berane 76.11 313⇓*i*P P 20 45 23.4 -1.7
CRVS Cervenica-Dubn 76.12 320 *e*P P 20 45 25.8 +0.7
SUW Suwalki 76.23 325⇓*e*P P 20 45 24.6 -1.0
SUW Suwalki 76.23 325⇓*e*P P 20 45 24.6 -1.0
DIVS Divcibare 76.24 315⇑*i*P P 20 45 24.9 -0.9
APA Apatity 76.32 340⇓*i*P P 20 45 25.2 -0.6
APA pmax pmax
comp=Z,80nm,0.8s,mb5.7
APA MLR MLR
comp=Z,2µm,17.0s,MS5.5
ULC Ulcinj 76.44 312⇓*i*P P 20 45 25.7 -1.3
TTG Podgorica 76.50 313⇓*i*P P 20 45 26.2 -1.1
PLE Pljevlja 76.54 314⇓*i*P P 20 45 25.7 -1.8
KECS Kecovo 76.68 319 *i* P P 20 45 28.2 0.0
BUM Brajici-Budva 76.75 313⇓*i*P P 20 45 27.6 -1.1
NKY Niksic 76.75 313⇓*i*P P 20 45 27.7 -1.0
PKSN Nyarlorinc 76.80 317⇓*e*P P 20 45 29.0 +0.1
FINES FINESS Array B 76.86 333 P P 20 45 28.0 -0.9
comp=Z,35nm,0.8s,mb5.3,baz=117,slow=8.5,SNR=111
FINES pP pP 20 45 38.8 -0.3
comp=Z,8.1nm,0.8s,baz=109,slow=4.1,SNR=4.9
FINES FINESS Array B 76.86 333 P P 20 45 28.0 -0.9
FINES pP pP 20 45 38.8 -0.3
UPM Unac-Piva 76.87 314⇓*i*P P 20 45 27.9 -1.5
PKS6 Bocsa 76.95 317 *e*P P 20 45 29.6 -0.1
PSZ Piszkesteto 76.96 319 P P 20 45 29.9 +0.1
PSZ Piszkesteto 76.96 319⇓*e*P P 20 45 29.5 -0.3
PSZ Piszkesteto 76.96 319⇓*e* P 20 45 29.5 -0.3
KAF Kangasniemi 76.98 334 *ep* P 20 45 27.3 -2.3
comp=Z,94nm,1.0s,mb5.7,baz=106,slow=5.3
KAF Kangasniemi 76.98 334 *e*P P 20 45 27.3 -2.3
KAF pmax pmax
comp=Z,94nm,1.0s,mb5.7
SUR Sutherland 77.05 236 *e*P P 20 45 30.3 -0.3
comp=Z,43nm,0.9s,mb5.4
SUR *ep*P pP 20 45 40.9 +0.2
HCY Herceg Novi 77.06 313⇓*i*P P 20 45 29.3 -1.2
BRY Bratogost 77.09 313⇓*i*P P 20 45 29.8 -0.8
OJC Ojcow 77.44 321⇓*i*P P 20 45 32.5 +0.1
OJC Ojcow 77.44 321⇓*i*P P 20 45 32.5 +0.1
BUD Budapest 77.47 318⇓*e*P P 20 45 32.3 -0.3
BUD Budapest 77.47 318⇓*e* P 20 45 32.3 -0.3
LIKS Likavka 77.68 320 *e*P P 20 45 33.7 0.0
TSUM Tsumeb 77.73 250⇓*i*P P 20 45 34.6 0.0
comp=Z,19nm,0.9s,mb5.0
TSUM LR LR
comp=Z,1µm,20.0s,MS5.2
VYHS Vyhne 77.76 319 *i* P P 20 45 34.2 +0.1
PKS9 Tamasi 77.83 317⇓*e*P P 20 45 34.5 0.0
PKSG 77.88 318⇓*e*P P 20 45 34.8 0.0
SRO2 Moca 77.93 318 *e*P P 20 45 35.5 +0.4
TIP Timpagrande 77.97 309⇓*i*P P 20 45 35.4 -0.1
SRO Srobarova 77.99 318 *e*P P 20 45 35.7 +0.3
SRO1 Iza 78.04 318 *e*P P 20 45 36.2 +0.5
SRO1 *ep*P pP 20 45 46.6 +0.7
KOLL Kolacno 78.06 319 *i* P P 20 45 35.7 -0.1
OKC Ostrava-Krasne 78.43 320⇓*i*P P 20 45 38.0 +0.2
OKC AMS AMS 21 21 10.0
comp=Z,2µm,15.4s
RAC Raciborz 78.44 320 *e*P P 20 45 38.8 +1.0
RAC MLR MLR 21 20 10.2
comp=Z,1µm,17.1s,MS5.3
SMOL Smolenice 78.69 319 *i* P P 20 45 39.1 -0.1
MORC Moravsky Berou 78.80 320 P P 20 45 40.2 +0.3
MORC pmax pmax
comp=Z,110nm,1.1s,mb5.7
MORC Moravsky Berou 78.80 320 P P 20 45 40.3 +0.5
MORC Moravsky Berou 78.80 320⇓*i*P P 20 45 40.0 +0.1
comp=Z,106nm,1.1s,mb5.7
MORC *ep*P pP 20 45 50.1 +0.1
MORC *es*P sP 20 45 55.3 +1.8
ZST Bratislava 78.85 318 *i* P P 20 45 40.6 +0.4
ZST *e*L 21 22 21.4
SOP Sopron 79.14 318⇓*e*P P 20 45 41.9 +0.1
VRAC Vranov 79.35 320 P P 20 45 43.1 +0.3
KEV Kevo 79.35 341 *ep* P 20 45 41.4 -1.0
comp=Z,58nm,1.0s,mb5.5
KEV Kevo 79.35 341 *e*P P 20 45 41.4 -1.0
KEV pmax pmax
comp=Z,58nm,1.0s,mb5.5
VKA Vienna 79.38 318⇓*i*P P 20 45 43.4 +0.4
comp=Z,840nm,2.5s,mb6.2
VKA Vienna 79.38 318⇓*i*P P 20 45 43.4 +0.4
VKA pmax pmax
comp=Z,840nm,2.5s,mb6.2
GKP Gorka Klasztor 79.55 324⇓*e*P P 20 45 43.5 -0.3
GKP Gorka Klasztor 79.55 324⇓*e*P P 20 45 43.5 -0.3
DPC Dobruska-Polom 79.67 321⇓*i*P P 20 45 45.4 +0.9
DPC AMS AMS 21 22 30.0
comp=Z,2µm,14.0s
KSP Ksiaz 79.75 321⇓*i*P P 20 45 45.5 +0.5
KSP *ep*P pP 20 45 54.5 -0.7
KSP LR LR
comp=Z,4µm,15.3s,MS5.8
KSP Ksiaz 79.75 321⇓*e*P P 20 45 45.5 +0.5
ARCES ARCESS Array B 79.77 341 P P 20 45 44.6 -0.1
comp=Z,58nm,0.9s,mb5.5,baz=117,slow=5.4,SNR=56
ARCES pP pP 20 45 55.4 +0.5
comp=Z,15nm,0.8s,baz=101,slow=6.2,SNR=4.5
ARCES LR LR 21 26 29.8
comp=Z,902nm,19.0s,MS5.1,baz=342,slow=40
BOJS Bojanci 79.77 316⇓*i*P P 20 45 45.1 -0.1
BOJS *e* 20 45 55.0
LEGS Legarje 79.78 316⇓*i*P P 20 45 45.2 0.0
ARSA Arzberg 79.79 317⇑*i*P P 20 45 45.7 +0.5
comp=Z,439nm,1.4s,mb6.2
UPC Upice 79.88 321⇓*i*P P 20 45 46.2 +0.5
BISS Bistriski jare 79.99 317⇓*i*P P 20 45 46.6 +0.3
CII Carovilli 80.08 312 *e*P P 20 45 45.7 -1.3
comp=Z,28nm,1.1s,mb5.1
LJU Ljubljana 80.33 316⇓*e*P P 20 45 48.5 +0.3
LJU *e* 20 45 58.4
LJU *e* 20 48 55.0
LJU Ljubljana 80.33 316⇓*e*P P 20 45 48.5 +0.3
LJU *e* 20 45 58.4
LJU *e* 20 48 33.7
LJU *e* 20 48 55.0
OBKA Obir 80.37 317⇑*i*P P 20 45 48.7 +0.4
comp=Z,428nm,1.8s,mb6.1
SYO Syowa Base 80.48 197 ⇑P P 20 45 47.7 -0.8
SYO Syowa Base 80.48 197 ⇑PcP PcP 20 45 53.2 -2.5
MOA Molln 80.70 318⇑*i*P P 20 45 50.0 -0.1
comp=Z,214nm,2.0s,mb5.7
PRU Pruhonice 80.75 320⇓*i*P P 20 45 50.7 +0.4
PRU AMS AMS 21 22 50.0
comp=Z,2µm,14.7s
VOY Vojsko 80.77 316 *e*P P 20 45 50.2 -0.3
VOY *e* 20 46 04.6
VOY *e* 20 46 15.9
PVCC Panska Ves 80.80 321⇓*i*P P 20 45 51.1 +0.6
PVCC AMS AMS 21 21 10.0
comp=Z,2µm,16.2s
AQU L'Aquila 80.81 312 P P 20 45 50.9 +0.1
AQU pmax pmax
comp=Z,300nm,1.4s,mb6.0
AQU L'Aquila 80.81 312⇓*i*P P 20 45 50.8 +0.1
comp=Z,301nm,1.4s,mb6.0
BILL Bilibino 80.93 21*d*⇓*i*P P 20 45 50.7 -0.2
BILL *e* 20 46 00.6
BILL *e* 20 48 53.9
BILL pmax pmax
comp=Z,92nm,2.0s,mb5.4
BILL MLR MLR
comp=Z,2µm,16.0s,MS5.5
BILL Bilibino 80.93 21⇓*i*P P 20 45 50.6 -0.3
comp=Z,85nm,1.5s,mb5.5
ROBS Robic 81.06 316⇓*e*P P 20 45 51.8 -0.2
BSD Bornholm Skovb 81.17 325⇓*i*P P 20 45 51.7 -0.7
BSD pmax pmax
comp=Z,125nm,0.8s,mb5.9
BSD Bornholm Skovb 81.17 325⇓*i*P P 20 45 51.7 -0.7
comp=Z,125nm,0.8s,mb5.9
GEC2 GERESS Array S 81.18 319 *e*P P 20 45 53.3 +0.7
GEC2 pmax pmax
comp=Z,245nm,1.1s,mb6.0
GEC2 GERESS Array S 81.18 319 *e*P P 20 45 53.3 +0.7
comp=Z,245nm,1.1s,mb6.0
GERES GERESS Array B 81.18 319 P P 20 45 53.1 +0.6
comp=Z,95nm,0.8s,mb5.8,baz=90,slow=5.3,SNR=164
GERES pP pP 20 46 03.5 +0.7
comp=Z,36nm,0.8s,baz=90,slow=5.3,SNR=10
GERES PKKP PKKP 21 04 19.2 +9.2
comp=Z,0.7nm,0.3s,baz=307,slow=6.7,SNR=4.0
BRG Berggiesshubel 81.23 321⇑*i*P P 20 45 53.1 +0.3
BRG pmax pmax
comp=Z,139nm,1.1s,mb5.8
BRG *i* 20 46 42.1
BRG LR LR
comp=Z,2µm,16.0s,MS5.6
KBA Koelnbreinsper 81.25 317⇑*i*P P 20 45 52.8 -0.2
comp=Z,167nm,1.7s,mb5.7
KBA Koelnbreinsper 81.25 317⇑*i*P P 20 45 52.8 -0.2
KBA pmax pmax
comp=Z,167nm,1.7s,mb5.7
KHC Kasperske Hory 81.29 319⇓*i*P P 20 45 53.4 +0.3
KHC *ep*P pP 20 46 03.0 -0.4
KHC AMS AMS 21 25 20.0
comp=Z,2µm,14.0s
FX1 Attu Island--F 81.45 37 P P 20 45 54.7 +0.8
FX1 pmax pmax
comp=Z,29nm,0.7s
FX1 Attu Island--F 81.45 37 P P 20 45 54.7 +0.9
comp=Z,29nm,0.7s,mb5.3,baz=4.0,slow=15,SNR=5.1
RUE Ruedersdorf 81.51 323⇓*i*P P 20 45 54.3 +0.1
comp=Z,227nm,1.0s,mb6.1
RUE *ep*P pP 20 46 04.2 -0.3
WET Wettzell 81.75 319 *e*P P 20 45 56.1 +0.6
WET pmax pmax
comp=Z,107nm,1.1s,mb5.7
WET Wettzell 81.75 319 *e*P P 20 45 56.1 +0.6
comp=Z,107nm,1.1s,mb5.7
CLL Collm 81.87 321⇓*i*P P 20 45 56.0 -0.1
CLL *e**PP pP 20 46 06.0 -0.3
CLL pmax pmax
comp=Z,97nm,1.1s,mb5.7
CLL Collm 81.87 321⇓*i*P P 20 45 56.0 -0.1
comp=Z,97nm,1.1s,mb5.7
CLL *ep*P pP 20 46 06.0 -0.3
CLL Collm 81.87 321 ⇓P P 20 45 56.0 -0.1
comp=Z,logA/T=1.9,mb5.6
CLL *e**PP pP 20 46 06.0 -0.3
TRO Tromso 82.00 340 *e*P P 20 45 54.6 -1.9
TRO AMb AMB 20 45 58.0
comp=Z,87nm,1.6s,mb5.4
WTTA Wattenberg 82.42 317⇑*i*P P 20 45 58.9 -0.2
comp=Z,249nm,1.3s,mb6.0
WTTA Wattenberg 82.42 317⇑*i*P P 20 45 58.9 -0.2
WTTA pmax pmax
comp=Z,249nm,1.3s,mb6.0
WATA Walderalm 82.47 317⇑*i*P P 20 45 59.0 -0.3
comp=Z,88nm,1.1s,mb5.6
WATA Walderalm 82.47 317⇑*i*P P 20 45 59.0 -0.3
WATA pmax pmax
comp=Z,88nm,1.1s,mb5.6
COP Copenhagen 82.64 326⇓*i*P P 20 46 00.3 +0.3
COP pmax pmax
comp=Z,73nm,1.0s,mb5.7
COP Copenhagen 82.64 326⇓*i*P P 20 46 00.3 +0.3
comp=Z,73nm,1.0s,mb5.7
MOX Moxa 82.69 321⇑*i*P P 20 46 00.6 +0.3
MOX *e* 20 46 10.8
MOX pmax pmax
comp=Z,131nm,1.5s,mb5.7
MOX MLR MLR
comp=Z,2µm,14.0s,MS5.6
MOX Moxa 82.69 321⇑*i*P P 20 46 00.6 +0.3
comp=Z,131nm,1.5s,mb5.7
MOX *e* 20 46 10.8
MOX LR LR
comp=Z,2µm,14.0s,MS5.6
MOX Moxa 82.69 321⇑*i*P P 20 46 00.6 +0.3
comp=Z,logA/T=1.9,mb5.7
MOX pP pP 20 46 11.0 +0.4
MOX L 21 24 48.0
SQTA Sankt Quirin 82.71 317⇑*i*P P 20 46 00.5 -0.1
comp=Z,80nm,1.0s,mb5.7
SQTA Sankt Quirin 82.71 317⇑*i*P P 20 46 00.5 -0.1
SQTA pmax pmax
comp=Z,81nm,1.0s,mb5.7
FUR Furstenfeldbru 82.73 318 *e*P P 20 46 00.7 +0.1
FUR pmax pmax
comp=Z,276nm,1.8s,mb6.0
FUR Furstenfeldbru 82.73 318 *e*P P 20 46 00.7 +0.1
comp=Z,276nm,1.8s,mb6.0
MOTA Moosalm 82.79 317⇑*i*P P 20 46 00.7 -0.3
comp=Z,116nm,1.0s,mb5.9
MOTA Moosalm 82.79 317⇑*i*P P 20 46 00.7 -0.3
MOTA pmax pmax
comp=Z,116nm,1.0s,mb5.9
GRA1 Grafenberg Arr 82.87 320 *e*P P 20 46 02.2 +0.9
comp=Z,178nm,1.1s,mb6.0
GRA1 *ep*P pP 20 46 12.1 +0.5
GRF Grafenberg Arr 82.87 320 *e*P P 20 46 02.2 +0.9
GRF *e**PP pP 20 46 12.1 +0.5
GRF pmax pmax
comp=Z,178nm,1.1s,mb6.0
GRF Grafenberg Arr 82.87 320 *e*P P 20 46 02.2 +0.9
GRF *e**PP pP 20 46 12.1 +0.5
GRF pmax pmax
comp=Z,178nm,1.1s,mb6.0
GRF Grafenberg Arr 82.87 320 *e*P P 20 46 02.2 +0.9
comp=Z,178nm,1.1s,mb6.0
GRF *ep*P pP 20 46 12.1 +0.5
VLC Villacollemand 83.12 314 *e*P P 20 46 02.4 -0.3
comp=Z,30nm,1.0s,mb5.3
FUORN Ofenpass 83.32 316⇓*i*P P 20 46 04.5 +0.8
HDH Heidenheim 83.47 318⇓*e*P P 20 46 04.1 -0.3
BERNI Berninapass 83.48 316⇓*i*P P 20 46 05.5 +1.0
UBR Uberruh 83.48 317⇓*e*P P 20 46 04.5 0.0
CLZ Clausthal 83.55 322 *e*P P 20 46 05.2 +0.4
CLZ pmax pmax
comp=Z,127nm,1.1s,mb6.0
CLZ Clausthal 83.55 322 *e*P P 20 46 05.2 +0.4
comp=Z,127nm,1.1s,mb6.0
DAVOS Davos 83.60 317⇓*i*P P 20 46 06.0 +0.9
DAVA Damuels 83.62 317⇑*i*P P 20 46 05.7 +0.5
comp=Z,310nm,1.3s,mb6.3
VSL Villasalto 83.70 309⇓*i*P P 20 46 05.5 -0.3
comp=Z,85nm,1.1s,mb5.8
BSEG Bad Segeberg 83.72 324 *e*P P 20 46 06.1 +0.5
NB2 NORSAR Subarra 83.80 331 P P 20 46 05.3 -0.5
comp=Z,65nm,1.0s,mb5.7,baz=98,slow=5.0
NB2 NORSAR Subarra 83.80 331 P P 20 46 05.3 -0.5
NB2 pmax pmax
comp=Z,65nm,1.0s,mb5.7
NB2 NORSAR Subarra 83.80 331 P P 20 46 05.3 -0.5
baz=98,slow=5.3
NOA NORSAR Array B 83.80 331 P P 20 46 05.2 -0.7
comp=Z,34nm,0.9s,mb5.5,baz=94,slow=5.5,SNR=96
NOA pP pP 20 46 15.9 -0.2
comp=Z,13nm,0.9s,baz=95,slow=5.4,SNR=6.7
NOA PP PP 20 49 14.6 -6.3
comp=Z,3.9nm,0.9s,baz=97,slow=7.7,SNR=4.6
NSS Namsos 83.81 335 *e*P P 20 46 04.2 -1.6
NSS AMb AMB 20 46 05.8
comp=Z,112nm,2.8s,mb5.5
VDL Val di Lei 83.86 316⇓*i*P P 20 46 06.7 +0.2
LIENZ Alp Oberkamor 83.88 317⇓*i*P P 20 46 07.0 +0.4
NAO01 NORSAR Array S 83.94 331⇓*i*P P 20 46 05.7 -0.8
comp=Z,45nm,0.9s,mb5.6
PLONS Plons 83.95 317⇓*i*P P 20 46 07.4 +0.5
PGF Pioggiola 84.07 312 *e*P P 20 46 07.8 +0.2
comp=Z,211nm,1.3s,mb5.8
PGF Pioggiola 84.07 312 *e*P P 20 46 07.8 +0.2
PGF pmax pmax
comp=Z,106nm,1.3s,mb5.8
STU Stuttgart 84.14 319 P P 20 46 08.0 +0.1
STU pmax pmax
comp=Z,27nm,1.0s,mb5.3
STU Stuttgart 84.14 319 *e*P P 20 46 07.7 -0.1
comp=Z,27nm,0.9s,mb5.4
GUT Gutenstein 84.17 318⇓*e*P P 20 46 08.0 0.0
LLS Linth-Limmern 84.20 317⇓*i*P P 20 46 08.5 +0.3
WEIN Weingarten 84.24 317⇓*i*P P 20 46 08.4 0.0
WILA Wila 84.28 317⇓*i*P P 20 46 08.9 +0.3
STEIN Stein am Rhein 84.32 317⇓*i*P P 20 46 08.9 +0.1
SPAK Spaichingen 84.39 318 *e*P P 20 46 09.5 +0.4
SPAK Spaichingen 84.39 318⇓*e*P P 20 46 09.3 +0.2
LBG Lerchenberg 84.41 318⇓*e*P P 20 46 09.2 0.0
FUSIO Fusio 84.42 316⇓*i*P P 20 46 09.2 -0.1
TOD Tromm 84.43 319 *e*P P 20 46 09.3 0.0
TOD Tromm 84.43 319⇓*e*P P 20 46 09.5 +0.2
MUO Muotathal 84.45 317⇓*i*P P 20 46 10.1 +0.6
KONO Kongsberg 84.49 330 P P 20 46 09.3 0.0
KONO pmax pmax
comp=Z,120nm,1.2s,mb5.9
KONO Kongsberg 84.49 330⇓*i*P P 20 46 09.1 -0.2
comp=Z,123nm,1.3s,mb5.9
ZUR Zurich 84.50 317⇓*e*P P 20 46 09.6 -0.1
MUD Monsted U'grnd 84.52 326⇓*i*P P 20 46 10.2 +0.6
MUD pmax pmax
comp=Z,57nm,1.0s,mb5.7
MUD Monsted U'grnd 84.52 326⇓*i*P P 20 46 10.2 +0.6
comp=Z,57nm,1.0s,mb5.7
SLE Schleitheim 84.58 318⇓*i*P P 20 46 09.8 -0.3
BNALP Bannalp 84.60 317⇓*i*P P 20 46 10.5 +0.3
TNS Taunus Mts 84.69 320 *e*P P 20 46 11.1 +0.6
TNS pmax pmax
comp=Z,112nm,0.9s,mb6.0
TNS Taunus Mts 84.69 320 *e*P P 20 46 11.1 +0.6
comp=Z,112nm,0.9s,mb6.0
BFO Black Forest 84.70 318 *e*P P 20 46 10.6 -0.1
BFO pmax pmax
comp=Z,50nm,1.0s,mb5.6
BFO Black Forest 84.70 318 *e*P P 20 46 10.6 -0.1
comp=Z,50nm,1.0s,mb5.6
HASLI Hasliberg 84.78 317⇓*i*P P 20 46 11.4 +0.3
SULZ Sulz-Cheisache 84.83 317⇓*i*P P 20 46 11.1 -0.2
KTD Kalmit 84.89 319 *e*P P 20 46 12.1 +0.5
KTD Kalmit 84.89 319 *e*P P 20 46 11.8 +0.2
MMK Mattmark 84.89 316⇓*i*P P 20 46 11.9 +0.2
FELD Feldberg 84.91 318 *e*P P 20 46 11.6 -0.1
FELD Feldberg 84.91 318⇓*e*P P 20 46 11.7 0.0
KIZ Kirchzarten 84.97 318⇓*e*P P 20 46 12.0 0.0
LANF Langenberg 85.07 319 *e*P P 20 46 12.5 0.0
BALST Balsthal 85.11 317⇓*i*P P 20 46 12.7 0.0
LKBD Leukerbad 85.14 316⇓*i*P P 20 46 13.5 +0.6
WIMIS Wimmis 85.14 316⇓*i*P P 20 46 13.2 +0.3
SAOF Saorge 85.15 314 *e*P P 20 46 13.4 +0.4
ABSA Djebel Ababsia 85.16 306 P P 20 46 15.5 +2.2
LIBD Limburg 85.19 318 *e*P P 20 46 13.5 +0.4
LIBD Limburg 85.19 318 *e*P P 20 46 13.4 +0.3
CMAH Djebel Manchou 85.21 306 P P 20 46 15.0 +1.5
BBS Basel-Blauen 85.23 317 *e*P P 20 46 13.2 -0.1
BBS Basel-Blauen 85.23 317⇓*e*P P 20 46 13.3 0.0
SBF Sospel 85.24 314 *e*P P 20 46 13.6 +0.2
comp=Z,295nm,1.0s,mb6.1
SBF Sospel 85.24 314 *e*P P 20 46 13.6 +0.2
SBF pmax pmax
comp=Z,148nm,1.0s,mb6.1
AUTN L'Aution 85.24 314 *e*P P 20 46 14.1 +0.6
ABH Alteburg 85.26 320 *e*P P 20 46 13.5 +0.1
ABH Alteburg 85.26 320⇓*e*P P 20 46 13.9 +0.5
DIX Grande Dixence 85.28 316⇓*i*P P 20 46 14.7 +1.1
REVF Revere 85.28 313 *e*P P 20 46 13.8 +0.1
SENIN Lac Senin 85.36 316⇓*i*P P 20 46 14.6 +0.6
TOUF Mont Tournerai 85.37 314 *e*P P 20 46 15.0 +0.9
CDF Champ du Feu 85.41 318 *e*P P 20 46 13.8 -0.4
comp=Z,86nm,1.2s,mb5.5
CDF Champ du Feu 85.41 318 *e*P P 20 46 13.8 -0.4
CDF pmax pmax
comp=Z,43nm,1.2s,mb5.5
BOURR Bourrignon 85.42 317⇓*i*P P 20 46 14.1 -0.2
MVIF Mont Vial 85.44 314 *e*P P 20 46 15.0 +0.5
ECH Echery 85.48 318 *e*P P 20 46 14.4 -0.2
GRYON Gryon 85.49 316⇓*i*P P 20 46 15.2 +0.5
MOF Molkenrain 85.50 318 *e*P P 20 46 14.4 -0.2
RUP Ruppelstein 85.57 319 *e*P P 20 46 15.1 +0.2
RUP Ruppelstein 85.57 319⇓*e*P P 20 46 15.5 +0.6
SALAN Lac Salanfe 85.59 316⇓*i*P P 20 46 15.7 +0.6
KBS Kingsbay 85.60 349 *e*P P 20 46 14.6 +0.1
KBS *e* 20 46 23.8
KBS Kingsbay 85.60 349 *e*P P 20 46 14.1 -0.4
KBS *ep*P pP 20 46 23.6 -1.3
OG22 Abries 85.60 315 *e*P P 20 46 15.0 -0.2
AIGLE Aigle 85.60 316⇓*e*P P 20 46 15.1 -0.1
TORNY Torny 85.60 317⇓*i*P P 20 46 15.7 +0.5
CALN Calern 85.63 313 *e*P P 20 46 16.2 +0.8
EMV Vieux Emosson 85.64 316⇓*i*P P 20 46 16.0 +0.6
SURF Saint Ours 85.69 314 *e*P P 20 46 16.5 +0.8
LOMF Lomont 85.70 317 *e*P P 20 46 15.6 -0.1
MBDF Montbardon 85.72 314 *e*P P 20 46 15.4 -0.4
comp=Z,59nm,0.9s,mb5.5
MBDF Montbardon 85.72 314 *e*P P 20 46 15.4 -0.4
MBDF pmax pmax
comp=Z,29nm,0.9s,mb5.5
LPG La Plagne 85.74 315 *e*P P 20 46 16.3 +0.4
comp=Z,186nm,1.1s,mb5.9
LPG La Plagne 85.74 315 *e*P P 20 46 16.3 +0.4
LPG pmax pmax
comp=Z,93nm,1.1s,mb5.9
CKFL Kef-Lekhel 85.77 306 P P 20 46 18.0 +1.7
BNI Bardonecchia 85.79 315 P P 20 46 16.1 -0.1
BNI pmax pmax
comp=Z,43nm,1.0s,mb5.6
BNI Bardonecchia 85.79 315⇓*i*P P 20 46 15.8 -0.4
comp=Z,43nm,1.0s,mb5.6
OG01 Vacheresse 85.79 316 *e*P P 20 46 16.6 +0.5
RSL Roselend 85.83 315 *e*P P 20 46 16.6 +0.3
BRANT Les Verrieres 85.94 317⇓*i*P P 20 46 17.1 +0.2
BRANT Les Verrieres 85.94 317⇓*i*P P 20 46 17.0 +0.1
CASM Ain Smara 85.96 306 P P 20 46 19.0 +1.7
HAU Haudompre 86.02 318 *e*P P 20 46 17.0 -0.3
comp=Z,180nm,1.0s,mb5.9
HAU *e*R
comp=Z,642nm,20.8s
HAU Haudompre 86.02 318 *e*P P 20 46 17.0 -0.3
HAU pmax pmax
comp=Z,90nm,1.0s,mb6.0
HAU MLR MLR
comp=Z,640nm,20.8s,MS5.0
CTEI Djebel Teioual 86.03 306 P P 20 46 20.0 +2.4
GIMEL Gimel 86.08 316⇓*i*P P 20 46 18.0 +0.4
WLF Walferdange 86.16 319 P P 20 46 18.4 +0.5
WLF pmax pmax
comp=Z,100nm,1.3s,mb5.9
WLF Walferdange 86.16 319⇓*i*P P 20 46 18.2 +0.3
comp=Z,103nm,1.3s,mb5.9
WLF *ep*P pP 20 46 28.7 +0.5
GDM Grand'Maison 86.19 315 *e*P P 20 46 18.2 +0.1
TAVF Tavernes 86.23 313 *e*P P 20 46 19.4 +1.0
THEF They Montfort 86.27 318 *e*P P 20 46 18.4 -0.1
STOF St-Etienne Org 86.34 314 *e*P P 20 46 20.3 +1.4
GRN Grenoble 86.45 315 *e*P P 20 46 20.1 +0.7
DFRA Djebel Bou Aff 86.45 306 P P 20 46 22.0 +2.3
VILF Villemus 86.48 314 *e*P P 20 46 20.3 +0.7
PUYF Puyloubier 86.50 313 *e*P P 20 46 20.6 +0.9
BERF Bertagne 86.50 313 *e*P P 20 46 20.8 +1.0
OG05 Jujurieux 86.64 316 *e*P P 20 46 20.9 +0.6
GELF Grande-Etoile 86.70 313 *e*P P 20 46 21.5 +0.8
SET Setif 86.84 306 P P 20 46 24.0 +2.4
PRAF Pradon 86.88 314 *e*P P 20 46 22.4 +0.8
BAIF Baives 87.41 320 *e*P P 20 46 24.2 +0.2
comp=Z,124nm,1.0s,mb5.8
BAIF Baives 87.41 320 *e*P P 20 46 24.2 +0.2
BAIF pmax pmax
comp=Z,62nm,1.0s,mb5.8
AKF Akfadou 87.50 306 P P 20 46 27.0 +2.2
ATAF Djebel Tarf 87.76 306 P P 20 46 19.8 -6.2
COLF Collangettes 87.89 315 *e*P P 20 46 26.7 +0.3
SSF Saint Saulge 87.97 317 *e*P P 20 46 26.7 0.0
SSF pmax pmax
comp=Z,72nm,1.3s,mb5.7
SSF Saint Saulge 87.97 317 *e*P P 20 46 26.7 0.0
comp=Z,72nm,1.3s,mb5.7
AKET Djebel Ketaf 88.08 306 P P 20 46 29.8 +2.3
VNDA Vanda 88.17 168 P P 20 46 27.5 +0.4
VNDA Vanda 88.17 168 P P 20 46 28.0 +1.0
VNDA pmax pmax
comp=Z,13nm,0.9s

VNDA Vanda 88.17 168 P P 20 46 27.5 +0.5
comp=Z,9.9nm,1.1s,mb4.9,baz=302,slow=5.3,SNR=18
VNDA Vanda 88.17 168 ⇓iP P 20 46 27.3 +0.3
comp=Z,14nm,0.9s,mb5.2
ADJB Djebel Djouab 88.43 306 P P 20 46 30.0 +0.8
ABA Alger-Bouzarea 88.73 307 P P 20 46 27.0 -3.6
ETOS Mallorca 88.77 310 P P 20 46 31.6 +0.9
comp=Z,81nm,1.2s,mb5.9
EMHD Djebel Mahouad 88.82 306 P P 20 46 33.0 +1.9
FILF Fillols 88.83 312 eP P 20 46 32.0 +1.1
VALF Valcebollere 89.23 312 eP P 20 46 33.9 +1.0
SBA Scott Base 89.27 168 P P 20 46 33.8 +1.5
SBA pmax pmax
comp=Z,45nm,1.0s,mb5.8
SBA Scott Base 89.27 168 ⇓iP P 20 46 33.7 +1.4
comp=Z,45nm,1.0s,mb5.8
SBA epP pP 20 46 43.7 +1.1
LPEF Le Peyrat 89.28 313 eP P 20 46 33.6 +0.5
RJF Les Rejaudoux 89.43 315 eP P 20 46 34.4 +0.7
comp=Z,136nm,1.3s,mb5.8
RJF eR
comp=Z,602nm,21.0s
RJF Les Rejaudoux 89.43 315 eP P 20 46 34.4 +0.7
RJF pmax pmax
comp=Z,68nm,1.3s,mb5.8
RJF MLR MLR
comp=Z,600nm,21.0s,MS5.0
EMIR Miracle 89.63 312 P P 20 46 34.5 -0.2
comp=Z,104nm,1.1s,mb6.1
MLS Moulis 89.88 313 eP P 20 46 35.8 -0.1
EIBI Ibiza 89.94 309 P P 20 46 37.8 +1.5
comp=Z,107nm,1.2s,mb6.0
NVL N'lazarevskaya 89.95 199 ⇑iP P 20 46 36.4 +0.8
NVL i *PP pP 20 46 46.0 +0.1
NVL i *SP sP 20 46 49.7 +0.5
NVL i S S 20 57 21.2 -2.4
NVL i SP SP 20 58 56.1 +24
NVL i SS SS 21 03 21.9 -3.7
NVL pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
NVL MLR MLR
comp=Z,47nm,19.3s
EBNR Beni Rached 89.97 306 P P 20 46 36.0 -0.5
MAIT Maitri 89.98 199 ⇓iP P 20 46 37.8 +2.1
LMK Market Rasen 90.04 323 eP P 20 46 37.0 +0.6
ECHA Ech Chlef 90.11 306 P P 20 46 38.0 +0.9
EANR `Ain N'Sour 90.33 306 P P 20 46 39.0 +0.8
RESF Ens 90.44 313 eP P 20 46 39.7 +1.2
EBR Ebro Roquetas 90.47 311 eP P 20 46 40.0 +1.3
FLN La Foliniere 90.54 319 eP P 20 46 39.0 +0.2
comp=Z,172nm,1.1s,mb6.0
FLN eR
comp=Z,759nm,22.2s
FLN La Foliniere 90.54 319 eP P 20 46 39.0 +0.2
FLN pmax pmax
comp=Z,86nm,1.1s,mb6.0
FLN MLR MLR
comp=Z,760nm,22.3s,MS5.1
EBIE Bielsa 90.60 313 P P 20 46 39.5 +0.2
comp=Z,55nm,1.1s,mb5.8
LCP Cassop 90.60 325 eP P 20 46 39.2 +0.3
LCP AMb AMB 20 46 40.4
comp=Z,295nm,1.2s,mb6.5
LABF Labassere 90.62 313 eP P 20 46 39.6 +0.3
VIEF Viey 90.67 313 eP P 20 46 40.8 +1.3
KBI1 Birley Grange 90.78 323 eP P 20 46 39.7 -0.1
KBI1 AMb AMB 20 46 41.4
comp=Z,178nm,1.2s,mb6.3
LCHF La Chataignera 90.90 317 eP P 20 46 41.2 +0.7
LHO Holmfirth 90.94 324 eP P 20 46 40.9 +0.3
LHO AMb AMB 20 46 41.9
comp=Z,102nm,0.9s,mb6.1
REYF Montagne du Re 90.96 313 eP P 20 46 42.3 +1.4
KWE Weaver Farm 90.99 323 eP P 20 46 41.2 +0.4
KWE AMb AMB 20 46 43.4
comp=Z,164nm,1.5s,mb6.1
ETSF Etsaut 91.10 313 eP P 20 46 42.4 +0.9
comp=Z,70nm,0.9s,mb5.7
ETSF Etsaut 91.10 313 eP P 20 46 42.4 +0.9
ETSF pmax pmax
comp=Z,35nm,0.9s,mb5.7
ESAC San Caprasio 91.13 312 P P 20 46 42.4 +0.7
comp=Z,158nm,1.4s,mb6.2
EBEN Beniarda 91.19 309 P P 20 46 42.7 +0.6
comp=Z,59nm,1.4s,mb5.7
EMOS Mosqueruela 91.24 310 P P 20 46 43.2 +1.0
comp=Z,183nm,1.3s,mb6.2
LARF Larrau 91.40 313 eP P 20 46 44.3 +1.4
LRYF La Roche-sur-Y 91.46 317 eP P 20 46 43.5 +0.4
ESK Eskdalemuir 91.52 325 eP P 20 46 43.4 +0.3
ESK pmax pmax
comp=Z,82nm,1.4s,mb5.9
ESK MLR MLR
comp=Z,207nm,19.0s,MS4.6
ESK Eskdalemuir 91.52 325 eP P 20 46 43.4 +0.2
comp=Z,82nm,1.4s,mb5.9
ESK LR LR
comp=Z,207nm,19.0s,MS4.6
EMUR La Murta 92.06 308 P P 20 46 46.4 +0.4
comp=Z,69nm,1.5s,mb5.8
DAG Danmarks Havn 92.22 348 ⇑iP P 20 46 45.6 -0.3
DAG pmax pmax
comp=Z,9.0nm,0.6s,mb5.3
DAG Danmarks Havn 92.22 348 ⇑iP P 20 46 45.6 -0.3
comp=Z,8.7nm,0.6s,mb5.3
ETOB Tobarra 92.22 309 P P 20 46 47.3 +0.5
comp=Z,57nm,1.2s,mb5.8
HSA Swansea 92.55 322 eP P 20 46 48.1 +0.1
HSA AMb AMB 20 46 50.0
comp=Z,68nm,1.0s,mb6.0
QSPA South Pole Qui 92.80 180 ⇓iP P 20 46 49.9 +1.4
comp=Z,32nm,1.4s,mb5.6
EBER Berja 93.46 307 P P 20 46 53.6 +1.1
comp=Z,145nm,1.4s,mb6.2
EQES Quesada 93.50 308 P P 20 46 52.3 -0.4
comp=Z,34nm,2.0s,mb5.4
EALB Alboran 93.68 306 P P 20 46 53.5 -0.1
comp=Z,179nm,1.3s,mb6.3
AKUT Akutan 93.94 35 eP P 20 46 53.7 -0.6
comp=Z,99nm,1.0s,mb6.2
ESDC Sonseca Array 93.98 310 P P 20 46 55.6 +0.8
comp=Z,8.9nm,0.8s,mb5.2,baz=58,slow=4.4,SNR=28
ESDC pP pP 20 47 05.9 +0.7
comp=Z,2.9nm,0.8s,baz=67,slow=3.8,SNR=6.0
ESDC PP PP 20 50 41.1 -2.8
comp=Z,1.5nm,0.8s,baz=72,slow=7.3,SNR=5.1
ESDC Sonseca Array 93.98 310 P P 20 46 55.3 +0.4
comp=Z,21nm,1.0s,mb5.5
ESLA Sonseca Array 93.98 310 ⇓iP P 20 46 55.5 +0.7
comp=Z,5.4nm,1.2s,mb4.8
EADA Adamuz 94.64 308 P P 20 46 57.7 -0.2
comp=Z,40nm,1.3s,mb5.7
SNAA Sanae 94.72 198 P P 20 46 57.9 +0.4
SNAA Sanae 94.72 198 pP 20 47 08.7 +0.9
SNAA Sanae 94.72 198 sP 20 47 15.7 +4.6
SNAA Sanae 94.72 198 eP P 20 46 57.2 -0.3
SNAA pmax pmax
comp=Z,13nm,1.5s
SNAA Sanae 94.72 198 LR LR 21 23 42.3
comp=Z,108nm,19.7s,MS4.3,baz=193,slow=32
SNAA Sanae 94.72 198 eP P 20 46 57.2 -0.3
comp=Z,13nm,1.5s,mb5.1
ESPR Espera 95.82 307 P P 20 47 02.7 -0.7
comp=Z,30nm,1.4s,mb5.5
VNA2 Neumayer--Watz 96.27 199 P 20 47 06.4 +1.8
VNA2 Neumayer--Watz 96.27 199 pP 20 47 16.5 +1.6
VNA2 Neumayer--Watz 96.27 199 sP 20 47 20.8 +2.6
EMIN Mina Concepcio 96.34 308 P P 20 47 05.5 -0.2
comp=Z,29nm,1.9s,mb5.4
IMA Indian Mountai 96.45 22 eP P 20 47 06.8 +1.3
IMA pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
IMA Indian Mountai 96.45 22 eP P 20 47 06.8 +1.3
comp=Z,9.1nm,0.9s,mb5.2
EBAD Badajoz 96.45 309 P P 20 47 06.1 -0.1
comp=Z,14nm,1.1s,mb5.3
MTE Manteigas 96.60 311 eLQ 21 14 46.1
MTE eLR LR 21 18 41.2
comp=Z,610nm,17.4s
VNA1 Neumayer--Stat 96.60 199 P 20 47 08.3 +2.2
VNA1 Neumayer--Stat 96.60 199 pP 20 47 18.9 +2.5
PCBR Castelo Branco 96.64 310 eP P 20 47 08.1 +1.1
comp=Z,20nm,1.1s,mb5.5
PCBR Castelo Branco 96.64 310 ePP PP 20 51 02.6 -1.5
VNA3 Neumayer Olymp 96.94 198 P 20 47 09.6 +2.0
VNA3 Neumayer Olymp 96.94 198 P 20 47 16.1 +8.5
VNA3 Neumayer Olymp 96.94 198 pP 20 47 19.8 +1.8
VNA3 Neumayer Olymp 96.94 198 sP 20 47 23.1 +1.9
PBEJ Beja 97.23 309 eP P 20 47 10.6 +0.9
PBEJ Beja 97.23 309 ePP PP 20 51 06.6 -2.3
EVO Evora 97.26 309 eP P 20 47 11.2 +1.4
EVO eR
comp=Z,765nm,21.0s
PTOM Tomar 97.39 310 eP P 20 47 11.3 +0.9
comp=Z,34nm,1.3s,mb5.6
PTOM Tomar 97.39 310 ePP PP 20 51 07.7 -2.4
SVW2 Sparrevohn 97.44 27 eP P 20 47 11.2 +1.1
BORG Borgarnes 97.79 337 LR LR 21 35 25.2
comp=Z,548nm,18.6s,MS5.1,baz=25,slow=38
DBIC Dimbokro 98.02 277 P P 20 47 14.3 +0.5
comp=Z,9.4nm,0.8s,mb5.4,baz=66,slow=3.1,SNR=7.6
DBIC LR LR 21 27 29.5
comp=Z,503nm,20.0s,MS5.0,baz=65,slow=33
DBIC Dimbokro 98.02 277 P P 20 47 14.3 +0.5
DBIC LR LR 21 27 29.5
SUMG Summit 98.87 347 eP P 20 47 16.9 +0.7
comp=Z,7.0nm,0.8s,mb5.2
ILAR Eielson Array 99.58 22 P P 20 47 18.6 -1.1
comp=Z,1.5nm,0.9s,baz=305,slow=4.5,SNR=14
ILAR PP PP 20 51 15.2 -11
comp=Z,3.0nm,0.9s,baz=307,slow=6.9,SNR=5.0
ILAR PKKPbc 21 03 41.6
comp=Z,1.8nm,0.9s,baz=162,slow=2.3,SNR=12
ILAR PKKP PKKP 21 03 50.5 +12
comp=Z,1.0nm,1.0s,baz=148,slow=2.8,SNR=4.6
INK Inuvik 101.94 16 P P 20 47 30.8 +0.5
INK pmax pmax
comp=Z,2.0nm,0.8s
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 101.94 16 P P 20 47 30.8 +0.5
comp=Z,2.0nm,0.8s,baz=285,slow=1.8,SNR=3.7
INK PKKP PKKP 21 03 43.5 +10
comp=Z,4.6nm,1.0s,baz=170,slow=5.5,SNR=3.9
INK Inuvik 101.94 16 ePdif P 20 47 30.3 0.0
RES Resolute Bay 102.40 2 ePdif Pdif 20 47 33.2 +1.1
DLBC Dease Lake 109.78 23 PP PP 20 52 39.6 -3.4
comp=Z,6.5nm,0.9s,baz=302,slow=11,SNR=4.5
YKA Yellowknife Ar 111.40 14 PP PP 20 52 43.1 -11
comp=Z,3.4nm,0.9s,baz=328,slow=7.4,SNR=4.1
YKA PKKPbc 21 03 05.7
comp=Z,0.7nm,0.7s,baz=154,slow=3.0,SNR=3.7
YKA PKKP PKKP 21 03 15.4 -1.4
comp=Z,1.6nm,0.6s,baz=137,slow=3.9,SNR=5.4
EDM Edmonton 119.73 18 PKIKP PKPdf 20 52 26.1 -4.7
EDM Edmonton 119.73 18 ePKPdf PKPdf 20 52 25.7 -5.0
EDM epPKPdf 20 52 36.3
SCHQ Schefferville 120.26 347 PKP PKPdf 20 52 27.4 -4.3
comp=Z,4.1nm,0.8s,baz=67,slow=5.7,SNR=6.3
SCHQ PP PP 20 53 51.0 -5.5
comp=Z,10nm,1.0s,baz=30,slow=10,SNR=5.1
SCHQ PKKPbc 21 02 34.8
comp=Z,3.3nm,0.8s,baz=221,slow=2.9,SNR=4.5
SCHQ Schefferville 120.26 347 PKP PKPdf 20 52 27.4 -4.3
SCHQ PP PP 20 53 51.0 -5.5
SCHQ PKKPbc 21 02 34.8
FFC Flin Flon 121.19 10 PKIKP PKPdf 20 52 29.4 -4.2
FFC e 20 52 39.4
FFC Flin Flon 121.19 10 ePKPdf PKPdf 20 52 29.0 -4.6
FFC epPKPdf 20 52 38.9
FFC esPKPdf 20 52 45.0
ERK Elk Rock 121.68 29 P PKPdf 20 52 31.6 -3.2
TDL Tradedollar La 121.70 28 P PKPdf 20 52 31.5 -3.3
TBM Table Mountain 121.85 27 P PKPdf 20 52 31.4 -3.7
NEW Newport 122.48 24 ePKIKP PKPdf 20 52 33.1 -3.1
NEW e 20 52 43.6
NEW Newport 122.48 24 ePKPdf PKPdf 20 52 32.4 -3.9
VFP Flag Point 122.82 29 P PKPdf 20 52 33.8 -3.1
PRW Prosser 122.98 27 P PKPdf 20 52 34.3 -3.0
HUMO Hull Mountain 124.00 32 ePKPdf PKPdf 20 52 36.0 -3.4
MSO Missoula 124.91 23 ePKPdf PKPdf 20 52 36.5 -4.5
MSO epPKPdf 20 52 46.4
CHMT Chamberlain Mo 125.10 22 ePKPdf PKPdf 20 52 37.0 -4.3
HRY Holter Researc 125.80 21 ePKPdf PKPdf 20 52 38.6 -4.1
MOD Modoc 125.88 31 ePKPdf PKPdf 20 52 39.4 -3.6
LBCM Butte Creek Ri 126.10 33 P PKPdf 20 52 40.1 -3.4
WVOR Wild Horse Val 126.33 29 ePKIKP PKPdf 20 52 41.1 -2.7
WVOR Wild Horse Val 126.33 29 ePKPdf PKPdf 20 52 40.6 -3.3
ULM Lac du Bonnet 126.48 8 PKP PKPdf 20 52 39.0 -4.9
comp=Z,11nm,0.7s,baz=281,slow=1.2,SNR=10
ULM pPKP 20 52 49.4
comp=Z,8.7nm,0.8s,baz=355,slow=3.2,SNR=5.4
ULM PP PP 20 54 32.8 -5.8
comp=Z,7.8nm,1.0s,baz=359,slow=8.7,SNR=5.9
BOZ Bozeman (W) 126.77 22 PKIKP PKPdf 20 52 41.4 -3.2
BOZ Bozeman (W) 126.77 22 ePKPdf PKPdf 20 52 41.2 -3.4
MCMT McKenzie Canyo 126.99 23 ePKPdf PKPdf 20 52 42.0 -3.0
BEKR Beckwourth 127.32 33 ePKPdf PKPdf 20 52 42.0 -3.8
HLID Hailey 127.39 25 ePKPdf PKPdf 20 52 42.6 -3.3
QLMT Earthquake Lak 127.54 22 ePKPdf PKPdf 20 52 42.9 -3.2
LAO LASA Array 127.66 17 ePKPdf PKPdf 20 52 43.3 -3.0
BMN Battle Mountai 128.53 30 ePKIKP PKPdf 20 52 44.6 -3.6
CMB Columbia Colle 128.60 34 ePKIKP PKPdf 20 52 44.7 -3.7
CMB Columbia Colle 128.60 34 ePKPdf PKPdf 20 52 44.0 -4.4
RRI2 Red Ridge 128.84 23 ePKPdf PKPdf 20 52 45.0 -3.6
TPAW Teton Pass 128.86 23 ePKPdf PKPdf 20 52 45.4 -3.3
LOHW Long Hollow 128.89 22 ePKPdf PKPdf 20 52 44.9 -3.9
SNOW Snow King Moun 128.96 23 ePKPdf PKPdf 20 52 46.1 -2.8
REDW Red Top Meadow 129.00 23 ePKPdf PKPdf 20 52 45.7 -3.3
ELK Elko 129.25 28 ePKIKP PKPdf 20 52 46.7 -2.8
ELK Elko 129.25 28 ePKPdf PKPdf 20 52 46.4 -3.1
BW06 Boulder Array 130.01 22 ePKPdf PKPdf 20 52 47.5 -3.4
PDAR Pinedale Array 130.01 22 PKP PKPdf 20 52 47.1 -3.8
comp=Z,7.6nm,1.0s,SNR=15
PDAR pPKP 20 52 58.0
comp=Z,5.7nm,0.9s,baz=27,slow=3.3,SNR=8.7
PDAR PP PP 20 54 56.4 -5.7
comp=Z,1.8nm,0.9s,baz=342,slow=4.7,SNR=3.5
MTUM Tungsten Hills 130.10 34 ePKPdf PKPdf 20 52 48.3 -3.0
HWUT Hardware Ranch 130.19 25 ePKPdf PKPdf 20 52 47.2 -4.1
HWUT epPKPdf 20 52 57.7
DAC Darwin (Calif) 131.41 34 ePKIKP PKPdf 20 52 50.9 -2.9
DAC Darwin (Calif) 131.41 34 ePKPdf PKPdf 20 52 50.4 -3.4
RWWY Rawlins 131.81 21 ePKPdf PKPdf 20 52 49.5 -4.8
MIV Mineville/With 131.86 348 ePKPdf PKPdf 20 52 50.7 -3.7
TMUT Trail Mountain 132.26 26 ePKPdf PKPdf 20 52 52.1 -3.2
PHWY Pilot Hill 132.75 20 ePKPdf PKPdf 20 52 51.9 -4.3
NEN Nelson 133.37 32 ePKPdf PKPdf 20 52 54.0 -3.5
NEN epPKPdf 20 53 04.0
PV10 Paradox Valley 133.95 25 ePKPdf PKPdf 20 52 55.3 -3.2
PV10 epPKPdf 20 53 05.7
SMCO Snowmass 134.09 22 ePKPdf PKPdf 20 52 55.4 -3.3
BINY Binghamton 134.16 349 ePKPdf PKPdf 20 52 54.2 -4.5
SDCO Great Sand Dun 135.90 22 ePKPdf PKPdf 20 52 57.6 -4.5
SDCO ePP PP 20 55 34.0 -5.5
ANMO Albuquerque 137.95 25 ePKIKP PKPdf 20 53 03.4 -2.5
ANMO Albuquerque 137.95 25 ePKPdf PKPdf 20 53 03.0 -2.9
TUC Tucson 138.09 32 ePKIKP PKPdf 20 53 05.4 -0.9
TUC Tucson 138.09 32 ePKPdf PKPdf 20 53 03.0 -3.3
PLCA Paso Flores 139.66 199 PKHKP 20 52 57.9
PLCA pmax pmax
comp=Z,4.0nm,0.9s
PLCA pmax pmax
comp=Z,4.0nm,0.8s
PLCA Paso Flores 139.66 199 PKhKP 20 52 57.9
comp=Z,4.4nm,0.9s,baz=213,slow=4.1,SNR=7.6
PLCA PKP PKPdf 20 53 06.4 -2.5
comp=Z,4.3nm,0.8s,baz=113,slow=1.1,SNR=5.3
PLCA Paso Flores 139.66 199 ePKPpre 20 52 57.4
PLCA PKP PKPdf 20 53 06.4 -2.5
BAO Brasilia Array 140.08 249 PKPdf PKPdf 20 53 06.5 -3.7
BDFB Brasilia 140.10 249 PKP PKPdf 20 53 07.0 -3.2
comp=Z,15nm,0.9s,baz=114,slow=1.9,SNR=14
BDFB pPKP 20 53 18.2
comp=Z,9.9nm,0.8s,baz=124,slow=4.6,SNR=4.8
MNTX Cornudas Mount 141.20 26 ePKPdf PKPdf 20 53 08.1 -3.9
UALR University of 142.16 8 ePKPpre 20 53 04.6
UALR ePKPdf PKPdf 20 53 09.2 -4.2
MYNC Murphy 142.20 357 ePKIKP PKPdf 20 53 08.3 -5.2
CPUP Villa Florida 143.61 227 PKPdf PKPdf 20 53 09.9 -6.3
CPUP Villa Florida 143.61 227 ePKPdf PKPdf 20 53 09.1 -7.1
CPUP epPKPdf 20 53 19.3
LTX Lajitas 143.98 26 ePKIKP PKPdf 20 53 11.4 -5.3
LTX e 20 53 21.0
TXAR Lajitas Array 143.98 26 PKP PKPdf 20 53 11.5 -5.2
comp=Z,20nm,0.9s,baz=270,slow=2.5,SNR=46
LRAL Lakeview Retre 144.30 1 ePKPdf PKPdf 20 53 11.1 -6.1
NATX Nacogdoches 144.69 12 ePKPdf PKPdf 20 53 13.5 -4.5
NATX epPKPdf 20 53 23.8
FCH Farellones 146.13 205 ⇓iP PKPbc 20 53 18.3 +2.1
DWPF Disney 148.83 351 ePKPbc PKPdf 20 53 24.9 0.0
TLL Tololo Astrono 149.06 207 ⇓iP PKPdf 20 53 25.8 +0.5
SJG San Juan 151.12 317 ePKIKP PKPdf 20 53 30.1 +1.4
TRN Trinidad (W) 151.70 299 eP PKPdf 20 53 34.0 +4.2
LVC Limon Verde 154.03 219 PKPdf PKPdf 20 53 30.6 -2.2
LVC sPKiKP 20 53 48.6
LVC Limon Verde 154.03 219 ePKPdf PKPdf 20 53 30.5 -2.3
LVC ePKPbc PKPdf 20 53 38.1 +5.3
SAML Samuel 156.10 254 PKPdf PKPdf 20 53 32.3 -3.5
SAML PKPab PKPab 20 53 59.7 -0.8
SAML Samuel 156.10 254 ePKPdf PKPdf 20 53 32.1 -3.6
SAML ePKPab PKPab 20 53 59.7 -0.8
LPAZ La Paz 157.59 232 PKPdf PKPdf 20 53 35.2 -2.4
LPAZ La Paz 157.59 232 PKP PKPdf 20 53 35.2 -2.4
comp=Z,12nm,0.8s,baz=74,slow=1.3,SNR=55
LPAZ pPKP 20 53 45.5
comp=Z,13nm,0.8s,baz=78,slow=4.0,SNR=12
LPAZ La Paz 157.59 232 ePKPdf PKPdf 20 53 34.9 -2.7
SDV Santo Domingo 160.39 307 ePKPdf PKPdf 20 53 37.3 -3.7

*NAO **29** 20:41:42.8±5.7, 77.46N×8.29E, h4km±47km, ML2.4*
*BER **29** 20:41:44.4±5.3, 77.56N×8.24E, ML2.4(NAO)*

ISC 29 20:41:40.6±2.0, 77.29N±0.10×8.0E±0.6, h10km, n5, σ1§14/9, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	Hornsund	1.70	96	eP	Pn	20 42 12.3	+1.7
HSP				eS	Sn	20 42 32.0	-0.6
HSP	Hornsund	1.70	96	eP	Pn	20 42 12.3	+1.6
HSP				eS	Sn	20 42 32.2	-0.5
KBS	Kingsbay	1.83	24	Pn	Pn	20 42 11.5	-1.0
KBS				Lg		20 42 30.7	
SPA0	Spitsbergen Ar baz=244,slow=14	1.99	59	Pn	Pn	20 42 16.4	+1.6
SPA0	baz=228,slow=18			Sn	Sn	20 42 39.5	-0.5
ARA0	ARCESS Array S baz=338,slow=12	9.19	139	Pn	P	20 43 55.4	-0.9
ARA0	baz=338,slow=22			Sn	Sn	20 45 32.5	-8.4

NEIC 29 20:46:18.0, 38.78N×112.10W, h1km, ML3.7(SLC), After SLC., Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOQ	North Oquirrh	1.87	359	eP	Pn	20 46 52.4	+1.0
PV10	Paradox Valley	2.43	99	ePn	Pn	20 47 00.4	+1.0
PV01	Paradox Valley	2.84	102	ePn	Pn	20 47 05.7	+0.3
HWUT	Hardware Ranch	2.85	8	eP	Pn	20 47 06.1	+0.7
ELK	Elko	3.11	310	ePn	Pn	20 47 09.3	+0.1
NEN	Nelson	3.82	216	Pn	Pn	20 47 15.8	-3.4
SMCO	Snowmass	4.01	83	ePn	Pn	20 47 23.0	+1.1
AHID	Auburn Hatcher	4.05	10	ePn	Pn	20 47 23.4	+1.0
TPH	Tonopah	4.09	262	Pn	Pn	20 47 22.1	-0.9
BMN	Battle Mountai	4.29	294	ePn	Pn	20 47 24.5	-1.3
LDFC	Landfair	4.42	214	ePn	Pn	20 47 24.1	-3.6
RRI2	Red Ridge	4.60	7	ePn	Pn	20 47 30.1	-0.2
REDW	Red Top Meadow	4.67	11	ePn	Pn	20 47 31.7	+0.4
RWWY	Rawlins	4.73	51	ePn	Pn	20 47 31.1	-1.1
TPAW	Teton Pass	4.78	10	ePn	Pn	20 47 33.0	+0.1
SNOW	Snow King Moun	4.78	12	Pn	Pn	20 47 32.7	-0.2
LOHW	Long Hollow	4.95	13	ePn	Pn	20 47 34.6	-0.7
DAC	Darwin (Calif)	5.03	242	Pn	Pn	20 47 33.4	-3.1
HLID	Hailey	5.08	341	Pn	Pn	20 47 35.6	-1.5
IMW	Indian Meadow	5.18	9	ePn	Pn	20 47 38.6	+0.1
SDCO	Great Sand Dun	5.29	99	ePn	Pn	20 47 40.6	+0.5
MTUM	Tungsten Hills	5.30	256	Pn	Pn	20 47 38.0	-2.1
OMM	Old Mammoth Mi	5.55	260	Pn	Pn	20 47 40.9	-2.8
PHWY	Pilot Hill	5.68	62	Pn	Pn	20 47 44.3	-1.3
ANMO	Albuquerque	5.92	129	Pn	Pn	20 47 47.1	-1.9
MCMT	McKenzie Canyo	6.07	355	Pn	Pn	20 47 48.9	-2.1
WVOR	Wild Horse Val	6.17	308	Pn	Pn	20 47 52.0	-0.5
PFO	Pinyon Flat Ob	6.25	216	Pn	Pn	20 47 50.8	-2.8
BEKR	Beckwourth	6.50	282	ePn	Pn	20 47 54.0	-3.1
TUC	Tucson	6.55	170	Pn	Pn	20 47 55.7	-2.1
CMB	Columbia Colle	6.55	266	ePn	Pn	20 47 53.8	-4.1
MOD	Modoc	7.00	299	Pn	Pn	20 48 01.7	-2.5
BMO	Blue Mountains	7.20	329	Pn	Pn	20 48 05.5	-1.5
RSSD	Black Hills	8.06	46	ePn	P	20 48 18.0	-1.0
CHMT	Chamberlain Mo	8.17	354	Pn	P	20 48 20.2	-0.3
MNTX	Cornudas Mount	8.95	140	Pn	P	20 48 28.4	-3.0
LAO	LASA Array	9.00	27	ePn	P	20 48 31.4	-0.7

*NEIC **29** 21:04:32.1±0.5, 22.85S×66.56W, h210km±6km, mb4.0/7, Error ellipse: s-maj=7.9km s-min=6.6km az=85.0*
*IDC **29** 21:04:32.3±0.9, 22.83S×66.56W, h211km±10km, mb3.2/3, mb1 3.5/8, mb1mx3.4/19, mbtmp3.9/8, Error ellipse: s-maj=14.9km s-min=12.9km az=85.0*
*GUC **29** 21:04:33.6±0.7, 23.14S×66.67W, h204km±16km, MD3.6, ML4.1*

ISC 29 21:04:31.0±0.5, 22.96S±0.04×66.61W±0.06, h220km±7km, n29, σ1§15/38, mb3.7/6, 4C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.15	279	⇑iP	P	21 05 15.1	+2.1
LVC				iS	S	21 05 46.5	+1.2
LVC				AMP		21 05 49.0	
	comp=E,621nm,0.5s						
LVC	Limon Verde	2.15	279	P	P	21 05 15.0	+2.0
	comp=E,351nm,0.3s,baz=96,slow=5.8,SNR=2390						
LVC				S	S	21 05 46.5	+1.2
	comp=E,79nm,0.3s,baz=246,slow=19,SNR=13						
LVC	Limon Verde	2.15	279	⇑iPn	P	21 05 15.1	+2.1
LVC				S	S	21 05 46.5	+1.2
ANCH	Antofagasta	3.57	258	⇓iP	P	21 05 30.6	+1.7
ANCH				iS	S	21 06 12.8	-0.9
CPN1	Cerro Paranal	3.85	244	⇑iP	P	21 05 33.9	+1.6
CPN1				iS	S	21 06 19.9	+0.1
CRCH	Chaqaral	4.97	226	⇑iP	P	21 05 46.6	+0.4
CRCH				iS	S	21 06 43.1	-1.6
CPCH	Copiapo	5.54	217	iS	S	21 06 56.2	-1.4
VACH	Vallenar	6.73	213	iS	S	21 07 23.6	-1.3
LPAZ	La Paz	6.79	348	P	P	21 06 09.9	+0.6
	comp=E,3.1nm,0.3s,baz=158,slow=8.2,SNR=71						
LPAZ				S	S	21 07 25.4	-0.8
	comp=E,0.6nm,0.3s,baz=249,slow=23,SNR=9.3						
LPAZ	La Paz	6.79	348	ePn	P	21 06 09.6	+0.3
LPAZ				S	S	21 07 25.4	-0.8
ARE	Arequipa	7.93	324	eP	P	21 06 22.0	-2.1
ARE				eS	S	21 07 45.0	-7.5
SIV	San Ignacio	8.68	38	P	P	21 06 31.6	-2.2
	comp=E,0.9nm,0.3s,baz=220,slow=14,SNR=30						
CFAA	Coronel Fontan	8.74	189	P	P	21 06 35.3	+0.7
	comp=E,0.1nm,0.3s,baz=15,slow=16,SNR=9.8						
CFAA				S	S	21 08 08.6	-2.7
	comp=E,1.2nm,0.3s,baz=265,slow=19,SNR=33						
CPUP	Villa Florida	9.09	114	P	P	21 06 40.2	+1.1
	comp=E,0.1nm,0.3s,baz=338,slow=12,SNR=3.2						
SAML	Samuel	14.31	14	eP	P	21 07 44.2	-1.0
	comp=E,2.5nm,0.6s						
NNA	Nana	14.63	317	eP	P	21 07 49.4	+0.3
	comp=E,24nm,0.8s						
TRQA	Tornquist	15.57	166	eP	P	21 08 01.0	+0.5
	comp=E,2.1nm,0.7s						
PLCA	Paso Flores	18.03	190	P	P	21 08 29.4	+1.2
	comp=E,0.1nm,0.3s,baz=5.2,slow=11,SNR=2.6						
BDFB	Brasilia	18.99	71	P	P	21 08 37.6	-0.5
	comp=E,0.9nm,0.3s,baz=255,slow=10,SNR=27						
BAO	Brasilia Array	19.01	71	P	P	21 08 38.0	-0.3
SNAA	Sanae	60.22	161	P	P	21 14 18.1	+0.5
	comp=E,0.4nm,0.9s,mb3.0,baz=269,slow=6.8,SNR=4.2						
SNAA	Sanae	60.22	161	eP	P	21 14 18.6	+0.9
	comp=E,0.8nm,0.6s,mb3.5						
TXAR	Lajitas Array	63.04	324	P	P	21 14 36.5	-0.5
	comp=E,0.4nm,0.3s,mb3.6,baz=148,slow=9.2,SNR=5.1						
TXAR	Lajitas Array	63.04	324	P	P	21 14 36.5	-0.5
ANMO	Albuquerque	68.89	326	eP	P	21 15 13.6	-0.3
	comp=E,1.9nm,0.7s,mb3.8						
SDCO	Great Sand Dun	70.59	328	eP	P	21 15 24.6	+0.4
	comp=E,4.8nm,1.1s,mb4.0						
PDAR	Pinedale Array	76.44	329	P	P	21 15 58.2	+0.3
	comp=E,0.6nm,0.6s,mb3.4,baz=117,slow=3.3,SNR=5.0						
HLID	Hailey	79.41	327	eP	P	21 16 15.3	+1.2
	comp=E,3.6nm,0.8s,mb4.0						
MKAR	Makanchi Array	145.49	39	PKPbc	PKPbc	21 23 45.2	+1.8

comp=E,0.7nm,0.7s,baz=313,slow=3.3,SNR=7.9

TIF ***29*** *21:09:52.3, 40.21N×44.43E, h6km±1km*
NSSP ***29*** *21:09:52.3, 40.20N×44.40E, h6km, ML3.0*
NEIC ***29*** *21:09:53.0, 40.06N×44.15E, h5km, ML3.1(NSSP), After NSSP.*
NEIC Felt at Yerevan.
CSEM ***29*** *21:09:54.9±0.2, 40.34N×44.36E, h15km, ML3.0, Error ellipse: s-maj=5.3km s-min=2.1km az=106.0*

ISC 29 21:09:54.6±0.5,**40.21N**±0.03×**44.40E**±0.04,**h6**km,**n22**, σ1°**09**/36,**6D**,**Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
GNI	**Garni**	**0.27**	**102**	*e*Pg		**Pg**		**21 09 59.6**	**-0.5**
GNI	**Garni**	**0.27**	**102**	⇓P		**Pg**		**21 09 59.8**	**-0.3**
GNI				S		**Sg**		**21 10 03.8**	**+0.1**
HNAZ	**Hnaberd**	**0.47**	**335**	⇓P		**Pg**		**21 10 03.2**	**-0.8**
HNAZ				S		**Sg**		**21 10 09.2**	**-1.1**
HARI	**Harich**	**0.50**	**323**	⇓P		**Pg**		**21 10 04.2**	**-0.5**
HARI				S		**Sg**		**21 10 11.9**	**+0.4**
KAMZ	**Kamo**	**0.71**	**331**	⇓P		**Pg**		**21 10 07.3**	**-1.5**
KAMZ				S		**Sg**		**21 10 17.8**	**-0.4**
GYMZ	**Gyumri**	**0.74**	**324**	⇓*i*P		**Pg**		**21 10 08.4**	**-1.1**
GYMZ				*i* S		**Sg**		**21 10 19.7**	**+0.3**
STE	**Stepanavan**	**0.79**	**360**	⇓P		**Pb**		**21 10 09.0**	**-1.4**
STE				S		**Sg**		**21 10 20.5**	**-0.6**
TSOZ	**Tsokhamarg**	**0.85**	**331**	P		**Pb**		**21 10 09.7**	**-1.6**
TSOZ				S		**Sb**		**21 10 22.1**	**-0.6**
KARS	**Kars**	**1.08**	**293**	PN		**Pn**		**21 10 16.2**	**+0.1**
CLDR	**Caldiran**	**1.13**	**200**	PN		**Pn**		**21 10 15.5**	**-1.3**
DGRG	**David-gareji**	**1.45**	**30**	P		**Pn**		**21 10 21.5**	**+0.1**
DGRG				S		**Sb**		**21 10 39.9**	**-0.2**
MTA	**Mtatsminda**	**1.52**	**11**	P		**Pn**		**21 10 22.2**	**-0.2**
MTA				S		**Sb**		**21 10 42.5**	**+0.4**
TBLG	**Delisi**	**1.54**	**9**	P		**Pn**		**21 10 22.6**	**-0.2**
TBLG				S		**Sb**		**21 10 43.4**	**+0.4**
TI2	**Plekhanov**	**1.55**	**10**	*i* P		**Pn**		**21 10 15.9**	**-7.0**
TI2				*i* S		**Sb**		**21 10 36.7**	**-6.4**
GOR	**Gori**	**1.79**	**353**	P		**Pn**		**21 10 27.4**	**+1.1**
GOR				S		**Sn**		**21 10 51.7**	**+2.0**
DUS	**Dusheti**	**1.90**	**7**	P		**Pn**		**21 10 29.1**	**+1.2**
DUS				S		**Sn**		**21 10 55.1**	**+2.7**
EZM	**Erzurum**	**2.35**	**264**	*e*PN		**Pn**		**21 10 35.9**	**+1.5**
BCA	**Borcka**	**2.44**	**301**	*e*PN		**Pn**		**21 10 36.8**	**+1.1**
ONI	**Oni**	**2.48**	**344**	P		**Pn**		**21 10 39.8**	**+3.6**
ONI				S		**Sn**		**21 11 13.3**	**+6.2**
HKR	**Hakkari**	**2.67**	**191**	*e*PN		**Pn**		**21 10 37.8**	**-1.2**
BTMT	**Batman**	**3.03**	**229**	*e*PN		**Pn**		**21 10 47.0**	**+3.0**
GUMT	**Gumushane**	**3.77**	**275**	*e*P		**Pn**		**21 10 55.9**	**+1.4**

IDC ***29*** *21:16:02.4±2.2, 32.74N×142.36E, mb3.4/3, mb1 3.4/5, mb1mx3.3/21, mbtmp3.3/5, ML3.3/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/13, Error ellipse: s-maj=53.3km s-min=25.3km az=54.0*
JMA ***29*** *21:16:05.6±0.5, 33.37N×142.46E, h72km, M3.4*
ISC 29 21:16:03.9±1.7,**33.30N**±0.09×**142.6E**±0.1,**h64**km±24km, **n12**,σ0°**83**/16,**mb3.3**/3,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BSO1	**Boso 1**	**1.89**	**316**	P		**P**		**21 16 34.8**	**+0.3**
BSO3	**Boso 3**	**2.27**	**312**	P		**P**		**21 16 40.4**	**+0.5**
JHJ2	**Mitsune**	**2.31**	**266**	P		**P**		**21 16 41.0**	**+0.5**
JHJ2				*e*S		**S**		**21 17 07.9**	**+0.2**
JHJ	**Hachijo jima 2**	**2.34**	**266**	Pn		**P**		**21 16 40.5**	**-0.4**
	17nm,0.3s,baz=242,slow=22,SNR=17								
JHJ				Sn		**S**		**21 17 07.9**	**-0.5**
	38nm,0.3s,baz=221,slow=22,SNR=9.0								
JIM2	**Oshima 3**	**2.96**	**299**	P		**P**		**21 16 49.7**	**0.0**
JIM2				*e*S		**S**		**21 17 23.0**	**-1.1**
JHO	**Hitachi**	**3.69**	**334**	P		**P**		**21 16 59.2**	**-0.6**
JMM	**Marumori**	**4.78**	**343**	P		**P**		**21 17 13.7**	**-1.4**
JMM				*e*S		**S**		**21 18 04.4**	**-5.3**
MJAR	**Matsushiro Arr**	**4.82**	**313**	Pn		**P**		**21 17 17.8**	**+2.1**
	1.1nm,0.3s,baz=92,slow=30,SNR=7.7								
MJAR				Sn		**S**		**21 18 11.5**	**+0.7**
	0.8nm,0.3s,baz=270,slow=30,SNR=4.7								
JNU	**Nakatsue**	**9.79**	**272**	LR		LR		21 21 07.9	
	comp=Z,239nm,19.0s,baz=92,slow=32								
SONM	**Songino Array**	**30.76**	**309**	P		**P**		**21 22 22.8**	**+7.7**
	0.2nm,0.4s,mb3.3,baz=103,slow=8.9,SNR=3.4								
MKAR	**Makanchi Array**	**46.97**	**305**	P		**P**		**21 24 35.7**	**+5.7**
	0.3nm,0.7s,mb3.3,baz=74,slow=10,SNR=2.6								
WRA	**Warramunga Arr**	**53.52**	**190**	P		**P**		**21 25 20.3**	**-0.1**
	0.3nm,0.6s,mb3.4,baz=4.6,slow=7.6,SNR=3.7								

JMA ***29*** *21:27:04.9±0.4, 33.44N×142.52E, h79km, M3.3*
IDC ***29*** *21:27:04.5±2.1, 33.13N×142.31E, mb3.3/3, mb1 3.4/6, mb1mx3.3/22, mbtmp3.4/6, ML3.5/2, Error ellipse: s-maj=45.0km s-min=22.8km az=60.0*
ISC 29 21:27:04.0±1.1,**33.38N**±0.06×**142.56E**±0.09,**h33**km,**n11**, σ1°**03**/15,**mb3.3**/3,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BSO1	**Boso 1**	**1.82**	**314**	P		**P**		**21 27 34.0**	**+0.5**
BSO1				*e*S		**S**		**21 27 56.2**	**+0.6**
BSO3	**Boso 3**	**2.21**	**310**	P		**P**		**21 27 39.4**	**+0.4**
JHJ2	**Mitsune**	**2.31**	**264**	P		**P**		**21 27 41.2**	**+0.7**
JHJ2				*e*S		**S**		**21 28 08.5**	**+0.5**
JHJ	**Hachijo jima 2**	**2.34**	**264**	Pn		**Pn**		**21 27 41.2**	**+0.2**
	11nm,0.3s,baz=255,slow=20,SNR=6.2								
JHJ				Sn		**Sn**		**21 28 08.2**	**-0.7**
	19nm,0.3s,baz=246,slow=23,SNR=6.1								
JHO	**Hitachi**	**3.61**	**334**	P		**P**		**21 27 57.9**	**-1.1**
JAG	**Ashikaga**	**3.96**	**321**	P		**P**		**21 28 03.5**	**-0.5**
MJAR	**Matsushiro Arr**	**4.76**	**313**	Pn		**Pn**		**21 28 15.5**	**+0.1**
	0.8nm,0.3s,baz=90,slow=32,SNR=5.6								
MJAR				Sn		**Sn**		**21 29 08.6**	**-1.6**
	0.8nm,0.3s,baz=227,slow=29,SNR=4.2								
CBIJ	**Chichi jima**	**6.28**	**183**	Pn		**Pn**		**21 28 34.9**	**-1.9**
	4.8nm,0.3s,baz=284,slow=20,SNR=5.0								
SONM	**Songino Array**	**30.70**	**309**	P		**P**		**21 33 22.3**	**+4.4**
	0.3nm,0.5s,mb3.4,baz=125,slow=8.4,SNR=3.1								
MKAR	**Makanchi Array**	**46.92**	**305**	P		**P**		**21 35 36.0**	**+3.0**
	0.1nm,0.5s,mb3.0,baz=100,slow=8.8,SNR=3.2								
WRA	**Warramunga Arr**	**53.60**	**190**	P		**P**		**21 36 25.2**	**+0.8**
	0.5nm,0.9s,mb3.5,baz=7.2,slow=7.7,SNR=6.4								

IDC 29 21:33:16.6±2.2,**33.26N**×**142.29E**,**mb3.3**/2,**mb1 3.5**/5, **mb1mx3.4**/22,**mbtmp3.5**/5,**ML3.7**/2,**Error ellipse: s-maj=45.2km s-min=22.0km az=56.0,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JHJ	**Hachijo jima 2**	**2.11**	**267**	Pn		Pn		21 33 54.1	+0.5
	12nm,0.3s,baz=172,slow=11,SNR=8.9								
JHJ				Sn		Sn		21 34 18.4	-2.5
	28nm,0.3s,baz=71,slow=18,SNR=6.4								
MJAR	**Matsushiro Arr**	**4.69**	**315**	Pn		Pn		21 34 27.6	-2.7
	1.0nm,0.3s,baz=25,slow=11,SNR=6.2								
MJAR				Sn		Sn		21 35 21.5	-4.8
	0.9nm,0.3s,baz=17,slow=20,SNR=5.2								
CBIJ	**Chichi jima**	**6.14**	**181**	Pn		Pn		21 34 47.9	-2.9
	9.5nm,0.3s,baz=259,slow=21,SNR=9.0								
MKAR	**Makanchi Array**	**46.81**	**305**	P		P		21 41 48.1	-1.5
	0.2nm,0.6s,baz=93,slow=9.6,SNR=2.6								
WRA	**Warramunga Arr**	**53.44**	**189**	P		P		21 42 38.2	-2.5
	0.5nm,0.6s,baz=7.9,slow=7.7,SNR=11								

BJI ***29*** *21:46:16.9, 10.38N×93.06E, h45km, mb4.1*
NEIC ***29*** *21:46:20.7±0.3, 10.84N×93.09E, h30km, mb4.6/15, Error ellipse: s-maj=13.3km s-min=7.0km az=54.0*
IDC ***29*** *21:46:26.5±2.7, 11.02N×93.29E, h76km±22km, mb4.1/14, mb1 4.2/14, mb1mx4.0/21, mbtmp4.4/14, Error ellipse: s-maj=26.5km s-min=11.9km az=57.0*
ISC 29 21:46:19.3±0.4,**10.75N**±0.06×**93.15E**±0.07,**h33**km,**n81**, σ1°**14**/81,**mb4.5**/28,**9C-2D**,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
PBA	**Port Blair**	**0.99**	**336**	*e*P		**P**		**21 46 45.1**	**+8.2**
PBA				*e*S		**S**		**21 46 57.4**	**+7.5**
KULM	**Kulim**	**9.19**	**126**	*e*Pn		**P**		**21 48 37.5**	**+4.9**
BWNR	**Bhubaneshwar**	**11.84**	**324**	*e*P		**P**		**21 49 15.2**	**+6.4**
BWNR				*e*S		**S**		**21 51 13.2**	**-7.6**
BWNR				AML		AML		21 51 20.9	
	comp=N,207nm,0.2s								
BWNR				AML		AML		21 51 21.0	
	comp=E,303nm,0.3s								
SHL	**Shillong**	**14.79**	**356**	*e*P		**P**		**21 49 49.0**	**+1.0**
BLSP	**Bilaspur**	**15.47**	**318**	*e*P		**P**		**21 49 57.1**	**+0.1**
BLSP				AMb		AMB		21 50 02.8	
	comp=Z,49nm,0.7s								
BLSP				*e*S		**S**		**21 52 46.0**	**-1.6**
HYB	**Hyderabad**	**15.63**	**297**	*e*P		**P**		**21 50 06.0**	**+7.1**
HYB				*e*S		**S**		**21 52 58.0**	**+6.8**
KMI	**Kunming**	**16.95**	**31**	P		**P**		**21 50 16.8**	**+1.2**
KMI				AMB		AMB			
	comp=Z,10.0nm,1.4s								
KMI	**Kunming**	**16.95**	**31**	P		**P**		**21 50 16.7**	**+1.1**
	comp=Z,10.0nm,1.4s								
JIRN	**Jiri**	**18.05**	**340**	*e*P		**P**		**21 50 30.9**	**+1.5**
PKI	**Pulchoki**	**18.25**	**338**	*e*P		**P**		**21 50 33.9**	**+1.9**
	comp=Z,35nm,0.6s								
AKL	**Akola**	**18.40**	**304**	*e*P		**P**		**21 50 34.8**	**+0.9**
AKL				AMb		AMB		21 50 48.7	
	comp=Z,20nm,1.9s								
DMN	**Daman**	**18.40**	**337**	*e*P		**P**		**21 50 35.8**	**+2.0**
	comp=Z,111nm,1.0s								
KKN	**Kakani**	**18.50**	**338**	*e*P		**P**		**21 50 36.1**	**+1.1**
GKN	**Gorkha**	**18.94**	**336**	*e*P		**P**		**21 50 40.9**	**+0.6**
	comp=Z,39nm,0.3s								
LSA	**Lhasa**	**18.95**	**355**	P		**P**		**21 50 40.0**	**-0.5**
LSA	**Lhasa**	**18.95**	**355**	*e*P		**P**		**21 50 39.5**	**-1.0**
	comp=Z,17nm,0.7s								
KOLN	**Kolanda**	**19.17**	**333**	*e*P		**P**		**21 50 43.8**	**+0.9**
	comp=Z,30nm,0.6s								
KSM	**Kuching**	**19.37**	**117**	*e*P		**P**		**21 50 47.6**	**+2.3**
BHPL	**Bhopal**	**19.48**	**312**	*e*P		**P**		**21 50 44.9**	**-1.5**
BHPL				AMb		AMB		21 50 52.1	
	comp=Z,24nm,0.6s								
POO	**Poona**	**20.20**	**295**	*e*		**S**		**21 54 35.0**	**+0.9**
DDI	**Dehra Dun**	**24.01**	**326**	*e*P		**P**		**21 51 34.0**	**+1.8**
GTA	**Gaotai**	**29.16**	**11**	P		**P**		**21 52 18.8**	**-0.9**
GTA				AMB		AMB			
	comp=Z,9.0nm,0.7s,mb4.6								
ULHL	**Ulahol**	**34.69**	**338**	P		**P**		**21 53 08.3**	**+0.1**
	SNR=6.6								
KZA	**Kyzart**	**34.93**	**336**	P		**P**		**21 53 10.9**	**+0.7**
	SNR=5.4								
TKM2	**Tokmak 2**	**35.52**	**338**	P		**P**		**21 53 15.1**	**0.0**
	SNR=5.7								
KBK	**Karagaybulak**	**35.54**	**337**	P		**P**		**21 53 16.7**	**+1.4**
	SNR=12								
AML	**Almayashu**	**35.61**	**335**	P		**P**		**21 53 16.7**	**+0.8**
	SNR=12								
AAK	**Ala-Archa**	**35.70**	**336**	*e*P		**P**		**21 53 16.2**	**-0.5**
	comp=Z,14nm,1.1s,mb4.8								
CHMS	**Chumysh**	**35.91**	**337**	P		**P**		**21 53 18.6**	**+0.1**
	SNR=6.6								
EKS2	**Erkin-Say**	**36.01**	**335**	P		**P**		**21 53 20.4**	**+1.1**
	SNR=18								
USP	**Ospenovka**	**36.23**	**337**	P		**P**		**21 53 21.6**	**+0.4**
	SNR=14								
MKAR	**Makanchi Array**	**37.09**	**348**	P		**P**		**21 53 27.3**	**-1.1**
	comp=Z,7.2nm,0.7s,mb4.6,baz=168,slow=8.1,SNR=59								
SONM	**Songino Array**	**38.62**	**14**	P		**P**		**21 53 40.1**	**-1.0**
	comp=Z,0.7nm,0.3s,mb3.9,baz=206,slow=8.0,SNR=12								
SONM				PcP		PcP		21 55 53.1	-0.5
	comp=Z,0.4nm,0.4s,baz=190,slow=3.6,SNR=3.9								
SONM				ScP				21 59 31.5	
	comp=Z,0.5nm,0.8s,baz=197,slow=3.4,SNR=4.3								
KURK	**Kurchatov**	**41.61**	**346**	*e*P		**P**		**21 54 04.8**	**-1.1**
	comp=Z,4.0nm,0.6s,mb4.2								
FITZ	**Fitzroy Crossi**	**43.02**	**132**	*e*P		**P**		**21 54 19.3**	**+1.5**
	comp=Z,6.6nm,0.6s,mb4.5								
FITZ	**Fitzroy Crossi**	**43.02**	**132**	P		**P**		**21 54 18.8**	**+1.0**
	comp=Z,8.5nm,0.6s,mb4.7,baz=315,slow=3.3,SNR=18								
FITZ				PcP		PcP		21 56 07.9	-0.3
	comp=Z,4.3nm,0.4s,baz=349,slow=2.9,SNR=6.8								
ZAL	**Zalesovo**	**43.59**	**353**	P		**P**		**21 54 20.7**	**-1.3**
	comp=Z,7.5nm,0.3s,mb4.9,baz=308,slow=5.1,SNR=28								
BVAR	**Borovoye Array**	**45.97**	**341**	P		**P**		**21 54 40.0**	**-1.2**
	comp=Z,2.0nm,0.3s,mb4.5,baz=149,slow=8.6,SNR=23								
BVAR				ScP				22 00 02.4	
	comp=Z,1.3nm,0.8s,baz=162,slow=4.7,SNR=8.1								
BRVK	**Borovoye**	**46.03**	**341**	*e*P		**P**		**21 54 40.2**	**-1.4**
	comp=Z,1.8nm,0.7s,mb4.1								
RDF	**Al-Radifah**	**46.22**	**300**	*e*P		**P**		**21 54 44.8**	**+1.4**
NAY	**Al-Naaiem**	**46.56**	**300**	*e*P		**P**		**21 54 47.4**	**+1.3**
NAY				AMb		AMB		21 54 48.0	
	comp=Z,5.3nm,0.6s,mb4.7								
MIB	**Mutribah**	**46.61**	**301**	*e*P		**P**		**21 54 47.9**	**+1.5**
MIB				AMb		AMB		21 54 49.9	
	comp=Z,19nm,0.7s,mb5.1								
WRA	**Warramunga Arr**	**50.73**	**127**	P		**P**		**21 55 17.7**	**-0.8**
	comp=Z,3.3nm,0.3s,mb4.7,baz=301,slow=10,SNR=125								
WRA				PcP		PcP		21 56 34.5	-1.0
	comp=Z,0.6nm,0.4s,baz=321,slow=3.0,SNR=5.3								
WRAB	**Tennant Creek**	**50.74**	**127**	*e*P		**P**		**21 55 19.0**	**+0.5**
	comp=Z,8.6nm,0.3s,mb5.2								
WB2	**Warramunga Arr**	**50.74**	**127**	*e*P		**P**		**21 55 17.8**	**-0.8**
GNI	**Garni**	**51.76**	**313**	*e*P		**P**		**21 55 27.7**	**+1.8**
	comp=Z,8.3nm,1.0s,mb4.6								
ARU	**Aru**	**52.88**	**337**	*e*P		**P**		**21 55 32.5**	**-1.7**
	comp=Z,3.3nm,0.6s,mb4.4								
KIV	**Kislovodsk**	**54.56**	**317**	*e*P		**P**		**21 55 46.0**	**-0.6**
	comp=Z,15nm,0.9s,mb5.0								
BRTR	**Keskin Array B**	**59.84**	**310**	P		**P**		**21 56 22.7**	**-1.4**
	comp=Z,2.3nm,0.8s,mb4.2,baz=112,slow=6.7,SNR=12								
STKA	**Stephens Creek**	**62.79**	**134**	*e*P		**P**		**21 56 45.2**	**+1.0**
	comp=Z,6.0nm,1.9s,mb4.4								
STKA	**Stephens Creek**	**62.79**	**134**	P		**P**		**21 56 45.4**	**+1.2**
	comp=Z,1.0nm,0.5s,mb4.2,baz=36,slow=9.2,SNR=8.5								
STKA	**Stephens Creek**	**62.79**	**134**	*e*P		**P**		**21 56 44.6**	**+0.5**
TIRR	**Tirgusor**	**64.56**	**314**	⇑P		**P**		**21 56 54.6**	**-0.9**
TIRR	**Tirgusor**	**64.56**	**314**	⇑P		**P**		**21 56 54.6**	**-0.9**
CFR	**Carcaliu**	**64.88**	**315**	⇑P		**P**		**21 56 57.0**	**-0.6**
CFR	**Carcaliu**	**64.88**	**315**	⇑P		**P**		**21 56 57.0**	**-0.6**
AKASG	**Malin Array Be**	**65.31**	**321**	P		**P**		**21 56 58.5**	**-1.8**
	comp=Z,0.4nm,0.3s,mb3.9,baz=87,slow=4.6,SNR=7.2								
VRI	**Vrincioaia**	**65.97**	**315**	⇑P		**P**		**21 57 04.3**	**-0.3**
VRI	**Vrincioaia**	**65.97**	**315**	⇑P		**P**		**21 57 04.3**	**-0.3**
MLR	**Muntele Rosu**	**66.45**	**315**	⇑P		**P**		**21 57 07.9**	**+0.3**
MLR	**Muntele Rosu**	**66.45**	**315**	⇑P		**P**		**21 57 07.9**	**+0.2**
BURAR	**Bucovina Array**	**67.28**	**317**	⇑P		**P**		**21 57 13.1**	**+0.3**
DRGR		**68.86**	**316**	⇓P		**P**		**21 57 22.6**	**0.0**
DRGR		**68.86**	**316**	⇓P		**P**		**21 57 22.6**	**-0.1**
FINES	**FINESS Array B**	**69.73**	**332**	P		**P**		**21 57 26.6**	**-1.1**
	comp=Z,1.5nm,0.3s,mb4.4,baz=112,slow=7.0,SNR=29								
KAF	**Kangasniemi**	**69.81**	**333**	*e*P		**P**		**21 57 26.4**	**-1.8**
	comp=Z,1.6nm,0.4s,mb4.3,baz=105,slow=5.9								
KEV	**Kevo**	**71.82**	**340**	*e*P		**P**		**21 57 39.3**	**-0.9**
	comp=Z,19nm,0.8s,mb5.1								
ARCES	**ARCESS Array B**	**72.25**	**340**	P		**P**		**21 57 42.2**	**-0.6**
	comp=Z,2.7nm,0.3s,mb4.6,baz=100,slow=7.1,SNR=58								
ARCES	**ARCESS Array B**	**72.25**	**340**	P		**P**		**21 57 42.2**	**-0.6**
MORC	**Moravsky Berou**	**72.58**	**319**	*e*P		**P**		**21 57 44.9**	**-0.2**
	comp=Z,7.1nm,1.3s,mb4.4								
TIP	**Timpagrande**	**72.77**	**308**	*e*P		**P**		**21 57 45.6**	**-0.8**
VOJS	**Vojsko**	**74.91**	**315**	*i* P		**P**		**21 57 58.0**	**-0.7**
GERES	**GERESS Array B**	**75.05**	**318**	P		**P**		**21 57 59.6**	**+0.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=79,slow=6.8,SNR=12								
BOSA	**Boshof**	**76.30**	**237**	P		**P**		**21 58 09.5**	**+2.4**
	comp=Z,1.1nm,0.4s,mb4.2,baz=55,slow=6.8,SNR=5.6								
NB2	**NORSAR Subarra**	**76.77**	**330**	P		**P**		**21 58 07.5**	**-1.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=91,slow=5.8								
NOA	**NORSAR Array B**	**76.77**	**330**	P		**P**		**21 58 08.0**	**-1.1**
	comp=Z,0.9nm,0.9s,mb3.7,baz=91,slow=6.0,SNR=4.0								
CASY	**Casey**	**77.88**	**173**	*e*P		**P**		**21 58 13.2**	**-2.0**
	comp=Z,8.0nm,0.6s,mb4.8								
CASY				*e*pP		PcP		21 58 21.6	-3.7
PDAR	**Pinedale Array**	**122.84**	**20**	PKP		PKPdf		22 05 13.4	+0.9
	comp=Z,0.5nm,0.7s,slow=4.4,SNR=4.9								
NVAR	**Mina Array Bea**	**122.94**	**29**	PKP		PKPdf		22 05 14.6	+1.8
	comp=Z,0.5nm,0.4s,baz=330,slow=3.4,SNR=4.4								
NVAR	**Mina Array Bea**	**122.94**	**29**	PKP		PKPdf		22 05 14.6	+1.8
PLCA	**Paso Flores**	**146.84**	**203**	PKPbc		PKPbc		22 06 02.0	+3.9
	comp=Z,1.7nm,0.6s,baz=118,slow=3.0,SNR=6.0								

IDC ***29*** *21:47:38.9±1.0, 33.32N×142.60E, mb3.9/7, mb1 4.1/10, mb1mx3.9/22, mbtmp3.9/10, ML3.8/3, Error ellipse: s-maj=25.8km s-min=19.4km az=85.0*
JMA ***29*** *21:47:41.3±0.3, 33.41N×142.48E, h67km, M3.7*
NEIC ***29*** *21:47:42.3±5.4, 33.39N×142.49E, h23km±37km, mb3.6/2, Error ellipse: s-maj=23.8km s-min=14.3km az=91.0*
ISC 29 21:47:40.2±1.9,**33.39N**±0.05×**142.46E**±0.06,**h22**km±15km, **n25**,σ0°**99**/34,**mb3.9**/8,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BSO1	**Boso 1**	**1.76**	**316**	P		**Pn**		**21 48 10.0**	**0.0**
BSO1				*e*S		**Sn**		**21 48 31.6**	**-0.3**
BSO2	**Boso 2**	**1.96**	**314**	S		**Sn**		**21 48 37.8**	**+0.8**
BSO3	**Boso 3**	**2.15**	**312**	P		**Pn**		**21 48 15.8**	**+0.3**
JHJ2	**Mitsune**	**2.23**	**264**	P		**Pn**		**21 48 17.1**	**+0.4**
JHJ2				*e*S		**Sn**		**21 48 44.6**	**+0.7**
JHJ	**Hachijo jima 2**	**2.26**	**264**	Pn		**Pn**		**21 48 17.3**	**+0.2**
	38nm,0.3s,baz=76,slow=22,SNR=21								
JHJ				Sn		**Sn**		**21 48 44.3**	**-0.3**
	98nm,0.3s,baz=244,slow=23,SNR=16								
BSO4	**Boso 4**	**2.38**	**313**	P		**Pn**		**21 48 19.5**	**+0.7**
BSO4				S		**Sn**		**21 48 48.0**	**+0.5**
JHO	**Hitachi**	**3.57**	**335**	P		**Pn**		**21 48 34.3**	**-1.4**
JYN	**Shimob**	**3.86**	**304**	P		**Pn**		**21 48 41.6**	**+1.8**
JYN				S		**Sn**		**21 49 24.9**	**-0.2**
JAG	**Ashikaga**	**3.91**	**322**	P		**Pn**		**21 48 39.9**	**-0.6**
JRY	**Ryogami san**	**3.93**	**313**	S		**Sn**		**21 49 26.3**	**-0.6**
MJAR	**Matsushiro Arr**	**4.70**	**313**	Pn		**Pn**		**21 48 52.1**	**+0.3**
	2.7nm,0.3s,baz=91,slow=29,SNR=20								
MJAR				Sn		**Sn**		**21 49 44.3**	**-2.0**
	3.6nm,0.3s,baz=150,slow=18,SNR=8.4								
MAJO	**Matsushiro**	**4.70**	**313**	*e*Pn		**Pn**		**21 48 52.1**	**+0.3**
MAT	**Matsushiro**	**4.70**	**313**	*e*P		**Pn**		**21 48 52.0**	**+0.2**
MAT				*e*S		**Sn**		**21 49 45.0**	**-1.4**
MAT	**Matsushiro**	**4.70**	**313**	P		**Pn**		**21 48 52.1**	**+0.3**
MAT				S		**Sn**		**21 49 44.5**	**-1.9**
CBIJ	**Chichi jima**	**6.28**	**182**	Pn		**Pn**		**21 49 11.8**	**-2.2**
	7.9nm,0.3s,baz=316,slow=14,SNR=10								
CBIJ				Sn		**Sn**		**21 50 17.4**	**-8.4**
	4.1nm,0.3s,baz=124,slow=24,SNR=4.2								
SONM	**Songino Array**	**30.64**	**309**	P		**P**		**21 53 57.6**	**+2.6**
	0.5nm,0.4s,mb3.7,baz=115,slow=9.9,SNR=5.0								
MKAR	**Makanchi Array**	**46.85**	**305**	P		**P**		**21 56 11.5**	**+1.2**
	0.4nm,0.7s,mb3.5,baz=76,slow=7.4,SNR=3.0								
KURK	**Kurchatov**	**48.91**	**311**	*e*P		**P**		**21 56 26.0**	**-0.3**
	2.0nm,0.6s,mb4.3								
ILAR	**Eielson Array**	**52.14**	**31**	P		**P**		**21 56 50.1**	**-0.6**
	0.8nm,0.6s,mb3.8,baz=264,slow=5.8,SNR=7.6								
WRA	**Warramunga Arr**	**53.59**	**190**	P		**P**		**21 57 01.1**	**-1.1**
	0.6nm,0.5s,mb3.8,baz=6.6,slow=7.7,SNR=7.9								
FITZ	**Fitzroy Cr

PLCA	**Paso Flores**	**20.83**	**183**	P	**P**	**22 07 28.6**	**0.0**
	7.7nm,0.8s,baz=2.3,slow=11,SNR=11						
PLCA	**Paso Flores**	**20.83**	**183**	*eP*	**P**	**22 07 28.5**	**-0.1**
	7.7nm,0.8s						
ELN	**Prospectdale**	**57.86**	**349**	*eP*	**P**	**22 12 37.1**	**0.0**
WVT	**Waverly**	**58.47**	**342**	*eP*	**P**	**22 12 39.5**	**-1.8**
	8.2nm,0.8s,mb4.8						
TXAR	**Lajitas Array**	**59.23**	**325**	P	**P**	**22 12 46.0**	**-0.6**
	0.3nm,0.4s,mb3.6,baz=150,slow=10,SNR=3.8						
FVM	**French Village**	**60.97**	**341**	*eP*	**P**	**22 12 57.2**	**-1.2**
	9.2nm,0.8s,mb4.9						
VNA3	**Neumayer Olymp**	**61.65**	**162**		**P**	**22 13 03.7**	**+1.2**
VNA1	**Neumayer--Stat**	**61.85**	**161**		**P**	**22 13 05.5**	**+1.6**
MNTX	**Cornudas Mount**	**62.00**	**325**	*eP*	**P**	**22 13 04.0**	**-1.4**
	1.9nm,0.8s,mb4.2						
VNA2	**Neumayer--Watz**	**62.22**	**161**		**P**	**22 13 07.1**	**+0.8**
SNAA	**Sanae**	**63.85**	**161**		**P**	**22 13 17.0**	**0.0**
SNAA	**Sanae**	**63.85**	**161**	P	**P**	**22 13 17.1**	**+0.1**
	1.2nm,0.7s,mb3.8,baz=288,slow=6.1,SNR=29						
SNAA	**Sanae**	**63.85**	**161**	*eP*	**P**	**22 13 16.5**	**-0.5**
	10nm,1.4s,mb4.5						
SADO	**Sadowa**	**64.99**	**352**	P	**P**	**22 13 24.3**	**-0.6**
	1.6nm,0.7s,mb4.0,baz=257,slow=5.4,SNR=4.7						
SADO	**Sadowa**	**64.99**	**352**	P	**P**		
SDCO	**Great Sand Dun**	**66.80**	**329**	*eP*	**P**	**22 13 36.9**	**+0.4**
	1.7nm,0.5s,mb4.1						
DBIC	**Dimbokro**	**68.41**	**74**	P	**P**	**22 13 45.9**	**-1.0**
	7.1nm,0.9s,mb4.5,baz=217,slow=6.4,SNR=4.5						
DBIC			pP		pP	22 14 14.4	+2.7
	5.7nm,0.6s,baz=223,slow=7.2,SNR=3.1						
PDAR	**Pinedale Array**	**72.65**	**330**	P	**P**	**22 14 13.5**	**+1.5**
	0.8nm,0.9s,mb3.5,baz=124,slow=3.3,SNR=3.4						
HWUT	**Hardware Ranch**	**72.75**	**328**	*eP*	**P**	**22 14 12.8**	**+0.3**
	2.0nm,0.6s,mb4.1						
ULM	**Lac du Bonnet**	**73.74**	**342**	P	**P**	**22 14 17.7**	**-0.5**
	1.9nm,0.4s,mb4.2,baz=135,slow=8.3,SNR=3.5						
RRI2	**Red Ridge**	**73.93**	**329**	*eP*	**P**	**22 14 18.6**	**-0.9**
	3.6nm,0.8s,mb4.2						
NVAR	**Mina Array Bea**	**74.14**	**322**	P	**P**	**22 14 22.0**	**+1.2**
	0.9nm,0.5s,mb3.7,baz=162,slow=5.7,SNR=3.8						
NVAR	**Mina Array Bea**	**74.14**	**322**	P	**P**	**22 14 22.0**	**+1.2**
SCHQ	**Schefferville**	**74.43**	**1**	P	**P**	**22 14 22.2**	**+0.1**
	2.5nm,1.0s,mb3.9,baz=65,slow=15,SNR=4.1						
SCHQ	**Schefferville**	**74.43**	**1**	P	**P**	**22 14 22.2**	**+0.1**
HLID	**Hailey**	**75.61**	**328**	*eP*	**P**	**22 14 28.6**	**-0.5**
	0.9nm,0.8s,mb3.5						
EDM	**Edmonton**	**82.25**	**335**	*eP*	**P**	**22 15 04.8**	**0.0**
YKA	**Yellowknife Ar**	**89.62**	**341**	P	**P**	**22 15 41.5**	**+0.9**
	6.6nm,0.7s,mb4.9,baz=135,slow=4.6,SNR=21						
YKA	**Yellowknife Ar**	**89.62**	**341**	P	**P**	**22 15 41.5**	**+0.8**
YKW3	**Yellowknife Ar**	**89.68**	**341**	*eP*	**P**	**22 15 41.3**	**+0.4**
WRA	**Warramunga Arr**	**134.27**	**211**	PKP	PKPdf	22 22 01.7	+1.3
	1.0nm,0.7s,baz=164,slow=1.7,SNR=18						
ZAL	**Zalesovo**	**140.54**	**24**	PKP	PKPdf	22 22 12.4	+1.6
	0.9nm,0.8s,baz=341,slow=3.1,SNR=6.9						
MKAR	**Makanchi Array**	**144.39**	**34**	PKP	PKPdf	22 22 18.5	+0.8
	0.9nm,0.7s,baz=305,slow=2.6,SNR=11						
MKAR			pPKP			22 22 47.0	
	0.6nm,0.9s,baz=326,slow=4.4,SNR=2.7						
MKAR			sPKP			22 22 59.5	
	0.4nm,0.6s,baz=27,slow=2.7,SNR=3.6						
MJAR	**Matsushiro Arr**	**150.95**	**311**	PKPbc	PKPdf	22 22 36.5	+7.8
	1.7nm,0.5s,baz=69,slow=1.2,SNR=7.1						
SONM	**Songino Array**	**151.87**	**7**	PKP	PKPdf	22 22 31.8	+2.0
	0.5nm,0.8s,baz=315,slow=3.5,SNR=4.8						
SONM				PKPbc	PKPdf	22 22 38.9	+9.2
	2.8nm,0.6s,baz=316,slow=1.3,SNR=25						

IDC ***29*** *22:20:24.9±1.1, 13.60S×66.13E, mb3.9/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, MS3.8/2, Ms1 3.8/2, ms1mx3.2/24, Error ellipse: s-maj=32.1km s-min=30.3km az=174.0*

NEIC ***29*** *22:20:26.4±1.0, 13.62S×66.12E, h10km, mb4.1/1, Error ellipse: s-maj=30.0km s-min=25.6km az=141.0*

ISC 29 22:20:24.2±1.0, 13.6S±0.2×66.2E±0.2, h10km, n12, σ0§85/9, mb3.7/7, MS3.8/2, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**40.76**	**242**	P	**P**	**22 28 06.6**	**-0.6**
	2.2nm,0.8s,mb3.8,baz=22,slow=2.5,SNR=4.5						
BOSA	**Boshof**	**40.76**	**242**	*eP*	**P**	**22 28 06.7**	**-0.5**
	2.2nm,0.6s,mb4.0						
SUR	**Sutherland**	**45.35**	**238**	LR	LR	22 46 03.2	
	comp=Z,114nm,18.4s,MS3.8,baz=286,slow=34						
ASF	**Jabal al Asfar**	**53.44**	**329**	P	**P**	**22 29 48.0**	**+1.2**
	0.4nm,0.4s,mb3.8,baz=87,slow=3.0,SNR=3.1						
MKAR	**Makanchi Array**	**61.83**	**13**	P	**P**	**22 30 44.2**	**-1.6**
	0.5nm,0.9s,mb3.6,baz=194,slow=10.0,SNR=3.8						
MKAR	**Makanchi Array**	**61.83**	**13**	P	**P**	**22 30 44.2**	**-1.6**
WRA	**Warramunga Arr**	**65.22**	**106**	P	**P**	**22 31 09.1**	**+0.6**
	0.9nm,0.9s,mb3.8,baz=269,slow=9.2,SNR=7.8						
ZAL	**Zalesovo**	**69.11**	**12**	P	**P**	**22 31 32.1**	**-0.4**
	0.8nm,0.3s,mb4.2,baz=308,slow=1.4,SNR=3.0						
SONM	**Songino Array**	**70.88**	**27**	P	**P**	**22 31 43.5**	**+0.2**
	0.8nm,0.9s,mb3.6,baz=209,slow=5.4,SNR=5.2						
AKASG	**Malin Array Be**	**71.69**	**336**	P	**P**	**22 31 48.7**	**+0.5**
	0.1nm,0.3s,mb3.3,baz=136,slow=4.7,SNR=5.3						
VNDA	**Vanda**	**78.06**	**167**	LR	LR	23 00 01.4	
	comp=Z,48nm,20.5s,MS3.8,baz=132,slow=30						
PDAR	**Pinedale Array**	**150.69**	**354**	PKPbc	PKPdf	22 40 21.4	+7.1
	0.8nm,0.7s,baz=45,slow=2.1,SNR=7.7						

IDC ***29*** *22:31:07.1±2.0, 33.02N×142.24E, mb3.8/4, mb1 3.9/7, mb1mx3.7/23, mbtmp3.8/7, ML3.7/3, Error ellipse: s-maj=45.6km s-min=19.5km az=59.0*

JMA ***29*** *22:31:08.5±0.4, 33.32N×142.40E, h58km, M3.7*

NEIC ***29*** *22:31:10.1±4.3, 33.29N×142.40E, h35km, mb3.9/1, Error ellipse: s-maj=141.0km s-min=11.5km az=65.0*

ISC 29 22:31:08.5±0.9, 33.39N±0.06×142.48E±0.09, h58km, n22, σ1§02/32, mb3.9/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.77**	**316**	P	**P**	**22 31 37.5**	**+0.1**
BSO1				S	**S**	**22 31 59.9**	**+1.1**
BSO3	**Boso 3**	**2.16**	**311**	P	**P**	**22 31 43.0**	**+0.2**
JHJ2	**Mitsune**	**2.25**	**264**	P	**P**	**22 31 43.6**	**-0.4**
JHJ	**Hachijo jima 2**	**2.27**	**264**	Pn	**P**	**22 31 43.6**	**-0.8**
	36nm,0.3s,baz=10,slow=23,SNR=32						
JHJ				Sn	**S**	**22 32 09.8**	**-1.4**
	98nm,0.3s,baz=49,slow=23,SNR=9.8						
BSO4	**Boso 4**	**2.39**	**313**	P	**P**	**22 31 46.8**	**+0.7**
BSO4				S	**S**	**22 32 15.8**	**+1.6**
JIM2	**Oshima 2**	**2.86**	**299**	P	**P**	**22 31 51.9**	**-0.8**
JYN	**Shimob**	**3.87**	**304**	P	**P**	**22 32 07.5**	**+0.5**
JYN				S	**S**	**22 32 52.3**	**+0.7**
JAG	**Ashikaga**	**3.92**	**322**	P	**P**	**22 32 07.4**	**-0.3**
JRY	**Ryogami san**	**3.94**	**313**	P	**P**	**22 32 07.8**	**-0.2**
JMM	**Marumori**	**4.68**	**343**	P	**P**	**22 32 16.1**	**-2.2**
JMM				S	**S**	**22 33 05.9**	**-5.9**
MJAR	**Matsushiro Arr**	**4.71**	**313**	Pn	**P**	**22 32 18.6**	**-0.1**
	2.6nm,0.3s,baz=56,slow=26,SNR=19						
MJAR				Sn	**S**	**22 33 12.7**	**0.0**
	3.0nm,0.3s,baz=264,slow=31,SNR=7.0						
MAJO	**Matsushiro**	**4.71**	**313**	*ePn*	**P**	**22 32 18.8**	**0.0**
MAT	**Matsushiro**	**4.71**	**313**	*eP*	**P**	**22 32 19.0**	**+0.2**
MAT				*eS*	**S**	**22 33 12.0**	**-0.7**
MAT	**Matsushiro**	**4.71**	**313**	P	**P**	**22 32 19.4**	**+0.6**
MAT				S	**S**	**22 33 11.9**	**-0.8**
JMK	**Ichinoseki**	**5.65**	**350**	P	**P**	**22 32 29.6**	**-2.2**
JMK				S	**S**	**22 33 30.5**	**-5.6**
CBIJ	**Chichi jima**	**6.27**	**182**	Pn	**P**	**22 32 35.8**	**-4.8**
	8.4nm,0.3s,baz=311,slow=23,SNR=9.2						
CBIJ				Sn	**S**	**22 33 42.2**	**-9.5**
	19nm,0.3s,baz=235,slow=22,SNR=10						
CBIJ	**Chichi jima**	**6.27**	**182**	P	**P**	**22 32 35.9**	**-4.6**
SONM	**Songino Array**	**30.65**	**309**	P	**P**	**22 37 24.7**	**+5.3**
	0.8nm,0.7s,mb3.7,baz=116,slow=8.5,SNR=6.6						
MKAR	**Makanchi Array**	**46.86**	**305**	P	**P**	**22 39 39.0**	**+4.6**
	0.5nm,0.6s,mb3.7,baz=90,slow=8.7,SNR=5.6						
KURK	**Kurchatov**	**48.92**	**311**	*eP*	**P**	**22 39 52.8**	**+2.4**
	0.6nm,0.5s,mb3.9						
KURK				*e*		22 40 01.1	
WRA	**Warramunga Arr**	**53.59**	**190**	P	**P**	**22 40 26.6**	**+0.5**
	0.3nm,0.3s,mb3.7,baz=2.1,slow=7.7,SNR=19						
FITZ	**Fitzroy Crossi**	**53.66**	**200**	P	**P**	**22 40 27.8**	**+1.2**
	4.7nm,1.0s,mb4.4,baz=26,slow=5.7,SNR=4.1						

IDC ***29*** *22:52:50.3±0.7, 53.43N×159.69E, mb4.0/17, mb1 4.2/18, mb1mx4.1/24, mbtmp4.0/18, ML4.2/1, Error ellipse:*

s-maj=20.5km s-min=11.5km az=179.0

MOS ***29*** *22:52:55.6±1.0, 53.20N×160.12E, h58km, mb4.6/16, Error ellipse: s-maj=14.5km s-min=6.5km az=84.7*

KRSC ***29*** *22:52:56.6±0.8, 53.19N×160.17E, h47km±3km, ML4.7*

NEIC ***29*** *22:52:56.5±0.9, 53.43N×159.85E, h42km±10km, mb4.4/18, Error ellipse: s-maj=11.0km s-min=5.7km az=159.0*

ISC 29 22:52:56.2±0.4, 53.17N±0.03×160.19E±0.05, h62km±3km, n114, σ1§01/154, mb4.2/35, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.12**	**237**	P	**P**	**22 53 04.8**	**-0.7**
SPN				S	**S**	**22 53 10.3**	**-2.1**
SPN	**Mys Shipunski**	**0.12**	**237**	*i* P	**P**	**22 53 04.9**	**-0.6**
SPN				*e*S	**S**	**22 53 10.3**	**-2.1**
NLC	**Nalytchevo**	**0.51**	**271**	*i* P	**P**	**22 53 08.1**	**-0.5**
NLC				*e*S	**S**	**22 53 16.1**	**-1.5**
SDLR	**Sedlovina**	**0.80**	**279**	*i* P	**P**	**22 53 11.9**	**0.0**
SDLR				*e*S	**S**	**22 53 22.8**	**-0.7**
UGLR	**Uglovaya**	**0.83**	**274**	*i* P	**P**	**22 53 12.6**	**+0.3**
UGLR				*e*S	**S**	**22 53 24.4**	**+0.2**
SMAR	**Somma**	**0.84**	**277**	*i* P	**P**	**22 53 12.4**	**-0.1**
SMAR				*e*S	**S**	**22 53 24.0**	**-0.6**
AVH	**Avacha**	**0.88**	**277**	*i* P	**P**	**22 53 13.3**	**+0.3**
AVH				*i* S	**S**	**22 53 25.5**	**0.0**
PET	**Petropavlovsk**	**0.94**	**262**	*e*Pn	**P**	**22 53 13.4**	**-0.4**
PET				*e*Sn	**S**	**22 53 24.5**	**-2.3**
PET	**Petropavlovsk**	**0.94**	**262**	*i* P	**P**	**22 53 13.6**	**-0.2**
PET				*i* S	**S**	**22 53 25.9**	**-0.9**
KOK	**Koryaka**	**0.95**	**278**	*i* P	**P**	**22 53 13.9**	**0.0**
KOK				*e*S	**S**	**22 53 26.6**	**-0.4**
KII	**Karymskiy**	**0.98**	**333**	P	**P**	**22 53 14.1**	**-0.2**
KII				S	**S**	**22 53 26.7**	**-1.0**
KII	**Karymskiy**	**0.98**	**333**	*i* P	**P**	**22 53 14.1**	**-0.2**
KII				*e*S	**S**	**22 53 26.6**	**-1.1**
RUS	**Russkaya**	**1.26**	**235**	*i* P	**P**	**22 53 18.1**	**0.0**
RUS				*i* S	**S**	**22 53 33.8**	**-0.5**
KRMR	**Karymshinskiy**	**1.29**	**256**	*i* P	**P**	**22 53 18.7**	**+0.1**
KRMR				*i* S	**S**	**22 53 34.7**	**-0.5**
GRL	**Gorelyy**	**1.43**	**245**	*i* P	**P**	**22 53 21.3**	**+0.8**
GRL				*i* S	**S**	**22 53 38.9**	**+0.4**
GNL	**Ganaly**	**1.45**	**292**	*i* P	**P**	**22 53 20.9**	**+0.1**
GNL				*i* S	**S**	**22 53 39.4**	**+0.4**
MKZ	**Mys Kozlova**	**1.67**	**33**	P	**P**	**22 53 22.8**	**-1.0**
MKZ				S	**S**	**22 53 41.9**	**-2.2**
MKZ	**Mys Kozlova**	**1.67**	**33**	*i* P	**P**	**22 53 22.8**	**-1.0**
MKZ				*i* S	**S**	**22 53 41.8**	**-2.3**
APC	**Apacha**	**1.85**	**264**	*i* P	**P**	**22 53 27.1**	**+0.8**
APC				*i* S	**S**	**22 53 50.0**	**+1.5**
APC				Smax			
	670nm,1.0s						
TUMR	**Tumrok**	**2.12**	**359**	*i* P	**P**	**22 53 30.9**	**+0.8**
TUMR				*i* S	**S**	**22 53 56.2**	**+0.9**
MIPR	**Malaya Ipel'ka**	**2.27**	**248**	*i* P	**P**	**22 53 33.4**	**+1.1**
MIPR				*e*S	**S**	**22 54 00.7**	**+1.6**
KMNR	**Kamenistaya**	**2.60**	**1**	*i* P	**P**	**22 53 37.7**	**+0.8**
KMNR				*e*S	**S**	**22 54 07.7**	**+0.4**
PAU	**Pauzhetka**	**2.68**	**232**	*e*P	**P**	**22 53 40.2**	**+2.1**
PAU				*e*S	**S**	**22 54 11.2**	**+1.7**
PAU				Smax			
	560nm,1.2s						
KPT	**Kopyto**	**2.81**	**0**	*i* P	**P**	**22 53 40.7**	**+0.9**
KPT				*e*S	**S**	**22 54 13.4**	**+0.8**
ZLN	**Zelenaya**	**2.88**	**7**	*e*P	**P**	**22 53 41.5**	**+0.6**
ZLN				*e*S	**S**	**22 54 15.0**	**+0.6**
ESO	**Esso**	**2.90**	**343**	*i* P	**P**	**22 53 41.1**	**-0.1**
ESO				*e*S	**S**	**22 54 13.5**	**-1.4**
ESO				Smax			
	160nm,1.0s						
KOZ	**Kozyrevsk**	**2.91**	**356**	P	**P**	**22 53 41.7**	**+0.5**
KOZ				S	**S**	**22 54 15.7**	**+0.6**
KOZ	**Kozyrevsk**	**2.91**	**356**	*i* P	**P**	**22 53 41.6**	**+0.4**
KOZ				*e*S	**S**	**22 54 15.6**	**+0.5**
KOZR	**Kozyr**	**2.91**	**357**	PN	**P**	**22 53 41.7**	**+0.4**
KOZR				S	**S**	**22 54 15.7**	**+0.4**
LGNR	**Loginova**	**2.94**	**5**	*e*P	**P**	**22 53 43.1**	**+1.4**
LGNR				*e*S	**S**	**22 54 17.6**	**+1.7**
CIRR	**Tsirk**	**2.98**	**6**	*e*P	**P**	**22 53 43.0**	**+0.8**
CIRR				*e*S	**S**	**22 54 17.6**	**+0.8**
KRSR	**Krestovskiy**	**3.07**	**4**	*e*P	**P**	**22 53 44.5**	**+1.0**
KRSR				*e*S	**S**	**22 54 20.0**	**+0.9**
KLY	**Klyuchi**	**3.17**	**5**	P	**P**	**22 53 46.0**	**+1.1**
KLY				S	**S**	**22 54 22.5**	**+0.9**
KLY	**Klyuchi**	**3.17**	**5**	*e*P	**P**	**22 53 45.7**	**+0.8**
KLY				*e*S	**S**	**22 54 22.6**	**+1.0**
SRDR	**Sredinnyy**	**3.17**	**355**	*i* P	**P**	**22 53 44.8**	**-0.2**
SRDR				*e*S	**S**	**22 54 20.0**	**-1.8**
KBTR	**Krutoberegovo**	**3.41**	**25**	P	**P**	**22 53 48.6**	**+0.3**
KBTR				S	**S**	**22 54 26.7**	**-1.0**
KBTR	**Krutoberegovo**	**3.41**	**25**	*e*P	**P**	**22 53 48.5**	**+0.2**
KBTR				*e*S	**S**	**22 54 26.7**	**-1.0**
SKR	**Severo-Kuril's**	**3.54**	**227**	*e*PN	**P**	**22 54 03.7**	**+14**
SKR				*e*S	**S**	**22 54 27.5**	**-3.6**
SKR				pmax	pmax		
	comp=E,160nm,0.9s						
SKR				pmax	pmax		
	comp=Z,160nm,0.9s						
SKR				smax			
	comp=N,230nm,0.5s						
SKR				smax			
	comp=E,260nm,0.5s						
ALID	**Alaid**	**3.68**	**233**	*e*P	**P**	**22 53 53.3**	**+1.3**
ALID				*e*S	**S**	**22 54 34.0**	**-0.5**
BKI	**Bering**	**3.96**	**57**	*i* P	**P**	**22 53 55.1**	**-0.9**
BKI				*i* S	**S**	**22 54 36.1**	**-5.5**
BKI				Smax			
	comp=E,240nm,0.4s						
OSSR	**Ossora**	**6.31**	**14**	*e*P	**P**	**22 54 28.6**	**-0.1**
FX1	**Attu Island--F**	**7.83**	**87**	Pn	**P**	**22 54 48.8**	**-1.0**
	comp=E,11nm,0.3s,baz=223,slow=21,SNR=46						
FX1				Sn	**S**	**22 56 11.6**	**-6.2**
	comp=E,23nm,0.3s,baz=93,slow=12,SNR=10						
FX1	**Attu Island--F**	**7.83**	**87**	*e*Pn	**P**	**22 54 48.8**	**-1.0**
MAJO	**Matsushiro**	**22.64**	**232**	*e*P	**P**	**22 57 53.5**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.3						
MAJO	**Matsushiro**	**22.64**	**232**	*e*P	**P**	**22 57 53.5**	**+0.9**
	comp=Z,8.5nm,0.7s,mb4.3						
MAT	**Matsushiro**	**22.64**	**232**	*e*P	**P**	**22 57 54.0**	**+1.4**
MAT				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.2						
MAT	**Matsushiro**	**22.64**	**232**	*e*P	**P**	**22 57 54.0**	**+1.4**
	comp=Z,6.8nm,0.7s,mb4.2						
MAT	**Matsushiro**	**22.64**	**232**	P	**P**	**22 57 53.5**	**+0.9**
MJAR	**Matsushiro Arr**	**22.64**	**232**	P	**P**	**22 57 53.7**	**+1.1**
	comp=Z,3.7nm,0.6s,mb4.0,baz=13,slow=9.2,SNR=14						
MJAR	**Matsushiro Arr**	**22.64**	**232**	P	**P**	**22 57 53.7**	**+1.1**
IMA	**Indian Mountai**	**25.95**	**42**	*e*P	**P**	**22 58 24.5**	**+0.5**
IMA				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.4						
IMA	**Indian Mountai**	**25.95**	**42**	*e*P	**P**	**22 58 24.4**	**+0.4**
	comp=Z,13nm,1.0s,mb4.4						
ILAR	**Eielson Array**	**28.72**	**45**	P	**P**	**22 58 49.2**	**0.0**
	comp=Z,1.2nm,0.7s,mb3.8,baz=265,slow=8.5,SNR=16						
INK	**Inuvik**	**33.78**	**38**	P	**P**	**22 59 33.3**	**-0.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=167,slow=6.4,SNR=6.9						
SONM	**Songino Array**	**33.94**	**283**	P	**P**	**22 59 33.6**	**-1.6**
	comp=Z,0.3nm,0.4s,mb3.5,baz=62,slow=7.1,SNR=4.5						
SONM				PcP	PcP	23 02 11.9	-0.6
	comp=Z,0.6nm,0.5s,baz=50,slow=2.2,SNR=7.1						
DLBC	**Dease Lake**	**37.95**	**53**	P	**P**	**23 00 10.8**	**+1.9**
	comp=Z,1.3nm,0.6s,mb3.9,baz=325,slow=15,SNR=4.3						
KURK	**Kurchatov**	**47.75**	**302**	*e*P	**P**	**23 01 25.4**	**-3.0**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
KURK	**Kurchatov**	**47.75**	**302**	*e*P	**P**	**23 01 25.4**	**-3.0**
	comp=Z,3.1nm,0.4s,mb4.7						
MKAR	**Makanchi Array**	**48.18**	**296**	P	**P**	**23 01 28.9**	**-2.9**
	comp=Z,0.8nm,0.4s,mb4.1,baz=58,slow=6.5,SNR=26						
BVAR	**Borovoye Array**	**50.39**	**308**	P	**P**	**23 01 45.4**	**-3.3**
	comp=Z,1.3nm,0.4s,mb4.3,baz=59,slow=8.6,SNR=12						
BRVK	**Borovoye**	**50.42**	**308**	*e*P	**P**	**23 01 46.5**	**-2.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BRVK	**Borovoye**	**50.42**	**308**	*e*P	**P**	**23 01 46.5**	**-2.5**
	comp=Z,1.2nm,0.5s,mb4.2						
ARCES	**ARCESS Array B**	**53.24**	**342**	P	**P**	**23 02 06.9**	**-3.0**
	comp=Z,4.3nm,0.9s,mb4.4,baz=36,slow=7.8,SNR=4.5						
ARCES				PcP	PcP	23 03 16.1	-0.9
	comp=Z,5.7nm,1.0s,baz=31,slow=5.3,SNR=5.2						
SUMG	**Summit**	**53.88**	**7**	*e*P	**P**	**23 02 13.8**	**-0.8**
	comp=Z,9.1nm,0.9s,mb4.7						

NVAR	**Mina Array Bea**	**55.66**	**70**	P	**P**	**23 02 30.2**	**+2.2**
	comp=Z,0.7nm,0.8s,mb3.8,baz=288,slow=8.6,SNR=5.3						
PDAR	**Pinedale Array**	**57.44**	**61**	P	**P**	**23 02 41.6**	**+1.0**
	comp=Z,0.8nm,0.6s,mb3.9,baz=328,slow=2.5,SNR=4.3						
ULM	**Lac du Bonnet**	**58.73**	**47**	P	**P**	**23 02 49.4**	**-0.1**
	comp=Z,2.8nm,0.5s,mb4.6,baz=332,slow=6.3,SNR=3.8						
FINES	**FINESS Array B**	**60.08**	**337**	P	**P**	**23 02 56.1**	**-2.5**
	comp=Z,0.6nm,0.3s,mb4.0,baz=33,slow=7.0,SNR=12						
NB2	**NORSAR Subarra**	**63.49**	**344**	P	**P**	**23 03 18.6**	**-2.9**
	comp=Z,0.5nm,0.6s,mb3.8,baz=20,slow=6.5						
NB2	**NORSAR Subarra**	**63.49**	**344**	P	**P**	**23 03 18.6**	**-2.9**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
NOA	**NORSAR Array B**	**63.49**	**344**	P	**P**	**23 03 19.2**	**-2.3**
	comp=Z,0.5nm,0.6s,mb3.8,baz=21,slow=6.8,SNR=3.9						
NOA	**NORSAR Array B**	**63.49**	**344**	P	**P**	**23 03 19.2**	**-2.4**
AKASG	**Malin Array Be**	**68.58**	**329**	P	**P**	**23 03 51.2**	**-2.7**
	comp=Z,0.5nm,0.3s,mb3.9,baz=29,slow=7.0,SNR=4.5						
TXAR	**Lajitas Array**	**70.55**	**67**	P	**P**	**23 04 06.3**	**0.0**
	comp=Z,1.2nm,0.4s,mb4.1,baz=304,slow=4.5,SNR=7.8						
TXAR	**Lajitas Array**	**70.55**	**67**	P	**P**	**23 04 06.3**	**0.0**
GERES	**GERESS Array B**	**74.47**	**338**	P	**P**	**23 04 28.4**	**-0.6**
	comp=Z,0.5nm,0.5s,mb3.7,baz=25,slow=5.8,SNR=8.9						
BAIF	**Baives**	**75.17**	**344**	*eP*	**P**	**23 04 32.6**	**-0.3**
WRA	**Warramunga Arr**	**76.17**	**205**	P	**P**	**23 04 39.3**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=23,slow=6.2,SNR=7.8						
CDF	**Champ du Feu**	**76.22**	**342**	*eP*	**P**	**23 04 38.5**	**-0.5**
FLN	**La Foliniere**	**77.13**	**347**	*eP*	**P**	**23 04 43.3**	**-0.8**
GRR	**Gorron**	**77.55**	**347**	*eP*	**P**	**23 04 45.3**	**-1.1**
	comp=Z,5.0nm,0.5s,mb4.4						
GRR	**Gorron**	**77.55**	**347**	*eP*	**P**	**23 04 45.3**	**-1.1**
GRR				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
SGMF	**Saint Gilles**	**77.90**	**348**	*eP*	**P**	**23 04 47.6**	**-0.7**
	comp=Z,7.9nm,0.6s,mb4.5						
SGMF	**Saint Gilles**	**77.90**	**348**	*eP*	**P**	**23 04 47.6**	**-0.7**
SGMF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LOR	**Lormes**	**77.93**	**344**	*eP*	**P**	**23 04 47.7**	**-0.8**
	comp=Z,3.7nm,0.6s,mb4.2						
LOR	**Lormes**	**77.93**	**344**	*eP*	**P**	**23 04 47.7**	**-0.8**
LOR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
SSF	**Saint Saulge**	**78.19**	**344**	*eP*	**P**	**23 04 49.7**	**-0.2**
QUIF	**Quistinic**	**78.31**	**349**	*eP*	**P**	**23 04 50.0**	**-0.6**
	comp=Z,22nm,1.1s,mb4.7						
QUIF	**Quistinic**	**78.31**	**349**	*eP*	**P**	**23 04 50.0**	**-0.6**
QUIF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
AVF	**Avril sur Loir**	**78.48**	**344**	*eP*	**P**	**23 04 50.9**	**-0.6**
	comp=Z,13nm,1.0s,mb4.5						
AVF	**Avril sur Loir**	**78.48**	**344**	*eP*	**P**	**23 04 50.9**	**-0.6**
AVF				pmax	pmax		

1.7nm,0.9s,mb4.0,baz=302,slow=9.5,SNR=2.3
STKA pP pP 23 10 03.4 +0.6
1.1nm,0.8s,baz=297,slow=6.8,SNR=1.6
STKA Stephens Creek 52.98 132 P P 23 09 58.9 +2.1
STKA pP pP 23 10 03.4 +0.6
ZAL Zalesovo 53.87 351 P P 23 10 02.4 -0.6
0.9nm,0.5s,mb4.0,baz=330,slow=8.1,SNR=5.1

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*IDC **29** 23:56:20.3±2.4, 33.05N×142.38E, mb3.4/2, mb1 3.5/5, mb1mx3.3/21, mbtmp3.5/5, ML3.3/3, Error ellipse: s-maj=49.5km s-min=22.0km az=56.0*
*JMA **29** 23:56:22.8±0.3, 33.16N×142.43E, h82km, M3.2*
ISC 29 23:56:21.0±2.2, 33.15N±0.05×142.54E±0.09, h30km±22km, n16, σ0=86/25, mb3.5/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.99**	**320**	P		**Pn**	**23 56 54.1**	**+0.9**
BSO1				S		**Sn**	**23 57 17.9**	**+0.6**
JHJ2	**Mitsune**	**2.29**	**270**	P		**Pn**	**23 56 57.5**	**0.0**
JHJ2				S		**Sn**	**23 57 25.2**	**+0.3**
JHJ	**Hachijo jima 2**	**2.31**	**270**	Pn		**Pn**	**23 56 58.2**	**+0.3**
	11nm,0.3s,baz=359,slow=20,SNR=7.0							
JHJ				Sn		**Sn**	**23 57 24.9**	**-0.7**
	35nm,0.3s,baz=60,slow=23,SNR=8.8							
BSO3	**Boso 3**	**2.36**	**315**	P		**Pn**	**23 56 59.7**	**+1.1**
BSO3				S		**Sn**	**23 57 26.8**	**0.0**
BSO4	**Boso 4**	**2.59**	**316**	P		**Pn**	**23 57 03.0**	**+1.1**
BSO4				S		**Sn**	**23 57 33.2**	**+0.5**
JHU	**Hanno**	**3.81**	**316**	S		**Sn**	**23 58 02.2**	**-1.3**
JHO	**Hitachi**	**3.82**	**335**	P		**Pn**	**23 57 18.7**	**-0.6**
JYN	**Shimob**	**4.05**	**306**	S		**Sn**	**23 58 08.9**	**-0.8**
JRY	**Ryogami san**	**4.15**	**315**	P		**Pn**	**23 57 24.8**	**+0.8**
JFK	**Kawauchi**	**4.42**	**343**	P		**Pn**	**23 57 26.6**	**-1.3**
JFK				S		**Sn**	**23 58 12.6**	**-6.5**
MJAR	**Matsushiro Arr**	**4.92**	**315**	Pn		**Pn**	**23 57 35.1**	**+0.3**
	1.2nm,0.3s,baz=169,slow=4.5,SNR=5.8							
MJAR				Sn		**Sn**	**23 58 30.9**	**-0.5**
	1.2nm,0.3s,baz=33,slow=34,SNR=5.4							
JMM	**Marumori**	**4.92**	**344**	P		**Pn**	**23 57 33.6**	**-1.3**
JMM				S		**Sn**	**23 58 23.4**	**-8.1**
JMK	**Ichinoseki**	**5.89**	**350**	S		**Sn**	**23 58 48.1**	**-7.8**
CBIJ	**Chichi jima**	**6.04**	**183**	Pn		**Pn**	**23 57 49.4**	**-1.3**
	3.1nm,0.3s,baz=295,slow=19,SNR=7.2							
CBIJ				Sn		**Sn**	**23 58 53.3**	**-6.3**
	3.7nm,0.3s,baz=286,slow=21,SNR=4.0							
MKAR	**Makanchi Array**	**47.04**	**305**	P		**P**	**00 04 53.0**	**+1.5**
	0.4nm,0.6s,mb3.5,baz=97,slow=9.6,SNR=6.2							
WRA	**Warramunga Arr**	**53.37**	**190**	P		**P**	**00 05 40.4**	**+0.3**
	0.3nm,0.6s,mb3.4,baz=5.5,slow=7.6,SNR=3.4							

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*MOS **30** 00:00:27.6±0.8, 11.60S×78.58E, h10km, mb5.5/58, MS4.4/24, Error ellipse: s-maj=9.2km s-min=5.0km az=114.3*
*IDC **30** 00:00:27.6±0.4, 11.63S×78.54E, mb5.2/29, mb1 5.3/29, mb1mx5.3/29, mbtmp5.2/29, MS4.5/12, Ms1 4.4/12, ms1mx4.2/27, Error ellipse: s-maj=15.2km s-min=11.1km az=35.0*
*HRVD **30** 00:00:31.1±0.3, 11.63S×78.60E, h25km, MW5.0/60, Centroid moment Tensor Solution. LP body waves: s44,c73; Mantle waves: s60,c108; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.99±.16; $M_{\theta\theta}$-4.08±.11; $M_{\phi\phi}$1.09±.14; $M_{r\theta}$-0.58±.25; $M_{\theta\phi}$-1.98±.10; $M_{r\phi}$1.54±.34; Best double couple: M_o4.441×10^{16} NP1: ϕ_s42°, δ54°, λ45°. NP2: ϕ_s281°, δ55°, λ134°. Principal axes: T 4.131, Plg55°, Azm251°; N .62, Plg35°, Azm72°; P -4.752, Plg0°, Azm341°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 00:00:31.1±0.1, 11.65S×78.57E, mb5.3/102, MS4.7/100 Error ellipse: s-maj=4.1km s-min=2.9km az=215.0*
ISC 30 00:00:29.4±0.2, 11.66S±0.04×78.59E±0.04, h22km, h22km±.5km; pP-P, n557, σ0=79/408, mb5.3/159, MS4.7/113, 77C-12D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**7.38**	**304**	*e*P		**Pn**	**00 02 15.1**	**-3.6**
DGAR				pmax		pmax		
	comp=Z,4μm,0.6s							
DGAR	**Diego Garcia**	**7.38**	**304**	*e*P		**Pn**	**00 02 15.1**	**-3.6**
	comp=Z,4μm,0.6s							
NANT	**Nan**	**37.30**	**36**	P		**P**	**00 07 44.0**	**+1.9**
	comp=Z,62nm,0.7s,mb5.5							
CHRT	**Chiangrai**	**37.64**	**34**	⇑P		**P**	**00 07 46.0**	**+1.0**
	comp=Z,190nm,1.1s,mb5.7							
KOLN	**Koldanda**	**39.49**	**7**	*e*P		**P**	**00 08 01.4**	**+1.0**
	comp=Z,78nm,1.0s,mb5.4							
DMN	**Daman**	**39.54**	**9**	*e*P		**P**	**00 08 02.2**	**+1.4**
	comp=Z,69nm,1.4s,mb5.2							
PKI	**Pulchoki**	**39.55**	**10**	*e*P		**P**	**00 08 02.3**	**+1.4**
KKN	**Kakani**	**39.75**	**9**	*e*P		**P**	**00 08 03.6**	**+1.1**
	comp=Z,38nm,1.1s,mb5.0							
GKN	**Gorkha**	**39.86**	**8**	*e*P		**P**	**00 08 04.3**	**+0.9**
	comp=Z,77nm,1.0s,mb5.4							
KKM	**Kota Kinabalu**	**41.35**	**67**	*e*P		**P**	**00 08 16.1**	**+0.2**
DDI	**Dehra Dun**	**41.74**	**359**	*e*		**P**	**00 08 21.0**	**+2.1**
KMBO	**Kilima Mbogo**	**42.33**	**281**	P		**P**	**00 08 25.2**	**+1.2**
	comp=Z,22nm,1.0s,mb4.7,baz=72,slow=9.4,SNR=34							
KMBO				PcP		PcP	00 10 17.8	-0.2
	comp=Z,3.7nm,0.9s,baz=37,slow=9.6,SNR=3.8							
KMBO				LR		LR	00 22 49.0	
	comp=Z,254nm,18.4s,MS4.1,baz=97,slow=32							
KMBO	**Kilima Mbogo**	**42.33**	**281**	P		**P**	**00 08 25.2**	**+1.2**
KMBO				PcP		PcP	00 10 17.8	-0.2
KMBO				LR		LR	00 22 49.0	
LSA	**Lhasa**	**42.86**	**16**	*e*P		**P**	**00 08 28.9**	**+0.8**
LSA				pmax		pmax		
	comp=Z,24nm,0.8s,mb5.0							
LSA				MLR		MLR		
	comp=Z,551nm,19.0s,MS4.5							
LSA	**Lhasa**	**42.86**	**16**	*e*P		**P**	**00 08 28.9**	**+0.7**
	comp=Z,24nm,0.8s,mb5.0							
LSA				LR		LR		
	comp=Z,551nm,19.0s,MS4.5							
KMI	**Kunming**	**43.49**	**33**	P		**P**	**00 08 34.5**	**+1.3**
KMI				*PP		pP	00 08 41.0	+1.3
KMI							00 10 16.0	
KMI							00 10 21.8	
KMI				PPP		PPP	00 10 47.0	-5.5
KMI				S		**S**	**00 14 59.4**	**-0.8**
KMI				SS		SS	00 18 05.4	-2.4
KMI							00 18 31.2	
KMI				pmax		pmax		
	comp=Z,20nm,1.0s,mb4.8							
KMI				MLR		MLR		
	comp=Z,500nm,20.4s,MS4.4							
KMI	**Kunming**	**43.49**	**33**	P		**P**	**00 08 34.5**	**+1.3**
	comp=Z,20nm,1.0s,mb4.8							
KMI				pP		pP	00 08 41.0	+1.3
KMI				sP		sP	00 08 43.9	+1.5
KMI				PP		PP	00 10 16.0	-0.4
KMI				PcP		PcP	00 10 21.8	+0.1
KMI				PPP		PPP	00 10 47.0	-5.5
KMI				PcS			00 14 13.6	
KMI				S		**S**	**00 14 59.4**	**-0.8**
KMI				sS			00 15 10.4	
KMI				SS		SS	00 18 05.4	-2.4
KMI				ScS		ScS	00 18 31.2	+1.7
KMI				SSS		SSS	00 18 45.7	-13
KMI				LR		LR		
	comp=Z,500nm,20.4s,MS4.4							
THN	**Thein Dam**	**43.93**	**356**	*e*P		**P**	**00 08 43.6**	**+6.9**
DJNS	**Zahran al Janu**	**45.27**	**310**	P		**P**	**00 08 49.2**	**+1.6**
FITZ	**Fitzroy Crossi**	**45.82**	**104**	⇑*i*P		**P**	**00 08 52.5**	**+0.5**
	comp=Z,31nm,0.9s,mb5.2							
FITZ	**Fitzroy Crossi**	**45.82**	**104**	P		**P**	**00 08 52.7**	**+0.7**
	comp=Z,42nm,0.9s,mb5.4,baz=238,slow=3.7,SNR=24							
FITZ				PcP		PcP	00 10 29.3	-0.5
	comp=Z,26nm,1.0s,baz=46,slow=0.8,SNR=4.8							
KAMS	**Al Khamasin**	**46.14**	**313**	P		**P**	**00 08 54.1**	**-0.5**
TATS	**Tathlith**	**46.45**	**312**	P		**P**	**00 08 58.2**	**+1.3**
RYDS	**Riyadh**	**47.37**	**319**	P		**P**	**00 09 07.3**	**+3.1**
BLJS	**Baljurashi**	**48.05**	**310**	P		**P**	**00 09 11.9**	**+2.3**
MBAR	**Mbarara**	**48.74**	**280**	*c* *i*P		**P**	**00 09 14.7**	**-0.3**
LSZ	**Lusaka**	**49.06**	**260**	*e*P		**P**	**00 09 17.5**	**0.0**
LSZ				pmax		pmax		
	comp=Z,92nm,1.1s,mb5.7							
LSZ				MLR		MLR		
	comp=Z,571nm,22.0s,MS4.5							
LSZ	**Lusaka**	**49.06**	**260**	*e*P		**P**	**00 09 17.5**	**0.0**
	comp=Z,92nm,1.1s,mb5.7							
LSZ				LR		LR		
	comp=Z,571nm,22.0s,MS4.5							
QRN	**Al-Qurain**	**49.92**	**324**	*e*P		**P**	**00 09 22.9**	**-1.0**
QRN				AMb		AMB	00 09 24.0	
	comp=Z,176nm,0.7s,mb6.2							
RDF	**Al-Radifah**	**50.27**	**324**	*e*P		**P**	**00 09 26.0**	**-0.5**
RDF				AMb		AMB	00 09 27.0	
	comp=Z,90nm,0.5s,mb6.1							
KBD	**Kabd**	**50.38**	**324**	*i* P		**P**	**00 09 26.6**	**-0.7**
KBD				AMb		AMB	00 09 27.7	
	comp=Z,418nm,0.7s							
NAY	**Al-Naaiem**	**50.69**	**324**	*e*P		**P**	**00 09 29.3**	**-0.5**
NAY				AMb		AMB	00 09 30.4	
	comp=Z,155nm,0.9s,mb5.9							
MIB	**Mutribah**	**51.05**	**325**	*e*P		**P**	**00 09 32.3**	**-0.2**
MIB				AMb		AMB	00 09 33.4	
	comp=Z,171nm,0.8s,mb6.0							
ENH	**Enshi**	**51.21**	**35**	*e*P		**P**	**00 09 32.0**	**-1.6**
	comp=Z,56nm,1.0s,mb5.5							
ENH				LR		LR		
	comp=Z,330nm,19.0s,MS4.4							
LBTB	**Lobatse**	**51.73**	**247**	*e*P		**P**	**00 09 36.7**	**-1.0**
LBTB				pmax		pmax		
	comp=Z,66nm,0.9s,mb5.6							
LBTB				MLR		MLR		
	comp=Z,529nm,20.0s,MS4.6							
LBTB	**Lobatse**	**51.73**	**247**	*e*P		**P**	**00 09 36.7**	**-0.9**
	comp=Z,66nm,0.9s,mb5.6							
LBTB				LR		LR		
	comp=Z,529nm,20.0s,MS4.6							
BOSA	**Boshof**	**52.41**	**243**	P		**P**	**00 09 41.8**	**-1.0**
	comp=Z,12nm,0.6s,mb5.0,baz=89,slow=7.0,SNR=42							
BOSA				LR		LR	00 30 23.7	
	comp=Z,240nm,19.4s,MS4.2,baz=140,slow=34							
BOSA	**Boshof**	**52.41**	**243**	*e*P		**P**	**00 09 41.3**	**-1.5**
	comp=Z,72nm,1.7s,mb5.3							
BOSA				LR		LR		
	comp=Z,369nm,22.0s,MS4.4							
KAKA	**Kakadu**	**52.57**	**97**	⇑*i*P		**P**	**00 09 48.7**	**+4.6**
	comp=Z,26nm,0.6s,mb5.3							
KAKA				*i*		pP	00 09 55.3	+4.6
HILS	**Ha'il**	**52.72**	**318**	P		**P**	**00 09 45.3**	**+0.2**
LZH	**Lanzhou**	**53.13**	**26**	⇑P		**P**	**00 09 47.7**	**-0.4**
LZH				*PP		pP	00 09 53.7	-1.0
LZH							00 11 50.0	
LZH				*e*S		**S**	**00 17 17.0**	**+1.3**
LZH				*SS			00 17 27.1	
LZH				*e*SS		SS	00 20 58.0	+3.4
LZH				pmax		pmax		
	comp=Z,69nm,1.5s,mb5.4							
LZH				MLR		MLR		
	comp=Z,710nm,15.0s,MS4.8							
LZH	**Lanzhou**	**53.13**	**26**	⇑P		**P**	**00 09 47.7**	**-0.4**
	comp=Z,69nm,1.5s,mb5.4							
LZH				pP		pP	00 09 53.7	-1.0
LZH				sP		sP	00 09 56.8	-0.4
LZH				PP		PP	00 11 50.0	+0.4
LZH				*e*S		**S**	**00 17 17.0**	**+1.3**
LZH				sS			00 17 27.1	
LZH				*e*SS		SS	00 20 58.0	+3.4
LZH				LR		LR		
	comp=Z,710nm,15.0s,MS4.8							
KBRS	**Khaybar**	**53.40**	**315**	P		**P**	**00 09 51.2**	**+1.1**
ULHL	**Ulahol**	**53.68**	**358**	P		**P**	**00 09 52.4**	**+0.4**
SNR=26								
AML	**Almayashu**	**53.71**	**355**	P		**P**	**00 09 52.5**	**+0.3**
SNR=22								
WRA	**Warramunga Arr**	**54.07**	**106**	P		**P**	**00 09 54.2**	**-0.9**
	comp=Z,34nm,0.8s,mb5.3,baz=275,slow=7.8,SNR=228							
WRA				PcP		PcP	00 10 59.4	-0.4
	comp=Z,8.4nm,0.8s,baz=275,slow=2.4,SNR=6.5							
WRAB	**Tennant Creek**	**54.08**	**106**	*e*P		**P**	**00 09 55.2**	**0.0**
WRAB				pmax		pmax		
	comp=Z,88nm,0.9s,mb5.7							
WRAB				MLR		MLR		
	comp=Z,238nm,19.0s,MS4.3							
WRAB	**Tennant Creek**	**54.08**	**106**	*e*P		**P**	**00 09 55.2**	**0.0**
	comp=Z,88nm,0.9s,mb5.7							
WRAB				LR		LR		
	comp=Z,238nm,19.0s,MS4.3							
WB2	**Warramunga Arr**	**54.08**	**106**	⇑*i*P		**P**	**00 09 55.3**	**+0.1**
WB2				*i*		pP	00 10 02.2	+0.4
WB2				*i*			00 10 09.1	
KBK	**Karagaybulak**	**54.15**	**357**	P		**P**	**00 09 55.8**	**+0.4**
SNR=13								
AAK	**Ala-Archa**	**54.16**	**356**	P		**P**	**00 09 55.7**	**+0.3**
SNR=8.3								
AAK	**Ala-Archa**	**54.16**	**356**	P		**P**	**00 09 55.3**	**-0.1**
AAK				pmax		pmax		
	comp=Z,20nm,1.0s,mb5.0							
AAK	**Ala-Archa**	**54.16**	**356**	*e*P		**P**	**00 09 54.4**	**-1.0**
	comp=Z,26nm,1.1s,mb5.1							
AAK				LR		LR		
	comp=Z,247nm,19.0s,MS4.3							
EKS2	**Erkin-Say**	**54.23**	**356**	P		**P**	**00 09 56.3**	**+0.3**
SNR=17								
FRU	**Bishkek**	**54.35**	**356**	*e*P		**P**	**00 09 56.0**	**-0.8**
FRU				*e*			00 10 00.0	
TKM2	**Tokmak 2**	**54.38**	**357**	P		**P**	**00 09 57.0**	**-0.1**
SNR=32								
UMJS	**Umm Lajj**	**54.43**	**313**	P		**P**	**00 09 58.4**	**+0.7**
USP	**Ospenovka**	**54.78**	**356**	P		**P**	**00 09 59.4**	**-0.6**
SNR=12								
KKAR	**Karatay Array**	**54.99**	**353**	*i* P		**P**	**00 10 01.0**	**-0.6**
KKAR				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.8							
MAW	**Mawson**	**56.85**	**187**	⇑*i*P		**P**	**00 10 13.9**	**-0.8**
	comp=Z,12nm,0.7s,mb5.0							
MAW	**Mawson**	**56.85**	**187**	⇑*i*P		**P**	**00 10 13.9**	**-0.8**
MAW				pmax		pmax		
	comp=Z,13nm,0.7s							
MAW	**Mawson**	**56.85**	**187**	P		**P**	**00 10 14.1**	**-0.5**
	comp=Z,14nm,0.7s,mb5.1,baz=7.5,slow=8.2,SNR=32							
MAW				LR		LR	00 28 52.9	
	comp=Z,237nm,21.5s,MS4.2,baz=48,slow=30							
BDAS	**Al Bad'**	**57.94**	**314**	P		**P**	**00 10 23.2**	**+0.3**
TAYS	**Tayyib Ism**	**58.17**	**314**	P		**P**	**00 10 24.7**	**+0.3**
MKAR	**Makanchi Array**	**58.28**	**3**	P		**P**	**00 10 24.0**	**-0.9**
	comp=Z,61nm,0.8s,mb5.7,baz=187,slow=7.7,SNR=293							
MKAR				LR		LR	00 36 22.8	
	comp=Z,550nm,18.5s,MS4.7,baz=178,slow=37							
MKAR				PKP2bc			00 40 12.8	
	comp=Z,1.8nm,1.0s,SNR=8.5							
MKAR	**Makanchi Array**	**58.28**	**3**	P		**P**	**00 10 24.0**	**-0.9**
MKAR				LR		LR	00 36 22.8	
MKAR				⇑*e*			00 40 12.8	
QURS	**Qurayyt al Mil**	**58.28**	**318**	P		**P**	**00 10 25.5**	**+0.3**
JMOS	**Jabal al Moall**	**58.38**	**315**	P		**P**	**00 10 26.6**	**+0.7**
HAQS	**Haql**	**58.43**	**315**	P		**P**	**00 10 26.9**	**+0.6**
ALWS	**Ilw as Safayha**	**58.49**	**315**	P		**P**	**00 10 27.3**	**+0.6**
CASY	**Casey**	**58.67**	**165**	⇑*i*P		**P**	**00 10 26.7**	**-0.7**
CASY				*i*		pP	00 10 33.4	-0.7
EIL	**Elat**	**58.79**	**315**	P		**P**	**00 10 29.0**	**+0.2**
HRFI	**Mount Harif**	**58.96**	**316**	P		**P**	**00 10 30.0**	**+0.1**
SSE	**Sheshan**	**58.97**	**43**	P		**P**	**00 10 32.2**	**+2.2**
	comp=Z,20nm,0.7s,mb5.3							
SSE				sP		sP	00 10 41.0	+1.8
SSE				PcP		PcP	00 11 22.8	+4.0
SSE				PP		PP	00 12 41.1	-1.1
SSE				ScP			00 15 21.2	
SSE				S		**S**	**00 18 37.1**	**+3.7**
SSE				sS			00 18 48.2	
SSE				ScS		ScS	00 20 20.7	+5.6
SSE				SS		SS	00 22 31.6	+2.5
SSE				LR		LR		
	comp=Z,180nm,21.4s,MS4.2							
TSUM	**Tsumeb**	**59.04**	**255**	*e*P		**P**	**00 10 29.5**	**-1.2**
	comp=Z,13nm,0.8s,mb5.0							
TSUM				LR		LR		
	comp=Z,471nm,20.0s,MS4.6							
ASF	**Jabal al Asfar**	**59.07**	**319**	LR		LR	00 33 44.7	
	comp=Z,504nm,19.1s,MS4.7,baz=345,slow=34							
PRNI	**Paran**	**59.17**	**316**	P		**P**	**00 10 32.1**	**+0.7**
ZFRI	**Zfri**	**59.18**	**316**	P		**P**	**00 10 32.0**	**+0.5**
MKRJ	**Makawir**	**59.49**	**318**	P		**P**	**00 10 33.8**	**+0.2**
MASH	**Mash'abbe Sade**	**59.72**	**317**	P		**P**	**00 10 35.2**	**0.0**
KZIT	**Kziot**	**59.93**	**316**	P		**P**	**00 10 36.5**	**-0.1**
MMLI	**Mount Malkishu**	**60.20**	**318**	P		**P**	**00 10 38.5**	**+0.1**
MARD	**Mardin**	**60.27**	**326**	*i* P		**P**	**00 10 38.9**	**0.0**
KSHT	**Keshet**	**60.29**	**319**	P		**P**	**00 10 39.1**	**0.0**
SLTI	**Sal'it**	**60.32**	**318**	P		**P**	**00 10 39.2**	**-0.1**
GNI	**Garni**	**60.35**	**331**	*c* *i*P		**P**	**00 10 38.1**	**-1.3**
GNI				pmax		pmax		
	comp=Z,44nm,1.2s							
GNI	**Garni**	**60.35**	**331**	*e*P		**P**	**00 10 38.9**	**-0.5**
	comp=Z,41nm,0.9s,mb5.5							
GNI				LR		LR		
	comp=Z,360nm,20.0s,MS4.5							
BEST	**Besiri**	**60.42**	**327**	*i* P		**P**	**00 10 40.4**	**+0.5**
OFRI	**'Ofer**	**60.60**	**318**	P		**P**	**00 10 40.9**	**-0.3**
STKA	**Stephens Creek**	**61.06**	**120**	⇑*i*P		**P**	**00 10 43.6**	**-0.7**
	comp=Z,15nm,0.8s,mb5.2							
STKA				*i*		pP	00 10 50.4	-0.7
STKA	**Stephens Creek**	**61.06**	**120**	P		**P**	**00 10 43.6**	**-0.7**
	comp=Z,21nm,0.7s,mb5.3,baz=296,slow=4.9,SNR=32							
STKA				LR		LR	00 34 41.0	
	comp=Z,598nm,19.2s,MS4.8,baz=214,slow=34							
DGRG	**David-gareji**	**61.07**	**332**	P		**P**	**00 10 44.4**	**+0.1**
ERZM	**Erzurum**	**61.85**	**328**	*i* P		**P**	**00 10 50.7**	**+1.1**
KURK	**Kurchatov**	**62.11**	**0**	⇑*e*P		**P**	**00 10 50.2**	**-0.9**
	comp=Z,45nm,0.9s,mb5.6							
KURK				LR		LR		
	comp=Z,130nm,19.0s,MS4.1							
ELZG	**Elazig**	**62.11**	**326**	*i* P		**P**	**00 10 52.2**	**+0.8**
GZT	**Gaziantep**	**62.12**	**324**	*i* P		**P**	**00 10 51.8**	**+0.4**
SYO	**Syowa Base**	**62.51**	**195**	⇓P		**P**	**00 10 51.0**	**-2.5**
KAHT	**Ahir Dag**	**62.71**	**324**	*i* P		**P**	**00 10 55.7**	**+0.4**
AB31	**Akbulak array**	**62.84**	**346**	P		**P**	**00 10 55.2**	**-0.8**
AB31				pmax		pmax		
	comp=Z,32nm,0.7s,mb5.6							
CSS	**Prodhromos**	**63.14**	**319**	*e*P		**P**	**00 10 57.2**	**-1.0**
	comp=Z,56nm,1.3s,mb5.5							
MEST	**Erdemli**	**63.66**	**321**	*i* P		**P**	**00 11 00.5**	**-1.1**
SONM	**Songino Array**	**64.19**	**20**	P		**P**	**00 11 04.5**	**-0.4**
	comp=Z,30nm,0.9s,mb5.3,baz=204,slow=7.1,SNR=193							
SONM				PKPPKP			00 39 54.9	
	comp=Z,1.2nm,0.8s,baz=45,slow=1.7,SNR=6.4							
KIV	**Kislovodsk**	**64.27**	**332**	*c* *i*P		**P**	**00 11 05.3**	**-0.2**
KIV				pmax		pmax		
	comp=Z,48nm,1.2s,mb5.4							
KIV	**Kislovodsk**	**64.27**	**332**	*e*P		**P**	**00 11 04.7**	**-0.8**
	comp=Z,31nm,1.0s,mb5.3							
KIV				LR		LR		
	comp=Z,51nm,19.0s,MS3.7							
ULN	**Ulaanbaatar**	**64.44**	**21**	PFAKE			00 11 20.0	+13
ULN				LR		LR		
	comp=Z,277nm,21.0s,MS4.4							
VOSK	**Vostochnaya**	**64.45**	**355**	P		**P**	**00 11 05.0**	**-1.5**
VOSK				pmax		pmax		
	comp=Z,37nm,1.3s,mb5.2							
ERMK	**Ermenek**	**64.46**	**320**	*i* P		**P**	**00 11 06.2**	**-0.6**
AVNT	**Avonos**	**64.66**	**323**	*i* P		**P**	**00 11 07.5**	**-0.6**
TOO	**Toolangi**	**64.70**	**126**	⇑*i*P		**P**	**00 11 09.0**	**+0.6**
	comp=Z,23nm,0.9s,mb5.2							
TOO	**Toolangi**	**64.70**	**126**	⇑*i*P		**P**	**00 11 09.0**	**+0.6**
TOO				pmax		pmax		
	comp=Z,23nm,0.9s,mb5.2							
BVA0	**Borovoye Array**	**64.81**	**355**	*i* P		**P**	**00 11 07.3**	**-1.5**
BVA0				pmax		pmax		
	comp=Z,9.0nm,1.4s,mb4.6							
BRVK	**Borovoye**	**64.85**	**354**	*e*P		**P**	**00 11 07.4**	**-1.7**
	comp=Z,15nm,1.0s,mb5.0							
BRVK				LR		LR		
	comp=Z,111nm,21.0s,MS4.0							
GOF	**Gofitskoye**	**64.96**	**333**	⇑*i*P		**P**	**00 11 08.0**	**-2.0**
GOF				pmax		pmax		
	comp=Z,26nm,1.3s,mb5.1							
CTA	**Charters Tower**	**65.26**	**107**	*e*P		**P**	**00 11 12.5**	**+0.2**
	comp=Z,20nm,0.9s,mb5.1							
CTA				*i*		pP	00 11 19.4	+0.4
CTA				*i*			00 11 26.6	
CTA	**Charters Tower**	**65.26**	**107**	*e*P		**P**	**00 11 12.5**	**+0.2**
CTA				*i*		pP	00 11 19.4	+0.4
CTA				pmax		pmax		
	comp=Z,20nm,0.9s							
CTA	**Charters Tower**	**65.26**	**107**	P		**P**	**00 11 12.6**	**+0.3**
	comp=Z,27nm,0.9s,mb5.3,baz=251,slow=9.5,SNR=15							
CTA				LR		LR	00 37 19.7	
	comp=Z,432nm,19.0s,MS4.7,baz=135,slow=34							
CTAO	**Charters Tower**	**65.26**	**107**	*e*P		**P**	**00 11 11.6**	**-0.7**
CTAO				pmax		pmax		
	comp=Z,42nm,1.1s,mb5.4							
CTAO				MLR		MLR		
	comp=Z,633nm,19.0s,MS4.8							
CTAO	**Charters Tower**	**65.26**	**107**	*e*P		**P**	**00 11 11.6**	**-0.7**
	comp=Z,42nm,1.1s,mb5.4							
CTAO				LR		LR		
	comp=Z,633nm,19.0s,MS4.8							
SOC	**Sochi**	**65.40**	**330**	*c* *i*P		**P**	**00 11 09.8**	**-3.0**
SOC				*e*			00 11 41.6	
SOC				*e*			00 13 36.8	
SOC				*e*PPP		PPP	00 15 19.1	+5.8
SOC				*i* S		S	00 19 50.6	-3.7
SOC				*e*			00 21 00.0	
SOC				*e*SS		SS	00 24 07.2	-2.2
SOC				pmax		pmax		
	comp=N,13nm,0.9s							
SOC				pmax		pmax		
	comp=E,3.0nm,0.9s							
SOC				pmax		pmax		

KDAG Bornova 69.10 319 *i* P **P** **00 11 36.4 +0.1**
SIM Simferopol' 69.20 328 *i* P **P** **00 11 35.8 -0.9**
SIM *e*S S 00 20 39.1 -0.9
SIM pmax pmax
comp=Z,17nm,1.0s,mb4.9
SIM MLR MLR
comp=Z,150nm,19.9s,MS4.2
ARU Arti 69.86 348⇑ *i* P **P** **00 11 39.7 -0.8**
ARU *e* 00 12 00.7
ARU *e*PPP PPP 00 15 58.6 +1.9
ARU *e*S S 00 20 48.4 +0.9
ARU *e*SS SS 00 25 17.7 -0.3
ARU pmax pmax
comp=Z,45nm,0.9s,mb5.4
CIT Chita 70.23 22 *e*P **P** **00 11 42.8 -0.1**
CIT *e* pP 00 11 47.8 -1.8
CIT pmax pmax
comp=Z,85nm,1.8s,mb5.4
GUMO Guam 70.35 71 PFAKE 00 12 00.0 +16
GUMO LR LR
comp=Z,947nm,21.0s,MS5.0
HIA Hailar 70.64 27 *e*P **P** **00 11 45.3 -0.1**
HIA *e**PP pP 00 11 51.9 -0.2
HIA pmax pmax
comp=Z,42nm,1.2s
HIA MLR MLR
comp=Z,351nm,19.0s
HIA Hailar 70.64 27 *e*P **P** **00 11 45.2 -0.2**
comp=Z,42nm,1.2s,mb5.2
HIA *e*pP pP 00 11 51.9 -0.3
HIA LR LR
comp=Z,351nm,19.0s,MS4.6
NVL N'lazarevskaya 71.48 199⇓ *i* P **P** **00 11 49.6 -0.6**
NVL *i* *PP pP 00 11 55.8 -1.1
NVL *i* 00 12 17.1
NVL *i* SP SP 00 21 51.4 +16
NVL pmax pmax
comp=Z,2.0nm,0.8s
NVL MLR MLR
comp=Z,20nm,16.1s
MAIT Maitri 71.52 199⇑ *i* P **P** **00 11 50.3 -0.1**
VOR Voronezh 71.72 335 *e*P **P** **00 11 51.0 -0.9**
VOR pmax pmax
comp=Z,100nm,1.1s,mb5.7
JMB Yambol 71.87 322 *e*P **P** **00 11 53.0 0.0**
TIRR Tirgusor 71.99 325 P **P** **00 11 52.8 -0.8**
TIRR Tirgusor 71.99 325⇓ P **P** **00 11 52.1 -1.5**
TIRR Tirgusor 71.99 325⇓ P **P** **00 11 52.1 -1.5**
KDZ Kurdzhali 72.11 321 *e*P **P** **00 11 54.0 -0.4**
MDJ Mudanjiang 72.56 36 *e*P **P** **00 11 56.1 -0.9**
comp=Z,23nm,1.1s,mb5.0
MDJ LR LR
comp=Z,294nm,19.0s,MS4.6
RZN Rozhen 72.57 321 P **P** **00 11 57.0 -0.1**
CFR Carcaliu 72.59 325⇓ P **P** **00 11 56.6 -0.6**
CBIJ Chichi jima 72.70 57 P **P** **00 11 54.5 -3.7**
comp=Z,16nm,0.5s,mb5.2,baz=280,slow=19,SNR=3.7
SRS Serrai 72.86 320 *e*P **P** **00 11 58.2 -1.2**
THE Thessaloniki 73.10 319 *e*P **P** **00 11 56.3 -4.0**
LIT Litokhoron 73.12 318 *e*P **P** **00 11 53.4 -7.0**
MMB Musomiste 73.13 320 *e*P **P** **00 11 59.5 -0.9**
KIS Kishinev 73.34 327 *e*P **P** **00 12 08.0 +6.5**
KIS *e* 00 21 24.0
GRG Griva 73.63 319 *e*P **P** **00 12 03.0 -0.4**
MAJO Matsushiro 73.74 46 *e*P **P** **00 12 03.6 -0.5**
MAJO *e**PP pP 00 12 10.3 -0.6
MAJO pmax pmax
comp=Z,46nm,1.1s,mb5.3
MAJO MLR MLR
comp=Z,396nm,20.0s,MS4.7
MAJO Matsushiro 73.74 46 *e*P **P** **00 12 03.6 -0.5**
comp=Z,46nm,1.1s,mb5.3
MAJO *e*pP pP 00 12 10.3 -0.5
MAJO LR LR
comp=Z,396nm,20.0s,MS4.7
MAT Matsushiro 73.74 46 P **P** **00 12 03.9 -0.2**
MJAR Matsushiro Arr 73.74 46 P **P** **00 12 03.8 -0.3**
comp=Z,30nm,0.9s,mb5.2,baz=232,slow=7.2,SNR=64
VRI Vrincioaia 73.79 325 P **P** **00 12 04.4 +0.2**
VRI Vrincioaia 73.79 325⇑ P **P** **00 12 04.0 -0.2**
VTS Vitosha 74.00 321 P **P** **00 12 05.2 -0.3**
MLR Muntele Rosu 74.01 324 P **P** **00 12 06.1 +0.6**
MLR Muntele Rosu 74.01 324 P **P** **00 12 05.7 +0.2**
comp=Z,22nm,0.9s,mb5.1,baz=162,slow=2.7,SNR=31
MLR Muntele Rosu 74.01 324⇓ P **P** **00 12 05.5 0.0**
MLR Muntele Rosu 74.01 324⇓ P **P** **00 12 05.5 0.0**
IAS Iasi 74.14 327 P **P** **00 12 05.6 -0.5**
IGT Igoumenitsa 74.26 317 *e*P **P** **00 12 06.8 -0.2**
VOIR 74.50 324⇓ P **P** **00 12 07.0 -1.3**
ZAPS Zavoj/Pirot 74.75 321⇑ *i* P **P** **00 12 08.6 -1.2**
BOD Bodaibo 75.07 19 *e*P **P** **00 12 10.6 -0.7**
BOD pmax pmax
comp=Z,33nm,0.8s,mb5.3
OBN Obninsk 75.30 337 *i* P **P** **00 12 11.6 -1.1**
OBN *e* 00 14 58.5
OBN pmax pmax
comp=Z,53nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,200nm,22.0s,MS4.4
OBN Obninsk 75.30 337 *i* P **P** **00 12 11.6 -1.1**
OBN LR LR
comp=Z,49nm,19.0s,MS3.8
MOS Moscow 75.36 337 *e*P **P** **00 12 11.8 -1.2**
MOS *e* 00 12 24.3
MOS pmax pmax
comp=Z,200nm,1.5s,mb5.8
MOS pmax pmax
comp=Z,119nm,1.2s,mb5.7
AKASG Malin Array Be 75.48 330 P **P** **00 12 12.9 -0.9**
comp=Z,8.2nm,0.7s,mb4.8,baz=127,slow=4.7,SNR=48
BURAR Bucovina Array 75.67 326⇑ P **P** **00 12 16.0 +1.1**
SNAA Sanae 76.31 199 *e* pP 00 12 25.4 +0.5
SNAA Sanae 76.31 199 *e* sP 00 12 27.1 -0.1
SNAA Sanae 76.31 199 *e* PcP 00 12 32.4 +2.1
SNAA Sanae 76.31 199⇑ *i* P **P** **00 12 18.2 +0.1**
SNAA *e* pP 00 12 25.4 +0.5
SNAA *e* 00 12 32.4
SNAA Sanae 76.31 199⇑ *i* P **P** **00 12 18.2 +0.1**
SNAA *e* pP 00 12 25.4 +0.5
SNAA *e* 00 12 27.1
SNAA *e* 00 12 32.4
KLR Kul'dur 76.50 33 *e*P **P** **00 12 16.2 -3.4**
KLR pmax pmax
comp=E,28nm,1.4s
KLR pmax pmax
comp=Z,38nm,1.4s,mb5.1
SOI Samo 76.51 314⇑ *i* P **P** **00 12 20.3 +0.4**
TIP Timpagrande 76.52 315 *e*P **P** **00 12 20.1 +0.1**
GRI Girifalco 76.59 315⇑ *i* P **P** **00 12 21.1 +0.8**
DRGR 76.60 324 P **P** **00 12 20.3 +0.1**
DRGR 76.60 324⇑ P **P** **00 12 19.7 -0.6**
DRGR 76.60 324⇑ P **P** **00 12 19.7 -0.5**
CEL Celeste 76.71 314⇑ *i* P **P** **00 12 21.6 +0.6**
DIVS Divcibare 76.79 321⇓ *i* P **P** **00 12 21.0 -0.3**
SSY Sortino 76.81 313⇑ *i* P **P** **00 12 21.8 +0.2**
VNDA Vanda 77.23 167 *e*P **P** **00 12 23.2 0.0**
VNDA pmax pmax
comp=Z,19nm,1.3s
VNDA MLR MLR
comp=Z,381nm,19.0s
VNDA Vanda 77.23 167 P **P** **00 12 23.2 0.0**
comp=Z,6.3nm,0.7s,mb4.7,baz=285,slow=6.9,SNR=13
VNDA LR LR 00 41 26.4
comp=Z,303nm,19.4s,MS4.6,baz=341,slow=32
VNDA Vanda 77.23 167 *e*P **P** **00 12 23.1 0.0**
comp=Z,19nm,1.3s,mb4.9
VNDA LR LR
comp=Z,381nm,19.0s,MS4.7
VAE Valguarnera 77.42 313 P **P** **00 12 25.1 +0.1**
comp=Z,10nm,0.9s,mb4.8,baz=334,slow=9.3,SNR=4.7
CUC Castrocucco 77.54 316⇑ *i* P **P** **00 12 25.0 -0.6**
VNA2 Neumayer--Watz 77.75 200 *e* pP 00 12 33.9 +1.0
VNA2 Neumayer--Watz 77.75 200 *e* sP 00 12 35.1 -0.1
VNA2 Neumayer--Watz 77.75 200 *e* PcP 00 12 41.0 +4.5
VNA2 Neumayer--Watz 77.75 200⇑ *i* P **P** **00 12 26.7 +0.6**
VNA2 *e* pP 00 12 33.9 +1.0
VNA2 *e* pP 00 12 35.1 +2.2
VNA2 *e* 00 12 41.0
VNA2 *e* 00 18 05.3
SLCN Sala Consilina 77.84 316 P **P** **00 12 27.5 +0.3**
KOLS Kolonicke sedl 78.03 326 *e*P **P** **00 12 28.0 -0.1**
KOLS *e*pP pP 00 12 35.6 +0.7
KOLS *e*PP PP 00 15 25.0 -1.5

VNA1 Neumayer--Stat 78.04 200 *e* pP 00 12 35.9 +1.4
VNA1 Neumayer--Stat 78.04 200 *e* sP 00 12 37.1 +0.3
VNA1 Neumayer--Stat 78.04 200 *e* PcP 00 12 43.1 +5.3
VNA1 Neumayer--Stat 78.04 200⇑ *i* P **P** **00 12 28.6 +0.9**
VNA1 *e* pP 00 12 35.9 +1.4
VNA1 *e* pP 00 12 37.1 +2.6
VNA1 *e* 00 12 43.1
KWP Kalwaria 78.19 327 *e*P **P** **00 12 28.9 0.0**
comp=Z,100nm,1.4s,mb5.5
KWP *e*PcP PcP 00 12 35.8 -3.0
KWP MLR MLR 00 54 05.7
comp=Z,200nm,18.3s,MS4.5
SBA Scott Base 78.30 168 *e*P **P** **00 12 29.5 +0.5**
SBA pmax pmax
comp=Z,12nm,1.0s,mb4.8
SBA MLR MLR
comp=Z,384nm,21.0s,MS4.7
SBA Scott Base 78.30 168 *e*P **P** **00 12 29.5 +0.5**
comp=Z,12nm,1.0s,mb4.8
SBA LR LR
comp=Z,384nm,21.0s,MS4.7
PKS6 Bocsa 78.33 323⇓ *e*P **P** **00 12 30.7 +0.9**
QSPA South Pole Qui 78.39 180⇑ *i* P **P** **00 12 29.9 +0.4**
comp=Z,55nm,1.1s,mb5.4
CRVS Cervenica-Dubn 78.46 326 *e*P **P** **00 12 30.6 +0.2**
CRVS *e*pP pP 00 12 36.4 -0.9
VNA3 Neumayer Olymp 78.48 199 *e* pP 00 12 37.9 +0.9
VNA3 Neumayer Olymp 78.48 199 *e* sP 00 12 39.2 -0.1
VNA3 Neumayer Olymp 78.48 199 *e* PcP 00 12 45.2 +5.5
VNA3 Neumayer Olymp 78.48 199⇑ *i* P **P** **00 12 30.7 +0.6**
VNA3 *e* pP 00 12 37.9 +0.9
VNA3 *e* pP 00 12 39.2 +2.2
VNA3 *e* 00 12 45.2
VNA3 *e* 00 18 12.5
KECS Kecovo 78.78 325 *e*P **P** **00 12 31.8 -0.4**
KECS *e*pP pP 00 12 39.4 +0.4
KECS *e*PP PP 00 15 29.5 -3.0
STHS Stebnicka Huta 78.86 326 *e*P **P** **00 12 32.3 -0.3**
STHS *e*pP pP 00 12 38.5 -1.0
STHS *e*PP PP 00 15 33.2 +0.1
PKS8 Sarbogard 79.00 323⇓ *e*P **P** **00 12 33.3 -0.1**
SGG Gregorio Mates 79.14 316⇑ *i* P **P** **00 12 34.0 -0.3**
MIDA Miranda 79.33 317⇑ *i* P **P** **00 12 35.1 -0.3**
CII Carovilli 79.33 317 *e*P **P** **00 12 34.9 -0.5**
comp=Z,43nm,1.4s,mb5.2
NIE Niedzica 79.38 326 *e*P **P** **00 12 35.1 -0.3**
PKSG 79.43 323⇑ *e*P **P** **00 12 35.5 -0.2**
SRO2 Moca 79.61 323 *e*P **P** **00 12 36.3 -0.4**
SRO2 *e*pP pP 00 12 42.8 -0.8
SRO2 *e* 00 12 50.2
SRO Srobarova 79.69 323 *e*P **P** **00 12 36.4 -0.7**
SRO1 Iza 79.71 323 *e*P **P** **00 12 37.2 0.0**
SRO1 *e*pP pP 00 12 44.4 +0.3
SRO1 *e* 00 12 51.0
VYHS Vyhne 79.73 324 *i* P **P** **00 12 37.2 -0.1**
VYHS *e*pP pP 00 12 43.8 -0.4
HNR Honiara 79.75 98 PFAKE 00 12 50.0 +12
HNR LR LR
comp=Z,328nm,19.0s,MS4.7
VVLD Villa Vallelon 79.86 317⇑ *i* P **P** **00 12 37.8 -0.4**
OJC Ojcow 80.08 326 *e*P **P** **00 12 38.8 -0.4**
TERO Teramo 80.20 317⇑ *i* P **P** **00 12 39.7 -0.3**
AQU L'Aquila 80.22 317 *e*P **P** **00 12 39.7 -0.3**
comp=Z,36nm,1.0s,mb5.3
CERT Cerreto 80.32 316⇑ *i* P **P** **00 12 39.9 -0.8**
GCIS Gornji Cirnik 80.36 321 *e*P **P** **00 12 40.5 -0.2**
FIAM Fiamignano 80.37 317⇑ *i* P **P** **00 12 40.7 -0.2**
BOJS Bojanci 80.42 320 *i* P **P** **00 12 41.0 -0.1**
GOLS Golise 80.42 321 *i* P **P** **00 12 41.3 +0.2**
SUW Suwalki 80.44 330 *e*P **P** **00 12 40.7 -0.3**
SUW *e*PcP PcP 00 12 47.9 -0.5
SUW Suwalki 80.44 330 *e*P **P** **00 12 40.7 -0.3**
SUW *e*PcP PcP 00 12 47.9 -0.5
SUW MLR MLR 00 54 54.7
comp=Z,200nm,18.4s,MS4.5
ZST Bratislava 80.58 323 *e*P **P** **00 12 41.1 -0.8**
ZST *e*pP pP 00 12 49.1 +0.4
OKC Ostrava-Krasne 80.80 325⇑ *i* P **P** **00 12 42.8 -0.2**
OKC *e*pP pP 00 12 49.9 0.0
OKC AMS AMS 00 49 30.0
comp=Z,200nm,20.5s
VISS Visnje 80.82 321 *e*P **P** **00 12 43.1 0.0**
VISS *e*pP pP 00 12 50.4 +0.3
PUL Pulkovo 80.98 338 *i* P **P** **00 12 44.1 +0.4**
PUL *i* 00 15 50.6
PUL *i* S S 00 22 48.8 -1.3
PUL *i* SS SS 00 28 06.6 -1.1
PUL pmax pmax
comp=Z,66nm,0.5s,mb5.8
PUL pmax pmax
comp=N,57nm,0.6s
PUL pmax pmax
comp=E,39nm,0.6s
PUL MLR MLR
comp=Z,214nm,23.0s,MS4.4
PUL MLR MLR
comp=N,275nm,26.0s
PUL Pulkovo 80.98 338 *i* P **P** **00 12 43.4 -0.3**
ARSA Arzberg 81.07 322⇑ *i* P **P** **00 12 44.8 +0.3**
comp=N,84nm,2.0s,mb5.3
MORC Moravsky Berou 81.11 325 *e*P **P** **00 12 44.0 -0.6**
comp=N,12nm,0.8s,mb4.9
LJU Ljubljana 81.12 321 *e*P **P** **00 12 44.9 +0.2**
LJU *e* pP 00 12 52.3 +0.7
OBKA Obir 81.32 321⇑ *i* P **P** **00 12 46.1 +0.3**
comp=N,72nm,2.5s,mb5.2
VRAC Vranov 81.42 324 P **P** **00 12 46.3 +0.1**
comp=N,9.7nm,1.0s,mb4.7,baz=98,slow=6.7,SNR=12
VRAC Vranov 81.42 324 P **P** **00 12 46.9 +0.7**
VOY Vojsko 81.51 320 *e*P **P** **00 12 46.3 -0.5**
VSU Vasula 81.53 335 *i* P **P** **00 12 46.5 -0.1**
VSU Vasula 81.53 335 *i* P **P** **00 12 46.6 -0.1**
YSS Yuzh-Sakhalins 81.59 39⇑ *e*P **P** **00 12 46.0 -1.2**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 81.59 39 *i* P **P** **00 12 46.8 -0.4**
YSS LR LR
comp=Z,249nm,19.0s,MS4.6
CADS Cadrg 81.69 321 *e*P **P** **00 12 47.0 -0.7**
DPC Dobruska-Polom 82.08 325⇑ *i* P **P** **00 12 50.2 +0.6**
DPC AMS AMS 00 48 30.0
comp=Z,200nm,15.1s
MOA Molln 82.10 322⇑ *i* P **P** **00 12 49.8 0.0**
comp=Z,66nm,1.8s,mb5.3
KBA Koelnbreinsper 82.31 321⇓ *i* P **P** **00 12 51.1 +0.2**
comp=Z,75nm,2.8s,mb5.1
UPC Upice 82.33 325⇑ *i* P **P** **00 12 51.9 +1.0**
UPC *e*pP pP 00 12 57.3 -0.5
KSP Ksiaz 82.33 326⇑ *e*P **P** **00 12 52.1 +1.2**
KSP *e*pP pP 00 12 59.3 +1.5
KSP *e* 00 13 06.0
KSP Ksiaz 82.33 326 *e*P **P** **00 12 52.1 +1.2**
comp=Z,200nm,2.1s,mb5.7
KSP *e*PcP PcP 00 12 56.9 +0.2
KSP MLR MLR 00 49 45.1
comp=Z,400nm,18.8s,MS4.8
FVI Forni Avoltri 82.45 321⇑ *i* P **P** **00 12 52.1 +0.4**
SEST Monte Rota 82.87 321⇑ *i* P **P** **00 12 54.4 +0.6**
GEC2 GERESS Array S 82.88 323 *e*P **P** **00 12 53.7 -0.2**
GEC2 pmax pmax
comp=Z,30nm,1.7s,mb5.0
GEC2 GERESS Array S 82.88 323 *e*P **P** **00 12 53.7 -0.2**
comp=Z,30nm,1.7s,mb5.0
GERES GERESS Array B 82.88 323 P **P** **00 12 53.2 -0.7**
comp=Z,4.1nm,0.8s,mb4.5,baz=135,slow=5.7,SNR=42
GERES LR LR 00 50 21.8
comp=Z,96nm,19.7s,MS4.2,baz=321,slow=36
PRU Pruhonice 82.91 324⇑ *i* P **P** **00 12 54.3 +0.3**
PRU *e*pP pP 00 13 01.6 +0.7
PRU AMS AMS 00 51 20.0
comp=Z,100nm,18.2s
GKP Gorka Klasztor 83.02 328 *e*P **P** **00 12 55.1 +0.6**
GKP LR LR
comp=Z,100nm,21.9s,MS4.2
GKP Gorka Klasztor 83.02 328 *e*P **P** **00 12 55.1 +0.6**
GKP MLR MLR 00 54 20.6
comp=Z,100nm,21.9s,MS4.2
KHC Kasperske Hory 83.08 323⇑ *i* P **P** **00 12 54.9 0.0**
KHC Kasperske Hory 83.08 323⇑ *i* P **P** **00 12 54.7 -0.2**
KHC *e*pP pP 00 13 00.3 -1.5
KHC AMS AMS 00 54 00.0
comp=Z,100nm,13.8s
PVCC Panska Ves 83.15 325⇑ *i* P **P** **00 12 55.9 +0.7**

PVCC *e*pP pP 00 13 02.5 +0.4
PVCC AMS AMS 00 54 10.0
comp=Z,200nm,18.9s
PGF Pioggiola 83.27 316 *e*P **P** **00 12 55.3 -0.7**
comp=Z,44nm,1.3s,mb5.0
WTTA Wattenberg 83.44 321⇑ *i* P **P** **00 12 56.8 0.0**
comp=Z,85nm,1.5s,mb5.5
WET Wettzell 83.50 323 *e*P **P** **00 12 56.7 -0.3**
WET pmax pmax
comp=Z,19nm,1.3s,mb5.1
WET Wettzell 83.50 323 *e*P **P** **00 12 56.7 -0.3**
comp=Z,19nm,1.3s,mb5.1
YAK Yakutsk 83.51 22⇑ *i* P **P** **00 12 55.9 -0.9**
YAK LR LR
comp=Z,225nm,20.0s,MS4.5
BRG Berggiesshubel 83.66 325 *e*P **P** **00 12 58.6 +0.8**
BRG *e* pP 00 13 06.3 +1.6
BRG pmax pmax
comp=Z,15nm,1.1s,mb5.0
BRG pmax pmax
comp=Z,11nm,1.0s,mb4.9
BRG Berggiesshubel 83.66 325 *e*P **P** **00 12 58.6 +0.8**
comp=Z,15nm,1.1s,mb5.0
BRG *e* pP 00 13 06.3 +1.6
FINES FINESS Array B 83.66 337 P **P** **00 12 57.2 -0.4**
comp=Z,18nm,0.8s,mb5.3,baz=135,slow=8.1,SNR=72
FINES LR LR 00 52 27.0
comp=Z,145nm,19.8s,MS4.3,baz=282,slow=37
SQTA Sankt Quirin 83.69 321⇑ *i* P **P** **00 12 58.2 +0.2**
comp=Z,22nm,1.0s,mb5.2
DZM Mont Dzumac 83.74 111 P **P** **00 13 00.0 +1.1**
comp=Z,11nm,1.0s,mb5.0,baz=189,slow=21,SNR=3.4
MOTA Moosalm 83.81 321⇑ *i* P **P** **00 12 58.4 -0.2**
comp=Z,21nm,1.0s,mb5.2
KAF Kangasniemi 84.00 338 *e*p **P** **00 12 58.7 -0.5**
comp=Z,54nm,0.9s,mb5.7,baz=127,slow=4.5
KAF Kangasniemi 84.00 338 *e*P **P** **00 12 58.7 -0.5**
KAF pmax pmax
comp=Z,54nm,0.9s,mb5.7
FUORN Ofenpass 84.04 320⇑ *i* P **P** **00 13 00.4 +0.6**
FUR Furstenfeldbru 84.04 322 *e*P **P** **00 12 59.7 -0.1**
FUR pmax pmax
comp=Z,24nm,1.2s,mb5.2
FUR Furstenfeldbru 84.04 322 *e*P **P** **00 12 59.7 -0.1**
comp=Z,24nm,1.2s,mb5.2
NKC Novy Kostel 84.23 324⇑ *i* P **P** **00 13 01.7 +1.0**
NKC *e*pP pP 00 13 07.8 +0.2
DAVOX Davos 84.34 320 P **P** **00 13 01.3 -0.1**
comp=Z,12nm,0.8s,mb5.1,baz=132,slow=7.1,SNR=20
DAVOX Davos 84.34 320 P **P** **00 13 01.3 -0.1**
CLL Collm 84.39 325⇑ *i* P **P** **00 13 02.2 +0.8**
CLL *i* *SP sP 00 13 09.8 -0.8
CLL *e*S S 00 23 21.0 -3.8
CLL pmax pmax
comp=Z,46nm,1.3s,mb5.5
CLL Collm 84.39 325⇑ *i* P **P** **00 13 02.2 +0.8**
comp=Z,46nm,1.3s,mb5.5
CLL *i* sP sP 00 13 09.8 -0.8
CLL *e*S S 00 23 21.0 -3.8
CLL Collm 84.39 325⇑ P **P** **00 13 02.2 +0.8**
comp=Z,logA/T=1.5,mb5.4
CLL *e**PP pP 00 13 07.0 -1.4
CLL *i* *SP sP 00 13 09.8 -0.8
CLL *e* 00 13 16.0
CLL *e*PP PP 00 16 18.0 -0.3
CLL *e*S S 00 23 21.0 -3.8
DAVA Damuels 84.54 320⇑ *i* P **P** **00 13 02.8 +0.5**
comp=Z,51nm,1.2s,mb5.5
GRA1 Grafenberg Arr 84.71 323 *e*P **P** **00 13 03.6 +0.5**
comp=Z,43nm,1.1s,mb5.5
GRA1 *e*pP pP 00 13 11.1 +1.1
GRF Grafenberg Arr 84.71 323 *e*P **P** **00 13 03.6 +0.5**
GRF *e**PP pP 00 13 11.1 +1.1
GRF pmax pmax
comp=Z,43nm,1.1s,mb5.5
GRF Grafenberg Arr 84.71 323 *e*P **P** **00 13 03.6 +0.5**
comp=Z,43nm,1.1s,mb5.5
GRF *e*pP pP 00 13 11.1 +1.1
SAOF Saorge 84.79 317 *e*P **P** **00 13 03.9 +0.3**
SBF Sospel 84.82 317 *e*P **P** **00 13 04.1 +0.3**
comp=Z,103nm,1.2s,mb5.5
AUTN L'Aution 84.88 317 *e*P **P** **00 13 06.7 +2.6**
MOX Moxa 84.89 324 *e*P **P** **00 13 04.9 +0.9**
MOX *e* pP 00 13 12.3 +1.4
MOX pmax pmax
comp=Z,30nm,1.6s,mb5.2
MOX MLR MLR
comp=Z,100nm,19.0s,MS4.2
MOX Moxa 84.89 324 *e*P **P** **00 13 04.9 +0.9**
comp=Z,30nm,1.6s,mb5.2
MOX *e* pP 00 13 12.3 +1.4
MOX LR LR
comp=Z,100nm,19.0s,MS4.2
MOX Moxa 84.89 324 *i* P **P** **00 13 04.9 +0.9**
comp=Z,logA/T=1.3,mb5.2
MOX pP pP 00 13 12.0 +1.1
MOX S S 00 23 34.0 +4.3
MOX SS SS 00 28 58.0 -7.5
MOX L 00 58 39.0
DBIC Dimbokro 84.96 278 P **P** **00 13 05.5 +0.4**
comp=Z,24nm,0.7s,mb5.5,baz=93,slow=4.6,SNR=34
DBIC LR LR 00 47 41.7
comp=Z,224nm,21.2s,MS4.5,baz=79,slow=33
DBIC Dimbokro 84.96 278 *e*P **P** **00 13 05.0 -0.2**
comp=Z,42nm,0.9s,mb5.6
DBIC LR LR
comp=Z,287nm,22.0s,MS4.6
TOUF Mont Tournerai 85.00 317 *e*P **P** **00 13 05.4 +0.7**
MVIF Mont Vial 85.03 317 *e*P **P** **00 13 05.4 +0.6**
LIC Lamto 85.03 277 *e*P **P** **00 13 05.1 -0.5**
comp=Z,73nm,0.8s,mb5.5
BSD Bornholm Skovb 85.11 329⇑ *i* P **P** **00 13 05.0 0.0**
BSD pmax pmax
comp=Z,33nm,0.8s,mb5.5
BSD Bornholm Skovb 85.11 329⇑ *i* P **P** **00 13 05.0 0.0**
comp=Z,33nm,0.8s,mb5.5
FRF La Foret Royal 85.25 316 *e*P **P** **00 13 06.0 +0.1**
comp=Z,48nm,1.0s,mb5.3
LMR La Mourre 85.26 316 *e*P **P** **00 13 06.0 0.0**
comp=Z,45nm,1.2s,mb5.2
MMK Mattmark 85.28 319⇑ *i* P **P** **00 13 06.4 +0.3**
LVZ Lovozero 85.35 345 *i* P **P** **00 13 06.7 +0.8**
LVZ *i* 00 16 28.4
LVZ *i* S S 00 23 33.1 -0.8
LVZ pmax pmax
comp=N,9.0nm,1.2s
LVZ pmax pmax
comp=Z,51nm,1.2s,mb5.5
LVZ pmax pmax
comp=E,7.0nm,0.8s
LVZ smax
comp=N,31nm,7.5s
LVZ smax
comp=Z,15nm,4.5s
LVZ MLR MLR
comp=Z,219nm,19.0s,MS4.6
LVZ MLR MLR
comp=N,96nm,18.0s,MS4.5
LVZ MLR MLR
comp=E,153nm,19.0s,MS4.5
STU Stuttgart 85.56 322 *e*P **P** **00 13 07.5 +0.2**
comp=E,26nm,1.0s,mb5.4
MBDF Montbardon 85.58 317 *e*P **P** **00 13 07.5 -0.1**
comp=E,19nm,1.0s,mb5.0
DIX Grande Dixence 85.65 319⇑ *i* P **P** **00 13 08.5 +0.6**
BNI Bardonecchia 85.76 317 *e*P **P** **00 13 07.5 -1.0**
comp=E,6.8nm,0.8s,mb4.9
LPG La Plagne 85.87 318 *e*P **P** **00 13 08.9 -0.1**
comp=E,21nm,0.9s,mb5.0
LPL La Plagne 85.89 318 *e*P **P** **00 13 08.9 -0.2**
comp=E,28nm,1.0s,mb5.2
BFO Black Forest 85.91 321 *e*P **P** **00 13 09.3 +0.1**
BFO pmax pmax
comp=Z,20nm,1.1s,mb5.3
BFO Black Forest 85.91 321 *e*P **P** **00 13 09.3 +0.1**
comp=Z,20nm,1.1s,mb5.3
FELD Feldberg 85.94 320 *e*P **P** **00 13 09.5 +0.2**
CLZ Clausthal 86.10 325 *e*P **P** **00 13 10.9 +0.9**
CLZ pmax pmax
comp=Z,61nm,1.5s,mb5.6
CLZ Clausthal 86.10 325 *e*P **P** **00 13 10.9 +0.9**
comp=Z,61nm,1.5s,mb5.6
BBS Basel-Blauen 86.10 320 *e*P **P** **00 13 10.2 +0.1**
TOD Tromm 86.12 322 *e*P **P** **00 13 10.4 +0.3**
SMRF Simiane la Rot 86.12 316 *e*P **P** **00 13 11.0 +0.7**
comp=Z,124nm,1.6s,mb5.6

ORIF Oris-en-Rattie 86.24 317 *e*P P 00 13 11.2 +0.3
comp=Z,30nm,1.0s,mb5.2
ORIF *e*R
comp=Z,108nm,20.5s
LOMF Lomont 86.49 320 *e*P P 00 13 11.8 -0.2
TNS Taunus Mts 86.57 323 *e*P P 00 13 13.1 +0.8
TNS pmax pmax
comp=Z,18nm,1.0s,mb5.3
TNS Taunus Mts 86.57 323 *e*P P 00 13 13.1 +0.8
comp=Z,18nm,1.0s,mb5.3
CDF Champ du Feu 86.60 321 *e*P P 00 13 12.3 -0.2
comp=Z,32nm,1.1s,mb5.1
ECH Echery 86.60 321 *e*P P 00 13 12.5 0.0
COP Copenhagen 86.63 329 *e*P P 00 13 12.5 0.0
COP *e*S S 00 23 31.8 -15
COP pmax pmax
comp=Z,25nm,1.1s,mb5.4
COP Copenhagen 86.63 329 *e*P P 00 13 12.5 0.0
comp=Z,25nm,1.1s,mb5.4
COP *e*S S 00 23 31.8 -15
COP Copenhagen 86.63 329 *i* P P 00 13 12.5 0.0
comp=Z,25nm,1.1s,mb5.4
COP Copenhagen 86.63 329 *e*S S 00 23 31.8 -15
HINF Hinteralfeld 86.64 320 *e*P P 00 13 12.3 -0.4
comp=Z,18nm,1.0s,mb4.9
SNZO South Karori 86.94 131 PFAKE 00 13 30.0 +16
SNZO LR LR
comp=Z,590nm,19.0s,MS5.0
ABH Alteburg 86.98 322 *e*P P 00 13 14.4 +0.1
BSEG Bad Segeberg 86.99 327 *e*P P 00 13 15.1 +0.8
BSEG pmax pmax
comp=Z,19nm,1.3s,mb5.2
VIVF Saint-Julien-l 87.03 317 *e*P P 00 13 14.9 +0.2
comp=Z,47nm,1.2s,mb5.3
HAU Haudompre 87.03 320 *e*P P 00 13 14.4 -0.2
comp=Z,58nm,1.5s,mb5.3
HAU *e*R
comp=Z,112nm,22.0s
RUP Ruppelstein 87.20 322 *e*P P 00 13 16.0 +0.6
LASF Ste Croix 87.32 316 *e*P P 00 13 16.8 +0.7
comp=Z,87nm,1.4s,mb5.5
THEF They Montfort 87.33 320 *e*P P 00 13 16.1 0.0
MEZF Maizieres J'vi 88.01 320 *e*P P 00 13 19.7 +0.4
comp=Z,23nm,1.0s,mb5.0
HFS Hagfors 88.04 333 P P 00 13 19.3 +0.1
HFS pmax pmax
comp=Z,16nm,0.7s
HFS Hagfors 88.04 333 P P 00 13 19.3 +0.1
comp=Z,16nm,0.7s,mb5.3,baz=135,slow=6.3,SNR=34
PLDF La Plantade 88.09 318 *e*P P 00 13 21.4 +1.6
LBL Lubilhac 88.10 317 *e*P P 00 13 22.1 +2.2
WTSB Winterswijk 88.19 324 ‖ *e*P P 00 13 20.1 0.0
comp=Z,26nm,1.7s,mb5.2
MTLF Montolieu 88.22 315 *e*P P 00 13 21.1 +0.6
comp=Z,128nm,1.5s,mb5.6
HGN Heimansgroeve 88.26 323 ‖ *e*P P 00 13 20.9 +0.5
comp=Z,16nm,1.6s,mb5.0
LOR Lormes 88.36 319 *e*P P 00 13 21.3 +0.3
comp=Z,42nm,1.1s,mb5.3
LOR *e*R
comp=Z,96nm,20.5s
PYM Petit Puy Mans 88.43 317 *e*P P 00 13 23.0 +1.6
AGO Saint Agoulin 88.44 318 *e*P P 00 13 23.0 +1.5
SSF Saint Saulge 88.52 319 *e*P P 00 13 22.0 +0.2
comp=Z,97nm,1.2s,mb5.7
AVF Avril sur Loir 88.53 318 *e*P P 00 13 21.7 -0.2
comp=Z,25nm,1.2s,mb5.1
MUD Monsted U'grnd 88.61 329 *i* P P 00 13 22.8 +0.8
MUD pmax pmax
comp=Z,13nm,1.1s,mb5.2
MUD Monsted U'grnd 88.61 329 *i* P P 00 13 22.8 +0.8
comp=Z,13nm,1.1s,mb5.2
EBEN Beniarda 88.64 310 P P 00 13 23.8 +1.1
comp=Z,17nm,0.8s,mb5.4
KEV Kevo 88.64 344 *e*p P 00 13 22.0 +0.1
comp=Z,36nm,0.8s,mb5.8
KEV Kevo 88.64 344 *e*P P 00 13 22.0 +0.1
KEV pmax pmax
comp=Z,36nm,0.8s,mb5.8
GIVF Givet 88.70 322 *e*P P 00 13 23.2 +0.6
CAF Calviac 88.81 316 *e*P P 00 13 23.5 +0.3
comp=Z,84nm,1.6s,mb5.5
ARCES ARCESS Array B 88.91 344 P P 00 13 24.3 +1.1
comp=Z,51nm,0.8s,mb5.9,baz=129,slow=4.1,SNR=94
BAIF Baives 89.06 322 *e*P P 00 13 25.2 +0.9
comp=Z,113nm,1.4s,mb5.7
TCF Toulx Ste Croi 89.12 318 *e*P P 00 13 24.9 +0.2
comp=Z,9.4nm,0.8s,mb4.9
HYF Humbligny 89.14 319 *e*P P 00 13 25.8 +1.0
EMUR La Murta 89.18 309 P P 00 13 24.4 -0.8
EMOS Mosqueruela 89.28 311 P P 00 13 27.3 +1.7
comp=Z,12nm,0.7s,mb5.3
RJF Les Rejaudoux 89.29 317 *e*P P 00 13 26.2 +0.7
comp=Z,89nm,1.4s,mb5.6
RJF *e*R
comp=Z,142nm,19.0s
EPF Esparros 89.44 314 *e*P P 00 13 26.5 +0.2
EBIE Bielsa 89.48 314 P P 00 13 27.7 +1.2
comp=Z,12nm,0.8s,mb5.3
NB2 NORSAR Subarra 89.54 333 P P 00 13 25.7 -0.6
comp=Z,11nm,1.1s,mb5.1,baz=107,slow=4.8
NB2 NORSAR Subarra 89.54 333 P P 00 13 25.7 -0.6
NB2 pmax pmax
comp=Z,11nm,1.1s,mb5.1
NOA NORSAR Array B 89.54 333 P P 00 13 26.3 0.0
comp=Z,3.6nm,0.9s,mb4.7,baz=108,slow=5.0,SNR=6.3
NOA NORSAR Array B 89.54 333 P P 00 13 26.3 0.0
TIXI Tiksi 89.55 14 *i* P P 00 13 25.3 -0.8
TIXI LR LR
comp=Z,254nm,19.0s,MS4.7
ETOB Tobarra 89.63 310 P P 00 13 28.4 +1.1
comp=Z,17nm,0.8s,mb5.4
ESAC San Caprasio 89.65 313 P P 00 13 27.8 +0.5
comp=Z,19nm,0.6s,mb5.6
KONO Kongsberg 89.69 332 *i* P P 00 13 26.9 -0.1
KONO MLR MLR
comp=Z,237nm,20.0s,MS4.6
LFF La Frestale 89.71 316 *e*P P 00 13 27.6 +0.1
comp=Z,30nm,1.1s,mb5.3
ETSF Etsaut 90.04 314 *e*P P 00 13 28.9 -0.2
comp=Z,62nm,1.5s,mb5.4
SJPF Ste Jean 90.57 314 *e*P P 00 13 31.9 +0.4
comp=Z,58nm,1.1s,mb5.5
EQES Quesada 90.57 308 P P 00 13 31.2 -0.5
comp=Z,11nm,1.1s,mb5.1
MFF Saint Martin d 90.77 317 *e*P P 00 13 32.5 +0.1
comp=Z,86nm,1.6s,mb5.5
MA2 Magadan 91.16 29 *e*P P 00 13 44.9 +11
MA2 Magadan 91.16 29 PFAKE 00 13 50.0 +16
MA2 LR LR
comp=Z,211nm,19.0s,MS4.6
FLN La Foliniere 91.58 319 *e*P P 00 13 36.0 0.0
comp=Z,90nm,1.4s,mb5.6
FLN *e*R
comp=Z,116nm,21.0s
ESDC Sonseca Array 91.70 310 P P 00 13 37.3 +0.5
comp=Z,8.0nm,0.9s,mb5.0,baz=88,slow=4.2,SNR=24
ESDC Sonseca Array 91.70 310 P P 00 13 36.9 +0.1
comp=Z,6.8nm,0.9s,mb5.0
ESLA Sonseca Array 91.70 310 *e*P P 00 13 36.8 -0.1
comp=Z,5.3nm,1.5s,mb4.7
ESLA *ep*P pP 00 13 43.4 -0.4
ESLA LR LR
comp=Z,526nm,20.0s,MS5.0
GRR Gorron 91.72 319 *e*P P 00 13 37.0 +0.3
comp=Z,18nm,0.8s,mb5.2
EADA Adamuz 91.82 308 P P 00 13 37.7 +0.3
comp=Z,12nm,0.8s,mb5.3
ESPR Espera 92.52 307 P P 00 13 40.4 -0.2
comp=Z,7.2nm,0.7s,mb5.2
SGMF Saint Gilles 92.79 319 *e*P P 00 13 41.6 0.0
comp=Z,32nm,1.2s,mb5.3
SEY Seymchan 93.06 26 *i* P P 00 13 42.5 0.0
QUIF Quistinic 93.10 318 *e*P P 00 13 42.5 -0.5
ROSF Rostrenen 93.27 319 *e*P P 00 13 43.4 -0.4
PET Petropavlovsk 93.32 37 *e*P P 00 13 47.5 +3.6
EVO Evora 94.53 308 *e*P P 00 13 50.3 +0.4
comp=Z,13nm,1.0s,mb5.0
EVO *e*R
comp=Z,162nm,22.2s
KBS Kingsbay 97.00 350 PFAKE 00 14 10.0 +10
KBS LR LR
comp=Z,222nm,21.0s,MS4.6
PMSA Palmer Station 98.76 195 PFAKE 00 14 20.0 +12
PMSA LR LR
comp=Z,244nm,20.0s,MS4.7

BILL Bilibino 99.85 22 PFAKE 00 14 20.0 +6.7
BILL LR LR
comp=Z,231nm,20.0s,MS4.7
BORG Borgarnes 104.70 334 PFAKE 00 14 50.0 +15
BORG LR LR
comp=Z,62nm,19.0s,MS4.2
CMLA Cha da Macela 108.17 306 PFAKE 00 19 10.0
CMLA LR LR
comp=Z,2µm,20.0s
RCBR Riachuelo 112.57 259 PFAKE 00 19 20.0 +11
RCBR LR LR
comp=Z,159nm,21.0s,MS4.6
TRQA Tornquist 118.30 215 PFAKE 00 19 30.0 +10
TRQA LR LR
comp=Z,260nm,19.0s,MS4.9
PLCA Paso Flores 120.57 207 PKIKP PKPdf 00 19 21.4 -2.9
PLCA pmax pmax
comp=Z,1.0nm,0.6s
PLCA Paso Flores 120.57 207 PKP PKPdf 00 19 21.4 -2.9
comp=Z,0.9nm,0.6s,baz=50,slow=2.7,SNR=4.3
TBI Tubuai 121.52 127 *e*LR LR 00 57 12.5
comp=Z,689nm,35.8s
CPUP Villa Florida 122.89 228 PFAKE 00 19 40.0 +11
CPUP LR LR
comp=Z,118nm,21.0s,MS4.5
PPT Papeete 124.27 121 *e*LR LR 00 58 28.5
comp=Z,146nm,24.2s
DLBC Dease Lake 128.54 19 *e*PKP PKPdf 00 19 36.0 -3.2
DLBC *e* 00 19 43.3
SCHQ Schefferville 129.08 335 PKP PKPdf 00 19 36.6 -3.7
comp=Z,5.3nm,1.2s,baz=304,slow=3.7,SNR=3.9
SCHQ Schefferville 129.08 335 PKP PKPdf 00 19 36.6 -3.7
SCHQ LR LR
comp=Z,222nm,19.0s,MS4.9
RKT Rikitea 132.31 137 *e*LR LR 01 02 13.1
comp=Z,223nm,34.0s
LVC Limon Verde 133.37 223 PFAKE 00 20 00.0 +11
LVC LR LR
comp=Z,134nm,22.0s,MS4.6
PQI Presque Isle 135.14 327 PFAKE 00 20 00.0 +8.1
PQI LR LR
comp=Z,2µm,22.0s,MS5.7
EMMW East Machias 136.07 325 PFAKE 00 20 00.0 +6.3
EMMW LR LR
comp=Z,1µm,21.0s,MS5.6
SAML Samuel 136.83 243 *e*PKP PKPdf 00 19 52.8 -3.1
SAML LR LR
comp=Z,190nm,19.0s,MS4.8
LPAZ La Paz 136.93 231 PKIKP PKPdf 00 19 54.2 -1.7
LPAZ pmax pmax
comp=Z,8.0nm,0.9s
LPAZ La Paz 136.93 231 PKP PKPdf 00 19 54.2 -1.7
comp=Z,7.5nm,0.9s,baz=99,slow=2.2,SNR=34
LPAZ La Paz 136.93 231 *e*PKP PKPdf 00 19 53.5 -2.4
LPAZ LR LR
comp=Z,132nm,19.0s,MS4.7
FFC Flin Flon 137.04 0 PFAKE 00 20 00.0 +4.9
FFC LR LR
comp=Z,68nm,21.0s,MS4.4
WVL Waterville 137.38 326 PFAKE 00 20 00.0 +3.9
WVL LR LR
comp=Z,3µm,22.0s
EDM Edmonton 137.46 11 *e*PKP PKPdf 00 19 52.6 -3.4
EDM *e* 00 20 01.6
OCWA Octopus Mounta 139.27 24 PFAKE 00 20 10.0 +11
OCWA LR LR
comp=Z,180nm,20.0s,MS4.8
WES Weston 139.72 325 PFAKE 00 20 10.0 +10
WES LR LR
comp=Z,885nm,21.0s,MS5.5
HRV Harvard--Oak R 139.77 325 PFAKE 00 20 10.0 +9.5
HRV LR LR
comp=Z,121nm,20.0s,MS4.6
NCB Newcomb 140.18 329 PFAKE 00 20 10.0 +8.8
NCB LR LR
comp=Z,118nm,20.0s,MS4.6
NEW Newport 141.22 17 PFAKE 00 20 10.0 +7.1
NEW LR LR
comp=Z,270nm,21.0s,MS5.0
ULM Lac du Bonnet 141.25 354 PKP PKPdf 00 19 58.8 -4.2
comp=Z,3.5nm,0.7s,baz=340,slow=1.5,SNR=4.4
ULM Lac du Bonnet 141.25 354 *e*PKP PKPdf 00 19 58.4 -4.6
ULM LR LR
comp=Z,190nm,21.0s,MS4.8
COR Corvallis 142.19 26 PFAKE 00 20 10.0 +5.3
COR LR LR
comp=Z,181nm,22.0s,MS4.8
BINY Binghamton 142.35 329 *e*PKP PKPdf 00 19 58.2 -6.8
CROR Criterion Ridg 142.80 23 P PKPdf 00 19 59.2 -6.6
DGMT Dagmar 143.23 3 *e*PKP PKPdf 00 19 59.1 -7.2
MSO Missoula 143.38 14 *e*PKP PKPdf 00 19 59.5 -7.1
MSO LR LR
comp=Z,140nm,22.0s,MS4.7
CHMT Chamberlain Mo 143.46 14 *e*PKP PKPdf 00 19 59.6 -7.1
HUMO Hull Mountain 143.91 27 *e*PKP PKPdf 00 20 02.9 -4.9
HUMO LR LR
comp=Z,187nm,20.0s,MS4.8
HRY Holter Researc 143.97 12 *e*PKP PKPdf 00 20 02.3 -5.3
BMO Blue Mountains 144.22 19 *e*PKP PKPdf 00 20 02.0 -6.1
BMO LR LR
comp=Z,248nm,22.0s,MS4.9
BUOR Burton Butte 144.50 27 P PKPbc 00 20 05.2 +1.0
YBH Yreka Blue Hor 144.72 28 *e*PKP PKPdf 00 20 05.0 -4.2
YBH LR LR
comp=Z,220nm,19.0s,MS5.0
LAO LASA Array 144.85 6 *e*PKP PKPdf 00 20 05.4 -3.9
LAO LR LR
comp=Z,249nm,22.0s,MS4.9
KHMM Horse Mountain 144.90 30 *e*PKP PKPdf 00 20 06.5 -3.0
LHEM Herd Peak 145.02 28 P PKPbc 00 20 06.9 +1.2
BOZ Bozeman (W) 145.03 13 *e*PKP PKPdf 00 20 05.8 -3.8
BOZ LR LR
comp=Z,207nm,22.0s,MS4.9
GCMT Greycliff 145.26 10 *e*PKP PKPdf 00 20 06.9 -3.1
LASM Arnica Sink 145.34 27 P PKPbc 00 20 08.1 +1.6
SJG San Juan 145.37 285 *e*PKP PKPdf 00 20 07.0 -4.0
SJG LR LR
comp=Z,144nm,20.0s,MS4.8
MCMT McKenzie Canyo 145.52 14 *e*PKP PKPdf 00 20 07.8 -2.7
MOD Modoc 145.64 25 *e*PKP PKPdf 00 20 08.8 -1.9
MOD LR LR
comp=Z,177nm,20.0s,MS4.8
WDC Whiskeytown Da 145.70 29 *e*PKP PKPdf 00 20 07.8 -3.1
WDC LR LR
comp=Z,194nm,20.0s,MS4.9
KIPM Iron Peak 145.83 31 *e*PKP PKPdf 00 20 09.1 -2.0
QLMT Earthquake Lak 145.84 13 *e*PKP PKPdf 00 20 09.0 -2.0
WVOR Wild Horse Val 145.86 23 *e*PKP PKPdf 00 20 09.0 -2.1
KCPM Cahto Peak 145.87 31 *e*PKP PKPdf 00 20 08.8 -2.4
CBN Corbin 145.95 325 *e*PKP PKPdf 00 20 08.6 -2.8
CBN LR LR
comp=Z,227nm,21.0s,MS4.9
YNR Norris Junctio 146.11 12 PKP PKPdf 00 20 09.3 -2.2
NNA Nana 146.13 227 PFAKE 00 20 20.0 +11
NNA LR LR
comp=Z,23nm,21.0s,MS3.9
HLID Hailey 146.28 17 *e*PKP PKPdf 00 20 09.6 -2.2
HLID LR LR
comp=Z,261nm,19.0s,MS5.0
LKWY Lake 146.31 12 *e*PKPbc PKPbc 00 20 10.9 +2.2
LKWY LR LR
comp=Z,385nm,20.0s,MS5.2
YFT Old Faithful 146.33 12 PKPdf PKPdf 00 20 09.6 -2.3
HOPS Hopland 146.65 32 *e*PKP PKPdf 00 20 10.0 -2.6
IMW Indian Meadow 146.84 13 *e*PKP PKPdf 00 20 10.5 -2.3
LOHW Long Hollow 147.18 12 *e*PKPdf PKPdf 00 20 10.4 -2.9
TPAW Teton Pass 147.23 13 *e*PKP PKPdf 00 20 10.8 -2.6
BEKR Beckwourth 147.28 28 *e*PKP PKPdf 00 20 11.2 -2.4
RRI2 Red Ridge 147.28 13 *e*PKPdf PKPdf 00 20 10.8 -2.7
SNOW Snow King Moun 147.30 13 *e*PKPdf PKPdf 00 20 11.0 -2.5
REDW Red Top Meadow 147.37 13 *e*PKPdf PKPdf 00 20 11.2 -2.4
RSSD Black Hills 147.58 4 *e*PKPdf PKPdf 00 20 10.8 -3.1
RSSD LR LR
comp=Z,346nm,20.0s,MS5.1
AHID Auburn Hatcher 147.88 13 *e*PKPbc PKPdf 00 20 14.8 +0.3
AHID LR LR
comp=Z,193nm,22.0s,MS4.8
BMN Battle Mountai 148.13 23 *e*PKPdf PKPdf 00 20 12.5 -2.5
BMN *e*PKPbc PKPdf 00 20 15.8 +0.8
BMN LR LR
comp=Z,194nm,22.0s,MS4.8
BW06 Boulder Array 148.21 11 PFAKE 00 20 20.0 +5.0
BW06 LR LR
comp=Z,228nm,20.0s,MS5.0

PDAR Pinedale Array 148.21 11 PKP PKPdf 00 20 12.4 -2.6
comp=Z,39nm,0.8s,baz=18,slow=2.9,SNR=178
PDAR PKPbc PKPdf 00 20 15.4 +0.5
comp=Z,39nm,0.8s,baz=50,slow=1.2,SNR=77
FWV Forest Hill 148.26 328 *e*PKP PKPdf 00 20 12.3 -2.9
BLA Blacksburg 148.33 327 *e*PKP PKPdf 00 20 12.1 -3.2
BLA LR LR
comp=Z,116nm,20.0s,MS4.7
ELN Prospectdale 148.50 327 *e*PKP PKPdf 00 20 12.2 -3.5
ELK Elko 148.57 20 *e*PKP PKPdf 00 20 13.5 -2.2
ELK LR LR
comp=Z,261nm,20.0s,MS5.0
CMB Columbia Colle 148.73 30 *e*PKPbc PKPdf 00 20 16.6 +0.7
CMB LR LR
comp=Z,193nm,20.0s,MS4.9
HWUT Hardware Ranch 148.87 15 *e*PKPbc PKPdf 00 20 17.1 +1.0
HWUT LR LR
comp=Z,212nm,21.0s,MS4.9
SAO San Andreas Ge 149.17 32 *e*PKPbc PKPdf 00 20 18.1 +1.4
SAO LR LR
comp=Z,324nm,19.0s,MS5.1
NVAR Mina Array Bea 149.37 27 PKP PKPdf 00 20 15.5 -1.5
comp=Z,27nm,0.8s,baz=315,slow=1.3,SNR=4.3
NVAR PKPbc PKPdf 00 20 19.7 +2.7
comp=Z,26nm,0.8s,baz=328,slow=1.3,SNR=16
BLO Bloomington 149.57 337 *e*PKPdf PKPdf 00 20 14.0 -3.3
BLO *e*PKPbc PKPdf 00 20 18.2 +1.0
SDV Santo Domingo 149.60 268 *e*PKP PKPdf 00 20 15.0 -3.1
SDV LR LR
comp=Z,147nm,19.0s,MS4.8
NOQ North Oquirrh 149.62 16 *e*PKPbc PKPdf 00 20 19.1 +1.7
LRV Little Rabbit 149.66 32 *e*PKPbc PKPdf 00 20 20.1 +2.6
RWWY Rawlins 149.66 9 *e*PKPbc PKPdf 00 20 19.1 +1.7
OMM Old Mammoth Mi 149.72 28 *e*PKPbc PKPdf 00 20 20.0 +2.4
TPH Tonopah 150.13 26 *e*PKPbc PKPdf 00 20 21.0 +2.8
TPH LR LR
comp=Z,239nm,19.0s,MS5.0
MTUM Tungsten Hills 150.14 28 *e*PKPbc PKPdf 00 20 21.3 +3.1
PHWY Pilot Hill 150.26 6 *e*PKPdf PKPdf 00 20 14.8 -3.5
PHWY *e*PKPbc PKPdf 00 20 20.0 +1.7
WCI Wyandotte Cave 150.29 336 *e*PKPdf PKPdf 00 20 14.8 -3.7
WCI *e*PKPbc PKPdf 00 20 19.4 +1.0
WCI LR LR
comp=Z,152nm,20.0s,MS4.8
TZTN Tazewell 150.45 330 *e*PKPdf PKPdf 00 20 15.6 -3.2
TZTN *e*PKPbc PKPdf 00 20 20.8 +2.0
PTRM Twissleman Ran 150.66 32 *e*PKPbc PKPdf 00 20 22.6 +3.5
JSC Jenkinsville 150.94 324 *e*PKPdf PKPdf 00 20 16.9 -2.6
JSC *e*PKPbc PKPdf 00 20 22.2 +2.7
TWB Tillmans-White 151.06 321 *e*PKPbc PKPdf 00 20 22.4 +2.6
NHSC New Hope 151.11 321 *e*PKPbc PKPdf 00 20 22.6 +2.7
NHSC LR LR
comp=Z,190nm,19.0s,MS4.9
TMUT Trail Mountain 151.13 16 *e*PKPbc PKPdf 00 20 23.0 +3.3
COW Cow Castle Cre 151.24 322 *e*PKPbc PKPdf 00 20 22.9 +2.9
HBF Harts Bluff 151.35 321 *e*PKPbc PKPdf 00 20 23.1 +3.0
DAC Darwin (Calif) 151.47 28 *e*PKPdf PKPdf 00 20 18.0 -2.3
DAC *e*PKPbc PKPdf 00 20 24.1 +3.9
DAC LR LR
comp=Z,203nm,19.0s,MS5.0
ISA Isabella 151.54 30 PFAKE 00 20 30.0 +10
ISA LR LR
comp=Z,49nm,20.0s,MS4.3
MYNC Murphy 151.90 329 *e*PKPdf PKPdf 00 20 17.7 -3.2
MYNC *e*PKPbc PKPdf 00 20 23.9 +2.9
MYNC LR LR
comp=Z,159nm,22.0s,MS4.8
FVM French Village 152.00 341 *e*PKPdf PKPdf 00 20 18.1 -2.9
FVM *e*PKPbc PKPdf 00 20 24.0 +3.0
SMCO Snowmass 152.15 9 *e*PKPdf PKPdf 00 20 18.3 -2.9
SMCO *e*PKPbc PKPdf 00 20 25.4 +4.2
CCM Cathedral Cave 152.19 343 *e*PKPdf PKPdf 00 20 17.4 -3.9
CCM *e*PKPbc PKPdf 00 20 23.6 +2.4
CCM LR LR
comp=Z,162nm,20.0s,MS4.8
KSU1 Kansas State U 152.34 352 *e*PKPbc PKPdf 00 20 24.7 +3.2
ROSC El Rosal 152.38 258 PKP PKPdf 00 20 19.9 -2.3
comp=Z,2.5nm,0.4s,baz=90,slow=23,SNR=3.9
ROSC PKPbc PKPdf 00 20 25.8 +3.6
comp=Z,8.2nm,0.6s,baz=104,slow=17,SNR=6.8
ROSC PKPab PKPab 00 20 35.1 -2.3
comp=Z,22nm,1.0s,baz=280,slow=22,SNR=8.2
PV10 Paradox Valley 152.54 13 *e*PKPdf PKPdf 00 20 19.4 -2.3
PV10 *e*PKPbc PKPdf 00 20 26.1 +4.4
WVT Waverly 152.72 335 *e*PKP PKPdf 00 20 18.7 -3.4
WVT LR LR
comp=Z,178nm,21.0s,MS4.8
PV01 Paradox Valley 152.87 12 *e*PKPbc PKPdf 00 20 26.1 +3.9
MWC Mount Wilson 152.89 31 *e*PKPbc PKPdf 00 20 27.4 +5.1
CBKS Cedar Bluff 152.92 357 *e*PKPbc PKPdf 00 20 26.4 +4.2
CBKS LR LR
comp=Z,204nm,20.0s,MS4.9
UTMT University of 152.94 337 PKP PKPdf 00 20 19.4 -2.9
NEN Nelson 153.19 25 *e*PKP PKPdf 00 20 20.7 -2.0
SDCO Great Sand Dun 153.77 7 *e*PKPdf PKPdf 00 20 20.7 -2.8
SDCO *e*PKPbc PKPdf 00 20 27.9 +4.4
SDCO LR LR
comp=Z,302nm,20.0s,MS5.1
PLAL Pickwick Lake 153.81 335 *e*PKP PKPdf 00 20 19.5 -4.1
PLAL LR LR
comp=Z,181nm,22.0s,MS4.8
PFO Pinyon Flat Ob 154.18 30 *e*PKPbc PKPdf 00 20 29.8 +5.6
PFO LR LR
comp=Z,53nm,22.0s,MS4.3
HBAR Harrisburg 154.29 339 PKP PKPdf 00 20 21.7 -2.5
OXF Oxford 154.76 336 *e*PKP PKPdf 00 20 21.5 -3.4
OXF LR LR
comp=Z,144nm,19.0s,MS4.8
LRAL Lakeview Retre 154.95 330 *e*PKP PKPdf 00 20 22.0 -3.2
LRAL LR LR
comp=Z,186nm,20.0s,MS4.9
DWPF Disney 155.15 314 PFAKE 00 20 30.0 +4.4
DWPF LR LR
comp=Z,155nm,20.0s,MS4.8
ANMO Albuquerque 156.36 10 *e*PKP PKPdf 00 20 24.4 -2.6
ANMO LR LR
comp=Z,225nm,20.0s,MS5.0
TUC Tucson 157.71 21 PFAKE 00 20 40.0 +11
TUC LR LR
comp=Z,153nm,20.0s,MS4.8
NATX Nacogdoches 159.05 344 PFAKE 00 20 40.0 +9.5
NATX LR LR
comp=Z,204nm,21.0s,MS4.9
MNTX Cornudas Mount 159.72 10 *e*PKP PKPdf 00 20 28.5 -2.8
MNTX LR LR
comp=Z,219nm,20.0s,MS5.0
LTX Lajitas 162.29 6 PFAKE 00 20 40.0 +6.0
LTX LR LR
comp=Z,194nm,20.0s
TXAR Lajitas Array 162.29 6 PKIKP PKPdf 00 20 31.7 -2.3
TXAR 00 21 18.3
TXAR pmax pmax
comp=Z,3.0nm,0.9s
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 162.29 6 PKP PKPdf 00 20 31.7 -2.3
comp=Z,2.9nm,0.9s,baz=180,slow=1.3,SNR=22
TXAR PKPab PKPab 00 21 18.3 -1.1
comp=Z,1.6nm,0.7s,baz=34,slow=3.7,SNR=8.0
TXAR Lajitas Array 162.29 6 PKP PKPdf 00 20 31.7 -2.3
TXAR PKPab PKPab 00 21 18.3 -1.1
PAYG Puerto Ayora 163.50 223 PFAKE 00 20 40.0 +4.4
PAYG LR LR
comp=Z,259nm,19.0s
JTS JuntasAbangare 163.78 267 PFAKE 00 20 40.0 +4.2
JTS LR LR
comp=Z,51nm,20.0s

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*CSEM **30** 00:16:57.6±0.1,31.50N×50.07E,h10km,ML2.8,Error ellipse: s-maj=4.2km s-min=2.6km az=36.0*
*TEH **30** 00:17:00.6,31.53N×50.11E,h10km,Mn3.0*
*THR **30** 00:17:00.4±1.1,31.62N×50.25E,h14km±10km,ML2.8*
ISC 30 00:16:59.3±0.8,31.52N±0.07×50.11E±0.05,h10km,n22,σ1§07/23,Northern and Central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGO	**Shushtar**	**1.26**	**298**	*e*Pg	**Pg**	**00 17 24.3**	**-0.2**
SHGO				*e*Sg	**Sg**	**00 17 43.1**	**+1.8**
SHGO				AML	AML	00 17 49.1	
	comp=N,166nm,0.2s						
IGAR	**Garneh**	**1.91**	**67**	Pn	**Pn**	**00 17 32.4**	**+0.1**
IKLH	**Kalahroud**	**2.18**	**34**	Pn	**Pn**	**00 17 37.0**	**+0.9**

IZEF	**Zefreh**	**2.32**	**53**	Pn	**Pn**	**00 17 39.4**	**+1.2**
NASN	**Na'in**	**2.62**	**60**	*e*Pn	**Pn**	**00 17 42.9**	**+0.5**
NASN				*e*Sg	**Sg**	**00 18 17.8**	**-8.6**
ASAO	**Ashtian**	**3.02**	**359**	*e*Pn	**Pn**	**00 17 49.0**	**+0.9**
ASAO				AML	AML	00 18 39.1	
comp=N,28nm,0.6s							
IPAR	**Pars**	**3.03**	**123**	Pn	**Pn**	**00 17 51.1**	**+2.8**
ISAD	**Sadrabad**	**3.07**	**82**	Pn	**Pn**	**00 17 49.2**	**+0.4**
IMOK	**Mook**	**3.34**	**137**	Pn	**Pn**	**00 17 52.1**	**-0.6**
ISRV	**Sarvestan**	**3.36**	**129**	Pn	**Pn**	**00 17 50.1**	**-2.8**
IKOM	**Komasi**	**3.43**	**321**	Pn	**Pn**	**00 17 53.9**	**-0.1**
IVRN	**Varamin**	**3.72**	**21**	Pn	**Pn**	**00 17 57.7**	**-0.3**
ICHK	**Chekchek**	**3.72**	**78**	Pn	**Pn**	**00 17 57.5**	**-0.6**
IMEH	**Mehriz**	**3.85**	**91**	Pn	**Pn**	**00 18 01.1**	**+1.2**
IRAZ	**Razeghan**	**3.87**	**358**	Pn	**Pn**	**00 18 07.9**	**+7.7**
IVIS	**Veys**	**4.06**	**318**	Pn	**Pn**	**00 18 01.8**	**-1.0**
IDMV	**Damavand**	**4.35**	**21**	Pn	**Pn**	**00 18 06.5**	**-0.5**
DAMV	**Damavand**	**4.38**	**20**	*e*Pn	**Pn**	**00 18 06.6**	**-0.8**
IDHR	**Dehrash**	**4.45**	**316**	Pn	**Pn**	**00 18 07.0**	**-1.4**
IAFJ	**Afjeh**	**4.52**	**17**	Pn	**Pn**	**00 18 08.5**	**-0.9**
IFIR	**Firoozkooh**	**4.66**	**28**	Lg		00 19 25.1	
IFIR	**Firoozkooh**	**4.66**	**28**	Pn	**Pn**	**00 18 10.7**	**-0.7**

WEL 30 00:18:10.5±0.2, 37.07S×177.51E, h148km±2km, ML3.8/13, Error ellipse: s-maj=3.5km s-min=2.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.81**	**128**	PN	P	00 18 33.3	-0.5
MXZ				SN	S	00 18 51.2	-0.5
PUZ	**Puketiti**	**1.17**	**150**	PN	P	00 18 36.6	-0.3
PUZ				SN	S	00 18 55.5	-1.6
URZ	**Urewera**	**1.23**	**195**	PN	P	00 18 37.3	-0.2
URZ				SN	S	00 18 57.6	-0.6
MWZ	**Matawai**	**1.27**	**179**	PN	P	00 18 37.7	-0.1
MWZ				SN	S	00 18 58.4	-0.5
KNZ	**Kokohu**	**1.96**	**176**	PN	P	00 18 44.8	-0.5
BKZ	**Black Stump Fm**	**2.25**	**201**	*e*PN	P	00 18 48.7	-0.2
NGZ	**Ngauruhoe**	**2.59**	**215**	*e*PN	P	00 18 53.4	+0.2
MOVZ	**Moawhango**	**2.72**	**210**	*e*PN	P	00 18 52.8	-2.0
MOVZ				SN	S	00 19 26.2	-2.5
MTVZ	**Mangateitei**	**2.82**	**214**	*e*PN	P	00 18 55.4	-0.7
PWZ	**Pawanui**	**3.00**	**190**	PN	P	00 18 56.6	-2.0
PWZ				SN	S	00 19 32.5	-2.7
TSZ	**Takapari Road**	**3.23**	**202**	PN	P	00 18 58.9	-2.5
BFZ	**Birch Farm**	**3.74**	**195**	*e*PN	P	00 19 05.0	-3.2
MRZ	**Mangatainoka R**	**3.90**	**202**	*e*PN	P	00 19 06.8	-3.4
KIW	**Kapiti Island**	**4.30**	**207**	PN	P	00 19 11.8	-3.7
MTW	**Mount Morrison**	**4.38**	**200**	*e*PN	P	00 19 12.2	-4.3
MSWZ	**Moikau Station**	**4.69**	**201**	SN	S	00 20 07.7	-6.9
TCW	**Tory Channel**	**4.84**	**210**	PN	P	00 19 18.1	-4.6
TCW				SN	S	00 20 11.9	-6.6
TUWZ	**Tuamarina**	**5.16**	**211**	*e*PN	P	00 19 22.4	-4.5
NNZ	**Nelson**	**5.25**	**216**	PN	P	00 19 23.9	-4.1
QRZ	**Quartz Range**	**5.40**	**224**	*e*PN	P	00 19 25.6	-4.5
THZ	**Tophouse**	**5.89**	**216**	*e*PN	P	00 19 32.1	-4.5
THZ				SN	S	00 20 36.9	-6.6
LTZ	**Lake Taylor**	**6.99**	**214**	SN	S	00 21 01.2	-8.6
MQZ	**McQueen's Vall**	**7.60**	**208**	SN	S	00 21 13.2	-11

*IDC **30** 00:27:26.6±0.9, 31.72S×178.02W, mb4.6/5, mb1 4.7/7, mb1mx4.4/16, mbtmp4.6/7, MS4.3/7, Ms1 4.2/7, ms1mx3.7/35, Error ellipse: s-maj=31.9km s-min=20.2km az=126.0*

*NEIC **30** 00:27:27.3±0.5, 32.02S×178.05W, h10km, mb4.9/9, MS4.2/1, Error ellipse: s-maj=15.7km s-min=9.2km az=102.0*

ISC 30 00:27:29.8±0.7, 32.43S±0.05×178.7W±0.1, h10km, n83, σ1§34/59, mb4.8/11, MS4.3/6, 9C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.23**	**12**	Pn	**Pn**	**00 28 09.4**	**-12**
142nm,0.3s,baz=88,slow=22,SNR=5.7							
RAO				Sn	**Sn**	**00 28 39.7**	**-21**
169nm,0.3s,baz=128,slow=20,SNR=4.2							
RAO	**Raoul Island**	**3.23**	**12**	*e*P	**Pn**	**00 28 09.4**	**-12**
MXZ	**Matakaoa Point**	**5.70**	**205**	*e*P	**Pn**	**00 28 59.6**	**+2.9**
MXZ				S	**Sn**	**00 30 11.2**	**+8.2**
MXZ	**Matakaoa Point**	**5.70**	**205**	*e*PN	**Pn**	**00 28 58.9**	**+2.3**
MXZ				SN	**Sn**	**00 30 11.1**	**+8.1**
PUZ	**Puketiti**	**6.17**	**203**	*e*P	**Pn**	**00 29 04.3**	**+0.9**
PUZ	**Puketiti**	**6.17**	**203**	PN	**Pn**	**00 29 03.6**	**+0.3**
PUZ				SN	**Sn**	**00 30 22.4**	**+7.6**
MWZ	**Matawai**	**6.67**	**207**	*e*P	**Pn**	**00 29 12.9**	**+2.6**
MWZ	**Matawai**	**6.67**	**207**	*e*PN	**Pn**	**00 29 13.1**	**+2.7**
MWZ				SN	**Sn**	**00 30 35.2**	**+8.0**
URZ	**Urewera**	**6.77**	**210**	Pn	**Pn**	**00 29 13.2**	**+1.4**
3.9nm,0.3s,baz=3.3,slow=5.4,SNR=24							
URZ				Sn	**Sn**	**00 30 37.2**	**+7.5**
43nm,0.3s,baz=201,slow=21,SNR=27							
URZ	**Urewera**	**6.77**	**210**	*e*P	**Pn**	**00 29 14.2**	**+2.4**
URZ	**Urewera**	**6.77**	**210**	*e*PN	**Pn**	**00 29 12.7**	**+0.9**
URZ				SN	**Sn**	**00 30 36.2**	**+6.4**
OUZ	**Omahuta**	**7.03**	**245**	*e*P	**Pn**	**00 29 25.4**	**+10**
OUZ	**Omahuta**	**7.03**	**245**	*e*PN	**Pn**	**00 29 25.4**	**+10**
KNZ	**Kokohu**	**7.23**	**203**	SN	**Sn**	**00 30 44.6**	**+3.5**
BFZ	**Birch Farm**	**9.20**	**205**	SN	**Sn**	**00 31 32.8**	**+2.4**
MRZ	**Mangatainoka R**	**9.44**	**208**	SN	**Sn**	**00 31 36.6**	**+0.5**
KIW	**Kapiti Island**	**9.88**	**210**	SN	**Sn**	**00 31 47.0**	**0.0**
PAWZ	**Paruwai Farm**	**10.11**	**206**	SN	**S**	**00 31 51.8**	**-1.0**
MRW	**Makara Radio**	**10.27**	**209**	SN	**S**	**00 31 55.8**	**-0.9**
TCW	**Tory Channel**	**10.44**	**211**	SN	**S**	**00 31 58.9**	**-1.8**
TUWZ	**Tuamarina**	**10.76**	**211**	SN	**S**	**00 32 07.3**	**-1.3**
NNZ	**Nelson**	**10.85**	**214**	SN	**S**	**00 32 10.4**	**-0.3**
THZ	**Tophouse**	**11.49**	**213**	SN	**S**	**00 32 25.9**	**-0.7**
KHZ	**Kahutara**	**11.74**	**210**	SN	**S**	**00 32 28.4**	**-4.2**
LTZ	**Lake Taylor**	**12.59**	**212**	SN	**S**	**00 32 48.7**	**-4.4**
MQZ	**McQueen's Vall**	**13.17**	**209**	SN	**S**	**00 33 01.7**	**-5.5**
RPZ	**Rata Peaks**	**13.87**	**213**	Pn	**P**	**00 30 47.9**	**-0.9**
1.0nm,0.3s,baz=256,slow=9.7,SNR=7.4							
RPZ				Sn	**S**	**00 33 18.4**	**-5.5**
2.9nm,0.3s,baz=78,slow=20,SNR=15							
RPZ	**Rata Peaks**	**13.87**	**213**	SN	**S**	**00 33 18.6**	**-5.2**
DZM	**Mont Dzumac**	**16.77**	**304**	LR	LR	00 36 28.5	
comp=Z,598nm,20.9s,baz=198,slow=32							
AFI	**Afiamalu**	**19.47**	**20**	P	**P**	**00 31 44.4**	**-15**
2.3nm,0.3s,baz=94,slow=19,SNR=3.8							
AFI	**Afiamalu**	**19.47**	**20**	P	**P**	**00 31 44.4**	**-15**
PPT	**Papeete**	**30.10**	**68**	*e*LR	LR	00 40 54.0	
251nm,28.8s							
PPT	**Papeete**	**30.10**	**68**	LR	LR	00 41 23.0	
comp=Z,129nm,21.6s,MS3.5,baz=357,slow=28							
STKA	**Stephens Creek**	**33.53**	**260**	*e*P	**P**	**00 34 13.6**	**+1.8**
3.5nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**33.53**	**260**	P	**P**	**00 34 13.9**	**+2.2**
3.2nm,0.7s,mb4.4,baz=107,slow=9.5,SNR=8.7							
STKA				LR	LR	00 47 15.7	
comp=Z,414nm,19.5s,MS4.2,baz=303,slow=35							
CTA	**Charters Tower**	**33.63**	**283**	⇑*i*P	**P**	**00 34 13.9**	**+1.1**
7.7nm,0.6s,mb4.8							
CTA	**Charters Tower**	**33.63**	**283**	P	**P**	**00 34 14.1**	**+1.3**
9.6nm,0.5s,mb5.0,baz=98,slow=10,SNR=15							
CTA				LR	LR	00 46 11.2	
comp=Z,380nm,19.4s,MS4.1,baz=51,slow=33							
CTAO	**Charters Tower**	**33.63**	**283**	*e*P	**P**	**00 34 13.3**	**+0.5**
11nm,0.6s,mb5.0							
CTAO				LR	LR		
comp=Z,406nm,19.0s,MS4.2							
RKT	**Rikitea**	**39.52**	**88**	*e*LR	LR	00 45 21.6	
comp=Z,322nm,32.5s							
WB2	**Warramunga Arr**	**43.65**	**275**	⇑*i*P	**P**	**00 35 36.2**	**-0.3**
WRAB	**Tennant Creek**	**43.65**	**275**	*e*P	**P**	**00 35 36.0**	**-0.5**
comp=Z,35nm,0.9s,mb5.1							
WRA	**Warramunga Arr**	**43.66**	**275**	P	**P**	**00 35 36.3**	**-0.3**
comp=Z,8.4nm,0.4s,mb4.8,baz=114,slow=7.9,SNR=165							
SBA	**Scott Base**	**45.98**	**184**	P	**P**	**00 35 53.3**	**-1.1**
comp=Z,7.0nm,1.0s,mb4.5							
KAKA	**Kakadu**	**48.77**	**282**	*e*P	**P**	**00 36 21.4**	**+4.3**
comp=Z,8.7nm,0.6s,mb5.0							
FITZ	**Fitzroy Crossi**	**51.83**	**272**	*e*P	**P**	**00 36 39.1**	**-1.3**
comp=Z,9.4nm,0.8s,mb4.8							
FITZ	**Fitzroy Crossi**	**51.83**	**272**	LR	LR	00 58 58.2	
comp=Z,1μm,18.1s,MS5.0,baz=284,slow=36							
CASY	**Casey**	**53.10**	**209**	*e*P	**P**	**00 36 49.9**	**+0.6**
comp=Z,13nm,0.9s,mb4.9							
QSPA	**South Pole Qui**	**57.69**	**180**	*e*P	**P**	**00 37 23.8**	**+1.4**
comp=Z,18nm,0.8s,mb5.2							

MAW	**Mawson**	**70.22**	**201**	P	**P**	**00 38 46.7**	**+2.2**
comp=Z,3.4nm,0.8s,mb4.3,baz=159,slow=6.4,SNR=6.5							
SYO	**Syowa Base**	**75.02**	**193**	⇑P	**P**	**00 39 11.0**	**-1.7**
SYO	**Syowa Base**	**75.02**	**193**	⇑pP	pP	00 39 12.6	-3.3
JHJ	**Hachijo jima 2**	**76.06**	**325**	LR	LR	01 08 40.0	
comp=Z,272nm,18.9s,MS4.6,baz=281,slow=33							
SNAA	**Sanae**	**76.15**	**179**	*e*	sP	00 39 24.8	+1.5
SNAA	**Sanae**	**76.15**	**179**	*e*	PcP	00 39 28.1	-3.5
SNAA	**Sanae**	**76.15**	**179**	⇑*i*P	**P**	**00 39 18.8**	**-0.3**
SNAA				*e*		00 39 24.8	
SNAA				*e*		00 39 28.1	
VNA3	**Neumayer Olymp**	**76.33**	**176**	*e*	sP	00 39 25.8	+1.5
VNA3	**Neumayer Olymp**	**76.33**	**176**	*e*	PcP	00 39 28.6	-3.8
VNA3	**Neumayer Olymp**	**76.33**	**176**	⇑*i*P	**P**	**00 39 18.5**	**-1.6**
VNA3				*e*		00 39 25.8	
VNA3				*e*		00 39 28.6	
VNA2	**Neumayer--Watz**	**76.75**	**177**	*e*	sP	00 39 28.3	+1.6
VNA2	**Neumayer--Watz**	**76.75**	**177**	*e*	PcP	00 39 30.7	-3.5
VNA2	**Neumayer--Watz**	**76.75**	**177**	⇑*i*P	**P**	**00 39 21.0**	**-1.5**
VNA2				*e*		00 39 28.3	
VNA2				*e*		00 39 30.7	
VNA1	**Neumayer--Stat**	**76.99**	**177**	*e*	sP	00 39 30.6	+2.6
VNA1	**Neumayer--Stat**	**76.99**	**177**	*e*	PcP	00 39 33.8	-1.4
VNA1	**Neumayer--Stat**	**76.99**	**177**	⇑*i*P	**P**	**00 39 23.9**	**+0.1**
VNA1				*e*		00 39 30.6	
VNA1				*e*		00 39 33.8	
NVAR	**Mina Array Bea**	**90.10**	**43**	P	**P**	**00 40 26.4**	**-4.9**
comp=Z,1.5nm,0.9s,mb4.3,baz=205,slow=6.6,SNR=8.8							
NVAR	**Mina Array Bea**	**90.10**	**43**	P	**P**	**00 40 26.4**	**-4.9**
LVC	**Limon Verde**	**93.44**	**119**	LR	LR	01 15 59.8	
comp=Z,102nm,18.4s,MS4.3,baz=221,slow=31							
ARCES	**ARCESS Array B**	**140.44**	**347**	PKP	PKPdf	00 46 54.3	-7.3
comp=Z,2.4nm,0.8s,baz=333,slow=2.0,SNR=5.7							
ARCES	**ARCESS Array B**	**140.44**	**347**	PKP	PKPdf	00 46 54.3	-7.3
KAF	**Kangasniemi**	**146.25**	**339**	*e*pkp	PKPdf	00 47 05.4	-6.3
baz=37,slow=3.5							
FINES	**FINESS Array B**	**146.83**	**338**	PKPbc	PKPbc	00 47 07.7	-3.5
comp=Z,5.5nm,0.5s,baz=55,slow=3.6,SNR=81							
ASF	**Jabal al Asfar**	**150.03**	**279**	PKPbc	PKPdf	00 47 19.6	+0.8
comp=Z,6.8nm,0.8s,baz=307,slow=3.5,SNR=6.9							
NB2	**NORSAR Subarra**	**150.66**	**350**	PKPabc	PKPdf	00 47 17.2	-1.6
comp=Z,0.8nm,0.5s,baz=12,slow=2.6							
NOA	**NORSAR Array B**	**150.66**	**350**	PKPbc	PKPdf	00 47 17.5	-1.3
comp=Z,1.4nm,0.7s,baz=16,slow=4.2,SNR=9.2							
AKASG	**Malin Array Be**	**152.53**	**320**	PKPbc	PKPdf	00 47 23.3	+1.4
comp=Z,1.6nm,0.5s,baz=47,slow=2.5,SNR=13							
BRTR	**Keskin Array B**	**153.00**	**295**	PKPbc	PKPdf	00 47 25.4	+2.4
comp=Z,1.3nm,0.4s,baz=144,slow=3.5,SNR=12							
KOLS	**Kolonicke sedl**	**157.23**	**323**	*e*PKP	PKPab	00 47 50.7	-8.0
STHS	**Stebnicka Huta**	**157.44**	**325**	*e*PKP	PKPab	00 47 54.9	-4.6
KECS	**Kecovo**	**158.43**	**324**	*e*PKP	PKPab	00 47 58.0	-5.8
VYHS	**Vyhne**	**159.23**	**326**	*e*PKP	PKPab	00 48 01.8	-5.5
CLL	**Collm**	**159.28**	**339**	*i* PKP2	PKPab	00 48 01.2	-6.2
GERES	**GERESS Array B**	**161.15**	**334**	PKPab	PKPab	00 48 09.3	-6.3
comp=Z,0.5nm,0.6s,baz=90,slow=2.7,SNR=5.7							
DIVS	**Divcibare**	**161.33**	**314**	⇑*i*P	PKPab	00 48 11.9	-4.6

*BJI **30** 00:36:27.8, 0.90N×97.47E, h35km, mB5.5, mb5.4, Ms5.3, Msz5.2*

*MOS **30** 00:36:28.7±0.8, 1.09N×97.51E, h33km, mb5.3/40, MS4.9/14, Error ellipse: s-maj=10.3km s-min=5.9km az=111.2*

*IDC **30** 00:36:28.7±4.5, 1.11N×97.44E, h19km±28km, mb4.9/26, mb1 4.9/26, mb1mx4.8/29, mbtmp5.0/26, MS4.8/22, Ms1 4.8/22, ms1mx4.6/38, Error ellipse: s-maj=14.1km s-min=11.4km az=54.0*

*HRVD **30** 00:36:29.7±0.3, 0.91N×97.13E, h26km, MW5.3/57, Centroid moment Tensor Solution. LP body waves: s57,c93; Mantle waves: s57,c88; Half duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr 0.37±.02; Mθθ -0.05±.02; Mφφ -0.32±.02; Mrθ 0.70±.04; Mrφ -0.78±.04; Best double couple: M0 1.127×10^17 NP1: φs 346°, δ12°, λ 118°. NP2: φs 138°, δ 79°, λ 84°. Principal axes: T 1.092, Plg55°, Azm41°; N .07, Plg6°, Azm139°; P -1.162, Plg34°, Azm233°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 00:36:29.7±0.1, 1.09N×97.42E, mb5.2/53, MS5.0/107 Error ellipse: s-maj=4.8km s-min=3.9km az=18.0*

NEIC Felt [IV] at Gunungsitoli.

ISC 30 00:36:28.1±0.2, 1.07N±0.03×97.47E±0.03, h26km, h26km±.7km: pP-P, n354, σ0§95/264, mb5.2/115, MS4.9/144, 31C-20D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.98**	**45**	P	**Pn**	**00 37 44.8**	**+1.6**
KULM	**Kulim**	**5.26**	**37**	*e*P	**Pn**	**00 37 48.3**	**+1.1**
KGM	**Kluang**	**5.93**	**81**	P	**Pn**	**00 37 58.8**	**+2.3**
SNG	**Songkhla**	**6.84**	**27**	P	**Pn**	**00 38 09.0**	**-0.4**
616nm,1.0s							
NNT	**Nongplab**	**11.67**	**11**	P	**P**	**00 39 16.0**	**-0.2**
KSM	**Kuching**	**12.85**	**88**	*e*P	**P**	**00 39 33.8**	**+1.8**
NST	**Nakhon Sawan**	**14.75**	**10**	P	**P**	**00 39 56.0**	**-1.1**
KKTK	**Khon Kaen**	**16.07**	**19**	P	**P**	**00 40 16.0**	**+1.9**
556nm,0.8s							
BDT	**Bhumibol Dam**	**16.15**	**5**	P	**P**	**00 40 17.9**	**+2.7**
42nm,1.0s							
CHG	**Chiang Mai**	**17.70**	**5**	⇑P	**P**	**00 40 33.7**	**-0.9**
62nm,0.9s							
NANT	**Nan**	**17.91**	**10**	⇓P	**P**	**00 40 38.0**	**+0.8**
788nm,0.4s							
CHRT	**Chiangrai**	**18.83**	**7**	⇓P	**P**	**00 40 43.0**	**-5.5**
658nm,1.3s							
KKM	**Kota Kinabalu**	**19.35**	**75**	*e*P	**P**	**00 40 54.2**	**-0.5**
KKM	**Kota Kinabalu**	**19.35**	**75**	P	**P**	**00 40 55.0**	**+0.3**
TSM	**Tawau**	**20.63**	**81**	P	**P**	**00 41 08.5**	**+0.1**
QIZ	**Qiongzhong**	**21.59**	**33**	P	**P**	**00 41 17.5**	**-0.6**
QIZ				S	**S**	**00 45 11.5**	**+0.7**
QIZ				AMB	AMB		
comp=Z,72nm,1.1s,mb5.0							
QIZ				LR	LR		
comp=N,3μm,15.1s,MS4.9							
QIZ				LR	LR		
comp=E,2μm,17.5s,MS4.9							
QIZ				LR	LR		
comp=Z,3μm,15.4s,MS4.8							
QIZ	**Qiongzhong**	**21.59**	**33**	*e*P	**P**	**00 41 16.6**	**-1.4**
QIZ				LR	LR		
comp=Z,2μm,20.0s,MS4.5							
TRD	**Trivandrum**	**21.72**	**291**	*e*P	**P**	**00 41 19.9**	**+0.4**
TRD				AMb	AMB	00 41 38.5	
comp=Z,137nm,1.7s,mb5.1							
TRD				*e*S	**S**	**00 45 16.0**	**+2.7**
PPR	**Puerto Princes**	**22.85**	**67**	⇓*e*P	**P**	**00 41 31.6**	**+0.8**
IMP	**Imphal**	**23.82**	**352**	*e*P	**P**	**00 41 42.0**	**+1.8**
IMP				*e*		00 45 27.0	
KMI	**Kunming**	**24.45**	**12**	P	**P**	**00 41 47.8**	**+1.5**
KMI				AP		00 42 01.0	
KMI				PP	PP	00 42 25.3	+3.2
KMI				AMB	AMB		
comp=Z,175nm,1.5s,mb5.3							
KMI				AMB	AMB		
comp=Z,1μm,4.0s							
KMI				LR	LR		
comp=N,5μm,14.3s,MS5.3							
KMI				LR	LR		
comp=E,5μm,12.9s,MS5.3							
KMI				LR	LR		
comp=Z,7μm,14.7s,MS5.3							
KMI	**Kunming**	**24.45**	**12**	P	**P**	**00 41 47.8**	**+1.5**
KMI				*PP		00 42 01.0	
KMI						00 42 25.2	
KMI				S	**S**	**00 46 06.3**	**+4.5**
KMI				SS	SS	00 47 08.3	+11
KMI				pmax	pmax		
comp=Z,175nm,1.5s,mb5.3							
KMI				MLR	MLR		
comp=Z,7μm,14.7s,MS5.3							
KMI	**Kunming**	**24.45**	**12**	P	**P**	**00 41 47.8**	**+1.5**
comp=Z,175nm,1.5s,mb5.3							
KMI				pP		00 42 01.0	
KMI				sP		00 42 06.9	
KMI				PP	PP	00 42 25.2	+3.1
KMI				PPP	PPP	00 42 39.2	+6.6
KMI				S	**S**	**00 46 06.3**	**+4.5**
KMI				sS		00 46 28.9	
KMI				SS	SS	00 47 08.3	+11
KMI				SSS	SSS	00 47 24.6	+11
KMI				LR	LR		
comp=Z,7μm,14.7s,MS5.3							

HYB	**Hyderabad**	**24.70**	**312**	*i* P		00 42 00.0	
SHL	**Shillong**	**24.95**	**348**	⇑*i*P	**P**	**00 41 51.0**	**0.0**
SHL				*e*		00 45 33.0	
BOK	**Bokaro**	**25.23**	**334**	*e*P	**P**	**00 41 55.6**	**+1.9**
BOK				AMb	AMB	00 41 58.4	
comp=Z,245nm,1.7s,mb5.5							
BOK				*e*		00 45 35.5	
BLSP	**Bilaspur**	**25.71**	**326**	*e*P	**P**	**00 41 58.0**	**-0.3**
BLSP				AMb	AMB	00 42 03.2	
comp=Z,60nm,1.3s,mb5.0							
BLSP				*e*		00 45 42.4	
DGAR	**Diego Garcia**	**26.34**	**251**	PFAKE		00 42 20.0	+16
DGAR				LR	LR		
comp=Z,528nm,20.0s,MS4.1							
GYA	**Guiyang**	**26.75**	**19**	⇑*i*P	**P**	**00 42 07.5**	**-0.3**
GYA				AP	pP	00 42 14.8	-0.6
GYA				XP	sP	00 42 18.0	-0.9
GYA				AMB	AMB		
comp=Z,70nm,1.3s,mb5.0							
GYA				AMB	AMB		
comp=Z,210nm,4.5s							
GYA				LR	LR		
comp=N,3μm,13.5s,MS5.2							
GYA				LR	LR		
comp=E,4μm,15.9s,MS5.2							
GYA				LR	LR		
comp=Z,4μm,12.9s,MS5.1							
JIRN	**Jiri**	**28.57**	**339**	*e*P	**P**	**00 42 25.0**	**+0.8**
comp=Z,216nm,1.0s,mb5.8							
PKI	**Pulchoki**	**28.78**	**337**	*e*P	**P**	**00 42 26.1**	**0.0**
comp=Z,125nm,1.2s,mb5.5							
DMN	**Daman**	**28.93**	**337**	*e*P	**P**	**00 42 27.7**	**+0.2**
comp=Z,115nm,1.0s,mb5.5							
KKN	**Kakani**	**29.03**	**337**	*e*P	**P**	**00 42 28.6**	**+0.2**
comp=Z,180nm,1.1s,mb5.7							
LSA	**Lhasa**	**29.11**	**349**	P	**P**	**00 42 29.5**	**+0.4**
LSA				AP	pP	00 42 41.8	+5.1
LSA				AMB	AMB		
comp=Z,50nm,1.0s,mb5.2							
LSA				AMB	AMB		
comp=Z,410nm,15.0s							
LSA				LR	LR		
comp=N,1μm,22.0s,MS4.7							
LSA				LR	LR		
comp=E,2μm,22.0s,MS4.7							
LSA				LR	LR		
comp=Z,2μm,21.0s,MS4.8							
LSA	**Lhasa**	**29.11**	**349**	*e*P	**P**	**00 42 29.6**	**+0.5**
LSA				pmax	pmax		
comp=Z,57nm,0.8s,mb5.3							
LSA				MLR	MLR		
comp=Z,2μm,21.0s,MS4.8							
LSA	**Lhasa**	**29.11**	**349**	*e*P	**P**	**00 42 29.6**	**+0.6**
comp=Z,57nm,0.8s,mb5.3							
LSA				LR	LR		
comp=Z,2μm,21.0s,MS4.8							
BHPL	**Bhopal**	**29.40**	**320**	*i* P	**P**	**00 42 34.0**	**+2.2**
BHPL				AMb	AMB	00 42 47.3	
comp=Z,21nm,0.8s,mb4.9							
BHPL				*e*		00 48 12.9	
GKN	**Gorkha**	**29.47**	**336**	*e*P	**P**	**00 42 32.5**	**+0.1**
comp=Z,144nm,1.2s,mb5.6							
KOLN	**Koldanda**	**29.69**	**335**	*e*P	**P**	**00 42 34.9**	**+0.5**
comp=Z,88nm,1.0s,mb5.4							
CD2	**Chengdu**	**30.28**	**11**	P	**P**	**00 42 38.0**	**-1.5**
CD2				PP	PP	00 43 39.3	+0.6
CD2				AMB	AMB		
comp=Z,20nm,2.0s,mb4.5							
CD2				AMB	AMB		
comp=Z,200nm,14.7s							
CD2				LR	LR		
comp=N,4μm,15.6s							
CD2				LR	LR		
comp=Z,4μm,13.2s,MS5.3							
MBWA	**Marble Bar**	**31.02**	**137**	PFAKE		00 43 00.0	+14
MBWA				LR	LR		
comp=Z,3μm,20.0s,MS5.0							
ENH	**Enshi**	**31.21**	**20**	*e*P	**P**	**00 42 45.9**	**-1.8**
comp=Z,136nm,1.0s,mb5.7							
ENH				LR	LR		
comp=Z,2μm,20.0s,MS4.9							
QZH	**Quanzhou**	**31.31**	**39**	*e*P	**P**	**00 42 50.0**	**+1.4**
QZH				S	**S**	**00 47 52.3**	**-0.4**
QZH				LR	LR		
comp=N,8μm,15.2s							
QZH				LR	LR		
comp=E,3μm,9.6s							
QZH				LR	LR		
comp=Z,8μm,15.3s,MS5.5							
LGTI	**Lohaghat**	**32.65**	**331**	*e*P	**P**	**00 43 01.8**	**+1.5**
LGTI				*e*		00 46 42.8	
NACB	**Ninganchiao**	**32.76**	**44**	*e*P	**P**	**00 43 01.7

comp=Z,4μm,13.6s,MS5.4
SSE Sheshan 37.37 35 P **P** **00 43 40.9 +0.3**
comp=Z,53nm,0.9s,mb5.4
SSE sP sP 00 43 49.7 -2.0
SSE PP PP 00 45 06.4 -2.2
SSE S **S** **00 49 29.8 +3.3**
SSE sS 00 49 41.3
SSE PcS 00 49 47.4
SSE SS SS 00 52 14.9 +16
SSE LR LR
comp=Z,4μm,13.6s,MS5.4
GTA Gaotai 38.22 3⇑*iP* **P** **00 43 47.5 -0.2**
GTA AP pP 00 43 55.8 +0.3
GTA XP sP 00 43 59.0 +0.2
GTA PP PP 00 45 18.0 -0.7
GTA PCP PcP 00 46 02.8 +0.5
GTA AMB AMB
comp=Z,71nm,1.0s,mb5.3
GTA AMB AMB
comp=Z,389nm,9.2s
GTA LR LR
comp=N,1μm,15.3s,MS5.0
GTA LR LR
comp=E,1μm,13.8s,MS5.0
GTA LR LR
comp=Z,1μm,15.7s,MS4.9
NWAO Narrogin (SRO) 38.62 153 P **P** **00 43 51.6 +0.5**
comp=Z,13nm,0.8s,mb4.7,baz=347,slow=12,SNR=3.1
NWAO LR LR 00 59 25.3
comp=Z,2μm,21.3s,MS4.9,baz=334,slow=36
NWAO Narrogin (SRO) 38.62 153 P **P** **00 43 51.6 +0.5**
NWAO LR LR 00 59 25.3
JOW Kunigami 39.14 46 P **P** **00 43 56.1 +0.6**
comp=Z,102nm,0.9s,mb5.6,baz=262,slow=8.1,SNR=20
JOW LR LR 00 59 54.7
comp=Z,536nm,18.3s,MS4.4,baz=292,slow=36
TIA Tai'an 39.44 25⇑*iP* **P** **00 43 57.8 -0.1**
TIA AMB AMB
comp=Z,62nm,1.4s,mb5.2
BTO Baotou 40.97 15 *eP* **P** **00 44 11.3 +0.8**
BTO S **S** **00 50 24.3 +3.6**
HHC Hu-ho-hao-te 41.61 16 *eP* **P** **00 44 16.5 +0.7**
HHC AP pP 00 44 24.0 +0.4
HHC XP sP 00 44 27.3 +0.4
HHC PP PP 00 45 57.5 +2.5
HHC PCP PcP 00 46 11.5 -1.7
HHC AMB AMB
comp=Z,380nm,9.5s
HHC LR LR
comp=N,4μm,17.8s,MS5.4
HHC LR LR
comp=E,3μm,17.8s,MS5.4
HHC LR LR
comp=Z,3μm,17.8s,MS5.3
WRA Warramunga Arr 41.74 122 P **P** **00 44 16.0 -1.1**
comp=Z,11nm,0.6s,mb4.7,baz=301,slow=9.0,SNR=93
WRA S **S** **00 50 28.7 -3.6**
comp=Z,5.4nm,1.2s,baz=293,slow=16,SNR=4.7
WRAB Tennant Creek 41.74 122 *iP* **P** **00 44 15.6 -1.5**
WRAB Tennant Creek 41.74 122 *eP* **P** **00 44 15.5 -1.6**
comp=Z,108nm,1.4s,mb5.3
WRAB LR LR
comp=Z,568nm,19.0s,MS4.5
WB2 Warramunga Arr 41.75 122⇓*iP* **P** **00 44 16.7 -0.4**
KSH Kashi 43.00 335 *eP* **P** **00 44 28.0 +0.8**
KSH *e*AP pP 00 44 36.5 +1.5
KSH *e*XP sP 00 44 39.0 +0.7
KSH *e*PP PP 00 46 10.0 +0.7
KSH *e*PCP PcP 00 46 19.5 +1.7
KSH AMB AMB
comp=Z,40nm,0.7s,mb5.3
KSH LR LR
comp=N,2μm,39.8s
KSH LR LR
comp=E,3μm,33.7s
WMQ Urumqi 43.45 350 P **P** **00 44 31.5 +0.8**
WMQ AP pP 00 44 39.0 +0.4
WMQ XP sP 00 44 42.3 +0.5
WMQ PP PP 00 46 14.5 +0.7
WMQ AMB AMB
comp=Z,114nm,1.2s,mb5.5
WMQ AMB AMB
comp=Z,472nm,4.0s
WMQ LR LR
comp=N,733nm,20.2s,MS4.8
WMQ LR LR
comp=E,1μm,25.0s,MS4.8
WMQ LR LR
comp=Z,722nm,15.4s
DL2 Dalian 43.67 28 P **P** **00 44 33.3 +0.7**
DL2 AMB AMB
comp=Z,110nm,1.0s,mb5.5
DL2 AMB AMB
comp=Z,270nm,3.4s
DL2 LR LR
comp=N,350nm,15.3s,MS4.8
DL2 LR LR
comp=E,880nm,16.7s,MS4.8
DL2 LR LR
comp=Z,740nm,12.6s,MS4.8
JNU Nakatsue 44.73 41 P **P** **00 44 41.6 +0.3**
comp=Z,57nm,1.0s,mb5.3,baz=236,slow=7.4,SNR=16
JNU LR LR 01 06 00.3
comp=Z,2μm,18.9s,MS5.0,baz=156,slow=40
ULHL Ulahol 45.22 338 P **P** **00 44 45.5 +0.5**
SNR=18
KS15 Wonju Array Si 45.78 34 *eP* **P** **00 44 48.7 -0.8**
UCH Uchtor 45.88 336 P **P** **00 44 51.6 +1.3**
SNR=5.3
TKM2 Tokmak 2 46.04 338 P **P** **00 44 52.2 +0.7**
SNR=38
KBK Karagaybulak 46.07 337 P **P** **00 44 53.5 +1.8**
SNR=9.3
AML Almayashu 46.13 335 P **P** **00 44 53.5 +1.2**
SNR=9.7
AAK Ala-Archa 46.23 336*c iP* **P** **00 44 52.9 -0.1**
AAK pmax pmax
comp=Z,27nm,1.6s,mb4.9
AAK Ala-Archa 46.23 336 *eP* **P** **00 44 52.3 -0.7**
comp=Z,63nm,1.4s,mb5.3
AAK LR LR
comp=Z,269nm,20.0s,MS4.2
FRU Bishkek 46.35 337 *eP* **P** **00 44 53.0 -0.9**
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.2
CHMS Chumysh 46.44 337 P **P** **00 44 54.9 +0.3**
SNR=9.8
USP Ospenovka 46.76 337 P **P** **00 44 57.5 +0.4**
SNR=54
SNY Shenyang 46.90 27⇑P **P** **00 44 57.8 -0.5**
SNY AMB AMB
comp=Z,80nm,1.1s,mb5.6
SNY AMB AMB
comp=Z,160nm,6.3s
SNY LR LR
comp=N,2μm,17.4s
SNY LR LR
comp=Z,3μm,14.2s,MS5.3
SONM Songino Array 47.23 8 P **P** **00 45 00.9 +0.1**
comp=Z,13nm,0.4s,mb5.2,baz=190,slow=9.7,SNR=183
SONM PcP PcP 00 46 31.6 -0.7
comp=Z,7.0nm,0.8s,baz=199,slow=3.9,SNR=8.9
SONM LR LR 01 07 28.7
comp=Z,3μm,19.0s,MS5.3,baz=195,slow=39
ULN Ulaanbaatar 47.35 9 PFAKE 00 45 10.0 +8.2
ULN LR LR
comp=Z,2μm,20.0s,MS5.2
MKAR Makanchi Array 47.44 346 P **P** **00 45 02.5 0.0**
comp=Z,30nm,0.6s,mb5.4,baz=161,slow=8.6,SNR=237
MKAR S **S** **00 51 55.6 +1.4**
comp=Z,1.2nm,0.9s,baz=139,slow=13,SNR=2.1
MKAR LR LR 01 08 47.0
comp=Z,808nm,20.5s,MS4.7,baz=168,slow=41
CN2 Changchun 49.30 27⇑P **P** **00 45 16.5 -0.5**
CN2 *e*XP sP 00 45 27.0 -1.1
CN2 AMB AMB
comp=Z,100nm,1.1s,mb5.8
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,2μm,14.0s,MS5.4
CN2 LR LR
comp=E,2μm,14.0s,MS5.4
CN2 LR LR
comp=Z,3μm,15.0s,MS5.4
ZAK Zakamensk 49.38 5⇓*iP* **P** **00 45 17.2 -0.3**
ZAK pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
MOY Mondy 50.51 3 *eP* **P** **00 45 26.2 +0.1**
MOY pmax pmax
comp=Z,49nm,2.5s,mb5.0
PMG Port Moresby 50.57 103 *eP* **P** **00 45 25.8 -1.2**
PMG pmax pmax
comp=Z,16nm,0.8s
PMG MLR MLR
comp=Z,667nm,19.0s
PMG Port Moresby 50.57 103 P **P** **00 45 26.0 -1.0**
comp=Z,25nm,0.9s,mb5.2,baz=242,slow=3.1,SNR=7.6
PMG Port Moresby 50.57 103 *eP* **P** **00 45 25.8 -1.3**
comp=Z,16nm,0.8s,mb5.0
PMG LR LR
comp=Z,667nm,19.0s,MS4.7
TLY Talaya 50.70 5 *eP* **P** **00 45 27.6 0.0**
TLY *e*S **S** **00 52 40.4 +0.7**
TLY *e*SS SS 00 56 15.4 +3.7
TLY pmax pmax
comp=Z,22nm,1.0s,mb5.0
TLY MLR MLR
comp=Z,3μm,18.0s,MS5.3
TLY Talaya 50.70 5 *eP* **P** **00 45 27.5 -0.1**
comp=Z,12nm,0.8s,mb4.9
TLY LR LR
comp=Z,618nm,19.0s,MS4.6
IRK Irkutsk 51.32 5 *eP* **P** **00 45 28.2 -4.0**
IRK *e* 00 47 32.7
IRK pmax pmax
comp=Z,74nm,2.0s,mb5.3
MAJO Matsushiro 51.61 42 *eP* **P** **00 45 33.5 -1.2**
MAJO pmax pmax
comp=Z,21nm,1.1s,mb5.0
MAJO MLR MLR
comp=Z,758nm,20.0s,MS4.7
MAJO Matsushiro 51.61 42 *eP* **P** **00 45 33.5 -1.2**
comp=Z,21nm,1.1s,mb5.0
MAJO LR LR
comp=Z,758nm,20.0s,MS4.7
MAT Matsushiro 51.61 42 P **P** **00 45 33.1 -1.6**
MJAR Matsushiro Arr 51.61 42 P **P** **00 45 33.3 -1.3**
comp=Z,12nm,0.9s,mb4.8,baz=222,slow=7.8,SNR=31
HIA Hailar 51.68 18 *eP* **P** **00 45 34.2 -0.8**
HIA pmax pmax
comp=Z,123nm,1.4s
HIA MLR MLR
comp=Z,2μm,19.0s
HIA Hailar 51.68 18 *eP* **P** **00 45 34.2 -0.9**
comp=Z,123nm,1.4s,mb5.6
HIA LR LR
comp=Z,2μm,19.0s,MS5.1
MDJ Mudanjiang 51.85 29 P **P** **00 45 36.5 +0.1**
MDJ AP pP 00 45 43.0 -1.4
MDJ PCP PcP 00 46 48.8 -0.4
MDJ AMB AMB
comp=Z,38nm,1.6s,mb5.1
MDJ AMB AMB
comp=Z,377nm,6.8s
MDJ LR LR
comp=N,797nm,21.3s,MS4.8
MDJ LR LR
comp=E,554nm,20.1s,MS4.8
MDJ LR LR
comp=Z,1μm,15.7s,MS5.1
MDJ Mudanjiang 51.85 29 *eP* **P** **00 45 36.0 -0.4**
comp=Z,38nm,1.0s,mb5.3
MDJ LR LR
comp=Z,2μm,19.0s,MS5.0
KURK Kurchatov 51.99 345 *eP* **P** **00 45 36.5 -0.8**
comp=Z,67nm,1.0s,mb5.5
KURK LR LR
comp=Z,243nm,21.0s,MS4.2
CTA Charters Tower 52.20 117 *eP* **P** **00 45 39.4 0.0**
comp=Z,12nm,1.1s,mb4.8
CTA Charters Tower 52.20 117 *eP* **P** **00 45 39.4 0.0**
CTA pmax pmax
comp=Z,12nm,1.1s
CTA Charters Tower 52.20 117 P **P** **00 45 39.1 -0.3**
comp=Z,16nm,1.0s,mb4.9,baz=292,slow=7.6,SNR=5.9
CTA LR LR 01 10 59.8
comp=Z,1μm,21.0s,MS4.9,baz=277,slow=40
CTAO Charters Tower 52.20 117 PFAKE 00 45 50.0 +11
CTAO LR LR
comp=Z,1μm,20.0s,MS5.0
CIT Chita 52.54 12 *eP* **P** **00 45 42.1 +0.6**
CIT *e* pP 00 45 50.8 +1.3
CIT *e* 00 46 51.7
CIT *e* 00 47 36.6
CIT pmax pmax
comp=Z,218nm,1.5s,mb5.9
STKA Stephens Creek 53.07 132⇓*iP* **P** **00 45 46.1 +0.4**
comp=Z,30nm,1.1s,mb5.1
STKA Stephens Creek 53.07 132 P **P** **00 45 46.2 +0.5**
comp=Z,37nm,1.0s,mb5.2,baz=306,slow=7.2,SNR=28
STKA LR LR 01 10 43.7
comp=Z,2μm,21.9s,MS5.1,baz=288,slow=39
OPO Ambohidratompo 53.11 246 P **P** **00 45 46.0 -0.2**
comp=Z,14nm,1.1s,mb4.8,baz=14,slow=7.0,SNR=4.0
OPO LR LR 01 06 20.9
comp=Z,709nm,18.4s,MS4.8,baz=357,slow=34
ZAL Zalesovo 53.73 351 P **P** **00 45 49.2 -1.0**
comp=Z,32nm,0.4s,mb5.6,baz=304,slow=5.2,SNR=129
ZAL Zalesovo 53.73 351 P **P** **00 45 49.2 -1.0**
NVS Novosibirsk 54.85 350⇑*iP* **P** **00 45 56.7 -1.8**
NVS *e*S **S** **00 53 36.1 -0.1**
NVS pmax pmax
comp=Z,56nm,1.1s,mb5.5
NVS pmax pmax
comp=N,49nm,1.4s
NVS pmax pmax
comp=E,33nm,1.3s
NVS smax
comp=E,41nm,1.6s
RDF Al-Radifah 55.02 305 *eP* **P** **00 45 59.8 -0.2**
RDF AMb AMB 00 46 14.5
comp=Z,65nm,1.2s,mb5.5
ATD Arta Tunnel 55.18 283 LR LR 01 06 48.9
comp=Z,303nm,19.9s,MS4.4,baz=73,slow=33
NAY Al-Naaiem 55.39 305 *eP* **P** **00 46 02.4 -0.3**
NAY AMb AMB 00 46 16.9
comp=Z,24nm,0.9s,mb5.2
MIB Mutribah 55.51 306 *eP* **P** **00 46 03.9 +0.3**
MIB AMb AMB 00 46 18.2
comp=Z,50nm,0.8s,mb5.6
KLR Kul'dur 56.26 26⇓*iP* **P** **00 46 06.0 -2.6**
KLR *e* 00 48 10.0
KLR *e*S **S** **00 53 53.5 -1.5**
KLR *e* 00 57 38.5
KLR pmax pmax
comp=N,63nm,2.0s
KLR pmax pmax
comp=E,120nm,2.0s
KLR pmax pmax
comp=Z,150nm,2.0s,mb5.7
KLR MLR MLR
comp=N,2μm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.4
BVAR Borovoye Array 56.46 341 P **P** **00 46 08.5 -1.6**
comp=Z,9.4nm,0.5s,mb5.1,baz=143,slow=7.4,SNR=51
BRVK Borovoye 56.53 341 *eP* **P** **00 46 08.5 -2.0**
comp=Z,12nm,0.8s,mb5.0
BRVK LR LR
comp=Z,182nm,21.0s,MS4.2
BOD Bodaibo 58.09 10⇓*eP* **P** **00 46 20.9 -0.6**
BOD pmax pmax
comp=Z,68nm,1.3s,mb5.5
CLNS Chul'man 59.79 17 *eP* **P** **00 46 32.8 -0.5**
CLNS *e* 00 47 19.1
CLNS *e*S **S** **00 54 38.2 -3.0**
CLNS pmax pmax
comp=Z,27nm,1.2s,mb5.2
CLNS pmax pmax
comp=N,12nm,0.8s
CLNS pmax pmax
comp=E,11nm,1.2s
CLNS pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS smax
comp=N,345nm,12.6s
CLNS smax
comp=Z,189nm,11.9s
CLNS smax
comp=E,136nm,12.8s
CLNS MLR MLR
comp=Z,2μm,13.0s,MS5.5
CLNS MLR MLR
comp=N,2μm,15.0s,MS5.4
CLNS MLR MLR
comp=E,200nm,14.0s,MS5.4
KMBO Kilima Mbogo 60.25 268 P **P** **00 46 36.9 -0.2**
comp=E,4.2nm,0.9s,mb4.5,baz=54,slow=9.6,SNR=7.5
KMBO LR LR 01 11 26.9
comp=E,749nm,18.4s,MS4.9,baz=272,slow=35
YSS Yuzh-Sakhalins 60.31 34 *eP* **P** **00 46 35.8 -1.2**
comp=E,178nm,1.4s,mb5.9
YSS *e* pP 00 46 43.8 -1.4
YSS LR LR
comp=Z,403nm,20.0s,MS4.6
GNI Garni 61.57 316 *eP* **P** **00 46 44.9 -0.8**
comp=Z,20nm,1.0s,mb5.2
GNI LR LR
comp=Z,371nm,20.0s,MS4.5
DGRG David-gareji 61.71 318 P **P** **00 46 46.1 -0.5**
HNR Honiara 63.08 101 P **P** **00 46 55.5 -0.5**
comp=Z,60nm,0.4s,mb6.0,baz=292,slow=4.1,SNR=4.6
HNR Honiara 63.08 101 P **P** **00 46 55.5 -0.5**
HNR LR LR
comp=Z,371nm,21.0s,MS4.5
ARU Arti 63.41 337⇑*iP* **P** **00 46 55.9 -1.7**
ARU *e* 00 47 34.9
ARU *e* 00 49 13.9
ARU *e*S **S** **00 55 26.8 -0.3**
ARU *e* 00 56 45.2
ARU *e*SS SS 00 59 33.6 -2.3
ARU pmax pmax
comp=Z,29nm,1.2s,mb5.3
ARU MLR MLR
comp=N,300nm,18.0s,MS4.7
ARU MLR MLR
comp=Z,600nm,18.0s,MS4.8
ARU MLR MLR
comp=E,300nm,16.0s,MS4.7
ONI Oni 63.49 318 P **P** **00 46 55.2 -3.2**
KIV Kislovodsk 64.58 319 *eP* **P** **00 47 04.9 -0.6**
KIV *e* 00 47 34.7
KIV pmax pmax
comp=Z,17nm,1.1s,mb5.0
KIV Kislovodsk 64.58 319 *eP* **P** **00 47 04.3 -1.3**
comp=Z,11nm,1.0s,mb4.8
KIV LR LR
comp=Z,91nm,19.0s,MS4.0
GOF Gofitskoye 64.83 320⇓*iP* **P** **00 47 06.0 -1.2**
GOF pmax pmax
comp=Z,27nm,0.8s,mb5.3
MALT Malatya 65.42 312 *eP* **P** **00 47 10.4 -0.6**
MALT pmax pmax
comp=Z,12nm,1.0s,mb4.9
MALT Malatya 65.42 312 *eP* **P** **00 47 10.4 -0.6**
comp=Z,12nm,1.0s,mb4.9
YAK Yakutsk 65.47 16*c iP* **P** **00 47 09.6 -1.4**
YAK *i* *PP pP 00 47 16.7 -2.4
YAK *i* 00 47 40.5
YAK *i* 00 49 32.6
YAK *e*S S 00 55 51.9 -0.5
YAK *i* *SS 00 56 05.7
YAK *i* 00 56 59.9
YAK *i* SS SS 01 00 10.9 +3.2
YAK pmax pmax
comp=Z,42nm,1.1s,mb5.4
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,20nm,1.3s
YAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
YAK smax
comp=N,56nm,8.6s
YAK pmax pmax
comp=Z,392nm,24.6s
YAK pmax pmax
comp=N,565nm,17.2s
YAK pmax pmax
comp=E,894nm,18.1s
YAK MLR MLR
comp=Z,1μm,13.0s,MS5.2
YAK MLR MLR
comp=N,934nm,14.0s,MS5.2
YAK MLR MLR
comp=E,667nm,18.0s,MS5.2
YAK Yakutsk 65.47 16 *eP* **P** **00 47 09.2 -1.8**
comp=E,121nm,1.1s,mb5.8
YAK LR LR
comp=Z,2μm,19.0s,MS5.3
SOC Sochi 66.40 318 *eP* **P** **00 47 12.8 -4.4**
SOC *e*S S 00 56 00.0 -4.0
SOC *e* 00 57 06.2
SOC pmax pmax
comp=N,5.0nm,0.8s
SOC pmax pmax
comp=Z,12nm,0.8s,mb5.0
SOC pmax pmax
comp=E,2.0nm,0.6s
SOC MLR MLR
comp=N,126nm,17.0s,MS4.3
SOC MLR MLR
comp=Z,183nm,17.0s,MS4.4
SOC MLR MLR
comp=E,120nm,18.0s,MS4.3
MBAR Mbarara 66.75 269 *eP* **P** **00 47 18.9 -1.0**
MBAR pmax pmax
comp=Z,16nm,1.1s,mb5.0
MBAR MLR MLR
comp=Z,106nm,19.0s,MS4.1
MBAR Mbarara 66.75 269 *eP* **P** **00 47 18.9 -1.0**
comp=Z,16nm,1.1s,mb5.0
MBAR LR LR
comp=Z,106nm,19.0s,MS4.1
CASY Casey 67.84 174 PFAKE 00 47 40.0 +14
CASY LR LR
comp=Z,1μm,22.0s,MS5.0
LSZ Lusaka 70.33 253 PFAKE 00 47 50.0 +7.9
LSZ LR LR
comp=Z,1μm,19.0s,MS5.2
SIM Simferopol' 70.64 318 *eP* **P** **00 47 41.9 -1.6**
SIM *i* S S 00 56 52.8 -1.7
SIM pmax pmax
comp=Z,14nm,0.7s,mb5.0
SIM MLR MLR
comp=Z,120nm,16.8s,MS4.2
MATP Matopo 70.72 248 P **P** **00 47 44.1 -0.2**
comp=Z,9.5nm,1.0s,mb4.7,baz=75,slow=6.0,SNR=9.9
MATP LR LR 01 15 16.6
comp=Z,522nm,20.4s,MS4.8,baz=78,slow=33
DZM Mont Dzumac 70.99 114 P **P** **00 47 46.9 +0.9**
comp=Z,11nm,0.9s,mb4.8,baz=152,slow=2.2,SNR=5.3
MA2 Magadan 71.34 26 *iP* **P** **00 47 46.1 -1.4**
MA2 LR LR
comp=Z,542nm,20.0s,MS4.8
PET Petropavlovsk 72.19 34 *eP* **P** **00 47 52.8 +0.1**
PET *e* 00 50 35.1
PET *e*S S 00 57 14.6 +2.4
PET pmax pmax
comp=Z,73nm,1.0s,mb5.6
PET pmax pmax
comp=Z,100nm,21.6s
PET MLR MLR
comp=Z,700nm,19.0s,MS5.0
PET Petropavlovsk 72.19 34 *eP* **P** **00 47 52.4 -0.3**
comp=Z,27nm,0.9s,mb5.2
PET LR LR
comp=Z,823nm,19.0s,MS5.0
MOS Moscow 72.58 329 *eP* **P** **00 47 51.1 -3.8**
MOS *e* 00 50 45.2
MAW Mawson 72.64 193 *eP* **P** **00 47 55.0 -0.1**
MAW pmax pmax
comp=Z,24nm,1.3s
MAW Mawson 72.64 193 P **P** **00 47 54.9 -0.2**
comp=Z,2.2nm,0.7s,mb4.2,baz=43,slow=7.7,SNR=5.6
MAW LR LR 01 16 33.2
comp=Z,775nm,18.4s,MS5.0,baz=54,slow=33
MAW Mawson 72.64 193 *eP* **P** **00 47 55.0 0.0**
comp=Z,24nm,1.3s,mb5.0
OBN Obninsk 72.87 328 *iP* **P** **00 47 54.9 -1.7**
OBN LR LR
comp=Z,93nm,21.0s,MS4.0
TIXI Tiksi 73.27 10 *eP* **P** **00 47 52.7 -6.0**
TIXI *e*S S 00 57 18.2 -5.9

TIXI eSS SS 01 02 01.5 -7.0
TIXI pmax pmax
comp=Z,29nm,1.0s,mb5.2
TIXI Tiksi 73.27 10⇑ *i*P **P 00 47 57.5 -1.2**
TIXI LR LR
comp=Z,502nm,20.0s,MS4.8
SEY Seymchan 73.78 23 *e*P **P 00 48 02.1 +0.3**
SEY pmax pmax
comp=Z,40nm,1.2s,mb5.2
SEY pmax pmax
comp=N,20nm,0.9s
SEY pmax pmax
comp=E,9.0nm,0.9s
LBTB Lobatse 74.07 244 *e*P **P 00 48 04.3 +0.1**
LBTB *e**PP pP 00 48 11.4 -1.0
LBTB pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
LBTB MLR MLR
comp=Z,661nm,19.0s,MS5.0
LBTB Lobatse 74.07 244 LR LR 01 18 17.1
comp=Z,615nm,18.1s,MS4.9,baz=92,slow=34
LBTB Lobatse 74.07 244 *e*P **P 00 48 04.2 0.0**
comp=Z,5.2nm,1.0s,mb4.4
LBTB *e*pP pP 00 48 11.4 -1.1
LBTB LR LR
comp=Z,661nm,19.0s,MS5.0
TIRR Tirgusor 74.40 316⇓ P **P 00 48 04.5 -1.3**
BOSA Boshof 74.94 240 P **P 00 48 08.8 -0.4**
comp=Z,3.6nm,0.9s,mb4.3,baz=112,slow=14,SNR=4.1
BOSA LR LR 01 19 04.1
comp=Z,691nm,18.3s,MS5.0,baz=263,slow=34
BOSA Boshof 74.94 240 P **P 00 48 08.8 -0.5**
BOSA LR LR 01 19 04.1
AKASG Malin Array Be 75.53 322 P **P 00 48 10.4 -1.7**
comp=Z,1.6nm,0.4s,mb4.3,baz=88,slow=4.7,SNR=14
VRI Vrincioaia 75.90 317⇑ P **P 00 48 14.2 -0.1**
MLR Muntele Rosu 76.35 317⇑ P **P 00 48 16.5 -0.3**
BURAR Bucovina Array 77.30 319⇑ P **P 00 48 22.2 +0.2**
BURAR Bucovina Array 77.30 319⇑ P **P 00 48 22.3 +0.2**
DRGR 78.81 317⇓ P **P 00 48 29.6 -0.8**
RPZ Rata Peaks 78.92 135 P **P 00 48 32.0 +1.0**
comp=Z,8.8nm,0.6s,mb4.9,baz=224,slow=4.7,SNR=9.7
RPZ LR LR 01 23 20.6
comp=Z,1μm,21.0s,MS5.2,baz=193,slow=36
SUR Sutherland 79.31 237 LR LR 01 20 27.0
comp=Z,913nm,18.1s,MS5.2,baz=81,slow=33
SUR Sutherland 79.31 237 *e*P **P 00 48 34.0 +0.5**
comp=Z,44nm,1.3s,mb5.2
SUR LR LR
comp=Z,329nm,19.0s,MS4.7
KWP Kalwaria 79.34 320 *e*P **P 00 48 32.8 -0.4**
comp=Z,27nm,1.4s,mb5.0
KOLS Kolonicke sedl 79.49 320 *e*P **P 00 48 34.7 +0.6**
KOLS *e*sP sP 00 48 44.5 -0.7
SUW Suwalki 79.94 325 *e*P **P 00 48 35.2 -1.1**
SUW Suwalki 79.94 325 *e*P **P 00 48 35.2 -1.1**
SYO Syowa Base 79.96 198⇑ P **P 00 48 37.0 +0.8**
SYO Syowa Base 79.96 198⇓ PcP PcP 00 48 42.6 -1.4
CRVS Cervenica-Dubn 80.01 319 *e*P **P 00 48 38.9 +2.0**
CRVS *e*S S 00 58 37.2 -0.6
FINES FINESS Array B 80.24 332 P **P 00 48 37.4 -0.4**
comp=Z,2.0nm,0.5s,mb4.3,baz=117,slow=8.5,SNR=4.2
FINES LR LR 01 31 12.7
comp=Z,346nm,20.4s,MS4.7,baz=311,slow=41
STHS Stebnicka Huta 80.24 320 *e*P **P 00 48 38.9 +0.8**
STHS *e*pP pP 00 48 48.4 +2.0
KECS Kecovo 80.58 319 *e*P **P 00 48 39.7 -0.2**
KECS *e*pP pP 00 48 47.4 -0.8
TSUM Tsumeb 80.80 250 LR LR 01 20 49.5
comp=Z,307nm,18.7s,MS4.7,baz=220,slow=33
TSUM Tsumeb 80.80 250 *e*P **P 00 48 42.4 +0.8**
comp=Z,9.9nm,1.4s,mb4.5
TSUM *e*pP pP 00 48 49.3 -0.7
TSUM LR LR
comp=Z,436nm,19.0s,MS4.8
NIE Niedzica 80.84 320 *e*P **P 00 48 41.9 +0.7**
PSZ Piszkesteto 80.89 318 *e*P **P 00 48 41.0 -0.5**
comp=Z,13nm,1.1s,mb4.8
SNZO South Karori 81.13 132 PFAKE 00 48 50.0 +7.1
SNZO LR LR
comp=Z,1μm,22.0s,MS5.2
BILL Bilibino 81.19 21 *e*P **P 00 48 42.4 -0.3**
BILL pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BILL Bilibino 81.19 21 PFAKE 00 48 50.0 +7.3
BILL LR LR
comp=Z,1μm,19.0s,MS5.3
OJC Ojcow 81.30 321 *e*P **P 00 48 43.3 -0.3**
VYHS Vyhne 81.67 319 *e*P **P 00 48 44.7 -0.9**
VYHS *e*S S 00 58 54.5 -0.5
TIP Timpagrande 82.12 309 *e*P **P 00 48 48.3 +0.2**
TIP *e*pP pP 00 48 56.7 +0.2
OKC Ostrava-Krasne 82.30 320 *e*P **P 00 48 48.4 -0.4**
OKC *e*pP pP 00 48 57.3 +0.1
OKC AMS AMS 01 37 30.0
comp=Z,200nm,17.9s
KEV Kevo 82.32 341 PFAKE 00 49 00.0 +11
KEV LR LR
comp=Z,713nm,19.0s,MS5.0
GRI Giriflalco 82.35 309 P **P 00 48 50.6 +1.3**
URZ Urewera 82.52 129 LR LR 01 26 40.9
comp=Z,773nm,21.4s,MS5.0,baz=240,slow=36
MORC Moravsky Berou 82.68 320 *e*P **P 00 48 50.2 -0.6**
comp=Z,15nm,1.2s,mb4.9
MORC *e*pP pP 00 48 59.7 +0.6
CEL Celeste 82.72 308 P **P 00 48 51.8 +0.6**
ARCES ARCESS Array B 82.75 340 P **P 00 48 50.6 -0.1**
comp=Z,13nm,0.9s,mb4.9,baz=92,slow=3.8,SNR=16
ARCES LR LR 01 29 52.8
comp=Z,744nm,21.4s,MS5.0,baz=296,slow=39
ZST Bratislava 82.78 318 *e*P **P 00 48 51.5 +0.2**
ZST *e* pP 00 49 00.8 +1.1
ZST *e*S S 00 59 05.3 -1.0
ZST Bratislava 82.78 318 *e*S S 00 59 05.3 -1.0
ZST *e*L 01 38 02.6
SGO Sicignano 83.35 311 P **P 00 48 55.1 +0.7**
comp=Z,7.4nm,1.0s,mb4.7
DPC Dobruska-Polom 83.52 320 *e*P **P 00 48 55.6 +0.5**
DPC *e*pP pP 00 49 03.1 -0.4
DPC AMS AMS 01 36 30.0
comp=Z,300nm,15.9s
CSSN Cassano Irpino 83.58 311⇓ *i*P **P 00 48 56.0 +0.3**
KSP Ksiaz 83.60 321 *e*P **P 00 48 55.7 +0.2**
UPC Upice 83.74 321 *e*P **P 00 48 56.2 0.0**
UPC *e*pP pP 00 49 05.7 +1.1
BOJS Bojanci 83.78 316⇑ *e*P **P 00 48 56.6 0.0**
PERS Pernice 83.97 317⇑ *e*P **P 00 48 57.8 +0.3**
CII Carovilli 84.18 312 *e*P **P 00 48 58.0 -0.7**
comp=Z,19nm,1.4s,mb5.0
LJU Ljubljana 84.33 316⇑ *e*P **P 00 48 59.8 +0.5**
PRU Pruhonice 84.63 320 *e*P **P 00 49 00.9 +0.2**
PRU *e*pP pP 00 49 08.2 -0.9
PRU AMS AMS 01 33 10.0
comp=Z,300nm,25.4s
PVCC Panska Ves 84.66 320 *e*P **P 00 49 00.9 +0.1**
PVCC *e*pP pP 00 49 07.4 -1.8
PVCC AMS AMS 01 35 10.0
comp=Z,300nm,18.1s
VVLD Villa Vallelon 84.70 312⇓ *i*P **P 00 49 00.7 -0.6**
comp=Z,31nm,1.4s,mb5.2
PTQR Pietraquaria 84.88 312 P **P 00 49 02.7 +0.6**
AQU L'Aquila 84.89 312⇑ *i*P **P 00 49 02.7 +0.5**
comp=Z,20nm,0.6s,mb5.4
GEC2 GERESS Array S 85.09 319 *e*P **P 00 49 03.2 +0.2**
GEC2 *e**PP pP 00 49 12.4 +1.0
GEC2 pmax pmax
comp=Z,30nm,1.3s,mb5.3
GEC2 GERESS Array S 85.09 319 *e*P **P 00 49 03.2 +0.2**
comp=Z,30nm,1.3s,mb5.3
GEC2 *e*pP pP 00 49 12.4 +1.0
GERES GERESS Array B 85.09 319 P **P 00 49 03.0 0.0**
comp=Z,11nm,1.1s,mb4.9,baz=104,slow=5.5,SNR=44
KHC Kasperske Hory 85.19 319 *i*P **P 00 49 02.4 -1.1**
KHC Kasperske Hory 85.19 319 *i*P **P 00 49 02.5 -1.0**
KHC Kasperske Hory 85.19 319 P **P 00 49 03.2 -0.3**
KHC *e*pP pP 00 49 11.2 -0.7
KHC AMS AMS 01 33 10.0
comp=Z,200nm,19.0s
ARV Arcevia 85.29 313⇑ *i*P **P 00 49 04.6 +0.4**
comp=Z,17nm,0.9s,mb5.2
FSSB Fossombrone 85.42 314⇑ *i*P **P 00 49 05.4 +0.6**
FVI Forni Avoltri 85.57 316 *i*P **P 00 49 05.7 +0.2**
comp=Z,14nm,1.2s,mb5.1
VNDA Vanda 85.64 169 LR LR 01 26 10.0
comp=Z,498nm,18.4s,MS4.9,baz=310,slow=35
VNDA Vanda 85.64 169 PFAKE 00 49 20.0 +15
VNDA LR LR
comp=Z,589nm,20.0s,MS5.0
WET Wettzell 85.65 319 *e*P **P 00 49 05.9 +0.1**
WET pmax pmax
comp=Z,13nm,1.2s,mb5.0
WET Wettzell 85.65 319 *e*P **P 00 49 05.9 +0.1**
comp=Z,13nm,1.2s,mb5.0
CLL Collm 85.70 321⇑ *i*P **P 00 49 05.7 -0.3**
CLL *e**PP pP 00 49 14.0 -0.4
CLL pmax pmax
comp=Z,13nm,1.1s,mb5.1
CLL Collm 85.70 321⇑ *i*P **P 00 49 05.7 -0.3**
comp=Z,13nm,1.1s,mb5.1
CLL *e*pP pP 00 49 14.0 -0.4
CLL Collm 85.70 321⇑ P **P 00 49 05.7 -0.3**
comp=Z,logA/T=1.1,mb5.1
CLL *e**PP pP 00 49 14.0 -0.4
CLL *e* 00 49 21.0
NKC Novy Kostel 85.99 320 *e**PP **P 00 49 07.1 -0.4**
NKC MLR MLR
comp=Z,200nm,18.8s,MS4.5
NKC Novy Kostel 85.99 320 *e*P **P 00 49 07.1 -0.4**
NKC AMS AMS 01 34 20.0
comp=Z,200nm,18.8s
SFI Santa Sofia 86.10 314⇑ *i*P **P 00 49 09.8 +1.6**
comp=Z,39nm,1.2s,mb5.5
CTI Castel Tesino 86.33 316⇓ *i*P **P 00 49 09.7 +0.4**
comp=Z,49nm,1.5s,mb5.5
MOX Moxa 86.54 320 *e*P **P 00 49 10.9 +0.7**
MOX MLR MLR
comp=Z,200nm,18.0s,MS4.6
MOX Moxa 86.54 320 *i* P **P 00 49 10.9 +0.7**
MOX pP pP 00 49 20.0 +1.4
MOX L 01 40 20.0
FUR Furstenfeldbru 86.66 318 *e*P **P 00 49 10.9 0.0**
FUR pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
FUR Furstenfeldbru 86.66 318 *e*P **P 00 49 10.9 0.0**
comp=Z,8.0nm,0.9s,mb5.0
SBA Scott Base 86.74 169 PFAKE 00 49 20.0 +9.4
SBA LR LR
comp=Z,471nm,20.0s,MS4.9
GRA1 Grafenberg Arr 86.76 320 *e*P **P 00 49 11.6 +0.3**
comp=Z,19nm,1.1s,mb5.2
GRF Grafenberg Arr 86.76 320 *e*P **P 00 49 11.6 +0.3**
GRF pmax pmax
comp=Z,19nm,1.1s,mb5.2
GRF Grafenberg Arr 86.76 320 *e*P **P 00 49 11.6 +0.3**
comp=Z,19nm,1.1s,mb5.2
BRMO Bormio 87.23 316⇓ *i*P **P 00 49 14.6 +1.0**
NB2 NORSAR Subarra 87.25 331 P **P 00 49 13.1 -0.3**
comp=Z,19nm,1.1s,mb5.2,baz=95,slow=4.8
NB2 NORSAR Subarra 87.25 331 P **P 00 49 13.1 -0.3**
NB2 pmax pmax
comp=Z,19nm,1.1s,mb5.2
NB2 NORSAR Subarra 87.25 331 P **P 00 49 13.1 -0.3**
baz=95,slow=5.1
NOA NORSAR Array B 87.25 331 P **P 00 49 13.2 -0.2**
comp=Z,7.3nm,0.9s,mb4.9,baz=94,slow=5.0,SNR=13
NOA LR LR 01 35 42.3
comp=Z,352nm,18.3s,MS4.8,baz=90,slow=41
CLZ Clausthal 87.37 322 *e*P **P 00 49 14.4 +0.2**
CLZ pmax pmax
comp=Z,25nm,1.5s,mb5.2
CLZ Clausthal 87.37 322 *e*P **P 00 49 14.4 +0.2**
comp=Z,25nm,1.5s,mb5.2
NAO01 NORSAR Array S 87.40 331 PFAKE 00 49 30.0 +16
NAO01 LR LR
comp=Z,447nm,19.0s,MS4.9
BSEG Bad Segeberg 87.46 324 *e*P **P 00 49 15.0 +0.4**
BSEG pmax pmax
comp=Z,26nm,1.1s,mb5.4
KONO Kongsberg 88.01 329 *i* P **P 00 49 16.7 -0.3**
KONO LR LR
comp=Z,365nm,20.0s,MS4.8
KBS Kingsbay 88.10 349 PFAKE 00 49 30.0 +13
KBS LR LR
comp=Z,671nm,19.0s,MS5.1
MUD Monsted U'grnd 88.17 326 *e*P **P 00 49 18.8 +0.9**
MUD *i* S S 01 00 00.8 +2.3
MUD pmax pmax
comp=Z,13nm,0.9s,mb5.2
MUD Monsted U'grnd 88.17 326 *e*P **P 00 49 18.8 +0.9**
comp=Z,13nm,0.9s,mb5.2
MUD *i* S S 01 00 00.8 +2.3
MUD Monsted U'grnd 88.17 326 *i* P **P 00 49 18.8 +0.9**
comp=Z,13nm,0.9s,mb5.2
MUD Monsted U'grnd 88.17 326 *i* S S 01 00 00.8 +2.3
TNS Taunus Mts 88.56 320 *e*P **P 00 49 20.3 +0.4**
TNS pmax pmax
comp=Z,18nm,1.2s,mb5.3
TNS Taunus Mts 88.56 320 *e*P **P 00 49 20.3 +0.4**
comp=Z,18nm,1.2s,mb5.3
BFO Black Forest 88.64 318 *e*P **P 00 49 20.0 -0.3**
BFO pmax pmax
comp=Z,9.0nm,1.5s,mb4.9
BFO Black Forest 88.64 318 *e*P **P 00 49 20.0 -0.3**
comp=Z,9.0nm,1.5s,mb4.9
NVL N'lazarevskaya 89.55 199⇓ *i*P **P 00 49 33.9 +10**
NVL *i* *PP pP 00 49 43.9 +11
NVL *i* *SP sP 00 49 47.7 +12
NVL pmax pmax
comp=Z,3.0nm,1.1s,mb4.5
NVL MLR MLR
comp=Z,60nm,16.4s,MS4.1
MAIT Maitri 89.58 199 *e*P **P 00 49 26.5 +2.2**
AFI Afiamalu 90.99 104 P **P 00 49 32.9 +0.9**
QSPA South Pole Qui 91.01 180⇓ *i*P **P 00 49 37.4 +6.7**
comp=Z,8.3nm,1.0s,mb5.0
ESK Eskdalemuir 95.20 326 PFAKE 00 50 00.0 +9.5
ESK LR LR
comp=Z,71nm,20.0s,MS4.1
IMA Indian Mountai 96.60 23 *e*P **P 00 49 57.6 +0.9**
comp=Z,77nm,1.4s,mb5.9
ESLA Sonseca Array 98.12 310 PFAKE 00 50 20.0 +16
ESLA LR LR
comp=Z,1μm,22.0s,MS5.4
ILAR Eielson Array 99.72 23 PP PP 00 54 12.6 -5.1
comp=Z,1.9nm,1.1s,baz=293,slow=7.2,SNR=5.4
BORG Borgarnes 100.95 337 PFAKE 00 50 30.0 +14
BORG LR LR
comp=Z,64nm,20.0s,MS4.1
DBIC Dimbokro 102.11 277 PFAKE 00 50 30.0 +7.3
DBIC LR LR
comp=Z,393nm,21.0s,MS4.9
TBI Tubuai 111.56 115 *e*LR LR 01 28 20.5
comp=Z,918nm,41.5s
PPT Papeete 112.18 108 *e*LR LR 01 28 39.2
comp=Z,443nm,25.8s
CMLA Cha da Macela 114.85 313 PFAKE 00 55 20.0 +8.4
CMLA LR LR
comp=Z,3μm,19.0s,MS5.8
PMSA Palmer Station 115.03 189 PFAKE 00 55 20.0 +8.7
PMSA LR LR
comp=Z,574nm,20.0s,MS5.2
OCWA Octopus Mounta 119.38 31 PFAKE 00 55 30.0 +10
OCWA LR LR
comp=Z,350nm,21.0s,MS5.0
COR Corvallis 121.88 33 PFAKE 00 55 30.0 +4.9
COR LR LR
comp=Z,293nm,19.0s,MS5.0
FFC Flin Flon 122.13 13 PFAKE 00 55 30.0 +4.7
FFC LR LR
comp=Z,109nm,19.0s,MS4.5
NEW Newport 122.43 27 PFAKE 00 55 30.0 +4.0
NEW LR LR
comp=Z,376nm,19.0s,MS5.1
HUMO Hull Mountain 123.33 35 PFAKE 00 55 40.0 +12
HUMO LR LR
comp=Z,212nm,20.0s,MS4.8
YBH Yreka Blue Hor 124.03 36 PFAKE 00 55 40.0 +11
YBH LR LR
comp=Z,316nm,22.0s,MS4.9
RKT Rikitea 124.63 118 *e*LR LR 01 34 23.6
comp=Z,580nm,26.5s
BMO Blue Mountains 124.83 30 PFAKE 00 55 40.0 +9.1
BMO LR LR
comp=Z,263nm,21.0s,MS4.9
WDC Whiskeytown Da 124.84 37 PFAKE 00 55 40.0 +9.0
WDC LR LR
comp=Z,272nm,20.0s,MS4.9
MSO Missoula 124.93 26 PFAKE 00 55 40.0 +9.0
MSO LR LR
comp=Z,318nm,22.0s,MS4.9
MOD Modoc 125.29 34 PFAKE 00 55 40.0 +8.2
MOD LR LR
comp=Z,328nm,19.0s,MS5.0
HOPS Hopland 125.49 38 PFAKE 00 55 40.0 +7.7
HOPS LR LR
comp=Z,353nm,19.0s,MS5.0
WVOR Wild Horse Val 125.85 33 PFAKE 00 55 40.0 +7.1
WVOR LR LR
comp=Z,373nm,21.0s,MS5.0
BOZ Bozeman (W) 126.85 25 PFAKE 00 55 40.0 +5.4
BOZ LR LR
comp=Z,281nm,19.0s,MS5.0
HLID Hailey 127.19 29 PFAKE 00 55 40.0 +4.6
HLID LR LR
comp=Z,585nm,22.0s,MS5.2
ULM Lac du Bonnet 127.62 11 PFAKE 00 55 40.0 +3.9
ULM LR LR
comp=Z,641nm,21.0s,MS5.3
CMB Columbia Colle 127.74 38 PFAKE 00 55 50.0 +13
CMB LR LR
comp=Z,279nm,21.0s,MS4.9
SAO San Andreas Ge 127.86 40 PFAKE 00 55 50.0 +13
SAO LR LR
comp=Z,324nm,19.0s,MS5.0
BMN Battle Mountai 128.00 33 PFAKE 00 55 50.0 +13
BMN LR LR
comp=Z,260nm,20.0s,MS4.9
LAO LASA Array 128.09 21 PFAKE 00 55 50.0 +13
LAO LR LR
comp=Z,355nm,22.0s,MS5.0
LKWY Lake 128.24 25 PFAKE 00 55 50.0 +13
LKWY LR LR
comp=Z,670nm,19.0s,MS5.3
ELK Elko 128.85 32 PFAKE 00 55 50.0 +11
ELK LR LR
comp=Z,310nm,20.0s,MS5.0
AHID Auburn Hatcher 129.36 27 PFAKE 00 55 50.0 +10
AHID LR LR
comp=Z,377nm,19.0s,MS5.1
TPH Tonopah 129.60 36 PFAKE 00 55 50.0 +10
TPH LR LR
comp=Z,283nm,20.0s,MS5.0
HWUT Hardware Ranch 130.04 28 PFAKE 00 55 50.0 +9.0
HWUT LR LR
comp=Z,467nm,20.0s,MS5.2
BW06 Boulder Array 130.05 26 PFAKE 00 55 50.0 +9.1
BW06 LR LR
comp=Z,299nm,20.0s,MS5.0
PDAR Pinedale Array 130.05 26 PKP PKPdf 00 55 36.9 -4.1
comp=Z,0.5nm,0.8s,SNR=6.4
ISA Isabella 130.43 39 PFAKE 00 55 50.0 +8.1
ISA LR LR
comp=Z,49nm,20.0s,MS4.2
DAC Darwin (Calif) 130.58 38 PFAKE 00 55 50.0 +7.9
DAC LR LR
comp=Z,381nm,20.0s,MS5.0
PQI Presque Isle 130.78 347 PFAKE 00 55 50.0 +7.8
PQI LR LR
comp=Z,2μm,22.0s,MS5.7
EMMW East Machias 132.49 345 PFAKE 00 55 50.0 +4.5
EMMW LR LR
comp=Z,2μm,21.0s,MS5.8
PFO Pinyon Flat Ob 133.02 40 PFAKE 00 56 00.0 +13
PFO LR LR
comp=Z,75nm,22.0s,MS4.4
WVL Waterville 133.14 347 PFAKE 00 55 50.0 +3.3
WVL LR LR
comp=Z,3μm,19.0s,MS6.0
RCBR Riachuelo 133.23 263 PFAKE 00 56 00.0 +12
RCBR LR LR
comp=Z,238nm,20.0s,MS4.9
PV10 Paradox Valley 133.78 29 PKP PKPdf 00 55 42.5 -5.6
NCB Newcomb 134.55 352 PFAKE 00 56 00.0 +11
NCB LR LR
comp=Z,261nm,20.0s,MS5.0
HRV Harvard--Oak R 135.51 348 PFAKE 00 56 00.0 +8.8
HRV LR LR
comp=Z,309nm,21.0s,MS5.0
WES Weston 135.58 348 PFAKE 00 56 00.0 +8.7
WES LR LR
comp=Z,759nm,19.0s,MS5.4
SDCO Great Sand Dun 135.93 26 PFAKE 00 56 00.0 +7.9
SDCO LR LR
comp=Z,401nm,21.0s,MS5.1
CBKS Cedar Bluff 137.28 20 PFAKE 00 56 00.0 +5.5
CBKS LR LR
comp=Z,352nm,20.0s,MS5.1
TUC Tucson 137.39 36 PFAKE 00 56 00.0 +5.1
TUC LR LR
comp=Z,153nm,20.0s,MS4.7
ANMO Albuquerque 137.75 30 PFAKE 00 56 00.0 +4.5
ANMO LR LR
comp=Z,232nm,20.0s,MS4.9
TRQA Tornquist 138.62 205 PFAKE 00 56 10.0 +13
TRQA LR LR
comp=Z,360nm,19.0s,MS5.1
PLCA Paso Flores 139.05 194 PFAKE 00 56 10.0 +12
PLCA LR LR
comp=Z,287nm,20.0s,MS5.0
CCM Cathedral Cave 140.25 11 PFAKE 00 56 10.0 +10
CCM LR LR
comp=Z,360nm,20.0s,MS5.1
CBN Corbin 140.64 354 PFAKE 00 56 10.0 +9.3
CBN LR LR
comp=Z,349nm,19.0s,MS5.1
WCI Wyandotte Cave 140.75 5 PFAKE 00 56 10.0 +9.1
WCI LR LR
comp=Z,446nm,20.0s,MS5.2
MNTX Cornudas Mount 140.87 32 *e*PKP PKPdf 00 55 52.2 -9.1
MNTX LR LR
comp=Z,349nm,21.0s,MS5.1
BLA Blacksburg 141.87 357 PFAKE 00 56 10.0 +7.2
BLA LR LR
comp=Z,372nm,19.0s,MS5.2
WVT Waverly 142.67 7 *e*PKP PKPdf 00 55 55.2 -9.0
WVT LR LR
comp=Z,292nm,19.0s,MS5.1
BBSR BB Station 142.71 335 PFAKE 00 56 10.0 +5.6
BBSR LR LR
comp=Z,197nm,19.0s,MS4.9
LTX Lajitas 143.64 32 *e*PKP PKPdf 00 56 00.9 -5.2
LTX LR LR
comp=Z,194nm,20.0s,MS4.9
TXAR Lajitas Array 143.64 32 PKP PKPdf 00 56 00.8 -5.3
comp=Z,2.3nm,0.8s,baz=270,slow=2.5,SNR=22
PLAL Pickwick Lake 143.77 8 *e*PKP PKPdf 00 55 59.1 -7.0
PLAL LR LR
comp=Z,431nm,21.0s,MS5.2
MYNC Murphy 144.02 2 *e*PKP PKPdf 00 55 59.6 -6.9
MYNC LR LR
comp=Z,534nm,21.0s,MS5.3
OXF Oxford 144.03 10 PFAKE 00 56 20.0 +19
OXF LR LR
comp=Z,363nm,20.0s,MS5.1
JSC Jenkinsville 144.82 358 *e*PKP PKPdf 00 56 03.7 -4.3
CPUP Villa Florida 145.08 222 PKPbc PKPbc 00 56 06.3 +2.0
comp=Z,4.1nm,0.9s,baz=135,slow=4.6,SNR=8.2
CPUP Villa Florida 145.08 222 *e*PKP PKPdf 00 56 05.0 -3.8
CPUP LR LR
comp=Z,312nm,20.0s,MS5.1
NATX Nacogdoches 145.39 18 *e*PKP PKPdf 00 56 05.8 -3.3
NATX *e* 00 56 13.5
NATX LR LR
comp=Z,401nm,20.0s,MS5.2
LRAL Lakeview Retre 145.82 7 *e*PKP PKPdf 00 56 06.0 -3.8
LRAL LR LR
comp=Z,411nm,22.0s,MS5.2
NHSC New Hope 145.94 356 *e*PKP PKPdf 00 56 06.7 -3.4
NHSC LR LR
comp=Z,422nm,20.0s,MS5.2
HBF Harts Bluff 146.12 357 *e*PKP PKPdf 00 56 07.3 -3.0
RGRS Roger Stewart 146.14 356 *e*PKP PKPdf 00 56 07.6 -2.7
DWPF Disney 150.97 358 PFAKE 00 56 30.0 +12
DWPF LR LR
comp=Z,301nm,19.0s,MS5.1
LVC Limon Verde 154.82 211 PFAKE 00 56 30.0 +6.2
LVC LR LR
comp=Z,276nm,19.0s,MS5.1
SAML Samuel 159.21 247 PFAKE 00 56 40.0 +10
SAML LR LR
comp=Z,283nm,19.0s,MS5.1
LPAZ La Paz 159.26 222 PKP PKPdf 00 56 27.8 -1.8
comp=Z,0.3nm,0.5s,baz=58,slow=19,SNR=2.6
LPAZ La Paz 159.26 222 PKP PKPdf 00 56 28.0 -1.6
LPAZ LR LR

comp=Z,213nm,20.0s,MS5.0
SDV Santo Domingo 164.56 310 PFAKE 00 56 40.0 +4.9
SDV LR LR
comp=Z,167nm,21.0s
NNA Nana 167.77 207 PFAKE 00 56 50.0 +12
NNA LR LR
comp=Z,93nm,20.0s
JTS JuntasAbangare 168.47 12 PFAKE 00 56 50.0 +12
JTS LR LR
comp=Z,78nm,22.0s
PAYG Puerto Ayora 172.24 87 PFAKE 00 56 50.0 +10
PAYG LR LR
comp=Z,259nm,19.0s

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*IDC **30** 00:40:07.0±0.5, 1.04N×97.40E, mb4.7/26, mb1 4.8/26, mb1mx4.7/28, mbtmp4.7/26, Error ellipse: s-maj=14.9km s-min=12.7km az=57.0*
*BJI **30** 00:40:09.7, 0.88N×97.54E, h35km, mB5.3, mb5.3, Ms5.2, Msz5.1*
*MOS **30** 00:40:10.3±0.8, 1.05N×97.50E, h33km, mb5.2/34, MS4.6/6, Error ellipse: s-maj=11.1km s-min=6.0km az=110.0*
*NEIC **30** 00:40:11.6±0.2, 0.99N×97.43E, h30km, mb5.0/24, MS4.7/1, Error ellipse: s-maj=5.0km s-min=4.5km az=189.0*
NEIC Felt [III] at Gunungsitoli.
ISC 30 00:40:09.6±1.4, 1.04N±0.04×97.49E±0.04, h27km±9km, h29km±2.0km: pP-P, n186, σ0=98/193, mb5.0/78, MS4.8/13, 21C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
KULM	**Kulim**	**5.27**	**37**	*e*P		**Pn**	**00 41 30.1**	**+1.4**
KSM	**Kuching**	**12.82**	**88**	*e*P		**P**	**00 43 12.3**	**-0.7**
BDT	**Bhumibol Dam**	**16.17**	**5**	P		**P**	**00 43 58.0**	**+1.1**
	38nm,1.0s							
NANT	**Nan**	**17.93**	**10**	⇑P		**P**	**00 44 16.0**	**-2.9**
	438nm,0.4s							
CHRT	**Chiangrai**	**18.85**	**7**	⇑P		**P**	**00 44 28.5**	**-1.7**
	458nm,1.1s							
KKM	**Kota Kinabalu**	**19.33**	**75**	*e*P		**P**	**00 44 36.3**	**+0.4**
KMI	**Kunming**	**24.48**	**12**	P		**P**	**00 45 29.8**	**+2.0**
KMI				AP			00 45 38.0	
KMI				XP			00 45 42.3	
KMI				PP	PP		00 46 08.5	+4.8
KMI				S	**S**		**00 49 50.5**	**+7.1**
KMI				XS			00 50 02.5	
KMI				SS	SS		00 50 44.8	+6.0
KMI				AMB	AMB			
	comp=Z,78nm,1.4s,mb5.0							
KMI				AMB	AMB			
	comp=Z,544nm,3.3s							
KMI				LR	LR			
	comp=N,3μm,17.0s,MS4.9							
KMI				LR	LR			
	comp=E,2μm,12.5s,MS4.9							
KMI				LR	LR			
	comp=Z,3μm,19.6s							
KMI	**Kunming**	**24.48**	**12**	P		**P**	**00 45 29.8**	**+2.0**
KMI				*PP			00 45 37.9	
KMI				*SP			00 45 42.3	
KMI							00 46 08.4	
KMI				PPP	PPP		00 46 19.2	+5.0
KMI				S	**S**		**00 49 50.4**	**+7.0**
KMI				*SS			00 50 02.4	
KMI				SS	SS		00 50 44.8	+6.0
KMI				pmax	pmax			
	comp=Z,78nm,1.4s,mb5.0							
KMI				MLR	MLR			
	comp=Z,3μm,19.6s,MS4.7							
KMI	**Kunming**	**24.48**	**12**	P		**P**	**00 45 29.8**	**+2.0**
	comp=Z,78nm,1.4s,mb5.0							
KMI				pP			00 45 37.9	
KMI				sP			00 45 42.3	
KMI				PP	PP		00 46 08.4	+4.7
KMI				PPP	PPP		00 46 19.2	+5.0
KMI				S	**S**		**00 49 50.4**	**+7.0**
KMI				sS			00 50 02.4	
KMI				SS	SS		00 50 44.8	+6.0
KMI				LR	LR			
	comp=Z,3μm,19.6s,MS4.7							
HYB	**Hyderabad**	**24.74**	**312**	*i* P		**P**	**00 45 41.0**	**+11**
GYA	**Guiyang**	**26.77**	**18**	⇓*i*P		**P**	**00 45 49.5**	**+0.2**
GYA				AP	pP		00 45 58.5	+1.2
GYA				XP	sP		00 46 02.8	+1.9
GYA				AMB	AMB			
	comp=Z,40nm,1.2s,mb4.8							
GYA				AMB	AMB			
	comp=Z,300nm,5.7s							
GYA				LR	LR			
	comp=N,1μm,12.9s,MS4.8							
GYA				LR	LR			
	comp=E,2μm,15.3s,MS4.8							
GYA				LR	LR			
	comp=Z,1μm,15.0s,MS4.6							
JIRN	**Jiri**	**28.61**	**339**	*e*P		**P**	**00 46 06.9**	**+1.0**
	comp=Z,136nm,0.9s,mb5.7							
PKI	**Pulchoki**	**28.82**	**337**	*e*P		**P**	**00 46 08.1**	**+0.3**
	comp=Z,80nm,1.0s,mb5.4							
DMN	**Daman**	**28.97**	**337**	*e*P		**P**	**00 46 10.0**	**+0.8**
	comp=Z,100nm,0.9s,mb5.5							
KKN	**Kakani**	**29.06**	**337**	*e*P		**P**	**00 46 10.4**	**+0.4**
	comp=Z,176nm,1.1s,mb5.7							
LSA	**Lhasa**	**29.14**	**349**	*e*P		**P**	**00 46 11.5**	**+0.8**
LSA	**Lhasa**	**29.14**	**349**	*e*P		**P**	**00 46 11.4**	**+0.7**
LSA				pmax	pmax			
	comp=Z,40nm,0.8s,mb5.2							
LSA	**Lhasa**	**29.14**	**349**	*e*P		**P**	**00 46 11.4**	**+0.7**
	comp=Z,40nm,0.8s,mb5.2							
GKN	**Gorkha**	**29.51**	**336**	*e*P		**P**	**00 46 14.3**	**+0.3**
	comp=Z,91nm,0.9s,mb5.5							
KOLN	**Koldanda**	**29.73**	**335**	*e*P		**P**	**00 46 16.6**	**+0.6**
	comp=Z,70nm,0.8s,mb5.5							
CD2	**Chengdu**	**30.30**	**11**	*e*P		**P**	**00 46 19.5**	**-1.5**
ENH	**Enshi**	**31.23**	**20**	*e*P		**P**	**00 46 27.8**	**-1.5**
	comp=Z,85nm,1.0s,mb5.5							
NACB	**Ninganchiao**	**32.77**	**44**	*e*P		**P**	**00 46 42.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**33.59**	**126**	*e*P		**P**	**00 46 49.7**	**-0.3**
	comp=Z,14nm,0.8s,mb4.9							
FITZ	**Fitzroy Crossi**	**33.59**	**126**	P		**P**	**00 46 50.0**	**0.0**
	comp=Z,5.4nm,0.5s,mb4.7,baz=205,slow=0.6,SNR=8.2							
XAN	**Xi'an**	**34.53**	**17**	P		**P**	**00 46 56.8**	**-1.1**
XAN				AMB	AMB			
	comp=Z,78nm,1.0s,mb5.6							
LZH	**Lanzhou**	**35.37**	**9**	⇑P		**P**	**00 47 05.0**	**-0.1**
LZH				AP	pP		00 47 11.5	-1.7
LZH				XP	sP		00 47 14.8	-1.9
LZH				PP	PP		00 48 27.0	+2.1
LZH				*e*S	**S**		**00 52 34.0**	**-3.0**
LZH				*e*XS			00 52 51.0	
LZH				*e*SS	SS		00 54 52.0	-3.3
LZH				AMB	AMB			
	comp=Z,81nm,1.4s,mb5.5							
LZH				AMB	AMB			
	comp=Z,253nm,4.0s							
LZH				LR	LR			
	comp=E,2μm,11.7s							
LZH				LR	LR			
	comp=Z,2μm,13.1s,MS5.2							
LZH	**Lanzhou**	**35.37**	**9**	⇑P		**P**	**00 47 04.9**	**-0.2**
LZH				*SP	sP		00 47 14.8	-1.9
LZH							00 48 27.0	
LZH				*e*S	**S**		**00 52 34.0**	**-3.0**
LZH				*e**SS			00 52 51.0	
LZH				*e*SS	SS		00 54 52.0	-3.3
LZH				pmax	pmax			
	comp=Z,81nm,1.4s,mb5.5							
LZH				MLR	MLR			
	comp=Z,2μm,13.1s,MS5.2							
LZH	**Lanzhou**	**35.37**	**9**	⇑P		**P**	**00 47 04.9**	**-0.2**
	comp=Z,81nm,1.4s,mb5.5							
LZH				pP	pP		00 47 11.5	-1.7
LZH				sP	sP		00 47 14.8	-1.9
LZH				PP	PP		00 48 27.0	+2.1
LZH				*e*S	**S**		**00 52 34.0**	**-3.0**
LZH				*e*sS			00 52 51.0	
LZH				*e*SS	SS		00 54 52.0	-3.3
LZH				LR	LR			
	comp=Z,2μm,13.1s,MS5.2							
NJ2	**Nanjing**	**36.85**	**31**	*e*P		**P**	**00 47 18.5**	**+0.9**
NJ2				AP	pP		00 47 25.8	+0.1
NJ2				XP	sP		00 47 29.0	-0.2
NJ2					PP	PP	00 48 45.0	+1.5
NJ2					S	**S**	**00 52 59.0**	**-0.8**
NJ2					XS		00 53 13.0	
NJ2					AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2							
NJ2					AMB	AMB		
	comp=Z,240nm,4.8s							
NJ2					LR	LR		
	comp=N,6μm,19.8s							
NJ2					LR	LR		
	comp=E,4μm,14.1s							
NJ2					LR	LR		
	comp=Z,2μm,13.7s							
SSE	**Sheshan**	**37.38**	**35**	P		**P**	**00 47 24.0**	**+2.0**
SSE					AMB	AMB		
	comp=Z,15nm,0.8s,mb4.9							
SSE					AMB	AMB		
	comp=Z,155nm,4.4s							
SSE	**Sheshan**	**37.38**	**35**	P		**P**	**00 47 24.1**	**+2.1**
	comp=Z,15nm,0.8s,mb4.9							
GTA	**Gaotai**	**38.25**	**3**	⇑P		**P**	**00 47 29.5**	**+0.2**
GTA					AP	pP	00 47 40.0	+2.5
GTA					XP	sP	00 47 43.0	+2.1
GTA					PP	PP	00 49 01.5	+1.2
GTA					PCP	PcP	00 49 43.5	-0.2
GTA					S	**S**	**00 53 22.3**	**+1.3**
GTA					SCP		00 53 25.8	
GTA					XS		00 53 38.3	
GTA					SS	SS	00 56 03.3	+3.0
GTA					SCS	ScS	00 57 35.8	-0.8
GTA					AMB	AMB		
	comp=Z,47nm,1.0s,mb5.2							
GTA					AMB	AMB		
	comp=Z,180nm,12.8s							
GTA					LR	LR		
	comp=N,893nm,15.7s,MS4.8							
GTA					LR	LR		
	comp=E,973nm,19.5s,MS4.8							
GTA					LR	LR		
	comp=Z,942nm,16.4s,MS4.7							
NWAO	**Narrogin (SRO)**	**38.58**	**153**	P		**P**	**00 47 31.5**	**-0.6**
	comp=Z,17nm,0.9s,mb4.8,baz=311,slow=9.2,SNR=4.1							
JOW	**Kunigami**	**39.14**	**46**	P		**P**	**00 47 37.6**	**+0.8**
	comp=Z,78nm,0.9s,mb5.4,baz=248,slow=7.7,SNR=14							
HHC	**Hu-ho-hao-te**	**41.63**	**16**	*e*P		**P**	**00 47 57.8**	**+0.6**
HHC					AP	pP	00 48 08.5	+3.0
HHC					XP	sP	00 48 11.5	+2.7
HHC					PP	PP	00 49 41.0	+4.4
HHC					PCP	PcP	00 49 58.8	+4.2
HHC					S	**S**	**00 54 08.8**	**-2.9**
HHC					SCS	ScS	00 57 59.8	+3.3
HHC					AMB	AMB		
	comp=Z,23nm,1.2s,mb4.7							
HHC					AMB	AMB		
	comp=Z,227nm,9.5s							
HHC					LR	LR		
	comp=N,894nm,19.0s,MS5.1							
HHC					LR	LR		
	comp=E,2μm,17.8s,MS5.1							
HHC					LR	LR		
	comp=Z,2μm,15.4s,MS5.2							
WRA	**Warramunga Arr**	**41.70**	**122**	P		**P**	**00 47 58.0**	**-0.1**
	comp=Z,4.5nm,0.6s,mb4.3,baz=304,slow=9.0,SNR=7.2							
WRA					S	**S**	**00 54 08.9**	**-4.1**
	comp=Z,1.4nm,1.1s,baz=298,slow=12,SNR=3.9							
WRAB	**Tennant Creek**	**41.70**	**122**	*e*P		**P**	**00 47 58.2**	**+0.1**
WRAB				pmax	pmax			
	comp=Z,9.0nm,0.6s,mb4.6							
WRAB	**Tennant Creek**	**41.70**	**122**	*e*P		**P**	**00 47 58.2**	**+0.1**
	comp=Z,9.5nm,0.6s,mb4.6							
WB2	**Warramunga Arr**	**41.71**	**122**	*e*P		**P**	**00 47 59.0**	**+0.8**
KSH	**Kashi**	**43.04**	**335**	*e*P		**P**	**00 48 09.5**	**+0.7**
KSH				*e*AP	pP		00 48 18.0	+1.0
KSH				*e*XP	sP		00 48 21.5	+1.1
KSH				*e*PP	PP		00 49 52.3	+1.3
KSH				*e*PCP	PcP		00 50 00.3	+1.1
KSH				*e*PCS			00 53 51.8	
KSH				*e*S	**S**		**00 54 30.3**	**-2.1**
KSH				*e*XS			00 54 49.3	
KSH				*e*SS	SS		00 57 38.8	+0.3
KSH				*e*SCS	ScS		00 58 06.0	+0.9
KSH				AMB	AMB			
	comp=Z,50nm,1.9s,mb4.9							
WMQ	**Urumqi**	**43.48**	**350**	*e*P		**P**	**00 48 13.0**	**+0.7**
WMQ				AP	pP		00 48 22.8	+2.3
WMQ				XP	sP		00 48 26.8	+2.9
WMQ				PP	PP		00 49 56.3	+0.9
WMQ				S	**S**		**00 54 39.0**	**+0.2**
WMQ				XS			00 54 55.3	
WMQ				AMB	AMB			
	comp=Z,114nm,1.2s,mb5.5							
WMQ				AMB	AMB			
	comp=Z,478nm,4.0s							
WMQ				LR	LR			
	comp=N,912nm,23.4s,MS4.8							
WMQ				LR	LR			
	comp=E,1μm,21.0s,MS4.8							
WMQ				LR	LR			
	comp=Z,611nm,16.2s,MS4.6							
DL2	**Dalian**	**43.68**	**28**	P		**P**	**00 48 15.0**	**+1.0**
DL2				AMB	AMB			
	comp=Z,70nm,0.8s,mb5.4							
JNU	**Nakatsue**	**44.73**	**41**	P		**P**	**00 48 23.1**	**+0.4**
	comp=Z,24nm,1.0s,mb5.0,baz=204,slow=4.7,SNR=5.5							
ULHL	**Ulahol**	**45.26**	**338**	P		**P**	**00 48 25.0**	**-1.6**
	SNR=7.4							
KS15	**Wonju Array Si**	**45.79**	**34**	*e*P		**P**	**00 48 31.0**	**+0.1**
UCH	**Uchtor**	**45.92**	**336**	P		**P**	**00 48 33.5**	**+1.6**
	SNR=5.7							
TKM2	**Tokmak 2**	**46.08**	**338**	P		**P**	**00 48 34.0**	**+0.9**
	SNR=8.2							
KBK	**Karagaybulak**	**46.10**	**337**	P		**P**	**00 48 34.7**	**+1.4**
	SNR=9.5							
AML	**Almayashu**	**46.17**	**335**	P		**P**	**00 48 35.1**	**+1.2**
	SNR=8.0							
AAK	**Ala-Archa**	**46.27**	**336**	*e*P		**P**	**00 48 34.2**	**-0.4**
AAK				pmax	pmax			
	comp=Z,16nm,1.1s,mb4.9							
AAK	**Ala-Archa**	**46.27**	**336**	*e*P		**P**	**00 48 34.2**	**-0.4**
	comp=Z,16nm,1.1s,mb4.9							
CHMS	**Chumysh**	**46.47**	**337**	P		**P**	**00 48 36.7**	**+0.5**
	SNR=5.1							
USP	**Ospenovka**	**46.80**	**337**	P		**P**	**00 48 39.5**	**+0.7**
	SNR=25							
SNY	**Shenyang**	**46.91**	**27**	⇑P		**P**	**00 48 39.8**	**+0.1**
SNY					AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4							
SNY					AMB	AMB		
	comp=E,80nm,5.1s							
SNY					LR	LR		
	comp=E,960nm,15.3s							
SNY					LR	LR		
	comp=Z,1μm,15.7s,MS5.0							
SONM	**Songino Array**	**47.25**	**8**	P		**P**	**00 48 42.7**	**+0.4**
	comp=Z,13nm,0.7s,mb5.0,baz=190,slow=9.6,SNR=31							
SONM					PcP	PcP	00 50 13.9	+0.3
	comp=Z,4.9nm,0.8s,baz=183,slow=3.5,SNR=3.5							
MKAR	**Makanchi Array**	**47.47**	**346**	*i* P		**P**	**00 48 44.1**	**0.0**
MKAR				pmax	pmax			
	comp=Z,16nm,0.6s							
MKAR	**Makanchi Array**	**47.47**	**346**	P		**P**	**00 48 44.2**	**+0.1**
	comp=Z,28nm,0.6s,mb5.4,baz=161,slow=8.4,SNR=63							
MKAR	**Makanchi Array**	**47.47**	**346**	P		**P**	**00 48 44.2**	**+0.1**
KKAR	**Karatay Array**	**48.33**	**334**	P		**P**	**00 48 50.2**	**-0.6**
KKAR				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.4							
CN2	**Changchun**	**49.32**	**27**	⇑P		**P**	**00 48 58.0**	**-0.4**
CN2				*e*XP	sP		00 49 09.0	-1.0
CN2				*e*S	**S**		**00 56 02.8**	**+0.9**
CN2				AMB	AMB			
	comp=Z,50nm,1.0s,mb5.5							
CN2				AMB	AMB			
	comp=Z,200nm,5.0s							
CN2				LR	LR			
	comp=N,1μm,15.0s,MS5.0							
CN2				LR	LR			
	comp=E,700nm,15.0s,MS5.0							
CN2				LR	LR			
	comp=Z,2μm,16.0s,MS5.2							
ZAK	**Zakamensk**	**49.41**	**5**	*e*P		**P**	**00 48 59.2**	**+0.2**
ZAK				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.7							
PMG	**Port Moresby**	**50.53**	**103**	*e*P		**P**	**00 49 07.4**	**-0.7**
PMG				pmax	pmax			
	comp=Z,11nm,0.7s							
PMG	**Port Moresby**	**50.53**	**103**	P		**P**	**00 49 06.9**	**-1.1**
	comp=Z,10nm,0.7s,mb4.8,baz=272,slow=7.8,SNR=4.4							
PMG	**Port Moresby**	**50.53**	**103**	*e*P		**P**	**00 49 07.4**	**-0.7**
	comp=Z,11nm,0.7s,mb4.9							
MOY	**Mondy**	**50.54**	**3**	*e*P		**P**	**00 49 07.6**	**0.0**
TLY	**Talaya**	**50.73**	**5**	*i* P		**P**	**00 49 08.5**	**-0.6**
TLY				pmax	pmax			
	comp=Z,13nm,0.8s,mb4.9							
TLY	**Talaya**	**50.73**	**5**	*e*P		**P**	**00 49 09.2**	**+0.1**
MAJO	**Matsushiro**	**51.61**	**42**	*e*P		**P**	**00 49 15.8**	**-0.2**
MAT	**Matsushiro**	**51.61**	**42**	P		**P**	**00 49 13.9**	**-2.1**
MJAR	**Matsushiro Arr**	**51.61**	**42**	P		**P**	**00 49 15.1**	**-0.9**
	comp=Z,6.9nm,0.8s,mb4.6,baz=218,slow=7.3,SNR=15							
MJAR	**Matsushiro Arr**	**51.61**	**42**	P		**P**	**00 49 15.1**	**-0.9**
HIA	**Hailar**	**51.70**	**18**	*e*P		**P**	**00 49 16.3**	**-0.2**
HIA				pmax	pmax			
	comp=Z,34nm,1.0s							
HIA	**Hailar**	**51.70**	**18**	*e*P		**P**	**00 49 16.3**	**-0.2**
	comp=Z,34nm,1.0s,mb5.2							
MDJ	**Mudanjiang**	**51.87**	**29**	P		**P**	**00 49 18.3**	**+0.5**
MDJ				AP	pP		00 49 26.0	-0.2
MDJ				XP	sP		00 49 30.8	+1.4
MDJ				PCP	PcP		00 50 29.8	-0.7
MDJ				SCP			00 54 21.8	
MDJ				PCS			00 54 28.0	
MDJ				S	**S**		**00 56 41.0**	**+3.9**
MDJ				SCS	ScS		00 59 03.3	+0.5
MDJ				AMB	AMB			
	comp=Z,20nm,1.0s,mb5.0							
MDJ				AMB	AMB			
	comp=Z,112nm,4.6s							
MDJ				LR	LR			
	comp=N,797nm,20.0s,MS4.8							
MDJ				LR	LR			
	comp=E,554nm,20.0s,MS4.8							
MDJ				LR	LR			
	comp=Z,1μm,16.9s,MS5.1							
MDJ	**Mudanjiang**	**51.87**	**29**	*e*P		**P**	**00 49 18.0**	**+0.2**
	comp=Z,18nm,0.9s,mb5.0							
KURK	**Kurchatov**	**52.02**	**345**	*e*P		**P**	**00 49 18.3**	**-0.6**
KURK				pmax	pmax			
	comp=Z,25nm,0.8s,mb5.2							
KURK	**Kurchatov**	**52.02**	**345**	*e*P		**P**	**00 49 18.3**	**-0.6**
	comp=Z,25nm,0.8s,mb5.2							
CIT	**Chita**	**52.56**	**12**	*e*P		**P**	**00 49 23.0**	**0.0**
CIT				*e*			00 49 28.6	
CIT				pmax	pmax			
	comp=Z,89nm,1.4s,mb5.5							
STKA	**Stephens Creek**	**53.03**	**132**	P		**P**	**00 49 27.1**	**+0.4**
	comp=Z,4.4nm,0.8s,mb4.4,baz=338,slow=12,SNR=3.1							
STKA	**Stephens Creek**	**53.03**	**132**	*e*P		**P**	**00 49 26.8**	**+0.1**
OPO	**Ambohidratompo**	**53.13**	**246**	P		**P**	**00 49 26.0**	**-1.5**
	comp=Z,8.0nm,1.0s,mb4.6,baz=77,slow=8.3,SNR=3.9							
ZAL	**Zalesovo**	**53.76**	**351**	P		**P**	**00 49 30.8**	**-0.9**
	comp=Z,24nm,0.6s,mb5.3,baz=308,slow=5.6,SNR=23							
NVS	**Novosibirsk**	**54.89**	**350**	⇑*i*P		**P**	**00 49 38.5**	**-1.5**
NVS				*e*S		**S**	**00 57 13.0**	**-4.8**
NVS				pmax	pmax			
	comp=Z,30nm,1.0s,mb5.3							
NVS				pmax	pmax			
	comp=N,31nm,1.3s							
NVS				smax				
	comp=N,28nm,2.1s							
VOSK	**Vostochnaya**	**56.05**	**341**	P		**P**	**00 49 46.4**	**-2.1**
VOSK				pmax	pmax			
	comp=Z,11nm,0.7s,mb5.0							
BVAR	**Borovoye Array**	**56.50**	**341**	P		**P**	**00 49 50.0**	**-1.6**
	comp=Z,16nm,0.8s,mb5.1,baz=143,slow=8.5,SNR=19							
BRVK	**Borovoye**	**56.56**	**341**	*e*P		**P**	**00 49 50.6**	**-1.5**
BRVK				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.9							
BRVK	**Borovoye**	**56.56**	**341**	*e*P		**P**	**00 49 50.6**	**-1.5**
	comp=Z,8.1nm,0.7s,mb4.9							
AB31	**Akbulak array**	**57.80**	**332**	P		**P**	**00 49 59.4**	**-1.5**
AB31				pmax	pmax			
	comp=Z,13nm,0.8s,mb5.0							
BOD	**Bodaibo**	**58.12**	**10**	⇓*i*P		**P**	**00 50 02.5**	**-0.5**
BOD				pmax	pmax			
	comp=Z,34nm,1.0s,mb5.3							
CLNS	**Chul'man**	**59.81**	**17**	*e*P		**P**	**00 50 14.4**	**-0.4**
CLNS				*e*			00 51 00.6	
CLNS				*e*			00 52 22.3	
CLNS				*e*S		**S**	**00 58 23.5**	**+0.9**
CLNS				pmax	pmax			
	comp=Z,17nm,0.8s,mb5.1							
CLNS				pmax	pmax			
	comp=N,8.0nm,0.7s							
CLNS				pmax	pmax			
	comp=E,10.0nm,0.9s							
CLNS				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
CLNS				pmax	pmax			
	comp=N,7.0nm,0.9s							
CLNS				pmax	pmax			
	comp=E,10.0nm,0.9s							
CLNS				smax				
	comp=E,165nm,12.2s							
CLNS				smax				
	comp=Z,113nm,13.0s							
CLNS				smax				
	comp=N,442nm,13.4s							
CLNS				MLR	MLR			
	comp=N,1μm,14.0s,MS5.2							
CLNS				MLR	MLR			
	comp=E,300nm,14.0s,MS5.2							
CLNS				MLR	MLR			
	comp=Z,1μm,14.0s,MS5.1							
KMBO	**Kilima Mbogo**	**60.28**	**268**	P		**P**	**00 50 16.0**	**-2.6**
	comp=Z,4.5nm,1.0s,mb4.4,baz=62,slow=9.6,SNR=5.7							
YSS	**Yuzh-Sakhalins**	**60.32**	**34**	*e*P		**P**	**00 50 18.0**	**-0.4**
YSS				pmax	pmax			
	comp=Z,34nm,0.9s,mb5.4							
YSS	**Yuzh-Sakhalins**	**60.32**	**34**	*e*P		**P**	**00 50 18.0**	**-0.4**
	comp=Z,34nm,0.9s,mb5.4							
GNI	**Garni**	**61.61**	**316**	*i* P		**P**	**00 50 26.8**	**-0.5**
GNI				pmax	pmax			
	comp=Z,8.0nm,0.9s							
GNI	**Garni**	**61.61**	**316**	*e*P		**P**	**00 50 26.1**	**-1.2**
ARU	**Arti**	**63.45**	**337**	⇑*i*P		**P**	**00 50 37.7**	**-1.5**
ARU				*e*			00 51 15.2	
ARU				*e*			00 52 58.5	
ARU				*e*PPP	PPP		00 54 29.0	-2.9
ARU				*e*S		**S**	**00 59 10.6**	**+1.9**
ARU				*e*SS	SS		01 03 18.4	+0.8
ARU				pmax	pmax			
	comp=Z,14nm,1.0s,mb5.0							
KIV	**Kislovodsk**	**64.62**	**319**	*i* P		**P**	**00 50 46.2**	**-0.9**
KIV				pmax	pmax			
	comp=Z,25nm,1.4s,mb5.0							
KIV	**Kislovodsk**	**64.62**	**319**	*e*P		**P**	**00 50 46.1**	**-1.0**
ASF	**Jabal al Asfar**	**64.80**	**305**	P		**P**	**00 50 49.0**	**+0.5**
	comp=Z,2.1nm,0.8s,mb4.2,baz=156,slow=20,SNR=2.8							
MALT	**Malatya**	**65.46**	**312**	*e*P		**P**	**00 50 52.4**	**-0.2**
YAK	**Yakutsk**	**65.50**	**16**	*i* P		**P**	**00 50 51.1**	**-1.3**
YAK				pmax	pmax			
	comp=Z,54nm,0.8s,mb5.6							
YAK	**Yakutsk**	**65.50**	**16**	*e*P		**P**	**00 50 51.0**	**-1.4**
SOC	**Sochi**	**66.44**	**318**	*e*P		**P**	**00 50 54.3**	**-4.5**
SOC				*e*			00 51 27.2	
SOC				*e*			00 53 24.4	
SOC				*e*PPP	PPP		00 55 03.3	+0.3
SOC				*e*S	S		00 59 40.9	-4.8
SOC				*e*SS	SS		01 04 01.1	-3.0
SOC				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.9							
SOC				pmax	pmax			
	comp=N,10.0nm,0.9s							
SOC				pmax	pmax			
	comp=E,10.0nm,0.9s							
SOC				MLR	MLR	

SIM					MLR	MLR				
	comp=Z,140nm,15.8s,MS4.3									
MATP	**Matopo**	**70.74**	**248**	P		**P**	**00 51 25.8**	**0.0**
	comp=Z,12nm,0.9s,mb4.8,baz=88,slow=6.0,SNR=12									
MA2	**Magadan**	**71.35**	**26**	*c*e*P*		**P**	**00 51 28.9**	**0.0**
MA2					pmax	pmax				
	comp=Z,9.0nm,0.7s,mb4.8									
MA2					pmax	pmax				
	comp=N,10.0nm,1.1s									
PET	**Petropavlovsk**	**72.20**	**34**	*e*P		**P**	**00 51 33.5**	**-0.6**		
MAW	**Mawson**	**72.62**	**193**	*e*P		**P**	**00 51 36.3**	**0.0**		
MAW					pmax	pmax				
	comp=Z,11nm,1.2s									
MAW	**Mawson**	**72.62**	**193**	P		**P**	**00 51 36.9**	**+0.7**		
	comp=Z,4.9nm,0.8s,mb4.5,baz=16,slow=5.3,SNR=7.7									
MAW	**Mawson**	**72.62**	**193**	*e*P		**P**	**00 51 36.3**	**+0.1**		
	comp=Z,11nm,1.2s,mb4.7									
OBN	**Obninsk**	**72.91**	**328**	*e*P		**P**	**00 51 37.8**	**-0.4**		
OBN				*e*			00 51 54.1			
OBN				*e*S		S	01 00 59.9	-1.6		
OBN					pmax	pmax				
	comp=Z,11nm,1.1s,mb4.7									
OBN					MLR	MLR				
	comp=Z,200nm,17.0s,MS4.5									
TIXI	**Tiksi**	**73.30**	**10**	*e*P		**P**	**00 51 37.3**	**-2.8**		
TIXI				*e*			00 54 22.0			
TIXI				*e*S		S	01 01 00.1	-5.5		
TIXI					pmax	pmax				
	comp=Z,17nm,0.9s,mb5.0									
SEY	**Seymchan**	**73.80**	**23**	*e*P		**P**	**00 51 43.3**	**+0.1**		
SEY				*e*			01 01 55.3			
LBTB	**Lobatse**	**74.08**	**244**	*e*P		**P**	**00 51 45.1**	**-0.5**		
LBTB					pmax	pmax				
	comp=Z,10.0nm,1.4s,mb4.5									
LBTB	**Lobatse**	**74.08**	**244**	*e*P		**P**	**00 51 45.1**	**-0.5**		
	comp=Z,10.0nm,1.4s,mb4.5									
BOSA	**Boshof**	**74.95**	**240**	P		**P**	**00 51 50.4**	**-0.3**		
	comp=Z,4.5nm,0.8s,mb4.4,baz=94,slow=9.4,SNR=4.8									
AKASG	**Malin Array Be**	**75.57**	**322**	P		**P**	**00 51 52.3**	**-1.4**		
	comp=Z,1.3nm,0.4s,mb4.2,baz=91,slow=4.4,SNR=7.6									
VRI	**Vrincioaia**	**75.94**	**317**	⇓P		**P**	**00 51 56.5**	**+0.7**		
MLR	**Muntele Rosu**	**76.39**	**317**	⇑P		**P**	**00 51 59.0**	**+0.6**		
BURAR	**Bucovina Array**	**77.34**	**319**	⇑P		**P**	**00 52 04.4**	**+0.7**		
BURAR	**Bucovina Array**	**77.34**	**319**	⇑P		**P**	**00 52 04.4**	**+0.8**		
DRGR		**78.85**	**317**	⇑P		**P**	**00 52 12.5**	**+0.6**		
DRGR		**78.85**	**317**	⇑P		**P**	**00 52 12.4**	**+0.5**		
RPZ	**Rata Peaks**	**78.88**	**135**	P		**P**	**00 52 12.8**	**+0.6**		
	comp=Z,5.5nm,0.8s,mb4.6,baz=323,slow=10,SNR=3.5									
SUR	**Sutherland**	**79.32**	**237**	*e*P		**P**	**00 52 15.7**	**+0.9**		
KWP	**Kalwaria**	**79.38**	**320**	*e*P		**P**	**00 52 14.9**	**+0.1**		
KOLS	**Kolonicke sedl**	**79.53**	**320**	*i* P		**P**	**00 52 16.3**	**+0.7**		
SYO	**Syowa Base**	**79.94**	**198**	⇑P		**P**	**00 52 16.5**	**-0.9**		
SYO	**Syowa Base**	**79.94**	**198**	⇑PcP		PcP	00 52 24.1	-1.1		
SYO	**Syowa Base**	**79.94**	**198**	⇑sP		sP	00 52 30.0	+1.0		
SUW	**Suwalki**	**79.98**	**325**	*e*P		**P**	**00 52 17.2**	**-0.7**		
SUW					pmax	pmax				
	comp=Z,42nm,1.1s,mb5.3									
SUW	**Suwalki**	**79.98**	**325**	*e*P		**P**	**00 52 17.1**	**-0.7**		
	comp=Z,42nm,1.1s,mb5.3									
CRVS	**Cervenica-Dubn**	**80.05**	**319**	*e*P		**P**	**00 52 19.8**	**+1.4**		
FINES	**FINESS Array B**	**80.28**	**332**	P		**P**	**00 52 19.3**	**0.0**		
	comp=Z,4.9nm,0.8s,mb4.5,baz=127,slow=9.5,SNR=8.8									
STHS	**Stebnicka Huta**	**80.28**	**320**	*e*P		**P**	**00 52 20.6**	**+1.0**		
KECS	**Kecovo**	**80.62**	**319**	*e*P		**P**	**00 52 21.6**	**+0.2**		
TSUM	**Tsumeb**	**80.81**	**250**	*e*P		**P**	**00 52 23.8**	**+0.8**		
PSZ	**Piszkesteto**	**80.93**	**318**	*e*P		**P**	**00 52 23.1**	**+0.1**		
PSZ					pmax	pmax				
	comp=Z,7.0nm,0.9s,mb4.6									
PSZ	**Piszkesteto**	**80.93**	**318**	*e*P		**P**	**00 52 23.1**	**+0.1**		
	comp=Z,7.1nm,0.9s,mb4.6									
VYHS	**Vyhne**	**81.71**	**319**	*e*P		**P**	**00 52 27.0**	**-0.1**		
TIP	**Timpagrande**	**82.16**	**309**	*e*P		**P**	**00 52 29.9**	**+0.2**		
OKC	**Ostrava-Krasne**	**82.34**	**320**	*e*P		**P**	**00 52 30.7**	**+0.4**		
MORC	**Moravsky Berou**	**82.72**	**320**	*e*P		**P**	**00 52 32.2**	**-0.1**		
MORC					pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.5									
MORC	**Moravsky Berou**	**82.72**	**320**	*e*P		**P**	**00 52 32.2**	**-0.1**		
	comp=Z,4.9nm,0.9s,mb4.5									
ARCES	**ARCESS Array B**	**82.79**	**340**	P		**P**	**00 52 32.9**	**+0.6**		
	comp=Z,8.7nm,0.8s,mb4.8,baz=117,slow=5.4,SNR=7.0									
ZST	**Bratislava**	**82.82**	**318**	*e*P		**P**	**00 52 33.6**	**+0.7**		
DPC	**Dobruska-Polom**	**83.56**	**320**	*e*P		**P**	**00 52 37.5**	**+0.8**		
GOLS	**Golise**	**83.60**	**316**	*e*P		**P**	**00 52 37.4**	**+0.4**		
UPC	**Upice**	**83.78**	**321**	*e*P		**P**	**00 52 37.7**	**0.0**		
PERS	**Pernice**	**84.01**	**317**	*e*P		**P**	**00 52 39.7**	**+0.7**		
LJU	**Ljubljana**	**84.37**	**316**	*i* P		**P**	**00 52 41.5**	**+0.7**		
PRU	**Pruhonice**	**84.67**	**320**	*e*P		**P**	**00 52 42.2**	**0.0**		
PVCC	**Panska Ves**	**84.70**	**320**	*e*P		**P**	**00 52 42.8**	**+0.4**		
AQU	**L'Aquila**	**84.93**	**312**	*e*P		**P**	**00 52 43.8**	**+0.1**		
GERES	**GERESS Array B**	**85.13**	**319**	P		**P**	**00 52 45.2**	**+0.7**		
	comp=Z,6.1nm,0.9s,mb4.7,baz=104,slow=5.5,SNR=17									
KHC	**Kasperske Hory**	**85.23**	**319**	*e*P		**P**	**00 52 45.4**	**+0.3**		
CLL	**Collm**	**85.74**	**321**	P		**P**	**00 52 48.0**	**+0.4**		
NKC	**Novy Kostel**	**86.03**	**320**	*e*P		**P**	**00 52 50.1**	**+1.1**		
MOX	**Moxa**	**86.58**	**320**	*e*P		**P**	**00 52 50.0**	**-1.7**		
GRA1	**Grafenberg Arr**	**86.80**	**320**	*e*P		**P**	**00 52 53.8**	**+1.0**		
	comp=Z,7.0nm,1.0s,mb4.8									
GRF	**Grafenberg Arr**	**86.80**	**320**	*e*P		**P**	**00 52 53.8**	**+1.0**		
GRF					pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.8									
GRF	**Grafenberg Arr**	**86.80**	**320**	*e*P		**P**	**00 52 53.8**	**+1.0**		
GRF					pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.8									
GRF	**Grafenberg Arr**	**86.80**	**320**	*e*P		**P**	**00 52 53.8**	**+1.0**		
	comp=Z,7.0nm,1.0s,mb4.8									
NB2	**NORSAR Subarra**	**87.29**	**331**	P		**P**	**00 52 54.3**	**-0.6**		
	comp=Z,9.4nm,1.0s,mb5.0,baz=93,slow=5.0									
NB2	**NORSAR Subarra**	**87.29**	**331**	P		**P**	**00 52 54.3**	**-0.6**		
NB2					pmax	pmax				
	comp=Z,9.0nm,1.0s,mb5.0									
NOA	**NORSAR Array B**	**87.29**	**331**	P		**P**	**00 52 55.0**	**+0.1**		
	comp=Z,4.7nm,0.8s,mb4.8,baz=94,slow=5.0,SNR=12									
DAVOX	**Davos**	**87.61**	**317**	P		**P**	**00 52 57.5**	**+0.8**		
	comp=Z,6.3nm,0.8s,mb4.9,baz=88,slow=4.5,SNR=9.0									
MAIT	**Maitri**	**89.57**	**199**	⇑*i*P		**P**	**00 53 08.0**	**+2.4**		
SNAA	**Sanae**	**94.23**	**198**	⇑*i*P		**P**	**00 53 25.7**	**-1.3**		
SNAA				*e*			00 53 38.8			
SNAA				*e*			00 53 42.8			
VNA2	**Neumayer--Watz**	**95.82**	**199**	*e*		**P**	**00 53 37.2**	**+2.8**		
VNA2				*e*			00 53 42.1			
VNA1	**Neumayer--Stat**	**96.17**	**199**	*e*		**P**	**00 53 37.4**	**+1.5**		
VNA1				*e*			00 53 41.9			
VNA3	**Neumayer Olymp**	**96.46**	**198**	*e*		**P**	**00 53 35.7**	**-1.5**		
VNA3				*e*			00 53 40.2			
IMA	**Indian Mountai**	**96.62**	**23**	*e*P		**P**	**00 53 39.7**	**+1.6**		
IMA					pmax	pmax				
	comp=Z,27nm,1.1s,mb5.6									
IMA	**Indian Mountai**	**96.62**	**23**	*e*P		**P**	**00 53 39.7**	**+1.6**		
	comp=Z,27nm,1.1s,mb5.6									
ILAR	**Eielson Array**	**99.73**	**23**	PP		PP	00 58 01.5	+2.4		
	comp=Z,0.3nm,0.7s,baz=282,slow=6.6,SNR=4.7									
WVT	**Waverly**	**142.69**	**7**	*e*PKP		PKPdf	00 59 36.4	-9.4		
TXAR	**Lajitas Array**	**143.65**	**32**	PKP		PKPdf	00 59 42.8	-4.8		
	comp=Z,1.5nm,0.9s,baz=303,slow=1.8,SNR=4.7									
JSC	**Jenkinsville**	**144.85**	**358**	*e*PKIKP		PKPdf	00 59 45.2	-4.3		
CPUP	**Villa Florida**	**145.08**	**222**	*e*PKIKP		PKPdf	00 59 45.8	-4.4		
CPUP	**Villa Florida**	**145.08**	**222**	PKPbc		PKPbc	00 59 46.6	+1.0		
	comp=Z,12nm,1.0s,baz=141,slow=5.6,SNR=20									
NATX	**Nacogdoches**	**145.41**	**18**	*e*PKP		PKPdf	00 59 46.8	-3.7		
LRAL	**Lakeview Retre**	**145.85**	**7**	*e*PKP		PKPdf	00 59 47.8	-3.5		

*PRU **30** 00:56:26.8,43.80N×12.89E*
*NEIC **30** 00:56:28.6,43.73N×12.70E,h40km, MD3.0(LDG), MD2.7(ROM), After ROM.*
*ROM **30** 00:56:28.6±0.1,43.73N×12.70E,h40km,Md2.7/17, Ml2.3/15,Error ellipse: s-maj=2.3km s-min=1.2km az=70.0*
*CSEM **30** 00:56:28.7±0.1,43.79N×12.72E,h40km,ML2.7/9,Error ellipse: s-maj=1.4km s-min=1.2km az=64.0*
*LDG **30** 00:56:31.6±0.7,43.96N×12.47E,h10km, Md3.0/3,Ml2.7/7, Error ellipse: s-maj=14.9km s-min=7.1km az=113.0*
ISC 30 00:56:29.0±0.2,43.82N±0.02×12.72E±0.03,h40km,n52, σ1§08/81,11C-4D,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSSB	**Fossombrone**	**0.14**	**162**	⇑*i*Pg	**P**	**00 56 35.8**	**+0.1**
FSSB				Sg	**S**	**00 56 41.4**	**+0.9**
	204nm,0.3s						
RSM	**Repubblica di**	**0.22**	**299**	⇑*i*Pg	**P**	**00 56 37.3**	**+0.9**
RSM				Sg	**S**	**00 56 44.5**	**+2.9**
	93nm,0.5s						
ARV	**Arcevia**	**0.36**	**153**	⇑e*P*g	**P**	**00 56 37.7**	**-0.3**
ARV				Sg	**S**	**00 56 44.6**	**+0.3**
	79nm,0.2s						
BADI	**Badiali**	**0.47**	**228**	Pg	**P**	**00 56 38.6**	**-0.7**
BADI				Sg	**S**	**00 56 46.6**	**+0.1**
	105µm,17.0s						
CING	**Cingoli**	**0.57**	**142**	*e*Pg	**P**	**00 56 40.7**	**+0.1**
CING				Sg	**S**	**00 56 50.8**	**+1.8**
	178nm,0.3s						
MURB	**Monte Urbino**	**0.58**	**194**	Pg	**P**	**00 56 40.0**	**-0.8**
MURB				Sg	**S**	**00 56 49.8**	**+0.5**
	722nm,0.3s						
CRE	**Caprese Michel**	**0.59**	**250**	Pg	**P**	**00 56 41.2**	**+0.2**
CRE				Sg	**S**	**00 56 51.4**	**+1.8**
	219nm,0.6s						
SFI	**Santa Sofia**	**0.64**	**278**	⇑*i*Pg	**P**	**00 56 42.2**	**+0.6**
SFI				Sg	**S**	**00 56 53.3**	**+2.6**
	60nm,0.5s						
AOI	**Ancona**	**0.70**	**113**	⇑*i*Pg	**P**	**00 56 43.1**	**+0.7**
AOI				Sg	**S**	**00 56 54.1**	**+1.9**
	114nm,0.4s						
PGD	**Poggio Sodo**	**0.72**	**274**	⇑*i*Pg	**P**	**00 56 43.8**	**+1.0**
PGD				Sg	**S**	**00 56 55.7**	**+2.9**
	33nm,0.4s						
SEI	**Scarperia**	**1.01**	**284**	Pg	**P**	**00 56 48.5**	**+1.6**
	61nm,0.3s						
NRCA	**Norcia**	**1.03**	**164**	⇑*i*Pg	**P**	**00 56 46.9**	**-0.3**
	23nm,0.2s						
CSNT	**Castellina Chi**	**1.09**	**252**	Pg	**P**	**00 56 48.6**	**+0.6**
	46nm,0.6s						
SACS	**San Casciano d**	**1.14**	**211**	Pg	**P**	**00 56 47.9**	**-0.8**
SACS				Sg	**S**	**00 57 02.5**	**-0.8**
	43nm,0.5s						
ARCI	**Arcidosso**	**1.33**	**223**	Pg	**P**	**00 56 50.8**	**-0.7**
	14nm,0.5s						
TERO	**Teramo**	**1.36**	**151**	Pn	**P**	**00 56 51.4**	**-0.6**
	53nm,0.3s						
MNS	**Montasola**	**1.44**	**181**	Pn	**P**	**00 56 52.3**	**-0.8**
	19nm,0.4s						
BDI	**Bagni Di Lucca**	**1.55**	**280**	Pg	**P**	**00 56 55.7**	**+1.1**
	5.0nm,0.2s						
AQU	**L'Aquila**	**1.55**	**161**	*e*P	**P**	**00 56 56.2**	**+1.5**
NVLJ	**Novalja**	**1.72**	**64**	*i* Pn	**P**	**00 56 57.1**	**+0.1**
NVLJ				*i* Sn	**S**	**00 57 17.8**	**0.0**
TOLF	**Tolfa**	**1.84**	**197**	Pn	**P**	**00 56 57.8**	**-0.9**
	14nm,0.8s						
TRI	**Trieste**	**2.03**	**21**	Pn	**P**	**00 57 00.9**	**-0.5**
	19nm,0.2s						
CEY	**Cerknica**	**2.27**	**32**	*i* Pn	**P**	**00 57 04.5**	**-0.3**
JAVS	**Javornik**	**2.28**	**24**	*i* Pn	**P**	**00 57 04.5**	**-0.5**
CTI	**Castel Tesino**	**2.35**	**342**	Pn	**P**	**00 57 05.7**	**-0.3**
	19nm,0.1s						
VOY	**Vojsko**	**2.36**	**20**	*e*Pn	**P**	**00 57 05.7**	**-0.5**
VOY				*e*Sn	**S**	**00 57 34.8**	**+0.7**
CADS	**Cadrg**	**2.51**	**16**	*i* Pn	**P**	**00 57 07.8**	**-0.5**
SGG	**Gregorio Mates**	**2.73**	**153**	Pn	**P**	**00 57 11.4**	**0.0**
	15nm,1.6s						
FVI	**Forni Avoltri**	**2.77**	**1**	Pn	**P**	**00 57 12.3**	**+0.2**
	12nm,0.4s						
SEST	**Monte Rota**	**2.95**	**353**	Pn	**P**	**00 57 15.3**	**+0.8**
	447nm,2.0s						
OBKA	**Obir**	**2.98**	**25**	⇑*i*PN	**P**	**00 57 14.6**	**-0.4**
OBKA				*i* SN	**S**	**00 57 49.8**	**-0.1**
PGF	**Pioggiola**	**3.00**	**246**	*e*Pn	**P**	**00 57 14.6**	**-0.7**
PGF				*e*Sn	**S**	**00 57 47.9**	**-2.6**
	3.4nm,0.4s						
WTTA	**Wattenberg**	**3.52**	**348**	⇓*i*PN	**P**	**00 57 23.0**	**+0.3**
WTTA				*i* SN	**S**	**00 58 04.6**	**+0.9**
SQTA	**Sankt Quirin**	**3.56**	**343**	⇑*i*PN	**P**	**00 57 23.9**	**+0.7**
SQTA				*i* SN	**S**	**00 58 06.1**	**+1.5**
WATA	**Walderalm**	**3.60**	**348**	⇑*i*PN	**P**	**00 57 24.0**	**+0.2**
WATA				*i* SN	**S**	**00 58 06.8**	**+1.1**
MOTA	**Moosalm**	**3.70**	**343**	⇑*i*PN	**P**	**00 57 25.4**	**+0.2**
MOTA				*i* SN	**S**	**00 58 09.4**	**+1.3**
SBF	**Sospel**	**3.82**	**272**	*e*Pn	**P**	**00 57 27.3**	**+0.4**
SBF				*e*Sn	**S**	**00 58 06.2**	**-5.0**
	5.2nm,0.4s						
ARSA	**Arzberg**	**3.95**	**29**	⇓*i*PN	**P**	**00 57 27.6**	**-1.2**
ARSA				*i* SN	**S**	**00 58 13.2**	**-1.4**
DAVA	**Damuels**	**4.00**	**331**	⇓*i*PN	**P**	**00 57 30.4**	**+1.0**
DAVA				*i* SN	**S**	**00 58 16.0**	**+0.4**
MOA	**Molln**	**4.17**	**14**	⇓*i*PN	**P**	**00 57 31.7**	**-0.2**
MOA				*i* SN	**S**	**00 58 19.0**	**-1.0**
MBDF	**Montbardon**	**4.37**	**284**	*e*Pn	**P**	**00 57 33.2**	**-1.4**
FRF	**La Foret Royal**	**4.41**	**269**	*e*Pn	**P**	**00 57 33.8**	**-1.5**
FRF				*e*Sn	**S**	**00 58 21.2**	**-4.9**
	4.1nm,0.6s						
LMR	**La Mourre**	**4.54**	**266**	*e*Pn	**P**	**00 57 35.7**	**-1.4**
LMR				*e*Sn	**S**	**00 58 24.3**	**-5.0**
	3.7nm,0.6s						
LPG	**La Plagne**	**4.57**	**294**	*e*Pn	**P**	**00 57 36.4**	**-1.2**
LPL	**La Plagne**	**4.59**	**294**	*e*Pn	**P**	**00 57 37.4**	**-0.5**
SMRF	**Simiana la Rot**	**5.16**	**274**	*e*Pn	**P**	**00 57 46.7**	**+0.8**
KHC	**Kasperske Hory**	**5.34**	**6**	*e*PN	**P**	**00 57 46.2**	**-2.2**
KHC				*e*SN	**S**	**00 58 45.2**	**-4.3**
KHC				*ex*	x	00 59 23.0	
HINF	**Hinteralfeld**	**5.72**	**316**	*e*Pn	**P**	**00 57 50.9**	**-2.8**
HINF				*e*Sn	**S**	**00 58 50.6**	**-8.4**
	1.5nm,0.2s						
CDF	**Champ du Feu**	**5.95**	**322**	*e*Pn	**P**	**00 57 54.8**	**-2.0**
CDF				*e*Sn	**S**	**00 58 56.8**	**-7.8**
	2.1nm,0.4s						
HAU	**Haudompre**	**6.10**	**315**	*e*Pn	**P**	**00 57 56.3**	**-2.7**
HAU				*e*Sn	**S**	**00 59 00.1**	**-8.4**
	2.8nm,0.3s						
NKC	**Novy Kostel**	**6.42**	**358**	*e*SN	**S**	**00 59 10.7**	**-5.6**
NKC	**Novy Kostel**	**6.42**	**358**	*e*Sn	**S**	**00 59 10.7**	**-5.6**

*NEIC **30** 00:57:44.0,46.92S×166.38E,h110km,MG3.7(WEL), After WEL.*
WEL 30 00:57:43.4±0.4,47.11S×166.22E,h33km,ML3.5/6,1D, Error ellipse: s-maj=4.7km s-min=3.0km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**1.70**	**45**	P	P	00 58 10.3	-0.8
WHZ				S	S	00 58 30.6	-1.4
WHZ	**Wether Hill Ro**	**1.70**	**45**	PN	Pn	00 58 10.2	-1.1
WHZ				SN	Sn	00 58 30.4	-1.8
DCZ	**Deep Cove**	**1.75**	**22**	*e*P	P	00 58 11.1	-0.8
DCZ				S	S	00 58 31.9	-1.4
DCZ	**Deep Cove**	**1.75**	**22**	PN	Pn	00 58 10.9	-1.2
DCZ				SN	Sn	00 58 31.8	-1.6
MLZ	**Mavora Lakes**	**2.22**	**38**	PN	Pn	00 58 17.2	-1.6
MLZ				SN	Sn	00 58 41.3	-4.0
TUZ	**Tuapeka**	**2.62**	**65**	*e*P	P	00 58 22.9	-1.4
TUZ	**Tuapeka**	**2.62**	**65**	⇓PN	Pn	00 58 22.9	-1.6
TUZ				SN	Sn	00 58 52.3	-3.2
EAZ	**Earnscleugh**	**2.85**	**50**	*e*P	P	00 58 25.4	-2.2
EAZ	**Earnscleugh**	**2.85**	**50**	PN	Pn	00 58 25.4	-2.3
EAZ				SN	Sn	00 58 58.5	-2.8
WKZ	**Wanaka**	**3.00**	**42**	*e*P	P	00 58 28.6	-1.1
WKZ	**Wanaka**	**3.00**	**42**	PN	Pn	00 58 28.3	-1.5
WKZ				SN	Sn	00 59 01.9	-3.2
JCZ	**Jackson Bay**	**3.52**	**31**	*e*PN	Pn	00 58 35.0	-2.2
ODZ	**Otahua Downs**	**3.71**	**58**	*e*P	P	00 58 35.9	-3.8
ODZ	**Otahua Downs**	**3.71**	**58**	PN	Pn	00 58 35.7	-4.1

*NEIC **30** 01:02:39.4±1.9,36.43N×70.30E,h162km±16km,mb3.9/4, Error ellipse: s-maj=16.0km s-min=12.3km az=178.0*
*BJI **30** 01:02:39.3,36.40N×70.30E,h162km,mB4.9*
*IDC **30** 01:02:41.1±3.7,36.45N×70.34E,h180km±36km,mb3.6/10, mb1 3.7/12,mb1mx3.5/24,mbtmp4.2/12, Error ellipse: s-maj=21.4km s-min=12.7km az=128.0*
*MOS **30** 01:02:43.2±0.9,36.70N×70.25E,h199km,mb4.2/1,Error ellipse: s-maj=18.8km s-min=7.2km az=87.2*
*NNC **30** 01:02:48.7±3.0,37.08N×70.25E,h211km±25km,mpv4.3, Error ellipse: s-maj=29.8km s-min=18.8km az=10.0*
ISC 30 01:02:40.1±0.9,36.44N±0.04×70.31E±0.09,h185km±10km, n60,σ0§84/72,mb3.7/10,3C-7D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.43**	**54**	⇑P	**P**	**01 04 02.5**	**+2.0**
KSH				S	**S**	**01 05 02.8**	**-0.1**
KSH				Smax			
	comp=N,110nm,0.4s						
KSH				Smax			
	comp=E,140nm,0.4s						
THN	**Thein Dam**	**6.00**	**130**	*e*P	**P**	**01 04 08.7**	**+0.8**
THN				*e*S	**S**	**01 05 14.6**	**-1.5**
DLH	**Dalhousie**	**6.08**	**128**	*e*P	**P**	**01 04 10.0**	**+1.0**
DLH				*e*S	**S**	**01 05 17.0**	**-1.1**
AML	**Almayashu**	**6.26**	**24**	P	**P**	**01 04 11.9**	**+0.5**
	SNR=274						
PONG	**Pong**	**6.47**	**132**	*e*S	**S**	**01 05 27.0**	**-0.3**
UCH	**Uchtor**	**6.64**	**28**	P	**P**	**01 04 17.1**	**+0.8**
	SNR=24						
KK31	**Karatay Array**	**6.66**	**1**	⇓P	**P**	**01 04 16.5**	**-0.1**
	comp=E,9.8nm,0.3s,baz=176,slow=11,SNR=328						
KK31				⇑S	**S**	**01 05 26.7**	**-5.0**
	comp=E,26nm,0.4s,baz=174,slow=16,SNR=12						
KKAR	**Karatay Array**	**6.66**	**1**	PN	**P**	**01 04 16.7**	**+0.1**
KKAR				S	**S**	**01 05 27.5**	**-4.2**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KKAR				smax			
	comp=N,13nm,0.3s						
KZA	**Kyzart**	**6.81**	**33**	P	**P**	**01 04 18.6**	**+0.1**
	SNR=11						
AAK	**Ala-Archa**	**6.98**	**26**	P	**P**	**01 04 21.4**	**+0.6**
	SNR=18						
AAK	**Ala-Archa**	**6.98**	**26**	⇓P	**P**	**01 04 21.1**	**+0.3**
	comp=N,10nm,0.4s						
AAK				⇓S	**S**	**01 05 36.6**	**-2.7**
	comp=N,130nm,0.6s						
AAK	**Ala-Archa**	**6.98**	**26**	PN	**P**	**01 04 21.0**	**+0.2**
AAK				S	**S**	**01 05 36.5**	**-2.8**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
AAK				smax			
	comp=N,72nm,0.6s						
AAK	**Ala-Archa**	**6.98**	**26**	*e*P	**P**	**01 04 19.8**	**-1.0**
	comp=N,17nm,0.4s						
KBK	**Karagaybulak**	**7.17**	**29**	P	**P**	**01 04 24.1**	**+0.8**
	SNR=17						
CHMS	**Chumysh**	**7.39**	**26**	P	**P**	**01 04 26.2**	**0.0**
	SNR=13						
ULHL	**Ulahol**	**7.40**	**37**	P	**P**	**01 04 26.6**	**+0.2**
	SNR=14						
SDNR	**Sundarnagar**	**7.41**	**130**	*e*P	**P**	**01 04 27.0**	**+0.5**
SDNR				*e*S	**S**	**01 05 45.0**	**-4.5**
USP	**Ospenovka**	**7.54**	**24**	P	**P**	**01 04 28.1**	**-0.1**
	SNR=24						
TKM2	**Tokmak 2**	**7.65**	**31**	P	**P**	**01 04 29.8**	**+0.2**
	SNR=74						
SMLA	**Simla**	**7.79**	**131**	⇑*i*S	**S**	**01 05 53.7**	**-4.7**
SMLA				*i*		01 07 28.9	
NDI	**New Delhi**	**9.68**	**141**	*e*S	**S**	**01 06 34.0**	**-8.7**
BISR	**Bishrakh**	**9.89**	**140**	*e*S	**S**	**01 06 43.2**	**-4.3**
SONA	**Sohna**	**9.97**	**143**	*e*S	**S**	**01 06 44.1**	**-5.4**
MK31	**Makanchi Array**	**13.67**	**37**	P	**P**	**01 05 47.4**	**+0.1**
	comp=N,19nm,0.8s,baz=211,slow=11,SNR=86						
MKAR	**Makanchi Array**	**13.67**	**37**	*i* P	**P**	**01 05 47.3**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,13nm,0.7s						
MKAR	**Makanchi Array**	**13.67**	**37**	P	**P**	**01 05 47.1**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=216,slow=10,SNR=31						
KOLN	**Koldanda**	**14.19**	**124**	*e*P	**P**	**01 05 53.9**	**+0.1**
	comp=Z,10.0nm,0.2s						
GKN	**Gorkha**	**14.75**	**121**	*e*P	**P**	**01 06 01.5**	**+0.7**
	comp=Z,55nm,0.3s						
AB31	**Akbulak array**	**14.87**	**333**	⇓P	**P**	**01 06 01.4**	**-0.8**
	comp=Z,2.1nm,0.3s						
AB31				⇓S	**S**	**01 08 37.0**	**-5.1**
	comp=Z,1.8nm,0.5s						
AB31	**Akbulak array**	**14.87**	**333**	P	**P**	**01 06 00.9**	**-1.3**
AB

VIRV	**Villa del Rosa**	**3.57**	**9**	⇑*iP*		**P**	**01 34 42.5**	**-0.4**
VIRV				*eS*		**S**	**01 35 23.9**	**-2.2**
QARV	**Quebrada Arrib**	**4.03**	**36**	⇑*iP*		**P**	**01 34 50.1**	**+1.3**
QARV				*eS*		**S**	**01 35 34.9**	**-1.7**
SANV	**Sanarito**	**4.23**	**53**	*eP*		**P**	**01 34 52.1**	**+0.8**
SANV				*eS*		**S**	**01 35 40.6**	**-0.5**
CURV	**Curarigua**	**4.24**	**44**	⇑*eP*		**P**	**01 34 52.4**	**+0.9**
CURV				*eS*		**S**	**01 35 40.1**	**-1.4**
DABV	**Dabajuro**	**4.56**	**30**	*eP*		**P**	**01 34 56.8**	**+1.1**
DABV				*eS*		**S**	**01 35 46.5**	**-2.3**
TEPV	**Terepaima**	**4.78**	**51**	⇓*iP*		**P**	**01 34 59.5**	**+1.0**
TEPV				*eS*		**S**	**01 35 52.3**	**-1.5**
SIQV	**Siquisique**	**4.81**	**40**	⇑*iP*		**P**	**01 34 59.6**	**+0.6**
SIQV				*eS*		**S**	**01 35 52.1**	**-2.6**
BAUV	**El Baul**	**5.25**	**68**	*eS*		**S**	**01 36 02.9**	**-2.1**
IMOV	**Isla Los Monje**	**5.74**	**20**	*eP*		**P**	**01 35 11.3**	**+0.2**
MONV	**Montecano**	**5.78**	**30**	*eP*		**P**	**01 35 11.6**	**+0.1**
MONV				*eS*		**S**	**01 36 14.2**	**-3.2**
TURV	**Turiamo**	**6.13**	**55**	*eP*		**P**	**01 35 17.1**	**+0.8**
CAOV	**Caicara del Or**	**6.59**	**86**	*eS*		**S**	**01 36 32.8**	**-4.0**
SJG	**San Juan**	**12.92**	**30**	P		**P**	**01 36 45.7**	**+0.5**
	2.2nm,0.3s,baz=211,slow=12,SNR=3.6							
SAML	**Samuel**	**18.56**	**148**	*eP*		**P**	**01 37 51.5**	**-1.7**
TXAR	**Lajitas Array**	**36.50**	**311**	P		**P**	**01 40 37.3**	**-0.1**
	0.8nm,0.6s,mb3.5,baz=130,slow=9.5,SNR=6.1							
MNTX	**Cornudas Mount**	**39.00**	**313**	*eP*		**P**	**01 40 58.2**	**-0.1**
	0.8nm,0.5s,mb3.6							
SDCO	**Great Sand Dun**	**42.55**	**321**	P		**P**	**01 41 27.7**	**+0.4**
	0.5nm,0.6s,mb3.3							
SCHQ	**Schefferville**	**48.00**	**5**	P		**P**	**01 42 11.5**	**+1.4**
	2.0nm,0.6s,mb3.9,baz=180,slow=5.4,SNR=9.4							
BW06	**Boulder Array**	**48.07**	**324**	P		**P**	**01 42 10.6**	**-0.3**
PDAR	**Pinedale Array**	**48.07**	**324**	P		**P**	**01 42 10.9**	**0.0**
	0.3nm,0.5s,mb3.1,baz=131,slow=8.5,SNR=4.2							
HLID	**Hailey**	**51.43**	**322**	P		**P**	**01 42 36.6**	**+0.1**
	0.5nm,0.5s,mb3.4							
NVAR	**Mina Array Bea**	**51.51**	**314**	P		**P**	**01 42 37.5**	**+0.4**
	0.4nm,0.7s,mb3.1,baz=104,slow=7.4,SNR=3.3							

*NEIC **30** 01:39:44.0, 55.86N×160.73W, h158km, mb3.8/6, After AEIC.*
*IDC **30** 01:39:45.4±1.1, 56.38N×160.95W, h158km±8km, mb3.6/13, mb1 3.7/17, mb1mx3.7/24, mbtmp4.0/17, Error ellipse: s-maj=21.9km s-min=11.5km az=19.0*
ISC 30 01:39:42.2±0.2, 56.11N±0.05×161.01W±0.07, h156km±3km, h157km±3.9km:pP-P, n103, σ1§02/124, mb3.9/18, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op		ISC	h m s	ISC
BLHA	**Black Hill**	**0.72**	**236**	P		**P**		**01 40 06.2**	**+0.5**
BLHA				S		**S**		**01 40 22.1**	**-1.8**
PS1A	**Pavlof South-1**	**0.80**	**211**	P		**P**		**01 40 06.5**	**+0.2**
PS1A				S		**S**		**01 40 25.1**	**+0.4**
SDPT	**Sand Point**	**0.82**	**158**	P		**P**		**01 40 05.6**	**-0.7**
SDPT				S		**S**		**01 40 22.9**	**-2.1**
PN6	**Pavlof North-6**	**0.83**	**218**	P		**P**		**01 40 07.1**	**+0.6**
PVV	**Pavlof Volcano**	**0.85**	**211**	P		**P**		**01 40 06.7**	**+0.1**
PN7A	**Pavlof North-7**	**0.88**	**220**	P		**P**		**01 40 07.4**	**+0.6**
HAG	**Hague Volcano**	**0.94**	**213**	P		**P**		**01 40 07.6**	**+0.4**
HAG				S		**S**		**01 40 25.8**	**-0.7**
DOL	**Dolgoi Island**	**1.07**	**207**	P		**P**		**01 40 08.2**	**-0.1**
DOL				S		**S**		**01 40 27.4**	**-1.1**
DTNA	**Dutton South F**	**1.19**	**217**	P		**P**		**01 40 09.7**	**+0.3**
DTNA				S		**S**		**01 40 29.9**	**-0.6**
DT1	**Dutton Round H**	**1.23**	**216**	P		**P**		**01 40 10.0**	**+0.2**
DT1				S		**S**		**01 40 30.7**	**-0.5**
DRIA	**Deer Island**	**1.35**	**212**	P		**P**		**01 40 10.8**	**-0.1**
DRIA				S		**S**		**01 40 32.0**	**-1.2**
BALA	**Baldy Mountain**	**1.36**	**228**	P		**P**		**01 40 11.9**	**+0.8**
CHGN	**Chignik**	**1.47**	**81**	P		**P**		**01 40 12.1**	**0.0**
ANPB	**Aniakchak Plen**	**1.67**	**64**	P		**P**		**01 40 14.9**	**+0.6**
ANPB				S		**S**		**01 40 39.5**	**+0.4**
ANPK	**Aniakchak Peak**	**1.76**	**64**	P		**P**		**01 40 16.1**	**+0.8**
SSLN	**Shishaldin Nor**	**2.14**	**234**	P		**P**		**01 40 20.7**	**+1.0**
SSLW	**Shishaldin Wes**	**2.22**	**234**	P		**P**		**01 40 21.2**	**+0.5**
WTUG	**Tugumak**	**2.30**	**238**	P		**P**		**01 40 22.3**	**+0.7**
WESN	**West Dahl Nort**	**2.56**	**234**	P		**P**		**01 40 25.8**	**+1.0**
WESN				S		**S**		**01 40 59.0**	**+1.5**
WPOG	**Pogromni**	**2.61**	**236**	P		**P**		**01 40 26.1**	**+0.6**
WESE	**West Dahl East**	**2.62**	**233**	P		**P**		**01 40 26.4**	**+0.8**
WESE				S		**S**		**01 40 59.6**	**+0.7**
WFAR	**Faris Peak**	**2.66**	**235**	P		**P**		**01 40 26.9**	**+0.7**
AKUT	**Akutan**	**3.37**	**236**	P		**P**		**01 40 35.9**	**+0.6**
AKUT				S		**S**		**01 41 15.3**	**-0.6**
AHB	**Akutan Harbor**	**3.40**	**236**	P		**P**		**01 40 36.0**	**+0.4**
AKGG	**Akutan Green G**	**3.44**	**238**	P		**P**		**01 40 37.1**	**+1.0**
AKGG				S		**S**		**01 41 16.1**	**-1.4**
AKLV	**Akutan Long Va**	**3.44**	**238**	P		**P**		**01 40 36.7**	**+0.6**
AKLV				S		**S**		**01 41 16.0**	**-1.5**
LVA	**Lava Point**	**3.48**	**238**	P		**P**		**01 40 37.1**	**+0.5**
KJL	**Kejulik**	**3.55**	**54**	P		**P**		**01 40 38.4**	**+0.8**
CAHL	**Cahill**	**3.68**	**56**	P		**P**		**01 40 39.7**	**+0.5**
ACHA	**Angle Creek He**	**3.75**	**53**	P		**P**		**01 40 41.6**	**+1.5**
MGLS	**Mageik LS**	**3.75**	**53**	P		**P**		**01 40 41.4**	**+1.3**
MGLS				S		**S**		**01 41 24.4**	**-0.3**
KABR	**Katmai Barrier**	**3.87**	**56**	P		**P**		**01 40 42.5**	**+0.8**
KABR				S		**S**		**01 41 26.7**	**-0.7**
UNV	**Unalaska Valle**	**3.89**	**237**	P		**P**		**01 40 41.8**	**-0.2**
UNV				S		**S**		**01 41 26.1**	**-1.8**
MTBL	**Makushin Table**	**3.90**	**239**	P		**P**		**01 40 42.8**	**+0.7**
MNAT	**Makushin Natee**	**3.95**	**238**	P		**P**		**01 40 43.0**	**+0.3**
MSW	**Makushin Switc**	**3.98**	**239**	P		**P**		**01 40 43.3**	**+0.2**
MSW				S		**S**		**01 41 28.3**	**-1.8**
MCIR	**Makushin Cirqu**	**4.01**	**240**	P		**P**		**01 40 44.0**	**+0.4**
KAIC	**Katmai Ikaglui**	**4.02**	**51**	P		**P**		**01 40 44.2**	**+1.3**
KAWH	**Katmai**	**4.08**	**53**	P		**P**		**01 40 45.3**	**+0.9**
KAWH				S		**S**		**01 41 30.9**	**-1.4**
KAHC	**Katmai Hardscr**	**4.13**	**49**	P		**P**		**01 40 46.0**	**+0.9**
KAHC				S		**S**		**01 41 35.4**	**+1.9**
KAHG	**Katmai Hook Gl**	**4.25**	**53**	P		**P**		**01 40 47.7**	**+1.1**
MCNL	**McNeil River**	**4.73**	**47**	P		**P**		**01 40 54.1**	**+1.2**
OKCD	**Okmok Cone D**	**4.91**	**240**	P		**P**		**01 40 55.0**	**-0.3**
KDAK	**Kodiak Island**	**4.91**	**67**	P		**P**		**01 40 54.0**	**-1.4**
AUI	**Augustine Isla**	**5.20**	**48**	P		**P**		**01 40 59.9**	**+0.8**
AGU	**Augustine-Summ**	**5.21**	**48**	P		**P**		**01 41 00.5**	**+1.2**
AUL	**Augustine Lava**	**5.22**	**48**	P		**P**		**01 41 00.6**	**+1.2**
AUE	**Augustine Isla**	**5.23**	**48**	P		**P**		**01 41 01.1**	**+1.5**
SYI	**Shuyak Island**	**5.30**	**58**	P		**P**		**01 41 00.6**	**+0.1**
NIKO	**Nikolski**	**5.54**	**239**	P		**P**		**01 41 03.8**	**+0.2**
SVW2	**Sparrevohn**	**5.75**	**27**	*eP*		**P**		**01 41 07.4**	**+0.9**
ILIM	**Iliamna**	**5.84**	**44**	P		**P**		**01 41 09.7**	**+2.1**
RSO	**Redoubt South**	**6.17**	**42**	*eP*		**P**		**01 41 13.2**	**+1.2**
BRLK	**Bradley Lake**	**6.52**	**52**	P		**P**		**01 41 15.8**	**-1.0**
SPU	**Mount Spurr**	**6.91**	**39**	*eP*		**P**		**01 41 22.8**	**+0.9**
SLKM	**Skilak Lake**	**7.19**	**48**	*eP*		**P**		**01 41 25.8**	**+0.1**
SEW	**Seward**	**7.32**	**52**	P		**P**		**01 41 26.4**	**-1.0**
RC01	**Rabbit Creek A**	**7.72**	**45**	P		**P**		**01 41 32.3**	**-0.4**
LTI	**Latouche**	**8.01**	**55**	P		**P**		**01 41 35.0**	**-1.6**
PMR	**Palmer**	**8.25**	**43**	*eP*		**P**		**01 41 39.8**	**0.0**
MID	**Middleton Isla**	**8.52**	**61**	*eP*		**P**		**01 41 42.2**	**-1.2**
CFI	**College Fiord**	**8.57**	**48**	P		**P**		**01 41 43.1**	**-0.9**
SML	**Sawmill**	**8.69**	**44**	P		**P**		**01 41 44.9**	**-0.6**
GLI	**Glacier Island**	**8.71**	**51**	P		**P**		**01 41 43.7**	**-2.2**
HIN	**Hinchinbrook I**	**8.77**	**55**	P		**P**		**01 41 45.3**	**-1.4**
FID	**Port Fidalgo**	**8.93**	**53**	P		**P**		**01 41 46.7**	**-2.0**
JPK	**Jack Peak**	**9.01**	**51**	P		**P**		**01 41 49.2**	**-0.6**
KTH	**Kantishna Hill**	**9.02**	**30**	P		**P**		**01 41 52.4**	**+2.4**
SCM	**Sheep Creek Mo**	**9.09**	**45**	P		**P**		**01 41 49.9**	**-1.1**
TRF	**Thorofare Moun**	**9.13**	**32**	P		**P**		**01 41 51.5**	**+0.1**
VLZ	**Valdez**	**9.16**	**51**	P		**P**		**01 41 50.8**	**-0.9**
EYAK	**Cordova Ski Ar**	**9.17**	**55**	P		**P**		**01 41 50.7**	**-1.3**
DIV	**Divide**	**9.40**	**51**	P		**P**		**01 41 53.8**	**-1.2**
SGAM	**Sherman Glacie**	**9.40**	**56**	P		**P**		**01 41 53.3**	**-1.7**
KLU	**Klutina**	**9.50**	**49**	P		**P**		**01 41 54.6**	**-1.5**
BMRM	**Bremner River**	**9.85**	**54**	P		**P**		**01 41 59.6**	**-1.1**
GLB	**Gilahina Butte**	**10.39**	**52**	P		**P**		**01 42 07.2**	**-0.6**
ILAR	**Eielson Array**	**11.11**	**33**	P		**P**		**01 42 14.9**	**-2.3**
	0.2nm,0.3s,baz=228,slow=12,SNR=19								
ILAR				S		**S**		**01 44 14.1**	**-5.0**
	0.3nm,0.3s,baz=90,slow=30,SNR=5.0								
FX1	**Attu Island--F**	**15.31**	**269**	P		**P**		**01 43 12.1**	**+1.3**
	2.7nm,0.3s,baz=77,slow=18,SNR=9.9								
DLBC	**Dease Lake**	**16.84**	**69**	P		**P**		**01 43 31.1**	**+1.5**
	0.1nm,0.3s,baz=277,slow=12,SNR=3.5								
INK	**Inuvik**	**17.50**	**35**	P		**P**		**01 43 35.3**	**-2.2**
	0.8nm,0.3s,baz=232,slow=7.8,SNR=12								
INK	**Inuvik**	**17.50**	**35**	*eP*		**P**		**01 43 34.7**	**-2.7**
	2.9nm,0.6s								
HLID	**Hailey**	**31.93**	**93**	P		**P**		**01 45 54.4**	**-0.4**

NVAR	**Mina Array Bea**	**33.27**	**104**	P		**P**		**01 46 07.9**	**+1.5**
	0.9nm,0.6s,mb3.6,baz=311,slow=6.8,SNR=8.3								
ELK	**Elko**	**33.34**	**98**	P		**P**		**01 46 07.0**	**+0.2**
	1.0nm,0.6s,mb3.7								
BW06	**Boulder Array**	**35.17**	**90**	*eP*		**P**		**01 46 21.7**	**-0.7**
	0.9nm,0.4s,mb3.8								
PDAR	**Pinedale Array**	**35.17**	**90**	P		**P**		**01 46 23.8**	**+1.3**
	0.9nm,0.6s,mb3.6,baz=320,slow=5.1,SNR=12								
PDAR				pP		pP		01 46 57.0	+0.8
	0.3nm,0.6s,baz=300,slow=12,SNR=2.2								
RSSD	**Black Hills**	**37.39**	**84**	*eP*		**P**		**01 46 42.0**	**+0.9**
	1.5nm,0.5s,mb3.9								
ULM	**Lac du Bonnet**	**38.16**	**71**	P		**P**		**01 46 48.4**	**+0.9**
	1.4nm,0.3s,mb4.1,baz=325,slow=12,SNR=4.4								
SDCO	**Great Sand Dun**	**40.85**	**93**	*eP*		**P**		**01 47 10.1**	**+0.4**
	1.3nm,0.6s,mb3.7								
TXAR	**Lajitas Array**	**48.11**	**99**	P		**P**		**01 48 08.8**	**+1.1**
	1.3nm,0.6s,mb3.7,baz=308,slow=5.7,SNR=20								
SCHQ	**Schefferville**	**49.31**	**50**	P		**P**		**01 48 16.3**	**-0.2**
	0.8nm,0.3s,mb3.8,baz=349,slow=16,SNR=6.6								
SONM	**Songino Array**	**53.49**	**303**	P		**P**		**01 48 47.8**	**-0.1**
	0.3nm,0.5s,mb3.3,baz=55,slow=6.6,SNR=5.2								
SONM				pP		pP		01 49 25.7	+1.8
	0.8nm,0.8s,baz=50,slow=8.5,SNR=4.2								
SONM				PcP		PcP		01 49 52.9	+0.2
	0.4nm,0.6s,baz=22,slow=2.6,SNR=4.0								
KEV	**Kevo**	**54.31**	**357**	*ep*		**P**		**01 48 52.9**	**-0.7**
ARCES	**ARCESS Array B**	**54.58**	**357**	P		**P**		**01 48 54.3**	**-1.2**
	4.0nm,1.0s,mb4.1,baz=19,slow=7.3,SNR=5.9								
KAF	**Kangasniemi**	**61.98**	**356**	*ep*		**P**		**01 49 46.1**	**-1.1**
	3.2nm,0.3s,mb4.6,baz=1.8,slow=6.2								
FINES	**FINESS Array B**	**62.66**	**356**	P		**P**		**01 49 50.5**	**-1.1**
	1.6nm,0.4s,mb4.2,baz=14,slow=7.4,SNR=36								
NOA	**NORSAR Array B**	**63.04**	**4**	P		**P**		**01 49 53.9**	**-0.2**
	1.4nm,0.7s,mb3.9,baz=356,slow=6.5,SNR=7.1								
NOA	**NORSAR Array B**	**63.04**	**4**	P		**P**		**01 49 53.9**	**-0.2**
BVAR	**Borovoye Array**	**63.32**	**328**	P		**P**		**01 49 56.1**	**0.0**
	1.8nm,0.7s,mb4.0,baz=42,slow=7.6,SNR=12								
BVAR				pP		pP		01 50 32.2	-1.0
	0.4nm,0.6s,baz=117,slow=6.4,SNR=2.4								
MKAR	**Makanchi Array**	**64.60**	**317**	P		**P**		**01 50 03.3**	**-1.1**
	0.5nm,0.4s,mb3.7,baz=49,slow=6.0,SNR=6.2								
AKASG	**Malin Array Be**	**73.22**	**353**	P		**P**		**01 50 56.8**	**-0.2**
	3.6nm,0.4s,mb4.5,baz=8.1,slow=5.8,SNR=14								
GERES	**GERESS Array B**	**75.33**	**4**	P		**P**		**01 51 09.8**	**+0.8**
	0.5nm,0.6s,mb3.3,slow=4.0,SNR=6.8								

*NEIC **30** 01:49:20.1, 18.22N×69.12W, h174km, MD3.9(RSPR), After RSPR.*
RSPR 30 01:49:20.1, 18.22N×69.12W, h174km±6km, MD3.9/9, MD3.9/9, 4C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op		ISC	h m s	ISC
CRPR	**Cabo Rojo, PR**	**1.92**	**96**	⇑*eP*		P		01 49 55.4	-0.8
CRPR				*eS*		S		01 50 24.0	0.0
LSP	**Las Mesas**	**1.93**	**91**	⇓*eP*		P		01 49 56.5	+0.2
LSP				*eS*		S		01 50 24.4	+0.2
MGP	**Maguayo**	**1.94**	**96**	⇓*eP*		P		01 49 55.6	-0.8
LRS	**Lares**	**2.16**	**88**	⇑*eP*		P		01 49 59.1	+0.2
LRS				*eS*		S		01 50 30.0	+1.2
PORP	**Portuguez**	**2.36**	**94**	⇑*eP*		P		01 50 01.0	-0.4
PORP				*eS*		S		01 50 33.9	+0.8
ICM	**Isla Caja Muer**	**2.49**	**97**	⇑*eP*		P		01 50 03.0	+0.1
ICM				*eS*		S		01 50 36.1	+0.3
SJG	**San Juan**	**2.82**	**92**	⇓*eP*		P		01 50 07.3	+0.4
SJG				*eS*		S		01 50 42.8	0.0
SJG	**San Juan**	**2.82**	**92**	⇓*eP*		P		01 50 07.3	+0.4
STVI	**Saint Thomas**	**3.95**	**87**	⇓*eP*		P		01 50 20.9	-0.2

*CSEM **30** 01:58:09.8±0.2, 39.12N×28.54W, h5km, ML1.8, Error ellipse: s-maj=6.3km s-min=2.7km az=139.0, After PDA*
*PDA **30** 01:58:09.8±0.8, 39.12N×28.54W, h5km±15km, MD3.2, ML1.8, Error ellipse: s-maj=12.0km s-min=4.5km az=152.0*
SVSA 30 01:58:09.8±0.8, 39.12N×28.54W, h5km±15km, MD3.2, ML1.8, Error ellipse: s-maj=12.0km s-min=4.5km az=152.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op		ISC	h m s	ISC
STGR	**Santa Cruz**	**0.42**	**95**	*eP*			Pg	01 58 19.3	+1.0
STGR				*eS*			Sg	01 58 25.1	+1.1
	18nm,0.3s								
CALA	**Caldeira**	**0.55**	**193**	*eP*			Pg	01 58 19.4	-1.5
CALA				*eS*			Sg	01 58 26.5	-1.7
HOR	**Horta**	**0.60**	**186**	*eP*			Pg	01 58 19.7	-2.0
HOR				*eS*			Sg	01 58 27.6	-2.1
PMAN	**Manadas**	**0.60**	**144**	*eP*			Pg	01 58 19.8	-2.1
PMAN				*eS*			Sg	01 58 27.8	-2.1
	28nm,0.1s								
PICO	**Pico**	**0.62**	**171**	*eP*			Pg	01 58 20.7	-1.6
PICO				*eS*			Sg	01 58 28.4	-2.3

*NNC **30** 02:18:34.8±4.2, 36.89N×70.03E, h207km±27km, mpv3.6, Error ellipse: s-maj=44.4km s-min=17.9km az=7.0*
ISC 30 02:18:29.2±1.3, 36.46N±0.05×70.2E±0.1, h215km±17km, n23, σ0§97/28, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op		ISC	h m s	ISC
THN	**Thein Dam**	**6.06**	**130**	*eP*		**P**		**02 19 57.8**	**-0.4**
THN				*eS*		**S**		**02 21 06.8**	**-0.8**
DLH	**Dalhousie**	**6.15**	**128**	*eP*		**P**		**02 20 00.0**	**+0.7**
DLH				*eS*		**S**		**02 21 09.0**	**-0.5**
AML	**Almayashu**	**6.28**	**24**	P		**P**		**02 20 01.8**	**+0.8**
	SNR=87								
PONG	**Pong**	**6.54**	**132**	*eS*		**S**		**02 21 21.0**	**+2.5**
KK31	**Karatay Array**	**6.64**	**2**	⇓P		**P**		**02 20 05.4**	**-0.2**
	1.0nm,0.2s,baz=195,slow=15,SNR=30								
KK31				⇑S		**S**		**02 21 15.9**	**-5.1**
	6.9nm,0.5s,baz=186,slow=17,SNR=5.9								
UCH	**Uchtor**	**6.66**	**29**	P		**S**		**02 21 20.3**	**-1.0**
	SNR=7.1								
EKS2	**Erkin-Say**	**6.78**	**23**	P		**P**		**02 20 08.2**	**+0.7**
	SNR=9.5								
AAK	**Ala-Archa**	**7.00**	**27**	⇑P		**P**		**02 20 10.7**	**+0.5**
	4.9nm,0.6s								
AAK				⇑S		**S**		**02 21 27.6**	**-1.6**
	15nm,0.5s								
ULHL	**Ulahol**	**7.43**	**37**	P		**P**		**02 20 16.8**	**+0.9**
	SNR=8.0								
SDNR	**Sundarnagar**	**7.48**	**129**	*eP*		**P**		**02 20 16.0**	**-0.5**
SDNR				*eS*		**S**		**02 21 35.6**	**-4.7**
USP	**Ospenovka**	**7.56**	**25**	P		**P**		**02 20 18.0**	**+0.5**
	SNR=7.4								
TKM2	**Tokmak 2**	**7.67**	**31**	P		**P**		**02 20 20.1**	**+1.1**
	SNR=11								
DDI	**Dehra Dun**	**8.96**	**131**	*eS*		**S**		**02 22 12.5**	**-2.2**
MK31	**Makanchi Array**	**13.71**	**37**	⇓P		**P**		**02 21 37.1**	**+1.4**
	0.8nm,0.5s,baz=215,slow=11,SNR=14								
KOLN	**Kolnda**	**14.26**	**124**	*eP*		**P**		**02 21 42.3**	**-0.5**
	8.8nm,0.4s								
GKN	**Gorkha**	**14.82**	**121**	*eP*		**P**		**02 21 49.6**	**-0.1**
	14nm,0.4s								
AB31	**Akbulak array**	**14.82**	**333**	⇑P		**P**		**02 21 48.1**	**-1.5**
	3.6nm,0.8s,baz=148,slow=12,SNR=42								
DMN	**Daman**	**15.39**	**121**	*eP*		**P**		**02 21 57.4**	**+0.7**
	8.4nm,0.3s								
KKN	**Kakani**	**15.40**	**120**	*eP*		**P**		**02 21 56.5**	**-0.3**
	33nm,0.5s								
PKI	**Pulchoki**	**15.63**	**120**	*eP*		**P**		**02 22 00.0**	**+0.4**
	9.3nm,0.3s								
JIRN	**Jiri**	**16.12**	**118**	*eP*		**P**		**02 22 06.3**	**+0.8**
	18nm,0.4s								
VOSK	**Vostochnaya**	**16.28**	**2**	⇓P		**P**		**02 22 06.1**	**-1.2**
	2.0nm,0.6s								
BVA0	**Borovoye Array**	**16.57**	**0**	⇑P		**P**		**02 22 11.0**	**+0.3**
	0.5nm,0.6s,baz=178,slow=12,SNR=19								

IDC 30 02:55:17.9±1.6, 5.20N×125.91E, mb3.5/4, mb1 3.6/4, mb1mx3.5/18, mbtmp3.5/4, MS3.6/1, Ms1 3.6/1, ms1mx2.9/12, Error ellipse: s-maj=114.4km s-min=21.8km az=74.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.16**	**181**	P		P		03 00 26.3	-0.9
	1.6nm,0.7s,baz=355,slow=18,SNR=3.6								
WRA	**Warramunga Arr**	**26.32**	**162**	P		P		03 00 55.6	-1.9
	0.4nm,0.5s,baz=342,slow=10,SNR=6.7								
MJAR	**Matsushiro Arr**	**33.17**	**18**	LR		LR		03 13 58.7	
	comp=Z,106nm,19.6s,baz=65,slow=34								
SONM	**Songino Array**	**45.65**	**342**	P		P		03 03 40.8	-1.3
	0.1nm,0.3s,baz=156,slow=6.4,SNR=2.8								
MKAR	**Makanchi Array**	**55.89**	**325**	P		P		03 04 56.9	-2.9
	0.2nm,0.5s,baz=114,slow=6.1,SNR=4.0								

*NIED **30** 03:04:00, 45.40N×151.20E, h23km, Mw4.1 Best double couple: M0 1.37×10^15 NP1:φ§5°, δ§59°, λ§63°. NP2:φ§230°, δ§40°, λ§127°.*
*MOS **30** 03:04:40.8±1.4, 45.36N×150.83E, h33km, mb4.6/8, Error ellipse: s-maj=12.8km s-min=9.6km az=91.6*
*NEIC **30** 03:04:43.1±0.5, 45.35N×150.75E, mb4.5/6, Error ellipse: s-maj=12.8km s-min=8.0km az=133.0*
*IDC **30** 03:04:43.5±0.7, 45.41N×150.78E, h38km±7km, mb3.6/11, mb1 3.9/12, mb1mx3.7/21, mbtmp3.8/12, ML3.7/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/27, Error ellipse: s-maj=23.8km s-min=17.8km az=137.0*
ISC 30 03:04:40.9±0.6, 45.34N±0.08×150.92E±0.08, h36km, h36km±2.9km:pP-P, n49, σ1§23/52, mb4.0/19, MS3.5/2, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		ISC	Time	Res
					Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**2.16**	**268**	*e*PN		**P**		**03 05 15.0**	**-0.2**
KUR				*e*S		**S**		**03 05 42.0**	**+1.0**
KUR				pmax		pmax			
	comp=N,80nm,0.5s								
KUR				pmax		pmax			
	comp=Z,150nm,0.5s								
KUR				smax					
	comp=N,470nm,0.5s								
KUR				smax					
	comp=E,110nm,0.5s								
KUR				smax					
	comp=N,2μm,3.6s								
YUK	**Yuzh-Kuril'sk**	**3.84**	**252**	PN		**P**		**03 05 40.8**	**+1.7**
YUK				*e*S		**S**		**03 06 25.0**	**+1.3**
YUK				pmax		pmax			
	comp=Z,300nm,0.5s								
YUK				smax					
	comp=N,380nm,0.5s								
YUK				smax					
	comp=E,570nm,0.5s								
YUK				smax					
	comp=E,2μm,0.5s								
YSS	**Yuzh-Sakhalins**	**5.90**	**289**	*e*PN		**P**		**03 06 15.0**	**+6.8**
YSS				MLR		MLR			
	comp=Z,500nm,17.0s								
YSS	**Yuzh-Sakhalins**	**5.90**	**289**	P		**P**		**03 06 06.2**	**-2.0**
PET	**Petropavlovsk**	**9.20**	**31**	PN		**P**		**03 06 52.4**	**-1.8**
MAJO	**Matsushiro**	**13.01**	**232**	*e*PN		**P**		**03 07 43.7**	**-2.2**
MJAR	**Matsushiro Arr**	**13.01**	**232**	Pn		**P**		**03 07 44.7**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=25,slow=12,SNR=3.1								
YAK	**Yakutsk**	**20.75**	**331**	P		**P**		**

BSWZ	**Blackbirch Sta**	**0.38**	**276**	⇓PG	Pg	03 27 33.5	-0.5
BSWZ				SG	Sg	03 27 40.0	+0.7
TUWZ	**Tuamarina**	**0.47**	**314**	⇓PG	Pg	03 27 35.2	-0.3
TUWZ				SG	Sg	03 27 42.5	+0.6
BHW	**Baring Head**	**0.50**	**46**	PG	Pg	03 27 36.2	-0.1
SNZO	**South Karori**	**0.51**	**28**	PG	Pg	03 27 36.1	-0.3
TCW	**Tory Channel**	**0.55**	**351**	PG	Pg	03 27 36.7	-0.5
WEL	**Wellington**	**0.55**	**32**	*e*PG	Pg	03 27 36.9	-0.3
MRW	**Makara Radio**	**0.58**	**24**	P*	Pb	03 27 37.3	-0.3
MSWZ	**Moikau Station**	**0.73**	**63**	P*	Pb	03 27 40.7	+0.5
CAW	**Cannon Point**	**0.83**	**39**	P*	Pb	03 27 41.9	+0.1
PAWZ	**Paruwai Farm**	**0.87**	**65**	P*	Pb	03 27 42.9	+0.4
KHZ	**Kahutara**	**0.91**	**223**	P*	Pb	03 27 43.4	0.0
NNZ	**Nelson**	**0.93**	**305**	⇓P*	Pb	03 27 43.3	-0.3
KIW	**Kapiti Island**	**0.98**	**24**	P*	Pb	03 27 44.4	0.0
DUWZ	**D'Urville Isla**	**1.01**	**340**	*e*P*	Pb	03 27 44.8	-0.2
MTW	**Mount Morrison**	**1.03**	**55**	P*	Pb	03 27 45.3	0.0
TRWZ	**Traveller**	**1.04**	**70**	*e*P*	Pb	03 27 44.8	-0.7
THZ	**Tophouse**	**1.11**	**269**	P*	Pb	03 27 46.8	+0.1
MRZ	**Mangatainoka R**	**1.42**	**40**	⇑P*	Pb	03 27 51.0	-0.9
QRZ	**Quartz Range**	**1.68**	**303**	⇑PN	Pn	03 27 56.2	+0.7
BFZ	**Birch Farm**	**1.77**	**53**	PN	Pn	03 27 54.7	-2.1
LTZ	**Lake Taylor**	**1.88**	**236**	PN	Pn	03 27 56.8	-1.5
DSZ	**Denniston Nort**	**1.93**	**269**	*e*PN	Pn	03 27 58.8	-0.3
WAZ	**Wanganui**	**2.05**	**13**	*e*PN	Pn	03 28 02.0	+1.2
MQZ	**McQueen's Vall**	**2.33**	**213**	PN	Pn	03 28 00.9	-3.9

IDC ***30*** *03:46:20.8±0.7, 12.01N×85.43W, mb4.0/8, mb1 4.3/8, mb1mx3.9/21, mbtmp4.0/8, MS3.5/2, Ms1 3.5/2, ms1mx2.8/21, Error ellipse: s-maj=44.3km s-min=10.3km az=65.0*

NEIC ***30*** *03:46:23.6±0.5, 11.88N×85.58W, h20km, mb4.1/8, Error ellipse: s-maj=35.4km s-min=7.4km az=56.0*

CASC ***30*** *03:46:23.1±2.2, 10.92N×86.63W, h20km±6km, MD4.3, ML4.1, mb4.1(NEIC)*

ISC 30 03:46:22.9±1.0, 10.86N±0.06×86.71W±0.08, h47km±10km, n53, σ0§73/53, mb4.0/15, MS3.5/2, 14C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRUN	**El Crucero**	**1.19**	**20**	⇑*e*P	**P**	**03 46 43.7**	**+0.3**
APON	**Apoyo**	**1.23**	**31**	⇑*e*P	**P**	**03 46 43.7**	**-0.3**
MASN	**Masaya**	**1.25**	**26**	⇓*e*P	**P**	**03 46 44.2**	**-0.2**
TICN	**Ticuantepe**	**1.26**	**22**	⇑*e*P	**P**	**03 46 44.4**	**-0.1**
TICN				*e*S	**S**	**03 47 00.7**	**+0.1**
CONN	**Concepcion**	**1.28**	**56**	⇑*e*P	**P**	**03 46 44.1**	**-0.6**
COPN	**Copaltepe**	**1.32**	**5**	⇓*e*P	**P**	**03 46 45.3**	**-0.1**
COPN				*e*S	**S**	**03 47 02.5**	**+0.4**
XAVN	**Gruta Xavier**	**1.34**	**16**	⇑*e*P	**P**	**03 46 45.5**	**-0.2**
MGAN	**Managua**	**1.36**	**20**	*e*P	**P**	**03 46 45.8**	**-0.2**
MGAN				*e*S	**S**	**03 47 02.8**	**-0.4**
	comp=N,4μm,0.7s						
WILN	**Americas 2**	**1.40**	**22**	⇑*e*P	**P**	**03 46 46.0**	**-0.5**
WILN				*e*S	**S**	**03 47 04.1**	**+0.1**
LIM1	**Limonal**	**1.44**	**96**	⇑*e*P	**P**	**03 46 46.4**	**-0.7**
LIM1				*e*S	**S**	**03 47 06.0**	**+0.9**
MOMJ	**Momotombo**	**1.55**	**6**	⇑*e*P	**P**	**03 46 48.2**	**-0.5**
MOMJ				*e*S	**S**	**03 47 09.7**	**+1.9**
LEON	**Leon**	**1.56**	**354**	⇑*e*P	**P**	**03 46 49.0**	**+0.2**
MIRN	**Miramar**	**1.57**	**0**	⇓*e*P	**P**	**03 46 49.0**	**0.0**
CNGN	**Cerro Negro**	**1.63**	**1**	*e*P	**P**	**03 46 49.2**	**-0.6**
TEL3	**Telica 3**	**1.71**	**356**	⇑*e*P	**P**	**03 46 51.0**	**+0.2**
TEL3				*e*S	**S**	**03 47 11.7**	**0.0**
TELN	**Telica**	**1.74**	**356**	⇑*e*P	**P**	**03 46 51.4**	**+0.1**
PYTN	**Playitas**	**1.79**	**21**	*e*P	**P**	**03 46 51.9**	**-0.1**
JTS	**JuntasAbangare**	**1.82**	**108**	Pg	**P**	**03 46 52.0**	**-0.4**
	comp=N,66nm,0.3s,baz=317,slow=9.9,SNR=78						
JTS				Lg		03 47 18.8	
	comp=N,76nm,0.3s,baz=266,slow=21,SNR=11						
CRIN	**San Cristobal**	**1.86**	**350**	⇑*e*P	**P**	**03 46 53.4**	**+0.3**
CRIN				*e*S	**S**	**03 47 15.4**	**0.0**
FORC	**Fortuna**	**2.05**	**101**	*e*P	**P**	**03 46 55.5**	**-0.1**
PRS1	**Puriscal**	**2.52**	**110**	*e*P	**P**	**03 47 02.7**	**+0.3**
LCR2	**La Lucha 2**	**2.89**	**112**	*e*P	**P**	**03 47 09.5**	**+1.9**
TRTC	**Tortuguero**	**2.96**	**95**	*e*P	**P**	**03 47 07.2**	**-1.5**
BLLM	**Bellamira**	**2.97**	**330**	*e*P	Px	03 47 42.6	
BLLM				*e*S	Sx	03 48 17.5	
VSM	**San Miguel**	**2.98**	**329**	⇑*e*P	Px	03 47 42.4	
VSM				*e*S	Sx	03 48 18.8	
BUS	**Buena Vista**	**3.18**	**114**	*e*P	**P**	**03 47 11.7**	**-0.1**
LCBS	**La Ceiba**	**3.56**	**322**	⇑*e*P	Px	03 47 53.4	
LCBS				*e*S	Sx	03 48 34.1	
LFRS	**El Faro**	**3.58**	**320**	*e*P	Px	03 47 49.9	
LFRS				*e*S	Sx	03 48 32.9	
RTR	**El Retiro**	**4.17**	**317**	*e*P	Px	03 47 59.8	
RTR				*e*S	Sx	03 48 49.5	
LTX	**Lajitas**	**24.26**	**322**	*e*P	**P**	**03 51 37.6**	**+0.6**
	comp=N,3.4nm,0.8s,mb3.8						
TXAR	**Lajitas Array**	**24.26**	**322**	P	**P**	**03 51 37.8**	**+0.8**
	comp=N,3.3nm,0.7s,mb3.9,baz=137,slow=9.7,SNR=51						
TXAR	**Lajitas Array**	**24.26**	**322**	P	**P**	**03 51 37.8**	**+0.8**
UALR	**University of**	**24.36**	**349**	P	**P**	**03 51 32.1**	**-5.7**
	comp=N,7.9nm,0.6s,mb4.3						
ANMO	**Albuquerque**	**29.98**	**326**	P	**P**	**03 52 30.6**	**+1.2**
	comp=N,1.3nm,0.6s,mb3.8,baz=147,slow=4.8,SNR=6.5						
SAML	**Samuel**	**30.58**	**129**	*e*P	**P**	**03 52 34.3**	**-0.6**
SDCO	**Great Sand Dun**	**31.65**	**331**	*e*P	**P**	**03 52 43.9**	**-0.1**
	comp=N,2.3nm,0.6s,mb4.2						
PV10	**Paradox Valley**	**33.91**	**328**	*e*P	**P**	**03 53 02.8**	**-0.8**
SIV	**San Ignacio**	**36.82**	**136**	P	**P**	**03 53 30.5**	**+1.9**
	comp=N,1.8nm,0.7s,mb4.0,baz=311,slow=8.0,SNR=16						
SIV				PcP	PcP	03 55 51.6	+1.4
	comp=N,0.6nm,0.7s,baz=231,slow=3.7,SNR=4.0						
BW06	**Boulder Array**	**37.51**	**332**	*e*P	**P**	**03 53 33.2**	**-0.9**
PDAR	**Pinedale Array**	**37.51**	**332**	P	**P**	**03 53 33.7**	**-0.5**
	comp=N,1.4nm,0.7s,mb3.8,baz=126,slow=9.3,SNR=15						
PDAR				PcP	PcP	03 55 52.6	+0.5
	comp=N,0.3nm,0.7s,baz=127,slow=3.8,SNR=4.0						
HWUT	**Hardware Ranch**	**37.60**	**329**	*e*P	**P**	**03 53 34.9**	**0.0**
	comp=N,3.5nm,0.8s,mb4.1						
TPAW	**Teton Pass**	**38.72**	**331**	*e*P	**P**	**03 53 44.0**	**-0.2**
	comp=N,6.6nm,1.3s,mb4.2						
NVAR	**Mina Array Bea**	**39.37**	**320**	P	**P**	**03 53 53.9**	**+4.2**
	comp=N,0.7nm,0.7s,mb3.5,baz=126,slow=7.8						
NVAR				PcP	PcP	03 56 00.1	+2.1
	comp=N,1.2nm,0.6s,baz=127,slow=4.5,SNR=11						
ULM	**Lac du Bonnet**	**40.00**	**351**	P	**P**	**03 53 51.0**	**-3.7**
	comp=N,2.4nm,0.4s,mb4.3,baz=156,slow=4.9,SNR=3.8						
ULM	**Lac du Bonnet**	**40.00**	**351**	P	**P**	**03 53 51.0**	**-3.7**
HLID	**Hailey**	**40.47**	**329**	*e*P	**P**	**03 53 59.0**	**+0.4**
	comp=N,1.5nm,0.7s,mb3.8						
MCMT	**McKenzie Canyo**	**40.62**	**331**	*e*P	**P**	**03 54 00.6**	**+0.7**
BOZ	**Bozeman (W)**	**40.69**	**333**	*e*P	**P**	**03 53 60.0**	**-0.5**
	comp=N,1.8nm,0.6s,mb3.9						
BDFB	**Brasilia**	**46.49**	**124**	P	**P**	**03 54 47.9**	**+0.1**
	comp=N,3.7nm,0.7s,mb4.5,baz=297,slow=9.9,SNR=7.5						
SCHQ	**Schefferville**	**46.60**	**16**	LR	LR	04 12 54.2	
	comp=N,67nm,20.9s,MS3.6,baz=68,slow=35						
ILAR	**Eielson Array**	**67.76**	**336**	P	**P**	**03 57 15.8**	**-1.8**
	comp=N,0.5nm,0.7s,mb3.7,baz=121,slow=4.5,SNR=6.4						
NOA	**NORSAR Array B**	**84.41**	**29**	LR	LR	04 33 48.8	
	comp=N,17nm,18.1s,MS3.5,baz=310,slow=34						
WRA	**Warramunga Arr**	**139.50**	**252**	PKhKP		04 05 49.8	
	comp=N,0.6nm,0.7s,baz=95,slow=1.9,SNR=9.6						

ATH ***30*** *03:50:55.3, 41.96N×21.75E, h10km, MD3.5/3*
SKO ***30*** *03:50:58.5, 41.82N×21.87E, h15km, ML2.7*
BEO ***30*** *03:50:58.3±0.2, 41.87N×21.91E, h14km±2km*
NEIC ***30*** *03:50:58.5, 41.82N×21.87E, h15km, MD3.5(ATH), ML2.7(SKO), After SKO.*
NEIC Felt [III] in the Sveti Nikole-Veles area.
CSEM ***30*** *03:50:58.2±0.1, 41.77N×21.81E, h12km, ML2.7, Error ellipse: s-maj=7.9km s-min=2.2km az=36.0*
THE ***30*** *03:51:00.8, 41.73N×22.00E, h10km*
SOF ***30*** *03:51:02.0, 41.83N×22.14E, h20km, MD2.9*

ISC 30 03:50:58.2±0.6, 41.75N±0.03×21.85E±0.04, h7km±5km, n17, σ1§05/24, 1C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKO	**Skopje**	**0.38**	**307**	*i* Pg	**Pg**	**03 51 05.3**	**-0.6**
SKO				*i* Sg	**Sg**	**03 51 10.1**	**-0.8**
SKO				Smax		03 51 11.1	
	comp=Z,0.7nm,0.3s						
VAY	**Valandovo**	**0.69**	**128**	*i* Pg	**Pg**	**03 51 11.8**	**-0.3**
VAY				*i* Sg	**Sg**	**03 51 21.9**	**+0.5**
GRG	**Griva**	**0.90**	**152**	*e*Pg	**Pg**	**03 51 16.5**	**+0.4**
GRG				*e*Sg	**Sg**	**03 51 28.6**	**+0.5**
KNT	**Kendrikon**	**0.98**	**126**	*e*Pg	**Pg**	**03 51 17.2**	**-0.7**
OHR	**Ohrid**	**1.01**	**231**	*i* Pn	**Pn**	**03 51 18.4**	**-0.3**
OHR				*i* Sn	**Sn**	**03 51 33.0**	**-0.2**
BARS	**Barje**	**1.07**	**359**	⇓*i* Pg	**Pg**	**03 51 22.2**	**+2.5**
BARS				Sg	**Sg**	**03 51 35.6**	**+1.6**
THE	**Thessaloniki**	**1.40**	**142**	*e*Pg	**Pg**	**03 51 25.6**	**-0.6**
MMB	**Musomiste**	**1.42**	**96**	*i* P	**Pn**	**03 51 25.3**	**+0.8**
KZN	**Kozani**	**1.44**	**182**	*e*PB	**Pb**	**03 51 26.5**	**+1.5**
SRS	**Serrai**	**1.46**	**115**	*e*Pg	**Pg**	**03 51 25.8**	**-1.5**
SRS				*e*Sg	**Sg**	**03 51 45.7**	**-1.1**
NVR	**Nevrokopi**	**1.57**	**104**	*e*PN	**Pn**	**03 51 27.5**	**+0.9**
ZAPS	**Zavoj/Pirot**	**1.65**	**20**	⇑*i* Pn	**Pn**	**03 51 27.0**	**-0.8**
ZAPS				Sn	**Sn**	**03 51 46.8**	**-2.6**
PLG	**Polygyros**	**1.83**	**138**	*e*PB	**Pb**	**03 51 30.4**	**-1.2**
PGB	**Panagyurishte**	**1.90**	**64**	*i* P	**Pn**	**03 51 31.0**	**-0.4**
OUR	**Ouranopolis**	**2.15**	**130**	*e*Pn	**Pn**	**03 51 35.9**	**+1.0**
RZN	**Rozhen**	**2.15**	**91**	*i* P	**Pn**	**03 51 35.5**	**+0.5**
KDZ	**Kurdzhali**	**2.68**	**91**	*i* P	**Pn**	**03 51 43.5**	**+1.0**

CSEM ***30*** *03:54:37.5±0.1, 36.33N×52.52E, h10km, ML3.4, Error ellipse: s-maj=2.8km s-min=1.5km az=166.0*
TEH ***30*** *03:54:38.3, 36.39N×52.48E, h10km, Mn3.4*
THR ***30*** *03:54:39.7±0.5, 36.27N×52.45E, h18km±6km, ML2.7*

ISC 30 03:54:38.1±0.8, 36.33N±0.05×52.52E±0.05, h10km, n21, σ0§87/23, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPRN	**Paran-Amol**	**0.23**	**250**	Pg	**Pg**	**03 54 42.8**	**-0.4**
IFIR	**Firoozkooh**	**0.71**	**164**	Pg	**Pg**	**03 54 51.9**	**-0.5**
IFIR				Sg	**Sg**	**03 55 02.0**	**+0.1**
IGLO	**Galoogah**	**0.79**	**91**	Pg	**Pg**	**03 54 58.4**	**+4.4**
IAFJ	**Afjeh**	**0.80**	**234**	Pg	**Pg**	**03 54 53.5**	**-0.7**
ISHM	**Shahmirzad**	**0.81**	**129**	Pg	**Pg**	**03 54 52.4**	**-0.3**
DAMV	**Damavand**	**0.82**	**213**	*e*PG	**Pg**	**03 54 54.1**	**-0.5**
DAMV				*e*SG	**Sg**	**03 55 04.8**	**-0.9**
DAMV				AML	AML	03 55 07.5	
	comp=N,477nm,0.3s						
IDMV	**Damavand**	**0.84**	**208**	Pg	**Pg**	**03 54 54.5**	**-0.6**
IDMV				Sg	**Sg**	**03 55 06.3**	**-0.1**
IKIA	**Kiasar**	**0.95**	**97**	Pg	**Pg**	**03 54 56.0**	**-1.2**
ILAS	**Lasjerd**	**1.01**	**159**	Pg	**Pg**	**03 54 58.1**	**-0.2**
THKV	**Tehran--Karaj**	**1.39**	**253**	*e*PG	**Pg**	**03 55 04.4**	**-1.5**
IANJ	**Anjiloo**	**1.42**	**127**	Pn	**Pn**	**03 55 04.9**	**+0.7**
IVRN	**Varamin**	**1.47**	**206**	Pn	**Pn**	**03 55 05.6**	**+0.9**
IVRN	**Varamin**	**1.47**	**206**	Lg		03 55 26.0	
IMHD	**Mahdasht**	**1.63**	**247**	Pn	**Pn**	**03 55 08.3**	**+1.2**
ASAO	**Ashtian**	**2.70**	**230**	*e*PN	**Pn**	**03 55 23.7**	**+1.3**
ASAO				AML	AML	03 56 03.7	
	comp=N,24nm,0.5s						
IKLH	**Kalahroud**	**3.10**	**195**	Pn	**Pn**	**03 55 29.7**	**+1.6**
IZEF	**Zefreh**	**3.42**	**183**	Pn	**Pg**	**03 55 53.6**	**+7.1**
NASN	**Na'in**	**3.53**	**176**	*e*PN	**Pn**	**03 55 35.4**	**+1.3**
SNGE	**Sanandaj**	**4.38**	**255**	*e*PN	**Pn**	**03 55 46.5**	**+0.2**
SNGE				AML	AML	03 56 57.1	
	comp=N,5.0nm,0.7s						
IPAY	**Payeh**	**5.23**	**87**	Pn	**Pn**	**03 55 57.9**	**-0.4**
IMYA	**Miamay**	**6.12**	**88**	Pn	**Pn**	**03 56 18.6**	**+7.6**

THE ***30*** *03:57:20.8, 40.07N×21.71E, h1km*
CSEM ***30*** *03:57:21.1±0.1, 40.10N×21.67E, h2km, MD3.2, Error ellipse: s-maj=3.4km s-min=2.4km az=126.0*
ATH ***30*** *03:57:22.0, 40.16N×21.82E, h10km±1km, MD3.2/5*
NEIC ***30*** *03:57:22.1, 40.16N×21.82E, h10km, MD3.2(ATH), After ATH.*

ISC 30 03:57:20.4±0.6, 40.08N±0.04×21.73E±0.04, h2km, n12, σ0§86/18, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.23**	**8**	⇑*i* Pg	**Pg**	**03 57 25.5**	**+0.5**
KZN				*e*SG	**Sg**	**03 57 28.4**	**+0.3**
MEV	**Metsovon**	**0.48**	**233**	*e*Pg	**Pg**	**03 57 29.5**	**-0.6**
MEV				*e*Sg	**Sg**	**03 57 36.5**	**0.0**
MEV	**Metsovon**	**0.48**	**233**	*e*Pg	**Pg**	**03 57 29.5**	**-0.6**
MEV				*e*Sg	**Sg**	**03 57 36.5**	**0.0**
LIT	**Litokhoron**	**0.58**	**87**	*e*Pg	**Pg**	**03 57 31.5**	**-0.4**
LIT				*e*Sg	**Sg**	**03 57 40.7**	**+0.9**
GRG	**Griva**	**1.02**	**30**	*e*Pg	**Pg**	**03 57 39.8**	**-0.9**
XOR	**Xorichti**	**1.33**	**122**	*e*Pg	**Pg**	**03 57 45.9**	**-1.1**
XOR				*e*Sg	**Sg**	**03 58 05.0**	**+0.2**
PLG	**Polygyros**	**1.35**	**77**	*e*PG	**Pg**	**03 57 45.6**	**-1.7**
PLG	**Polygyros**	**1.35**	**77**	*e*Pg	**Pg**	**03 57 46.3**	**-1.0**
NEO	**Neokhori**	**1.39**	**123**	*e*PB	**Pb**	**03 57 47.9**	**+1.2**
KEK	**Kerkira**	**1.53**	**257**	*e*PB	**Pb**	**03 57 52.5**	**+3.3**
SRS	**Serrai**	**1.76**	**53**	*e*Pb	**Pb**	**03 57 52.6**	**-0.5**
SRS				*e*Sb	**Sb**	**03 58 15.6**	**+0.1**
NVR	**Nevrokopi**	**2.06**	**51**	*e*PN	**Pn**	**03 57 57.3**	**+0.9**

NEIC ***30*** *04:08:25.3, 41.45S×174.19E, h35km, ML3.8(WEL), After WEL.*

WEL 30 04:08:25.2±0.1, 41.46S×174.19E, h35km±1km, ML3.9/15, 7C-6D, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUWZ	**Tuamarina**	**0.19**	**278**	⇓P*	P	04 08 31.5	-0.4
TUWZ				S*	S	04 08 36.3	-0.3
TCW	**Tory Channel**	**0.25**	**14**	P	P	04 08 32.5	0.0
TCW				S	S	04 08 37.5	-0.2
TCW	**Tory Channel**	**0.25**	**14**	⇓P*	P	04 08 32.4	-0.1
TCW				S*	S	04 08 37.4	-0.3
CMWZ	**Cape Campbell**	**0.29**	**177**	P	P	04 08 33.6	+0.6
CMWZ	**Cape Campbell**	**0.29**	**177**	⇑P*	P	04 08 33.6	+0.6
CMWZ				S*	S	04 08 40.5	+2.0
BSWZ	**Blackbirch Sta**	**0.35**	**223**	P	P	04 08 33.5	-0.3
BSWZ	**Blackbirch Sta**	**0.35**	**223**	⇓P*	P	04 08 33.5	-0.3
BSWZ				S*	S	04 08 39.8	+0.1
SNZO	**South Karori**	**0.41**	**69**	P	P	04 08 34.6	0.0
SNZO	**South Karori**	**0.41**	**69**	P*	P	04 08 34.5	0.0
MRW	**Makara Radio**	**0.44**	**59**	P	P	04 08 34.9	-0.1
MRW	**Makara Radio**	**0.44**	**59**	⇑P*	P	04 08 34.9	-0.1
MRW				S*	S	04 08 41.7	-0.2
WEL	**Wellington**	**0.46**	**69**	⇑P*	P	04 08 35.4	+0.1
BHW	**Baring Head**	**0.51**	**85**	⇑P*	P	04 08 36.1	+0.2
NNZ	**Nelson**	**0.66**	**291**	P	P	04 08 37.7	-0.3
NNZ	**Nelson**	**0.66**	**291**	PN	P	04 08 37.6	-0.4
DUWZ	**D'Urville Isla**	**0.68**	**342**	⇓P*	P	04 08 38.2	-0.2
CAW	**Cannon Point**	**0.74**	**62**	P	P	04 08 39.4	+0.2
CAW	**Cannon Point**	**0.74**	**62**	P*	P	04 08 39.3	+0.1
MSWZ	**Moikau Station**	**0.79**	**87**	P	P	04 08 39.8	-0.1
MSWZ	**Moikau Station**	**0.79**	**87**	P*	P	04 08 39.7	-0.2
KIW	**Kapiti Island**	**0.80**	**43**	P	P	04 08 40.3	+0.2
KIW	**Kapiti Island**	**0.80**	**43**	⇑P*	P	04 08 40.2	+0.2
PAWZ	**Paruwai Farm**	**0.93**	**86**	P*	P	04 08 41.2	-0.7
THZ	**Tophouse**	**1.01**	**252**	P	P	04 08 42.8	-0.4
THZ	**Tophouse**	**1.01**	**252**	P*	P	04 08 42.7	-0.4
MTW	**Mount Morrison**	**1.03**	**74**	⇓P*	P	04 08 42.7	-0.6
KHZ	**Kahutara**	**1.08**	**207**	P	P	04 08 43.8	-0.2
KHZ	**Kahutara**	**1.08**	**207**	⇓P*	P	04 08 43.7	-0.3
TRWZ	**Traveller**	**1.12**	**88**	P*	P	04 08 43.6	-1.0
MRZ	**Mangatainoka R**	**1.31**	**53**	P	P	04 08 46.9	-0.5
MRZ	**Mangatainoka R**	**1.31**	**53**	PN	P	04 08 46.8	-0.6
QRZ	**Quartz Range**	**1.41**	**296**	PN	P	04 08 49.3	+0.6
BFZ	**Birch Farm**	**1.73**	**64**	P	P	04 08 51.5	-1.9
BFZ	**Birch Farm**	**1.73**	**64**	PN	P	04 08 51.5	-2.0
DSZ	**Denniston Nort**	**1.82**	**260**	P	P	04 08 54.6	0.0
DSZ	**Denniston Nort**	**1.82**	**260**	⇑PN	P	04 08 54.6	0.0
TSZ	**Takapari Road**	**1.94**	**44**	P	P	04 08 55.2	-1.1
TSZ	**Takapari Road**	**1.94**	**44**	*e*PN	P	04 08 54.6	-1.7
LTZ	**Lake Taylor**	**1.95**	**227**	P	P	04 08 55.5	-1.0
LTZ	**Lake Taylor**	**1.95**	**227**	⇑PN	P	04 08 55.4	-1.1
RAEZ	**Rainy Point**	**2.17**	**4**	P	P	04 09 02.6	+2.9
RAEZ	**Rainy Point**	**2.17**	**4**	*e*PN	P	04 09 01.4	+1.7
NWEZ	**Newall Road**	**2.19**	**353**	P	P	04 09 01.3	+1.3
NWEZ	**Newall Road**	**2.19**	**353**	*e*PN	P	04 09 00.8	+0.8
PKE	**Pukeiti**	**2.26**	**356**	*e*PN	P	04 09 02.0	+1.0
MTVZ	**Mangateitei**	**2.29**	**26**	*e*PN	P	04 09 01.6	+0.3
PKVZ	**Pokaka**	**2.33**	**23**	*e*PN	P	04 09 01.4	-0.6
MOVZ	**Moawhango**	**2.37**	**31**	P	P	04 09 01.9	-0.6
MOVZ	**Moawhango**	**2.37**	**31**	*e*PN	P	04 09 01.6	-0.8
VRZ	**Vera Road**	**2.37**	**11**	P	P	04 09 03.8	+1.3
VRZ	**Vera Road**	**2.37**	**11**	*e*PN	P	04 09 03.5	+1.0
WNVZ	**Wahianoa**	**2.38**	**27**	P	P	04 09 03.1	+0.4
WNVZ	**Wahianoa**	**2.38**	**27**	*e*PN	P	04 09 02.5	-0.1
CRLZ	**Canterbury Las**	**2.42**	**208**	SN	S	04 09 27.4	-4.5
FWVZ	**Far West T-bar**	**2.43**	**26**	*e*P	P	04 09 04.6	+1.2
WPVZ	**Whakapapa**	**2.47**	**25**	P	P	04 09 05.7	+1.7
PWZ	**Pawanui**	**2.48**	**56**	P	P	04 09 01.2	-2.9
PWZ	**Pawanui**	**2.48**	**56**	*e*PN	P	04 09 00.4	-3.7
CNZ	**Chateau**	**2.48**	**25**	P	P	04 09 04.5	+0.4
NGZ	**Ngauruhoe**	**2.52**	**26**	P	P	04 09 05.0	+0.4
MQZ	**McQueen's Vall**	**2.52**	**206**	*e*P	P	04 09 01.3	-3.4
MQZ	**McQueen's Vall**	**2.52**	**206**	*e*PN	P	04 09 00.9	-3.7
MQZ				SN	S	04 09 28.4	-6.1
TWVZ	**Taurewa**	**2.56**	**22**	P	P	04 09 05.4	+0.1
WTVZ	**West Tongariro**	**2.57**	**25**	P	P	04 09 07.6	+2.2
BKZ	**Black Stump Fm**	**2.88**	**38**	*e*P	P	04 09 07.5	-2.3
HIZ	**Hauiti**	**2.98**	**10**	*e*P	P	04 09 11.7	+0.5
RPZ	**Rata Peaks**	**3.24**	**225**	*e*P	P	04 09 12.0	-2.9
RPZ	**Rata Peaks**	**3.24**	**225**	*e*PN	P	04 09 11.6	-3.2
RPZ				SN	S	04 09 46.5	-6.2
FOZ	**Fox Glacier**	**3.94**	**236**	*e*P	P	04 09 20.8	-4.1
FOZ	**Fox Glacier**	**3.94**	**236**	*e*PN	P	04 09 20.2	-4.7
MWZ	**Matawai**	**4.04**	**41**	*e*P	P	04 09 21.8	-4.4
MWZ	**Matawai**	**4.04**	**41**	*e*PN	P	04 09 21.1	-5.1
LBZ	**Lake Benmore**	**4.15**	**224**	*e*P	P	04 09 24.5	-3.4
LBZ	**Lake Benmore**	**4.15**	**224**	*e*PN	P	04 09 24.0	-3.9
ODZ	**Otahua Downs**	**4.43**	**215**	*e*P	P	04 09 27.6	-4.2
JCZ	**Jackson Bay**	**4.78**	**235**	*e*P	P	04 09 33.4	-3.4
JCZ	**Jackson Bay**	**4.78**	**235**	*e*PN	P	04 09 32.4	-4.4
WKZ	**Wanaka**	**5.07**	**227**	SN	S	04 10 30.3	-8.7
EAZ	**Earnscleugh**	**5.19**	**222**	SN	S	04 10 32.5	-9.5
MSZ	**Milford Sound**	**5.60**	**233**	*e*P	P	04 09 46.8	-1.5

NEIC ***30*** *04:09:14.8±0.5, 11.33N×144.24E, h35km, mb4.5/4, Error ellipse: s-maj=20.2km s-min=9.7km az=95.0*
IDC ***30*** *04:09:15.9±7.7, 11.31N×144.25E, h44km±73km, mb4.0/9, mb1 4.2/9, mb1mx4.0/21, mbtmp4.2/9, MS3.3/3, Ms1 3.4/3, ms1mx3.0/24, Error ellipse: s-maj=40.5km s-min=17.5km az=90.0*

ISC 30 04:09:13.2±0.5, 11.30N±0.07×144.1E±0.2, h33km, n21, σ0§97/18, mb4.3/13, MS3.3/3, 1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.40**	**18**	*e*P	**P**	**04 09 48.6**	**-2.3**
PMG	**Port Moresby**	**20.79**	**171**	LR	LR	04 19 45.4	
	comp=Z,66nm,21.5s,MS3.0,baz=125,slow=30						
JHJ	**Hachijo jima 2**	**22.08**	**350**	P	**P**	**04

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.88**	**332**	P	**Pn**	**04 33 04.6**	**+0.6**
JTN				S	**Sn**	**04 33 26.2**	**-0.8**
JZK	**Kikaishima**	**1.91**	**250**	P	**Pn**	**04 33 05.6**	**+1.1**
JZK				S	**Sn**	**04 33 28.8**	**+0.9**
JNN	**Nakanoshima**	**2.04**	**295**	P	**Pn**	**04 33 07.0**	**+0.7**
JNN				S	**Sn**	**04 33 30.1**	**-1.1**
JKC	**Kuchinoerabu**	**2.15**	**313**	P	**Pn**	**04 33 08.6**	**+0.8**
JAM	**Amami Oshima**	**2.19**	**255**	P	**Pn**	**04 33 08.6**	**+0.2**
JAM				S	**Sn**	**04 33 35.0**	**+0.1**
JTK	**Tokunoshima**	**2.95**	**247**	P	**Pn**	**04 33 19.7**	**+0.4**
JTK				S	**Sn**	**04 33 53.8**	**-0.4**
JTZ	**Takazaki**	**3.00**	**345**	P	**Pn**	**04 33 20.5**	**+0.5**
JTZ				S	**Sn**	**04 33 53.6**	**-1.9**
JMZ	**Minamidaito 2**	**3.24**	**193**	P	**Pn**	**04 33 23.9**	**+0.5**
JMZ				S	**Sn**	**04 33 58.6**	**-3.0**
JTO	**Tosashimizu**	**3.91**	**10**	P	**Pn**	**04 33 32.0**	**-0.9**
JTO				S	**Sn**	**04 34 11.5**	**-7.0**
JOW	**Kunigami**	**3.94**	**238**	Pn	**Pn**	**04 33 32.6**	**-0.8**
	25nm,0.3s,baz=94,slow=17,SNR=69						
JOW				Sn	**Sn**	**04 34 16.7**	**-2.6**
	16nm,0.3s,baz=184,slow=29,SNR=5.9						
JOW	**Kunigami**	**3.94**	**238**	P	**Pn**	**04 33 32.5**	**-0.9**
JNU	**Nakatsue**	**4.22**	**347**	Pn	**Pn**	**04 33 38.6**	**+1.2**
	2.4nm,0.3s,baz=103,slow=2.5,SNR=5.9						
JNU				Sn	**Sn**	**04 34 25.1**	**-1.4**
	9.5nm,0.3s,baz=62,slow=43,SNR=6.4						
MJAR	**Matsushiro Arr**	**9.16**	**33**	Pn	**P**	**04 34 45.7**	**-0.8**
	0.7nm,0.3s,baz=192,slow=12,SNR=6.6						
CBIJ	**Chichi jima**	**9.19**	**99**	Pn	**P**	**04 34 44.3**	**-2.7**
	5.7nm,0.3s,baz=277,slow=22,SNR=5.2						
SONM	**Songino Array**	**27.30**	**321**	P	**P**	**04 38 17.3**	**0.0**
	0.7nm,0.7s,mb3.3,baz=129,slow=7.9,SNR=4.9						
MKAR	**Makanchi Array**	**42.30**	**309**	P	**P**	**04 40 27.8**	**+1.7**
	1.1nm,0.7s,mb3.6,baz=96,slow=10,SNR=11						
MKAR	**Makanchi Array**	**42.30**	**309**	P	**P**	**04 40 27.8**	**+1.7**
KURK	**Kurchatov**	**45.22**	**314**	*eP*	**P**	**04 40 49.6**	**+0.1**
	2.1nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**48.70**	**177**	P	**P**	**04 41 17.3**	**-0.1**
	1.1nm,0.9s,mb3.9,baz=352,slow=7.8,SNR=6.1						
BVAR	**Borovoye Array**	**50.52**	**316**	P	**P**	**04 41 32.5**	**+1.7**
	0.6nm,0.4s,mb3.9,baz=98,slow=11,SNR=6.1						
TRD	**Trivandrum**	**55.44**	**260**	*eP*	**P**	**04 42 07.8**	**-0.1**
STKA	**Stephens Creek**	**61.22**	**171**	P	**P**	**04 42 47.0**	**-1.1**
	1.4nm,0.6s,mb4.3,baz=9.5,slow=6.1,SNR=4.2						
FINES	**FINESS Array B**	**72.10**	**331**	P	**P**	**04 43 56.5**	**-0.1**
	0.6nm,0.6s,mb3.7,baz=63,slow=4.3,SNR=7.0						
FINES	**FINESS Array B**	**72.10**	**331**	P	**P**	**04 43 56.5**	**-0.1**
BW06	**Boulder Array**	**88.91**	**40**	P	**P**	**04 45 27.6**	**+1.3**
PDAR	**Pinedale Array**	**88.91**	**40**	P	**P**	**04 45 27.2**	**+0.9**
	0.6nm,0.7s,mb4.0,baz=315,slow=2.1,SNR=6.0						
PV10	**Paradox Valley**	**92.02**	**43**	*eP*	**P**	**04 45 43.2**	**+2.3**

NEIC ***30*** *04:35:46.9±0.5, 7.87S×74.59W, mb4.2/4, Error ellipse: s-maj=14.6km s-min=8.2km az=66.0*
IDC ***30*** *04:35:46.6±0.8, 7.89S×74.68W, h147km±7km, mb3.6/7, mb1 3.8/10, mb1mx3.7/20, mbtmp4.1/10, Error ellipse: s-maj=22.9km s-min=11.2km az=56.0*
IGQ ***30*** *04:37:23.1, 1.58S×78.13W, h36km±3km, mb4.2, Error ellipse: s-maj=10.9km s-min=3.0km az=34.6*

ISC 30 04:35:46.1±0.7, 7.84S±0.06×74.59W±0.10, h161km±8km, h151km±3.5km:pP-P, n34, σ0998/33, mb3.8/12, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.68**	**208**	*eP*	**P**	**04 36 57.0**	**+0.7**
ARRY	**Arrayan**	**7.38**	**328**	P	**P**	**04 37 31.4**	**-0.8**
ULBA	**Ulba**	**7.41**	**329**	P	**P**	**04 37 31.7**	**-0.8**
CUSU	**Cusua**	**7.45**	**328**	P	**P**	**04 37 32.5**	**-0.6**
IGUA	**Igualata**	**7.49**	**327**	P	**P**	**04 37 34.9**	**+1.2**
PISA	**Pisayambo**	**7.73**	**331**	P	**P**	**04 37 36.2**	**-0.7**
TAMB	**Tambo**	**8.04**	**332**	P	**P**	**04 37 41.3**	**+0.3**
VC1	**Cotopaxi 1**	**8.10**	**332**	P	**P**	**04 37 41.7**	**0.0**
NAS1	**Nasa**	**8.14**	**331**	P	**P**	**04 37 42.7**	**+0.4**
QIL1	**Quilotoa**	**8.19**	**328**	P	**P**	**04 37 44.1**	**+1.1**
JUA2	**San Juan 2**	**8.57**	**332**	P	**P**	**04 37 43.3**	**-4.7**
GGP	**Refugio Guagua**	**8.60**	**332**	P	**P**	**04 37 57.0**	**+8.6**
TERV	**Terraza Guagua**	**8.61**	**332**	P	**P**	**04 37 51.4**	**+2.9**
JOR1	**San Jorge 1**	**8.78**	**332**	P	**P**	**04 37 48.6**	**-2.1**
LPAZ	**La Paz**	**10.50**	**144**	P	**P**	**04 38 12.7**	**-0.7**
	0.3nm,0.3s,baz=310,slow=11,SNR=10						
SAML	**Samuel**	**11.34**	**96**	*eP*	**P**	**04 38 20.4**	**-3.9**
	20nm,0.6s						
SIV	**San Ignacio**	**15.50**	**123**	P	**P**	**04 39 16.4**	**-1.0**
	1.2nm,0.3s,baz=306,slow=12,SNR=53						
LVC	**Limon Verde**	**15.67**	**160**	P	**P**	**04 39 23.7**	**+4.2**
	baz=323,slow=6.8,SNR=5.9						
SDV	**Santo Domingo**	**17.08**	**13**	P	**P**	**04 39 38.2**	**+1.4**
	0.8nm,0.3s,baz=262,slow=8.0,SNR=5.3						
CFAA	**Coronel Fontan**	**24.37**	**167**	P	**P**	**04 40 51.1**	**+0.3**
	0.3nm,0.7s,mb2.9,baz=350,slow=9.4,SNR=4.4						
CPUP	**Villa Florida**	**24.64**	**140**	P	**P**	**04 40 52.7**	**-0.7**
	2.4nm,0.8s,mb3.8,baz=344,slow=12,SNR=6.1						
SJG	**San Juan**	**27.10**	**18**	P	**P**	**04 41 17.0**	**+0.8**
	15nm,0.6s,mb4.8,baz=326,slow=19,SNR=9.2						
BDFB	**Brasilia**	**27.12**	**109**	P	**P**	**04 41 17.0**	**+0.7**
	1.8nm,0.6s,mb3.9,baz=284,slow=8.6,SNR=5.3						
BDFB				pP	pP	04 41 49.2	-0.2
	3.9nm,0.7s,baz=264,slow=11,SNR=5.1						
PLCA	**Paso Flores**	**32.95**	**174**	P	**P**	**04 42 08.5**	**+1.0**
	2.0nm,0.5s,mb4.1,baz=247,slow=18,SNR=6.9						
TXAR	**Lajitas Array**	**46.37**	**324**	P	**P**	**04 43 58.5**	**+0.4**
	0.8nm,0.7s,mb3.5,baz=149,slow=8.8,SNR=13						
TXAR				pP	pP	04 44 30.9	-3.3
	0.2nm,0.5s,baz=140,slow=7.9,SNR=2.0						
TXAR				sP	sP	04 44 46.6	-5.8
	0.3nm,0.6s,baz=151,slow=9.6,SNR=3.4						
ANMO	**Albuquerque**	**52.13**	**327**	*eP*	**P**	**04 44 41.7**	**-0.4**
	0.6nm,0.6s,mb3.4						
SDCO	**Great Sand Dun**	**53.76**	**330**	*eP*	**P**	**04 44 53.4**	**-0.7**
	1.8nm,0.7s,mb3.9						
PDAR	**Pinedale Array**	**59.59**	**331**	P	**P**	**04 45 34.4**	**-0.9**
	0.6nm,0.7s,mb3.5,baz=115,slow=4.7,SNR=5.1						
PDAR				PcP	PcP	04 46 19.6	-0.9
	0.4nm,0.4s,baz=122,slow=5.8,SNR=5.6						
PDAR	**Pinedale Array**	**59.59**	**331**	P	**P**	**04 45 34.4**	**-0.9**
PDAR				PcP	PcP	04 46 19.6	-0.9
NVAR	**Mina Array Bea**	**61.41**	**322**	P	**P**	**04 45 48.1**	**+0.4**
	baz=117,slow=8.1,SNR=3.6						
BOZ	**Bozeman (W)**	**62.73**	**332**	*eP*	**P**	**04 45 55.0**	**-1.4**
	6.5nm,1.4s,mb4.3						
DBIC	**Dimbokro**	**71.02**	**80**	P	**P**	**04 46 49.9**	**+1.0**
	3.2nm,0.4s,mb4.5,baz=242,slow=6.1,SNR=14						
ILAR	**Eielson Array**	**89.62**	**336**	P	**P**	**04 48 26.2**	**-0.1**
	0.3nm,0.4s,mb3.5,baz=128,slow=4.1,SNR=4.9						
ILAR				pP	pP	04 49 05.5	-1.6
	0.5nm,0.8s,baz=101,slow=2.1,SNR=3.4						
WRA	**Warramunga Arr**	**140.34**	**225**	PKhKP		04 54 52.6	
	0.4nm,0.3s,baz=130,slow=2.6,SNR=31						
WRA				PKP	PKPdf	04 54 58.7	+1.8
	1.2nm,0.6s,baz=130,slow=2.0,SNR=14						

IDC ***30*** *04:56:46.9±3.1, 0.82N×97.36E, mb4.0/5, mb1 4.1/5, mb1mx3.8/19, mbtmp4.0/5, Error ellipse: s-maj=126.5km s-min=27.0km az=54.0*
NEIC ***30*** *04:56:51.5±0.8, 0.88N×97.43E, h30km, mb4.1/2, Error ellipse: s-maj=22.1km s-min=12.3km az=58.0*

ISC 30 04:56:49.3±1.1, 0.9N±0.1×97.3E±0.1, h30km, n10, σ0954/10, mb4.0/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.21**	**45**	P	**Pn**	**04 58 08.2**	**+0.8**
KULM	**Kulim**	**5.50**	**37**	*eP*	**Pn**	**04 58 10.4**	**-1.0**
WRA	**Warramunga Arr**	**41.74**	**122**	P	**P**	**05 04 37.7**	**-0.1**
	0.8nm,0.8s,mb3.4,baz=299,slow=9.2,SNR=6.5						
WRAB	**Tennant Creek**	**41.75**	**122**	P	**P**	**05 04 37.8**	**0.0**
	2.2nm,0.7s,mb3.9						
SONM	**Songino Array**	**47.44**	**8**	P	**P**	**05 05 23.8**	**+0.6**
	0.5nm,0.3s,mb3.9,baz=193,slow=9.4,SNR=6.6						
MKAR	**Makanchi Array**	**47.60**	**346**	P	**P**	**05 05 25.0**	**+0.6**
	2.7nm,0.5s,mb4.5,baz=158,slow=7.8,SNR=38						
MKAR	**Makanchi Array**	**47.60**	**346**	P	**P**	**05 05 25.0**	**+0.6**
KURK	**Kurchatov**	**52.15**	**345**	P	**P**	**05 05 58.9**	**-0.3**
	1.2nm,0.5s,mb4.1						
ZAL	**Zalesovo**	**53.90**	**351**	P	**P**	**05 06 11.9**	**-0.2**
	2.4nm,0.4s,mb4.4,baz=288,slow=4.4,SNR=7.4						
BVAR	**Borovoye Array**	**56.61**	**341**	P	**P**	**05 06 31.5**	**-0.3**
	0.9nm,0.7s,mb3.9,baz=143,slow=7.4,SNR=7.4						

BJI ***30*** *05:13:57.2, 17.90S×178.30W, h592km, mB4.7, mb4.5*
IDC ***30*** *05:13:57.7±1.1, 17.80S×178.28W, h578km±12km, mb3.8/13, mb1 4.0/15, mb1mx3.9/19, mbtmp4.7/15, Error ellipse: s-maj=19.6km s-min=9.8km az=157.0*
NEIC ***30*** *05:13:58.5±0.2, 17.89S×178.29W, mb4.4/19, Error ellipse: s-maj=9.9km s-min=5.3km az=149.0*

ISC 30 05:13:56.9±0.8, 17.90S±0.09×178.31W±0.07, h584km±10km, n112, σ0982/53, mb4.3/31, 18C-10D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.43**	**59**	P	**P**	**05 15 50.0**	**-0.8**
	20nm,0.3s,baz=330,slow=2.3,SNR=41						
AFI				S	**S**	**05 17 21.4**	**-0.3**
	4.7nm,0.3s,baz=12,slow=22,SNR=2.7						
DZM	**Mont Dzumac**	**14.92**	**251**	P	**P**	**05 17 06.9**	**+2.4**
	0.8nm,0.3s,baz=88,slow=16,SNR=9.4						
RPZ	**Rata Peaks**	**27.26**	**197**	P	**P**	**05 18 57.5**	**+0.2**
	3.6nm,0.4s,mb4.3,baz=34,slow=7.3,SNR=3.9						
PPT	**Papeete**	**27.36**	**94**	P	**P**	**05 18 57.9**	**-0.5**
	28nm,0.8s,mb5.0,baz=39,slow=23,SNR=5.0						
CNB	**Canberra Magne**	**33.51**	**232**	*i*P	**P**	**05 19 51.5**	**+1.1**
	37nm,0.6s,mb5.2						
CTA	**Charters Tower**	**33.54**	**261**	*e*P	**P**	**05 19 50.5**	**-0.3**
	20nm,0.6s,mb4.9						
CTAO	**Charters Tower**	**33.54**	**261**	*e*P	**P**	**05 19 51.2**	**+0.3**
PMG	**Port Moresby**	**34.55**	**280**	P	**P**	**05 20 00.8**	**+1.5**
	77nm,0.8s,mb5.3,baz=83,slow=6.3,SNR=25						
PMG	**Port Moresby**	**34.55**	**280**	P	**P**	**05 20 00.8**	**+1.5**
TOO	**Toolangi**	**37.25**	**231**	*i*P	**P**	**05 20 22.1**	**+0.8**
	27nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**38.72**	**241**	*i*P	**P**	**05 20 34.3**	**+1.0**
	20nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**38.72**	**241**	P	**P**	**05 20 34.4**	**+1.1**
	29nm,0.6s,mb5.0,baz=88,slow=9.5,SNR=72						
WB2	**Warramunga Arr**	**44.72**	**260**	*e*P	**P**	**05 21 20.1**	**-0.8**
WRAB	**Tennant Creek**	**44.72**	**260**	*e*P	**P**	**05 21 19.6**	**-1.3**
	41nm,0.6s,mb5.1						
WRA	**Warramunga Arr**	**44.73**	**260**	P	**P**	**05 21 20.1**	**-0.9**
	26nm,0.7s,mb4.9,baz=95,slow=7.4,SNR=622						
WRA				PcP	PcP	05 22 50.0	-0.8
	4.1nm,0.7s,baz=89,slow=3.6,SNR=5.8						
WRA				ScP		05 25 49.1	
	0.7nm,0.9s,baz=79,slow=4.3,SNR=2.8						
WRA				S	**S**	**05 27 15.7**	**-0.7**
	0.5nm,0.7s,baz=94,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**44.73**	**260**	P	**P**	**05 21 20.1**	**-0.9**
WRA				PcP	PcP	05 22 50.0	-0.8
WRA				ScP		05 25 49.1	
WRA				S	**S**	**05 27 15.7**	**-0.7**
KAKA	**Kakadu**	**47.68**	**269**	*e*P	**P**	**05 21 47.2**	**+3.7**
	34nm,0.5s,mb5.1						
FITZ	**Fitzroy Crossi**	**53.12**	**261**	*e*P	**P**	**05 22 22.6**	**-0.5**
	12nm,1.2s,mb4.1						
MBWA	**Marble Bar**	**58.17**	**256**	*e*P	**P**	**05 22 56.6**	**-1.3**
	11nm,0.6s,mb4.2						
KLBR	**Kellerberrin**	**58.92**	**244**	*i*P	**P**	**05 23 01.5**	**-1.3**
	22nm,0.6s,mb4.5						
CASY	**Casey**	**66.18**	**205**	*i*P	**P**	**05 23 48.1**	**-0.7**
MJAR	**Matsushiro Arr**	**67.96**	**323**	P	**P**	**05 23 59.0**	**-1.1**
	6.9nm,0.6s,mb4.3,baz=165,slow=7.1,SNR=17						
LRV	**Little Rabbit**	**76.44**	**44**	*e*P	**P**	**05 24 49.3**	**+0.5**
CMB	**Columbia Colle**	**77.77**	**43**	*e*P	**P**	**05 24 55.3**	**-0.5**
	5.3nm,1.0s,mb3.9						
MDJ	**Mudanjiang**	**78.23**	**325**	P	**P**	**05 24 56.8**	**-1.4**
MDJ				AMB	AMB		
	comp=Z,20nm,1.7s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,123nm,3.5s						
MDJ	**Mudanjiang**	**78.23**	**325**	*e*P	**P**	**05 24 58.3**	**+0.1**
	comp=Z,7.9nm,0.8s,mb4.2						
MTUM	**Tungsten Hills**	**78.59**	**45**	*e*P	**P**	**05 25 00.7**	**+0.4**
NVAR	**Mina Array Bea**	**79.35**	**44**	P	**P**	**05 25 04.7**	**+0.5**
	comp=Z,3.3nm,0.7s,mb3.8,baz=216,slow=6.6,SNR=29						
NVAR				pP	pP	05 27 10.5	+2.4
	comp=Z,0.8nm,0.9s,baz=222,slow=7.1,SNR=4.5						
CN2	**Changchun**	**80.07**	**322**	*e*P	**P**	**05 25 07.8**	**0.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
TUC	**Tucson**	**81.62**	**52**	*e*P	**P**	**05 25 16.5**	**+0.6**
	comp=Z,5.4nm,1.0s,mb4.0						
ELK	**Elko**	**82.59**	**43**	*e*P	**P**	**05 25 20.8**	**+0.1**
	comp=Z,3.3nm,0.9s,mb3.9						
MAW	**Mawson**	**83.90**	**200**	P	**P**	**05 25 26.9**	**+0.4**
	comp=Z,0.8nm,0.5s,mb3.5,baz=136,slow=7.0,SNR=5.6						
ENH	**Enshi**	**84.34**	**304**	*e*P	**P**	**05 25 30.1**	**+0.5**
	comp=Z,72nm,1.4s,mb5.0						
HLID	**Hailey**	**84.56**	**41**	*e*P	**P**	**05 25 30.8**	**+0.4**
	comp=Z,2.2nm,0.8s,mb3.8						
MNTX	**Cornudas Mount**	**85.50**	**55**	*e*P	**P**	**05 25 35.4**	**+0.2**
	comp=Z,2.4nm,1.0s,mb3.8						
PV10	**Paradox Valley**	**85.64**	**47**	*e*P	**P**	**05 25 35.5**	**-0.3**
ILAR	**Eielson Array**	**85.86**	**13**	P	**P**	**05 25 34.8**	**-1.4**
	comp=Z,0.4nm,0.4s,mb3.4,baz=224,slow=5.1,SNR=8.9						
ILAR				pP	pP	05 27 41.5	-0.7
	comp=Z,0.9nm,1.1s,baz=233,slow=4.5,SNR=4.5						
LTX	**Lajitas**	**85.91**	**58**	*e*P	**P**	**05 25 37.9**	**+0.6**
	comp=Z,13nm,1.2s,mb4.4						
TXAR	**Lajitas Array**	**85.91**	**58**	P	**P**	**05 25 38.3**	**+1.1**
	comp=Z,5.5nm,0.8s,mb4.3,baz=218,slow=6.1,SNR=90						
ANMO	**Albuquerque**	**86.02**	**51**	P	**P**	**05 25 38.0**	**+0.4**
	comp=Z,2.1nm,0.9s,mb3.8,baz=213,slow=6.8,SNR=7.4						
ANMO	**Albuquerque**	**86.02**	**51**	*e*P	**P**	**05 25 37.6**	**0.0**
	comp=Z,3.1nm,1.2s,mb3.8						
MCMT	**McKenzie Canyo**	**86.17**	**40**	*e*P	**P**	**05 25 38.6**	**+0.5**
RRI2	**Red Ridge**	**86.41**	**42**	*e*P	**P**	**05 25 39.7**	**+0.4**
	comp=Z,7.3nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**87.28**	**43**	P	**P**	**05 25 43.4**	**0.0**
	comp=Z,1.9nm,0.6s,mb4.0,baz=230,slow=2.9,SNR=21						
SNAA	**Sanae**	**90.60**	**179**	*i*	**P**	**05 25 57.7**	**-0.5**
VNA3	**Neumayer Olymp**	**90.74**	**176**	*i*	**P**	**05 25 58.9**	**+0.1**
VNA2	**Neumayer--Watz**	**91.18**	**177**	*i*	**P**	**05 26 01.1**	**+0.3**
VNA1	**Neumayer--Stat**	**91.41**	**177**		**P**	**05 26 00.4**	**-1.5**
SONM	**Songino Array**	**93.61**	**319**	P	**P**	**05 26 12.8**	**+0.5**
	comp=Z,0.4nm,0.5s,mb3.8,baz=126,slow=4.0,SNR=4.5						
LSA	**Lhasa**	**99.11**	**298**	*e*P	**P**	**05 26 37.9**	**+0.3**
	comp=Z,43nm,0.5s						
MKAR	**Makanchi Array**	**109.20**	**314**	PKiKP		05 31 20.6	
	comp=Z,0.8nm,0.5s,baz=155,slow=0.5,SNR=10						
KURK	**Kurchatov**	**111.88**	**318**	*e*PKiKP		05 31 24.3	
BVAR	**Borovoye Array**	**116.90**	**321**	PKP	PKPdf	05 31 35.2	-0.3
	comp=Z,1.2nm,0.4s,baz=90,slow=2.9,SNR=7.9						
ARCES	**ARCESS Array B**	**126.32**	**350**	PKP	PKPdf	05 31 53.9	+0.6
	comp=Z,1.2nm,0.6s,baz=45,slow=3.4,SNR=4.3						
FINES	**FINESS Array B**	**133.21**	**344**	PKP	PKPdf	05 32 05.7	-0.9
	comp=Z,0.8nm,0.7s,baz=90,slow=1.9,SNR=4.0						
FINES				SKPbc		05 34 42.0	
	comp=Z,1.2nm,0.8s,slow=1.9,SNR=4.3						
AKASG	**Malin Array Be**	**140.60**	**332**	PKP	PKPdf	05 32 21.1	+0.8
	comp=Z,0.2nm,0.3s,baz=46,slow=4.1,SNR=4.1						
AKASG				SKPbc		05 35 03.4	
	comp=Z,0.1nm,0.2s,baz=34,slow=2.7,SNR=4.2						
BSEG	**Bad Segeberg**	**143.42**	**351**	*e*PKPbc	PKPbc	05 32 24.3	+0.2
BURAR	**Bucovina Array**	**144.65**	**332**	∥P	PKPdf	05 32 29.6	+2.2
BURAR	**Bucovina Array**	**144.65**	**332**	∥P	PKPdf	05 32 29.6	+2.3
STHS	**Stebnicka Huta**	**144.82**	**338**	*e*PKP	PKPdf	05 32 29.7	+2.1
KOLS	**Kolonicke sedl**	**144.84**	**336**	*e*PKP	PKPdf	05 32 29.5	+1.9
BRTR	**Keskin Array B**	**144.84**	**315**	PKP	PKPdf	05 32 29.6	+1.7
	comp=Z,6.5nm,0.7s,baz=127,slow=3.9,SNR=30						
CFR	**Carcaliu**	**144.98**	**327**	∥P	PKPdf	05 32 29.8	+1.8
CFR	**Carcaliu**	**144.98**	**327**	∥P	PKPdf	05 32 29.8	+1.8
KSP	**Ksiaz**	**145.13**	**344**	*e*PKP	PKPdf	05 32 30.4	+2.3
CRVS	**Cervenica-Dubn**	**145.17**	**337**	*e*PKP	PKPdf	05 32 31.3	+3.1
VRI	**Vrincioaia**	**145.22**	**329**	∥P	PKPdf	05 32 30.9	+2.5
VRI	**Vrincioaia**	**145.22**	**329**	∥P	PKPdf	05 32 30.9	+2.5
TIRR	**Tirgusor**	**145.31**	**326**	∥P	PKPdf	05 32 29.7	+1.2
TIRR	**Tirgusor**	**145.31**	**326**	∥P	PKPdf	05 32 29.7	+1.1
CLZ	**Clausthal**	**145.44**	**350**	*e*PKPbc	PKPbc	05 32 31.2	+1.4
CLL	**Collm**	**145.48**	**347**	∥*i*PKP1	PKPbc	05 32 30.9	+1.0
CLL				*e*		05 32 40.0	
UPC	**Upice**	**145.51**	**344**	∥*e*PKPB	PKPbc	05 32 31.4	+1.4
DPC	**Dobruska-Polom**	**145.57**	**343**	∥*e*PKPB	PKPbc	05 32 31.7	+1.5
BRG	**Berggiesshubel**	**145.68**	**346**	*i* P	PKPdf	05 32 31.9	+2.9
PVCC	**Panska Ves**	**145.86**	**345**	∥*e*PKPB	PKPbc	05 32 32.6	+1.7
MLR	**Muntele Rosu**	**145.87**	**329**	∥P	PKPdf	05 32 32.4	+2.8
MLR	**Muntele Rosu**	**145.87**	**329**	∥P	PKPdf	05 32 32.3	+2.8
KECS	**Kecovo**	**145.88**	**338**	*e*PKP	PKPdf	05 32 32.4	+3.0
VOIR		**146.35**	**330**	∥P	PKPdf	05 32 34.5	+4.2
VOIR		**146.35**	**330**	∥P	PKPdf	05 32 34.5	+4.2
PRU	**Pruhonice**	**146.36**	**345**	∥*e*PKPB	PKPbc	05 32 33.3	+1.2
PRU				*e*PKPAB	PKPab	05 32 35.9	-2.0
DRGR		**146.38**	**334**	∥P	PKPdf	05 32 34.2	+3.9
DRGR		**146.38**	**334**	∥P	PKPdf	05 32 34.2	+3.9
MOX	**Moxa**	**146.38**	**349**	*e*PKP	PKPdf	05 32 33.5	+3.3
VYHS	**Vyhne**	**146.44**	**339**	*e*PKP	PKPdf	05 32 34.4	+4.0
TNS	**Taunus Mts**	**147.30**	**352**	*e*PKPbc	PKPdf	05 32 36.3	+4.6
GRA1	**Grafenberg Arr**	**147.37**	**348**	*e*PKPbc	PKPdf	05 32 36.3	+4.4
GRF	**Grafenberg Arr**	**147.37**	**348**	*e*PKP	PKPdf	05 32 36.3	+4.4
KHC	**Kasperske Hory**	**147.39**	**345**	∥*e*PKPB	PKPdf	05 32 36.5	+4.6
KHC				*e*PKPAB	PKPab	05 32 41.0	-0.9
WET	**Wettzell**	**147.54**	**346**	*e*PKPbc	PKPdf	05 32 37.8	+5.6
GEC2	**GERESS Array S**	**147.63**	**345**	*e*PKPbc	PKPdf	05 32 37.0	+4.7
GERES	**GERESS Array B**	**147.63**	**345**	PKPbc	PKPdf	05 32 37.1	+4.8
	comp=Z,3.8nm,0.5s,baz=22,slow=2.9,SNR=38						
BAIF	**Baives**	**147.85**	**357**	*e*PKP1	PKPdf	05 32 37.4	+4.8
	comp=Z,9.3nm,0.7s						
BFO	**Black Forest**	**149.17**	**351**	*e*PKPbc	PKPdf	05 32 40.3	+5.6
CDF	**Champ du Feu**	**149.23**	**353**	*e*PKP1	PKPdf	05 32 40.9	+6.1
	comp=Z,7.3nm,0.7s						
MEZF	**Maizieres J'vi**	**149.35**	**356**	*e*PKP1	PKPdf	05 32 41.1	+6.1
GRR	**Gorron**	**149.52**	**3**	*e*PKP1	PKPdf	05 32 41.2	+5.9
	comp=Z,9.6nm,0.6s						
HAU	**Haudompre**	**149.73**	**354**	*e*PKP1	PKPdf	05 32 41.8	+6.2
HINF	**Hinteralfeld**	**149.87**	**353**	*e*PKP1	PKPdf	05 32 42.1	+6.3
	comp=Z,3.9nm,0.6s						
LJU	**Ljubljana**	**149.98**	**342**	*i* PKPbc	PKPdf	05 32 42.5	+6.5
VISS	**Visnje**	**150.10**	**341**	*e*PKPbc	PKPdf	05 32 42.8	+6.6
VISS				*e*PKPab	PKPab	05 32 51.3	-1.8
BOJS	**Bojanci**	**150.25**	**341**	*e*PKPbc	PKPdf	05 32 43.5	+7.0
LOR	**Lormes**	**150.66**	**357**	*e*PKP1	PKPdf	05 32 44.1	+7.0
	comp=Z,8.9nm,0.7s						
SSF	**Saint Saulge**	**150.88**	**357**	*e*PKP1	PKPdf	05 32 44.6	+7.2
	comp=Z,7.4nm,0.7s						
MFF	**Saint Martin d**	**151.34**	**3**	*e*PKP1	PKPdf	05 32 45.5	+7.4
TCF	**Toulx Ste Croi**	**151.69**	**359**	*e*PKP1	PKPdf	05 32 46.4	+7.8
LPL	**La Plagne**	**152.15**	**352**	*e*PKP1	PKPdf	05 32 47.9	+8.7
LPG	**La Plagne**	**152.16**	**352**

comp=Z,28nm,18.2s,baz=133,slow=34
TXAR Lajitas Array 17.09 330 P **P** 05 29 11.3 +4.9
0.1nm,0.3s,baz=151,slow=14,SNR=7.8
TXAR Lajitas Array 17.09 330 P **P** 05 29 11.3 +4.9
NVAR Mina Array Bea 31.93 322 P **P** 05 31 37.7 +4.7
0.8nm,0.8s,mb3.6,baz=123,slow=8.7,SNR=6.3
NVAR pP pP 05 31 46.4 +2.3
1.4nm,0.9s,baz=135,slow=10,SNR=6.6
NVAR Mina Array Bea 31.93 322 P **P** 05 31 37.7 +4.7
NVAR pP pP 05 31 46.4 +2.3
YBH Yreka Blue Hor 36.64 323 LR LR 05 49 13.9
comp=Z,53nm,18.8s,MS3.4,baz=164,slow=39
SIV San Ignacio 44.58 132 P **P** 05 33 18.3 -0.9
0.4nm,0.5s,mb3.5,baz=293,slow=12,SNR=6.1
SIV pP pP 05 33 27.4 -3.1
0.4nm,0.5s,baz=290,slow=15,SNR=2.4
YKA Yellowknife Ar 49.91 348 P **P** 05 34 00.2 -0.2
0.5nm,0.5s,mb3.8,baz=151,slow=7.7,SNR=3.7
ILAR Eielson Array 61.44 337 P **P** 05 35 24.8 +1.5
0.4nm,0.6s,mb3.8,baz=157,slow=5.4,SNR=5.3
ILAR pP pP 05 35 34.0 -1.0
0.7nm,0.7s,baz=159,slow=4.4,SNR=5.7

WEL 30 05:28:05.9±0.4, 36.89S×179.21W, h33km, ML4.0/7, Error ellipse: s-maj=4.9km s-min=3.6km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.09**	**251**	PN	Pn	05 28 38.0	-1.5
MXZ				SN	Sn	05 29 01.6	-2.9
MXZ				SN	Sn	05 29 02.3	-2.2
PUZ	**Puketiti**	**2.33**	**239**	PN	Pn	05 28 41.5	-1.4
PUZ				SN	Sn	05 29 08.1	-2.6
MWZ	**Matawai**	**2.96**	**240**	PN	Pn	05 28 50.6	-1.3
MWZ				SN	Sn	05 29 23.2	-3.5
KNZ	**Kokohu**	**3.25**	**228**	PN	Pn	05 28 53.7	-2.3
KNZ				SN	Sn	05 29 29.7	-4.3
BKZ	**Black Stump Fm**	**4.08**	**235**	SN	Sn	05 29 50.7	-4.3
BFZ	**Birch Farm**	**5.19**	**222**	SN	Sn	05 30 13.6	-9.3
MRZ	**Mangatainoka R**	**5.54**	**226**	SN	Sn	05 29 23.0	-5.4
MRZ				SN	Sn	05 30 22.7	-9.1
TCW	**Tory Channel**	**6.66**	**228**	SN	Sn	05 30 48.7	-11
NNZ	**Nelson**	**7.20**	**231**	SN	Sn	05 31 02.9	-10
QRZ	**Quartz Range**	**7.55**	**236**	SN	Sn	05 31 11.2	-11
MQZ	**McQueen's Vall**	**9.21**	**220**	SN	Sn	05 31 46.5	-17

IDC 30 05:30:15.3±2.8, 16.63S×178.52W, mb3.4/2, mb1 3.8/2, mb1mx3.5/14, mbtmp3.4/2, Error ellipse: s-maj=206.2km s-min=36.6km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.77**	**258**	P	P	05 38 31.1	-1.6
	0.2nm,0.3s,baz=96,slow=7.7,SNR=15						
TXAR	**Lajitas Array**	**85.41**	**58**	P	P	05 42 55.5	-0.8
	0.2nm,0.7s,baz=207,slow=6.0,SNR=4.2						
GERES	**GERESS Array B**	**146.36**	**345**	PKPbc	PKPbc	05 49 56.6	-1.3
	0.2nm,0.3s,slow=5.9,SNR=4.2						

MEX 30 05:31:10.4±0.8, 16.34N×98.04W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.10**	**302**	*i* P	Pg	05 31 11.5	-1.0
PNIG				*i* S	Sg	05 31 14.1	+0.1
OXX	**Oaxaca**	**1.46**	**60**	*i* P	Pn	05 31 34.0	-3.5
OXX				*i* S	Sb	05 31 52.0	-4.5
ACX	**Acapulco**	**1.87**	**287**	*i* P	Pn	05 31 40.5	-2.9
CMIG	**Matias Romero**	**3.12**	**76**	*i* P	Pn	05 31 55.7	-5.5
CMIG				*i* S	Sn	05 32 35.0	-4.3

*NEIC **30** 05:40:02.3, 19.16N×64.64W, h50km, MD3.5(RSPR), After RSPR.*
RSPR 30 05:40:02.3, 19.16N×64.64W, h50km±9km, MD3.5/8, MD3.5/8, 6C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.86**	**201**	⇑*e*P	P	05 40 16.8	-1.4
STVI				*e*S	S	05 40 29.3	-0.8
CDVI	**St. Croix**	**1.40**	**185**	⇑*e*P	P	05 40 25.8	-0.2
CDVI				*e*S	S	05 40 42.2	-1.4
HUMP	**Col San Antoni**	**1.53**	**229**	⇓*e*P	P	05 40 26.4	-1.3
HUMP				*e*S	S	05 40 44.7	-1.9
SJG	**San Juan**	**1.77**	**234**	⇑*e*P	P	05 40 29.5	-1.6
SJG				*e*S	S	05 40 50.8	-1.7
SJG	**San Juan**	**1.77**	**234**	⇑*e*P	P	05 40 29.3	-1.8
SJG				*e*S	S	05 40 50.5	-2.0
LRS	**Lares**	**2.26**	**248**	⇑*e*P	P	05 40 36.8	-1.3
MGP	**Maguayo**	**2.59**	**244**	⇓*e*P	P	05 40 41.2	-1.5
CRPR	**Cabo Rojo, PR**	**2.61**	**244**	⇑*e*P	P	05 40 41.6	-1.4
CRPR				*e*S	S	05 41 12.3	-1.3

MEX 30 05:40:37.6±0.9, 14.82N×93.91W, h16km±72km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.25**	**49**	*i* P	Pn	05 41 10.2	-4.5
CCIG				*i* S	Sn	05 41 37.4	-5.0
SCX	**San Cristobal**	**2.27**	**33**	*i* P	Pn	05 41 12.0	-3.1
CMIG	**Matias Romero**	**2.44**	**338**	*i* P	Pn	05 41 13.8	-3.8
CMIG				*e*S	Sn	05 41 41.8	-5.6
EVV	**El Vigia**	**3.87**	**339**	*e*P	Pn	05 41 36.0	-1.9

*MDD **30** 05:40:60.0±2.5, 34.97N×4.15W, h20km±48km, mb3.3/3, Error ellipse: s-maj=60.2km s-min=11.5km az=2.0, PRXIMO*
*CSEM **30** 05:41:01.1±0.3, 35.30N×4.20W, h10km, MD2.7, Error ellipse: s-maj=8.5km s-min=5.2km az=64.0*
*CNRM **30** 05:41:06.2, 35.17N×3.89W, h11km, MD2.7*
ISC 30 05:41:01.4±1.1, 35.32N±0.04×4.26W±0.05, h7km±8km, n21, σ0§97/36, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.28**	**109**	*i* P	**Pg**	**05 41 08.0**	**+0.9**
TOU	**Touzarine**	**0.55**	**130**	*i* P	**Pg**	**05 41 11.0**	**-1.4**
EALB	**Alboran**	**1.18**	**58**	P	**Pb**	**05 41 22.1**	**-1.6**
	2.7nm,0.0s,SNR=7.9						
EALB				S	**Sb**	**05 41 39.0**	**0.0**
	30nm,0.3s,SNR=7.9						
EALB	**Alboran**	**1.18**	**58**	P	**Pb**	**05 41 22.1**	**-1.6**
	2.7nm,0.0s,SNR=7.9						
EALB				S	**Sb**	**05 41 39.0**	**0.0**
	30nm,0.3s,SNR=7.9						
TZK	**Tazeka**	**1.23**	**177**	*i* P	**Pb**	**05 41 25.0**	**+0.5**
TZK				*i* S	**Sb**	**05 41 41.0**	**+0.7**
EMIJ	**Mijas**	**1.31**	**342**	P	**Pb**	**05 41 27.0**	**+1.0**
	1.0nm,0.1s,SNR=7.9						
EMIJ				S	**Sb**	**05 41 43.9**	**+1.1**
	1.9nm,0.1s,SNR=7.4						
EMIJ	**Mijas**	**1.31**	**342**	P	**Pb**	**05 41 27.0**	**+1.0**
	1.0nm,0.1s,SNR=7.9						
EMIJ				S	**Sb**	**05 41 45.2**	**+2.3**
	1.9nm,0.1s,SNR=7.4						
EBER	**Berja**	**1.93**	**35**	P	**Pn**	**05 41 34.2**	**-0.8**
	0.6nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**05 42 00.1**	**+0.4**
	6.1nm,0.4s,SNR=7.9						
EBER	**Berja**	**1.93**	**35**	P	**Pn**	**05 41 34.2**	**-0.8**
	0.6nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**05 42 00.1**	**+0.3**
	6.1nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.66**	**21**	P	**Pn**	**05 41 43.9**	**-1.6**
	0.5nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**05 42 19.1**	**+0.8**
	1.0nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.66**	**21**	P	**Pn**	**05 41 43.9**	**-1.6**
	0.5nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**05 42 19.1**	**+0.8**
	1.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.86**	**355**	P	**Pn**	**05 41 49.2**	**+0.9**
	0.3nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**05 42 24.1**	**+0.8**
	0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.86**	**355**	P	**Pn**	**05 41 49.2**	**+1.0**
	0.3nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**05 42 24.1**	**+0.8**
	0.2nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**2.91**	**342**	P	**Pn**	**05 41 49.3**	**+0.3**
	0.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**05 42 24.5**	**-0.1**
	0.8nm,0.2s,SNR=5.8						
ECAB	**El Cabril**	**2.91**	**342**	P	**Pn**	**05 41 49.3**	**+0.4**
	0.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**05 42 24.5**	**0.0**
	0.8nm,0.2s,SNR=5.8						
EMIN	**Mina Concepcio**	**3.12**	**322**	P	**Pn**	**05 41 52.4**	**+0.4**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**05 42 28.6**	**-1.4**
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.12**	**322**	P	**Pn**	**05 41 52.4**	**+0.4**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**05 42 28.6**	**-1.4**
	0.3nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.41**	**311**	S	**Sn**	**05 42 36.3**	**-1.0**
	1.3nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.41**	**311**	S	**Sn**	**05 42 36.3**	**-1.0**
	1.3nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.08**	**328**	S	**Sn**	**05 42 53.4**	**-0.7**
	1.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.08**	**328**	S	**Sn**	**05 42 53.4**	**-0.8**
	1.1nm,0.2s,SNR=7.9						

*NEIC **30** 05:44:11.0, 16.84N×95.10W, h118km, MD3.9(MEX), After MEX.*
MEX 30 05:44:11.4±1.1, 16.85N×95.12W, h113km±9km, MD4.0, 1C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.33**	**42**	*i* P	P	05 44 26.8	-1.0
CMIG				*i* S	S	05 44 37.5	-2.6
TUIG	**Tuzandepetl**	**1.35**	**29**	*i* P	P	05 44 35.9	-1.2
TUIG				*i* S	S	05 44 53.8	-2.7
HUIG	**Huatulco**	**1.44**	**222**	⇑*i* P	P	05 44 36.0	-2.1
HUIG				*i* S	S	05 44 56.1	-2.0
OXX	**Oaxaca**	**1.56**	**279**	*i* P	P	05 44 38.9	-0.6
OXX				*i* S	S	05 44 59.0	-1.7
EVV	**El Vigia**	**1.62**	**352**	*i* P	P	05 44 38.0	-2.2
SCX	**San Cristobal**	**2.38**	**92**	*e*P	P	05 44 51.0	+0.9
CCIG	**Comitan**	**2.91**	**101**	*e*P	P	05 44 58.2	+1.0
CCIG				*i* S	S	05 45 27.9	-3.9
CCIG	**Comitan**	**2.91**	**101**	*e*P	P	05 44 57.4	+0.2
CCIG				*i* S	S	05 45 27.9	-3.9
PNIG	**Pinotepa**	**2.92**	**262**	*i* P	P	05 44 54.8	-2.6
PNIG				*i* S	S	05 45 27.4	-4.7
IISN	**Ciudad Serdan**	**3.03**	**315**	*i* P	P	05 44 57.0	-1.8
PPM	**Popocatepetl**	**4.01**	**304**	*e*P	P	05 45 13.0	+1.0
ACX	**Acapulco**	**4.60**	**271**	*e*P	P	05 45 16.0	-4.0

*NEIC **30** 05:59:04.5±2.7, 51.61N×16.06E, h5km, ML2.8(SZGRF), ML2.8(VIE), Error ellipse: s-maj=31.9km s-min=10.9km az=207.0*
*WAR **30** 05:59:05.2, 51.54N×16.01E, h1km, ML2.9, Mining Induced*
*CSEM **30** 05:59:05.2±0.2, 51.56N×16.05E, h2km, ML3.2/2, Error ellipse: s-maj=2.8km s-min=1.4km az=27.0*
*PRU **30** 05:59:06.1, 51.51N×16.02E*
ISC 30 05:59:04.0±0.8, 51.50N±0.04×15.98E±0.04, n22, σ1§28/43, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**163**	*e*Pg	**Pg**	**05 59 19.3**	**+1.6**
KSP				*e*		05 59 21.6	
KSP				*e*Sg	**Sg**	**05 59 28.5**	**+1.7**
KSP	**Ksiaz**	**0.69**	**163**	*e*Pg	**Pg**	**05 59 19.2**	**+1.6**
KSP				*e*Sg	**Sg**	**05 59 29.0**	**+2.2**
KSP	**Ksiaz**	**0.69**	**163**	*e*Pg	**Pg**	**05 59 19.3**	**+1.6**
KSP				*e*Sg	**Sg**	**05 59 28.5**	**+1.7**
UPC	**Upice**	**0.99**	**179**	*e*PG	**Pg**	**05 59 25.2**	**+1.4**
DPC	**Dobruska-Polom**	**1.17**	**169**	*e*PG	**Pg**	**05 59 27.9**	**+0.6**
DPC				*e*SG	**Sg**	**05 59 43.9**	**+0.9**
	22nm,0.3s						
DPC	**Dobruska-Polom**	**1.17**	**169**	Pg	**Pg**	**05 59 27.9**	**+0.6**
	22nm,0.3s						
DPC				Sg	**Sg**	**05 59 43.9**	**+0.9**
PVCC	**Panska Ves**	**1.32**	**223**	*e*PG	**Pg**	**05 59 31.6**	**+1.3**
BRG	**Berggiesshubel**	**1.43**	**245**	Pg	**Pg**	**05 59 33.3**	**+0.8**
BRG				Sg	**Sg**	**05 59 53.0**	**+1.4**
BRG	**Berggiesshubel**	**1.43**	**245**	Pg	**Pg**	**05 59 33.3**	**+0.8**
BRG				Sg	**Sg**	**05 59 53.0**	**+1.4**
PRU	**Pruhonice**	**1.77**	**212**	*e*PG	**Pg**	**05 59 38.6**	**-0.7**
PRU				*e*SG	**Sg**	**06 00 02.7**	**-0.2**
CLL	**Collm**	**1.88**	**265**	*i* Pn	**Pn**	**05 59 37.9**	**+0.3**
CLL				*i* Pg	**Pg**	**05 59 40.6**	**-0.8**
CLL				*e*Sg	**Sg**	**06 00 07.0**	**+0.5**
CLL	**Collm**	**1.88**	**265**	*i* PN	**Pn**	**05 59 37.9**	**+0.3**
CLL				*i* PG	**Pg**	**05 59 40.6**	**-0.8**
CLL				*i*		05 59 42.4	
CLL				*e*SN	**Sn**	**06 00 02.0**	**-0.3**
CLL				*e*SG	**Sg**	**06 00 07.0**	**+0.5**
MORC	**Moravsky Berou**	**1.99**	**150**	*e*P	**Pn**	**05 59 39.5**	**+0.3**
MORC	**Moravsky Berou**	**1.99**	**150**	*e*Pn	**Pn**	**05 59 40.0**	**+0.8**
OKC	**Ostrava-Krasne**	**2.16**	**140**	*e*SG	**Sg**	**06 00 14.0**	**-1.9**
VRAC	**Vranov**	**2.23**	**170**	*e*Pn	**Pn**	**05 59 44.7**	**+2.1**
NKC	**Novy Kostel**	**2.58**	**242**	*e*PN	**Pn**	**05 59 48.8**	**+1.2**
NKC				*e*SG	**Sg**	**06 00 28.1**	**-1.6**
	15nm,0.2s						
OJC	**Ojcow**	**2.74**	**116**	*e*PG	**Pg**	**05 59 57.0**	**-1.6**
OJC				*e*SG	**Sg**	**06 00 33.0**	**-2.0**
KHC	**Kasperske Hory**	**2.83**	**214**	*e*PN	**Pn**	**05 59 52.7**	**+1.5**
KHC				*e*PG	**Pg**	**05 59 58.3**	**-2.1**
KHC				*e*SN	**Sn**	**06 00 27.0**	**+0.5**
KHC				*e*SG	**Sg**	**06 00 36.4**	**-1.8**
MOX	**Moxa**	**2.89**	**254**	Pg	**Pg**	**06 00 00.0**	**-1.6**
MOX				Sg	**Sg**	**06 00 39.0**	**-1.0**
MOX	**Moxa**	**2.89**	**254**	*e*Pg	**Pg**	**06 00 00.3**	**-1.3**
MOX				*i* Sg	**Sg**	**06 00 38.8**	**-1.2**
MOA	**Molln**	**3.82**	**198**	⇑*i* PN	**Pn**	**06 00 05.6**	**+0.3**
MOA				*i* SG	**Sg**	**06 01 09.6**	**-1.6**
	4.3nm,0.5s						

*IDC **30** 06:04:13.0±4.5, 11.41S×118.50E, mb3.8/2, mb1 3.6/3, mb1mx3.5/13, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=204.8km s-min=39.2km az=44.0*
ISC 30 06:04:17.1±1.1, 11.1S±0.2×118.8E±0.2, h33km, n4, σ0§22/6, mb3.8/2, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.35**	**122**	P	**P**	**06 08 18.1**	**-0.3**
	0.1nm,0.3s,baz=294,slow=13,SNR=10						
WRA				S	**S**	**06 11 28.7**	**+0.2**
	0.1nm,0.3s,baz=299,slow=24,SNR=4.8						
KLBR	**Kellerberrin**	**20.41**	**183**	*e*P	**P**	**06 08 54.1**	**0.0**
	40nm,1.5s						
KLBR				*e*S	**S**	**06 12 15.2**	**-21**
SONM	**Songino Array**	**59.70**	**350**	P	**P**	**06 14 20.9**	**+0.1**
	0.4nm,0.6s,mb3.6,baz=163,slow=8.7,SNR=3.8						
MKAR	**Makanchi Array**	**66.23**	**333**	P	**P**	**06 15 03.9**	**0.0**
	0.6nm,0.4s,mb4.0,baz=148,slow=7.8,SNR=13						

*IDC **30** 06:08:12.4±9.8, 15.44N×92.36W, mb3.4/2, mb1 3.8/3, mb1mx3.6/18, mbtmp3.4/3, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/16, Error ellipse: s-maj=342.6km s-min=123.3km az=42.0*
*CASC **30** 06:08:13.6±1.5, 14.54N×93.89W, h35km±999km, MD4.6, mb3.8(NEIC)*
*NEIC **30** 06:08:15.4±7.4, 14.44N×93.64W, h45km, mb3.8/3, MD4.5(MEX), Error ellipse: s-maj=107.0km s-min=23.5km az=172.0*
*MEX **30** 06:08:21.2±0.4, 15.09N×93.83W, h40km±29km, MD4.5*
ISC 30 06:08:12.8±2.7, 14.62N±0.10×93.85W±0.06, h24km±23km, n22, σ1§03/25, mb3.5/3, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.33**	**45**	*e*P	**Pn**	**06 08 51.1**	**+0.5**
CCIG				*i* S	**Sn**	**06 09 17.4**	**-1.3**
CCIG	**Comitan**	**2.33**	**45**	*e*P	**Pn**	**06 08 51.4**	**+0.9**
CCIG				*i* S	**Sn**	**06 09 14.6**	**-4.2**
SCX	**San Cristobal**	**2.41**	**29**	*i* P	**Pn**	**06 08 52.0**	**+0.4**
SCX				*i* S	**Sn**	**06 09 22.0**	**+1.4**
SCX	**San Cristobal**	**2.41**	**29**	*i* P	**Pn**	**06 08 52.0**	**+0.4**
SCX				*i* S	**Sn**	**06 09 15.0**	**-5.6**
CMIG	**Matias Romero**	**2.65**	**338**	*i* P	**Pn**	**06 08 54.0**	**-1.1**
CMIG				*i* S	**Sn**	**06 09 21.0**	**-5.9**
IXG	**Ixpaco**	**3.31**	**97**	*e*P	**Pn**	**06 09 03.4**	**-1.1**
IXG				*e*S	**Sn**	**06 09 43.4**	**-0.2**
TUIG	**Tuzandepetl**	**3.44**	**351**	*i* P	**Pn**	**06 09 02.4**	**-3.9**
TUIG	**Tuzandepetl**	**3.44**	**351**	*i* P	**Pn**	**06 09 05.9**	**-0.4**
TUIG				*i* S	**Sn**	**06 09 37.8**	**-9.0**
OXX	**Oaxaca**	**3.70**	**312**	*e*P	**Pn**	**06 09 11.0**	**+1.1**
MRL	**Marmol**	**4.04**	**83**	⇑*e*P	**Pn**	**06 09 15.4**	**+0.6**
MRL				*e*S	**Sn**	**06 10 02.6**	**+0.6**
EVV	**El Vigia**	**4.08**	**339**	*e*P	**Pn**	**06 09 14.0**	**-1.4**
RTR	**El Retiro**	**4.13**	**99**	*e*P	Px	06 09 49.6	
RTR				*e*S	Sx	06 10 37.8	
LFRS	**El Faro**	**4.75**	**101**	*e*P	Px	06 09 58.9	
LFRS				*e*S	Sx	06 10 54.1	
SNVI	**San Vicente**	**4.96**	**101**	*e*P	Px	06 10 09.6	
SNVI				*e*S	Sx	06 11 06.0	
JTS	**JuntasAbangare**	**9.69**	**115**	LR	LR	06 14 07.2	
	comp=Z,77nm,21.6s,baz=306,slow=40						
TXAR	**Lajitas Array**	**17.23**	**330**	P	**P**	**06 12 16.4**	**+2.7**
	0.0nm,0.3s,baz=153,slow=14,SNR=8.1						
LRAL	**Lakeview Retre**	**19.36**	**18**	*e*P	**P**	**06 12 40.0**	**+0.3**
	6.2nm,1.0s						
PLAL	**Pickwick Lake**	**20.93**	**13**	*e*P	**P**	**06 12 56.6**	**+0.2**
	4.1nm,0.9s						
WVT	**Waverly**	**22.09**	**13**	P	**P**	**06 13 08.3**	**+0.3**
	4.6nm,1.0s,mb3.9						
PDAR	**Pinedale Array**	**31.14**	**337**	P	**P**	**06 14 31.0**	**-1.0**
	0.3nm,0.8s,mb3.2,baz=117,slow=6.6,SNR=4.0						
YKA	**Yellowknife Ar**	**50.03**	**348**	pP	pP	06 17 13.3	-1.3
	1.2nm,0.7s,baz=152,slow=8.0,SNR=3.1						
ILAR	**Eielson Array**	**61.57**	**337**	P	**P**	**06 18 30.2**	**-0.1**
	0.5nm,0.9s,mb3.6,baz=135,slow=5.1,SNR=4.0						
ILAR				pP	pP	06 18 38.4	+0.6
	0.6nm,0.7s,baz=131,slow=4.8,SNR=6.3						

*KNET **30** 06:32:09.8±0.7, 42.37N×77.18E, h10km±2km, ml3.1, Error ellipse: s-maj=5.4km s-min=3.3km az=151.0*
*NNC **30** 06:32:11.7±2.5, 42.70N×77.24E, h6km±4km, mpv3.4, Error ellipse: s-maj=36.2km s-min=6.6km az=154.0*
ISC 30 06:32:08.7±1.3, 42.3N±0.1×77.41E±0.07, h10km, n13, σ1§17/21, 12C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.87**	**270**	⇑P	**Pb**	**06 32 23.5**	**-1.9**
	98nm,0.1s,SNR=96						
ULHL				⇓S	**Sb**	**06 32 34.8**	**-2.0**
	682nm,0.2s						
TKM2	**Tokmak 2**	**1.50**	**297**	P	**Pn**	**06 32 34.0**	**-1.8**
	40nm,0.1s,SNR=58						
TKM2				⇑S	**Sb**	**06 32 53.3**	**-1.9**
	178nm,0.1s						
KZA	**Kyzart**	**1.62**	**265**	⇓P	**Pn**	**06 32 37.3**	**-0.1**
	31nm,0.2s,SNR=25						
KZA				⇓S	**Sn**	**06 32 58.7**	**+0.2**
	68nm,0.2s						
KBK	**Karagaybulak**	**1.87**	**283**	⇓P	**Pn**	**06 32 41.1**	**0.0**
	53nm,0.1s,SNR=42						
KBK				⇑S	**Sn**	**06 33 05.3**	**+0.4**
	227nm,0.2s						
CHMS	**Chumysh**	**2.10**	**292**	⇓P	**Pn**	**06 32 44.4**	**-0.1**
	25nm,0.1s,SNR=19						
CHMS				⇑S	**Sn**	**06 33 11.3**	**+0.5**
	49nm,0.1s						
AAK	**Ala-Archa**	**2.19**	**281**	⇓P	**Pn**	**06 32 46.6**	**+0.9**
	44nm,0.2s,SNR=25						
AAK				⇑S	**Sn**	**06 33 14.3**	**+1.2**
	124nm,0.4s						
AAK	**Ala-Archa**	**2.19**	**281**	⇑P	**Pn**	**06 32 46.5**	**+0.8**
	18nm,0.5s						
AAK				⇑S	**Sn**	**06 33 14.4**	**+1.2**
	65nm,0.5s						
USP	**Ospenovka**	**2.37**	**296**	P	**Pn**	**06 32 49.1**	**+0.8**
	119nm,0.4s,SNR=99						
USP				⇑S	**Sn**	**06 33 19.6**	**+1.9**
	62nm,0.2s						
EKS2	**Erkin-Say**	**2.72**	**280**	⇓P	**Pn**	**06 32 55.1**	**+1.8**
	29nm,0.2s,SNR=53						
KK31	**Karatay Array**	**5.16**	**282**	⇓Pg	**Pn**	**06 33 39.8**	**+12**
	4.9nm,0.6s						
KK31				⇑Lg		06 34 45.2	
	7.8nm,0.5s						
MK31	**Makanchi Array**	**5.73**	**36**	⇑Pn	**Pn**	**06 33 36.2**	**+0.3**
	0.8nm,0.2s,baz=217,slow=15,SNR=62						
MK31				⇓Sn	**Sn**	**06 34 41.9**	**-0.6**
	4.6nm,0.5s,baz=216,slow=24,SNR=5.2						
MK31				⇓Lg		06 35 04.1	
	6.8nm,0.6s						
KURK	**Kurchatov**	**8.51**	**5**	⇑Lg		06 36 28.0	
	3.3nm,0.8s						
BVA0	**Borovoye Array**	**11.77**	**339**	⇑P	**P**	**06 34 54.9**	**-4.7**
	0.2nm,0.6s,baz=148,slow=13,SNR=8.1						

*NEIC **30** 06:32:09.2, 16.27N×98.02W, h5km, MD4.1(MEX), After MEX.*
MEX 30 06:32:09.2±0.8, 16.27N×98.02W, h5km, MD4.4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.16**	**321**	*i* P	Pg	06 32 11.6	-0.9
PNIG				*e*S	Sg	06 32 13.9	-0.8
PNIG	**Pinotepa**	**0.16**	**321**	*i* P	Pg	06 32 11.6	-0.9
PNIG				*i* S	Sg	06 32 14.1	-0.6
OXX	**Oaxaca**	**1.49**	**57**	*i* P	Pn	06 32 33.2	-3.5
OXX				*i* P		06 32 33.4	
OXX				*i* S	Sb	06 32 51.5	-4.5
OXX				*i* S	Sb	06 32 52.3	-3.7
OXX	**Oaxaca**	**1.49**	**57**	*i* P	Pn	06 32 33.2	-3.5
OXX				*i* S	Sb	06 32 51.5	-4.5
HUIG	**Huatulco**	**1.91**	**105**	*e*P	Pn	06 32 39.0	-3.7
HUIG				*i* S	Sn	06 33 01.4	-6.0
ACX	**Acapulco**	**1.91**	**288**	*i* P	Pn	06 32 38.3	-4.5
ACX				*i* P		06 32 40.7	
ACX				*i* S	Sn	06 33 04.2	-4.7
ACX				*i* S	Sn	06 33 04.2	-3.

Error ellipse: s-maj=72.8km s-min=28.9km az=27.0

ISC 30 07:43:56.0±0.5,37.00N±0.02×71.43E±0.08,h100km,n48, σ1⇕37/57,mb3.4/3,8C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.19**	**173**	⇑P	**P**	**07 44 47.8**	**+2.3**
CHCP	**Chirah Chowk**	**3.66**	**155**	P	**P**	**07 44 55.2**	**+3.4**
THW	**Thamme Wali**	**4.21**	**176**	P	**P**	**07 45 00.5**	**+1.2**
SBDP	**Sheikh Budin**	**4.72**	**186**	P	**P**	**07 45 06.6**	**+0.3**
SBDP	**Sheikh Budin**	**4.72**	**186**	P	**P**	**07 45 14.3**	**+8.0**
SBDP				S	**S**	**07 46 00.0**	**-0.2**
SARP	**Sargodha**	**5.17**	**168**	P	**P**	**07 45 12.4**	**0.0**
DRP	**Derazinda**	**5.34**	**191**	P	**P**	**07 45 14.3**	**-0.4**
AML	**Almayashu** SNR=227	**5.42**	**18**	P	**P**	**07 45 16.3**	**+0.6**
UCH	**Uchtor** SNR=6.5	**5.74**	**24**	P	**P**	**07 45 22.2**	**+2.0**
THN	**Thein Dam**	**5.76**	**141**	*e*P	**P**	**07 45 21.0**	**+0.5**
THN				*e*S	**S**	**07 46 27.0**	**+1.1**
DLH	**Dalhousie**	**5.81**	**139**	*e*P	**P**	**07 45 24.0**	**+2.9**
DLH				*e*S	**S**	**07 46 24.0**	**-3.0**
KZA	**Kyzart** SNR=22	**5.87**	**29**	P	**P**	**07 45 22.5**	**+0.6**
EKS2	**Erkin-Say** SNR=17	**5.94**	**17**	P	**P**	**07 45 23.6**	**+0.7**
AAK	**Ala-Archa** SNR=12	**6.10**	**22**	P	**P**	**07 45 26.4**	**+1.3**
AAK	**Ala-Archa** 9.5nm,0.4s	**6.10**	**22**	⇑P	**P**	**07 45 26.2**	**+1.0**
AAK	19nm,0.5s			⇑S	**S**	**07 46 34.4**	**+0.2**
KK31	**Karatay Array** 5.8nm,0.3s,baz=175,slow=12,SNR=266	**6.14**	**354**	⇓P	**P**	**07 45 23.6**	**-2.0**
KK31	11nm,0.4s,baz=154,slow=19			⇓S	**S**	**07 46 28.1**	**-7.0**
PONG	**Pong**	**6.27**	**142**	*e*P	**P**	**07 45 30.0**	**+2.5**
PONG				*e*S	**S**	**07 46 41.0**	**+2.7**
ULHL	**Ulahol** SNR=8.0	**6.42**	**34**	P	**P**	**07 45 30.2**	**+0.6**
CHMS	**Chumysh** SNR=22	**6.51**	**22**	P	**P**	**07 45 31.3**	**+0.5**
USP	**Ospenovka** SNR=18	**6.69**	**20**	P	**P**	**07 45 33.0**	**-0.3**
TKM2	**Tokmak 2** SNR=28	**6.72**	**27**	P	**P**	**07 45 34.7**	**+0.9**
SDNR	**Sundarnagar**	**7.15**	**138**	*e*P	**P**	**07 45 40.0**	**+0.3**
SDNR				*e*		07 45 58.0	
SMLA	**Simla**	**7.55**	**139**	⇑*i*P	**P**	**07 45 43.1**	**-2.0**
SMLA				*i*S	**S**	**07 47 04.3**	**-5.3**
KLP	**Kalpa**	**7.85**	**132**	*e*P	**P**	**07 45 50.2**	**+1.1**
KLP				*e*S	**S**	**07 47 13.7**	**-3.3**
KLP	comp=E,261nm,0.9s			AML	AML	07 47 19.0	
KLP	comp=N,115nm,1.0s			AML	AML	07 48 16.9	
DDI	**Dehra Dun**	**8.65**	**138**	*e*P	**P**	**07 46 01.1**	**+1.1**
DDI				*e*S	**S**	**07 47 31.7**	**-4.9**
NDI	**New Delhi**	**9.62**	**148**	*e*P	**P**	**07 46 14.0**	**+1.0**
NDI				*e*S	**S**	**07 47 55.0**	**-4.9**
AYAN	**Aya Nagar**	**9.75**	**149**	*e*P	**P**	**07 46 14.0**	**-0.9**
AYAN				*e*S	**S**	**07 47 59.2**	**-4.0**
SONA	**Sohna**	**9.94**	**150**	*e*S	**S**	**07 48 01.0**	**-6.7**
SONA	comp=E,19nm,0.1s			AML	AML	07 48 04.5	
SONA	comp=N,27nm,1.3s			AML	AML	07 48 06.2	
MK31	**Makanchi Array** comp=N,1.9nm,0.5s	**12.69**	**36**	⇑P	**P**	**07 46 53.8**	**0.0**
MKAR	**Makanchi Array** comp=N,0.5nm,0.3s,baz=222,slow=15,SNR=34	**12.69**	**36**	P	**P**	**07 46 54.3**	**+0.5**
KOLN	**Koldanda** comp=N,21nm,0.3s	**13.79**	**128**	*e*P	**P**	**07 47 06.8**	**-1.4**
GKN	**Gorkha** comp=N,51nm,0.4s	**14.30**	**125**	*e*P	**P**	**07 47 13.5**	**-1.3**
AB31	**Akbulak array** comp=N,0.6nm,0.3s,baz=139,slow=14,SNR=27	**14.82**	**329**	P	**P**	**07 47 16.0**	**-5.3**
AB31	comp=N,2.7nm,0.6s,baz=151,slow=24,SNR=5.2			⇑S	**S**	**07 49 46.8**	**-16**
KKN	**Kakani** comp=N,33nm,0.4s	**14.86**	**124**	*e*P	**P**	**07 47 20.7**	**-1.3**
DMN	**Daman** comp=N,20nm,0.4s	**14.87**	**125**	*e*P	**P**	**07 47 20.9**	**-1.2**
PKI	**Pulchoki** comp=N,14nm,0.2s	**15.09**	**125**	*e*P	**P**	**07 47 23.6**	**-1.4**
GUN	**Gumba** comp=N,17nm,0.4s	**15.18**	**123**	*e*P	**P**	**07 47 25.2**	**-0.9**
JIRN	**Jiri** comp=N,40nm,0.3s	**15.55**	**123**	*e*P	**P**	**07 47 29.0**	**-1.8**
VOSK	**Vostochnaya** comp=N,3.1nm,1.3s	**15.72**	**359**	⇑P	**P**	**07 47 28.7**	**-4.1**
BVA0	**Borovoye Array** comp=N,0.2nm,0.6s,baz=159,slow=12,SNR=8.5	**16.04**	**358**	⇑P	**P**	**07 47 34.1**	**-2.6**
BVAR	**Borovoye Array** comp=N,0.3nm,0.3s,baz=155,slow=13,SNR=7.4	**16.04**	**358**	P	**P**	**07 47 34.8**	**-2.0**
ZAL	**Zalesovo** comp=N,2.0nm,0.3s,baz=253,slow=5.3,SNR=6.5	**19.30**	**24**	P	**P**	**07 48 14.0**	**-1.4**
SONM	**Songino Array** comp=N,0.4nm,0.8s,mb3.0,baz=267,slow=10.0,SNR=3.9	**27.77**	**56**	P	**P**	**07 49 39.8**	**+2.5**
AKASG	**Malin Array Be** comp=N,0.5nm,0.5s,baz=80,slow=7.0,SNR=4.7	**32.90**	**308**	pP	pP	07 50 41.2	-4.1
FINES	**FINESS Array B** comp=N,0.8nm,0.7s,mb3.8,baz=102,slow=13,SNR=2.6	**37.26**	**326**	P	**P**	**07 50 59.2**	**-0.2**
NB2	**NORSAR Subarra** comp=N,0.6nm,0.5s,baz=95,slow=7.9	**44.19**	**323**	P	pP	07 52 16.4	-3.4
NOA	**NORSAR Array B** comp=N,0.9nm,0.6s,baz=97,slow=8.1,SNR=5.2	**44.19**	**323**	pP	pP	07 52 15.8	-3.9
WRA	**Warramunga Arr** comp=N,0.2nm,0.4s,mb3.3,baz=327,slow=4.8,SNR=7.2	**81.97**	**122**	P	**P**	**07 56 06.7**	**+0.3**

*ATH **30** 08:01:26.4,38.74N×28.13E,h10km,MD3.5/3*
*ISK **30** 08:01:29.6,38.77N×27.92E,h10km,ML3.6*
*CSEM **30** 08:01:29.1±0.1,38.76N×27.94E,h5km,MD3.5, Error ellipse: s-maj=1.7km s-min=1.3km az=129.0*

ISC 30 08:01:29.6±0.5,38.77N±0.02×27.93E±0.03,h5km±4km, n42,σ0⇕66/57,1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.14**	**322**	*i*P	**Pg**	**08 01 33.3**	**+0.7**
AKS				*i*SG	**Sg**	**08 01 35.8**	**+1.2**
MANT	**Manisa**	**0.57**	**119**	*i*P	**Pg**	**08 01 40.8**	**-0.1**
MANT				*i*S	**Sg**	**08 01 48.7**	**+0.2**
KDAG	**Bornova**	**0.63**	**235**	*i*P	**Pg**	**08 01 41.5**	**-0.8**
KDAG				*i*S	**Sg**	**08 01 50.3**	**-0.4**
IZM	**Izmir**	**0.64**	**235**	*i*PG	**Pg**	**08 01 41.4**	**-0.9**
IZM				*i*SG	**Sg**	**08 01 51.6**	**+0.7**
BLCB	**Balcova**	**0.79**	**242**	PG	**Pg**	**08 01 44.7**	**-0.7**
BLCB				SG	**Sg**	**08 01 56.8**	**+0.8**
BALB	**Balikesir**	**0.87**	**358**	PG	**Pg**	**08 01 46.8**	**-0.2**
BTOK	**Tokmak**	**1.00**	**5**	*i*P	**Pb**	**08 01 49.1**	**+0.1**
BTOK				*i*S	**Sb**	**08 02 02.4**	**+0.2**
DST	**Dursunbey**	**1.00**	**33**	PG	**Pg**	**08 01 48.9**	**-0.6**
DST				SG	**Sg**	**08 02 03.1**	**+0.2**
AYDN	**Tasoluk**	**1.10**	**182**	*i*P	**Pb**	**08 01 50.6**	**-0.2**
AYDN				*i*S	**Sb**	**08 02 06.2**	**+0.8**
AYVA	**Ayvalik**	**1.10**	**300**	*i*P	**Pb**	**08 01 51.2**	**+0.4**
AYVA				*i*S	**Sb**	**08 02 06.2**	**+0.8**
GDZ	**Gediz**	**1.25**	**75**	*i*P	**Pb**	**08 01 53.3**	**0.0**
GDZ				*i*S	**Sb**	**08 02 09.9**	**+0.2**
KHL	**Karahalli**	**1.33**	**109**	PN	**Pn**	**08 01 55.8**	**+1.0**
DENT	**Denizli**	**1.33**	**139**	PN	**Pn**	**08 01 55.2**	**+0.3**
SMG	**Samos**	**1.36**	**219**	*e*PB	**Pb**	**08 01 53.6**	**-1.6**
PRK	**Paraskevi**	**1.38**	**291**	⇓*i*PB	**Pb**	**08 01 55.2**	**-0.2**
DNZL	**Cakiroluk**	**1.39**	**140**	*i*P	**Pb**	**08 01 55.1**	**-0.6**
DNZL				*i*S	**Sb**	**08 02 15.4**	**+1.8**
CANB	**Canakkale**	**1.42**	**332**	PN	**Pn**	**08 01 55.7**	**-0.4**
MLSB	**Milas**	**1.47**	**185**	PN	**Pn**	**08 01 56.7**	**-0.2**
ORLT	**Orhaneli**	**1.48**	**30**	*e*PN	**Pn**	**08 01 57.0**	**0.0**
BNT	**Bandirma**	**1.59**	**360**	*e*PN	**Pn**	**08 01 58.0**	**-0.5**
YER	**Yerkesik**	**1.65**	**170**	*e*PN	**Pn**	**08 01 58.6**	**-0.9**
ULDT	**Uludag**	**1.66**	**34**	*i*P	**Pn**	**08 01 59.2**	**-0.4**
ULDT				*i*S	**Sb**	**08 02 20.6**	**-0.9**
ALT	**Altintas**	**1.73**	**80**	*e*PN	**Pn**	**08 02 00.3**	**-0.2**
BODT	**Bodrum**	**1.77**	**196**	*e*PN	**Pn**	**08 02 01.8**	**+0.7**
LPK	**Lapseki**	**1.84**	**331**	*e*PN	**Pn**	**08 02 01.9**	**-0.2**
MRMT	**Marmara Adasi**	**1.85**	**352**	*e*PN	**Pn**	**08 02 02.4**	**+0.1**
GOLH	**Golhisar**	**2.00**	**139**	*i*P	**Pn**	**08 02 02.6**	**-1.8**
TKTP	**Tekketepe**	**2.02**	**110**	*i*P	**Pn**	**08 02 04.5**	**-0.2**
TKTP				*i*S	**Sn**	**08 02 38.9**	**+8.4**
DALT	**Dalyan (Mudla)**	**2.07**	**164**	*e*PN	**Pn**	**08 02 06.1**	**+0.6**
MFT	**Murefte**	**2.08**	**346**	*e*PN	**Pn**	**08 02 05.6**	**0.0**
YLV	**Yalova**	**2.12**	**31**	*e*PN	**Pn**	**08 02 06.7**	**+0.6**
BADT	**Buyukada**	**2.28**	**23**	*e*PN	**Pn**	**08 02 08.1**	**-0.3**
GPA	**Golpazari**	**2.39**	**50**	*e*PN	**Pn**	**08 02 10.0**	**0.0**
ESKT	**Eskisehir**	**2.39**	**71**	*e*PN	**Pn**	**08 02 10.0**	**-0.1**
ESKT	**Eskisehir**	**2.39**	**71**	*i*P	**Pn**	**08 02 14.4**	**+4.3**
ESKT				*i*S	**Sn**	**08 02 46.1**	**+6.0**
HRT	**Hereke**	**2.45**	**33**	*e*PN	**Pn**	**08 02 10.8**	**-0.1**
ISK	**Istanbul-Kandi**	**2.46**	**20**	*e*PN	**Pn**	**08 02 11.0**	**0.0**
EYL	**Eskiyayla**	**2.49**	**43**	*e*PN	**Pn**	**08 02 11.5**	**+0.1**
RDO	**Rodhopi**	**3.00**	**323**	*e*PN	**Pn**	**08 02 18.3**	**-0.5**
KIZT	**Kizilcal**	**3.09**	**87**	*e*PN	**Pn**	**08 02 20.1**	**+0.1**
EDRB	**Edirne**	**3.21**	**344**	*e*PN	**Pn**	**08 02 21.6**	**-0.1**
SGKT	**Sivrigoynuk**	**3.66**	**59**	*i*P	**Pn**	**08 02 29.4**	**+1.3**
SGKT				*i*S	**Sn**	**08 03 19.1**	**+6.8**

*IDC **30** 08:09:26.8±2.3,20.06S×169.40E,mb4.0/3,mb1 4.3/4, mb1mx3.9/14,mbtmp3.9/4,ML3.6/1,MS3.0/1,Ms1 3.0/1, ms1mx2.5/20,Error ellipse: s-maj=104.5km s-min=30.6km az=151.0*

ISC 30 08:09:28.4±1.0,21.2S±0.3×169.84E±0.10,h33km,n10, σ1⇕34/10,mb3.9/3,2C,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.28**	**254**	*e*P	**P**	**08 10 20.6**	**+2.0**
DZM				*e*S	**S**	**08 10 55.8**	**-1.2**
DZM	**Mont Dzumac** 5.4nm,0.3s,baz=84,slow=18,SNR=105	**3.28**	**254**	Pn	**Pn**	**08 10 20.7**	**+1.9**
DZM	29nm,0.3s,baz=169,slow=24,SNR=17			Sn	**Sn**	**08 10 56.1**	**-1.0**
NOUC	**Port Laguerre**	**3.41**	**254**	*e*P	**P**	**08 10 22.5**	**+2.0**
AFI	**Afiamalu** comp=Z,53nm,21.2s,baz=252,slow=33	**18.96**	**71**	LR	LR	08 19 50.0	
WRA	**Warramunga Arr** 0.5nm,0.5s,mb3.7,baz=92,slow=8.3,SNR=18	**33.22**	**266**	P	**P**	**08 16 02.3**	**-2.4**
FITZ	**Fitzroy Crossi** 4.5nm,0.9s,mb4.1,baz=130,slow=4.0,SNR=5.3	**41.64**	**266**	P	**P**	**08 17 15.3**	**-0.3**
VNA3	**Neumayer Olymp**	**87.81**	**180**	⇑*i*	**P**	**08 22 14.4**	**-0.5**
VNA2	**Neumayer--Watz**	**88.11**	**181**	⇑*i*	**P**	**08 22 16.0**	**-0.3**
NVAR	**Mina Array Bea** 0.4nm,0.7s,mb3.9,baz=243,slow=6.0,SNR=2.8	**89.67**	**48**	P	**P**	**08 22 24.4**	**-0.1**
GERES	**GERESS Array B** 0.4nm,0.5s,baz=27,slow=3.0,SNR=3.8	**146.47**	**331**	PKPbc	PKPbc	08 29 06.4	+0.4

IDC 30 08:17:21.8±14.0,22.00S×179.87W,h582km±175km, mb3.1/5,mb1 3.3/5,mb1mx3.1/15,mbtmp4.1/5,Error ellipse: s-maj=103.5km s-min=59.8km az=167.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 2.7nm,0.5s,baz=106,slow=14,SNR=4.5	**31.64**	**267**	P	P	08 22 59.2	-0.6
STKA	**Stephens Creek** 4.0nm,1.1s,baz=90,slow=10,SNR=4.7	**35.58**	**246**	P	P	08 23 31.0	-1.6
WRA	**Warramunga Arr** 0.8nm,0.2s,baz=96,slow=8.3,SNR=92	**42.69**	**264**	P	P	08 24 28.0	-2.1
FITZ	**Fitzroy Crossi** 2.3nm,0.5s,baz=327,slow=3.1,SNR=7.6	**51.12**	**264**	P	P	08 25 32.6	-1.3
TXAR	**Lajitas Array** 0.1nm,0.6s,baz=214,slow=4.5,SNR=3.8	**89.33**	**58**	P	P	08 29 17.2	-1.1

*TRN **30** 08:18:16.7, 11.65N×60.44W,h29km,MD3.7*
*FUNV **30** 08:18:16.5, 11.59N×60.29W,h80km,MW3.2*
*NEIC **30** 08:18:17.1, 11.77N×60.50W,h7km,MD3.7(TRN), After TRN.*

ISC 30 08:18:16.0±1.2,11.58N±0.05×60.44W±0.08,h78km±9km, n18,σ1⇕17/31,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOT	**Bacolet**	**0.49**	**214**	*e*P	**P**	**08 18 29.4**	**-0.1**
BOT				*e*S	**S**	**08 18 38.0**	**-1.6**
TPR	**Prospect**	**0.51**	**221**	*e*P	**P**	**08 18 29.9**	**+0.2**
TPR				*e*S	**S**	**08 18 38.7**	**-1.3**
TBH	**Brigand Hill**	**1.25**	**210**	*e*P	**P**	**08 18 44.6**	**+6.3**
TBH	**Brigand Hill**	**1.25**	**210**	*e*P	**P**	**08 18 41.2**	**+2.9**
TRN	**Trinidad (W)**	**1.32**	**226**	*e*P	**P**	**08 18 42.5**	**+3.1**
TRN				*e*S	**S**	**08 18 58.0**	**+1.2**
TRN	**Trinidad (W)**	**1.32**	**226**	*e*P	**P**	**08 18 41.1**	**+1.7**
TRN				*e*S	**S**	**08 18 58.0**	**+1.2**
GRW	**Mount Saint Ca**	**1.33**	**296**	*e*P	**P**	**08 18 40.2**	**+0.6**
GRW				*e*S	**S**	**08 18 58.0**	**+0.9**
TPP	**Pointe-a-Pierr**	**1.60**	**219**	*e*P	**P**	**08 18 51.7**	**+8.7**
TPP	**Pointe-a-Pierr**	**1.60**	**219**	*e*P	**P**	**08 18 46.0**	**+2.9**
SVB	**Belmont**	**1.86**	**335**	*e*P	**P**	**08 18 46.9**	**+0.4**
SVB				*e*S	**S**	**08 19 08.7**	**-0.4**
GUIV	**Guiria**	**1.98**	**242**	*e*P	**P**	**08 18 49.2**	**+1.0**
GUIV				*e*S	**S**	**08 19 13.3**	**+1.4**
ITEV	**Isla Los Testi**	**2.65**	**266**	*e*P	**P**	**08 18 57.7**	**+0.1**
ITEV				*e*S	**S**	**08 19 28.8**	**+0.2**
CRUV	**Carupano**	**2.89**	**252**	*e*P	**P**	**08 19 01.3**	**+0.4**
CRUV				*e*S	**S**	**08 19 34.1**	**-0.5**
PCRV	**Puerto La Cruz**	**4.35**	**252**	*e*P	**P**	**08 19 20.8**	**-0.4**
PCRV				*e*S	**S**	**08 20 08.1**	**-3.0**
LZG	**Guadaloupe-1**	**4.72**	**344**	*e*P	**P**	**08 19 26.0**	**-0.3**
LZG				*e*S	**S**	**08 20 15.3**	**-4.9**
ORCV	**Isla La Orchil**	**5.65**	**273**	*e*P	**P**	**08 19 38.6**	**-0.4**
MERV	**Las Mercedes**	**6.21**	**249**	*e*P	**P**	**08 19 45.3**	**-1.5**
MERV				*e*S	**S**	**08 20 52.1**	**-5.0**
CAOV	**Caicara del Or**	**7.18**	**234**	*e*P	**P**	**08 19 58.4**	**-1.9**
CAOV				*e*S	**S**	**08 21 13.3**	**-7.7**

*IDC **30** 08:20:03.3±1.1,33.14N×142.65E,mb3.7/5,mb1 3.9/9, mb1mx3.7/23,mbtmp3.8/9,ML3.9/3,Error ellipse: s-maj=24.3km s-min=22.3km az=54.0*
*JMA **30** 08:20:06.5±0.5,33.27N×142.35E,h7km,M3.8*
*NEIC **30** 08:20:08.8±1.1,33.16N×142.57E,h40km,MG3.8(JMA), Error ellipse: s-maj=21.1km s-min=18.1km az=217.0*

ISC 30 08:20:05.7±1.9,33.07N±0.05×142.52E±0.07,h32km±16km, n24,σ1⇕04/30,mb3.9/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.03**	**321**	P	**Pn**	**08 20 38.4**	**0.0**
JHJ2	**Mitsune**	**2.27**	**272**	P	**Pn**	**08 20 43.5**	**+1.7**
JHJ	**Hachijo jima 2** 31nm,0.3s,baz=153,slow=9.9,SNR=33	**2.30**	**272**	Pn	**Pn**	**08 20 43.4**	**+1.2**
JHJ	31nm,0.3s,baz=238,slow=22,SNR=5.6			Sn	**Sn**	**08 21 10.2**	**+0.5**
BSO3	**Boso 3**	**2.40**	**316**	P	**Pn**	**08 20 44.0**	**+0.3**
BSO4	**Boso 4**	**2.63**	**317**	P	**Pn**	**08 20 47.8**	**+0.8**
JIM2	**Oshima 3**	**3.05**	**303**	P	**Pn**	**08 20 52.4**	**-0.5**
JIZS	**Izushimoda**	**3.44**	**299**	P	**Pn**	**08 20 58.9**	**+0.4**
JOD2	**Odawara 2**	**3.59**	**308**	P	**Pn**	**08 20 59.8**	**-0.8**
JYN	**Shimob**	**4.08**	**307**	P	**Pn**	**08 21 07.4**	**-0.2**
JYN				S	**Sn**	**08 21 54.8**	**-0.1**
JRY	**Ryogami san**	**4.19**	**316**	P	**Pn**	**08 21 09.0**	**-0.1**
JAG	**Ashikaga**	**4.19**	**324**	P	**Pn**	**08 21 08.6**	**-0.5**
MJAR	**Matsushiro Arr** 3.7nm,0.3s,baz=160,slow=14,SNR=30	**4.95**	**316**	Pn	**Pn**	**08 21 19.7**	**-0.2**
MAT	**Matsushiro**	**4.96**	**316**	P	**Pn**	**08 21 20.2**	**+0.2**
MAT				S	**Sn**	**08 22 15.1**	**-1.8**
MAT	**Matsushiro**	**4.96**	**316**	P	**Pn**	**08 21 20.1**	**+0.1**
JMM	**Marumori**	**4.99**	**344**	P	**Pn**	**08 21 17.5**	**-2.9**
JMM				S	**Sn**	**08 22 08.9**	**-8.8**
JGM	**Miyama**	**5.46**	**300**	P	**Pn**	**08 21 28.3**	**+1.2**
CBIJ	**Chichi jima** 15nm,0.3s,baz=265,slow=23,SNR=59	**5.96**	**183**	Pn	**Pn**	**08 21 33.8**	**-0.4**
CBIJ	8.5nm,0.3s,baz=344,slow=20,SNR=2.9			Sn	**Sn**	**08 22 39.9**	**-2.3**
JNU	**Nakatsue** baz=61,slow=36,SNR=1.4	**9.77**	**273**	Pn	**P**	**08 22 26.4**	**-0.7**
JNU	0.9nm,0.3s,baz=65,slow=28,SNR=10.0			Sn	**Sn**	**08 24 15.8**	**-1.0**
SONM	**Songino Array** 1.3nm,0.7s,mb3.9,baz=113,slow=8.5,SNR=13	**30.87**	**309**	P	**P**	**08 26 21.8**	**+0.6**
MKAR	**Makanchi Array** 1.6nm,0.7s,mb4.0,baz=90,slow=7.3,SNR=18	**47.07**	**305**	P	**P**	**08 28 36.9**	**+0.7**
KURK	**Kurchatov** 8.5nm,0.7s,mb4.9	**49.15**	**311**	*e*P	**P**	**08 28 53.6**	**+1.4**
ILAR	**Eielson Array** 0.1nm,0.5s,mb3.0,baz=207,slow=6.0,SNR=3.3	**52.39**	**31**	P	**P**	**08 29 15.2**	**-1.5**
WRA	**Warramunga Arr** 0.6nm,0.7s,mb3.6,baz=8.7,slow=7.6,SNR=6.6	**53.29**	**190**	P	**P**	**08 29 24.5**	**+0.5**
TXAR	**Lajitas Array** 0.2nm,0.6s,mb3.7,SNR=4.6	**91.80**	**53**	P	**P**	**08 33 13.9**	**+2.1**

*MOS **30** 08:20:54.0±1.6,1.84S×69.11E,h10km,mb4.8/4,Error ellipse: s-maj=16.0km s-min=11.2km az=97.5*
*IDC **30** 08:20:55.6±0.6,1.69S×68.88E,mb4.1/18,mb1 4.2/18, mb1mx4.2/22,mbtmp4.1/18,MS3.7/10,Ms1 3.7/10, ms1mx3.6/18,Error ellipse: s-maj=17.5km s-min=16.0km az=157.0*
*NEIC **30** 08:20:56.9±0.4,1.77S×69.07E,h10km,mb4.5/4,Error ellipse: s-maj=13.1km s-min=10.6km az=100.0*

ISC 30 08:20:55.2±0.4,1.63S±0.07×68.99E±0.08,h10km, (h7km±.5km:pP-P),n63,σ1⇕29/44,mb4.2/23,MS3.7/10,5C, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**6.70**	**149**	*e*P	**Pn**	**08 22 31.2**	**-5.0**
DGAR	comp=Z,192nm,0.3s			pmax	pmax		
DGAR	**Diego Garcia** comp=Z,192nm,0.3s	**6.70**	**149**	*e*Pn	**Pn**	**08 22 31.2**	**-5.0**
PALK	**Pallekele**	**14.65**	**53**	*e*Pn	**P**	**08 24 23.8**	**-0.8**
PALK				*e*Sn	**S**	**08 26 52.8**	**-15**
ATD	**Arta Tunnel** comp=Z,101nm,18.0s,MS3.5,baz=221,slow=33	**29.09**	**297**	LR	LR	08 37 05.8	
KMBO	**Kilima Mbogo** comp=Z,3.4nm,0.9s,mb4.2,baz=62,slow=14,SNR=6.5	**31.74**	**270**	P	**P**	**08 27 19.1**	**-2.9**
KMBO	comp=Z,148nm,21.5s,MS3.6,baz=274,slow=31			LR	LR	08 37 20.7	
LSZ	**Lusaka**	**42.47**	**249**	*e*P	**P**	**08 28 52.4**	**-0.1**
LSZ				*e*		08 29 01.0	
LSZ	comp=Z,8.0nm,1.0s,mb4.3			pmax	pmax		
LSZ	**Lusaka** comp=Z,8.3nm,1.0s,mb4.3	**42.47**	**249**	*e*P	**P**	**08 28 52.4**	**-0.1**
LSZ				*e*		08 29 01.0	
MATP	**Matopo** comp=Z,8.1nm,0.9s,mb4.5,baz=64,slow=8.6,SNR=14	**43.72**	**242**	P	**P**	**08 29 02.8**	**+0.1**
GNI	**Garni**	**47.12**	**335**	*e*P	**P**	**08 29 32.0**	**+2.5**
GNI	comp=Z,18nm,1.0s			pmax	pmax		
GNI	**Garni** comp=Z,18nm,1.0s,mb5.0	**47.12**	**335**	*e*P	**P**	**08 29 32.0**	**+2.5**
LBTB	**Lobatse** comp=Z,4.6nm,0.9s,mb4.5,baz=183,slow=4.4,SNR=5.1	**47.87**	**237**	P	**P**	**08 29 34.2**	**-1.4**
LBTB	**Lobatse**	**47.87**	**237**	P	**P**	**08 29 34.2**	**-1.4**
BOSA	**Boshof** comp=Z,4.0nm,0.8s,mb4.5,baz=46,slow=6.9,SNR=13	**49.58**	**233**	P	**P**	**08 29 48.0**	**-0.8**
BOSA	comp=Z,104nm,18.9s,MS3.9,baz=83,slow=36			LR	LR	08 50 39.3	
BOSA	**Boshof**	**49.58**	**233**	*e*P	**P**	**08 29 47.3**	**-1.4**
BOSA				*e*		08 29 55.9	
MKAR	**Makanchi Array** comp=Z,0.9nm,0.8s,mb3.9,baz=198,slow=7.7,SNR=4.2	**49.62**	**12**	P	**P**	**08 29 47.8**	**-1.0**
MKAR	comp=Z,0.9nm,0.8s,baz=256,slow=5.0,SNR=3.8			PcP	PcP	08 31 11.9	+1.3
MKAR	comp=Z,55nm,20.0s,MS3.5,baz=189,slow=37			LR	LR	08 51 50.8	
MKAR	**Makanchi Array**	**49.62**	**12**	P	**P**	**08 29 47.8**	**-1.0**
MKAR				PcP	PcP	08 31 11.9	+1.3
MKAR				LR	LR	08 51 50.8	
BRTR	**Keskin Array B** comp=Z,0.7nm,0.4s,mb3.9,baz=117,slow=5.5,SNR=7.8	**52.35**	**326**	P	**P**	**08 30 08.3**	**-1.4**
KURK	**Kurchatov**	**52.79**	**8**	*e*P	**P**	**08 30 12.2**	**-0.6**
KURK	comp=Z,10.0nm,1.3s,mb4.6			pmax	pmax		
KURK	**Kurchatov** comp=Z,10nm,1.3s,mb4.6	**52.79**	**8**	*e*P	**P**	**08 30 12.2**	**-0.6**
BVAR	**Borovoye Array** comp=Z,1.0nm,0.8s,mb3.8,baz=194,slow=6.1,SNR=4.6	**54.47**	**1**	P	**P**	**08 30 25.9**	**+0.8**
ZAL	**Zalesovo** comp=Z,1.4nm,0.6s,mb4.2,baz=253,slow=8.2,SNR=6.3	**56.91**	**11**	P	**P**	**08 30 41.4**	**-1.4**
FITZ	**Fitzroy Crossi** comp=Z,8.7nm,1.0s,mb4.7,baz=211,slow=5.9,SNR=2.3	**57.90**	**110**	P	**P**	**08 30 51.0**	**+0.8**
ARU	**Arti**	**58.49**	**353**	*e*P	**P**	**08 30 52.6**	**-1.2**
SONM	**Songino Array** comp=Z,2.3nm,1.0s,mb4.2,baz=220,slow=6.3,SNR=12	**59.06**	**28**	P	**P**	**08 30 58.1**	**+0.2**
ZAK	**Zakamensk**	**59.53**	**25**	*e*P	**P**	**08 30 57.0**	**-4.1**
ZAK	comp=Z,1.0nm,1.1s,mb3.8			pmax	pmax		
AKASG	**Malin Array Be** comp=Z,0.5nm,0.3s,mb4.1,baz=122,slow=5.8,SNR=5.1	**62.17**	**333**	P	**P**	**08 31 18.6**	**-0.6**
MAW	**Mawson** comp=Z,102nm,21.1s,MS4.0,baz=249,slow=30	**65.99**	**183**	LR	LR	08 53 36.3	
WRA	**Warramunga Arr** comp=Z,1.2nm,0.5s,mb4.2,baz=288,slow=5.9,SNR=13	**66.31**	**111**	⇑*i*P	**P**	**08 31 43.5**	**-3.1**
GERES	**GERESS Array B** comp=Z,33nm,18.2s,MS3.6,baz=161,slow=36	**69.22**	**324**	LR	LR	09 02 23.7	
BOD	**Bodaibo**	**69.24**	**24**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.27**	**154**	P	P	08 31 42.9	-1.9
	1.7nm,0.5s,baz=334,slow=9.7,SNR=17						
SONM	**Songino Array**	**45.09**	**345**	P	P	08 34 14.7	-1.6
	0.2nm,0.5s,baz=143,slow=7.2,SNR=2.3						
MKAR	**Makanchi Array**	**54.17**	**327**	P	P	08 35 23.6	-2.3
	0.7nm,0.3s,baz=121,slow=7.9,SNR=17						
MKAR				pP	pP	08 35 38.5	+13
	0.3nm,0.3s,baz=120,slow=8.0,SNR=5.9						

*CSEM **30** 08:44:07.2±0.2,30.79N×57.04E,h20km,ML2.9,Error ellipse: s-maj=6.5km s-min=3.5km az=57.0*
*TEH **30** 08:44:10.9,30.90N×57.03E,h18km,Mn3.0*
*THR **30** 08:44:11.6±1.1,30.33N×57.34E,h14km±13km,ML2.9*
ISC 30 08:44:08.0±1.0,30.68N±0.04×57.10E±0.08,h14km,n15, σ1§49/19**,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.75**	**203**	*e*Pg	**Pg**	**08 44 22.9**	**-0.3**
KRBR				*e*Sg	**Sg**	**08 44 32.6**	**-0.8**
KRBR				AML	AML	08 44 46.7	
	comp=N,511nm,0.6s						
IBAF	**Bafgh**	**1.60**	**305**	Pg	**Pg**	**08 44 34.4**	**-5.7**
IMEH	**Mehriz**	**2.25**	**289**	Pn	**Pn**	**08 44 45.4**	**0.0**
ICHK	**Chekchek**	**2.78**	**305**	Pn	**Pn**	**08 44 51.7**	**-1.3**
ZHSF	**Zahedan**	**3.35**	**108**	*e*Pn	**Pn**	**08 45 01.8**	**+0.8**
BNDS	**Bandar-Abbas**	**3.37**	**194**	*e*Pn	**Pn**	**08 45 02.5**	**+1.2**
BNDS				*e*Sg	**Sb**	**08 45 48.0**	**0.0**
BNDS				AML	AML	08 46 07.2	
	comp=N,24nm,0.6s						
BNDS	**Bandar-Abbas**	**3.37**	**194**	*e*Pn	**Pn**	**08 45 02.5**	**+1.2**
	SNR=52						
BNDS				*e*Sg	**Sb**	**08 45 48.0**	**0.0**
	comp=N,24nm,0.6s,SNR=90						
IPAR	**Pars**	**3.61**	**258**	Pn	**Pn**	**08 45 13.1**	**+8.4**
ISRV	**Sarvestan**	**3.69**	**251**	Pn	**Pn**	**08 45 09.5**	**+3.6**
NASN	**Na'in**	**4.23**	**301**	*e*Pn	**Pb**	**08 45 22.5**	**+0.8**
NASN				Sn	**Sb**	**08 46 15.3**	**+2.3**
NASN				AML	AML	08 46 30.8	
	comp=N,16nm,0.6s						
NASN	**Na'in**	**4.23**	**301**	*e*Pn	**Pb**	**08 45 22.5**	**+0.7**
	SNR=52						
NASN				Sn	**Sb**	**08 46 15.3**	**+2.3**
	comp=N,16nm,0.6s,SNR=52						
GHIR	**Ghir-Karzin**	**4.31**	**237**	*e*Pn	**Pn**	**08 45 19.6**	**+4.9**
IVRN	**Varamin**	**6.25**	**315**	Lg		08 47 19.2	
IVRN	**Varamin**	**6.25**	**315**	Pn	**Pn**	**08 45 38.6**	**-3.4**
IDMV	**Damavand**	**6.48**	**320**	Pn	**Pn**	**08 45 41.7**	**-3.6**

*MOS **30** 08:49:51.7±0.8,40.33N×142.02E,h38km,mb5.0/30,Error ellipse: s-maj=13.5km s-min=6.5km az=105.4*
*JMA **30** 08:49:53.4±0.1,40.08N×142.12E,h47km±1km,M4.4 Broadband fault plane solution: P waves. NP1:φs181°, δ18°,λ66°. NP2:φs26°,δ73°,λ98°. Principal axes: T Plg61°, Azm307°; N Plg7°, Azm204°; P Plg28°, Azm110°; JMA Felt III J1.*
*BJI **30** 08:49:54.1,39.92N×141.95E,h78km,mB4.8,mb4.8, Ms4.2,Msz3.8*
*IDC **30** 08:49:55.0±2.8,40.04N×142.00E,h70km±26km,mb3.9/14, mb1 4.1/18,mb1mx4.0/25,mbtmp4.3/18,MS3.5/6, Ms1 3.5/6,ms1mx3.1/27,Error ellipse: s-maj=20.2km s-min=15.9km az=89.0*
*NEIC **30** 08:49:56.6±1.0,40.00N×141.98E,h81km±8km,mb4.7/28, MW4.3(NIED),Error ellipse: s-maj=9.1km s-min=7.3km az=88.0*
NEIC Felt at Ichinohe and Misawa. Recorded [3 JMA] in Aomori and Iwate; [1 JMA] in Miyagi Prefectures.
*NIED **30** 08:50:00,40.10N×142.10E,h53km,Mw4.3 Best double couple: M03.08×10^15 NP1:φs23°,δ70°,λ94°. NP2:φs192°, δ21°,λ80°.*
ISC 30 08:49:52.2±0.5,40.07N±0.04×142.14E±0.06,h55km±3km, n165,σ0§95/158,mb4.7/51,MS3.6/9,7C-8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.25**	**238**	⇑P	**P**	**08 50 01.9**	**+0.5**
JTH				S	**S**	**08 50 07.8**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.55**	**207**	P	**P**	**08 50 04.9**	**+0.5**
JANG	**Nango**	**0.57**	**302**	⇓P	**P**	**08 50 05.0**	**+0.5**
JANG				S	**S**	**08 50 13.1**	**-0.5**
JKZ	**Kuzumaki**	**0.63**	**262**	⇓P	**P**	**08 50 06.0**	**+0.7**
JKZ				S	**S**	**08 50 15.0**	**0.0**
JOM	**Ohasama**	**0.89**	**228**	⇓P	**P**	**08 50 09.2**	**+0.6**
JOM				S	**S**	**08 50 20.6**	**-0.3**
JTM	**Tenmabayashi**	**1.09**	**311**	⇓P	**P**	**08 50 12.0**	**+0.5**
JTM				S	**S**	**08 50 25.5**	**-0.2**
JAH	**Hinai**	**1.16**	**276**	⇓P	**P**	**08 50 13.2**	**+0.8**
JAH				S	**S**	**08 50 27.4**	**-0.1**
MAO	**Matsushiro**	**4.69**	**223**	*e*P	**P**	**08 51 11.2**	**+9.0**
MAT	**Matsushiro**	**4.69**	**223**	P	**P**	**08 51 03.1**	**+0.9**
MAT				S	**S**	**08 51 56.3**	**+0.4**
MJAR	**Matsushiro Arr**	**4.69**	**222**	P	**P**	**08 51 03.5**	**+1.3**
	6.2nm,0.3s,baz=35,slow=14,SNR=158						
YUK	**Yuzh-Kuril'sk**	**4.83**	**34**	*e*P	**P**	**08 51 02.0**	**-2.2**
YUK				*i* S	**S**	**08 51 54.7**	**-4.8**
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,740nm,0.5s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
KUR	**Kuril'sk**	**6.66**	**37**	*e*P	**P**	**08 51 25.5**	**-4.3**
KUR				*e*S	**S**	**08 52 34.5**	**-11**
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				smax			
	comp=N,80nm,0.6s						
KUR				smax			
	comp=E,80nm,0.6s						
YSS	**Yuzh-Sakhalins**	**6.89**	**4**	*e*P	**P**	**08 51 32.0**	**-1.0**
YSS				*e*S	**S**	**08 52 47.5**	**-3.3**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax			
	comp=N,40nm,1.1s						
JHJ	**Hachijo jima 2**	**7.19**	**196**	P	**P**	**08 51 35.0**	**-2.1**
	comp=N,14nm,0.3s,baz=40,slow=23,SNR=12						
JHJ				S	**S**	**08 52 52.6**	**-5.7**
	comp=N,22nm,0.3s,baz=81,slow=23,SNR=4.0						
MDJ	**Mudanjiang**	**10.34**	**300**	P	**P**	**08 52 22.0**	**+1.7**
MDJ				S	**S**	**08 54 22.8**	**+7.1**
MDJ				PCP	PcP	08 58 25.0	+1.7
MDJ				PCS		09 02 00.0	
MDJ				AMB	AMB		
	comp=Z,37nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,56nm,3.6s						
MDJ	**Mudanjiang**	**10.34**	**300**	*e*P	**P**	**08 52 22.1**	**+1.8**
	comp=Z,41nm,1.1s						
JNU	**Nakatsue**	**11.40**	**236**	P	**P**	**08 52 34.2**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=61,slow=15,SNR=4.2						
KS15	**Wonju Array Si**	**11.44**	**261**	*e*P	**P**	**08 52 39.0**	**+3.7**
KS15				Sn	**S**	**08 54 44.2**	**+1.8**
CBIJ	**Chichi jima**	**12.94**	**180**	P	**P**	**08 52 50.9**	**-4.5**
	comp=Z,2.0nm,0.3s,baz=275,slow=21,SNR=2.2						
CBIJ				S	**S**	**08 55 06.9**	**-12**
	comp=Z,3.4nm,0.3s,baz=272,slow=21,SNR=3.4						
JOW	**Kunigami**	**17.53**	**225**	P	**P**	**08 53 51.3**	**-2.9**
	comp=Z,0.9nm,0.3s,baz=109,slow=20,SNR=6.6						
SSE	**Sheshan**	**19.22**	**249**	P	**P**	**08 54 10.5**	**-3.9**
SSE				AMB	AMB		
	comp=Z,19nm,0.9s						
SSE				AMB	AMB		
	comp=Z,107nm,5.1s						
SSE	**Sheshan**	**19.22**	**249**	P	**P**	**08 54 10.5**	**-3.9**
	comp=Z,19nm,0.9s						
NJ2	**Nanjing**	**20.42**	**254**	*e*P	**P**	**08 54 26.3**	**-0.9**
NJ2				PP	PP	08 54 46.5	-2.5
NJ2				S	**S**	**08 58 06.0**	**-1.8**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,160nm,6.4s						
NJ2				LR	LR		
	comp=N,530nm,14.9s,MS4.1						
NJ2				LR	LR		
	comp=E,290nm,16.6s,MS4.1						
NJ2				LR	LR		
	comp=Z,270nm,14.9s,MS3.7						
YAK	**Yakutsk**	**23.26**	**345**	*e*P	**P**	**08 54 52.9**	**-2.2**
YAK				*e*S	**S**	**08 59 03.8**	**+4.3**
YAK				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.5						
YAK				pmax	pmax		
	comp=N,9.0nm,1.1s						
YAK				smax			
	comp=N,5.0nm,1.0s						
YAK	**Yakutsk**	**23.26**	**345**	*i* P	**P**	**08 54 54.9**	**-0.2**
YAK				pmax	pmax		
	comp=Z,28nm,0.7s,mb4.8						
BOD	**Bodaibo**	**25.34**	**324**	*e*P	**P**	**08 55 13.6**	**-1.6**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
SONM	**Songino Array**	**26.69**	**299**	P	**P**	**08 55 26.7**	**-1.1**
	comp=Z,2.7nm,0.5s,mb4.0,baz=87,slow=8.5,SNR=30						
SONM				LR	LR	09 06 24.4	
	comp=Z,69nm,19.4s,MS3.2,baz=348,slow=37						
BILL	**Bilibino**	**30.96**	**17**	*e*P	**P**	**08 56 08.2**	**+2.3**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.5						
GTA	**Gaotai**	**32.33**	**283**	P	**P**	**08 56 18.3**	**+0.1**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.3						
GYA	**Guiyang**	**32.40**	**256**	P	**P**	**08 56 17.3**	**-1.6**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
NVS	**Novosibirsk**	**41.21**	**311**	*e*P	**P**	**08 57 31.8**	**-1.1**
NVS				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**43.05**	**300**	P	**P**	**08 57 47.1**	**-0.9**
	comp=Z,4.0nm,0.6s,mb4.3,baz=85,slow=9.7,SNR=44						
MKAR				PcP	PcP	08 59 36.9	-1.0
	comp=Z,1.1nm,0.7s,baz=90,slow=2.9,SNR=3.5						
MKAR				LR	LR	09 15 33.8	
	comp=Z,54nm,19.7s,MS3.5,baz=2.6,slow=36						
IMA	**Indian Mountai**	**43.80**	**32**	*e*P	**P**	**08 57 55.9**	**+2.1**
IMA				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.8						
IMA	**Indian Mountai**	**43.80**	**32**	*e*P	**P**	**08 57 55.9**	**+2.1**
	comp=Z,12nm,0.6s,mb4.8						
KURK	**Kurchatov**	**44.56**	**306**	*e*P	**P**	**08 57 59.4**	**-0.7**
KURK				*e*		08 59 41.5	
KURK				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.9						
KURK	**Kurchatov**	**44.56**	**306**	*e*P	**P**	**08 57 59.4**	**-0.7**
	comp=Z,8.7nm,0.5s,mb4.8						
KURK				*e*PcP	PcP	08 59 41.5	-1.4
ILAR	**Eielson Array**	**46.64**	**34**	P	**P**	**08 58 16.4**	**-0.1**
	comp=Z,1.5nm,0.7s,mb4.0,baz=265,slow=5.9,SNR=17						
JIRN	**Jiri**	**47.38**	**273**	*e*P	**P**	**08 58 23.0**	**+0.3**
	comp=Z,22nm,0.6s,mb5.2						
GUN	**Gumba**	**47.49**	**273**	*e*P	**P**	**08 58 23.4**	**-0.2**
KKN	**Kakani**	**48.01**	**273**	*e*P	**P**	**08 58 26.9**	**-0.8**
	comp=Z,55nm,0.7s,mb5.7						
PKI	**Pulchoki**	**48.02**	**273**	*e*P	**P**	**08 58 27.1**	**-0.6**
DMN	**Daman**	**48.23**	**273**	*e*P	**P**	**08 58 29.3**	**-0.1**
GKN	**Gorkha**	**48.39**	**274**	*e*P	**P**	**08 58 30.1**	**-0.5**
	comp=Z,12nm,0.3s,mb5.4						
BRVK	**Borovoye**	**49.05**	**311**	*e*P	**P**	**08 58 34.7**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BRVK	**Borovoye**	**49.05**	**311**	*e*P	**P**	**08 58 34.7**	**-0.6**
	comp=Z,1.3nm,0.5s,mb4.2						
KOLN	**Koldanda**	**49.30**	**274**	*e*P	**P**	**08 58 37.3**	**-0.4**
	comp=Z,12nm,0.4s,mb5.2						
AAK	**Ala-Archa**	**49.60**	**296**	⇓*e*P	**P**	**08 58 39.0**	**-0.8**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
AAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.9						
INK	**Inuvik**	**51.44**	**28**	P	**P**	**08 58 53.5**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.2,baz=248,slow=4.7,SNR=4.7						
ARU	**Arti**	**54.49**	**317**	⇑*i* P	**P**	**08 59 15.2**	**-1.0**
ARU				*e*		09 00 14.9	
ARU				*e*		09 01 14.8	
ARU				*e*S	**S**	**09 06 53.6**	**+4.3**
ARU				*e*SS	SS	09 10 34.6	+2.7
ARU				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**59.88**	**198**	P	**P**	**08 59 53.1**	**-1.7**
	comp=Z,4.9nm,0.9s,mb4.5,baz=45,slow=1.4						
WRA	**Warramunga Arr**	**60.14**	**188**	P	**P**	**08 59 54.7**	**-1.9**
	comp=Z,2.3nm,0.7s,mb4.3,baz=6.2,slow=6.9,SNR=48						
KEV	**Kevo**	**60.81**	**339**	*ep*	**P**	**08 59 56.7**	**-3.8**
ARCES	**ARCESS Array B**	**61.36**	**339**	P	**P**	**09 00 01.9**	**-2.3**
	comp=Z,1.0nm,0.3s,mb4.4,baz=54,slow=7.9,SNR=12						
ARCES				LR	LR	09 29 20.2	
	comp=Z,34nm,20.9s,MS3.5,baz=249,slow=38						
KAF	**Kangasniemi**	**65.88**	**332**	*ep*	**P**	**09 00 32.1**	**-1.6**
	comp=Z,3.6nm,0.6s,mb4.6,baz=47,slow=6.1						
KAF	**Kangasniemi**	**65.88**	**332**	*e*P	**P**	**09 00 32.1**	**-1.6**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
OBN	**Obninsk**	**66.02**	**323**	*e*P	**P**	**09 00 34.3**	**-0.4**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
FINES	**FINESS Array B**	**66.40**	**332**	P	**P**	**09 00 36.0**	**-1.1**
	comp=Z,6.1nm,0.7s,mb4.7,baz=72,slow=6.0,SNR=27						
FINES				LR	LR	09 31 32.6	
	comp=Z,44nm,19.6s,MS3.7,baz=116,slow=38						
FINES	**FINESS Array B**	**66.40**	**332**	P	**P**	**09 00 36.0**	**-1.1**
FINES				LR	LR	09 31 32.6	
KIV	**Kislovodsk**	**69.36**	**310**	*e*P	**P**	**09 00 56.1**	**+0.3**
KIV				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
KIV	**Kislovodsk**	**69.36**	**310**	*e*P	**P**	**09 00 56.1**	**+0.3**
	comp=Z,20nm,0.8s,mb5.1						
GNI	**Garni**	**70.36**	**306**	*i* P	**P**	**09 01 08.0**	**+6.0**
NB2	**NORSAR Subarra**	**71.61**	**337**	P	**P**	**09 01 08.7**	**-0.4**
	comp=Z,5.0nm,0.7s,mb4.5,baz=37,slow=6.2						
NB2	**NORSAR Subarra**	**71.61**	**337**	P	**P**	**09 01 08.7**	**-0.4**
NB2				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
NOA	**NORSAR Array B**	**71.61**	**337**	P	**P**	**09 01 08.2**	**-0.9**
	comp=Z,5.3nm,0.8s,mb4.5,baz=38,slow=6.1,SNR=24						
NOA				LR	LR	09 34 41.5	
	comp=Z,22nm,20.3s,MS3.4,baz=30,slow=38						
AKASG	**Malin Array Be**	**72.25**	**322**	P	**P**	**09 01 11.9**	**-1.2**
	comp=Z,5.1nm,0.6s,mb4.7,baz=42,slow=5.9,SNR=15						
KBD	**Kabd**	**74.99**	**295**	*e*P	**P**	**09 01 28.4**	**-1.0**
QRN	**Al-Qurain**	**75.10**	**295**	*e*P	**P**	**09 01 29.0**	**-1.1**
QRN				AMb	AMb	09 01 29.7	
	comp=Z,27nm,0.2s,mb5.7						
PDAR	**Pinedale Array**	**75.15**	**46**	P	**P**	**09 01 31.4**	**+1.3**
	comp=Z,1.3nm,0.4s,baz=228,slow=1.5,SNR=4.3						
RDF	**Al-Radifah**	**75.25**	**295**	*e*P	**P**	**09 01 30.8**	**-0.1**
RDF				AMb	AMb	09 01 31.4	
	comp=Z,18nm,0.5s,mb5.2						
BURAR	**Bucovina Array**	**76.29**	**322**	⇑P	**P**	**09 01 36.8**	**+0.4**
BURAR	**Bucovina Array**	**76.29**	**322**	⇑P	**P**	**09 01 36.8**	**+0.4**
CFR	**Carcaliu**	**76.56**	**318**	⇓P	**P**	**09 01 38.3**	**+0.3**
KOLS	**Kolonicke sedl**	**76.70**	**324**	*e*P	**P**	**09 01 39.2**	**+0.4**
OJC	**Ojcow**	**76.84**	**326**	*e*P	**P**	**09 01 40.0**	**+0.5**
BRTR	**Keskin Array B**	**77.27**	**311**	P	**P**	**09 01 42.5**	**+0.4**
	comp=Z,1.9nm,0.6s,mb4.2,baz=90,slow=3.8,SNR=7.4						
MLR	**Muntele Rosu**	**77.44**	**320**	⇓P	**P**	**09 01 44.0**	**+1.1**
BSEG	**Bad Segeberg**	**77.61**	**333**	*e*P	**P**	**09 01 44.2**	**+0.5**
KECS	**Kecovo**	**77.83**	**325**	*e*P	**P**	**09 01 44.1**	**-0.9**
MORC	**Moravsky Berou**	**78.13**	**327**	*e*P	**P**	**09 01 47.2**	**+0.6**
MORC				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
MORC	**Moravsky Berou**	**78.13**	**327**	*e*P	**P**	**09 01 47.2**	**+0.6**
	comp=Z,6.8nm,0.8s,mb4.6						
DPC	**Dobruska-Polom**	**78.19**	**328**	*e*P	**P**	**09 01 47.8**	**+0.8**
UPC	**Upice**	**78.20**	**328**	*e*P	**P**	**09 01 47.8**	**+0.8**
PV10	**Paradox Valley**	**78.36**	**49**	P	**P**	**09 01 49.1**	**+1.0**
PV10				*e*		09 01 57.0	
PV10				*e*pP	pP	09 02 09.1	+5.5
CLL	**Collm**	**78.75**	**330**	*i* P	**P**	**09 01 50.0**	**0.0**
CLL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
CLL	**Collm**	**78.75**	**330**	*i* P	**P**	**09 01 50.0**	**0.0**
	comp=Z,6.0nm,0.8s,mb4.6						
CLL	**Collm**	**78.75**	**330**	P	**P**	**09 01 50.0**	**0.0**
	comp=Z,logA/T=0.9,mb4.6						
PVCC	**Panska Ves**	**78.76**	**329**	*e*P	**P**	**09 01 50.9**	**+0.8**
PRU	**Pruhonice**	**79.19**	**329**	*e*P	**P**	**09 01 53.3**	**+0.8**
CLZ	**Clausthal**	**79.30**	**332**	*e*P	**P**	**09 01 53.6**	**+0.6**
CLZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
CLZ	**Clausthal**	**79.30**	**332**	*e*P	**P**	**09 01 53.6**	**+0.6**
	comp=Z,5.0nm,0.7s,mb4.5						
MOX	**Moxa**	**79.81**	**331**	*e*P	**P**	**09 01 56.0**	**+0.2**
KHC	**Kasperske Hory**	**80.25**	**329**	*e*P	**P**	**09 01 59.1**	**+0.9**
GEC2	**GERESS Array S**	**80.43**	**328**	*e*P	**P**	**09 01 59.4**	**+0.3**
GEC2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
GEC2	**GERESS Array S**	**80.43**	**328**	*e*P	**P**	**09 01 59.4**	**+0.3**
	comp=Z,2.0nm,0.6s,mb4.2						
GERES	**GERESS Array B**	**80.43**	**328**	P	**P**	**09 01 59.2**	**0.0**
	comp=Z,1.7nm,0.5s,mb4.3,baz=34,slow=4.8,SNR=16						
GERES				LR	LR	09 40 56.7	
	comp=Z,34nm,18.8s,MS3.7,baz=135,slow=38						
WET	**Wettzell**	**80.52**	**329**	*e*P	**P**	**09 02 00.3**	**+0.7**
WET				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
WET	**Wettzell**	**80.52**	**329**	*e*P	**P**	**09 02 00.3**	**+0.7**
	comp=Z,5.0nm,0.8s,mb4.5						
GRA1	**Grafenberg Arr**	**80.72**	**330**	*e*P	**P**	**09 02 01.6**	**+0.9**
	comp=Z,13nm,0.7s,mb5.0						
GRF	**Grafenberg Arr**	**80.72**	**330**	*e*P	**P**	**09 02 01.6**	**+0.9**
GRF				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
GRF	**Grafenberg Arr**	**80.72**	**330**	*e*P	**P**	**09 02 01.6**	**+0.9**
GRF				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
GRF	**Grafenberg Arr**	**80.72**	**330**	*e*P	**P**	**09 02 01.6**	**+0.9**
	comp=Z,13nm,0.7s,mb5.0						
TNS	**Taunus Mts**	**81.32**	**332**	*e*P	**P**	**09 02 04.3**	**+0.5**
TNS				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
TNS	**Taunus Mts**	**81.32**	**332**	*e*P	**P**	**09 02 04.3**	**+0.5**
	comp=Z,6.0nm,0.9s,mb4.5						
PERS	**Pernice**	**81.59**	**326**	*e*P	**P**	**09 02 05.8**	**+0.5**
LEGS	**Legarje**	**82.04**	**326**	*i* P	**P**	**09 02 07.6**	**0.0**
BFO	**Black Forest**	**82.93**	**331**	*e*P	**P**	**09 02 12.6**	**+0.5**
BFO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
BFO	**Black Forest**	**82.93**	**331**	*e*P	**P**	**09 02 12.6**	**+0.5**
	comp=Z,4.0nm,0.8s,mb4.5						
CDF	**Champ du Feu**	**83.25**	**332**	*e*P	**P**	**09 02 13.9**	**+0.2**
	comp=Z,10.0nm,0.8s,mb4.6						
CDF	**Champ du Feu**	**83.25**	**332**	*e*P	**P**	**09 02 13.9**	**+0.2**
CDF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
HINF	**Hinteralfeld**	**83.91**	**332**	*e*P	**P**	**09 02 16.8**	**-0.2**
HINF				*ep*P	sP	09 02 43.5	+4.9
HAU	**Haudompre**	**83.93**	**332**	*e*P	**P**	**09 02 17.1**	**0.0**
	comp=Z,9.8nm,0.8s,mb4.7						
HAU	**Haudompre**	**83.93**	**332**	*e*P	**P**	**09 02 17.1**	**0.0**
HAU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
LOR	**Lormes**	**85.44**	**333**	*e*P	**P**	**09 02 24.9**	**+0.2**
	comp=Z,16nm,0.8s,mb4.9						
LOR	**Lormes**	**85.44**	**333**	*e*P	**P**	**09 02 24.9**	**+0.2**
LOR				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
FLN	**La Foliniere**	**85.57**	**336**	*e*P	**P**	**09 02 25.3**	**+0.1**
	comp=Z,21nm,1.0s,mb5.0						
FLN	**La Foliniere**	**85.57**	**336**	*e*P	**P**	**09 02 25.3**	**+0.1**
FLN				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.0						
SSF	**Saint Saulge**	**85.75**	**333**	*e*P	**P**	**09 02 26.6**	**+0.5**
SSF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.8						
SSF	**Saint Saulge**	**85.75**	**333**	*e*P	**P**	**09 02 26.6**	**+0.5**
	comp=Z,3.5nm,0.6s,mb4.8						
LPL	**La Plagne**	**85.89**	**330**	*e*P	**P**	**09 02 27.7**	**+0.8**
	comp=Z,15nm,0.8s,mb5.0						
LPL	**La Plagne**	**85.89**	**330**	*e*P	**P**	**09 02 27.7**	**+0.8**
LPL				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.0						
LPG	**La Plagne**	**85.89**	**330**	*e*P	**P**	**09 02 27.8**	**+0.9**
	comp=Z,12nm,0.7s,mb5.0						
LPG				*ep*P	sP	09 02 52.9	+4.5
LPG	**La Plagne**	**85.89**	**330**	*e*P	**P**	**09 02 27.8**	**+0.9**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.9						
GRR	**Gorron**	**86.02**	**336**	*e*P	**P**	**09 02 27.9**	**+0.5**
	comp=Z,13nm,0.7s,mb5.0						
GRR	**Gorron**	**86.02**	**336**	*e*P	**P**	**09 02 27.9**	**+0.5**
GRR				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.9						
AVF	**Avril sur Loir**	**86.03**	**333**	*e*P	**P**	**09 02 28.0**	**+0.5**
	comp=Z,36nm,0.8s,mb5.4						
AVF	**Avril sur Loir**	**86.03**	**333**	*e*P	**P**	**09 02 28.0**	**+0.5**
AVF				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.3						
MBDF	**Montbardon**	**86.54**	**330**	*e*P	**P**	**09 02 30.0**	**-0.1**
SGMF	**Saint Gilles**	**86.65**	**337**	*e*P	**P**	**09 02 30.8**	**+0.3**
SGMF				*ep*P	sP	09 02 56.3	+4.2
ORIF	**Oris-en-Rattie**	**86.72**	**331**	*e*P	**P**	**09 02 31.7**	**+0.8**
ROSF	**Rostrenen**	**86.79**	**338**	*e*P	**P**	**09 02 31.3**	**+0.1**
	comp=Z,55nm,1.3s,mb5.3						
ROSF	**Rostrenen**	**86.79**	**338**	*e*P	**P**	**09

IDC 30 08:59:05.2±4.1,1.64N×97.70E,mb3.8/3,mb1 3.9/3, mb1mx3.6/17,mbtmp3.8/3,Error ellipse: s-maj=152.0km s-min=29.2km az=58.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.84**	**123**	P	P	09 06 57.1	-1.8
	0.6nm,0.7s,baz=303,slow=9.0,SNR=6.0						
SONM	**Songino Array**	**46.63**	**8**	P	P	09 07 35.9	-1.2
	1.4nm,0.7s,baz=188,slow=8.8,SNR=13						
MKAR	**Makanchi Array**	**46.95**	**346**	P	P	09 07 37.2	-2.4
	1.0nm,0.5s,baz=157,slow=8.5,SNR=18						

*IDC **30** 09:22:59.9±0.5,26.99S×175.81W,mb4.9/18,mb1 4.9/20, mb1mx4.9/20,mbtmp4.8/20,ML4.3/1,MS4.3/10,Ms1 4.3/10, ms1mx4.0/18, Error ellipse: s-maj=18.3km s-min=14.0km az=151.0*

*CSEM **30** 09:23:04.6,26.93S×175.77W,h33km,mb5.5*

*MOS **30** 09:23:05.3±1.1,27.03S×175.93W,h41km,mb5.4/19, Error ellipse: s-maj=14.9km s-min=11.0km az=49.9*

*HRVD **30** 09:23:05.8±0.3,26.99S×175.46W,h12km,MW5.0/58, Centroid moment Tensor Solution. LP body waves: s36,c47;Mantle waves: s58,c105; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr~3.49±.10; Mθθ0.03±.10; Mθφ3.46±.08; Mrθ~0.16±.33; Mφφ0.07±.08; Mφr~0.57±.27; Best double couple: M=3.525×10^16^ NP1: φs179°,δ40°,λ-94°. NP2:φs4°,δ50°,λ-87°. Principal axes: T 3.508, Plg5°, Azm91°; N .033, Plg2°, Azm182°; P -3.543, Plg85°, Azm299°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 09:23:05.8±0.1,27.09S×175.90W,mb5.2/46 Error ellipse: s-maj=7.3km s-min=4.7km az=145.0*

*BJI **30** 09:23:06.3,26.55S×175.73W,h36km,mB5.4, mb5.1, Ms5.2,Msz4.6*

ISC 30 09:23:04.6±0.2,27.09S±0.06×175.94W±0.06,h38km, h38km±.5km:pP-P,n258,σ0s94/148,mb5.1/63,MS4.4/15, 10C-14D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.77**	**219**	Pn	P	**09 23 48.7**	**+1.1**
	301nm,0.3s,baz=81,slow=22,SNR=13						
RAO				Sn	S	**09 24 24.6**	**+4.5**
	725nm,0.3s,baz=75,slow=23,SNR=14						
RAO	**Raoul Island**	**2.77**	**219**	*e*Pn	P	**09 23 48.7**	**+1.1**
PUZ	**Puketiti**	**11.99**	**203**	SN	S	**09 27 56.4**	**-13**
URZ	**Urewera**	**12.57**	**206**	Pn	P	**09 26 00.4**	**-3.2**
	1.7nm,0.3s,baz=93,slow=3.6,SNR=17						
URZ				Sn	S	**09 28 14.1**	**-9.2**
	5.7nm,0.3s,baz=152,slow=23,SNR=13						
AFI	**Afiamalu**	**13.68**	**17**	Pn	P	**09 26 07.8**	**-11**
	9.2nm,0.3s,baz=301,slow=6.6,SNR=4.9						
AFI				Sn	S	09 28 32.0	-18
	9.7nm,0.3s,baz=6.7,slow=18,SNR=4.9						
AFI	**Afiamalu**	**13.68**	**17**	*e*P	P	**09 26 08.1**	**-10**
	89nm,0.8s						
PWZ	**Pawanui**	**14.22**	**203**	SN	S	**09 28 48.4**	**-14**
MRZ	**Mangatainoka R**	**15.24**	**205**	*e*PN	P	**09 26 41.7**	**+3.0**
MRZ				SN	S	**09 29 12.1**	**-15**
RAR	**Rarotonga**	**15.87**	**72**	*e*P	P	**09 26 29.0**	**-18**
DZM	**Mont Dzumac**	**16.78**	**284**	*e*P	P	**09 26 59.6**	**+1.3**
DZM	**Mont Dzumac**	**16.78**	**284**	Pn	P	**09 27 01.6**	**+3.3**
	1.9nm,0.3s,baz=87,slow=14,SNR=14						
DZM				LR	LR	09 30 51.1	
	comp=Z,472nm,18.6s,baz=123,slow=28						
DZM	**Mont Dzumac**	**16.78**	**284**	*e*P	P	**09 26 59.6**	**+1.3**
NOUC	**Port Laguerre**	**16.89**	**283**	*e*P	P	**09 27 05.1**	**+5.4**
THZ	**Tophouse**	**17.26**	**209**	SN	S	**09 29 58.6**	**-15**
MQZ	**McQueen's Vall**	**18.98**	**206**	SN	S	**09 30 33.7**	**-18**
RPZ	**Rata Peaks**	**19.64**	**209**	P	P	**09 27 28.5**	**-4.3**
	1.5nm,0.3s,baz=73,slow=3.5,SNR=8.6						
RPZ				S	S	**09 30 57.8**	**-9.1**
	1.5nm,0.3s,baz=142,slow=21,SNR=5.8						
TBI	**Tubuai**	**24.23**	**87**	*e*LR	LR	09 33 40.7	
	2μm,27.5s,baz=255						
PPT	**Papeete**	**26.12**	**74**	*e*LR	LR	09 34 30.7	
	3μm,26.5s						
PPT	**Papeete**	**26.12**	**74**	P	P	**09 28 36.3**	**-0.6**
	32nm,0.8s,mb4.9,baz=222,slow=15,SNR=3.0						
PPT				LR	LR	09 36 45.2	
	comp=Z,703nm,20.1s,MS4.2,baz=207,slow=32						
HNR	**Honiara**	**28.77**	**303**	LR	LR	09 39 30.0	
	comp=Z,257nm,18.4s,MS3.9,baz=148,slow=34						
CTA	**Charters Tower**	**35.24**	**273**	⇑*i*P	P	**09 29 58.2**	**+0.6**
	21nm,0.7s,mb5.2						
CTA				*e*	pP	09 30 10.5	+2.1
CTA	**Charters Tower**	**35.24**	**273**	⇑*i*P	P	**09 29 58.2**	**+0.6**
CTA				*e*	pP	09 30 10.5	+2.1
CTA				pmax	pmax		
	comp=Z,21nm,0.7s						
CTA	**Charters Tower**	**35.24**	**273**	P	P	**09 29 58.0**	**+0.5**
	comp=Z,30nm,0.8s,mb5.3,baz=98,slow=10,SNR=26						
CTA				LR	LR	09 42 07.4	
	comp=Z,690nm,21.1s,MS4.4,baz=57,slow=32						
CTAO	**Charters Tower**	**35.24**	**273**	*e*P	P	**09 29 57.8**	**+0.2**
CTAO				*e*	pP	09 30 10.1	+1.7
CTAO				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.3						
CTAO	**Charters Tower**	**35.24**	**273**	*e*P	P	**09 29 57.8**	**+0.2**
	comp=Z,27nm,0.7s,mb5.3						
CTAO				*e*	pP	09 30 10.1	+1.7
STKA	**Stephens Creek**	**37.10**	**252**	*e*P	P	**09 30 13.9**	**+0.7**
	comp=Z,2.7nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**37.10**	**252**	P	P	**09 30 14.2**	**+1.0**
	comp=Z,3.9nm,0.5s,mb4.5,baz=101,slow=11,SNR=15						
RKT	**Rikitea**	**37.19**	**93**	*e*LR	LR	09 39 40.0	
	comp=Z,1μm,28.5s						
PMG	**Port Moresby**	**39.01**	**290**	⇑*e*P	P	**09 30 30.0**	**+0.7**
PMG	**Port Moresby**	**39.01**	**290**	P	P	**09 30 29.3**	**+0.1**
	comp=Z,21nm,1.2s,mb4.8,baz=67,slow=10,SNR=3.6						
PMG				LR	LR	09 43 32.0	
	comp=Z,425nm,20.0s,MS4.3,baz=112,slow=32						
WB2	**Warramunga Arr**	**45.90**	**268**	⇓*i*P	P	**09 31 24.4**	**-1.1**
WB2				*e*	pP	09 31 35.9	-0.6
WRAB	**Tennant Creek**	**45.90**	**268**	*e*P	P	**09 31 23.6**	**-1.9**
WRAB				*PP	pP	09 31 35.8	-0.7
WRAB				pmax	pmax		
	comp=Z,62nm,1.0s,mb5.5						
WRAB	**Tennant Creek**	**45.90**	**268**	*e*P	P	**09 31 23.6**	**-1.8**
	comp=Z,62nm,1.0s,mb5.5						
WRAB				pP	pP	09 31 35.8	-0.7
WRA	**Warramunga Arr**	**45.91**	**268**	P	P	**09 31 24.1**	**-1.4**
	comp=Z,33nm,0.9s,mb5.2,baz=107,slow=7.7,SNR=61						
KAKA	**Kakadu**	**50.27**	**276**	⇓*i*P	P	**09 32 01.9**	**+2.4**
	comp=Z,6.7nm,0.3s,mb5.2						
SBA	**Scott Base**	**51.46**	**185**	*e*P	P	**09 32 10.3**	**+2.6**
SBA				*e*	pP	09 32 18.5	-0.3
SBA				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
SBA	**Scott Base**	**51.46**	**185**	*e*P	P	**09 32 10.2**	**+2.5**
	comp=Z,20nm,1.1s,mb5.0						
SBA				*e*	pP	09 32 18.5	-0.3
VNDA	**Vanda**	**51.56**	**186**	P	P	**09 32 07.2**	**-1.2**
	comp=Z,1.6nm,0.6s,mb4.1,baz=3.4,slow=6.0,SNR=1.9						
FITZ	**Fitzroy Crossi**	**54.27**	**266**	*e*P	P	**09 32 28.5**	**-0.9**
	comp=Z,15nm,1.1s,mb4.8						
FITZ	**Fitzroy Crossi**	**54.27**	**266**	P	P	**09 32 28.4**	**-1.0**
	comp=Z,15nm,0.7s,mb5.0,baz=150,slow=6.7,SNR=12						
CASY	**Casey**	**58.90**	**207**	*e*P	P	**09 33 02.0**	**+0.3**
	comp=Z,14nm,0.7s,mb5.1						
CASY				*e*	pP	09 33 13.3	+0.3
QSPA	**South Pole Qui**	**63.01**	**180**	⇓*i*P	P	**09 33 30.0**	**+0.6**
	comp=Z,24nm,1.0s,mb5.3						
MIR	**Mirnyy**	**65.88**	**206**	*e*P	P	**09 33 50.0**	**+1.9**
MIR				pmax	pmax		
	comp=Z,72nm,2.0s,mb5.4						
CBIJ	**Chichi jima**	**67.26**	**320**	P	P	**09 33 57.4**	**-0.1**
	comp=Z,24nm,0.7s,mb5.3,baz=269,slow=17,SNR=5.6						
KKM	**Kota Kinabalu**	**73.32**	**286**	*e*P	P	**09 34 33.8**	**-0.9**
KKM				pP	pP	09 34 45.4	-0.7
JOW	**Kunigami**	**75.85**	**310**	P	P	**09 34 47.7**	**-1.2**
	comp=Z,24nm,0.8s,mb5.2,baz=113,slow=22,SNR=3.6						
MAW	**Mawson**	**76.03**	**200**	*e*P	P	**09 34 50.5**	**+1.4**
MAW				*e*	pP	09 35 01.7	+1.0
MAW				pmax	pmax		
	comp=Z,26nm,1.2s						
MAW	**Mawson**	**76.03**	**200**	P	P	**09 34 49.9**	**+0.8**
	comp=Z,3.9nm,0.8s,mb4.4,baz=173,slow=2.8,SNR=7.2						
MAW				LR	LR	10 07 40.0	
	comp=Z,176nm,18.5s,MS4.4,baz=78,slow=35						
MAW	**Mawson**	**76.03**	**200**	*e*P	P	**09 34 50.5**	**+1.5**
	comp=Z,26nm,1.2s,mb5.0						
MAW				*e*	pP	09 35 01.7	+1.0
MJAR	**Matsushiro Arr**	**76.61**	**324**	P	P	**09 34 51.6**	**-1.4**
	comp=Z,6.2nm,0.9s,mb4.5,baz=170,slow=6.3,SNR=12						
MAJO	**Matsushiro**	**76.61**	**324**	*e*P	pP	09 35 01.6	-3.0
	comp=Z,14nm,0.9s						
JNU	**Nakatsue**	**78.35**	**317**	P	P	**09 35 02.6**	**-0.1**
	comp=Z,13nm,0.8s,mb4.9,baz=83,slow=9.5,SNR=5.8						
NACB	**Ninganchiao**	**78.94**	**304**	*e*P	P	**09 35 06.0**	**-0.1**
YHNB	**Yheng**	**79.39**	**305**	*e*P	P	**09 35 06.8**	**-1.8**
YHNB				*e*	pP	09 35 19.9	-0.4
TATO	**Taipei**	**79.49**	**305**	*e*P	P	**09 35 08.2**	**-0.9**
	comp=Z,86nm,1.2s,mb5.6						
TATO				pP	pP	09 35 21.2	+0.4
SYO	**Syowa Base**	**80.73**	**192**	⇑P	P	**09 35 13.8**	**-1.0**
SYO	**Syowa Base**	**80.73**	**192**	⇑pP	pP	09 35 25.5	-1.1
SNAA	**Sanae**	**81.39**	**178**	*e*	P	**09 35 20.5**	**+2.2**
SNAA	**Sanae**	**81.39**	**178**	*e*	pP	09 35 29.7	-0.3
SNAA	**Sanae**	**81.39**	**178**	*e*	sP	09 35 34.8	+0.6
SNAA	**Sanae**	**81.39**	**178**	⇓*i*P	P	**09 35 18.0**	**-0.3**
SNAA				*e*	pP	09 35 29.7	-0.3
SNAA				*e*		09 35 34.8	
VNA3	**Neumayer Olymp**	**81.46**	**176**	*e*	P	**09 35 20.5**	**+1.8**
VNA3	**Neumayer Olymp**	**81.46**	**176**	*e*	pP	09 35 29.9	-0.5
VNA3	**Neumayer Olymp**	**81.46**	**176**	*e*	sP	09 35 34.4	-0.2
VNA3	**Neumayer Olymp**	**81.46**	**176**	⇓*i*P	P	**09 35 18.3**	**-0.4**
VNA3				*e*	pP	09 35 29.9	-0.5
VNA3				*e*		09 35 34.4	
PTRM	**Twissleman Ran**	**81.61**	**43**	*e*P	P	**09 35 20.2**	**0.0**
PTRM				*e*	pP	09 35 31.7	-0.1
SAO	**San Andreas Ge**	**81.61**	**41**	*e*P	P	**09 35 19.9**	**-0.2**
	comp=Z,40nm,1.3s,mb5.2						
SAO				*e*	pP	09 35 31.9	0.0
LRV	**Little Rabbit**	**81.64**	**42**	*e*P	P	**09 35 20.6**	**+0.3**
LRV				pP	pP	09 35 32.1	0.0
VNA2	**Neumayer--Watz**	**81.92**	**176**	*e*	P	**09 35 23.3**	**+2.3**
VNA2	**Neumayer--Watz**	**81.92**	**176**	*e*	pP	09 35 32.8	0.0
VNA2	**Neumayer--Watz**	**81.92**	**176**	*e*	sP	09 35 37.8	+0.8
VNA2	**Neumayer--Watz**	**81.92**	**176**	⇓*i*P	P	**09 35 21.0**	**0.0**
VNA2				*e*	pP	09 35 32.8	0.0
VNA2				*e*		09 35 37.8	
MWC	**Mount Wilson**	**82.00**	**45**	*e*P	P	**09 35 21.7**	**-0.5**
VNA1	**Neumayer--Stat**	**82.14**	**176**	⇓*i*P	P	**09 35 23.9**	**+1.7**
VNA1	**Neumayer--Stat**	**82.14**	**176**	*e*	P	**09 35 26.3**	**+4.1**
VNA1	**Neumayer--Stat**	**82.14**	**176**	*e*	pP	09 35 34.2	+0.3
VNA1	**Neumayer--Stat**	**82.14**	**176**	*e*	sP	09 35 38.7	+0.6
VNA1	**Neumayer--Stat**	**82.14**	**176**	⇑*i*P	P	**09 35 23.9**	**+1.7**
VNA1				*e*		09 35 26.3	
VNA1				*e*	pP	09 35 34.2	+0.3
VNA1				*e*		09 35 38.7	
YSS	**Yuzh-Sakhalins**	**82.60**	**333**	*c i*P	P	**09 35 26.8**	**+1.8**
YSS				pmax	pmax		
	comp=Z,47nm,1.0s,mb5.5						
YSS	**Yuzh-Sakhalins**	**82.60**	**333**	*e*P	P	**09 35 26.0**	**+1.0**
	comp=Z,41nm,0.9s,mb5.5						
PFO	**Pinyon Flat Ob**	**82.63**	**46**	*e*P	P	**09 35 25.0**	**-0.5**
PFO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
PFO	**Pinyon Flat Ob**	**82.63**	**46**	*e*P	P	**09 35 25.0**	**-0.4**
	comp=Z,8.2nm,0.9s,mb4.8						
PET	**Petropavlovsk**	**82.80**	**345**	*e*P	P	**09 35 31.7**	**+5.8**
PET				*e*		09 45 37.9	
CMB	**Columbia Colle**	**83.09**	**41**	*e*P	P	**09 35 27.5**	**-0.2**
CMB				*e*	pP	09 35 39.5	0.0
CMB				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
CMB	**Columbia Colle**	**83.09**	**41**	*e*P	P	**09 35 27.5**	**-0.2**
	comp=Z,19nm,0.9s,mb5.1						
CMB				*e*	pP	09 35 39.5	0.0
CMB				*e*		09 36 01.0	
SDPT	**Sand Point**	**83.17**	**9**	*e*P	P	**09 35 28.1**	**+0.4**
	comp=Z,178nm,1.3s,mb5.9						
SSE	**Sheshan**	**83.35**	**310**	P	P	**09 35 29.8**	**+0.7**
SSE				AMB	AMB		
	comp=Z,14nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,77nm,4.0s						
SSE	**Sheshan**	**83.35**	**310**	P	P	**09 35 29.8**	**+0.7**
	comp=Z,14nm,0.8s,mb5.0						
PLCA	**Paso Flores**	**83.42**	**132**	P	P	**09 35 29.3**	**0.0**
	comp=Z,5.0nm,0.8s,mb4.6,baz=228,slow=6.4,SNR=6.5						
PLCA				LR	LR	10 05 36.2	
	comp=Z,137nm,18.4s,MS4.4,baz=222,slow=31						
WDC	**Whiskeytown Da**	**83.61**	**38**	*e*P	P	**09 35 30.2**	**-0.1**
WDC				*PP	pP	09 35 42.2	+0.2
WDC				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.2						
WDC	**Whiskeytown Da**	**83.61**	**38**	*e*P	P	**09 35 30.2**	**-0.1**
	comp=Z,23nm,1.1s,mb5.2						
WDC				pP	pP	09 35 42.2	+0.2
DAC	**Darwin (Calif)**	**83.61**	**44**	*e*P	P	**09 35 29.5**	**-0.9**
DAC				*e*	pP	09 35 42.4	+0.2
DAC				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
DAC	**Darwin (Calif)**	**83.61**	**44**	*e*P	P	**09 35 29.5**	**-0.9**
	comp=Z,6.3nm,1.0s,mb4.7						
DAC				*e*	pP	09 35 42.4	+0.2
OMM	**Old Mammoth Mi**	**83.64**	**42**	*e*P	P	**09 35 30.2**	**-0.3**
OMM				pP	pP	09 35 42.5	+0.2
MTUM	**Tungsten Hills**	**83.72**	**42**	*e*P	P	**09 35 31.3**	**+0.4**
MTUM				pP	pP	09 35 43.0	+0.3
YBH	**Yreka Blue Hor**	**84.32**	**37**	*e*P	P	**09 35 34.2**	**+0.3**
	comp=Z,10.0nm,1.0s,mb4.9						
YBH				pP	pP	09 35 46.0	+0.4
BEKR	**Beckwourth**	**84.34**	**40**	*e*P	P	**09 35 33.7**	**-0.3**
	comp=Z,5.6nm,0.7s,mb4.8						
LDFC	**Landfair**	**84.42**	**46**	*e*P	P	**09 35 35.1**	**+0.6**
LDFC				pP	pP	09 35 46.7	+0.4
NVAR	**Mina Array Bea**	**84.58**	**42**	P	P	**09 35 35.5**	**+0.3**
	comp=Z,15nm,1.0s,mb5.1,baz=225,slow=7.7						
HUMO	**Hull Mountain**	**84.80**	**36**	*e*P	P	**09 35 36.7**	**+0.5**
	comp=Z,14nm,1.1s,mb5.0						
HUMO				*e*		09 35 44.2	
NEN	**Nelson**	**84.94**	**46**	*e*P	P	**09 35 37.3**	**+0.2**
NEN				*e*	pP	09 35 48.9	0.0
TPH	**Tonopah**	**85.00**	**43**	*e*P	P	**09 35 37.3**	**0.0**
TPH				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.3						
TPH	**Tonopah**	**85.00**	**43**	*e*P	P	**09 35 37.3**	**-0.1**
	comp=Z,28nm,1.1s,mb5.3						
NJ2	**Nanjing**	**85.51**	**309**	*e*P	P	**09 35 40.5**	**+0.5**
NJ2				AP	pP	09 35 51.0	-0.8
NJ2				XP	sP	09 35 55.0	-0.9
NJ2				PP	PP	09 39 01.3	+1.0
NJ2				S	S	09 46 06.0	-1.2
NJ2				XS		09 46 23.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,210nm,4.5s						
NJ2				LR	LR		
	comp=N,590nm,16.8s,MS5.2						
NJ2				LR	LR		
	comp=E,620nm,16.2s,MS5.2						
NJ2				LR	LR		
	comp=Z,240nm,17.5s,MS4.6						
TUC	**Tucson**	**85.63**	**50**	*e*P	P	**09 35 41.1**	**+0.6**
	comp=Z,43nm,1.1s,mb5.6						
TUC				pP	pP	09 35 52.9	+0.5
MOD	**Modoc**	**85.74**	**38**	*e*P	P	**09 35 40.7**	**-0.2**
	comp=Z,20nm,1.2s,mb5.2						
MOD				pP	pP	09 35 52.7	0.0
MOD				sP	sP	09 35 59.2	+2.4
BMN	**Battle Mountai**	**86.52**	**41**	*e*P	P	**09 35 44.8**	**0.0**
	comp=Z,0.3nm,0.9s						
BMN				pP	pP	09 35 55.5	-1.0
MDJ	**Mudanjiang**	**86.97**	**324**	P	P	**09 35 48.1**	**+1.3**
	comp=Z,9.8nm,0.9s,mb5.0						
OCWA	**Octopus Mounta**	**87.82**	**32**	*e*P	P	**09 35 51.9**	**+1.1**
	comp=Z,19nm,1.3s,mb5.2						
OCWA				pP	pP	09 36 02.7	0.0
WHN	**Wuhan**	**87.84**	**306**	*e*P	P	**09 35 55.0**	**+3.6**
ELK	**Elko**	**87.88**	**42**	*e*P	P	**09 35 51.0**	**-0.3**
ELK				*PP	pP	09 36 02.7	-0.5
ELK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ELK	**Elko**	**87.88**	**42**	*e*P	P	**09 35 51.0**	**-0.3**
	comp=Z,4.8nm,0.9s,mb4.7						
ELK				pP	pP	09 36 02.7	-0.5
TWW	**Teanaway**	**89.00**	**34**	P	P	**09 35 57.5**	**+1.0**
LTX	**Lajitas**	**89.07**	**56**	*e*P	P	**09 35 57.2**	**-0.1**
LTX				*PP	pP	09 36 09.1	-0.1
LTX				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.4						
LTX	**Lajitas**	**89.07**	**56**	*e*P	P	**09 35 57.2**	**0.0**
	comp=Z,24nm,1.2s,mb5.4						
LTX				pP	pP	09 36 09.1	-0.1
TXAR	**Lajitas Array**	**89.07**	**56**	P	P	**09 35 56.5**	**-0.7**
	comp=Z,7.9nm,0.9s,mb5.0,baz=210,slow=7.4,SNR=82						
TXAR				LR	LR	10 07 47.2	
	comp=Z,150nm,18.4s,MS4.5,baz=210,slow=30						
KLR	**Kul'dur**	**89.13**	**329**	*e*P	P	**09 35 56.2**	**-0.8**
GBB	**Gable Butte**	**89.27**	**35**	P	P	**09 35 58.2**	**+0.4**
RSO	**Redoubt South**	**89.28**	**11**	*e*P	P	**09 35 57.7**	**+0.2**
RSO				pP	pP	09 36 08.8	-0.6
BMO	**Blue Mountains**	**89.33**	**37**	*e*P	P	**09 35 57.4**	**-0.8**
	comp=Z,5.9nm,1.3s,mb4.8						
BMO				pP	pP	09 36 08.7	-1.4
SVW2	**Sparrevohn**	**89.42**	**10**	*e*P	P	**09 35 58.1**	**0.0**
TMUT	**Trail Mountain**	**89.45**	**45**	*e*P	P	**09 35 59.2**	**+0.4**
TMUT				pP	pP	09 36 11.6	+0.9
TMUT				sP	sP	09 36 18.6	+3.9
ETW	**Entiat**	**89.58**	**34**	P	P	**09 35 59.6**	**+0.4**
SLKM	**Skilak Lake**	**89.78**	**12**	*e*P	P	**09 36 00.4**	**+0.6**
SLKM				pP	pP	09 36 12.1	+0.3
SPU	**Mount Spurr**	**90.08**	**11**	*e*P	P	**09 36 00.2**	**-1.0**
SPU				pP	pP	09 36 12.6	-0.5
ANMO	**Albuquerque**	**90.09**	**50**	*d i*P	P	**09 36 02.0**	**+0.1**
ANMO	**Albuquerque**	**90.09**	**50**	*e*P	P	**09 36 01.9**	**-0.1**
	comp=Z,20nm,1.2s,mb5.3						
ANMO				pP	pP	09 36 13.8	0.0
HLID	**Hailey**	**90.12**	**40**	*e*P	P	**09 36 02.1**	**+0.2**
	comp=Z,4.9nm,1.2s,mb4.7						
HLID				pP	pP	09 36 13.7	0.0
OD2	**Odessa Site #2**	**90.26**	**35**	P	P	**09 36 02.7**	**+0.4**
PV10	**Paradox Valley**	**90.30**	**46**	*e*P	P	**09 36 02.8**	**0.0**
PV01	**Paradox Valley**	**90.46**	**47**	*e*P	P	**09 36 03.4**	**-0.2**
PV01				pP	pP	09 36 14.8	-0.7
HWUT	**Hardware Ranch**	**90.60**	**43**	*e*P	P	**09 36 04.0**	**-0.2**
	comp=Z,2.0nm,0.9s,mb4.5						
PMR	**Palmer**	**90.99**	**12**	*e*P	P	**09 36 05.7**	**+0.2**
	comp=Z,43nm,1.4s,mb5.6						
NEW	**Newport**	**91.64**	**35**	*e*P	P	**09 36 07.8**	**-1.0**
NEW				*PP	pP	09 36 20.1	-0.6
NEW				pmax	pmax		
	comp=Z,40nm,2.0s						
NEW	**Newport**	**91.64**	**35**	*e*P	P	**09 36 07.8**	**-1.1**
	comp=Z,40nm,2.0s,mb5.4						
NEW				pP	pP	09 36 20.1	-0.7
RRI2	**Red Ridge**	**91.78**	**41**	*e*P	P	**09 36 09.3**	**-0.2**
	comp=Z,23nm,1.4s,mb5.3						
RRI2				pP	pP	09 36 22.1	+0.6
MCMT	**McKenzie Canyo**	**91.78**	**39**	*e*P	P	**09 36 09.8**	**+0.2**
MCMT				pP	pP	09 36 21.8	+0.3
REDW	**Red Top Meadow**	**92.06**	**41**	*e*P	P	**09 36 11.0**	**+0.1**
	comp=Z,24nm,1.2s,mb5.4						
REDW				pP	pP	09 36 21.8	-1.0
TPAW	**Teton Pass**	**92.08**	**41**	*e*P	P	**09 36 10.8**	**-0.2**
	comp=Z,7.7nm,1.1s,mb5.0						
SNOW	**Snow King Moun**	**92.18**	**41**	*e*P	P	**09 36 11.4**	**0.0**
	comp=Z,24nm,1.1s,mb5.4						
SNOW				pP	pP	09 36 23.3	-0.1
SDCO	**Great Sand Dun**	**92.26**	**48**	*e*P	P	**09 36 11.8**	**-0.1**
	comp=Z,33nm,2.0s,mb5.3						
IMW	**Indian Meadow**	**92.33**	**41**	*e*P	P	**09 36 12.4**	**+0.3**
	comp=Z,19nm,1.2s,mb5.3						
IMW				pP	pP	09 36 24.3	+0.3
LOHW	**Long Hollow**	**92.36**	**41**	*e*P	P	**09 36 12.2**	**-0.1**
	comp=Z,14nm,1.3s,mb5.1						
LOHW				*e*	pP	09 36 24.0	-0.1
PDAR	**Pinedale Array**	**92.49**	**42**	P	P	**09 36 10.7**	**-2.2**
	comp=Z,3.5nm,1.1s,mb4.6,baz=225,slow=2.1,SNR=19						
PDAR				LR	LR	10 11 44.8	
	comp=Z,252nm,18.7s,MS4.7,baz=238,slow=32						
QLMT	**Earthquake Lak**	**92.59**	**40**	*e*P	P	**09 36 14.1**	**+0.8**
CHMT	**Chamberlain Mo**	**92.83**	**38**	*e*P	P	**09 36 13.2**	**-1.1**
BOZ	**Bozeman (W)**	**92.97**	**39**	*e*P	P	**09 36 14.9**	**0.0**
	comp=Z,26nm,1.2s,mb5.5						
BOZ				pP	pP	09 36 26.6	-0.3
MENT	**Mentasta**	**93.32**	**14**	*e*P	P	**09 36 16.6**	**+0.5**
DLBC	**Dease Lake**	**93.38**	**22**	*e*P	P	**09 36 17.4**	**+0.8**
DLBC				pP	pP	09 36 29.1	+0.6
HRY	**Holter Researc**	**93.49**	**38**	*e*P	P	**09 36 17.0**	**-0.3**
HRY				pP	pP	09 36 28.7	-0.5
KMI	**Kunming**	**93.97**	**296**	P	P	**09 36 23.3**	**+3.3**
KMI				AP	pP	09 36 34.8	+2.8
KMI				XP	sP	09 36 39.3	+3.4
KMI				AMB	A

VOR				pmax	pmax			
	comp=Z,50nm,2.0s							
GNI	**Garni**	**144.01**	**302**	*i* PKIKP	PKPdf	09 42 36.7	+0.7	
GNI				MLR	MLR			
	comp=Z,100nm,23.0s							
ONI	**Oni**	**144.52**	**306**	P	PKPbc	09 42 37.7	+1.2	
KIV	**Kislovodsk**	**144.72**	**309**	*i* PKIKP	PKPdf	09 42 39.3	+2.2	
KIV				MLR	MLR			
	comp=Z,100nm,22.0s,MS4.5							
VSU	**Vasula**	**144.86**	**339***d*	*i* PKIKP	PKPdf	09 42 37.4	+0.5	
KARS	**Kars**	**145.18**	**303**	*e*P	PKPdf	09 42 46.0	+7.9	
NB2	**NORSAR Subarra1**	**45.72**	**354**	PKPabc	PKPbc	09 42 40.1	+1.0	
	comp=Z,84nm,1.2s,baz=8.0,slow=3.0							
NB2	**NORSAR Subarra1**	**45.72**	**354**	PKPa	PKPbc	09 42 40.1	+1.0	
	baz=7.6,slow=3.0							
NOA	**NORSAR Array B**	**145.72**	**354**	PKPbc	PKPbc	09 42 39.3	+0.2	
	comp=Z,21nm,1.0s,baz=11,slow=4.4,SNR=48							
NAO01	**NORSAR Array S**	**145.94**	**354**	PKPdf	PKPdf	09 42 41.1	+2.4	
NAO01				pPKPdf		09 42 53.3		
KONO	**Kongsberg**	**147.23**	**355***d*	*i* PKP2	PKPdf	09 42 44.5	+3.6	
KONO	**Kongsberg**	**147.23**	**355**	PKPdf	PKPdf	09 42 40.7	-0.2	
KONO				PKPbc	PKPdf	09 42 44.8	+3.9	
KONO				pPKPdf		09 42 56.2		
ANN	**Anapa**	**148.01**	**312**	*i* PKHKP		09 42 32.4		
ANN				*i* *PP		09 42 47.5		
ANN				*e*		09 49 43.1		
ANN				pmax	pmax			
	comp=Z,41nm,1.5s							
MALT	**Malatya**	**149.16**	**300**	PKPdf	PKPdf	09 42 51.9	+7.2	
YNBS	**Yanbu' al Bahr**	**149.36**	**273**	P	PKPdf	09 42 55.2	+10	
AKASG	**Malin Array Be**	**149.62**	**328**	PKP	PKPdf	09 42 46.0	+1.0	
	comp=Z,4.0nm,0.8s,baz=39,slow=2.8,SNR=8.6							
AKASG				PKPbc	PKPdf	09 42 51.3	+6.3	
	comp=Z,8.5nm,0.6s,baz=39,slow=3.6,SNR=41							
AKASG	**Malin Array Be**	**149.62**	**328**	PKP	PKPdf	09 42 46.0	+1.0	
AKASG				PKPbc	PKPdf	09 42 51.3	+6.3	
SUW	**Suwalki**	**149.64**	**338**	*e*PKP	PKPdf	09 42 51.6	+6.7	
SUW	**Suwalki**	**149.64**	**338**	*e*PKP	PKPdf	09 42 51.6	+6.6	
SVST	**Sivas**	**149.95**	**303**	*i* P	PKPdf	09 42 54.5	+8.7	
GZT	**Gaziantep**	**150.00**	**298**	*i* P	PKPdf	09 42 53.8	+7.7	
SIM	**Simferopol'**	**150.10**	**314**	*i* PKIKP	PKPdf	09 42 53.8	+7.8	
SIM				pmax	pmax			
	comp=Z,22nm,0.7s							
UMJS	**Umm Lajj**	**150.15**	**274**	P	PKPdf	09 42 55.8	+9.2	
MUD	**Monsted U'grnd**	**150.43**	**354**	*e*PKIKP	PKPdf	09 42 53.7	+7.6	
MUD				*e*		09 43 05.0		
MUD				pmax	pmax			
	comp=Z,24nm,1.0s							
MUD	**Monsted U'grnd**	**150.43**	**354**	*i* P	PKPdf	09 42 53.7	+7.6	
	comp=Z,24nm,1.0s							
MUD				*e*		09 43 05.0		
MUD				*i*		09 43 32.0		
KAHT	**Ahir Dag**	**150.49**	**299**	*i* P	PKPdf	09 42 55.1	+8.3	
QURS	**Qurayyt al Mil**	**150.73**	**286**	P	PKPdf	09 42 56.9	+10	
COP	**Copenhagen**	**150.79**	**350**	*i* P	PKPdf	09 43 06.8	+20	
	comp=Z,25nm,0.7s							
BSD	**Bornholm Skovb**	**150.91**	**347**	*i* P	PKPdf	09 43 05.4	+19	
	comp=Z,36nm,0.9s							
BOYT	**Boyabat**	**150.95**	**307**	*i* P	PKPdf	09 42 55.5	+8.1	
ASF	**Jabal al Asfar**	**151.08**	**288**	PKPbc	PKPdf	09 42 56.0	+8.2	
	comp=Z,11nm,0.8s,baz=141,slow=0.4,SNR=3.6							
COBT	**Iskenderun**	**151.18**	**297**	*i* P	PKPdf	09 42 54.5	+6.6	
TBKS	**Tabuk**	**151.25**	**280**	P	PKPdf	09 42 57.6	+9.4	
CTKT	**Corum**	**151.30**	**306**	*i* P	PKPdf	09 42 57.1	+9.2	
AVNT	**Avonos**	**151.78**	**302**	*i* P	PKPdf	09 42 57.0	+8.4	
JMQS	**Jabal Moqyreh**	**151.89**	**281**	P	PKPdf	09 42 59.0	+10	
CDAG	**Cicekdag**	**151.91**	**304**	*i* P	PKPdf	09 42 52.5	+3.7	
BALT	**Daday**	**151.98**	**308**	*i* P	PKPdf	09 42 57.8	+8.9	
ELDT	**Eldivan**	**152.32**	**306**	*i* P	PKPdf	09 42 58.8	+9.3	
BRTR	**Keskin Array B**	**152.41**	**305**	PKP	PKPdf	09 42 49.6	0.0	
	comp=Z,0.4nm,0.4s,baz=316,slow=3.8,SNR=2.7							
BRTR				PKPbc	PKPdf	09 42 57.8	+8.2	
	comp=Z,4.5nm,0.9s,baz=233,slow=6.2,SNR=3.7							
BDAS	**Al Bad'**	**152.54**	**280**	P	PKPdf	09 42 59.8	+10	
JMOS	**Jabal al Moall**	**152.58**	**282**	P	PKPdf	09 43 00.1	+10	
ALWS	**Ilw as Safayha**	**152.62**	**282**	P	PKPdf	09 43 00.4	+10	
HAQS	**Haql**	**152.73**	**281**	P	PKPdf	09 43 00.1	+10	
TAYS	**Tayyib Ism**	**152.75**	**280**	P	PKPdf	09 43 00.6	+10	
MEST	**Erdemli**	**152.84**	**298**	*i* P	PKPdf	09 42 59.4	+9.1	
SGKT	**Sivrigoynuk**	**153.27**	**307**	*i* P	PKPdf	09 43 00.6	+10	
CFR	**Carcaliu**	**153.63**	**319**	⇓P	PKPdf	09 42 58.5	+7.4	
BURAR	**Bucovina Array**	**153.65**	**327**	⇓P	PKPdf	09 43 00.8	+10	
TIRR	**Tirgusor**	**153.87**	**318**	⇓P	PKPdf	09 43 01.0	+10	
OJC	**Ojcow**	**153.95**	**337**	*e*PKP	PKPdf	09 42 51.7	+0.4	
KOLS	**Kolonicke sedl**	**154.03**	**332**	*e*PKP	PKPdf	09 42 53.7	+2.2	
KOLS				*e*		09 43 01.6		
CRVS	**Cervenica-Dubn**	**154.39**	**333**	*e*PKP	PKPab	09 43 15.0	-2.0	
KSP	**Ksiaz**	**154.52**	**342**	*e*PKP2	PKPab	09 43 16.3	-1.2	
KSP	**Ksiaz**	**154.52**	**342**	*e*PKP	PKPab	09 43 17.8	+0.3	
OKC	**Ostrava-Krasne**	**154.84**	**338**	*e*PKPAB	PKPab	09 43 19.0	+0.1	
CLL	**Collm**	**154.88**	**347**	*i* PKP1	PKPdf	09 43 03.4	+11	
CLL				*i* PKP2	PKPab	09 43 18.3	-0.7	
UPC	**Upice**	**154.90**	**342**⇑	*e*PKPB		09 43 03.7		
UPC				*e*PKPAB	PKPab	09 43 17.4	-1.7	
DPC	**Dobruska-Polom**	**154.95**	**341**⇑	*e*PKPB		09 43 04.0		
BRG	**Berggiesshubel**	**155.09**	**345**	*e*PKIKP	PKPdf	09 42 54.9	+2.1	
BRG				*e*		09 43 04.3		
BRG				*e*		09 43 19.4		
BRG				pmax	pmax			
	comp=Z,11nm,1.5s							
BRG				pmax	pmax			
	comp=Z,7.0nm,1.2s							
BRG	**Berggiesshubel**	**155.09**	**345**	*e*P	PKPdf	09 42 54.9	+2.1	
BRG				*e*		09 43 04.3		
BRG				*e*		09 43 19.4		
KECS	**Kecovo**	**155.11**	**333**	*e*PKP	PKPab	09 43 17.9	-2.2	
VYHS	**Vyhne**	**155.74**	**336**	*e*PKP	PKPab	09 43 22.9	+0.1	
PRU	**Pruhonice**	**155.76**	**343**	*e*PKPAB	PKPab	09 43 20.2	-2.6	
NKC	**Novy Kostel**	**156.02**	**347**	*e*PKPAB	PKPab	09 43 22.6	-1.3	
ZST	**Bratislava**	**156.60**	**338**	*e*PKP	PKPab	09 43 27.2	+0.7	
GRF	**Grafenberg Arr**	**156.77**	**348**	*e*PKP2	PKPab	09 43 27.0	-0.2	
KHC	**Kasperske Hory**	**156.80**	**344**	*i* PKIKP	PKPdf	09 42 57.1	+2.0	
KHC	**Kasperske Hory**	**156.80**	**344**	*e*PKPAB	PKPab	09 43 27.2	-0.1	
KHC				*e*pPKP		09 43 38.8		
GERES	**GERESS Array B**	**157.03**	**344**	PKP	PKPdf	09 42 56.2	+0.8	
	comp=Z,0.2nm,0.2s,baz=18,slow=4.2,SNR=3.9							
GERES				PKPbc	PKPdf	09 43 07.5	+12	
	comp=Z,0.5nm,0.8s,baz=90,slow=1.3,SNR=5.0							
GERES				PKPab	PKPab	09 43 27.9	-0.4	
	comp=Z,0.7nm,0.7s,baz=90,slow=1.3,SNR=4.1							
BAIF	**Baives**	**157.07**	**360**	*e*PKIKP	PKPdf	09 42 56.0	+0.5	
LIC	**Lamto**	**157.52**	**156**	*e*PKIKP	PKPdf	09 42 55.2	-2.0	
	comp=Z,62nm,1.3s							
SGMF	**Saint Gilles**	**158.25**	**12**	*e*PKIKP	PKPdf	09 42 58.4	+1.3	
	comp=Z,15nm,0.9s							
LJU	**Ljubljana**	**159.34**	**339**	*e*PKPab	PKPab	09 43 37.9	-0.5	
VISS	**Visnje**	**159.45**	**338**	*e*PKPab	PKPab	09 43 38.4	-0.4	
VISS				*e*		09 43 49.9		
JAVS	**Javornik**	**159.62**	**340**	*e*PKPab	PKPab	09 43 38.9	-0.7	
TCF	**Toulx Ste Croi**	**160.78**	**4**	*e*PKIKP	PKPdf	09 43 01.4	+1.5	
RJF	**Les Rejaudoux**	**161.71**	**6**	*e*PKIKP	PKPdf	09 43 01.9	+1.0	
	comp=Z,31nm,1.3s							
RJF				*e*R				
	comp=Z,128nm,21.2s							
CAF	**Calviac**	**162.13**	**5**	*e*PKIKP	PKPdf	09 43 02.0	+0.7	
ORIF	**Oris-en-Rattie**	**162.15**	**356**	*e*PKIKP	PKPdf	09 43 02.5	+1.2	
ORIF				*e*R				
	comp=Z,149nm,22.2s							
MBDF	**Montbardon**	**162.27**	**354**	*e*PKIKP	PKPdf	09 43 02.5	+1.0	
SBF	**Sospel**	**163.05**	**352**	*e*PKIKP	PKPdf	09 43 03.3	+1.0	
SMRF	**Simiane la Rot**	**163.11**	**356**	*e*PKIKP	PKPdf	09 43 03.3	+1.0	
	comp=Z,12nm,0.8s							
FRF	**La Foret Royal**	**163.44**	**353**	*e*PKIKP	PKPdf	09 43 03.5	+0.8	
	comp=Z,38nm,1.3s							
ESDC	**Sonseca Array**	**165.78**	**26**	PKP	PKPdf	09 43 04.4	-0.7	
	comp=Z,0.5nm,0.5s,baz=355,slow=3.3,SNR=5.6							
ESDC				PKPab	PKPab	09 44 04.4	-2.1	
	comp=Z,1.2nm,0.5s,baz=313,slow=4.5,SNR=9.2							

*IDC **30** 09:26:00.4±0.8, 10.87N×91.56E, mb4.1/11, mb1 4.2/11, mb1mx4.1/19, mbtmp4.1/11, MS3.9/13, Ms1 3.9/13, ms1mx3.8/28, Error ellipse: s-maj=29.9km s-min=18.0km az=67.0*

*MOS **30** 09:26:04.3±1.5, 10.92N×91.56E, h33km, mb4.9/9, Error ellipse: s-maj=22.5km s-min=10.0km az=101.1*

*NEIC **30** 09:26:05.1±0.5, 10.86N×91.60E, h30km, mb4.6/6, Error ellipse: s-maj=19.8km s-min=11.7km az=66.0*

*BJI **30** 09:26:09.6, 11.46N×91.62E, h30km, mB4.6, mb4.3, Ms4.1, Msz3.7*

ISC 30 09:26:00.6±2.9,**10.58N**±0.07×**91.36E**±0.05,**h20**km±20km,
n65,σ1$**23**/57,**mb4.3**/23,**MS4.0**/16,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.73**	**52**	*e*P	**Pn**	**09 26 29.3**	**-0.7**
PBA				*e*S	**Sn**	**09 26 50.5**	**-1.1**
PALK	**Pallekele**	**11.03**	**254**	*e*P	**P**	**09 28 40.0**	**-0.5**
	23nm,1.1s						
PALK				*e*S	**S**	**09 30 43.5**	**-0.8**
BWNR	**Bhubaneshwar**	**11.04**	**332**	*e*P	**P**	**09 28 40.9**	**+0.2**
BWNR				*e*		09 30 38.2	
BWNR				AML	AML	09 30 43.5	
	comp=N,60nm,0.3s						
BWNR				AML	AML	09 30 44.0	
	comp=E,90nm,0.5s						
HYB	**Hyderabad**	**14.15**	**300**	*e*P	**P**	**09 29 17.0**	**-5.4**
BLSP	**Bilaspur**	**14.49**	**324**	*e*P	**P**	**09 29 24.8**	**-2.0**
BLSP				*e*S	**S**	**09 32 03.4**	**-4.3**
BLSP				AML	AML	09 32 52.1	
	comp=N,11nm,0.4s						
BLSP				AML	AML	09 32 53.5	
	comp=E,12nm,0.5s						
SHL	**Shillong**	**14.91**	**2**	*e*P	**P**	**09 29 35.0**	**+2.7**
SHL				*e*		09 34 08.0	
JIRN	**Jiri**	**17.67**	**345**	*e*P	**P**	**09 30 06.5**	**-0.9**
PKI	**Pulchoki**	**17.80**	**342**	*e*P	**P**	**09 30 09.9**	**+0.9**
DMN	**Daman**	**17.93**	**342**	*e*P	**P**	**09 30 11.6**	**+1.0**
KKN	**Kakani**	**18.05**	**342**	*e*P	**P**	**09 30 12.2**	**+0.1**
KMI	**Kunming**	**18.05**	**35**	P	**P**	**09 30 07.0**	**-5.2**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.7s						
KMI				AMB	AMB		
	comp=Z,253nm,3.7s						
KMI				LR	LR		
	comp=N,493nm,14.4s						
KMI				LR	LR		
	comp=E,489nm,14.9s						
KMI				LR	LR		
	comp=Z,345nm,18.8s						
KMI	**Kunming**	**18.05**	**35**	P	**P**	**09 30 07.0**	**-5.2**
	comp=Z,8.0nm,0.7s						
GKN	**Gorkha**	**18.44**	**341**	*e*P	**P**	**09 30 17.0**	**0.0**
	comp=Z,25nm,0.3s						
KOLN	**Koldanda**	**18.59**	**338**	*e*P	**P**	**09 30 19.8**	**+1.0**
LSA	**Lhasa**	**19.02**	**359**	P	**P**	**09 30 21.8**	**-2.2**
LSA				AMB	AMB		
	comp=Z,170nm,6.7s						
LSA				LR	LR		
	comp=N,220nm,12.0s						
LSA				LR	LR		
	comp=E,380nm,14.0s						
LSA				LR	LR		
	comp=Z,330nm,16.0s						
LSA	**Lhasa**	**19.02**	**359**	*e*P	**P**	**09 30 21.2**	**-2.8**
LSA				pmax	pmax		
	comp=Z,16nm,0.8s						
LSA	**Lhasa**	**19.02**	**359**	*e*P	**P**	**09 30 21.2**	**-2.8**
	comp=Z,16nm,0.8s						
KSM	**Kuching**	**20.89**	**114**	*e*P	**P**	**09 30 37.1**	**-7.2**
GYA	**Guiyang**	**21.41**	**40**	P	**P**	**09 30 52.3**	**+2.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
NDI	**New Delhi**	**22.36**	**326**	*e*P	**P**	**09 31 01.5**	**+2.5**
DDI	**Dehra Dun**	**23.22**	**330**	*e*P	**P**	**09 31 09.0**	**+1.5**
DDI				*e*		09 35 43.0	
CD2	**Chengdu**	**23.27**	**28**	*e*P	**P**	**09 31 10.0**	**+2.0**
ENH	**Enshi**	**25.86**	**38**	*e*P	**P**	**09 31 30.8**	**-2.0**
	comp=Z,16nm,0.6s,mb4.7						
GTA	**Gaotai**	**29.68**	**13**	*e*P	**P**	**09 32 05.3**	**-2.2**
GTA				AP	pP	09 32 13.3	-0.2
GTA				XP	sP	09 32 17.0	+0.9
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.3						
GTA				AMB	AMB		
	comp=Z,91nm,10.7s						
GTA				LR	LR		
	comp=N,165nm,16.3s,MS4.0						
GTA				LR	LR		
	comp=E,208nm,13.7s,MS4.0						
GTA				LR	LR		
	comp=Z,111nm,14.8s,MS3.6						
AAK	**Ala-Archa**	**35.16**	**338**	*e*P	**P**	**09 32 56.9**	**+1.7**
AAK				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
AAK	**Ala-Archa**	**35.16**	**338**	*e*P	**P**	**09 32 56.9**	**+1.7**
	comp=Z,17nm,1.2s,mb4.8						
FRU	**Bishkek**	**35.29**	**338**	*e*P	**P**	**09 33 04.5**	**+8.2**
MKAR	**Makanchi Array**	**36.90**	**350**	*i* P	**P**	**09 33 09.5**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**36.90**	**350**	P	**P**	**09 33 09.8**	**-0.1**
	comp=Z,4.7nm,0.8s,mb4.3,baz=168,slow=7.9,SNR=31						
SONM	**Songino Array**	**39.23**	**16**	P	**P**	**09 33 28.8**	**-0.6**
	comp=Z,4.0nm,0.8s,mb4.2,baz=204,slow=8.1,SNR=32						
SONM				LR	LR	09 52 19.1	
	comp=Z,115nm,20.2s,MS3.7,baz=343,slow=41						
ZAK	**Zakamensk**	**40.88**	**12**	*e*P	**P**	**09 33 42.6**	**-0.3**
ZAK				*e*		09 35 40.0	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.5s,mb3.2						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.4						
KURK	**Kurchatov**	**41.36**	**348**	*e*P	**P**	**09 33 48.5**	**+1.6**
KURK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.4						
KURK	**Kurchatov**	**41.36**	**348**	*e*P	**P**	**09 33 48.5**	**+1.6**
	comp=Z,12nm,1.2s,mb4.4						
ZAL	**Zalesovo**	**43.56**	**354**	P	**P**	**09 34 04.1**	**-0.7**
	comp=Z,2.0nm,0.4s,mb4.2,baz=304,slow=5.9,SNR=9.0						
ZAL				LR	LR	09 55 55.9	
	comp=Z,128nm,20.2s,MS3.8,baz=289,slow=42						
NVS	**Novosibirsk**	**44.61**	**353**	*e*P	**P**	**09 34 13.5**	**+0.2**
VOSK	**Vostochnaya**	**45.13**	**343**	P	**P**	**09 34 17.2**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**45.57**	**342**	P	**P**	**09 34 19.6**	**-1.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=135,slow=8.4,SNR=8.4						
MAT	**Matsushiro**	**49.48**	**51**	P	**P**	**09 34 53.3**	**+1.5**
MJAR	**Matsushiro Arr**	**49.48**	**51**	LR	LR	09 57 27.0	
	comp=Z,68nm,19.1s,MS3.7,baz=205,slow=38						
BOD	**Bodaibo**	**50.23**	**16**	*e*P	**P**	**09 34 55.4**	**-1.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
GNI	**Garni**	**50.59**	**314**	*i* P	**P**	**09 35 11.5**	**+11**
GNI				pmax	pmax		
	comp=Z,17nm,1.1s						
GNI				MLR	MLR		
	comp=Z,100nm,16.0s						
WRA	**Warramunga Arr**	**52.06**	**126**	P	**P**	**09 35 11.9**	**+0.2**
	comp=Z,2.6nm,0.8s,mb4.2,baz=299,slow=10,SNR=9.3						
WRAB	**Tennant Creek**	**52.07**	**126**	*e*P	**P**	**09 35 12.5**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
WRAB	**Tennant Creek**	**52.07**	**126**	*e*P	**P**	**09 35 12.5**	**+0.9**
	comp=Z,7.5nm,0.5s,mb4.9						
ARU	**Arti**	**52.35**	**338**	*e*P	**P**	**09 35 14.0**	**+0.7**
KIV	**Kislovodsk**	**53.48**	**318**	*i* P	**P**	**09 35 32.7**	**+11**
KIV				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
KIV				MLR	MLR		
	comp=Z,100nm,23.0s,MS3.8						
ASF	**Jabal al Asfar**	**54.45**	**302**	LR	LR	10 01 49.9	
	comp=Z,108nm,19.4s,MS3.9,baz=135,slow=40						
KMBO	**Kilima Mbogo**	**55.05**	**261**	LR	LR	09 56 29.6	
	comp=Z,129nm,18.8s,MS4.0,baz=92,slow=33						
BRTR	**Keskin Array B**	**58.59**	**310**	P	**P**	**09 35 57.8**	**-0.8**
	comp=Z,1.6nm,0.8s,mb4.1,baz=108,slow=7.8,SNR=6.9						
OBN	**Obninsk**	**61.64**	**328**	*i* P	**P**	**09 36 27.9**	**+8.6**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb5.1						
OBN				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.9						
STKA	**Stephens Creek**	**63.95**	**133**	P	**P**	**09 36 35.2**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.2,baz=310,slow=7.9,SNR=4.0						
STKA	**Stephens Creek**	**63.95**	**133**	P	**P**	**09 36 35.2**	**+0.1**
TIXI	**Tiksi**	**65.16**	**12**	*e*P	**P**	**09 36 35.9**	**-6.3**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
FINES	**FINESS Array B**	**69.05**	**332**	P	**P**	**09 37 06.3**	**-0.6**
	comp=Z,1.8nm,0.8s,mb4.1,baz=141,slow=12,SNR=8.5						
FINES				LR	LR	10 12 44.2	
	comp=Z,85nm,18.9s,MS4.0,baz=150,slow=41						
ARCES	**ARCESS Array B**	**71.80**	**340**	LR	LR	10 11 15.1	
	comp=Z,186nm,19.0s,MS4.4,baz=94,slow=38						
GERES	**GERESS Array B**	**73.99**	**318**	P	**P**	**09 37 36.6**	**0.0**
	comp=Z,0.3nm,0.6s,mb3.4,baz=90,slow=4.0,SNR=3.5						
GERES				LR	LR	10 14 47.6	
	comp=Z,54nm,18.8s,MS3.9,baz=143,slow=40						
BOSA	**Boshof**	**74.73**	**236**	P	**P**	**09 37 46.1**	**+4.7**
	comp=Z,4.3nm,0.8s,mb4.4,baz=92,slow=4.9,SNR=7.4						
BOSA				LR	LR	10 10 53.8	
	comp=Z,130nm,18.8s,MS4.2,baz=119,slow=36						
NOA	**NORSAR Array B**	**76.03**	**330**	P	**P**	**09 37 48.1**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=92,slow=6.0,SNR=3.4						
DAVOX	**Davos**	**76.54**	**316**	LR	LR	10 13 41.3	
	comp=Z,40nm,19.0s,MS3.7,baz=75,slow=37						
BORG	**Borgarnes**	**89.88**	**337**	LR	LR	10 21 43.9	
	comp=Z,81nm,20.7s,MS4.1,baz=64,slow=37						
DBIC	**Dimbokro**	**94.86**	**278**	LR	LR	10 24 53.1	
	comp=Z,57nm,18.5s,MS4.1,baz=136,slow=37						
AFI	**Afiamalu**	**99.08**	**102**	LR	LR	10 22 42.1	
	comp=Z,74nm,18.5s,MS4.2,baz=303,slow=34						
PDAR	**Pinedale Array**	**123.56**	**18**	PKP	PKPdf	09 44 59.6	-1.7
	comp=Z,0.2nm,0.6s,baz=117,slow=3.3,SNR=3.5						
TXAR	**Lajitas Array**	**137.75**	**20**	PKP	PKPdf	09 45 27.9	-0.6
	comp=Z,0.1nm,0.4s,baz=270,slow=0.9,SNR=3.3						
PLCA	**Paso Flores**	**145.98**	**205**	PKPbc	PKPbc	09 45 43.9	+4.3
	comp=Z,2.0nm,0.8s,baz=192,slow=6.0,SNR=3.7						

*NIED **30** 09:29:00,24.70N×127.70E,h5km,Mw3.6 Best double couple: M0 3.04×10^14 NP1:φs51°,δs59°,λ-84°. NP2:φs221°, δ31°,λ-99°.*

JMA 30 09:29:57.9±0.2,**24.73N**×**127.68E**,**h50**km,**M3.5, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**1.40**	**3**	P	P	09 30 21.6	0.0
NAH1	**Naha**	**1.47**	**0**	*e*S	S	09 30 40.7	0.0
JKE	**Kume jima 2**	**1.78**	**333**	P	P	09 30 27.3	+0.4
JKE				S	S	09 30 48.3	-0.1
JAGN	**Aguni-jima**	**1.89**	**348**	P	P	09 30 28.8	+0.4
JAGN				S	S	09 30 50.8	-0.3
JOGS	**Gusukube**	**2.07**	**271**	P	P	09 30 31.0	+0.1
JOGS				*e*S	S	09 30 55.8	+0.3
JOW	**Kunigami**	**2.16**	**14**	P	P	09 30 32.1	-0.1
JOW				*e*S	S	09 30 58.8	+1.0
JMJ	**Miyako jima 2**	**2.17**	**273**	P	P	09 30 32.6	+0.2
JMJ				*e*S	S	09 30 57.9	-0.2
JIH	**Iheya**	**2.31**	**6**	P	P	09 30 34.7	+0.3
JIH				*e*S	S	09 31 00.5	-1.1
JTJ	**Tarama**	**2.71**	**269**	P	P	09 30 39.5	-0.6
JTJ				S	S	09 31 10.2	-1.6
JIJ	**Ishigaki jima**	**3.24**	**264**	P	P	09 30 46.6	-1.0
JIJ				*e*S	S	09 31 21.1	-4.2
JTK	**Tokunoshima**	**3.25**	**20**	P	P	09 30 46.3	-1.4
JKRS	**Kuro-shima**	**3.38**	**262**	P	P	09 30 50.0	+0.5
JKRS				*e*S	S	09 31 25.5	-3.3
JMZ	**Minamidaito 2**	**3.38**	**71**	P	P	09 30 45.0	-4.6
JMZ				*e*S	S	09 31 20.5	-8.4
IRIF	**Iriomote-Funau**	**3.62**	**265**	P	P	09 30 53.2	+0.3
IRIF				*e*S	S	09 31 31.5	-3.3
JAM	**Amami Oshima**	**4.05**	**25**	P	P	09 30 57.9	-1.1
JAM				*e*S	S	09 31 39.5	-6.2

*NNC **30** 09:53:24.0±1.2, 42.72N×70.46E, h14km±5km, mpv3.8, Error ellipse: s-maj=11.5km s-min=6.7km az=34.0*

ISC 30 09:53:22.3±1.1,**42.69N**±0.07×**70.2E**±0.1,**h49**km±5km,**n25**, σ1$**09**/39,**20C-14D**,**Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK07	**Karatay Array**	**0.45**	**26**	⇓P	**P**	**09 53 32.3**	**-0.6**
KK07				⇑S	**S**	**09 53 40.6**	**+0.1**
KK08	**Karatay Array**	**0.46**	**24**	⇑P	**P**	**09 53 32.6**	**-0.5**
KK08				⇑S	**S**	**09 53 41.0**	**+0.3**
KK03	**Karatay Array**	**0.46**	**25**	⇓P	**P**	**09 53 32.6**	**-0.5**
KK03				⇑S	**S**	**09 53 40.9**	**+0.2**

FCH	**Farellones**	**2.73**	**4**	⇑*iP*	**P**	**09 58 16.4**	**+0.7**
FCH				*i* S	**S**	**09 58 52.0**	**+0.1**
FCH				AMP		09 58 53.7	
	comp=N,24nm,0.4s						
JACH	**Jahuel**	**3.37**	**359**	⇑*iP*	**P**	**09 58 23.7**	**+0.3**
JACH				*i* S	**S**	**09 59 05.1**	**-0.4**
CMCH	**Combarbala**	**4.89**	**355**	*e*	**S**	**09 59 40.6**	**+1.1**
VNA3	**Neumayer Olymp**	**46.98**	**157**		**P**	**10 05 40.5**	**-0.5**
VNA2	**Neumayer--Watz**	**47.63**	**157**		**P**	**10 05 45.3**	**-0.8**

MEX 30 10:18:12.6±0.7, 16.35N×98.04W, h58km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.10**	**298**	*i* P		Pg	10 18 13.7	-1.0
PNIG				*i* S		Sg	10 18 15.9	-0.3
OXX	**Oaxaca**	**1.46**	**60**	*i* P		Pn	10 18 36.0	-3.7
OXX				*i* S		Sb	10 18 54.0	-4.5
ACX	**Acapulco**	**1.88**	**286**	*i* P		Pn	10 19 42.5	-3.2
CAIG	**El Cayaco**	**2.25**	**288**	*i* P		Pn	10 18 46.8	-4.2
CAIG				*i* S		Sn	10 19 16.0	-3.5
YAIG	**Yautepec**	**2.69**	**339**	*i* S		Sn	10 19 27.3	-3.3
CMIG	**Matias Romero**	**3.11**	**76**	*i* P		Pn	10 18 58.2	-5.1
CMIG				*i* S		Sn	10 19 37.4	-4.0

*IDC **30** 10:21:48.8±2.5, 31.95N×140.79E, h47km±18km, mb3.5/7, mb1 3.6/8, mb1mx3.4/22, mbtmp3.8/8, ML4.0/1, Error ellipse: s-maj=67.1km s-min=13.6km az=66.0*
*JMA **30** 10:21:49.0±0.2, 32.22N×141.00E, h14km, M4.1*
*NEIC **30** 10:21:51.2±2.5, 31.92N×140.80E, h71km±18km, MG4.1(JMA), Error ellipse: s-maj=51.2km s-min=18.9km az=76.0*

ISC 30 10:21:47.9±0.9, 31.94N±0.07×140.9E±0.1, h58km±9km, n23, σ1§07/30, mb3.7/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.50**	**321**	P		**P**	**10 22 13.3**	**+0.2**
JHJ2				*e*S		**S**	**10 22 30.3**	**-1.4**
JHJ	**Hachijo jima 2**	**1.52**	**321**	P		**P**	**10 22 13.2**	**-0.3**
	62nm,0.3s,baz=88,slow=24,SNR=118							
JHJ				S		**S**	**10 22 29.8**	**-2.5**
	230nm,0.3s,baz=263,slow=22,SNR=15							
JMY	**Miyakejima3**	**2.44**	**331**	P		**P**	**10 22 26.3**	**+0.1**
JMY				*e*S		**S**	**10 22 53.9**	**-1.0**
JKO	**Kozu shima**	**2.70**	**326**	P		**P**	**10 22 31.0**	**+1.0**
BSO1	**Boso 1**	**2.70**	**1**	P		**P**	**10 22 28.4**	**-1.6**
NJJJ	**Nii jima 2**	**2.82**	**331**	P		**P**	**10 22 32.8**	**+1.2**
BSO3	**Boso 3**	**2.87**	**353**	P		**P**	**10 22 31.9**	**-0.5**
BSO3				*e*S		**S**	**10 23 05.3**	**-0.6**
JIM2	**Oshima 3**	**3.04**	**336**	P		**P**	**10 22 34.9**	**+0.1**
JYN	**Shimob**	**4.07**	**331**	P		**P**	**10 22 50.9**	**+1.7**
JRY	**Ryogami san**	**4.40**	**338**	P		**P**	**10 22 55.0**	**+1.1**
JAG	**Ashikaga**	**4.64**	**345**	P		**P**	**10 22 56.5**	**-0.7**
CBIJ	**Chichi jima**	**4.95**	**167**	P		**P**	**10 23 00.7**	**-0.9**
	13nm,0.3s,baz=262,slow=20,SNR=31							
CBIJ				S		**S**	**10 23 53.4**	**-4.8**
	5.2nm,0.3s,baz=291,slow=23,SNR=3.7							
CBIJ	**Chichi jima**	**4.95**	**167**	P		**P**	**10 23 00.8**	**-0.8**
MJAR	**Matsushiro Arr**	**5.11**	**335**	P		**P**	**10 23 04.9**	**+1.1**
	3.3nm,0.3s,baz=168,slow=15,SNR=29							
MJAR				S		**S**	**10 23 56.2**	**-6.0**
	baz=150,slow=13,SNR=1.6							
MAT	**Matsushiro**	**5.12**	**335**	P		**P**	**10 23 05.9**	**+2.1**
MAT				S		**S**	**10 24 02.5**	**+0.2**
JGM	**Miyama**	**5.13**	**318**	P		**P**	**10 23 06.3**	**+2.2**
SONM	**Songino Array**	**30.58**	**311**	P		**P**	**10 27 57.7**	**-0.6**
	0.4nm,0.6s,mb3.4,baz=110,slow=8.2,SNR=4.0							
MKAR	**Makanchi Array**	**46.65**	**306**	P		**P**	**10 30 12.1**	**-0.1**
	0.8nm,0.4s,mb4.0,baz=87,slow=10,SNR=12							
WRA	**Warramunga Arr**	**51.97**	**188**	P		**P**	**10 30 52.9**	**-0.6**
	0.3nm,0.3s,mb3.7,baz=5.3,slow=7.7,SNR=8.4							
BVAR	**Borovoye Array**	**53.80**	**315**	P		**P**	**10 31 05.6**	**-1.1**
	0.6nm,0.6s,mb3.7,baz=72,slow=9.4,SNR=4.1							
FINES	**FINESS Array B**	**73.14**	**333**	P		**P**	**10 33 14.2**	**+0.6**
	0.4nm,0.4s,mb3.7,baz=45,slow=5.4,SNR=5.7							
HFS	**Hagfors**	**78.56**	**336**	P		**P**	**10 33 43.9**	**-0.5**
	1.4nm,0.7s,mb4.0,baz=90,slow=4.4,SNR=4.2							
NOA	**NORSAR Array B**	**78.73**	**338**	P		**P**	**10 33 45.9**	**+0.6**
	0.2nm,0.4s,mb3.4,baz=44,slow=4.7,SNR=2.9							

IGQ 30 10:53:19.0, 0.06S×78.44W, h14km±1km, mb4.0, 6C-14D, Error ellipse: s-maj=0.9km s-min=0.6km az=38.5, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YANA	**Yana**	**0.15**	**245**	⇓P		Pg	10 53 23.2	+0.3
GGP	**Refugio Guagua**	**0.20**	**233**	⇓P		Pg	10 53 24.1	+0.5
PINO	**Pino**	**0.20**	**239**	⇓P		Pg	10 53 24.2	+0.5
TERV	**Terraza Guagua**	**0.20**	**235**	⇓P		Pg	10 53 24.3	+0.5
JOR1	**San Jorge 1**	**0.21**	**285**	⇓P		Pg	10 53 25.0	+1.1
JUA2	**San Juan 2**	**0.23**	**227**	⇓P		Pg	10 53 24.3	+0.1
CAYR	**Refugio Cayamb**	**0.44**	**81**	⇓P		Pb	10 53 28.5	+0.5
CAYA	**Cayambe**	**0.47**	**74**	⇓P		Pb	10 53 28.8	+0.3
ANTI	**Antisana**	**0.48**	**145**	⇓P		Pb	10 53 29.1	+0.4
NAS1	**Nasa**	**0.57**	**184**	⇑P		Pb	10 53 31.4	+1.0
VC1	**Cotopaxi 1**	**0.58**	**177**	⇑P		Pb	10 53 31.3	+0.8
CAMI	**Rancho Maria**	**0.62**	**186**	⇑P		Pb	10 53 32.2	+1.1
TAMB	**Tambo**	**0.64**	**174**	⇑P		Pb	10 53 32.3	+0.8
CONE	**Cono NE Rev Vo**	**0.80**	**91**	⇓P		Pb	10 53 34.7	+0.5
CONE				S		Sb	10 53 45.4	+0.9
ECOPE	**Copete-Rev Vol**	**0.82**	**93**	⇓P		Pb	10 53 35.0	+0.5
QIL1	**Quilotoa**	**0.93**	**212**	⇓P		Pb	10 53 36.9	+0.5
ECEN	**Cerro Negro**	**0.99**	**28**	⇑P		Pb	10 53 38.0	+0.6
PISA	**Pisayambo**	**1.00**	**177**	⇓P		Pb	10 53 38.6	+1.0
LORE	**San Lorenzo**	**1.40**	**343**	⇓P		Pn	10 53 45.2	+0.8
IGUA	**Igualata**	**1.44**	**188**	P		Pn	10 53 46.4	+1.6
IGUA				S		Sb	10 54 06.6	+3.4
ARRY	**Arrayan**	**1.44**	**181**	⇑P		Pn	10 53 45.8	+1.0
ARRY				S		Sb	10 54 04.7	+1.5

*ISK **30** 10:56:55.8, 40.41N×26.27E, h22km, MD3.2*
*CSEM **30** 10:56:55.4±0.1, 40.43N×26.32E, h15km, MD3.2, Error ellipse: s-maj=1.9km s-min=1.4km az=23.0*
*ATH **30** 10:56:56.5, 40.45N×26.18E, h34km±3km, MD3.6/3*
*SOF **30** 10:56:56.3, 40.48N×25.96E, h5km, MD3.0*
*THE **30** 10:56:57.4, 40.45N×26.11E, h8km, ML3.6*

ISC 30 10:56:55.1±0.4, 40.45N±0.02×26.22E±0.03, h10km±3km, n41, σ0§89/57, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPK	**Lapseki**	**0.42**	**100**	*i* PG		**Pg**	**10 57 04.4**	**+0.7**
LPK				*i* SG		**Sg**	**10 57 10.5**	**+1.1**
ALN	**Alexandroupoli**	**0.47**	**343**	*e*Pg		**Pg**	**10 57 05.8**	**+1.1**
ALN				*e*Sg		**Sg**	**10 57 12.4**	**+1.4**
EZN	**Ezine**	**0.62**	**173**	*i* PG		**Pg**	**10 57 08.0**	**+0.2**
EZN				*i* SG		**Sg**	**10 57 16.5**	**+0.3**
CANB	**Canakkale**	**0.77**	**123**	PG		**Pg**	**10 57 10.2**	**-0.5**
RDO	**Rodhopi**	**0.87**	**324**	*e*PN		**Pn**	**10 57 12.8**	**-0.5**
RDO				*e*SN		**Sn**	**10 57 25.5**	**-0.6**
MFT	**Murefte**	**0.88**	**67**	PG		**Pg**	**10 57 12.8**	**+0.1**
LIA	**Limnos Island**	**0.97**	**236**	*e*PN		**Pn**	**10 57 14.5**	**-0.2**
LOS	**Limnos**	**1.01**	**240**	*e*Pg		**Pg**	**10 57 14.9**	**-0.5**
LOS				*e*Sg		**Sg**	**10 57 28.9**	**-0.1**
MRMT	**Marmara Adasi**	**1.06**	**81**	PG		**Pg**	**10 57 15.1**	**-1.3**
MRMT				SG		**Sg**	**10 57 29.6**	**-0.9**
AYVA	**Ayvalik**	**1.19**	**162**	*i* P		**Pb**	**10 57 18.6**	**+1.1**
AYVA				*i* S		**Sb**	**10 57 33.4**	**+0.7**
PRK	**Paraskevi**	**1.20**	**178**	*e*PN		**Pn**	**10 57 18.8**	**+0.8**
PRK				*e*SN		**Sn**	**10 57 35.0**	**+0.6**
BNT	**Bandirma**	**1.30**	**93**	PN		**Pn**	**10 57 18.5**	**-0.9**
KDZ	**Kurdzhali**	**1.35**	**333**	*i* P		**Pb**	**10 57 20.5**	**+0.4**
EDRB	**Edirne**	**1.45**	**16**	PN		**Pn**	**10 57 21.4**	**-0.2**
EDRB				SN		**Sn**	**10 57 41.1**	**+0.2**
BALB	**Balikesir**	**1.51**	**122**	*e*PN		**Pn**	**10 57 21.6**	**-0.8**
BTOK	**Tokmak**	**1.55**	**116**	*i* P		**Pn**	**10 57 23.2**	**+0.2**
BTOK				*i* S		**Sb**	**10 57 44.8**	**+1.7**
RZN	**Rozhen**	**1.68**	**318**	*i* P		**Pn**	**10 57 25.3**	**+0.4**
DIM	**Dimitrovgrad**	**1.68**	**342**	*i* P		**Pn**	**10 57 27.5**	**+2.6**
OUR	**Ouranopolis**	**1.71**	**267**	*e*Pb		**Pb**	**10 57 24.9**	**-1.4**
OUR				*e*Sb		**Sb**	**10 57 47.3**	**-0.6**
AKS	**Akhisar**	**1.99**	**141**	*e*PN		**Pn**	**10 57 29.1**	**-0.2**
NVR	**Nevrokopi**	**2.00**	**298**	*e*PN		**Pn**	**10 57 29.5**	**0.0**
PLD	**Plovdiv**	**2.01**	**326**	P		**Pn**	**10 57 34.0**	**+4.4**
DST	**Dursunbey**	**2.03**	**114**	*e*PN		**Pn**	**10 57 28.7**	**-1.2**
ORLT	**Orhaneli**	**2.09**	**100**	*e*PN		**Pn**	**10 57 29.5**	**-1.2**
SRS	**Serrai**	**2.11**	**289**	*e*Pn		**Pn**	**10 57 31.5**	**+0.5**
SRS				*e*Sn		**Sn**	**10 57 56.8**	**-0.6**
BLCB	**Balcova**	**2.15**	**163**	*e*PN		**Pn**	**10 57 31.0**	**-0.7**
KDAG	**Bornova**	**2.20**	**158**	*i* P		**Pn**	**10 57 31.1**	**-1.1**
KDAG				*i* S		**Sn**	**10 58 01.8**	**+2.1**
IZM	**Izmir**	**2.20**	**158**	*e*PN		**Pn**	**10 57 31.9**	**-0.4**
MMB	**Musomiste**	**2.21**	**302**	*i* P		**Pn**	**10 57 32.5**	**+0.1**
AOS	**Alonnisos**	**2.21**	**235**	*e*Pn		**Pn**	**10 57 32.6**	**+0.1**
ISK	**Istanbul-Kandi**	**2.24**	**73**	*e*PN		**Pn**	**10 57 32.4**	**-0.5**
ULDT	**Uludag**	**2.25**	**97**	*i* P		**Pn**	**10 57 36.3**	**+3.3**
ULDT				*i* S		**Sn**	**10 58 07.2**	**+6.1**
YLV	**Yalova**	**2.41**	**86**	*e*PN		**Pn**	**10 57 34.5**	**-0.8**
PGB	**Panagyurishte**	**2.61**	**324**	P		**Pn**	**10 57 38.0**	**-0.1**
HRT	**Hereke**	**2.65**	**81**	*e*PN		**Pn**	**10 57 38.7**	**0.0**
MANT	**Manisa**	**2.66**	**136**	*i* P		**Pn**	**10 57 38.9**	**0.0**
MANT				*i* S		**Sn**	**10 58 18.3**	**+6.7**
GDZ	**Gediz**	**2.85**	**117**	*i* P		**Pn**	**10 57 41.8**	**+0.1**
GRG	**Griva**	**2.95**	**281**	*e*Pn		**Pn**	**10 57 42.9**	**-0.1**
VTS	**Vitosha**	**3.12**	**314**	P		**Pn**	**10 57 46.5**	**+1.1**
ESKT	**Eskisehir**	**3.67**	**103**	*e*PN		**Pn**	**10 57 52.6**	**-0.7**
TKTP	**Tekketepe**	**3.99**	**126**	*i* P		**Pn**	**10 57 58.2**	**+0.5**
TKTP				*i* S		**Pg**	**10 58 12.0**	**-2.7**

*IDC **30** 11:03:47.6±0.5, 61.28S×153.49E, mb4.6/12, mb1 4.6/12, mb1mx4.6/14, mbtmp4.6/12, MS5.5/21, Ms1 5.5/21, ms1mx5.4/26, Error ellipse: s-maj=26.1km s-min=15.9km az=72.0*
*MOS **30** 11:03:48.7±1.8, 61.61S×154.44E, h10km, mb5.4/11, MS5.3/7, Error ellipse: s-maj=49.1km s-min=10.9km az=90.5*
*HRVD **30** 11:03:49.1±0.1, 61.50S×154.21E, h14km, MW6.0/81, Centroid moment Tensor Solution. LP body waves: s81,c187;Mantle waves: s77,c295; Half duration: 2s5 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.12±.01; $M_{\theta\theta}$1.12±.01; $M_{\phi\phi}$-1.00±.01; $M_{r\theta}$0.01±.02; $M_{\theta\phi}$-0.85±.01; $M_{r\phi}$0.18±.03; Best double couple: M_o1.369×10^{18} NP1: ϕ_s245°, δ83°, λ-175°. NP2:ϕ_s154°, δ86°, λ-7°. Principal axes: T 1.418, Plg2°, Azm199°; N -.097, Plg82°, Azm302°; P -1.321, Plg8°, Azm109°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **30** 11:03:49.1±0.3, 61.47S×154.25E, h10km, mb5.3/21, MS5.7/5, MW5.9 Error ellipse: s-maj=13.6km s-min=8.8km az=82.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{17}Nm; M_{rr}1.41; $M_{\theta\theta}$7.05; $M_{\phi\phi}$-8.45; $M_{r\theta}$1.37; $M_{\theta\phi}$-3.05; $M_{r\phi}$0.20; Best double couple: M_o8.5×10^{17} NP1: ϕ_s146°, δ80°, λ6°. NP2:ϕ_s55°, δ84°, λ170°. Principal axes: T 7.89, Plg11°, Azm10°; N 1.16, Plg78°, Azm203°; P -9.05, Plg2°, Azm101°;*
*BJI **30** 11:03:49.1, 61.50S×154.20E, h10km, mB6.0, mb5.6, Ms5.7, Msz5.2*
*CRAAG **30** 11:04:05.0, 60.26S×150.89E, Mb5.2*

ISC 30 11:03:51.8±3.0, 61.31S±0.05×153.8E±0.2, h27km±22km, h25km±3.5km:pP-P, n273, σ1§33/91, mb5.0/30, MS5.4/37, 12C-16D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DRV	**Dumont d'Urvil**	**8.10**	**223**	P		**P**	**11 05 51.0**	**+0.3**
DRV				R			11 07 00.0	
VNDA	**Vanda**	**16.50**	**174**	⇑*eP*		**P**	**11 07 34.3**	**-8.3**
VNDA				pmax		pmax		
	comp=Z,296nm,0.9s							
VNDA	**Vanda**	**16.50**	**174**	Pn		**P**	**11 07 34.1**	**-8.5**
	comp=Z,24nm,0.3s,baz=346,slow=13,SNR=135							
VNDA				LR		LR	11 13 10.0	
	comp=Z,52μm,19.8s,baz=353,slow=34							
VNDA	**Vanda**	**16.50**	**174**	⇑*eP*		**P**	**11 07 34.3**	**-8.3**
	comp=Z,296nm,0.9s							
SBA	**Scott Base**	**17.14**	**171**	⇑*eP*		**P**	**11 07 44.1**	**-6.5**
SBA				pmax		pmax		
	comp=Z,358nm,0.9s							
SBA	**Scott Base**	**17.14**	**171**	⇑*eP*		**P**	**11 07 44.1**	**-6.5**
	comp=Z,358nm,0.9s							
TUZ	**Tuapeka**	**17.92**	**38**	P*		**P**	**11 08 00.1**	**-0.5**
MLZ	**Mavora Lakes**	**18.06**	**34**	*eP**		**P**	**11 08 01.3**	**-1.1**
ODZ	**Otahua Downs**	**19.05**	**39**	P*		**P**	**11 08 15.4**	**+1.0**
JCZ	**Jackson Bay**	**19.40**	**34**	P*		**P**	**11 08 23.3**	**+4.9**
CASY	**Casey**	**19.43**	**237**	*eP*		**P**	**11 08 18.2**	**-0.4**
FOZ	**Fox Glacier**	**20.12**	**35**	P*		**P**	**11 08 27.6**	**+1.3**
RPZ	**Rata Peaks**	**20.38**	**38**	P		**P**	**11 08 27.1**	**-1.8**
	comp=Z,49nm,1.1s,baz=218,slow=19,SNR=4.3							
RPZ				LR		LR	11 15 07.3	
	comp=Z,21μm,19.7s,MS5.5,baz=187,slow=33							
RPZ	**Rata Peaks**	**20.38**	**38**	P*		**P**	**11 08 28.5**	**-0.5**
LTZ	**Lake Taylor**	**21.59**	**39**	*eP**		**P**	**11 08 43.9**	**+2.6**
TOO	**Toolangi**	**24.33**	**344**	*eP*		**P**	**11 09 06.8**	**-1.3**
TOO	**Toolangi**	**24.33**	**344**	*eP*		**P**	**11 09 06.8**	**-1.3**
TOO				pmax		pmax		
	comp=Z,26nm,1.3s,mb4.5							
CNB	**Canberra Magne**	**26.17**	**352**	*eP*		**P**	**11 09 25.2**	**-0.3**
	comp=Z,51nm,1.3s,mb4.4							
MIR	**Mirnyy**	**26.26**	**232**	*eP*		**P**	**11 09 27.0**	**+1.0**
MIR				pmax		pmax		
	comp=Z,270nm,2.4s,mb5.3							
MIR				pmax		pmax		
	comp=Z,2μm,14.0s							
MIR				pmax		pmax		
	comp=N,303nm,4.0s							
MIR				pmax		pmax		
	comp=E,784nm,10.0s							
MIR				MLR		MLR		
	comp=N,13μm,18.0s,MS5.6							
MIR				MLR		MLR		
	comp=E,7μm,18.0s,MS5.6							
MIR				MLR		MLR		
	comp=Z,14μm,18.0s,MS5.5							
URZ	**Urewera**	**27.24**	**43**	P		**P**	**11 09 30.6**	**-4.6**
	comp=Z,24nm,0.8s,mb4.8,baz=207,slow=3.4,SNR=9.2							
URZ				LR		LR	11 18 23.6	
	comp=Z,5μm,21.3s,MS5.1,baz=89,slow=32							
QSPA	**South Pole Qui**	**28.79**	**180**	P		**P**	**11 09 49.9**	**+1.0**
QSPA	**South Pole Qui**	**28.79**	**180**	*eP*		**P**	**11 09 49.6**	**+0.7**
	comp=Z,1μm,1.9s,mb6.4							
STKA	**Stephens Creek**	**30.51**	**339**	*eP*		**P**	**11 10 01.6**	**-3.1**
	comp=Z,13nm,1.5s,mb4.5							
STKA	**Stephens Creek**	**30.51**	**339**	P		**P**	**11 10 01.2**	**-3.5**
	comp=Z,4.3nm,0.7s,mb4.4,baz=145,slow=9.2,SNR=6.4							
STKA				LR		LR	11 19 35.1	
	comp=Z,8μm,21.7s,MS5.3,baz=161,slow=31							
MAW	**Mawson**	**36.31**	**220**	*eP*		**P**	**11 10 53.7**	**-0.8**
	comp=Z,23nm,0.7s,mb5.2							
MAW	**Mawson**	**36.31**	**220**	*eP*		**P**	**11 10 53.7**	**-0.8**
MAW				pmax		pmax		
	comp=Z,23nm,0.7s							
MAW	**Mawson**	**36.31**	**220**	P		**P**	**11 10 54.0**	**-0.5**
	comp=Z,20nm,1.0s,mb5.0,baz=114,slow=16,SNR=5.2							
MAW				LR		LR	11 26 01.3	
	comp=Z,26μm,18.3s,MS6.0,baz=113,slow=37							
NWAO	**Narrogin (SRO)**	**36.90**	**303**	LR		LR	11 22 42.9	
	comp=Z,8μm,21.4s,MS5.5,baz=147,slow=31							
RAO	**Raoul Island**	**37.12**	**43**	LR		LR	11 24 36.1	
	comp=Z,10μm,19.0s,MS5.6,baz=200,slow=34							
MUN	**Mundaring**	**38.15**	**303**	*eP*		**P**	**11 11 18.2**	**+7.9**
	comp=Z,9.6nm,0.8s,mb4.6							
NOUC	**Port Laguerre**	**40.12**	**18**	*eP*		**P**	**11 11 28.7**	**+1.9**
DZM	**Mont Dzumac**	**40.17**	**18**	*eP*		**P**	**11 11 26.9**	**-0.3**
DZM	**Mont Dzumac**	**40.17**	**18**	P		**P**	**11 11 26.3**	**-0.9**
	comp=Z,16nm,0.8s,mb4.8,baz=302,slow=9.5,SNR=5.2							
DZM				LR		LR	11 24 42.7	
	comp=Z,9μm,19.1s,MS5.6,baz=204,slow=31							
CTA	**Charters Tower**	**41.52**	**349**	*eP*		**P**	**11 11 42.6**	**+4.3**
	comp=Z,26nm,1.6s,mb4.6							
CTA	**Charters Tower**	**41.52**	**349**	P		**P**	**11 11 36.3**	**-2.0**
	comp=Z,4.5nm,0.9s,mb4.1,baz=264,slow=17,SNR=1.9							
CTA				LR		LR	11 26 38.3	
	comp=Z,7μm,18.1s,MS5.6,baz=178,slow=33							
CTAO	**Charters Tower**	**41.52**	**349**	*eP*		**P**	**11 11 39.6**	**+1.3**
CTAO				pmax		pmax		
	comp=Z,146nm,1.7s,mb5.3							
CTAO	**Charters Tower**	**41.52**	**349**	*eP*		**P**	**11 11 39.6**	**+1.3**
	comp=Z,146nm,1.7s,mb5.3							
SYO	**Syowa Base**	**41.79**	**210**	⇓pP		**P**	**11 11 36.5**	**-3.4**
SYO	**Syowa Base**	**41.79**	**210**	⇓P		pP	11 11 49.0	+1.1
SYO	**Syowa Base**	**41.79**	**210**	⇓PcP		PcP	11 13 32.5	-3.9
WB2	**Warramunga Arr**	**43.53**	**333**	*eP*		**P**	**11 11 54.3**	**-0.4**
WB2				*e*			11 13 49.6	
WRA	**Warramunga Arr**	**43.53**	**333**	P		**P**	**11 11 50.6**	**-4.1**
	comp=Z,6.4nm,0.7s,mb4.4,baz=165,slow=6.9,SNR=18							
WRA				PcP		PcP	11 13 40.9	-1.9
	comp=Z,2.6nm,0.8s,baz=165,slow=3.2,SNR=3.1							
WRAB	**Tennant Creek**	**43.54**	**333**	⇓*eP*		**P**	**11 11 54.8**	**0.0**
WRAB	**Tennant Creek**	**43.54**	**333**	⇓*eP*		**P**	**11 11 52.9**	**-1.9**
	comp=Z,171nm,1.5s,mb5.6							
NVL	**N'lazarevskaya**	**45.55**	**197**	⇓*iP*		**P**	**11 12 09.5**	**-0.8**
NVL				*i* *PP		pP	11 12 18.0	-0.3
NVL				*i*			11 13 54.8	
NVL				*i* PPP		PPP	11 14 30.8	-9.1
NVL				*e*S		**S**	**11 18 41.5**	**-8.5**
NVL				*e*SS		SS	11 21 55.8	-10
NVL				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
NVL				MLR		MLR		
	comp=Z,800nm,15.6s,MS4.8							
MAIT	**Maitri**	**45.56**	**197**	*eP*		**P**	**11 12 12.3**	**+2.0**
MAIT				*e*			11 13 56.6	
MAIT	**Maitri**	**45.56**	**197**	*eP*		**P**	**11 12 08.8**	**-1.5**
SNAA	**Sanae**	**46.32**	**190**	⇑*iP*		**P**	**11 12 17.5**	**+1.2**
SNAA	**Sanae**	**46.32**	**190**	*e*		pP	11 12 24.4	0.0
SNAA	**Sanae**	**46.32**	**190**	*e*		sP	11 12 27.2	-0.5
SNAA	**Sanae**	**46.32**	**190**	*e*S		**S**	**11 19 10.3**	**+9.3**
SNAA	**Sanae**	**46.32**	**190**	*eP*		**P**	**11 12 12.7**	**-3.6**
SNAA				*e*			11 14 10.0	
SNAA				*e*S		**S**	**11 19 10.3**	**+9.3**
SNAA				pmax		pmax		
	comp=Z,38nm,1.0s							
SNAA	**Sanae**	**46.32**	**190**	*eP*		**P**	**11 12 12.7**	**-3.6**
	comp=Z,38nm,1.0s,mb5.3							
SNAA				*e*			11 12 24.4	
SNAA				*e*			11 12 27.2	
SNAA				*e*			11 14 10.0	
SNAA				*e*S		**S**	**11 19 10.3**	**+9.3**
MBWA	**Marble Bar**	**46.58**	**314**	*eP*		**P**	**11 12 18.9**	**-0.1**
	comp=Z,20nm,1.0s,mb5.0							
VNA3	**Neumayer Olymp**	**47.23**	**187**	*e*		pP	11 12 32.0	+0.4
VNA3	**Neumayer Olymp**	**47.23**	**187**	*e*		sP	11 12 35.9	+1.0
VNA3	**Neumayer Olymp**	**47.23**	**187**	*e*S		**S**	**11 19 27.8**	**+14**
VNA3	**Neumayer Olymp**	**47.23**	**187**	⇑*iP*		**P**	**11 12 24.5**	**+0.9**
VNA3				*e*		pP	11 12 32.0	+0.4
VNA3				*e*			11 12 35.9	
VNA3				*e*			11 14 12.3	
VNA3				*e*S		**S**	**11 19 27.8**	**+14**
VNA2	**Neumayer--Watz**	**47.40**	**188**	*e*		pP	11 12 33.4	+0.4
VNA2	**Neumayer--Watz**	**47.40**	**188**	*e*		sP	11 12 37.4	+1.2
VNA2	**Neumayer--Watz**	**47.40**	**188**	*e*S		**S**	**11 19 27.2**	**+11**
VNA2	**Neumayer--Watz**	**47.40**	**188**	⇑*iP*		**P**	**11 12 25.7**	**+0.8**
VNA2				*e*		pP	11 12 33.4	+0.4
VNA2				*e*			11 12 37.4	
VNA2				*e*			11 14 16.6	
VNA2				*e*S		**S**	**11 19 27.2**	**+11**
FITZ	**Fitzroy Crossi**	**47.54**	**322**	*eP*		**P**	**11 12 27.6**	**+0.9**
	comp=Z,58nm,1.5s,mb5.4							
FITZ				*e*			11 14 11.0	
FITZ	**Fitzroy Crossi**	**47.54**	**322**	P		**P**	**11 12 22.3**	**-4.4**
	comp=Z,2.3nm,0.7s,mb4.3,baz=180,slow=8.7,SNR=3.7							
FITZ				LR		LR	11 30 28.9	
	comp=Z,3μm,18.7s,MS5.3,baz=153,slow=34							
FITZ	**Fitzroy Crossi**	**47.54**	**322**	*eP*		**P**	**11 12 27.6**	**+0.9**
FITZ				*e*			11 14 11.0	
FITZ				LR		LR	11 30 28.9	
VNA1	**Neumayer--Stat**	**47.73**	**188**	*e*		pP	11 12 36.7	+1.1
VNA1	**Neumayer--Stat**	**47.

KMI SKS SKS 11 27 53.3 -2.3
KMI S S 11 28 33.8 +7.6
KMI SS SS 11 35 04.5 +6.2
KMI AMB AMB
comp=Z,6.0nm,0.7s,mb5.1
KMI AMB AMB
comp=Z,174nm,3.7s
KMI LR LR
comp=N,1µm,23.8s,MS5.4
KMI LR LR
comp=E,1µm,26.3s,MS5.4
KMI LR LR
comp=Z,2µm,28.8s,MS5.4
KMI Kunming 95.45 315 P **P 11 17 17.4 +2.5**
comp=Z,6.0nm,0.7s,mb5.1
KMI pP pP 11 17 19.4 -4.1
KMI sP sP 11 17 20.8 -5.4
KMI PP PP 11 21 13.7 +5.7
KMI PPP PPP 11 23 21.6 +8.6
KMI SKS SKS 11 27 53.3 -2.3
KMI S S 11 28 33.8 +7.6
KMI PS PS 11 29 57.7 +4.6
KMI SS SS 11 35 04.6 +6.3
KMI SSS SSS 11 38 48.6 +7.4
KMI LR LR
comp=Z,2µm,28.8s,MS5.4
LPAZ La Paz 95.77 140 *e*P **P 11 17 15.8 -0.7**
LPAZ pmax pmax
comp=Z,8.0nm,0.8s
LPAZ La Paz 95.77 140 P **P 11 17 15.7 -0.8**
comp=Z,1.5nm,0.9s,mb4.4,baz=189,slow=4.7,SNR=6.4
LPAZ LR LR 11 51 29.7
comp=Z,2µm,21.9s,MS5.4,baz=279,slow=30
LPAZ La Paz 95.77 140 *e*P **P 11 17 15.8 -0.7**
comp=Z,8.3nm,0.8s,mb5.2
SSE Sheshan 95.83 332 P **P 11 17 17.3 +0.8**
SSE AP pP 11 17 21.8 -3.3
SSE PP PP 11 21 12.5 +1.7
SSE SKS SKS 11 27 52.5 -5.0
SSE S S 11 28 31.0 +1.8
SSE AMB AMB
comp=Z,12nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,180nm,4.3s
SSE LR LR
comp=N,430nm,35.5s,MS5.0
SSE LR LR
comp=E,701nm,34.9s,MS5.0
SSE LR LR
comp=Z,750nm,23.3s
SSE Sheshan 95.83 332 P **P 11 17 17.2 +0.7**
comp=Z,12nm,0.8s,mb5.4
SSE pP pP 11 17 21.8 -3.3
SSE PP PP 11 21 12.4 +1.6
SSE SKS SKS 11 27 52.4 -5.1
SSE S S 11 28 31.0 +1.8
SSE sS 11 28 36.4
SSE SS SS 11 35 14.6 +11
SSE LR LR
comp=Z,750nm,23.3s,MS5.1
JNU Nakatsue 95.93 341 LR LR 12 00 26.2
comp=Z,1µm,20.5s,MS5.3,baz=322,slow=36
NJ2 Nanjing 97.28 331 *e*P **P 11 17 25.3 +2.2**
NJ2 AP pP 11 17 35.8 +4.1
NJ2 XP sP 11 17 39.8 +5.4
NJ2 PP PP 11 21 22.3 -0.1
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.7
NJ2 AMB AMB
comp=Z,140nm,4.6s
NJ2 LR LR
comp=N,3µm,23.1s,MS5.9
NJ2 LR LR
comp=E,5µm,26.8s,MS5.9
NJ2 LR LR
comp=Z,2µm,21.0s
MJAR Matsushiro Arr 98.33 347 LR LR 11 59 23.3
comp=Z,644nm,21.3s,MS5.1,baz=155,slow=34
HHC Hu-ho-hao-te 107.44 328 *e*PDIF Pdif 11 18 09.5 +1.4
HHC LR LR
comp=N,471nm,22.5s,MS5.1
HHC LR LR
comp=E,532nm,27.2s,MS5.1
HHC LR LR
comp=Z,690nm,28.4s,MS5.1
SONM Songino Array 115.29 327 PKP PKPdf 11 22 33.7 -1.1
comp=Z,0.1nm,0.4s,baz=135,slow=3.5,SNR=4.0
SONM PKKP PKKP 11 33 19.0 -4.0
comp=Z,0.8nm,0.9s,baz=278,slow=2.2,SNR=6.2
WMQ Urumqi 117.58 312 PKP PKPdf 11 22 35.0 -4.3
WMQ XPKP 11 22 39.5
WMQ PP PP 11 23 53.8 +1.8
WMQ PP PP
comp=Z,52nm,10.1s
WMQ LR LR
comp=N,214nm,23.2s,MS4.9
WMQ LR LR
comp=E,314nm,24.1s,MS4.9
WMQ LR LR
comp=Z,431nm,24.6s,MS5.0
ZAK Zakamensk 118.46 326 *e*PKIKP PKPdf 11 22 37.4 -3.5
ZAK pmax pmax
comp=Z,1.0nm,1.6s
TLY Talaya 119.54 327 *i* PKIKP PKPdf 11 22 38.4 -4.5
TLY *e* 11 33 58.7
TLY *e* 11 44 54.6
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY MLR MLR
comp=Z,1µm,21.0s,MS5.4
TXAR Lajitas Array 121.20 85 PKP PKPdf 11 22 43.2 -3.5
comp=Z,0.2nm,0.8s,baz=221,slow=8.3,SNR=3.6
TXAR PKKP PKKP 11 33 04.2 -8.6
comp=Z,0.3nm,0.7s,baz=72,slow=4.0,SNR=4.7
NVAR Mina Array Bea 121.87 68 PKP PKPdf 11 22 40.9 -6.9
comp=Z,0.6nm,0.9s,baz=202,slow=4.9,SNR=3.5
MKAR Makanchi Array 122.10 310 PKP PKPdf 11 22 41.0 -7.0
comp=Z,0.3nm,0.5s,baz=135,slow=1.7,SNR=8.7
MNTX Cornudas Mount 122.34 82 *e*PKPdf PKPdf 11 22 43.5 -5.3
YBH Yreka Blue Hor 122.66 62 PKP PKPdf 11 22 48.8 -0.4
comp=Z,0.4nm,0.4s,baz=166,slow=8.3,SNR=3.2
BOD Bodaibo 122.79 336 *e*PKIKP PKPdf 11 22 44.6 -4.4
LIC Lamto 122.81 205 *e*P PKPdf 11 22 56.1 +6.0
comp=Z,50nm,1.2s
DBIC Dimbokro 123.21 206 PKP PKPdf 11 22 50.8 -0.1
comp=Z,8.1nm,1.1s,baz=113,slow=7.3,SNR=3.0
HUMO Hull Mountain 123.27 61 *e*PKPdf PKPdf 11 22 44.0 -6.4
MOD Modoc 123.83 64 *e*PKPdf PKPdf 11 22 47.3 -4.2
ANMO Albuquerque 124.49 79 *i* PKIKP PKPdf 11 22 55.2 +2.2
ANMO Albuquerque 124.49 79 PKP PKPdf 11 22 52.8 -0.2
comp=Z,0.2nm,0.4s,baz=180,slow=7.1,SNR=3.1
ELK Elko 125.12 68 PKP PKPdf 11 22 53.9 0.0
comp=Z,0.7nm,0.6s,baz=238,slow=5.1,SNR=4.7
ELK Elko 125.12 68 *e*PKPdf PKPdf 11 22 53.4 -0.5
PV10 Paradox Valley 126.05 75 *e*PKPdf PKPdf 11 22 52.1 -3.6
PV01 Paradox Valley 126.08 75 *e*PKPdf PKPdf 11 22 53.7 -2.1
KURK Kurchatov 126.71 310 *e*PKIKP PKPdf 11 22 52.4 -4.2
SDCO Great Sand Dun 127.20 78 PKPdf PKPdf 11 22 53.0 -5.0
HWUT Hardware Ranch 127.47 70 *e*PKPdf PKPdf 11 22 54.1 -4.3
BMO Blue Mountains 127.50 64 *e*PKPdf PKPdf 11 22 53.2 -5.2
HLID Hailey 127.74 67 *e*PKPdf PKPdf 11 22 53.3 -5.6
NVS Novosibirsk 128.44 316 *e*PKIKP PKPdf 11 22 58.6 -1.3
RRI2 Red Ridge 128.96 69 *e*PKPdf PKPdf 11 22 59.5 -1.8
REDW Red Top Meadow 129.18 70 *e*PKPdf PKPdf 11 22 55.6 -6.1
TPAW Teton Pass 129.24 69 *e*PKPdf PKPdf 11 22 59.0 -2.8
PDAR Pinedale Array 129.30 71 PKP PKPdf 11 22 55.8 -6.1
comp=Z,0.5nm,0.6s,baz=259,slow=4.6,SNR=5.6
MCMT McKenzie Canyo 129.43 67 *e*PKPdf PKPdf 11 22 53.1 -9.0
LOHW Long Hollow 129.49 70 *e*PKPdf PKPdf 11 22 58.4 -3.8
IMW Indian Meadow 129.56 69 PKPdf PKPdf 11 22 60.0 -2.4
PHWY Pilot Hill 130.04 75 PKPdf PKPdf 11 22 58.2 -5.1
QLMT Earthquake Lak 130.07 68 PKPdf PKPdf 11 23 03.6 +0.3
NEW Newport 130.25 61 PKP PKPdf 11 23 01.9 -1.7
comp=Z,6.0nm,0.4s,baz=194,slow=4.2,SNR=2.3
MSO Missoula 130.51 64 PKPdf PKPdf 11 22 59.3 -4.8
BOZ Bozeman (W) 130.61 67 *e*PKPdf PKPdf 11 22 57.2 -7.1
CHMT Chamberlain Mo 130.88 65 *e*PKPdf PKPdf 11 22 59.1 -5.6
HRY Holter Researc 131.34 66 PKPdf PKPdf 11 23 05.6 -0.1
RSSD Black Hills 132.89 74 *e*PKPdf PKPdf 11 23 02.4 -6.3
ILAR Eielson Array 133.28 30 PKP PKPdf 11 23 01.2 -7.6
comp=Z,1.5nm,1.0s,baz=242,slow=4.3,SNR=9.5
PLAL Pickwick Lake 133.35 95 *e*PKPdf PKPdf 11 23 00.8 -9.0
TIXI Tiksi 133.80 349 *i* PKIKP PKPdf 11 23 10.4 +0.8
TIXI *e* 11 30 17.7
TIXI pmax pmax
comp=Z,7.0nm,1.1s
FVM French Village 134.62 90 PKPdf PKPdf 11 23 10.0 -2.0
MALT Malatya 134.72 270 *e*PKPdf PKPdf 11 23 13.6 +1.3
EDM Edmonton 135.56 59 *e*PKPdf PKPdf 11 23 08.7 -4.7
TZTN Tazewell 136.78 98 PKPdf PKPdf 11 23 08.0 -8.0
WCI Wyandotte Cave 136.80 94 *e*PKPdf PKPdf 11 23 11.7 -4.3
KIV Kislovodsk 137.02 279 *i* PKIKP PKPdf 11 23 14.9 -1.3
KIV MLR MLR
comp=Z,500nm,21.0s,MS5.2
BRTR Keskin Array B 138.14 267 PKP PKPdf 11 23 14.2 -4.3
comp=Z,0.4nm,0.4s,baz=162,slow=7.8,SNR=3.5
ELN Prospectdale 138.66 100 *e*PKPdf PKPdf 11 23 22.3 +2.9
BLA Blacksburg 138.80 100 *e*PKPdf PKPdf 11 23 20.8 +1.1
ARU Arti 138.84 303 *i* PKIKP PKPdf 11 23 18.8 -0.4
FWV Forest Hill 138.91 100 PKPdf PKPdf 11 23 16.0 -3.9
INK Inuvik 139.42 33 PKP PKPdf 11 23 15.7 -4.3
comp=Z,6.1nm,1.2s,baz=315,slow=1.4,SNR=2.5
ANN Anapa 140.16 276 *i* PKIKP PKPdf 11 23 15.1 -6.9
ANN pmax pmax
comp=Z,52nm,1.3s
ULM Lac du Bonnet 141.16 74 PKP PKPdf 11 23 19.6 -3.8
comp=Z,5.5nm,0.7s,baz=246,slow=3.1,SNR=2.6
ULM Lac du Bonnet 141.16 74 *e*PKPdf PKPdf 11 23 18.1 -5.3
YKA Yellowknife Ar 141.42 48 PKP PKPdf 11 23 19.7 -3.8
comp=Z,0.6nm,0.4s,baz=237,slow=2.5,SNR=3.3
YKA Yellowknife Ar 141.42 48 PKP PKPdf 11 23 19.7 -3.8
FFC Flin Flon 141.44 64 *e*PKPdf PKPdf 11 23 19.6 -4.1
YKW3 Yellowknife Ar 141.46 48 PKPdf PKPdf 11 23 19.8 -3.8
RZN Rozhen 143.94 261 *i* P PKPab 11 23 25.5 +2.4
VOR Voronezh 144.19 285 PKIKP PKPdf 11 23 26.0 -2.6
VOR pmax pmax
comp=Z,70nm,1.7s
TIRR Tirgusor 144.26 267 ⇓P PKPbc 11 23 24.3 +0.7
TIRR Tirgusor 144.26 267 ⇓P PKPbc 11 23 24.3 +0.7
MMB Musomiste 144.33 260 *i* P PKPab 11 23 24.0 -0.5
BINY Binghamton 144.83 100 *e*PKPdf PKPdf 11 23 21.6 -8.5
PECR Pechory 144.90 294 *e*PKIKP PKPdf 11 23 33.6 +3.9
PECR pmax pmax
comp=Z,400nm,6.0s
PECR MLR MLR
comp=Z,800nm,22.0s,MS5.5
CFR Carcaliu 144.92 268 ⇓P PKPbc 11 23 27.8 +2.3
CFR Carcaliu 144.92 268 ⇓P PKPbc 11 23 27.8 +2.4
SADO Sadowa 145.25 94 PKPbc PKPbc 11 23 27.4 +1.1
comp=Z,16nm,0.7s,baz=217,slow=0.6,SNR=7.0
VTS Vitosha 145.35 260 P PKPab 11 23 30.0 +1.8
TIP Timpagrande 145.67 250 PKPdf PKPdf 11 23 25.3 -6.2
SKO Skopje 145.71 258 *e*P PKPab 11 23 33.1 +3.5
KIS Kishinev 145.90 271 *e*PKP2 PKPab 11 23 33.0 +2.9
KIS *e* 11 30 40.0
KIS MLR MLR
comp=Z,600nm,20.0s,MS5.4
KIS MLR MLR
comp=Z,500nm,20.0s
VRI Vrincioaia 146.10 268 ⇓P PKPbc 11 23 33.6 +5.2
MLR Muntele Rosu 146.21 266 PKPbc PKPbc 11 23 31.3 +2.7
comp=Z,23nm,1.1s,baz=248,slow=1.2,SNR=13
MLR Muntele Rosu 146.21 266 ⇓P PKPbc 11 23 32.8 +4.2
MLR Muntele Rosu 146.21 266 ⇑P PKPbc 11 23 32.8 +4.2
VOIR Muntele Rosu 146.60 265 ⇓P PKPbc 11 23 34.9 +5.4
VOIR 146.60 265 ⇑P PKPbc 11 23 34.9 +5.4
QUA2 Belchertown 146.61 103 *e*PKPbc PKPbc 11 23 32.2 +2.5
ACCN Adirondack Com 146.84 101 *e*PKPbc PKPbc 11 23 33.5 +3.3
NCB Newcomb 147.02 99 *e*PKPbc PKPdf 11 23 31.1 -2.6
HRV Harvard--Oak R 147.16 104 PKPbc PKPdf 11 23 37.9 +3.9
HRV Harvard--Oak R 147.16 104 *e*PKPbc PKPdf 11 23 34.7 +0.7
WES Weston 147.18 104 *e*PKPbc PKPdf 11 23 34.0 0.0
CMER Merouana 147.25 233 P PKPdf 11 23 45.0 +11
FCC Fort Churchill 147.35 64 *e*PKPbc PKPdf 11 23 34.2 +0.5
MIV Mineville/With 147.42 100 *e*PKPbc PKPdf 11 23 35.4 +1.0
MOS Moscow 147.44 289 *e*PKHKP 11 23 28.5
MOS *e* 11 26 59.2
MOS pmax pmax
comp=Z,35nm,0.6s
MOS MLR MLR
comp=Z,2µm,25.5s,MS5.7
CMAH Djebel Manchou 147.53 236 P PKPdf 11 23 47.0 +12
OBN Obninsk 147.55 288 *i* PKP2 PKPab 11 23 36.0 -0.3
OBN pmax pmax
comp=Z,25nm,0.8s
OBN MLR MLR
comp=Z,600nm,21.0s,MS5.4
OBN Obninsk 147.55 288 *e*PKPbc PKPdf 11 23 35.8 +1.6
CASM Ain Smara 147.58 234 P PKPdf 11 23 46.0 +11
HNH Hanover 147.74 102 *e*PKPdf PKPdf 11 23 30.4 -4.4
SET Setif 147.96 233 P PKPdf 11 23 42.0 +6.5
DIVS Divcibare 148.02 259 *i* PKP PKPdf 11 23 34.3 -1.0
BURAR Bucovina Array 148.08 268 ⇓P PKPdf 11 23 37.2 +1.9
BURAR Bucovina Array 148.08 268 ⇓P PKPdf 11 23 37.2 +1.9
AKASG Malin Array Be 148.24 276 PKPbc PKPdf 11 23 36.8 +1.3
comp=Z,3.4nm,0.7s,baz=107,slow=2.3,SNR=14
DRGR 148.70 265 ⇓P PKPdf 11 23 43.1 +6.8
DRGR 148.70 265 ⇓P PKPdf 11 23 43.1 +6.8
ETRT Tiaret 148.75 227 P PKPdf 11 23 40.0 +3.3
EMHD Djebel Mahouad 148.88 230 P PKPdf 11 23 46.0 +9.1
EANR 'Ain N'Sour 149.32 227 P PKPdf 11 23 44.5 +6.8
EBNR Beni Rached 149.47 228 P PKPdf 11 23 45.0 +7.1
WVL Waterville 149.62 103 PKPbc PKPdf 11 23 38.2 +0.3
AQU L'Aquila 149.73 249 *e*PKPbc PKPdf 11 23 50.9 +13
KOLS Kolonicke sedl 150.41 268 *e*P PKPdf 11 23 43.6 +4.7
KOLS Kolonicke sedl 150.41 268 *e* PKPdf 11 23 43.6 +4.7
KOLS Kolonicke sedl 150.41 268 *e*PKP PKPab 11 23 53.2 +5.3
EMMW East Machias 150.76 106 *e*PKPab PKPab 11 23 45.2 -4.6
CRVS Cervenica-Dubn 150.78 267 *e*P PKPdf 11 23 54.9 +15
CRVS Cervenica-Dubn 150.78 267 *e* PKPdf 11 23 54.9 +15
PSZ Piszkesteto 150.85 264 *e*PKPab PKPab 11 23 45.9 -4.1
KECS Kecovo 150.96 265 *e*P PKPdf 11 23 41.6 +1.8
KECS Kecovo 150.96 265 *e*PKP PKPdf 11 23 41.6 +1.8
KECS *e* 11 23 53.1
CART Cartagena 151.52 225 *e*PKPab PKPab 11 23 48.0 -5.2
VYHS Vyhne 151.76 264 *e*P PKPdf 11 23 41.3 +0.3
VYHS *e* 11 23 55.3
VYHS Vyhne 151.76 264 *e* PKPdf 11 23 41.3 +0.3
VYHS Vyhne 151.76 264 *e*PKP PKPab 11 23 55.3 +1.5
PGF Pioggiola 151.84 244 *e*PKIKP PKPdf 11 23 48.1 +6.8
comp=Z,27nm,1.0s
ZST Bratislava 152.38 262 *e*P PKPdf 11 23 48.8 +6.9
ZST *e* 11 24 06.1
ZST Bratislava 152.38 262 *e* PKPdf 11 23 48.8 +6.9
ZST *e* 11 24 06.1
OJC Ojcow 152.47 267 *e*PKP PKPdf 11 23 47.1 +5.2
ROBS Robic 152.67 255 *e*P PKPdf 11 23 45.0 +2.6
OKC Ostrava-Krasne 153.01 265 *e*PKPAB PKPab 11 23 56.2 -2.8
OKC AMS AMS 12 44 00.0
comp=Z,900nm,18.0s
SUW Suwalki 153.20 277 *e*PKPab PKPab 11 23 59.4 -0.3
MORC Moravsky Berou 153.26 265 *e*PKPbc PKPdf 11 23 50.6 +7.6
MORC *e*PKPab PKPab 11 23 58.4 -1.7
VRAC Vranov 153.40 263 PKPbc PKPdf 11 23 48.3 +5.0
comp=Z,4.5nm,1.0s,baz=170,slow=19,SNR=2.2
VRAC PKPab PKPab 11 23 58.4 -2.3
comp=Z,5.9nm,1.0s,baz=109,slow=1.6,SNR=4.0
LMR La Mourre 153.55 242 *e*PKIKP PKPdf 11 23 50.2 +6.5
comp=Z,25nm,1.1s
SBF Sospel 153.58 244 *e*PKIKP PKPdf 11 23 49.9 +6.2
comp=Z,36nm,1.0s
FRF La Foret Royal 153.68 243 *e*PKIKP PKPdf 11 23 50.7 +6.9
comp=Z,14nm,0.9s
DPC Dobruska-Polom 154.23 264 *e*PKPAB PKPab 11 23 55.0 -9.1
DPC AMS AMS 12 42 00.0
comp=Z,1µm,22.0s
ESDC Sonseca Array 154.40 222 PKPbc PKPdf 11 23 51.7 +6.7
comp=Z,3.0nm,0.8s,baz=166,slow=1.6,SNR=7.6
GERES GERESS Array B 154.45 259 PKPbc PKPdf 11 23 49.8 +5.1
comp=Z,1.4nm,0.9s,baz=270,slow=5.3,SNR=5.4
GERES PKPab PKPab 11 24 02.3 -2.9
comp=Z,2.4nm,0.8s,baz=153,slow=3.0,SNR=7.7
SMRF Simiane la Rot 154.47 242 *e*PKIKP PKPdf 11 23 51.8 +6.9
UPC Upice 154.48 264 *e*PKPAB PKPab 11 24 06.7 +1.5
EVO Evora 154.56 215 *e*PKIKP PKPdf 11 23 51.4 +6.2
comp=Z,6.8nm,0.7s
EVO *e*R
comp=Z,5µm,20.5s
KHC Kasperske Hory 154.71 259 *e*PKP PKPab 11 24 08.3 +2.1
KHC *e* 11 24 16.5
KHC LR LR
comp=Z,2µm,19.1s,MS5.9
KHC Kasperske Hory 154.71 259 *e*PKPAB PKPab 11 24 08.3 +2.1
KHC x x 11 24 16.5
KHC AMS AMS 12 42 00.0
comp=Z,2µm,19.1s
PRU Pruhonice 154.84 262 *e*PKPAB PKPab 11 24 09.2 +2.5
PRU AMS AMS 12 44 00.0
comp=Z,1µm,19.3s
ORIF Oris-en-Rattie 155.09 244 *e*PKIKP PKPdf 11 23 52.7 +7.0
ORIF *e*R
comp=Z,4µm,22.8s
LPG La Plagne 155.17 246 *e*PKIKP PKPdf 11 23 53.0 +7.3
LPL La Plagne 155.19 246 *e*PKIKP PKPdf 11 23 52.8 +7.0
comp=Z,6.3nm,0.8s
FINES FINESS Array B 155.52 294 PKPbc PKPdf 11 23 52.4 +6.7
comp=Z,3.3nm,1.0s,baz=149,slow=11,SNR=5.4
BRG Berggiesshubel 155.71 263 *e*P PKPab 11 24 08.5 -1.9
NKC Novy Kostel 156.00 260 *e*PKPAB PKPab 11 24 15.3 +3.6
NKC AMS AMS 12 41 10.0
comp=Z,2µm,20.6s
GRA1 Grafenberg Arr 156.21 258 *e*P Px 11 24 25.2
GRF Grafenberg Arr 156.21 258 *e*P Px 11 24 25.2
CLL Collm 156.44 263 *e*PKP PKPdf 11 23 47.0 -0.2
CLL *e*PKP PKPab 11 24 14.0 +0.4
CLL LR LR
comp=Z,1µm,19.5s,MS5.8
CLL Collm 156.44 263 *e*PKIKP PKPdf 11 23 47.0 -0.2
CLL *e*PKP2 PKPab 11 24 14.0 +0.4
CLL *e*PP PP 11 27 52.0 -0.6
CLL *e*SS SS 11 47 54.0 +15
MOX Moxa 156.67 260 *e*P Px 11 24 21.7
MOX LR LR
comp=Z,600nm,18.0s,MS5.5
ARCES ARCESS Array B 157.69 313 PKPab PKPab 11 24 15.1 -3.3
comp=Z,5.4nm,0.9s,baz=100,slow=15,SNR=3.8
BGF Bois d'Agland 157.69 242 *e*PKIKP PKPdf 11 23 56.1 +7.0
comp=Z,11nm,0.8s
TCF Toulx Ste Croi 157.75 240 *e*PKIKP PKPdf 11 23 54.9 +5.7
SSF Saint Saulge 157.80 244 *e*PKIKP PKPdf 11 23 56.1 +6.9
LOR Lormes 157.81 244 *e*PKIKP PKPdf 11 23 56.2 +7.0
comp=Z,14nm,1.0s
LOR *e*R
comp=Z,2µm,21.2s
MFF Saint Martin d 158.97 237 *e*PKIKP PKPdf 11 23 57.7 +7.1
COP Copenhagen 159.30 272 *i* P PKPdf 11 23 52.4 +1.7
comp=Z,1µm,18.0s
HFS Hagfors 160.68 284 PKPab PKPab 11 24 29.7 -1.8
comp=Z,4.3nm,1.1s,baz=135,slow=12,SNR=2.6
GRR Gorron 160.69 239 *e*PKIKP PKPdf 11 23 59.2 +6.8
comp=Z,60nm,1.4s

NEIC ***30*** *11:20:56.4±0.5,27.32S×175.72W,mb4.5/4,Error ellipse: s-maj=18.5km s-min=9.9km az=139.0*
IDC ***30*** *11:20:56.1±1.0,27.27S×175.86W,h37km±5km,mb4.1/11, mb1 4.2/13,mb1mx4.1/19,mbtmp4.2/13,ML3.8/2,MS4.9/5, Ms1 4.9/5,ms1mx4.5/26,Error ellipse: s-maj=37.4km s-min=15.6km az=150.0*

ISC 30 11:20:54.3±0.5,27.54S±0.08×175.8W±0.1,h42km, h42km±1.5km:pP-P,n42,σ1s00/28,mb4.3/14,MS5.0/5,
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**2.51**	**227**	Pn	**P**		**11 21 39.6**	**+6.0**
	98nm,0.3s,baz=89,slow=20,SNR=6.0							
RAO				Sn	**S**		**11 22 14.7**	**+12**
	249nm,0.3s,baz=269,slow=24,SNR=9.4							
URZ	**Urewera**	**12.22**	**207**	Pn	**P**		**11 23 51.9**	**+3.4**
	0.6nm,0.3s,slow=15,SNR=5.2							
URZ				Sn	**S**		**11 26 04.0**	**-0.4**
	0.9nm,0.3s,baz=130,slow=23,SNR=8.0							
AFI	**Afiamalu**	**14.08**	**16**	Pn	**P**		**11 23 59.9**	**-13**
	3.7nm,0.3s,baz=166,slow=22,SNR=7.6							
AFI				Sn	S		11 26 20.8	-28
	2.2nm,0.3s,baz=349,slow=22,SNR=4.2							
AFI	**Afiamalu**	**14.08**	**16**	Pn	**P**		**11 23 59.9**	**-13**
AFI				Sn	S		11 26 20.8	-28
DZM	**Mont Dzumac**	**16.98**	**285**	Pn	**P**		**11 24 54.2**	**+3.8**
	0.3nm,0.3s,baz=151,slow=15,SNR=3.3							
RPZ	**Rata Peaks**	**19.30**	**210**	P	**P**		**11 25 19.1**	**+0.6**
	0.2nm,0.3s,baz=112,slow=5.4,SNR=1.9							
RPZ				S	**S**		**11 28 47.7**	**-1.0**
	0.3nm,0.3s,baz=359,slow=12,SNR=3.0							
CTA	**Charters Tower**	**35.36**	**274**	P	**P**		**11 27 47.5**	**-0.6**
	3.0nm,0.3s,mb4.6,baz=111,slow=12,SNR=6.2							
STKA	**Stephens Creek**			P	**P**		**11 28 03.6**	**+1.4**
	1.2nm,0.4s,mb4.0,baz=93,slow=9.5,SNR=8.0							
WB2	**Warramunga Ar**	**45.97**	**268**	*e*P	**P**		**11 29 14.8**	**-0.7**
WRAB	**Tennant Creek**	**45.98**	**268**	*e*P	**P**		**11 29 15.0**	**-0.5**
WRAB				*e*pP	pP		11 29 27.5	+0.3
WRAB				*es*P	sP		11 29 31.8	-0.5
WRA	**Warramunga Ar**	**45.98**	**268**	P	**P**		**11 29 15.2**	**-0.3**
	2.5nm,0.6s,mb4.3,baz=111,slow=6.5,SNR=42							
WRA				pP	pP		11 29 26.9	-0.4
	2.0nm,0.6s,baz=107,slow=7.4,SNR=6.6							
KAKA	**Kakadu**	**50.41**	**276**	*e*P	**P**		**11 29 53.1**	**+3.1**
	2.6nm,0.2s,mb4.9							
FITZ	**Fitzroy Crossi**	**54.34**	**267**	*e*P	**P**		**11 30 19.1**	**-0.2**
	4.0nm,0.9s,mb4.3							
FITZ	**Fitzroy Crossi**	**54.34**	**267**	P	**P**		**11 30 19.2**	**-0.1**
	2.1nm,0.6s,mb4.3,baz=64,slow=1.3,SNR=9.3							
MJAR	**Matsushiro Arr**	**77.02**	**324**	P	**P**		**11 32 44.7**	**-0.1**
	1.4nm,0.8s,mb4.0,baz=174,slow=4.9,SNR=4.8							
MJAR	**Matsushiro Arr**	**77.02**	**324**	P	**P**		**11 32 44.7**	**-0.1**
FX1	**Attu Island--F**	**80.65**	**353**	LR	LR		12 03 31.9	
	comp=Z,89nm,20.5s,MS4.1,baz=173,slow=32							
CMB	**Columbia Colle**	**83.37**	**41**	*e*P	**P**		**11 33 17.0**	**-1.5**
	5.8nm,1.3s,mb4.5							
YBH	**Yreka Blue Hor**	**84.61**	**37**	P	**P**		**11 33 25.0**	**+0.4**
	2.1nm,0.8s,mb4.3,baz=240,slow=7.1,SNR=5.2							
NVAR	**Mina Array Bea**	**84.85**	**42**	P	**P**		**11 33 25.9**	**0.0**
	2.9nm,1.0s,mb4.4,baz=207,slow=7.2,SNR=15							
TXAR	**Lajitas Array**	**89.24**	**56**	P	**P**		**11 33 47.9**	**+0.5**
	1.6nm,1.0s,mb4.3,baz=211,slow=7.3,SNR=10.0							
TXAR	**Lajitas Array**	**89.24**	**56**	P	**P**		**11 33 47.9**	**+0.5**
BBB	**Bella Bella**	**89.69**	**27**	LR	LR		12 06 13.9	
	comp=Z,826nm,21.2s,MS5.1,baz=223,slow=30							
ANMO	**Albuquerque**	**90.31**	**50**	P	**P**		**11 33 53.0**	**+0.7**
	2.2nm,1.0s,mb4.4,baz=208,slow=6.6,SNR=8.0							
NEW	**Newport**	**91.95**	**35**	LR	LR		12 09 58.6	
	comp=Z,1µm,21.6s,MS5.3,baz=227,slow=32							
PDAR	**Pinedale Array**	**92.75**	**42**	LR	LR		12 10 31.9	
	comp=Z,784nm,19.2s,MS5.2,baz=124,slow=32							
DLBC	**Dease Lake**	**93.76**	**22**	P	**P**		**11 34 08.2**	**+0.7**
	0.6nm,0.7s,mb4.2,baz=250,slow=9.3,SNR=3.1							
COLA	**College**	**94.65**	**12**	*e*P	**P**		**11 34 11.2**	**-0.3**
	1.5nm,0.6s,mb4.6							
ILAR	**Eielson Array**	**94.73**	**12**	P	**P**		**11 34 10.3**	**-1.6**
	0.8nm,1.0s,mb4.1,baz=219,slow=6.0,SNR=5.9							
ILAR				pP	pP		11 34 22.6	-2.1
	0.3nm,0.6s,baz=231,slow=3.9,SNR=2.6							
ILAR				LR	LR		12 16 14.8	
	comp=Z,674nm,18.4s,MS5.1,baz=50,slow=35							
MKAR	**Makanchi Array**	**117.37**	**311**	PKP	PKPdf		11 39 35.9	+0.6
	0.8nm,0.9s,baz=180,slow=1.2,SNR=5.2							
MKAR				pPKP			11 39 48.8	
	0.5nm,0.6s,baz=290,slow=0.7,SNR=4.1							
BVAR	**Borovoye Array**	**125.64**	**317**	PKP	PKPdf		11 39 52.6	+1.5
	0.9nm,0.7s,baz=117,slow=3.3,SNR=5.1							
FINES	**FINESS Array B**	**143.05**	**343**	PKhKP			11 40 14.5	
	1.2nm,1.0s,baz=22,slow=7.5,SNR=2.9							
NB2	**NORSAR Subarra**	**146.17**	**354**	PKPabc	PKPdf		11 40 30.6	+2.2
	17nm,1.2s,baz=9.0,slow=3.3							
NB2	**NORSAR Subarra**	**146.17**	**354**	PKPa	PKPab		11 40 30.6	-1.6
	baz=9.3,slow=3.3							
NB2	**NORSAR Subarra**	**146.17**	**354**	PKPab	PKPab		11 40 30.6	-1.6
NOA	**NORSAR Array B**	**146.17**	**354**	PKPbc	PKPbc		11 40 30.7	+1.2
	4.5nm,0.9s,baz=4.8,slow=2.3,SNR=12							
NOA	**NORSAR Array B**	**146.17**	**354**	PKPbc	PKPbc		11 40 30.7	+1.2
HFS	**Hagfors**	**146.77**	**351**	PKPbc	PKPbc		11 40 31.9	+1.0
	7.5nm,0.9s,baz=56,slow=5.3,SNR=12							
HFS				pPKPbc			11 40 44.2	
	2.6nm,0.6s,baz=72,slow=4.7,SNR=3.5							
MALT	**Malatya**	**149.46**	**299**	*e*PKPbc	PKPdf		11 40 41.9	+7.4
AKASG	**Malin Array Be**	**150.05**	**327**	PKPbc	PKPdf		11 40 41.0	+6.0
	0.9nm,0.4s,baz=41,slow=2.6,SNR=13							
ASF	**Jabal al Asfar**	**151.30**	**287**	PKPbc	PKPdf		11 40 46.7	+9.2
	1.4nm,0.3s,baz=25,slow=1.9,SNR=3.7							
BRTR	**Keskin Array B**	**152.74**	**304**	PKPbc	PKPdf		11 40 49.0	+10
	0.5nm,0.5s,baz=90,slow=2.5,SNR=3.9							

ATH ***30*** *11:25:16.2,34.75N×22.38E,h12km±2km,MD4.0/

s-min=14.6km az=40.0
*CSEM **30** 11:25:20.1±0.1,34.77N×22.37E,h32km,mb4.6/3,Error ellipse: s-maj=3.1km s-min=1.3km az=11.0*
*NEIC **30** 11:25:21.4±0.8,34.78N×22.46E,h40km±6km,mb4.0/27, MD4.0(ATH),Error ellipse: s-maj=9.8km s-min=4.4km az=193.0*
*ZUR_RM **30** 11:25:21,34.78N×22.46E,h30km,Mw4.7/17,Moment Tensor Solution. s17 Moment tensor: Scale 10^16^Nm; Mrr0.07; Mθθ-1.04; Mφφ0.97; Mrθ0.05; Mθφ0.31; Mrφ0.05; Best double couple: M0 1.06×10^16^ NP1:φs53°,δ89°,λ4°. NP2:φs323°,δ86°,λ179°. Principal axes: T 1.021, Plg4°, Azm279°; N .069, Plg86°, Azm69°; P -1.091, Plg2°, Azm188°:*

ISC 30 11:25:18.8±0.8,34.78N±0.04×22.40E±0.03,h33km±5km, n198,σ1$37/217,mb4.2/25,MS4.5/2,1C-2D,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GVD	**Gavdhos**	**1.39**	**87**	*e*PB		**Pb**	**11 25 42.8**	**-1.3**
KYTH	**Kithira**	**1.59**	**19**	*e*PB		**Pb**	**11 25 46.8**	**-0.6**
VAM	**Vamos**	**1.61**	**66**	*e*PB		**Pb**	**11 25 47.2**	**-0.5**
VAM				*e*SB		**Sb**	**11 26 09.6**	**+1.8**
VLI	**Veliai**	**1.99**	**13**	*e*PN		**Pn**	**11 25 53.0**	**+2.2**
IDI	**Anoyia**	**2.11**	**75**	Pn		**Pn**	**11 25 54.2**	**+1.6**
	21nm,0.3s,baz=263,slow=14,SNR=58							
IDI				Sn		**Sn**	**11 26 14.2**	**-3.8**
	24nm,0.3s,baz=267,slow=17,SNR=9.0							
IDI	**Anoyia**	**2.11**	**75**	Pn		**Pn**	**11 25 54.2**	**+1.6**
IDI				Sn		**Sn**	**11 26 14.1**	**-3.8**
ITM	**Ithomi**	**2.43**	**351**	*e*PN		**Pn**	**11 25 58.9**	**+1.7**
ITM	**Ithomi**	**2.43**	**351**	*e*Pb		**Pb**	**11 25 59.4**	**-2.3**
NPS	**Neapolis**	**2.68**	**79**	*e*PB		**Pb**	**11 26 02.0**	**-4.0**
XRY	**Khrisi**	**2.71**	**87**	*e*PB		**Pb**	**11 26 02.0**	**-4.5**
THR5	**Thira Island,**	**2.91**	**55**	*e*Pn		**Pn**	**11 26 04.6**	**+0.6**
THR6	**Thira Island,**	**2.91**	**56**	*e*Pn		**Pn**	**11 26 04.2**	**+0.2**
THR3	**Thira Island,**	**2.94**	**55**	*e*Pn		**Pn**	**11 26 05.2**	**+0.8**
SANT	**Santorini**	**2.96**	**57**	*e*P		**Pn**	**11 26 04.7**	**0.0**
SANT	**Santorini**	**2.96**	**57**	*e*P		**Pn**	**11 26 04.7**	**0.0**
THR1	**Thera Island**	**2.96**	**57**	*e*Pn		**Pn**	**11 26 05.5**	**+0.8**
NAIG	**Nisos Aigina**	**3.10**	**16**	*e*PN		**Pn**	**11 26 08.3**	**+1.5**
NSAL	**Nisos Salamina**	**3.24**	**15**	*e*PN		**Pn**	**11 26 10.0**	**+1.3**
MGER	**Gerania Oros**	**3.28**	**12**	*e*PN		**Pn**	**11 26 10.0**	**+0.8**
RLS	**Riolos of Patr**	**3.36**	**347**	*e*PN		**Pn**	**11 26 12.3**	**+1.9**
RLS	**Riolos of Patr**	**3.36**	**347**	*e*Pn		**Pn**	**11 26 12.6**	**+2.2**
ATH	**Athens Observa**	**3.36**	**18**	*e*PN		**Pn**	**11 26 11.0**	**+0.6**
APE	**Apeiranthos**	**3.42**	**47**	*e*PN		**Pn**	**11 26 11.6**	**+0.4**
APE	**Apeiranthos**	**3.42**	**47**	*e*Pn		**Pn**	**11 26 11.1**	**-0.1**
PTL	**Penteli**	**3.48**	**19**	*e*PN		**Pn**	**11 26 12.5**	**+0.5**
VLS	**Valsamata**	**3.69**	**337**	*e*PN		**Pn**	**11 26 15.7**	**+0.6**
LKR	**Lokris**	**3.90**	**7**	*e*PN		**Pn**	**11 26 18.7**	**+0.7**
KARP	**Karpathos**	**3.98**	**77**	*e*PN		**Pn**	**11 26 20.4**	**+1.2**
EVR	**Evrytania**	**4.16**	**354**	*e*PN		**Pn**	**11 26 23.9**	**+2.1**
EVR	**Evrytania**	**4.16**	**354**	*e*Pn		**Pn**	**11 26 24.0**	**+2.2**
AGG	**Agios Georgios**	**4.24**	**359**	*e*Pn		**Pn**	**11 26 22.8**	**-0.1**
AGG				*e*Sn		**Sn**	**11 27 11.2**	**-0.7**
AOS	**Alonnisos**	**4.54**	**15**	*e*Pn		**Pn**	**11 26 26.9**	**-0.3**
AOS				*e*Sn		**Sn**	**11 27 19.5**	**-0.1**
NEO	**Neokhori**	**4.57**	**8**	*e*PN		**Pn**	**11 26 27.5**	**-0.1**
XOR	**Xorichti**	**4.63**	**8**	*e*Pn		**Pn**	**11 26 28.0**	**-0.4**
IGT	**Igoumenitsa**	**5.03**	**341**	*e*Pn		**Pn**	**11 26 33.8**	**-0.2**
IGT				*e*Sn		**Sn**	**11 27 30.7**	**-1.0**
JAN	**Janina**	**5.03**	**346**	*e*PN		**Pn**	**11 26 34.7**	**+0.7**
MEV	**Metsovon**	**5.09**	**350**	*e*Pn		**Pn**	**11 26 34.8**	**0.0**
MEV				*e*Sn		**Sn**	**11 27 32.9**	**-0.3**
LIT	**Litokhoron**	**5.32**	**1**	*e*Pn		**Pn**	**11 26 38.0**	**-0.1**
KDAG	**Bornova**	**5.33**	**46**	*i* P		**Pn**	**11 26 49.1**	**+11**
KEK	**Kerkira**	**5.35**	**338**	Pn		**Pn**	**11 26 38.4**	**-0.1**
KEK				Sn		**Sn**	**11 27 35.8**	**-3.9**
AKAS	**Kas**	**6.06**	**74**	*i* P		**Pn**	**11 26 48.5**	**-0.1**
AKAS				*i* S		**Sn**	**11 27 55.8**	**-1.7**
SOI	**Samo**	**6.08**	**305**	P		**Pn**	**11 26 47.7**	**-1.2**
SOI				pmax	pmax			
	comp=Z,13nm,0.3s							
SOI	**Samo**	**6.08**	**305**	Pn		**Pn**	**11 26 47.7**	**-1.2**
	comp=Z,13nm,0.3s							
DNZL	**Cakiroluk**	**6.11**	**60**	*i* P		**Pn**	**11 26 49.4**	**+0.1**
GRG	**Griva**	**6.17**	**0**	*e*Pn		**Pn**	**11 26 49.4**	**-0.8**
MANT	**Manisa**	**6.19**	**51**	*i* P		**Pn**	**11 26 50.3**	**-0.1**
CEL	**Celeste**	**6.29**	**305**	Pn		**Pn**	**11 26 50.6**	**-1.2**
MTTG	**Motta San Giov**	**6.29**	**303**	Pn		**Pn**	**11 26 51.9**	**0.0**
TIP	**Timpagrande**	**6.30**	**316**	*e*P		**Pn**	**11 26 50.8**	**-1.2**
TIP				*e*S		**Sn**	**11 27 58.0**	**-5.6**
TIP	**Timpagrande**	**6.30**	**316**	*e*P		**Pn**	**11 26 50.8**	**-1.1**
GOLH	**Golhisar**	**6.30**	**65**	*i* P		**Pn**	**11 26 51.6**	**-0.4**
GOLH				*i* S		**Sn**	**11 28 05.2**	**+1.5**
SSY	**Sortino**	**6.40**	**294**	Pn		**Pn**	**11 26 52.5**	**-0.8**
	comp=Z,56nm,0.7s							
LCI	**Lecce**	**6.51**	**330**	P		**Pn**	**11 26 54.0**	**-0.9**
LCI				pmax	pmax			
	comp=Z,16nm,0.2s							
LCI	**Lecce**	**6.51**	**330**	Pn		**Pn**	**11 26 54.0**	**-0.9**
	comp=Z,16nm,0.2s							
VAE	**Valguarnera**	**7.00**	**295**	Pn		**Pn**	**11 27 01.7**	**-0.1**
	comp=Z,2.0nm,0.3s,baz=324,slow=8.7,SNR=2.7							
VAE				Sn		**Sn**	**11 28 22.1**	**+1.0**
	comp=Z,3.0nm,0.3s,baz=99,slow=3.5,SNR=2.5							
ORI	**Oriolo Calabro**	**7.09**	**320**	P		**Pn**	**11 27 02.8**	**-0.2**
ORI				pmax	pmax			
	comp=Z,17nm,0.3s							
ORI	**Oriolo Calabro**	**7.09**	**320**	Pn		**Pn**	**11 27 02.8**	**-0.2**
	comp=Z,17nm,0.3s							
TKTP	**Tekketepe**	**7.17**	**61**	*i* P		**Pn**	**11 27 03.5**	**-0.7**
PE1	**Pezze di Greco**	**7.19**	**328**	*e*Pn		**Pn**	**11 27 02.3**	**-2.2**
SKO	**Skopje**	**7.22**	**354**	⇑ *i* P		**Pn**	**11 27 03.2**	**-1.7**
LTRZ	**Laterza**	**7.31**	**324**	⇓ *e*Pn		**Pn**	**11 27 04.0**	**-2.1**
LTRZ				*e*Sn		**Sn**	**11 28 20.2**	**-8.5**
SG1	**Sgolgore (BA)**	**7.56**	**325**	*e*Pn		**Pn**	**11 27 07.4**	**-2.2**
MGR	**Morigerati**	**7.63**	**317**	Pn		**Pn**	**11 27 09.2**	**-1.4**
	comp=Z,5.6nm,0.3s							
SLCN	**Sala Consilina**	**7.76**	**318**	Pn		**Pn**	**11 27 12.8**	**+0.4**
CDT	**Castel del Mon**	**7.94**	**324**	*e*Pn		**Pn**	**11 27 12.5**	**-2.4**
MRLC	**Muro Lucano**	**8.10**	**320**	Pn		**P**	**11 27 14.9**	**-2.2**
RGNG	**Rignano Grg**	**8.72**	**324**	Pn		**P**	**11 27 23.3**	**-2.5**
SGKT	**Sivrigoynuk**	**9.60**	**50**	*i* P		**P**	**11 27 37.8**	**-0.1**
BRTR	**Keskin Array B**	**10.23**	**58**	Pn		**P**	**11 27 45.5**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=233,slow=12,SNR=12							
MLR	**Muntele Rosu**	**11.04**	**13**	Pn		**P**	**11 27 56.1**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=295,slow=10,SNR=2.7							
MLR				LR		LR	11 32 17.5	
	comp=Z,147nm,20.1s,baz=338,slow=38							
MLR	**Muntele Rosu**	**11.04**	**13**	Pn		**P**	**11 27 56.1**	**-1.5**
MLR				LR		LR	11 32 17.4	
ASF	**Jabal al Asfar**	**12.38**	**98**	Pn		**P**	**11 28 14.2**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=336,slow=23,SNR=5.2							
ASF				Sn		**S**	**11 30 19.6**	**-14**
	comp=Z,0.4nm,0.3s,baz=272,slow=19,SNR=1.9							
PGF	**Pioggiola**	**13.02**	**311**	*e*P		**P**	**11 28 28.9**	**+4.7**
	comp=Z,32nm,1.1s							
PGF	**Pioggiola**	**13.02**	**311**	*e*P		**P**	**11 28 28.9**	**+4.7**
PGF				pmax	pmax			
	comp=Z,16nm,1.1s							
PSZ	**Piszkesteto**	**13.26**	**353**	*e*P		**P**	**11 28 26.3**	**-1.1**
PSZ				*e*pP			11 28 34.8	
PSZ				*e*sP			11 28 39.8	
PSZ	**Piszkesteto**	**13.26**	**353**	*e*P		**P**	**11 28 26.3**	**-1.1**
KECS	**Kecovo**	**13.77**	**355**	*e*PN		**P**	**11 28 36.2**	**+2.2**
KECS	**Kecovo**	**13.77**	**355**	*e*		**P**	**11 28 36.2**	**+2.2**
VYHS	**Vyhne**	**13.96**	**350**	*e*PN		**P**	**11 28 41.9**	**+5.4**
VYHS	**Vyhne**	**13.96**	**350**	*e*		**P**	**11 28 41.9**	**+5.4**
KOLS	**Kolonicke sedl**	**14.15**	**360**	*e*PN		**P**	**11 28 39.9**	**+1.0**
KOLS				*e*			11 28 52.3	
LMR	**La Mourre**	**14.99**	**309**	*e*P		**P**	**11 28 53.6**	**+3.6**
VRAC	**Vranov**	**15.14**	**345**	Pn		**P**	**11 28 49.8**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=168,slow=17,SNR=2.5							
DAVOX	**Davos**	**15.26**	**326**	Pn		**P**	**11 28 56.4**	**+2.9**
	comp=Z,0.4nm,0.3s,baz=294,slow=3.2,SNR=3.5							
DAVOX				Sn		**S**	**11 31 40.5**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=295,slow=22,SNR=2.3							
DAVOX	**Davos**	**15.26**	**326**	Pn		**P**	**11 28 56.4**	**+2.9**
DAVOX				Sn		**S**	**11 31 40.5**	**-1.5**
ANN	**Anapa**	**15.27**	**45**	*e*P		**P**	**11 28 57.7**	**+4.1**
ANN				*e*S		**S**	**11 31 47.6**	**+5.5**
ANN				pmax	pmax			
	comp=Z,48nm,1.3s							
OKC	**Ostrava-Krasne**	**15.37**	**350**	*e*P		**P**	**11 28 58.9**	**+4.0**
MORC	**Moravsky Berou**	**15.41**	**348**	*e*P		**P**	**11 28 58.6**	**+3.2**
MORC				pmax	pmax			
	comp=Z,6.0nm,0.8s							
MORC	**Moravsky Berou**	**15.41**	**348**	*e*P		**P**	**11 28 58.6**	**+3.2**
	comp=Z,6.4nm,0.8s							
MORC	**Moravsky Berou**	**15.41**	**348**	*e*P		**P**	**11 28 58.4**	**+3.0**
GEC2	**GERESS Array S**	**15.46**	**338**	*e*P		**P**	**11 29 01.8**	**+5.7**
GEC2				pmax	pmax			
	comp=Z,13nm,1.2s							
GEC2	**GERESS Array S**	**15.46**	**338**	*e*P		**P**	**11 29 01.8**	**+5.7**
	comp=Z,13nm,1.2s							
GERES	**GERESS Array B**	**15.46**	**338**	Pn		**P**	**11 29 00.4**	**+4.3**
	comp=Z,0.6nm,0.3s,baz=158,slow=12,SNR=12							
GERES				Sn		**S**	**11 31 38.0**	**-8.7**
	comp=Z,0.1nm,0.3s,baz=156,slow=23,SNR=2.7							
OJC	**Ojcow**	**15.55**	**354**	*e*P		**P**	**11 29 02.2**	**+5.0**
MBDF	**Montbardon**	**15.57**	**314**	*e*P		**P**	**11 29 00.1**	**+2.6**
	comp=Z,22nm,0.9s							
MBDF	**Montbardon**	**15.57**	**314**	*e*P		**P**	**11 29 00.1**	**+2.6**
MBDF				pmax	pmax			
	comp=Z,11nm,0.9s							
KHC	**Kasperske Hory**	**15.76**	**338**	*e*P		**P**	**11 29 05.4**	**+5.5**
WET	**Wettzell**	**15.99**	**337**	*e*P		**P**	**11 29 07.2**	**+4.4**
WET				pmax	pmax			
	comp=Z,10.0nm,1.0s							
WET	**Wettzell**	**15.99**	**337**	*e*P		**P**	**11 29 07.2**	**+4.4**
	comp=Z,10.0nm,1.0s							
LPG	**La Plagne**	**16.03**	**317**	*e*P		**P**	**11 29 06.2**	**+2.8**
LPL	**La Plagne**	**16.05**	**317**	*e*P		**P**	**11 29 06.2**	**+2.6**
DPC	**Dobruska-Polom**	**16.19**	**346**	*e*P		**P**	**11 29 08.7**	**+3.4**
ORIF	**Oris-en-Rattie**	**16.20**	**314**	*e*P		**P**	**11 29 08.4**	**+2.8**
	comp=Z,8.6nm,0.9s							
ORIF	**Oris-en-Rattie**	**16.20**	**314**	*e*P		**P**	**11 29 08.4**	**+2.8**
ORIF				pmax	pmax			
	comp=Z,4.0nm,0.9s							
PRU	**Pruhonice**	**16.26**	**342**	*e*P		**P**	**11 29 09.9**	**+3.7**
UPC	**Upice**	**16.40**	**345**	*e*P		**P**	**11 29 10.9**	**+2.9**
AKASG	**Malin Array Be**	**16.68**	**15**	Pn		**P**	**11 29 06.9**	**-4.7**
	comp=Z,3.7nm,0.3s,baz=207,slow=12,SNR=7.3							
NOTT	**Nottersdorf**	**16.81**	**336**	*e*P		**P**	**11 29 15.8**	**+2.5**
	comp=Z,13nm,1.0s							
VIVF	**Saint-Julien-l**	**16.90**	**312**	*e*P		**P**	**11 29 15.9**	**+1.5**
	comp=Z,4.8nm,0.7s							
VIVF	**Saint-Julien-l**	**16.90**	**312**	*e*P		**P**	**11 29 15.9**	**+1.5**
VIVF				pmax	pmax			
	comp=Z,2.0nm,0.7s							
GRA1	**Grafenberg Arr**	**17.02**	**335**	*e*P		**P**	**11 29 18.5**	**+2.6**
	comp=Z,17nm,1.1s							
GRF	**Grafenberg Arr**	**17.02**	**335**	*e*P		**P**	**11 29 18.5**	**+2.6**
GRF				pmax	pmax			
	comp=Z,17nm,1.1s							
GRF	**Grafenberg Arr**	**17.02**	**335**	*e*P		**P**	**11 29 18.5**	**+2.6**
GRF				pmax	pmax			
	comp=Z,17nm,1.1s							
GRF	**Grafenberg Arr**	**17.02**	**335**	*e*P		**P**	**11 29 18.5**	**+2.6**
	comp=Z,17nm,1.1s							
NKC	**Novy Kostel**	**17.07**	**338**	*e*P		**P**	**11 29 24.7**	**+8.1**
BRG	**Berggiesshubel**	**17.22**	**342**	*e*P		**P**	**11 29 21.1**	**+2.7**
BRG				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BRG	**Berggiesshubel**	**17.22**	**342**	*e*P		**P**	**11 29 21.1**	**+2.7**
	comp=Z,4.1nm,1.0s							
BRG	**Berggiesshubel**	**17.22**	**342**	*e*P		**P**	**11 29 21.1**	**+2.7**
	comp=Z,4.1nm,1.0s							
WERD	**Werda**	**17.31**	**338**	*e*P		**P**	**11 29 22.0**	**+2.5**
	comp=Z,8.0nm,1.2s							
HINF	**Hinteralfeld**	**17.45**	**323**	*e*P		**P**	**11 29 20.3**	**-1.0**
	comp=Z,6.7nm,0.7s							
HINF	**Hinteralfeld**	**17.45**	**323**	*e*P		**P**	**11 29 20.3**	**-1.0**
HINF				pmax	pmax			
	comp=Z,3.0nm,0.7s							
CDF	**Champ du Feu**	**17.66**	**325**	*e*P		**P**	**11 29 24.7**	**+0.8**
	comp=Z,17nm,1.0s							
CDF	**Champ du Feu**	**17.66**	**325**	*e*P		**P**	**11 29 24.7**	**+0.8**
CDF				pmax	pmax			
	comp=Z,9.0nm,1.0s							
MOX	**Moxa**	**17.70**	**337**	*e*P		**P**	**11 29 26.0**	**+1.7**
MTLF	**Montolieu**	**17.82**	**305**	*e*P		**P**	**11 29 27.9**	**+2.0**
HAU	**Haudompre**	**17.83**	**323**	*e*P		**P**	**11 29 26.0**	**0.0**
CLL	**Collm**	**17.87**	**340**	P		**P**	**11 29 28.0**	**+1.6**
	comp=Z,logA/T=1.0							
KIV	**Kislovodsk**	**18.13**	**54**	*i* P		**P**	**11 29 29.4**	**-0.4**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.0s							
KIV	**Kislovodsk**	**18.13**	**54**	*i* P		**P**	**11 29 29.4**	**-0.4**
	comp=Z,8.0nm,1.0s							
GNI	**Garni**	**18.52**	**67**	*i* P		**P**	**11 29 34.1**	**-0.4**
CAF	**Calviac**	**18.57**	**309**	*e*P		**P**	**11 29 36.0**	**+0.9**
LOR	**Lormes**	**18.69**	**317**	*e*P		**P**	**11 29 36.0**	**-0.6**
	comp=Z,7.7nm,0.9s							
LOR				*e*pP			11 30 09.4	
LOR	**Lormes**	**18.69**	**317**	*e*P		**P**	**11 29 36.0**	**-0.6**
LOR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
AVF	**Avril sur Loir**	**18.71**	**316**	*e*P		**P**	**11 29 36.5**	**-0.3**
	comp=Z,15nm,1.1s							
AVF				*e*pP			11 30 08.9	
AVF	**Avril sur Loir**	**18.71**	**316**	*e*P		**P**	**11 29 36.5**	**-0.3**
AVF				pmax	pmax			
	comp=Z,7.0nm,1.1s							
SSF	**Saint Saulge**	**18.77**	**317**	*e*P		**P**	**11 29 37.0**	**-0.5**
MEZF	**Maizieres J'vi**	**18.81**	**322**	*e*P		**P**	**11 29 37.3**	**-0.7**
	comp=Z,39nm,1.1s							
BGF	**Bois d'Agland**	**18.88**	**314**	*e*P		**P**	**11 29 38.7**	**-0.1**
EPF	**Esparros**	**19.00**	**302**	*e*P		**P**	**11 29 41.5**	**+1.1**
EPF				*e*pP			11 30 15.7	
WLF	**Walferdange**	**19.07**	**326**	*e*P		**P**	**11 29 41.6**	**+0.5**
WLF				pmax	pmax			
	comp=Z,14nm,0.8s							
WLF	**Walferdange**	**19.07**	**326**	*e*P		**P**	**11 29 41.6**	**+0.5**
	comp=Z,14nm,0.8s							
WLF				*e*pP			11 29 50.0	
WLF	**Walferdange**	**19.07**	**326**	*e*P		**P**	**11 29 42.2**	**+1.1**
	comp=Z,15nm,0.9s							
WLF				*e*pP			11 29 50.0	
RJF	**Les Rejaudoux**	**19.08**	**310**	*e*P		**P**	**11 29 41.5**	**+0.2**
	comp=Z,19nm,1.1s							
RJF	**Les Rejaudoux**	**19.08**	**310**	*e*P		**P**	**11 29 41.5**	**+0.2**
RJF				pmax	pmax			
	comp=Z,9.0nm,1.1s							
TCF	**Toulx Ste Croi**	**19.12**	**313**	*e*P		**P**	**11 29 41.2**	**-0.5**
	comp=Z,14nm,1.2s							
TCF	**Toulx Ste Croi**	**19.12**	**313**	*e*P		**P**	**11 29 41.2**	**-0.5**
TCF				pmax	pmax			
	comp=Z,7.0nm,1.2s							
SUW	**Suwalki**	**19.24**	**1**	*e*P		**P**	**11 29 40.9**	**-2.1**
SUW				pmax	pmax			
	comp=Z,49nm,0.8s							
SUW	**Suwalki**	**19.24**	**1**	*e*P		**P**	**11 29 40.9**	**-2.1**
	comp=Z,49nm,0.8s							
LFF	**La Frestale**	**19.43**	**308**	*e*P		**P**	**11 29 44.8**	**-0.4**
ETSF	**Etsaut**	**19.59**	**301**	*e*P		**P**	**11 29 47.8**	**+0.7**
	comp=Z,13nm,0.9s							
ETSF	**Etsaut**	**19.59**	**301**	*e*P		**P**	**11 29 47.8**	**+0.7**
ETSF				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SJPF	**Ste Jean**	**20.12**	**301**	*e*P		**P**	**11 29 53.0**	**+0.2**
	comp=Z,34nm,1.0s							
SJPF	**Ste Jean**	**20.12**	**301**	*e*P		**P**	**11 29 53.0**	**+0.2**
SJPF				pmax	pmax			
	comp=Z,17nm,1.0s							
MFF	**Saint Martin d**	**20.70**	**312**	*e*P		**P**	**11 29 57.7**	**-1.0**
	comp=Z,34nm,1.3s							
MFF	**Saint Martin d**	**20.70**	**312**	*e*P		**P**	**11 29 57.7**	**-1.0**
MFF				pmax	pmax			
	comp=Z,17nm,1.3s							
BSEG	**Bad Segeberg**	**20.96**	**340**	*e*P		**P**	**11 29 59.5**	**-1.8**
ESDC	**Sonseca Array**	**21.52**	**291**	P		**P**	**11 30 08.2**	**+1.2**
	comp=Z,3.1nm,0.6s,mb3.9,baz=79,slow=9.5,SNR=11							
FLN	**La Foliniere**	**21.95**	**316**	*e*P		**P**	**11 30 09.3**	**-2.0**
	comp=Z,31nm,1.1s,mb4.3							
FLN				*e*pP			11 30 44.5	
FLN	**La Foliniere**	**21.95**	**316**	*e*P		**P**	**11 30 09.3**	**-2.0**
FLN				*e**PP			11 30 44.5	
FLN				pmax	pmax			
	comp=Z,15nm,1.1s,mb4.3							
OBN	**Obninsk**	**22.59**	**21**	⇓ *e*P		**P**	**11 30 20.7**	**+3.2**
OBN				*e**PP			11 30 29.2	
OBN				*e*			11 30 41.1	
OBN				*e*S		**S**	**11 34 21.4**	**+3.1**
OBN				pmax	pmax			
	comp=Z,12nm,0.7s,mb4.4							
OBN				MLR	MLR			
	comp=Z,200nm,16.0s,MS3.6							
OBN	**Obninsk**	**22.59**	**21**	*e*P		**P**	**11 30 20.7**	**+3.2**
	comp=Z,12nm,0.7s,mb4.4							
SGMF	**Saint Gilles**	**22.91**	**314**	*e*P		**P**	**11 30 18.8**	**-1.9**
	comp=Z,32nm,1.0s,mb4.4							
SGMF	**Saint Gilles**	**22.91**	**314**	*e*P		**P**	**11 30 18.8**	**-1.9**
SGMF				pmax	pmax			
	comp=Z,16nm,1.0s,mb4.4							
QUIF	**Quistinic**	**23.12**	**312**	*e*P		**P**	**11 30 20.7**	**-2.1**
MOS	**Moscow**	**23.44**	**22**	*e*P		**P**	**11 30 25.4**	**-0.4**
MOS				*e*			11 30 43.1	
MOS				*e*			11 30 58.2	
MOS				pmax	pmax			
	comp=Z,47nm,0.6s,mb5.1							
MOS	**Moscow**	**23.44**	**22**	*e*P		**P**	**11 30 25.4**	**-0.4**
	comp=Z,47nm,0.6s,mb5.1							
VSU	**Vasula**	**23.87**	**6**	*i* P		**P**	**11 30 33.4**	**+3.5**
EVO	**Evora**	**24.63**	**288**	*e*P		**P**	**11 30 39.7**	**+2.2**
	comp=Z,11nm,0.9s,mb4.1							
HFS	**Hagfors**	**26.00**	**350**	P		**P**	**11 30 48.9**	**-1.3**
	comp=Z,1.9nm,0.6s,mb3.8,baz=156,slow=12,SNR=12							
FINES	**FINESS Array B**	**26.79**	**4**	*e*P		**P**	**11 30 59.1**	**+1.7**
FINES	**FINESS Array B**	**26.79**	**4**	P		**P**	**11 30 55.6**	**-1.8**
	comp=Z,2.9nm,0.8s,mb3.9,baz=172,slow=14,SNR=9.7							
EKA	**Eskdalemuir Ar**	**27.09**	**327**	P		**P**	**11 30 59.4**	**-0.8**
	comp=Z,2.9nm,0.7s,mb3.9,baz=141,slow=7.5,SNR=7.2							
NAO01	**NORSAR Array S**	**27.12**	**348**	*e*P		**P**	**11 30 59.8**	**-0.7**
NB2	**NORSAR Subarra**	**27.25**	**348**	P		**P**	**11 31 00.9**	**-0.7**
	comp=Z,1.3nm,0.8s,mb3.5,baz=156,slow=9.3							
NB2	**NORSAR Subarra**	**27.25**	**348**	P		**P**	**11 31 00.9**	**-0.7**
NB2				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.4							
NB2	**NORSAR Subarra**	**27.25**	**348**	P		**P**	**11 31 00.9**	**-0.7**
	comp=Z,1.3nm,0.8s,mb3.5							
NOA	**NORSAR Array B**	**27.25**	**348**	P		**P**	**11 31 00.8**	**-0.8**
	comp=Z,0.6nm,0.4s,mb3.4,baz=158,slow=10,SNR=3.4							
KAF	**Kangasniemi**	**27.47**	**4**	*e*p		**P**	**11 31 02.6**	**-1.0**
	comp=Z,0.6nm,0.4s,mb3.5							
KAF	**Kangasniemi**	**27.47**	**4**	*e*P		**P**	**11 31 02.6**	**-1.0**
KAF				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb3.7							
ARCES	**ARCESS Array B**	**34.86**	**2**	P		**P**	**11 32 07.0**	**-1.7**
	comp=Z,3.8nm,0.7s,mb4.4,baz=180,slow=9.7,SNR=15							
ARCES	**ARCESS Array B**	**34.86**	**2**	P		**P**	**11 32 07.0**	**-1.7**
KEV	**Kevo**	**35.13**	**3**	*e*p		**P**	**11 32 10.3**	**-0.7**
	comp=Z,1.6nm,0.5s,mb4.2							
KEV	**Kevo**	**35.13**	**3**	*e*P		**P**	**11 32 10.3**	**-0.7**
KEV				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
MKAR	**Makanchi Array**	**45.87**	**56**	P		**P**	**11 33 38.7**	**-1.0**
	comp=Z,1.0nm,0.3s,mb4.2,baz=264,slow=7.8,SNR=22							
MKAR	**Makanchi Array**	**45.87**	**56**	P		**P**	**11 33 38.7**	**-1.0**
NVS	**Novosibirsk**	**45.96**	**45**	*e*P		**P**	**11 33 38.8**	**-1.4**
NVS				pmax	pmax			
	comp=N,1.0nm,0.6s							
NVS				pmax	pmax			
	comp=E,3.0nm,0.6s							
NVS				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6

KKTK Khon Kaen 13.45 51 P P 12 27 57.0 +9.0
278nm,0.7s
BWNR Bhubaneshwar 13.62 335 *e*P P 12 27 52.3 +1.9
BWNR *e* 12 30 06.4
BWNR AML AML 12 30 16.5
comp=N,109nm,0.4s
BWNR AML AML 12 30 17.0
comp=E,165nm,0.2s
NANT Nan 13.68 37 ⇑P P 12 28 00.0 +8.8
comp=E,338nm,0.5s
CHRT Chiangrai 14.02 32 PG P 12 27 55.0 -0.7
HYB Hyderabad 16.10 307 *e*P P 12 28 26.0 +3.3
HYB *e*S S 12 31 19.0 -0.8
HYB Hyderabad 16.10 307 *i* P P 12 28 26.0 +3.3
HYB *e* 12 31 06.0
HYB *e*S S 12 31 19.0 -0.8
IMP Imphal 16.80 6 *e* P 12 28 34.0 +2.5
BLSP Bilaspur 16.96 327 *e*P P 12 28 32.2 -1.3
SHL Shillong 17.48 360 *e*P P 12 28 41.0 +1.0
comp=E,90nm,1.0s
SHL *e* 12 31 46.0
KAD Karad 19.67 300 *e*P P 12 29 03.1 -3.2
KAD AMb AMB 12 29 08.0
comp=Z,64nm,1.0s
KAD *e* 12 32 23.0
KMI Kunming 19.89 30 P P 12 29 09.5 +0.8
KMI AMB AMB
comp=Z,367nm,3.1s
KMI LR LR
comp=N,232nm,18.2s
KMI LR LR
comp=E,290nm,17.1s
KMI LR LR
comp=Z,250nm,28.5s
KMI Kunming 19.89 30 P P 12 29 09.4 +0.7
comp=Z,0.4nm,3.1s
KMI pP 12 29 38.1
JIRN Jiri 20.32 345 *e*P P 12 29 13.3 +0.2
comp=Z,329nm,1.2s
PKI Pulchoki 20.45 343 *e*P P 12 29 14.2 -0.2
comp=Z,328nm,1.2s
POO Poona 20.51 303 *e*P P 12 29 11.9 -3.2
POO AMb AMB 12 29 22.2
comp=Z,124nm,1.7s
POO *e* 12 32 48.0
DMN Daman 20.57 342 *e*P P 12 29 15.4 -0.3
comp=Z,143nm,0.7s
BHPL Bhopal 20.62 319 *e*P P 12 29 12.3 -4.0
BHPL AMb AMB 12 29 20.3
comp=Z,114nm,1.1s
BHPL *e* 12 32 51.2
GUN Gumba 20.64 345 *e*P P 12 29 16.5 +0.1
comp=Z,540nm,1.3s
KKN Kakani 20.69 343 *e*P P 12 29 16.6 -0.4
comp=Z,202nm,1.2s
GKN Gorkha 21.08 342 *e*P P 12 29 20.9 -0.1
comp=Z,381nm,1.2s,mb5.6
KOLN Koldanda 21.21 339 *e*P P 12 29 22.4 +0.1
comp=Z,398nm,1.0s,mb5.7
LSA Lhasa 21.61 358 P P 12 29 25.5 -0.8
LSA Lhasa 21.61 358 *e*P P 12 29 26.5 +0.2
LSA pmax pmax
comp=Z,152nm,1.0s,mb5.4
LSA Lhasa 21.61 358 *e*P P 12 29 26.5 +0.3
comp=Z,152nm,1.0s,mb5.4
GYA Guiyang 23.06 35 ⇓*i*P P 12 29 41.5 +0.8
GYA S S 12 33 51.8 +6.6
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.6
GYA AMB AMB
comp=Z,280nm,5.2s
LGTI Lohaghat 24.03 334 *e*P P 12 29 52.0 +1.9
PTH Pithoragarh 24.13 334 *e*P P 12 29 54.7 +3.6
CD2 Chengdu 25.32 24 ⇑*i*P P 12 30 02.3 -0.1
CD2 AMB AMB
comp=Z,50nm,1.0s,mb5.0
DDI Dehra Dun 25.77 331 *e*P P 12 30 06.8 +0.2
DDI *e* 12 34 52.0
ENH Enshi 27.57 34 *e*P P 12 30 20.9 -2.3
comp=Z,36nm,1.1s,mb4.9
LZH Lanzhou 29.99 19 *e*P P 12 30 44.5 -0.4
LZH AP pP 12 30 58.0 +3.7
LZH AMB AMB
comp=Z,65nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,190nm,4.3s
LZH LR LR
comp=E,410nm,14.7s
LZH LR LR
comp=Z,556nm,15.6s,MS4.3
LZH Lanzhou 29.99 19 *e*P P 12 30 44.6 -0.3
LZH *PP pP 12 30 58.0 +3.7
LZH pmax pmax
comp=Z,65nm,1.4s,mb5.2
LZH MLR MLR
comp=Z,560nm,15.6s,MS4.3
LZH Lanzhou 29.99 19 *e*P P 12 30 44.6 -0.3
comp=Z,65nm,1.4s,mb5.2
LZH pP pP 12 30 58.0 +3.7
LZH sP sP 12 31 05.0 +6.5
LZH LR LR
comp=Z,560nm,15.6s,MS4.3
XAN Xi'an 30.26 29 P P 12 30 45.0 -2.3
XAN AP pP 12 30 52.5 -4.2
XAN AMB AMB
comp=Z,10.0nm,1.2s,mb4.4
GTA Gaotai 32.06 11 ⇓*i*P P 12 31 03.3 +0.2
GTA AP pP 12 31 13.8 +1.3
GTA XP sP 12 31 17.5 +0.8
GTA AMB AMB
comp=Z,92nm,1.0s,mb5.6
KSH Kashi 34.52 338 *e*P P 12 31 25.3 +0.9
KSH *e*AP pP 12 31 31.5 -2.4
KSH *e*XP sP 12 31 35.8 -2.2
KSH AMB AMB
comp=Z,120nm,12.0s
NJ2 Nanjing 34.60 43 *e*P P 12 31 25.3 +0.2
NJ2 AP pP 12 31 35.0 +0.4
NJ2 XP sP 12 31 39.0 +0.3
NJ2 PP PP 12 32 42.3 +0.4
NJ2 S S 12 36 51.0 -0.2
NJ2 XS 12 37 07.0
NJ2 AMB AMB
comp=Z,40nm,1.2s,mb5.2
NJ2 AMB AMB
comp=Z,140nm,4.2s
NJ2 LR LR
comp=N,430nm,14.0s,MS4.5
NJ2 LR LR
comp=E,490nm,14.4s,MS4.5
NJ2 LR LR
comp=Z,280nm,14.8s,MS4.1
SSE Sheshan 35.65 46 P P 12 31 34.8 +0.7
SSE XP sP 12 31 47.3 -0.4
SSE PCP PcP 12 34 02.5 +0.1
SSE S S 12 37 09.0 +1.5
SSE XS 12 37 24.0
SSE SCP 12 37 46.5
SSE AMB AMB
comp=Z,14nm,0.8s,mb4.9
SSE AMB AMB
comp=Z,87nm,3.2s
SSE LR LR
comp=N,87nm,30.6s,MS3.9
SSE LR LR
comp=E,332nm,30.6s,MS3.9
SSE LR LR
comp=Z,104nm,22.6s
SSE Sheshan 35.65 46 P P 12 31 34.7 +0.6
comp=Z,14nm,0.8s,mb4.9
SSE sP sP 12 31 47.3 -0.4
SSE PcP PcP 12 34 02.6 +0.2
SSE S S 12 37 08.9 +1.4
SSE sS 12 37 24.1
SSE ScP 12 37 46.4
SSE LR LR
comp=Z,100nm,22.6s,MS3.5
WMQ Urumqi 35.89 355 P P 12 31 36.5 +0.5
KZA Kyzart 37.03 339 P P 12 31 47.1 +1.5
SNR=13
UCH Uchtor 37.43 338 P P 12 31 50.8 +1.9
SNR=5.8
AML Almayashu 37.65 338 P P 12 31 52.2 +1.5
SNR=95
KBK Karagaybulak 37.65 339 P P 12 31 52.2 +1.5
SNR=9.1
TKM2 Tokmak 2 37.66 340 P P 12 31 51.8 +1.0
SNR=5.8
AAK Ala-Archa 37.79 339 P P 12 31 53.9 +1.9
SNR=16
AAK Ala-Archa 37.79 339 *i* P P 12 31 52.2 +0.3
FRU Bishkek 37.92 339 ⇓*e*P P 12 31 54.0 +1.0
FRU pmax pmax
comp=Z,80nm,1.9s,mb5.1
CHMS Chumysh 38.02 339 P P 12 31 54.9 +1.0
SNR=7.7
EKS2 Erkin-Say 38.07 338 P P 12 31 55.6 +1.3
SNR=20
USP Ospenovka 38.34 339 P P 12 31 57.3 +0.7
SNR=33
JOW Kunigami 39.16 57 P P 12 32 04.4 +0.8
comp=Z,11nm,0.9s,mb4.6,baz=140,slow=16,SNR=4.1
JOW LR LR 12 51 49.8
comp=Z,188nm,18.8s,MS4.0,baz=302,slow=42
MKAR Makanchi Array 39.55 350 P P 12 32 06.4 -0.2
comp=Z,13nm,1.0s,mb4.6,baz=168,slow=7.7,SNR=74
KKAR Karatay Array 39.73 335 *i* P P 12 32 08.7 +0.5
KKAR pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
KKAR Karatay Array 39.73 335 *i* P P 12 32 08.8 +0.6
SONM Songino Array 41.55 15 P P 12 32 23.5 +0.4
comp=Z,21nm,0.8s,mb4.8,baz=196,slow=8.6,SNR=134
SONM PcP PcP 12 34 20.2 -0.4
comp=Z,2.3nm,0.9s,baz=180,slow=1.4,SNR=2.6
FITZ Fitzroy Crossi 42.14 128 P P 12 32 29.1 +0.8
comp=Z,4.9nm,0.8s,mb4.2,baz=200,slow=5.2,SNR=5.8
FITZ LR LR 12 50 16.9
comp=Z,307nm,21.6s,MS4.2,baz=276,slow=36
ZAK Zakamensk 43.29 11 ⇑*i*P P 12 32 37.1 -0.2
ZAK *e* 12 34 21.3
ZAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
JNU Nakatsue 43.78 50 P P 12 32 41.7 +0.2
comp=Z,7.7nm,0.9s,mb4.4,baz=273,slow=44,SNR=3.9
KURK Kurchatov 44.01 348 ⇓*i*P P 12 32 43.1 0.0
KURK pmax pmax
comp=Z,56nm,1.3s,mb5.1
KURK Kurchatov 44.01 348 ⇓*i*P P 12 32 43.1 0.0
comp=Z,56nm,1.3s,mb5.1
MOY Mondy 44.17 8 *e*P P 12 32 45.2 +0.8
MOY pmax pmax
comp=Z,36nm,3.3s
TLY Talaya 44.60 10 *d*iP P 12 32 48.9 +1.0
TLY pmax pmax
comp=Z,28nm,1.4s,mb4.9
TLY Talaya 44.60 10 *i* P P 12 32 48.0 +0.1
IRK Irkutsk 45.26 11 *e*P P 12 32 55.3 +2.2
IRK *e* 12 33 12.5
IRK pmax pmax
comp=Z,35nm,1.7s,mb4.9
ZAL Zalesovo 46.18 354 P P 12 33 00.2 -0.2
comp=Z,8.3nm,1.0s,mb4.6,baz=292,slow=10,SNR=40
ZAL Zalesovo 46.18 354 P P 12 33 00.2 -0.2
NVS Novosibirsk 47.24 353 ⇓*i*P P 12 33 07.3 -1.5
NVS *e* 12 35 01.4
NVS pmax pmax
comp=Z,26nm,1.2s,mb5.0
NVS pmax pmax
comp=N,33nm,1.5s
NVS pmax pmax
comp=E,13nm,1.2s
NVS pmax pmax
comp=Z,18nm,2.0s,mb4.7
NVS pmax pmax
comp=N,13nm,1.4s
NVS pmax pmax
comp=E,9.0nm,1.3s
HIA Hailar 47.27 25 *e*P P 12 33 08.2 -0.9
HIA pmax pmax
comp=Z,12nm,1.0s
HIA Hailar 47.27 25 *e*P P 12 33 08.2 -0.9
comp=Z,12nm,1.0s,mb4.8
VOSK Vostochnaya 47.78 343 *i* P P 12 33 12.5 -0.5
BVA0 Borovoye Array 48.22 343 *i* P P 12 33 15.8 -0.6
BVA0 pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
BRVK Borovoye 48.28 343 *i* P P 12 33 16.1 -0.8
BRVK Borovoye 48.28 343 *i* P P 12 33 16.1 -0.8
AB31 Akbulak array 49.13 333 *i* P P 12 33 23.6 +0.1
WRA Warramunga Arr 50.08 124 P P 12 33 30.7 -0.4
comp=Z,3.8nm,0.9s,mb4.4,baz=304,slow=8.7,SNR=30
WRAB Tennant Creek 50.08 124 *i* P P 12 33 31.1 -0.1
WB2 Warramunga Arr 50.09 124 *e*P P 12 33 30.4 -0.8
MJAR Matsushiro Arr 50.68 49 P P 12 33 34.4 -1.1
comp=Z,1.7nm,1.0s,mb3.9,baz=244,slow=10,SNR=5.9
MJAR PcP PcP 12 34 53.0 +0.3
comp=Z,4.5nm,0.9s,baz=239,slow=7.0,SNR=10
MJAR Matsushiro Arr 50.68 49 P P 12 33 34.4 -1.1
MJAR PcP PcP 12 34 53.0 +0.3
BOD Bodaibo 52.55 15 ⇓*i*P P 12 33 49.3 -0.1
BOD pmax pmax
comp=Z,56nm,1.2s,mb5.4
GNI Garni 52.84 315 *i* P P 12 33 51.9 +0.1
GNI Garni 52.84 315 *i* P P 12 33 51.9 +0.1
ONI Oni 54.73 317 P P 12 34 05.5 -0.1
ARU Arti 54.97 338 ⇓*i*P P 12 34 06.3 -0.9
ARU *e* 12 35 04.5
ARU *e* 12 36 10.8
ARU *e*S S 12 41 48.5 +3.5
ARU *e*SS SS 12 45 35.1 +6.6
ARU pmax pmax
comp=Z,43nm,1.0s,mb5.4
KMBO Kilima Mbogo 55.32 263 P P 12 34 10.3 0.0
comp=Z,5.7nm,0.9s,mb4.6,baz=50,slow=8.8,SNR=12
KMBO Kilima Mbogo 55.32 263 P P 12 34 10.3 0.0
KIV Kislovodsk 55.81 319 *i* P P 12 34 12.8 -0.6
KIV Kislovodsk 55.81 319 *i* P P 12 34 12.8 -0.6
ASF Jabal al Asfar 56.37 303 LR LR 12 59 09.9
comp=Z,324nm,19.4s,MS4.4,baz=130,slow=37
MALT Malatya 56.77 311 *e*P P 12 34 19.8 -0.6
MALT *e*PP pP 12 34 29.3 -1.0
MALT *e*SP sP 12 34 34.6 +0.6
MALT pmax pmax
comp=Z,19nm,1.1s,mb5.0
MALT Malatya 56.77 311 *e*P P 12 34 19.8 -0.6
comp=Z,19nm,1.1s,mb5.0
MALT *e*pP pP 12 34 29.3 -1.0
MALT *e*sP sP 12 34 34.6 +0.6
KSHT Keshet 57.44 304 P P 12 34 26.2 +1.0
ZFRI Zfri 57.48 301 P P 12 34 26.2 +0.7
HRFI Mount Harif 57.51 300 P P 12 34 28.6 +2.9
EIL Elat 57.52 300 P P 12 34 26.5 +0.7
PRNI Paran 57.59 301 P P 12 34 27.2 +0.9
SOC Sochi 57.64 317 *e*P P 12 34 24.1 -2.3
SOC *e*S S 12 42 17.7 -2.9
SOC pmax pmax
comp=Z,35nm,0.9s,mb5.4
SOC pmax pmax
comp=N,11nm,0.8s
SOC pmax pmax
comp=E,23nm,1.3s
SOC MLR MLR
comp=Z,545nm,20.0s,MS4.7
SOC MLR MLR
comp=N,247nm,23.0s,MS4.5
SOC MLR MLR
comp=E,273nm,21.0s,MS4.5
MMLI Mount Malkishu 57.65 303 P P 12 34 27.8 +1.1
KMTI Karmit 57.79 301 P P 12 34 28.5 +0.8
SLTI Sal'it 57.92 303 P P 12 34 29.5 +0.9
YSS Yuzh-Sakhalins 58.01 39 *e*P P 12 34 29.0 0.0
YSS Yuzh-Sakhalins 58.01 39 ⇓*e*P P 12 34 28.6 -0.4
HAF Haifa 58.04 304 P P 12 34 30.0 +0.6
OFRI 'Ofer 58.04 303 P P 12 34 30.3 +0.9
KZIT Kziot 58.21 301 P P 12 34 31.2 +0.6
ANN Anapa 59.61 318 *e*P P 12 34 49.2 +9.1
ANN *i* *PP pP 12 34 59.1 +9.0
ANN *e*S S 12 43 08.7 +22
ANN pmax pmax
comp=Z,57nm,1.4s,mb5.4
CTA Charters Tower 60.23 118 LR LR 13 03 00.6
comp=Z,243nm,21.2s,MS4.3,baz=57,slow=38
YAK Yakutsk 60.58 19 *d*iP P 12 34 45.2 -1.3
YAK pmax pmax
comp=Z,83nm,1.6s,mb5.6
YAK Yakutsk 60.58 19 *i* P P 12 34 45.3 -1.2
BRTR Keskin Array B 60.74 311 P P 12 34 46.2 -1.7
comp=Z,9.7nm,0.8s,mb5.0,baz=121,slow=7.2,SNR=40
VOR Voronezh 61.27 326 *e*P P 12 34 50.0 -1.4
VOR pmax pmax
comp=Z,60nm,1.2s,mb5.6
STKA Stephens Creek 61.74 133 P P 12 34 55.4 +0.6
comp=Z,1.2nm,0.6s,mb4.2,baz=300,slow=7.1,SNR=4.2
SIM Simferopol' 61.88 317 *e*P P 12 34 54.7 -0.9
SIM pmax pmax
comp=Z,21nm,0.8s,mb5.3
MOS Moscow 63.88 329 *e*P P 12 35 05.0 -3.6
MOS *e* 12 35 18.7
MOS pmax pmax
comp=Z,90nm,1.6s,mb5.5
OBN Obninsk 64.15 328 *d*iP P 12 35 08.5 -1.9
OBN *e* 12 35 43.5
OBN *e* 12 37 29.0
OBN pmax pmax
comp=Z,52nm,1.6s,mb5.3
OBN MLR MLR
comp=Z,300nm,16.0s,MS4.6
OBN Obninsk 64.15 328 *i* P P 12 35 08.6 -1.8
TIRR Tirgusor 65.67 315 ⇓P P 12 35 19.6 -0.8
KIS Kishinev 66.00 318 *e*P P 12 35 20.0 -2.5
KIS MLR MLR
comp=Z,300nm,17.0s,MS4.6
KIS MLR MLR
comp=Z,300nm,16.0s
AKASG Malin Array Be 66.75 322 P P 12 35 24.9 -2.2
comp=Z,5.7nm,0.9s,mb4.6,baz=91,slow=4.8,SNR=21
AKASG PP PP 12 37 53.4 -2.5
comp=Z,0.1nm,0.3s,baz=100,slow=6.5,SNR=5.3
VRI Vrincioaia 67.14 316 ⇓P P 12 35 29.6 -0.2
TIXI Tiksi 67.55 12 *i* P P 12 35 31.0 -0.9
TIXI Tiksi 67.55 12 *i* P P 12 35 31.0 -0.9
MLR Muntele Rosu 67.60 316 ⇓P P 12 35 31.9 -0.8
MA2 Magadan 67.66 28 ⇓*e*P P 12 35 25.7 -7.1
BURAR Bucovina Array 68.53 318 ⇓P P 12 35 37.9 -0.6
BURAR Bucovina Array 68.53 318 ⇓P P 12 35 37.9 -0.5
PUL Pulkovo 69.09 332 ⇑*e*P P 12 35 41.2 -0.4
DRGR 70.05 317 ⇑P P 12 35 47.9 +0.1
VSU Vasula 70.40 330 *i* P P 12 35 48.3 -1.4
VSU Vasula 70.40 330 *i* P P 12 35 48.3 -1.4
KWP Kalwaria 70.56 320 *e*P P 12 35 50.7 -0.1
KWP Kalwaria 70.56 320 *e*P P 12 35 50.7 -0.1
KOLS Kolonicke sedl 70.72 319 *e*P P 12 35 51.0 -0.8
KOLS *e* 12 49 07.4
SUW Suwalki 71.17 324 *e*P P 12 35 53.2 -1.2
SUW Suwalki 71.17 324 *e*P P 12 35 53.2 -1.2
CRVS Cervenica-Dubn 71.24 319 *e*P P 12 35 56.9 +2.0
DIVS Divcibare 71.56 314 ⇑*i*P P 12 35 55.8 -1.1
FINES FINESS Array B 71.62 332 P P 12 35 56.0 -1.0
comp=Z,6.3nm,0.9s,mb4.6,baz=117,slow=13,SNR=23
KAF Kangasniemi 71.72 333 *e*p P 12 35 55.2 -2.4
comp=Z,16nm,1.1s,mb4.9,baz=106,slow=5.6
KAF Kangasniemi 71.72 333 *e*P P 12 35 55.2 -2.4
KAF pmax pmax
comp=Z,16nm,1.1s,mb4.9
KECS Kecovo 71.81 318 *e*P P 12 35 57.0 -1.4
KECS *e* pP 12 36 07.2 -1.2
KECS *e* 12 49 15.3
NIE Niedzica 72.06 319 *e*P P 12 35 59.4 -0.5
PSZ Piszkesteto 72.12 318 *e*P P 12 35 57.6 -2.6
comp=Z,8.0nm,1.1s,mb4.6
OJC Ojcow 72.52 320 *e*P P 12 36 01.6 -0.9
VYHS Vyhne 72.90 318 *e*P P 12 36 04.4 -0.4
OKC Ostrava-Krasne 73.52 320 *e*P P 12 36 07.8 -0.6
TIP Timpagrande 73.55 308 ⇓*i*P P 12 36 08.7 -0.1
MORC Moravsky Berou 73.90 319 ⇓*i*P P 12 36 10.2 -0.4
comp=Z,25nm,1.4s,mb5.0
ZST Bratislava 74.01 318 *e*P P 12 36 10.8 -0.5
SOI Samo 74.05 307 P P 12 36 12.4 +0.7
ARCES ARCESS Array B 74.44 340 P P 12 36 13.8 +0.4
comp=Z,7.5nm,1.0s,mb4.6,baz=124,slow=4.4,SNR=6.1
DPC Dobruska-Polom 74.74 320 *e*P P 12 36 15.9 +0.4
KSP Ksiaz 74.81 320 *e*P P 12 36 15.9 0.0
KSP Ksiaz 74.81 320 *e*P P 12 36 16.1 +0.2
UPC Upice 74.96 320 *e*P P 12 36 17.1 +0.4
ARSA Arzberg 74.99 317 ⇑*i*P P 12 36 16.8 -0.2
comp=Z,29nm,1.6s,mb5.0
BOJS Bojanci 75.05 315 *e*P P 12 36 16.7 -0.7
LJU Ljubljana 75.59 315 *i* P P 12 36 20.2 -0.3
OBKA Obir 75.60 316 ⇑*i*P P 12 36 20.7 +0.2
comp=Z,18nm,1.1s,mb4.9
PRU Pruhonice 75.85 319 *e*P P 12 36 21.8 0.0
PVCC Panska Ves 75.88 320 *e*P P 12 36 22.5 +0.6
MOA Moln 75.88 317 ⇓*i*P P 12 36 21.3 -0.7
comp=Z,13nm,1.1s,mb4.8
BRG Berggiesshubel 76.30 320 ⇑*i*P P 12 36 24.7 +0.4
BRG pmax pmax
comp=Z,39nm,1.4s,mb5.1
BRG Berggiesshubel 76.30 320 ⇑*i*P P 12 36 24.7 +0.4
comp=Z,39nm,1.4s,mb5.2
ROBS Robic 76.31 316 *e*P P 12 36 23.7 -0.7
GEC2 GERESS Array S 76.32 318 *e*P P 12 36 23.6 -0.9
GEC2 pmax pmax
comp=Z,27nm,1.2s,mb5.0
GEC2 GERESS Array S 76.32 318 *e*P P 12 36 23.6 -0.9
comp=Z,27nm,1.2s,mb5.0
GERES GERESS Array B 76.32 318 P P 12 36 24.5 0.0
comp=Z,9.6nm,0.8s,mb4.8,baz=90,slow=5.3,SNR=66
KHC Kasperske Hory 76.42 319 *e*P P 12 36 24.4 -0.6
KHC *e*pP pP 12 36 35.5 +0.4
PTCC Patocco-Chiusa 76.42 316 ⇓*i*P P 12 36 24.5 -0.6
KBA Koelnbreinsper 76.46 316 ⇓*i*P P 12 36 24.8 -0.5
comp=Z,15nm,1.4s,mb4.7
BILL Bilibino 76.77 22 *e*P P 12 36 27.0 +0.4
BILL pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BILL MLR MLR
comp=Z,500nm,18.0s,MS4.9
WET Wettzell 76.88 319 *e*P P 12 36 27.5 -0.1
WET pmax pmax
comp=Z,19nm,1.1s,mb4.9
WET Wettzell 76.88 319 *e*P P 12 36 27.5 -0.1
comp=Z,19nm,1.1s,mb4.9
CLL Collm 76.92 321 ⇓*i*P P 12 36 27.4 -0.4
CLL pmax pmax
comp=Z,29nm,1.3s,mb5.0
CLL Collm 76.92 321 ⇓*i*P P 12 36 27.4 -0.4
comp=Z,29nm,1.3s,mb5.0
CLL Collm 76.92 321 ⇓P P 12 36 27.4 -0.4
comp=Z,logA/T=1.3,mb5.0
NKC Novy Kostel 77.21 320 *e*P P 12 36 29.4 0.0
SFI Santa Sofia 77.41 313 P P 12 36 30.4 -0.2
comp=Z,51nm,1.1s,mb5.4
PGD Poggio Sodo 77.50 313 P P 12 36 32.2 +1.1
comp=Z,87nm,1.2s,mb5.6
CTI Castel Tesino 77.59 315 ⇓*i*P P 12 36 31.7 +0.1
comp=Z,23nm,0.9s,mb5.1
WTTA Wattenberg 77.63 317 ⇓*i*P P 12 36 31.3 -0.5
comp=Z,30nm,1.3s,mb5.1
WATA Walderalm 77.68 317 ⇓*i*P P 12 36 31.1 -0.9
comp=Z,14nm,1.2s,mb4.8
MOX Moxa 77.76 320 *e*P P 12 36 32.3 -0.1
MOX pmax pmax
comp=Z,32nm,1.4s,mb5.1
MOX Moxa 77.76 320 *e*P P 12 36 32.3 -0.1
comp=Z,32nm,1.4s,mb5.1
MOX Moxa 77.76 320 *i* P P 12 36 32.3 -0.1
comp=Z,logA/T=1.4,mb5.1
FUR Furstenfeldbru 77.90 317 *e*P P 12 36 33.2 0.0
FUR pmax pmax
comp=Z,92nm,1.9s,mb5.4
FUR Furstenfeldbru 77.90 317 *e*P P 12 36 33.2 0.0
comp=Z,92nm,1.9s,mb5.4
SQTA Sankt Quirin 77.92 317 ⇓*i*P P 12 36 32.8 -0.6
comp=Z,16nm,1.0s,mb4.9
GRA1 Grafenberg Arr 77.98 319 *e*P P 12 36 34.3 +0.7
comp=Z,62nm,1.4s,mb5.3
GRF Grafenberg Arr 77.98 319 *e*P P 12 36 34.3 +0.7
GRF pmax pmax
comp=Z,62nm,1.4s,mb5.3
GRF Grafenberg Arr 77.98 319 *e*P P 12 36 34.3 +0.7
comp=Z,62nm,1.4s,mb5.3
MOTA Moosalm 78.00 317 ⇓*i*P P 12 36 33.1 -0.7
comp=Z,21nm,1.1s,mb5.0
ZCCA Zocca 78.04 314 ⇓*i*P P 12 36 35.6 +1.5
GSCL Gusciola 78.32 314 ⇓*i*P P 12 36 36.7 +1.1
BRMO Bormio 78.48 316 P P 12 36 36.7 +0.2
NB2 NORSAR Subarra 78.58 331 P P 12 36 35.7 -1.0
comp=Z,15nm,1.2s,mb4.8,baz=97,slow=5.3
NB2 NORSAR Subarra 78.58 331 P P 12 36 35.7 -1.0
NB2 pmax pmax
comp=Z,15nm,1.2s,mb4.8
NOA NORSAR Array B 78.58 331 P P 12 36 35.5 -1.2
comp=Z,6.3nm,1.1s,mb4.5,baz=94,slow=5.5,SNR=8.6

CLZ	**Clausthal**	**78.58**	**321**	*e*P		**P**		**12 36 37.0**	**+0.1**
CLZ				pmax		pmax			
	comp=Z,32nm,1.1s,mb5.2								
CLZ	**Clausthal**	**78.58**	**321**	*e*P		**P**		**12 36 37.0**	**+0.1**
	comp=Z,32nm,1.1s,mb5.2								
BSEG	**Bad Segeberg**	**78.69**	**323**	*e*P		**P**		**12 36 37.7**	**+0.3**
BSEG				pmax		pmax			
	comp=Z,34nm,1.1s,mb5.2								
DAVA	**Damuels**	**78.83**	**317**	⇓*i*P		**P**		**12 36 38.3**	**-0.1**
	comp=Z,39nm,1.1s,mb5.2								
TOD	**Tromm**	**79.55**	**319**	*e*P		**P**		**12 36 42.5**	**+0.3**
SPAK	**Spaichingen**	**79.57**	**317**	*e*P		**P**		**12 36 42.7**	**+0.4**
TNS	**Taunus Mts**	**79.78**	**320**	*e*P		**P**		**12 36 43.6**	**+0.2**
TNS				pmax		pmax			
	comp=Z,27nm,1.2s,mb5.0								
TNS	**Taunus Mts**	**79.78**	**320**	*e*P		**P**		**12 36 43.6**	**+0.2**
	comp=Z,27nm,1.2s,mb5.0								
BFO	**Black Forest**	**79.87**	**318**	*e*P		**P**		**12 36 43.4**	**-0.6**
BFO				pmax		pmax			
	comp=Z,20nm,1.2s,mb4.9								
BFO	**Black Forest**	**79.87**	**318**	*e*P		**P**		**12 36 43.4**	**-0.6**
	comp=Z,20nm,1.2s,mb4.9								
FELD	**Feldberg**	**80.10**	**317**	*e*P		**P**		**12 36 45.3**	**+0.1**
LANF	**Langenberg**	**80.21**	**318**	*e*P		**P**		**12 36 46.2**	**+0.4**
LIBD	**Limburg**	**80.36**	**317**	*e*P		**P**		**12 36 46.9**	**+0.3**
ABH	**Alteburg**	**80.36**	**319**	*e*P		**P**		**12 36 47.4**	**+0.8**
SAOF	**Saorge**	**80.51**	**313**	*e*P		**P**		**12 36 47.7**	**+0.3**
AUTN	**L'Aution**	**80.60**	**313**	*e*P		**P**		**12 36 48.5**	**+0.6**
ECH	**Echery**	**80.66**	**318**	*e*P		**P**		**12 36 48.4**	**+0.3**
MOF	**Molkenrain**	**80.68**	**317**	*e*P		**P**		**12 36 48.4**	**+0.1**
RUP	**Ruppelstein**	**80.68**	**319**	*e*P		**P**		**12 36 49.1**	**+0.8**
TOUF	**Mont Tournerai**	**80.73**	**313**	*e*P		**P**		**12 36 49.4**	**+0.8**
MVIF	**Mont Vial**	**80.80**	**313**	*e*P		**P**		**12 36 49.2**	**+0.2**
LOMF	**Lomont**	**80.91**	**317**	*e*P		**P**		**12 36 49.5**	**0.0**
CALN	**Calern**	**81.00**	**313**	*e*P		**P**		**12 36 50.5**	**+0.5**
THEF	**They Montfort**	**81.44**	**318**	*e*P		**P**		**12 36 52.4**	**+0.2**
TAVF	**Tavernes**	**81.61**	**313**	*e*P		**P**		**12 36 53.8**	**+0.6**
STOF	**St-Etienne Org**	**81.69**	**313**	*e*P		**P**		**12 36 54.9**	**+1.2**
EMHD	**Djebel Mahouad**	**84.57**	**306**	P		**P**		**12 37 11.0**	**+2.4**
ETRT	**Tiaret**	**85.99**	**305**	P		**P**		**12 37 17.5**	**+1.8**
EANR	**'Ain N'Sour**	**86.08**	**306**	P		**P**		**12 37 15.0**	**-1.2**
ESDC	**Sonseca Array**	**89.51**	**310**	P		**P**		**12 37 33.2**	**+0.7**
	comp=Z,4.6nm,0.9s,mb4.8,baz=66,slow=5.0,SNR=19								
ILAR	**Eielson Array**	**95.43**	**22**	P		**P**		**12 37 59.0**	**-0.3**
	comp=Z,1.4nm,0.8s,mb4.5,baz=298,slow=4.1,SNR=20								
ILAR				PP		PP		12 41 50.1	-2.1
	comp=Z,0.6nm,0.8s,baz=298,slow=6.5,SNR=5.1								
INK	**Inuvik**	**97.46**	**16**	P		**P**		**12 38 07.4**	**-0.9**
	comp=Z,6.3nm,1.1s,mb5.0,baz=310,slow=8.6,SNR=5.0								
YKA	**Yellowknife Ar**	**106.79**	**13**	PP		PP		12 43 12.4	-6.7
	comp=Z,1.2nm,0.9s,baz=336,slow=7.4,SNR=5.9								
PDAR	**Pinedale Array**	**125.80**	**19**	PKP		PKPdf		12 43 37.8	-3.4
	comp=Z,1.3nm,1.0s,slow=1.5,SNR=11								
PDAR				PP		PP		12 45 28.7	-4.2
	comp=Z,1.0nm,1.0s,slow=3.0,SNR=4.4								
TXAR	**Lajitas Array**	**139.95**	**21**	PKP		PKPdf		12 44 05.1	-2.9
	comp=Z,0.2nm,0.4s,baz=225,slow=1.8,SNR=3.6								
TXAR				PP		PP		12 46 59.2	-4.1
	comp=Z,0.3nm,0.7s,baz=11,slow=6.4,SNR=4.2								
TXAR	**Lajitas Array**	**139.95**	**21**	PKP		PKPdf		12 44 05.1	-2.9
TXAR				PP		PP		12 46 59.2	-4.1
CPUP	**Villa Florida**	**145.62**	**234**	PKPbc		PKPbc		12 44 14.6	+1.2
	comp=Z,4.1nm,0.9s,baz=106,slow=3.4,SNR=7.5								
LPAZ	**La Paz**	**158.90**	**245**	PKP		PKPdf		12 44 35.5	-2.1
	comp=Z,0.9nm,0.8s,baz=64,slow=2.1,SNR=4.1								
LPAZ				PKPab		PKPab		12 45 11.5	+0.7
	comp=Z,2.0nm,1.0s,baz=105,slow=7.1,SNR=5.7								

IDC 30 12:43:59.0±4.2, 7.86N×91.83E, mb3.5/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=148.4km s-min=31.1km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.65**	**350**	P	P	12 51 32.5	-1.8
	0.2nm,0.6s,baz=158,slow=9.3,SNR=3.1						
SONM	**Songino Array**	**41.72**	**15**	P	P	12 51 49.8	-1.6
	0.9nm,0.7s,baz=196,slow=7.3,SNR=7.7						
WRA	**Warramunga Arr**	**50.13**	**124**	P	P	12 52 56.6	-1.9
	0.2nm,0.6s,baz=302,slow=9.4,SNR=5.3						

*BJI **30** 12:45:55.3, 3.63N×94.78E, h30km, mB5.0, mb5.0, Ms4.5, Msz4.2*
*MOS **30** 12:46:03.7±0.9, 4.63N×95.04E, h33km, mb4.7/8, Error ellipse: s-maj=19.2km s-min=8.9km az=105.3*
*NEIC **30** 12:46:04.9±0.4, 4.50N×94.85E, h30km, mb4.8/7, Error ellipse: s-maj=10.6km s-min=7.0km az=38.0*
NEIC Felt [II] at Banda Aceh.
*IDC **30** 12:46:05.9±3.9, 4.54N×94.92E, h36km±30km, mb4.3/19, mb1 4.4/19, mb1mx4.2/26, mbtmp4.5/19, Error ellipse: s-maj=20.7km s-min=13.7km az=46.0*

ISC 30 12:46:03.8±0.5, 4.54N±0.07×94.99E±0.05, h33km, (h32km±2.9km: pP-P), n67, σ1§06/65, mb4.6/46, MS3.8/3, 3C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.69**	**82**	*e*P	**P**	**12 47 31.1**	**+3.0**
KULM				*e*S	**S**	**12 48 32.5**	**-0.6**
KKM	**Kota Kinabalu**	**21.19**	**85**	*e*P	**P**	**12 50 50.0**	**+1.2**
KKM				*e*		12 51 06.0	
KKM				*e*		12 51 13.9	
KMI	**Kunming**	**21.78**	**19**	P	**P**	**12 50 57.3**	**+2.6**
KMI				LR	LR		
	comp=Z,203nm,32.7s,MS3.3						
KMI	**Kunming**	**21.78**	**19**	P	**P**	**12 50 57.2**	**+2.5**
KMI				pP		12 51 11.4	
KMI				LR	LR		
	comp=Z,200nm,32.7s,MS3.3						
JIRN	**Jiri**	**24.48**	**341**	*e*P	**P**	**12 51 23.2**	**+2.0**
	comp=Z,12nm,0.4s,mb4.7						
GYA	**Guiyang**	**24.49**	**26**	⇓*i*P	**P**	**12 51 22.3**	**+0.9**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
PKI	**Pulchoki**	**24.66**	**339**	*e*P	**P**	**12 51 24.1**	**+1.1**
	comp=Z,8.9nm,0.3s,mb4.7						
DMN	**Daman**	**24.80**	**339**	*e*P	**P**	**12 51 25.7**	**+1.3**
	comp=Z,26nm,0.9s,mb4.8						
GUN	**Gumba**	**24.81**	**340**	*e*P	**P**	**12 51 26.7**	**+2.3**
KKN	**Kakani**	**24.91**	**339**	*e*P	**P**	**12 51 26.0**	**+0.7**
	comp=Z,16nm,0.7s,mb4.7						
GKN	**Gorkha**	**25.33**	**338**	*e*P	**P**	**12 51 30.2**	**+0.8**
	comp=Z,33nm,0.7s,mb5.0						
KOLN	**Koldanda**	**25.53**	**336**	*e*P	**P**	**12 51 31.9**	**+0.7**
	comp=Z,12nm,0.3s,mb4.9						
ENH	**Enshi**	**29.03**	**27**	*e*P	**P**	**12 52 01.9**	**-1.2**
	comp=Z,13nm,0.7s,mb4.8						
ENH				*e*		12 52 08.0	
WHN	**Wuhan**	**31.66**	**33**	*e*P	**P**	**12 52 27.0**	**+0.6**
XAN	**Xi'an**	**32.08**	**22**	P	**P**	**12 52 28.8**	**-1.3**
XAN				AP	pP	12 52 37.3	-2.5
XAN				AMB	AMB		
	comp=Z,64nm,0.8s,mb5.5						
GTA	**Gaotai**	**34.99**	**7**	P	**P**	**12 52 54.5**	**-0.6**
GTA				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.9						
NJ2	**Nanjing**	**35.34**	**36**	*e*P	**P**	**12 52 59.0**	**+0.8**
NJ2				AP	pP	12 53 08.8	+0.8
NJ2				XP	sP	12 53 12.8	+0.6
NJ2				PP	PP	12 54 17.8	-0.3
NJ2				S	**S**	**12 58 28.0**	**-1.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,140nm,4.5s						
NJ2				LR	LR		
	comp=N,250nm,18.0s						
NJ2				LR	LR		
	comp=E,350nm,10.9s						
NJ2				LR	LR		
	comp=Z,160nm,14.4s,MS3.9						
SSE	**Sheshan**	**36.12**	**40**	P	**P**	**12 53 00.8**	**-4.1**
SSE				AMB	AMB		
	comp=Z,16nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,248nm,3.9s						
SSE	**Sheshan**	**36.12**	**40**	P	**P**	**12 53 00.7**	**-4.2**
	comp=Z,16nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**37.68**	**128**	*e*P	**P**	**12 53 17.7**	**-0.3**
	comp=Z,7.8nm,0.7s,mb4.5						
FITZ				*e*		12 53 37.9	
FITZ	**Fitzroy Crossi**	**37.68**	**128**	P	**P**	**12 53 17.7**	**-0.3**
	comp=Z,11nm,0.7s,mb4.7,baz=336,slow=7.4,SNR=15						
FITZ				PcP	PcP	12 55 35.5	+0.1
	comp=Z,2.3nm,0.5s,baz=333,slow=2.2,SNR=4.0						
JOW	**Kunigami**	**38.74**	**52**	P	**P**	**12 53 27.9**	**+1.1**
	comp=Z,18nm,0.4s,mb5.2,baz=222,slow=8.0,SNR=18						
DL2	**Dalian**	**41.89**	**32**	P	**P**	**12 53 54.0**	**+1.2**
DL2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
AAK	**Ala-Archa**	**42.09**	**337**	⇑*e*P	**P**	**12 53 55.2**	**+0.9**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.3						
AAK				MLR	MLR		
	comp=Z,200nm,14.0s,MS4.2						
MKAR	**Makanchi Array**	**43.51**	**347**	P	**P**	**12 54 06.0**	**+0.1**
	comp=Z,6.2nm,0.4s,mb4.7,baz=162,slow=8.3,SNR=67						
JNU	**Nakatsue**	**43.90**	**45**	P	**P**	**12 54 08.7**	**-0.6**
	comp=Z,10nm,0.8s,mb4.6,baz=125,slow=8.6,SNR=5.6						
KKAR	**Karatay Array**	**44.11**	**334**	*i* P	**P**	**12 54 11.5**	**+0.7**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
SONM	**Songino Array**	**44.23**	**11**	P	**P**	**12 54 11.2**	**-0.6**
	comp=Z,3.9nm,0.7s,mb4.2,baz=190,slow=8.6,SNR=26						
SONM				PcP	PcP	12 55 56.3	-0.2
	comp=Z,2.2nm,0.6s,baz=189,slow=4.1,SNR=8.4						
SONM				ScP		12 59 43.7	
	comp=Z,0.2nm,0.4s,baz=180,slow=6.2,SNR=3.8						
WRA	**Warramunga Arr**	**45.68**	**124**	P	**P**	**12 54 24.2**	**+0.5**
	comp=Z,15nm,0.7s,mb5.0,baz=302,slow=9.0,SNR=91						
WRAB	**Tennant Creek**	**45.69**	**124**	*e*P	**P**	**12 54 24.5**	**+0.7**
WRAB				*e*	pP	12 54 33.3	-0.3
WRAB				pmax	pmax		
	comp=Z,32nm,0.6s,mb5.4						
WRAB	**Tennant Creek**	**45.69**	**124**	*e*P	**P**	**12 54 24.4**	**+0.7**
	comp=Z,32nm,0.6s,mb5.4						
WRAB				*e*	pP	12 54 33.3	-0.4
WRAB				*e*sP	sP	12 54 45.0	+7.3
WB2	**Warramunga Arr**	**45.69**	**124**	⇓*i*P	**P**	**12 54 24.3**	**+0.5**
WB2				*e*		12 54 45.1	
ZAK	**Zakamensk**	**46.22**	**7**	*e*P	**P**	**12 54 25.8**	**-1.7**
ZAK				*e*		12 56 02.8	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
KURK	**Kurchatov**	**48.03**	**346**	*e*P	**P**	**12 54 41.7**	**-0.1**
KURK				*e*	pP	12 54 52.6	+1.0
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
KURK	**Kurchatov**	**48.03**	**346**	*e*P	**P**	**12 54 41.7**	**0.0**
	comp=Z,6.5nm,0.8s,mb4.7						
KURK				*e*	pP	12 54 52.6	+1.0
HIA	**Hailar**	**49.27**	**21**	*e*P	**P**	**12 54 51.2**	**-0.2**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HIA	**Hailar**	**49.27**	**21**	*e*P	**P**	**12 54 51.2**	**-0.1**
	comp=Z,9.1nm,0.6s,mb5.0						
ZAL	**Zalesovo**	**49.95**	**352**	P	**P**	**12 54 55.1**	**-1.3**
	comp=Z,5.4nm,0.5s,mb4.8,baz=294,slow=6.2,SNR=20						
MDJ	**Mudanjiang**	**50.13**	**32**	P	**P**	**12 54 57.8**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,52nm,4.9s						
MJAR	**Matsushiro Arr**	**50.83**	**45**	P	**P**	**12 55 03.6**	**+0.2**
	comp=Z,2.7nm,0.8s,mb4.2,baz=239,slow=7.1,SNR=8.5						
MJAR				PcP	PcP	12 56 19.7	-0.3
	comp=Z,2.0nm,0.9s,baz=242,slow=3.4,SNR=4.9						
NVS	**Novosibirsk**	**51.05**	**351**	*e*P	**P**	**12 55 03.0**	**-1.8**
NVS				pmax	pmax		
	comp=N,3.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
VOSK	**Vostochnaya**	**51.96**	**342**	P	**P**	**12 55 11.4**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BVA0	**Borovoye Array**	**52.40**	**341**	*i* P	**P**	**12 55 14.7**	**-0.3**
BVAR	**Borovoye Array**	**52.40**	**341**	*i* P	**P**	**12 55 14.0**	**-0.9**
	comp=Z,5.2nm,0.6s,mb4.7,baz=141,slow=9.6,SNR=8.5						
BRVK	**Borovoye**	**52.46**	**341**	*e*P	**P**	**12 55 15.2**	**-0.2**
BRVK				*e*		12 57 10.8	
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BRVK	**Borovoye**	**52.46**	**341**	*e*P	**P**	**12 55 15.2**	**-0.3**
	comp=Z,3.5nm,0.5s,mb4.5						
BRVK				*e*PP	PP	12 57 10.8	-4.6
AB31	**Akbulak array**	**53.55**	**332**	*i* P	**P**	**12 55 23.6**	**0.0**
KLR	**Kul'dur**	**54.34**	**29**	*e*P	**P**	**12 55 27.0**	**-2.5**
BOD	**Bodaibo**	**55.19**	**12**	*e*P	**P**	**12 55 31.8**	**-3.7**
STKA	**Stephens Creek**	**57.22**	**133**	P	**P**	**12 55 50.1**	**-0.3**
	comp=Z,2.0nm,0.7s,mb4.3,baz=328,slow=6.5,SNR=4.9						
ARU	**Arti**	**59.27**	**337**	⇓*i*P	sP	12 56 21.6	+3.2
ARU				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.4						
KIV	**Kislovodsk**	**60.36**	**319**	*i* P	**P**	**12 56 11.7**	**-0.4**
KIV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
YAK	**Yakutsk**	**62.89**	**18**	*i* P	**P**	**12 56 27.0**	**-1.8**
YAK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.2						
BRTR	**Keskin Array B**	**65.25**	**312**	P	**P**	**12 56 43.8**	**-0.8**
	comp=Z,2.5nm,0.6s,mb4.4,baz=130,slow=7.4,SNR=8.9						
TIXI	**Tiksi**	**70.32**	**11**	⇑*e*P	**P**	**12 57 13.9**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
AKASG	**Malin Array Be**	**71.29**	**322**	P	**P**	**12 57 20.4**	**-1.4**
	comp=Z,0.4nm,0.3s,mb3.8,baz=91,slow=5.2,SNR=6.0						
BOSA	**Boshof**	**74.56**	**239**	P	**P**	**12 57 40.9**	**-0.7**
	comp=Z,1.3nm,0.6s,mb4.0,baz=38,slow=12,SNR=4.9						
FINES	**FINESS Array B**	**76.04**	**332**	P	**P**	**12 57 48.7**	**-0.6**
	comp=Z,1.1nm,0.4s,mb4.1,baz=101,slow=5.9,SNR=12						
KAF	**Kangasniemi**	**76.13**	**333**	*ep*	**P**	**12 57 49.2**	**-0.6**
ARCES	**ARCESS Array B**	**78.67**	**340**	P	**P**	**12 58 04.6**	**+0.8**
	comp=Z,1.1nm,0.3s,mb4.2,baz=96,slow=6.6,SNR=14						
FX1	**Attu Island--F**	**79.26**	**37**	P	**P**	**12 58 07.7**	**+0.3**
	comp=Z,16nm,0.4s,mb5.3,baz=264,slow=4.3,SNR=16						
GERES	**GERESS Array B**	**80.87**	**319**	P	**P**	**12 58 16.9**	**+0.8**
	comp=Z,2.2nm,0.9s,mb4.1,baz=104,slow=5.5,SNR=8.4						
HFS	**Hagfors**	**81.75**	**330**	P	**P**	**12 58 20.8**	**+0.3**
	comp=Z,1.1nm,0.5s,mb4.0,baz=108,slow=4.6,SNR=5.6						
DAVOX	**Davos**	**83.37**	**316**	P	**P**	**12 58 29.5**	**+0.5**
	comp=Z,1.2nm,0.3s,mb4.4,baz=90,slow=1.7,SNR=5.6						
NVAR	**Mina Array Bea**	**127.29**	**33**	PKP	PKPdf	13 05 08.7	+3.0
	comp=Z,0.3nm,0.7s,baz=0.5,slow=3.2,SNR=4.0						
PDAR	**Pinedale Array**	**127.92**	**23**	PKP	PKPdf	13 05 08.2	+1.4
	comp=Z,0.6nm,0.6s,baz=120,slow=2.0,SNR=5.8						
TXAR	**Lajitas Array**	**141.85**	**27**	PKP	PKPdf	13 05 33.0	0.0
	comp=Z,0.4nm,0.4s,baz=297,slow=2.0,SNR=3.7						

*NEIC **30** 12:48:12.7, 37.56S×176.47E, h209km, MG4.2(WEL), After WEL.*

WEL 30 12:48:12.8±0.3, 37.58S×176.43E, h208km±2km, ML4.2/10, 2C, Error ellipse: s-maj=1.5km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.87**	**142**	*e*P	P	12 48 33.5	-9.3
URZ	**Urewera**	**0.87**	**142**	PN	P	12 48 42.5	-0.3
URZ				SN	S	12 49 05.0	-1.1
KUZ	**Kuaotunu**	**1.00**	**325**	P	P	12 48 43.1	-0.5
KUZ	**Kuaotunu**	**1.00**	**325**	⇑PN	P	12 48 43.1	-0.5
MKAZ	**Moumakai**	**1.11**	**294**	P	P	12 48 42.2	-2.2
MKAZ	**Moumakai**	**1.11**	**294**	PN	P	12 48 44.3	-0.1
MWZ	**Matawai**	**1.15**	**131**	PN	P	12 48 44.3	-0.5
MWZ				SN	S	12 49 09.5	+0.1
OTAZ	**Otara**	**1.35**	**297**	P	P	12 48 46.2	-0.2
OTAZ	**Otara**	**1.35**	**297**	⇑PN	P	12 48 46.1	-0.2
RATZ	**Rangitukua**	**1.39**	**202**	P	P	12 48 46.9	+0.2
RATZ	**Rangitukua**	**1.39**	**202**	PN	P	12 48 46.6	-0.1
MTAZ	**Motutapu**	**1.45**	**303**	P	P	12 48 46.9	-0.3
MTAZ	**Motutapu**	**1.45**	**303**	PN	P	12 48 46.5	-0.7
MXZ	**Matakaoa Point**	**1.49**	**90**	P	P	12 48 46.5	-1.1
MXZ				S	S	12 49 14.2	-0.2
MXZ	**Matakaoa Point**	**1.49**	**90**	PN	P	12 48 47.4	-0.1
MXZ				SN	S	12 49 13.5	-0.9
PUZ	**Puketiti**	**1.53**	**109**	P	P	12 48 47.5	-0.4
PUZ	**Puketiti**	**1.53**	**109**	PN	P	12 48 47.4	-0.5
PUZ				SN	S	12 49 14.4	-0.5
KAAZ	**Kauri Point**	**1.57**	**298**	PN	P	12 48 47.5	-0.7
BKZ	**Black Stump Fm**	**1.59**	**178**	P	P	12 48 48.0	-0.4
BKZ				S	S	12 49 15.3	-0.5
BKZ	**Black Stump Fm**	**1.59**	**178**	PN	P	12 48 48.0	-0.5
BKZ				SN	S	12 49 15.3	-0.6
WTAZ	**Waiatarua**	**1.61**	**293**	PN	P	12 48 48.2	-0.5
KRVZ	**Karewarewa**	**1.64**	**202**	*e*PN	P	12 48 48.7	-0.1
WTVZ	**West Tongariro**	**1.67**	**203**	P	P	12 48 51.4	+2.2
TWVZ	**Taurewa**	**1.68**	**207**	P	P	12 48 49.4	+0.1
TWVZ	**Taurewa**	**1.68**	**207**	PN	P	12 48 49.2	-0.1
NGZ	**Ngauruhoe**	**1.72**	**202**	P	P	12 48 49.7	+0.1
NGZ	**Ngauruhoe**	**1.72**	**202**	PN	P	12 48 49.9	+0.3
KNZ	**Kokohu**	**1.74**	**146**	P	P	12 48 49.8	0.0
KNZ	**Kokohu**	**1.74**	**146**	PN	P	12 48 49.8	0.0
CNZ	**Chateau**	**1.76**	**203**	*e*PN	P	12 48 49.9	-0.1
TUVZ	**Tukino**	**1.80**	**200**	PN	P	12 48 50.2	-0.1
TUVZ				SN	S	12 49 20.3	+1.1
FWVZ	**Far West T-bar**	**1.81**	**202**	*e*PN	P	12 48 50.4	0.0
TRVZ	**Turoa**	**1.85**	**202**	PN	P	12 48 51.1	+0.2
WNVZ	**Wahianoa**	**1.87**	**200**	P	P	12 48 50.8	-0.2
WNVZ	**Wahianoa**	**1.87**	**200**	PN	P	12 48 50.7	-0.3
MOVZ	**Moawhango**	**1.90**	**196**	P	P	12 48 50.7	-0.6
MOVZ	**Moawhango**	**1.90**	**196**	PN	P	12 48 50.5	-0.8
MOVZ				SN	S	12 49 20.0	-1.0
PKVZ	**Pokaka**	**1.91**	**206**	PN	P	12 48 51.2	-0.3
WAZ	**Wanganui**	**2.45**	**207**	*e*P	P	12 48 56.8	-0.4
WAZ	**Wanganui**	**2.45**	**207**	*e*PN	P	12 48 56.0	-1.2
WAZ				SN	S	12 49 31.2	-0.2
PWZ	**Pawanui**	**2.47**	**172**	*e*P	P	12 48 56.6	-0.8
PWZ	**Pawanui**	**2.47**	**172**	PN	P	12 48 56.5	-0.8
PWZ				SN	S	12 49 29.4	-2.4
TSZ	**Takapari Road**	**2.51**	**188**	P	P	12 48 56.5	-1.3
TSZ	**Takapari Road**	**2.51**	**188**	PN	P	12 48 56.4	-1.4
TSZ				SN	S	12 49 30.4	-2.1
BFZ	**Birch Farm**	**3.10**	**183**	P	P	12 49 03.1	-1.5
BFZ	**Birch Farm**	**3.10**	**183**	*e*PN	P	12 49 03.0	-1.6
BFZ				SN	S	12 49 41.1	-3.6
MRZ	**Mangatainoka R**	**3.15**	**192**	P	P	12 49 02.8	-2.4
MRZ	**Mangatainoka R**	**3.15**	**192**	PN	P	12 49 02.7	-2.5
MRZ				SN	S	12 49 43.4	-2.2
KIW	**Kapiti Island**	**3.49**	**199**	P	P	12 49 06.4	-2.8
KIW	**Kapiti Island**	**3.49**	**199**	PN	P	12 49 06.3	-3.0
KIW				SN	S	12 49 48.7	-4.1
MTW	**Mount Morrison**	**3.65**	**191**	P	P	12 49 08.2	-3.0
MTW	**Mount Morrison**	**3.65**	**191**	PN	P	12 49 07.8	-3.4
MTW				SN	S	12 49 51.4	-4.9
CAW	**Cannon Point**	**3.68**	**196**	P	P	12 49 08.5	-3.1
CAW	**Cannon Point**	**3.68**	**196**	PN	P	12 49 08.3	-3.3
CAW				SN	S	12 49 51.9	-5.2
DUWZ	**D'Urville Isla**	**3.77**	**210**	PN	P	12 49 09.2	-3.4
DUWZ				SN	S	12 49 55.4	-3.4
TRWZ	**Traveller**	**3.86**	**188**	PN	P	12 49 11.1	-2.7
TRWZ				SN	S	12 49 56.4	-4.5
PAWZ	**Paruwai Farm**	**3.88**	**191**	PN	P	12 49 10.8	-3.2
PAWZ				SN	S	12 49 57.0	-4.3
MRW	**Makara Radio**	**3.89**	**200**	P	P	12 49 10.8	-3.3
MRW	**Makara Radio**	**3.89**	**200**	*e*PN	P	12 49 10.6	-3.4
MRW				SN	S	12 49 56.7	-4.8
WEL	**Wellington**	**3.92**	**199**	P	P	12 49 11.4	-3.1
WEL	**Wellington**	**3.92**	**199**	PN	P	12 49 11.2	-3.3
MSWZ	**Moikau Station**	**3.94**	**193**	P	P	12 49 11.4	-3.4
MSWZ	**Moikau Station**	**3.94**	**193**	PN	P	12 49 11.3	-3.5
MSWZ				SN	S	12 49 56.9	-5.8
SNZO	**South Karori**	**3.96**	**199**	*e*Pn	P	12 49 11.2	-3.8
SNZO	**South Karori**	**3.96**	**199**	PN	P	12 49 11.3	-3.7
TCW	**Tory Channel**	**4.00**	**204**	P	P	12 49 12.1	-3.3
TCW	**Tory Channel**	**4.00**	**204**	PN	P	12 49 11.7	-3.8
TCW				SN	S	12 49 58.7	-5.2
BHW	**Baring Head**	**4.01**	**197**	P	P	12 49 12.1

SIV				Lg			13 41 30.0			
	1.1nm,0.3s,baz=214,slow=22,SNR=3.1									
SAML	**Samuel**	**10.71**	**44**	*eP*		**P**	**13 39 16.6**	**-7.7**		
	4.5nm,0.6s									
SAML				*e*S		**S**	**13 41 15.3**	**-8.8**		
CFAA	**Coronel Fontan**	**14.82**	**172**	Pn		**P**	**13 40 17.9**	**-1.3**		
	0.1nm,0.3s,baz=339,slow=12,SNR=6.0									
CFAA				LR		LR	13 46 04.9			
	comp=Z,18nm,20.5s,baz=154,slow=38									
CPUP	**Villa Florida**	**15.52**	**130**	LR		LR	13 47 28.5			
	comp=Z,523nm,18.0s,baz=343,slow=41									
BDFB	**Brasilia**	**21.74**	**90**	LR		LR	13 50 33.5			
	comp=Z,186nm,18.9s,MS3.5,baz=61,slow=38									
TRQA	**Tornquist**	**22.43**	**162**	*eP*		**P**	**13 41 44.6**	**-2.7**		
	30nm,1.4s,mb4.5									
PLCA	**Paso Flores**	**23.77**	**180**	P		**P**	**13 42 01.8**	**+1.3**		
	7.9nm,1.0s,mb4.1,baz=350,slow=11,SNR=5.1									
PLCA	**Paso Flores**	**23.77**	**180**	*eP*		**P**	**13 42 01.1**	**+0.6**		
	36nm,1.5s,mb4.6									
SDV	**Santo Domingo**	**25.59**	**360**	P		**P**	**13 42 17.1**	**-1.1**		
	1.6nm,0.4s,mb4.0,baz=214,slow=15,SNR=3.2									
NATX	**Nacogdoches**	**53.57**	**334**	P		**P**	**13 46 10.0**	**-0.3**		
WVT	**Waverly**	**55.17**	**343**	*eP*		**P**	**13 46 19.5**	**-2.4**		
	2.0nm,0.8s,mb4.2									
TXAR	**Lajitas Array**	**55.93**	**325**	P		**P**	**13 46 26.3**	**-1.2**		
	0.8nm,0.4s,mb4.2,baz=149,slow=7.3,SNR=7.6									
FVM	**French Village**	**57.65**	**342**	*eP*		**P**	**13 46 37.4**	**-2.2**		
	36nm,1.0s,mb5.4									
CCM	**Cathedral Cave**	**57.97**	**341**	*eP*		**P**	**13 46 39.7**	**-2.2**		
	6.3nm,0.9s,mb4.7									
MNTX	**Cornudas Mount**	**58.69**	**325**	*eP*		**P**	**13 46 45.9**	**-1.1**		
	3.8nm,1.0s,mb4.4									
ANMO	**Albuquerque**	**61.76**	**327**	P		**P**	**13 47 07.8**	**-0.1**		
	2.7nm,1.0s,mb4.3,baz=150,slow=8.0,SNR=4.7									
ANMO	**Albuquerque**	**61.76**	**327**	*eP*		**P**	**13 47 07.6**	**-0.4**		
	2.6nm,0.9s,mb4.4									
SDCO	**Great Sand Dun**	**63.46**	**330**	*eP*		**P**	**13 47 19.2**	**0.0**		
	11nm,1.2s,mb4.9									
VNA3	**Neumayer Olymp**	**64.95**	**162**	⇑*i*		**P**	**13 47 28.0**	**-0.4**		
VNA3	**Neumayer Olymp**	**64.95**	**162**			pP	13 47 38.3	-0.4		
VNA1	**Neumayer--Stat**	**65.16**	**161**	⇑*i*		**P**	**13 47 30.0**	**+0.3**		
VNA1	**Neumayer--Stat**	**65.16**	**161**			pP	13 47 41.7	+1.7		
PV01	**Paradox Valley**	**65.29**	**328**	*eP*		**P**	**13 47 31.7**	**+0.6**		
SMCO	**Snowmass**	**65.30**	**330**	*eP*		**P**	**13 47 32.1**	**+0.9**		
VNA2	**Neumayer--Watz**	**65.53**	**161**	⇑*i*		**P**	**13 47 31.7**	**-0.4**		
PV10	**Paradox Valley**	**65.71**	**328**	P		**P**	**13 47 33.9**	**+0.1**		
NEN	**Nelson**	**66.95**	**322**	*eP*		**P**	**13 47 41.8**	**+0.1**		
SNAA	**Sanae**	**67.16**	**161**	⇑*i*		**P**	**13 47 41.2**	**-1.2**		
SNAA	**Sanae**	**67.16**	**161**			pP	13 47 51.7	-1.0		
DBIC	**Dimbokro**	**69.08**	**76**	LR		LR	14 15 38.4			
	comp=Z,112nm,20.2s,MS4.1,baz=222,slow=34									
BW06	**Boulder Array**	**69.31**	**330**	*eP*		**P**	**13 47 56.0**	**-0.3**		
	3.8nm,1.1s,mb4.2									
PDAR	**Pinedale Array**	**69.31**	**330**	P		**P**	**13 47 56.4**	**+0.1**		
	0.8nm,0.4s,mb4.0,baz=127,slow=8.0,SNR=16									
HWUT	**Hardware Ranch**	**69.42**	**328**	*eP*		**P**	**13 47 56.8**	**-0.1**		
	5.5nm,1.0s,mb4.4									
ULM	**Lac du Bonnet**	**70.44**	**343**	P		**P**	**13 48 01.6**	**-1.4**		
	4.7nm,0.6s,mb4.6,baz=155,slow=8.2,SNR=5.0									
LOHW	**Long Hollow**	**70.45**	**330**	*eP*		**P**	**13 48 03.3**	**+0.2**		
	4.4nm,1.1s,mb4.3									
RRI2	**Red Ridge**	**70.59**	**330**	*eP*		**P**	**13 48 04.8**	**+0.7**		
	22nm,1.3s,mb4.9									
ELK	**Elko**	**70.71**	**326**	*eP*		**P**	**13 48 05.5**	**+0.7**		
	1.8nm,0.9s,mb4.0									
OMM	**Old Mammoth Mi**	**70.75**	**321**	*eP*		**P**	**13 48 06.0**	**+0.9**		
IMW	**Indian Meadow**	**70.83**	**330**	*eP*		**P**	**13 48 06.2**	**+0.7**		
	15nm,1.4s,mb4.7									
NVAR	**Mina Array Bea**	**70.87**	**322**	P		**P**	**13 48 07.0**	**+1.1**		
	1.5nm,0.9s,mb3.9,baz=139,slow=8.0,SNR=12									
NVAR	**Mina Array Bea**	**70.87**	**322**	P		**P**	**13 48 07.0**	**+1.1**		
LKWY	**Lake**	**71.08**	**331**	*eP*		**P**	**13 48 08.3**	**+1.3**		
	4.6nm,0.8s,mb4.5									
HLID	**Hailey**	**72.28**	**328**	*eP*		**P**	**13 48 14.7**	**+0.6**		
	4.0nm,1.1s,mb4.3									
HLID				*e*pP		pP	13 48 23.5	-0.9		
MCMT	**McKenzie Canyo**	**72.43**	**330**	*eP*		**P**	**13 48 15.9**	**+1.0**		
BOZ	**Bozeman (W)**	**72.47**	**331**	*eP*		**P**	**13 48 15.1**	**-0.1**		
	4.9nm,1.2s,mb4.3									
BMO	**Blue Mountains**	**74.67**	**328**	*eP*		**P**	**13 48 28.8**	**+0.7**		
	3.4nm,1.0s,mb4.2									
YBH	**Yreka Blue Hor**	**75.58**	**322**	P		**P**	**13 48 33.7**	**+0.3**		
	1.8nm,0.8s,mb4.0,baz=120,slow=5.9,SNR=3.8									
EDM	**Edmonton**	**78.91**	**335**	*eP*		**P**	**13 48 50.9**	**-0.8**		
VNDA	**Vanda**	**81.10**	**190**	P		**P**	**13 49 03.9**	**+0.8**		
	1.0nm,0.5s,mb4.0,baz=97,slow=8.1,SNR=2.2									
VNDA	**Vanda**	**81.10**	**190**	P		**P**	**13 49 03.9**	**+0.8**		
ESDC	**Sonseca Array**	**83.72**	**45**	P		**P**	**13 49 18.6**	**+1.3**		
	0.3nm,0.6s,mb3.6,baz=243,slow=5.8,SNR=4.1									
YKA	**Yellowknife Ar**	**86.31**	**341**	P		**P**	**13 49 29.5**	**0.0**		
	1.8nm,0.7s,mb4.4,baz=133,slow=5.2,SNR=16									
MAW	**Mawson**	**89.20**	**164**	*eP*		**P**	**13 49 43.9**	**+0.5**		
	2.8nm,0.6s,mb4.8									
MAW	**Mawson**	**89.20**	**164**	P		**P**	**13 49 43.1**	**-0.2**		
	3.6nm,0.6s,mb4.9,baz=161,slow=6.0,SNR=13									
DLBC	**Dease Lake**	**89.37**	**333**	*eP*		**P**	**13 49 45.4**	**+1.1**		
ILAR	**Eielson Array**	**99.39**	**335**	PP		PP	13 54 36.0	+0.1		
	0.7nm,1.1s,baz=102,slow=5.5,SNR=5.7									
WRA	**Warramunga Arr**	**135.96**	**215**	PKP		PKPdf	13 56 10.4	+1.7		
	0.8nm,0.9s,baz=139,slow=1.6,SNR=5.1									
ZAL	**Zalesovo**	**138.37**	**22**	PKP		PKPdf	13 56 12.3	+0.2		
	2.7nm,0.7s,baz=164,slow=2.8,SNR=17									
MKAR	**Makanchi Array**	**142.69**	**31**	PKhKP			13 56 16.8			
	1.3nm,0.9s,baz=328,slow=3.8,SNR=4.1									
MKAR				PKP		PKPdf	13 56 21.2	+1.2		
	0.9nm,0.8s,baz=297,slow=2.7,SNR=7.8									
TLY	**Talaya**	**144.98**	**6**	*e*PKP		PKPdf	13 56 24.8	+1.0		
MJAR	**Matsushiro Ar**	**147.84**	**313**	PKPbc		PKPdf	13 56 34.5	+5.4		
	11nm,0.9s,baz=196,slow=1.0,SNR=30									
MAT	**Matsushiro**	**147.84**	**313**	PKP2		PKPab	13 56 34.5	-2.1		
SONM	**Songino Array**	**149.03**	**4**	PKP		PKPdf	13 56 31.6	+0.9		
	0.4nm,0.4s,baz=91,slow=0.7,SNR=6.5									
SONM				PKPbc		PKPdf	13 56 36.4	+5.8		
	4.9nm,0.6s,baz=326,slow=2.0,SNR=47									

NEIC ***30*** *13:47:57.3,29.69S×69.78W,h143km,MD3.4(GUC), After GUC.*

GUC 30 13:47:57.3±0.4, 29.69S×69.78W, h143km±7km, MD3.4, ML3.6,3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TLL	**Tololo Astrono**	**1.01**	**241**	⇑*i*	P	P	13 48 22.4	+0.7
TLL				AMP			13 48 36.9	
	comp=E,557nm,0.3s							
TLL				*i*	S	S	13 48 41.4	+1.0
TLL	**Tololo Astrono**	**1.01**	**241**	⇑*i*	P	P	13 48 22.4	+0.7
TLL				*i*	S	S	13 48 41.4	+1.0
LSCH	**La Serena**	**1.29**	**260**	*i*	P	P	13 49 19.9	+55
LSCH				*i*	S	S	13 49 40.6	+55
LSCH				AMP			13 49 43.4	
	comp=N,686nm,0.6s							
VACH	**Vallenar**	**1.40**	**322**	⇑*i*	P	P	13 48 25.7	+0.1
VACH				*i*	S	S	13 48 46.8	-0.6
VACH				AMP			13 48 49.6	
	comp=N,2μm,0.1s							
CMCH	**Combarbala**	**1.82**	**215**	*i*	P	P	13 48 30.2	0.0
CMCH				*i*	S	S	13 48 55.6	+0.1
CMCH				AMP			13 48 58.2	
	comp=E,628nm,0.7s							
CHNG	**Los Chungos**	**2.64**	**214**	*i*	P	P	13 48 40.3	-0.2
CHNG				*i*	S	S	13 49 12.9	-0.7
CHNG				AMP			13 49 21.7	
	comp=E,120nm,0.5s							
JACH	**Jahuel**	**3.07**	**193**	*i*	P	P	13 48 46.1	+0.1
JACH				*i*	S	S	13 49 23.1	-0.1

IDC 30 14:04:45.8±20.0, 46.66N×150.47E, h248km±207km, mb2.9/5, mb1 3.2/5, mb1mx2.9/21, mbtmp3.5/5, Error ellipse: s-maj=35.9km s-min=23.8km az=145.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
INK	**Inuvik**	**42.70**	**32**	P		P	14 12 17.8	-1.6
	0.9nm,0.5s,baz=283,slow=5.3,SNR=14							
MKAR	**Makanchi Array**	**45.36**	**296**	P		P	14 12 39.5	-1.4
	0.3nm,0.7s,baz=68,slow=7.8,SNR=3.9							
FINES	**FINESS Array B**	**63.33**	**334**	P		P	14 14 48.0	-2.0
	0.3nm,0.5s,baz=27,slow=6.2,SNR=3.3							
PDAR	**Pinedale Array**	**66.25**	**52**	P		P	14 15 07.8	-1.1
	0.3nm,0.6s,baz=243,slow=2.0,SNR=4.3							
WRA	**Warramunga Arr**	**67.87**	**196**	P		P	14 15 17.6	-1.8
	0.4nm,0.5s,baz=15,slow=6.9,SNR=6.2							

NEIC ***30*** *14:23:37.8±0.8,24.23S×66.99W,h157km±13km,mb3.7/1, MD3.5(GUC),Error ellipse: s-maj=17.5km s-min=8.4km az=111.0*

IDC ***30*** *14:23:37.9±1.3,24.26S×67.00W,h151km±17km,mb3.1/1, mb1 3.7/6,mb1mx3.5/19,mbtmp4.1/6,Error ellipse: s-maj=22.6km s-min=13.4km az=88.0*

GUC ***30*** *14:23:40.6±0.7,24.33S×67.28W,h135km±26km,MD3.5, ML4.1*

ISC 30 14:23:36.5±0.7, 24.25S±0.05×67.1W±0.1, h169km±18km, n18,σ1§46/25, mb3.3/1, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**2.34**	**314**	⇑*i*	P	P	**14 24 19.7**	**+2.5**
LVC				*i*	S	S	**14 24 49.3**	**+0.8**
LVC				AMP			14 24 53.2	
	comp=E,760nm,0.4s							
LVC	**Limon Verde**	**2.34**	**314**	P	P	P	**14 24 19.7**	**+2.5**
	comp=E,30nm,0.3s,baz=132,slow=9.5,SNR=426							
LVC				S		S	**14 24 49.4**	**+0.9**
	comp=E,118nm,0.3s,baz=79,slow=0.5,SNR=62							
CPN1	**Cerro Paranal**	**3.05**	**262**	⇓*i*	P	P	**14 24 27.6**	**+1.7**
CPN1				*i*	S	S	**14 25 03.5**	**-0.4**
CPN1				AMP			14 25 13.9	
	comp=E,375nm,0.5s							
ANCH	**Antofagasta**	**3.10**	**280**	*i*	P	P	**14 24 27.9**	**+1.4**
ANCH				*i*	S	S	**14 25 03.1**	**-1.8**
ANCH				AMP			14 25 06.5	
	comp=N,878nm,0.3s							
CRCH	**Chaqaral**	**3.83**	**236**	⇑*i*	P	P	**14 24 36.7**	**+1.0**
CRCH				*i*	S	S	**14 25 20.0**	**-1.4**
TLL	**Tololo Astrono**	**6.76**	**209**	*eP*	P	P	**14 25 13.3**	**-1.0**
TLL				*i*	S	S	**14 26 28.1**	**-2.4**
CFAA	**Coronel Fontan**	**7.40**	**188**	P	P	P	**14 25 24.3**	**+1.5**
	comp=N,0.1nm,0.3s,baz=2.1,slow=14,SNR=6.1							
CFAA				S		S	**14 26 44.5**	**-1.1**
	comp=N,0.2nm,0.3s,baz=111,slow=20,SNR=9.0							
LPAZ	**La Paz**	**7.98**	**353**	P	P	P	**14 25 31.9**	**+1.4**
	comp=N,1.4nm,0.3s,baz=165,slow=10.0,SNR=9.7							
LPAZ				S		S	**14 26 56.7**	**-2.8**
	comp=N,0.3nm,0.3s,baz=333,slow=24,SNR=5.2							
LPAZ	**La Paz**	**7.98**	**353**	P	P	P	**14 25 31.9**	**+1.4**
LPAZ				S		S	**14 26 56.7**	**-2.8**
SIV	**San Ignacio**	**9.96**	**36**	P	P	P	**14 25 55.7**	**-0.9**
	comp=N,1.1nm,0.3s,baz=215,slow=14,SNR=37							
SIV				S		S	**14 27 43.1**	**-3.1**
	comp=N,0.1nm,0.3s,baz=121,slow=23,SNR=6.0							
SAML	**Samuel**	**15.66**	**14**	*eP*		P	**14 27 08.0**	**-1.4**
	comp=N,2.8nm,0.7s							
PLCA	**Paso Flores**	**16.69**	**189**	P	P	P	**14 27 23.6**	**+1.7**
	comp=N,0.2nm,0.3s,baz=349,slow=13,SNR=4.6							
BDFB	**Brasilia**	**19.85**	**68**	P		P	**14 27 56.8**	**+0.5**
	comp=N,2.2nm,0.3s,baz=247,slow=11,SNR=41							
BAO	**Brasilia Array**	**19.87**	**68**	P		P	**14 27 56.5**	**0.0**
SNAA	**Sanae**	**59.14**	**161**	P		P	**14 33 22.1**	**+0.9**
	comp=N,0.4nm,0.7s,mb3.3,baz=298,slow=9.5,SNR=7.7							
WRA	**Warramunga Arr**	**131.37**	**207**	PKP		PKPdf	14 42 31.7	+2.2
	comp=N,0.3nm,0.5s,baz=162,slow=1.8,SNR=14							
MKAR	**Makanchi Array**	**146.76**	**40**	PKPbc		PKPbc	14 43 01.5	+3.6
	comp=N,0.5nm,0.7s,baz=293,slow=3.3,SNR=5.8							
MKAR	**Makanchi Array**	**146.76**	**40**	PKPbc		PKPbc	14 43 01.5	+3.6

IDC 30 14:45:37.0±1.7, 8.30N×92.80E, mb3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=62.9km s-min=27.3km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.40**	**349**	P		P	14 53 06.6	-3.7
	0.3nm,0.6s,baz=173,slow=7.6,SNR=5.2							
SONM	**Songino Array**	**41.06**	**14**	P		P	14 53 23.2	-0.7
	1.0nm,0.7s,baz=197,slow=8.7,SNR=13							
WRA	**Warramunga Arr**	**49.59**	**125**	P		P	14 54 30.1	-2.2
	1.0nm,0.8s,baz=302,slow=8.9,SNR=14							
GERES	**GERESS Array B**	**76.63**	**318**	P		P	14 57 30.7	-0.7
	0.6nm,0.7s,baz=90,slow=4.9,SNR=6.6							

CASC 30 15:00:33.2±4.4, 13.68N×90.79W, h20km±24km, MD3.8, ML3.7, 2C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IXG	**Ixpaco**	**0.59**	**33**	⇓*eP*		Pb	15 00 44.4	-0.4
IXG				*e*S		Sb	15 00 54.6	+2.0
FUG	**Fuego 3**	**0.77**	**356**	*eP*		Pb	15 00 47.6	-0.1
TP2	**Tecpan 2**	**1.12**	**348**	⇑*eP*		Pb	15 00 53.7	0.0
TP2				*e*S		Sb	15 01 10.2	+2.3
RTR	**El Retiro**	**1.13**	**79**	⇓*eP*		Pb	15 01 27.7	+34
RTR				*e*S		Sb	15 01 41.9	+34
SBLS	**San Blas**	**1.15**	**82**	*eP*		Pb	15 01 27.2	+33
SBLS				*e*S		Sb	15 01 41.7	+33
RBDL	**Robledal**	**1.16**	**68**	*eP*		Pb	15 01 28.4	+34
RBDL				*e*S		Sb	15 01 44.5	+36
BOQS	**Boqueron**	**1.47**	**88**	*eP*		Pn	15 01 32.0	+33
BOQS				*e*S		Sn	15 01 50.4	+33
SNET	**Serv Nac Est T**	**1.52**	**89**	*eP*		Pn	15 01 32.1	+33
SNET				*e*S		Sn	15 01 50.4	+32
SNET				*i*			15 01 52.2	
	comp=Z,1μm,0.1s							
LFU	**La Fuente**	**1.63**	**87**	⇑*eP*		Pn	15 01 34.6	+33
LFU				*e*S		Sn	15 01 55.0	+33
LFRS	**El Faro**	**1.68**	**92**	*eP*		Pn	15 01 34.9	+33
LFRS				*e*S		Sn	15 01 55.3	+32
LBRS	**Las Brisas**	**1.70**	**88**	*eP*		Pn	15 01 35.5	+33
LBRS				*e*S		Sn	15 01 57.0	+34
MRL	**Marmol**	**1.74**	**38**	⇓*eP*		Pn	15 01 01.7	-1.1
MRL				*e*S		Sn	15 01 28.3	+3.7
LCBS	**La Ceiba**	**1.76**	**91**	*eP*		Pn	15 01 36.4	+33
LCBS				*e*S		Sn	15 01 59.1	+34
SNVI	**San Vicente**	**1.90**	**92**	*eP*		Pn	15 01 38.4	+33
SNVI				*e*S		Sn	15 02 01.3	+33

CRAAG ***30*** *15:13:16.9,5.55N×94.27E,Mb5.9*

BJI ***30*** *15:13:18.3,5.06N×94.40E,h50km,mB6.0,mb5.7,Ms5.9, Msz5.8*

MOS ***30*** *15:13:19.1±0.9,5.28N×94.55E,h42km,mb6.0/80, MS5.2/35,Error ellipse: s-maj=8.1km s-min=3.8km az=121.6*

HRVD ***30*** *15:13:20.1±0.1,5.16N×94.32E,h31km,MW5.8/78, Centroid moment Tensor Solution. LP body waves: s75,c174;Mantle waves: s78,c225; Half duration: 1s9 Moment tensor: Scale 10¹⁷Nm; Mrr2.73±.06; Mθθ-0.16±.05; Mϕϕ-2.57±.05; Mrθ4.31±.08; Mθϕ 1.57±.04; Mϕr-3.51±.09; Best double couple: Mw6.356×10¹⁷ NP1: ϕs356°,δ18°,λ133°. NP2:ϕs132°,δ77°,λ77°. Principal axes: T 6.313, Plg56°, Azm26°; N .083, Plg12°, Azm135°; P -6.398, Plg31°, Azm232°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***30*** *15:13:20.1±0.1,5.18N×94.48E,h38km,mb5.8/137,ME5.5, MS5.2/12,MW5.8 Error ellipse: s-maj=4.2km s-min=2.8km az=209.0 Broadband fault plane solution: P waves. NP1: ϕs135°,δ75°,λ90°. NP2:ϕs315°,δ15°,λ90°. Principal axes: T Plg60°, Azm45°; N Plg0°, Azm0°; P Plg30°, Azm225°; Moment Tensor Solution. s29 Moment tensor: Scale 10¹⁷ Nm; Mrr3.27; Mθθ-0.99; Mϕϕ-2.27; Mrθ3.37; Mθϕ 1.69; Mϕr-2.86; Best double couple: Mw5.5×10¹⁷ NP1: ϕs338°,δ20°,λ113°. NP2:ϕs133°,δ72°,λ82°. Principal axes: T 5.54, Plg62°, Azm31°; N .01, Plg8°, Azm136°; P -5.55, Plg26°, Azm230°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] at Banda Aceh.

IDC ***30*** *15:13:21.6±0.3,5.19N×94.59E,h52km±2km,mb5.1/33, mb1 5.1/33,mb1mx5.1/33,mbtmp5.4/33,MS5.4/23, Ms1 5.4/23,ms1mx5.3/30 Error ellipse: s-maj=10.5km s-min=7.1km az=51.0*

ISC 30 15:13:19.4±0.1, 5.21N±0.02×94.51E±0.02, h45km, h45km±.8km: pP-P, n899, σ1§05/822, mb5.8/214, MS5.5/77, 231C-37D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**6.12**	**89**	*e*Pn		P	**15 14 50.0**	**+0.5**
SNG	**Songkhla**	**6.38**	**72**	P		P	**15 14 54.0**	**+0.8**
	584nm,1.0s							
IPM	**Ipoh**	**6.53**	**95**	P		P	**15 14 55.7**	**+0.5**
NNT	**Nongplab**	**8.97**	**35**	P		P	**15 15 32.5**	**+3.4**
KGM	**Kluang**	**9.35**	**110**	P		P	**15 15 33.7**	**-0.7**
NST	**Nakhon Sawan**	**11.77**	**28**	⇓P		P	**15 16 10.0**	**+2.5**
	200nm,0.6s							
BDT	**Bhumibol Dam**	**12.74**	**20**	P		P	**15 16 25.0**	**+4.5**
	142nm,0.8s							
KKTK	**Khon Kaen**	**13.74**	**36**	P		P	**15 16 38.0**	**+4.3**
PALK	**Pallekele**	**13.87**	**279**	*e*Pn		P	**15 16 33.3**	**-2.2**
	63nm,0.7s							
CHG	**Chiang Mai**	**14.20**	**17**	⇑P		P	**15 16 41.8**	**+2.1**
	80nm,0.9s							
CHG				S		S	**15 19 33.5**	**+17**
CHG	**Chiang Mai**	**14.20**	**17**	⇓P		P	**15 16 54.5**	**+15**
	282nm,1.0s							
NANT	**Nan**	**14.80**	**24**	⇑P		P	**15 16 51.0**	**+3.5**
	2μm,0.4s							
KSM	**Kuching**	**16.20**	**103**	*e*Pn		P	**15 17 06.8**	**+1.2**
BWNR	**Bhubaneshwar**	**17.21**	**331**	*e*P		P	**15 17 20.5**	**+2.2**
BWNR				AMb		AMB	15 17 46.2	
	comp=Z,1μm,1.7s							
BWNR				*e*S		S	**15 20 24.7**	**-1.9**
CAL	**Calcutta**	**18.23**	**341**	*e*		P	**15 17 21.2**	**-10**
CAL				*e*			15 20 56.3	
AGT	**Agartala**	**18.83**	**351**	⇑*i*		P	**15 17 44.0**	**+5.9**
AGT				*i*			15 17 54.0	
IMP	**Imphal**	**19.47**	**358**	*e*P		P	**15 17 44.0**	**-1.3**
IMP				*e*S		S	**15 21 21.0**	**+3.8**
HYB	**Hyderabad**	**19.77**	**309**	*e*P		P	**15 17 49.5**	**+0.9**
HYB				*e*S		S	**15 21 24.0**	**+0.2**
HYB				pmax		pmax		
	comp=Z,923nm,1.6s							
HYB	**Hyderabad**	**19.77**	**309**	*e*P		P	**15 17 49.5**	**+0.9**
	comp=Z,923nm,1.6s							
HYB				*e*S		S	**15 21 24.0**	**+0.2**
HYB	**Hyderabad**	**19.77**	**309**	⇓*i*P		P	**15 17 49.5**	**+0.9**
	comp=Z,923nm,1.6s							
HYB				*e*S		S	**15 21 24.0**	**+0.2**
HYB				LR		LR	15 26 08.0	
	comp=Z,12nm,18.0s							
BOK	**Bokaro**	**20.26**	**337**	⇑*i*P		P	**15 17 52.5**	**-1.2**
BOK				*i*S		S	**15 21 36.5**	**+3.0**
QIZ	**Qiongzhong**	**20.30**	**46**	P		P	**15 17 54.5**	**+0.2**
QIZ				XP			15 18 13.0	
QIZ				PP		PP	15 18 17.8	+2.5
QIZ				S		S	**15 21 38.3**	**+3.8**
QIZ				SS		SS	15 22 06.3	+0.9
QIZ				AMB		AMB		
	comp=Z,138nm,1.3s							
QIZ				LR		LR		
	comp=N,25μm,18.1s,MS5.7							
QIZ				LR		LR		
	comp=E,13μm,16.1s,MS5.7							
QIZ				LR		LR		
	comp=Z,26μm,18.5s,MS5.6							
QIZ	**Qiongzhong**	**20.30**	**46**	*eP*		P	**15 17 55.1**	**+0.8**
	comp=Z,1μm,1.8s							
SHL	**Shillong**	**20.39**	**353**	*eP*		P	**15 17 52.0**	**-3.2**
SHL				*e*			15 21 36.0	
SHL				*e*			15 23 36.0	
SHL				*e*			15 29 22.0	
BLSP	**Bilaspur**	**20.65**	**326**	*eP*		P	**15 17 57.3**	**-0.5**
BLSP				AMb		AMB	15 18 18.5	
	comp=Z,2μm,2.0s							
BLSP				*e*			15 21 55.2	
MNGI	**Mangalore**	**20.89**	**293**	*i*		P	**15 17 56.9**	**-3.4**
MNGI				*e*			15 21 32.9	
	comp=Z,493nm,0.6s							
SHBG	**Sahibganj**	**20.95**	**342**	*e*		P	**15 17 55.8**	**-5.1**
KMI	**Kunming**	**21.32**	**21**	P		P	**15 18 06.8**	**+2.2**
KMI				AP			15 18 13.5	
KMI				XP			15 18 18.0	
KMI				PP		PP	15 18 31.5	+2.4
KMI				S		S	**15 21 59.3**	**+5.6**
KMI				SS		SS	15 22 36.8	+6.9
KMI				AMB		AMB		
	comp=Z,266nm,1.5s,mb5.3							
KMI				AMB		AMB		
	comp=Z,3μm,5.1s							
KMI				LR		LR		
	comp=N,11μm,20.1s,MS5.5							
KMI				LR		LR		
	comp=E,11μm,15.7s,MS5.5							
KMI				LR		LR		
	comp=Z,15μm,20.9s							
KMI	**Kunming**

LSA AMB AMB
comp=Z,3μm,6.5s
LSA LR LR
comp=N,5μm,30.0s,MS5.0
LSA LR LR
comp=E,4μm,28.0s,MS5.0
LSA LR LR
comp=Z,12μm,28.0s,MS5.2
LSA Lhasa 24.56 353⇑ *e*P **P 15 18 36.8 +0.3**
LSA pmax pmax
comp=Z,210nm,0.8s,mb5.7
LSA Lhasa 24.56 353⇑ *e*P **P 15 18 36.8 +0.3**
comp=Z,210nm,0.8s,mb5.7
KOLN Koldanda 24.72 336 *e*P **P 15 18 37.2 -0.8**
comp=Z,4μm,1.6s,mb6.7
JHNI Jhansi 25.29 324⇑ *i*P **P 15 18 45.5 +2.0**
JHNI *e* 15 19 13.0
DGAR Diego Garcia 25.33 241 *e*P **P 15 18 43.0 -0.9**
DGAR pmax pmax
comp=E,815nm,1.6s,mb6.0
DGAR Diego Garcia 25.33 241 *e*P **P 15 18 43.0 -0.9**
comp=E,815nm,1.6s,mb6.0
HKC Hong Kong 25.50 46⇑ *i*P **P 15 18 46.0 +0.5**
HKC *i* S S 15 23 36.0 +29
CD2 Chengdu 27.00 18 P **P 15 18 58.5 -0.8**
CD2 PP PP 15 19 41.0 -5.1
CD2 S **S** **15 23 31.8 0.0**
CD2 SS SS 15 24 44.8 -3.1
CD2 AMB AMB
comp=Z,190nm,0.8s,mb5.7
CD2 LR LR
comp=E,8μm,14.4s
CD2 LR LR
comp=Z,5μm,19.2s,MS5.1
LGTI Lohaghat 27.62 332 *e*P **P 15 19 05.0 0.0**
PTH Pithoragarh 27.72 332 *e*P **P 15 19 05.0 -0.9**
PTH *e* 15 24 25.0
PCPH Palayan 28.07 66⇑ *e*P **P 15 19 07.4 -1.6**
AJM Ajmer 28.41 320⇑ *i*P **P 15 19 12.0 -0.1**
ABRA Dolores 28.45 62 *e*P **P 15 19 13.0 +0.5**
NDI New Delhi 28.52 327 *e*P **P 15 19 10.2 -2.9**
RCP Roxas 28.62 75⇑ *e*P **P 15 19 14.8 +0.8**
ENH Enshi 28.65 28⇑ *e*P **P 15 19 13.4 -0.8**
comp=Z,198nm,0.7s,mb6.0
AUQP San Andres 28.92 72 *e*P **P 15 19 17.4 +0.7**
APYP Conner 29.00 62 *e*P **P 15 19 17.5 +0.2**
CAUP Cauayan 29.18 64 *e*P **P 15 19 19.2 +0.2**
DDI Dehra Dun 29.40 330 *e*P **P 15 19 19.0 -1.8**
DDI *e* 15 24 42.0
TBP Tagbilaran 29.44 80 *e*P **P 15 19 18.9 -2.4**
CVP Callao Caves 29.45 63 *i*P **P 15 19 21.0 -0.4**
BHJ Bhuj 29.94 309⇑ *e* **P 15 19 31.6 +5.9**
BHJ *e* 15 24 28.1
QZH Quanzhou 30.32 47⇑ *i*P **P 15 19 30.0 +0.9**
QZH XP sP 15 19 46.5 -0.1
QZH AMB AMB
comp=Z,210nm,0.8s,mb5.9
QZH AMB AMB
comp=Z,2μm,3.8s
QZH LR LR
comp=N,13μm,13.9s,MS6.0
QZH LR LR
comp=E,21μm,13.1s,MS6.0
QZH LR LR
comp=Z,26μm,21.8s
SDNR Sundarnagar 30.90 330 *e*P **P 15 19 33.2 -0.9**
DAV Davao City (W) 30.95 85 *e*P **P 15 19 37.5 +2.8**
WHN Wuhan 31.37 34 ⇑P **P 15 19 38.8 +0.5**
WHN AP pP 15 19 50.5 +0.2
WHN S **S** **15 24 43.0 +1.8**
WHN LR LR
comp=N,42μm,15.4s,MS6.3
WHN LR LR
comp=E,28μm,13.3s,MS6.3
WHN LR LR
comp=Z,61μm,14.5s,MS6.4
XAN Xi'an 31.65 23 P **P 15 19 39.8 -0.9**
XAN AP pP 15 19 50.0 -2.7
XAN XP sP 15 19 57.3 -1.1
XAN S **S** **15 24 45.3 -0.3**
XAN XS 15 25 10.0
XAN AMB AMB
comp=Z,609nm,0.7s,mb6.5
XAN LR LR
comp=N,5μm,19.1s,MS5.5
XAN LR LR
comp=E,8μm,16.4s,MS5.5
XAN LR LR
comp=Z,16μm,18.2s,MS5.8
LZH Lanzhou 31.90 14 ⇑P **P 15 19 42.0 -0.9**
LZH AP pP 15 19 52.5 -2.4
LZH XP sP 15 19 57.3 -3.3
LZH PP PP 15 20 49.5 -0.1
LZH PCP PcP 15 22 29.0 -3.7
LZH *e*S **S** **15 24 49.0 -0.6**
LZH XS 15 25 12.0
LZH SCP 15 26 10.0
LZH PCS 15 26 15.5
LZH SS SS 15 26 49.0 +5.8
LZH SCS ScS 15 30 10.0 +1.9
LZH AMB AMB
comp=Z,352nm,1.2s,mb6.1
LZH AMB AMB
comp=Z,959nm,4.4s
LZH LR LR
comp=E,16μm,14.1s
LZH LR LR
comp=Z,18μm,16.0s,MS5.8
LZH Lanzhou 31.90 14 ⇑P **P 15 19 42.0 -0.9**
LZH *PP pP 15 19 52.5 -2.4
LZH *SP sP 15 19 57.3 -3.3
LZH 15 20 49.5
LZH 15 22 29.0
LZH *e*S **S** **15 24 49.0 -0.6**
LZH *SS 15 25 12.0
LZH 15 30 10.0
LZH pmax pmax
comp=Z,352nm,1.2s,mb6.1
LZH MLR MLR
comp=Z,18μm,16.0s,MS5.8
LZH Lanzhou 31.90 14 ⇑P **P 15 19 42.0 -0.9**
comp=Z,352nm,1.2s,mb6.1
LZH pP pP 15 19 52.5 -2.4
LZH sP sP 15 19 57.3 -3.3
LZH PP PP 15 20 49.5 -0.1
LZH PcP PcP 15 22 29.0 -3.7
LZH *e*S **S** **15 24 49.0 -0.6**
LZH sS 15 25 12.0
LZH ScP 15 26 10.0
LZH PcS 15 26 15.5
LZH SS SS 15 26 49.0 +5.8
LZH ScS ScS 15 30 10.0 +1.9
LZH LR LR
comp=Z,18μm,16.0s,MS5.8
NACB Ninganchiao 32.16 51 *e*P **P 15 19 45.6 +0.4**
DLH Dalhousie 32.24 330 *e*P **P 15 19 49.0 +3.1**
YHNB Yeheng 32.25 50⇑ *e*P **P 15 19 47.0 +0.9**
THN Thein Dam 32.28 329 *e*P **P 15 19 45.7 -0.5**
THN *e* 15 26 12.4
TATO Taipei 32.50 50⇑ *e*P **P 15 19 49.3 +1.1**
comp=Z,87nm,0.8s,mb5.7
GTA Gaotai 34.38 7⇑ *i*P **P 15 20 04.3 0.0**
GTA AP pP 15 20 16.0 -0.4
GTA XP sP 15 20 21.0 -1.1
GTA PP PP 15 21 22.0 +1.3
GTA PCP PcP 15 22 41.8 +2.2
GTA S **S** **15 25 29.8 +1.8**
GTA XS 15 25 50.0
GTA SCP 15 26 21.8
GTA SS SS 15 27 43.5 +3.4
GTA SCS ScS 15 30 22.3 +1.4
GTA AMB AMB
comp=Z,232nm,0.9s,mb6.1
GTA AMB AMB
comp=Z,2μm,8.0s
GTA LR LR
comp=N,5μm,23.2s,MS5.4
GTA LR LR
comp=E,5μm,19.0s,MS5.4
GTA LR LR
comp=Z,6μm,25.1s
NJ2 Nanjing 35.10 38 *e*P **P 15 20 11.5 +1.0**
NJ2 AP pP 15 20 21.0 -1.7
NJ2 XP sP 15 20 25.0 -3.3
NJ2 S **S** **15 25 39.0 -0.2**
NJ2 AMB AMB
comp=Z,150nm,0.7s,mb6.0
NJ2 AMB AMB
comp=Z,3μm,4.7s
NJ2 LR LR
comp=N,37μm,13.7s,MS6.4
NJ2 LR LR
comp=E,27μm,12.7s,MS6.4
NJ2 LR LR
comp=Z,27μm,14.1s,MS6.2
SSE Sheshan 35.93 41 P **P 15 20 18.5 +0.9**
SSE AP pP 15 20 30.0 +0.3
SSE XP sP 15 20 34.8 -0.6
SSE PP PP 15 21 43.0 +3.0
SSE S **S** **15 25 53.8 +1.8**
SSE XS 15 26 13.0
SSE SCP 15 26 27.5
SSE AMB AMB
comp=Z,50nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,781nm,5.3s
SSE LR LR
comp=N,9μm,19.1s,MS5.6
SSE LR LR
comp=E,7μm,19.1s,MS5.6
SSE LR LR
comp=Z,20μm,14.5s,MS6.0
SSE Sheshan 35.93 41 P **P 15 20 18.4 +0.8**
comp=Z,50nm,0.7s,mb5.5
SSE pP pP 15 20 30.1 +0.4
SSE sP sP 15 20 34.7 -0.7
SSE PP PP 15 21 43.1 +3.1
SSE PPP PPP 15 22 01.1 +1.2
SSE S **S** **15 25 53.7 +1.7**
SSE sS 15 26 13.1
SSE ScP 15 26 27.6
SSE LR LR
comp=Z,20μm,14.5s,MS6.0
MBWA Marble Bar 36.04 137⇑ *e*P **P 15 20 16.5 -2.2**
comp=Z,62nm,1.1s,mb5.5
MBWA *e*pP pP 15 20 27.8 -3.0
TIA Tai'an 37.20 31 ⇑P **P 15 20 29.0 +0.8**
TIA PP PP 15 21 58.0 +2.0
TIA S **S** **15 26 16.5 +5.1**
TIA AMB AMB
comp=Z,123nm,0.9s,mb5.7
TIA LR LR
comp=N,14μm,16.0s,MS5.9
TIA LR LR
comp=E,5μm,15.0s,MS5.9
BTO Baotou 37.90 19 *e*P **P 15 20 33.5 -0.5**
BTO S **S** **15 26 22.8 +0.9**
BTO AMB AMB
comp=Z,61nm,0.7s,mb5.4
KSH Kashi 38.04 336⇑ *i*P **P 15 20 36.0 +0.8**
KSH *e*AP pP 15 20 47.5 +0.1
KSH *e*XP sP 15 20 54.0 +1.1
KSH *e*PP PP 15 22 06.5 +0.7
KSH *e*PCP PcP 15 22 51.5 +1.0
KSH *e*S **S** **15 26 25.0 +0.9**
KSH *e*PCS 15 26 36.5
KSH *e*SS SS 15 29 03.3 +0.3
KSH *e*SCS ScS 15 30 42.5 +1.5
KSH AMB AMB
comp=Z,560nm,1.4s,mb6.1
KSH LR LR
comp=N,92μm,54.3s
FITZ Fitzroy Crossi 38.47 128⇑ *i*P **P 15 20 37.5 -1.5**
comp=N,129nm,0.7s,mb5.8
FITZ *e*PCP PcP 15 23 07.2 +15
FITZ *e*S **S** **15 26 26.7 -4.2**
FITZ *e*SCS ScS 15 30 45.7 +2.0
FITZ Fitzroy Crossi 38.47 128 P **P 15 20 37.6 -1.4**
comp=N,156nm,0.7s,mb5.8,baz=325,slow=3.9,SNR=192
FITZ PcP PcP 15 22 51.1 -0.9
comp=N,19nm,0.5s,baz=321,slow=1.7,SNR=2.5
FITZ LR LR 15 39 44.3
comp=N,4μm,19.2s,MS5.2,baz=287,slow=41
HHC Hu-ho-hao-te 38.64 21 *e*P **P 15 20 39.8 -0.4**
HHC AP pP 15 20 51.5 -0.9
HHC XP sP 15 20 57.0 -0.9
HHC PP PP 15 22 12.0 -0.8
HHC PCP PcP 15 22 54.8 +2.5
HHC S **S** **15 26 30.3 -3.0**
HHC SCP 15 26 36.3
HHC SCS ScS 15 30 45.0 +0.5
HHC AMB AMB
comp=Z,99nm,1.5s,mb5.3
HHC AMB AMB
comp=Z,2μm,8.3s
HHC LR LR
comp=N,11μm,15.6s,MS5.9
HHC LR LR
comp=E,9μm,15.4s,MS5.9
HHC LR LR
comp=Z,13μm,20.1s,MS5.7
JOW Kunigami 38.71 53 P **P 15 20 42.2 +1.3**
comp=Z,135nm,0.6s,mb5.8,baz=248,slow=7.6,SNR=60
WMQ Urumqi 38.92 352 P **P 15 20 42.8 +0.4**
WMQ AP pP 15 20 55.0 +0.3
WMQ XP sP 15 21 00.5 +0.3
WMQ PP PP 15 22 16.8 +0.8
WMQ S **S** **15 26 37.8 +0.4**
WMQ XS 15 26 58.3
WMQ AMB AMB
comp=Z,171nm,0.8s,mb5.8
WMQ AMB AMB
comp=Z,2μm,4.0s
WMQ LR LR
comp=N,4μm,20.4s,MS5.4
WMQ LR LR
comp=E,4μm,20.3s,MS5.4
WMQ LR LR
comp=Z,3μm,27.6s
ULHL Ulahol 40.30 339 P **P 15 20 54.7 +0.7**
SNR=15
KZA Kyzart 40.52 338 P **P 15 20 56.9 +1.2**
SNR=24
UCH Uchtor 40.93 337 P **P 15 21 00.5 +1.4**
SNR=21
AAA Alma-Ata 40.96 340*c* *i*P **P 15 21 00.0 +0.6**
AAA *e*S **S** **15 27 09.0 +1.0**
AAA pmax pmax
comp=Z,3μm,4.0s
AAA smax
comp=N,3μm,7.0s
AAA smax
comp=E,1μm,7.0s
TKM2 Tokmak 2 41.12 339 P **P 15 21 01.6 +0.9**
SNR=29
KBK Karagaybulak 41.13 338 P **P 15 21 02.3 +1.5**
SNR=167
AML Almayashu 41.17 336 P **P 15 21 02.6 +1.5**
SNR=17
AAK Ala-Archa 41.28 337 P **P 15 21 04.0 +2.0**
SNR=38
AAK Ala-Archa 41.28 337⇑ *i*P **P 15 21 01.9 -0.1**
AAK *e**PP pP 15 21 14.0 -0.3
AAK pmax pmax
comp=Z,306nm,1.4s,mb5.7
AAK Ala-Archa 41.28 337⇑ *i*P **P 15 21 01.9 -0.2**
comp=Z,306nm,1.4s,mb5.7
AAK *e*pP pP 15 21 14.0 -0.3
FRU Bishkek 41.41 338*e* P **P 15 21 03.8 +0.7**
FRU *e* pP 15 21 16.0 +0.7
FRU *e* 15 22 39.0
FRU *e*S **S** **15 27 12.5 -2.1**
FRU pmax pmax
comp=Z,960nm,2.8s,mb5.9
FRU pmax pmax
comp=Z,2μm,5.0s
FRU MLR MLR
comp=Z,6μm,20.0s,MS5.5
FRU MLR MLR
comp=N,4μm,20.0s,MS5.4
FRU MLR MLR
comp=E,4μm,20.0s,MS5.4
CHMS Chumysh 41.50 338 P **P 15 21 04.5 +0.7**
SNR=20
EKS2 Erkin-Say 41.58 337 P **P 15 21 05.8 +1.3**
SNR=27
KAKA Kakadu 41.69 116⇑ *i*P **P 15 21 08.3 +2.5**
comp=E,76nm,0.6s,mb5.5
KAKA *e*S **S** **15 27 16.9 -2.3**
USP Ospenovka 41.82 338 P **P 15 21 07.1 +0.6**
SNR=107
MUN Mundaring 42.37 152 *e*P **P 15 21 11.1 -0.1**
comp=E,16nm,0.6s,mb4.8
MUN *e*pP pP 15 21 23.8 +0.4
MUN Mundaring 42.37 152 *e*P **P 15 21 11.1 -0.1**
MUN *e**PP pP 15 21 23.8 +0.4
MUN pmax pmax
comp=Z,16nm,0.6s,mb4.8
MKAR Makanchi Array 42.75 348 P **P 15 21 14.5 +0.4**
comp=Z,222nm,0.7s,mb6.0,baz=168,slow=7.2,SNR=793
MKAR LR LR 15 42 07.6
comp=Z,4μm,22.0s,MS5.3,baz=169,slow=40
KLBR Kellerberrin 42.79 150 *e*P **P 15 21 13.9 -0.7**
comp=Z,136nm,1.4s,mb5.5
KLBR *e*pP pP 15 21 32.4 +5.5
KKAR Karatay Array 43.30 334 *i*P **P 15 21 18.2 -0.4**
INCN Inchon 43.48 38⇑ *i*P **P 15 21 19.6 -0.6**
comp=Z,367nm,1.4s,mb5.9
INCN ⇓*e*pP pP 15 21 30.9 -1.5
NWAO Narrogin (SRO) 43.64 152 *e*P **P 15 21 20.6 -0.9**
NWAO *e**PP pP 15 21 32.9 -0.9
NWAO pmax pmax
comp=Z,130nm,1.2s
NWAO Narrogin (SRO) 43.64 152 P **P 15 21 19.9 -1.6**
comp=Z,19nm,0.9s,mb4.8,baz=317,slow=6.8,SNR=7.0
NWAO pP pP 15 21 34.6 +0.8
comp=Z,61nm,0.9s,baz=320,slow=9.1,SNR=11
NWAO Narrogin (SRO) 43.64 152 *e*P **P 15 21 20.1 -1.4**
comp=Z,129nm,1.2s,mb5.5
NWAO *e*pP pP 15 21 32.9 -0.9
SONM Songino Array 43.67 12 P **P 15 21 21.5 -0.1**
comp=Z,104nm,0.7s,mb5.7,baz=192,slow=8.1,SNR=344
SONM PcP PcP 15 23 08.4 -0.3
comp=Z,26nm,0.8s,baz=197,slow=3.0,SNR=5.3
SONM ScP 15 26 56.5
comp=Z,3.0nm,0.9s,baz=167,slow=4.7,SNR=4.2
SONM LR LR 15 42 29.6
comp=Z,7μm,19.6s,MS5.6,baz=197,slow=40
JNU Nakatsue 43.78 46 P **P 15 21 23.1 +0.5**
comp=Z,70nm,0.8s,mb5.5,baz=277,slow=3.8,SNR=40
JNU LR LR 15 40 45.4
comp=Z,8μm,19.4s,MS5.6,baz=50,slow=38
KS15 Wonju Array Si 44.23 39⇑ *i*P **P 15 21 25.8 -0.4**
KS15 *e*pP pP 15 21 37.6 -0.9
SNY Shenyang 44.72 31 ⇑P **P 15 21 30.0 -0.1**
SNY PP PP 15 23 11.0 -4.9
SNY S **S** **15 28 03.0 -0.1**
SNY AMB AMB
comp=Z,150nm,2.2s,mb5.4
SNY AMB AMB
comp=Z,1μm,9.0s
SNY LR LR
comp=N,10μm,18.6s
SNY LR LR
comp=Z,13μm,16.8s,MS5.9
ZAK Zakamensk 45.62 8⇓ *i*P **P 15 21 36.5 -0.6**
ZAK *e* 15 23 15.9
ZAK pmax pmax
comp=Z,41nm,1.4s,mb5.2
ZAK pmax pmax
comp=Z,16nm,1.1s,mb4.9
WRA Warramunga Arr 46.46 124 P **P 15 21 43.5 -0.6**
comp=Z,222nm,0.7s,mb6.2,baz=303,slow=9.2,SNR=970
WRA pP pP 15 21 57.2 +0.7
comp=Z,355nm,0.9s,baz=302,slow=9.2,SNR=20
WRA S **S** **15 28 26.5 -1.6**
comp=Z,6.8nm,0.8s,baz=294,slow=16,SNR=9.3
WRAB Tennant Creek 46.46 124⇑ *i*P **P 15 21 43.6 -0.6**
WRAB *e**PP pP 15 21 55.6 -0.9
WRAB pmax pmax
comp=Z,929nm,1.0s,mb6.7
WRAB Tennant Creek 46.46 124⇑ *i*P **P 15 21 43.6 -0.6**
comp=Z,929nm,1.0s,mb6.7
WRAB *e*pP pP 15 21 55.6 -0.9
WB2 Warramunga Arr 46.47 124⇑ *i*P **P 15 21 43.6 -0.6**
WB2 *e*pP pP 15 21 58.8 +2.2
WB2 *e*S **S** **15 28 25.9 -2.4**
WB2 *e*SCS ScS 15 31 48.0 +15
MOY Mondy 46.62 6 *e*P **P 15 21 44.1 -0.8**
MOY pmax pmax
comp=Z,204nm,3.8s
TLY Talaya 46.94 8⇑ *i*P **P 15 21 47.8 +0.3**
TLY *e* 15 23 42.6
TLY *e*S **S** **15 28 25.6 -8.9**
TLY pmax pmax
comp=Z,47nm,0.9s,mb5.4
TLY MLR MLR
comp=Z,7μm,18.0s,MS5.6
TLY Talaya 46.94 8⇑ *i*P **P 15 21 47.6 +0.2**
comp=Z,56nm,0.8s,mb5.5
TLY ⇓*e*pP pP 15 21 58.5 -1.3
CN2 Changchun 47.10 31 ⇑P **P 15 21 48.8 -0.1**
CN2 *e*AP pP 15 22 00.5 -0.7
CN2 *e*PP PP 15 23 39.5 +0.1
CN2 *e*S **S** **15 28 37.5 +0.6**
CN2 *e*SS SS 15 31 58.5 +1.1
CN2 AMB AMB
comp=Z,100nm,1.1s,mb5.7
CN2 AMB AMB
comp=Z,2μm,9.0s
CN2 LR LR
comp=N,6μm,16.0s,MS5.8
CN2 LR LR
comp=E,7μm,16.0s,MS5.8
CN2 LR LR
comp=Z,7μm,17.0s,MS5.7
KURK Kurchatov 47.27 346⇑ *i*P **P 15 21 50.4 +0.3**
KURK *e**PP pP 15 22 02.0 -0.4
KURK pmax pmax
comp=Z,1μm,1.5s,mb6.6
KURK Kurchatov 47.27 346⇑ *i*P **P 15 21 50.4 +0.3**
comp=Z,1μm,1.5s,mb6.6
KURK *e*pP pP 15 22 02.0 -0.4
HASS Wahat al Ahsa' 47.29 300 P **P 15 21 51.6 +1.0**
IRK Irkutsk 47.57 8 *e*P **P 15 21 52.0 -0.5**
IRK *e*S **S** **15 28 39.3 -4.2**
IRK *e* 15 31 35.0
IRK pmax pmax
comp=Z,325nm,2.0s,mb6.0
HIA Hailar 48.83 22⇑ *i*P **P 15 22 02.0 -0.3**
HIA *e**PP pP 15 22 14.4 -0.2
HIA pmax pmax
comp=Z,47nm,0.6s
HIA Hailar 48.83 22⇑ *i*P **P 15 22 02.0 -0.2**
comp=Z,47nm,0.6s,mb5.7
HIA *e*pP pP 15 22 14.3 -0.3
ZAL Zalesovo 49.22 352 P **P 15 22 05.0 -0.2**
comp=Z,74nm,0.8s,mb5.8,baz=298,slow=6.7,SNR=134
ZAL S **S** **15 29 07.3 +0.8**
comp=Z,3.1nm,0.8s,baz=174,slow=18,SNR=5.8
ZAL LR LR 15 47 51.2
comp=Z,5μm,21.0s,MS5.5,baz=295,slow=42
ZAL Zalesovo 49.22 352 P **P 15 22 05.0 -0.2**
ZAL S **S** **15 29 07.3 +0.8**
ZAL LR LR 15 47 51.2
CIT Chita 49.26 15⇑ *i*P **P 15 22 05.2 -0.3**
CIT *e* pP 15 22 17.7 -0.2
CIT *e* 15 23 20.9
CIT *e* 15 24 03.3
CIT pmax pmax
comp=Z,380nm,2.4s,mb6.0
MDJ Mudanjiang 49.82 33 P **P 15 22 10.5 +0.5**
MDJ AP pP 15 22 22.0 -0.4
MDJ XP sP 15 22 26.8 -0.9
MDJ PCP PcP 15 23 30.5 +0.1
MDJ PP PP 15 24 03.8 -1.8
MDJ SCP 15 27 22.5
MDJ PCS 15 27 27.8
MDJ S **S** **15 29 18.3 +3.3**
MDJ XS 15 29 40.0
MDJ SCS ScS 15 31 55.0 +0.6
MDJ AMB AMB
comp=Z,105nm,1.2s,mb5.7
MDJ AMB AMB
comp=Z,1μm,8.4s
MDJ LR LR
comp=N,4μm,20.6s,MS5.7
MDJ LR LR
comp=E,5μm,16.3s,MS5.7
MDJ LR LR
comp=Z,7μm,15.1s,MS5.8
MDJ Mudanjiang 49.82 33⇑ *i*P **P 15 22 10.3 +0.4**
comp=Z,638nm,1.6s,mb6.4

MDJ *e*pP pP 15 22 21.9 -0.4
KBD Kabd 50.22 304 *e*P **P** **15 22 13.3 0.0**
KBD AMb AMB 15 22 34.2
comp=Z,1μm,1.4s,mb6.7
RDF Al-Radifah 50.26 304 *e*P **P** **15 22 14.0 +0.4**
RDF AMb AMB 15 22 35.1
comp=Z,691nm,1.4s,mb6.5
CBIJ Chichi jima 50.31 59 P **P** **15 22 12.1 -1.8**
comp=Z,128nm,0.6s,mb6.1,baz=215,slow=2.5,SNR=27
CBIJ LR LR 15 41 40.9
comp=Z,1μm,21.4s,MS4.9,baz=234,slow=34
NVS Novosibirsk 50.31 352⇑*i*P **P** **15 22 12.3 -1.3**
NVS *e*S **S** **15 29 16.7 -5.0**
NVS pmax pmax
comp=Z,238nm,1.2s,mb6.1
NVS pmax pmax
comp=N,286nm,1.6s
NVS pmax pmax
comp=E,81nm,1.2s
NVS smax
comp=N,273nm,2.2s
NVS smax
comp=E,112nm,2.2s
JHJ Hachijo jima 2 50.42 51 P **P** **15 22 13.2 -1.5**
comp=E,79nm,0.7s,mb5.9,baz=97,slow=10,SNR=6.7
JHJ LR LR 15 42 23.3
comp=E,3μm,21.3s,MS5.2,baz=298,slow=35
MAJO Matsushiro 50.70 46 P **P** **15 22 24.3 +7.5**
MAJO Matsushiro 50.70 46⇑*i*P **P** **15 22 24.1 +7.3**
MAJO *e**PP pP 15 22 35.3 +6.0
MAJO pmax pmax
comp=Z,303nm,1.7s,mb6.0
MAJO Matsushiro 50.70 46⇑*i*P **P** **15 22 24.1 +7.3**
comp=Z,303nm,1.7s,mb6.0
MAJO *e*pP pP 15 22 35.3 +6.0
MAT Matsushiro 50.70 46 P **P** **15 22 16.0 -0.8**
MAT S **S** **15 29 34.0 +6.6**
MJAR Matsushiro Arr 50.70 46 P **P** **15 22 16.3 -0.5**
comp=Z,18nm,0.8s,mb5.1,baz=251,slow=5.4,SNR=44
MJAR PcP PcP 15 23 33.4 -0.4
comp=Z,9.3nm,0.9s,baz=178,slow=1.7,SNR=2.1
MJAR ScP 15 27 25.7
comp=Z,6.3nm,1.0s,baz=234,slow=4.9,SNR=4.8
MJAR LR LR 15 45 39.9
comp=Z,7μm,19.9s,MS5.7,baz=260,slow=38
MIB Mutribah 50.72 305 *e*P **P** **15 22 17.6 +0.6**
MIB AMb AMB 15 22 21.5
comp=Z,256nm,1.1s,mb6.1
KAMS Al Khamasin 50.73 292 P **P** **15 22 17.6 +0.4**
VOSK Vostochnaya 51.17 342 *i*P **P** **15 22 19.8 -0.3**
DJNS Zahran al Janu 51.30 288 P **P** **15 22 24.0 +2.4**
BVA0 Borovoye Array 51.61 342 *i*P **P** **15 22 23.0 -0.4**
BVA0 pmax pmax
comp=Z,12nm,1.0s,mb4.8
BVAR Borovoye Array 51.61 342 P **P** **15 22 22.9 -0.6**
comp=Z,48nm,0.7s,mb5.6,baz=146,slow=9.0,SNR=183
BVAR pP pP 15 22 37.5 +1.6
comp=Z,75nm,0.8s,baz=141,slow=9.2,SNR=13
BVAR S **S** **15 29 41.9 +2.2**
comp=Z,7.7nm,1.1s,baz=135,slow=17,SNR=5.7
TATS Tathlith 51.63 291 P **P** **15 22 25.0 +1.0**
BRVK Borovoye 51.67 342⇑*i*P **P** **15 22 23.1 -0.8**
BRVK *e**PP pP 15 22 35.9 -0.5
BRVK pmax pmax
comp=Z,151nm,1.3s,mb5.8
BRVK Borovoye 51.67 342⇑*i*P **P** **15 22 23.1 -0.8**
comp=Z,151nm,1.3s,mb5.8
BRVK *e*pP pP 15 22 35.9 -0.5
OPO Ambohidratompo 52.27 242 P **P** **15 22 29.0 +0.1**
comp=Z,6.3nm,0.7s,mb4.7,baz=78,slow=7.5,SNR=7.4
AB31 Akbulak array 52.73 332 *i*P **P** **15 22 31.5 -0.4**
BLJS Baljurashi 53.43 291 P **P** **15 22 39.5 +2.1**
KLR Kul'dur 53.99 29⇓*i*P **P** **15 22 38.0 -3.2**
KLR *e* pP 15 22 50.2 -3.6
KLR *e*S **S** **15 30 13.0 +0.8**
KLR *e* 15 33 54.0
KLR pmax pmax
comp=N,700nm,8.0s
KLR pmax pmax
comp=E,700nm,8.0s
KLR pmax pmax
comp=Z,2μm,8.0s
KLR pmax pmax
comp=N,180nm,2.2s
KLR pmax pmax
comp=E,260nm,2.2s
KLR pmax pmax
comp=Z,340nm,2.2s,mb5.9
KLR MLR MLR
comp=Z,8μm,15.0s,MS5.9
PMG Port Moresby 54.44 105 P **P** **15 22 43.9 -1.1**
PMG pmax pmax
comp=Z,55nm,0.7s
PMG Port Moresby 54.44 105 P **P** **15 22 43.7 -1.2**
comp=Z,71nm,0.8s,mb5.7,baz=309,slow=3.7,SNR=40
PMG pP pP 15 22 57.9 +0.3
comp=Z,58nm,0.7s,baz=297,slow=11,SNR=4.4
PMG Port Moresby 54.44 105⇑*i*P **P** **15 22 43.6 -1.3**
comp=Z,55nm,0.6s,mb5.7
PMG *e*pP pP 15 22 57.9 +0.3
LTHS Al Lith 54.59 291 P **P** **15 22 48.5 +2.5**
BOD Bodaibo 54.64 13⇓*i*P **P** **15 22 44.7 -1.1**
BOD *e* 15 30 10.8
BOD pmax pmax
comp=Z,169nm,1.3s,mb5.9
HILS Ha'il 54.71 300 P **P** **15 22 48.0 +1.3**
MAK Makhachkala 55.95 320*d*i P **P** **15 22 55.0 -0.5**
MAK *i* 15 23 54.0
MAK *e* 15 24 59.0
MAK *e*PPP PPP 15 26 20.0 +2.0
MAK *i*S **S** **15 30 38.5 0.0**
MAK *e*PS PS 15 30 57.0 +0.4
MAK *i* 15 32 41.0
MAK *e*SSS SSS 15 36 29.0 -4.2
MAK pmax pmax
comp=Z,1μm,7.0s
MAK pmax pmax
comp=Z,1μm,8.0s
MAK smax
comp=N,2μm,7.0s
HAKT HAKKARI 56.29 312 *i*P **P** **15 22 56.2 -1.8**
GNI Garni 56.56 315*c* i P **P** **15 22 59.6 -0.3**
GNI pmax pmax
comp=Z,116nm,1.3s
GNI MLR MLR
comp=Z,1μm,26.0s
GNI Garni 56.56 315 *e*P **P** **15 22 58.9 -1.0**
GNI *e*pP pP 15 23 12.8 +0.1
DGRG David-gareji 56.68 317 P **P** **15 23 00.5 -0.3**
DGRG S **S** **15 30 42.4 -5.7**
CTA Charters Tower 56.72 118⇑*i*P **P** **15 23 00.0 -1.3**
comp=Z,22nm,0.8s,mb5.2
CTA *e*pP pP 15 23 12.2 -1.8
CTA Charters Tower 56.72 118 P **P** **15 23 00.1 -1.2**
CTA *e**PP pP 15 23 12.6 -1.4
CTA pmax pmax
comp=Z,28nm,0.9s
CTA pmax pmax
comp=Z,71nm,0.9s
CTA Charters Tower 56.72 118 P **P** **15 23 00.1 -1.2**
comp=Z,28nm,0.9s,mb5.3,baz=290,slow=9.4,SNR=15
CTA pP pP 15 23 12.6 -1.5
comp=Z,71nm,0.9s,baz=283,slow=8.2,SNR=12
CTAO Charters Tower 56.72 118 *e*P **P** **15 23 00.1 -1.2**
CTAO *e**PP pP 15 23 12.0 -2.0
CTAO pmax pmax
comp=Z,205nm,1.3s,mb6.0
CTAO Charters Tower 56.72 118 *e*P **P** **15 23 00.1 -1.2**
comp=Z,205nm,1.3s,mb6.0
CTAO *e*pP pP 15 23 12.0 -2.0
CLDR Caldiran 56.74 314 P **P** **15 22 59.7 -1.6**
CLNS Chul'man 56.80 19 *e*P **P** **15 22 59.1 -2.3**
CLNS *e**PP pP 15 23 06.2 -7.9
CLNS *e* 15 23 55.2
CLNS *e* 15 25 01.6
CLNS *e*S **S** **15 30 45.7 -3.8**
CLNS pmax pmax
comp=Z,46nm,1.0s,mb5.5
CLNS pmax pmax
comp=N,16nm,1.2s
CLNS pmax pmax
comp=E,18nm,1.0s
CLNS pmax pmax
comp=N,25nm,1.5s
CLNS pmax pmax
comp=Z,26nm,1.5s,mb5.0
CLNS pmax pmax
comp=E,17nm,0.7s
CLNS smax
comp=N,260nm,17.5s
CLNS smax
comp=E,71nm,12.4s
CLNS smax
comp=Z,338nm,12.4s
CLNS MLR MLR
comp=N,6μm,19.0s,MS5.8
CLNS MLR MLR
comp=Z,9μm,19.0s,MS5.9
CLNS MLR MLR
comp=E,500nm,15.0s,MS5.8
MTA Mtatsminda 57.17 317 P **P** **15 23 03.2 -1.1**
TI2 Plekhanov 57.22 317⇑*i*P **P** **15 22 53.8 -11**
TI2 S **S** **15 30 45.8 -9.4**
TBLG Delisi 57.23 317 P **P** **15 23 03.7 -0.9**
KMBO Kilima Mbogo 57.53 265 P **P** **15 23 08.0 +0.8**
comp=E,25nm,1.1s,mb5.2,baz=50,slow=9.0,SNR=28
KMBO LR LR 15 43 42.5
comp=E,7μm,21.7s,MS5.7,baz=87,slow=32
ADE Adelaide 57.66 137 *e*P **P** **15 23 07.6 -0.2**
STKA Stephens Creek 58.03 133 *e*P **P** **15 23 09.1 -1.3**
comp=E,19nm,0.7s,mb5.2
STKA *e*pP pP 15 23 22.2 -0.9
STKA Stephens Creek 58.03 133 P **P** **15 23 09.2 -1.3**
comp=E,25nm,0.8s,mb5.3,baz=307,slow=7.4,SNR=56
STKA LR LR 15 48 31.1
comp=E,3μm,21.6s,MS5.3,baz=303,slow=36
STKA Stephens Creek 58.03 133 *e*P **P** **15 23 09.2 -1.2**
UMJS Umm Lajj 58.20 296 P **P** **15 23 14.9 +3.2**
ZEI Tsey 58.23 318 *e*P **P** **15 23 08.7 -3.0**
ZEI *i**PP pP 15 23 18.4 -6.0
ZEI pmax pmax
comp=Z,23nm,0.8s,mb5.3
MARD Mardin 58.38 311 *i*P **P** **15 23 11.9 -0.9**
ONI Oni 58.45 318 P **P** **15 23 11.9 -1.3**
ARU Arti 58.47 338⇑*i*P **P** **15 23 12.0 -1.1**
ARU *e* 15 24 01.6
ARU *e* 15 25 19.3
ARU *e*PPP PPP 15 26 41.8 -6.4
ARU *i*S **S** **15 31 14.2 +2.9**
ARU *e* 15 32 58.3
ARU *e*SS SS 15 35 07.0 +1.2
ARU pmax pmax
comp=Z,139nm,1.3s,mb5.8
ARU MLR MLR
comp=N,1μm,20.0s,MS5.3
ARU MLR MLR
comp=Z,3μm,20.0s,MS5.5
ARU MLR MLR
comp=E,2μm,21.0s,MS5.3
YSS Yuzh-Sakhalins 58.66 37⇑*c i*P **P** **15 23 14.0 -0.6**
YSS *i**SP sP 15 23 26.0 -6.6
YSS *e* 15 24 04.0
YSS *e* 15 25 24.0
YSS *e*S **S** **15 31 13.0 -1.0**
YSS *e*PS PS 15 31 24.0 -10
YSS pmax pmax
comp=Z,220nm,1.1s,mb6.1
YSS pmax pmax
comp=N,500nm,5.0s
YSS pmax pmax
comp=E,500nm,5.0s
YSS pmax pmax
comp=Z,1μm,5.0s
YSS pmax pmax
comp=Z,420nm,1.5s,mb6.2
YSS MLR MLR
comp=N,2μm,18.0s,MS5.5
YSS MLR MLR
comp=Z,3μm,18.0s,MS5.4
YSS MLR MLR
comp=E,3μm,20.0s,MS5.5
YSS Yuzh-Sakhalins 58.66 37⇑*i*P **P** **15 23 14.2 -0.5**
comp=E,236nm,1.1s,mb6.1
YSS ⇓*e*pP pP 15 23 26.0 -1.3
ERZM Erzurum 58.85 314 *i*P **P** **15 23 16.3 +0.2**
EZM Erzurum 58.86 314 *e*P **P** **15 23 16.3 +0.3**
BCA Borcka 59.25 316 *e*P **P** **15 23 17.9 -0.9**
YUK Yuzh-Kuril'sk 59.26 41⇑*i*P **P** **15 23 17.0 -1.8**
YUK *i* pP 15 23 30.0 -1.6
YUK *e* 15 25 30.0
YUK *e* 15 31 22.0
YUK pmax pmax
comp=Z,3μm,2.0s
YUK MLR MLR
comp=N,5μm,14.0s
YUK MLR MLR
comp=E,11μm,14.0s
YUK MLR MLR
comp=Z,8μm,14.0s
KIV Kislovodsk 59.53 319*c i*P **P** **15 23 19.6 -1.1**
KIV pmax pmax
comp=Z,194nm,1.7s,mb5.9
KIV MLR MLR
comp=Z,1μm,21.0s,MS5.1
KIV Kislovodsk 59.53 319⇑*i*P **P** **15 23 19.4 -1.2**
comp=Z,147nm,1.2s,mb5.9
KIV *e*pP pP 15 23 31.0 -2.5
GOF Gofitskoye 59.78 320⇑*i*P **P** **15 23 20.0 -2.4**
GOF *e*S **S** **15 31 26.0 -2.5**
GOF pmax pmax
comp=Z,56nm,1.0s,mb5.5
URFA Urfa 59.90 311 P **P** **15 23 22.3 -1.0**
PTK Pertek 59.94 312 *e*P **P** **15 23 22.3 -1.3**
ELZG Elazig 60.11 312 *i*P **P** **15 23 24.4 -0.3**
GUMT Gumushane 60.40 314 P **P** **15 23 26.2 -0.4**
MALT Malatya 60.47 311⇑*i*P **P** **15 23 26.8 -0.4**
MALT pmax pmax
comp=Z,124nm,1.4s,mb5.8
MALT Malatya 60.47 311⇑*i*P **P** **15 23 26.8 -0.4**
comp=Z,124nm,1.4s,mb5.8
MYA Malataya 60.47 311 *e*P **P** **15 23 27.2 0.0**
GZT Gaziantep 60.83 310 *i*P **P** **15 23 29.4 -0.3**
GAZ Gaziantep 61.05 310 P **P** **15 23 31.0 -0.1**
ZFRI Zfri 61.06 302 P **P** **15 23 31.6 +0.3**
KSHT Keshet 61.06 305 P **P** **15 23 32.3 +1.0**
HRFI Mount Harif 61.08 301 P **P** **15 23 29.8 -1.6**
EIL Elat 61.08 301 P **P** **15 23 31.6 +0.2**
MBH Mount Berech 61.13 301 P **P** **15 23 32.2 +0.4**
PRNI Paran 61.16 302 P **P** **15 23 32.4 +0.4**
HRI Mount Hermon 61.19 305 P **P** **15 23 33.0 +0.8**
KSDI Kefar Szold 61.24 305 P **P** **15 23 33.4 +1.0**
MMLI Mount Malkishu 61.26 304 P **P** **15 23 33.4 +0.8**
KMTI Karmit 61.35 301 P **P** **15 23 33.5 +0.2**
SOC Sochi 61.36 317*c i*P **P** **15 23 31.3 -1.8**
SOC *e* 15 24 10.5
SOC *e*PPP PPP 15 27 22.5 +3.3
SOC *i*S **S** **15 31 45.6 -3.2**
SOC *e* 15 33 09.4
SOC *e*SS SS 15 35 56.4 +5.1
SOC *e*SSS SSS 15 38 24.6 -6.4
SOC pmax pmax
comp=Z,80nm,1.0s,mb5.8
SOC pmax pmax
comp=N,14nm,0.7s
SOC pmax pmax
comp=E,34nm,1.3s
SOC pmax pmax
comp=Z,1μm,3.9s
SOC MLR MLR
comp=Z,940nm,22.0s,MS4.9
SOC MLR MLR
comp=N,755nm,20.0s,MS5.1
SOC MLR MLR
comp=E,1μm,20.0s,MS5.1
BHL Bhannes 61.41 306 *e*P **P** **15 23 34.4 +0.8**
KAHT Ahir Dag 61.43 310 *i*P **P** **15 23 34.9 +1.1**
SLTI Sal'it 61.53 304 P **P** **15 23 35.0 +0.6**
HTY Hatay 61.59 308 *e*P pP 15 23 47.5 0.0
COBT Iskenderun 61.60 309 *i*P **P** **15 23 37.1 +2.2**
HNTI Hanita 61.61 305 P **P** **15 23 36.1 +1.2**
OFRI 'Ofer 61.66 304 P **P** **15 23 35.7 +0.4**
HAF Haifa 61.66 304 P **P** **15 23 36.5 +1.2**
KZIT Kziot 61.79 302 P **P** **15 23 36.5 +0.3**
CEYT Ceyhan 62.12 309 *e*P **P** **15 23 38.6 +0.3**
YAK Yakutsk 62.40 18*c i*P **P** **15 23 38.1 -1.7**
YAK *i**PP pP 15 23 49.5 -3.1
YAK *i* 15 24 15.6
YAK *e*S **S** **15 32 00.1 -1.5**
YAK *i**SS 15 32 14.8
YAK *i* 15 33 21.2
YAK *i*SS SS 15 36 07.8 +0.3
YAK pmax pmax
comp=Z,102nm,1.0s,mb5.9
YAK pmax pmax
comp=N,43nm,1.1s
YAK pmax pmax
comp=E,28nm,1.3s
YAK pmax pmax
comp=Z,12nm,1.2s,mb4.9
YAK smax
comp=N,11nm,1.2s
YAK smax
comp=E,13nm,1.2s
YAK MLR MLR
comp=Z,4μm,17.0s,MS5.6
YAK MLR MLR
comp=N,2μm,16.0s,MS5.6
YAK MLR MLR
comp=E,3μm,16.0s,MS5.6
YAK Yakutsk 62.40 18⇑*i*P **P** **15 23 38.0 -1.8**
comp=E,148nm,0.7s,mb6.2
YAK ⇓*e*pP pP 15 23 49.6 -3.0
TOKT Tokat 62.48 313 *e*P **P** **15 23 40.2 -0.5**
BNN Bunyan 62.56 311 P **P** **15 23 40.6 -0.6**
KVT Kavak 63.07 314 *e*P **P** **15 23 44.0 -0.6**
MEST Erdemli 63.26 308 *i*P **P** **15 23 45.2 -0.7**
AVNT Avonos 63.28 311 *i*P **P** **15 23 45.1 -0.9**
ANN Anapa 63.34 318 *e*P **P** **15 23 43.1 -3.2**
ANN *i**PP pP 15 23 53.5 -5.7
ANN *e*S **S** **15 32 14.0 +0.4**
ANN *i* 15 33 32.0
ANN pmax pmax
comp=Z,91nm,1.6s,mb5.7
CSS Prodhromos 63.52 306 P **P** **15 23 48.9 +1.2**
comp=Z,2.6nm,1.1s
IKL Isikli 63.53 308 *e*P **P** **15 23 44.1 -3.7**
MAMC Mammari 63.66 307⇑P **P** **15 23 50.8 +2.2**
MAMC Mammari 63.66 307⇑*i*P **P** **15 23 50.8 +2.2**
TOO Toolangi 63.68 136⇑*i*P **P** **15 23 49.0 +0.3**
comp=Z,36nm,0.7s,mb5.5
TOO Toolangi 63.68 136⇑*i*P **P** **15 23 49.0 +0.3**
TOO pmax pmax
comp=Z,36nm,0.7s,mb5.5
CORM Corum 63.84 312 P **P** **15 23 48.9 -0.7**
CDAG Cicekdag 63.87 312 *i*P **P** **15 23 48.7 -1.2**
MBAR Mbarara 63.95 267 P **P** **15 23 50.5 -0.3**
MBAR pmax pmax
comp=Z,61nm,1.2s,mb5.5
MBAR Mbarara 63.95 267 *e*P **P** **15 23 50.3 -0.5**
comp=Z,61nm,1.2s,mb5.5
BOYT Boyabat 63.99 314 *i*P **P** **15 23 49.6 -1.0**
BYBT Boyabat 64.11 314 *e*P **P** **15 23 52.3 +0.9**
ALFC Alevga 64.15 307 P **P** **15 23 51.5 -0.3**
comp=Z,2.3nm,0.9s
ERMK Ermenek 64.23 308 *i*P **P** **15 23 52.2 -0.1**
KAMT Kaman 64.30 311 *e*P **P** **15 23 51.3 -1.3**
BRTR Keskin Array B 64.44 312 P **P** **15 23 52.3 -1.3**
comp=Z,26nm,0.7s,mb5.3,baz=131,slow=6.7,SNR=66
PECR Pechory 64.63 332⇓*i*P **P** **15 23 53.2 -1.3**
PECR *i*S **S** **15 32 27.0 -2.4**
PECR *e* 15 32 43.4
PECR pmax pmax
comp=Z,1μm,8.6s
PECR smax
comp=N,2μm,10.8s
PECR smax
comp=E,1μm,5.0s
PECR MLR MLR
comp=N,900nm,18.0s
PECR MLR MLR
comp=Z,700nm,18.0s,MS4.9
PECR MLR MLR
comp=N,2μm,21.0s
HDMB Hadim 64.64 308 P **P** **15 23 53.7 -1.3**
CANT Cankiri 64.70 313 *e*P **P** **15 23 54.4 -0.9**
BZK Bozkurt 64.80 314 *e*P **P** **15 23 54.9 -0.9**
ELDT Eldivan 64.81 312 *i*P **P** **15 23 55.2 -0.8**
VOR Voronezh 64.96 326 *e*P **P** **15 23 55.0 -1.8**
VOR *e* pP 15 24 09.0 -0.7
VOR pmax pmax
comp=N,80nm,2.0s
VOR pmax pmax
comp=E,110nm,2.0s
VOR pmax pmax
comp=Z,300nm,2.0s,mb6.0
KONT Konya--Tatoy 64.97 310 *e*P **P** **15 23 57.1 0.0**
ANTO Ankara 65.11 312 P **P** **15 23 55.8 -2.2**
ANTO Ankara 65.11 312 P **P** **15 23 57.3 -0.6**
BALT Daday 65.12 314 *i*P **P** **15 23 57.5 -0.4**
LOD Lodumlu 65.14 312 *e*P **P** **15 23 57.6 -0.5**
KDHN Kadinhani 65.29 310 *i*P **P** **15 23 57.6 -1.5**
CNB Canberra Magne 65.36 133 *e*P **P** **15 23 58.9 -0.7**
comp=Z,165nm,1.6s,mb5.8
CNB *i*pP pP 15 24 14.0 +1.4
SAFT Safranbolu 65.55 313 *e*P **P** **15 23 59.5 -1.2**
KIZT Kizilcal 65.56 310 *e*P **P** **15 23 58.5 -2.2**
SIM Simferopol' 65.61 317*c i*P **P** **15 23 59.7 -1.3**
SIM *e* 15 26 27.0
SIM *i*S S 15 32 38.9 -2.7
SIM pmax pmax
comp=Z,88nm,1.4s,mb5.6
SIM MLR MLR
comp=Z,1μm,20.6s,MS5.1
SGKT Sivrigoynuk 65.84 312 *i*P **P** **15 24 01.8 -0.8**
ANTB Antalya 66.06 308 *e*P sP 15 24 21.3 -0.7
ISP Isparta 66.37 309 P **P** **15 24 03.8 -2.2**
ISP Isparta 66.37 309 P **P** **15 24 07.7 +1.7**
ISP pmax pmax
comp=Z,410nm,1.3s,mb6.3
ISP Isparta 66.37 309⇑*i*P **P** **15 24 04.7 -1.3**
comp=Z,413nm,1.4s,mb6.3
ISP pP pP 15 24 14.6 -4.4
ESKT Eskisehir 66.48 311 *e*P **P** **15 24 05.8 -0.9**
ESKT Eskisehir 66.48 311 *i*P **P** **15 24 05.2 -1.4**
TKTP Tekketepe 66.56 309 *i*P **P** **15 24 06.0 -1.2**
ELL Elmali 66.61 308 *e*P **P** **15 24 06.0 -1.5**
AKAS Kas 66.75 307 *i*P **P** **15 24 06.6 -1.9**
HNR Honiara 66.81 103 P **P** **15 24 07.9 -1.3**
HNR pmax pmax
comp=Z,710nm,1.3s,mb6.5
HNR Honiara 66.81 103 P **P** **15 24 07.6 -1.5**
comp=Z,199nm,0.9s,mb6.1,baz=220,slow=1.3,SNR=10
HNR Honiara 66.81 103 *e*P **P** **15 24 07.4 -1.8**
comp=Z,710nm,1.3s,mb6.5
ALT Altintas 66.94 310 *e*P **P** **15 24 09.1 -0.5**
GOLH Golhisar 66.98 308 *i*P **P** **15 24 08.5 -1.4**
GDZ Gediz 67.42 310 *i*P **P** **15 24 11.3 -1.3**
MOS Moscow 67.53 329*a i*P **P** **15 24 12.0 -1.0**
MOS *e* pP 15 24 26.0 0.0
MOS *e* 15 24 37.9
MOS *e* 15 26 41.2
MOS *e*S S 15 33 02.7 -2.0
MOS *e* 15 34 05.3
MOS pmax pmax
comp=Z,1μm,2.4s,mb6.6
MOS pmax pmax
comp=Z,373nm,1.5s,mb6.2
MOS smax
comp=E,1μm,4.8s
MOS MLR MLR
comp=Z,3μm,22.7s,MS5.5
TAU Tasmania Unive 67.60 141 *e*P **P** **15 24 14.1 +0.5**
TAU pmax pmax
comp=Z,124nm,1.4s,mb5.8
TAU Tasmania Unive 67.60 141 *e*P **P** **15 24 14.1 +0.5**
comp=Z,124nm,1.4s,mb5.8
DALT Dalyan (Mudla) 67.62 308 P **P** **15 24 12.4 -1.5**
HRT Hereke 67.66 312 *e*P **P** **15 24 13.0 -1.0**
OBN Obninsk 67.81 328*c i*P **P** **15 24 13.6 -1.1**
OBN *e* 15 24 32.6
OBN *e* 15 24 40.7
OBN *e*S S 15 33 09.0 +0.9
OBN pmax pmax
comp=Z,227nm,1.2s,mb6.1
OBN MLR MLR
comp=Z,2μm,21.0s,MS5.2
OBN Obninsk 67.81 328⇑*i*P **P** **15 24 13.6 -1.1**
comp=Z,696nm,1.6s,mb6.4
YLV Yalova 67.82 312 P **P** **15 24 11.7 -3.4**
ULDT Uludag 67.91 311 *i*P **P** **15 24 15.1 -0.5**
YER Yerkesik 67.97 308 P **P** **15 24 15.9 -0.1**
MANT Manisa 68.01 309 *i*P **P** **15 24 15.5 -0.8**
ISK Istanbul-Kandi 68.16 312 *e*P **P** **15 24 16.2 -1.0**

SKR **Severo-Kuril's** 68.23 37 *e*P P 15 24 14.0 -3.4
SKR *e* pP 15 24 26.4 -4.1
SKR *e*S S 15 33 22.0 +8.8
SKR *e* 15 34 05.0
SKR *e*SS SS 15 37 42.0 +3.9
SKR pmax pmax
comp=E,90nm,0.7s
SKR pmax pmax
comp=Z,190nm,0.7s,mb6.2
SKR smax
comp=E,3μm,10.0s
SKR MLR MLR
comp=N,3μm,16.0s,MS5.9
SKR MLR MLR
comp=E,4μm,16.0s,MS5.9
SKR MLR MLR
comp=Z,8μm,16.0s,MS6.1
AYDN Tasoluk 68.38 308 *i* P P 15 24 19.1 +0.5
KARP Karpathos 68.59 306 *e*P P 15 24 21.8 +1.9
AKS Akhisar 68.66 310 *e*P P 15 24 20.1 -0.1
BTOK Tokmak 68.66 311 *i* P P 15 24 20.6 +0.4
BODT Bodrum 68.72 308 *e*P P 15 24 19.6 -1.1
BALB Balikesir 68.75 310 P P 15 24 20.1 -0.8
LSZ Lusaka 68.75 251 ⇓*i*P P 15 24 21.2 0.0
LSZ pmax pmax
comp=Z,60nm,1.1s,mb5.4
LSZ Lusaka 68.75 251 ⇓*i*P P 15 24 21.2 0.0
comp=Z,60nm,1.1s,mb5.4
MA2 Magadan 68.95 27⇑*i*P P 15 24 21.0 -0.7
MA2 *e**PP pP 15 24 32.9 -1.9
MA2 pmax pmax
comp=Z,70nm,0.6s,mb5.8
MA2 Magadan 68.95 27⇑*i*P P 15 24 21.0 -0.8
comp=Z,70nm,0.6s,mb5.8
MA2 *e*pP pP 15 24 32.9 -1.8
KDAG Bornova 68.99 309 *i* P P 15 24 20.4 -1.9
IZM Izmir 68.99 309 *e*P P 15 24 21.3 -1.1
MRMT Marmara Adasi 69.15 311 *e*P P 15 24 21.7 -1.7
BLCB Balcova 69.16 309 *e*P P 15 24 23.2 -0.2
PSN Preselentsi 69.37 315 *i* P P 15 24 23.7 -0.9
TIRR Tirgusor 69.39 316 P P 15 24 24.1 -0.6
TIRR Tirgusor 69.39 316 ⇑P P 15 24 23.4 -1.3
TIRR Tirgusor 69.39 316 ⇑P P 15 24 23.5 -1.2
CANB Canakkale 69.44 311 *e*P P 15 24 21.8 -3.3
AYVA Ayvalik 69.59 310 *i* P P 15 24 27.4 +1.4
XRY Khrisi 69.68 305 *e*P P 15 24 27.0 +0.4
KIS Kishinev 69.73 318*c* *i*P P 15 24 24.0 -2.7
KIS *i* pP 15 24 38.0 -1.8
KIS *e* 15 27 05.0
KIS *e*PPP PPP 15 28 48.0 +5.3
KIS *i* S S 15 33 25.0 -6.0
KIS *i* 15 33 52.0
KIS *i* PS PS 15 34 22.0 +19
KIS *e*SS SS 15 38 00.0 -1.4
KIS pmax pmax
comp=Z,1μm,3.0s
KIS MLR MLR
comp=Z,1μm,20.0s,MS5.1
KIS MLR MLR
comp=Z,1μm,20.0s
CFR Carcaliu 69.75 316 ⇓P P 15 24 26.9 0.0
HARR Harsova 69.78 316 ⇑P P 15 24 26.4 -0.7
NPS Neapolis 69.80 306 *e*P P 15 24 26.0 -1.4
PRK Paraskevi 69.90 310 *e*P P 15 24 27.7 -0.2
EDRB Edirne 70.03 313 P P 15 24 27.6 -1.0
JMB Yambol 70.27 313 P P 15 24 30.0 -0.1
ALN Alexandroupoli 70.36 312 *e*P P 15 24 30.1 -0.6
AKASG Malin Array Be 70.46 322 P P 15 24 29.5 -1.6
comp=Z,14nm,0.6s,mb5.1,baz=88,slow=4.7,SNR=60
PET Petropavlovsk 70.47 35α *i*P P 15 24 29.9 -1.2
PET *e* 15 24 49.6
PET *e* 15 27 08.1
PET *e*S S 15 33 42.3 +2.8
PET *e*PPS PPS 15 34 20.0 -6.3
PET pmax pmax
comp=Z,1μm,3.8s
PET pmax pmax
comp=Z,129nm,1.0s,mb5.8
PET pmax pmax
comp=Z,700nm,14.1s
PET pmax pmax
comp=Z,72nm,1.2s,mb5.5
PET pmax pmax
comp=Z,30nm,1.3s,mb5.1
PET smax
comp=E,500nm,20.1s
PET pmax pmax
comp=E,1μm,27.9s
PET MLR MLR
comp=Z,3μm,16.0s,MS5.7
PET MLR MLR
comp=Z,4μm,19.0s
PET Petropavlovsk 70.47 35⇑*i*P P 15 24 29.7 -1.4
comp=Z,74nm,0.8s,mb5.7
RDO Rodhopi 70.79 312 *e*P P 15 24 32.5 -0.8
VRI Vrincioaia 70.87 317 ⇑P P 15 24 33.9 +0.2
DIM Dimitrovgrad 70.95 313 *i* P P 15 24 33.7 -0.5
VAM Vamos 70.96 306 *e*P P 15 24 36.3 +1.9
KDZ Kurdzhali 70.97 312 P P 15 24 34.0 -0.3
GVD Gavdhos 70.98 305 *e*P P 15 24 33.9 -0.7
comp=Z,129nm,1.0s,mb5.8
BUC1 Bucharest 71.03 315 P P 15 24 34.8 +0.1
SEY Seymchan 71.19 24 *i* P P 15 24 34.5 -0.8
SEY *e* pP 15 24 46.5 -1.8
SEY 15 27 09.8
SEY PPP PPP 15 28 56.7 -0.1
SEY *e*S S 15 33 48.1 +0.5
SEY *e*SS SS 15 38 21.5 -2.4
SEY pmax pmax
comp=Z,40nm,1.2s,mb5.2
SEY pmax pmax
comp=N,9.0nm,0.7s
SEY pmax pmax
comp=E,20nm,1.0s
SEY smax
comp=N,400nm,16.1s
SEY smax
comp=E,500nm,18.3s
PVL Pavlikeni 71.31 314 *i* P P 15 24 36.5 +0.1
MLR Muntele Rosu 71.33 316 ⇓P P 15 24 36.8 +0.4
RZN Rozhen 71.49 312 *i* P P 15 24 37.0 -0.5
PLD Plovdiv 71.57 313 P P 15 24 39.0 +1.1
MIR Mirnyy 71.59 181*c* *i*P P 15 24 38.2 +0.5
MIR pmax pmax
comp=Z,40nm,1.6s,mb5.1
VOIR 71.93 316 ⇓P P 15 24 39.0 -1.0
PAIG Paliouri 71.99 310 *e*P P 15 24 39.8 -0.6
KYTH Kithira 72.01 306 *e*P P 15 24 35.5 -5.1
NVR Nevrokopi 72.07 312 *e*P P 15 24 40.1 -0.8
VLI Veliai 72.14 307 *e*P P 15 24 40.5 -0.9
MMB Musomiste 72.20 312 *i* P P 15 24 40.0 -1.7
PLG Polygyros 72.23 311 *e*P P 15 24 40.9 -1.0
SRS Serrai 72.23 311 *e*P P 15 24 39.9 -2.0
BURAR Bucovina Array 72.26 318 ⇓P P 15 24 42.4 +0.5
BURAR Bucovina Array 72.26 318 ⇓P P 15 24 42.4 +0.5
CASY Casey 72.26 173 *e*P P 15 24 42.2 +0.6
CASY Casey 72.26 173 *e*P P 15 24 42.1 +0.5
MNK Minsk 72.34 326 ⇑*i*P P 15 24 36.0 -6.3
PUL Pulkovo 72.71 332 *i* P P 15 24 44.4 +0.1
PUL *i* pP 15 25 01.8 +4.4
PUL *i* 15 27 31.0
PUL *i* PPP PPP 15 29 13.1 +1.9
PUL *i* S S 15 34 02.6 -2.5
PUL *i* SS SS 15 38 43.7 -3.8
PUL pmax pmax
comp=N,21nm,0.6s
PUL pmax pmax
comp=Z,120nm,0.6s,mb6.0
PUL pmax pmax
comp=E,83nm,0.9s
PUL pmax pmax
comp=Z,372nm,1.2s,mb6.2
PUL pmax pmax
comp=N,81nm,0.6s
PUL smax
comp=N,729nm,13.1s
PUL smax
comp=Z,54nm,8.6s
PUL smax
comp=E,226nm,7.8s
PUL smax
comp=N,699nm,1.6s
PUL smax
comp=E,634nm,1.9s
PUL MLR MLR
comp=Z,3μm,26.0s,MS5.4
PUL MLR MLR
comp=N,3μm,27.0s
PUL Pulkovo 72.71 332⇓*e*P P 15 24 44.6 +0.3
PUL Pulkovo 72.71 332⇓*e*P P 15 24 44.6 +0.3
VTS Vitosha 72.74 313 *i* P P 15 24 44.2 -0.7
VTS Vitosha 72.74 313 P P 15 24 44.4 -0.5
AGG Agios Georgios 72.90 309 *e*P P 15 24 43.5 -2.4
LIT Litokhoron 72.92 310 *e*P P 15 24 44.1 -1.9
VAY Valandovo 73.03 312 *i* P P 15 24 45.3 -1.3
GRG Griva 73.10 311 *e*P P 15 24 45.7 -1.4
ZAPS Zavoj/Pirot 73.28 314⇑*i*P P 15 24 47.1 -0.9
EVR Evrytania 73.29 309 *e*P P 15 24 48.0 -0.2
LBTB Lobatse 73.31 242 P P 15 24 48.8 +0.2
LBTB Lobatse 73.31 242 P P 15 24 48.9 +0.3
LBTB pmax pmax
comp=Z,140nm,1.3s,mb5.7
LBTB Lobatse 73.31 242 *e*P P 15 24 48.8 +0.2
comp=Z,136nm,1.3s,mb5.7
LVV L'vov 73.48 320*c* *i*P P 15 24 48.5 -0.6
LVV *e*S S 15 34 11.5 -2.5
KZN Kozani 73.49 310 *e*P P 15 24 48.8 -0.6
DRGR 73.78 317 P P 15 24 51.2 +0.3
DRGR 73.78 317 ⇑P P 15 24 51.0 +0.1
DRGR 73.78 317 ⇑P P 15 24 51.0 +0.1
MEV Metsovon 73.84 310 *e*P P 15 24 51.6 +0.2
SKO Skopje 73.95 312 *e*P P 15 24 46.3 -5.7
VSU Vasula 74.05 330⇑*e*P P 15 24 51.5 -0.7
JAN Janina 74.11 310 *e*P P 15 24 52.1 -0.9
VLS Valsamata 74.16 308 *e*P P 15 24 53.7 +0.4
LKD Levkas 74.17 309 *e*P P 15 24 51.8 -1.5
LVZ Lovozero 74.17 340 *i* P P 15 24 54.8 +2.1
LVZ *i* 15 27 41.8
LVZ *i* PPP PPP 15 29 30.8 +5.3
LVZ *i* S S 15 34 20.9 -0.4
LVZ pmax pmax
comp=Z,159nm,1.9s,mb5.6
LVZ pmax pmax
comp=N,30nm,1.5s
LVZ pmax pmax
comp=E,38nm,1.4s
LVZ pmax pmax
comp=N,902nm,3.8s
LVZ pmax pmax
comp=E,444nm,4.5s
LVZ smax
comp=E,666nm,14.1s
LVZ smax
comp=Z,218nm,14.3s
LVZ smax
comp=N,746nm,14.1s
LVZ smax
comp=E,219nm,2.5s
LVZ smax
comp=Z,473nm,2.8s
LVZ MLR MLR
comp=N,1μm,22.0s,MS5.5
LVZ MLR MLR
comp=Z,3μm,22.0s,MS5.5
LVZ MLR MLR
comp=E,2μm,21.0s,MS5.5
LVZ Lovozero 74.17 340 *e*P P 15 24 52.7 0.0
KWP Kalwaria 74.29 320 *e*P P 15 24 53.9 +0.1
KWP *e*S S 15 34 21.7 -1.3
KWP pmax pmax
comp=Z,1μm,2.8s,mb6.3
KWP MLR MLR
comp=Z,1μm,24.1s,MS5.1
KWP Kalwaria 74.29 320⇑*i*P P 15 24 53.8 0.0
comp=Z,579nm,1.5s,mb6.3
KWP *e*pP pP 15 25 06.4 -0.4
KWP Kalwaria 74.29 320 *e*P P 15 24 53.9 +0.1
comp=Z,1μm,2.8s,mb6.3
KWP *e*S S 15 34 21.7 -1.3
KWP MLR MLR 15 59 20.1
comp=Z,1μm,24.1s,MS5.1
OHR Ohrid 74.32 311 *i* P P 15 24 52.2 -2.0
UZH Uzhgorod 74.37 319 *e*P P 15 24 55.0 +0.7
UZH *e*S S 15 34 24.0 0.0
KOLS Kolonicke sedl 74.44 319 *e*P P 15 24 55.1 +0.4
KOLS *e*pP pP 15 25 07.6 -0.2
APA Apatity 74.45 340 ⇓*i*P P 15 24 56.1 +1.7
APA *i* pP 15 25 07.5 0.0
APA *i* S S 15 34 26.0 +1.5
APA *i* PS PS 15 35 00.0 -5.4
APA pmax pmax
comp=Z,65nm,1.2s,mb5.4
IGT Igoumenitsa 74.50 309 *e*P P 15 24 55.4 +0.2
BOSA Boshof 74.50 239 *i* P P 15 24 55.7 +0.2
BOSA pmax pmax
comp=Z,175nm,1.3s,mb5.8
BOSA Boshof 74.50 239 P P 15 24 55.0 -0.5
comp=Z,39nm,1.0s,mb5.3,baz=81,slow=6.4,SNR=25
BOSA LR LR 15 53 10.0
comp=Z,3μm,19.6s,MS5.6,baz=72,slow=32
BOSA Boshof 74.50 239 *i* P P 15 24 55.7 +0.3
comp=Z,175nm,1.3s,mb5.8
SUW Suwalki 74.87 325 *e*P P 15 24 56.1 -0.9
comp=Z,472nm,1.2s,mb6.3
SUW *e*S S 15 34 26.0 -3.4
SUW Suwalki 74.87 325 *e*P P 15 24 56.1 -0.9
comp=Z,1μm,3.2s
SUW *e*S S 15 34 26.0 -3.4
SUW MLR MLR 16 03 17.9
comp=Z,2μm,20.3s,MS5.4
KEK Kerkira 74.93 310⇑*i*P P 15 24 56.4 -1.3
KEK Kerkira 74.93 310 *e*P P 15 24 56.5 -1.2
CRVS Cervenica-Dubn 74.96 319 *e*P P 15 24 58.3 +0.6
CRVS *e*pP pP 15 25 10.6 -0.2
CRVS *e*S S 15 34 28.8 -1.8
QSH Qafa e Shtames 75.04 311 *i* p P 15 25 03.0 +4.7
TIR Tirane 75.05 311 *e*p P 15 25 06.0 +7.6
PVY Plav 75.11 313 ⇓*i*P P 15 24 57.6 -1.1
IVA Berane 75.20 313 *e*P P 15 24 58.0 -1.2
FINES FINESS Array B 75.22 332 P P 15 24 58.2 -0.7
comp=Z,13nm,0.7s,mb5.0,baz=108,slow=5.5,SNR=43
FINES pP pP 15 25 13.4 +1.4
comp=Z,18nm,0.7s,baz=117,slow=6.2,SNR=9.5
FINES LR LR 16 02 19.7
comp=Z,2μm,21.2s,MS5.4,baz=106,slow=39
FINES FINESS Array B 75.22 332 P P 15 24 58.2 -0.7
FINES pP pP 15 25 13.4 +1.4
FINES LR LR 16 02 19.7
DIVS Divcibare 75.28 314 ⇓*i*P P 15 24 59.0 -0.6
KAF Kangasniemi 75.31 333 *e*p P 15 24 58.4 -1.0
comp=Z,14nm,0.7s,mb5.0,baz=105,slow=5.4
KAF Kangasniemi 75.31 333 *e*P P 15 24 58.4 -1.0
KAF pmax pmax
comp=Z,15nm,0.7s,mb5.0
DZM Mont Dzumac 75.36 114 P P 15 25 01.0 +0.5
comp=Z,24nm,0.8s,mb5.2,baz=326,slow=13,SNR=8.9
DZM LR LR 16 02 58.2
comp=Z,2μm,18.9s,MS5.4,baz=282,slow=40
KECS Kecovo 75.53 319 *e*P P 15 25 00.8 -0.2
KECS *e*pP pP 15 25 14.3 +0.2
ULC Ulcinj 75.57 312 ⇓*i*P P 15 25 00.1 -1.2
TTG Podgorica 75.61 312 *e*P P 15 24 59.6 -2.0
PLE Pljevlja 75.62 313 ⇓*i*P P 15 25 01.9 +0.3
PKSN Nyarlorinc 75.72 317⇑*e*P P 15 25 04.4 +2.3
NIE Niedzica 75.79 320⇑*i*P P 15 25 02.8 +0.4
WAR Warsaw 75.80 323 *e*P P 15 25 02.6 +0.2
WAR *e*S S 15 34 39.0 -0.8
WAR LR LR
comp=Z,2μm,21.6s,MS5.3
WAR Warsaw 75.80 323 *e*P P 15 25 02.6 +0.2
WAR *e*S S 15 34 39.0 -0.8
WAR MLR MLR 16 02 57.2
comp=Z,2μm,21.6s,MS5.3
PSZ Piszkesteto 75.84 318 P P 15 25 03.0 +0.2
PSZ Piszkesteto 75.84 318⇑*e*P P 15 25 02.6 -0.2
NKY Niksic 75.85 313 ⇓*i*P P 15 25 01.6 -1.3
BUM Brajici-Budva 75.87 312 ⇓*i*P P 15 25 01.8 -1.2
UPM Unac-Piva 75.95 313 ⇓*i*P P 15 25 02.5 -0.9
MAW Mawson 76.02 192 *e*P P 15 25 03.9 +0.5
comp=Z,17nm,1.0s,mb4.9
MAW Mawson 76.02 192 P P 15 25 04.8 +1.4
MAW pmax pmax
comp=Z,110nm,1.6s
MAW Mawson 76.02 192 P P 15 25 04.1 +0.8
comp=Z,12nm,0.7s,mb4.9,baz=34,slow=5.1,SNR=31
MAW LR LR 15 53 08.8
comp=Z,3μm,20.7s,MS5.6,baz=13,slow=31
HCY Herceg Novi 76.18 312 ⇓*i*P P 15 25 03.4 -1.4
BRY Bratogost 76.19 313 ⇓*i*P P 15 25 04.3 -0.5
OJC Ojcow 76.24 320⇑*i*P P 15 25 04.8 -0.1
OJC *e*PcP PcP 15 25 19.8 +2.7
OJC *e*S S 15 34 42.9 -1.7
OJC MLR MLR 16 00 48.9
comp=Z,900nm,22.6s,MS5.0
BUD Budapest 76.37 317⇑*e*P P 15 25 07.1 +1.4
VYHS Vyhne 76.62 319 *i* P P 15 25 07.2 0.0
VYHS *e*pP pP 15 25 20.4 +0.1
PKS9 Tamasi 76.77 317 *e*P P 15 25 09.3 +1.3
PKSG 76.79 317⇑*e*P P 15 25 08.1 0.0
STON Ston 76.80 313 *i* P P 15 25 06.7 -1.6
SRO Srobarova 76.89 318 *e*P P 15 25 09.7 +1.0
SRO *e*sP sP 15 25 23.0 -3.8
KOLL Kolacno 76.92 319 *e*P P 15 25 08.8 0.0
KOLL *e* pP 15 25 17.5 -4.5
SRO1 Iza 76.94 318 *e*P P 15 25 12.0 +3.1
SRO1 *e* pP 15 25 23.5 +1.4
SRO1 Iza 76.94 318 *e* P 15 25 12.0 +3.1
SRO1 *e*sP sP 15 25 23.5 -3.5
TIP Timpagrande 77.23 309⇑*i*P P 15 25 10.9 +0.1
comp=Z,116nm,1.8s,mb5.5
OKC Ostrava-Krasne 77.24 320⇑*i*P P 15 25 10.9 +0.3
OKC *e*pP pP 15 25 25.1 +1.3
OKC *e*S S 15 34 52.0 -3.5
OKC *e*SKS SKS 15 35 16.6 +2.2
OKC AMS AMS 16 07 40.0
comp=Z,700nm,19.3s
RAC Raciborz 77.24 320 *e*P P 15 25 11.4 +0.8
RAC *e*S S 15 34 55.0 -0.5
RAC MLR MLR 16 01 28.5
comp=Z,900nm,22.3s,MS5.0
LTRZ Laterza 77.28 310⇑*i*P P 15 25 10.3 -0.7
KEV Kevo 77.45 341 *e*p P 15 25 11.5 +0.1
comp=Z,12nm,0.7s,mb5.0
KEV Kevo 77.45 341 *e*P P 15 25 11.5 +0.1
KEV pmax pmax
comp=Z,13nm,0.7s,mb5.0
MORC Moravsky Berou 77.62 320⇑*i*P P 15 25 13.1 +0.4
MORC *PP pP 15 25 25.6 -0.3
MORC pmax pmax
comp=Z,221nm,1.3s,mb5.9
MORC Moravsky Berou 77.62 320⇑*i*P P 15 25 13.1 +0.3
comp=Z,221nm,1.3s,mb5.9
MORC pP pP 15 25 25.6 -0.3
ZST Bratislava 77.74 318 *e*P P 15 25 13.7 +0.3
ZST *e*pP pP 15 25 27.9 +1.4
ZST *e*S S 15 34 59.5 -1.4
CEL Celeste 77.85 308⇑*i*P P 15 25 14.6 +0.4
ARCES ARCESS Array B 77.88 340 P P 15 25 13.9 +0.2
comp=Z,10.0nm,0.5s,mb5.0,baz=107,slow=7.1,SNR=41
ARCES LR LR 16 02 09.1
comp=Z,3μm,21.8s,MS5.6,baz=114,slow=38
ARE0 ARCESS Array S 77.88 340 *e*P P 15 25 13.5 -0.2
CUC Castrocucco 78.01 310⇑*i*P P 15 25 14.4 -0.6
comp=Z,80nm,1.1s,mb5.6
SOP Sopron 78.05 318⇑*e*P P 15 25 15.1 0.0
SLCN Sala Consilina 78.17 310 P P 15 25 16.1 +0.2
VRAC Vranov 78.19 319 P P 15 25 16.2 +0.4
GKP Gorka Klasztor 78.23 323 *e*P P 15 25 15.7 -0.3
GKP *e*S S 15 35 05.0 -1.1
GKP pmax pmax
comp=Z,1.0nm,3.5s
GKP MLR MLR
comp=Z,1μm,23.1s,MS5.2
GKP Gorka Klasztor 78.23 323 *e*P P 15 25 15.7 -0.3
comp=Z,0.9nm,3.5s
GKP *e*S S 15 35 05.0 -1.1
GKP LR LR
comp=Z,1μm,23.1s,MS5.2
GKP Gorka Klasztor 78.23 323 *e*P P 15 25 15.7 -0.3
comp=Z,900nm,3.5s
GKP *e*S S 15 35 05.0 -1.0
GKP MLR MLR 16 05 30.4
comp=Z,1μm,23.1s,MS5.2
VKA Vienna 78.27 318⇑*i*P P 15 25 16.5 +0.2
comp=Z,2μm,3.5s
VKA Vienna 78.27 318⇑*i*P P 15 25 16.5 +0.2
VKA pmax pmax
comp=Z,2μm,3.5s
MRLC Muro Lucano 78.30 310⇑*i*P P 15 25 16.2 -0.4
BILL Bilibino 78.42 21 *e*P P 15 25 16.6 -0.1
BILL pmax pmax
comp=Z,150nm,1.4s,mb5.7
BILL Bilibino 78.42 21⇑*e*P P 15 25 15.8 -0.9
comp=Z,153nm,1.4s,mb5.7
SSY Sortino 78.45 307⇑*i*P P 15 25 17.3 -0.2
comp=Z,102nm,1.2s,mb5.6
DPC Dobruska-Polom 78.47 320⇑*i*P P 15 25 18.2 +0.9
DPC *e*S S 15 35 07.7 -0.9
DPC *ex* x 15 35 31.0
DPC AMS AMS 16 06 40.0
comp=Z,800nm,18.0s
KTK1 Kautokeino 78.50 340 *e*P P 15 25 17.6 +0.4
KTK1 AMb AMB 15 25 19.7
comp=Z,132nm,2.1s,mb5.5
GCIS Gornji Cirnik 78.53 316 *e*P P 15 25 17.9 +0.1
KSP Ksiaz 78.53 321⇑*i*P P 15 25 18.2 +0.5
KSP *e*pP pP 15 25 30.5 -0.4
KSP *e*S S 15 35 08.1 -1.3
KSP LR LR
comp=Z,2μm,20.8s,MS5.5
KSP Ksiaz 78.53 321 *e*P P 15 25 18.3 +0.6
comp=Z,1μm,2.6s,mb6.4
KSP *e*S S 15 35 08.2 -1.2
KSP MLR MLR 16 06 50.6
comp=Z,2μm,20.8s,MS5.4
CRES Cresnjev 78.65 316 *e*P P 15 25 18.2 -0.2
UPC Upice 78.68 320⇑*i*P P 15 25 19.0 +0.5
UPC *e*pP pP 15 25 34.1 +2.4
ARSA Arzberg 78.71 317⇑*i*P P 15 25 19.2 +0.4
comp=Z,1μm,2.8s,mb6.3
DRV Dumont d'Urvil 78.74 163 P P 15 25 23.0 +4.5
DRV S S 15 35 16.0 +4.8
BOJS Bojanci 78.77 315 *e*P P 15 25 19.1 0.0
PSB1 Pescosannita 78.84 311⇑*i*P P 15 25 19.1 -0.5
PERS Pernice 78.94 316 *e*P P 15 25 20.2 +0.2
NVLJ Novalja 78.98 314 *i* P P 15 25 19.0 -1.3
FX1 Attu Island--F 79.02 37 LR LR 16 04 45.5
comp=Z,68nm,20.0s,baz=269,slow=39
FX1 Attu Island--F 79.02 37 *e*P P 15 25 20.4 +0.1
VISS Visnje 79.08 316 *e*P P 15 25 20.9 +0.1
VISS *e*PP PP 15 28 19.9 -2.0
VISS *e*S S 15 35 12.2 -3.0
SUR Sutherland 79.13 236 *e*P P 15 25 22.4 +1.1
comp=Z,228nm,1.4s,mb5.9
SUR *e*pP pP 15 25 33.0 -1.6
SGG Gregorio Mates 79.17 311⇑*i*P P 15 25 20.2 -1.2
comp=Z,37nm,1.4s,mb5.1
MIDA Miranda 79.27 311⇑*i*P P 15 25 21.2 -0.7
comp=Z,77nm,1.3s,mb5.5
LJU Ljubljana 79.31 316 *e*P P 15 25 22.4 +0.4
LJU *e*pP pP 15 25 37.0 +1.7
LJU *e*S S 15 35 15.4 -2.3
OBKA Obir 79.33 316⇑*i*P P 15 25 22.6 +0.5
comp=Z,1μm,2.8s,mb6.3
RNI2 Rionero Sannit 79.35 311⇑*i*P P 15 25 21.8 -0.6
comp=Z,360nm,2.5s,mb5.9
TSUM Tsumeb 79.43 249 *e*P P 15 25 23.0 -0.2
comp=Z,36nm,1.1s,mb5.2
TSUM *e*pP pP 15 25 35.3 -1.1
PRU Pruhonice 79.58 320⇑*i*P P 15 25 23.8 +0.4
PRU *e*pP pP 15 25 38.0 +1.4
PRU *e*S S 15 35 20.8 +0.4
PRU *ex* x 15 35 42.1
PRU AMS AMS 16 08 00.0
comp=Z,800nm,17.1s
PVCC Panska Ves 79.60 320⇑*i*P P 15 25 24.3 +0.8
PVCC *e*pP pP 15 25 38.3 +1.6
PVCC *e*S S 15 35 20.8 +0.2
PVCC AMS AMS 16 07 20.0
comp=Z,900nm,19.4s
MOA Molln 79.61 318⇑*i*P P 15 25 23.5 -0.1
comp=Z,511nm,2.8s,mb6.0
VOY Vojsko 79.75 316 *e*P P 15 25 24.3 -0.1
VOY *e* 15 25 31.3
VOY *e* pP 15 25 39.1 +1.5
VVLD Villa Vallelon 79.75 311⇑*i*P P 15 25 23.9 -0.6
BSD Bornholm Skovb 79.79 325 *i* P P 15 25 24.0 -0.4
BSD *i* pP 15 25 38.1 +0.5
BSD pmax pmax
comp=Z,49nm,1.0s,mb5.4
BSD Bornholm Skovb 79.79 325 *i* P P 15 25 24.0 -0.4
comp=Z,49nm,1.0s,mb5.4

BSD *i* pP 15 25 38.1 +0.5
TERO Teramo 79.80 312⇑ *i*P P 15 25 24.4 -0.4
comp=Z,161nm,1.9s,mb5.6
AOI Ancona 79.84 313⇑ *i*P P 15 25 25.0 +0.1
CADS Cadrg 79.87 316 *i* P P 15 25 24.9 -0.2
AQU L'Aquila 79.94 312 P P 15 25 26.0 +0.5
AQU pmax pmax
comp=Z,320nm,1.4s,mb6.1
AQU L'Aquila 79.94 312⇑ *i*P P 15 25 25.7 +0.2
comp=Z,271nm,1.8s,mb5.9
BRG Berggiesshubel 80.02 321⇑ *i*P P 15 25 26.0 +0.2
BRG *i* 15 25 33.6
BRG *i* pP 15 25 39.5 +0.5
BRG *e* 15 35 30.7
BRG S S 15 35 46.0 +21
BRG pmax pmax
comp=Z,95nm,1.2s,mb5.6
BRG MLR MLR
comp=Z,1μm,19.6s,MS5.3
BRG Berggiesshubel 80.02 321⇑ *i*P P 15 25 26.0 +0.3
comp=Z,95nm,1.2s,mb5.6
BRG *i* 15 25 33.6
BRG *i* pP 15 25 39.5 +0.5
BRG *e* 15 35 14.0
BRG *e*SKS SKS 15 35 30.7 -3.6
BRG S S 15 35 46.0 +21
BRG SS SS 15 40 49.0 +10
BRG LR LR
comp=Z,1μm,19.6s,MS5.3
GEC2 GERESS Array S 80.05 319 *e*P P 15 25 26.5 +0.6
GEC2 pmax pmax
comp=Z,310nm,1.3s,mb6.1
GEC2 GERESS Array S 80.05 319 *e*P P 15 25 26.5 +0.6
comp=Z,310nm,1.3s,mb6.1
GERES GERESS Array B 80.05 319 P P 15 25 26.4 +0.5
comp=Z,60nm,0.8s,mb5.5,baz=90,slow=5.3,SNR=152
GERES pP pP 15 25 41.1 +1.9
comp=Z,90nm,1.0s,baz=90,slow=5.3,SNR=19
GERES LR LR 16 03 59.4
comp=Z,674nm,21.6s,MS5.0,baz=283,slow=38
CING Cingoli 80.13 313⇑ *i*P P 15 25 26.6 +0.1
comp=Z,137nm,1.4s,mb5.7
TRO Tromso 80.13 340 *e*P P 15 25 24.7 -1.3
TRO AMb AMB 15 25 47.2
comp=Z,151nm,2.0s,mb5.6
TRO *e*S S 15 35 26.3 +0.5
TRO AMS AMS 16 04 12.8
comp=Z,2μm,23.4s,MS5.4
KHC Kasperske Hory 80.14 319⇑ *i*P P 15 25 26.6 +0.1
KHC *e*S S 15 35 26.8 +0.5
KHC MLR MLR
comp=Z,900nm,21.0s,MS5.1
KHC Kasperske Hory 80.14 319⇑ *i*P P 15 25 26.6 +0.1
KHC *e*S S 15 35 26.8 +0.5
KHC *ex* x 15 35 48.1
KHC AMS AMS 16 05 40.0
comp=Z,900nm,21.0s
FIAM Fiamignano 80.14 312⇑ *i*P P 15 25 26.4 -0.2
comp=Z,196nm,1.5s,mb5.8
KBA Koelnbreinsper 80.19 317⇑ *i*P P 15 25 26.5 -0.2
comp=Z,393nm,2.6s,mb5.9
KBA Koelnbreinsper 80.19 317⇑ *i*P P 15 25 26.5 -0.2
KBA pmax pmax
comp=Z,393nm,2.6s,mb5.9
CERT Cerreto 80.24 312⇑ *i*P P 15 25 26.2 -0.9
comp=Z,41nm,0.9s,mb5.3
WET Wettzell 80.60 319 *e*P P 15 25 29.4 +0.5
WET pmax pmax
comp=Z,205nm,1.3s,mb5.9
WET Wettzell 80.60 319 *e*P P 15 25 29.4 +0.5
comp=Z,205nm,1.3s,mb5.9
MURB Monte Urbino 80.61 313⇑ *i*P P 15 25 29.0 -0.1
comp=Z,357nm,1.5s,mb6.1
CLL Collm 80.64 321⇑ *i*P P 15 25 29.0 -0.1
CLL *e**PP pP 15 25 43.0 +0.7
CLL *e*S S 15 35 31.0 -0.5
CLL pmax pmax
comp=Z,109nm,1.4s,mb5.6
CLL MLR MLR
comp=Z,1μm,20.8s,MS5.3
CLL Collm 80.64 321⇑ *i*P P 15 25 29.0 -0.1
comp=Z,109nm,1.4s,mb5.6
CLL *e*pP pP 15 25 43.0 +0.7
CLL *e*S S 15 35 31.0 -0.5
CLL LR LR
comp=Z,1μm,20.8s,MS5.3
CLL Collm 80.64 321 ⇑P P 15 25 29.0 -0.1
comp=Z,logA/T=1.9,mb5.6
CLL *e**PP pP 15 25 43.0 +0.7
CLL *e*PP PP 15 28 37.0 +2.1
CLL *e*PPP PPP 15 30 22.0 -4.1
CLL *e*S S 15 35 31.0 -0.5
CLL *e*SS SS 15 40 48.0 +0.2
RSM Repubblica di 80.69 314⇑ *i*P P 15 25 30.3 +0.8
comp=Z,1μm,2.5s,mb6.3
NKC Novy Kostel 80.94 320⇑ *i*P P 15 25 31.0 +0.4
NKC *e*pP pP 15 25 44.9 +1.0
NKC *e*S S 15 35 36.1 +1.6
NKC AMS AMS 16 07 40.0
comp=Z,800nm,19.8s
SEST Monte Rota 80.94 316⇑ *i*P P 15 25 30.5 -0.2
TOLF Tolfa 80.97 312⇑ *i*P P 15 25 30.7 -0.3
comp=Z,148nm,1.3s,mb5.8
MOR8 Moi Rana 81.24 336 *e*P P 15 25 31.1 -0.8
MOR8 AMb AMB 15 25 55.9
comp=Z,126nm,1.6s,mb5.6
COP Copenhagen 81.25 325 *i* P P 15 25 31.5 -0.6
COP *i* S S 15 35 39.8 +2.2
COP pmax pmax
comp=Z,34nm,0.9s,mb5.3
COP MLR MLR
comp=Z,750nm,20.0s,MS5.0
COP Copenhagen 81.25 325 *i* P P 15 25 31.5 -0.6
comp=Z,34nm,0.9s,mb5.3
COP *i* 15 26 06.4
COP *i* S S 15 35 39.8 +2.2
comp=Z,750nm,20.0s
WTTA Wattenberg 81.36 317⇑ *i*P P 15 25 32.6 -0.3
comp=Z,815nm,2.9s,mb6.2
WTTA Wattenberg 81.36 317⇑ *i*P P 15 25 32.6 -0.3
WTTA pmax pmax
comp=Z,815nm,2.9s,mb6.2
WATA Walderalm 81.40 317⇑ *i*P P 15 25 32.6 -0.5
comp=Z,93nm,1.3s,mb5.5
WATA Walderalm 81.40 317⇑ *i*P P 15 25 32.6 -0.5
WATA pmax pmax
comp=Z,93nm,1.3s,mb5.5
MOX Moxa 81.48 320⇑ *i*P P 15 25 33.7 +0.2
MOX *e* pP 15 25 48.6 +1.9
MOX pmax pmax
comp=Z,161nm,1.6s,mb5.7
MOX MLR MLR
comp=Z,1μm,20.0s,MS5.2
MOX Moxa 81.48 320⇑ *i*P P 15 25 33.7 +0.2
comp=Z,161nm,1.6s,mb5.7
MOX *e* pP 15 25 48.6 +1.9
MOX LR LR
comp=Z,1μm,20.0s,MS5.2
MOX Moxa 81.48 320⇑ *i*P P 15 25 33.7 +0.2
MOX pP pP 15 25 49.0 +2.3
MOX S S 15 35 43.0 +2.8
MOX L 16 10 45.0
MAON Monte Argentar 81.62 312⇑ *i*P P 15 25 34.2 -0.2
comp=Z,199nm,1.4s,mb5.8
FUR Furstenfeldbru 81.63 318 *e*P P 15 25 34.3 0.0
FUR pmax pmax
comp=Z,271nm,1.5s,mb6.0
FUR Furstenfeldbru 81.63 318 *e*P P 15 25 34.3 0.0
comp=Z,271nm,1.5s,mb6.0
SQTA Sankt Quirin 81.65 317⇑ *i*P P 15 25 34.2 -0.2
comp=Z,94nm,1.2s,mb5.6
SQTA Sankt Quirin 81.65 317⇑ *i*P P 15 25 34.2 -0.2
SQTA pmax pmax
comp=Z,94nm,1.2s,mb5.6
GRA1 Grafenberg Arr 81.71 319 *e*P P 15 25 35.5 +0.8
comp=Z,288nm,1.2s,mb6.1
GRA1 *e*pP pP 15 25 49.4 +1.5
GRA1 *e*PP PP 15 28 44.4 +0.6
GRA1 *e*PPP PPP 15 30 38.0 +2.3
GRA1 *e*S S 15 35 44.8 +2.3
GRA1 *e*SS SS 15 41 10.2 +6.4
GRA1 LR LR
comp=Z,1μm,22.0s,MS5.2
GRF Grafenberg Arr 81.71 319 *e*P P 15 25 35.5 +0.8
GRF *e**PP pP 15 25 49.4 +1.5
GRF *e* 15 28 44.4
GRF *e*PPP PPP 15 30 38.0 +2.3
GRF *e*S S 15 35 44.8 +2.3
GRF *e*SS SS 15 41 10.2 +6.4
GRF pmax pmax
comp=Z,288nm,1.2s,mb6.1
GRF MLR MLR
comp=Z,1μm,22.0s,MS5.2
GRF Grafenberg Arr 81.71 319 *e*P P 15 25 35.5 +0.8
comp=Z,288nm,1.2s,mb6.1
GRF *e*pP pP 15 25 49.4 +1.5
GRF *e*PP PP 15 28 44.4 +0.6
GRF *e*PPP PPP 15 30 38.0 +2.3
GRF *e*S S 15 35 44.8 +2.3
GRF *e*SS SS 15 41 10.2 +6.4
GRF LR LR
comp=Z,1μm,22.0s,MS5.2
GRFO Grafenberg 81.71 319 P P 15 25 35.5 +0.8
GRFO S S 15 35 45.1 +2.6
MOTA Moosalm 81.72 317⇑ *i*P P 15 25 34.5 -0.3
comp=Z,106nm,1.2s,mb5.7
MOTA Moosalm 81.72 317⇑ *i*P P 15 25 34.5 -0.3
MOTA pmax pmax
comp=Z,106nm,1.2s,mb5.7
ZCCA Zocca 81.76 314⇑ *i*P P 15 25 36.8 +1.8
LOF Lofoten 81.82 338 *e*P P 15 25 38.9 +4.0
MAIM 82.10 313 P P 15 25 35.8 -1.0
NSS Namsos 82.11 334 *e*P P 15 25 35.1 -1.3
NSS AMb AMB 15 25 59.9
comp=Z,167nm,1.7s,mb5.7
NSS *e*S S 15 35 47.2 +0.9
NSS AMS AMS 16 07 30.7
comp=Z,3μm,17.1s,MS5.7
SARO Sassorosso 82.17 314 P P 15 25 36.5 -0.7
VLC Villacollemand 82.18 314⇑ *i*P P 15 25 36.8 -0.4
comp=Z,414nm,2.5s,mb5.9
BRMO Bormio 82.21 316⇑ *i*P P 15 25 38.0 +0.7
NB2 NORSAR Subarra 82.22 331 P P 15 25 36.5 -0.5
comp=Z,91nm,1.7s,mb5.4,baz=97,slow=5.0
NB2 NORSAR Subarra 82.22 331 P P 15 25 36.5 -0.5
NB2 pmax pmax
comp=Z,91nm,1.7s,mb5.4
NB2 NORSAR Subarra 82.22 331 P P 15 25 36.5 -0.5
baz=97,slow=5.1
NOA NORSAR Array B 82.22 331 P P 15 25 36.3 -0.8
comp=Z,12nm,0.9s,mb4.8,baz=95,slow=5.2,SNR=17
NOA pP pP 15 25 53.5 +3.2
comp=Z,9.5nm,0.7s,baz=94,slow=5.5,SNR=12
NOA LR LR 16 05 11.3
comp=Z,2μm,21.4s,MS5.4,baz=85,slow=38
VALM 82.28 314 P P 15 25 38.3 +0.6
FUORN Ofenpass 82.28 316⇑ *i*P P 15 25 38.6 +0.9
FUORN Ofenpass 82.28 316⇑ *i*P P 15 25 38.4 +0.7
CLZ Clausthal 82.30 321 *e*P P 15 25 38.2 +0.5
CLZ pmax pmax
comp=Z,183nm,1.2s,mb5.9
CLZ Clausthal 82.30 321 *e*P P 15 25 38.2 +0.5
comp=Z,183nm,1.2s,mb5.9
VINC Vinca 82.35 314 P P 15 25 36.9 -1.2
HDH Heidenheim 82.35 318⇑ *e*P P 15 25 37.7 -0.3
NAO01 NORSAR Array S 82.36 331 *e*P P 15 25 37.0 -0.8
comp=Z,18nm,1.1s,mb4.9
BSEG Bad Segeberg 82.39 324 *e*P P 15 25 38.7 +0.6
BSEG pmax pmax
comp=Z,213nm,1.3s,mb5.9
UBR Uberruh 82.40 317⇑ *e*P P 15 25 38.2 -0.1
BACM 82.41 314 P P 15 25 37.8 -0.6
GRAM 82.41 314 P P 15 25 39.0 +0.6
BERNI Berninapass 82.45 316⇑ *i*P P 15 25 39.5 +0.9
DAVOX Davos 82.55 316⇑ *i*P P 15 25 40.0 +0.9
DAVOX Davos 82.55 316⇑ *i*P P 15 25 39.9 +0.8
DAVA Davuels 82.55 317⇑ *i*P P 15 25 39.5 +0.4
comp=Z,787nm,2.9s,mb6.2
CODM 82.56 314 P P 15 25 38.7 -0.5
LIENZ Alp Oberkamor 82.82 317⇑ *i*P P 15 25 40.8 +0.4
VDL Val di Lei 82.83 316⇑ *i*P P 15 25 40.9 +0.4
BOB Bobbio (Coli) 82.85 314⇑ *i*P P 15 25 41.4 +0.8
comp=Z,230nm,1.4s,mb6.0
PLONS Plons 82.89 317⇑ *i*P P 15 25 41.3 +0.5
TUE Stuetta 82.92 316⇑ *i*P P 15 25 41.3 +0.4
comp=Z,211nm,1.4s,mb6.0
KONO Kongsberg 82.96 329⇓ *c i*P P 15 25 40.9 +0.1
KONO Kongsberg 82.96 329⇑ *e*P P 15 25 40.8 -0.1
comp=Z,140nm,1.4s,mb5.8
KONO Kongsberg 82.96 329 *e*P P 15 25 40.6 -0.2
KONO *e*S S 15 35 55.7 +0.8
KONO *e*SS SS 15 41 21.9 -0.5
SYO Syowa Base 82.99 197 ⇓P P 15 25 40.7 -0.1
SYO Syowa Base 82.99 197 ⇑P pP 15 25 52.3 -1.8
STU Stuttgart 83.02 318 P P 15 25 41.6 +0.2
STU pmax pmax
comp=Z,100nm,1.2s,mb5.7
STU Stuttgart 83.02 318⇑ *e*P P 15 25 41.7 +0.3
comp=Z,101nm,1.3s,mb5.7
GUT Gutenstein 83.07 318⇑ *e*P P 15 25 41.8 +0.1
MUD Monsted U'grnd 83.11 326⇑ *i*P P 15 25 42.4 +0.7
MUD *i* pP 15 25 56.9 +1.9
MUD *i* 15 30 46.6
MUD *i* S S 15 35 56.6 +0.1
MUD pmax pmax
comp=Z,51nm,1.2s,mb5.4
MUD MLR MLR
comp=Z,670nm,23.0s,MS5.0
MUD Monsted U'grnd 83.11 326⇑ *i*P P 15 25 42.4 +0.7
comp=Z,51nm,1.2s,mb5.4
MUD *i* pP 15 25 56.9 +1.9
MUD *i* 15 28 40.0
MUD *i* 15 30 46.6
MUD *i* S S 15 35 56.6 +0.1
comp=Z,670nm,23.0s
MUGIO Muggio 83.13 316⇑ *i*P P 15 25 41.6 -0.4
MUGIO Muggio 83.13 316⇑ *i*P P 15 25 41.5 -0.5
LLS Linth-Limmern 83.15 316⇑ *i*P P 15 25 42.6 +0.5
PGF Pioggiola 83.20 312 *e*P P 15 25 42.8 +0.4
comp=Z,97nm,1.1s,mb5.4
WILA Wila 83.22 317⇑ *i*P P 15 25 42.6 +0.2
TOD Tromm 83.28 319⇑ *e*P P 15 25 43.0 +0.3
LBG Lerchenberg 83.28 318⇑ *e*P P 15 25 42.8 +0.1
SPAK Spaichingen 83.29 318 *e*P P 15 25 43.0 +0.2
SPAK Spaichingen 83.29 318 *e*P P 15 25 43.1 +0.3
TRULL Truellikon 83.37 317⇑ *i*P P 15 25 42.3 -0.9
FUSIO Fusio 83.39 316⇑ *i*P P 15 25 43.4 +0.1
MUO Muotathal 83.40 317⇑ *i*P P 15 25 44.1 +0.7
ZUR Zurich 83.44 317⇑ *i*P P 15 25 43.7 +0.1
KBS Kingsbay 83.49 349 P P 15 25 44.8 +1.6
KBS pmax pmax
comp=Z,41nm,1.0s,mb5.4
KBS Kingsbay 83.49 349 *e*P P 15 25 44.1 +0.8
comp=Z,41nm,1.0s,mb5.4
KBS Kingsbay 83.49 349 *e*P P 15 25 44.9 +1.6
KBS AMS AMS 16 09 29.9
comp=Z,1μm,17.2s,MS5.4
SLE Schleitheim 83.49 317⇑ *i*P P 15 25 43.7 -0.1
TNS Taunus Mts 83.50 320 *e*P P 15 25 44.5 +0.7
TNS pmax pmax
comp=Z,144nm,1.3s,mb5.9
TNS Taunus Mts 83.50 320 *e*P P 15 25 44.5 +0.7
comp=Z,144nm,1.3s,mb5.9
BNALP Bannalp 83.55 316⇑ *i*P P 15 25 44.6 +0.4
BFO Black Forest 83.60 318 *e*P P 15 25 44.4 0.0
BFO pmax pmax
comp=Z,101nm,1.1s,mb5.9
BFO Black Forest 83.60 318 *e*P P 15 25 44.4 0.0
comp=Z,101nm,1.1s,mb5.9
HASLI Hasliberg 83.74 316⇑ *i*P P 15 25 45.4 +0.3
HASLI Hasliberg 83.74 316⇑ *i*P P 15 25 45.5 +0.4
FIN Finale Ligure 83.75 314 P P 15 25 44.8 -0.4
KTD Kalmit 83.75 319 *e*P P 15 25 45.6 +0.5
KTD Kalmit 83.75 319 *e*P P 15 25 45.0 -0.1
SULZ Sulz-Cheisache 83.75 317⇑ *i*P P 15 25 45.1 -0.1
FELD Feldberg 83.82 317 *e*P P 15 25 45.7 +0.2
FELD Feldberg 83.82 317⇑ *e*P P 15 25 45.5 0.0
MMK Mattmark 83.88 316⇑ *i*P P 15 25 46.4 +0.5
MMK Mattmark 83.88 316⇑ *e*P P 15 25 46.0 +0.1
RPZ Rata Peaks 83.92 135 P P 15 25 45.3 -0.8
comp=Z,14nm,0.7s,mb5.2,baz=176,slow=2.9,SNR=9.8
RPZ LR LR 16 03 38.4
comp=Z,3μm,20.7s,MS5.7,baz=287,slow=36
LANF Langenberg 83.94 319 *e*P P 15 25 46.6 +0.5
IMI Imperia 83.98 313 P P 15 25 46.3 -0.2
ROB Roburent 83.99 314 P P 15 25 46.1 -0.3
BALST Balsthal 84.04 317⇑ *i*P P 15 25 46.7 +0.1
TRAV 84.05 315 P P 15 25 45.2 -1.5
MONE Monesi 84.08 314 P P 15 25 47.2 +0.3
LIBD Limburg 84.09 318⇑ *e*P P 15 25 47.3 +0.5
ABH Alteburg 84.09 320 *e*P P 15 25 47.3 +0.5
ABH Alteburg 84.09 320⇑ *e*P P 15 25 47.4 +0.6
WIMIS Wimmis 84.10 316⇑ *i*P P 15 25 47.3 +0.3
LKBD Leukerbad 84.11 316⇑ *i*P P 15 25 47.6 +0.6
NEGI Negi 84.12 313 P P 15 25 46.9 -0.2
BBS Basel-Blauen 84.16 317 *e*P P 15 25 46.8 -0.4
BBS Basel-Blauen 84.16 317 *e*P P 15 25 47.1 -0.1
SAOF Saorge 84.22 314 *e*P P 15 25 48.5 +0.9
CDF Champ du Feu 84.30 318 *e*P P 15 25 47.8 -0.1
comp=Z,58nm,0.9s,mb5.4
SBF Sospel 84.31 313 *e*P P 15 25 48.3 +0.2
comp=Z,199nm,1.0s,mb5.9
AUTN L'Aution 84.31 314 *e*P P 15 25 49.7 +1.6
SENIN Lac Senin 84.33 316⇑ *i*P P 15 25 48.8 +0.7
BOURR Bourrignon 84.36 317⇑ *i*P P 15 25 48.1 -0.1
REVF Revere 84.36 313 *e*P P 15 25 50.8 +2.4
STV2 Anna di Valdie 84.38 314 P P 15 25 47.2 -1.2
STV Sta Anna Valdi 84.38 314 P P 15 25 46.9 -1.5
ECH Echery 84.38 318 *e*P P 15 25 48.0 -0.3
MOF Molkenrain 84.41 317 *e*P P 15 25 48.3 -0.2
RUP Ruppelstein 84.41 319⇑ *e*P P 15 25 48.9 +0.5
DOI San Damiano 84.43 314⇑ *i*P P 15 25 47.3 -1.3
TOUF Mont Tournerai 84.44 314 *e*P P 15 25 49.5 +0.8
MVIF Mont Vial 84.52 313 *e*P P 15 25 49.5 +0.4
WTSB Winterswijk 84.52 322⇑ *e*P P 15 25 49.4 +0.5
comp=Z,132nm,3.0s
WTSB *ex* x 15 26 02.1
comp=Z,118nm,1.6s
FENE Fenestrelle 84.54 315 P P 15 25 48.5 -0.7
ABSA Djebel Ababsia 84.56 306 P P 15 25 52.0 +2.5
SALAN Lac Salanfe 84.57 316⇑ *i*P P 15 25 50.0 +0.7
WIT Witteveen 84.58 322⇑ *e*P P 15 25 50.4 +1.2
comp=Z,622nm,1.1s,mb6.7
WIT *ex* x 15 26 03.9
comp=Z,557nm,1.4s
CMAH Djebel Manchou 84.59 306 P P 15 25 51.0 +1.3
EMV Vieux Emosson 84.62 316⇑ *i*P P 15 25 50.5 +0.9
EMV Vieux Emosson 84.62 316⇑ *e*P P 15 25 50.4 +0.8
LOMF Lomont 84.63 317 *e*P P 15 25 49.5 -0.1
CALN Calern 84.73 313 *e*P P 15 25 51.0 +0.9
SURF Saint Ours 84.74 314 *e*P P 15 25 51.0 +0.8
LPG La Plagne 84.75 315 *e*P P 15 25 51.0 +0.8
comp=Z,113nm,0.9s,mb5.7
MBDF Montbardon 84.76 314 *e*P P 15 25 50.0 -0.3
comp=Z,61nm,1.0s,mb5.4
BNI Bardonecchia 84.81 315 P P 15 25 50.7 +0.1
BNI pmax pmax
comp=Z,78nm,1.0s,mb5.8
BNI Bardonecchia 84.81 315⇑ *i*P P 15 25 50.6 0.0
comp=Z,105nm,1.5s,mb5.7
BRANT Les Verrieres 84.89 317⇑ *i*P P 15 25 51.3 +0.4
HAU Haudompre 84.93 318 *e*P P 15 25 51.1 0.0
comp=Z,182nm,1.0s,mb5.8
HAU *eR*
comp=Z,1μm,23.0s
WLF Walferdange 85.00 319 P P 15 25 52.7 +1.3
WLF pmax pmax
comp=Z,180nm,1.4s,mb6.0
WLF Walferdange 85.00 319 *e*P P 15 25 51.1 -0.3
CAEH 'Ain El Ouahch 85.04 306 P P 15 25 54.0 +2.1
GIMEL Gimel 85.04 316⇑ *i*P P 15 25 52.1 +0.4
BER Bergen 85.10 330⇑ *i*P P 15 25 52.5 +0.9
BER *e*S S 15 36 18.3 +2.1
BER AMS AMS 16 07 29.1
comp=Z,2μm,20.0s,MS5.4
HGN Heimansgroeve 85.10 320⇑ *e*P P 15 25 51.0 -0.8
comp=Z,72nm,3.0s
HGN *ex* x 15 26 04.7
comp=Z,63nm,1.4s
HGN Heimansgroeve 85.10 320⇑ *e*S S 15 36 18.9 +2.5
HGN *e*SS SS 15 42 00.9 +7.2
CKFL Kef-Lekhel 85.16 306 P P 15 25 55.0 +2.5
GDM Grand'Maison 85.20 315 *e*P P 15 25 53.6 +1.1
TAVF Tavernes 85.32 313 *e*P P 15 25 54.9 +1.8
CASM Ain Smara 85.35 306 P P 15 25 57.0 +3.5
STOF St-Etienne Org 85.41 314 *e*P P 15 25 55.3 +1.8
CTEI Djebel Teioual 85.43 306 P P 15 25 59.0 +5.2
GRN Grenoble 85.47 315 *e*P P 15 25 54.8 +1.0
VILF Villemus 85.56 313 *e*P P 15 25 56.5 +2.2
GELF Grande-Etoile 85.79 313 *e*P P 15 25 57.9 +2.5
DFRA Djebel Bou Aff 85.83 306 P P 15 25 58.0 +2.2
CMER Merouana 85.87 305 P P 15 26 03.5 +7.5
PRAF Pradon 85.95 313 *e*P P 15 25 58.2 +2.0
CKHR Kef el Ahmar 86.16 306 P P 15 26 00.0 +2.6
BAIF Baives 86.24 320 *e*P P 15 25 58.1 +0.7
comp=Z,86nm,0.9s,mb5.7
SET Setif 86.24 306 P P 15 26 01.0 +3.2
COLF Collangettes 86.89 315 *e*P P 15 26 01.4 +0.7
SSF Saint Saulge 86.91 317 *e*P P 15 26 01.1 +0.3
comp=Z,93nm,1.1s,mb5.6
BGF Bois d'Agland 87.40 316 *e*P P 15 26 03.9 +0.7
comp=Z,219nm,1.3s,mb5.9
URZ Urewera 87.41 129 P P 15 26 02.1 -1.3
comp=Z,18nm,0.7s,mb5.4,baz=284,slow=2.2,SNR=17
LRDF Laroque-de-Fa 87.93 313 *e*P P 15 26 06.5 +0.7
FILF Fillols 87.95 312 *e*P P 15 26 06.8 +0.9
EMHD Djebel Mahouad 88.21 306 P P 15 26 09.0 +1.7
VALF Valcebollere 88.36 312 *e*P P 15 26 09.2 +1.3
RJF Les Rejaudoux 88.44 315 *e*P P 15 26 09.2 +1.0
comp=Z,84nm,1.1s,mb5.6
RJF *eR*
comp=Z,1μm,22.5s
EMIR Miracle 88.77 312 P P 15 26 10.9 +1.0
comp=Z,594nm,2.7s,mb6.4
EPOB Poblet 89.17 311 P P 15 26 13.1 +1.4
comp=Z,183nm,1.6s,mb6.2
LCP Cassop 89.24 325 *e*P P 15 26 10.7 -1.0
LCP AMb AMB 15 26 18.8
comp=Z,214nm,1.2s,mb6.3
JMIC Jan Mayen 89.33 341 LR LR 16 08 43.5
comp=Z,1μm,21.5s,MS5.3,baz=326,slow=37
JMIC Jan Mayen 89.33 341 *e*P P 15 26 13.3 +1.5
JMIC *e* 15 37 00.9
JMIC AMS AMS 16 15 05.0
comp=Z,973nm,19.3s,MS5.2
EBNR Beni Rached 89.35 306 P P 15 26 15.0 +2.3
FLN La Foliniere 89.41 319 *e*P P 15 26 13.1 +0.4
comp=Z,220nm,1.2s,mb6.1
FLN *eR*
comp=Z,2μm,22.2s
KBI1 Birley Grange 89.47 323 *e*P P 15 26 13.2 +0.3
RESF Ems 89.55 313 *e*P P 15 26 15.3 +1.8
LHO Holmfirth 89.62 324 *e*P P 15 26 14.1 +0.5
LHO AMb AMB 15 26 17.3
comp=Z,110nm,1.5s,mb6.0
ETRT Tiaret 89.63 305 P P 15 26 16.0 +1.9
EBR Ebro Roquetas 89.66 311 *e*P P 15 26 15.5 +1.4
KWE Weaver Farm 89.69 323 *e*P P 15 26 14.4 +0.5
EBIE Bielsa 89.71 313 P P 15 26 11.1 -3.2
comp=Z,231nm,2.0s,mb6.2
EANR 'Ain N'Sour 89.73 306 P P 15 26 17.0 +2.5
VIEF Viey 89.77 313 *e*P P 15 26 16.8 +2.2
REYF Montagne du Re 90.05 313 *e*P P 15 26 17.7 +1.8
ECK Cauldkaine Hil 90.11 325 *e*P P 15 26 16.1 +0.3
ECK AMb AMB 15 26 19.3
comp=Z,74nm,1.8s,mb5.7
ESK Eskdalemuir 90.14 325 P P 15 26 16.9 +1.0
ESK pmax pmax
comp=Z,91nm,1.3s,mb6.0
ESK Eskdalemuir 90.14 325⇑ *i*P P 15 26 16.4 +0.5
comp=Z,91nm,1.4s,mb5.9
ESK *e*pP pP 15 26 30.4 +1.0
ESK Eskdalemuir 90.14 325 *e*P P 15 26 16.4 +0.5
ESK AMb AMB 15 26 19.6
comp=Z,48nm,1.7s,mb5.6
DAG Danmarks Havn 90.14 348⇓ *e*P P 15 26 15.1 -0.4
DAG pmax pmax
comp=Z,59nm,1.8s,mb5.6
DAG Danmarks Havn 90.14 348⇓ *e*P P 15 26 15.1 -0.4
comp=Z,59nm,1.8s,mb5.6
DAG Danmarks Havn 90.14 348⇓ *i*P P 15 26 15.1 -0.4
comp=Z,59nm,1.8s,mb5.6

EAU	Auchinoon	90.18	326	*e*P		P		15 26 15.9	-0.2
EAU					AMb	AMB		15 26 20.8	
	comp=Z,89nm,1.7s,mb5.8								
ETSF	Etsaut	90.20	313	*e*P		P		15 26 17.6	+1.1
	comp=Z,40nm,1.0s,mb5.4								
VNDA	Vanda	90.27	168	P		P		15 26 16.8	+0.7
VNDA					pmax	pmax			
	comp=Z,86nm,1.4s								
VNDA	Vanda	90.27	168	P		P		15 26 16.3	+0.2
	comp=Z,4.0nm,0.9s,mb4.8,baz=309,slow=3.6,SNR=5.9								
VNDA					LR	LR		16 02 52.0	
	comp=Z,3µm,19.5s,MS5.8,baz=296,slow=33								
VNDA	Vanda	90.27	168	*e*P		P		15 26 16.7	+0.6
	comp=Z,86nm,1.5s,mb5.9								
ESAC	San Caprasio	90.28	312	P		P		15 26 16.7	-0.2
	comp=Z,469nm,2.1s,mb6.5								
EMOS	Mosqueruela	90.45	310	P		P		15 26 20.0	+2.2
	comp=Z,631nm,2.7s,mb6.5								
EALK	Alkurruntz	90.84	313	P		P		15 26 20.6	+1.0
	comp=Z,306nm,2.3s,mb6.2								
HSA	Swansea	91.29	322	*e*P		P		15 26 21.7	+0.2
EMUR	La Murta	91.36	308	P		P		15 26 24.7	+2.6
	comp=Z,102nm,2.3s,mb5.8								
SBA	Scott Base	91.37	168	P		P		15 26 23.1	+1.8
SBA					pmax	pmax			
	comp=Z,110nm,1.4s,mb6.0								
SBA	Scott Base	91.37	168	*e*P		P		15 26 22.7	+1.4
	comp=Z,107nm,1.4s,mb6.0								
ETOB	Tobarra	91.50	309	P		P		15 26 24.5	+1.8
	comp=Z,329nm,2.3s,mb6.3								
ELAN	Lanestosa	92.23	314	P		P		15 26 26.7	+0.7
	comp=Z,381nm,2.5s,mb6.3								
DLF	Lyons Farm	92.42	324⇑	*i*P		P		15 26 23.3	-3.3
NVL	N'lazarevskaya	92.47	199⇑	*i*P		P		15 26 28.5	+2.1
NVL				*i*	*SP	sP		15 26 42.6	-1.9
NVL				*i*				15 37 21.8	
NVL					pmax	pmax			
	comp=Z,1.0nm,0.7s								
MAIT	Maitri	92.50	199	*e*P		P		15 26 29.2	+2.6
EBER	Berja	92.80	307	P		P		15 26 32.0	+3.3
	comp=Z,20nm,0.8s,mb5.6								
EQES	Quesada	92.81	308	P		P		15 26 29.3	+0.5
	comp=Z,117nm,2.0s,mb6.0								
DCN	Croghan	92.85	324⇑	*i*P		P		15 26 25.5	-3.1
EALB	Alboran	93.06	306	P		P		15 26 30.7	+0.7
	comp=Z,301nm,2.4s,mb6.3								
ESDC	Sonseca Array	93.20	310	P		P		15 26 31.2	+0.7
	comp=Z,3.9nm,0.6s,mb5.0,baz=63,slow=3.8,SNR=19								
ESDC					pP	pP		15 26 47.7	+3.6
	comp=Z,9.1nm,0.9s,baz=64,slow=4.4,SNR=9.5								
ESLA	Sonseca Array	93.20	310	*e*P		P		15 26 30.0	-0.6
	comp=Z,16nm,1.4s,mb5.3								
SCO	Scoresbysund	93.68	342	*i* P		P		15 26 33.7	+1.8
EADA	Adamuz	93.92	309	P		P		15 26 34.4	+0.6
	comp=Z,240nm,2.8s,mb6.1								
IMA	Indian Mountai	93.93	22	P		P		15 26 34.5	+1.3
IMA					pmax	pmax			
	comp=Z,410nm,1.2s,mb6.7								
IMA	Indian Mountai	93.93	22	*e*P		P		15 26 34.3	+1.1
	comp=Z,406nm,1.2s,mb6.7								
IMA					*e*pP	pP		15 26 46.7	0.0
TTA	Tatalina	94.11	26	*e*P		P		15 26 34.9	+0.9
ECAB	El Cabril	94.59	309	P		P		15 26 37.6	+0.8
	comp=Z,237nm,2.8s,mb6.1								
AFI	Afiamalu	94.83	103	LR		LR		16 06 15.4	
	comp=Z,553nm,21.3s,MS5.0,baz=96,slow=34								
SVW2	Sparrevohn	94.93	27	*e*P		P		15 26 38.9	+1.1
QSPA	South Pole Qui	95.13	180	*e*P		P		15 26 42.8	+4.4
	comp=Z,20nm,1.2s,mb5.4								
BORG	Borgarnes	96.01	337	pP		pP		15 26 57.9	+1.8
	comp=Z,30nm,1.0s,baz=111,slow=7.1,SNR=3.1								
SPU	Mount Spurr	96.49	27	*e*P		P		15 26 44.7	-0.2
SUMG	Summit	96.80	347	P		P		15 26 45.4	-0.7
	comp=Z,110nm,1.8s,mb6.0								
ILAR	Eielson Array	97.06	22	P		P		15 26 46.6	-0.8
ILAR								15 30 43.9	
ILAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
ILAR					pmax	pmax			
	comp=Z,5.0nm,1.2s								
ILAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
ILAR	Eielson Array	97.06	22	P		P		15 26 46.5	-0.9
	comp=Z,2.2nm,0.6s,mb4.8,baz=300,slow=4.1,SNR=32								
ILAR					PP	PP		15 30 43.9	-2.4
	comp=Z,5.4nm,1.1s,baz=302,slow=7.9,SNR=5.8								
ILAR					PKKPbc			15 43 28.9	
	comp=Z,0.5nm,0.7s,baz=102,slow=2.1,SNR=4.2								
ILAR					LR	LR		16 15 38.8	
	comp=Z,2µm,20.7s,MS5.6,baz=320,slow=38								
SNAA	Sanae	97.23	198	P		P		15 26 52.0	+3.9
SNAA	Sanae	97.23	198			P		15 26 56.2	+8.1
SNAA	Sanae	97.23	198			pP		15 27 01.5	-0.1
SNAA	Sanae	97.23	198			sP		15 27 05.1	-1.1
SNAA	Sanae	97.23	198	P		P		15 26 52.4	+4.3
SNAA					pmax	pmax			
	comp=Z,24nm,1.7s								
SNAA	Sanae	97.23	198	*e*P		P		15 26 48.8	+0.7
	comp=Z,24nm,1.8s,mb5.3								
DBIC	Dimbokro	98.66	278	P		P		15 26 57.5	+1.7
	comp=Z,12nm,1.2s,mb5.3,baz=117,slow=11,SNR=4.5								
DBIC					LR	LR		16 08 19.9	
	comp=Z,2µm,21.9s,MS5.6,baz=64,slow=33								
VNA2	Neumayer--Watz	98.78	199	P		P		15 26 58.8	+3.7
VNA2	Neumayer--Watz	98.78	199			pP		15 27 09.8	+1.1
VNA2	Neumayer--Watz	98.78	199			sP		15 27 14.2	+1.0
VNA2	Neumayer--Watz	98.78	199			PP		15 30 57.2	-2.0
INK	Inuvik	99.43	16	P		P		15 26 58.1	0.0
INK				*PP		pP		15 27 12.9	+1.3
INK								15 31 02.3	
INK					pmax	pmax			
	comp=Z,7.0nm,0.7s								
INK					pmax	pmax			
	comp=Z,26nm,1.1s								
INK					pmax	pmax			
	comp=Z,4.0nm,1.0s								
INK	Inuvik	99.43	16	P		P		15 26 58.2	+0.1
INK					pmax	pmax			
	comp=Z,40nm,1.2s								
INK	Inuvik	99.43	16	P		P		15 26 58.0	-0.1
	comp=Z,6.5nm,0.7s,mb5.3,baz=340,slow=9.1,SNR=14								
INK					pP	pP		15 27 12.9	+1.2
	comp=Z,26nm,1.1s,baz=300,slow=5.0,SNR=9.4								
INK					PP	PP		15 31 02.2	-2.0
	comp=Z,4.3nm,1.0s,baz=324,slow=7.7,SNR=3.7								
INK	Inuvik	99.43	16	*e*P		P		15 26 58.1	0.0
	comp=Z,40nm,1.2s,mb5.8								
INK					*e*pP	pP		15 27 10.8	-0.8
SFJD	Kangerlussuaq	103.78	347	*i*		PP		15 31 26.3	-11
SFJD				*e*				15 37 10.5	
SFJD				*e*				15 39 05.2	
SFJD				*i*				15 40 43.5	
SFJD				*i*				15 46 20.7	
	comp=Z,2µm,22.0s								
YKA	Yellowknife Ar	108.91	14	Pdiff		Pdif		15 27 44.1	+3.9
	comp=Z,0.2nm,0.3s,baz=333,slow=3.1,SNR=4.0								
YKA					PP	PP		15 32 08.9	-7.2
	comp=Z,0.8nm,0.7s,baz=337,slow=3.3,SNR=4.1								
YKA					PKKPbc			15 42 57.8	
	comp=Z,0.4nm,0.3s,baz=154,slow=2.6,SNR=4.5								
TBI	Tubuai	115.93	113	*e*PS		PS		15 42 47.5	+3.1
TBI	Tubuai	115.93	113	*e*LR		LR		16 07 12.7	
	comp=Z,2µm,23.0s								
PPT	Papeete	116.25	107	*e*PP		PP		15 32 59.2	-10
PPT	Papeete	116.25	107	*e*PS		PS		15 42 51.7	+4.3
PPT	Papeete	116.25	107	*e*LR		LR		16 07 22.4	
	comp=Z,2µm,25.8s								
EDM	Edmonton	117.22	18	PKIKP		PKPdf		15 32 03.4	+3.6
EDM	Edmonton	117.22	18	PKPdf		PKPdf		15 32 01.0	+1.2
SCHQ	Schefferville	118.19	348	PKP		PKPdf		15 32 02.2	+0.6
	comp=Z,3.1nm,0.8s,baz=22,slow=12,SNR=3.9								
SCHQ					PP	PP		15 33 20.6	-1.7
	comp=Z,5.3nm,0.8s,baz=2.2,slow=4.9,SNR=3.8								
SCHQ	Schefferville	118.19	348	PKP		PKPdf		15 32 02.2	+0.6
SCHQ					PP	PP		15 33 20.6	-1.7
NEW	Newport	119.97	24	PKIKP		PKPdf		15 32 06.5	+1.2
NEW								15 32 22.4	
NEW					pmax	pmax			
	comp=Z,1.0nm,0.5s								
NEW					pmax	pmax			
	comp=Z,7.0nm,0.9s								
NEW	Newport	119.97	24	PKP		PKPdf		15 32 06.5	+1.2
	comp=Z,1.4nm,0.5s,baz=113,slow=1.5,SNR=4.8								
NEW					pPKP			15 32 22.4	
	comp=Z,7.2nm,0.9s,baz=232,slow=0.9,SNR=8.3								
NEW	Newport	119.97	24	PKP		PKPdf		15 32 06.5	+1.1
NEW					pPKP			15 32 22.4	
WALA	Waterton Lakes	120.55	21		PKPdf	PKPdf		15 32 07.4	+1.0
WALA					*e*PP	PP		15 33 33.1	-4.9
HUMO	Hull Mountain	121.52	32	*e*PKPdf		PKPdf		15 32 09.3	+0.9
YBH	Yreka Blue Hor	122.26	32	pPKP				15 32 25.4	
	comp=Z,4.9nm,1.1s,baz=216,slow=3.0,SNR=5.1								
MSO	Missoula	122.39	23	*e*PKPdf		PKPdf		15 32 10.8	+0.8
CHMT	Chamberlain Mo	122.58	22	*e*PKPdf		PKPdf		15 32 11.4	+1.0
BMO	Blue Mountains	122.59	26	PKIKP		PKPdf		15 32 11.9	+1.4
KIPM	Iron Peak	123.17	34	*e*PKPdf		PKPdf		15 32 13.0	+1.2
HRY	Holter Researc	123.28	21	PKPdf		PKPdf		15 32 13.1	+1.3
MOD	Modoc	123.39	31	*e*PKPdf		PKPdf		15 32 14.2	+2.1
WVOR	Wild Horse Val	123.83	29	*e*P		Pdif		15 28 42.8	-3.6
ULM	Lac du Bonnet	124.04	8	PKP		PKPdf		15 32 13.7	+0.5
	comp=Z,4.8nm,0.7s,baz=12,slow=5.0,SNR=5.7								
ULM					pPKP			15 32 29.2	
	comp=Z,15nm,0.7s,baz=16,slow=1.4,SNR=8.6								
ULM	Lac du Bonnet	124.04	8	*e*PKPdf		PKPdf		15 32 13.7	+0.6
BOZ	Bozeman (W)	124.25	22	PKIKP		PKPdf		15 32 15.5	+1.8
BOZ	Bozeman (W)	124.25	22	*e*PKPdf		PKPdf		15 32 14.9	+1.3
MCMT	McKenzie Canyo	124.48	23⇑	*e*PKPdf		PKPdf		15 32 16.0	+1.9
BEKR	Beckwourth	124.84	32	*e*PKPdf		PKPdf		15 32 16.4	+1.4
HLID	Hailey	124.87	25⇑	*e*PKPdf		PKPdf		15 32 16.8	+1.9
QLMT	Earthquake Lak	125.02	22	*e*PKPdf		PKPdf		15 32 17.3	+2.1
LAO	LASA Array	125.15	17	*e*PKPdf		PKPdf		15 32 17.9	+2.5
YNR	Norris Junctio	125.40	22	*e*PKPdf		PKPdf		15 32 18.7	+2.8
YFT	Old Faithful	125.57	22	*e*PKPdf		PKPdf		15 32 19.7	+3.5
LKWY	Lake	125.63	22	PKIKP		PKPdf		15 32 21.0	+4.7
LKWY	Lake	125.63	22	*e*PKPdf		PKPdf		15 32 19.7	+3.4
TAOE	Nuku Hiva Isla	125.67	97	eLR		LR		16 11 44.0	
	comp=Z,6µm,30.3s								
IMW	Indian Meadow	126.00	23	PKPdf		PKPdf		15 32 19.1	+2.0
CMB	Columbia Colle	126.14	34	PKIKP		PKPdf		15 32 19.1	+1.6
CMB	Columbia Colle	126.14	34	*e*PKPdf		PKPdf		15 32 18.9	+1.4
CMB				*ep*PKPdf				15 32 34.2	
RRI2	Red Ridge	126.32	23	*e*PKPdf		PKPdf		15 32 19.4	+1.7
TPAW	Teton Pass	126.34	23	*e*PKPdf		PKPdf		15 32 19.9	+2.1
TPAW				*e*PP		PP		15 34 15.5	-1.9
LOHW	Long Hollow	126.37	23	*e*PKPdf		PKPdf		15 32 19.3	+1.5
SNOW	Snow King Moun	126.44	23	*e*PKPdf		PKPdf		15 32 20.1	+2.2
REDW	Red Top Meadow	126.49	23⇑	*e*PKPdf		PKPdf		15 32 19.9	+1.9
ELK	Elko	126.75	28	PKIKP		PKPdf		15 32 19.7	+1.1
ELK								15 32 35.8	
ELK					pmax	pmax			
	comp=Z,7.0nm,1.1s								
ELK					pmax	pmax			
	comp=Z,12nm,1.0s								
ELK	Elko	126.75	28	PKIKP		PKPdf		15 32 20.8	+2.2
ELK	Elko	126.75	28	PKP		PKPdf		15 32 19.7	+1.1
	comp=Z,6.9nm,1.1s,baz=71,slow=3.0,SNR=18								
ELK					pPKP			15 32 35.8	
	comp=Z,12nm,1.0s,baz=296,slow=1.7,SNR=11								
ELK	Elko	126.75	28	*e*PKPdf		PKPdf		15 32 20.8	+2.1
ELK				*e*PP		PP		15 34 18.5	-1.5
LRV	Little Rabbit	126.90	36	PKPdf		PKPdf		15 32 21.9	+2.9
NVAR	Mina Array Bea	126.98	32	PKP		PKPdf		15 32 21.7	+2.6
	comp=Z,2.9nm,0.6s,baz=303,slow=1.8,SNR=22								
PDAR	Pinedale Array	127.49	22	PKP		PKPdf		15 32 21.5	+1.5
	comp=Z,3.5nm,0.8s,baz=95,slow=3.1,SNR=26								
PDAR					pPKP			15 32 36.7	
	comp=Z,17nm,0.9s,baz=108,slow=2.9,SNR=15								
PDAR					PKKPbc			15 41 46.5	
	comp=Z,0.4nm,0.7s,baz=153,slow=6.6,SNR=3.7								
MTUM	Tungsten Hills	127.63	33	PKPdf		PKPdf		15 32 22.9	+2.4
HWUT	Hardware Ranch	127.68	25	*e*PKPdf		PKPdf		15 32 21.6	+1.2
EMMW	East Machias	127.73	344	*e*PKPdf		PKPdf		15 32 23.0	+2.6
TPH	Tonopah	127.81	32	PKPdf		PKPdf		15 32 22.3	+1.5
RSSD	Black Hills	128.13	17	PKIKP		PKPdf		15 32 20.8	-0.4
RSSD	Black Hills	128.13	17	*e*PKPdf		PKPdf		15 32 22.4	+1.2
NOQ	North Oquirrh	128.23	26	*e*PKPdf		PKPdf		15 32 22.2	+0.7
DUG	Dugway	128.30	27⇑	*i*PKPdf		PKPdf		15 32 23.4	+1.8
DAC	Darwin (Calif)	128.95	34	*e*PKIKP		PKPdf		15 32 25.0	+2.0
DAC	Darwin (Calif)	128.95	34	*e*PKPdf		PKPdf		15 32 24.8	+1.8
RKT	Rikitea	129.12	116	eLR		LR		16 13 18.7	
	comp=Z,2µm,23.8s								
RWWY	Rawlins	129.29	21	*e*PKPdf		PKPdf		15 32 24.6	+1.1
TMUT	Trail Mountain	129.74	26	*e*PKPdf		PKPdf		15 32 26.8	+2.4
PHWY	Pilot Hill	130.24	20	*e*PKPdf		PKPdf		15 32 25.4	+0.1
NEN	Nelson	130.89	32	*e*PKPdf		PKPdf		15 32 29.7	+3.0
LDFC	Landfair	131.19	33	*e*PKPdf		PKPdf		15 32 29.4	+2.2
PV10	Paradox Valley	131.44	25	*e*PKPdf		PKPdf		15 32 29.5	+1.8
SMCO	Snowmass	131.57	22	*e*PKPdf		PKPdf		15 32 30.7	+2.8
SMCO				*e*SKPdf				15 36 03.5	
PV01	Paradox Valley	131.84	25	*e*PKPdf		PKPdf		15 32 30.2	+1.8
PV01				*e*PP		PP		15 34 50.2	-3.3
PV01				*e*SKPbc				15 35 52.1	
BINY	Binghamton	132.03	350	*e*PKPdf		PKPdf		15 32 30.1	+1.4
BINY				*e*PP		PP		15 34 49.5	-5.1
BAR	Barrett	132.07	36	PKPdf		PKPdf		15 32 28.7	-0.3
SDCO	Great Sand Dun	133.38	22	*e*PKPdf		PKPdf		15 32 31.9	+0.6
SDCO				*e*SKPbc				15 35 58.4	
ANMO	Albuquerque	135.44	25	PKIKP		PKPdf		15 32 36.6	+1.4
ANMO					pmax	pmax			
	comp=Z,6.0nm,1.1s								
ANMO	Albuquerque	135.44	25	PKP		PKPdf		15 32 36.6	+1.4
	comp=Z,6.3nm,1.1s,baz=133,slow=3.8,SNR=3.3								
ANMO	Albuquerque	135.44	25	*e*PKPdf		PKPdf		15 32 37.2	+2.0
ANMO				*e*PP		PP		15 35 14.6	-1.6
TUC	Tucson	135.60	31	PKPdf		PKPdf		15 32 37.8	+2.3
TUC	Tucson	135.60	31	*e*PKPdf		PKPdf		15 32 37.1	+1.5
TUC				*e*PP		PP		15 35 14.9	-2.3
WCI	Wyandotte Cave	136.78	1	*e*PKIKP		PKPdf		15 32 42.4	+4.8
MNTX	Cornudas Mount	138.69	26	*e*PKPdf		PKPdf		15 32 39.5	-1.7
MNTX				*e*PP		PP		15 35 25.6	-11
WVT	Waverly	138.82	3	*e*PKHKP				15 32 36.0	
WVT	Waverly	138.82	3	*e*PKPpre				15 32 34.1	
WVT				*e*PKPdf		PKPdf		15 32 44.3	+2.9
MYNC	Murphy	139.91	358	*e*PKIKP		PKPdf		15 32 52.2	+8.8
JSC	Jenkinsville	140.52	354	*e*PKIKP		PKPdf		15 32 51.6	+7.0
TRQA	Tornquist	140.92	210	*e*PKPpre				15 32 39.4	
LTX	Lajitas	141.47	26	PKIKP		PKPdf		15 32 44.5	-1.9
LTX	Lajitas	141.47	26	*e*PKPpre				15 32 44.1	
LTX				*e*PKPdf		PKPdf		15 32 49.9	+3.5
TXAR	Lajitas Array	141.47	26	PKHKP				15 32 41.9	
TXAR								15 32 47.3	
TXAR								15 33 02.6	
TXAR								15 35 52.5	
TXAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
TXAR					pmax	pmax			
	comp=Z,3.0nm,0.6s								
TXAR					pmax	pmax			
	comp=Z,10.0nm,0.7s								
TXAR					pmax	pmax			
	comp=Z,5.0nm,1.0s								
TXAR	Lajitas Array	141.47	26	PKhKP				15 32 41.9	
	comp=Z,1.3nm,0.6s,baz=259,slow=3.2,SNR=10								
TXAR					PKP	PKPdf		15 32 47.3	+0.9
	comp=Z,3.4nm,0.6s,baz=162,slow=1.8,SNR=15								
TXAR					pPKP			15 33 02.6	
	comp=Z,9.7nm,0.7s,baz=193,slow=0.9,SNR=11								
TXAR					PP	PP		15 35 52.5	-1.0
	comp=Z,4.5nm,1.0s,slow=2.5,SNR=5.4								
BAO	Brasilia Array	141.76	251	P				15 32 32.0	
BDFB	Brasilia	141.78	251	PKHKP				15 32 31.5	
BDFB								15 32 47.3	
BDFB					pmax	pmax			
	comp=Z,3.0nm,0.6s								
BDFB					pmax	pmax			
	comp=Z,5.0nm,0.6s								
BDFB	Brasilia	141.78	251	PKhKP				15 32 31.5	
	comp=Z,2.6nm,0.6s,baz=240,slow=16,SNR=3.2								
BDFB					PKP	PKPdf		15 32 47.3	+0.1
	comp=Z,5.4nm,0.6s,baz=86,slow=26,SNR=5.4								
LRAL	Lakeview Retre	141.94	2	*e*PKPpre				15 32 43.0	
PLCA	Paso Flores	142.18	199	PKIKP		PKPdf		15 32 44.9	-2.3
PLCA					pmax	pmax			
	comp=Z,4.0nm,0.8s								
PLCA	Paso Flores	142.18	199	PKhKP				15 32 44.9	
	comp=Z,3.5nm,0.8s,baz=167,slow=2.8,SNR=5.6								
NATX	Nacogdoches	142.21	13	*e*PKPpre				15 32 44.1	
CPUP	Villa Florida	145.87	229	PKPdf		PKPdf		15 32 55.8	+1.8
CPUP	Villa Florida	145.87	229	PKPbc		PKPbc		15 32 56.3	+1.3
	comp=Z,24nm,0.8s,baz=122,slow=2.7,SNR=44								
CPUP	Villa Florida	145.87	229	*e*PKPdf		PKPdf		15 32 55.5	+1.4
DWPF	Disney	146.64	353	*e*PKPdf		PKPdf		15 32 58.7	+3.3
DWPF				*e*				15 33 14.0	
FCH	Farellones	148.65	205	*e*P		PKPdf		15 33 00.7	+2.3
CFAA	Coronel Fontan	149.16	210	PKPbc		PKPdf		15 33 05.0	+5.8
	comp=Z,5.6nm,0.7s,baz=176,slow=2.3,SNR=41								
SJG	San Juan	149.98	321	PKP2		PKPab		15 33 07.5	-6.3
SJG					pmax	pmax			
	comp=Z,31nm,0.7s								
SJG					pmax	pmax			
	comp=Z,16nm,0.3s								
SJG					pmax	pmax			
	comp=Z,47nm,0.6s								
SJG	San Juan	149.98	321	PKPbc		PKPdf		15 33 07.5	+6.6
	comp=Z,31nm,0.7s,baz=55,slow=1.8,SNR=8.5								
SJG					PKPab	PKPab		15 33 13.3	-0.6
	comp=Z,16nm,0.2s,baz=346,slow=20,SNR=4.5								
SJG					pPKPbc			15 33 22.3	
	comp=Z,47nm,0.6s,baz=338,slow=19,SNR=7.8								
SJG	San Juan	149.98	321	*e*PKPbc		PKPdf		15 33 07.0	+6.1
TLL	Tololo Astrono	151.57	207	*e*P		PKPdf		15 33 04.5	+1.5
SIV	San Ignacio	153.75	244	PKP		PKPdf		15 33 08.1	+1.6
	comp=Z,2.2nm,0.7s,baz=119,slow=0.5,SNR=11								
SIV					PKPbc	PKPdf		15 33 15.2	+8.8
	comp=Z,4.1nm,0.6s,baz=123,slow=4.4,SNR=12								
SIV					PKPab	PKPab		15 33 29.2	-0.5
	comp=Z,6.1nm,0.8s,baz=111,slow=4.2,SNR=7.9								
LVC	Limon Verde	156.42	221	PKP		PKPdf		15 33 12.2	+2.4
	comp=Z,4.7nm,1.1s,baz=38,slow=4.0,SNR=5.6								
LVC					PKPab	PKPab		15 33 40.8	-0.1
	comp=Z,8.4nm,0.7s,baz=132,slow=1.5,SNR=6.6								
LVC	Limon Verde	156.42	221	PKPdf		PKPdf		15 33 12.3	+2.5
SAML	Samuel	157.55	259	PKPdf		PKPdf		15 33 13.2	+1.6
SAML	Samuel	157.55	259	PKPdf		PKPdf		15 33 11.9	+0.4
SDV	Santo Domingo	159.61	313	*e*PKPdf		PKPdf		15 33 16.3	+2.2
LPAZ	La Paz	159.72	236	PKIKP		PKPdf		15 33 16.4	+2.3
LPAZ					pmax	pmax			
	comp=Z,4.0nm,0.7s								
LPAZ					pmax	pmax			
	comp=Z,7.0nm,0.8s								
LPAZ	La Paz	159.72	236	PKP		PKPdf		15 33 16.4	+2.3
	comp=Z,4.4nm,0.7s,baz=325,slow=0.4,SNR=21								
LPAZ					PKPab	PKPab		15 33 56.3	+1.1
	comp=Z,6.5nm,0.8s,baz=100,slow=8.3,SNR=5.0								
LPAZ	La Paz	159.72	236	*e*PKPdf		PKPdf		15 33 16.7	+2.7
ARE	Arequipa	162.29	230	*e*P		PKPdf		15 33 22.0	+5.4
ROSC	El Rosal	165.02	312	PKP		PKPdf		15 33 20.9	+1.4
	comp=Z,6.5nm,0.4s,baz=97,slow=18,SNR=6.4								

CASC 30 15:37:47.4±2.5, 13.56N×90.64W, h33km±8km, MD3.9, ML4.0, 2C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IXG	Ixpaco	0.63	16⇓	*e*P		Pn	15 37 59.8	-0.3
IXG				*e*S		Sb	15 38 10.0	+1.2
PCG	Pacaya	0.83	2⇑	*e*P		Pn	15 38 03.6	+0.8
PCG				*e*S		Sn	15 38 15.0	+1.1
FUG	Fuego 3	0.90	347	*e*P		Pn	15 38 03.2	-0.7
FUG				*e*S		Sn	15 38 18.1	+2.2
RTR	El Retiro	1.02	71⇓	*i*P		Pn	15 38 43.4	+38
RTR				*e*S		Sn	15 38 57.3	+38
RBDL	Robledal	1.07	59⇑	*e*P	

MTAZ	**Motutapu**	**4.58**	**286**	PN	**Pn**	**15 53 23.0**	**-1.4**
KAAZ	**Kauri Point**	**4.73**	**285**	P	**P**	**15 53 25.9**	**-0.4**
KAAZ	**Kauri Point**	**4.73**	**285**	PN	**Pn**	**15 53 25.4**	**-1.1**
WTAZ	**Waiatarua**	**4.80**	**283**	P	**P**	**15 53 27.0**	**-0.3**
WTAZ	**Waiatarua**	**4.80**	**283**	PN	**Pn**	**15 53 26.5**	**-0.8**
MTW	**Mount Morrison**	**4.83**	**230**	P	**P**	**15 53 27.8**	**+0.1**
MTW	**Mount Morrison**	**4.83**	**230**	PN	**Pn**	**15 53 27.5**	**-0.3**
TRWZ	**Traveller**	**4.87**	**227**	*e*PN	**Pn**	**15 53 27.7**	**-0.6**
PAWZ	**Paruwai Farm**	**5.01**	**228**	*e*PN	**Pn**	**15 53 29.5**	**-0.9**
PAWZ				SN	**Sn**	**15 54 26.9**	**-1.0**
KIW	**Kapiti Island**	**5.04**	**236**	P	**P**	**15 53 31.9**	**+1.3**
KIW	**Kapiti Island**	**5.04**	**236**	PN	**Pn**	**15 53 31.7**	**+1.0**
CAW	**Cannon Point**	**5.07**	**233**	P	**P**	**15 53 31.6**	**+0.5**
CAW	**Cannon Point**	**5.07**	**233**	*e*PN	**Pn**	**15 53 31.2**	**+0.1**
CAW				SN	**Sn**	**15 54 28.1**	**-1.2**
MSWZ	**Moikau Station**	**5.13**	**229**	P	**P**	**15 53 31.6**	**-0.4**
MSWZ	**Moikau Station**	**5.13**	**229**	PN	**Pn**	**15 53 31.4**	**-0.7**
MSWZ				SN	**Sn**	**15 54 29.6**	**-1.4**
WCZ	**Waipu Caves**	**5.33**	**293**	*e*P	**P**	**15 53 32.6**	**-2.2**
WCZ	**Waipu Caves**	**5.33**	**293**	PN	**Pn**	**15 53 32.6**	**-2.3**
WEL	**Wellington**	**5.35**	**233**	P	**P**	**15 53 35.9**	**+0.8**
WEL	**Wellington**	**5.35**	**233**	*e*PN	**Pn**	**15 53 35.6**	**+0.4**
WEL				SN	**Sn**	**15 54 35.3**	**-1.2**
BHW	**Baring Head**	**5.36**	**231**	P	**P**	**15 53 34.9**	**-0.2**
BHW	**Baring Head**	**5.36**	**231**	*e*PN	**Pn**	**15 53 34.6**	**-0.7**
MRW	**Makara Radio**	**5.37**	**233**	P	**P**	**15 53 35.7**	**+0.5**
MRW	**Makara Radio**	**5.37**	**233**	PN	**Pn**	**15 53 35.4**	**0.0**
MRW				SN	**Sn**	**15 54 35.1**	**-1.7**
SNZO	**South Karori**	**5.41**	**233**	*e*P	**P**	**15 53 36.2**	**+0.4**
SNZO	**South Karori**	**5.41**	**233**	*e*PN	**Pn**	**15 53 35.6**	**-0.4**
TCW	**Tory Channel**	**5.63**	**235**	P	**P**	**15 53 39.3**	**+0.4**
TCW	**Tory Channel**	**5.63**	**235**	*e*PN	**Pn**	**15 53 37.9**	**-1.2**
TCW				SN	**Sn**	**15 54 40.3**	**-3.0**
DUWZ	**D'Urville Isla**	**5.67**	**240**	*e*PN	**Pn**	**15 53 40.0**	**+0.3**
TUWZ	**Tuamarina**	**5.96**	**235**	*e*PN	**Pn**	**15 53 42.3**	**-1.4**
BSWZ	**Blackbirch Sta**	**6.15**	**233**	P	**P**	**15 53 45.8**	**-0.4**
BSWZ	**Blackbirch Sta**	**6.15**	**233**	*e*PN	**Pn**	**15 53 45.0**	**-1.4**
OUZ	**Omahuta**	**6.21**	**296**	*e*P	**P**	**15 53 44.8**	**-2.3**
OUZ	**Omahuta**	**6.21**	**296**	PN	**Pn**	**15 53 44.7**	**-2.6**
NNZ	**Nelson**	**6.22**	**238**	*e*P	**P**	**15 53 47.2**	**-0.1**
NNZ	**Nelson**	**6.22**	**238**	*e*PN	**Pn**	**15 53 46.8**	**-0.7**
QRZ	**Quartz Range**	**6.65**	**244**	P	**P**	**15 53 53.2**	**-0.1**
QRZ	**Quartz Range**	**6.65**	**244**	*e*PN	**Pn**	**15 53 52.4**	**-1.1**
KHZ	**Kahutara**	**6.76**	**229**	*e*P	**P**	**15 53 54.0**	**-0.8**
KHZ	**Kahutara**	**6.76**	**229**	*e*PN	**Pn**	**15 53 52.9**	**-2.1**
KHZ				SN	**Sn**	**15 55 07.1**	**-4.5**
THZ	**Tophouse**	**6.79**	**236**	*e*P	**P**	**15 53 54.5**	**-0.9**
THZ	**Tophouse**	**6.79**	**236**	*e*PN	**Pn**	**15 53 54.1**	**-1.4**
DSZ	**Denniston Nort**	**7.52**	**239**	*e*P	**P**	**15 54 05.4**	**0.0**
DSZ	**Denniston Nort**	**7.52**	**239**	*e*PN	**Pn**	**15 54 04.2**	**-1.5**
DSZ				SN	**Sn**	**15 55 24.8**	**-5.8**
LTZ	**Lake Taylor**	**7.73**	**231**	*e*P	**P**	**15 54 06.9**	**-1.5**
LTZ	**Lake Taylor**	**7.73**	**231**	*e*PN	**Pn**	**15 54 06.4**	**-2.2**
CRLZ	**Canterbury Las**	**8.00**	**225**	*e*P	**P**	**15 54 12.4**	**+0.2**
CRLZ	**Canterbury Las**	**8.00**	**225**	*e*PN	**Pn**	**15 54 10.2**	**-2.2**
MQZ	**McQueen's Vall**	**8.07**	**224**	*e*P	**P**	**15 54 11.9**	**-1.2**
MQZ	**McQueen's Vall**	**8.07**	**224**	*e*PN	**P**	**15 54 11.7**	**-1.4**
MQZ				SN	**Sn**	**15 55 37.2**	**-7.3**
WVZ	**Waitaha Valley**	**8.84**	**233**	*e*P	**P**	**15 54 25.4**	**+1.6**
RPZ	**Rata Peaks**	**8.99**	**229**	P	**P**	**15 54 23.6**	**-2.3**
	2.0nm,0.3s,baz=132,slow=4.2,SNR=17						
RPZ				S	**S**	**15 55 59.6**	**-7.6**
	9.0nm,0.3s,baz=167,slow=23,SNR=23						
RPZ	**Rata Peaks**	**8.99**	**229**	*e*P	**P**	**15 54 24.6**	**-1.3**
RPZ	**Rata Peaks**	**8.99**	**229**	*e*PN	**P**	**15 54 24.4**	**-1.5**
RPZ				SN	**Sn**	**15 55 57.9**	**-9.3**
FOZ	**Fox Glacier**	**9.75**	**233**	*e*P	**P**	**15 54 35.1**	**-1.2**
FOZ	**Fox Glacier**	**9.75**	**233**	*e*PN	**P**	**15 54 34.6**	**-1.7**
FOZ				SN	**Sn**	**15 56 14.4**	**-11**
LBZ	**Lake Benmore**	**9.89**	**228**	*e*P	**P**	**15 54 36.9**	**-1.4**
LBZ	**Lake Benmore**	**9.89**	**228**	*e*PN	**P**	**15 54 36.3**	**-2.0**
ODZ	**Otahua Downs**	**10.03**	**224**	*e*P	**P**	**15 54 39.7**	**-0.6**
ODZ	**Otahua Downs**	**10.03**	**224**	*e*PN	**P**	**15 54 39.1**	**-1.1**
ODZ				SN	**S**	**15 56 24.6**	**-8.2**
JCZ	**Jackson Bay**	**10.59**	**232**	*e*P	**P**	**15 54 48.2**	**+0.4**
JCZ	**Jackson Bay**	**10.59**	**232**	*e*PN	**P**	**15 54 46.7**	**-1.1**
JCZ				SN	**S**	**15 56 34.7**	**-12**
WKZ	**Wanaka**	**10.83**	**228**	SN	**S**	**15 56 44.9**	**-7.3**
EAZ	**Earnscleugh**	**10.89**	**226**	*e*P	**P**	**15 54 51.5**	**-0.5**
EAZ	**Earnscleugh**	**10.89**	**226**	*e*PN	**P**	**15 54 50.2**	**-1.8**
EAZ				SN	**S**	**15 56 45.9**	**-7.9**
TUZ	**Tuapeka**	**11.17**	**222**	*e*P	**P**	**15 54 55.5**	**-0.2**
TUZ	**Tuapeka**	**11.17**	**222**	*e*PN	**P**	**15 54 53.9**	**-1.8**
STKA	**Stephens Creek**	**32.23**	**269**	P	**P**	**15 58 42.2**	**-0.6**
	1.6nm,0.7s,mb3.9,baz=82,slow=11,SNR=3.7						
WRAB	**Tennant Creek**	**43.69**	**281**	*e*P	**P**	**16 00 16.8**	**-2.2**
	4.5nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**43.69**	**281**	P	**P**	**16 00 16.5**	**-2.5**
	1.7nm,0.5s,mb4.0,baz=120,slow=7.7,SNR=75						
WRA				PcP	PcP	16 02 05.0	-1.4
	1.7nm,0.9s,baz=126,slow=3.5,SNR=6.0						
KIP	**Kipapa**	**62.64**	**23**	PFAKE		16 02 50.0	+11
KIP				LR	LR		
	comp=Z,876nm,19.0s,MS5.0						
BVAR	**Borovoye Array**	**130.80**	**311**	PKP	PKPdf	16 11 23.9	+1.0
	comp=Z,0.4nm,0.5s,baz=135,slow=2.1,SNR=4.3						
KEV	**Kevo**	**145.30**	**344**	*e*pkp	PKPdf	16 12 02.6	+14
ARCES	**ARCESS Array B**	**145.80**	**345**	PKPbc	PKPbc	16 11 51.4	+1.1
ARCES				pPKPbc		16 12 07.6	
	comp=Z,11nm,1.0s,baz=56,slow=4.4,SNR=9.3						
KAF	**Kangasniemi**	**151.22**	**335**	*e*pkp	PKPdf	16 12 04.7	+6.4
	comp=Z,3.7nm,0.7s,baz=45,slow=2.2						
FINES	**FINESS Array B**	**151.77**	**334**	PKPbc	PKPdf	16 12 06.3	+7.2
	comp=Z,4.1nm,0.8s,baz=135,slow=8.1,SNR=16						
FINES				pPKPbc		16 12 25.0	
	comp=Z,6.2nm,0.9s,slow=1.9,SNR=5.8						
FINES	**FINESS Array B**	**151.77**	**334**	PKPbc	PKPdf	16 12 06.3	+7.2
FINES				pPKPbc		16 12 25.0	
BRTR	**Keskin Array B**	**154.19**	**284**	PKPbc	PKPdf	16 12 13.3	+10
	comp=Z,0.6nm,0.6s,baz=101,slow=6.3,SNR=4.0						
BRTR				PKPab	PKPab	16 12 26.4	-1.2
	comp=Z,0.6nm,0.9s,baz=169,slow=6.3,SNR=3.4						
GERES	**GERESS Array B**	**165.63**	**322**	PKPab	PKPab	16 13 15.6	-1.2
	comp=Z,0.7nm,0.8s,baz=56,slow=4.8,SNR=5.7						
GERES				pPKPab		16 13 32.7	
	comp=Z,0.6nm,0.7s,baz=45,slow=3.8,SNR=5.6						

*ISK **30** 15:57:20.5,37.90N×42.92E,h10km, MD3.8,ML3.8*
*CSEM **30** 15:57:20.5±0.1,37.90N×42.92E,h10km, MD3.8,Error ellipse: s-maj=3.8km s-min=2.6km az=179.0,After ISK*
ISC 30 15:57:20.8±0.8,37.95N±0.05×42.96E±0.04,h1km±9km, n23,σ0§97/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANT	**Van**	**0.60**	**34**	*i* PG	**Pg**	**15 57 31.8**	**-1.0**
TVAN	**Van**	**0.68**	**31**	*i* P	**Pg**	**15 57 34.3**	**0.0**
TVAN				*i* S	**Sg**	**15 57 47.9**	**+4.5**
HAKT	**HAKKARI**	**0.70**	**123**	*i* P	**Pg**	**15 57 34.0**	**-0.8**
HAKT				*i* S	**Sg**	**15 57 45.5**	**+1.2**
HKR	**Hakkari**	**0.72**	**121**	*i* PG	**Pg**	**15 57 34.6**	**-0.5**
HKR				SG	**Sg**	**15 57 45.6**	**+1.0**
BTMT	**Batman**	**1.19**	**282**	PN	**Pn**	**15 57 44.7**	**+0.3**
BTMT				SN	**Sn**	**15 58 03.2**	**+1.7**
BEST	**Besiri**	**1.34**	**268**	*i* P	**Pb**	**15 57 47.1**	**+0.7**
BEST				*i* S	**Sb**	**15 58 07.2**	**+3.2**
CLDR	**Caldiran**	**1.41**	**32**	PN	**Pn**	**15 57 47.4**	**-0.2**
BNGL	**BINGOL**	**1.74**	**306**	*i* P	**Pn**	**15 57 45.0**	**-7.4**
BNGL				*i* S	**Sn**	**15 58 10.3**	**-5.2**
MARD	**Mardin**	**1.85**	**251**	*i* P	**Pn**	**15 57 44.2**	**-10**
MARD				*i* S	**Sn**	**15 58 09.5**	**-8.6**
DIY	**Diyarbakir**	**2.17**	**270**	PN	**Pn**	**15 57 57.9**	**-0.5**
ERZM	**Erzurum**	**2.32**	**328**	*i* P	**Pn**	**15 57 57.0**	**-3.7**
ERZM				*i* S	**Sn**	**15 58 33.8**	**+3.6**
EZM	**Erzurum**	**2.32**	**328**	PN	**Pn**	**15 58 00.7**	**0.0**
GNI	**Garni**	**2.60**	**32**	PN	**Pn**	**15 58 05.2**	**+0.5**
KARS	**Kars**	**2.67**	**2**	*e*PN	**Pn**	**15 58 05.7**	**+0.1**
PTK	**Pertek**	**2.96**	**290**	*e*PN	**Pn**	**15 58 09.5**	**-0.3**
ELZG	**Elazig**	**3.18**	**281**	*i* P	**Pn**	**15 58 13.1**	**+0.2**
ELZG				*i* S	**Sg**	**15 59 07.9**	**+1.1**
URFA	**Urfa**	**3.32**	**263**	*e*PN	**Pn**	**15 58 13.7**	**-1.3**
MYA	**Malataya**	**3.60**	**277**	*e*PN	**Pn**	**15 58 18.3**	**-0.6**
BCA	**Borcka**	**3.65**	**344**	*e*PN	**Pn**	**15 58 19.8**	**+0.2**
GZT	**Gaziantep**	**4.33**	**264**	*i* P	**Sn**	**15 59 28.0**	**+6.9**
GAZ	**Gaziantep**	**4.63**	**262**	*e*PN	**Pn**	**15 58 32.4**	**-1.2**
KAHT	**Ahir Dag**	**4.83**	**268**	*i* P	**Pn**	**15 58 35.1**	**-1.3**
COBT	**Iskenderun**	**5.54**	**257**	*i* P	**Pn**	**15 58 51.0**	**+4.6**

*NNC **30** 16:08:37.0±5.2,38.09N×71.88E,h221km±86km,mpv3.0, Error ellipse: s-maj=124.5km s-min=51.2km az=63.0*
*NDI **30** 16:10:03.5±5.7,33.13N×74.03E,h146km±85km,ML3.1*
ISC 30 16:08:26.0±1.1,37.40N±0.06×72.2E±0.2,h158km±22km, n13,σ0§93/16,5C,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.53**	**18**	⇑S	**S**	**16 10 50.9**	**+0.4**
	12nm,0.9s						
THN	**Thein Dam**	**5.75**	**148**	*e*	**P**	**16 09 51.5**	**+1.2**
THN				*e*S	**S**	**16 10 54.9**	**-0.8**
KK31	**Karatay Array**	**5.84**	**348**	⇑P	**P**	**16 09 52.9**	**+1.4**
	0.5nm,0.2s,baz=160,slow=4.4,SNR=24						
KK31				⇑S	**S**	**16 10 55.1**	**-2.8**
	6.9nm,0.3s,baz=185,slow=26,SNR=20						
SDNR	**Sundarnagar**	**7.10**	**145**	*e*	**P**	**16 10 09.0**	**+0.7**
SDNR				*e*S	**S**	**16 11 26.4**	**-1.5**
KLP	**Kalpa**	**7.71**	**138**	*e*P	Px	16 11 04.0	
KLP				AML	AML	16 11 43.0	
	comp=E,93nm,0.5s						
KLP				*i* S	**S**	**16 11 43.3**	**+0.6**
KLP				AML	AML	16 11 43.4	
	comp=E,88nm,0.7s						
KLP				AML	AML	16 11 46.0	
	comp=N,69nm,0.0s						
SONA	**Sohna**	**10.01**	**154**	AML	AML	16 12 35.0	
	comp=E,12nm,0.3s						
SONA				AML	AML	16 12 35.3	
	comp=N,6.1nm,0.7s						
KOLN	**Koldanda**	**13.60**	**132**	*e*P	**P**	**16 11 33.6**	**+0.3**
	comp=N,6.3nm,0.5s						
GKN	**Gorkha**	**14.06**	**128**	*e*P	**P**	**16 11 39.5**	**+0.3**
	comp=N,42nm,0.4s						
KKN	**Kakani**	**14.62**	**127**	*e*P	**P**	**16 11 46.1**	**-0.1**
	comp=N,3.4nm,0.2s						
DMN	**Daman**	**14.63**	**128**	*e*P	**P**	**16 11 45.9**	**-0.5**
	comp=N,9.2nm,0.5s						
AB31	**Akbulak array**	**14.79**	**327**	⇑P	**P**	**16 11 48.1**	**-0.1**
	comp=N,1.0nm,0.5s,baz=126,slow=12,SNR=22						
AB31				⇑S	**S**	**16 14 22.2**	**-5.9**
	comp=N,0.8nm,0.4s,baz=130,slow=23,SNR=4.2						
PKI	**Pulchoki**	**14.85**	**127**	*e*P	**P**	**16 11 48.9**	**-0.3**
	comp=N,8.0nm,0.4s						
JIRN	**Jiri**	**15.29**	**125**	*e*P	**P**	**16 11 54.8**	**+0.1**
	comp=N,16nm,0.4s						

*NIC **30** 16:33:12.8±0.3,34.10N×33.80E,h25km, ML3.2,MW3.1*
*NEIC **30** 16:33:12.8,34.10N×33.80E,h25km, ML3.2(NIC),After NIC.*
*CSEM **30** 16:33:13.5±0.2,34.64N×33.73E,h80km, Mw3.1,Error ellipse: s-maj=8.1km s-min=4.0km az=22.0*
*GRAL **30** 16:33:14.9±4.7,34.75N×33.78E,h103km±37km, MD3.6*
ISC 30 16:33:12.8±1.7,34.7N±0.1×33.78E±0.09,h104km±15km, n11,σ1§23/18,2C,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHNC	**Paralimni**	**0.39**	**32**	*i* Pg	**P**	**16 33 28.3**	**-0.2**
PHNC				*i* Sg	**S**	**16 33 40.3**	**0.0**
CSS	**Prodhromos**	**0.47**	**308**	*i* Pg	**P**	**16 33 28.9**	**-0.1**
CSS				*i* Sg	**S**	**16 33 40.8**	**-0.3**
CSS	**Prodhromos**	**0.47**	**308**	P	**P**	**16 33 28.9**	**-0.1**
	1.7nm,0.3s						
CSS				S	**S**	**16 33 40.8**	**-0.3**
SZAC	**Souni-Zanaja**	**0.74**	**276**	⇑P	**P**	**16 33 29.2**	**-2.1**
SZAC	**Souni-Zanaja**	**0.74**	**276**	*i* PG	**P**	**16 33 29.2**	**-2.1**
ALFC	**Alevga**	**1.08**	**297**	*i* PG	**P**	**16 33 36.1**	**+1.3**
ALFC				*i* SG	**S**	**16 33 53.9**	**+2.6**
ALFC	**Alevga**	**1.08**	**297**	⇑*i*P	**P**	**16 33 36.1**	**+1.3**
	7.6nm,0.2s						
ALFC				S	**S**	**16 33 53.9**	**+2.6**
PPCY	**Paphos**	**1.20**	**280**	*i* PG	**P**	**16 33 35.1**	**-1.1**
BHL	**Bhannes**	**1.73**	**116**	*i* Pg	**P**	**16 33 46.7**	**+4.1**
BHL				*i* Sg	**S**	**16 34 06.2**	**+1.4**
MATL	**Matirih**	**1.75**	**132**	*i* Sg	**S**	**16 34 05.4**	**+0.3**
HWQ	**Hawqa**	**1.83**	**102**	*i* Pg	**P**	**16 33 44.6**	**+0.7**
HWQ				*i* Sg	**S**	**16 34 05.0**	**-2.0**

MAN 30 16:50:20.1,14.25N×120.24E,h71km,mb3.6,ML2.3, MS1.8,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**1.02**	**137**	*e*P	P	16 50 40.5	+1.4
SCZP	**Santa Cruz**	**1.55**	**348**	*e*P	P	16 50 46.9	+0.6
BOLP	**Bolinao**	**2.14**	**352**	*e*P	P	16 50 55.0	+0.6

*IDC **30** 16:54:03.3±0.8,0.17S×124.35E,mb4.2/10,mb1 4.3/11, mb1mx4.1/20,mbtmp4.2/11,ML3.7/1,Error ellipse: s-maj=29.7km s-min=18.0km az=63.0*
*NEIC **30** 16:54:19.1±3.7,0.34S×124.57E,h140km±38km, mb4.7/3, Error ellipse: s-maj=25.4km s-min=14.2km az=49.0*
ISC 30 16:54:13.4±0.6,0.3S±0.1×124.4E±0.2,h100km,n16, σ1§18/16,mb4.3/14,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSM	**Kuching**	**14.22**	**277**	*e*P	**P**	**16 57 37.7**	**+6.3**
FITZ	**Fitzroy Crossi**	**17.75**	**176**	P	**P**	**16 58 13.8**	**-1.9**
	0.2nm,0.3s,baz=8.4,slow=9.4,SNR=3.6						
WRA	**Warramunga Arr**	**21.82**	**154**	P	**P**	**16 58 59.2**	**+0.5**
	4.3nm,0.7s,mb3.9,baz=332,slow=12,SNR=15						
HNR	**Honiara**	**36.50**	**105**	P	**P**	**17 01 11.5**	**+0.4**
	40nm,0.6s,mb5.5,baz=163,slow=19,SNR=8.9						
MJAR	**Matsushiro Arr**	**38.81**	**18**	P	**P**	**17 01 29.1**	**-0.9**
	2.3nm,0.8s,mb4.0,baz=201,slow=11,SNR=5.4						
LSA	**Lhasa**	**43.53**	**316**	*e*P	**P**	**17 02 10.7**	**+1.8**
	3.0nm,0.4s,mb4.4						
SONM	**Songino Array**	**50.43**	**344**	P	**P**	**17 03 01.7**	**-1.1**
	2.0nm,0.7s,mb4.1,baz=164,slow=7.9,SNR=17						
MKAR	**Makanchi Array**	**59.60**	**328**	P	**P**	**17 04 08.5**	**-0.6**
	2.3nm,0.5s,mb4.4,baz=124,slow=8.5,SNR=32						
MKAR				PcP	PcP	17 04 55.9	+0.9
	0.7nm,0.6s,baz=140,slow=3.7,SNR=4.2						
YAK	**Yakutsk**	**62.28**	**3**	*e*P	**P**	**17 04 27.1**	**+0.2**
	9.6nm,0.7s,mb4.9						
ZAL	**Zalesovo**	**63.16**	**335**	P	**P**	**17 04 32.6**	**-0.4**
	0.9nm,0.3s,mb4.1,baz=336,slow=7.6,SNR=2.9						
KURK	**Kurchatov**	**63.93**	**330**	*e*P	**P**	**17 04 36.1**	**-1.9**
	6.4nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**69.46**	**329**	P	**P**	**17 05 12.2**	**-0.6**
	0.9nm,0.5s,mb3.9,baz=127,slow=7.4,SNR=6.0						
OPO	**Ambohidratompo**	**77.81**	**251**	P	**P**	**17 06 03.1**	**+1.1**
	2.3nm,0.6s,mb4.1,baz=89,slow=9.2,SNR=4.0						
ARCES	**ARCESS Array B**	**93.39**	**340**	P	**P**	**17 07 20.8**	**+2.7**
	1.3nm,0.6s,mb4.5,baz=79,slow=6.2,SNR=5.7						
FINES	**FINESS Array B**	**94.25**	**332**	P	**P**	**17 07 21.9**	**-0.2**
	0.7nm,0.8s,mb4.0,baz=195,slow=32,SNR=3.8						
INK	**Inuvik**	**94.71**	**21**	P	**P**	**17 07 25.5**	**+1.4**
	1.3nm,0.9s,mb4.3,baz=162,slow=3.2,SNR=2.8						

*JMA **30** 17:04:24.5±0.3,33.34N×142.26E,h8km,M3.5*
*IDC **30** 17:04:24.2±2.2,33.01N×142.26E,mb3.3/3,mb1 3.4/6, mb1mx3.3/22,mbtmp3.4/6,ML3.4/3,MS2.8/1,Ms1 2.8/1, ms1mx2.2/12, Error ellipse: s-maj=46.9km s-min=23.1km az=57.0*
ISC 30 17:04:25.4±1.1,33.30N±0.06×142.43E±0.08,h33km,n17, σ1§02/27,mb3.3/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.81**	**319**	P	**P**	**17 04 54.6**	**0.0**
BSO1				*e*S	**S**	**17 05 17.2**	**+0.6**
BSO3	**Boso 3**	**2.18**	**314**	P	**P**	**17 05 00.2**	**+0.2**
JHJ2	**Mitsune**	**2.19**	**266**	P	**P**	**17 05 00.3**	**+0.1**
JHJ2				*e*S	**S**	**17 05 27.0**	**+0.6**
JHJ	**Hachijo jima 2**	**2.22**	**266**	Pn	**Pn**	**17 05 00.5**	**-0.3**
	17nm,0.3s,baz=46,slow=19,SNR=21						
JHJ				Sn	**Sn**	**17 05 26.9**	**-0.4**
	35nm,0.3s,baz=49,slow=23,SNR=8.5						
BSO4	**Boso 4**	**2.41**	**315**	P	**P**	**17 05 04.6**	**+1.3**
BSO4				*e*S	**S**	**17 05 33.2**	**+1.2**
JIM2	**Oshima 3**	**2.86**	**300**	*e*S	**S**	**17 05 41.9**	**-1.4**
JYN	**Shimob**	**3.88**	**305**	P	**P**	**17 05 24.7**	**+0.4**
JAG	**Ashikaga**	**3.96**	**323**	P	**P**	**17 05 25.0**	**-0.3**
JRY	**Ryogami san**	**3.97**	**314**	P	**P**	**17 05 25.1**	**-0.4**
JRY				*e*S	**S**	**17 06 11.5**	**0.0**
MJAR	**Matsushiro Arr**	**4.74**	**314**	Pn	**Pn**	**17 05 36.6**	**+0.1**
	0.9nm,0.3s,baz=124,slow=18,SNR=16						
MJAR				Sn	**Sn**	**17 06 31.0**	**0.0**
	1.4nm,0.3s,baz=124,slow=18,SNR=5.4						
MJAR				LR	LR	17 07 29.4	
	comp=Z,94nm,19.9s,baz=260,slow=38						
MAT	**Matsushiro**	**4.74**	**314**	P	**P**	**17 05 36.5**	**+0.1**
MAT				S	**S**	**17 06 29.4**	**-1.5**
MAT	**Matsushiro**	**4.74**	**314**	P	**P**	**17 05 36.7**	**+0.3**
MAT				*e*S	**S**	**17 06 29.4**	**-1.5**
JMM	**Marumori**	**4.74**	**344**	P	**P**	**17 05 33.5**	**-3.0**
JMM				S	**S**	**17 06 23.4**	**-7.6**
CBIJ	**Chichi jima**	**6.19**	**182**	Pn	**Pn**	**17 05 52.1**	**-4.9**
	4.7nm,0.3s,baz=280,slow=22,SNR=17						
CBIJ				Sn	**Sn**	**17 06 57.6**	**-10**
	6.9nm,0.3s,baz=223,slow=21,SNR=6.0						
SONM	**Songino Array**	**30.67**	**309**	P	**P**	**17 10 41.2**	**+2.2**
	0.2nm,0.7s,mb3.1,baz=108,slow=9.1,SNR=2.4						
MKAR	**Makanchi Array**	**46.87**	**305**	P	**P**	**17 12 57.1**	**+3.0**
	0.4nm,0.8s,mb3.4,baz=90,slow=7.2,SNR=2.6						
WRA	**Warramunga Arr**	**53.51**	**189**	P	**P**	**17 13 44.4**	**-0.7**
	0.3nm,0.7s,mb3.3,baz=7.5,slow=7.8,SNR=4.6						

*IDC **30** 18:00:11.0±0.8,31.71S×179.64E,h422km±8km, mb3.6/5, mb1 3.8/9,mb1mx3.6/17,mbtmp4.5/9,Error ellipse: s-maj=23.7km s-min=11.7km az=129.0*
*NEIC **30** 18:00:12.1±0.7,31.90S×179.91E,h450km±8km,mb3.9/3, Error ellipse: s-maj=16.5km s-min=10.1km az=109.0*
ISC 30 18:00:12.3±0.6,32.22S±0.06×179.9W±0.1,h491km±8km, n144,σ1§16/140,mb3.9/8,1C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.43**	**31**	P	**P**	**18 01 18.5**	**-7.8**
	74nm,0.3s,baz=252,slow=19,SNR=4.2						
RAO				S	**S**	**18 02 11.3**	**-13**
	199nm,0.3s,baz=86,slow=22,SNR=8.5						
MXZ	**Matakaoa Point**	**5.53**	**195**	*e*P	**P**	**18 01 43.8**	**-0.8**
MXZ				S	**S**	**18 02 57.8**	**+0.3**
MXZ	**Matakaoa Point**	**5.53**	**195**	*e*PN	**P**	**18 01 42.8**	**-1.8**
MXZ				*e*SN	**S**	**18 02 55.8**	**-1.7**
KUZ	**Kuaotunu**	**5.77**	**217**	*e*P	**P**	**18 01 47.5**	**+0.6**
KUZ	**Kuaotunu**	**5.77**	**217**	PN	**P**	**18 01 47.5**	**+0.6**
WIZ	**White Island**	**5.80**	**203**	P	**P**	**18 01 49.0**	**+1.8**
WIZ	**White Island**	**5.80**	**203**	*e*PN	**P**	**18 01 48.1**	**+0.9**
MYRZ	**Mayor Island**	**5.95**	**211**	PN	**P**	**18 01 49.3**	**+0.6**
PUZ	**Puketiti**	**6.03**	**194**	*e*P	**P**	**18 01 48.3**	**-1.1**
PUZ	**Puketiti**	**6.03**	**194**	PN	**P**	**18 01 47.8**	**-1.6**
PUZ				SN	**S**	**18 03 03.9**	**-2.4**
MTAZ	**Motutapu**	**6.23**	**222**	P	**P**	**18 01 52.7**	**+1.2**
MTAZ	**Motutapu**	**6.23**	**222**	*e*PN	**P**	**18 01 52.3**	**+0.8**
MKAZ	**Moumakai**	**6.33**	**218**	*e*P	**P**	**18 01 53.7**	**+1.3**
MKAZ	**Moumakai**	**6.33**	**218**	PN	**P**	**18 01 53.7**	**+1.3**
OTAZ	**Otara**	**6.34**	**220**	P	**P**	**18 01 53.9**	**+1.3**
OTAZ	**Otara**	**6.34**	**220**	PN	**P**	**18 01 54.0**	**+1.5**
KAAZ	**Kauri Point**	**6.38**	**222**	*e*PN

FOZ	**Fox Glacier**	**13.96**	**213**	*e*PN	**P**		**18 03 12.4**	**0.0**
ODZ	**Otahua Downs**	**14.76**	**207**	*e*PN	**P**		**18 03 24.8**	**+4.4**
DZM	**Mont Dzumac**	**15.76**	**307**	P	**P**		**18 03 26.8**	**-3.8**
	1.0nm,0.3s,baz=117,slow=14,SNR=12							
AFI	**Afiamalu**	**19.69**	**24**	P	**P**		**18 04 09.8**	**+0.6**
	12nm,0.3s,baz=11,slow=6.5,SNR=7.3							
AFI	**Afiamalu**	**19.69**	**24**	*e*P	**P**		**18 04 09.8**	**+0.6**
	40nm,0.6s							
STKA	**Stephens Creek**	**32.49**	**260**	P	**P**		**18 06 03.9**	**+1.2**
	0.9nm,0.4s,mb3.6,baz=103,slow=9.4,SNR=8.3							
CTAO	**Charters Tower**	**32.52**	**283**	*e*P	**P**		**18 06 02.7**	**-0.3**
	1.6nm,0.3s,mb3.9							
WB2	**Warramunga Arr**	**42.54**	**275**	*e*P	**P**		**18 07 24.5**	**-0.8**
WRAB	**Tennant Creek**	**42.55**	**275**	*e*P	**P**		**18 07 24.6**	**-0.8**
	3.0nm,0.5s,mb4.0							
WRA	**Warramunga Arr**	**42.55**	**275**	P	**P**		**18 07 24.5**	**-0.9**
	2.6nm,0.5s,mb3.9,baz=113,slow=7.9,SNR=87							
WRA				ScP			18 12 18.4	
	1.7nm,1.0s,baz=109,slow=3.7,SNR=7.4							
FITZ	**Fitzroy Crossi**	**50.73**	**272**	*e*P	**P**		**18 08 27.8**	**-0.2**
	3.7nm,0.7s,mb3.8							
CBIJ	**Chichi jima**	**69.13**	**324**	P	**P**		**18 10 28.2**	**-2.0**
	11nm,0.5s,mb4.6,baz=294,slow=18,SNR=3.0							
SNAA	**Sanae**	**76.38**	**179**		**P**		**18 11 14.3**	**+3.4**
VNA3	**Neumayer Olymp**	**76.60**	**177**		**P**		**18 11 21.9**	**+10**
VNA2	**Neumayer--Watz**	**77.02**	**177**		**P**		**18 11 24.5**	**+10**
MJAR	**Matsushiro Arr**	**78.81**	**327**	P	**P**		**18 11 24.3**	**-0.4**
	1.4nm,1.1s,mb3.4,baz=135,slow=5.2,SNR=4.6							
MJAR	**Matsushiro Arr**	**78.81**	**327**	P	**P**		**18 11 24.3**	**-0.4**
NVAR	**Mina Array Bea**	**90.70**	**44**	P	**P**		**18 12 28.2**	**+5.5**
	1.9nm,0.8s,mb4.1,baz=209,slow=6.5,SNR=16							
SML	**Sawmill**	**97.13**	**15**	*e*P	**P**		**18 12 51.9**	**+0.3**
MKAR	**Makanchi Array**	**117.66**	**310**	PKP	PKPdf		18 18 05.5	+3.9
	0.7nm,0.6s,baz=215,slow=2.0,SNR=12							
ZAL	**Zalesovo**	**118.28**	**318**	PKP	PKPdf		18 18 06.2	+3.6
	0.7nm,0.4s,baz=104,slow=9.8,SNR=2.7							
KURK	**Kurchatov**	**121.09**	**313**	*e*PKPdf	PKPdf		18 18 12.0	+3.9
ARCES	**ARCESS Array B**	**139.98**	**346**	PKhKP			18 18 41.4	
	2.2nm,0.6s,baz=38,slow=1.5,SNR=18							
ARCES				PKP	PKPdf		18 18 49.5	+6.4
	3.3nm,0.7s,baz=76,slow=3.7,SNR=6.4							
ARCES	**ARCESS Array B**	**139.98**	**346**	PKP	PKPdf		18 18 41.4	-1.7
ARCES				PKP	PKPdf		18 18 49.5	+6.4
OBN	**Obninsk**	**145.65**	**323**	*e*PKPdf	PKPdf		18 18 58.7	+5.5
KAF	**Kangasniemi**	**145.66**	**338**	*e*pkp	PKPdf		18 18 57.2	+4.2
	11nm,0.5s,baz=39,slow=2.6							
FINES	**FINESS Array B**	**146.23**	**338**	PKPbc	PKPbc		18 19 00.0	+4.3
	17nm,0.5s,baz=47,slow=4.6,SNR=240							
NB2	**NORSAR Subarra**	**150.25**	**349**	PKPbc	PKPdf		18 19 10.5	+10
	3.5nm,0.6s,baz=18,slow=4.1							
NOA	**NORSAR Array B**	**150.25**	**349**	PKPbc	PKPdf		18 19 10.9	+10
	3.7nm,0.6s,baz=17,slow=4.2,SNR=16							
NOA				PKPab	PKPab		18 19 17.7	+1.0
	4.5nm,0.7s,baz=23,slow=3.2,SNR=15							
AKASG	**Malin Array Be**	**151.66**	**319**	PKPbc	PKPdf		18 19 14.2	+11
	3.2nm,0.4s,baz=44,slow=3.0,SNR=24							
BRTR	**Keskin Array B**	**151.93**	**295**	PKPbc	PKPdf		18 19 15.2	+12
	1.8nm,0.6s,baz=135,slow=3.3,SNR=9.7							
CLL	**Collm**	**158.68**	**337**	*i* PKP2	PKPab		18 19 53.9	+1.1
BRG	**Berggiesshubel**	**158.72**	**335**	*e*P	PKPab		18 19 54.2	+1.2
GERES	**GERESS Array B**	**160.47**	**332**	PKPab	PKPab		18 20 01.5	+1.0
	0.6nm,0.7s,baz=51,slow=6.3,SNR=4.8							
LOR	**Lormes**	**164.69**	**350**	*e*PKIKP	PKPab		18 20 20.2	+1.3
SSF	**Saint Saulge**	**164.94**	**351**	*e*PKIKP	PKPab		18 20 20.2	+0.2
	8.8nm,1.0s							
AVF	**Avril sur Loir**	**165.22**	**351**	*e*PKIKP	PKPab		18 20 20.7	-0.6
	7.5nm,0.9s							
LPL	**La Plagne**	**165.74**	**341**	*e*PKIKP	PKPab		18 20 21.4	-2.2
	2.4nm,0.6s							
LPG	**La Plagne**	**165.76**	**341**	*e*PKIKP	PKPab		18 20 21.5	-2.2
	7.7nm,0.8s							
TCF	**Toulx Ste Croi**	**165.85**	**354**	*e*PKIKP	PKPab		18 20 21.4	-2.7
	24nm,1.4s							
MBDF	**Montbardon**	**166.45**	**339**	*e*PKIKP	PKPab		18 20 21.8	-4.9
	4.0nm,0.7s							
SBF	**Sospel**	**167.01**	**336**	*e*PKIKP	PKPab		18 20 22.2	-6.9
	24nm,0.9s							

*SSNC **30** 18:10:57.7±2.0, 19.44N×77.92W, h20km±81km, MD3.5, ML2.5*

*JSN **30** 18:10:59.1±0.9, 19.42N×77.74W, h6km±6km, MD3.4*

ISC 30 18:10:56.7±1.1,**19.52N**±0.03×**77.72W**±0.08,**h18**km±11km, **n11**,σ0§**71**/19,**5C-2D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MBJ	**Montego Bay**	**1.12**	**187**	⇓	*e*P		**Pb**	**18 11 16.9**	**-0.3**
MBJ					*i* S		**Sb**	**18 11 30.5**	**-0.8**
BBJ	**Bamboo Saint A**	**1.21**	**159**	⇑	*i* P		**Pb**	**18 11 19.4**	**+0.7**
CVJ	**Coleyville**	**1.30**	**172**	⇑	*i* P		**Pn**	**18 11 20.3**	**+0.2**
CVJ					*i* S		**Sb**	**18 11 35.8**	**-0.7**
BNJ	**Bonny Gate**	**1.40**	**148**	⇓	*i* P		**Pn**	**18 11 22.2**	**+0.6**
MCJ	**Malvern**	**1.59**	**179**	⇓	*e*P		**Pn**	**18 11 24.9**	**+0.6**
MCJ					*i* S		**Sn**	**18 11 43.7**	**-0.7**
CCCC	**Cccc**	**1.67**	**359**		*i* PG		**Pn**	**18 11 25.3**	**-0.2**
CCCC					*i* SG		**Sn**	**18 11 46.6**	**0.0**
	comp=N,5.2nm,0.2s								
	comp=E,4.9nm,0.2s								
STH	**Stony Hill**	**1.68**	**149**	⇑	*i* P		**Pn**	**18 11 25.8**	**+0.3**
STH					*i* S		**Sn**	**18 11 46.3**	**-0.4**
GWJ	**Greenwich**	**1.72**	**147**	⇑	*i* P		**Pn**	**18 11 26.3**	**+0.2**
PCJ	**Portland Cotta**	**1.85**	**163**		*e*P		**Pn**	**18 11 29.1**	**+1.1**
PCJ					*i* S		**Sn**	**18 11 51.1**	**0.0**
RCC	**Rio Carpintero**	**1.97**	**76**		*i* P		**Pn**	**18 11 31.2**	**+1.5**
RCC					*i* S		**Sn**	**18 11 54.2**	**+0.1**
	comp=N,364nm,0.1s								
	comp=E,365nm,0.1s								
HLGC	**Holguin**	**2.07**	**49**		*i* P		**Pn**	**18 11 30.7**	**-0.5**
HLGC					*i* S		**Sn**	**18 11 55.1**	**-1.7**
	comp=N,13nm,0.3s								
	comp=E,15nm,0.3s								

*IDC **30** 18:11:46.5±1.8, 33.07N×142.35E, mb3.5/3, mb1 3.6/6, mb1mx3.5/22, mbtmp3.6/6, ML3.5/3, Error ellipse: s-maj=43.5km s-min=20.9km az=56.0*

*JMA **30** 18:11:47.4±0.4, 33.22N×142.55E, h58km, M3.4*

ISC 30 18:11:47.3±0.9,**33.23N**±0.05×**142.56E**±0.08,**h33**km,**n18**, σ1§**04**/26,**mb3.5**/3,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BSO1	**Boso 1**	**1.93**	**318**		P	**P**	**P**	**18 12 18.7**	**+0.4**
BSO1					*e*S	**S**	**S**	**18 12 42.6**	**+1.0**
JHJ2	**Mitsune**	**2.30**	**268**		P	**P**	**P**	**18 12 23.9**	**+0.3**
JHJ2					S	**S**	**S**	**18 12 52.4**	**+1.4**
BSO3	**Boso 3**	**2.31**	**313**		P	**P**	**P**	**18 12 24.3**	**+0.6**
JHJ	**Hachijo jima 2**	**2.33**	**268**		Pn	**Pn**	**Pn**	**18 12 24.1**	**0.0**
	26nm,0.3s,baz=233,slow=23,SNR=168								
JHJ					Sn		**Sn**	**18 12 50.8**	**-1.1**
	30nm,0.3s,baz=101,slow=23,SNR=11								
BSO4	**Boso 4**	**2.54**	**314**		P	**P**	**P**	**18 12 28.2**	**+1.2**
JIM2	**Oshima 3**	**2.99**	**301**		P	**P**	**P**	**18 12 32.8**	**-0.6**
JOD2	**Odawara 2**	**3.52**	**306**		P	**P**	**P**	**18 12 40.7**	**-0.2**
JYN	**Shimob**	**4.01**	**305**		P	**P**	**P**	**18 12 47.9**	**-0.1**
JAG	**Ashikaga**	**4.08**	**322**		P	**P**	**P**	**18 12 48.7**	**-0.2**
JRY	**Ryogami san**	**4.10**	**314**		P	**P**	**P**	**18 12 49.5**	**+0.3**
JRY					*e*S	**S**	**S**	**18 13 36.4**	**-0.2**
JMM	**Marumori**	**4.84**	**343**		P	**P**	**P**	**18 12 57.7**	**-2.0**
JMM					*e*S	**S**	**S**	**18 13 48.4**	**-7.0**
MJAR	**Matsushiro Arr**	**4.87**	**314**		Pn	**Pn**	**Pn**	**18 13 00.7**	**+0.5**
	1.1nm,0.3s,baz=157,slow=14,SNR=15								
MJAR					Sn		**Sn**	**18 13 54.1**	**-1.9**
	0.8nm,0.3s,baz=267,slow=8.1,SNR=7.0								
MAT	**Matsushiro**	**4.87**	**314**		P	**P**	**P**	**18 13 00.4**	**+0.3**
MAT					S	**S**	**S**	**18 13 54.5**	**-1.5**
MAT	**Matsushiro**	**4.87**	**314**		P	**P**	**P**	**18 13 00.6**	**+0.5**
CBIJ	**Chichi jima**	**6.12**	**183**		Pn	**Pn**	**Pn**	**18 13 15.9**	**-2.0**
	4.2nm,0.3s,baz=294,slow=24,SNR=17								
CBIJ					Sn		**Sn**	**18 14 21.1**	**-6.4**
	4.8nm,0.3s,baz=287,slow=23,SNR=5.8								
SONM	**Songino Array**	**30.80**	**309**		P	**P**	**P**	**18 18 03.2**	**+1.3**
	0.6nm,0.8s,mb3.5,baz=106,slow=9.0,SNR=4.7								
MKAR	**Makanchi Array**	**47.01**	**305**		P	**P**	**P**	**18 20 18.8**	**+1.9**
	0.9nm,0.8s,mb3.8,baz=92,slow=8.9,SNR=8.0								
WRA	**Warramunga Arr**	**53.45**	**190**		P	**P**	**P**	**18 21 06.6**	**+0.1**
	0.2nm,0.5s,mb3.3,baz=6.4,slow=7.7,SNR=10.0								
WRA					PcP	PcP	PcP	18 22 15.0	+1.7
	0.1nm,0.5s,baz=2.4,slow=4.2,SNR=5.0								

*IDC **30** 18:22:28.7±1.0, 33.15N×142.55E, mb3.8/7, mb1 3.9/10, mb1mx3.8/22, mbtmp3.8/10, ML3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/33, Error ellipse: s-maj=29.6km s-min=18.3km az=72.0*

*NEIC **30** 18:22:30.4±0.6, 33.11N×142.46E, h10km, mb4.2/2, Error ellipse: s-maj=20.9km s-min=12.9km az=59.0*

*JMA **30** 18:22:32.2±0.7, 33.23N×142.46E, h58km, M3.4*

ISC 30 18:22:31.0±0.6,**33.12N**±0.04×**142.49E**±0.08,**h33**km,**n27**, σ1§**03**/32,**mb3.9**/8,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BSO1	**Boso 1**	**1.98**	**321**		P	**P**	**P**	**18 23 02.5**	**-0.2**
BSO1					*e*S	**S**	**S**	**18 23 26.4**	**-0.1**
JHJ2	**Mitsune**	**2.24**	**270**		P	**P**	**P**	**18 23 07.7**	**+1.2**
JHJ	**Hachijo jima 2**	**2.27**	**271**		Pn	**Pn**	**Pn**	**18 23 07.8**	**+0.8**
	30nm,0.3s,baz=97,slow=21,SNR=57								
JHJ					Sn		**Sn**	**18 23 34.4**	**+0.3**
	26nm,0.3s,baz=66,slow=23,SNR=6.2								
BSO3	**Boso 3**	**2.34**	**316**		P	**P**	**P**	**18 23 08.4**	**+0.4**
BSO4	**Boso 4**	**2.58**	**317**		P	**P**	**P**	**18 23 11.8**	**+0.5**
JIM2	**Oshima 3**	**3.00**	**303**		P	**P**	**P**	**18 23 16.7**	**-0.6**
JYN	**Shimob**	**4.03**	**307**		P	**P**	**P**	**18 23 30.6**	**-1.4**
JRY	**Ryogami san**	**4.13**	**315**		P	**P**	**P**	**18 23 33.3**	**-0.1**
JAG	**Ashikaga**	**4.13**	**324**		P	**P**	**P**	**18 23 32.6**	**-0.8**
MJAR	**Matsushiro Arr**	**4.90**	**315**		Pn	**Pn**	**Pn**	**18 23 44.0**	**-0.4**
	0.9nm,0.3s,baz=155,slow=10,SNR=16								
MJAR					Sn		**Sn**	**18 24 39.6**	**-1.1**
	0.9nm,0.3s,baz=154,slow=11,SNR=3.6								
MAJO	**Matsushiro**	**4.90**	**315**	*e*P		**P**	**P**	**18 23 52.5**	**+8.2**
MAT	**Matsushiro**	**4.90**	**315**	P		**P**	**P**	**18 23 44.1**	**-0.2**
MAT				S		**S**	**S**	**18 24 40.2**	**-0.4**
MAT	**Matsushiro**	**4.90**	**315**	P		**P**	**P**	**18 23 45.0**	**+0.7**
JMK	**Ichinoseki**	**5.91**	**350**	P		**P**	**P**	**18 23 55.7**	**-2.7**
JMK				*e*S		**S**	**S**	**18 24 57.3**	**-8.6**
CBIJ	**Chichi jima**	**6.01**	**183**	Pn		**Pn**	**Pn**	**18 23 57.9**	**-2.3**
	6.3nm,0.3s,baz=17,slow=6.7,SNR=14								
CBIJ				Sn			**Sn**	**18 25 07.5**	**-1.0**
	7.0nm,0.3s,baz=250,slow=22,SNR=3.3								
JNU	**Nakatsue**	**9.73**	**273**	LR		LR		18 28 12.5	
	comp=Z,81nm,21.5s,baz=207,slow=35								
SONM	**Songino Array**	**30.82**	**309**	P		**P**	**P**	**18 28 45.6**	**-0.3**
	0.3nm,0.7s,mb3.2,baz=73,slow=40,SNR=4.3								
ZAL	**Zalesovo**	**45.27**	**315**	P		**P**	**P**	**18 30 47.8**	**+0.9**
	0.6nm,0.3s,mb3.9,baz=54,slow=8.0,SNR=3.0								
MKAR	**Makanchi Array**	**47.02**	**305**	P		**P**	**P**	**18 31 02.4**	**+1.5**
	0.9nm,0.8s,mb3.7,baz=104,slow=5.9,SNR=6.2								
KURK	**Kurchatov**	**49.10**	**311**	*e*P		**P**	**P**	**18 31 19.0**	**+2.0**
	3.7nm,0.8s,mb4.5								
ILAR	**Eielson Array**	**52.36**	**31**	P		**P**	**P**	**18 31 41.7**	**+0.1**
	0.5nm,0.8s,mb3.5,baz=262,slow=5.9,SNR=5.6								
CTA	**Charters Tower**	**53.03**	**176**	P		**P**	**P**	**18 31 46.9**	**-0.3**
	4.3nm,0.9s,mb4.4,baz=22,slow=11,SNR=2.8								
CTA	**Charters Tower**	**53.03**	**176**	P		**P**	**P**	**18 31 46.9**	**-0.3**
WRA	**Warramunga Arr**	**53.34**	**190**	P		**P**	**P**	**18 31 50.2**	**+0.8**
	1.1nm,0.7s,mb3.9,baz=9.1,slow=7.7,SNR=11								
WRA					PcP	PcP		18 32 58.8	+2.2
	0.4nm,0.6s,baz=2.4,slow=4.2,SNR=5.1								
NB2	**NORSAR Subarra**	**78.13**	**338**	P		**P**	**P**	**18 34 28.7**	**+0.8**
	0.9nm,0.8s,mb3.8,baz=39,slow=5.6								
NOA	**NORSAR Array B**	**78.13**	**338**	P		**P**	**P**	**18 34 29.1**	**+1.1**
	1.3nm,0.8s,mb3.9,baz=39,slow=5.6,SNR=4.9								
PV10	**Paradox Valley**	**82.69**	**49**	*e*P		**P**	**P**	**18 34 56.2**	**+3.6**

*NIED **30** 18:41:00, 33.20N×142.60E, h5km, Mw4.7 Best double couple: M0 1.4×10^16 NP1:φs172°, δ71°, λ-81°. NP2:φs326°, δ21°, λ-114°.*

*IDC **30** 18:41:02.6±0.5, 33.17N×142.57E, mb4.2/17, mb1 4.5/21, mb1mx4.4/24, mbtmp4.3/21, ML4.3/4, MS3.9/14, Ms1 3.9/14, ms1mx3.8/24, Error ellipse: s-maj=15.8km s-min=14.9km az=64.0*

*JMA **30** 18:41:04.2±0.3, 33.24N×142.57E, h77km, M4.2*

*MOS **30** 18:41:05.8±1.1, 33.22N×142.45E, h33km, mb4.8/21, Error ellipse: s-maj=15.0km s-min=7.7km az=116.7*

*BJI **30** 18:41:05.0, 33.34N×142.37E, h25km, mB4.6, mb4.4, Ms4.3, Ms2.4.2*

*NEIC **30** 18:41:08.2±0.3, 33.24N×142.43E, mb4.7/28, MW4.7(NIED), Error ellipse: s-maj=8.0km s-min=6.8km az=168.0*

ISC 30 18:41:03.2±1.1,**33.25N**±0.03×**142.45E**±0.03,**h14**km±7km, **n156**,σ1§**06**/150,**mb4.5**/58,**MS3.9**/19,**6C-3D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BSO1	**Boso 1**	**1.86**	**319**		P	**P**	**Pn**	**18 41 35.6**	**+0.5**
BSO1					*e*S	**S**	**Sn**	**18 41 59.6**	**+1.1**
JHJ2	**Mitsune**	**2.21**	**267**		P	**P**	**Pn**	**18 41 40.8**	**+0.7**
JHJ2					*e*S	**S**	**Sn**	**18 42 09.2**	**+1.7**
BSO3	**Boso 3**	**2.24**	**314**		P	**P**	**Pn**	**18 41 41.1**	**+0.7**
JHJ	**Hachijo jima 2**	**2.24**	**267**		Pn	**Pn**	**Pn**	**18 41 41.5**	**+1.0**
	188nm,0.3s,baz=159,slow=8.5,SNR=325								
JHJ					Sn		**Sn**	**18 42 08.3**	**+0.1**
	174nm,0.3s,baz=70,slow=22,SNR=6.1								
JHJ					LR	LR		18 42 25.1	
	comp=Z,1μm,21.1s,baz=296,slow=36								
BSO4	**Boso 4**	**2.47**	**315**		P	**P**	**Pn**	**18 41 45.1**	**+1.3**
BSO4					*e*S	**S**	**Sn**	**18 42 15.1**	**+1.2**
JMY	**Miyakejima3**	**2.59**	**289**		P	**P**	**Pn**	**18 41 46.1**	**+0.7**
KTR	**Katsuura**	**2.59**	**318**		P	**P**	**Pn**	**18 41 46.5**	**+1.0**
KTR					*e*S	**S**	**Sn**	**18 42 18.0**	**+0.9**
JIM2	**Oshima 3**	**2.91**	**301**		P	**P**	**Pn**	**18 41 49.6**	**-0.4**
JOD2	**Odawara 2**	**3.44**	**307**		P	**P**	**Pn**	**18 41 57.1**	**-0.4**
JOD2					*e*S	**S**	**Sn**	**18 42 37.3**	**-1.1**
JYN	**Shimob**	**3.93**	**306**		P	**P**	**Pn**	**18 42 04.6**	**0.0**
JAG	**Ashikaga**	**4.01**	**323**		P	**P**	**Pn**	**18 42 05.5**	**-0.3**
JRY	**Ryogami san**	**4.02**	**314**		P	**P**	**Pn**	**18 42 06.4**	**+0.5**
JRY					*e*S	**S**	**Sn**	**18 42 54.2**	**+0.9**
MJAR	**Matsushiro Arr**	**4.79**	**314**		Pn	**Pn**	**Pn**	**18 42 16.9**	**+0.1**
	7.4nm,0.3s,baz=93,slow=29,SNR=105								
MJAR					Sn		**Sn**	**18 43 12.5**	**-0.2**
	6.1nm,0.3s,baz=128,slow=14,SNR=8.8								
MAJO	**Matsushiro**	**4.79**	**314**	⇑	*e*P		**Pn**	**18 42 24.9**	**+8.1**
MAT	**Matsushiro**	**4.79**	**314**		P		**Pn**	**18 42 17.3**	**+0.5**
MAT					S		**Sn**	**18 43 11.6**	**-1.2**
MAT	**Matsushiro**	**4.79**	**314**		P		**Pn**	**18 42 17.4**	**+0.6**
MAT					*e*S		**Sn**	**18 43 11.6**	**-1.2**
JMM	**Marumori**	**4.80**	**344**		P		**Pn**	**18 42 14.4**	**-2.5**
JMM					*e*S		**Sn**	**18 43 06.5**	**-6.5**
JIE	**Ise**	**4.92**	**285**		P		**Pn**	**18 42 18.8**	**+0.3**
JNS	**Sasagawa**	**5.23**	**332**		P		**Pn**	**18 42 22.3**	**-0.6**
JNS					*e*S		**Sn**	**18 43 21.8**	**-1.9**
JGM	**Miyama**	**5.33**	**299**		P		**Pn**	**18 42 25.5**	**+1.1**
JMK	**Ichinoseki**	**5.78**	**350**		P		**Pn**	**18 42 27.8**	**-2.9**
JMK					*e*S		**Sn**	**18 43 29.9**	**-7.6**
JAW	**Awa shima**	**5.81**	**334**		P		**Pn**	**18 42 30.1**	**-1.0**
JSD	**Sado**	**5.87**	**326**		P		**Pn**	**18 42 30.8**	**-1.2**
JYK	**Kaneyama**	**5.91**	**344**		P		**Pn**	**18 42 30.6**	**-1.9**
JYK					*e*S		**Sn**	**18 43 35.1**	**-5.6**
CBIJ	**Chichi jima**	**6.14**	**182**		Pn		**Pn**	**18 42 31.6**	**-4.2**
	46nm,0.3s,baz=352,slow=5.4,SNR=71								
CBIJ					Sn		**Sn**	**18 43 40.6**	**-5.9**
	58nm,0.3s,baz=267,slow=22,SNR=6.8								
CBIJ	**Chichi jima**	**6.14**	**182**		P		**Pn**	**18 42 31.7**	**-4.1**
JNU	**Nakatsue**	**9.70**	**272**		Pn		**P**	**18 43 26.7**	**+1.2**
	0.9nm,0.3s,baz=83,slow=23,SNR=7.9								
YSS	**Yuzh-Sakhalins**	**13.69**	**1**	⇑	*e*P		**P**	**18 44 15.0**	**-4.3**
YSS						pmax	pmax		
	comp=Z,30nm,1.0s								
YSS						pmax	pmax		
	comp=Z,60nm,1.0s								
YSS						MLR	MLR		
	comp=N,600nm,16.0s								
YSS						MLR	MLR		
	comp=Z,500nm,16.0s								
YSS	**Yuzh-Sakhalins**	**13.69**	**1**		*e*P	**P**	**P**	**18 44 14.9**	**-4.3**
	comp=Z,52nm,0.8s								
JOW	**Kunigami**	**13.84**	**246**	LR		LR	LR	18 49 54.4	
	comp=Z,314nm,18.3s,baz=133,slow=38								
DL2	**Dalian**	**17.74**	**294**	P		**P**	**P**	**18 45 11.8**	**+0.4**
DL2					*e*S	**S**	**S**	**18 48 24.8**	**-1.8**
DL2						AMB	AMB		
	comp=Z,10.0nm,0.7s								
DL2						LR	LR		
	comp=N,250nm,12.0s								
DL2						LR	LR		
	comp=E,460nm,14.1s								
DL2						LR	LR		
	comp=Z,720nm,13.9s								
KLR	**Kul'dur**	**17.85**	**337**	*e*P		**P**	**P**	**18 45 17.2**	**+4.5**
KLR						MLR	MLR		
	comp=N,800nm,13.0s								
KLR						MLR	MLR		
	comp=E,500nm,13.0s								
KLR						MLR	MLR		
	comp=Z,1μm,13.0s								
SSE	**Sheshan**	**18.13**	**269**		P	**P**	**P**	**18 45 16.0**	**-0.3**
SSE					XP			18 45 28.3	
SSE					S	**S**	**S**	**18 48 35.3**	**-0.2**
SSE					PcP	PcP	PcP	18 49 49.8	-0.9
SSE					AMB	AMB			
	comp=Z,11nm,0.9s								
SSE					AMB	AMB			
	comp=Z,115nm,4.4s								
SSE					LR	LR			
	comp=N,113nm,20.5s								
SSE					LR	LR			
	comp=E,200nm,20.5s								
SSE					LR	LR			
	comp=Z,320nm,23.3s								
SSE	**Sheshan**	**18.13**	**269**		P	**P**	**P**	**18 45 15.9**	**-0.4**
	comp=Z,11nm,0.9s								
SSE					sP			18 45 28.3	
SSE					S	**S**	**S**	**18 48 35.3**	**-0.2**
SSE					sS			18 48 54.1	
SSE					PcP	PcP	PcP	18 49 49.8	-0.9
NJ2	**Nanjing**	**19.90**	**273**	*e*P		**P**	**P**	**18 45 34.5**	**-2.7**
NJ2					AP			18 45 43.0	
NJ2					XP			18 45 47.5	
NJ2					PP	PP		18 45 53.5	-2.7
NJ2					AMB	AMB			
	comp=Z,20nm,1.0s								
NJ2					AMB	AMB			
	comp=Z,140nm,7.2s								
NJ2					LR	LR			
	comp=N,590nm,16.9s								
NJ2					LR	LR			
	comp=E,1μm,18.0s								
NJ2					LR	LR			
	comp=Z,470nm,14.9s								
PET	**Petropavlovsk**	**22.93**	**26**	*e*P		**P**	**P**	**18 46 14.4**	**+6.7**
PET					*e*S		**S**	**18 50 19.3**	**+6.6**
PET					smax				
	comp=E,100nm,23.0s								
PET					smax				
	comp=N,100nm,18.9s								
PET					MLR	MLR			
	comp=Z,200nm,17.0s,MS3.6								
HIA	**Hailar**	**23.27**	**320**	*e*P		**P**	**P**	**18 46 10.3**	**-0.7**
HIA					pmax	pmax			
	comp=Z,9.0nm,0.8s								
HIA	**Hailar**	**23.27**	**320**	*e*P		**P**	**P**	**18 46 10.3**	**-0.7**
	comp=Z,8.6nm,0.8s,mb4.2								
WHN	**Wuhan**	**23.98**	**271**	*e*P		**P**	**P**	**18 46 18.5**	**+0.3**
WHN					AP			18 46 29.0	
CLNS	**Chul'man**	**26.49**	**338**	*e*P		**P**	**P**	**18 46 50.3**	**+8.6**
CLNS					pmax	pmax			
	comp=Z,11nm,0.8s,mb4.4								
CLNS					pmax	pmax			
	comp=N,8.0nm,0.7s								
CLNS					pmax	pmax			
	comp=E,4.0nm,0.7s								
CLNS					MLR	MLR			
	comp=Z,300nm,16.0s,MS3.9								
CLNS					MLR	MLR			
	comp=N,200nm,13.0s								
CLNS					MLR	MLR			
	comp=E,30nm,9.0s								
BTO	**Baotou**	**26.84**	**295**	*e*P	

comp=Z,2.2nm,0.8s,mb4.2,baz=265,slow=6.3,SNR=20
DIV Divide 52.82 35 *e*P **P 18 50 20.3 +0.2**
comp=Z,44nm,0.9s,mb5.4
AAK Ala-Archa 53.11 301 *i* P **P 18 50 22.0 -0.4**
AAK MLR MLR
comp=Z,100nm,16.0s,MS4.0
WRAB Tennant Creek 53.45 190⇑ *e*P **P 18 50 23.8 -1.4**
WRAB Tennant Creek 53.45 190 *e*P **P 18 50 23.5 -1.7**
comp=Z,8.5nm,0.8s,mb4.7
WB2 Warramunga Arr 53.45 189⇓ *i*P **P 18 50 23.3 -2.0**
WRA Warramunga Arr 53.46 190 P **P 18 50 23.4 -1.9**
comp=Z,6.1nm,0.7s,mb4.6,baz=9.2,slow=7.6,SNR=78
WRA PcP PcP 18 51 32.5 +0.2
comp=Z,2.2nm,0.6s,baz=3.6,slow=4.3,SNR=9.5
VOSK Vostochnaya 53.48 314 P **P 18 50 23.8 -1.2**
VOSK pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
FITZ Fitzroy Crossi 53.53 200 *e*P **P 18 50 24.6 -1.2**
comp=Z,9.3nm,0.9s,mb4.7
BRVK Borovoye 53.85 315 P **P 18 50 28.3 +0.6**
BRVK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
BRVK Borovoye 53.85 315 *e*P **P 18 50 26.5 -1.2**
KKAR Karatay Array 55.82 303 *i* P **P 18 50 42.0 -0.2**
INK Inuvik 57.38 26 P **P 18 50 53.0 -0.1**
INK pmax pmax
comp=Z,3.0nm,0.8s
INK Inuvik 57.38 26 P **P 18 50 53.0 -0.1**
comp=Z,3.4nm,0.8s,mb4.4,baz=288,slow=6.8,SNR=9.6
INK Inuvik 57.38 26 *e*P **P 18 50 52.7 -0.4**
comp=Z,5.0nm,0.9s,mb4.5
MBWA Marble Bar 58.29 205 P **P 18 50 59.3 -0.7**
comp=Z,1.9nm,0.6s,mb4.3
ARU Arti 59.78 320⇓ *i*P **P 18 51 09.4 -0.5**
ARU *e* 18 51 54.7
ARU *e* 18 53 18.9
ARU *e*S **S 18 59 17.8 -1.1**
ARU *e*SS SS 19 03 14.0 -2.3
ARU pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
AB31 Akbulak array 61.06 312 *i* P **P 18 51 18.0 -0.8**
AB31 pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
ARMA Armidale 63.92 171 *e*P **P 18 51 30.6 -7.4**
STKA Stephens Creek 64.78 181 *e*P **P 18 51 42.7 -1.0**
comp=Z,4.9nm,0.8s,mb4.6
STKA Stephens Creek 64.78 181 P **P 18 51 42.6 -1.1**
comp=Z,5.9nm,0.8s,mb4.7,baz=347,slow=8.1,SNR=13
YKA Yellowknife Ar 66.66 30 P **P 18 51 54.7 -0.5**
comp=Z,1.7nm,0.6s,mb4.2,baz=294,slow=6.2,SNR=7.0
YKA LR LR 19 19 08.4
comp=Z,60nm,21.2s,MS3.8,baz=270,slow=34
YKA Yellowknife Ar 66.66 30 P **P 18 51 54.7 -0.5**
YKA LR LR 19 19 08.4
ARCES ARCESS Array B 67.84 340 P **P 18 52 02.6 +0.1**
comp=Z,4.0nm,0.9s,mb4.4,baz=39,slow=7.8,SNR=4.7
ARCES LR LR 19 30 02.0
comp=Z,62nm,18.4s,MS3.9,baz=21,slow=43
OBN Obninsk 71.65 324⇑ *e*P **P 18 52 26.6 +0.6**
OBN *e* 18 52 36.5
OBN pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.1
KAF Kangasniemi 72.06 334 *e*p **P 18 52 28.0 -0.4**
comp=Z,1.9nm,0.4s,mb4.4
KAF Kangasniemi 72.06 334 *e*P **P 18 52 28.0 -0.4**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
FINES FINESS Array B 72.56 333 P **P 18 52 31.7 +0.5**
comp=Z,6.2nm,0.9s,mb4.2,baz=90,slow=1.9,SNR=6.3
WALA Waterton Lakes 73.68 42 *e*P **P 18 52 38.4 +0.4**
comp=Z,3.4nm,0.7s,mb4.4
KIV Kislovodsk 74.05 312⇑ *e*P **P 18 52 41.9 +1.6**
KIV pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
KIV Kislovodsk 74.05 312 P **P 18 52 41.4 +1.1**
comp=Z,24nm,1.9s,mb4.8
CMB Columbia Colle 75.38 54 *e*P **P 18 52 48.1 0.0**
CMB pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
CMB Columbia Colle 75.38 54 *e*P **P 18 52 48.0 -0.1**
comp=Z,3.2nm,0.8s,mb4.3
HRY Holter Researc 76.13 43 P **P 18 52 52.1 0.0**
NVAR Mina Array Bea 76.58 53 P **P 18 52 55.6 +0.8**
comp=Z,2.2nm,0.8s,mb4.1,baz=276,slow=7.4,SNR=15
ELK Elko 77.35 50 P **P 18 52 59.9 +0.8**
ELK *e* 18 53 10.6
ELK pmax pmax
comp=Z,5.0nm,1.3s
ELK Elko 77.35 50 P **P 18 52 59.9 +0.8**
comp=Z,5.1nm,1.3s,mb4.3
ELK *e* 18 53 10.6
AKASG Malin Array Be 77.82 323 P **P 18 53 02.1 +0.7**
comp=Z,0.6nm,0.4s,mb3.8,baz=40,slow=4.8,SNR=12
NB2 NORSAR Subarra 78.00 338 P **P 18 53 02.9 +0.7**
comp=Z,8.2nm,1.1s,mb4.6,baz=39,slow=5.6
NB2 NORSAR Subarra 78.00 338 P **P 18 53 02.9 +0.7**
NB2 pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
NOA NORSAR Array B 78.00 338 P **P 18 53 03.2 +1.0**
comp=Z,1.5nm,0.6s,mb4.1,baz=40,slow=5.6,SNR=7.6
NOA LR LR 19 32 53.1
comp=Z,93nm,18.3s,MS4.2,baz=10.0,slow=40
IMW Indian Meadow 78.24 45 *e*P **P 18 53 05.5 +1.6**
comp=Z,13nm,1.4s,mb4.7
HWUT Hardware Ranch 79.17 47 P **P 18 53 09.8 +0.7**
PDAR Pinedale Array 79.71 45 P **P 18 53 12.8 +0.8**
comp=Z,0.8nm,0.7s,mb3.8,baz=278,slow=2.9,SNR=8.9
PDAR LR LR 19 25 53.4
comp=Z,58nm,18.6s,MS4.0,baz=157,slow=34
BRTR Keskin Array B 82.01 313 P **P 18 53 26.3 +2.2**
comp=Z,0.7nm,0.5s,mb3.9,baz=117,slow=6.4,SNR=5.4
RSSD Black Hills 82.08 42 P **P 18 53 22.3 -2.1**
RSSD pmax pmax
comp=Z,12nm,1.8s,mb4.5
RSSD Black Hills 82.08 42 P **P 18 53 22.3 -2.1**
comp=Z,12nm,1.8s,mb4.5
PPT Papeete 82.18 117 LR LR 19 29 08.9
comp=Z,86nm,18.8s,MS4.1,baz=293,slow=35
ULM Lac du Bonnet 82.19 33 LR LR 19 28 01.5
comp=Z,74nm,20.8s,MS4.0,baz=255,slow=34
PV10 Paradox Valley 82.63 49 *e*P **P 18 53 29.2 +1.8**
PV01 Paradox Valley 83.07 49 *e*P **P 18 53 30.2 +0.5**
PV01 *e* 18 53 41.4
SMCO Snowmass 83.43 47 *e*P **P 18 53 33.1 +1.6**
MORC Moravsky Berou 84.00 328 *e*P **P 18 53 35.0 +0.9**
MORC pmax pmax
comp=Z,10.0nm,1.7s,mb4.7
MORC Moravsky Berou 84.00 328 *e*P **P 18 53 35.0 +0.9**
comp=Z,9.5nm,1.7s,mb4.7
PSZ Piszkesteto 84.24 325 P **P 18 53 36.3 +1.0**
PSZ pmax pmax
comp=Z,19nm,1.6s,mb5.0
PSZ Piszkesteto 84.24 325 P **P 18 53 36.3 +1.0**
comp=Z,19nm,1.6s,mb5.0
CLL Collm 84.80 331 *i* P pP 18 53 48.6 +6.1
CLL pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
CLL Collm 84.80 331 *i* P pP 18 53 48.6 +6.1
comp=Z,8.0nm,0.9s
CLL Collm 84.80 331 *i* *PP pP 18 53 48.6 +6.1
SDCO Great Sand Dun 85.22 48 *e*P **P 18 53 42.1 +1.5**
comp=Z,5.5nm,0.9s,mb4.7
SDCO *e* 18 53 52.3
ANMO Albuquerque 86.36 50⇓ *e*P **P 18 53 47.1 +0.9**
ANMO Albuquerque 86.36 50 LR LR 19 27 43.5
comp=Z,166nm,19.5s,MS4.5,baz=305,slow=32
ANMO Albuquerque 86.36 50 *e*P **P 18 53 46.2 0.0**
comp=Z,3.2nm,1.2s,mb4.4
GERES GERESS Array B 86.38 329 P **P 18 53 46.9 +0.9**
comp=Z,0.3nm,0.5s,mb3.8,slow=5.3,SNR=3.5
GRA1 Grafenberg Arr 86.78 331 *e*P **P 18 53 49.7 +1.8**
comp=Z,22nm,2.1s,mb5.0
GRF Grafenberg Arr 86.78 331 *e*P **P 18 53 49.7 +1.8**
GRF pmax pmax
comp=Z,22nm,2.1s,mb5.0
GRF Grafenberg Arr 86.78 331 *e*P **P 18 53 49.7 +1.8**
GRF pmax pmax
comp=Z,22nm,2.1s,mb5.0
GRF Grafenberg Arr 86.78 331 *e*P **P 18 53 49.7 +1.8**
comp=Z,22nm,2.1s,mb5.0
SCHQ Schefferville 88.73 16 LR LR 19 36 15.3
comp=Z,49nm,21.5s,MS3.9,baz=23,slow=37
TXAR Lajitas Array 91.73 53 P **P 18 54 12.7 +0.9**
comp=Z,1.2nm,0.5s,mb4.5,baz=305,slow=4.2,SNR=9.7
TXAR LR LR 19 30 04.5
comp=Z,145nm,19.8s,MS4.4,baz=345,slow=32
SDV Santo Domingo 127.59 43 PKP PKPdf 19 00 10.3 -2.0
comp=Z,3.0nm,0.5s,baz=332,slow=4.8,SNR=5.7
SNAA Sanae 137.36 195 P PKPdf 19 00 28.8 -0.3
SNAA Sanae 137.36 195 PKPdf 19 00 30.8 +1.7
SNAA Sanae 137.36 195 PKPdf 19 00 40.8 +12
SNAA Sanae 137.36 195 PKPdf 19 00 42.1 +13
VNA2 Neumayer--Watz 138.90 195 P PKPdf 19 00 31.3 -0.6
VNA2 Neumayer--Watz 138.90 195 PKPdf 19 00 34.5 +2.6
VNA2 Neumayer--Watz 138.90 195 PKPdf 19 00 40.3 +8.4
VNA2 Neumayer--Watz 138.90 195 PKPdf 19 00 42.1 +10
VNA2 Neumayer--Watz 138.90 195 PKPdf 19 00 45.1 +13
VNA2 Neumayer--Watz 138.90 195 PKPdf 19 00 48.8 +17
VNA3 Neumayer Olymp 139.11 193 P PKPdf 19 00 31.8 -0.5
VNA3 Neumayer Olymp 139.11 193 PKPdf 19 00 34.8 +2.5
SAML Samuel 146.18 50 *e*PKPbc PKPbc 19 00 44.8 +1.0
SAML *e*PKPab PKPab 19 00 55.1 +8.6
LPAZ La Paz 147.66 66 PKPbc PKPdf 19 00 48.3 -0.2
comp=Z,1.5nm,0.4s,baz=348,slow=9.4,SNR=8.3
LPAZ La Paz 147.66 66 *e*PKPdf PKPdf 19 00 48.2 -0.4
LPAZ *e*PKPbc PKPdf 19 00 50.4 +1.8
LVC Limon Verde 150.44 77 PKPbc PKPdf 19 00 56.2 +3.4
comp=Z,2.4nm,0.6s,baz=254,slow=1.3,SNR=5.0
SIV San Ignacio 152.67 57 PKP PKPdf 19 00 55.3 -0.9
comp=Z,1.7nm,0.9s,baz=48,slow=2.2,SNR=7.5
SIV PKPbc PKPdf 19 01 01.5 +5.2
comp=Z,2.2nm,0.8s,baz=300,slow=2.4,SNR=12
SIV PKPab PKPab 19 01 11.5 -1.5
comp=Z,3.6nm,0.8s,baz=258,slow=2.7,SNR=7.5

CSEM ***30*** *18:56:23.6± 1.2, 39.43N× 29.84W, h10km, ML3.4, Error ellipse: s-maj=33.8km s-min=11.9km az=46.0, After PDA*
PDA ***30*** *18:56:23.6± 1.2, 39.43N× 29.84W, h10km, MD3.6, ML3.4, Error ellipse: s-maj=33.8km s-min=11.9km az=46.0*
SVSA 30 18:56:23.6±1.2, 39.43N× 29.84W, h10km, MD3.6, ML3.4, Error ellipse: s-maj=33.8km s-min=11.9km az=46.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PCED	**Cedros**	**1.19**	**132**	*e*P	Pb	18 56 41.4	-4.4
PCED				*e*S	Sb	18 56 54.5	-6.6
	278nm,0.4s						
PCED	**Cedros**	**1.19**	**132**	*e*P	Pb	18 56 41.4	-4.4
PCED				*e*S	Sb	18 56 54.5	-6.6
	278nm,0.4s						
CALA	**Caldeira**	**1.22**	**133**	*e*P	Pb	18 56 42.1	-4.3
CALA				*e*S	Sb	18 56 55.8	-6.3
HOR	**Horta**	**1.30**	**133**	*e*S	Sb	18 56 58.1	-6.2
PICO	**Pico**	**1.44**	**130**	*e*P	Pn	18 56 45.3	-4.5
PICO				*e*S	Sb	18 57 01.8	-6.5
PMAN	**Manadas**	**1.58**	**120**	*i* S	Sb	18 57 04.4	-7.9
	80nm,0.3s						

IDC ***30*** *19:03:09.4± 2.1, 33.04N× 142.38E, mb3.5/3, mb1 3.6/6, mb1mx3.4/21, mbtmp3.6/6, ML3.5/2, Error ellipse: s-maj=46.0km s-min=22.2km az=59.0*
JMA ***30*** *19:03:12.0± 0.4, 33.29N× 142.49E, h76km, M3.3*
ISC 30 19:03:11.7±1.4, 33.25N±0.07× 142.5E±0.1, h33km±15km, n18, σ0°95/25, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
BSO1	**Boso 1**	**1.86**	**319**	P	**P**	**19 03 42.2**	**+0.4**
BSO1				S	**S**	**19 04 05.4**	**+1.1**
JHJ2	**Mitsune**	**2.21**	**267**	P	**P**	**19 03 47.6**	**+0.8**
BSO3	**Boso 3**	**2.24**	**314**	P	**P**	**19 03 47.8**	**+0.7**
JHJ	**Hachijo jima 2**	**2.24**	**267**	Pn	**P**	**19 03 47.5**	**+0.3**
	28nm,0.3s,baz=171,slow=14,SNR=44						
JHJ				Sn	**S**	**19 04 13.4**	**-0.5**
	58nm,0.3s,baz=74,slow=23,SNR=18						
BSO4	**Boso 4**	**2.47**	**315**	P	**P**	**19 03 51.5**	**+1.0**
JIM2	**Oshima 3**	**2.91**	**301**	P	**P**	**19 03 56.1**	**-0.6**
JIZS	**Izushimoda**	**3.31**	**297**	P	**P**	**19 04 02.4**	**-0.1**
JIZS				*e*S	**S**	**19 04 41.0**	**-0.2**
JYN	**Shimob**	**3.94**	**306**	P	**P**	**19 04 11.9**	**+0.6**
JAG	**Ashikaga**	**4.02**	**323**	P	**P**	**19 04 12.0**	**-0.5**
JRY	**Ryogami san**	**4.02**	**314**	P	**P**	**19 04 12.6**	**0.0**
MJAR	**Matsushiro Arr**	**4.79**	**314**	Pn	**P**	**19 04 23.8**	**+0.3**
	1.4nm,0.3s,baz=141,slow=14,SNR=21						
MJAR				Sn	**S**	**19 05 17.2**	**-1.4**
	1.2nm,0.3s,baz=124,slow=15,SNR=6.7						
MAT	**Matsushiro**	**4.79**	**314**	P	**P**	**19 04 23.8**	**+0.3**
MAT				S	**S**	**19 05 17.7**	**-0.9**
MAT	**Matsushiro**	**4.79**	**314**	P	**P**	**19 04 23.4**	**-0.1**
MAT				S	**S**	**19 05 17.6**	**-1.0**
JMM	**Marumori**	**4.80**	**344**	P	**P**	**19 04 21.0**	**-2.6**
CBIJ	**Chichi jima**	**6.14**	**182**	Pn	**P**	**19 04 38.4**	**-4.0**
	3.3nm,0.3s,baz=263,slow=23,SNR=11						
CBIJ				Sn	**S**	**19 05 44.6**	**-7.7**
	5.7nm,0.3s,baz=287,slow=23,SNR=6.6						
SONM	**Songino Array**	**30.72**	**309**	P	**P**	**19 09 27.6**	**+1.9**
	0.6nm,0.6s,mb3.6,baz=104,slow=8.0,SNR=8.6						
MKAR	**Makanchi Array**	**46.92**	**305**	P	**P**	**19 11 41.3**	**+0.5**
	0.4nm,0.7s,mb3.5,baz=81,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**53.45**	**190**	P	**P**	**19 12 29.7**	**-1.3**
	0.2nm,0.3s,mb3.5,baz=5.3,slow=7.5,SNR=4.3						

IDC ***30*** *19:27:28.7± 1.3, 1.32N× 123.03E, mb3.8/4, mb1 4.2/5, mb1mx3.8/18, mbtmp3.9/5, ML4.0/1, Error ellipse: s-maj=122.9km s-min=21.3km az=69.0*
ISC 30 19:27:32.1±0.9, 1.1N±0.2× 122.6E±0.6, h33km, n7, σ0°29/7, mb3.8/4, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.36**	**171**	*e*P	**P**	**19 31 57.8**	**0.0**
	5.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.36**	**171**	P	**P**	**19 31 57.2**	**-0.6**
	0.4nm,0.3s,baz=7.8,slow=12,SNR=6.9						
WRA	**Warramunga Arr**	**23.92**	**152**	P	**P**	**19 32 44.2**	**0.0**
	3.4nm,0.6s,mb4.0,baz=335,slow=9.7,SNR=55						
WB2	**Warramunga Arr**	**23.93**	**152**⇑	*i*P	**P**	**19 32 44.4**	**+0.2**
SONM	**Songino Array**	**48.58**	**346**	P	**P**	**19 36 14.0**	**-0.4**
	0.4nm,0.8s,mb3.5,baz=162,slow=9.1,SNR=3.9						
SONM				pP	pP	19 36 27.7	+3.5
	0.6nm,0.7s,baz=154,slow=8.7,SNR=5.0						
MKAR	**Makanchi Array**	**57.42**	**328**	P	**P**	**19 37 20.3**	**+0.3**
	0.3nm,0.6s,mb3.5,baz=126,slow=7.6,SNR=4.3						
MKAR				pP	pP	19 37 34.3	+4.2
	0.6nm,0.5s,baz=123,slow=8.9,SNR=8.2						
VNDA	**Vanda**	**81.43**	**172**	P	**P**	**19 39 47.0**	**+0.2**
	2.1nm,0.6s,mb4.2,baz=318,slow=6.5,SNR=5.3						

IDC ***30*** *19:27:59.4± 1.1, 1.26N× 122.72E, mb3.9/5, mb1 4.2/6, mb1mx3.9/18, mbtmp4.0/6, ML4.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.8/20, Error ellipse: s-maj=111.6km s-min=18.8km az=68.0*
ISC 30 19:28:02.6±0.9, 1.2N±0.2× 122.6E±0.5, h33km, n8, σ0°40/8, mb3.9/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.37**	**171**	P	**P**	**19 32 28.2**	**-0.3**
	0.5nm,0.3s,baz=2.3,slow=12,SNR=6.6						
FITZ				LR	LR	19 41 11.4	
	comp=Z,55nm,20.8s,baz=286,slow=41						
FITZ	**Fitzroy Crossi**	**19.37**	**171**	*e*	**P**	**19 32 28.4**	**-0.1**
WRA	**Warramunga Arr**	**23.93**	**152**	P	**P**	**19 33 15.1**	**+0.4**
	1.4nm,0.3s,mb3.8,baz=333,slow=8.6,SNR=13						
WB2	**Warramunga Arr**	**23.93**	**152**	*e*	**P**	**19 33 15.2**	**+0.4**
STKA	**Stephens Creek**	**37.47**	**153**	P	**P**	**19 35 14.2**	**-0.7**
	1.8nm,0.4s,mb4.2,baz=339,slow=8.6,SNR=4.6						
SONM	**Songino Array**	**48.57**	**345**	P	**P**	**19 36 44.4**	**-0.3**
	0.3nm,0.8s,mb3.4,baz=164,slow=6.2,SNR=2.5						
SONM				pP	pP	19 36 58.1	+3.4
	1.3nm,0.9s,baz=152,slow=8.4,SNR=5.6						
MKAR	**Makanchi Array**	**57.42**	**328**	P	**P**	**19 37 50.8**	**+0.3**
	0.4nm,0.6s,mb3.6,baz=119,slow=8.6,SNR=2.9						
MKAR				pP	pP	19 38 03.8	+3.2
	0.7nm,0.7s,baz=129,slow=7.8,SNR=4.2						
VNDA	**Vanda**	**81.44**	**172**	P	**P**	**19 40 17.4**	**0.0**
	2.8nm,0.8s,mb4.3,baz=312,slow=6.5,SNR=5.0						

IDC 30 19:32:03.8±2.0, 3.59N× 95.09E, mb3.6/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.6/5, MS4.3/1, Ms1 4.3/1, ms1mx3.0/23, Error ellipse: s-maj=80.4km s-min=27.2km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
MKAR	**Makanchi Array**	**44.45**	**347**	P	**P**	**19 40 15.7**	**-2.6**
	0.1nm,0.5s,baz=153,slow=6.4,SNR=2.9						
WRA	**Warramunga Arr**	**45.09**	**123**	P	**P**	**19 40 21.9**	**-2.0**
	1.0nm,0.6s,baz=299,slow=8.7,SNR=14						
SONM	**Songino Array**	**45.14**	**11**	P	**P**	**19 40 23.0**	**-0.9**
	0.2nm,0.5s,baz=204,slow=7.0,SNR=2.7						
ZAL	**Zalesovo**	**50.89**	**352**	P	**P**	**19 41 05.8**	**-2.8**
	0.7nm,0.3s,baz=283,slow=3.4,SNR=2.7						
PMG	**Port Moresby**	**53.47**	**104**	LR	LR	20 07 46.1	
	comp=Z,253nm,19.3s,baz=29,slow=40						
GERES	**GERESS Array B**	**81.64**	**319**	P	**P**	**19 44 24.6**	**-0.6**
	0.5nm,0.3s,baz=102,slow=9.0,SNR=4.1						

NEIC ***30*** *19:43:55.9, 31.55S× 68.63W, h162km, MD3.7(GUC), After GUC.*
GUC 30 19:43:55.9±0.8, 31.55S× 68.63W, h162km±22km, MD3.7, ML3.6, 7C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
JACH	**Jahuel**	**2.02**	**235**⇑	*i*P	P	19 44 32.7	+0.4
JACH				*i* S	S	19 45 00.8	+0.4
CMCH	**Combarbala**	**2.07**	**280**	*i* P	P	19 44 33.6	+0.7
CMCH				*i* S	S	19 45 01.7	+0.2
FCH	**Farellones**	**2.27**	**218**⇓	*i*P	P	19 44 35.8	+0.5
FCH				*i* S	S	19 45 06.8	+1.2
FCH				AMP		19 45 15.7	
	comp=E,125nm,0.2s						
TLL	**Tololo Astrono**	**2.33**	**306**⇑	*i*P	P	19 44 36.8	+0.8
TLL				*i* S	S	19 45 07.2	+0.3
TLL				AMP		19 45 12.0	
	comp=N,400nm,0.5s						
CLCH	**Cerro Calan**	**2.45**	**221**⇓	*i*P	P	19 44 37.7	+0.1
CLCH				*i* S	S	19 45 09.3	-0.3
CLCH				AMP		19 45 26.1	
	comp=E,131nm,0.6s						
ROCH	**El Roble**	**2.47**	**234**	*e*P	P	19 44 37.9	+0.1
ROCH				*i* S	S	19 45 10.7	+0.7
CHNG	**Los Chungos**	**2.47**	**261**	AMP		19 45 17.7	
	comp=N,220nm,0.4s						
PCH	**Pirque**	**2.61**	**217**⇓	*i*P	P	19 44 39.9	+0.4
LMEL	**Las Melosas**	**2.65**	**210**⇓	*i*P	P	19 44 40.3	+0.2
LMEL				AMP		19 45 33.0	
	comp=N,99nm,0.2s						
RCDM	**Rinconada Maip**	**2.67**	**223**⇑	*i*P	P	19 44 40.2	-0.1
RCDM				*i* S	S	19 45 14.3	-0.1
RCDM				AMP		19 45 19.5	
	comp=E,270nm,0.1s						
TACH	**Talagante**	**2.87**	**222**⇑	*i*P	P	19 44 42.4	-0.3
CHCH	**Chadas Angostu**	**2.93**	**215**⇑	*i*P	P	19 44 43.7	+0.2
CACH	**El Canelo**	**3.06**	**212**⇑	*i*P	P	19 44 45.8	+0.7
CICH	**Cipreses**	**3.15**	**208**⇑	*i*P	P	19 44 47.0	+0.7

IDC ***30*** *20:02:36.0± 0.8, 3.20S× 142.67E, mb4.3/8, mb1 4.5/10, mb1mx4.3/14, mbtmp4.3/10, ML3.8/2, MS3.7/5, Ms1 3.7/5, ms1mx3.4/14, Error ellipse: s-maj=27.3km s-min=11.9km az=98.0*
NEIC ***30*** *20:02:42.9± 2.6, 3.41S× 142.71E, h58km±26km, mb4.4/4, Error ellipse: s-maj=20.7km s-min=16.0km az=134.0*
ISC 30 20:02:38.6±0.5, 3.33S±0.05× 142.70E±0.07, h33km, n31, σ0°91/30, mb4.4/13, MS3.7/5, 2D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PMG	**Port Moresby**	**7.49**	**144**	Pn	**Pn**	**20 04 27.4**	**-1.0**
	1.0nm,0.3s,baz=311,slow=6.2,SNR=7.5						
PMG				Sn	**Sn**	**20 05 54.4**	**+1.4**
	baz=129,slow=23,SNR=2.0						
PMG	**Port Moresby**	**7.49**	**144**	*e*P	**P**	**20 04 27.9**	**-0.3**
	7.5nm,0.6s						
PMG				Sn	**Sn**	**20 05 54.4**	**+1.4**
KAKA	**Kakadu**	**13.78**	**227**	*e*P	**P**	**20 05 57.5**	**+3.4**
	28nm,0.4s						
KAKA				*e*S	**S**	**20 08 28.4**	**+1.4**
WRAB	**Tennant Creek**	**18.41**	**206**	*e*P	**P**	**20 06 52.2**	**-1.0**
	21nm,0.8s						
WB2	**Warramunga Arr**	**18.41**	**206**⇓	*i*P	**P**	**20 06 52.5**	**-0.8**
WRA	**Warramunga Arr**	**18.42**	**206**	P	**P**	**20 06 52.0**	**-1.4**
	1.1nm,0.3s,baz=27,slow=12,SNR=47						
WRA				S	**S**	**20 10 23.7**	**+9.4**
	0.1nm,0.3s,baz=32,slow=13,SNR=4.8						
FITZ	**Fitzroy Crossi**	**22.25**	**227**	*e*P	**P**	**20 07 32.1**	**-2.2**
	23nm,1.0s,mb4.6						
FITZ	**Fitzroy Crossi**	**22.25**	**227**	P	**P**	**20 07 34.2**	**0.0**
	16nm,0.5s,mb4.7,baz=36,slow=5.5,SNR=52						
FITZ				LR	LR	20 16 52.4	
	comp=Z,344nm,21.4s,MS3.7,baz=108,slow=38						
STKA	**Stephens Creek**	**28.41**	**182**⇓	*i*P	**P**	**20 08 32.2**	**-0.3**
	2.2nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**28.41**	**182**	P	**P**	**20 08 32.8**	**+0.3**
	3.0nm,0.6s,mb4.1,baz=349,slow=9.5,SNR=17						
STKA	**Stephens Creek**	**28.41**	**182**	*e*P	**P**	**20 08 32.7**	**+0.3**
MBWA	**Marble Bar**	**28.52**	**230**	*e*P	**P**	**20 08 33.3**	**-0.2**
	1.2nm,0.5s,mb3.9						
DZM	**Mont Dzumac**	**29.63**	**131**	LR	LR	20 19 09.8	
	comp=Z,103nm,18.3s,MS3.5,baz=12,slow=33						
KULM	**Kulim**	**42.87**	**281**	*e*P	**P**	**20 10 35.2**	**-0.8**
SONM	**Songino Array**	**60.04**	**333**	P	**P**	**20 12 44.4**	**-0.3**
	0.6nm,0.6s,mb3.8,baz=155,slow=6.3,SNR=5.8						
SONM				LR	LR	20 36 30.1	
	comp=Z,40nm,19.1s,MS3.6,baz=75,slow=34						
PKI	**Pulchoki**	**63.11**	**303**	*e*P	**P**	**20 13 05.5**	**-0.1**
KKN	**Kakani**	**63.29**	**303**	*e*P	**P**	**20 13 07.3**	**+0.5**
	21nm,1.0s,mb5.2						
DMN	**Daman**	**63.38**	**303**	*e*P	**P**	**20 13 07.9**	**+0.5**
	31nm,1.2s,mb5.3						
GKN	**Gorkha**	**63.90**	**303**	*e*P	**P**	**20 13 11.5**	**+0.6**
	7.7nm,0.6s,mb4.9						
KOLN	**Koldanda**	**64.69**	**303**	*e*P	**P**	**20 13 16.2**	**+0.2**
	14nm,0.9s,mb5.0						
MKAR	**Makanchi Array**	**72.74**	**321**	P	**P**	**20 14 05.7**	**+0.3**
	1.0nm,0.4s,mb4.1,baz=94,slow=8.9,SNR=26						
MKAR	**Makanchi Array**	**72.74**	**321**	P	**P**	**20 14 05.7**	**+0.3**
ZAL	**Zalesovo**	**74.51**	**329**	P	**P**	**20 14 14.9**	**-0.7**
	0.9nm,0.3s,mb4.2,baz=320,slow=5.4,SNR=5.9						
VNDA	**Vanda**	**74.84**	**176**	P	**P**	**20 14 20.7**	**+3.5**
	2.0nm,0.6s,mb4.2,baz=305,slow=4.8,SNR=5.1						
VNDA	**Vanda**	**74.84**	**176**	P	**P**	**20 14 21.3**	**+4.2**
	3.6nm,0.7s,mb4.4						
BVAR	**Borovoye Array**	**82.11**	**324**	P	**P**	**20 14 57.9**	**+0.5**
	1.8nm,0.7s,mb4.1,baz=108,slow=4.7,SNR=11						
MAW	**Mawson**	**83.06**	**202**	LR	LR	20 50 53.0	
	comp=Z,53nm,19.2s,MS3.9,baz=248,slow=35						
ILAR	**Eielson Array**	**84.76**	**24**	P	**P**	**20 15 11.1**	**+0.5**
	1.7nm

comp=E,7μm,0.6s
ILCH Illapel 1.99 170 *i* P Pn 20 42 11.0 -0.3
ILCH *i* S Sn 20 42 36.9 +1.0
ILCH AMP 20 42 44.0
comp=E,2μm,0.2s
CHNG Los Chungos 2.21 179 *i* P Pn 20 42 14.6 +0.1
CHNG *i* S Sn 20 42 43.0 +1.5
CHNG AMP 20 42 51.8
comp=E,914nm,0.5s
CPCH Copiapo 2.53 25 *i* P Pn 20 42 17.6 -1.4
CPCH *i* S Sn 20 42 48.8 -0.9
JACH Jahuel 3.12 165 *i* P Pn 20 42 27.8 +0.5
JACH *i* S Sn 20 43 04.9 +0.4
ROCH El Roble 3.33 172⇑ *i* P Pn 20 42 30.5 +0.2
ROCH *i* S Sn 20 43 10.7 +0.8
CRCH Chaqaral 3.41 14 AMP 20 43 28.9
comp=E,552nm,0.2s
RCDM Rinconada Maip 3.86 171 AMP 20 43 38.3
comp=E,584nm,1.0s
TRQA Tornquist 11.54 139 *e*P P 20 44 20.2 -4.8
comp=E,19nm,0.7s
VNA2 Neumayer--Watz 53.86 159 P 20 51 00.1 -1.7
SNAA Sanae 55.45 159 P 20 51 09.3 -4.2

IDC ***30*** *21:17:03.4±0.6, 0.34N×97.27E, mb4.6/18, mb1 4.7/18, mb1mx4.6/21, mbtmp4.6/18, Error ellipse: s-maj=22.4km s-min=13.5km az=55.0*
BJI ***30*** *21:17:05.7, 0.35N×97.43E, h26km, mB5.0, mb4.8, Ms4.4, Msz4.3*
MOS ***30*** *21:17:06.9±0.9, 0.45N×97.42E, h33km, mb5.0/16, Error ellipse: s-maj=17.3km s-min=7.8km az=108.3*
HRVD ***30*** *21:17:07.9±2.1, 0.26N×97.39E, h22km±2km, MW4.8/24, Centroid moment Tensor Solution. LP body waves: s8,c9; Mantle waves: s24,c43; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.18±.27; $M_{\theta\theta}$0.49±.14; $M_{\phi\phi}$0.69±.17; $M_{r\theta}$-0.94±.23; $M_{\theta\phi}$-0.76±.07; $M_{\phi r}$-0.59±.23; Best double couple: M_o1.632×10^{16} NP1:ϕ_s345°,δ48°,λ-45°. NP2: ϕ_s109°,δ58°,λ-129°. Principal axes: T 1.374, Plg6°, Azm225°; N .518, Plg32°, Azm131°; P -1.89, Plg57°, Azm324°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***30*** *21:17:07.9±0.2, 0.32N×97.30E, h30km, mb4.9/20 Error ellipse: s-maj=7.6km s-min=5.9km az=223.0*
ISC 30 21:17:06.2±2.0, **0.37N**±0.05×**97.34E**±0.05, **h29**km±13km, **h32**km±1.8km:**pP-P, n119,** σ1**9**01/115, **mb4.7**/56, **MS4.4**/9, **6C-7D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
IPM	**Ipoh**	**5.57**	**41**	P		**Pn**	**21 18 29.7**	**+0.3**
KULM	**Kulim**	**5.90**	**34**	*e*Pn		**Pn**	**21 18 33.5**	**-0.6**
KGM	**Kluang**	**6.20**	**75**	P		**Pn**	**21 18 39.0**	**+0.7**
SNG	**Songkhla**	**7.51**	**26**	P		**Pn**	**21 18 55.0**	**-1.7**
KSM	**Kuching**	**13.02**	**85**	P		**P**	**21 20 16.0**	**+3.9**
KKTK	**Khon Kaen**	**16.76**	**19**	P		**P**	**21 21 02.0**	**+1.2**
	247nm,0.7s							
BDT	**Bhumibol Dam**	**16.85**	**6**	P		**P**	**21 21 16.0**	**+14**
PALK	**Pallekele**	**17.95**	**293**	P		**P**	**21 21 13.7**	**-1.9**
	29nm,0.9s							
NANT	**Nan**	**18.61**	**10**	P		**P**	**21 21 25.0**	**+1.2**
	200nm,0.5s							
CHRT	**Chiangrai**	**19.53**	**7**	⇓P		**P**	**21 21 32.0**	**-2.5**
	113nm,0.9s							
KKM	**Kota Kinabalu**	**19.67**	**73**	*e*P		**P**	**21 21 36.1**	**0.0**
KKM	**Kota Kinabalu**	**19.67**	**73**	P		**P**	**21 21 36.7**	**+0.6**
TSM	**Tawau**	**20.88**	**79**	P		**P**	**21 21 52.3**	**+3.4**
HYB	**Hyderabad**	**25.07**	**313**	*e*P		**P**	**21 22 37.0**	**+7.0**
KMI	**Kunming**	**25.16**	**12**	P		**P**	**21 22 32.5**	**+1.7**
KMI				AP		pP	21 22 40.5	+1.2
KMI				XP		sP	21 22 42.5	-0.6
KMI				AMB		AMB		
	comp=Z,22nm,0.8s,mb4.7							
KMI				AMB		AMB		
	comp=Z,174nm,3.5s							
KMI				LR		LR		
	comp=N,686nm,16.4s,MS4.4							
KMI				LR		LR		
	comp=E,767nm,16.4s,MS4.4							
KMI				LR		LR		
	comp=Z,577nm,13.0s,MS4.3							
KMI	**Kunming**	**25.16**	**12**	P		**P**	**21 22 32.6**	**+1.8**
KMI				*SP		sP	21 22 42.5	-0.6
KMI				pmax		pmax		
	comp=Z,22nm,0.8s,mb4.7							
KMI				MLR		MLR		
	comp=Z,580nm,13.0s,MS4.3							
KMI	**Kunming**	**25.16**	**12**	P		**P**	**21 22 32.6**	**+1.8**
	comp=Z,22nm,0.8s,mb4.7							
KMI				pP		pP	21 22 40.5	+1.2
KMI				sP		sP	21 22 42.5	-0.6
KMI				S		S	21 27 11.5	+20
KMI				LR		LR		
	comp=Z,580nm,13.0s,MS4.3							
SHL	**Shillong**	**25.59**	**349**	*e*P		**P**	**21 22 36.5**	**+1.6**
SHL				*e*			21 24 50.0	
SHL				*e*			21 25 07.0	
GYA	**Guiyang**	**27.45**	**18**	P		**P**	**21 22 52.8**	**+0.9**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.3							
PKI	**Pulchoki**	**29.37**	**338**	*e*P		**P**	**21 23 10.6**	**+1.4**
	comp=Z,18nm,0.7s,mb4.9							
DMN	**Daman**	**29.52**	**338**	*e*P		**P**	**21 23 10.0**	**-0.6**
	comp=Z,32nm,0.8s,mb5.1							
KKN	**Kakani**	**29.61**	**338**	*e*P		**P**	**21 23 11.9**	**+0.5**
	comp=Z,22nm,0.7s,mb5.0							
LSA	**Lhasa**	**29.76**	**349**	P		**P**	**21 23 13.5**	**+0.8**
LSA				AMB		AMB		
	comp=Z,60nm,1.0s,mb5.3							
LSA				AMB		AMB		
	comp=Z,560nm,5.5s							
LSA				LR		LR		
	comp=N,100nm,10.0s,MS3.9							
LSA				LR		LR		
	comp=E,110nm,10.0s,MS3.9							
LSA				LR		LR		
	comp=Z,140nm,10.0s,MS3.9							
LSA	**Lhasa**	**29.76**	**349**	*e*P		**P**	**21 23 13.6**	**+0.9**
LSA				pmax		pmax		
	comp=Z,13nm,0.8s,mb4.7							
LSA	**Lhasa**	**29.76**	**349**	*e*P		**P**	**21 23 13.6**	**+0.9**
	comp=Z,13nm,0.8s,mb4.7							
GKN	**Gorkha**	**30.05**	**337**	*e*P		**P**	**21 23 15.8**	**+0.5**
	comp=Z,14nm,0.4s,mb5.0							
KOLN	**Koldanda**	**30.26**	**335**	*e*P		**P**	**21 23 18.1**	**+0.9**
	comp=Z,35nm,0.7s,mb5.2							
MBWA	**Marble Bar**	**30.61**	**136**	P		**P**	**21 23 16.2**	**-4.1**
ENH	**Enshi**	**31.90**	**20**	*e*P		**P**	**21 23 30.8**	**-0.8**
	comp=Z,28nm,1.0s,mb5.0							
LGTI	**Lohaghat**	**33.19**	**332**	*e*P		pP	21 23 54.0	+2.5
FITZ	**Fitzroy Crossi**	**33.34**	**125**	*e*P		**P**	**21 23 42.7**	**-1.5**
	comp=Z,23nm,0.6s,mb5.3							
FITZ	**Fitzroy Crossi**	**33.34**	**125**	P		**P**	**21 23 43.1**	**-1.1**
	comp=Z,27nm,0.7s,mb5.3,baz=315,slow=3.4,SNR=42							
XAN	**Xi'an**	**35.21**	**17**	P		**P**	**21 23 59.5**	**-0.7**
XAN				AMB		AMB		
	comp=Z,19nm,0.9s,mb5.0							
LZH	**Lanzhou**	**36.05**	**9**	*e*P		pP	21 24 17.7	+1.8
LZH				pP		pP	21 24 18.0	+2.1
LZH				sP		sP	21 24 21.5	+1.9
LZH				LR		LR		
	comp=Z,1μm,16.0s,MS4.7							
KAKA	**Kakadu**	**37.16**	**112**	*e*P		**P**	**21 24 19.6**	**+2.8**
	comp=Z,7.1nm,0.6s,mb4.7							
NJ2	**Nanjing**	**37.50**	**31**	*e*P		**P**	**21 24 19.0**	**-0.5**
NJ2				AP		pP	21 24 28.8	+0.6
NJ2				XP		sP	21 24 32.5	+0.7
NJ2				PP		PP	21 25 48.0	+0.1
NJ2				S		**S**	**21 30 04.0**	**-2.0**
NJ2				XS			21 30 20.0	
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.5s,mb4.9							
NJ2				AMB		AMB		
	comp=Z,140nm,3.7s							
NJ2				LR		LR		
	comp=N,680nm,21.9s,MS4.7							
NJ2				LR		LR		
	comp=E,1μm,22.1s,MS4.7							
NJ2				LR		LR		
	comp=Z,850nm,19.9s,MS4.5							
SSE	**Sheshan**	**38.01**	**34**	P		**P**	**21 24 25.0**	**+1.2**
SSE				XP		sP	21 24 37.5	+1.3
SSE				PP		PP	21 25 51.5	-2.6
SSE				PCP		PcP	21 26 40.8	+1.3
SSE				S		**S**	**21 30 14.5**	**+0.7**
SSE				XS			21 30 29.3	
SSE				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.9							
SSE				AMB		AMB		
	comp=Z,53nm,4.3s							
SSE				LR		LR		
	comp=N,141nm,18.8s,MS3.9							
SSE				LR		LR		
	comp=E,94nm,18.8s,MS3.9							
SSE				LR		LR		
	comp=Z,185nm,14.6s,MS4.0							
SSE	**Sheshan**	**38.01**	**34**	P		**P**	**21 24 25.0**	**+1.2**
	comp=Z,20nm,0.8s,mb4.9							
SSE				sP		sP	21 24 37.6	+1.4
SSE				PP		PP	21 25 51.5	-2.6
SSE				PcP		PcP	21 26 40.7	+1.2
SSE				S		**S**	**21 30 14.6**	**+0.8**
SSE				sS			21 30 29.2	
SSE				LR		LR		
	comp=Z,190nm,14.6s,MS4.0							
NWAO	**Narrogin (SRO)**	**38.06**	**152**	*e*P		**P**	**21 24 24.0**	**-0.2**
NWAO				pmax		pmax		
	comp=Z,39nm,1.4s							
NWAO	**Narrogin (SRO)**	**38.06**	**152**	P		**P**	**21 24 24.8**	**+0.6**
	comp=Z,9.1nm,0.9s,mb4.5,baz=318,slow=13,SNR=3.3							
NWAO	**Narrogin (SRO)**	**38.06**	**152**	*e*P		**P**	**21 24 24.0**	**-0.2**
	comp=Z,39nm,1.4s,mb4.9							
GTA	**Gaotai**	**38.92**	**3**	P		**P**	**21 24 31.5**	**+0.2**
GTA				AP		pP	21 24 42.0	+2.0
GTA				XP		sP	21 24 46.8	+3.1
GTA				AMB		AMB		
	comp=Z,6.0nm,0.9s,mb4.3							
GTA				AMB		AMB		
	comp=Z,69nm,12.5s							
GTA				LR		LR		
	comp=N,207nm,12.5s							
GTA				LR		LR		
	comp=E,250nm,19.0s							
GTA				LR		LR		
	comp=Z,241nm,12.2s,MS4.2							
JOW	**Kunigami**	**39.71**	**46**	P		**P**	**21 24 38.8**	**+0.8**
	comp=Z,9.1nm,0.7s,mb4.6,baz=265,slow=13,SNR=4.5							
WRA	**Warramunga Arr**	**41.49**	**121**	P		**P**	**21 24 52.2**	**-0.4**
	comp=Z,14nm,0.7s,mb4.7,baz=300,slow=8.9,SNR=110							
WRA				PcP		PcP	21 26 50.2	-0.4
	comp=Z,1.8nm,0.6s,baz=312,slow=2.5,SNR=6.1							
WRAB	**Tennant Creek**	**41.49**	**121**	*e*P		**P**	**21 24 52.1**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,19nm,0.6s,mb4.9							
WRAB	**Tennant Creek**	**41.49**	**121**	*e*P		**P**	**21 24 52.1**	**-0.6**
	comp=Z,19nm,0.6s,mb4.9							
WB2	**Warramunga Arr**	**41.50**	**121**	*e*P		**P**	**21 24 52.1**	**-0.6**
DL2	**Dalian**	**44.34**	**27**	P		**P**	**21 25 16.8**	**+1.0**
DL2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.7							
DL2				LR		LR		
	comp=N,100nm,13.9s,MS4.1							
DL2				LR		LR		
	comp=E,150nm,14.3s,MS4.1							
DL2				LR		LR		
	comp=Z,270nm,18.3s,MS4.2							
JNU	**Nakatsue**	**45.34**	**41**	P		**P**	**21 25 24.4**	**+0.6**
	comp=Z,8.8nm,0.8s,mb4.6,baz=29,slow=9.1,SNR=4.4							
KS15	**Wonju Array Si**	**46.42**	**34**	*e*P		**P**	**21 25 31.8**	**-0.5**
AAK	**Ala-Archa**	**46.81**	**337**	*i* P		**P**	**21 25 35.4**	**+0.1**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.3							
SONM	**Songino Array**	**47.93**	**8**	P		**P**	**21 25 44.9**	**+0.8**
	comp=Z,5.4nm,0.7s,mb4.7,baz=188,slow=9.2,SNR=53							
SONM				PcP		PcP	21 27 12.4	-0.1
	comp=Z,3.6nm,0.8s,baz=182,slow=3.5,SNR=6.3							
MKAR	**Makanchi Array**	**48.07**	**346**	P		**P**	**21 25 45.6**	**+0.4**
	comp=Z,9.8nm,0.7s,mb5.0,baz=158,slow=8.1,SNR=116							
KKAR	**Karatay Array**	**48.85**	**334**	*i* P		**P**	**21 25 51.5**	**+0.2**
KKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.1							
CN2	**Changchun**	**49.98**	**26**	⇓P		**P**	**21 26 00.0**	**+0.1**
CN2				AMB		AMB		
	comp=Z,20nm,0.6s,mb5.3							
ZAK	**Zakamensk**	**50.08**	**5**⇑	*i*P		**P**	**21 26 00.2**	**-0.4**
ZAK				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.2							
ZAK				pmax		pmax		
	comp=Z,1.0nm,1.0s,mb3.8							
CTA	**Charters Tower**	**52.02**	**116**	*e*P		**P**	**21 26 15.6**	**-0.1**
	comp=Z,6.7nm,0.9s,mb4.6							
CTA	**Charters Tower**	**52.02**	**116**	*e*P		**P**	**21 26 15.6**	**-0.1**
CTA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
MAT	**Matsushiro**	**52.21**	**42**	P		**P**	**21 26 15.6**	**-1.4**
MJAR	**Matsushiro Arr**	**52.21**	**42**	P		**P**	**21 26 15.7**	**-1.3**
	comp=Z,2.5nm,0.7s,mb4.3,baz=224,slow=8.2,SNR=17							
KURK	**Kurchatov**	**52.62**	**345**	P		**P**	**21 26 19.8**	**-0.1**
KURK				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.5							
KURK	**Kurchatov**	**52.62**	**345**	*e*P		**P**	**21 26 18.7**	**-1.1**
	comp=Z,18nm,1.1s,mb4.9							
STKA	**Stephens Creek**	**52.70**	**132**	⇓*i*P		**P**	**21 26 20.9**	**+0.2**
	comp=Z,23nm,0.6s,mb5.3							
STKA	**Stephens Creek**	**52.70**	**132**	P		**P**	**21 26 21.0**	**+0.2**
	comp=Z,27nm,0.6s,mb5.4,baz=303,slow=7.1,SNR=135							
ZAL	**Zalesovo**	**54.38**	**351**	P		**P**	**21 26 32.4**	**-0.3**
	comp=Z,7.8nm,0.5s,mb4.9,baz=305,slow=4.8,SNR=35							
ZAL	**Zalesovo**	**54.38**	**351**	P		**P**	**21 26 32.4**	**-0.3**
NVS	**Novosibirsk**	**55.51**	**350**	*e*P		**P**	**21 26 39.4**	**-1.6**
NVS				pmax		pmax		
	comp=N,10.0nm,1.0s							
NVS				pmax		pmax		
	comp=E,5.0nm,1.0s							
NVS				pmax		pmax		
	comp=Z,12nm,1.0s,mb4.9							
VOSK	**Vostochnaya**	**56.62**	**341**	P		**P**	**21 26 47.8**	**-1.2**
VOSK				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.4							
KLR	**Kul'dur**	**56.93**	**26**	*e*P		**P**	**21 26 48.7**	**-2.6**
BVA0	**Borovoye Array**	**57.07**	**341**	*i* P		**P**	**21 26 51.0**	**-1.2**
BVA0				pmax		pmax		
	comp=Z,1.0nm,0.9s,mb3.9							
BRVK	**Borovoye**	**57.13**	**341**	*e*P		**P**	**21 26 50.6**	**-2.0**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.4							
BRVK	**Borovoye**	**57.13**	**341**	*e*P		**P**	**21 26 50.6**	**-2.0**
	comp=Z,3.3nm,0.7s,mb4.5							
AB31	**Akbulak array**	**58.30**	**332**	*i* P		**P**	**21 26 59.5**	**-1.4**
AB31				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.6							
BOD	**Bodaibo**	**58.80**	**10**⇑	*i*P		**P**	**21 27 03.3**	**-0.9**
BOD				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.8							
ARMA	**Armidale**	**59.94**	**126**	⇓*i*P		**P**	**21 27 06.3**	**-6.2**
YSS	**Yuzh-Sakhalins**	**60.95**	**34**⇓	*e*P		**P**	**21 27 19.0**	**-0.1**
YSS				pmax		pmax		
	comp=Z,30nm,1.0s,mb5.4							
YAK	**Yakutsk**	**66.17**	**16**	*e*P		**P**	**21 27 52.3**	**-0.9**
YAK				*e*PP		pP	21 28 02.2	-0.1
YAK				pmax		pmax		
	comp=Z,30nm,0.8s,mb5.4							
YAK	**Yakutsk**	**66.17**	**16**	*e*P		**P**	**21 27 52.3**	**-0.8**
	comp=Z,30nm,0.8s,mb5.4							
YAK				*e*pP		pP	21 28 02.2	-0.1
BRTR	**Keskin Array B**	**69.77**	**313**	P		**P**	**21 28 15.1**	**-1.0**
	comp=Z,1.8nm,0.8s,mb4.1,baz=135,slow=8.2,SNR=11							
MAW	**Mawson**	**71.94**	**193**	*e*P		**P**	**21 28 28.3**	**-0.4**
MAW				pmax		pmax		
	comp=Z,6.0nm,1.3s							
MAW	**Mawson**	**71.94**	**193**	*e*P		**P**	**21 28 28.3**	**-0.4**
	comp=Z,6.4nm,1.3s,mb4.4							
OBN	**Obninsk**	**73.39**	**328**⇑	*e*P		**P**	**21 28 37.1**	**-0.3**
OBN				pmax		pmax		
	comp=Z,18nm,0.7s,mb5.1							
OBN				MLR		MLR		
	comp=Z,300nm,13.0s,MS4.8							
BOSA	**Boshof**	**74.49**	**240**	P		**P**	**21 28 44.5**	**+0.2**
	comp=Z,2.4nm,1.1s,mb4.0,baz=84,slow=17,SNR=3.6							
TIRR	**Tirgusor**	**74.81**	**316**	⇓P		**P**	**21 28 45.1**	**-0.8**
AKASG	**Malin Array Be**	**75.99**	**323**	P		**P**	**21 28 51.5**	**-0.9**
	comp=Z,6.0nm,0.6s,mb4.7,baz=90,slow=4.7,SNR=21							
MLR	**Muntele Rosu**	**76.76**	**317**	⇓P		**P**	**21 28 57.7**	**+0.8**
BURAR	**Bucovina Array**	**77.73**	**319**	⇑P		**P**	**21 29 03.4**	**+1.2**
BURAR	**Bucovina Array**	**77.73**	**319**	⇑P		**P**	**21 29 03.4**	**+1.2**
DRGR		**79.23**	**318**	⇑P		**P**	**21 29 11.1**	**+0.7**
KOLS	**Kolonicke sedl**	**79.93**	**320**	*e*P		**P**	**21 29 15.4**	**+1.2**
KOLS				*e*PP		PP	21 32 15.8	-1.6
SUW	**Suwalki**	**80.42**	**325**	*e*P		**P**	**21 29 16.0**	**-0.7**
SUW				pmax		pmax		
	comp=Z,33nm,0.8s,mb5.3							
SUW	**Suwalki**	**80.42**	**325**	*e*P		**P**	**21 29 16.0**	**-0.7**
	comp=Z,33nm,0.8s,mb5.3							
CRVS	**Cervenica-Dubn**	**80.45**	**320**	*e*P		**P**	**21 29 18.8**	**+1.9**
FINES	**FINESS Array B**	**80.79**	**333**	P		**P**	**21 29 18.5**	**0.0**
	comp=Z,4.0nm,0.7s,mb4.5,baz=106,slow=5.6,SNR=35							
KAF	**Kangasniemi**	**80.88**	**333**	*e*p		**P**	**21 29 18.5**	**-0.4**
	comp=Z,8.2nm,0.8s,mb4.7,baz=104,slow=4.9							
KAF	**Kangasniemi**	**80.88**	**333**	*e*P		**P**	**21 29 18.5**	**-0.4**
KAF				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.7							
KECS	**Kecovo**	**81.02**	**319**	*e*P		**P**	**21 29 18.0**	**-1.9**
BILL	**Bilibino**	**81.89**	**21**	*e*P		**P**	**21 29 24.8**	**+0.8**
BILL				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.0							
BILL				MLR		MLR		
	comp=Z,200nm,17.0s,MS4.5							
VYHS	**Vyhne**	**82.10**	**319**	*e*P		**P**	**21 29 26.0**	**+0.4**
KEV	**Kevo**	**82.92**	**341**	*e*p		**P**	**21 29 30.0**	**+0.6**
	comp=Z,7.4nm,0.9s,mb4.7							
KEV	**Kevo**	**82.92**	**341**	*e*P		**P**	**21 29 30.0**	**+0.6**
KEV				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.7							
MORC	**Moravsky Berou**	**83.12**	**320**	*e*P		**P**	**21 29 31.2**	**+0.4**
MORC				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb4.3							
MORC	**Moravsky Berou**	**83.12**	**320**	*e*P		**P**	**21 29 31.2**	**+0.4**
	comp=Z,3.2nm,1.0s,mb4.3							
ZST	**Bratislava**	**83.21**	**318**	*e*P		**P**	**21 29 31.7**	**+0.4**
ZST				*e*			21 29 36.8	
ARCES	**ARCESS Array B**	**83.36**	**340**	P		**P**	**21 29 32.6**	**+0.9**
	comp=Z,4.1nm,0.5s,mb4.8,baz=105,slow=4.3,SNR=41							
PERS	**Pernice**	**84.38**	**317**	*e*P		**P**	**21 29 37.9**	**+0.6**
LJU	**Ljubljana**	**84.73**	**316**	*i* P		**P**	**21 29 40.2**	**+1.1**
VNDA	**Vanda**	**84.99**	**169**	P		**P**	**21 29 40.4**	**+0.7**
	comp=Z,0.8nm,0.5s,mb4.1,baz=316,slow=4.4,SNR=3.8							
GERES	**GERESS Array B**	**85.52**	**319**	P		**P**	**21 29 43.8**	**+0.9**
	comp=Z,2.2nm,0.9s,mb4.4,baz=104,slow=5.5,SNR=19							
BRG	**Berggiesshubel**	**85.53**	**321**	P		**P**	**21 29 43.7**	**+0.8**
BRG				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.5							
BRG	**Berggiesshubel**	**85.53**	**321**	P		**P**	**21 29 43.7**	**+0.8**
	comp=Z,3.0nm,0.9s,mb4.5							
NB2	**NORSAR Subarra**	**87.79**	**331**	P		**P**	**21 29 53.8**	**+0.1**
	comp=Z,5.1nm,1.0s,mb4.7,baz=96,slow=4.6							
NB2	**NORSAR Subarra**	**87.79**	**331**	P		**P**	**21 29 53.8**	**+0.1**
NB2				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.7							
NOA	**NORSAR Array B**	**87.79**	**331**	P		**P**	**21 29 53.9**	**+0.2**
	comp=Z,2.6nm,0.8s,mb4.5,baz=94,slow=4.9,SNR=6.8							
PDAR	**Pinedale Array**	**130.72**	**26**	PKP		PKPdf	21 36 17.2	-3.0
	comp=Z,0.7nm,0.6s,baz=306,slow=0.4,SNR=7.8							
MNTX	**Cornudas Mount**	**141.53**	**32**	*e*PKPpre			21 36 31.8	
LTX	**Lajitas**	**144.29**	**32**	*e*PKPdf		PKPdf	21 36 40.9	-4.4
TXAR	**Lajitas Array**	**144.29**	**32**	PKP		PKPdf	21 36 41.1	-4.2
	comp=Z,3.8nm,0.5s,baz=216,slow=0.6,SNR=65							
CPUP	**Villa Florida**	**144.48**	**221**	*e*PKPdf		PKPdf	21 36 40.7	-5.0

MAN 30 21:17:22.0, 13.77N×120.52E, h91km, mb3.6, ML2.3, MS1.8, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.27**	**263**	*e*P	P	21 17 37.0	+1.6
PGP	**Puerto Galera**	**0.50**	**122**	*e*P	P	21 17 38.4	+1.4
BOAC	**Boac**	**1.32**	**103**	*e*P	P	21 17 46.6	+0.6
BUSP	**Coron**	**1.78**	**190**	*e*P	P	21 17 52.0	+0.1
BUSP				*e*S	S	21 18 14.7	+0.8
BALP	**Baler**	**2.21**	**27**	*e*P	P	21 17 57.6	0.0

KRSC 30 21:25:02.2±0.6, **56.47N×161.53E, h96km±2km, ML3.8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVLR	**Shiveluch**	**0.20**	**302**	*e*P	P	21 25 17.5	+1.5
SVLR				*e*S	S	21 25 28.7	+2.4
KLY	**Klyuchi**	**0.51**	**252**	*i* P	P	21 25 16.9	-1.0
KLY				*i* S	S	21 25 27.4	-2.1
CIRR	**Tsirk**	**0.56**	**231**	*i* P	P	21 25 18.6	+0.3
CIRR				*i* S	S	21 25 30.4	+0.2
KRSR	**Krestovskiy**	**0.59**	**245**	*i* P	P	21 25 18.5	0.0
KRSR				*i* S	S	21 25 30.4	-0.2
LGNR	**Loginova**	**0.61**	**231**	*i* P	P	21 25 19.4	+0.8
LGNR				*i* S	S	21 25 31.8	+0.9
ZLN	**Zelenaya**	**0.61**	**222**	*i* P	P	21 25 18.7	+0.1
ZLN				*i* S	S	21 25 31.3	+0.4
KBTR	**Krutoberegovo**	**0.76**	**110**	*i* P	P	21 25 20.1	0.0
KBTR				*i* S	S	21 25 33.3	0.0
KPT	**Kopyto**	**0.89**	**236**	*i* P	P	21 25 22.3	+1.0
KPT				*i* S	S	21 25 37.0	+1.4
KOZ	**Kozyrevsk**	**1.01**	**247**	*i* P	P	21 25 23.1	+0.4
KOZ				*i* S	S	21 25 38.2	+0.1
KMNR	**Kamenistaya**	**1.02**	**226**	*e*P	P	21 25 23.8	+1.0
KMNR				*e*S	S	21 25 39.3	+1.1
SRDR	**Sredinnyy**	**1.02**	**262**	*i* P	P	21 25 23.1	+0.3
SRDR				*i* S	S	21 25 37.7	-0.6
TUMR	**Tumrok**	**1.42**	**214**	*i* P	P	21 25 29.0	+1.3
TUMR				*i* S	S	21 25 48.5	+1.9
ESO	**Esso**	**1.67**	**252**	*

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
KUR	**Kuril'sk**	**2.21**	**269**	*i* P	**P**	**21 34 15.4**	**-1.5**
KUR				*e*S	**S**	**21 34 42.9**	**-0.3**
KUR				pmax	pmax		
	comp=N,310nm,0.3s						
KUR				pmax	pmax		
	comp=E,180nm,0.3s						
KUR				pmax	pmax		
	comp=Z,640nm,0.3s						
KUR				smax			
	comp=N,5μm,1.0s						
KUR				smax			
	comp=E,2μm,1.0s						
KUR				smax			
	comp=N,1μm,0.5s						
KUR				smax			
	comp=E,670nm,0.5s						
KUR	**Kuril'sk**	**2.21**	**269**	*i* P	**P**	**21 34 15.4**	**-1.5**
KUR				AMB	AMB	21 34 18.0	
	comp=E,310nm,0.3s						
KUR				AMB	AMB	21 34 18.0	
	comp=E,180nm,0.3s						
KUR				AMB	AMB	21 34 18.0	
	comp=E,640nm,0.3s						
KUR				*e*S	**S**	**21 34 42.9**	**-0.3**
KUR				A		21 34 45.0	
	comp=E,5μm,1.0s						
KUR				A		21 34 45.0	
	comp=E,2μm,1.0s						
KUR				A		21 34 47.3	
	comp=E,1μm,0.5s						
KUR				A		21 34 47.3	
	comp=E,670nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.87**	**253**	*e*PN	**P**	**21 34 40.5**	**-0.1**
YUK				*e*S	**S**	**21 35 24.4**	**-1.1**
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=N,280nm,0.2s						
YUK				pmax	pmax		
	comp=E,350nm,0.3s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
YUK				smax			
	comp=N,2μm,0.8s						
YUK				smax			
	comp=E,4μm,0.8s						
YUK	**Yuzh-Kuril'sk**	**3.87**	**253**	*e*P	**P**	**21 34 40.5**	**-0.1**
YUK				AMB	AMB	21 34 44.3	
	comp=E,280nm,0.2s						
YUK				AMB	AMB	21 34 44.3	
	comp=E,350nm,0.2s						
YUK				AMB	AMB	21 34 44.3	
	comp=E,1μm,0.2s						
YUK				*e*S	**S**	**21 35 24.4**	**-1.1**
YUK				A		21 35 38.5	
	comp=E,3μm,0.5s						
YUK				A		21 35 38.5	
	comp=E,1μm,0.5s						
YUK				A		21 35 42.0	
	comp=E,2μm,0.8s						
YUK				A		21 35 42.0	
	comp=E,4μm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.96**	**289**	*e*PN	**P**	**21 35 12.0**	**+2.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS				MLR	MLR		
	comp=N,500nm,16.0s						
YSS				MLR	MLR		
	comp=E,800nm,16.0s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.96**	**289**	*e*Pn	**P**	**21 35 10.8**	**+0.9**
	comp=Z,70nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.96**	**289**	*e*P	**P**	**21 35 12.0**	**+2.0**
YSS				AMB	AMB	21 35 13.2	
	comp=Z,20nm,0.5s						
YSS				*e*S	**S**	**21 36 18.0**	**0.0**
YSS				A		21 36 20.0	
	comp=Z,40nm,0.8s						
YSS				*e*LQ		21 36 48.0	
YSS				*e*LR	LR	21 37 04.0	
YSS				AMS	AMS	21 37 30.0	
	comp=Z,500nm,16.0s						
YSS				AMS	AMS	21 37 30.0	
	comp=Z,800nm,16.0s						
YSS				AMS	AMS	21 37 30.0	
	comp=Z,1μm,16.0s						
SKR	**Severo-Kuril's**	**6.39**	**31**	*e*PN	**P**	**21 35 13.5**	**-2.6**
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				MLR	MLR		
	comp=N,2μm,14.0s						
SKR				MLR	MLR		
	comp=E,2μm,14.0s						
SKR	**Severo-Kuril's**	**6.39**	**31**	*e*P	**P**	**21 35 13.5**	**-2.6**
SKR				AMB	AMB	21 35 16.5	
	comp=E,60nm,0.5s						
SKR				AMB	AMB	21 35 16.5	
	comp=E,80nm,0.5s						
SKR				*e*S	**S**	**21 36 20.7**	**-8.0**
SKR				A		21 36 45.0	
	comp=E,110nm,0.5s						
SKR				A		21 36 45.0	
	comp=E,140nm,0.5s						
SKR				A		21 36 45.0	
	comp=E,80nm,0.5s						
SKR				AMS	AMS	21 37 56.0	
	comp=E,2μm,14.0s						
UGL	**Uglegorsk**	**7.16**	**305**	*e*PN	**P**	**21 35 29.5**	**+2.7**
UGL				*e*		21 36 53.0	
UGL				pmax	pmax		
	comp=Z,39nm,0.5s						
UGL				MLR	MLR		
	comp=N,550nm,15.0s						
UGL				MLR	MLR		
	comp=E,900nm,15.0s						
UGL				MLR	MLR		
	comp=Z,1μm,15.0s						
UGL	**Uglegorsk**	**7.16**	**305**	*e*P	**P**	**21 35 29.5**	**+2.7**
UGL				AMB	AMB	21 35 32.0	
	comp=Z,39nm,0.5s						
UGL				*e*L		21 37 38.0	
UGL				AMS	AMS	21 38 34.0	
	comp=Z,11μm,15.0s						
UGL				AMS	AMS	21 38 34.0	
	comp=Z,550nm,15.0s						
UGL				AMS	AMS	21 38 34.0	
	comp=Z,900nm,15.0s						
TYV	**Tymovskoe**	**7.88**	**318**	*e*P	**P**	**21 35 33.5**	**-3.3**
TYV				AMB	AMB	21 35 37.5	
	comp=Z,26nm,0.9s						
TYV				*e*S	**S**	**21 37 02.0**	**-3.7**
TYV				A		21 37 08.8	
	comp=Z,49nm,0.9s						
TYV				AMS	AMS	21 38 45.0	
	comp=Z,600nm,14.0s						
TYV				AMS	AMS	21 38 45.0	
	comp=Z,1μm,16.0s						
PET	**Petropavlovsk**	**9.21**	**30**	*e*P	**P**	**21 35 56.5**	**+1.2**
PET				A		21 37 39.3	
	comp=Z,50nm,0.6s						
PET				AMS	AMS	21 40 11.7	
	comp=Z,220nm,15.0s						
OKH	**Okha**	**9.78**	**330**	AMS	AMS	21 40 56.2	
	comp=Z,600nm,13.0s						
OKH				AMS	AMS	21 40 56.2	
	comp=Z,900nm,13.0s						
OKH				AMS	AMS	21 40 56.2	
	comp=Z,1μm,13.0s						
TEY	**Ternei**	**10.17**	**274**	*e*P	**P**	**21 36 11.0**	**+2.6**
TEY				AMS	AMS	21 40 04.0	
	comp=Z,2μm,18.0s						
MAJO	**Matsushiro**	**13.02**	**232**	*e*PN	**P**	**21 36 52.0**	**+4.9**
MAJO				pmax	pmax		
	comp=Z,19nm,0.9s						
MAJO	**Matsushiro**	**13.02**	**232**	*e*P	**P**	**21 36 52.0**	**+4.9**
	comp=Z,19nm,0.9s						
MAT	**Matsushiro**	**13.02**	**232**	P	**P**	**21 36 44.6**	**-2.5**
MJAR	**Matsushiro Arr**	**13.02**	**232**	Pn	**P**	**21 36 44.2**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=30,slow=13,SNR=15						
KLR	**Kul'dur**	**13.64**	**294**	*e*P	**P**	**21 36 57.1**	**+2.1**
KLR				MLR	MLR		
	comp=Z,500nm,14.0s						
KLR	**Kul'dur**	**13.64**	**294**	*e*rx	rx	21 43 12.0	
EKMR	**Ekimchan**	**14.10**	**310**	*e*P	**P**	**21 37 01.5**	**+0.5**
EKMR				AMB	AMB	21 37 08.3	
	comp=Z,10.0nm,0.8s						
MA2	**Magadan**	**14.30**	**360**	*e*P	**P**	**21 37 02.7**	**-0.9**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MA2	**Magadan**	**14.30**	**360**	*e*P	**P**	**21 37 02.7**	**-0.8**
	comp=Z,9.6nm,0.7s						
MDJ	**Mudanjiang**	**15.16**	**275**	P	**P**	**21 37 16.8**	**+1.8**
MDJ				AMB	AMB		
	comp=Z,20nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,38nm,4.3s						
MDJ				LR	LR		
	comp=N,273nm,16.5s						
MDJ				LR	LR		
	comp=E,200nm,18.9s						
MDJ				LR	LR		
	comp=Z,379nm,19.2s						
MDJ	**Mudanjiang**	**15.16**	**275**	*e*P	**P**	**21 37 16.9**	**+1.9**
	comp=Z,22nm,0.9s						
YASR	**Yasnyy**	**16.95**	**306**	*e*P	**P**	**21 37 37.6**	**0.0**
YASR				AMB	AMB	21 37 40.7	
	comp=Z,1.0nm,0.8s						
YASR				AMB	AMB	21 37 40.7	
	comp=Z,10.0nm,0.8s						
BMKR	**Bomnak**	**17.00**	**312**	*e*P	**P**	**21 37 39.0**	**+0.7**
BMKR				AMB	AMB	21 37 41.4	
	comp=Z,10.0nm,0.6s						
ZEA	**Zeya**	**17.51**	**307**	*e*P	**P**	**21 37 42.6**	**-2.0**
ZEA				AMB	AMB	21 37 46.4	
	comp=Z,24nm,0.9s						
ZEA				AMB	AMB	21 37 46.4	
	comp=Z,10.0nm,0.9s						
ZEA				AMB	AMB	21 37 46.4	
	comp=Z,30nm,0.9s						
ZEA				AMB	AMB	21 37 46.4	
	comp=Z,27nm,0.9s						
ZEA				*e*rx	rx	21 41 24.0	
KROS	**Kirovskiy**	**17.90**	**309**	*e*P	**P**	**21 37 48.0**	**-1.5**
KROS				AMB	AMB	21 37 51.8	
	comp=Z,10.0nm,0.5s						
CN2	**Changchun**	**18.25**	**274**	*e*P	**P**	**21 37 52.8**	**-1.2**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
KS15	**Wonju Array Si**	**18.99**	**254**	*e*P	**P**	**21 38 01.1**	**-1.9**
JNU	**Nakatsue**	**19.71**	**239**	P	**P**	**21 38 11.9**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=20,slow=9.8,SNR=4.7						
INCN	**Inchon**	**19.82**	**255**	*e*P	**P**	**21 38 11.8**	**-0.4**
	comp=Z,23nm,1.1s						
CLNS	**Chul'man**	**19.91**	**315**	*e*P	**P**	**21 38 13.3**	**+0.3**
CLNS				pmax	pmax		
	comp=Z,15nm,0.7s						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,200nm,14.0s						
CLNS				MLR	MLR		
	comp=N,200nm,15.0s						
CLNS				MLR	MLR		
	comp=E,60nm,12.0s						
SNY	**Shenyang**	**20.13**	**270**	↑P	**P**	**21 38 15.0**	**-0.4**
YAK	**Yakutsk**	**20.81**	**331**	*d* *i*P	**P**	**21 38 22.3**	**-0.1**
YAK				pmax	pmax		
	comp=Z,50nm,1.2s						
YAK				MLR	MLR		
	comp=Z,300nm,25.0s,MS3.6						
YAK	**Yakutsk**	**20.81**	**331**	*e*P	**P**	**21 38 21.3**	**-1.0**
	comp=Z,29nm,0.7s						
BILL	**Bilibino**	**24.15**	**14**	P	**P**	**21 38 54.8**	**-0.4**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.0						
BILL	**Bilibino**	**24.15**	**14**	P	**P**	**21 38 54.8**	**-0.3**
	comp=Z,8.0nm,1.2s,mb4.0						
SSE	**Sheshan**	**27.20**	**249**	P	**P**	**21 39 22.3**	**-1.9**
SSE				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.6						
SSE				AMB	AMB		
	comp=Z,112nm,4.4s						
SSE	**Sheshan**	**27.20**	**249**	P	**P**	**21 39 22.2**	**-2.0**
	comp=Z,13nm,0.7s,mb4.6						
NJ2	**Nanjing**	**28.16**	**253**	*e*P	**P**	**21 39 33.3**	**+0.4**
NJ2				AP	pP	21 39 42.5	-0.4
NJ2				XP	sP	21 39 46.5	-0.9
NJ2				PP	PP	21 40 24.0	+0.2
NJ2				S	**S**	**21 44 15.0**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,140nm,5.3s						
NJ2				LR	LR		
	comp=N,510nm,22.9s,MS4.2						
NJ2				LR	LR		
	comp=E,640nm,23.7s,MS4.2						
NJ2				LR	LR		
	comp=Z,320nm,22.2s,MS3.9						
SONM	**Songino Array**	**30.45**	**291**	P	**P**	**21 39 52.6**	**-0.5**
	comp=Z,1.6nm,0.6s,mb3.9,baz=63,slow=8.3,SNR=11						
SONM				PcP	PcP	21 42 51.2	-0.9
	comp=Z,0.7nm,0.6s,baz=115,slow=2.4,SNR=4.2						
SONM				pPcP		21 43 03.6	
	comp=Z,0.2nm,0.4s,baz=105,slow=4.2,SNR=3.7						
ZAK	**Zakamensk**	**31.98**	**297**	*e*P	**P**	**21 40 06.2**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.6						
ENH	**Enshi**	**35.65**	**260**	*e*P	**P**	**21 40 36.0**	**-2.4**
	comp=Z,16nm,1.1s,mb4.9						
LZH	**Lanzhou**	**36.46**	**272**	*e*P	**P**	**21 40 46.0**	**+0.8**
LZH				AP	pP	21 40 55.5	+0.1
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,149nm,4.0s						
LZH	**Lanzhou**	**36.46**	**272**	*e*P	**P**	**21 40 46.1**	**+0.9**
LZH				*SP	sP	21 40 58.0	-2.0
LZH				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
LZH	**Lanzhou**	**36.46**	**272**	*e*P	**P**	**21 40 46.1**	**+0.9**
	comp=Z,30nm,1.0s,mb5.2						
LZH				pP	pP	21 40 55.5	+0.1
LZH				sP	sP	21 40 58.0	-2.0
GTA	**Gaotai**	**37.74**	**280**	P	**P**	**21 40 57.0**	**+1.0**
GTA				AP	pP	21 41 04.3	-1.9
GTA				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.6						
GTA				AMB	AMB		
	comp=Z,106nm,11.8s						
GTA				LR	LR		
	comp=N,130nm,14.1s,MS4.1						
GTA				LR	LR		
	comp=E,170nm,16.7s,MS4.1						
GTA				LR	LR		
	comp=E,185nm,15.6s,MS4.0						
ILAR	**Eielson Array**	**38.60**	**37**	P	**P**	**21 41 01.2**	**-1.6**
	comp=Z,1.0nm,0.6s,mb3.7,baz=273,slow=8.3,SNR=10						
CD2	**Chengdu**	**39.28**	**265**	P	**P**	**21 41 09.0**	**+0.2**
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
GYA	**Guiyang**	**39.95**	**257**	P	**P**	**21 41 15.5**	**+1.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
ZAL	**Zalesovo**	**42.29**	**306**	P	**P**	**21 41 33.1**	**-0.2**
	comp=Z,0.7nm,0.4s,mb3.6,baz=338,slow=3.8,SNR=3.4						
ZAL				PcP	PcP	21 43 26.6	-0.7
	comp=Z,1.5nm,0.5s,baz=38,slow=5.5,SNR=8.8						
ZAL				pPcP		21 43 38.4	
	comp=Z,1.6nm,0.8s,baz=51,slow=3.4,SNR=7.3						
ZAL	**Zalesovo**	**42.29**	**306**	P	**P**	**21 41 33.1**	**-0.1**
ZAL				PcP	PcP	21 43 26.6	-0.7
ZAL				pPcP		21 43 38.4	
INK	**Inuvik**	**43.66**	**31**	P	**P**	**21 41 45.1**	**+0.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**43.66**	**31**	P	**P**	**21 41 45.1**	**+0.8**
	comp=Z,2.3nm,0.5s,mb4.1,baz=277,slow=10.0,SNR=10						
INK	**Inuvik**	**43.66**	**31**	*e*P	**P**	**21 41 44.6**	**+0.3**
	comp=Z,7.3nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**46.30**	**298**	P	**P**	**21 42 04.8**	**-0.9**
	comp=Z,3.5nm,0.7s,mb4.4,baz=75,slow=7.9,SNR=38						
MKAR				PcP	PcP	21 43 39.8	-1.3
	comp=Z,1.2nm,0.5s,baz=107,slow=0.2,SNR=7.3						
MKAR				pPcP		21 43 52.5	
	comp=Z,1.0nm,0.6s,baz=60,slow=3.0,SNR=4.1						
KURK	**Kurchatov**	**46.94**	**304**	*e*P	**P**	**21 42 08.8**	**-1.8**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
KURK	**Kurchatov**	**46.94**	**304**	*e*P	**P**	**21 42 08.8**	**-1.8**
	comp=Z,7.9nm,0.9s,mb4.6						
DLBC	**Dease Lake**	**47.66**	**44**	P	**P**	**21 42 16.9**	**+0.6**
	comp=Z,0.9nm,0.6s,mb4.0,baz=266,slow=9.8,SNR=3.8						
DLBC	**Dease Lake**	**47.66**	**44**	*e*P	**P**	**21 42 17.8**	**+1.6**
LSA	**Lhasa**	**48.87**	**273**	P	**P**	**21 42 27.3**	**+1.3**
LSA	**Lhasa**	**48.87**	**273**	*e*P	**P**	**21 42 27.5**	**+1.5**
LSA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
LSA	**Lhasa**	**48.87**	**273**	*e*P	**P**	**21 42 27.5**	**+1.5**
	comp=Z,11nm,0.8s,mb4.9						
BRVK	**Borovoye**	**50.68**	**310**	*e*P	**P**	**21 42 39.2**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BRVK	**Borovoye**	**50.68**	**310**	*e*P	**P**	**21 42 39.2**	**-0.3**
	comp=Z,1.2nm,0.8s,mb3.9						
SHL	**Shillong**	**50.85**	**268**	*e*P	**P**	**21 42 42.0**	**+0.8**
ULHL	**Ulahol**	**52.24**	**295**	P	**P**	**21 42 52.2**	**+0.8**
	SNR=10						
USP	**Ospenovka**	**52.82**	**297**	P	**P**	**21 42 56.0**	**+0.3**
	SNR=11						
KZA	**Kyzart**	**52.96**	**295**	P	**P**	**21 42 58.0**	**+1.3**
	SNR=11						
YKA	**Yellowknife Ar**	**52.97**	**35**	P	**P**	**21 42 56.4**	**-0.2**
	comp=Z,1.8nm,0.8s,mb4.0,baz=296,slow=6.9,SNR=4.9						
YKA				pP	pP	21 43 07.2	+0.2
	comp=Z,2.0nm,0.8s,baz=299,slow=7.4,SNR=4.4						
YKA	**Yellowknife Ar**	**52.97**	**35**	P	**P**	**21 42 56.4**	**-0.2**
YKA				pP	pP	21 43 07.2	+0.2
AAK	**Ala-Archa**	**53.15**	**296**	*c* *i*P	**P**	**21 42 57.2**	**-1.0**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**53.15**	**296**	*e*P	**P**	**21 42 56.9**	**-1.3**
	comp=Z,5.1nm,0.8s,mb4.5						
UCH	**Uchtor**	**53.35**	**296**	P	**P**	**21 42 53.7**	**-6.0**
	SNR=11						
EKS2	**Erkin-Say**	**53.59**	**297**	P	**P**	**21 43 02.0**	**+0.5**
	SNR=7.5						
AML	**Almayashu**	**53.92**	**296**	P	**P**	**21 43 05.4**	**+1.5**
	SNR=5.7						
KKN	**Kakani**	**54.14**	**275**	*e*P	**P**	**21 43 06.4**	**+0.7**
	comp=Z,38nm,0.8s,mb5.4						
PKI	**Pulchoki**	**54.19**	**275**	*e*P	**P**	**21 43 06.2**	**+0.1**
	comp=Z,25nm,0.9s,mb5.1						
DMN	**Daman**	**54.38**	**275**	*e*P	**P**	**21 43 07.9**	**+0.5**
	comp=Z,26nm,0.6s,mb5.3						
GKN	**Gorkha**	**54.47**	**276**	*e*P	**P**	**21 43 08.4**	**+0.3**
	comp=Z,35nm,0.7s,mb5.4						
ARU	**Arti**	**55.08**	**317**	↓ *i*P	**P**	**21 43 10.0**	**-2.2**
ARU				*e*		21 44 11.2	
ARU				*e*		21 45 12.6	
ARU				*e*PPP	PPP	21 46 25.9	-4.3
ARU				*e*S	**S**	**21 50 51.1**	**+0.6**
ARU				*e*		21 52 56.2	
ARU				*e*SS	SS	21 54 36.8	+2.5
ARU				*e*SSS	SSS	21 56 44.9	+8.0
ARU				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
KOLN	**Koldanda**	**55.34**	**276**	*e*P	**P**	**21 43 14.8**	**+0.4**
	comp=Z,22nm,0.7s,mb5.3						
SUMG	**Summit**	**62.24**	**3**	*e*P	**P**	**21 44 01.4**	**-0.4**
	comp=Z,29nm,0.9s,mb5.4						
FFC	**Flin Flon**	**62.80**	**39**	*e*P	**P**	**21 44 04.6**	**-1.1**
FFC				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
FFC	**Flin Flon**	**62.80**	**39**	*e*P	**P**	**21 44 04.6**	**-1.1**
	comp=Z,7.0nm,1.0s,mb4.8						
FCC	**Fort Churchill**	**63.28**	**32**	*e*P	**P**	**21 44 07.5**	**-1.4**
FCC				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
FCC	**Fort Churchill**	**63.28**	**32**	*e*P	**P**	**21 44 07.5**	**-1.3**
	comp=Z,4.0nm,0.8s,mb4.6						
FINES	**FINESS Array B**	**64.71**	**334**	P	**P**	**21 44 16.4**	**-1.6**
	comp=Z,2.6nm,0.8s,mb4.3,baz=35,slow=7.3,SNR=20						
TPAW	**Teton Pass**	**65.56**	**52**	*e*P	**P**	**21 44 24.6**	**+0.8**
	comp=Z,2.8nm,0.8s,mb4.3						
OBN	**Obninsk**	**65.66**	**325**	*e*P	**P**	**21 44 23.7**	**-0.5**
OBN				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
OBN				MLR	MLR		
	comp=Z,100nm,28.0s,MS3.9						
WRAB	**Tennant Creek**	**66.67**	**197**	↑*e*P	**P**	**21 44 30.3**	**-0.9**
WRA	**Warramunga Arr**	**66.68**	**197**	P	**P**	**21 44 30.9**	**-0.4**
	comp=Z,4.4nm,0.8s,mb4.5,baz=16,slow=6.7,SNR=27						
WRA				pP	pP	21 44 43.8	+1.6
	comp=Z,4.3nm,0.9s,baz=15,slow=6.6,SNR=8.2						
PDAR	**Pinedale Array**	**66.80**	**52**	P	**P**	**21 44 32.4**	**+0.7**
	comp=Z,1.3nm,0.8s,mb4.0,baz=312,slow=1.8,SNR=13						
PDAR				pP	pP	21 44 43.2	+0.7
	comp=Z,0.6nm,0.7s,baz=333,slow=3.3,SNR=4.5						
RSSD	**Black Hills**	**68.89**	**48**	*e*P	**P**	**21 44 44.2**	**-0.5**
RSSD				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
RSSD	**Black Hills**	**68.89**	**48**	*e*P	**P**	**21 44 44.2**	**-0.5**
	comp=Z,1.1nm,0.4s,mb4.1						
NB2	**NORSAR Subarra**	**69.11**	**340**	P	**P**	**21 44 43.9**	**-1.8**
	comp=Z,2.1nm,0.7s,mb4.2,baz=29,slow=6.2						
NB2	**NORSAR Subarra**	**69.11**	**340**	P	**P**	**21 44 43.9**	**-1.8**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
NOA	**NORSAR Array B**	**69.11**	**340**	P	**P**	**21 44 44.7**	**-1.0**
	comp=Z,4.4nm,0.8s,mb4.4,baz=29,slow=6.3,SNR=12						
NOA	**NORSAR Array B**	**69.11**	**340**	P	**P**	**21 44 44.7**	**-1.0**
HFS	**Hagfors**	**69.28**	**339**	P	**P**	**21 44 45.6**	**-1.3**
	comp=Z,4.8nm,0.8s,mb4.5,baz=46,slow=3.8,SNR=4.7						
KIV	**Kislovodsk**	**70.74**	**313**	↓ *e*P	**P**	**21 44 56.6**	**+0.6**
KIV				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
KIV	**Kislovodsk**	**70.74**	**313**	*e*P	**P**	**21 44 55.8**	**-0.2**
	comp=Z,20nm,0.9s,mb5.0						
AKASG	**Malin Array Be**	**71.91**	**325**	P	**P**	**21 45 02.0**	**-0.8**
	comp=Z,1.9nm,0.5s,mb4.3,baz=35,slow=5.8,SNR=17						
GNI	**Garni**	**72.32**	**309**	*i* P	PcP	21 45 20.1	-3.6
ANMO	**Albuquerque**	**73.86**	**57**	*i* P	**P**	**21 45 18.2**	**+3.6**
SCHQ	**Schefferville**	**75.21**	**22**	P	**P**	**21 45 20.6**	**-1.4**
	comp=Z,2.8nm,0.8s,mb4.3,baz=294,slow=10.0,SNR=4.1						
OJC	**Ojcow**	**75.86**	**330**	*e*P	**P**	**21 45 25.5**	**-0.3**
NIE	**Niedzica**	**76.34**	**329**	*e*P	**P**	**21 45 29.1**	**+0.6**
CRVS	**Cervenica-Dubn**	**76.36**	**328**	*e*P	**P**	**21 45 27.7**	**-0.9**
OKC	**Ostrava-Krasne**	**76.75**	**331**	*e*P	**P**	**21 45 30.9**	**0.0**
UPC	**Upice**	**76.90**	**332**	*e*P	**P**	**21 45 31.2**	**-0.5**
DPC	**Dobruska-Polom**	**76.93**	**332**	*e*P	**P**	**21 45 32.2**	**+0.3**
MORC	**Moravsky Berou**	**77.01**	**331**	*e*P	**P**	**21 45 31.6**	**-0.7**
MORC				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
MORC	**Moravsky Berou**	**77.01**	**331**	*e*P	**P**	**21 45 31.6**	**-0.8**
	comp=Z,13nm,0.9s,mb4.8						
MALT	**Malatya**	**77.03**	**312**	*e*P	**P**	**21 45 33.5**	**+0.8**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
MALT	**Malatya**	**77.03**	**312**	*e*P	**P**	**21 45 33.5**	**+0.7**
	comp=Z,4.2nm,0.8s,mb4.4						
CLL	**Collm**	**77.15**	**334**	↑ *i*P	**P**	**21 45 32.4**	**-0.7**
CLL				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
CLL	**Collm**	**77.15**	**334**	↑ *i*P	**P**	**21 45 32.4**	**-0.7**
	comp=Z,16nm,0.8s,mb5.0						
CLL	**

PRU	Pruhonice	77.82 333	eP	P	21 45 36.4	-0.4
MIB	Mutribah	78.14 300	eP	P	21 45 39.7	+0.7
MIB			AMb	AMB	21 45 40.6	
	comp=Z,21nm,0.5s,mb5.3					
MOX	Moxa	78.16 335	eP	P	21 45 38.0	-0.6
NKC	Novy Kostel	78.27 334	eP	P	21 45 39.0	-0.2
KBD	Kabd	78.37 300	eP	P	21 45 41.4	+1.1
NAY	Al-Naaiem	78.59 300	eP	P	21 45 42.1	+0.6
NAY			AMb	AMB	21 45 43.0	
	comp=Z,12nm,1.0s,mb4.8					
RDF	Al-Radifah	78.63 300	eP	P	21 45 42.7	+0.9
RDF			AMb	AMB	21 45 43.8	
	comp=Z,34nm,0.4s,mb5.6					
KHC	Kasperske Hory	78.88 333	eP	P	21 45 42.3	-0.3
GERES	GERESS Array B	79.09 333	P	P	21 45 43.7	-0.1
	comp=Z,3.5nm,0.8s,mb4.4,baz=36,slow=5.4,SNR=30					
GRA1	Grafenberg Arr	79.12 335	eP	P	21 45 44.2	+0.3
	comp=Z,9.0nm,0.9s,mb4.7					
GRF	Grafenberg Arr	79.12 335	eP	P	21 45 44.2	+0.3
GRF			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7					
GRF	Grafenberg Arr	79.12 335	eP	P	21 45 44.2	+0.3
GRF			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7					
GRF	Grafenberg Arr	79.12 335	eP	P	21 45 44.2	+0.3
	comp=Z,9.0nm,0.9s,mb4.7					
TXAR	Lajitas Array	79.50 59	P	P	21 45 46.1	-0.3
	comp=Z,0.8nm,0.6s,mb3.8,baz=296,slow=3.9,SNR=15					
TXAR			pP	pP	21 45 58.6	+1.2
	comp=Z,2.1nm,0.5s,baz=298,slow=4.4,SNR=16					
PERS	Pernice	80.54 331	eP	P	21 45 51.6	0.0
BAIF	Baives	80.73 339	eP	P	21 45 53.1	+0.6
	comp=Z,21nm,1.2s,mb4.7					
BAIF	Baives	80.73 339	eP	P	21 45 53.1	+0.6
BAIF			pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7					
VTS	Vitosha	80.89 324	*i* P	P	21 45 54.0	+0.5
GOLS	Golise	80.91 330	eP	P	21 45 53.4	-0.2
RZN	Rozhen	80.99 322	*i* P	P	21 45 55.5	+1.4
CDF	Champ du Feu	81.42 336	eP	P	21 45 56.1	-0.1
	comp=Z,12nm,0.9s,mb4.5					
CDF	Champ du Feu	81.42 336	eP	P	21 45 56.1	-0.1
CDF			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5					
MMB	Musomiste	81.49 323	*i* P	P	21 45 57.0	+0.3
MEZF	Maizieres J'vi	81.94 338	eP	P	21 45 59.0	+0.1
	comp=Z,22nm,1.0s,mb4.8					
HAU	Haudompre	82.05 337	eP	P	21 45 59.8	+0.3
HINF	Hinteralfeld	82.08 337	eP	P	21 45 59.8	+0.2
DAVOX	Davos	82.12 334	P	P	21 45 59.9	+0.1
	comp=Z,1.6nm,0.5s,mb4.2,baz=26,slow=13,SNR=5.0					
DAVOX	Davos	82.12 334	P	P	21 45 59.9	+0.1
FLN	La Foliniere	83.06 341	eP	P	21 46 04.2	-0.4
	comp=Z,15nm,0.9s,mb4.7					
FLN	La Foliniere	83.06 341	eP	P	21 46 04.2	-0.4
FLN			pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7					
LOR	Lormes	83.39 338	eP	P	21 46 06.4	+0.1
	comp=Z,4.6nm,0.6s,mb4.4					
LOR	Lormes	83.39 338	eP	P	21 46 06.4	+0.1
LOR			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3					
GRR	Gorron	83.50 342	eP	P	21 46 07.1	+0.3
	comp=Z,16nm,0.8s,mb4.8					
GRR	Gorron	83.50 342	eP	P	21 46 07.1	+0.3
GRR			pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8					
SSF	Saint Saulge	83.68 338	eP	P	21 46 07.8	+0.1
SSF			pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4					
SSF	Saint Saulge	83.68 338	eP	P	21 46 07.8	+0.1
	comp=Z,2.2nm,0.7s,mb4.4					
AVF	Avril sur Loir	83.97 338	eP	P	21 46 09.5	+0.3
	comp=Z,24nm,1.0s,mb5.0					
AVF	Avril sur Loir	83.97 338	eP	P	21 46 09.5	+0.3
AVF			pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0					
SGMF	Saint Gilles	83.99 343	eP	P	21 46 09.4	+0.1
LPL	La Plagne	84.20 336	eP	P	21 46 11.3	+0.9
	comp=Z,14nm,1.0s,mb4.7					
LPL	La Plagne	84.20 336	eP	P	21 46 11.3	+0.9
LPL			pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8					
LPG	La Plagne	84.22 336	eP	P	21 46 11.3	+0.8
	comp=Z,13nm,0.9s,mb4.8					
LPG	La Plagne	84.22 336	eP	P	21 46 11.3	+0.8
LPG			pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8					
BGF	Bois d'Agland	84.31 339	eP	P	21 46 11.3	+0.3
	comp=Z,7.7nm,0.7s,mb4.6					
BGF	Bois d'Agland	84.31 339	eP	P	21 46 11.3	+0.3
BGF			pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7					
TCF	Toulx Ste Croi	84.73 339	eP	P	21 46 13.3	+0.3
	comp=Z,13nm,0.9s,mb4.7					
TCF	Toulx Ste Croi	84.73 339	eP	P	21 46 13.3	+0.3
TCF			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7					
MBDF	Montbardon	84.91 335	eP	P	21 46 14.8	+0.8
	comp=Z,9.3nm,0.9s,mb4.6					
MBDF	Montbardon	84.91 335	eP	P	21 46 14.8	+0.8
MBDF			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6					
ORIF	Oris-en-Rattie	85.00 336	eP	P	21 46 14.9	+0.5
	comp=Z,20nm,1.1s,mb4.9					
ORIF	Oris-en-Rattie	85.00 336	eP	P	21 46 14.9	+0.5
ORIF			pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9					
MFF	Saint Martin d	85.01 340	eP	P	21 46 14.7	+0.3
VIVF	Saint-Julien-l	85.39 337	eP	P	21 46 16.6	+0.2
RJF	Les Rejaudoux	85.82 339	eP	P	21 46 18.9	+0.5
	comp=Z,9.2nm,0.8s,mb4.7					
RJF	Les Rejaudoux	85.82 339	eP	P	21 46 18.9	+0.5
RJF			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.8					
CAF	Calviac	86.03 338	eP	P	21 46 20.9	+1.4
PGF	Pioggiola	86.19 333	eP	P	21 46 20.3	0.0
LMR	La Mourre	86.26 335	eP	P	21 46 20.4	-0.2
	comp=Z,26nm,0.9s,mb5.1					
LMR	La Mourre	86.26 335	eP	P	21 46 20.4	-0.2
LMR			pmax	pmax		
	comp=Z,13nm,0.9s,mb5.2					
LASF	Ste Croix	86.34 337	eP	P	21 46 22.3	+1.3
	comp=Z,27nm,1.2s,mb5.0					
LFF	La Frestale	86.36 339	eP	P	21 46 21.5	+0.4
	comp=Z,12nm,0.9s,mb4.8					
LFF	La Frestale	86.36 339	eP	P	21 46 21.5	+0.4
LFF			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.8					
MTLF	Montolieu	87.47 338	eP	P	21 46 27.4	+0.9
	comp=Z,6.4nm,0.8s,mb4.6					
MTLF	Montolieu	87.47 338	eP	P	21 46 27.4	+0.9
MTLF			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6					
ETSF	Etsaut	88.60 340	eP	P	21 46 32.6	+0.7
	comp=Z,3.2nm,0.6s,mb4.5					
EVO	Evora	94.43 344	eP	P	21 46 59.5	+0.5
	comp=Z,9.7nm,0.9s,mb5.0					
BDFB	Brasilia	146.38 35	PKPbc	PKPbc	21 53 20.4	+1.3
	comp=Z,3.0nm,0.7s,baz=162,slow=1.5,SNR=6.3					
BAO	Brasilia Array	146.38 34	P	PKPdf	21 53 21.0	+3.1
SNAA	Sanae	150.75 197	⇑P	PKPdf	21 53 30.2	+6.9
SNAA	Sanae	150.75 197	⇑	PKPdf	21 53 33.5	+10
SNAA	Sanae	150.75 197	⇑	PKPab	21 53 44.0	+5.8
SNAA	Sanae	150.75 197	⇑		21 53 55.5	
SNAA	Sanae	150.75 197	PKPbc	PKPdf	21 53 30.3	+7.0
	comp=Z,2.0nm,1.0s,baz=173,slow=4.5,SNR=26					
SNAA			PKPab	PKPab	21 53 40.3	+2.1
	comp=Z,0.9nm,0.8s,baz=149,slow=5.9,SNR=5.1					
VNA2	Neumayer--Watz	152.22 195	⇑P	PKPdf	21 53 36.1	+11
VNA2	Neumayer--Watz	152.22 195	⇑	PKPdf	21 53 39.3	+14
VNA2	Neumayer--Watz	152.22 195	⇑	PKPab	21 53 43.1	-1.3
VNA2	Neumayer--Watz	152.22 195	⇑	PKPab	21 53 47.5	+3.1
VNA2	Neumayer--Watz	152.22 195	⇑		21 53 54.0	
VNA2	Neumayer--Watz	152.22 195	⇑		21 54 00.2	
VNA3	Neumayer Olymp	152.35 193	⇑P	PKPdf	21 53 36.6	+11
VNA3	Neumayer Olymp	152.35 193	⇑	PKPdf	21 53 39.8	+14
VNA3	Neumayer Olymp	152.35 193	⇑	PKPab	21 53 46.8	+1.8
VNA3	Neumayer Olymp	152.35 193	⇑		21 53 49.6	
VNA3	Neumayer Olymp	152.35 193	⇑		21 54 00.9	

*HRVD **30** 21:45:00.0±0.2,39.46N×33.10E,h14km±1km, MW5.2/70, Centroid moment Tensor Solution. LP body waves:*

s53,c91;Mantle waves: s70,c157; Half duration: 1⇕0 Moment tensor: Scale 10^17Nm; Mrr0.02±.02; Mθθ-0.87±.02; Mϕϕ0.84±.02; Mrθ0.06±.03; Mθϕ-0.34±.02; Mϕr-0.01±.03; Best double couple: M0.926×10^17 NP1: ϕs214°, δ87°, λ-2°. NP2:ϕs304°, δ88°, λ-177°. Principal axes: T .915, Plg1°, Azm79°; N .022, Plg86°, Azm331°; P -.936, Plg3°, Azm169°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **30** 21:45:00.0,39.44N×33.09E,h5km,mb4.8/106,MS4.8/5, ML5.3(ISK),ML4.8(NIC),After ISK.*

NEIC Some houses damaged at Bahcekaradalak, Sirapinar and Yeniyapanseyhli. Felt at Ankara, Bolu, Kirikkale, Kirsehir and Yozgat.

*BJI **30** 21:45:00.2,39.06N×32.44E,h32km,mB5.0,mb4.8,Ms5.2, Msz4.9*

*ISK **30** 21:45:00.2,39.42N×33.11E,h2km,ML5.3*

*ZUR_RM **30** 21:45:00,39.44N×33.09E,h15km,Mw5.4/29,Moment Tensor Solution. s29 Moment tensor: Scale 10^17Nm; Mrr-0.09; Mθθ-1.14; Mϕϕ1.23; Mrθ-0.20; Mθϕ-0.57; Mϕr0.01; Best double couple: M0.133×10^17 NP1:ϕs123°,δ85°, λ-172°. NP2:ϕs32°,δ82°,λ-5°. Principal axes: T 1.359, Plg2°, Azm257°; N -.057, Plg81°, Azm153°; P -1.302, Plg9°, Azm347°;*

*CSEM **30** 21:45:01.4,39.43N×33.11E,h10km,mb4.7*

*CRAAG **30** 21:45:01.4,39.43N×33.11E,Mb4.7*

*MOS **30** 21:45:01.0±1.0,39.43N×33.11E,h10km,mb5.0/53, MS4.5/18,Error ellipse: s-maj=3.7km s-min=2.2km az=131.8*

*IDC **30** 21:45:01.6±0.4,39.42N×33.13E,mb4.5/22,mb1 4.6/31, mb1mx4.6/32,mbtmp4.5/31,ML4.2/8,MS4.8/24,Ms1 4.8/24, ms1mx4.8/25,Error ellipse: s-maj=6.9km s-min=5.7km az=175.0*

*NIC **30** 21:45:03.3±0.5,39.38N×33.22E,h15km,mb5.1,ML4.8, MW4.2,Earthquake Turkey 13 km S Bala.*

ISC 30 21:45:02.1±0.1,39.41N±0.01×33.10E±0.01,h16km, h16km±1.7km:pP-P,n821,σ1⇕11/894,mb4.7/122,MS4.8/41, 30C-45D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	Kaman	0.48	95	*i* PG	Pb	21 45 09.7	-1.9
ANTO	Ankara	0.51	333	*i* PG	Pb	21 45 11.0	-1.2
ANTO				*i* SG	Sb	21 45 19.3	+0.2
ANTO	Ankara	0.51	333	*i* P	Pb	21 45 11.5	-0.7
ANTO				*i* S	Sb	21 45 20.9	+1.7
BRTR	Keskin Array B	0.52	53	Pg	Pb	21 45 10.0	-2.4
	3μm,0.3s,baz=217,slow=18						
BRTR				Lg		21 45 17.9	
	10μm,0.3s,baz=71,slow=20,SNR=82						
LOD	Lodumlu	0.54	332	*i* PG	Pb	21 45 12.1	-0.6
CDAG	Cicekdag	1.01	78	*i* P	Pb	21 45 19.4	-1.2
CDAG				*i* S	Sb	21 45 33.6	+0.1
KIZT	Kizilcal	1.09	241	*i* PN	Pn	21 45 21.1	-1.6
KIZT	Kizilcal	1.09	241	Pn	Pn	21 45 21.4	-1.3
ELDT	Eldivan	1.10	13	*i* P	Pb	21 45 21.6	-0.7
ELDT				*i* S	Sb	21 45 53.4	+17
KDHN	Kadinhani	1.17	221	*i* P	Pb	21 45 23.8	+0.3
KDHN				*i* S	Sb	21 45 40.4	+2.1
CANT	Cankiri	1.26	18	*i* PN	Pn	21 45 24.8	-0.3
CANT	Cankiri	1.26	18	Pn	Pn	21 45 25.0	-0.1
CORM	Corum	1.41	57	*i* PN	Pn	21 45 27.1	-0.1
CORM				*i* SN	Sn	21 45 47.3	+1.8
SGKT	Sivrigoynuk	1.41	326	*i* P	Pn	21 45 28.1	+0.9
SGKT				*i* S	Sb	21 45 55.2	+10
AVNT	Avonos	1.51	114	*i* P	Pn	21 45 29.0	+0.4
AVNT				*i* S	Sb	21 45 50.8	+2.9
KONT	Konya--Tatoy	1.57	202	*i* PN	Pn	21 45 30.1	+0.5
KONT	Konya--Tatoy	1.57	202	Pn	Pn	21 45 30.8	+1.2
BSTP	Nigde	1.66	151	*i* P	Pn	21 45 31.2	+0.4
BSTP				*i* S	Sn	21 46 05.2	+13
YOZ	Yozgat	1.73	82	*i* PN	Pn	21 45 32.4	+0.5
ESKT	Eskisehir	1.74	274	*i* P	Pn	21 45 32.2	+0.1
ESKT				*i* S	Sn	21 46 10.6	+17
ESKT	Eskisehir	1.74	274	*i* Pn	Pn	21 45 32.5	+0.5
NIG	Nigde	1.76	137	*i* PN	Pn	21 45 32.4	+0.1
TOS	Tosya	1.77	23	*i* PN	Pn	21 45 32.6	+0.2
CTKT	Corum	1.77	47	*i* P	Pn	21 45 33.2	+0.7
CTKT				*i* S	Sn	21 45 59.6	+4.8
SAFT	Safranbolu	1.85	350	*i* PN	Pn	21 45 33.7	+0.1
BALT	Daday	2.13	6	*i* P	Pn	21 45 37.8	+0.2
BALT				*i* S	Sn	21 46 12.1	+8.2
HENT	Hendek	2.20	311	*i* P	Pn	21 45 39.8	+1.3
HENT				*i* S	Sn	21 46 11.7	+6.1
BNN	Bunyan	2.21	104	*i* PN	Pn	21 45 38.4	-0.3
BNN	Bunyan	2.21	104	Pn	Pn	21 45 39.4	+0.7
GPA	Golpazari	2.32	293	*i* PN	Pn	21 45 41.0	+0.7
ALT	Altintas	2.35	262	*i* PN	Pn	21 45 41.5	+0.8
BYBT	Boyabat	2.42	31	*i* PN	Pn	21 45 41.6	-0.1
HDMB	Hadim	2.49	191	*i* PN	Pn	21 45 43.1	+0.3
HDMB	Hadim	2.49	191	Pn	Pn	21 45 44.1	+1.3
ISP	Isparta	2.56	233	*i* PN	Pn	21 45 44.2	+0.4
ISP	Isparta	2.56	233	*e*Pn	Pn	21 45 44.5	+0.7
TKTP	Tekketepe	2.57	239	*i* P	Pn	21 45 44.5	+0.6
TKTP				*i* S	Sn	21 46 09.4	-5.6
BZK	Bozkurt	2.64	15	*i* PN	Pn	21 45 45.4	+0.6
ERMK	Ermenek	2.77	183	*i* P	Pn	21 45 47.3	+0.6
ERMK				*i* S	Sn	21 46 35.0	+15
BCK	Bucak	2.77	226	*i* PN	Pn	21 45 47.1	+0.3
BCK	Bucak	2.77	226	Pn	Pn	21 45 48.0	+1.2
TOKT	Tokat	2.80	70	*i* PN	Pn	21 45 47.3	+0.1
TOKT	Tokat	2.80	70	Pn	Pn	21 45 48.0	+0.8
KVT	Kavak	2.81	53	*i* PN	Pn	21 45 47.6	+0.4
KVT	Kavak	2.81	53	Pn	Pn	21 45 48.9	+1.7
GDZ	Gediz	2.83	265	*i* P	Pn	21 45 47.6	+0.1
GDZ				*i* S	Sn	21 46 36.8	+15
MEST	Erdemli	2.94	163	*i* P	Pn	21 45 49.3	+0.1
MEST				*i* S	Sn	21 46 29.3	+4.9
HRT	Hereke	2.98	299	*i* PN	Pn	21 45 50.2	+0.4
KHL	Karahalli	3.00	250	*i* PN	Pn	21 45 51.1	+1.2
YLV	Yalova	3.08	293	*i* PN	Pn	21 45 51.2	0.0
YLV	Yalova	3.08	293	Pn	Pn	21 45 51.0	-0.2
ULDT	Uludag	3.14	285	*i* P	Pn	21 45 52.1	+0.1
ULDT				*i* S	Sn	21 46 45.8	+16
ANTB	Antalya	3.16	218	PN	Pn	21 45 52.8	+0.5
CEYT	Ceyhan	3.18	138	PN	Pn	21 45 53.0	+0.4
CEYT	Ceyhan	3.18	138	Pn	Pn	21 45 54.3	+1.7
IKL	Isikli	3.20	171	*i* PN	Pn	21 45 53.1	+0.2
IKL	Isikli	3.20	171	Pn	Pn	21 45 53.7	+0.8
ORLT	Orhaneli	3.30	282	PN	Pn	21 45 54.7	+0.4
ORLT	Orhaneli	3.30	282	Pn	Pn	21 45 54.9	+0.6
BADT	Buyukada	3.37	296	PN	Pn	21 45 55.2	-0.1
BADT	Buyukada	3.37	296	Pn	Pn	21 45 55.3	0.0
DST	Dursunbey	3.46	275	PN	Pn	21 45 57.4	+0.8
DST	Dursunbey	3.46	275	Pn	Pn	21 45 57.9	+1.3
ISK	Istanbul-Kandi	3.50	299	PN	Pn	21 45 57.3	+0.1
ISK	Istanbul-Kandi	3.50	299	Pn	Pn	21 45 57.5	+0.3
GOLH	Golhisar	3.53	233	*i* P	Pn	21 45 58.4	+0.9
GOLH				*i* S	Sn	21 46 59.4	+20
DENT	Denizli	3.59	244	PN	Pn	21 45 59.4	+1.0
ELL	Elmali	3.66	224	PN	Pn	21 46 00.1	+0.7
ELL	Elmali	3.66	224	Pn	Pn	21 46 01.6	+2.2
GAZ	Gaziantep	3.93	123	PN	Pn	21 46 04.0	+0.7
DRWC	Darouich	3.96	134	⇑P	Pn	21 46 04.4	+0.7
DRWC				⇑*i*S	Sn	21 46 45.2	+5.1
CTT	Catalca	3.97	297	PN	Pn	21 46 03.0	-0.8
BALB	Balikesir	4.04	275	*e*PN	Pn	21 46 05.0	+0.2
HTY	Hatay	4.07	143	*e*PN	Pn	21 46 06.2	+0.9
HTY	Hatay	4.07	143	Pn	Pn	21 46 07.1	+1.8
BNT	Bandirma	4.09	285	*e*PN	Pn	21 46 04.7	-0.8
BNT	Bandirma	4.09	285	Pn	Pn	21 46 05.3	-0.2
AKS	Akhisar	4.14	264	*e*PN	Pn	21 46 07.4	+1.1
MAMC	Mammari	4.24	179	P	Pn	21 46 06.9	-0.7
ALFC	Alevga	4.27	185	⇑*e*P	Pn	21 46 06.9	-1.1
ALFC				S	Sn	21 46 57.1	-0.9
KSL	Kastellorizon	4.28	222	*e*P	Pn	21 46 11.0	+2.7
LEF	Lefka	4.29	182	*e*PN	Pn	21 46 08.1	-0.2
LEF	Lefka	4.29	182	Pn	Pn	21 46 07.7	-0.6
BTCH	Batrach	4.30	141	⇓*i*P	Pn	21 46 09.1	+0.7
BTCH				⇓*i*S	Sn	21 46 51.7	-7.1
MYA	Malataya	4.30	103	*e*PN	Pn	21 46 09.4	+1.0
MYA	Malataya	4.30	103	Pn	Pn	21 46 09.8	+1.4
MALT	Malatya	4.30	103	P	Pn	21 46 09.3	+0.8
MALT	Malatya	4.30	103	*e*P	Pn	21 46 08.5	0.0
MRMT	Marmara Adasi	4.39	287	Pn	Pn	21 46 08.3	-1.4
DALT	Dalyan (Mudla)	4.40	235	*e*PN	Pn	21 46 11.2	+1.3
YER	Yerkesik	4.42	241	*e*PN	Pn	21 46 10.9	+0.7
CSS	Prodhromos	4.45	178	P	Pn	21 46 09.0	-1.6
	19nm,0.9s						
CSS				S	Sn	21 47 01.7	-0.9
PHNC	Paralimni	4.46	170	P	Pn	21 46 10.0	-0.8
SLNF	Slenfeh	4.55	146	⇓*i*P	Pn	21 46 13.0	+1.0
SLNF				⇓*i*S	Sn	21 46 58.0	-7.2
PPCY	Paphos	4.56	188	⇑*i*P	Pn	21 46 12.1	-0.1
SZAC	Souni-Zanaja	4.65	182	P	Pn	21 46 13.2	-0.3
SZAC				S	Sn	21 47 07.3	-0.5
KDAG	Bornova	4.66	259	*i* P	Pn	21 46 13.8	+0.2
KDAG				*i* S	Sn	21 47 41.3	+33
IZM	Izmir	4.66	259	*e*PN	Pn	21 46 13.7	+0.1
MFT	Murefte	4.67	289	*e*PN	Pn	21 46 14.4	+0.7
MLSB	Milas	4.69	245	*e*PN	Pn	21 46 14.4	+0.4
MLSB	Milas	4.69	245	Pn	Pn	21 46 13.6	-0.4
CANB	Canakkale	4.69	279	*e*PN	Pn	21 46 14.8	+0.7
WRDH	Warideh	4.71	145	⇑*i*P	Pn	21 46 15.3	+1.1
WRDH				⇑*i*S	Sn	21 47 02.3	-6.8
BLCB	Balcova	4.83	260	*e*PN	Pn	21 46 16.4	+0.3
URFA	Urfa	4.91	112	*e*PN	Pn	21 46 17.7	+0.6
PTK	Pertek	4.92	94	*e*PN	Pn	21 46 18.0	+0.7
LPK	Lapseki	4.97	283	*e*PN	Pn	21 46 17.7	-0.2
LPK	Lapseki	4.97	283	Pn	Pn	21 46 17.0	-0.9
SLMH	Al Salmeh	4.99	128	⇑*i*P	Pn	21 46 18.5	+0.3
GUMT	Gumushane	5.02	76	*e*PN	Pn	21 46 19.1	+0.5
ARG	Arkhangelos	5.07	233	*e*P	Pn	21 46 20.0	+0.7
ARG	Arkhangelos	5.07	233	P	Pn	21 46 19.5	+0.2
BIDA	Albida	5.09	149	⇑*i*P	Pn	21 46 18.9	-0.7
BIDA				⇑*i*S	Sn	21 47 10.1	-8.7
BODT	Bodrum	5.12	245	*e*PN	Pn	21 46 20.9	+0.8
SMG	Samos	5.19	253	*e*P	Pn	21 46 21.0	-0.1
EZN	Ezine	5.25	277	*e*PN	Pn	21 46 21.6	-0.3
EZN	Ezine	5.25	277	Pn	Pn	21 46 22.5	+0.6
PRK	Paraskevi	5.29	270	*e*P	Pn	21 46 22.8	+0.2
EDRB	Edirne	5.41	299	*e*PN	Pn	21 46 24.6	+0.4
EDRB	Edirne	5.41	299	Pn	Pn	21 46 23.1	-1.1
NISR	Nisiros	5.48	241	*e*P	Pn	21 46 26.0	+0.8
SIM	Simferopol'	5.58	7	*d*iP	Pn	21 46 25.4	-1.2
SIM				*e*S	Sn	21 47 26.1	-5.1
SIM				pmax	pmax		
	comp=Z,149nm,0.9s						
SIM				MLR	MLR		
	comp=Z,5μm,16.6s						
ALN	Alexandroupoli	5.60	288	*e*P	Pn	21 46 25.6	-1.3
HWQ	Hawga	5.61	155	*e*PN	Pn	21 46 27.1	+0.1
PSN	Preselentsi	5.64	321	*i* P	Pn	21 46 25.5	-0.9
PRD	Provadia	5.72	313	*i* P	Pn	21 46 26.3	-2.2
DIY	Diyarbakir	5.78	103	*e*PN	Pn	21 46 30.1	+0.7
DIY	Diyarbakir	5.78	103	Pn	Pn	21 46 28.6	-0.8
JMB	Yambol	5.80	304	*i* P	Pn	21 46 30.0	+0.3
BHL	Bhannes	5.87	159	*e*PN	Pn	21 46 30.9	+0.3
DRBT	Darb Altahta	5.88	114	⇓*i*P	Pn	21 46 21.2	-10
RDO	Rodhopi	6.04	289	*e*P	Pn	21 46 31.8	-1.2
KARP	Karpathos	6.10	233	*e*P	Pn	21 46 33.2	-0.7
TIRR	Tirgusor	6.13	327	⇓P	Pn	21 46 32.9	-1.5
MATL	Matirih	6.18	162	*e*PN	Pn	21 46 35.1	0.0
KDZ	Kurdzhali	6.26	293	*i* P	Pn	21 46 35.3	-0.9
ANN	Anapa	6.27	30	*e*P	Pn	21 46 34.0	-2.4
ANN				*e*S	Sn	21 47 45.5	-3.0
ANN				pmax	pmax		
	comp=Z,31nm,0.7s						
ANN				MLR	MLR		
	comp=N,4μm,12.0s						
ANN				MLR	MLR		
	comp=E,1μm,12.0s						
ANN				MLR	MLR		
	comp=Z,5μm,12.0s						
SFNV	Sufian	6.30	116	⇑*i*P	Pn	21 46 37.4	+0.7
DIM	Dimitrovgrad	6.32	297	*i* P	Pn	21 46 35.0	-2.0
EZM	Erzurum	6.40	83	*e*PN	Pn	21 46 39.0	+0.9
APE	Apeiranthos	6.40	251	*e*P	Pn	21 46 38.8	+0.7
APE	Apeiranthos	6.40	251	Pn	Pn	21 46 36.8	-1.3
QASN	Qassioun	6.40	155	⇑*i*P	Pn	21 46 38.4	+0.2
SOC	Sochi	6.48	48	*i* P	Pn	21 46 37.1	-2.2
SOC				*e*		21 47 50.2	
SOC				pmax	pmax		
	comp=Z,57nm,1.2s						
SOC				pmax	pmax		
	comp=N,66nm,1.3s						
SOC				pmax	pmax		
	comp=E,82nm,1.6s						
SOC				MLR	MLR		
	comp=Z,7μm,20.0s						
SOC				MLR	MLR		
	comp=N,5μm,19.0s						
SOC				MLR	MLR		
	comp=E,6μm,17.0s						
HRI	Mount Hermon	6.49	160	P	Pn	21 46 38.0	-1.4
BSHR	Al Beshri	6.52	123	⇓*i*P	Pn	21 46 39.7	-0.1
HARR	Hars

VTS **Vitosha** 8.12 296 P **P** 21 47 00.7 -1.6
VAM **Vamos** 8.13 243 *e*P **P** 21 47 03.5 +1.1
KIS **Kishinev** 8.20 339 *e*P **P** 21 47 02.0 -1.3
KIS *i* S **Sn** 21 48 38.0 +1.4
KIS MLR MLR
comp=N,6µm,13.0s
KIS MLR MLR
comp=Z,8µm,13.0s
KIS MLR MLR
comp=Z,8µm,12.0s
LIT **Litokhoron** 8.20 278 *e*P **P** 21 47 02.6 -0.8
MZDA **Masada** 8.29 166 P **P** 21 47 03.8 -0.9
GRG **Griva** 8.33 284 *e*P **P** 21 47 04.1 -1.1
AGG **Agios Georgios** 8.37 271 *e*P **P** 21 47 05.5 -0.2
CLDR **Caldiran** 8.40 88 *e*PN **P** 21 47 06.3 +0.2
ONI **Oni** 8.44 65 P **P** 21 47 05.1 -1.7
ONI S Sn 21 49 08.6 +26
VLI **Veliai** 8.45 255 *e*P **P** 21 47 07.9 +1.0
VOIR 8.46 318 ⇓P **P** 21 47 07.4 +0.4
VOIR 8.46 318 ⇓P **P** 21 47 07.3 +0.3
KIV **Kislovodsk** 8.49 55 *e*P **P** 21 47 08.0 +0.6
KIV pmax pmax
comp=Z,352nm,2.2s
KIV **Kislovodsk** 8.49 55 *e*P **P** 21 47 08.0 +0.6
comp=Z,352nm,2.2s
MASH **Mash'abbe Sade** 8.51 170 P **P** 21 47 06.7 -1.0
GVD **Gavdhos** 8.52 240 *e*P **P** 21 47 07.2 -0.6
comp=Z,219nm,0.8s
GVD **Gavdhos** 8.52 240 *e*P **P** 21 47 07.2 -0.6
comp=Z,219nm,0.8s
HKR **Hakkari** 8.54 99 *e*PN **P** 21 47 08.0 -0.1
KYTH **Kithira** 8.55 252 *e*P **P** 21 47 10.0 +1.8
KZIT **Kziot** 8.55 172 P **P** 21 47 06.4 -1.9
KZN **Kozani** 8.76 279 *e*P **P** 21 47 11.0 -0.1
IAS **Iasi** 8.76 334 P **P** 21 47 09.8 -1.3
ZAPS **Zavoj/Pirot** 8.78 300 ⇓ *i* Pn **P** 21 47 09.4 -2.1
ZAPS Sn **Sn** 21 48 42.8 -8.3
ZEI **Tsey** 8.82 64 *e*P **P** 21 47 11.2 -0.7
ZEI *e* 21 48 50.4
ZEI pmax pmax
comp=Z,11nm,0.1s
ZEI pmax pmax
comp=Z,29nm,0.1s
ZEI smax
comp=N,68nm,0.1s
GNI **Garni** 9.00 82 *c i* P **P** 21 47 16.0 +1.6
GNI **Garni** 9.00 82 Pn **P** 21 47 16.8 +2.4
comp=N,0.6nm,0.3s,baz=253,slow=2.0,SNR=26
GNI Lg 21 49 54.5
comp=N,0.2nm,0.3s,baz=45,slow=19,SNR=1.6
GNI LR LR 21 51 08.6
comp=N,17µm,19.0s,baz=276,slow=41
GNI **Garni** 9.00 82 *e*P **P** 21 47 17.1 +2.7
comp=N,214nm,1.1s
GNI **Garni** 9.00 82 *e*P **P** 21 47 17.1 +2.7
comp=N,214nm,1.1s
ZFRI **Zfri** 9.00 168 P **P** 21 47 13.3 -1.2
ITM **Ithomi** 9.06 259 *e*P **P** 21 47 17.0 +1.7
ITM **Ithomi** 9.06 259 P **P** 21 47 16.7 +1.4
TBLG **Delisi** 9.16 72 P **P** 21 47 18.9 +2.3
TBLG S Sn 21 49 54.6 +54
TI2 **Plekhanov** 9.17 72 *e*P **P** 21 47 07.4 -9.3
PRNI **Paran** 9.17 170 P **P** 21 47 15.7 -1.2
MTA **Mtatsminda** 9.19 72 P **P** 21 47 19.3 +2.3
SKO **Skopje** 9.22 290 *i* Pn **P** 21 47 16.8 -0.7
SKO *i* Sn Sn 21 50 08.6 +67
GOF **Gofitskoye** 9.28 49 ⇓ *i* P **P** 21 47 18.5 +0.2
GOF pmax pmax
comp=Z,129nm,1.3s
DJES **Djerdap** 9.44 307 Pn **P** 21 47 31.5 +11
JAN **Janina** 9.47 275 *e*P **P** 21 47 24.5 +3.6
DGRG **David-gareji** 9.58 74 P **P** 21 47 22.9 +0.5
DGRG S Sb 21 50 44.2 +63
LKD **Levkas** 9.71 270 *e*P **P** 21 47 26.0 +1.8
EIL **Elat** 9.84 171 P **P** 21 47 24.2 -1.8
IGT **Igoumenitsa** 9.87 275 *e*P **P** 21 47 28.9 +2.4
BURAR **Bucovina Array** 9.99 328 ⇓P **P** 21 47 28.1 0.0
BURAR **Bucovina Array** 9.99 328 ⇓P **P** 21 47 28.1 0.0
SVIS **Svilajnac** 10.11 303 ⇓ *i* Pn **P** 21 47 34.7 +5.0
ALWS **Ilw as Safayha** 10.21 170 P **P** 21 47 29.8 -1.3
KEK **Kerkira** 10.28 276 *e*P **P** 21 47 34.0 +2.0
KEK **Kerkira** 10.28 276 P **P** 21 47 33.5 +1.5
TIR **Tirane** 10.28 285 P **P** 21 47 36.3 +4.2
TIR pmax pmax
comp=Z,64nm,0.6s
TIR **Tirane** 10.28 285 P **P** 21 47 36.3 +4.2
comp=Z,64nm,0.6s
JMOS **Jabal al Moall** 10.35 170 P **P** 21 47 31.9 -1.2
HAQS **Haql** 10.44 171 P **P** 21 47 32.9 -1.4
DRGR 10.58 318 ⇑P **P** 21 47 35.5 -0.6
DIVS **Divcibare** 10.85 300 ⇑ *i* Pn **P** 21 47 37.1 -2.8
TAYS **Tayyib Ism** 10.93 172 P **P** 21 47 39.8 -1.2
BDAS **Al Bad'** 11.08 171 P **P** 21 47 42.4 -0.6
MAK **Makhachkala** 11.42 67 *e*P **P** 21 47 51.0 +3.4
MAK pmax pmax
comp=N,2µm,4.0s
MAK pmax pmax
comp=Z,2µm,4.0s
MAK MLR MLR
comp=N,9µm,7.0s
MAK MLR MLR
comp=Z,9µm,7.0s
MAK MLR MLR
comp=E,5µm,9.0s
TBKS **Tabuk** 11.52 165 P **P** 21 47 50.4 +1.3
LCI **Lecce** 11.55 279 P **P** 21 47 49.9 +0.4
AKASG **Malin Array Be** 11.61 348 Pn **P** 21 47 45.3 -4.9
comp=E,3.6nm,0.3s,baz=164,slow=14,SNR=22
AKASG Sn **S** 21 49 52.8 -7.7
comp=E,5.4nm,0.3s,baz=163,slow=23,SNR=5.1
STON **Ston** 12.11 292 *i* P **P** 21 47 57.1 +0.2
LVV **L'vov** 12.23 331 *e*P **P** 21 47 54.0 -4.6
KOLS **Kolonicke sedl** 12.27 324 *e*Pn **P** 21 48 03.3 +4.2
KOLS **Kolonicke sedl** 12.27 324 *e* **P** 21 48 03.3 +4.2
LTRZ **Laterza** 12.54 281 P **P** 21 48 02.0 -0.7
KWP **Kalwaria** 12.61 328 *e*P **P** 21 48 02.3 -1.3
KWP *e*S Sx 21 51 12.6
KWP **Kalwaria** 12.61 328 *e*P **P** 21 48 05.6 +2.0
KWP *e*S Sx 21 51 12.6
KWP **Kalwaria** 12.61 328 *e*P **P** 21 48 02.3 -1.3
KWP *e*S Sx 21 51 12.6
CRVS **Cervenica-Dubn** 12.63 322 *e*Pn **P** 21 48 07.8 +4.0
CRVS **Cervenica-Dubn** 12.63 322 *e* **P** 21 48 07.8 +4.0
TIP **Timpagrande** 12.66 274 ⇑ *i* P **P** 21 48 03.5 -0.9
PSZ **Piszkesteto** 12.78 316 *e*P **P** 21 48 06.8 +0.9
PSZ pmax pmax
comp=Z,15nm,0.8s
PSZ **Piszkesteto** 12.78 316 *e*P **P** 21 48 06.8 +0.9
comp=Z,14nm,0.8s
PSZ **Piszkesteto** 12.78 316 ⇑ *e*sP 21 48 10.8
PSZ **Piszkesteto** 12.78 316 *e*P **P** 21 48 06.8 +0.9
comp=Z,14nm,0.8s
KECS **Kecovo** 12.82 319 *e*P **P** 21 48 09.5 +3.1
KECS **Kecovo** 12.82 319 *e* **P** 21 48 09.5 +3.1
ORI **Oriolo Calabro** 12.84 278 P **P** 21 48 06.8 +0.1
VOR **Voronezh** 13.03 17 P **P** 21 48 08.0 -1.2
VOR pmax pmax
comp=Z,70nm,1.6s
VOR pmax pmax
comp=N,80nm,1.5s
VOR pmax pmax
comp=E,70nm,1.6s
CUC **Castrocucco** 13.32 278 ⇓ *i* P **P** 21 48 12.9 -0.2
comp=E,136nm,1.1s
SOI **Samo** 13.38 270 P **P** 21 48 12.7 -1.1
SLCN **Sala Consilina** 13.45 280 ⇓ *i* P **P** 21 48 15.2 +0.4
CEL **Celeste** 13.46 271 ⇑ *i* P **P** 21 48 13.4 -1.6
RGNG **Rignano Grg** 13.51 285 P **P** 21 48 14.8 -0.7
MGR **Morigerati** 13.52 279 P **P** 21 48 15.4 -0.2
NIE **Niedzica** 13.53 322 *e*P **P** 21 48 16.2 +0.5
MRLC **Muro Lucano** 13.55 281 *i* P **P** 21 48 16.2 +0.1
MTTG **Motta San Giov** 13.67 270 P **P** 21 48 16.5 -1.1
VYHS **Vyhne** 13.69 316 *e*PN **P** 21 48 17.7 -0.1
SGO **Sicignano** 13.69 280 P **P** 21 48 17.1 -0.9
FG5 **Orsara di Pugl** 13.73 284 P **P** 21 48 19.2 +0.8
CSSN **Cassano Irpino** 13.91 282 P **P** 21 48 20.8 0.0
HILS **Ha'il** 14.01 146 P **P** 21 48 22.8 +0.5
PSB1 **Pescosannita** 14.07 283 ⇑ *i* P **P** 21 48 22.7 -0.2
OJC **Ojcow** 14.32 323 *e*P **P** 21 48 24.9 -1.2
OJC *i* PP PP 21 48 36.7 -0.8
OJC *e*S S 21 51 30.6 +25
SGG **Gregorio Mates** 14.40 284 P **P** 21 48 27.3 0.0
comp=E,85nm,1.0s

CRES **Cresnjev** 14.47 302 P **P** 21 48 29.8 +1.7
CII **Carovilli** 14.47 285 *e*P **P** 21 48 28.8 +0.7
comp=E,76nm,1.1s
CII **Carovilli** 14.47 285 *e*P **P** 21 48 28.8 +0.6
comp=E,76nm,1.1s
ZST **Bratislava** 14.48 313 *e*Pn **P** 21 48 32.1 +3.8
ZST **Bratislava** 14.48 313 *e* **P** 21 48 32.1 +3.8
NVLJ **Novalja** 14.49 297 *i* P **P** 21 48 34.2 +5.8
BOJS **Bojanci** 14.50 301 *e*P **P** 21 48 26.7 -1.8
BOJS *e* 21 48 38.1
MIDA **Miranda** 14.51 285 P **P** 21 48 26.9 -1.7
comp=E,157nm,1.7s
JAVC **Velka Javorina** 14.53 316 P **P** 21 48 29.9 +1.0
KBRS **Khaybar** 14.54 157 P **P** 21 48 29.4 +0.3
SOP **Sopron** 14.54 310 *e*sP 21 48 32.9
UMJS **Umm Lajj** 14.58 165 P **P** 21 48 32.0 +2.3
RNI2 **Rionero Sannit** 14.58 285 P **P** 21 48 30.8 +1.2
LEGS **Legarje** 14.60 302 *e*P **P** 21 48 29.4 -0.5
RFI **Roccamonfina** 14.70 283 P **P** 21 48 32.1 +1.0
VAE **Valguarnera** 14.77 268 Pn **P** 21 48 32.6 +0.5
comp=E,0.6nm,0.3s,baz=34,slow=8.2,SNR=5.3
VAE LR LR 21 54 37.1
comp=E,2µm,18.6s,baz=28,slow=39
INTR **Introdacqua** 14.79 286 ⇑ *i* P **P** 21 48 31.5 -0.8
comp=E,132nm,1.3s
OKC **Ostrava-Krasne** 14.87 319 *e*P **P** 21 48 32.7 -0.6
OKC AMS AMS 21 55 30.0
comp=E,6µm,14.7s
VVLD **Villa Vallelon** 14.99 286 P **P** 21 48 36.7 +1.8
RAC **Raciborz** 15.00 320 *e*P **P** 21 48 35.2 +0.2
RAC MLR MLR 21 55 39.4
comp=E,6µm,15.5s
TERO **Teramo** 15.06 289 ⇑ *i* P **P** 21 48 35.2 -0.6
WDD **Wield Dalam** 15.13 262 P **P** 21 48 37.3 +0.4
MORC **Moravsky Berou** 15.14 318 *e*P **P** 21 48 36.8 0.0
MORC pmax pmax
comp=Z,17nm,1.3s
MORC **Moravsky Berou** 15.14 318 *e*P **P** 21 48 36.8 -0.1
comp=Z,17nm,1.3s
MORC **Moravsky Berou** 15.14 318 *e*P **P** 21 48 36.8 0.0
comp=Z,17nm,1.3s
LJU **Ljubljana** 15.15 302 *e*P **P** 21 48 36.7 -0.4
LJU *e* 21 48 43.4
LJU *e* 21 51 44.9
LJU *e* 21 53 14.7
PTQR **Pietraquaria** 15.16 286 P **P** 21 48 39.4 +2.2
AQU **L'Aquila** 15.18 287 *e*P **P** 21 48 37.1 -0.4
AQU pmax pmax
comp=Z,77nm,1.0s
AQU **L'Aquila** 15.18 287 *e*P **P** 21 48 37.1 -0.4
comp=Z,77nm,1.0s
AQU **L'Aquila** 15.18 287 *e*P **P** 21 48 37.1 -0.4
comp=Z,77nm,1.0s
OBKA **Obir** 15.30 304 P **P** 21 48 38.9 -0.1
WAR **Warsaw** 15.31 331 *e*P **P** 21 48 37.8 -1.3
WAR *e*S **S** 21 51 46.1 +17
WAR MLR MLR 21 56 01.5
comp=Z,4µm,18.2s
KRUC **Moravsky** 15.34 314 P **P** 21 48 41.2 +1.7
VRAC **Vranov** 15.37 315 Pn **P** 21 48 41.1 +1.2
comp=Z,0.3nm,0.3s,baz=118,slow=12,SNR=9.6
VRAC Lg 21 53 17.6
comp=Z,0.2nm,0.3s,baz=241,slow=15,SNR=1.9
VRAC **Vranov** 15.37 315 P **P** 21 48 41.9 +2.0
VRAC **Vranov** 15.37 315 P **P** 21 48 41.9 +2.1
FIAM **Fiamignano** 15.39 287 P **P** 21 48 40.7 +0.6
NRCA **Norcia** 15.44 289 P **P** 21 48 41.0 +0.2
CING **Cingoli** 15.45 291 ⇑ *i* P **P** 21 48 42.4 +1.5
CERT **Cerreto** 15.47 286 ⇑ *i* P **P** 21 48 40.8 -0.4
comp=Z,42nm,1.1s
VOY **Vojsko** 15.57 301 *e*P **P** 21 48 48.2 +5.7
VOY *e* 21 48 50.3
VOY *e* 21 49 03.7
ARV **Arcevia** 15.65 292 P **P** 21 48 44.5 +1.0
OBN **Obninsk** 15.88 7 ⇓ *e*P **P** 21 48 44.5 -1.9
OBN *e*S **S** 21 51 43.5 +1.3
OBN pmax pmax
comp=Z,130nm,1.5s
OBN **Obninsk** 15.88 7 *e*P **P** 21 48 43.7 -2.7
comp=Z,60nm,0.9s
OBN **Obninsk** 15.88 7 *e*P **P** 21 48 43.7 -2.7
comp=Z,60nm,0.9s
MOA **Molln** 16.00 308 ⇑ *i* P **P** 21 48 53.7 +5.7
comp=Z,37nm,1.3s
RSM **Repubblica di** 16.07 293 P **P** 21 48 54.4 +5.5
RSM pmax pmax
comp=Z,248nm,2.0s
RSM **Repubblica di** 16.07 293 P **P** 21 48 54.4 +5.5
comp=Z,248nm,2.0s
SUW **Suwalki** 16.08 338 *e*P **P** 21 48 44.9 -4.1
SUW *e*pP 21 48 52.5
SUW *e*S **S** 21 51 59.2 +12
SUW **Suwalki** 16.08 338 *e*P **P** 21 48 44.9 -4.1
SUW *e*pP 21 48 52.5
SUW *e*S **S** 21 51 59.2 +12
SUW MLR MLR 21 55 32.3
comp=Z,3µm,20.0s
DPC **Dobruska-Polom** 16.11 318 *e*P **P** 21 48 50.2 +0.8
DPC *e*S **S** 21 52 00.0 +12
DPC AMS AMS 21 55 50.0
comp=Z,6µm,14.1s
KBA **Koelnbreinsper** 16.28 305 ⇑ *i* P **P** 21 48 56.3 +4.8
comp=Z,66nm,1.1s
KBA **Koelnbreinsper** 16.28 305 ⇑ *i* P **P** 21 48 56.3 +4.8
KBA pmax pmax
comp=Z,66nm,1.1s
UPC **Upice** 16.37 318 *e*P **P** 21 48 53.2 +0.6
KSP **Ksiaz** 16.42 320 *e*P **P** 21 48 54.1 +0.7
KSP *e*S **S** 21 52 04.5 +10
KSP **Ksiaz** 16.42 320 *e*P **P** 21 48 54.1 +0.7
KSP *e*pP 21 49 00.8
KSP *e*S **S** 21 52 04.5 +10
KSP **Ksiaz** 16.42 320 *e*P **P** 21 48 49.8 -3.6
KSP *e*pP 21 48 56.6
KSP *e*S **S** 21 52 04.8 +10
KSP MLR MLR 21 56 27.4
comp=Z,7µm,16.5s
IDID **Didziasalis** 16.47 347 *e*P **P** 21 48 52.1 -1.8
IDID AMb AMB 21 48 58.8
comp=Z,28nm,1.1s
FVI **Forni Avoltri** 16.48 302 P **P** 21 48 59.6 +5.5
MOS **Moscow** 16.61 9 *i* P **P** 21 48 52.9 -2.8
MOS *e*S **S** 21 51 54.0 -5.1
MOS pmax pmax
comp=Z,700nm,2.3s
MOS pmax pmax
comp=Z,266nm,1.3s
GEC2 **GERESS Array S** 16.78 311 *e*P **P** 21 48 57.5 -0.3
GEC2 pmax pmax
comp=Z,25nm,1.2s
GEC2 **GERESS Array S** 16.78 311 *e*P **P** 21 48 57.5 -0.3
comp=Z,25nm,1.2s
GERES **GERESS Array B** 16.78 311 Pn **P** 21 48 58.3 +0.5
comp=Z,0.1nm,0.3s,baz=117,slow=9.0,SNR=13
GERES Sn **S** 21 52 01.9 -1.0
comp=Z,0.1nm,0.3s,baz=7.1,slow=32,SNR=2.1
GERES Lg 21 53 57.3
baz=339,slow=33,SNR=2.3
GERES LR LR 21 56 04.5
comp=Z,3µm,19.9s,baz=121,slow=40
ISAL **Salakas** 16.82 346 *e*P **P** 21 48 58.5 +0.1
ISAL AMb AMB 21 49 02.9
comp=Z,18nm,1.4s
CSNT **Castellina Chi** 16.84 291 ⇓ *i* P **P** 21 49 00.5 +1.9
PRU **Pruhonice** 16.86 315 *e*P **P** 21 49 00.4 +1.5
PRU *e*S **S** 21 52 08.8 +4.0
PRU AMS AMS 21 57 30.0
comp=Z,3µm,17.7s
PRA **Prague** 16.96 315 P **P** 21 49 04.0 +3.8
PRA AMS AMS 21 59 30.0
IZAR **Zarasai** 16.97 347 *e*P **P** 21 48 59.5 -0.7
IZAR AMb AMB 21 49 04.5
comp=Z,27nm,1.7s
KHC **Kasperske Hory** 16.98 311 *e*P **P** 21 49 00.9 +0.5
KHC *e*S **S** 21 52 19.7 +12
KHC AMS AMS 21 57 00.0
comp=Z,4µm,10.5s
GRFL **Gerfalco** 17.03 290 P **P** 21 49 03.5 +2.4
CTI **Castel Tesino** 17.07 300 P **P** 21 49 03.9 +2.3
PVCC **Panska Ves** 17.14 316 *e*P **P** 21 49 02.2 -0.1
PVCC *e*S **S** 21 52 25.8 +15
PVCC AMS AMS 21 56 40.0
comp=Z,3µm,16.0s
WET **Wettzell** 17.39 311 *e*P **P** 21 49 07.1 +1.5

WET pmax pmax
comp=Z,37nm,1.6s
WET **Wettzell** 17.39 311 *e*P **P** 21 49 07.1 +1.5
comp=Z,37nm,1.6s
WTTA **Wattenberg** 17.44 304 ⇓ *i* P **P** 21 49 07.0 +0.9
comp=Z,53nm,1.6s
WTTA **Wattenberg** 17.44 304 ⇓ *i* P **P** 21 49 07.0 +0.9
WTTA pmax pmax
comp=Z,53nm,1.6s
WATA **Walderalm** 17.50 304 ⇓ *i* P **P** 21 49 08.0 +1.1
comp=Z,32nm,1.2s
WATA **Walderalm** 17.50 304 ⇓ *i* P **P** 21 49 08.0 +1.1
WATA pmax pmax
comp=Z,32nm,1.2s
VLC **Villacollemand** 17.57 293 *e*P **P** 21 49 03.5 -4.4
comp=Z,28nm,1.0s
VLC **Villacollemand** 17.57 293 *e*P **P** 21 49 03.5 -4.3
comp=Z,28nm,1.0s
GKP **Gorka Klasztor** 17.61 327 *e*P **P** 21 49 06.3 -1.9
GKP *e*S **S** 21 52 27.4 +5.6
GKP **Gorka Klasztor** 17.61 327 *e*P **P** 21 49 06.3 -1.9
GKP *e*pP 21 49 09.5
GKP *e*S **S** 21 52 27.4 +5.6
GKP **Gorka Klasztor** 17.61 327 *e*P **P** 21 49 06.3 -1.9
GKP *e*pP 21 49 09.5
GKP *e*S **S** 21 52 27.4 +5.5
GKP MLR MLR 21 57 42.1
comp=Z,5µm,18.6s
SQTA **Sankt Quirin** 17.70 303 ⇑ *i* P **P** 21 49 11.3 +1.9
comp=Z,25nm,1.2s
SQTA **Sankt Quirin** 17.70 303 ⇑ *i* P **P** 21 49 11.3 +1.9
SQTA pmax pmax
comp=Z,25nm,1.2s
MOTA **Moosalm** 17.81 304 ⇓ *i* P **P** 21 49 11.1 +0.4
comp=Z,35nm,1.2s
MOTA **Moosalm** 17.81 304 ⇓ *i* P **P** 21 49 11.1 +0.4
MOTA pmax pmax
comp=Z,35nm,1.2s
FUR **Furstenfeldbru** 17.97 306 *e*P **P** 21 49 15.7 +2.9
FUR pmax pmax
comp=Z,46nm,1.4s
FUR **Furstenfeldbru** 17.97 306 *e*P **P** 21 49 15.7 +2.9
comp=Z,46nm,1.4s
BRMO **Bormio** 18.04 300 P **P** 21 49 17.7 +4.1
DGI **Dorgali Grotta** 18.05 280 ⇓ *i* P **P** 21 49 15.1 +1.2
NOTT **Nottersdorf** 18.14 312 *e*P **P** 21 49 15.4 +0.5
comp=Z,76nm,2.0s
FUORN **Ofenpass** 18.15 301 P **P** 21 49 18.7 +3.7
NKC **Novy Kostel** 18.15 313 *e*P **P** 21 49 15.5 +0.5
NKC AMS AMS 21 58 10.0
comp=Z,3µm,13.9s
GUNZ **Gunzen** 18.27 314 *e*P **P** 21 49 17.9 +1.3
comp=Z,25nm,1.4s
WERD **Werda** 18.33 314 *e*P **P** 21 49 18.3 +1.0
comp=Z,16nm,1.2s
CLL **Collm** 18.39 317 *i* P **P** 21 49 18.6 +0.6
CLL *e*S **S** 21 52 43.0 +3.3
CLL pmax pmax
comp=Z,30nm,1.3s
CLL **Collm** 18.39 317 *i* P **P** 21 49 18.6 +0.6
comp=Z,30nm,1.3s
CLL *e*S **S** 21 52 43.0 +3.3
CLL **Collm** 18.39 317 P **P** 21 49 18.6 +0.6
comp=Z,logA/T=1.4
CLL *e*S **S** 21 52 43.0 +3.3
CLL **Collm** 18.39 317 *e*P **P** 21 49 17.4 -0.6
comp=Z,30nm,1.2s
CLL *e*S **S** 21 52 43.0 +3.3
PECR **Pechory** 18.41 20 *e*P **P** 21 49 15.4 -2.8
PECR *e*S **S** 21 52 47.0 +6.9
PECR pmax pmax
comp=Z,440nm,2.4s
PECR pmax pmax
comp=Z,500nm,2.8s
PECR smax
comp=N,600nm,3.0s
PECR MLR MLR
comp=Z,2µm,18.0s
PECR MLR MLR
comp=N,2µm,16.0s
DAVOX **Davos** 18.44 301 P **P** 21 49 19.7 +1.0
comp=N,0.5nm,0.3s,baz=112,slow=10,SNR=15
DAVOX S **S** 21 52 47.6 +6.7
comp=N,0.1nm,0.3s,baz=356,slow=18,SNR=1.7
DAVOX Lg 21 54 52.4
comp=N,0.1nm,0.3s,baz=174,slow=22,SNR=1.6
DAVOX LR LR 21 57 19.1
comp=N,4µm,18.0s,baz=102,slow=40
DAVOX **Davos** 18.44 301 ⇑ *i* P **P** 21 49 20.5 +1.8
PGF **Pioggiola** 18.45 288 *e*P **P** 21 49 18.7 -0.1
comp=N,183nm,1.3s
PGF **Pioggiola** 18.45 288 *e*P **P** 21 49 18.7 -0.1
PGF pmax pmax
comp=Z,92nm,1.3s
UBR **Uberruh** 18.55 304 *e*P **P** 21 49 21.4 +1.4
UBR **Uberruh** 18.55 304 P **P** 21 49 20.7 +0.7
DAVA **Damuels** 18.58 303 ⇑ *i* P **P** 21 49 20.5 +0.1
comp=Z,44nm,0.8s
GRA1 **Grafenberg Arr** 18.61 311 *e*P **P** 21 49 24.7 +4.0
comp=Z,31nm,1.1s
GRA1 *e*S **S** 21 52 52.2 +7.6
GRF **Grafenberg Arr** 18.61 311 *e*P **P** 21 49 24.7 +4.0
GRF *e*S **S** 21 52 52.2 +7.6
GRF pmax pmax
comp=Z,31nm,1.1s
GRF **Grafenberg Arr** 18.61 311 *e*P **P** 21 49 24.7 +4.0
GRF *e*S **S** 21 52 52.2 +7.6
GRF pmax pmax
comp=Z,31nm,1.1s
GRF **Grafenberg Arr** 18.61 311 *e*P **P** 21 49 24.7 +4.0
comp=Z,31nm,1.1s
GRF *e*S **S** 21 52 52.2 +7.6
TUE **Stuetta** 18.72 300 ⇑ *i* P **P** 21 49 23.1 +1.0
HDH **Heidenheim** 18.79 307 *e*P **P** 21 49 26.2 +3.3
MUGIO **Muggio** 18.81 298 ⇑ *i* P **P** 21 49 23.5 +0.4
MOX **Moxa** 18.81 314 P **P** 21 49 27.2 +4.1
MOX pmax pmax
comp=Z,66nm,2.0s
MOX **Moxa** 18.81 314 P **P** 21 49 27.2 +4.1
comp=Z,66nm,2.0s
MOX *e* 21 53 01.0
MOX **Moxa** 18.81 314 *i* P **P** 21 49 27.2 +4.1
comp=Z,logA/T=1.5
MOX S **S** 21 53 01.0 +12
MOX L 21 59 20.0
MOX **Moxa** 18.81 314 *e*P **P** 21 49 26.1 +3.0
comp=Z,64nm,1.9s
PCP **Pian Castagno** 18.93 294 P **P** 21 49 23.4 -1.2
VAI **Varese** 18.99 298 P **P** 21 49 26.2 +1.0
LLS **Linth-Limmern** 19.04 301 ⇓P **P** 21 49 27.2 +1.3
FIN **Finale Ligure** 19.13 293 P **P** 21 49 25.8 -1.2
WILA **Wila** 19.25 302 ⇓P **P** 21 49 28.4 0.0
SISB **Singen-Sch Ber** 19.29 303 P **P** 21 49 29.7 +0.9
GUT **Gutenstein** 19.31 304 *e*P **P** 21 49 30.8 +1.8
GUT **Gutenstein** 19.31 304 P **P** 21 49 29.1 +0.1
MUO **Muotathal** 19.32 301 ⇑P **P** 21 49 29.1 0.0
IMI **Imperia** 19.33 292 P **P** 21 49 28.0 -1.4
IMI **Imperia** 19.33 292 P **P** 21 49 28.0 -1.3
ROB **Roburent** 19.38 293 P **P** 21 49 27.8 -2.1
MONE **Monesi** 19.45 292 P **P** 21 49 30.1 -0.6
MONE **Monesi** 19.45 292 P **P** 21 49 30.0 -0.6
NEGI **Negi** 19.46 291 P **P** 21 49 29.8 -1.0
NEGI **Negi** 19.46 291 P **P** 21 49 29.8 -1.0
STU **Stuttgart** 19.48 307 *e*P **P** 21 49 31.0 0.0
STU pmax pmax
comp=Z,33nm,1.0s
STU **Stuttgart** 19.48 307 *e*P **P** 21 49 31.0 0.0
comp=Z,33nm,1.0s
STU **Stuttgart** 19.48 307 *e*P **P** 21 49 29.9 -1.1
comp=Z,30nm,0.9s
STU **Stuttgart** 19.48 307 *e*P **P** 21 49 31.0 0.0
comp=Z,33nm,1.0s
ORO **Oropa** 19.48 297 P **P** 21 49 30.5 -0.6
ORX **Oropa** 19.48 297 P **P** 21 49 29.8 -1.3
VSU **Vasula** 19.50 350 *d* P **P** 21 49 30.1 -1.1
MCGN **Macugnaga** 19.54 298 P **P** 21 49 31.7 0.0
MMK **Mattmark** 19.57 298 ⇓P **P** 21 49 32.0 0.0
SAOF **Saorge** 19.58 292 *e*P **P** 21 49 32.2 0.0
SLE **Schleitheim** 19.62 303 ⇓P **P** 21 49 32.2 -0.4
TRAV 19.63 296 P **P** 21 49 30.6 -2.1
TRAV 19.63 296 P **P** 21 49 30.6 -2.1
SBF **Sospel** 19.66 291 *e*P **P** 21 49 32.4 -0.6
comp=Z,228nm,1.0s
SBF **Sospel** 19.66 291 *e*P **P** 21 49 32.4 -0.6

SBF pmax pmax
comp=Z,114nm,1.0s
AUTN L'Aution 19.67 292 *e*P **P 21 49 33.7 +0.5**
LBG Lerchenberg 19.70 306‖*e*P **P 21 49 35.4 +2.0**
ENR Entracque 19.70 292 P **P 21 49 32.0 -1.5**
STV2 Anna di Valdie 19.77 292 P **P 21 49 33.1 -1.2**
STV Sta Anna Valdi 19.77 292 P **P 21 49 32.1 -2.2**
SULZ Sulz-Cheisache 19.80 302 ‖P **P 21 49 34.1 -0.5**
TOUF Mont Tournerai 19.80 292 *e*P **P 21 49 34.8 +0.1**
DOI San Damiano 19.85 293 P **P 21 49 33.9 -1.3**
MVIF Mont Vial 19.86 291 *e*P **P 21 49 37.4 +2.1**
LKD Leukerbad 19.87 299 ‖P **P 21 49 35.4 +0.1**
BHB Bricherasio 19.88 294 P **P 21 49 32.5 -2.9**
BHB Bricherasio 19.88 294 P **P 21 49 32.5 -2.9**
BSD Bornholm Skovb 19.88 328 *i* P **P 21 49 35.6 +0.2**
BSD pmax pmax
comp=Z,44nm,0.9s
BSD Bornholm Skovb 19.88 328 *i* P **P 21 49 35.6 +0.2**
comp=Z,44nm,0.9s
BFO Black Forest 19.89 305 *e*P **P 21 49 34.8 -0.7**
BFO pmax pmax
comp=Z,74nm,1.0s
BFO Black Forest 19.89 305 *e*P **P 21 49 34.8 -0.7**
comp=Z,74nm,1.0s
RSP Reno Superiore 19.92 295 P **P 21 49 32.7 -3.2**
FELD Feldberg 19.97 303‖*e*P **P 21 49 36.2 -0.2**
FELD Feldberg 19.97 303 *e*P **P 21 49 36.3 -0.1**
TOD Tromm 20.02 309‖*e*P **P 21 49 40.2 +3.3**
LSD Ceresole Reale 20.03 296 P **P 21 49 35.6 -1.5**
FENE Fenestrelle 20.04 295 P **P 21 49 35.3 -1.8**
FENE Fenestrelle 20.04 295 P **P 21 49 35.3 -1.9**
KIZ Kirchzarten 20.04 303‖*e*P **P 21 49 37.1 -0.1**
KIZ Kirchzarten 20.04 303 P **P 21 49 37.8 +0.6**
CALN Calern 20.05 291 *e*P **P 21 49 37.9 +0.7**
CLZ Clausthal 20.07 316 *e*P **P 21 49 36.8 -0.7**
CLZ pmax pmax
comp=Z,32nm,1.2s
CLZ Clausthal 20.07 316 *e*P **P 21 49 36.8 -0.7**
comp=Z,32nm,1.2s
LTHS Al Lith 20.09 160 P **P 21 49 39.5 +1.7**
OG22 Abries 20.10 294 *e*P **P 21 49 39.2 +1.4**
SURF Saint Ours 20.16 293 *e*P **P 21 49 40.0 +1.6**
RGN Rugen 20.17 325 *e*P **P 21 49 36.1 -2.3**
RGN Rugen 20.17 325 *e*P **P 21 49 36.4 -2.1**
comp=Z,145nm,1.2s
BBS Basel-Blauen 20.18 302 *e*P **P 21 49 38.1 -0.6**
BBS Basel-Blauen 20.18 302 *e*P **P 21 49 40.0 +1.3**
FRF La Foret Royal 20.21 290 *e*P **P 21 49 37.8 -1.2**
comp=Z,105nm,1.2s
FRF La Foret Royal 20.21 290 *e*P **P 21 49 37.8 -1.2**
FRF pmax pmax
comp=Z,53nm,1.2s
MBDF Montbardon 20.21 294 *e*P **P 21 49 38.1 -0.9**
comp=Z,306nm,1.1s
MBDF Montbardon 20.21 294 *e*P **P 21 49 38.1 -0.9**
MBDF pmax pmax
comp=Z,153nm,1.1s
RRL Cesana Torines 20.22 294 P **P 21 49 38.5 -0.6**
LIBD Limburg 20.30 304‖*e*P **P 21 49 40.7 +0.8**
LIBD Limburg 20.30 304 *e*P **P 21 49 40.6 +0.7**
LMR La Mourre 20.30 290 *e*P **P 21 49 38.9 -1.0**
comp=Z,172nm,1.6s
LMR La Mourre 20.30 290 *e*P **P 21 49 38.9 -1.0**
LMR pmax pmax
comp=Z,86nm,1.6s
EMV Vieux Emosson 20.30 298 P **P 21 49 39.5 -0.4**
BNI Bardonecchia 20.31 295 *e*P **P 21 49 39.6 -0.4**
BNI pmax pmax
comp=Z,146nm,1.1s
BNI Bardonecchia 20.31 295 *e*P **P 21 49 39.6 -0.4**
comp=Z,146nm,1.1s
BNI Bardonecchia 20.31 295 *e*P **P 21 49 39.6 -0.4**
comp=Z,146nm,1.1s
LPG La Plagne 20.32 296 *e*P **P 21 49 40.2 +0.1**
comp=Z,171nm,1.0s
LPG La Plagne 20.32 296 *e*P **P 21 49 40.2 +0.1**
LPG pmax pmax
comp=Z,86nm,1.0s
LPL La Plagne 20.33 296 *e*P **P 21 49 40.3 0.0**
comp=Z,108nm,1.0s
LPL La Plagne 20.33 296 *e*P **P 21 49 40.3 0.0**
LPL pmax pmax
comp=Z,54nm,1.0s
CMAH Djebel Manchou 20.40 270 P **P 21 49 41.0 0.0**
LANF Langenberg 20.42 306 *e*P **P 21 49 40.8 -0.3**
RSL Roselend 20.43 296 *e*P **P 21 49 41.7 +0.4**
PUL Pulkovo 20.45 356 *i* P **P 21 49 42.2 +0.8**
PUL *i* S **S 21 53 27.4 +2.8**
PUL pmax pmax
comp=Z,127nm,0.6s
PUL pmax pmax
comp=N,257nm,1.0s
PUL pmax pmax
comp=E,146nm,0.8s
PUL smax
comp=N,653nm,11.9s
PUL smax
comp=Z,612nm,10.9s
PUL smax
comp=E,917nm,9.7s
PUL MLR MLR
comp=Z,4μm,21.0s,MS4.8
PUL MLR MLR
comp=N,2μm,14.0s
PUL MLR MLR
comp=E,2μm,16.0s
ABSA Djebel Ababsia 20.45 269 P **P 21 49 43.0 +1.4**
TNS Taunus Mts 20.46 310 *e*P **P 21 49 42.1 +0.6**
TNS pmax pmax
comp=Z,17nm,1.0s
TNS Taunus Mts 20.46 310 *e*P **P 21 49 42.1 +0.6**
comp=Z,17nm,1.0s
OG01 Vacheresse 20.50 298 *e*P **P 21 49 42.1 +0.2**
MOF Molkenrain 20.53 303 *e*P **P 21 49 42.3 +0.1**
NRDL Niedersach Rie 20.54 317 *e*P **P 21 49 42.4 0.0**
comp=Z,26nm,1.1s
CDF Champ du Feu 20.58 304 *e*P **P 21 49 42.3 -0.5**
comp=Z,26nm,0.6s
CDF Champ du Feu 20.58 304 *e*P **P 21 49 42.3 -0.5**
CDF pmax pmax
comp=Z,13nm,0.6s
ECH Echery 20.61 304 *e*P **P 21 49 43.6 +0.6**
LOMF Lomont 20.61 301 P **P 21 49 44.9 +1.8**
HINF Hinteralfeld 20.70 303 *e*P **P 21 49 43.3 -0.7**
comp=Z,62nm,1.0s
HINF Hinteralfeld 20.70 303 *e*P **P 21 49 43.3 -0.7**
HINF pmax pmax
comp=Z,31nm,1.0s
GDM Grand'Maison 20.73 295 *e*P **P 21 49 44.6 +0.3**
BLJS Baljurashi 20.80 157 P **P 21 49 46.6 +1.3**
CAEH 'Ain El Ouahch 20.80 271 P **P 21 49 49.0 +3.8**
ORIF Oris-en-Rattie 20.86 294 *e*P **P 21 49 45.6 -0.1**
comp=Z,109nm,0.9s
ORIF *e*R
comp=Z,4μm,20.0s
ABH Alteburg 20.88 308‖*e*P **P 21 49 49.5 +3.7**
PUYF Puyloubier 20.90 290 *e*P **P 21 49 46.4 +0.3**
VILF Villemus 20.90 291 *e*P **P 21 49 47.1 +1.0**
GRN Grenoble 20.99 295 *e*P **P 21 49 47.0 0.0**
SMRF Simiane la Rot 21.01 291 *e*P **P 21 49 46.4 -0.8**
comp=Z,40nm,0.7s,mb4.6
HAU Haudompre 21.07 303 *e*P **P 21 49 47.3 -0.6**
comp=Z,43nm,0.8s,mb4.5
HAU *e*R
comp=Z,3μm,19.5s
HAU Haudompre 21.07 303 *e*P **P 21 49 47.3 -0.6**
HAU pmax pmax
comp=Z,21nm,0.8s,mb4.5
HAU MLR MLR
comp=Z,3μm,19.5s,MS4.7
RUP Ruppelstein 21.11 308‖*e*P **P 21 49 51.9 +3.7**
BSEG Bad Segeberg 21.20 321 *e*P **P 21 49 46.5 -2.6**
CASM Ain Smara 21.22 270 P **P 21 49 52.0 +2.6**
OG05 Jujurieux 21.29 297 *e*P **P 21 49 49.8 -0.3**
PRAF Pradon 21.29 291 *e*P **P 21 49 51.0 +0.9**
COP Copenhagen 21.30 327 *i* P **P 21 49 52.1 +2.0**
COP *i* S **S 21 53 40.8 -0.4**
COP pmax pmax
comp=Z,44nm,1.0s,mb4.7
COP MLR MLR
comp=Z,2μm,17.0s,MS4.5
COP Copenhagen 21.30 327 *i* P **P 21 49 52.1 +2.0**
comp=Z,44nm,1.0s,mb4.7
COP *i* S **S 21 53 40.8 -0.4**
comp=Z,2μm,17.0s
CTEI Djebel Teioual 21.34 269 P **P 21 49 55.0 +4.3**
THEF They Montfort 21.36 303 *e*P **P 21 49 51.0 +0.2**
KAMS Al Khamasin 21.45 149 P **P 21 49 53.0 +1.2**
AB31 Akbulak array 21.47 54 *i* P **P 21 49 50.2 -1.7**
AB31 pmax pmax
comp=Z,22nm,1.0s,mb4.4
DFRA Djebel Bou Aff 21.62 271 P **P 21 49 56.0 +2.6**
BUG Bochum--Univer 21.63 312 P **P 21 49 55.5 +2.1**
WLF Walferdange 21.66 307 *e*P **P 21 49 53.3 -0.5**
WLF pmax pmax
comp=Z,54nm,1.5s,mb4.8
WLF Walferdange 21.66 307 *e*P **P 21 49 53.3 -0.4**
comp=Z,54nm,1.5s,mb4.8
WLF Walferdange 21.66 307 *e*P **P 21 49 53.8 0.0**
comp=Z,63nm,1.8s,mb4.7
VIVF Saint-Julien-l 21.71 294 *e*P **P 21 49 53.8 -0.5**
comp=Z,61nm,1.1s,mb4.7
VIVF Saint-Julien-l 21.71 294 *e*P **P 21 49 53.8 -0.5**
VIVF pmax pmax
comp=Z,30nm,1.0s,mb4.7
IBBN Ibbenburen 21.72 315 P **P 21 49 54.4 +0.1**
TATS Tathlith 21.74 153 P **P 21 49 56.5 +1.8**
MEZF Maizieres J'vi 22.04 304 *e*P **P 21 49 56.9 -0.6**
comp=Z,65nm,1.0s,mb4.7
CKHR Kef el Ahmar 22.05 270 P **P 21 50 03.0 +5.2**
SET Setif 22.08 270 P **P 21 50 01.0 +2.9**
WTSB Winterswijk 22.11 313‖*e*P **P 21 50 01.1 +2.9**
comp=Z,84nm,1.9s,mb4.8
HGN Heimansgroeve 22.16 310‖*e*P **P 21 50 15.3 +17**
comp=Z,54nm,1.7s,mb4.7
HGN *i* S **S 21 54 10.0 +13**
LASF Ste Croix 22.25 292 *e*P **P 21 49 59.1 -0.6**
comp=Z,93nm,1.1s,mb4.8
COLF Collangettes 22.46 295 *e*P **P 21 50 02.3 +0.6**
FINES FINESS Array B 22.48 351 P **P 21 50 01.2 -0.7**
comp=Z,20nm,0.7s,mb4.7,baz=157,slow=14,SNR=133
FINES S **S 21 54 19.4 +16**
comp=Z,1.6nm,0.7s,baz=151,slow=24,SNR=2.3
FINES Lg 21 57 04.6
comp=Z,6.2nm,1.2s,baz=180,slow=9.5,SNR=3.3
FINES LR LR 22 00 24.3
comp=Z,3μm,18.7s,MS4.7,baz=156,slow=41
FINES FINESS Array B 22.48 351 P **P 21 50 01.2 -0.7**
FINES S **S 21 54 19.4 +16**
FINES Lg 21 57 04.6
FINES LR LR 22 00 24.3
FINES FINESS Array B 22.48 351 S **S 21 54 19.4 +16**
PLDF La Plantade 22.55 297 *e*P **P 21 50 04.4 +1.8**
LOR Lormes 22.57 300 *e*P **P 21 50 03.1 +0.3**
comp=Z,81nm,1.0s,mb4.8
LOR *e*R
comp=Z,4μm,19.2s
LOR Lormes 22.57 300 *e*P **P 21 50 03.1 +0.3**
LOR pmax pmax
comp=Z,40nm,1.0s,mb4.8
LOR MLR MLR
comp=Z,4μm,19.3s,MS4.8
GIVF Givet 22.61 307 *e*P **P 21 50 02.4 -0.8**
LBL Lubilhac 22.75 295 *e*P **P 21 50 06.5 +2.0**
SSF Saint Saulge 22.77 299 *e*P **P 21 50 04.5 -0.3**
SSF pmax pmax
comp=Z,17nm,1.0s,mb4.4
SSF Saint Saulge 22.77 299 *e*P **P 21 50 04.5 -0.3**
comp=Z,17nm,1.0s,mb4.4
AVF Avril sur Loir 22.84 299 *e*P **P 21 50 05.4 0.0**
comp=Z,84nm,1.0s,mb4.8
AVF Avril sur Loir 22.84 299 *e*P **P 21 50 05.4 0.0**
AVF pmax pmax
comp=Z,42nm,1.0s,mb4.8
AGO Saint Agoulin 22.90 297 *e*P **P 21 50 08.1 +2.0**
PYM Petit Puy Mans 22.96 296 *e*P **P 21 50 08.6 +2.0**
BAIF Baives 22.98 307 *e*P **P 21 50 06.1 -0.7**
comp=Z,48nm,1.1s,mb4.5
BAIF Baives 22.98 307 *e*P **P 21 50 06.1 -0.7**
BAIF pmax pmax
comp=Z,24nm,1.1s,mb4.5
KAF Kangasniemi 23.11 352 *ep* **P 21 50 07.5 -0.4**
comp=Z,32nm,0.8s,mb4.8,baz=160,slow=11
KAF Kangasniemi 23.11 352 *e*P **P 21 50 07.5 -0.4**
KAF pmax pmax
comp=Z,32nm,0.8s,mb4.8
BGF Bois d'Agland 23.16 298 *e*P **P 21 50 07.9 -0.6**
comp=Z,43nm,0.8s,mb4.6
BGF Bois d'Agland 23.16 298 *e*P **P 21 50 07.9 -0.6**
BGF pmax pmax
comp=Z,22nm,0.8s,mb4.6
MUD Monsted U'grnd 23.21 325 *e*P **P 21 50 13.6 +4.7**
MUD *i* S **S 21 54 26.9 +11**
MUD pmax pmax
comp=Z,50nm,1.1s,mb4.9
MUD Monsted U'grnd 23.21 325 *e*P **P 21 50 13.6 +4.7**
comp=Z,50nm,1.1s,mb4.9
MUD *i* S **S 21 54 26.9 +11**
MUD Monsted U'grnd 23.21 325 *i* P **P 21 50 13.6 +4.7**
comp=Z,50nm,1.1s,mb4.9
MUD *i* S **S 21 54 26.9 +11**
comp=Z,4μm,17.0s
ETOS Mallorca 23.29 281 P **P 21 50 10.8 +0.8**
comp=Z,47nm,1.1s,mb4.8
ETOS Mallorca 23.29 281 P **P 21 50 10.8 +0.9**
comp=Z,47nm,1.1s,mb4.8
HYF Humbligny 23.39 300 *e*P **P 21 50 10.4 -0.4**
MTLF Montolieu 23.43 290 *e*P **P 21 50 11.0 -0.2**
comp=Z,40nm,1.3s,mb4.4
MTLF Montolieu 23.43 290 *e*P **P 21 50 11.0 -0.2**
MTLF pmax pmax
comp=Z,20nm,1.3s,mb4.4
DJNS Zahran al Janu 23.46 154 P **P 21 50 15.2 +3.5**
TCF Toulx Ste Croi 23.56 297 *e*P **P 21 50 11.8 -0.7**
comp=Z,20nm,0.7s,mb4.3
TCF Toulx Ste Croi 23.56 297 *e*P **P 21 50 11.8 -0.7**
TCF pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
CAF Calviac 23.56 294 *e*P **P 21 50 12.2 -0.3**
comp=Z,12nm,0.7s,mb4.2
CAF Calviac 23.56 294 *e*P **P 21 50 12.2 -0.3**
CAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
ARU Arti 23.89 36‖*i*P **P 21 50 16.3 +0.8**
ARU *e*PPP PPP 21 50 53.2 -6.1
ARU *i* S **S 21 54 33.8 +6.0**
ARU *e*SS SS 21 55 18.1 -0.1
ARU *e*SSS SSS 21 55 27.6 -6.8
ARU pmax pmax
comp=Z,52nm,1.1s,mb4.9
ARU MLR MLR
comp=Z,900nm,17.0s,MS4.3
ARU MLR MLR
comp=N,500nm,16.5s,MS4.3
ARU MLR MLR
comp=E,800nm,16.0s,MS4.3
RJF Les Rejaudoux 23.97 295 *e*P **P 21 50 16.4 0.0**
comp=E,82nm,1.1s,mb4.8
RJF *e*R
comp=E,4μm,21.5s
RJF Les Rejaudoux 23.97 295 *e*P **P 21 50 16.4 0.0**
RJF pmax pmax
comp=Z,41nm,1.1s,mb4.8
RJF MLR MLR
comp=Z,4μm,21.5s,MS4.8
EMHD Djebel Mahouad 23.98 272 P **P 21 50 18.0 +1.4**
EMIR Miracle 24.01 286 P **P 21 50 16.0 -0.9**
comp=Z,13nm,0.7s,mb4.5
EMIR Miracle 24.01 286 P **P 21 50 16.0 -0.9**
comp=Z,13nm,0.7s,mb4.5,SNR=6.1
HFS Hagfors 24.05 336 P **P 21 50 18.2 +1.1**
comp=Z,9.8nm,0.6s,mb4.4,baz=129,slow=9.5,SNR=26
HFS S **S 21 54 38.4 +7.8**
comp=Z,3.3nm,0.9s,baz=101,slow=32,SNR=2.3
HFS LR LR 22 01 27.3
comp=Z,2μm,18.3s,MS4.7,baz=146,slow=41
HFS Hagfors 24.05 336 S **S 21 54 38.4 +7.8**
HFA0 Hagfors New Ar 24.06 336 P **P 21 50 18.2 +1.0**
MLS Moulis 24.27 289 *e*P **P 21 50 20.0 +0.6**
EPOB Poblet 24.40 285 P **P 21 50 21.2 +0.5**
comp=Z,46nm,1.7s,mb4.6
EPOB Poblet 24.40 285 P **P 21 50 21.2 +0.5**
comp=Z,46nm,1.7s,mb4.6
LFF La Frestale 24.50 294 *e*P **P 21 50 21.4 -0.3**
comp=Z,28nm,0.8s,mb4.5
LFF La Frestale 24.50 294 *e*P **P 21 50 21.4 -0.3**
LFF pmax pmax
comp=Z,14nm,0.8s,mb4.5
EIBI Ibiza 24.54 279 P **P 21 50 22.8 +0.7**
comp=Z,128nm,1.7s,mb5.2
EIBI Ibiza 24.54 279 P **P 21 50 22.8 +0.7**
comp=Z,128nm,1.7s,mb5.2,SNR=7.9
EPF Esparros 24.82 289 *e*P **P 21 50 23.8 -0.9**
comp=Z,11nm,0.7s,mb4.2
EPF Esparros 24.82 289 *e*P **P 21 50 23.8 -0.9**
EPF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
RESF Ens 24.83 288 *e*P **P 21 50 25.4 +0.6**
EBR Ebro Roquetas 24.90 284 *e*P **P 21 50 30.0 +4.5**
EBIE Bielsa 24.98 288 P **P 21 50 24.9 -1.3**
comp=Z,120nm,1.3s,mb5.3
EBIE Bielsa 24.98 288 P **P 21 50 24.9 -1.3**
comp=Z,120nm,1.3s,mb5.3,SNR=21
LABF Labassere 25.01 289 *e*P **P 21 50 27.9 +1.4**
VIEF Viey 25.05 289 *e*P **P 21 50 27.5 +0.5**
EBNR Beni Rached 25.05 273 P **P 21 50 20.0 -7.0**
KONO Kongsberg 25.11 331 *e*P **P 21 50 25.7 -1.6**
KONO pmax pmax
comp=Z,49nm,1.0s,mb5.0
KONO Kongsberg 25.11 331 *e*P **P 21 50 25.7 -1.6**
comp=Z,49nm,1.0s,mb5.0
KONO Kongsberg 25.11 331 *e*P **P 21 50 28.0 +0.7**
KONO *e*S **S 21 54 51.2 +2.8**
MFF Saint Martin d 25.21 297 *e*P **P 21 50 27.8 -0.6**
comp=Z,55nm,0.8s,mb4.8
MFF Saint Martin d 25.21 297 *e*P **P 21 50 27.8 -0.6**
MFF pmax pmax
comp=Z,27nm,0.8s,mb4.8
ECHA Ech Chlef 25.22 273 P **P 21 50 21.0 -7.6**
ETSF Etsaut 25.48 289 *e*P **P 21 50 30.3 -0.7**
comp=Z,54nm,1.0s,mb4.8
ETSF Etsaut 25.48 289 *e*P **P 21 50 30.3 -0.7**
ETSF pmax pmax
comp=Z,27nm,1.0s,mb4.7
EANR 'Ain N'Sour 25.49 272 P **P 21 50 31.0 -0.1**
ETRT Tiaret 25.50 271 P **P 21 50 33.0 +1.7**
NAO01 NORSAR Array S 25.50 335 *e*P **P 21 50 31.2 +0.2**
comp=Z,28nm,0.8s,mb4.8
NAO01 NORSAR Array S 25.50 335 *e*P **P 21 50 31.2 +0.2**
comp=Z,28nm,0.8s,mb4.8
ESAC San Caprasio 25.51 286 P **P 21 50 31.6 +0.3**
comp=Z,41nm,0.9s,mb5.0
ESAC San Caprasio 25.51 286 P **P 21 50 31.6 +0.3**
comp=Z,41nm,0.9s,mb5.0,SNR=8.5
NB2 NORSAR Subarra 25.54 335 P **P 21 50 31.5 +0.2**
comp=Z,3.0nm,0.6s,mb4.0,baz=141,slow=10
NB2 NORSAR Subarra 25.54 335 P **P 21 50 31.5 +0.2**
NB2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
NB2 NORSAR Subarra 25.54 335 P **P 21 50 31.5 +0.2**
baz=141,slow=10
NOA NORSAR Array B 25.54 335 P **P 21 50 31.1 -0.2**
comp=Z,7.8nm,0.8s,mb4.3,baz=134,slow=9.2,SNR=14
NOA LR LR 22 02 37.8
comp=Z,2μm,18.2s,MS4.8,baz=145,slow=41
FLN La Foliniere 25.69 302 *e*P **P 21 50 31.7 -1.1**
comp=Z,32nm,0.8s,mb4.6
FLN *e*R
comp=Z,3μm,20.0s
FLN La Foliniere 25.69 302 *e*P **P 21 50 31.7 -1.1**
FLN pmax pmax
comp=Z,16nm,0.8s,mb4.6
FLN MLR MLR
comp=Z,3μm,20.0s,MS4.8
EMOS Mosqueruela 25.69 283 P **P 21 50 34.0 +1.0**
comp=Z,21nm,0.8s,mb4.7
EMOS Mosqueruela 25.69 283 P **P 21 50 34.0 +1.0**
comp=Z,21nm,0.8s,mb4.7
EBEN Beniarda 25.81 279 P **P 21 50 33.9 -0.2**
comp=Z,114nm,1.9s,mb5.1
EBEN Beniarda 25.81 279 P **P 21 50 33.9 -0.2**
comp=Z,114nm,1.9s,mb5.1,SNR=7.9
GRR Gorron 25.88 301 *e*P **P 21 50 33.4 -1.3**
comp=Z,60nm,0.7s,mb4.9
GRR Gorron 25.88 301 *e*P **P 21 50 33.4 -1.3**
GRR pmax pmax
comp=Z,30nm,0.7s,mb4.9
SJPF Ste Jean 25.95 289 *e*P **P 21 50 35.1 -0.3**
comp=Z,39nm,1.0s,mb4.6
SJPF Ste Jean 25.95 289 *e*P **P 21 50 35.1 -0.3**
SJPF pmax pmax
comp=Z,19nm,1.0s,mb4.6
EARA Aranguren 26.24 289 P **P 21 50 37.2 -0.8**
comp=Z,67nm,1.3s,mb5.0,SNR=7.9
CART Cartagena 26.66 277 P **P 21 50 38.2 -3.8**
comp=Z,49nm,1.1s,mb5.0
CART Cartagena 26.66 277 P **P 21 50 38.2 -3.8**
comp=Z,49nm,1.1s,mb5.0
EMUR La Murta 26.78 278 P **P 21 50 42.6 -0.4**
comp=Z,18nm,0.9s,mb4.6
EMUR La Murta 26.78 278 P **P 21 50 42.6 -0.5**
comp=Z,18nm,0.9s,mb4.6,SNR=6.4
ETOB Tobarra 26.83 279 P **P 21 50 43.6 +0.1**
comp=Z,14nm,0.9s,mb4.5
ETOB Tobarra 26.83 279 P **P 21 50 43.6 +0.1**
comp=Z,14nm,0.9s,mb4.5,SNR=7.2
SGMF Saint Gilles 26.99 301 *e*P **P 21 50 43.8 -1.1**
comp=Z,64nm,1.0s,mb4.8
SGMF Saint Gilles 26.99 301 *e*P **P 21 50 43.8 -1.1**
SGMF pmax pmax
comp=Z,32nm,1.0s,mb4.8
BER Bergen 27.21 330 *e*P **P 21 50 50.2 +3.5**
BER *e*S **S 21 55 23.9 +0.7**
BER AMS AMS 22 05 55.6
comp=Z,1μm,16.9s,MS4.6
ROSF Rostrenen 27.48 301 *e*P **P 21 50 47.6 -1.7**
NSS Namsos 28.04 341 AMS AMS 22 03 35.6
comp=Z,2μm,20.4s,MS4.7
EQES Quesada 28.20 278 P **P 21 50 56.1 +0.2**
comp=Z,27nm,1.2s,mb4.8
EQES Quesada 28.20 278 P **P 21 50 56.1 +0.2**
comp=Z,27nm,1.2s,mb4.8,SNR=10
KKAR Karatay Array 28.21 70 *i* P **P 21 50 55.6 -0.4**
KKAR pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
EBER Berja 28.30 276 P **P 21 50 57.2 +0.3**
comp=Z,14nm,0.9s,mb4.6
EBER Berja 28.30 276 P **P 21 50 57.2 +0.4**
comp=Z,14nm,0.9s,mb4.6,SNR=5.7
ESDC Sonseca Array 28.45 283 P **P 21 50 57.8 -0.4**
comp=Z,1.9nm,0.5s,mb4.0,baz=67,slow=9.3,SNR=29
ESDC S **S 21 55 51.9 +8.5**
comp=Z,0.4nm,0.7s,baz=236,slow=34,SNR=2.5
ESLA Sonseca Array 28.45 283 *e*P **P 21 50 57.3 -0.9**
comp=Z,5.2nm,1.2s,mb4.0
ESLA Sonseca Array 28.45 283 *e*P **P 21 50 57.3 -0.9**
comp=Z,5.2nm,1.2s,mb4.0
BRVK Borovoye 28.75 49 *e*P **P 21 51 01.9 +1.1**
BRVK pmax pmax
comp=Z,28nm,1.4s,mb4.8
BRVK Borovoye 28.75 49 *e*P **P 21 51 01.9 +1.1**
comp=Z,28nm,1.4s,mb4.8
BRVK Borovoye 28.75 49 *e*P **P 21 51 01.9 +1.1**
comp=Z,28nm,1.4s,mb4.8
BVA0 Borovoye Array 28.81 49 *i* P **P 21 51 01.9 +0.6**
BVA0 pmax pmax
comp=Z,1.0nm,1.1s
BVAR Borovoye Array 28.81 49 P **P 21 51 00.9 -0.4**
comp=Z,3.0nm,0.8s,mb4.1,baz=248,slow=8.0,SNR=13
BVAR S **S 21 55 57.9 +8.9**
comp=Z,0.2nm,0.4s,baz=145,slow=2.8,SNR=2.3
BVAR Borovoye Array 28.81 49 S **S 21 55 57.9 +8.9**
MOR8 Moi Rana 28.84 344 *e*P **P 21 51 01.3 -0.1**
MOR8 AMb AMB 21 51 10.7
comp=Z,19nm,1.5s,mb4.6
MOR8 Moi Rana 28.84 344 *e*P **P 21 51 01.3 -0.1**
comp=Z,19nm,1.5s,mb4.6,SNR=28
EKA Eskdalemuir Ar 28.85 316 P **P 21 51 01.3 -0.3**
comp=Z,4.9nm,0.5s,mb4.5,baz=115,slow=9.3,SNR=45
ESK Eskdalemuir 28.87 315 *e*P **P 21 51 01.1 -0.7**
ESK pmax pmax
comp=Z,24nm,1.1s,mb4.8
ESK Eskdalemuir 28.87 315 *e*P **P 21 51 01.1 -0.7**
comp=Z,24nm,1.1s,mb4.8
ATD Arta Tunnel 29.09 160 LR LR 22 01 31.8
comp=Z,2μm,20.5s,MS4.7,baz=346,slow=34
VOSK Vostochnaya 29.09 50 P **P 21 51 03.3 -0.5**
VOSK pmax pmax
comp=Z,23nm,1.7s,mb4.6
EADA Adamuz 29.26 280 P **P 21 51 05.3 -0.2**
comp=Z,13nm,1.1s,mb4.6
EADA Adamuz 29.26 280 P **P 21 51 05.3 -0.2**
comp=Z,13nm,1.1s,mb4.6,SNR=7.1
EMIJ Mijas 29.84 277 P **P 21 51 09.3 -1.4**
comp=Z,24nm,0.8s,mb5.0
EMIJ Mijas 29.84 277 P **P 21 51 09.3 -1.4**
comp=Z,24nm,0.8s,mb5.0,SNR=9.1

KTK1 Kautokeino 30.13 353 *e*P **P** **21 51 12.4 -0.6**
KTK1 AMb AMB 21 51 28.8
comp=Z,62nm,1.8s,mb5.0
KTK1 Kautokeino 30.13 353 *e*P **P** **21 51 12.4 -0.6**
comp=Z,62nm,1.8s,mb5.0,SNR=27
EPON Pontenova 30.25 291 P **P** **21 51 11.3 -2.9**
comp=Z,5.2nm,0.6s,mb4.4
EPON Pontenova 30.25 291 P **P** **21 51 11.3 -3.0**
comp=Z,5.2nm,0.6s,mb4.5,SNR=5.9
ARCES ARCESS Array B 30.46 355 P **P** **21 51 15.7 -0.1**
comp=Z,5.7nm,0.6s,mb4.5,baz=166,slow=7.8,SNR=34
ARCES LR LR 22 04 18.7
comp=Z,1μm,19.1s,MS4.5,baz=35,slow=38
ARE0 ARCESS Array S 30.46 355 *e*P **P** **21 51 15.4 -0.4**
ARE0 ARCESS Array S 30.46 355 *e*P **P** **21 51 15.4 -0.4**
KEV Kevo 30.58 356 *e*p **P** **21 51 16.9 0.0**
ESPR Espera 30.58 278 P **P** **21 51 18.3 +1.0**
ESPR Espera 30.58 278 P **P** **21 51 18.3 +1.0**
SNR=7.9
EMIN Mina Concepcio 30.96 280 P **P** **21 51 19.9 -0.7**
comp=Z,6.7nm,0.6s,mb4.7
EMIN Mina Concepcio 30.96 280 P **P** **21 51 19.9 -0.7**
comp=Z,6.7nm,0.6s,mb4.7,SNR=11
AAK Ala-Archa 31.18 71⇓ *e*P **P** **21 51 22.0 -0.4**
AAK pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
AAK Ala-Archa 31.18 71 *e*P **P** **21 51 22.2 -0.2**
comp=Z,12nm,0.9s,mb4.7
AAK Ala-Archa 31.18 71 *e*P **P** **21 51 22.2 -0.2**
comp=Z,12nm,0.9s,mb4.7
TRO Tromso 31.21 350 *e*P **P** **21 51 21.6 -0.9**
TRO *e*S **S** **21 56 27.0 +0.2**
TRO AMS AMS 22 05 42.4
comp=Z,2μm,16.0s,MS4.9
FRU Bishkek 31.24 70 *e*P **P** **21 51 23.5 +0.5**
FRU *e* 21 52 24.0
FRU pmax pmax
comp=Z,60nm,1.8s,mb5.1
EVO Evora 31.78 282 *e*P **P** **21 51 27.7 -0.1**
comp=Z,11nm,0.8s,mb4.4
EVO *e*R
comp=Z,3μm,17.8s
KSH Kashi 32.87 76 *e*P **P** **21 51 41.8 +4.5**
KSH *e*AP pP 21 51 46.5 +4.6
KSH *e*XP sP 21 51 49.3 +5.4
KSH *e*S **S** **21 56 59.3 +6.3**
KSH *e*SS SS 21 59 01.8 +10
KSH AMB AMB
comp=Z,20nm,1.9s,mb4.7
KURK Kurchatov 33.58 55 P **P** **21 51 43.2 -0.1**
KURK pmax pmax
comp=Z,13nm,1.1s,mb4.8
MKAR Makanchi Array 36.17 62 P **P** **21 52 05.3 -0.2**
comp=Z,14nm,1.0s,mb4.8,baz=270,slow=6.9,SNR=35
MKAR PP PP 21 53 35.4 +7.2
comp=Z,8.5nm,1.1s,baz=270,slow=8.5,SNR=3.7
MKAR LR LR 22 09 01.8
comp=Z,1μm,20.6s,MS4.7,baz=285,slow=40
MKAR Makanchi Array 36.17 62 P **P** **21 52 05.3 -0.2**
MKAR PP PP 21 53 35.4 +7.2
MKAR LR LR 22 09 01.8
MKAR Makanchi Array 36.17 62 P **P** **21 52 05.3 -0.2**
MKAR Makanchi Array 36.17 62 PP PP 21 53 35.4 +7.2
NVS Novosibirsk 36.58 48 *e*P **P** **21 52 09.4 +0.5**
NVS *e*S **S** **21 57 51.3 +1.1**
NVS pmax pmax
comp=N,6.0nm,1.2s
NVS pmax pmax
comp=E,12nm,1.2s
NVS pmax pmax
comp=Z,20nm,1.2s,mb4.8
NVS smax
comp=N,13nm,1.3s
NVS smax
comp=E,6.0nm,1.4s
ZAL Zalesovo 37.45 50 P **P** **21 52 16.6 +0.4**
comp=E,2.7nm,0.4s,mb4.4,baz=207,slow=6.8,SNR=9.5
ZAL PP PP 21 53 49.2 +4.9
comp=E,1.7nm,0.8s,baz=179,slow=13,SNR=3.2
ZAL LR LR 22 11 55.4
comp=E,1μm,19.6s,MS4.7,baz=198,slow=43
ZAL Zalesovo 37.45 50 PP PP 21 53 49.2 +4.8
JMIC Jan Mayen 38.07 339 *e*ScP 21 58 22.1
JMIC AMS AMS 22 08 49.7
comp=Z,1μm,21.1s,MS4.6
JMIC Jan Mayen 38.07 339 *e*ScP 21 58 22.1
SNR=7.0
MBAR Mbarara 39.88 184 *e*P **P** **21 52 33.8 -3.1**
MBAR pmax pmax
comp=Z,11nm,1.2s,mb4.5
MBAR Mbarara 39.88 184 *e*P **P** **21 52 33.8 -3.1**
comp=Z,11nm,1.2s,mb4.5
WMQ Urumqi 40.43 65 P **P** **21 52 43.8 +2.6**
WMQ AP pP 21 52 48.3 +2.4
WMQ PP PP 21 54 20.8 +2.9
WMQ S **S** **21 58 52.0 +3.3**
WMQ AMB AMB
comp=Z,22nm,1.1s,mb4.8
WMQ AMB AMB
comp=Z,94nm,4.8s
WMQ LR LR
comp=N,3μm,16.2s,MS5.3
WMQ LR LR
comp=E,2μm,14.8s,MS5.3
WMQ LR LR
comp=Z,2μm,17.0s,MS5.0
KMBO Kilima Mbogo 40.52 174 P **P** **21 52 42.4 +0.1**
comp=Z,7.1nm,0.8s,mb4.3,baz=7.1,slow=11,SNR=6.1
KMBO LR LR 22 10 50.7
comp=Z,1μm,18.0s,MS4.7,baz=98,slow=38
KMBO Kilima Mbogo 40.52 174 P **P** **21 52 42.3 +0.1**
KBS Kingsbay 40.53 354 *e*P **P** **21 52 39.6 -2.0**
KBS pmax pmax
comp=Z,17nm,1.0s,mb4.6
KBS Kingsbay 40.53 354 *e*P **P** **21 52 39.6 -2.0**
comp=Z,17nm,1.0s,mb4.6
KBS Kingsbay 40.53 354 *e*P **P** **21 52 48.2 +6.5**
KBS *e*PP PP 21 54 18.0 -0.5
KBS *e*S **S** **21 58 49.8 -0.1**
KBS *e*SS SS 22 01 51.1 +6.8
KBS AMS AMS 22 11 14.6
comp=Z,657nm,21.3s,MS4.5
KOLN Koldanda 43.14 90 *e*P **P** **21 53 03.5 0.0**
comp=Z,100nm,1.0s,mb5.5
DAG Danmarks Havn 43.47 345⇑ *e*P **P** **21 53 06.0 +0.5**
DAG pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
DAG Danmarks Havn 43.47 345⇑ *e*P **P** **21 53 06.0 +0.5**
comp=Z,2.2nm,0.8s,mb3.9
DAG Danmarks Havn 43.47 345⇑ *i*P **P** **21 53 06.0 +0.5**
comp=Z,2.2nm,0.8s,mb3.9
GKN Gorkha 43.83 89 *e*P **P** **21 53 08.5 -0.6**
comp=Z,94nm,0.7s,mb5.7
DMN Daman 44.38 89 *e*P **P** **21 53 13.6 0.0**
comp=Z,128nm,0.8s,mb5.7
KKN Kakani 44.43 89 *e*P **P** **21 53 13.6 -0.4**
comp=Z,76nm,0.8s,mb5.5
PKI Pulchoki 44.64 89 *e*P **P** **21 53 15.3 -0.4**
comp=Z,44nm,0.9s,mb5.3
HYB Hyderabad 45.02 106 *i* P **P** **21 53 21.5 +2.7**
HYB Hyderabad 45.02 106 *e*P **P** **21 53 21.5 +2.7**
DBIC Dimbokro 47.18 236 P **P** **21 53 35.2 -0.8**
DBIC Dimbokro 47.18 236 *e*P **P** **21 53 35.2 -0.8**
DBIC pmax pmax
comp=Z,39nm,1.1s
DBIC Dimbokro 47.18 236 P **P** **21 53 35.4 -0.6**
comp=Z,22nm,0.6s,mb5.2,baz=24,slow=8.6,SNR=30
DBIC LR LR 22 15 31.7
comp=Z,1μm,19.6s,MS4.9,baz=135,slow=39
DBIC Dimbokro 47.18 236 *e*P **P** **21 53 35.2 -0.8**
comp=Z,40nm,1.1s,mb5.3
DBIC Dimbokro 47.18 236 *e*P **P** **21 53 35.2 -0.8**
comp=Z,40nm,1.1s,mb5.3
SUMG Summit 47.40 337 *e*P **P** **21 53 36.0 -1.0**
comp=Z,9.2nm,0.8s,mb4.8
SUMG Summit 47.40 337 *e*P **P** **21 53 36.0 -1.0**
comp=Z,9.2nm,0.8s,mb4.8
LIC Lamto 47.62 236 *e*P **P** **21 53 38.2 -1.3**
comp=Z,45nm,0.8s,mb5.5
LSA Lhasa 48.06 83 P **P** **21 53 43.3 +0.6**
LSA PP PP 21 55 32.5 -1.8
LSA AMB AMB
comp=Z,40nm,1.0s,mb5.4
LSA LR LR
comp=N,660nm,20.0s,MS4.8
LSA LR LR
comp=E,1μm,24.0s,MS4.8
LSA LR LR
comp=Z,950nm,24.0s,MS4.7
LSA Lhasa 48.06 83 *e*P **P** **21 53 42.3 -0.4**
LSA pmax pmax
comp=Z,25nm,0.8s,mb5.3
LSA Lhasa 48.06 83 *e*P **P** **21 53 42.3 -0.4**
comp=Z,25nm,0.8s,mb5.3
LSA Lhasa 48.06 83 *e*P **P** **21 53 42.3 -0.4**
comp=Z,25nm,0.8s,mb5.3
TLY Talaya 49.05 51 *e*P **P** **21 53 52.6 +2.6**
TLY *e*S **S** **22 00 52.7 -0.2**
TLY *e* 22 04 17.4
TLY pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
TLY MLR MLR
comp=Z,1μm,19.0s,MS4.9
TLY Talaya 49.05 51 *e*P **P** **21 53 48.7 -1.3**
TLY Talaya 49.05 51 *e*P **P** **21 53 48.7 -1.3**
ZAK Zakamensk 49.16 53 *e*P **P** **21 53 47.3 -3.6**
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
GTA Gaotai 50.43 67 P **P** **21 54 01.3 +0.5**
GTA AP pP 21 54 06.8 +1.2
GTA XP sP 21 54 10.5 +3.1
GTA S **S** **22 01 17.3 +5.1**
GTA AMB AMB
comp=Z,13nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,142nm,12.9s
GTA LR LR
comp=N,891nm,24.0s
GTA LR LR
comp=E,781nm,15.6s
GTA LR LR
comp=Z,1μm,16.3s
SHL Shillong 50.65 87 *e*P **P** **21 54 02.0 -0.7**
SONM Songino Array 51.88 55 P **P** **21 54 10.6 -1.1**
comp=Z,1.0nm,0.5s,mb4.0,baz=281,slow=6.3,SNR=9.4
SONM LR LR 22 18 52.5
comp=Z,1μm,21.8s,MS4.9,baz=300,slow=39
BOD Bodaibo 53.15 41 *e*P **P** **21 54 17.9 -3.1**
BOD pmax pmax
comp=Z,12nm,1.2s,mb4.7
LSZ Lusaka 54.59 186 *e*P **P** **21 54 31.3 -0.9**
LSZ pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
LSZ Lusaka 54.59 186 *e*P **P** **21 54 31.3 -0.8**
comp=Z,8.6nm,1.1s,mb4.7
LSZ Lusaka 54.59 186 *e*P **P** **21 54 31.3 -0.9**
comp=Z,8.6nm,1.1s,mb4.7
LZH Lanzhou 54.71 70 *e*P **P** **21 54 33.5 +0.7**
LZH PP PP 21 56 38.0 +1.0
LZH *e*S **S** **22 02 11.0 +0.4**
LZH SS SS 22 05 55.0 +1.5
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,210nm,4.4s
LZH LR LR
comp=E,2μm,14.2s
LZH LR LR
comp=Z,2μm,17.5s,MS5.3
LZH Lanzhou 54.71 70 *e*P **P** **21 54 33.5 +0.7**
LZH *PP pP 21 54 37.0 -0.6
LZH *SP sP 21 54 38.9 -0.5
LZH 21 56 38.0
LZH *e*S **S** **22 02 11.1 +0.5**
LZH *SS 22 02 18.3
LZH SS SS 22 05 55.0 +1.5
LZH pmax pmax
comp=Z,42nm,1.5s,mb5.2
LZH MLR MLR
comp=Z,2μm,17.5s,MS5.3
LZH Lanzhou 54.71 70 *e*P **P** **21 54 33.5 +0.7**
comp=Z,42nm,1.5s,mb5.2
LZH pP pP 21 54 37.0 -0.6
LZH sP sP 21 54 38.9 -0.5
LZH PP PP 21 56 38.0 +1.0
LZH *e*S **S** **22 02 11.1 +0.5**
LZH sS 22 02 18.3
LZH SS SS 22 05 55.0 +1.5
LZH LR LR
comp=Z,2μm,17.5s,MS5.3
LZH Lanzhou 54.71 70 *e*P **P** **21 54 33.5 +0.7**
comp=Z,42nm,1.5s,mb5.2
LZH pP pP 21 54 37.0 -0.6
LZH *e*S **S** **22 02 11.1 +0.5**
CD2 Chengdu 57.06 75 *e*P **P** **21 54 50.0 +0.2**
CD2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
HHC Hu-ho-hao-te 58.03 61 *e*P **P** **21 54 58.8 +2.4**
HHC AP pP 21 55 03.3 +2.0
HHC XP sP 21 55 06.5 +3.4
HHC PCP PcP 21 55 50.3 +2.1
HHC PP PP 21 57 08.5 +1.7
HHC SCP 21 59 47.3
HHC S **S** **22 02 58.0 +3.4**
HHC SCS ScS 22 04 44.5 +2.5
HHC SS SS 22 06 51.3 +3.7
HHC AMB AMB
comp=Z,19nm,1.5s,mb4.9
HHC AMB AMB
comp=Z,88nm,8.3s
HHC LR LR
comp=N,907nm,24.9s,MS4.9
HHC LR LR
comp=E,718nm,22.5s,MS4.9
HHC LR LR
comp=Z,751nm,23.7s,MS4.7
YAK Yakutsk 58.95 33⇑ *e*P **P** **21 55 01.7 -0.9**
YAK pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
YAK MLR MLR
comp=Z,600nm,14.0s,MS4.9
CLNS Chul'man 59.01 40 *e*P **P** **21 55 02.3 -0.8**
CLNS pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
CLNS pmax pmax
comp=N,4.0nm,0.7s
CLNS pmax pmax
comp=E,4.0nm,0.9s
OPO Ambohidratompo 59.16 164 P **P** **21 55 04.2 -0.5**
comp=E,3.7nm,0.6s,mb4.6,baz=17,slow=4.1,SNR=11
KMI Kunming 59.25 81 P **P** **21 55 04.5 -0.7**
KMI PP PP 21 57 21.3 +3.3
KMI S **S** **22 03 11.5 +0.7**
KMI SS SS 22 07 12.5 +5.4
KMI AMB AMB
comp=Z,11nm,1.3s,mb4.7
KMI AMB AMB
comp=Z,124nm,3.6s
KMI LR LR
comp=N,712nm,20.0s,MS4.9
KMI LR LR
comp=E,765nm,23.8s,MS4.9
KMI LR LR
comp=Z,653nm,20.0s,MS4.8
KMI Kunming 59.25 81 P **P** **21 55 04.4 -0.8**
KMI *PP pP 21 55 09.7 -0.4
KMI 21 57 21.3
KMI PPP PPP 21 58 44.5 +1.8
KMI S **S** **22 03 11.6 +0.8**
KMI SS SS 22 07 12.5 +5.4
KMI SSS SSS 22 09 36.1 +2.6
KMI pmax pmax
comp=Z,11nm,1.3s,mb4.7
KMI MLR MLR
comp=Z,650nm,20.0s,MS4.8
KMI Kunming 59.25 81 P **P** **21 55 04.4 -0.8**
comp=Z,11nm,1.3s,mb4.7
KMI pP pP 21 55 09.7 -0.4
KMI sP sP 21 55 13.5 +1.7
KMI PP PP 21 57 21.3 +3.3
KMI PPP PPP 21 58 44.5 +1.8
KMI S **S** **22 03 11.6 +0.8**
KMI SS SS 22 07 12.5 +5.4
KMI SSS SSS 22 09 36.1 +2.6
KMI LR LR
comp=Z,650nm,20.0s,MS4.8
XAN Xi'an 59.34 69 P **P** **21 55 10.5 +4.8**
XAN AMB AMB
comp=Z,9.0nm,1.3s,mb4.6
HIA Hailar 59.50 49 *e*P **P** **21 55 06.2 -0.4**
MATP Matopo 59.68 185 P **P** **21 55 07.8 -0.4**
comp=Z,13nm,0.7s,mb5.1,baz=7.5,slow=7.7,SNR=36
MATP Matopo 59.68 185 P **P** **21 55 07.8 -0.4**
TSUM Tsumeb 60.09 197 P **P** **21 55 10.7 -0.3**
comp=Z,3.0nm,1.0s,mb4.3,baz=55,slow=1.4,SNR=4.5
TSUM Tsumeb 60.09 197 *e*P **P** **21 55 08.0 -3.0**
TSUM Tsumeb 60.09 197 *e*P **P** **21 55 08.0 -3.0**
GYA Guiyang 61.53 78 P **P** **21 55 23.3 +2.6**
GYA AP pP 21 55 27.8 +2.2
GYA XP sP 21 55 30.8 +3.4
GYA S **S** **22 03 46.8 +6.8**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,90nm,3.1s
GYA LR LR
comp=N,340nm,17.8s,MS4.7
GYA LR LR
comp=E,290nm,18.0s,MS4.7
GYA LR LR
comp=Z,390nm,17.6s,MS4.6
ENH Enshi 61.65 73 P **P** **21 55 18.9 -2.6**
comp=Z,22nm,1.0s,mb5.2
ENH Enshi 61.65 73 P **P** **21 55 18.9 -2.6**
comp=Z,22nm,1.0s,mb5.2
SCHQ Schefferville 63.99 321 P **P** **21 55 37.6 +1.0**
comp=Z,3.6nm,0.8s,mb4.5,baz=66,slow=6.5,SNR=4.6
SCHQ LR LR 22 21 35.7
comp=Z,485nm,21.5s,MS4.7,baz=264,slow=34
LBTB Lobatse 64.47 188 *e*P **P** **21 55 39.9 -0.3**
LBTB pmax pmax
comp=Z,14nm,0.8s,mb5.0
LBTB Lobatse 64.47 188 *e*P **P** **21 55 39.9 -0.3**
comp=Z,14nm,0.8s,mb5.0
LBTB Lobatse 64.47 188 *e*P **P** **21 55 39.9 -0.3**
comp=Z,14nm,0.8s,mb5.0
CN2 Changchun 65.60 53 *e*P **P** **21 55 48.3 +1.1**
DL2 Dalian 65.73 59 *e*P **P** **21 55 53.5 +5.4**
DL2 S S 22 04 38.3 +6.2
DL2 AMB AMB
comp=Z,170nm,4.3s
DL2 LR LR
comp=N,290nm,14.6s,MS4.7
DL2 LR LR
comp=E,240nm,16.6s,MS4.7
DL2 LR LR
comp=Z,450nm,17.7s,MS4.7
KLR Kul'dur 66.35 45 *e*P **P** **21 55 51.3 -0.6**
SEY Seymchan 67.11 26 *e*P **P** **21 55 58.1 +1.6**
SEY *e* 22 09 12.9
SEY *e* 22 12 07.0
SEY pmax pmax
comp=Z,20nm,1.0s,mb5.1
SEY pmax pmax
comp=N,8.0nm,0.8s
SEY pmax pmax
comp=E,10.0nm,1.2s
BILL Bilibino 67.26 17 *e*P **P** **21 55 58.6 +1.2**
BILL pmax pmax
comp=Z,21nm,1.3s,mb5.0
BILL Bilibino 67.26 17 *e*P **P** **21 55 58.6 +1.3**
comp=Z,21nm,1.3s,mb5.0
BILL Bilibino 67.26 17 *e*P **P** **21 55 58.6 +1.2**
comp=Z,21nm,1.3s,mb5.0
NJ2 Nanjing 67.50 66 *e*P **P** **21 55 57.0 -2.5**
NJ2 AP pP 21 56 07.5 +3.1
NJ2 XP sP 21 56 11.5 +5.3
NJ2 PP PP 21 58 28.3 -1.9
NJ2 S S 22 04 48.0 -5.7
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
NJ2 LR LR
comp=N,1μm,24.8s,MS5.2
NJ2 LR LR
comp=E,2μm,28.0s,MS5.2
NJ2 LR LR
comp=Z,1μm,26.4s,MS5.0
MDJ Mudanjiang 67.66 50 P **P** **21 56 00.5 +0.2**
MDJ PCP PcP 21 56 27.8 +0.5
MDJ S S 22 04 52.8 -2.6
MDJ SCS ScS 22 05 58.0 +3.5
MDJ SS SS 22 09 22.5 +4.5
MDJ AMB AMB
comp=Z,7.0nm,2.0s,mb4.3
MDJ AMB AMB
comp=Z,34nm,4.3s
MDJ LR LR
comp=N,374nm,30.3s,MS4.6
MDJ LR LR
comp=E,462nm,28.9s,MS4.6
MDJ LR LR
comp=Z,364nm,20.7s
BOSA Boshof 68.07 187 *e*P **P** **21 56 02.5 -0.6**
BOSA pmax pmax
comp=Z,23nm,0.7s,mb5.3
BOSA Boshof 68.07 187 P **P** **21 56 02.5 -0.6**
comp=Z,20nm,0.6s,mb5.3,baz=10.0,slow=6.7,SNR=53
BOSA LR LR 22 30 14.4
comp=Z,575nm,18.6s,MS4.8,baz=126,slow=40
BOSA Boshof 68.07 187 *e*P **P** **21 56 02.5 -0.7**
comp=Z,23nm,0.7s,mb5.3
BOSA Boshof 68.07 187 *e*P **P** **21 56 02.5 -0.6**
comp=Z,23nm,0.7s,mb5.3
SSE Sheshan 69.69 66 P **P** **21 56 14.0 +0.9**
SSE PCP PcP 21 56 36.5 +0.5
SSE PP PP 21 58 47.8 -1.4
SSE S S 22 05 20.5 +0.9
SSE SS SS 22 09 51.8 +2.2
SSE AMB AMB
comp=Z,16nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,93nm,3.4s
SSE LR LR
comp=N,276nm,29.0s,MS4.6
SSE LR LR
comp=E,428nm,28.3s,MS4.6
SSE LR LR
comp=Z,274nm,30.5s,MS4.3
SSE Sheshan 69.69 66 P **P** **21 56 13.9 +0.8**
comp=Z,16nm,0.8s,mb5.0
SSE sP sP 21 56 18.4 -1.3
SSE PcP PcP 21 56 36.4 +0.4
SSE PP PP 21 58 47.8 -1.4
SSE S S 22 05 20.6 +1.0
SSE sS 22 05 27.4
SSE ScS ScS 22 06 15.5 +4.9
SSE SS SS 22 09 51.8 +2.2
SSE LR LR
comp=Z,270nm,30.5s,MS4.3
SSE Sheshan 69.69 66 P **P** **21 56 13.9 +0.8**
SSE S S 22 05 20.6 +1.0
SSE SS SS 22 09 51.8 +2.2
SUR Sutherland 72.33 191 *e*P **P** **21 56 28.2 -0.8**
comp=Z,13nm,0.9s,mb4.9
SUR Sutherland 72.33 191 *e*P **P** **21 56 28.2 -0.8**
comp=Z,13nm,0.9s,mb4.9
YSS Yuzh-Sakhalins 73.61 42 *e*P **P** **21 56 40.0 +3.9**
IMA Indian Mountai 74.72 3 *e*P **P** **21 56 43.0 +0.8**
IMA pmax pmax
comp=Z,63nm,0.2s
IMA Indian Mountai 74.72 3 *e*P **P** **21 56 43.0 +0.9**
comp=Z,64nm,0.2s
IMA Indian Mountai 74.72 3 *e*P **P** **21 56 43.0 +0.8**
comp=Z,64nm,0.2s
YKW3 Yellowknife Ar 75.11 345 *e*P **P** **21 56 44.6 +0.2**
YKW3 Yellowknife Ar 75.11 345 *e*P **P** **21 56 44.6 +0.1**
YKA Yellowknife Ar 75.17 345 P **P** **21 56 44.6 -0.2**
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA MLR MLR
comp=Z,621nm,21.9s
YKA Yellowknife Ar 75.17 345 P **P** **21 56 44.6 -0.2**
comp=Z,3.6nm,0.7s,mb4.4,baz=28,slow=6.0,SNR=14
YKA LR LR 22 30 03.5
comp=Z,621nm,21.9s,MS4.9,baz=85,slow=36
YKA Yellowknife Ar 75.17 345 P **P** **21 56 44.7 -0.1**
ILAR Eielson Array 76.16 360 P **P** **21 56 49.9 -0.5**
comp=Z,1.0nm,0.8s,mb3.8,baz=344,slow=3.8,SNR=8.4
ILAR PP PP 21 59 49.5 +6.2
comp=Z,0.2nm,0.5s,baz=5.6,slow=5.3,SNR=4.2
ILAR Eielson Array 76.16 360 P **P** **21 56 49.8 -0.6**
ILAR Eielson Array 76.16 360 PP PP 21 59 49.5 +6.3
MAJO Matsushiro 77.75 53 P **P** **21 57 07.2 +7.4**
comp=Z,3.9nm,0.8s,mb4.4
MAJO Matsushiro 77.75 53 P **P** **21 57 07.2 +7.4**
comp=Z,3.9nm,0.8s,mb4.4
MAT Matsushiro 77.75 53 P **P** **21 56 59.3 -0.5**

MAT				S	S		22 06 52.0	+1.9	
MJAR	**Matsushiro Arr**	**77.75**	**53**	P	**P**		**21 57 00.5**	**+0.6**	
	comp=Z,3.9nm,0.9s,mb4.3,baz=316,slow=3.3,SNR=13								
MJAR				LR	LR		22 35 23.4		
	comp=Z,535nm,19.1s,MS4.9,baz=315,slow=39								
MJAR	**Matsushiro Arr**	**77.75**	**53**	P	**P**		**21 57 00.4**	**+0.6**	
FFC	**Flin Flon**	**78.64**	**335**	*e*P	**P**		**21 57 03.6**	**-0.8**	
FFC				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.4								
FFC	**Flin Flon**	**78.64**	**335**	*e*P	**P**		**21 57 03.6**	**-0.7**	
	comp=Z,5.4nm,0.9s,mb4.5								
FFC	**Flin Flon**	**78.64**	**335**	*e*P	**P**		**21 57 03.6**	**-0.8**	
	comp=Z,5.4nm,0.9s,mb4.5								
SML	**Sawmill**	**79.12**	**1**	*e*P	**P**		**21 57 06.8**	**0.0**	
ULM	**Lac du Bonnet**	**80.09**	**330**	P	**P**		**21 57 14.6**	**+2.3**	
	comp=Z,2.3nm,0.4s,mb4.4,baz=31,slow=1.6,SNR=3.7								
ULM				LR	LR		22 35 07.2		
	comp=Z,389nm,18.2s,MS4.8,baz=45,slow=38								
EDM	**Edmonton**	**83.28**	**340**	*e*P	**P**		**21 57 27.7**	**-1.2**	
LAO	**LASA Array**	**86.89**	**333**	*e*P	**P**		**21 57 48.9**	**+1.9**	
	comp=Z,34nm,1.1s,mb5.5								
LAO	**LASA Array**	**86.89**	**333**	*e*P	**P**		**21 57 48.9**	**+1.9**	
	comp=Z,34nm,1.1s,mb5.5								
LRAL	**Lakeview Retre**	**89.04**	**313**	*e*P	**P**		**21 57 57.4**	**-0.3**	
	comp=Z,6.0nm,0.9s,mb4.9								
LRAL	**Lakeview Retre**	**89.04**	**313**	*e*P	**P**		**21 57 57.4**	**-0.2**	
	comp=Z,5.9nm,0.9s,mb4.9								
PHWY	**Pilot Hill**	**91.25**	**330**	P	**P**		**21 58 06.0**	**-1.7**	
PHWY	**Pilot Hill**	**91.25**	**330**	P	**P**		**21 58 06.0**	**-1.7**	
PDAR	**Pinedale Array**	**91.47**	**333**	P	**P**		**21 58 10.1**	**+1.4**	
	comp=Z,0.5nm,0.7s,mb4.0,baz=76,slow=6.1,SNR=4.4								
PDAR				LR	LR		22 43 51.2		
	comp=Z,527nm,18.5s,MS5.0,baz=37,slow=39								
BDFB	**Brasilia**	**93.10**	**252**	LR	LR		22 40 15.3		
	comp=Z,654nm,20.4s,MS5.1,baz=63,slow=36								
TXAR	**Lajitas Array**	**100.64**	**323**	P	P		21 58 51.3	+0.5	
	comp=Z,0.3nm,0.7s,baz=72,slow=4.0,SNR=3.9								
WRA	**Warramunga Arr**	**110.88**	**99**	PKKPbc			22 14 29.0		
	comp=Z,0.4nm,0.9s,baz=59,slow=3.0,SNR=4.8								
STKA	**Stephens Creek**	**122.78**	**106**	PKP	PKPdf		22 03 57.5	-3.6	
	comp=Z,2.1nm,0.8s,baz=300,slow=5.2,SNR=4.9								
TAOE	**Nuku Hiva Isla**	**148.98**	**347**	*e*LR	LR		22 54 16.2		
	comp=Z,1μm,23.5s								
PPT	**Papeete**	**158.11**	**7**	*e*LR	LR		22 58 30.1		
	comp=Z,489nm,28.0s								
RKT	**Rikitea**	**160.85**	**325**	*e*LR	LR		22 59 45.6		
	comp=Z,291nm,33.2s								
TBI	**Tubuai**	**163.84**	**8**	*e*LR	LR		23 01 10.9		
	comp=Z,392nm,25.2s								

IDC 30 22:02:10.6±3.0, 5.80S×149.34E, mb3.9/3, mb1 4.2/3, mb1mx3.8/11, mbtmp4.0/3, 1C, Error ellipse: s-maj=93.7km s-min=32.3km az=92.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WB2	**Warramunga Arr**	**20.24**	**225**	⇑*i*P	P	22 06 47.3	-3.1
WRA	**Warramunga Arr**	**20.25**	**225**	P	P	22 06 47.6	-2.9
	7.2nm,0.4s,baz=51,slow=11,SNR=126						
STKA	**Stephens Creek**	**26.93**	**195**	P	P	22 07 53.8	-1.8
	1.5nm,0.7s,baz=16,slow=9.3,SNR=5.9						
SONM	**Songino Array**	**65.38**	**330**	P	P	22 12 55.1	-2.0
	0.2nm,0.6s,baz=143,slow=6.0,SNR=3.6						

IDC 30 22:13:38.8±2.2, 5.42S×122.51E, mb3.5/2, mb1 3.7/3, mb1mx3.6/16, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=169.5km s-min=33.0km az=58.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.46**	**142**	P	P	22 17 56.3	-1.7
	0.1nm,0.3s,baz=317,slow=12,SNR=17						
SONM	**Songino Array**	**54.89**	**347**	P	P	22 23 11.9	-1.6
	0.5nm,0.9s,baz=169,slow=6.5,SNR=4.5						
MKAR	**Makanchi Array**	**62.99**	**330**	P	P	22 24 06.9	-2.8
	0.5nm,0.6s,baz=130,slow=7.7,SNR=5.4						

NNC 30 22:15:53.7±24.0, 41.30N×66.50E, h32km±145km, mpv2.8, 3C-1D, Error ellipse: s-maj=136.6km s-min=49.4km az=61.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**3.49**	**58**	⇑Pn	Pn	22 16 46.5	-0.6
	1.0nm,0.3s,baz=247,slow=14,SNR=23						
KK31				⇑Lg		22 17 50.9	
	12nm,0.6s,baz=238,slow=29,SNR=18						
VOSK	**Vostochnaya**	**11.83**	**13**	⇑Sn	S	22 20 51.7	-3.3
	1.7nm,1.4s						
BVA0	**Borovoye Array**	**12.03**	**11**	Pn	P	22 18 42.4	-3.4
	0.2nm,0.8s,baz=190,slow=14,SNR=12						
BVA0				⇓Sn	S	22 20 55.7	-4.1
	0.2nm,0.8s,baz=198,slow=23,SNR=4.3						

*ISK **30** 22:24:09.5,39.40N×33.12E,h5km,MD3.6*
*CSEM **30** 22:24:09.5,39.40N×33.12E,h5km,MD3.6, After ISK*
ISC 30 22:24:10.8±0.4, 39.37N±0.03×33.11E±0.04, h5km, n29, σ1§02/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAMT	**Kaman**	**0.47**	**90**	*i* PG	**Pg**	**22 24 19.5**	**-0.6**
ANTO	**Ankara**	**0.55**	**334**	*i* PG	**Pg**	**22 24 20.3**	**-1.6**
ANTO				*i* SG	**Sg**	**22 24 29.1**	**-0.2**
LOD	**Lodumlu**	**0.58**	**333**	PG	**Pg**	**22 24 21.8**	**-0.6**
LOD				SG	**Sg**	**22 24 30.4**	**+0.2**
CDAG	**Cicekdag**	**1.01**	**75**	*i* P	**Pb**	**22 24 29.0**	**-1.3**
CDAG				*i* S	**Sb**	**22 24 42.5**	**-1.2**
CDAG	**Cicekdag**	**1.01**	**75**	*i* P	**Pb**	**22 24 29.1**	**-1.2**
CDAG				*i* S	**Sb**	**22 24 42.8**	**-0.9**
KIZT	**Kizilcal**	**1.08**	**243**	PN	**Pn**	**22 24 31.3**	**-1.1**
ELDT	**Eldivan**	**1.14**	**12**	*i* P	**Pb**	**22 24 31.9**	**-0.8**
ELDT				*i* S	**Sb**	**22 24 48.9**	**+1.3**
ELDT	**Eldivan**	**1.14**	**12**	*i* P	**Pb**	**22 24 31.9**	**-0.8**
ELDT				*i* S	**Sb**	**22 24 48.9**	**+1.3**
KDHN	**Kadinhani**	**1.15**	**223**	*i* P	**Pb**	**22 24 25.1**	**-7.7**
KDHN				*i* S	**Sb**	**22 24 40.9**	**-7.0**
CANT	**Cankiri**	**1.29**	**17**	PN	**Pn**	**22 24 34.9**	**-0.6**
CORM	**Corum**	**1.42**	**55**	PN	**Pn**	**22 24 37.3**	**0.0**
SGKT	**Sivrigoynuk**	**1.45**	**326**	*i* P	**Pn**	**22 24 37.7**	**0.0**
SGKT				*i* S	**Sb**	**22 24 58.5**	**+1.9**
SGKT	**Sivrigoynuk**	**1.45**	**326**	*i* P	**Pn**	**22 24 37.7**	**0.0**
SGKT				*i* S	**Sb**	**22 24 58.5**	**+1.9**
AVNT	**Avonos**	**1.48**	**113**	*i* P	**Pn**	**22 24 38.3**	**+0.1**
AVNT				*i* S	**Sb**	**22 24 59.8**	**+2.4**
KONT	**Konya--Tatoy**	**1.54**	**203**	PN	**Pn**	**22 24 39.8**	**+0.8**
NIG	**Nigde**	**1.72**	**137**	*e*PN	**Pn**	**22 24 42.2**	**+0.6**
YOZ	**Yozgat**	**1.73**	**80**	*e*PN	**Pn**	**22 24 41.6**	**-0.1**
ESKT	**Eskisehir**	**1.76**	**276**	*i* P	**Pn**	**22 24 41.9**	**-0.2**
ESKT				*i* S	**Sn**	**22 25 05.2**	**+0.1**
ESKT	**Eskisehir**	**1.76**	**276**	*i* P	**Pn**	**22 24 41.9**	**-0.2**
ESKT				*i* S	**Sn**	**22 25 05.2**	**+0.1**
ESKT	**Eskisehir**	**1.76**	**276**	*e*Pn	**Pn**	**22 24 42.0**	**-0.2**
CTKT	**Corum**	**1.80**	**45**	*i* P	**Pn**	**22 24 43.4**	**+0.7**
CTKT				*i* S	**Sn**	**22 25 09.0**	**+2.8**
CTKT	**Corum**	**1.80**	**45**	*i* P	**Pn**	**22 24 43.4**	**+0.7**
CTKT				*i* S	**Sn**	**22 25 09.0**	**+2.8**
TOS	**Tosya**	**1.80**	**22**	*e*PN	**Pn**	**22 24 42.0**	**-0.8**
SAFT	**Safranbolu**	**1.89**	**350**	*e*PN	**Pn**	**22 24 43.7**	**-0.4**
BALT	**Daday**	**2.17**	**5**	*i* P	**Pn**	**22 24 50.1**	**+2.0**
BALT				*i* S	**Sn**	**22 25 19.8**	**+4.1**
ALT	**Altintas**	**2.35**	**263**	*e*PN	**Pn**	**22 24 51.3**	**+0.6**
BYBT	**Boyabat**	**2.45**	**31**	*e*PN	**Pn**	**22 24 51.4**	**-0.6**
HDMB	**Hadim**	**2.45**	**192**	*e*PN	**Pn**	**22 24 52.3**	**+0.2**
KVT	**Kavak**	**2.82**	**52**	*e*PN	**Pn**	**22 24 56.0**	**-1.4**

*THR **30** 23:04:41.8±0.3, 30.36N×57.39E, h14km±4km, ML3.3*
*CSEM **30** 23:04:41.8±0.1, 30.41N×57.35E, h18km, ML3.3, Error ellipse: s-maj=3.2km s-min=2.5km az=86.0*
*TEH **30** 23:04:50.5, 30.69N×56.86E, h10km, Mn3.1*
ISC 30 23:04:42.5±0.9, 30.43N±0.06×57.35E±0.08, h18km, n16, σ0§67/18, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRBR	**Kerman**	**0.68**	**229**	*e*PG	**Pb**	**23 04 54.8**	**-0.7**
KRBR				*e*SG	**Sb**	**23 05 04.2**	**-0.1**
KRBR				AML	AML	23 05 06.4	
	comp=E,1μm,0.2s						
KRBR	**Kerman**	**0.68**	**229**	*e*Pg	**Pb**	**23 04 54.8**	**-0.7**
	SNR=90						
KRBR				*e*Sg	**Sb**	**23 05 04.2**	**-0.2**
	comp=E,1μm,0.2s,SNR=90						
IBAF	**Bafgh**	**1.92**	**308**	Pg	**Pn**	**23 05 15.6**	**+0.7**
IMEH	**Mehriz**	**2.54**	**293**	Pn	**Pn**	**23 05 24.8**	**+1.0**
ZHSF	**Zahedan**	**3.08**	**104**	*e*PN	**Pn**	**23 05 31.5**	**+0.2**
ICHK	**Chekchek**	**3.10**	**306**	Pn	**Pn**	**23 05 32.3**	**+0.6**
BNDS	**Bandar-Abbas**	**3.19**	**199**	*e*PN	**Pn**	**23 05 33.1**	**+0.1**
BNDS				*e*SG	**Sn**	**23 06 19.6**	**+8.8**
BNDS				AML	AML	23 06 23.6	
	comp=N,82nm,0.8s						
IPAR	**Pars**	**3.77**	**262**	Pn	**Pn**	**23 05 45.3**	**+4.1**
ISRV	**Sarvestan**	**3.82**	**255**	Pn	**Pn**	**23 05 51.1**	**+9.1**
GHIR	**Ghir-Karzin**	**4.37**	**242**	*e*Pn	**Pn**	**23 05 49.8**	**+0.1**
IZEF	**Zefreh**	**4.94**	**301**	Pn	**Pn**	**23 05 57.9**	**+0.1**
IKLH	**Kalahroud**	**5.70**	**302**	Pn	**Pn**	**23 06 08.2**	**-0.2**
IMOG	**Moghan**	**5.91**	**16**	Pn	**Pn**	**23 05 59.2**	**-12**
IFIR	**Firoozkooh**	**6.48**	**325**	Pn	**Pn**	**23 06 18.8**	**-0.7**
IFIR	**Firoozkooh**	**6.48**	**325**	Lg		23 07 58.1	
IDMV	**Damavand**	**6.81**	**320**	Pn	**Pn**	**23 06 22.8**	**-1.3**

*ISK **30** 23:30:37.4,39.40N×33.14E,h5km,MD3.5*
*CSEM **30** 23:30:37.4,39.40N×33.14E,h5km,MD3.5, After ISK*
ISC 30 23:30:38.6±0.5, 39.39N±0.03×33.14E±0.04, h5km, n21, σ0§69/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAMT	**Kaman**	**0.45**	**92**	*i* PG	**Pg**	**23 30 46.7**	**-0.9**
KAMT				*i* SG	**Sg**	**23 30 54.4**	**+0.8**
ANTO	**Ankara**	**0.55**	**331**	*i* PG	**Pg**	**23 30 48.8**	**-0.8**
ANTO				*i* SG	**Sg**	**23 30 57.3**	**+0.4**
LOD	**Lodumlu**	**0.58**	**330**	*i* PG	**Pg**	**23 30 49.7**	**-0.5**
CDAG	**Cicekdag**	**0.99**	**76**	*i* P	**Pb**	**23 30 56.2**	**-1.5**
CDAG				*i* S	**Sb**	**23 31 09.7**	**-1.1**
KIZT	**Kizilcal**	**1.10**	**243**	*i* PN	**Pn**	**23 30 59.7**	**-0.9**
ELDT	**Eldivan**	**1.12**	**11**	*i* P	**Pb**	**23 30 59.6**	**-0.5**
ELDT				*i* S	**Sb**	**23 31 16.4**	**+1.5**
CANT	**Cankiri**	**1.27**	**17**	PN	**Pn**	**23 31 02.9**	**-0.1**
CORM	**Corum**	**1.40**	**55**	PN	**Pn**	**23 31 04.4**	**-0.4**
SGKT	**Sivrigoynuk**	**1.45**	**325**	*i* P	**Pn**	**23 31 05.4**	**-0.1**
SGKT				*i* S	**Sb**	**23 31 30.6**	**+6.4**
AVNT	**Avonos**	**1.47**	**114**	*i* P	**Pn**	**23 31 06.2**	**+0.3**
AVNT				*i* S	**Sb**	**23 31 25.6**	**+0.7**
KONT	**Konya--Tatoy**	**1.56**	**203**	PN	**Pn**	**23 31 07.8**	**+0.7**
YOZ	**Yozgat**	**1.71**	**81**	PN	**Pn**	**23 31 09.5**	**+0.2**
NIG	**Nigde**	**1.72**	**137**	PN	**Pn**	**23 31 10.1**	**+0.7**
ESKT	**Eskisehir**	**1.77**	**275**	*e*PN	**Pn**	**23 31 10.8**	**+0.6**
TOS	**Tosya**	**1.78**	**22**	PN	**Pn**	**23 31 10.7**	**+0.4**
SAFT	**Safranbolu**	**1.88**	**350**	*e*PN	**Pn**	**23 31 12.1**	**+0.3**
BNN	**Bunyan**	**2.17**	**103**	*e*PN	**Pn**	**23 31 15.9**	**0.0**
BYBT	**Boyabat**	**2.42**	**30**	*e*PN	**Pn**	**23 31 19.5**	**0.0**
BOYT	**Boyabat**	**2.44**	**33**	*i* P	**Pn**	**23 31 19.7**	**0.0**
BOYT				*i* S	**Sn**	**23 31 54.1**	**+3.9**
HDMB	**Hadim**	**2.47**	**192**	*e*PN	**Pn**	**23 31 20.1**	**-0.1**
TOKT	**Tokat**	**2.79**	**69**	*e*PN	**Pn**	**23 31 24.7**	**0.0**

*MOS **30** 23:45:58.8±0.6, 13.11N×93.16E, h33km, mb4.5/5, Error ellipse: s-maj=28.4km s-min=11.8km az=103.5*
*BJI **30** 23:45:59.6, 13.10N×93.60E, h27km, mB4.5, mb4.3, Ms3.9, Msz3.7*
*IDC **30** 23:46:01.8±0.7, 12.98N×93.34E, h51km±5km, mb3.9/18, mb1 4.1/18, mb1mx4.0/24, mbtmp4.2/18, MS3.5/2, Ms1 3.5/2, ms1mx3.0/21, Error ellipse: s-maj=21.5km s-min=12.6km az=58.0*
*NEIC **30** 23:46:01.9±0.3, 13.03N×93.35E, mb4.4/7, Error ellipse: s-maj=10.7km s-min=6.0km az=58.0*
ISC 30 23:45:59.8±0.4, 13.00N±0.07×93.30E±0.09, h49km, h49km±3.0km:pP-P, n50, σ0§82/44, mb4.2/25, MS3.5/2, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**10.55**	**136**	*e*P	**P**	**23 48 31.9**	**+0.7**
PKI	**Pulchoki**	**16.27**	**334**	*e*P	**P**	**23 49 45.8**	**-0.6**
	11nm,0.6s						
DMN	**Daman**	**16.43**	**333**	*e*P	**P**	**23 49 47.9**	**-0.6**
	31nm,0.9s						
KKN	**Kakani**	**16.52**	**334**	*e*P	**P**	**23 49 49.6**	**+0.1**
	18nm,0.9s						
GKN	**Gorkha**	**16.98**	**333**	*e*P	**P**	**23 49 55.1**	**-0.2**
	7.7nm,0.3s						
KOLN	**Koldanda**	**17.27**	**330**	*e*P	**P**	**23 49 56.6**	**-2.4**
	9.0nm,0.5s						
ENH	**Enshi**	**22.80**	**39**	*e*P	**P**	**23 50 58.9**	**-0.4**
	34nm,0.9s,mb4.8						
GTA	**Gaotai**	**26.93**	**11**	P	**P**	**23 51 39.8**	**+1.3**
GTA				AP	pP	23 51 49.0	-2.1
GTA				XP	sP	23 51 54.0	-3.1
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.1						
MKAR	**Makanchi Array**	**34.94**	**347**	P	**P**	**23 52 49.1**	**+0.2**
	comp=Z,1.7nm,0.7s,mb4.1,baz=161,slow=8.4,SNR=16						
MKAR				PcP	PcP	23 55 20.7	-0.2
	comp=Z,0.4nm,0.6s,baz=219,slow=3.7,SNR=4.5						
JOW	**Kunigami**	**35.52**	**62**	P	**P**	**23 52 55.1**	**+1.1**
	comp=Z,2.0nm,0.3s,mb4.5,baz=96,slow=22,SNR=5.2						
SONM	**Songino Array**	**36.41**	**15**	P	**P**	**23 53 02.1**	**+0.7**
	comp=Z,1.9nm,1.0s,mb4.0,baz=198,slow=8.0,SNR=10						
SONM				PcP	PcP	23 55 25.4	+0.3
	comp=Z,0.6nm,0.7s,baz=180,slow=3.7,SNR=6.5						
ZAK	**Zakamensk**	**38.16**	**10**	*e*P	**P**	**23 53 16.7**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
KURK	**Kurchatov**	**39.47**	**345**	P	**P**	**23 53 26.5**	**-0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
KURK	**Kurchatov**	**39.47**	**345**	P	**P**	**23 53 26.5**	**-0.3**
	comp=Z,2.2nm,0.9s,mb3.9						
CN2	**Changchun**	**41.27**	**36**	*e*P	**P**	**23 53 43.0**	**+1.2**
ZAL	**Zalesovo**	**41.39**	**352**	P	**P**	**23 53 42.9**	**+0.2**
	comp=Z,1.8nm,0.6s,mb3.9,baz=308,slow=5.8,SNR=11						
ZAL				pP	pP	23 53 57.1	+1.2
	comp=Z,0.9nm,0.4s,baz=287,slow=11,SNR=2.2						
ZAL	**Zalesovo**	**41.39**	**352**	P	**P**	**23 53 42.9**	**+0.2**
ZAL				pP	pP	23 53 57.1	+1.2
MBWA	**Marble Bar**	**42.74**	**142**	P	**P**	**23 53 53.5**	**-0.6**
	comp=Z,57nm,1.7s,mb5.0						
BVAR	**Boyce Array**	**43.91**	**340**	P	**P**	**23 54 03.1**	**-0.2**
	comp=Z,1.1nm,0.5s,mb3.8,baz=141,slow=8.8,SNR=12						
FITZ	**Fitzroy Crossi**	**44.42**	**133**	P	**P**	**23 54 06.8**	**-1.0**
	comp=Z,3.0nm,0.5s,mb4.3,baz=190,slow=17,SNR=8.2						
MJAR	**Matsushiro Arr**	**46.50**	**52**	PcP	PcP	23 55 57.7	-0.7
	comp=Z,1.0nm,0.5s,baz=234,slow=4.6,SNR=5.9						
GNI	**Garni**	**50.35**	**312**	LR	LR	00 19 14.1	
	comp=Z,32nm,18.5s,MS3.4,baz=331,slow=40						
WRA	**Warramunga Arr**	**51.99**	**128**	P	**P**	**23 55 05.2**	**-1.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=306,slow=8.3,SNR=14						
WRA				pP	pP	23 55 18.8	-1.3
	comp=Z,0.6nm,0.6s,baz=306,slow=8.2,SNR=3.0						
WRA				PcP	PcP	23 56 17.6	-0.9
	comp=Z,1.1nm,0.6s,baz=316,slow=3.5,SNR=7.2						
WRAB	**Tennant Creek**	**51.99**	**128**	*e*P	**P**	**23 55 05.1**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**51.99**	**128**	*e*P	**P**	**23 55 05.1**	**-1.4**
	comp=Z,3.2nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**52.00**	**128**	*e*P	**P**	**23 55 05.7**	**-0.9**
MLR	**Muntele Rosu**	**64.98**	**314**	P	**P**	**23 56 37.3**	**+0.4**
	comp=Z,0.4nm,0.3s,mb3.9,baz=130,slow=4.1,SNR=3.4						
MLR				pP	pP	23 56 51.7	+0.9
	comp=Z,1.4nm,0.7s,baz=187,slow=4.4,SNR=3.2						
FINES	**FINESS Array B**	**67.83**	**331**	P	**P**	**23 56 54.2**	**-0.4**
	comp=Z,1.9nm,0.5s,mb4.4,baz=100,slow=5.7,SNR=26						
FINES				pP	pP	23 57 09.5	+0.8
	comp=Z,0.9nm,0.9s,baz=135,slow=11,SNR=3.8						
KAF	**Kangasniemi**	**67.89**	**332**	*e*p	**P**	**23 56 54.0**	**-0.9**
	baz=102,slow=6.0						
KEV	**Kevo**	**69.76**	**340**	*e*p	**P**	**23 57 05.9**	**-0.5**
ARCES	**ARCESS Array B**	**70.20**	**340**	P	**P**	**23 57 09.3**	**+0.3**
	comp=Z,1.4nm,0.5s,mb4.2,baz=93,slow=6.3,SNR=15						
ARCES				LR	LR	00 31 43.1	
	comp=Z,42nm,18.4s,MS3.7,baz=15,slow=39						
ARCES	**ARCESS Array B**	**70.20**	**340**	P	**P**	**23 57 09.3**	**+0.3**
ARCES				LR	LR	00 31 43.1	
GERES	**GERESS Array B**	**73.50**	**317**	P	**P**	**23 57 29.5**	**+0.5**
	comp=Z,2.2nm,0.6s,mb4.2,baz=85,slow=5.8,SNR=28						
GERES				pP	pP	23 57 43.4	+0.2
	comp=Z,0.8nm,0.7s,baz=90,slow=6.7,SNR=3.9						
HFS	**Hagfors**	**73.65**	**329**	P	**P**	**23 57 29.6**	**-0.1**
	comp=Z,2.1nm,0.4s,mb4.5,baz=117,slow=3.3,SNR=34						
NB2	**NORSAR Subarra**	**74.90**	**330**	P	**P**	**23 57 36.3**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=91,slow=5.8						
NB2	**NORSAR Subarra**	**74.90**	**330**	P	**P**	**23 57 36.3**	**-0.6**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**74.90**	**330**	P	**P**	**23 57 36.6**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.1,baz=90,slow=5.7,SNR=6.6						
LBTB	**Lobatse**	**76.02**	**240**	P	**P**	**23 57 44.8**	**+0.8**
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
LBTB	**Lobatse**	**76.02**	**240**	P	**P**	**23 57 44.8**	**+0.8**
	comp=Z,1.7nm,0.6s,mb4.2						
BOSA	**Boshof**	**77.64**	**237**	P	**P**	**23 57 54.3**	**+1.2**
	comp=Z,1.4nm,0.6s,mb4.1,baz=9.2,slow=15,SNR=7.1						
EKA	**Eskdalemuir Ar**	**83.06**	**325**	P	**P**	**23 58 21.9**	**+0.6**
	comp=Z,1.6nm,0.6s,mb4.2,baz=81,slow=5.1,SNR=9.7						
MAW	**Mawson**	**83.36**	**191**	*e*P	**P**	**23 58 23.8**	**+1.3**
MAW				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MAW	**Mawson**	**83.36**	**191**	P	**P**	**23 58 23.9**	**+1.4**
	comp=Z,2.0nm,0.8s,mb4.2,baz=74,slow=21,SNR=3.6						
MAW	**Mawson**	**83.36**	**191**	*e*P	**P**	**23 58 23.8**	**+1.3**
	comp=Z,9.3nm,1.3s,mb4.7						
ESDC	**Sonseca Array**	**87.31**	**310**	P	**P**	**23 58 43.3**	**+0.6**
	comp=Z,0.6nm,0.6s,mb4.0,baz=62,slow=4.6,SNR=6.1						
ILAR	**Eielson Array**	**90.33**	**22**	P	**P**	**23 58 56.5**	**0.0**
	comp=Z,1.1nm,0.7s,mb4.3,baz=302,slow=4.4,SNR=16						
PDAR	**Pinedale Array**	**120.68**	**19**	PKP	PKPdf	00 04 48.5	+1.9
	comp=Z,0.6nm,0.7s,baz=53,slow=1.3,SNR=6.5						
TXAR	**Lajitas Array**	**134.84**	**21**	PKP	PKPdf	00 05 16.6	+2.5
	comp=Z,0.6nm,0.5s,baz=157,slow=0.6,SNR=13						
PLCA	**Paso Flores**	**148.95**	**204**	PKPbc	PKPdf	00 05 44.7	+6.3
	comp=Z,2.3nm,0.8s,baz=290,slow=4.8,SNR=3.7						
PLCA	**Paso Flores**	**148.95**	**204**	PKPbc	PKPdf	00 05 44.7	+6.3

KRSC 30 23:59:53.8±0.8, 55.62N×162.84E, h54km±9km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.59**	**359**	*i* P	P	00 00 07.1	+0.7
KBTR				*i* S	S	00 00 17.0	+1.4
ZLN	**Zelenaya**	**1.22**	**290**	*e*P	P	00 00 14.9	+0.1
ZLN				*e*S	S	00 00 30.1	-0.4
MKZ	**Mys Kozlova**	**1.24**	**211**	*i* P	P	00 00 14.7	-0.5
MKZ				*i* S	S	00 00 30.2	-1.0
CIRR	**Tsirk**	**1.28**	**294**	*e*P	P	00 00 16.3	+0.5
CIRR				*i* S	S	00 00 32.3	+0.2
LGNR	**Loginova**	**1.30**	**292**	*i* P	P	00 00 16.7	+0.6
LGNR				*i* S	S	00 00 32.8	+0.2
SVLR	**Shiveluch**	**1.32**	**317**	*e*P	P	00 00 18.0	+1.5
SVLR				*e*S	S	00 00 35.1	+1.9
KLY	**Klyuchi**	**1.41**	**300**	*i* P	P	00 00 16.2	-1.5
KLY				*i* S	S	00 00 32.2	-3.2
KRSR	**Krestovskiy**	**1.41**	**296**	*i* P	P	00 00 17.4	-0.3
KRSR				*i* S	S	00 00 33.9	-1.5
KMNR	**Kamenistaya**	**1.48**	**276**	*i* P	P	00 00 18.8	+0.2
KMNR				*i* S	S	00 00 36.6	-0.4
KPT	**Kopyto**	**1.52**	**284**	*i* P	P	00 00 19.3	+0.1
KPT				*i* S	S	00 00 37.9	-0.1
TUMR	**Tumrok**	**1.57**	**259**	*i

1.9nm,0.3s,baz=356,slow=13,SNR=34
WRA Sn **S** **00 38 51.4 -0.1**
1.7nm,0.3s,baz=359,slow=23,SNR=8.3
WB2 Warramunga Arr 14.49 176 *eP* **P** **00 36 11.4 -0.6**
WB2 *eS* **S** **00 38 51.6 +0.1**
FITZ Fitzroy Crossi 14.60 210 *eP* **P** **00 36 16.0 +2.5**
24nm,0.3s
FITZ *eS* **S** **00 38 53.8 -0.4**
CTAO Charters Tower 19.36 140 P **P** **00 37 13.5 +1.5**
17nm,1.1s
MBWA Marble Bar 20.37 219 *eP* **P** **00 37 29.4 +6.7**
10nm,0.7s
KKM Kota Kinabalu 20.39 304 P **P** **00 37 23.2 +0.1**
STKA Stephens Creek 27.49 164 *eP* **P** **00 38 36.4 +5.1**
3.7nm,1.0s,mb3.9
STKA Stephens Creek 27.49 164 P **P** **00 38 31.8 +0.4**
2.3nm,1.0s,mb3.7,baz=330,slow=14,SNR=3.0
STKA LR LR 00 50 24.3
comp=Z,207nm,19.3s,baz=210,slow=38
STKA Stephens Creek 27.49 164 *eP* **P** **00 38 36.4 +5.1**
STKA LR LR 00 50 24.3
JOW Kunigami 32.40 352 LR LR 00 51 49.4
comp=Z,84nm,18.7s,baz=86,slow=36
JHJ Hachijo jima 2 38.83 9 LR LR 00 54 06.1
comp=Z,107nm,18.8s,baz=256,slow=33
RPZ Rata Peaks 50.64 145 LR LR 01 04 36.5
comp=Z,123nm,19.9s,baz=358,slow=38
SONM Songino Array 58.02 339 P **P** **00 42 35.7 -1.8**
0.2nm,0.4s,mb3.5,baz=149,slow=7.2,SNR=4.9
MKAR Makanchi Array 68.68 325 P **P** **00 43 48.8 +1.2**
0.5nm,0.4s,mb3.8,baz=109,slow=7.7,SNR=9.1
BVAR Borovoye Array 78.44 327 P **P** **00 44 44.1 -0.3**
0.9nm,0.8s,mb3.8,baz=129,slow=9.2,SNR=5.8

*CSEM **31** 00:45:13.3±0.0,39.43N×33.14E,h2km,mb4.5,Error ellipse: s-maj=1.3km s-min=1.1km az=165.0*
*MOS **31** 00:45:14.4±1.0,39.40N×33.14E,h10km,mb4.5/1,Error ellipse: s-maj=14.1km s-min=9.7km az=98.2*
*ISK **31** 00:45:14.0,39.42N×33.13E,h6km,ML4.2*
*ZUR_RM **31** 00:45:16,39.40N×33.19E,h12km,Mw4.2/12,Moment Tensor Solution. s12 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.20; $M_{\theta\theta}$0.29; $M_{\phi\phi}$-0.10; $M_{r\theta}$-0.22; $M_{r\phi}$-2.03; $M_{\theta\phi}$-0.20; Best double couple: M_o2.06×10^{15} NP1:ϕ_s88°, δ84°,λ-173°. NP2:ϕ_s357°,δ83°,λ-6°. Principal axes: T 2.136, Plg1°, Azm222°; N -.151, Plg81°, Azm128°; P -1.986, Plg9°, Azm312°;*
*IDC **31** 00:45:16.8±2.1,39.48N×33.29E,h14km±12km,mb3.9/5, mb1 3.7/11,mb1mx3.5/24,mbtmp3.7/11,ML3.0/6,MS3.2/5, Ms1 3.2/5,ms1mx2.9/43 Error ellipse: s-maj=19.0km s-min=11.5km az=41.0*
*NEIC **31** 00:45:16.2±0.5,39.40N×33.19E,h10km,mb4.5/1, ML4.2(ISK),Error ellipse: s-maj=9.1km s-min=8.3km az=81.0*

ISC 31 00:45:14.1±0.2,39.43N±0.02×33.13E±0.02,h2km,n103, σ0$9$90/122,mb3.8/6,MS3.0/2,4C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KAMT	**Kaman**	**0.45**	**97**	*i* PG		**Pg**	**00 45 22.8**	**-0.3**
BRTR	**Keskin Array B**	**0.49**	**52**	Pg		**Pg**	**00 45 23.8**	**-0.1**
	402nm,0.3s,baz=222,slow=18,SNR=1411							
BRTR				Lg			00 45 30.9	
	2µm,0.3s,baz=222,slow=30,SNR=183							
ANTO	**Ankara**	**0.52**	**329**	*i* PG		**Pg**	**00 45 24.4**	**+0.1**
ANTO				*i* SG		**Sg**	**00 45 32.1**	**+0.9**
LOD	**Lodumlu**	**0.54**	**328**	*i* PG		**Pg**	**00 45 25.2**	**+0.3**
CDAG	**Cicekdag**	**0.98**	**78**	*i* P		**Pb**	**00 45 32.5**	**-0.9**
CDAG				*i* S		**Sb**	**00 45 45.6**	**-0.9**
ELDT	**Eldivan**	**1.09**	**12**	*i* P		**Pb**	**00 45 35.3**	**+0.1**
ELDT				*i* S		**Sb**	**00 45 51.9**	**+2.2**
KIZT	**Kizilcal**	**1.12**	**241**	*i* PN		**Pn**	**00 45 35.2**	**-1.4**
CANT	**Cankiri**	**1.24**	**17**	*i* PN		**Pn**	**00 45 38.1**	**-0.2**
CORM	**Corum**	**1.38**	**56**	*i* PN		**Pn**	**00 45 40.3**	**0.0**
SGKT	**Sivrigoynuk**	**1.41**	**324**	*i* P		**Pb**	**00 45 41.4**	**+0.5**
SGKT				*i* S		**Sb**	**00 46 03.9**	**+4.7**
AVNT	**Avonos**	**1.49**	**115**	*i* P		**Pn**	**00 45 42.3**	**+0.4**
AVNT				*i* S		**Sb**	**00 46 03.0**	**+1.7**
KONT	**Konya--Tatoy**	**1.60**	**203**	*i* PN		**Pn**	**00 45 43.6**	**+0.1**
BSTP	**Nigde**	**1.66**	**152**	*eP*		**Pn**	**00 45 44.7**	**+0.3**
BSTP				*i* S		**Sb**	**00 46 16.7**	**+7.4**
YOZ	**Yozgat**	**1.70**	**82**	*i* PN		**Pn**	**00 45 45.7**	**+0.7**
CTKT	**Corum**	**1.75**	**46**	*i* P		**Pn**	**00 45 45.0**	**-0.6**
CTKT				*i* S		**Sn**	**00 46 12.3**	**+3.6**
TOS	**Tosya**	**1.75**	**23**	*i* PN		**Pn**	**00 45 45.7**	**+0.1**
NIG	**Nigde**	**1.75**	**138**	*i* PN		**Pn**	**00 45 45.5**	**-0.1**
ESKT	**Eskisehir**	**1.77**	**274**	*i* P		**Pn**	**00 45 46.7**	**+0.8**
ESKT				*i* S		**Sn**	**00 46 10.3**	**+1.0**
SAFT	**Safranbolu**	**1.84**	**349**	*i* PN		**Pn**	**00 45 47.6**	**+0.6**
BALT	**Daday**	**2.12**	**5**	*i* P		**Pn**	**00 45 54.4**	**+3.6**
BALT				*i* S		**Sn**	**00 46 23.9**	**+5.8**
BNN	**Bunyan**	**2.19**	**104**	*i* PN		**Pn**	**00 45 52.3**	**+0.4**
HENT	**Hendek**	**2.21**	**310**	*i* P		**Pn**	**00 45 52.3**	**0.0**
GPA	**Golpazari**	**2.34**	**293**	*i* PN		**Pn**	**00 45 53.4**	**-0.7**
ALT	**Altintas**	**2.38**	**262**	PN		**Pn**	**00 45 55.2**	**+0.6**
BYBT	**Boyabat**	**2.39**	**31**	*i* PN		**Pn**	**00 45 54.3**	**-0.5**
BOYT	**Boyabat**	**2.41**	**34**	*i* P		**Pn**	**00 45 55.3**	**+0.2**
BOYT				*i* S		**Sn**	**00 46 30.4**	**+4.8**
HDMB	**Hadim**	**2.51**	**192**	PN		**Pn**	**00 45 56.4**	**-0.1**
ISP	**Isparta**	**2.59**	**233**	PN		**Pn**	**00 45 57.6**	**-0.1**
ISP	**Isparta**	**2.59**	**233**	*eP*		**Pn**	**00 45 57.1**	**-0.7**
ISP	**Isparta**	**2.59**	**233**	*eP*		**Pn**	**00 45 57.1**	**-0.6**
ISP	**Isparta**	**2.59**	**233**	*eP*n		**Pn**	**00 45 57.6**	**-0.1**
TKTP	**Tekketepe**	**2.60**	**239**	*i* P		**Pn**	**00 45 57.8**	**0.0**
TKTP				*i* S		**Sn**	**00 46 32.2**	**+1.8**
BZK	**Bozkurt**	**2.62**	**14**	PN		**Pn**	**00 45 59.0**	**+0.9**
TOKT	**Tokat**	**2.77**	**70**	PN		**Pn**	**00 45 59.5**	**-0.8**
KVT	**Kavak**	**2.77**	**53**	*e*PN		**Pn**	**00 46 00.6**	**+0.3**
ERMK	**Ermenek**	**2.79**	**184**	*i* P		**Pn**	**00 46 00.4**	**0.0**
ERMK				*i* S		**Sn**	**00 46 44.4**	**+9.3**
BCK	**Bucak**	**2.80**	**226**	PN		**Pn**	**00 46 00.4**	**-0.3**
MEST	**Erdemli**	**2.94**	**164**	*i* P		**Pn**	**00 46 02.8**	**0.0**
MEST				*i* S		**Sn**	**00 46 35.1**	**-4.1**
SVST	**Sivas**	**2.97**	**82**	*e*P		**Pn**	**00 46 04.1**	**+1.0**
SVST				*i* S		**Sn**	**00 46 48.8**	**+9.0**
HRT	**Hereke**	**3.00**	**299**	PN		**Pn**	**00 46 02.2**	**-1.3**
KHL	**Karahalli**	**3.03**	**250**	PN		**Pn**	**00 46 04.0**	**+0.1**
YLV	**Yalova**	**3.11**	**293**	PN		**Pn**	**00 46 03.7**	**-1.3**
ULDT	**Uludag**	**3.16**	**284**	*i* P		**Pn**	**00 46 05.1**	**-0.7**
CEYT	**Ceyhan**	**3.17**	**139**	*e*PN		**Pn**	**00 46 05.9**	**-0.1**
ANTB	**Antalya**	**3.19**	**219**	*e*PN		**Pn**	**00 46 06.4**	**+0.2**
IKL	**Isikli**	**3.21**	**172**	*e*PN		**Pn**	**00 46 06.2**	**-0.3**
ORLT	**Orhaneli**	**3.33**	**282**	*e*PN		**Pn**	**00 46 07.9**	**-0.3**
BADT	**Buyukada**	**3.39**	**296**	*e*PN		**Pn**	**00 46 08.4**	**-0.7**
DST	**Dursunbey**	**3.49**	**274**	*e*PN		**Pn**	**00 46 10.6**	**+0.1**
ISK	**Istanbul-Kandi**	**3.52**	**299**	*e*PN		**Pn**	**00 46 10.1**	**-0.9**
GOLH	**Golhisar**	**3.56**	**233**	*i* P		**Pn**	**00 46 11.3**	**-0.1**
GOLH				*i* S		**Sg**	**00 47 15.7**	**+3.1**
DENT	**Denizli**	**3.62**	**244**	*e*PN		**Pn**	**00 46 12.4**	**+0.1**
DNZL	**Cakiroluk**	**3.64**	**243**	*i* P		**Pn**	**00 46 12.3**	**-0.3**
MANT	**Manisa**	**3.69**	**257**	*e*P		**Pn**	**00 46 15.1**	**+1.8**
MANT				*i* S		**Sg**	**00 47 15.1**	**-1.7**
ELL	**Elmali**	**3.69**	**225**	*e*PN		**Pn**	**00 46 13.4**	**+0.1**
GAZ	**Gaziantep**	**3.92**	**124**	*e*PN		**Pn**	**00 46 16.9**	**+0.3**
GZT	**Gaziantep**	**4.05**	**119**	*i* P		**Pn**	**00 46 18.2**	**-0.2**
HTY	**Hatay**	**4.07**	**143**	*e*PN		**Pn**	**00 46 19.0**	**+0.3**
BALB	**Balikesir**	**4.07**	**275**	*e*PN		**Pn**	**00 46 19.5**	**+0.8**
AKS	**Akhisar**	**4.17**	**264**	*e*PN		**Pn**	**00 46 20.3**	**+0.1**
AKAS	**Kas**	**4.24**	**222**	*i* P		**Pn**	**00 46 22.6**	**+1.5**
AKAS				*i* S		**Sn**	**00 47 15.7**	**+3.8**
MYA	**Malataya**	**4.27**	**103**	*e*PN		**Pn**	**00 46 21.6**	**0.0**
MALT	**Malatya**	**4.28**	**103**	*e*P		**Pn**	**00 46 20.0**	**-1.6**
MALT				*e*S		**Sg**	**00 47 33.5**	**-3.0**
MALT	**Malatya**	**4.28**	**103**	*e*P		**Pn**	**00 46 20.0**	**-1.7**
LEF	**Lefka**	**4.30**	**183**	*e*PN		**Pn**	**00 46 22.3**	**+0.3**
MRMT	**Marmara Adasi**	**4.41**	**287**	*e*PN		**Pn**	**00 46 24.2**	**+0.6**
YER	**Yerkesik**	**4.45**	**241**	*e*PN		**Pn**	**00 46 24.1**	**0.0**
CSS	**Prodhromos**	**4.46**	**178**	*e*P		**Pn**	**00 46 21.5**	**-2.7**
CSS	**Prodhromos**	**4.46**	**178**	*e*P		**Pn**	**00 46 21.5**	**-2.7**
IZM	**Izmir**	**4.69**	**259**	*e*PN		**Pn**	**00 46 27.5**	**-0.1**
CANB	**Canakkale**	**4.72**	**279**	*e*PN		**Pn**	**00 46 27.5**	**-0.5**
BLCB	**Balcova**	**4.87**	**260**	*e*PN		**Pn**	**00 46 30.1**	**+0.1**
URFA	**Urfa**	**4.88**	**112**	*e*PN		**Pn**	**00 46 31.1**	**+0.8**
PTK	**Pertek**	**4.89**	**94**	*e*PN		**Pn**	**00 46 31.4**	**+1.0**
GUMT	**Gumushane**	**4.99**	**76**	*e*PN		**Pn**	**00 46 32.2**	**+0.5**
EZN	**Ezine**	**5.27**	**277**	*e*PN		**Pn**	**00 46 36.2**	**+0.4**
EDRB	**Edirne**	**5.43**	**298**	*e*PN		**Pn**	**00 46 38.5**	**+0.5**
DIY	**Diyarbakir**	**5.76**	**103**	*e*PN		**Pn**	**00 46 43.0**	**+0.4**
TIRR	**Tirgusor**	**6.14**	**327**	⇓P		**Pn**	**00 46 46.8**	**-1.2**
EZM	**Erzurum**	**6.37**	**83**	*e*PN		**Pn**	**00 46 51.5**	**+0.3**
CFR	**Carcaliu**	**6.84**	**329**	⇑P		**Pn**	**00 46 56.4**	**-1.4**
IDI	**Anoyia**	**7.75**	**240**	Pn		**Pn**	**00 47 11.0**	**+0.3**
	1.2nm,0.3s,baz=16,slow=9.2,SNR=11							
ASF	**Jabal al Asfar**	**7.86**	**156**	Pn		**Pn**	**00 47 11.7**	**-0.4**
	0.1nm,0.3s,baz=313,slow=3.1,SNR=2.5							
ASF				LR		LR	00 50 58.1	
	comp=Z,203nm,19.0s,baz=212,slow=43							
VRI	**Vrincioaia**	**7.98**	**326**	⇑P		**Pn**	**00 47 20.0**	**+6.2**
VRI	**Vrincioaia**	**7.98**	**326**	⇑P		**Pn**	**00 47 20.0**	**+6.1**
MLR	**Muntele Rosu**	**8.06**	**321**	P		**P**	**00 47 15.5**	**+0.6**
MLR							00 48 45.2	
MLR				smax				
	comp=N,1.0nm,0.3s							
MLR				MLR		MLR		
	comp=Z,232nm,18.2s							
MLR	**Muntele Rosu**	**8.06**	**321**	Pn		**P**	**00 47 15.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=128,slow=9.1,SNR=4.1							
MLR				Sn		**Sn**	**00 48 45.2**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=309,slow=19,SNR=4.1							
MLR				LR		LR	00 51 11.4	
	comp=Z,232nm,18.2s,baz=253,slow=44							
MLR	**Muntele Rosu**	**8.06**	**321**	⇓P		**P**	**00 47 15.2**	**+0.3**
MLR				S		**Sn**	**00 48 45.2**	**-2.5**
	comp=Z,232nm,18.2s							
KIV	**Kislovodsk**	**8.46**	**55**	*e*P		**P**	**00 47 32.6**	**+12**
KIV				pmax		pmax		
	comp=Z,8.0nm,1.1s							
KIV				pmax		pmax		
	comp=N,2.0nm,0.7s							
KIV				pmax		pmax		
	comp=E,1.0nm,0.6s							
KIV				MLR		MLR		
	comp=Z,57nm,13.0s							
GNI	**Garni**	**8.97**	**82**	Pn		**P**	**00 47 27.4**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=204,slow=20,SNR=2.0							
BURAR	**Bucovina Array**	**10.00**	**328**	⇑P		**P**	**00 47 40.4**	**-1.3**
AKASG	**Malin Array Be**	**11.61**	**348**	Pn		**P**	**00 47 58.4**	**-5.3**
	comp=Z,0.5nm,0.3s,baz=87,slow=12,SNR=3.5							
GERES	**GERESS Array B**	**16.79**	**310**	Pn		**P**	**00 49 15.4**	**+3.7**
	comp=Z,0.1nm,0.3s,baz=108,slow=6.2,SNR=3.8							
GERES				LR		LR	00 55 51.1	
	comp=Z,51nm,19.4s,baz=166,slow=38							
FINES	**FINESS Array B**	**22.47**	**351**	P		**P**	**00 50 15.4**	**-0.4**
	comp=Z,2.6nm,0.6s,mb3.8,baz=149,slow=11,SNR=23							
KAF	**Kangasniemi**	**23.10**	**352**	*e*p		**P**	**00 50 23.3**	**+1.5**
	comp=Z,0.3nm,0.4s,mb3.1							
ARU	**Arti**	**23.86**	**36**	*e*P		**P**	**00 50 29.8**	**+0.6**
HFS	**Hagfors**	**24.05**	**336**	P		**P**	**00 50 31.5**	**+0.4**
	comp=Z,2.0nm,0.8s,mb3.6,baz=158,slow=16,SNR=2.7							
HFS				LR		LR	01 00 50.5	
	comp=Z,56nm,19.4s,MS3.0,baz=128,slow=39							
NOA	**NORSAR Array B**	**25.54**	**335**	LR		LR	01 03 19.1	
	comp=Z,38nm,18.3s,MS3.0,baz=140,slow=42							
ARCES	**ARCESS Array B**	**30.45**	**355**	P		**P**	**00 51 28.6**	**-1.1**
	comp=Z,4.9nm,1.1s,mb4.2,baz=162,slow=7.7,SNR=7.3							
MKAR	**Makanchi Array**	**36.14**	**62**	P		**P**	**00 52 18.1**	**-1.2**
	comp=Z,0.7nm,0.9s,mb3.6,baz=284,slow=5.9,SNR=4.3							
BOSA	**Boshof**	**68.08**	**187**	*e*P		**P**	**00 56 16.2**	**-1.2**
BOSA				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.3							
BOSA	**Boshof**	**68.08**	**187**	P		**P**	**00 56 15.9**	**-1.5**
	comp=Z,1.8nm,0.7s,mb4.2,baz=339,slow=6.8,SNR=4.8							
BOSA	**Boshof**	**68.08**	**187**	*e*P		**P**	**00 56 16.2**	**-1.2**
	comp=Z,2.2nm,0.7s,mb4.3							

IDC 31 01:08:21.1±1.6,8.23N×91.70E,h27km±7km,mb3.5/4, mb1 3.7/4,mb1mx3.5/18,mbtmp3.7/4,Error ellipse: s-maj=48.6km s-min=27.4km az=57.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKAR	**Makanchi Array**	**39.26**	**350**	P		P	01 15 47.7	-1.4
	0.7nm,0.7s,baz=164,slow=8.6,SNR=7.2							
MKAR				pP		pP	01 15 56.3	-1.0
	0.3nm,0.4s,baz=168,slow=9.4,SNR=3.2							
SONM	**Songino Array**	**41.39**	**15**	P		P	01 16 04.5	-2.1
	1.1nm,0.8s,baz=198,slow=7.8,SNR=9.2							
SONM				pP		pP	01 16 12.9	-1.9
	0.6nm,0.6s,baz=201,slow=6.5,SNR=4.4							
WRA	**Warramunga Arr**	**50.45**	**124**	P		P	01 17 16.8	-2.0
	1.0nm,0.6s,baz=305,slow=8.7,SNR=4.5							
GERES	**GERESS Array B**	**75.95**	**318**	P		P	01 20 05.4	-1.9
	0.4nm,0.7s,baz=82,slow=6.9,SNR=4.8							
GERES				pP		pP	01 20 14.1	-1.9
	0.5nm,0.8s,baz=90,slow=4.0,SNR=2.9							

*MOS **31** 01:11:33.2±1.2,0.13S×96.91E,h33km,mb4.5/9,Error ellipse: s-maj=20.1km s-min=10.6km az=108.7*
*BJI **31** 01:11:34.5,0.20S×96.90E,h30km,mB4.9,mb4.7,Ms4.4, Msz4.4*
*IDC **31** 01:11:35.0±0.9,0.25S×96.78E,h32km±5km,mb4.1/15, mb1 4.2/15,mb1mx4.1/21,mbtmp4.3/15,MS3.7/2, Ms1 3.7/2,ms1mx3.0/26,Error ellipse: s-maj=23.7km s-min=14.5km az=45.0*
*NEIC **31** 01:11:34.6±0.4,0.20S×96.87E,h30km,mb4.5/9,Error ellipse: s-maj=11.6km s-min=7.8km az=42.0*

ISC 31 01:11:33.0±0.5,0.30S±0.07×96.91E±0.08,h32km, h32km±.6km:pP-P,n60,σ1$36/58,mb4.5/33,MS3.9/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KULM	**Kulim**	**6.69**	**34**	*e*P		**Pn**	**01 13 08.7**	**-3.0**
SNG	**Songkhla**	**8.29**	**26**	P		**P**	**01 13 29.0**	**-5.1**
NST	**Nakhon Sawan**	**16.18**	**11**	P		**P**	**01 15 22.5**	**+2.6**
NANT	**Nan**	**19.34**	**11**	P		**P**	**01 16 00.0**	**+1.2**
	75nm,0.7s							
CHRT	**Chiangrai**	**20.24**	**8**	P		**P**	**01 16 04.0**	**-4.5**
KKM	**Kota Kinabalu**	**20.27**	**72**	*e*P		**P**	**01 16 08.3**	**-0.6**
KMI	**Kunming**	**25.89**	**12**	P		**P**	**01 17 07.0**	**+3.0**
KMI				XP		sP	01 17 16.8	-0.9
KMI				AMB		AMB		
	comp=Z,19nm,1.0s,mb4.6							
KMI	**Kunming**	**25.89**	**12**	P		**P**	**01 17 06.9**	**+2.9**
	comp=Z,19nm,1.0s,mb4.6							
KMI				sP		sP	01 17 16.8	-0.9
KMI				LR		LR		
	comp=Z,80nm,21.7s,MS3.2							
SHL	**Shillong**	**26.16**	**350**	*e*P		**P**	**01 17 07.0**	**+0.4**
JIRN	**Jiri**	**29.64**	**341**	*e*P		**P**	**01 17 39.5**	**+1.4**
	comp=Z,40nm,0.9s,mb5.1							
PKI	**Pulchoki**	**29.83**	**339**	*e*P		**P**	**01 17 42.1**	**+2.4**
DMN	**Daman**	**29.97**	**339**	*e*P		**P**	**01 17 43.3**	**+2.3**
KKN	**Kakani**	**30.07**	**339**	*e*P		**P**	**01 17 43.2**	**+1.3**
	comp=Z,57nm,1.2s,mb5.2							
GKN	**Gorkha**	**30.50**	**338**	*e*P		**P**	**01 17 47.1**	**+1.5**
	comp=Z,29nm,0.9s,mb5.1							
KOLN	**Koldanda**	**30.69**	**336**	*e*P		**P**	**01 17 47.4**	**+0.1**
	comp=Z,24nm,0.8s,mb5.1							
FITZ	**Fitzroy Crossi**	**33.32**	**124**	*e*P		**P**	**01 18 10.6**	**+0.2**
	comp=Z,13nm,1.0s,mb4.8							
FITZ	**Fitzroy Crossi**	**33.32**	**124**	P		**P**	**01 18 10.6**	**+0.3**
	comp=Z,17nm,0.9s,mb5.0,baz=346,slow=3.5,SNR=6.8							
XAN	**Xi'an**	**35.97**	**17**	P		**P**	**01 18 32.0**	**-0.9**
XAN				AMB		AMB		
	comp=Z,15nm,0.7s,mb5.0							
WRA	**Warramunga Arr**	**41.51**	**120**	P		**P**	**01 19 19.9**	**+0.6**
	comp=Z,3.1nm,0.7s,mb4.0,baz=298,slow=9.3,SNR=9.4							
WRAB	**Tennant Creek**	**41.52**	**120**	*e*P		**P**	**01 19 19.6**	**+0.2**
WRAB				pmax		pmax		
	comp=Z,12nm,0.9s,mb4.5							
WRAB	**Tennant Creek**	**41.52**	**120**	*e*P		**P**	**01 19 19.6**	**+0.3**
	comp=Z,12nm,0.9s,mb4.5							
WB2	**Warramunga Arr**	**41.52**	**120**	*e*P		**P**	**01 19 20.2**	**+0.8**
HHC	**Hu-ho-hao-te**	**43.06**	**16**	*e*P		**P**	**01 19 32.0**	**+0.2**
HHC				AP		pP	01 19 42.5	+1.1
HHC				XP		sP	01 19 46.0	+0.6
HHC				PP		PP	01 21 15.0	+1.0
HHC				PCP		PcP	01 21 21.0	-1.0
HHC				SCP			01 25 10.8	
HHC				S		**S**	**01 25 57.0**	**+1.9**
HHC				XS			01 26 11.0	
HHC				SS		SS	01 29 03.0	+1.7
HHC				SCS		ScS	01 29 26.5	-0.8
HHC				AMB		AMB		
	comp=Z,14nm,1.4s,mb4.5							
HHC				AMB		AMB		
	comp=Z,47nm,9.5s							
HHC				LR		LR		
	comp=N,164nm,16.6s,MS4.2							
HHC				LR		LR		
	comp=E,231nm,17.8s,MS4.2							
HHC				LR		LR		
	comp=Z,132nm,16.6s,MS3.9							
WMQ	**Urumqi**	**44.69**	**351**	*e*P		**P**	**01 19 47.3**	**+2.4**
MKAR	**Makanchi Array**	**48.62**	**347**	P		**P**	**01 20 15.4**	**-0.3**
	comp=Z,3.5nm,0.6s,mb4.6,baz=155,slow=7.9,SNR=46							
MKAR				pP		pP	01 20 25.1	-0.4
	comp=Z,8.6nm,0.6s,baz=155,slow=7.9,SNR=21							
MKAR				LR		LR	01 42 19.0	
	comp=Z,55nm,19.7s,MS3.5,baz=181,slow=38							
SONM	**Songino Array**	**48.64**	**9**	P		**P**	**01 20 15.8**	**-0.1**
	comp=Z,4.9nm,0.8s,mb4.6,baz=191,slow=8.0,SNR=26							
SONM				pP		pP	01 20 25.6	-0.1
	comp=Z,6.4nm,0.8s,baz=189,slow=9.1,SNR=17							
ZAK	**Zakamensk**	**50.78**	**5**	*e*P		**P**	**01 20 30.7**	**-1.5**
ZAK				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
PMG	**Port Moresby**	**50.81**	**102**	P		**P**	**01 20 33.4**	**+0.4**
	comp=Z,9.2nm,0.7s,mb4.8,baz=317,slow=4.9,SNR=4.2							
OPO	**Ambohidratompo**	**52.06**	**247**	LR		LR	01 37 02.7	
	comp=Z,112nm,21.6s,MS3.9,baz=348,slow=29							
TLY	**Talaya**	**52.10**	**5**	*e*P		**P**	**01 20 41.9**	**-0.3**
TLY				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.8							
TLY	**Talaya**	**52.10**	**5**	*e*P		**P**	**01 20 41.9**	**-0.3**
	comp=Z,9.8nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**52.58**	**131**	*e*P		**P**	**01 20 46.9**	**+0.7**
	comp=Z,5.6nm,0.6s,mb4.7							
STKA	**Stephens Creek**	**52.58**	**131**	P		**P**	**01 20 47.0**	**+0.9**
	comp=Z,6.8nm,0.6s,mb4.7,baz=305,slow=7.1,SNR=20							
MJAR	**Matsushiro Arr**	**52.98**	**42**	P		**P**	**01 20 49.8**	**+0.7**
	comp=Z,0.9nm,0.9s,mb3.7,baz=202,slow=6.5,SNR=3.4							
KURK	**Kurchatov**	**53.16**	**346**	*e*P		**P**	**01 20 47.6**	**-2.5**
KURK				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
KURK	**Kurchatov**	**53.16**	**346**	*e*P		**P**	**01 20 47.6**	**-2.5**
	comp=Z,2.0nm,0.6s,mb4.2							
MDJ	**Mudanjiang**	**53.30**	**29**	P		**P**	**01 20 49.8**	**-1.5**
MDJ				AP		pP	01 20 59.0	-2.2
MDJ				XP		sP	01 21 03.0	-2.0
MDJ				PCP		PcP	01 21 56.8	-1.7
MDJ				PP		PP	01 22 50.3	-2.7
MDJ				SCP			01 25 52.5	
MDJ				PCS			01 25 55.5	
MDJ				S		**S**	**01 28 20.0**	**+1.0**
MDJ				XS			01 28 35.5	
MDJ				AMB		AMB		
	comp=Z,6.0nm,2.6s,mb4.1							
MDJ				AMB		AMB		
	comp=Z,25nm,2.8s,mb4.7							
MDJ				LR		LR		
	comp=N,509nm,13.5s,MS4.8							
MDJ				LR		LR		
	comp=E,203nm,12.2s,MS4.8							
MDJ				LR		LR		
	comp=Z,351nm,15.4s,MS4.5							
NVS	**Novosibirsk**	**56.09**	**351**	*e*P		**P**	**01 21 08.5**	**-3.0**
NVS				pmax		pmax		
	comp=N,5.0nm,1.2s							
NVS				pmax		pmax		
	comp=E,5.0nm,1.2s							
NVS				pmax		pmax		
	comp=Z,8.0nm,1.2s,mb4.6							
VOSK	**Vostochnaya**	**57.12**	**342**	P		**P**	**01 21 16.6**	**-2.2**
VOSK				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb4.2							
BVA0	**Borovoye Array**	**57.56**	**341**	*i* P		**P**	**01 21 21.4**	**-0.6**
BRVK	**Borovoye**	**57.62**	**341**	*e*P		**P**	**01 21 20.0**	**-2.4**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.2							
BRVK	**Borovoye**	**57.62**	**341**	*e*P		**P**	**

MS4.6/13,Error ellipse: s-maj=12.8km s-min=11.8km az=114.6
LDG ***31*** *01:24:16.7±0.2,20.19S×172.22E,h10km,Mb4.9/1, Ms4.6/9,Error ellipse: s-maj=17.8km s-min=3.1km az=152.0*
ISC 31 01:24:09.7±0.2,**22.52S**±0.04×**172.87E**±0.05,**h21**km, **h21**km±1.3km:**pP-P,n188,**σ1**§16**/112,**mb5.0**/56,**MS4.6**/36, **7C-15D,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.97**	**273**	*eP*	**Pn**	**01 25 39.3**	**0.0**
DZM				*eS*	**Sn**	**01 26 48.6**	**+0.8**
DZM	**Mont Dzumac**	**5.97**	**273**	Pn	**Pn**	**01 25 39.5**	**+0.2**
	13nm,0.3s,baz=134,slow=22,SNR=117						
DZM				Sn	**Sn**	**01 26 48.6**	**+0.8**
	2.2nm,0.3s,baz=137,slow=22,SNR=3.7						
RAO	**Raoul Island**	**10.66**	**131**	LR	LR	01 29 28.2	
	comp=Z,3μm,18.8s,baz=110,slow=31						
HIZ	**Hauiti**	**16.03**	**174**	*e*PN	**P**	**01 27 56.9**	**+1.3**
URZ	**Urewera**	**16.10**	**168**	Pn	**P**	**01 27 57.5**	**+0.9**
	2.4nm,0.3s,baz=3.8,slow=7.0,SNR=23						
URZ				LR	LR	01 32 41.0	
	comp=Z,4μm,20.4s,baz=170,slow=32						
URZ	**Urewera**	**16.10**	**168**	Pn	**P**	**01 27 57.5**	**+0.9**
URZ				LR	LR	01 32 41.0	
AFI	**Afiamalu**	**16.90**	**62**	LR	LR	01 33 18.7	
	comp=Z,3μm,18.8s,baz=248,slow=33						
AFI	**Afiamalu**	**16.90**	**62**	P	**P**	**01 28 00.6**	**-6.2**
	29nm,0.8s						
HNR	**Honiara**	**17.98**	**314**	P	**P**	**01 28 25.0**	**+4.7**
	4.9nm,0.3s,baz=194,slow=4.2,SNR=2.4						
NNZ	**Nelson**	**18.64**	**179**	PN	**P**	**01 28 30.0**	**+1.7**
SNZO	**South Karori**	**18.80**	**176**	P	**P**	**01 28 25.2**	**-4.9**
	458nm,1.8s						
LTZ	**Lake Taylor**	**20.21**	**181**	PN	**P**	**01 28 46.6**	**+0.5**
RPZ	**Rata Peaks**	**21.19**	**184**	P	**P**	**01 28 56.2**	**+0.1**
	44nm,0.8s,mb4.8,baz=28,slow=1.0,SNR=15						
RPZ	**Rata Peaks**	**21.19**	**184**	PN	**P**	**01 28 56.3**	**+0.2**
CNB	**Canberra Magne**	**24.13**	**233**	*e*P	**P**	**01 29 27.7**	**+2.4**
	106nm,1.0s,mb5.2						
CTA	**Charters Tower**	**24.91**	**271**	*e*P	**P**	**01 29 35.6**	**+2.7**
	7.5nm,0.6s,mb4.4						
CTA	**Charters Tower**	**24.91**	**271**	*e*P	**P**	**01 29 35.6**	**+2.7**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CTA	**Charters Tower**	**24.91**	**271**	P	**P**	**01 29 34.4**	**+1.5**
	comp=Z,8.1nm,0.5s,mb4.5,baz=93,slow=9.8,SNR=10						
CTAO	**Charters Tower**	**24.91**	**271**	*e*P	**P**	**01 29 34.0**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,117nm,1.8s,mb5.1						
CTAO				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.4						
CTAO	**Charters Tower**	**24.91**	**271**	*e*P	**P**	**01 29 34.0**	**+1.2**
	comp=Z,117nm,1.8s,mb5.1						
CTAO				LR	LR		
	comp=Z,1μm,19.0s,MS4.4						
PMG	**Port Moresby**	**27.89**	**294**	*e*P	**P**	**01 30 00.2**	**-0.3**
PMG	**Port Moresby**	**27.89**	**294**	P	**P**	**01 30 01.1**	**+0.6**
	comp=Z,11nm,0.7s,mb4.6,baz=161,slow=2.4,SNR=4.8						
PMG				LR	LR	01 39 25.2	
	comp=Z,2μm,19.1s,MS4.7,baz=128,slow=33						
TOO	**Toolangi**	**27.92**	**231**	*e*P	**P**	**01 30 01.8**	**+1.3**
	comp=Z,13nm,0.8s,mb4.6						
TOO	**Toolangi**	**27.92**	**231**	*e*P	**P**	**01 30 01.8**	**+1.3**
TOO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**29.25**	**245**	⇓*i*P	**P**	**01 30 13.4**	**+0.8**
	comp=Z,8.7nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**29.25**	**245**	P	**P**	**01 30 13.2**	**+0.6**
	comp=Z,10nm,0.6s,mb4.7,baz=86,slow=12,SNR=27						
TBI	**Tubuai**	**34.64**	**99**	*e*S	**S**	**01 36 16.8**	**-10**
TBI				*e*LR	LR	01 39 48.4	
	comp=Z,2μm,31.5s,baz=264						
PPT	**Papeete**	**35.56**	**89**	*e*S	**S**	**01 36 32.2**	**-9.2**
PPT				*e*LR	LR	01 40 15.2	
	comp=Z,4μm,29.2s,baz=248						
PPT	**Papeete**	**35.56**	**89**	LR	LR	01 42 02.4	
	comp=Z,946nm,19.0s,MS4.6,baz=262,slow=30						
WRAB	**Tennant Creek**	**35.94**	**267**	*e*P	**P**	**01 31 09.3**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0						
WRAB	**Tennant Creek**	**35.94**	**267**	*e*P	**P**	**01 31 09.3**	**-1.6**
	comp=Z,22nm,1.1s,mb5.0						
WRA	**Warramunga Arr**	**35.95**	**267**	P	**P**	**01 31 09.9**	**-1.1**
	comp=Z,2.9nm,0.4s,mb4.5,baz=87,slow=5.9,SNR=9.5						
FITZ	**Fitzroy Crossi**	**44.38**	**267**	*e*P	**P**	**01 32 21.0**	**+0.2**
	comp=Z,51nm,1.1s,mb5.2						
FITZ	**Fitzroy Crossi**	**44.38**	**267**	P	**P**	**01 32 21.3**	**+0.5**
	comp=Z,191nm,1.3s,mb5.7,baz=142,slow=6.1,SNR=16						
TAOE	**Nuku Hiva Isla**	**47.03**	**81**	*e*S	**S**	**01 39 24.4**	**-7.1**
TAOE				*e*LR	LR	01 45 33.0	
	comp=Z,7μm,27.4s						
RKT	**Rikitea**	**47.86**	**101**	*e*S	**S**	**01 39 32.6**	**-11**
RKT				*e*LR	LR	01 45 36.0	
	comp=Z,2μm,31.0s						
KLBR	**Kellerberrin**	**49.47**	**247**	*e*P	**P**	**01 33 00.1**	**-0.6**
	comp=Z,51nm,1.1s,mb5.5						
NWAO	**Narrogin (SRO)**	**49.84**	**245**	P	**P**	**01 33 03.5**	**+0.1**
	comp=Z,16nm,0.8s,mb5.1,baz=86,slow=8.7,SNR=7.5						
VNDA	**Vanda**	**55.31**	**183**	*e*P	**P**	**01 33 42.6**	**-1.1**
VNDA				pmax	pmax		
	comp=Z,42nm,1.3s						
VNDA	**Vanda**	**55.31**	**183**	P	**P**	**01 33 43.2**	**-0.5**
	comp=Z,8.1nm,0.7s,mb4.8,baz=359,slow=7.7,SNR=24						
VNDA	**Vanda**	**55.31**	**183**	*e*P	**P**	**01 33 42.6**	**-1.1**
	comp=Z,42nm,1.3s,mb5.3						
SBA	**Scott Base**	**55.46**	**182**	*e*P	**P**	**01 33 45.0**	**+0.2**
SBA				pmax	pmax		
	comp=Z,187nm,1.2s,mb6.0						
SBA				MLR	MLR		
	comp=Z,873nm,22.0s,MS4.8						
SBA	**Scott Base**	**55.46**	**182**	*e*P	**P**	**01 33 45.0**	**+0.2**
	comp=Z,187nm,1.2s,mb6.0						
SBA				LR	LR		
	comp=Z,873nm,22.0s,MS4.8						
CBIJ	**Chichi jima**	**57.57**	**327**	P	**P**	**01 33 59.7**	**-0.8**
	comp=Z,48nm,1.0s,mb5.5,baz=257,slow=22,SNR=4.3						
CASY	**Casey**	**58.53**	**205**	⇓*i*P	**P**	**01 34 05.5**	**-1.2**
JHJ	**Hachijo jima 2**	**63.70**	**329**	LR	LR	01 56 09.0	
	comp=Z,257nm,20.1s,MS4.4,baz=326,slow=30						
JOW	**Kunigami**	**65.34**	**316**	P	**P**	**01 34 52.1**	**-0.8**
	comp=Z,2.3nm,0.3s,mb4.7,baz=153,slow=11,SNR=3.6						
JOW				LR	LR	01 58 36.2	
	comp=Z,314nm,20.6s,MS4.5,baz=151,slow=32						
MIR	**Mirnyy**	**65.53**	**206**	*c i*P	**P**	**01 34 52.4**	**-1.1**
MIR				pmax	pmax		
	comp=Z,140nm,1.8s,mb5.7						
MJAR	**Matsushiro Arr**	**67.25**	**330**	P	**P**	**01 35 04.5**	**-0.5**
	comp=Z,17nm,1.1s,mb5.0,baz=172,slow=7.2,SNR=30						
MJAR				LR	LR	01 59 13.1	
	comp=Z,252nm,20.8s,MS4.4,baz=90,slow=31						
MAJO	**Matsushiro**	**67.25**	**330**	*e*P	pP	01 35 12.7	+1.1
MAJO				pmax	pmax		
	comp=Z,60nm,1.5s,mb5.4						
MAJO	**Matsushiro**	**67.25**	**330**	*e*P	pP	01 35 12.7	+1.1
	comp=Z,60nm,1.5s						
MAT	**Matsushiro**	**67.25**	**330**	*e*P	**P**	**01 35 04.0**	**-1.0**
MAT				pmax	pmax		
	comp=Z,42nm,1.4s,mb5.3						
MAT	**Matsushiro**	**67.25**	**330**	*e*P	**P**	**01 35 04.0**	**-1.0**
	comp=Z,42nm,1.4s,mb5.3						
MAT	**Matsushiro**	**67.25**	**330**	P	**P**	**01 35 04.0**	**-1.0**
QSPA	**South Pole Qui**	**67.55**	**180**	⇓*i*P	**P**	**01 35 05.5**	**-0.6**
	comp=Z,72nm,1.3s,mb5.5						
JNU	**Nakatsue**	**68.31**	**323**	P	**P**	**01 35 11.1**	**-0.6**
	comp=Z,18nm,1.1s,mb5.0,baz=68,slow=8.6,SNR=3.7						
JNU				LR	LR	02 00 19.2	
	comp=Z,166nm,21.3s,MS4.2,baz=132,slow=32						
SSE	**Sheshan**	**72.78**	**315**	P	**P**	**01 35 40.8**	**+2.0**
SSE				XP	sP	01 35 49.8	+2.0
SSE				PCP	PcP	01 35 57.8	+1.6
SSE				PP	PP	01 38 22.0	-0.9
SSE				S	S	01 45 06.0	+4.0
SSE				XS		01 45 16.8	
SSE				SCS	ScS	01 45 46.5	+5.0
SSE				SS	SS	01 49 44.0	-0.4
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,66nm,4.9s						
SSE				LR	LR		
	comp=N,181nm,23.9s,MS4.4						
SSE				LR	LR		
	comp=E,168nm,24.3s,MS4.4						
SSE				LR	LR		
	comp=Z,166nm,21.8s,MS4.3						
SSE	**Sheshan**	**72.78**	**315**	P	**P**	**01 35 40.7**	**+1.9**
	comp=Z,27nm,0.7s,mb5.3						
SSE				sP	sP	01 35 49.8	+2.0
SSE				PcP	PcP	01 35 57.8	+1.6
SSE				PP	PP	01 38 21.9	-1.0
SSE				S	S	01 45 06.0	+4.0
SSE				sS		01 45 16.8	
SSE				ScS	ScS	01 45 46.6	+5.1
SSE				SS	SS	01 49 44.1	-0.3
SSE				LR	LR		
	comp=Z,170nm,21.8s,MS4.3						
YSS	**Yuzh-Sakhalins**	**74.31**	**339**	*e*P	**P**	**01 35 48.0**	**+0.7**
YSS				*e*	pP	01 35 54.5	+0.5
YSS				*e*		01 50 04.0	
YSS				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.6						
YSS	**Yuzh-Sakhalins**	**74.31**	**339**	*e*P	**P**	**01 35 46.2**	**-1.1**
	comp=Z,98nm,1.3s,mb5.6						
YSS				LR	LR		
	comp=Z,606nm,21.0s,MS4.9						
NJ2	**Nanjing**	**74.92**	**315**	*e*P	**P**	**01 35 53.0**	**+1.8**
NJ2				AP	pP	01 35 59.0	+1.1
NJ2				XP	sP	01 36 02.0	+1.8
NJ2				PP	PP	01 38 44.0	+2.9
NJ2				S	S	01 45 29.0	+3.0
NJ2				XS		01 45 40.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,160nm,9.1s						
NJ2				LR	LR		
	comp=N,3μm,25.4s,MS5.5						
NJ2				LR	LR		
	comp=E,890nm,24.0s,MS5.5						
NJ2				LR	LR		
	comp=Z,330nm,22.7s,MS4.6						
FX1	**Attu Island--F**	**75.08**	**0**	P	**P**	**01 35 51.4**	**-0.3**
	comp=Z,10nm,0.6s,mb5.0						
FX1				LR	LR	02 07 03.7	
	comp=Z,12nm,18.9s,MS3.2,baz=203,slow=34						
PET	**Petropavlovsk**	**76.24**	**351**	*e*P	**P**	**01 35 58.1**	**-0.1**
PET				*e*		01 38 51.9	
PET				*e*S	S	01 45 46.6	+6.6
PET				*e*PPS	PPS	01 46 42.7	+5.6
PET				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
PET				pmax	pmax		
	comp=Z,100nm,4.4s						
PET				smax			
	comp=E,200nm,5.5s						
PET				smax			
	comp=N,100nm,11.9s						
PET				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.5						
MAW	**Mawson**	**76.67**	**202**	⇓*i*P	**P**	**01 36 00.1**	**-0.3**
	comp=Z,11nm,1.0s,mb4.7						
MAW	**Mawson**	**76.67**	**202**	⇓*i*P	**P**	**01 36 00.1**	**-0.3**
MAW				pmax	pmax		
	comp=Z,11nm,1.0s						
MAW	**Mawson**	**76.67**	**202**	P	**P**	**01 35 59.9**	**-0.5**
	comp=Z,10nm,0.9s,mb4.8,baz=108,slow=6.8,SNR=22						
MAW				LR	LR	02 06 20.7	
	comp=Z,277nm,18.2s,MS4.6,baz=97,slow=33						
MDJ	**Mudanjiang**	**77.63**	**330**	P	**P**	**01 36 06.0**	**-0.2**
MDJ				AP	pP	01 36 12.5	-0.4
MDJ				XP	sP	01 36 15.0	-0.2
MDJ				PP	PP	01 39 00.0	-3.2
MDJ				S	S	01 45 57.3	+2.0
MDJ				XS		01 46 08.5	
MDJ				SCS	ScS	01 46 22.5	+2.3
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,46nm,3.9s						
MDJ				LR	LR		
	comp=N,247nm,45.5s,MS4.4						
MDJ				LR	LR		
	comp=E,275nm,41.2s,MS4.4						
MDJ				LR	LR		
	comp=Z,280nm,20.6s						
CN2	**Changchun**	**79.03**	**327**	*e*P	**P**	**01 36 13.3**	**-0.6**
CN2				*e*XP	sP	01 36 22.3	-0.6
CN2				*e*S	S	01 46 11.8	+1.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,400nm,16.0s,MS5.0						
CN2				LR	LR		
	comp=E,300nm,16.0s,MS5.0						
CN2				LR	LR		
	comp=Z,300nm,17.0s,MS4.7						
PMSA	**Palmer Station**	**82.65**	**159**	*e*P	**P**	**01 36 31.8**	**-0.8**
	comp=Z,43nm,0.6s,mb5.7						
SYO	**Syowa Base**	**82.71**	**195**	⇑P	**P**	**01 36 30.0**	**-2.8**
SYO	**Syowa Base**	**82.71**	**195**	⇑PcP	PcP	01 36 36.1	-2.1
KMI	**Kunming**	**82.88**	**301**	P	**P**	**01 36 36.0**	**+1.5**
KMI				AP	pP	01 36 44.0	+2.7
KMI				XP	sP	01 36 46.0	+2.5
KMI				PP	PP	01 39 44.0	-2.9
KMI				S	S	01 46 46.8	-3.7
KMI				XS		01 47 04.5	
KMI				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.9						
KMI				AMB	AMB		
	comp=Z,315nm,4.2s						
KMI				LR	LR		
	comp=Z,176nm,27.9s,MS4.3						
KMI	**Kunming**	**82.88**	**301**	P	**P**	**01 36 36.1**	**+1.6**
KMI				*SP	sP	01 36 46.1	+2.6
KMI						01 39 43.9	
KMI				S	S	01 46 46.7	-3.8
KMI				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
KMI				MLR	MLR		
	comp=Z,180nm,27.9s,MS4.3						
KMI	**Kunming**	**82.88**	**301**	P	**P**	**01 36 36.1**	**+1.6**
	comp=Z,12nm,1.0s,mb4.9						
KMI				pP	pP	01 36 43.9	+2.6
KMI				sP	sP	01 36 46.1	+2.6
KMI				PP	PP	01 39 43.9	-3.0
KMI				S	S	01 46 46.7	-3.8
KMI				sS		01 47 04.4	
KMI				PS	PS	01 47 53.2	+8.2
KMI				SS	SS	01 52 27.9	+11
KMI				LR	LR		
	comp=Z,180nm,27.9s,MS4.3						
HHC	**Hu-ho-hao-te**	**84.92**	**318**	*e*P	**P**	**01 36 42.5**	**-2.0**
HHC				XP	sP	01 36 52.5	-1.1
HHC				PP	PP	01 40 03.3	+0.3
HHC				SKS	SKS	01 47 03.8	-7.4
HHC				S	S	01 47 10.8	+0.3
HHC				XS		01 47 21.5	
HHC				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,119nm,11.9s						
HHC				LR	LR		
	comp=N,243nm,18.9s,MS4.7						
HHC				LR	LR		
	comp=E,175nm,17.8s,MS4.7						
HHC				LR	LR		
	comp=Z,275nm,27.2s						
SAO	**San Andreas Ge**	**85.48**	**47**	*e*P	**P**	**01 36 47.9**	**+0.4**
	comp=Z,15nm,1.1s,mb5.0						
SNAA	**Sanae**	**86.01**	**181**	*e*	**P**	**01 36 53.7**	**+4.4**
SNAA	**Sanae**	**86.01**	**181**	*e*	pP	01 36 55.8	-0.3
SNAA	**Sanae**	**86.01**	**181**	⇓*i*P	**P**	**01 36 47.6**	**-1.7**
SNAA				*e*	pP	01 36 55.8	-0.3
SNAA	**Sanae**	**86.01**	**181**	P	**P**	**01 36 47.7**	**-1.6**
	comp=Z,3.7nm,0.8s,mb4.7,baz=207,slow=4.7,SNR=90						
SNAA	**Sanae**	**86.01**	**181**	⇓*i*P	**P**	**01 36 47.6**	**-1.7**
SNAA				*e*	pP	01 36 53.7	-2.4
SNAA				*e*	pP	01 36 55.8	-0.3
SNAA				*e*		01 37 09.9	
NVL	**N'lazarevskaya**	**86.01**	**186**	⇓*i*P	**P**	**01 36 47.0**	**-2.3**
NVL				*i*	*SP	01 36 54.6	-3.7
NVL				*i*		01 42 01.4	
NVL				*e*S	S	01 47 06.7	-14
NVL				*e*SS	SS	01 52 58.3	-3.9
NVL				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb4.1						
NVL				MLR	MLR		
	comp=Z,20nm,16.4s,MS3.6						
MAIT	**Maitri**	**86.01**	**186**	*e*P	**P**	**01 36 48.3**	**-1.0**
VNA3	**Neumayer Olymp**	**86.47**	**179**	*e*	**P**	**01 36 55.6**	**+4.0**
VNA3	**Neumayer Olymp**	**86.47**	**179**	*e*	pP	01 36 58.0	-0.4
VNA3	**Neumayer Olymp**	**86.47**	**179**	⇓*i*P	**P**	**01 36 49.9**	**-1.7**
VNA3				*e*	pP	01 36 55.6	-2.8
VNA3				*e*	pP	01 36 58.0	-0.4
VNA3				*e*		01 37 12.3	
VNA3				*e*		01 42 26.7	
SEY	**Seymchan**	**86.70**	**351**	*e*P	**P**	**01 36 53.9**	**+1.1**
SEY				*e*		01 37 06.2	
SEY				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.3						
VNA2	**Neumayer--Watz**	**86.81**	**180**	*e*	**P**	**01 36 57.6**	**+4.4**
VNA2	**Neumayer--Watz**	**86.81**	**180**	*e*	pP	01 36 59.6	-0.4
VNA2	**Neumayer--Watz**	**86.81**	**180**	⇓*i*P	**P**	**01 36 51.8**	**-1.4**
VNA2				*e*	pP	01 36 57.6	-2.4
VNA2				*e*	pP	01 36 59.6	-0.4
VNA2				*e*		01 37 14.0	
VNA2				*e*		01 42 29.3	
WDC	**Whiskeytown Da**	**86.82**	**44**	*e*P	**P**	**01 36 55.2**	**+1.2**
	comp=Z,5.5nm,1.0s,mb4.7						
CMB	**Columbia Colle**	**86.87**	**47**	*e*P	**P**	**01 36 53.6**	**-0.7**
	comp=Z,11nm,1.1s,mb5.0						
CMB				LR	LR		
	comp=Z,578nm,22.0s,MS4.9						
VNA1	**Neumayer--Stat**	**87.08**	**180**	*e*	**P**	**01 36 59.0**	**+4.5**
VNA1	**Neumayer--Stat**	**87.08**	**180**	*e*	pP	01 37 01.0	-0.4
VNA1	**Neumayer--Stat**	**87.08**	**180**	⇓*i*P	**P**	**01 36 53.4**	**-1.1**
VNA1				*e*	pP	01 36 59.0	-2.4
VNA1				*e*	pP	01 37 01.0	-0.4
VNA1				*e*		01 37 16.7	
VNA1				*e*		01 42 30.4	
YBH	**Yreka Blue Hor**	**87.35**	**43**	P	**P**	**01 36 52.9**	**-3.6**
	comp=Z,0.6nm,0.4s,mb4.1,baz=191,slow=5.2,SNR=2.5						
YBH	**Yreka Blue Hor**	**87.35**	**43**	*e*P	**P**	**01 36 57.9**	**+1.4**
	comp=Z,7.1nm,1.1s,mb4.8						
YBH				LR	LR		
	comp=Z,384nm,22.0s,MS4.8						
LZH	**Lanzhou**	**87.44**	**311**	*e*P	**P**	**01 36 58.0**	**+0.9**
LZH				AP	pP	01 37 04.3	+0.4
LZH				XP	sP	01 37 07.3	+1.2
LZH				PP	PP	01 40 26.0	+1.7
LZH				*e*SKS	SKS	01 47 23.0	-5.1
LZH				*e*S	S	01 47 35.0	+0.2
LZH				XS		01 47 46.8	
LZH				SS	SS	01 53 26.0	+2.6
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,90nm,4.0s						
LZH				LR	LR		
	comp=N,712nm,14.6s						
LZH				LR	LR		
	comp=Z,968nm,16.0s,MS5.3						
LZH	**Lanzhou**	**87.44**	**311**	*e*P	**P**	**01 36 57.9**	**+0.8**
LZH				*SP	sP	01 37 07.3	+1.2
LZH						01 40 26.0	
LZH				*e*		01 47 23.0	
LZH				*e*S	S	01 47 35.1	+0.3
LZH				SS	SS	01 53 26.0	+2.6
LZH				pmax	pmax		
	comp=Z,19nm,1.5s,mb5.1						
LZH				MLR	MLR		
	comp=Z,970nm,16.0s,MS5.3						
LZH	**Lanzhou**	**87.44**	**311**	*e*P	**P**	**01 36 57.9**	**+0.8**
	comp=Z,19nm,1.5s,mb5.1						
LZH				pP	pP	01 37 04.3	+0.4
LZH				sP	sP	01 37 07.3	+1.2
LZH				PP	PP	01 40 26.0	+1.7
LZH				*e*SKS	SKS	01 47 23.0	-5.1
LZH				*e*S	S	01 47 35.1	+0.3
LZH				sS		01 47 46.8	
LZH				SS	SS	01 53 26.0	+2.6
LZH				LR	LR		
	comp=Z,970nm,16.0s,MS5.3						
HUMO	**Hull Mountain**	**87.68**	**42**	*e*P	**P**	**01 37 00.1**	**+2.1**
	comp=Z,14nm,1.1s,mb5.1						
MOD	**Modoc**	**88.95**	**43**	*e*P	**P**	**01 37 05.3**	**+1.1**
	comp=Z,8.9nm,1.0s,mb5.0						
DIV	**Divide**	**89.78**	**19**	*e*P	**P**	**01 37 07.1**	**-0.5**
	comp=Z,35nm,1.1s,mb5.6						
OCWA	**Octopus Mounta**	**89.84**	**37**	*e*P	**P**	**01 37 10.0**	**+1.8**
	comp=Z,23nm,1.1s,mb5.4						
BMN	**Battle Mountai**	**90.20**	**46**	*e*P	**P**	**01 37 11.8**	**+1.7**
	comp=Z,33nm,1.3s,mb5.5						
WVOR	**Wild Horse Val**	**90.29**	**44**	P	**P**	**01 37 10.8**	**+0.4**
WVOR				pmax	pmax		
	comp=Z,14nm,1.2s,mb5.2						
WVOR	**Wild Horse Val**	**90.29**	**44**	P	**P**	**01 37 10.8**	**+0.3**
	comp=Z,14nm,1.2s,mb5.2						
BILL	**Bilibino**	**90.42**	**358**	*i* P	**P**	**01 37 11.5**	**+1.1**
BILL				pmax	pmax		
	comp=Z,30nm,1.7s,mb5.3						
CIT	**Chita**	**90.45**	**328**	*e*P	**P**	**01 37 11.0**	**+0.1**
TUC	**Tucson**	**91.02**	**55**	*e*P	**P**	**01 37 14.4**	**+0.4**
	comp=Z,9.3nm,1.4s,mb4.9						
TUC				LR	LR		
	comp=Z,446nm,21.0s,MS4.9						
ELK	**Elko**	**91.67**	**46**	*e*P	**P**	**01 37 16.1**	**-0.7**
ELK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ELK				MLR	MLR		
	comp=Z,459nm,20.0s						
ELK	**Elko**	**91.67**	**46**	P	**P**	**01 37 16.1**	**-0.7**
	comp=Z,1.8nm,0.8s,mb4.4,baz=229,slow=9.3,SNR=6.4						
ELK	**Elko**	**91.67**	**46**	*e*P	**P**	**01 37 16.1**	**-0.8**
	comp=Z,10nm,1.1s,mb5.1						
ELK				LR	LR		
	comp=Z,459nm,20.0s,MS4.9						
GTA	**Gaotai**	**91.84**	**312**	P	**P**	**01 37 18.3**	**+0.7**
GTA				AP	pP	01 37 25.3	+0.8
GTA				XP	sP	01 37 29.0	+2.3
GTA				PP	PP	01 41 01.3	+1.9
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.7						
GTA				AMB	AMB		
	comp=Z,61nm,13.0s						
GTA				LR	LR		
	comp=N,115nm,21.4s,MS4.6						
GTA				LR	LR		
	comp=E,185nm,20.6s,MS4.6						
GTA				LR	LR		
	comp=Z,217nm,24.5s,MS4.5						
SONM	**Songino Array**	**91.88**	**322**	P	**P**	**01 37 17.1**	**-0.5**
	comp=Z,1.4nm,1.0s,mb4.3,baz=135,slow=3.5,SNR=9.6						
SONM				PP	PP	01 40 58.9	-0.6
	comp=Z,1.0nm,1.1s,baz=141,slow=7.9,SNR=3.6						
SONM				LR	LR	02 15 02.3	

WMQ				LR	LR		
	comp=E,314nm,24.1s,MS4.9						
WMQ				LR	LR		
	comp=Z,501nm,24.6s,MS4.9						
ARCES	**ARCESS Array B**	**129.08 346**		PKP	PKPdf	01 43 14.2	-5.9
	comp=Z,2.9nm,0.6s,baz=45,slow=1.7,SNR=14						
FINES	**FINESS Array B**	**134.89 338**		PKP	PKPdf	01 43 27.2	-4.0
	comp=Z,1.3nm,0.9s,baz=45,slow=2.7,SNR=4.2						
NB2	**NORSAR Subarra**	**139.45 346**		PKPdf	PKPdf	01 43 35.6	-3.9
	comp=Z,1.6nm,0.8s,baz=27,slow=1.8						
NOA	**NORSAR Array B**	**139.45 346**		PKP	PKPdf	01 43 34.4	-5.2
	comp=Z,1.0nm,0.7s,baz=38,slow=2.2,SNR=3.8						
BURAR	**Bucovina Array**	**144.00 322**	⇓	PKPbc		01 43 42.1	-0.6
BURAR	**Bucovina Array**	**144.00 322**	⇓	P	PKPbc	01 43 42.1	-0.6
VRI	**Vrincioaia**	**144.00 319**	⇑	P	PKPbc	01 43 41.8	-1.0
MLR	**Muntele Rosu**	**144.66 318**		PKP	PKPdf	01 43 44.5	-4.6
	comp=Z,8.2nm,1.1s,baz=21,slow=2.5,SNR=17						
MLR	**Muntele Rosu**	**144.66 318**	⇓	P	PKPbc	01 43 44.4	-0.3
MLR	**Muntele Rosu**	**144.66 318**	⇓	P	PKPbc	01 43 44.4	-0.3
KOLS	**Kolonicke sedl**	**144.84 326**		ePKP	PKPdf	01 43 44.5	-4.8
STHS	**Stebnicka Huta**	**145.06 327**		ePKP	PKPdf	01 43 45.4	-4.2
OJC	**Ojcow**	**145.23 329**		ePKP	PKPdf	01 43 44.9	-5.0
CRVS	**Cervenica-Dubn**	**145.28 326**		ePKP	PKPdf	01 43 45.0	-5.0
NIE	**Niedzica**	**145.52 328**		ePKP	PKPdf	01 43 46.6	-3.8
DRGR		**145.88 322**	⇑	P	PKPbc	01 43 47.3	-0.5
BSEG	**Bad Segeberg**	**145.97 342**		ePKIKP	PKPdf	01 43 47.2	-3.8
KECS	**Kecovo**	**146.04 326**		ePKP	PKPdf	01 43 48.3	-3.0
KECS				*e*		01 43 55.9	
OKC	**Ostrava-Krasne**	**146.27 330**		ePKP	PKPdf	01 43 48.2	-3.5
OKC				*ep*PKP		01 43 54.9	
OKC				AMS	AMS	02 47 10.0	
	comp=Z,300nm,28.2s						
KSP	**Ksiaz**	**146.35 333**		*e*PKIKP	PKPdf	01 43 48.6	-3.2
MORC	**Moravsky Berou**	**146.59 331**		ePKIKP	PKPdf	01 43 48.5	-3.7
DPC	**Dobruska-Polom**	**146.71 332**		ePKP	PKPdf	01 43 49.5	-2.9
DPC				*ep*PKP		01 43 56.9	
DPC				AMS	AMS	02 45 00.0	
	comp=Z,300nm,25.2s						
PSZ	**Piszkesteto**	**146.71 326**		*e*P	PKPbc	01 43 46.9	-2.8
PSZ	**Piszkesteto**	**146.71 326**		*e*PKP/p		01 43 46.9	
UPC	**Upice**	**146.72 333**		ePKP	PKPdf	01 43 49.8	-2.6
UPC				*ep*PKP		01 43 56.8	
VYHS	**Vyhne**	**146.86 328**		ePKP	PKPdf	01 43 50.8	-1.9
VYHS				*e*		01 43 58.1	
EKA	**Eskdalemuir Ar**	**147.10 356**		PKPbc	PKPdf	01 43 50.0	-2.8
	comp=Z,4.8nm,0.6s,baz=4.2,slow=2.8,SNR=36						
BRG	**Berggiesshubel**	**147.28 335**		*i* PKP2	PKPab	01 43 51.6	-3.7
BRG				MLR	MLR		
	comp=Z,210nm,22.0s,MS4.9						
CLL	**Collm**	**147.29 336**		*i* PKIKP	PKPdf	01 43 51.0	-2.3
	comp=Z,logA/T=1.0						
CLL				*i* PKP2	PKPab	01 43 54.5	-0.9
CLL				*i* *PPKP		01 43 57.6	
CLL				*i*		01 44 02.6	
PVCC	**Panska Ves**	**147.30 334**		ePKP	PKPdf	01 43 51.1	-2.3
PVCC				*ep*PKP		01 44 02.6	
PVCC				AMS	AMS	02 52 00.0	
	comp=Z,200nm,25.7s						
VRAC	**Vranov**	**147.35 331**		PKPbc	PKPdf	01 43 51.8	-1.7
	comp=Z,4.2nm,0.4s,baz=90,slow=4.0,SNR=6.3						
PRU	**Pruhonice**	**147.73 333**		ePKP	PKPdf	01 43 51.8	-2.3
PRU				*ep*PKP		01 43 59.2	
PRU				AMS	AMS	02 57 30.0	
	comp=Z,100nm,16.6s						
CLZ	**Clausthal**	**147.76 340**		*e*PKIKP	PKPdf	01 43 52.4	-1.7
MOX	**Moxa**	**148.34 337**		PKIKP	PKPdf	01 43 53.8	-1.2
MOX				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.6						
NKC	**Novy Kostel**	**148.37 336**		*e*PKIKP	PKPdf	01 43 54.1	-1.0
NKC				*e*		01 43 58.3	
NKC				MLR	MLR		
	comp=Z,200nm,25.8s,MS4.8						
NKC	**Novy Kostel**	**148.37 336**	⇑	*e*PKPB		01 43 54.1	
NKC				*e*PKPAB	PKPab	01 43 58.3	-1.4
NKC				AMS	AMS	02 43 30.0	
	comp=Z,200nm,25.8s						
KHC	**Kasperske Hory**	**148.79 333**		*e*PKIKP	PKPdf	01 43 55.5	-0.3
KHC				*e*		01 44 02.5	
KHC				MLR	MLR		
	comp=Z,200nm,22.5s,MS4.9						
KHC	**Kasperske Hory**	**148.79 333**	⇑	*e*PKPB		01 43 55.5	
KHC				*e*PKPAB	PKPab	01 44 02.5	+1.0
KHC				AMS	AMS	02 46 20.0	
	comp=Z,200nm,22.5s						
GEC2	**GERESS Array S**	**148.96 333**		*e*PKIKP	PKPdf	01 43 55.7	-0.4
GERES	**GERESS Array B**	**148.96 333**		PKPbc	PKPdf	01 43 54.8	-1.3
	comp=Z,3.5nm,1.0s,baz=63,slow=3.0,SNR=16						
WET	**Wettzell**	**149.07 334**		*e*PKIKP	PKPdf	01 43 55.9	-0.4
GRF	**Grafenberg Arr**	**149.27 336**		*e*PKP	PKPdf	01 43 57.0	+0.4
GRF				LR	LR		
	comp=Z,200nm,22.0s,MS4.9						
IDI	**Anoyia**	**149.36 302**		PKPbc	PKPdf	01 43 56.9	-0.3
	comp=Z,6.4nm,0.9s,baz=50,slow=7.9,SNR=4.3						
TNS	**Taunus Mts**	**149.77 340**		*e*PKHKP		01 43 57.8	
LJU	**Ljubljana**	**150.68 320**		*e*PKPdf	PKPdf	01 43 59.2	+0.3
VISS	**Visnje**	**150.69 328**		*e*PKPdf	PKPdf	01 43 59.5	+0.6
VISS				*e*PKPbc	PKPdf	01 44 06.6	+7.7
BOJS	**Bojanci**	**150.70 327**		*e*PKPdf	PKPdf	01 43 58.5	-0.4
BOJS				*e*PKPbc	PKPdf	01 44 06.7	+7.8
STU	**Stuttgart**	**150.77 338**		*e*PKPbc	PKPdf	01 44 00.3	+1.3
GIVF	**Givet**	**150.92 344**		*e*PKIKP	PKPdf	01 43 59.9	+0.8
	comp=Z,24nm,0.8s						
WLF	**Walferdange**	**150.96 342**		*e*PKPbc	PKPdf	01 44 01.0	+1.8
BAIF	**Baives**	**151.11 345**		*e*PKIKP	PKPdf	01 44 00.8	+1.4
BFO	**Black Forest**	**151.45 338**		*e*PKIKP	PKPdf	01 44 01.0	+1.1
CDF	**Champ du Feu**	**151.73 340**		*e*PKIKP	PKPdf	01 44 01.7	+1.3
	comp=Z,16nm,1.1s						
DAVOX	**Davos**	**152.17 334**		PKPbc	PKPdf	01 44 03.6	+2.5
	comp=Z,2.1nm,0.5s,slow=3.0,SNR=8.0						
MEZF	**Maizieres J'vi**	**152.32 342**		*e*PKIKP	PKPdf	01 44 02.6	+1.4
	comp=Z,44nm,1.3s						
HAU	**Haudompre**	**152.38 340**		*e*PKIKP	PKPdf	01 44 03.0	+1.7
HAU				*e*R			
	comp=Z,223nm,21.8s						
HINF	**Hinteralfeld**	**152.39 339**		*e*PKIKP	PKPdf	01 44 02.8	+1.5
LOR	**Lormes**	**153.77 343**		*e*PKIKP	PKPdf	01 44 04.6	+1.3
LOR				*e*R			
	comp=Z,252nm,22.5s						
SSF	**Saint Saulge**	**154.06 343**		*e*PKIKP	PKPdf	01 44 04.9	+1.2
VIVF	**Saint-Julien-l**	**155.71 339**		*e*PKIKP	PKPdf	01 44 07.2	+1.3
EPF	**Esparros**	**158.63 345**		*e*PKIKP	PKPdf	01 44 10.6	+0.8
	comp=Z,5.0nm,0.8s						
LIC	**Lamto**	**163.67 187**		*e*PKIKP	PKPdf	01 44 15.3	-0.6
	comp=Z,20nm,1.0s						
DBIC	**Dimbokro**	**164.09 188**		PKPab	PKPab	01 45 05.8	-2.0
	comp=Z,2.5nm,0.5s,baz=256,slow=6.5,SNR=6.5						

*IDC **31** 01:25:13.8±3.9, 0.11S×121.96E, h244km±37km, mb4.1/10, mb1 4.2/11, mb1mx3.9/20, mbtmp4.7/11, Error ellipse: s-maj=24.3km s-min=10.6km az=77.0*

*NEIC **31** 01:25:16.8±1.2, 0.18S×121.96E, h277km±13km, mb4.6/7, Error ellipse: s-maj=14.2km s-min=7.9km az=65.0*

ISC 31 01:25:16.1±1.6, 0.15S±0.07×122.0E±0.1, h287km±19km, n30, σ0s74/25, mb4.4/13, 3C-2D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**8.44**	**317**	⇑*e*P	**P**	**01 27 15.9**	**+0.3**
KSM	**Kuching**	**11.80**	**278**	*e*P	**P**	**01 27 57.9**	**+0.3**
KAKA	**Kakadu**	**16.22**	**141**	⇑*i*P	**P**	**01 28 53.6**	**+3.7**
	14nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.20**	**169**	*e*P	**P**	**01 29 09.3**	**-1.2**
	9.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**18.20**	**169**	P	**P**	**01 29 09.4**	**-1.0**
	2.7nm,0.3s,baz=1.9,slow=7.3,SNR=26						
MBWA	**Marble Bar**	**21.00**	**186**	*e*P	**P**	**01 29 37.9**	**-0.3**
	7.7nm,0.7s,mb4.1						
WRAB	**Tennant Creek**	**23.09**	**149**	*e*P	**P**	**01 29 58.4**	**0.0**
	27nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**23.09**	**149**	P	**P**	**01 29 58.2**	**-0.2**
	23nm,0.6s,mb4.7,baz=327,slow=10,SNR=54						
WB2	**Warramunga Arr**	**23.09**	**149**	⇑*i*P	**P**	**01 29 58.4**	**0.0**
PMG	**Port Moresby**	**26.68**	**111**	P	**P**	**01 30 31.6**	**+0.4**
	12nm,0.9s,mb4.3,baz=253,slow=11,SNR=2.5						
CTA	**Charters Tower**	**30.33**	**131**	PcP	PcP	01 33 59.0	+1.3
	3.0nm,0.6s,baz=300,slow=8.1,SNR=3.9						
KLBR	**Kellerberrin**	**31.53**	**187**	⇓*i*P	**P**	**01 31 12.8**	**-1.1**
	41nm,1.6s,mb4.7						
NWAO	**Narrogin (SRO)**	**32.91**	**187**	*e*P	**P**	**01 31 25.4**	**-0.4**
	2.0nm,0.6s,mb3.8						
CBIJ	**Chichi jima**	**33.32**	**34**	P	**P**	**01 31 28.1**	**-1.3**
	33nm,0.5s,mb5.2,baz=273,slow=10.0,SNR=12						
STKA	**Stephens Creek**	**36.60**	**151**	⇓*i*P	**P**	**01 31 57.5**	**+0.6**
	13nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**36.60**	**151**	P	**P**	**01 31 57.5**	**+0.7**
	16nm,0.6s,mb4.6,baz=313,slow=7.6,SNR=11						
STKA				PcP	PcP	01 34 13.4	-0.4
	1.1nm,0.4s,baz=323,slow=5.1,SNR=3.0						
MJAR	**Matsushiro Arr**	**39.48**	**21**	P	**P**	**01 32 19.8**	**-0.8**
	0.9nm,0.4s,mb3.5,baz=188,slow=8.4,SNR=5.1						
SONM	**Songino Array**	**49.68**	**346**	P	**P**	**01 33 41.8**	**+0.8**
	0.7nm,0.5s,baz=169,slow=7.9,SNR=9.4						
MKAR	**Makanchi Array**	**58.22**	**329**	P	**P**	**01 34 42.5**	**0.0**
	0.5nm,0.6s,baz=117,slow=8.1,SNR=4.9						
RPZ	**Rata Peaks**	**61.51**	**141**	P	**P**	**01 35 06.0**	**+1.2**
	30nm,0.7s,mb5.0,baz=296,slow=0.6,SNR=15						
URZ	**Urewera**	**63.14**	**134**	P	**P**	**01 35 15.8**	**+0.3**
	3.8nm,0.4s,mb4.4,baz=276,slow=5.5,SNR=8.8						
CASY	**Casey**	**66.50**	**185**	*e*P	**P**	**01 35 36.6**	**+0.1**
VNDA	**Vanda**	**80.24**	**172**	P	**P**	**01 36 56.9**	**+1.2**
	4.9nm,0.6s,mb4.4,baz=320,slow=6.9,SNR=7.4						
VNDA	**Vanda**	**80.24**	**172**	P	**P**	**01 36 56.9**	**+1.2**
MATP	**Matopo**	**93.23**	**250**	P	**P**	**01 37 59.4**	**-0.5**
	0.7nm,0.4s,mb3.9,baz=136,slow=3.9,SNR=5.8						
MATP	**Matopo**	**93.23**	**250**	P	**P**	**01 37 59.4**	**-0.5**
CFAA	**Coronel Fontan**	**146.97**	**164**	PKPbc	PKPbc	01 44 27.2	+2.4
	0.9nm,0.5s,baz=158,slow=2.1,SNR=2.2						
CPUP	**Villa Florida**	**153.67**	**181**	PKPab	PKPab	01 44 57.9	+0.2
	2.6nm,0.9s,baz=202,slow=1.8,SNR=5.1						
CPUP	**Villa Florida**	**153.67**	**181**	*e*PKPbc	PKPdf	01 44 43.7	+11
CPUP				PKPab	PKPab	01 44 57.9	+0.2
LPAZ	**La Paz**	**160.85**	**149**	PKPab	PKPab	01 45 30.9	+2.2
	0.9nm,0.6s,baz=175,slow=6.4,SNR=7.7						

IGQ 31 01:30:15.0, 1.87S×79.94W, h12km±5km, mb4.3, 11C-7D, Error ellipse: s-maj=6.2km s-min=3.2km az=101.4, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.35**	**74**	⇑P	Pn	01 30 40.9	+1.1
QIL1	**Quilotoa**	**1.43**	**45**	⇑P	Pn	01 30 41.8	+0.9
CUSU	**Cusua**	**1.52**	**74**	⇑P	Pn	01 30 43.4	+1.2
CUSU				S	Sb	01 31 04.5	+2.7
ARRY	**Arrayan**	**1.52**	**76**	⇑P	Pn	01 30 42.8	+0.5
JUIV	**Juive**	**1.54**	**73**	⇑P	Pn	01 30 43.5	+1.0
RUN5	**Runtun**	**1.58**	**73**	⇑P	Pn	01 30 44.3	+1.2
ULBA	**Ulba**	**1.58**	**75**	⇑P	Pn	01 30 44.3	+1.1
PISA	**Pisayambo**	**1.75**	**63**	P	Pn	01 30 47.6	+2.2
CAMI	**Rancho Maria**	**1.86**	**50**	⇑P	Pn	01 30 50.0	+3.0
NAS1	**Nasa**	**1.91**	**50**	⇓P	Pn	01 30 51.2	+3.4
TAMB	**Tambo**	**1.96**	**53**	⇑P	Pn	01 30 51.3	+2.9
VC1	**Cotopaxi 1**	**1.96**	**52**	⇑P	Pn	01 30 51.6	+3.1
JUA2	**San Juan 2**	**2.12**	**39**	⇓P	Pn	01 30 53.3	+2.5
TERV	**Terraza Guagua**	**2.15**	**38**	⇓P	Pn	01 30 53.6	+2.4
GGP	**Refugio Guagua**	**2.15**	**39**	⇓P	Pn	01 30 53.5	+2.2
PINO	**Pino**	**2.16**	**38**	⇓P	Pn	01 30 53.6	+2.3
YANA	**Yana**	**2.21**	**38**	⇓P	Pn	01 30 54.3	+2.2
YANA				S	Sn	01 31 22.5	+3.0
JOR1	**San Jorge 1**	**2.27**	**35**	P	Pn	01 30 51.8	-1.1
ANTI	**Antisana**	**2.27**	**52**	⇓P	Pn	01 30 56.1	+3.2
CAYA	**Cayambe**	**2.74**	**45**	P	Pn	01 31 04.4	+4.8
ECOPE	**Copete-Rev Vol**	**2.90**	**53**	P	Pn	01 31 04.9	+2.9
ECEN	**Cerro Negro**	**3.32**	**36**	⇑P	Pn	01 31 10.1	+2.2
LORE	**San Lorenzo**	**3.33**	**19**	P	Pn	01 31 08.4	+0.4

*NIED **31** 01:35:00, 31.30N×142.00E, h5km, Mw4.6 Best double couple: M₀8.67×10¹⁵ NP1:φs331°, δ74°, λ85°. NP2:φs169°, δ17°, λ107°.*

*JMA **31** 01:35:13.8±0.3, 31.26N×142.02E, h19km, M4.3*

*IDC **31** 01:35:13.4±0.7, 31.28N×141.92E, mb4.2/14, mb1 4.4/16, mb1mx4.3/23, mbtmp4.2/16, ML3.6/3, MS3.8/3, Ms1 3.8/3, ms1mx3.3/27, Error ellipse: s-maj=23.5km s-min=15.2km az=68.0*

*BJI **31** 01:35:14.7, 31.37N×142.10E, h31km, mB4.7, mb4.4, Ms4.2, Msz4.3*

*MOS **31** 01:35:16.4±1.2, 31.32N×141.89E, h33km, mb4.6/8, Error ellipse: s-maj=21.3km s-min=8.0km az=117.9*

*NEIC **31** 01:35:17.4±3.3, 31.28N×141.94E, h27km±29km, mb4.3/5, Error ellipse: s-maj=16.5km s-min=11.4km az=91.0*

ISC 31 01:35:14.3±1.5, 31.24N±0.03×141.91E±0.08, h20km±10km, n74, σ1s14/81, mb4.3/27, MS4.4/2, 1C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.57**	**317**	P	**Pn**	**01 35 56.0**	**+0.2**
JHJ2				*e*S	**Sn**	**01 36 27.8**	**+1.0**
JHJ	**Hachijo jima 2**	**2.60**	**317**	Pn	**Pn**	**01 35 57.0**	**+0.9**
	20nm,0.3s,baz=125,slow=8.5,SNR=9.9						
JHJ				Sn	**Sn**	**01 36 28.0**	**+0.6**
	59nm,0.3s,baz=83,slow=22,SNR=7.2						
BSO1	**Boso 1**	**3.49**	**347**	P	**Pn**	**01 36 08.3**	**-0.5**
BSO3	**Boso 3**	**3.74**	**342**	P	**Pn**	**01 36 13.3**	**+1.0**
CBIJ	**Chichi jima**	**4.14**	**177**	Pn	**Pn**	**01 36 18.0**	**0.0**
	8.2nm,0.3s,baz=315,slow=13,SNR=13						
CBIJ				Sn	**Sn**	**01 37 05.0**	**-1.5**
	17nm,0.3s,baz=286,slow=23,SNR=6.3						
JHHJ	**Haha-jima-NKT**	**4.60**	**177**	P	**Pn**	**01 36 24.5**	**-0.1**
JHHJ				*e*S	**Sn**	**01 37 17.7**	**-0.5**
JHU	**Hanno**	**5.09**	**335**	P	**Pn**	**01 36 31.5**	**0.0**
JRY	**Ryogami san**	**5.38**	**333**	P	**Pn**	**01 36 36.6**	**+1.0**
JHO	**Hitachi**	**5.47**	**349**	P	**Pn**	**01 36 35.5**	**-1.3**
JHO				*e*S	**Sn**	**01 37 35.0**	**-5.0**
JAG	**Ashikaga**	**5.56**	**339**	P	**Pn**	**01 36 37.8**	**-0.3**
JAG				*e*S	**Sn**	**01 37 39.7**	**-2.5**
JNT	**Takato**	**5.59**	**327**	P	**Pn**	**01 36 41.4**	**+2.9**
JNG	**Nsakai**	**6.05**	**329**	P	**Pn**	**01 36 46.0**	**+1.0**
MJAR	**Matsushiro Arr**	**6.11**	**331**	Pn	**Pn**	**01 36 43.4**	**-2.5**
	1.9nm,0.3s,baz=162,slow=12,SNR=25						
MJAR				Sn	**Sn**	**01 37 54.1**	**-2.0**
	1.2nm,0.3s,baz=156,slow=12,SNR=2.3						
MJAR	**Matsushiro Arr**	**6.11**	**331**	Pn	**Pn**	**01 36 43.4**	**-2.5**
MJAR				Sn	**Sn**	**01 37 54.1**	**-2.0**
MAJO	**Matsushiro**	**6.12**	**331**	*e*P	**Pn**	**01 36 54.7**	**+8.7**
MAJO				pmax	pmax		
	comp=Z,29nm,0.6s						
MAJO	**Matsushiro**	**6.12**	**331**	*e*P	**Pn**	**01 36 54.7**	**+8.7**
	comp=Z,29nm,0.6s						
MAT	**Matsushiro**	**6.12**	**331**	*e*P	**Pn**	**01 36 47.0**	**+1.0**
MAT				*e*S	**Sn**	**01 37 55.0**	**-1.2**
MAT	**Matsushiro**	**6.12**	**331**	P	**Pn**	**01 36 46.4**	**+0.4**
MAT				S	**Sn**	**01 37 54.8**	**-1.4**
MAT	**Matsushiro**	**6.12**	**331**	P	**Pn**	**01 36 46.9**	**+0.9**
MAT				*e*S	**Sn**	**01 37 54.9**	**-1.3**
JGN	**Niukaw**	**6.27**	**324**	P	**Pn**	**01 36 50.0**	**+1.9**
JMM	**Marumori**	**6.67**	**352**	P	**Pn**	**01 36 51.1**	**-2.7**
JNU	**Nakatsue**	**9.53**	**284**	Pn	**P**	**01 37 36.0**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=87,slow=21,SNR=3.7						
JNU				LR	LR	01 41 05.8	
	comp=Z,280nm,19.7s,baz=292,slow=37						
JOW	**Kunigami**	**12.71**	**253**	LR	LR	01 42 56.3	
	comp=Z,205nm,18.0s,baz=180,slow=36						
YSS	**Yuzh-Sakhalins**	**15.70**	**2**	P	**P**	**01 38 53.4**	**-2.6**
MDJ	**Mudanjiang**	**16.48**	**328**	*e*P	**P**	**01 39 05.9**	**-0.1**
	comp=Z,7.0nm,0.8s						
SNY	**Shenyang**	**18.09**	**311**	⇓P	**P**	**01 39 26.0**	**-0.2**
SNY				AMB	AMB		
	comp=Z,20nm,1.0s						
SNY				LR	LR		
	comp=E,330nm,13.5s						
SNY				LR	LR		
	comp=Z,410nm,13.8s						
YHNB	**Yeheng**	**19.27**	**255**	*e*P	**P**	**01 39 36.3**	**-4.2**
KLR	**Kul'dur**	**19.54**	**340**	*e*P	**P**	**01 39 39.0**	**-4.4**
HIA	**Hailar**	**24.55**	**324**	*e*P	**P**	**01 40 33.3**	**-0.5**
HIA				pmax	pmax		
	comp=Z,19nm,1.0s						
HIA	**Hailar**	**24.55**	**324**	*e*P	**P**	**01 40 33.3**	**-0.5**
	comp=Z,20nm,1.0s,mb4.6						
BTO	**Baotou**	**27.34**	**299**	*e*P	**P**	**01 40 59.3**	**-0.5**
BTO				AMB	AMB		
	comp=Z,12nm,0.4s,mb4.8						
SONM	**Songino Array**	**31.66**	**312**	P	**P**	**01 41 39.0**	**+0.6**
	comp=Z,6.5nm,0.9s,mb4.4,baz=110,slow=8.1,SNR=28						
BOD	**Bodaibo**	**32.75**	**332**	*e*	**P**	**01 41 45.1**	**-2.6**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
ZAK	**Zakamensk**	**34.42**	**315**	*e*P	**P**	**01 42 03.6**	**+1.2**
ZAK				*e*		01 44 34.2	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.6						
GTA	**Gaotai**	**35.04**	**295**	P	**P**	**01 42 06.8**	**-1.0**
GTA				AP	pP	01 42 12.8	-0.9
GTA				XP	sP	01 42 16.3	+0.1
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,66nm,9.5s						
GTA				LR	LR		
	comp=N,162nm,14.4s,MS4.3						
GTA				LR	LR		
	comp=E,372nm,16.3s,MS4.3						
GTA				LR	LR		
	comp=Z,352nm,12.9s,MS4.3						
NVS	**Novosibirsk**	**47.27**	**318**	*e*P	**P**	**01 43 47.2**	**-0.7**
NVS				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
NVS				pmax	pmax		
	comp=N,2.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,13nm,1.2s						
MKAR	**Makanchi Array**	**47.73**	**307**	P	**P**	**01 43 51.8**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MKAR	**Makanchi Array**	**47.73**	**307**	P	**P**	**01 43 51.6**	**0.0**
	comp=Z,2.9nm,0.8s,mb4.4,baz=90,slow=9.2,SNR=19						
KURK	**Kurchatov**	**49.97**	**312**	P	**P**	**01 44 08.5**	**-0.4**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
KURK	**Kurchatov**	**49.97**	**312**	*e*P	**P**	**01 44 07.7**	**-1.1**
	comp=Z,13nm,1.0s,mb4.9						
WRAB	**Tennant Creek**	**51.40**	**189**	*e*P	**P**	**01 44 19.1**	**-1.0**
WB2	**Warramunga Arr**	**51.41**	**189**	*e*P	**P**	**01 44 19.6**	**-0.6**
WRA	**Warramunga Arr**	**51.41**	**189**	P	**P**	**01 44 19.7**	**-0.5**
	comp=Z,2.3nm,0.5s,mb4.3,baz=6.6,slow=7.6,SNR=14						
FITZ	**Fitzroy Crossi**	**51.49**	**200**	P	**P**	**01 44 21.0**	**+0.2**
	comp=Z,7.5nm,1.0s,mb4.6,baz=356,slow=9.9,SNR=2.6						
FRU	**Bishkek**	**53.64**	**303**	*e*P	**P**	**01 44 36.5**	**-0.1**
AAK	**Ala-Archa**	**53.77**	**302**	*e* *i*P	**P**	**01 44 36.7**	**-0.8**
ILAR	**Eielson Array**	**54.23**	**30**	P	**P**	**01 44 39.5**	**-1.0**
	comp=Z,1.8nm,1.0s,mb4.0,baz=273,slow=6.2,SNR=9.9						
VOSK	**Vostochnaya**	**54.56**	**315**	P	**P**	**01 44 42.2**	**-0.9**
VOSK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
BVA0	**Borovoye Array**	**54.88**	**316**	*i* P	**P**	**01 44 45.5**	**0.0**
BVAR	**Borovoye Array**	**54.88**	**316**	P	**P**	**01 44 45.1**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.2,baz=90,slow=8.9,SNR=8.7						
BRVK	**Borovoye**	**54.94**	**316**	*e*P	**P**	**01 44 45.5**	**-0.5**
KKAR	**Karatay Array**	**56.53**	**304**	*i* P	**P**	**01 44 57.6**	**0.0**
KKAR				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1						
ARU	**Arti**	**61.03**	**321**	*e*P	**P**	**01 45 28.2**	**-0.5**
ARCES	**ARCESS Array B**	**69.56**	**340**	P	**P**	**01 46 23.7**	**+0.3**
	comp=Z,4.5nm,0.9s,mb4.4,baz=48,slow=11,SNR=3.6						
FINES	**FINESS Array B**	**74.14**	**333**	P	**P**	**01 46 51.2**	**+0.6**
	comp=Z,0.9nm,0.7s,mb3.8,baz=117,slow=4.3,SNR=5.2						
FINES	**FINESS Array B**	**74.14**	**333**	P	**P**	**01 46 51.2**	**+0.6**
KIV	**Kislovodsk**	**75.06**	**312**	*i* P	**P**	**01 46 57.7**	**+1.4**
KIV				pmax	pmax		
	comp=N,5.0nm,1.0s						
KIV				pmax	pmax		
	comp=E,3.0nm,1.0s						
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
BOZ	**Bozeman (W)**	**78.61**	**43**	*e*P	**P

RCDM	**Rinconada Maip**	**2.12 209**	⇑	*i*P	P		01 42 02.5	-0.2
RCDM				*i* S	S		01 42 30.8	-0.1
RCDM				AMP			01 42 31.8	
	comp=E,282nm,0.1s							
ANTU	**Antumapu**	**2.12 204**		AMP			01 42 32.5	
	comp=E,166nm,0.4s							
PCH	**Pirque**	**2.13 201**	⇑	*i*P	P		01 42 03.1	+0.3
PCH				*i* S	S		01 42 31.4	+0.2
LSCH	**La Serena**	**2.24 320**	⇓	*i*P	P		01 43 07.7	+64
LSCH				*i* S	S		01 43 36.5	+63
LSCH				AMP			01 43 40.5	
	comp=N,168nm,0.9s							
TACH	**Talagante**	**2.31 209**	⇑	*i*P	P		01 42 04.7	-0.4
TACH				*i* S	S		01 42 34.8	-0.4
CHCH	**Chadas Angostu**	**2.46 201**	⇓	*i*P	P		01 42 07.0	0.0
CHCH				*i* S	S		01 42 38.3	-0.2
LCCH	**Las Cruces**	**2.48 222**	⇑	*i*P	P		01 42 07.4	+0.1
CICH	**Cipreses**	**2.77 194**	⇓	*i*P	P		01 42 11.2	+0.3
CICH				*i* S	S		01 42 45.3	+0.1

*IDC **31** 01:52:34.8±1.5,33.20N×142.60E,mb3.4/4,mb1 3.6/7, mb1mx3.5/21,mbtmp3.5/7,ML3.3/3,Error ellipse: s-maj=31.8km s-min=26.5km az=3.0*
*JMA **31** 01:52:38.6±0.3,33.38N×142.25E,h12km,M3.5*
ISC 31 01:52:37.5±2.4,33.32N±0.07×142.45E±0.08,h27km±20km, n15,σ0§98/19,mb3.4/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSO1	**Boso 1**	**1.81**	**318**	P		**Pn**	**01 53 07.6**	**+0.1**
BSO2	**Boso 2**	**2.01**	**316**	*e*S		**Sn**	**01 53 33.6**	**-1.2**
BSO3	**Boso 3**	**2.19**	**313**	P		**Pn**	**01 53 13.4**	**+0.5**
JHJ2	**Mitsune**	**2.22**	**265**	P		**Pn**	**01 53 13.9**	**+0.6**
JHJ	**Hachijo jima 2**	**2.25**	**266**	Pn		**Pn**	**01 53 14.1**	**+0.4**
	11nm,0.3s,baz=54,slow=23,SNR=19							
JHJ				Sn		**Sn**	**01 53 40.9**	**0.0**
	46nm,0.3s,baz=61,slow=23,SNR=11							
BSO4	**Boso 4**	**2.42**	**314**	P		**Pn**	**01 53 17.1**	**+0.9**
JAG	**Ashikaga**	**3.96**	**322**	P		**Pn**	**01 53 37.6**	**-0.5**
JRY	**Ryogami san**	**3.98**	**314**	P		**Pn**	**01 53 38.6**	**+0.3**
MJAR	**Matsushiro Arr**	**4.75**	**314**	Pn		**Pn**	**01 53 48.5**	**-0.6**
	1.4nm,0.3s,baz=130,slow=9.5,SNR=14							
MJAR				Sn		**Sn**	**01 54 43.5**	**-0.5**
	1.0nm,0.3s,baz=270,slow=30,SNR=7.8							
MAT	**Matsushiro**	**4.75**	**314**	P		**Pn**	**01 53 49.5**	**+0.3**
MAT				S		**Sn**	**01 54 43.6**	**-0.5**
CBIJ	**Chichi jima**	**6.20**	**182**	Pn		**Pn**	**01 54 06.0**	**-3.8**
	2.7nm,0.3s,baz=264,slow=21,SNR=14							
CBIJ				Sn		**Sn**	**01 55 12.2**	**-8.3**
	6.1nm,0.3s,baz=270,slow=21,SNR=5.7							
SONM	**Songino Array**	**30.68**	**309**	P		**P**	**01 58 54.1**	**+2.1**
	0.4nm,0.7s,mb3.4,baz=135,slow=10,SNR=2.5							
MKAR	**Makanchi Array**	**46.89**	**305**	P		**P**	**02 01 07.3**	**+0.2**
	0.2nm,0.5s,mb3.3,baz=82,slow=10,SNR=3.1							
ILAR	**Eielson Array**	**52.21**	**31**	P		**P**	**02 01 47.0**	**-0.8**
	0.3nm,0.7s,mb3.3,baz=263,slow=6.4,SNR=4.5							
TXAR	**Lajitas Array**	**91.69**	**53**	P		**P**	**02 05 44.6**	**+0.7**
	0.2nm,0.6s,mb3.6,baz=287,slow=3.1,SNR=4.4							

*IDC **31** 02:08:58.3±0.5,38.32S×176.29E,h192km±6km,mb3.5/6, mb1 3.7/7,mb1mx3.6/13,mbtmp4.1/7,Error ellipse: s-maj=26.5km s-min=19.6km az=44.0*
*NEIC **31** 02:08:58.5,38.37S×175.98E,h196km,mb3.8/2,After WEL.*
*WEL **31** 02:08:58.8±0.4,38.39S×175.99E,h193km±3km,ML5.4/22, Error ellipse: s-maj=1.6km s-min=1.0km az=90.0*
WEL Felt in the Wellington region, maximum reported intensity MM 4.
ISC 31 02:08:57.9±0.3,38.50S±0.03×175.87E±0.07,h199km±3km, h187km±2.0km:pP-P,n163,σ1§08/155,mb3.7/8,37C-7D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WHTZ	**Whakaora**	**0.18**	**159**	P		**P**	**02 09 24.7**	**+0.4**
WHTZ	**Whakaora**	**0.18**	**159**	⇑PN		**P**	**02 09 24.7**	**+0.3**
WATZ	**Wairara**	**0.24**	**208**	P		**P**	**02 09 24.8**	**+0.4**
WATZ	**Wairara**	**0.24**	**208**	⇑PN		**P**	**02 09 24.8**	**+0.3**
PATZ	**Paeroa**	**0.32**	**68**	P		**P**	**02 09 24.5**	**-0.2**
PATZ	**Paeroa**	**0.32**	**68**	⇑PN		**P**	**02 09 24.5**	**-0.1**
RATZ	**Rangitukua**	**0.38**	**192**	P		**P**	**02 09 25.1**	**+0.3**
RATZ	**Rangitukua**	**0.38**	**192**	PN		**P**	**02 09 25.1**	**+0.3**
UTU	**Utuhina**	**0.41**	**38**	P		**P**	**02 09 24.6**	**-0.3**
UTU	**Utuhina**	**0.41**	**38**	⇑PN		**P**	**02 09 24.6**	**-0.3**
HATZ	**Hinemaiaia**	**0.43**	**156**	P		**P**	**02 09 25.0**	**0.0**
HATZ	**Hinemaiaia**	**0.43**	**156**	⇑PN		**P**	**02 09 25.0**	**+0.1**
RITZ	**Rihia Road**	**0.48**	**181**	PN		**P**	**02 09 25.7**	**+0.6**
KATZ	**Kakaramea**	**0.49**	**196**	P		**P**	**02 09 25.7**	**+0.5**
KATZ	**Kakaramea**	**0.49**	**196**	⇑PN		**P**	**02 09 25.7**	**+0.5**
TAZ	**Tarawera**	**0.57**	**62**	P		**P**	**02 09 24.7**	**-0.8**
TAZ	**Tarawera**	**0.57**	**62**	PN		**P**	**02 09 24.4**	**-1.0**
KRVZ	**Karewarewa**	**0.62**	**197**	⇑PN		**P**	**02 09 26.2**	**+0.5**
LIRZ	**Lichensteins R**	**0.64**	**39**	P		**P**	**02 09 25.1**	**-0.7**
LIRZ	**Lichensteins R**	**0.64**	**39**	⇑PN		**P**	**02 09 25.0**	**-0.7**
WTVZ	**West Tongariro**	**0.65**	**200**	P		**P**	**02 09 28.7**	**+2.9**
TWVZ	**Taurewa**	**0.67**	**211**	P		**P**	**02 09 26.6**	**+0.7**
TWVZ	**Taurewa**	**0.67**	**211**	⇑PN		**P**	**02 09 26.6**	**+0.7**
OTVZ	**Oturere**	**0.68**	**194**	⇑PN		**P**	**02 09 26.7**	**+0.7**
NGZ	**Ngauruhoe**	**0.71**	**197**	P		**P**	**02 09 26.7**	**+0.6**
NGZ	**Ngauruhoe**	**0.71**	**197**	PN		**P**	**02 09 26.6**	**+0.5**
CNZ	**Chateau**	**0.74**	**200**	P		**P**	**02 09 26.9**	**+0.7**
CNZ	**Chateau**	**0.74**	**200**	PN		**P**	**02 09 26.8**	**+0.6**
WPVZ	**Whakapapa**	**0.75**	**200**	P		**P**	**02 09 26.9**	**+0.6**
WPVZ	**Whakapapa**	**0.75**	**200**	PN		**P**	**02 09 26.9**	**+0.7**
EDRZ	**Edgecumbe**	**0.79**	**60**	P		**P**	**02 09 25.7**	**-0.7**
EDRZ	**Edgecumbe**	**0.79**	**60**	PN		**P**	**02 09 25.6**	**-0.9**
TUVZ	**Tukino**	**0.79**	**193**	PN		**P**	**02 09 27.4**	**+0.9**
FWVZ	**Far West T-bar**	**0.80**	**198**	P		**P**	**02 09 27.3**	**+0.8**
FWVZ	**Far West T-bar**	**0.80**	**198**	PN		**P**	**02 09 27.3**	**+0.8**
HIZ	**Hauiti**	**0.80**	**269**	P		**P**	**02 09 27.0**	**+0.5**
HIZ	**Hauiti**	**0.80**	**269**	⇑PN		**P**	**02 09 27.0**	**+0.4**
DRZ	**Dome Shelter**	**0.81**	**197**	P		**P**	**02 09 27.7**	**+1.1**
DRZ	**Dome Shelter**	**0.81**	**197**	PN		**P**	**02 09 27.4**	**+0.8**
MARZ	**Manawahe**	**0.81**	**51**	P		**P**	**02 09 26.1**	**-0.5**
MARZ	**Manawahe**	**0.81**	**51**	PN		**P**	**02 09 26.1**	**-0.5**
BKZ	**Black Stump Fm**	**0.82**	**144**	P		**P**	**02 09 27.2**	**+0.6**
BKZ	**Black Stump Fm**	**0.82**	**144**	⇑PN		**P**	**02 09 27.2**	**+0.6**
TOZ	**Tahuroa Road**	**0.82**	**339**	P		**P**	**02 09 26.3**	**-0.3**
TOZ	**Tahuroa Road**	**0.82**	**339**	⇓PN		**P**	**02 09 26.3**	**-0.4**
TGRZ	**Tauranga**	**0.83**	**22**	P		**P**	**02 09 25.8**	**-0.9**
TGRZ	**Tauranga**	**0.83**	**22**	PN		**P**	**02 09 25.8**	**-0.8**
TRVZ	**Turoa**	**0.84**	**198**	PN		**P**	**02 09 27.8**	**+1.1**
WNVZ	**Wahianoa**	**0.85**	**195**	P		**P**	**02 09 27.9**	**+1.1**
WNVZ	**Wahianoa**	**0.85**	**195**	⇑PN		**P**	**02 09 27.9**	**+1.1**
PKVZ	**Pokaka**	**0.89**	**207**	⇑PN		**P**	**02 09 28.0**	**+1.0**
MOVZ	**Moawhango**	**0.91**	**186**	P		**P**	**02 09 27.9**	**+0.8**
MOVZ	**Moawhango**	**0.91**	**186**	⇑PN		**P**	**02 09 27.9**	**+0.8**
MOVZ				S		**S**	**02 09 49.4**	**-0.4**
MTVZ	**Mangateitei**	**0.94**	**199**	⇑PN		**P**	**02 09 28.3**	**+1.0**
URZ	**Urewera**	**1.00**	**76**	P		**P**	**02 09 26.8**	**-0.9**
	177nm,0.3s,baz=246,slow=6.4,SNR=1185							
URZ				S		**S**	**02 09 46.1**	**-4.6**
	2μm,0.3s,baz=103,slow=19,SNR=186							
URZ	**Urewera**	**1.00**	**76**	P		**P**	**02 09 26.8**	**-0.9**
URZ	**Urewera**	**1.00**	**76**	⇓PN		**P**	**02 09 26.8**	**-0.9**
VRZ	**Vera Road**	**1.07**	**234**	P		**P**	**02 09 29.3**	**+1.1**
VRZ	**Vera Road**	**1.07**	**234**	⇑PN		**P**	**02 09 29.3**	**+1.0**
MYRZ	**Mayor Island**	**1.25**	**14**	PN		**P**	**02 09 28.4**	**-1.3**
MWZ	**Matawai**	**1.31**	**83**	P		**P**	**02 09 29.6**	**-0.6**
MWZ	**Matawai**	**1.31**	**83**	⇓PN		**P**	**02 09 29.6**	**-0.6**
RAEZ	**Rainy Point**	**1.40**	**235**	P		**P**	**02 09 32.3**	**+1.3**
RAEZ	**Rainy Point**	**1.40**	**235**	PN		**P**	**02 09 32.2**	**+1.3**
WIZ	**White Island**	**1.42**	**47**	P		**P**	**02 09 29.6**	**-1.6**
WIZ	**White Island**	**1.42**	**47**	PN		**P**	**02 09 29.4**	**-1.8**
WAZ	**Wanganui**	**1.43**	**209**	P		**P**	**02 09 32.4**	**+1.1**
WAZ	**Wanganui**	**1.43**	**209**	⇑PN		**P**	**02 09 32.3**	**+1.1**
MKAZ	**Moumakai**	**1.50**	**338**	P		**P**	**02 09 31.3**	**-0.5**
MKAZ	**Moumakai**	**1.50**	**338**	⇑PN		**P**	**02 09 31.3**	**-0.5**
KNZ	**Kokohu**	**1.50**	**111**	P		**P**	**02 09 32.3**	**+0.4**
KNZ	**Kokohu**	**1.50**	**111**	PN		**P**	**02 09 32.3**	**+0.4**
TSZ	**Takapari Road**	**1.56**	**178**	P		**P**	**02 09 33.5**	**+1.1**
TSZ	**Takapari Road**	**1.56**	**178**	⇑PN		**P**	**02 09 33.5**	**+1.1**
NEZ	**North Egmont**	**1.59**	**240**	P		**P**	**02 09 34.3**	**+1.6**
NEZ	**North Egmont**	**1.59**	**240**	PN		**P**	**02 09 34.2**	**+1.6**
PKE	**Pukeiti**	**1.63**	**244**	P		**P**	**02 09 34.3**	**+1.2**
PKE	**Pukeiti**	**1.63**	**244**	⇑PN		**P**	**02 09 34.3**	**+1.3**
PWZ	**Pawanui**	**1.71**	**154**	P		**P**	**02 09 34.9**	**+1.1**
PWZ	**Pawanui**	**1.71**	**154**	⇑PN		**P**	**02 09 34.9**	**+1.1**
OTAZ	**Otara**	**1.72**	**334**	P		**P**	**02 09 31.6**	**-2.3**
OTAZ	**Otara**	**1.72**	**334**	PN		**P**	**02 09 33.3**	**-0.6**
NRZ	**Ngariki Road**	**1.73**	**241**	P		**P**	**02 09 35.2**	**+1.2**
NRZ	**Ngariki Road**	**1.73**	**241**	PN		**P**	**02 09 35.2**	**+1.2**
NWEZ	**Newall Road**	**1.75**	**243**	PN		**P**	**02 09 35.2**	**+1.1**
KUZ	**Kuaotunu**	**1.75**	**356**	P		**P**	**02 09 33.1**	**-1.2**
KUZ	**Kuaotunu**	**1.75**	**356**	⇓PN		**P**	**02 09 33.1**	**-1.1**
WTAZ	**Waiatarua**	**1.87**	**326**	P		**P**	**02 09 35.3**	**-0.1**
WTAZ	**Waiatarua**	**1.87**	**326**	PN		**P**	**02 09 35.3**	**-0.1**
MTAZ	**Motutapu**	**1.87**	**336**	P		**P**	**02 09 34.8**	**-0.6**
MTAZ	**Motutapu**	**1.87**	**336**	⇑PN		**P**	**02 09 34.8**	**-0.6**
PUZ	**Puketiti**	**1.92**	**78**	P		**P**	**02 09 34.9**	**-1.0**
PUZ	**Puketiti**	**1.92**	**78**	PN		**P**	**02 09 34.8**	**-1.1**
MXZ	**Matakaoa Point**	**2.14**	**65**	P		**P**	**02 09 37.0**	**-1.1**
MXZ	**Matakaoa Point**	**2.14**	**65**	PN		**P**	**02 09 36.9**	**-1.2**
MRZ	**Mangatainoka R**	**2.17**	**186**	P		**P**	**02 09 39.2**	**+0.7**
MRZ	**Mangatainoka R**	**2.17**	**186**	⇑PN		**P**	**02 09 39.2**	**+0.6**
BFZ	**Birch Farm**	**2.20**	**173**	P		**P**	**02 09 39.5**	**+0.7**
BFZ	**Birch Farm**	**2.20**	**173**	⇑PN		**P**	**02 09 39.5**	**+0.7**
KIW	**Kapiti Island**	**2.47**	**197**	⇑PN		**P**	**02 09 42.2**	**+0.3**
MTW	**Mount Morrison**	**2.67**	**186**	⇑PN		**P**	**02 09 44.1**	**0.0**
CAW	**Cannon Point**	**2.68**	**193**	⇑PN		**P**	**02 09 44.4**	**+0.2**
DUWZ	**D'Urville Isla**	**2.75**	**213**	⇑PN		**P**	**02 09 45.0**	**-0.1**
MRW	**Makara Radio**	**2.87**	**198**	PN		**P**	**02 09 46.4**	**0.0**
PAWZ	**Paruwai Farm**	**2.90**	**187**	⇑PN		**P**	**02 09 46.7**	**-0.1**
TRWZ	**Traveller**	**2.90**	**183**	PN		**P**	**02 09 46.8**	**0.0**
TRWZ				SN		**S**	**02 10 23.2**	**-1.4**
SNZO	**South Karori**	**2.95**	**197**	⇑	*i*P	**P**	**02 09 47.2**	**-0.2**
SNZO					*e*S	**S**	**02 10 15.2**	**-10**
SNZO	**South Karori**	**2.95**	**197**	⇑PN		**P**	**02 09 47.3**	**-0.1**
MSWZ	**Moikau Station**	**2.95**	**189**	⇑PN		**P**	**02 09 47.3**	**-0.1**
TCW	**Tory Channel**	**2.98**	**204**	⇑PN		**P**	**02 09 47.8**	**+0.1**
BHW	**Baring Head**	**3.00**	**195**	⇑PN		**P**	**02 09 47.9**	**-0.1**
TUWZ	**Tuamarina**	**3.28**	**206**	⇑PN		**P**	**02 09 51.1**	**-0.3**
NNZ	**Nelson**	**3.32**	**214**	PN		**P**	**02 09 51.4**	**-0.5**
QRZ	**Quartz Range**	**3.47**	**227**	PN		**P**	**02 09 52.5**	**-1.2**
CMWZ	**Cape Campbell**	**3.48**	**201**	PN		**P**	**02 09 54.4**	**+0.5**
BSWZ	**Blackbirch Sta**	**3.56**	**205**	PN		**P**	**02 09 54.6**	**-0.1**
THZ	**Tophouse**	**3.98**	**214**	PN		**P**	**02 09 58.7**	**-1.2**
KHZ	**Kahutara**	**4.30**	**204**	⇑PN		**P**	**02 10 03.9**	**-0.1**
DSZ	**Denniston Nort**	**4.50**	**223**	PN		**P**	**02 10 05.0**	**-1.6**
LTZ	**Lake Taylor**	**5.08**	**212**	PN		**P**	**02 10 12.2**	**-1.8**
CRLZ	**Canterbury Las**	**5.63**	**205**	PN		**P**	**02 10 19.2**	**-1.9**
MQZ	**McQueen's Vall**	**5.74**	**204**	PN		**P**	**02 10 20.7**	**-1.8**
RPZ	**Rata Peaks**	**6.35**	**213**	P		**P**	**02 10 29.4**	**-1.0**
	47nm,0.3s,baz=336,slow=1.6,SNR=275							
RPZ				S		**S**	**02 11 38.4**	**-4.2**
	96nm,0.3s,baz=37,slow=21,SNR=29							
RPZ	**Rata Peaks**	**6.35**	**213**	PN		**P**	**02 10 28.9**	**-1.6**
FOZ	**Fox Glacier**	**6.89**	**221**	*e*PN		**P**	**02 10 34.5**	**-2.9**
LBZ	**Lake Benmore**	**7.27**	**214**	*e*PN		**P**	**02 10 40.2**	**-2.2**
ODZ	**Otahua Downs**	**7.62**	**209**	*e*PN		**P**	**02 10 45.5**	**-1.4**
JCZ	**Jackson Bay**	**7.72**	**222**	*e*PN		**P**	**02 10 45.3**	**-3.1**
WKZ	**Wanaka**	**8.14**	**217**	*e*PN		**P**	**02 10 50.6**	**-3.1**
EAZ	**Earnscleugh**	**8.32**	**214**	*e*PN		**P**	**02 10 52.9**	**-3.2**
TUZ	**Tuapeka**	**8.77**	**210**	*e*PN		**P**	**02 11 01.3**	**-0.7**
MLZ	**Mavora Lakes**	**8.93**	**218**	*e*PN		**P**	**02 11 02.8**	**-1.2**
WHZ	**Wether Hill Ro**	**9.44**	**216**	*e*PN		**P**	**02 11 08.0**	**-2.6**
DZM	**Mont Dzumac**	**18.27**	**331**	P		**P**	**02 12 58.3**	**-0.7**
	0.2nm,0.3s,baz=172,slow=15,SNR=2.8							
STKA	**Stephens Creek**	**28.67**	**273**	P		**P**	**02 14 39.5**	**+1.3**
	1.1nm,0.4s,mb3.8,baz=124,slow=11,SNR=3.3							
CTA	**Charters Tower**	**31.48**	**297**	P		**P**	**02 15 05.3**	**+2.3**
	1.1nm,0.3s,mb3.9,baz=188,slow=19,SNR=2.6							
CTA	**Charters Tower**	**31.48**	**297**	P		**P**	**02 15 05.3**	**+2.3**
WRAB	**Tennant Creek**	**40.29**	**285**	*e*P		**P**	**02 16 16.5**	**-0.6**
	1.6nm,0.5s,mb3.7							
WRA	**Warramunga Arr**	**40.29**	**285**	P		**P**	**02 16 18.4**	**+1.2**
	0.5nm,0.3s,mb3.4,baz=122,slow=7.9,SNR=4.5							
WRA				pP		pP	02 16 59.4	-0.4
	0.6nm,0.8s,baz=123,slow=7.3,SNR=4.6							
CASY	**Casey**	**45.62**	**211**	*e*P		**P**	**02 17 00.5**	**+1.1**
	1.9nm,0.4s,mb3.8							
FITZ	**Fitzroy Crossi**	**48.02**	**280**	P		**P**	**02 17 19.4**	**+0.6**
	2.3nm,0.5s,mb3.8,baz=170,slow=9.6,SNR=5.9							
MAW	**Mawson**	**62.93**	**203**	P		**P**	**02 19 05.9**	**+1.3**
	1.5nm,0.8s,mb3.7,baz=140,slow=7.9,SNR=4.2							
SNAA	**Sanae**	**70.13**	**180**	*e*		**P**	**02 19 56.6**	**+6.9**
SNAA	**Sanae**	**70.13**	**180**	*e*		pP	02 20 35.5	-1.5
SNAA	**Sanae**	**70.13**	**180**	⇓	*i*P	**P**	**02 19 51.9**	**+2.2**
SNAA				*e*			02 19 56.6	
SNAA				*e*		pP	02 20 35.5	-1.5
VNA3	**Neumayer Olymp**	**70.49**	**178**			**P**	**02 19 53.9**	**+2.0**
VNA2	**Neumayer--Watz**	**70.86**	**179**	*e*		**P**	**02 20 01.9**	**+7.8**
VNA2	**Neumayer--Watz**	**70.86**	**179**	*e*		pP	02 20 40.9	-0.6
VNA2	**Neumayer--Watz**	**70.86**	**179**	⇓	*i*P	**P**	**02 19 56.8**	**+2.7**
VNA2				*e*			02 20 01.9	
VNA2				*e*		pP	02 20 40.9	-0.6
VNA1	**Neumayer--Stat**	**71.12**	**179**	*e*		**P**	**02 20 03.9**	**+8.2**
VNA1	**Neumayer--Stat**	**71.12**	**179**	*e*		pP	02 20 43.7	+0.6
VNA1	**Neumayer--Stat**	**71.12**	**179**	⇓	*i*P	**P**	**02 19 58.2**	**+2.5**
VNA1				*e*			02 20 03.9	
VNA1				*e*		pP	02 20 43.7	+0.6
MJAR	**Matsushiro Arr**	**82.38**	**330**	P		**P**	**02 20 58.3**	**-0.3**
	0.3nm,0.3s,mb3.4,baz=180,slow=6.1,SNR=4.1							
MKAR	**Makanchi Array**	**118.96**	**308**	PKP		PKPdf	02 27 22.4	+0.1
	0.4nm,0.5s,baz=186,slow=2.0,SNR=8.5							
KEV	**Kevo**	**144.59**	**342**	*e*pkp		PKPdf	02 28 08.4	-0.8
ARCES	**ARCESS Array B**	**145.11**	**342**	PKPbc		PKPbc	02 28 11.3	+0.6
	2.4nm,0.6s,baz=72,slow=3.8,SNR=23							
ARCES	**ARCESS Array B**	**145.11**	**342**	PKPbc		PKPbc	02 28 11.3	+0.6
DBIC	**Dimbokro**	**148.31**	**179**	PKPbc		PKPdf	02 28 22.6	+5.5
	3.3nm,0.5s,baz=33,slow=12,SNR=14							
KAF	**Kangasniemi**	**149.91**	**332**	*e*pkp		PKPdf	02 28 22.3	+4.1
FINES	**FINESS Array B**	**150.41**	**331**	PKPbc		PKPdf	02 28 25.4	+6.5
	1.5nm,0.4s,baz=44,slow=4.0,SNR=44							
BRTR	**Keskin Array B**	**150.81**	**284**	PKPbc		PKPdf	02 28 27.2	+7.0
	1.9nm,0.7s,baz=145,slow=5.1,SNR=8.1							
AKASG	**Malin Array Be**	**153.54**	**308**	PKPbc		PKPdf	02 28 32.7	+8.9
	0.2nm,0.3s,baz=90,slow=2.8,SNR=4.3							
AKASG	**Malin Array Be**	**153.54**	**308**	PKPbc		PKPdf	02 28 32.7	+8.9

*IDC **31** 02:26:14.1±1.3,2.12S×139.32E,mb3.8/4,mb1 4.0/5, mb1mx3.8/12,mbtmp3.9/5,ML3.9/1,Error ellipse: s-maj=49.0km s-min=24.7km az=85.0*
ISC 31 02:26:17.1±1.1,2.4S±0.1×138.9E±0.3,h33km,n7,σ0§59/7, mb3.6/3,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WB2	**Warramunga Arr**	**17.98**	**194**	*e*P		**P**	**02 30 27.0**	**+0.7**
WRA	**Warramunga Arr**	**17.99**	**194**	P		**P**	**02 30 25.5**	**-0.8**
	1.0nm,0.3s,baz=18,slow=12,SNR=21							
CTA	**Charters Tower**	**19.00**	**158**	P		**P**	**02 30 38.3**	**-0.5**
	0.2nm,0.3s,baz=356,slow=13,SNR=2.5							
FITZ	**Fitzroy Crossi**	**20.30**	**219**	P		**P**	**02 30 58.5**	**+5.6**
	2.5nm,0.3s,baz=56,slow=7.1,SNR=10							
STKA	**Stephens Creek**	**29.43**	**175**	P		**P**	**02 32 20.8**	**+0.8**
	2.6nm,0.9s,mb4.0,baz=314,slow=6.9,SNR=4.8							
MKAR	**Makanchi Array**	**69.65**	**322**	P		**P**	**02 37 25.1**	**-0.2**
	0.4nm,0.8s,mb3.4,baz=135,slow=6.1,SNR=3.5							
ILAR	**Eielson Array**	**85.49**	**24**	P		**P**	**02 38 52.7**	**+0.1**
	0.3nm,0.9s,mb3.4,baz=246,slow=5.4,SNR=4.1							

OTT 31 02:36:36.9±0.1,51.36N×73.80W,h18km,MN3.1/14, 117km northeast from Mistissini, Qc,Northern Quebec

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
YOSQ	**Ashton Mining**	**1.81**	**32**	PN		Pn	02 37 06.9	-0.7
YOSQ				SN		Sn	02 37 30.3	+0.1
YOSQ				Trac			02 37 33.0	
	comp=Z,117nm,0.2s							
LG4Q	**La Grande 4**	**2.28**	**356**	PN		Pn	02 37 13.7	-0.7
LG4Q				SN		Sn	02 37 41.2	-1.1
LG4Q				SG		Sn	02 37 45.3	+3.0
LG4Q				Trac			02 37 46.4	
	comp=Z,53nm,0.3s							
WEMQ	**Wemindji, Queb**	**3.08**	**305**	PN		Pn	02 37 24.1	-1.7
WEMQ				SN		Sn	02 37 58.8	-3.7
WEMQ				SG		Sn	02 38 07.8	+5.3
WEMQ				Trac			02 38 15.3	
	comp=Z,34nm,0.2s							
MNQ	**Manicouagan**	**3.28**	**103**	PN		Pn	02 37 27.9	-0.8
MNQ				SN		Sn	02 38 05.2	-2.5
MNQ				SG		Sn	02 38 14.7	+7.0
MNQ				Trac			02 38 17.3	
	comp=Z,15nm,0.2s							
MALO	**McAlpine Lake**	**4.02**	**253**	PN		Pn	02 37 37.0	-2.1
MALO				SN		Sn	02 38 21.4	-4.9
MALO				SG		Sn	02 38 39.7	+13
MALO				Trac			02 38 47.5	
	comp=Z,22nm,0.3s							
VLDQ	**Val d'Or**	**4.02**	**218**	PN		Pn	02 37 38.0	-1.1
VLDQ				SN		Sn	02 38 22.8	-3.5
VLDQ				Trac			02 38 41.0	
	comp=Z,14nm,0.2s							
VLDQ				LG			02 38 41.3	
CNQ	**Baie Comeau**	**4.21**	**117**	PN		Pn	02 37 39.5	-2.3
CNQ				SN		Sn	02 38 26.9	-4.2
CNQ				LG			02 38 43.6	
CNQ				Trac			02 38 48.1	
	comp=Z,18nm,0.4s							
MSNO	**Moosonee Ontar**	**4.27**	**272**	PN		Pn	02 37 40.1	-2.6
MSNO				SN		Sn	02 38 27.5	-5.2
MSNO				Trac			02 38 39.8	
	comp=Z,27nm,0.1s							
MSNO				LG			02 38 44.2	
A64	**Saint Simeon**	**4.35**	**143**	PN		Pn	02 37 41.4	-2.5
A64				SN		Sn	02 38 30.1	-4.6
A64				LG			02 38 51.8	
A64				Trac			02 38 53.4	
	comp=Z,2.8nm,0.2s							
A61	**Sainte Mathild**	**4.39**	**145**	PN		Pn	02 37 42.0	-2.4
A61				SN		Sn	02 38 31.0	-4.7
A61				LG			02 38 50.7	
A61				Trac			02 38 54.1	
	comp=Z,9.3nm,0.3s							
LMQ	**La Malbaie**	**4.43**	**148**	PN		Pn	02 37 42.5	-2.5
LMQ				SN		Sn	02 38 32.5	-4.3
LMQ				LG			02 38 51.5	
LMQ				Trac			02 38 55.4	
	comp=Z,13nm,0.3s							
A54	**Misere**	**4.49**	**149**	PN		Pn	02 37 42.7	-3.1
A54				Trac			02 38 57.9	
	comp=Z,9.0nm,0.2s	

Error ellipse: s-maj=10.4km s-min=7.8km az=51.0
NEIC Recorded [4 TAP] in I-lan; [3 TAP] in Hua-lien; [2 TAP] in T'ai-chung and T'ao-yuan; [1 TAP] in Chang-hua, Hsin-chu, Miao-li, Nan-t'ou and T'ai-pei Counties.
*JMA **31** 02:45:51.7±0.2,24.22N×121.70E,h61km,M3.8*
*IDC **31** 02:45:52.7±4.1,24.15N×121.81E,h53km±38km,mb3.8/11, mb1 3.9/13,mb1mx3.8/23,mbtmp4.0/13,ML4.1/2,MS3.7/11, Ms1 3.8/11,ms1mx3.5/36,Error ellipse: s-maj=24.2km s-min=16.8km az=54.0*

ISC 31 02:45:51.0±0.5,24.22N±0.05×121.70E±0.03,h50km±4km, n67,σ1§12/74,mb3.9/18,MS3.9/10,2C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.10**	**247**	*eP*	**P**		**02 45 57.2**	**-1.6**
YHNB	**Yeheng**	**0.54**	**327**	*eP*g	**P**		**02 46 03.1**	**+0.3**
YHNB				eSg	**S**		**02 46 08.6**	**-2.7**
TATO	**Taipei**	**0.78**	**346**‖	*eP*	**P**		**02 46 07.0**	**+1.1**
TATO				eS	**S**		**02 46 18.0**	**+1.1**
YOJ	**Yonaguni jima**	**1.22**	**78**	P	**P**		**02 46 12.9**	**+0.9**
YOJ				eS	**S**		**02 46 28.8**	**+1.1**
IRIF	**Iriomote-Funau**	**1.86**	**86**	P	**P**		**02 46 21.5**	**+0.5**
IRIF				S	**S**		**02 46 43.8**	**+0.5**
HATJ	**Hateruma jima**	**1.93**	**94**	P	**P**		**02 46 23.0**	**+1.0**
HATJ				eS	**S**		**02 46 45.5**	**+0.4**
JKRS	**Kuro-shima**	**2.11**	**89**	P	**P**		**02 46 25.6**	**+1.0**
JKRS				eS	**S**		**02 46 50.6**	**+1.0**
JIJ	**Ishigaki jima**	**2.23**	**86**	P	**P**		**02 46 26.7**	**+0.3**
JIJ				S	**S**		**02 46 52.7**	**-0.1**
JTJ	**Tarama**	**2.77**	**81**	P	**P**		**02 46 34.7**	**+0.7**
QZH	**Quanzhou**	**2.92**	**285**‖	*iP*	**P**		**02 46 35.8**	**-0.4**
QZH				S	**S**		**02 47 05.0**	**-5.3**
QZH	comp=N,2μm,1.2s			Smax				
QZH	comp=E,1μm,1.0s			Smax				
JMJ	**Miyako jima 2**	**3.33**	**79**	*eS*	**S**		**02 47 20.0**	**-0.5**
JOGS	**Gusukube**	**3.42**	**80**	P	**S**		**02 46 44.5**	**+1.3**
JOGS				*eS*	**S**		**02 47 23.6**	**+0.7**
JKE	**Kume jima 2**	**5.06**	**64**	P	**P**		**02 47 06.7**	**+0.4**
JAGN	**Aguni-jima**	**5.54**	**64**	P	**P**		**02 47 13.3**	**+0.3**
JIH	**Iheya**	**6.31**	**62**	P	**P**		**02 47 23.2**	**-0.6**
CVP	**Callao Caves**	**6.48**	**179**	*eP*	**P**		**02 47 37.0**	**+11**
JOW	**Kunigami**	**6.49**	**65**	P	**P**		**02 47 24.6**	**-1.7**
JOW	comp=E,16nm,0.3s,baz=202,slow=9.7,SNR=74			S	**S**		**02 48 37.7**	**-2.0**
	baz=132,slow=16,SNR=1.5							
JOW	**Kunigami**	**6.49**	**65**	P	**P**		**02 47 24.6**	**-1.6**
JOW				*eS*	**S**		**02 48 37.6**	**-2.1**
JTK	**Tokunoshima**	**7.43**	**60**	P	**P**		**02 47 37.5**	**-1.9**
NJ2	**Nanjing**	**8.20**	**343**	*eP*	**P**		**02 47 48.0**	**-2.0**
NJ2				AP			02 47 52.3	
NJ2				XP			02 47 55.5	
NJ2				S	**S**		**02 49 21.3**	**-1.0**
NJ2	comp=Z,40nm,0.7s			AMB	AMB			
NJ2	comp=N,430nm,1.2s			Smax				
NJ2	comp=E,290nm,1.0s			Smax				
NJ2	comp=N,710nm,11.1s			LR	LR			
NJ2	comp=E,1μm,13.7s			LR	LR			
NJ2	comp=Z,380nm,13.5s			LR	LR			
JAM	**Amami Oshima**	**8.23**	**58**	P	**P**		**02 47 48.1**	**-2.3**
JZK	**Kikaishima**	**8.47**	**59**	*eS*	**S**		**02 49 28.1**	**-0.9**
JMZ	**Minamidaito 2**	**8.78**	**78**	P	**P**		**02 47 53.3**	**-4.7**
JNU	**Nakatsue**	**11.98**	**40**	LR	LR		02 54 33.2	
GYA	comp=Z,185nm,18.2s,baz=230,slow=44 **Guiyang**	**13.78**	**282**	P	**P**		**02 49 06.5**	**+1.0**
GYA	comp=Z,10.0nm,0.6s			AMB	AMB			
KS15	**Wonju Array Si**	**14.21**	**20**	P	**P**		**02 49 15.9**	**+4.9**
CD2	**Chengdu**	**17.24**	**297**	P	**P**		**02 49 55.0**	**+5.2**
JHJ	**Hachijo jima 2**	**18.16**	**57**	LR	LR		02 56 19.9	
MAJO	comp=Z,92nm,20.2s,baz=80,slow=35 **Matsushiro**	**18.77**	**45**	*eP*	**P**		**02 50 10.8**	**+2.2**
MJAR	**Matsushiro Arr**	**18.78**	**45**	P	**P**		**02 50 07.5**	**-1.1**
MJAR	comp=Z,0.2nm,0.3s,baz=221,slow=11,SNR=3.5			LR	LR		02 56 58.8	
LZH	comp=Z,81nm,20.5s,baz=205,slow=36 **Lanzhou**	**19.42**	**312**	*eP*	**P**		**02 50 16.5**	**+0.7**
LZH				AP			02 50 21.0	
LZH				XP			02 50 23.5	
LZH	comp=Z,22nm,1.2s			AMB	AMB			
LZH	comp=Z,98nm,4.0s			AMB	AMB			
LZH	comp=E,667nm,15.6s			LR	LR			
LZH	comp=Z,827nm,14.5s			LR	LR			
LZH	**Lanzhou**	**19.42**	**312**	*eP*	**P**		**02 50 16.5**	**+0.7**
LZH	comp=Z,22nm,1.2s			pmax	pmax			
LZH	**Lanzhou**	**19.42**	**312**	*eP*	**P**		**02 50 16.5**	**+0.7**
LZH	comp=Z,22nm,1.2s			pP			02 50 21.0	
LZH				sP			02 50 23.5	
CN2	**Changchun**	**19.78**	**8**	*eP*	**P**		**02 50 25.0**	**+5.3**
MDJ	**Mudanjiang**	**21.35**	**16**	P	**P**		**02 50 39.5**	**+3.7**
MDJ				AP			02 50 42.3	
MDJ				XP			02 50 43.5	
MDJ				PCP	PcP		02 54 39.8	+0.8
MDJ				SCP			02 58 16.0	
MDJ				PCS			02 58 18.0	
MDJ	comp=Z,7.0nm,1.4s,mb3.8			AMB	AMB			
MDJ	comp=Z,40nm,3.4s			AMB	AMB			
MDJ	comp=N,133nm,17.9s,MS3.5			LR	LR			
MDJ	comp=E,114nm,21.6s,MS3.5			LR	LR			
MDJ	comp=Z,129nm,16.4s			LR	LR			
GTA	**Gaotai**	**23.90**	**315**	P	**P**		**02 51 03.0**	**+2.1**
GTA				AP			02 51 14.5	
GTA				PP	PP		02 51 39.8	+4.0
GTA				PCP	PcP		02 54 43.5	-0.7
GTA				S	**S**		**02 55 17.0**	**+6.4**
GTA				PCS			02 58 21.5	
GTA	comp=Z,10.0nm,1.3s,mb4.1			AMB	AMB			
GTA	comp=Z,76nm,9.1s			AMB	AMB			
GTA	comp=N,133nm,13.3s,MS3.9			LR	LR			
GTA	comp=E,292nm,15.2s,MS3.9			LR	LR			
GTA	comp=Z,309nm,17.1s,MS3.9			LR	LR			
KLR	**Kul'dur**	**26.19**	**15**	*eP*	**P**		**02 51 20.0**	**-2.6**
SONM	**Songino Array**	**26.52**	**337**	P	**P**		**02 51 26.4**	**+0.6**
SONM	comp=Z,24nm,0.8s,mb3.8,baz=157,slow=9.4,SNR=19			LR	LR		03 03 10.1	
ZAK	comp=Z,168nm,19.0s,MS3.6,baz=18,slow=39 **Zakamensk**	**29.78**	**336**	*eP*	**P**		**02 51 54.0**	**-1.0**
ZAK	comp=Z,1.0nm,1.0s,mb3.5			pmax	pmax			
WMQ	**Urumqi**	**33.98**	**314**	*eP*	**P**		**02 52 32.0**	**+0.2**
MKAR	**Makanchi Array**	**38.65**	**316**	*i* P	**P**		**02 53 12.1**	**+1.0**
MKAR	comp=Z,6.0nm,0.9s			pmax	pmax			
MKAR	**Makanchi Array**	**38.65**	**316**	P	**P**		**02 53 12.2**	**+1.1**
MKAR	comp=Z,3.5nm,0.7s,mb4.2,baz=104,slow=10,SNR=29			LR	LR		03 10 33.8	
ZAL	comp=Z,151nm,18.8s,MS3.8,baz=10,slow=38 **Zalesovo**	**40.48**	**327**	P	**P**		**02 53 26.9**	**+0.6**
ZAL	comp=Z,3.0nm,0.7s,mb4.1,baz=2.2,slow=8.8,SNR=20			LR	LR		03 12 07.7	
NVS	comp=Z,170nm,19.8s,MS3.9,baz=13,slow=39 **Novosibirsk**	**41.73**	**327**	*eP*	**P**		**02 53 30.9**	**-5.7**
KURK	**Kurchatov**	**42.37**	**320**	*eP*	**P**		**02 53 42.4**	**+0.5**
KURK	comp=Z,3.0nm,0.8s,mb4.0			pmax	pmax			
KURK	**Kurchatov**	**42.37**	**320**	*eP*	**P**		**02 53 42.4**	**+0.6**
WRAB	comp=Z,2.8nm,0.8s,mb3.9			pmax	pmax			
WRAB	comp=Z,2.0nm,0.5s,mb4.3 **Tennant Creek**	**45.58**	**163**	*eP*	**P**		**02 54 06.9**	**-1.2**
WRA	**Warramunga Arr**	**45.58**	**163**	P	**P**		**02 54 06.8**	**-1.4**
WB2	comp=Z,1.4nm,0.5s,mb4.1,baz=345,slow=8.7,SNR=12 **Warramunga Arr**	**45.59**	**163**	*eP*	**P**		**02 54 07.0**	**-1.2**
KKAR	**Karatay Array**	**45.83**	**307**	*i* P	**P**		**02 54 11.8**	**+2.0**
VOSK	**Vostochnaya**	**47.52**	**320**	P	**P**		**02 54 22.9**	**-0.1**
VOSK				pmax	pmax			
BVA0	comp=Z,4.0nm,1.1s,mb4.4 **Borovoye Array**	**47.95**	**321**	*i* P	**P**		**02 54 26.2**	**-0.2**
BVA0	comp=Z,1.0nm,1.0s,mb3.8			pmax	pmax			
BVAR	**Borovoye Array**	**47.95**	**321**	P	**P**		**02 54 26.6**	**+0.2**
BRVK	comp=Z,1.4nm,0.6s,mb4.2,baz=100,slow=9.0,SNR=11 **Borovoye**	**48.02**	**321**	*eP*	**P**		**02 54 27.5**	**+0.6**
AB31	**Akbulak array**	**53.76**	**314**	*i* P	**P**		**02 55 11.0**	**+0.6**
STKA	**Stephens Creek**	**58.93**	**160**	P	**P**		**02 55 46.0**	**-1.5**
ILAR	comp=Z,1.8nm,0.8s,mb4.1,baz=331,slow=8.2,SNR=4.3 **Eielson Array**	**68.97**	**27**	P	**P**		**02 56 51.9**	**-0.7**
FINES	comp=Z,0.4nm,0.5s,mb3.6,baz=292,slow=8.0,SNR=7.8 **FINES Array B**	**71.66**	**330**	P	**P**		**02 57 09.4**	**+0.5**
FINES	comp=Z,1.0nm,0.8s,mb3.8,baz=104,slow=7.9,SNR=5.5			LR	LR		03 31 41.1	
INK	comp=Z,107nm,18.1s,MS4.2,baz=166,slow=38 **Inuvik**	**73.02**	**22**	P	**P**		**02 57 17.2**	**+0.4**
AKASG	comp=Z,0.9nm,0.4s,mb4.0,baz=308,slow=2.9,SNR=5.1 **Malin Array Be**	**73.16**	**318**	P	**P**		**02 57 17.7**	**-0.3**
HFS	comp=Z,0.2nm,0.3s,mb3.6,baz=57,slow=6.4,SNR=5.2 **Hagfors**	**77.77**	**331**	LR	LR		03 34 00.0	
NOA	comp=Z,15nm,19.4s,MS4.2,baz=296,slow=37 **NORSAR Array B**	**78.42**	**332**	LR	LR		03 35 52.5	
YKA	comp=Z,80nm,18.7s,MS4.1,baz=50,slow=38 **Yellowknife Ar**	**82.76**	**23**	P	**P**		**02 58 10.7**	**+0.1**
YKA	comp=Z,0.3nm,0.4s,mb3.6,baz=311,slow=5.3,SNR=4.5 **Yellowknife Ar**	**82.76**	**23**	P	**P**		**02 58 10.7**	**+0.1**
DAVOX	**Davos**	**86.39**	**320**	LR	LR		03 41 27.8	
BORG	comp=Z,44nm,19.2s,MS3.9,baz=85,slow=39 **Borgarnes**	**86.82**	**345**	LR	LR		03 36 55.4	
	comp=Z,35nm,21.2s,MS3.7,baz=2.7,slow=35							

IDC 31 02:55:00.1±21.0,16.34S×178.79W,h372km±219km, mb3.2/4,mb1 3.4/4,mb1mx3.1/15,mbtmp3.9/4,Error ellipse: s-maj=132.5km s-min=67.2km az=143.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.09**	**239**	P	P		03 01 52.9	-1.3
WRA	comp=Z,1.0nm,0.5s,baz=56,slow=8.5,SNR=4.6 **Warramunga Arr**	**44.58**	**258**	P	P		03 02 36.8	-1.8
FITZ	comp=Z,0.9nm,0.4s,baz=93,slow=7.0,SNR=7.2 **Fitzroy Crossi**	**52.94**	**259**	P	P		03 03 40.0	-1.9
ILAR	comp=Z,2.7nm,0.7s,baz=74,slow=2.9,SNR=5.2 **Eielson Array**	**84.44**	**13**	P	P		03 06 51.5	-1.0
GERES	comp=Z,0.1nm,0.4s,baz=213,slow=5.3,SNR=4.9 **GERESS Array B**	**146.01**	**345**	PKPbc	PKPbc		03 13 55.9	-0.5
	comp=Z,0.4nm,0.6s,baz=27,slow=3.0,SNR=4.5							

*NEIC **31** 03:16:37.2±1.1,1.70N×97.00E,h30km,Error ellipse: s-maj=23.6km s-min=17.3km az=224.0*
*IDC **31** 03:16:38.3±3.0,2.46N×97.10E,mb3.9/5,mb1 4.1/5, mb1mx3.8/18,mbtmp3.9/5,Error ellipse: s-maj=89.9km s-min=30.6km az=54.0*

ISC 31 03:16:35.3±1.5,1.7N±0.2×97.0E±0.2,h30km,n8,σ0§32/7, mb4.0/4,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.09**	**46**	*eP*	**Pn**		**03 17 51.4**	**-0.3**
WRA	**Warramunga Arr**	**42.49**	**122**	P	pP		03 24 38.1	-0.8
WRAB	comp=Z,0.4nm,0.5s,baz=302,slow=9.2,SNR=3.2 **Tennant Creek**	**42.50**	**122**	P	**P**		**03 24 29.9**	**-0.1**
SONM	**Songino Array**	**46.65**	**9**	P	**P**		**03 25 03.2**	**+0.2**
MKAR	comp=Z,0.5nm,0.4s,mb3.8,baz=191,slow=8.2,SNR=8.1 **Makanchi Array**	**46.69**	**346**	P	**P**		**03 25 03.3**	**0.0**
KURK	comp=Z,0.9nm,0.6s,mb3.9,baz=149,slow=7.1,SNR=4.9 **Kurchatov**	**51.24**	**345**	*eP*	**P**		**03 25 38.2**	**-0.1**
MJAR	**Matsushiro Arr**	**51.45**	**43**	P	**P**		**03 25 40.8**	**+0.6**
ZAL	comp=Z,0.8nm,0.7s,mb3.8,baz=214,slow=8.8,SNR=4.5 **Zalesovo**	**53.01**	**351**	P	**P**		**03 25 51.2**	**-0.4**
	comp=Z,3.5nm,0.4s,mb4.6,baz=308,slow=6.5,SNR=12							

*NEIC **31** 03:20:31.5±0.9,15.35N×93.35W,h87km±7km,mb3.7/5, MD4.0(MEX),Error ellipse: s-maj=15.8km s-min=8.1km az=220.0*
*MEX **31** 03:20:34.6±1.1,15.52N×93.51W,h35km,MD4.1*
*IDC **31** 03:20:36.4±4.0,15.75N×92.97W,h122km±38km,mb3.5/6, mb1 3.7/8,mb1mx3.5/24,mbtmp3.9/8,Error ellipse: s-maj=99.8km s-min=18.2km az=50.0*

ISC 31 03:20:30.9±0.9,15.45N±0.08×93.36W±0.06,h94km±7km, n23,σ1§09/29,mb3.8/9,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.44**	**55**	*eP*	**P**		**03 20 57.4**	**+0.9**
CCIG				*eS*	**S**		**03 21 15.4**	**-0.1**
CCIG	**Comitan**	**1.44**	**55**	*eP*	**P**		**03 20 57.4**	**+0.9**
CCIG				*i* S	**S**		**03 21 16.6**	**+1.1**
SCX	**San Cristobal**	**1.46**	**28**	*i* P	**P**		**03 20 56.8**	**0.0**
SCX				*eS*	**S**		**03 21 15.0**	**-0.9**
CMIG	**Matias Romero**	**2.20**	**318**	*i* P	**P**		**03 21 06.6**	**+0.1**
CMIG				*i* S	**S**		**03 21 28.1**	**-4.7**
HUIG	**Huatulco**	**2.67**	**277**	*i* P	**P**		**03 21 11.9**	**-1.2**
HUIG				*eS*	**S**		**03 21 39.0**	**-5.6**
TUIG	**Tuzandepetl**	**2.77**	**338**	*eP*	**P**		**03 21 14.7**	**+0.3**
TUIG				*eS*	**S**		**03 21 43.8**	**-3.1**
OXX	**Oaxaca**	**3.62**	**297**	*eP*	**P**		**03 21 27.0**	**+0.9**
JTS	**JuntasAbangare**	**9.66**	**121**	P	**P**		**03 22 50.7**	**+1.9**
JTS	1.5nm,0.3s,baz=316,slow=17,SNR=6.8 **JuntasAbangare**	**9.66**	**121**	*eP*	**P**		**03 22 47.4**	**-1.4**
LTX	**Lajitas**	**16.77**	**327**	P	**P**		**03 24 24.8**	**+3.5**
TXAR	4.3nm,1.0s **Lajitas Array**	**16.77**	**327**	P	**P**		**03 24 23.5**	**+2.2**
MNTX	0.1nm,0.3s,baz=150,slow=12,SNR=18 **Cornudas Mount**	**19.55**	**328**	*eP*	**P**		**03 24 53.0**	**-0.6**
ANMO	0.8nm,0.6s **Albuquerque**	**22.71**	**331**	P	**P**		**03 25 27.2**	**+1.8**
SDCO	1.3nm,0.6s,mb3.5,baz=141,slow=12,SNR=7.7 **Great Sand Dun**	**24.67**	**336**	*eP*	**P**		**03 25 44.8**	**+0.4**
PV10	1.7nm,0.8s,mb3.5 **Paradox Valley**	**26.70**	**332**	*eP*	**P**		**03 26 03.6**	**+0.3**
PDAR	**Pinedale Array**	**30.57**	**336**	P	**P**		**03 26 37.6**	**-0.2**
REDW	0.3nm,0.6s,mb3.2,baz=127,slow=7.4,SNR=4.0 **Red Top Meadow**	**31.58**	**335**	*eP*	**P**		**03 26 46.2**	**-0.6**
SAML	11nm,1.1s,mb4.5 **Samuel**	**38.49**	**127**	*eP*	**P**		**03 27 44.4**	**-1.3**
SIV	1.6nm,0.9s,mb3.9 **San Ignacio**	**44.63**	**133**	P	**P**		**03 28 36.1**	**0.0**
DLBC	0.3nm,0.4s,mb3.4,baz=299,slow=7.9,SNR=5.5 **Dease Lake**	**50.80**	**336**	*eP*	**P**		**03 29 24.7**	**+1.1**
INK	**Inuvik**	**58.69**	**344**	P	**P**		**03 30 19.2**	**-1.4**
ILAR	2.7nm,0.6s,mb4.5,baz=123,slow=8.0,SNR=9.7 **Eielson Array**	**61.00**	**337**	P	**P**		**03 30 35.8**	**-0.8**
ARCES	0.9nm,0.7s,mb3.9,baz=125,slow=5.3,SNR=14 **ARCESS Array B**	**85.18**	**18**	P	**P**		**03 32 57.2**	**-0.3**
	2.4nm,0.9s,mb4.1,baz=288,slow=2.9,SNR=3.3							

*NIED **31** 03:35:00,33.40N×142.60E,h8km,Mw3.8 Best double couple: M0 5.57×10^14 NP1:φs174°,δ63°,λ-105°. NP2: φs24°,δ30°,λ-64°.*
*IDC **31** 03:35:43.7±0.8,33.38N×142.38E,mb3.9/11,mb1 4.0/15, mb1mx3.9/25,mbtmp3.9/15,ML3.9/4,Error ellipse: s-maj=20.0km s-min=17.1km az=55.0*
*JMA **31** 03:35:45.0±0.3,33.39N×142.58E,h57km,M4.0*
*NEIC **31** 03:35:46.9±6.1,33.40N×142.37E,h20km±36km,mb4.4/3, Error ellipse: s-maj=18.0km s-min=10.9km az=84.0*

ISC 31 03:35:43.8±1.7,33.38N±0.05×142.44E±0.06,h13km±11km, n33,σ1§08/41,mb4.0/13,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.76**	**317**	P	**Pn**		**03 36 14.5**	**+0.2**
BSO1				S	**Sn**		**03 36 37.3**	**+0.7**
BSO2	**Boso 2**	**1.96**	**315**	*eS*	**Sn**		**03 36 42.6**	**+0.9**
BSO3	**Boso 3**	**2.14**	**312**	P	**Pn**		**03 36 20.4**	**+0.7**
BSO3				S	**Sn**		**03 36 47.2**	**+0.9**
JHJ2	**Mitsune**	**2.21**	**264**	P	**Pn**		**03 36 21.9**	**+1.1**
JHJ2				S	**Sn**		**03 36 49.6**	**+1.4**
JHJ	**Hachijo jima 2**	**2.24**	**264**	Pn	**Pn**		**03 36 22.1**	**+0.9**
	66nm,0.3s,baz=68,slow=18,SNR=79							
JHJ				Sn	**Sn**		**03 36 48.5**	**-0.3**
	159nm,0.3s,baz=68,slow=17,SNR=10							
BSO4	**Boso 4**	**2.37**	**313**	P	**Pn**		**03 36 24.1**	**+1.1**
BSO4				*eS*	**Sn**		**03 36 51.8**	**-0.4**
JHO	**Hitachi**	**3.58**	**335**	P	**Pn**		**03 36 39.3**	**-0.8**
JHO				S	**Sn**		**03 37 17.7**	**-4.9**
JAG	**Ashikaga**	**3.91**	**322**	P	**Pn**		**03 36 44.7**	**-0.2**
JRY	**Ryogami san**	**3.93**	**313**	S	**Sn**		**03 37 30.8**	**-0.8**
MJAR	**Matsushiro Arr**	**4.70**	**313**	Pn	**Pn**		**03 36 54.7**	**-1.3**
MJAR	3.8nm,0.3s,baz=273,slow=20,SNR=31			Sn	**Sn**		**03 37 48.8**	**-2.3**
MAT	4.4nm,0.3s,baz=155,slow=20,SNR=6.1 **Matsushiro**	**4.70**	**313**	*eP*	**Pn**		**03 36 56.0**	**-0.1**
MAT				*eS*	**Sn**		**03 37 48.0**	**-3.1**
MAT	**Matsushiro**	**4.70**	**313**	P	**Pn**		**03 36 56.4**	**+0.3**
MAT				S	**Sn**		**03 37 48.3**	**-2.8**
CBIJ	**Chichi jima**	**6.26**	**182**	Pn	**Pn**		**03 37 15.3**	**-2.8**
CBIJ	18nm,0.3s,baz=301,slow=18,SNR=32			Sn	**Sn**		**03 38 21.6**	**-8.7**
JNU	4.5nm,0.3s,baz=225,slow=5.7,SNR=2.3 **Nakatsue**	**9.69**	**272**	Pn	**P**		**03 38 05.4**	**-0.5**
SONM	0.4nm,0.3s,baz=69,slow=8.6,SNR=2.6 **Songino Array**	**30.63**	**309**	P	**P**		**03 42 00.9**	**+1.2**
MKAR	1.5nm,0.8s,mb3.9,baz=98,slow=8.2,SNR=9.7 **Makanchi Array**	**46.84**	**305**	P	**P**		**03 44 14.1**	**-1.0**
KURK	0.4nm,0.5s,mb3.6,baz=97,slow=9.8,SNR=5.6 **Kurchatov**	**48.90**	**311**	*eP*	**P**		**03 44 30.8**	**-0.3**
ILAR	3.8nm,0.7s,mb4.5 **Eielson Array**	**52.16**	**31**	P	**P**		**03 44 55.8**	**0.0**
WRAB	0.8nm,0.8s,mb3.7,baz=268,slow=5.9,SNR=6.7 **Tennant Creek**	**53.57**	**189**	*eP*	**P**		**03 45 06.0**	**-0.7**
WRA	5.9nm,0.8s,mb4.6 **Warramunga Arr**	**53.58**	**189**	P	**P**		**03 45 06.1**	**-0.7**
BVAR	1.7nm,0.6s,mb4.2,baz=8.5,slow=7.7,SNR=5.7 **Borovoye Array**	**53.69**	**315**	P	**P**		**03 45 06.1**	**-1.1**
BVAR	0.2nm,0.4s,mb3.4,baz=72,slow=4.6,SNR=2.7 **Borovoye Array**	**53.69**	**315**	P	**P**		**03 45 06.1**	**-1.1**
STKA	**Stephens Creek**	**64.91**	**181**	P	**P**		**03 46 25.0**	**-0.1**
STKA	3.2nm,0.9s,mb4.3,baz=4.8,slow=8.9,SNR=5.3 **Stephens Creek**	**64.91**	**181**	P	**P**		**03 46 25.0**	**-0.1**
FINES	**FINESS Array B**	**72.44**	**333**	P	**P**		**03 47 10.5**	**-0.9**
HFS	0.9nm,0.8s,mb3.8,baz=39,slow=8.9,SNR=3.4 **Hagfors**	**77.77**	**336**	P	**P**		**03 47 41.4**	**-0.3**
NB2	3.1nm,1.0s,mb4.2,baz=14,slow=6.1,SNR=4.2 **NORSAR Subarra**	**77.88**	**338**	P	**P**		**03 47 42.6**	**+0.3**
NOA	0.9nm,0.8s,mb3.8,baz=36,slow=5.8 **NORSAR Array B**	**77.88**	**338**	P	**P**		**03 47 42.1**	**-0.1**
BRTR	1.0nm,0.8s,mb3.8,baz=38,slow=5.8,SNR=4.2 **Keskin Array B**	**81.92**	**312**	P	**P**		**03 48 06.2**	**+1.8**
PV10	0.6nm,0.4s,mb3.9,baz=108,slow=3.9,SNR=3.6 **Paradox Valley**	**82.55**	**49**	*eP*	**P**		**03 48 09.4**	**+1.8**
TXAR	**Lajitas Array**	**91.67**	**53**	P	**P**		**03 48 53.9**	**+1.7**
LPAZ	0.4nm,0.7s,mb3.9,baz=320,slow=3.3,SNR=6.3 **La Paz**	**147.62**	**66**	PKPbc	PKPdf		03 55 32.6	+3.5
LPAZ	1.0nm,0.7s,baz=304,slow=3.6,SNR=6.1 **La Paz**	**147.62**	**66**	*e*PKPbc	PKPdf		03 55 31.8	+2.7

*IDC **31** 03:43:04.3±0.9,33.03N×142.39E,mb3.9/10,mb1 4.0/13, mb1mx3.9/23,mbtmp3.9/13,ML3.5/3,MS2.5/1,Ms1 2.5/1, ms1mx2.2/25,Error ellipse: s-maj=22.6km s-min=18.1km az=61.0*
*JMA **31** 03:43:05.5±0.7,33.17N×142.58E,h68km,M3.6*
*NEIC **31** 03:43:05.2±8.1,33.07N×142.32E,h6km±47km,mb4.0/3, Error ellipse: s-maj=23.6km s-min=20.9km az=224.0*

ISC 31 03:43:04.5±2.2,33.07N±0.05×142.36E±0.07,h13km±14km, n27,σ1§17/31,mb3.9/12,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.13**	**272**	P	**Pn**		**03 43 42.3**	**+2.0**
JHJ	**Hachijo jima 2**	**2.16**	**272**	Pn	**Pn**		**03 43 42.0**	**+1.2**
JHJ	13nm,0.3s,baz=217,slow=19,SNR=12			Sn	**Sn**		**03 44 08.5**	**+1.0**
JIM2	22nm,0.3s,baz=228,slow=23,SNR=5.0 **Oshima 3**	**2.94**	**305**	P	**Pn**		**03 43 51.5**	**-0.3**
JHO	**Hitachi**	**3.83**	**338**	P	**Pn**		**03 44 02.3**	**-2.1**
JAG	**Ashikaga**	**4.11**	**325**	P	**Pn**		**03 44 08.0**	**-0.5**
MJAR	**Matsushiro Arr**	**4.86**	**317**	Pn	**Pn**		**03 44 18.6**	**-0.5**
MJAR	2.5nm,0.3s,baz=148,slow=12,SNR=23			Sn	**Sn**		**03 45 14.7**	**-1.2**
MAT	0.5nm,0.3s,baz=174,slow=25,SNR=5.7 **Matsushiro**	**4.86**	**317**	*eP*	**Pn**		**03 44 19.0**	**-0.2**
MAT				*eS*	**Sn**		**03 45 15.0**	**-1.0**
MAT	**Matsushiro**	**4.86**	**317**	P	**Pn**		**03 44 19.2**	**0.0**
MAT				S	**Sn**		**03 45 14.7**	**-1.3**
CBIJ	**Chichi jima**	**5.96**	**181**	Pn	**Pn**		**03 44 33.1**	**-1.4**
CBIJ	3.7nm,0.3s,baz=329,slow=1.9,SNR=5.4			Sn	**Sn**		**03 45 42.0**	**-1.5**
JNU	3.7nm,0.3s,baz=250,slow=20,SNR=2.5 **Nakatsue**	**9.63**	**273**	LR	LR		03 48 13.0	
HIA	comp=Z,28nm,19.0s,baz=103,slow=32 **Hailar**	**23.35**	**321**	*eP*	**P**		**03 48 12.1**	**-1.1**
SONM	**Songino Array**	**30.77**	**309**	P	**P**		**03 49 22.6**	**+0.9**
ZAL	1.3nm,0.7s,mb3.9,baz=108,slow=9.0,SNR=7.7 **Zalesovo**	**45.23**	**315**	P	**P**		**03 51 25.3**	**+2.4**
MKAR	0.9nm,0.3s,mb4.1,baz=162,slow=3.2,SNR=2.8 **Makanchi Array**	**46.96**	**305**	P	**P**		**03 51 37.2**	**+0.5**
KURK	1.5nm,0.7s,mb4.0,baz=90,slow=9.8,SNR=11 **Kurchatov**	**49.05**	**311**	*eP*	**P**		**03 51 52.7**	**-0.2**
KURK	8.6nm,0.8s,mb4.8			*e*			03 52 00.6	
ILAR	**Eielson Array**	**52.46**	**31**	P	**P**		**03 52 18.9**	**+0.2**
WRA	0.7nm,0.9s,mb3.6,baz=278,slow=5.3,SNR=5.8 **Warramunga

MAT				S	Sn	03 50 47.7	-2.0
MAT	**Matsushiro**	**4.87**	**315**	P	Pn	03 49 54.0	+0.9
JMM	**Marumori**	**4.89**	**344**	P	Pn	03 49 51.2	-2.1
JMM				*e*S	Sn	03 50 44.3	-5.9
CBIJ	**Chichi jima**	**6.05**	**183**	P	Pn	03 50 05.2	-4.6
	4.3nm,0.3s,baz=324,slow=20,SNR=8.8						
CBIJ				Sn	Sn	03 51 12.7	-6.6
	9.2nm,0.3s,baz=279,slow=22,SNR=5.2						
JOW	**Kunigami**	**13.83**	**247**	Pn	P	03 52 06.0	+10
	0.5nm,0.3s,baz=18,slow=6.4,SNR=5.7						
SONM	**Songino Array**	**30.80**	**309**	P	P	03 54 56.8	+1.4
	1.1nm,0.7s,mb3.8,baz=109,slow=7.9,SNR=9.3						
MKAR	**Makanchi Array**	**47.00**	**305**	P	P	03 57 11.4	+0.9
	1.4nm,0.7s,mb4.0,baz=94,slow=9.6,SNR=13						
KURK	**Kurchatov**	**49.07**	**311**	*e*P	P	03 57 26.7	+0.1
	1.1nm,0.6s,mb4.1						
KURK				*e*		03 57 34.6	
ILAR	**Eielson Array**	**52.33**	**31**	P	P	03 57 50.6	-0.7
	0.3nm,0.6s,mb3.4,baz=260,slow=5.5,SNR=3.6						
WRA	**Warramunga Arr**	**53.38**	**190**	P	P	03 57 57.8	-1.9
	0.6nm,0.5s,mb3.8,baz=6.3,slow=7.4,SNR=3.9						
BVAR	**Borovoye Array**	**53.87**	**315**	P	P	03 58 02.8	0.0
	0.2nm,0.3s,mb3.5,baz=104,slow=5.9,SNR=3.4						
TXAR	**Lajitas Array**	**91.76**	**53**	P	P	04 01 49.3	+2.5
	0.1nm,0.5s,mb3.4,baz=270,slow=1.8,SNR=3.2						

*TRN **31** 04:13:10.0, 19.08N×64.79W, h15km, MD4.0*
*RSPR **31** 04:13:11.4, 19.22N×64.70W, h6km±8km, MD3.9/8, MD3.9/8*
*NEIC **31** 04:13:11.4, 19.22N×64.70W, h6km, MD4.0(TRN), MD3.9(RSPR), After RSPR.*

ISC 31 04:13:10.2±1.3, 19.25N±0.07×64.76W±0.03, h23km±9km, n27, σ0°91/46, 4C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.91**	**192**	*e*P	**Pb**	**04 13 26.6**	**-0.7**
STVI				*e*S	**Sb**	**04 13 39.5**	**+0.6**
CDVI	**St. Croix**	**1.49**	**180**	*e*P	**Pn**	**04 13 35.5**	**-0.4**
CDVI				*e*S	**Sn**	**04 13 53.9**	**-0.9**
HUMP	**Col San Antoni**	**1.51**	**224**	*e*P	**Pn**	**04 13 35.8**	**-0.5**
HUMP				*e*S	**Sn**	**04 13 55.8**	**+0.4**
SJG	**San Juan**	**1.74**	**230**	*e*P	**Pn**	**04 13 38.8**	**-0.8**
STMA	**St. Maarten, A**	**1.97**	**127**	*e*P	**Pn**	**04 13 43.5**	**+0.7**
STMA				*e*S	**Sn**	**04 14 06.7**	**-0.3**
STMA	**St. Maarten, A**	**1.97**	**127**	*e*P	**Pn**	**04 13 43.5**	**+0.7**
STMA				*e*S	**Sn**	**04 14 06.5**	**-0.4**
ICM	**Isla Caja Muer**	**2.15**	**231**	*e*P	**Pn**	**04 13 46.2**	**+0.8**
ICM				*e*S	**Sn**	**04 14 11.8**	**+0.2**
SABS	**Saba**	**2.16**	**138**	*e*P	**Pn**	**04 13 47.5**	**+1.9**
SABS				*e*S	**Sn**	**04 14 15.3**	**+3.4**
SABT	**Saba**	**2.16**	**138**	*e*P	**Pn**	**04 13 46.1**	**+0.5**
SABT				*e*S	**Sn**	**04 14 13.1**	**+1.1**
LRS	**Lares**	**2.20**	**245**	*e*P	**Pn**	**04 13 46.0**	**-0.1**
LRS				*e*S	**Sn**	**04 14 13.3**	**+0.5**
LSP	**Las Mesas**	**2.45**	**245**	*e*P	**Pn**	**04 13 50.3**	**+0.5**
LSP				*e*S	**Sn**	**04 14 19.3**	**0.0**
MGP	**Maguayo**	**2.53**	**241**	*e*P	**Pn**	**04 13 50.9**	**0.0**
MGP				*e*S	**Sn**	**04 14 21.8**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.55**	**241**	*e*P	**Pn**	**04 13 50.6**	**-0.5**
CRPR				*e*S	**Sn**	**04 14 21.4**	**-0.4**
SKDB	**Saint Kitts 2**	**2.61**	**135**	*e*P	**Pn**	**04 13 57.0**	**+5.1**
SKDB				*e*S	**Sn**	**04 14 23.6**	**+0.3**
SKDB	**Saint Kitts 2**	**2.61**	**135**	*e*P	**Pn**	**04 13 53.0**	**+1.1**
SKDB				*e*S	**Sn**	**04 14 23.6**	**+0.3**
SKI	**Saint Kitts**	**2.70**	**135**	*e*P	**Pn**	**04 13 56.1**	**+2.9**
SKI				*e*S	**Sn**	**04 14 25.3**	**-0.3**
SKI	**Saint Kitts**	**2.70**	**135**	*e*P	**Pn**	**04 13 54.0**	**+0.7**
SKI				*e*S	**Sn**	**04 14 25.3**	**-0.3**
SKTB	**Turtle Beach**	**2.87**	**135**	*e*P	**Pn**	**04 13 56.5**	**+0.8**
SKTB				*e*S	**Sn**	**04 14 30.4**	**+0.5**
SEG	**Port Louis**	**4.19**	**132**	*e*P	**Pn**	**04 14 12.9**	**-1.6**
SEG				*e*S	**Sn**	**04 15 01.6**	**-1.8**
LZG	**Guadaloupe-1**	**4.20**	**137**	*e*P	**Pn**	**04 14 13.9**	**-0.6**
SCG	**Saint Claude**	**4.34**	**137**	*e*P	**Pn**	**04 14 16.5**	**0.0**
PHG	**Guadaloupe-2**	**4.38**	**137**	*e*P	**Pn**	**04 14 17.3**	**+0.3**
DOG	**Dongo Capester**	**4.38**	**136**	*e*P	**Pn**	**04 14 17.6**	**+0.5**
DEG	**La Desirade**	**4.57**	**129**	*e*P	**Pn**	**04 14 16.2**	**-3.7**
DEG				*e*S	**Sn**	**04 15 08.9**	**-4.0**
MGG	**Marie-Galante**	**4.66**	**135**	*e*P	**Pn**	**04 14 17.9**	**-3.2**
BBL	**Barber's Block**	**4.85**	**139**	*e*P	**Pn**	**04 14 22.7**	**-1.1**
SDV	**Santo Domingo**	**11.77**	**210**	*e*P	**P**	**04 15 59.0**	**-0.9**

*NEIC **31** 04:15:30.4, 19.09N×64.66W, h23km, MD3.6(RSPR), After RSPR.*

RSPR 31 04:15:30.4, 19.09N×64.66W, h23km±17km, MD3.6/7, MD3.6/7, 6C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.79**	**201**	*e*P	Pb	04 15 43.4	-1.8
STVI				*e*S	Sb	04 15 54.0	-1.5
CDVI	**St. Croix**	**1.33**	**184**	*e*P	Pn	04 15 53.0	-0.9
CDVI				*e*S	Sn	04 15 57.7	-3.6
HUMP	**Col San Antoni**	**1.47**	**230**	*e*P	Pn	04 15 52.9	-2.9
HUMP				*e*S	Sn	04 16 10.8	-3.7
ICM	**Isla Caja Muer**	**2.13**	**236**	*e*P	Pn	04 16 03.2	-2.1
ICM				*e*S	Sn	04 16 27.6	-3.6
LRS	**Lares**	**2.22**	**249**	*e*P	Pn	04 16 03.8	-2.7
LSP	**Las Mesas**	**2.47**	**249**	*e*P	Pn	04 16 07.6	-2.6
MGP	**Maguayo**	**2.54**	**245**	*e*P	Pn	04 16 08.0	-3.1
CRPR	**Cabo Rojo, PR**	**2.56**	**246**	*e*P	Pn	04 16 08.5	-3.0

*CSEM **31** 04:16:19.4±0.1, 58.75N×15.05E, h2km, ML3.5/3, Error ellipse: s-maj=2.3km s-min=1.3km az=46.0, Suspected Mining explosion.*
*UPP **31** 04:16:20.4, 58.81N×15.19E, h3km, ML3.3, Suspected Mining explosion.*
*NAO **31** 04:16:21.4±5.0, 58.87N×15.02E, h7km±29km, ML2.1*
*BER **31** 04:16:22.4±4.5, 58.85N×14.99E, MD3.3, ML2.3, ML2.1(NAO)*

HEL 31 04:16:20.5±0.1, 58.81N×15.14E, ML2.4, ML3.3(UPP), ML2.3(BER), 6D, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASKU	**Askersund**	**0.18**	**298**	*i*P	Pg	04 16 24.5	+0.3
ASKU				*i* S	Sg	04 16 26.9	+0.3
ASKU	**Askersund**	**0.18**	**298**	P	Pg	04 16 24.4	+0.2
LNKU	**Linkoeping**	**0.62**	**162**	*i*P	Pg	04 16 31.8	-1.0
LNKU	**Linkoeping**	**0.62**	**162**	P	Pg	04 16 31.7	-1.1
NRAU	**Nora**	**0.77**	**356**	*i*P	Pg	04 16 34.5	-1.3
NRAU	**Nora**	**0.77**	**356**	P	Pg	04 16 34.4	-1.4
ESKU	**Eskilstuna**	**0.78**	**56**	*i*P	Pg	04 16 34.8	-1.2
ESKU				*i* S	Sg	04 16 44.4	-1.9
ESKU	**Eskilstuna**	**0.78**	**56**	P	Pg	04 16 34.7	-1.3
VIKU	**Vikbolandet**	**0.87**	**110**	*i* P	Pg	04 16 35.5	-2.4
VIKU	**Vikbolandet**	**0.87**	**110**	P	Pg	04 16 35.4	-2.5
VSTU	**Vaestervik**	**1.37**	**147**	*e*P	Pb	04 16 45.3	-1.4
BACU	**Backbrunna**	**1.46**	**43**	*e*P	Pn	04 16 47.1	-1.0
BACU	**Backbrunna**	**1.46**	**43**	P	Pn	04 16 47.1	-1.0
NYNU	**Nynaeshamn**	**1.50**	**81**	*e*P	Pn	04 16 46.9	-1.9
NYNU	**Nynaeshamn**	**1.50**	**81**	P	Pn	04 16 46.8	-1.9
HFS	**Hagfors**	**1.52**	**332**	*e*PG	Pg	04 16 47.9	-2.9
HFS				*e*SB	Sb	04 17 07.3	-1.7
HFS	**Hagfors**	**1.52**	**332**	Pn	Pn	04 16 47.9	-1.1
	baz=151,slow=18						
HFS				Lg		04 17 07.3	
	baz=142,slow=37						
HFS	**Hagfors**	**1.52**	**332**	Pn	Pn	04 16 47.9	-1.1
	SNR=6.1						
HFS				Sb	Sb	04 17 07.3	-1.7
ASPU	**Aespoe**	**1.59**	**150**	*e*P	Pn	04 16 49.1	-1.0
OSKU	**Oskarshamn**	**1.70**	**162**	*e*P	Pn	04 16 51.0	-0.6
OSKU	**Oskarshamn**	**1.70**	**162**	P	Pn	04 16 50.9	-0.7
FALU	**Falun**	**1.73**	**11**	*e*P	Pn	04 16 51.7	-0.3
OSTU	**Oestervaala**	**1.75**	**35**	*e*P	Pn	04 16 52.1	-0.3
OSTU	**Oestervaala**	**1.75**	**35**	P	Pn	04 16 52.0	-0.3
DEL	**Delary**	**2.44**	**197**	*e*P	Pn	04 17 01.7	-0.6
KONO	**Kongsberg**	**2.97**	**289**	*e*P	Pn	04 17 06.9	-2.9
KONO				*e*S	Sn	04 17 41.9	-4.7
KONO	**Kongsberg**	**2.97**	**289**	P	Pn	04 17 06.8	-3.0
KONO				S	Sn	04 17 41.9	-4.7
NB2	**NORSAR Subarra**	**2.98**	**320**	*e*P	Pn	04 17 07.7	-2.3
NB2				*e*PB	Pb	04 17 11.6	-2.7
NB2				*e*SG	Sg	04 17 52.2	-7.6
NB2	**NORSAR Subarra**	**2.98**	**320**	Pn	Pn	04 17 07.7	-2.3
	baz=141,slow=14						
NB2				Pg	Pg	04 17 11.6	-8.5
NB2				Lg		04 17 52.2	
	baz=131,slow=37						
NB2	**NORSAR Subarra**	**2.98**	**320**	Pg	Pg	04 17 11.6	-8.5
NB2				Sg	Sg	04 17 52.2	-7.7
COP	**Copenhagen**	**3.46**	**206**	*i* P	Pn	04 17 22.5	+5.8
COP				*i* S	Sn	04 18 09.5	+10
BSD	**Bornholm Skovb**	**3.71**	**182**	*i* P	Pn	04 17 18.4	-1.8
BSD				*i*		04 17 26.6	
BSD				*i* S	Sn	04 18 14.6	+9.3
MUD	**Monsted U'grnd**	**3.98**	**236**	*i* P	Pn	04 17 22.2	-1.9
MUD				*i* S	Sn	04 18 09.2	-3.0
MUD				eLG		04 18 21.3	
SNART	**Snartemo**	**4.18**	**267**	*e*P	Pn	04 17 25.1	-1.9
SNART				*e*S	Sn	04 18 11.4	-5.9
SNART				AML	AML	04 18 32.5	
	comp=Z,11nm,0.3s						
DOMB	**Dombas**	**4.42**	**320**	*e*SG	Sg	04 18 38.0	-10
DOMB	**Dombas**	**4.42**	**320**	Sg	Sg	04 18 37.9	-10
ODD1	**Odda**	**4.49**	**288**	*e*SG	Sg	04 18 38.1	-12
ODD1				AML	AML	04 18 39.8	
	comp=Z,15nm,0.6s						
ODD1	**Odda**	**4.49**	**288**	Sg	Sg	04 18 38.1	-12
	comp=Z,15nm,0.6s						
BLS5	**Blasjo**	**4.52**	**282**	*e*P	Pn	04 17 28.2	-3.5
BLS5				*e*SG	Sg	04 18 41.8	-9.1
BLS5				AML	AML	04 18 44.2	
	comp=Z,15nm,0.2s						
HYA	**Hoyanger**	**5.08**	**302**	*e*SG	Sg	04 18 57.0	-13
HYA				AML	AML	04 18 58.0	
	comp=Z,14nm,0.7s						
HYA	**Hoyanger**	**5.08**	**302**	*e*Sg	Sg	04 18 57.0	-13
	comp=Z,14nm,0.7s,SNR=90						
KMY	**Karmoy**	**5.13**	**279**	*e*P	Pn	04 17 36.2	-4.3
EGD	**Espegrend**	**5.25**	**290**	*e*SG	Sg	04 19 01.1	-14
EGD				AML	AML	04 19 10.1	
	comp=Z,11nm,0.6s						
EGD	**Espegrend**	**5.25**	**290**	*e*Sg	Sg	04 19 01.1	-14
	comp=Z,11nm,0.6s,SNR=90						
MOL	**Molde**	**5.30**	**319**	*e*P	Pn	04 17 45.3	+2.4
MOL				*e*Sg	Sg	04 19 09.1	-8.0
KEF	**Keuruu**	**5.87**	**51**	*e*P	Pn	04 17 48.2	-2.6
KEF				*e*S	Sn	04 18 53.3	-6.5
NSS	**Namsos**	**5.94**	**347**	*e*P	Pn	04 17 48.0	-3.8
NSS				*e*S	Sn	04 18 53.5	-8.0
FIA0	**FINESS Array S**	**6.07**	**60**	Pn	Pn	04 17 51.7	-2.0
	baz=248,slow=12						
FIA0				Sn	Sn	04 18 59.5	-5.4
	baz=254,slow=22						
FIA0				Lg		04 19 27.9	
	baz=255,slow=28						
FIA0	**FINESS Array S**	**6.07**	**60**	*e*P	Pn	04 17 51.9	-1.8
FIA0				*e*S	Sn	04 18 58.9	-5.9
FIA0				*e*SG	Sg	04 19 26.2	-16
KAF	**Kangasniemi**	**6.44**	**54**	*e*P	Pn	04 17 56.4	-2.5
KAF				*e*S	Sn	04 19 06.7	-7.3
KAF				*e*SG	Sg	04 19 36.9	-18
KAF				MSG		04 19 42.1	
	comp=Z,2.9nm,0.3s						
VJF	**Virojoki**	**6.52**	**69**	*e*P	Pn	04 17 57.4	-2.7
VJF				*e*S	Sn	04 19 05.4	-7.1
SUF	**Sumiainen**	**6.67**	**49**	*e*P	Pn	04 17 59.0	-3.1
SUF				*e*S	Sn	04 19 11.2	-8.5
SUF				*e*SG	Sg	04 19 44.0	-18
SUF				MSG		04 19 47.9	
	comp=Z,2.5nm,0.3s						
MOR8	**Moi Rana**	**7.40**	**358**	*e*P	Pn	04 18 10.9	-1.4
MOR8				*e*S	Sn	04 19 33.5	-4.5
MOR8				AML	AML	04 19 35.3	
	comp=Z,2.1nm,0.5s						
KJN	**Kajaani**	**8.01**	**43**	*e*P	P	04 18 17.6	-3.3
KJN				*e*S	Sn	04 19 44.0	-9.3
KJN				*e*SG	Sg	04 20 23.4	-24
OUL	**Oulu**	**8.07**	**34**	*e*P	P	04 18 17.7	-4.2
OUL				*e*S	Sn	04 19 45.4	-10
OUL				*e*SG	Sg	04 20 26.6	-23
KU4	**Liikasenvaara**	**10.06**	**35**	*e*P	P	04 18 43.9	-5.2
KU4				*e*S	S	04 20 31.0	-13
KIF	**Kilpisjarvi**	**10.53**	**11**	*e*P	P	04 18 50.2	-5.3
KIF				*e*S	S	04 20 42.2	-13
ARA0	**ARCESS Array S**	**11.65**	**18**	Pn	P	04 19 04.3	-6.6
	baz=201,slow=14						
ARA0				Sn	S	04 21 07.7	-15
	baz=210,slow=28						
ARA0	**ARCESS Array S**	**11.65**	**18**	*e*P	P	04 19 04.3	-6.6
ARA0				*e*S	S	04 21 07.7	-15
ARA0	**ARCESS Array S**	**11.65**	**18**	Sn	S	04 21 07.7	-15
	SNR=5.2						
APA0	**Apatity Array**	**11.89**	**35**	Pn	P	04 19 08.1	-6.1
	baz=229,slow=12						
APA0	**Apatity Array**	**11.89**	**35**	*e*P	P	04 19 08.1	-6.1
KEV	**Kevo**	**12.10**	**20**	*e*P	P	04 19 10.5	-6.5
KEV				*e*S	S	04 21 19.0	-15

*IDC **31** 04:19:57.2±0.8, 15.06S×177.34W, mb4.0/9, mb1 4.3/10, mb1mx4.2/15, mbtmp4.0/10, MS4.2/18, Ms1 4.2/18, ms1mx4.2/22, Error ellipse: s-maj=31.8km s-min=19.4km az=139.0*
*HRVD **31** 04:19:59.6±0.3, 15.03S×177.13W, h15km±1km, MW4.9/64, Centroid moment Tensor Solution. LP body waves: s30,c38; Mantle waves: s64,c105; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.04±.12; Mθθ=0.26±.12; Mφφ=0.29±.11; Mrθ=0.39±.32; Mrφ=3.14±.10; Mθφ=0.03±.32; Best double couple: M=3.177×10^16 NP1: φs=357°, δ=83°, λ=180°. NP2: φs=87°, δ=90°, λ=7°. Principal axes: T 3.195, Plg5°, Azm313°; N -.037, Plg83°, Azm88°; P -3.158, Plg5°, Azm222°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 04:19:59.6±0.4, 15.16S×177.32W, h15km, mb4.8/9, MS4.7/4 Error ellipse: s-maj=18.3km s-min=11.0km az=143.0*
*BJI **31** 04:19:59.5, 15.20S×177.30W, h15km, mB4.7, mb4.3, Ms4.8, Msz4.7*

ISC 31 04:20:01.2±0.5, 15.3S±0.1×177.2W±0.1, h33km, n74, σ1§10/31, mb4.3/19, MS4.2/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.45**	**76**	P	Pn	**04 21 19.6**	**-2.8**
	3.1nm,0.3s,baz=24,slow=15,SNR=5.8						
AFI				LR	LR	04 22 45.3	
	comp=Z,1μm,18.7s,baz=260,slow=30						
AFI	**Afiamalu**	**5.45**	**76**	*e*P	**P**	**04 21 18.4**	**-3.8**
	49nm,1.0s						
RAO	**Raoul Island**	**13.94**	**182**	LR	LR	04 27 40.5	
	comp=Z,720nm,18.6s,baz=322,slow=33						
DZM	**Mont Dzumac**	**16.88**	**244**	LR	LR	04 29 23.9	
	comp=Z,2μm,18.4s,baz=48,slow=34						
HNR	**Honiara**	**23.02**	**282**	LR	LR	04 32 33.0	
	comp=Z,2μm,20.3s,MS4.4,baz=138,slow=33						
URZ	**Urewera**	**23.45**	**191**	P	**P**	**04 25 09.2**	**+0.6**
	6.2nm,0.7s,mb4.1,slow=10,SNR=3.9						
URZ				LR	LR	04 32 47.7	
	comp=Z,999nm,18.9s,MS4.3,baz=42,slow=33						
URZ	**Urewera**	**23.45**	**191**	P	**P**	**04 25 09.2**	**+0.6**
URZ				LR	LR	04 32 47.7	
PPT	**Papeete**	**26.62**	**99**	*e*LQ		04 30 49.6	
	2μm,26.8s						
PPT				*e*LR	LR	04 32 05.4	
	721nm,26.2s,baz=256						
PPT	**Papeete**	**26.62**	**99**	LR	LR	04 33 18.6	
	comp=Z,211nm,18.9s,MS3.7,baz=272,slow=30						
TBI	**Tubuai**	**27.38**	**111**	*e*LQ		04 31 30.4	
	970nm,25.2s						
TBI				*e*LR	LR	04 32 33.4	
	1μm,26.8s,baz=286						
RPZ	**Rata Peaks**	**30.07**	**197**	LR	LR	04 34 59.2	
	comp=Z,175nm,19.7s,MS3.7,baz=16,slow=30						
TAOE	**Nuku Hiva Isla**	**36.78**	**84**	*e*LR	LR	04 36 37.1	
	1μm,27.2s						
RKT	**Rikitea**	**40.56**	**108**	*e*LR	LR	04 38 35.9	
	754nm,27.5s						
STKA	**Stephens Creek**	**40.93**	**239**	P	**P**	**04 27 42.4**	**+0.1**
	16nm,0.9s,mb4.6,baz=57,slow=7.9,SNR=26						
STKA				LR	LR	04 42 53.3	
	comp=Z,519nm,20.6s,MS4.4,baz=44,slow=34						
STKA	**Stephens Creek**	**40.93**	**239**	*e*P	**P**	**04 27 41.7**	**-0.7**
WRA	**Warramunga Arr**	**46.27**	**257**	P	**P**	**04 28 24.3**	**-1.5**
	1.6nm,1.0s,mb3.9,baz=92,slow=7.7,SNR=8.1						
SBA	**Scott Base**	**63.12**	**184**	P	**P**	**04 30 27.4**	**-0.2**
	4.6nm,1.2s,mb4.5						
VNDA	**Vanda**	**63.17**	**185**	LR	LR	04 53 06.8	
	comp=Z,89nm,20.6s,MS3.9,baz=25,slow=31						
MJAR	**Matsushiro Arr**	**66.49**	**322**	P	**P**	**04 30 46.4**	**-3.5**
	1.3nm,0.7s,mb4.1,baz=174,slow=6.8,SNR=5.7						
MJAR				LR	LR	04 53 58.8	
	comp=Z,154nm,21.2s,MS4.2,baz=160,slow=31						
JOW	**Kunigami**	**67.45**	**308**	LR	LR	04 54 43.0	
	comp=Z,149nm,20.3s,MS4.2,baz=123,slow=31						
YBH	**Yreka Blue Hor**	**75.77**	**39**	*e*P	**P**	**04 31 45.7**	**0.0**
	11nm,1.4s,mb4.6						
MDJ	**Mudanjiang**	**76.69**	**324**	P	**P**	**04 31 52.8**	**+2.0**
MDJ				AP	pP	04 31 56.0	-5.2
MDJ				XP	sP	04 31 57.3	-7.5
MDJ				PCP	PcP	04 32 03.5	+1.0
MDJ				PP	PP	04 34 44.5	-0.4
MDJ				S	S	04 41 41.8	+7.8
MDJ				XS		04 41 46.5	
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.7s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,43nm,3.7s						
MDJ				LR	LR		
	comp=N,90nm,26.9s						
MDJ				LR	LR		
	comp=E,109nm,33.0s						
MDJ				LR	LR		
	comp=Z,162nm,33.0s						
NJ2	**Nanjing**	**77.15**	**309**	*e*P	**P**	**04 31 55.0**	**+1.3**
NJ2				AP	pP	04 32 01.0	-3.0
NJ2				XP	sP	04 32 02.3	-5.4
NJ2				PP	PP	04 34 50.0	+1.0
NJ2				S	S	04 41 43.0	+3.8
NJ2				XS		04 41 52.0	
NJ2				LR	LR		
	comp=N,3μm,18.0s						
NJ2				LR	LR		
	comp=E,1μm,23.4s						
NJ2				LR	LR		
	comp=Z,2μm,28.1s						
DIV	**Divide**	**80.16**	**15**	P	**P**	**04 32 09.1**	**-0.3**
	comp=Z,18nm,0.9s,mb5.0						
MCK	**McKinley**	**81.72**	**12**	*e*P	**P**	**04 32 16.0**	**-1.6**
	comp=Z,3.5nm,0.9s,mb4.3						
HLID	**Hailey**	**81.90**	**41**	*e*P	**P**	**04 32 19.1**	**+0.2**
	comp=Z,11nm,1.5s,mb4.6						
ILAR	**Eielson Array**	**83.06**	**13**	P	**P**	**04 32 23.5**	**-1.0**
	comp=Z,2.0nm,0.8s,mb4.2,baz=226,slow=6.3,SNR=18						
ILAR				LR	LR	05 01 02.6	
	comp=Z,54nm,21.8s,MS3.9,baz=359,slow=30						
PV01	**Paradox Valley**	**83.33**	**48**	*e*P	**P**	**04 32 26.9**	**+0.5**
MCMT	**McKenzie Canyo**	**83.50**	**40**	*e*P	**P**	**04 32 27.4**	**+0.3**
TXAR	**Lajitas Array**	**83.63**	**57**	P	**P**	**04 32 28.9**	**+0.7**
	comp=Z,0.7nm,0.9s,mb3.8,baz=225,slow=3.5,SNR=5.7						
TXAR				LR	LR	05 02 57.9	
	comp=Z,274nm,18.8s,MS4.7,baz=225,slow=31						
RRI2	**Red Ridge**	**83.77**	**42**	*e*P	**P**	**04 32 28.6**	**+0.1**
	comp=Z,19nm,1.4s,mb5.0						
REDW	**Red Top Meadow**	**84.08**	**42**	*e*P	**P**	**04 32 32.3**	**+2.1**
	comp=Z,19nm,1.4s,mb5.0						
QLMT	**Earthquake Lak**	**84.39**	**41**	*e*P	**P**	**04 32 32.5**	**+0.8**
BOZ	**Bozeman (W)**	**84.65**	**40**	*e*P	**P**	**04 32 32.3**	**-0.6**
	comp=Z,14nm,1.6s,mb4.4						
BW06	**Boulder Array**	**84.66**	**43**	P	**P**	**04 32 33.7**	**+0.7**
	comp=Z,2.6nm,1.3s,mb4.2						
PDAR	**Pinedale Array**	**84.66**	**43**	P	**P**	**04 32 32.6**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.8,baz=243,slow=3.3,SNR=7.2						
PDAR				LR	LR	05 02 52.7	
	comp=Z,152nm,20.6s,MS4.4,baz=241,slow=30						
PDAR	**Pinedale Array**	**84.66**	**43**	P	**P**	**04 32 32.6**	**-0.4**
PDAR				LR	LR	05 02 52.7	
SMCO	**Snowmass**	**84.90**	**47**	*e*P	**P**	**04 32 36.0**	**+1.6**
MAW	**Mawson**	**86.72**	**199**	LR	LR	05 11 06.1	
	comp=Z,146nm,19.4s,MS4.4,baz=233,slow=35						
EDM	**Edmonton**	**87.33**	**33**	*e*P	**P**	**04 32 44.9**	**-0.9**
YKA	**Yellowknife Ar**	**91.46**	**24**	P	**P**	**04 33 05.1**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.9,baz=247,slow=4.6,SNR=4.9						
YKA				LR	LR	05 08 12.8	
	comp=Z,322nm,19.6s,MS4.8,baz=245,slow=32						
YKA	**Yellowknife Ar**	**91.46**	**24**	P	**P**	**04 33 05.1**	**-0.1**
YKA				LR	LR	05 08 12.8	
SONM	**Songino Array**	**92.29**	**319**	P	**P**	**04 33 08.3**	**-1.1**
	comp=Z,0.2nm,0.5s,mb3.7,baz=108,slow=4.6,SNR=2.3						
SONM				LR	LR	05 07 25.8	
	comp=Z,85nm,20.7s,MS4.2,baz=320,slow=31						
ULM	**Lac du Bonnet**	**96.16**	**40**	LR	LR	05 10 19.3	
	comp=Z,213nm,21.2s,MS4.6,baz=255,slow=32						
BRTR	**Keskin Array B**	**143.65**	**318**	PKP	PKPdf	04 39 32.2	-0.8
	comp=Z,0.4nm,0.5s,baz=45,slow=4.1,SNR=3.5						
PSZ	**Piszkesteto**	**144.49**	**340**	*e*P	PKPbc	04 39 34.6	+0.7
GRF	**Grafenberg Arr**	**144.97**	**350**	*e*PKP	PKPdf	04 39 35.0	0.0
**KHC

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**25.95**	**184**	P	P	05 15 48.4	-2.4
	6.4nm,1.0s,baz=15,slow=12,SNR=10						
WRA	**Warramunga Arr**	**28.57**	**166**	P	P	05 16 14.1	-0.4
	1.6nm,0.6s,baz=347,slow=10,SNR=14						
STKA	**Stephens Creek**	**41.89**	**162**	P	P	05 18 04.3	-3.2
	0.8nm,0.5s,baz=330,slow=15,SNR=2.7						
MKAR	**Makanchi Array**	**54.50**	**323**	P	P	05 19 42.2	-2.4
	2.0nm,0.7s,baz=121,slow=7.9,SNR=18						
BVAR	**Borovoye Array**	**64.16**	**326**	P	P	05 20 48.3	-2.4
	0.9nm,0.4s,baz=99,slow=5.8,SNR=6.9						
FINES	**FINESS Array B**	**88.41**	**332**	P	P	05 23 05.7	-0.3
	0.6nm,0.6s,baz=72,slow=4.4,SNR=5.7						

BJI **31** *05:16:39.8, 14.59S×76.33W, h53km, mB4.9, Ms5.0, Msz5.3*
IDC **31** *05:16:39.9±0.5, 14.34S×75.78W, h48km±3km, mb4.3/15, mb1 4.4/18, mb1mx4.3/21, mbtmp4.5/18, MS3.8/18, Ms1 3.8/18, ms1mx3.8/21, Error ellipse: s-maj=22.2km s-min=11.6km az=63.0*
NEIC **31** *05:16:39.8±0.2, 14.27S×75.70W, mb4.7/35, Error ellipse: s-maj=7.8km s-min=3.8km az=55.0*
NEIC Felt [III] at Ica.
ISC 31 05:16:37.9±0.3, 14.29S±0.05×75.75W±0.06, h48km, h48km±.7km:pP-P, n108, σ0≥95/89, mb4.7/46, MS4.1/17, 5C-2D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.53**	**335**	*e*Pn	**P**	**05 17 18.3**	**+0.9**
NNA				Sn	**S**	**05 17 50.0**	**+2.8**
ARE	**Arequipa**	**4.63**	**118**	⇓*i*P	**P**	**05 17 47.8**	**+0.6**
ARE				*i*		05 17 51.6	
ARE				*e*S	**S**	**05 18 41.0**	**+0.6**
LPAZ	**La Paz**	**7.61**	**106**	P	**P**	**05 18 32.5**	**+3.8**
	2.7nm,0.3s,baz=303,slow=8.6,SNR=134						
LPAZ				LR	LR	05 21 44.1	
	comp=Z,444nm,20.6s,baz=290,slow=40						
LPAZ	**La Paz**	**7.61**	**106**	*e*Pn	**P**	**05 18 32.5**	**+3.8**
	29nm,0.7s						
LVC	**Limon Verde**	**10.51**	**143**	P	**P**	**05 19 08.5**	**-0.3**
	4.8nm,0.3s,baz=308,slow=9.8,SNR=68						
LVC				S	**S**	**05 21 00.5**	**-5.6**
	2.0nm,0.3s,baz=75,slow=16,SNR=3.5						
LVC				LR	LR	05 22 57.9	
	comp=Z,502nm,20.9s,baz=319,slow=36						
LVC	**Limon Verde**	**10.51**	**143**	*e*P	**P**	**05 19 07.2**	**-1.5**
	43nm,0.7s						
SAML	**Samuel**	**13.40**	**68**	*e*P	**P**	**05 19 45.1**	**-2.4**
	35nm,0.3s						
SIV	**San Ignacio**	**14.27**	**99**	P	**P**	**05 19 59.4**	**+0.5**
	0.5nm,0.3s,baz=277,slow=13,SNR=26						
CFAA	**Coronel Fontan**	**18.55**	**159**	P	**P**	**05 20 54.2**	**+1.1**
	0.1nm,0.3s,baz=339,slow=11,SNR=30						
CFAA				LR	LR	05 27 04.7	
	comp=Z,40nm,19.5s,baz=357,slow=34						
CFAA	**Coronel Fontan**	**18.55**	**159**	P	**P**	**05 20 54.2**	**+1.1**
CFAA				LR	LR	05 27 04.7	
ROSC	**El Rosal**	**19.08**	**4**	P	**P**	**05 21 05.3**	**+6.0**
	0.8nm,0.3s,baz=130,slow=5.0,SNR=15						
CPUP	**Villa Florida**	**20.98**	**128**	LR	LR	05 30 43.0	
	comp=Z,174nm,20.1s,MS3.4,baz=183,slow=40						
SDV	**Santo Domingo**	**23.58**	**13**	P	**P**	**05 21 48.0**	**+2.7**
	18nm,0.8s,mb4.6,baz=225,slow=7.4,SNR=29						
SDV				LR	LR	05 32 11.3	
	comp=Z,423nm,19.8s,MS3.9,baz=210,slow=39						
SDV	**Santo Domingo**	**23.58**	**13**	*e*P	**P**	**05 21 47.5**	**+2.3**
	46nm,0.9s,mb4.9						
JTS	**JuntasAbangare**	**26.08**	**339**	P	**P**	**05 22 11.8**	**+2.7**
	9.4nm,0.7s,mb4.4,baz=235,slow=2.7,SNR=7.3						
JTS				LR	LR	05 31 23.9	
	comp=Z,239nm,21.9s,MS3.7,baz=131,slow=34						
JTS	**JuntasAbangare**	**26.08**	**339**	*e*P	**P**	**05 22 11.0**	**+1.9**
	16nm,0.8s,mb4.6						
TRQA	**Tornquist**	**26.63**	**155**	*e*P	**P**	**05 22 12.1**	**-1.9**
	18nm,1.1s,mb4.5						
PLCA	**Paso Flores**	**26.73**	**171**	P	**P**	**05 22 14.4**	**-0.4**
	3.4nm,0.7s,mb4.0,baz=343,slow=9.5,SNR=10						
PLCA				LR	LR	05 30 49.1	
	comp=Z,143nm,18.6s,MS3.6,baz=0.3,slow=32						
PLCA	**Paso Flores**	**26.73**	**171**	*e*P	**P**	**05 22 14.2**	**-0.6**
	53nm,2.0s,mb4.7						
BDFB	**Brasilia**	**26.82**	**96**	P	**P**	**05 22 16.1**	**+0.2**
	5.7nm,0.8s,mb4.2,baz=278,slow=11,SNR=7.9						
BDFB				LR	LR	05 33 48.9	
	comp=Z,480nm,21.4s,MS4.0,baz=282,slow=38						
BAO	**Brasilia Array**	**26.84**	**96**	P	**P**	**05 22 16.5**	**+0.4**
RCBR	**Riachuelo**	**40.07**	**82**	*e*P	**P**	**05 24 10.9**	**+0.4**
	32nm,1.2s,mb4.9						
LRAL	**Lakeview Retre**	**48.27**	**347**	*e*P	**P**	**05 25 15.4**	**-0.9**
	17nm,1.3s,mb4.9						
MYNC	**Murphy**	**49.73**	**351**	*e*P	**P**	**05 25 26.8**	**-0.8**
	5.0nm,0.8s,mb4.6						
TXAR	**Lajitas Array**	**51.07**	**328**	P	**P**	**05 25 38.2**	**+0.4**
	4.1nm,0.7s,mb4.5,baz=150,slow=8.9,SNR=73						
TXAR				sP	sP	05 25 57.4	+0.9
	5.4nm,0.7s,baz=147,slow=8.6,SNR=16						
TXAR				LR	LR	05 46 16.7	
	comp=Z,50nm,19.9s,MS3.5,baz=305,slow=35						
TXAR	**Lajitas Array**	**51.07**	**328**	P	**P**	**05 25 38.2**	**+0.4**
TXAR				sP	sP	05 25 57.4	+0.9
TXAR				LR	LR	05 46 16.7	
UALR	**University of**	**51.28**	**342**	*e*P	**P**	**05 25 38.9**	**-0.4**
	34nm,1.1s,mb5.2						
WVT	**Waverly**	**51.43**	**347**	*e*P	**P**	**05 25 38.3**	**-2.2**
	3.5nm,0.9s,mb4.3						
ELN	**Prospectdale**	**51.46**	**355**	*e*P	**P**	**05 25 40.6**	**-0.1**
FWV	**Forest Hill**	**51.82**	**355**	*e*P	**P**	**05 25 42.9**	**-0.5**
WCI	**Wyandotte Cave**	**53.17**	**350**	*e*P	**P**	**05 25 52.0**	**-1.5**
	27nm,0.9s,mb5.2						
FVM	**French Village**	**53.80**	**346**	*e*P	**P**	**05 25 57.4**	**-0.7**
	9.0nm,0.9s,mb4.7						
MNTX	**Cornudas Mount**	**53.85**	**329**	*e*P	**P**	**05 25 57.6**	**-0.9**
	5.6nm,1.0s,mb4.5						
CCM	**Cathedral Cave**	**54.06**	**345**	*e*P	**P**	**05 25 58.7**	**-1.4**
	15nm,1.3s,mb4.8						
BLO	**Bloomington**	**54.13**	**350**	*e*P	**P**	**05 25 58.9**	**-1.7**
	7.3nm,0.7s,mb4.7						
BINY	**Binghamton**	**56.21**	**360**	*e*P	**P**	**05 26 15.1**	**-0.5**
	14nm,1.3s,mb4.8						
ANMO	**Albuquerque**	**56.99**	**330**	*e*P	**P**	**05 26 20.7**	**-0.6**
	8.0nm,1.1s,mb4.7						
TUC	**Tucson**	**57.21**	**325**	*e*P	**P**	**05 26 22.7**	**0.0**
	2.5nm,0.9s,mb4.2						
SDCO	**Great Sand Dun**	**58.83**	**333**	*e*P	**P**	**05 26 33.3**	**-0.7**
	13nm,0.9s,mb5.0						
PV01	**Paradox Valley**	**60.56**	**331**	*e*P	**P**	**05 26 45.8**	**-0.1**
SMCO	**Snowmass**	**60.66**	**332**	*e*P	**P**	**05 26 46.6**	**0.0**
PV10	**Paradox Valley**	**60.97**	**330**	*e*P	**P**	**05 26 48.1**	**-0.7**
NEN	**Nelson**	**61.94**	**324**	*e*P	**P**	**05 26 55.4**	**+0.1**
TMUT	**Trail Mountain**	**62.75**	**330**	*e*P	**P**	**05 27 00.8**	**+0.2**
RWWY	**Rawlins**	**62.82**	**334**	*e*P	**P**	**05 27 01.2**	**+0.1**
	11nm,0.8s,mb5.0						
RSSD	**Black Hills**	**63.60**	**338**	*e*P	**P**	**05 27 04.3**	**-1.9**
	14nm,1.4s,mb4.8						
HWUT	**Hardware Ranch**	**64.71**	**331**	*e*P	**P**	**05 27 12.8**	**-0.6**
	9.3nm,0.8s,mb4.9						
PDAR	**Pinedale Array**	**64.71**	**333**	P	**P**	**05 27 13.3**	**-0.1**
	1.8nm,0.9s,mb4.1,baz=135,slow=6.3,SNR=16						
PDAR				LR	LR	05 53 28.5	
	comp=Z,65nm,20.8s,MS3.8,baz=336,slow=34						
MTUM	**Tungsten Hills**	**65.27**	**323**	*e*P	**P**	**05 27 17.8**	**+0.7**
OMM	**Old Mammoth Mi**	**65.69**	**323**	*e*P	**P**	**05 27 20.9**	**+1.0**
OMM				*e*pP	pP	05 27 34.2	+0.8
LOHW	**Long Hollow**	**65.85**	**333**	*e*P	**P**	**05 27 20.3**	**-0.4**
	4.8nm,1.1s,mb4.4						
ELK	**Elko**	**65.86**	**328**	*e*P	**P**	**05 27 20.6**	**-0.2**
	2.9nm,0.8s,mb4.4						
TPAW	**Teton Pass**	**65.91**	**333**	*e*P	**P**	**05 27 21.2**	**+0.2**
	16nm,1.4s,mb4.9						
RRI2	**Red Ridge**	**65.96**	**332**	*e*P	**P**	**05 27 21.7**	**+0.3**
	17nm,0.9s,mb5.1						
RRI2				*e*pP	pP	05 27 35.6	+0.6
LRV	**Little Rabbit**	**66.10**	**321**	*e*P	**P**	**05 27 24.4**	**+2.0**
LRV				*e*pP	pP	05 27 37.3	+1.2
ULM	**Lac du Bonnet**	**66.66**	**346**	P	**P**	**05 27 24.9**	**-0.8**
	7.5nm,0.7s,mb4.9,baz=163,slow=6.1,SNR=9.5						
ULM				pP	pP	05 27 38.6	-0.8
	7.9nm,0.7s,baz=155,slow=5.7,SNR=6.0						
ULM				sP	sP	05 27 44.6	0.0
	10nm,0.8s,baz=157,slow=4.9,SNR=5.2						
ULM	**Lac du Bonnet**	**66.66**	**346**	*e*P	**P**	**05 27 24.5**	**-1.2**
	30nm,1.4s,mb5.1						
ULM				*e*pP	pP	05 27 38.2	-1.2
HLID	**Hailey**	**67.56**	**331**	*e*P	**P**	**05 27 32.2**	**+0.7**
	4.6nm,0.8s,mb4.6						
MCMT	**McKenzie Canyo**	**67.80**	**332**	*e*P	**P**	**05 27 33.6**	**+0.7**
BOZ	**Bozeman (W)**	**67.91**	**334**	*e*P	**P**	**05 27 33.5**	**-0.2**
	8.8nm,1.3s,mb4.6						
BOZ				*e*pP	pP	05 27 45.7	-1.6
VNA3	**Neumayer Olymp**	**68.94**	**162**	⇑*i*P	**P**	**05 27 39.6**	**0.0**
VNA3				*e*	pP	05 27 53.1	-0.2
VNA3				*e*		05 28 03.2	
VNA1	**Neumayer--Stat**	**69.20**	**161**	P	**P**	**05 27 41.7**	**+0.5**
VNA1				*e*	pP	05 27 55.4	+0.4
VNA1				*e*		05 28 05.2	
SCHQ	**Schefferville**	**69.27**	**5**	P	**P**	**05 27 41.5**	**-0.4**
	7.2nm,0.8s,mb4.7,baz=182,slow=6.1,SNR=11						
SCHQ	**Schefferville**	**69.27**	**5**	P	**P**	**05 27 41.5**	**-0.4**
MOD	**Modoc**	**69.36**	**326**	*e*P	**P**	**05 27 43.3**	**+0.6**
	5.2nm,0.9s,mb4.5						
VNA2	**Neumayer--Watz**	**69.56**	**161**	⇑*i*P	**P**	**05 27 43.2**	**-0.2**
VNA2				*e*	pP	05 27 57.2	+0.1
VNA2				*e*		05 28 06.7	
MSO	**Missoula**	**69.83**	**333**	*e*P	**P**	**05 27 45.7**	**+0.2**
	7.0nm,1.1s,mb4.5						
MSO				*e*pP	pP	05 27 59.3	+0.1
BMO	**Blue Mountains**	**69.91**	**330**	*e*P	**P**	**05 27 45.5**	**-0.5**
	2.6nm,0.8s,mb4.2						
PPT	**Papeete**	**70.66**	**256**	LR	LR	05 50 05.7	
	comp=Z,98nm,21.3s,MS4.0,baz=151,slow=28						
SNAA	**Sanae**	**71.16**	**161**	⇑*i*P	**P**	**05 27 52.8**	**-0.3**
SNAA				*e*	pP	05 28 05.9	-1.0
SNAA				*e*		05 28 16.3	
WALA	**Waterton Lakes**	**71.54**	**335**	*e*P	**P**	**05 27 56.1**	**+0.3**
	7.1nm,1.2s,mb4.5						
DBIC	**Dimbokro**	**73.32**	**78**	P	**P**	**05 28 07.2**	**+0.2**
	6.0nm,0.8s,mb4.5,baz=299,slow=7.2,SNR=5.4						
DBIC				LR	LR	05 58 42.2	
	comp=Z,120nm,19.8s,MS4.2,baz=248,slow=34						
FCC	**Fort Churchill**	**74.33**	**350**	*e*P	**P**	**05 28 10.9**	**-1.0**
	10nm,1.1s,mb4.7						
EDM	**Edmonton**	**74.59**	**338**	*e*P	**P**	**05 28 13.2**	**-0.3**
EDM				*e*pP	pP	05 28 26.5	-0.8
QSPA	**South Pole Qui**	**75.85**	**180**	⇑*i*P	**P**	**05 28 21.3**	**+1.0**
	10.0nm,0.8s,mb4.8						
YKA	**Yellowknife Ar**	**82.34**	**343**	P	**P**	**05 28 55.6**	**-0.1**
	3.2nm,0.8s,mb4.3,baz=136,slow=5.5,SNR=22						
YKA				pP	pP	05 29 09.8	0.0
	2.2nm,0.7s,baz=138,slow=5.5,SNR=6.2						
YKA				sP	sP	05 29 16.2	+1.2
	3.4nm,0.8s,baz=136,slow=5.2,SNR=4.8						
YKA				LR	LR	06 09 28.5	
	comp=Z,68nm,19.0s,MS4.0,baz=90,slow=38						
YKA	**Yellowknife Ar**	**82.34**	**343**	P	**P**	**05 28 55.6**	**-0.1**
YKA				pP	pP	05 29 09.8	0.0
YKA				sP	sP	05 29 16.2	+1.2
YKA				LR	LR	06 09 28.5	
YKW3	**Yellowknife Ar**	**82.40**	**343**	*e*P	**P**	**05 28 55.6**	**-0.4**
YKW3				*e*pP	pP	05 29 10.5	+0.5
VNDA	**Vanda**	**82.73**	**191**	P	**P**	**05 28 58.8**	**+1.2**
	2.7nm,0.7s,mb4.4,baz=130,slow=5.6,SNR=6.1						
VNDA				LR	LR	05 56 35.3	
	comp=Z,118nm,22.0s,MS4.2,baz=123,slow=29						
DLBC	**Dease Lake**	**84.89**	**335**	P	**P**	**05 29 10.8**	**+2.1**
	6.7nm,0.8s,mb4.8,baz=134,slow=5.2,SNR=16						
DLBC	**Dease Lake**	**84.89**	**335**	*e*P	**P**	**05 29 10.0**	**+1.4**
SYO	**Syowa Base**	**85.45**	**161**	⇓P	**P**	**05 29 10.0**	**-1.2**
SYO	**Syowa Base**	**85.45**	**161**	⇑PcP	PcP	05 29 12.0	-2.6
ESDC	**Sonseca Array**	**85.53**	**47**	P	**P**	**05 29 13.5**	**+1.1**
	0.1nm,0.3s,baz=264,slow=5.5,SNR=4.4						
ESDC				pP	pP	05 29 28.3	+1.9
	1.7nm,0.8s,baz=254,slow=5.4,SNR=4.8						
ESDC				sP	sP	05 29 34.3	+2.8
	1.0nm,0.6s,baz=257,slow=5.5,SNR=3.9						
SUMG	**Summit**	**90.09**	**11**	*e*P	**P**	**05 29 35.2**	**+1.7**
	13nm,0.8s,mb5.3						
DAWY	**Dawson**	**91.78**	**337**	*e*P	**P**	**05 29 42.1**	**+0.6**
INK	**Inuvik**	**92.04**	**342**	P	**P**	**05 29 43.1**	**+0.5**
	4.9nm,0.8s,mb4.9,baz=121,slow=2.7,SNR=9.8						
INK				LR	LR	06 14 26.5	
	comp=Z,70nm,20.4s,MS4.1,baz=98,slow=38						
BOSA	**Boshof**	**92.62**	**120**	LR	LR	06 09 05.6	
	comp=Z,91nm,18.1s,MS4.3,baz=224,slow=34						
MAW	**Mawson**	**92.99**	**165**	P	**P**	**05 29 47.2**	**+0.3**
	2.6nm,0.7s,mb4.8,baz=272,slow=18,SNR=6.0						
MAW				pP	pP	05 30 01.7	+0.5
	6.0nm,1.1s,baz=252,slow=7.1,SNR=5.1						
MAW				LR	LR	06 08 46.5	
	comp=Z,127nm,19.7s,MS4.4,baz=7.1,slow=34						
ILAR	**Eielson Array**	**95.01**	**336**	P	**P**	**05 29 56.7**	**+0.5**
	1.8nm,0.8s,mb4.5,baz=155,slow=3.4,SNR=20						
ILAR				pP	pP	05 30 12.0	+1.5
	0.7nm,0.8s,baz=161,slow=3.2,SNR=3.7						
ILAR				LR	LR	06 11 54.9	
	comp=Z,36nm,20.4s,MS3.8,baz=359,slow=35						
GERES	**GERESS Array B**	**100.25**	**42**	P	P	05 30 22.0	+1.7
	0.7nm,0.7s,baz=225,slow=3.8,SNR=7.7						
GERES				pP		05 30 35.8	
	0.6nm,0.8s,baz=236,slow=4.8,SNR=3.5						
STKA	**Stephens Creek**	**121.79**	**217**	PKP	PKPdf	05 35 28.4	+1.2
	0.9nm,0.5s,baz=325,slow=14,SNR=3.9						
STKA				pPKP		05 35 43.0	
	1.8nm,0.8s,baz=269,slow=14,SNR=3.1						
STKA	**Stephens Creek**	**121.79**	**217**	PKP	PKPdf	05 35 28.4	+1.1
STKA				pPKP		05 35 43.0	
BVAR	**Borovoye Array**	**132.98**	**27**	PKP	PKPdf	05 35 50.8	+2.6
	1.4nm,0.8s,baz=243,slow=3.3,SNR=10						
BVAR				pPKP		05 36 04.9	
	1.9nm,1.1s,baz=297,slow=3.3,SNR=4.1						
ZAL	**Zalesovo**	**137.59**	**17**	PKP	PKPdf	05 35 58.9	+2.2
	3.3nm,0.8s,baz=191,slow=4.5,SNR=3.4						
KURK	**Kurchatov**	**138.16**	**24**	*e*P	PKPdf	05 35 59.5	+1.7
MJAR	**Matsushiro Arr**	**142.47**	**312**	PKhKP		05 36 02.8	
	1.5nm,0.7s,baz=95,slow=4.0,SNR=5.5						
MKAR	**Makanchi Array**	**142.75**	**25**	PKP	PKPdf	05 36 06.7	+0.6
	2.1nm,0.9s,baz=325,slow=1.7,SNR=13						
KSH	**Kashi**	**144.67**	**39**	*e*PKP	PKPdf	05 36 12.5	+2.9
CN2	**Changchun**	**145.46**	**333**	*e*PKP	PKPdf	05 36 11.0	+0.2
SONM	**Songino Array**	**146.51**	**357**	PKPbc	PKPbc	05 36 16.5	+2.7
	14nm,0.8s,baz=331,slow=2.3,SNR=60						
SONM				pPKPbc		05 36 29.2	
	15nm,1.0s,baz=333,slow=2.8,SNR=9.1						
WMQ	**Urumqi**	**147.34**	**22**	*e*PKP	PKPdf	05 36 15.5	+1.5
DDI	**Dehra Dun**	**151.09**	**52**	*e*	PKPdf	05 36 28.0	+7.7
HHC	**Hu-ho-hao-te**	**152.78**	**348**	*e*PKP	PKPdf	05 36 23.3	+0.8
HHC				PKS	PKS	05 39 57.8	+1.9
HHC				SKS	SKS	05 43 25.0	+2.1
HHC				SKKS		05 46 57.0	
HHC				PP	PP		
	comp=Z,97nm,10.7s						
HHC				LR	LR		
	comp=N,288nm,19.0s,MS5.3						
HHC				LR	LR		
	comp=E,366nm,17.8s,MS5.3						
HHC				LR	LR		
	comp=Z,330nm,15.4s,MS5.3						
GTA	**Gaotai**	**154.68**	**8**	PKP	PKPdf	05 36 28.3	+3.2
GTA				XPKP		05 36 43.3	
GTA				PKP2	PKPab	05 36 55.0	+4.0
GTA				PP	PP	05 40 32.5	+4.7
SSE	**Sheshan**	**157.17**	**320**	PKP	PKPdf	05 36 30.0	+1.4
SSE				LR	LR		
	comp=N,57nm,17.3s,MS4.8						
SSE				LR	LR		
	comp=E,104nm,17.0s,MS4.8						
SSE				LR	LR		
	comp=Z,106nm,15.8s,MS4.8						
NJ2	**Nanjing**	**157.85**	**325**	*e*PKP	PKPdf	05 36 32.0	+2.5
NJ2				APKP		05 36 42.5	
NJ2				PKP2	PKPab	05 37 07.5	+2.6
NJ2				PKS	PKS	05 40 05.0	+2.7
NJ2				PP	PP	05 40 50.0	+4.3
NJ2				LR	LR		
	comp=Z,1μm,20.0s						
LZH	**Lanzhou**	**158.30**	**1**	*e*PKP	PKPdf	05 36 32.0	+2.1
LZH				APKP		05 36 44.0	
LZH				XPKP		05 36 48.5	

IDC **31** *05:40:07.0±1.1, 0.97N×97.00E, mb3.9/11, mb1 4.1/11, mb1mx3.9/19, mbtmp3.9/11, MS3.9/2, Ms1 3.9/2, ms1mx3.3/26, Error ellipse: s-maj=44.0km s-min=19.6km az=50.0*
MOS **31** *05:40:09.6±2.0, 0.90N×96.95E, h33km, mb4.7/7, Error ellipse: s-maj=23.1km s-min=10.8km az=95.5*
NEIC **31** *05:40:09.9±0.7, 0.97N×97.03E, mb4.6/6, Error ellipse: s-maj=18.7km s-min=13.3km az=48.0*
BJI **31** *05:40:11.2, 0.92N×97.24E, h20km, mB5.0, mb4.8, Ms4.3, Msz4.2*
ISC 31 05:40:10.9±0.8, 0.7N±0.1×97.1E±0.1, h33km, n54, σ1≥66/54, mb4.5/30, MS4.2/5, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.74**	**38**	⇑*e*P	**P**	**05 41 30.3**	**-5.6**
KULM				*e*		05 41 35.2	
KKM	**Kota Kinabalu**	**19.77**	**74**	*e*P	**P**	**05 44 41.0**	**-0.3**
KMI	**Kunming**	**24.85**	**12**	P	**P**	**05 45 30.0**	**-1.9**
KMI				AP		05 45 34.8	
KMI				S	**S**	**05 49 42.8**	**-7.1**
KMI				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.2						
KMI				AMB	AMB		
	comp=Z,228nm,4.0s						
KMI				LR	LR		
	comp=N,881nm,15.3s,MS4.5						
KMI				LR	LR		
	comp=E,592nm,11.8s,MS4.5						
KMI				LR	LR		
	comp=Z,742nm,14.2s,MS4.3						
KMI	**Kunming**	**24.85**	**12**	P	**P**	**05 45 30.0**	**-1.9**
KMI				*SP		05 45 37.2	
KMI						05 46 00.8	
KMI				PPP	PPP	05 46 12.4	-7.7
KMI				S	**S**	**05 49 42.8**	**-7.1**
KMI				SSS	SSS	05 50 49.3	-16
KMI				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.2						
KMI				MLR	MLR		
	comp=Z,740nm,14.2s,MS4.3						
KMI	**Kunming**	**24.85**	**12**	P	**P**	**05 45 30.0**	**-1.9**
	comp=Z,11nm,1.3s,mb4.2						
KMI				pP		05 45 34.7	
KMI				sP		05 45 37.2	
KMI				PP	PP	05 46 00.8	-8.4
KMI				PPP	PPP	05 46 12.4	-7.7
KMI				S	**S**	**05 49 42.8**	**-7.1**
KMI				sS		05 49 50.8	
KMI				SS	SS	05 50 33.5	-15
KMI				SSS	SSS	05 50 49.3	-16
KMI				LR	LR		
	comp=Z,740nm,14.2s,MS4.3						
SHL	**Shillong**	**25.20**	**349**	*e*P	**P**	**05 45 31.2**	**-4.1**
GYA	**Guiyang**	**27.18**	**19**	P	**P**	**05 45 55.0**	**+1.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**28.75**	**340**	*e*P	**P**	**05 46 10.4**	**+2.6**
	comp=Z,50nm,0.9s,mb5.2						
PKI	**Pulchoki**	**28.95**	**338**	*e*P	**P**	**05 46 12.6**	**+3.1**
	comp=Z,31nm,0.9s,mb5.0						
GUN	**Gumba**	**29.09**	**339**	*e*P	**P**	**05 46 11.7**	**+0.9**
	comp=Z,60nm,0.8s,mb5.4						
DMN	**Daman**	**29.10**	**338**	*e*P	**P**	**05 46 15.1**	**+4.2**
	comp=Z,14nm,0.7s,mb4.8						
KKN	**Kakani**	**29.20**	**338**	*e*P	**P**	**05 46 14.3**	**+2.6**
	comp=Z,21nm,0.7s,mb5.0						
LSA	**Lhasa**	**29.36**	**349**	P	**P**	**05 46 13.3**	**+0.1**
GKN	**Gorkha**	**29.63**	**337**	*e*P	**P**	**05 46 16.7**	**+1.1**
	comp=Z,58nm,1.2s,mb5.2						
KOLN	**Koldanda**	**29.84**	**335**	*e*P	**P**	**05 46 20.2**	**+2.7**
	comp=Z,34nm,0.9s,mb5.0						
ENH	**Enshi**	**31.64**	**21**	*e*P	**P**	**05 46 32.5**	**-0.9**
	comp=Z,14nm,0.6s,mb5.0						
LGTI	**Lohaghat**	**32.77**	**332**	*e*P	**P**	**05 46 46.5**	**+3.2**
XAN	**Xi'an**	**34.93**	**17**	P	**P**	**05 47 01.8**	**0.0**
XAN				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.0						
LZH	**Lanzhou**	**35.73**	**9**	*e*P	**P**	**05 47 08.5**	**-0.1**
LZH				AP	pP	05 47 16.5	-1.8
LZH				XP	sP	05 47 19.0	-3.6
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,120nm,4.2s						
LZH				LR	LR		
	comp=E,630nm,14.7s						
LZH				LR	LR		
	comp=Z,827nm,16.0s,MS4.6						
LZH	**Lanzhou**	**35.73**	**9**	*e*P	**P**	**05 47 08.6**	**0.0**
LZH				*SP	sP	05 47 19.0	-3.6
LZH				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.0						
LZH				MLR	MLR		
	comp=Z,830nm,16.0s,MS4.6						
LZH	**Lanzhou**	**35.73**	**9**	*e*P	**P**	**05 47 08.6**	**0.0**
	comp=Z,26nm,1.2s,mb5.0						
LZH				pP	pP	05 47 16.4	-1.9
LZH				sP	sP	05 47 19.0	-3.6
LZH				LR	LR		
	comp=Z,830nm,16.0s,MS4.6						
**GT

comp=Z,2.7nm,0.8s,mb4.3
BRVK *e* 05 49 54.4
BOD Bodaibo 58.48 11 *e*P **P** **05 50 01.1 -4.9**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
AKASG Malin Array Be 75.58 323 P **P** **05 51 53.9 -0.2**
comp=Z,0.3nm,0.4s,mb3.6,baz=90,slow=4.6,SNR=5.4
FINES FINESS Array B 80.37 333 P **P** **05 52 18.1 -2.3**
comp=Z,0.6nm,0.8s,mb3.6,baz=117,slow=8.5,SNR=3.7
ARCES ARCESS Array B 82.94 340 P **P** **05 52 31.9 -1.6**
comp=Z,3.6nm,1.0s,mb4.4,baz=45,slow=5.1,SNR=3.9
ARCES ARCESS Array B 82.94 340 P **P** **05 52 31.9 -1.6**
GERES GERESS Array B 85.11 319 P **P** **05 52 43.7 -1.2**
comp=Z,0.1nm,0.3s,baz=278,slow=27,SNR=2.0
TXAR Lajitas Array 144.11 32 PKP PKPdf 05 59 46.5 +2.6
comp=Z,0.8nm,1.0s,slow=1.3,SNR=5.9
TXAR Lajitas Array 144.11 32 PKP PKPdf 05 59 46.5 +2.6
LRAL Lakeview Retre 146.19 6 *e*PKP PKPdf 05 59 47.4 0.0
LRAL *e* 05 59 52.8

NEIC ***31*** *05:40:11.7, 22.38S×68.73W, h99km, MD3.9(GUC), After GUC.*
GUC 31 05:40:11.7±1.0, 22.38S×68.73W, h99km±7km, MD3.9, ML3.9, 3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.29**	**216**	⇓*i*P	P		05 40 26.6	+0.4
LVC				*i* S	S		05 40 38.5	+1.2
LVC				AMP			05 40 39.3	
	comp=N,4μm,0.2s							
SPCH	**San Pedro de A**	**0.72**	**138**	⇓*i*P	P		05 40 30.1	+0.6
SPCH				*i* S	S		05 40 44.4	+1.7
SPCH				AMP			05 40 45.1	
	comp=E,7μm,0.3s							
ANCH	**Antofagasta**	**2.02**	**230**	⇓*i*P	P		05 40 45.6	+0.6
ANCH				*i* S	S		05 41 11.2	+1.4
CPN1	**Cerro Paranal**	**2.72**	**214**	*i* P	P		05 40 55.3	+0.7
CPN1				*i* S	S		05 41 28.2	+1.5
CPN1				AMP			05 41 38.2	
	comp=N,638nm,0.4s							
LPAZ	**La Paz**	**6.08**	**5**	*e*P	P		05 41 37.9	-2.6
	comp=N,2.5nm,0.7s							

NIED ***31*** *05:53:00, 35.60N×138.90E, h29km, Mw4.2 Best double couple: M0 2.56×10^15 NP1:φs44°, δ47°, λ86°. NP2:φs230°, δ43°, λ94°.*
MOS ***31*** *05:53:35.6±0.9, 35.50N×138.90E, h42km, mb4.8/13, Error ellipse: s-maj=16.0km s-min=8.0km az=105.5*
JMA ***31*** *05:53:36.4±0.1, 35.55N×138.96E, h22km±1km, M4.4 Broadband fault plane solution: P waves. NP1:φs48°, δ45°, λ101°. NP2:φs212°, δ46°, λ79°. Principal axes: T Plg82°, Azm42°; N Plg8°, Azm220°; P Plg0°, Azm310°;*
JMA Felt IV J1.
BJI ***31*** *05:53:38.1, 35.60N×138.90E, h42km, mB4.1, mb4.6, Ms3.4, Msz3.5*
NEIC ***31*** *05:53:38.1±0.8, 35.58N×138.88E, h43km±6km, mb4.5/21, MW4.2(NIED), Error ellipse: s-maj=7.7km s-min=5.5km az=154.0*
NEIC Felt strongly in Yamanashi. Felt in the Tokyo area. Recorded [4 JMA] in Shizuoka and Yamanashi; [2 JMA] in Gifu, Gumma, Kanagawa, Nagano, Saitama and Tokyo Prefectures.
IDC ***31*** *05:53:39.1±0.8, 35.55N×138.86E, h51km±7km, mb4.1/16, mb1 4.3/19, mb1mx4.2/24, mbtmp4.4/19, Error ellipse: s-maj=17.8km s-min=5.9km az=67.0*
ISC 31 05:53:36.0±0.4, 35.53N±0.03×138.92E±0.05, h38km±3km, n96, σ1§04/102, mb4.5/40, MS3.8/1, 6D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.30**	**153**	⇓P	**P**	**S**	**05 53 43.1**	**-1.0**
JYN	**Shimob**	**0.31**	**263**	⇓P	**P**	**S**	**05 53 43.7**	**-0.5**
JYN				S	**S**	**S**	**05 53 49.1**	**-0.9**
JRY	**Ryogami san**	**0.48**	**358**	⇓P	**P**	**S**	**05 53 45.8**	**-0.6**
JRY				S	**S**	**S**	**05 53 52.4**	**-1.3**
SHZ3	**Shizuoka 3**	**0.75**	**231**	⇓P	**P**	**S**	**05 53 51.1**	**+1.0**
JIZS	**Izushimoda**	**0.82**	**182**	⇓P	**P**	**S**	**05 53 51.2**	**+0.1**
JIZS				S	**S**	**S**	**05 54 02.6**	**+0.5**
JIM2	**Oshima 2**	**0.92**	**153**	P	**P**	**S**	**05 53 52.3**	**-0.2**
JAG	**Ashikaga**	**0.99**	**26**	P	**P**	**S**	**05 53 53.7**	**+0.2**
MJAR	**Matsushiro Arr**	**1.16**	**330**	P	**P**	**S**	**05 53 57.1**	**+1.2**
	2μm,0.3s,baz=149,slow=15,SNR=6184							
MJAR				S	**S**		**05 54 12.7**	**+1.8**
	1μm,0.3s,baz=129,slow=19,SNR=17							
MAJO	**Matsushiro**	**1.16**	**330**	⇓*e*P	**P**		**05 54 05.7**	**+10**
MAT	**Matsushiro**	**1.16**	**330**	*e*P	**P**		**05 53 57.0**	**+1.0**
MAT				*e*S	**S**		**05 54 12.0**	**+1.1**
MAT	**Matsushiro**	**1.16**	**330**	P	**P**		**05 53 57.3**	**+1.3**
MAT				S	**S**		**05 54 12.4**	**+1.5**
JHJ	**Hachijo jima 2**	**2.51**	**163**	P	**P**		**05 54 17.3**	**+2.0**
	280nm,0.3s,baz=328,slow=2.1,SNR=110							
JHJ				S	**S**		**05 54 49.1**	**+4.1**
	68nm,0.3s,baz=29,slow=22,SNR=10							
JNU	**Nakatsue**	**7.08**	**252**	P	**P**		**05 55 20.4**	**+0.7**
	1.5nm,0.3s,baz=48,slow=16,SNR=8.8							
CBIJ	**Chichi jima**	**9.86**	**161**	P	**P**		**05 55 41.5**	**-3.0**
	14nm,0.3s,baz=296,slow=3.2,SNR=16							
KS15	**Wonju Array Si**	**9.09**	**285**	*e*P	**P**		**05 55 51.4**	**+3.7**
MDJ	**Mudanjiang**	**11.54**	**325**	P	**P**		**05 56 24.5**	**+3.4**
MDJ				PP	PP		05 56 36.3	+6.3
MDJ				S	**S**		**05 58 28.3**	**-1.4**
MDJ				PCP	PcP		06 02 09.0	-1.5
MDJ				PCS			06 05 42.3	
MDJ				SCS	ScS		06 09 09.0	-4.2
MDJ				AMB	AMB			
	comp=Z,6.0nm,1.6s							
MDJ				AMB	AMB			
	comp=Z,20nm,5.5s							
MDJ				LR	LR			
	comp=N,157nm,20.8s							
MDJ				LR	LR			
	comp=E,96nm,22.1s							
MDJ				LR	LR			
	comp=Z,282nm,17.2s							
YSS	**Yuzh-Sakhalins**	**11.77**	**13**	*e*P	**P**		**05 56 22.2**	**-2.0**
CN2	**Changchun**	**13.25**	**313**	*e*P	**P**		**05 56 47.5**	**+3.5**
CN2				*e*XP			05 57 01.0	
CN2				*e*S	**S**		**05 59 11.0**	**0.0**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.5s							
CN2				AMB	AMB			
	comp=Z,100nm,3.0s							
NJ2	**Nanjing**	**17.04**	**264**	*e*P	**P**		**05 57 35.5**	**+2.6**
NJ2				AMB	AMB			
	comp=Z,20nm,0.7s							
HHC	**Hu-ho-hao-te**	**22.10**	**292**	*e*P	**P**		**05 58 30.3**	**+0.9**
HHC				PCP	PcP		06 02 23.0	-4.0
HHC				S	**S**		**06 02 27.5**	**+1.8**
HHC				AMB	AMB			
	comp=Z,17nm,1.3s,mb4.3							
HHC				AMB	AMB			
	comp=Z,81nm,11.8s							
HHC				LR	LR			
	comp=Z,330nm,16.6s,MS3.8							
ENH	**Enshi**	**25.21**	**266**	P	**P**		**05 58 59.6**	**-0.2**
	comp=Z,6.4nm,0.5s,mb4.4							
MA2	**Magadan**	**25.27**	**14**	*e*P	**P**		**05 58 58.9**	**-1.1**
SONM	**Songino Array**	**27.02**	**307**	P	**P**		**05 59 15.4**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=110,slow=8.8,SNR=4.9							
BOD	**Bodaibo**	**27.79**	**331**	*e*P	**P**		**05 59 18.6**	**-4.7**
BOD				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb3.9							
LZH	**Lanzhou**	**28.36**	**282**	*e*P	**P**		**05 59 28.0**	**-0.6**
LZH				AMB	AMB			
	comp=Z,25nm,1.5s,mb4.6							
LZH				AMB	AMB			
	comp=Z,96nm,4.8s							
LZH	**Lanzhou**	**28.36**	**282**	*e*P	**P**		**05 59 28.1**	**-0.5**
	comp=Z,25nm,1.5s,mb4.6							
LZH				pP	pP		05 59 33.5	-5.6
LZH				sP	sP		05 59 36.5	-7.4
WMQ	**Urumqi**	**39.74**	**298**	*e*P	**P**		**06 01 07.5**	**+1.1**
ZAL	**Zalesovo**	**41.48**	**314**	P	**P**		**06 01 20.3**	**-0.4**
	comp=Z,1.9nm,0.5s,mb4.0,baz=45,slow=5.9,SNR=5.3							
NVS	**Novosibirsk**	**42.44**	**315**	*e*P	**P**		**06 01 27.2**	**-1.3**
MKAR	**Makanchi Array**	**43.23**	**303**	P	**P**		**06 01 35.0**	**0.0**
	comp=Z,2.4nm,0.6s,mb4.1,baz=91,slow=9.8,SNR=28							
JIRN	**Jiri**	**45.15**	**275**	*e*P	**P**		**06 01 51.2**	**+0.4**
	comp=Z,17nm,0.8s,mb4.9							
KURK	**Kurchatov**	**45.29**	**309**	*e*P	**P**		**06 01 50.4**	**-1.2**
KURK				pmax	pmax			
	comp=Z,15nm,0.8s,mb4.9							
KURK	**Kurchatov**	**45.29**	**309**	*e*P	**P**		**06 01 50.4**	**-1.2**
	comp=Z,15nm,0.8s,mb4.9							
KKN	**Kakani**	**45.84**	**276**	*e*P	**P**		**06 01 55.5**	**-0.8**
DMN	**Daman**	**46.05**	**276**	*e*P	**P**		**06 01 57.1**	**-0.9**
	comp=Z,168nm,2.2s,mb5.6							
GKN	**Gorkha**	**46.27**	**277**	*e*P	**P**		**06 01 59.0**	**-0.7**
	comp=Z,33nm,1.1s,mb5.2							
KOLN	**Koldanda**	**47.20**	**277**	*e*P	**P**		**06 02 05.6**	**-1.4**
	comp=Z,21nm,1.3s,mb4.9							
BVAR	**Borovoye Array**	**50.10**	**313**	P	**P**		**06 02 29.1**	**0.0**
	comp=Z,1.1nm,0.3s,mb4.3,baz=92,slow=7.5,SNR=12							
BVAR				PcP	PcP		06 03 47.6	-0.9
	comp=Z,0.8nm,0.5s,baz=76,slow=6.1,SNR=3.9							
BRVK	**Borovoye**	**50.16**	**313**	*e*P	**P**		**06 02 28.9**	**-0.6**
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
BRVK	**Borovoye**	**50.16**	**313**	*e*P	**P**		**06 02 28.9**	**-0.6**
	comp=Z,0.7nm,0.5s,mb4.0							
MCK	**McKinley**	**50.99**	**33**	*e*P	**P**		**06 02 35.0**	**-0.7**
MCK				pmax	pmax			
	comp=Z,9μm,1.2s							
MCK	**McKinley**	**50.99**	**33**	*e*P	**P**		**06 02 35.0**	**-0.8**
	comp=Z,9μm,1.2s							
ILAR	**Eielson Array**	**51.83**	**32**	P	**P**		**06 02 41.2**	**-0.8**
	comp=Z,4.6nm,0.7s,mb4.5,baz=276,slow=6.1,SNR=62							
WRAB	**Tennant Creek**	**55.33**	**185**	*e*P	**P**		**06 03 06.6**	**-1.9**
WRAB				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.8							
WRAB	**Tennant Creek**	**55.33**	**185**	*e*P	**P**		**06 03 06.6**	**-1.9**
	comp=Z,6.3nm,0.6s,mb4.8							
WRA	**Warramunga Arr**	**55.34**	**185**	P	**P**		**06 03 06.6**	**-2.0**
	comp=Z,3.5nm,0.4s,mb4.8,baz=0.4,slow=7.5,SNR=7.5							
ARU	**Arti**	**56.15**	**319**	*e*P	**P**		**06 03 13.7**	**-0.2**
INK	**Inuvik**	**56.63**	**26**	P	**P**		**06 03 17.0**	**-0.2**
INK				pmax	pmax			
	comp=Z,7.0nm,0.7s							
INK	**Inuvik**	**56.63**	**26**	P	**P**		**06 03 17.0**	**-0.2**
	comp=Z,6.5nm,0.7s,mb4.8,baz=299,slow=4.9,SNR=14							
INK	**Inuvik**	**56.63**	**26**	*e*P	**P**		**06 03 16.3**	**-0.9**
	comp=Z,5.1nm,0.6s,mb4.7							
KEV	**Kevo**	**64.12**	**339**	*e*p	**P**		**06 04 05.6**	**-2.5**
	comp=Z,0.6nm,0.3s,mb4.1							
KEV	**Kevo**	**64.12**	**339**	*e*P	**P**		**06 04 05.6**	**-2.5**
KEV				pmax	pmax			
	comp=Z,1.0nm,0.3s,mb4.3							
ARCES	**ARCESS Array B**	**64.68**	**339**	P	**P**		**06 04 10.5**	**-1.2**
	comp=Z,2.5nm,0.5s,mb4.5,baz=56,slow=6.5,SNR=15							
YKA	**Yellowknife Ar**	**66.11**	**29**	P	**P**		**06 04 20.7**	**-0.2**
	comp=Z,3.2nm,1.0s,mb4.3,baz=297,slow=6.2,SNR=11							
YKA	**Yellowknife Ar**	**66.11**	**29**	P	**P**		**06 04 20.7**	**-0.2**
KAF	**Kangasniemi**	**68.70**	**332**	*e*p	**P**		**06 04 36.3**	**-0.9**
	comp=Z,4.0nm,0.4s,mb4.7,baz=51,slow=5.8							
KAF	**Kangasniemi**	**68.70**	**332**	*e*P	**P**		**06 04 36.3**	**-0.9**
KAF				pmax	pmax			
	comp=Z,4.0nm,0.4s,mb4.7							
FINES	**FINESS Array B**	**69.19**	**332**	P	**P**		**06 04 39.6**	**-0.6**
	comp=Z,4.3nm,0.5s,mb4.7,baz=77,slow=6.1,SNR=42							
SUMG	**Summit**	**72.17**	**359**	*e*P	**P**		**06 04 58.6**	**+0.6**
	comp=Z,19nm,0.7s,mb5.1							
NEW	**Newport**	**72.60**	**43**	*e*P	**P**		**06 05 00.8**	**-0.1**
NEW				pmax	pmax			
	comp=Z,3.0nm,1.0s							
NEW	**Newport**	**72.60**	**43**	*e*P	**P**		**06 05 00.8**	**-0.2**
	comp=Z,2.9nm,1.0s,mb4.2							
AKASG	**Malin Array Be**	**74.23**	**322**	P	**P**		**06 05 09.7**	**-0.8**
	comp=Z,3.6nm,0.6s,mb4.5,baz=45,slow=6.1,SNR=25							
BMO	**Blue Mountains**	**74.42**	**46**	*e*P	**P**		**06 05 11.7**	**0.0**
	comp=Z,4.3nm,0.9s,mb4.4							
NB2	**NORSAR Subarra**	**74.77**	**336**	P	**P**		**06 05 12.7**	**-0.7**
	comp=Z,12nm,1.1s,mb4.8,baz=43,slow=5.6							
NB2	**NORSAR Subarra**	**74.77**	**336**	P	**P**		**06 05 12.7**	**-0.7**
NB2				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.7							
NOA	**NORSAR Array B**	**74.77**	**336**	P	**P**		**06 05 13.0**	**-0.4**
	comp=Z,3.5nm,0.6s,mb4.5,baz=42,slow=5.4,SNR=19							
FCC	**Fort Churchill**	**76.23**	**25**	*e*P	**P**		**06 05 21.3**	**-0.4**
FCC				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.6							
FCC	**Fort Churchill**	**76.23**	**25**	*e*P	**P**		**06 05 21.3**	**-0.5**
	comp=Z,3.8nm,0.5s,mb4.6							
CMB	**Columbia Colle**	**76.38**	**53**	*e*P	**P**		**06 05 23.3**	**+0.3**
CMB				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3							
CMB	**Columbia Colle**	**76.38**	**53**	*e*P	**P**		**06 05 23.3**	**+0.3**
	comp=Z,4.0nm,1.0s,mb4.3							
HRY	**Holter Researc**	**76.42**	**42**	*e*P	**P**		**06 05 23.6**	**+0.5**
HRY				*e*			06 05 31.3	
HLID	**Hailey**	**76.86**	**46**	*e*P	**P**		**06 05 26.3**	**+0.7**
	comp=Z,0.8nm,0.6s,mb3.8							
BOZ	**Bozeman (W)**	**77.18**	**43**	*e*P	**P**		**06 05 27.8**	**+0.4**
BOZ				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.4							
BOZ	**Bozeman (W)**	**77.18**	**43**	*e*P	**P**		**06 05 27.8**	**+0.4**
	comp=Z,4.5nm,1.0s,mb4.3							
PTRM	**Twissleman Ran**	**77.85**	**55**	*e*P	**P**		**06 05 32.7**	**+1.4**
BRTR	**Keskin Array B**	**78.32**	**311**	P	**P**		**06 05 34.2**	**+0.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=76,slow=5.1,SNR=4.8							
TPAW	**Teton Pass**	**78.90**	**44**	*e*P	**P**		**06 05 38.0**	**+1.2**
	comp=Z,1.9nm,0.6s,mb4.2							
HWUT	**Hardware Ranch**	**79.72**	**46**	*e*P	**P**		**06 05 42.1**	**+0.7**
	comp=Z,1.4nm,0.6s,mb4.1							
BW06	**Boulder Array**	**80.15**	**44**	P	**P**		**06 05 43.5**	**-0.2**
	comp=Z,2.0nm,0.9s,mb4.0							
PDAR	**Pinedale Array**	**80.15**	**44**	P	**P**		**06 05 44.0**	**+0.3**
	comp=Z,1.6nm,0.5s,mb4.2,baz=13,slow=0.5,SNR=22							
CLL	**Collm**	**81.37**	**329**	*e*P	**P**		**06 05 51.0**	**+1.1**
CLL				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
CLL	**Collm**	**81.37**	**329**	*e*P	**P**		**06 05 51.0**	**+1.1**
	comp=Z,6.0nm,0.9s,mb4.5							
CLL	**Collm**	**81.37**	**329**	P	**P**		**06 05 51.0**	**+1.1**
	comp=Z,logA/T=0.8,mb4.5							
NEN	**Nelson**	**81.37**	**52**	*e*P	**P**		**06 05 50.8**	**+0.5**
LDFC	**Landfair**	**81.55**	**53**	*e*P	**P**		**06 05 51.6**	**+0.5**
KHC	**Kasperske Hory**	**82.74**	**327**	*e*P	**P**		**06 05 57.5**	**+0.5**
GERES	**GERESS Array B**	**82.90**	**327**	P	**P**		**06 05 58.0**	**+0.2**
	comp=Z,0.6nm,0.4s,mb4.0,baz=40,slow=6.2,SNR=16							
PV10	**Paradox Valley**	**83.27**	**47**	*e*P	**P**		**06 06 01.4**	**+1.5**
PV01	**Paradox Valley**	**83.71**	**47**	*e*P	**P**		**06 06 03.3**	**+1.1**
SMCO	**Snowmass**	**83.97**	**46**	*e*P	**P**		**06 06 04.8**	**+1.3**
SDCO	**Great Sand Dun**	**85.78**	**46**	*e*P	**P**		**06 06 13.5**	**+1.0**
	comp=Z,2.9nm,0.7s,mb4.6							
TXAR	**Lajitas Array**	**92.63**	**51**	P	**P**		**06 06 46.1**	**+0.9**
	comp=Z,1.4nm,0.5s,mb4.6,baz=298,slow=2.8,SNR=29							
SAML	**Samuel**	**146.72**	**43**	*e*PKPbc	PKPbc		06 13 15.4	+1.2
LPAZ	**La Paz**	**149.19**	**59**	PKP2	PKPab		06 13 23.7	-3.8
LPAZ				pmax	pmax			
	comp=Z,2.0nm,0.7s							
LPAZ	**La Paz**	**149.19**	**59**	PKPbc	PKPdf		06 13 23.6	+7.1
	comp=Z,1.8nm,0.7s,baz=304,slow=3.8,SNR=15							
LPAZ	**La Paz**	**149.19**	**59**	*e*PKPbc	PKPdf		06 13 23.4	+6.8

WEL 31 06:08:40.3±0.5, 37.33S×177.15E, h179km±3km, ML3.6/10, 2C, Error ellipse: s-maj=5.0km s-min=4.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.93**	**182**	⇑PN	P		06 09 07.4	-0.2
URZ				SN	S		06 09 27.9	-0.7
MWZ	**Matawai**	**1.05**	**164**	PN	P		06 09 08.4	0.0
MWZ				SN	S		06 09 30.3	+0.1
PUZ	**Puketiti**	**1.15**	**131**	⇑PN	P		06 09 08.9	-0.4
PUZ				SN	S		06 09 29.7	-2.1
KNZ	**Kokohu**	**1.74**	**167**	PN	P		06 09 14.8	-0.1
BKZ	**Black Stump Fm**	**1.91**	**196**	PN	P		06 09 16.4	-0.3
WNVZ	**Wahianoa**	**2.34**	**211**	PN	P		06 09 21.3	-0.2
MOVZ	**Moawhango**	**2.35**	**208**	PN	P		06 09 20.8	-0.8
PWZ	**Pawanui**	**2.70**	**185**	PN	P		06 09 24.5	-1.3
PWZ				SN	S		06 09 59.6	-1.4
TSZ	**Takapari Road**	**2.88**	**199**	PN	P		06 09 26.8	-1.2
MRZ	**Mangatainoka R**	**3.54**	**200**	PN	P		06 09 34.3	-2.0
KIW	**Kapiti Island**	**3.94**	**206**	*e*PN	P		06 09 39.0	-2.3
MTW	**Mount Morrison**	**4.03**	**198**	*e*PN	P		06 09 39.3	-3.2
CAW	**Cannon Point**	**4.11**	**203**	*e*PN	P		06 09 40.6	-2.8
TCW	**Tory Channel**	**4.47**	**209**	*e*PN	P		06 09 45.2	-2.9
TUWZ	**Tuamarina**	**4.79**	**210**	*e*PN	P		06 09 48.6	-3.7
NNZ	**Nelson**	**4.86**	**216**	SN	S		06 10 46.5	-3.2
LTZ	**Lake Taylor**	**6.61**	**213**	SN	S		06 11 24.7	-6.0
MQZ	**McQueen's Vall**	**7.23**	**207**	SN	S		06 11 37.0	-8.4

NIED ***31*** *06:13:00, 33.50N×142.30E, h8km, Mw3.7 Best double couple: M0 4.65×10^14 NP1:φs185°, δ62°, λ-97°. NP2:φs20°, δ29°, λ-77°.*
IDC ***31*** *06:13:41.1±0.9, 33.36N×142.56E, mb3.7/8, mb1 3.9/11, mb1mx3.8/22, mbtmp3.8/11, ML3.8/3, MS2.7/1, Ms1 2.7/1, ms1mx1.8/26, Error ellipse: s-maj=24.2km s-min=20.9km az=92.0*
JMA ***31*** *06:13:42.5±0.4, 33.47N×142.28E, M3.7*
NEIC ***31*** *06:13:44.3±0.5, 33.38N×142.49E, h20km, mb4.3/1, Error ellipse: s-maj=14.2km s-min=9.7km az=52.0*
ISC 31 06:13:43.2±2.0, 33.40N±0.05×142.45E±0.07, h26km±15km, n25, σ1§80/33, mb3.7/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.75**	**316**	P	**P**	**Pn**	**06 14 12.2**	**-0.2**
BSO1				*e*S		**Sn**	**06 14 33.8**	**-0.2**
BSO3	**Boso 3**	**2.13**	**312**	P	**P**	**Pn**	**06 14 18.1**	**+0.2**
JHJ2	**Mitsune**	**2.22**	**263**	P	**P**	**Pn**	**06 14 20.2**	**+1.0**
JHJ	**Hachijo jima 2**	**2.25**	**264**	Pn	**P**	**Pn**	**06 14 19.9**	**+0.3**
	27nm,0.3s,baz=75,slow=21,SNR=19							
JHJ				Sn		**Sn**	**06 14 47.2**	**+0.4**
	120nm,0.3s,baz=248,slow=22,SNR=12							
BSO4	**Boso 4**	**2.36**	**313**	P	**P**	**Pn**	**06 14 21.9**	**+0.7**
BSO4				*e*S		**Sn**	**06 14 50.5**	**+0.9**
JYT	**Yasato**	**3.38**	**327**	P	**P**	**Pn**	**06 14 35.8**	**+0.2**
JHU	**Hanno**	**3.58**	**314**	P	**P**	**Pn**	**06 14 38.1**	**-0.4**
JHU				*e*S		**Sn**	**06 15 19.6**	**-0.8**
JYN	**Shimob**	**3.84**	**304**	P	**P**	**Pn**	**06 14 43.6**	**+1.3**
JYN				*e*S		**Sn**	**06 15 27.3**	**+0.1**
JAG	**Ashikaga**	**3.89**	**322**	P	**P**	**Pn**	**06 14 42.4**	**-0.6**
MJAR	**Matsushiro Arr**	**4.68**	**313**	Pn	**P**	**Pn**	**06 14 54.0**	**-0.2**
	3.3nm,0.3s,baz=222,slow=49,SNR=41							
MJAR				Sn		**Sn**	**06 15 47.0**	**-1.5**
	2.4nm,0.3s,baz=124,slow=13,SNR=8.2							
MJAR	**Matsushiro Arr**	**4.68**	**313**	Pn	**P**	**Pn**	**06 14 54.0**	**-0.2**
MJAR				Sn		**Sn**	**06 15 47.0**	**-1.5**
MAT	**Matsushiro**	**4.69**	**313**	*e*P	**P**	**Pn**	**06 14 54.0**	**-0.2**
MAT				*e*S		**Sn**	**06 15 47.0**	**-1.5**
MAT	**Matsushiro**	**4.69**	**313**	P	**P**	**Pn**	**06 14 54.4**	**+0.2**
MAT				S		**Sn**	**06 15 46.7**	**-1.8**
CBIJ	**Chichi jima**	**6.29**	**182**	Pn	**P**	**Pn**	**06 15 14.8**	**-2.0**
	8.9nm,0.3s,baz=272,slow=18,SNR=23							
JNU	**Nakatsue**	**9.69**	**272**	LR	LR		06 19 33.2	
	comp=Z,42nm,20.8s,baz=201,slow=36							
SONM	**Songino Array**	**30.62**	**309**	P	**P**		**06 19 58.6**	**+1.2**
	0.4nm,0.7s,mb3.4,baz=121,slow=8.4,SNR=3.4							
MKAR	**Makanchi Array**	**46.84**	**305**	P	**P**		**06 22 13.5**	**+0.8**
	0.4nm,0.6s,mb3.5,baz=92,slow=9.0,SNR=4.1							
KURK	**Kurchatov**	**48.89**	**311**	*e*P	**P**		**06 22 28.7**	**+0.1**
	2.0nm,0.8s,mb4.2							
KURK				*e*		pP	06 22 35.6	-0.9
ILAR	**Eielson Array**	**52.14**	**31**	P	**P**		**06 22 52.8**	**-0.5**
	0.3nm,0.6s,mb3.4,baz=256,slow=6.2,SNR=4.4							
WRAB	**Tennant Creek**	**53.59**	**189**	P	**P**		**06 23 03.9**	**-0.7**
WRA	**Warramunga Arr**	**53.60**	**189**	P	**P**		**06 23 04.0**	**-0.6**
	1.3nm,0.7s,mb4.0,baz=7.1,slow=7.7,SNR=19							
YKA	**Yellowknife Ar**	**66.53**	**30**	P	**P**		**06 24 32.6**	**0.0**
	0.3nm,0.5s,mb3.6,baz=299,slow=7.2,SNR=3.8							
HFS	**Hagfors**	**77.75**	**336**	P	**P**		**06 25 39.7**	**+0.6**
	2.0nm,0.8s,mb4.1,baz=90,slow=5.8,SNR=4.1							
NOA	**NORSAR Array B**	**77.86**	**338**	P	**P**		**06 25 40.3**	**+0.5**
	0.7nm,0.7s,mb3.7,baz=26,slow=8.2,SNR=3.4							
TXAR	**Lajitas Array**	**91.65**	**53**	P	**P**		**06 26 50.4**	**+0.8**
	0.2nm,0.6s,mb3.6,baz=296,slow=3.9,SNR=5.9							

CSEM ***31*** *06:19:13.6±0.1, 41.30N×29.40W, h20km, mb4.3/6, Error ellipse: s-maj=5.4km s-min=1.6km az=58.0*
IDC ***31*** *06:19:15.1±1.1, 41.74N×29.46W, mb3.9/8, mb1 4.0/9, mb1mx3.8/25, mbtmp3.8/9, MS3.5/12, Ms1 3.5/12, ms1mx3.3/30, Error ellipse: s-maj=38.5km s-min=20.1km az=162.0*
NEIC ***31*** *06:19:16.6±0.6, 41.72N×29.45W, h10km, mb4.4/6, Error ellipse: s-maj=19.7km s-min=9.7

1.4nm,0.9s,mb4.0,baz=321,slow=7.9,SNR=8.6

*IDC **31** 06:47:43.1±2.4,52.09N×174.28W,mb3.7/4,mb1 3.9/5, mb1mx3.6/23,mbtmp3.7/5,ML4.1/1,Error ellipse: s-maj=58.2km s-min=31.7km az=17.0*
*NEIC **31** 06:48:02.4,52.07N×173.82W,h146km,MG3.4(AEIC), After AEIC.*
ISC 31 06:48:00.5±0.6,52.6N±0.2×173.9W±0.1,h143km±11km, n18,σ072/25,mb3.6/4,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.43**	**205**	P	**P**	**06 48 21.6**	**+0.3**
ATKA				S	**S**	**06 48 36.4**	**-0.8**
GSIG	**Igitkin Island**	**1.39**	**245**	P	**P**	**06 48 29.2**	**+0.5**
GSTR	**Great Sitkin T**	**1.42**	**250**	P	**P**	**06 48 29.6**	**+0.6**
GSMY	**Great Sitkin M**	**1.44**	**248**	P	**P**	**06 48 29.5**	**+0.3**
GSMY				S	**S**	**06 48 50.6**	**-0.7**
GSTD	**Great Sitkin T**	**1.48**	**249**	P	**P**	**06 48 30.0**	**+0.4**
GSTD				S	**S**	**06 48 51.1**	**-1.0**
GSSP	**Great Sitkin S**	**1.48**	**251**	P	**P**	**06 48 30.3**	**+0.5**
ADAG	**Mount Adagdak**	**1.77**	**251**	P	**P**	**06 48 33.3**	**+0.4**
ADAG				S	**S**	**06 48 58.1**	**+0.4**
KIRH	**Kanaga Island**	**2.08**	**252**	P	**P**	**06 48 37.3**	**+0.7**
KINC	**Kanaga Island**	**2.09**	**253**	P	**P**	**06 48 37.0**	**+0.3**
KINC				S	**S**	**06 49 04.5**	**0.0**
KIKV	**Kanaga Island**	**2.13**	**252**	P	**P**	**06 48 37.8**	**+0.6**
KIKV				S	**S**	**06 49 05.1**	**-0.3**
KIMD	**Kanaga Island**	**2.22**	**249**	P	**P**	**06 48 38.5**	**+0.2**
KIMD				S	**S**	**06 49 06.1**	**-1.1**
ILAR	**Eielson Array**	**18.41**	**38**	P	**P**	**06 52 05.2**	**-1.5**
	0.3nm,0.3s,baz=224,slow=10,SNR=13						
INK	**Inuvik**	**24.72**	**35**	P	**P**	**06 53 10.8**	**+1.5**
	1.1nm,0.4s,mb3.7,baz=274,slow=5.1,SNR=6.9						
INK	**Inuvik**	**24.72**	**35**	P	**P**	**06 53 10.8**	**+1.5**
PDAR	**Pinedale Array**	**43.06**	**76**	P	**P**	**06 55 47.5**	**+0.2**
	0.5nm,0.7s,mb3.2,baz=288,slow=4.7,SNR=5.3						
TXAR	**Lajitas Array**	**55.51**	**86**	P	**P**	**06 57 21.8**	**-0.9**
	0.4nm,0.5s,mb3.5,baz=303,slow=6.1,SNR=9.3						
TXAR	**Lajitas Array**	**55.51**	**86**	P	**P**	**06 57 21.8**	**-0.9**
BVAR	**Borovoye Array**	**61.86**	**322**	P	**P**	**06 58 05.3**	**-0.9**
	1.0nm,0.4s,mb4.0,baz=62,slow=5.3,SNR=6.5						

*IDC **31** 06:53:24.2±2.0,39.18N×77.56E,mb3.7/8,mb1 3.9/11, mb1mx3.8/22,mbtmp3.7/11,ML3.2/3,Error ellipse: s-maj=38.4km s-min=21.6km az=154.0*
*NNC **31** 06:53:27.5±4.6,39.55N×77.41E,mpv3.2,Error ellipse: s-maj=31.3km s-min=20.1km az=164.0*
*BJI **31** 06:53:28.9,39.43N×77.51E,h32km,mb3.9,ML3.8*
*MOS **31** 06:53:29.0±1.3,39.43N×77.45E,h37km,mb4.2/2,Error ellipse: s-maj=19.2km s-min=9.7km az=94.8*
*NEIC **31** 06:53:30.1±5.8,39.39N×77.49E,h32km±37km,mb3.9/3, Error ellipse: s-maj=29.6km s-min=10.8km az=194.0*
ISC 31 06:53:28.8±0.5,39.27N±0.03×77.63E±0.05,h44km±8km, n50,σ1$15/54,mb3.7/9,4C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.31**	**282**	*i*PG	**P**	**06 53 50.5**	**-0.6**
KSH				SG	**S**	**06 54 07.8**	**+0.2**
KSH				Smax			
	comp=N,1μm,0.5s						
KSH				Smax			
	comp=E,1μm,0.6s						
ULHL	**Ulahol**	**3.16**	**341**	P	**P**	**06 54 17.9**	**+0.6**
	SNR=115						
KZA	**Kyzart**	**3.34**	**328**	P	**P**	**06 54 20.5**	**+0.6**
	SNR=17						
KBK	**Karagaybulak**	**3.95**	**330**	P	**P**	**06 54 35.2**	**+6.7**
	SNR=12						
TKM2	**Tokmak 2**	**3.96**	**338**	P	**P**	**06 54 29.2**	**+0.5**
	SNR=23						
AAK	**Ala-Archa**	**4.12**	**326**	P	**P**	**06 54 31.1**	**+0.3**
	SNR=6.4						
AAK	**Ala-Archa**	**4.12**	**326**	*e*P	**P**	**06 54 29.2**	**-1.6**
AML	**Almayashu**	**4.14**	**315**	P	**P**	**06 54 31.4**	**+0.2**
	SNR=27						
CHMS	**Chumysh**	**4.32**	**331**	P	**P**	**06 54 33.6**	**-0.1**
	SNR=9.2						
EKS2	**Erkin-Say**	**4.47**	**321**	P	**P**	**06 54 36.1**	**+0.2**
	SNR=14						
USP	**Ospenovka**	**4.64**	**330**	P	**P**	**06 54 48.6**	**+10**
	SNR=8.6						
KK31	**Karatay Array**	**6.60**	**308**	Pn	**P**	**06 55 04.3**	**-1.3**
	comp=E,0.3nm,0.3s,baz=127,slow=13,SNR=11						
KK31				⇓Pg	**P**	**06 55 22.6**	**+17**
	comp=E,6.1nm,0.7s,baz=129,slow=17,SNR=18						
KK31				⇑Lg		06 56 45.9	
	comp=E,8.3nm,0.6s,baz=142,slow=30,SNR=5.0						
DLH	**Dalhousie**	**6.84**	**192**	*e*P	**P**	**06 55 12.0**	**+2.9**
THN	**Thein Dam**	**6.99**	**193**	*e*P	**P**	**06 55 13.5**	**+2.3**
THN				*e*S	**S**	**06 56 36.1**	**+5.9**
KLP	**Kalpa**	**7.73**	**176**	*e*P	**P**	**06 55 22.3**	**+0.9**
KLP				*e*		06 56 18.4	
MK31	**Makanchi Array**	**8.26**	**23**	Pn	**P**	**06 55 26.8**	**-1.9**
	comp=E,0.2nm,0.3s,baz=204,slow=15,SNR=10						
MK31				⇑Lg		06 57 45.4	
	comp=E,4.2nm,0.7s,baz=210,slow=27,SNR=4.1						
MKAR	**Makanchi Array**	**8.26**	**23**	Pn	**P**	**06 55 27.3**	**-1.4**
	comp=E,0.2nm,0.3s,baz=197,slow=12,SNR=7.7						
MKAR				Lg		06 57 50.3	
	comp=E,0.4nm,0.3s,baz=208,slow=28,SNR=6.0						
WMQ	**Urumqi**	**8.81**	**56**	*e*P	**P**	**06 55 38.5**	**+2.2**
WMQ				S	**S**	**06 57 15.0**	**-0.4**
WMQ				Smax			
	comp=N,15nm,0.6s						
WMQ				Smax			
	comp=E,18nm,0.7s						
DDI	**Dehra Dun**	**8.93**	**178**	*e*P	**P**	**06 55 34.5**	**-3.5**
DDI				*e*S	**S**	**06 57 16.0**	**-2.3**
AYAN	**Aya Nagar**	**10.76**	**182**	*e*P	**P**	**06 56 04.8**	**+1.6**
KURK	**Kurchatov**	**11.47**	**3**	Pn	**P**	**06 56 08.9**	**-3.8**
KURK				⇑Lg		06 59 22.1	
	comp=E,7.7nm,1.0s						
KURK	**Kurchatov**	**11.47**	**3**	*e*P	**P**	**06 56 09.0**	**-3.6**
KOLN	**Koldanda**	**12.49**	**155**	*e*P	**P**	**06 56 26.5**	**0.0**
	comp=E,9.7nm,0.3s						
GKN	**Gorkha**	**12.65**	**151**	*e*P	**P**	**06 56 28.5**	**-0.1**
	comp=E,21nm,0.3s						
KKN	**Kakani**	**13.10**	**149**	*e*P	**P**	**06 56 33.3**	**-1.2**
	comp=E,11nm,0.4s						
DMN	**Daman**	**13.19**	**150**	*e*P	**P**	**06 56 35.0**	**-0.7**
	comp=E,6.3nm,0.3s						
GUN	**Gumba**	**13.24**	**146**	*e*P	**P**	**06 56 36.0**	**-0.3**
PKI	**Pulchoki**	**13.34**	**149**	*e*P	**P**	**06 56 37.0**	**-0.7**
	comp=E,11nm,0.4s						
JIRN	**Jiri**	**13.59**	**146**	*e*P	**P**	**06 56 39.6**	**-1.4**
	comp=E,14nm,0.3s						
VOSK	**Vostochnaya**	**14.22**	**343**	⇓Lg		07 00 47.6	
	comp=E,13nm,1.6s						
BVA0	**Borovoye Array**	**14.64**	**342**	Pn	**P**	**06 56 54.4**	**0.0**
	comp=E,0.1nm,0.5s,baz=161,slow=12,SNR=5.0						
BVA0				⇓Lg		07 00 59.1	
	comp=E,1.7nm,1.5s,baz=147,slow=30,SNR=5.7						
BVAR	**Borovoye Array**	**14.64**	**342**	Pn	**P**	**06 56 51.0**	**-3.5**
	comp=E,0.1nm,0.3s,baz=166,slow=12,SNR=4.7						
BVAR				Lg		07 01 04.3	
	comp=E,0.2nm,0.3s,baz=160,slow=29,SNR=8.2						
ZAL	**Zalesovo**	**15.47**	**16**	Pn	**P**	**06 57 05.4**	**+0.2**
	comp=E,0.3nm,0.3s,baz=179,slow=7.3,SNR=3.7						
LZH	**Lanzhou**	**20.96**	**90**	*e*P	**P**	**06 58 11.0**	**+0.8**
LZH				AP		06 58 23.0	
LZH				XP		06 58 28.5	
LZH				PP	PP	06 58 34.5	+0.8
LZH				AMB	AMB		
	comp=Z,9.0nm,1.5s						
LZH	**Lanzhou**	**20.96**	**90**	*e*P	**P**	**06 58 11.0**	**+0.8**
LZH				*PP		06 58 23.0	
LZH						06 58 34.5	
LZH				pmax	pmax		
	comp=Z,9.0nm,1.5s						
LZH	**Lanzhou**	**20.96**	**90**	*e*P	**P**	**06 58 11.0**	**+0.8**
	comp=Z,9.0nm,1.5s						
LZH				pP		06 58 23.0	
LZH				sP		06 58 28.5	
LZH				PP	PP	06 58 34.5	+0.8
ZAK	**Zakamensk**	**21.21**	**50**	*e*P	**P**	**06 58 14.6**	**+2.0**
SONM	**Songino Array**	**22.43**	**58**	P	**P**	**06 58 27.4**	**+2.6**
	comp=Z,0.6nm,0.5s,mb3.3,baz=256,slow=10,SNR=5.6						
FINES	**FINESS Array B**	**38.30**	**323**	P	**P**	**07 00 46.2**	**-0.1**
	comp=Z,0.8nm,0.5s,mb3.7,baz=109,slow=10.0,SNR=14						
FINES	**FINESS Array B**	**38.30**	**323**	P	**P**	**07 00 46.2**	**-0.1**
KAF	**Kangasniemi**	**38.33**	**324**	*ep*	**P**	**07 00 45.8**	**-0.8**
	comp=Z,0.3nm,0.3s,mb3.5						
ARCES	**ARCESS Array B**	**40.74**	**335**	P	**P**	**07 01 06.8**	**+0.3**
	comp=Z,1.5nm,0.5s,mb3.8,baz=104,slow=10.0,SNR=10.0						
ARCES	**ARCESS Array B**	**40.74**	**335**	P	**P**	**07 01 06.8**	**+0.3**
NB2	**NORSAR Subarra**	**45.43**	**321**	P	**P**	**07 01 43.2**	**-1.4**
	comp=Z,0.9nm,0.5s,mb3.9,baz=88,slow=7.9						
NB2	**NORSAR Subarra**	**45.43**	**321**	P	**P**	**07 01 43.2**	**-1.4**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
NOA	**NORSAR Array B**	**45.43**	**321**	P	**P**	**07 01 44.0**	**-0.6**
	comp=Z,1.5nm,0.7s,mb3.9,baz=88,slow=7.9,SNR=4.7						
GERES	**GERESS Array B**	**45.69**	**304**	P	**P**	**07 01 47.6**	**+0.8**
	comp=Z,1.1nm,0.8s,mb3.8,baz=68,slow=7.2,SNR=9.0						
ESDC	**Sonseca Array**	**60.77**	**299**	P	**P**	**07 03 37.9**	**-0.3**
	comp=Z,0.6nm,0.5s,mb4.0,baz=56,slow=6.7,SNR=5.3						
ILAR	**Eielson Array**	**70.59**	**19**	P	**P**	**07 04 40.4**	**-0.3**
	comp=Z,0.3nm,0.8s,mb3.3,baz=321,slow=4.8,SNR=4.4						
YKA	**Yellowknife Ar**	**78.11**	**6**	P	**P**	**07 05 24.3**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=341,slow=5.8,SNR=4.5						

*IDC **31** 07:02:32.6±2.6,20.56S×168.12E,mb3.9/4,mb1 4.0/5, mb1mx3.9/12,mbtmp3.8/5,ML2.7/1,MS3.3/4,Ms1 3.3/4, ms1mx2.8/20,Error ellipse: s-maj=91.6km s-min=27.4km az=131.0*
*NEIC **31** 07:02:33.7±1.4,20.66S×168.17E,h10km,mb4.5/1,Error ellipse: s-maj=48.9km s-min=19.4km az=126.0*
ISC 31 07:02:34.6±1.2,20.8S±0.3×168.7E±0.2,h33km,n13, σ1$49/11,mb3.9/5,MS3.3/3,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.43**	**239**	*e*P	**P**	**07 03 08.2**	**-4.6**
DZM				*e*S	**S**	**07 03 43.0**	**+1.4**
DZM	**Mont Dzumac**	**2.43**	**239**	Pn	**Pn**	**07 03 08.7**	**-4.2**
	2.0nm,0.3s,baz=68,slow=15,SNR=50						
DZM				Sn	**Sn**	**07 03 41.9**	**+0.1**
	40nm,0.3s,baz=286,slow=18,SNR=14						
DZM	**Mont Dzumac**	**2.43**	**239**	*e*P	**P**	**07 03 08.2**	**-4.6**
DZM				*e*S	**S**	**07 03 43.0**	**+1.4**
AFI	**Afiamalu**	**19.86**	**73**	LR	LR	07 13 37.2	
	comp=Z,41nm,19.3s,baz=257,slow=33						
PMG	**Port Moresby**	**23.65**	**295**	LR	LR	07 15 01.9	
	comp=Z,91nm,18.4s,MS3.3,baz=73,slow=32						
STKA	**Stehens Creek**	**26.58**	**240**	P	**P**	**07 08 11.4**	**-0.4**
	1.2nm,0.7s,mb3.6,baz=83,slow=16,SNR=3.2						
STKA				LR	LR	07 18 54.3	
	comp=Z,54nm,18.3s,MS3.1,baz=27,slow=37						
WRA	**Warramunga Arr**	**32.18**	**265**	P	**P**	**07 08 57.6**	**-4.2**
	1.5nm,1.0s,mb3.8,baz=96,slow=8.0,SNR=10						
PPT	**Papeete**	**39.47**	**93**	LR	LR	07 22 02.4	
	comp=Z,71nm,19.7s,MS3.5,baz=226,slow=29						
CASY	**Casey**	**58.47**	**204**	P	**P**	**07 12 29.2**	**-0.2**
	5.2nm,1.1s,mb4.5						
SONM	**Songino Array**	**88.18**	**323**	P	**P**	**07 15 22.8**	**-0.5**
	1.3nm,1.0s,mb4.1,baz=145,slow=6.6,SNR=6.0						
ILAR	**Eielson Array**	**91.90**	**17**	P	**P**	**07 15 42.0**	**+1.6**
	0.3nm,0.6s,mb3.8,baz=231,slow=5.2,SNR=5.0						
CLL	**Collm**	**144.13**	**334**	*e*PKIKP	PKPdf	07 22 08.0	+1.3
GERES	**GERESS Array B**	**145.63**	**330**	PKPbc	PKPbc	07 22 10.5	+0.4
	0.6nm,0.8s,baz=45,slow=1.9,SNR=4.3						

*IDC **31** 07:03:45.1±5.2,35.06N×72.03E,mb3.9/5,mb1 3.9/7, mb1mx3.6/21,mbtmp3.7/7,ML3.4/2,Error ellipse: s-maj=96.3km s-min=46.5km az=157.0*
*MOS **31** 07:03:55.0±1.3,36.09N×71.93E,h33km,mb4.2/3,Error ellipse: s-maj=99.9km s-min=30.6km az=113.6*
*NNC **31** 07:04:16.0±8.3,37.12N×71.03E,h186km±145km,mpv3.9, Error ellipse: s-maj=90.3km s-min=57.1km az=38.0*
ISC 31 07:04:06.3±1.2,36.44N±0.06×71.7E±0.1,h112km±14km, n28,σ1$22/35,mb3.7/4,3C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.20**	**139**	*e*P	**P**	**07 05 24.4**	**+1.4**
THN				*e*S	**S**	**07 06 22.3**	**0.0**
DLH	**Dalhousie**	**5.25**	**136**	*e*S	**S**	**07 06 24.0**	**+0.4**
PONG	**Pong**	**5.70**	**140**	*e*P	**P**	**07 05 29.0**	**-0.8**
PONG				*e*S	**S**	**07 06 37.0**	**+2.5**
AAK	**Ala-Archa**	**6.56**	**18**	⇑P	**P**	**07 05 43.7**	**+2.1**
	3.7nm,0.4s						
AAK				⇓S	**S**	**07 06 55.6**	**+0.2**
	11nm,1.1s						
SDNR	**Sundarnagar**	**6.59**	**137**	*e*P	**P**	**07 05 42.0**	**-0.1**
SDNR				*e*S	**S**	**07 06 52.0**	**-4.3**
KK31	**Karatay Array**	**6.72**	**353**	⇑P	**P**	**07 05 43.1**	**-0.8**
	5.4nm,0.3s,baz=181,slow=13,SNR=133						
KK31				⇑S	**S**	**07 06 52.2**	**-7.1**
	4.4nm,0.3s						
KKAR	**Karatay Array**	**6.72**	**353**	*e*PN	**P**	**07 05 43.0**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.2s						
SMLA	**Simla**	**6.99**	**138**	⇓*i*		**07 05 55.4**	**+8.0**
SMLA				*i* S	**S**	**07 07 03.5**	**-2.4**
MKAR	**Makanchi Array**	**13.02**	**34**	Pn	**P**	**07 07 05.0**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=219,slow=9.2,SNR=4.2						
KOLN	**Koldanda**	**13.28**	**127**	*e*P	**P**	**07 07 11.1**	**-0.2**
	comp=Z,6.5nm,0.3s						
GKN	**Gorkha**	**13.80**	**124**	*e*P	**P**	**07 07 17.7**	**-0.4**
	comp=Z,20nm,0.4s						
KKN	**Kakani**	**14.38**	**123**	*e*P	**P**	**07 07 24.9**	**-0.5**
	comp=Z,10nm,0.4s						
DMN	**Daman**	**14.38**	**124**	*e*P	**P**	**07 07 25.6**	**+0.1**
	comp=Z,8.8nm,0.3s						
PKI	**Pulchoki**	**14.60**	**123**	*e*P	**P**	**07 07 28.4**	**0.0**
	comp=Z,7.3nm,0.3s						
JIRN	**Jiri**	**15.08**	**121**	*e*P	**P**	**07 07 34.1**	**-0.3**
	comp=Z,17nm,0.3s						
AB31	**Akbulak array**	**15.41**	**330**	⇓P	**P**	**07 07 35.7**	**-2.8**
	comp=Z,0.7nm,0.3s,baz=142,slow=13,SNR=62						
AB31				⇓S	**S**	**07 10 12.4**	**-14**
	comp=Z,5.6nm,1.2s,baz=154,slow=24,SNR=4.2						
AB31	**Akbulak array**	**15.41**	**330**	P	**P**	**07 07 35.8**	**-2.7**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**16.61**	**357**	P	**P**	**07 07 56.0**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=164,slow=10,SNR=3.2						
ZAL	**Zalesovo**	**19.73**	**23**	P	**P**	**07 08 29.5**	**+0.4**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZAL	**Zalesovo**	**19.73**	**23**	P	**P**	**07 08 29.4**	**+0.3**
	comp=Z,2.5nm,0.4s,baz=258,slow=5.6,SNR=3.8						
FINES	**FINESS Array B**	**37.85**	**326**	P	**P**	**07 11 14.1**	**+0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**37.85**	**326**	P	**P**	**07 11 14.1**	**+0.8**
	comp=Z,0.6nm,0.6s,mb3.6,baz=117,slow=8.5,SNR=4.4						
ARCES	**ARCESS Array B**	**41.41**	**337**	P	**P**	**07 11 44.2**	**+1.6**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES	**ARCESS Array B**	**41.41**	**337**	P	**P**	**07 11 44.2**	**+1.5**
	comp=Z,5.8nm,1.0s,mb4.4,baz=107,slow=9.4,SNR=3.7						
NB2	**NORSAR Subarra**	**44.76**	**323**	P	**P**	**07 12 09.7**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.6,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.76**	**323**	P	**P**	**07 12 10.2**	**+0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**44.76**	**323**	P	**P**	**07 12 10.2**	**+0.4**
	comp=Z,0.9nm,0.5s,mb3.8,baz=96,slow=7.7,SNR=5.9						
YKA	**Yellowknife Ar**	**81.28**	**3**	P	**P**	**07 16 09.7**	**-1.1**
	comp=Z,0.1nm,0.3s,mb3.1,baz=353,slow=4.8,SNR=3.9						

NEIC 31 07:07:08.0,38.72N×92.73W,h5km,MN3.3(SLM),After SLM.,Missouri

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCM	**Cathedral Cave**	**1.34**	**119**	*e*P	Pb	07 07 32.1	-1.0
CCM				*e*S	Sb	07 07 49.4	-1.1
FVM	**French Village**	**1.95**	**111**	*e*P	Pn	07 07 41.3	-0.8
FVM				*e*S	Sn	07 08 05.5	-1.8
SLM	**Saint Louis**	**1.95**	**92**	*e*P	Pn	07 07 41.1	-1.0
SLM				*e*S	Sn	07 08 07.1	-0.2
SIUC	**Southern Illin**	**2.94**	**109**	*e*Pn	Pn	07 07 54.8	-1.4
UTMT	**University of**	**3.88**	**127**	Pn	Pn	07 08 07.3	-2.3
HALT	**Halls**	**3.89**	**135**	Pn	Pn	07 08 11.0	+1.2
UALR	**University of**	**3.95**	**175**	*e*Pn	Pn	07 08 09.6	-1.0
UALR				*e*S	Sn	07 09 07.8	+10
USIN	**University of**	**4.05**	**99**	Pn	Pn	07 08 10.8	-1.2
WVT	**Waverly**	**4.67**	**122**	Pn	Pn	07 08 18.9	-2.0
BLO	**Bloomington**	**4.86**	**83**	Pn	Pn	07 08 21.8	-1.6
WCI	**Wyandotte Cave**	**5.07**	**94**	*e*Pn	Pn	07 08 24.3	-2.2
PLAL	**Pickwick Lake**	**5.27**	**134**	Pn	Pn	07 08 27.2	-2.1
CBKS	**Cedar Bluff**	**5.48**	**273**	Pn	Pn	07 08 30.4	-1.9
	45nm,0.5s						
LRAL	**Lakeview Retre**	**7.33**	**139**	Pn	Pn	07 08 55.6	-2.7
TZTN	**Tazewell**	**7.60**	**104**	Pn	Pn	07 08 59.5	-2.6
MYNC	**Murphy**	**7.79**	**115**	Pn	Pn	07 09 02.6	-2.1
FWV	**Forest Hill**	**9.45**	**93**	*e*Lg		07 11 54.2	
ELN	**Prospectdale**	**9.57**	**95**	*e*Lg		07 11 52.2	
BLA	**Blacksburg**	**9.83**	**95**	*e*Lg		07 12 12.5	
RSSD	**Black Hills**	**10.06**	**306**	*e*Lg		07 12 16.3	
SDCO	**Great Sand Dun**	**10.10**	**268**	*e*Pn	P	07 09 33.0	-3.8
PHWY	**Pilot Hill**	**10.10**	**289**	*e*Lg		07 12 19.6	

IDC 31 07:17:07.7±4.0,15.68S×173.91W,h92km±28km,mb3.1/4, mb1 3.5/5,mb1mx3.4/14,mbtmp3.5/5,Error ellipse: s-maj=128.5km s-min=26.6km az=153.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.71**	**50**	P	P	07 17 49.5	-0.8
	17nm,0.3s,baz=26,slow=3.2,SNR=40						
AFI				S	S	07 18 18.5	-3.7
	274nm,0.3s,baz=303,slow=19,SNR=28						
WRA	**Warramunga Arr**	**49.31**	**257**	P	P	07 25 47.7	-1.9
	0.2nm,0.7s,baz=97,slow=7.7,SNR=3.8						
TXAR	**Lajitas Array**	**81.17**	**56**	P	P	07 29 14.0	-1.0
	0.3nm,0.7s,baz=214,slow=7.6,SNR=3.7						
PDAR	**Pinedale Array**	**82.80**	**42**	P	P	07 29 21.8	-1.3
	0.7nm,0.8s,baz=245,slow=3.0,SNR=7.9						
ILAR	**Eielson Array**	**82.81**	**11**	P	P	07 29 21.2	-1.4
	0.3nm,0.6s,baz=227,slow=6.9,SNR=4.1						

*BJI **31** 08:04:25.7,1.35N×97.32E,h16km,mB5.1,mb4.9,Ms4.9, Msz4.7*
*MOS **31** 08:04:29.8±0.9,1.63N×97.15E,h33km,mb4.9/23,Error ellipse: s-maj=16.2km s-min=7.2km az=110.0*
*IDC **31** 08:04:29.8±0.6,1.41N×96.97E,h27km,3km,mb4.4/15, mb1 4.5/15,mb1mx4.3/20,mbtmp4.6/15,MS4.1/13, Ms1 4.2/13,ms1mx3.9/32,Error ellipse: s-maj=20.1km s-min=12.7km az=47.0*
*NEIC **31** 08:04:30.5±0.3,1.52N×97.03E,mb4.8/19,Error ellipse: s-maj=8.3km s-min=6.0km az=35.0*
ISC 31 08:04:28.9±0.4,1.52N±0.05×97.08E±0.04,h28km, h28km±.7km:pP-P,n166,σ1$02/159,mb4.7/63,MS4.5/27, 10C-12D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**4.97**	**52**	P	**Pn**	**08 05 44.5**	**+0.6**
IPM	**Ipoh**	**4.97**	**52**	P	**Pn**	**08 05 44.2**	**+0.3**
KULM	**Kulim**	**5.17**	**43**	⇑*e*P	**Pn**	**08 05 46.3**	**-0.2**
KGM	**Kluang**	**6.25**	**85**	P	**Pn**	**08 06 03.2**	**+1.3**
KGM	**Kluang**	**6.25**	**85**	P	**Pn**	**08 06 03.3**	**+1.4**
KSM	**Kuching**	**13.22**	**90**	P	**P**	**08 07 38.8**	**+1.2**
KKM	**Kota Kinabalu**	**19.61**	**76**	*e*P	**P**	**08 08 57.4**	**-0.9**
KKM	**Kota Kinabalu**	**19.61**	**76**	P	**P**	**08 08 59.1**	**+0.8**
QIZ	**Qiongzhong**	**21.43**	**35**	*e*P	**P**	**08 09 16.6**	**-0.5**
BWNR	**Bhubaneshwar**	**21.67**	**330**	*e*P	**P**	**08 09 20.9**	**+1.3**
BWNR				AMb	AMB	08 09 32.5	
	comp=Z,54nm,1.6s,mb4.7						
KMI	**Kunming**	**24.09**	**13**	P	**P**	**08 09 45.3**	**+1.9**
KMI				AP		08 09 53.5	
KMI				S	**S**	**08 13 57.3**	**+1.2**
KMI				SS	SS	08 14 53.8	+5.3
KMI				AMB	AMB		
	comp=Z,24nm,1.9s,mb4.3						
KMI				AMB	AMB		
	comp=Z,273nm,4.2s						
KMI				LR	LR		
	comp=N,1μm,15.6s,MS4.7						
KMI				LR	LR		
	comp=E,1μm,14.3s,MS4.7						
KMI				LR	LR		
	comp=Z,2μm,15.8s,MS4.6						
KMI	**Kunming**	**24.09**	**13**	P	**P**	**08 09 45.2**	**+1.8**
KMI				*PP		08 09 53.4	
KMI				*SP		08 09 59.4	
KMI				S	**S**	**08 13 57.2**	**+1.1**
KMI				pmax	pmax		
	comp=Z,24nm,1.9s,mb4.3						
KMI				MLR	MLR		
	comp=Z,2μm,15.8s,MS4.6						
KMI	**Kunming**	**24.09**	**13**	P	**P**	**08 09 45.2**	**+1.8**
	comp=Z,24nm,1.9s,mb4.3						
KMI				pP		08 09 53.4	
KMI				sP		08 09 59.4	
KMI				S	**S**	**08 13 57.2**	**+1.1**
KMI				SS	SS	08 14 53.7	+5.2
KMI				LR	LR		
	comp=Z,2μm,15.8s,MS4.6						
HYB	**Hyderabad**	**24.11**	**312**	*e*P	**P**	**08 09 54.5

XAN LR LR
comp=Z,2μm,14.7s,MS4.9
FITZ Fitzroy Crossi 34.21 126 *eP* **P 08 11 14.7 +0.1**
comp=Z,7.9nm,0.6s,mb4.8
FITZ Fitzroy Crossi 34.21 126 P **P 08 11 12.2 -2.4**
comp=Z,9.1nm,0.8s,mb4.8,baz=335,slow=4.9,SNR=8.1
LZH Lanzhou 34.96 10 ⇑P **P 08 11 20.0 -0.9**
LZH AP pP 08 11 28.5 -0.7
LZH XP sP 08 11 33.8 +1.0
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,130nm,4.0s
LZH LR LR
comp=E,1μm,14.4s
LZH LR LR
comp=Z,2μm,16.0s,MS4.9
LZH Lanzhou 34.96 10 ⇑P **P 08 11 20.0 -0.9**
LZH *PP pP 08 11 28.5 -0.7
LZH *SP sP 08 11 33.7 +0.9
LZH pmax pmax
comp=Z,42nm,1.5s,mb5.2
LZH MLR MLR
comp=Z,2μm,16.0s,MS4.9
LZH Lanzhou 34.96 10 ⇑P **P 08 11 20.0 -0.9**
comp=Z,42nm,1.5s,mb5.2
LZH pP pP 08 11 28.5 -0.7
LZH sP sP 08 11 33.7 +0.9
LZH LR LR
comp=Z,2μm,16.0s,MS4.9
NJ2 Nanjing 36.66 32 *eP* **P 08 11 30.8 -4.4**
NJ2 AP pP 08 11 40.5 -3.1
NJ2 XP sP 08 11 44.5 -2.7
NJ2 AMB AMB
comp=Z,50nm,0.9s,mb5.3
NJ2 AMB AMB
comp=Z,220nm,5.4s
NJ2 LR LR
comp=N,2μm,16.0s,MS5.1
NJ2 LR LR
comp=E,2μm,16.4s,MS5.1
NJ2 LR LR
comp=Z,1μm,23.0s
GTA Gaotai 37.79 3 P **P 08 11 44.5 -0.2**
GTA AP pP 08 11 53.0 -0.1
GTA XP sP 08 11 56.3 -0.3
GTA PP PP 08 13 13.3 -0.9
GTA PCP PcP 08 14 03.0 +1.4
GTA S **S 08 17 32.0 -1.3**
GTA SCP 08 17 45.8
GTA SCS ScS 08 21 54.3 +1.1
GTA AMB AMB
comp=Z,11nm,1.4s,mb4.4
GTA AMB AMB
comp=Z,151nm,11.1s
GTA LR LR
comp=N,450nm,14.1s,MS4.5
GTA LR LR
comp=E,292nm,14.5s,MS4.5
GTA LR LR
comp=Z,500nm,14.1s,MS4.5
KAKA Kakadu 37.84 113⇓ *iP* **P 08 11 48.9 +3.6**
comp=Z,13nm,0.6s,mb4.8
JOW Kunigami 39.11 47 P **P 08 11 56.1 +0.2**
comp=Z,31nm,0.5s,mb5.3,baz=237,slow=6.6,SNR=42
JOW pP pP 08 12 04.4 +0.1
comp=Z,9.5nm,0.4s,baz=207,slow=6.2,SNR=4.0
BTO Baotou 40.64 15 *eP* **P 08 12 09.5 +1.2**
BTO AMB AMB
comp=Z,11nm,0.7s,mb4.6
HHC Hu-ho-hao-te 41.29 17 ⇑P **P 08 12 14.5 +0.8**
HHC AP pP 08 12 24.5 +2.4
HHC XP sP 08 12 27.8 +2.2
HHC SCP 08 17 55.0
HHC S **S 08 18 33.0 +7.2**
HHC SCS ScS 08 22 12.0 -1.6
HHC AMB AMB
comp=Z,17nm,1.2s,mb4.5
HHC LR LR
comp=N,1μm,16.6s,MS4.8
HHC LR LR
comp=E,633nm,19.0s,MS4.8
HHC LR LR
comp=Z,927nm,20.1s,MS4.7
WRA Warramunga Arr 42.30 122 P **P 08 12 21.9 -0.4**
comp=Z,3.2nm,0.5s,mb4.2,baz=302,slow=9.2,SNR=36
WRAB Tennant Creek 42.31 122 *i*P **P 08 12 23.0 +0.6**
WRAB Tennant Creek 42.31 122 *eP* **P 08 12 22.3 -0.1**
comp=Z,12nm,0.8s,mb4.6
WB2 Warramunga Arr 42.31 122⇓ *i*P **P 08 12 22.5 +0.1**
WMQ Urumqi 42.94 350 *eP* **P 08 12 27.0 -0.2**
WMQ AP pP 08 12 37.0 +1.4
WMQ XP sP 08 12 41.0 +1.9
WMQ LR LR
comp=N,387nm,16.3s,MS4.6
WMQ LR LR
comp=E,455nm,16.4s,MS4.6
WMQ LR LR
comp=Z,662nm,16.7s,MS4.6
JNU Nakatsue 44.65 42 P **P 08 12 41.5 +0.2**
comp=Z,14nm,0.9s,mb4.8,baz=252,slow=12,SNR=5.2
JNU LR LR 08 32 35.2
comp=Z,346nm,18.5s,MS4.3,baz=322,slow=38
ULHL Ulahol 44.65 338 P **P 08 12 41.9 +0.7**
SNR=7.2
TKM2 Tokmak 2 45.48 338 P **P 08 12 48.6 +1.0**
SNR=6.7
AML Almayashu 45.56 336 P **P 08 12 49.5 +1.2**
SNR=7.0
KS15 Wonju Array Si 45.62 35 *eP* **P 08 12 48.6 -0.3**
AAK Ala-Archa 45.66 337 P **P 08 12 49.6 +0.5**
AAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
AAK Ala-Archa 45.66 337 P **P 08 12 49.6 +0.5**
comp=Z,7.6nm,0.9s,mb4.6
FRU Bishkek 45.78 337 *eP* **P 08 12 50.0 -0.1**
EKS2 Erkin-Say 45.97 336 P **P 08 12 53.2 +1.7**
SNR=5.3
USP Ospenovka 46.19 337 P **P 08 12 54.0 +0.7**
SNR=10
SONM Songino Array 46.83 9 P **P 08 12 58.5 +0.2**
comp=Z,8.4nm,0.5s,mb4.9,baz=190,slow=9.7,SNR=97
SONM pP pP 08 13 06.7 -0.1
comp=Z,6.6nm,0.5s,baz=192,slow=9.7,SNR=9.7
SONM PcP PcP 08 14 31.3 -0.1
comp=Z,1.8nm,0.6s,baz=198,slow=4.6,SNR=4.8
SONM LR LR 08 35 17.0
comp=Z,566nm,19.4s,MS4.5,baz=186,slow=39
MKAR Makanchi Array 46.90 346 P **P 08 12 59.0 +0.1**
comp=Z,17nm,0.5s,mb5.2,baz=160,slow=7.9,SNR=272
MKAR pP pP 08 13 06.3 -1.1
comp=Z,24nm,0.7s,baz=160,slow=7.3,SNR=20
MKAR LR LR 08 36 29.1
comp=Z,200nm,20.5s,MS4.1,baz=173,slow=41
KKAR Karatay Array 47.72 334 P **P 08 13 06.4 +1.0**
KKAR pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ZAK Zakamensk 48.97 5⇑ *iP* **P 08 13 14.9 0.0**
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
CN2 Changchun 49.07 27 *eP* **P 08 13 16.0 +0.2**
CN2 *e*AP pP 08 13 26.0 +1.6
CN2 *e*S **S 08 20 18.3 +0.6**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.5
CN2 LR LR
comp=E,300nm,15.0s,MS4.5
CN2 LR LR
comp=Z,300nm,17.0s,MS4.3
TLY Talaya 50.29 5 *eP* **P 08 13 23.1 -1.9**
TLY pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
TLY Talaya 50.29 5 *eP* **P 08 13 23.1 -1.9**
comp=Z,8.7nm,0.7s,mb4.9
IRK Irkutsk 50.90 6 *eP* **P 08 13 27.3 -2.4**
IRK pmax pmax
comp=Z,27nm,3.1s
KURK Kurchatov 51.45 345 *eP* **P 08 13 33.2 -0.7**
KURK pmax pmax
comp=Z,19nm,1.0s,mb5.0
KURK Kurchatov 51.45 345 *eP* **P 08 13 33.2 -0.7**
comp=Z,18nm,1.0s,mb5.0

MJAR Matsushiro Arr 51.54 43 P **P 08 13 34.2 -0.5**
comp=Z,1.4nm,0.5s,mb4.1,baz=224,slow=10,SNR=9.5
MDJ Mudanjiang 51.65 29 P **P 08 13 35.3 -0.1**
MDJ AP pP 08 13 44.3 +0.2
MDJ XP sP 08 13 48.0 +0.6
MDJ PCP PcP 08 14 48.3 -0.7
MDJ PP PP 08 15 31.5 -2.2
MDJ SCP 08 18 42.0
MDJ PCS 08 18 45.8
MDJ S **S 08 20 55.5 +2.2**
MDJ XS 08 21 10.5
MDJ SCS ScS 08 23 23.0 +2.6
MDJ AMB AMB
comp=Z,11nm,1.4s,mb4.6
MDJ AMB AMB
comp=Z,81nm,5.0s
MDJ LR LR
comp=N,284nm,18.8s,MS4.6
MDJ LR LR
comp=E,369nm,17.0s,MS4.6
MDJ LR LR
comp=Z,573nm,16.5s,MS4.7
CIT Chita 52.19 13 *eP* **P 08 13 39.7 +0.3**
CIT *e* 08 13 50.7
CTA Charters Tower 52.75 117 LR LR 08 40 06.6
comp=Z,309nm,18.5s,MS4.4,baz=48,slow=40
CTAO Charters Tower 52.75 117 *eP* **P 08 13 43.7 -0.4**
STKA Stephens Creek 53.66 132 *eP* **P 08 13 51.1 +0.5**
comp=Z,8.9nm,1.0s,mb4.7
STKA Stephens Creek 53.66 132 P **P 08 13 50.4 -0.2**
comp=Z,11nm,0.8s,mb4.8,baz=306,slow=7.7,SNR=27
STKA pP pP 08 13 58.9 -0.3
comp=Z,4.7nm,0.7s,baz=306,slow=6.1,SNR=5.8
NVS Novosibirsk 54.34 350 *eP* **P 08 13 53.5 -1.8**
KAMS Al Khamasin 54.53 294 P **P 08 14 04.9 +7.7**
DJNS Zahran al Janu 54.95 291 P **P 08 14 10.1 +10**
TATS Tathlith 55.38 293 P **P 08 14 11.7 +8.4**
VOSK Vostochnaya 55.46 341 P **P 08 14 02.1 -1.4**
VOSK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
BVA0 Borovoye Array 55.91 341 *i*P **P 08 14 05.5 -1.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
BRVK Borovoye 55.97 341 *eP* **P 08 14 05.2 -1.9**
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
BRVK Borovoye 55.97 341 *eP* **P 08 14 05.2 -1.9**
comp=Z,4.3nm,0.6s,mb4.7
KLR Kul'dur 56.02 27 *eP* **P 08 14 03.5 -4.1**
KLR MLR MLR
comp=N,500nm,13.0s
KLR MLR MLR
comp=Z,1μm,13.0s,MS5.1
AB31 Akbulak array 57.18 332 *i*P **P 08 14 14.8 -1.0**
AB31 pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
BLJS Baljurashi 57.18 293 P **P 08 14 25.8 +10**
BOD Bodaibo 57.72 11 *eP* **P 08 14 18.1 -1.4**
BOD *e* pP 08 14 25.9 -2.3
BOD pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
BOD pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
CLNS Chul'man 59.47 17 *eP* **P 08 14 27.4 -4.3**
CLNS *e**PP pP 08 14 46.0 +5.5
CLNS *e*PS PS 08 22 57.1 +1.1
CLNS *e* 08 24 18.2
CLNS *e*SS SS 08 26 25.4 -8.8
CLNS pmax pmax
comp=N,6.0nm,0.7s
CLNS pmax pmax
comp=Z,11nm,0.7s,mb5.0
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
CLNS pmax pmax
comp=E,5.0nm,0.9s
KMBO Kilima Mbogo 59.88 268 LR LR 08 35 47.5
comp=E,182nm,18.3s,MS4.2,baz=96,slow=31
YSS Yuzh-Sakhalins 60.15 34 *i*P **P 08 14 37.0 +0.5**
YSS pmax pmax
comp=Z,27nm,1.3s,mb5.1
YSS Yuzh-Sakhalins 60.15 34 *eP* **P 08 14 36.3 -0.2**
comp=Z,54nm,1.4s,mb5.4
GNI Garni 60.98 316*d iP* **P 08 14 48.7 +6.4**
GNI pmax pmax
comp=Z,6.0nm,0.9s
GNI Garni 60.98 316 LR LR 08 43 40.2
comp=Z,88nm,21.3s,MS3.9,baz=346,slow=38
UMJS Umm Lajj 62.16 298 P **P 08 15 00.0 +10**
ARU Arti 62.84 337⇓ *i*P **P 08 14 54.2 -0.3**
ARU *e* 08 15 31.8
ARU *e* 08 17 14.6
ARU *e*S **S 08 23 20.4 0.0**
ARU *e*SS SS 08 27 23.0 -4.6
ARU pmax pmax
comp=Z,6.0nm,1.2s,mb4.6
TBKS Tabuk 63.49 301 P **P 08 15 07.5 +8.3**
QURS Qurayyt al Mil 63.62 304 P **P 08 15 09.4 +9.3**
KIV Kislovodsk 63.99 319 *i*P **P 08 15 08.0 +5.7**
KIV pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
JMQS Jabal Moqyreh 64.22 301 P **P 08 15 12.3 +8.3**
BDAS Al Bad' 64.78 301 P **P 08 15 16.5 +8.8**
MALT Malatya 64.83 312 *eP* **P 08 15 06.8 -1.0**
MALT pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MALT Malatya 64.83 312 *eP* **P 08 15 06.8 -1.0**
comp=Z,6.3nm,0.8s,mb4.7
JMOS Jabal al Moall 64.94 302 P **P 08 15 17.1 +8.4**
TAYS Tayyib Ism 65.00 301 P **P 08 15 17.1 +7.9**
ALWS Iw as Safayha 65.01 302 P **P 08 15 17.5 +8.4**
HAQS Haql 65.06 301 P **P 08 15 18.3 +8.8**
YAK Yakutsk 65.15 16 *eP* **P 08 15 08.2 -1.3**
EIL Elat 65.19 302 P **P 08 15 19.5 +9.2**
MBH Mount Berech 65.24 302 P **P 08 15 19.7 +9.0**
PRNI Paran 65.30 303 P **P 08 15 19.2 +8.2**
KMTI Karmit 65.47 302 P **P 08 15 20.9 +8.8**
SOC Sochi 65.80 318 *eP* **P 08 15 20.7 +6.7**
SOC *e* 08 15 40.4
SOC *e* 08 17 35.7
SOC *e* 08 25 00.8
SOC pmax pmax
comp=Z,36nm,0.9s,mb5.4
SOC pmax pmax
comp=N,16nm,0.8s
SOC pmax pmax
comp=E,5.0nm,0.8s
BRTR Keskin Array B 68.81 312 P **P 08 15 32.2 -0.8**
comp=E,2.4nm,0.7s,mb4.2,baz=130,slow=6.7,SNR=11
BRTR pP pP 08 15 40.0 -1.8
comp=E,11nm,0.7s,baz=130,slow=6.8,SNR=25
SIM Simferopol' 70.05 318 P **P 08 15 49.2 +8.7**
SIM pmax pmax
comp=Z,19nm,0.7s,mb5.1
MATP Matopo 70.53 248 LR LR 08 45 55.0
comp=Z,169nm,18.8s,MS4.3,baz=82,slow=35
ISP Isparta 70.68 310 *i*P **P 08 15 52.0 +7.5**
OBN Obninsk 72.28 328⇓ *eP* **P 08 15 53.2 -0.6**
OBN *e* 08 18 35.3
OBN pmax pmax
comp=Z,29nm,2.1s,mb4.8
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
MAW Mawson 73.00 193 P **P 08 15 55.0 -2.7**
comp=Z,1.5nm,0.8s,mb4.0,baz=56,slow=17,SNR=1.8
TIRR Tirgusor 73.81 316 ⇑P **P 08 16 01.3 -1.6**
CFR Carcaliu 74.18 317 ⇓P **P 08 16 13.1 +8.1**
BOSA Boshof 74.83 240 LR LR 08 47 39.6
comp=Z,158nm,18.5s,MS4.3,baz=159,slow=35
AKASG Malin Array Be 74.93 322 P **P 08 16 08.0 -1.3**
comp=Z,3.0nm,0.5s,mb4.5,baz=85,slow=5.1,SNR=17
AKASG pP pP 08 16 16.5 -1.7
comp=Z,8.7nm,0.7s,baz=89,slow=4.8,SNR=18
VRI Vrincioaia 75.30 317 ⇓P **P 08 16 12.5 +1.0**
VRI Vrincioaia 75.30 317 ⇓P **P 08 16 12.4 +0.9**
MLR Muntele Rosu 75.75 317 ⇓P **P 08 16 14.0 -0.1**
BURAR Bucovina Array 76.71 319 ⇑P **P 08 16 20.1 +0.7**
BURAR Bucovina Array 76.71 319 ⇑P **P 08 16 20.1 +0.7**
DRGR 78.22 317 ⇑P **P 08 16 34.5 +6.8**
KOLS Kolonicke sedl 78.90 320 *eP* **P 08 16 33.0 +1.6**
KOLS *e*pP pP 08 16 41.7 +1.3
STHS Stebnicka Huta 79.65 320 *eP* **P 08 16 37.2 +1.7**
STHS *e*pP pP 08 16 45.5 +1.1
FINES FINESS Array B 79.66 332 P **P 08 16 35.2 -0.1**
comp=Z,2.4nm,0.5s,mb4.4,baz=107,slow=6.4,SNR=37
FINES pP pP 08 16 44.0 -0.3
comp=Z,5.2nm,0.6s,baz=108,slow=6.0,SNR=12
FINES LR LR 08 55 18.1
comp=Z,60nm,18.1s,MS4.0,baz=146,slow=38
FINES FINESS Array B 79.66 332 P **P 08 16 35.2 -0.1**
FINES pP pP 08 16 44.0 -0.3
FINES LR LR 08 55 18.1
KAF Kangasniemi 79.75 333 *ep* **P 08 16 35.0 -0.7**
comp=Z,6.0nm,0.5s,mb4.8,baz=103,slow=5.0
KAF Kangasniemi 79.75 333 *eP* **P 08 16 35.0 -0.7**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
KECS Kecovo 79.99 319 *e* **P 08 16 43.5 +6.2**
KECS *e*pP pP 08 16 45.9 -0.4
KECS *e* 08 19 50.7
SYO Syowa Base 80.27 198⇓ PcP PcP 08 16 46.4 +0.5
TSUM Tsumeb 80.58 250 LR LR 08 51 38.6
comp=Z,81nm,19.7s,MS4.1,baz=145,slow=35
OJC Ojcow 80.70 321 *eP* **P 08 16 41.6 +0.5**
BILL Bilibino 80.91 21 *i*P **P 08 16 41.2 -0.6**
BILL pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
BILL MLR MLR
comp=Z,400nm,20.0s,MS4.8
VYHS Vyhne 81.07 319 *e* **P 08 16 48.9 +5.8**
VYHS *e*pP pP 08 16 51.9 -0.1
KEV Kevo 81.76 341 *ep* **P 08 16 56.3 +10**
comp=Z,0.5nm,0.4s,mb3.8
MORC Moravsky Berou 82.08 320 *eP* **P 08 16 48.4 +0.1**
MORC *e* pP 08 16 56.7 -0.6
MORC pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MORC Moravsky Berou 82.08 320 *eP* **P 08 16 48.4 +0.1**
comp=Z,3.1nm,0.7s,mb4.3
MORC *e* pP 08 16 56.7 -0.5
ZST Bratislava 82.19 318 *e*pP pP 08 16 58.2 +0.4
ARCES ARCESS Array B 82.19 340 P **P 08 16 49.1 +0.7**
comp=Z,2.5nm,0.4s,mb4.5,baz=98,slow=4.8,SNR=39
ARCES pP pP 08 16 57.4 0.0
comp=Z,4.4nm,0.6s,baz=94,slow=5.4,SNR=4.8
ARCES LR LR 08 57 36.9
comp=Z,127nm,20.3s,MS4.3,baz=95,slow=39
ARCES ARCESS Array B 82.19 340 P **P 08 16 49.1 +0.7**
ARCES pP pP 08 16 57.4 -0.1
ARCES LR LR 08 57 36.9
DPC Dobruska-Polom 82.93 320 *eP* **P 08 16 53.7 +1.0**
DPC *e*pP pP 08 17 02.0 +0.3
PDKS Podkum 83.41 316 *eP* **P 08 16 56.4 +1.2**
PRU Pruhonice 84.03 320 *eP* **P 08 16 57.3 -1.0**
PRU *e*pP pP 08 17 08.0 +0.7
PVCC Panska Ves 84.06 320 *e*pP pP 08 17 08.5 +1.0
GERES GERESS Array B 84.50 319 P **P 08 17 00.7 0.0**
comp=Z,1.5nm,0.8s,mb4.2,baz=90,slow=2.7,SNR=14
GERES pP pP 08 17 09.9 +0.2
comp=Z,3.2nm,0.8s,baz=90,slow=4.0,SNR=19
KHC Kasperske Hory 84.60 319 *eP* **P 08 17 02.3 +1.1**
KHC *e*pP pP 08 17 10.4 +0.2
CLL Collm 85.11 321 *e**PP pP 08 17 14.0 +1.3
NB2 NORSAR Subarra 86.67 331 P **P 08 17 11.4 +0.2**
comp=Z,3.9nm,1.0s,mb4.6,baz=95,slow=4.8
NB2 NORSAR Subarra 86.67 331 P **P 08 17 11.4 +0.2**
NB2 pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
NOA NORSAR Array B 86.67 331 P **P 08 17 11.3 +0.1**
comp=Z,1.0nm,0.8s,mb4.1,baz=105,slow=5.8,SNR=6.2
NOA pP pP 08 17 19.9 -0.3
comp=Z,3.4nm,0.7s,baz=94,slow=5.0,SNR=11
NOA LR LR 09 03 30.2
comp=Z,56nm,19.7s,MS4.0,baz=55,slow=41
ILAR Eielson Array 99.45 23 LR LR 09 09 33.9
comp=Z,86nm,18.8s,MS4.3,baz=184,slow=39
PPT Papeete 112.69 108 *e*LR LR 08 56 45.5
comp=Z,66nm,23.8s
PDAR Pinedale Array 129.81 25 PKP PKPdf 08 23 36.8 -4.5
comp=Z,2.2nm,0.5s,baz=117,slow=3.3,SNR=3.8
TXAR Lajitas Array 143.46 31 PKP PKPdf 08 24 00.4 -6.1
comp=Z,0.4nm,0.5s,baz=106,slow=0.4,SNR=17
CPUP Villa Florida 145.16 223 *eP* PKPbc 08 24 06.0 +1.0
LRAL Lakeview Retre 145.42 6 *eP* PKPbc 08 24 05.3 -0.2

NIED ***31*** *08:22:00,33.50N×142.30E,h5km,Mw4.0 Best double couple: M0 9.8×10^14 NP1:φs169°,δ48°,λ-89°. NP2:φs347°,δ42°,λ-92°.*
IDC ***31*** *08:22:33.5±0.7,33.41N×142.55E,mb3.9/12,mb1 4.1/17, mb1mx4.1/23,mbtmp4.0/17,ML3.6/5,Error ellipse: s-maj=18.6km s-min=17.2km az=104.0*
JMA ***31*** *08:22:35.7±0.4,33.48N×142.32E,h8km,M4.0*
MOS ***31*** *08:22:36.7±1.1,33.46N×142.45E,h33km,mb4.5/3,Error ellipse: s-maj=22.1km s-min=10.3km az=114.2*
NEIC ***31*** *08:22:37.5±2.6,33.45N×142.49E,h23km±18km,mb4.1/3, Error ellipse: s-maj=10.8km s-min=7.0km az=109.0*

ISC 31 08:22:34.8±1.7,33.41N±0.04×142.44E±0.05,h17km±12km, n52,σ1s09/60,mb4.0/15,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
BSO1	**Boso 1**	**1.73**	**316**	P	**Pn**	**08 23 04.8**	**+0.3**
BSO3	**Boso 3**	**2.12**	**311**	P	**Pn**	**08 23 10.7**	**+0.7**
JHJ2	**Mitsune**	**2.22**	**263**	P	**Pn**	**08 23 12.7**	**+1.2**
JHJ2				eS	Sn	**08 23 39.3**	**+0.6**
JHJ	**Hachijo jima 2**	**2.25**	**263**	Pn	**Pn**	**08 23 12.7**	**+0.8**
	35nm,0.3s,baz=184,slow=6.4,SNR=58						
JHJ				Sn	**Sn**	**08 23 38.7**	**-0.7**
	113nm,0.3s,baz=65,slow=23,SNR=12						
BSO4	**Boso 4**	**2.35**	**313**	P	**Pn**	**08 23 14.5**	**+1.2**
BSO4				eS	**Sn**	**08 23 43.2**	**+1.2**
JIM2	**Oshima 3**	**2.82**	**298**	P	**Pn**	**08 23 19.4**	**-0.6**
JIM2				eS	**Sn**	**08 23 52.8**	**-1.1**
JOD2	**Odawara 2**	**3.33**	**305**	P	**Pn**	**08 23 26.9**	**-0.4**
JOD2				eS	**Sn**	**08 24 06.8**	**-0.1**
JYN	**Shimodo**	**3.83**	**304**	P	**Pn**	**08 23 34.9**	**+0.5**
JYN				eS	**Sn**	**08 24 19.7**	**+0.1**
JAG	**Ashikaga**	**3.88**	**322**	P	**Pn**	**08 23 34.9**	**-0.2**
JRY	**Ryogami san**	**3.91**	**313**	P	**Pn**	**08 23 36.6**	**+1.2**
JRY				eS	**Sn**	**08 24 21.0**	**-0.4**
JMM	**Marumori**	**4.64**	**344**	P	**Pn**	**08 23 43.5**	**-2.4**
MJAR	**Matsushiro Arr**	**4.67**	**313**	Pn	**Pn**	**08 23 46.8**	**+0.4**
	3.4nm,0.3s,baz=143,slow=12,SNR=28						
MJAR				Sn	**Sn**	**08 24 38.4**	**-2.3**
	2.6nm,0.3s,baz=135,slow=8.8,SNR=6.6						
MAT	**Matsushiro**	**4.67**	**313**	*eP*	**Pn**	**08 23 47.0**	**+0.6**
MAT				*e*S	**Sn**	**08 24 40.0**	**-0.8**
MAT	**Matsushiro**	**4.67**	**313**	P	**Pn**	**08 23 47.2**	**+0.8**
MAT				S	**Sn**	**08 24 40.1**	**-0.7**
MAT	**Matsushiro**	**4.67**	**313**	P	**Pn**	**08 23 47.5**	**+1.1**
MAT				S	**Sn**	**08 24 40.1**	**-0.7**
CBIJ	**Chichi jima**	**6.30**	**182**	Pn	**Pn**	**08 24 06.6**	**-2.7**
	16nm,0.3s,baz=346,slow=8.3,SNR=24						
CBIJ				Sn	**Sn**	**08 25 17.4**	**-4.2**
	baz=270,slow=20,SNR=2.4						
JNU	**Nakatsue**	**9.69**	**271**	Pn	**P**	**08 24 56.2**	**-0.3**
	0.3nm,0.3s,baz=50,slow=11,SNR=5.3						
YSS	**Yuzh-Sakhalins**	**13.53**	**1**	*eP*	**P**	**08 25 46.0**	**-2.3**
YSS	**Yuzh-Sakhalins**	**13.53**	**1**	P	**P**	**08 25 46.6**	**-1.7**
	12nm,0.8s						
JOW	**Kunigami**	**13.90**	**246**	Pn	**P**	**08 25 54.5**	**+1.1**
	0.3nm,0.3s,baz=180,slow=7.1,SNR=3.6						
MDJ	**Mudanjiang**	**14.97**	**322**	*eP*	**P**	**08 26 06.8**	**-0.5**
CIT	**Chita**	**27.94**	**320**	*eP*	**P**	**08 28 29.1**	**+3.1**
CIT				*e*		08 28 40.9	
SONM	**Songino Array**	**30.61**	**309**	P	**P**	**08 28 50.3**	**+0.3**
	2.1nm,0.9s,mb4.0,baz=105,slow=7.7,SNR=8.5						
BOD	**Bodaibo**	**31.06**	**330**	*eP*	**P**	**08 28 51.1**	**-2.7**
BOD				*e*		08 28 58.9	
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
ZAK	**Zakamensk**	**33.26**	**312**	*eP*	**P**	**08 29 12.9**	**-0.2**
MKAR	**Makanchi Array**	**46.82**	**305**	P	**P**	**08 31 05.8**	**+0.5**
	comp=Z,1.1nm,0.7s,mb3.9,baz=87,slow=8.5,SNR=10.0						
MKAR	**Makanchi Array**	**46.82**	**305**	P	**P**	**08 31 05.8**	**+0.5**
KURK	**Kurchatov**	**48.88**	**311**	*eP*	**P**	**08 31 21.2**	**-0.1**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
KURK	**Kurchatov**	**48.88**	**311**	*eP*	**P**	**08 31 21.2**	**-0.1**
	comp=Z,7.3nm,0.7s,mb4.8						
ILAR	**Eielson Array**	**52.13**	**31**	P	**P**	**08 31 44.8**	**-1.1**
	comp=Z,1.2nm,0.7s,mb3.9,baz=266,slow=5.7,SNR=18						
WRAB	**Tennant Creek**	**53.61**	**189**	*eP*	**P**	**08 31 56.6**	**-0.9**
WRA	**Warramunga Arr**	**53.62**	**189**	P	**P**	**08 31 56.7**	**-0.8**

comp=Z,2.0nm,0.6s,mb4.2,baz=8.0,slow=7.7,SNR=36
STKA Stephens Creek 64.95 181 P **P** **08 33 14.6 -1.2**
comp=Z,2.9nm,0.9s,mb4.3,baz=29,slow=8.6,SNR=4.5
STKA Stephens Creek 64.95 181 P **P** **08 33 14.6 -1.2**
YKA Yellowknife Ar 66.52 30 P **P** **08 33 24.1 -1.2**
comp=Z,0.6nm,0.6s,mb3.8,baz=296,slow=6.4,SNR=4.4
FINES FINESS Array B 72.41 333 P **P** **08 34 00.9 -0.6**
comp=Z,0.9nm,0.8s,mb3.8,baz=180,slow=9.5,SNR=5.2
BOZ Bozeman (W) 76.72 44 *eP* **P** **08 34 27.4 +0.8**
BOZ pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
BOZ Bozeman (W) 76.72 44 *eP* **P** **08 34 27.4 +0.8**
comp=Z,1.0nm,0.7s,mb3.9
AKASG Malin Array Be 77.68 323 P **P** **08 34 31.7 0.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=44,slow=6.3,SNR=6.9
NB2 NORSAR Subarra 77.85 338 P **P** **08 34 32.8 +0.4**
comp=Z,1.1nm,0.7s,mb3.9,baz=40,slow=5.6
NB2 NORSAR Subarra 77.85 338 P **P** **08 34 32.8 +0.4**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
NOA NORSAR Array B 77.85 338 P **P** **08 34 32.1 -0.3**
comp=Z,1.7nm,0.8s,mb4.0,baz=39,slow=5.6,SNR=7.0
PDAR Pinedale Array 79.60 45 P **P** **08 34 43.1 +0.7**
comp=Z,0.3nm,0.7s,mb3.3,baz=240,slow=1.9,SNR=4.4
PV10 Paradox Valley 82.53 49 *eP* **P** **08 34 59.7 +1.8**
PV01 Paradox Valley 82.97 49 *eP* **P** **08 35 01.5 +1.3**
CLL Collm 84.66 331 P **P** **08 35 10.0 +1.6**
GERES GERESS Array B 86.23 329 P **P** **08 35 16.5 +0.2**
comp=Z,0.1nm,0.3s,mb3.8,baz=63,slow=6.0,SNR=3.7
TXAR Lajitas Array 91.64 53 P **P** **08 35 43.6 +1.2**
comp=Z,0.6nm,0.7s,mb4.1,baz=302,slow=3.1,SNR=11
SAML Samuel 146.08 50 *e*PKPbc PKPbc 08 42 15.8 +1.2
SAML *e* 08 42 26.6
LPAZ La Paz 147.60 66 PKP2 PKPab 08 42 20.6 -2.4
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
LPAZ La Paz 147.60 66 PKPbc PKPdf 08 42 20.6 +0.7
comp=Z,1.4nm,0.8s,baz=355,slow=8.6,SNR=8.3
LPAZ La Paz 147.60 66 *e*PKPdf PKPdf 08 42 18.5 -1.4
LPAZ PKPbc PKPdf 08 42 20.6 +0.7

MOS ***31*** *08:35:33.1±0.9,34.65N×26.06E,h12km,mb4.3/12,Error ellipse: s-maj=9.7km s-min=5.2km az=118.9*
NEIC ***31*** *08:35:38.1,34.81N×26.33E,h22km,mb4.0/21, MD3.9(ATH),After ATH.*
ATH ***31*** *08:35:39.1,34.95N×26.30E,h21km±1km,MD3.9/12*
CSEM ***31*** *08:35:41.0±0.2,35.03N×26.31E,h20km,MD3.9,Error ellipse: s-maj=4.4km s-min=2.4km az=8.0*
IDC ***31*** *08:35:43.1±1.4,35.12N×26.13E,h56km±14km,mb3.7/15, mb1 3.8/21,mb1mx3.7/29,mbtmp3.9/21,MS3.7/2, Ms1 3.7/2,ms1mx2.9/30,Error ellipse: s-maj=14.3km s-min=12.3km az=176.0*
ISC 31 08:35:34.9±0.4,34.51N±0.04×26.16E±0.02,h33km,n162, σ1§38/179,mb4.0/31,MS4.3/1,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.53**	**314**	*e*PN	**Pn**	**08 35 48.8**	**+2.8**
XRY	**Khrisi**	**0.53**	**314**	*e*Pn	**Pn**	**08 35 48.5**	**+2.5**
NPS	**Neapolis**	**0.88**	**329**	*e*Pb	**Pb**	**08 35 51.6**	**0.0**
NPS				*e*Sn	**Sn**	**08 36 00.5**	**-2.1**
NPS	**Neapolis**	**0.88**	**329**	*e*Pb	**Pb**	**08 35 51.6**	**0.0**
NPS				*e*Sn	**Sn**	**08 36 03.1**	**+0.5**
IDI	**Anoyia**	**1.30**	**307**	P	**P**	**08 36 00.9**	**+4.1**
IDI	33nm,0.3s,baz=120,slow=16,SNR=175			S	**S**	**08 36 18.9**	**+5.6**
	295nm,0.3s,baz=328,slow=21,SNR=18						
KARP	**Karpathos**	**1.32**	**38**	*e*PN	**Pn**	**08 35 56.6**	**-0.8**
KARP				*e*SN	**Sn**	**08 36 09.6**	**-4.4**
KARP	**Karpathos**	**1.32**	**38**	*e*Pb	**Pn**	**08 35 56.6**	**-0.8**
KARP				*e*Sn	**Sn**	**08 36 12.2**	**-1.8**
GVD	**Gavdhos**	**1.74**	**281**	*e*PN	**Pn**	**08 36 12.0**	**+8.7**
VAM	**Vamos**	**1.84**	**300**	*e*PN	**Pn**	**08 36 11.2**	**+6.4**
SANT	**Santorini**	**1.94**	**343**	*e*P	**P**	**08 36 06.4**	**+0.3**
SANT				*e*S	**S**	**08 36 27.2**	**-2.4**
SANT	**Santorini**	**1.94**	**343**	*e*P	**P**	**08 36 06.4**	**+0.3**
SANT				*e*S	**S**	**08 36 27.2**	**-2.4**
NISR	**Nisiros**	**2.24**	**20**	*e*PN	**Pn**	**08 36 10.5**	**-0.1**
ARG	**Arkhangelos**	**2.34**	**43**	*e*PN	**Pn**	**08 36 14.0**	**+2.0**
APE	**Apeiranthos**	**2.60**	**349**	*e*PB	**Pb**	**08 36 16.5**	**-4.3**
APE	**Apeiranthos**	**2.60**	**349**	*e*Pb	**Pb**	**08 36 18.9**	**-1.9**
BODT	**Bodrum**	**2.71**	**20**	PN	**Pn**	**08 36 17.6**	**+0.4**
BODT				SN	**Sn**	**08 36 50.8**	**+1.5**
BDRM	**Kayabasi**	**2.76**	**22**	*i* P	**P**	**08 36 18.3**	**+0.5**
BDRM				*i* S	**S**	**08 36 43.7**	**-6.5**
DALT	**Dalyan (Mudla)**	**3.03**	**41**	PN	**Pn**	**08 36 23.6**	**+1.9**
MLSB	**Milas**	**3.07**	**25**	PN	**Pn**	**08 36 22.7**	**+0.3**
KYTH	**Kithira**	**3.10**	**306**	*e*PN	**Pn**	**08 36 27.0**	**+4.2**
YER	**Yerkesik**	**3.14**	**33**	PN	**Pn**	**08 36 24.3**	**+1.0**
SMG	**Samos**	**3.24**	**10**	*e*PN	**Pn**	**08 36 25.0**	**+0.3**
KSL	**Kastellorizon**	**3.24**	**59**	*e*PN	**Pn**	**08 36 27.0**	**+2.2**
AKAS	**Kas**	**3.30**	**58**	*i* P	**P**	**08 36 26.7**	**+1.3**
AKAS				*i* S	**S**	**08 37 05.8**	**+1.7**
VLI	**Veliai**	**3.43**	**311**	*e*PN	**Pn**	**08 36 31.0**	**+3.6**
AYDN	**Tasoluk**	**3.44**	**23**	*i* P	**P**	**08 36 28.2**	**+0.8**
AYDN				*i* S	**S**	**08 37 13.7**	**+6.1**
ELL	**Elmali**	**3.78**	**53**	PN	**Pn**	**08 36 33.5**	**+1.0**
GOLH	**Golhisar**	**3.88**	**44**	*i* P	**P**	**08 36 34.7**	**+1.0**
GOLH				*i* S	**S**	**08 37 28.5**	**+10**
BLCB	**Balcova**	**3.93**	**10**	PN	**Pn**	**08 36 32.5**	**-2.1**
DNZL	**Cakiroluk**	**3.94**	**36**	*i* P	**P**	**08 36 34.7**	**+0.1**
DNZL				*i* S	**S**	**08 37 27.7**	**+7.4**
IZM	**Izmir**	**3.98**	**13**	PN	**Pn**	**08 36 33.5**	**-1.8**
DENT	**Denizli**	**3.99**	**35**	PN	**Pn**	**08 36 35.7**	**+0.3**
KDAG	**Bornova**	**3.99**	**13**	*i* P	**P**	**08 36 35.3**	**+0.1**
KDAG				*i* S	**S**	**08 37 15.7**	**-5.8**
MPAR	**Parnis Oros**	**4.13**	**332**	*e*PN	**Pn**	**08 36 40.0**	**+2.6**
ITM	**Ithomi**	**4.35**	**309**	*e*PN	**Pn**	**08 36 44.3**	**+3.8**
ITM	**Ithomi**	**4.35**	**309**	*e*Pn	**Pn**	**08 36 46.0**	**+5.5**
MANT	**Manisa**	**4.42**	**25**	*i* P	**P**	**08 36 41.5**	**+0.1**
MANT				*i* S	**S**	**08 37 27.8**	**-4.5**
AKS	**Akhisar**	**4.56**	**16**	PN	**Pn**	**08 36 41.5**	**-2.0**
BCK	**Bucak**	**4.64**	**49**	*e*PN	**Pn**	**08 36 45.0**	**+0.3**
KHL	**Karahalli**	**4.67**	**35**	*e*PN	**Pn**	**08 36 45.0**	**-0.1**
ISP	**Isparta**	**4.84**	**45**	*e*PN	**Pn**	**08 36 47.9**	**+0.4**
ISP	**Isparta**	**4.84**	**45**	*e*P	**P**	**08 36 46.0**	**-1.4**
ISP	**Isparta**	**4.84**	**45**	*e*P	**P**	**08 36 46.0**	**-1.4**
ISP	**Isparta**	**4.84**	**45**	*e*Pn	**Pn**	**08 36 47.9**	**+0.4**
TKTP	**Tekketepe**	**4.87**	**42**	*i* P	**P**	**08 36 47.4**	**-0.4**
GDZ	**Gediz**	**5.29**	**29**	*i* P	**P**	**08 36 54.4**	**+0.7**
AGG	**Agios Georgios**	**5.45**	**327**	*e*P	**P**	**08 36 58.8**	**+2.8**
DST	**Dursunbey**	**5.46**	**20**	*e*PN	**Pn**	**08 36 53.7**	**-2.5**
LEF	**Lefka**	**5.57**	**82**	*e*PN	**Pn**	**08 36 58.4**	**+0.7**
HDMB	**Hadim**	**5.70**	**63**	*e*PN	**Pn**	**08 37 00.4**	**+0.8**
PAIG	**Paliouri**	**5.76**	**341**	*e*P	**P**	**08 37 01.1**	**+0.9**
CSS	**Prodhromos** 18nm,0.6s	**5.92**	**84**	*e*P	**P**	**08 37 01.6**	**-1.0**
KONT	**Konya--Tatoy**	**6.07**	**54**	*e*PN	**Pn**	**08 37 04.8**	**0.0**
ULDT	**Uludag**	**6.10**	**22**	*i* P	**P**	**08 37 06.4**	**+1.3**
LIT	**Litokhoron**	**6.30**	**333**	*e*P	**P**	**08 37 10.2**	**+2.3**
KIZT	**Kizilcal**	**6.34**	**45**	*e*PN	**Pn**	**08 37 07.2**	**-1.3**
ALN	**Alexandroupoli**	**6.38**	**359**	*e*P	**P**	**08 37 09.1**	**+0.2**
IKL	**Isikli**	**6.39**	**72**	*e*PN	**Pn**	**08 37 09.5**	**+0.3**
MEST	**Erdemli**	**6.83**	**70**	*i* P	**P**	**08 37 16.1**	**+0.7**
GRG	**Griva**	**7.09**	**336**	*e*P	**P**	**08 37 20.5**	**+1.6**
RZN	**Rozhen**	**7.26**	**351**	*e*P	**P**	**08 37 22.5**	**+1.2**
MMB	**Musomiste**	**7.32**	**346**	*e*P	**P**	**08 37 22.5**	**+0.3**
ANTO	**Ankara**	**7.53**	**43**	*e*P	**P**	**08 37 23.3**	**-1.7**
KKB	**Krupnik**	**7.73**	**343**	*e*P	**P**	**08 37 29.0**	**+1.1**
SLTI	**Sal'it**	**7.77**	**104**	S	**S**	**08 38 53.7**	**-2.4**
KZIT	**Kziot**	**7.82**	**115**	S	**S**	**08 38 55.9**	**-1.4**
BRTR	**Keskin Array B** 0.3nm,0.3s,baz=231,slow=16,SNR=9.8	**7.92**	**47**	P	**P**	**08 37 29.9**	**-0.7**
MMLI	**Mount Malkishu**	**8.01**	**102**	S	**S**	**08 38 59.0**	**-3.2**
MZDA	**Masada**	**8.37**	**110**	S	**S**	**08 39 09.6**	**-1.6**
VTS	**Vitosha**	**8.39**	**345**	*e*P	**P**	**08 37 39.0**	**+1.9**
KMTI	**Karmit**	**8.48**	**119**	S	**S**	**08 39 10.8**	**-3.0**
MKRJ	**Makawir**	**8.49**	**108**	S	**S**	**08 39 11.3**	**-2.8**
PRNI	**Paran**	**8.55**	**117**	S	**S**	**08 39 12.3**	**-3.3**
ZFRI	**Zfri**	**8.57**	**115**	S	**S**	**08 39 13.9**	**-2.3**
MBH	**Mount Berech**	**8.79**	**120**	S	**S**	**08 39 17.9**	**-3.6**
TIP	**Timpagrande**	**8.86**	**304**	*e*P	**P**	**08 37 43.6**	**+0.1**
TIP	**Timpagrande**	**8.86**	**304**	*e*P	**P**	**08 37 43.7**	**+0.2**
EIL	**Elat**	**8.88**	**120**	S	**S**	**08 39 19.5**	**-4.4**
ASF	**Jabal al Asfar** 0.5nm,0.3s,baz=160,slow=15,SNR=3.3	**9.28**	**102**	P	**P**	**08 37 56.6**	**+7.2**
ASF				S	**S**	**08 39 42.6**	**+8.8**
	1.1nm,0.3s,baz=187,slow=16,SNR=3.5						
VAE	**Valguarnera** 1.7nm,0.3s,baz=296,slow=6.2,SNR=3.8	**9.97**	**291**	P	**P**	**08 38 03.1**	**+4.3**
VAE				S	**S**	**08 39 51.9**	**+1.2**
	1.0nm,0.3s,baz=101,slow=5.4,SNR=3.9						
VAE				LR	LR	08 42 23.8	
	comp=Z,103nm,18.2s,baz=112,slow=41						
VAE	**Valguarnera**	**9.97**	**291**	P	**P**	**08 38 03.2**	**+4.3**
VAE				S	**S**	**08 39 52.0**	**+1.3**
MLR	**Muntele Rosu** 0.2nm,0.3s,baz=136,slow=14,SNR=2.2	**10.97**	**359**	P	**P**	**08 38 10.5**	**-2.0**
PGF	**Pioggiola**	**15.63**	**306**	*e*P	**P**	**08 39 12.6**	**-1.6**
ZEI	**Tsey**	**16.11**	**54**	*e*P	**P**	**08 39 27.8**	**+7.5**
AKASG	**Malin Array Be** 0.5nm,0.3s,baz=199,slow=11,SNR=2.9	**16.34**	**7**	P	**P**	**08 39 22.8**	**-0.3**
GERES	**GERESS Array B** 0.1nm,0.3s,baz=148,slow=13,SNR=8.0	**17.05**	**331**	P	**P**	**08 39 31.4**	**-0.7**
KHC	**Kasperske Hory**	**17.32**	**331**	*e*P	**P**	**08 39 37.7**	**+2.1**
DPC	**Dobruska-Polom**	**17.39**	**339**	*e*P	**P**	**08 39 36.2**	**-0.2**
UPC	**Upice**	**17.62**	**338**	*e*P	**P**	**08 39 39.0**	**-0.3**
PRU	**Pruhonice**	**17.66**	**335**	*e*P	**P**	**08 39 40.6**	**+0.8**
MBDF	**Montbardon** 8.3nm,0.7s	**18.05**	**310**	*e*P	**P**	**08 39 43.1**	**-1.5**
MBDF	**Montbardon**	**18.05**	**310**	*e*P	**P**	**08 39 43.1**	**-1.5**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LPG	**La Plagne**	**18.43**	**312**	*e*P	**P**	**08 39 48.2**	**-1.3**
LPL	**La Plagne**	**18.45**	**312**	*e*P	**P**	**08 39 48.4**	**-1.3**
	comp=Z,2.4nm,0.4s						
LPL	**La Plagne**	**18.45**	**312**	*e*P	**P**	**08 39 48.4**	**-1.3**
LPL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SMRF	**Simiane la Rot** comp=Z,36nm,1.4s	**18.49**	**307**	*e*P	**P**	**08 39 48.7**	**-1.6**
ORIF	**Oris-en-Rattie**	**18.70**	**310**	*e*P	**P**	**08 39 51.4**	**-1.4**
CLL	**Collm**	**19.31**	**334**	P	**P**	**08 39 59.0**	**-0.7**
HINF	**Hinteralfeld** comp=Z,4.6nm,0.6s	**19.63**	**318**	*e*P	**P**	**08 40 01.6**	**-1.7**
HINF	**Hinteralfeld**	**19.63**	**318**	*e*P	**P**	**08 40 01.6**	**-1.7**
HINF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CDF	**Champ du Feu** comp=Z,7.7nm,0.7s	**19.75**	**320**	*e*P	**P**	**08 40 03.4**	**-1.3**
CDF	**Champ du Feu**	**19.75**	**320**	*e*P	**P**	**08 40 03.4**	**-1.3**
CDF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HAU	**Haudompre** comp=Z,6.0nm,0.5s	**20.01**	**318**	*e*P	**P**	**08 40 06.2**	**-1.3**
HAU	**Haudompre**	**20.01**	**318**	*e*P	**P**	**08 40 06.2**	**-1.3**
HAU				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MTLF	**Montolieu** comp=Z,3.7nm,0.7s	**20.55**	**303**	*e*P	**P**	**08 40 12.8**	**-0.4**
MTLF	**Montolieu**	**20.55**	**303**	*e*P	**P**	**08 40 12.8**	**-0.4**
MTLF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MEZF	**Maizieres J'vi**	**21.01**	**318**	*e*P	**P**	**08 40 16.8**	**-1.0**
LOR	**Lormes** comp=Z,12nm,0.8s,mb4.0	**21.05**	**314**	*e*P	**P**	**08 40 17.2**	**-1.0**
LOR	**Lormes**	**21.05**	**314**	*e*P	**P**	**08 40 17.2**	**-1.0**
LOR				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.0						
AVF	**Avril sur Loir** comp=Z,8.5nm,0.8s,mb3.8	**21.12**	**312**	*e*P	**P**	**08 40 18.5**	**-0.5**
AVF	**Avril sur Loir**	**21.12**	**312**	*e*P	**P**	**08 40 18.5**	**-0.5**
AVF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
SSF	**Saint Saulge**	**21.16**	**313**	*e*P	**P**	**08 40 18.7**	**-0.6**
SSF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.0						
SSF	**Saint Saulge** comp=Z,8.4nm,1.0s,mb4.0	**21.16**	**313**	*e*P	**P**	**08 40 18.7**	**-0.6**
TCF	**Toulx Ste Croi**	**21.61**	**310**	*e*P	**P**	**08 40 23.6**	**-0.3**
RJF	**Les Rejaudoux** comp=Z,12nm,1.0s,mb4.0	**21.68**	**307**	*e*P	**P**	**08 40 24.3**	**-0.2**
RJF	**Les Rejaudoux**	**21.68**	**307**	*e*P	**P**	**08 40 24.3**	**-0.2**
RJF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
EPF	**Esparros**	**21.79**	**301**	*e*P	**P**	**08 40 25.8**	**+0.1**
GIVF	**Givet**	**22.06**	**321**	*e*P	**P**	**08 40 27.5**	**-0.8**
BAIF	**Baives** comp=Z,22nm,0.8s,mb4.3	**22.35**	**321**	*e*P	**P**	**08 40 30.5**	**-0.7**
BAIF	**Baives**	**22.35**	**321**	*e*P	**P**	**08 40 30.5**	**-0.7**
BAIF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.3						
ETSF	**Etsaut**	**22.40**	**300**	*e*P	**P**	**08 40 32.0**	**+0.3**
SJPF	**Ste Jean** comp=Z,11nm,0.7s,mb4.1	**22.92**	**300**	*e*P	**P**	**08 40 37.1**	**+0.2**
SJPF	**Ste Jean**	**22.92**	**300**	*e*P	**P**	**08 40 37.1**	**+0.2**
SJPF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.1						
MFF	**Saint Martin d** comp=Z,18nm,1.1s,mb4.1	**23.23**	**309**	*e*P	**P**	**08 40 39.6**	**-0.3**
MFF	**Saint Martin d**	**23.23**	**309**	*e*P	**P**	**08 40 39.6**	**-0.3**
MFF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.1						
FLN	**La Foliniere** comp=Z,11nm,0.8s,mb4.1	**24.32**	**314**	*e*P	**P**	**08 40 50.0**	**-0.4**
FLN	**La Foliniere**	**24.32**	**314**	*e*P	**P**	**08 40 50.0**	**-0.4**
FLN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
GRR	**Gorron** comp=Z,7.0nm,0.7s,mb3.9	**24.39**	**313**	*e*P	**P**	**08 40 50.7**	**-0.4**
GRR	**Gorron**	**24.39**	**313**	*e*P	**P**	**08 40 50.7**	**-0.4**
GRR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
ESDC	**Sonseca Array** comp=Z,2.2nm,0.6s,mb3.9,baz=80,slow=9.6,SNR=18	**24.51**	**291**	P	**P**	**08 40 56.0**	**+3.7**
ESLA	**Sonseca Array** comp=Z,0.6nm,0.6s,mb3.3	**24.51**	**291**	*e*P	**P**	**08 40 56.0**	**+3.7**
ESLA	**Sonseca Array** comp=Z,0.6nm,0.6s,mb3.3	**24.51**	**291**	*e*P	**P**	**08 40 56.0**	**+3.6**
SGMF	**Saint Gilles**	**25.37**	**311**	*e*P	**P**	**08 41 00.0**	**-0.5**
QUIF	**Quistinic** comp=Z,27nm,1.1s,mb4.4	**25.63**	**310**	*e*P	**P**	**08 41 02.4**	**-0.5**
QUIF	**Quistinic**	**25.63**	**310**	*e*P	**P**	**08 41 02.4**	**-0.5**
QUIF				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.4						
ROSF	**Rostrenen** comp=Z,71nm,1.4s,mb4.7	**25.85**	**311**	*e*P	**P**	**08 41 04.5**	**-0.5**
ROSF	**Rostrenen**	**25.85**	**311**	*e*P	**P**	**08 41 04.5**	**-0.5**
ROSF				pmax	pmax		
	comp=Z,36nm,1.4s,mb4.7						
HFS	**Hagfors** comp=Z,3.4nm,1.0s,mb3.8,baz=140,slow=11,SNR=3.3	**26.90**	**346**	P	**P**	**08 41 12.9**	**-1.6**
FINES	**FINESS Array B** comp=Z,1.0nm,0.7s,mb3.5,baz=162,slow=22,SNR=2.9	**26.95**	**360**	P	**P**	**08 41 12.7**	**-2.3**
EVO	**Evora** comp=Z,9.7nm,0.9s,mb4.1	**27.66**	**288**	*e*P	**P**	**08 41 23.1**	**+1.4**
EKA	**Eskdalemuir Ar** comp=Z,1.6nm,0.7s,mb3.9,baz=119,slow=10,SNR=3.9	**29.04**	**325**	P	**P**	**08 41 32.2**	**-1.6**
ARCES	**ARCESS Array B** comp=Z,1.8nm,0.7s,mb4.1,baz=172,slow=8.6,SNR=7.0	**35.08**	**360**	P	**P**	**08 42 23.4**	**-3.2**
DBIC	**Dimbokro** comp=Z,2.6nm,0.6s,mb4.1,baz=346,slow=12,SNR=6.1	**39.82**	**233**	P	**P**	**08 43 13.6**	**+6.8**
DBIC	**Dimbokro**	**39.82**	**233**	*e*P	**P**	**08 43 13.6**	**+6.8**
DBIC	**Dimbokro**	**39.82**	**233**	*e*P	**P**	**08 43 13.6**	**+6.8**
LIC	**Lamto** comp=Z,8.2nm,0.9s,mb4.5	**40.26**	**233**	*e*P	**P**	**08 43 15.7**	**+5.2**
KURK	**Kurchatov**	**40.96**	**50**	*e*P	**P**	**08 43 17.1**	**+1.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
KURK	**Kurchatov** comp=Z,2.7nm,0.7s,mb4.0	**40.96**	**50**	*e*P	**P**	**08 43 17.1**	**+1.2**
KURK	**Kurchatov** comp=Z,2.7nm,0.7s,mb4.0	**40.96**	**50**	*e*P	**P**	**08 43 17.1**	**+1.2**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.4s,mb3.9,baz=264,slow=8.0,SNR=13	**43.45**	**56**	P	**P**	**08 43 38.6**	**+2.3**
ZAL	**Zalesovo** comp=Z,2.0nm,0.5s,mb4.2,baz=208,slow=7.6,SNR=4.2	**44.85**	**46**	P	**P**	**08 43 47.3**	**-0.2**
TSUM	**Tsumeb** comp=Z,0.9nm,0.8s,mb3.8,baz=225,slow=21,SNR=2.4	**54.03**	**190**	P	**P**	**08 45 05.6**	**+7.2**
MATP	**Matopo** comp=Z,0.7nm,0.5s,mb3.9,baz=8.9,slow=4.1,SNR=3.7	**54.67**	**177**	P	**P**	**08 45 11.2**	**+8.0**
MATP	**Matopo**	**54.67**	**177**	P	**P**	**08 45 11.1**	**+8.0**
ZAK	**Zakamensk**	**56.56**	**48**	*e*P	**P**	**08 45 18.7**	**+2.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
SONM	**Songino Array** comp=Z,0.6nm,0.6s,mb3.8,baz=283,slow=6.3,SNR=5.2	**59.26**	**51**	P	**P**	**08 45 36.5**	**+1.2**
BOD	**Bodaibo**	**60.46**	**38**	*e*P	**P**	**08 45 42.5**	**-0.9**
SCHQ	**Schefferville** comp=Z,2.0nm,0.6s,mb4.3,baz=71,slow=9.7,SNR=4.4	**64.21**	**320**	P	**P**	**08 46 09.6**	**+1.3**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.5s,mb3.6,baz=34,slow=5.1,SNR=3.7	**78.32**	**343**	P	**P**	**08 47 34.1**	**+1.3**
ILAR	**Eielson Array** comp=Z,0.6nm,0.9s,mb3.5,baz=347,slow=3.4,SNR=7.8	**80.90**	**357**	P	**P**	**08 47 47.1**	**+0.5**
ULM	**Lac du Bonnet** comp=Z,133nm,20.0s,MS4.3,baz=353,slow=37	**81.30**	**327**	LR	LR	09 25 02.7	
MJAR	**Matsushiro Arr** comp=Z,1.2nm,0.9s,mb4.0,baz=303,slow=3.8,SNR=3.5	**85.14**	**49**	P	**P**	**08 48 12.5**	**+3.6**

NNC 31 08:43:46.4±7.1,36.41N×69.76E,h66km±207km,mpv3.3, 1C,Error ellipse: s-maj=65.2km s-min=52.1km az=120.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 0.7nm,0.3s,baz=195,slow=13,SNR=34	**6.71**	**5**	P	P	08 45 23.2	-1.3
KK31				⇑S	S	08 46 38.5	-1.8
	1.9nm,0.5s						
AAK	**Ala-Archa**	**7.21**	**29**	P	P	08 45 27.9	-3.6
AAK				S	S	08 46 50.5	-2.1
AB31	**Akbulak array** 1.1nm,0.4s,baz=156,slow=12,SNR=32	**14.71**	**334**	P	P	08 47 12.1	+0.1
AB31				S	S	08 49 50.1	-3.6

IDC 31 08:53:28.7±2.9,10.29S×161.54E,h85km±23km,mb3.3/3, mb1 3.6/4,mb1mx3.4/14,mbtmp3.8/4,Error ellipse: s-maj=34.0km s-min=22.8km az=55.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 137nm,0.3s,baz=142,slow=7.3,SNR=51	**1.78**	**298**	P	P	08 53 57.2	-1.2
HNR				S	S	08 54 20.4	+0.1
	471nm,0.3s,baz=174,slow=19,SNR=16						
DZM	**Mont Dzumac** 0.4nm,0.3s,baz=306,slow=18,SNR=8.5	**12.63**	**159**	P	P	08 56 25.6	-0.8
WRA	**Warramunga Arr** 0.9nm,0.6s,baz=75,slow=9.0,SNR=14	**27.92**	**247**	P	P	08 59 10.9	-2.3
SONM	**Songino Array** 0.5nm,0.6s,baz=137,slow=3.3,SNR=3.8	**75.65**	**325**	P	P	09 05 05.1	-1.1
ILAR	**Eielson Array** 0.1nm,0.4s,baz=237,slow=5.1,SNR=5.9	**84.16**	**20**	P	P	09 05 50.0	-1.3

NEIC ***31*** *09:34:39.4,46.20N×122.19W,h1km,MD3.3(SEA),After SEA.*
IDC ***31*** *09:34:41.1±1.3,46.10N×122.37W,mb3.1/2,mb1 3.5/6, mb1mx3.4/24,mbtmp3.1/6,ML3.1/4,Error ellipse: s-maj=22.4km s-min=14.2km az=109.0*
ISC 31 09:34:39.2±0.3,46.19N±0.03×122.19W±0.05,h5km±3km, n42,σ0§86/43,mb3.1/2,6C-11D,Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEL	**Yellow Rock**	**0.01**	**357**	⇓P	**Pg**	**09 34 39.8**	**-0.5**
HSR	**South Ridge**	**0.02**	**173**	⇓P	**Pg**	**09 34 40.2**	**-0.1**
ESD	**East Dome**	**0.03**	**83**	⇓P	**Pg**	**09 34 40.2**	**+0.1**
SHW	**Mount Saint He**	**0.04**	**267**	⇓P	**Pg**	**09 34 40.3**	**-0.1**
STD	**Studebaker Rid**	**0.05**	**330**	⇑P	**Pg**	**09 34 40.6**	**0.0**
JLK	**June Lake**	**0.05**	**154**	⇓P	**Pg**	**09 34 40.8**	**+0.1**
SOSW	**Source of Smit**	**0.06**	**35**	⇓P	**Pg**	**09 34 40.8**	**0.0**
FL2	**Flat Top 2**	**0.11**	**271**	⇑P	**Pg**	**09 34 42.1**	**+0.4**
CDFW	**Cedar Flats**	**0.12**	**129**	⇑P	**Pg**	**09 34 42.5**	**+0.5**
ERK	**Elk Rock**	**0.15**	**316**	⇓P	**Pg**	**09 34 42.6**	**+0.1**
TDL	**Tradedollar La**	**0.16**	**353**	⇓P	**Pg**	**09 34 42.8**	**+0.2**
MTMW	**Mount Mitchell**	**0.17**	**186**	P	**Pg**	**09 34 43.4**	**+0.7**
LVP	**Lakeview Peak**	**0.20**	**231**	⇓P	**Pg**	**09 34 43.6**	**+0.3**
KOSW	**Kosmos**	**0.27**	**359**	⇑P	**Pg**	**09 34 44.8**	**+0.2**
RVW	**Rose Valley**	**0.39**	**264**	P	**Pg**	**09 34 47.5**	**+0.4**
ASR	**Mount Adams--S**	**0.41**	**96**	⇓P	**Pg**	**09 34 47.6**	**+0.1**
LMW	**Ladd Mountain**	**0.48

MORC				*e*Sn	**Sn**	09 52 42.7	+3.2
MORC	**Moravsky Berou**	**1.90**	**150**⇓	*e*Pn	**Pn**	09 52 15.4	+0.8
MORC				*e*Sg	**Sg**	09 52 42.5	-1.3
	comp=N,22nm,0.4s						
CLL	**Collm**	**1.93**	**268**	*i* Pn	**Pn**	09 52 15.1	0.0
CLL				*e*Pg	**Pg**	09 52 18.0	-1.2
CLL				*e*Sg	**Sg**	09 52 44.0	-1.0
CLL	**Collm**	**1.93**	**268**	*i* PN	**Pn**	09 52 15.1	0.0
CLL				*e*PG	**Pg**	09 52 18.0	-1.2
CLL				*i*		09 52 22.0	
CLL				*e*SG	**Sg**	09 52 44.0	-1.0
CLL	**Collm**	**1.93**	**268**	*i* Pn	**Pn**	09 52 15.1	0.0
CLL				*e*S	**Sg**	09 52 44.0	-1.0
OKC	**Ostrava-Krasne**	**2.06**	**139**	*e*PG	**Pg**	09 52 21.1	-0.8
OKC				*e*SG	**Sg**	09 52 48.1	-1.3
VRAC	**Vranov**	**2.14**	**171**	Pn	**Pn**	09 52 19.8	+1.6
	comp=N,1.4nm,0.3s,baz=328,slow=14,SNR=12						
VRAC				Lg		09 52 51.7	
	comp=N,3.0nm,0.3s,baz=78,slow=20,SNR=7.6						
VRAC	**Vranov**	**2.14**	**171**	P	**Pn**	09 52 19.8	+1.7
	comp=N,1.0nm,0.3s						
VRAC				*e*Sg	**Sg**	09 52 50.7	-1.3
	comp=N,9.0nm,0.2s						
KRUC	**Moravsky**	**2.37**	**175**	*e*Pn	**Pn**	09 52 23.0	+1.6
KRUC	**Moravsky**	**2.37**	**175**	*e*Pg	**Pg**	09 52 26.5	-1.6
KRUC				*e*Sg	**Sg**	09 52 58.9	-0.8
	comp=N,16nm,0.5s						
NKC	**Novy Kostel**	**2.59**	**244**	*e*P	**Pn**	09 52 25.8	+1.2
NKC				*e*		09 53 06.9	
NKC				smax			
	comp=N,33nm,0.3s						
NKC	**Novy Kostel**	**2.59**	**244**	*e*PN	**Pn**	09 52 25.8	+1.2
NKC				*e*PG	**Pg**	09 52 31.9	-0.5
NKC				*e*SG	**Sg**	09 53 06.9	-0.1
	comp=N,33nm,0.3s						
OJC	**Ojcow**	**2.65**	**116**	*e*Pg	**Pg**	09 52 32.2	-1.4
OJC				*e*Sg	**Sg**	09 53 08.3	-0.6
KHC	**Kasperske Hory**	**2.80**	**216**	*e*P	**Pn**	09 52 28.4	+0.9
KHC				*e*		09 53 03.7	
KHC				smax			
	comp=N,8.0nm,0.3s						
KHC	**Kasperske Hory**	**2.80**	**216**	*e*PN	**Pn**	09 52 28.4	+0.9
KHC				*e*PG	**Pg**	09 52 34.5	-2.1
KHC				*e*SN	**Sn**	09 53 03.7	+1.2
KHC				*e*SG	**Sg**	09 53 13.4	-0.5
	comp=N,8.2nm,0.3s						
KHC	**Kasperske Hory**	**2.80**	**216**	*e*Pg	**Pg**	09 52 34.5	-2.1
KHC				*e*Sn	**Sn**	09 53 03.7	+1.2
KHC				*e*S	**Sn**	09 53 03.7	+1.2
	comp=N,8.0nm,0.3s						
KHC				Sg	**Sg**	09 53 13.4	-0.5
	comp=N,8.2nm,0.3s						
MOX	**Moxa**	**2.92**	**256**	*e*Pn	**Pn**	09 52 29.4	+0.1
MOX				*i* Pg	**Pg**	09 52 37.4	-1.6
MOX				*i* Sg	**Sg**	09 53 17.0	-1.0
MOX	**Moxa**	**2.92**	**256**	*i* P	**Pn**	09 52 29.4	+0.1
MOX				Pg	**Pg**	09 52 37.0	-2.0
MOX				Sg	**Sg**	09 53 17.0	-1.0
GEC2	**GERESS Array S**	**3.00**	**212**	*e*P	**Pn**	09 52 31.7	+1.3
GERES	**GERESS Array B**	**3.00**	**212**	P	**Pn**	09 52 31.1	+0.7
GERES						09 53 07.2	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES				pmax	pmax		
	comp=Z,3.0nm,0.3s						
GERES				smax			
	comp=N,1.0nm,0.3s						
GERES	**GERESS Array B**	**3.00**	**212**	Pn	**Pn**	09 52 31.1	+0.8
	comp=N,1.2nm,0.3s,baz=28,slow=12,SNR=44						
GERES				Pg	**Pg**	09 52 37.6	-3.0
	comp=N,2.6nm,0.3s,baz=36,slow=17,SNR=35						
GERES				Sn	**Sn**	09 53 07.2	-0.4
	comp=N,1.4nm,0.3s,baz=36,slow=23,SNR=5.4						
GERES				Lg		09 53 16.0	
	comp=N,3.3nm,0.3s,baz=30,slow=28,SNR=13						
GERES	**GERESS Array B**	**3.00**	**212**	Pg	**Pg**	09 52 37.6	-3.0
GERES				S	**Sn**	09 53 07.2	-0.4
	comp=N,1.0nm,0.3s						
WET	**Wettzell**	**3.07**	**223**	*e*Pn	**Pn**	09 52 32.0	+0.6
NIE	**Niedzica**	**3.37**	**125**	*e*P	**Pn**	09 52 45.7	+10
NIE				*e*S	**Sn**	09 53 30.4	+13
GRA1	**Grafenberg Arr**	**3.55**	**243**	*e*P	**Pn**	09 52 38.7	+0.5
GRA1				*e*Sg	**Sg**	09 53 36.4	-2.4
GRF	**Grafenberg Arr**	**3.55**	**243**	*e*Pn	**Pn**	09 52 38.7	+0.5
GRF				*e*Sg	**Sg**	09 53 36.4	-2.4
MOA	**Molln**	**3.77**	**199**⇑	*i*PN	**Pn**	09 52 42.3	+1.0
MOA				*i* SG	**Sg**	09 53 44.8	-1.3
	comp=N,7.5nm,0.5s						
ARSA	**Arzberg**	**4.19**	**185**⇑	*i*PN	**Pn**	09 52 46.9	-0.4
ARSA				*i* SG	**Sg**	09 53 56.7	-3.6
	comp=N,6.6nm,0.4s						
KBA	**Koelnbreinsper**	**4.70**	**203**⇑	*i*PN	**Pn**	09 52 55.0	+0.4
KBA				*i* SG	**Sg**	09 54 14.2	-3.0
	comp=N,4.5nm,0.5s						
DAVOX	**Davos**	**6.17**	**224**	Lg		09 54 57.6	
	comp=N,0.2nm,0.3s,baz=360,slow=22,SNR=2.1						
AKASG	**Malin Array Be**	**8.32**	**90**	P	**P**	09 53 43.1	-2.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**8.32**	**90**	Pn	**P**	09 53 43.1	-2.3
	comp=Z,0.5nm,0.3s,baz=277,slow=12,SNR=4.7						
HFS	**Hagfors**	**8.83**	**352**	Pn	**P**	09 53 47.5	-5.1
	comp=Z,0.0nm,0.3s,baz=162,slow=14,SNR=7.6						
FINES	**FINESS Array B**	**11.45**	**25**	Pn	**P**	09 54 21.4	-7.0
	comp=Z,0.1nm,0.3s,baz=206,slow=11,SNR=7.6						
ARCES	**ARCESS Array B**	**18.71**	**10**	Pn	**P**	09 55 56.0	-6.4
	comp=Z,0.1nm,0.3s,baz=198,slow=12,SNR=4.8						

*ISK **31** 10:30:38.7, 39.39N×33.12E, h5km, MD3.6*
*CSEM **31** 10:30:38.7, 39.39N×33.12E, h5km, MD3.6, After ISK*
ISC 31 10:30:40.2±0.3, 39.37N±0.02×33.11E±0.03, h5km, n35, σ1§01/51, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAMT	**Kaman**	**0.47**	**90**	*i* PG	**Pg**	**10 30 48.5**	**-1.0**
ANTO	**Ankara**	**0.55**	**334**	*i* PG	**Pg**	**10 30 50.3**	**-0.9**
ANTO				*i* SG	**Sg**	**10 30 58.5**	**-0.1**
LOD	**Lodumlu**	**0.58**	**333**	*i* PG	**Pg**	**10 30 51.1**	**-0.7**
LOD				*i* SG	**Sg**	**10 31 00.2**	**+0.6**
CDAG	**Cicekdag**	**1.01**	**75**	*i* P	**Pb**	**10 30 58.1**	**-1.6**
CDAG				*i* S	**Sb**	**10 31 12.6**	**-0.5**
KIZT	**Kizilcal**	**1.08**	**243**	PN	**Pn**	**10 31 00.2**	**-1.6**
ELDT	**Eldivan**	**1.14**	**12**	*i* P	**Pb**	**10 31 01.1**	**-0.9**
ELDT				*i* S	**Sb**	**10 31 17.9**	**+0.9**
KDHN	**Kadinhani**	**1.15**	**223**	*i* P	**Pb**	**10 31 01.2**	**-1.0**
KDHN				*i* S	**Sb**	**10 31 18.0**	**+0.7**
CANT	**Cankiri**	**1.29**	**17**	PN	**Pn**	**10 31 04.1**	**-0.8**
CORM	**Corum**	**1.42**	**55**	PN	**Pn**	**10 31 06.2**	**-0.5**
SGKT	**Sivrigoynuk**	**1.45**	**326**	*i* P	**Pn**	**10 31 06.7**	**-0.4**
SGKT				*i* S	**Sb**	**10 31 34.3**	**+8.4**
AVNT	**Avonos**	**1.48**	**113**	*i* P	**Pn**	**10 31 07.1**	**-0.5**
AVNT				*i* S	**Sb**	**10 31 28.3**	**+1.5**
KONT	**Konya--Tatoy**	**1.54**	**203**	PN	**Pn**	**10 31 08.8**	**+0.3**
NIG	**Nigde**	**1.72**	**137**	PN	**Pn**	**10 31 11.9**	**+0.9**
YOZ	**Yozgat**	**1.73**	**80**	PN	**Pn**	**10 31 11.2**	**+0.1**
ESKT	**Eskisehir**	**1.76**	**276**	PN	**Pn**	**10 31 11.9**	**+0.4**
ESKT	**Eskisehir**	**1.76**	**276**	*i* P	**Pn**	**10 31 11.8**	**+0.3**
ESKT				*i* S	**Sn**	**10 31 38.5**	**+3.9**
CTKT	**Corum**	**1.79**	**45**	*i* P	**Pn**	**10 31 12.2**	**+0.1**
CTKT				*i* S	**Sn**	**10 31 37.8**	**+2.3**
TOS	**Tosya**	**1.80**	**22**	PN	**Pn**	**10 31 11.9**	**-0.3**
SAFT	**Safranbolu**	**1.89**	**350**	PN	**Pn**	**10 31 12.9**	**-0.6**
BALT	**Daday**	**2.17**	**5**	*i* P	**Pn**	**10 31 19.8**	**+2.3**
BALT				*i* S	**Sn**	**10 31 49.9**	**+4.9**
BNN	**Bunyan**	**2.19**	**103**	*e*PN	**Pn**	**10 31 18.3**	**+0.6**
HENT	**Hendek**	**2.23**	**311**	*i* P	**Pn**	**10 31 22.2**	**+3.9**
HENT				*i* S	**Sn**	**10 31 55.9**	**+9.3**
ALT	**Altintas**	**2.35**	**263**	*e*PN	**Pn**	**10 31 19.8**	**-0.3**
BYBT	**Boyabat**	**2.44**	**31**	*e*PN	**Pn**	**10 31 20.5**	**-0.9**
HDMB	**Hadim**	**2.46**	**192**	*e*PN	**Pn**	**10 31 21.7**	**+0.2**
BOYT	**Boyabat**	**2.46**	**33**	*i* P	**Pn**	**10 31 23.8**	**+2.1**
BOYT				*i* S	**Sn**	**10 31 57.3**	**+4.9**
ISP	**Isparta**	**2.55**	**234**	*e*PN	**Pn**	**10 31 23.7**	**+0.9**
TKTP	**Tekketepe**	**2.56**	**240**	*i* P	**Pn**	**10 31 22.7**	**-0.3**
TKTP				*i* S	**Sn**	**10 32 09.1**	**+14**
BZK	**Bozkurt**	**2.67**	**14**	*e*PN	**Pn**	**10 31 24.3**	**-0.3**
TOKT	**Tokat**	**2.81**	**69**	*e*PN	**Pn**	**10 31 26.3**	**-0.3**
KVT	**Kavak**	**2.82**	**52**	*e*PN	**Pn**	**10 31 26.9**	**+0.1**
GDZ	**Gediz**	**2.83**	**265**	*i* P	**Pn**	**10 31 31.7**	**+4.8**
GDZ				*i* S	**Sn**	**10 32 13.3**	**+11**
SVST	**Sivas**	**3.00**	**81**	*i* P	**Pn**	**10 31 28.5**	**-0.8**
SVST				*i* S	**Sn**	**10 32 17.3**	**+11**
ULDT	**Uludag**	**3.16**	**285**	*i* P	**Pn**	**10 31 39.2**	**+7.7**
ULDT				*i* S	**Sn**	**10 32 21.0**	**+11**
IKL	**Isikli**	**3.16**	**172**	*e*PN	**Pn**	**10 31 31.5**	**-0.1**

*NNC **31** 10:33:24.5±4.7, 38.31N×72.07E, h194km±60km, mpv4.4, Error ellipse: s-maj=51.0km s-min=26.7km az=18.0*
ISC 31 10:33:14.3±1.1, 37.52N±0.06×72.2E±0.2, h145km±22km, n22, σ1§09/28, 5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.76**	**14**	P	**P**	**10 34 25.1**	**-0.3**
	SNR=49						
KZA	**Kyzart**	**5.14**	**27**	P	**P**	**10 34 30.0**	**-0.4**
	SNR=8.1						
EKS2	**Erkin-Say**	**5.29**	**13**	P	**P**	**10 34 32.4**	**+0.1**
	SNR=26						
AAK	**Ala-Archa**	**5.41**	**18**	P	**P**	**10 34 34.5**	**+0.4**
	SNR=18						
AAK	**Ala-Archa**	**5.41**	**18**	⇓P	**P**	**10 34 34.3**	**+0.3**
	15nm,0.4s						
AAK				⇓S	**S**	**10 35 31.1**	**-4.8**
	63nm,0.8s						
ULHL	**Ulahol**	**5.67**	**32**	P	**P**	**10 34 37.0**	**-0.4**
	SNR=7.9						
KK31	**Karatay Array**	**5.72**	**348**	⇓P	**P**	**10 34 37.8**	**-0.4**
	34nm,0.4s,baz=159,slow=11,SNR=753						
KK31				⇓S	**S**	**10 35 36.5**	**-6.8**
	11nm,0.5s,baz=166,slow=22,SNR=12						
CHMS	**Chumysh**	**5.82**	**19**	P	**P**	**10 34 39.5**	**0.0**
	SNR=20						
THN	**Thein Dam**	**5.84**	**149**	*e*S	**S**	**10 35 45.2**	**-1.0**
THN				*e*		10 35 50.5	
TKM2	**Tokmak 2**	**6.00**	**25**	P	**P**	**10 34 42.8**	**+0.9**
	SNR=9.6						
USP	**Ospenovka**	**6.01**	**16**	P	**P**	**10 34 41.5**	**-0.5**
	SNR=11						
SDNR	**Sundarnagar**	**7.19**	**145**	*e*P	**P**	**10 35 00.0**	**+2.1**
SDNR				*e*S	**S**	**10 36 14.6**	**-3.9**
KLP	**Kalpa**	**7.79**	**138**	*e*P	**P**	**10 35 08.7**	**+2.6**
KLP				*e*S	**S**	**10 36 29.2**	**-3.9**
KLP				AML	AML	10 36 41.2	
	comp=N,75nm,0.5s						
KLP				AML	AML	10 36 41.6	
	comp=E,94nm,0.8s						
AYAN	**Aya Nagar**	**9.92**	**154**	*e*P	**P**	**10 35 33.7**	**-0.5**
AYAN				*e*		10 37 14.0	
KUDL	**Kundal**	**10.02**	**158**	*e*P	**P**	**10 35 38.0**	**+2.4**
KUDL				*e*		10 36 42.3	
KUDL				*e*S	**S**	**10 37 23.3**	**-2.9**
KUDL				AML	AML	10 37 26.9	
	comp=Z,10nm,0.3s						
KOLN	**Koldanda**	**13.67**	**132**	*e*P	**P**	**10 36 23.6**	**+0.6**
GKN	**Gorkha**	**14.13**	**129**	*e*P	**P**	**10 36 29.3**	**+0.4**
KKN	**Kakani**	**14.68**	**128**	*e*P	**P**	**10 36 36.1**	**+0.2**
AB31	**Akbulak array**	**14.70**	**327**	P	**P**	**10 36 36.3**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=130,slow=13,SNR=30						
AB31				⇓S	**S**	**10 39 06.6**	**-8.6**
	comp=Z,4.3nm,0.8s						
PKI	**Pulchoki**	**14.92**	**128**	*e*P	**P**	**10 36 39.0**	**+0.1**
JIRN	**Jiri**	**15.35**	**126**	*e*P	**P**	**10 36 44.4**	**+0.1**
BVA0	**Borovoye Array**	**15.56**	**356**	P	**P**	**10 36 45.4**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=172,slow=14,SNR=16						

CASC 31 10:44:12.2±2.5, 8.38N×82.80W, h12km±9km, MD3.9, MW4.4, 3C-5D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.35**	**80**	⇓*i*P	Pg	10 44 19.8	+0.3
PTP1	**Petroterminal**	**0.41**	**115**⇑	*i*P	Pg	10 44 17.5	-3.1
PTP1				*e*S	Sg	10 44 25.2	-1.0
BRU2	**Volcan**	**0.43**	**14**	⇓*i*P	Pg	10 44 21.1	+0.1
BRU2				*e*S	Sg	10 44 28.9	+1.9
ACR	**Cerro Adams**	**0.46**	**307**	⇓*e*P	Pg	10 44 20.4	-1.2
ACR				*e*S	Sg	10 44 26.8	-1.1
BRU	**Baru**	**0.49**	**29**	⇓*i*P	Pb	10 44 22.4	+0.2
BRU				*e*S	Sg	10 44 28.8	0.0
SFX2	**San Felix**	**0.92**	**95**	⇓*e*P	Pb	10 44 27.9	-1.8
SFX2				*e*S	Sb	10 44 41.4	-0.2
CNI	**Changuinola**	**1.07**	**15**	⇑*i*P	Pb	10 44 31.2	-0.9
CNI				*e*S	Sb	10 44 43.8	-2.0
BUS	**Buena Vista**	**1.51**	**321**	*e*P	Pn	10 44 39.7	+0.6
BUS				*e*S	Sb	10 45 00.5	+2.0
LCR2	**La Lucha 2**	**1.80**	**319**	*e*P	Pn	10 44 42.3	-1.1
LCR2				*e*S	Sn	10 45 07.2	+0.9
SJS	**Escuela Geolog**	**1.99**	**321**	*e*P	Pn	10 44 45.4	-0.6
SJS				*e*S	Sn	10 45 12.0	+1.0
PRS1	**Puriscal**	**2.19**	**317**	*e*P	Pn	10 44 46.7	-2.2
PRS1				*e*S	Sn	10 45 15.9	-0.1
TRTC	**Tortuguero**	**2.36**	**338**	*e*P	Pn	10 44 50.5	-0.9
TRTC				*e*S	Sn	10 45 21.7	+1.2
AZU	**Azuero**	**2.57**	**103**	⇑*i*P	Pn	10 44 53.5	-0.9
AZU				*e*S	Sn	10 45 24.5	-1.2
FORC	**Fortuna**	**2.78**	**319**	*e*P	Pn	10 44 57.6	+0.2
FORC				*e*S	Sn	10 45 30.6	-0.5

*CSEM **31** 11:11:28.7±0.2, 35.36N×0.17E, h20km, ML3.2/12, Error ellipse: s-maj=4.3km s-min=3.0km az=124.0*
*NEIC **31** 11:11:29.6, 35.58N×0.12E, MG4.2(MDD), After MDD.*
*CNRM **31** 11:11:29.5, 35.83N×0.14W, h30km, MD4.1*
*CRAAG **31** 11:11:30.4, 35.60N×0.31E, Ml4.1*
*LDG **31** 11:11:31.3±0.4, 35.52N×0.16E, h10km, Ml2.9/1, Error ellipse: s-maj=8.7km s-min=4.1km az=158.0*
*INMG **31** 11:11:31.3±0.9, 35.49N×0.16E, h31km±29km, Error ellipse: s-maj=16.6km s-min=4.2km az=142.0*
MDD 31 11:11:30.0±1.8, 35.48N×0.20E, h16km±35km, mb4.2/18, Error ellipse: s-maj=39.3km s-min=9.3km az=146.0, PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJBR	**Djebel Berber**	**0.16**	**49**	P	Pb	11 11 32.0	-2.2
ODJA	**Bouhanifia**	**0.32**	**242**	P	Pb	11 11 32.0	-4.9
OJGS	**Djebel Guires**	**0.45**	**87**	P	Pb	11 11 32.0	-7.0
USTO	**Oran**	**0.66**	**293**	P	Pb	11 11 45.0	+2.4
OKGL	**Djebel Kef Gue**	**0.66**	**33**	P	Pb	11 11 32.0	-11
EANR	**'Ain N'Sour**	**0.87**	**57**	P	Pb	11 11 45.0	-1.2
ETRT	**Tiaret**	**0.90**	**95**	P	Pb	11 11 47.0	+0.2
ODZI	**Dzioua**	**1.18**	**261**	P	Pb	11 11 40.0	-12
OLHC	**Oulhaca**	**1.34**	**261**	P	Pn	11 11 40.0	-14
EMHD	**Djebel Mahouad**	**2.35**	**71**	P	Pn	11 12 05.0	-3.6
ZAI	**Zaio**	**2.46**	**259**	*e*P	Pn	11 12 08.0	-2.2
ZAI				*i* S	Sn	11 12 33.5	-6.7
EMUR	**La Murta**	**2.63**	**334**	Pn	Pn	11 12 09.5	-3.0
EMUR				Sn	Sn	11 12 40.3	-3.9
EMUR	**La Murta**	**2.63**	**334**	Pn	Pn	11 12 09.4	-3.1
	8.2nm,0.3s,SNR=7.9						
EMUR				Sn	Sn	11 12 40.3	-3.9
	7.4nm,0.3s,SNR=5.1						
EMUR	**La Murta**	**2.63**	**334**	Pn	Pn	11 12 09.5	-3.0
	8.2nm,0.3s,SNR=28						
EMUR				Sn	Sn	11 12 40.3	-4.0
	7.4nm,0.3s,SNR=5.1						
EALB	**Alboran**	**2.67**	**281**	Pn	Pn	11 12 10.4	-2.7
	7.1nm,0.2s,SNR=8.7						
EALB				Sn	Sn	11 12 43.2	-2.2
	15nm,0.4s						
EALB	**Alboran**	**2.67**	**281**	Pn	Pn	11 12 10.4	-2.8
	7.1nm,0.2s,SNR=8.7						
EALB				Sn	Sn	11 12 43.2	-2.2
	15nm,0.4s						
EBER	**Berja**	**2.87**	**300**	Pn	Pn	11 12 14.2	-1.8
	20nm,0.2s,SNR=51						
EBER				Sn	Sn	11 12 47.0	-3.5
	16nm,0.3s						
EBER	**Berja**	**2.87**	**300**	Pn	Pn	11 12 14.2	-1.8
	20nm,0.2s,SNR=51						
EBER				Sn	Sn	11 12 47.0	-3.5
	16nm,0.3s						
EBEN	**Beniarda**	**3.23**	**354**	Pn	Pn	11 12 19.5	-1.6
	3.3nm,0.2s,SNR=9.0						
EBEN				Sn	Sn	11 12 54.4	-5.3
	27nm,0.9s						
EBEN	**Beniarda**	**3.23**	**354**	Pn	Pn	11 12 19.5	-1.7
	3.3nm,0.2s,SNR=9.0						
EBEN				Sn	Sn	11 12 54.4	-5.3
	27nm,0.9s						
ETOB	**Tobarra**	**3.45**	**337**	Pn	Pn	11 12 22.4	-1.9
	26nm,0.2s,SNR=127						
ETOB				Sn	Sn	11 12 59.3	-5.9
	9.1nm,0.6s						
ETOB	**Tobarra**	**3.45**	**337**	Pn	Pn	11 12 22.4	-1.9
	26nm,0.2s,SNR=127						
ETOB				Sn	Sn	11 12 59.3	-5.9
	9.1nm,0.6s						
EQES	**Quesada**	**3.50**	**312**	Pn	Pn	11 12 25.0	-0.1
	13nm,0.1s,SNR=74						
EQES				Sn	Sn	11 13 01.2	-5.4
	13nm,0.5s						
EQES	**Quesada**	**3.50**	**312**	Pn	Pn	11 12 25.0	0.0
	13nm,0.1s,SNR=74						
EQES				Sn	Sn	11 13 01.2	-5.3
	13nm,0.5s						
EIBI	**Ibiza**	**3.66**	**14**	Pn	Pn	11 12 24.7	-2.4
	1.9nm,0.2s,SNR=9.6						
EIBI				Sn	Sn	11 13 02.5	-7.8
	24nm,0.7s						
EIBI	**Ibiza**	**3.66**	**14**	Pn	Pn	11 12 24.7	-2.4
	1.9nm,0.2s,SNR=9.6						
EIBI				Sn	Sn	11 13 02.5	-7.8
	24nm,0.7s						
TZK	**Tazeka**	**3.87**	**250**	*i* P	Pn	11 12 27.5	-2.6
TZK				*i* S	Sn	11 13 11.5	-4.2
EMIJ	**Mijas**	**4.17**	**286**	Pn	Pn	11 12 31.3	-3.2
	5.4nm,0.1s,SNR=18						
EMIJ				Sn	Sn	11 13 16.6	-6.9
	4.1nm,0.5s						
EADA	**Adamuz**	**4.68**	**306**	Pn	Pn	11 12 38.4	-3.3
	0.5nm,0.1s,SNR=12						
EADA				Sn	Sn	11 13 29.3	-6.9
	SNR=7.9						
EADA	**Adamuz**	**4.68**	**306**	Pn	Pn	11 12 38.4	-3.2
	0.5nm,0.1s,SNR=12						
EADA				Sn	Sn	11 13 29.3	-6.9
	SNR=7.9						
ETOS	**Mallorca**	**4.76**	**25**	Pn	Pn	11 12 40.3	-2.5
	0.7nm,0.1s,SNR=7.9						
ETOS				Sn	Sn	11 13 30.2	-8.0
	SNR=7.9						
ETOS	**Mallorca**	**4.76**	**25**	Pn	Pn	11 12 40.3	-2.5
	0.7nm,0.1s,SNR=7.9						
ETOS				Sn	Sn	11 13 30.2	-8.0
	SNR=7.9						
EMOS	**Mosqueruela**	**4.90**	**354**	Pn	Pn	11 12 42.7	-2.2
	1.4nm,0.2s,SNR=10						
EMOS				Sn	Sn	11 13 34.0	-7.9
	30nm,1.2s						
EMOS	**Mosqueruela**	**4.90**	**354**	Pn	Pn	11 12 42.7	-2.2
	1.4nm,0.2s,SNR=10						
EMOS				Sn	Sn	11 13 34.0	-7.9
	30nm,1.2s						
CZD	**Col de Zad**	**4.98**	**242**	*e*P	Pn	11 12 43.0	-3.0
CZD				*e*S	Sn	11 13 39.0	-4.8
ZFT	**Errachidia**	**5.12**	**229**	*i* P	Pn	11 12 45.5	-2.4
ZFT				*i* S	Sn	11 13 43.5	-3.8
ECAB	**El Cabril**	**5.20**	**302**	Pn	Pn	11 12 46.3	-2.8
	6.3nm,0.3s,SNR=31						
ECAB				Sn	Sn	11 13 42.2	-7.2
	6.2nm,0.9s						
ECAB	**El Cabril**	**5.20**	**302**	Pn	Pn	11 12 46.3	-2.7
	6.3nm,0.3s,SNR=31						
ECAB				Sn	Sn	11 13 42.2	-7.1
	6.2nm,0.9s						
ESDC	**Sonseca Array**	**5.33**	**323**	Pn	Pn	11 12 48.7	-2.2
	1.4nm,0.4s,baz=143,slow=13,SNR=19						
ESDC				Sn	Sn	11 13 46.0	-6.7
	0.9nm,0.4s,baz=127,slow=27,SNR=4.6						
ESDC	**Sonseca Array**	**5.33**	**323**	Pn	Pn	11 12 48.7	-2.2
	1.4nm,0.4s,SNR=19						
ESDC				Sn	Sn	11 13 46.0	-6.7
	0.9nm,0.4s,SNR=4.6						
ESLA	**Sonseca Array**	**5.33**	**323**	*e*Pn	Pn	11 12 48.5	-2.4
EPOB	**Poblet**	**5.90**	**6**	Pn	Pn	11 12 55.3	-3.6
	0.9nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	11 13 58.0	-9.0
	SNR=7.9						
EPOB	**Poblet**	**5.90**	**6**	Pn	Pn	11 12 55.3	-3.6
	0.9nm,0.2s,SNR=7.9						
KIB	**El Ksiba**	**5.94**	**243**	*e*P	Pn	11 12 57.0	-2.4
EMIN	**Mina Concepcio**	**5.98**	**294**	Pn	Pn	11 12 56.7	-3.3
	3.5nm,0.3s,SNR=22						
EMIN				Sn	Sn	11 14 01.0	-7.9
	11nm,1.2s						
EMIN	**Mina Concepcio**	**5.98**	**294**	Pn	Pn	11 12 56.7	-3.3
	3.5nm,0.3s,SNR=22						
EMIN				Sn	Sn	11 14 01.0	-7.9
	11nm,1.2s						
ESAC	**San Caprasio**	**6.25**	**355**	Pn	Pn	11 13 00.7	-3.2
ESAC				Sn	Sn	11 14 09.0	-6.8
ESAC	**San Caprasio**	**6.25**	**355**	Pn

BNDS				*e*Sg	**S**	**11 14 51.5**	**+1.9**
BNDS				AML	AML	11 15 02.3	
	comp=N,1μm,0.4s						
BNDS	**Bandar-Abbas**	**1.36**	**220**	*e*Pg	**P**	**11 14 32.1**	**-0.5**
	SNR=90						
BNDS				*e*Sg	**S**	**11 14 51.0**	**+1.4**
KRBR	**Kerman**	**1.57**	**347**	*e*Pg	**P**	**11 14 36.8**	**+1.3**
KRBR				AML	AML	11 15 15.2	
	comp=N,842nm,0.4s						
KRBR	**Kerman**	**1.57**	**347**	*e*Pg	**P**	**11 14 36.0**	**+0.5**
ZHSF	**Zahedan**	**3.38**	**69**	*e*Pn	**P**	**11 15 00.7**	**-0.4**
ZHSF	**Zahedan**	**3.38**	**69**	*e*Pn	**P**	**11 15 00.0**	**-1.1**
GHIR	**Ghir-Karzin**	**3.67**	**268**	*e*Pn	**P**	**11 15 06.3**	**+1.0**
GHIR	**Ghir-Karzin**	**3.67**	**268**	*e*Pn	**P**	**11 15 06.0**	**+0.7**
QRN	**Al-Qurain**	**8.12**	**274**	*e*P	**P**	**11 16 07.1**	**-0.4**
QRN				*e*S	**S**	**11 17 37.0**	**-2.0**
QRN				AML	AML	11 17 39.2	
	comp=Z,32nm,0.4s						
KBD	**Kabd**	**8.33**	**277**	*e*P	**P**	**11 16 11.4**	**+1.0**
KBD				*e*S	**S**	**11 17 43.6**	**-0.6**
KBD				AML	AML	11 17 43.9	
	comp=Z,64nm,0.3s						
RDF	**Al-Radifah**	**8.45**	**276**	*e*P	**P**	**11 16 11.5**	**-0.5**
RDF				*e*S	**S**	**11 17 45.1**	**-2.0**
RDF				AML	AML	11 17 47.2	
	comp=Z,19nm,0.3s						
BRTR	**Keskin Array B**	**22.42**	**306**	P	**P**	**11 19 07.2**	**+2.0**
	comp=Z,2.6nm,0.9s,mb3.7,baz=133,slow=10,SNR=9.8						
BRTR	**Keskin Array B**	**22.42**	**306**	P	**P**	**11 19 07.2**	**+1.9**
BVAR	**Borovoye Array**	**26.43**	**18**	P	**P**	**11 19 42.5**	**-1.0**
	comp=Z,1.3nm,0.8s,mb3.5,baz=180,slow=8.9,SNR=8.0						
MKAR	**Makanchi Array**	**26.87**	**40**	P	**P**	**11 19 47.3**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.2,baz=227,slow=8.7,SNR=7.5						
KURK	**Kurchatov**	**27.53**	**30**	*e*P	**P**	**11 19 53.0**	**-0.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
NVS	**Novosibirsk**	**32.43**	**28**	*e*P	**P**	**11 20 36.0**	**-1.0**
ZAL	**Zalesovo**	**32.50**	**31**	P	**P**	**11 20 37.0**	**-0.6**
	comp=Z,3.1nm,0.3s,mb4.6,baz=239,slow=6.3,SNR=7.8						
GERES	**GERESS Array B**	**38.92**	**314**	P	**P**	**11 21 34.5**	**+2.4**
	comp=Z,0.9nm,0.7s,mb3.6,baz=141,slow=8.5,SNR=6.3						
FINES	**FINESS Array B**	**38.92**	**337**	P	**P**	**11 21 32.9**	**+0.9**
	comp=Z,0.6nm,0.5s,mb3.6,baz=143,slow=9.5,SNR=5.6						
FINES	**FINESS Array B**	**38.92**	**337**	P	**P**	**11 21 32.9**	**+0.9**
SONM	**Songino Array**	**42.48**	**49**	P	**P**	**11 22 01.6**	**+0.1**
	comp=Z,1.1nm,0.9s,mb3.5,baz=265,slow=7.7,SNR=8.0						
HFS	**Hagfors**	**43.10**	**330**	P	**P**	**11 22 06.6**	**+0.2**
	comp=Z,2.2nm,1.0s,mb3.9,baz=127,slow=7.4,SNR=4.3						
ARCES	**ARCESS Array B**	**44.99**	**345**	P	**P**	**11 22 22.1**	**+0.6**
	comp=Z,5.0nm,1.1s,mb4.3,baz=114,slow=20,SNR=3.4						
BOD	**Bodaibo**	**48.85**	**37**	*e*P	**P**	**11 22 48.2**	**-3.8**
EKA	**Eskdalemuir Ar**	**50.35**	**320**	P	**P**	**11 23 03.6**	**+0.1**
	comp=Z,2.3nm,1.1s,mb4.1,baz=108,slow=6.7,SNR=2.8						
ESDC	**Sonseca Array**	**50.98**	**300**	P	**P**	**11 23 10.8**	**+2.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=71,slow=7.1,SNR=4.3						
BOSA	**Boshof**	**64.43**	**211**	P	**P**	**11 24 41.9**	**-1.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=85,slow=11,SNR=3.1						
ILAR	**Eielson Array**	**85.21**	**10**	P	**P**	**11 26 41.8**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.5,baz=323,slow=4.2,SNR=4.1						
WRA	**Warramunga Array**	**88.68**	**113**	P	**P**	**11 26 59.0**	**-0.4**
	comp=Z,2.6nm,0.8s,mb4.6,baz=318,slow=4.0,SNR=20						
WRAB	**Tennant Creek**	**88.68**	**113**	*e*P	**P**	**11 26 59.4**	**0.0**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**88.68**	**113**	*e*P	**P**	**11 26 59.4**	**0.0**
	comp=Z,6.0nm,0.8s,mb5.0						
YKA	**Yellowknife Ar**	**89.14**	**356**	P	**P**	**11 27 01.1**	**+0.5**
	comp=Z,0.2nm,0.3s,mb3.9,baz=2.0,slow=4.9,SNR=4.3						

*NEIC **31** 11:16:26.3, 35.52N×0.07E, MG3.8(MDD), After MDD.*
*CSEM **31** 11:16:26.2±0.5, 35.45N×0.14E, h10km, mb3.8/5, Error ellipse: s-maj=18.0km s-min=7.8km az=68.0*
MDD 31 11:16:26.3±3.3, 35.52N×0.07E, mb3.8/5, Error ellipse: s-maj=30.9km s-min=22.8km az=117.0, PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ODJA	**Bouhanifia**	**0.26**	**224**	P	Pg	11 16 30.0	-1.5
OKGL	**Djebel Kef Gue**	**0.70**	**42**	P	Pg	11 16 29.0	-11
EMUR	**La Murta**	**2.55**	**336**	Pn	Pn	11 17 07.1	-2.5
	1.2nm,0.2s,SNR=7.9						
EMUR				Sn	Sn	11 17 38.6	-3.2
	SNR=7.9						
EMUR	**La Murta**	**2.55**	**336**	Pn	Pn	11 17 07.1	-2.5
	1.2nm,0.2s,SNR=7.9						
EMUR				Sn	Sn	11 17 38.6	-3.1
	SNR=7.9						
EBER	**Berja**	**2.76**	**301**	Pn	Pn	11 17 11.1	-1.5
	3.0nm,0.1s,SNR=4.8						
EBER				Sn	Sn	11 17 44.7	-2.4
	SNR=7.9						
EBER	**Berja**	**2.76**	**301**	Pn	Pn	11 17 11.1	-1.5
	3.0nm,0.1s,SNR=4.8						
EBER				Sn	Sn	11 17 44.7	-2.5
	SNR=7.9						
ETOB	**Tobarra**	**3.38**	**338**	Pn	Pn	11 17 20.0	-1.4
	4.2nm,0.2s,SNR=26						
ETOB				Sn	Sn	11 17 57.4	-5.4
	SNR=7.9						
ETOB	**Tobarra**	**3.38**	**338**	Pn	Pn	11 17 20.0	-1.4
	4.2nm,0.2s,SNR=26						
ETOB				Sn	Sn	11 17 57.3	-5.5
	SNR=7.9						
EQES	**Quesada**	**3.40**	**313**	Pn	Pn	11 17 22.8	+1.0
	2.3nm,0.1s,SNR=6.8						
EQES				Sn	Sn	11 17 58.1	-5.3
	SNR=7.9						
EQES	**Quesada**	**3.40**	**313**	Pn	Pn	11 17 22.8	+1.1
	2.3nm,0.1s,SNR=6.8						
EQES				Sn	Sn	11 17 58.1	-5.3
	SNR=7.9						
EMIJ	**Mijas**	**4.06**	**286**	Pn	Pn	11 17 27.8	-3.3
	1.3nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**4.57**	**307**	Pn	Pn	11 17 38.4	+0.1
	0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.57**	**307**	Pn	Pn	11 17 38.4	+0.1
	0.2nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**5.09**	**302**	Pn	Pn	11 17 43.5	-2.2
	0.4nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**5.09**	**302**	Pn	Pn	11 17 43.5	-2.2
EMIN	**Mina Concepcio**	**5.87**	**294**	Pn	Pn	11 17 52.1	-4.5
EMIN	**Mina Concepcio**	**5.87**	**294**	Pn	Pn	11 17 52.2	-4.5

*IDC **31** 11:20:06.8±0.7, 60.97S×23.27W, mb3.9/8, mb1 4.0/9, mb1mx3.9/17, mbtmp4.0/9, ML4.7/1, MS3.4/6, Ms1 3.4/6, ms1mx3.1/25, Error ellipse: s-maj=28.2km s-min=18.5km az=22.0*
*NEIC **31** 11:20:11.0±0.4, 61.02S×23.22W, h30km, mb4.2/3, Error ellipse: s-maj=13.4km s-min=7.7km az=49.0*
ISC 31 11:20:06.2±0.6, 60.99S±0.08×23.2W±0.2, h10km, n42, σ1°02/32, mb3.9/10, MS3.4/6, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**11.43**	**154**	*e*	**P**	**11 22 52.2**	**-0.1**
VNA1	**Neumayer--Stat**	**11.43**	**154**	*e*	**P**	**11 22 52.8**	**+0.5**
VNA1	**Neumayer--Stat**	**11.43**	**154**	*e*	**P**	**11 22 59.6**	**+7.3**
VNA1	**Neumayer--Stat**	**11.43**	**154**	⇑*i*P	**P**	**11 22 51.3**	**-1.0**
VNA1				*e*		11 22 52.2	
VNA1				*e*		11 22 52.8	
VNA1				*e*		11 22 59.6	
VNA1				*e*		11 24 51.8	
VNA1				*e*		11 25 01.1	
VNA3	**Neumayer Olymp**	**11.62**	**158**	*e*	**P**	**11 22 55.0**	**0.0**
VNA3	**Neumayer Olymp**	**11.62**	**158**	*e*	**P**	**11 22 55.5**	**+0.5**
VNA3	**Neumayer Olymp**	**11.62**	**158**	*e*	**P**	**11 23 02.4**	**+7.4**
VNA3	**Neumayer Olymp**	**11.62**	**158**	⇑*i*P	**P**	**11 22 54.0**	**-1.0**
VNA3				*e*		11 22 55.0	
VNA3				*e*		11 22 55.5	
VNA3				*e*		11 23 02.4	
VNA3				*e*		11 24 55.5	
VNA3				*e*		11 25 05.2	
VNA2	**Neumayer--Watz**	**11.82**	**154**	*e*	**P**	**11 22 56.9**	**-0.8**
VNA2	**Neumayer--Watz**	**11.82**	**154**	*e*	**P**	**11 22 57.4**	**-0.3**
VNA2	**Neumayer--Watz**	**11.82**	**154**	*e*	**P**	**11 23 04.2**	**+6.5**
VNA2	**Neumayer--Watz**	**11.82**	**154**	⇑*i*P	**P**	**11 22 56.1**	**-1.6**
VNA2				*e*		11 22 56.9	
VNA2				*e*		11 22 57.4	
VNA2				*e*		11 23 04.2	
VNA2				*e*		11 25 00.2	
VNA2				*e*		11 25 10.6	
SNAA	**Sanae**	**13.38**	**152**	⇑*i*	**P**	**11 23 17.2**	**-1.3**
SNAA	**Sanae**	**13.38**	**152**	*e*	**P**	**11 23 18.2**	**-0.3**
SNAA	**Sanae**	**13.38**	**152**	*e*	**P**	**11 23 27.2**	**+8.7**
SNAA	**Sanae**	**13.38**	**152**	Pn	**P**	**11 23 17.7**	**-0.8**
	3.4nm,0.3s,baz=319,slow=14,SNR=858						
SNAA				Sn	**S**	**11 25 35.0**	**-13**
	0.5nm,0.3s,baz=332,slow=20,SNR=4.1						
SNAA	**Sanae**	**13.38**	**152**	⇑*i*P	**P**	**11 23 17.2**	**-1.3**
SNAA				*e*		11 23 18.2	
SNAA				*e*		11 23 27.2	
SNAA				*e*		11 25 36.5	
SNAA				*e*		11 25 44.1	
PMSA	**Palmer Station**	**18.75**	**241**	P	**P**	**11 24 28.3**	**+1.3**
	7.6nm,0.6s						
USHA	**Ushuaia**	**24.38**	**264**	P	**P**	**11 25 27.1**	**+2.0**
	6.9nm,0.9s,mb4.1,baz=129,slow=8.6,SNR=4.1						
TRQA	**Tornquist**	**33.28**	**296**	*e*P	**P**	**11 26 43.6**	**-2.1**
	4.8nm,0.8s,mb4.5						
MAW	**Mawson**	**34.99**	**138**	P	**P**	**11 27 00.7**	**+0.6**
	1.7nm,1.0s,mb3.9,baz=153,slow=16,SNR=2.5						
PLCA	**Paso Flores**	**35.06**	**283**	LR	LR	11 40 58.7	
	comp=Z,73nm,18.1s,MS3.5,baz=269,slow=36						
SUR	**Sutherland**	**40.36**	**65**	P	**P**	**11 27 46.8**	**+1.2**
	3.5nm,0.8s,mb4.1,baz=184,slow=16,SNR=2.7						
CFAA	**Coronel Fontan**	**41.47**	**294**	P	**P**	**11 27 54.2**	**-0.4**
	0.2nm,0.6s,mb3.0,baz=181,slow=7.2,SNR=6.1						
CFAA	**Coronel Fontan**	**41.47**	**294**	P	**P**	**11 27 54.2**	**-0.4**
CPUP	**Villa Florida**	**41.64**	**311**	P	**P**	**11 27 55.3**	**-0.7**
	1.2nm,0.6s,mb3.7,baz=108,slow=19,SNR=3.8						
CPUP				LR	LR	11 41 45.6	
	comp=Z,32nm,21.2s,MS3.2,baz=139,slow=31						
VNDA	**Vanda**	**41.71**	**182**	P	**P**	**11 27 55.7**	**-0.2**
	0.4nm,0.6s,mb3.2,baz=184,slow=12,SNR=1.8						
VNDA	**Vanda**	**41.71**	**182**	P	**P**	**11 27 55.7**	**-0.2**
BOSA	**Boshof**	**45.56**	**67**	P	**P**	**11 28 28.3**	**+0.6**
	1.3nm,0.5s,mb4.1,baz=201,slow=14,SNR=6.4						
BOSA				LR	LR	11 44 02.0	
	comp=Z,70nm,19.8s,MS3.6,baz=114,slow=32						
BOSA	**Boshof**	**45.56**	**67**	P	**P**	**11 28 28.3**	**+0.5**
BOSA				LR	LR	11 44 02.0	
BDFB	**Brasilia**	**48.68**	**327**	LR	LR	11 44 18.9	
	comp=Z,49nm,20.8s,MS3.5,baz=206,slow=30						
LVC	**Limon Verde**	**49.58**	**300**	LR	LR	11 46 43.4	
	comp=Z,51nm,20.7s,MS3.5,baz=78,slow=32						
SIV	**San Ignacio**	**52.47**	**312**	LR	LR	11 49 06.4	
	comp=Z,21nm,21.2s,MS3.1,baz=0.4,slow=33						
LPAZ	**La Paz**	**54.91**	**304**	P	**P**	**11 29 39.4**	**+0.1**
	0.7nm,0.5s,mb4.0,baz=92,slow=7.9,SNR=4.7						
SAML	**Samuel**	**59.73**	**313**	*e*P	**P**	**11 30 12.7**	**-0.7**
	1.7nm,0.8s,mb4.1						
FINES	**FINESS Array B**	**127.80**	**27**	PKP	PKPdf	11 39 10.9	-3.0
	0.7nm,0.6s,baz=124,slow=6.9,SNR=2.9						
YKA	**Yellowknife Ar**	**141.15**	**312**	PKP	PKPdf	11 39 39.0	+0.6
	0.5nm,0.7s,baz=128,slow=2.4,SNR=5.2						
YKA	**Yellowknife Ar**	**141.15**	**312**	PKP	PKPdf	11 39 39.0	+0.6
DLBC	**Dease Lake**	**144.76**	**299**	PKP	PKPdf	11 39 43.9	-0.9
	2.3nm,0.6s,baz=117,slow=5.6,SNR=9.2						
SONM	**Songino Array**	**148.72**	**92**	PKPbc	PKPdf	11 39 54.3	+2.7
	1.3nm,0.9s,baz=215,slow=4.2,SNR=7.2						
ILAR	**Eielson Array**	**154.78**	**303**	PKPbc	PKPdf	11 40 08.1	+8.1
	0.8nm,1.0s,baz=192,slow=2.5,SNR=5.4						
ILAR				PKPab	PKPab	11 40 24.4	+1.3
	0.5nm,0.9s,baz=34,slow=4.9,SNR=5.5						
COLA	**College**	**155.21**	**303**	*e*P	PKPdf	11 39 59.6	-1.0

IDC 31 11:27:48.6±4.1, 0.51N×98.15E, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, MS3.2/1, Ms1 3.2/1, ms1mx2.7/23, Error ellipse: s-maj=160.8km s-min=27.4km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.87**	**122**	P	P	11 35 32.4	-1.7
	0.6nm,0.5s,baz=303,slow=8.9,SNR=9.1						
SONM	**Songino Array**	**47.68**	**8**	P	P	11 36 27.7	-1.1
	0.5nm,0.4s,baz=190,slow=9.5,SNR=7.0						
MKAR	**Makanchi Array**	**48.14**	**345**	P	P	11 36 30.0	-2.4
	0.5nm,0.5s,baz=152,slow=8.1,SNR=6.2						
JHJ	**Hachijo jima 2**	**50.80**	**46**	LR	LR	11 58 27.3	
	comp=Z,22nm,20.4s,baz=118,slow=36						
ZAL	**Zalesovo**	**54.38**	**350**	P	P	11 37 16.6	-2.8
	1.5nm,0.3s,baz=272,slow=1.9,SNR=3.9						

*IDC **31** 11:28:05.1±1.0, 67.86N×161.05W, mb3.8/7, mb1 4.1/10, mb1mx3.9/22, mbtmp3.9/10, ML4.1/3, MS2.7/1, Ms1 2.8/1, ms1mx2.2/34, Error ellipse: s-maj=36.9km s-min=13.4km az=28.0*
*NEIC **31** 11:28:09.1, 67.68N×160.55W, h30km, ML4.0(AEIC), After AEIC.*
ISC 31 11:28:08.4±1.4, 67.7N±0.1×160.5W±0.1, h49km±18km, n26, σ1°08/28, mb3.9/7, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMA	**Indian Mountai**	**3.15**	**118**	*e*P	**P**	**11 28 58.2**	**+1.4**
IM3	**Indian Mountai**	**3.18**	**120**	P	**P**	**11 28 57.8**	**+0.6**
GCSA	**Galena City Sc**	**3.32**	**152**	P	**P**	**11 28 58.9**	**-0.2**
TNA	**Tin City**	**3.66**	**237**	P	**P**	**11 29 03.7**	**-0.4**
TNA				S	**S**	**11 29 47.2**	**+0.7**
MLY	**Manley**	**4.75**	**120**	P	**P**	**11 29 19.7**	**+0.3**
TT01	**Tatalina**	**5.17**	**157**	P	**P**	**11 29 24.9**	**-0.4**
NEA	**Nenana**	**5.59**	**119**	P	**P**	**11 29 31.6**	**+0.5**
BWN	**Browne**	**5.74**	**123**	P	**P**	**11 29 33.8**	**+0.7**
KTH	**Kantishna Hill**	**5.75**	**132**	P	**P**	**11 29 33.9**	**+0.7**
COLA	**College**	**5.84**	**113**	P	**P**	**11 29 34.7**	**+0.2**
BM3	**Burnt Mountain**	**6.09**	**85**	P	**P**	**11 29 37.5**	**-0.5**
ILAR	**Eielson Array**	**6.23**	**112**	Pn	**P**	**11 29 39.0**	**-1.1**
	11nm,0.3s,baz=303,slow=14,SNR=206						
ILAR				Sn	**S**	**11 30 48.6**	**-2.3**
	baz=315,slow=13,SNR=2.0						
ILAR				Lg		11 31 28.4	
	0.9nm,0.3s,baz=300,slow=30,SNR=4.3						
ILAR				LR	LR	11 32 26.0	
	comp=Z,66nm,19.3s,baz=357,slow=40						
SVW2	**Sparrevohn**	**6.97**	**160**	*e*P	**P**	**11 29 49.7**	**-0.7**
SPU	**Mount Spurr**	**7.49**	**147**	P	**P**	**11 29 56.4**	**-1.3**
PMR	**Palmer**	**7.83**	**136**	*e*P	**P**	**11 30 05.0**	**+2.7**
RSO	**Redoubt South**	**8.02**	**151**	P	**P**	**11 30 03.6**	**-1.3**
DLBC	**Dease Lake**	**16.44**	**110**	Pn	**P**	**11 32 00.6**	**+3.9**
	0.1nm,0.3s,baz=323,slow=5.7,SNR=5.3						
YKA	**Yellowknife Ar**	**19.61**	**83**	P	**P**	**11 32 34.9**	**-0.1**
	0.2nm,0.3s,baz=305,slow=11,SNR=4.0						
PDAR	**Pinedale Array**	**36.64**	**107**	P	**P**	**11 35 15.8**	**+4.2**
	0.9nm,0.6s,mb3.8,baz=344,slow=6.9,SNR=11						
MJAR	**Matsushiro Ar**	**45.93**	**259**	P	**P**	**11 36 27.6**	**-0.1**
	0.7nm,0.5s,mb3.8,baz=11,slow=6.4,SNR=5.2						
TXAR	**Lajitas Array**	**50.74**	**109**	P	**P**	**11 37 07.6**	**+2.5**
	1.1nm,0.7s,mb3.9,baz=333,slow=6.9,SNR=18						
FINES	**FINESS Array B**	**51.06**	**356**	P	**P**	**11 37 07.5**	**+0.4**
	0.7nm,0.7s,mb3.7,baz=34,slow=6.9,SNR=5.2						
FINES	**FINESS Array B**	**51.06**	**356**	P	**P**	**11 37 07.5**	**+0.4**
BVAR	**Borovoye Array**	**53.75**	**324**	P	**P**	**11 37 27.1**	**-0.1**
	2.4nm,0.6s,mb4.3,baz=33,slow=7.1,SNR=12						
MKAR	**Makanchi Array**	**56.51**	**313**	P	**P**	**11 37 45.6**	**-1.8**
	0.5nm,0.7s,mb3.6,baz=46,slow=8.6,SNR=5.0						
AKASG	**Malin Array Be**	**61.69**	**353**	P	**P**	**11 38 22.9**	**-0.1**
	0.5nm,0.4s,mb4.0,baz=5.8,slow=6.3,SNR=7.0						

IDC 31 11:49:56.4±5.0, 0.44N×98.09E, mb3.5/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=190.6km s-min=31.6km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.88**	**122**	P	P	11 57 40.3	-1.7
	0.6nm,0.6s,baz=304,slow=8.9,SNR=5.8						
SONM	**Songino Array**	**47.75**	**8**	P	P	11 58 36.1	-1.0
	0.2nm,0.3s,baz=190,slow=8.8,SNR=3.6						
MKAR	**Makanchi Array**	**48.19**	**345**	P	P	11 58 37.8	-2.7
	0.2nm,0.5s,baz=141,slow=7.8,SNR=3.8						

*IDC **31** 11:54:39.9±3.1, 0.14N×97.55E, mb4.1/5, mb1 4.2/5, mb1mx3.8/18, mbtmp4.1/5, Error ellipse: s-maj=123.8km s-min=24.8km az=54.0*
*NEIC **31** 11:54:45.0±0.9, 0.23N×97.70E, h30km, mb4.1/2, Error ellipse: s-maj=25.8km s-min=13.4km az=60.0*
ISC 31 11:54:43.2±1.2, 0.3N±0.1×97.7E±0.2, h30km, n9, σ0°73/9, mb4.1/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.80**	**31**	*e*P	**Pn**	**11 56 09.1**	**-0.4**
SHL	**Shillong**	**25.78**	**348**	*e*P	**P**	**12 00 14.5**	**+1.1**
WRA	**Warramunga Arr**	**41.12**	**121**	P	**P**	**12 02 26.4**	**-0.1**
	1.2nm,0.6s,mb3.7,baz=302,slow=9.0,SNR=15						
WRAB	**Tennant Creek**	**41.13**	**121**	*e*P	**P**	**12 02 26.7**	**+0.2**
	3.2nm,0.7s,mb4.1						
SONM	**Songino Array**	**47.98**	**8**	P	**P**	**12 03 22.1**	**+0.8**
	1.8nm,0.7s,mb4.2,baz=191,slow=8.9,SNR=12						
MKAR	**Makanchi Array**	**48.27**	**346**	P	**P**	**12 03 23.6**	**+0.1**
	2.2nm,0.7s,mb4.3,baz=156,slow=7.9,SNR=19						
KURK	**Kurchatov**	**52.82**	**345**	*e*P	**P**	**12 03 58.4**	**+0.3**
	1.7nm,0.7s,mb4.1						
ZAL	**Zalesovo**	**54.55**	**351**	P	**P**	**12 04 10.2**	**-0.5**
	2.7nm,0.5s,mb4.6,baz=322,slow=5.9,SNR=11						
BVAR	**Borovoye Array**	**57.29**	**341**	P	**P**	**12 04 29.0**	**-1.6**
	1.0nm,0.7s,mb4.0,baz=135,slow=10,SNR=5.9						

*IDC **31** 12:17:06.4±1.5, 1.62N×97.01E, mb4.1/9, mb1 4.3/9, mb1mx4.0/19, mbtmp4.1/9, MS4.6/1, Ms1 4.8/1, ms1mx4.0/15, Error ellipse: s-maj=50.6km s-min=24.8km az=47.0*
*NEIC **31** 12:17:11.1±0.8, 1.64N×97.02E, h30km, mb4.2/1, Error ellipse: s-maj=17.8km s-min=11.3km az=198.0*
ISC 31 12:17:10.9±6.2, 1.7N±0.3×97.1E±0.2, h41km±46km, n14, σ0°59/13, mb4.1/10, MS4.8/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.02**	**45**	*e*P	**P**	**12 18 25.8**	**+0.1**
SNG	**Songkhla**	**6.46**	**33**	P	**P**	**12 18 54.0**	**+8.1**
	876nm,1.0s						
KKM	**Kota Kinabalu**	**19.55**	**77**	*e*P	**P**	**12 21 38.1**	**0.0**
WRA	**Warramunga Arr**	**42.40**	**122**	P	**P**	**12 25 03.5**	**0.0**
	0.5nm,0.4s,mb3.5,baz=302,slow=9.2,SNR=8.8						
SONM	**Songino Array**	**46.64**	**9**	P	**P**	**12 25 37.9**	**+0.8**
	3.0nm,0.6s,mb4.4,baz=191,slow=9.5,SNR=31						
MKAR	**Makanchi Array**	**46.72**	**346**	P	**P**	**12 25 38.5**	**+0.8**
	7.8nm,0.7s,mb4.7,baz=159,slow=7.7,SNR=78						
MJAR	**Matsushiro Ar**	**51.38**	**43**	P	**P**	**12 26 13.3**	**-0.6**
	1.4nm,0.7s,mb4.0,baz=212,slow=7.4,SNR=7.1						
ZAL	**Zalesovo**	**53.03**	**351**	P	**P**	**12 26 25.8**	**-0.1**
	5.0nm,0.6s,mb4.7,baz=303,slow=6.2,SNR=24						
BVAR	**Borovoye Array**	**55.73**	**341**	P	**P**	**12 26 44.6**	**-1.2**
	1.3nm,0.6s,mb4.2,baz=141,slow=9.5,SNR=10						
BRVK	**Borovoye**	**55.79**	**341**	*e*P	**P**	**12 26 45.4**	**-0.8**
	1.7nm,0.7s,mb4.2						
FINES	**FINESS Array B**	**79.50**	**332**	P	**P**	**12 29 14.8**	**+0.1**
	0.7nm,0.6s,mb3.8,baz=117,slow=4.3,SNR=5.6						
ARCES	**ARCESS Array B**	**82.02**	**340**	P	**P**	**12 29 28.6**	**+0.8**
	1.0nm,0.4s,mb4.1,baz=101,slow=6.2,SNR=11						
GERES	**GERESS Array B**	**84.36**	**319**	P	**P**	**12 29 40.3**	**+0.2**
	0.3nm,0.4s,mb3.7,baz=135,slow=3.8,SNR=4.2						
ILAR	**Eielson Array**	**99.27**	**23**	LR	LR	13 24 45.2	
	comp=Z,263nm,18.4s,MS4.8,baz=90,slow=41						

*BJI **31** 12:18:19.5, 0.04N×97.75E, h34km, mB5.3, mb5.5, Ms5.3, Msz5.1*
*MOS **31** 12:18:22.2±0.9, 0.43N×97.82E, h33km, mb5.4/56, MS4.9/10, Error ellipse: s-maj=9.3km s-min=4.9km az=114.5*
*HRVD **31** 12:18:22.6±0.4, 0.08N×97.55E, h24km, MW5.1/57, Centroid moment Tensor Solution. LP body waves: s41,c64;Mantle waves: s57,c102; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.50±.22; Mθθ -2.28±.14; Mφφ -0.22±.20; Mrθ 3.61±.21; Mrφ 2.50±.11; Mθφ -3.05±.28; Best double couple: Mo 5.733×10^16 NP1: φs 291°, δ 18°, λ 71°. NP2: φs 131°, δ 73°, λ 96°. Principal axes: T 5.032, Plg 62°, Azm 49°; N 1.399, Plg 6°, Azm 309°; P -6.434, Plg 28°, Azm 216°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 12:18:22.6±0.1, 0.35N×97.76E, mb5.1/61, MS4.6/10 Error ellipse: s-maj=5.2km s-min=4.1km

KMI sP sP 12 24 00.4 +3.7
KMI PP PP 12 24 26.5 +3.1
KMI S **S** **12 28 09.7 +4.2**
KMI sS 12 28 25.7
KMI SS SS 12 29 09.9 +4.1
KMI LR LR
comp=Z,6µm,16.9s,MS5.2
HYB Hyderabad 25.43 313 *e*P **P** **12 23 50.0 +1.5**
HYB Hyderabad 25.43 313 *i* P **P** **12 23 50.0 +1.5**
SHL Shillong 25.72 348 *e*P **P** **12 23 53.0 +1.8**
SHL *e*S **S** **12 28 24.0 +8.1**
BOK Bokaro 26.02 334 *e*P **P** **12 23 55.3 +1.3**
BOK AMb AMB 12 23 56.6
comp=Z,184nm,0.9s,mb5.6
BOK *e*S **S** **12 28 24.3 +3.4**
BLSP Bilaspur 26.49 326 *e*P **P** **12 23 59.1 +0.8**
BLSP AMb AMB 12 24 00.2
comp=Z,74nm,1.0s,mb5.2
BLSP *e*S **S** **12 28 30.3 +1.6**
GUIM Jordan 26.68 67 *e*P **P** **12 24 00.3 +0.1**
RCP Roxas 27.17 65⇓*e*P **P** **12 24 05.0 +0.4**
GZH Guangzhou 27.20 33 P **P** **12 24 10.0 +5.2**
GZH LR LR
comp=N,3µm,14.0s,MS5.1
GZH LR LR
comp=E,2µm,14.0s,MS5.1
GZH LR LR
comp=Z,4µm,14.9s,MS5.1
GYA Guiyang 27.34 18⇑*i*P **P** **12 24 06.0 0.0**
GYA AP pP 12 24 15.8 +1.9
GYA XP sP 12 24 19.3 +1.9
GYA AMB AMB
comp=Z,80nm,1.1s,mb5.2
GYA AMB AMB
comp=Z,330nm,6.6s
GYA LR LR
comp=N,4µm,15.9s,MS5.1
GYA LR LR
comp=E,2µm,16.2s,MS5.1
GYA LR LR
comp=Z,4µm,15.6s,MS5.1
LLP Lapu-Lapu 27.85 68 *e*P **P** **12 24 10.7 -0.1**
JIRN Jiri 29.36 339 *e*P **P** **12 24 24.9 +0.6**
comp=Z,243nm,0.9s,mb5.9
PKI Pulchoki 29.57 337 *e*P **P** **12 24 26.3 +0.1**
comp=Z,229nm,1.2s,mb5.8
GUN Gumba 29.70 338 *e*P **P** **12 24 28.0 +0.7**
comp=Z,229nm,0.7s,mb6.0
DMN Daman 29.72 337 *e*P **P** **12 24 27.0 -0.6**
comp=Z,167nm,0.9s,mb5.8
KKN Kakani 29.82 337 *e*P **P** **12 24 28.4 0.0**
comp=Z,140nm,0.9s,mb5.7
LSA Lhasa 29.87 348 P **P** **12 24 30.0 +1.1**
LSA AP pP 12 24 37.0 +0.2
LSA XP sP 12 24 42.5 +2.3
LSA S **S** **12 29 15.8 -7.2**
LSA AMB AMB
comp=Z,90nm,0.9s,mb5.5
LSA AMB AMB
comp=Z,150nm,5.5s
LSA LR LR
comp=N,800nm,25.0s,MS4.4
LSA LR LR
comp=E,980nm,27.0s,MS4.4
LSA LR LR
comp=Z,2µm,24.0s,MS4.6
LSA Lhasa 29.87 348⇑*i*P **P** **12 24 29.7 +0.8**
LSA pmax pmax
comp=Z,63nm,0.8s,mb5.4
LSA Lhasa 29.87 348⇑*i*P **P** **12 24 29.7 +0.8**
comp=Z,63nm,0.8s,mb5.4
GKN Gorkha 30.26 336 *e*P **P** **12 24 32.3 0.0**
comp=Z,178nm,0.9s,mb5.8
MBWA Marble Bar 30.27 136 *e*P **P** **12 24 32.8 +0.3**
comp=Z,39nm,1.2s,mb5.0
MBWA LR LR
comp=Z,2µm,20.0s,MS4.8
KOLN Koldanda 30.48 335 *e*P **P** **12 24 34.7 +0.4**
comp=Z,173nm,0.9s,mb5.8
CD2 Chengdu 30.92 10 P **P** **12 24 37.3 -0.8**
CD2 AMB AMB
comp=Z,20nm,1.0s,mb4.9
QZH Quanzhou 31.67 38 P **P** **12 24 44.8 +0.1**
QZH LR LR
comp=N,5µm,14.4s,MS5.4
QZH LR LR
comp=E,3µm,13.1s,MS5.4
QZH LR LR
comp=Z,6µm,15.4s,MS5.4
ENH Enshi 31.78 19 *e*P **P** **12 24 44.6 -1.1**
comp=Z,192nm,1.1s,mb5.8
ENH LR LR
comp=Z,2µm,20.0s,MS4.8
FITZ Fitzroy Crossi 32.95 125⇑*i*P **P** **12 24 54.4 -1.5**
comp=Z,64nm,0.8s,mb5.6
FITZ Fitzroy Crossi 32.95 125 P **P** **12 24 54.8 -1.2**
comp=Z,74nm,0.8s,mb5.7,baz=322,slow=3.6,SNR=54
NACB Ninganchiao 33.06 42 *e*P **P** **12 24 56.8 -0.1**
YHNB Yeheng 33.25 42 *e*P **P** **12 24 57.4 -1.1**
LGTI Lohaghat 33.44 331 *e*P **P** **12 25 00.3 +0.2**
PTH Pithoragarh 33.53 332 *e*P **P** **12 25 00.3 -0.7**
WHN Wuhan 33.91 26 ⇓P **P** **12 25 04.5 +0.3**
WHN LR LR
comp=Z,3µm,14.0s,MS5.2
NDI New Delhi 34.37 327 *e*P **P** **12 25 07.0 -1.2**
NDI *e* 12 44 12.0
XAN Xi'an 35.11 16 P **P** **12 25 13.5 -0.9**
XAN S **S** **12 30 46.0 +1.4**
XAN AMB AMB
comp=Z,370nm,0.9s,mb6.3
XAN LR LR
comp=N,2µm,15.1s,MS5.0
XAN LR LR
comp=E,1µm,14.6s,MS5.0
XAN LR LR
comp=Z,4µm,16.1s,MS5.3
DDI Dehra Dun 35.23 330 *e*P **P** **12 25 15.1 -0.4**
DDI *e*S **S** **12 30 47.0 +0.4**
LZH Lanzhou 36.01 8 ⇑P **P** **12 25 22.0 0.0**
LZH AP pP 12 25 28.0 -2.0
LZH XP sP 12 25 32.0 -1.4
LZH *e*PP PP 12 26 44.0 -0.1
LZH *e*S **S** **12 30 59.0 +0.5**
LZH SS SS 12 33 20.0 -1.6
LZH AMB AMB
comp=Z,149nm,1.4s,mb5.7
LZH AMB AMB
comp=Z,380nm,4.0s
LZH LR LR
comp=E,2µm,12.9s
LZH LR LR
comp=Z,4µm,14.7s,MS5.3
LZH Lanzhou 36.01 8 ⇑P **P** **12 25 22.0 0.0**
LZH *SP sP 12 25 32.0 -1.4
LZH *e* 12 26 44.0
LZH *e*S **S** **12 30 59.0 +0.5**
LZH *SS 12 31 10.5
LZH SS SS 12 33 20.0 -1.6
LZH pmax pmax
comp=Z,149nm,1.4s,mb5.7
LZH MLR MLR
comp=Z,4µm,14.7s,MS5.3
LZH Lanzhou 36.01 8 ⇑P **P** **12 25 22.0 0.0**
comp=Z,149nm,1.4s,mb5.7
LZH pP pP 12 25 28.0 -2.0
LZH sP sP 12 25 32.0 -1.4
LZH *e*PP PP 12 26 44.0 -0.1
LZH *e*S **S** **12 30 59.0 +0.5**
LZH sS 12 31 10.5
LZH SS SS 12 33 20.0 -1.6
LZH LR LR
comp=Z,4µm,14.7s,MS5.3
MUN Mundaring 36.56 153 *e*P pP 12 25 35.5 +0.8
comp=Z,15nm,0.7s
MUN Mundaring 36.56 153 *e*P pP 12 25 35.5 +0.8
MUN pmax pmax
comp=Z,15nm,0.7s,mb4.9
KAKA Kakadu 36.73 112⇓*i*P **P** **12 25 30.7 +2.4**
comp=Z,10nm,0.6s,mb4.8
KLBR Kellerberrin 36.96 151 *e*P pP 12 25 41.3 +3.2
comp=Z,18nm,0.8s
NJ2 Nanjing 37.29 30 *e*P **P** **12 25 33.8 +0.9**
NJ2 PP PP 12 27 02.5 +1.9
NJ2 S **S** **12 31 15.0 -3.2**
NJ2 XS 12 31 41.0
NJ2 AMB AMB
comp=Z,80nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,260nm,8.4s
NJ2 LR LR
comp=N,5µm,16.1s,MS5.5
NJ2 LR LR
comp=E,3µm,15.8s,MS5.5
NJ2 LR LR
comp=Z,2µm,14.9s,MS5.1
SSE Sheshan 37.78 34 P **P** **12 25 37.8 +0.8**
SSE AP pP 12 25 46.0 +1.0
SSE XP sP 12 25 50.5 +2.2
SSE PP PP 12 27 03.5 -3.0
SSE PCP PcP 12 27 56.0 +2.0
SSE S **S** **12 31 24.0 -1.7**
SSE XS 12 31 39.0
SSE SS SS 12 34 08.5 +7.1
SSE AMB AMB
comp=Z,167nm,0.8s,mb5.8
SSE AMB AMB
comp=Z,168nm,6.8s
SSE LR LR
comp=N,2µm,17.1s,MS5.1
SSE LR LR
comp=E,1µm,17.6s,MS5.1
SSE LR LR
comp=Z,4µm,15.6s,MS5.3
SSE Sheshan 37.78 34 P **P** **12 25 37.8 +0.8**
comp=Z,167nm,0.8s,mb5.8
SSE pP pP 12 25 46.1 +1.1
SSE sP sP 12 25 50.5 +2.2
SSE PP PP 12 27 03.4 -3.1
SSE PcP PcP 12 27 55.9 +1.9
SSE S **S** **12 31 24.1 -1.6**
SSE sS 12 31 39.1
SSE SS SS 12 34 08.6 +7.2
SSE LR LR
comp=Z,4µm,15.6s,MS5.3
NWAO Narrogin (SRO) 37.83 153 *e*P **P** **12 25 40.7 +3.3**
NWAO *e* pP 12 25 49.1 +3.8
NWAO pmax pmax
comp=Z,21nm,0.8s
NWAO Narrogin (SRO) 37.83 153 *e*P **P** **12 25 40.7 +3.3**
comp=Z,22nm,0.8s,mb4.9
NWAO *e* pP 12 25 49.1 +3.7
THN Thein Dam 38.11 329 *e*P **P** **12 25 38.8 -1.0**
THN *e* 12 32 07.0
GTA Gaotai 38.93 2 P **P** **12 25 47.0 +0.5**
GTA AP pP 12 25 55.3 +0.8
GTA XP sP 12 25 59.3 +1.4
GTA PP PP 12 27 18.3 -1.4
GTA PCP PcP 12 27 57.5 +0.1
GTA S **S** **12 31 40.5 -2.4**
GTA SCP 12 31 43.8
GTA PCS 12 31 47.5
GTA SCS ScS 12 35 52.8 +0.6
GTA AMB AMB
comp=Z,42nm,1.2s,mb5.0
GTA AMB AMB
comp=Z,316nm,10.3s
GTA LR LR
comp=N,604nm,24.1s
GTA LR LR
comp=E,1µm,18.3s
GTA LR LR
comp=Z,1µm,19.5s,MS4.7
JOW Kunigami 39.40 46 P **P** **12 25 50.8 +0.2**
comp=Z,16nm,0.5s,mb5.0,baz=230,slow=7.0,SNR=13
JOW PcP PcP 12 28 00.0 +0.9
comp=Z,17nm,0.8s,baz=292,slow=3.4,SNR=5.9
TIA Tai'an 39.95 25 ⇑P **P** **12 25 55.5 +0.5**
TIA AMB AMB
comp=Z,83nm,1.2s,mb5.3
WRA Warramunga Arr 41.08 122 P **P** **12 26 03.2 -1.3**
comp=Z,57nm,0.7s,mb5.3,baz=301,slow=9.0,SNR=149
WRA S **S** **12 32 11.3 -4.0**
comp=Z,4.4nm,1.0s,baz=292,slow=19,SNR=6.8
WRAB Tennant Creek 41.09 121*c i*P **P** **12 26 04.2 -0.3**
WRAB Tennant Creek 41.09 121⇑*e*P **P** **12 26 03.7 -0.8**
comp=Z,88nm,0.6s,mb5.6
WRAB LR LR
comp=Z,612nm,20.0s,MS4.5
WB2 Warramunga Arr 41.09 122 *e*P **P** **12 26 03.5 -1.1**
BTO Baotou 41.59 14 *e*P **P** **12 26 09.8 +1.3**
BTO AMB AMB
comp=Z,67nm,0.8s,mb5.3
HHC Hu-ho-hao-te 42.21 16⇑*i*P **P** **12 26 15.5 +1.9**
HHC AP pP 12 26 25.8 +4.2
HHC XP sP 12 26 29.5 +4.5
HHC PP PP 12 27 55.8 +1.4
HHC SCP 12 31 56.3
HHC S **S** **12 32 34.3 +2.4**
HHC XS 12 32 50.8
HHC SS SS 12 35 39.0 +4.2
HHC SCS ScS 12 36 11.0 -0.7
HHC AMB AMB
comp=Z,105nm,0.8s,mb5.5
HHC AMB AMB
comp=Z,333nm,9.5s
HHC LR LR
comp=N,3µm,14.2s,MS5.3
HHC LR LR
comp=E,2µm,16.6s,MS5.3
HHC LR LR
comp=Z,3µm,15.4s,MS5.2
DL2 Dalian 44.16 27 P **P** **12 26 30.0 +0.5**
DL2 S **S** **12 32 55.5 -4.8**
DL2 AMB AMB
comp=Z,140nm,0.7s,mb5.8
DL2 AMB AMB
comp=Z,170nm,3.4s
DL2 LR LR
comp=N,270nm,12.3s,MS4.7
DL2 LR LR
comp=E,640nm,14.6s,MS4.7
DL2 LR LR
comp=Z,610nm,13.6s,MS4.7
WMQ Urumqi 44.22 350 P **P** **12 26 29.8 -0.1**
WMQ AP pP 12 26 39.8 +1.9
WMQ XP sP 12 26 43.5 +2.3
WMQ PP PP 12 28 14.3 -0.1
WMQ S **S** **12 32 59.8 -1.3**
WMQ AMB AMB
comp=Z,73nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,301nm,4.2s
WMQ LR LR
comp=N,419nm,15.6s,MS4.8
WMQ LR LR
comp=E,821nm,19.0s,MS4.8
WMQ LR LR
comp=Z,467nm,19.0s,MS4.4
JNU Nakatsue 45.06 40 P **P** **12 26 36.5 -0.3**
comp=Z,94nm,0.9s,mb5.6,baz=142,slow=5.5,SNR=50
INCN Inchon 45.54 33 *e*P **P** **12 26 39.5 -1.1**
comp=Z,13nm,0.6s,mb5.0
ULHL Ulahol 46.01 338 P **P** **12 26 45.0 +0.8**
SNR=11
KS15 Wonju Array Si 46.19 34 *e*P **P** **12 26 45.6 -0.1**
KZA Kyzart 46.25 337 P **P** **12 26 47.4 +1.3**
SNR=14
TKM2 Tokmak 2 46.83 338 P **P** **12 26 51.6 +1.0**
SNR=32
KBK Karagaybulak 46.86 337 P **P** **12 26 52.6 +1.8**
SNR=12
AML Almayashu 46.92 335 P **P** **12 26 52.6 +1.2**
SNR=24
AAK Ala-Archa 47.02 336*c i*P **P** **12 26 51.6 -0.5**
AAK pmax pmax
comp=Z,55nm,2.5s,mb5.0
AAK Ala-Archa 47.02 336 *e*P **P** **12 26 51.3 -0.8**
comp=Z,23nm,0.9s,mb5.1
FRU Bishkek 47.14 337⇑*e*P **P** **12 26 53.5 +0.4**
FRU *e* 12 33 45.0
FRU pmax pmax
comp=Z,150nm,2.2s,mb5.5
FRU MLR MLR
comp=E,600nm,18.0s
FRU MLR MLR
comp=Z,500nm,18.0s,MS4.5
CHMS Chumysh 47.22 337 P **P** **12 26 54.2 +0.4**
SNR=12
EKS2 Erkin-Say 47.33 336 P **P** **12 26 55.7 +1.1**
SNR=30
SNY Shenyang 47.40 26 ⇑P **P** **12 26 54.5 -0.7**
SNY AMB AMB
comp=Z,70nm,0.9s,mb5.6
SNY LR LR
comp=N,1µm,15.9s,MS5.2
SNY LR LR
comp=E,2µm,15.0s,MS5.2
SNY LR LR
comp=Z,2µm,14.7s,MS5.3
USP Ospenovka 47.55 337 P **P** **12 26 56.9 +0.5**
SNR=42
SONM Songino Array 47.89 8 P **P** **12 26 59.5 +0.6**
comp=Z,78nm,0.8s,mb5.8,baz=189,slow=8.6,SNR=304
SONM PcP PcP 12 28 27.5 -0.1
comp=Z,14nm,0.7s,baz=193,slow=3.8,SNR=4.0
SONM ScP 12 32 18.6
comp=Z,3.8nm,1.2s,baz=198,slow=3.9,SNR=4.7
SONM LR LR 12 49 31.6
comp=Z,2µm,18.7s,MS5.0,baz=190,slow=39
MKAR Makanchi Array 48.21 346 P **P** **12 27 01.8 +0.3**
comp=Z,77nm,0.8s,mb5.8,baz=157,slow=7.7,SNR=186
MKAR S **S** **12 33 59.0 +1.0**
comp=Z,1.0nm,1.0s,baz=174,slow=13,SNR=3.0
MKAR LR LR 12 53 06.9
comp=Z,332nm,18.8s,MS4.3,baz=171,slow=43
KKAR Karatay Array 49.08 334 *i* P **P** **12 27 08.1 -0.1**
CN2 Changchun 49.80 26 ⇑P **P** **12 27 13.3 -0.4**
CN2 *e*AP pP 12 27 23.5 +1.6
CN2 *e*S **S** **12 34 20.0 -0.3**
CN2 AMB AMB
comp=Z,60nm,1.1s,mb5.5
CN2 AMB AMB
comp=Z,600nm,4.0s
CN2 LR LR
comp=N,1µm,16.0s,MS5.2
CN2 LR LR
comp=E,1µm,16.0s,MS5.2
CN2 LR LR
comp=Z,2µm,17.0s,MS5.1
ZAK Zakamensk 50.07 5 *e*P **P** **12 27 15.7 0.0**
ZAK *e* 12 28 35.5
ZAK pmax pmax
comp=Z,25nm,0.9s,mb5.2
ZAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
PMG Port Moresby 50.09 103⇑*i*P **P** **12 27 15.8 -0.5**
PMG pmax pmax
comp=Z,209nm,0.8s
PMG Port Moresby 50.09 103 P **P** **12 27 15.9 -0.4**
comp=Z,203nm,0.7s,mb6.3,baz=318,slow=2.5,SNR=75
PMG Port Moresby 50.09 103⇑*i*P **P** **12 27 15.8 -0.5**
comp=Z,209nm,0.8s,mb6.2
MOY Mondy 51.21 3 *e*P **P** **12 27 24.3 0.0**
MOY pmax pmax
comp=Z,61nm,2.7s,mb5.0
TLY Talaya 51.39 5 *e*P **P** **12 27 26.4 +0.7**
TLY *e* 12 29 15.6
TLY *e*S **S** **12 34 32.5 -10**
TLY pmax pmax
comp=Z,55nm,0.8s,mb5.5
TLY MLR MLR
comp=Z,1µm,15.0s,MS5.1
TLY Talaya 51.39 5⇑*i*P **P** **12 27 26.3 +0.6**
comp=Z,67nm,0.8s,mb5.6
CTA Charters Tower 51.59 116⇑*i*P **P** **12 27 27.2 -0.5**
comp=Z,21nm,0.8s,mb5.1
CTA Charters Tower 51.59 116⇑*i*P **P** **12 27 27.2 -0.5**
CTA pmax pmax
comp=Z,21nm,0.8s
CTA Charters Tower 51.59 116 P **P** **12 27 27.4 -0.3**
comp=Z,16nm,0.8s,mb5.0,baz=283,slow=7.0,SNR=13
CTAO Charters Tower 51.59 116⇑*i*P **P** **12 27 27.2 -0.5**
CTAO pmax pmax
comp=Z,32nm,0.9s,mb5.2
CTAO MLR MLR
comp=Z,1µm,21.0s,MS4.9
CTAO Charters Tower 51.59 116⇑*i*P **P** **12 27 27.2 -0.5**
comp=Z,32nm,0.9s,mb5.2
CTAO LR LR
comp=Z,1µm,21.0s,MS4.9
ADE Adelaide 51.88 137 *e*P **P** **12 27 31.1 +1.4**
MAJO Matsushiro 51.93 42 *e*P **P** **12 27 36.5 +6.5**
MAJO pmax pmax
comp=Z,32nm,1.1s,mb5.2
MAJO Matsushiro 51.93 42 *e*P **P** **12 27 36.5 +6.5**
comp=Z,32nm,1.1s,mb5.2
MAT Matsushiro 51.93 42 *e*P **P** **12 27 28.0 -2.0**
MAT pmax pmax
comp=Z,30nm,1.2s,mb5.1
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.7
MAT Matsushiro 51.93 42 *e*P **P** **12 27 28.0 -2.0**
comp=Z,30nm,1.2s,mb5.1
MAT LR LR
comp=Z,710nm,20.0s,MS4.7
MAT Matsushiro 51.93 42 P **P** **12 27 28.1 -1.9**
MAT *e*S **S** **12 34 59.0 +9.3**
MJAR Matsushiro Arr 51.93 42 P **P** **12 27 29.1 -1.0**
comp=Z,21nm,0.9s,mb5.1,baz=218,slow=7.4,SNR=58
MJAR PcP PcP 12 28 43.1 +0.6
comp=Z,8.3nm,0.9s,baz=227,slow=6.0,SNR=4.3
IRK Irkutsk 52.00 5 *e*P **P** **12 27 30.3 0.0**
IRK *e* 12 29 32.7
IRK pmax pmax
comp=Z,87nm,2.1s,mb5.3
HIA Hailar 52.26 18 *e*P **P** **12 27 31.8 -0.5**
HIA pmax pmax
comp=Z,67nm,0.9s
HIA Hailar 52.26 18 *e*P **P** **12 27 31.8 -0.5**
comp=Z,68nm,0.9s,mb5.6
MDJ Mudanjiang 52.33 28 P **P** **12 27 32.8 -0.1**
MDJ AP pP 12 27 41.8 +0.7
MDJ XP sP 12 27 45.8 +1.6
MDJ PCP PcP 12 28 43.5 -0.3
MDJ PP PP 12 29 31.5 -1.0
MDJ SCP 12 32 38.0
MDJ PCS 12 32 41.8
MDJ S **S** **12 34 56.5 +1.4**
MDJ XS 12 35 12.3
MDJ SCS ScS 12 37 20.3 +2.7
MDJ AMB AMB
comp=Z,23nm,1.0s,mb5.1
MDJ AMB AMB
comp=Z,252nm,5.7s
MDJ LR LR
comp=N,3µm,16.8s,MS5.4
MDJ LR LR
comp=E,2µm,16.4s,MS5.4
MDJ LR LR
comp=Z,3µm,18.1s,MS5.4
MDJ Mudanjiang 52.33 28⇑*e*P **P** **12 27 32.6 -0.3**
comp=Z,28nm,0.8s,mb5.2
STKA Stephens Creek 52.34 132⇑*i*P **P** **12 27 33.4 +0.2**
comp=Z,14nm,0.7s,mb5.0
STKA *e* pP 12 27 41.2 -0.2
STKA Stephens Creek 52.34 132 P **P** **12 27 33.3 +0.1**
comp=Z,21nm,0.8s,mb5.1,baz=306,slow=7.6,SNR=36
HASS Wahat al Ahsa' 52.59 302 P **P** **12 27 35.0 -0.1**
OPO Ambohidratompo 53.12 246 P **P** **12 27 38.4 -0.8**
comp=Z,14nm,1.0s,mb4.8,baz=89,slow=7.6,SNR=5.5
CIT Chita 53.18 12 *e*P **P** **12 27 39.6 +0.5**
CIT *e* 12 35 26.1
CIT pmax pmax
comp=Z,203nm,1.9s,mb5.7
ZAL Zalesovo 54.49 351 P **P** **12 27 48.3 -0.4**
comp=Z,74nm,0.8s,mb5.7,baz=308,slow=6.2,SNR=173
ZAL S **S** **12 35 25.2 +1.0**
comp=Z,0.9nm,0.3s,baz=180,slow=18,SNR=4.8
ZAL LR LR 12 54 49.5
comp=Z,462nm,18.3s,MS4.6,baz=297,slow=40
ZAL Zalesovo 54.49 351 P **P** **12 27 48.3 -0.4**
ZAL S **S** **12 35 25.2 +1.0**
ZAL LR LR 12 54 49.5
NVS Novosibirsk 55.62 350 *i* P **P** **12 27 55.4 -1.5**
NVS *e*S **S** **12 35 34.1 -5.2**
NVS pmax pmax
comp=Z,110nm,1.0s,mb5.8
NVS pmax pmax
comp=N,49nm,0.7s
NVS pmax pmax
comp=E,38nm,0.9s
NVS smax
comp=N,11nm,1.5s
NVS smax
comp=E,58nm,2.7s
KAMS Al Khamasin 55.66 294 P **P** **12 27 56.7 -1.0**

KBD	**Kabd**	**55.68**	**306**	*e*	P	**P**	**12 27 57.8**	**+0.1**
KBD					AMb	AMB	12 27 58.9	
	comp=Z,288nm,0.8s,mb6.4							
RDF	**Al-Radifah**	**55.70**	**305**	*e*	P	**P**	**12 27 57.8**	**-0.1**
RDF					AMb	AMB	12 27 58.9	
	comp=Z,131nm,0.8s,mb6.0							
UMR	**Umm Al-Rimmam**	**55.80**	**306**	*e*	P	**P**	**12 27 58.1**	**-0.5**
UMR					AMb	AMB	12 27 59.1	
	comp=Z,101nm,0.7s,mb6.0							
DJNS	**Zahran al Janu**	**56.03**	**291**		P	**P**	**12 28 01.7**	**+1.3**
TATS	**Tathlith**	**56.49**	**293**		P	**P**	**12 28 02.3**	**-1.4**
KLR	**Kul'dur**	**56.76**	**26**⇓	*e*	P	**P**	**12 28 02.5**	**-2.7**
KLR				*e*	S	**S**	**12 35 54.0**	**-0.5**
KLR					pmax	pmax		
	comp=E,40nm,1.0s							
KLR					pmax	pmax		
	comp=Z,60nm,1.0s,mb5.6							
KLR					MLR	MLR		
	comp=N,3µm,14.0s,MS5.6							
KLR					MLR	MLR		
	comp=E,2µm,14.0s,MS5.6							
KLR					MLR	MLR		
	comp=Z,5µm,14.0s,MS5.7							
VOSK	**Vostochnaya**	**56.80**	**341**	*i*	P	**P**	**12 28 04.2**	**-1.2**
BVA0	**Borovoye Array**	**57.25**	**341**	*i*	P	**P**	**12 28 07.4**	**-1.2**
BVA0					pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6							
BVAR	**Borovoye Array**	**57.25**	**341**		P	**P**	**12 28 07.4**	**-1.2**
	comp=Z,38nm,0.7s,mb5.5,baz=143,slow=7.4,SNR=127							
BVAR					S	**S**	**12 36 00.1**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=166,slow=12,SNR=3.1							
BRVK	**Borovoye**	**57.31**	**341**⇑	*i*	P	**P**	**12 28 07.2**	**-1.8**
	comp=Z,25nm,0.8s,mb5.3							
BRVK					LR	LR		
	comp=Z,145nm,20.0s,MS4.1							
BLJS	**Baljurashi**	**58.29**	**293**		P	**P**	**12 28 17.2**	**+0.9**
AB31	**Akbulak array**	**58.55**	**332**	*i*	P	**P**	**12 28 16.3**	**-1.4**
BOD	**Bodaibo**	**58.74**	**10**⇓	*i*	P	**P**	**12 28 18.5**	**-0.5**
BOD					pmax	pmax		
	comp=Z,80nm,0.9s,mb5.8							
ARMA	**Armidale**	**59.55**	**126**⇑		P	**P**	**12 28 18.4**	**-6.6**
CLNS	**Chul'man**	**60.38**	**17**	*c*	P	**P**	**12 28 30.1**	**-0.2**
CLNS				*e*	PP	pP	12 28 35.5	-3.1
CLNS				*e*			12 29 08.5	
CLNS				*e*	S	**S**	**12 36 49.7**	**+8.1**
CLNS				*e*	PS	PS	12 37 05.5	+4.9
CLNS					pmax	pmax		
	comp=N,27nm,0.9s							
CLNS					pmax	pmax		
	comp=E,21nm,0.9s							
CLNS					pmax	pmax		
	comp=Z,51nm,0.9s,mb5.5							
CLNS					pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9							
CLNS					pmax	pmax		
	comp=N,11nm,0.9s							
CLNS					pmax	pmax		
	comp=E,7.0nm,0.7s							
CLNS					smax			
	comp=E,9.0nm,0.8s							
CLNS					smax			
	comp=Z,6.0nm,0.8s							
CLNS					smax			
	comp=N,6.0nm,0.7s							
CLNS					MLR	MLR		
	comp=N,800nm,17.0s,MS4.9							
CLNS					MLR	MLR		
	comp=Z,2µm,17.0s,MS5.3							
CLNS					MLR	MLR		
	comp=E,200nm,22.0s,MS4.9							
KMBO	**Kilima Mbogo**	**60.56**	**269**		P	**P**	**12 28 32.0**	**-0.1**
	comp=E,1.7nm,0.7s,mb4.3,baz=36,slow=15,SNR=4.8							
YSS	**Yuzh-Sakhalins**	**60.72**	**34**⇓	*i*	P	**P**	**12 28 32.0**	**-0.7**
YSS				*e*		pP	12 28 39.0	-2.1
YSS				*e*	S	**S**	**12 36 52.0**	**+5.9**
YSS					pmax	pmax		
	comp=Z,220nm,0.9s,mb6.3							
YSS					pmax	pmax		
	comp=N,60nm,0.8s							
YSS					pmax	pmax		
	comp=E,50nm,0.8s							
YSS					MLR	MLR		
	comp=E,500nm,18.0s							
YSS					MLR	MLR		
	comp=Z,500nm,18.0s,MS4.7							
YSS	**Yuzh-Sakhalins**	**60.72**	**34**⇑	*e*	P	**P**	**12 28 31.9**	**-0.8**
	comp=Z,204nm,0.9s,mb6.2							
GNI	**Garni**	**62.32**	**316**	*c*	P	**P**	**12 28 42.8**	**-0.8**
GNI					pmax	pmax		
	comp=Z,35nm,1.7s							
GNI	**Garni**	**62.32**	**316**		P	**P**	**12 28 42.1**	**-1.5**
	comp=Z,4.7nm,0.3s,mb5.0,baz=166,slow=14,SNR=5.0							
GNI	**Garni**	**62.32**	**316**		P	**P**	**12 28 42.1**	**-1.5**
DGRG	**David-gareji**	**62.46**	**318**		P	**P**	**12 28 44.6**	**0.0**
HNR	**Honiara**	**62.62**	**101**		P	**P**	**12 28 45.0**	**-0.9**
	comp=Z,256nm,0.8s,mb6.4,baz=186,slow=2.1,SNR=7.3							
TBLG	**Delisi**	**63.01**	**318**		P	**P**	**12 28 47.7**	**-0.4**
UMJS	**Umm Lajj**	**63.34**	**298**		P	**P**	**12 28 52.1**	**+1.6**
ZEI	**Tsey**	**64.03**	**319**	*e*	P	**P**	**12 28 52.2**	**-2.7**
ZEI				*i*	*PP	pP	12 29 02.0	-1.2
ZEI				*i*			12 31 11.8	
ZEI					pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0							
ARU	**Arti**	**64.20**	**337**⇑	*i*	P	**P**	**12 28 54.2**	**-1.6**
ARU				*e*			12 29 28.7	
ARU				*i*			12 31 16.2	
ARU				*e*	PPP	PPP	12 32 44.5	-6.7
ARU				*e*	S	**S**	**12 37 30.7**	**+1.0**
ARU				*e*			12 38 42.8	
ARU				*e*	SS	SS	12 41 39.6	-1.2
ARU					pmax	pmax		
	comp=Z,31nm,1.0s,mb5.3							
ARU					MLR	MLR		
	comp=Z,700nm,19.0s,MS4.9							
ARU					MLR	MLR		
	comp=N,300nm,20.0s,MS4.8							
ARU					MLR	MLR		
	comp=E,500nm,19.0s,MS4.8							
DBAS	**Duba**	**64.96**	**300**		P	**P**	**12 29 00.8**	**-0.4**
KIV	**Kislovodsk**	**65.34**	**319**	*c*	P	**P**	**12 29 02.7**	**-0.7**
KIV					pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3							
KIV					MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1							
KIV	**Kislovodsk**	**65.34**	**319**	*e*	P	**P**	**12 29 01.9**	**-1.5**
	comp=Z,25nm,0.8s,mb5.3							
KIV					LR	LR		
	comp=Z,42nm,20.0s,MS3.6							
JMQS	**Jabal Moqyreh**	**65.44**	**302**		P	**P**	**12 29 04.0**	**-0.3**
BDAS	**Al Bad'**	**65.99**	**301**		P	**P**	**12 29 07.6**	**-0.2**
YAK	**Yakutsk**	**66.08**	**16**	*e*	P	**P**	**12 29 06.2**	**-1.5**
YAK				*e*			12 29 33.0	
YAK				*e*			12 31 35.2	
YAK				*e*	PPP	PPP	12 33 11.7	+1.0
YAK				*e*	S	S	12 37 52.2	-0.5
YAK				*e*			12 38 53.9	
YAK				*e*	SS	SS	12 42 12.6	+2.9
YAK					pmax	pmax		
	comp=Z,102nm,0.9s,mb5.8							
YAK					pmax	pmax		
	comp=N,25nm,1.0s							
YAK					pmax	pmax		
	comp=E,17nm,1.1s							
YAK					pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5							
YAK					pmax	pmax		
	comp=N,2.0nm,0.8s							
YAK					pmax	pmax		
	comp=E,3.0nm,1.0s							
YAK					smax			
	comp=N,4.0nm,1.2s							
YAK					smax			
	comp=E,2.0nm,0.9s							
YAK	**Yakutsk**	**66.08**	**16**	*e*	P	**P**	**12 29 06.5**	**-1.3**
	comp=E,211nm,0.9s,mb6.2							
MALT	**Malatya**	**66.14**	**312**	*e*	P	**P**	**12 29 08.0**	**-0.6**
MALT					pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0							
MALT	**Malatya**	**66.14**	**312**	*e*	P	**P**	**12 29 08.0**	**-0.6**
	comp=Z,13nm,0.8s,mb5.0							
JMOS	**Jabal al Moall**	**66.16**	**302**		P	**P**	**12 29 08.7**	**-0.2**
TAYS	**Tayyib Ism**	**66.22**	**301**		P	**P**	**12 29 08.9**	**-0.3**
ALWS	**Ilw as Safayha**	**66.23**	**302**		P	**P**	**12 29 09.3**	**0.0**
MIR	**Mirnyy**	**66.83**	**182**	*e*	P	**P**	**12 29 13.0**	**+0.5**
MIR				*i*		pP	12 29 21.0	+0.1
MIR					pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0							
CASY	**Casey**	**67.10**	**174**⇑	*i*	P	**P**	**12 29 14.9**	**+0.7**
CASY				*i*		pP	12 29 21.6	-0.9
SOC	**Sochi**	**67.15**	**318**	*c*	P	**P**	**12 29 12.2**	**-2.7**
SOC				*e*			12 29 42.9	
SOC				*e*	S	S	12 38 03.6	-2.4
SOC				*e*			12 38 58.1	
SOC				*e*	SS	SS	12 42 29.4	+2.4
SOC					pmax	pmax		
	comp=Z,24nm,0.6s,mb5.4							
SOC					pmax	pmax		
	comp=N,4.0nm,0.4s							
SOC					pmax	pmax		
	comp=E,8.0nm,0.8s							
SOC					MLR	MLR		
	comp=Z,190nm,19.0s,MS4.3							
SOC					MLR	MLR		
	comp=N,204nm,18.0s,MS4.4							
SOC					MLR	MLR		
	comp=E,80nm,18.0s,MS4.4							
ANN	**Anapa**	**69.13**	**319**	*e*	P	**P**	**12 29 22.8**	**-4.4**
ANN				*e*	S	S	12 38 25.2	-4.4
ANN					pmax	pmax		
	comp=Z,62nm,1.2s,mb5.4							
BRTR	**Keskin Array B**	**70.12**	**312**		P	**P**	**12 29 31.8**	**-1.6**
	comp=Z,4.7nm,0.7s,mb4.5,baz=132,slow=7.1,SNR=23							
SKR	**Severo-Kuril's**	**70.21**	**35**	*e*	P	**P**	**12 29 31.3**	**-2.4**
LSZ	**Lusaka**	**70.44**	**254**		P	**P**	**12 29 35.8**	**+0.1**
LSZ				*e*			12 29 47.6	
LSZ					pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5							
LSZ	**Lusaka**	**70.44**	**254**		P	**P**	**12 29 35.8**	**+0.1**
	comp=Z,5.5nm,1.0s,mb4.4							
LSZ				*e*			12 29 47.6	
VOR	**Voronezh**	**70.81**	**326**	*e*	P	**P**	**12 29 36.0**	**-1.3**
VOR				*e*	*SP	sP	12 29 49.0	+0.3
VOR					pmax	pmax		
	comp=Z,60nm,1.7s,mb5.2							
SIM	**Simferopol'**	**71.39**	**318**	*c*	P	**P**	**12 29 40.1**	**-0.9**
SIM				*e*	S	S	12 38 54.0	-2.1
SIM					pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1							
MA2	**Magadan**	**71.85**	**25**	*e*	P	**P**	**12 29 43.3**	**-0.1**
MA2					pmax	pmax		
	comp=Z,47nm,1.1s,mb5.3							
MA2	**Magadan**	**71.85**	**25**	*e*	P	**P**	**12 29 43.3**	**-0.1**
	comp=Z,47nm,1.1s,mb5.3							
MAW	**Mawson**	**72.02**	**193**	*e*	P	**P**	**12 29 45.1**	**+0.8**
	comp=Z,4.3nm,0.6s,mb4.6							
MAW				*i*		pP	12 29 53.7	+1.0
MAW	**Mawson**	**72.02**	**193**	*e*	P	**P**	**12 29 45.1**	**+0.8**
MAW				*i*		pP	12 29 53.7	+1.0
MAW					pmax	pmax		
	comp=Z,4.0nm,0.6s							
MAW	**Mawson**	**72.02**	**193**		P	**P**	**12 29 45.4**	**+1.0**
	comp=Z,6.1nm,0.7s,mb4.7,baz=30,slow=6.2,SNR=23							
PET	**Petropavlovsk**	**72.61**	**34**	*c*	P	**P**	**12 29 47.8**	**-0.3**
PET					pmax	pmax		
	comp=Z,126nm,1.0s,mb5.8							
PET	**Petropavlovsk**	**72.61**	**34**⇑	*i*	P	**P**	**12 29 48.0**	**0.0**
	comp=Z,103nm,0.8s,mb5.8							
MOS	**Moscow**	**73.37**	**329**	*e*	P	**P**	**12 29 50.4**	**-2.0**
MOS				*e*		pP	12 29 58.1	-2.7
MOS					pmax	pmax		
	comp=Z,84nm,1.0s,mb5.6							
OBN	**Obninsk**	**73.66**	**328**	*c*	P	**P**	**12 29 53.1**	**-1.0**
OBN				*e*	S	S	12 39 14.9	-6.6
OBN					pmax	pmax		
	comp=Z,48nm,1.2s,mb5.3							
OBN	**Obninsk**	**73.66**	**328**⇑	*i*	P	**P**	**12 29 52.7**	**-1.4**
TIXI	**Tiksi**	**73.92**	**10**⇑	*i*	P	**P**	**12 29 54.5**	**-0.9**
LBTB	**Lobatse**	**74.04**	**244**	*e*	P	**P**	**12 29 57.1**	**+0.1**
LBTB					pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4							
LBTB	**Lobatse**	**74.04**	**244**	*e*	P	**P**	**12 29 57.1**	**+0.1**
	comp=Z,7.0nm,1.3s,mb4.4							
SEY	**Seymchan**	**74.32**	**23**	*e*	P	**P**	**12 29 57.9**	**+0.1**
SEY							12 30 12.9	
SEY							12 32 38.7	
SEY				*e*	PPP	PPP	12 34 33.0	+2.3
SEY				*e*	S	S	12 39 25.0	-3.8
SEY					SS	SS	12 44 14.6	-2.6
SEY					pmax	pmax		
	comp=E,8.0nm,0.8s							
SEY					pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1							
SEY					pmax	pmax		
	comp=N,5.0nm,0.9s							
SEY					smax			
	comp=N,260nm,23.2s							
SEY					smax			
	comp=E,180nm,21.5s							
SEY					MLR	MLR		
	comp=Z,1µm,19.0s,MS5.3							
SEY					MLR	MLR		
	comp=N,500nm,17.0s,MS5.0							
SEY					MLR	MLR		
	comp=E,570nm,18.0s,MS5.0							
BOSA	**Boshof**	**74.87**	**240**	*e*	P	**P**	**12 30 01.6**	**-0.1**
BOSA					pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9							
BOSA	**Boshof**	**74.87**	**240**		P	**P**	**12 30 01.4**	**-0.3**
	comp=Z,5.5nm,1.0s,mb4.4,baz=68,slow=7.6,SNR=6.1							
BOSA	**Boshof**	**74.87**	**240**	*e*	P	**P**	**12 30 01.6**	**-0.1**
	comp=Z,16nm,1.1s,mb4.8							
TIRR	**Tirgusor**	**75.15**	**316**		P	**P**	**12 30 02.7**	**-0.3**
TIRR	**Tirgusor**	**75.15**	**316**	⇑	P	**P**	**12 30 01.5**	**-1.5**
TIRR	**Tirgusor**	**75.15**	**316**	⇑	P	**P**	**12 30 01.5**	**-1.5**
HARR	**Harsova**	**75.54**	**316**	⇓	P	**P**	**12 30 04.8**	**-0.4**
AKASG	**Malin Array Be**	**76.30**	**322**		P	**P**	**12 30 08.2**	**-1.2**
	comp=Z,15nm,0.8s,mb5.0,baz=89,slow=4.6,SNR=52							
VRI	**Vrincioaia**	**76.65**	**317**		P	**P**	**12 30 11.8**	**+0.4**
VRI	**Vrincioaia**	**76.65**	**317**	⇓	P	**P**	**12 30 11.5**	**+0.1**
MLR	**Muntele Rosu**	**77.09**	**317**	⇓	P	**P**	**12 30 14.4**	**+0.5**
VOIR		**77.70**	**317**	⇓	P	**P**	**12 30 16.6**	**-0.6**
BURAR	**Bucovina Array**	**78.06**	**319**	⇑	P	**P**	**12 30 20.2**	**+1.1**
BURAR	**Bucovina Array**	**78.06**	**319**	⇑	P	**P**	**12 30 20.2**	**+1.0**
PUL	**Pulkovo**	**78.53**	**332**	*i*	P	**P**	**12 30 21.7**	**+0.2**
PUL				*i*	S	S	12 40 12.4	-2.4
PUL					pmax	pmax		
	comp=N,50nm,0.6s							
PUL					pmax	pmax		
	comp=Z,75nm,0.6s,mb5.8							
PUL					pmax	pmax		
	comp=E,76nm,0.9s							
PUL					smax			
	comp=N,178nm,19.0s							
PUL					smax			
	comp=Z,23nm,11.8s							
SYO	**Syowa Base**	**79.38**	**198**	⇑	P	**P**	**12 30 25.5**	**-0.5**
SYO	**Syowa Base**	**79.38**	**198**	⇑	PcP	PcP	12 30 33.5	-0.9
DRGR		**79.56**	**318**		P	**P**	**12 30 28.2**	**+0.8**
DRGR		**79.56**	**318**	⇑	P	**P**	**12 30 27.9**	**+0.5**
DRGR		**79.56**	**318**	⇑	P	**P**	**12 30 27.9**	**+0.5**
LVZ	**Lovozero**	**79.84**	**340**	*i*	P	**P**	**12 30 27.5**	**-1.0**
LVZ				*i*			12 33 33.9	
LVZ				*i*	PPP	PPP	12 35 25.9	+3.6
LVZ				*i*	S	S	12 40 26.0	-2.5
LVZ				*i*	SS	SS	12 45 43.4	+2.5
LVZ				*i*	SSS	SSS	12 49 04.8	+3.2
LVZ					pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0							
LVZ					pmax	pmax		
	comp=N,1.0nm,0.6s							
LVZ					pmax	pmax		
	comp=E,6.0nm,0.7s							
LVZ					smax			
	comp=E,104nm,11.3s							
LVZ					smax			
	comp=Z,16nm,4.4s							
LVZ	**Lovozero**	**79.84**	**340**	*i*	P	**P**	**12 30 28.2**	**-0.3**
KWP	**Kalwaria**	**80.11**	**320**	*e*	P	**P**	**12 30 30.6**	**+0.4**
KWP	**Kalwaria**	**80.11**	**320**	*e*	P	**P**	**12 30 30.6**	**+0.4**
APA	**Apatity**	**80.13**	**339**⇑	*i*	P	**P**	**12 30 30.0**	**0.0**
APA					pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1							
KOLS	**Kolonicke sedl**	**80.25**	**320**	*i*	P	**P**	**12 30 31.9**	**+0.9**
KOLS					*pP	pP	12 30 39.8	+0.3
SUW	**Suwalki**	**80.71**	**325**	*e*	P	**P**	**12 30 32.8**	**-0.6**
SUW	**Suwalki**	**80.71**	**325**	*e*	P	**P**	**12 30 32.8**	**-0.6**
CRVS	**Cervenica-Dubn**	**80.77**	**319**	*e*	P	**P**	**12 30 32.6**	**-1.2**
CRVS				*e*	S	S	12 40 37.1	-1.5
TSUM	**Tsumeb**	**80.86**	**251**	*e*	P	**P**	**12 30 36.2**	**+1.3**
	comp=Z,14nm,1.1s,mb4.8							
DIVS	**Divcibare**	**81.01**	**315**⇓	*i*	P	**P**	**12 30 35.0**	**-0.2**
FINES	**FINESS Array B**	**81.03**	**332**		P	**P**	**12 30 34.8**	**-0.1**
	comp=Z,11nm,0.8s,mb4.8,baz=124,slow=6.9,SNR=41							
FINES					LR	LR	13 13 31.4	
	comp=Z,227nm,19.9s,MS4.5,baz=302,slow=41							
KAF	**Kangasniemi**	**81.11**	**333**	*ep*		P	**12 30 35.2**	**-0.1**
	comp=Z,16nm,0.7s,mb5.1,baz=102,slow=4.7							
KAF	**Kangasniemi**	**81.11**	**333**	*e*	P	**P**	**12 30 35.2**	**-0.1**
KAF					pmax	pmax		
	comp=Z,16nm,0.7s,mb5.1							
KECS	**Kecovo**	**81.34**	**319**	*e*	P	**P**	**12 30 36.8**	**0.0**
KECS				*es*	P	sP	12 30 49.3	+1.2
PSZ	**Piszkesteto**	**81.64**	**318**⇑	*e*	P	**P**	**12 30 38.5**	**+0.1**
BILL	**Bilibino**	**81.75**	**21**⇑	*i*	P	**P**	**12 30 38.1**	**-0.4**
OJC	**Ojcow**	**82.06**	**321**	*e*	P	**P**	**12 30 40.7**	**+0.2**
VYHS	**Vyhne**	**82.42**	**319**	*e*	P	**P**	**12 30 42.1**	**-0.3**
VYHS				*e*			12 30 57.4	
VYHS				*e*	S	S	12 40 53.9	-1.7
TIP	**Timpagrande**	**82.83**	**309**	*e*	P	**P**	**12 30 44.5**	**-0.3**
OKC	**Ostrava-Krasne**	**83.06**	**320**	*e*	P	**P**	**12 30 46.1**	**+0.4**
OKC				*ep*	P	pP	12 30 53.8	-0.4
OKC					AMS	AMS	13 18 30.0	
	comp=Z,300nm,21.1s							
KEV	**Kevo**	**83.10**	**341**	*ep*		P	**12 30 45.3**	**-0.2**
	comp=Z,9.7nm,0.8s,mb4.9							
KEV	**Kevo**	**83.10**	**341**	*e*	P	**P**	**12 30 45.3**	**-0.2**
KEV					pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9							
MORC	**Moravsky Berou**	**83.44**	**320**	*e*	P	**P**	**12 30 47.8**	**+0.2**
MORC					pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8							
MORC	**Moravsky Berou**	**83.44**	**320**	*e*	P	**P**	**12 30 47.8**	**+0.2**
	comp=Z,9.0nm,1.0s,mb4.8							
ZST	**Bratislava**	**83.53**	**318**	*e*	S	S	12 41 05.1	-1.7
ARCES	**ARCESS Array B**	**83.54**	**340**		P	**P**	**12 30 48.1**	**+0.4**
	comp=Z,18nm,0.8s,mb5.2,baz=117,slow=5.4,SNR=24							
ARCES					LR	LR	13 15 01.3	
	comp=Z,344nm,19.8s,MS4.7,baz=322,slow=41							
DPC	**Dobruska-Polom**	**84.29**	**320**	*e*	P	**P**	**12 30 52.7**	**+0.8**
DPC				*ep*	P	pP	12 31 00.3	-0.2
DPC					AMS	AMS	13 14 50.0	
	comp=Z,200nm,21.1s							
GCIS	**Gornji Cirnik**	**84.29**	**316**	*e*	P	**P**	**12 30 52.4**	**+0.3**
KSP	**Ksiaz**	**84.36**	**321**⇑	*e*	P	**P**	**12 30 53.0**	**+0.7**
KSP				*e*	S	S	12 41 15.5	+0.6
KSP	**Ksiaz**	**84.36**	**321**	*e*	P	**P**	**12 30 53.0**	**+0.7**
DOBS	**Dobrina**	**84.43**	**316**⇑	*e*	P	**P**	**12 30 53.0**	**+0.3**
ARSA	**Arzberg**	**84.49**	**317**⇑	*i*	P	**P**	**12 30 53.8**	**+0.8**
	comp=Z,8.9nm,0.8s,mb5.0							
UPC	**Upice**	**84.50**	**321**	*e*	P	**P**	**12 30 54.0**	**+1.0**
UPC				*ep*	P	pP	12 31 02.8	+1.2
BOJS	**Bojanci**	**84.52**	**316**⇑	*e*	P	**P**	**12 30 53.2**	**0.0**
VNDA	**Vanda**	**84.87**	**169**	*e*	P	**P**	**12 30 54.7**	**+0.4**
VNDA					pmax	pmax		
	comp=Z,14nm,1.1s							
VNDA	**Vanda**	**84.87**	**169**		P	**P**	**12 30 54.6**	**+0.4**
	comp=Z,3.1nm,1.1s,mb4.3,baz=288,slow=3.2,SNR=4.6							
VNDA	**Vanda**	**84.87**	**169**	*e*	P	**P**	**12 30 54.7**	**+0.5**
	comp=Z,14nm,1.1s,mb5.0							
LJU	**Ljubljana**	**85.07**	**316**⇑	*e*	P	**P**	**12 30 56.6**	**+0.6**
LJU				*e*			12 31 11.3	
PRU	**Pruhonice**	**85.39**	**320**	*e*	P	**P**	**12 30 57.7**	**+0.3**
PRU				*ep*	P	pP	12 31 04.6	-1.4
PRU					AMS	AMS	13 15 50.0	
	comp=Z,200nm,20.9s							
PVCC	**Panska Ves**	**85.42**	**321**	*e*	P	**P**	**12 30 58.5**	**+0.9**
PVCC				*ep*	P	pP	12 31 07.8	+1.7
AQU	**L'Aquila**	**85.62**	**312**		P	**P**	**12 30 59.3**	**+0.5**
AQU					pmax	pmax		
	comp=Z,63nm,1.2s,mb5.7							
AQU	**L'Aquila**	**85.62**	**312**		P	**P**	**12 30 59.3**	**+0.5**
	comp=Z,63nm,1.2s,mb5.7							
CING	**Cingoli**	**85.83**	**313**		P	**P**	**12 31 00.5**	**+0.7**
	comp=Z,16nm,0.9s,mb5.3							
BRG	**Berggiesshubel**	**85.85**	**321**	*e*	P	**P**	**12 31 00.5**	**+0.8**
BRG				*e*			12 31 18.0	
BRG					S	S	12 41 33.0	+3.5
BRG					pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.0							
BRG	**Berggiesshubel**	**85.85**	**321**	*e*	P	**P**	**12 31 00.5**	**+0.8**
	comp=Z,9.8nm,1.0s,mb5.0							
BRG				*e*			12 31 18.0	
BRG					S	S	12 41 33.0	+3.5
GEC2	**GERESS Array S**	**85.85**	**319**	*e*	P	**P**	**12 31 00.2**	**+0.5**
GEC2					pmax	pmax		
	comp=Z,14nm,1.1s,mb5.1							
GEC2	**GERESS Array S**	**85.85**	**319**	*e*	P	**P**	**12 31 00.2**	**+0.5**
	comp=Z,14nm,1.1s,mb5.1							
GERES	**GERESS Array B**	**85.85**	**319**		P	**P**	**12 30 59.9**	**+0.1**
	comp=Z,4.9nm,0.8s,mb4.8,baz=90,slow=4.0,SNR=32							
PTCC	**Patocco-Chiusa**	**85.91**	**316**⇑	*i*	P	**P**	**12 31 00.3**	**+0.2**
KHC	**Kasperske Hory**	**85.95**	**319**	*e*	P	**P**	**12 31 00.6**	**+0.4**
KHC				*ep*	P	pP	12 31 09.4	+0.6
KHC					AMS	AMS	13 16 10.0	
	comp=Z,200nm,19.1s							
SBA	**Scott Base**	**85.97**	**169**	*e*	P	**P**	**12 31 01.8**	**+2.0**
SBA				*e*		pP	12 31 10.7	+2.4
SBA					pmax	pmax		
	comp=Z,27nm,1.4s,mb5.3							
SBA	**Scott Base**	**85.97**	**169**	*e*	P	**P**	**12 31 01.8**	**+2.0**
	comp=Z,27nm,1.4s,mb5.3							
SBA				*e*		pP	12 31 10.7	+2.3
ARV	**Arcevia**	**86.02**	**313**⇑	*i*	P	**P**	**12 31 01.6**	**+0.8**
ARV					pmax	pmax		
	comp=Z,15nm,0.7s,mb5.3							
ARV	**Arcevia**	**86.02**	**313**⇑	*i*	P	**P**	**12 31 01.6**

	comp=Z,10.0nm,0.9s,mb5.0								
NB2	**NORSAR Subarra**	**88.04**	**331**	P		**P**	**12 31 09.9**	**-0.2**	
	baz=97,slow=4.6								
NOA	**NORSAR Array B**	**88.04**	**331**	P		**P**	**12 31 10.5**	**+0.4**	
	comp=Z,5.4nm,0.8s,mb4.9,baz=95,slow=4.8,SNR=19								
NOA				PP		PP	12 34 37.8	-1.4	
	comp=Z,2.0nm,0.9s,baz=91,slow=8.2,SNR=4.0								
NOA				LR		LR	13 15 36.0		
	comp=Z,135nm,19.1s,MS4.4,baz=90,slow=39								
FUORN	**Ofenpass**	**88.05**	**316**	⇑*iP*		**P**	**12 31 11.5**	**+1.0**	
CLZ	**Clausthal**	**88.14**	**322**	*e*P		**P**	**12 31 11.6**	**+0.8**	
CLZ				pmax		pmax			
	comp=Z,10.0nm,0.9s,mb5.0								
CLZ	**Clausthal**	**88.14**	**322**	*e*P		**P**	**12 31 11.6**	**+0.8**	
	comp=Z,10.0nm,0.9s,mb5.0								
BSEG	**Bad Segeberg**	**88.23**	**324**	*e*P		**P**	**12 31 12.0**	**+0.8**	
DAVA	**Damuels**	**88.33**	**317**	⇑*iP*		**P**	**12 31 12.6**	**+0.8**	
	comp=Z,9.3nm,0.9s,mb5.0								
TNS	**Taunus Mts**	**89.32**	**320**	*e*P		**P**	**12 31 17.2**	**+0.7**	
TNS				pmax		pmax			
	comp=Z,14nm,0.9s,mb5.3								
TNS	**Taunus Mts**	**89.32**	**320**	*e*P		**P**	**12 31 17.2**	**+0.7**	
	comp=Z,14nm,0.9s,mb5.3								
BFO	**Black Forest**	**89.39**	**318**	*e*P		**P**	**12 31 17.0**	**+0.2**	
BFO				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb5.0								
BFO	**Black Forest**	**89.39**	**318**	*e*P		**P**	**12 31 17.0**	**+0.2**	
	comp=Z,6.0nm,0.8s,mb5.0								
QSPA	**South Pole Qui**	**90.29**	**180**	P		**P**	**12 31 25.0**	**+4.6**	
	comp=Z,16nm,1.1s,mb5.3								
SNAA	**Sanae**	**93.67**	**198**	P		**P**	**12 31 35.6**	**-0.4**	
SNAA	**Sanae**	**93.67**	**198**			pP	12 31 44.0	-0.6	
SNAA	**Sanae**	**93.67**	**198**			sP	12 31 48.1	+0.7	
VNA2	**Neumayer--Watz**	**95.26**	**199**	P		**P**	**12 31 42.1**	**-1.3**	
VNA2	**Neumayer--Watz**	**95.26**	**199**			pP	12 31 52.6	+0.6	
VNA2	**Neumayer--Watz**	**95.26**	**199**			sP	12 31 56.8	+2.1	
DAG	**Danmarks Havn**	**95.56**	**348**	⇑*iP*		**P**	**12 31 44.7**	**0.0**	
DAG				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.6								
DAG	**Danmarks Havn**	**95.56**	**348**	⇑*iP*		**P**	**12 31 44.7**	**0.0**	
	comp=Z,2.2nm,0.8s,mb4.6								
IMA	**Indian Mountai**	**97.14**	**23**	*e*P		**P**	**12 31 53.9**	**+1.9**	
IMA				pmax		pmax			
	comp=Z,8.0nm,0.7s,mb5.3								
IMA	**Indian Mountai**	**97.14**	**23**	*e*P		**P**	**12 31 53.9**	**+1.9**	
	comp=Z,7.8nm,0.7s,mb5.2								
ILAR	**Eielson Array**	**100.25**	**23**	P		P	12 32 05.6	-0.5	
	comp=Z,0.6nm,0.8s,baz=284,slow=5.0,SNR=6.6								
ILAR				PP		PP	12 36 06.3	-8.5	
	comp=Z,1.6nm,0.8s,baz=302,slow=8.0,SNR=7.4								
ILAR				PKKP		PKKP	12 48 32.6	+12	
	comp=Z,0.3nm,0.7s,baz=179,slow=2.6,SNR=4.8								
DLBC	**Dease Lake**	**110.37**	**25**	PP		PP	12 37 22.8	-7.7	
	comp=Z,2.2nm,1.0s,baz=308,slow=9.2,SNR=4.6								
TBI	**Tubuai**	**110.96**	**115**	*e*SS		SS	12 53 00.1	-1.7	
TBI				*e*LR		LR	13 09 47.8		
	comp=Z,371nm,25.8s								
PPT	**Papeete**	**111.64**	**109**	*e*PP		PP	12 37 30.4	-10	
PPT	**Papeete**	**111.64**	**109**	*e*PS		PS	12 47 25.0	+17	
PPT	**Papeete**	**111.64**	**109**	*e*LR		LR	13 10 06.5		
	comp=Z,298nm,22.8s								
YKA	**Yellowknife Ar**	**112.75**	**16**	PP		PP	12 37 37.7	-10	
	comp=Z,2.5nm,0.9s,baz=329,slow=7.3,SNR=8.1								
YKA				PKKPab			12 47 53.6		
	comp=Z,0.3nm,0.7s,baz=146,slow=2.5,SNR=5.9								
EDM	**Edmonton**	**120.66**	**21**	*e*PKPdf		PKPdf	12 37 11.8	-3.7	
FFC	**Flin Flon**	**122.76**	**13**	*e*PKPdf		PKPdf	12 37 15.8	-3.7	
FFC				*e*			12 37 26.5		
NEW	**Newport**	**122.92**	**27**	PKP		PKPdf	12 37 14.9	-5.1	
	comp=Z,3.5nm,0.9s,baz=126,slow=2.5,SNR=7.3								
HUMO	**Hull Mountain**	**123.73**	**35**	*e*PKPdf		PKPdf	12 37 19.1	-2.6	
HUMO				*e*			12 37 29.3		
RKT	**Rikitea**	**124.01**	**118**	*e*PS		PS	12 49 02.3	+2.4	
RKT	**Rikitea**	**124.01**	**118**	*e*LR		LR	13 15 51.2		
	comp=Z,298nm,27.8s								
YBH	**Yreka Blue Hor**	**124.42**	**36**	PKP		PKPdf	12 37 20.1	-3.0	
	comp=Z,1.9nm,0.9s,baz=137,slow=8.3,SNR=5.4								
MSO	**Missoula**	**125.43**	**26**	*e*PKPdf		PKPdf	12 37 21.5	-3.4	
MSO				*e*			12 37 29.8		
CHMT	**Chamberlain Mo**	**125.66**	**26**	*e*PKPdf		PKPdf	12 37 22.0	-3.4	
MOD	**Modoc**	**125.70**	**35**	*e*PKPdf		PKPdf	12 37 23.1	-2.5	
BOZ	**Bozeman (W)**	**127.36**	**26**	*e*PKPdf		PKPdf	12 37 25.3	-3.3	
MCMT	**McKenzie Canyo**	**127.45**	**27**	*e*PKPdf		PKPdf	12 37 26.9	-2.0	
HLID	**Hailey**	**127.66**	**29**	*e*PKPdf		PKPdf	12 37 27.1	-2.2	
CMB	**Columbia Colle**	**128.10**	**38**	*e*PKPdf		PKPdf	12 37 27.6	-2.8	
CMB				*e*			12 37 36.5		
ULM	**Lac du Bonnet**	**128.26**	**11**	PKP		PKPdf	12 37 26.9	-3.4	
	comp=Z,3.0nm,0.7s,baz=142,slow=2.2,SNR=3.7								
LAO	**LASA Array**	**128.65**	**21**	*e*PKPdf		PKPdf	12 37 28.9	-2.3	
ELK	**Elko**	**129.28**	**32**	*e*PKPdf		PKPdf	12 37 30.5	-2.0	
RRI2	**Red Ridge**	**129.29**	**27**	*e*PKPdf		PKPdf	12 37 30.1	-2.3	
TPAW	**Teton Pass**	**129.35**	**27**	*e*PKPdf		PKPdf	12 37 30.7	-1.8	
LOHW	**Long Hollow**	**129.41**	**27**	*e*PKPdf		PKPdf	12 37 29.0	-3.6	
SNOW	**Snow King Moun**	**129.46**	**27**	*e*PKPdf		PKPdf	12 37 30.3	-2.5	
PDAR	**Pinedale Array**	**130.55**	**26**	PKP		PKPdf	12 37 30.2	-4.7	
	comp=Z,1.8nm,0.7s,baz=90,slow=3.0,SNR=17								
PDAR				PP		PP	12 39 48.8	-0.4	
	comp=Z,1.3nm,0.8s,slow=3.0,SNR=4.6								
DUG	**Dugway**	**130.96**	**31**	*e*PKPdf		PKPdf	12 37 33.3	-2.4	
RSSD	**Black Hills**	**131.64**	**21**	*e*PKPdf		PKPdf	12 37 32.5	-4.4	
TMUT	**Trail Mountain**	**132.45**	**31**	*e*PKPdf		PKPdf	12 37 33.4	-5.2	
NEN	**Nelson**	**133.03**	**37**	*e*PKPdf		PKPdf	12 37 38.0	-1.8	
NEN				*e*			12 37 47.5		
PV10	**Paradox Valley**	**134.24**	**30**	*e*PKPdf		PKPdf	12 37 39.2	-2.7	
PV01	**Paradox Valley**	**134.66**	**29**	*e*PKPdf		PKPdf	12 37 40.4	-2.3	
ANMO	**Albuquerque**	**138.21**	**30**	*e*PKPdf		PKPdf	12 37 47.0	-2.4	
MNTX	**Cornudas Mount**	**141.31**	**32**	*e*PKPpre			12 37 45.5		
MNTX				*e*PKPdf		PKPdf	12 37 52.2	-2.9	
WCI	**Wyandotte Cave**	**141.44**	**5**	*e*PKPpre			12 37 45.1		
BAO	**Brasilia Array**	**142.97**	**244**	PKPdf		PKPdf	12 37 51.5	-6.7	
BDFB	**Brasilia**	**142.99**	**244**	PKP		PKPdf	12 37 52.8	-5.5	
	comp=Z,1.3nm,0.4s,baz=70,slow=4.8,SNR=3.9								
TZTN	**Tazewell**	**143.28**	**2**	*e*PKPpre			12 37 50.8		
WVT	**Waverly**	**143.34**	**8**	*e*PKPpre			12 37 51.2		
UALR	**University of**	**143.80**	**14**	*e*PKPpre			12 37 52.9		
LTX	**Lajitas**	**144.07**	**33**	*e*PKP		PKPdf	12 37 55.8	-4.0	
TXAR	**Lajitas Array**	**144.07**	**33**	PKP		PKPdf	12 37 55.6	-4.2	
	comp=Z,5.4nm,0.7s,baz=284,slow=1.2,SNR=72								
PLAL	**Pickwick Lake**	**144.43**	**8**	*e*PKP		PKPdf	12 37 54.7	-5.6	
OXF	**Oxford**	**144.68**	**10**	*e*PKP		PKPdf	12 37 55.7	-5.1	
MYNC	**Murphy**	**144.72**	**3**	*e*PKP		PKPdf	12 37 55.9	-4.9	
CPUP	**Villa Florida**	**144.76**	**221**	PKP		PKPdf	12 37 57.5	-3.6	
	comp=Z,14nm,0.9s,baz=143,slow=5.2,SNR=22								
CPUP	**Villa Florida**	**144.76**	**221**	*e*PKP		PKPdf	12 37 57.3	-3.9	
JSC	**Jenkinsville**	**145.55**	**359**	*e*PKP		PKPdf	12 37 58.5	-3.8	
NATX	**Nacogdoches**	**145.96**	**19**	*e*PKPdf		PKPdf	12 37 59.4	-3.6	
COW	**Cow Castle Cre**	**146.43**	**358**	*e*PKPdf		PKPdf	12 38 01.2	-2.5	
LRAL	**Lakeview Retre**	**146.50**	**7**	*e*PKPdf		PKPdf	12 38 00.9	-3.0	
LVC	**Limon Verde**	**154.36**	**209**	PKPab		PKPab	12 38 37.1	+0.8	

MOS ***31*** *12:37:16.9±1.0, 0.40N×97.85E, h33km, mb5.3/33, MS4.8/10, Error ellipse: s-maj=11.2km s-min=5.9km az=108.9*

BJI ***31*** *12:37:16.8, 0.14N×97.84E, h43km, mB5.3, mb5.2, Ms5.1, Msz5.0*

HRVD ***31*** *12:37:18.2±1.2, 0.39N×97.67E, h38km±1km, MW5.0/38, Centroid moment Tensor Solution. LP body waves: s30,c49;Mantle waves: s38,c69; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr2.13±.27; Mθθ-1.66±.17; Mϕϕ-0.47±.24; Mrθ1.50±.18; Mθϕ2.70±.12; Mϕr-0.89±.30; Best double couple: M0 3.474×1016 NP1:ϕs327°, δ32°, λ116°. NP2:ϕs117°, δ61°, λ75°. Principal axes: T 2.653, Plg70°, Azm354°; N 1.64, Plg13°, Azm124°; P -4.294, Plg15°, Azm218°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***31*** *12:37:18.2±0.2, 0.38N×97.82E, mb5.1/29, MS4.5/4 Error ellipse: s-maj=6.6km s-min=5.8km az=44.0*

NEIC Felt [III] at Telukdalem.

IDC ***31*** *12:37:20.7±2.0, 0.33N×97.86E, h50km±17km, mb4.5/21, mb1 4.6/21, mb1mx4.5/23, mbtmp4.8/21, MS4.6/11, Ms1 4.6/11, ms1mx4.4/21, Error ellipse: s-maj=14.7km s-min=9.8km az=57.0*

ISC 31 12:37:16.3±0.3, 0.32N±0.04×97.79E±0.04, h29km**, h29**km**±.9**km**:pP-P, n210, σ1s00/203, mb5.0**/84**, MS4.7**/33**, 20C-10D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
IPM	**Ipoh**	**5.32**	**37**	P		**Pn**	**12**	**38**	**37.0**	**+0.9**
KULM	**Kulim**	**5.70**	**30**	*e*Pn		**Pn**	**12**	**38**	**41.4**	**0.0**
KGM	**Kluang**	**5.78**	**73**	P		**Pn**	**12**	**38**	**43.6**	**+1.1**
NST	**Nakhon Sawan**	**15.43**	**9**	P		**P**	**12**	**40**	**52.8**	**-1.1**
KKTK	**Khon Kaen**	**16.67**	**17**	P		**P**	**12**	**41**	**09.4**	**-0.3**
	309nm,0.9s									
BDT	**Bhumibol Dam**	**16.86**	**4**	P		**P**	**12**	**41**	**12.0**	**-0.1**
	22nm,1.0s									
CHG	**Chiang Mai**	**18.41**	**3**	P		**P**	**12**	**41**	**30.9**	**-0.6**
	46nm,0.9s									
NANT	**Nan**	**18.58**	**9**	⇓P		**P**	**12**	**41**	**35.0**	**+1.4**
	188nm,0.4s									
KKM	**Kota Kinabalu**	**19.25**	**72**	*e*P		**P**	**12**	**41**	**40.8**	**-0.7**
KKM	**Kota Kinabalu**	**19.25**	**72**	P		**P**	**12**	**41**	**42.1**	**+0.6**
CHRT	**Chiangrai**	**19.52**	**6**	⇓P		**P**	**12**	**41**	**37.5**	**-7.1**
	190nm,0.8s									
TSM	**Tawau**	**20.45**	**79**	P		**P**	**12**	**41**	**53.8**	**-0.6**
MDRS	**Chennai**	**21.51**	**307**	*e*P		**P**	**12**	**42**	**03.2**	**-2.0**
MDRS					AMb	AMB	12 42 21.4			
	comp=Z,82nm,1.0s,mb5.1									
QIZ	**Qiongzhong**	**22.03**	**32**	*e*P		**P**	**12**	**42**	**09.8**	**-0.7**
QIZ				S		**S**	**12**	**46**	**07.3**	**+0.5**
QIZ				LR		LR				
	comp=N,2μm,14.2s,MS4.7									
QIZ				LR		LR				
	comp=E,2μm,12.5s,MS4.7									
QIZ				LR		LR				
	comp=Z,1μm,13.3s,MS4.5									
BWNR	**Bhubaneshwar**	**23.05**	**330**	*e*P		**P**	**12**	**42**	**23.6**	**+3.0**
BWNR					AMb	AMB	12 42 35.1			
	comp=Z,68nm,1.3s,mb4.9									
IMP	**Imphal**	**24.60**	**352**	*e*P		**P**	**12**	**42**	**36.0**	**+0.4**
KMI	**Kunming**	**25.11**	**11**	P		**P**	**12**	**42**	**42.0**	**+1.5**
KMI				AP		pP	12 42 50.8	+1.8		
KMI				XP		sP	12 42 53.8	+1.0		
KMI				PP		PP	12 43 18.3	-0.3		
KMI				S		**S**	**12**	**47**	**06.3**	**+5.7**
KMI				XS			12 47 17.8			
KMI				SS		SS	12 48 04.3	+3.2		
KMI				AMB		AMB				
	comp=Z,124nm,1.2s,mb5.3									
KMI					AMB	AMB				
	comp=Z,411nm,3.4s									
KMI				LR		LR				
	comp=N,4μm,15.5s,MS5.0									
KMI				LR		LR				
	comp=E,1μm,13.7s,MS5.0									
KMI				LR		LR				
	comp=Z,4μm,15.9s,MS5.0									
KMI	**Kunming**	**25.11**	**11**	P		**P**	**12**	**42**	**42.0**	**+1.5**
KMI				*PP		pP	12 42 50.8	+1.8		
KMI				*SP		sP	12 42 53.7	+0.9		
KMI							12 43 18.2			
KMI				PPP		PPP	12 43 33.2	+3.5		
KMI				S		**S**	**12**	**47**	**06.2**	**+5.6**
KMI				*SS			12 47 17.7			
KMI				SS		SS	12 48 04.2	+3.1		
KMI				SSS		SSS	12 48 20.9	+3.2		
KMI				pmax		pmax				
	comp=Z,124nm,1.2s,mb5.3									
KMI				MLR		MLR				
	comp=Z,4μm,15.9s,MS5.0									
KMI	**Kunming**	**25.11**	**11**	P		**P**	**12**	**42**	**42.0**	**+1.5**
	comp=Z,124nm,1.2s,mb5.3									
KMI				pP		pP	12 42 50.8	+1.8		
KMI				sP		sP	12 42 53.7	+0.9		
KMI				PP		PP	12 43 18.2	-0.4		
KMI				PPP		PPP	12 43 33.2	+3.5		
KMI				S		**S**	**12**	**47**	**06.2**	**+5.6**
KMI				sS			12 47 17.7			
KMI				SS		SS	12 48 04.2	+3.1		
KMI				SSS		SSS	12 48 20.9	+3.2		
KMI				LR		LR				
	comp=Z,4μm,15.9s,MS5.0									
HYB	**Hyderabad**	**25.43**	**313**	*e*P		**P**	**12**	**42**	**44.0**	**+0.4**
HYB	**Hyderabad**	**25.43**	**313**	*i* P		**P**	**12**	**42**	**44.0**	**+0.4**
SHL	**Shillong**	**25.73**	**348**	*e*P		**P**	**12**	**42**	**45.0**	**-1.3**
	comp=Z,250nm,1.0s,mb5.7									
SHL				*e*S		**S**	**12**	**47**	**13.0**	**+2.1**
BLSP	**Bilaspur**	**26.50**	**326**	*e*P		**P**	**12**	**42**	**53.7**	**+0.2**
BLSP					AMb	AMB	12 42 56.2			
	comp=Z,37nm,1.2s,mb4.8									
JIRN	**Jiri**	**29.37**	**339**	*e*P		**P**	**12**	**43**	**19.8**	**+0.4**
	comp=Z,159nm,1.0s,mb5.7									
PKI	**Pulchoki**	**29.58**	**337**	*e*P		**P**	**12**	**43**	**21.3**	**0.0**
	comp=Z,46nm,0.8s,mb5.3									
GUN	**Gumba**	**29.71**	**338**	*e*P		**P**	**12**	**43**	**22.5**	**+0.1**
DMN	**Daman**	**29.73**	**337**	*e*P		**P**	**12**	**43**	**23.3**	**+0.7**
KKN	**Kakani**	**29.83**	**337**	*e*P		**P**	**12**	**43**	**23.1**	**-0.4**
	comp=Z,93nm,1.0s,mb5.5									
LSA	**Lhasa**	**29.89**	**348**	P		**P**	**12**	**43**	**25.5**	**+1.5**
LSA					AMB	AMB				
	comp=Z,30nm,1.0s,mb5.0									
LSA				LR		LR				
	comp=N,560nm,25.0s,MS4.4									
LSA				LR		LR				
	comp=E,870nm,23.6s,MS4.4									
LSA				LR		LR				
	comp=Z,1μm,21.7s,MS4.5									
LSA	**Lhasa**	**29.89**	**348**	*e*P		**P**	**12**	**43**	**24.3**	**+0.3**
LSA					pmax	pmax				
	comp=Z,31nm,0.8s,mb5.1									
LSA					MLR	MLR				
	comp=Z,1μm,22.0s,MS4.5									
LSA	**Lhasa**	**29.89**	**348**	*e*P		**P**	**12**	**43**	**24.3**	**+0.3**
	comp=Z,31nm,0.8s,mb5.1									
LSA					LR	LR				
	comp=Z,1μm,22.0s,MS4.5									
GKN	**Gorkha**	**30.27**	**336**	*e*P		**P**	**12**	**43**	**27.0**	**-0.4**
	comp=Z,86nm,0.9s,mb5.5									
KOLN	**Koldanda**	**30.50**	**335**	*e*P		**P**	**12**	**43**	**29.5**	**+0.2**
	comp=Z,80nm,1.0s,mb5.4									
CD2	**Chengdu**	**30.94**	**10**	P		**P**	**12**	**43**	**32.0**	**-1.2**
QZH	**Quanzhou**	**31.68**	**38**	P		**P**	**12**	**43**	**40.0**	**+0.2**
QZH					AMB	AMB				
	comp=Z,80nm,1.0s,mb5.5									
QZH				LR		LR				
	comp=N,5μm,15.6s,MS5.3									
QZH				LR		LR				
	comp=E,2μm,13.1s,MS5.3									
QZH				LR		LR				
	comp=Z,4μm,16.3s,MS5.2									
ENH	**Enshi**	**31.79**	**19**	*e*P		**P**	**12**	**43**	**39.2**	**-1.5**
	comp=Z,82nm,1.1s,mb5.5									
FITZ	**Fitzroy Crossi**	**32.94**	**125**	*e*P		**P**	**12**	**43**	**49.5**	**-1.4**
	comp=Z,13nm,0.8s,mb4.9									
FITZ	**Fitzroy Crossi**	**32.94**	**125**	P		**P**	**12**	**43**	**49.9**	**-0.9**
	comp=Z,19nm,0.8s,mb5.1,baz=318,slow=3.2,SNR=16									
FITZ				LR		LR	12 58 50.3			
	comp=Z,880nm,18.1s,MS4.5,baz=280,slow=39									
PTH	**Pithoragarh**	**33.55**	**332**	*e*P		**P**	**12**	**43**	**57.2**	**+1.2**
WHN	**Wuhan**	**33.92**	**26**	⇓P		**P**	**12**	**43**	**59.5**	**+0.2**
XAN	**Xi'an**	**35.13**	**16**	P		**P**	**12**	**44**	**08.8**	**-0.8**
XAN					AMB	AMB				
	comp=Z,143nm,1.1s,mb5.8									
DDI	**Dehra Dun**	**35.24**	**330**	*e*		**P**	**12**	**44**	**20.5**	**+10**
LZH	**Lanzhou**	**36.02**	**8**	⇑P		**P**	**12**	**44**	**17.0**	**-0.1**
LZH				AP		pP	12 44 24.5	-1.3		
LZH				PP		PP	12 45 40.5	+1.2		
LZH				*e*S		**S**	**12**	**49**	**54.0**	**+0.5**
LZH				SS		SS	12 52 16.0	-0.8		
LZH				AMB		AMB				
	comp=Z,92nm,1.4s,mb5.5									
LZH				AMB		AMB				
	comp=Z,280nm,4.0s									
LZH				LR		LR				
	comp=E,2μm,13.8s									
LZH				LR		LR				
	comp=Z,3μm,16.3s,MS5.1									
LZH	**Lanzhou**	**36.02**	**8**	⇑P		**P**	**12**	**44**	**17.1**	**-0.1**
LZH				*SP		sP	12 44 27.0	-2.5		
LZH							12 45 40.5			
LZH				*e*S		**S**	**12**	**49**	**54.0**	**+0.5**
LZH				*SS			12 50 08.0			
LZH				SS		SS	12 52 16.0	-0.8		
LZH				pmax		pmax				
	comp=Z,92nm,1.4s,mb5.5									
LZH				MLR		MLR				
	comp=Z,3μm,16.3s,MS5.1									
LZH	**Lanzhou**	**36.02**	**8**	⇑P		**P**	**12**	**44**	**17.1**	**-0.1**
	comp=Z,92nm,1.4s,mb5.5									
LZH				pP		pP	12 44 24.5	-1.3		
LZH				sP		sP	12 44 27.0	-2.5		
LZH				PP		PP	12 45 40.5	+1.2		
LZH				*e*S		**S**	**12**	**49**	**54.0**	**+0.5**
LZH				sS			12 50 08.0			
LZH				SS		SS	12 52 16.0	-0.8		
LZH				LR		LR				
	comp=Z,3μm,16.3s,MS5.1									
NJ2	**Nanjing**	**37.31**	**30**	*e*P		**P**	**12**	**44**	**28.5**	**+0.5**
NJ2				AP		pP	12 44 35.8	-0.9		
NJ2				XP		sP	12 44 39.3	-1.0		
NJ2				PP		PP	12 45 55.8	0.0		
NJ2				S		**S**	**12**	**50**	**14.0**	**+0.8**
NJ2				AMB		AMB				
	comp=Z,100nm,1.1s,mb5.6									
NJ2				LR		LR				
	comp=N,1μm,15.2s									
NJ2				LR		LR				
	comp=E,2μm,20.8s									
NJ2				LR		LR				
	comp=Z,1μm,21.2s									
SSE	**Sheshan**	**37.80**	**34**	P		**P**	**12**	**44**	**32.8**	**+0.7**
SSE				XP		sP	12 44 45.3	+0.9		
SSE				PP		PP	12 45 59.8	-1.9		
SSE				PCP		PcP	12 46 47.3	-1.6		
SSE				S		**S**	**12**	**50**	**23.3**	**+2.6**
SSE				XS			12 50 38.5			
SSE				SCS		ScS	12 54 42.3	+1.8		
SSE				AMB		AMB				
	comp=Z,49nm,1.0s,mb5.2									
SSE				AMB		AMB				
	comp=Z,168nm,6.8s									
SSE				LR		LR				
	comp=N,720nm,16.1s,MS4.6									
SSE				LR		LR				
	comp=E,460nm,16.5s,MS4.6									
SSE				LR		LR				
	comp=Z,1μm,16.1s,MS4.8									
SSE	**Sheshan**	**37.80**	**34**	P		**P**	**12**	**44**	**32.7**	**+0.6**
	comp=Z,49nm,1.0s,mb5.2									
SSE				sP		sP	12 44 45.3	+0.9		
SSE				PP		PP	12 45 59.7	-2.0		
SSE				PcP		PcP	12 46 47.3	-1.6		
SSE				S		**S**	**12**	**50**	**23.3**	**+2.6**
SSE				sS			12 50 38.4			
SSE				SS		SS	12 53 10.2	+14		
SSE				ScS		ScS	12 54 42.3	+1.8		
SSE				LR		LR				
	comp=Z,1μm,16.1s,MS4.8									
GTA	**Gaotai**	**38.94**	**2**	P		**P**	**12**	**44**	**41.8**	**+0.2**
GTA				AP		pP	12 44 50.3	0.0		
GTA				XP		sP	12 44 53.5	-0.5		
GTA				PP		PP	12 46 15.3	+0.4		
GTA				PCP		PcP	12 46 53.0	+0.6		
GTA				S		**S**	**12**	**50**	**38.3**	**+0.4**
GTA				PCS			12 50 42.3			
GTA				SS		SS	12 53 20.0	-2.0		
GTA				SCS		ScS	12 54 47.8	+0.8		
GTA				AMB		AMB				
	comp=Z,21nm,1.3s,mb4.7									
GTA				AMB		AMB				
	comp=Z,802nm,10.7s									
GTA				LR		LR				
	comp=N,650nm,15.7s,MS4.8									
GTA				LR		LR				
	comp=E,1μm,18.0s,MS4.8									
GTA				LR		LR				
	comp=Z,857nm,21.8s,MS4.5									
JOW	**Kunigami**	**39.42**	**46**	P		**P**	**12**	**44**	**46.2**	**+0.5**
	comp=Z,7.4nm,0.6s,mb4.6,baz=214,slow=7.0,SNR=7.5									
TIA	**Tai'an**	**39.97**	**25**	*e*P		**P**	**12**	**44**	**49.8**	**-0.4**
WRA	**Warramunga Arr**	**41.08**	**121**	P		**P**	**12**	**44**	**58.9**	**-0.5**
	comp=Z,12nm,0.5s,mb4.8,baz=304,slow=8.8,SNR=188									
WRA				S		**S**	**12**	**51**	**06.6**	**-3.4**
	comp=Z,1.5nm,1.0s,baz=299,slow=18,SNR=3.7									
WRAB	**Tennant Creek**	**41.08**	**121**	*d iP*		**P**	**12**	**44**	**59.4**	**0.0**
WRAB	**Tennant Creek**	**41.08**	**121**	*e*P		**P**	**12**	**44**	**59.0**	**-0.5**
	comp=Z,27nm,0.6s,mb5.1									
WRAB				LR		LR				

SONM Songino Array 47.91 8 P **P** **12 45 54.8 +0.8**
comp=Z,26nm,0.6s,mb5.4,baz=190,slow=8.8,SNR=155
SONM PcP PcP 12 47 22.5 -0.1
comp=Z,2.4nm,0.5s,baz=186,slow=3.9,SNR=5.7
SONM ScP 12 51 13.9
comp=Z,2.5nm,1.2s,baz=207,slow=2.8,SNR=6.6
SONM LR LR 13 09 04.3
comp=Z,1μm,18.2s,MS4.9,baz=295,slow=40
MKAR Makanchi Array 48.23 346 P **P** **12 45 56.6 +0.1**
comp=Z,40nm,0.9s,mb5.5,baz=153,slow=8.1,SNR=164
MKAR S **S** **12 52 53.7 +0.7**
comp=Z,0.9nm,1.0s,baz=167,slow=16,SNR=3.6
MKAR LR LR 13 09 36.3
comp=Z,260nm,18.3s,MS4.2,baz=170,slow=40
KKAR Karatay Array 49.10 334 *i* P **P** **12 46 03.1 -0.2**
PMG Port Moresby 50.09 102 *i* P **P** **12 46 10.7 -0.6**
ZAK Zakamensk 50.09 5⇓ *i*P **P** **12 46 10.1 -0.7**
ZAK *e* 12 48 09.8
ZAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
MOY Mondy 51.23 3 *e*P **P** **12 46 19.8 +0.4**
MOY pmax pmax
comp=Z,41nm,2.6s,mb4.9
TLY Talaya 51.41 5 *e*P **P** **12 46 21.5 +0.7**
TLY *e* 12 53 33.6
TLY pmax pmax
comp=Z,25nm,0.9s,mb5.1
TLY MLR MLR
comp=Z,860nm,15.0s,MS4.9
TLY Talaya 51.41 5 *e*P **P** **12 46 21.2 +0.4**
comp=Z,20nm,0.8s,mb5.1
CTA Charters Tower 51.59 116 LR LR 13 11 36.8
comp=Z,846nm,19.7s,MS4.8,baz=286,slow=40
MAJO Matsushiro 51.94 42 *e*P **P** **12 46 22.6 -2.5**
MAJO *e**PP pP 12 46 31.9 -2.1
MAJO pmax pmax
comp=Z,18nm,1.1s,mb4.9
MAJO MLR MLR
comp=Z,556nm,22.0s,MS4.5
MAJO Matsushiro 51.94 42 *e*P **P** **12 46 22.6 -2.5**
comp=Z,18nm,1.1s,mb4.9
MAJO *e*pP pP 12 46 31.9 -2.0
MAJO LR LR
comp=Z,556nm,22.0s,MS4.5
MAT Matsushiro 51.94 42 *e*P **P** **12 46 22.0 -3.1**
MAT pmax pmax
comp=Z,27nm,1.3s,mb5.0
MAT Matsushiro 51.94 42 *e*P **P** **12 46 22.0 -3.1**
comp=Z,27nm,1.3s,mb5.0
MAT Matsushiro 51.94 42 P **P** **12 46 22.1 -3.0**
MJAR Matsushiro Arr 51.95 42 P **P** **12 46 24.1 -1.0**
comp=Z,10nm,1.0s,mb4.7,baz=217,slow=7.7,SNR=32
MJAR LR LR 13 11 36.0
comp=Z,474nm,19.4s,MS4.5,baz=265,slow=40
IRK Irkutsk 52.02 5 *e*P **P** **12 46 25.4 0.0**
IRK *e* 12 47 35.2
IRK pmax pmax
comp=Z,60nm,1.5s,mb5.3
HIA Hailar 52.28 18 *e*P **P** **12 46 26.8 -0.6**
HIA pmax pmax
comp=Z,18nm,0.8s
HIA MLR MLR
comp=Z,1μm,22.0s
HIA Hailar 52.28 18 *e*P **P** **12 46 26.8 -0.6**
comp=Z,18nm,0.8s,mb5.0
HIA LR LR
comp=Z,1μm,22.0s,MS4.9
STKA Stephens Creek 52.34 132 *e*P **P** **12 46 28.4 +0.3**
comp=Z,8.6nm,1.2s,mb4.6
STKA *i* pP 12 46 36.5 -0.5
STKA Stephens Creek 52.34 132 P **P** **12 46 28.3 +0.2**
comp=Z,14nm,1.1s,mb4.8,baz=309,slow=6.8,SNR=12
STKA LR LR 13 10 35.7
comp=Z,1μm,21.2s,MS4.9,baz=296,slow=38
MDJ Mudanjiang 52.35 28 P **P** **12 46 28.0 0.0**
MDJ PCP PcP 12 47 39.0 +0.2
MDJ PP PP 12 48 26.5 -1.1
MDJ SCP 12 51 34.8
MDJ PCS 12 51 37.0
MDJ S **S** **12 53 52.5 +2.4**
MDJ AMB AMB
comp=Z,11nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,177nm,8.9s
MDJ LR LR
comp=N,2μm,16.4s,MS5.2
MDJ LR LR
comp=E,1μm,17.2s,MS5.2
MDJ LR LR
comp=Z,2μm,16.8s,MS5.3
OPO Ambohidratompo 53.11 246 P **P** **12 46 34.6 +0.6**
comp=Z,10nm,0.9s,mb4.7,baz=57,slow=7.0,SNR=5.6
CIT Chita 53.19 12 *e*P **P** **12 46 34.9 +0.7**
CIT pmax pmax
comp=Z,116nm,2.0s,mb5.5
ZAL Zalesovo 54.50 351 P **P** **12 46 43.3 -0.4**
comp=Z,36nm,0.4s,mb5.7,baz=303,slow=4.0,SNR=136
ZAL S **S** **12 54 20.1 +1.0**
comp=Z,0.7nm,0.3s,baz=156,slow=10.0,SNR=4.4
ZAL LR LR 13 13 44.7
comp=Z,298nm,19.2s,MS4.4,baz=297,slow=40
NVS Novosibirsk 55.64 350 *i* P **P** **12 46 50.3 -1.7**
NVS *e*S **S** **12 54 29.8 -4.5**
NVS pmax pmax
comp=Z,61nm,1.1s,mb5.5
NVS pmax pmax
comp=N,42nm,1.0s
NVS pmax pmax
comp=E,27nm,1.0s
NVS smax
comp=N,10.0nm,1.5s
NVS smax
comp=E,44nm,2.8s
KLR Kul'dur 56.77 26 *e*P **P** **12 46 56.5 -3.7**
KLR *e* 12 47 11.9
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,30nm,1.2s,mb5.2
KLR MLR MLR
comp=N,2μm,14.0s,MS5.5
KLR MLR MLR
comp=E,1μm,14.0s,MS5.5
KLR MLR MLR
comp=Z,3μm,14.0s,MS5.6
VOSK Vostochnaya 56.82 341 *i* P **P** **12 46 59.0 -1.5**
BVA0 Borovoye Array 57.27 341 *i* P **P** **12 47 02.4 -1.3**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
BVAR Borovoye Array 57.27 341 P **P** **12 47 02.3 -1.3**
comp=Z,15nm,0.7s,mb5.1,baz=143,slow=7.4,SNR=82
BRVK Borovoye 57.33 341 *e*P **P** **12 47 01.7 -2.4**
BRVK pmax pmax
comp=Z,13nm,0.9s,mb5.0
BRVK Borovoye 57.33 341 *e*P **P** **12 47 01.7 -2.4**
comp=Z,13nm,0.9s,mb5.0
AB31 Akbulak array 58.56 332 *i* P **P** **12 47 11.3 -1.5**
BOD Bodaibo 58.76 10⇓ *i*P **P** **12 47 13.4 -0.6**
BOD pmax pmax
comp=Z,34nm,0.9s,mb5.4
ARMA Armidale 59.55 126 *e*P **P** **12 47 13.1 -6.8**
CLNS Chul'man 60.40 17*c* *i*P **P** **12 47 25.1 -0.3**
CLNS *e* 12 49 36.6
CLNS *e*S **S** **12 55 39.4 +2.8**
CLNS *e*PS PS 12 55 53.5 -2.4
CLNS pmax pmax
comp=Z,21nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,14nm,1.0s
CLNS pmax pmax
comp=E,12nm,1.1s
CLNS pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS smax
comp=N,6.0nm,0.7s
CLNS smax
comp=Z,9.0nm,0.6s
CLNS smax
comp=E,16nm,1.0s
CLNS MLR MLR
comp=Z,900nm,16.0s,MS5.0
CLNS MLR MLR
comp=N,500nm,17.0s,MS4.8
CLNS MLR MLR
comp=E,100nm,15.0s,MS4.8
KMBO Kilima Mbogo 60.55 269 P **P** **12 47 27.8 +0.8**
comp=E,2.0nm,0.8s,mb4.3,baz=70,slow=20,SNR=5.1
KMBO LR LR 13 09 58.5
comp=E,482nm,18.8s,MS4.7,baz=92,slow=32
YSS Yuzh-Sakhalins 60.74 34 *e*P **P** **12 47 27.0 -0.8**
YSS pmax pmax
comp=Z,86nm,1.0s,mb5.8
YSS Yuzh-Sakhalins 60.74 34 *e*P **P** **12 47 27.0 -0.8**
comp=Z,86nm,1.0s,mb5.8
GNI Garni 62.33 316 *i* P **P** **12 47 36.3 -2.3**
ARU Arti 64.21 337⇑ *i*P **P** **12 47 49.3 -1.5**
ARU *e* 12 48 23.3
ARU *e* 12 50 11.7
ARU *e*S **S** **12 56 24.5 -0.1**
ARU *e*SS SS 13 00 32.1 -3.6
ARU pmax pmax
comp=Z,16nm,1.1s,mb5.0
ARU MLR MLR
comp=Z,500nm,19.0s,MS4.7
ARU MLR MLR
comp=N,200nm,18.0s,MS4.7
ARU MLR MLR
comp=E,400nm,18.0s,MS4.7
ONI Oni 64.25 318 P **P** **12 47 51.1 -0.2**
KIV Kislovodsk 65.35 319 *e*P **P** **12 47 57.3 -1.1**
KIV *e* pP 12 48 06.4 -1.0
KIV pmax pmax
comp=Z,12nm,0.8s,mb5.0
KIV Kislovodsk 65.35 319 *e*P **P** **12 47 57.3 -1.0**
comp=Z,12nm,0.8s,mb5.0
KIV *e* pP 12 48 06.4 -1.0
YAK Yakutsk 66.09 16*c* *i*P **P** **12 48 01.6 -1.2**
YAK pmax pmax
comp=Z,41nm,0.9s,mb5.5
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK MLR MLR
comp=Z,600nm,16.0s,MS4.9
YAK MLR MLR
comp=N,400nm,15.0s,MS4.9
YAK MLR MLR
comp=E,400nm,15.0s,MS4.9
YAK Yakutsk 66.09 16 *e*P **P** **12 48 01.4 -1.4**
comp=E,90nm,0.9s,mb5.8
MALT Malatya 66.15 312 *e*P **P** **12 48 03.3 -0.3**
MALT pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MALT Malatya 66.15 312 *e*P **P** **12 48 03.3 -0.3**
comp=Z,6.1nm,0.8s,mb4.7
CASY Casey 67.08 174 *e*P **P** **12 48 10.1 +1.1**
SOC Sochi 67.16 318*c* *i*P **P** **12 48 08.4 -1.5**
SOC *e* 12 48 39.8
SOC *e* 12 50 32.8
SOC *e*S S 12 56 58.9 -1.9
SOC *e* 12 58 05.9
SOC *e*SS SS 13 01 22.9 +1.0
SOC pmax pmax
comp=N,3.0nm,0.7s
SOC pmax pmax
comp=Z,18nm,0.7s,mb5.2
SOC pmax pmax
comp=E,7.0nm,0.8s
ANN Anapa 69.14 319 *e*P **P** **12 48 15.3 -6.9**
ANN pmax pmax
comp=Z,97nm,1.9s,mb5.4
BRTR Keskin Array B 70.13 312 P **P** **12 48 27.2 -1.2**
comp=Z,2.6nm,0.9s,mb4.2,baz=135,slow=7.0,SNR=6.6
VOR Voronezh 70.82 326 *e*P **P** **12 48 31.0 -1.3**
VOR pmax pmax
comp=Z,40nm,1.5s,mb5.1
SIM Simferopol' 71.41 318 P **P** **12 48 35.5 -0.5**
SIM *e*S S 12 57 49.1 -1.8
SIM pmax pmax
comp=Z,12nm,0.8s,mb4.9
MAW Mawson 72.00 193 *e*P **P** **12 48 40.9 +1.8**
comp=Z,5.6nm,1.3s,mb4.3
MAW *e* pP 12 48 49.1 +0.8
MAW Mawson 72.00 193 *e*P **P** **12 48 40.9 +1.8**
MAW *e* pP 12 48 49.1 +0.8
MAW pmax pmax
comp=Z,6.0nm,1.3s
MAW Mawson 72.00 193 P **P** **12 48 39.8 +0.7**
comp=Z,3.9nm,0.5s,mb4.6,baz=41,slow=5.6,SNR=19
MAW LR LR 13 12 46.6
comp=Z,443nm,21.0s,MS4.7,baz=57,slow=30
PET Petropavlovsk 72.63 34⇑ *i*P **P** **12 48 42.8 -0.3**
PET pmax pmax
comp=Z,300nm,3.0s
PET pmax pmax
comp=Z,63nm,0.8s,mb5.6
PET pmax pmax
comp=Z,100nm,17.9s
PET MLR MLR
comp=Z,400nm,20.0s,MS4.7
PET Petropavlovsk 72.63 34 *e*P **P** **12 48 42.6 -0.5**
comp=Z,32nm,0.6s,mb5.4
MOS Moscow 73.38 329 *e*P **P** **12 48 45.8 -1.6**
MOS pmax pmax
comp=Z,39nm,0.6s,mb5.5
OBN Obninsk 73.67 328⇓ *e*P **P** **12 48 48.4 -0.7**
OBN pmax pmax
comp=Z,50nm,2.5s,mb5.0
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
OBN Obninsk 73.67 328 *i* P **P** **12 48 48.5 -0.6**
TIXI Tiksi 73.94 10 *i* P **P** **12 48 49.9 -0.5**
BOSA Boshof 74.86 240 P **P** **12 48 57.1 +0.5**
comp=Z,4.2nm,0.9s,mb4.4,baz=81,slow=6.9,SNR=5.8
BOSA LR LR 13 17 25.4
comp=Z,375nm,18.6s,MS4.7,baz=359,slow=32
TIRR Tirgusor 75.16 316⇓ P **P** **12 48 58.1 +0.1**
HARR Harsova 75.55 316⇓ P **P** **12 49 08.5 +8.3**
AKASG Malin Array Be 76.31 322 P **P** **12 49 02.6 -1.7**
comp=Z,4.6nm,0.8s,mb4.5,baz=91,slow=4.4,SNR=8.2
VRI Vrincioaia 76.66 317⇑ P **P** **12 49 07.2 +0.8**
MLR Muntele Rosu 77.10 317⇑ P **P** **12 49 09.0 +0.1**
BURAR Bucovina Array 78.07 319⇑ P **P** **12 49 15.6 +1.5**
BURAR Bucovina Array 78.07 319⇑ P **P** **12 49 15.6 +1.5**
RPZ Rata Peaks 78.17 135 P **P** **12 49 16.6 +1.7**
comp=Z,7.3nm,0.7s,mb4.7,baz=8.7,slow=6.8,SNR=4.7
PUL Pulkovo 78.54 332 *i* P **P** **12 49 15.6 -0.9**
SYO Syowa Base 79.36 198⇑ PcP PcP 12 49 30.0 +0.8
SYO Syowa Base 79.36 198⇑ pP pP 12 49 32.8 +2.8
APA Apatity 80.15 339⇑ *i*P **P** **12 49 25.7 +0.6**
APA pmax pmax
comp=Z,18nm,0.8s,mb5.0
KOLS Kolonicke sedl 80.26 320 *e*P **P** **12 49 27.1 +1.1**
KOLS *e*pP pP 12 49 37.5 +2.2
SUW Suwalki 80.72 325 *e*P **P** **12 49 28.2 -0.2**
SUW pmax pmax
comp=Z,36nm,0.9s,mb5.3
SUW Suwalki 80.72 325 *e*P **P** **12 49 28.2 -0.2**
comp=Z,36nm,0.9s,mb5.3
CRVS Cervenica-Dubn 80.78 319 *e*P **P** **12 49 27.3 -1.5**
TSUM Tsumeb 80.85 251 *e*P **P** **12 49 31.4 +1.6**
comp=Z,10nm,1.1s,mb4.7
TSUM *e* pP 12 49 39.5 +0.4
DIVS Divcibare 81.01 315⇑ *i*P **P** **12 49 30.3 +0.2**
FINES FINESS Array B 81.04 332 P **P** **12 49 29.8 -0.1**
comp=Z,5.3nm,0.8s,mb4.5,baz=127,slow=9.5,SNR=18
KAF Kangasniemi 81.12 333 *ep* **P** **12 49 30.1 -0.2**
comp=Z,5.4nm,0.8s,mb4.5,baz=102,slow=4.7
KAF Kangasniemi 81.12 333 *e*P **P** **12 49 30.1 -0.2**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KECS Kecovo 81.35 319 *e*P **P** **12 49 32.0 +0.2**
KECS *e*sP sP 12 49 45.8 +1.7
NIE Niedzica 81.61 320 *e*P **P** **12 49 34.3 +1.2**
BILL Bilibino 81.77 21 *i* P **P** **12 49 33.3 -0.3**
OJC Ojcow 82.07 321 *e*P **P** **12 49 35.8 +0.3**
VYHS Vyhne 82.44 319 *e*P **P** **12 49 37.4 0.0**
VYHS *e* 12 49 53.0
OKC Ostrava-Krasne 83.07 320 *e*P **P** **12 49 41.7 +1.1**
KEV Kevo 83.12 341 *ep* **P** **12 49 31.4 -9.1**
comp=Z,4.7nm,0.9s,mb4.5
ZST Bratislava 83.54 318 *e*P **P** **12 49 44.0 +0.9**
ZST *e*pP pP 12 49 54.4 +1.9
ARCES ARCESS Array B 83.55 340 P **P** **12 49 43.3 +0.6**
comp=Z,6.7nm,0.8s,mb4.8,baz=92,slow=4.4,SNR=18
DPC Dobruska-Polom 84.30 320 *e*P **P** **12 49 47.6 +0.7**
VNDA Vanda 84.86 169 LR LR 13 21 35.2
comp=Z,239nm,18.6s,MS4.6,baz=315,slow=31
LJU Ljubljana 85.08 316 *e*P **P** **12 49 51.4 +0.5**
PRU Pruhonice 85.40 320 *e*pP pP 12 50 02.6 +0.9
AQU L'Aquila 85.63 312 P **P** **12 49 53.6 -0.1**
AQU pmax pmax
comp=Z,26nm,1.1s,mb5.4
AQU L'Aquila 85.63 312 P **P** **12 49 53.5 -0.2**
comp=Z,26nm,1.1s,mb5.4
GERES GERESS Array B 85.86 319 P **P** **12 49 55.6 +0.9**
comp=Z,2.4nm,0.9s,mb4.4,baz=90,slow=5.3,SNR=17
SBA Scott Base 85.95 169 *e*P **P** **12 49 56.3 +1.7**
SBA *e**PP pP 12 50 05.7 +1.7
SBA pmax pmax
comp=Z,13nm,1.1s,mb5.1
SBA Scott Base 85.95 169 *e*P **P** **12 49 56.3 +1.7**
comp=Z,13nm,1.1s,mb5.1
SBA *e*pP pP 12 50 05.7 +1.7
KHC Kasperske Hory 85.96 319 *e*P **P** **12 49 56.8 +1.6**
CLL Collm 86.48 321 *e*P **P** **12 49 58.0 +0.3**
CLL pmax pmax
comp=Z,4.0nm,1.1s,mb4.6
CLL Collm 86.48 321 *e*P **P** **12 49 58.0 +0.3**
comp=Z,4.0nm,1.1s,mb4.6
CLL Collm 86.48 321 P **P** **12 49 58.0 +0.3**
comp=Z,logA/T=0.6,mb4.6
CLL *e**PP pP 12 50 09.0 +1.9
GRA1 Grafenberg Arr 87.53 320 *e*P **P** **12 50 03.5 +0.7**
comp=Z,6.0nm,1.3s,mb4.7
GRF Grafenberg Arr 87.53 320 *e*P **P** **12 50 03.5 +0.7**
GRF pmax pmax
comp=Z,6.0nm,1.3s,mb4.7
GRF Grafenberg Arr 87.53 320 *e*P **P** **12 50 03.5 +0.7**
GRF pmax pmax
comp=Z,6.0nm,1.3s,mb4.7
GRF Grafenberg Arr 87.53 320 *e*P **P** **12 50 03.5 +0.7**
comp=Z,6.0nm,1.3s,mb4.7
NB2 NORSAR Subarra 88.05 331 P **P** **12 50 05.1 0.0**
comp=Z,0.2nm,0.8s,mb3.4,baz=94,slow=5.6
NOA NORSAR Array B 88.05 331 P **P** **12 50 05.4 +0.3**
comp=Z,2.4nm,0.9s,mb4.4,baz=95,slow=4.8,SNR=5.9
SNAA Sanae 93.65 198 *i* P **P** **12 50 29.4 -1.5**
ILAR Eielson Array 100.27 23 PP PP 12 55 00.7 -9.2
comp=Z,0.5nm,0.8s,baz=310,slow=7.1,SNR=5.6
TBI Tubuai 110.95 115 *e*LR LR 13 28 38.6
comp=Z,236nm,31.2s
PPT Papeete 111.64 109 *e*LR LR 13 28 57.2
comp=Z,214nm,22.2s
YKA Yellowknife Ar 112.77 16 PP PP 12 56 32.7 -10
comp=Z,1.0nm,0.9s,baz=332,slow=7.4,SNR=4.4
NEW Newport 122.94 27 PKP PKPdf 12 56 11.4 -3.7
comp=Z,1.4nm,0.8s,baz=285,slow=16,SNR=3.6
RKT Rikitea 124.01 118 *e*LR LR 13 34 41.8
comp=Z,266nm,29.8s
MSO Missoula 125.44 26 *e*PKPdf PKPdf 12 56 16.6 -3.4
MSO *ep*PKPdf 12 56 25.4
BOZ Bozeman (W) 127.38 26 *e*PKPdf PKPdf 12 56 20.1 -3.7
HLID Hailey 127.68 29 PKPdf PKPdf 12 56 22.2 -2.3
LAO LASA Array 128.66 21 PKPdf PKPdf 12 56 23.1 -3.2
PDAR Pinedale Array 130.56 26 PKP PKPdf 12 56 24.9 -5.1
comp=Z,7nm,0.9s,SNR=6.9
PV10 Paradox Valley 134.26 30 *e*PKPdf PKPdf 12 56 34.6 -2.5
BAO Brasilia Array 142.96 244 PKPdf PKPdf 12 56 48.0 -5.4
BDFB Brasilia 142.97 244 PKP PKPdf 12 56 47.4 -6.0
comp=Z,1.7nm,0.4s,baz=126,slow=8.7,SNR=2.7
WVT Waverly 143.36 8 *e*PKPdf PKPdf 12 56 50.3 -3.2
LTX Lajitas 144.09 33 *e*PKPdf PKPdf 12 56 50.6 -4.4
TXAR Lajitas Array 144.09 33 PKP PKPdf 12 56 50.8 -4.2
comp=Z,1.4nm,0.7s,baz=267,slow=2.0,SNR=23
PLAL Pickwick Lake 144.45 8 *e*PKPdf PKPdf 12 56 49.6 -5.9
OXF Oxford 144.70 10 *e*PKP PKPdf 12 56 50.4 -5.5
MYNC Murphy 144.74 3 *e*PKPdf PKPdf 12 56 50.9 -5.1
CPUP Villa Florida 144.75 221 PKP PKPdf 12 56 52.6 -3.6
comp=Z,15nm,1.0s,baz=126,slow=4.7,SNR=23
CPUP Villa Florida 144.75 221 *e*PKPdf PKPdf 12 56 52.4 -3.8
JSC Jenkinsville 145.56 359 *e*PKPdf PKPdf 12 56 53.2 -4.2
NATX Nacogdoches 145.98 19 *e*PKP PKPdf 12 56 56.3 -1.9
LRAL Lakeview Retre 146.51 7 *e*PKPdf PKPdf 12 56 56.0 -3.1

*IDC **31** 12:57:07.4±2.3, h198km±21km, mb4.0/14, mb1 4.2/16, mb1mx4.1/19, mbtmp4.5/16, Error ellipse: s-maj=14.9km s-min=10.5km az=131.0*
*NEIC **31** 12:57:07.2±1.1, 19.83S×176.22W, h197km±10km, mb4.4/18, Error ellipse: s-maj=9.3km s-min=6.3km az=136.0*

ISC 31 12:57:05.1±1.4, **19.91S**±0.06×**176.27W**±0.08, **h188**km±13km, **n92**, σ**0.75**/64, **mb4.3**/27, **12C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.36**	**36**	P		P	P	**12 58 50.3**	**-0.4**
	7.1nm,0.3s,baz=183,slow=4.6,SNR=17								
AFI				S		S	S	**13 00 04.7**	**-8.4**
	23nm,0.3s,baz=42,slow=20,SNR=12								
AFI	**Afiamalu**	**7.36**	**36**	*e*Pn		P	P	**12 58 50.2**	**-0.6**
AFI				*e*S		S	S	**13 00 03.4**	**-10**
AFI				S		S	S	**13 00 04.7**	**-8.4**
RAR	**Rarotonga**	**15.50**	**98**	*e*P		P	P	**13 00 35.5**	**+0.3**
DZM	**Mont Dzumac**	**16.29**	**259**	*e*P		P	P	**13 00 50.7**	**+5.8**
DZM	**Mont Dzumac**	**16.29**	**259**	P		P	P	**13 00 51.0**	**+6.0**
	16nm,0.3s,baz=80,slow=15,SNR=121								
PUZ	**Puketiti**	**18.71**	**194**	*e*PN		P	S	**13 01 11.1**	**-0.5**
PUZ				SN		S	S	**13 04 21.4**	**-8.6**
MWZ	**Matawai**	**19.13**	**195**	*e*PN		P	P	**13 01 16.1**	**+0.2**
URZ	**Urewera**	**19.16**	**196**	P		P	P	**13 01 15.7**	**-0.6**
	13nm,0.3s,baz=3.5,slow=3.2,SNR=69								
URZ				S		S	S	**13 04 36.2**	**-2.4**
	2.9nm,0.3s,baz=276,slow=21,SNR=11								
URZ	**Urewera**	**19.16**	**196**	*e*PN		P	P	**13 01 14.4**	**-1.9**
SNZO	**South Karori**	**22.67**	**198**	*e*P		P	P	**13 01 51.4**	**+0.3**
QRZ	**Quartz Range**	**22.94**	**202**	*e*PN		P	P	**13 01 55.4**	**+1.7**
NNZ	**Nelson**	**23.00**	**200**	*e*PN		P	P	**13 01 53.0**	**-1.2**
THZ	**Tophouse**	**23.64**	**201**	*e*PN		P	P	**13 02 00.6**	**+0.2**
LTZ	**Lake Taylor**	**24.76**	**200**	*e*PN		P	P	**13 02 10.1**	**-0.8**
RPZ	**Rata Peaks**	**26.00**	**201**	P		P	P	**13 02 22.2**	**-0.2**
	24nm,0.6s,mb5.0,baz=281,slow=1.2,SNR=21								
RPZ	**Rata Peaks**	**26.00**	**201**	PN		P	P	**13 02 22.3**	**-0.1**
ARMA	**Armidale**	**30.79**	**244**	*e*P		P	P	**13 02 59.6**	**-5.7**
CTA	**Charters Tower**	**35.17**	**263**⇑	*i*P		P	P	**13 03 44.6**	**+1.6**
	36nm,0.4s,mb5.4								
CTA	**Charters Tower**	**35.17**	**263**	P		P	P	**13 03 44.6**	**+1.6**
	47nm,0.5s,mb5.4,baz=96,slow=10.0,SNR=172								
CTAO	**Charters Tower**	**35.17**	**263**	*e*P		P	P	**13 03 44.6**	**+1.5**
	42nm,0.4s,mb5.4								
PMG	**Port Moresby**	**36.81**	**281**	P		P	P	**13 03 57.2**	**+0.3**
	28nm,0.8s,mb4.9,baz=126,slow=3.6,SNR=7.2								
STKA	**Stephens Creek**	**39.51**	**244**	*e*P		P	P	**13 04 19.7**	**+0.6**
	1.7nm,0.3s,mb4.2								
STKA	**Stephens Creek**	**39.51**	**244**	P		P	P	**13 04 19.7**	**+0.6**
	1.9nm,0.4s,mb4.1,baz=88,slow=8.5,SNR=15								
WB2	**Warramunga Arr**	**46.29**	**261**	*e*P		P	P	**13 05 13.6**	**-0.2**
WB2				*e*S		S	S	**13 11 39.6**	**-5.7**
WRAB	**Tennant Creek**	**46.29**	**261**	*e*P		P	P	**13 05 13.9**	**+0.1**
	19nm,0.3s,mb5.2								
WRA	**Warramunga Arr**	**46.30**	**261**	P		P	P	**13 05 13.8**	**-0.1**
	9.7nm,0.3s,mb4.9,baz=95,slow=7.5,SNR=615								
WRA				S		S	S	**13 11 38.7**	**-6.8**
	2.0nm,1.0s,baz=98,slow=13,SNR=6.3								
KAKA	**Kakadu**	**49.60**	**270**	*e*P		P	P	**13 05 44.0**	**+4.6**
	13nm,0.3s,mb5.0								
FITZ	**Fitzroy Crossi**	**54.72**	**262**	*e*P		P	P	**13 06 17.3**	**-0.1**
	6.0nm,0.3s,mb4.8								
FITZ	**Fitzroy Crossi**	**54.72**	**262**	P		P	P	**13 06 17.8**	**+0.4**
	baz=78,slow=2.8								
SBA	**Scott Base**	**58.56**	**184**⇑	*e*P		P	P	**13 06 45.4**	**+1.5**
	18nm,0.8s,mb4.9								
VNDA	**Vanda**	**58.64**	**185**	P		P	P	**13 06 45.4**	**+1.1**
	5.6nm,0.8s,mb4.5,baz=1.8,slow=7.1,SNR=27								
VNDA	**Vanda**	**58.64**	**185**	*e*P		P	P	**13 06 45.3**	**+0.9**
	6.5nm,0.8s,mb4.5								
MBWA	**Marble Bar**	**59.57**	**257**	*e*P		P	P	**13 06 50.6**	**-0.9**
	6.2nm,0.5s,mb4.7								
CASY	**Casey**	**65.19**	**205**⇑	*i*P		P	P	**13 07 27.7**	**-0.2**
	2.9nm,1.0s,mb4.1								
QSPA	**South Pole Qui**	**70.15**	**180**⇑	*i*P		P	P	**13 07 59.2**	**+0.7**
	23nm,0.8s,mb5.0								
MJAR	**Matsushiro Arr**	**70.72**	**322**	P		P	P	**13 08 01.7**	**-1.0**
	1.4nm,0.5s,mb4.0,baz=158,slow=6.6,SNR=13								
OMM	**Old Mammoth Mi**	**78.57**	**43**	*e*P		P	P	**13 08 47.5**	**0.0**
MOD	**Modoc**	**80.33**	**39**	P		P	P	**13 08 56.3**	**-0.5**
	3.1nm,1.0s,mb3.9								

TUC	Tucson	81.34	51	*e*P		P		13 09 02.9	+0.6
	4.2nm,1.2s,mb3.9								
MAW	Mawson	82.66	199	⇑*i*P		P		13 09 08.5	+0.2
	3.2nm,0.6s,mb4.2								
MAW	Mawson	82.66	199	P		P		13 09 08.5	+0.1
	4.1nm,0.5s,mb4.4,baz=131,slow=7.6,SNR=21								
ELK	Elko	82.75	42	P		P		13 09 09.7	+0.3
	2.2nm,0.9s,mb3.9,baz=222,slow=12,SNR=5.3								
ELK	Elko	82.75	42	*e*P		P		13 09 09.3	0.0
	3.7nm,1.0s,mb4.1								
HLID	Hailey	84.83	40	*e*P		P		13 09 20.0	+0.3
	0.8nm,0.6s,mb3.6								
MNTX	Cornudas Mount	85.09	54	*e*P		P		13 09 21.2	-0.1
	4.4nm,1.1s,mb4.1								
TXAR	Lajitas Array	85.37	57	P		P		13 09 23.2	+0.5
	2.9nm,0.9s,mb4.0,baz=213,slow=8.2,SNR=26								
ANMO	Albuquerque	85.77	51	P		P		13 09 23.8	-0.8
	1.5nm,0.9s,mb3.7,baz=208,slow=5.4,SNR=6.3								
ILAR	Eielson Array	87.39	12	P		P		13 09 31.3	-0.3
	0.5nm,0.4s,mb3.7,baz=218,slow=4.8,SNR=8.6								
PDAR	Pinedale Array	87.42	43	P		P		13 09 32.0	-0.3
	0.3nm,0.6s,mb3.3,baz=180,slow=1.5,SNR=4.6								
BOZ	Bozeman (W)	87.62	39	*e*P		P		13 09 33.0	-0.2
	2.5nm,1.2s,mb3.9								
PLCA	Paso Flores	88.49	133	P		P		13 09 38.0	+0.6
	3.5nm,1.0s,mb4.2,baz=204,slow=4.8,SNR=4.2								
SNAA	Sanae	88.54	178	⇑*i*		P		13 09 36.5	-0.4
VNA3	Neumayer Olymp	88.61	176	⇑*i*		P		13 09 37.5	+0.2
VNA2	Neumayer--Watz	89.07	176	⇑*i*		P		13 09 39.8	+0.4
VNA1	Neumayer--Stat	89.29	176	⇑*i*		P		13 09 41.0	+0.5
YKA	Yellowknife Ar	95.31	24	P		P		13 10 07.5	-0.9
	0.2nm,0.3s,mb3.9,baz=237,slow=4.0,SNR=5.7								
YKA	Yellowknife Ar	95.31	24	P		P		13 10 07.5	-0.9
MKAR	Makanchi Array	111.98	313	PKiKP				13 15 18.3	
	0.6nm,0.4s,baz=179,slow=0.5,SNR=17								
BVAR	Borovoye Array	119.67	320	PKP		PKPdf		13 15 32.1	-0.4
	1.0nm,0.5s,baz=109,slow=0.8,SNR=9.1								
BOSA	Boshof	127.47	204	PKP		PKPdf		13 15 49.1	+0.9
	1.6nm,0.8s,baz=74,slow=4.8,SNR=4.1								
ARCES	ARCESS Array B	128.63	350	PKP		PKPdf		13 15 48.9	-0.4
	1.0nm,0.5s,baz=34,slow=1.4,SNR=15								
FINES	FINESS Array B	135.65	345	PKP		PKPdf		13 16 01.4	-1.4
	0.4nm,0.5s,baz=45,slow=5.4,SNR=7.2								
AKASG	Malin Array Be	143.27	333	PKhKP				13 16 13.6	
	0.5nm,0.4s,baz=44,slow=4.4,SNR=4.2								
AKASG				PKP		PKPdf		13 16 19.1	+2.6
	0.9nm,0.5s,baz=18,slow=3.0,SNR=4.9								
BRTR	Keskin Array B	147.63	314	PKPbc		PKPdf		13 16 26.8	+2.5
	1.3nm,0.6s,baz=117,slow=2.8,SNR=4.6								
CLL	Collm	147.83	349	*e*PKP1		PKPdf		13 16 29.0	+4.7
DPC	Dobruska-Polom	148.03	345	⇑*e*PKPB		PKPdf		13 16 29.5	+4.9
MOX	Moxa	148.71	350	*e*PKP		PKPdf		13 16 31.8	+6.1
MOX				LR		LR			
	comp=Z,100nm,18.0s								
PRU	Pruhonice	148.78	346	⇑*e*PKPB		PKPdf		13 16 30.7	+4.8
GRA1	Grafenberg Arr	149.69	350	*e*PKPbc		PKPdf		13 16 33.4	+6.1
GRF	Grafenberg Arr	149.69	350	*e*PKP		PKPdf		13 16 33.4	+6.1
KHC	Kasperske Hory	149.80	347	⇑*e*PKPB		PKPdf		13 16 33.7	+6.2
BAIF	Baives	149.92	359	*e*PKP1		PKPdf		13 16 32.8	+5.1
	comp=Z,34nm,1.1s								
GERES	GERESS Array B	150.04	347	PKPbc		PKPdf		13 16 33.8	+5.9
	comp=Z,3.0nm,0.8s,baz=45,slow=1.9,SNR=25								
FLN	La Foliniere	151.02	6	*e*PKP1		PKPdf		13 16 35.4	+6.0
	comp=Z,12nm,0.5s								
ROSF	Rostrenen	151.09	10	*e*PKP1		PKPdf		13 16 35.8	+6.3
SGMF	Saint Gilles	151.27	9	*e*PKP1		PKPdf		13 16 36.1	+6.3
	comp=Z,20nm,0.9s								
GRR	Gorron	151.35	6	*e*PKP1		PKPdf		13 16 36.3	+6.4
	comp=Z,15nm,0.6s								
CDF	Champ du Feu	151.43	355	*e*PKP1		PKPdf		13 16 36.9	+6.9
	comp=Z,11nm,0.7s								
MEZF	Maizieres J'vi	151.46	358	*e*PKP1		PKPdf		13 16 36.6	+6.6
	comp=Z,7.5nm,0.6s								
HAU	Haudompre	151.90	356	*e*PKP1		PKPdf		13 16 37.8	+7.1
	comp=Z,12nm,0.6s								
HINF	Hinteralfeld	152.05	356	*e*PKP1		PKPdf		13 16 38.0	+7.1
	comp=Z,6.5nm,0.5s								
LJU	Ljubljana	152.47	344	*e*PKPbc		PKPdf		13 16 38.5	+6.9
LOR	Lormes	152.72	360	*e*PKP1		PKPdf		13 16 39.6	+7.7
	comp=Z,6.3nm,0.7s								
SSF	Saint Saulge	152.92	0	*e*PKP1		PKPdf		13 16 40.1	+7.9
AVF	Avril sur Loir	153.19	1	*e*PKP1		PKPdf		13 16 40.7	+8.2
MFF	Saint Martin d	153.19	6	*e*PKP1		PKPdf		13 16 40.3	+7.7
TCF	Toulx Ste Croi	153.67	2	*e*PKP1		PKPdf		13 16 41.5	+8.3
	comp=Z,6.9nm,0.7s								
VIVF	Saint-Julien-l	155.12	358	*e*PKP1		PKPdf		13 16 44.7	+10
MBDF	Montbardon	155.13	355	*e*PKP1		PKPdf		13 16 44.9	+10
	comp=Z,11nm,1.0s								
SBF	Sospel	155.92	353	*e*PKP1		PKPdf		13 16 44.3	+8.0
	comp=Z,48nm,0.9s								
EVO	Evora	158.84	26	*e*PKP2		PKPab		13 17 16.0	-3.5
	comp=Z,22nm,1.3s								
ESDC	Sonseca Array	159.22	17	PKPab		PKPab		13 17 20.0	-1.1
	comp=Z,0.4nm,0.6s,baz=331,slow=3.9,SNR=4.4								

NNC 31 13:05:11.8±3.3, 39.19N×71.02E, mpv3.1,1C-2D, Error ellipse: s-maj=24.5km s-min=16.5km az=2.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	3.93	355	Pn	Pn	13 06 15.4	+0.7
	2.2nm,0.5s,baz=164,slow=10,SNR=35						
KK31				⇑Sn	Sn	13 07 07.0	+4.8
	5.4nm,0.6s,baz=174,slow=22,SNR=5.4						
KK31				⇓Lg		13 07 16.5	
	3.4nm,0.4s,baz=242,slow=76,SNR=5.6						
AAK	Ala-Archa	4.33	36	Pn	Pn	13 06 19.8	-0.7
AAK				Sn	Sn	13 07 12.2	-0.4
	4.5nm,0.6s						
AAK				⇓Lg		13 07 24.6	
	5.8nm,0.5s						
AB31	Akbulak array	12.81	325	P	P	13 08 15.9	-1.9
	0.3nm,0.4s,baz=134,slow=13,SNR=6.8						
AB31				S	S	13 10 39.5	-2.9

*IDC **31** 13:08:21.4±7.1,23.00S×179.50E,h498km±68km, mb3.3/4, mb1 3.5/5, mb1mx3.2/14, mbtmp4.3/5, Error ellipse: s-maj=58.8km s-min=27.4km az=44.0*

*NEIC **31** 13:08:21.4±4.1,23.01S×179.49E,h496km±37km, mb4.0/4, Error ellipse: s-maj=44.4km s-min=14.7km az=224.0*

ISC 31 13:08:26.1±4.2, 23.3S±0.2×179.1E±0.3, h537km±40km, n17, σ0°81/16, mb3.8/6, 3C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	14.99	186	P	P	13 11 34.8	-0.5
	3.1nm,0.3s,baz=315,slow=1.9,SNR=18						
URZ				S	S	13 14 07.7	-0.2
	0.7nm,0.3s,baz=52,slow=19,SNR=4.6						
SNZO	South Karori	18.31	191	*e*P	P	13 12 08.1	+0.5
CTA	Charters Tower	30.63	270	*e*P	P	13 13 58.9	+0.9
	4.0nm,0.4s,mb4.3						
CTA	Charters Tower	30.63	270	P	P	13 13 58.3	+0.3
	baz=94,slow=11						
CTAO	Charters Tower	30.63	270	*e*P	P	13 13 58.7	+0.7
	4.9nm,0.5s,mb4.3						
STKA	Stephens Creek	34.16	247	*e*P	P	13 14 28.8	+1.1
	1.9nm,0.6s,mb3.8						
STKA	Stephens Creek	34.16	247	P	P	13 14 28.7	+1.0
	2.4nm,0.6s,mb3.9,baz=88,slow=9.6,SNR=13						
WRAB	Tennant Creek	41.59	266	P	P	13 15 27.5	-0.9
WRA	Warramunga Arr	41.60	266	P	P	13 15 28.1	-0.4
	0.8nm,0.3s,mb3.8,baz=102,slow=8.5,SNR=107						
FITZ	Fitzroy Crossi	50.03	265	P	P	13 16 32.8	-0.4
	4.6nm,0.8s,mb4.0,baz=115,slow=6.0,SNR=4.6						
MAW	Mawson	77.99	201	P	P	13 19 29.8	+0.3
	1.0nm,0.5s,mb3.4,baz=133,slow=7.4,SNR=8.1						
SNAA	Sanae	85.25	179	*e*P	P	13 20 05.0	-1.2
	0.5nm,0.4s,mb3.4						
VNA3	Neumayer Olymp	85.50	177	⇑*i*	P	13 20 07.0	-0.4
VNA2	Neumayer--Watz	85.90	178	⇑*i*	P	13 20 09.1	-0.2
VNA1	Neumayer--Stat	86.15	178	⇑*i*	P	13 20 12.5	+2.0
AKASG	Malin Array Be	144.03	327	PKP	PKPdf	13 26 58.7	-1.1
	0.8nm,0.4s,baz=45,slow=3.9,SNR=7.1						
GERES	GERESS Array B	152.02	339	PKPbc	PKPdf	13 27 19.7	+7.1
	0.3nm,0.5s,baz=27,slow=4.4,SNR=3.5						

*NEIC **31** 13:11:02.9±0.5,31.29S×68.78W,h106km±8km, mb4.4/2, MD3.9(GUC), Error ellipse: s-maj=10.0km s-min=6.3km az=98.0*

*GUC **31** 13:11:03.7±0.6,31.35S×69.29W,h164km±6km, MD3.9, ML4.1*

*IDC **31** 13:11:03.1±3.1,31.33S×68.65W,h102km±29km, mb3.6/3, mb1 3.6/6, mb1mx3.4/16, mbtmp3.7/6, Error ellipse: s-maj=37.1km s-min=22.4km az=106.0*

ISC 31 13:11:04.4±0.7, 31.38S±0.04×69.4W±0.1, h172km±10km, n38, σ0°61/50, mb3.9/4, 7C-9D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	Cordobarala	1.37	278	⇑*i*P	P	13 11 34.7	-0.1
CMCH				*i* S	S	13 11 58.3	0.0
CMCH				AMP		13 12 03.4	
	comp=N,3μm,0.9s						
JACH	Jahuel	1.64	217	⇓*i*P	P	13 11 37.3	-0.1
JACH				*i* S	S	13 12 02.7	-0.2
TLL	Tololo Astrono	1.70	315	⇓*i*P	P	13 11 38.0	-0.1
TLL				*i* S	S	13 12 03.8	-0.2
TLL				AMP		13 12 13.2	
	comp=E,401nm,0.6s						
CHNG	Los Chungos	1.84	254	*i* P	P	13 11 39.8	+0.2
CHNG				*i* S	S	13 12 06.8	+0.1
CHNG				AMP		13 12 16.9	
	comp=E,535nm,0.6s						
PEL	Peldehue	2.06	211	⇓*i*P	P	13 11 41.9	0.0
PACH	Papudo	2.07	236	⇑*i*P	P	13 11 42.4	+0.4
PACH				*i* S	S	13 12 11.4	+0.3
FCH	Farellones	2.08	201	*i* P	P	13 11 42.5	+0.3
FCH				*i* S	S	13 12 12.1	+0.8
ROCH	El Roble	2.08	220	⇓*i*P	P	13 11 42.3	0.0
ROCH				*i* S	S	13 12 12.1	+0.7
CLCH	Cerro Calan	2.22	205	⇑*i*P	P	13 11 43.8	-0.1
CLCH				*i* S	S	13 12 14.2	-0.1
CLCH				AMP		13 12 16.3	
	comp=E,520nm,0.5s						
DSCH	Colegio Aleman	2.24	206	AMP		13 12 18.8	
	comp=N,742nm,0.3s						
SAN	Santiago	2.32	207	⇑*i*P	P	13 11 45.0	0.0
SAN				*i* S	S	13 12 16.1	-0.2
RCDM	Rinconada Maip	2.41	209	AMP		13 12 24.1	
	comp=E,864nm,0.1s						
ANTU	Antumapu	2.41	205	AMP		13 12 20.6	
	comp=E,693nm,0.3s						
PCH	Pirque	2.42	202	*i* P	P	13 11 46.1	-0.1
PCH				*i* S	S	13 12 18.4	+0.1
LMEL	Las Melosas	2.55	195	⇓*i*P	P	13 11 47.7	-0.1
LMEL				*i* S	S	13 12 21.1	+0.1
LMEL				AMP		13 12 31.6	
	comp=N,448nm,0.2s						
TACH	Talagante	2.60	209	⇓*i*P	P	13 11 47.9	-0.5
TACH				*i* S	S	13 12 22.1	-0.3
CHCH	Chadas Angostu	2.75	202	⇓*i*P	S	13 11 50.0	-0.3
CHCH				*i* S	S	13 12 25.0	-0.4
LCCH	Las Cruces	2.77	220	⇓*i*P	P	13 11 50.3	-0.1
LCCH				*i* S	S	13 12 26.1	+0.2
CACH	El Canelo	2.91	200	⇑*i*P	P	13 11 52.4	+0.3
CACH				*i* S	S	13 12 29.6	+0.8
VACH	Vallenar	3.03	337	AMP		13 12 30.4	
	comp=N,992nm,0.1s						
CICH	Cipreses	3.05	196	*i* P	P	13 11 54.0	0.0
CICH				*i* S	S	13 12 32.4	+0.4
LNV	Longovilo	3.07	213	⇓*i*P	P	13 11 53.0	-1.1
LNV				*i* S	S	13 12 31.2	-1.2
LVC	Limon Verde	8.74	3	*e*P	P	13 13 04.3	-4.1
	comp=N,3.8nm,0.6s						
LVC				S	S	13 14 38.2	-7.1
TRQA	Tornquist	9.04	139	*e*P	P	13 13 07.1	-5.3
PLCA	Paso Flores	9.38	185	P	P	13 13 15.8	-0.9
	comp=N,0.3nm,0.3s,baz=18,slow=16,SNR=8.3						
PLCA	Paso Flores	9.38	185	P	P	13 13 15.8	-0.9
CPUP	Villa Florida	11.73	68	P	P	13 13 38.9	-8.4
	comp=N,2.2nm,0.3s,baz=241,slow=15,SNR=3.8						
CPUP	Villa Florida	11.73	68	*e*P	P	13 13 39.9	-7.4
LPAZ	La Paz	15.07	5	P	P	13 14 31.9	+2.0
	comp=N,0.1nm,0.3s,baz=173,slow=6.3,SNR=9.6						
LPAZ	La Paz	15.07	5	P	P	13 14 29.3	-0.5
USHA	Ushuaia	23.45	179	P	P	13 16 04.5	+5.5
	comp=N,4.1nm,0.7s,mb4.0,baz=321,slow=9.0,SNR=3.9						
PMSA	Palmer Station	33.58	176	P	P	13 17 32.0	+2.3
	comp=N,4.9nm,0.6s,mb4.4						
SNAA	Sanae	53.20	159	⇑*i*	P	13 20 05.2	-1.3
SNAA	Sanae	53.20	159	⇑*i*P	P	13 20 05.2	-1.3
TXAR	Lajitas Array	68.61	328	P	P	13 21 56.8	+6.0
	comp=N,0.2nm,0.6s,mb3.0,baz=153,slow=8.4,SNR=4.1						
DBIC	Dimbokro	72.23	70	P	P	13 22 13.2	+0.2
	comp=N,2.1nm,0.7s,mb4.0,baz=210,slow=6.4,SNR=3.5						
MKAR	Makanchi Array	153.37	47	PKPbc	PKPdf	13 30 47.7	+14
	comp=N,0.1nm,0.5s,baz=315,slow=1.7,SNR=5.0						
MKAR				PKPab	PKPab	13 30 59.3	+2.6
	comp=N,0.4nm,0.6s,baz=288,slow=4.8,SNR=5.9						
MKAR	Makanchi Array	153.37	47	PKPbc	PKPdf	13 30 47.7	+14
MKAR				PKPab	PKPab	13 30 59.3	+2.6

IDC 31 13:15:47.5±4.4, 7.51N×91.92E, mb3.4/3, mb1 3.5/3, mb1mx3.3/19, mbtmp3.4/3, Error ellipse: s-maj=156.2km s-min=31.3km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	40.01	350	P	P	13 23 23.9	-1.8
	0.4nm,0.7s,baz=152,slow=8.5,SNR=3.3						
SONM	Songino Array	42.03	15	P	P	13 23 40.9	-1.5
	0.2nm,0.3s,baz=190,slow=8.8,SNR=3.1						
WRA	Warramunga Arr	49.86	124	P	P	13 24 42.9	-2.0
	0.2nm,0.4s,baz=306,slow=7.7,SNR=5.1						

MEX 31 13:54:18.9±0.4, 16.18N×97.87W, h10km±5km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.33	310	*i* P	Pg	13 54 25.1	-0.6
PNIG				*i* S	Sg	13 54 29.9	-0.3
OXX	Oaxaca	1.41	51	*e*P	Pn	13 54 41.0	-3.7
ACX	Acapulco	2.08	289	*e*P	Pn	13 54 50.5	-3.8

*IDC **31** 14:06:56.7±1.0,33.20N×142.54E, mb4.2/11, mb1 4.4/15, mb1mx4.3/21, mbtmp4.2/15, ML3.9/4, MS3.3/1, Ms1 3.3/1, ms1mx2.7/30, Error ellipse: s-maj=27.4km s-min=18.0km az=2.0*

*BJI **31** 14:06:59.3,33.50N×142.27E,h13km, mB4.5, mb4.4, Ms3.8, Msz3.9*

*NIED **31** 14:07:00, 33.30N×142.40E, h5km, Mw4.2 Best double couple: M₀2.23×10¹⁵ NP1:φs188°,δ62°,λ-92°. NP2:φs13°, δ28°,λ-86°.*

*JMA **31** 14:07:00.9±0.4, 33.33N×142.40E, h63km, M4.3*

*NEIC **31** 14:07:02.5±3.4, 33.44N×142.45E, h31km±22km, mb4.4/10, Error ellipse: s-maj=15.7km s-min=10.2km az=146.0*

*MOS **31** 14:07:03.3±0.8, 33.86N×142.53E, h33km, mb4.6/12, Error ellipse: s-maj=27.8km s-min=12.2km az=112.9*

ISC 31 14:07:01.0±1.7, 33.34N±0.05×142.39E±0.05, h32km±12km, n74, σ0°78/79, mb4.4/28, 1C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	1.76	319	P	Pn	14 07 29.9	+0.1
BSO1				S	Sn	14 07 51.9	+0.6
BSO3	Boso 3	2.13	314	P	Pn	14 07 35.7	+0.5
JHJ2	Mitsune	2.17	265	P	Pn	14 07 35.9	+0.3
JHJ	Hachijo jima 2	2.19	265	Pn	Pn	14 07 35.8	-0.2
	86nm,0.3s,baz=150,slow=9.1,SNR=349						
JHJ				Sn	Sn	14 08 02.5	+0.2
	201nm,0.3s,baz=91,slow=23,SNR=10						
BSO4	Boso 4	2.37	315	P	Pn	14 07 39.6	+1.1
KTR	Katsuura	2.49	317	P	Pn	14 07 40.8	+0.5
KTR				S	Sn	14 08 10.5	+0.6
CHOJ	Chosi	2.68	332	P	Pn	14 07 42.8	-0.1
JIM2	Oshima 3	2.81	300	P	Pn	14 07 44.3	-0.6
JIZS	Izushimoda	3.22	296	P	Pn	14 07 50.4	-0.2
JIZS				S	Sn	14 08 27.0	-1.4
JOD2	Odawara 2	3.34	306	P	Pn	14 07 51.8	-0.5
JYN	Shimob	3.84	305	P	Pn	14 07 59.5	+0.1
JAG	Ashikaga	3.91	323	P	Pn	14 08 00.1	-0.3
JRY	Ryogami san	3.92	314	P	Pn	14 08 00.6	0.0
MJAR	Matsushiro Arr	4.69	314	P	Pn	14 08 11.4	-0.1
MJAR						14 09 06.1	
MJAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
MJAR				smax			
	comp=N,12nm,0.3s						
MJAR	Matsushiro Arr	4.69	314	Pn	Pn	14 08 11.4	-0.1
	comp=N,7.9nm,0.3s,baz=165,slow=14,SNR=82						
MJAR				Sn	Sn	14 09 06.1	+0.6
	comp=N,12nm,0.3s,baz=121,slow=17,SNR=9.7						
MAT	Matsushiro	4.69	314	*e*P	Pn	14 08 12.0	+0.5
MAT				*e*S	Sn	14 09 05.0	-0.5
MAT	Matsushiro	4.69	314	P	Pn	14 08 12.0	+0.5
MAT				S	Sn	14 09 04.8	-0.7
MAT	Matsushiro	4.69	314	P	Pn	14 08 12.1	+0.6
JNS	Sasagawa	5.12	332	P	Pn	14 08 17.1	-0.5
CBIJ	Chichi jima	6.22	182	Pn	Pn	14 08 27.1	-6.0
	comp=N,15nm,0.3s,baz=295,slow=21,SNR=98						
CBIJ				Sn	Sn	14 09 33.2	-11
	comp=N,39nm,0.3s,baz=283,slow=23,SNR=7.2						
JNU	Nakatsue	9.64	272	Pn	P	14 09 19.3	-1.4
	comp=N,0.3nm,0.3s,baz=100,slow=6.6,SNR=4.5						
JNU				LR	LR	14 12 49.3	
	comp=N,176nm,21.6s,baz=12,slow=36						
YSS	Yuzh-Sakhalins	13.60	1	*e*P	P	14 10 09.0	-5.1
YSS	Yuzh-Sakhalins	13.60	1	*e*P	P	14 10 10.1	-3.9
JOW	Kunigami	13.82	246	Pn	P	14 10 18.6	+1.5
	comp=N,0.2nm,0.3s,baz=66,slow=19,SNR=2.8						
HIA	Hailar	23.16	320	P	P	14 12 05.1	-0.3
	comp=N,3.5nm,0.5s,mb4.0						
WHN	Wuhan	23.93	271	⇑P	P	14 12 14.0	+1.0
CIT	Chita	27.97	321	*e*P	P	14 12 54.1	+3.6
CIT				pmax	pmax		
	comp=Z,57nm,2.2s,mb4.8						
ENH	Enshi	28.06	273	*e*P	P	14 12 49.6	-2.0
	comp=Z,7.3nm,0.6s,mb4.5						
SONM	Songino Array	30.62	309	P	P	14 13 15.3	+1.1
	comp=Z,4.7nm,0.8s,mb4.4,baz=110,slow=9.1,SNR=16						
BOD	Bodaibo	31.11	330	*e*P	P	14 13 17.5	-0.9
BOD				*e*		14 13 23.5	
BOD				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.1						
ZAK	Zakamensk	33.27	313	*e*P	P	14 13 37.7	+0.3
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
GTA	Gaotai	34.57	293	P	P	14 13 49.0	+0.3
GTA				AP	pP	14 13 56.0	-2.3
GTA				XP	sP	14 13 58.5	-3.9
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
WMQ	Urumqi	43.31	301	P	P	14 15 02.8	+1.4
MKAR	Makanchi Array	46.83	305	P	P	14 15 29.4	-0.1
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	Makanchi Array	46.83	305	P	P	14 15 29.4	-0.1
	comp=Z,3.9nm,0.9s,mb4.3,baz=84,slow=11,SNR=12						
JIRN	Jiri	48.26	279	*e*P	P	14 15 40.9	-0.1
	comp=Z,30nm,0.7s,mb5.4						
PKI	Pulchoki	48.94	279	*e*P	P	14 15 45.5	-0.7
KKN	Kakani	48.97	280	*e*P	P	14 15 45.8	-0.6
	comp=Z,19nm,0.8s,mb5.2						
GKN	Gorkha	49.42	280	*e*P	P	14 15 49.7	-0.2
KOLN	Koldanda	50.36	280	*e*P	P	14 15 56.7	-0.4
	comp=Z,11nm,0.8s,mb4.9						
ILAR	Eielson Array	52.22	31	P	P	14 16 09.0	-1.7
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	Eielson Array	52.22	31	P	P	14 16 09.0	-1.7
	comp=Z,1.6nm,0.7s,mb4.0,baz=265,slow=6.7,SNR=21						
INK	Inuvik	57.33	26	*e*P	P	14 16 47.1	-0.8
	comp=Z,5.6nm,1.1s,mb4.5						
YKA	Yellowknife Ar	66.61	30	P	P	14 17 48.7	-1.3
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	66.61	30	P	P	14 17 48.7	-1.3
	comp=Z,1.7nm,0.7s,mb4.2,baz=295,slow=6.2,SNR=13						
ARCES	ARCESS Array B	67.73	340	P	P	14 17 56.6	-0.4
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	ARCESS Array B	67.73	340	P	P	14 17 56.5	-0.4
	comp=Z,2.0nm,0.7s,mb4.2,baz=63,slow=8.1,SNR=4.1						
KAF	Kangasniemi	71.96	334	*e*p	P	14 18 22.0	-0.9
	comp=Z,1.3nm,0.4s,mb4.2,baz=48,slow=5.7						
KAF	Kangasniemi	71.96	334	*e*P	P	14 18 22.0	-0.9
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	FINESS Array B	72.46	333	P	P	14 18 25.5	-0.3
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	FINESS Array B	72.46	333	P	P	14 18 25.5	-0.3
	comp=Z,3.9nm,0.8s,mb4.4,baz=72,slow=6.0,SNR=17						
CMB	Columbia Colle	75.38	54	*e*P	P	14 18 43.0	-0.2
	comp=Z,1.6nm,0.8s,mb4.0						
FFC	Flin Flon	76.38	33	*e*P	P	14 18 48.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.40**	**172**	*d* iP	**P**	**14 10 01.4**	**+1.1**
PMG	**Port Moresby**	**3.40**	**172**	Pn	**P**	**14 10 01.3**	**+1.1**
	64nm,0.3s,baz=36,slow=4.8,SNR=242						
PMG				Sn	**S**	**14 10 40.6**	**+0.8**
	139nm,0.3s,baz=12,slow=18,SNR=5.5						
PMG	**Port Moresby**	**3.40**	**172**	*e*Pn	**P**	**14 10 01.2**	**+1.0**
PMG				eP		14 10 11.0	
HNR	**Honiara**	**13.55**	**105**	Pn	**P**	**14 12 19.3**	**-1.1**
	4.7nm,0.3s,baz=217,slow=15,SNR=2.7						
CTA	**Charters Tower**	**14.00**	**182**	*e*P	**P**	**14 12 28.3**	**+2.1**
	19nm,0.6s						
CTA	**Charters Tower**	**14.00**	**182**	eP	**P**	**14 12 28.3**	**+2.1**
CTA				pmax	pmax		
	comp=Z,19nm,0.6s						
CTA	**Charters Tower**	**14.00**	**182**	Pn	**P**	**14 12 28.4**	**+2.3**
	comp=Z,1.6nm,0.3s,baz=359,slow=14,SNR=20						
CTA				Sn	**S**	**14 14 54.4**	**-6.7**
	comp=Z,0.3nm,0.3s,baz=66,slow=18,SNR=2.1						
CTAO	**Charters Tower**	**14.00**	**182**	eP	**P**	**14 12 27.9**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,30nm,0.8s						
CTAO	**Charters Tower**	**14.00**	**182**	*e*P	**P**	**14 12 27.9**	**+1.7**
	comp=Z,30nm,0.8s						
KAKA	**Kakadu**	**15.57**	**244**	*e*P	**P**	**14 12 52.3**	**+5.7**
	comp=Z,102nm,0.5s						
KAKA				*e*S	**S**	**14 15 37.0**	**-1.0**
WRAB	**Tennant Creek**	**18.32**	**220**	*i* P	**P**	**14 13 21.7**	**+0.4**
WRAB	**Tennant Creek**	**18.32**	**220**	*e*P	**P**	**14 13 21.6**	**+0.3**
	comp=Z,205nm,1.4s						
WB2	**Warramunga Arr**	**18.33**	**220**	⇑*i* P	**P**	**14 13 21.4**	**0.0**
WRA	**Warramunga Arr**	**18.34**	**220**	P	**P**	**14 13 21.1**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=42,slow=11,SNR=52						
WRA				PcP	PcP	14 17 53.1	+0.9
	comp=Z,0.5nm,0.3s,baz=46,slow=1.1,SNR=6.5						
FITZ	**Fitzroy Crossi**	**23.82**	**238**	*e*P	**P**	**14 14 17.6**	**-1.0**
	comp=Z,87nm,0.9s,mb5.2						
FITZ	**Fitzroy Crossi**	**23.82**	**238**	P	**P**	**14 14 18.1**	**-0.5**
	comp=Z,110nm,0.8s,mb5.3,baz=47,slow=7.5,SNR=71						
FITZ				LR	LR	14 24 51.5	
	comp=Z,2μm,19.9s,MS4.6,baz=78,slow=40						
ARMA	**Armidale**	**24.71**	**170**	*e*P	**P**	**14 14 19.5**	**-7.7**
DZM	**Mont Dzumac**	**24.87**	**132**	*e*P	**P**	**14 14 29.1**	**+0.3**
DZM	**Mont Dzumac**	**24.87**	**132**	P	**P**	**14 14 29.2**	**+0.4**
	comp=Z,49nm,1.1s,mb4.9,baz=352,slow=7.8,SNR=10						
STKA	**Stephens Creek**	**26.17**	**190**	*e*P	**P**	**14 14 40.1**	**-0.8**
	comp=Z,12nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**26.17**	**190**	P	**P**	**14 14 40.2**	**-0.8**
	comp=Z,3.1nm,0.3s,mb4.3,baz=334,slow=7.2,SNR=25						
STKA				LR	LR	14 25 44.2	
	comp=Z,2μm,18.9s,MS4.8,baz=12,slow=38						
MBWA	**Marble Bar**	**30.16**	**237**	*e*P	**P**	**14 15 16.3**	**-0.7**
	comp=Z,8.3nm,0.6s,mb4.6						
TOO	**Toolangi**	**31.43**	**182**	*e*P	**P**	**14 15 27.6**	**-0.5**
	comp=Z,4.3nm,0.6s,mb4.5						
TOO	**Toolangi**	**31.43**	**182**	*e*P	**P**	**14 15 27.6**	**-0.5**
TOO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
KKM	**Kota Kinabalu**	**32.71**	**291**	P	**P**	**14 15 37.8**	**-1.7**
CBIJ	**Chichi jima**	**33.20**	**353**	P	**P**	**14 15 41.9**	**-1.7**
	comp=Z,9.5nm,0.3s,mb5.2,baz=260,slow=19,SNR=5.4						
KSM	**Kuching**	**37.10**	**280**	*e*P	**P**	**14 16 17.5**	**+0.6**
KLBR	**Kellerberrin**	**37.16**	**223**	*e*P	**P**	**14 16 17.4**	**+0.1**
	comp=Z,74nm,1.7s,mb5.2						
JOW	**Kunigami**	**37.22**	**332**	P	**P**	**14 16 18.6**	**+0.8**
	comp=Z,29nm,0.8s,mb5.2,baz=139,slow=11,SNR=17						
NWAO	**Narrogin (SRO)**	**38.33**	**222**	P	**P**	**14 16 25.7**	**-1.3**
NWAO	**Narrogin (SRO)**	**38.33**	**222**	LR	LR	14 34 15.2	
	comp=Z,1μm,18.7s,MS4.7,baz=53,slow=39						
MUN	**Mundaring**	**38.45**	**224**	*e*P	**P**	**14 16 27.8**	**-0.2**
	comp=Z,10nm,1.0s,mb4.5						
MUN	**Mundaring**	**38.45**	**224**	eP	**P**	**14 16 27.8**	**-0.2**
MUN				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
NACB	**Ninganchiao**	**38.73**	**322**	*e*P	**P**	**14 16 31.0**	**+0.6**
YHNB	**Yeheng**	**39.23**	**322**	*e*P	**P**	**14 16 35.3**	**+0.8**
TATO	**Taipei**	**39.38**	**322**	*e*P	**P**	**14 16 35.5**	**-0.3**
	comp=Z,49nm,0.6s,mb5.4						
JNU	**Nakatsue**	**41.72**	**340**	P	**P**	**14 16 55.3**	**+0.1**
	comp=Z,30nm,1.1s,mb4.8,baz=180,slow=3.0						
URZ	**Urewera**	**32.31**	**144**	P		**14 17 00.1**	**+0.2**
	comp=Z,2.9nm,0.4s,mb4.3,baz=284,slow=5.7,SNR=6.3						
MJAR	**Matsushiro Arr**	**43.07**	**350**	P	**P**	**14 17 05.0**	**-1.2**
	comp=Z,1.8nm,0.4s,mb4.1,baz=177,slow=8.5,SNR=17						
MJAR				LR	LR	14 34 45.0	
	comp=Z,126nm,18.3s,MS3.9,baz=220,slow=36						
MJAR	**Matsushiro Arr**	**43.07**	**350**	P	**P**	**14 17 05.0**	**-1.2**
MJAR				LR	LR	14 34 45.0	
MAJO	**Matsushiro**	**43.08**	**350**	P	**P**	**14 17 07.5**	**+1.3**
MAJO				pmax	pmax		
	comp=Z,47nm,1.5s,mb5.0						
MAJO	**Matsushiro**	**43.08**	**350**	P	**P**	**14 17 07.5**	**+1.3**
	comp=Z,47nm,1.5s,mb5.0						
MAT	**Matsushiro**	**43.08**	**350**	*e*P	**P**	**14 17 04.0**	**-2.2**
MAT				*e*S	**S**	**14 23 33.0**	**+4.2**
MAT				pmax	pmax		
	comp=Z,33nm,1.3s,mb4.9						
MAT	**Matsushiro**	**43.08**	**350**	*e*P	**P**	**14 17 04.0**	**-2.2**
	comp=Z,33nm,1.3s,mb4.9						
MAT				*e*S	**S**	**14 23 33.0**	**+4.2**
MAT	**Matsushiro**	**43.08**	**350**	P	**P**	**14 17 04.4**	**-1.8**
MAT				S	**S**	**14 23 33.0**	**+4.2**
KGM	**Kluang**	**44.05**	**279**	P	**P**	**14 17 15.1**	**+0.7**
SSE	**Sheshan**	**44.24**	**328**	P	**P**	**14 17 16.5**	**+0.8**
SSE				PCP	PcP	14 18 54.8	-5.4
SSE				PCS		14 22 48.8	
SSE				S	**S**	**14 23 46.5**	**+0.7**
SSE				AMB	AMB		
	comp=Z,55nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,88nm,4.1s						
SSE				LR	LR		
	comp=N,99nm,18.3s,MS3.8						
SSE				LR	LR		
	comp=E,41nm,18.9s,MS3.8						
SSE				LR	LR		
	comp=Z,181nm,20.6s,MS4.0						
SSE	**Sheshan**	**44.24**	**328**	P	**P**	**14 17 16.4**	**+0.7**
	comp=Z,55nm,0.7s,mb5.4						
SSE				pP	pP	14 17 45.7	+18
SSE				sP	sP	14 18 00.7	+28
SSE				PcP	PcP	14 18 54.8	-5.4
SSE				PcS		14 22 48.8	
SSE				S	**S**	**14 23 46.4**	**+0.6**
SSE				sS		14 24 37.6	
SSE				SS	tx	14 25 31.0	
SSE				LR	LR		
	comp=Z,180nm,20.6s,MS4.0						
NJ2	**Nanjing**	**46.23**	**327**	*e*P	**P**	**14 17 31.0**	**-0.6**
NJ2				AP	pP	14 17 43.3	+0.1
NJ2				XP	sP	14 17 48.5	+0.3
NJ2				PP	PP	14 19 19.8	-0.5
NJ2				S	**S**	**14 24 13.0**	**-1.4**
NJ2				XS		14 24 35.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,230nm,4.6s						
NJ2				LR	LR		
	comp=N,790nm,20.9s,MS4.7						
NJ2				LR	LR		
	comp=E,330nm,20.4s,MS4.7						
NJ2				LR	LR		
	comp=Z,240nm,24.4s,MS4.1						
KS15	**Wonju Array Si**	**46.66**	**339**	*e*P	**P**	**14 17 34.5**	**-0.3**
IPM	**Ipoh**	**46.81**	**282**	P	**P**	**14 17 36.7**	**+0.4**
KULM	**Kulim**	**47.34**	**283**	*e*P	**P**	**14 17 40.6**	**+0.1**
WHN	**Wuhan**	**47.76**	**321**	⇓P	**P**	**14 17 45.0**	**+1.4**
ENH	**Enshi**	**50.73**	**317**	P	**P**	**14 18 04.2**	**-2.3**
	comp=Z,64nm,1.5s,mb5.3						
NST	**Nakhon Sawan**	**50.90**	**296**	P	**P**	**14 18 00.9**	**-7.0**
NANT	**Nan**	**51.61**	**300**	⇓P	**P**	**14 18 14.0**	**+0.8**
	comp=Z,100nm,0.7s,mb5.8						
MDJ	**Mudanjiang**	**52.70**	**345**	P	**P**	**14 18 21.5**	**+0.5**
MDJ				AP	pP	14 18 33.0	+0.2
MDJ				XP	sP	14 18 38.3	+0.6
MDJ				PCP	PcP	14 19 30.8	+0.4
MDJ				PP	PP	14 20 20.5	-1.2
MDJ				SCP		14 23 24.5	
MDJ				PCS		14 23 29.5	
MDJ				S	**S**	**14 25 51.5**	**+7.2**
MDJ				XS		14 26 07.5	
MDJ				SCS	ScS	14 28 07.0	+3.1
MDJ				SS	SS	14 29 26.0	+4.1
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,93nm,7.1s						
MDJ				LR	LR		
	comp=N,55nm,27.6s						
MDJ				LR	LR		
	comp=E,163nm,42.1s						
MDJ				LR	LR		
	comp=Z,225nm,26.1s,MS4.1						
KMI	**Kunming**	**52.78**	**308**	P	**P**	**14 18 23.8**	**+1.9**
KMI				AP	pP	14 18 35.8	+2.1
KMI				AMB	AMB		
	comp=Z,15nm,1.5s,mb4.7						
KMI				LR	LR		
	comp=N,175nm,16.7s,MS4.3						
KMI				LR	LR		
	comp=E,206nm,21.1s,MS4.3						
KMI				LR	LR		
	comp=Z,219nm,28.9s						
KMI	**Kunming**	**52.78**	**308**	P	**P**	**14 18 23.7**	**+1.8**
KMI				*PP	pP	14 18 35.8	+2.1
KMI				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.7						
KMI				MLR	MLR		
	comp=Z,220nm,28.9s,MS4.0						
KMI	**Kunming**	**52.78**	**308**	P	**P**	**14 18 23.7**	**+1.8**
	comp=Z,15nm,1.5s,mb4.7						
KMI				pP	pP	14 18 35.8	+2.1
KMI				LR	LR		
	comp=Z,220nm,28.9s,MS4.0						
YSS	**Yuzh-Sakhalins**	**52.85**	**357**	*e*P	**P**	**14 18 23.0**	**+0.9**
XAN	**Xi'an**	**53.51**	**321**	P	**P**	**14 18 26.5**	**-0.7**
XAN				AMB	AMB		
	comp=Z,31nm,1.4s,mb5.0						
CD2	**Chengdu**	**55.08**	**314**	P	**P**	**14 18 39.0**	**+0.3**
HHC	**Hu-ho-hao-te**	**56.69**	**328**	*e*P	**P**	**14 18 50.0**	**-0.2**
HHC				AP	pP	14 19 02.3	+0.2
HHC				XP	sP	14 19 08.3	+1.4
HHC				PCP	PcP	14 19 43.8	-2.0
HHC				PP	PP	14 20 58.5	+0.5
HHC				SCP		14 23 38.3	
HHC				S	**S**	**14 26 39.5**	**+1.6**
HHC				XS		14 27 01.0	
HHC				SCS	ScS	14 28 32.0	-0.3
HHC				SS	SS	14 30 29.5	+2.7
HHC				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.9						
HHC				AMB	AMB		
	comp=Z,111nm,13.0s						
HHC				LR	LR		
	comp=N,174nm,19.0s,MS4.3						
HHC				LR	LR		
	comp=E,191nm,19.0s,MS4.3						
HHC				LR	LR		
	comp=Z,166nm,20.1s,MS4.1						
LZH	**Lanzhou**	**58.03**	**319**	*e*P	**P**	**14 19 00.0**	**+0.3**
LZH				AP	pP	14 19 11.5	-0.2
LZH				XP	sP	14 19 15.8	-0.7
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,200nm,4.6s						
LZH	**Lanzhou**	**58.03**	**319**	*e*P	**P**	**14 19 00.1**	**+0.4**
LZH				*PP	pP	14 19 11.5	-0.2
LZH				*SP	sP	14 19 15.7	-0.8
LZH				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.2						
LZH	**Lanzhou**	**58.03**	**319**	*e*P	**P**	**14 19 00.1**	**+0.4**
	comp=Z,42nm,1.5s,mb5.2						
LZH				pP	pP	14 19 11.5	-0.2
LZH				sP	sP	14 19 15.7	-0.8
PET	**Petropavlovsk**	**59.68**	**8**	*e*P	**P**	**14 19 20.3**	**+9.4**
PET				*e*S	**S**	**14 27 20.3**	**+3.5**
PET				*e*SSS	SSS	14 33 50.0	+5.6
PET				pmax	pmax		
	comp=Z,100nm,20.8s						
PET				smax			
	comp=N,100nm,14.0s						
PET				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.2						
HIA	**Hailar**	**59.87**	**340**	*e*P	**P**	**14 19 11.4**	**-0.8**
HIA				pmax	pmax		
	comp=Z,44nm,1.4s						
HIA	**Hailar**	**59.87**	**340**	*e*P	**P**	**14 19 11.4**	**-0.9**
	comp=Z,44nm,1.4s,mb5.3						
SHL	**Shilong**	**61.78**	**303**	*e*P	**P**	**14 19 26.2**	**+0.6**
GTA	**Gaotai**	**62.57**	**320**	P	**P**	**14 19 30.5**	**-0.1**
GTA				AP	pP	14 19 41.3	-1.4
GTA				XP	sP	14 19 48.0	+0.6
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.9						
FX1	**Attu Island--F**	**62.82**	**18**	P	**P**	**14 19 33.2**	**+1.1**
	comp=Z,18nm,0.6s,mb5.4,baz=255,slow=3.9,SNR=7.3						
PPT	**Papeete**	**63.17**	**107**	*e*S	**S**	**14 28 00.5**	**-1.0**
PPT				*e*LR	LR	14 39 05.2	
	comp=Z,322nm,23.2s						
PPT	**Papeete**	**63.17**	**107**	LR	LR	14 42 00.2	
	comp=Z,204nm,21.3s,MS4.3,baz=169,slow=31						
TBI	**Tubuai**	**63.63**	**113**	*e*S	**S**	**14 28 05.7**	**-1.6**
TBI				*e*LR	LR	14 39 18.9	
	comp=Z,373nm,35.0s						
LSA	**Lhasa**	**64.02**	**307**	P	**P**	**14 19 41.8**	**+1.4**
SONM	**Songino Array**	**64.28**	**331**	P	**P**	**14 19 41.4**	**-0.3**
	comp=Z,1.5nm,0.4s,mb4.4,baz=135,slow=5.2,SNR=29						
SONM				PKP2bc		14 48 37.6	
	comp=Z,2.1nm,1.1s,baz=270,slow=1.2,SNR=10.0						
SONM				LR	LR	14 49 07.5	
	comp=Z,186nm,19.5s,MS4.3,baz=355,slow=37						
SONM	**Songino Array**	**64.28**	**331**	P	**P**	**14 19 41.4**	**-0.3**
SONM			⇑	*e*		14 48 37.6	
SONM				LR	LR	14 49 07.5	
CIT	**Chita**	**64.36**	**338**	*e*P	**P**	**14 19 42.6**	**+0.4**
CIT				*e*		14 19 59.6	
CIT				pmax	pmax		
	comp=Z,59nm,1.6s,mb5.4						
CLNS	**Chul'man**	**65.13**	**347**	*e*P	**P**	**14 19 47.0**	**-0.1**
CLNS				*e*		14 20 16.7	
CLNS				*e*PPP	PPP	14 23 50.4	+3.5
CLNS				*e*S	S	14 28 30.0	+4.8
CLNS				*e*PS	PS	14 29 03.5	+12
CLNS				pmax	pmax		
	comp=Z,28nm,1.6s,mb5.0						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.0s						
CLNS				smax			
	comp=N,6.0nm,0.8s						
CLNS				smax			
	comp=E,4.0nm,0.8s						
CASY	**Casey**	**65.17**	**195**	⇑*i* P	**P**	**14 19 46.5**	**-0.7**
JIRN	**Jiri**	**67.29**	**303**	*e*P	**P**	**14 20 01.0**	**-0.3**
ZAK	**Zakamensk**	**67.51**	**332**	*e*P	**P**	**14 20 01.7**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
PKI	**Pulchoki**	**67.91**	**303**	*e*P	**P**	**14 20 05.1**	**-0.1**
KKN	**Kakani**	**68.09**	**303**	*e*P	**P**	**14 20 06.5**	**+0.2**
	comp=Z,39nm,1.2s,mb5.3						
DMN	**Daman**	**68.17**	**303**	*e*P	**P**	**14 20 06.6**	**-0.3**
	comp=Z,22nm,0.7s,mb5.3						
TLY	**Talaya**	**68.22**	**333**	*e*P	**P**	**14 20 06.4**	**-0.3**
TLY				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.7						
GKN	**Gorkha**	**68.70**	**303**	*e*P	**P**	**14 20 09.8**	**-0.3**
	comp=Z,24nm,0.8s,mb5.2						
BOD	**Bodaibo**	**68.90**	**342**	*e*P	**P**	**14 20 07.1**	**-3.7**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.5						
YAK	**Yakutsk**	**69.11**	**352**	*e*P	**P**	**14 20 11.5**	**-0.5**
YAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
YAK	**Yakutsk**	**69.11**	**352**	*e*P	**P**	**14 20 11.5**	**-0.5**
	comp=Z,12nm,0.8s,mb4.9						
MOY	**Mondy**	**69.45**	**332**	*e*P	**P**	**14 20 15.0**	**+0.7**
MOY				pmax	pmax		
	comp=Z,30nm,2.1s,mb4.8						
KOLN	**Koldanda**	**69.49**	**302**	*e*P	**P**	**14 20 14.7**	**-0.3**
	comp=Z,23nm,0.7s,mb5.2						
MIR	**Mirnyy**	**70.67**	**200**	*d* iP	**P**	**14 20 21.8**	**+0.4**
MIR				pmax	pmax		
	comp=Z,34nm,1.4s,mb5.1						
VNDA	**Vanda**	**71.92**	**177**	*e*P	**P**	**14 20 28.8**	**0.0**
VNDA				pmax	pmax		
	comp=Z,12nm,1.1s						
VNDA	**Vanda**	**71.92**	**177**	P	**P**	**14 20 28.9**	**+0.1**
	comp=Z,11nm,1.2s,mb4.7,baz=335,slow=6.2,SNR=18						
VNDA				LR	LR	14 50 22.9	
	comp=Z,191nm,18.5s,MS4.4,baz=348,slow=34						
VNDA	**Vanda**	**71.92**	**177**	*e*P	**P**	**14 20 28.8**	**+0.1**
	comp=Z,12nm,1.1s,mb4.7						
WMQ	**Urumqi**	**72.61**	**319**	*e*P	**P**	**14 20 34.5**	**+1.0**
WMQ				AP	pP	14 20 47.5	+1.8
WMQ				XP	sP	14 20 52.8	+2.5
WMQ				AMB	AMB		
	comp=Z,5.0nm,2.3s,mb4.0						
WMQ				LR	LR		
	comp=N,287nm,16.3s,MS4.7						
WMQ				LR	LR		
	comp=E,164nm,16.4s,MS4.7						
WMQ				LR	LR		
	comp=Z,326nm,16.8s,MS4.7						
BILL	**Bilibino**	**75.16**	**7**	*i* P	**P**	**14 20 48.9**	**+1.1**
BILL	**Bilibino**	**75.16**	**7**	*e*P	**P**	**14 20 47.9**	**+0.1**
	comp=Z,16nm,1.2s,mb4.8						
RKT	**Rikitea**	**76.94**	**112**	*e*LR	LR	14 45 28.9	
	comp=Z,376nm,33.0s						
MKAR	**Makanchi Array**	**77.32**	**321**	P	**P**	**14 21 00.1**	**-0.4**
	comp=Z,1.2nm,0.5s,mb4.1,baz=112,slow=6.5,SNR=18						
ZAL	**Zalesovo**	**78.88**	**328**	LR	LR	14 55 56.5	
	comp=Z,285nm,21.4s,MS4.6,baz=344,slow=36						
AAK	**Ala-Archa**	**81.14**	**315**	*d* iP	**P**	**14 21 20.9**	**-0.4**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.4						
MAW	**Mawson**	**82.12**	**203**	⇑*i* P	**P**	**14 21 26.1**	**+0.3**
	comp=Z,5.5nm,0.8s,mb4.5						
MAW	**Mawson**	**82.12**	**203**	⇑*i* P	**P**	**14 21 26.1**	**+0.3**
MAW				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MAW	**Mawson**	**82.12**	**203**	P	**P**	**14 21 25.8**	**0.0**
	comp=Z,6.5nm,1.1s,mb4.5,baz=75,slow=4.9,SNR=9.7						
MAW				LR	LR	14 57 10.2	
	comp=Z,302nm,18.9s,MS4.7,baz=60,slow=35						
IMA	**Indian Mountai**	**83.67**	**21**	*e*P	**P**	**14 21 34.3**	**+0.6**
IMA				pmax	pmax		
	comp=Z,56nm,1.3s,mb5.5						
IMA	**Indian Mountai**	**83.67**	**21**	*e*P	**P**	**14 21 34.3**	**+0.6**
	comp=Z,56nm,1.3s,mb5.5						
QSPA	**South Pole Qui**	**83.95**	**180**	*e*P	**P**	**14 21 35.1**	**+0.2**
	comp=Z,19nm,1.0s,mb5.2						
ILAR	**Eielson Array**	**85.61**	**23**	P	**P**	**14 21 42.3**	**-1.1**
	comp=Z,8.1nm,0.7s,mb5.1,baz=253,slow=4.7,SNR=98						
DAWY	**Dawson**	**88.41**	**25**	*e*P	**P**	**14 21 56.4**	**-0.6**
SYO	**Syowa Base**	**90.48**	**200**	⇑P	**P**	**14 22 06.0**	**-0.7**
SYO	**Syowa Base**	**90.48**	**200**	⇑P	**P**	**14 22 15.6**	**+8.9**
DLBC	**Dease Lake**	**91.56**	**32**	*e*P	**P**	**14 22 12.2**	**+0.4**
INK	**Inuvik**	**91.77**	**21**	P	**P**	**14 22 12.6**	**-0.1**
	comp=Z,4.0nm,1.0s,mb4.7,baz=267,slow=10,SNR=5.4						
NEW	**Newport**	**98.56**	**42**	*e*P	**P**	**14 22 44.6**	**+0.6**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NEW	**Newport**	**98.56**	**42**	LR	LR	15 01 24.2	
	comp=Z,126nm,19.1s,MS4.4,baz=239,slow=32						
NEW	**Newport**	**98.56**	**42**	*e*P	**P**	**14 22 44.6**	**+0.6**
	comp=Z,2.7nm,0.8s,mb4.8						
YKA	**Yellowknife Ar**	**99.32**	**28**	P	**P**	**14 22 47.1**	**0.0**
	comp=Z,0.7nm,0.7s,mb4.3,baz=279,slow=4.5,SNR=8.4						
YKA				LR	LR	15 03 26.6	
	comp=Z,84nm,19.1s,MS4.3,baz=290,slow=33						
PDAR	**Pinedale Array**	**104.14**	**48**	Pdiff	Pdif	14 23 12.2	+3.1
	comp=Z,0.6nm,0.8s,baz=270,slow=3.0,SNR=5.1						
MATP	**Matopo**	**113.88**	**245**	PKiKP		14 27 45.3	
	comp=Z,2.9nm,0.9s,baz=101,slow=3.4,SNR=6.4						
BOSA	**Boshof**	**114.00**	**235**	PKiKP		14 27 45.9	
	comp=Z,0.6nm,0.3s,baz=7.1,slow=3.7,SNR=4.4						
GERES	**GERESS Array B**	**121.75**	**325**	PKP	PKPdf	14 27 58.6	+0.5
	comp=Z,0.4nm,0.6s,baz=76,slow=4.0,SNR=3.1						
PLCA	**Paso Flores**	**122.27**	**147**	PKP	PKPdf	14 28 02.0	+2.6
	comp=Z,1.6nm,0.5s,baz=213,slow=11,SNR=7.4						
TSUM	**Tsumeb**	**123.99**	**242**	PKP	PKPdf	14 28 05.7	+2.6
	comp=Z,1.9nm,0.8s,baz=84,slow=4.4,SNR=6.0						
TSUM	**Tsumeb**	**123.99**	**242**	*e*PKPdf	PKPdf	14 28 05.8	+2.6
LPAZ	**La Paz**	**139.02**	**123**	PKhKP		14 28 28.0	
	comp=Z,1.0nm,0.3s,baz=282,slow=3.9,SNR=6.9						
LPAZ				PKP	PKPdf	14 28 35.4	+3.8
	comp=Z,6.9nm,0.9s,baz=318,slow=3.4,SNR=19						
LPAZ	**La Paz**	**139.02**	**123**	PKP	PKPdf	14 28 20.0	-3.6
LPAZ				*e*PKPdf	PKPdf	14 28 35.2	+3.6
CPUP	**Villa Florida**	**140.29**	**145**	PKP	PKPdf	14 28 36.7	+3.0
	comp=Z,15nm,1.2s,baz=258,slow=2.9,SNR=9.1						
CPUP	**Villa Florida**	**140.29**	**145**	*e*PKPdf	PKPdf	14 28 36.3	+2.6
SDV	**Santo Domingo**	**142.88**	**83**	*e*PKPpre		14 28 39.0	
SJG	**San Juan**	**145.76**	**67**	*e*PKP	PKPdf	14 28 46.0	+2.6
SAML	**Samuel**	**146.70**	**116**	*e*PKPdf	PKPdf	14 28 47.1	+1.9
DBIC	**Dimbokro**	**151.73**	**273**	*e*PKIKP	PKPdf	14 29 01.8	+8.7
DBIC	**Dimbokro**	**151.73**	**273**	PKPbc	PKPdf	14 29 02.0	+8.9
	comp=Z,16nm,0.8s,baz=62,slow=2.4,SNR=34						
BDFB	**Brasilia**	**154.01**	**146**	PKP	PKPdf	14 28 59.4	+3.2
	comp=Z,3.9nm,0.6s,baz=342,slow=1.4,SNR=6.8						
BDFB				PKPbc	PKPdf	14 29 06.4	+10
	comp=Z,4.7nm,0.4s,baz=223,slow=0.9,SNR=8.8						
BAO	**Brasilia Array**	**154.

PTOM	Tomar	2.80	78	*e*S		Sn	15 07 40.4	-1.1
PTEO	Sao Teotonio	2.98	120	*e*P		Pn	15 07 06.1	-3.0
PTEO				*e*S		Sn	15 07 39.5	-6.6
PBEJ	Beja	3.39	107	*e*S		Sn	15 07 51.1	-5.2
EGRO	El Granado	3.86	113	Pn		Pn	15 07 19.0	-2.4
	0.6nm,0.1s,SNR=7.2							
EGRO				Sn		Sn	15 08 02.6	-5.6
	0.4nm,0.0s,SNR=4.8							
EGRO	El Granado	3.86	113	P		Pn	15 07 19.0	-2.5
	0.6nm,0.1s,SNR=7.2							
EGRO				S		Sn	15 08 02.6	-5.6
	0.4nm,0.0s,SNR=4.8							
EBAD	Badajoz	3.88	94	Sn		Sn	15 08 03.7	-5.0
	0.5nm,0.1s,SNR=5.6							
EBAD	Badajoz	3.88	94	S		Sn	15 08 03.7	-5.0
	0.5nm,0.1s,SNR=5.6							
ELOB	Lobios	4.06	46	Pn		Pn	15 07 22.0	-2.4
	0.5nm,0.1s,SNR=9.0							
ELOB				Sn		Sn	15 08 06.9	-6.4
	0.3nm,0.1s,SNR=7.9							
ELOB	Lobios	4.06	46	P		Pn	15 07 22.0	-2.4
	0.5nm,0.1s,SNR=9.0							
ELOB				S		Sn	15 08 06.9	-6.4
	0.3nm,0.1s,SNR=7.9							
EMIN	Mina Concepcio	4.36	106	Pn		Pn	15 07 25.7	-3.0
	0.4nm,0.1s,SNR=4.0							
EMIN				Sn		Sn	15 08 14.2	-6.9
	0.2nm,0.1s,SNR=7.9							
EMIN	Mina Concepcio	4.36	106	P		Pn	15 07 25.7	-3.0
	0.4nm,0.1s,SNR=4.0							
EMIN				S		Sn	15 08 14.2	-6.8
	0.2nm,0.1s,SNR=7.9							
ECAL	Calabor	4.89	53	Pn		Pn	15 07 33.4	-2.8
	0.3nm,0.1s,SNR=7.9							
ECAL				Sn		Sn	15 08 27.7	-6.7
	0.7nm,0.3s,SNR=7.9							
ECAL	Calabor	4.89	53	P		Pn	15 07 33.4	-2.7
	0.3nm,0.1s,SNR=7.9							
ECAL				S		Sn	15 08 27.7	-6.6
	0.7nm,0.3s,SNR=7.9							
ECAB	El Cabril	5.23	99	Sn		Sn	15 08 35.2	-7.7
	0.3nm,0.2s,SNR=7.9							
ECAB	El Cabril	5.23	99	S		Sn	15 08 35.2	-7.7
	0.3nm,0.2s,SNR=7.9							
EADA	Adamuz	5.86	97	Sn		Sn	15 08 51.3	-7.4
	SNR=7.9							
EADA	Adamuz	5.86	97	S		Sn	15 08 51.3	-7.4
	0.2nm,0.1s,SNR=7.9							

MOS **31** *15:18:18.6ᵗ0.9,39.44N×33.09E,h10ᵏᵐ,mb4.4/20,Error ellipse: s-maj=7.2km s-min=4.2km az=128.9*

IDC **31** *15:18:18.8ᵗ0.7,39.45N×33.12E,mb4.0/11,mb1 4.1/19, mb1mx4.0/27,mbtmp4.0/19,ML3.6/8,MS3.5/11,Ms1 3.5/11, ms1mx3.4/33,Error ellipse: s-maj=10.7km s-min=7.3km az=169.0*

CSEM **31** *15:18:18.5ᵗ0.0,39.41N×33.09E,h10ᵏᵐ,mb4.3/5,Ms3.3, Error ellipse: s-maj=1.4km s-min=1.0km az=179.0*

ISK **31** *15:18:19.6,39.42N×33.07E,h17ᵏᵐ,ML4.5*

ZUR_RM **31** *15:18:20,39.45N×33.15E,h15ᵏᵐ,Mw4.6/13,Moment Tensor Solution. s13 Moment tensor: Scale 10¹⁵Nm; Mrr-2.07; Mθθ-4.49; Mϕϕ6.56; Mrθ-2.64; Mθϕ-5.43; Mϕr-1.29; Best double couple: M₀8.46×10¹⁵ NP1:ϕs20°, δ73°,λ-20°. NP2:ϕs116°,δ71°,λ-162°. Principal axes: T 8.788, Plg1°, Azm68°; N -.655, Plg64°, Azm160°; P -8.133, Plg26°, Azm337°;*

BJI **31** *15:18:20.3,39.40N×33.20E,h10ᵏᵐ,mB4.3,mb4.2,Ms4.4, Msz4.1*

NEIC **31** *15:18:20.5ᵗ0.3,39.45N×33.15E,h10ᵏᵐ,mb4.4/22, ML4.3(ISK),Error ellipse: s-maj=5.6km s-min=4.6km az=199.0*

ISC 31 15:18:19.1ᵗ0.6,**39.42N**±0.02×**33.08E**±0.02,**h12**ᵏᵐ±4ᵏᵐ, **h18**ᵏᵐ±3.0ᵏᵐ;**pP-P,n210,**σθ**94**/227,**mb4.2**/33,**MS3.6**/12, **9C-7D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.49**	**334**	*i*	PG		**Pg**	**15 18 29.7**	**+0.4**
ANTO				*i*	SG		**Sg**	**15 18 38.0**	**+2.0**
ANTO	**Ankara**	**0.49**	**334**	*i*	P		**Pg**	**15 18 29.7**	**+0.5**
ANTO				*i*	S		**Sg**	**15 18 37.1**	**+1.1**
LOD	**Lodumlu**	**0.52**	**333**	*i*	PG		**Pg**	**15 18 30.3**	**+0.5**
BRTR	**Keskin Array B**	**0.53**	**55**		Pg		**Pg**	**15 18 28.7**	**-1.2**
	608nm,0.3s,baz=222,slow=19,SNR=2944								
BRTR					Lg			15 18 35.8	
	1μm,0.3s,baz=223,slow=28,SNR=79								
CDAG	**Cicekdag**	**1.02**	**78**	*i*	P		**Pb**	**15 18 37.4**	**-0.9**
CDAG				*i*	S		**Sb**	**15 18 51.9**	**+0.4**
KIZT	**Kizilcal**	**1.08**	**240**	*i*	PG		**Pg**	**15 18 39.3**	**-1.5**
ELDT	**Eldivan**	**1.10**	**14**	*i*	P		**Pb**	**15 18 40.0**	**+0.4**
ELDT				*i*	S		**Sb**	**15 18 55.5**	**+1.8**
CANT	**Cankiri**	**1.25**	**19**	*i*	PN		**Pn**	**15 18 43.0**	**+0.5**
SGKT	**Sivrigoynuk**	**1.39**	**326**	*i*	P		**Pn**	**15 18 46.1**	**+1.6**
SGKT				*i*	S		**Sb**	**15 19 10.6**	**+8.3**
CORM	**Corum**	**1.41**	**57**	*i*	PN		**Pn**	**15 18 45.3**	**+0.5**
KONT	**Konya--Tatoy**	**1.58**	**201**	*i*	PN		**Pn**	**15 18 48.2**	**+1.0**
ESKT	**Eskisehir**	**1.73**	**274**	*i*	P		**Pn**	**15 18 49.8**	**+0.4**
ESKT				*i*	S		**Sn**	**15 19 14.8**	**+3.3**
ESKT	**Eskisehir**	**1.73**	**274**	*i*	Pn		**Pn**	**15 18 50.4**	**+1.1**
YOZ	**Yozgat**	**1.75**	**82**	*i*	PN		**Pn**	**15 18 50.2**	**+0.6**
TOS	**Tosya**	**1.77**	**24**	*i*	PN		**Pn**	**15 18 50.9**	**+1.0**
NIG	**Nigde**	**1.78**	**137**	*i*	PN		**Pn**	**15 18 50.2**	**+0.2**
SAFT	**Safranbolu**	**1.84**	**351**	*e*	PN		**Pn**	**15 18 51.4**	**+0.5**
BALT	**Daday**	**2.12**	**6**	*i*	P		**Pn**	**15 18 55.5**	**+0.5**
BALT				*i*	S		**Sn**	**15 19 24.7**	**+3.2**
HENT	**Hendek**	**2.18**	**311**	*i*	P		**Pn**	**15 18 56.8**	**+1.0**
HENT				*i*	S		**Sn**	**15 19 35.8**	**+14**
BNN	**Bunyan**	**2.23**	**104**	*e*	PN		**Pn**	**15 18 56.3**	**-0.2**
GPA	**Golpazari**	**2.30**	**293**	*e*	PN		**Pn**	**15 18 57.9**	**+0.4**
ALT	**Altintas**	**2.33**	**262**	*e*	PN		**Pn**	**15 18 58.7**	**+0.7**
BYBT	**Boyabat**	**2.41**	**32**	*e*	PN		**Pn**	**15 18 59.5**	**+0.3**
BOYT	**Boyabat**	**2.43**	**34**	*i*	P		**Pn**	**15 18 59.9**	**+0.4**
HDMB	**Hadim**	**2.50**	**191**	*e*	PN		**Pn**	**15 19 01.3**	**+0.9**
EYL	**Eskiyayla**	**2.52**	**298**		PN		**Pn**	**15 19 01.6**	**+1.0**
ISP	**Isparta**	**2.56**	**233**	*e*	PN		**Pn**	**15 19 00.6**	**-0.6**
ISP	**Isparta**	**2.56**	**233**	*c*	P		**Pn**	**15 19 01.4**	**+0.2**
ISP	**Isparta**	**2.56**	**233**	⇑	PN		**Pn**	**15 19 01.4**	**+0.2**
ISP	**Isparta**	**2.56**	**233**	⇑	PN		**Pn**	**15 19 01.4**	**+0.2**
TKTP	**Tekketepe**	**2.56**	**238**	*i*	P		**Pn**	**15 19 02.2**	**+1.0**
BZK	**Bozkurt**	**2.63**	**15**		PN		**Pn**	**15 19 02.8**	**+0.6**
BCK	**Bucak**	**2.77**	**226**	*e*	PN		**Pn**	**15 19 04.3**	**+0.1**
ERMK	**Ermenek**	**2.78**	**183**	*i*	P		**Pn**	**15 19 04.8**	**+0.3**
ERMK				*i*	S		**Sn**	**15 19 48.8**	**+11**
KVT	**Kavak**	**2.81**	**53**	*i*	PN		**Pn**	**15 19 04.7**	**-0.1**
GDZ	**Gediz**	**2.81**	**264**	*e*	P		**Pn**	**15 19 09.6**	**+4.7**
TOKT	**Tokat**	**2.81**	**70**	*e*	PN		**Pn**	**15 19 05.0**	**+0.1**
HRT	**Hereke**	**2.96**	**299**	*e*	PN		**Pn**	**15 19 06.4**	**-0.6**
KHL	**Karahalli**	**2.98**	**250**	*e*	PN		**Pn**	**15 19 07.2**	**-0.1**
YLV	**Yalova**	**3.07**	**293**	*e*	PN		**Pn**	**15 19 08.3**	**-0.2**
ULDT	**Uludag**	**3.12**	**285**	*i*	P		**Pn**	**15 19 09.5**	**+0.3**
CEYT	**Ceyhan**	**3.20**	**138**	*e*	PN		**Pn**	**15 19 11.2**	**+0.9**
IKL	**Isikli**	**3.22**	**171**	*e*	PN		**Pn**	**15 19 10.4**	**-0.2**
ORLT	**Orhaneli**	**3.28**	**282**	*e*	PN		**Pn**	**15 19 11.3**	**-0.3**
BADT	**Buyukada**	**3.35**	**296**	*e*	PN		**Pn**	**15 19 12.1**	**-0.5**
DST	**Dursunbey**	**3.45**	**274**	*e*	PN		**Pn**	**15 19 14.0**	**+0.1**
ISK	**Istanbul-Kandi**	**3.48**	**299**	*e*	PN		**Pn**	**15 19 14.2**	**-0.2**
DENT	**Denizli**	**3.58**	**244**	*e*	PN		**Pn**	**15 19 16.3**	**+0.5**
CTT	**Catalca**	**3.95**	**297**	*e*	PN		**Pn**	**15 19 20.7**	**-0.3**
GAZ	**Gaziantep**	**3.95**	**123**	*e*	PN		**Pn**	**15 19 21.5**	**+0.4**
BNT	**Bandirma**	**4.08**	**285**	*e*	PN		**Pn**	**15 19 22.4**	**-0.4**
HTY	**Hatay**	**4.09**	**143**	*e*	PN		**Pn**	**15 19 23.7**	**+0.7**
AKS	**Akhisar**	**4.13**	**264**	*e*	PN		**Pn**	**15 19 23.7**	**+0.1**
KSL	**Kastellorizon**	**4.28**	**221**	*e*	P		**Pn**	**15 19 28.5**	**+2.7**
MYA	**Malatya**	**4.32**	**103**	*e*	PN		**Pn**	**15 19 27.0**	**+0.8**
MALT	**Malatya**	**4.32**	**103**	*e*	PN		**Pn**	**15 19 25.9**	**-0.4**
MALT	**Malatya**	**4.32**	**103**	*e*	Pn		**Pn**	**15 19 26.2**	**-0.1**
MALT				*e*	Pg		**Pg**	**15 19 37.9**	**-7.6**
MALT	**Malatya**	**4.32**	**103**	*e*	Pn		**Pn**	**15 19 26.2**	**-0.1**
MALT	**Malatya**	**4.32**	**103**	*e*	Pg		**Pg**	**15 19 37.9**	**-7.5**
YER	**Yerkesik**	**4.41**	**240**	*e*	PN		**Pn**	**15 19 28.4**	**+0.8**
CSS	**Prodhromos**	**4.46**	**177**	*e*	PN		**Pn**	**15 19 27.9**	**-0.4**
CSS	**Prodhromos**	**4.46**	**177**	*e*	Pn		**Pn**	**15 19 27.9**	**-0.3**
MLSB	**Milas**	**4.68**	**245**	*e*	PN		**Pn**	**15 19 30.9**	**-0.5**
ELZG	**Elazig**	**4.70**	**100**	*i*	P		**Pn**	**15 19 32.1**	**+0.4**
URFA	**Urfa**	**4.92**	**112**	*e*	PN		**Pn**	**15 19 34.6**	**-0.3**
PTK	**Pertek**	**4.94**	**94**	*e*	PN		**Pn**	**15 19 34.6**	**-0.4**
GUMT	**Gumushane**	**5.03**	**76**	*e*	PN		**Pn**	**15 19 36.4**	**+0.1**
BODT	**Bodrum**	**5.12**	**244**	*e*	PN		**Pn**	**15 19 38.0**	**+0.5**
EZN	**Ezine**	**5.23**	**277**	*e*	PN		**Pn**	**15 19 39.7**	**+0.6**
PRK	**Paraskevi**	**5.28**	**270**	*e*	P		**Pn**	**15 19 40.7**	**+0.8**
EDRB	**Edirne**	**5.39**	**299**	*e*	PN		**Pn**	**15 19 41.7**	**+0.3**
SIM	**Simferopol'**	**5.57**	**8**	*c*	P		**Pn**	**15 19 44.2**	**+0.2**
SIM				*e*	S		**Sn**	**15 20 45.0**	**-3.8**
SIM					pmax	pmax			
	comp=Z,37nm,0.9s								
SIM					MLR	MLR			
	comp=Z,300nm,15.0s								
SIM	**Simferopol'**	**5.57**	**8**	*i*	P		**Pn**	**15 19 44.2**	**+0.2**
	comp=Z,37nm,0.9s								
PSN	**Preselentsi**	**5.62**	**321**	*e*	P		**Pn**	**15 19 43.5**	**-1.1**
RDO	**Rodhopi**	**6.02**	**289**	*e*	P		**Pn**	**15 19 49.6**	**-0.7**
LIA	**Limnos Island**	**6.11**	**277**	*e*	P		**Pn**	**15 19 51.5**	**-0.1**
TIRR	**Tirgusor**	**6.11**	**327**	⇑	P		**Pn**	**15 19 50.3**	**-1.3**
TIRR	**Tirgusor**	**6.11**	**327**	⇑	P		**Pn**	**15 19 50.2**	**-1.4**
ANN	**Anapa**	**6.27**	**30**	*e*	P		**Pn**	**15 19 53.3**	**-0.5**
ANN				*e*	S		**Sn**	**15 21 09.7**	**+3.5**
ANN					pmax	pmax			
	comp=Z,51nm,6.3s								
ANN					MLR	MLR			
	comp=N,265nm,14.0s								
ANN					MLR	MLR			
	comp=E,172nm,14.0s								
ANN					MLR	MLR			
	comp=Z,360nm,14.0s								
ANN	**Anapa**	**6.27**	**30**	*e*	P		**Pn**	**15 19 53.3**	**-0.5**
	comp=Z,51nm,6.3s								
SOC	**Sochi**	**6.49**	**48**	*c*	P		**Pn**	**15 20 05.6**	**+8.7**
SOC					pmax	pmax			
	comp=Z,51nm,1.3s								
SOC					pmax	pmax			
	comp=N,19nm,1.0s								
SOC					pmax	pmax			
	comp=E,35nm,1.3s								
SOC					MLR	MLR			
	comp=Z,314nm,16.0s								
SOC					MLR	MLR			
	comp=N,211nm,15.0s								
SOC					MLR	MLR			
	comp=E,383nm,16.0s								
HARR	**Harsova**	**6.51**	**326**	⇓	P		**Pn**	**15 20 05.7**	**+8.5**
RZN	**Rozhen**	**6.76**	**292**		P		**Pn**	**15 19 59.0**	**-1.7**
CFR	**Carcaiu**	**6.82**	**329**	⇓	P		**Pn**	**15 20 00.3**	**-1.2**
PGB	**Panagyurishte**	**7.43**	**298**	*e*	P		**Pn**	**15 20 08.0**	**-2.1**
MMB	**Musomiste**	**7.45**	**290**		P		**Pn**	**15 20 08.5**	**-1.9**
IDI	**Anoyia**	**7.72**	**240**		Pn		**Pn**	**15 20 14.4**	**+0.3**
	comp=E,2.1nm,0.3s,baz=60,slow=12,SNR=14								
IDI					LR	LR		15 23 38.7	
	comp=E,361nm,19.9s,baz=62,slow=41								
ASF	**Jabal al Asfar**	**7.87**	**156**		Pn		**Pn**	**15 20 15.6**	**-0.7**
	comp=E,0.5nm,0.3s,baz=234,slow=4.0,SNR=5.9								
ASF					Sn		**Sn**	**15 21 49.9**	**+3.7**
	comp=E,0.3nm,0.3s,baz=42,slow=16,SNR=2.1								
ASF					LR	LR		15 23 37.8	
	comp=E,413nm,20.1s,baz=219,slow=40								
VRI	**Vrincioaia**	**7.96**	**326**	⇑	P		**Pn**	**15 20 22.7**	**+5.2**
KKB	**Krupnik**	**7.98**	**291**		P		**Pn**	**15 20 17.0**	**-0.8**
MLR	**Muntele Rosu**	**8.03**	**321**		Pn		**P**	**15 20 18.1**	**-0.5**
	comp=E,0.3nm,0.3s,baz=137,slow=7.2,SNR=5.3								
MLR					Sn		**Sn**	**15 21 49.5**	**-0.7**
	comp=E,0.8nm,0.3s,baz=322,slow=19,SNR=2.2								
MLR	**Muntele Rosu**	**8.03**	**321**	⇓	P		**P**	**15 20 27.5**	**+9.0**
MLR	**Muntele Rosu**	**8.03**	**321**		S		**Sn**	**15 21 49.5**	**-0.7**
VTS	**Vitosha**	**8.11**	**296**		P		**P**	**15 20 17.5**	**-2.1**
KIS	**Kishinev**	**8.18**	**339**	*e*	P		**P**	**15 20 18.0**	**-2.6**
KIS					MLR	MLR			
	comp=Z,500nm,13.0s								
KIS					MLR	MLR			
	comp=Z,400nm,14.0s								
VOIR		**8.44**	**318**	⇑	P		**P**	**15 20 24.2**	**-0.1**
ONI	**Oni**	**8.45**	**65**		P		**P**	**15 20 23.5**	**-0.9**
KIV	**Kislovodsk**	**8.49**	**55**	*i*	P		**P**	**15 20 20.0**	**-5.0**
KIV					pmax	pmax			
	comp=Z,8.0nm,1.1s								
GVD	**Gavdhos**	**8.51**	**240**	*e*	P		**P**	**15 20 25.6**	**+0.4**
	comp=Z,33nm,0.8s								
GVD	**Gavdhos**	**8.51**	**240**	*e*	P		**P**	**15 20 25.6**	**+0.4**
	comp=Z,33nm,0.8s								
GNI	**Garni**	**9.01**	**82**		Pn		**P**	**15 20 31.0**	**-1.1**
	comp=Z,3.7nm,0.3s,baz=144,slow=3.2,SNR=4.2								
TI2	**Plekhanov**	**9.18**	**72**	*e*	P		**P**	**15 20 33.4**	**-1.0**
GOF	**Gofitskoye**	**9.28**	**49**	*e*	P		**P**	**15 20 38.5**	**+2.6**
GOF				*e*	S		**Sn**	**15 22 23.5**	**+2.2**
GOF					pmax	pmax			
	comp=Z,15nm,1.0s								
BURAR	**Bucovina Array**	**9.97**	**328**	⇓	P		**P**	**15 20 44.4**	**-1.0**
BURAR	**Bucovina Array**	**9.97**	**328**	⇓	P		**P**	**15 20 44.4**	**-1.0**
AKASG	**Malin Array Be**	**11.60**	**348**		P		**P**	**15 21 02.7**	**-4.8**
AKASG								15 23 10.2	
AKASG	**Malin Array Be**	**11.60**	**348**		Pn		**P**	**15 21 02.7**	**-4.9**
	comp=Z,0.9nm,0.3s,baz=160,slow=13,SNR=8.0								
AKASG					Sn		**S**	**15 23 10.1**	**-7.9**
	comp=Z,0.7nm,0.3s,baz=166,slow=24,SNR=4.3								
AKASG	**Malin Array Be**	**11.60**	**348**		Pn		**P**	**15 21 02.7**	**-4.9**
AKASG					Sn		**S**	**15 23 10.2**	**-7.9**
TIP	**Timpagrande**	**12.65**	**274**	*e*	Pn		**P**	**15 21 22.8**	**+1.1**
OJC	**Ojcow**	**14.30**	**323**	*e*	P		**P**	**15 21 44.2**	**+0.7**
VRAC	**Vranov**	**15.35**	**315**		Pn		**P**	**15 21 59.0**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=74,slow=16,SNR=3.6								
OBN	**Obninsk**	**15.87**	**7**	⇓	*e*	P	**P**	**15 22 02.2**	**-1.6**
OBN					pmax	pmax			
	comp=Z,38nm,2.5s								
OBN					MLR	MLR			
	comp=Z,100nm,12.0s								
OBN	**Obninsk**	**15.87**	**7**	*e*	P		**P**	**15 22 02.2**	**-1.6**
	comp=Z,100nm,12.0s								
SUW	**Suwalki**	**16.07**	**338**		P		**P**	**15 22 08.0**	**+1.6**
SUW					pmax	pmax			
	comp=Z,26nm,0.8s								
SUW	**Suwalki**	**16.07**	**338**		P		**P**	**15 22 08.0**	**+1.6**
	comp=Z,26nm,0.8s								
SUW	**Suwalki**	**16.07**	**338**		P		**P**	**15 22 08.0**	**+1.6**
	comp=Z,26nm,0.8s								
DPC	**Dobruska-Polom**	**16.09**	**318**	*e*	P		**P**	**15 22 04.3**	**-2.4**
DPC					AMS	AMS		15 29 10.0	
	comp=Z,300nm,15.2s								
MOS	**Moscow**	**16.60**	**9**	*e*	P		**P**	**15 22 09.8**	**-3.4**
MOS				*e*	S		**S**	**15 25 07.8**	**-9.0**
MOS					pmax	pmax			
	comp=Z,54nm,1.5s								
GERES	**GERESS Array B**	**16.76**	**311**		Pn		**P**	**15 22 15.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=113,slow=10,SNR=7.2								
PRU	**Pruhonice**	**16.84**	**315**	*e*	P		**P**	**15 22 19.2**	**+3.0**
PRU					AMS	AMS		15 30 40.0	
	comp=Z,200nm,17.0s								
DAVOX	**Davos**	**18.43**	**301**		P		**P**	**15 22 35.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=198,slow=19,SNR=2.4								
PGF	**Pioggiola**	**18.43**	**288**	*e*	P		**P**	**15 22 36.3**	**+0.2**
VSU	**Vasula**	**19.49**	**350**	*i*	P		**P**	**15 22 47.5**	**-1.1**
SBF	**Sospel**	**19.64**	**291**	*e*	P		**P**	**15 22 50.8**	**+0.4**
	comp=Z,175nm,1.5s								
SBF	**Sospel**	**19.64**	**291**	*e*	P		**P**	**15 22 50.8**	**+0.4**
SBF					pmax	pmax			
	comp=Z,87nm,1.5s								
FELD	**Feldberg**	**19.95**	**303**	*e*	P		**P**	**15 22 53.6**	**-0.2**
MBDF	**Montbardon**	**20.19**	**294**	*e*	P		**P**	**15 22 57.2**	**+0.8**
	comp=Z,55nm,1.2s								
MBDF	**Montbardon**	**20.19**	**294**	*e*	P		**P**	**15 22 57.2**	**+0.8**
MBDF					pmax	pmax			
	comp=Z,28nm,1.2s								
FRF	**La Foret Royal**	**20.19**	**290**	*e*	P		**P**	**15 22 56.3**	**-0.1**
	comp=Z,22nm,0.8s								
FRF	**La Foret Royal**	**20.19**	**290**	*e*	P		**P**	**15 22 56.3**	**-0.1**
FRF					pmax	pmax			
	comp=Z,11nm,0.8s								
LMR	**La Mourre**	**20.28**	**290**	*e*	P		**P**	**15 22 57.3**	**-0.1**
BNI	**Bardonecchia**	**20.29**	**295**	*e*	P		**P**	**15 22 58.1**	**+0.6**
BNI					pmax	pmax			
	comp=Z,25nm,0.9s								
BNI	**Bardonecchia**	**20.29**	**295**	*e*	P		**P**	**15 22 58.1**	**+0.6**
	comp=Z,25nm,0.9s								
LPG	**La Plagne**	**20.30**	**296**	*e*	P		**P**	**15 22 57.5**	**0.0**
	comp=Z,33nm,1.0s								
LPG	**La Plagne**	**20.30**	**296**	*e*	P		**P**	**15 22 57.5**	**0.0**
LPG					pmax	pmax			
	comp=Z,16nm,1.0s								
LPL	**La Plagne**	**20.32**	**296**	*e*	P		**P**	**15 22 57.7**	**0.0**
	comp=Z,26nm,0.9s								
LPL	**La Plagne**	**20.32**	**296**	*e*	P		**P**	**15 22 57.7**	**0.0**
LPL					pmax	pmax			
	comp=Z,13nm,0.9s								
CDF	**Champ du Feu**	**20.56**	**304**	*e*	P		**P**	**15 22 59.8**	**-0.5**
	comp=Z,53nm,1.6s								
CDF	**Champ du Feu**	**20.56**	**304**	*e*	P		**P**	**15 22 59.8**	**-0.5**
CDF					pmax	pmax			
	comp=Z,26nm,1.5s								
ECH	**Echery**	**20.59**	**304**	*e*	P		**P**	**15 23 00.9**	**+0.4**
HINF	**Hinteralfeld**	**20.68**	**303**	*e*	P		**P**	**15 23 01.3**	**-0.2**
	comp=Z,12nm,0.9s								
HINF	**Hinteralfeld**	**20.68**	**303**	*e*	P		**P**	**15 23 01.3**	**-0.2**
HINF					pmax	pmax			
	comp=Z,6.0nm,0.9s								
ORIF	**Oris-en-Rattie**	**20.84**	**294**	*e*	P		**P**	**15 23 03.6**	**+0.5**
	comp=Z,32nm,1.1s								
ORIF				*e*	R				
	comp=Z,238nm,19.2s								
SMRF	**Simiane la Rot**	**20.99**	**291**	*e*	P		**P**	**15 23 04.6**	**-0.1**
HAU	**Haudompre**	**21.06**	**303**	*e*	P		**P**	**15 23 05.4**	**+0.1**
HAU				*e*	R				
	comp=Z,183nm,19.0s								
VIVF	**Saint-Julien-l**	**21.69**	**294**	*e*	P		**P**	**15 23 11.3**	**-0.5**
MEZF	**Maizieres J'vi**	**22.02**	**304**	*e*	P		**P**	**15 23 14.9**	**-0.1**
FINES	**FINESS Array B**	**22.47**	**351**		P		**P**	**15 23 19.6**	**+0.3**
	comp=Z,3.1nm,0.6s,mb3.9,baz=161,slow=10,SNR=23								
FINES					LR	LR		15 33 50.9	
	comp=Z,105nm,19.2s,MS3.3,baz=352,slow=42								
LOR	**Lormes**	**22.55**	**300**	*e*	P		**P**	**15 23 20.5**	**+0.2**
	comp=Z,10nm,0.9s,mb3.9								
LOR				*e*	R				
	comp=Z,202nm,21.0s								
LOR	**Lormes**	**22.55**	**300**	*e*	P		**P**	**15 23 20.5**	**+0.2**
LOR					pmax	pmax			
	comp=Z,5.0nm,0.9s,mb3.9								
LOR					MLR	MLR			
	comp=Z,200nm,21.0s,MS3.5								
LBL	**Lubilhac**	**22.73**	**295**	*e*	P		**P**	**15 23 27.4**	**+5.4**
SSF	**Saint Saulge**	**22.76**	**299**	*e*	P		**P**	**15 23 22.6**	**+0.3**
AVF	**Avril sur Loir**	**22.82**	**299**	*e*	P		**P**	**15 23 23.3**	**+0.4**
	comp=Z,29nm,1.1s,mb4.3								
AVF	**Avril sur Loir**	**22.82**	**299**	*e*	P		**P**	**15 23 23.3**	**+0.4**
AVF					pmax	pmax			
	comp=Z,15nm,1.1s,mb4.3								
AGO	**Saint Agoulin**	**22.88**	**297**	*e*	P		**P**	**15 23 28.0**	**+4.5**
BAIF	**Baives**	**22.96**	**307**	*e*	P		**P**	**15 23 24.2**	**0.0**
KAF	**Kangasniemi**	**23.09**	**352**	*e*	p		**P**	**15 23 25.2**	**-0.2**
	comp=Z,5.0nm,0.8s,mb4.0								
KAF	**Kangasniemi**	**23.09**	**352**	*e*	P		**P**	**15 23 25.2**	**-0.2**
KAF					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.0								
TCF	**Toulx Ste Croi**	**23.54**	**297**	*e*	P		**P**	**15 23 30.2**	**+0.3**
	comp=Z,6.7nm,0.8s,mb3.8								
TCF	**Toulx Ste Croi**	**23.54**	**297**	*e*	P		**P**	**15 23 30.2**	**+0.3**
TCF					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb3.8								
CAF	**Calviac**	**23.55**	**294**	*e*	P		**P**	**15 23 30.2**	**+0.2**
ARU	**Arti**	**23.89**	**36**	⇓	*i*	P	**P**	**15 23 34.2**	**+1.0**
ARU					*e*			15 24 03.1	
ARU					*e*	PPP	PPP

comp=Z,69nm,18.2s,MS3.7,baz=62,slow=39
BOD Bodaibo 53.15 41 *e*P **P** 15 27 33.9 **-4.9**
HHC Hu-ho-hao-te 58.04 61 *e*P **P** 15 28 13.0 **-1.2**
HHC AP pP 15 28 17.5 -0.3
HHC XP sP 15 28 20.3 +1.1
HHC PCP PcP 15 29 03.5 -2.5
HHC PP PP 15 30 24.0 -0.6
HHC SCP 15 33 02.8
HHC S **S** **15 36 13.5 +0.6**
HHC XS 15 36 23.0
HHC SS SS 15 40 08.0 +2.2
HHC AMB AMB
comp=Z,11nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,62nm,10.7s
HHC LR LR
comp=N,89nm,15.4s,MS4.2
HHC LR LR
comp=E,114nm,14.2s,MS4.2
HHC LR LR
comp=Z,86nm,17.8s,MS3.9
NJ2 Nanjing 67.51 66 *e*P **P** **15 29 18.0 +0.7**
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
MDJ Mudanjiang 67.67 50 P **P** **15 29 15.5 -2.5**
MDJ AMB AMB
comp=Z,3.0nm,1.5s,mb4.1
MDJ AMB AMB
comp=Z,17nm,3.4s
BOSA Boshof 68.08 187 P **P** **15 29 22.4 +1.5**
comp=Z,2.4nm,0.6s,mb4.4,baz=9.3,slow=10.0,SNR=7.4
BOSA Boshof 68.08 187 P **P** **15 29 22.4 +1.5**
YKA Yellowknife Ar 75.15 345 P **P** **15 30 01.9 -0.5**
comp=Z,0.8nm,0.8s,mb3.7,baz=31,slow=5.8,SNR=7.2
MJAR Matsushiro Arr 77.75 53 P **P** **15 30 17.2 -0.4**
comp=Z,0.5nm,0.8s,mb3.5,baz=288,slow=3.8,SNR=3.4

NNC 31 15:20:18.5±4.1, 37.85N×71.65E, h259km±68km, mpv3.8, 4C, Error ellipse: s-maj=50.7km s-min=36.7km az=32.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.25**	**24**	⇑P	P	15 21 37.5	-0.6
	4.4nm,0.3s						
AAK				⇑S	S	15 22 41.8	+1.4
	6.2nm,0.9s						
KK31	**Karatay Array**	**5.32**	**351**	P	P	15 21 38.6	-0.4
	4.2nm,0.2s,baz=165,slow=12,SNR=47						
KK31				⇑S	S	15 22 41.3	-0.6
	20nm,0.7s,baz=178,slow=22						
AB31	**Akbulak array**	**14.19**	**327**	⇑S	S	15 26 05.6	+4.4
	2.1nm,0.7s,baz=160,slow=24						

*CSEM **31** 15:23:23.0±0.1,39.41N×33.10E,mb4.2/11, Error ellipse: s-maj=1.5km s-min=1.2km az=1.0*
*MOS **31** 15:23:24.5±0.8,39.42N×33.08E,h10km,mb4.0/12, Error ellipse: s-maj=10.7km s-min=6.0km az=41.8*
*ISK **31** 15:23:24.4,39.40N×33.10E,h8km,ML4.3*
*IDC **31** 15:23:25.6±1.1,39.53N×33.08E,mb3.7/9,mb1 3.8/14, mb1mx3.8/24,mbtmp3.7/14,ML3.6/5, Error ellipse: s-maj=15.3km s-min=7.3km az=1.0*
*NEIC **31** 15:23:25.4±1.5,39.44N×33.13E,h2km±11km,mb4.1/18, ML4.2(ISK), Error ellipse: s-maj=7.3km s-min=6.2km az=185.0*
ISC 31 15:23:24.8±0.6, 39.43N±0.02×33.09E±0.02, h9km±4km, n131, σ0°83/144, mb3.9/20, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAMT	**Kaman**	**0.49**	**97**	*i* PG	**Pg**	**15 23 33.6**	**-1.1**
ANTO	**Ankara**	**0.50**	**333**	*i* PG	**Pg**	**15 23 34.7**	**-0.2**
ANTO				*i* SG	**Sg**	**15 23 43.0**	**+1.4**
ANTO	**Ankara**	**0.50**	**333**	*i* P	**Pg**	**15 23 35.1**	**+0.2**
ANTO				*i* S	**Sg**	**15 23 42.6**	**+1.0**
BRTR	**Keskin Array B**	**0.52**	**55**	Pg	**Pg**	**15 23 34.4**	**-1.0**
	616nm,0.3s,baz=214,slow=18,SNR=160						
BRTR				Lg		15 23 41.7	
	3μm,0.3s,baz=223,slow=36,SNR=115						
BRTR	**Keskin Array B**	**0.52**	**55**	Pg	**Pg**	**15 23 34.3**	**-1.0**
LOD	**Lodumlu**	**0.53**	**332**	*i* PG	**Pg**	**15 23 35.8**	**+0.3**
CDAG	**Cicekdag**	**1.01**	**78**	*i* P	**Pb**	**15 23 43.1**	**-1.0**
CDAG				*i* S	**Sb**	**15 23 57.4**	**+0.2**
KIZT	**Kizilcal**	**1.09**	**240**	*i* PG	**Pg**	**15 23 44.9**	**-1.7**
ELDT	**Eldivan**	**1.09**	**14**	*i* P	**Pb**	**15 23 44.9**	**-0.5**
ELDT				*i* S	**Sb**	**15 24 03.4**	**+3.8**
CANT	**Cankiri**	**1.25**	**19**	*i* PN	**Pn**	**15 23 43.9**	**+0.5**
SGKT	**Sivrigoynuk**	**1.39**	**326**	*i* P	**Pn**	**15 23 51.5**	**+1.0**
SGKT				*i* S	**Sb**	**15 24 17.8**	**+10**
CORM	**Corum**	**1.41**	**57**	*i* PN	**Pn**	**15 23 51.0**	**+0.3**
AVNT	**Avonos**	**1.52**	**115**	*i* P	**Pn**	**15 23 52.3**	**0.0**
AVNT				*i* S	**Sb**	**15 24 11.9**	**0.0**
KONT	**Konya--Tatoy**	**1.58**	**201**	*i* PN	**Pn**	**15 23 53.7**	**+0.5**
ESKT	**Eskisehir**	**1.74**	**274**	*i* PN	**Pn**	**15 23 56.0**	**+0.6**
ESKT	**Eskisehir**	**1.74**	**274**	*i* P	**Pn**	**15 23 57.0**	**+1.6**
ESKT				*i* S	**Sn**	**15 24 25.7**	**+7.9**
YOZ	**Yozgat**	**1.74**	**82**	*i* PN	**Pn**	**15 23 56.1**	**+0.7**
TOS	**Tosya**	**1.76**	**24**	*i* PN	**Pn**	**15 23 56.7**	**+1.0**
NIG	**Nigde**	**1.77**	**137**	*i* PN	**Pn**	**15 23 55.7**	**-0.2**
SAFT	**Safranbolu**	**1.84**	**350**	PN	**Pn**	**15 23 57.4**	**+0.5**
BALT	**Daday**	**2.12**	**6**	*i* P	**Pn**	**15 24 01.4**	**+0.5**
BALT				*i* S	**Sn**	**15 24 35.3**	**+7.8**
HENT	**Hendek**	**2.18**	**310**	*i* P	**Pn**	**15 24 04.1**	**+2.2**
BNN	**Bunyan**	**2.22**	**104**	*e*PN	**Pn**	**15 24 02.4**	**+0.1**
GPA	**Golpazari**	**2.31**	**293**	PN	**Pn**	**15 24 03.3**	**-0.3**
ALT	**Altintas**	**2.34**	**262**	PN	**Pn**	**15 24 04.4**	**+0.3**
BYBT	**Boyabat**	**2.41**	**32**	PN	**Pn**	**15 24 04.6**	**-0.4**
BOYT	**Boyabat**	**2.43**	**34**	*i* P	**Pn**	**15 24 05.6**	**+0.3**
HDMB	**Hadim**	**2.50**	**191**	PN	**Pn**	**15 24 07.2**	**+0.8**
ISP	**Isparta**	**2.56**	**233**	PN	**Pn**	**15 24 07.3**	**0.0**
ISP	**Isparta**	**2.56**	**233**	⇑ePn	**Pn**	**15 24 06.2**	**-1.1**
TKTP	**Tekketepe**	**2.57**	**238**	*i* P	**Pn**	**15 24 08.2**	**+0.8**
BZK	**Bozkurt**	**2.62**	**15**	PN	**Pn**	**15 24 08.3**	**+0.2**
KVT	**Kavak**	**2.80**	**53**	PN	**Pn**	**15 24 10.7**	**0.0**
TOKT	**Tokat**	**2.81**	**70**	PN	**Pn**	**15 24 11.0**	**+0.3**
GDZ	**Gediz**	**2.82**	**264**	*e*P	**Pn**	**15 24 12.0**	**+1.0**
MEST	**Erdemli**	**2.96**	**163**	*i* P	**Pn**	**15 24 12.4**	**-0.4**
HRT	**Hereke**	**2.97**	**299**	PN	**Pn**	**15 24 13.7**	**+0.6**
KHL	**Karahalli**	**2.99**	**250**	PN	**Pn**	**15 24 13.8**	**+0.4**
SVST	**Sivas**	**3.00**	**82**	*i* P	**Pn**	**15 24 14.2**	**+0.7**
YLV	**Yalova**	**3.07**	**293**	PN	**Pn**	**15 24 14.3**	**-0.2**
ULDT	**Uludag**	**3.13**	**284**	*i* P	**Pn**	**15 24 15.2**	**-0.1**
ANTB	**Antalya**	**3.17**	**218**	PN	**Pn**	**15 24 15.7**	**-0.2**
CEYT	**Ceyhan**	**3.19**	**138**	PN	**Pn**	**15 24 16.5**	**+0.3**
IKL	**Isikli**	**3.22**	**171**	PN	**Pn**	**15 24 16.1**	**-0.5**
ORLT	**Orhaneli**	**3.29**	**282**	PN	**Pn**	**15 24 17.5**	**-0.1**
DST	**Dursunbey**	**3.46**	**274**	PN	**Pn**	**15 24 20.5**	**+0.6**
ISK	**Istanbul-Kandi**	**3.49**	**299**	PN	**Pn**	**15 24 20.8**	**+0.3**
GOLH	**Golhisar**	**3.53**	**233**	*i* P	**Pn**	**15 24 21.9**	**+0.8**
DENT	**Denizli**	**3.59**	**244**	PN	**Pn**	**15 24 21.6**	**-0.3**
ELL	**Elmali**	**3.67**	**224**	*e*PN	**Pn**	**15 24 22.9**	**0.0**
GAZ	**Gaziantep**	**3.95**	**123**	*e*PN	**Pn**	**15 24 27.4**	**+0.5**
BALB	**Balikesir**	**4.03**	**275**	*e*PN	**Pn**	**15 24 28.1**	**-0.1**
GZT	**Gaziantep**	**4.08**	**119**	*e*P	**Pn**	**15 24 29.9**	**+1.1**
HTY	**Hatay**	**4.09**	**143**	*e*PN	**Pn**	**15 24 28.5**	**-0.4**
AKS	**Akhisar**	**4.14**	**264**	*e*PN	**Pn**	**15 24 29.3**	**-0.3**
MYA	**Malatya**	**4.31**	**103**	*e*PN	**Pn**	**15 24 32.5**	**+0.5**
MALT	**Malatya**	**4.31**	**103**	*e*PN	**Pn**	**15 24 31.8**	**-0.3**
MALT	**Malatya**	**4.31**	**103**	*e*Pn	**Pn**	**15 24 31.7**	**-0.5**
MALT				*e*Pg	**Pg**	**15 24 43.6**	**-7.3**
MALT	**Malatya**	**4.31**	**103**	*e*Pg	**Pg**	**15 24 43.6**	**-7.3**
YER	**Yerkesik**	**4.42**	**240**	*e*PN	**Pn**	**15 24 34.2**	**+0.6**
CSS	**Prodhromos**	**4.46**	**177**	*e*P	**Pn**	**15 24 33.3**	**-0.9**
SIM	**Simferopol'**	**5.57**	**8**	P	**Pn**	**15 24 58.8**	**+8.9**
SIM				*e*S	**Sn**	**15 25 52.0**	**-2.8**
SIM				pmax	pmax		
	comp=Z,28nm,1.0s						
SIM				MLR	MLR		
	comp=Z,200nm,16.0s						
PSN	**Preselentsi**	**5.62**	**321**	*e*P	**Pn**	**15 24 50.0**	**-0.6**
RZN	**Rozhen**	**6.76**	**292**	P	**Pn**	**15 25 05.0**	**-1.8**
MMB	**Musomiste**	**7.45**	**290**	P	**Pn**	**15 25 14.3**	**-2.1**
IDI	**Anoyia**	**7.72**	**240**	Pn	**Pn**	**15 25 20.2**	**0.0**
	comp=Z,1.6nm,0.3s,baz=44,slow=15,SNR=10						
ASF	**Jabal al Asfar**	**7.87**	**156**	Pn	**Pn**	**15 25 21.9**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=334,slow=18,SNR=3.2						
KKB	**Krupnik**	**7.99**	**291**	*e*P	**Pn**	**15 25 22.3**	**-1.6**
MLR	**Muntele Rosu**	**8.04**	**321**	Pn	**P**	**15 25 22.9**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=161,slow=13,SNR=1.5						
MLR				Sn	**Sn**	**15 26 54.5**	**-2.0**
	comp=Z,1.5nm,0.3s,baz=132,slow=20,SNR=4.1						
VTS	**Vitosha**	**8.11**	**296**	*e*P	**P**	**15 25 13.8**	**-12**
KIV	**Kislovodsk**	**8.48**	**55**	*e*P	**P**	**15 25 37.5**	**+6.7**
KIV				pmax	pmax		
	comp=N,5.0nm,1.0s						
KIV				pmax	pmax		
	comp=E,7.0nm,1.0s						
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
GVD	**Gavdhos**	**8.52**	**240**	P	**P**	**15 25 31.6**	**+0.3**
	comp=Z,22nm,0.9s						
GVD	**Gavdhos**	**8.52**	**240**	P	**P**	**15 25 31.6**	**+0.3**
	comp=Z,22nm,0.9s						
ZEI	**Tsey**	**8.82**	**64**	*e*P	**P**	**15 25 30.3**	**-5.1**
ZEI				pmax	pmax		
	comp=Z,36nm,0.1s						
AKASG	**Malin Array Be**	**11.60**	**348**	Pn	**P**	**15 26 08.4**	**-5.1**
	comp=Z,0.9nm,0.3s,baz=172,slow=12,SNR=4.5						
AKASG				Sn	**S**	**15 28 15.6**	**-8.6**
	comp=Z,1.1nm,0.3s,baz=164,slow=23,SNR=3.5						
AKASG	**Malin Array Be**	**11.60**	**348**	Pn	**P**	**15 26 08.4**	**-5.1**
AKASG				Sn	**S**	**15 28 15.6**	**-8.6**
GERES	**GERESS Array B**	**16.76**	**311**	Pn	**P**	**15 27 23.7**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=135,slow=9.7,SNR=4.7						
PGF	**Pioggiola**	**18.44**	**288**	*e*P	**P**	**15 27 43.1**	**+0.9**
	comp=Z,138nm,1.5s						
PGF	**Pioggiola**	**18.44**	**288**	*e*P	**P**	**15 27 43.1**	**+0.9**
PGF				pmax	pmax		
	comp=Z,69nm,1.5s						
MBDF	**Montbardon**	**20.20**	**294**	*e*P	**P**	**15 28 03.0**	**+0.5**
	comp=Z,25nm,1.2s						
MBDF	**Montbardon**	**20.20**	**294**	*e*P	**P**	**15 28 03.0**	**+0.5**
MBDF				pmax	pmax		
	comp=Z,13nm,1.2s						
LPG	**La Plagne**	**20.31**	**296**	*e*P	**P**	**15 28 03.8**	**+0.2**
	comp=Z,6.7nm,0.8s						
LPG	**La Plagne**	**20.31**	**296**	*e*P	**P**	**15 28 03.8**	**+0.2**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPL	**La Plagne**	**20.32**	**296**	*e*P	**P**	**15 28 04.3**	**+0.5**
	comp=Z,12nm,0.9s						
LPL	**La Plagne**	**20.32**	**296**	*e*P	**P**	**15 28 04.3**	**+0.5**
LPL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CDF	**Champ du Feu**	**20.57**	**304**	*e*P	**P**	**15 28 06.6**	**+0.3**
	comp=Z,5.0nm,0.8s						
CDF	**Champ du Feu**	**20.57**	**304**	*e*P	**P**	**15 28 06.6**	**+0.3**
CDF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HINF	**Hinteralfeld**	**20.69**	**302**	*e*P	**P**	**15 28 07.7**	**+0.1**
	comp=Z,3.6nm,0.6s						
HINF	**Hinteralfeld**	**20.69**	**302**	*e*P	**P**	**15 28 07.7**	**+0.1**
HINF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ORIF	**Oris-en-Rattie**	**20.85**	**294**	*e*P	**P**	**15 28 09.9**	**+0.7**
	comp=Z,26nm,1.4s						
ORIF	**Oris-en-Rattie**	**20.85**	**294**	*e*P	**P**	**15 28 09.9**	**+0.7**
ORIF				pmax	pmax		
	comp=Z,13nm,1.4s						
SMRF	**Simiane la Rot**	**21.00**	**291**	*e*P	**P**	**15 28 10.4**	**-0.4**
HAU	**Haudompre**	**21.06**	**303**	*e*P	**P**	**15 28 11.3**	**-0.1**
VIVF	**Saint-Julien-l**	**21.70**	**294**	*e*P	**P**	**15 28 18.3**	**+0.4**
	comp=Z,12nm,1.0s,mb4.0						
VIVF	**Saint-Julien-l**	**21.70**	**294**	*e*P	**P**	**15 28 18.3**	**+0.4**
VIVF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
LASF	**Ste Croix**	**22.24**	**292**	*e*P	**P**	**15 28 23.7**	**+0.4**
	comp=Z,22nm,1.4s,mb4.1						
FINES	**FINESS Array B**	**22.46**	**351**	P	**P**	**15 28 25.1**	**-0.3**
	comp=Z,1.9nm,0.6s,mb3.7,baz=155,slow=11,SNR=13						
LOR	**Lormes**	**22.56**	**300**	*e*P	**P**	**15 28 26.2**	**-0.2**
SSF	**Saint Saulge**	**22.76**	**299**	*e*P	**P**	**15 28 28.0**	**-0.4**
SSF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8						
SSF	**Saint Saulge**	**22.76**	**299**	*e*P	**P**	**15 28 28.0**	**-0.4**
	comp=Z,3.5nm,1.0s,mb3.8						
AVF	**Avril sur Loir**	**22.83**	**299**	*e*P	**P**	**15 28 29.1**	**+0.1**
	comp=Z,7.8nm,0.9s,mb3.8						
AVF	**Avril sur Loir**	**22.83**	**299**	*e*P	**P**	**15 28 29.1**	**+0.1**
AVF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
KAF	**Kangasniemi**	**23.09**	**352**	*e*p	**P**	**15 28 31.9**	**+0.5**
	comp=Z,2.0nm,0.7s,mb3.7						
KAF	**Kangasniemi**	**23.09**	**352**	*e*P	**P**	**15 28 31.9**	**+0.5**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
TCF	**Toulx Ste Croi**	**23.55**	**297**	*e*P	**P**	**15 28 36.1**	**+0.1**
	comp=Z,19nm,1.3s,mb4.1						
TCF	**Toulx Ste Croi**	**23.55**	**297**	*e*P	**P**	**15 28 36.1**	**+0.1**
TCF				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.0						
CAF	**Calviac**	**23.55**	**294**	*e*P	**P**	**15 28 36.4**	**+0.3**
RJF	**Les Rejaudoux**	**23.96**	**295**	*e*P	**P**	**15 28 39.7**	**-0.3**
HFS	**Hagfors**	**24.04**	**336**	P	**P**	**15 28 41.2**	**+0.6**
	comp=Z,2.8nm,0.8s,mb3.7,baz=169,slow=7.3,SNR=3.2						
MFF	**Saint Martin d**	**25.20**	**297**	*e*P	**P**	**15 28 51.5**	**-0.5**
	comp=Z,14nm,1.2s,mb4.1						
MFF	**Saint Martin d**	**25.20**	**297**	*e*P	**P**	**15 28 51.5**	**-0.5**
MFF				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.1						
NB2	**NORSAR Subarra**	**25.53**	**335**	P	**P**	**15 28 54.4**	**-0.5**
	comp=Z,0.5nm,0.8s,mb3.1,baz=132,slow=8.6						
NB2	**NORSAR Subarra**	**25.53**	**335**	P	**P**	**15 28 54.4**	**-0.5**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.4						
NOA	**NORSAR Array B**	**25.53**	**335**	P	**P**	**15 28 54.8**	**-0.2**
	comp=Z,1.1nm,0.8s,mb3.5,baz=137,slow=8.7,SNR=4.3						
FLN	**La Foliniere**	**25.67**	**302**	*e*P	**P**	**15 28 55.5**	**-0.9**
GRR	**Gorron**	**25.87**	**301**	*e*P	**P**	**15 28 57.6**	**-0.6**
	comp=Z,30nm,1.1s,mb4.4						
GRR	**Gorron**	**25.87**	**301**	*e*P	**P**	**15 28 57.6**	**-0.6**
GRR				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.4						
SGMF	**Saint Gilles**	**26.98**	**301**	*e*P	**P**	**15 29 08.0**	**-0.5**
	comp=Z,32nm,1.2s,mb4.4						
SGMF	**Saint Gilles**	**26.98**	**301**	*e*P	**P**	**15 29 08.0**	**-0.5**
SGMF				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.4						
ROSF	**Rostrenen**	**27.46**	**301**	*e*P	**P**	**15 29 12.4**	**-0.5**
	comp=Z,29nm,1.2s,mb4.4						
ROSF	**Rostrenen**	**27.46**	**301**	*e*P	**P**	**15 29 12.4**	**-0.5**
ROSF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.4						
EKA	**Eskdalemuir Ar**	**28.84**	**316**	P	**P**	**15 29 24.0**	**-1.2**
	comp=Z,0.8nm,0.6s,mb3.6,baz=111,slow=9.2,SNR=2.9						
ARCES	**ARCESS Array B**	**30.44**	**355**	P	**P**	**15 29 38.1**	**-1.3**
	comp=Z,2.5nm,0.8s,mb4.0,baz=270,slow=7.3,SNR=5.4						
MKAR	**Makanchi Array**	**36.17**	**62**	P	**P**	**15 30 28.2**	**-1.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=281,slow=6.2,SNR=6.2						
LSA	**Lhasa**	**48.06**	**83**	*e*P	**P**	**15 32 05.6**	**-0.9**
LSA				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
LSA	**Lhasa**	**48.06**	**83**	*e*P	**P**	**15 32 05.6**	**-0.9**
	comp=Z,5.9nm,1.1s,mb4.5						
LSA	**Lhasa**	**48.06**	**83**	*e*P	**P**	**15 32 05.6**	**-0.9**
	comp=Z,5.9nm,1.1s,mb4.5						
SONM	**Songino Array**	**51.88**	**55**	P	**P**	**15 32 37.2**	**+1.8**
	comp=Z,0.3nm,0.6s,mb3.4,baz=284,slow=5.9,SNR=2.9						
BOD	**Bodaibo**	**53.15**	**41**	*e*P	**P**	**15 32 40.9**	**-3.9**
YKA	**Yellowknife Ar**	**75.15**	**345**	P	**P**	**15 35 08.1**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=27,slow=5.5,SNR=4.9						
MJAR	**Matsushiro Arr**	**77.74**	**53**	P	**P**	**15 35 26.1**	**+2.5**
	comp=Z,0.2nm,0.3s,mb3.5,baz=270,slow=3.6,SNR=4.3						

*CSEM **31** 15:33:46.2±0.2,35.47N×0.12E,h10km,ML3.7, Error ellipse: s-maj=6.5km s-min=2.9km az=8.0*
*NEIC **31** 15:33:48.3,35.54N×0.15E,MG4.0(MDD), After MDD.*
*MDD **31** 15:33:48.4±2.3,35.53N×0.16E,h1km±42km,mb4.0/9, Error ellipse: s-maj=54.2km s-min=11.7km az=142.0, PRXIMO*
*CRAAG **31** 15:33:49.5,35.54N×0.33E,Ml3.7*
ISC 31 15:33:47.6±0.7, 35.62N±0.05×0.12E±0.03, h10km, n40, σ1°25/59, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJBR	**Djebel Berber**	**0.19**	**101**	P	**Pg**	**15 33 51.0**	**-0.8**
OJGS	**Djebel Guires**	**0.53**	**102**	P	**Pg**	**15 33 51.0**	**-7.3**
USTO	**Oran**	**0.55**	**282**	P	**Sg**	**15 34 05.0**	**-1.3**
OKGL	**Djebel Kef Gue**	**0.60**	**46**	P	**Pg**	**15 34 01.0**	**+1.3**
EANR	**'Ain N'Sour**	**0.87**	**67**	P	**Pb**	**15 34 05.0**	**+0.8**
ETRT	**Tiaret**	**0.99**	**103**	P	**Pb**	**15 34 06.0**	**-0.4**
ECHA	**Ech Chlef**	**1.15**	**62**	P	**Sb**	**15 34 21.5**	**-2.3**
EBNR	**Beni Rached**	**1.33**	**59**	P	**Sb**	**15 34 23.0**	**-6.1**
EMHD	**Djebel Mahouad**	**2.38**	**75**	P	**Pn**	**15 34 33.0**	**+5.8**
EMUR	**La Murta**	**2.47**	**334**	P	**Pn**	**15 34 29.0**	**+0.4**
EMUR				S	**Sn**	**15 34 52.5**	**-6.7**
EMUR	**La Murta**	**2.47**	**334**	Pn	**Pn**	**15 34 29.0**	**+0.4**
	3.1nm,0.3s,SNR=7.9						
EMUR				Sn	**Sn**	**15 34 56.2**	**-2.9**
	2.9nm,0.2s,SNR=4.6						
EMUR	**La Murta**	**2.47**	**334**	P	**Pn**	**15 34 29.0**	**+0.4**
	1.1nm,0.1s,SNR=10						
EMUR				S	**Sn**	**15 34 56.2**	**-3.0**
	2.9nm,0.2s,SNR=4.6						
EALB	**Alboran**	**2.58**	**278**	Pn	**Pn**	**15 34 30.7**	**+0.6**
	2.4nm,0.2s,SNR=7.9						
EALB				Sn	**Sn**	**15 35 03.0**	**+1.0**
	13nm,0.4s,SNR=7.9						
EALB	**Alboran**	**2.58**	**278**	P	**Pn**	**15 34 30.7**	**+0.5**
	2.4nm,0.2s,SNR=7.9						
EALB				S	**Sn**	**15 35 03.0**	**+1.1**
	13nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.74**	**299**	P	**Pn**	**15 34 33.6**	**+1.1**
EBER				S	**Sn**	**15 35 06.5**	**+0.5**
EBER	**Berja**	**2.74**	**299**	Pn	**Pn**	**15 34 33.6**	**+1.1**
	12nm,0.2s,SNR=16						
EBER				Sn	**Sn**	**15 35 06.5**	**+0.5**
	10nm,0.4s						
EBER	**Berja**	**2.74**	**299**	P	**Pn**	**15 34 33.6**	**+1.1**
	12nm,0.2s,SNR=16						
EBER				S	**Sn**	**15 35 06.5**	**+0.4**
	10nm,0.4s						
EBEN	**Beniarda**	**3.09**	**355**	Pn	**Pn**	**15 34 38.7**	**+1.3**
	0.7nm,0.2s,SNR=6.7						
EBEN				Sn	**Sn**	**15 35 14.2**	**-0.7**
	0.4nm,0.1s						
EBEN	**Beniarda**	**3.09**	**355**	P	**Pn**	**15 34 38.7**	**+1.3**
	0.7nm,0.2s,SNR=6.7						
EBEN				S	**Sn**	**15 35 14.2**	**-0.6**
	0.4nm,0.1s						
ETOB	**Tobarra**	**3.30**	**337**	Pn	**Pn**	**15 34 41.8**	**+1.4**
	10nm,0.2s,SNR=89						
ETOB				Sn	**Sn**	**15 35 21.1**	**+0.9**
	4.2nm,0.3s						
ETOB	**Tobarra**	**3.30**	**337**	P	**Pn**	**15 34 41.8**	**+1.4**
	10nm,0.2s,SNR=89						
ETOB				S	**Sn**	**15 35 21.1**	**+1.0**
	4.2nm,0.3s						
EQES	**Quesada**	**3.36**	**311**	Pn	**Pn**	**15 34 44.3**	**+3.0**
	4.1nm,0.2s,SNR=32						
EQES				Sn	**Sn**	**15 35 23.5**	**+1.8**
	3.0nm,0.3s,SNR=5.6						
EQES	**Quesada**	**3.36**	**311**	P	**Pn**	**15 34 44.3**	**+3.0**
	4.1nm,0.2s,SNR=32						
EQES				S	**Sn**	**15 35 23.5**	**+1.8**
	3.0nm,0.3s,SNR=5.6						
EIBI	**Ibiza**	**3.54**	**16**	Pn	**Pn**	**15 34 44.3**	**+0.5**
	3.5nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.54**	**16**	P	**Pn**	**15 34 44.3**	**+0.5**
	3.5nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.07**	**285**	Pn	**Pn**	**15 34 50.6**	**-0.7**
	2.2nm,0.1s,SNR=20						
EMIJ				Sn	**Sn**	**15 35 36.6**	**-3.0**
	1.9nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**4.54**	**305**	Pn	**Pn**	**15 34 58.2**	**+0.2**
	0.7nm,0.2s,SNR=6.1						
EADA				Sn	**Sn**	**15 35 49.0**	**-2.5**
	0.1nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**4.54**	**305**	P	**Pn**	**15 34 58.2**	**+0.2**
	0.7nm,0.2s,SNR=6.1						
EADA				S	**Sn**	**15 35 49.0**	**-2.5**
	0.1nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**4.76**	**355**	Pn	**Pn**	**15 35 02.7**	**+1.5**
	0.3nm,0.1s,SNR=7.2						
EMOS				Sn	**Sn**	**15 35 54.8**	**-2.3**
	0.1nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.76**	**355**	P	**Pn**	**15 35 02.7**	**+1.6**
	0.3nm,0.1s,SNR=7.2						
EMOS				S	**Sn**	**15 35 54.8**	**-2.3**
	0.1nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**5.07**	**301**	Pn	**Pn**	**15 35 05.8**	**+0.2**
	1.6nm,0.3s,SNR=10.0						
ECAB	**El Cabril**	**5.07**	**301**	P	**Pn**	**15 35 05.8**	**+0.3**
	1.6nm,0.3s,SNR=10.0						
ESDC	**Sonseca Array**	**5.18**	**323**	Pn	**Pn**	**15 35 06.0**	**-1.1**

ellipse: s-maj=9.1km s-min=5.9km az=129.8
*CSEM **31** 15:54:28.6±0.1,35.91N×29.11E,h35km±1km,mb4.1/3, Mw3.6,Error ellipse: s-maj=2.7km s-min=1.2km az=49.0*
*ATH **31** 15:54:29.4,36.06N×29.12E,h38km±1km,MD3.9/11*
*NEIC **31** 15:54:29.4,36.05N×29.12E,h38km,mb4.0/13, MD3.9(ATH),ML4.0(ISK),After ATH.*
*GRAL **31** 15:54:30.1±3.6,36.83N×29.76E,MD4.4*
*IDC **31** 15:54:30.7±1.3,35.97N×29.15E,h44km±17km,mb3.5/6, mb1 3.7/12,mb1mx3.5/26,mbtmp3.7/12,ML3.8/6,MS3.2/1, Ms1 3.2/1,ms1mx2.5/27,Error ellipse: s-maj=18.7km s-min=10.0km az=166.0*
*NIC **31** 15:54:31.9±0.3,36.30N×29.28E,h25km,mb4.3,ML3.9, MW3.4*
*HLW **31** 15:54:33.6,35.63N×28.92E,h31km,Mb4.1*

ISC 31 15:54:29.0±0.2,35.92N±0.02×29.15E±0.02,h47km±4km, n144,σ1$08/180,mb3.8/10,MS3.2/1,4C-4D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.42**	**57**	*e*PB	**P**	**15 54 39.0**	**-0.2**
AKAS	**Kas**	**0.49**	**50**	*i* P	**P**	**15 54 39.6**	**-0.4**
AKAS				*i* S	**S**	**15 54 48.6**	**+0.8**
ARG	**Arkhangelos**	**0.88**	**290**	*e*PN	**P**	**15 54 45.3**	**+0.2**
ARG				*e*SN	**S**	**15 54 57.6**	**+0.5**
ELL	**Elmali**	**1.03**	**36**	PG	**P**	**15 54 49.1**	**+1.8**
ELL				SG	**S**	**15 55 04.3**	**+3.4**
GOLH	**Golhisar**	**1.36**	**14**	*i* P	**P**	**15 54 53.1**	**+1.0**
GOLH				*i* S	**S**	**15 55 11.2**	**+2.1**
YER	**Yerkesik**	**1.40**	**330**	PN	**P**	**15 54 52.9**	**+0.3**
YER				SN	**S**	**15 55 10.8**	**+0.7**
ANTB	**Antalya**	**1.56**	**51**	PN	**P**	**15 54 57.2**	**+2.3**
ANTB				SN	**S**	**15 55 17.4**	**+3.3**
KARP	**Karpathos**	**1.66**	**258**	*e*PN	**P**	**15 54 58.0**	**+1.8**
MLSB	**Milas**	**1.76**	**322**	PN	**P**	**15 54 58.0**	**+0.3**
DNZL	**Cakiroluk**	**1.77**	**357**	*i* P	**P**	**15 54 57.9**	**+0.1**
DNZL				*i* S	**S**	**15 55 20.2**	**+1.0**
NISR	**Nisiros**	**1.77**	**294**	*e*PN	**P**	**15 54 57.8**	**0.0**
NISR	**Nisiros**	**1.77**	**294**	*e*Pb	**P**	**15 55 00.0**	**+2.2**
DENT	**Denizli**	**1.83**	**357**	PN	**P**	**15 54 58.5**	**-0.2**
BODT	**Bodrum**	**1.87**	**308**	PN	**P**	**15 54 58.3**	**-0.9**
BODT				SN	**S**	**15 55 20.0**	**-1.6**
BCK	**Bucak**	**1.93**	**37**	PN	**P**	**15 55 01.6**	**+1.6**
AYDN	**Tasoluk**	**2.01**	**330**	*i* P	**P**	**15 55 00.4**	**-0.9**
AYDN				*i* S	**S**	**15 55 25.6**	**+0.3**
ISP	**Isparta**	**2.21**	**29**	PN	**P**	**15 55 04.0**	**-0.1**
ISP	**Isparta**	**2.21**	**29**	*e*P	**P**	**15 55 04.2**	**+0.2**
ISP				*e*		15 55 07.8	
TKTP	**Tekketepe**	**2.32**	**24**	*i* P	**P**	**15 55 05.7**	**+0.1**
TKTP				*i* S	**S**	**15 55 39.4**	**+6.4**
KHL	**Karahalli**	**2.42**	**7**	PN	**P**	**15 55 06.1**	**-0.9**
SMG	**Samos**	**2.57**	**315**	*e*PN	**P**	**15 55 08.7**	**-0.5**
SMG				*e*SN	**S**	**15 55 38.2**	**-1.3**
MANT	**Manisa**	**2.61**	**350**	*i* P	**P**	**15 55 08.3**	**-1.4**
MANT				*i* S	**S**	**15 55 39.5**	**-0.9**
AKMC	**Akamas**	**2.75**	**108**	*e*P	**P**	**15 55 13.7**	**+2.0**
PPCY	**Paphos**	**2.81**	**111**	*e*P	**P**	**15 55 15.2**	**+2.6**
HDMB	**Hadim**	**2.89**	**68**	PN	**P**	**15 55 13.7**	**0.0**
IZM	**Izmir**	**2.90**	**329**	PN	**P**	**15 55 12.2**	**-1.6**
KDAG	**Bornova**	**2.90**	**329**	*i* P	**P**	**15 55 14.2**	**+0.3**
KDAG				*i* S	**S**	**15 55 46.9**	**-0.8**
ALFC	**Alevga**	**2.92**	**104**	*e*P	**P**	**15 55 15.8**	**+1.7**
ALFC				*e*S	**S**	**15 55 49.8**	**+1.6**
ALFC	**Alevga**	**2.92**	**104⇑**	*e*P	**P**	**15 55 15.8**	**+1.7**
	20nm,0.2s						
ALFC				S	**S**	**15 55 49.8**	**+1.6**
NPS	**Neapolis**	**2.95**	**258**	*e*PN	**P**	**15 55 16.0**	**+1.4**
BLCB	**Balcova**	**2.98**	**326**	PN	**P**	**15 55 13.7**	**-1.3**
XRY	**Khrisi**	**3.00**	**251**	*e*PN	**P**	**15 55 17.0**	**+1.6**
SANT	**Santorini**	**3.02**	**280**	*e*P	**P**	**15 55 14.5**	**-1.0**
SANT	**Santorini**	**3.02**	**280**	*e*P	**P**	**15 55 14.5**	**-1.0**
ERMK	**Ermenek**	**3.13**	**76**	*i* P	**P**	**15 55 19.3**	**+2.2**
APE	**Apeiranthos**	**3.13**	**293**	*i* P	**P**	**15 55 18.0**	**+0.9**
AKS	**Akhisar**	**3.14**	**341**	PN	**P**	**15 55 15.2**	**-2.1**
LEF	**Lefka**	**3.16**	**104**	*e*PN	**P**	**15 55 17.2**	**-0.3**
GDZ	**Gediz**	**3.18**	**5**	*i* P	**P**	**15 55 16.4**	**-1.4**
GDZ				*i* S	**S**	**15 56 05.9**	**+11**
URLA	**Izmir**	**3.18**	**321**	*i* P	**P**	**15 55 16.7**	**-1.1**
URLA				*i* S	**S**	**15 55 50.2**	**-4.6**
URLA	**Izmir**	**3.18**	**321**	*i* S	**S**	**15 55 52.4**	**-2.4**
SZAC	**Souni-Zanaja**	**3.27**	**110**	*e*P	**P**	**15 55 20.8**	**+1.7**
SZAC				*e*S	**S**	**15 55 59.6**	**+2.5**
SZAC	**Souni-Zanaja**	**3.27**	**110**	P	**P**	**15 55 20.8**	**+1.7**
	10nm,0.2s						
SZAC				S	**S**	**15 55 59.6**	**+2.5**
MAMC	**Mammari**	**3.40**	**101**	*e*P	**P**	**15 55 22.5**	**+1.5**
KDHN	**Kadinhani**	**3.52**	**42**	*i* P	**P**	**15 55 22.7**	**+0.1**
KDHN				*i* S	**S**	**15 56 04.6**	**+1.2**
IDI	**Anoyia**	**3.52**	**261**	P	**P**	**15 55 23.5**	**+0.8**
	9.6nm,0.3s,baz=51,slow=12,SNR=47						
IDI				S	**S**	**15 56 03.6**	**+0.1**
	16nm,0.3s,baz=325,slow=12,SNR=5.1						
CSS	**Prodhromos**	**3.55**	**104**	*e*P	**P**	**15 55 24.0**	**+1.0**
CSS				*e*S	**S**	**15 56 06.0**	**+1.8**
CSS	**Prodhromos**	**3.55**	**104**	P	**P**	**15 55 24.0**	**+1.0**
	2.2nm,0.3s						
CSS				S	**S**	**15 56 06.0**	**+1.8**
KIZT	**Kizilcal**	**3.67**	**36**	*e*PN	**P**	**15 55 24.7**	**-0.1**
IKL	**Isikli**	**3.69**	**84**	*e*PN	**P**	**15 55 25.8**	**+0.7**
ESKT	**Eskisehir**	**3.84**	**20**	*e*PN	**P**	**15 55 26.0**	**-1.2**
BALB	**Balikesir**	**3.85**	**345**	*e*PN	**P**	**15 55 25.0**	**-2.3**
PRK	**Paraskevi**	**4.03**	**326**	*e*PN	**P**	**15 55 29.5**	**-0.3**
VAM	**Vamos**	**4.06**	**264**	*e*PN	**P**	**15 55 32.0**	**+1.7**
VAM	**Vamos**	**4.06**	**264**	*e*P	**P**	**15 55 32.4**	**+2.1**
ORLT	**Orhaneli**	**4.12**	**357**	*e*PN	**P**	**15 55 29.2**	**-2.0**
ULDT	**Uludag**	**4.22**	**360**	*i* P	**P**	**15 55 31.0**	**-1.5**
GVD	**Gavdhos**	**4.27**	**257**	*e*P	**P**	**15 55 33.6**	**+0.3**
GVD	**Gavdhos**	**4.27**	**257**	*e*P	**P**	**15 55 33.6**	**+0.4**
KYTH	**Kithira**	**4.96**	**276**	*e*PN	**P**	**15 55 44.0**	**+1.1**
KAMT	**Kaman**	**5.00**	**45**	*e*PN	**P**	**15 55 42.3**	**-1.2**
LIA	**Limnos Island**	**5.06**	**323**	*e*PN	**P**	**15 55 43.7**	**-0.6**
VLI	**Veliai**	**5.08**	**281**	*e*PN	**P**	**15 55 45.5**	**+0.9**
SGKT	**Sivrigoynuk**	**5.18**	**25**	*i* P	**P**	**15 55 45.6**	**-0.4**
BRTR	**Keskin Array B**	**5.21**	**42**	P	**P**	**15 55 45.6**	**-0.7**
	1.3nm,0.3s,baz=213,slow=15,SNR=11						
BRTR				S	**S**	**15 56 44.4**	**-1.5**
	2.0nm,0.3s,baz=213,slow=26,SNR=6.6						
SLUM			**5.50**	**218**	P	**P**	**15 55 49.0**	**-1.4**
SLUM					S	**S**	**15 56 43.5**	**-10**
BHL	**Bhannes**		**5.71**	**109**	*e*Pn	**P**	**15 55 52.6**	**-0.8**
BHL					Sn	**S**	**15 56 52.5**	**-6.1**
HNTI	**Hanita**		**5.72**	**118**	Pn	**P**	**15 55 53.3**	**-0.3**
HNTI					Sn	**S**	**15 56 54.7**	**-4.2**
HAF	**Haifa**		**5.78**	**121**	Pn	**P**	**15 55 53.5**	**-0.9**
HWQ	**Hawqa**		**5.81**	**104**	*e*Pn	**P**	**15 55 54.2**	**-0.6**
HWQ					Sn	**S**	**15 56 56.7**	**-4.3**
OFRI	**'Ofer**		**5.85**	**123**	Pn	**P**	**15 55 54.8**	**-0.5**
MMA0	**Mount Meron ar**		**5.92**	**117**	Pn	**P**	**15 55 55.6**	**-0.8**
MMA0					Sn	**S**	**15 57 01.0**	**-2.9**
MMA1	**Mount Meron ar**		**5.93**	**117**	Pn	**P**	**15 55 56.1**	**-0.3**
KSDI	**Kefar Szold**		**6.02**	**115**	Pn	**P**	**15 55 57.0**	**-0.8**
HRI	**Mount Hermon**		**6.04**	**114**	Pn	**P**	**15 55 57.5**	**-0.6**
SLTI	**Sal'it**		**6.11**	**125**	Pn	**P**	**15 55 58.8**	**-0.2**
SLTI					Sn	**S**	**15 57 03.1**	**-5.5**
FKH	**Fakeheh**		**6.18**	**104**	*e*Pn	**P**	**15 56 00.1**	**+0.1**
KSHT	**Keshet**		**6.24**	**116**	Pn	**P**	**15 56 00.5**	**-0.3**
SQR			**6.26**	**163⇓**	*e*P	**P**	**15 56 01.2**	**+0.1**
HMYD	**Mayadein**		**6.26**	**167**	P	**P**	**15 56 01.0**	**-0.1**
KOT	**Kottamia**		**6.39**	**159⇑**	*e*P	**P**	**15 56 02.7**	**-0.2**
HNAT	**Natroun**		**6.39**	**168**	P	**P**	**15 56 02.6**	**-0.3**
FYM	**Al Fayyum**		**6.41**	**165⇑**	*e*P	**P**	**15 56 02.9**	**-0.4**
FYM					S	**S**	**15 57 08.5**	**-7.4**
AYT	**Al 'Ayyat**		**6.42**	**164⇓**	*e*P	**P**	**15 56 03.4**	**-0.1**
HSAF	**As Saff**		**6.60**	**161**	P	**P**	**15 56 06.1**	**+0.1**
KZIT	**Kziot**		**6.65**	**137**	Pn	**P**	**15 56 05.9**	**-0.7**
KZIT					Sn	**S**	**15 57 15.6**	**-6.4**
GLL	**Jalalah**		**6.68**	**160**	⇓P	**P**	**15 56 06.7**	**-0.4**
MASH	**Mash'abbe Sade**		**6.80**	**135**	Pn	**P**	**15 56 08.0**	**-0.8**
MZDA	**Masada**		**6.93**	**130**	Pn	**P**	**15 56 10.0**	**-0.5**
MKRJ	**Makawir**		**6.95**	**127**	Pn	**P**	**15 56 10.4**	**-0.3**
PRNI	**Paran**		**7.41**	**137**	⇓Pn	**P**	**15 56 15.9**	**-1.3**
PRNI					Sn	**S**	**15 57 36.0**	**-4.8**
ASF	**Jabal al Asfar**		**7.44**	**118**	P	**P**	**15 56 16.9**	**-0.7**
	2.0nm,0.3s,baz=83,slow=18,SNR=7.3							
ASF					S	**S**	**15 57 40.9**	**-0.6**
	0.8nm,0.3s,baz=360,slow=20,SNR=2.0							
KMTI	**Karmit**		**7.45**	**139**	Pn	**P**	**15 56 16.5**	**-1.3**
KMTI					Sn	**S**	**15 57 36.1**	**-5.8**
HRFI	**Mount Harif**		**7.67**	**138**	Pn	**P**	**15 56 19.2**	**-1.6**
MALT	**Malatya**		**7.79**	**69**	P	**P**	**15 56 20.8**	**-1.7**
MBH	**Mount Berech**		**7.80**	**140**	Pn	**P**	**15 56 21.7**	**-0.9**
MBH					Sn	**S**	**15 57 45.7**	**-4.8**
EIL	**Elat**		**7.92**	**140**	Pn	**P**	**15 56 23.1**	**-1.1**
EIL					Sn	**S**	**15 57 48.1**	**-5.3**
MLR	**Muntele Rosu**		**9.87**	**347**	P	**P**	**15 56 50.4**	**-0.6**
	0.2nm,0.3s,baz=138,slow=9.3,SNR=2.4							
TIP	**Timpagrande**		**10.36**	**292**	*e*P	**P**	**15 56 55.8**	**-2.0**
TIP	**Timpagrande**		**10.36**	**292**	*e*P	**P**	**15 56 55.8**	**-2.0**
KIV	**Kislovodsk**		**13.12**	**48**	*e*P	**P**	**15 57 41.6**	**+6.8**
KIV					pmax	pmax		
	comp=Z,11nm,1.1s							
KIV					pmax	pmax		
	comp=N,5.0nm,1.0s							
AKASG	**Malin Array Be**		**14.78**	**0**	P	**P**	**15 57 55.8**	**-0.6**
	comp=N,0.4nm,0.3s,baz=184,slow=12,SNR=3.4							
PGF	**Pioggiola**		**16.93**	**299**	*e*P	**P**	**15 58 24.1**	**+0.1**
	comp=N,83nm,1.4s							
PGF	**Pioggiola**		**16.93**	**299**	*e*P	**P**	**15 58 24.1**	**+0.1**
PGF					pmax	pmax		
	comp=Z,42nm,1.4s							
GERES	**GERESS Array B**		**17.19**	**323**	P	**P**	**15 58 28.3**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=135,slow=9.4,SNR=8.1							
KHC	**Kasperske Hory**		**17.45**	**324**	*e*P	**P**	**15 58 31.5**	**+1.1**
SBF	**Sospel**		**18.42**	**302**	*e*P	**P**	**15 58 42.6**	**+0.2**
	comp=Z,172nm,1.5s							
SBF	**Sospel**		**18.42**	**302**	*e*P	**P**	**15 58 42.6**	**+0.2**
SBF					pmax	pmax		
	comp=Z,86nm,1.5s							
FRF	**La Foret Royal**		**18.87**	**301**	*e*P	**P**	**15 58 48.0**	**+0.1**
	comp=Z,32nm,1.1s							
FRF	**La Foret Royal**		**18.87**	**301**	*e*P	**P**	**15 58 48.0**	**+0.1**
FRF					pmax	pmax		
	comp=Z,16nm,1.1s							
MBDF	**Montbardon**		**19.15**	**304**	*e*P	**P**	**15 58 51.8**	**+0.8**
	comp=Z,9.3nm,0.8s							
MBDF	**Montbardon**		**19.15**	**304**	*e*P	**P**	**15 58 51.8**	**+0.8**
MBDF					pmax	pmax		
	comp=Z,5.0nm,0.8s							
LPG	**La Plagne**		**19.43**	**306**	*e*P	**P**	**15 58 55.0**	**+0.9**
	comp=Z,3.6nm,0.5s							
LPG	**La Plagne**		**19.43**	**306**	*e*P	**P**	**15 58 55.0**	**+0.9**
LPG					pmax	pmax		
	comp=Z,2.0nm,0.5s							
LPL	**La Plagne**		**19.45**	**306**	*e*P	**P**	**15 58 54.8**	**+0.5**
	comp=Z,4.3nm,0.6s							
LPL	**La Plagne**		**19.45**	**306**	*e*P	**P**	**15 58 54.8**	**+0.5**
LPL					pmax	pmax		
	comp=Z,2.0nm,0.6s							
SMRF	**Simiane la Rot**		**19.74**	**301**	*e*P	**P**	**15 58 57.9**	**+0.5**
	comp=Z,30nm,1.2s							
ORIF	**Oris-en-Rattie**		**19.81**	**304**	*e*P	**P**	**15 58 58.9**	**+0.7**
	comp=Z,24nm,1.2s							
ORIF	**Oris-en-Rattie**		**19.81**	**304**	*e*P	**P**	**15 58 58.9**	**+0.7**
ORIF					pmax	pmax		
	comp=Z,12nm,1.2s							
OBN	**Obninsk**		**19.87**	**13⇑**	*e*P	**P**	**15 59 00.7**	**+2.0**
OBN					pmax	pmax		
	comp=Z,6.0nm,0.6s							
OBN	**Obninsk**		**19.87**	**13**	*e*P	**P**	**15 59 00.7**	**+2.0**
	comp=Z,6.0nm,0.6s							
HINF	**Hinteralfeld**		**20.34**	**313**	*e*P	**P**	**15 59 04.3**	**+0.6**
	comp=Z,1.1nm,0.5s							
HINF	**Hinteralfeld**		**20.34**	**313**	*e*P	**P**	**15 59 04.3**	**+0.6**
HINF					pmax	pmax		
	comp=Z,1.0nm,0.5s							
CDF	**Champ du Feu**		**20.38**	**315**	*e*P	**P**	**15 59 04.5**	**+0.4**
VIVF	**Saint-Julien-l**		**20.61**	**303**	*e*P	**P**	**15 59 06.6**	**+0.1**
	comp=Z,12nm,0.9s							
VIVF	**Saint-Julien-l**		**20.61**	**303**	*e*P	**P**	**15 59 06.6**	**+0.1**
VIVF					pmax	pmax		
	comp=Z,6.0nm,0.9s							
LASF	**Ste Croix**		**20.96**	**301**	*e*P	**P**	**15 59 11.0**	**+0.8**
MTLF	**Montolieu**		**21.96**	**298**	*e*P	**P**	**15 59 20.4**	**+0.2**
	comp=Z,17nm,1.3s,mb4.0							
MTLF	**Montolieu**		**21.96**	**298**	*e*P	**P**	**15 59 20.4**	**+0.2**
MTLF					pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.0							
SSF	**Saint Saulge**		**22.10**	**308**	*e*P	**P**	**15 59 21.5**	**0.0**
SSF					pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0							
SSF	**Saint Saulge**		**22.10**	**308**	*e*P	**P**	**15 59 21.5**	**0.0**
	comp=Z,5.6nm,1.0s,mb4.0							
TCF	**Toux Ste Croi**		**22.68**	**305**	*e*P	**P**	**15 59 27.7**	**+0.4**
MFF	**Saint Martin d**		**24.34**	**305**	*e*P	**P**	**15 59 44.5**	**+1.2**
SJPF	**Ste Jean**		**24.41**	**296**	*e*P	**P**	**15 59 45.2**	**+1.1**
	comp=Z,50nm,1.6s,mb4.4							
SJPF	**Ste Jean**		**24.41**	**296**	*e*P	**P**	**15 59 45.2**	**+1.1**
SJPF					pmax	pmax		
	comp=Z,25nm,1.6s,mb4.4							
FINES	**FINESS Array B**		**25.62**	**357**	P	**P**	**15 59 55.1**	**-0.3**
	comp=Z,1.1nm,0.5s,mb3.6,baz=169,slow=9.7,SNR=7.1							
HFS	**Hagfors**		**26.21**	**342**	P	**P**	**16 00 00.2**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.4,baz=140,slow=11,SNR=2.9							
ESDC	**Sonseca Array**		**26.34**	**288**	P	**P**	**16 00 03.0**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.4,baz=84,slow=9.5,SNR=6.3							
SGMF	**Saint Gilles**		**26.36**	**308**	*e*P	**P**	**16 00 03.3**	**+0.9**
EVO	**Evora**		**29.57**	**286**	*e*P	**P**	**16 00 32.3**	**+0.8**
	comp=Z,15nm,1.0s,mb4.4							
BVAR	**Borovoye Array**		**33.48**	**46**	P	**P**	**16 01 04.3**	**-1.2**
	comp=Z,0.1nm,0.4s,mb3.1,baz=236,slow=5.3,SNR=3.7							
ARCES	**ARCESS Array B**		**33.73**	**358**	P	**P**	**16 01 06.3**	**-1.3**
	comp=Z,3.8nm,1.0s,mb4.3,baz=180,slow=8.1,SNR=3.3							
JMIC	**Jan Mayen**			**40.33**	**342**	LR	LR	16 19 55.6
	comp=Z,30nm,19.0s,MS3.2,baz=112,slow=38							
MKAR	**Makanchi Array**		**40.64**	**58**	P	**P**	**16 02 06.5**	**+0.7**
	comp=Z,0.6nm,0.5s,mb3.5,baz=278,slow=7.2,SNR=8.3							

*IDC **31** 15:54:38.7±1.1,0.91S×96.06E,mb4.0/6,mb1 4.1/6, mb1mx3.7/18,mbtmp4.0/6,Error ellipse: s-maj=38.1km s-min=25.3km az=68.0*
*NEIC **31** 15:54:46.5±1.1,0.25S×96.92E,h30km,mb3.9/1,Error ellipse: s-maj=27.0km s-min=19.5km az=57.0*

ISC 31 15:54:41.6±1.0,0.8S±0.2×96.1E±0.2,h33km,n9,σ0$47/8, mb4.0/7,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**7.59**	**37**	*e*P	**P**	**15 56 21.8**	**-11**
WRA	**Warramunga Arr**	**41.94**	**119**	P	**P**	**16 02 31.4**	**+0.1**
	0.6nm,0.7s,mb3.3,baz=299,slow=8.6,SNR=7.2						
MKAR	**Makanchi Array**	**48.96**	**347**	P	**P**	**16 03 27.8**	**+1.0**
	2.9nm,0.6s,mb4.5,baz=156,slow=8.4,SNR=24						
SONM	**Songino Array**	**49.30**	**9**	P	**P**	**16 03 28.8**	**-0.6**
	0.9nm,0.8s,mb3.8,baz=186,slow=8.8,SNR=8.3						
ZAL	**Zalesovo**		**55.39**	**352**	P	**P**	**16 04 14.6**	**-0.2**
	2.9nm,0.6s,mb4.5,baz=308,slow=7.8,SNR=12						
BVAR	**Borovoye Array**	**57.82**	**342**	P	**P**	**16 04 32.2**	**0.0**
	0.6nm,0.5s,mb3.9,baz=149,slow=8.6,SNR=6.2						
BRVK	**Borovoye**	**57.88**	**342**	*e*P	**P**	**16 04 32.4**	**-0.2**
	0.6nm,0.4s,mb4.0						
BOSA	**Boshof**	**72.82**	**240**	P	**P**	**16 06 09.1**	**-0.1**
	1.2nm,0.6s,mb4.0,baz=72,slow=6.4,SNR=4.6						
TXAR	**Lajitas Array**	**145.97**	**32**	PKPbc	PKPbc	16 14 21.9	+3.0
	0.4nm,0.6s,baz=292,slow=0.4,SNR=6.6						

*NEIC **31** 16:00:29.7,31.49S×69.72W,h146km,mb4.2/2, MD3.7(GUC),After GUC.*

GUC 31 16:00:29.7±0.7,31.49S×69.72W,h146km±6km,MD3.7, ML4.0,6C-5D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**1.14**	**286**	⇓*i*P	P	16 00 55.8	+0.2
CMCH				*i* S	S	16 01 15.7	+0.1
CMCH				AMP		16 01 17.0	
	comp=E,5μm,0.4s						
ILCH	**Illapel**	**1.24**	**263**	*i* P	P	16 00 57.0	+0.3
ILCH				*i* S	S	16 01 17.1	-0.3
ILCH				AMP		16 01 17.8	
	comp=E,1μm,0.2s						
JACH	**Jahuel**	**1.40**	**212**	⇓*i*P	P	16 00 58.3	+0.1
JACH				*i* S	S	16 01 20.4	+0.2
TLL	**Tololo Astrono**	**1.61**	**325**	⇑*i*P	S	16 01 01.3	+0.7
TLL				*i* S	S	16 01 24.7	+0.4
PACH	**Papudo**	**1.79**	**234**	*i* P	P	16 01 02.6	+0.1
PACH				*i* S	S	16 01 27.4	-0.4
ROCH	**El Roble**	**1.83**	**216**	⇑*i*P	P	16 01 03.4	+0.4
ROCH				*i* S	S	16 01 29.2	+0.6
FCH	**Farellones**	**1.89**	**195**	⇓*i*P	P	16 01 04.6	+0.9
FCH				*i* S	S	16 01 30.7	+0.9
CLCH	**Cerro Calan**	**2.02**	**200**	*i* P	P	16 01 05.4	+0.3
CLCH				*i* S	S	16 01 32.2	-0.2
CLCH				AMP		16 01 34.0	
	comp=E,533nm,0.5s						
DSCH	**Colegio Aleman**	**2.03**	**200**	*i* P	P	16 01 05.4	+0.1
DSCH				*i* S	S	16 01 32.4	-0.3
DSCH				AMP		16 01 33.8	
	comp=N,504nm,0.3s						
LSCH	**La Serena**	**2.05**	**320**	*i* P		16 02 19.4	
LSCH				*i* S		16 02 46.6	
LSCH				AMP		16 02 47.6	
	comp=N,2μm,0.3s						
SAN	**Santiago**	**2.11**	**202**	*i* S	S	16 01 33.9	-0.4
RCDM	**Rinconada Maip**	**2.19**	**204**	AMP		16 01 36.8	
	comp=N,755nm,0.1s						
ANTU	**Antumapu**	**2.21**	**200**	*i* S	S	16 01 36.6	+0.1
ANTU				AMP		16 01 37.3	
	comp=E,568nm,0.4s						
PCH	**Pirque**	**2.23**	**197**	⇓*i*P	P	16 01 07.9	+0.2
PCH				*i* S	S	16 01 37.3	+0.4
LMEL	**Las Melosas**	**2.38**	**190**	⇑*i*P	P	16 01 10.1	+0.3
LMEL				*i* S	S	16 01 40.9	+0.5
LMEL				AMP		16 01 45.7	
	comp=N,358nm,0.3s						
TACH	**Talagante**	**2.39**	**205**	⇓*i*P	P	16 01 09.4	-0.4
TACH				*i* S	S	16 01 39.9	-0.6
LCCH	**Las Cruces**	**2.52**	**218**	⇑*i*P	P	16 01 11.3	-0.2
LCCH				*i* S	S	16 01 43.2	-0.2
CHCH	**Chadas Angostu**	**2.56**	**198**	⇑*i*P	P	16 01 11.6	-0.4
CHCH				*i* S	S	16 01 43.9	-0.4
VACH	**Vallenar**	**3.04**	**343**	⇑*i*P	P	16 01 18.1	-0.1
VACH				*i* S	S	16 01 54.7	-0.6
VACH				AMP		16 01 54.8	
	comp=N,1μm,0.1s						
TRQA	**Tornquist**	**9.13**	**138**	*e*P	P	16 02 36.1	-3.0
	comp=N,9.4nm,0.6s						
LPAZ	**La Paz**	**15.21**	**6**	*e*P	P	16 03 47.7	-10
	comp=N,2.9nm,0.6s						

*MOS **31** 16:04:21.4±2.7,53.44N×109.55E,h12km,mb4.1/1,Error ellipse: s-maj=15.8km s-min=8.0km az=56.6*

BYKL 31 16:04:22.0±0.2,53.50N×109.50E,h18km±3km,4C-6D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SYVR	**Suvo**	**0.34**	**62**	*e*PG	Pb	16 04 28.4	-0.8
SYVR				*e*		16 04 33.0	
SYVR				pmax	pmax		
	comp=Z,3μm,0.1s						
SYVR				smax			
	comp=E,6μm,0.2s						
SYVR	**Suvo**	**0.34**	**62**	⇓*i*Pg	Pb	16 04 28.9	-0.3
	comp=E,2μm,0.2s						
SYVR				⇓*i*Pg	Pb	16 04 28.9	-0.3
	comp=E,2μm,0.2s						
SYVR				⇓*i*Pg	Pb	16 04 28.9	-0.3
	comp=E,4μm,0.2s						
SYVR				*e*Sg	Sb	16 04 34.1	+0.1
SYVR				Pmax			
	comp=E,2μm,0.1s						
SYVR				Smax			
	comp=E,8μm,0.3s						
MXMB	**Maximikha**	**0.51**	**243**	⇓*i*Pg	Pb	16 04 32.2	+0.1
MXMB				*e*		16 04 32.8	
MXMB				*e*Sg	Sb	16 04 40.3	+1.3
MXMB				max			
	comp=E,251nm,0.2s						
MXMB				Smax			
	comp=E,6μm,0.2s						
YLYR	**Ulyunkhan**	**1.69**	**35**	*e*PN	Pn	16 04 52.0	+1.0
YLYR				*e*		16 05 14.4	
YLYR				pmax	pmax		
	comp=Z,83nm,0.2s						
YLYR				smax			

comp=N,101nm,0.6s
KMO Smax
comp=N,434nm,1.0s
CIT Chita 2.87 119 *e*PN Pn 16 05 10.2 +2.3
CIT *e* 16 05 48.1
CIT pmax pmax
comp=Z,178nm,0.6s
CIT smax
comp=N,500nm,0.8s
CIT Chita 2.87 119 *e*Pn Pn 16 05 07.3 -0.6
CIT *e*Pg Pn 16 05 13.2 +5.3
CIT *e*Sn Sn 16 05 41.1 -1.3
CIT *e*Sg Sn 16 05 49.6 +7.2
CIT Pmax
comp=N,171nm,0.5s
CIT Smax
comp=N,402nm,0.6s
YOA Uoyan 2.94 25 *e*PN Pn 16 05 15.0 +6.2
YOA *i* 16 05 54.0
YOA pmax pmax
comp=Z,91nm,0.3s
YOA smax
comp=E,1μm,0.7s
UKT Uakit 3.12 49 *e*PN Pn 16 05 18.0 +6.5
UKT *e* 16 05 59.6
UKT pmax pmax
comp=Z,157nm,0.1s
UKT smax
comp=N,2μm,0.2s
UKT Uakit 3.12 49 *e*Pn Pn 16 05 11.7 +0.2
UKT *e*Pg Pn 16 05 19.3 +7.8
UKT *e*Sn Sn 16 05 49.0 +0.3
UKT *e*Sg Sn 16 05 59.9 +11
UKT Pmax
comp=N,22nm,0.6s
UKT Smax
comp=N,168nm,0.9s
LSTR Listvyanka 3.28 242⇑*i*Pn Pn 16 05 13.0 -0.7
comp=N,11nm,0.4s
LSTR ⇑*i*Pn Pn 16 05 13.0 -0.7
LSTR comp=N,18nm,0.4s ⇓*i*Pn Pn 16 05 13.0 -0.7
comp=N,17nm,0.4s
LSTR *e*Sn Sn 16 05 50.7 -1.9
LSTR *e*Sg Sn 16 06 04.2 +12
LSTR max
comp=N,27nm,0.9s
LSTR Smax
comp=N,104nm,0.9s
IRK Irkutsk 3.41 250 *e*PN Pn 16 05 14.4 -1.2
IRK *e* 16 05 23.5
IRK *e*S Sn 16 05 55.1 -0.9
IRK *e* 16 06 08.2
IRK pmax pmax
comp=Z,55nm,0.1s
IRK smax
comp=N,582nm,0.5s
IRK Irkutsk 3.41 250 *e*Pg Pn 16 05 22.0 +6.4
IRK *e*Sg Sn 16 06 06.2 +10
IRK Pmax
comp=N,46nm,0.2s
IRK Smax
comp=N,578nm,0.4s
SVKR Severomuysk 3.52 40 *e*PN Pn 16 05 17.7 +0.6
SVKR *e* 16 05 27.4
SVKR *e* 16 06 12.3
SVKR pmax pmax
comp=Z,66nm,0.6s
SVKR smax
comp=E,464nm,0.6s
SVKR Severomuysk 3.52 40 *e*Pg Pn 16 05 25.3 +8.2
SVKR *e*Sg Sn 16 06 12.7 +14
SVKR Pmax
comp=E,71nm,0.5s
SVKR Smax
comp=E,489nm,0.6s
TLY Talaya 4.01 245 *e*PN Pn 16 05 22.9 -1.2
TLY *e* 16 05 33.5
TLY *e* 16 06 25.4
TLY pmax pmax
comp=Z,10.0nm,0.3s
TLY smax
comp=N,108nm,0.4s
TLY Talaya 4.01 245 *e*Pg Pn 16 05 33.8 +10
TLY *e*Sg Sn 16 06 25.7 +15
TLY Pmax
comp=N,12nm,0.5s
TLY Smax
comp=N,101nm,0.3s
NLYR Nelyaty 4.66 48 *e*PN Pn 16 05 32.1 -1.2
NLYR *e* 16 05 45.4
NLYR *e* 16 06 46.2
NLYR pmax pmax
comp=Z,3.0nm,0.2s
NLYR smax
comp=N,153nm,1.0s
NLYR Nelyaty 4.66 48 *e*Pn Pn 16 05 32.5 -0.8
NLYR *e*Pg Pn 16 05 46.3 +13
NLYR *e*Sg Sn 16 06 46.9 +19
NLYR Pmax
comp=N,14nm,0.5s
NLYR Smax
comp=N,149nm,1.1s
ZAK Zakamensk 4.95 233 *e*Pn Pn 16 05 35.5 -2.0
ZAK *e*Pg Pn 16 05 50.0 +13
ZAK *e*Sg Sn 16 06 56.2 +21
ZAK Pmax
comp=N,6.0nm,0.7s
ZAK Smax
comp=N,57nm,0.5s
BOD Bodaibo 5.02 29 *e*Pg Pn 16 05 51.7 +13
BOD *e*Sg Sn 16 06 56.3 +20
BOD Pmax
comp=N,6.0nm,0.6s
BOD Smax
comp=N,49nm,1.1s
MOY Mondy 5.50 254 *e*PN Pn 16 05 45.2 0.0
MOY *e* 16 06 01.1
MOY *e*S Sn 16 06 46.6 -2.2
MOY *e* 16 07 10.1
MOY pmax pmax
comp=Z,8.0nm,0.5s
MOY smax
comp=E,80nm,0.4s
MOY Mondy 5.50 254 *e*Pn Pn 16 05 45.3 +0.1
MOY *e*Sg Sn 16 07 10.6 +22
MOY max
comp=E,14nm,0.4s
MOY Smax
comp=E,77nm,1.8s
ORL Orlik 5.93 265 *e*PN Pn 16 05 50.9 -0.3
ORL *e* 16 06 08.9
ORL *e*S Sn 16 06 56.7 -2.7
ORL *e* 16 07 25.0
ORL pmax pmax
comp=Z,8.0nm,0.7s
ORL smax
comp=N,67nm,1.0s
ORL Orlik 5.93 265 *e*Pn Pn 16 05 50.8 -0.4
ORL *e*Sn Sn 16 06 57.1 -2.3
ORL *e*Sg Sn 16 07 24.9 +25
ORL max
comp=N,13nm,1.2s
ORL Smax
comp=N,89nm,1.0s
CRS Chara 6.07 52 *e*Pn Pn 16 05 51.1 -2.1
CRS *e*Pg Pn 16 06 10.1 +17
CRS *e*Sg Sn 16 07 30.3 +27
CRS Pmax
comp=N,16nm,1.8s
CRS Smax
comp=N,85nm,1.4s
TUP Tupik 6.24 77 *e*PN Pn 16 06 12.9 +17
TUP *e* 16 07 33.4
TUP pmax pmax
comp=Z,4.0nm,0.3s
TUP smax
comp=N,104nm,0.5s
TUP Tupik 6.24 77 *e*Pn Pn 16 05 55.8 +0.2
TUP *e*Pg Pn 16 06 12.9 +17
TUP *e*Sg Sn 16 07 33.9 +27
TUP Pmax
comp=N,4.0nm,0.4s
TUP Smax
comp=N,128nm,0.7s

*THR **31** 16:07:10.6±0.6,26.55N×54.80E,h14km,ML3.6*
*KISR **31** 16:07:14.3±1.1,27.00N×54.70E,h34km,ML3.8*
*CSEM **31** 16:07:16.8±0.5,26.96N×54.48E,h10km,ML3.7,Error ellipse: s-maj=13.0km s-min=5.9km az=162.0*
ISC 31 16:07:13.4±2.1,26.9N±0.2×54.69E±0.05,h10km,n9,σ1§30/15,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.41**	**70**	*e*Pg	**Pg**	**16 07 37.9**	**-3.8**
BNDS				*e*Sg	**Sg**	**16 07 58.0**	**-2.5**
BNDS				AML	AML	16 08 13.0	
	comp=N,1μm,0.5s						
BNDS	**Bandar-Abbas**	**1.41**	**70**	*e*Pg	**Pg**	**16 07 37.8**	**-3.8**
	SNR=90						
BNDS				*e*Sg	**Sg**	**16 07 58.0**	**-2.4**
	SNR=90						
KRBR	**Kerman**	**3.56**	**30**	*e*Pn	**Pn**	**16 08 12.0**	**+2.0**
KRBR				AML	AML	16 09 04.8	
	comp=N,71nm,0.4s						
NASN	**Na'in**	**6.09**	**345**	*e*Pn	**Pn**	**16 08 47.6**	**+1.8**
QRN	**Al-Qurain**	**6.27**	**288**	*e*P	**Pn**	**16 08 49.3**	**+1.0**
QRN				*e*S	**Sn**	**16 10 00.2**	**-0.5**
QRN				AML	AML	16 10 00.8	
	comp=Z,20nm,0.2s						
KBD	**Kabd**	**6.58**	**292**	*e*P	**Pn**	**16 08 53.2**	**+0.5**
KBD				*e*S	**Sn**	**16 10 06.7**	**-1.8**
KBD				AML	AML	16 10 08.6	
	comp=Z,31nm,0.2s						
RDF	**Al-Radifah**	**6.62**	**289**	*e*P	**Pn**	**16 08 53.4**	**+0.1**
RDF				*e*S	**Sn**	**16 10 08.9**	**-0.8**
RDF				AML	AML	16 10 09.2	
	comp=Z,15nm,0.3s						
MIB	**Mutribah**	**7.09**	**296**	*e*P	**Pn**	**16 09 00.5**	**+0.7**
MIB				*e*S	**Sn**	**16 10 20.2**	**-1.0**
MIB				AML	AML	16 10 21.8	
	comp=Z,18nm,0.4s						
SNGE	**Sanandaj**	**10.30**	**324**	*e*Pn	**P**	**16 09 44.9**	**+0.5**

*GRAL **31** 16:15:54.0±32.0,28.38N×41.82E,h8km±999km,MD4.6*
*BJI **31** 16:16:33.6,29.80N×30.36E,h37km,mB4.5,mb4.2,Ms4.6,Msz4.1*
*CSEM **31** 16:16:35.5±0.1,29.72N×31.11E,h30km,mb3.9/2,Mw4.1,Error ellipse: s-maj=1.5km s-min=1.3km az=15.0*
*NIC **31** 16:16:36.9±0.3,29.82N×30.73E,h25km,mb4.6,ML4.1*
*MOS **31** 16:16:36.4±3.2,29.79N×31.56E,h10km,mb4.5/12,Error ellipse: s-maj=9.9km s-min=5.3km az=100.9*
*HLW **31** 16:16:36.4,29.67N×31.13E,h21km,Mb4.3*
*NEIC **31** 16:16:37.0,29.67N×31.12E,h22km,mb4.4/10,ML4.3(GII),ML4.1(NIC),MW4.1(GII),After HLW.*
NEIC Felt [III] at Al Jizah and Cairo.
*IDC **31** 16:16:39.9±0.8,30.14N×31.30E,h20km±4km,mb3.7/13,mb1 3.8/16,mb1mx3.7/27,mbtmp3.8/16,ML4.2/4,MS3.8/1,Ms1 3.8/1,ms1mx2.5/29,Error ellipse: s-maj=13.2km s-min=11.2km az=20.0*
ISC 31 16:16:35.8±0.4,29.75N±0.02×31.10E±0.02,h33km±3km,h20km±2.5km:pP-P,n211,σ1§04/195,mb4.2/27,MS4.2/1,10C-19D,Egypt

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYT	**Al 'Ayyat**	**0.06**	**133**	⇓*i*P	**Pn**	**16 16 40.8**	**+0.5**
AYT	**Al 'Ayyat**	**0.06**	**133**	⇓*i*P	**Pn**	**16 16 40.8**	**+0.5**
FYM	**Al Fayyum**	**0.07**	**222**	⇓*i*P	**Pn**	**16 16 41.1**	**+0.5**
FYM	**Al Fayyum**	**0.07**	**222**	⇓*e*P	**Pn**	**16 16 41.0**	**+0.5**
SQR		**0.16**	**32**	⇓P	**Pn**	**16 16 42.7**	**+1.0**
HLW	**Helwan**	**0.24**	**62**	⇓P	**Pb**	**16 16 43.4**	**+0.6**
HLW	**Helwan**	**0.24**	**62**	⇓*e*P	**Pb**	**16 16 43.4**	**+0.6**
HLW	**Helwan**	**0.24**	**62**	⇓*e*P	**Pb**	**16 16 43.4**	**+0.6**
HMYD	**Mayadein**	**0.26**	**280**	⇑P	**Pb**	**16 16 43.9**	**+0.8**
HMYD	**Mayadein**	**0.26**	**280**	⇓*e*P	**Pb**	**16 16 43.9**	**+0.8**
HSAF	**As Saff**	**0.41**	**108**	⇓*i*P	**Pb**	**16 16 45.1**	**-0.1**
HSAF	**As Saff**	**0.41**	**108**	*e*P	**Pb**	**16 16 45.1**	**-0.1**
HNAT	**Natroun**	**0.43**	**255**	⇓*i*P	**Pb**	**16 16 45.9**	**+0.5**
HNAT	**Natroun**	**0.43**	**255**	*e*P	**Pb**	**16 16 45.9**	**+0.5**
GLL	**Jalalah**	**0.56**	**108**	⇓P	**Pb**	**16 16 47.4**	**+0.1**
GLL	**Jalalah**	**0.56**	**108**	⇓*e*P	**Pb**	**16 16 47.4**	**+0.1**
AANS		**0.60**	**26**	⇑*i*P	**Pb**	**16 16 50.0**	**+2.0**
KOT	**Kottamia**	**0.66**	**74**	⇑P	**Pn**	**16 16 49.6**	**+0.8**
KOT	**Kottamia**	**0.66**	**74**	⇓*e*P	**Pn**	**16 16 49.7**	**+0.8**
HBNS	**Bani Suwayf**	**0.80**	**173**	⇑*i*P	**Pn**	**16 16 50.8**	**-0.1**
HHAG	**Hagoal**	**0.89**	**77**	⇑P	**Pn**	**16 16 53.4**	**+1.2**
HHAG	**Hagoal**	**0.89**	**77**	*e*P	**Pn**	**16 16 53.4**	**+1.2**
ASUT		**2.38**	**170**	⇑P	**Pn**	**16 17 13.6**	**+0.1**
HRSH	**Kfar Ka'horesh**	**2.57**	**61**	P	**Pn**	**16 17 16.9**	**+0.7**
RSH		**2.57**	**61**	P	**Pn**	**16 17 16.9**	**+0.7**
KZIT	**Kziot**	**3.08**	**67**	P	**Pn**	**16 17 24.0**	**+0.6**
KMTI	**Karmit**	**3.17**	**83**	P	**Pn**	**16 17 24.5**	**-0.2**
KMTI				S	**Sn**	**16 18 02.0**	**+0.2**
NUB		**3.18**	**102**	P	**Pn**	**16 17 24.3**	**-0.5**
HBST	**Basata**	**3.21**	**99**	⇑P	**Pn**	**16 17 25.8**	**+0.5**
HDHB	**Dhahab**	**3.24**	**108**	⇑P	**Pn**	**16 17 25.7**	**0.0**
MBH	**Mount Berech**	**3.32**	**88**	P	**Pn**	**16 17 27.1**	**+0.3**
MBH	**Mount Berech**	**3.32**	**88**	Pn	**Pn**	**16 17 27.0**	**+0.2**
EIL	**Elat**	**3.35**	**90**	Pn	**Pn**	**16 17 27.7**	**+0.4**
	201nm,0.3s,baz=265,slow=5.9,SNR=184						
EIL				Pg	**Pn**	**16 17 38.5**	**+11**
	791nm,0.3s,baz=248,slow=18,SNR=36						
EIL				Sn	**Sn**	**16 18 06.3**	**-0.2**
	725nm,0.3s,baz=110,slow=15,SNR=6.8						
EIL				Lg		16 18 18.9	
	1μm,0.3s,baz=25,slow=36,SNR=4.5						
EIL				LR	LR	16 18 49.5	
	comp=Z,2μm,21.0s,baz=136,slow=40						
EIL	**Elat**	**3.35**	**90**	P	**Pn**	**16 17 27.1**	**-0.2**
RTMM	**Retamin**	**3.36**	**66**	P	**Pn**	**16 17 28.0**	**+0.6**
RTMM	**Retamin**	**3.36**	**66**	Pn	**Pn**	**16 17 28.1**	**+0.7**
MASH	**Mash'abbe Sade**	**3.42**	**68**	P	**Pn**	**16 17 28.6**	**+0.3**
MASH	**Mash'abbe Sade**	**3.42**	**68**	Pn	**Pn**	**16 17 28.9**	**+0.6**
HRFI	**Mount Harif**	**3.43**	**84**	P	**Pn**	**16 17 28.4**	**0.0**
AQBJ	**Aqaba**	**3.44**	**89**	P	**Pn**	**16 17 28.7**	**+0.2**
PRNI	**Paran**	**3.44**	**79**	P	**Pn**	**16 17 28.7**	**+0.2**
PRNI				S	**Sn**	**16 18 10.2**	**+1.6**
PRNI	**Paran**	**3.44**	**79**	P	**Pn**	**16 17 28.7**	**+0.2**
PRNI				S	**Sn**	**16 18 08.3**	**-0.3**
ALWS	**Ilw as Safayha**	**3.48**	**96**	P	**Pn**	**16 17 29.3**	**+0.1**
TAYS	**Tayyib Ism**	**3.51**	**109**	P	**Pn**	**16 17 28.9**	**-0.6**
JMOS	**Jabal al Moall**	**3.54**	**98**	P	**Pn**	**16 17 29.9**	**-0.2**
ZFRI	**Zfri**	**3.62**	**76**	P	**Pn**	**16 17 31.1**	**-0.1**
ZFRI	**Zfri**	**3.62**	**76**	Pn	**Pn**	**16 17 31.2**	**0.0**
HMAT	**Matruh**	**3.71**	**292**	⇑P	**Pn**	**16 17 32.8**	**+0.5**
BDAS	**Al Bad'**	**3.74**	**110**	P	**Pn**	**16 17 32.0**	**-0.8**
YTIR	**Yattir**	**3.82**	**64**	P	**Pn**	**16 17 34.1**	**+0.1**
MZDA	**Masada**	**3.99**	**66**	P	**Pn**	**16 17 36.5**	**+0.1**
MZDA				S	**Sn**	**16 18 22.2**	**-0.5**
HSFG		**4.04**	**141**	⇓P	**Pn**	**16 17 36.1**	**-0.9**
SLTI	**Sal'it**	**4.20**	**53**	P	**Pn**	**16 17 39.4**	**+0.1**
JMQS	**Jabal Moqyreh**	**4.26**	**100**	P	**Pn**	**16 17 40.1**	**-0.1**
JMQS				S	**Sn**	**16 18 27.1**	**-2.3**
MKRJ	**Makawir**	**4.31**	**64**	P	**Pn**	**16 17 41.5**	**+0.6**
OFRI	**'Ofer**	**4.39**	**48**	P	**Pn**	**16 17 41.7**	**-0.4**
OFRI	**'Ofer**	**4.39**	**48**	Pn	**Pn**	**16 17 42.3**	**+0.2**
HAF	**Haifa**	**4.52**	**47**	P	**Pn**	**16 17 43.6**	**-0.3**
HAF	**Haifa**	**4.52**	**47**	Pn	**Pn**	**16 17 44.0**	**+0.1**
MMLI	**Mount Malkishu**	**4.58**	**53**	P	**Pn**	**16 17 44.9**	**+0.2**
MMLI	**Mount Malkishu**	**4.58**	**53**	Pn	**Pn**	**16 17 45.0**	**+0.3**
HNTI	**Hanita**	**4.81**	**45**	P	**Pn**	**16 17 47.5**	**-0.6**
HNTI	**Hanita**	**4.81**	**45**	Pn	**Pn**	**16 17 47.7**	**-0.4**
MMC6	**Mount Meron ar**	**4.90**	**47**	P	**Pn**	**16 17 49.1**	**-0.2**
MMB2	**Mount Meron ar**	**4.91**	**47**	P	**Pn**	**16 17 49.3**	**-0.1**
MMA3	**Mount Meron ar**	**4.91**	**47**	P	**Pn**	**16 17 49.5**	**+0.1**
MMA4	**Mount Meron ar**	**4.91**	**47**	P	**Pn**	**16 17 49.5**	**+0.1**
MMC7	**Mount Meron ar**	**4.91**	**47**	P	**Pn**	**16 17 49.0**	**-0.4**
MMA0	**Mount Meron ar**	**4.91**	**47**	P	**Pn**	**16 17 49.4**	**-0.1**
MMA2	**Mount Meron ar**	**4.91**	**47**	P	**Pn**	**16 17 49.3**	**-0.2**
MMC5	**Mount Meron ar**	**4.92**	**48**	P	**Pn**	**16 17 49.4**	**-0.1**
MMB4	**Mount Meron ar**	**4.92**	**47**	P	**Pn**	**16 17 49.3**	**-0.2**
MMA1	**Mount Meron ar**	**4.92**	**47**	P	**Pn**	**16 17 49.5**	**0.0**
MMC4	**Mount Meron ar**	**4.92**	**48**	P	**Pn**	**16 17 49.4**	**-0.1**
MMB1	**Mount Meron ar**	**4.92**	**47**	P	**Pn**	**16 17 49.4**	**-0.1**
MMC1	**Mount Meron ar**	**4.92**	**47**	P	**Pn**	**16 17 49.7**	**+0.1**
MMC2	**Mount Meron ar**	**4.93**	**47**	P	**Pn**	**16 17 50.0**	**+0.3**
HQSR		**4.93**	**143**	⇓P	**Pn**	**16 17 48.1**	**-1.6**
DBAS	**Duba**	**4.98**	**119**	P	**Pn**	**16 17 49.4**	**-1.1**
HEDF	**Idfu**	**4.99**	**158**	P	**Pn**	**16 17 49.1**	**-1.4**
TBKS	**Tabuk**	**5.01**	**106**	P	**Pn**	**16 17 50.4**	**-0.4**
KSHT	**Keshet**	**5.16**	**50**	P	**Pn**	**16 17 53.3**	**+0.4**

MATL Matirih 5.19 43 *e*Pn **Pn** **16 17 53.6 +0.3**
KSDI Kefar Szold 5.19 47 P **Pn** **16 17 54.1 +0.7**
KSDI Kefar Szold 5.19 47 Pn **Pn** **16 17 53.8 +0.4**
SZAC Souni-Zanaja 5.22 16 P **Pn** **16 17 53.9 +0.2**
SZAC S **Sn** **16 18 54.8 +1.3**
SZAC Souni-Zanaja 5.22 16 *e*Pn **Pn** **16 17 53.9 +0.2**
PPCY Paphos 5.23 11 *e*Pn **Pn** **16 17 53.9 0.0**
CSS Prodhromos 5.53 19 P **Pn** **16 17 58.1 -0.1**
2.6nm,0.4s
CSS S **Sn** **16 19 02.6 +1.2**
CSS Prodhromos 5.53 19 *e*Pn **Pn** **16 17 58.1 -0.1**
ASF Jabal al Asfar 5.53 63 Pn **Pn** **16 17 57.0 -1.2**
3.0nm,0.3s,baz=98,slow=1.3,SNR=14
ASF Sn **Sn** **16 18 58.1 -3.4**
3.1nm,0.3s,baz=254,slow=14,SNR=2.8
ASF Lg 16 19 27.5
5.0nm,0.3s,baz=20,slow=22,SNR=4.1
ALFC Alevga 5.54 13 P **Pn** **16 17 57.7 -0.6**
4.6nm,0.2s
ALFC S **Sn** **16 19 01.7 +0.1**
ALFC Alevga 5.54 13 *e*Pn **Pn** **16 17 57.7 -0.6**
BHL Bhannes 5.67 42 *e*Pn **Pn** **16 17 59.6 -0.6**
BHL Sn **Sn** **16 19 03.4 -1.5**
MAMC Mammari 5.70 18 *e*Pn **Pn** **16 18 00.7 +0.2**
HWQ Hawqa 6.11 41 *e*Pn **Pn** **16 18 06.2 -0.2**
HWQ Sn **Sn** **16 19 13.3 -2.6**
IKL Isikli 6.83 18 P **Pn** **16 18 15.4 -1.1**
BIDA Albida 6.86 39⇑*i*P **Pn** **16 18 16.7 -0.2**
ELL Elmali 7.05 352 P **Pn** **16 18 19.6 0.0**
ANTB Antalya 7.14 357 P **Pn** **16 18 22.2 +1.3**
SLNF Slenfeh 7.25 35⇑*i*P **Pn** **16 18 21.1 -1.3**
WRDH Warideh 7.28 37⇓*i*P **Pn** **16 18 21.7 -1.1**
HDMB Hadim 7.29 9 P **Pn** **16 18 24.6 +1.7**
DALT Dalyan (Mudla) 7.30 344 P **Pn** **16 18 23.1 +0.1**
IDI Anoyia 7.62 318 Pn **Pn** **16 18 26.1 -1.4**
2.2nm,0.3s,baz=114,slow=13,SNR=14
IDI Sn **Sn** **16 19 50.9 -2.6**
12nm,0.3s,baz=320,slow=18,SNR=9.7
BCK Bucak 7.70 357 P **Pn** **16 18 29.5 +0.8**
BTCH Batrach 7.72 34⇑*i*P **Pn** **16 18 27.8 -1.1**
YER Yerkesik 7.73 343 P **Pn** **16 18 28.5 -0.6**
GVD Gavdhos 7.81 312 *e*Pn **Pn** **16 18 28.3 -1.9**
GVD *e*Sn **Sn** **16 19 49.2 -9.1**
GVD Gavdhos 7.81 312 *e*Pn **Pn** **16 18 28.3 -1.9**
GVD *e*Sn **Sn** **16 19 49.2 -9.1**
BODT Bodrum 7.95 338 *e*P **Pn** **16 18 31.1 -1.1**
MLSB Milas 8.02 341 *e*P **P** **16 18 30.9 -2.2**
ISP Isparta 8.09 357 *e*P **P** **16 18 33.0 -1.0**
ISP Isparta 8.09 357 *e*Pn **P** **16 18 33.9 -0.2**
DENT Denizli 8.17 348 *e*P **P** **16 18 35.6 +0.5**
KHL Karahalli 8.65 352 *e*P **P** **16 18 40.3 -1.5**
APE Apeiranthos 8.66 329 *e*P **P** **16 18 37.6 -4.3**
KIZT Kizilcal 9.13 4 *e*P **P** **16 18 45.9 -2.6**
IZM Izmir 9.20 341 *e*P **P** **16 18 46.9 -2.5**
BLCB Balcova 9.25 340 *e*P **P** **16 18 46.2 -3.9**
ALT Altintas 9.32 355 *e*P **P** **16 18 49.5 -1.6**
AKS Akhisar 9.50 344 *e*P **P** **16 18 50.9 -2.7**
ESKT Eskisehir 9.75 359 *e*P **P** **16 18 52.2 -4.9**
BRTR Keskin Array B 10.17 11 Pn **P** **16 19 01.9 -0.8**
0.1nm,0.3s,baz=209,slow=16,SNR=3.9
BRTR Keskin Array B 10.17 11 Pn **P** **16 19 01.9 -0.9**
BALB Balikesir 10.22 346 *e*P **P** **16 19 00.5 -2.9**
MALT Malatya 10.48 33 *e*P **P** **16 19 09.4 +2.4**
EZN Ezine 10.79 340 *e*P **P** **16 19 07.0 -4.3**
TIP Timpagrande 15.10 312 *e*P **P** **16 20 05.2 -3.4**
MLR Muntele Rosu 16.23 347 Pn **P** **16 20 24.7 +1.6**
0.2nm,0.3s,baz=206,slow=9.3,SNR=5.7
KIV Kislovodsk 16.92 30 *e*P **P** **16 20 36.5 +4.8**
KIV pmax pmax
comp=Z,8.0nm,0.8s
KIV pmax pmax
comp=N,5.0nm,1.0s
PSZ Piszkesteto 20.09 338⇓*e*PPP **P** **16 21 09.7 +0.2**
PSZ Piszkesteto 20.09 338⇓*e*P **P** **16 21 09.8 +0.3**
KOLS Kolonicke sedl 20.31 343 *e*P **P** **16 21 13.5 +1.7**
KOLS *e*sP 16 21 21.1
KECS Kecovo 20.40 339 *e*P **P** **16 21 09.8 -2.9**
KECS Kecovo 20.40 339 *e* **P** **16 21 09.8 -2.9**
CRVS Cervenica-Dubn 20.50 342 *e*P 16 21 24.4
CRVS Cervenica-Dubn 20.50 342 *e* 16 21 24.4
PDKS Podkum 20.59 327 *e*P **P** **16 21 15.6 +0.9**
PDKS *e* 16 21 21.8
KWP Kalwaria 20.86 345 *e*P **P** **16 21 19.3 +1.9**
KWP pmax pmax
comp=Z,10.0nm,0.8s
KWP Kalwaria 20.86 345 *e*P **P** **16 21 19.3 +1.9**
comp=Z,10.0nm,0.8s
VYHS Vyhne 20.95 337 *e*Pn **P** **16 21 14.0 -4.3**
VYHS *e* 16 21 25.9
VYHS Vyhne 20.95 337 *e* **P** **16 21 14.0 -4.3**
VYHS *e*pP 16 21 25.9
AKASG Malin Array Be 20.98 357 P **P** **16 21 18.0 -0.6**
comp=Z,2.7nm,0.4s,baz=183,slow=10,SNR=20
AKASG pP 16 21 23.9
comp=Z,1.1nm,0.4s,baz=182,slow=10.0,SNR=9.2
OKC Ostrava-Krasne 22.34 338 *e*P 16 21 41.8
OKC Ostrava-Krasne 22.34 338 *e*pP 16 21 41.8
VRAC Vranov 22.44 335 sP 16 21 43.3
comp=Z,5.9nm,0.6s,baz=113,slow=7.8,SNR=4.2
MORC Moravsky Berou 22.49 337 P **P** **16 21 36.1 +2.4**
MORC pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
MORC Moravsky Berou 22.49 337 P **P** **16 21 36.0 +2.3**
comp=Z,3.8nm,0.6s,mb4.0
MORC Moravsky Berou 22.49 337 P **P** **16 21 36.0 +2.3**
comp=Z,3.8nm,0.6s,mb4.0
GEC2 GERESS Array S 23.25 330 *e*P 16 21 49.0
GEC2 pmax pmax
comp=Z,17nm,1.2s,mb4.3
GEC2 GERESS Array S 23.25 330 *e*P 16 21 49.0
comp=Z,17nm,1.2s
GERES GERESS Array B 23.25 330 P **P** **16 21 42.4 +1.4**
comp=Z,0.6nm,0.4s,mb3.4,baz=141,slow=8.5,SNR=13
GERES pP 16 21 49.4
comp=Z,3.7nm,0.5s,baz=137,slow=10,SNR=19
DPC Dobruska-Polom 23.40 336 *e*P 16 21 51.0
DPC Dobruska-Polom 23.40 336 *e*pP 16 21 51.0
KHC Kasperske Hory 23.51 330 *e*P 16 21 50.9
KHC Kasperske Hory 23.51 330 *e*pP 16 21 52.3
UPC Upice 23.64 336 *e*P 16 21 54.1
UPC Upice 23.64 336 *e*pP 16 21 54.1
DAVOX Davos 23.69 322 P **P** **16 21 50.9 +5.5**
comp=Z,1.4nm,0.4s,mb3.7,baz=24,slow=7.9,SNR=3.4
PRU Pruhonice 23.78 333 *e*P **P** **16 21 48.6 +2.4**
WET Wettzell 23.83 329 *e*P 16 21 55.3
WET pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
WET Wettzell 23.83 329 *e*P 16 21 55.3
comp=Z,4.0nm,0.8s
PVCC Panska Ves 24.20 334 *e*P 16 21 59.9
PVCC Panska Ves 24.20 334 *e*pP 16 21 59.9
NOTT Nottersdorf 24.66 330 *e*P 16 22 02.8
comp=Z,4.0nm,0.8s
BRG Berggiesshubel 24.71 333 *e*P 16 22 04.6
BRG pmax pmax
comp=Z,7.0nm,0.9s,mb4.2
BRG Berggiesshubel 24.71 333 *e*P 16 22 04.5
comp=Z,7.0nm,0.9s
GRA1 Grafenberg Arr 24.97 328 *e*P 16 22 06.5
comp=Z,11nm,0.8s
GRF Grafenberg Arr 24.97 328 *e*P 16 22 06.5
GRF pmax pmax
comp=Z,11nm,0.8s,mb4.4
GRF Grafenberg Arr 24.97 328 *e*P 16 22 06.5
GRF pmax pmax
comp=Z,11nm,0.8s,mb4.4
GRF Grafenberg Arr 24.97 328 *e*P 16 22 06.5
comp=Z,11nm,0.8s
WERD Werda 25.05 331 *e*P pP 16 22 07.9 -0.1
comp=Z,4.0nm,0.8s
STU Stuttgart 25.31 325 P **P** **16 22 07.6 +6.6**
STU pmax pmax
comp=Z,10.0nm,0.6s,mb4.5
STU Stuttgart 25.31 325 P pP 16 22 07.6 -2.9
comp=Z,10nm,0.6s
STU Stuttgart 25.31 325 *e*P pP 16 22 11.1 +0.6
comp=Z,19nm,1.0s
CLL Collm 25.42 333 *e*P pP 16 22 10.0 -1.5
CLL pmax pmax
comp=Z,14nm,0.9s,mb4.5
CLL Collm 25.42 333 *e*P pP 16 22 10.0 -1.5
comp=Z,14nm,0.9s
CLL Collm 25.42 333 *e*P pP 16 22 09.8 -1.7
comp=Z,14nm,0.9s

MOX	**Moxa**	**25.49**	**330**	*e*P	pP	16 22 11.8	-0.4
MOX	**Moxa**	**25.49**	**330**	*i* P	**P**	**16 22 11.8**	**+9.2**
MOX	**Moxa**	**25.49**	**330**	*e*P	pP	16 22 11.2	-1.0
	comp=Z,14nm,0.8s						
OBN	**Obninsk**	**25.65**	*7c*	*i*P	**P**	**16 22 04.6**	**+0.5**
OBN				*i*		16 22 11.6	
OBN				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**31.87**	**355**	P	**P**	**16 23 00.5**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.6,baz=153,slow=8.5,SNR=5.7						
FINES	**FINESS Array B**	**31.87**	**355**	P	**P**	**16 23 00.5**	**+0.5**
HFS	**Hagfors**	**32.57**	**344**	P	**P**	**16 23 06.4**	**+0.3**
	comp=Z,1.0nm,0.5s,mb4.0,baz=104,slow=5.9,SNR=4.0						
NB2	**NORSAR Subarra**	**33.98**	**343**	P	**P**	**16 23 18.0**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=146,slow=8.6						
NB2	**NORSAR Subarra**	**33.98**	**343**	P	**P**	**16 23 18.0**	**-0.3**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**33.98**	**343**	P	**P**	**16 23 17.9**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=138,slow=9.1,SNR=2.9						
NOA				pP	pP	16 23 24.7	-3.2
	comp=Z,1.7nm,0.8s,baz=146,slow=8.8,SNR=5.3						
EKA	**Eskdalemuir Ar**	**35.33**	**326**	pP	pP	16 23 37.6	-2.0
	comp=Z,1.2nm,0.6s,baz=127,slow=10,SNR=2.3						
BVAR	**Borovoye Array**	**36.87**	**40**	P	**P**	**16 23 44.0**	**+1.1**
	comp=Z,0.4nm,0.5s,mb3.5,baz=239,slow=8.6,SNR=4.1						
BVAR				pP	pP	16 23 49.5	-3.2
	comp=Z,0.5nm,0.5s,baz=248,slow=6.5,SNR=4.2						
ARCES	**ARCESS Array B**	**39.96**	**357**	P	**P**	**16 24 09.2**	**+0.6**
	comp=Z,1.2nm,0.3s,mb4.1,baz=176,slow=8.8,SNR=34						
ARCES				pP	pP	16 24 15.3	-3.0
	comp=Z,0.9nm,0.3s,baz=179,slow=8.7,SNR=2.4						
DBIC	**Dimbokro**	**40.87**	**243**	P	**P**	**16 24 23.1**	**+6.5**
	comp=Z,6.1nm,1.1s,mb4.2,baz=22,slow=7.8,SNR=3.8						
MKAR	**Makanchi Array**	**42.85**	**52**	P	**P**	**16 24 33.5**	**+1.0**
	comp=Z,0.3nm,0.5s,mb3.3,baz=258,slow=8.2,SNR=7.0						
LSZ	**Lusaka**	**44.85**	**184**	*e*P	**P**	**16 24 49.0**	**-0.1**
LSZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
LSZ	**Lusaka**	**44.85**	**184**	*e*P	**P**	**16 24 49.0**	**-0.1**
	comp=Z,3.5nm,0.6s,mb4.4						
WMQ	**Urumqi**	**46.59**	**56**	*e*P	**P**	**16 25 04.8**	**+2.3**
MATP	**Matopo**	**49.94**	**183**	P	**P**	**16 25 35.4**	**+6.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=358,slow=9.6,SNR=4.8						
TSUM	**Tsumeb**	**50.38**	**197**	P	**P**	**16 25 39.0**	**+6.8**
	comp=Z,2.0nm,1.0s,mb4.1,baz=329,slow=5.9,SNR=2.3						
LBTB	**Lobatse**	**54.70**	**186**	P	**P**	**16 26 11.6**	**+7.2**
	comp=Z,2.1nm,0.8s,mb4.2,baz=331,slow=4.5,SNR=2.5						
SONM	**Songino Array**	**59.10**	**49**	P	**P**	**16 26 36.2**	**+0.9**
	comp=Z,0.5nm,1.2s,mb3.4,baz=297,slow=6.4,SNR=2.6						
LZH	**Lanzhou**	**60.10**	**63**	*e*P	**P**	**16 26 43.5**	**+1.1**
LZH				AP	pP	16 26 51.5	-1.1
LZH				XP	sP	16 26 55.5	-0.8
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,60nm,4.0s						
LZH	**Lanzhou**	**60.10**	**63**	*e*P	**P**	**16 26 43.5**	**+1.1**
LZH				*PP	pP	16 26 51.4	-1.2
LZH				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
LZH	**Lanzhou**	**60.10**	**63**	*e*P	**P**	**16 26 43.5**	**+1.1**
	comp=Z,15nm,1.0s,mb5.0						
LZH				pP	pP	16 26 51.4	-1.2
LZH				sP	sP	16 26 55.5	-0.8
KMI	**Kunming**	**62.82**	**75**	P	**P**	**16 27 00.3**	**-0.6**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.8s,mb4.3						
KMI	**Kunming**	**62.82**	**75**	P	**P**	**16 27 00.3**	**-0.6**
	comp=Z,5.0nm,1.8s,mb4.3						
HHC	**Hu-ho-hao-te**	**64.47**	**56**	*e*P	**P**	**16 27 14.3**	**+2.8**
HHC				AP	pP	16 27 18.5	-3.2
HHC				PCP	PcP	16 27 41.0	-4.3
HHC				SCP		16 31 42.8	
HHC				S	**S**	**16 35 48.0**	**+1.5**
HHC				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.6						
HHC				LR	LR		
	comp=N,130nm,16.6s,MS4.4						
HHC				LR	LR		
	comp=E,128nm,13.0s,MS4.4						
HHC				LR	LR		
	comp=Z,82nm,14.2s,MS4.1						
CN2	**Changchun**	**72.98**	**49**	*e*P	**P**	**16 28 05.5**	**+1.5**
NJ2	**Nanjing**	**73.16**	**62**	*e*P	**P**	**16 28 09.5**	**+4.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
MDJ	**Mudanjiang**	**75.30**	**47**	P	**P**	**16 28 17.5**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,28nm,4.0s						
SSE	**Sheshan**	**75.37**	**62**	P	**P**	**16 28 17.5**	**-0.6**
SSE				AMB	AMB		
	comp=Z,17nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,33nm,6.3s						

CASC 31 16:26:02.9±2.8, 13.51N×91.03W, h14km±13km, MD3.6, 2C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.86**	**40**↑	*e*P	Pb	16 26 19.4	+0.2
IXG				*e*S	Sb	16 26 29.6	-0.7
FUG	**Fuego 3**	**0.95**	**11**↓	*e*P	Pb	16 26 21.0	+0.4
FUG				*e*S	Sb	16 26 35.1	+2.3
RTR	**El Retiro**	**1.40**	**74**	*e*P	Pn	16 26 35.3	+7.2
RTR				*e*S	Sb	16 26 54.1	+8.3
SBLS	**San Blas**	**1.40**	**76**	*e*P	Pn	16 26 35.1	+6.9
SBLS				*e*S	Sb	16 26 55.6	+10
SNJE	**San Jose**	**1.43**	**75**	*e*P	Pn	16 26 35.5	+7.0
SNJE				*e*S	Sb	16 26 55.6	+9.0
RBDL	**Robledal**	**1.43**	**65**↑	*e*P	Pn	16 26 36.2	+7.6
RBDL				*e*S	Sb	16 26 55.8	+8.9
BOQS	**Boqueron**	**1.71**	**82**	*e*P	Pn	16 26 40.2	+7.6
BOQS				*e*S	Sn	16 27 02.1	+7.7
LFRS	**El Faro**	**1.91**	**86**	*e*P	Pn	16 26 43.0	+7.5
LFRS				*e*S	Sn	16 27 07.2	+7.7
LCBS	**La Ceiba**	**2.00**	**86**	*e*P	Pn	16 26 44.2	+7.5
LCBS				*e*S	Sn	16 27 09.8	+8.2
MRL	**Marmol**	**2.02**	**40**	*e*P	Pn	16 26 37.6	+0.6
MRL				*e*S	Sn	16 27 03.2	+1.1
SNVI	**San Vicente**	**2.13**	**87**	*e*P	Pn	16 26 46.5	+7.9
SNVI				*e*S	Sn	16 27 13.2	+8.2

*IDC **31** 16:36:43.7±2.6, 33.10N×142.29E, mb3.5/2, mb1 3.4/5, mb1mx3.3/21, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=44.8km s-min=24.1km az=68.0*
*JMA **31** 16:36:47.0±0.3, 33.29N×142.26E, h89km, M2.9*
ISC 31 16:36:45.5±0.8, 33.16N±0.05×142.31E±0.09, h33km, n19, σ1°§19/28, mb3.5/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.86**	**324**	P	**P**	**16 37 15.9**	**+0.5**
BSO1				*e*S	**S**	**16 37 37.8**	**-0.1**
JHJ2	**Mitsune**	**2.10**	**269**	P	**P**	**16 37 20.6**	**+1.7**
JHJ	**Hachijo jima 2**	**2.12**	**270**	Pn	**Pn**	**16 37 20.6**	**+1.1**
	29nm,0.3s,baz=97,slow=16,SNR=64						
JHJ				Sn	**Sn**	**16 37 46.5**	**+1.5**
	26nm,0.3s,baz=266,slow=22,SNR=7.3						
BSO3	**Boso 3**	**2.22**	**318**	P	**P**	**16 37 21.4**	**+0.8**
BSO3				*e*S	**S**	**16 37 48.4**	**+1.3**
CHOJ	**Chosi**	**2.81**	**335**	P	**P**	**16 37 28.5**	**-0.5**
JIM2	**Oshima 3**	**2.85**	**304**	P	**P**	**16 37 29.2**	**-0.5**
JIM2				*e*S	**S**	**16 38 01.8**	**-1.5**
JIZS	**Izushimoda**	**3.25**	**299**	P	**P**	**16 37 36.0**	**+0.7**
JIZS				*e*S	**S**	**16 38 11.0**	**-2.4**
JYN	**Shimob**	**3.89**	**308**	P	**P**	**16 37 44.5**	**0.0**
JRY	**Ryogami san**	**4.00**	**316**	*e*S	**S**	**16 38 29.3**	**-3.2**
JAG	**Ashikaga**	**4.02**	**325**	P	**P**	**16 37 46.0**	**-0.2**
JNG	**Nsakai**	**4.74**	**314**	P	**P**	**16 37 57.0**	**+0.4**
JNG				*e*S	**S**	**16 38 49.2**	**-1.9**
MJAR	**Matsushiro Arr**	**4.77**	**316**	Pn	**Pn**	**16 37 56.9**	**-0.2**
	0.7nm,0.3s,baz=164,slow=13,SNR=13						
MJAR				Sn	**Sn**	**16 38 52.4**	**+0.5**
	0.7nm,0.3s,baz=266,slow=34,SNR=8.1						
MAT	**Matsushiro**	**4.77**	**316**	P	**P**	**16 37 57.7**	**+0.7**
MAT				S	**S**	**16 38 49.9**	**-1.9**
MAT	**Matsushiro**	**4.77**	**316**	P	**P**	**16 37 57.9**	**+0.9**
JWY	**Kouya**	**5.70**	**282**	P	**P**	**16 38 10.7**	**+0.7**
CBIJ	**Chichi jima**	**6.05**	**181**	Pn	**Pn**	**16 38 13.8**	**-1.3**
	6.3nm,0.3s,baz=87,slow=21,SNR=18						
CBIJ				Sn	**Sn**	**16 39 21.9**	**-2.0**
	2.2nm,0.3s,baz=296,slow=22,SNR=3.0						
CBIJ	**Chichi jima**	**6.05**	**181**	P	**P**	**16 38 14.7**	**-0.2**
SONM	**Songino Array**	**30.68**	**309**	P	**P**	**16 43 00.5**	**+1.4**
	0.5nm,0.7s,mb3.5,baz=108,slow=9.1,SNR=3.1						
MKAR	**Makanchi Array**	**46.88**	**305**	P	**P**	**16 45 15.5**	**+1.3**
	0.4nm,0.6s,mb3.5,baz=84,slow=8.6,SNR=4.7						

*IDC **31** 17:01:59.5±1.5, 33.12N×142.60E, mb3.5/4, mb1 3.7/7, mb1mx3.6/21, mbtmp3.6/7, ML3.6/3, Error ellipse: s-maj=32.0km s-min=26.4km az=2.0*
*JMA **31** 17:02:02.6±0.7, 33.22N×142.43E, h74km, M3.0*
ISC 31 17:02:00.1±2.0, 33.22N±0.06×142.51E±0.08, h20km±18km, n20, σ1°§18/28, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.92**	**319**	P	**Pn**	**17 02 32.9**	**+0.8**
BSO1				*e*S	**Sn**	**17 02 56.5**	**+0.6**
JHJ2	**Mitsune**	**2.26**	**268**	P	**Pn**	**17 02 38.0**	**+0.9**
JHJ	**Hachijo jima 2**	**2.29**	**268**	Pn	**Pn**	**17 02 38.1**	**+0.6**
	27nm,0.3s,baz=114,slow=19,SNR=30						
JHJ				Sn	**Sn**	**17 03 04.9**	**-0.4**
	19nm,0.3s,baz=90,slow=20,SNR=9.5						
BSO3	**Boso 3**	**2.29**	**314**	P	**Pn**	**17 02 39.2**	**+1.7**
BSO4	**Boso 4**	**2.52**	**315**	P	**Pn**	**17 02 42.0**	**+1.2**
KTR	**Katsuura**	**2.65**	**317**	S	**Sn**	**17 03 13.7**	**-0.8**
JIM2	**Oshima 3**	**2.96**	**301**	P	**Pn**	**17 02 46.8**	**-0.3**
JYN	**Shimob**	**3.99**	**306**	P	**Pn**	**17 03 01.6**	**-0.1**
JYN				*e*S	**Sn**	**17 03 48.6**	**+0.2**
JAG	**Ashikaga**	**4.07**	**323**	P	**Pn**	**17 03 02.7**	**-0.1**
JRY	**Ryogami san**	**4.08**	**314**	P	**Pn**	**17 03 03.6**	**+0.6**
JMM	**Marumori**	**4.85**	**344**	P	**Pn**	**17 03 11.5**	**-2.3**
JMM				*e*S	**Sn**	**17 04 03.2**	**-6.9**
MJAR	**Matsushiro Arr**	**4.85**	**314**	Pn	**Pn**	**17 03 13.8**	**0.0**
	1.2nm,0.3s,baz=158,slow=11,SNR=14						
MJAR				Sn	**Sn**	**17 04 09.2**	**-0.9**
	0.5nm,0.3s,baz=197,slow=17,SNR=4.0						
MAT	**Matsushiro**	**4.85**	**314**	P	**Pn**	**17 03 14.1**	**+0.2**
MAT				S	**Sn**	**17 04 08.7**	**-1.4**
MAT	**Matsushiro**	**4.85**	**314**	P	**Pn**	**17 03 14.6**	**+0.7**
MAT				*e*S	**Sn**	**17 04 07.9**	**-2.2**
JMK	**Ichinoseki**	**5.82**	**350**	P	**Pn**	**17 03 25.1**	**-2.4**
CBIJ	**Chichi jima**	**6.11**	**183**	Pn	**Pn**	**17 03 29.8**	**-1.8**
	5.2nm,0.3s,baz=3.4,slow=19,SNR=12						
CBIJ				Sn	**Sn**	**17 04 37.0**	**-4.7**
	6.6nm,0.3s,baz=246,slow=21,SNR=4.6						
SONM	**Songino Array**	**30.78**	**309**	P	**P**	**17 08 19.7**	**+3.4**
	0.3nm,0.7s,mb3.2,baz=113,slow=9.4,SNR=4.3						
MKAR	**Makanchi Array**	**46.98**	**305**	P	**P**	**17 10 32.5**	**+1.1**
	0.8nm,0.9s,mb3.6,baz=90,slow=8.5,SNR=5.4						
ILAR	**Eielson Array**	**52.27**	**31**	P	**P**	**17 11 11.9**	**+0.1**
	0.5nm,0.8s,mb3.5,baz=262,slow=5.9,SNR=6.0						
TXAR	**Lajitas Array**	**91.72**	**53**	P	**P**	**17 15 09.5**	**+1.9**
	0.2nm,0.4s,mb3.8,baz=315,slow=3.5,SNR=4.6						

*NIED **31** 17:10:00, 31.20N×141.70E, h38km, Mw4.0 Best double couple: Mo1.16×10^15 NP1:φs311°, δ77°, λ-68°. NP2:φs71°, δ25°, λ-148°.*
*MOS **31** 17:10:02.3±1.0, 31.14N×141.74E, h33km, mb4.0/3, Error ellipse: s-maj=36.1km s-min=12.5km az=111.0*
*JMA **31** 17:10:03.1±0.6, 31.22N×141.70E, h118km, M3.5*
*IDC **31** 17:10:03.8±7.2, 31.14N×141.78E, h27km±49km, mb3.7/11, mb1 3.9/14, mb1mx3.8/22, mbtmp3.9/14, ML3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/33, Error ellipse: s-maj=27.0km s-min=15.5km az=67.0*
*NEIC **31** 17:10:03.1±3.9, 31.14N×141.80E, h23km±26km, mb3.8/1, Error ellipse: s-maj=15.4km s-min=14.2km az=177.0*
ISC 31 17:10:01.1±2.1, 31.12N±0.05×141.8E±0.1, h21km±15km, n27, σ0°§86/33, mb3.9/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.58**	**321**	P	**Pn**	**17 10 42.2**	**-0.4**
JHJ	**Hachijo jima 2**	**2.60**	**320**	Pn	**Pn**	**17 10 42.8**	**-0.1**
	15nm,0.3s,baz=68,slow=22,SNR=10.0						
JHJ				Sn	**Sn**	**17 11 16.2**	**+1.9**
	27nm,0.3s,baz=245,slow=22,SNR=6.3						
BSO1	**Boso 1**	**3.58**	**350**	P	**Pn**	**17 10 56.9**	**+0.1**
CBIJ	**Chichi jima**	**4.03**	**175**	Pn	**Pn**	**17 11 04.9**	**+1.7**
	8.6nm,0.3s,baz=283,slow=23,SNR=20						
CBIJ				Sn	**Sn**	**17 11 49.5**	**-0.9**
	22nm,0.3s,baz=284,slow=22,SNR=7.4						
CBIJ				LR	LR	17 12 33.0	
	comp=Z,187nm,18.2s,baz=160,slow=37						
CBIJ	**Chichi jima**	**4.03**	**175**	P	**Pn**	**17 11 04.8**	**+1.6**
BSO4	**Boso 4**	**4.04**	**343**	P	**Pn**	**17 11 04.2**	**+0.9**
JHU	**Hanno**	**5.15**	**337**	P	**Pn**	**17 11 18.6**	**-0.4**
MJAR	**Matsushiro Arr**	**6.16**	**332**	Pn	**Pn**	**17 11 32.8**	**-0.5**
	2.7nm,0.3s,baz=150,slow=11,SNR=32						
MJAR				Sn	**Sn**	**17 12 43.5**	**-0.4**
	0.6nm,0.3s,baz=114,slow=36,SNR=2.8						
MAT	**Matsushiro**	**6.16**	**332**	*e*P	**Pn**	**17 11 33.0**	**-0.3**
MAT				*e*S	**Sn**	**17 12 44.0**	**+0.1**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MAT	**Matsushiro**	**6.16**	**332**	*e*P	**Pn**	**17 11 33.0**	**-0.3**
	comp=Z,7.8nm,0.5s						
MAT				*e*S	**Sn**	**17 12 44.0**	**+0.1**
MAT	**Matsushiro**	**6.16**	**332**	P	**Pn**	**17 11 32.9**	**-0.4**
MAT				*e*S	**Sn**	**17 12 40.8**	**-3.1**
YSS	**Yuzh-Sakhalins**	**15.83**	**2**	P	**P**	**17 13 43.7**	**-0.6**
SONM	**Songino Array**	**31.65**	**312**	P	**P**	**17 16 24.7**	**-0.3**
	comp=Z,2.6nm,0.9s,mb4.1,baz=114,slow=8.6,SNR=18						
ZAK	**Zakamensk**	**34.42**	**315**	*e*P	**P**	**17 16 47.2**	**-1.8**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.5						
TLY	**Talaya**	**34.66**	**317**	*e*P	**P**	**17 16 52.1**	**+1.1**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
ZAL	**Zalesovo**	**46.27**	**317**	P	**P**	**17 18 26.1**	**-0.5**
	comp=Z,0.7nm,0.4s,mb3.9,baz=6.3,slow=6.4,SNR=4.1						
MKAR	**Makanchi Array**	**47.70**	**307**	P	**P**	**17 18 37.9**	**-0.2**
	comp=Z,0.7nm,0.5s,mb4.0,baz=88,slow=8.7,SNR=14						
MKAR				PcP	PcP	17 20 07.0	-0.6
	comp=Z,0.2nm,0.4s,baz=72,slow=4.6,SNR=2.7						
WRA	**Warramunga Arr**	**51.27**	**189**	P	**P**	**17 19 05.4**	**-0.4**
	comp=Z,0.7nm,0.3s,mb4.1,baz=6.4,slow=7.6,SNR=15						
ILAR	**Eielson Array**	**54.39**	**30**	P	**P**	**17 19 28.1**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=264,slow=6.3,SNR=7.0						
BVAR	**Borovoye Array**	**54.88**	**316**	P	**P**	**17 19 31.7**	**-0.4**
	comp=Z,1.0nm,0.6s,mb4.0,baz=101,slow=7.3,SNR=6.8						
BRVK	**Borovoye**	**54.94**	**316**	P	**P**	**17 19 32.0**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BRVK	**Borovoye**	**54.94**	**316**	P	**P**	**17 19 32.0**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.8						
AKASG	**Malin Array Be**	**79.17**	**323**	P	**P**	**17 22 06.3**	**+0.6**
	comp=Z,0.4nm,0.4s,mb3.7,baz=45,slow=6.4,SNR=5.5						
NOA	**NORSAR Array B**	**79.75**	**338**	P	**P**	**17 22 08.0**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.5,baz=107,slow=10,SNR=2.7						
PDAR	**Pinedale Array**	**81.62**	**45**	P	**P**	**17 22 19.6**	**+0.8**
	comp=Z,0.4nm,0.5s,mb3.6,baz=244,slow=0.8,SNR=4.5						
BRTR	**Keskin Array B**	**83.01**	**312**	P	**P**	**17 22 27.9**	**+1.8**
	comp=Z,0.4nm,0.3s,mb3.9,baz=45,slow=6.1,SNR=6.9						
TXAR	**Lajitas Array**	**93.48**	**53**	P	**P**	**17 23 17.1**	**+0.4**
	comp=Z,0.7nm,0.7s,mb4.2,baz=317,slow=2.9,SNR=11						

*IDC **31** 17:30:58.5±1.0, 33.22N×142.69E, mb3.7/6, mb1 3.9/9, mb1mx3.8/21, mbtmp3.8/9, ML3.8/3, Error ellipse: s-maj=23.6km s-min=22.4km az=109.0*
*NIED **31** 17:31:00, 33.30N×142.50E, h11km, Mw3.7 Best double couple: Mo3.77×10^14 NP1:φs171°, δ69°, λ-85°. NP2: φs336°, δ22°, λ-104°.*
*JMA **31** 17:31:01.6±0.6, 33.34N×142.47E, h30km, M3.8*
*NEIC **31** 17:31:04.6±0.9, 33.34N×142.60E, h40km, mb4.2/1, Error ellipse: s-maj=19.9km s-min=15.8km az=225.0*
ISC 31 17:30:59.9±2.2, 33.28N±0.06×142.54E±0.07, h20km±17km, n22, σ1°§04/29, mb3.8/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.89**	**317**	P	**Pn**	**17 31 31.7**	**+0.2**
BSO3	**Boso 3**	**2.27**	**313**	P	**Pn**	**17 31 37.6**	**+0.6**
JHJ2	**Mitsune**	**2.29**	**267**	P	**Pn**	**17 31 38.1**	**+0.8**
JHJ	**Hachijo jima 2**	**2.32**	**267**	Pn	**Pn**	**17 31 38.0**	**+0.3**
	51nm,0.3s,baz=153,slow=4.4,SNR=49						
JHJ				Sn	**Sn**	**17 32 05.9**	**0.0**
	75nm,0.3s,baz=204,slow=23,SNR=12						
BSO4	**Boso 4**	**2.50**	**314**	P	**Pn**	**17 31 41.4**	**+1.1**
JIM2	**Oshima 3**	**2.95**	**300**	P	**Pn**	**17 31 47.1**	**+0.3**
JIM2				*e*S	**Sn**	**17 32 20.7**	**-1.3**
JHO	**Hitachi**	**3.69**	**335**	P	**Pn**	**17 31 56.5**	**-0.8**
MJAR	**Matsushiro Arr**	**4.82**	**314**	Pn	**Pn**	**17 32 13.4**	**+0.1**
	1.8nm,0.3s,baz=93,slow=30,SNR=25						
MJAR				Sn	**Sn**	**17 33 09.0**	**-0.2**
	1.8nm,0.3s,baz=283,slow=28,SNR=5.5						
MJAR	**Matsushiro Arr**	**4.82**	**314**	Pn	**Pn**	**17 32 13.4**	**+0.1**
MJAR				Sn	**Sn**	**17 33 09.0**	**-0.2**
MAT	**Matsushiro**	**4.82**	**314**	*e*P	**Pn**	**17 32 14.0**	**+0.7**
MAT				*e*S	**Sn**	**17 33 07.0**	**-2.3**
MAT	**Matsushiro**	**4.82**	**314**	P	**Pn**	**17 32 13.5**	**+0.2**
MAT				S	**Sn**	**17 33 07.4**	**-1.9**
CBIJ	**Chichi jima**	**6.17**	**183**	Pn	**Pn**	**17 32 30.6**	**-1.8**
	9.4nm,0.3s,baz=78,slow=14,SNR=26						
CBIJ				Sn	**Sn**	**17 33 37.7**	**-5.4**
	19nm,0.3s,baz=276,slow=22,SNR=9.2						
YSS	**Yuzh-Sakhalins**	**13.66**	**1**	*e*P	**P**	**17 34 13.8**	**-1.1**
	8.6nm,0.9s						
SONM	**Songino Array**	**30.76**	**309**	P	**P**	**17 37 17.9**	**+2.0**
	0.8nm,0.7s,mb3.6,baz=108,slow=8.3,SNR=6.1						
MKAR	**Makanchi Array**	**46.97**	**305**	P	**P**	**17 39 32.2**	**+1.0**
	1.6nm,1.0s,mb3.9,baz=90,slow=7.3,SNR=11						
MKAR	**Makanchi Array**	**46.97**	**305**	P	**P**	**17 39 32.2**	**+1.0**
ILAR	**Eielson Array**	**52.20**	**31**	P	**P**	**17 40 10.3**	**-0.9**
	1.0nm,1.0s,mb3.7,baz=259,slow=5.9,SNR=9.3						
WRA	**Warramunga Arr**	**53.50**	**190**	P	**P**	**17 40 20.3**	**-1.1**
	0.8nm,0.8s,mb3.7,baz=9.5,slow=7.6,SNR=6.2						
YKA	**Yellowknife Ar**	**66.60**	**30**	P	**P**	**17 41 49.9**	**-0.6**
	0.4nm,0.5s,mb3.7,baz=292,slow=6.1,SNR=4.5						
YKA	**Yellowknife Ar**	**66.60**	**30**	P	**P**	**17 41 49.9**	**-0.6**
NB2	**NORSAR Subarra**	**78.00**	**338**	P	**P**	**17 42 59.9**	**+1.9**
	2.5nm,1.1s,mb4.1,baz=39,slow=5.8						
TXAR	**Lajitas Array**	**91.66**	**53**	P	**P**	**17 44 08.0**	**+0.9**
	0.3nm,0.7s,mb3.7,baz=315,slow=3.5,SNR=5.2						

IDC 31 17:42:23.8±1.0, 32.15N×139.63E, h25km±6km, mb3.2/4, mb1 3.4/6, mb1mx3.3/20, mbtmp3.3/6, ML3.4/1, MS2.7/1, Ms1 2.7/1, ms1mx2.1/8, Error ellipse: s-maj=29.2km s-min=16.6km az=81.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**0.97**	**8**	Pn	Pn	17 42 41.6	-0.3
	11nm,0.3s,baz=263,slow=23,SNR=24						
JHJ				Sn	Sn	17 42 52.2	-2.7
	16nm,0.3s,baz=59,slow=22,SNR=5.2						
MJAR	**Matsushiro Arr**	**4.53**	**345**	Pn	Pn	17 43 28.7	-3.9
	1.1nm,0.3s,baz=154,slow=12,SNR=15						
MJAR				Sn	Sn	17 44 21.6	-3.6
	0.8nm,0.3s,baz=198,slow=33,SNR=5.9						
CBIJ	**Chichi jima**	**5.51**	**156**	Pn	Pn	17 43 44.5	-1.9
	3.1nm,0.3s,baz=273,slow=13,SNR=5.6						
JNU	**Nakatsue**	**7.44**	**280**	LR	LR	17 46 30.0	
	comp=Z,51nm,18.9s,baz=178,slow=33						
SONM	**Songino Array**	**29.51**	**312**	P	P	17 48 25.5	-3.6
	0.1nm,0.3s,baz=117,slow=6.4,SNR=2.7						
MKAR	**Makanchi Array**	**45.62**	**306**	P	P	17 50 43.2	-0.6
	0.1nm,0.3s,baz=101,slow=7.3,SNR=2.5						
MKAR				pP	pP	17 50 50.8	-0.6
	0.2nm,0.4s,baz=90,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**52.05**	**186**	P	P	17 51 31.2	-2.6
	0.3nm,0.6s,baz=2.3,slow=7.5,SNR=4.6						
WRA				pP	pP	17 51 38.0	-3.5
	0.3nm,0.6s,baz=7.3,slow=7.6,SNR=2.9						

MLR	**Muntele Rosu**	**8.07**	**321**	Pn		**P**	**17 53 15.5**	**+8.8**
	0.3nm,0.3s,baz=153,slow=8.8,SNR=5.4							
MLR				LR		LR	17 56 45.1	
	comp=Z,72nm,20.8s,baz=148,slow=43							
MLR	**Muntele Rosu**	**8.07**	**321**	⇓P		**P**	**17 53 17.2**	**+11**
KIV	**Kislovodsk**	**8.50**	**54**	*i* P		**P**	**17 53 12.8**	**+0.2**
GNI	**Garni**	**9.00**	**81**	LR		LR	17 57 23.3	
	comp=Z,90nm,18.2s,baz=164,slow=42							
BURAR	**Bucovina Array**	**10.02**	**328**	⇓P		**P**	**17 53 41.1**	**+7.7**
BURAR	**Bucovina Array**	**10.02**	**328**	⇓P		**P**	**17 53 41.2**	**+7.7**
AKASG	**Malin Array Be**	**11.64**	**348**	Pn		**P**	**17 53 49.4**	**-6.3**
	0.4nm,0.3s,baz=158,slow=14,SNR=4.3							
AKASG	**Malin Array Be**	**11.64**	**348**	Pn		**P**	**17 53 49.3**	**-6.3**
OBN	**Obninsk**	**15.91**	**7**	*e*P		**P**	**17 54 49.2**	**-2.6**
OBN				pmax	pmax			
	comp=Z,6.0nm,0.7s							
OBN	**Obninsk**	**15.91**	**7**	*e*P		**P**	**17 54 49.2**	**-2.6**
	comp=Z,6.0nm,0.7s							
FINES	**FINESS Array B**	**22.51**	**351**	P		**P**	**17 56 07.8**	**+0.6**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
FINES	**FINESS Array B**	**22.51**	**351**	P		**P**	**17 56 07.8**	**+0.6**
	comp=Z,1.8nm,0.6s,mb3.7,baz=154,slow=11,SNR=19							
HFS	**Hagfors**	**24.08**	**336**	P		**P**	**17 56 23.3**	**+0.7**
HFS				pmax	pmax			
	comp=Z,3.0nm,1.0s							
HFS				MLR	MLR			
	comp=Z,29nm,18.5s							
HFS	**Hagfors**	**24.08**	**336**	P		**P**	**17 56 23.3**	**+0.7**
	comp=Z,2.5nm,0.9s,mb3.6,baz=150,slow=12,SNR=3.0							
HFS				LR	LR		18 06 19.4	
	comp=Z,29nm,18.5s,MS2.8,baz=155,slow=38							
EKA	**Eskdalemuir Ar**	**28.87**	**316**	P		**P**	**17 57 05.1**	**-1.9**
EKA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
EKA	**Eskdalemuir Ar**	**28.87**	**316**	P		**P**	**17 57 05.0**	**-2.0**
	comp=Z,0.5nm,0.6s,mb3.5,baz=109,slow=9.6,SNR=3.6							
ARCES	**ARCESS Array B**	**30.48**	**355**	P		**P**	**17 57 19.6**	**-1.7**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ARCES				MLR	MLR			
	comp=Z,33nm,19.1s							
ARCES	**ARCESS Array B**	**30.48**	**355**	P		**P**	**17 57 19.6**	**-1.7**
	comp=Z,1.5nm,0.7s,mb3.8,baz=164,slow=8.8,SNR=5.0							
ARCES				LR	LR		18 10 57.0	
	comp=Z,32nm,19.1s,MS3.0,baz=14,slow=39							
MKAR	**Makanchi Array**	**36.18**	**62**	P		**P**	**17 58 11.2**	**+0.4**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
MKAR	**Makanchi Array**	**36.18**	**62**	P		**P**	**17 58 11.2**	**+0.3**
	comp=Z,0.6nm,0.9s,mb3.5,baz=270,slow=9.7,SNR=4.8							
JMIC	**Jan Mayen**	**38.10**	**339**	LR		LR	18 14 54.0	
	comp=Z,22nm,19.5s,MS3.0,baz=133,slow=38							
BOSA	**Boshof**	**68.04**	**187**	P		**P**	**18 02 09.0**	**+0.7**
BOSA				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.2							
BOSA	**Boshof**	**68.04**	**187**	P		**P**	**18 02 08.9**	**+0.7**
	comp=Z,2.2nm,0.8s,mb4.2,baz=323,slow=5.1,SNR=4.0							
YKA	**Yellowknife Ar**	**75.19**	**345**	P		**P**	**18 02 49.5**	**-0.8**
	comp=Z,0.2nm,0.4s,mb3.4,baz=23,slow=5.4,SNR=5.1							
YKA	**Yellowknife Ar**	**75.19**	**345**	P		**P**	**18 02 49.5**	**-0.8**

*NEIC **31** 17:55:20.9, 37.53S×176.22E, h274km, MG4.1(WEL), After WEL.*

WEL 31 17:55:21.3±0.2, 37.55S×176.28E, h271km±3km, ML4.1/19, 5C, Error ellipse: s-maj=4.7km s-min=4.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.96**	**137**	P	P	17 55 58.5	0.0
URZ	**Urewera**	**0.96**	**137**	PN	P	17 55 58.3	-0.3
URZ				SN	S	17 56 26.7	-1.0
MWZ	**Matawai**	**1.26**	**129**	P	P	17 56 00.3	0.0
MWZ				S	S	17 56 30.9	+0.2
MWZ	**Matawai**	**1.26**	**129**	PN	P	17 56 00.1	-0.1
MWZ				SN	S	17 56 30.6	-0.1
MXZ	**Matakaoa Point**	**1.61**	**91**	P	P	17 56 02.7	0.0
MXZ	**Matakaoa Point**	**1.61**	**91**	PN	P	17 56 02.6	-0.1
BKZ	**Black Stump Fm**	**1.62**	**174**	P	P	17 56 02.7	-0.1
BKZ				S	S	17 56 35.1	0.0
BKZ	**Black Stump Fm**	**1.62**	**174**	⇑PN	P	17 56 02.7	-0.1
BKZ				SN	S	17 56 35.0	-0.1
PUZ	**Puketitti**	**1.65**	**109**	P	P	17 56 03.3	+0.3
PUZ	**Puketitti**	**1.65**	**109**	PN	P	17 56 02.9	-0.1
PUZ				SN	S	17 56 33.9	-1.5
TWVZ	**Taurewa**	**1.66**	**203**	P	P	17 56 03.1	+0.1
TWVZ	**Taurewa**	**1.66**	**203**	PN	P	17 56 03.1	0.0
TUVZ	**Tukino**	**1.78**	**196**	P	P	17 56 04.0	0.0
TUVZ	**Tukino**	**1.78**	**196**	PN	P	17 56 04.0	+0.1
FWVZ	**Far West T-bar**	**1.79**	**198**	P	P	17 56 04.6	+0.5
FWVZ	**Far West T-bar**	**1.79**	**198**	PN	P	17 56 04.4	+0.3
KNZ	**Kokohu**	**1.83**	**144**	P	P	17 56 04.2	-0.2
KNZ	**Kokohu**	**1.83**	**144**	PN	P	17 56 04.0	-0.3
KNZ				SN	S	17 56 36.6	-1.3
WNVZ	**Wahianoa**	**1.85**	**197**	P	P	17 56 04.5	0.0
WNVZ	**Wahianoa**	**1.85**	**197**	PN	P	17 56 04.5	-0.1
PKVZ	**Pokaka**	**1.88**	**203**	⇑PN	P	17 56 04.5	-0.3
MOVZ	**Moawhango**	**1.90**	**192**	P	P	17 56 04.4	-0.5
MOVZ	**Moawhango**	**1.90**	**192**	⇑PN	P	17 56 04.3	-0.6
MTVZ	**Mangateitei**	**1.94**	**199**	PN	P	17 56 05.0	-0.2
VRZ	**Vera Road**	**1.97**	**217**	*e*P	P	17 56 05.7	+0.2
VRZ	**Vera Road**	**1.97**	**217**	PN	P	17 56 05.6	+0.1
WAZ	**Wanganui**	**2.42**	**204**	P	P	17 56 09.0	-0.7
WAZ	**Wanganui**	**2.42**	**204**	PN	P	17 56 08.9	-0.7
NEZ	**North Egmont**	**2.43**	**224**	P	P	17 56 10.4	+0.7
NEZ	**North Egmont**	**2.43**	**224**	PN	P	17 56 10.2	+0.5
PKE	**Pukeiti**	**2.44**	**227**	P	P	17 56 10.1	+0.3
PKE	**Pukeiti**	**2.44**	**227**	PN	P	17 56 09.9	+0.1
PWZ	**Pawanui**	**2.51**	**170**	P	P	17 56 09.7	-0.9
PWZ	**Pawanui**	**2.51**	**170**	PN	P	17 56 09.6	-1.0
TSZ	**Takapari Road**	**2.52**	**186**	P	P	17 56 09.3	-1.3
TSZ	**Takapari Road**	**2.52**	**186**	⇑PN	P	17 56 09.3	-1.3
NWEZ	**Newall Road**	**2.56**	**227**	P	P	17 56 11.4	+0.4
NWEZ	**Newall Road**	**2.56**	**227**	PN	P	17 56 11.1	+0.1
BFZ	**Birch Farm**	**3.12**	**180**	P	P	17 56 15.2	-1.6
BFZ	**Birch Farm**	**3.12**	**180**	PN	P	17 56 15.1	-1.7
MRZ	**Mangatainoka R**	**3.15**	**190**	*e*P	P	17 56 14.9	-2.2
MRZ	**Mangatainoka R**	**3.15**	**190**	⇑PN	P	17 56 14.9	-2.2
KIW	**Kapiti Island**	**3.47**	**197**	P	P	17 56 18.1	-2.5
KIW	**Kapiti Island**	**3.47**	**197**	PN	P	17 56 17.9	-2.7
MTW	**Mount Morrison**	**3.65**	**189**	P	P	17 56 19.7	-2.9
MTW	**Mount Morrison**	**3.65**	**189**	PN	P	17 56 19.6	-3.0
CAW	**Cannon Point**	**3.67**	**194**	P	P	17 56 20.0	-2.8
CAW	**Cannon Point**	**3.67**	**194**	PN	P	17 56 19.8	-3.0
DUWZ	**D'Urville Isla**	**3.73**	**209**	PN	P	17 56 20.4	-3.0
TRWZ	**Traveller**	**3.87**	**187**	PN	P	17 56 22.1	-2.9
MRW	**Makara Radio**	**3.87**	**198**	P	P	17 56 22.0	-3.1
MRW	**Makara Radio**	**3.87**	**198**	PN	P	17 56 21.8	-3.3
PAWZ	**Paruwai Farm**	**3.88**	**190**	PN	P	17 56 22.1	-3.1
WEL	**Wellington**	**3.91**	**197**	P	P	17 56 22.5	-3.0
WEL	**Wellington**	**3.91**	**197**	PN	P	17 56 22.3	-3.1
MSWZ	**Moikau Station**	**3.94**	**191**	P	P	17 56 22.7	-3.1
MSWZ	**Moikau Station**	**3.94**	**191**	PN	P	17 56 22.5	-3.3
SNZO	**South Karori**	**3.94**	**198**	P	P	17 56 22.7	-3.2
SNZO	**South Karori**	**3.94**	**198**	PN	P	17 56 22.6	-3.4
TCW	**Tory Channel**	**3.97**	**202**	P	P	17 56 23.4	-2.8
TCW	**Tory Channel**	**3.97**	**202**	PN	P	17 56 23.1	-3.1
BHW	**Baring Head**	**4.00**	**195**	P	P	17 56 23.3	-3.3
BHW	**Baring Head**	**4.00**	**195**	PN	P	17 56 23.0	-3.6
TUWZ	**Tuamarina**	**4.27**	**204**	PN	P	17 56 26.2	-3.5
NNZ	**Nelson**	**4.29**	**211**	P	P	17 56 26.2	-3.7
NNZ	**Nelson**	**4.29**	**211**	PN	P	17 56 26.0	-4.0
QRZ	**Quartz Range**	**4.38**	**221**	*e*P	P	17 56 26.6	-4.3
QRZ	**Quartz Range**	**4.38**	**221**	PN	P	17 56 26.5	-4.4
BSWZ	**Blackbirch Sta**	**4.55**	**203**	P	P	17 56 29.8	-3.1
BSWZ	**Blackbirch Sta**	**4.55**	**203**	PN	P	17 56 29.6	-3.3
THZ	**Tophouse**	**4.95**	**211**	P	P	17 56 33.2	-4.4
THZ	**Tophouse**	**4.95**	**211**	PN	P	17 56 33.1	-4.5
KHZ	**Kahutara**	**5.29**	**203**	P	P	17 56 38.1	-3.7
KHZ	**Kahutara**	**5.29**	**203**	PN	P	17 56 37.8	-4.0
DSZ	**Denniston Nort**	**5.43**	**218**	*e*P	P	17 56 38.2	-5.2
DSZ	**Denniston Nort**	**5.43**	**218**	PN	P	17 56 37.9	-5.5
LTZ	**Lake Taylor**	**6.06**	**209**	P	P	17 56 46.2	-4.9
LTZ	**Lake Taylor**	**6.06**	**209**	PN	P	17 56 46.1	-5.1
CRLZ	**Canterbury Las**	**6.63**	**204**	*e*P	P	17 56 53.2	-5.0
MQZ	**McQueen's Vall**	**6.74**	**203**	*e*P	P	17 56 53.8	-5.8
MQZ	**McQueen's Vall**	**6.74**	**203**	*e*PN	P	17 56 53.7	-5.8
WVZ	**Waitaha Valley**	**6.95**	**216**	*e*P	P	17 56 56.7	-5.6
RPZ	**Rata Peaks**	**7.33**	**211**	*e*P	P	17 57 01.1	-5.8
RPZ	**Rata Peaks**	**7.33**	**211**	*e*PN	P	17 57 00.4	-6.5
FOZ	**Fox Glacier**	**7.82**	**218**	*e*P	P	17 57 06.1	-7.1
FOZ	**Fox Glacier**	**7.82**	**218**	*e*PN	P	17 57 05.0	-8.1
LBZ	**Lake Benmore**	**8.23**	**212**	*e*P	P	17 57 12.4	-5.9
LBZ	**Lake Benmore**	**8.23**	**212**	*e*PN	P	17 57 11.7	-6.6
ODZ	**Otahua Downs**	**8.60**	**208**	*e*P	P	17 57 17.8	-5.1
ODZ	**Otahua Downs**	**8.60**	**208**	*e*PN	P	17 57 17.5	-5.4
JCZ	**Jackson Bay**	**8.65**	**219**	*e*P	P	17 57 17.8	-5.8
JCZ	**Jackson Bay**	**8.65**	**219**	*e*PN	P	17 57 16.7	-6.9
WKZ	**Wanaka**	**9.10**	**215**	*e*P	P	17 57 22.7	-6.4
WKZ	**Wanaka**	**9.10**	**215**	*e*PN	P	17 57 21.7	-7.4
EAZ	**Earnscleugh**	**9.29**	**212**	*e*P	P	17 57 25.0	-6.5
EAZ	**Earnscleugh**	**9.29**	**212**	*e*PN	P	17 57 23.5	-8.0
TUZ	**Tuapeka**	**9.75**	**208**	*e*P	P	17 57 32.2	-5.0
TUZ	**Tuapeka**	**9.75**	**208**	*e*PN	P	17 57 31.5	-5.7

IDC 31 18:17:24.3±1.7, 3.66S×135.92E, mb3.7/3, mb1 3.9/5, mb1mx3.8/12, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=57.7km s-min=31.7km az=99.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.26**	**185**	Pn	P	18 21 13.8	-2.0
	0.2nm,0.3s,baz=6.0,slow=12,SNR=6.1						
WRA				Sn	S	18 24 08.7	-8.2
	0.1nm,0.3s,baz=2.4,slow=24,SNR=5.1						
FITZ	**Fitzroy Crossi**	**17.54**	**214**	P	P	18 21 30.7	-1.3
	0.3nm,0.3s,baz=14,slow=12,SNR=4.7						
FITZ				S	S	18 24 36.0	-10
	0.6nm,0.3s,baz=176,slow=16,SNR=4.3						
SONM	**Songino Array**	**57.44**	**337**	P	P	18 27 14.9	-2.4
	0.4nm,0.7s,baz=127,slow=7.2,SNR=2.8						
MKAR	**Makanchi Array**	**68.87**	**324**	P	P	18 28 31.2	-1.7
	0.6nm,0.6s,baz=117,slow=8.1,SNR=8.2						
ILAR	**Eielson Array**	**87.85**	**25**	P	P	18 30 15.1	-1.5
	0.3nm,0.4s,baz=256,slow=4.4,SNR=7.8						

*NIED **31** 18:55:00, 33.30N×142.50E, h5km, Mw3.6 Best double couple: M0 3.29×10^14 NP1:φs163°,δ63°,λ-85°. NP2: φs333°,δ27°,λ-99°.*
*IDC **31** 18:55:46.4±1.2, 33.16N×142.34E, mb3.8/4, mb1 3.9/7, mb1mx3.7/21, mbtmp3.8/7, ML3.8/3, Error ellipse: s-maj=29.3km s-min=19.1km az=51.0*
*JMA **31** 18:55:47.6±0.4, 33.28N×142.51E, h73km, M3.5*
*NEIC **31** 18:55:52.2±1.0, 33.16N×142.14E, h40km, mb4.2/1, Error ellipse: s-maj=28.6km s-min=15.1km az=55.0*

ISC 31 18:55:46.4±2.1, 33.26N±0.05×142.44E±0.08, h20km±18km, n18, σ1s07/27, mb3.9/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.84**	**319**	P	**Pn**	**18 56 18.0**	**+0.5**
BSO1				*e*S	**Sn**	**18 56 41.7**	**+1.2**
JHJ2	**Mitsune**	**2.21**	**267**	P	**Pn**	**18 56 23.8**	**+1.1**
JHJ2				*e*S	**Sn**	**18 56 50.1**	**+0.4**
JHJ	**Hachijo jima 2**	**2.23**	**267**	Pn	**Pn**	**18 56 23.8**	**+0.7**
	32nm,0.3s,baz=215,slow=16,SNR=77						
JHJ				Sn	**Sn**	**18 56 50.7**	**+0.3**
	67nm,0.3s,baz=68,slow=21,SNR=9.2						
JIM2	**Oshima 3**	**2.89**	**301**	P	**Pn**	**18 56 32.0**	**-0.5**
JYT	**Yasato**	**3.49**	**329**	P	**Pn**	**18 56 41.0**	**0.0**
JYT				*e*S	**Sn**	**18 57 22.0**	**-0.2**
JHU	**Hanno**	**3.67**	**316**	P	**Pn**	**18 56 44.4**	**+0.9**
JHU				*e*S	**Sn**	**18 57 26.3**	**-0.5**
JHO	**Hitachi**	**3.68**	**336**	P	**Pn**	**18 56 42.5**	**-1.1**
JAG	**Ashikaga**	**4.00**	**323**	P	**Pn**	**18 56 48.1**	**-0.1**
MJAR	**Matsushiro Arr**	**4.78**	**314**	Pn	**Pn**	**18 56 59.6**	**+0.4**
	2.1nm,0.3s,baz=164,slow=12,SNR=29						
MJAR				Sn	**Sn**	**18 57 53.3**	**-1.4**
	1.2nm,0.3s,baz=143,slow=19,SNR=5.9						
MAT	**Matsushiro**	**4.78**	**314**	*e*P	**Pn**	**18 57 00.0**	**+0.7**
MAT				*e*S	**Sn**	**18 57 52.0**	**-2.8**
MAT	**Matsushiro**	**4.78**	**314**	P	**Pn**	**18 56 59.1**	**-0.2**
MAT				S	**Sn**	**18 57 52.3**	**-2.5**
MAT	**Matsushiro**	**4.78**	**314**	P	**Pn**	**18 57 00.2**	**+0.9**
CBIJ	**Chichi jima**	**6.15**	**182**	Pn	**Pn**	**18 57 16.6**	**-2.1**
	9.8nm,0.3s,baz=316,slow=13,SNR=36						
CBIJ				Sn	**Sn**	**18 58 22.2**	**-7.0**
	5.0nm,0.3s,baz=126,slow=22,SNR=3.5						
ENH	**Enshi**	**28.11**	**273**	P	**P**	**19 01 37.5**	**-1.7**
	4.3nm,0.7s,mb4.2						
SONM	**Songino Array**	**30.70**	**309**	P	**P**	**19 02 03.5**	**+1.4**
	0.8nm,0.6s,mb3.7,baz=106,slow=8.6,SNR=8.7						
MKAR	**Makanchi Array**	**46.91**	**305**	P	**P**	**19 04 18.0**	**+0.7**
	0.8nm,0.6s,mb3.8,baz=89,slow=9.7,SNR=13						
WRA	**Warramunga Arr**	**53.47**	**189**	P	**P**	**19 05 07.4**	**-0.4**
	0.8nm,0.5s,mb3.9,baz=5.6,slow=7.6,SNR=22						
WRA				PcP	PcP	19 06 15.1	+0.4
	0.3nm,0.5s,baz=3.4,slow=4.2,SNR=5.2						
TXAR	**Lajitas Array**	**91.73**	**53**	P	**P**	**19 08 56.8**	**+2.6**
	0.3nm,0.7s,mb3.7,baz=297,slow=2.0,SNR=2.9						

WEL 31 18:56:22.6±0.4, 41.32S×172.80E, h132km±3km, ML3.5/6, 3C, Error ellipse: s-maj=2.3km s-min=2.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THZ	**Tophouse**	**0.45**	**170**	PN	P	18 56 41.9	+0.1
THZ				SN	S	18 56 55.3	-1.1
NNZ	**Nelson**	**0.45**	**77**	⇑PN	P	18 56 41.8	-0.1
NNZ				SN	S	18 56 55.7	-0.8
QRZ	**Quartz Range**	**0.54**	**338**	⇑PN	P	18 56 42.3	0.0
QRZ				SN	S	18 56 55.8	-1.5
DSZ	**Denniston Nort**	**0.86**	**240**	PN	P	18 56 44.2	-0.4
DSZ				SN	S	18 56 58.9	-2.6
TUWZ	**Tuamarina**	**0.87**	**98**	PN	P	18 56 44.6	-0.1
BSWZ	**Blackbirch Sta**	**0.90**	**116**	PN	P	18 56 44.9	-0.1
BSWZ				SN	S	18 57 01.9	-0.1
DUWZ	**D'Urville Isla**	**0.99**	**59**	PN	P	18 56 46.1	+0.2
TCW	**Tory Channel**	**1.12**	**85**	⇑PN	P	18 56 47.1	-0.1
TCW				SN	S	18 57 04.6	-1.2
KHZ	**Kahutara**	**1.23**	**153**	PN	P	18 56 48.0	-0.3
MRW	**Makara Radio**	**1.44**	**87**	PN	P	18 56 49.7	-0.9
SNZO	**South Karori**	**1.44**	**90**	PN	P	18 56 49.7	-0.9
LTZ	**Lake Taylor**	**1.51**	**195**	PN	P	18 56 50.9	-0.5
BHW	**Baring Head**	**1.56**	**94**	PN	P	18 56 50.9	-1.1
KIW	**Kapiti Island**	**1.66**	**75**	PN	P	18 56 52.4	-0.8
CAW	**Cannon Point**	**1.73**	**84**	PN	P	18 56 52.6	-1.3
MSWZ	**Moikau Station**	**1.85**	**94**	PN	P	18 56 53.8	-1.5
MTW	**Mount Morrison**	**2.05**	**86**	PN	P	18 56 56.2	-1.6
PKE	**Pukeiti**	**2.31**	**24**	PN	P	18 57 01.4	+0.2
MQZ	**McQueen's Vall**	**2.39**	**183**	PN	P	18 57 00.3	-1.8
VRZ	**Vera Road**	**2.66**	**35**	PN	P	18 57 05.3	-0.4
RPZ	**Rata Peaks**	**2.72**	**208**	*e*PN	P	18 57 04.1	-2.4
FOZ	**Fox Glacier**	**3.21**	**225**	PN	P	18 57 09.4	-3.5
HIZ	**Hauiti**	**3.22**	**30**	PN	P	18 57 11.9	-1.2
LBZ	**Lake Benmore**	**3.62**	**211**	*e*PN	P	18 57 15.2	-3.1
ODZ	**Otahua Downs**	**4.04**	**202**	PN	P	18 57 21.5	-2.5
JCZ	**Jackson Bay**	**4.05**	**226**	PN	P	18 57 21.4	-2.8

*MEX **31** 19:05:56.2±0.3, 13.90N×92.89W, h20km, MD4.3*
*NEIC **31** 19:05:56.2, 13.90N×92.89W, h20km, mb4.0/8, MD4.3(MEX), After MEX.*
*IDC **31** 19:06:13.8±4.0, 14.30N×92.47W, h191km±38km, mb3.4/7, mb1 3.6/9, mb1mx3.4/23, mbtmp3.9/9, Error ellipse: s-maj=67.4km s-min=12.8km az=48.0*

ISC 31 19:05:55.5±0.6, 13.98N±0.06×92.90W±0.06, h33km, n24, σ1s10/28, mb4.0/12, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.41**	**18**	*i* P	**P**	**19 06 33.2**	**-0.1**
CCIG				*i* S	**S**	**19 07 01.8**	**-0.2**
SCX	**San Cristobal**	**2.75**	**5**	*i* P	**P**	**19 06 38.0**	**-0.3**
SCX				*i* S	**S**	**19 07 11.0**	**+0.2**
CMIG	**Matias Romero**	**3.64**	**329**	*i* P	**P**	**19 06 50.0**	**-0.9**
CMIG				*i* S	**S**	**19 07 32.4**	**-0.9**
OXX	**Oaxaca**	**4.81**	**310**	*e*P	**P**	**19 07 08.0**	**+0.5**
OXX				*i* S	**S**	**19 08 02.0**	**-0.8**
EVV	**El Vigia**	**5.04**	**332**	*e*P	**P**	**19 07 12.0**	**+1.2**
JTS	**JuntasAbangare**	**8.59**	**114**	P	**P**	**19 08 13.4**	**+13**
	1.3nm,0.3s,baz=298,slow=10.0,SNR=6.9						
JTS				S	S	19 10 10.3	+33
	0.3nm,0.3s,baz=118,slow=17,SNR=6.0						
JTS	**JuntasAbangare**	**8.59**	**114**	*e*P	**P**	**19 07 58.3**	**-2.1**
JTS				S	S	19 10 10.3	+33
TXAR	**Lajitas Array**	**18.25**	**329**	P	**P**	**19 10 10.5**	**+2.5**
	0.1nm,0.3s,baz=151,slow=13,SNR=16						
TXAR	**Lajitas Array**	**18.25**	**329**	P	**P**	**19 10 10.5**	**+2.5**
LRAL	**Lakeview Retre**	**19.72**	**15**	P	**P**	**19 10 21.0**	**-4.1**
	3.6nm,0.4s						
ROSC	**El Rosal**	**20.42**	**115**	P	**P**	**19 10 34.0**	**+1.3**
	2.3nm,0.3s,baz=285,slow=20,SNR=3.1						
MNTX	**Cornudas Mount**	**21.03**	**329**	*e*P	**P**	**19 10 39.0**	**+0.2**
	3.3nm,0.8s,mb3.7						
SDV	**Santo Domingo**	**22.39**	**101**	P	**P**	**19 10 53.5**	**+1.0**
	2.7nm,0.5s,mb3.9,baz=270,slow=11,SNR=5.6						
ANMO	**Albuquerque**	**24.21**	**332**	P	**P**	**19 11 12.6**	**+2.4**
	1.1nm,0.4s,mb3.6,baz=139,slow=12,SNR=6.6						
ANMO	**Albuquerque**	**24.21**	**332**	*e*P	**P**	**19 11 12.2**	**+1.9**
	1.2nm,0.5s,mb3.6						
PDAR	**Pinedale Array**	**32.09**	**337**	P	**P**	**19 12 21.2**	**-0.6**
	0.6nm,0.7s,mb3.5,baz=127,slow=9.0,SNR=5.0						
REDW	**Red Top Meadow**	**33.10**	**336**	*e*P	**P**	**19 12 30.8**	**+0.2**
	7.6nm,0.9s,mb4.6						
SNOW	**Snow King Moun**	**33.14**	**336**	*e*P	**P**	**19 12 31.7**	**+0.7**
	9.7nm,0.7s,mb4.8						
LOHW	**Long Hollow**	**33.21**	**336**	*e*P	**P**	**19 12 31.6**	**+0.1**
	1.8nm,0.7s,mb4.1						
HLID	**Hailey**	**34.78**	**332**	*e*P	**P**	**19 12 45.7**	**+0.6**
	1.0nm,0.7s,mb3.9						
SAML	**Samuel**	**37.26**	**126**	*e*P	**P**	**19 13 03.8**	**-2.5**
	1.0nm,0.9s,mb3.6						
SIV	**San Ignacio**	**43.31**	**132**	P	**P**	**19 13 55.9**	**-0.5**
	1.8nm,0.6s,mb4.0,baz=316,slow=7.9,SNR=15						
YKA	**Yellowknife Ar**	**50.85**	**347**	P	**P**	**19 14 53.1**	**-1.9**
	3.0nm,0.7s,mb4.3,baz=150,slow=7.5,SNR=20						
ILAR	**Eielson Array**	**62.52**	**337**	P	**P**	**19 16 16.8**	**-1.3**
	1.0nm,0.8s,mb4.0,baz=141,slow=4.4,SNR=12						

NNC 31 19:08:46.0±5.7, 37.82N×71.80E, h230km±81km, mpv3.4, 4C, Error ellipse: s-maj=67.1km s-min=40.3km az=31.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.23**	**22**	⇑P	P	19 10 03.6	-1.0
	2.3nm,0.3s						
AAK				⇑S	S	19 11 06.9	+1.0
	4.4nm,0.5s						
KK31	**Karatay Array**	**5.37**	**350**	⇑P	P	19 10 05.2	-1.2
	1.3nm,0.4s,baz=163,slow=9.6,SNR=38						
KK31				S	S	19 11 09.9	+0.9
	19nm,0.6s,baz=171,slow=23,SNR=37						
AB31	**Akbulak array**	**14.29**	**327**	P	P	19 12 01.1	+1.9
	0.5nm,0.5s,baz=135,slow=12,SNR=25						
AB31				⇑S	S	19 14 34.0	+1.9
	0.4nm,0.5s,baz=142,slow=24,SNR=4.2						

*IDC **31** 19:23:55.6±2.0, 33.08N×142.30E, mb3.6/3, mb1 3.7/6, mb1mx3.5/21, mbtmp3.7/6, ML3.9/2, Error ellipse: s-maj=43.5km s-min=19.9km az=62.0*
*JMA **31** 19:23:57.9±0.4, 33.31N×142.39E, h65km, M3.2*

ISC 31 19:23:55.9±2.3, 33.22N±0.06×142.5E±0.1, h26km±21km, n16, σ0s89/21, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.88**	**320**	P	**Pn**	**19 24 26.9**	**-0.1**
BSO1				S	**

KMI S **S** **19 36 01.2 +2.8**
KMI SS SS 19 36 18.2 +3.1
HYB Hyderabad 14.51 286 *e*P **P** **19 33 29.0 +7.6**
HYB *e*S **S** **19 35 49.0 -13**
JIRN Jiri 15.18 336 *e*P **P** **19 33 29.7 -0.4**
comp=Z,69nm,0.8s
PKI Pulchoki 15.43 333 *e*P **P** **19 33 32.3 -1.0**
comp=Z,38nm,0.6s
DMN Daman 15.59 332 *e*P **P** **19 33 34.0 -1.5**
comp=Z,75nm,0.8s
KKN Kakani 15.67 333 *e*P **P** **19 33 35.9 -0.6**
comp=Z,55nm,0.9s
LSA Lhasa 15.85 354 P **P** **19 33 41.8 +3.0**
LSA AMB AMB
comp=Z,20nm,1.0s
LSA LR LR
comp=N,210nm,18.0s
LSA LR LR
comp=E,120nm,15.0s
LSA LR LR
comp=Z,510nm,19.0s
LSA Lhasa 15.85 354 *e*P **P** **19 33 41.5 +2.7**
LSA *e*S **S** **19 36 27.9 -5.5**
LSA pmax pmax
comp=Z,11nm,0.6s
LSA Lhasa 15.85 354 *e*P **P** **19 33 41.5 +2.8**
comp=Z,11nm,0.6s
LSA *e*S **S** **19 36 27.9 -5.6**
GKN Gorkha 16.14 332 *e*P **P** **19 33 41.7 -0.8**
comp=Z,76nm,0.5s
KOLN Koldanda 16.45 329 *e*P **P** **19 33 45.8 -0.5**
comp=Z,39nm,0.5s
POO Poona 19.12 287 *e*S **S** **19 37 40.0 -7.9**
CD2 Chengdu 19.55 28 *e*P **P** **19 34 28.0 +3.8**
LGTI Lohaghat 19.57 324 *e*P **P** **19 34 21.8 -2.7**
KSM Kuching 20.96 125 *e*P **P** **19 34 39.3 +0.2**
AJM Ajmer 21.40 309 ⇓ *i* **P** **19 34 45.0 +1.5**
DDI Dehra Dun 21.50 322 *e* **P** **19 34 44.4 0.0**
DDI *e* 19 38 35.3
ENH Enshi 22.20 40 *e*P **P** **19 34 50.7 -0.8**
comp=Z,29nm,0.9s,mb4.7
KKM Kota Kinabalu 23.98 107 *e*P **P** **19 35 10.0 +1.0**
LZH Lanzhou 24.10 22 *e*P **P** **19 35 11.5 +1.5**
LZH AP 19 35 19.5
LZH XP 19 35 23.5
LZH AMB AMB
comp=Z,63nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,210nm,4.0s
LZH LR LR
comp=N,825nm,15.3s
LZH LR LR
comp=Z,962nm,16.0s,MS4.4
LZH Lanzhou 24.10 22 *e*P **P** **19 35 11.6 +1.6**
LZH *PP 19 35 19.5
LZH *SP 19 35 23.5
LZH *e*SS SS 19 40 36.0 +21
LZH pmax pmax
comp=Z,63nm,1.2s,mb4.9
LZH MLR MLR
comp=Z,960nm,16.0s,MS4.4
THN Thein Dam 24.40 322 *e* **P** **19 35 12.3 -0.7**
XAN Xi'an 24.63 33 P **P** **19 35 14.3 -0.9**
XAN AMB AMB
comp=Z,7.0nm,0.9s,mb4.2
WHN Wuhan 25.60 46 *e*P **P** **19 35 24.0 -0.4**
GTA Gaotai 26.10 12 P **P** **19 35 30.0 +1.1**
GTA AP pP 19 35 39.0 +0.8
GTA XP sP 19 35 42.8 +0.4
GTA AMB AMB
comp=Z,7.0nm,1.3s,mb4.0
GTA AMB AMB
comp=Z,74nm,10.3s
GTA LR LR
comp=N,122nm,18.0s,MS3.6
GTA LR LR
comp=E,90nm,16.4s,MS3.6
GTA LR LR
comp=Z,132nm,16.8s,MS3.5
NJ2 Nanjing 29.65 48 *e*P **P** **19 35 58.8 -2.4**
NJ2 AP pP 19 36 08.0 -2.5
NJ2 XP sP 19 36 12.0 -2.7
NJ2 PP PP 19 36 55.0 -2.9
NJ2 S **S** **19 40 50.0 -3.2**
NJ2 XS 19 41 06.0
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,60nm,8.0s
NJ2 LR LR
comp=N,500nm,16.4s,MS4.4
NJ2 LR LR
comp=E,500nm,15.6s,MS4.4
NJ2 LR LR
comp=Z,350nm,13.6s,MS4.2
WMQ Urumqi 30.20 352 P **P** **19 36 06.5 +0.5**
WMQ AP pP 19 36 16.0 +0.7
WMQ XP sP 19 36 20.0 +0.5
WMQ PP PP 19 37 05.5 +0.5
WMQ S **S** **19 41 02.5 +0.5**
WMQ XS 19 41 18.3
WMQ AMB AMB
comp=Z,1.0nm,1.0s
WMQ AMB AMB
comp=Z,6.0nm,4.7s
WMQ LR LR
comp=N,687nm,15.3s
WMQ LR LR
comp=E,464nm,15.4s
WMQ LR LR
comp=Z,950nm,16.8s
SSE Sheshan 30.91 52 P **P** **19 36 06.9 -5.4**
comp=Z,15nm,0.7s,mb4.9
SSE sP sP 19 36 19.5 -6.3
SSE PP PP 19 37 17.1 +2.8
SSE PcP PcP 19 39 01.6 -6.9
SSE S **S** **19 41 11.3 -1.9**
SSE sS 19 41 26.1
SSE PcS 19 42 45.5
SSE LR LR
comp=Z,90nm,16.7s,MS3.5
HHC Hu-ho-hao-te 31.30 27 *e*P **P** **19 36 15.8 +0.1**
HHC AP pP 19 36 23.0 -2.1
HHC XP sP 19 36 26.8 -2.4
HHC PP PP 19 37 21.3 +2.0
HHC PCP PcP 19 39 06.5 -2.9
HHC S **S** **19 41 22.8 +3.5**
HHC XS 19 41 36.0
HHC SCP 19 42 49.3
HHC SS SS 19 43 11.8 +5.0
HHC SCS ScS 19 46 45.0 +0.2
HHC AMB AMB
comp=Z,9.0nm,1.1s,mb4.5
HHC LR LR
comp=N,154nm,16.6s,MS3.9
HHC LR LR
comp=E,127nm,17.8s,MS3.9
HHC LR LR
comp=Z,142nm,14.2s,MS3.8
AAK Ala-Archa 32.88 334 *d i*P **P** **19 36 29.2 -0.2**
AAK pmax pmax
comp=Z,7.0nm,1.5s,mb4.4
MKAR Makanchi Array 34.06 347 P **P** **19 36 39.5 -0.1**
comp=Z,9.6nm,0.8s,mb4.8,baz=161,slow=8.7,SNR=72
MKAR pP pP 19 36 49.3 +0.2
comp=Z,3.1nm,0.5s,baz=166,slow=9.3,SNR=13
MKAR PcP PcP 19 39 16.6 -0.4
comp=Z,1.2nm,0.7s,baz=150,slow=1.7,SNR=3.6
MKAR LR LR 19 54 33.9
comp=Z,133nm,20.2s,MS3.7,baz=265,slow=43
KKAR Karatay Array 35.05 331 *i* P **P** **19 36 48.3 +0.2**
KKAR pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
JOW Kunigami 35.22 63 P **P** **19 36 49.6 -0.1**
comp=Z,3.7nm,0.3s,mb4.7,baz=220,slow=15,SNR=7.7
JOW pP pP 19 36 58.8 -0.4
comp=Z,3.7nm,0.4s,baz=271,slow=9.6,SNR=3.4
SONM Songino Array 35.60 15 P **P** **19 36 53.0 +0.2**
comp=Z,4.1nm,0.8s,mb4.4,baz=202,slow=6.6,SNR=29
SONM pP pP 19 37 02.4 +0.2
comp=Z,4.3nm,0.9s,baz=203,slow=9.4,SNR=10.0
SONM PcP PcP 19 39 21.9 +0.6
comp=Z,1.4nm,0.7s,baz=204,slow=3.7,SNR=5.4
SONM LR LR 19 53 45.6
comp=Z,128nm,21.1s,MS3.7,baz=207,slow=40

ZAK Zakamensk 37.32 11 *e*P **P** **19 37 07.7 +0.4**
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb3.9
KURK Kurchatov 38.59 345 *e*P **P** **19 37 17.3 -0.6**
KURK pmax pmax
comp=Z,13nm,1.0s,mb4.6
KURK Kurchatov 38.59 345 *e*P **P** **19 37 17.3 -0.6**
comp=Z,13nm,1.0s,mb4.6
TLY Talaya 38.64 10 *d i*P **P** **19 37 19.7 +1.4**
TLY pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
TLY Talaya 38.64 10 *e*P **P** **19 37 29.5 +11**
TLY pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
TLY MLR MLR
comp=Z,92nm,16.0s,MS3.7
ZAL Zalesovo 40.50 352 P **P** **19 37 33.4 -0.3**
comp=Z,5.9nm,0.5s,mb4.5,baz=306,slow=7.2,SNR=26
ZAL pP pP 19 37 43.5 +0.2
comp=Z,3.4nm,0.4s,baz=309,slow=5.0,SNR=6.4
CN2 Changchun 40.63 36 *e*P **P** **19 37 36.3 +1.5**
CIT Chita 41.41 19 *e*P **P** **19 37 40.6 -0.6**
CIT *e* pP 19 37 51.0 +0.3
HASS Wahat al Ahsa' 42.32 292 P **P** **19 37 49.5 +0.5**
VOSK Vostochnaya 42.59 340 P **P** **19 37 50.5 -0.4**
VOSK pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
BRVK Borovoye 43.10 340 *e*P **P** **19 37 53.9 -1.1**
BRVK pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
BRVK Borovoye 43.10 340 *e*P **P** **19 37 53.9 -1.1**
comp=Z,4.1nm,1.0s,mb4.1
MBWA Marble Bar 43.51 143 *e*P **P** **19 37 57.7 -1.0**
MDJ Mudanjiang 43.53 38 P **P** **19 37 59.0 +0.4**
MDJ AP pP 19 38 08.0 -0.2
MDJ XP sP 19 38 12.0 -0.1
MDJ PP PP 19 39 40.8 -0.9
MDJ PCP PcP 19 39 46.0 -0.6
MDJ SCP 19 43 35.3
MDJ PCS 19 43 39.0
MDJ S **S** **19 44 26.3 +1.3**
MDJ XS 19 44 42.5
MDJ AMB AMB
comp=Z,11nm,2.5s,mb4.1
MDJ LR LR
comp=N,75nm,16.9s
MDJ LR LR
comp=E,80nm,22.7s
MDJ LR LR
comp=Z,69nm,19.6s,MS3.6
QRN Al-Qurain 44.40 297 *e*P **P** **19 38 06.8 +0.9**
QRN AMb AMB 19 38 07.5
comp=Z,30nm,0.5s,mb5.3
AB31 Akbulak array 44.57 329 *i* P **P** **19 38 07.5 +0.5**
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
RDF Al-Radifah 44.75 297 *e*P **P** **19 38 09.3 +0.6**
RDF AMb AMB 19 38 10.0
comp=Z,36nm,0.5s,mb5.5
NAY Al-Naaiem 45.07 298 *e*P **P** **19 38 11.8 +0.5**
NAY AMb AMB 19 38 12.4
comp=Z,11nm,0.4s,mb5.0
MIB Mutribah 45.09 298 *e*P **P** **19 38 12.1 +0.8**
MIB AMb AMB 19 38 12.8
comp=Z,18nm,0.6s,mb5.1
FITZ Fitzroy Crossi 45.12 134 *e*P **P** **19 38 10.4 -1.3**
comp=Z,17nm,1.6s,mb4.6
FITZ Fitzroy Crossi 45.12 134 P **P** **19 38 10.5 -1.2**
comp=Z,12nm,0.6s,mb4.9,baz=347,slow=6.4,SNR=32
MAT Matsushiro 46.05 52 *e*P **P** **19 38 19.0 +0.1**
MAT Matsushiro 46.05 52 P **P** **19 38 18.9 0.0**
MAT *e*S **S** **19 45 15.6 +14**
MJAR Matsushiro Arr 46.05 52 P **P** **19 38 17.4 -1.5**
comp=Z,1.4nm,0.8s,mb4.0,baz=260,slow=14,SNR=7.5
MJAR pP pP 19 38 28.1 -0.4
comp=Z,1.7nm,0.9s,baz=256,slow=13,SNR=4.8
MJAR PcP PcP 19 39 54.9 -0.6
comp=Z,1.1nm,0.5s,baz=242,slow=4.3,SNR=6.8
MJAR pPcP 19 40 05.7
comp=Z,0.9nm,0.6s,baz=214,slow=3.6,SNR=4.1
MJAR Matsushiro Arr 46.05 52 P **P** **19 38 17.4 -1.5**
MJAR pP pP 19 38 28.1 -0.4
MJAR PcP PcP 19 39 54.9 -0.6
MJAR pPcP 19 40 05.7
BOD Bodaibo 46.60 15 *e*P **P** **19 38 21.8 -1.1**
BOD *e* pP 19 38 30.3 -2.2
BOD pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
BOD pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
KAMS Al Khamasin 46.75 285 P **P** **19 38 25.3 +0.7**
TATS Tathlith 47.80 284 P **P** **19 38 32.7 -0.2**
DJNS Zahran al Janu 47.80 281 P **P** **19 38 35.7 +2.8**
AFFS 'Afif 48.29 290 P **P** **19 38 37.4 +0.7**
CLNS Chul'man 49.22 22 *e*P **P** **19 38 50.7 +7.3**
CLNS pmax pmax
comp=Z,12nm,0.9s,mb4.9
CLNS pmax pmax
comp=N,5.0nm,0.8s
HILS Ha'il 49.60 294 P **P** **19 38 47.2 +0.5**
GNI Garni 49.68 311 *e*P **P** **19 38 49.3 +2.2**
GNI pmax pmax
comp=Z,21nm,1.1s
GNI Garni 49.68 311 *e*P **P** **19 38 49.3 +2.1**
comp=Z,21nm,1.1s,mb5.1
ARU Arti 50.04 336 ⇑ *i*P **P** **19 38 49.0 -0.7**
ARU *e* 19 40 06.9
ARU *e* 19 40 42.8
ARU *e*PPP PPP 19 41 41.0 -0.7
ARU *e*S **S** **19 45 59.3 +2.1**
ARU *e*SS SS 19 49 32.5 +5.5
ARU pmax pmax
comp=Z,11nm,1.3s,mb4.7
MUN Mundaring 50.66 155 *e*P **P** **19 38 54.6 -0.1**
comp=Z,4.9nm,0.3s,mb4.9
MUN Mundaring 50.66 155 *e*P **P** **19 38 54.6 -0.1**
MUN pmax pmax
comp=Z,5.0nm,0.3s,mb4.9
KLBR Kellerberrin 51.00 153 *e*P **P** **19 38 56.2 -1.1**
comp=Z,15nm,1.1s,mb4.8
NWAO Narrogin (SRO) 51.91 154 *e*P **P** **19 39 03.9 -0.3**
NWAO pmax pmax
comp=Z,6.0nm,0.6s
NWAO Narrogin (SRO) 51.91 154 P **P** **19 39 03.9 -0.4**
comp=Z,7.8nm,0.7s,mb4.8,baz=309,slow=6.8,SNR=11
NWAO LR LR 20 03 02.7
comp=Z,109nm,18.9s,MS3.9,baz=278,slow=38
NWAO Narrogin (SRO) 51.91 154 *e*P **P** **19 39 03.9 -0.4**
comp=Z,5.5nm,0.6s,mb4.7
KIV Kislovodsk 52.33 315 *e*P **P** **19 39 07.5 +0.3**
KIV *e*PP pP 19 39 18.4 +1.5
KIV pmax pmax
comp=Z,30nm,1.1s,mb5.1
KIV Kislovodsk 52.33 315 *e*P **P** **19 39 07.5 +0.3**
comp=Z,30nm,1.1s,mb5.1
KIV *e*pP pP 19 39 18.4 +1.5
GOF Gofitskoye 52.46 317 ⇑ *i*P **P** **19 39 08.9 +0.8**
GOF pmax pmax
comp=Z,22nm,1.0s,mb5.0
WRA Warramunga Arr 52.63 129 P **P** **19 39 08.4 -1.4**
WRA 19 40 18.9
WRA S **S** **19 46 31.4 -1.9**
WRA Warramunga Arr 52.63 129 P **P** **19 39 08.4 -1.4**
comp=Z,3.0nm,0.9s,mb4.2,baz=305,slow=9.6,SNR=35
WRA PcP PcP 19 40 18.9 -0.6
comp=Z,1.3nm,0.5s,baz=323,slow=3.2,SNR=10
WRA pPcP 19 40 27.6
comp=Z,1.4nm,0.5s,baz=320,slow=3.2,SNR=7.8
WRA S **S** **19 46 31.4 -1.9**
comp=Z,1.1nm,0.9s,baz=300,slow=16,SNR=5.1
WRAB Tennant Creek 52.63 129 *i* P **P** **19 39 09.5 -0.3**
WRAB Tennant Creek 52.63 129 *e*P **P** **19 39 08.0 -1.8**
comp=Z,4.3nm,0.4s,mb4.7
WB2 Warramunga Arr 52.64 129 ⇑ *i*P **P** **19 39 08.4 -1.4**
YSS Yuzh-Sakhalins 52.77 41 *i* P **P** **19 39 10.3 -0.2**
YSS pmax pmax
comp=Z,11nm,1.3s,mb4.6
UMJS Umm Lajj 53.51 291 P **P** **19 39 17.6 +1.4**
MALT Malatya 53.97 307 *e*P **P** **19 39 19.1 -0.3**
MALT pmax pmax
comp=Z,12nm,1.4s,mb4.6
MALT Malatya 53.97 307 *e*P **P** **19 39 19.1 -0.3**
comp=Z,12nm,1.4s,mb4.6
YAK Yakutsk 54.67 20 *i* P **P** **19 39 22.8 -1.4**
YAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
JMQS Jabal Moqyreh 54.92 296 P **P** **19 39 27.2 +0.7**
AYUS 'Aynunah 55.42 295 P **P** **19 39 30.4 +0.2**
BDAS Al Bad' 55.58 295 P **P** **19 39 31.6 +0.3**
JMOS Jabal al Moall 55.60 296 P **P** **19 39 31.6 +0.2**
ALWS Ilw as Safayha 55.65 296 P **P** **19 39 31.5 -0.3**
HAQS Haql 55.76 296 P **P** **19 39 32.8 +0.3**
TAYS Tayyib Ism 55.78 295 P **P** **19 39 32.7 -0.1**
KMBO Kilima Mbogo 57.35 260 LR LR 20 00 50.8
comp=Z,135nm,20.1s,MS4.0,baz=91,slow=32
BRTR Keskin Array B 57.89 308 P **P** **19 39 46.8 -0.8**
comp=Z,6.8nm,0.8s,mb4.7,baz=121,slow=7.2,SNR=33
BRTR pP pP 19 39 57.9 +0.5
comp=Z,4.4nm,0.7s,baz=119,slow=7.9,SNR=7.5
MOS Moscow 59.51 327 *e*P **P** **19 39 54.7 -3.9**
MOS pmax pmax
comp=Z,37nm,0.7s,mb5.5
OBN Obninsk 59.85 326 *c e*P **P** **19 39 59.8 -1.2**
OBN *e* 19 42 14.3
OBN *e*SS SS 19 52 02.3 -3.8
OBN pmax pmax
comp=Z,36nm,1.8s,mb5.1
TIRR Tirgusor 62.42 313 ⇓ P **P** **19 40 18.1 -0.4**
CFR Carcaliu 62.71 314 ⇑ P **P** **19 40 20.3 -0.1**
HARR Harsova 62.79 313 ⇑ P **P** **19 40 20.8 -0.1**
AKASG Malin Array Be 62.92 320 P **P** **19 40 20.1 -1.6**
comp=Z,2.9nm,0.8s,mb4.5,baz=85,slow=4.8,SNR=16
AKASG pP pP 19 40 30.0 -1.6
comp=Z,0.4nm,0.3s,baz=81,slow=5.8,SNR=2.5
VRI Vrincioaia 63.78 314 ⇓ P **P** **19 40 27.9 +0.4**
MLR Muntele Rosu 64.28 314 ⇓ P **P** **19 40 31.1 +0.3**
STKA Stephens Creek 64.97 135 *e*P **P** **19 40 34.4 -1.1**
comp=Z,3.3nm,1.1s,mb4.3
STKA Stephens Creek 64.97 135 P **P** **19 40 34.5 -0.9**
comp=Z,2.0nm,0.6s,mb4.3,baz=324,slow=5.8,SNR=13
BURAR Bucovina Array 65.03 316 ⇓ P **P** **19 40 35.7 +0.2**
BURAR Bucovina Array 65.03 316 ⇓ P **P** **19 40 35.7 +0.2**
KWP Kalwaria 66.90 318 *e*P **P** **19 40 47.3 -0.2**
KWP Kalwaria 66.90 318 *e*P **P** **19 40 47.4 -0.1**
FINES FINESS Array B 67.00 331 P **P** **19 40 47.2 -0.7**
comp=Z,5.0nm,0.6s,mb4.7,baz=100,slow=6.3,SNR=44
FINES pP pP 19 40 57.0 -0.8
comp=Z,1.9nm,0.7s,baz=95,slow=5.9,SNR=5.2
FINES LR LR 20 13 42.7
comp=Z,82nm,18.6s,MS4.0,baz=249,slow=39
FINES FINESS Array B 67.00 331 P **P** **19 40 47.2 -0.7**
FINES pP pP 19 40 57.0 -0.8
FINES LR LR 20 13 42.7
KAF Kangasniemi 67.06 332 *ep* **P** **19 40 46.9 -1.4**
comp=Z,1.2nm,0.5s,mb4.2
KAF Kangasniemi 67.06 332 *e*P **P** **19 40 46.9 -1.4**
KAF pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
SUW Suwalki 67.13 323 *e*P **P** **19 40 48.1 -0.8**
SUW Suwalki 67.13 323 *e*P **P** **19 40 48.1 -0.8**
CRVS Cervenica-Dubn 67.65 317 *e*P **P** **19 40 53.3 +1.1**
CRVS *e*sP sP 19 41 07.2 +1.5
STHS Stebnicka Huta 67.83 318 *e*P **P** **19 40 52.6 -0.8**
KECS Kecovo 68.27 317 *e*P **P** **19 40 54.7 -1.4**
OJC Ojcow 68.83 319 *e*P **P** **19 40 59.0 -0.5**
KEV Kevo 68.89 340 *ep* **P** **19 40 58.7 -0.9**
comp=Z,0.8nm,0.4s,mb4.0
KEV Kevo 68.89 340 *e*P **P** **19 40 58.7 -0.9**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
ARCES ARCESS Array B 69.33 340 P **P** **19 41 02.2 -0.1**
comp=Z,3.7nm,0.5s,mb4.6,baz=94,slow=6.5,SNR=38
ARCES pP pP 19 41 12.2 0.0
comp=Z,2.6nm,0.9s,baz=270,slow=2.4,SNR=1.9
ARCES LR LR 20 14 41.8
comp=Z,126nm,20.1s,MS4.2,baz=110,slow=39
ARCES ARCESS Array B 69.33 340 P **P** **19 41 02.2 -0.1**
ARCES pP pP 19 41 12.2 0.0
ARCES LR LR 20 14 41.8
VYHS Vyhne 69.36 317 *e*P **P** **19 41 01.9 -0.9**
VYHS *e*pP pP 19 41 13.8 +1.1
SRO Srobarova 69.69 316 *e*P **P** **19 41 05.1 +0.3**
OKC Ostrava-Krasne 69.87 318 *e*P **P** **19 41 06.4 +0.5**
OKC AMS AMS 20 22 00.0
comp=Z,100nm,28.9s
MORC Moravsky Berou 70.26 318 *e*P **P** **19 41 08.2 0.0**
MORC pmax pmax
comp=Z,11nm,1.1s,mb4.7
MORC Moravsky Berou 70.26 318 *e*P **P** **19 41 08.2 -0.1**
comp=Z,11nm,1.1s,mb4.7
LSZ Lusaka 70.49 248 *e*P **P** **19 41 11.5 +1.3**
LSZ pmax pmax
comp=Z,29nm,1.3s,mb5.0
LSZ Lusaka 70.49 248 *e*P **P** **19 41 11.5 +1.3**
comp=Z,29nm,1.3s,mb5.0
ZST Bratislava 70.51 316 *e*P **P** **19 41 09.9 +0.1**
ZST *e*pP pP 19 41 18.6 -1.2
DPC Dobruska-Polom 71.06 319 *e*P **P** **19 41 13.5 +0.4**
DPC AMS AMS 20 17 10.0
comp=Z,100nm,22.7s
KOGS Kog 71.08 315 *i* P **P** **19 41 13.3 0.0**
KSP Ksiaz 71.09 319 *e*P **P** **19 41 13.4 +0.1**
KSP Ksiaz 71.09 319 *e*P **P** **19 41 13.8 +0.5**
ARSA Arzberg 71.58 315 ⇓ *i*P **P** **19 41 16.4 +0.1**
comp=Z,3.2nm,0.7s,mb4.4
BOJS Bojanci 71.79 314 *i* P **P** **19 41 17.4 -0.2**
PERS Pernice 71.86 315 *i* P **P** **19 41 18.0 0.0**
PVCC Panska Ves 72.18 319 *e*P **P** **19 41 20.1 +0.3**
PVCC AMS AMS 20 17 50.0
comp=Z,100nm,27.2s
PRU Pruhonice 72.20 318 *e*P **P** **19 41 20.2 +0.3**
PRU AMS AMS 20 20 30.0
comp=Z,100nm,14.2s
OBKA Obir 72.26 315 ⇓ *i*P **P** **19 41 20.7 +0.3**
comp=Z,7.8nm,0.8s,mb4.7
LJU Ljubljana 72.29 314 *i* P **P** **19 41 20.7 +0.2**
MOA Molln 72.42 316 ⇓ *i*P **P** **19 41 21.1 -0.2**
comp=Z,8.6nm,1.1s,mb4.6
GEC2 GERESS Array S 72.77 317 *e*P **P** **19 41 23.5 +0.2**
GEC2 pmax pmax
comp=Z,13nm,0.7s,mb5.0
GEC2 GERESS Array S 72.77 317 *e*P **P** **19 41 23.5 +0.2**
comp=Z,13nm,0.7s,mb5.0
GERES GERESS Array B 72.77 317 P **P** **19 41 23.5 +0.2**
comp=Z,7.5nm,0.5s,mb4.8,baz=86,slow=6.1,SNR=124
GERES pP pP 19 41 33.4 +0.1
comp=Z,2.1nm,0.6s,baz=85,slow=6.3,SNR=6.3
GERES LR LR 20 19 01.7
comp=Z,43nm,19.6s,MS3.7,baz=143,slow=40
HFS Hagfors 72.83 329 LR LR 20 18 39.8
comp=Z,72nm,20.0s,MS3.9,baz=235,slow=40
KHC Kasperske Hory 72.84 317 *e*P **P** **19 41 23.9 +0.1**
KHC AMS AMS 20 17 40.0
comp=Z,100nm,11.6s
CLL Collm 73.16 320 *e*P **P** **19 41 26.0 +0.4**
CLL pmax pmax
comp=Z,16nm,1.7s,mb4.7
CLL Collm 73.16 320 *e*P **P** **19 41 26.0 +0.4**
comp=Z,16nm,1.7s,mb4.7
CLL Collm 73.16 320 P **P** **19 41 26.0 +0.4**
comp=Z,logA/T=1.0,mb4.7
CLL *e*PP pP 19 41 33.0 -2.5
WET Wettzell 73.30 317 *e*P **P** **19 41 26.5 +0.1**
WET pmax pmax
comp=Z,19nm,1.5s,mb4.8
WET Wettzell 73.30 317 *e*P **P** **19 41 26.5 +0.1**
comp=Z,19nm,1.5s,mb4.8
NKC Novy Kostel 73.54 319 *e*P **P** **19 41 28.3 +0.5**
NKC AMS AMS 20 18 40.0
comp=Z,100nm,24.0s
MOX Moxa 74.06 319 *i* P **P** **19 41 31.1 +0.3**
NB2 NORSAR Subarra 74.07 330 P **P** **19 41 29.9 -0.7**
comp=Z,4.6nm,0.5s,mb4.7,baz=90,slow=5.8
NB2 NORSAR Subarra 74.07 330 P **P** **19 41 29.9 -0.7**
NB2 pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
NOA NORSAR Array B 74.07 330 P **P** **19 41 29.9 -0.7**
comp=Z,4.7nm,0.5s,mb4.6,baz=90,slow=5.8,SNR=27
NOA LR LR 20 19 23.6
comp=Z,55nm,18.9s,MS3.9,baz=105,slow=40
WTTA Wattenberg 74.22 316 ⇓ *i*P **P** **19 41 31.1 -0.7**
comp=Z,8.3nm,0.5s,mb4.9
WTTA Wattenberg 74.22 316 ⇓ *i*P **P** **19 41 31.1 -0.7**
WTTA pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
WATA Walderalm 74.26 316 ⇑ *i*P **P** **19 41 31.2 -0.8**
comp=Z,7.2nm,1.2s,mb4.5
WATA Walderalm 74.26 316 ⇑ *i*P **P** **19 41 31.2 -0.8**
WATA pmax pmax
comp=Z,7.0nm,1.2s,mb4.5

GRA1	**Grafenberg Arr**	**74.36 318**	*eP*		**P**		**19 41 33.0**	**+0.5**		
	comp=Z,8.0nm,0.9s,mb4.7									
GRF	**Grafenberg Arr**	**74.36 318**	*eP*		**P**		**19 41 33.0**	**+0.5**		
GRF				pmax	pmax					
	comp=Z,8.0nm,0.9s,mb4.7									
GRF	**Grafenberg Arr**	**74.36 318**	*eP*		**P**		**19 41 33.0**	**+0.5**		
GRF				pmax	pmax					
	comp=Z,8.0nm,0.9s,mb4.7									
GRF	**Grafenberg Arr**	**74.36 318**	*eP*		**P**		**19 41 33.0**	**+0.5**		
	comp=Z,8.0nm,0.9s,mb4.7									
SQTA	**Sankt Quirin**	**74.51 316**	*j P*		**P**		**19 41 32.8**	**-0.7**		
	comp=Z,2.6nm,0.6s,mb4.3									
SQTA	**Sankt Quirin**	**74.51 316**	*j P*		**P**		**19 41 32.8**	**-0.7**		
SQTA				pmax	pmax					
	comp=Z,3.0nm,0.6s,mb4.4									
MOTA	**Moosalm**	**74.58 316**	*i P*		**P**		**19 41 33.0**	**-0.9**		
	comp=Z,5.4nm,1.0s,mb4.4									
MOTA	**Moosalm**	**74.58 316**	*i P*		**P**		**19 41 33.0**	**-0.9**		
MOTA				pmax	pmax					
	comp=Z,5.0nm,1.0s,mb4.4									
BSEG	**Bad Segeberg**	**74.71 323**	*eP*		**P**		**19 41 35.2**	**+0.7**		
CLZ	**Clausthal**	**74.78 320**	*eP*		**P**		**19 41 35.2**	**+0.3**		
CLZ				pmax	pmax					
	comp=Z,10.0nm,0.6s,mb4.9									
CLZ	**Clausthal**	**74.78 320**	*eP*		**P**		**19 41 35.2**	**+0.3**		
	comp=Z,10.0nm,0.6s,mb4.9									
DAVA	**Damuels**	**75.41 316**	*j P*		**P**		**19 41 38.6**	**-0.1**		
	comp=Z,12nm,0.6s,mb5.0									
DAVOX	**Davos**	**75.45 315**	LR		LR		20 20 41.8			
	comp=Z,53nm,20.2s,MS3.8,baz=76,slow=40									
TNS	**Taunus Mts**	**76.11 319**	*eP*		**P**		**19 41 42.8**	**+0.3**		
TNS				pmax	pmax					
	comp=Z,6.0nm,0.6s,mb4.7									
TNS	**Taunus Mts**	**76.11 319**	*eP*		**P**		**19 41 42.8**	**+0.3**		
	comp=Z,6.0nm,0.6s,mb4.7									
BFO	**Black Forest**	**76.36 317**	*eP*		**P**		**19 41 44.0**	**0.0**		
BOSA	**Boshof**	**78.03 236**	*eP*		**P**		**19 41 54.4**	**+0.8**		
BOSA				pmax	pmax					
	comp=Z,8.0nm,0.7s,mb4.8									
BOSA	**Boshof**	**78.03 236**	P		**P**		**19 41 55.0**	**+1.3**		
	comp=Z,12nm,0.5s,mb5.1,baz=76,slow=5.1,SNR=47									
BOSA				pP	pP		19 42 04.5	+0.8		
	comp=Z,4.6nm,0.6s,baz=129,slow=4.8,SNR=7.4									
BOSA				LR	LR		20 16 21.3			
	comp=Z,76nm,18.0s,MS4.1,baz=144,slow=36									
BOSA	**Boshof**	**78.03 236**	*eP*		**P**		**19 41 54.4**	**+0.8**		
	comp=Z,8.1nm,0.7s,mb4.8									
JMIC	**Jan Mayen**	**80.75 341**	LR		LR		20 24 59.8			
	comp=Z,36nm,18.4s,MS3.8,baz=86,slow=41									
MAW	**Mawson**	**84.19 191**	*j P*		**P**		**19 42 26.5**	**+1.2**		
	comp=Z,3.3nm,0.7s,mb4.6									
MAW	**Mawson**	**84.19 191**	*j P*		**P**		**19 42 26.5**	**+1.2**		
MAW				pmax	pmax					
	comp=Z,3.0nm,0.7s									
MAW	**Mawson**	**84.19 191**	P		**P**		**19 42 26.9**	**+1.6**		
	comp=Z,3.3nm,0.6s,mb4.6,baz=358,slow=6.6,SNR=14									
MAW				pP	pP		19 42 36.7	+1.3		
	comp=Z,3.0nm,0.7s,baz=3.2,slow=6.5,SNR=4.8									
ESDC	**Sonseca Array**	**86.65 310**	P		**P**		**19 42 38.6**	**+0.5**		
	comp=Z,1.1nm,0.5s,mb4.3,baz=59,slow=4.4,SNR=10									
ESDC				pP	pP		19 42 48.9	+0.5		
	comp=Z,0.5nm,0.5s,baz=61,slow=4.4,SNR=3.3									
ILAR	**Eielson Array**	**89.56 22**	P		**P**		**19 42 51.1**	**-0.4**		
	comp=Z,1.0nm,0.7s,mb4.2,baz=300,slow=5.4,SNR=12									
ILAR				pP	pP		19 43 02.9	+1.2		
	comp=Z,1.2nm,0.9s,baz=283,slow=4.5,SNR=7.4									
RPZ	**Rata Peaks**	**90.94 135**	LR		LR		20 21 46.7			
	comp=Z,162nm,19.9s,MS4.5,baz=188,slow=34									
INK	**Inuvik**	**91.51 16**	LR		LR		20 25 08.1			
	comp=Z,50nm,19.2s,MS4.0,baz=331,slow=36									
DBIC	**Dimbokro**	**96.15 278**	P		**P**		**19 43 23.9**	**+0.9**		
	comp=Z,4.2nm,1.1s,mb4.8,baz=61,slow=11,SNR=3.7									
VNDA	**Vanda**	**98.97 168**	LR		LR		20 28 28.1			
	comp=Z,66nm,18.8s,MS4.2,baz=34,slow=36									
PDAR	**Pinedale Array**	**119.89 19**	PKP		PKPdf		19 48 45.6	-3.3		
	comp=Z,0.7nm,0.5s,baz=65,slow=1.4,SNR=7.9									
PDAR				pPKP			19 48 56.0			
	comp=Z,0.6nm,0.6s,baz=315,slow=2.1,SNR=4.8									
ANMO	**Albuquerque**	**127.99 20**	PKP		PKPdf		19 49 02.3	-2.5		
	comp=Z,1.2nm,0.7s,baz=121,slow=1.6,SNR=4.8									
ANMO				pPKP			19 49 12.7			
	comp=Z,1.4nm,0.8s,baz=61,slow=0.9,SNR=3.1									
WVT	**Waverly**	**130.25 1**	*e* PKPdf		PKPdf		19 49 06.0	-3.1		
TXAR	**Lajitas Array**	**134.07 21**	PKP		PKPdf		19 49 13.3	-3.1		
TXAR				pPKP			19 49 24.3			
	comp=Z,0.9nm,0.6s,baz=156,slow=2.3,SNR=14									
TXAR				pPKP			19 49 24.3			
	comp=Z,0.5nm,0.6s,baz=162,slow=0.5,SNR=5.3									
TXAR	**Lajitas Array**	**134.07 21**	PKP		PKPdf		19 49 13.3	-3.1		
TXAR				pPKP			19 49 24.3			
PLCA	**Paso Flores**	**149.70 205**	PKPbc		PKPdf		19 49 45.8	+2.3		
	comp=Z,5.1nm,0.8s,baz=170,slow=0.9,SNR=10									
CPUP	**Villa Florida**	**149.74 241**	PKPbc		PKPdf		19 49 45.0	+1.0		
	comp=Z,1.5nm,0.8s,baz=66,slow=6.2,SNR=4.1									
CPUP				PKPab	PKPab		19 49 50.7	-0.3		
	comp=Z,2.6nm,0.7s,baz=123,slow=4.9,SNR=8.9									
CPUP	**Villa Florida**	**149.74 241**	PKPbc		PKPdf		19 49 45.0	+1.1		
CPUP				PKPab	PKPab		19 49 50.7	-0.3		
SDV	**Santo Domingo**	**152.25 324**	PKPbc		PKPdf		19 49 51.0	+2.9		
	comp=Z,1.2nm,0.2s,baz=166,slow=2.2,SNR=4.1									
SDV				PKPab	PKPab		19 50 01.5	-0.3		
	comp=Z,3.3nm,0.5s,baz=349,slow=6.3,SNR=6.0									
SDV	**Santo Domingo**	**152.25 324**	*e* PKPbc		PKPdf		19 49 50.1	+2.0		
SIV	**San Ignacio**	**155.03 262**	PKPbc		PKPdf		19 49 56.8	+5.1		
SIV				PKPab	PKPab		19 50 13.7	+0.3		
	comp=Z,1.0nm,0.7s,baz=97,slow=8.4,SNR=6.7									
CFAA	**Coronel Fontan**	**155.47 221**	PKP		PKPdf		19 49 49.7	-2.2		
	comp=Z,0.2nm,0.8s,baz=274,slow=5.8,SNR=3.8									
CFAA				pPKP			19 49 58.6			
	comp=Z,0.3nm,0.7s,baz=294,slow=5.6,SNR=3.6									
CFAA				PKPab	PKPab		19 50 14.2	-0.7		
	comp=Z,0.2nm,0.6s,baz=186,slow=2.1,SNR=3.7									
LPAZ	**La Paz**	**161.79 260**	PKP		PKPdf		19 49 57.6	-2.2		
	comp=Z,0.8nm,0.8s,baz=111,slow=4.5,SNR=4.7									
LPAZ				PKPab	PKPab		19 50 43.2	+0.7		
	comp=Z,1.6nm,0.9s,baz=83,slow=8.4,SNR=6.2									
LPAZ	**La Paz**	**161.79 260**	PKP		PKPdf		19 49 57.6	-2.2		
LPAZ				PKPab	PKPab		19 50 43.2	+0.7		

*GUC **31** 19:38:44.6±0.4,20.45S×68.86W,h116km±3km,MD4.1, ML3.9*

*IDC **31** 19:38:45.4±1.2,20.45S×68.49W,h121km±20km,mb3.7/2, mb1 3.7/6,mb1mx3.4/17,mbtmp4.1/6,Error ellipse: s-maj=39.9km s-min=9.0km az=96.0*

*NEIC **31** 19:38:45.3±1.2,20.45S×68.50W,h119km±16km,mb4.2/1, Error ellipse: s-maj=24.4km s-min=13.0km az=96.0*

ISC 31 19:38:44.7±1.0,20.47S±0.05×68.5W±0.2,h132km±17km, n13,σ0°75/18,mb4.2/1,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**2.17**	**190**	*eP*		**P**	**19 39 21.1**	**-0.3**
LVC				*i* S		**S**	**19 39 49.1**	**-0.1**
LVC				AMP			19 39 52.6	
	comp=E,312nm,0.5s							
LVC	**Limon Verde**	**2.17**	**190**	P		**P**	**19 39 21.3**	**0.0**
	comp=E,12nm,0.3s,baz=6.3,slow=9.8,SNR=125							
LVC				S		**S**	**19 39 49.7**	**+0.5**
	comp=E,45nm,0.3s,baz=105,slow=20,SNR=25							
LVC	**Limon Verde**	**2.17**	**190**	*eP*		**P**	**19 39 21.0**	**-0.3**
LVC				*eS*		**S**	**19 39 48.2**	**-1.1**
LVC				S		**S**	**19 39 49.8**	**+0.5**
LPAZ	**La Paz**	**4.17**	**5**	P		**P**	**19 39 48.8**	**+1.1**
	comp=E,2.0nm,0.3s,baz=186,slow=6.8,SNR=60							
LPAZ				S		**S**	**19 40 36.1**	**0.0**
	comp=E,0.5nm,0.3s,baz=38,slow=18,SNR=2.0							
LPAZ	**La Paz**	**4.17**	**5**	*eP*		**P**	**19 39 48.1**	**+0.3**
LPAZ				S		**S**	**19 40 36.1**	**0.0**
SIV	**San Ignacio**	**8.34**	**59**	P		**P**	**19 40 42.6**	**-1.2**
	comp=E,2.5nm,0.3s,baz=243,slow=14,SNR=69							
CFAA	**Coronel Fontan**	**11.09**	**179**	P		**P**	**19 41 16.3**	**-4.1**
	comp=E,0.1nm,0.3s,baz=0.2,slow=14,SNR=4.6							
CPUP	**Villa Florida**	**11.79**	**122**	P		**P**	**19 41 30.5**	**+0.9**
	comp=E,0.3nm,0.3s,baz=318,slow=13,SNR=14							
CPUP	**Villa Florida**	**11.79**	**122**	*eP*		**P**	**19 41 30.6**	**+1.1**
BDFB	**Brasilia**	**20.05**	**79**	P		**P**	**19 43 09.7**	**+0.3**
	comp=E,1.5nm,0.4s,baz=259,slow=9.7,SNR=4.7							
DBIC	**Dimbokro**	**68.07**	**74**	P		**P**	**19 49 32.4**	**-0.2**
	comp=E,3.2nm,0.7s,mb4.2,baz=217,slow=5.1,SNR=4.6							
DBIC	**Dimbokro**	**68.07**	**74**	*eP*		**P**	**19 49 32.1**	**-0.4**
	comp=E,2.5nm,0.6s,mb4.1							
YKA	**Yellowknife Ar**	**90.35**	**340**	pP		pP	19 52 02.7	-3.0
	comp=E,0.5nm,0.7s,baz=149,slow=4.3,SNR=2.8							

*IDC **31** 19:46:07.6±2.4,12.73N×92.23E,h24km±6km,mb3.4/4, mb1 3.6/4,mb1mx3.4/18,mbtmp3.5/4,Error ellipse: s-maj=95.7km s-min=17.6km az=65.0*

ISC 31 19:46:04.9±1.7,12.6N±0.3×92.1E±0.4,h25km, h25km±1.2km:pP-P,n12,σ0°49/10,mb3.5/4,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIRN	**Jiri**	**15.93**	**341**	*eP*		**P**	**19 49 48.9**	**-0.4**
PKI	**Pulchoki**	**16.12**	**338**	*eP*		**P**	**19 49 51.7**	**0.0**
DMN	**Daman**	**16.26**	**337**	*eP*		**P**	**19 49 53.2**	**-0.4**
KKN	**Kakani**	**16.36**	**338**	*eP*		**P**	**19 49 54.3**	**-0.5**
GKN	**Gorkha**	**16.80**	**337**	*eP*		**P**	**19 50 00.4**	**+0.1**
KOLN	**Koldanda**	**17.02**	**333**	*eP*		**P**	**19 50 04.0**	**+0.9**
MKAR	**Makanchi Array**	**35.03**	**348**	P		**P**	**19 52 58.0**	**+0.2**
	0.1nm,0.4s,mb3.1,baz=163,slow=8.9,SNR=3.5							
MKAR				pP		pP	19 53 05.0	-0.1
	1.3nm,0.8s,baz=170,slow=7.4,SNR=11							
SONM	**Songino Array**	**37.07**	**16**	P		**P**	**19 53 15.3**	**+0.3**
	0.3nm,0.8s,mb3.2,baz=203,slow=8.0,SNR=2.9							
SONM				pP		pP	19 53 21.9	-0.5
	1.0nm,0.8s,baz=198,slow=7.2,SNR=7.6							
ZAL	**Zalesovo**	**41.60**	**354**	pP		pP	19 54 00.1	+0.3
	1.0nm,0.6s,baz=295,slow=4.5,SNR=3.5							
FITZ	**Fitzroy Crossi**	**45.05**	**132**	P		**P**	**19 54 21.6**	**+0.6**
	3.5nm,0.9s,mb4.2,slow=8.1,SNR=3.3							
FITZ				pP		pP	19 54 29.0	+0.6
	3.1nm,0.5s,baz=346,slow=8.7,SNR=2.8							
WRA	**Warramunga Arr**	**52.70**	**127**	P		**P**	**19 55 19.4**	**-0.7**
	0.4nm,0.5s,mb3.6,baz=310,slow=8.0,SNR=3.7							
WRA				pP		pP	19 55 28.0	+0.3
	0.6nm,0.5s,baz=308,slow=8.1,SNR=4.4							
GERES	**GERESS Array B**	**72.96**	**317**	pP		pP	19 57 46.0	+4.0
	0.6nm,0.7s,baz=90,slow=4.0,SNR=5.2							

*ATH **31** 19:57:36.8,38.35N×22.26E,h15km±5km,MD3.0/11*
*THE **31** 19:57:36.1,38.34N×22.34E,h10km*
*NEIC **31** 19:57:36.8,38.35N×22.27E,h14km,MD3.1(ATH),After ATH.*
*CSEM **31** 19:57:36.6±0.1,38.35N×22.28E,h2km±1km,MD3.1,Error ellipse: s-maj=2.4km s-min=1.9km az=144.0*

ISC 31 19:57:36.0±0.8,38.36N±0.03×22.25E±0.04,h10km±6km, n22,σ1°§13/31,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EVR	**Evrytania**	**0.66**	**328**	*ePB*		**Pg**	**19 57 49.5**	**+0.3**
EVR				*eSN*		**Sn**	**19 57 59.6**	**-1.8**
EVR	**Evrytania**	**0.66**	**328**	*ePg*		**Pg**	**19 57 49.5**	**+0.3**
EVR				*eSb*		**Sb**	**19 58 00.0**	**+2.0**
LKR	**Lokris**	**0.66**	**63**	*ePB*		**Pb**	**19 57 48.8**	**-0.3**
LKR				*eSN*		**Sb**	**19 57 58.1**	**+0.1**
LKR	**Lokris**	**0.66**	**63**	*ePb*		**Pb**	**19 57 48.7**	**-0.4**
LKR				*eSb*		**Sb**	**19 57 58.0**	**0.0**
AGG	**Agios Georgios**	**0.67**	**5**	*ePg*		**Pg**	**19 57 48.5**	**-0.9**
AGG				*eSg*		**Sg**	**19 57 58.8**	**+0.4**
RLS	**Riolos of Patr**	**0.68**	**244**	*ePN*		**Pn**	**19 57 49.9**	**-1.5**
RLS				*eSN*		**Sn**	**19 58 00.0**	**-2.1**
MGER	**Gerania Oros**	**0.88**	**115**	*ePN*		**Pn**	**19 57 54.0**	**-0.2**
NSAL	**Nisos Salamina**	**1.06**	**115**	*ePN*		**Pn**	**19 57 57.0**	**+0.2**
NAIG	**Nisos Aigina**	**1.15**	**121**	*ePN*		**Pn**	**19 57 59.0**	**+1.0**
ITM	**Ithomi**	**1.20**	**192**	*ePN*		**Pn**	**19 57 59.0**	**+0.2**
NEO	**Neokhori**	**1.22**	**38**	*ePN*		**Pn**	**19 57 59.4**	**+0.4**
ATH	**Athens Observa**	**1.22**	**108**	*ePN*		**Pn**	**19 58 00.1**	**+1.0**
XOR	**Xorichti**	**1.25**	**36**	*ePg*		**Pg**	**19 57 59.6**	**-1.4**
XOR				*eSg*		**Sg**	**19 58 17.4**	**-0.3**
LKD	**Levkas**	**1.30**	**286**	*ePg*		**Pg**	**19 58 00.9**	**-1.1**
LKD				*eSg*		**Sg**	**19 58 21.5**	**+2.1**
LKD	**Levkas**	**1.30**	**286**	*ePg*		**Pg**	**19 58 00.9**	**-1.1**
VLS	**Valsamata**	**1.32**	**263**	*ePB*		**Pb**	**19 58 01.0**	**+0.6**
MEV	**Metsovon**	**1.63**	**331**	*ePb*		**Pb**	**19 58 06.0**	**+0.3**
VLI	**Veliai**	**1.73**	**161**	*ePN*		**Pn**	**19 58 08.5**	**+2.2**
LIT	**Litokhoron**	**1.75**	**6**	*ePb*		**Pb**	**19 58 07.4**	**-0.4**
LIT				*eSb*		**Sb**	**19 58 31.3**	**+1.6**
IGT	**Igoumenitsa**	**1.90**	**309**	*ePb*		**Pb**	**19 58 10.3**	**0.0**
PAIG	**Paliouri**	**1.92**	**35**	*ePb*		**Pb**	**19 58 08.6**	**-2.2**
OUR	**Ouranopolis**	**2.39**	**34**	*ePn*		**Pn**	**19 58 15.9**	**+0.1**

*IDC **31** 20:01:56.1±0.7,17.57S×172.39W,mb4.0/9,mb1 4.2/10, mb1mx4.1/18,mbtmp4.0/10,MS3.5/2,Ms1 3.5/2, ms1mx3.0/20,Error ellipse: s-maj=38.2km s-min=17.9km az=122.0*

*NEIC **31** 20:01:57.4±0.5,17.49S×172.50W,h10km,mb4.1/2,Error ellipse: s-maj=26.6km s-min=10.7km az=113.0*

ISC 31 20:01:55.6±0.6,17.42S±0.08×172.5W±0.2,h10km,n25, σ1°§18/19,mb4.0/10,MS3.4/2,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**3.56**	**12**	Pn		**Pn**	**20 02 52.2**	**+0.1**
	6.2nm,0.3s,baz=127,slow=16,SNR=8.1							
AFI				Sn		**Sn**	**20 03 32.9**	**-1.9**
	27nm,0.3s,baz=57,slow=21,SNR=11							
AFI	**Afiamalu**	**3.56**	**12**	*eP*		**Pn**	**20 02 52.3**	**+0.1**
AFI				Sn		**Sn**	**20 03 32.9**	**-1.9**
AFI				*eS*		**Sn**	**20 03 33.3**	**-1.5**
RAR	**Rarotonga**	**12.63**	**109**	*eP*		**P**	**20 04 45.9**	**-12**
PPT	**Papeete**	**21.90**	**94**	*eLR*	LR		20 11 28.0	
	171nm,25.5s							
PPT	**Papeete**	**21.90**	**94**	LR	LR		20 12 08.3	
	comp=Z,117nm,20.9s,MS3.3,baz=258,slow=28							
TBI	**Tubuai**	**22.41**	**109**	*eLR*	LR		20 11 41.6	
	128nm,33.8s							
URZ	**Urewera**	**22.66**	**202**	P		**P**	**20 06 57.8**	**-0.5**
	4.6nm,0.5s,mb4.2,baz=143,slow=20,SNR=2.1							
HNR	**Honiara**	**27.89**	**283**	LR	LR		20 17 10.1	
	comp=Z,118nm,21.3s,MS3.4,baz=167,slow=33							
RKT	**Rikitea**	**35.63**	**106**	*eLR*	LR		20 17 49.2	
	158nm,36.2s							
STKA	**Stephens Creek**	**43.78**	**242**	P		**P**	**20 10 03.2**	**-0.1**
	2.3nm,0.9s,mb3.9,baz=74,slow=7.4,SNR=4.1							
STKA	**Stephens Creek**	**43.78**	**242**	P		**P**	**20 10 02.1**	**-1.2**
WRA	**Warramunga Arr**	**50.22**	**258**	P		**P**	**20 10 55.5**	**+1.4**
	0.8nm,0.4s,mb4.1,baz=97,slow=7.5,SNR=25							
SBA	**Scott Base**	**61.32**	**185**	*eP*		**P**	**20 12 12.2**	**-1.2**
	1.8nm,0.7s,mb4.3							
VNDA	**Vanda**	**61.47**	**186**	P		**P**	**20 12 12.4**	**-1.9**
	1.0nm,1.0s,mb3.9,baz=26,slow=6.7,SNR=4.4							
VNDA	**Vanda**	**61.47**	**186**	*eP*		**P**	**20 12 12.4**	**-2.0**
	0.7nm,0.8s,mb3.8							
BBB	**Bella Bella**	**79.32**	**26**	P		**P**	**20 14 02.9**	**0.0**
	10nm,1.1s,mb4.7,baz=176,slow=13,SNR=3.2							
TXAR	**Lajitas Array**	**81.05**	**56**	P		**P**	**20 14 14.3**	**+1.6**
	0.8nm,0.9s,mb3.6,baz=236,slow=9.0,SNR=6.9							
TXAR	**Lajitas Array**	**81.05**	**56**	P		**P**	**20 14 14.3**	**+1.6**
PDAR	**Pinedale Array**	**83.22**	**41**	P		**P**	**20 14 24.2**	**+0.6**
	0.6nm,0.8s,mb3.7,baz=270,slow=1.5,SNR=5.1							
ILAR	**Eielson Array**	**84.25**	**11**	P		**P**	**20 14 30.1**	**+1.8**
	0.4nm,0.6s,mb3.7,baz=222,slow=6.0,SNR=7.8							
MAW	**Mawson**	**86.16**	**198**	P		**P**	**20 14 38.3**	**+0.5**
	1.8nm,0.9s,mb4.3,baz=100,slow=12,SNR=3.6							
BVAR	**Borovoye Array**	**119.97**	**322**	PKP		PKPdf	20 20 49.2	-0.2
	0.3nm,0.4s,SNR=5.2							
CLL	**Collm**	**145.90**	**354**	*ePKP1*		PKPbc	20 21 39.0	+3.5
GERES	**GERESS Array B**	**148.24**	**352**	PKPbc		PKPdf	20 21 44.0	+2.5
	0.2nm,0.3s,slow=4.0,SNR=4.1							
DAVOX	**Davos**	**150.65**	**357**	PKPbc		PKPdf	20 21 51.3	+5.9
	1.4nm,0.5s,slow=20,SNR=4.4							

*IDC **31** 20:11:45.3±6.8,18.01S×178.68W,h646km±86km,mb3.2/5, mb1 3.4/5,mb1mx3.1/14,mbtmp4.2/5,Error ellipse: s-maj=53.8km s-min=28.5km az=135.0*

*NEIC **31** 20:11:46.8±3.4,17.98S×178.79W,h666km±46km,mb4.3/4, Error ellipse: s-maj=25.8km s-min=20.6km az=100.0*

ISC 31 20:11:06.0±0.9,17.9S±0.2×177.9W±0.2,h219km, h219km±2.0km:pP-P,n19,σ1°§56/15,mb4.0/9,1C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARMA	**Armidale**	**30.40**	**240**	*eP*		**P**	**20 16 54.0**	**-5.9**
ARMA				*e*		pP	20 17 39.4	-5.0
CNB	**Canberra Magne**	**33.85**	**233**	*eP*		**P**	**20 17 31.5**	**+1.8**
	8.2nm,0.5s,mb4.5							
CNB				*i*		pP	20 18 16.9	+2.0
CTAO	**Charters Tower**	**33.95**	**260**	*eP*		**P**	**20 17 31.5**	**+0.9**
TOO	**Toolangi**	**37.59**	**231**	*eP*		**P**	**20 18 02.4**	**+1.3**
	4.6nm,0.5s,mb4.3							
TOO				*i*		pP	20 18 47.9	+0.8

STKA	**Stephens Creek**	**39.09**	**241**	*j P*			**P**	**20 18 14.3**	**+0.7**	
	3.4nm,0.6s,mb4.0									
STKA					*e*		pP	20 18 59.9	+0.1	
STKA	**Stephens Creek**	**39.09**	**241**	P			pP	20 18 58.2	-1.6	
	2.4nm,0.5s,baz=99,slow=11,SNR=7.7									
STKA	**Stephens Creek**	**39.09**	**241**	P			**P**	**20 18 14.4**	**+0.8**	
	4.5nm,0.6s,mb4.2,baz=89,slow=11,SNR=24									
STKA	**Stephens Creek**	**39.09**	**241**	*eP*			**P**	**20 18 14.2**	**+0.6**	
STKA				*j P*				20 18 14.3		
STKA					*e*		pP	20 18 59.9	+0.1	
WB2	**Warramunga Arr**	**45.12**	**259**	*eP*			**P**	**20 19 00.1**	**-2.4**	
WRAB	**Tennant Creek**	**45.12**	**259**	*eP*			**P**	**20 19 00.4**	**-2.1**	
	3.6nm,0.6s,mb3.9									
WRA	**Warramunga Arr**	**45.13**	**259**	P			pP	20 19 46.4	-3.5	
	1.5nm,0.7s,baz=96,slow=7.1,SNR=11									
WRA	**Warramunga Arr**	**45.13**	**259**	P			**P**	**20 19 00.7**	**-1.9**	
	2.5nm,0.7s,mb3.7,baz=96,slow=7.1,SNR=44									
KAKA	**Kakadu**	**48.08**	**269**	*i P*			**P**	**20 19 28.4**	**+2.7**	
	5.4nm,0.4s,mb4.2									
VNDA	**Vanda**	**60.54**	**185**	*eP*			**P**	**20 20 53.3**	**-1.5**	
	0.3nm,0.6s									
YBH	**Yreka Blue Hor**	**78.17**	**39**	P			**P**	**20 22 42.8**	**+0.2**	
	0.7nm,0.4s,mb3.6,baz=291,slow=13,SNR=3.4									
MAW	**Mawson**	**84.07**	**200**	P			**P**	**20 23 07.2**	**-5.6**	
	1.9nm,0.9s,mb3.8,baz=104,slow=4.2,SNR=5.0									
TXAR	**Lajitas Array**	**85.55**	**57**	P			pP	20 24 06.8	-7.8	
	0.5nm,0.6s,baz=220,slow=5.1,SNR=7.2									
TXAR	**Lajitas Array**	**85.55**	**57**	P			**P**	**20 23 21.4**	**+0.4**	
	0.7nm,0.7s,mb3.5,baz=222,slow=6.4,SNR=10									
GERES	**GERESS Array B**	**147.69**	**346**	PKPbc		PKPdf		20 30 18.9	-2.4	
	0.3nm,0.4s,baz=27,slow=3.0,SNR=5.3									

*NIED **31** 20:12:00,31.30N×142.20E,h5km,Mw4.5 Best double couple: Ms5.46×10¹⁵ NP1:φs54°,δ79°,λ123°. NP2:φs160°, δ35°,λ20°.*

*JMA **31** 20:12:20.3±0.2,31.27N×142.21E,h33km,M4.7*

*BJI **31** 20:12:23.9,31.26N×141.82E,h45km,mB4.5,mb4.6, Ms4.5,Ms2.4.2*

*IDC **31** 20:12:24.8±5.1,31.17N×141.86E,h31km±37km,mb4.2/20, mb1 4.4/23,mb1mx4.3/26,mbtmp4.4/23,ML4.1/3,MS3.8/12, Ms1 3.8/12,ms1mx3.6/28,Error ellipse: s-maj=19.9km s-min=12.7km az=67.0*

*MOS **31** 20:12:26.2±1.0,31.28N×141.70E,h50km,mb5.0/30, MS4.0/12,Error ellipse: s-maj=14.5km s-min=6.0km az=120.9*

*NEIC **31** 20:12:27.1±1.0,31.20N×141.79E,h48km±8km,mb4.6/33, MS4.1/2,MW4.4(NIED),Error ellipse: s-maj=6.6km s-min=5.9km az=122.0*

**ISC 31 20:12:20.8±1.3,31.20N±0.03×141.81E

SNY LR LR
comp=N,320nm,12.3s
SNY LR LR
comp=E,430nm,13.2s
SNY LR LR
comp=Z,460nm,16.2s
TATO Taipei 18.96 256 *eP* **P 20 16 44.6 +0.3**
comp=Z,98nm,1.3s
YHNB Yeheng 19.18 255 *eP* **P 20 16 46.7 -0.2**
KLR Kul'dur 19.55 340 *eP* **P 20 16 47.2 -3.8**
KLR MLR MLR
comp=Z,500nm,12.0s
NJ2 Nanjing 19.56 279 *eP* **P 20 16 50.0 -1.3**
NJ2 PCP PcP 20 21 13.8 +2.7
NJ2 AMB AMB
comp=Z,40nm,1.0s
NJ2 AMB AMB
comp=Z,140nm,6.0s
NJ2 LR LR
comp=N,730nm,12.4s
NJ2 LR LR
comp=E,590nm,15.0s
NJ2 LR LR
comp=Z,270nm,17.1s
WHN Wuhan 23.56 276 *eP* **P 20 17 32.5 +0.6**
HIA Hailar 24.54 324 *eP* **P 20 17 41.1 -0.2**
HIA pmax pmax
comp=Z,43nm,1.0s
HIA Hailar 24.54 324 *eP* **P 20 17 41.1 -0.2**
comp=Z,43nm,1.0s,mb4.9
HHC Hu-ho-hao-te 26.18 300 *eP* **P 20 17 55.0 -1.8**
HHC S **S 20 22 23.8 -2.4**
HHC AMB AMB
comp=Z,16nm,1.3s,mb4.4
HHC LR LR
comp=N,290nm,14.2s,MS4.4
HHC LR LR
comp=E,712nm,15.4s,MS4.4
HHC LR LR
comp=Z,716nm,14.2s,MS4.4
ENH Enshi 27.75 277 P **P 20 18 08.7 -2.6**
XAN Xi'an 27.78 285 P **P 20 18 09.3 -2.2**
XAN AMB AMB
comp=Z,18nm,0.8s,mb4.8
XAN LR LR
comp=E,285nm,15.4s
XAN LR LR
comp=Z,413nm,13.8s,MS4.2
CLNS Chul'man 28.21 340 *eP* **P 20 18 14.3 -0.9**
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=Z,15nm,1.0s,mb4.6
SONM Songino Array 31.63 312 P **P 20 18 46.3 +0.6**
comp=Z,15nm,0.9s,mb4.8,baz=114,slow=8.4,SNR=107
SONM LR LR 20 32 05.1
comp=Z,273nm,19.1s,MS4.0,baz=114,slow=37
YAK Yakutsk 31.84 349 *eP* **P 20 18 43.9 -3.5**
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
YAK MLR MLR
comp=N,100nm,14.0s,MS3.7
YAK MLR MLR
comp=Z,100nm,14.0s,MS3.6
YAK MLR MLR
comp=E,8.0nm,12.0s,MS3.7
LZH Lanzhou 31.84 289 *eP* **P 20 18 46.5 -1.2**
LZH AP pP 20 18 54.0 +2.7
LZH AMB AMB
comp=Z,28nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,130nm,4.0s
LZH LR LR
comp=N,600nm,13.0s
LZH LR LR
comp=Z,842nm,14.7s,MS4.5
LZH Lanzhou 31.84 289 *eP* **P 20 18 46.4 -1.3**
LZH *SP sP 20 18 58.0 +5.1
LZH pmax pmax
comp=Z,28nm,1.0s,mb5.0
LZH MLR MLR
comp=Z,840nm,14.7s,MS4.5
LZH Lanzhou 31.84 289 *eP* **P 20 18 46.4 -1.3**
comp=Z,28nm,1.0s,mb5.0
LZH pP pP 20 18 54.0 +2.7
LZH sP sP 20 18 58.0 +5.1
LZH LR LR
comp=Z,840nm,14.7s,MS4.5
BOD Bodaibo 32.74 333 *eP* **P 20 18 53.3 -2.0**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ZAK Zakamensk 34.40 315 *eP* **P 20 19 09.8 +0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
IRK Irkutsk 34.48 319 *eP* **P 20 19 09.1 -1.4**
IRK *e* 20 20 51.9
IRK pmax pmax
comp=Z,28nm,3.1s
TLY Talaya 34.63 317 *eP* **P 20 19 12.5 +0.8**
TLY pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
TLY MLR MLR
comp=Z,258nm,15.0s,MS4.1
TLY Talaya 34.63 317 *eP* **P 20 19 12.4 +0.6**
comp=Z,8.1nm,0.9s,mb4.7
KMI Kunming 34.84 270 P **P 20 19 13.3 -0.5**
KMI PP PP 20 20 33.5 +2.1
KMI S **S 20 24 35.0 -8.4**
KMI SS SS 20 26 54.8 -2.3
KMI AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
KMI LR LR
comp=Z,103nm,13.9s,MS3.7
KMI Kunming 34.84 270 P **P 20 19 13.2 -0.6**
KMI *PP pP 20 19 37.1 +20
KMI 20 20 33.6
KMI S **S 20 24 35.0 -8.4**
KMI SS SS 20 26 54.8 -2.3
KMI pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KMI MLR MLR
comp=Z,100nm,13.9s,MS3.7
GTA Gaotai 34.98 295 P **P 20 19 12.5 -2.4**
GTA SCS ScS 20 29 23.0 -11
GTA AMB AMB
comp=Z,9.0nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,100nm,12.0s
GTA LR LR
comp=N,188nm,16.0s,MS4.4
GTA LR LR
comp=E,490nm,15.3s,MS4.4
GTA LR LR
comp=Z,475nm,16.8s,MS4.3
MOY Mondy 36.18 316 *eP* **P 20 19 25.4 +0.5**
MOY pmax pmax
comp=Z,15nm,1.8s,mb4.6
LSA Lhasa 43.38 282 *eP* **P 20 20 25.5 +0.6**
LSA pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
LSA Lhasa 43.38 282 *eP* **P 20 20 25.5 +0.6**
comp=Z,2.0nm,0.6s,mb4.0
WMQ Urumqi 44.01 302 *eP* **P 20 20 31.0 +1.3**
WMQ AMB AMB
comp=Z,5.0nm,6.2s
WMQ LR LR
comp=N,287nm,17.8s,MS4.3
WMQ LR LR
comp=E,164nm,17.6s,MS4.3
WMQ LR LR
comp=Z,359nm,17.8s,MS4.3
ZAL Zalesovo 46.24 317 P **P 20 20 47.4 -0.1**
comp=Z,3.7nm,0.9s,mb4.3,baz=8.5,slow=8.5,SNR=27
NVS Novosibirsk 47.24 318 *i* P **P 20 20 53.8 -1.5**
NVS *i* 20 22 23.7
NVS pmax pmax
comp=Z,21nm,0.8s,mb5.1
NVS pmax pmax
comp=N,4.0nm,0.7s
NVS pmax pmax
comp=E,14nm,0.7s
MKAR Makanchi Array 47.69 307 P **P 20 20 59.0 0.0**
comp=E,4.7nm,0.5s,mb4.8,baz=90,slow=9.3,SNR=45
MKAR LR LR 20 42 04.5
comp=E,97nm,18.7s,MS3.8,baz=267,slow=37
PKI Pulchoki 48.83 281 *eP* **P 20 21 07.3 -0.8**
comp=E,12nm,0.6s,mb5.1
KKN Kakani 48.87 281 *eP* **P 20 21 07.3 -1.1**
comp=E,28nm,0.9s,mb5.3
DMN Daman 49.07 281 *eP* **P 20 21 09.2 -0.7**
comp=E,12nm,0.6s,mb5.1
GKN Gorkha 49.34 282 *eP* **P 20 21 10.4 -1.6**
comp=E,22nm,0.8s,mb5.2
KURK Kurchatov 49.94 312 *eP* **P 20 21 15.4 -0.9**
KURK pmax pmax
comp=Z,24nm,0.9s,mb5.2
KURK Kurchatov 49.94 312 *eP* **P 20 21 15.4 -0.8**
comp=Z,24nm,0.9s,mb5.2
KOLN Koldanda 50.29 282 *eP* **P 20 21 16.0 -3.3**
WRAB Tennant Creek 51.34 189 *eP* **P 20 21 26.7 -0.6**
WRAB pmax pmax
comp=Z,23nm,0.9s,mb5.1
WRAB Tennant Creek 51.34 189 *eP* **P 20 21 26.6 -0.7**
comp=Z,23nm,0.9s,mb5.1
WB2 Warramunga Arr 51.35 189⇓ *i* P **P 20 21 26.7 -0.7**
WRA Warramunga Arr 51.35 189 P **P 20 21 26.3 -1.1**
comp=Z,4.3nm,0.4s,mb4.7,baz=6.7,slow=7.7,SNR=47
FITZ Fitzroy Crossi 51.42 200 *eP* **P 20 21 27.3 -0.7**
comp=Z,9.9nm,1.1s,mb4.7
LGTI Lohaghat 52.55 285 *eP* **P 20 21 40.0 +3.6**
TKM2 Tokmak 2 52.87 303 P **P 20 21 39.5 +1.0**
SNR=6.7
KSH Kashi 53.27 298 *eP* **P 20 21 43.0 +1.4**
KSH *eAP pP 20 21 58.8 +13
KSH *ePP PP 20 23 42.3 -1.1
KSH *eS* **S 20 29 05.5 -5.5**
KSH *eXS 20 29 32.0
KSH *eSCS ScS 20 31 25.3 -2.5
KSH *eSS SS 20 32 40.5 -10
KSH AMB AMB
comp=Z,90nm,1.9s,mb5.4
KSH LR LR
comp=N,390nm,5.8s
KSH LR LR
comp=E,270nm,4.1s
KBK Karagaybulak 53.38 302 P **P 20 21 43.2 +0.8**
SNR=11
CHMS Chumysh 53.46 303 P **P 20 21 43.3 +0.3**
SNR=6.3
FRU Bishkek 53.59 303 *eP* **P 20 21 43.9 0.0**
FRU pmax pmax
comp=Z,35nm,1.6s,mb5.0
USP Ospenovka 53.59 303 P **P 20 21 44.2 +0.3**
SNR=7.6
AAK Ala-Archa 53.72 302 *eP* **P 20 21 43.8 -1.0**
AAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
AAK Ala-Archa 53.72 302 *eP* **P 20 21 43.8 -1.0**
comp=Z,6.5nm,1.0s,mb4.5
EKS2 Erkin-Say 54.23 303 P **P 20 21 49.0 +0.5**
SNR=5.3
ILAR Eielson Array 54.31 30 P **P 20 21 48.4 -0.4**
comp=Z,2.0nm,0.7s,mb4.1,baz=263,slow=6.0,SNR=21
AML Almayashu 54.40 302 P **P 20 21 51.1 +1.3**
SNR=27
VOSK Vostochnaya 54.53 315 P **P 20 21 49.8 -0.8**
VOSK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BVA0 Borovoye Array 54.85 316 *i* P **P 20 21 52.3 -0.7**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
BVAR Borovoye Array 54.85 316 P **P 20 21 52.4 -0.5**
comp=Z,5.1nm,0.6s,mb4.7,baz=94,slow=7.3,SNR=44
BRVK Borovoye 54.91 316 *eP* **P 20 21 52.6 -0.8**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
BRVK Borovoye 54.91 316 *eP* **P 20 21 52.6 -0.8**
comp=Z,4.0nm,0.8s,mb4.5
KKAR Karatay Array 56.48 304 *i* P **P 20 22 04.7 -0.2**
KKAR pmax pmax
comp=Z,52nm,1.1s,mb5.5
DZM Mont Dzumac 58.00 153 P **P 20 22 14.7 -1.2**
comp=Z,4.1nm,0.7s,mb4.5,baz=217,slow=20,SNR=2.5
INK Inuvik 59.46 25 P **P 20 22 24.6 -0.9**
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 59.46 25 P **P 20 22 24.6 -0.9**
comp=Z,1.8nm,0.6s,mb4.3,baz=322,slow=7.0,SNR=2.7
INK Inuvik 59.46 25 P **P 20 22 24.3 -1.2**
comp=Z,3.0nm,0.8s,mb4.4
ARU Arti 61.01 321⇑ *i* P **P 20 22 35.4 -0.8**
ARU *e* 20 22 51.2
ARU *e* 20 23 19.8
ARU *e* 20 24 48.0
ARU *eS* **S 20 30 46.8 -6.0**
ARU *eSS SS 20 34 47.5 -6.3
ARU *eSSS SSS 20 37 32.2 +0.9
ARU pmax pmax
comp=Z,25nm,0.9s,mb5.3
AB31 Akbulak array 62.04 313 *i* P **P 20 22 42.6 -0.7**
AB31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
STKA Stephens Creek 62.73 180 *eP* **P 20 22 48.0 -0.1**
comp=Z,1.9nm,0.5s,mb4.5
STKA Stephens Creek 62.73 180 P **P 20 22 47.0 -1.2**
comp=Z,1.3nm,0.5s,mb4.3,baz=339,slow=7.0,SNR=7.6
YKA Yellowknife Ar 68.71 29 P **P 20 23 25.0 -1.0**
comp=Z,0.7nm,0.6s,mb3.8,baz=298,slow=6.4,SNR=6.9
YKA LR LR 20 49 57.9
comp=Z,39nm,20.9s,MS3.6,baz=270,slow=33
KEV Kevo 69.02 340 *ep* **P 20 23 26.8 -0.9**
ARCES ARCESS Array B 69.58 340 P **P 20 23 30.9 -0.3**
comp=Z,5.2nm,0.8s,mb4.5,baz=63,slow=5.4,SNR=9.7
ARCES LR LR 21 01 06.5
comp=Z,79nm,18.1s,MS4.0,baz=248,slow=42
OBN Obninsk 72.99 325⇓ *eP* **P 20 23 51.7 -0.1**
OBN *e* 20 26 32.5
OBN *eS* S 20 33 14.7 -2.5
OBN *eSS SS 20 38 00.0 -0.4
OBN pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.4
KAF Kangasniemi 73.65 334 *ep* **P 20 23 54.4 -1.1**
comp=Z,2.7nm,0.5s,mb4.4,baz=52,slow=5.5
KAF Kangasniemi 73.65 334 *eP* **P 20 23 54.4 -1.1**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
YBH Yreka Blue Hor 73.71 51 P **P 20 23 55.6 -0.7**
YBH pmax pmax
comp=Z,1.0nm,0.7s
YBH Yreka Blue Hor 73.71 51 P **P 20 23 55.6 -0.7**
comp=Z,1.1nm,0.7s,mb3.9,baz=104,slow=11,SNR=3.5
FINES FINESS Array B 74.14 333 P **P 20 23 57.9 -0.4**
comp=Z,4.5nm,0.9s,mb4.4,baz=90,slow=7.6,SNR=12
FINES FINESS Array B 74.14 333 P **P 20 23 57.9 -0.4**
KIV Kislovodsk 75.02 312 *d* *iP* **P 20 24 05.2 +1.3**
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KIV Kislovodsk 75.02 312 *eP* **P 20 24 05.1 +1.2**
comp=Z,15nm,0.8s,mb5.0
GNI Garni 75.51 308 *i* P **P 20 24 09.8 +3.1**
GNI pmax pmax
comp=Z,18nm,1.3s
GNI Garni 75.51 308 LR LR 20 58 07.4
comp=Z,34nm,19.3s,MS3.7,baz=121,slow=36
WALA Waterton Lakes 75.57 41 *eP* **P 20 24 07.0 +0.1**
comp=Z,4.0nm,0.6s,mb4.5
CMB Columbia Colle 77.04 53 *eP* **P 20 24 14.6 -0.8**
CMB pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
CMB Columbia Colle 77.04 53 *eP* **P 20 24 14.6 -0.8**
comp=Z,9.8nm,1.3s,mb4.6
SOC Sochi 77.08 313 *eP* **P 20 24 18.2 +2.8**
SOC *e* 20 24 28.5
SOC *e* 20 27 05.9
SOC *ePPP PPP 20 29 03.4 +4.8
SOC *eS S 20 33 59.7 -2.9
SOC *e* 20 34 41.2
SOC pmax pmax
comp=N,19nm,0.9s
SOC pmax pmax
comp=Z,20nm,0.9s,mb5.0
SOC pmax pmax
comp=E,9.0nm,0.8s
SOC MLR MLR
comp=N,43nm,18.0s,MS4.2
SOC MLR MLR
comp=E,97nm,18.0s,MS4.2
SOC MLR MLR
comp=Z,93nm,18.0s,MS4.2
ANN Anapa 77.85 315 *eP* **P 20 24 09.4 -10**
ANN pmax pmax
comp=Z,102nm,1.7s,mb5.5
FFC Flin Flon 78.45 32 *eP* **P 20 24 22.4 -0.3**
FFC pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
FFC Flin Flon 78.45 32 *eP* **P 20 24 22.4 -0.3**
comp=Z,3.9nm,0.8s,mb4.4
MIB Mutribah 78.65 298 *eP* **P 20 24 24.9 +0.6**
MIB AMb AMB 20 24 25.9
comp=Z,30nm,0.6s,mb5.4
KBD Kabd 78.68 297 *eP* **P 20 24 25.3 +0.7**
BOZ Bozeman (W) 78.70 43 *eP* **P 20 24 25.7 +1.4**
BOZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BOZ Bozeman (W) 78.70 43 *eP* **P 20 24 25.7 +1.3**
comp=Z,2.0nm,0.6s,mb4.2
RDF Al-Radifah 78.92 297 *eP* **P 20 24 26.1 +0.2**
RDF AMb AMB 20 24 27.8
comp=Z,51nm,0.9s,mb5.4
NAY Al-Naaiem 78.99 297 *eP* **P 20 24 26.7 +0.4**
NAY AMb AMB 20 24 28.2
comp=Z,17nm,0.7s,mb5.1
ELK Elko 79.10 49 P **P 20 24 26.9 +0.3**
AKASG Malin Array Be 79.13 323 P **P 20 24 25.2 -1.4**
comp=Z,1.2nm,0.5s,mb4.1,baz=44,slow=5.8,SNR=6.1
NB2 NORSAR Subarra 79.69 338 P **P 20 24 28.8 -0.6**
comp=Z,2.8nm,0.9s,mb4.2,baz=41,slow=5.3
NB2 NORSAR Subarra 79.69 338 P **P 20 24 28.8 -0.6**
NB2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
NOA NORSAR Array B 79.69 338 P **P 20 24 29.1 -0.3**
comp=Z,3.6nm,0.8s,mb4.3,baz=41,slow=5.3,SNR=12
NOA LR LR 21 02 59.7
comp=Z,73nm,18.8s,MS4.0,baz=55,slow=38
RRI2 Red Ridge 80.15 45 *eP* **P 20 24 33.2 +1.0**
comp=Z,5.5nm,0.7s,mb4.6
MALT Malatya 80.66 309 *eP* **P 20 24 37.0 +1.9**
MALT pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MALT Malatya 80.66 309 *eP* **P 20 24 37.0 +1.9**
comp=Z,5.0nm,0.9s,mb4.4
BW06 Boulder Array 81.54 45 *eP* **P 20 24 40.0 +0.4**
comp=Z,2.1nm,0.9s,mb4.1
PDAR Pinedale Array 81.54 45 P **P 20 24 40.0 +0.5**
comp=Z,1.2nm,0.6s,mb4.0,baz=296,slow=2.3,SNR=13
PPT Papeete 81.75 116 LR LR 21 00 55.2
comp=Z,100nm,18.6s,MS4.2,baz=269,slow=36
BRTR Keskin Array B 82.99 312 P **P 20 24 48.0 +0.8**
comp=Z,7.2nm,1.0s,mb4.7,baz=117,slow=3.2,SNR=31
KWP Kalwaria 83.07 325 *eP* **P 20 24 48.4 +1.0**
KWP Kalwaria 83.07 325 *eP* **P 20 24 48.4 +1.0**
BURAR Bucovina Array 83.11 322⇑ P **P 20 24 48.7 +1.2**
BURAR Bucovina Array 83.11 322⇑ P **P 20 24 48.7 +1.1**
VRI Vrincioaia 83.40 320⇓ P **P 20 24 48.5 -0.6**
MLR Muntele Rosu 84.06 320⇑ P **P 20 24 53.7 +1.2**
HILS Ha'il 84.07 298 P **P 20 24 54.2 +1.2**
OJC Ojcow 84.07 327 *eP* **P 20 24 52.9 +0.5**
PV10 Paradox Valley 84.39 48 *eP* **P 20 24 55.6 +1.3**
PV01 Paradox Valley 84.83 48 *eP* **P 20 24 56.7 +0.1**
AFFS 'Afif 84.96 295 P **P 20 24 58.5 +1.0**
ASF Jabal al Asfar 85.06 305 P **P 20 24 58.4 +0.6**
comp=Z,5.9nm,0.8s,mb4.8,baz=4.3,slow=1.5,SNR=8.2
OKC Ostrava-Krasne 85.11 327 AMS AMS 21 14 50.0
comp=Z,100nm,11.5s
SMCO Snowmass 85.23 47 *eP* **P 20 25 00.3 +1.9**
DPC Dobruska-Polom 85.58 328 *eP* **P 20 25 00.2 +0.3**
DPC AMS AMS 21 09 10.0
comp=Z,100nm,14.1s
KAMS Al Khamasin 85.60 291 P **P 20 25 01.5 +0.7**
UPC Upice 85.60 329 *eP* **P 20 24 58.4 -1.6**
PVCC Panska Ves 86.22 329 *eP* **P 20 25 04.3 +1.2**
PVCC AMS AMS 21 06 40.0
comp=Z,100nm,15.7s
CLL Collm 86.32 331 *eP* **P 20 25 04.0 +0.4**
CLL pmax pmax
comp=Z,10.0nm,1.3s,mb4.9
CLL Collm 86.32 331 *eP* **P 20 25 04.0 +0.4**
comp=Z,10.0nm,1.3s,mb4.9
CLL Collm 86.32 331 P **P 20 25 04.1 +0.5**
comp=Z,logA/T=0.9,mb4.9
PRU Pruhonice 86.63 329 AMS AMS 21 08 10.0
comp=Z,100nm,17.7s
TATS Tathlith 86.89 291 P **P 20 25 08.3 +1.2**
NKC Novy Kostel 87.36 330 AMS AMS 21 12 50.0
comp=Z,100nm,18.3s
JMQS Jabal Moqyreh 87.62 302 P **P 20 25 11.2 +0.7**
KHC Kasperske Hory 87.69 329 *eP* **P 20 25 16.5 +6.2**
KHC AMS AMS 21 08 30.0
comp=Z,100nm,21.3s
GERES GERESS Array B 87.84 329 P **P 20 25 11.1 +0.1**
comp=Z,0.4nm,0.6s,mb3.8,baz=53,slow=6.7,SNR=3.9
GERES LR LR 21 10 12.8
comp=Z,78nm,18.6s,MS4.2,baz=354,slow=40
ANMO Albuquerque 88.09 50 *i* P **P 20 25 21.6 +9.0**
BLJS Baljurashi 88.20 292 P **P 20 25 14.1 +0.7**
HAQS Haql 88.21 303 P **P 20 25 13.1 -0.2**
AYUS 'Aynunah 88.46 302 P **P 20 25 14.5 0.0**
UMJS Umm Lajj 88.61 299 P **P 20 25 16.1 +0.8**
CDF Champ du Feu 90.92 332 *eP* **P 20 25 26.5 +1.0**
LOR Lormes 93.20 333 *eP* **P 20 25 36.9 +0.9**
comp=Z,8.8nm,1.1s,mb4.8
LOR *eR*
comp=Z,72nm,19.0s
LOR Lormes 93.20 333 *eP* **P 20 25 36.9 +0.9**
LOR pmax pmax
comp=Z,4.0nm,1.1s,mb4.8
LOR MLR MLR
comp=Z,70nm,19.0s,MS4.1
LTX Lajitas 93.41 53 *eP* **P 20 25 38.0 +0.6**
LTX pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
LTX Lajitas 93.41 53 *eP* **P 20 25 38.0 +0.6**
comp=Z,5.6nm,0.8s,mb5.0
TXAR Lajitas Array 93.41 53 P **P 20 25 38.0 +0.7**
comp=Z,2.7nm,0.7s,mb4.8,baz=304,slow=2.3,SNR=33
TXAR LR LR 21 05 13.2
comp=Z,92nm,18.2s,MS4.3,baz=265,slow=34
LPL La Plagne 93.44 330 *eP* **P 20 25 37.4 +0.2**
comp=Z,20nm,1.3s,mb5.1
LPL La Plagne 93.44 330 *eP* **P 20 25 37.4 +0.2**
LPL pmax pmax
comp=Z,10.0nm,1.3s,mb5.1
LPG La Plagne 93.45 330 *eP* **P 20 25 37.4 +0.2**
comp=Z,11nm,0.9s,mb5.0
LPG La Plagne 93.45 330 *eP* **P 20 25 37.4 +0.2**
LPG pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
SSF Saint Saulge 93.51 333 *eP* **P 20 25 37.9 +0.5**
SSF pmax pmax
comp=Z,6.0nm,1.2s,mb4.9
SSF Saint Saulge 93.51 333 *eP* **P 20 25 37.9 +0.5**
comp=Z,5.9nm,1.2s,mb4.9
FLN La Foliniere 93.56 336 *eP* **P 20 25 37.9 +0.3**
FLN *eR*
comp=Z,67nm,18.2s
AVF Avril sur Loir 93.79 333 *eP* **P 20 25 38.6 -0.2**
comp=Z,7.5nm,0.9s,mb4.8
AVF Avril sur Loir 93.79 333 *eP* **P 20 25 38.6 -0.2**
AVF pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
TCF Toulx Ste Croi 94.65 333 *eP* **P 20 25 43.3 +0.6**
ROSF Rostrenen 94.87 337 *eP* **P 20 25 43.9 +0.2**
LMR La Mourre 95.28 329 *eP* **P 20 25 45.6 -0.1**
EVO Evora 105.14 336 *eP* Pdif 20 26 30.3 +0.2
comp=Z,25nm,1.2s
EVO *eR*
comp=Z,80nm,19.8s
SAML Samuel 147.89 52 *e* PKPbc PKPdf 20 32 07.0 +0.2
LPAZ La Paz 148.96 68 PKIKP PKPdf 20 32 07.9 -0.5
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
LPAZ La Paz 148.96 68 PKPbc PKPdf 20 32 07.8 -0.5
comp=Z,1.7nm,0.7s,baz=247,slow=3.3,SNR=9.5
LPAZ La Paz 148.96 68 PKPbc PKPdf 20 32 11.4 +3.1

IDC 31 20:25:54.9±1.6,7.27N×92.78E,mb3.7/6,mb1 3.9/6, mb1mx3.6/20,mbtmp3.7/6,Error ellipse: s-maj=91.0km s-min=21.4km az=55.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**40.40**	**349**	P	P	20 33 34.7	-1.6

0.4nm,0.5s,baz=164,slow=8.1,SNR=8.1
ZAL Zalesovo 46.98 354 P P 20 34 28.3 -1.2
0.6nm,0.3s,baz=221,slow=2.4,SNR=3.0
WRA Warramunga Arr 49.02 124 P P 20 34 43.8 -2.1
1.4nm,0.8s,baz=305,slow=8.8,SNR=18
BVAR Borovoye Array 49.14 342 P P 20 34 43.6 -2.7
0.2nm,0.4s,baz=225,slow=2.0,SNR=2.9
STKA Stephens Creek 60.67 133 P P 20 36 08.4 -2.2
1.8nm,1.1s,baz=322,slow=12,SNR=3.7
GERES GERESS Array B 77.38 318 P P 20 37 51.9 -1.5
0.5nm,0.7s,baz=108,slow=4.2,SNR=6.0

*IDC **31** 20:34:25.6±1.4,22.32S×173.01E,mb3.9/4,mb1 4.1/5, mb1mx3.9/12,mbtmp3.9/5,ML3.7/1,MS3.7/2,Ms1 3.7/2, ms1mx3.0/18,Error ellipse: s-maj=37.5km s-min=28.5km az=167.0*
*NEIC **31** 20:34:34.1±3.7,22.31S×172.81E,h61km±30km,Error ellipse: s-maj=32.4km s-min=22.4km az=84.0*
ISC 31 20:34:28.5±6.9,22.4S±0.2×173.0E±0.1,h29km±48km,n9, σ0s86/7,mb4.1/5,MS3.7/2,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.07**	**272**	Pn	**Pn**	**20 35 59.0**	**+0.2**
	1.7nm,0.3s,baz=147,slow=16,SNR=10						
DZM				Sn	**Sn**	**20 37 08.5**	**+0.4**
	1.5nm,0.3s,baz=116,slow=18,SNR=4.2						
CTA	**Charters Tower**	**25.01**	**270**	LR	LR	20 48 22.7	
	comp=Z,150nm,21.7s,MS3.5,baz=339,slow=33						
STKA	**Stephens Creek**	**29.38**	**245**	P	**P**	**20 40 31.4**	**-0.2**
	1.6nm,0.6s,mb4.0,baz=88,slow=10,SNR=6.5						
WRA	**Warramunga Arr**	**36.05**	**267**	P	**P**	**20 41 28.4**	**-1.3**
	0.9nm,0.7s,mb3.8,baz=57,slow=8.4,SNR=19						
VNDA	**Vanda**	**55.39**	**183**	P	**P**	**20 44 01.9**	**-0.3**
	0.8nm,0.6s,mb3.9,baz=360,slow=10,SNR=5.7						
SBA	**Scott Base**	**55.54**	**182**	*e*P	**P**	**20 44 04.0**	**+0.8**
	11nm,0.9s,mb4.9						
ILAR	**Eielson Array**	**92.28**	**16**	P	**P**	**20 47 37.1**	**+0.4**
	0.5nm,0.8s,mb3.9,baz=233,slow=4.5,SNR=3.6						
PDAR	**Pinedale Array**	**96.25**	**46**	LR	LR	21 23 35.6	
	comp=Z,39nm,18.0s,MS3.9,baz=254,slow=31						
GERES	**GERESS Array B**	**148.94**	**333**	PKPbc	PKPdf	20 54 14.1	-0.4
	0.5nm,0.7s,baz=45,slow=4.2,SNR=4.1						

IDC 31 20:44:12.0±5.2,14.88S×173.56W,mb3.6/2,mb1 4.0/2, mb1mx3.6/14,mbtmp3.6/2,MS3.2/1,Ms1 3.2/1, ms1mx2.7/16,Error ellipse: s-maj=248.8km s-min=44.0km az=142.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.98**	**61**	Pn	Pn	20 44 42.2	-4.9
	27nm,0.3s,baz=218,slow=12,SNR=16						
AFI				Sn	Sn	20 45 01.0	-12
	734nm,0.3s,baz=118,slow=15,SNR=35						
PPT	**Papeete**	**23.18**	**100**	*e*LR	LR	20 49 30.0	
	56nm,21.2s						
HNR	**Honiara**	**26.44**	**279**	LR	LR	20 57 29.8	
	comp=Z,50nm,19.3s,baz=17,slow=30						
WRA	**Warramunga Arr**	**49.81**	**256**	P	P	20 53 07.1	-1.8
	0.3nm,0.4s,baz=91,slow=7.4,SNR=6.0						
ILAR	**Eielson Array**	**81.97**	**11**	P	P	20 56 33.6	-1.1
	0.2nm,0.7s,baz=223,slow=6.7,SNR=4.8						
GERES	**GERESS Array B**	**145.60**	**351**	PKP	PKPdf	21 03 51.0	-3.0
	0.2nm,0.5s,baz=27,slow=3.0,SNR=5.1						

*IDC **31** 20:46:31.3±3.9,14.29S×167.28E,h176km±34km,mb3.7/7, mb1 3.8/8,mb1mx3.7/15,mbtmp4.2/8,Error ellipse: s-maj=27.3km s-min=22.2km az=79.0*
*NEIC **31** 20:46:33.8±2.4,14.48S×167.11E,h195km±20km,mb4.2/1, Error ellipse: s-maj=24.9km s-min=13.3km az=65.0*
ISC 31 20:46:31.5±2.9,14.4S±0.1×167.2E±0.2,h197km±23km, n38,σ0s76/20,mb3.8/7,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.70**	**185**	*e*P	**P**	**20 48 22.3**	**+0.6**
DZM				*e*S	**S**	**20 49 46.3**	**-1.4**
DZM	**Mont Dzumac**	**7.70**	**185**	P	**P**	**20 48 22.9**	**+1.2**
	4.1nm,0.3s,baz=53,slow=19,SNR=16						
DZM				S	**S**	**20 49 49.2**	**+1.5**
	0.7nm,0.3s,baz=320,slow=23,SNR=3.4						
DZM	**Mont Dzumac**	**7.70**	**185**	*e*P	**P**	**20 48 22.3**	**+0.6**
DZM				*e*S	**S**	**20 49 46.3**	**-1.4**
PMG	**Port Moresby**	**20.25**	**282**	P	**P**	**20 50 52.7**	**-0.5**
STKA	**Stephens Creek**	**29.20**	**229**	P	**P**	**20 52 18.0**	**+1.1**
	13nm,0.6s,mb4.8,baz=53,slow=8.9,SNR=74						
RPZ	**Rata Peaks**	**29.43**	**174**	P	**P**	**20 52 17.6**	**-1.3**
	8.2nm,1.0s,mb4.3,baz=324,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**31.88**	**255**	P	**P**	**20 52 39.8**	**-0.7**
	1.0nm,0.5s,mb3.6,baz=86,slow=9.2,SNR=15						
VNDA	**Vanda**	**63.22**	**181**	P	**P**	**20 56 41.0**	**+0.4**
	0.8nm,0.6s,mb3.5,baz=354,slow=7.0,SNR=5.3						
VNDA	**Vanda**	**63.22**	**181**	*e*P	**P**	**20 56 40.0**	**-0.6**
	5.2nm,1.4s,mb4.0						
SBA	**Scott Base**	**63.50**	**180**	*e*P	**P**	**20 56 42.1**	**-0.4**
SONM	**Songino Array**	**82.18**	**324**	P	**P**	**20 58 31.8**	**+0.1**
	0.2nm,0.5s,mb3.0,baz=117,slow=6.4,SNR=3.6						
MAW	**Mawson**	**82.21**	**202**	P	**P**	**20 58 32.4**	**+1.0**
	3.0nm,0.6s,mb4.1,baz=142,slow=2.0,SNR=12						
ILAR	**Eielson Array**	**86.19**	**18**	P	**P**	**20 58 51.1**	**-0.2**
	0.3nm,0.6s,mb3.2,baz=242,slow=4.5,SNR=9.0						
SNAA	**Sanae**	**93.91**	**183**		**P**	**20 59 27.3**	**0.0**
VNA3	**Neumayer Olymp**	**94.58**	**181**		**P**	**20 59 30.2**	**-0.1**
VNA2	**Neumayer--Watz**	**94.84**	**182**		**P**	**20 59 32.3**	**+0.8**
VNA1	**Neumayer--Stat**	**95.14**	**182**		**P**	**20 59 28.0**	**-4.9**
FINES	**FINESS Array B**	**125.37**	**338**	PKP	PKPdf	21 05 10.3	+1.6
	0.6nm,0.6s,baz=27,slow=4.3,SNR=3.6						
NOA	**NORSAR Array B**	**130.26**	**345**	PKP	PKPdf	21 05 20.6	+2.5
	0.4nm,0.9s,baz=50,slow=3.7,SNR=3.1						
GERES	**GERESS Array B**	**139.31**	**333**	PKP	PKPdf	21 05 39.3	+4.1
	0.1nm,0.3s,slow=1.3,SNR=5.3						
LOR	**Lormes**	**144.38**	**340**	*e*PKP1	PKPbc	21 05 47.2	+3.3
SSF	**Saint Saulge**	**144.68**	**341**	*e*PKP1	PKPbc	21 05 46.9	+2.2
	9.8nm,0.7s						
LPL	**La Plagne**	**144.85**	**336**	*e*PKP1	PKPbc	21 05 48.4	+3.2
	3.5nm,0.6s						
LPG	**La Plagne**	**144.86**	**336**	*e*PKP1	PKPbc	21 05 48.0	+2.8
	7.5nm,0.8s						
AVF	**Avril sur Loir**	**144.97**	**341**	*e*PKP1	PKPbc	21 05 47.5	+2.0
	6.2nm,0.8s						
MBDF	**Montbardon**	**145.48**	**335**	*e*PKP1	PKPbc	21 05 50.5	+3.6
ORIF	**Oris-en-Rattie**	**145.68**	**336**	*e*PKP1	PKPbc	21 05 50.4	+3.0
	15nm,0.7s						
MFF	**Saint Martin d**	**146.16**	**344**	*e*PKP1	PKPbc	21 05 50.8	+2.3
	7.7nm,0.6s						
VIVF	**Saint-Julien-l**	**146.19**	**337**	*e*PKP1	PKPbc	21 05 52.0	+3.4
	7.1nm,0.9s						
RJF	**Les Rejaudoux**	**146.87**	**341**	*e*PKP1	PKPbc	21 05 53.5	+3.3
CAF	**Calviac**	**147.04**	**340**	*e*PKP1	PKPdf	21 05 53.7	+5.1
LASF	**Ste Croix**	**147.16**	**338**	*e*PKP1	PKPdf	21 05 53.6	+4.7
LFF	**La Frestale**	**147.44**	**342**	*e*PKP1	PKPdf	21 05 54.9	+5.6
	8.5nm,0.6s						
MTLF	**Montolieu**	**148.39**	**339**	*e*PKP1	PKPdf	21 05 57.3	+6.4
	9.4nm,0.7s						
ETSF	**Etsaut**	**149.69**	**342**	*e*PKP1	PKPdf	21 06 01.4	+8.4
	4.0nm,0.5s						
ESDC	**Sonseca Array**	**153.63**	**345**	PKPbc	PKPdf	21 06 11.2	+12
	1.0nm,0.8s,baz=32,slow=6.2,SNR=5.0						
EVO	**Evora**	**155.56**	**351**	*e*PKIKP	PKPdf	21 06 02.5	+1.1
	41nm,1.5s						
LIC	**Lamto**	**168.89**	**224**	*e*PKIKP	PKPdf	21 06 17.2	+1.9

CASC 31 21:11:44.4±2.7,6.52N×82.66W,h21km±56km,MD4.1, 2C-1D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTP1	**Petroterminal**	**1.69**	**8**	*e*P	Pn	21 12 11.7	-1.5
PTP1				*e*S	Sn	21 12 34.0	-0.4
BRU	**Baru**	**2.28**	**2**	*e*P	Pn	21 12 22.3	+0.7
BRU				*e*S	Sn	21 12 51.5	+2.2
AZU	**Azuero**	**2.68**	**62**⇑	*i*P	Pn	21 12 27.3	-0.1
AZU				*e*S	Sn	21 12 58.8	-0.8
CNI	**Changuinola**	**2.88**	**3**⇑	*e*P	Pn	21 12 31.1	+0.9
BUS	**Buena Vista**	**3.21**	**340**⇓	*e*P	Pn	21 12 34.2	-0.7
BUS				*e*S	Sn	21 13 12.7	-0.2
LCR2	**La Lucha 2**	**3.47**	**338**	*e*P	Pn	21 12 37.4	-1.1
LCR2				*e*S	Sn	21 13 19.2	-0.3
PRS1	**Puriscal**	**3.81**	**335**	*e*P	Pn	21 12 41.0	-2.4
TRTC	**Tortuguero**	**4.16**	**346**	*e*P	Pn	21 12 48.6	+0.1
TRTC				*e*S	Sn	21 13 38.4	+1.2
VCR	**Vista de Mar**	**4.64**	**321**	*e*P	Pn	21 12 53.4	-1.8

*IDC **31** 21:14:57.9±2.0,17.60S×178.68W,h546km±25km,mb3.4/9, mb1 3.6/10,mb1mx3.4/17,mbtmp4.4/10,Error ellipse: s-maj=37.4km s-min=13.5km az=153.0*
*NEIC **31** 21:14:57.3±1.0,17.66S×178.67W,h541km±12km,mb4.2/8, Error ellipse: s-maj=29.0km s-min=8.3km az=154.0*
ISC 31 21:14:56.3±1.4,17.7S±0.2×178.7W±0.1,h540km±18km, n24,σ0s70/24,mb4.0/14,1C-3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.66**	**62**	P	**P**	**21 16 51.1**	**-0.1**
	5.1nm,0.3s,baz=207,slow=4.5,SNR=9.9						
AFI	**Afiamalu**	**7.66**	**62**	*e*P	**P**	**21 16 50.8**	**-0.4**
CTA	**Charters Tower**	**33.19**	**260**⇓	*i*P	**P**	**21 20 50.5**	**+0.8**
	9.9nm,1.2s,mb4.2						
CTA	**Charters Tower**	**33.19**	**260**	P	**P**	**21 20 50.5**	**+0.8**
	3.4nm,0.5s,mb4.2,baz=81,slow=11,SNR=5.9						
CTAO	**Charters Tower**	**33.19**	**260**	*e*P	**P**	**21 20 50.6**	**+0.8**
	3.3nm,0.5s,mb4.1						
PMG	**Port Moresby**	**34.12**	**279**	P	**P**	**21 20 57.9**	**+0.3**
	14nm,0.7s,mb4.6,baz=124,slow=11,SNR=5.6						
PMG	**Port Moresby**	**34.12**	**279**	*e*P	**P**	**21 20 58.0**	**+0.4**
	20nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**38.48**	**241**⇓	*i*P	**P**	**21 21 34.9**	**+1.6**
	6.3nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**38.48**	**241**	P	**P**	**21 21 34.9**	**+1.6**
	7.0nm,0.5s,mb4.5,baz=92,slow=9.4,SNR=57						
WB2	**Warramunga Arr**	**44.36**	**259**⇓	*i*P	**P**	**21 22 20.0**	**-0.3**
WRAB	**Tennant Creek**	**44.37**	**259**	*e*P	**P**	**21 22 19.7**	**-0.7**
	4.7nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**21 22 20.1**	**-0.3**
	2.7nm,0.2s,mb4.3,baz=96,slow=7.7,SNR=135						
KAKA	**Kakadu**	**47.28**	**269**⇑	*i*P	**P**	**21 22 47.9**	**+5.1**
	7.9nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.77**	**260**	*e*P	**P**	**21 23 23.3**	**+0.1**
	2.7nm,0.3s,mb4.0						
KLBR	**Kellerberrin**	**58.66**	**243**	*e*P	**P**	**21 24 02.9**	**-0.9**
	9.9nm,0.9s,mb4.0						
NWAO	**Narrogin (SRO)**	**59.05**	**242**	*e*P	**P**	**21 24 06.1**	**-0.3**
YBH	**Yreka Blue Hor**	**78.53**	**39**	P	**P**	**21 26 03.4**	**+0.5**
	1.0nm,0.8s,mb3.2,baz=153,slow=2.3,SNR=3.8						
MAW	**Mawson**	**83.98**	**200**	P	**P**	**21 26 29.6**	**-0.5**
	1.5nm,0.9s,mb3.5,baz=162,slow=9.6,SNR=4.1						
HLID	**Hailey**	**84.65**	**41**	*e*P	**P**	**21 26 34.4**	**+0.5**
ILAR	**Eielson Array**	**85.72**	**13**	P	**P**	**21 26 37.4**	**-1.2**
	0.3nm,0.4s,mb3.3,baz=226,slow=5.2,SNR=7.2						
TXAR	**Lajitas Array**	**86.12**	**58**	P	**P**	**21 26 42.5**	**+1.1**
	1.3nm,0.7s,mb3.7,baz=216,slow=6.1,SNR=22						
BW06	**Boulder Array**	**87.39**	**44**	*e*P	**P**	**21 26 47.0**	**0.0**
	0.9nm,0.4s,mb3.8						
PDAR	**Pinedale Array**	**87.39**	**44**	P	**P**	**21 26 46.7**	**-0.3**
	0.9nm,0.6s,mb3.6,baz=214,slow=3.3,SNR=4.0						
PDAR	**Pinedale Array**	**87.39**	**44**	P	**P**	**21 26 46.7**	**-0.3**

*CSEM **31** 21:18:47.5,40.03N×39.88E,h17km,MD3.5,After ISK*
ISK 31 21:18:47.5,40.03N×39.88E,h17km,MD3.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMT	**Gumushane**	**0.53**	**325**	*i*PG	Pb	21 18 58.7	+0.7
GUMT				*i*SG	Sb	21 19 06.7	+1.6
EZM	**Erzurum**	**1.15**	**96**	PN	Pn	21 19 09.0	+0.1
PTK	**Pertek**	**1.19**	**199**	PN	Pn	21 19 09.6	+0.1
PTK				SN	Sn	21 19 26.8	+1.5
BCA	**Borcka**	**1.94**	**43**	PN	Pn	21 19 21.0	+0.8
BTMT	**Batman**	**2.22**	**145**	*e*PN	Pn	21 19 24.6	+0.4

IDC 31 21:29:24.0±8.8,6.23N×94.11E,mb3.6/3,mb1 3.9/3, mb1mx3.5/19,mbtmp3.6/3,Error ellipse: s-maj=409.0km s-min=27.9km az=58.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**41.68**	**348**	P	P	21 37 12.8	-3.2
	0.1nm,0.4s,baz=170,slow=8.6,SNR=4.5						
WRA	**Warramunga Arr**	**47.35**	**124**	P	P	21 37 59.9	-2.0
	0.6nm,0.5s,baz=304,slow=8.9,SNR=12						
ZAL	**Zalesovo**	**48.16**	**353**	P	P	21 38 07.0	-0.8
	1.0nm,0.3s,baz=215,slow=3.8,SNR=2.5						

*PRU **31** 21:49:59.9,47.65N×14.33E*
*IPEC **31** 21:49:59.2±0.1,47.64N±14.33E,ML2.4/3,Error ellipse: s-maj=1.6km s-min=0.8km az=125.0*
*BGR **31** 21:50:00.9±0.3,47.63N×14.31E,h10km,ML2.4,Error ellipse: s-maj=4.4km s-min=3.3km az=58.0*
*NEIC **31** 21:50:00.0±0.4,47.67N×14.31E,h5km,ML2.9(VIE), ML2.8(LDG),Error ellipse: s-maj=4.9km s-min=4.3km az=125.0*
*CSEM **31** 21:50:00.2±0.1,47.62N×14.29E,h0km,ML3.0/12,Error ellipse: s-maj=1.3km s-min=1.1km az=149.0*
*LDG **31** 21:50:04.5±0.3,47.82N×14.11E,h10km,Ml2.8/10,Error ellipse: s-maj=6.8km s-min=5.1km az=36.0*
ISC 31 21:49:58.9±0.3,47.71N±0.01×14.23E±0.02,h10km,n76, σ1s35/138,12C-1D,Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOA	**Molln**	**0.14**	**9**⇑	*i*PG	**Pg**	**21 50 04.0**	**+1.7**
MOA				*i* SG	**Sg**	**21 50 08.3**	**+3.7**
	268nm,0.3s						
MOA	**Molln**	**0.14**	**9**	*e*Pg	**Pg**	**21 50 03.9**	**+1.6**
MOA				*e*Sg	**Sg**	**21 50 08.0**	**+3.4**
MOA	**Molln**	**0.14**	**9**⇑	*i*Pg	**Pg**	**21 50 04.0**	**+1.7**
MOA				*i* Sg	**Sg**	**21 50 08.0**	**+3.4**
KBA	**Koelnbreinsper**	**0.87**	**224**⇑	*i*PG	**Pg**	**21 50 16.3**	**-0.1**
KBA				*i* SG	**Sg**	**21 50 28.3**	**+0.2**
	12nm,0.2s						
KBA	**Koelnbreinsper**	**0.87**	**224**	*e*Pg	**Pg**	**21 50 16.4**	**-0.1**
KBA				*e*Sg	**Sg**	**21 50 26.6**	**-1.6**
KBA	**Koelnbreinsper**	**0.87**	**224**	*e*Pg	**Pg**	**21 50 16.4**	**0.0**
KBA				*i* Sg	**Sg**	**21 50 28.3**	**+0.2**
RNON	**Nonn-Bad Reich**	**0.92**	**272**	*e*Pg	**Pg**	**21 50 18.8**	**+1.4**
RMOA	**Moar Alm**	**0.93**	**274**	*e*Pg	**Pg**	**21 50 19.1**	**+1.6**
RJOB	**Jochberg**	**0.97**	**272**	*e*Pg	**Pg**	**21 50 20.5**	**+2.1**
ARSA	**Arzberg**	**0.99**	**117**⇑	*i*PG	**Pg**	**21 50 16.7**	**-2.1**
ARSA				*i* SG	**Sg**	**21 50 29.9**	**-2.1**
	14nm,0.2s						
ARSA	**Arzberg**	**0.99**	**117**	*e*Pg	**Pg**	**21 50 17.0**	**-1.8**
ARSA				*e*Sg	**Sg**	**21 50 31.1**	**-0.9**
ARSA	**Arzberg**	**0.99**	**117**	Pg	**Pg**	**21 50 17.0**	**-1.8**
ARSA				*i* Sg	**Sg**	**21 50 29.9**	**-2.1**
OBKA	**Obir**	**1.22**	**170**⇑	*i*PG	**Pg**	**21 50 21.3**	**-2.0**
OBKA				*i* SG	**Sg**	**21 50 36.8**	**-2.8**
	18nm,0.2s						
OBKA	**Obir**	**1.22**	**170**	*e*Pg	**Pg**	**21 50 21.3**	**-2.1**
OBKA				*e*Sg	**Sg**	**21 50 37.3**	**-2.3**
PTCC	**Patocco-Chiusa**	**1.44**	**205**	*i* Pn	**Pn**	**21 50 26.8**	**+1.7**
PTCC				*i* Sn	**Sn**	**21 50 44.3**	**+0.1**
KHC	**Kasperske Hory**	**1.49**	**343**	*e*PG	**Pg**	**21 50 28.8**	**+0.1**
KHC				*e*SG	**Sg**	**21 50 49.9**	**+1.3**
	21nm,0.2s						
FVI	**Forni Avoltri**	**1.49**	**222**	Pn	**Pn**	**21 50 27.8**	**+1.9**
VKA	**Vienna**	**1.51**	**68**⇑	*i*PG	**Pg**	**21 50 28.5**	**-0.6**
VKA				*i* SG	**Sg**	**21 50 49.9**	**+0.7**
CADS	**Cadrg**	**1.52**	**193**	*i* Pn	**Pn**	**21 50 26.9**	**+0.6**
SEST	**Monte Rota**	**1.68**	**236**	Pn	**Pn**	**21 50 32.8**	**+4.2**
SEST				Sn	**Sn**	**21 50 57.0**	**+6.7**
VOY	**Vojsko**	**1.69**	**188**	*e*Pn	**Pn**	**21 50 30.3**	**+1.5**
VOY				*e*Sn	**Sn**	**21 50 52.0**	**+1.3**
WET	**Wettzell**	**1.70**	**328**	*e*Pn	**Pn**	**21 50 31.3**	**+2.4**
WET				*e*Sg	**Sg**	**21 50 56.7**	**+1.2**
WET	**Wettzell**	**1.70**	**328**	*e*Pn	**Pn**	**21 50 31.3**	**+2.4**
WET				*e*Sg	**Sg**	**21 50 56.7**	**+1.2**
PDKS	**Podkum**	**1.73**	**162**	*e*Pn	**Pn**	**21 50 30.2**	**+0.8**
WTTA	**Wattenberg**	**1.82**	**257**⇑	*i*PG	**Pg**	**21 50 34.7**	**-0.5**
WTTA				*i* SG	**Sg**	**21 51 00.9**	**+1.4**
	16nm,0.3s						
WTTA	**Wattenberg**	**1.82**	**257**	*e*Pn	**Pn**	**21 50 34.0**	**+3.4**
WTTA				*e*Sg	**Sg**	**21 50 59.9**	**+0.4**
WTTA	**Wattenberg**	**1.82**	**257**⇑	*i*Pg	**Pg**	**21 50 34.7**	**-0.5**
WTTA				Sg	**Sg**	**21 50 59.9**	**+0.4**
WATA	**Walderalm**	**1.84**	**259**⇑	*i*PG	**Pg**	**21 50 34.3**	**-1.4**
WATA				*i* SG	**Sg**	**21 50 59.9**	**-0.3**
	12nm,0.2s						
SCE	**Schlegeis**	**1.84**	**250**⇓	*i*Pg	**Pg**	**21 50 35.0**	**-0.7**
SCE				*e*Sg	**Sg**	**21 50 59.3**	**-1.0**
KOGS	**Kog**	**1.87**	**132**	*i* Pn	**Pn**	**21 50 31.6**	**+0.3**
KRUC	**Moravsky**	**1.98**	**46**	*e*Pn	**Pn**	**21 50 34.1**	**+1.2**
FUR	**Furstenfeldbru**	**2.04**	**284**	*e*Sg	**Sg**	**21 51 06.9**	**0.0**
SQTA	**Sankt Quirin**	**2.11**	**258**⇑	*i*PG	**Pg**	**21 50 39.3**	**-1.8**
SQTA				*i* SG	**Sg**	**21 51 07.5**	**-1.7**
	8.5nm,0.2s						
MOTA	**Moosalm**	**2.15**	**261**⇑	*i*PG	**Pg**	**21 50 39.3**	**-2.6**
MOTA				*i* SG	**Sg**	**21 51 09.7**	**-0.9**
	16nm,0.3s						
VRAC	**Vranov**	**2.24**	**44**	*e*Pn	**Pn**	**21 50 38.1**	**+1.4**
VRAC				*e*Sg	**Sg**	**21 51 06.7**	**-7.0**
PRU	**Pruhonice**	**2.29**	**5**	*e*PN	**Pn**	**21 50 38.7**	**+1.3**
PRU				*e*PG	**Pg**	**21 50 43.7**	**-1.0**
PRU				*e*SG	**Sg**	**21 51 14.8**	**-0.5**
	17nm,0.4s						
APPI	**Appiano**	**2.39**	**240**	Pn	**Pn**	**21 50 43.0**	**+4.2**
NKC	**Novy Kostel**	**2.79**	**336**	*e*PN	**Pn**	**21 50 48.1**	**+3.6**
NKC				*e*PG	**Pg**	**21 50 53.1**	**-1.5**
NKC				*e*SG	**Sg**	**21 51 31.8**	**0.0**
	14nm,0.3s						
GRA1	**Grafenberg Arr**	**2.81**	**316**	*e*Pn	**Pn**	**21 50 47.7**	**+2.8**
GRA1				*e*Sg	**Sg**	**21 51 32.7**	**0.0**
GRA1	**Grafenberg Arr**	**2.81**	**316**	Pn	**Pn**	**21 50 47.7**	**+2.8**
GRA1				Sg	**Sg**	**21 51 32.7**	**0.0**
GRF	**Grafenberg Arr**	**2.81**	**316**	*e*Pn	**Pn**	**21 50 47.7**	**+2.9**
GRF				*e*Sg	**Sg**	**21 51 32.7**	**+0.1**
PVCC	**Panska Ves**	**2.83**	**4**	*e*PG	**Pg**	**21 50 53.5**	**-2.0**
PVCC				*e*SG	**Sg**	**21 51 33.0**	**-0.2**
	21nm,0.2s						
TANN	**Tannenbergstha**	**2.95**	**337**	*e*Pn	**Pn**	**21 50 49.0**	**+2.2**
TANN				*e*Sg	**Sg**	**21 51 35.9**	**-1.2**
DPC	**Dobruska-Polom**	**2.98**	**27**	*e*PN	**Pn**	**21 50 48.0**	**+0.8**
DPC				*e*PG	**Pg**	**21 50 55.6**	**-2.9**
DPC				*e*SG	**Sg**	**21 51 36.1**	**-2.1**
	28nm,0.5s						
DPC	**Dobruska-Polom**	**2.98**	**27**	*e*Pn	**Pn**	**21 50 47.9**	**+0.7**
DPC	**Dobruska-Polom**	**2.98**	**27**	*e*Pg	**Pg**	**21 50 55.6**	**-2.9**
DPC				*e*Sg	**Sg**	**21 51 33.5**	**-4.7**
DAVA	**Damuels**	**2.98**	**263**⇑	*i*PN	**Pn**	**21 50 47.6**	**+0.4**
DAVA				*i* PG	**Pg**	**21 50 57.2**	**-1.3**
DAVA				*i* SN	**Sn**	**21 51 24.6**	**+1.2**
DAVA				*i* SG	**Sg**	**21 51 37.3**	**-0.9**
	8.5nm,0.3s						
DAVA	**Damuels**	**2.98**	**263**	*i* Pg	**Pg**	**21 50 57.2**	**-1.3**
DAVA				*i* Sn	**Sn**	**21 51 24.6**	**+1.2**
DAVA				Sg	**Sg**	**21 51 36.7**	**-1.5**
MORC	**Moravsky Berou**	**3.01**	**45**	*e*Sg	**Sg**	**21 51 33.2**	**-6.1**
	20nm,0.7s						
BRG	**Berggiesshubel**	**3.17**	**357**	*i* Sg	**Sg**	**21 51 41.0**	**-3.7**
OKC	**Ostrava-Krasne**	**3.35**	**49**	*e*SG	**Sg**	**21 51 46.7**	**-3.9**
	10nm,0.5s						
MOX	**Moxa**	**3.40**	**331**	*e*Pn	**Pn**	**21 50 55.2**	**+2.0**
MOX				*e*Sg	**Sg**	**21 51 51.7**	**-0.6**
MOX	**Moxa**	**3.40**	**331**	*i* P	**Pn**	**21 50 55.2**	**+2.0**
MOX				Sg	**Sg**	**21 51 52.0**	**-0.3**
KSP	**Ksiaz**	**3.42**	**23**	*e*Pg	**Pg**	**21 51 03.8**	**-3.3**
KSP				*e*Sg	**Sg**	**21 51 49.4**	**-3.3**
CLL	**Collm**	**3.69**	**348**	*i* PG	**Pg**	**21 51 12.5**	**-0.1**
CLL				*e*SG	**Sg**	**21 52 00.0**	**-1.9**
BFO	**Black Forest**	**4.01**	**281**	*e*Pn	**Pn**	**21 51 03.2**	**+1.4**
BFO				*e*Sn	**Sn**	**21 51 47.9**	**-1.6**
BFO	**Black Forest**	**4.01**	**281**	*e*Pn	**Pn**	**21 51 03.2**	**+1.3**
BFO				*e*Sn	**Sn**	**21 51 47.9**	**-1.6**
TNS	**Taunus Mts**	**4.57**	**306**	*e*Pn	**Pn**	**21 51 11.5**	**+1.8**
CDF	**Champ du Feu**	**4.72**	**281**	*e*Pn	**Pn**	**21 51 12

FITZ	**Fitzroy Crossi**	**17.99**	**174**	P		**P**		**22 10 56.5**	**-0.5**
	comp=Z,5.5nm,0.3s,baz=2.4,slow=8.2,SNR=60									
FITZ				S		**S**		**22 14 11.5**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=186,slow=21,SNR=1.9									
FITZ				ScP				22 18 52.5		
	comp=Z,0.6nm,0.3s,baz=61,slow=3.3,SNR=3.3									
MBWA	**Marble Bar**	**21.32**	**191**	⇓*i*P		**P**		**22 11 32.8**	**+0.3**
	comp=Z,155nm,0.7s,mb5.4									
WRAB	**Tennant Creek**	**22.25**	**153**	*i* P		**P**		**22 11 42.1**	**+0.5**
WRAB	**Tennant Creek**	**22.25**	**153**	*e*P		**P**		**22 11 41.3**	**-0.4**
	comp=Z,116nm,0.8s,mb5.3									
WRAB				*e*pP				22 12 01.4		
WRA	**Warramunga Arr**	**22.26**	**153**	P		**P**		**22 11 42.5**	**+0.8**
	comp=Z,31nm,0.7s,mb4.8,baz=334,slow=10,SNR=147									
WRA				pP				22 12 01.7		
	comp=Z,49nm,0.7s,baz=333,slow=10,SNR=7.2									
WRA				S		**S**		**22 15 36.0**	**+0.7**
	comp=Z,11nm,0.9s,baz=335,slow=16,SNR=5.3									
WRA				ScP				22 19 02.3		
	comp=Z,3.2nm,0.6s,baz=329,slow=2.6,SNR=7.7									
WB2	**Warramunga Arr**	**22.26**	**153**	*e*P		**P**		**22 11 41.3**	**-0.4**
WB2				*e*pP				22 12 05.0		
WB2				*e*S		**S**		**22 15 36.8**	**+1.4**
WB2				*i* SCS		ScS		22 22 45.8	-1.2
QIZ	**Qiongzhong**	**23.44**	**325**	P		**P**		**22 11 55.8**	**+2.6**
QIZ				S		**S**		**22 15 58.0**	**+2.0**
QIZ				AMB		AMB				
	comp=Z,109nm,1.1s,mb5.1									
QIZ				AMB		AMB				
	comp=Z,435nm,4.9s									
QIZ	**Qiongzhong**	**23.44**	**325**	*e*P		**P**		**22 11 55.3**	**+2.1**
	comp=Z,132nm,1.2s,mb5.1									
KULM	**Kulim**	**23.75**	**283**	‖*e*P		**P**		**22 11 58.4**	**+2.1**
NACB	**Ninganchiao**	**24.21**	**355**	*e*P		**P**		**22 12 00.1**	**-0.6**
SNG	**Songkhla**	**24.25**	**288**	P		**P**		**22 12 03.5**	**+2.4**
	comp=Z,260nm,0.8s,mb5.6									
YHNB	**Yeheng**	**24.73**	**355**	*e*P		**P**		**22 12 05.4**	**-0.2**
GUMO	**Guam**	**24.88**	**56**	*e*P		**P**		**22 12 07.0**	**-0.2**
GUMO				pmax		pmax				
	comp=Z,54nm,0.6s,mb5.2									
GUMO	**Guam**	**24.88**	**56**	*e*P		**P**		**22 12 07.0**	**-0.2**
	comp=Z,54nm,0.6s,mb5.2									
PMG	**Port Moresby**	**25.00**	**112**	*e*P		**P**		**22 12 08.8**	**+0.4**
PMG				*PP		pP		22 12 30.2	+0.8
PMG				pmax		pmax				
	comp=Z,74nm,1.1s									
PMG	**Port Moresby**	**25.00**	**112**	P		**P**		**22 12 09.3**	**+0.9**
	comp=Z,9.5nm,0.4s,mb4.6,baz=308,slow=10,SNR=7.4									
PMG				pP		pP		22 12 32.5	+3.2
	comp=Z,21nm,0.6s,baz=272,slow=5.0,SNR=4.0									
PMG	**Port Moresby**	**25.00**	**112**	*e*P		**P**		**22 12 08.8**	**+0.4**
	comp=Z,74nm,1.1s,mb5.0									
PMG				pP		pP		22 12 30.2	+0.8
TATO	**Taipei**	**25.02**	**355**	*e*P		**P**		**22 12 07.5**	**-1.0**
	comp=Z,41nm,0.6s,mb5.0									
GZH	**Guangzhou**	**25.19**	**337**	P		**P**		**22 12 14.8**	**+4.7**
QZH	**Quanzhou**	**25.39**	**349**	⇑P		**P**		**22 12 12.8**	**+0.9**
QZH				AMB		AMB				
	comp=Z,270nm,1.0s,mb5.6									
KKTK	**Khon Kaen**	**26.37**	**309**	⇑P		**P**		**22 12 22.4**	**+1.3**
	comp=Z,2µm,0.6s									
NNT	**Nongplab**	**27.01**	**299**	P		**P**		**22 12 23.0**	**-4.0**
JOW	**Kunigami**	**27.11**	**9**	P		**P**		**22 12 27.8**	**0.0**
	comp=Z,78nm,0.7s,mb5.3,baz=191,slow=7.2,SNR=31									
JOW				PcP		PcP		22 15 47.1	+0.7
	comp=Z,20nm,0.8s,baz=217,slow=5.1,SNR=4.4									
JOW				LR		LR		22 21 52.3		
	comp=Z,256nm,19.4s,baz=98,slow=33									
JOW	**Kunigami**	**27.11**	**9**	P		**P**		**22 12 27.8**	**0.0**
JOW				PcP		PcP		22 15 47.1	+0.7
JOW				LR		LR		22 21 52.3		
NST	**Nakhon Sawan**	**28.15**	**305**	⇓P		**P**		**22 12 39.0**	**+1.7**
	comp=Z,100nm,1.0s,mb5.3									
NANT	**Nan**	**29.46**	**311**	⇑P		**P**		**22 12 50.0**	**+1.1**
	comp=Z,1µm,4.0s									
CTA	**Charters Tower**	**29.62**	**133**	P		**P**		**22 12 49.9**	**-0.4**
	comp=Z,5.7nm,0.8s,mb4.2,baz=337,slow=7.7,SNR=3.2									
CTA				PcP		PcP		22 15 53.4	+0.6
	comp=Z,8.3nm,0.7s,baz=56,slow=3.6,SNR=4.3									
CTA				LR		LR		22 25 27.1		
	comp=Z,122nm,21.2s,baz=317,slow=37									
CTA	**Charters Tower**	**29.62**	**133**	P		**P**		**22 12 49.9**	**-0.4**
CTA				PcP		PcP		22 15 53.4	+0.6
CTA				LR		LR		22 25 27.1		
BDT	**Bhumibol Dam**	**29.90**	**306**	P		**P**		**22 12 55.5**	**+2.6**
	comp=Z,67nm,0.6s,mb5.5									
CHRT	**Chiangrai**	**30.79**	**311**	⇑P		**P**		**22 13 02.0**	**+1.3**
	comp=Z,360nm,1.2s,mb6.0									
CHG	**Chiang Mai**	**30.82**	**309**	⇑P		**P**		**22 13 02.2**	**+1.3**
	comp=Z,114nm,1.0s,mb5.6									
SSE	**Sheshan**	**31.11**	**356**	P		**P**		**22 13 06.0**	**+2.6**
SSE				AP		pP		22 13 28.5	+3.3
SSE				XP		sP		22 13 40.3	+3.8
SSE				PCP		PcP		22 15 58.0	+1.5
SSE				S		**S**		**22 18 05.5**	**+4.9**
SSE				XS				22 18 45.0		
SSE				AMB		AMB				
	comp=Z,44nm,0.8s,mb5.2									
SSE				AMB		AMB				
	comp=Z,101nm,5.5s									
SSE				LR		LR				
	comp=N,175nm,38.3s									
SSE				LR		LR				
	comp=E,93nm,39.1s									
SSE				LR		LR				
	comp=Z,246nm,33.3s									
SSE	**Sheshan**	**31.11**	**356**	P		**P**		**22 13 06.1**	**+2.7**
	comp=Z,44nm,0.8s,mb5.2									
SSE				pP		pP		22 13 28.5	+3.3
SSE				sP		sP		22 13 40.2	+3.7
SSE				PP		PP		22 14 18.3	+9.4
SSE				PcP		PcP		22 15 57.9	+1.4
SSE				S		**S**		**22 18 05.6**	**+5.0**
SSE				sS				22 18 45.0	
SSE				SS		SS		22 20 23.6	+31
SSE				LR		LR				
	comp=Z,250nm,33.3s									
GYA	**Guiyang**	**31.15**	**329**	⇑*i*P		**P**		**22 13 05.8**	**+2.1**
GYA				AP		pP		22 13 26.3	+0.8
GYA				XP		sP		22 13 39.5	+2.7
GYA				PP		PP		22 14 11.8	+2.5
GYA				S		**S**		**22 18 03.5**	**+2.3**
GYA				SS		SS		22 19 56.5	+3.5
GYA				AMB		AMB				
	comp=Z,60nm,1.1s,mb5.2									
GYA				AMB		AMB				
	comp=Z,240nm,5.1s									
GYA				LR		LR				
	comp=N,490nm,16.8s									
GYA				LR		LR				
	comp=E,630nm,17.0s									
GYA				LR		LR				
	comp=Z,640nm,16.4s									
WHN	**Wuhan**	**31.77**	**344**	⇓P		**P**		**22 13 10.5**	**+1.4**
KLBR	**Kellerberrin**	**31.86**	**190**	*e*P		**P**		**22 13 09.0**	**-0.8**
	comp=Z,29nm,1.0s,mb5.0									
KLBR				*i* PCP		PcP		22 15 58.7	+0.2
CBIJ	**Chichi jima**	**32.28**	**32**	P		**P**		**22 13 13.1**	**-0.6**
	comp=Z,115nm,0.3s,mb6.0,baz=224,slow=5.0,SNR=68									
CBIJ				S		**S**		**22 18 13.5**	**-5.5**
	comp=Z,79nm,0.7s,baz=89,slow=23,SNR=14									
CBIJ				LR		LR		22 23 53.9		
	comp=Z,142nm,19.7s,baz=224,slow=32									
NJ2	**Nanjing**	**32.31**	**352**	*e*P		**P**		**22 13 15.0**	**+1.2**
NJ2				AP		pP		22 13 37.0	+1.2
NJ2				XP		sP		22 13 48.8	+1.6
NJ2				PP		PP		22 14 26.0	+2.0
NJ2				S		**S**		**22 18 19.0**	**-0.3**
NJ2				XS				22 18 58.0	
NJ2				AMB		AMB				
	comp=Z,90nm,0.9s,mb5.5									
NJ2				AMB		AMB				
	comp=Z,140nm,6.5s									
NJ2				LR		LR				
	comp=N,660nm,25.8s									
NJ2				LR		LR				
	comp=E,600nm,22.6s									
NJ2				LR		LR				
	comp=Z,230nm,17.8s									
KMI	**Kunming**	**32.31**	**322**	P		**P**		**22 13 15.8**	**+1.9**
KMI				AP		pP		22 13 37.5	+1.6
KMI				XP		sP		22 13 49.3	+2.0
KMI				PP		PP		22 14 26.5	+2.4
KMI				PCP		PcP		22 16 01.0	+1.2
KMI				S		**S**		**22 18 22.8**	**+3.4**
KMI				XS				22 19 02.5	
KMI				SS		SS		22 20 25.0	+4.8
KMI				AMB		AMB				
	comp=Z,39nm,1.1s,mb5.0									
KMI				AMB		AMB				
	comp=Z,135nm,3.7s									
KMI				LR		LR				
	comp=N,245nm,18.2s									
KMI				LR		LR				
	comp=E,231nm,21.0s									
KMI				LR		LR				
	comp=Z,184nm,15.9s									
KMI	**Kunming**	**32.31**	**322**	P		**P**		**22 13 15.8**	**+1.9**
KMI				*PP		pP		22 13 37.6	+1.7
KMI								22 14 26.4	
KMI								22 16 00.9	
KMI				S		**S**		**22 18 22.7**	**+3.3**
KMI				pmax		pmax				
	comp=Z,39nm,1.1s,mb5.0									
KMI				MLR		MLR				
	comp=Z,180nm,15.9s									
KMI	**Kunming**	**32.31**	**322**	P		**P**		**22 13 15.8**	**+1.9**
	comp=Z,39nm,1.1s,mb5.0									
KMI				pP		pP		22 13 37.6	+1.7
KMI				sP		sP		22 13 49.2	+1.9
KMI				PP		PP		22 14 26.4	+2.3
KMI				PPP		PPP		22 14 50.8	+11
KMI				PcP		PcP		22 16 00.9	+1.1
KMI				S		**S**		**22 18 22.7**	**+3.3**
KMI				sS				22 19 02.4	
KMI				SS		SS		22 20 24.9	+4.7
KMI				SSS		SSS		22 20 52.3	+5.3
KMI				LR		LR				
	comp=Z,180nm,15.9s									
ENH	**Enshi**	**33.13**	**337**	*e*P		**P**		**22 13 21.4**	**+0.5**
	comp=Z,87nm,0.8s,mb5.6									
NWAO	**Narrogin (SRO)**	**33.25**	**190**	P		**P**		**22 13 21.5**	**-0.4**
	comp=Z,12nm,0.6s,mb4.9,baz=40,slow=12,SNR=10									
NWAO				PcP		PcP		22 16 02.6	+0.2
	comp=Z,21nm,0.9s,baz=9.5,slow=5.1,SNR=3.6									
JNU	**Nakatsue**	**33.69**	**11**	P		**P**		**22 13 25.4**	**-0.3**
	comp=Z,53nm,0.9s,mb5.3,baz=309,slow=2.9,SNR=20									
JNU				PcP		PcP		22 16 03.2	-0.3
	comp=Z,11nm,0.9s,baz=180,slow=1.0,SNR=3.6									
JNU				LR		LR		22 26 25.6		
	comp=Z,165nm,21.6s,baz=18,slow=35									
STKA	**Stephens Creek**	**35.81**	**154**	⇑*i*P		**P**		**22 13 43.9**	**+0.1**
	comp=Z,26nm,0.6s,mb5.3									
STKA				*e*				22 14 14.4		
STKA				*i* PCP		PcP		22 16 09.8	+0.1
STKA				*e*S		**S**		**22 19 11.5**	**-1.9**
STKA				*i* SCS		ScS		22 23 47.3	-2.4
STKA	**Stephens Creek**	**35.81**	**154**	P		**P**		**22 13 44.0**	**+0.2**
	comp=Z,31nm,0.5s,mb5.5,baz=328,slow=8.5,SNR=108									
STKA				PcP		PcP		22 16 09.6	-0.1
	comp=Z,16nm,0.6s,baz=324,slow=5.2,SNR=4.9									
STKA				ScP				22 19 45.1		
	comp=Z,5.8nm,0.9s,baz=326,slow=2.7,SNR=3.8									
STKA				LR		LR		22 28 18.1		
	comp=Z,192nm,21.5s,baz=115,slow=36									
CD2	**Chengdu**	**36.24**	**330**	P		**P**		**22 13 48.8**	**+1.4**
CD2				AMB		AMB				
	comp=Z,30nm,1.2s,mb5.1									
JHJ	**Hachijo jima 2**	**36.29**	**23**	P		**P**		**22 13 47.2**	**-0.6**
	comp=Z,55nm,0.6s,mb5.6,baz=55,slow=21,SNR=5.3									
JHJ				LR		LR		22 28 21.0		
	comp=Z,113nm,19.9s,baz=135,slow=36									
TIA	**Tai'an**	**36.65**	**351**	⇓P		**P**		**22 13 51.0**	**+0.2**
TIA				AMB		AMB				
	comp=Z,79nm,1.0s,mb5.6									
XAN	**Xi'an**	**36.72**	**339**	P		**P**		**22 13 52.0**	**+0.6**
XAN				AMB		AMB				
	comp=Z,82nm,1.0s,mb5.6									
ADE	**Adelaide**	**37.38**	**160**	*e*P		**P**		**22 13 58.2**	**+1.3**
IMP	**Imphal**	**38.06**	**313**	*e*P		**P**		**22 14 03.0**	**+0.4**
MAJO	**Matsushiro**	**38.81**	**19**	⇑*i*P		**P**		**22 14 16.7**	**+7.9**
MAJO				pmax		pmax				
	comp=Z,73nm,0.9s,mb5.5									
MAJO	**Matsushiro**	**38.81**	**19**	⇑*i*P		**P**		**22 14 16.7**	**+7.9**
	comp=Z,73nm,0.9s,mb5.5									
MAJO				*e*PcP		PcP		22 16 27.3	+8.4
MAT	**Matsushiro**	**38.81**	**19**	*e*P		**P**		**22 14 09.0**	**+0.2**
MAT				pmax		pmax				
	comp=Z,59nm,0.9s,mb5.4									
MAT	**Matsushiro**	**38.81**	**19**	*e*P		**P**		**22 14 09.0**	**+0.2**
	comp=Z,59nm,0.9s,mb5.4									
MAT	**Matsushiro**	**38.81**	**19**	P		**P**		**22 14 08.6**	**-0.2**
MAT				*e*S		**S**		**22 19 50.6**	**-8.4**
MJAR	**Matsushiro Arr**	**38.81**	**19**	P		**P**		**22 14 08.6**	**-0.2**
	comp=Z,50nm,0.7s,mb5.5,baz=199,slow=10.0,SNR=170									
MJAR				PcP		PcP		22 16 19.0	+0.1
	comp=Z,15nm,0.8s,baz=204,slow=4.6,SNR=8.9									
MJAR				ScP				22 19 56.6		
	comp=Z,5.2nm,0.8s,baz=202,slow=5.7,SNR=11									
DL2	**Dalian**	**38.86**	**357**	P		**P**		**22 14 09.0**	**-0.1**
DL2				*e*S		**S**		**22 19 53.0**	**-6.6**
DL2				XS				22 20 38.3	
DL2				AMB		AMB				
	comp=Z,50nm,0.5s,mb5.6									
SHL	**Shillong**	**40.02**	**312**	*e*P		**P**		**22 14 21.0**	**+2.1**
SHL				*e*				22 20 02.5	
SHL				*e*				22 24 10.5	
LZH	**Lanzhou**	**40.51**	**335**	⇑P		**P**		**22 14 24.8**	**+2.0**
LZH				AP		pP		22 14 46.5	+1.1
LZH				XP		sP		22 14 56.5	-0.1
LZH				PCP		PcP		22 16 25.5	+1.2
LZH				SCP				22 20 03.5	
LZH				PCS				22 20 14.8	
LZH				S		**S**		**22 20 27.0**	**+2.7**
LZH				XS				22 21 03.0	
LZH				SS		SS		22 23 24.0	+1.5
LZH				AMB		AMB				
	comp=Z,158nm,1.5s,mb5.6									
LZH				AMB		AMB				
	comp=Z,500nm,4.0s									
LZH				LR		LR				
	comp=N,405nm,14.5s									
LZH				LR		LR				
	comp=Z,635nm,16.5s									
LZH	**Lanzhou**	**40.51**	**335**	⇑P		**P**		**22 14 24.8**	**+2.0**
LZH				*PP		pP		22 14 46.5	+1.1
LZH				*SP		sP		22 14 56.5	-0.1
LZH								22 16 25.5	
LZH				S		**S**		**22 20 26.9**	**+2.6**
LZH				*SS				22 21 03.0	
LZH				SS		SS		22 23 24.1	+1.6
LZH				pmax		pmax				
	comp=Z,158nm,1.5s,mb5.6									
LZH				MLR		MLR				
	comp=Z,640nm,16.5s									
LZH	**Lanzhou**	**40.51**	**335**	⇑P		**P**		**22 14 24.8**	**+2.0**
	comp=Z,158nm,1.5s,mb5.6									
LZH				pP		pP		22 14 46.5	+1.1
LZH				sP		sP		22 14 56.5	-0.1
LZH				PcP		PcP		22 16 25.5	+1.2
LZH				ScP				22 20 03.5	
LZH				PcS				22 20 14.8	
LZH				S		**S**		**22 20 26.9**	**+2.6**
LZH				sS				22 21 03.0	
LZH				SS		SS		22 23 24.1	+1.6
LZH				LR		LR				
	comp=Z,640nm,16.5s									
HHC	**Hu-ho-hao-te**	**42.24**	**346**	⇑P		**P**		**22 14 37.3**	**+0.2**
HHC				AP		pP		22 15 00.0	+0.3
HHC				XP		sP		22 15 12.0	+1.2
HHC				PP		PP		22 16 18.5	-0.9
HHC				PCP		PcP		22 16 33.8	+3.8
HHC				SCP				22 20 13.0	
HHC				PCS				22 20 23.5	
HHC				S		**S**		**22 20 47.3**	**-2.7**
HHC				XS				22 21 26.5	
HHC				SCS		ScS		22 24 27.5	+0.6
HHC				AMB		AMB				
	comp=Z,37nm,1.3s,mb5.0									
HHC				LR		LR				
	comp=N,182nm,19.0s									
HHC				LR		LR				
	comp=E,187nm,17.8s									
HHC				LR		LR				
	comp=Z,189nm,21.3s									
TOO	**Toolangi**	**42.32**	**154**	*e*P		**P**		**22 14 39.8**	**+2.0**
	comp=Z,19nm,0.7s,mb4.9									
TOO	**Toolangi**	**42.32**	**154**	*e*P		**P**		**22 14 39.8**	**+2.0**
TOO				pmax		pmax				
	comp=Z,19nm,0.7s,mb4.9									
CNB	**Canberra Magne**	**42.37**	**148**	*e*P		**P**		**22 14 39.8**	**+1.6**
	comp=Z,31nm,1.0s,mb5.0									
LSA	**Lhasa**	**42.98**	**316**	P		**P**		**22 14 45.5**	**+2.3**
LSA	**Lhasa**	**42.98**	**316**	*e*P		**P**		**22 14 44.9**	**+1.7**
LSA				pmax		pmax				
	comp=Z,44nm,0.6s,mb5.4									
LSA	**Lhasa**	**42.98**	**316**	*e*P		**P**		**22 14 44.9**	**+1.6**
	comp=Z,44nm,0.6s,mb5.4									
CN2	**Changchun**	**43.72**	**2**	⇑P		**P**		**22 14 47.8**	**-1.3**
CN2				*e*AP		pP		22 15 11.0	-0.7
CN2				PCP		PcP		22 16 35.0	+0.1
CN2				*e*S		**S**		**22 21 11.3**	**-0.1**
CN2				AMB		AMB				
	comp=Z,40nm,0.7s,mb5.3									
CN2				AMB		AMB				
	comp=Z,100nm,5.0s									
MDJ	**Mudanjiang**	**44.81**	**6**	P		**P**		**22 14 58.0**	**+0.2**
MDJ				AP		pP		22 15 20.3	-0.2
MDJ				XP		sP		22 15 29.8	-1.7
MDJ				PCP		PcP		22 16 38.5	-0.1
MDJ				PP		PP		22 16 44.0	-0.9
MDJ				SCP				22 20 22.5	
MDJ				PCS				22 20 32.0	
MDJ				S		**S**		**22 21 27.3**	**+0.2**
MDJ				XS				22 22 05.3	
MDJ				SCS		ScS		22 24 46.3	+3.5
MDJ				AMB		AMB				
	comp=Z,77nm,1.1s,mb5.3									
MDJ				AMB		AMB				
	comp=Z,108nm,5.4s									
MDJ				LR		LR				
	comp=N,150nm,42.2s									
MDJ				LR		LR				
	comp=Z,181nm,42.8s									
MDJ	**Mudanjiang**	**44.81**	**6**	*e*P		**P**		**22 14 57.6**	**-0.1**
	comp=Z,62nm,0.7s,mb5.5									
GTA	**Gaotai**	**45.03**	**334**	⇑*i*P		**P**		**22 15 00.8**	**+1.2**
GTA				SCP				22 20 21.8		
GTA				AMB		AMB				
	comp=Z,117nm,0.7s,mb5.7									
GTA				AMB		AMB				
	comp=Z,215nm,8.0s									
GTA				LR		LR				
	comp=N,200nm,19.5s									
GTA				LR		LR				
	comp=E,168nm,20.6s									
GTA				LR		LR				
	comp=Z,186nm,25.6s									
PKI	**Pulchoki**	**45.99**	**310**	*e*P		**P**		**22 15 07.8**	**+0.5**
	comp=Z,187nm,1.0s,mb5.8									
KKN	**Kakani**	**46.20**	**310**	*e*P		**P**		**22 15 09.9**	**+0.9**
	comp=Z,83nm,0.7s,mb5.6									
BLSP	**Bilaspur**	**46.23**	**301**	*e*P		**P**		**22 15 10.0**	**+0.7**
BLSP				AMb		AMB		22 15 12.6		
	comp=Z,188nm,1.0s,mb5.8									
DMN	**Daman**	**46.24**	**310**	*e*P		**P**		**22 15 10.2**	**+0.9**
	comp=Z,232nm,1.1s,mb5.8									
GKN	**Gorkha**	**46.79**	**310**	*e*P		**P**		**22 15 14.3**	**+0.6**
	comp=Z,88nm,0.5s,mb5.8									
TRD	**Trivandrum**	**47.47**	**282**	*e*P		**P**		**22 15 21.1**	**+2.0**
KOLN	**Koldanda**	**47.48**	**309**	*e*P		**P**		**22 15 20.0**	**+0.9**
	comp=Z,376nm,0.8s,mb6.2									
HYB	**Hyderabad**	**47.82**	**294**	*e*P		**P**		**22 15 21.0**	**-0.9**
HYB				pmax		pmax				
	comp=Z,157nm,0.8s,mb5.9									
HYB	**Hyderabad**	**47.82**	**294**	*e*P		**P**		**22 15 21.0**	**-0.9**
	comp=Z,157nm,0.8s,mb5.9									
HYB	**Hyderabad**	**47.82**	**294**	*i* P		**P**		**22 15 21.0**	**-0.9**
	comp=Z,157nm,0.8s,mb5.9									
HIA	**Hailar**	**49.29**	**356**	*e*P		**P**		**22 15 32.4**	**-0.4**
HIA				pmax		pmax				
	comp=Z,50nm,0.6s									
HIA	**Hailar**	**49.29**	**356**	*e*P		**P**		**22 15 32.4**	**-0.4**
	comp=Z,50nm,0.6s,mb5.6									
YSS	**Yuzh-Sakhalins**	**49.69**	**17**	*c*u *i*P		**P**		**22 15 36.0**	**+0.1**
YSS				pmax		pmax				
	comp=Z,68nm,1.3s,mb5.4									
YSS	**Yuzh-Sakhalins**	**49.69**	**17**	*e*P		**P**		**22 15 35.8**	**-0.1**
	comp=Z,75nm,1.0s,mb5.6									
SONM	**Songino Array**	**50.08**	**345**	P		**P**		**22 15 38.7**	**-0.1**
	comp=Z,39nm,0.7s,mb5.5,baz=159,slow=8.7,SNR=318									
SONM				PcP		PcP		22 16 56.3	-1.0
	comp=Z,12nm,0.8s,baz=174,slow=3.9,SNR=5.0									
SONM				ScP				22 20 42.2		
	comp=Z,1.5nm,0.8s,baz=157,slow=4.7,SNR=4.1									
SONM				LR		LR		22 37 58.1		
	comp=Z,145nm,21.5s,baz=152,slow=37									
BHPL	**Bhopal**	**50.68**	**301**	*e*P		**P**		**22 15 43.2**	**-0.5**
BHPL				*e*P				22 15 43.4		
BHPL				AMb		AMB		22 15 45.4		
	comp=Z,235nm,0.7s,mb6.3									
BHPL				AMb		AMB		22 15 45.4		
	comp=Z,238nm,0.7s,mb6.3									
LGTI	**Lohaghat**	**50.87**	**309**	*e*P		**P**		**22 15 45.0**	**-0.1**
PTH	**Pithoragarh**	**50.94**	**309**	*e*P		**P**		**22 15 44.9**	**-0.7**
PTH				*e*				22 16 55.9	
KAD	**Karad**	**51.82**	**292**	*e*P		**P**		**22 15 51.5**	**-0.9**
POO	**Poona**	**52.43**	**294**	*e*P		**P**		**22 15 55.8**	**-1.2**
DDI	**Dehra Dun**	**52.96**	**309**	*e*p		**P**		**22 15 58.0**	**-2.8**
ZAK	**Zakamensk**	**53.25**	**344**	*e*P		**P**		**22 16 01.9**	**-0.8**
ZAK				*e*				22 17 07.0		
ZAK				pmax		pmax				
	comp=Z,12nm,0.9s,mb4.9									
ZAK				pmax		pmax				
	comp=Z,12nm,1.0s,mb4.9						

KSH *e*PCP PcP 22 17 32.3 +1.6
KSH *e*PP PP 22 18 55.0 -0.1
KSH *e*S **S** **22 24 37.0 -1.3**
KSH *e*XS 22 25 18.5
KSH *e*SCS ScS 22 26 20.0 +0.9
KSH *e*SS SS 22 28 32.5 -2.2
KSH AMB AMB
comp=Z,140nm,1.8s,mb5.7
KSH LR LR
comp=N,320nm,5.9s
KSH LR LR
comp=E,450nm,6.0s
MKAR Makanchi Array 59.12 328 P **P** **22 16 43.8 -0.7**
comp=E,40nm,0.5s,mb5.7,baz=122,slow=8.6,SNR=576
MKAR sP sP 22 17 16.5 -2.7
comp=E,6.8nm,0.5s,baz=114,slow=9.0,SNR=2.3
MKAR PcP PcP 22 17 30.8 -1.1
comp=E,24nm,0.7s,baz=121,slow=5.2,SNR=10
MKAR ScP 22 21 20.7
comp=E,2.2nm,0.9s,baz=135,slow=6.1,SNR=3.6
MKAR LR LR 22 45 24.9
comp=E,101nm,18.5s,baz=264,slow=39
MKAR PKP2bc 22 46 25.9
comp=E,0.7nm,0.7s,baz=297,slow=2.7,SNR=5.4
MKAR P4KPbc 22 53 50.7
comp=E,1.4nm,0.7s,baz=124,slow=4.4,SNR=15
MKAR Makanchi Array 59.12 328 P **P** **22 16 43.8 -0.7**
MKAR sP sP 22 17 16.5 -2.7
MKAR PcP PcP 22 17 30.8 -1.1
MKAR ScP 22 21 20.7
MKAR LR LR 22 45 24.9
MKAR ⇑*e* 22 46 25.9
ULHL Ulahol 60.01 321 P **P** **22 16 50.7 0.0**
SNR=6.4
PET Petropavlovsk 60.35 23 *e*P **P** **22 16 53.2 +0.3**
PET pmax pmax
comp=Z,147nm,1.3s,mb5.8
PET Petropavlovsk 60.35 23 *e*P **P** **22 16 53.2 +0.3**
comp=Z,147nm,1.3s,mb5.8
KZA Kyzart 60.56 320 P **P** **22 16 55.0 +0.5**
SNR=43
TKM2 Tokmak 2 60.77 321 P **P** **22 16 55.7 -0.1**
SNR=45
KBK Karagaybulak 61.05 321 P **P** **22 16 57.9 +0.1**
SNR=18
AAK Ala-Archa 61.32 320 P **P** **22 16 59.7 +0.1**
SNR=13
AAK Ala-Archa 61.32 320 ⇑*i*P **P** **22 16 58.6 -1.0**
AAK *e* 22 17 39.7
AAK pmax pmax
comp=Z,34nm,1.0s,mb5.3
AAK Ala-Archa 61.32 320 ⇑*i*P **P** **22 16 58.5 -1.0**
comp=Z,34nm,1.0s,mb5.3
AAK *e*PcP PcP 22 17 39.7 -1.0
CHMS Chumysh 61.34 321 P **P** **22 16 59.0 -0.7**
SNR=7.8
FRU Bishkek 61.34 321 *e*P **P** **22 16 59.0 -0.7**
FRU pmax pmax
comp=Z,30nm,2.0s,mb5.0
AML Almayashu 61.59 320 P **P** **22 17 01.6 +0.3**
SNR=48
USP Ospenovka 61.64 321 P **P** **22 17 01.0 -0.7**
SNR=46
EKS2 Erkin-Say 61.79 320 P **P** **22 17 02.8 +0.1**
SNR=34
YAK Yakutsk 62.12 3 ⇑*i*P **P** **22 17 04.2 -0.4**
YAK *e**PP pP 22 17 29.7 +1.0
YAK *e* 22 17 44.5
YAK *e* 22 19 20.9
YAK *e*PPP PPP 22 20 49.6 -5.0
YAK *e*S **S** **22 25 19.6 -0.8**
YAK *e**SS 22 26 02.8
YAK *e* 22 26 39.8
YAK *e*SS SS 22 29 27.1 +0.5
YAK pmax pmax
comp=Z,227nm,0.8s,mb6.2
YAK pmax pmax
comp=N,49nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax
comp=N,5.0nm,1.0s
YAK smax
comp=E,3.0nm,1.0s
YAK Yakutsk 62.12 3 *e*P **P** **22 17 03.9 -0.7**
comp=E,513nm,0.7s
ZAL Zalesovo 62.74 335 P **P** **22 17 06.7 -2.2**
comp=E,13nm,0.3s,mb5.3,baz=353,slow=5.6,SNR=62
ZAL PKP2bc 22 46 14.9
comp=E,1.2nm,0.6s,baz=166,slow=3.9,SNR=9.7
ZAL LR LR 22 46 26.8
comp=E,100nm,18.2s,baz=333,slow=38
ZAL Zalesovo 62.74 335 P **P** **22 17 06.7 -2.2**
ZAL ⇑*e* 22 46 14.9
ZAL LR LR 22 46 26.8
MA2 Magadan 63.10 15 *e*P **P** **22 17 11.7 +0.4**
MA2 pmax pmax
comp=Z,118nm,0.7s,mb5.9
MA2 Magadan 63.10 15 *e*P **P** **22 17 11.7 +0.4**
comp=Z,118nm,0.7s,mb5.9
KURK Kurchatov 63.47 330 *e*P **P** **22 17 12.5 -1.3**
KURK pmax pmax
comp=Z,109nm,0.5s,mb6.0
KURK Kurchatov 63.47 330 *e*P **P** **22 17 12.4 -1.3**
comp=Z,109nm,0.5s,mb6.0
NVS Novosibirsk 64.02 335 *i* P **P** **22 17 14.5 -2.8**
NVS *i**PP pP 22 17 49.3 +7.8
NVS *e*S **S** **22 25 39.4 -4.9**
NVS pmax pmax
comp=Z,49nm,1.0s,mb5.3
NVS pmax pmax
comp=N,20nm,0.5s
NVS pmax pmax
comp=E,34nm,0.9s
NVS smax
comp=N,1.0nm,0.7s
NVS smax
comp=E,8.0nm,1.1s
AFI Afiamalu 65.17 105 P **P** **22 17 26.3 +0.9**
comp=E,14nm,0.8s,mb4.9,baz=125,slow=19,SNR=3.1
SEY Seymchan 66.39 14 *e*P **P** **22 17 33.6 +1.2**
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY pmax pmax
comp=E,8.0nm,0.8s
SEY pmax pmax
comp=Z,30nm,0.8s,mb5.2
CASY Casey 66.73 186 ⇑*i*P **P** **22 17 34.4 -0.1**
FX1 Attu Island--F 66.82 30 *e*P **P** **22 17 36.4 +1.1**
BVAR Borovoye Array 66.98 329 P **P** **22 17 47.5 -1.2**
comp=Z,22nm,0.7s,mb5.1,baz=128,slow=9.7,SNR=188
BRVK Borovoye 69.06 329 ⇑*i*P **P** **22 17 47.7 -1.4**
BRVK pmax pmax
comp=Z,26nm,0.8s,mb5.1
BRVK Borovoye 69.06 329 ⇑*i*P **P** **22 17 47.7 -1.4**
comp=Z,26nm,0.8s,mb5.1
MIR Mirnyy 69.81 193 *d*/*i*P **P** **22 17 54.4 +0.9**
MIR *i* pP 22 18 19.0 +0.8
MIR pmax pmax
comp=Z,47nm,1.2s,mb5.2
TIXI Tiksi 71.69 2 *e*P **P** **22 18 01.3 -3.5**
TIXI pmax pmax
comp=Z,190nm,1.0s,mb5.9
ARU Arti 76.63 329 ⇑*i*P **P** **22 18 31.9 -1.6**
ARU *e* 22 18 42.5
ARU *e* pP 22 18 56.7 -1.8
ARU *e* 22 21 25.6
ARU *e*PPP PPP 22 23 08.3 -8.1
ARU *e*S S 22 28 11.3 +0.7
ARU *e*SS SS 22 33 10.0 -0.6
ARU pmax pmax
comp=Z,66nm,0.8s,mb5.4
OPO Ambohidratompo 77.31 251 P **P** **22 18 38.4 +0.4**
comp=Z,18nm,0.7s,mb4.9,baz=75,slow=4.1,SNR=45
QRN Al-Qurain 77.70 299 *e*P **P** **22 18 39.2 -0.7**
QRN AMb AMB 22 18 41.5
comp=Z,99nm,0.4s,mb5.9
KBD Kabd 77.94 300 *e*P **P** **22 18 40.3 -1.0**
KBD AMb AMB 22 18 42.5
comp=Z,202nm,0.6s,mb6.0

UMR Umm Al-Rimmam 77.97 300 *e*P **P** **22 18 39.4 -2.1**
UMR AMb AMB 22 18 42.4
comp=Z,76nm,0.7s,mb5.5
RDF Al-Radifah 78.04 299 *e*P **P** **22 18 40.6 -1.2**
RDF AMb AMB 22 18 43.1
comp=Z,70nm,0.5s,mb5.7
MIB Mutribah 78.33 300 *e*P **P** **22 18 42.2 -1.2**
MIB AMb AMB 22 18 45.8
comp=Z,99nm,0.6s,mb5.7
MAW Mawson 79.19 200 ⇑*i*P **P** **22 18 48.4 +1.0**
comp=Z,8.2nm,0.8s,mb4.6
MAW *i* 22 19 21.3
MAW Mawson 79.19 200 ⇑*i*P **P** **22 18 48.4 +1.0**
MAW *i* 22 19 21.3
MAW pmax pmax
comp=Z,8.0nm,0.8s
MAW Mawson 79.19 200 P **P** **22 18 48.3 +0.9**
comp=Z,13nm,0.9s,mb4.8,baz=52,slow=5.9,SNR=21
MAW pP pP 22 19 13.5 +1.0
comp=Z,6.3nm,0.9s,baz=72,slow=8.3,SNR=3.0
MAW sP sP 22 19 20.8 -2.3
comp=Z,21nm,1.0s,baz=46,slow=5.5,SNR=7.8
MAW PKKPbc 22 37 37.9
comp=Z,1.9nm,0.6s,baz=248,slow=6.0,SNR=7.6
MAW LR LR 22 53 04.6
comp=Z,84nm,19.6s,baz=290,slow=35
KAMS Al Khamasin 79.94 291 P **P** **22 18 50.7 -1.6**
VNDA Vanda 80.05 172 *e*P **P** **22 18 52.3 +0.5**
VNDA *e* 22 19 24.7
VNDA pmax pmax
comp=Z,26nm,0.9s
VNDA Vanda 80.05 172 P **P** **22 18 52.5 +0.6**
comp=Z,7.1nm,0.7s,mb4.6,baz=316,slow=5.9,SNR=42
VNDA sP sP 22 19 25.4 -2.2
comp=Z,16nm,0.8s,baz=318,slow=6.0,SNR=10.0
VNDA PKKPbc 22 37 36.3
comp=Z,1.0nm,0.7s,baz=47,slow=1.3,SNR=3.9
VNDA Vanda 80.05 172 *e*P **P** **22 18 52.2 +0.4**
comp=Z,26nm,0.9s,mb5.0
VNDA *e* 22 19 24.7
DJNS Zahran al Janu 80.77 288 P **P** **22 18 57.0 +0.2**
TATS Tathlith 80.93 290 P **P** **22 18 57.6 -0.1**
SBA Scott Base 80.99 172 *e*P **P** **22 18 58.3 +1.5**
SBA *e* 22 19 30.3
SBA pmax pmax
comp=Z,42nm,1.3s,mb5.1
SBA Scott Base 80.99 172 *e*P **P** **22 18 58.3 +1.5**
comp=Z,42nm,1.3s,mb5.1
SBA *e* 22 19 30.3
DGRG David-gareji 81.40 312 P **P** **22 19 00.1 +0.4**
AFFS 'Afif 81.65 294 P **P** **22 19 01.0 -0.2**
GNI Garni 81.71 310 *e*P **P** **22 19 01.6 +0.3**
GNI pmax pmax
comp=Z,13nm,0.8s
GNI Garni 81.71 310 P **P** **22 19 01.9 +0.7**
comp=Z,8.6nm,0.8s,mb4.6,baz=154,slow=12,SNR=5.3
GNI Garni 81.71 310 *e*P **P** **22 19 01.6 +0.3**
comp=Z,13nm,0.8s,mb4.8
TI2 Plekhanov 81.90 312 *e*P **P** **22 18 50.8 -11**
TBLG Delisi 81.91 312 P **P** **22 19 02.4 +0.1**
SDPT Sand Point 81.96 34 *e*P **P** **22 19 03.2 +1.0**
comp=Z,330nm,0.6s,mb6.3
BLJS Baljurashi 82.72 290 P **P** **22 19 07.6 +0.8**
HILS Ha'il 82.96 297 P **P** **22 19 08.3 +0.4**
CHGN Chignik 83.29 33 *e*P **P** **22 19 09.6 +0.6**
GOF Gofitskoye 83.55 315 ⇑*i*P **P** **22 19 09.8 -0.8**
GOF *i* pP 22 19 34.0 -1.9
GOF pmax pmax
comp=Z,46nm,1.3s,mb5.2
KIV Kislovodsk 83.67 314 *e*P **P** **22 19 10.7 -0.5**
KIV pmax pmax
comp=Z,14nm,0.8s,mb4.8
KIV Kislovodsk 83.67 314 *e*P **P** **22 19 10.7 -0.5**
comp=Z,14nm,0.8s,mb4.8
LTHS Al Lith 83.85 290 P **P** **22 19 13.2 +0.6**
PECR Pechory 84.38 327 *i* P **P** **22 19 13.6 -0.8**
PECR pmax pmax
comp=Z,60nm,1.4s,mb5.2
KBRS Khaybar 85.14 296 P **P** **22 19 19.9 +1.0**
SVW2 Sparrevohn 85.52 29 *e*P **P** **22 19 21.5 +1.5**
SOC Sochi 85.78 314 *c*/*i*P **P** **22 19 19.8 -1.9**
SOC *e* 22 22 39.2
SOC *e*S S 22 29 32.9 -12
SOC pmax pmax
comp=Z,44nm,1.2s,mb5.3
SOC pmax pmax
comp=N,4.0nm,0.6s
SOC pmax pmax
comp=E,18nm,1.2s
SOC MLR MLR
comp=Z,97nm,20.0s
SOC MLR MLR
comp=N,107nm,18.0s
SOC MLR MLR
comp=E,76nm,17.0s
MALT Malatya 86.44 308 *e*P **P** **22 19 25.4 +0.4**
MALT *e* 22 22 48.2
MALT pmax pmax
comp=Z,23nm,1.0s,mb5.1
MALT Malatya 86.44 308 *e*P **P** **22 19 25.4 +0.3**
comp=Z,23nm,1.0s,mb5.1
MALT *e*PP PP 22 22 48.2 -0.9
KMBO Kilima Mbogo 86.57 269 P **P** **22 19 27.7 +1.4**
comp=Z,8.2nm,0.6s,mb4.9,baz=69,slow=7.5,SNR=60
KMBO LR LR 22 53 10.1
comp=Z,52nm,19.9s,baz=94,slow=32
KDAK Kodiak Island 86.65 32 *e*P **P** **22 19 27.0 +1.4**
PPT Papeete 86.73 107 LR LR 22 55 51.0
comp=Z,62nm,18.3s,baz=290,slow=34
VOR Voronezh 86.73 322 *e*P **P** **22 19 25.4 -0.7**
VOR pmax pmax
comp=Z,150nm,0.8s,mb6.0
VOR pmax pmax
comp=N,30nm,1.2s
VOR pmax pmax
comp=E,80nm,1.2s
RSO Redoubt South 86.82 30 *e*P **P** **22 19 27.0 +0.7**
UMJS Umm Lajj 86.88 295 P **P** **22 19 28.2 +0.7**
IMA Indian Mountai 87.03 24 *e*P **P** **22 19 29.3 +2.1**
IMA pmax pmax
comp=Z,30nm,0.8s,mb5.3
IMA Indian Mountai 87.03 24 *e*P **P** **22 19 29.3 +2.1**
comp=Z,30nm,0.8s,mb5.3
SPU Mount Spurr 87.23 29 *e*P **P** **22 19 28.2 -0.1**
ASF Jabal al Asfar 87.44 302 P **P** **22 19 30.9 +0.8**
comp=Z,10nm,0.5s,mb5.0,baz=310,slow=3.1,SNR=24
ANN Anapa 87.49 315 *e*P **P** **22 19 28.8 -1.2**
ANN pmax pmax
comp=Z,78nm,0.8s,mb5.7
SYO Syowa Base 87.84 201 ⇓P **P** **22 19 30.6 -0.5**
SYO Syowa Base 87.84 201 ⇑PcP PcP 22 19 33.8 +0.6
MOS Moscow 87.92 326 *e*P **P** **22 19 29.7 -2.1**
MOS pmax pmax
comp=Z,42nm,0.6s,mb5.7
SLKM Skilak Lake 88.08 30 *e*P **P** **22 19 32.6 +0.2**
KSHT Keshet 88.38 303 P **P** **22 19 35.2 +0.7**
MKRJ Makawir 88.50 301 P **P** **22 19 35.4 +0.3**
OBN Obninsk 88.50 325 *c*/*i*P **P** **22 19 33.8 -0.7**
OBN *e**PP pP 22 20 02.6 +2.5
OBN *e* 22 23 00.6
OBN *e*S S 22 30 09.5 -0.7
OBN pmax pmax
comp=Z,38nm,0.8s,mb5.5
OBN Obninsk 88.50 325 *e*P **P** **22 19 33.5 -1.0**
comp=Z,42nm,0.6s,mb5.6
KSDI Kefar Szold 88.51 303 P **P** **22 19 35.5 +0.4**
MMLI Mount Malkishu 88.70 302 P **P** **22 19 36.7 +0.7**
MMA1 Mount Meron ar 88.72 303 P **P** **22 19 36.4 +0.3**
MMA0 Mount Meron ar 88.72 303 P **P** **22 19 36.1 0.0**
HNTI Hanita 88.92 303 P **P** **22 19 37.1 +0.1**
SLTI Sal'it 89.02 302 P **P** **22 19 36.9 -0.6**
PRNI Paran 89.03 300 P **P** **22 19 37.9 +0.3**
EIL Elat 89.06 300 P **P** **22 19 37.0 -0.8**
OFRI 'Ofer 89.07 302 P **P** **22 19 36.2 -1.5**
MBH Mount Berech 89.10 300 P **P** **22 19 37.9 0.0**
LVZ Lovozero 89.77 338 *i* P **P** **22 19 39.4 -0.8**
LVZ pmax pmax
comp=Z,32nm,1.3s,mb5.3
ILAR Eielson Array 89.77 25 P **P** **22 19 39.2 -1.0**
comp=Z,4.7nm,0.6s,mb4.8,baz=241,slow=5.0,SNR=84
ILAR PKKP PKKP 22 37 07.8 +14
comp=Z,0.4nm,0.7s,baz=15,slow=0.8,SNR=5.2
ILAR PKKPbc 22 37 13.7
comp=Z,1.2nm,0.7s,baz=96,slow=1.7,SNR=13
QSPA South Pole Qui 89.84 180 *e*P **P** **22 19 41.5 +1.2**
comp=Z,28nm,1.1s,mb5.3
SIM Simferopol' 89.86 315 *ce*P **P** **22 19 40.1 -1.0**
SIM pmax pmax
comp=Z,19nm,0.9s,mb5.2
BRTR Keskin Array B 90.20 310 P **P** **22 19 41.7 -1.2**
comp=Z,7.5nm,0.9s,mb4.8,baz=117,slow=5.5,SNR=30
APA Apatity 90.24 337 ⇑*i*P **P** **22 19 41.0 -1.4**
APA *i* 22 20 12.0
APA pmax pmax
comp=Z,52nm,1.0s,mb5.6
CSS Prodhromos 90.46 305 *e*P **P** **22 19 43.4 -0.9**
comp=Z,9.4nm,0.7s,mb5.0
KEV Kevo 92.45 340 *ep* **P** **22 19 51.1 -1.5**
comp=Z,0.9nm,0.3s,mb4.5
KEV Kevo 92.45 340 *e*P **P** **22 19 51.1 -1.5**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.5
ISP Isparta 92.68 308 *e*P **P** **22 19 52.5 -1.9**
comp=Z,22nm,1.1s,mb5.4
AKASG Malin Array Be 92.99 321 P **P** **22 19 54.1 -1.4**
comp=Z,4.8nm,0.5s,mb5.1,baz=67,slow=4.5,SNR=57
AKASG PP PP 22 23 39.5 -2.3
comp=Z,2.2nm,0.9s,baz=71,slow=7.7,SNR=4.3
ARCES ARCESS Array B 93.00 340 P **P** **22 19 54.0 -1.1**
comp=Z,14nm,0.7s,mb5.4,baz=89,slow=6.3,SNR=40
ARCES PKIKP 22 24 42.9
comp=Z,0.7nm,0.5s,baz=90,slow=1.2,SNR=4.2
ARCES PKKP PKKP 22 37 05.3 +17
comp=Z,2.9nm,0.9s,baz=284,slow=5.0,SNR=5.1
ARCES LR LR 23 06 40.7
comp=Z,58nm,19.3s,baz=103,slow=39
ARE0 ARCESS Array S 93.00 340 *e*P **P** **22 19 53.9 -1.3**
MBAR Mbarara 93.09 269 *e*P **P** **22 19 56.5 -0.4**
MBAR pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
MBAR Mbarara 93.09 269 *e*P **P** **22 19 56.5 -0.4**
comp=Z,6.2nm,0.8s,mb5.0
KAF Kangasniemi 93.61 332 *ep* **P** **22 19 55.2 -2.8**
comp=Z,5.3nm,0.5s,mb5.1
KAF Kangasniemi 93.61 332 *e*P **P** **22 19 55.2 -2.8**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb5.1
FINES FINESS Array B 93.79 331 P **P** **22 19 57.5 -1.4**
comp=Z,5.9nm,0.6s,mb5.1,baz=90,slow=5.7,SNR=26
VSU Vasula 93.80 328 *d*/*i*P **P** **22 19 58.0 -1.0**
TIRR Tirgusor 93.94 314 ⇓P **P** **22 19 59.0 -0.9**
CFR Carcaliu 94.08 315 ⇑P **P** **22 20 00.0 -0.6**
IDID Didziasalis 94.12 325 *e*P **P** **22 20 00.2 -0.3**
IDID AMb AMB 22 20 01.9
comp=Z,24nm,1.0s,mb5.5
IDID *es*P sP 22 20 35.2 -1.0
HARR Harsova 94.26 315 ⇑P **P** **22 20 00.4 -1.0**
IZAR Zarasai 94.35 326 *e*P **P** **22 20 01.2 -0.3**
IZAR AMb AMB 22 20 02.8
comp=Z,18nm,0.9s,mb5.4
IIGN Ignalina 94.41 325 *e*P **P** **22 20 01.4 -0.4**
ISAL Salakas 94.44 326 *e*P **P** **22 20 01.4 -0.5**
ISAL AMb AMB 22 20 03.3
comp=Z,14nm,1.1s,mb5.2
INK Inuvik 94.75 21 *e*P **P** **22 20 03.5 +0.4**
INK pmax pmax
comp=Z,25nm,0.9s
INK Inuvik 94.75 21 P **P** **22 20 03.7 +0.6**
comp=Z,11nm,0.5s,mb5.5,baz=274,slow=3.5,SNR=22
INK Inuvik 94.75 21 *e*P **P** **22 20 03.5 +0.4**
comp=Z,25nm,0.9s,mb5.7
MATP Matopo 94.96 250 P **P** **22 20 05.7 +0.5**
comp=Z,36nm,0.7s,mb5.9,baz=103,slow=4.1,SNR=138
MATP PKIKP 22 24 47.6
comp=Z,0.8nm,0.5s,baz=74,slow=5.1,SNR=4.9
MATP Matopo 94.96 250 P **P** **22 20 05.7 +0.5**
VRI Vrincioaia 95.02 316 ⇑P **P** **22 20 04.7 -0.2**
LSZ Lusaka 95.42 255 *e*P **P** **22 20 07.9 +0.6**
LSZ *e**PP pP 22 20 33.4 +0.2
LSZ pmax pmax
comp=Z,34nm,0.8s,mb5.8
LSZ Lusaka 95.42 255 *e*P **P** **22 20 07.9 +0.6**
comp=Z,34nm,0.8s,mb5.8
LSZ *ep*P pP 22 20 33.4 +0.2
MLR Muntele Rosu 95.60 316 ⇓P **P** **22 20 06.9 -0.6**
BURAR Bucovina Array 95.88 318 ⇑P **P** **22 20 08.7 0.0**
BURAR Bucovina Array 95.88 318 ⇑P **P** **22 20 08.7 0.0**
SUW Suwalki 96.33 324 *e*P **P** **22 20 09.8 -0.8**
KWP Kalwaria 97.27 320 *e*P **P** **22 20 14.9 -0.1**
KWP Kalwaria 97.27 320 *e*P **P** **22 20 14.9 -0.2**
IDI Anoyia 97.35 305 P **P** **22 20 15.0 -0.8**
comp=Z,6.2nm,0.7s,mb5.2,baz=280,slow=2.1,SNR=5.9
LBTB Lobatse 97.42 245 P **P** **22 20 15.8 -0.5**
comp=Z,3.6nm,0.6s,mb5.0,baz=98,slow=5.0,SNR=14
LBTB LR LR 23 03 39.5
comp=Z,85nm,19.2s,baz=278,slow=35
LBTB Lobatse 97.42 245 P **P** **22 20 15.8 -0.5**
LBTB LR LR 23 03 39.5
BOSA Boshof 97.49 241 P **P** **22 20 16.9 +0.3**
comp=Z,3.4nm,0.6s,mb5.0,baz=123,slow=5.7,SNR=14
BOSA LR LR 22 56 60.0
comp=Z,102nm,19.8s,baz=349,slow=31
KOLS Kolonicke sedl 97.66 319 *e*P **P** **22 20 16.6 -0.2**
CRVS Cervenica-Dubn 98.19 319 *e*P **P** **22 20 20.0 +0.8**
STHS Stebnicka Huta 98.25 320 *e*P **P** **22 20 19.3 -0.1**
STHS Stebnicka Huta 98.25 320 PDIF **P** **22 20 19.3 -0.1**
DLBC Dease Lake 98.49 31 P **P** **22 20 22.1 +1.8**
comp=Z,3.9nm,0.5s,mb5.2,baz=256,slow=4.0,SNR=16
DLBC LR LR 23 00 44.2
comp=Z,52nm,19.4s,baz=280,slow=33
DLBC Dease Lake 98.49 31 *e*P **P** **22 20 21.7 +1.4**
KECS Kecovo 98.90 319 *e*P **P** **22 20 21.1 -1.3**
KECS *e* 22 20 32.0
KECS Kecovo 98.90 319 PDIF **P** **22 20 21.1 -1.3**
KECS *e* 22 20 32.0
OJC Ojcow 99.03 321 *e*P **P** **22 20 22.0 -1.0**
VYHS Vyhne 99.97 319 *e*P **P** **22 20 26.9 -0.4**
VYHS Vyhne 99.97 319 PDIF **P** **22 20 26.9 -0.4**
OKC Ostrava-Krasne 100.14 321 *e*PDIF P 22 20 27.4 -0.6
OKC AMS AMS 23 11 50.0
comp=Z,100nm,19.1s
SNAA Sanae 100.81 195 P **P** **22 20 32.1 +1.6**
comp=Z,0.7nm,0.8s,baz=156,slow=4.2
SNAA PKKPbc 22 36 43.1
comp=Z,1.3nm,0.8s,baz=348,slow=1.8,SNR=16
NB2 NORSAR Subarra100.86 333 P P 22 20 29.1 -1.9
comp=Z,3.1nm,0.8s,baz=73,slow=4.5
NB2 NORSAR Subarra100.86 333 P P 22 20 29.1 -1.9
NB2 pmax pmax
comp=Z,3.0nm,0.8s
NB2 NORSAR Subarra100.86 333 P P 22 20 29.1 -1.9
baz=72,slow=4.4
NOA NORSAR Array B 100.86 333 P P 22 20 29.5 -1.5
comp=Z,3.8nm,0.7s,baz=74,slow=4.5,SNR=17
NOA PKKPbc 22 36 44.9
comp=Z,0.7nm,0.8s,baz=48,slow=5.6,SNR=3.3
NOA NORSAR Array B 100.86 333 P P 22 20 29.5 -1.5
NOA PKKPbc 22 36 44.9
SUR Sutherland 100.94 237 P P 22 20 33.2 +1.2
comp=Z,4.0nm,0.7s,baz=130,slow=8.8,SNR=6.6
DPC Dobruska-Polom 101.18 321 *e*P P 22 20 31.8 -0.9
DPC MLR MLR
comp=Z,100nm,20.0s
DPC Dobruska-Polom 101.18 321 *e*PDIF P 22 20 31.8 -0.9
DPC *e**PP PP 22 24 35.5 -10
DPC AMS AMS 23 13 40.0
comp=Z,100nm,20.0s
PVCC Panska Ves 102.22 322 AMS AMS 23 14 20.0
comp=Z,100nm,13.7s
PRU Pruhonice 102.38 321 AMS AMS 23 14 30.0
comp=Z,100nm,13.7s
BRG Berggiesshubel 102.51 322 *e*P Pdif 22 20 38.7 +0.2
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG Berggiesshubel 102.51 322 *e*P Pdif 22 20 38.7 +0.2
comp=Z,9.9nm,1.1s
CLL Collm 102.96 323 *e*P Pdif 22 20 41.0 +0.5
CLL pmax pmax
comp=Z,21nm,1.9s
CLL Collm 102.96 323 *e*Pdif Pdif 22 20 41.0 +0.5
comp=Z,21nm,1.9s
CLL Collm 102.96 323 *e*PDIF Pdif 22 20 41.0 +0.5
CLL *e**PPP 22 25 20.0
GERES GERESS Array B 103.20 320 Pdiff Pdif 22 20 41.4 -0.2
comp=Z,1.2nm,0.8s,baz=72,slow=4.2,SNR=9.9
GERES PKIKP 22 25 01.5
comp=Z,1.5nm,0.6s,baz=53,slow=2.3,SNR=10
GERES PKKPbc 22 36 37.6
comp=Z,0.5nm,0.8s,baz=207,slow=3.0,SNR=5.2
KHC Kasperske Hory 103.21 321 *e*PDIF Pdif 22 20 42.5 +0.9

MOX	**Moxa**	**104.00**	**323**	*e*P	PP		22 25 08.0	+2.2	
YKA	**Yellowknife Ar**	**104.15**	**24**	Pdiff	Pdif		22 20 46.8	+1.4	
	comp=Z,1.1nm,0.6s,baz=300,slow=4.7,SNR=7.7								
YKA				PKiKP			22 25 02.6		
	comp=Z,0.9nm,0.6s,baz=297,slow=2.1,SNR=8.0								
YKA				PKKPbc			22 36 33.6		
	comp=Z,1.8nm,0.7s,baz=114,slow=2.6,SNR=9.2								
TSUM	**Tsumeb**	**105.30**	**250**	Pdiff	Pdif		22 20 51.2	-0.3	
	comp=Z,1.2nm,0.8s,baz=157,slow=6.7,SNR=3.1								
HUMO	**Hull Mountain**	**106.98**	**45**	*e*PKiKP			22 25 09.3		
YBH	**Yreka Blue Hor**	**107.40**	**46**	PKiKP			22 25 10.3		
	comp=Z,2.0nm,0.8s,baz=306,slow=7.4,SNR=3.8								
HINF	**Hinteralfeld**	**107.87**	**321**	*e*PKIKP			22 25 09.3		
	comp=Z,8.3nm,0.8s								
HAU	**Haudompre**	**108.12**	**321**	*e*PKIKP			22 25 10.0		
	comp=Z,7.1nm,0.8s								
BAIF	**Baives**	**108.64**	**324**	*e*PKIKP			22 25 10.9		
LPG	**La Plagne**	**108.74**	**319**	*e*PKIKP			22 25 11.8		
LPL	**La Plagne**	**108.74**	**319**	*e*PKIKP			22 25 11.6		
	comp=Z,6.8nm,0.6s								
MBDF	**Montbardon**	**108.98**	**318**	*e*PKIKP			22 25 11.5		
	comp=Z,11nm,0.8s								
NEW	**Newport**	**109.00**	**38**	PKiKP			22 25 12.9		
	comp=Z,2.1nm,0.7s,baz=158,slow=1.4,SNR=4.2								
EDM	**Edmonton**	**109.10**	**32**	PKiKP			22 25 12.7		
ORIF	**Oris-en-Rattie**	**109.51**	**318**	*e*PKIKP			22 25 12.8		
LOR	**Lormes**	**109.96**	**321**	*e*PKIKP			22 25 13.6		
	comp=Z,9.7nm,1.0s								
SMRF	**Simiane la Rot**	**110.05**	**317**	*e*PKIKP	PKPdf		22 25 13.9	+2.0	
	comp=Z,15nm,1.0s								
BMO	**Blue Mountains**	**110.15**	**42**	*e*PKiKP	PKPdf		22 25 14.1	+1.9	
SSF	**Saint Saulge**	**110.26**	**321**	*e*PKIKP	PKPdf		22 25 14.3	+2.0	
	comp=Z,22nm,1.0s								
VIVF	**Saint-Julien-l**	**110.34**	**319**	*e*PKIKP	PKPdf		22 25 14.4	+1.9	
	comp=Z,4.8nm,0.8s								
AVF	**Avril sur Loir**	**110.46**	**321**	*e*PKIKP	PKPdf		22 25 14.3	+1.6	
	comp=Z,12nm,0.9s								
LASF	**Ste Croix**	**111.17**	**318**	*e*PKIKP	PKPdf		22 25 15.8	+1.6	
TCF	**Toulx Ste Croi**	**111.39**	**321**	*e*PKIKP	PKPdf		22 25 16.6	+2.1	
	comp=Z,16nm,1.0s								
MSO	**Missoula**	**111.55**	**39**	*e*PKiKP	PKPdf		22 25 16.4	+1.6	
CHMT	**Chamberlain Mo**	**111.94**	**38**	*e*PKiKP	PKPdf		22 25 17.8	+2.2	
FLN	**La Foliniere**	**111.97**	**324**	*e*PKIKP	PKPdf		22 25 17.2	+1.6	
CAF	**Calviac**	**112.03**	**319**	*e*PKIKP	PKPdf		22 25 17.4	+1.6	
	comp=Z,5.2nm,0.6s								
RJF	**Les Rejaudoux**	**112.23**	**320**	*e*PKIKP	PKPdf		22 25 18.0	+1.8	
	comp=Z,13nm,1.0s								
GRR	**Gorron**	**112.36**	**324**	*e*PKIKP	PKPdf		22 25 18.3	+1.9	
MTLF	**Montolieu**	**112.55**	**318**	*e*PKIKP	PKPdf		22 25 18.6	+1.7	
	comp=Z,8.3nm,0.8s								
HLID	**Hailey**	**112.56**	**42**	*e*PKiKP	PKPdf		22 25 20.3	+3.4	
MFF	**Saint Martin d**	**112.73**	**322**	*e*PKIKP	PKPdf		22 25 18.8	+1.7	
	comp=Z,20nm,0.8s								
LFF	**La Frestale**	**112.88**	**320**	*e*PKIKP	PKPdf		22 25 19.4	+1.9	
	comp=Z,7.9nm,0.6s								
ELK	**Elko**	**113.05**	**45**	*e*PKiKP	PKPdf		22 25 21.0	+3.0	
SGMF	**Saint Gilles**	**113.43**	**324**	*e*PKIKP	PKPdf		22 25 20.2	+1.7	
	comp=Z,10nm,0.9s								
BOZ	**Bozeman (W)**	**113.51**	**39**	*e*PKiKP	PKPdf		22 25 21.4	+2.7	
ROSF	**Rostrenen**	**113.81**	**324**	*e*PKIKP	PKPdf		22 25 20.9	+1.7	
EPF	**Esparros**	**113.93**	**318**	*e*PKIKP	PKPdf		22 25 21.2	+1.6	
	comp=Z,10nm,0.9s								
FFC	**Flin Flon**	**113.93**	**27**	*e*PKiKP	PKPdf		22 25 20.9	+1.6	
QUIF	**Quistinic**	**113.95**	**324**	*e*PKIKP	PKPdf		22 25 21.3	+1.8	
EBIE	**Bielsa**	**114.20**	**318**	PKP	PKPdf		22 25 24.0	+3.8	
ETSF	**Etsaut**	**114.58**	**318**	*e*PKIKP	PKPdf		22 25 23.0	+2.0	
	comp=Z,10nm,0.7s								
RRI2	**Red Ridge**	**114.71**	**41**	*e*PKiKP	PKPdf		22 25 24.2	+3.0	
IMW	**Indian Meadow**	**114.72**	**41**	*e*PKiKP	PKPdf		22 25 24.6	+3.4	
TPAW	**Teton Pass**	**114.89**	**41**	*e*PKiKP	PKPdf		22 25 24.7	+3.2	
SJPF	**Ste Jean**	**114.94**	**319**	*e*PKIKP	PKPdf		22 25 23.4	+1.8	
	comp=Z,11nm,0.8s								
SNOW	**Snow King Moun**	**115.03**	**41**	*e*PKiKP	PKPdf		22 25 25.1	+3.2	
LOHW	**Long Hollow**	**115.06**	**41**	*e*PKiKP	PKPdf		22 25 24.6	+2.7	
NEN	**Nelson**	**115.15**	**50**	*e*PKiKP	PKPdf		22 25 25.5	+3.3	
HWUT	**Hardware Ranch**	**115.28**	**43**	*e*PKiKP	PKPdf		22 25 24.7	+2.4	
NOQ	**North Oquirrh**	**115.28**	**44**	*e*PKiKP	PKPdf		22 25 25.0	+2.6	
EMOS	**Mosqueruela**	**115.57**	**316**	PKP	PKPdf		22 25 26.1	+3.2	
PDAR	**Pinedale Array**	**116.12**	**41**	PKiKP			22 25 26.4		
	comp=Z,2.6nm,0.7s,baz=225,slow=2.1,SNR=22								
PDAR				PKKPbc			22 35 54.9		
	comp=Z,0.5nm,0.5s,baz=110,slow=4.4,SNR=6.9								
PDAR				PKKPab			22 36 00.9		
	comp=Z,4.3nm,0.7s,baz=114,slow=5.8,SNR=33								
LAO	**LASA Array**	**116.31**	**36**	*e*PKiKP			22 25 26.1		
ELAN	**Lanestosa**	**116.33**	**320**	PKP	PKPdf		22 25 26.7	+2.4	
TMUT	**Trail Mountain**	**116.47**	**45**	*e*PKPdf	PKPdf		22 25 27.9	+3.3	
ETOB	**Tobarra**	**117.02**	**314**	PKP	PKPdf		22 25 28.3	+2.6	
EMUR	**La Murta**	**117.11**	**313**	PKP	PKPdf		22 25 28.0	+2.1	
ESDC	**Sonseca Array**	**118.29**	**316**	PKP	PKPdf		22 25 30.3	+2.1	
	comp=Z,2.4nm,0.6s,baz=44,slow=1.9,SNR=16								
ESDC	**Sonseca Array**	**118.29**	**316**	PKP	PKPdf		22 25 30.5	+2.4	
EQES	**Quesada**	**118.46**	**314**	PKP	PKPdf		22 25 30.4	+1.8	
EPON	**Pontenova**	**118.66**	**321**	PKP	PKPdf		22 25 31.2	+2.4	
EBER	**Berja**	**118.70**	**313**	PKP	PKPdf		22 25 31.4	+2.4	
PBRG	**Braganca**	**119.16**	**319**	*e*PKPdf	PKPdf		22 25 31.8	+2.0	
EADA	**Adamuz**	**119.38**	**315**	PKP	PKPdf		22 25 32.7	+2.4	
TUC	**Tucson**	**119.42**	**52**	*e*PKPdf	PKPdf		22 25 33.5	+3.0	
SMCO	**Snowmass**	**119.49**	**44**	*e*PKPdf	PKPdf		22 25 33.7	+3.3	
ULM	**Lac du Bonnet**	**119.68**	**28**	PKP	PKPdf		22 25 31.7	+1.2	
	comp=Z,12nm,0.7s,baz=355,slow=1.6,SNR=14								
ULM	**Lac du Bonnet**	**119.68**	**28**	*e*PKPdf	PKPdf		22 25 31.7	+1.1	
PVRL	**Vila Real**	**120.06**	**319**	*e*PKPdf	PKPdf		22 25 34.1	+2.6	
EMIJ	**Mijas**	**120.21**	**313**	PKP	PKPdf		22 25 33.1	+1.2	
MTE	**Manteigas**	**120.38**	**318**	*e*PKPdf	PKPdf		22 25 34.2	+2.0	
MTE				*i* -	PKS		22 29 08.5	+0.5	
PCBR	**Castelo Branco**	**120.61**	**318**	*e*PKPdf	PKPdf		22 25 34.8	+2.1	
EBAD	**Badajoz**	**120.81**	**316**	PKP	PKPdf		22 25 35.4	+2.3	
ESPR	**Espera**	**120.86**	**314**	PKP	PKPdf		22 25 35.4	+2.2	
EMIN	**Mina Concepcio**	**121.04**	**315**	PKP	PKPdf		22 25 36.3	+2.7	
SDCO	**Great Sand Dun**	**121.17**	**45**	*e*PKPdf	PKPdf		22 25 36.8	+2.9	
PTOM	**Tomar**	**121.34**	**318**	*e*PKPdf	PKPdf		22 25 36.9	+2.8	
EVO	**Evora**	**121.61**	**317**	*e*PKIKP	PKPdf		22 25 36.6	+2.0	
	comp=Z,53nm,1.0s								
EGRO	**El Granado**	**121.72**	**315**	PKP	PKPdf		22 25 37.2	+2.4	
ANMO	**Albuquerque**	**121.72**	**48**	PKP	PKPdf		22 25 38.3	+3.4	
	comp=Z,12nm,0.8s,baz=216,slow=3.0,SNR=42								
ANMO				PKKPbc			22 35 36.6		
	comp=Z,0.5nm,0.5s,baz=114,slow=6.0,SNR=4.1								
ANMO	**Albuquerque**	**121.72**	**48**	*e*PKPdf	PKPdf		22 25 38.1	+3.1	
PBEJ	**Beja**	**121.75**	**316**	*e*PKPdf	PKPdf		22 25 37.5	+2.6	
PLOU	**Loures**	**122.21**	**318**	*e*PKPdf	PKPdf		22 25 38.1	+2.3	
PTEO	**Sao Teotonio**	**122.58**	**316**	*e*PKPdf	PKPdf		22 25 38.6	+2.1	
MNTX	**Cornudas Mount**	**123.90**	**51**	*i* PKPdf	PKPdf		22 25 41.9	+2.6	
USHA	**Ushuaia**	**124.34**	**171**	PKP	PKPdf		22 25 42.8	+3.3	
	comp=Z,12nm,0.8s,baz=156,slow=5.1,SNR=13								
CBKS	**Cedar Bluff**	**124.55**	**41**	*e*PKPdf	PKPdf		22 25 42.0	+1.6	
SCHQ	**Schefferville**	**124.74**	**7**	PKP	PKPdf		22 25 42.5	+2.2	
	comp=Z,17nm,0.7s,baz=32,slow=3.3,SNR=27								
SCHQ				PP	PP		22 27 29.8	-3.4	
	comp=Z,1.9nm,0.6s,baz=5.5,slow=7.6,SNR=3.8								
SCHQ	**Schefferville**	**124.74**	**7**	PKP	PKPdf		22 25 42.5	+2.2	
SCHQ				PP	PP		22 27 29.8	-3.4	
LTX	**Lajitas**	**126.21**	**53**	*e*PKPdf	PKPdf		22 25 46.1	+2.3	
TXAR	**Lajitas Array**	**126.21**	**53**	PKP	PKPdf		22 25 46.4	+2.6	
	comp=Z,4.5nm,0.8s,baz=217,slow=1.2,SNR=38								
TXAR				pPKP			22 26 12.2		
	comp=Z,1.3nm,0.9s,baz=194,slow=5.2,SNR=2.3								
TXAR				PKKPbc			22 35 19.1		
	comp=Z,0.3nm,0.6s,baz=127,slow=4.5,SNR=4.7								
TXAR	**Lajitas Array**	**126.21**	**53**	PKP	PKPdf		22 25 46.4	+2.6	
TXAR				pPKP			22 26 12.2		
TXAR				PKKPbc			22 35 19.1		
DBIC	**Dimbokro**	**128.39**	**278**	PKP	PKPdf		22 25 50.0	+1.6	
	comp=Z,8.9nm,0.6s,baz=43,slow=2.9,SNR=18								
LIC	**Lamto**	**128.60**	**278**	*e*PKIKP	PKPdf		22 25 49.6	+0.8	
	comp=Z,11nm,0.6s								
CCM	**Cathedral Cave**	**130.32**	**37**	*e*PKPdf	PKPdf		22 25 52.8	+1.4	
FVM	**French Village**	**130.85**	**36**	*e*PKPdf	PKPdf		22 25 53.2	+0.7	
SADO	**Sadowa**	**131.07**	**22**	PKP	PKPdf		22 25 53.2	+0.5	
	comp=Z,9.2nm,0.5s,baz=360,slow=2.5,SNR=13								
SADO	**Sadowa**	**131.07**	**22**	PKP	PKPdf		22 25 53.2	+0.5	
BLO	**Bloomington**	**132.21**	**32**	*e*PKPdf	PKPdf		22 25 56.2	+1.2	
WCI	**Wyandotte Cave**	**133.01**	**33**	*e*PKPdf	PKPdf		22 25 58.5	+1.9	
NCB	**Newcomb**	**133.44**	**18**	*e*PKPdf	PKPdf		22 25 58.7	+1.6	
MIV	**Mineville/With**	**133.55**	**17**	*e*PKPdf	PKPdf		22 25 58.8	+1.4	
WVT	**Waverly**	**133.63**	**36**	*e*PKPdf	PKPdf		22 25 58.8	+1.0	
OXF	**Oxford**	**133.75**	**39**	*e*PKPdf	PKPdf		22 25 59.8	+1.8	
BINY	**Binghamton**	**134.44**	**21**	*e*PKPdf	PKPdf		22 26 00.7	+1.6	
LRAL	**Lakeview Retre**	**136.24**	**38**	*e*PKPpre			22 25 49.2		
LRAL				PKPdf	PKPdf		22 26 04.4	+1.8	
MYNC	**Murphy**	**136.50**	**34**	*e*PKPpre			22 25 52.2		
MYNC				*e*PKPdf	PKPdf		22 26 05.1	+2.0	
PLCA	**Paso Flores**	**137.32**	**164**	PKP	PKPdf		22 26 07.5	+3.1	
	comp=Z,7.3nm,0.8s,baz=210,slow=2.2,SNR=14								
TRQA	**Tornquist**	**141.67**	**173**	*e*PKPdf	PKPdf		22 26 08.6	-3.8	
DWPF	**Disney**	**143.09**	**39**	*e*PKPpre			22 26 12.9		
CFAA	**Coronel Fontan**	**146.47**	**161**	PKPbc	PKPbc		22 26 24.0	+1.8	
	comp=Z,3.5nm,0.6s,baz=217,slow=3.2,SNR=77								
CFAA				pPKPbc			22 26 50.2		
	comp=Z,1.2nm,0.7s,baz=202,slow=6.5,SNR=2.4								
BBSR	**BB Station**	**146.90**	**13**	*e*PKPdf	PKPdf		22 26 24.4	+2.9	
MGV	**Manicaragua**	**148.10**	**45**	*e*P	PKPdf		22 26 26.8	+3.1	
JTS	**JuntasAbangare**	**149.64**	**70**	*e*PKPdf	PKPdf		22 26 28.4	+1.9	
JTS				*e*PKPbc	PKPdf		22 26 33.0	+6.5	
CPUP	**Villa Florida**	**153.71**	**178**	PKP	PKPdf		22 26 34.9	+2.9	
	comp=Z,4.1nm,0.8s,baz=118,slow=1.3,SNR=12								
CPUP				PKPbc	PKPdf		22 26 42.7	+11	
	comp=Z,9.9nm,0.8s,baz=175,slow=2.1,SNR=20								
CPUP				PKPab	PKPab		22 26 56.1	+0.5	
	comp=Z,9.2nm,0.8s,baz=198,slow=6.2,SNR=8.9								
CPUP	**Villa Florida**	**153.71**	**178**	*e*PKPdf	PKPdf		22 26 34.5	+2.5	
CPUP				*e*PKPbc	PKPdf		22 26 42.6	+11	
LVC	**Limon Verde**	**154.25**	**152**	PKP	PKPdf		22 26 35.9	+3.1	
	comp=Z,3.6nm,0.8s,baz=243,slow=2.3,SNR=2.9								
LVC				PKPbc	PKPdf		22 26 45.4	+13	
	comp=Z,11nm,0.6s,baz=262,slow=2.9,SNR=10								
LVC				PKPab	PKPab		22 26 59.4	+1.5	
	comp=Z,6.7nm,0.7s,baz=231,slow=5.2,SNR=5.2								
LVC	**Limon Verde**	**154.25**	**152**	PKP	PKPdf		22 26 35.9	+3.1	
LVC				*e*PKPbc	PKPdf		22 26 45.2	+12	
LVC				PKPbc	PKPdf		22 26 45.4	+13	
LVC				PKPab	PKPab		22 26 59.4	+1.5	
LPAZ	**La Paz**	**159.90**	**145**	PKP	PKPdf		22 26 44.4	+4.3	
	comp=Z,4.0nm,0.8s,baz=176,slow=0.7,SNR=18								
LPAZ				PKPab	PKPab		22 27 24.7	+2.4	
	comp=Z,8.4nm,0.7s,baz=237,slow=2.7,SNR=11								
LPAZ	**La Paz**	**159.90**	**145**	*e*PKPdf	PKPdf		22 26 44.0	+3.9	
ROSC	**El Rosal**	**161.26**	**75**	PKP	PKPdf		22 26 44.8	+3.2	
	comp=Z,12nm,0.7s,baz=99,slow=6.3,SNR=11								
ROSC				PKPab	PKPab		22 27 28.0	-0.3	
	comp=Z,16nm,0.9s,baz=109,slow=8.6,SNR=6.0								
BAO	**Brasilia Array**	**162.41**	**207**	PKPdf	PKPdf		22 26 46.0	+3.4	
BDFB	**Brasilia**	**162.41**	**207**	PKP	PKPdf		22 26 45.5	+2.9	
	comp=Z,5.2nm,0.8s,baz=30,slow=1.0,SNR=7.3								
BDFB				PKPab	PKPab		22 27 32.8	-0.4	
	comp=Z,3.3nm,0.5s,baz=149,slow=5.3,SNR=4.8								
SDV	**Santo Domingo**	**163.16**	**58**	*e*PKPdf	PKPdf		22 26 45.8	+2.4	
SIV	**San Ignacio**	**163.31**	**163**	PKP	PKPdf		22 26 46.6	+3.1	
	comp=Z,6.9nm,1.0s,baz=196,slow=2.5,SNR=24								
SIV				pPKP			22 27 11.7		
	comp=Z,1.6nm,0.7s,baz=289,slow=7.7,SNR=1.9								
SIV				PKPab	PKPab		22 27 37.6	+0.6	
	comp=Z,4.8nm,0.6s,baz=190,slow=5.5,SNR=9.1								
SAML	**Samuel**	**168.63**	**142**	*e*PKPdf	PKPdf		22 26 50.1	+2.3	
SAML				*e*PKPab	PKPab		22 28 00.7	+0.3	

THR ***31*** *22:53:14.1±0.4,38.19N×56.50E,h14km±14km,ML4.1*
IDC ***31*** *22:53:15.3±0.7,37.74N×56.37E,mb4.0/22,mb1 4.2/24, mb1mx4.1/29,mbtmp4.1/24,ML2.6/2,MS3.7/10,Ms1 3.7/10, ms1mx3.5/26,Error ellipse: s-maj=15.4km s-min=12.2km az=178.0*
CSEM ***31*** *22:53:16.6±0.0,38.04N×56.39E,h16km,mb4.5/23,Ms3.1, Error ellipse: s-maj=1.7km s-min=1.3km az=22.0*
NEIC ***31*** *22:53:17.4±2.2,37.99N×56.36E,h7km±15km,mb4.4/30, ML4.1(THR),MN4.4(TEH),Error ellipse: s-maj=5.4km s-min=3.8km az=194.0*
TEH ***31*** *22:53:19.3,37.97N×56.44E,h10km,Mn4.4*
MOS ***31*** *22:53:19.6±1.6,38.00N×56.29E,h33km,mb4.6/17,Error ellipse: s-maj=8.3km s-min=5.1km az=42.6*
NNC ***31*** *22:53:23.6±9.8,38.39N×56.65E,h36km±117km,Error ellipse: s-maj=103.2km s-min=73.0km az=90.0*
BJI ***31*** *22:53:24.6,37.87N×57.32E,h25km,mB4.5,mb4.9,Ms4.8, Msz4.4*

ISC 31 22:53:16.2±0.2,38.00N±0.03×56.38E±0.03,h10km,n174, σ1s27/181,mb4.3/44,MS3.6/9,9C-16D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPAY	**Payeh**	**2.60**	**126**	Pn	**Pn**	**22 54 00.2**	**+1.2**
MHI	**Mashhad**	**2.99**	**123**	Pn	**Pn**	**22 54 05.8**	**+1.2**
IMOG	**Moghan**	**3.03**	**128**	Pn	**Pn**	**22 54 06.2**	**+1.1**
IMYA	**Miamay**	**3.40**	**118**	Pn	**Pn**	**22 54 11.2**	**+0.7**
IFIR	**Firoozkooh**	**3.74**	**232**	Pn	**Pn**	**22 54 16.5**	**+1.3**
IDMV	**Damavand**	**4.24**	**237**	Pn	**Pn**	**22 54 23.6**	**+1.3**
DAMV	**Damavand**	**4.25**	**238**	*e*PN	**Pn**	**22 54 23.3**	**+0.8**
DAMV				AML	AML	22 55 37.0	
	comp=N,288nm,0.2s						
IAFJ	**Afjeh**	**4.30**	**242**	Pn	**Pn**	**22 54 24.4**	**+1.2**
IVRN	**Varamin**	**4.79**	**233**	Pn	**Pn**	**22 54 31.6**	**+1.4**
IVRN				Lg		22 55 49.3	
THKV	**Tehran--Karaj**	**4.87**	**246**	*e*PN	**Pn**	**22 54 31.7**	**+0.5**
IMHD	**Mahdasht**	**5.12**	**245**	Pn	**Pn**	**22 54 35.5**	**+0.6**
IRAZ	**Razeghan**	**5.79**	**245**	Pn	**Pn**	**22 54 54.4**	**+1.0**
NASN	**Na'in**	**5.95**	**210**	*e*PN	**Pn**	**22 54 47.0**	**+0.6**
NASN				*e*SG	**Sg**	**22 56 24.3**	**-10**
NASN				AML	AML	22 56 51.4	
	comp=E,42nm,0.7s						
ICHK	**Chekchek**	**5.96**	**196**	Pn	**Pn**	**22 54 46.3**	**-0.4**
IZEF	**Zefreh**	**6.07**	**214**	Pn	**Pn**	**22 54 46.0**	**-2.1**
IKLH	**Kalahroud**	**6.08**	**221**	Pn	**Pn**	**22 54 46.8**	**-1.6**
ASAO	**Ashtian**	**6.17**	**238**	*e*PN	**Pn**	**22 54 50.0**	**+0.3**
ASAO				*e*SG	**Sg**	**22 56 30.5**	**-11**
ASAO				AML	AML	22 56 48.4	
	comp=N,41nm,0.8s						
ISAD	**Sadrabad**	**6.46**	**201**	Pn	**Pn**	**22 54 53.3**	**-0.4**
IGAR	**Garneh**	**6.68**	**212**	Pn	**Pn**	**22 54 53.3**	**-3.5**
GRMI	**Germi**	**6.71**	**280**	*e*PN	**Pn**	**22 54 55.0**	**-2.3**
IMEH	**Mehriz**	**6.75**	**193**	Pn	**Pn**	**22 54 57.2**	**-0.6**
SNGE	**Sanandaj**	**7.82**	**251**	*e*PN	**Pn**	**22 55 12.3**	**-0.5**
KRBR	**Kerman**	**8.00**	**178**	*e*PN	**P**	**22 55 15.3**	**0.0**
KRBR				*e*SG	**Sg**	**22 57 26.1**	**-16**
ZHSF	**Zahedan**	**9.13**	**155**	*e*Pn	**P**	**22 55 29.7**	**-1.3**
DGRG	**David-gareji**	**9.15**	**296**	P	**P**	**22 55 29.4**	**-1.9**
DGRG				S	**Sn**	**22 57 10.4**	**-5.0**
MAKU	**Maku**	**9.24**	**282**	*e*Pn	**P**	**22 55 30.6**	**-1.9**
GNI	**Garni**	**9.30**	**287**	*e*P	**P**	**22 55 32.5**	**-0.8**
GNI						22 57 18.7	
GNI	**Garni**	**9.30**	**287**	P	**P**	**22 55 32.9**	**-0.4**
GNI						22 57 18.7	
GNI				pmax	pmax		
	comp=Z,4.0nm,0.3s						
GNI				smax			
	comp=N,1.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,320nm,21.8s						
GNI	**Garni**	**9.30**	**287**	Pn	**P**	**22 55 32.9**	**-0.5**
	comp=Z,4.4nm,0.3s,baz=63,slow=1.4,SNR=21						
GNI				Sn	**Sn**	**22 57 18.7**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=222,slow=23,SNR=2.6						
GNI				LR	LR	23 00 41.7	
	comp=Z,320nm,21.8s,baz=105,slow=48						
TI2	**Plekhanov**	**9.69**	**296**	*e*P	**P**	**22 55 25.6**	**-13**
TBLG	**Delisi**	**9.69**	**296**	*e*P	**P**	**22 55 25.6**	**-13**
HAKT	**HAKKARI**	**10.04**	**271**	*i* P	**P**	**22 55 44.0**	**+0.5**
HAKT	**HAKKARI**	**10.04**	**271**	*i* P	**P**	**22 55 44.3**	**+0.8**
ZEI	**Tsey**	**10.64**	**301**	*e*P	**P**	**22 55 48.2**	**-3.5**
AB31	**Akbulak array**	**11.55**	**12**	⇓Pn	**P**	**22 56 00.3**	**-3.7**
	comp=Z,4.2nm,0.6s,baz=195,slow=13,SNR=75						
AB31				⇑Sn	**S**	**22 58 01.0**	**-13**
	comp=Z,14nm,0.6s,baz=201,slow=22						
ERZM	**Erzurum**	**11.84**	**284**	*i* P	**P**	**22 56 08.8**	**+0.7**
ERZM	**Erzurum**	**11.84**	**284**	*i* P	**P**	**22 56 08.8**	**+0.7**
KK31	**Karatay Array**	**11.90**	**60**	⇑Pn	**P**	**22 56 04.4**	**-4.5**
	comp=Z,9.3nm,0.8s,baz=212,slow=31,SNR=43						
KK31				Sn	**S**	**22 58 14.2**	**-8.5**
KK31				⇓Lg		22 59 40.2	
	comp=Z,109nm,1.2s						
KIV	**Kislovodsk**	**11.93**	**304**	*d* iP	**P**	**22 56 06.2**	**-3.1**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s						
KIV	**Kislovodsk**	**11.93**	**304**	*i* P	**P**	**22 56 06.2**	**-3.1**
	comp=Z,10.0nm,0.7s						
MALT	**Malatya**	**14.13**	**277**	*e*P	**P**	**22 56 38.0**	**-0.5**
AAK	**Ala-Archa**	**14.57**	**66**	⇑Pn	**P**	**22 56 43.2**	**-1.1**
	comp=Z,17nm,0.7s						
AAK				⇑Sn	**S**	**22 59 18.1**	**-8.7**
	comp=Z,25nm,1.1s						
AAK				⇓Lg		23 01 08.1	
	comp=Z,59nm,1.4s						
AAK	**Ala-Archa**	**14.57**	**66**	*i* P	**P**	**22 56 41.0**	**-3.3**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AAK				MLR	MLR		
	comp=Z,400nm,15.0s						
AAK	**Ala-Archa**	**14.57**	**66**	*i* P	**P**	**22 56 41.0**	**-3.3**
	comp=Z,8.0nm,0.8s						
FRU	**Bishkek**	**14.71**	**65**	*e*P	**P**	**22 56 50.0**	**+4.0**
FRU				*e*S	**S**	**22 59 35.0**	**+5.1**
KSH	**Kashi**	**15.37**	**78**	*e*P	**P**	**22 56 51.5**	**-3.2**
KSH				*e*AP		22 56 59.0	
KSH				*e*XP		22 57 04.5	
KSH				AMB	AMB		
	comp=Z,50nm,1.4s						
KSH	**Kashi**	**15.37**	**78**	*e*P	**P**	**22 56 51.5**	**-3.2**
	comp=Z,50nm,1.4s						
KSH				*e*pP		22 56 59.0	
KSH				*e*sP		22 57 04.5	
ANN	**Anapa**	**15.74**	**302**	*e*P	**P**	**22 57 04.0**	**+4.6**
ANN				pmax	pmax		
	comp=Z,71nm,1.6s						
ANN				MLR	MLR		
	comp=N,188nm,18.0s						
ANN				MLR	MLR		
	comp=Z,192nm,18.0s						
ANN	**Anapa**	**15.74**	**302**	*e*P	**P**	**22 57 04.0**	**+4.6**
	comp=Z,71nm,1.6s						
AVNT	**Avonos**	**16.89**	**279**	*i* P	**P**	**22 57 17.1**	**+2.9**
ASF	**Jabal al Asfar**	**16.96**	**256**	Pn	**P**	**22 57 11.8**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=356,slow=16,SNR=2.3						
ASF			

PVCC	**Panska Ves**	**32.03 307**	AMS	AMS	23 14 30.0	
	comp=Z,100nm,13.7s					
GERES	**GERESS Array B**	**32.44 303**	P	**P**	**22 59 48.2**	**-0.2**
	comp=Z,1.1nm,1.0s,mb3.6,baz=98,slow=9.4,SNR=6.0					
GERES			LR	LR	23 16 07.7	
	comp=Z,63nm,18.4s,MS3.3,baz=335,slow=42					
KHC	**Kasperske Hory**	**32.54 304**	*e*P	**P**	**22 59 50.2**	**+1.0**
KHC			AMS	AMS	23 14 10.0	
	comp=Z,100nm,19.6s					
NKC	**Novy Kostel**	**33.35 306**	AMS	AMS	23 15 30.0	
	comp=Z,100nm,17.1s					
MOX	**Moxa**	**33.91 307**	*e*P	**P**	**23 00 04.0**	**+2.8**
HFS	**Hagfors**	**34.77 323**	P	**P**	**23 00 09.0**	**+0.5**
	comp=Z,3.7nm,0.8s,mb4.4,baz=118,slow=8.1,SNR=14					
DAVOX	**Davos**	**35.01 300**	P	**P**	**23 00 11.3**	**+0.7**
	comp=Z,0.9nm,0.4s,mb4.0,baz=156,slow=20,SNR=3.5					
DAVOX			LR	LR	23 16 39.8	
	comp=Z,86nm,21.2s,MS3.5,baz=73,slow=40					
DAVOX	**Davos**	**35.01 300**	P	**P**	**23 00 11.3**	**+0.7**
DAVOX			LR	LR	23 16 39.8	
ZAK	**Zakamensk**	**35.27 54**	*e*P	**P**	**23 00 14.9**	**+2.1**
ZAK			pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0					
ZAK	**Zakamensk**	**35.27 54**	*e*P	**P**	**23 00 14.9**	**+2.1**
	comp=Z,2.0nm,1.0s,mb4.0					
ARCES	**ARCESS Array B**	**35.67 342**	P	**P**	**23 00 17.4**	**+1.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=153,slow=8.1,SNR=4.9					
ARCES	**ARCESS Array B**	**35.67 342**	P	**P**	**23 00 17.4**	**+1.4**
PGF	**Pioggiola**	**36.06 293**	*e*P	**P**	**23 00 19.3**	**-0.3**
	comp=Z,63nm,1.1s,mb5.1					
PGF	**Pioggiola**	**36.06 293**	*e*P	**P**	**23 00 19.3**	**-0.3**
PGF			pmax	pmax		
	comp=Z,32nm,1.1s,mb5.2					
NB2	**NORSAR Subarra**	**36.23 324**	P	**P**	**23 00 20.2**	**-0.6**
	comp=Z,0.9nm,0.6s,mb3.9,baz=108,slow=8.6					
NB2	**NORSAR Subarra**	**36.23 324**	P	**P**	**23 00 20.2**	**-0.6**
NB2			pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9					
NOA	**NORSAR Array B**	**36.23 324**	P	**P**	**23 00 20.6**	**-0.2**
	comp=Z,2.4nm,0.9s,mb4.2,baz=109,slow=8.4,SNR=7.5					
CDF	**Champ du Feu**	**36.70 303**	*e*P	**P**	**23 00 24.9**	**0.0**
LPG	**La Plagne**	**37.27 298**	*e*P	**P**	**23 00 29.3**	**-0.5**
LPL	**La Plagne**	**37.28 298**	*e*P	**P**	**23 00 29.3**	**-0.6**
SONM	**Songino Array**	**37.34 58**	P	**P**	**23 00 32.2**	**+1.9**
	comp=Z,1.6nm,0.7s,mb4.0,baz=272,slow=9.4,SNR=11					
MBDF	**Montbardon**	**37.35 297**	*e*P	**P**	**23 00 30.2**	**-0.2**
	comp=Z,9.9nm,0.8s,mb4.4					
MBDF	**Montbardon**	**37.35 297**	*e*P	**P**	**23 00 30.2**	**-0.2**
MBDF			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4					
FRF	**La Foret Royal**	**37.61 295**	*e*P	**P**	**23 00 32.3**	**-0.3**
	comp=Z,95nm,1.5s,mb5.0					
FRF	**La Foret Royal**	**37.61 295**	*e*P	**P**	**23 00 32.3**	**-0.3**
FRF			pmax	pmax		
	comp=Z,47nm,1.5s,mb5.0					
VIVF	**Saint-Julien-l**	**38.81 297**	*e*P	**P**	**23 00 42.3**	**-0.4**
SSF	**Saint Saulge**	**39.34 301**	*e*P	**P**	**23 00 46.5**	**-0.6**
SSF			pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2					
SSF	**Saint Saulge**	**39.34 301**	*e*P	**P**	**23 00 46.5**	**-0.6**
	comp=Z,3.7nm,0.9s,mb4.1					
AVF	**Avril sur Loir**	**39.47 300**	*e*P	**P**	**23 00 48.1**	**-0.1**
	comp=Z,12nm,1.0s,mb4.3					
AVF	**Avril sur Loir**	**39.47 300**	*e*P	**P**	**23 00 48.1**	**-0.1**
AVF			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3					
TCF	**Toulx Ste Croi**	**40.32 300**	*e*P	**P**	**23 00 55.1**	**-0.1**
	comp=Z,11nm,1.2s,mb4.2					
TCF	**Toulx Ste Croi**	**40.32 300**	*e*P	**P**	**23 00 55.1**	**-0.1**
TCF			pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2					
CAF	**Calviac**	**40.63 298**	*e*P	**P**	**23 00 57.4**	**-0.4**
	comp=Z,32nm,1.6s,mb4.4					
CAF	**Calviac**	**40.63 298**	*e*P	**P**	**23 00 57.4**	**-0.4**
CAF			pmax	pmax		
	comp=Z,16nm,1.6s,mb4.4					
MTLF	**Montolieu**	**40.82 295**	*e*P	**P**	**23 00 59.0**	**-0.3**
	comp=Z,12nm,1.1s,mb4.1					
MTLF	**Montolieu**	**40.82 295**	*e*P	**P**	**23 00 59.0**	**-0.3**
MTLF			pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.1					
RJF	**Les Rejaudoux**	**40.95 298**	*e*P	**P**	**23 01 00.0**	**-0.4**
	comp=Z,15nm,1.2s,mb4.2					
RJF			*e*R			
	comp=Z,39nm,19.2s					
RJF	**Les Rejaudoux**	**40.95 298**	*e*P	**P**	**23 01 00.0**	**-0.4**
RJF			pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.2					
RJF			MLR	MLR		
	comp=Z,40nm,19.3s,MS3.3					
MFF	**Saint Martin d**	**41.88 301**	*e*P	**P**	**23 01 07.8**	**-0.1**
	comp=Z,16nm,1.3s,mb4.2					
MFF	**Saint Martin d**	**41.88 301**	*e*P	**P**	**23 01 07.8**	**-0.1**
MFF			pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.2					
BOD	**Bodaibo**	**41.91 43**	*e*P	**P**	**23 01 05.5**	**-2.5**
BOD			pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9					
BOD	**Bodaibo**	**41.91 43**	*e*P	**P**	**23 01 05.5**	**-2.5**
	comp=Z,3.0nm,0.9s,mb3.9					
ETSF	**Etsaut**	**42.90 295**	*e*P	**P**	**23 01 16.1**	**-0.2**
	comp=Z,10nm,1.0s,mb4.2					
ETSF	**Etsaut**	**42.90 295**	*e*P	**P**	**23 01 16.1**	**-0.2**
ETSF			pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2					
EKA	**Eskdalemuir Ar**	**42.95 314**	P	**P**	**23 01 16.9**	**+0.4**
	comp=Z,2.6nm,0.9s,mb4.0,baz=100,slow=8.6,SNR=5.1					
SGMF	**Saint Gilles**	**43.24 303**	*e*P	**P**	**23 01 19.1**	**+0.1**
	comp=Z,33nm,1.2s,mb4.6					
SGMF	**Saint Gilles**	**43.24 303**	*e*P	**P**	**23 01 19.1**	**+0.1**
SGMF			pmax	pmax		
	comp=Z,17nm,1.2s,mb4.7					
ROSF	**Rostrenen**	**43.70 304**	*e*P	**P**	**23 01 22.5**	**-0.2**
ESDC	**Sonseca Array**	**46.25 292**	P	**P**	**23 01 43.0**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.3,baz=72,slow=8.1,SNR=13					
EVO	**Evora**	**49.60 292**	*e*P	**P**	**23 02 09.1**	**-0.3**
	comp=Z,13nm,1.0s,mb4.6					
EVO			*e*R			
	comp=Z,46nm,21.0s					
SSE	**Sheshan**	**52.88 77**	P	**P**	**23 02 28.3**	**-6.1**
	comp=Z,17nm,0.8s,mb5.0					
OPO	**Ambohidratompo**	**56.92 190**	P	**P**	**23 02 58.7**	**-5.3**
	comp=Z,4.7nm,1.1s,mb4.4,baz=199,slow=10,SNR=3.1					
MJAR	**Matsushiro Arr**	**63.01 63**	P	**P**	**23 03 43.5**	**-2.0**
	comp=Z,0.4nm,0.3s,mb4.0,baz=72,slow=9.7,SNR=4.1					
MJAR			LR	LR	23 34 17.7	
	comp=Z,69nm,19.2s,MS3.8,baz=260,slow=39					
MATP	**Matopo**	**63.75 209**	P	**P**	**23 03 48.3**	**-2.3**
	comp=Z,1.6nm,0.5s,mb4.3,baz=9.3,slow=7.7,SNR=14					
TSUM	**Tsumeb**	**67.57 220**	P	**P**	**23 04 13.7**	**-1.4**
	comp=Z,1.6nm,0.8s,mb4.1,baz=74,slow=5.0,SNR=4.2					
BOSA	**Boshof**	**72.38 208**	P	**P**	**23 04 41.9**	**-2.4**
	comp=Z,2.2nm,0.8s,mb4.2,baz=108,slow=6.8,SNR=4.5					
BOSA	**Boshof**	**72.38 208**	P	**P**	**23 04 41.9**	**-2.4**
ILAR	**Eielson Array**	**75.95 10**	P	**P**	**23 05 05.5**	**+1.3**
	comp=Z,0.3nm,0.9s,SNR=4.3					
YKA	**Yellowknife Ar**	**79.59 356**	P	**P**	**23 05 25.7**	**+1.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=358,slow=5.9,SNR=6.1					
YKA			LR	LR	23 44 54.7	
	comp=Z,39nm,18.0s,MS3.8,baz=115,slow=39					
YKA	**Yellowknife Ar**	**79.59 356**	P	**P**	**23 05 25.7**	**+1.3**
YKA			LR	LR	23 44 54.7	
ULM	**Lac du Bonnet**	**88.79 343**	P	**P**	**23 06 11.0**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.6,baz=0.5,slow=5.2,SNR=3.3					
ULM			LR	LR	23 50 26.2	
	comp=Z,49nm,19.9s,MS3.9,baz=68,slow=38					
ULM	**Lac du Bonnet**	**88.79 343**	P	**P**	**23 06 11.0**	**0.0**
ULM			LR	LR	23 50 26.2	
PDAR	**Pinedale Array**	**98.61 350**	LR	LR	23 56 01.4	
	comp=Z,42nm,18.3s,MS4.0,baz=256,slow=38					

*PRU **31** 22:53:36.4, 44.05N×13.61E*
*ROM **31** 22:53:37.5±0.3, 44.06N×13.52E, h31km±3km, Md2.9/9, Ml2.6/5, Error ellipse: s-maj=4.2km s-min=2.8km az=99.0*
*NEIC **31** 22:53:37.5, 44.06N×13.52E, h31km, ML2.8(LDG), ML2.6(ROM), After ROM.*
*CSEM **31** 22:53:38.4±0.1, 44.04N×13.55E, h40km, ML3.1/9, Error ellipse: s-maj=2.1km s-min=1.5km az=100.0*
*LDG **31** 22:53:41.1±0.4, 44.17N×13.28E, h10km, Ml2.8/8, Error ellipse: s-maj=8.3km s-min=7.3km az=117.0*
ISC 31 22:53:36.6±0.3**, 44.16N**±0.02×**13.44E**±0.04**, h10**km**, n42,** σ1§**39**/67**, 7C-3D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOI	**Ancona**	**0.62**	**169**	⇑*i* P*g*	**Pg**	**22 53 49.7**	**+0.5**
AOI				S*g*	**Sg**	**22 53 58.6**	**+1.0**
	316nm,0.3s						
FSSB	**Fossombrone**	**0.67**	**226**	⇑*i* P*g*	**Pg**	**22 53 50.8**	**+0.7**
FSSB				S*g*	**Sg**	**22 54 01.6**	**+2.5**
	139nm,0.2s						
RSM	**Repubblica di**	**0.75**	**252**	P*n*	**Pn**	**22 53 53.6**	**+0.6**
	27nm,0.2s						
ARV	**Arcevia**	**0.75**	**209**	⇑*i* P*g*	**Pg**	**22 53 51.9**	**+0.1**
ARV				S*g*	**Sg**	**22 54 03.2**	**+1.3**
	47nm,0.3s						
CING	**Cingoli**	**0.80**	**193**	P*n*	**Pn**	**22 53 52.8**	**-1.0**
CING				S*n*	**Sn**	**22 54 04.5**	**-1.3**
	201nm,0.6s						
NVLJ	**Novalja**	**1.10**	**68**	*i* P*g*	**Pg**	**22 53 58.1**	**-0.6**
NVLJ				*i* S*g*	**Sg**	**22 54 12.7**	**-0.8**
MURB	**Monte Urbino**	**1.11**	**217**	P*n*	**Pn**	**22 53 58.3**	**0.0**
MURB				S*n*	**Sn**	**22 54 14.8**	**+1.1**
	225nm,0.3s						
SFI	**Santa Sofia**	**1.18**	**258**	P*n*	**Pn**	**22 54 00.9**	**+1.8**
SFI				S*n*	**Sn**	**22 54 19.0**	**+3.7**
	72nm,0.7s						
CRE	**Caprese Michel**	**1.20**	**244**	P*n*	**Pn**	**22 54 01.1**	**+1.6**
	12nm,0.2s						
NRCA	**Norcia**	**1.35**	**190**	P*n*	**Pn**	**22 54 00.3**	**-1.3**
	18nm,0.2s						
SEI	**Scarperia**	**1.50**	**267**	P*n*	**Pn**	**22 54 06.5**	**+2.7**
TERO	**Teramo**	**1.54**	**175**	P*n*	**Pn**	**22 54 02.8**	**-1.6**
	50nm,0.5s						
TRI	**Trieste**	**1.57**	**8**	P*n*	**Pn**	**22 54 05.2**	**+0.5**
	21nm,0.2s						
BOJS	**Bojanci**	**1.86**	**43**	*i* P*n*	**Pn**	**22 54 10.0**	**+1.0**
VOY	**Vojsko**	**1.90**	**10**	*e*P*n*	**Pn**	**22 54 10.2**	**+0.7**
VOY				*e*S*n*	**Sn**	**22 54 34.1**	**+0.5**
CADS	**Cadrg**	**2.08**	**6**	*i* P*n*	**Pn**	**22 54 12.7**	**+0.7**
PDKS	**Podkum**	**2.20**	**30**	*i* P*n*	**Pn**	**22 54 15.1**	**+1.3**
PTCC	**Patocco-Chiusa**	**2.25**	**359**	P*n*	**Pn**	**22 54 15.3**	**+0.9**
	11nm,0.4s						
CII	**Carovilli**	**2.52**	**165**	*e*P*n*	**Pn**	**22 54 26.8**	**+8.4**
WTTA	**Wattenberg**	**3.35**	**339**	⇑*i* PN	**Pn**	**22 54 31.9**	**+1.7**
WTTA				*i* SN	**Sn**	**22 55 11.8**	**+1.4**
ARSA	**Arzberg**	**3.42**	**25**	⇑*i* PN	**Pn**	**22 54 31.5**	**+0.4**
ARSA				*i* SN	**Sn**	**22 55 10.5**	**-1.7**
WATA	**Walderalm**	**3.43**	**338**	⇓*i* PN	**Pn**	**22 54 32.7**	**+1.4**
WATA				*i* SN	**Sn**	**22 55 14.6**	**+2.1**
SQTA	**Sankt Quirin**	**3.44**	**334**	⇑*i* PN	**Pn**	**22 54 33.2**	**+1.8**
SQTA				*i* SN	**Sn**	**22 55 14.4**	**+1.8**
MOTA	**Moosalm**	**3.58**	**334**	⇓*i* PN	**Pn**	**22 54 35.0**	**+1.6**
MOTA				*i* SN	**Sn**	**22 55 17.8**	**+1.6**
MOA	**Molln**	**3.73**	**9**	⇓*i* PN	**Pn**	**22 54 36.6**	**+1.0**
MOA				*i* SN	**Sn**	**22 55 20.1**	**-0.1**
DAVA	**Damuels**	**4.00**	**323**	⇑*i* PN	**Pn**	**22 54 41.3**	**+1.9**
DAVA				*i* SN	**Sn**	**22 55 26.9**	**+0.1**
MBDF	**Montbardon**	**4.81**	**279**	*e*P*n*	**Pn**	**22 54 49.4**	**-1.5**
LPG	**La Plagne**	**4.94**	**288**	*e*P*n*	**Pn**	**22 54 50.9**	**-1.9**
FRF	**La Foret Royal**	**4.95**	**265**	*e*P*n*	**Pn**	**22 54 52.7**	**-0.1**
FRF				*e*S*n*	**Sn**	**22 55 43.0**	**-7.8**
	0.9nm,0.2s						
LPL	**La Plagne**	**4.96**	**288**	*e*P*n*	**Pn**	**22 54 52.1**	**-0.9**
KHC	**Kasperske Hory**	**4.97**	**1**	*e*P*N*	**Pn**	**22 54 53.0**	**-0.2**
KHC				*e*S*N*	**Sn**	**22 55 49.0**	**-2.5**
KHC				*e*S*G*	**Sg**	**22 56 20.5**	**-1.7**
LMR	**La Mourre**	**5.09**	**263**	*e*S*n*	**Sn**	**22 55 48.0**	**-6.4**
ORIF	**Oris-en-Rattie**	**5.46**	**281**	*e*P*n*	**Pn**	**22 54 58.7**	**-1.3**
ORIF				*e*S*n*	**Sn**	**22 55 56.7**	**-6.9**
	2.5nm,0.5s						
HINF	**Hinteralfeld**	**5.87**	**311**	*e*P*n*	**Pn**	**22 55 04.8**	**-1.0**
HINF				*e*S*n*	**Sn**	**22 56 07.4**	**-6.5**
	3.3nm,0.3s						
CDF	**Champ du Feu**	**6.03**	**317**	*e*P*n*	**Pn**	**22 55 06.9**	**-1.1**
HAU	**Haudompre**	**6.25**	**310**	*e*P*n*	**Pn**	**22 55 10.2**	**-1.1**
HAU				*e*S*n*	**Sn**	**22 56 16.5**	**-7.1**
	3.5nm,0.3s						
VIVF	**Saint-Julien-l**	**6.31**	**279**	*e*P*n*	**Pn**	**22 55 10.4**	**-1.6**
VIVF				*e*S*n*	**Sn**	**22 56 16.8**	**-8.1**
	0.4nm,0.2s						
LOR	**Lormes**	**7.39**	**298**	*e*P*n*	**Pn**	**22 55 24.0**	**-3.2**
LOR				*e*S*n*	**Sn**	**22 56 42.4**	**-10**
	2.2nm,0.3s						
SSF	**Saint Saulge**	**7.54**	**296**	*e*P*n*	**Pn**	**22 55 27.4**	**-2.0**
SSF				*e*S*n*	**Sn**	**22 56 47.8**	**-8.1**
	0.5nm,0.3s						
AVF	**Avril sur Loir**	**7.56**	**294**	*e*P*n*	**Pn**	**22 55 27.0**	**-2.6**
HYF	**Humbligny**	**8.17**	**296**	*e*P*n*	**P**	**22 55 36.4**	**-1.7**
TCF	**Toulx Ste Croi**	**8.21**	**289**	*e*P*n*	**P**	**22 55 36.3**	**-2.4**
TCF				*e*S*n*	**Sn**	**22 57 02.7**	**-10**
	0.7nm,0.4s						

*ATH **31** 23:23:59.6, 36.89N×27.58E, h25km±2km, MD3.3/6*
*ISK **31** 23:23:59.0, 36.92N×27.64E, h5km, MD3.4*
*CSEM **31** 23:23:59.1±0.1, 36.90N×27.62E, h2km, MD3.4, Error ellipse: s-maj=2.5km s-min=1.5km az=8.0*
*NEIC **31** 23:24:00.2, 36.84N×27.50E, h16km, MD3.5(ISK), MD3.3(ATH), After ATH.*
ISC 31 23:23:60.0±0.4**, 36.86N**±0.03×**27.59E**±0.04**, h10**km**, n35,** σ1§**11**/45**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.23**	**331**	*i* P	**Pg**	**23 24 04.6**	**-0.3**
BDRM				*i* S	**Sg**	**23 24 08.5**	**+0.3**
BODT	**Bodrum**	**0.30**	**312**	*i* P*G*	**Pg**	**23 24 05.9**	**-0.3**
BODT				*i* S*G*	**Sg**	**23 24 11.1**	**+0.8**
NISR	**Nisiros**	**0.44**	**236**	*e*P*B*	**Pb**	**23 24 09.0**	**-0.4**
MLSB	**Milas**	**0.46**	**19**	*i* P*G*	**Pg**	**23 24 07.5**	**-1.8**
MLSB				*i* S*G*	**Sg**	**23 24 14.5**	**-1.0**
YER	**Yerkesik**	**0.62**	**64**	*i* P*G*	**Pg**	**23 24 10.5**	**-2.0**
ARG	**Arkhangelos**	**0.78**	**146**	*e*P*N*	**Pn**	**23 24 14.9**	**-1.8**
ARG				*e*S*N*	**Sn**	**23 24 27.5**	**-1.0**
AYDN	**Tasoluk**	**0.83**	**16**	*i* P	**Pb**	**23 24 14.8**	**-1.3**
AYDN				*i* S	**Sb**	**23 24 25.9**	**-1.1**
DALT	**Dalyan (Mudla)**	**0.85**	**96**	PG	**Pg**	**23 24 15.5**	**-1.5**
SMG	**Samos**	**1.03**	**325**	*e*P*N*	**Pn**	**23 24 19.0**	**-1.4**
KARP	**Karpathos**	**1.36**	**195**	*e*P*N*	**Pn**	**23 24 25.0**	**0.0**
DNZL	**Cakiroluk**	**1.43**	**54**	*i* P	**Pn**	**23 24 25.3**	**-0.8**
DNZL				*i* S	**Sb**	**23 24 46.0**	**+1.6**
DENT	**Denizli**	**1.46**	**52**	PN	**Pn**	**23 24 26.1**	**-0.4**
IZM	**Izmir**	**1.56**	**351**	PN	**Pn**	**23 24 28.3**	**+0.4**
KDAG	**Bornova**	**1.56**	**351**	*i* P	**Pn**	**23 24 27.9**	**0.0**
KDAG				*i* S	**Sb**	**23 24 53.0**	**+4.9**
BLCB	**Balcova**	**1.58**	**344**	*e*P*N*	**Pn**	**23 24 28.5**	**+0.3**
GOLH	**Golhisar**	**1.62**	**76**	*i* P	**Pn**	**23 24 31.0**	**+2.2**
GOLH				*i* S	**Sn**	**23 24 56.2**	**+6.2**
APE	**Apeiranthos**	**1.66**	**278**	*e*P*N*	**Pn**	**23 24 31.5**	**+2.2**
APE	**Apeiranthos**	**1.66**	**278**	*e*P*n*	**Pn**	**23 24 29.3**	**0.0**
URLA	**Izmir**	**1.69**	**333**	*i* P	**Pn**	**23 24 31.2**	**+1.4**
AKAS	**Kas**	**1.74**	**110**	*i* P	**Pn**	**23 24 33.5**	**+2.9**
AKAS				*i* S	**Sn**	**23 24 58.1**	**+5.2**
MANT	**Manisa**	**1.80**	**25**	*i* P	**Pn**	**23 24 33.5**	**+2.1**
ELL	**Elmali**	**1.87**	**93**	PN	**Pn**	**23 24 33.3**	**+1.0**
AKS	**Akhisar**	**2.02**	**5**	PN	**Pn**	**23 24 35.0**	**+0.4**
KHL	**Karahalli**	**2.12**	**46**	*e*P*N*	**Pn**	**23 24 36.3**	**+0.3**
NPS	**Neapolis**	**2.26**	**226**	*e*P*N*	**Pn**	**23 24 37.5**	**-0.4**
BCK	**Bucak**	**2.47**	**75**	*e*P*N*	**Pn**	**23 24 41.3**	**+0.3**
TKTP	**Tekketepe**	**2.47**	**61**	*i* P	**Pn**	**23 24 45.4**	**+4.4**
ISP	**Isparta**	**2.53**	**66**	*e*P*N*	**Pn**	**23 24 42.2**	**+0.4**
PRK	**Paraskevi**	**2.60**	**337**	*e*P*n*	**Pn**	**23 24 43.9**	**+1.1**
PRK				*e*S*b*	**Sb**	**23 25 16.4**	**-1.9**
BALB	**Balikesir**	**2.78**	**5**	*e*P*N*	**Pn**	**23 24 46.3**	**+0.9**
CANB	**Canakkale**	**3.18**	**353**	*e*P*N*	**Pn**	**23 24 51.1**	**+0.1**
ULDT	**Uludag**	**3.49**	**20**	*i* P	**Pn**	**23 25 03.6**	**+8.1**
ESKT	**Eskisehir**	**3.70**	**43**	*e*P*N*	**Pn**	**23 24 59.0**	**+0.6**
HDMB	**Hadim**	**3.93**	**87**	*e*P*N*	**Pn**	**23 25 02.3**	**+0.6**
KIZT	**Kizilcal**	**3.95**	**58**	*e*P*N*	**Pn**	**23 25 02.0**	**0.0**

*NEIC **31** 23:24:05.0±0.7, 24.14S×67.01W, h172km±15km, mb3.4/1, Error ellipse: s-maj=13.6km s-min=9.6km az=111.0*
*IDC **31** 23:24:05.0±1.3, 24.10S×67.06W, h172km±25km, mb2.9/1, mb1 3.3/7, mb1mx3.1/20, mbtmp3.7/7, Error ellipse: s-maj=25.3km s-min=19.5km az=131.0*
ISC 31 23:24:03.8±0.6**, 24.17S**±0.06×**67.11W**±0.10**, h182**km±15km**, n18,** σ0§**97**/28**, mb3.3**/1**, 3C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.27**	**313**	⇑*i* P	**P**	**23 24 46.3**	**+1.9**
LVC				*i* S	**S**	**23 25 16.2**	**+0.5**
LVC				AMP		23 25 20.8	
	comp=N,352nm,0.6s						
LVC	**Limon Verde**	**2.27**	**313**	P	**P**	**23 24 46.2**	**+1.8**
	comp=N,6.3nm,0.3s,baz=135,slow=6.9,SNR=76						
LVC				S	**S**	**23 25 15.6**	**-0.1**
	comp=N,63nm,0.3s,baz=276,slow=19,SNR=62						
LVC	**Limon Verde**	**2.27**	**313**	*e*P	**P**	**23 24 46.2**	**+1.9**
LVC				*e*S	**S**	**23 25 10.0**	**-5.7**
LVC				S	**S**	**23 25 15.6**	**-0.1**
CPN1	**Cerro Paranal**	**3.04**	**261**	*i* P	**P**	**23 24 54.3**	**+0.8**
CPN1				*i* S	**S**	**23 25 31.1**	**-0.8**
CPN1				AMP		23 25 33.1	
	comp=E,156nm,0.2s						
ANCH	**Antofagasta**	**3.06**	**278**	⇑*i* P	**P**	**23 24 54.8**	**+0.9**
ANCH				*i* S	**S**	**23 25 30.7**	**-1.7**
ANCH				AMP		23 25 34.1	
	comp=N,696nm,0.2s						
ANCH	**Antofagasta**	**3.06**	**278**	⇑*i* P	**P**	**23 24 54.8**	**+1.0**
ANCH				*i* S	**S**	**23 25 30.7**	**-1.7**
LPAZ	**La Paz**	**7.90**	**353**	P	**P**	**23 25 58.4**	**+1.8**
	comp=N,0.8nm,0.3s,baz=164,slow=7.4,SNR=26						
LPAZ				S	**S**	**23 27 24.8**	**+0.1**
	comp=N,0.1nm,0.3s,baz=334,slow=19,SNR=7.0						
LPAZ	**La Paz**	**7.90**	**353**	*e*P	**P**	**23 25 57.4**	**+0.8**
LPAZ				*e*S	**S**	**23 27 24.0**	**-0.7**
LPAZ				S	**S**	**23 27 24.8**	**+0.1**
CPUP	**Villa Florida**	**9.11**	**106**	P	**P**	**23 26 12.5**	**0.0**
	comp=N,0.1nm,0.3s,baz=315,slow=8.6,SNR=3.1						
SIV	**San Ignacio**	**9.92**	**36**	P	**P**	**23 26 21.4**	**-1.6**
	comp=N,0.3nm,0.3s,baz=217,slow=14,SNR=12						
TRQA	**Tornquist**	**14.52**	**164**	*e*P	**P**	**23 27 21.0**	**-0.8**
SAML	**Samuel**	**15.60**	**15**	*e*P	**P**	**23 27 34.3**	**-1.0**
	comp=N,0.9nm,0.6s						
PLCA	**Paso Flores**	**16.77**	**189**	P	**P**	**23 27 49.8**	**+0.4**
	comp=N,0.1nm,0.3s,baz=18,slow=16,SNR=3.0						
PLCA	**Paso Flores**	**16.77**	**189**	*e*P	**P**	**23 27 50.0**	**+0.7**
BDFB	**Brasilia**	**19.84**	**68**	P	**P**	**23 28 22.4**	**-0.1**
	comp=N,0.8nm,0.3s,baz=246,slow=10,SNR=16						
BAO	**Brasilia Array**	**19.86**	**68**	P	**P**	**23 28 23.0**	**+0.3**
SNAA	**Sanae**	**59.22**	**161**	P	**P**	**23 33 47.8**	**+0.2**
	comp=N,0.5nm,1.1s,mb3.3,baz=267,slow=10,SNR=4.7						
SNAA	**Sanae**	**59.22**	**161**	*e*P	**P**	**23 33 47.9**	**+0.3**

MAN 31 23:41:24.3, 15.48N×119.82E, h3km, mb4.6, ML3.5, MS3.3, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.30**	**17**	*e*P	**Pg**	**23 41 30.5**	**+0.2**
BOLP	**Bolinao**	**0.90**	**6**	*e*P	**Pb**	**23 41 37.2**	**-4.9**
BCPH	**Baguio City Da**	**1.15**	**39**	⇓*i* P	**Pb**	**23 41 44.0**	**-2.5**
BCPH				*i* S	**Sb**	**23 42 02.5**	**+0.8**
PCPH	**Palayan**	**1.23**	**86**	⇑*e*P	**Pb**	**23 41 47.1**	**-0.8**
PCPH				*i* S	**Sb**	**23 42 07.9**	**+3.8**
BALP	**Baler**	**1.71**	**81**	*e*P	**Pn**	**23 41 54.8**	**-0.4**
LUBP	**Lubang**	**1.79**	**167**	*e*P	**Pn**	**23 41 56.1**	**-0.2**
POLP	**Polillo Island**	**2.18**	**110**	*e*P	**Pn**	**23 42 01.9**	**0.0**
POLP				*e*S	**Sn**	**23 42 36.3**	**+6.6**
CAUP	**Cauayan**	**2.41**	**53**	*e*P	**Pn**	**23 42 05.3**	**+0.1**
APYP	**Conner**	**2.73**	**30**	*e*P	**Pn**	**23 42 09.8**	**0.0**
CVP	**Callao Caves**	**2.92**	**41**	*e*P	**Pn**	**23 42 11.0**	**-1.6**
CVP				*i* S	**Sn**	**23 42 52.0**	**+3.3**

*CS

KVT Kavak 2.80 53 PN Pn 23 42 20.6 +0.3
KVT Kavak 2.80 53 Pn Pn 23 42 20.9 +0.6
TOKT Tokat 2.81 71 PN Pn 23 42 20.9 +0.4
TOKT Tokat 2.81 71 Pn Pn 23 42 21.1 +0.6
HRT Hereke 2.96 299 PN Pn 23 42 22.5 -0.1
HRT Hereke 2.96 299 Pn Pn 23 42 23.2 +0.6
KHL Karahalli 2.99 249 PN Pn 23 42 23.1 0.0
KHL Karahalli 2.99 249 Pn Pn 23 42 23.2 +0.1
YLV Yalova 3.06 293 PN Pn 23 42 24.1 +0.1
CEYT Ceyhan 3.21 138 ePN Pn 23 42 25.8 -0.4
CEYT Ceyhan 3.21 138 Pn Pn 23 42 27.3 +1.1
IKL Isikli 3.23 171 ePN Pn 23 42 26.4 -0.1
IKL Isikli 3.23 171 Pn Pn 23 42 27.3 +0.8
ORLT Orhaneli 3.28 282 ePN Pn 23 42 27.4 +0.2
ORLT Orhaneli 3.28 282 Pn Pn 23 42 27.7 +0.5
BADT Buyukada 3.35 296 ePN Pn 23 42 28.3 +0.2
BADT Buyukada 3.35 296 Pn Pn 23 42 27.7 -0.4
DST Dursunbey 3.45 274 ePN Pn 23 42 30.4 +0.9
ISK Istanbul-Kandi 3.48 299 ePN Pn 23 42 30.6 +0.6
DENT Denizli 3.59 243 ePN Pn 23 42 32.3 +0.7
DENT Denizli 3.59 243 Pn Pn 23 42 32.4 +0.8
ELL Elmali 3.67 224 ePN Pn 23 42 33.1 +0.3
CTT Catalca 3.94 297 ePN Pn 23 42 36.5 -0.1
CTT Catalca 3.94 297 Pn Pn 23 42 36.6 0.0
GAZ Gaziantep 3.96 124 ePN Pn 23 42 36.9 0.0
GAZ Gaziantep 3.96 124 Pn Pn 23 42 38.1 +1.2
BALB Balikesir 4.02 274 Pn Pn 23 42 37.6 -0.1
BNT Bandirma 4.07 285 P Pn 23 42 38.3 -0.1
HTY Hatay 4.11 143 ePN Pn 23 42 38.9 0.0
HTY Hatay 4.11 143 Pn Pn 23 42 39.7 +0.8
AKS Akhisar 4.13 264 ePN Pn 23 42 39.4 +0.1
MAMC Mammari 4.27 178 P Pn 23 42 42.7 +1.5
ALFC Alevga 4.29 185 P Pn 23 42 46.9 +5.3
6.5nm,1.0s
LEF Lefka 4.32 182 Pn Pn 23 42 43.9 +2.0
MYA Malataya 4.32 103 ePN Pn 23 42 42.0 +0.1
MALT Malatya 4.32 103⇑ ePN Pn 23 42 40.0 -2.0
MRMT Marmara Adasi 4.37 287 Pn Pn 23 42 43.9 +1.3
DALT Dalyan (Mudla) 4.40 234 Pn Pn 23 42 43.7 +0.6
YER Yerkesik 4.42 240 ePN Pn 23 42 44.2 +0.8
CSS Prodhromos 4.48 177 P Pn 23 42 44.4 +0.2
10nm,1.7s
PHNC Paralimni 4.50 170⇑ eP Pn 23 42 45.1 +0.7
PPCY Paphos 4.59 188 P Pn 23 42 48.8 +3.0
MFT Murefte 4.64 289 Pn Pn 23 42 47.1 +0.6
IZM Izmir 4.66 259 ePN Pn 23 42 47.5 +0.8
IZM Izmir 4.66 259 Pn Pn 23 42 47.1 +0.4
SZAC Souni-Zanaja 4.68 182 P Pn 23 42 49.1 +2.0
MLSB Milas 4.69 244 ePN Pn 23 42 47.8 +0.7
MLSB Milas 4.69 244 Pn Pn 23 42 48.1 +1.0
BLCB Balcova 4.83 259 ePN Pn 23 42 49.4 +0.3
BLCB Balcova 4.83 259 Pn Pn 23 42 49.7 +0.6
URFA Urfa 4.93 112 ePN Pn 23 42 51.6 +1.0
URFA Urfa 4.93 112 Pn Pn 23 42 51.4 +0.8
PTK Pertek 4.94 94 Pn Pn 23 42 51.4 +0.7
LPK Lapseki 4.95 283 Pn Pn 23 42 50.6 -0.2
GUMT Gumushane 5.02 76 ePN Pn 23 42 51.5 -0.4
GUMT Gumushane 5.02 76 Pn Pn 23 42 52.5 +0.6
ARG Arkhangelos 5.07 232 eP Pn 23 42 53.0 +0.4
BODT Bodrum 5.12 244 ePN Pn 23 42 53.5 +0.2
BODT Bodrum 5.12 244 Pn Pn 23 42 53.7 +0.4
EZN Ezine 5.23 276 ePN Pn 23 42 55.2 +0.4
EZN Ezine 5.23 276 Pn Pn 23 42 55.0 +0.2
PRK Paraskevi 5.28 270 eP Pn 23 42 56.0 +0.5
EDRB Edirne 5.38 299 Pn Pn 23 42 56.4 -0.6
SIM Simferopol' 5.56 8 deP Pn 23 42 59.0 -0.4
SIM eS Sn 23 44 01.0 -3.0
SIM pmax pmax
comp=Z,84nm,0.9s
SIM MLR MLR
comp=Z,900nm,16.0s
SIM Simferopol' 5.56 8 eP Pn 23 42 59.0 -0.4
comp=Z,84nm,0.9s
PSN Preselentsi 5.61 321 P Pn 23 42 59.0 -1.1
PRD Provadia 5.69 313 P Pn 23 43 00.0 -1.3
JMB Yambol 5.77 304 eP Pn 23 43 06.5 +4.0
DIY Diyarbakir 5.80 103 Pn Pn 23 43 04.0 +1.1
BHL Bhannes 5.90 159 eP Pn 23 43 03.9 -0.4
RDO Rodhopi 6.01 289 eP Pn 23 43 05.0 -0.9
TIRR Tirgusor 6.10 327 ⇑P Pn 23 43 05.9 -1.2
TIRR Tirgusor 6.10 327 ⇑P Pn 23 43 05.9 -1.2
TIRR Tirgusor 6.10 327 P Pn 23 43 06.7 -0.4
LOS Limnos 6.19 277 eP Pn 23 43 08.4 +0.1
KDZ Kurdzhali 6.24 293 P Pn 23 43 08.0 -1.1
ANN Anapa 6.25 30 eP Pn 23 43 15.2 +5.9
ANN pmax pmax
comp=Z,35nm,1.4s
ANN MLR MLR
comp=N,613nm,14.0s
ANN MLR MLR
comp=E,282nm,14.0s
ANN MLR MLR
comp=Z,1μm,14.0s
DIM Dimitrovgrad 6.29 297 eP Pn 23 43 10.0 +0.2
APE Apeiranthos 6.39 251 iP Pn 23 43 08.5 -2.8
SOC Sochi 6.47 48 ciP Pn 23 43 13.3 +0.9
SOC i 23 44 29.4
SOC pmax pmax
comp=Z,46nm,1.3s
SOC MLR MLR
comp=Z,897nm,15.0s
SOC MLR MLR
comp=N,1μm,13.0s
SOC MLR MLR
comp=E,690nm,14.0s
SOC Sochi 6.47 48 iP Pn 23 43 13.3 +0.9
comp=E,46nm,1.3s
HARR Harsova 6.49 326 ⇑P Pn 23 43 12.8 +0.2
SZH Strazhica 6.59 308 eP Pn 23 43 18.0 +3.9
MMA1 Mount Meron ar 6.68 163 P Pn 23 43 12.2 -3.1
MMA0 Mount Meron ar 6.68 163 P Pn 23 43 15.1 -0.2
MMA2 Mount Meron ar 6.68 163 eP Pn 23 43 15.2 -0.2
RZN Rozhen 6.75 292 P Pn 23 43 14.8 -1.5
CFR Carcaliu 6.80 329 ⇓P Pn 23 43 17.2 +0.2
BCA Borcka 6.82 70 Pn Pn 23 43 17.8 +0.6
OUR Ouranopolis 7.05 280 eP Pn 23 43 19.0 -1.5
PGB Panagyurishte 7.42 298 P Pn 23 43 24.0 -1.7
MMB Musomiste 7.44 290 P Pn 23 43 24.5 -1.4
SRS Serrai 7.44 286 eP Pn 23 43 24.5 -1.5
PLG Polygyros 7.46 280 eP Pn 23 43 25.0 -1.3
XOR Xorichti 7.66 273 eP Pn 23 43 28.4 -0.6
IDI Anoyia 7.73 240 Pn Pn 23 43 30.2 +0.2
comp=E,2.8nm,0.3s,baz=60,slow=14,SNR=17
IDI LR LR 23 46 54.8
comp=E,1μm,20.4s,baz=60,slow=42
THE Thessaloniki 7.85 282 eP Pn 23 43 31.0 -0.7
ASF Jabal al Asfar 7.89 156 Pn Pn 23 43 31.0 -1.3
comp=E,0.3nm,0.3s,baz=236,slow=7.3,SNR=6.2
ASF LR LR 23 46 54.3
comp=E,2μm,20.6s,baz=66,slow=40
VRI Vrincioaia 7.94 326 ⇓P Pn 23 43 31.5 -1.5
KKB Krupnik 7.97 291 P Pn 23 43 32.0 -1.4
MLR Muntele Rosu 8.02 321 Pn P 23 43 33.0 -1.0
comp=E,0.2nm,0.3s,baz=98,slow=4.1,SNR=5.1
MLR Sn Sn 23 45 01.2 -4.4
baz=46,slow=14,SNR=1.8
MLR LR LR 23 47 22.3
comp=E,2μm,19.1s,baz=137,slow=44
MLR Muntele Rosu 8.02 321 ⇓P P 23 43 30.5 -3.5
MLR Muntele Rosu 8.02 321 ⇓P P 23 43 30.5 -3.5
VTS Vitosha 8.10 296 P P 23 43 33.5 -1.6
VTS Vitosha 8.10 296 P P 23 43 33.7 -1.5
VTS Vitosha 8.10 296 P P 23 43 33.7 -1.4
VAM Vamos 8.13 243 eP P 23 43 30.0 -5.6
MKRJ Makawir 8.14 164 P P 23 43 35.8 0.0
KIS Kishinev 8.17 339 eP P 23 43 33.0 -3.1
KIS e 23 45 16.0
KIS MLR MLR
comp=N,600nm,16.0s
KIS MLR MLR
comp=Z,1μm,16.0s
KIS MLR MLR
comp=Z,1μm,16.0s
LIT Litokhoron 8.18 278 eP P 23 43 35.8 -0.5
GRG Griva 8.31 284 eP P 23 43 36.6 -1.5
MZDA Masada 8.33 166 P P 23 43 37.4 -0.9
VOIR 8.43 318 ⇓P P 23 43 40.1 +0.3
ONI Oni 8.44 65 P P 23 43 38.9 -1.0
ONI S Sn 23 45 27.7 +12
VLI Veliai 8.45 254 eP P 23 43 42.0 +2.0
KIV Kislovodsk 8.48 55 eP P 23 43 42.9 +2.4
KIV eS Sn 23 45 16.1 -1.1

KIV pmax pmax
comp=N,10.0nm,1.0s
KIV pmax pmax
comp=Z,29nm,1.0s
KIV pmax pmax
comp=E,14nm,0.9s
KIV MLR MLR
comp=Z,602nm,16.0s
KIV Kislovodsk 8.48 55 ePn P 23 43 41.4 +0.9
comp=Z,35nm,0.9s
KIV Kislovodsk 8.48 55 eP P 23 43 42.9 +2.4
KIV eS Sn 23 45 16.1 -1.1
comp=Z,602nm,16.0s
GVD Gavdhos 8.52 240 ePn P 23 43 39.4 -1.6
comp=Z,55nm,0.8s
KYTH Kithira 8.55 251 eP P 23 43 43.5 +2.1
KZIT Kziot 8.59 172 P P 23 43 39.6 -2.3
IAS Iasi 8.73 334 P P 23 43 42.9 -1.0
ZEI Tsey 8.82 64 eP P 23 43 46.2 +1.1
ZEI e 23 45 23.8
ZEI pmax pmax
comp=Z,35nm,0.1s
ZEI pmax pmax
comp=Z,44nm,0.1s
ZEI Tsey 8.82 64 eP P 23 43 46.2 +1.1
comp=Z,44nm,0.1s
ZEI eS Sn 23 45 23.8 -1.7
GNI Garni 9.01 82 eP P 23 43 49.6 +1.8
GNI pmax pmax
comp=Z,77nm,1.2s
GNI Garni 9.01 82 Pn P 23 43 50.6 +2.8
comp=Z,0.1nm,0.3s,baz=6.9,slow=1.0,SNR=7.4
GNI Lg 23 46 17.3
comp=Z,0.2nm,0.3s,baz=47,slow=22,SNR=1.9
GNI LR LR 23 47 42.5
comp=Z,2μm,21.1s,baz=266,slow=41
GNI Garni 9.01 82 ePn P 23 43 49.6 +1.9
comp=Z,77nm,1.2s
GNI Garni 9.01 82 eP P 23 43 49.6 +1.8
comp=Z,77nm,1.2s
ZFRI Zfri 9.03 168 P P 23 43 46.5 -1.6
ITM Ithomi 9.05 259 eP P 23 43 52.5 +4.1
TBLG Delisi 9.16 72 P P 23 43 51.6 +1.7
TI2 Plekhanov 9.17 72 eP P 23 43 40.6 -9.4
MTA Mtatsminda 9.19 72 P P 23 43 49.7 -0.7
SKO Skopje 9.19 290 i Pn P 23 43 50.0 -0.3
PRNI Paran 9.21 170 P P 23 43 48.2 -2.3
DGRG David-gareji 9.59 74 P P 23 43 57.1 +1.4
MBH Mount Berech 9.74 171 P P 23 43 55.6 -2.3
EIL Elat 9.87 170 P P 23 43 57.4 -2.3
BURAR Bucovina Array 9.96 328 ⇑P P 23 44 00.2 -0.6
ALWS Ilw as Safayha 10.24 170 P P 23 43 55.7 -9.1
JMOS Jabal al Moail 10.38 170 P P 23 44 04.9 -1.8
HAQS Haql 10.47 171 P P 23 44 04.1 -3.8
DIVS Divcibare 10.82 300 ⇑iPn P 23 44 08.4 -4.3
BDAS Al Bad' 11.11 171 P P 23 44 17.3 +0.7
AYUS 'Aynunah 11.37 170 P P 23 44 19.8 -0.4
MAK Makhachkala 11.42 67 eP P 23 44 24.0 +3.1
MAK MLR MLR
comp=N,2μm,7.0s
MAK MLR MLR
comp=E,1μm,7.0s
MAK MLR MLR
comp=Z,2μm,7.0s
TBKS Tabuk 11.55 165 P P 23 44 20.1 -2.6
AKASG Malin Array Be 11.58 348 Pn P 23 44 18.4 -4.6
comp=Z,1.7nm,0.3s,baz=162,slow=13,SNR=9.4
AKASG Sn S 23 46 24.0 -9.3
comp=Z,1.9nm,0.3s,baz=163,slow=24,SNR=4.8
KOLS Kolonicke sedl 12.24 324 ePN P 23 44 30.9 -1.0
KOLS e 23 44 40.0
KWP Kalwaria 12.58 327 eP P 23 44 32.5 -3.9
KWP pmax pmax
comp=Z,9.0nm,0.9s
KWP Kalwaria 12.58 327 eP P 23 44 32.5 -3.8
comp=Z,9.2nm,0.9s
CRVS Cervenica-Dubn 12.59 322 eP P 23 44 42.5 +5.9
CRVS Cervenica-Dubn 12.59 322 e P 23 44 42.5 +5.9
TIP Timpagrande 12.65 274 eP P 23 44 35.4 -2.0
KECS Kecovo 12.79 319 ePN P 23 44 40.1 +0.9
VOR Voronezh 13.01 17 P P 23 44 43.0 +0.9
VOR pmax pmax
comp=Z,50nm,1.7s
VOR pmax pmax
comp=N,50nm,1.4s
VOR Voronezh 13.01 17 P P 23 44 43.0 +0.9
comp=N,50nm,1.4s
STHS Stebnicka Huta 13.06 324 ePN P 23 44 40.5 -2.3
STHS e 23 44 48.5
CEL Celeste 13.45 270 P P 23 44 47.2 -0.8
VYHS Vyhne 13.66 316 ePN P 23 44 51.8 +1.1
OJC Ojcow 14.29 323 eP P 23 44 55.3 -3.6
CII Carovilli 14.45 285 eP P 23 45 04.4 +3.3
comp=N,12nm,0.9s
JAVC Velka Javorina 14.50 316 P P 23 45 01.3 -0.4
VAE Valguarnera 14.76 268 Pn P 23 45 03.3 -1.8
comp=N,0.8nm,0.3s,baz=328,slow=18,SNR=5.0
VAE LR LR 23 50 19.5
comp=N,440nm,18.5s,baz=29,slow=36
OKC Ostrava-Krasne 14.84 319 eP P 23 45 06.5 +0.4
OKC AMS AMS 23 52 00.0
comp=N,1μm,14.6s
ARSA Arzberg 14.95 307 P P 23 45 07.8 +0.2
MORC Moravsky Berou 15.11 318 P P 23 45 10.4 +0.7
comp=N,0.2nm,1.0s
AQU L'Aquila 15.16 287 P P 23 45 09.0 -1.4
AQU pmax pmax
comp=Z,23nm,1.0s
AQU L'Aquila 15.16 287 P P 23 45 09.0 -1.4
comp=Z,23nm,1.0s
AQU L'Aquila 15.16 287 P P 23 45 09.0 -1.4
comp=Z,23nm,1.0s
WAR Warsaw 15.28 331 eP P 23 45 17.7 +5.8
WAR Warsaw 15.28 331 eP P 23 45 17.7 +5.8
VRAC Vranov 15.34 315 Pn P 23 45 09.8 -2.9
comp=Z,0.1nm,0.3s,baz=188,slow=12,SNR=2.5
MNK Minsk 15.47 348 eP P 23 45 13.0 -1.4
OBN Obninsk 15.85 7⇑ eP P 23 45 17.0 -2.3
OBN eS S 23 48 13.4 -1.7
OBN pmax pmax
comp=Z,43nm,1.7s
OBN MLR MLR
comp=Z,400nm,15.0s
OBN Obninsk 15.85 7 eP P 23 45 17.1 -2.2
comp=Z,53nm,1.3s
OBN Obninsk 15.85 7 eP P 23 45 17.1 -2.2
comp=Z,53nm,1.3s
MOA Molln 15.97 308 ⇓iP P 23 45 25.3 +4.4
comp=Z,12nm,1.1s
MOA Molln 15.97 308 P P 23 45 21.0 +0.1
SUW Suwalki 16.05 338 eP P 23 45 24.8 +3.0
SUW pmax pmax
comp=Z,4.0nm,0.8s
SUW Suwalki 16.05 338 eP P 23 45 24.8 +3.0
comp=Z,4.2nm,0.8s
SUW epP 23 45 33.4
SUW Suwalki 16.05 338 eP P 23 45 24.8 +3.0
SUW epP 23 45 33.4
DPC Dobruska-Polom 16.08 318 eP P 23 45 23.2 +1.0
DPC eS S 23 48 40.4 +20
DPC AMS AMS 23 52 30.0
comp=Z,1μm,14.6s
UPC Upice 16.33 318 eP P 23 45 26.7 +1.2
KSP Ksiaz 16.39 320 eP P 23 45 27.3 +1.1
MOS Moscow 16.58 9 eP P 23 45 19.6 -9.0
MOS e 23 48 38.7
MOS pmax pmax
comp=Z,33nm,1.3s
MOS MLR MLR
comp=Z,400nm,16.7s
GERES GERESS Array B 16.75 310 Pn P 23 45 27.4 -3.3
comp=Z,0.0nm,0.3s,baz=117,slow=8.8,SNR=2.8
PRU Pruhonice 16.83 315 eP P 23 45 33.6 +1.9
PRU eS S 23 48 54.9 +17
PRU AMS AMS 23 54 00.0
comp=Z,600nm,16.9s
KHC Kasperske Hory 16.95 311 eP P 23 45 33.7 +0.4
KHC eS S 23 48 56.2 +16
KHC AMS AMS 23 53 40.0
comp=Z,700nm,11.5s
PVCC Panska Ves 17.10 316 eP P 23 45 36.0 +0.8
PVCC eS S 23 48 59.8 +16
PVCC AMS AMS 23 53 10.0
comp=Z,600nm,16.6s
WET Wettzell 17.36 311 P P 23 45 38.1 -0.4

BRG Berggiesshubel 17.63 317 eP P 23 45 42.3 +0.6
BRG pmax pmax
comp=Z,6.0nm,1.2s
BRG Berggiesshubel 17.63 317 eP P 23 45 42.3 +0.5
comp=Z,6.3nm,1.2s
BRG e 23 45 53.7
BRG Berggiesshubel 17.63 317 eP P 23 45 42.3 +0.6
NKC Novy Kostel 18.12 313 eP P 23 45 47.4 -0.5
NKC eS S 23 49 21.0 +14
NKC AMS AMS 23 52 50.0
comp=Z,500nm,17.9s
CLL Collm 18.36 317 eP P 23 45 49.0 -1.9
CLL eS S 23 49 22.0 +9.4
CLL pmax pmax
comp=Z,63nm,2.5s
CLL Collm 18.36 317 eP P 23 45 49.0 -1.9
comp=Z,63nm,2.5s
CLL eS S 23 49 22.0 +9.4
CLL Collm 18.36 317 P P 23 45 50.0 -0.9
comp=Z,logA/T=1.4
CLL ePP PP 23 46 02.0 -4.3
CLL eS S 23 49 22.0 +9.4
CLL Collm 18.36 317 eP P 23 45 49.0 -1.9
comp=Z,63nm,2.5s
PECR Pechory 18.39 20 eP P 23 45 50.0 -1.2
PECR eS S 23 49 20.6 +7.5
PECR pmax pmax
comp=Z,70nm,2.0s
PECR smax
comp=N,300nm,3.3s
PECR MLR MLR
comp=Z,300nm,12.0s
PECR Pechory 18.39 20 eP P 23 45 50.0 -1.2
comp=Z,70nm,2.0s
DAVOX Davos 18.42 301 P P 23 45 49.7 -2.0
comp=Z,0.1nm,0.3s,baz=274,slow=15,SNR=1.9
DAVOX LR LR 23 54 08.9
comp=Z,649nm,18.7s,baz=101,slow=41
PGF Pioggiola 18.43 287 eP P 23 45 53.6 +1.8
comp=Z,50nm,1.1s
PGF Pioggiola 18.43 287 eP P 23 45 53.6 +1.8
PGF pmax pmax
comp=Z,25nm,1.1s
DAVA Damuels 18.55 303⇑ iP P 23 45 54.4 +1.1
comp=Z,18nm,1.0s
GRA1 Grafenberg Arr 18.58 311 eP P 23 45 52.6 -1.0
comp=Z,13nm,1.5s
GRF Grafenberg Arr 18.58 311 eP P 23 45 52.6 -1.0
GRF pmax pmax
comp=Z,13nm,1.5s
GRF Grafenberg Arr 18.58 311 eP P 23 45 52.6 -1.0
GRF pmax pmax
comp=Z,13nm,1.5s
GRF Grafenberg Arr 18.58 311 eP P 23 45 52.6 -1.0
comp=Z,13nm,1.5s
MOX Moxa 18.78 314 P P 23 45 58.3 +2.3
MOX e 23 49 36.0
MOX Moxa 18.78 314 iP P 23 45 58.3 +2.3
MOX S S 23 49 36.0 +14
MOX L 23 55 24.0
WILA Wila 19.23 302 ⇑P P 23 46 01.5 +0.2
MUO Muotathal 19.29 301 ⇑P P 23 46 02.6 +0.5
VSU Vasula 19.47 350 iP P 23 46 03.3 -0.8
SBF Sospel 19.63 291 eP P 23 46 06.5 +0.5
comp=Z,67nm,0.9s
SBF Sospel 19.63 291 eP P 23 46 06.5 +0.5
SBF pmax pmax
comp=Z,33nm,0.9s
LKBD Leukerbad 19.84 299 ⇑P P 23 46 08.5 +0.2
BFO Black Forest 19.86 305 P P 23 46 08.2 -0.3
DIX Grande Dixence 19.93 298 ⇑P P 23 46 09.8 +0.5
HASS Wahat al Ahsa' 19.93 131 P P 23 46 10.2 +0.7
FELD Feldberg 19.94 303 eP P 23 46 08.5 -0.9
TOD Tromm 19.99 309 eP P 23 46 08.9 -1.0
BBS Basel-Blauen 20.16 302 eP P 23 46 12.6 +0.9
MBDF Montbardon 20.18 294 eP P 23 46 12.9 +0.9
comp=Z,59nm,0.9s
MBDF Montbardon 20.18 294 eP P 23 46 12.9 +0.9
MBDF pmax pmax
comp=Z,30nm,0.9s
FRF La Foret Royal 20.19 290 eP P 23 46 13.2 +1.2
comp=Z,68nm,1.2s
FRF La Foret Royal 20.19 290 eP P 23 46 13.2 +1.2
FRF pmax pmax
comp=Z,34nm,1.2s
LMR La Mourre 20.28 290 eP P 23 46 14.1 +1.1
BNI Bardonecchia 20.29 295 eP P 23 46 12.4 -0.7
BNI pmax pmax
comp=Z,35nm,0.9s
BNI Bardonecchia 20.29 295 eP P 23 46 12.4 -0.7
comp=Z,34nm,0.9s
BNI Bardonecchia 20.29 295 eP P 23 46 12.4 -0.7
comp=Z,34nm,0.9s
LPG La Plagne 20.29 296 eP P 23 46 13.8 +0.7
comp=Z,48nm,0.9s
LPG La Plagne 20.29 296 eP P 23 46 13.8 +0.7
LPG pmax pmax
comp=Z,24nm,0.9s
LPL La Plagne 20.31 296 eP P 23 46 13.5 +0.2
comp=Z,40nm,0.9s
LPL La Plagne 20.31 296 eP P 23 46 13.5 +0.2
LPL pmax pmax
comp=Z,20nm,0.9s
LANF Langenberg 20.39 306 eP P 23 46 13.1 -1.0
MOF Molkenrain 20.50 303 eP P 23 46 15.0 -0.2
CDF Champ du Feu 20.55 304 eP P 23 46 15.0 -0.8
comp=Z,95nm,1.5s
CDF Champ du Feu 20.55 304 eP P 23 46 15.0 -0.8
CDF pmax pmax
comp=Z,48nm,1.5s
ECH Echery 20.58 304 eP P 23 46 16.1 0.0
HINF Hinteralfeld 20.67 302 eP P 23 46 16.1 -0.9
comp=Z,45nm,1.2s
HINF Hinteralfeld 20.67 302 eP P 23 46 16.1 -0.9
HINF pmax pmax
comp=Z,22nm,1.2s
ORIF Oris-en-Rattie 20.84 294 eP P 23 46 19.5 +0.7
comp=Z,16nm,0.9s
ORIF eR
comp=Z,950nm,19.8s
SMRF Simiane la Rot 20.98 291 eP P 23 46 19.7 -0.6
comp=Z,128nm,1.7s
HAU Haudompre 21.05 303 eP P 23 46 20.7 -0.2
comp=Z,37nm,1.0s,mb4.3
HAU eR
comp=Z,616nm,19.8s
HAU Haudompre 21.05 303 eP P 23 46 20.7 -0.2
HAU pmax pmax
comp=Z,18nm,1.0s,mb4.4
HAU MLR MLR
comp=Z,620nm,19.8s,MS4.0
COP Copenhagen 21.27 327 eP P 23 46 23.0 -0.1
COP iS S 23 50 20.7 +6.4
COP MLR MLR
comp=Z,320nm,17.0s,MS3.8
COP Copenhagen 21.27 327 iP P 23 46 23.0 -0.1
COP iS S 23 50 20.7 +6.4
comp=Z,310nm,17.0s
KAMS Al Khamasin 21.48 149 P P 23 46 27.7 +2.2
VIVF Saint-Julien-l 21.68 294 eP P 23 46 27.9 +0.5
comp=Z,11nm,0.9s,mb4.0
VIVF Saint-Julien-l 21.68 294 eP P 23 46 27.9 +0.5
VIVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
MEZF Maizieres J'vi 22.01 303 eP P 23 46 30.3 -0.3
LASF Ste Croix 22.23 292 eP P 23 46 33.4 +0.6
comp=Z,44nm,1.4s,mb4.4
FINES FINESS Array B 22.45 351 P P 23 46 34.0 -0.9
comp=Z,7.0nm,0.7s,mb4.2,baz=157,slow=9.8,SNR=32
FINES LR LR 23 57 06.5
comp=Z,384nm,18.0s,MS3.9,baz=153,slow=42
PLDF La Plantade 22.53 296 eP P 23 46 37.3 +1.6
LOR Lormes 22.54 300 eP P 23 46 36.0 +0.1
comp=Z,20nm,0.9s,mb4.2
LOR eR
comp=Z,614nm,19.5s
LOR Lormes 22.54 300 eP P 23 46 36.0 +0.1
LOR pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
LOR MLR MLR
comp=Z,610nm,19.5s,MS4.0
GIVF Givet 22.58 307 eP P 23 46 35.5 -0.7
LBL Lubilhac 22.72 294 eP P 23 46 40.8 +3.2
SSF Saint Saulge 22.75 299 eP P 23 46 38.0 +0.1
SSF pmax pmax

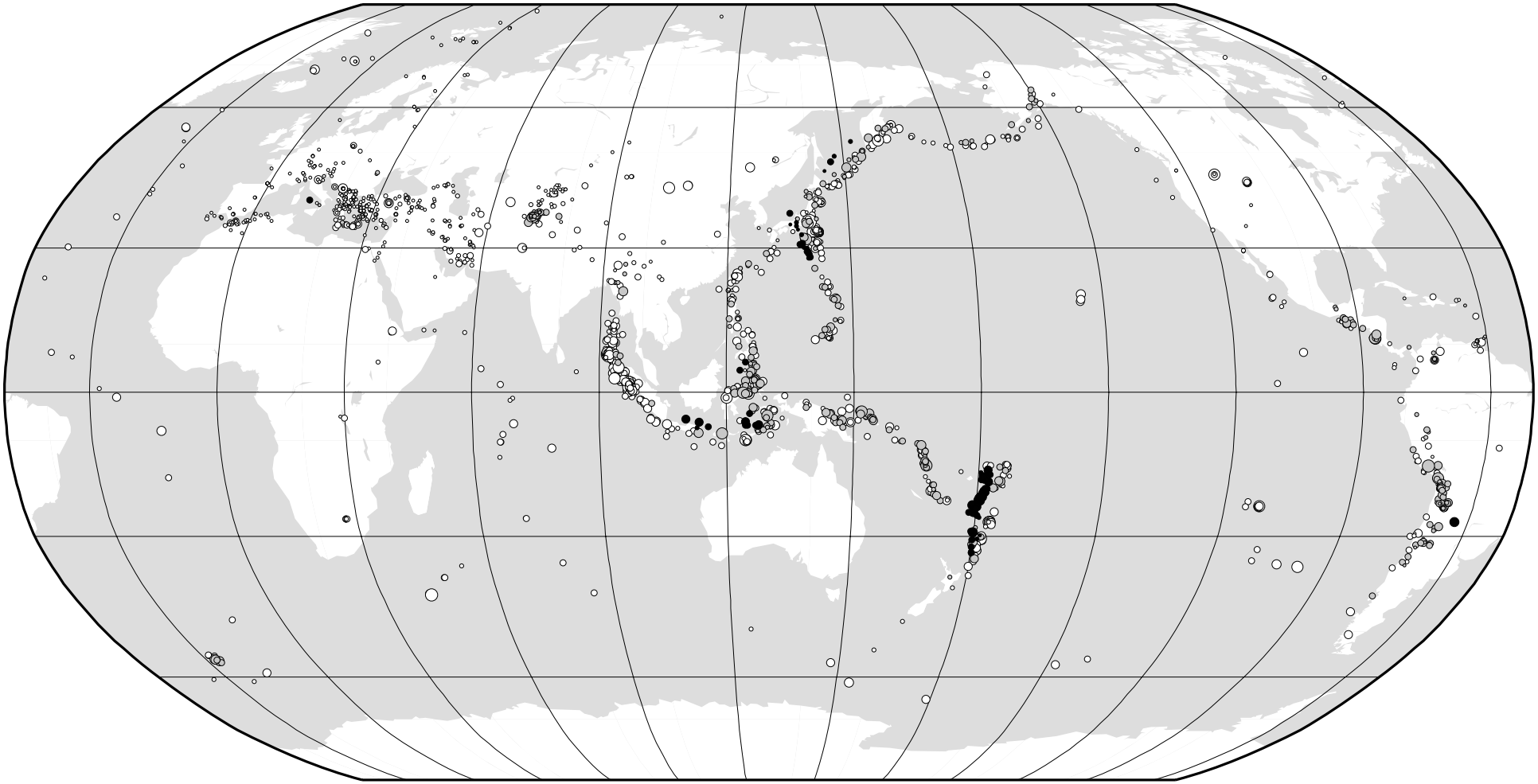
comp=Z,9.0nm,1.0s,mb4.2
SSF Saint Saulge 22.75 299 *e*P **P 23 46 38.0 +0.1**
comp=Z,9.3nm,1.0s,mb4.2
AVF Avril sur Loir 22.81 299 *e*P **P 23 46 38.6 +0.1**
comp=Z,42nm,1.0s,mb4.5
AVF Avril sur Loir 22.81 299 *e*P **P 23 46 38.6 +0.1**
AVF pmax pmax
comp=Z,21nm,1.0s,mb4.5
AGO Saint Agoulin 22.88 297 *e*P **P 23 46 42.0 +2.9**
PYM Petit Puy Mans 22.93 296 *e*P **P 23 46 42.6 +2.9**
BAIF Baives 22.95 307 *e*P **P 23 46 38.8 -1.0**
comp=Z,53nm,1.3s,mb4.5
BAIF Baives 22.95 307 *e*P **P 23 46 38.8 -1.0**
BAIF pmax pmax
comp=Z,27nm,1.3s,mb4.5
KAF Kangasniemi 23.07 352 *e*p **P 23 46 40.0 -0.9**
comp=Z,9.7nm,0.8s,mb4.3
KAF Kangasniemi 23.07 352 *e*P **P 23 46 40.0 -0.9**
KAF pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
MUD Monsted U'grnd 23.18 325 *i*P **P 23 46 44.0 +2.1**
comp=Z,21nm,1.0s,mb4.5
MUD *i*S **S 23 50 58.4 +9.3**
comp=Z,670nm,18.0s
MTLF Montolieu 23.41 290 *e*P **P 23 46 45.3 +1.0**
DJNS Zahran al Janu 23.49 154 P **P 23 46 48.6 +3.2**
TCF Toulx Ste Croi 23.54 297 *e*P **P 23 46 46.0 +0.5**
comp=Z,59nm,1.5s,mb4.5
TCF Toulx Ste Croi 23.54 297 *e*P **P 23 46 46.0 +0.5**
TCF pmax pmax
comp=Z,29nm,1.5s,mb4.5
CAF Calviac 23.54 294 *e*P **P 23 46 46.1 +0.5**
comp=Z,11nm,0.9s,mb4.0
CAF Calviac 23.54 294 *e*P **P 23 46 46.1 +0.5**
CAF pmax pmax
comp=Z,5.0nm,0.9s,mb3.9
ARU Arti 23.87 36 ⫴ *i*P **P 23 46 49.4 +0.7**
ARU *e* 23 47 18.0
ARU *e*PPP PPP 23 47 27.1 -5.2
ARU *e*S **S 23 51 06.0 +4.7**
ARU *e*SS SS 23 51 49.5 -1.8
ARU *e*SSS SSS 23 52 02.8 -4.6
ARU pmax pmax
comp=Z,28nm,1.2s,mb4.6
RJF Les Rejaudoux 23.95 294 *e*P **P 23 46 49.9 +0.4**
comp=Z,24nm,1.2s,mb4.2
RJF *e*R
comp=Z,551nm,18.2s
RJF Les Rejaudoux 23.95 294 *e*P **P 23 46 49.9 +0.4**
RJF pmax pmax
comp=Z,12nm,1.2s,mb4.2
RJF MLR MLR
comp=Z,550nm,18.3s,MS4.1
HFS Hagfors 24.02 336 P **P 23 46 50.6 +0.4**
comp=Z,5.3nm,0.8s,mb4.0,baz=150,slow=12,SNR=9.5
HFS LR LR 23 57 12.1
comp=Z,471nm,21.5s,MS3.9,baz=141,slow=39
MLS Moulis 24.24 289 *e*P **P 23 46 53.9 +1.4**
LFF La Frestale 24.48 294 *e*P **P 23 46 55.3 +0.5**
EPF Esparros 24.79 289 *e*P **P 23 46 58.6 +0.8**
comp=Z,12nm,1.0s,mb4.1
EPF Esparros 24.79 289 *e*P **P 23 46 58.6 +0.8**
EPF pmax pmax
comp=Z,6.0nm,1.0s,mb4.1
RESF Ens 24.80 288 *e*P **P 23 47 00.5 +2.6**
LABF Labassere 24.98 289 *e*P **P 23 47 04.3 +4.7**
KONO Kongsberg 25.07 331 *i*P **P 23 47 01.0 +0.7**
KONO Kongsberg 25.07 331 *e*S **S 23 51 27.2 +5.5**
MFF Saint Martin d 25.19 297 *e*P **P 23 47 01.5 0.0**
comp=Z,18nm,0.9s,mb4.3
MFF Saint Martin d 25.19 297 *e*P **P 23 47 01.5 0.0**
MFF pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
ETSF Etsaut 25.46 289 *e*P **P 23 47 05.2 +1.1**
comp=Z,10nm,0.9s,mb4.1
ETSF Etsaut 25.46 289 *e*P **P 23 47 05.2 +1.1**
ETSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.0
NAO01 NORSAR Array S 25.47 335 P **P 23 46 58.6 -5.4**
comp=Z,24nm,1.1s,mb4.6
NB2 NORSAR Subarra 25.51 335 P **P 23 47 04.6 +0.2**
comp=Z,3.9nm,0.8s,mb4.0,baz=144,slow=10
NB2 NORSAR Subarra 25.51 335 P **P 23 47 04.6 +0.2**
NB2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.0
NOA NORSAR Array B 25.51 335 P **P 23 47 04.4 0.0**
comp=Z,4.0nm,0.8s,mb4.0,baz=136,slow=8.7,SNR=13
NOA LR LR 23 59 10.8
comp=Z,428nm,18.2s,MS4.0,baz=150,slow=42
FLN La Foliniere 25.66 302 *e*P **P 23 47 05.6 -0.3**
FLN *e*R
comp=Z,439nm,20.0s
GRR Gorron 25.85 301 *e*P **P 23 47 07.1 -0.6**
comp=Z,30nm,0.8s,mb4.5
GRR Gorron 25.85 301 *e*P **P 23 47 07.1 -0.6**
GRR pmax pmax
comp=Z,15nm,0.8s,mb4.6
SJPF Ste Jean 25.93 289 *e*P **P 23 47 09.6 +1.1**
SGMF Saint Gilles 26.96 301 *e*P **P 23 47 18.0 0.0**
BER Bergen 27.18 330 *e*S **S 23 51 57.4 +0.9**
BER AMS AMS 00 01 54.3
comp=Z,267nm,15.1s,MS3.9
ROSF Rostrenen 27.45 301 *e*P **P 23 47 22.3 -0.1**
comp=Z,53nm,1.3s,mb4.6
ROSF Rostrenen 27.45 301 *e*P **P 23 47 22.3 -0.1**
ROSF pmax pmax
comp=Z,26nm,1.3s,mb4.6
ESDC Sonseca Array 28.43 282 P **P 23 47 30.6 -0.8**
comp=Z,0.6nm,0.6s,mb3.4,baz=69,slow=9.0,SNR=3.9
BRVK Borovoye 28.75 49 *e*P **P 23 47 31.9 -2.1**
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
BRVK Borovoye 28.75 49 *e*P **P 23 47 31.9 -2.1**
comp=Z,1.6nm,0.8s,mb3.8
BRVK Borovoye 28.75 49 *e*P **P 23 47 31.9 -2.1**
comp=Z,1.6nm,0.8s,mb3.8
BVAR Borovoye Array 28.80 49 P **P 23 47 32.7 -1.8**
comp=Z,0.2nm,0.4s,mb3.2,baz=225,slow=4.1,SNR=3.1
EKA Eskdalemuir Ar 28.82 316 P **P 23 47 34.0 -0.7**
comp=Z,1.5nm,0.6s,mb3.9,baz=113,slow=9.2,SNR=5.6
ATD Arta Tunnel 29.12 160 LR LR 23 58 05.0
comp=Z,295nm,20.9s,MS3.9,baz=336,slow=34
ARCES ARCESS Array B 30.42 355 P **P 23 47 48.0 -0.9**
comp=Z,2.0nm,0.7s,mb4.0,baz=166,slow=9.4,SNR=12
ARCES LR LR 00 01 43.1
comp=Z,295nm,18.4s,MS4.0,baz=215,slow=40
TRO Tromso 31.18 350 *e*S **S 23 53 01.9 +1.7**
TRO AMS AMS 00 02 14.8
comp=Z,254nm,17.2s,MS4.0
AAK Ala-Archa 31.18 71 *i*P **P 23 47 54.2 -1.6**
AAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
AAK MLR MLR
comp=Z,200nm,17.0s,MS3.9
FRU Bishkek 31.24 70 *e*P **P 23 47 56.0 -0.4**
EVO Evora 31.76 282 *e*P **P 23 48 02.4 +1.4**
comp=Z,22nm,1.1s,mb4.6
EVO *e*R
comp=Z,477nm,17.8s
KSH Kashi 32.88 76 *e*P **P 23 48 11.5 +0.8**
KSH *e*AP pP 23 48 16.3 +2.2
KSH *e*XP sP 23 48 19.0 +3.4
KSH *e*PP PP 23 49 22.5 +1.8
KSH *e*PCP PcP 23 50 56.8 +1.4
KSH *e*S **S 23 53 29.0 +2.0**
KSH *e*PCS 23 54 40.3
KSH *e*SS SS 23 55 29.5 +3.7
KSH *e*SCS ScS 23 58 37.0 +0.2
KSH AMB AMB
comp=Z,50nm,0.4s,mb5.8
KSH AMB AMB
comp=Z,30nm,2.7s,mb4.8
KSH LR LR
comp=N,450nm,6.0s
KSH LR LR
comp=E,380nm,4.9s
KURK Kurchatov 33.57 55 *e*P **P 23 48 14.6 -2.0**
KURK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
KURK Kurchatov 33.57 55 *e*P **P 23 48 14.6 -2.0**
comp=Z,7.7nm,0.9s,mb4.6
MKAR Makanchi Array 36.17 62 P **P 23 48 38.5 -0.4**
comp=Z,3.0nm,1.0s,mb4.2,baz=281,slow=6.2,SNR=15
MKAR LR LR 00 05 35.6
comp=Z,144nm,21.2s,MS3.7,baz=287,slow=40
NVS Novosibirsk 36.57 48 *i*P **P 23 48 41.9 -0.3**

ZAL Zalesovo 37.44 50 P **P 23 48 48.5 -1.0**
comp=Z,0.6nm,0.4s,mb3.8,baz=223,slow=11,SNR=4.2
ZAL LR LR 00 08 28.5
comp=Z,214nm,18.3s,MS4.0,baz=199,slow=43
JMIC Jan Mayen 38.04 339 AMS AMS 00 05 25.5
comp=Z,177nm,26.9s,MS3.7
WMQ Urumqi 40.44 65 *e*P **P 23 49 14.0 -0.6**
WMQ AMB AMB
comp=Z,3.0nm,0.9s,mb4.0
WMQ LR LR
comp=N,387nm,16.3s,MS4.4
WMQ LR LR
comp=E,264nm,16.4s,MS4.4
WMQ LR LR
comp=Z,468nm,16.8s,MS4.4
KBS Kingsbay 40.50 354 AMS AMS 00 07 45.7
comp=Z,128nm,21.4s,MS3.8
KMBO Kilima Mbogo 40.55 174 LR LR 00 07 33.4
comp=Z,127nm,18.5s,MS3.8,baz=96,slow=38
KOLN Koldanda 43.15 90 *e*P **P 23 49 34.0 -3.0**
comp=Z,46nm,1.2s,mb5.1
GKN Gorkha 43.84 89 *e*P **P 23 49 36.3 -6.3**
comp=Z,49nm,0.9s,mb5.2
DMN Daman 44.40 89 *e*P **P 23 49 42.6 -4.5**
comp=Z,43nm,0.8s,mb5.2
KKN Kakani 44.45 89 *e*P **P 23 49 41.8 -5.7**
comp=Z,18nm,0.7s,mb5.0
PKI Pulchoki 44.65 89 *e*P **P 23 49 44.3 -4.9**
comp=Z,50nm,1.3s,mb5.2
DBIC Dimbokro 47.18 236 P **P 23 50 07.7 -1.7**
comp=Z,4.7nm,0.8s,mb4.5,baz=265,slow=1.7,SNR=4.6
DBIC LR LR 00 12 04.4
comp=Z,207nm,19.9s,MS4.1,baz=22,slow=39
DBIC Dimbokro 47.18 236 P **P 23 50 07.7 -1.7**
DBIC LR LR 00 12 04.5
LIC Lamto 47.63 236 *e*P **P 23 50 13.7 +0.8**
comp=Z,32nm,1.1s,mb5.0
LSA Lhasa 48.07 83 *e*P **P 23 50 15.5 -0.7**
LSA pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
LSA Lhasa 48.07 83 *e*P **P 23 50 15.5 -0.7**
comp=Z,6.3nm,0.7s,mb4.8
TLY Talaya 49.04 51 *e*P **P 23 50 26.9 +3.6**
TLY *e*S **S 23 57 32.7 +6.1**
TLY pmax pmax
comp=Z,7.0nm,1.7s,mb4.4
TLY MLR MLR
comp=Z,163nm,18.0s,MS4.1
ZAK Zakamensk 49.16 53 *e*P **P 23 50 24.5 +0.3**
ZAK pmax pmax
comp=Z,1.0nm,1.4s,mb3.6
GTA Gaotai 50.43 67 P **P 23 50 33.5 -0.7**
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.4
SONM Songino Array 51.88 55 P **P 23 50 43.4 -1.6**
comp=Z,0.5nm,0.5s,mb3.7,baz=290,slow=8.4,SNR=5.6
SONM PcP PcP 23 51 59.3 +1.3
comp=Z,0.4nm,0.6s,baz=270,slow=3.7,SNR=3.6
SONM LR LR 00 15 26.0
comp=Z,212nm,20.6s,MS4.2,baz=170,slow=39
BOD Bodaibo 53.14 41 *e*P **P 23 50 49.4 -4.9**
BOD pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
LZH Lanzhou 54.71 70 *e*P **P 23 51 06.5 +0.3**
LZH AP pP 23 51 10.8 +1.1
LZH XP sP 23 51 16.3 +5.3
LZH AMB AMB
comp=Z,25nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,92nm,4.1s
LZH Lanzhou 54.71 70 *e*P **P 23 51 06.4 +0.2**
LZH *PP pP 23 51 10.8 +1.1
LZH pmax pmax
comp=Z,25nm,1.2s,mb5.1
LZH Lanzhou 54.71 70 *e*P **P 23 51 06.4 +0.2**
comp=Z,25nm,1.2s,mb5.1
LZH pP pP 23 51 10.8 +1.1
LZH sP sP 23 51 16.2 +5.2
KMI Kunming 59.26 81 P **P 23 51 39.0 +0.3**
KMI AP pP 23 51 42.3 +0.1
KMI AMB AMB
comp=Z,6.0nm,1.0s,mb4.6
KMI Kunming 59.26 81 P **P 23 51 39.1 +0.4**
KMI *PP pP 23 51 42.2 0.0
KMI pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
KMI Kunming 59.26 81 P **P 23 51 39.1 +0.4**
comp=Z,6.0nm,1.0s,mb4.6
KMI pP pP 23 51 42.2 0.0
SCHQ Schefferville 63.96 321 P **P 23 52 08.1 -1.7**
comp=Z,1.7nm,0.8s,mb4.1,baz=281,slow=5.2,SNR=2.7
SCHQ LR LR 00 17 57.6
comp=Z,122nm,21.9s,MS4.0,baz=204,slow=34
LBTB Lobatse 64.50 188 P **P 23 52 12.8 -1.0**
comp=Z,2.1nm,0.7s,mb4.2,baz=74,slow=7.4,SNR=3.1
LBTB Lobatse 64.50 188 P **P 23 52 12.8 -1.0**
NJ2 Nanjing 67.50 66 *e*P **P 23 52 32.8 -0.1**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
BOSA Boshof 68.10 187 P **P 23 52 35.6 -1.1**
comp=Z,4.4nm,0.7s,mb4.6,baz=40,slow=3.5,SNR=9.9
BOSA LR LR 00 24 18.1
comp=Z,148nm,18.0s,MS4.3,baz=16,slow=38
SSE Sheshan 69.69 66 P **P 23 52 42.9 -3.6**
comp=Z,12nm,0.9s,mb4.8
YSS Yuzh-Sakhalins 73.60 42 P **P 23 53 11.7 +2.2**
YSS *e* 23 53 24.1
YKA Yellowknife Ar 75.13 345 P **P 23 53 17.5 -0.5**
comp=Z,0.8nm,0.7s,mb3.8,baz=25,slow=5.3,SNR=7.2
YKA LR LR 00 26 25.6
comp=Z,97nm,21.5s,MS4.1,slow=36
JNU Nakatsue 75.17 59 LR LR 00 33 44.4
comp=Z,85nm,18.8s,MS4.1,baz=38,slow=42
ILAR Eielson Array 76.12 360 LR LR 00 30 35.8
comp=Z,44nm,19.4s,MS3.8,baz=164,slow=39
MJAR Matsushiro Arr 77.74 53 LR LR 00 31 47.3
comp=Z,122nm,20.7s,MS4.2,baz=305,slow=39
ULM Lac du Bonnet 80.06 330 LR LR 00 31 48.9
comp=Z,55nm,18.1s,MS3.9,baz=29,slow=38
CBIJ Chichi jima 86.52 58 LR LR 00 37 14.6
comp=Z,81nm,19.0s,MS4.2,baz=338,slow=39
PDAR Pinedale Array 91.44 333 LR LR 00 40 24.1
comp=Z,87nm,18.8s,MS4.2,baz=146,slow=39
BDFB Brasilia 93.10 252 LR LR 00 36 47.9
comp=Z,122nm,20.5s,MS4.3,baz=110,slow=36

*CSEM **31** 23:46:06.9±0.1,39.41N×33.08E,h2km,ML3.8,Error ellipse: s-maj=1.4km s-min=1.1km az=157.0*
*ISK **31** 23:46:07.8,39.39N×33.08E,h7km,ML3.8*
*IDC **31** 23:46:08.6±2.0,39.47N×33.09E,mb3.5/2,mb1 3.8/5, mb1mx3.5/20,mbtmp3.7/5,ML3.6/3,Error ellipse: s-maj=27.6km s-min=9.2km az=171.0*
*NEIC **31** 23:46:08.8±1.8,39.38N×33.18E,h1km,±14km,ML3.8(ISK), Error ellipse: s-maj=13.8km s-min=9.7km az=156.0*
ISC 31 23:46:07.9±0.7,**39.39N**±0.02×**33.10E**±0.03,**h5**km±6km,
n63,σ0 5.74/70,mb3.6/2,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.48**	**93**	*i*	PG		**Pg**	**23 46 17.1**	**-0.4**
ANTO	**Ankara**	**0.53**	**334**	*i*	PG		**Pg**	**23 46 18.0**	**-0.5**
ANTO				*i*	SG		**Sg**	**23 46 26.3**	**+0.7**
BRTR	**Keskin Array B**	**0.54**	**52**		Pg		**Pg**	**23 46 18.2**	**-0.5**
	534nm,0.3s,baz=222,slow=19,SNR=72								
BRTR					Lg			23 46 25.4	
	906nm,0.3s,baz=218,slow=28,SNR=62								
LOD	**Lodumlu**	**0.56**	**333**	*i*	PG		**Pg**	**23 46 19.1**	**0.0**
LOD				*i*	SG		**Sg**	**23 46 27.7**	**+1.2**
CDAG	**Cicekdag**	**1.01**	**77**	*i*	P		**Pb**	**23 46 26.6**	**-1.0**
CDAG				*i*	S		**Sb**	**23 46 38.1**	**-2.9**
KIZT	**Kizilcal**	**1.08**	**242**	*i*	PG		**Pg**	**23 46 28.3**	**-1.1**
ELDT	**Eldivan**	**1.12**	**13**	*i*	P		**Pb**	**23 46 29.2**	**-0.3**
ELDT				*i*	S		**Sb**	**23 46 44.0**	**-0.3**
KDHN	**Kadinhani**	**1.16**	**222**	*i*	P		**Pb**	**23 46 30.1**	**0.0**
KDHN				*i*	S		**Sb**	**23 46 45.8**	**+0.6**
CANT	**Cankiri**	**1.28**	**18**	*i*	PN		**Pn**	**23 46 32.5**	**0.0**
CORM	**Corum**	**1.42**	**56**	*i*	PN		**Pn**	**23 46 34.4**	**-0.1**
SGKT	**Sivrigoynuk**	**1.42**	**326**	*i*	P		**Pn**	**23 46 34.7**	**+0.1**
AVNT	**Avonos**	**1.50**	**114**	*i*	P		**Pn**	**23 46 35.8**	**+0.1**
AVNT				*i*	S		**Sb**	**23 46 55.7**	**+0.5**
KONT	**Konya--Tatoy**	**1.56**	**202**	*i*	PN		**Pn**	**23 46 37.1**	**+0.6**
BSTP	**Nigde**	**1.65**	**151**	*i*	P		**Pn**	**23 46 38.0**	**+0.2**
YOZ	**Yozgat**	**1.74**	**81**	*i*	PN		**Pn**	**23 46 39.7**	**+0.6**
ESKT	**Eskisehir**	**1.74**	**275**		PN		**Pn**	**23 46 39.0**	**-0.1**
ESKT	**Eskisehir**	**1.74**	**275**	*i*	P		**Pn**	**23 46 40.8**	**+1.7**
NIG	**Nigde**	**1.75**	**137**	*i*	PN		**Pn**	**23 46 39.4**	**+0.2**
TOS	**Tosya**	**1.79**	**23**	*i*	PN		**Pn**	**23 46 39.8**	**0.0**
SAFT	**Safranbolu**	**1.87**	**351**		PN		**Pn**	**23 46 40.6**	**-0.3**
BALT	**Daday**	**2.15**	**6**	*i*	P		**Pn**	**23 46 47.1**	**+2.1**
BNN	**Bunyan**	**2.21**	**103**		PN		**Pn**	**23 46 45.8**	**0.0**
HENT	**Hendek**	**2.21**	**311**	*i*	P		**Pn**	**23 46 48.6**	**+2.8**
GPA	**Golpazari**	**2.32**	**294**		PN		**Pn**	**23 46 46.3**	**-1.1**
ALT	**Altintas**	**2.34**	**263**		PN		**Pn**	**23 46 47.5**	**-0.2**
BYBT	**Boyabat**	**2.43**	**31**		PN		**Pn**	**23 46 49.3**	**+0.3**
BOYT	**Boyabat**	**2.45**	**34**	*i*	P		**Pn**	**23 46 48.4**	**-0.9**
HDMB	**Hadim**	**2.47**	**191**		PN		**Pn**	**23 46 50.1**	**+0.5**
ISP	**Isparta**	**2.55**	**233**		PN		**Pn**	**23 46 50.7**	**0.0**
ISP	**Isparta**	**2.55**	**233**	*e*	P		**Pn**	**23 46 51.2**	**+0.5**
ISP	**Isparta**	**2.55**	**233**	*e*	P		**Pn**	**23 46 51.2**	**+0.5**
TKTP	**Tekketepe**	**2.56**	**239**	*i*	P		**Pn**	**23 46 50.6**	**-0.2**
BZK	**Bozkurt**	**2.66**	**15**		PN		**Pn**	**23 46 52.8**	**+0.6**
BCK	**Bucak**	**2.76**	**226**		PN		**Pn**	**23 46 53.5**	**-0.1**
TOKT	**Tokat**	**2.81**	**70**		PN		**Pn**	**23 46 54.6**	**+0.2**
KVT	**Kavak**	**2.82**	**52**	*e*	PN		**Pn**	**23 46 54.7**	**+0.2**
GDZ	**Gediz**	**2.82**	**265**	*i*	P		**Pn**	**23 47 00.4**	**+5.8**
MEST	**Erdemli**	**2.92**	**163**	*i*	P		**Pn**	**23 46 54.5**	**-1.4**
KHL	**Karahalli**	**2.99**	**250**		PN		**Pn**	**23 46 57.3**	**+0.4**
HRT	**Hereke**	**2.99**	**300**	*e*	PN		**Pn**	**23 46 56.1**	**-0.9**
SVST	**Sivas**	**3.00**	**82**	*i*	P		**Pn**	**23 46 57.7**	**+0.5**
SVST				*i*	S		**Sn**	**23 47 41.0**	**+6.9**
YLV	**Yalova**	**3.09**	**293**	*e*	PN		**Pn**	**23 46 58.2**	**-0.2**
ULDT	**Uludag**	**3.14**	**285**	*i*	P		**Pn**	**23 46 57.8**	**-1.3**
CEYT	**Ceyhan**	**3.17**	**138**	*e*	PN		**Pn**	**23 47 00.0**	**+0.5**
IKL	**Isikli**	**3.18**	**171**	*e*	PN		**Pn**	**23 47 00.2**	**+0.5**
ORLT	**Orhaneli**	**3.30**	**283**	*e*	PN		**Pn**	**23 47 01.0**	**-0.4**
DST	**Dursunbey**	**3.46**	**275**	*e*	PN		**Pn**	**23 47 03.7**	**0.0**
ISK	**Istanbul-Kandi**	**3.51**	**300**	*e*	PN		**Pn**	**23 47 04.3**	**-0.1**
DENT	**Denizli**	**3.58**	**244**	*e*	PN		**Pn**	**23 47 05.5**	**+0.2**
ELL	**Elmali**	**3.65**	**225**	*e*	PN		**Pn**	**23 47 06.4**	**+0.1**
HTY	**Hatay**	**4.06**	**143**	*e*	PN		**Pn**	**23 47 12.9**	**+0.7**
BNT	**Bandirma**	**4.10**	**285**	*e*	PN		**Pn**	**23 47 12.6**	**-0.1**
AKS	**Akhisar**	**4.14**	**265**	*e*	PN		**Pn**	**23 47 12.5**	**-0.8**
MYA	**Malataya**	**4.29**	**103**	*e*	PN		**Pn**	**23 47 16.6**	**+1.1**
MALT	**Malatya**	**4.30**	**103**	*e*	P		**Pn**	**23 47 15.3**	**-0.3**
MALT				*e*				23 47 25.9	
MALT				*e*	S		Sx	23 48 24.2	
MALT	**Malatya**	**4.30**	**103**	*e*	P		**Pn**	**23 47 15.3**	**-0.3**
GUMT	**Gumushane**	**5.02**	**76**	*e*	PN		**Pn**	**23 47 26.3**	**+0.5**
IDI	**Anoyia**	**7.71**	**240**		Pn		**Pn**	**23 48 03.2**	**-0.4**
	0.7nm,0.3s,baz=328,slow=21,SNR=6.8								
MLR	**Muntele Rosu**	**8.06**	**321**		Pn		**P**	**23 48 08.4**	**-0.2**
	0.2nm,0.3s,baz=119,slow=19,SNR=3.5								
AKASG	**Malin Array Be**	**11.63**	**348**		Pn		**P**	**23 48 51.8**	**-5.9**
	0.6nm,0.3s,baz=213,slow=13,SNR=2.6								
FINES	**FINESS Array B**	**22.50**	**351**		P		**P**	**23 51 09.5**	**0.0**
	2.2nm,0.7s,mb3.7,baz=160,slow=11,SNR=9.0								
FINES	**FINESS Array B**	**22.50**	**351**		P		**P**	**23 51 09.5**	**0.0**
MKAR	**Makanchi Array**	**36.18**	**62**		P		**P**	**23 53 11.6**	**-1.6**
	0.5nm,0.9s,mb3.5,baz=280,slow=8.8,SNR=2.9								

ISC Computed Locations for July 2005



Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

1974 Events